Transportation

PAT McCRORY
Governor

NICHOLAS J. TENNYSON
Secretary

May 12, 2016

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

ATTN: Mr. Dave Bailey
NCDOT Coordinator

Subject: Request for Modification to the Section 404 Individual Permit and Section 401 Water Quality Certification for the proposed Greensboro Western Loop from north of SR 2176 (Bryan Boulevard) to SR 2303 (Lawndale Drive), Guilford County, Division 7. Federal Aid Project No. STP-NHF-124(1), WBS Element No. 34820.1.2, TIP No. U-2524C and D.

Reference: USACE Individual Permit Action ID SAW-2001-21125, August 1, 2013.
USACE Individual Permit Modification Action ID SAW-2001-21125, March 25, 2014.
USACE Individual Permit Modification Action ID SAW-2001-21125, June 19, 2015.
USACE Individual Permit Modification Action ID SAW-2001-21125, October 7, 2015.
NCDWR Project No. 20130223, Certification No. 3965, July 2, 2013.
NCDWR Project No. 20130223_v2, Modification to Certification No. 3965, April 15, 2014.
NCDWR Project No. 20130223_v3, Modification to Certification No. 3965, June 25, 2015.
NCDWR Project No. 20130223_v4, Modification to Certification No. 3965, October 12, 2015.

Dear Sir:

The purpose of this letter is to request a modification to the United States Army Corps of Engineers (USACE) Section 404 Individual Permit and North Carolina Division of Water Resources Section 401 Certification for the above referenced project. The original permit application and the subsequent permits in 2013 (referenced above) presented final impacts for U-2524C and preliminary impacts for U-2524D. The subsequent modifications referenced above were all for activities in U-2524C. This modification request presents the final impacts for U-2524D.

Please see the enclosed revised Division of Mitigation Services (DMS) mitigation acceptance letter (dated May 9, 2016), permit drawing review minutes (CP4C), stormwater management plan, permit drawings, utility drawings, and design plans for the above referenced project.

Summary of U-2524D Jurisdictional Impacts:
The preliminary projected impacts for U-2524D in 2013 were 4,604 linear feet of stream impacts, which did not include impacts from bank stabilization activities or temporary impacts. The final total impacts for U-2524D include 5,400 linear feet of permanent stream impacts, 166 linear feet of stream bank stabilization, and 0.08 acre of permanent wetland impacts. The primary reason these final impact numbers are higher than the preliminary numbers presented in the 2013 application is that half of Permit Site 9 and all of Sites 1, 3A, 10, 11 and 12 were omitted from the preliminary plans. This accounts for an increase of 669 linear feet of permanent stream impacts, 73 linear feet of bank stabilization and 0.08 acre of permanent wetland impacts. Furthermore, it was noted during the CP4C meeting on December 9, 2015 that the addition of walls in some areas may have led to the increase of impacts at some of the crossings. In addition to the permanent and temporary impacts listed above, there will also be 780 linear feet of loss of stream function. All impacts have been avoided and minimized to the greatest extent practicable.

Summary of U-2524D Utility Impacts:
There will be 0.02 acre (90 linear feet) of temporary stream impacts associated with the installation of 8" and 12" sanitary sewer line.

Summary of Mitigation:
Mitigation for impacts resulting from both Section C and Section D of this project will be provided by DMS. See tables 4 and 5 for a summary of the mitigable impacts resulting from each section. Total mitigable impacts for Section C include 2,812 linear feet of streams and 6.15 acre of wetlands. Total mitigable impacts for Section D include 6,084 linear feet of streams and 0.08 acre of wetland.

PROJECT SCHEDULE

The project was permitted in two phases due to project size, funding and TIP schedule. The C Section of this project let on September 17, 2013. The D Section of this project is scheduled to let on September 20, 2016.

IMPACTS TO WATERS OF THE U.S.

Tables 1 and 2 summarize the impacts to jurisdictional water resources for the final design of U-2524D. Site numbers correspond with the permit (hydraulic) drawings included in this application. The stream and wetland numbers correspond to the 2014 JD Appeals Maps. A brief description of each impact site will follow the tables.

Table 1 – U-2524D Final Wetland Impacts*

Site	Wetland ID	Wetland Size (ac)	Permanent Fill in Wetlands (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Impacts Requiring Mitigation (ac)
11	WR	0.21	0.05	--	0.03	--	0.08
Total Impacts:			**0.05**	**--**	**0.03**	**--**	**0.08****

* Wetland impacted is riparian

** Values are based on rounding, due to calculating totals with actual numbers to the thousandths

Table 2 – U-2524D Final Stream Impacts

Site	Stream Name & Intermittent (I) or Perennial (P)	Stream ID[1]	Impact Type	Impact Length (linear feet)	Temporary Impacts (acres)	Mitigation Requirement[2] (linear feet)
1	UT to Horsepen Creek (I)	SQ	Perm. Fill	--	--	--
			Bank Stabilization	15	--	--
			Temp Fill	--	<0.01	--
2	UT to Richland Creek (P)	SY	Perm. Fill	414	--	USACE & DWR
			Bank Stabilization	--	--	--
			Temp Fill	--	<0.01	--
3A	UT to Richland Creek (I)	SV	Perm. Fill	96	--	DWR*
			Bank Stabilization	--	--	--
			Temp Fill	--	--	--
3	UT to Richland Creek (I/P)	SV	Perm. Fill	996	--	USACE & DWR
			Bank Stabilization	24	--	DWR
			Temp Fill	--	<0.01	--
			Loss of Function	780	--	USACE (@0.5:1)
4	UT to Richland Creek (P)	SV	Perm. Fill	1,581	--	USACE & DWR
			Bank Stabilization	--	--	--
			Temp Fill	--	<0.01	--
5	Richland Creek (P)	Richland Creek	Perm. Fill	1,192	--	USACE & DWR
			Bank Stabilization	--	--	--
			Temp. Fill	--	0.01	--
6	UT to Richland Creek (I)	SU	Perm. Fill	158	--	USACE & DWR
			Bank Stabilization	--	--	--
			Temp. Fill	--	<0.01	--
7	UT to Richland Creek (P)	ST	Perm. Fill	291	--	USACE & DWR
			Bank Stabilization	23	--	DWR
			Temp. Fill	--	<0.01	--
8	UT to Richland Creek (P)	SS	Perm. Fill	--	--	--
			Bank Stabilization	46	--	--
			Temp. Fill	--	<0.01	--
9	UT to Richland Creek (P)	SR	Perm. Fill	388	--	USACE & DWR
			Bank Stabilization	--	--	--
			Temp. Fill	--	<0.01	--
10	Richland Creek (P)	Richland Creek	Perm. Fill	--	--	--
			Bank Stabilization	34	--	DWR
			Temp. Fill	--	<0.01	--

Table 2 Continued – U-2524D Final Stream Impacts

Site	Stream Name & Intermittent (I) or Perennial (P)	Stream ID[1]	Impact Type	Impact Length (linear feet)	Temporary Impacts (acres)	Mitigation Requirement[2] (linear feet)
11	N/A (wetland only)	--	--	--	--	--
12	UT to Richland Creek (P)	SBA	Perm. Fill	284	--	USACE & DWR
			Bank Stabilization	24	--	DWR
			Temp. Fill	--	<0.01	--
Total Temporary Impacts:				**--**	**0.04**[3]	**--**
Total Perm. Impacts (Perm. Fill + Bank Stabilization):				**5,566**	**--**	**--**
Permanent Impacts Requiring DWR Mitigation:				**5,505**	**--**	**--**
Permanent Impacts Requiring USACE Mitigation:				**5,304**	**--**	**--**
Loss of Function Impacts Requiring USACE Mitigation:				**780**	**--**	**--**
Total Impacts Requiring Mitigation:				**6,084**	**--**	†

1 – As identified in the 2014 JD Appeals Map
2 – Mitigation for bank stabilization impacts required by DWR – not required by USACE
3 – Values are based on rounding, due to some of the individual impacts being <0.01 acre
* – USACE said no mitigation required for this site at the CP4C meeting
† – Final mitigation requirement will be up to the USACE and DWR

Permit Site 1: There will be 15 linear feet (lf) of bank stabilization to SQ to protect the outlet of a 2' base ditch. There will be <0.01 ac (15 lf) of temporary impacts associated with the installation of this bank stabilization.

Permit Site 2: The installation of a 30" reinforced concrete pipe (RCP) to carry SY under the proposed bypass will result in 414 lf of permanent stream impacts and <0.01 ac (10 lf) of temporary impacts to SY.

Permit Site 3A: The proposed bypass and the corresponding roadway slopes will result in 96 lf of impacts to the intermittent headwaters of SV. Flow from this channel will be redirected into a 4' base ditch parallel to the south side of the bypass. The USACE stated at the CP4C meeting that no mitigation would be required at this site.

Permit Site 3: Due to the proposed roadway and corresponding slopes, SV in this location will be relocated into a 4' base ditch (beginning at Site 3A). This stream will then be carried under the bypass via a 60" RCP. The ditching and piping of SV at this location will result in 996 lf of permanent impacts and <0.01 ac (10 lf) of temporary impacts. There will also be 24 lf of bank stabilization at the outlet of the 60" RCP.

There is a 780 lf portion of SV that will remain daylighted and between Site 3 and Site 4. Per e-mail from USACE (Dave Bailey) on February 29, 2016, "It is reasonable to expect a reduction in aquatic function, specifically aquatic passage, as a result of the long culvert segments proposed above and below the [780 lf] area in question." Therefore, the USACE is requiring 0.5:1 mitigation for this stretch of SV to compensate for the indirect loss of function.

Permit Site 4: As SV currently runs down the centerline of the proposed bypass in this location, it will be directed into a single-cell 8'x7' reinforced concrete box culvert (RCBC) along the north side of the bypass. This will transition into a 10'x7' culvert in the vicinity of Site 6 and then run all the way through the Lawndale Drive intersection. There will be some channel improvements at the inlet end of this culvert to better align the stream into the structure. As a result of this culvert installation, there will be 1,581 lf of permanent impacts to SV and <0.01 ac (12 lf) of temporary impacts.

Permit Site 5: A single-cell 10'x7' RCBC will be constructed to carry Richland Creek under the Lawndale Drive interchange. This culvert will eventually run parallel to the RCBC carrying SV and they will both outlet on the east side of the interchange. This culvert installation will result in 1,192 lf of permanent impacts and 0.01 ac (43 lf) of temporary impacts to Richland Creek.

Permit Site 6: Due to the location of the new interchange ramps, there will be 158 lf of permanent impacts and <0.01 ac (16 lf) of temporary impacts to SU. The flow will be carried into a short section of 10'x7' RCBC that will intersect with the RCBC from Site 4.

Permit Site 7: Due to the construction of 48" RCP to carry the flow from ST under the proposed interchange, there will be 291 lf of permanent impacts to ST. Additionally, there will be 23 lf of bank stabilization and <0.01 ac (10 lf) of temporary impacts at the inlet end due to outlet protection of ditches tying in from the east and west side of the channel.

Permit Site 8: There will be 46 lf of bank stabilization and <0.01 acre (18 lf) of temporary impacts to SS at this location to protect the outlet of a base ditch coming in from the west as well as stabilizing the west bank near the outlet of the RCBCs from Sites 4 and 5.

Permit Site 9: A single-cell 7'x8' RCBC will be constructed to carry the flow from SR under the proposed bypass. This RCBC will outlet into a channel with riprap lined banks to improve alignment and increase stability as the flow is carried to the confluence with Richland Creek. As a result of these activities, there will be 388 lf of permanent impacts and <0.01 ac (20 lf) of temporary impacts to SR.

A portion of this site as well as the remaining three permit sites were not included in the preliminary impact numbers for the D Section presented in the 2013 permit application due to the omission of two plansheets. However, the design of the project has not changed significantly since 2013.

Permit Site 10: There will be 34 lf of bank stabilization and <0.01 ac (20 lf) of temporary impacts to Richland Creek to stabilize the confluence of SR.

Permit Site 11: As a result of the new roadway slopes from the proposed bypass, there will be 0.05 acre of wetland fill and 0.03 acre of mechanized clearing in wetlands to WR.

Permit Site 12: A new 72" RCP will be installed to carry SBA under the proposed bypass. There will be 284 linear feet of permanent impacts, <0.01 acre (15 lf) of temporary impacts and 24 lf of bank stabilization to SBA associated with this activity.

U-2524D Utility Impacts:
There will be 0.02 acre (90 linear feet) of temporary impacts associated with the installation of 8" and 12" sanitary sewer line. There are five sites at which sewer line will be installed via open trench method (see Table 3 below and the attached utility drawings). It is anticipated that the trench width will be approximately 3-4' wide and the depth approximately 5' in order to achieve a minimum of 4' of cover under each creek.

Table 3 – U-2524D Utility Impacts

Site	Stream ID	Impact Type	Permanent Impact (ft)	Temporary Impact (ft)	Temporary Impact (ac)	Impacts Requiring Mitigation (ac)
U1*	SV	Open Trench	--	15	<0.01	0
U2	SV	Open Trench	--	15	<0.01	0
U3	Richland Creek	Open Trench	--	15	<0.01	0
U4	SU	Open Trench	--	15	<0.01	0
U5	ST	Open Trench	--	15	<0.01	0
U6	Richland Creek	Open Trench	--	15	<0.01	0
		Total Impacts:	**--**	**90**	**0.02****	**0**

* Site U1 overlaps with Permit Site 3
** Values are based on rounding, due to calculating totals with actual numbers to the thousandths

FEDERALLY PROTECTED SPECIES

As of March 25, 2015, the USFWS lists one federally protected species for Guilford County, small whorled pogonia. Surveys for this species were conducted on May 20, 2009 and June 11, 2014. No individuals of this species were identified in either of these surveys. The biological conclusion for this species remains "No Effect".

MITIGATION OPTIONS

The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impacts, and to provide full compensatory mitigation of all remaining, unavoidable jurisdictional impacts. Avoidance measures were taken during the planning and NEPA compliance stages; minimization measures were incorporated as part of the project design.

U-2524D Avoidance and Minimization:
NCDOT has avoided and reduced impacts to wetlands and streams to the greatest extent practicable. The following is a partial list of avoidance and minimization initiatives within the D Section:

- Where practical, stormwater runoff throughout the project is being treated by grassed shoulders, grassed medians and/or grassed typical cut ditches.
- Rip-rap outlet protection has been utilized at all outfalls for energy dissipation.
- The portion of this project located within the "Critical Area" of Lake Brandt will include two hazardous spill basins.

- Open trenches will be used to install sewer lines because heavy groundwater would be encountered in areas of the proposed bore pits if installation was done by a trenchless method. This would make the pits unsafe due to the potential for sloughing off and major dewatering procedures would need to be utilized.

U-2524D Compensation:

The NCDOT has avoided and minimized impacts to jurisdictional resources to the greatest extent practicable as described above. Tables 1 and 2 summarize the wetland and stream impacts in the D Section of this project as well as a breakdown of the impacts requiring mitigation by the USACE and NCDWR. The D Section will permanently impact 0.08 acre of wetlands, 5,566 linear feet of streams (5,400 linear feet of permanent fill and 166 linear feet of bank stabilization), and temporarily impact 0.04 acre of streams. This Section will also result in 780 feet of loss of stream function.

Per Tables 1 and 2, the total mitigation required by the USACE is 0.08 acre of wetlands, and 5,304 lf of streams plus 780 lf due to loss of stream function. Therefore, total mitigation required for the D Section is 0.08 ac of wetlands and 6,084 lf of streams.

Compensatory mitigation for impacts from the C and D Sections of this project will be provided by DMS. Tables 4 and 5 summarize the required compensatory mitigation and ratios for each section.

Table 4 – U-2524C Required Compensatory Mitigation*

	Stream Impact Length (ft)	Riparian Wetland Impacts (ac)
Required USACE Mitigation	2,812 @ 2:1	4.42 @ 2:1 1.73 @ 1:1
Total USACE Mitigation	5,624	10.57
Required NCDWR Mitigation	2,819 @ 1:1	6.15 @ 1:1
Total NCDWR Mitigation	2,819	6.15

* This table has not changed since the last permit modification application dated September 14, 2015

Table 5 – U-2524D Required Compensatory Mitigation

	Stream Impact Length (ft)	Riparian Wetland Impacts (ac)
Required USACE Mitigation	5,304 @ 2:1 780 @ 0.5:1	0.08 @ 2:1
Total USACE Mitigation	10,998	0.16
Required NCDWR Mitigation	5,505 @ 1:1	0.08 @ 1:1
Total NCDWR Mitigation	5,505	0.08

REGULATORY APPROVALS

Section 404: Application is hereby made for a modification to the USACE Individual 404 Permit as required for the above-described activities.

Section 401: We are hereby requesting a modification to the 401 Water Quality Certification from the N. C. Division of Water Resources.

A copy of this permit application and its distribution list will be posted on the NCDOT Website at: http://connect.ncdot.gov/resources/Environmental. If you have any questions or need additional information, please call Erin Cheely at (919) 707-6108.

Sincerely,

Philip S. Harris III, P.E., C.P.M.
Natural Environment Section Head

cc:
NCDOT Permit Application Standard Distribution List

Mitigation Services
ENVIRONMENTAL QUALITY

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

May 9, 2016

Mr. Philip S. Harris, III, P.E., CPM
Natural Environment Unit
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Mr. Harris:

Subject: Mitigation Acceptance Letter:

TIP Number U-2524C/D, Greensboro – Western Loop from North of Bryan Boulevard to Lawndale Drive, Guilford County

Reference: USACE 404 Individual Permit issued August 1, 2013 (USACE Action ID 2001-21125) and modified Individual Permits issued March 25, 2014 and October 7, 2015

NCDWR 401 Water Quality Certification (WQC) issued July 2, 2013 (NCDWR ID 2013-0223) and modified 401 WQCs issued April 15, 2014 and October 12, 2015

The purpose of this letter is to notify you that the Division of Mitigation Services (DMS) will provide the additional stream mitigation for the subject project. Based on the information supplied by you on May 6 and 9, 2016, the additional stream and riparian wetland impacts are located in CU 03030002 of the Cape Fear River Basin in the Central Piedmont (CP) Eco-Region, and are as follows:

Table 1 – Additional Impacts (feet / acres)

Cape Fear 03030002 CP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1 (3:1)	Zone 2 (1.5:1)
Impacts (feet/acres)	0	0	1,480.0	0.08	0	0	0	0

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

These impacts and associated mitigation needs were not projected by the NCDOT in the 2016 impact data. DMS is currently providing stream and riparian wetland mitigation for the impacts associated with this project located in cataloging unit 03030002 of the Cape Fear River basin as required by the 404 and 401 permits issued in January 2014, and modifications issued in October 2014, as shown in the below table (in mitigation credits):

Table 2 – Current Permitted Impacts and Associated Mitigation Requirements provided by DMS (based on 2015 permits) and Revised Anticipated Impacts (based on mitigation request)

Impact Type	Total Permitted Impacts (feet / acre / sq ft)	Mitigation Provided by DMS per Issued Permits (Credits)	Additional Impact (for approval)	Revised Total Impacts*
Stream	7,416.0	14,795.0	1,480.0	8,896.0
Riparian Wetland	6.15	10.57	0.08	6.23

*Some of the additional wetland impacts may be proposed to be mitigated at a 1:1 mitigation ratio. See permit application for details. DMS will provide the amount of mitigation as determined by the regulatory agencies.

This impact and associated mitigation need were under projected by the NCDOT in the 2016 impact data. DMS will commit to implement sufficient compensatory mitigation credits to offset the additional impacts associated with this project as determined by the regulatory agencies using the delivery timeline listed in Section F.3.c.iii of the In-Lieu Fee Instrument dated July 28, 2010. **This mitigation acceptance letter replaces the mitigation acceptance letters that was issued on February 26, May 17 and May 22, 2013, May 20, 2014, June 26 and September 21, 2015.**

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
Credit Management Supervisor

Cc: Mr. David Bailey, USACE – Raleigh Regulatory Field Office
Ms. Amy Chapman, NCDWR
File: U-2524C / D Additional 2

Subject: Minutes from CP-4C Hydraulic Design Review Meeting on December 9, 2015 for U-2524D in Guilford County

Team Members:

David Bailey - USACE	(present)
Felix Davila – FHWA	(present)
David Wanucha - NCDWR	(Telephone)
Travis Wilson - NCWRC	(Telephone)
Dr. Cynthia Van Der Wiel - EPA	(absent)
Gary Jordan - USFWS	(absent)

Participants:
Patty Eason, NCDOT Division 7 (Telephone)
Tatia White, NCDOT Roadway Design Unit
Katrina Hazel, NCDOT Roadway Design Unit
Korey Newton, NCDOT SMU
Keith Paschal, NCDOT SMU
Matthew Lauffer, NCDOT Hydraulics
Mark Staley, NCDOT REU
Lisa Feller, NCDOT PDEA
Carla Dagnino, NCDOT NES
Erin Cheely, NCDOT NES
Don Proper, NCDOT Utilities
Jamie Byrd, HNTB
Ben Carroll, HNTB

The Project is a portion of Greensboro-Western Loop from east of US 220 (Battleground Avenue) to east of Lawndale Drive.

The meeting began at 8:00 am.

GENERAL NOTES / COMMENTS

- HNTB advised that the current U-2524D project was originally part of the U-2524C project.
- HNTB advised that the 4B Meeting for the original U-2524C project was held on January 25, 2006 and provided Meeting Minutes from the meeting.
- USACE stated that inlets / outlets requiring channel realignments will require mitigation and should not be labeled as bank stabilization on the impact summary sheet.
- USACE advised that the date of the Jurisdictional Determination (JD) was 2/5/2014.
- NES advised that it will provide Hydraulics permit drawing review comments for incorporation before the end of the year.
- NES advised that the Permit Application should be completed in late February or early March 2016.
- NES/ Hydraulics request that buried or not buried labels be place on all pipe/culverts that are conveying jurisdictional stream in the plan and profile view.
- HNTB will incorporate updated FS file sent post 4C.
- USACE stated via email on 1/26/16, that the current designs propose considerably greater stream impacts than those authorized in the original permit. As such, 30 days will be required to advertise the proposed modifications on public notice.

Sheet 5 (Site 1):

Site 1:

- Concerns were expressed about the stability of the proposed standard base ditch. HNTB advised that the outlet pipe was designed flat to reduce outlet velocities. The base ditch is also lined with rip-rap to maintain stability.
- HNTB will provide a bank stabilization detail where the proposed ditch intersects the jurisdictional stream.

Sheet 6 (Site 2):

Site 2:

- USACE stated that the pipe outlet channel will require 2:1 mitigation and should not be shown as bank stabilization.
- HNTB will turn on hazardous spill basin labels.

Sheet 7 & 8 (Site 3):

Site 3:

- NES and USACE stated that a jurisdictional stream is missing from the plans near -L- Sta. 458+00 RT. HNTB will add this impact as Site 3A upon receipt of the updated FS file. USACE stated that no mitigation will be required for Site 3A.
- USACE requested Hydraulics/HNTB provide the length of stream that will remain post construction.
    - Approx. 780 LF of existing stream will remain undisturbed post project.
    - USACE requests a functional assessment be performed using the NC Stream Assessment Method to determine if compensatory mitigation for indirect impacts is warranted.
- HNTB advised that the stream and pipe crossing locations will be updated in the revised FS file.
- NCDOT Utilities stated that there is a conflict with the JB w/ MH right of -L- Sta. 468+50. HNTB will coordinate with NCDOT Utilities to eliminate the conflict.

Sheet 9 & 9B (Sites 4, 5, 6, 7, 8, & 9):

- All agreed that aquatic passage through the proposed culverts is unreasonable and therefore culverts 1, 2, and 3 should not be buried.
- HNTB will add a note to the culvert profiles stating “RCBC not buried due to stream stability concerns and a lack of aquatic passage”.
- All Agency Members agreed that grade control structures upstream of the culvert inlets may be required in the future if site inspections during construction identify stream stability concerns.
- USACE advised that all culvert channel improvements will require 2:1 mitigation and should therefore not be shown as bank stabilization.
- NES requested HNTB label bank stabilization, channel improvements and flood plain benches on the plans where applicable.
- Concerns were expressed about stream stability at confluence directly downstream of the outlets of Culverts 2 and 3. HNTB advised that Class ‘I’ rip-rap had been used to stabilize the banks and protect from degradation.
- USACE advised that mitigation at Site 7 will be 1:1.

- USACE advised that mitigation will not be required for Site 8.

Sheet 10 (Site 9, 10, & 11):

Site 9:

- USACE stated that all impacts will require 2:1 mitigation and no bank stabilization should be shown.
- NCDOT Utilities questioned whether the downstream utility crossing will be needed for future maintenance. NCDOT Utilities will coordinate this will the City of Greensboro.

Site 10: NES requested bank stabilization detail for Site 10.

Site 11:

- HNTB questioned whether the mechanized clearing impacts should be extended to the R/W. USACE requested the extent of impacts remain at the standard 10ft offset to eliminate the potential for a total take. REU stated that they were comfortable with the current extent of the impacts.

Sheet 10A (Site 12):

Site 12:

- Concerns were express about the 1.5ft drop in the downstream junction box. NCWRC stated that they were ok with the current designs.
- USACE advised that Bank Stabilization was acceptable at 72" RCP outlet.

Closing Statements

- HNTB agreed to have revised permit drawings submitted by January 31, 2016.

The meeting adjourned at 10:00am.

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 2.03; Released October 2015)

General Project Information

WBS Element:	34820.1.2	**TIP Number:**	U-2524D	**Project Type:**	New Location	**Date:**	11/11/2015
NCDOT Contact:	William (Bill) H. Elam, Jr., PE			**Contractor / Designer:**	HNTB / James A. Byrd, PE		
Address:	1020 Birch Ridge Road Raleigh, NC 27610			**Address:**	343 E. Six Forks Road Suite 200 Raleigh, NC 27609		
Phone:	(919) 707-6718			**Phone:**	(919) 424-0437		
Email:	belam@ncdot.gov			**Email:**	jabyrd@hntb.com		
City/Town:	Greensboro			**County(ies):**	Guilford		
River Basin(s):	Cape Fear			**CAMA County?**	No		
Wetlands within Project Limits?	Yes						

Project Description

Project Length (lin. miles or feet):	1.814 Miles	**Surrounding Land Use:**	Urban Residential

	Proposed Project	**Existing Site**
Project Built-Upon Area (ac.)	42.7 ac.	10.6 ac.
Typical Cross Section Description:	The proposed typical section for the mainline is a 6-lane divided facility consisting of 3 - 12' travel lanes with 2 - 12' paved shoulders in each direction and a 22' grassed median.	N/ A
Annual Avg Daily Traffic (veh/hr/day):	Design/Future: 71,908 Year: 2028	Existing: 41,985 Year: 2008

General Project Narrative: (Description of Minimization of Water Quality Impacts)

U-2524D is a portion of the Greensboro Western Loop from East of US 220 (Battleground Avenue) to East of SR 2303 (Lawndale Drive). The project contains 4 Reinforced Concrete Box Culverts (RCBC) conveying Richland Creek and 3 of its tributarites under the proposed project. A portion of the project is located within the "Critical Area" of Lake Brandt and will include two Hazardous Spill Basins (HSB). Where practical stormwater runoff thoughout the project is being treated by grassed shoulders, grassed medians and/ or grassed typical cut ditches. Rip-rap outlet protection has been utilized at all outfalls for energy dissipation. This project is located within the Jordan Lake Watershed but is exempt from the subject buffer rules per NCDWQ.

Waterbody Information

Surface Water Body (1):	Horsepen Creek		**NCDWR Stream Index No.:**	16-11-5-(2)	
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply III (WS-III)		
		Supplemental Classification:	Nutrient Sensitive Waters (NSW)		
Other Stream Classification:	None				
Impairments:	biological impairment				
Aquatic T&E Species?	No Comments:				
NRTR Stream ID:				**Buffer Rules in Effect:**	Jordan Lake
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

WBS Element:	34820.1.2	TIP No.:	U-2524D	County(ies):	Guilford	Page	2	of	6

Additional Waterbody Information

Surface Water Body (2):	Richland Creek		**NCDWR Stream Index No.:**	16-11-7-(1)			
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply III (WS-III)				
		Supplemental Classification:	Nutrient Sensitive Waters (NSW)				
Other Stream Classification:	None						
Impairments:	None						
Aquatic T&E Species?	No	Comments:					
NRTR Stream ID:				**Buffer Rules in Effect:**	Jordan Lake		
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A		
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)			
(If yes, provide justification in the General Project Narrative)							

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 2.03; Released October 2015)

WBS Element: 34820.1.2 **TIP No.:** U-2524D **County(ies):** Guilford

Swales

Sheet No.	Station & Coordinates (Road and Non Road Projects)	Surface Water Body	Base Width (ft)	Front Slope (H:1)	Back Slope (H:1)	Drainage Area (ac)	Recommended Treatm't Length (ft)	Actual Length (ft)	Longitudinal Slope (%)	Q2 (cfs)	V2 (fps)	Q10 (cfs)	V10 (fps)	Rock Checks Used	BMP Associated w/ Buffer Rules?
5	-L- 424+72 RT 36.139072 / -79.856674	(1)Horsepen Creek	0.0	6.0	6.0	0.5	53	215	2.76%	1.5	1.8	1.9	1.9	No	No
5	-L- 427+00 RT 36.139041 / -79.855934	(1)Horsepen Creek	0.0	6.0	6.0	0.9	86	388	2.32%	2.5	1.9	3.2	2.0	No	No
5	-L- 431+00 RT 36.138870 / -79.854621	(1)Horsepen Creek	0.0	6.0	6.0	0.8	81	348	2.32%	2.4	1.9	3.0	2.0	No	No
5	-L- 434+60 RT 36.138691 / -79.853422	(1)Horsepen Creek	0.0	6.0	6.0	1.5	154	753	2.32%	4.1	2.1	5.3	2.3	No	No
5	-L- 427+13 LT 36.139588 / -79.855811	(1)Horsepen Creek	0.0	6.0	6.0	0.7	72	375	2.32%	1.6	1.7	2.0	1.8	No	No
5	-L- 431+00 LT 36.139393 / -79.854502	(1)Horsepen Creek	0.0	6.0	6.0	1.3	132	360	2.32%	3.3	2.0	4.2	2.2	No	No
5	-L- 422+00 M 36.139347 / -79.857586	(1)Horsepen Creek	0.0	6.0	4.0	0.5	49	187	0.50%	1.7	1.0	2.1	1.1	No	No
5	-L- 424+00 M 36.139369 / -79.856908	(1)Horsepen Creek	0.0	6.0	4.0	0.7	69	288	1.55%	2.4	1.7	3.0	1.8	No	No
5	-L- 427+00 M 36.139323 / -79.855895	(1)Horsepen Creek	0.0	6.0	5.0	0.8	77	388	2.32%	2.5	1.9	3.2	2.1	No	No
5	-L- 431+00 M 36.139149 / -79.854558	(1)Horsepen Creek	0.0	6.0	6.0	0.4	40	348	2.32%	1.2	1.6	1.5	1.7	No	No
5	-L- 434+60 M 36.138970 / -79.853359	(1)Horsepen Creek	0.0	6.0	6.0	0.8	77	728	2.32%	2.1	1.8	2.6	1.9	No	No
6	-L- 442+25 RT 36.138346 / -79.850865	(1)Horsepen Creek	0.0	6.0	6.0	0.2	21	75	2.32%	0.6	1.3	0.8	1.4	No	No
6	-L- 443+50 RT 36.138272 / -79.850453	(1)Horsepen Creek	0.0	4.0	4.0	0.1	10	50	0.30%	0.3	0.6	0.4	0.6	No	No
6	-L- 444+00 RT 36.138248 / -79.850285	(1)Horsepen Creek	0.0	6.0	6.0	0.3	34	180	2.32%	0.8	1.4	1.0	1.5	No	No
6	-L- 442+00 M 36.138602 / -79.850894	(1)Horsepen Creek	0.0	6.0	6.0	0.2	21	188	2.32%	0.6	1.3	0.8	1.4	No	No
6	-L- 444+00 M 36.138503 / -79.850229	(1)Horsepen Creek	0.0	6.0	6.0	0.6	56	240	2.32%	1.9	1.8	2.4	1.9	No	No
6	-L- 448+21 M 36.138318 / -79.848821	(1)Horsepen Creek	0.0	4.0	6.0	0.7	73	336	2.32%	2.4	2.0	3.1	2.1	No	No
7	-L- 451+70 M 36.138263 / -79.847644	(1)Horsepen Creek	0.0	4.0	6.0	0.7	69	315	1.00%	2.3	1.4	2.9	1.5	No	No
7	-L- 458+00 M 36.138444 / -79.845524	(2)Richland Creek	0.0	4.0	6.0	0.8	79	315	1.15%	2.6	1.5	3.3	1.6	No	No

Additional Comments

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 2.03; Released October 2015)

WBS Element: 34820.1.2 **TIP No.:** U-2524D **County(ies):** Guilford

Swales

Sheet No.	Station & Coordinates (Road and Non Road Projects)	Surface Water Body	Base Width (ft)	Front Slope (H:1)	Back Slope (H:1)	Drainage Area (ac)	Recommended Treatm't Length (ft)	Actual Length (ft)	Longitudinal Slope (%)	Q2 (cfs)	V2 (fps)	Q10 (cfs)	V10 (fps)	Rock Checks Used	BMP Associated w/ Buffer Rules?
7	-L- 461+50 M 36.138689 / -79.844378	(2)Richland Creek	0.0	6.0	6.0	0.7	71	336	2.07%	2.3	1.8	2.9	1.9	No	No
8	-L- 476+50 RT 36.139631 / -79.839421	(2)Richland Creek	0.0	6.0	6.0	1.2	122	597	2.07%	3.6	2.0	4.6	2.1	No	No
8	-L- 467+00 M 36.139128 / -79.842596	(2)Richland Creek	0.0	6.0	6.0	0.7	67	539	2.07%	1.9	1.7	2.4	1.8	No	No
8	-L- 470+37 M 36.139396 / -79.841505	(2)Richland Creek	0.0	6.0	6.0	0.3	34	324	2.07%	1.0	1.4	1.2	1.5	No	No
8	-L- 473+50 M 36.139647 / -79.840490	(2)Richland Creek	0.0	6.0	6.0	0.3	33	297	2.07%	0.9	1.4	1.2	1.5	No	No
8	-L- 476+50 M 36.139886 / -79.839518	(2)Richland Creek	0.0	6.0	6.0	0.3	33	284	2.07%	0.9	1.4	1.2	1.5	No	No
9	-L- 480+50 RT 36.139933 / -79.838120	(2)Richland Creek	0.0	6.0	6.0	0.9	89	387	2.01%	2.6	1.8	3.3	1.9	No	No
9	-RPCY8- 1+95 RT 36.140151 / -79.837136	(2)Richland Creek	0.0	6.0	6.0	0.8	80	288	2.26%	2.2	1.8	2.9	2.0	No	No
9	-RPBY8- 10+68 LT 36.141769 / -79.834663	(2)Richland Creek	0.0	4.0	3.0	0.8	80	518	1.78%	1.7	1.8	2.2	1.9	No	No
9	-L- 480+50 M 36.140206 / -79.838221	(2)Richland Creek	0.0	6.0	6.0	0.4	42	387	2.07%	1.2	1.5	1.5	1.6	No	No
9	-L- 483+75 M 36.140467 / -79.837165	(2)Richland Creek	0.0	6.0	6.0	0.3	32	313	1.20%	0.9	1.2	1.2	1.2	No	No
9	-L- 483+77 M 36.140467 / -79.837165	(2)Richland Creek	0.0	6.0	6.0	0.6	62	577	1.86%	1.8	1.4	2.3	1.5	No	No
9	-L- 489+65 M 36.140936 / -79.835257	(2)Richland Creek	0.0	6.0	6.0	0.2	24	125	1.70%	0.7	1.2	0.9	1.3	No	No
9	-L- 491+00 M 36.141044 / -79.834819	(2)Richland Creek	0.0	6.0	6.0	0.8	75	250	1.37%	2.6	1.6	3.3	1.7	No	No
9	-L- 499+30 M 36.141498 / -79.832072	(2)Richland Creek	0.0	6.0	6.0	0.8	75	265	1.36%	2.3	1.5	2.9	1.6	No	No
9	-L- 501+00 M 36.141525 / -79.831497	(2)Richland Creek	0.0	6.0	6.0	0.3	32	158	1.92%	1.0	1.4	1.2	1.5	No	No
9	-L- 478+50 LT 36.140362 / -79.838998	(2)Richland Creek	0.0	3.0	3.0	0.4	44	50	0.50%	1.7	1.1	2.2	1.2	No	No
10	-L- 509+19 RT 36.141323 / -79.828707	(2)Richland Creek	0.0	6.0	6.0	0.8	76	119	0.33%	2.0	0.9	2.5	0.9	No	No
10	-L- 509+21 RT 36.141323 / -79.828707	(2)Richland Creek	0.0	6.0	6.0	0.8	78	215	1.08%	2.0	1.4	2.6	1.4	No	No

Additional Comments

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 2.03; Released October 2015)

WBS Element: 34820.1.2 **TIP No.:** U-2524D **County(ies):** Guilford

Swales

Sheet No.	Station & Coordinates (Road and Non Road Projects)	Surface Water Body	Base Width (ft)	Front Slope (H:1)	Back Slope (H:1)	Drainage Area (ac)	Recommended Treatm't Length (ft)	Actual Length (ft)	Longitudinal Slope (%)	Q2 (cfs)	V2 (fps)	Q10 (cfs)	V10 (fps)	Rock Checks Used	BMP Associated w/ Buffer Rules?
10	-L- 511+50 RT 36.141357 / -79.827930	(2)Richland Creek	0.0	6.0	6.0	1.7	167	388	1.30%	4.3	1.8	5.5	1.9	No	No
10	-L- 515+50 RT 36.141401 / -79.826577	(2)Richland Creek	0.0	6.0	6.0	1.7	173	400	1.30%	4.5	1.8	5.7	1.9	No	No
10	-L- 515+50 LT 36.141938 / -79.826603	(2)Richland Creek	0.0	6.0	6.0	1.1	111	400	1.30%	2.9	1.6	3.7	1.7	No	No
10	-L- 506+34 M 36.141584 / -79.829689	(2)Richland Creek	0.0	6.0	6.0	0.7	69	523	2.41%	2.1	1.8	2.6	1.9	No	No
10	-L- 509+19 M 36.141615 / -79.828723	(2)Richland Creek	0.0	6.0	6.0	0.3	29	271	1.26%	0.8	1.1	1.1	1.2	No	No
10	-L- 509+21 M 36.141615 / -79.828723	(2)Richland Creek	0.0	6.0	6.0	0.2	22	216	1.01%	0.6	1.0	0.8	1.0	No	No
10	-L- 511+50 M 36.141640 / -79.827945	(2)Richland Creek	0.0	6.0	6.0	0.4	42	388	1.30%	1.2	1.3	1.5	1.3	No	No
10	-L- 515+50 M 36.141683 / -79.826591	(2)Richland Creek	0.0	6.0	6.0	0.5	52	486	1.30%	1.5	1.3	1.9	1.4	No	No

Additional Comments

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 2.03; Released October 2015)

WBS Element: 34820.1.2 **TIP No.:** U-2524D **County(ies):** Guilford

Level Spreaders, Hazardous Spill Basins, and Forebays

Sheet No.	Station & Coordinates (Road and Non Road Projects)	Surface Water Body	Level Spreader, Hazardous Spill Basin, or Forebay?	Drainage Area (ac)	New Built-Upon Area (ac)	Required / Minimum Treatment			Treatment Achieved		BMP Associated w/ Buffer Rules?
5	-RPDY4- 4+96 RT 36.138925 / -79.857796	(1)Horsepen Creek	Hazardous Spill Basin	13.15	13.15	2yr, tc=10 min, td= 5 min storm runoff + 1,550 cf (cf)	12628.0	cf	15684.0	cf	No
6	-L- 443+75 LT 36.138757 / -79.850257	(1)Horsepen Creek	Hazardous Spill Basin	8.25	8.25	2yr, tc=10 min, td= 5 min storm runoff + 1,550 cf (cf)	8286.0	cf	11124.0	cf	No

*Hazardous spill basins are pollution prevention measures designed for spill containment rather than stormwater treatment. Under Required / Minimum Treatment and Treatment Achieved, provide the minimum required volume and the actual HSB volume, respectively. Refer to the NCDOT Stormwater Best Management Practices Toolbox (2014) for design guidance.

Additional Comments

09/08/99

TIP PROJECT: U-2524D

CONTRACT:

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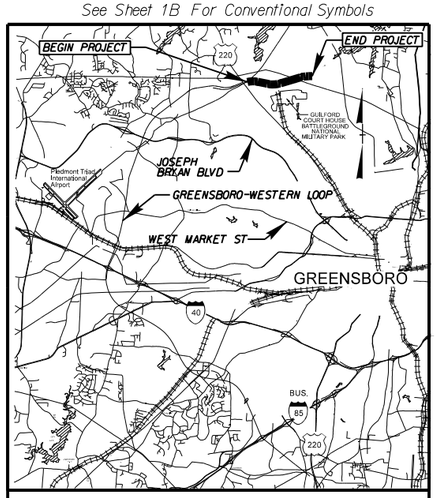
See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GUILFORD COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2524D	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34820.1.2	STP-NHF-124(1)	P.E.
34820.2.19	STP-NHF-124(1)	R.O.W./UTILITY

PERMIT DRAWINGS
SHEET 1 OF 25

LOCATION: GREENSBORO-WESTERN LOOP FROM NORTH OF US 220 (BATTLEGROUND AVENUE) TO NORTH OF SR 2303 (LAWNDALE DRIVE)

TYPE OF WORK: GRADING, PAVING, CULVERTS, DRAINAGE, STRUCTURES AND ITS

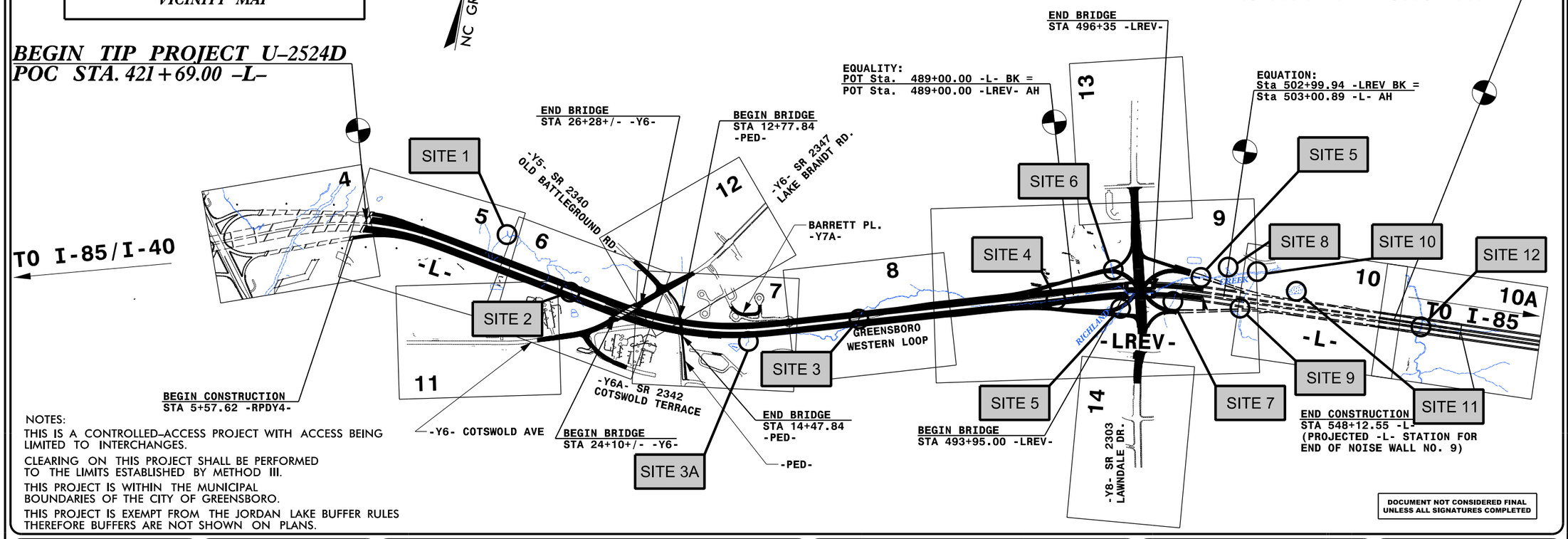
WETLAND & STREAM IMPACTS

END TIP PROJECT U-2524D
POT STA 520+34.53 -L- BK.
N 871507.2766 E 1756411.5108

END TIP PROJECT U-2525C
POT STA 552+99.67 -L- AH.
N 871505.0126 E 1756411.6682

BEGIN TIP PROJECT U-2524D
POC STA. 421+69.00 -L-

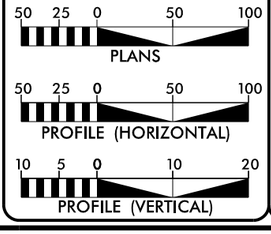
NC GRID NAD 83



NOTES:
THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF GREENSBORO.
THIS PROJECT IS EXEMPT FROM THE JORDAN LAKE BUFFER RULES THEREFORE BUFFERS ARE NOT SHOWN ON PLANS.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2016 = 65,756
ADT 2036 = 98,793
K = 10 %
D = 60 %
T = 14 % *
V = 70 MPH
* TTST = 8% DUAL 6%
FUNC CLASS = FREEWAY

INTERSTATE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-2524D = 1.373 MILES

LENGTH STRUCTURES TIP PROJECT U-2524D = 0.045 MILES

TOTAL LENGTH OF TIP PROJECT U-2524D = 1.418 MILES

NCDOT CONTACT: REKHA PATEL, P.E.

PLANS PREPARED BY: PARSONS, RALEIGH, NORTH CAROLINA, FOR THE DIVISION OF HIGHWAYS

HNTB, 343 E. SIX FORKS ROAD, SUITE 200, RALEIGH, NC 27609, NC License Number C-1554

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: SEPTEMBER 23, 2011

LETTING DATE: SEPTEMBER 20, 2016

TIM D. GOINS, P.E.
PROJECT ENGINEER

DAVID GARRETT
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

P.E.
SIGNATURE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

P.E.
STATE HIGHWAY DESIGN ENGINEER

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

HNTB
343 E. SIX FORKS ROAD, SUITE 200 NC License
RALEIGH, NC 27609 Number C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	5
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

MATCH LINE -L- STA 421+00 SEE SHEET 4

MATCH LINE -L- STA 435+00 SEE SHEET 6

NAD 83

SCALE
1" = 40'

SITE 1

DETAIL 1
'V' DITCH BEHIND NOISE WALL
(Not to Scale)
Min. D = 1.0 Ft.
b = 3.0 Ft.
Type of Liner = PSRM
FROM -L- STA. 426+50 TO STA. 427+70 LT

DETAIL 34
TOE PROTECTION
(Not to Scale)
b = 5.0 Ft.
D = 1.0 Ft.
Type of Liner = PSRM
FROM -L- STA. 423+50 TO STA. 426+00 RT

DETAIL 21
RIP RAP AT EMBANKMENT
(Not to Scale)
Type of Liner = Class 'I' Rip-Rap
-L- STA. 434+28 LT

DETAIL 3
BERM BASE DITCH
(Not to Scale)
Min. D = 1.5 Ft.
B = 2.0 Ft.
b = 4.0 Ft.
FROM -L- STA. 434+50 TO STA. 435+00 RT

DETAIL 37
HAZARDOUS SPILL BASIN
(Not to Scale)
Min. D = 5.0 Ft.
B = 10.0 Ft.
FROM -RPDY4- STA. 1+70 TO STA. 5+00 LT

DETAIL 40
STANDARD BASE DITCH
(Not to Scale)
Min. D = 2.5 Ft.
Max. d = 2.5 Ft.
B = 2.0 Ft.
*When B is < 6.0'
Type of Liner = Class 'I' Rip-Rap
-L- STA. 434+28 LT

DETAIL 4
TOE PROTECTION
(Not to Scale)
d = 1.0 Ft.
b = 4.0 Ft.
Type of Liner = Class 'B' Rip-Rap
FROM -L- STA. 426+05 TO STA. 426+50 LT

NOTE:
SEE SHEET 2B-2 FOR CURVE DATA
SEE SHEET 15 & 16 FOR -L- PROFILE
SEE SHEET 23 FOR RPAY4 PROFILE
SEE SHEET 23 FOR RPDY4 PROFILE

PERMIT DRAWINGS
SHEET 2 OF 25

LEGEND
SS DENOTES IMPACTS IN SURFACE WATER
TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

3:34:42 PM pcm_PSH_05.dgn
$$$$USERNAME$$$$

8/17/99

REVISIONS

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

HNTB
343 E. SIX FORKS ROAD, SUITE 200 NC License
RALEIGH, NC 27609 Number C-1554

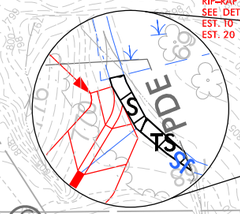
PROJECT REFERENCE NO.	SHEET NO.
U-2524D	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 1983

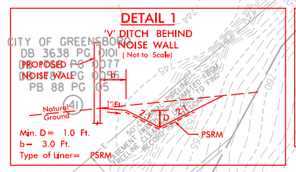
SCALE
1" = 40'



MATCH LINE -L- STA 421+00 SEE SHEET 4

MATCH LINE -L- STA 435+00 SEE SHEET 6

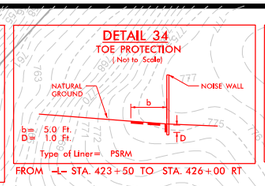
DETAIL 1
'V' DITCH BEHIND NOISE WALL
(Not to Scale)



Min. D = 1.0 Ft.
b = 3.0 Ft.
Type of Liner = PSRM

FROM -L- STA. 426+50 TO STA. 427+70 LT

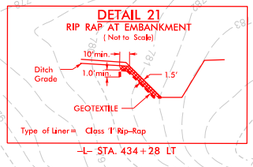
DETAIL 34
TOE PROTECTION
(Not to Scale)



b = 5.0 Ft.
D = 1.0 Ft.
Type of Liner = PSRM

FROM -L- STA. 423+50 TO STA. 426+00 RT

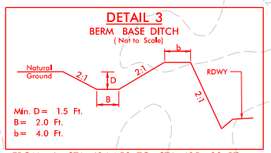
DETAIL 21
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner = Class 'I' Rip-Rap

-L- STA. 434+28 LT

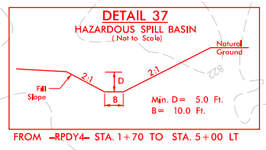
DETAIL 3
BERM BASE DITCH
(Not to Scale)



Min. D = 1.5 Ft.
B = 2.0 Ft.
b = 4.0 Ft.

FROM -L- STA. 434+50 TO STA. 435+00 RT

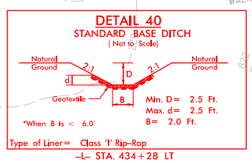
DETAIL 37
HAZARDOUS SPILL BASIN
(Not to Scale)



Min. D = 5.0 Ft.
B = 10.0 Ft.

FROM -RPDY4- STA. 1+70 TO STA. 5+00 LT

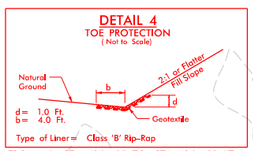
DETAIL 40
STANDARD BASE DITCH
(Not to Scale)



Min. D = 2.5 Ft.
Max. d = 2.5 Ft.
B = 2.0 Ft.
*When B is < 6.0'
Type of Liner = Class 'I' Rip-Rap

-L- STA. 434+28 LT

DETAIL 4
TOE PROTECTION
(Not to Scale)



d = 1.0 Ft.
b = 4.0 Ft.
Type of Liner = Class 'B' Rip-Rap

FROM -L- STA. 426+05 TO STA. 426+50 LT

NOTE:
SEE SHEET 2B-2 FOR CURVE DATA
SEE SHEET 15 & 16 FOR -L- PROFILE
SEE SHEET 23 FOR RPAY4 PROFILE
SEE SHEET 23 FOR RPDY4 PROFILE

PERMIT DRAWINGS
SHEET 3 OF 25

LEGEND
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER

4:06:40 PM
N:\U2524D\prm_PSH_05_C.dgn
$$$$USERNAME$$$$

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

HNTB
343 E. SIX FORKS ROAD, SUITE 200 NC License
RALEIGH, NC 27609 Number C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	6
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

8/17/99

REVISIONS

NOTE:
SEE SHEET 2B-1 FOR BRIDGE SKETCH
SEE SHEET 2B-2 FOR CURVE DATA
SEE SHEET 16 FOR -L- PROFILE
SEE SHEET 20 FOR -Y6A- PROFILE
SEE SHEET 21 FOR -Y6- PROFILE

SCALE
1" = 40'

NAD 83

MATCH LINE -L- STA 435+00 SEE SHEET 5

MATCH LINE -Y6- STA 28+00 SEE SHEET 12

MATCH LINE -L- STA 449+00 SEE SHEET 7

MATCH LINE SEE SHEET 11

MATCH LINE -Y6- STA 18+00 SEE SHEET 11

SITE 2

DETAIL 6
PIPE OUTLET CHANNEL
(Not to Scale)
Length = 16.0 Ft.
d = Top of Bank
-L- STA. 440+39 LT

DETAIL 5
CONCRETE DITCH BEHIND RETAINING WALL
(Not to Scale)
D = 1.0'
B = 1.0'
FROM -L- STA. 435+00 TO STA. 442+00 RT

DETAIL 35
SPECIAL CUT DITCH
(Not to Scale)
Min. D = 1.0 Ft.
FROM -L- STA. 443+00 TO STA. 444+00 RT

DETAIL 38
HAZARDOUS SPILL BASIN
(Not to Scale)
Min. D = 5.0 Ft.
B = 10.0 Ft.
A = 20.0 Ft.
FROM -L- STA. 443+75 TO STA. 446+00 LT

DETAIL 8
TOE PROTECTION
(Not to Scale)
d = 1.0 Ft.
Type of Liner = Class 'B' Rip-Rap
-L- 440+40 to 441+00 LT.

CLASS 'I' RIP-RAP
EST. 26 TONS
EST. 50 SYCF
(NO RIP-RAP IS TO BE PLACED IN STREAM BED)
SEE DETAIL 6

TOE PROTECTION
SEE DETAIL 8
EST 15 TONS
EST. 50 SYFF

END NOISE WALL 3
-L- STA. 445+70.17, 223.21' LT

ACCESS ROAD

CLASS 'B' RIP-RAP
EST. 5 TONS
EST. 14 SYCF

BEGIN EXPWY. GUTTER STA. 445+95 LT.

BEGIN EXPWY. GUTTER STA. 442+38 LT.

HW W/ SLUICE GATE
CLASS 'B' RIP-RAP
EST. 2 TONS
EST. 7 SYCF

HAZARDOUS SPILL BASIN #2
SEE DETAIL 38

END EXPWY. GUTTER STA. 447+40 LT.

BEGIN EXPWY. GUTTER STA. 448+18 LT.

SPECIAL GRADING SEE X-SECTIONS

REMOVE 40' OF EXISTING 15" RCP

CONC. DITCH BEHIND RETAINING WALL SEE DETAIL 5

PROPOSED RETAINING WALL 4 (SOIL NAIL)

END RETAINING WALL 4
STA. 442+00, 102.5' RT.

PROPOSED RETAINING WALL 5 (SOIL NAIL)

SPECIAL CUT DITCH SEE DETAIL 35

REMOVE & REPLACE OTCB

WOODLAND VILLAGE CONDO ASSOCIATION DB 3459 PG 1398

CITY OF GREENSBORO DB 6033 PG 11

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DB 5311 PG 1563 PB 150 PG 022

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DB 5193 PG 1105

COTSWOLD PARK, LLC DB 5432 PG 0324 DB 5432 PG 0320 PB 150 PG 021

JOHN KAVANAGH CO. DB 5299 PG 1476 DB 5299 PG 1519 PB 7 PG 53

JOHN KAVANAGH COMPANY DB 5299 PG 1476 DB 5299 PG 1519 PB 007 PG 053

KAVANAGH ASSOCIATES INC.

NCDOT

PERMIT DRAWINGS
SHEET 4 OF 25

LEGEND
S S DENOTES IMPACTS IN SURFACE WATER
TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

10:22:26 AM
24"=1'-0" C:\MicroStation\U2524D_prm_PSH_06.dgn
$$$$USERNAME$$$$

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

HNTB
343 E. SIX FORKS ROAD, SUITE 200 NC License
RALEIGH, NC 27609 Number C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	6
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

8/17/99
REVISIONS

NOTE:
SEE SHEET 2B-1 FOR BRIDGE SKETCH
SEE SHEET 2B-2 FOR CURVE DATA
SEE SHEET 16 FOR -L- PROFILE
SEE SHEET 20 FOR -Y6A- PROFILE
SEE SHEET 21 FOR -Y6- PROFILE

DETAIL 6
PIPE OUTLET CHANNEL
(Not to Scale)
Length= 16.0 Ft.
d= Top of Bank
-L- STA. 440+39 LT

DETAIL 5
CONCRETE DITCH BEHIND RETAINING WALL
(Not to Scale)
D= 1.0'
B= 1.0'
FROM -L- STA. 435+00 TO STA. 442+00 RT

DETAIL 35
SPECIAL CUT DITCH
(Not to Scale)
Min. D= 1.0 Ft.
FROM -L- STA. 443+00 TO STA. 444+00 RT

DETAIL 38
HAZARDOUS SPILL BASIN
(Not to Scale)
FROM -L- STA. 443+75 TO STA. 446+00 LT

SCALE
1" = 40'

NAD 83

MATCH LINE -L- STA 435+00 SEE SHEET 5

MATCH LINE -Y6- STA 28+00 SEE SHEET 12

MATCH LINE -L- STA 449+00 SEE SHEET 7

MATCH LINE SEE SHEET 11

MATCH LINE -Y6- STA 18+00 SEE SHEET 11

SITE 2

CLASS 'I' RIP-RAP
EST. 26 TONS
EST. 50 SYCF
(NO RIP-RAP IS TO BE PLACED IN STREAM BED)
SEE DETAIL 6

TOE PROTECTION
SEE DETAIL 8
EST. 15 TONS
EST. 50 SYFF

END NOISE WALL 3
-L- STA. 445+70.17, 223.21' LT

ACCESS ROAD

CLASS 'B' RIP-RAP
EST. 5 TONS
EST. 14 SYCF
BEGIN EXPWY. GUTTER STA. 445+95 LT.

BEGIN EXPWY. GUTTER STA. 442+38 LT.

HW W/ SLUICE GATE
CLASS 'B' RIP-RAP
EST. 2 TONS
EST. 7 SYCF

HAZARDOUS SPILL BASIN #2
SEE DETAIL 38

END EXPWY. GUTTER STA. 447+40 LT.

BEGIN EXPWY. GUTTER STA. 448+18 LT.

SPECIAL GRADING
SEE X-SECTIONS

REMOVE 40' OF EXISTING 15" RCP

CONC. DITCH BEHIND RETAINING WALL SEE DETAIL 5

PROPOSED RETAINING WALL 4 (SOIL NAIL)

END RETAINING WALL 4
STA. 442+00, 102.5' RT.

PROPOSED RETAINING WALL 5 (SOIL NAIL)

SPECIAL CUT DITCH
SEE DETAIL 35

REMOVE & REPLACE OTCB

DETAIL 8
TOE PROTECTION
(Not to Scale)
d= 1.0 Ft.
Type of Liner= Class 'B' Rip-Rap
-L- 440+40 to 441+00 LT.

WOODLAND VILLAGE CONDO ASSOCIATION DB 3459 PG 1398

CITY OF GREENSBORO DB 6033 PG 11

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DB 5191 PG 1563 PB 150 PG 022

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DB 5193 PG 1105

COTSWOLD PARK, LLC DB 5432 PG 0324 DB 5432 PG 0320 PB 150 PG 021

JOHN KAVANAGH CO. DB 5299 PG 1476 DB 5299 PG 1519 PB 7 PG 53

JOHN KAVANAGH COMPANY DB 5299 PG 1476 DB 5299 PG 1519 PB 007 PG 053

KAVANAGH ASSOCIATES INC.

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DB 5193 PG 1105

3SBK APTS

25F APTS

NCDOT

S 79°05'49" E

N71° 44' 24.5" E

S 39°52'19" E

PERMIT DRAWINGS
SHEET 5 OF 25

LEGEND
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER

10/26/2023 AM
$$$$USERNAME$$$$
...\prm_PSH_06_C.dgn

8/17/99

REVISIONS

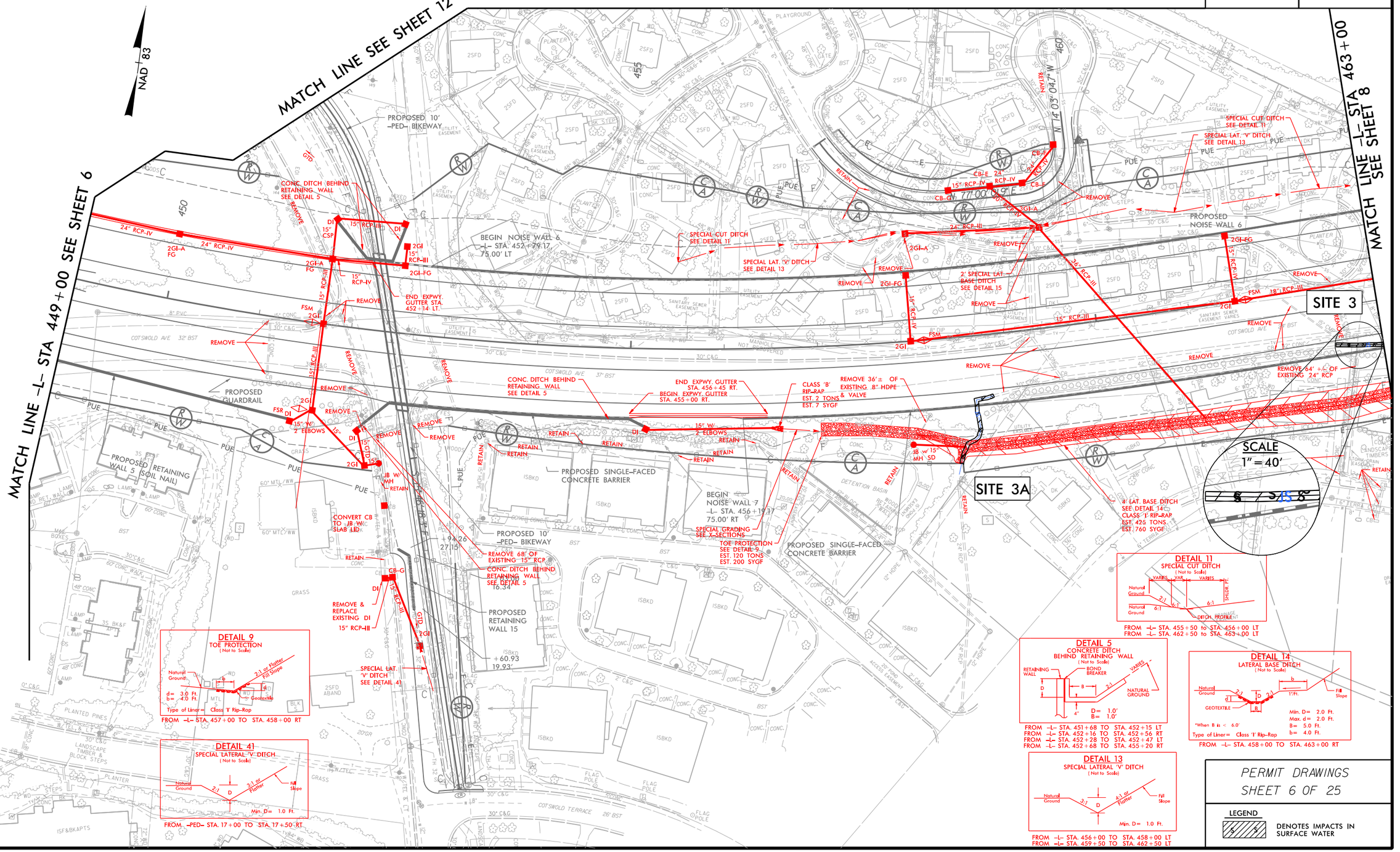
NOTE:
SEE SHEET 2B-1FOR BRIDGE SKETCH
SEE SHEET 2B-2 FOR CURVE DATA
SEE SHEET 16 & 17 FOR -L- PROFILE
SEE SHEET 20 FOR PED. PROFILE
SEE SHEET 20 FOR -Y7A- PROFILE

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

HNTB
343 E. SIX FORKS ROAD, SUITE 200 NC License
RALEIGH, NC 27609 Number C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	7
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



2:58:00 PM
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NOTE:
SEE SHEET 2B-1FOR BRIDGE SKETCH
SEE SHEET 2B-2 FOR CURVE DATA
SEE SHEET 16 & 17 FOR -L- PROFILE
SEE SHEET 20 FOR PED. PROFILE
SEE SHEET 20 FOR -Y7A- PROFILE

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

HNTB
343 E. SIX FORKS ROAD, SUITE 200 NC License
RALEIGH, NC 27609 Number C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	7
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

REVISIONS 8/17/99

NAD 83

MATCH LINE SEE SHEET 12

MATCH LINE -L- STA 449+00 SEE SHEET 6

MATCH LINE -L- STA 463+00 SEE SHEET 8

SITE 3

SITE 3A

PROPOSED 10' -PED- BIKEWAY

CONC. DITCH BEHIND RETAINING WALL SEE DETAIL 5

BEGIN NOISE WALL 6 -L- STA. 452+29.17 75.00' LT

END EXPWY. GUTTER STA. 452+14 LT

SPECIAL CUT DITCH SEE DETAIL 11

SPECIAL LAT. 'V' DITCH SEE DETAIL 13

2' SPECIAL LAT. BASE DITCH SEE DETAIL 15

PROPOSED NOISE WALL 6

PROPOSED GUARDRAIL

PROPOSED RETAINING WALL 5 (SOIL NAIL)

CONVERT CB TO JB W/ SLAB LID

REMOVE & REPLACE EXISTING DI 15" RCP-III

SPECIAL LAT. 'V' DITCH SEE DETAIL 41

CONC. DITCH BEHIND RETAINING WALL SEE DETAIL 5

END EXPWY. GUTTER STA. 456+45 RT.
BEGIN EXPWY. GUTTER STA. 455+00 RT.

CLASS 'B' RIP-RAP EST. 2 TONS EST. 7 SYGF

REMOVE 36'± OF EXISTING 8" HDPE & VALVE

PROPOSED SINGLE-FACED CONCRETE BARRIER

BEGIN NOISE WALL 7 -L- STA. 456+10.37 75.00' RT

SPECIAL GRADING SEE X-SECTIONS

TOE PROTECTION SEE DETAIL 9 EST. 120 TONS EST. 200 SYGF

PROPOSED 10' -PED- BIKEWAY

REMOVE 68' OF EXISTING 15" RCP

PROPOSED RETAINING WALL 15

4' LAT. BASE DITCH SEE DETAIL 14
CLASS 'I' RIP-RAP
EST. 425 TONS
EST. 760 SYGF

REMOVE 64' +/- OF EXISTING 24" RCP

DETAIL 9
TOE PROTECTION
(Not to Scale)

d= 3.0 Ft.
b= 4.0 Ft.
Type of Liner= Class 'I' Rip-Rap
FROM -L- STA. 457+00 TO STA. 458+00 RT

DETAIL 41
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Min. D= 1.0 Ft.
FROM -PED- STA. 17+00 TO STA. 17+50 RT

DETAIL 11
SPECIAL CUT DITCH
(Not to Scale)

FROM -L- STA. 455+50 to STA. 456+00 LT
FROM -L- STA. 462+50 to STA. 463+00 LT

DETAIL 5
CONCRETE DITCH BEHIND RETAINING WALL
(Not to Scale)

D= 1.0'
B= 1.0'
FROM -L- STA. 451+68 TO STA. 452+15 LT
FROM -L- STA. 452+16 TO STA. 452+56 RT
FROM -L- STA. 452+28 TO STA. 452+47 LT
FROM -L- STA. 452+68 TO STA. 455+20 RT

DETAIL 14
LATERAL BASE DITCH
(Not to Scale)

Min. D= 2.0 Ft.
Max. d= 2.0 Ft.
B= 5.0 Ft.
b= 4.0 Ft.
*When B is < 6.0'
Type of Liner= Class 'I' Rip-Rap
FROM -L- STA. 458+00 TO STA. 463+00 RT

DETAIL 13
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Min. D= 1.0 Ft.
FROM -L- STA. 456+00 TO STA. 458+00 LT
FROM -L- STA. 459+50 TO STA. 462+50 LT

PERMIT DRAWINGS
SHEET 7 OF 25

LEGEND
DENOTES IMPACTS IN SURFACE WATER

3:36:50 PM
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PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

HNTB
343 E. SIX FORKS ROAD, SUITE 200 NC License
RALEIGH, NC 27609 Number C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	8
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

8/17/99

REVISIONS

MATCH LINE –L– STA 463+00 SEE SHEET 7

MATCH LINE –L– STA 477+00 SEE SHEET 9

NAD 83

SCALE
1" = 40'

THIS PORTION OF STREAM WILL REQUIRE 0.5 : 1 MITIGATION DUE TO INDIRECT PROJECT IMPACTS & LOSS OF FUNCTION.

SITE 3

PROPOSED NOISE WALL 6

PROPOSED SINGLE-FACED CONCRETE BARRIER

PROPOSED RETAINING WALL 6 (SOIL NAIL)

4' LAT. BASE DITCH
SEE DETAIL 17
350 SY PSRM

SPECIAL CUT DITCH
SEE DETAIL 11

CLASS 'B' RIP-RAP
EST. 3 TONS
EST. 10 SYGF

RETAIN

REMOVE 56' OF EXISTING 18" RCP

REMOVE HW

STANDARD 'V' DITCH
SEE DETAIL 31
S = 7.8%
EST. 35 SY PSRM

CLASS 'I' RIP-RAP
EST. 40 TONS
EST. 75 SYGF
(NO RIP-RAP IS TO BE PLACED IN STREAM BED)
SEE DETAIL 16

JB W/ MH

60' RCP-III (NOT BURIED)

15" RCP-IV

18" RCP-III

24" RCP-III

36" RCP-III

2GI-FG

2GI-A

2GI

FSM

FSR 15" CSP W/ELBOW

DI

REMOVE

N 73° 35' 12.2" E

18" RCP-III OTCB

LATERAL 'V' DITCH
SEE DETAIL 33
EST. 70 SY PSRM

SPECIAL CUT DITCH
SEE DETAIL 39
EST. 35 SY PSRM

'V' DITCH BEHIND NOISE WALL
SEE DETAIL 1
EST. 70 SY PSRM

CONC. DITCH BEHIND RETAINING WALL
SEE DETAIL 5

'V' DITCH BEHIND NOISE WALL
SEE DETAIL 2

4' LAT. BASE DITCH
SEE DETAIL 14
CLASS 'I' RIP-RAP
EST. 490 TONS
EST. 680 SYGF
DDE = 645 CY
FILL EXISTING STREAM TO TOP OF BANK AND GTD

DETAIL 2
'V' DITCH BEHIND NOISE WALL
(Not to Scale)

PROPOSED NOISE WALL
Natural Ground
b
1'Ft.
2:1
D
2:1
Min. D = 1.0 Ft.
b = 3.0 Ft.

FROM –L– STA. 471+00 TO STA. 475+00 RT

DETAIL 1
'V' DITCH BEHIND NOISE WALL
(Not to Scale)

PROPOSED NOISE WALL
Natural Ground
b
1'Ft.
2:1
D
2:1
PSRM
Min. D = 1.0 Ft.
b = 3.0 Ft.
Type of Liner = PSRM

FROM –L– STA. 470+00 TO STA. 471+00 RT

DETAIL 39
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground
2:1
d
D
4:1 or Flatter
Front Ditch Slope
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
Type of Liner = PSRM

FROM –L– STA. 469+50 TO STA. 470+00 RT

DETAIL 31
STANDARD 'V' DITCH
(Not to Scale)

Natural Ground
2:1
d
D
2:1
Natural Ground
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
Type of Liner = PSRM

–L– STA. 465+52 LT

DETAIL 33
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground
2:1
d
b
2:1
1'Ft.
Fill Slope
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
b = 5.0 Ft.
Type of Liner = PSRM

FROM –L– STA. 468+00 TO STA. 469+50 RT

DETAIL 17
LATERAL BASE DITCH
(Not to Scale)

Natural Ground
2:1
d
b
D
2:1
1'Ft.
Fill Slope
B
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
B = 4.0 Ft.
b = 5.0 Ft.
Type of Liner = PSRM

FROM –L– STA. 467+00 TO 470+90 LT

DETAIL 14
LATERAL BASE DITCH
(Not to Scale)

Natural Ground
2:1
d
b
D
2:1
1'Ft.
Fill Slope
GEOTEXTILE
B
Min. D = 2.0 Ft.
Max. d = 2.0 Ft.
B = 5.0 Ft.
b = 4.0 Ft.
*When B is < 6.0'
Type of Liner = Class 'I' Rip-Rap

FROM –L– STA. 463+00 TO STA. 466+80 RT

DETAIL 5
CONCRETE DITCH
BEHIND RETAINING WALL
(Not to Scale)

RETAINING WALL
BOND BREAKER
VARIES
D
B
2:1
NATURAL GROUND
4"
D = 1.0'
B = 1.0'

FROM –L– STA. 471+00 TO STA. 477+00 RT

DETAIL 11
SPECIAL CUT DITCH
(Not to Scale)

VARIES
VAR.
VARIES
SHOULDER PT.
Natural Ground
2:1
6:1
6:1
Natural Ground
DITCH PROFILE

FROM –L– STA. 463+00 to STA. 464+00 LT

DETAIL 16
PIPE OUTLET CHANNEL
(Not to Scale)

Natural Ground
MIN. 2:1 TO TIE EXISTING BANK
Class I Rip-Rap
Geotextile
MIN. 2:1 TO TIE EXISTING BANK
d
Natural Ground
CHANNEL BED (Variable)
Length = 24.0 Ft.
d = Top of Bank

–L– STA. 470+96 LT

PERMIT DRAWINGS
SHEET 8 OF 25

LEGEND
S S DENOTES IMPACTS IN SURFACE WATER
TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

8:32:38 AM
\\Cad\Projects\U2524D_prm_PSH_08.dgn
$$$$USERNAME$$$$
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8/17/99

REVISIONS

MATCH LINE -L- STA 463+00 SEE SHEET 7

MATCH LINE -L- STA 477+00 SEE SHEET 9

8:34:01 AM
\\Prod\projects\U-2524D\roadway\sheets\U2524D_rdwy_PSH_08_C.dgn
$$$$USERNAME$$$$

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

HNTB
343 E. SIX FORKS ROAD, SUITE 200 NC License
RALEIGH, NC 27609 Number C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	8
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

SCALE
1" = 40'

NAD 83

SITE 3

THIS PORTION OF STREAM WILL REQUIRE 0.5 : 1 MITIGATION DUE TO INDIRECT PROJECT IMPACTS & LOSS OF FUNCTION.

PROPOSED NOISE WALL 6

PROPOSED SINGLE-FACED CONCRETE BARRIER

PROPOSED RETAINING WALL 6 (SOIL NAIL)

4' LAT. BASE DITCH
SEE DETAIL 17
350 SY PSRM

SPECIAL CUT DITCH
SEE DETAIL 11

CLASS 'B' RIP-RAP
EST. 3 TONS
EST. 10 SYGF

REMOVE 56' OF EXISTING 18" RCP

REMOVE HW

STANDARD 'V' DITCH
SEE DETAIL 31
S = 7.8%
EST. 35 SY PSRM

CLASS 'I' RIP-RAP
EST. 40 TONS
EST. 75 SYGF
(NO RIP-RAP IS TO BE PLACED IN STREAM BED)
SEE DETAIL 16

JB W/ MH

60" RCP-III (NOT BURIED)

15" RCP-IV

18" RCP-III

24" RCP-III

36" RCP-III

2GI-FG

2GI-A

2GI

FSM

FSR 15" CSP W/ELBOW

DI

REMOVE

REMOVE HW

18" JB W/ MH

18" RCP-III OTCB

HW

CONC. DITCH BEHIND RETAINING WALL SEE DETAIL 5

'V' DITCH BEHIND NOISE WALL SEE DETAIL 2

'V' DITCH BEHIND NOISE WALL SEE DETAIL 1
EST. 70 SY PSRM

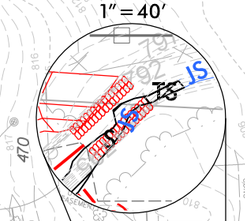
SPECIAL CUT DITCH
SEE DETAIL 39
EST. 35 SY PSRM

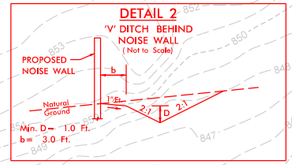
LATERAL 'V' DITCH
SEE DETAIL 33
EST. 70 SY PSRM

4' LAT. BASE DITCH
SEE DETAIL 14
CLASS 'I' RIP-RAP
EST. 490 TONS
EST. 680 SYGF
DDE = 645 CY
FILL EXISTING STREAM TO TOP OF BANK AND GTD

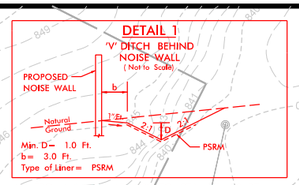
RETAIN

N 73° 35' 12" E

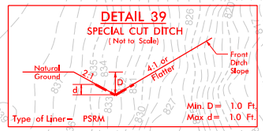




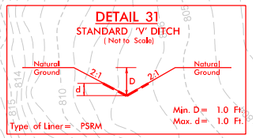
FROM -L- STA. 471+00 TO STA. 475+00 RT



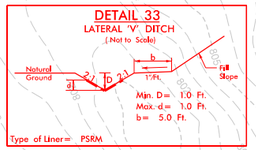
FROM -L- STA. 470+00 TO STA. 471+00 RT



FROM -L- STA. 469+50 TO STA. 470+00 RT



-L- STA. 465+52 LT



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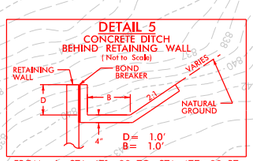
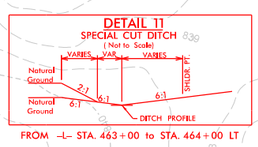
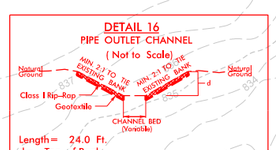


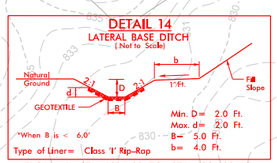
FROM -L- STA. 471+00 TO STA. 477+00 RT



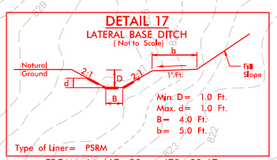
FROM -L- STA. 463+00 to STA. 464+00 LT



-L- STA. 470+96 LT



FROM -L- STA. 463+00 TO STA. 466+80 RT



FROM -L- STA. 467+00 to 470+90 LT

NOTE:
SEE SHEET 17 FOR -L- PROFILE

PERMIT DRAWINGS
SHEET 9 OF 25

LEGEND

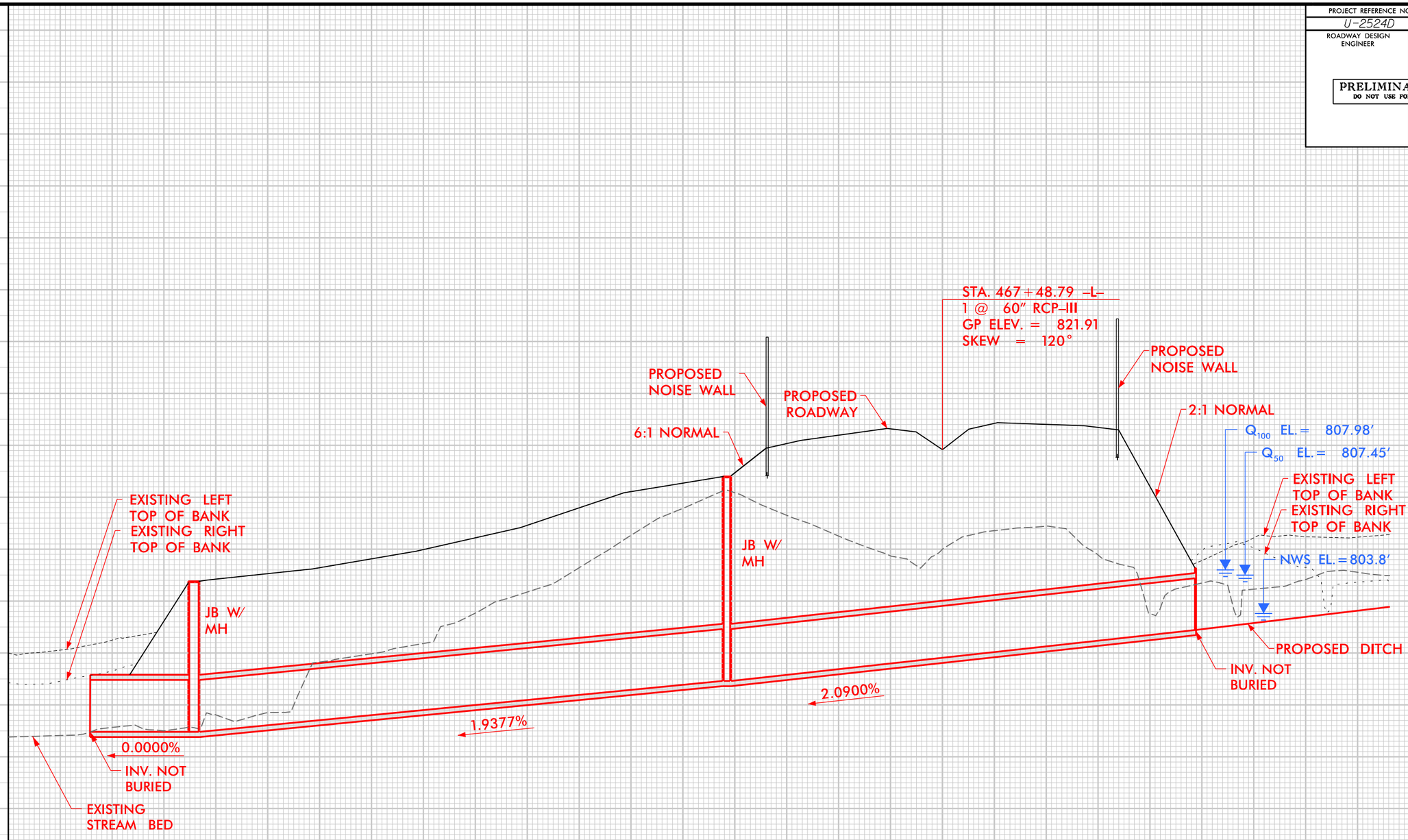
S S — DENOTES IMPACTS IN SURFACE WATER

TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



PROFILE ALONG STRUCTURE

SITE 3

SCALE
1"=50' HORIZONTAL
1"=10' VERTICAL

GUILFORD COUNTY
PROJECT: U-2524D
GREENSBORO - WESTERN LOOP
FROM EAST OF BATTLEGROUND AVENUE
TO EAST OF LAWNDALE DRIVE

SHEET 10 OF 25 11/13/15

10:46:40 AM
\\Xfrm Culvert_PFLs.dgn
$$$$USERNAME$$$$

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

HNTB
343 E. SIX FORKS ROAD, SUITE 200 NC License
RALEIGH, NC 27609 Number C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	9
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

8/17/99

REVISIONS

4:19:44 PM
N:\Projects\U2524D_prm_PSH_09.dgn
$$$$USERNAME$$$$

MATCH LINE –L– STA 477+00 SEE SHEET 8

MATCH LINE –L– STA 491+00 SEE SHEET 9B

THIS PORTION OF STREAM WILL REQUIRE 0.5 : 1 MITIGATION DUE TO INDIRECT PROJECT IMPACTS & LOSS OF FUNCTION.

SCALE
1" = 40'

SITE 4

SITE 4

NAD 83

N 63° 41' 56.5" E

N 83° 41' 23.3" E

PROPOSED SINGLE-FACED CONCRETE BARRIER

PROPOSED NOISE WALL 6

PROPOSED RETAINING WALL 6 (SOIL NAIL)

CULVERT CHANNEL IMPROVEMENTS (UPSTREAM) SEE DETAIL 25 CLASS I RIP-RAP EST. 25 TONS EST. 55 SYGF

LAT. 'V' DITCH SEE DETAIL 24 DDE = 127 CY

SPECIAL CUT DITCH w/HINGE SEE DETAIL 20

SPECIAL CUT DITCH SEE DETAIL 29

SPECIAL CUT DITCH w/HINGE SEE DETAIL 23

SPECIAL LAT. 'V' DITCH SEE DETAIL 13

SPECIAL CUT DITCH SEE DETAIL 22

CONC. DITCH BEHIND RETAINING WALL SEE DETAIL 5

'V' DITCH BEHIND NOISE WALL SEE DETAIL 1 520 SY PSRM DDE = 400 CY

'V' DITCH BEHIND NOISE WALL SEE DETAIL 2 DDE = 201 CY

2' BASE DITCH BEHIND NOISE WALL SEE DETAIL 37 DDE = 175 CY

curb placed approx. can't see it

END NOISE WALL –SPCY8–

1 @ 8' x 7' RCBC (NOT BURIED)

1 @ 8' x 7' RCBC (NOT BURIED)

36" CSP W/ 2 ELBOWS

18" W/ 2 ELBOWS

18" CSP W/ELBOW

30" CSP W/ELBOW

15" RCP-III

18" RCP-III

30" RCP-III

36" RCP-III

30" RCP-IV

15" RCP-IV

2GI-FG 15" RCP-W

3GI-A

2GI-A

2GI

FSR

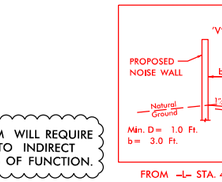
FSM

FSL

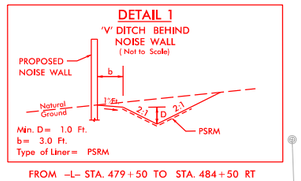
DI

BDO

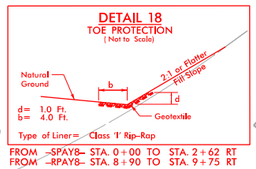
REMOVE



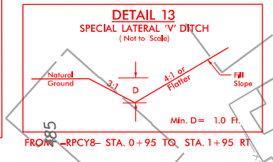
FROM –L– STA. 484+50 TO STA. 491+30 RT



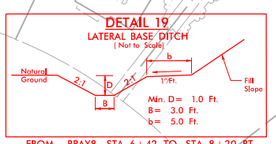
FROM –L– STA. 479+50 TO STA. 484+50 RT



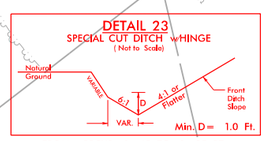
FROM –SPAY8– STA. 0+00 TO STA. 2+62 RT
FROM –RPAY8– STA. 8+90 TO STA. 9+75 RT



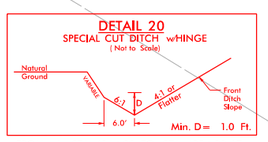
FROM –RPCY8– STA. 0+95 TO STA. 1+95 RT



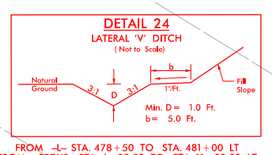
FROM –RPAY8– STA. 6+42 TO STA. 8+20 RT



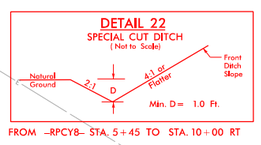
FROM –RPCY8– 0+45 TO 0+95 RT
FROM –RPCY8– 1+95 TO 2+95 RT



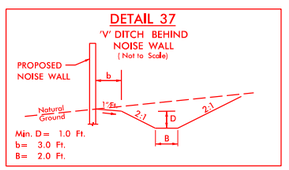
FROM –L– STA. 484+00 TO STA. 485+00 LT



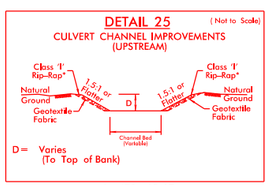
FROM –L– STA. 478+50 TO STA. 481+00 LT
FROM –RPBY8– STA. 6+23.82 TO STA. 11+03.82 LT
FROM –SPDY8– STA. 0+00 TO STA. 1+25 LT
FROM –SPDY8– STA. 1+30 TO STA. 2+90 LT



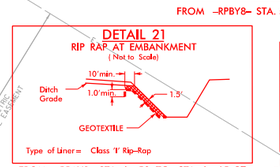
FROM –RPCY8– STA. 5+45 TO STA. 10+00 RT



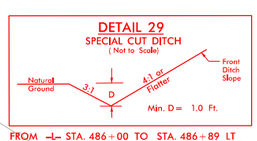
FROM –RPBY8– STA. 5+86 TO STA. 10+68 LT



–L– 478+65 LT
–L– 492+53 RT
–RPDY8– 5+00 LT



FROM –RPAY8– STA. 6+50 TO STA. 6+65 RT
FROM –SPCY8– STA. 1+54 TO STA. 1+68 RT
FROM –RPBY8– STA. 10+96 TO STA. 11+10 LT



FROM –L– STA. 486+00 TO STA. 486+89 LT
FROM –RPBY8– STA. 7+35 TO STA. 9+78.63 LT

PERMIT DRAWINGS
SHEET 11 OF 25

LEGEND

S S — DENOTES IMPACTS IN SURFACE WATER

TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

HNTB
343 E. SIX FORKS ROAD, SUITE 200 NC License
RALEIGH, NC 27609 Number C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	9
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

8/17/99

REVISIONS

MATCH LINE –L– STA 477+00 SEE SHEET 8

MATCH LINE –L– STA 491+00 SEE SHEET 9B

THIS PORTION OF STREAM WILL REQUIRE 0.5 : 1 MITIGATION DUE TO INDIRECT PROJECT IMPACTS & LOSS OF FUNCTION.

SCALE 1" = 40'

NAD 83

SITE 4

SITE 4

CULVERT CHANNEL IMPROVEMENTS (UPSTREAM) SEE DETAIL 25 CLASS I RIP-RAP EST. 25 TONS EST. 55 SYGF

PROPOSED SINGLE FACED CONCRETE BARRIER

LAT. 'V' DITCH SEE DETAIL 24 DDE = 277 CY

PROPOSED NOISE WALL 6

PROPOSED RETAINING WALL 6 (SOIL NAIL)

CONC. DITCH BEHIND RETAINING WALL SEE DETAIL 5

SPECIAL CUT DITCH w/HINGE SEE DETAIL 20

SPECIAL CUT DITCH SEE DETAIL 29

SPECIAL CUT DITCH w/HINGE SEE DETAIL 23

SPECIAL LAT. 'V' DITCH SEE DETAIL 13

SPECIAL CUT DITCH SEE DETAIL 22

'V' DITCH BEHIND NOISE WALL SEE DETAIL 1 520 SY TSRM DDE = 400 CY

'V' DITCH BEHIND NOISE WALL SEE DETAIL 2 DDE = 201 CY

2' BASE DITCH BEHIND NOISE WA SEE DETAIL 37 DDE = 175 CY

N 63°41'56.5" E

N 83°41'23.3" E

END NO –SPCY8–

DETAIL 2
'V' DITCH BEHIND NOISE WALL
(Not to Scale)

Min. D= 1.0 Ft.
b= 3.0 Ft.

FROM –L– STA. 484+50 TO STA. 491+30 RT

DETAIL 1
'V' DITCH BEHIND NOISE WALL
(Not to Scale)

Min. D= 1.0 Ft.
b= 3.0 Ft.
Type of Liner= PSRM

FROM –L– STA. 479+50 TO STA. 484+50 RT

DETAIL 18
TOE PROTECTION
(Not to Scale)

n= 1.0 Ft.
g= 4.0 Ft.
Type of Liner= Class 'I' Rip-Rap

FROM –SPAY8– STA. 0+00 TO STA. 2+62 RT
FROM –RPAY8– STA. 8+90 TO STA. 9+75 RT

DETAIL 13
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Min. D= 1.0 Ft.

FROM –RPCY8– STA. 0+95 TO STA. 1+95 RT

DETAIL 19
LATERAL BASE DITCH
(Not to Scale)

Min. D= 1.0 Ft.
B= 3.0 Ft.
b= 5.0 Ft.

FROM –RPAY8– STA. 6+42 TO STA. 8+20 RT

DETAIL 23
SPECIAL CUT DITCH w/HINGE
(Not to Scale)

Min. D= 1.0 Ft.

FROM –RPCY8– 0+45 TO 0+95 RT
FROM –RPCY8– 1+95 TO 2+95 RT

DETAIL 20
SPECIAL CUT DITCH w/HINGE
(Not to Scale)

Min. D= 1.0 Ft.

FROM –L– STA. 484+00 TO STA. 485+00 LT

DETAIL 24
LATERAL 'V' DITCH
(Not to Scale)

Min. D= 1.0 Ft.
b= 5.0 Ft.

FROM –L– STA. 478+50 TO STA. 481+00 LT
FROM –RPBY8– STA. 6+23.82 TO STA. 11+03.82 LT
FROM –SPDY8– STA. 0+00 TO STA. 1+25 LT
FROM –SPDY8– STA. 1+30 TO STA. 2+90 LT

DETAIL 22
SPECIAL CUT DITCH
(Not to Scale)

Min. D= 1.0 Ft.

FROM –RPCY8– STA. 5+45 TO STA. 10+00 RT

DETAIL 37
'V' DITCH BEHIND NOISE WALL
(Not to Scale)

Min. D= 1.0 Ft.
b= 3.0 Ft.
B= 2.0 Ft.

FROM –RPBY8– STA. 5+86 TO STA. 10+68 LT

DETAIL 25
CULVERT CHANNEL IMPROVEMENTS (UPSTREAM)
(Not to Scale)

D= Varies (To Top of Bank)

–L– 478+65 LT
–L– 492+53 RT
–RPDY8– 5+00 LT

DETAIL 21
RIP RAP AT EMBANKMENT
(Not to Scale)

Type of Liner= Class 'I' Rip-Rap

FROM –RPAY8– STA. 6+50 TO STA. 6+65 RT
FROM –SPCY8– STA. 1+54 TO STA. 1+68 RT
FROM –RPBY8– STA. 10+96 TO STA. 11+10 LT

DETAIL 29
SPECIAL CUT DITCH
(Not to Scale)

Min. D= 1.0 Ft.

FROM –L– STA. 486+00 TO STA. 486+89 LT
FROM –RPBY8– STA. 7+35 TO STA. 9+78.63 LT

PERMIT DRAWINGS
SHEET 12 OF 25

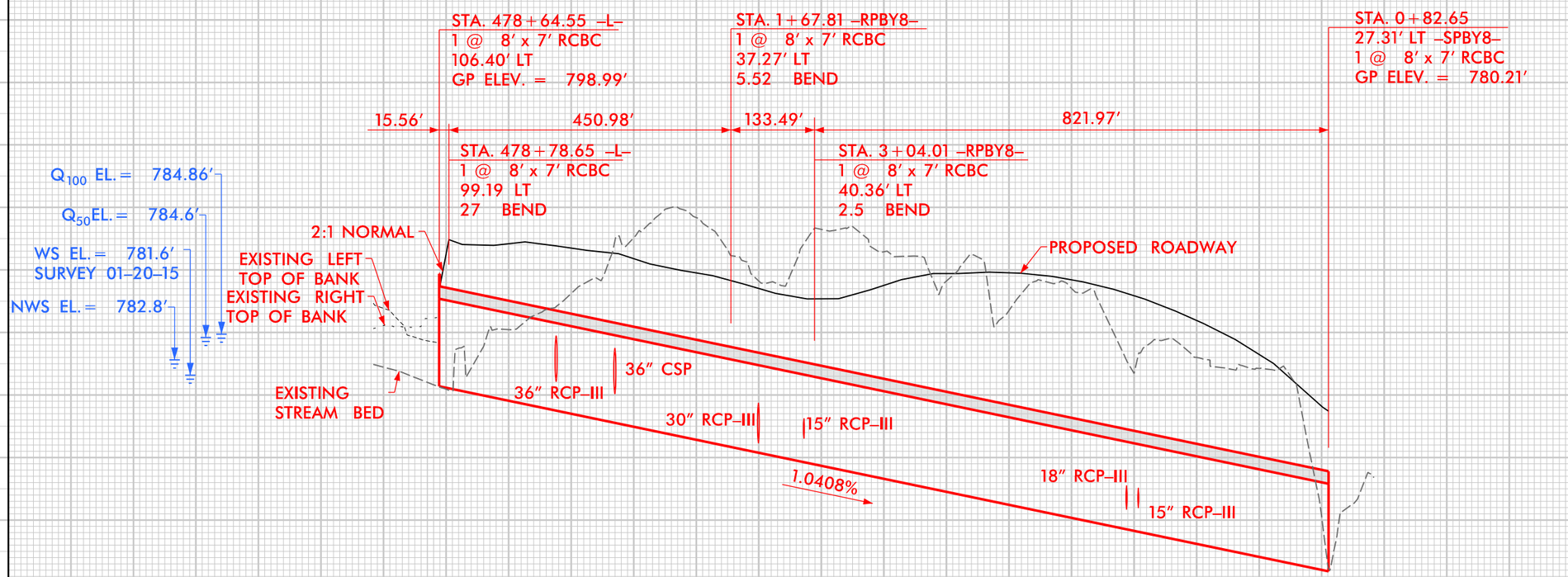
LEGEND
- S S — DENOTES IMPACTS IN SURFACE WATER
- TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER

4:18:36 PM
10/26/2010
$$$$USERNAME$$$$
U-2524D_prm_PSH_09_C.dgn

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



NOTE:
RCBC NOT BURIED DUE TO STREAM STABILITY CONCERNS AND LACK OF AQUATIC PASSAGE

PROFILE ALONG STRUCTURE

SITE 4

SCALE
1"=200' HORIZONTAL
1"=10' VERTICAL

GUILFORD COUNTY
PROJECT: U-2524D
GREENSBORO - WESTERN LOOP
FROM EAST OF BATTLEGROUND AVENUE
TO EAST OF LAWNDALE DRIVE

SHEET 13 OF 25 11/13/15

3:03:27 PM
11/13/2015
$$$$USERNAME$$$$
Culvert_PFLs.dgn

8/17/99

REVISIONS

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

HNTB
343 E. SIX FORKS ROAD, SUITE 200 NC License
RALEIGH, NC 27609 Number C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	9B
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

MATCH LINE –L– STA 491+00 SEE SHEET 9

MATCH LINE –L– STA 505+00 SEE SHEET 10

SITE 4

SITE 5

SITE 6

SITE 7

SITE 8

SITE 9

SCALE 1" = 40'

SCALE 1" = 40'

SCALE 1" = 40'

SCALE 1" = 40'

SCALE 1" = 40'

BEGIN NOISE WALL –RPAY8– STA. 9+83.7 40.16' RT

BEGIN NOISE WALL –Y8– STA. 23+10.73, 61.71' LT

TOE PROTECTION SEE DETAIL 18 EST. 170 TONS EST. 320 SYGF

3' LAT. BASE DITCH SEE DETAIL 19 DDE = 328 CY

RIP-RAP AT ENBANKMENT SEE DETAIL 21 EST. 15 TONS EST. 25 SYGF

CULVERT CHANNEL IMPROVEMENTS (UPSTREAM) SEE DETAIL 26

CULVERT CHANNEL IMPROVEMENTS (DOWNSTREAM) SEE DETAIL 27

CULVERT CHANNEL IMPROVEMENTS (UPSTREAM) SEE DETAIL 25 CLASS I RIP-RAP EST. 35 TONS EST. 60 SYGF

RIP-RAP AT EMBANKMENT SEE DETAIL 21 EST. 10 TONS EST. 20 SYGF

CULVERT CHANNEL IMPROVEMENTS (UPSTREAM) SEE DETAIL 25 CLASS I RIP-RAP EST. 15 TONS EST. 30 SYGF

BANK STABILIZATION SEE DETAIL 49 EST. 40 TONS EST. 80 SYGF

LAT. 'V' DITCH SEE DETAIL 24 DDE = 225 CY

LAT. 'V' DITCH SEE DETAIL 24

REMOVE 62' OF EXISTING 30" CMP

PROPOSED SINGLE-FACED CONCRETE BARRIER

PROPOSED RETAINING WALL 10

SE WALL 7 STA. 1+17.80, 68.73' RT

BEGIN SBG STA. 498+01.67 RT.

END SBG STA. 500+94.78 RT.

1 @ 10' x 7' RCBC (NOT BURIED)

2 @ 10' x 7' RCBC (NOT BURIED)

1 @ 7' x 3' RCBC (NOT BURIED)

DETAIL 49
BANK STABILIZATION
(Not to Scale)
GEOTEXTILE
CLASS 'I' RIP-RAP
Ditch Grade
1.5'
10'
Type of Liner = Class 'I' Rip-Rap
FROM –RPDY8– STA. 1+10 TO STA. 1+45 LT

DETAIL 25
CULVERT CHANNEL IMPROVEMENTS (UPSTREAM)
(Not to Scale)
Class 'I' Rip-Rap*
Natural Ground
Geotextile Fabric
1.5:1 or Flatter
D
Channel Bed (Variable)
D = Varies (To Top of Bank)
–L– 478+65 LT
–L– 492+53 RT
–RPDY8– 5+00 LT

DETAIL 26
CULVERT CHANNEL IMPROVEMENTS (UPSTREAM)
(Not to Scale)
(Looking Upstream)
Floodplain Bench Varies 0'– 5.0'
0.5' Above Bed
1.5' Min.
EST. 30 TONS CLASS I RIPRAP
EST. 60 SY GEOTEXTILE FABRIC
D = Varies (To Top of Bank)
–SPBY8– 0+90 LT

DETAIL 27
CULVERT CHANNEL IMPROVEMENTS (DOWNSTREAM)
(Not to Scale)
1.5' Min.
EST. 40 TONS CLASS I RIPRAP
EST. 80 SY GEOTEXTILE FABRIC
D = Varies (To Top of Bank)
–L– 503+01 LT

PERMIT DRAWINGS
SHEET 14 OF 25

LEGEND
S S DENOTES IMPACTS IN SURFACE WATER
TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NAD 83

5:16:28 PM
5:\0125240 prm PSH_09B.dgn
$$$$USERNAME$$$$

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

HNTB
343 E. SIX FORKS ROAD, SUITE 200 NC License
RALEIGH, NC 27609 Number C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	9B
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

REVISIONS
8/17/99

MATCH LINE –L– STA 491+00 SEE SHEET 9

MATCH LINE –L– STA 505+00 SEE SHEET 10

SITE 4 | SITE 5 | SITE 6 | SITE 7 | SITE 8 | SITE 9

SCALE 1" = 40'

BEGIN NOISE WALL –RPAY8– STA. 9+83.7 40.16' RT

TOE PROTECTION SEE DETAIL 18 EST. 170 TONS EST. 320 SYCF

3' LAT. BASE DITCH SEE DETAIL 19 DDE = 328 CY

RIP-RAP AT ENBANKMENT SEE DETAIL 21 EST. 15 TONS EST. 25 SYCF

CULVERT CHANNEL IMPROVEMENTS (UPSTREAM) SEE DETAIL 26

CULVERT CHANNEL IMPROVEMENTS (DOWNSTREAM) SEE DETAIL 27

CULVERT CHANNEL IMPROVEMENTS (UPSTREAM) SEE DETAIL 25 CLASS I RIP-RAP EST. 35 TONS EST. 60 SYCF

RIP-RAP AT EMBANKMENT SEE DETAIL 21 EST. 10 TONS EST. 20 SYCF

BANK STABILIZATION SEE DETAIL 49 EST. 40 TONS EST. 80 SYCF

LAT. 'V' DITCH SEE DETAIL 24 DDE = 225 CY

LAT. 'V' DITCH SEE DETAIL 24

PROPOSED SINGLE-FACED CONCRETE BARRIER

PROPOSED RETAINING WALL 10

SE WALL 7 STA. 1+17.80, 68.73' RT

BEGIN NOISE WALL –Y8– STA. 23+10.73, 61.71' LT

BEGIN SBG STA. 498+01.67 RT.

END SBG STA. 500+94.78 RT.

1 @ 10' x 7' RCBC (NOT BURIED)

2 @ 10' x 7' RCBC (NOT BURIED)

END PAVING +00 –LREV– GRADING ONLY

REMOVE 62' OF EXISTING 30" CMP

FROM –RPDY8– STA. 1+10 TO STA. 1+45 LT

N 70°14'25.8" E

N 81°58'55.5" W

S 13°40'55.4" E

N 83°01'43.2" W

S 82°13'19.7" W

S 78°05'28.0" W

N 78°06'36.0" E

NCDOT RIGHT OF WAY

NCDOT DB 4443 PG 905

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DB 3957 PG 181 PB 85 PG 113 DB 4768 PG 1993 PB 90 PG 119

KH PORTFOLIO I, LLC

ALICE E.M. KAWASHIMA & KIYOTAKA KAWASHIMA DB 4282 PG 0591

BROWN REA DB 2843 F PB 1PG WILEY B. W DB 4655 F MICHEAL L DB 1232 F

CITY OF GREENSBORO

KAVANAUGH ASSOCIATION INC.

IRENE AGAPION

NORTH CAROLINA ASSOCIATION

NAD 83

SCALE 1" = 40'

DETAIL 25 (Not to Scale)
CULVERT CHANNEL IMPROVEMENTS (UPSTREAM)
Class 'I' Rip-Rap* Natural Ground Geotextile Fabric 1.5:1 or Flatter D Channel Bed (Variable)
D = Varies (To Top of Bank)
–L– 478+65 LT
–L– 492+53 RT
–RPDY8– 5+00 LT

DETAIL 26 (Not to Scale) (Looking Upstream)
CULVERT CHANNEL IMPROVEMENTS (UPSTREAM)
Floodplain Bench Varies 0'± 5.0' 0.5' Above Bed 1.5' Min.
D = Varies (To Top of Bank)
EST. 30 TONS CLASS I RIPRAP EST. 60 SY GEOTEXTILE FABRIC
–SPBY8– 0+90 LT

DETAIL 27 (Not to Scale)
CULVERT CHANNEL IMPROVEMENTS (DOWNSTREAM)
1.5' Min.
D = Varies (To Top of Bank)
EST. 40 TONS CLASS I RIPRAP EST. 80 SY GEOTEXTILE FABRIC
–L– 503+01 LT

DETAIL 49
BANK STABILIZATION (Not to Scale)
GEOTEXTILE Ditch Grade CLASS 'I' RIP-RAP 1.5" 10' 10'
Type of Liner = Class 'I' Rip-Rap

PERMIT DRAWINGS
SHEET 15 OF 25

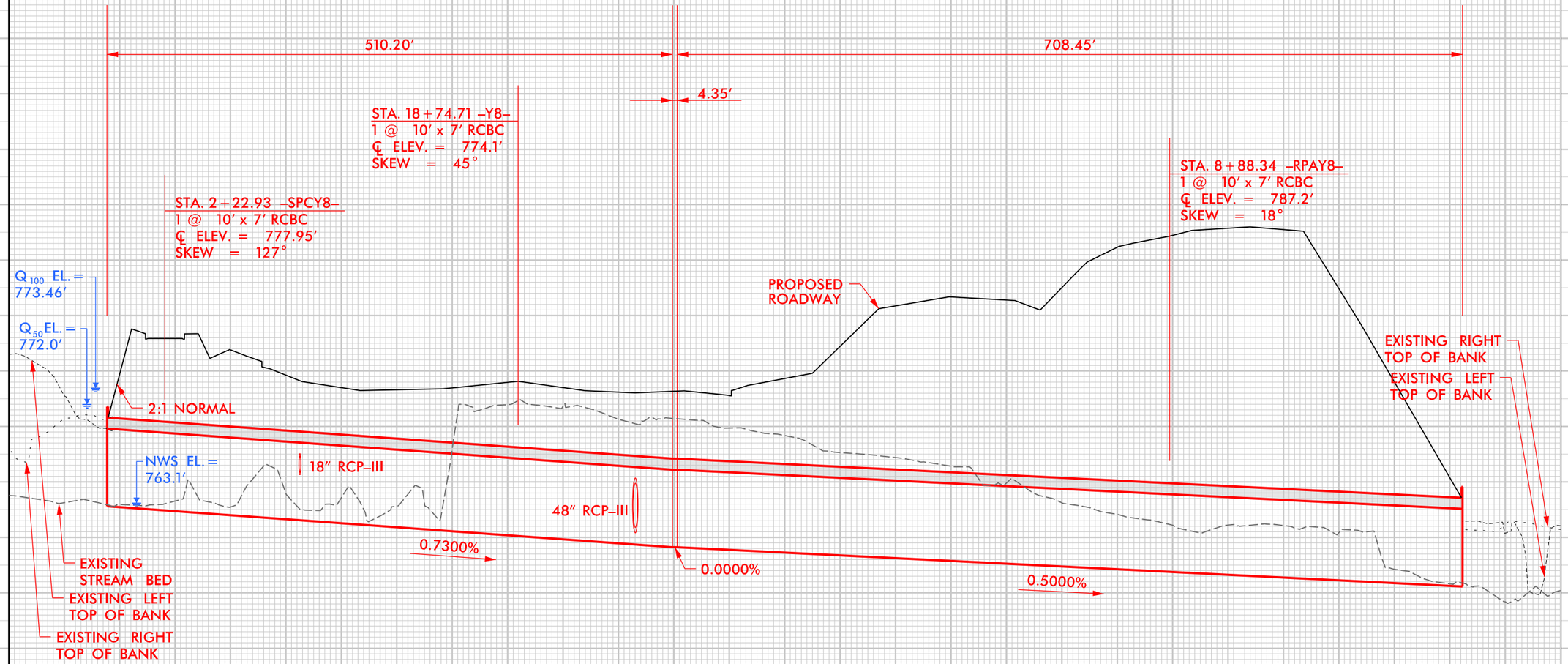
LEGEND
S S DENOTES IMPACTS IN SURFACE WATER
TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

5:\1106240_prm_PSH_09B_C.dgn
$$$$USERNAME$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



NOTE:
RCBC NOT BURIED DUE TO STREAM STABILITY CONCERNS AND LACK OF AQUATIC PASSAGE

PROFILE ALONG STRUCTURE

SITE 5

SCALE
1"=100' HORIZONTAL
1"=10' VERTICAL

GUILFORD COUNTY
PROJECT: U-2524D
GREENSBORO - WESTERN LOOP
FROM EAST OF BATTLEGROUND AVENUE
TO EAST OF LAWNDALE DRIVE

SHEET 16 OF 25 11/13/15

3:03:30 PM
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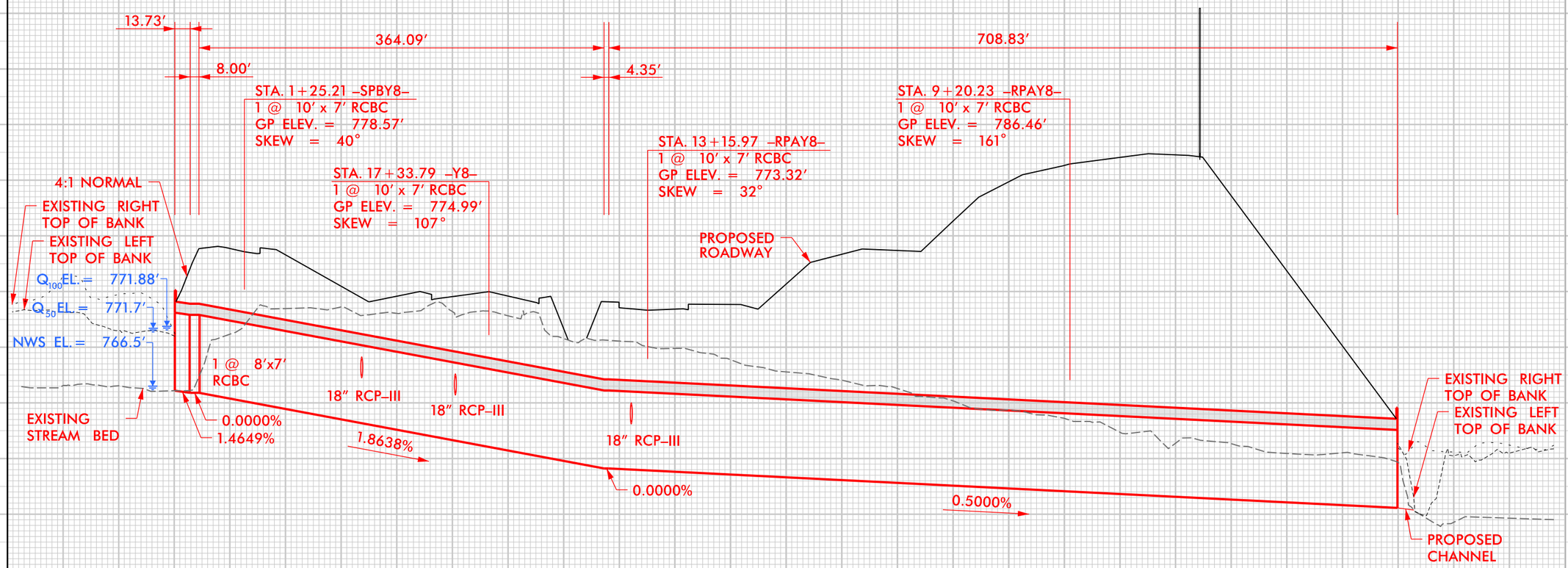
Program Culvert_PFLs.dgn

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



NOTE:
RCBC NOT BURIED DUE TO STREAM STABILITY CONCERNS AND LACK OF AQUATIC PASSAGE

PROFILE ALONG STRUCTURE

SITE 5 & 6

SCALE
1"=100' HORIZONTAL
1"=10' VERTICAL

GUILFORD COUNTY
PROJECT: U-2524D
GREENSBORO - WESTERN LOOP
FROM EAST OF BATTLEGROUND AVENUE
TO EAST OF LAWNDALE DRIVE

SHEET 17 OF 25 11/13/15

3/10/2016 2:28 PM
K:\TIP\U-2524D\Roadway\Culvert_PFLs.dgn
$$$$USERNAME$$$$

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

HNTB
343 E. SIX FORKS ROAD, SUITE 200 NC License Number C-1554
RALEIGH, NC 27609

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	10
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

REVISIONS
9/17/99

SCALE
1" = 40'

SITE 10
SITE 9
SITE 11

RIP-RAP BANK STABILIZATION
SEE DETAIL 42
CLASS 'I' RIP-RAP
EST. 30 TONS
EST. 50 SYGF

CULVERT CHANNEL IMPROVEMENTS (DOWNSTREAM)
SEE DETAIL 34
S = 2.2%
DDE = 165 CY

REMOVE EX. 48" CMP

MATCH LINE -L- STA 505+00 SEE SHEET 9

MATCH LINE -L- STA 519+00 SEE SHEET 10A

END NOISE WALL 8
-L- STA. 514+14.10, 81.81' LT

36" CAAP w/2 ELBOWS
2GI-FG
18" RCP-III
36" RCP-III
15" RCP-IV
30" RCP-III
24" RCP-III
FSM
2GI-A
3GI-A
N 88° 12' 10.2" E
1.0' x 8' RCBC (Bury 1.0')
FSR
2GI
FSL
18" CSP w/2 ELBOWS
BBO

SPECIAL CUT DITCH
SEE DETAIL 11

LATERAL 'V' DITCH
SEE DETAIL 33
EST. 90 SY PSRM

SPECIAL LAT. 'V' DITCH
SEE DETAIL 28
EST. 70 SY PSRM

'V' DITCH BEHIND NOISE WALL
SEE DETAIL 1
EST. 350 SY PSRM

'V' DITCH BEHIND NOISE WALL
SEE DETAIL 1
EST. 120 SY PSRM

'V' DITCH BEHIND NOISE WALL
SEE DETAIL 1
EST. 250 SY PSRM

RIP-RAP AT EMBANKMENT
SEE DETAIL 21
CLASS 'I' RIP-RAP
EST. 10 TONS
EST. 25 SYGF

PUE
PDE
TDE
JS
TS
FS
F
C
RW
CA

NOTE:
SEE SHEET 2B-2 FOR CURVE DATA
SEE SHEET 19 FOR -L- PROFILE
SEE SHEET 24 FOR RPAY8 PROFILE
SEE SHEET 27 FOR RPDY8 PROFILE

NAD 83

DETAIL 34
CULVERT CHANNEL IMPROVEMENTS (DOWNSTREAM)
(Not to Scale)
Class 'II' Rip-Rap*
Natural Ground
Geotextile Fabric
1.5' Min.
1.5:1 or Flatter
D
Channel Bed (Variable)
D = Varies (To Top of Bank)
EST. 170 TONS CLASS II RIPRAP
EST. 320 SY GEOTEXTILE FABRIC
-L- 505+49 LT

DETAIL FSL
FALSE SUMP
(Not to Scale)
0.5' Min. 1.0' Max.
Outside Ditch Traffic Flow
10:1
20:1
2.0'
GI etc.
S=Ditch Slope
℄ Proposed Ditch
-L- 515+35 LT

DETAIL FSM
FALSE SUMP
(Not to Scale)
Median Ditch
9"
2'
L (See Chart Below)
20'
GI etc.
S=Ditch Slope
℄ Proposed Ditch

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

-L- STA. 506+50 MED
-L- STA. 511+35 MED
-L- STA. 515+35 MED

DETAIL FSR
FALSE SUMP
(Not to Scale)
0.5' Min. 1.0' Max.
Outside Ditch Traffic Flow
20:1
10:1
2'
GI etc.
S=Ditch Slope
℄ Proposed Ditch
-L- STA. 511+35 RT
-L- STA. 515+35 RT

DETAIL 42
RIP RAP BANK STABILIZATION
(Not to Scale)
Natural Ground
1.5'
GEOTEXTILE
Type of Liner= Class 'I' Rip-Rap
FROM -RPAY8- STA. 3+58 TO STA. 3+95 RT

DETAIL 21
RIP-RAP AT EMBANKMENT
(Not to Scale)
10' min.
Ditch Grade
1.0' min.
1.5'
GEOTEXTILE
Type of Liner= Class 'I' Rip-Rap
FROM -L- STA. 504+90 TO STA. 505+10 RT

DETAIL 11
SPECIAL CUT DITCH
(Not to Scale)
VARIES
VAR.
VARIES
Natural Ground
2:1
6:1
6:1
SHLDR. PT.
DITCH PROFILE
FROM -L- STA. 508+00 to STA. 510+50 RT

DETAIL 33
LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
2:1
d
b
1'Ft.
2:1
Fill Slope
Min. D= 1.0 Ft.
Max. d= 1.0 Ft.
b= 5.0 Ft.
Type of Liner= PSRM
FROM -L- STA. 505+00 TO STA. 506+15 RT

DETAIL 28
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
2:1
d
D
4:1 or Flatter
Fill Slope
Min. D= 1.0 Ft.
Max. d= 1.0 Ft.
Type of Liner= PSRM
FROM -L- STA. 506+15 TO STA. 506+89 RT

DETAIL 1
'V' DITCH BEHIND NOISE WALL
(Not to Scale)
PROPOSED NOISE WALL
b
Natural Ground
1'Ft.
2:1
D
2:1
PSRM
Min. D= 1.0 Ft.
b= 3.0 Ft.
Type of Liner= PSRM
FROM -L- STA. 506+89 TO STA. 512+00 RT
FROM -L- STA. 514+00 TO STA. 517+00 RT
FROM -L- STA. 517+50 TO STA. 519+00 RT

PERMIT DRAWINGS
SHEET 18 OF 25

LEGEND
S S — DENOTES IMPACTS IN SURFACE WATER
TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
F F — DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING

9:50:39 AM
U:\PROJECTS\U2524D_prm_PSH_10.dgn
$$$$USERNAME$$$$

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

HNTB
343 E. SIX FORKS ROAD, SUITE 200 NC License
RALEIGH, NC 27609 Number C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	10
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

REVISIONS

9/17/99

SCALE
1" = 40'

MATCH LINE -L- STA 505+00 SEE SHEET 9

MATCH LINE -L- STA 519+00 SEE SHEET 10A

SITE 10

SITE 9

SITE 11

RIP-RAP BANK STABILIZATION
SEE DETAIL 42
CLASS 'I' RIP-RAP
EST. 30 TONS
EST. 50 SYGF

REMOVE EX. 48" CMP

CULVERT CHANNEL IMPROVEMENTS (DOWNSTREAM)
SEE DETAIL 34
S = 2.2%
DDE = 165 CY

DETAIL 34 (Not to Scale)
CULVERT CHANNEL IMPROVEMENTS (DOWNSTREAM)
Class 'I' Rip-Rap*
Natural Ground
Geotextile Fabric
1.5' Min.
1.5:1 or Flatter
D
Channel Bed (Variable)
D = Varies (To Top of Bank)
EST. 170 TONS CLASS II RIPRAP
EST. 320 SY GEOTEXTILE FABRIC
-L- 505+49 LT

DETAIL FSL
FALSE SUMP (Not to Scale)
Outside Ditch Traffic Flow
0.1
20:1
2.0
0.5' Min. 1.0' Max.
GI etc.
S=Ditch Slope
℄ Proposed Ditch
-L- 515+35 LT

DETAIL FSM
FALSE SUMP (Not to Scale)
Median Ditch
9'
2'
20'
GI etc.
S=Ditch Slope
℄ Proposed Ditch
(See Chart Below)

Ditch Grade	L
0.0% To 2.0%	20'
Over 2.0% To 4.0%	30'

Ditch Grade	L
Over 4.0% To 6.0%	40'
Over 6.0%	50'

-L- STA. 506+50 MED
-L- STA. 511+35 MED
-L- STA. 515+35 MED

DETAIL FSR
FALSE SUMP (Not to Scale)
Outside Ditch Traffic Flow
20:1
10:1
2'
0.5' Max.
GI etc.
S=Ditch Slope
℄ Proposed Ditch
-L- STA. 511+35 RT
-L- STA. 515+35 RT

DETAIL 42
RIP RAP BANK STABILIZATION (Not to Scale)
Natural Ground
1.5'
GEOTEXTILE
Type of Liner = Class 'I' Rip-Rap
FROM -RPAY8- STA. 3+58 TO STA. 3+95 RT

NAD 83

END NOISE WALL 8
-L- STA. 514+14.10, 81.81' LT

36" CAAP w/2 ELBOWS
2GI-FG
18" RCP-III
FSM
2GI-A
36" RCP-III
3GI-A
30" RCP-III
15" RCP-IV
N 88°12'10" E
24" RCP-III
18" RCP-III
FSR
2GI
FSL
1'-0" x 8' RCOC (BURY 1.0')
15" RCP-IV

SPECIAL CUT DITCH
SEE DETAIL 11

LATERAL 'V' DITCH
SEE DETAIL 33
EST. 90 SY PSRM

SPECIAL LAT. 'V' DITCH
SEE DETAIL 28
EST. 70 SY PSRM

'V' DITCH BEHIND NOISE WALL
SEE DETAIL 1
EST. 350 SY PSRM

RIP-RAP AT EMBANKMENT
SEE DETAIL 21
CLASS 'I' RIP-RAP
EST. 10 TONS
EST. 25 SYGF

18" CSP w/2 ELBOWS
BBO

'V' DITCH BEHIND NOISE WALL
SEE DETAIL 1
EST. 120 SY PSRM

'V' DITCH BEHIND NOISE WALL
SEE DETAIL 1
EST. 250 SY PSRM

PDE
PUE
RW
CA
JS
TS
SS
F
C

DETAIL 21
RIP-RAP AT EMBANKMENT (Not to Scale)
10' min.
1.0' min.
Ditch Grade
1.5'
GEOTEXTILE
Type of Liner = Class 'I' Rip-Rap
FROM -L- STA. 504+90 TO STA. 505+10 RT

DETAIL 11
SPECIAL CUT DITCH (Not to Scale)
VARIES
VARIES
Natural Ground
2:1
6:1
SHLDR. PT.
DITCH PROFILE
FROM -L- STA. 508+00 to STA. 510+50 RT

DETAIL 33
LATERAL 'V' DITCH
Natural Ground
d
2:1
6:1
b
1'/Ft.
Fill Slope
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
b = 5.0 Ft.
Type of Liner = PSRM
FROM -L- STA. 505+00 TO STA. 506+15 RT

DETAIL 28
SPECIAL LATERAL 'V' DITCH (Not to Scale)
Natural Ground
2:1
D
4:1 or Flatter
Fill Slope
d
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
Type of Liner = PSRM
FROM -L- STA. 506+15 TO STA. 506+89 RT

DETAIL 1
'V' DITCH BEHIND NOISE WALL (Not to Scale)
PROPOSED NOISE WALL
b
Natural Ground
1'/Ft.
2:1
D
2:1
PSRM
Min. D = 1.0 Ft.
b = 3.0 Ft.
Type of Liner = PSRM
FROM -L- STA. 506+89 TO STA. 512+00 RT
FROM -L- STA. 514+00 TO STA. 517+00 RT
FROM -L- STA. 517+50 TO STA. 519+00 RT

NOTE:
SEE SHEET 2B-2 FOR CURVE DATA
SEE SHEET 19 FOR -L- PROFILE
SEE SHEET 24 FOR RPAY8 PROFILE
SEE SHEET 27 FOR RPDY8 PROFILE

PERMIT DRAWINGS
SHEET 19 OF 25

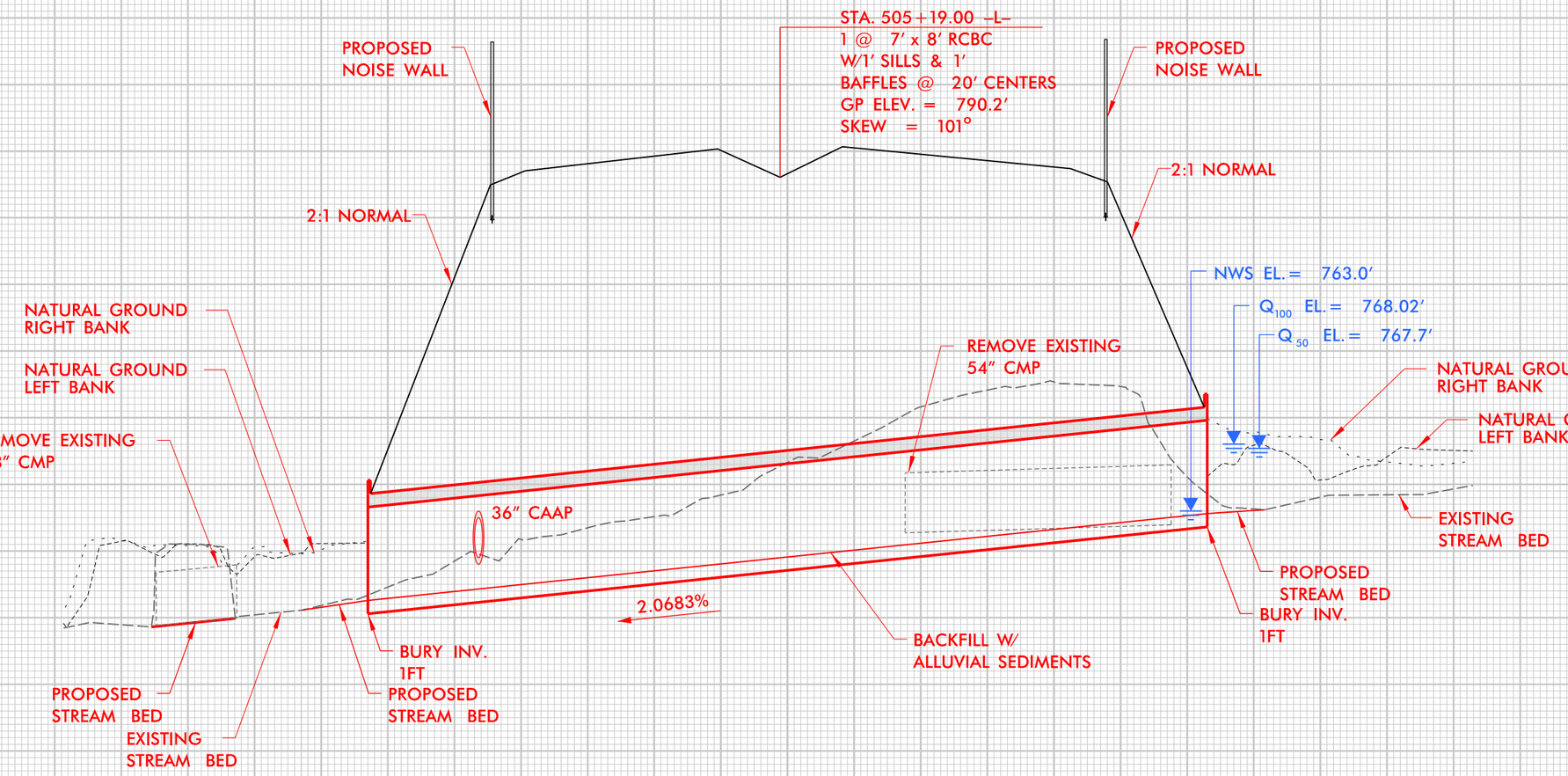
LEGEND
S S — DENOTES IMPACTS IN SURFACE WATER
TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
F F — DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING

9526222.AN
$$$$USERNAME$$$$
$$$$DATE$$$$ prm_PSH_10_C.dgn
$$$$USERNAME$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



PROFILE ALONG STRUCTURE

SITE 9

SCALE
1"=50' HORIZONTAL
1"=10' VERTICAL

GUILFORD COUNTY
PROJECT: U-2524D
GREENSBORO - WESTERN LOOP
FROM EAST OF BATTLEGROUND AVENUE
TO EAST OF LAWNDALE DRIVE

SHEET 20 OF 25 11/13/15

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Custom_Culvert_PFLs.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-97

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

800 795 790 785 780 775 770 765 760 755 750

CLEARING LIMITS

PROPOSED NOISE WALL 8

0.0200

0.0200

6:1

790.37

D.P. 784233

509+50.00 –L–

WLB

2:1

F

F F

DENOTES FILL IN WETLAND

WETLAND CROSS SECTION

SITE 11

GUILFORD COUNTY
PROJECT: U-2524D
GREENSBORO - WESTERN LOOP
FROM EAST OF BATTLEGROUND AVENUE
TO EAST OF LAWNDALE DRIVE

SHEET 21 OF 25 11/13/15

9:28:45 AM
D:\Projects\U2524D_prm_xsc.dgn
$$$$USERNAME$$$$

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

HNTB
343 E. SIX FORKS ROAD, SUITE 200 NC License
RALEIGH, NC 27609 Number C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	10A
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

10

8/17/99

REVISIONS

NAD 83

SCALE
1" = 40'

MATCH LINE -L- STA. 519+00 SEE SHEET 10

SITE 12

CLASS 'I' RIP-RAP
EST. 57 TONS
EST. 104 SYCF
(NO RIP-RAP IS TO BE PLACED IN STREAM BED)
SEE DETAIL 16

TOE PROTECTION
SEE DETAIL 30
EST. 315 SY PSRM

END FUTURE SBG
STA. 524+34.50 LT.

BEGIN FUTURE SBG
STA. 520+34.50 LT.

15" RCP-IV
72" RCP-III
72" RCP-IV (BURY 1.0')
18" RCP-III
36" RCP-IV
36" RCP-III
15" RCP-III
12" RCP-III
2GI
2GI-FG
2GI-A
FSM
FSL
FSR
JB W/ SLAB TOP
OTCB
GTD
HW
TS
JS
SP BOWS

STUB-OUT 96 LF
36" RCP-III FOR
FUTURE U-2525C
DRAINAGE

END NOISE WALL 9
-L- STA. 548+12.55, 75.00' RT

TOE PROTECTION
SEE DETAIL 30
EST. 340 SY PSRM

'V' DITCH BEHIND
NOISE WALL
SEE DETAIL 1
EST. 90 SY PSRM
DDE = 60 CY

TOE PROTECTION
SEE DETAIL 30
EST. 65 SY PSRM

SPECIAL LAT.
'V' DITCH
SEE DETAIL 28
EST. 30 SY PSRM

SCALE
1" = 40'

DETAIL 16
PIPE OUTLET CHANNEL
(Not to Scale)
Natural Ground
MIN. 2:1 TO EXISTING BANK
MIN. 2:1 TO EXISTING BANK
HW
d
Class I Rip-Rap
Geotextile
CHANNEL BED (Variable)
Length = 24.0 Ft.
d = Top of Bank
-L- STA. 521+25 LT

DETAIL 1
'V' DITCH BEHIND NOISE WALL
(Not to Scale)
PROPOSED NOISE WALL
Natural Ground
b
d
1'-6"
2:1
2:1
PSRM
Min. D = 1.0 Ft.
b = 3.0 Ft.
Type of Liner = PSRM
FROM -L- STA. 519+00 TO STA. 520+25 RT

DETAIL 28
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
2:1
D
d
4:1 or Flatter
Fill Slope
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
Type of Liner = PSRM
FROM -L- STA. 520+25 TO STA. 520+50 RT

DETAIL 30
TOE PROTECTION
(Not to Scale)
NATURAL GROUND
b
d
2:1 OR FLATTER
FILL SLOPE
d = 2.0 Ft.
b = 4.0 Ft.
Type of Liner = PSRM
FROM -L- STA. 520+50 TO STA. 521+15 RT
FROM -L- STA. 521+30 TO STA. 523+00 RT
FROM -L- STA. 520+60 TO STA. 524+00 LT

PERMIT DRAWINGS
SHEET 22 OF 25

LEGEND
S S DENOTES IMPACTS IN SURFACE WATER
TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NOTE:
SEE SHEET 19 FOR -L- PROFILE

11:32:34 AM
$$$$CURRENTDATE$$$$
$$$$USERNAME$$$$
U-2524D_prm_PSH_10A.dgn

8/17/99

REVISIONS

10

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

HNTB
343 E. SIX FORKS ROAD, SUITE 200 NC License
RALEIGH, NC 27609 Number C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	10A
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

NAD 83

MATCH LINE -L- STA 519+00 SEE SHEET 10

SCALE
1" = 40'

SITE 12

CLASS 'I' RIP-RAP
EST. 57 TONS
EST. 104 SYCF
(NO RIP-RAP IS TO BE PLACED IN STREAM BED)
SEE DETAIL 16

TOE PROTECTION
SEE DETAIL 30
EST. 315 SY PSRM

END FUTURE SBG
STA. 524+34.50 LT.

BEGIN FUTURE SBG
STA. 520+34.50 LT.

15" RCP-IV
2GI-FG
72" RCP-III BURY 1.0'
JB W/ SLAB LID
FSL 2GI
18" RCP-III
FSM 2GI
36" RCP-IV
FSM 36" RCP-III
2GI-A
GID
STUB-OUT 96 LF 36" RCP-III FOR FUTURE U-2525C DRAINAGE
15" RCP-III
72" RCP-IV BURY 1.0'
JB W/ SLAB LID
FSR 2GI
OTCB
18" RCP-III
SP BOWS
HW
END NOISE WALL 9
-L- STA. 548+12.55, 75.00' RT
TOE PROTECTION
SEE DETAIL 30
EST. 340 SY PSRM

'V' DITCH BEHIND NOISE WALL
SEE DETAIL 1
EST. 90 SY PSRM
DDE = 60 CY

TOE PROTECTION
SEE DETAIL 30
EST. 65 SY PSRM

SPECIAL LAT. 'V' DITCH
SEE DETAIL 28
EST. 30 SY PSRM

SCALE
1" = 40'

DETAIL 16
PIPE OUTLET CHANNEL
(Not to Scale)
Natural Ground
MIN. 2:1 TO EXISTING BANK
MIN. 2:1 TO EXISTING BANK
Class I Rip-Rap
Geotextile
CHANNEL BED (Variable)
Length = 24.0 Ft.
d = Top of Bank
-L- STA. 521+25 LT

DETAIL 1
'V' DITCH BEHIND NOISE WALL
(Not to Scale)
PROPOSED NOISE WALL
Natural Ground
Min. D = 1.0 Ft.
b = 3.0 Ft.
Type of Liner = PSRM
FROM -L- STA. 519+00 TO STA. 520+25 RT

DETAIL 28
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
4:1 OR Flatter
Fill Slope
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
Type of Liner = PSRM
FROM -L- STA. 520+25 TO STA. 520+50 RT

DETAIL 30
TOE PROTECTION
(Not to Scale)
NATURAL GROUND
2:1 OR FLATTER
d = 2.0 Ft.
b = 4.0 Ft.
FILL SLOPE
Type of Liner = PSRM
FROM -L- STA. 520+50 TO STA. 521+15 RT
FROM -L- STA. 521+30 TO STA. 525+00 RT
FROM -L- STA. 520+60 TO STA. 524+00 LT

NOTE:
SEE SHEET 19 FOR -L- PROFILE

PERMIT DRAWINGS
SHEET 23 OF 25

LEGEND
S S DENOTES IMPACTS IN SURFACE WATER
TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

11:34:30 AM
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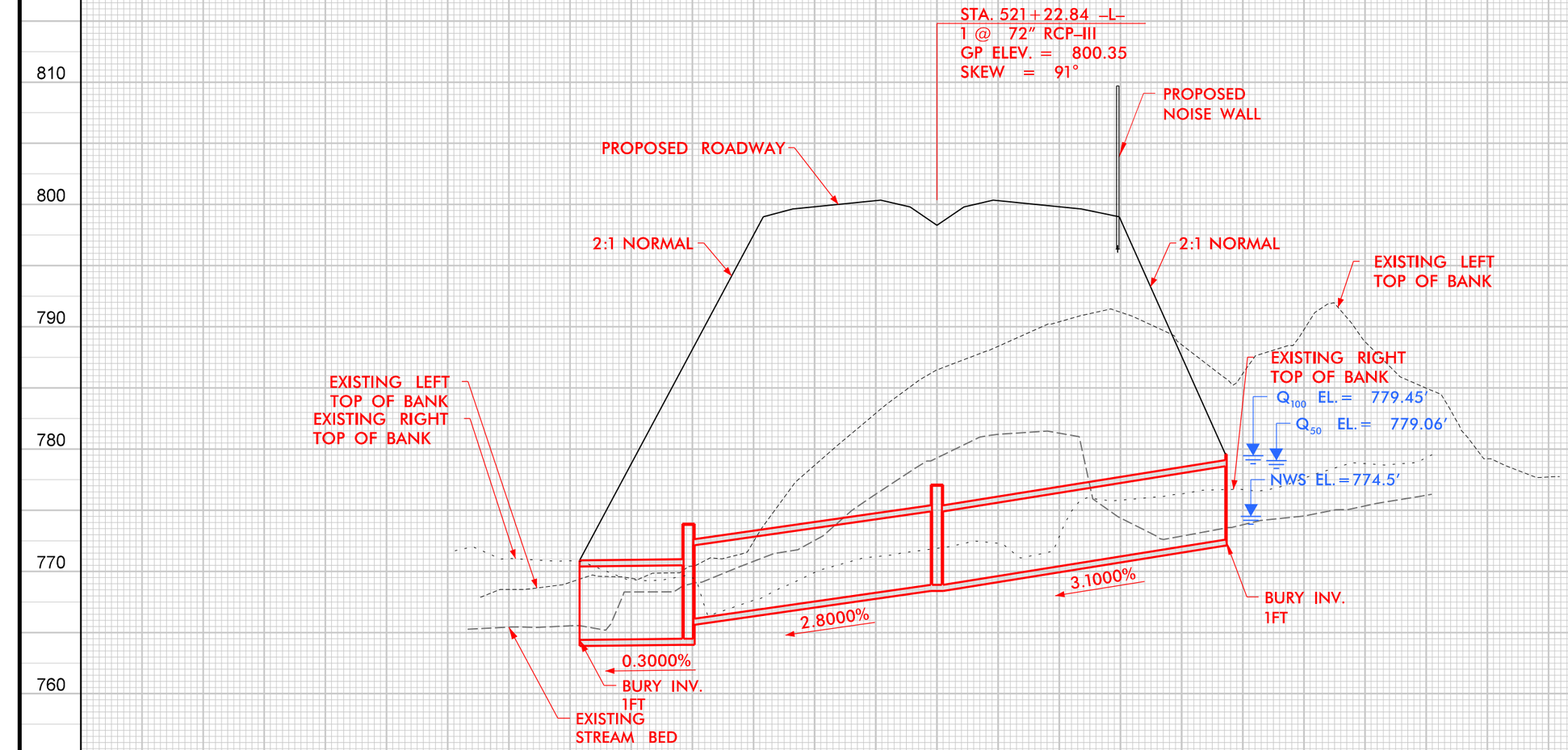
$$$$USERNAME$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



PROFILE ALONG STRUCTURE

SITE 12

SCALE
1"=50' HORIZONTAL
1"=10' VERTICAL

GUILFORD COUNTY
PROJECT: U-2524D
GREENSBORO - WESTERN LOOP
FROM EAST OF BATTLEGROUND AVENUE
TO EAST OF LAWNDALE DRIVE

SHEET 24 OF 25 11/13/15

10:46:25 AM
\\Storm Culvert_PFLs.dgn
$$$$USERNAME$$$$

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	-L- 434+26 - 434+49	Bank Stabilization						< 0.01	< 0.01	15	15	
2	-L- 440+16 - 443+31	48" / 30" RCP						0.05	< 0.01	414	10	
3A	-L- 458+38 - 458+84	4' Base Ditch						< 0.01		96		
3	-L- 462+49 - 471+23	4' Base Ditch / 60" RCP						0.09		996		
		Bank Stabilization						< 0.01	< 0.01	24	10	
4	-L- 478+25 - 494+65	1 @ 8' X 7' RCBC						0.15	< 0.01	1581	12	
5	-L- 491+99 - 503+80	1 @ 10' X 7' / 2 @ 10' X 7' RCBC						0.27	0.01	1192	43	
6	-L- 492+63 - 493+02	1 @ 10' X 7' RCBC						0.02	< 0.01	158	16	
7	-L- 497+58 - 499+12	48" RCP						0.04		291		
		Bank Stabilization						< 0.01	< 0.01	23	10	
8	-L- 502+83 - 503+29	Bank Stabilization						0.01	< 0.01	46	18	
9	-L- 504+11 - 505+91	1 @ 7' X 8' RCBC						0.07	< 0.01	388	20	
10	-L- 505+41 - 505+96	Bank Stabilization						0.01	< 0.01	34	20	
11	-L- 508+61 - 510+08	Roadway Fill	0.05			0.03						
12	-L- 521+16 - 521+61	72"RCP						0.05	< 0.01	284	10	
		Bank Stabilization						< 0.01	< 0.01	24	5	
TOTALS*:			0.05			0.03		0.77	0.04	5566	189	0

*Rounded totals are sum of actual impacts

NOTES:
- 780 LF OF STREAM BETWEEN SITES 3 & 4 WILL REQUIRE 0.5 : 1 MITIGATION DUE TO INDIRECT PROJECT IMPACTS & LOSS OF FUNCTION.

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
11/13/15
Guilford
U-2524D
34820.1.2
SHEET 25 OF 25

Revised 2013 10 24

PROJECT REFERENCE NO. U-2524D — SHEET NO. UC-8

DESIGNED BY: DMP
DRAWN BY: DMP
CHECKED BY: DMP
APPROVED BY:
REVISED:

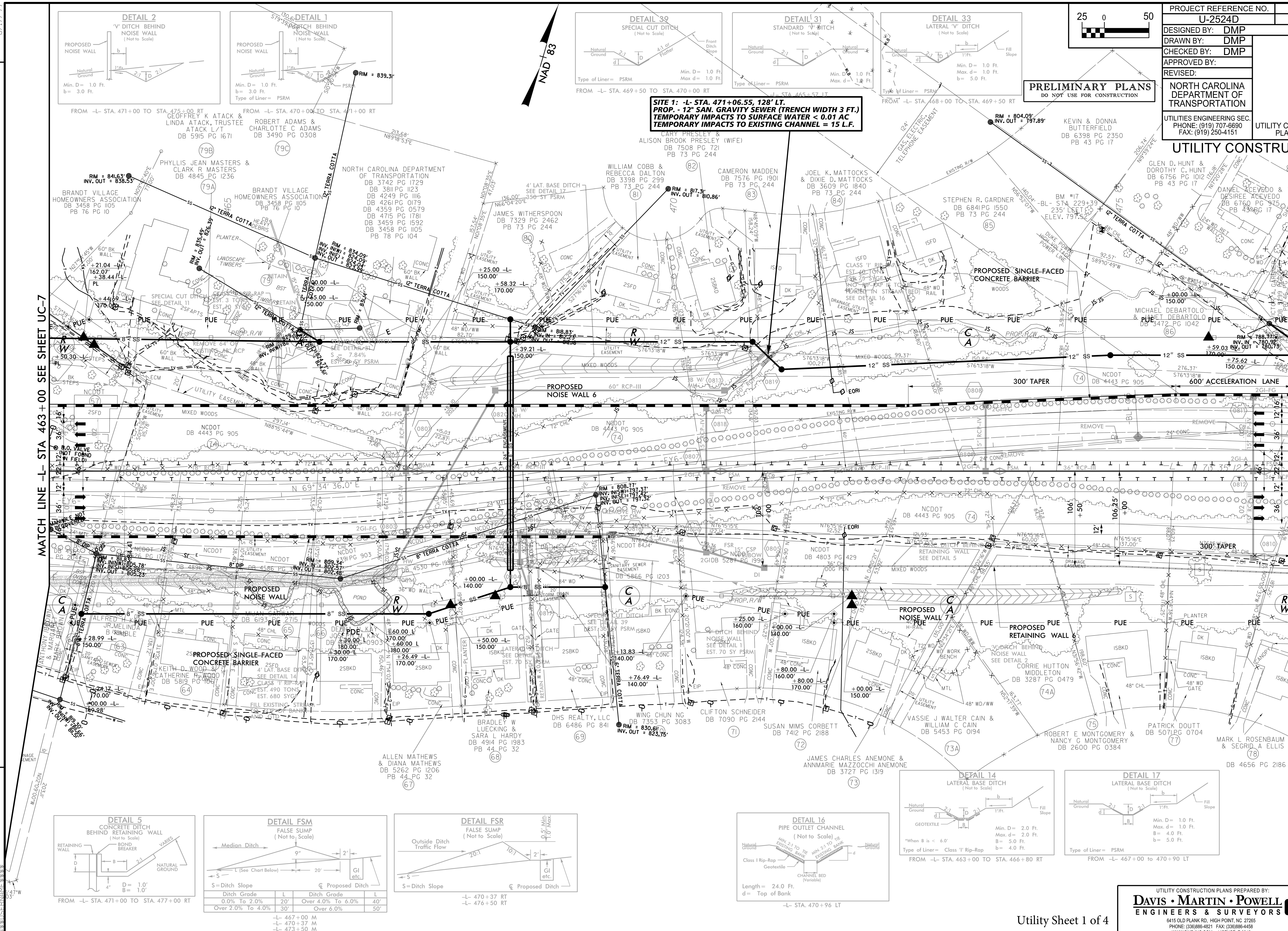
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE: (919) 707-6690
FAX: (919) 250-4151

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



Utility Sheet 1 of 4

UTILITY CONSTRUCTION PLANS PREPARED BY:
DAVIS · MARTIN · POWELL
ENGINEERS & SURVEYORS
6415 OLD PLANK RD, HIGH POINT, NC 27265
PHONE: (336)886-4821 FAX: (336)886-4458
WWW.DMP-INC.COM LICENSE: F-0245

8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	UC-9
DESIGNED BY: DMP	
DRAWN BY: DMP	
CHECKED BY: DMP	
APPROVED BY:	
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE: (919) 707-6690
FAX: (919) 250-4151

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

25 0 50

SITE 2: -L- STA. 477+92.58, 144' LT.
PROP. - 12" SAN. GRAVITY SEWER (TRENCH WIDTH 3 FT.)
TEMPORARY IMPACTS TO SURFACE WATER < 0.01 AC
TEMPORARY IMPACTS TO EXISTING CHANNEL = 15 L.F.

NAD 83

DETAIL 2
'V' DITCH BEHIND NOISE WALL
(Not to Scale)
Min. D= 1.0 Ft.
b= 3.0 Ft.
FROM -L- STA. 484+50 TO STA. 491+30 RT

DETAIL 1
'V' DITCH BEHIND NOISE WALL
(Not to Scale)
Min. D= 1.0 Ft.
b= 3.0 Ft.
Type of Liner= PSRM
FROM -L- STA. 479+50 TO STA. 484+50 RT

DETAIL 13
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Min. D= 1.0 Ft.
Type of Liner= Class 'I' Rip-Rap
FROM -SPAY8- STA. 0+00 TO STA. 2+62 RT
FROM -RPAY8- STA. 8+90 TO STA. 9+75 RT

FROM -RPCY8- STA. 0+95 TO STA. 1+95 RT

DETAIL 22
SPECIAL CUT DITCH
(Not to Scale)
Min. D= 1.0 Ft.
FROM -RPCY8- STA. 5+45 TO STA. 10+00 RT

Type of Liner= Class 'I' Rip-Rap
FROM -RPAY8- STA. 6+50 TO STA. 6+65 RT
FROM -SPCY8- STA. 1+54 TO STA. 1+68 RT
FROM -RPBY8- STA. 10+96 TO STA. 11+10 LT

DETAIL 37
'V' DITCH BEHIND NOISE WALL
(Not to Scale)
Min. D= 1.0 Ft.
b= 3.0 Ft.
B= 2.0 Ft.
FROM -RPBY8- STA. 5+86 TO STA. 10+68 LT

FROM -L- STA. 486+00 TO STA. 486+89 LT
FROM -RPBY8- STA. 7+35 TO STA. 9+78.63 LT

JUDITH HERNANDEZ DB 7430 PG 2303 (95C)
ANGELA TRICOLI DB 6555 PG 0118 (95B)
DB 6811 PG 0665 DB 4677 PG 0337
BATTLE FOREST VILLAGE ASSOCIATION DB 2960 PG 0474 DB 3005 PG 0875 PB 63 PG 88 PB 63 PG 08 (94)
EQAULITY
POT Sta. 483+00
POT Sta. 484+00.
JOSEPH A GENTILE & ANNE M GENTILE DB 3122 PG 0793 (92A)
HOWARD THOMPSON DB 7195 PG 2108 (92B)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DB 4382 PG 1528 DB 4952 PG 0120 DB 5945 PG 0534
LINDA MCINTOSH DB 6084 PG 0971 (93C)
BARBARA ANN HUFFMAN DB 2908 PG 0297 (94A)
NORTH CAROLINA DEPT. OF TRANSPORTATION DB 4654 PG 2065 DB 4341 PG 1093 (96)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
VICTOR A. GARDNER DB 5299 PG 0561 PB 46 PG 65 (87)
MICHEAL E BONNER & JUDITH A BONNER DB 3443 PG 1008 PB 46 PG 65 (88)
CJ CHEEK DB 5053 PG 1421 PB46 PG 65
NCDOT (FORMERLY) RICHARD A HAITH & TEREASA J HAITH DB 7500 PG 64 (90)
JULIA A PRUDEN DB 2952 PG 147 (91)
NCDOT DB 4443 PG 905 (74)
MARK L ROSENBAUM & SEGRID A ELLIS (78)
FRANCES QUINTIS (unmarried) LINDA MOSSIE (unmarried) DB 7212 PG 1346 (107)
WALTER D DEZEARN & KATHY B DEZEARN DB 4694 PG 0848 PB 47 PG 7 (108)
THE HEDGES APARTMENTS, LLC DB 4496 PG 1732 PB 73 PG 93 (74)

PROPOSED SINGLE-FACED CONCRETE BARRIER
PROPOSED NOISE WALL 6
PROPOSED NOISE WALL 7
PROPOSED RETAINING WALL 6
PROPOSED GUARDRAIL
360' DECELERATION LANE
300' TAPER
220' TAPER
320' TAPER
END RETAINING WALL 6, +00
END NOISE WALL -SPCY8- STA. 1+
SPECIAL CUT DITCH w/HINGE SEE DETAIL 20
SPECIAL CUT DITCH w/HINGE SEE DETAIL 23
SPECIAL CUT DITCH SEE DETAIL 22
SPECIAL LAT. 'V' DITCH SEE DETAIL 13
CONC. DITCH BEHIND RETAINING WALL SEE DETAIL 5
'V' DITCH BEHIND NOISE WALL SEE DETAIL 2
2' BASE DITCH BEHIND NOISE WALL SEE DETAIL 1
curbed placed approx. can't see it
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

MATCH LINE -L- STA 477+00 SEE SHEET UC-8
MATCH LINE -L- STA 491+00 SEE SHEET UC-9A

UTILITY CONSTRUCTION PLANS PREPARED BY:
DAVIS • MARTIN • POWELL ENGINEERS & SURVEYORS
6415 OLD PLANK RD. HIGH POINT, NC 27265
PHONE: (336)886-4821 FAX: (336)886-4458
WWW.DMP-INC.COM LICENSE: F-0245

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	UC-9A
DESIGNED BY: DMP	
DRAWN BY: DMP	
CHECKED BY: DMP	
APPROVED BY:	
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE: (919) 707-6690
FAX: (919) 250-4151

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

25 0 50

NAD 83

REVISIONS

8/17/99

MATCH LINE –Y8– STA 14+00 SEE SHEET UC–13

MATCH LINE –L– STA 491+00 SEE SHEET UC–9

MATCH LINE –L– STA 505+00 SEE SHEET UC–10

MATCH LINE –Y8– STA 24+00 SEE SHEET UC–14

SITE 4: -L- STA. 492+66.24, 273' LT.
PROP. - 12" SAN. GRAVITY SEWER (TRENCH WIDTH 3 FT.)
TEMPORARY IMPACTS TO SURFACE WATER < 0.01 AC
TEMPORARY IMPACTS TO EXISTING CHANNEL = 15 L.F.

SITE 6: -L- STA. 503+79.45, 218' LT.
PROP. - 12" SAN. GRAVITY SEWER (TRENCH WIDTH 3 FT.)
TEMPORARY IMPACTS TO SURFACE WATER < 0.01 AC
TEMPORARY IMPACTS TO EXISTING CHANNEL = 15 L.F.

SITE 3: -L- STA. 492+27.14, 295' RT.
PROP. - 8" SAN. GRAVITY SEWER (TRENCH WIDTH 3 FT.)
TEMPORARY IMPACTS TO SURFACE WATER < 0.01 AC
TEMPORARY IMPACTS TO EXISTING CHANNEL = 15 L.F.

SITE 5: -L- STA. 497+75.22, 306' RT.
PROP. - 12" SAN. GRAVITY SEWER (TRENCH WIDTH 3 FT.)
TEMPORARY IMPACTS TO SURFACE WATER < 0.01 AC
TEMPORARY IMPACTS TO EXISTING CHANNEL = 15 L.F.

PROP. - 586 L.F. OF 8" WATER LINE

PROPOSED NOISE WALL 8 TO BE CONSTRUCTED UNDER U-2524D

PROPOSED NOISE WALL 9 TO BE CONSTRUCTED UNDER U-2524D

PROPOSED PAVEMENT STRUCTURE AND SINGLE FACE BARRIER ALONG NOISE WALLS 8 & 9 TO BE CONSTRUCTED UNDER U-2525C

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Utility Sheet 3 of 4

UTILITY CONSTRUCTION PLANS PREPARED BY:
DAVIS • MARTIN • POWELL ENGINEERS & SURVEYORS
6415 OLD PLANK RD, HIGH POINT, NC 27265
PHONE: (336)886-4821 FAX: (336)886-4458
WWW.DMP-INC.COM LICENSE: F-0245

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: 404 Permanent Fill In Wetlands (ac)	CAMA Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	404 Hand Clearing in Wetlands (ac)	CAMA 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)
1	-L- 471+06.55, 128' LT.	Prop. 12" Gravity Sewer Line									< 0.01*		15	
2	-L- 477+92.58, 144' LT.	Prop. 12" Gravity Sewer Line									< 0.01*		15	
3	-L- 492+27.14, 295' RT.	Prop. 8" Gravity Sewer Line									< 0.01*		15	
4	-L- 492+66.24, 273' LT.	Prop. 12" Gravity Sewer Line									< 0.01*		15	
5	-L- 497+75.22, 306' RT.	Prop. 12" Gravity Sewer Line									< 0.01*		15	
6	-L- 503+79.45, 218' LT.	Prop. 12" Gravity Sewer Line									< 0.01*		15	
TOTALS:			0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.02*	0	90	0.00

* Temporary Excavation
* Excavated material will be set to the side and then placed back into the trench.

NC DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

GUILFORD COUNTY
WBS - 34820.2.19 (U-2524D)

ATN Revised 10/21/05

Utility

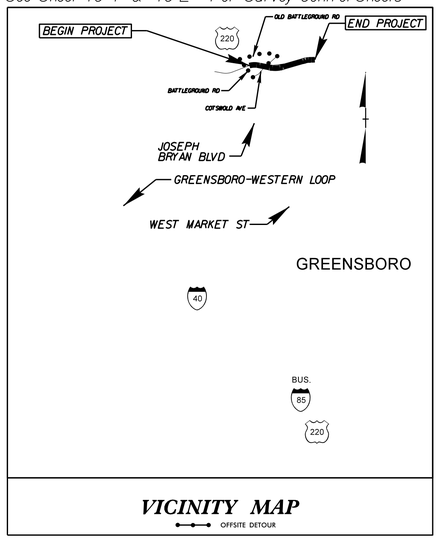
SHEET 4 of 4

09/08/99

TIP PROJECT: U-2524D

CONTRACT: C203792

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols
See Sheet 1C-1 & 1C-2 For Survey Control Sheets



VICINITY MAP

OFFSITE DETOUR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GUILFORD COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2524D	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34820.1.2	STP-NHF-124(1)	P.E.
34820.2.19	STP-NHF-124(1)	R.O.W./UTILITY
34820.3.GVS	STP-NHF-124(1)	CONSTR.

LOCATION: GREENSBORO-WESTERN LOOP FROM EAST OF US 220 (BATTLEGROUND AVENUE) TO EAST OF SR 2303 (LAWNDALE DRIVE)

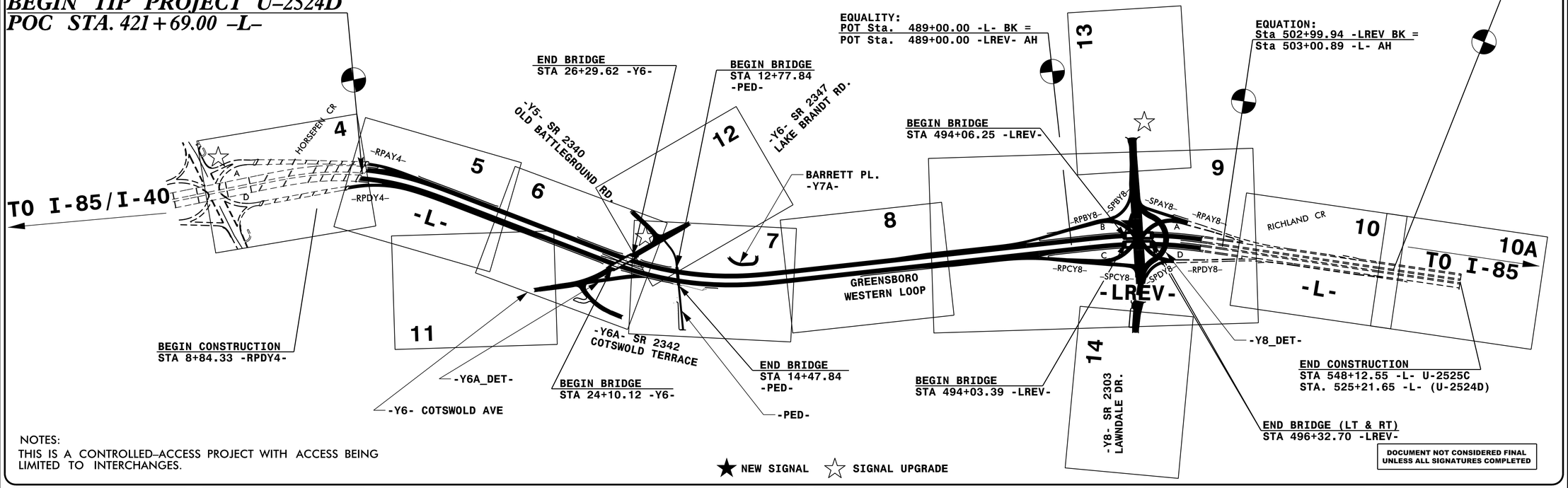
TYPE OF WORK: GRADING, PAVING, CULVERTS, DRAINAGE, STRUCTURES, ITS AND SIGNALS

END TIP PROJECT U-2524D
POT STA 520+34.53 -L- BK.
N 871507.2766 E 1756411.5108

END TIP PROJECT U-2525C
POT STA 552+99.67 -L- AH.
N 871505.0126 E 1756411.6682

BEGIN TIP PROJECT U-2524D
POC STA. 421+69.00 -L-

NAD 83
NC GRID



NOTES:
THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.

★ NEW SIGNAL ☆ SIGNAL UPGRADE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2016 = 65,756
ADT 2036 = 98,793
K = 10 %
D = 60 %
T = 14 % *
V = 70 MPH
* TTST = 8% DUAL 6%
FUNC CLASS = FREEWAY

INTERSTATE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-2524D = 1.825 MILES

LENGTH STRUCTURES TIP PROJECT U-2524D = 0.043 MILES

TOTAL LENGTH OF TIP PROJECT U-2524D = 1.868 MILES

NCDOT CONTACT: REKHA PATEL, P.E.

PLANS PREPARED BY:
PARSONS
5540-Centerview Drive, Suite 217
Raleigh, NC 27606
Bus: 919-854-1345 Fax: 919-851-2103
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
SEPTEMBER 23, 2011

LETTING DATE:
SEPTEMBER 20, 2016

TIM D. GOINS, P.E.
PROJECT ENGINEER

DAVID GARRETT
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER

SIGNATURE: *P.E.*

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER *P.E.*

25-APR-2016 12:30
R:\Roadway\Proj\U2524D_RDY_TSH.DGN
$$$$USERNAME$$$$

8/17/99

PLANS PREPARED BY :

PARSONS

RALEIGH, NORTH CAROLINA, (919) 854-1345

NC LICENSE NO. F-0246

FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	1A

ROADWAY DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

25-APR-2016 12:30
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$$$$USERNAME$$$$

04/06/15

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	1B

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale **S.U.E. = Subsurface Utility Engineering*

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
- Existing Historic Property Boundary — HPB
- Known Contamination Area: Soil
- Potential Contamination Area: Soil
- Known Contamination Area: Water
- Potential Contamination Area: Water
- Contaminated Site: Known or Potential

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 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
- U/G Power Line LOS B (S.U.E.*) — P
- U/G Power Line LOS C (S.U.E.*) — P
- U/G Power Line LOS D (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- U/G Telephone Cable LOS B (S.U.E.*) — T
- U/G Telephone Cable LOS C (S.U.E.*) — T
- U/G Telephone Cable LOS D (S.U.E.*) — T
- U/G Telephone Conduit LOS B (S.U.E.*) — TC
- U/G Telephone Conduit LOS C (S.U.E.*) — TC
- U/G Telephone Conduit LOS D (S.U.E.*) — TC
- U/G Fiber Optics Cable LOS B (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS C (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS D (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line LOS B (S.U.E*) — W
- U/G Water Line LOS C (S.U.E*) — W
- U/G Water Line LOS D (S.U.E*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- U/G TV Cable LOS B (S.U.E.*) — TV
- U/G TV Cable LOS C (S.U.E.*) — TV
- U/G TV Cable LOS D (S.U.E.*) — TV
- U/G Fiber Optic Cable LOS B (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS C (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS D (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line LOS B (S.U.E.*) — G
- U/G Gas Line LOS C (S.U.E.*) — G
- U/G Gas Line LOS D (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
- SS Forced Main Line LOS B (S.U.E.*) — FSS
- SS Forced Main Line LOS C (S.U.E.*) — FSS
- SS Forced Main Line LOS D (S.U.E.*) — FSS

MISCELLANEOUS:

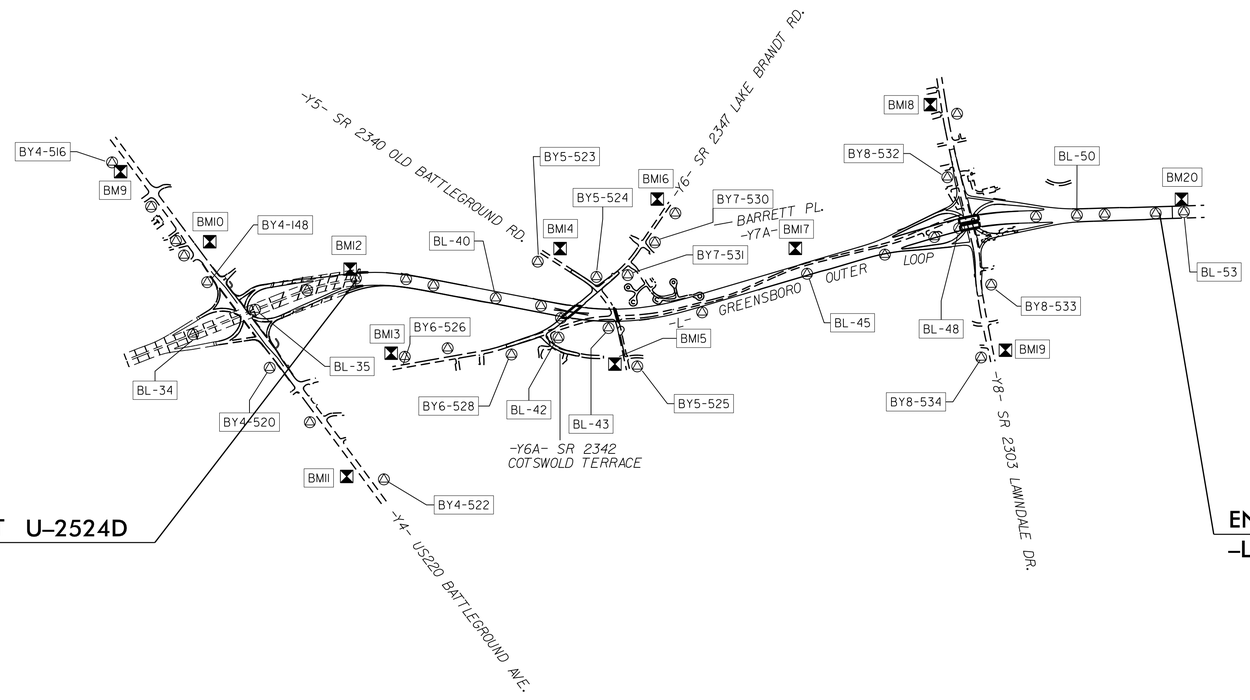
- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line LOS B (S.U.E.*) — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc.
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole LOS A (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	IC-1
LOCATIONS AND SURVEYS	

U–2524D SURVEY CONTROL SHEET

NC GRID • NAD 83



BEGIN STATE PROJECT U–2524D
–L– STA. 421+69.00

END STATE PROJECT U–2524D
–L– STA. 517+50.00

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "ROYAL"
WITH NAD 83 STATE PLANE GRID COORDINATES OF
NORTHING: 855082.5976(ft) EASTING: 1758541.3714(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99994019
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "ROYAL" TO -L- STATION 421+69.00 IS
N 37° 03' 16.89" W 19,589.198'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NGVD 29

NOTES

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/

THE FILES TO BE FOUND ARE AS FOLLOWS:
u2524c_ls_control_060209.txt

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

△ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM FROM EXISTING HARN MONUMENTATION.

25-APR-2016 12:30
R:\Projects\8801\U2524D_LS_PSH_01C-1.dgn
$$$$USERNAME$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	IC-2
LOCATIONS AND SURVEYS	

U-2524D SURVEY CONTROL SHEET

BASELINE DATA

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
34	BL-34	870076.8920	1744818.3150	748.80	401+39.33	1.58 LT
35	BL-35	870318.5750	1745461.6710	759.20	408+26.49	9.74 RT
36	BL-36	870592.1470	1746153.6100	747.12	415+70.79	2.47 RT
37	BL-37	870730.2080	1746724.5970	769.28	421+57.95	14.87 LT
38	BL-38	870721.4030	1747311.5100	801.13	427+42.03	21.10 LT
39	BL-39	870647.9620	1747631.2250	826.31	430+68.84	3.02 LT
40	BL-40	870499.6970	1748360.4680	839.40	438+12.96	4.64 RT
41	BL-41	870410.1310	1748890.5270	830.86	443+50.39	7.67 LT
42	BL-42	870184.5010	1749152.7560	858.04	446+47.00	166.00 RT
43	BL-43	870241.4390	1749725.0240	856.95	451+94.30	57.65 RT
44	BL-44	870413.1320	1750742.7460	817.62	462+14.59	53.28 RT
45	BL-45	870870.1320	1751970.0520	803.29	475+20.96	38.32 LT
46	BL-46	871098.5900	1752884.1760	781.87	484+62.38	0.83 RT
47	BL-47	871277.3710	1753402.7510	775.20	490+10.34	24.13 LT
48	BL-48	871378.4520	1753867.2250	771.97	494+84.66	0.31 LT
49	BL-49	871454.8640	1754681.8660	766.80	503+04.10	1.86 LT
50	BL-50	871469.5310	1755160.0400	773.61	507+82.49	1.52 LT
51	BL-51	871479.8370	1755485.0000	803.90	511+07.62	1.63 LT
52	BL-52	871492.1330	1756082.2560	820.42	517+04.97	4.81 RT
53	BL-53	871506.8710	1756411.5390	800.85	520+34.55	0.41 RT

BY4

POINT	DESC.	NORTH	EAST	ELEVATION	Y4 STATION	OFFSET
516	BY4-516	872172.0440	1743973.4730	825.88	OUTSIDE PROJECT LIMITS	
517	BY4-517	871642.0510	1744363.8190	801.13	12+60.32	46.30 RT
518	BY4-518	871194.6560	1744692.3140	779.97	18+15.35	50.38 RT
519	BY3-519	870961.6770	1744782.2040	771.49	20+55.85	117.58 RT
519	BY4-519	870735.3310	1745045.0440	760.50	23+94.42	42.17 RT
35	BL-35	870318.5750	1745461.6710	759.20	29+77.57	42.71 LT
520	BY4-520	869743.0220	1745780.3410	759.02	36+29.46	45.85 RT
521	BY4-521	869114.4210	1746252.5010	756.98	44+15.64	43.08 RT
522	BY4-522	868329.3770	1746961.6070	788.35	OUTSIDE PROJECT LIMITS	

BY5

POINT	DESC.	NORTH	EAST	ELEVATION	Y5 STATION	OFFSET
523	BY5-523	871001.5930	1748912.1760	839.00	OUTSIDE PROJECT LIMITS	
524	BY5-524	870659.4260	1749523.3260	851.97	15+16.48	29.43 LT
43	BL-43	870241.4390	1749725.0240	856.95	OUTSIDE PROJECT LIMITS	
525	BY5-525	869701.3680	1749923.0790	860.99	OUTSIDE PROJECT LIMITS	

BY6

POINT	DESC.	NORTH	EAST	ELEVATION	Y6 STATION	OFFSET
526	BY6-526	869724.8680	1747278.3750	811.97	OUTSIDE PROJECT LIMITS	
527	BY6-527	869820.5720	1747827.0570	831.85	OUTSIDE PROJECT LIMITS	
528	BY6-528	869920.0680	1748510.9790	849.58	16+68.10	26.98 RT
529	BY6-529	870110.7230	1749071.2860	856.97	22+44.98	64.93 RT
42	BL-42	870184.5010	1749152.7560	858.04	23+49.34	57.45 RT

BY7

POINT	DESC.	NORTH	EAST	ELEVATION	Y7 STATION	OFFSET
5	U2524C5	871542.5460	1750385.0180	857.24	OUTSIDE PROJECT LIMITS	
530	BY7-530	871170.4360	1750131.1340	857.67	OUTSIDE PROJECT LIMITS	
531	BY7-531	870817.6680	1749853.0770	855.36	OUTSIDE PROJECT LIMITS	
524	BY5-524	870659.4260	1749523.3260	851.97	OUTSIDE PROJECT LIMITS	

BY8

POINT	DESC.	NORTH	EAST	ELEVATION	Y8 STATION	OFFSET
7	U2524C-7	872643.8630	1753652.9950	807.30	OUTSIDE PROJECT LIMITS	
532	BY8-532	872027.4230	1753706.1830	792.29	12+08.55	40.33 RT
48	BL-48	871378.4520	1753867.2250	771.97	18+77.20	37.36 RT
533	BY8-533	870658.1030	1754051.5980	807.08	26+20.45	41.10 LT
534	BY8-534	869883.1010	1754118.5700	843.02	OUTSIDE PROJECT LIMITS	

BENCHMARK DATA

BM9 ELEVATION - 819.53
N 871979 E 1743971
Y4 STATION 12+00
N 69° 51' 51.7" W DIST 292.18
RR SPIKE IN 22 INCH OAK

BM10 ELEVATION - 762.53
N 871159 E 1745014
Y4 STATION 20+36 186 LEFT
RR SPIKE IN 10 INCH MAPLE

BM11 ELEVATION - 770.80
N 868461 E 1746694
Y4 STATION 48+93
S 22° 18' 15.9" E DIST 320.49
RR SPIKE IN 32 INCH OAK

BM12 ELEVATION - 748.99
N 870839 E 1746657
L STATION 421+03 130 LEFT
NAIL IN 12 INCH GUM

BM13 ELEVATION - 806.64
N 869750 E 1747183
Y6 STATION 10+00
S 85° 29' 55.7" W DIST 670.01
RR SPIKE IN 26 INCH MAPLE

BM14 ELEVATION - 838.41
N 871003 E 1749032
Y5 STATION 10+00
N 29° 20' 41.8" W DIST 89.26
RR SPIKE IN 10 INCH POPLAR

BM15 ELEVATION - 858.80
N 869765 E 1749815
Y7 STATION 13+00
S 4° 28' 25.1" W DIST 241.95
RR SPIKE IN 30 INCH OAK

BM16 ELEVATION - 858.87
N 871624 E 1750336
Y6 STATION 38+36
N 27° 01' 55.4" E DIST 377.11
RR SPIKE IN 18 INCH OAK

BM17 ELEVATION - 797.52
N 871082 E 1751866
L STATION 474+81 271 LEFT
RR SPIKE IN 9 INCH CHERRY

BM18 ELEVATION - 808.40
N 872785 E 1753511
Y8 STATION 10+00
N 18° 44' 24.6" W DIST 575.94
RR SPIKE IN 22 INCH OAK

BM19 ELEVATION - 841.27
N 869867 E 1754214
Y8 STATION 31+26
S 22° 19' 57.9" E DIST 312.72
RR SPIKE IN 18 INCH OAK

BM20 ELEVATION - 787.30
N 871657 E 1756384
L STATION 520+12 151 LEFT
RR SPIKE IN 24 INCH OAK

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "ROYAL" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 855082.5976(ft) EASTING: 1758541.3714(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99994019 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "ROYAL" TO -L- STATION 421+69.00 IS N 37° 03' 16.89" W 19,589.198' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NGVD 29

NOTES

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT: HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/

   THE FILES TO BE FOUND ARE AS FOLLOWS: u2524c_ls_control_060209.txt

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

2. PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM FROM EXISTING HARN MONUMENTATION.

25-APR-2016 12:30
R:\Roadway\Proj\U2524D_LS_PSH_01C-2.dgn
$$$$USER

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	ID

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CENTERLINE COORDINATE LIST

Point #	Chain	Station	Northing (Y)	Easting (X)
1	L	421+00.00	870709.4808	1746668.4034
2	L	422+00.00	870718.8665	1746767.9553
3	L	423+00.00	870724.2636	1746867.8029
4	L	424+00.00	870725.6635	1746967.7864
5	L	425+00.00	870723.0641	1747067.7460
6	L	426+00.00	870716.4694	1747167.5216
7	L	427+00.00	870705.9587	1747266.9618
8	L	428+00.00	870692.1347	1747365.9981
9	L	429+00.00	870675.8332	1747464.6586
10	L	430+00.00	870657.8834	1747563.0337
11	L	431+00.00	870639.1084	1747661.2553
12	L	432+00.00	870620.1939	1747759.4503
13	L	433+00.00	870601.2795	1747857.6452
14	L	434+00.00	870582.3651	1747955.8401
15	L	435+00.00	870563.4506	1748054.0351
16	L	436+00.00	870544.5362	1748152.2300
17	L	437+00.00	870525.6218	1748250.4249
18	L	438+00.00	870506.7073	1748348.6198
19	L	439+00.00	870487.7929	1748446.8148
20	L	440+00.00	870468.8785	1748545.0097
21	L	441+00.00	870449.9640	1748643.2046
22	L	442+00.00	870431.0496	1748741.3996
23	L	443+00.00	870412.1352	1748839.5945
24	L	444+00.00	870393.2207	1748937.7894
25	L	445+00.00	870374.3885	1749036.0001
26	L	446+00.00	870356.2264	1749134.3365
27	L	447+00.00	870339.5170	1749232.9291
28	L	448+00.00	870325.0487	1749331.8739
29	L	449+00.00	870313.5794	1749431.2094
30	L	450+00.00	870305.4218	1749530.8715
31	L	451+00.00	870300.5902	1749630.7501
32	L	452+00.00	870299.0900	1749730.7342
33	L	453+00.00	870300.9228	1749830.7127
34	L	454+00.00	870306.0865	1749930.5747
35	L	455+00.00	870314.5755	1750030.2091
36	L	456+00.00	870326.3804	1750129.5052
37	L	457+00.00	870341.4879	1750228.3527
38	L	458+00.00	870359.8813	1750326.6419
39	L	459+00.00	870381.5181	1750424.2686
40	L	460+00.00	870405.9582	1750521.2334
41	L	461+00.00	870432.4278	1750617.6653
42	L	462+00.00	870460.1537	1750713.7444
43	L	463+00.00	870488.3762	1750809.6793
44	L	464+00.00	870516.6326	1750905.6041
45	L	465+00.00	870544.8890	1751001.5290
46	L	466+00.00	870573.1454	1751097.4538
47	L	467+00.00	870601.4018	1751193.3787
48	L	468+00.00	870629.6582	1751289.3035
49	L	469+00.00	870657.9146	1751385.2284
50	L	470+00.00	870686.1710	1751481.1532
51	L	471+00.00	870714.4273	1751577.0780
52	L	472+00.00	870742.6837	1751673.0029
53	L	473+00.00	870770.9401	1751768.9277
54	L	474+00.00	870799.1965	1751864.8526
55	L	475+00.00	870827.4529	1751960.7774
56	L	476+00.00	870855.7093	1752056.7023
57	L	477+00.00	870883.9657	1752152.6271
58	L	478+00.00	870912.2221	1752248.5520
59	L	479+00.00	870940.4785	1752344.4768
60	L	480+00.00	870968.7349	1752440.4017
61	L	481+00.00	870996.9912	1752536.3265
62	L	482+00.00	871025.2476	1752632.2514
63	L	483+00.00	871053.5040	1752728.1762
64	L	484+00.00	871081.7604	1752824.1011
65	L	485+00.00	871110.0168	1752920.0259
66	L	486+00.00	871138.2732	1753015.9508
67	L	487+00.00	871166.5296	1753111.8756
68	L	488+00.00	871194.7860	1753207.8005
69	L	489+00.00	871223.0424	1753303.7253
70	LREV	489+00.00	871223.0436	1753303.7295
71	LREV	490+00.00	871251.2979	1753399.6550
72	LREV	491+00.00	871279.3313	1753495.6451
73	LREV	492+00.00	871306.5166	1753591.8783
74	LREV	493+00.00	871332.1769	1753688.5284
75	LREV	494+00.00	871355.6327	1753785.7357
76	LREV	495+00.00	871376.4608	1753883.5395
77	LREV	496+00.00	871394.6165	1753981.8744
78	LREV	497+00.00	871410.0864	1754080.6674
79	LREV	498+00.00	871422.8589	1754179.8452
80	LREV	499+00.00	871432.9247	1754279.3342
81	LREV	500+00.00	871440.3611	1754379.0548

Point #	Chain	Station	Northing (Y)	Easting (X)
82	LREV	501+00.00	871445.7065	1754478.9106
83	LREV	502+00.00	871449.6565	1754578.8321
84	LREV	502+99.94	871452.9068	1754678.7155
85	L	503+00.00	871452.8791	1754677.8305
86	L	504+00.00	871456.0152	1754777.7813
87	L	505+00.00	871459.1514	1754877.7322
88	L	506+00.00	871462.2875	1754977.6830
89	L	507+00.00	871465.4237	1755077.6338
90	L	508+00.00	871468.5598	1755177.5846
91	L	509+00.00	871471.6960	1755277.5354
92	L	510+00.00	871474.8321	1755377.4862
93	L	511+00.00	871477.9683	1755477.4370
94	L	512+00.00	871481.1044	1755577.3878
95	L	513+00.00	871484.2406	1755677.3386
96	L	514+00.00	871487.3767	1755777.2895
97	L	515+00.00	871490.5129	1755877.2403
98	L	516+00.00	871493.6490	1755977.1911
99	L	517+00.00	871496.7852	1756077.1419
100	L	518+00.00	871499.9213	1756177.0927
101	L	519+00.00	871503.0575	1756277.0435
102	L	520+00.00	871506.1936	1756376.9943
103	L	521+00.00	871509.3297	1756476.9451
104	L	522+00.00	871512.4659	1756576.8959
105	L	523+00.00	871515.6020	1756676.8467
106	L	524+00.00	871518.7382	1756776.7976
107	L	525+00.00	871521.8743	1756876.7484
108	L	525+47.71	871523.3706	1756924.4336
109	Y5	12+00.00	870816.9301	1749243.9118
110	Y5	12+50.00	870789.8653	1749285.9534
111	Y5	13+00.00	870762.8005	1749327.9950
112	Y5	13+50.00	870735.7356	1749370.0366
113	Y5	14+00.00	870708.3604	1749411.8743
114	Y5	14+50.00	870679.1397	1749452.4407
115	Y5	15+00.00	870647.9281	1749491.4960
116	Y5	15+50.00	870615.1830	1749529.2807
117	Y5	15+78.99	870596.1265	1749551.1250
118	Y6	16+50.00	869940.0226	1748485.3372
119	Y6	17+00.00	869955.6889	1748532.8195
120	Y6	17+50.00	869971.3553	1748580.3017
121	Y6	18+00.00	869987.0217	1748627.7840
122	Y6	18+50.00	870002.6880	1748675.2663
123	Y6	19+00.00	870018.3544	1748722.7485
124	Y6	19+50.00	870034.0207	1748770.2308
125	Y6	20+00.00	870050.1715	1748817.5473
126	Y6	20+50.00	870068.6577	1748863.9979
127	Y6	21+00.00	870089.6132	1748909.3880
128	Y6	21+50.00	870112.9777	1748953.5864
129	Y6	22+00.00	870138.6835	1748996.4654
130	Y6	22+50.00	870166.6564	1749037.9011
131	Y6	23+00.00	870196.8155	1749077.7737
132	Y6	23+50.00	870228.8181	1749116.1878
133	Y6	24+00.00	870261.0786	1749154.3881
134	Y6	24+50.00	870293.3391	1749192.5884
135	Y6	25+00.00	870325.5996	1749230.7887
136	Y6	25+50.00	870357.8600	1749268.9889
137	Y6	26+00.00	870390.1205	1749307.1892
138	Y6	26+50.00	870422.3810	1749345.3895
139	Y6	27+00.00	870454.6415	1749383.5898
140	Y6	27+50.00	870486.9020	1749421.7901
141	Y6	28+00.00	870519.1625	1749459.9903
142	Y6	28+50.00	870551.4229	1749498.1906
143	Y6	29+00.00	870583.6834	1749536.3909
144	Y6	29+50.00	870615.9439	1749574.5912
145	Y6	30+00.00	870648.2044	1749612.7914
146	Y6	30+50.00	870680.4649	1749650.9917
147	Y6	31+00.00	870712.7254	1749689.1920
148	Y6	31+50.00	870744.9858	1749727.3923
149	Y6	32+00.00	870777.2463	1749765.5926
150	Y6	32+50.00	870809.5949	1749803.7177
151	Y6A	10+00.00	870079.4939	1748888.2677
152	Y6A	10+50.00	870041.1956	1748920.4107
153	Y6A	11+00.00	870004.9828	1748954.8636
154	Y6A	11+50.00	869971.9566	1748992.3822
155	Y6A	12+00.00	869942.3756	1749032.6728
156	Y6A	12+50.00	869916.4712	1749075.4201
157	Y6A	13+00.00	869894.4463	1749120.2895
158	Y6A	13+50.00	869876.4730	1749166.9300
159	Y6A	14+00.00	869862.6922	1749214.9764

Point #	Chain	Station	Northing (Y)	Easting (X)
160	Y6A	14+50.00	869851.8343	1749263.7827
161	Y6A	15+00.00	869841.0657	1749312.6094
162	Y6A	15+50.00	869830.5442	1749361.4885
163	Y7	10+25.00	870274.9843	1749775.6582
164	Y7	10+75.00	870226.1175	1749786.2426
165	Y7	11+25.00	870177.2506	1749796.8270
166	Y7	11+75.00	870128.3837	1749807.4114
167	Y7	12+25.00	870079.5169	1749817.9959
168	Y7	12+75.00	870030.6500	1749828.5803
169	Y7	13+00.00	870006.2165	1749833.8725
170	Y8	9+50.00	872288.1782	1753684.2083
171	Y8	10+00.00	872239.5970	1753696.0350
172	Y8	10+50.00	872191.0158	1753707.8617
173	Y8	11+00.00	872142.4347	1753719.6884
174	Y8	11+50.00	872093.8535	1753731.5150
175	Y8	12+00.00	872045.2723	1753743.3417
176	Y8	12+50.00	871996.6912	1753755.1684
177	Y8	13+00.00	871948.1100	1753766.9951
178	Y8	13+50.00	871899.5288	1753778.8218
179	Y8	14+00.00	871850.9477	1753790.6485
180	Y8	14+50.00	871802.3665	1753802.4751
181	Y8	15+00.00	871753.7854	1753814.3018
182	Y8	15+50.00	871705.2042	1753826.1285
183	Y8	16+00.00	871656.6230	1753837.9552
184	Y8	16+50.00	871608.0419	1753849.7819
185	Y8	17+00.00	871559.4607	1753861.6086
186	Y8	17+50.00	871510.8795	1753873.4352
187	Y8	18+00.00	871462.2984	1753885.2619
188	Y8	18+50.00	871413.7172	1753897.0886
189	Y8	19+00.00	871365.1360	1753908.9153
190	Y8	19+50.00	871316.5549	1753920.7420
191	Y8	20+00.00	871267.9737	1753932.5686
192	Y8	20+50.00	871219.3925	1753944.3953
193	Y8	21+00.00	871170.8114	1753956.2220
194	Y8	21+50.00	871122.0986	1753967.4855
195	Y8	22+00.00	871073.0423	1753977.1419
196	Y8	22+50.00	871023.6914	1753985.1580
197	Y8	23+00.00	870974.1008	1753991.5250
198	Y8	23+50.00	870924.3255	1753996.2358
199	Y8	24+00.00	870874.4209	1753999.2850
200	Y8	24+50.00	870824.4439	1754000.7506
201	Y8	25+00.00	870774.4739	1754002.4598
202	Y8	25+50.00	870724.5481	1754005.1679
203	Y8	26+00.00	870674.6865	1754008.8740
204	Y8	26+50.00	870624.9090	1754013.5765
205	Y8	27+00.00	870575.2354	1754019.2735
206	Y8	27+50.00	870525.6858	1754025.9628
217	RPAY4	0+00.00	870773.3412	1747193.7212
218	RPAY4	0+50.00	870782.3681	1747144.5428
219	RPAY4	1+00.00	870791.2353	1747095.3355
220	RPAY4	1+50.00	870799.4671	1747046.0185
221	RPAY4	2+00.00	870806.5469	1746996.5240
222	RPAY4	2+50.00	870811.9545	1746946.8204
223	RPAY4	3+00.00	870815.3254	1746896.9378
224	RPAY4	3+50.00	870816.6155	1746846.9581
225	RPAY4	4+00.00	870815.8227	1746796.9680
226	RPAY4	4+50.00	870812.9481	1746747.0543
227	RPDY4	0+00.00	870655.8654	1747182.6114
228	RPDY4	0+50.00	870659.4895	1747132.7469
229	RPDY4	1+00.00	870660.9429	1747082.7720
230	RPDY4	1+50.00	870660.2227	1747032.7811
231	RPDY4	2+00.00	870657.3304	1746982.8687
232	RPDY4	2+50.00	870652.2714	1746933.1293
233	RPDY4	3+00.00	870645.0552	1746883.6567
234	RPDY4	3+50.00	870635.6956	1746834.5446
235	RPDY4	4+00.00	870624.2102	1746785.8857
236	RPDY4	4+50.00	870610.6652	1746737.7588
237	RPDY4	5+00.00	870595.4236	1746690.1405
238	RPDY4	5+50.00	870578.9602	1746642.9297
239	RPAY8	0+00.00	871531.4185	1755299.6283
240	RPAY8	0+50.00	871529.8959	1755249.6515
241	RPAY8	1+00.00	871528.6459	1755199.6673
242	RPAY8	1+50.00	871527.9411	1755149.6726
243	RPAY8	2+00.00	871528.0545	1755099.6735
244	RPAY8	2+50.00	871529.2131	1755049.6879
245	RPAY8	3+00.00	871531.4619	1754999.7395
246	RPAY8	3+50.00	871534.7998	1754949.8521

Point #	Chain	Station	Northing (Y)	Easting (X)
247	RPAY8	4+00.00	871539.1819	1754900.0452
248	RPAY8	4+50.00	871544.3824	1754850.3168
249	RPAY8	5+00.00	871550.1290	1754800.6483
250	RPAY8	5+50.00	871556.1505	1754751.0122
251	RPAY8	6+00.00	871562.2191	1754701.3819
252	RPAY8	6+50.00	871568.2878	1754651.7515
253	RPAY8	7+00.00	871574.3564	1754602.1212
254	RPAY8	7+50.00	871580.4251	1754552.4908
255	RPAY8	8+00.00	871586.4937	1754502.8605
256	RPAY8	8+50.00	871592.5624	1754453.2301
257	RPAY8	9+00.00	871598.6310	1754403.5998
258	RPAY8	9+50.00	871604.6997	1754353.9694
259	RPAY8	10+00.00	871610.7010	1754304.3310
260	RPAY8	10+50.00	871614.9258	1754254.5200
261	RPAY8	11+00.00	871613.9679	1754204.5687
262	RPBY8	0+00.00	871071.4512	1752580.3017
263	RPBY8	0+50.00	871085.6317	1752628.2487
264	RPBY8	1+00.00	871100.1256	1752676.1016
265	RPBY8	1+50.00	871115.2446	1752723.7604
266	RPBY8	2+00.00	871131.2962	1752771.1127
267	RPBY8	2+50.00	871148.5306	1752818.0471
268	RPBY8	3+00.00	871166.9876	1752864.5142
269	RPBY8	3+50.00	871186.6513	1752910.4838
270	RPBY8	4+00.00	871207.3800	1752955.9836
271	RPBY8	4+50.00	871228.8778	1753001.1257
272	RPBY8	5+00.00	871250.8448	1753046.0416
273	RPBY8	5+50.00	871272.9889	1753090.8705
274	RPBY8	6+00.00	871295.1433	1753135.6945
275	RPBY8	6+50.00	871317.2976	1753180.5184
276	RPBY8	7+00.00	871339.4519	1753225.3424
277	RPBY8	7+50.00	871361.6062	1753270.1663
278	RPBY8	8+00.00	871383.7605	1753314.9903
279	RPBY8	8+50.00	871405.9148	1753359.8142
280	RPBY8	9+00.00	871428.0691	1753404.6382
281	RPBY8	9+50.00	871450.2234	1753449.4621
282	RPBY8	10+00.00	871472.0909	1753494.4253
283	RPBY8	10+50.00	871491.1634	1753540.6222
284	RPBY8	11+00.00	871503.8167	1753588.9358
285	RPBY8	11+50.00	871508.1823	1753638.6848
286	RPCY8	0+00.00	870955.8469	1752605.4527
287	RPCY8	0+50.00	870969.9315	1752653.4280
288	RPCY8	1+00.00	870983.7542	1752701.4792
289	RPCY8	1+50.00	870997.0519	1752749.6781
290	RPCY8	2+00.00	871009.5590	1752798.0877
291	RPCY8	2+50.00	871021.0513	1752846.7481
292	RPCY8	3+00.00	871031.4794	1752895.6475
293	RPCY8	3+50.00	871040.8382	1752944.7628
294	RPCY8	4+00.00	871049.1234	1752994.0706
295	RPCY8	4+50.00	871056.3657	1753043.5425
296	RPCY8	5+00.00	871062.7754	1753093.1295
297	RPCY8	5+50.00	871068.6214	1753142.7864
298	RPCY8	6+00.00	871074.1743	1753192.4771
299	RPCY8	6+50.00	871079.6699	1753242.1742
300	RPCY8	7+00.00	871085.1654	1753291.8713
301	RPCY8	7+50.00	871090.6610	1753341.5683
302	RPCY8	8+00.00	871096.1565	1753391.2654
303	RPCY8	8+50.00	871101.6521	1753440.9625
304	RPCY8	9+00.00	871107.1476	1753490.6595
305	RPCY8	9+50.00	871112.7272	1753540.3471
306	RPCY8	10+00.00	871119.9122	1753589.8206
307	RPCY8	10+50.00	871131.3884	1753638.4571
308	RPCY8	11+00.00	871149.1658	1753685.1466
309	RPDY8	0+00.00	871415.0701	1755354.1177
310	RPDY8	0+50.00	871413.4566	1755304.1437
311	RPDY8	1+00.00	871411.5705	1755254.1794
312	RPDY8	1+50.00	871409.1396	1755204.2390
313	RPDY8	2+00.00	871405.8919	1755154.3453
314	RPDY8	2+50.00	871401.6019	1755104.5307
315	RPDY8	3+00.00	871396.2262	1755054.8215
316	RPDY8	3+50.00	871389.7674	1755005.2414
317	RPDY8	4+00.00	871382.2285	1754955.8140
318	RPDY8	4+50.00	871373.6469	1754906.5568
319	RPDY8	5+00.00	871364.2366	1754857.4507
320	RPDY8	5+50.00	871354.2672	1754808.4549
321	RPDY8	6+00.00	871344.0069	1754759.5190
322	RPDY8	6+50.00	871333.6891	1754710.5951
323	RPDY8	7+00.00	871323.3713	1754661.6713
324	RPDY8	7+50.00	871313.0535	1754612.7474
325	RPDY8	8+00.00	871302.7357	1754563.8236

Point #	Chain	Station	Northing (Y)	Easting (X)
326	RPDY8	8+50.00	871292.4179	1754514.8997
327	RPDY8	9+00.00	871282.1001	1754465.9759
328	RPDY8	9+50.00	871271.7823	1754417.0520
329	RPDY8	10+00.00	871261.4645	1754368.1282
330	RPDY8	10+50.00	871251.2008	1754319.1930
331	RPDY8	11+00.00	871242.4128	1754269.9787
332	RPDY8	11+50.00	871237.9945	1754220.2035
333	RPDY8	12+00.00	871240.3234	1754170.3003
334	SPAY8	0+00.00	871619.7170	1754330.0250
335	SPAY8	0+50.00	871626.6911	1754280.5138
336	SPAY8	1+00.00	871633.6653	1754231.0025
337	SPAY8	1+50.00	871640.6394	1754181.4913
338	SPAY8	2+00.00	871647.6135	1754131.9801
339	SPAY8	2+50.00	871654.5877	1754082.4689
340	SPAY8	3+00.00	871661.5618	1754032.9576
341	SPAY8	3+50.00	871668.5359	1753983.4464
342	SPAY8	4+00.00	871675.5101	1753933.9352
343	SPAY8	4+50.00	871682.4842	1753884.4240
344	SPBY8	0+00.00	871489.9923	1753537.3125
345	SPBY8	0+50.00	871506.9106	1753584.3631
346	SPBY8	1+00.00	871528.4696	1753629.4002
347	SPBY8	1+50.00	871557.8167	1753669.7965
348	SPBY8	2+00.00	871593.9844	1753704.2206
349	SPBY8	2+50.00	871635.7805	1753731.5374
350	SPBY8	3+00.00	871681.8270	1753750.8465
351	SPBY8	3+50.00	871730.6059	1753761.5112
352	SPBY8	4+00.00	871780.5092	1753763.1801
353	SPBY8	4+42.81	871822.8836	1753757.4110
354	SPCY8	0+00.00	871097.6032	1753513.5271
355	SPCY8	0+50.00	871102.2999	1753563.3060
356	SPCY8	1+00.00	871106.9967	1753613.0850
357	SPCY8	1+50.00	871111.6934	1753662.8639
358	SPCY8	2+00.00	871116.3901	1753712.6428
359	SPCY8	2+50.00	871121.0869	1753762.4217
360	SPCY8	3+00.00	871125.7836	1753812.2006
361	SPCY8	3+50.00	871130.4804	1753861.9796
362	SPCY8	4+00.00	871135.1771	1753911.7585
363	SPCY8	4+50.00	871139.8738	1753961.5374
364	SPDY8	0+00.00	871241.8835	1754266.1993
365	SPDY8	0+50.00	871234.8647	1754216.6977
366	SPDY8	1+00.00	871220.6549	1754168.8577
367	SPDY8	1+50.00	871196.6635	1754125.0970
368	SPDY8	2+00.00	871163.9723	1754087.3893
369	SPDY8	2+50.00	871124.0558	1754057.4351
370	SPDY8	3+00.00	871078.7142	1754036.5852
371	SPDY8	3+50.00	871029.9922	1754025.7801
372	SPDY8	3+90.14	870989.9167	1754024.7196
373	PED	10+00.00	870602.2889	1749593.2943
374	PED	10+50.00	870569.7026	1749631.2170
375	PED	11+00.00	870536.6840	1749668.7515
376	PED	11+50.00	870498.5844	1749701.0205
377	PED	12+00.00	870455.1946	1749725.7225
378	PED	12+50.00	870408.0427	1749742.1772
379	PED	13+00.00	870359.9251	1749755.7675
380	PED	13+50.00	870311.8075	1749769.3578
381	PED	14+00.00	870263.6899	1749782.9481
382	PED	14+50.00	870215.5723	1749796.5384
383	PED	15+00.00	870167.4547	1749810.1287
384	PED	15+50.00	870119.3370	1749823.7190
385	PED	16+00.00	870071.2194	1749837.3093
386	PED	16+50.00	870023.1018	1749850.8996
387	PED	17+00.00	869974.9842	1749864.4899
388	PED	17+50.00	869926.8666	1749878.0802
389	PED	18+00.00	869878.7490	1749891.6705
390	PED	18+50.00	869830.6314	1749905.2608
391	PED	18+58.34	869822.6096	1749907.5264

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6/2/99

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	2A-1
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PLANS PREPARED BY :

PARSONS

RALEIGH, NORTH CAROLINA, (919) 854-1345

NC LICENSE NO. F-0246

FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

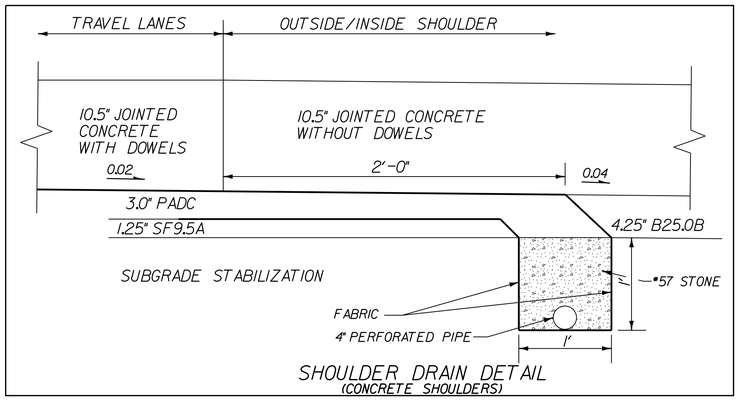
FINAL PAVEMENT SCHEDULE

CODE	DESCRIPTION
A1	PROP. APPROX. 10.5" PORTLAND CEMENT JOINTED CONCRETE PAVEMENT WITH DOWELS.
A2	PROP. APPROX. 10.5" PORTLAND CEMENT JOINTED CONCRETE PAVEMENT WITHOUT DOWELS.
C1	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YARD.
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD.
C3	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD 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. YARD PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 1 1/2" IN DEPTH OR GREATER THAN 2" IN DEPTH.
C5	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YARD.
C6	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD IN EACH OF TWO LAYERS.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.

CODE	DESCRIPTION
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2 " IN DEPTH OR GREATER THAN 4" IN DEPTH.
D3	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YARD.
E2	PROP. APPROX. 4.25" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 484.5 LBS. PER SQ. YARD.
E3	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.
J1	PROP. 8" AGGREGATE BASE COURSE.
J2	PROP. 6" AGGREGATE BASE COURSE.
K	SUBGRADE TO BE TREATED WITH LIME TO A DEPTH OF 8", AT A RATE OF 20 LBS. PER SQ. YD. AS DIRECTED BY THE ENGINEER. OR SUBGRADE TO BE TREATED WITH CEMENT TO A DEPTH OF 7", AT A RATE OF 55 LBS. PER SQ. YD. AS DIRECTED BY THE ENGINEER.
P	PRIME COAT AT THE RATE OF 0.35 GAL. PER SQUARE YARD

CODE	DESCRIPTION
R1	2'-6" CONCRETE CURB AND GUTTER.
R2	5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED)
R3	4' EXPRESSWAY GUTTER
S	4" CONCRETE SIDEWALK.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	MILLED RUMBLE STRIPS
V1	MILLING 0" TO 3"
W	VARIABLE DEPTH ASPHALT PAVEMENT
X	3" PERMEABLE ASPHALT DRAINAGE COURSE – TYPE P-57

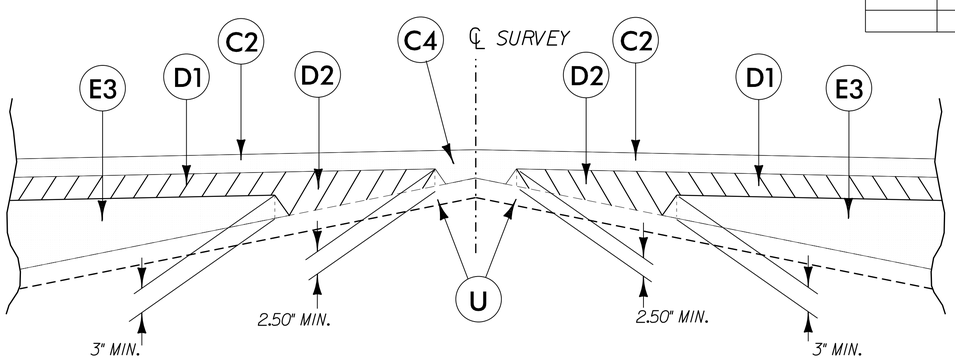
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



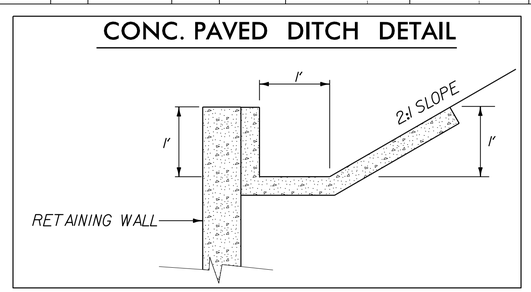
SHOULDER DRAIN DETAIL
(CONCRETE SHOULDERS)

SHOULDER DRAIN OUTLET SUMMARY

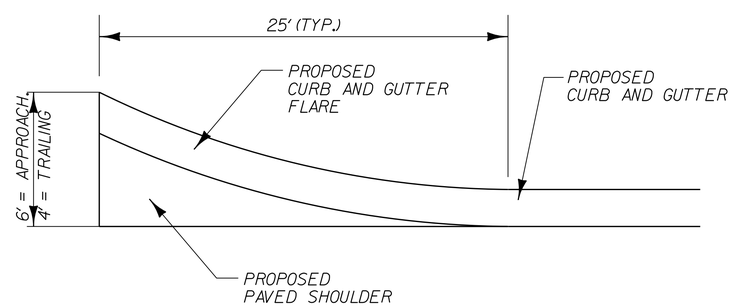
LINE	STATION TO STATION			LOCATION LANE	LOCATION SHLD	OUTLET LOCATIONS											
-L-	422+25.00	To	444+00.00	EBL	OUTSIDE	422+25.00		425+25.00		428+25.00		431+25.00		434+25.00		437+00.00	(2GI) 440+00.00
						442+25.00	(2GI)	444+00.00	(2GI)								
-L-/-LREV-	462+00.00	To	493+75.00	EBL	OUTSIDE	467+00.00	(2GI)	470+00.00		473+25.00		476+50.00	(2GI)	480+50.00	(2GI)	483+75.00	486+00.00
						488+50.00		491+00.00	(2GI)								
-LREV-/-L-	496+75.00	To	517+93.00	EBL	OUTSIDE	499+30.00	(2GI)	502+75.00		506+00.00		509+25.00	(2GI)	511+50.00	(2GI)	515+50.00	(2GI)
-L-	444+00.00	To	467+00.00	EBL	MEDIAN	444+00.00	(2GI)	448+40.00	(2GI)	451+50.00	(2GI)	456+50.00		461+50.00	(2GI)	467+00.00	(2GI)
-L-/-LREV-	431+00.00	To	490+60.00	WBL	OUTSIDE	431+00.00		434+00.00		437+00.00	(2GI)	441+50.00	(2GI)	444+00.00	(2GI)	446+10.00	(2GI) 448+40.00 (2GI)
						451+50.00	(2GI)	456+50.00		460+00.00		463+50.00		467+00.00	(2GI)	470+00.00	472+50.00 (2GI)
						476+50.00	(2GI)	479+50.00	(2GI)	483+75.00	(2GI)	487+00.00					
-LREV-/-L-	502+15.00	To	517+93.00	WBL	OUTSIDE	502+15.00		505+50.00		509+25.00	(2GI)	512+25.00		515+50.00	(2GI)		
-L-	422+25.00	To	431+00.00	WBL	MEDIAN	422+25.00		427+00.00									
-LREV-	491+00.00	To	493+75.00	WBL	MEDIAN	491+00.00	(2GI)										
-LREV-	496+75.00	To	501+00.00	WBL	MEDIAN	499+30.00	(2GI)	501+00.00	(2GI)								



DETAIL SHOWING METHOD OF WEDGING



USE DETAIL 'A' IN CONJUNCTION WITH TYPICAL SECTION NO. 1



DETAIL SHOWING FLARE OF CURB AND GUTTER

NOTE: DRAWING NOT TO SCALE

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6/2/99

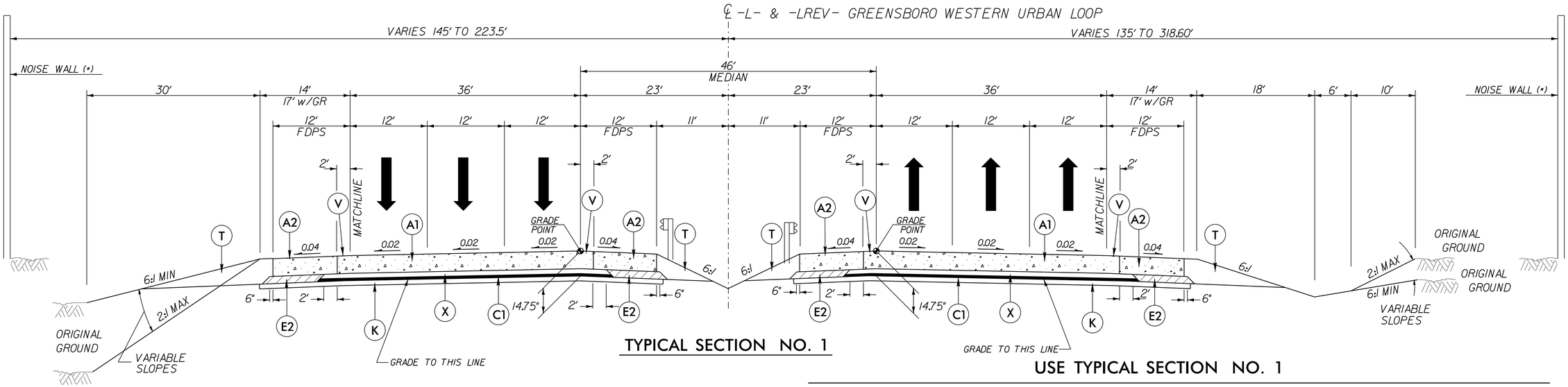
PAVEMENT SCHEDULE	
A1	10.5" P.C.C. JOINTED W/ DOWELS
A2	10.5" P.C.C. JOINTED W/O DOWELS
C1	1.25" A.C.S.C. TYPE SF9.5A
E2	4.25" A.C.B.C. TYPE B25.0B
K	SUBGRADE STABILIZATION
T	EARTH MATERIAL
V	MILLED RUMBLE STRIPS
X	3" PADC, TYPE P-57

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	2A-2

ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

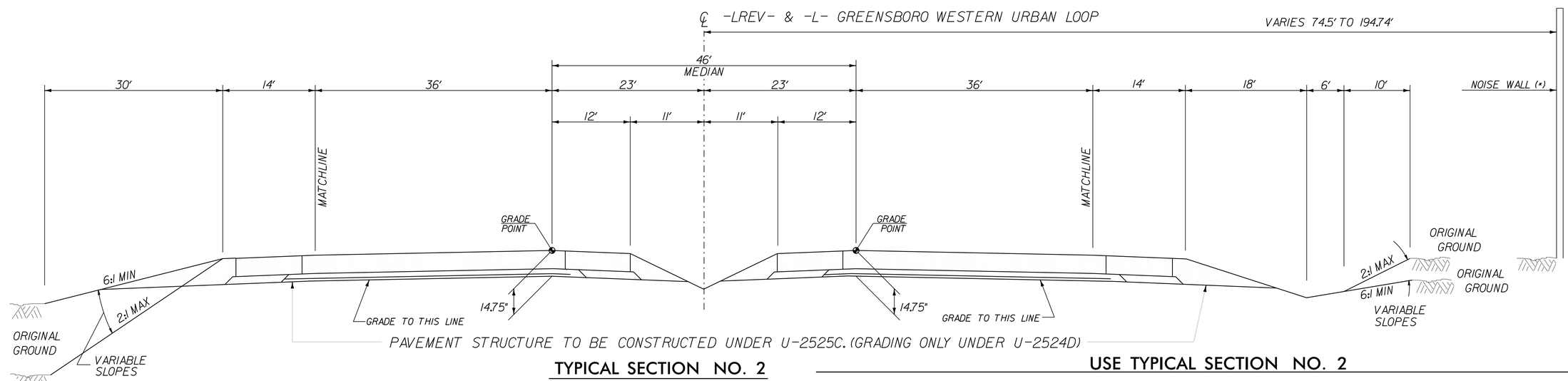


TYPICAL SECTION NO. 1

(*) = NOISE WALL 1 FROM -L- STA. 426+73.23 TO STA. 428+34.81 LT.
(*) = NOISE WALL 3 FROM -L- STA. 442+38.03 TO STA. 445+70.17 LT.
(*) = NOISE WALL 6 FROM -RPBY8- STA. 5+29.93 TO -SPBY8- STA. 0+48.51 LT.
(*) = NOISE WALL 7 FROM -L- STA. 469+28.29 TO STA. 471+00.00 RT.
(*) = NOISE WALL 7 FROM -L- STA. 480+00.00 TO -SPCY8- STA. 1+17.80 RT.

USE TYPICAL SECTION NO. 1

-L- STA. 421+69.00 TO -LREV- STA. 494+03.39 (BEG. BRIDGE RT)
& -LREV- STA. 494+06.25 (BEG. BRIDGE LT)
-LREV- STA. 496+32.70 (END BRIDGE) TO STA. 501+00.00



TYPICAL SECTION NO. 2

(*) = NOISE WALL 9 FROM -RPDY8- STA. 0+00.00 TO -RPDY8- STA. 3+33.88 LT.
(*) = NOISE WALL 9 FROM -L- STA. 509+74.77 TO -L- STA. 548+12.55 (U-2525C) RT.

USE TYPICAL SECTION NO. 2

-LREV- STA. 501+00.00 TO -L- STA. 548+12.55 (U-2525C)
-L- STA. 525+21.66 (U-2524D)

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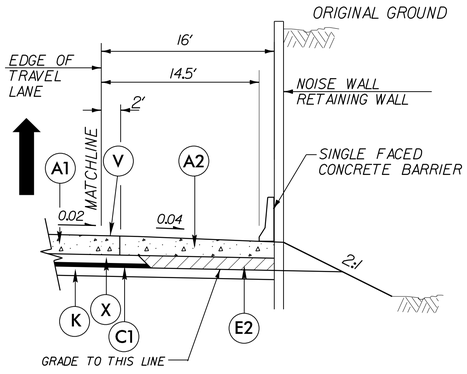
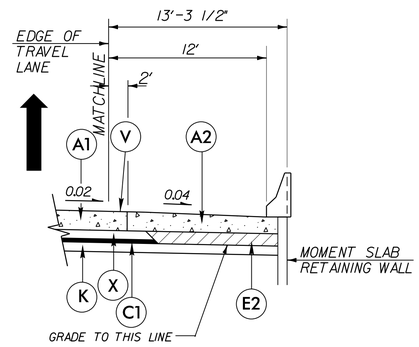


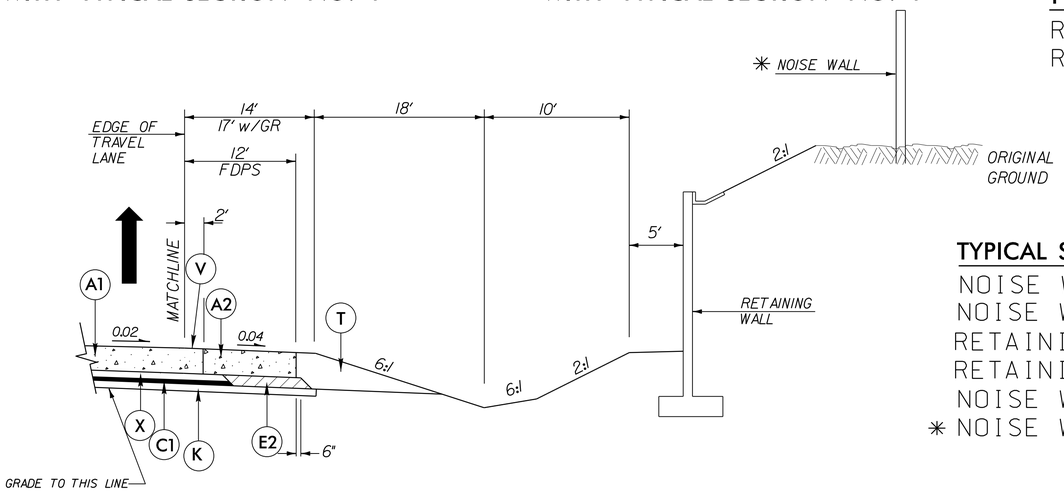
TYPICAL SECTION NO. 1A

USE T.S. NO. 1A IN CONJUNCTION WITH TYPICAL SECTION NO. 1



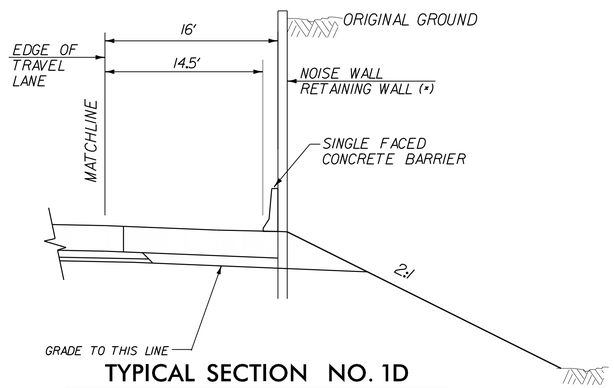
TYPICAL SECTION NO. 1B

USE T.S. NO. 1B IN CONJUNCTION WITH TYPICAL SECTION NO. 1



TYPICAL SECTION NO. 1C

USE T.S. NO. 1C IN CONJUNCTION WITH TYPICAL SECTION NO. 1 & 16



TYPICAL SECTION NO. 1D

USE T.S. NO. 1D IN CONJUNCTION WITH TYPICAL SECTION NO. 10

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	2A-3
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TYPICAL SECTION NO. 1A

NOISE WALL 1 FROM -RPAY4- STA. 0+00.00 TO STA. 3+92.17 RT.
NOISE WALL 1 FROM -L- STA. 426+20.73 TO STA. 426+73.23 LT.
NOISE WALL 3 FROM -L- STA. 434+58.03 TO STA. 442+38.03 LT.
NOISE WALL 6 FROM -L- STA. 452+79.17 TO STA. 481+63.22 LT.
RETAINING WALL 14 FROM -L- STA. 451+69.01 TO STA. 452+72.28 LT.
RETAINING WALL 11 FROM -L- STA. 452+13.46 TO STA. 455+20.00 RT.
NOISE WALL 7 FROM -L- STA. 456+19.17 TO STA. 469+28.29 RT.
NOISE WALL 6 FROM -RPBY8- STA. 0+00.00 TO STA. 5+29.93 LT.

TYPICAL SECTION NO. 1B

RETAINING WALL 7-8 FROM -LREV- STA. 491+00.00 TO STA. 494+16.11
RETAINING WALL 9-10 FROM -LREV- STA. 496+25.84 TO STA. 501+00.00 LT.

TYPICAL SECTION NO. 1C

NOISE WALL 2 FROM -RPDY4- STA. 0+00.00 TO STA. 8+84.33 LT.
NOISE WALL 2 FROM -L- STA. 426+20.73 TO STA. 434+06.08 RT.
RETAINING WALL 4 FROM -L- STA. 425+00.00 TO STA. 442+00.00 RT.
RETAINING WALL 5 FROM -L- STA. 448+50.00 TO STA. 451+50.00 RT.
NOISE WALL 7 & RETAINING WALL 6 FROM -L- STA. 471+00.00 TO STA. 480+00.00 RT.
✳ NOISE WALL 2 ONLY FROM -RPDY4- STA. 1+21.26 TO STA. 8+84.33 LT.

TYPICAL SECTION NO. 1D

NOISE WALL 8 FROM -RPAY8- STA. 0+00.00 TO STA. 9+75.59 RT.
NOISE WALL 8 FROM -L- STA. 509+23.96 TO STA. 514+14.10 LT.
NOISE WALL 9 FROM -RPDY8- STA. 3+33.84 TO STA. 11+03.82 LT.
NOISE WALL 9 FROM -L- STA. 552+92.84 (U-2525C) TO STA. 548+12.55 (U-2525C) RT. (U-2524D -L- STA. 520+41.66 TO STA. 525+21.65)

NOTE: PAVEMENT STRUCTURE & SF BARRIER TO BE CONSTRUCTED UNDER U-2525C.(NOISE WALLS & GRADING ONLY UNDER U-2524D)

PAVEMENT SCHEDULE	
A1	10.5" P.C.C. JOINTED W/ DOWELS
A2	10.5" P.C.C. JOINTED W/O DOWELS
C1	1.25" A.C.S.C. TYPE SF9.5A
E2	4.25" A.C.B.C. TYPE B25.0B
K	SUBGRADE STABILIZATION
T	EARTH MATERIAL
V	MILLED RUMBLE STRIPS
X	3" PADC, TYPE P-57

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PAVEMENT SCHEDULE	
C3	3" A.C.S.C. TYPE S9.5B
D1	4" A.C.I.C. TYPE I 19.0B
E1	4" A.C.B.C. TYPE B25.0B
R1	2'-6" CURB & GUTTER
S	SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	2A-4
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

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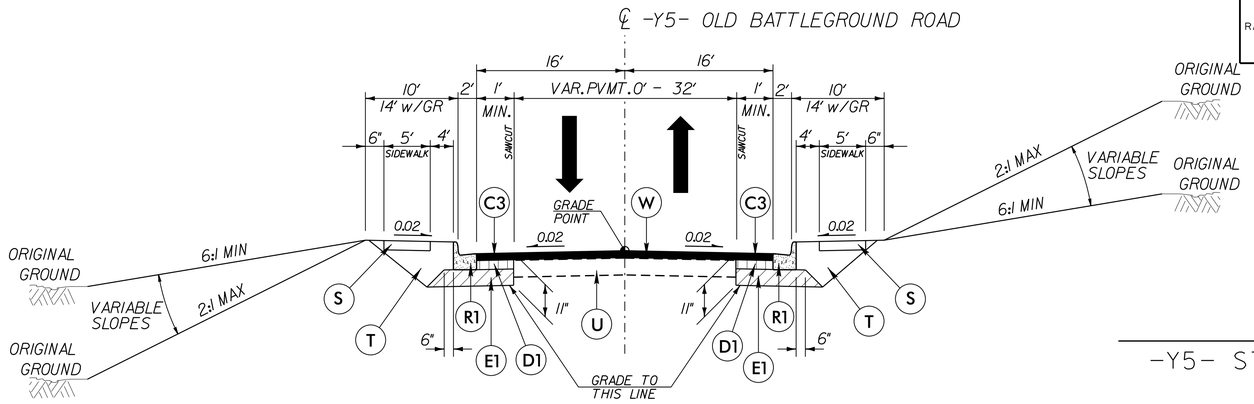
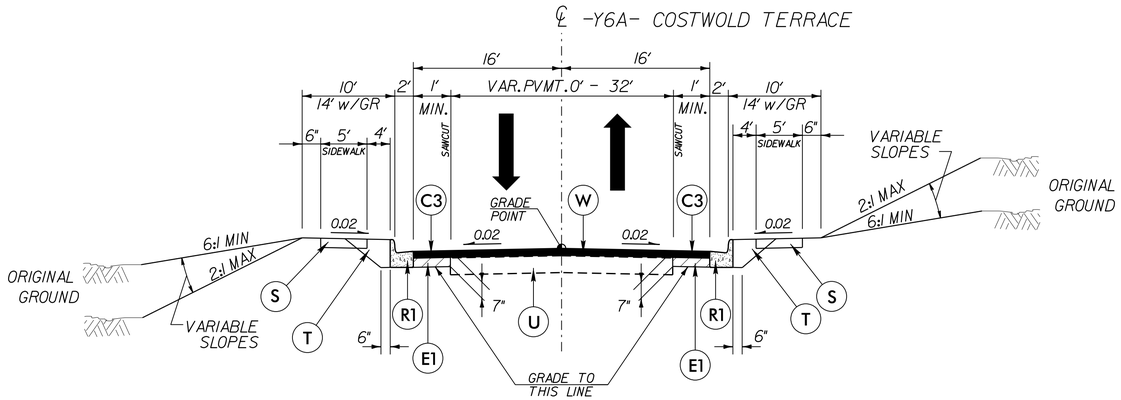


USE TYPICAL SECTION NO. 3

-Y5- STA. 12+25.00 TO STA. 15+58.75

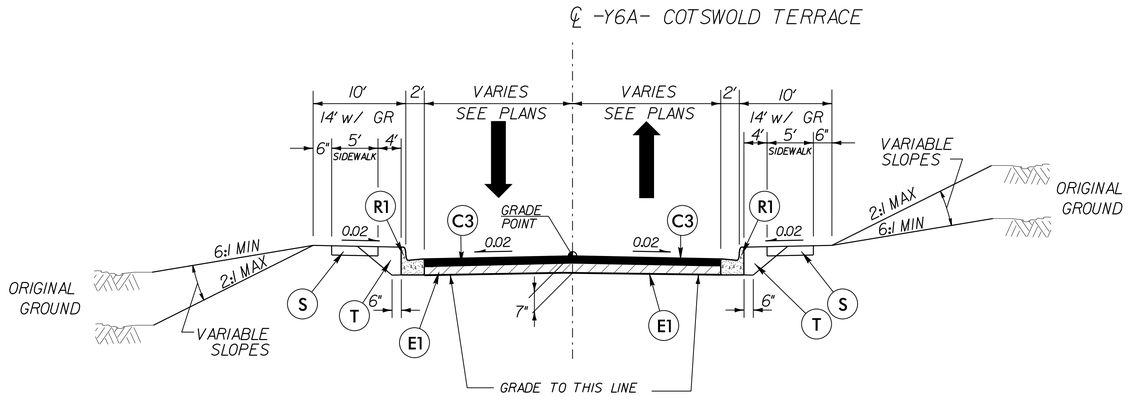
TYPICAL SECTION NO. 3



TYPICAL SECTION NO. 3A

USE TYPICAL SECTION NO. 3A

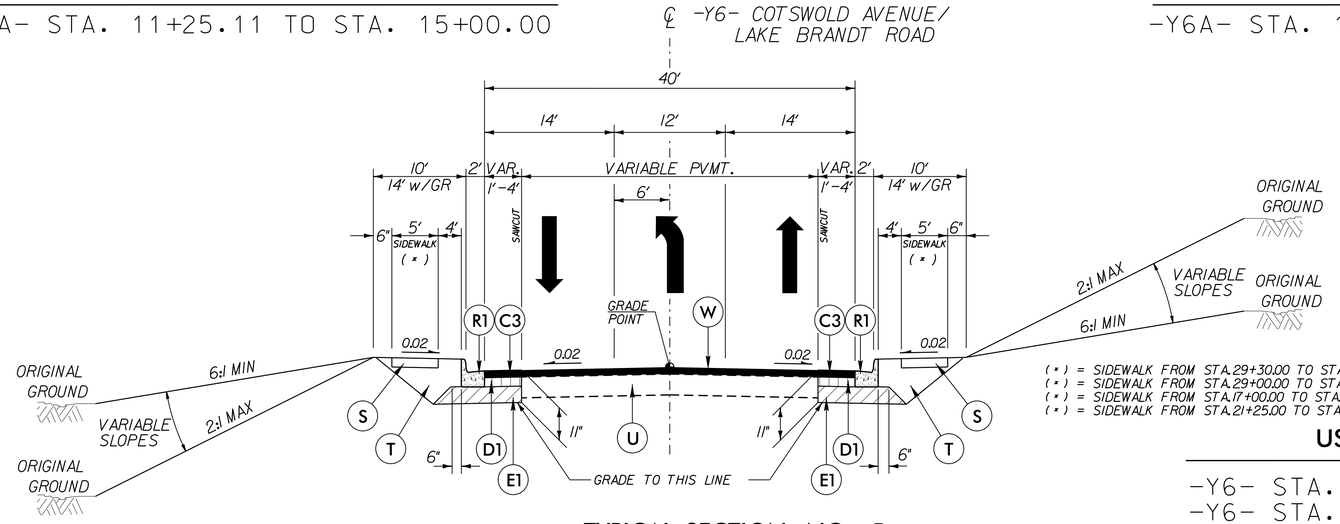
-Y6A- STA. 11+25.11 TO STA. 15+00.00



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4

-Y6A- STA. 10+20.69 TO STA. 11+25.11



(*) = SIDEWALK FROM STA. 29+30.00 TO STA. 32+16.04 LT.
(*) = SIDEWALK FROM STA. 29+00.00 TO STA. 32+16.04 RT.
(*) = SIDEWALK FROM STA. 17+00.00 TO STA. 20+67.97 RT.
(*) = SIDEWALK FROM STA. 21+25.00 TO STA. 22+29.00 RT.

TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5

-Y6- STA. 17+00.00 TO STA. 22+29.00
-Y6- STA. 29+00.00 TO STA. 32+16.04

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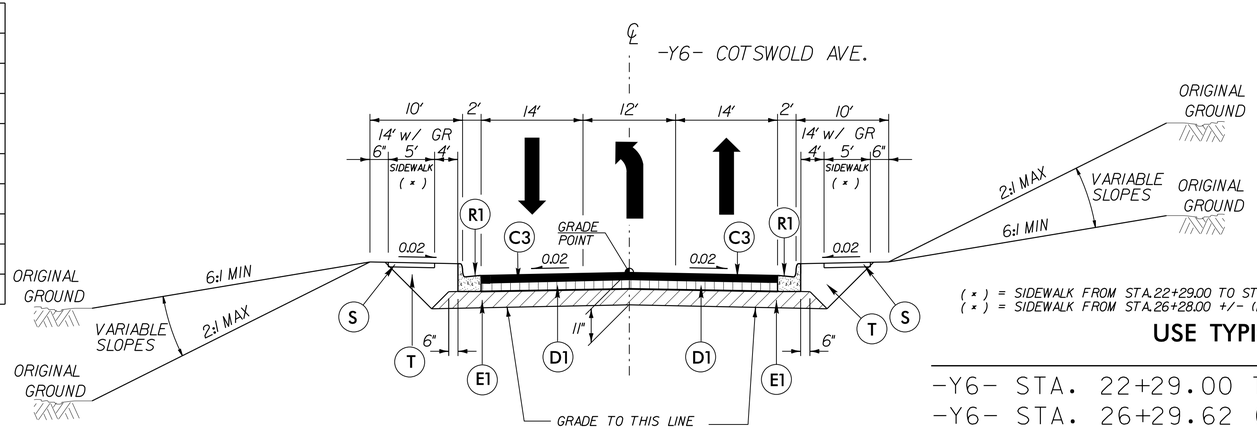
PAVEMENT SCHEDULE	
C2	1.5" A.C.S.C. TYPE S9.5B
C3	3" A.C.S.C. TYPE S9.5B
D1	4" A.C.I.C. TYPE I 19.0B
E1	4" A.C.B.C. TYPE B25.0B
R1	2'-6" CURB & GUTTER
S	SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	MILLING 0"-3"

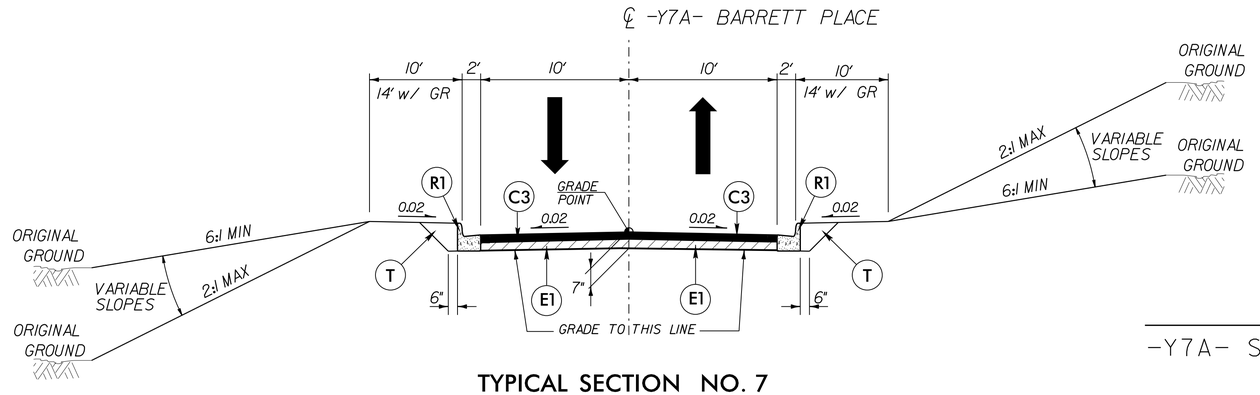


(x) = SIDEWALK FROM STA.22+29.00 TO STA.24+10.00 +/- (BEGIN BRIDGE) RT.
(x) = SIDEWALK FROM STA.26+28.00 +/- (END BRIDGE) TO STA.29+00.00 RT.

TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6

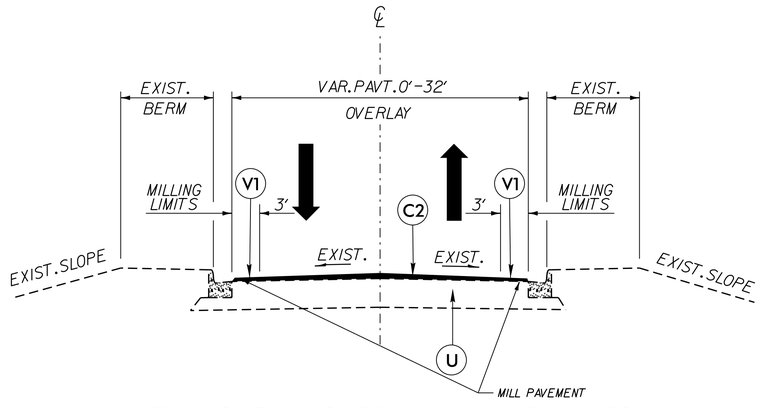
-Y6- STA. 22+29.00 TO STA. 24+10.12 (BEG. BRIDGE)
-Y6- STA. 26+29.62 (END BRIDGE) TO STA. 29+00.00



TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 7

-Y7A- STA. 10+25.00 TO STA. 13+20.00



DETAIL SHOWING TIE IN MILLING LIMITS

USE THIS DETAIL IN CONJUNCTION WITH TYPICAL SECTION NO. 2 THROUGH TYPICAL SECTION NO. 7

-Y5- STA. 12+00.00 TO STA. 12+25.00
-Y6- STA. 16+50.00 TO STA. 17+00.00
-Y6- STA. 32+16.04 TO STA. 32+41.04
-Y6A- STA. 15+00.00 TO STA. 15+25.00
-Y7A- STA. 10+00.00 TO STA. 10+25.00
-Y7A- STA. 13+20.00 TO STA. 13+45.00

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	2A-5
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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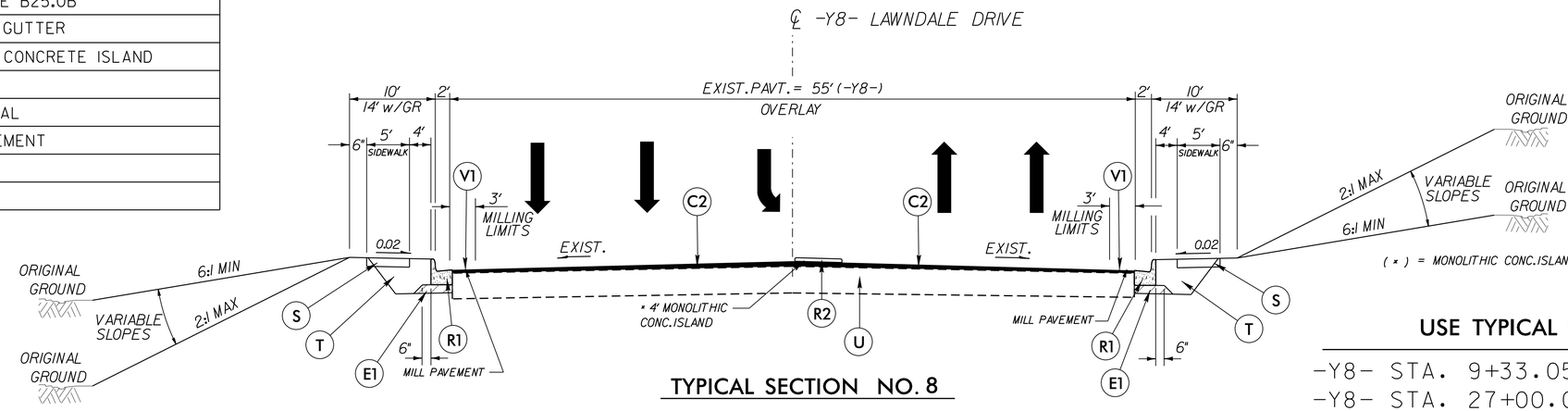
PAVEMENT SCHEDULE	
C2	1.5" A.C.S.C. TYPE S9.5B
C3	3" A.C.S.C. TYPE S9.5B
D1	4" A.C.I.C. TYPE I 19.0B
E1	4" A.C.B.C. TYPE B25.0B
R1	2'-6" CURB & GUTTER
R2	5" MONOLITHIC CONCRETE ISLAND
S	SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	MILLING 0"-3"
W	WEDGING

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	2A-6
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



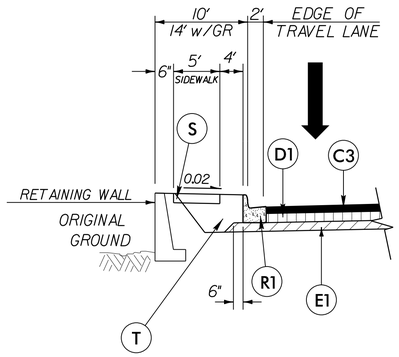
TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8

-Y8- STA. 9+33.05 TO STA. 11+00.00
-Y8- STA. 27+00.00 TO STA. 27+50.00

TYPICAL SECTION NO. 8A

RETAINING WALL 12 FROM -Y8- STA. 23+25.00 TO STA. 23+50.00 LT.

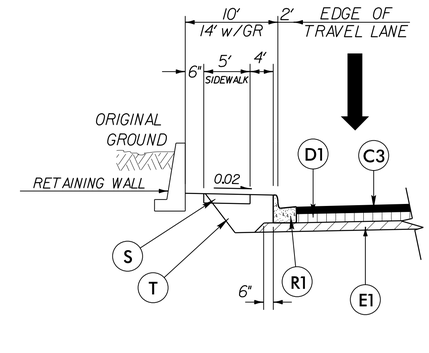


TYPICAL SECTION NO. 8A

USE T.S. NO. 8A IN CONJUNCTION WITH TYPICAL SECTION NO. 8

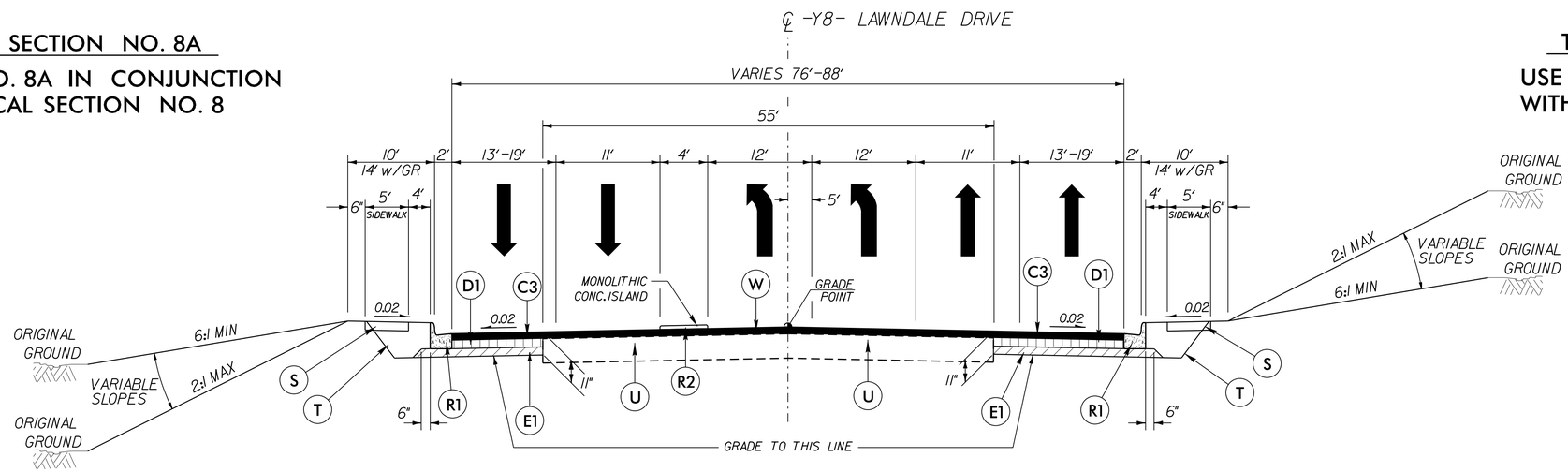
TYPICAL SECTION NO. 8B

RETAINING WALL 12 FROM -Y8- STA. 23+50.00 TO STA. 24+00.00 LT.
RETAINING WALL 13 FROM -Y8- STA. 25+00.00 TO STA. 25+50.00 LT.



TYPICAL SECTION NO. 8B

USE T.S. NO. 8B IN CONJUNCTION WITH TYPICAL SECTION NO. 8



TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9

-Y8- STA. 11+00.00 TO STA. 27+00.00

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$$$$USERNAME$$$$

6/2/99

PAVEMENT SCHEDULE	
C3	3" A.C.S.C. TYPE S9.5B
C6	3" A.C.S.C. TYPE S9.5C
D3	4" A.C.I.C. TYPE I 19.0C
J1	8" DEPTH A.B.C.
T	EARTH MATERIAL

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	2A-7
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

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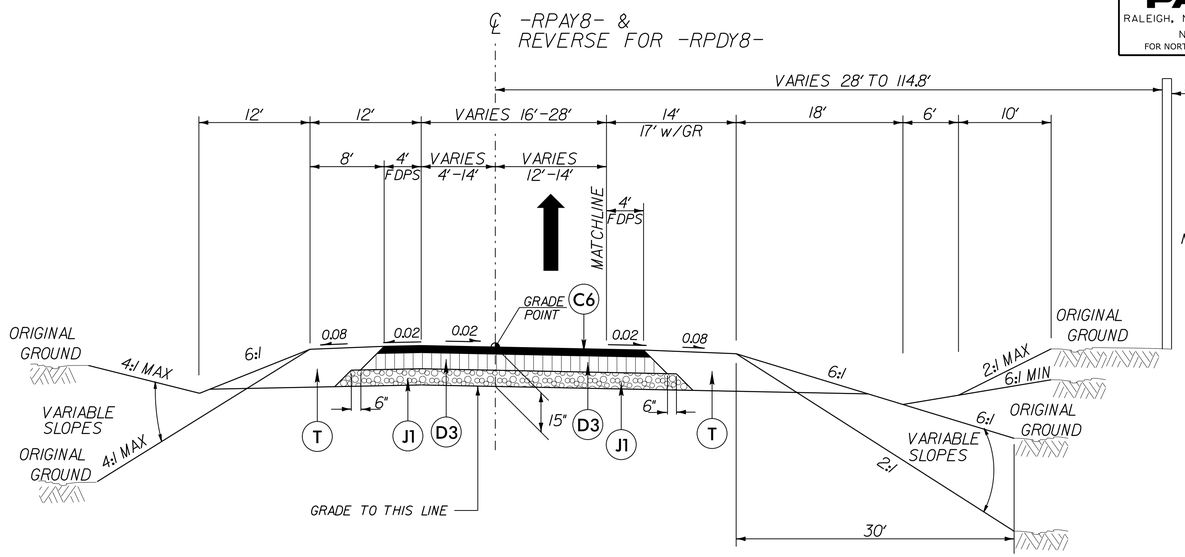


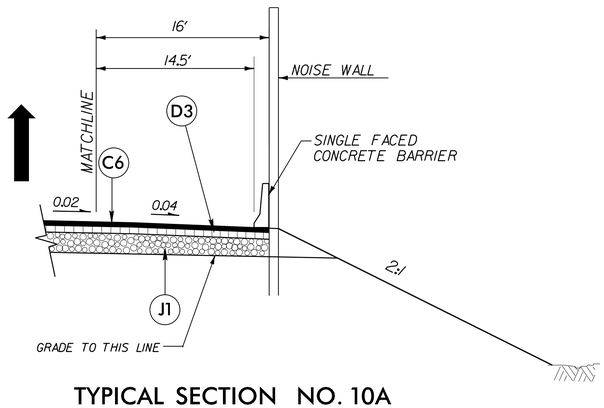
NOISE WALL 9 FROM -RPDY8- STA.0+00.00 TO STA.3+33.84

TYPICAL SECTION NO. 10

USE TYPICAL SECTION NO. 10

-RPAY8- FROM STA. 9+75.59 TO STA. 11+22.60
-RPDY8- FROM STA. 11+03.82 TO STA. 12+17.44

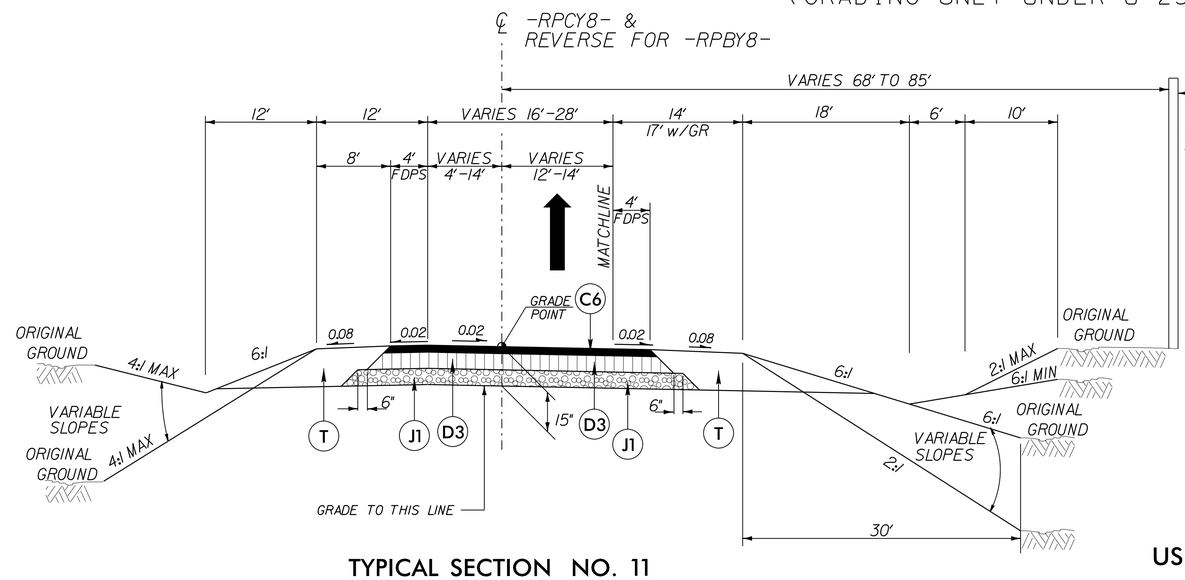
NOTE: -RPAY8- FROM STA. 0+00.00 TO 9+75.59 AND -RPDY8- STA. 0+00.00 TO STA. 11+03.82, PAVEMENT STRUCTURE TO BE CONSTRUCTED UNDER U-2525C. (GRADING ONLY UNDER U-2524D)



TYPICAL SECTION NO. 10A

USE T.S. N0. 10A IN CONJUNCTION WITH TYPICAL SECTION NOS. 10, 11, & 15

NOISE WALL 8 FROM -RPAY8- STA. 9+75.59 TO STA. 9+83.78 RT.
NOISE WALL 6 FROM -RPBY8- STA. 4+48.00 TO STA. 5+29.20 LT.
NOISE WALL 9 FROM -SPDY8- STA. 0+00.00 TO STA. 1+15.50 LT.



NOISE WALL 6 FROM -RPBY8- STA.5+29.93 TO STA.10+46.49
NOISE WALL 7 FROM -RPCY8- STA.5+29.20 TO -SPCY8- STA.1+12.81

TYPICAL SECTION NO. 11

USE TYPICAL SECTION NO. 11

-RPBY8- FROM STA. 0+00.00 TO STA. 11+58.59
-RPCY8- FROM STA. 0+00.00 TO STA. 10+99.15

NOTE: -RPBY8- FROM STA. 0+00.00 TO 4+46.00 AND -RPCY8- STA. 0+00.00 TO STA. 5+20.00, USE MAINLINE PAVEMENT DESIGN

25-APR-2016 12:31
U:\Projects\U-2524D_NW\2524D_ROY_TYP_02A-7.dgn
rsaylor
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PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	2A-8
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

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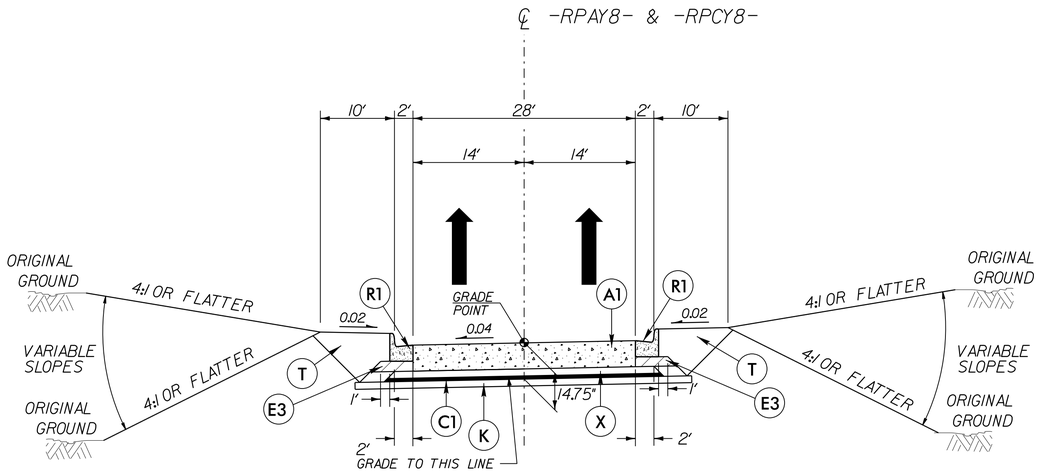
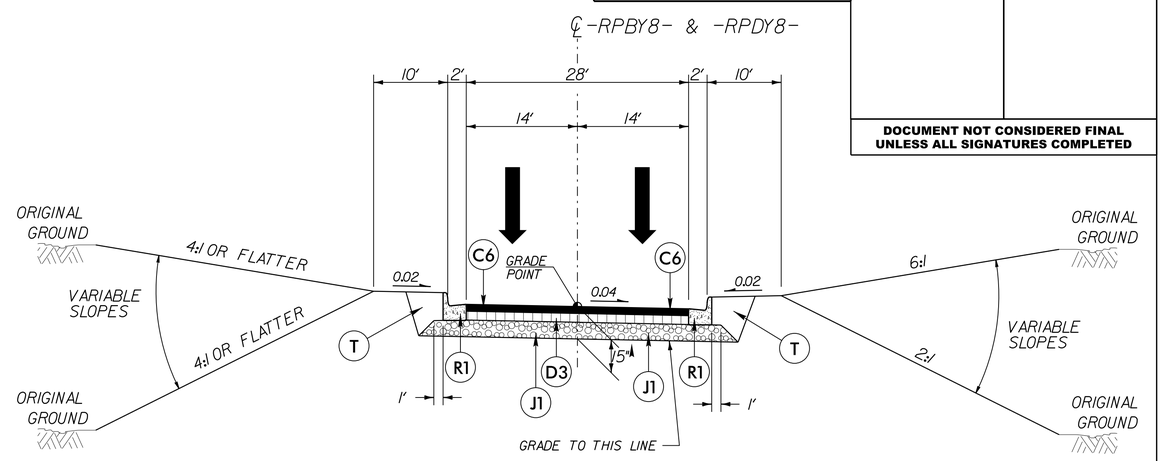


TYPICAL SECTION NO. 12

USE TYPICAL SECTION NO. 12

-RPAY8- FROM STA. 11+22.60 TO STA. 14+15.68
-RPCY8- FROM STA. 10+99.15 TO STA. 13+38.29

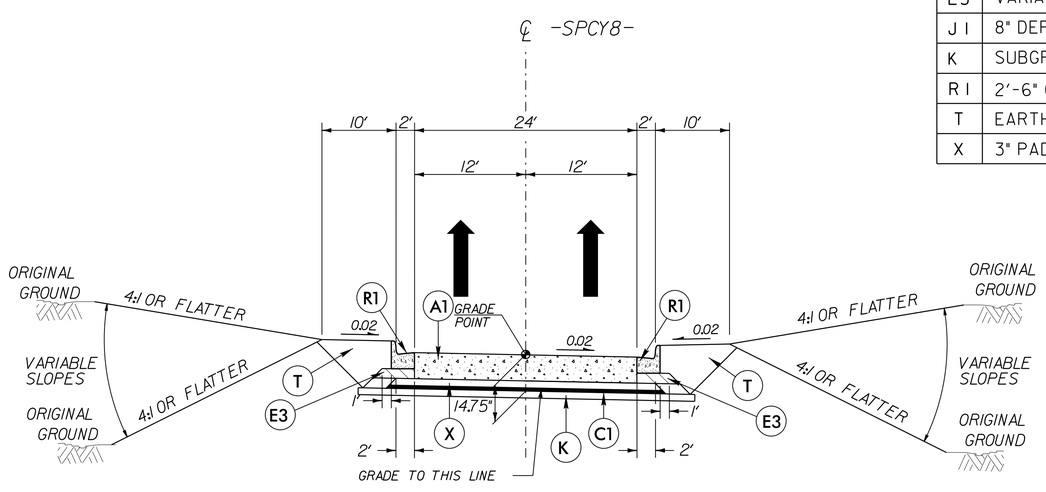


TYPICAL SECTION NO. 13

USE TYPICAL SECTION NO. 13

-RPBY8- FROM STA. 11+58.59 TO STA. 13+45.49
-RPDY8- FROM STA. 12+17.44 TO STA. 14+08.52

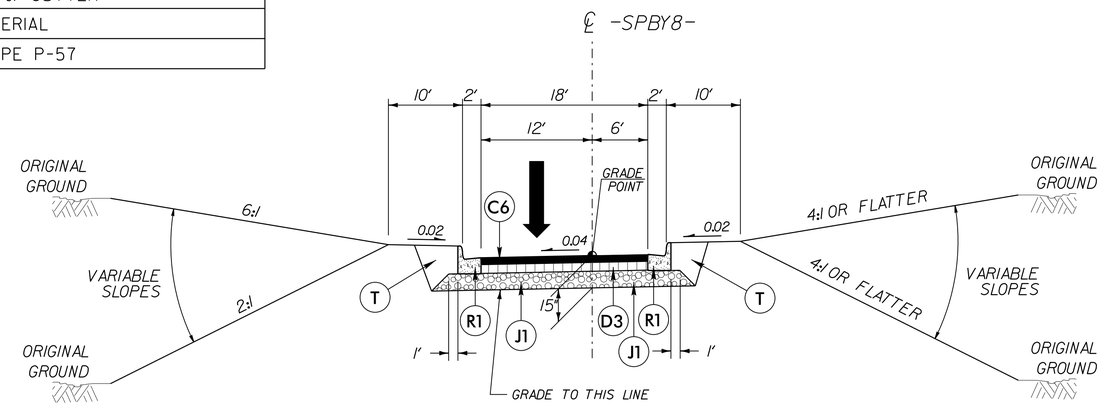
PAVEMENT SCHEDULE	
A1	10.5" P.C.C. JOINTED W/DOWELS
C1	1.25" A.C.S.C. TYPE S9.5A
C6	3" A.C.S.C. TYPE S9.5C
D3	4" A.C.I.C. TYPE I 19.0C
E3	VARIABLE DEPTH A.C.B.C. TYPE B25.0B
J1	8" DEPTH A.B.C.
K	SUBGRADE STABILIZATION
R1	2'-6" CURB & GUTTER
T	EARTH MATERIAL
X	3" PADC, TYPE P-57



TYPICAL SECTION NO. 14

USE TYPICAL SECTION NO. 14

-SPCY8- FROM STA. 1+81.18 TO STA. 3+97.15



TYPICAL SECTION NO. 15

USE TYPICAL SECTION NO. 15

-SPBY8- FROM STA. 1+14.50 TO STA. 3+36.02
-SPDY8- FROM STA. 1+15.50 TO STA. 3+07.95

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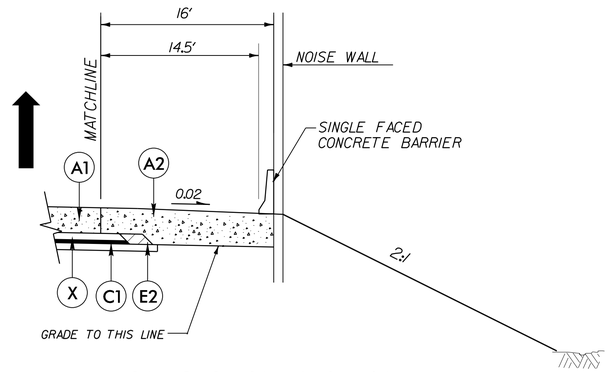
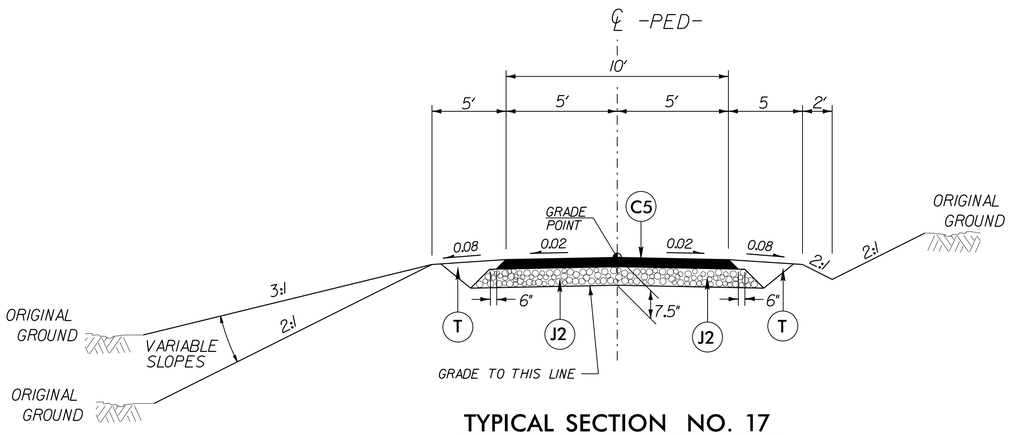
PAVEMENT SCHEDULE	
A1	10.5" P.C.C. JOINTED W/ DOWELS
A2	10.5" P.C.C. JOINTED W/O DOWELS
C1	1.25" A.C.S.C. TYPE SF9.5A
C5	1.5" A.C.S.C. TYPE SF9.5A
E2	4.25" A.C.B.C. TYPE B25.0B
E3	VARIABLE DEPTH A.C.B.C. TYPE B25.0B
J2	6" DEPTH A.B.C.
K	SUBGRADE STABILIZATION
R1	2'-6" CURB & GUTTER
T	EARTH MATERIAL
X	3" PADC, TYPE P-57



TYPICAL SECTION NO. 16A

USE T.S. N0. 16A IN CONJUNCTION WITH TYPICAL SECTION NO. 16

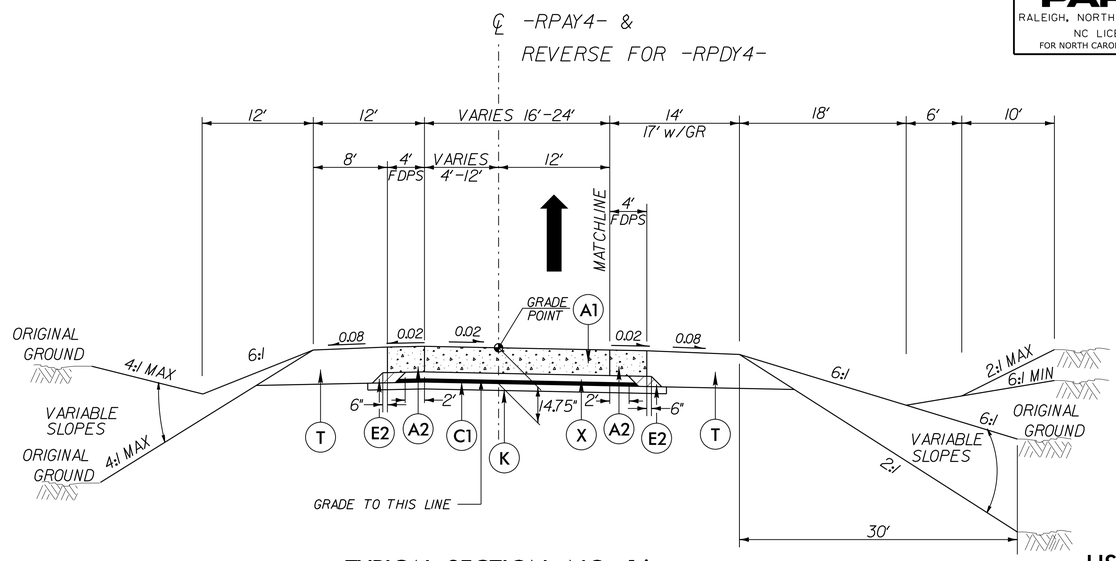
NOISE WALL 1 FROM -RPAY4- STA. 3+20.00 TO STA. 3+92.17 RT.



TYPICAL SECTION NO. 17

USE TYPICAL SECTION NO. 17

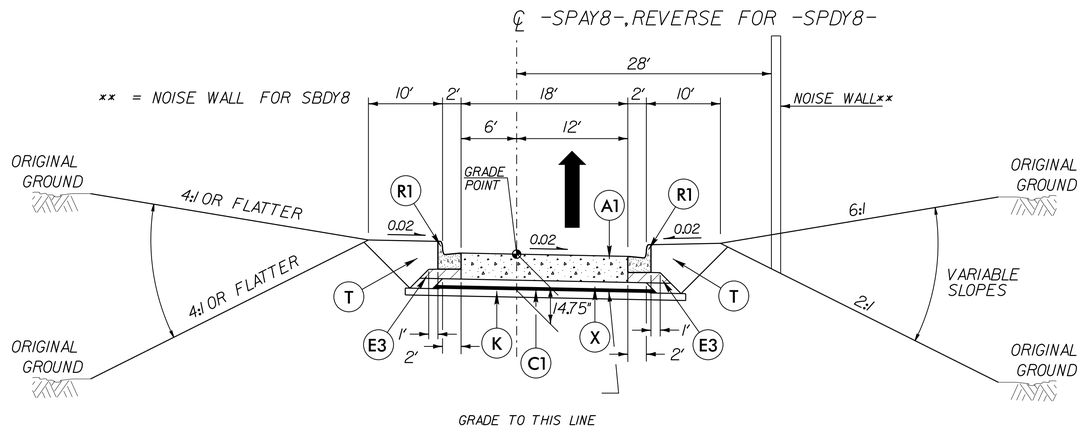
PED STA. 10+00.00 TO STA. 12+77.84 (BEGIN BRIDGE)
PED 14+47.84 (END BRIDGE) TO STA. 18+58.34



TYPICAL SECTION NO. 16

USE TYPICAL SECTION NO. 16

-RPAY4- STA. 0+00.00 TO STA. 4+26.51
-RPDY4- STA. 0+00.00 TO STA. 5+57.62



TYPICAL SECTION NO. 18

USE TYPICAL SECTION NO. 18

-SPAY8- FROM STA. 1+50.86 TO STA. 4+51.29
-SPDY8- FROM STA. 1+15.50 TO STA. 3+07.95

PLANS PREPARED BY :

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RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	2A-9
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

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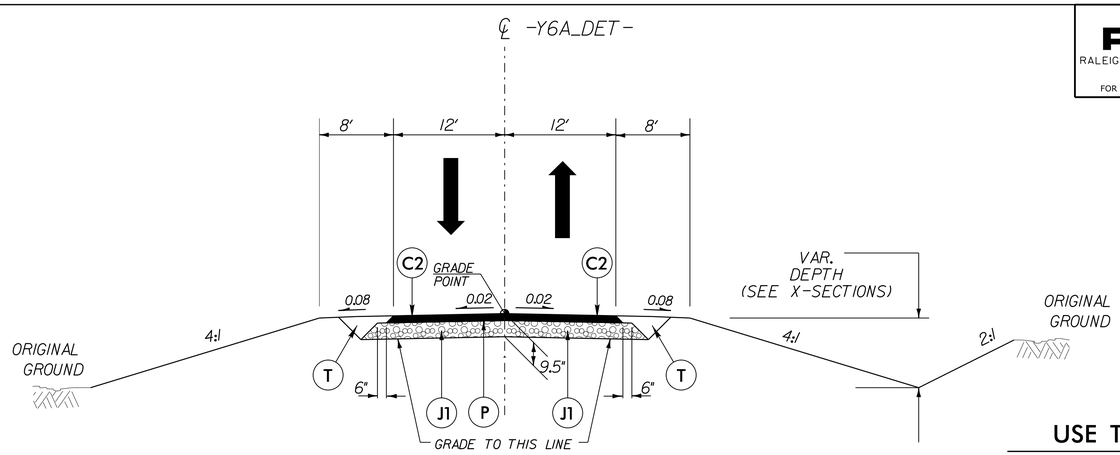
PAVEMENT SCHEDULE	
C2	1.5" A.C.S.C. TYPE S9.5B
C3	3" A.C.S.C. TYPE S9.5B
D1	4" A.C.I.C. TYPE I 19.0B
E1	4" A.C.B.C. TYPE B25.0B
J1	8" DEPTH A.B.C.
P	PRIME COAT
R1	2'-6" CURB & GUTTER
S	SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	2A-10
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

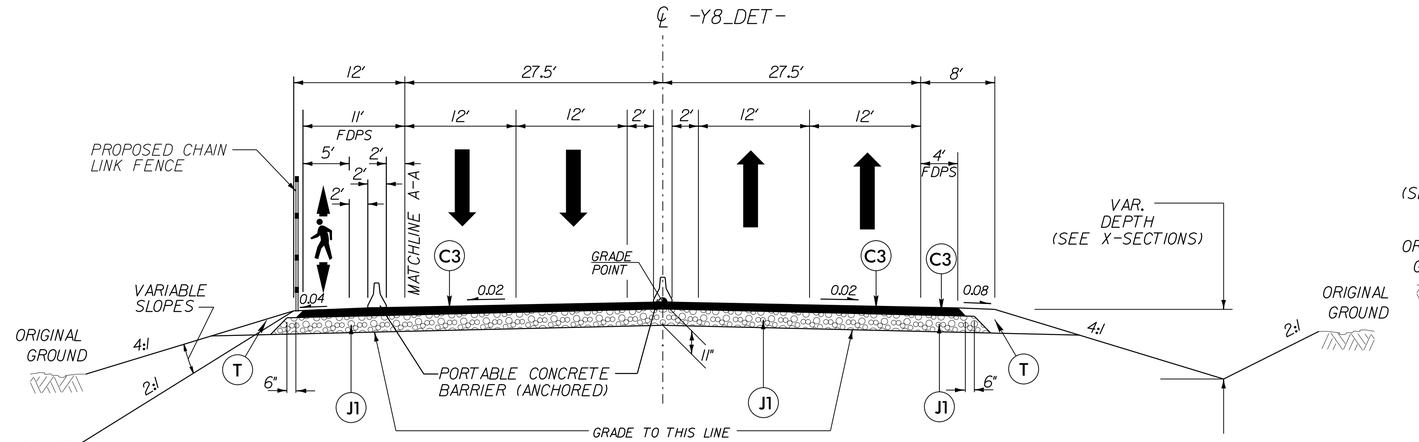
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TYPICAL SECTION NO. 18

USE TYPICAL SECTION NO. 18

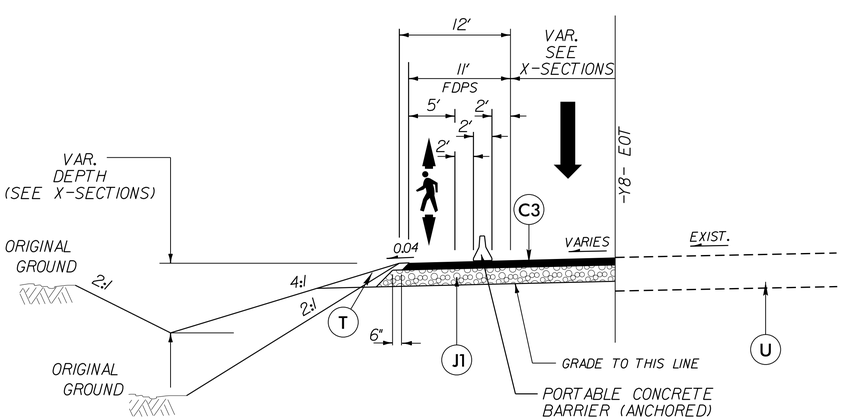
-Y6A_DET- FROM STA. 10+16.56 TO STA. 14+00.00



TYPICAL SECTION NO. 19

USE TYPICAL SECTION NO. 19

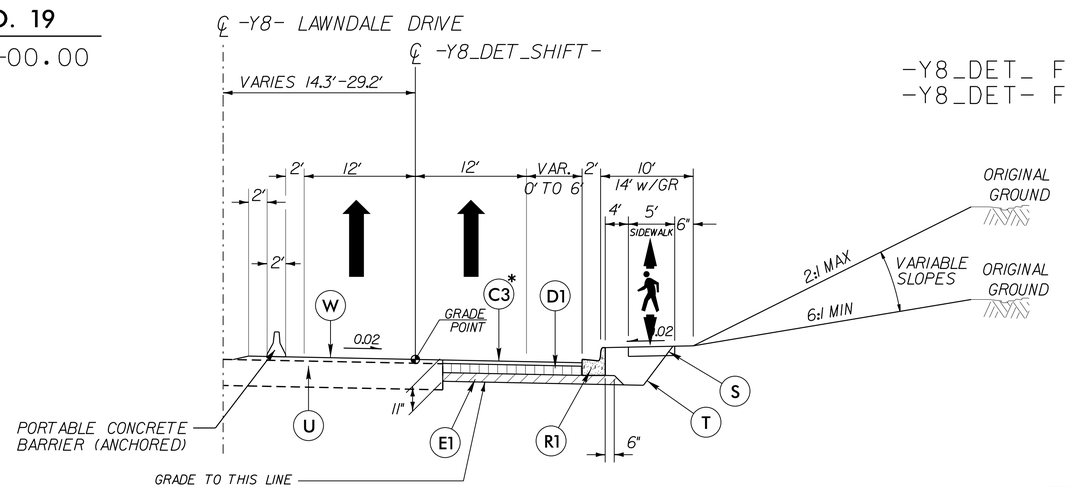
-Y8_DET- FROM STA. 13+00.00
TO STA. 22+00.00



TYPICAL SECTION NO. 20

USE TYPICAL SECTION N0. 20

-Y8_DET_ FROM STA. 12+00.00 TO 13+00.00
-Y8_DET- FROM STA. 22+00.00 TO 23+50.00



TYPICAL SECTION NO. 21

*NOTE: USE -Y8- FINAL PAVEMENT DESIGN UP TO BUT NOT INCLUDING THE FINAL 1.5" OF SURFACE COURSE

USE TYPICAL SECTION NO. 21

-Y8_DET_SHIFT-
STA. 10+00.00 TO STA. 27+63.55

25-APR-2016 12:31
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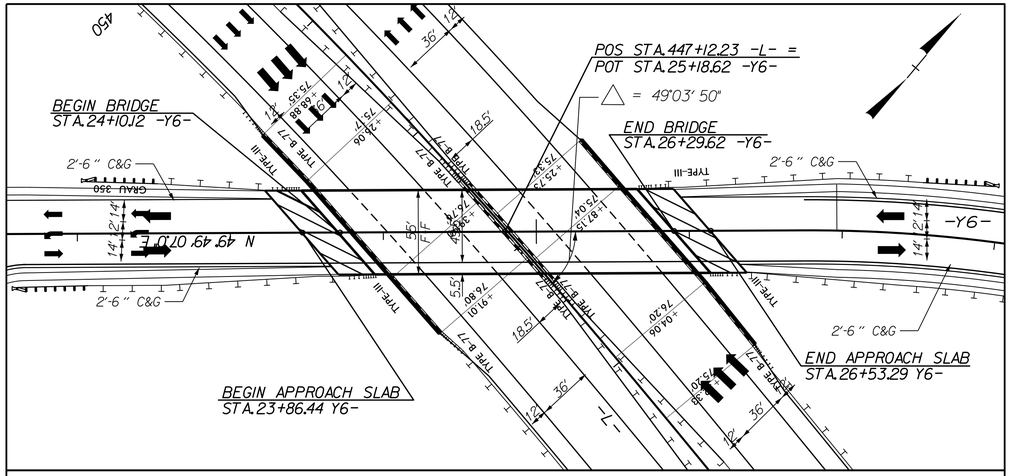
PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	2B-1
R/W SHEET NO.	

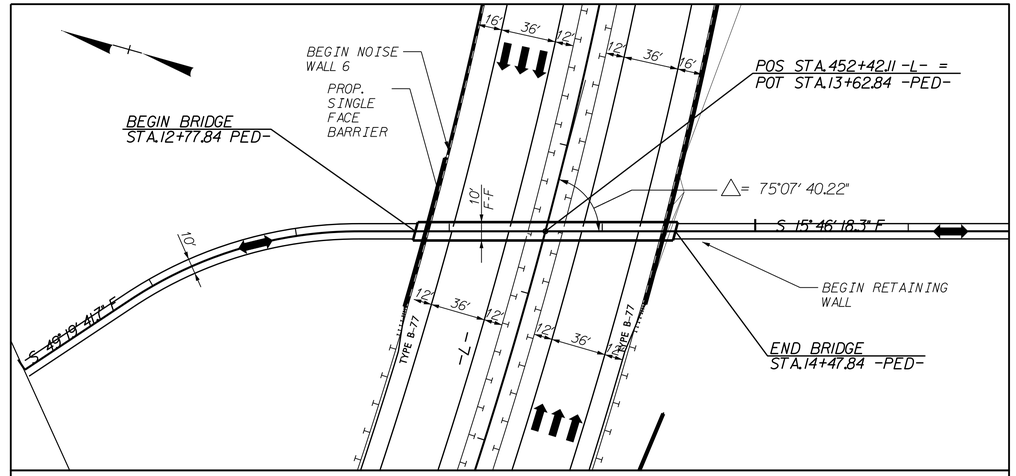
ROADWAY DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

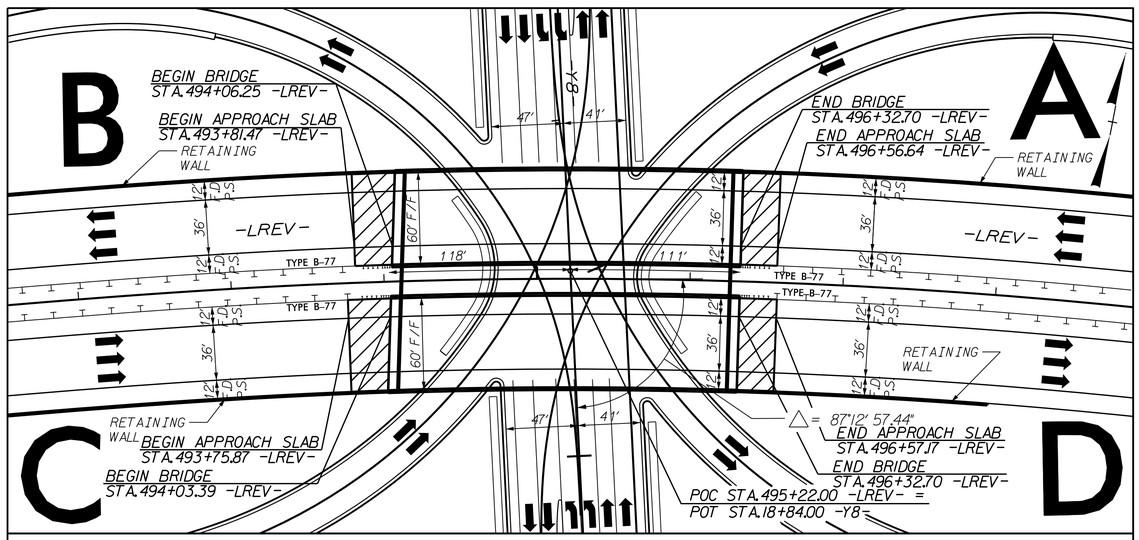
SKETCH SHOWING PAVEMENT WIDTH TO BRIDGE WIDTH RELATIONSHIP



DETAIL SHOWING PAVEMENT-BRIDGE RELATIONSHIP FOR -Y6- OVER -L-



DETAIL SHOWING PAVEMENT-BRIDGE RELATIONSHIP FOR -PED- OVER -L-



DETAIL SHOWING PAVEMENT-BRIDGE RELATIONSHIP FOR -LREV- OVER -Y8-

25-APR-2016 12:31
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CURVE DATA

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	2B-2
R/W SHEET NO.	
	ROADWAY DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L-

PIs Sta 415+25.60
Θs = 5° 30' 01.4"
Ls = 480.00'
LT = 320.15'
ST = 160.14'

PI Sta 421+58.62
Δ = 21° 26' 06.8" (RT)
D = 2° 17' 30.6"
L = 935.29'
T = 473.18'
R = 2,500.00'
e = 0.06
D.S. = 70 Mph
Runoff = 480.00'

PIs Sta 427+80.87
Θs = 5° 30' 01.4"
Ls = 480.00'
LT = 320.15'
ST = 160.14'

-L-

PIs Sta 446+94.21
Θs = 4° 00' 38.5"
Ls = 420.00'
LT = 280.07'
ST = 140.07'

PI Sta 453+44.10
Δ = 19° 17' 41.0" (LT)
D = 1° 54' 35.5"
L = 1,010.27'
T = 509.96'
R = 3,000.00'
e = 0.07
D.S. = 70.00 Mph
Runoff = 420.00'

PIs Sta 459+84.47
Θs = 4° 00' 38.5"
Ls = 420.00'
LT = 280.07'
ST = 140.07'

-LREV-

PIs Sta 492+33.76
Θs = 3° 02' 39.6"
Ls = 390.00'
LT = 260.04'
ST = 130.03'

PI Sta 496+37.33
Δ = 8° 31' 38.8" (RT)
D = 1° 33' 40.3"
L = 546.21'
T = 273.61'
R = 3,670.00'
e = 0.06
D.S. = 70.00 Mph
Runoff = 390.00'

PIs Sta 500+39.97
Θs = 3° 02' 39.6"
Ls = 390.00'
LT = 260.04'
ST = 130.03'

-Y5-

P.I. = 14+45.56
Δ = 8° 19' 44.1" (RT)
D = 5° 43' 46.5"
T = 72.81'
L = 145.37'
R = 1,000.00'
e = 0.04
D.S. = 50 Mph
Runoff = 96.00'

-Y6-

P.I. = 14+73.75
Δ = 8° 17' 00.5" (LT)
D = 3° 10' 59.2"
T = 130.34'
L = 260.23'
R = 1,800.00'
e = 0.03
D.S. = 50 Mph
RUNOFF = 81.00'

-Y6-

P.I. = 21+49.25
Δ = 21° 55' 17.5" (LT)
D = 6° 09' 39.0"
T = 180.11'
L = 355.82'
R = 930.00'
e = 0.04
D.S. = 50 Mph
Runoff = 96.00'

-Y6A-

P.I. = 12+31.34
Δ = 37° 41' 26.6" (LT)
D = 10° 08' 27.0"
T = 192.84'
L = 371.67'
R = 565.00'
e = 0.04
D.S. = 40 Mph
Runoff = 84.00'

-Y7A-

P.I. = 10+87.91
Δ = 60° 44' 43.1" (LT)
D = 38° 11' 49.9"
T = 87.91'
L = 159.03'
R = 150.00'
e = 0.04
D.S. = 20 Mph
Runoff = 64.00'

-Y7A-

P.I. = 12+90.01
Δ = 91° 03' 06.6" (LT)
D = 114° 35' 29.6"
T = 50.93'
L = 79.46'
R = 50.00'

-Y8-

P.I. = 22+73.67
Δ = 12° 34' 44.0" (RT)
D = 3° 49' 11.0"
L = 329.31'
T = 165.32'
R = 1,500.00'
e = 0.04
D.S. = 50 Mph
Runoff = 174.00'

-Y8-

P.I. = 26+55.60
Δ = 9° 57' 52.8" (LT)
D = 2° 17' 30.6"
T = 217.94'
L = 434.79'
R = 2,500.00'
e = 0.03
D.S. = 50 Mph
Runoff = 105.00'

PEDESTRIAN GRADE CROSSING

PI Sta 11+63.69
Δ = 33° 33' 23.3" (RT)
D = 21° 13' 14.4"
L = 158.13'
T = 81.41'
R = 270.00'

-RPAY4-

PIs Sta 1+71.48
Θs = 4° 46' 28.73"
Ls = 200.00'
LT = 133.38'
ST = 66.71'

PI = 3+51.09
Δ = 10° 45' 30.0" (LT)
D = 4° 46' 28.7"
L = 225.32'
T = 112.99'
R = 1,200.00'
e = 0.06
D.S. = 55.00 Mph
Runoff = 200.00'

PIs Sta 5+30.13
Θs = 4° 46' 28.73"
Ls = 200.00'
LT = 133.38'
ST = 66.71'

-SPAY4-

PI Sta 1+83.75
Δ = 25° 50' 28.1" (LT)
D = 17° 54' 17.8"
L = 144.32'
T = 73.41'
R = 320.00'
e = 0.04
D.S. = 25 Mph
Runoff = 68.00'

-RPAY4-

PIs Sta 15+65.35
Θs = 12° 31' 15.35"
Ls = 125.00'
LT = 83.54'
ST = 41.86'

PI = 19+01.74
Δ = 91° 45' 44.1" (LT)
D = 20° 02' 00.56"
L = 458.04'
T = 294.93'
R = 286.00'
e = 0.04
D.S. = 30.00 Mph
Runoff = 125.00'

PIs Sta 21+06.71
Θs = 12° 31' 15.35"
Ls = 125.00'
LT = 83.54'
ST = 41.86'

-RPDY4-

PI Sta 2+06.25
Δ = 20° 20' 08.8" (LT)
D = 4° 58' 56.1"
L = 408.17
T = 206.25'
R = 1,150.00'
e = 0.06
D.S. = 55 Mph
Runoff = 200.00'

-RPDY4-

PIs Sta 4+83.23
Θs = 5° 36' 40.8"
Ls = 225.00'
LT = 150.08'
ST = 75.07'

-SPDY4-

PI Sta 3+01.03
Δ = 104° 52' 54.8" (LT)
D = 27° 56' 57.0"
L = 375.26'
T = 266.59'
R = 205.00'
e = 0.04
D.S. = 25 Mph
Runoff = 68.00'

-RPDY4-

PIs Sta 14+64.53
Θs = 8° 02' 20.2"
Ls = 110.00'
LT = 73.41'
ST = 36.74'

PI Sta 17+17.33
Δ = 57° 45' 26.9" (RT)
D = 14° 36' 58.6"
L = 395.16
T = 216.21'
R = 392.00'
e = 0.04
D.S. = 30 Mph
Runoff = 77.00'

PIs Sta 19+33.02
Θs = 8° 02' 20.2"
Ls = 110.00'
LT = 73.41'
ST = 36.74'

-RPAY8-

PIs Sta 1+33.35
Θs = 2° 30' 00.0"
Ls = 200.00'
LT = 133.35'
ST = 66.68'

PI Sta 2+75.40
Δ = 3° 46' 06.6" (RT)
D = 2° 30' 00.0"
L = 150.74'
T = 75.40'
R = 2,291.83'
e = 0.06
D.S. = 60.00 Mph
Runoff = 200.00'

PIs Sta 4+17.42
Θs = 2° 30' 00.0"
Ls = 200.00'
LT = 133.35'
ST = 66.68'

-RPAY8-

PIs Sta 10+49.03
Θs = 9° 41' 46.4"
Ls = 110.00'
LT = 73.44'
ST = 36.77'

PI Sta 14+17.82
Δ = 91° 15' 39.5" (LT)
D = 17° 37' 46.1"
L = 517.66'
T = 332.23'
R = 325.00'
e = 0.04
D.S. = 25.00 Mph
Runoff = 110.00'

PIs Sta 16+40.02
Θs = 9° 41' 46.4"
Ls = 110.00'
LT = 73.44'
ST = 36.77'

-RPBY8-

PIs Sta 1+33.35
Θs = 3° 00' 00.0"
Ls = 200.00'
LT = 133.35'
ST = 66.68'

PI Sta 2+64.82
Δ = 3° 53' 15.7" (LT)
D = 3° 00' 00.0"
L = 129.59'
T = 64.82'
R = 1,909.86'
e = 0.08
D.S. = 60.00 Mph
Runoff = 200.00'

PIs Sta 3+96.27
Θs = 3° 00' 00.0"
Ls = 200.00'
LT = 133.35'
ST = 66.68'

-RPBY8-

PIs Sta 10+33.87
Θs = 10° 40' 56.2"
Ls = 110.00'
LT = 73.47'
ST = 36.79'

PI Sta 13+23.49
Δ = 81° 15' 15.8" (RT)
D = 19° 25' 20.3"
L = 418.36'
T = 253.09'
R = 295.00'
e = 0.04

-SPBY8-

PI Sta 2+88.03
Δ = 82° 27' 10.6" (LT)
D = 20° 50' 05.4"
L = 395.75'
T = 240.97'
R = 275.00'
e = 0.04
D.S. = 25 Mph
Runoff = 68.00'

-RPCY8-

PIs Sta 1+33.35
Θs = 2° 30' 00.0"
Ls = 200.00'
LT = 133.35'
ST = 66.68'

PI Sta 3+02.13
Δ = 5° 06' 11.1" (RT)
D = 2° 30' 00.0"
L = 204.12'
T = 102.13'
R = 2,291.83'
e = 0.06
D.S. = 60.00 Mph
Runoff = 200.00'

PIs Sta 4+70.80
Θs = 2° 30' 00.0"
Ls = 200.00'
LT = 133.35'
ST = 66.68'

-RPCY8-

PIs Sta 10+05.15
Θs = 10° 00' 09.9"
Ls = 125.00'
LT = 83.47'
ST = 41.79'

PI Sta 13+33.32
Δ = 77° 21' 58.8" (LT)
D = 16° 00' 15.9"
L = 483.41'
T = 286.64'
R = 358.00'
e = 0.04
D.S. = 25.00 Mph
Runoff = 125.00'

PIs Sta 15+71.88
Θs = 10° 00' 09.9"
Ls = 125.00'
LT = 83.47'
ST = 41.79'

-RPDY8-

PIs Sta 1+33.35
Θs = 2° 30' 00.0"
Ls = 200.00'
LT = 133.35'
ST = 66.68'

PI Sta 3+02.30
Δ = 5° 06' 42.2" (LT)
D = 2° 30' 00.0"
L = 204.47'
T = 102.30'
R = 2,291.83'
e = 0.06
D.S. = 60.00 Mph
Runoff = 200.00'

PIs Sta 4+71.15
Θs = 2° 30' 00.0"
Ls = 200.00'
LT = 133.35'
ST = 66.68'

-SPDY8-

PI = 2+56.66
Δ = 85° 35' 57.9" (LT)
D = 24° 22' 52.3"
L = 351.09'
T = 217.61'
R = 235.00'
e = 0.04
D.S. = 25 Mph
Runoff = 68.00'

-RPDY8-

PIs Sta 11+06.05
Θs = 9° 49' 19.7"
Ls = 120.00'
LT = 80.12'
ST = 40.11'

PI Sta 13+84.61
Δ = 68° 34' 57.3" (RT)
D = 16° 22' 12.8"
L = 418.95'
T = 238.68'
R = 350.00'
e = 0.04
D.S. = 25.00 Mph
Runoff = 120.00'

PIs Sta 16+04.99
Θs = 9° 49' 19.7"
Ls = 120.00'
LT = 80.12'
ST = 40.11'

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$$$$USERNAME$$$$

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PLANS PREPARED BY :	PROJECT REFERENCE NO.	SHEET NO.
PARSONS RALEIGH, NORTH CAROLINA, (919) 854-1345 NC LICENSE NO. F-0246 FOR NORTH CAROLINA DEPT. OF TRANSPORTATION	U-2524D	2B-3
	R/W SHEET NO.	
		ROADWAY DESIGN ENGINEER

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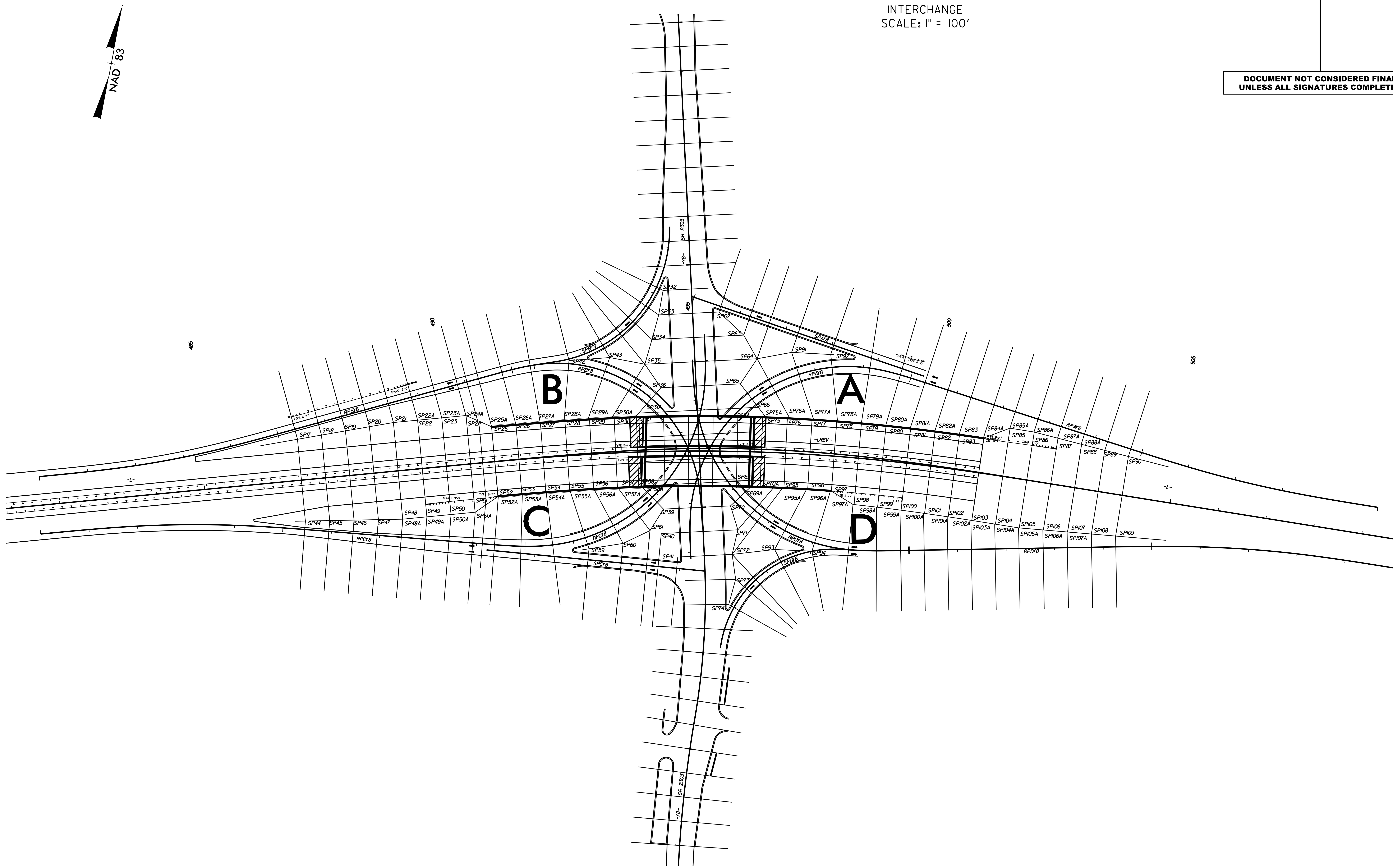
SHEAR POINT DIAGRAM
GREENSBORO WESTERN LOOP/SR 2303
INTERCHANGE
SCALE: 1" = 100'



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-Y8_DET-

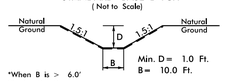
NOTE:

SEE SHEET 2B-6 FOR -Y8_DET- PROFILE.

SEE SHEET 2A-10 FOR TYPICAL SECTION & PAVEMENT DESIGN.

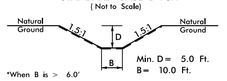
SEE SHEETS TMP-14 & TMP-16 FOR PHASING OVERVIEW AND SHEETS TMP-15 & TMP-17 FOR SECTION VEIWS.

DETAIL 44
STANDARD BASE DITCH
(Not to Scale)



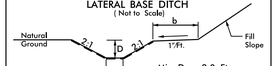
Min. D= 1.0 Ft.
B= 10.0 Ft.
*When B is > 6.0' Std. No. 876.01
Type of Liner= Soil Stabilization Geotextile
FROM -Y8- STA. 17+83 TO STA. 18+88 LT

DETAIL 45
STANDARD BASE DITCH
(Not to Scale)



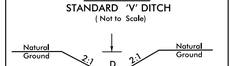
Min. D= 5.0 Ft.
B= 10.0 Ft.
*When B is > 6.0' Std. No. 876.01
Type of Liner= Soil Stabilization Geotextile
-Y8_DET- STA. 17+56 LT

DETAIL 46
LATERAL BASE DITCH
(Not to Scale)



Min. D= 2.0 Ft.
B= 4.0 Ft.
b= 5.0 Ft.
Type of Liner= Soil Stabilization Geotextile
FROM -Y8_DET- STA. 17+57 TO STA. 19+57 LT

DETAIL 47
STANDARD 'V' DITCH
(Not to Scale)



Min. D= 1.5 Ft.
FROM -RPAY8- STA. 9+70 TO STA. 12+68 RT

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	2B-4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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NAD 83

EQUATION:
ST Sta 502+99.94 -LREV BK =
POT Sta 503+00.89 -L- AH

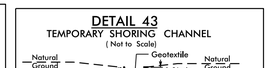
-Y8_DET-

PI Sta 13+66.56	PI Sta 19+32.63	PI Sta 20+90.37
Δ = 62° 48' 17.1" (LT)	Δ = 126° 34' 12.7" (RT)	Δ = 51° 11' 11.5" (LT)
D = 23° 23' 09.7"	D = 25° 27' 53.2"	D = 25° 27' 53.2"
L = 268.56'	L = 497.04'	L = 201.01'
T = 149.56'	T = 447.07'	T = 107.77'
R = 245.00'	R = 225.00'	R = 225.00'
e = 0.04	e = 0.04	e = 0.04
DS = 25 MPH	DS = 25 MPH	DS = 25 MPH
Runoff = 72.00'	Runoff = 72.00'	Runoff = 72.00'

DETAIL 21
RIP RAP AT EMBANKMENT
(Not to Scale)

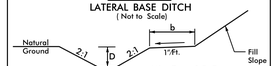
Type of Liner= Class 'I' Rip-Rap
FROM -RPAY8- STA. 6+50 TO STA. 6+65 RT

DETAIL 43
TEMPORARY SHORING CHANNEL
(Not to Scale)



FROM -Y8- STA. 18+89 TO STA. 19+26 LT

DETAIL 19
LATERAL BASE DITCH
(Not to Scale)



Min. D= 1.0 Ft.
B= 3.0 Ft.
b= 5.0 Ft.
FROM -RPAY8- STA. 6+42 TO STA. 8+20 RT

CLASS 'I' RIP-RAP
EST. 75 TONS
EST. 120 SYGF

RIP-RAP AT EMBANKMENT
SEE DETAIL 21
EST. 15 TONS
EST. 25 SYGF

3' LAT. BASE DITCH
SEE DETAIL 19

CLASS 'B' RIP-RAP
EST. 11 TONS
EST. 30 SYGF

REMOVE 62' OF EXISTING 30" CMP

OTCB

10' STANDARD BASE DITCH
SEE DETAIL 45
EST. 2400 SYGF
EST. 6500 CY DDE

CLASS 'I' RIP-RAP
EST. 85 TONS
EST. 175 SYGF

4' LAT. BASE DITCH
SEE DETAIL 46
EST. 710 SYGF
EST. 145 CY DDE

1 @ 10' x 7' RCBC (NOT BURIED)
1 @ 10' x 7' RCBC (NOT BURIED)

-Y8_DET- POT Sta. 23+93.61 =
-Y8- POC Sta. 24+38.62

-Y8DET- POT Sta. 23+55.00=
END DETOUR CONSTRUCTION

-Y8_DET- POT Sta. 10+00.00=
-Y8- POT Sta. 12+41.31

PRC Sta. 14+85.56

-Y8DET- POT Sta. 11+09.06 =
BEGIN DETOUR CONSTRUCTION

-Y8_DET- PC Sta. 12+17.00

STANDARD 'V' DITCH
SEE DETAIL 47
EST. 20 CY DDE

10' STANDARD BASE DITCH
SEE DETAIL 44
EST. 600 SYGF
EST. 530 CY DDE

15 @ 10' x 6' PRECAST RCBC

PRC Sta. 19+82.60

PT Sta. 21+83.61

TEMP. SHORING CHANNEL
SEE DETAIL 43

BEGIN TEMPORARY FENCING
12+99.08 -Y8_DET- 69' LT

END TEMPORARY FENCING
21+86.26 -Y8_DET- 61' LT

BEGIN PCB (ANCHORED)
+11 -Y8_DET-

BEGIN PCB (ANCHORED)
+00 -Y8 DET-

END PCB (ANCHORED)
+55 -Y8 DET-

250' TAPER LT. & RT.

200' TAPER LT. & RT.

S 13° 40' 55.4" E

S 1° 06' 11.4" E

-Y8-

-L-

-LREV-

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-Y8_DET_SHIFT-

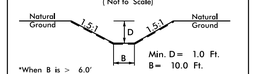
SEE SHEET 2B-6 THRU 2B-7 FOR -Y8_DET_SHIFT- PROFILE.

SEE SHEET 2A-10 FOR TYPICAL SECTION & PAVEMENT DESIGN.

SEE SHEET TMP-18 FOR PHASING OVERVIEW AND TMP-19 FOR SECTION VIEW.

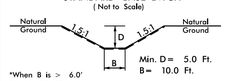
SEE SHEET 2B-4 FOR -Y8_DET- DESIGN.

DETAIL 44
STANDARD BASE DITCH
(Not to Scale)



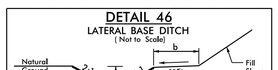
Type of Liner= Soil Stabilization Geotextile
FROM -Y8- STA. 17+83 TO STA. 18+88 LT

DETAIL 45
STANDARD BASE DITCH
(Not to Scale)



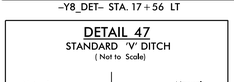
Type of Liner= Soil Stabilization Geotextile
-Y8_DET- STA. 17+56 LT

DETAIL 46
LATERAL BASE DITCH
(Not to Scale)



Type of Liner= Soil Stabilization Geotextile
FROM -Y8_DET- STA. 17+57 TO STA. 19+57 LT

DETAIL 47
STANDARD 'V' DITCH
(Not to Scale)



FROM -RPAY8- STA. 9+70 TO STA. 12+68 RT

POT Sta. 10+00.00 -Y8_DET_SHIFT- = Sta.10+00.00 -Y8-,13.93' LT

PI Sta. 11+67.36

PI Sta. 15+67.58

-Y8_DET_SHIFT-
S 12° 11' 57.5" E

S 13° 04' 09.5" E

MATCH LINE THIS SHEET

MATCH LINE THIS SHEET

CLASS 'I' RIP-RAP
EST. 75 TONS
EST. 120 SYGF

RIP-RAP AT EMBANKMENT
SEE DETAIL 21
EST. 15 TONS
EST. 25 SYGF

3' LAT. BASE DITCH
SEE DETAIL 19

CLASS 'B' RIP-RAP
EST. 11 TONS
EST. 30 SYGF

0958
REMOVE 62' OF EXISTING 30" CMP
OTCB
RETAIN
36"
18"

10' STANDARD BASE DITCH
SEE DETAIL 45
EST. 2400 SYGF
EST. 6500 CY DDE

CLASS 'I' RIP-RAP
EST. 85 TONS
EST. 175 SYGF

4' LAT. BASE DITCH
SEE DETAIL 46
EST. 710 SYGF
EST. 145 CY DDE

1 @ 10' x 7' RCBC (NOT BURIED)
1 @ 10' x 7' RCBC (NOT BURIED)

STANDARD 'V' DITCH
SEE DEATIL 47
EST. 20 CY DDE

10' STANDARD BASE DITCH
SEE DETAIL 44
EST. 600 SYGF
EST. 530 CY DDE

1 @ 10' x 5' PRECAST RCBC

TEMP. SHORING CHANNEL
SEE DETAIL 43

TYPE B-77

16'X10' CMAP

-Y8-

-Y8_DET_SHIFT-

S 13° 40' 55.4" E

S 12° 11' 57.5" E

S 13° 40' 55.3" E

S 6° 02' 42.0" E

PC Sta. 21+08.34

PT Sta. 23+70.62

PRC Sta. 24+37.66

PC Sta. 21+74.55

PROP. R/W

NAD 83

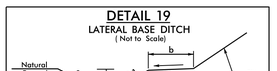
DETAIL 21
RIP RAP AT EMBANKMENT
(Not to Scale)

Type of Liner= Class 'I' Rip-Rap
FROM -RPAY8- STA. 6+50 TO STA. 6+65 RT

DETAIL 43
TEMPORARY SHORING CHANNEL
(Not to Scale)

FROM -Y8- STA. 18+89 TO STA. 19+26 LT

DETAIL 19
LATERAL BASE DITCH
(Not to Scale)



FROM -RPAY8- STA. 6+42 TO STA. 8+20 RT

-Y8_DET_SHIFT-
PI Sta 22+72.73
△ = 7° 38' 13.2" (RT)
D = 3° 53' 42.1"
L = 196.07'
T = 98.18'
R = 1,471.00'
SE = USE FINAL DESIGN SE AND RUNOFF

POT Sta. 27+63.55
-Y8_DET_SHIFT- =
Sta.27+00.00 -Y8-,14.75' LT

S 6° 02' 42.0" E
-Y8_DET_SHIFT-

MATCH LINE THIS SHEET

MATCH LINE THIS SHEET

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No. C-1554

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	2B-5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

PLANS PREPARED BY :

PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	2B-6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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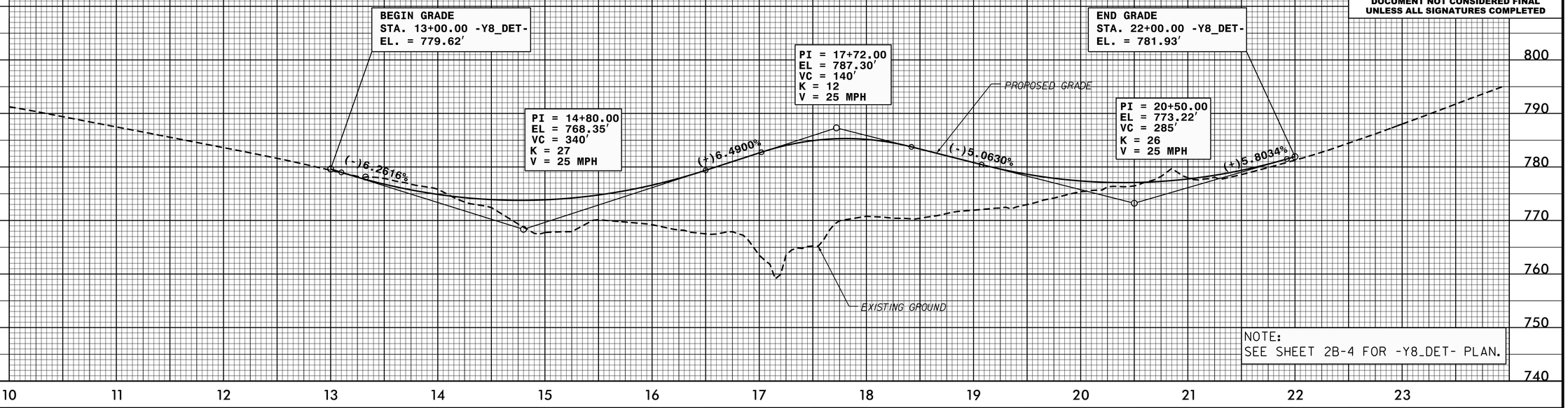
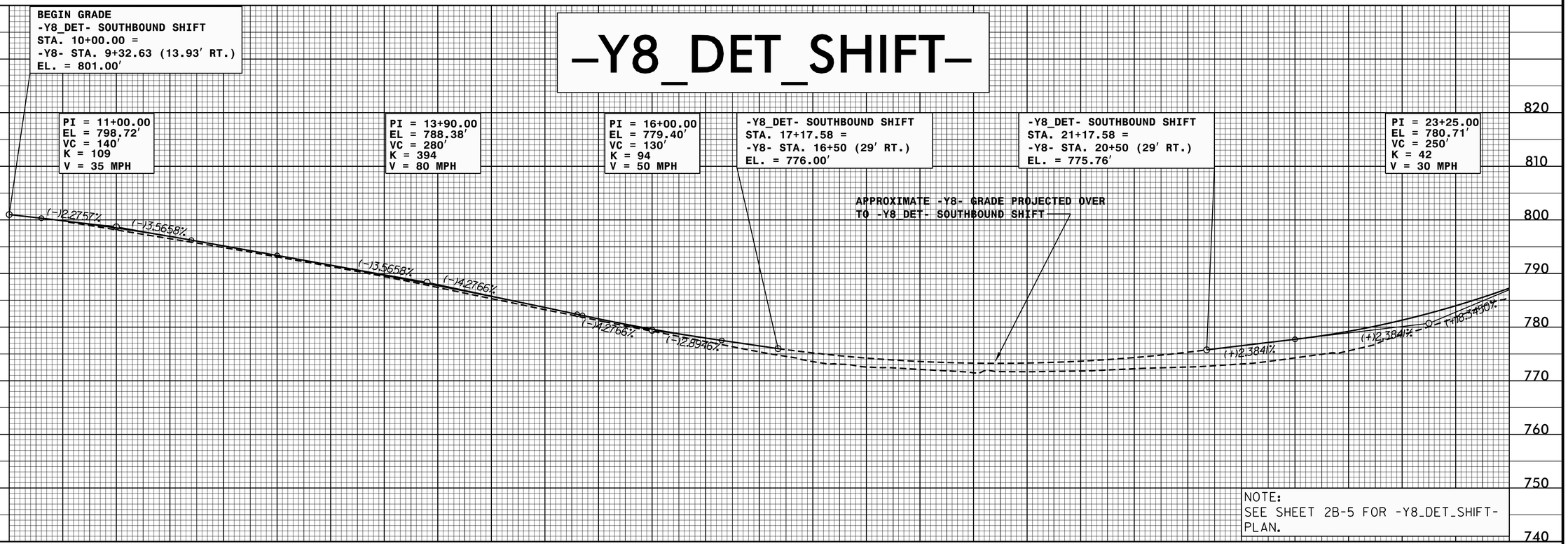
-Y8_DET-



NOTE:
SEE SHEET 2B-4 FOR -Y8_DET- PLAN.

-Y8_DET_SHIFT-



NOTE:
SEE SHEET 2B-5 FOR -Y8_DET_SHIFT- PLAN.

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$USER
$$$$Date

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-Y8_DET_SHIFT-

PI = 25+85.00
EL = 802.21'
VC = 40'
K = 54
V = 40 MPH

PI = 26+30.00
EL = 805.50'
VC = 50'
K = 71
V = 45 MPH

PI = 25+20.00
EL = 796.98'
VC = 75'
K = 250
V = 70 MPH

PI = 27+10.00
EL = 810.78'
VC = 60'
K = 44
V = 40 MPH

(+)8.3450%
(+)8.0452%
(+)7.3064%
(+)6.6042%
(+)5.2519%

END GRADE
-Y8_DET- SOUTHBOUND SHIFT
STA. 27+63.55 =
-Y8- STA. 27+00.00 (14.75' RT.)
EL. = 813.60'

820
810
800
790
780
770
760
750
740

24
25
26
27

NOTE:
SEE SHEET 2B-5 FOR -Y8_DET_SHIFT- PLAN.

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No. C-1554

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	2B-7

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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-Y6A_DET-

8/17/99

REVISIONS

BEGIN BRIDGE
STA. 24+10.12 -Y6-

-Y6-

Δ = 49°03' 50"

-Y6A_DET-
PI Sta 10+84.26
Δ = 44° 18' 10.0" (LT)
D = 38° 11' 49.9"
L = 115.98'
T = 61.07'
R = 150.00'
DS = 25 MPH

-L-

POC STA. 19+25.00 -Y6- =
POT STA. 10+00.00 -Y6A_DET-

PC Sta 19+69.14 -Y6-

POC STA. 20+76.58 -Y6- =
POT STA. 10+00.00 -Y6A-

PT Sta 23+24.96 -Y6-

PC Sta 10+38.50 -Y6A-

N71° 44' 24.5"E

S 33° 51' 51" E

S 39° 52' 19.01" E

PC Sta. 10+23.19
-Y6A_DET-

PT Sta. 11+39.18
-Y6A_DET-

CB-G

DI

15" RCP-III

15" RCP-IV

0623

0624

R=35'
+36.34 -Y6A DET-

R=35'
+34.69 -Y6A DET-

GTD

PT Sta 14+10.17 -Y6A-

15+00

END CONST.
14+00.00 -Y6A_DET-

POT Sta 15+35.17 -Y6A- =
POT Sta. 16+45.69 -Y6A_DET-

-Y6A-

-Y6A_DET-

S 77° 33' 45.5" E

S 77° 33' 45.6" E

+50.84 -Y6A_DET-

EXIST.

PUE

15

S 15° 46' 18.3" E

15+00

NAD 83

DETAIL 22
SPECIAL CUT DITCH
(Not to Scale)

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

Min. D= 1.0 Ft.

SPECIAL CUT DITCH
SEE DETAIL 22

OM -Y6A_DET- STA. 12+00 TO STA. 13+50 LT

NOTE:
SEE SHEET 2A-10 FOR TYPICAL SECTION & PAVEMENT DESIGN.
SEE SHEET TMP-9 FOR PHASING OVERVIEW.

HNTB NORTH CAROLINA, P.C.
343 Wolf Creek Road, Suite 200
Raleigh, North Carolina 27603
NC LICENSED NO: C-1554

PLANS PREPARED BY :
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NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	2B-8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

BEGIN GRADE
-Y6A_DET- STA. 10+16.56
EL. = 853.73'

PI = 12+90.00
EL = 861.88'
VC = 100'
K = 21
V = 30 MPH

END GRADE
-Y6A_DET- STA. 14+00.00
EL. = 859.82'

PROPOSED GRADE

(+)2.9835%

(+)0.8467%

(-)1.8756%

BEGIN SPECIAL CUT DITCH (LT)
PI = 12+00.00
EL = 858.04

END SPECIAL CUT DITCH (LT)
PI = 13+50.00
EL = 859.31

EXISTING GROUND

870 860 850 840 830 820 810

10 11 12 13 14 15 16

-Y6A_DET-

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8/17/99

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PLANS PREPARED BY :
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RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	3B-1
R/W SHEET NO.	

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL

GUARDRAIL SUMMARY

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

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL WIDTH	FLARE LENGTH		W		ANCHORS								IMPACT ATTENUATOR TYPE 350		SINGLE FACED CONCRETE BARRIER	REMOVE EXISTING GUARDRAIL	REMOVE & STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	XI MOD	XI	GRAU 350	M-350	XIII	CAT-1	VI MOD	B-77	III	G	NG				
-L-	421+39.21	426+89.21	RT MED	550.00					12	12										1		1						
-L-	421+48.74	446+73.74	LT MED	2525.00					12	12		142.5		8								2						
-L-	426+98.42	446+67.17	RT MED	1968.75					12	12	142.5			8			1					1						
-L-	446+73.42	447+59.42	RT MED						20	20																86		
-L-	446+73.74	447+59.74	LT MED						20	20																86		
-L-/-LREV-	447+54.14	494+04.14	RT MED	4650					12	12		142.5		8								2						
-L-/-LREV-	447+57.50	479+76.25	LT MED	3218.75					12	12	142.5	37.5	8	1				1				1						
-L-/-LREV-	479+93.00	494+05.50	LT MED	1412.5					12	12										1		1						
-LREV-	496+32.70	501+01.45	RT MED	468.75					12	12												1						
-LREV-	496+32.70	501+01.45	LT MED	468.75					12	12												1						
-RPDY4-	5+95.39	0+57.89	LT	537.50					7	17										1		1						
-RPDY4-	5+74.93	5+37.43	RT	37.50					4	12										1		1						
-L-	421+12.26	421+49.76	RT	37.50					14	17										1		1						
-L-	421+73.82	423+05.07	LT	131.25					14	17	112.5		4.75									1						
-RPAY4-	4+53.98	3+22.73	LT	131.25					6	12	112.5		4.75									1		1				
-RPAY4-/-L-	4+39.90	426+73.13	RT/LT						14.5	14.5																290		
-L-	426+73.13	429+66.88	LT	293.75			426+73.23		14	17	50		1				1					1						
-L-	434+58.03	447+40.14	LT	500.00				446+91.01	14	17												2				780		
-L-/-RPBY8-	447+40.14	8+03.52	LT	568.75			5+29.93		14	17	50		1				1					3				3658		
-L-	440+35.98	447+25.73	RT	518.75			443+50.00		14	17	50		1				1					1				171		
-L-	449+62.79	469+96.79	RT	450.00			452+34.65		14	17		50		1			2					4				1584		
-LREV-	489+43.40	490+99.65	RT	156.25			491+00.00		14	17	50		1				1					1						
-LREV-	496+32.70	502+56.25	LT	156.25			501+00.00		14	17							1					1						
-LREV-	498+00.00	499+50.00	RT	150				498+00.00	13.5	13.5										1		1						
-SPAY8-	0+00.00	0+58.75	RT	50.00				0+08.75	14	17										1		1				8.75		
-Y6-	20+05.00	23+86.25	LT	381.25				23+86.27				50		1			1						1					
-Y6-	22+02.72	24+33.97	RT	231.25			24+33.97				50		1				1						1					
-Y6-	26+05.77	28+49.52	LT	243.75			26+05.77				50		1				1						1					
-Y6-	26+53.47	27+47.22	RT	93.75				26+53.47				50		1			1					1						
TOTAL				19931.25																								
	LESS ANCHOR	DEDUCTIONS																										
	GRAU-350	12 @ 50.00'	=	600																								
	M-350	1 @ 37.50'	=	37.5																								
	CAT-1	7 @ 6.25'	=	43.75																								
	B-77	31 @ 18.75'	=	581.25																								
	III	3 @ 18.75'	=	56.25																								
		TOTAL DEDUCTIONS		1318.75																								
TOTAL				18612.50													12	1		7		31	3	1		6663.75		
			SAY	**18650**				**Additional Guardrail Posts: 20 EA**									**12**	**1**		**7**		**31**	**3**	**1**		**6670**		

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PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	3B-2
R/W SHEET NO.	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

REVISIONS

REMOVAL OF EXISTING ASPHALT PAVEMENT

LINE	STATION	STATION	LOCATION	LENGTH OR AREA	WIDTH	SQUARE YARDS
-Y6-	21+32	24+49	RT	9384.00		1042.67
-PED-	10+03	12+02	RT	7348.00		816.44
-PED-	15+53	18+55	RT	3323.00		369.22
-L-	454+05	454+98	LT	3869.00		429.89
-Y7A-	10+33	10+69	RT	1169.00		129.89
-Y7A-	10+96	11+14	RT	70.00		7.78
-Y7A-	11+50	11+83	RT	22.00		2.44
-Y7A-	12+62	12+81	RT	256.00		28.44
-Y6A_DET-	10+15	14+00	LT/RT	8706.00		967.33
					TOTAL	3,794.11
					SAY	3,800

SHOULDER DRAIN SUMMARY

LINE	STATION TO STATION	SHOULDER DRAIN PIPE (FT)	SHOULDER DRAINS (FT)	OUTLET PIPES (FT)	CONCRETE PADS (EA)
-L-	422+25 TO 444+00 RT OUTSIDE	2400	2175	250	6
-L-/-LREV-	462+00 TO 493+75 RT OUTSIDE	3405	3175	150	5
-LREV-/-L-	496+75 TO 517+93 RT OUTSIDE	2300	2118	300	2
-L-	444+00 TO 467+00 RT INSIDE	2500	2300	120	1
-L-/-LREV-	431+00 TO 490+60 LT OUTSIDE	6750	5960	500	7
-LREV-/-L-	502+15 TO 517+93 LT OUTSIDE	1675	1578	180	3
-L-	422+25 TO 431+00 LT INSIDE	900	875	30	2
-LREV-	491+00 TO 493+75 LT INSIDE	290	275	20	
-LREV-	496+75 TO 501+00 LT INSIDE	440	425	30	
	TOTAL	20660	18881	1580	26
	SAY	20660	18890	1580	30

WOVEN WIRE FENCE SUMMARY

STATION TO STATION	LT. OR RT.	A FABRIC L.F.	B END BRACE	C CORNER BRACE	D LINE BRACE	E 4" POSTS	F 5" POSTS
422+03.28 -L- TO 438+37.37 -L-	LT	1,689.00	2	3	7	102	34
5+73.37 RPAY8 TO 3+95.57 RPAY8	RT.	186.00	2	2		8	10
3+74.23 RPAY8 TO 525+21.66 -L-	RT/LT	1,969.00	2	1	8	124	31
434+06.08 -L- TO 436+99.22 -L-	RT.	299.00	2	1		18	7
4+96.70 RPDY8 TO 1+92.07 RPDY8	LT	308.00	2	2	1	15	13
519+74.01-L- TO 525+21.66 -L-	RT.	784.00	2	1	3	47	16
TOTAL		5,235.00				313	111
SAY		5,240				314	111

SUMMARY OF EXPRESSWAY GUTTER

LINE	SIDE	STATION	STATION	LENGTH
-L-	LT	442+38.00	447+40.00	502
-L-	LT	448+18.00	452+14.00	396
-L-	RT	455+00.00	456+45.00	145
-RPDY4-	LT	1+58.00	5+70.00	412
			TOTAL	1,455
			SAY	1,460

48" CHAIN LINK FENCE SUMMARY

STATION TO STATION	LT. OR RT.	A FABRIC L.F.	B END BRACE	C CORNER BRACE	D LINE BRACE	E LINE POSTS	F TERMINAL POSTS
438+37.37 -L- TO 443+59.45 -L-	LT	532.00	2	1	1	44.33	4
445+70.17 -L- TO 26+03.59 -Y6-	LT/LT	273.00	2	3	2	23.25	7
26+52.69 -Y6- TO 28+33.12 -Y6-	LT	186.00	2		1	15.33	3
26+53.04 -Y6- TO 28+63.26 -Y6-	RT.	214.00	2		2	17.83	4
27+54.62 -Y6- TO 12+33.61-PED-	RT.	283.00	2	1	1	23.58	4
10+50.00 -PED- TO 12+76.20 -PED-	RT.	221.00	2		1	18.25	3
10+50.00 -PED- TO 12+79.48 -PED-	LT	235.00	2		1	19.42	3
12+33.61-PED- TO 478+15.45 -L-	LT	2653.00	2	5	5	222.42	12
478+63.11-L- TO 481+50.21-L-	LT	318.00	2	2	1	26.67	5
2+41.42 -RPBY8- TO 5+61.38 -RPBY8-	LT	337.00	2	2	1	28.25	5
0+48.51-SPBY8- TO 0+69.74 -SPBY8-	LT	18.00	2			1.17	2
1+12.00 -SPBY8- TO 10+00.00 -Y8-	LT/RT	700.00	2	2	2	58.67	6
10+00.00 -Y8- TO 12+72.00 -Y8-	LT	272.00	2			22.33	2
13+32.00 -Y8- TO 6+44.39 -RPAY8-	LT/RT	1004.00	2	2	2	84.00	6
436+99.22 -L- TO 19+69.14 -Y6-	RT/LT	965.00	2	3	1	80.75	6
21+98.97 -Y6- TO 23+54.99 -Y6-	LT	180.00	2	1		14.83	3
21+48.53 -Y6- TO 24+01.43 -Y6-	RT	515.00	2	3		43.08	5
447+94.12 -L- TO 14+65.43 -PED-	RT	506.00	2	1	2	42.33	5
14+46.29 -PED- TO 18+35.00 -PED-	RT	389.00	2		1	32.25	3
14+49.39 -PED- TO 18+00.00 -PED-	LT	351.00	2		1	29.08	3
452+76.88 -L- TO 471+00.00 -L-	RT	1879.00	2	5	3	157.58	10
1+17.80 -SPCY8- TO 1+72.64 -SPCY8-	RT	60.00	2			4.67	2
2+07.90 -SPCY8- TO 24+67.77 -Y8-	RT	424.00	2	3	1	35.67	6
25+26.19 -Y8- TO 27+00.00 -Y8-	RT	178.00	2			14.50	2
27+00.00 -Y8- TO 24+68.09 -Y8-	LT	228.00	2		3	19.17	5
24+00.00 -Y8- TO 5+20.35 -RPDY8-	LT	1009.00	2	2	4	84.75	8
491+00 -LREV- TO 493+95 -LREV-	LT	300.00	2			24.67	2
491+00 -LREV- TO 493+95 -LREV-	RT	291.00	2			23.92	2
496+35 -LREV- TO 493+95 -LREV-	LT	474.00	2		1	39.33	3
496+35 -LREV- TO 501+00 -LREV-	RT	162.00	2			13.17	2
TRAFFIC CONTROL							
12+99.18 -Y8_DET- TO 21+86.26 -Y8_DET-	LT	959.00	2	2	3	80.42	7
13+64 -Y8_DET- TO 13+81-Y8_DET-	RT	111.00	2	2		9.25	4
20+30 -Y8_DET- TO 20+45 -Y8_DET-	RT	63.00	2	2		5.25	4
TOTAL		16290.00				1360.17	148
SAY		16290.00				1361.00	148.00

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COMPUTED BY: DG DATE: 11-2015
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PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	3B-3
R/W SHEET NO.	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

IN CUBIC YARDS

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.

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT EXCAVATION	EMB'T + %	BORROW	TOTAL WASTE
PHASE I SUMMARY 1					
-L- 421+69 TO 447+00	428131	0	25532	0	402599
(Included with 421+69 -L- to 447+00 -L-)	0	0	0	0	0
(Included with -L- 421+69 to 447+00)	0	0	0	0	0
-Y5- 12+25 TO 15+58.75	239	0	191	0	48
-Y6- 20+50 TO 24+10 (BEG. BRIDGE)	29	0	8588	8559	0
-Y6- 26+28 (END BRIDGE) TO 32+16.04	552	0	668	116	0
-Y6A_DET- 10+16.56 TO 14+00	775	0	19	0	756
SUBTOTAL SUMMARY 1	429726	0	34998	8675	403403
PHASE I SUMMARY 2					
-L- 461+00 to 467+50 LT	4257	1678	9456	8603	5082
-Y7A- 10+00 TO 13+45	385	0	372	0	13
-L- 471+00 TO 479+00 RT	51056	0	163	0	50893
SUBTOTAL SUMMARY 2	55698	1678	9991	8603	55988
PHASE I SUMMARY 3					
-RPBY8- 5+36.18 TO 12+57.49	638	0	23887	23249	0
-SPBY8- 0+00 TO 3+13.94	197	0	1453	1256	0
-RPCY8- 5+44.95 TO 12+88.23	1063	0	14917	13854	0
-SPCY8- 0+00 TO 3+54.97	1	0	3305	3304	0
SUBTOTAL SUMMARY 3	1899	0	43562	41663	0
PHASE I SUMMARY 4					
-Y8- LT 11+00 TO 13+00	57	0	26	0	31
-Y8- RT 11+00 TO 12+00	29	0	5	0	24
-Y8_DET- 12+50 TO 23+00	1899	0	31040	29141	0
-Y8- LT 24+50 TO 27+00	157	0	31	0	126
-Y8- RT 24+50 TO 27+00	131	0	46	0	85
SUBTOTAL SUMMARY 4	2273	0	31148	29141	266
PHASE I SUMMARY 5					
-RPAY8- 5+23.63 TO 10+22.27	0	0	62347	62347	0
-RPDY8- 5+73.96 TO 11+24.61	0	0	34303	34303	0
-L- 503+00.89 TO 525+21.66	205703	0	167648	0	38055
SUBTOTAL SUMMARY 5	205703	0	264298	96650	38055
SUBTOTAL	695299	1678	383997	184732	497712
WASTE IN LIEU OF BORROW PHASE I				-184732	-184732
SUBTOTAL PHASE I	695299	1678	383997	0	312980
PHASE 2 SUMMARY 1					
-L- 447+00 TO 451+00	71184	0	0	0	71184
-Y6- 17+00 TO 20+50	235	0	130	0	105
-Y6A- 10+20.69 TO 15+00	236	0	588	352	0
SUBTOTAL SUMMARY 1	71655	0	718	352	71289
PHASE 2 SUMMARY 2					
-L- 451+00 TO 461+00	41609	0	37558	0	4051
-L- 461+00 TO 467+50 RT	0	0	31840	31840	0
-L- 467+50 TO 471+00	2017	0	22552	20535	0
-L- 471+00 TO 479+00 LT	1532	0	10979	9447	0
-L- 479+00 TO -L- 483+50	4616	0	28376	23760	0
-PED- 10+00 TO 18+50	95	0	5022	4927	0
-Y6A_DET- REMOVAL	16	0	930	914	0
SUBTOTAL SUMMARY 2	49885	0	137257	91423	4051
PHASE 2 SUMMARY 3					
-L- 483+50 TO 489+00	1460	0	70338	68878	0
-LREV- 489+00 TO 493+95 (BEG. BRIDGE)	0	0	95989	95989	0
(Included with 483+50 -L- to 493+95 -LREV-)	0	0	0	0	
-RPBY8- 12+57.49 TO 13+91.78	62	0	612	550	0
(Included with 483+50 -L- to 493+95 -LREV-)	0	0	0	0	0
-RPCY8- 12+88.23 TO 13+80.19	0	0	1800	1800	0
-SPBY8- 3+13.94 TO 4+42.81	819	0	0	0	819
-SPCY8- 3+54.97 TO 4+10.64	17	0	630	613	0
-Y8- RT 12+00 TO 24+50	1399	0	2036	637	0
-Y8- LT 13+00 TO 24+50	561	0	3452	2891	0
SUBTOTAL SUMMARY 3	4318	0	174857	171358	819
SUBTOTAL	125858	0	312832	263133	76159
WASTE IN LIEU OF BORROW PHASE 2				-76159	-76159
SUBTOTAL PHASE 2	125858	0	312832	186974	0

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

IN CUBIC YARDS

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.

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	3B-4
R/W SHEET NO.	

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT EXCAVATION	EMB'T + %	BORROW	TOTAL WASTE
PHASE 3 SUMMARY 1					
-LREV- 496+35 (END BRIDGE) TO 502+99.94	0	0	158651	158651	0
	0	0	0	0	0
	0	0	0	0	0
SUBTOTAL SUMMARY 1	0	0	158651	158651	0
SUBTOTAL	0	0	158651	158651	0
WASTE IN LIEU OF BORROW PHASE 3					
SUBTOTAL PHASE 3	0	0	158651	158651	0
PHASE 4 SUMMARY 1					
-RPAY8- 10+22.27 TO 14+55.10	0	0	23948	23948	0
-SPAY8- 1+95.85 TO 4+67.51	449	0	1924	1475	0
-RPDY8- 11+24.61 TO 14+59.64	58	0	9982	9924	0
-SPDY8- 0+96.44 TO 3+90.14	0	0	1751	1751	0
-Y8_DET- REMOVAL	25867	0	2279	0	23588
SUBTOTAL SUMMARY 1	26374	0	39884	37098	23588
SUBTOTAL	26374	0	39884	37098	23588
WASTE IN LIEU OF BORROW PHASE 4				-23588	-23588
SUBTOTAL PHASE 4	26374	0	39884	13510	0
PROJECT SUBTOTALS	847531	1678	895364	359135	312980
LOSS DUE TO CLEAR. & GRUB	-21500			0	-21500
GRADE POINT UNDERCUT		310	372	372	310
CONTINGENCY UNDERCUT	0	1500	1800	1800	1500
SHOULDER MATERIAL			21072	21072	
PROJECT TOTALS	826031	3488	918608	382379	293290
REPLACE TOP SOIL BOR. PITS				19119	18066
GRAND TOTALS	826031	3488		401498	311356
SAY	**826100**			**401500**	

PAVEMENT STRUCTURE VOLUME :	**40,080**
DRAINAGE DITCH EXCAVATION :	**5,070**

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	3P-1

PARCEL INDEX SHEET

PARCEL No.	PLAN SHEET No.	PROPERTY OWNER NAME
38	4	CITY OF GREENSBORO
39	4	BVF KENSINGTON LIMITED PARTNERSHIP
40	5	GREYSTONE POINTE
41	4 & 5	CITY OF GREENSBORO
41A	5	THE LAURELS TOWNHOMES ASSOCIATION
41B	4 & 5	J. WALTON COMPANY, LLC
43	4 & 5	LAKEMONT ASSOCIATES
40A-Z	5	TERRACE MEWS ASSOCIATES
45A	5 & 6	COTSWOLD PARK, LLC.
45B	5 & 6	CITY OF GREENSBORO
45Z	5 & 6	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
46	6 & 12	WOODLAND VILLAGE CONDO ASSOCIATION
47	6	JOHN KAVANAGH COMPANY
48	6, 7, 11, & 12	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
48A	11	CT ASSOCIATES
49	6	KAVANAGH ASSOCIATES INC.
50	6 & 7	JOHN KAVANAGH COMPANY
51	6	JOHN KAVANAGH COMPANY
	7 &12	COTWOLD VILLAGE ASSOCIATION, INC.
53	12	BRANDT RIDGE ASSOCIATION
54	12	LAKE BRANDT TRIAD APT PORTFOLIO, LLC
55	7 & 12	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
56	7	C E & NANCY NELSON
56A	7	PHILLIP A HENDERSON
57	7 & 8	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
	7	DECHELE HARRISON
	7	KIM WANDA LITTLE & JASPER HENRY LITTLE JR.
58	7	LIBERTY SQUARE HOA
59	7	GWEN GORDON PASCALE
60	7	CLATBORNE E PARSONS
61	7	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
62	7 & 8	ANTHONY BROWN & MARGARET MARY BROWN
63	8	ALFRED H KIMBLE JR. & MELINDA B KIMBLE
64	8	KEITH D. WOOD & CATHERINE R. WOOD
65	8	MIJAN SARWAR
66	8	DEBRA N. KAY & JOSEPH M. KAY
67	8	ALLEN MATHEWS & DIANA MATHEWS
68	8	BRADLEY W LUECKING & SARA L HARDY
69	8	DHS REALTY, LLC
70	8	WING CHUN NG
71	8	CLIFTON SCHNEIDER
72	8	SUSAN MIMS CORBETT
73	8	JAMES CHARLES ANEMONE & ANNMARIE MAZZOCCHI ANEMONE
73A	8	VASSIE J WALTER CAIN & WILLIAM C CAIN
74	8 & 9	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
74A	8	CORRIE HUTTON MIDDLETON
75	8	ROBERT E MONTGOMERY & NANCY G MONTGOMERY
74	9	THE HEDGES APARTMENTS, LLC
77	8	PATRICK DOUTT

PARCEL No.	PLAN SHEET No.	PROPERTY OWNER NAME
78	8 & 9	MARK L ROSENBAUM
79	8	BRANDT VILLAGE HOMEOWNERS ASSOCIATION
79A	8	PHYLLIS JEAN MASTERS & CLARK R MASTERS
79B	8	GEOFFREY K ATACK & LINDA ATACK, TRUSTEE ATTACK L/T
79C	8	ROBERT ADAMS & CHARLOTTE C ADAMS
79D	8	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
80	8	JAMES WITHERSPOON
81	8	WILLIAM COBB & REBECCA DALTON
82	8	CARY PRESLEY & ALISON BROOK PRESLEY
83	8	CAMERON MADDEN
84	8	JOEL K. MATTOCKS & DIXIE D. MATTOCKS
85	8	STEPHEN R. GARDNER
86	8	MICHAEL DEBARTOLO & JANET DEBARTOLO
87	8 & 9	VICTOR A. GARDNER
88	9	MICHAEL E BONNER & JUDITH A BONNER
89	9	CJ CHEEK
90	9	NCDOT (FORMERLY) RICHARD A HAITH & TEREASA J HAITH
91	9	JULIA A PRUDEN
92A	9	JOSEPH A GENTILE & ANNIE M GENTILE
92B	9	HOWARD THOMPSON
93C	9	LINDA MCINTOSH
94	9	BATTLE FOREST VILLAGE ASSOCIATION
94A	9	BARBARA ANN HUFFMAN
95B	9	ANGELA TRICOLI
95C	9	JUDITH HERNANDEZ
96	9	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
98B	9	IRENE AGAPION
99B	9	KENNETH RAY CARPER
99C	9	CHARLENE S. LOWE
99E	9	ROSE C. MCCONNELL
101	13	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
102	9	KAVANAGH ASSOCIATES, INC.
103	9	CITY OF GREENSBORO
104	9	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
105	9	STATE OF NORTH CAROLINA
106Z	9 & 10	WESTMINSTER CO.
107	9	FRANCES QUINTIS (UNMARRIED) & LINDA MOSSIE (UNMARRIED)
108	9	WALTER D DEZEARN & KATHY B DEZEARN
109	9	KH PORTFOLIO I, LLC
109A	9 & 14	KH PORTFOLIO I, LLC
110	9 & 14	BATTLE FOREST CONDMINIUM ASSOCIATION
113Z	9 & 10	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
114	10	CORNWALLIS DEVELOPMENT CO.
115Z	10 & 10A	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
121A	9	DEBRA A JONES
121B	9	CHRISTIAN L RACHAL
121C	9	KRIS DIERING
121D	9	KARI K JONES
121E	9	ELIZABETH A DORSEY
121F	9	JOIA L DIAZ
122A	9	CHARLENE BARDEN BRAY
122B	9	ROBERT NEAL HUNTER, III
122C	9	LETITIA LANE ABDALLAH & JUDITH BLUMENHEIN
122D	9	ETTIE A COLLINES
122E	9	JESSICA L BRYAN

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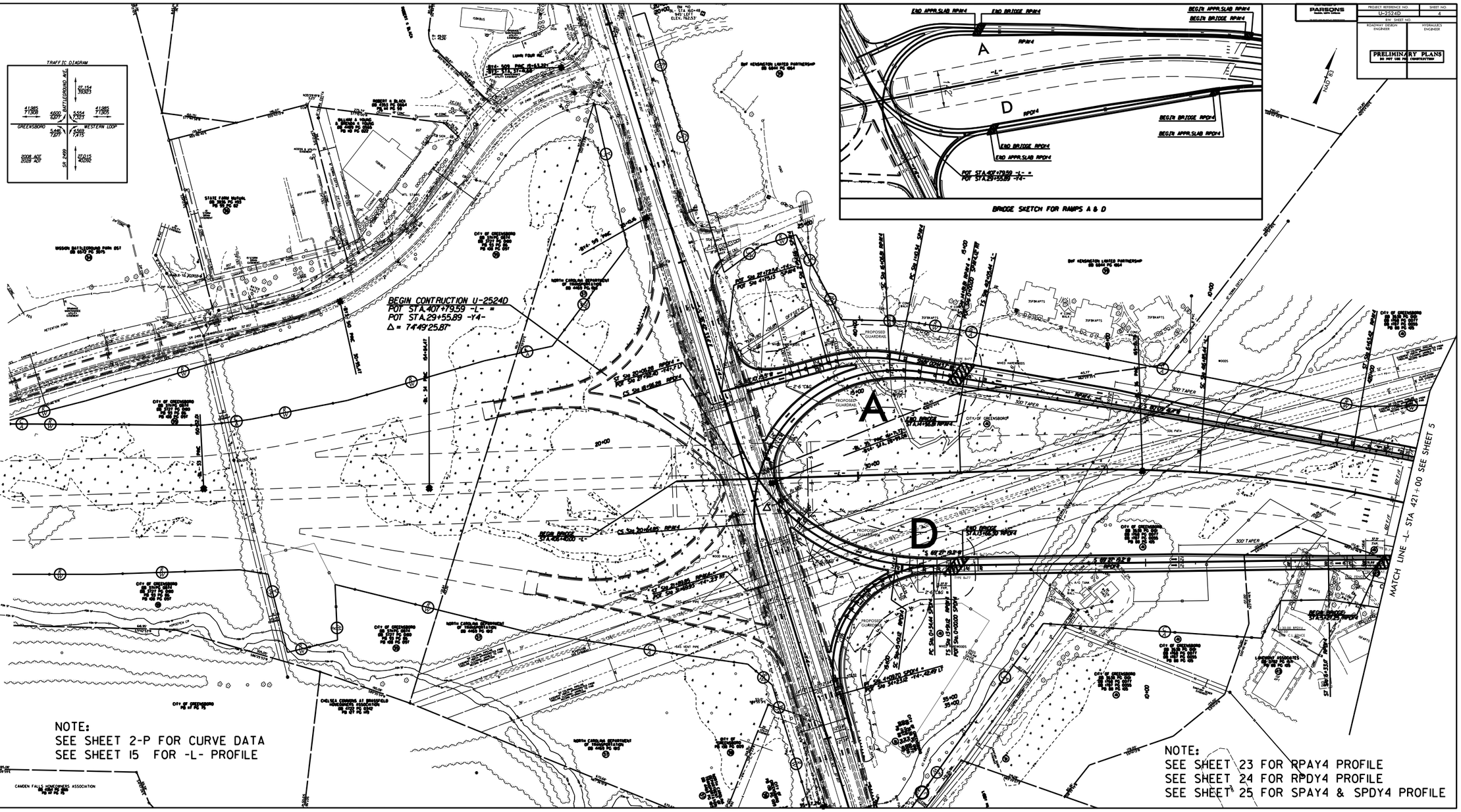
REVISIONS

TRAFFIC DIAGRAM

BRIDGE SKETCH FOR RAMPS A & D



THE ORIGINAL OF THIS PLAN HAS BEEN SIGNED AND SEALED BY PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC. IN ACCORDANCE WITH G.S. 133-1.1(c)

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
NO RIGHT WAY OR CONSTRUCTION

NAD 83

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8/17/99

REVISIONS

11/3/15 R/W REVISION: CHANGED PROPERTY OWNER NAME AND DEED BOOK REFERENCE ON PARCEL 40; CHANGED PARCEL NO. 41 TO NO. 41B; ELIMINATED CLAIM ON PARCEL 41A; REVISED CA BETWEEN –L– 425+77.62 & –L– 426+10.61 AND CORRECTED STATIONS & OFFSETS ON R/W MONUMENT LABELS BETWEEN –L– 422+03.28 & –L– 425+77.62 ON PARCEL 41B. CHANGED "PL" DESIGNATION TO NUMERIC OFFSET ON PARCEL 43; ADDED PARCEL NOS. 45A, 45B, & 45Z. (DBG)

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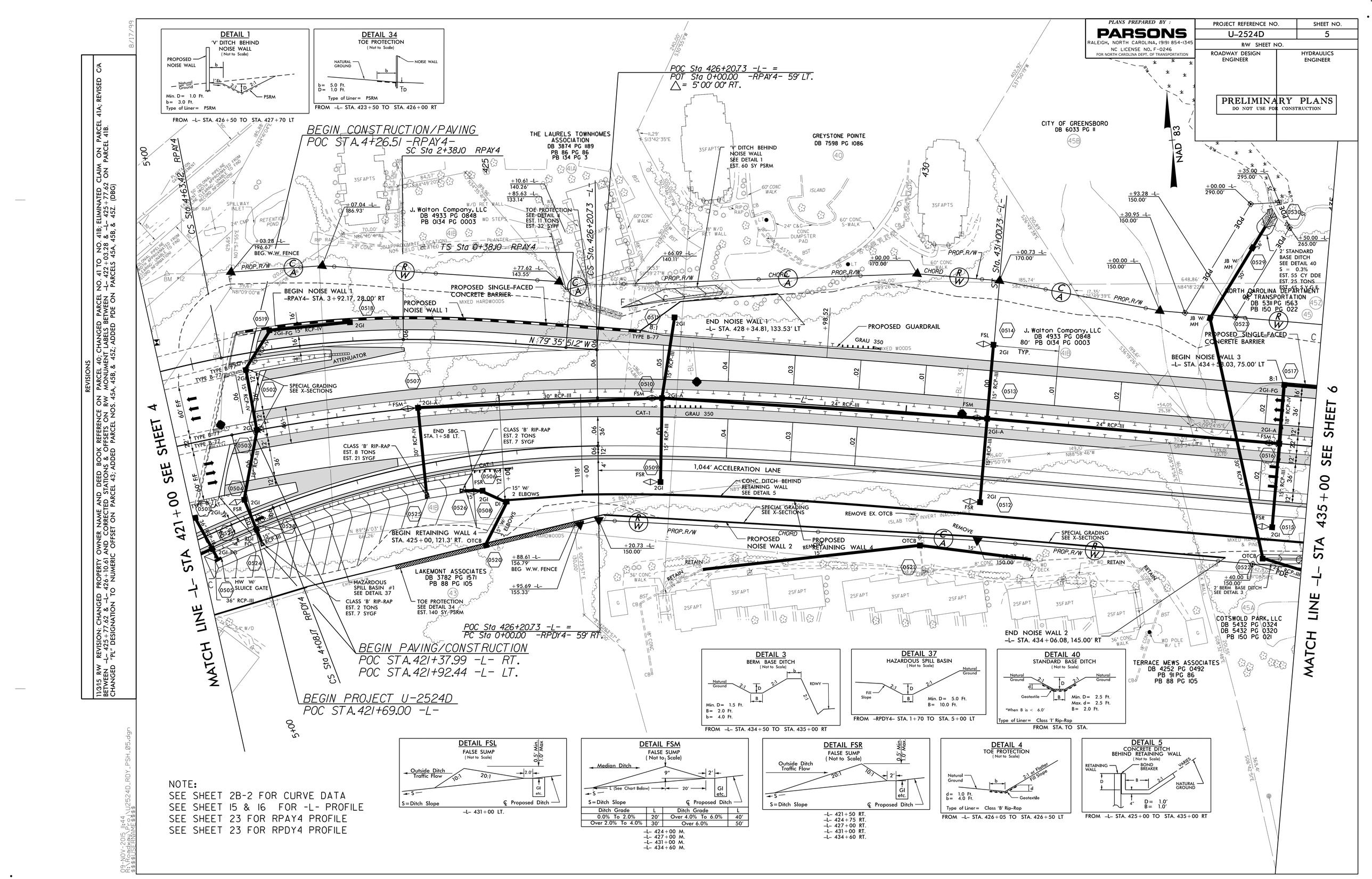
PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83



REVISIONS

9/30/13 R/W REVISION: SHIFTED END C/A LINE FROM STA. 16+50 -Y6- LT TO STA. 19+69.14 -Y6- LT ALONG PARCEL 48.
11/3/15 R/W REVISION: ADDED PARCEL NOS. 45A, 45B, & 45Z; ADDED PDE ON PARCEL 45A; CHANGED PROPERTY OWNER NAME AND DEED BOOK REFERENCE ON PARCEL 46; CHANGED "PL" AND "EXIST R/W" DESIGNATIONS TO NUMERIC OFFSETS ON PARCELS 46, 47, 48, 50, & 51; ELIMINATED PARCEL 52. (DBG)

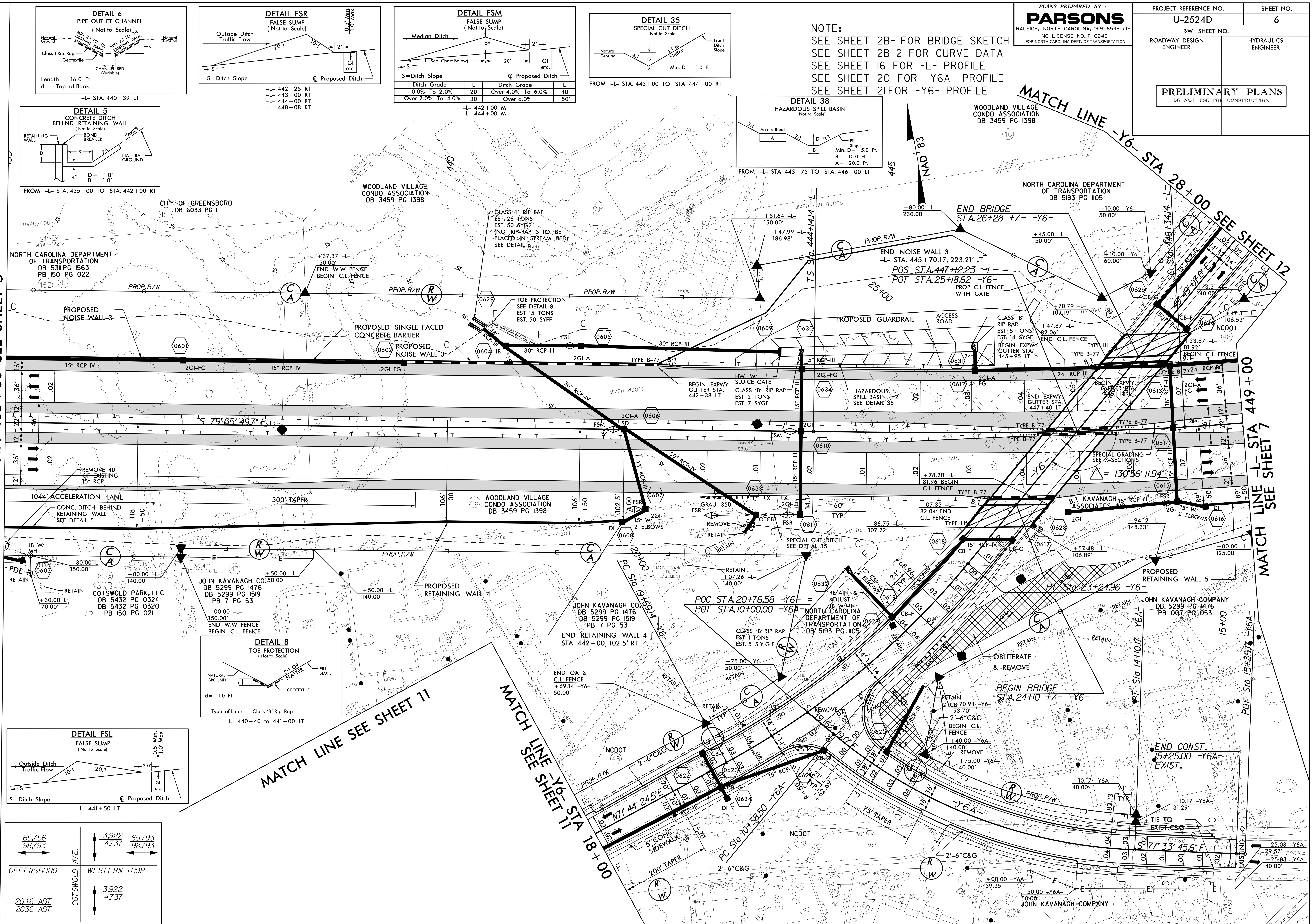
8/17/99

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NOTE:
SEE SHEET 2B-1 FOR BRIDGE SKETCH
SEE SHEET 2B-2 FOR CURVE DATA
SEE SHEET 16 FOR -L- PROFILE
SEE SHEET 20 FOR -Y6A- PROFILE
SEE SHEET 21 FOR -Y6- PROFILE



65,756 / 98,793	3,922 / 4,737	65,793 / 98,793
GREENSBORO	COTSWOLD AVE.	WESTERN LOOP
2016 ADT / 2036 ADT	3,922 / 4,737	

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PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

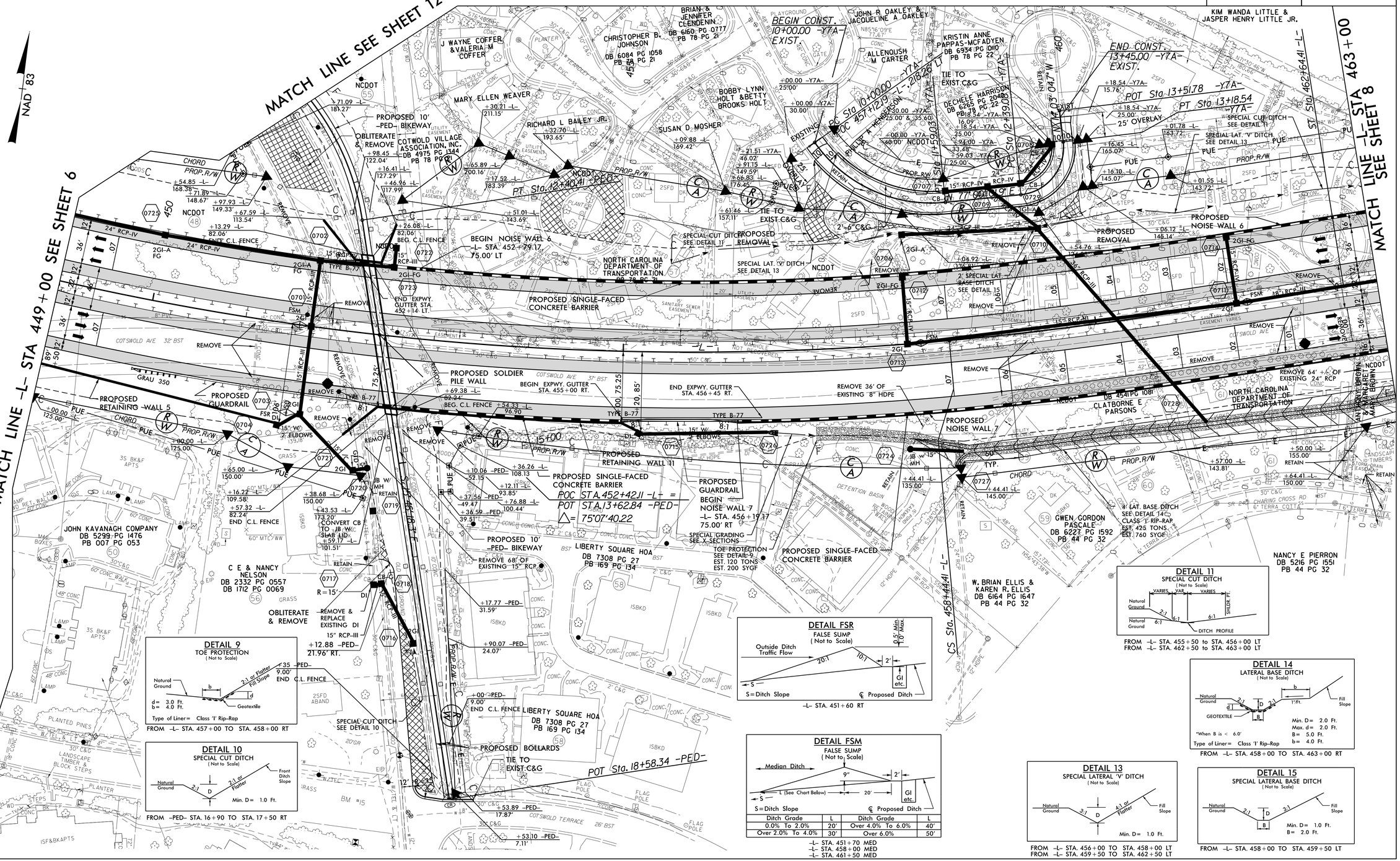
PROJECT REFERENCE NO.	SHEET NO.
U-2524D	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NOTE:
SEE SHEET 2B-1FOR BRIDGE SKETCH
SEE SHEET 2B-2 FOR CURVE DATA
SEE SHEET 16 & 17 FOR -L- PROFILE
SEE SHEET 20 FOR PED. PROFILE
SEE SHEET 20 FOR -Y7A- PROFILE

REVISIONS
10/9/11 R/W REVISION: ADDED PUE ALONG –L– LT. REVISED FENCE LINE ALONG –L– RT. NEAR PED. CROSSING
4/2/13 R/W REVISION: ADDED PUE TO PARCELS 48 AND 58.
4/24/13 R/W REVISION: REVISED PROPERTY LINES ON PARCELS 60 AND 62 TO REFLECT SMALL SLIVER OF PROPERTY (ADJACENT TO EXISTING R/W) OWNED BY NCDOT.
11/22/13 R/W REVISION: REVISED TCE LINE ON PARCEL 56A.
11/3/15 R/W REVISION: REVISED CA BETWEEN –L– 453+65.89 & –L– 454+32.70 AND ELIMINATED CLAIM ON RICHARD BAILEY PROPERTY, CHANGED "PL" AND "EXIST R/W" DESIGNATIONS TO NUMERIC OFFSETS ON DECHELE HARRISON PROPERTY, KIM LITTLE PROPERTY, & PARCELS 48, 55, 56, 57, & 58; CHANGED PROPERTY OWNER NAME AND DEED BOOK REFERENCE ON PARCEL 58. (DBG)

8/17/99



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REVISIONS

PUE ON PARCELS 67-69, 71, & 72 -L- RT. REMOVED PUE FROM PARCEL 70
42213 R/W REVISION: REVISED R/W ALONG -L- RT (PARCELS 67 & 68). REVISED PUE ON PARCELS 62 THRU 72 TO REFLECT SMALL SLIVER OF PROPERTY (ADJACENT TO EXISTING R /W) OWNED BY NCDOT; REVISED PARCEL 74
42413 R/W REVISION: REVISED PROPERTY LINES ON PARCELS 57; CHANGED PROPERTY OWNER NAMES AND DEED BOOK REFERENCES ON PARCELS 70, 71, 72, 79, 80, 82, & 83; ADDED PARCEL NOS. 73A, 79A, 79B, 79C, & 79D WITH PROPERTY OWNER NAMES AND DEED BOOK REFERENCES; CHANGED PARCEL NO. 74 TO NO. 74A. (DBG)
10/19/11 R/W REVISION: ADDED PUE ALONG -L- LT & RT.
11/14/13 R/W REVISION: REVISED PUE DESIGN TO REFLECT OFFSETS ON PARCELS 65, 66, & 67; CHANGED PROPERTY OWNER NAMES AND DEED BOOK REFERENCES; CHANGED PARCEL NO. 74 TO NO. 74A. (DBG)

DETAIL 2
'V' DITCH BEHIND NOISE WALL
(Not to Scale)
Min. D= 1.0 Ft.
b= 3.0 Ft.
FROM -L- STA. 471+00 TO STA. 475+00 RT

DETAIL 1
'V' DITCH BEHIND NOISE WALL
(Not to Scale)
Min. D= 1.0 Ft.
b= 3.0 Ft.
Type of Liner= PSRM
FROM -L- STA. 470+00 TO STA. 471+00 RT

DETAIL 39
SPECIAL CUT DITCH
(Not to Scale)
Min. D= 1.0 Ft.
Max. d= 1.0 Ft.
Type of Liner= PSRM
FROM -L- STA. 469+50 TO STA. 470+00 RT

DETAIL 31
STANDARD 'V' DITCH
(Not to Scale)
Min. D= 1.0 Ft.
Max. d= 1.0 Ft.
Type of Liner= PSRM
-L- STA. 465+52 LT

DETAIL 33
LATERAL 'V' DITCH
(Not to Scale)
Min. D= 1.0 Ft.
Max. d= 1.0 Ft.
b= 5.0 Ft.
Type of Liner= PSRM
FROM -L- STA. 468+00 TO STA. 469+50 RT

DETAIL 5
CONCRETE DITCH BEHIND RETAINING WALL
(Not to Scale)
D= 1.0'
B= 1.0'
FROM -L- STA. 471+00 TO STA. 477+00 RT

DETAIL FSM
FALSE SUMP
(Not to Scale)
S=Ditch Slope
℄ Proposed Ditch

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

-L- 467+00 M
-L- 470+37 M
-L- 473+50 M
-L- 476+50 M

DETAIL FSR
FALSE SUMP
(Not to Scale)
S=Ditch Slope
℄ Proposed Ditch
-L- 470+37 RT
-L- 476+50 RT

DETAIL 11
SPECIAL CUT DITCH
(Not to Scale)
FROM -L- STA. 463+00 to STA. 464+00 LT

DETAIL 16
PIPE OUTLET CHANNEL
(Not to Scale)
Length= 24.0 Ft.
d= Top of Bank
-L- STA. 470+96 LT

DETAIL 14
LATERAL BASE DITCH
(Not to Scale)
*When B is < 6.0'
Min. D= 2.0 Ft.
Max. d= 2.0 Ft.
B= 5.0 Ft.
b= 4.0 Ft.
Type of Liner= Class 'I' Rip-Rap
FROM -L- STA. 463+00 TO STA. 466+80 RT

DETAIL 17
LATERAL BASE DITCH
(Not to Scale)
Min. D= 1.0 Ft.
Max. d= 1.0 Ft.
B= 4.0 Ft.
b= 5.0 Ft.
Type of Liner= PSRM
FROM -L- 467+00 TO 470+90 LT

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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PLANS PREPARED BY: PARSONS RALEIGH, NORTH CAROLINA, (919) 854-1345 NC LICENSE NO. F-0246 FOR NORTH CAROLINA DEPT. OF TRANSPORTATION	PROJECT REFERENCE NO.	SHEET NO.
	U-2524D	9
	R/W SHEET NO.	
	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NOTE:
SEE SHEET 2B-1FOR BRIDGE SKETCH
SEE SHEET 2B-2 FOR CURVE DATA
SEE SHEET 17 & 18 FOR -L- PROFILE
SEE SHEET 22 FOR -Y8- PROFILE
SEE SHEET 24 FOR RPAY8 PROFILE
SEE SHEET 25 FOR RPBY8 PROFILE
SEE SHEET 26 FOR RPCY8 PROFILE
SEE SHEET 27 FOR RPDY8 PROFILE
SEE SHEET 28 FOR SPAY8 PROFILE
SEE SHEET 28 FOR SPBY8 PROFILE
SEE SHEET 28 FOR SPCY8 PROFILE
SEE SHEET 28 FOR SPDY8 PROFILE

REVISIONS

10/19/11 R/W REVISION: ADDED PUE'S ALONG -L- LT. & RT.; RPBY8, SPBY8 & RPDY8 LT.; RPCY8 & SPCY8 RT.. REVISED PUE ALONG RPAY8 R T.
12/8/11 R/W REVISION: REMOVED TCE FROM PARCEL NO. 109.
1/31/12,R/W REVISION: REMOVED PORTION OF PUE ON PARCEL NO. 98
3/15/12 R/W REVISION: ADDED PARCEL NUMBERS 120-122.
4/2/13 R/W REVISION: ADDED PUE ALONG -RPBY8- LT. (PARCELS 92-94), -Y8- RT. (PARCELS 109 & 109A) & LT. (PARCEL 111), AND REVISED PUE ALONG -RPDY8- LT (PARCELS 110 AND 113) AND -RPAY8- RT (PARCEL 102 & 106).
4/24/13 R/W REVISION: REVISED PROPERTY LINES ON PARCELS 87, 88, AND 90 TO REFLECT SMALL SLIVER OF PROPERTY (ADJACENT TO EXISTING R/W) OWNED BY NCDOT.
11/3/15 R/W REVISION: ELIMINATED PARCEL NOS. 92, 93, 95, 97, 98, 99, 100, 111, & 112; ADDED PARCEL NOS. 92A, 92B, 93C, 94A, 95B, 95C, 98B, 99B, 99C, 99E, 121A, 121B, 121C, 121D, 121E, 121F, 122A, 122B, 122C, 122D, & 122E WITH PROPERTY OWNER NAMES AND DEED BOOK REFERENCES; CHANGED PROPERTY OWNER NAMES AND DEED BOOK REFERENCES ON PARCELS 94 & 107; ADDED PARCEL NOS. 106Z & 113Z; CHANGED "PL" AND "EXIST R/W" DESIGNATIONS TO NUMERIC OFFSETS ON PARCELS 109 & 110; ADDED PDE ON PARCEL 113Z. (DBG)

8/17/99

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PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

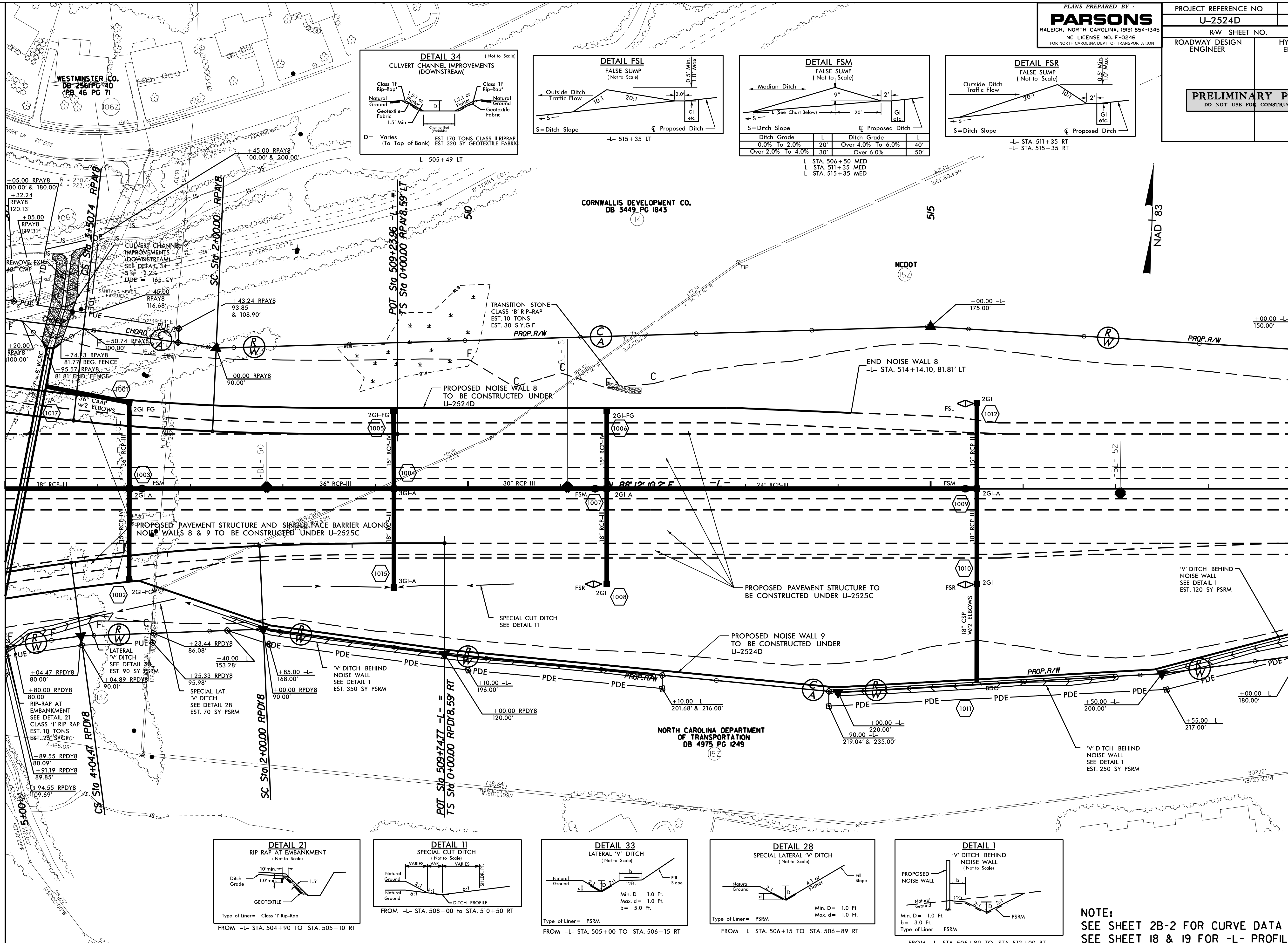
PROJECT REFERENCE NO.	SHEET NO.
U–2524D	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS

10/19/11 R/W REVISION: ADDED PUE ALONG RPAY8 RT.
4/2/13 R/W REVISION: ADDED PUE ALONG RPAY8 RT. (PARCEL 106) AND RPDY8 LT (PARCEL 113).
11/3/15 R/W REVISION: ADDED PARCEL NOS. 106Z, 113Z, & 115Z; REVISED PDE & PUE AND ADDED PERMANENT EASEMENT MONUMENTS AT –RPAY8– 4+05, 119.31' & –RPAY8– 3+45, 116.68' ON
PARCEL 106Z; ADDED PERMANENT EASEMENT MONUMENT AT –RPAY8– 2+43.24, 93.85' ON PARCEL 114; ADDED PDE ON PARCELS 113Z & 115Z. (DBG)
2/5/16 – R/W REVISION: CORRECTED PUE & TDE BETWEEN –RPAY8– 2+43.24 & 4+32.24 ON PARCELS 106Z & 114. (KH)



NOTE:
SEE SHEET 2B-2 FOR CURVE DATA
SEE SHEET 18 & 19 FOR -L- PROFILE
SEE SHEET 24 FOR RPAY8 PROFILE
SEE SHEET 27 FOR RPDY8 PROFILE

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PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	10A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS
8/17/99
11/3/15 R/W REVISION: ADDED PARCEL NO. 115Z; ADDED R/W AND PDE ON PARCEL 115Z. (DBG)

MATCH LINE -L- STA 519+00 SEE SHEET 10

NAD 83

END TIP PROJECT U-2524D
POT STA. 520+34.53 -L- BK. =
END TIP PROJECT U-2525C
POT STA. 552+99.67 -L- AH.

POT Sta. 547+86.50 -L-

END CONSTRUCTION
POT STA. 548+12.55 -L-

BM #20

CLASS 'I' RIP-RAP
EST. 57 TONS
EST. 104 SYCF
(NO RIP-RAP IS TO BE PLACED IN STREAM BED)
SEE DETAIL 16

TOE PROTECTION
SEE DETAIL 30
EST. 315 SY PSRM

END FUTURE EXPWY. GUTTER STA. 524+34.50 LT.

BEGIN FUTURE EXPWY. GUTTER STA. 520+34.50 LT.

PROPOSED NOISE WALL 9 TO BE CONSTRUCTED UNDER U-2524D

END NOISE WALL 9
-L- STA. 548+12.55, 75.00' RT

TOE PROTECTION
SEE DETAIL 30
EST. 340 SY PSRM

PROPOSED PAVEMENT STRUCTURE AND SINGLE FACE BARRIER ALONG NOISE WALL 9 TO BE CONSTRUCTED UNDER U-2525C

'V' DITCH BEHIND NOISE WALL
SEE DETAIL 1
EST. 90 SY PSRM

TOE PROTECTION
SEE DETAIL 30
EST. 65 SY PSRM

SPECIAL LAT. 'V' DITCH
SEE DETAIL 28
EST. 30 SY PSRM

END W.W. FENCE
+12.55 -L-
150.00'

STUB-OUT 96 LF
36" RCP-III FOR FUTURE U-2525C DRAINAGE

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DB 4975 PG 1249
(115) (115Z)

276.90'
S85°34'34"E

477.71'
N88°44'52"E

987.06'
S87°12'22"W

S40°03'25"E 124.10'

N45°30'12"E 77.46'

S40°03'25"E 71.47'

+00.00 -L-
150.00'

+00.00 -L-
180.00'

+5.00 -L-
175.00'

+5.00 -L-
150.00'

+40.00 -L-
175.00'

+40.00 -L-
150.00'

+12.55 -L-
150.00'

72" RCP-III (BURY 5')
15" RCP-IV
72" RCP-IV (BURY 1.0')
36" RCP-IV
18" RCP-III
15" RCP-III
18" CSP W/2 ELBOWS
2GI-FG
2GI
2GI-A
FSM
FSR
JB W/ SLAB LID
OTCB
HW
STD

10A1 10A2 10A3 10A4 10A5 10A6 10A7 10A8 10A9 10A10 10A11 10A12 10A13 10A14 10A15

-BL- 520

-L- 520 550

-L- STA. 524+35 LT

-L- STA. 520+35 MED
-L- STA. 524+35 MED

-L- STA. 524+85 RT

DETAIL FSL
FALSE SUMP
(Not to Scale)
Outside Ditch Traffic Flow
10:1 20:1 2.0' 0.5' Min. 1.0' Max. GI etc. S
S=Ditch Slope ℄ Proposed Ditch

DETAIL FSM
FALSE SUMP
(Not to Scale)
Median Ditch 9" 2' L (See Chart Below) 20' GI etc. S
S=Ditch Slope ℄ Proposed Ditch

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

DETAIL FSR
FALSE SUMP
(Not to Scale)
Outside Ditch Traffic Flow 20:1 10:1 2' 0.5' Min. 1.0' Max. GI etc. S
S=Ditch Slope ℄ Proposed Ditch

DETAIL 1
'V' DITCH BEHIND NOISE WALL
(Not to Scale)
PROPOSED NOISE WALL
Natural Ground
b 1'-6" 2:1 D 2:1 PSRM
Min. D= 1.0 Ft.
b= 3.0 Ft.
Type of Liner= PSRM

FROM -L- STA. 519+00 TO STA. 520+25 RT

DETAIL 28
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground 2:1 d D 4:1 or Flatter Fill Slope
Min. D= 1.0 Ft.
Max. d= 1.0 Ft.
Type of Liner= PSRM

FROM -L- STA. 520+25 TO STA. 520+50 RT

DETAIL 30
TOE PROTECTION
(Not to Scale)
NATURAL GROUND b d 2:1 OR FLATTER FILL SLOPE
d=2.0 Ft.
b=4.0 Ft.
Type of Liner= PSRM

FROM -L- STA. 520+50 TO STA. 521+15 RT
FROM -L- STA. 521+30 TO STA. 525+00 RT
FROM -L- STA. 520+60 TO STA. 524+00 LT

DETAIL 16
PIPE OUTLET CHANNEL
(Not to Scale)
Natural Ground MIN. 2:1 TO EXISTING BANK TIE MIN. 2:1 TO EXISTING BANK Natural Ground d
Class I Rip-Rap
Geotextile
CHANNEL BED (Variable)
Length= 24.0 Ft.
d= Top of Bank

-L- STA. 521+25 LT

NOTE:
SEE SHEET 19 FOR -L- PROFILE

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PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

817/99

REVISIONS

9/3013 R/W REVISION: SHIFTED END C/A LINE FROM STA. 16+50 -Y6- LT TO STA. 19+69.14 -Y6- LT ALONG PARCEL 48.
11/315 R/W REVISION: ADDED PARCEL NO. 48A; CORRECTED THE STATION & OFFSET LABELS AT -Y6- 16+50.78, 30' & 50' ON PARCEL 48; ADDED TDE ON PARCEL 48A.

NAD 83

LAKEMONT ASSOCIATES
DB 3782 PG 1571

TERRACE MEWS ASSOCIATES
DB 4252 PG 0492
PB 91PG 86
PB 88 PG 105

COTSWOLD PARK, LLC
PB 150 PG 021

WALMART

BATTLEGROUND OAKS GREENSBORO, LLC
DB 6829 PG 1852
PB 82 PG 15

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DB 5193 PG 1105

LOUIS P BELL &
PANDORA M BELL

MARLEY JILL THRASHER
DB 6397 PG 2020
DEBORAH K PATTERSON

STEPHEN GRAYE POE
DB 6828 PG 2687

CT ASSOCIATES

-Y6- STA 18+00 SEE SHEET 6

BEGIN CONST. 16+50.00 -Y6- EXIST.

PC Sta 13+43.40 -Y6-

PT Sta 16+03.64 -Y6-

POT Sta 10+00.00 -Y6-

TIE TO EXIST.C&G

TIE TO EXIST. C&G & SIDEWALK

CLASS 'B' RIP-RAP
EST. 2 TONS
EST. 7 S.Y.G.F.

2' STD. BASE DITCH
SEE DETAIL 32
S=5.0%
DDE=70 CY

DETAIL 32
STANDARD BASE DITCH
(Not to Scale)

Natural Ground — 2:1 — D — 2:1 — Natural Ground
Min. D= 1.0 Ft.
B= 2.0 Ft.
B

-Y6- STA. 17+65 RT.

NOTE:
SEE SHEET 2B-2 FOR CURVE DATA
SEE SHEET 21 FOR -Y6- PROFILE

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PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS
8/17/99
4/2/13 R/W REVISION: ADDED PUE ALONG Y5 RT. (PARCELS 48 & 52) AND Y6 RT (PARCEL 55).
11/3/15 R/W REVISION: CHANGED "EXIST R/W" DESIGNATION TO OFFSETS FOR PARCELS 48, 53, 54 & 55. (BY DBG)

MATCH LINE SEE SHEET 6
-Y6- STA 28+00 SEE SHEET 6

POT Sta 10+00.00 -Y5-
BEGIN CONST. 12+00.00 -Y5- EXIST.
PC Sta 13+72.75 -Y5-
END CONST. 32+41.04 -Y6- EXIST.
PC Sta 32+33.33 -Y6-
PT Sta 38+35.52 -Y6-
PT Sta 35+56.81 -Y6-
PT Sta 15+18.11 -Y5-
POT Sta 10+00.00 -PED-
PC Sta 10+82.28 -PED-
POT STA 29+19.29 -Y6- = POT STA 15+78.99 -Y5-

NAD 83

NAADIYA HASAN L/T
DB 6754 PG 1278
PB 113 PG 26

BRENDA D. GARNER
DB 6939 PG 0192
PB 113 PG 26

PENNI H. LEITE
DB 5787 PG 1948
PB 109 PG 97

CHRISTOPHER MARK HALL & D KEITH HALL
DB 4369 PG 2135
PB 109 PG 97

SCOTT D PRESLAN &NANCY K PRESLAN
DB 4332 PG 2014
PB 109 PG 97

LARRY WILLIAM SPENCER & KAREN DENISE SPENCER
DB 4338 PG 907
PB 109 PG 97

THOMAS L PLESS & CARLA C PLESS
DB 5397 PG 79
PB 109 PG 97

BRANDT RIDGE ASSOCIATION

LAKE BRANDT TRIAD APT PORTFOLIO, LLC
DB 6581PG 2184

BETTY JO MOORE L/T
LYNN MOORE GORDON
DB 5642 PG 0152
PB 30 PG 82

MARLENE F. JONES
DB 5212 PG 2075
JAMES B YOUNG, III

DIANA HAYES
DB 6131PG 2355
PEGGY T HOLLEY

PAUL J MANZI &
DIANE H MANZI

HEIDI W. FELIZE
DB 6811PG 0702
PB 78 PG 21

CHARLES A. RUSSELL & DONNA P. RUSSELL
DB 6741PG 0640
PB 78 PG 21

JESSE D WEBB
DB 6692 PG 0878
PB 78 PG 21

DENISE S SCHUMACHER

RYAN & CAROLINE SHUPING
DB 6618 PG 0228
PB 78 PG 21

CATHERINE M FOSTER

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
PB 78 PG 21

PATRICIA N. COLEMAN
DB 5687 PG 2006
VIRGINIA C NEWTON

WAYNE H ROBINSON & SHERYL RENEE ROBINSON

THOMAS E RAMSEY

FRED & LIZ BERGSTONE
DB 6915 PG 2396

BRADNT VILLAGE HOMEOWNERS ASSOCIATION

MATCH LINE SEE SHEET 7
MATCH LINE SEE SHEET 7

NOTE:
SEE SHEET 2B-2 FOR CURVE DATA
SEE SHEET 20 FOR -Y5- PROFILE
SEE SHEET 20 FOR PED. PROFILE
SEE SHEET 21 FOR -Y6- PROFILE

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dgrogan
Microstation V8i

PLANS PREPARED BY :	PROJECT REFERENCE NO.	SHEET NO.
PARSONS RALEIGH, NORTH CAROLINA, (919) 854-1345 NC LICENSE NO. F-0246 FOR NORTH CAROLINA DEPT. OF TRANSPORTATION	U-2524D	13
	R/W SHEET NO.	
	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

4/2/13 R/W REVISION: ADDED PUE ALONG Y8 RT (PARCEL 100).
11/3/15 R/W REVISION: CHANGED "EXIST R/W" DESIGNATIONS TO NUMERIC OFFSETS ON PARCELS 94 & 101; CHANGED PROPERTY OWNER NAME AND DEED BOOK REFERENCE ON PARCEL 101. (DBG)

8/17/99

NAD 83

BEGIN CONST.
9+33.05 -Y8-
EXIST.

RANDY L. REYNOLDS
DB 5490 PG 2070
PB 44 PG 008

HERBERT L. LEMONS
& GEORGIA D. LEMONS
DB 2804 PG 0316
PB 44 PG 008

EILEEN T. LANE
DB 3045 PG 0586
PB 44 PG 008

FELTS FAMILY
LIMITED PARTNERSHIP
DB 5140 PG 1038
PB 44 PG 008

RICHARD L. HUGHES
&KATHERINE P.
HUGHES
DB 5054 PG2034
PB 44 PG 008

MAVIS WATLINGTON
DB 2856 PG 0862
PB 44 PG 008

EARNEST CLARK
BROWN JR.
DB 3986 PG 2176
PB 44 PG 008

BETSY J CAROTHERS
DB 2497 PG 0510
PB 44 PG 008

JEAN M
WHITEHEAD
DB 5661PG 1092
PB 44 PG 68

SALVATION ARMY
DB 7241 PG 2263
PB 44 PG 8

BEGIN C.L. FENCE
+ 00.00 -Y8-
60.00'

END C.L. FENCE
+ 00.00 -Y8-
60.00'

TIE TO
EXIST.C&G

TIE TO
EXIST.C&G

PROP.R/W

PUE

5' CONC.
SIDEWALK

5" MONOLITHIC
CONCRETE
ISLAND

BATTLE FOREST
VILLAGE ASSOCIATION
(94)

JUDIE. BISHARA
DB 5029 PG 0438
AMNEH SHEHADEH
DB 6526 PG 1610
LAWTON E. GRESHAM &
LAURA DEAN MATHESON GRESHAM
DB 3117 PG 0241
DONALD G. SYLVESTER &
PATRICIA G. SYLVESTER
DB 3014 PG 0893
LOUISE L BRANTLEY
DB 2737 PG 0751
KIMBERLEE J. MATHIS
DB 6279 PG 2920

WILLIAM R ATCHISON
DB 3904 PG 1360
RONALD D. COOK
& KATRINA R. COOK
DB 5639 PG 0462
BRANDY C. CLARK
DB 6607 PG 2725
BLAKE HARRISON SOCIN &
VICTORIA ELIZABETH SOCIN
DB 6655 PG 1705
ERA W JOHNSON
DB 4594 PG 0282

JORGE A. ALONZO
DB 6421PG 1349
MARGARET ENGLAND GRIFFIN
DB 2759 PG 0513
WILLIAM SUTTON, JR. &
MARIAN B. SUTTON
DB 6590 PG 2434
JASON BUTKO &
MONIC E. UYENO
DB 4625 PG 0417
ROBERT J CLARK
& DONNA C CLARK
DB 5187 PG 0305

EMILY BLAIR WEDDINGTON

SYLVIA W. BURGESS
DB 6679 PG 0094
KAMAL N. DERGHAM
DB 6021PG 1967
KEVIN CORRIGAN
DB 6054 PG 2567
ABOUFAKHAIR HAMOUD
DB 6078 PG 0753
RICHARD BELCHER
DB 6820 PG 2982

JUDITH L BLUMENHEIN
LYNNE B BRANDON
JUDITH L BLUMENHEIN
JEFFREY T. GRIFFIN
DB 6478 PG 2436
SHEILA R. CHEWNING
DB 6583 PG 2412

THOMAS FLEMING BRIDGERS JR. &
LYNDA JOYCE JOSEPHSOHN FORREST

LEE AND BARR ENTERPRISES,LLC

ALLEN F MALONE &
NANCY L MALONE

MARY MARGARET
DAUGHTRIDGE
DB 6866 PG 2969

NOTE:
SEE SHEET 22 FOR -Y8- PROFILE

MATCH LINE -Y8- STA 11+50 SEE SHEET 9

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PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

81799

REVISIONS

4/2/13 R/W REVISION: ADDED PUE ALONG Y8 RT(PARCEL 109A) AND Y8 LT(PARCEL 110).
11/3/15 R/W REVISION: CORRECTED STATION & OFFSET LABEL AT -Y8- 26+99.99, 33.64' AND REVISED PUE BETWEEN -Y8- 29+10.72 & 29+31.00 ON PARCEL 109A; CHANGED "EXIST R/W" DESIGNATION TO NUMERIC OFFSET ON PARCEL 110. (DBG)

MATCH LINE -Y8- STA 26+00 SEE SHEET 9

NAD 83

JORGE ALONZO
DB 4989 PG 1768
CARL M. GRIMALDI &
KATHLEEN A. GRIMALDI
DB 6950 PG 1169
ILENE R. CRAIG
DB 5839 PG 1707
OPAL APPLE
DB 2904 PG 0761
DEBORAH L. PETTIFORD
DB 5181PG 0675
CHARLES MATTHEW FAULKNER
DB 5296 PG 2124
BECKY R. KINWORTHY
DB 5806 PG 1756
KRISTINA L. SIMMONS
DB 5710 PG 0962

NICHOLAS A. BURNS &
JOE A. BURNS
DB 6940 PG 0091
PIEDMONT TRIAD PROPERTY
MANAGEMENT, LLC
DB 5718 PG 1054
YONG DUAN SONG
DB 6389 PG 1730
LORTON EDWARD SIGMON
DB 4402 PG 1993
DOUGLAS B. CRAWFORD
& ALLICE C. CRAWFORD
DB 4663 PG 1934
MARY WINIFRED JONES
DB 2898 PG 0519
CLINTON R. MARQUARDT
DB 6139 PG 1290
CHRISTOPHER S. McKEOWN
DB 5227 PG 1837

SHARON D. LEWIS
DB 4967 PG 0196
PETE KING &
CHELSEA KING
DB 6832 PG 0947
SAMIR KRDZALIC &
INDIRA KRDZALIC
DB 5213 PG 2109
RONNIE M. WALLACE
DB 5096 PG 1701
MARK B. WESTMORELAND
DB 6819 PG 0620

BATTLE FOREST
CONDOMINIUM ASSOCIATION
DB 2751PG 0050
DB 2751PG 0052
PB 1PG 72
PB 1PG 057
(110)

REDMAN DEVELOPMENT CORPORATION

KH PORTFOLIO I, LLC
DB 6388 PG 0828
PB 82 PG 82
(109A)

JP HAMPTONS, LLC
PB 63 PG 9

PT Sta 28+72.45 -Y8-
POT Sta 31+25.88 -Y8-
30+00
+00.00 -Y8- 63.17' END C/A & C.L. FENCE
+59.00 -Y8- 80.37'
+50.00 -Y8- 51.66' & 66.75'
+10.72 -Y8- 38.17'
+12.18 -Y8- 58.12'
+50.00 -Y8- 35.29'
+31.00 -Y8- 36.69'
+32.46 -Y8- 56.63'
+99.99 -Y8- 33.64' END C/A
END CL FENCE +00.00 -Y8- +00, 60'
2'-6"C&G
5'-0" CONC. SIDEWALK
5" MONOLITHIC CONC. ISLAND
TIE TO EXIST. C&G
PROP. R/W
EXISTING R/W
PUE
SR 2303 LAWNDALE DR 54' BST
S 11°04'04.2" E
S 08°39'36" E 124.34'
S 11°09'30" E 233.25'
END CONST. 27+50.00 -Y8- EXIST.
592.02' N87°03'30"W
665.86' N87°24'53"W
575.43' S87°27'53"E
100.10' S08°41'23"E
-BY8- 534
-BY8- 533
NOTE:
SEE SHEET 2B-2 FOR CURVE DATA
SEE SHEET 22 FOR -Y8- PROFILE

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5/28/99

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

PLANS PREPARED BY :

PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L-

℄ -Y4- BATTLEGROUND AVE.
-L- POT 407+79.59 =
-Y4- POT 29+55.89

EXISTING BRIDGE

EXISTING GROUND

820 810 800 790 780 770 760 750 740 730

404 405 406 407 408 409 410 411 412 413 414 415 416 417 418

BM #12 ELEVATION = 748.99'
N = 870839 E = 1746657
-L- STATION 421+03 130' LEFT
NAIL IN 12" GUM

BM #13 ELEVATION = 806.64'
N = 869,750 E = 1747183
-Y6- STATION 10+00
S 85° 29' 55.7" W DIST 670.01'
R/R SPIKE SET IN 26" MAPLE

BEGIN GRADE U-2524D
POT STA.421+69.00 -L-
EL. = 781.92

EXISTING BRIDGE

- 0.5000%

EXISTING GROUND

END 'V' DITCH
BEHIND NOISE WALL (LT)
PI = 427+70.00
EL = 797.61

PROPOSED GRADE

(+)4.2511%

(+)9.3200%

+ 2.3243%

BEGIN 'V' DITCH
BEHIND NOISE WALL (LT)
PI = 426+50.00
EL = 782.97

PI = 427+00.00
EL = 787.63

PVI = 425+00
EL. = 780.18
800' V.C.
K = 283
DS = 80 MPH

DITCH LEGEND

LEFT DITCH -·-·-·-·-·-

NOTE:
SEE SHEETS 4 & 5 FOR -L- PLAN

830 820 810 800 790 780 770 760 750 740

418 419 420 421 422 423 424 425 426 427 428 429 430 431 432

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5/28/99

BM #14 ELEVATION = 838.41'
N = 871003 E=1749032
-Y5- STATION 10+00
N 29° 20' 41.8" W DIST 89.26'
R/R SPIKE SET IN 10" POPLAR

-L-

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	16

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

BEGIN 2' BERM BASE DITCH (RT)
PI = 434+50.00
EI = 838.23

END 2' BERM BASE DITCH (RT)
PI = 425+00.00
EI = 839.52

(+) 2.5800%

EXISTING GROUND

PROPOSED GRADE

+ 2.3243%

30" RCP

PI = 443+50.00
EI = 817.42

BEGIN SPECIAL CUT DITCH (RT)
PI = 443+00.00
EI = 817.57

END SPECIAL CUT DITCH (RT)
PI = 444+00.00
EI = 820.58

(+) 6.3200%

(-) 0.3000%

(+) 0.5000%

BEGIN HAZARDOUS SPILL BASIN (LT)
PI = 443+75.00
EI = 817.40

END HAZARDOUS SPILL BASIN (LT)
PI = 446+00.00
EI = 818.52

℄ -Y6- COTSWOLD AVE.
-L- POS 447+12.23 =
-Y6- POT 25+18.62

BM #15 ELEVATION = 858.80'
N = 869765 E = 1749815
-Y7- STATION 13+00
S 4° 28' 25.1" W DIST 241.95'
R/R SPIKE SET IN 30" OAK

EXISTING GROUND

PROPOSED GRADE

+ 2.3243%

℄ -PED- POT 13+62.84
-L- POC 452+42.11 =

PVI = 454+50
EL. = 848.75
1,200' V.C.
K = 273
DS = 70 MPH

- 2.0664%

END SPECIAL 2' LAT. BASE DITCH (LT)
BEGIN SPECIAL LAT. 'V' DITCH (LT)
PI = 459+50.00
EI = 825.40

BEGIN 4' LAT. BASE DITCH (RT)
PI = 458+00.00
EI = 832.41

(-) 5.3400%

(-) 3.6500%

(-) 14.8200%

(-) 2.7700%

(-) 2.1801%

(-) 0.6900%

(+) 2.4000%

(-) 1.3333%

PI =458+50.00 (LT)
EI = 826.09

BEGIN SPECIAL CUT DITCH (LT)
PI = 455+50.00
EI = 835.67

END SPECIAL CUT DITCH (LT)
BEGIN SPECIAL LAT. 'V' DITCH (LT)
PI = 456+00.00
EI = 833.00

PI = 458+50.00 (RT)
EI = 825.00

PI = 457+00.00 (LT)
EI = 829.35

END SPECIAL LAT. 'V' DITCH (LT)
BEGIN SPECIAL 2' LAT. BASE DITCH (LT)
PI = 458+00.00
EI = 827.18

PI = 460+00.00 (RT)
EI = 823.00

DITCH LEGEND

LEFT DITCH -·-·-·-·-

RIGHT DITCH ----------

NOTE:
SEE SHEETS 5,6 & 7 FOR -L- PLAN

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5/28/99

BM #16 ELEVATION = 858.87'
N = 871604 E = 1750336
-Y6- STATION 38+36
N 27° 01' 55.4" E DIST 377.11'
R/R SPIKE SET IN 18" OAK

-L-

PIPE HYDRAULIC DATA

DRAINAGE STRUCTURE NO.0814

DRAINAGE AREA	= 44.3	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 100	CFS
DESIGN HW ELEVATION	= 806.2	FT
100 YEAR DISCHARGE	= 120	CFS
100 YEAR HW ELEVATION	= 806.7	FT
OVERTOPPING FREQUENCY	= >500+	YRS
OVERTOPPING DISCHARGE	= >210+	CFS
OVERTOPPING ELEVATION	= 814.75	FT

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343 E. Six Forks Road, Suite 200
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NC License No: C-1554

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	17

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

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PI = 461+00.00 (LT)
EI = 829.00

END SPECIAL LAT. 'V' DITCH (LT)
BEGIN SPECAIL CUT DITCH (LT)
PI = 462+50.00
EI = 825.90

END SPECAIL CUT DITCH (LT)
PI = 464+00.00
EI = 824.72

PROPOSED GRADE

BEGIN 4' LAT. BASE DITCH (LT)
PI = 467+00.00
EI = 818.52

END LAT. 'V' DITCH BEGIN SPECIAL CUT DITCH (RT)
PI = 475+00.00
EI = 828.94

PI = 469+00.00 (RT)
EI = 812.09

END SPECIAL CUT DITCH
BEGIN 'V' DITCH BEHIND NOISE WALL (RT)
PI = 470+00.00
EI = 812.59

PI = 417+50.00 (RT)
EI = 826.98

PI = 472+50.00 (RT)
EI = 828.19

(+) 2.4000%
(−) 2.0667%
(−) 0.7867%
(−) 4.8000%
(−) 2.7000%
(−) 1.5455%
(−) 7.0400%
(−) 2.0000%
(−) 8.3214%
(+) 5.6111%
(+) 0.5000%
(−) 9.2000%
(−) 4.5455%
(+) 1.4400%
(+) 0.5000%
(+) 1.2100%
(+) 0.3000%

36" RCP

EXISTING GROUND

PI = 462+50.00 (RT)
EI = 811.00

PI = 460+00.00 (RT)
EI = 823.00

PI = 463+50.00 (RT)
EI = 808.30

END 4' LAT. BASE DITCH (RT)
PI = 466+80.00
EI = 803.20

PI = 467+50.00 (LT)
EI = 815.00, 60" RCP

PI = 468+00.00 (LT)
EI = 814.00

BEGIN LAT. 'V' DITCH (RT)
PI = 468+00.00
EI = 810.38

PI = 468+20.00
EI = 808.05 (RT)
PI = 469+25.00 (LT)
EI = 802.50

END 4' LAT. BASE DITCH (LT)
PI = 470+90.00
EI = 795.00

PI = 471+00.00 (RT)
EI = 826.73

460 461 462 463 464 465 466 467 468 469 470 471 472 473 474

BM #17 ELEVATION = 797.52'
N = 871082 E = 1751866
-L- STATION 474+81 27' LEFT
R/R SPIKE SET IN 9" CHERRY

CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 180	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 784.6	FT
BASE DISCHARGE	= 200	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 784.86	FT
OVERTOPPING DISCHARGE	= 490	CFS
OVERTOPPING FREQUENCY	= >500+	YRS
OVERTOPPING ELEVATION	= 790.08	FT

(+) 0.3000%

END 'V' DITCH BEHIND NOISE WALL (RT)
PI = 475+00.00
EI = 828.94

EXISTING GROUND

BEGIN 'V' DITCH BEHIND NOISE WALL (RT)
PI = 479+50.00
EI = 803.30

PI = 480+00.00 (RT)
EI = 800.10

PI = 483+50.00 (RT)
EI = 794.04

PI = 482+86.00 (RT)
EI = 784.40

PROPOSED GRADE

PI = 484+00.00 (RT)
EI = 796.23

PI = 482+00.00 (RT)
EI = 794.05

PI = 484+50.00 (RT)
EI = 793.23

PI = 486+00.00 (RT)
EI = 790.64

PI = 486+50.00 (LT)
EI = 789.02

END SPECIAL CUT DI
PI = 486+89.00
EI = 789.29

(−) 6.4000%
(+) 0.9000%
(−) 4.3333%
(+) 2.3800%
(−) 6.0000%
(−) 2.0664%
(−) 1.2122%
(+) 1.8600%
(−) 1.0444%
(+) 1.0727%
(−) 1.7242%
(+) 0.3000%
(+) 0.7018%
(−) 1.5102%

PI = 480+50.00 (RT)
EI = 800.55

(+) 0.5000%
(+) 2.5500%

END LAT. 'V' DITCH (LT)
PI = 481+00.00
EI = 788.00

BEGIN SPECIAL CUT DITCH (LT)
PI = 486+00.00
EI = 788.86

PI = 487+83.00 (RT)
EI = 787.88

DITCH LEGEND
LEFT DITCH
RIGHT DITCH

BEGIN LAT. 'V' DITCH (LT)
PI = 478+50.00
EI = 782.65

PI = 479+00.00 (LT)
EI = 782.90

END SPECIAL CUT DITCH (LT)
PI = 485+00.00
EI = 787.59

PVI = 483+50
EL = 788.82'
VC = 1,000'
K = 255
DS = 80 MPH

PI = 484+45.00 (LT)
EI = 787.00

NOTE:
SEE SHEETS 7,8 & 9 FOR -L- PLAN

PROPOSED 1 @ 8' x 7' RCBC ADJACENT TO -L- LEFT

BEGIN SPECIAL CUT DITCH (LT)
PI = 484+00.00
EI = 787.47

474 475 476 477 478 479 480 481 482 483 484 485 486 487 488

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BM #18 ELEVATION = 808.40'
N = 872785 E = 1753511
-Y8- STATION 110+00
N 18° 44' 24.6" W DIST 575.94'
R/R SPIKE SET IN 22" OAK

BM #19 ELEVATION = 841.27'
N = 869867 E = 1754214
-Y8- STATION 311+26
S 22° 19' 57.9" E DIST 312.72'
R/R SPIKE SET IN 18" OAK

STA 494+03.39 -LREV- RT
STA 494+06.25 -LREV- LT
BEGIN BRIDGE

STA 496+32.70 -LREV-
END BRIDGE (LT & RT)

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PROJECT REFERENCE NO.	SHEET NO.
U-2524D	18

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

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EQUALITY:
STA. 489+00.00 -L- BK. =
STA. 489+00.00 -LREV- AH.

℄ -YB- LAWNDALE DR. (SR 2303)
-LREV- POC 495+22.00 =
-Y8- POT 18+84.00

PROPOSED GRADE

+ 1.8600%

- 2.4103%

END 'V' DITCH
BEHIND NOISE WALL (RT)
PI = 491+30.00
El = 777.96

CH (LT)

(-) 12.8588%

EXISTING GROUND

PVI = 496+00.00
El. = 812.07
1,300' V.C.
K = 304
DS = 70 MPH

PROPOSED 1 @ 8' x 7' RCBC ADJACENT TO -L- LEFT

CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 240	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 767.7	FT
BASE DISCHARGE	= 260	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 768.02	FT
OVERTOPPING DISCHARGE	= 300+	CFS
OVERTOPPING FREQUENCY	= >500+	YRS
OVERTOPPING ELEVATION	= 774.3	FT

-L- & -LREV-

PVI = 508+00.00
EL = 783.15'
VC = 800'
K = 216
DS = 75 MPH

EQUATION:
STA. 502+99.94 -LREV- BK. =
STA. 503+00.89 -L- AH.

PROPOSED GRADE

PI = 507+50.00
El = 792.72

END SPECIAL
LAT. 'V' DITCH (RT)
BEGIN 'V' DITCH
BEHIND NOISE WALL (RT)
PI = 506+89.00
El = 781.04

(+) 6.2514%

(+) 0.1724%

- 2.4103%

(-) 0.3333%

(+) 1.0769%

(+) 6.1396%

+ 1.3003%

EXISTING GROUND

PI = 509+20.00 (RT)
El = 781.00

1 @ 7' x 8' RCBC

BEGIN SPECIAL
CUT DITCH (RT)
PI = 508+00.00
El = 781.40

END SPECIAL
CUT DITCH (RT)
PI = 510+50.00
El = 782.40

BEGIN LAT.
'V' DITCH (RT)
PI = 505+00.00
El = 769.42

END LAT.
'V' DITCH (RT)
BEGIN SPECIAL
LAT. 'V' DITCH (RT)
PI = 506+15.00

END 'V' DITCH
BEHIND NOISE WALL (RT)
PI = 512+00.00
El = 817.80

PI = 511+0000
El = 814.60

(+) 3.2000%

BEGIN 'V' DITCH
BEHIND NOISE WALL (RT)
PI = 514+00.00
El = 827.51

PI = 515+00.00
El = 821.90

PI = 516+00.00
El = 821.70

(-) 1.2000%

(-) 10.0200%

PI = 514+50.00
El = 826.91

(+) 6.5400%

(-) 6.9400%

PI = 515+
El = 818.4

DITCH LEGEND
LEFT DITCH
RIGHT DITCH

NOTE:
SEE SHEETS 9 & 10 FOR -L- & -LREV- PLAN
SEE SHEET 17 & 27 FOR CULVERT HYDRAULIC DATA

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BEGIN 'V' DITCH
BEHIND NOISE WALL (RT)
PI = 517+50.00
EI = 830.27

PI = 516+00.00
EI = 821.70

(+) 8.5300%

PI = 518+50.00
EI = 823.83

(-) 6.4400%

(-) 11.2500%

EXISTING GROUND

PI = 519+75.00
EI = 809.77

(-) 2.9250%

(-)
0.5200%

+ 1.3003%

PROPOSED GRADE

END 'V' DITCH
BEHIND NOISE WALL (RT)
BEGIN SPECIAL
LAT. 'V' DITCH (RT)
PI = 520+25.00
EI = 794.80

END SPECIAL
LAT. 'V' DITCH (RT)
PI = 520+50.00
EI = 794.67

72" RCP

BM #20 ELEVATION = 787.30'
N = 871657 E = 1756384
-L- STATION 520+12 151' LEFT
R/R SPIKE SET IN 24" OAK

EQUALITY:
STA. 520+34.53 -L- BK. (U-2524D) =
STA. 552+99.67 -L- AH. (U-2525C)

END GRADE U-2524D
POT STA. 525+21.66 -L-
EL. = 805.53

2:1

-L-

PIPE HYDRAULIC DATA -L- Sta.521+23 (STR #10A1)		
DRAINAGE AREA	= 82	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 180	CFS
DESIGN HW ELEVATION	= 779.1	FT
100 YEAR DISCHARGE	= 200	CFS
100 YEAR HW ELEVATION	= 779.5	FT
OVERTOPPING FREQUENCY	= >500(+)	YRS
OVERTOPPING DISCHARGE	= >350	CFS
OVERTOPPING ELEVATION	= -	FT

DITCH LEGEND	
RIGHT DITCH	----------

NOTE:
SEE SHEETS 9 & 10 FOR -L- PLAN

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PROJECT REFERENCE NO.	SHEET NO.
U-2524D	19

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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BM #14 ELEVATION = 838.41'
N = 871003 E=1749032
-Y5- STATION 110+00
N 29° 20' 41.8" W DIST 89.26'
R/R SPIKE SET IN 10" POPLAR

-Y5-

BEGIN GRADE
STA. 12+25.00 -Y5-
EL = 845.83

END GRADE
STA. 15+58.75 -Y5-=
STA. 29+16.22 -Y6-,
20' LT
EL = 853.54

PROPOSED GRADE

+1.5114%

+3.1906%

PI = 14+00.00
EL = 848.47
VC = 240'
K = 142
DS = 60 MPH

EXISTING GROUND

NOTE:
SEE SHEET 12 FOR -Y5- PLAN
SEE SHEETS 7 & 12 FOR PED.PLAN
SEE SHEET 6 FOR -Y6A- PLAN
SEE SHEET 7 FOR -Y7A- PLAN

BM #15 ELEVATION = 858.80'
N = 869765 E = 1749815
-Y7- STATION 13+00
S 4° 28' 25.1" W DIST 241.95'
R/R SPIKE SET IN 30" OAK

-PED-

BEGIN BRIDGE
STA. 12+77.84 -PED-

END BRIDGE
STA. 14+47.84 -PED-

BEGIN GRADE
STA. 10+00.00 -PED-
EL = 854.38

℄ POS STA. 452+42.11 -L- =
POT STA. 13+62.84 -PED-

END GRADE
STA. 18+50.0 -PED-
EL = 860.89

PI = 17+50.00
EL = 858.48'
VC = 50'

PI = 18+00.00
EL = 859.10'
VC = 50'

(+)3.2062%
(-)5.0000%
(-)5.0000%
(+)3.2063%
(+)3.2054%
(+)2.0000%
(-)2.0000%
)1.9824%
(+)1.2439%
(+)3.5
(+)0.300% END SPECIAL LAT.'V' DITCH (RT)
PI = 17+50.00
EI = 857.37

PI = 15+10.00
EL = 869.88'
VC = 90'

PROPOSED BRIDGE

PI = 10+50.00
EL = 855.37'
VC = 50'

PI = 11+35.00
EL = 858.04'

PI = 11+40.00
EL = 858.14'

PI = 10+75.00
EL = 856.17'

PI = 11+95.00
EL = 859.90'

PI = 12+55.00
EL = 861.76

PI = 10+80.00
EL = 856.27'

PI = 12+00.00
EL = 860.00'

PI = 12+60.00
EL = 861.86'

PI = 15+60.00
EL = 867.38'

PI = 16+70.00
EL = 862.18

PI = 15+65.00
EL = 867.28'

PI = 16+75.00
EL = 862.08'

PI = 16+15.00
EL = 864.78'

PI = 17+20.00
EL = 859.83'

PI = 16+20.00
EL = 864.68'

PI = 17+25.00
EL = 859.73'

BEGIN SPECIAL LAT.'V' DITCH (RT)
PI = 17+00.00
EI = 857.22

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PROJECT REFERENCE NO.	SHEET NO.
U-2524D	20
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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BM #15 ELEVATION = 858.80'
N = 869765 E = 1749815
-Y7- STATION 13+00
S 4° 28' 25.1" W DIST 241.95'
R/R SPIKE SET IN 30" OAK

-Y6A-

END GRADE
STA. 15+00.00 -Y6A-
EL = 855.18

BEGIN GRADE
STA. 10+20.69 -Y6A-=
STA. 20+81.82 -Y6-,20' RT
EL = 858.34

PROPOSED GRADE

+ 2.3857%

+ 0.6581%

- 2.7957%

PVI = 11+15.00
El. = 860.59
140' V.C.
K = 81
DS = 45 MPH

PVI = 12+70
EL = 861.61'
VC = 170'
K = 49
DS = 40 MPH

EXISTING GROUND

BM #15 ELEVATION = 858.80'
N = 869765 E = 1749815
-Y7- STATION 13+00
S 4° 28' 25.1" W DIST 241.95'
R/R SPIKE SET IN 30" OAK

BM #16 ELEVATION = 858.87'
N = 871604 E = 1750336
-Y6- STATION 38+36
N 27° 01' 55.4" E DIST 377.11'
R/R SPIKE SET IN 18" OAK

-Y7A-

END GRADE
STA. 13+20.00 -Y7A-
EL = 834.80

BEGIN GRADE
STA. 10+25.00 -Y7A-
EL = 837.80

PROPOSED GRADE

- 6.7480%

- 2.7529%

+ 1.3938%

PVI = 11+00.00
El. = 832.74
100' V.C.
K = 25

PVI = 12+40.00
El. = 828.88
150' V.C.
K = 15

EXISTING GROUND

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BM #13 ELEVATION = 806.64'
N = 869,750 E = 1747183
-Y6- STATION 10+00
S 85° 29' 55.7" W DIST 670.01'
R/R SPIKE SET IN 26" MAPLE

BEGIN GRADE
STA. 17+00.00 -Y6-
EL = 850.69

-Y6-

BM #15 ELEVATION = 858.80'
N = 869765 E = 1749815
-Y7- STATION 13+00
S 4° 28' 25.1" W DIST 241.95'
R/R SPIKE SET IN 30" OAK

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PROJECT REFERENCE NO.	SHEET NO.
U-2524D	21

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

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℄ -Y6A-

℄ -L-

BEGIN BRIDGE
STA. 24+10.12 -Y6-

EXISTING GROUND

+1.5800%

+2.0286%

-0.8644%

PROPOSED GRADE

PROPOSED BRIDGE

PI = 19+00.00
EL = 853.85'
VC = 110'
K = 245
DS = 80 MPH

PI = 22+00.00
EL = 859.94'
VC = 250'
K = 86
DS = 50 MPH

POS STA. 447+12.23 -L- =
POT STA. 25+18.62 -Y6-

890 880 870 860 850 840 830 820 810

12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

BM #14 ELEVATION = 838.41'
N = 871003 E=1749032
-Y5- STATION 10+00
N 29° 20' 41.8" W DIST 89.26'
R/R SPIKE SET IN 10" POPLAR

-Y6-

BM #16 ELEVATION = 858.87'
N = 871604 E = 1750336
-Y6- STATION 38+36
N 27° 01' 55.4" E DIST 377.11'
R/R SPIKE SET IN 18" OAK

℄ -Y5+

END BRIDGE
STA. 26+29.62 -Y6-

END GRADE
STA. 32+16.04 -Y6-
EL = 855.32

EXISTING GROUND

-0.8644%

+0.7943%

PROPOSED GRADE

PROPOSED BRIDGE

PVI = 29+65.00
El. = 853.32
250' V.C.
K = 150
DS = 60 MPH

NOTE:
SEE SHEETS 6,11,& 12 FOR -Y6- PLAN

900 890 880 870 860 850 840 830 820 810

26 27 28 29 30 31 32 33 34 35 36 37 38

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BM #18 ELEVATION = 808.40'
N = 872785 E = 1753511
-Y8- STATION 10+00
N 18° 44' 24.6" W DIST 575.94'
R/R SPIKE SET IN 22" OAK

-Y8-

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PROJECT REFERENCE NO.	SHEET NO.
U-2524D	22
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

BEGIN GRADE
STA. 11+00.00 -Y8-
EL = 796.87

- 3.3933%

- 3.9600%

PVI = 12+50.00
El. = 791.78
200' V.C.
K = 353
DS = 75 MPH

PVI = 20+00
EL = 762.08'
VC = 920'
K = 79
DS = 45 MPH

PROPOSED GRADE

EXISTING GROUND

+ 7.6200%

1 @ 10' x 7' RCBC

1 @ 10' x 7' RCBC

℄ -LREV-

POC STA. 495+22.00 -LREV- =
POT STA. 18+84.00 -Y8-
EL = 805.25

CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 390	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 771.7	FT
BASE DISCHARGE	= 410	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 771.88	FT
OVERTOPPING DISCHARGE	= >470+	CFS
OVERTOPPING FREQUENCY	= >500+	YRS
OVERTOPPING ELEVATION	= 777.83	FT

CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 712	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 772.0	FT
BASE DISCHARGE	= 902	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 773.64	FT
OVERTOPPING DISCHARGE	= 1100	CFS
OVERTOPPING FREQUENCY	= 100+	YRS
OVERTOPPING ELEVATION	= 777.39	FT

-Y8-

BM #19 ELEVATION = 841.27'
N = 869867 E = 1754214
-Y8- STATION 31+26
S 22° 19' 57.9" E DIST 312.72'
R/R SPIKE SET IN 18" OAK

END GRADE
STA. 27+00.00 -Y8-
EL = 813.54

PROPOSED GRADE

+ 7.6200%

+ 7.0600%

+ 6.3400%

+ 5.7000%

EXISTING GROUND

PVI = 26+50.00
El. = 810.69

PVI = 26+00.00
El. = 807.52

PVI = 25+50.00
El. = 803.99

NOTE:
SEE SHEETS 9,13 & 14 FOR -Y8- PLAN
SEE SHEET 28 FOR CULVERT HYDRAULIC DATA

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BM #12 ELEVATION = 748.99'
N = 870839 E = 1746657
-L- STATION 421+03 130' LEFT
NAIL IN 12" GUM

–RPAY4–

BEGIN GRADE
STA 0+00 -RPAY4- =
STA 426+20.73 -L-, 59' LT
EL. = 786.52

END BRIDGE
STA 4+50.43 -RPAY4-
EL. = 785.53

PROPOSED GRADE

- 0.6300%

+ 0.6007%

EXISTING GROUND

EXISTING BRIDGE

PVI = 3+00.00
El. = 784.63
200' V.C.
K = 163

BM #12 ELEVATION = 748.99'
N = 870839 E = 1746657
-L- STATION 421+03 130' LEFT
NAIL IN 12" GUM

–RPDY4–

BEGIN GRADE
STA 0+00 -RPDY4- =
STA 426+20.73 -L-, 59' RT
EL. = 782.20

END GRADE
STA 5+81.20 -RPDY4-
EL. = 777.37

PROPOSED GRADE

EXISTING GROUND

- 1.3400%

- 0.5644%

(–) 0.6600%

BEGIN HAZARDOUS SPILL BASIN (LT)
PI = 1+70.00
El = 773.03

PVT = 2+00.00
El. = 779.52
250' V.C.
K = 322

END HAZARDOUS SPILL BASIN (LT)
PI = 5+00.00
El = 770.85

EXISTING BRIDGE

NOTE:
SEE SHEETS 4 & 5 FOR -RPAY4- & -RPDY4- PLAN

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PLANS PREPARED BY :
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NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	23

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

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BM #20 ELEVATION = 787.30'
N = 871657 E = 1756384
-L- STATION 520+12 151' LEFT
R/R SPIKE SET IN 24" OAK

CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 390	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 771.7	FT
BASE DISCHARGE	= 410	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 771.88	FT
OVERTOPPING DISCHARGE	= >470+	CFS
OVERTOPPING FREQUENCY	= >500+	YRS
OVERTOPPING ELEVATION	= 777.83	FT

-RPAY8-

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PROJECT REFERENCE NO.	SHEET NO.
U-2524D	24

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

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GRADING ONLY — BEGIN PAVING STA 9+75.59 -RPAY8-

BEGIN GRADE
STA 0+00 -RPAY8- =
STA 509+23.96 -L-, 59' LT
EL. = 785.81

PI = 0+50.00
EL = 785.85'
(+)0.0800%

PI = 1+00.00
EL = 786.00'
(+)0.3000%

PI = 1+50.00
EL = 786.27'
(+)0.5400%

PT = 2+00.00
EL = 786.50'
(+)0.4600%

PI = 2+50.00
EL = 786.90'
(+)0.8000%

(+)0.9000%

(+)1.7333%

PROPOSED GRADE

(-)3.9970%

+ 1.4950%

EXISTING GROUND

PVI = 3+00.00
El. = 787.35
100' V.C.
K = 120
DS = 55 MPH

PVI = 7+50.00
El. = 795.15
800' V.C.
K = 139
DS = 55 MPH

PVI = 13+40.00
El. = 771.57
200' V.C.
K = 36
DS = 25 MPH

1 @ 7' x 8' RCBC

1 @ 10' x 7' RCBC

1 @ 10' x 7' RCBC

1 @ 10' x 7' RCBC

1 @ 10' x 7' RCBC

1 @ 10' x 7' RCBC

(+)0.7303%

PI =6+42.000
El = 757.35

PI =8+20.000
El = 756.65

3' LAT. BASE DITCH RT.

CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 240	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 767.7	FT
BASE DISCHARGE	= 260	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 768.02	FT
OVERTOPPING DISCHARGE	= 300+	CFS
OVERTOPPING FREQUENCY	= >500+	YRS
OVERTOPPING ELEVATION	= 774.30	FT

CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 712	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 772.0	FT
BASE DISCHARGE	= 902	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 773.64	FT
OVERTOPPING DISCHARGE	= 1100	CFS
OVERTOPPING FREQUENCY	= 100+	YRS
OVERTOPPING ELEVATION	= 777.39	FT

BM #19 ELEVATION = 841.27'
N = 869867 E = 1754214
-Y8- STATION 31+26
S 22° 19' 57.9" E DIST 312.72'
R/R SPIKE SET IN 18" OAK

-RPAY8-

END GRADE
STA 14+55.10 -RPAY8- =
STA 18+59.49 -Y8-, 35' LT
EL. = 773.37

EXISTING GROUND

+ 1.4950%

PROPOSED GRADE

DITCH LEGEND

RIGHT DITCH ----------

NOTE:
SEE SHEETS 9 & 10 FOR -RPAY8- PLAN
SEE SHEET 27 FOR CULVERT HYDRAULIC DATA

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BM #17 ELEVATION = 797.52'
N = 871082 E = 1751866
-L- STATION 474+81 271' LEFT
R/R SPIKE SET IN 9" CHERRY

–RPBY8–

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PROJECT REFERENCE NO.	SHEET NO.
U-2524D	25

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

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BEGIN GRADE
STA 0+00 -RPBY8- =
STA 481+63.22 -L-, 59' LT
EL. = 793.89

PI = 0+50.00
EL = 793.52'

PI = 1+50.00
EL = 793.04'

PI = 2+35.00
EL = 792.62'

(-)0.5600%

(-)0.5975%

(-)0.4320%

(-)0.7400%

(-)0.4000%

(-)0.4068%

(+)0.8308%

PROPOSED GRADE

PI = 1+00.00
EL = 793.24'

PI = 1+86.82
EL = 792.82'

PVI = 3+10.00
El. = 792.30
150' V.C.
K = 118
DS = 55 MPH

EXISTING GROUND

- 3.7197%

PVI = 7+00.00
El. = 795.54
630' V.C.
K = 138
DS = 55 MPH

+ 0.7768%

PVI = 13+15.00
El. = 772.66
150' V.C.
K = 33
DS = 25 MPH

BM #19 ELEVATION = 841.27'
N = 869867 E = 1754214
-Y8- STATION 31+26
S 22° 19' 57.9" E DIST 312.72'
R/R SPIKE SET IN 18" OAK

–RPBY8–

END GRADE
STA 13+91.78 -RPBY8- =
STA 18+38.57 -Y8-, 41' RT
EL. = 773.26

EXISTING GROUND

+ 0.7768%

PROPOSED GRADE

NOTE:
SEE SHEETS 9 FOR -RPBY8- PLAN

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–RPCY8–

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PROJECT REFERENCE NO.	SHEET NO.
U-2524D	26
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

BM #17 ELEVATION = 797.52'
N = 871082 E = 1751866
-L- STATION 474+81 271' LEFT
R/R SPIKE SET IN 9" CHERRY

BEGIN GRADE
STA 0+00 -RPCY8- =
STA 481+54.68 -L-, 59' RT
EL. = 793.96

SPECIAL CUT DITCH RT.

PROPOSED GRADE

-0.7800% -0.4600% -0.3600% (+)0.7127%

-0.5800% -0.4000%

(-)5.9000% (-)5.8800% (+)5.4000% (+)2.2600% (+)1.0000% (-)0.5000% (-)4.3865% (-)3.0000% (-)3.5000% (-)3.7437%

42" RCP

PI =0+45.000 El = 789.49
PI =0+95.000 El = 786.54
PI =1+45.000 El = 783.60
PI =1+95.000 El = 786.30
PI =2+45.000 El = 787.43
PI =2+95.000 El = 787.93
PI =5+45.00 El = 788.18
PI =6+94.580 El = 787.43
PI =7+50.000 El = 785.00
PI =9+00.000 El = 780.50
PI =10+00.000 El = 777.00

SPECIAL CUT DITCH RT.

EXISTING GROUND

SPECIAL LAT 'V' DITCH RT.

PVI = 0+50.00
El. = 793.57

PVI = 1+00.00
El. = 793.28

PVI = 1+50.00
El. = 793.05

PVI = 2+00.00
El. = 792.85

PVI = 3+00.00
El. = 792.49
140' V.C.
K = 130
DS = 55 MPH

PVI = 6+60.00
El. = 795.06
520' V.C.
K = 116
DS = 55 MPH

PVI = 12+55.00
El. = 772.78
160 V.C.
K = 37
DS = 30 MPH

BM #18 ELEVATION = 808.40'
N = 872785 E = 1753511
-Y8- STATION 10+00
N 18° 44' 24.6" W DIST 575.94'
R/R SPIKE SET IN 22" OAK

END GRADE
STA 13+80.19 -RPCY8- =
STA 19+05.85 -Y8-, 41' RT
EL. = 773.41

EXISTING GROUND

+ 0.5027%

PROPOSED GRADE

DITCH LEGEND

RIGHT DITCH ----------

NOTE:
SEE SHEET 9 FOR -RPCY8- PLAN

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BM #20 ELEVATION = 787.30'
N = 871657 E = 1756384
-L- STATION 520+12 151' LEFT
R/R SPIKE SET IN 24" OAK

CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 240	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 767.7	FT
BASE DISCHARGE	= 260	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 768.02	FT
OVERTOPPING DISCHARGE	= 300+	CFS
OVERTOPPING FREQUENCY	= >500+	YRS
OVERTOPPING ELEVATION	= 774.30	FT

-RPDY8-

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FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	27

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

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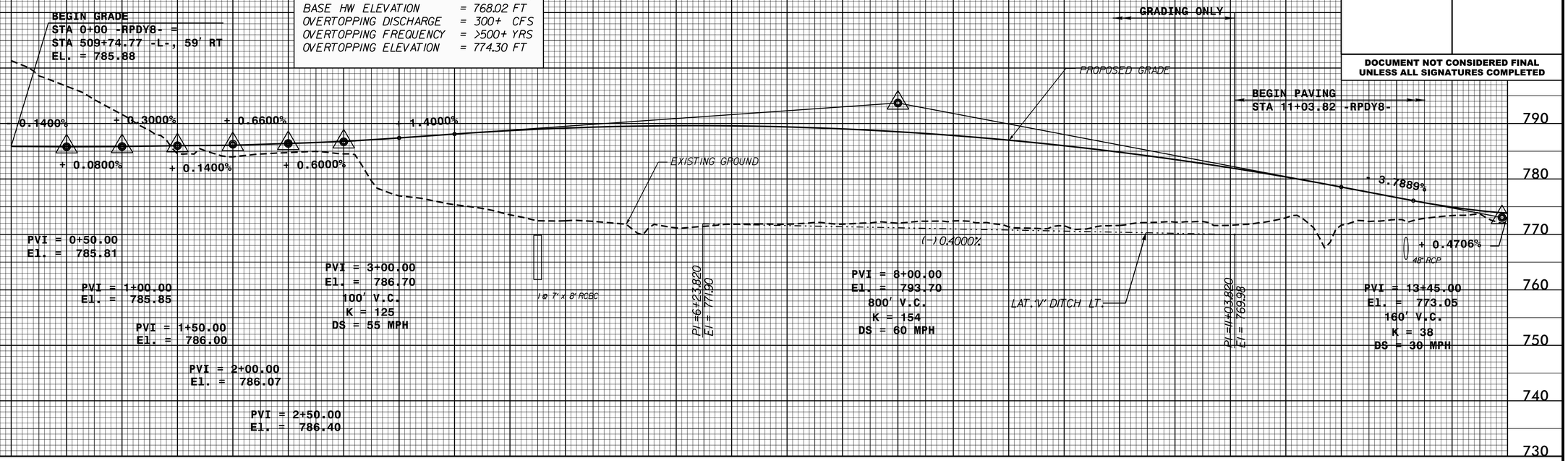
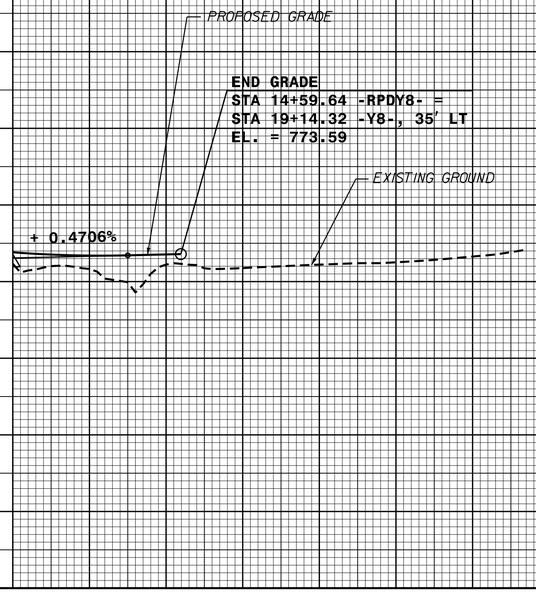


BM #18 ELEVATION = 808.40'
N = 872785 E = 1753511
-Y8- STATION 10+00
N 18° 44' 24.6" W DIST 575.94'
R/R SPIKE SET IN 22" OAK



-RPDY8-

DITCH LEGEND

LEFT DITCH ----·----·----

NOTE:
SEE SHEETS 9 & 10 FOR -RPDY8- PLAN

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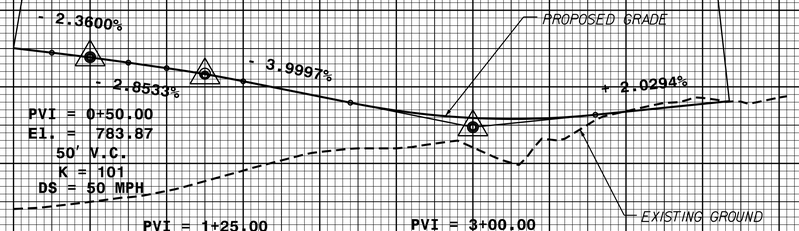
BM #18 ELEVATION = 808.40'
N = 872785 E = 1753511
-Y8- STATION 10+00
N 18° 44' 24.6" W DIST 575.94'
R/R SPIKE SET IN 22" OAK

-SPAY8-

BEGIN GRADE
STA 0+00 -SPAY8- =
STA 9+75.59 RPAY8, 12' RT
EL. = 785.05

END GRADE
STA 4+67.51 -SPAY8- =
STA 15+79.39 -Y8-, 35' LT
EL. = 778.13



PVI = 0+50.00
El. = 783.87
50' V.C.
K = 101
DS = 50 MPH

PVI = 1+25.00
El. = 781.73
50' V.C.
K = 44
DS = 35 MPH

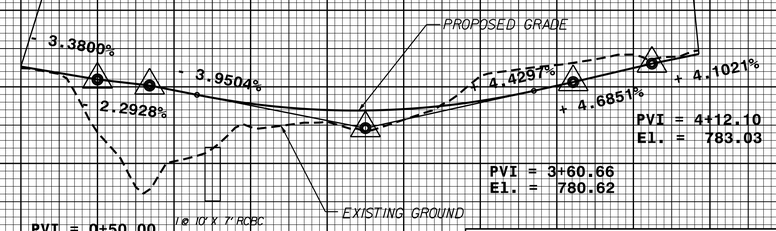
PVI = 3+00.00
El. = 774.73
160' V.C.
K = 27
DS = 25 MPH

BM #18 ELEVATION = 808.40'
N = 872785 E = 1753511
-Y8- STATION 10+00
N 18° 44' 24.6" W DIST 575.94'
R/R SPIKE SET IN 22" OAK

-SPBY8-

BEGIN GRADE
STA 0+00 -SPBY8- =
STA 10+46.49 RPBY8
EL. = 782.65

END GRADE
STA 4+42.81 -SPBY8- =
STA 14+19.41 -Y8-, 38.93' RT
EL. = 784.29



PVI = 0+50.00
El. = 780.96

PVI = 0+84.02
El. = 780.18

PVI = 2+25.00
El. = 774.61
220' V.C.
K = 26
DS = 25 MPH

PVI = 3+60.66
El. = 780.62

PVI = 4+12.10
El. = 783.03

CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 390	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 771.7	FT
BASE DISCHARGE	= 410	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 771.88	FT
OVERTOPPING DISCHARGE	= >470+	CFS
OVERTOPPING FREQUENCY	= >500+	YRS
OVERTOPPING ELEVATION	= 777.83	FT

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PROJECT REFERENCE NO.	SHEET NO.
U-2524D	28
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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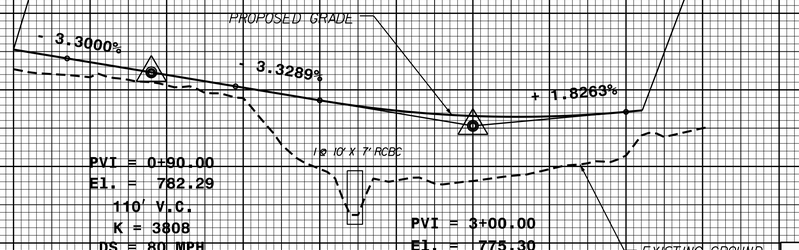
BM #19 ELEVATION = 841.27'
N = 869867 E = 1754214
-Y8- STATION 31+26
S 22° 19' 57.9" E DIST 312.72'
R/R SPIKE SET IN 18" OAK

-SPCY8-

BEGIN GRADE
STA 0+00 -SPCY8- =
STA 9+21.68 RPCY8, 12' RT
EL. = 785.26

END GRADE
STA 4+10.64 -SPCY8- =
STA 21+26.13 -Y8-, 41' RT
EL. = 777.32



PVI = 0+90.00
El. = 782.29
110' V.C.
K = 3808
DS = 80 MPH

PVI = 3+00.00
El. = 775.30
200' V.C.
K = 39
DS = 30 MPH

CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 712	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 772.0	FT
BASE DISCHARGE	= 902	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 773.64	FT
OVERTOPPING DISCHARGE	= 1100	CFS
OVERTOPPING FREQUENCY	= 100+	YRS
OVERTOPPING ELEVATION	= 777.39	FT

PIPE HYDRAULIC DATA

DRAINAGE STRUCTURE NO.0961

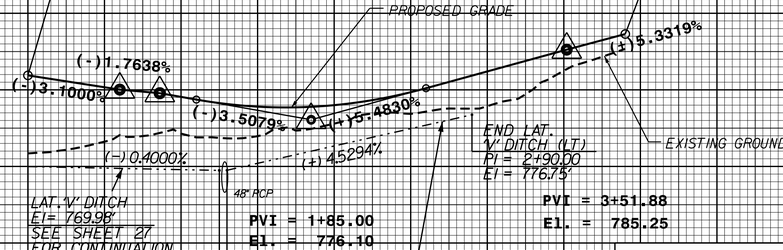
DRAINAGE AREA	= 34.7	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 85	CFS
DESIGN HW ELEVATION	= 772.6	FT
100 YEAR DISCHARGE	= 100	CFS
100 YEAR HW ELEVATION	= 773.3	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 170+	CFS
OVERTOPPING ELEVATION	= 776.9	FT

BM #19 ELEVATION = 841.27'
N = 869867 E = 1754214
-Y8- STATION 31+26
S 22° 19' 57.9" E DIST 312.72'
R/R SPIKE SET IN 18" OAK

-SPDY8-

BEGIN GRADE
STA 0+00 -SPDY8- =
STA 11+03.82 RPDY8
EL. = 781.89

END GRADE
STA 3+90.14 -SPDY8- =
STA 22+88.23 -Y8-, 34.79' LT
EL. = 787.29



LAT. 'V' DITCH
El= 769.98'
SEE SHEET 27
FOR CONTINUATION

END LAT.
'V' DITCH (LT)
PI = 1+25.00
El = 769.50'

LAT. 'V' DITCH LT.

PVI = 0+60.00
El. = 780.03

PVI = 0+86.08
El. = 779.57

PVI = 1+85.00
El. = 776.10
150' V.C.
K = 17
DS = 15 MPH

BEGIN LAT.
'V' DITCH (LT)
PI = 1+30.00
El = 769.50'

LAT. 'V' DITCH LT.

END LAT.
'V' DITCH (LT)
PI = 2+90.00
El = 776.75'

PVI = 3+51.88
El. = 785.25

DITCH LEGEND

LEFT DITCH -·-·-·-·-·-

NOTE:
SEE SHEET 9 FOR -SPAY8-, -SPBY8-, -SPCY8- & -SPDY8- PLANS

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TIP PROJECT: U-2524D

CONTRACT:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CROSS – SECTIONS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2524D	X-1A	364

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34820.1.2	STP-NHF-124(1)	P.E.
34820.2.19	STP-NHF-124(1)	R.O.W./UTILITY

SECTIONS	SHEET NO's.
CROSS-SECTION TITLE SHEET	X-1A
CROSS-SECTION SUMMARY	X-1B THRU X-1E
STA. 421+69 -L- TO STA. 489+00.00 -L- (LT)	X-1 THRU X-63
STA. 489+50 -LREV- TO STA. 502+50.00 -LREV- (LT)	X-64 THRU X-87
STA. 503+50 -L- TO STA. 525+21.66 -L- (LT)	X-88 THRU X-119
STA. 421+69 -L- TO STA. 489+00.00 -L- (RT)	X-120 THRU X-198
STA. 489+50 -LREV- TO STA. 502+50.00 -LREV- (RT)	X-199 THRU X-220
STA. 503+50 -L- TO STA. 525+21.66 -L- (RT)	X-221 THRU X-257
STA. 12+50 -Y5- TO STA. 15+50 -Y5-	X-258 THRU X-260
STA. 17+00 -Y6- TO STA. 32+00 -Y6-	X-261 THRU X-271
STA. 10+50 -Y6A- TO STA. 15+00 -Y6A-	X-272 THRU X-274
STA. 10+50 -Y7A- TO STA. 13+00 -Y7A-	X-275 THRU X-276
STA. 11+00 -Y8- TO STA. 27+00 -Y8- (LT)	X-277 THRU X-286
STA. 11+00 -Y8- TO STA. 27+00 -Y8- (RT)	X-287 THRU X-296
STA. 10+00.00 PED. TO STA. 18+50.00 PED.	X-297 THRU X-301
STA. 5+23.63 RPAY8 TO STA. 13+44.51 RPAY8	X-302 THRU X-314
STA. 1+95.85 SPAY8 TO STA. 4+42.04 SPAY8	X-315 THRU X-316
STA. 5+36.18 RPBY8 TO STA. 13+06.47 RPBY8	X-317 THRU X-326
STA. 0+72.44 SPBY8 TO STA. 3+13.94 SPBY8	X-327 THRU X-329
STA. 5+44.95 RPCY8 TO STA. 12+88.23 RPCY8	X-330 THRU X-339
STA. 2+09.89 SPCY8 TO STA. 3+93.47 SPCY8	X-340 THRU X-341
STA. 5+73.96 RPDY8 TO STA. 13+78.15 RPDY8	X-342 THRU X-352
STA. 0+88.14 SPDY8 TO STA. 3+01.10 SPDY8	X-353 THRU X-354
STA. 12+50.00 -Y8_DET- TO STA. 23+50.00 -Y8_DET-	X-355 THRU X-362
STA. 10+50.00 -Y6A_DET- TO STA. 14+00.00 -Y6A_DET-	X-363 THRU X-364

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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-1

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

805 800 795 790 785 780 775 770 765 760 755 750 745

0.0600

6:1

421+69.00 -L-

D.P. 779.

771.23

31-MAR-2016 16:21
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-2

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

BEGIN PROPOSED
NOISE WALL 1
STA 3+92J7 -RPAY4-

0.0601 0.0601 0.0600

4:1 4:1 6:1

2:1 2:1

MATCHLINE

3+84.20 RPAY4

422+50.00 -L-

DP. 779.2

774.75

MATCHLINE

0.0600 0.0600 0.0600

4:1 4:1 6:1

783.14

2:1 2:1

MATCHLINE

4+36.11 RPAY4

422+00.00 -L-

772.26

790 785 780 775 770 765 760 755 750

31-MAR-2016 16:21
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-3

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

790 785 780 775 770 765

PROPOSED NOISE WALL I

0.0593 0.0592 0.0600

2.02:1 6:1

2+28.43 RPAY4

DP. 779.71

424+00.00 -L-

PROPOSED NOISE WALL I

0.0597 0.0597 0.0600

2.01:1 2:1 6:1

MATCHLINE

2+80.36 RPAY4

DP. 779.44

423+50.00 -L-

PROPOSED NOISE WALL I

0.0600 0.0600 0.0600

2:1 4:1 4:1 6:1

MATCHLINE

3+32.29 RPAY4

DP. 779.33

423+00.00 -L-

MATCHLINE

31-MAR-2016 16:21
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-4

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

790 785 780 775 770

PROPOSED NOISE WALL 1

3.08:1

0.0589 0.0589

0.0600

6J

784.35

0+72.87 RPAY4

425+50.00 -L-

DP. 780.9

790 785 780 775 770

PROPOSED NOISE WALL 1

2.83:1

0.0588 0.0588

0.0600

6J

780.72

1+24.61 RPAY4

425+00.00 L

DP. 780.4

790 785 780 775 770 765

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

31-MAR-2016 16:21
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-5

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

805 800 795 790 785 780 775

PROPOSED NOISE WALL 1

2:1 2:1 2.87:1 6.01:1 0.0501 6:1

787.63

784.508

795.52

DP. 783.10

PROPOSED NOISE WALL 1

4:1 0.0563 6:1

795.96

D.P. 782.260

PROPOSED NOISE WALL 1

4:1 0.0589 0.0600 6:1

787.59

D.P. 781.540

0+21.32 RPAY4

426+00.00 -L-

31-MAR-2016 16:21
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-6

END PROPOSED
NOISE WALL 1
STA 428+34.81 -L-

806.908

2:1

6:1

0.0380

6:1

785.269

DP. 785.0

428+00.00 -L-

CRYSTALLINE ROCK (META-GRANITE)

PROPOSED
NOISE WALL 1

2:1

2:1

2:1

794.76

805.633

6.01:1

0.0438

6:1

784.983

DP. 784.088

427+50.00 -L-

31-MAR-2016 16:21
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-7

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

820 815 810 805 800 795 790 785 780

816.67

2:1

6:1

0.0251

6:1

786.762

CRYSTALLINE ROCK (META-GRANITE)

429+00.00 -L-

DP. 787.164

815.29

2:1

6:1

0.0313

6:1

785.963

CRYSTALLINE ROCK (META-GRANITE)

428+50.00 -L-

DP. 786.046

31-MAR-2016 16:21
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-8

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

825 820 815 810 805 800 795 790 785

821.83

2.5:1

6:1

788.695

0.0126

CRYSTALLINE ROCK (META-GRANITE)

6:1

DP. 789.488

430+00.00 -L-

825 820 815 810 805 800 795 790 785

821.90

2.4:1

6:1

787.638

0.0188

CRYSTALLINE ROCK (META-GRANITE)

6:1

DP. 788.528

429+50.00 -L-

780

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

31-MAR-2016 16:21
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-9

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

830 825 820 815 810 805 800 795 790 785 780

825.79

2:1

6:1

0.0063

6:1

789.632

430+50.00 -L- DP. 790.650

31-MAR-2016 16:21
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-10

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

830 825 820 815 810 805 800 795 790 785

826.37

2:1

6:1

0.0001

6:1

790.569

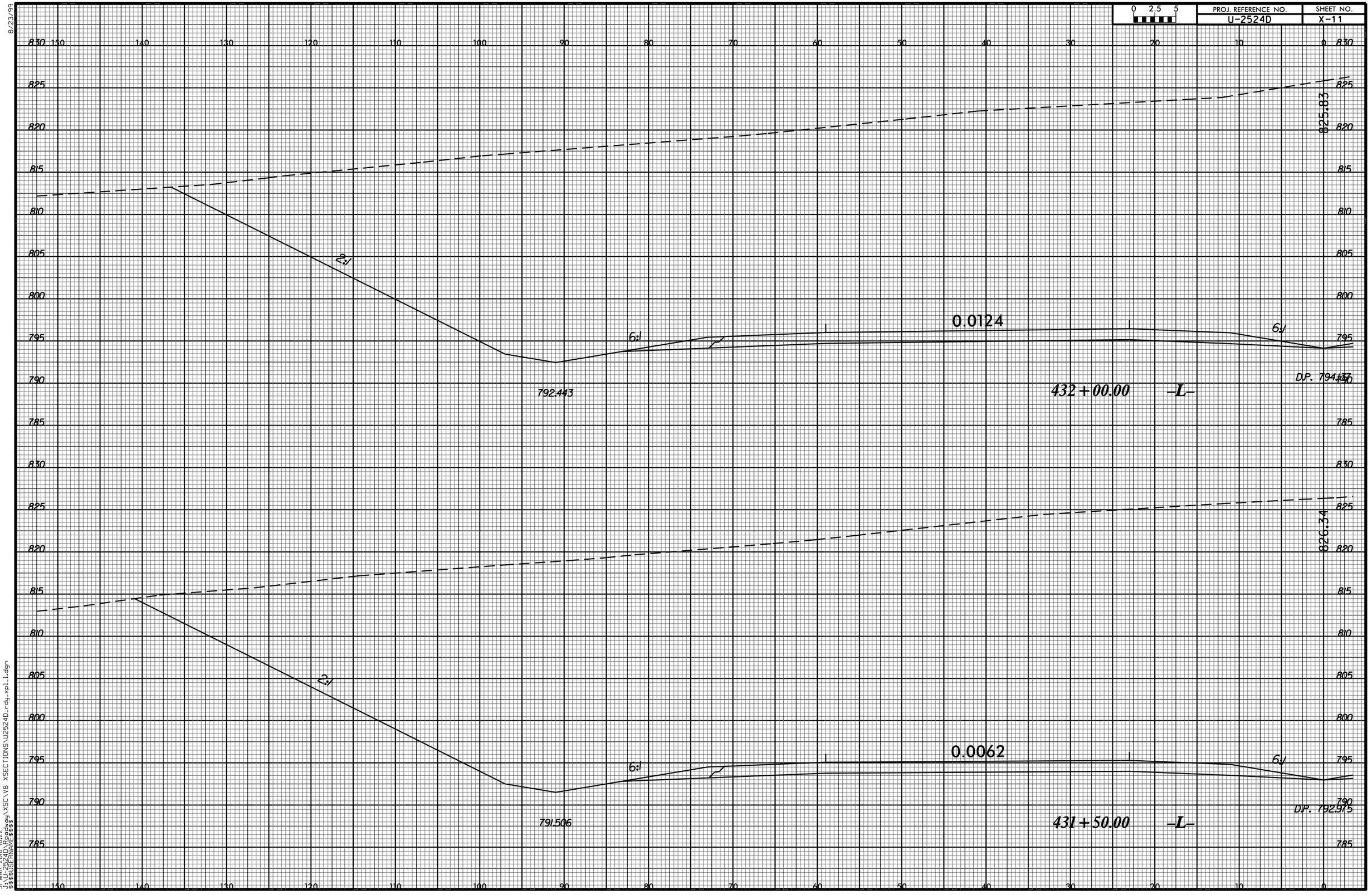
D.P. 791.812

431+00.00 –L–

31-MAR-2016 16:21
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-11



31-MAR-2016 16:22
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-12

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

830 825 820 815 810 805 800 795 790 785

827.50

2:1

6:1

0.0200

6:1

794.494

D.P. 796.461

433+00.00 -L-

827.10

2:1

6:1

0.0187

6:1

793.361

D.P. 795.299

432+50.00 -L-

31-MAR-2016 16:22
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-13

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

825 820 815 810 805 800 795 790

2:1

6:1

0.0200

6:1

796.819

823.77

D.P. 798.785

434+00.00 -L-

830 825 820 815 810 805 800 795 790

2:1

6:1

0.0200

6:1

795.657

823.14

D.P. 797.623

433+50.00 -L-

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

31-MAR-2016 16:22
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-14

840 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 840

835 830 825 820 815 810 805 800 795

835.76

BEGIN PROPOSED
NOISE WALL 3
STA.435+00.00 -L-

2:1

6:1

0.0200

6:1

799.143

435+00.00 -L-

D.P. 801.110

831.06

2:1

6:1

0.0200

6:1

797.981

434+50.00 -L-

D.P. 799.948

31-MAR-2016 16:22
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-15

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

840 835 830 825 820 815 810 805 800 795 790 785

835.53

PROPOSED NOISE WALL 3

2:1

6:1

0.0200

6:1

800.305

D.P. 802.272

435+50.00 –L–

31-MAR-2016 16:22
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-16

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

840 835 830 825 820 815 810 805 800 795

836.71

PROPOSED NOISE WALL 3

2:1

6:1

0.0200

6:1

802.629

436+50.00 -L-

D.P. 804.596

834.42

PROPOSED NOISE WALL 3

2:1

6:1

0.0200

6:1

801.467

436+00.00 -L-

D.P. 803.430

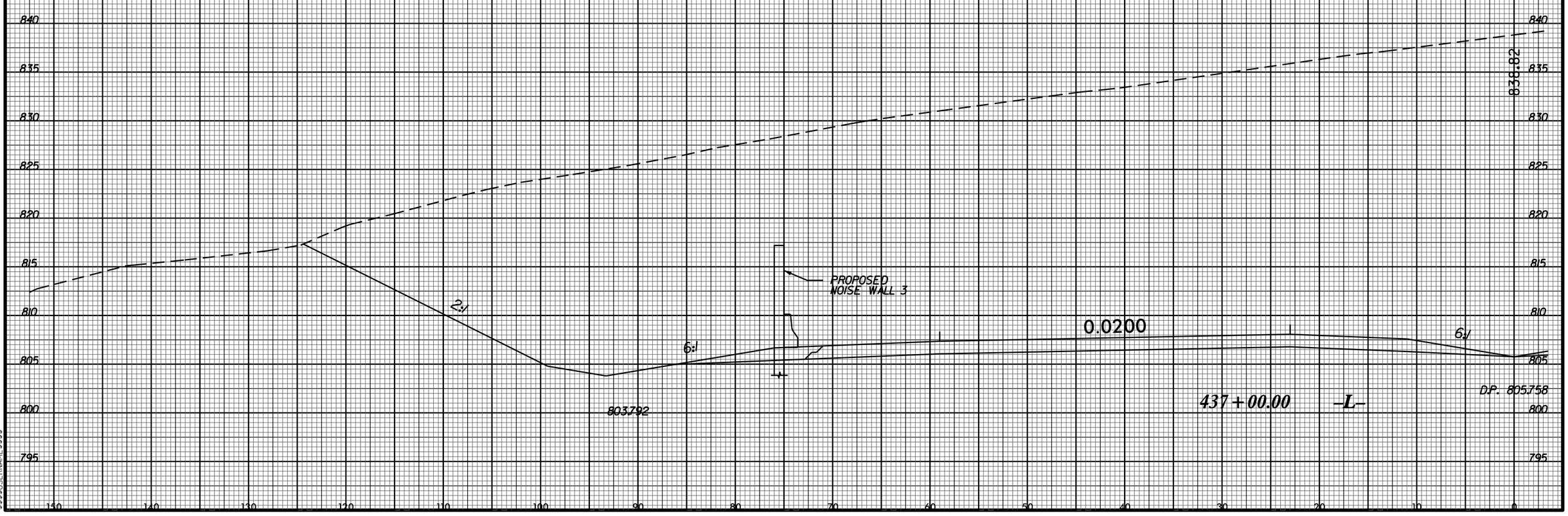
31-MAR-2016 16:22
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-17

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

840 835 830 825 820 815 810 805 800 795



31-MAR-2016 16:22
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-18

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

845 840 835 830 825 820 815 810 805 800 795 790

838.73

PROPOSED
NOISE WALL 3

2:1

6:1

0.0200

6:1

804.954

437+50.00 -L-

D.P. 806.920

31-MAR-2016 16:22
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-19

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

840 835 830 825 820 815 810 805 800 795 790 785 780

839.00

PROPOSED
NOISE WALL 3

6:1

6:1

805.996

0.0200

6:1

438+00.00 -L-

D.P. 808.083

31-MAR-2016 16:22
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-20

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

840 835 830 825 820 815 810 805 800 795 790 785

837.07

PROPOSED
NOISE WALL 3

6:1

6:1

6:1

0.0200

807J58

438+50.00 -L-

D.P. 809.245

31-MAR-2016 16:22
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-21

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

835 830 825 820 815 810 805 800 795 790 785 780

820.32

PROPOSED
NOISE WALL 3

0.0200

6%

2.35%

DJP. 810.407

439+00.00 -L-

31-MAR-2016 16:22
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-22

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

835 830 825 820 815 810 805 800 795 790 785

PROPOSED NOISE WALL 3

0.0200

6:1

827.42

439+50.00 -L-

D.P. 811.569

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

31-MAR-2016 16:22
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-23

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

830 825 820 815 810 805 800 795

PROPOSED NOISE WALL 3

0.0200

6:1

3:1

831.89

440+50.00 -L-

D.P. 813.88

835 830 825 820 815 810 805 800 795 790 785

PROPOSED NOISE WALL 3

0.0200

6:1

831.52

440+00.00 -L-

D.P. 812.73

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

31-MAR-2016 16:22
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

PROJ. REFERENCE NO.	SHEET NO.
U-2524D	X-24

0 2.5 5

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

830 825 820 815 810 805

PROPOSED NOISE WALL 3

2.28:1

6:1

0.0200

6:1

815.293

D.P. 817.38

442 + 00.00 -L-

80.83

PROPOSED NOISE WALL 3

5.92:1

6:1

0.0200

6:1

814.131

D.P. 816.21

441 + 50.00 -L-

80.26

PROPOSED NOISE WALL 3

3:1

0.0200

6:1

D.P. 815.05

441 + 00.00 -L-

80.34

31-MAR-2016 16:22
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-25

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

845 840 835 830 825 820 815 810

PROPOSED NOISE WALL 3

2:1

0.0200

6:1

830.47

443+50.00 -L-

D.P. 820.8(

PROPOSED NOISE WALL 3

2:1

0.0200

6:1

823.22

443+00.00 -L-

D.P. 819.704

PROPOSED NOISE WALL 3

2:1

0.0200

6:1

817.90

442+50.00 -L-

D.P. 818.54

31-MAR-2016 16:22
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-26

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

850 845 840 835 830 825 820 815

MATCHLINE

PROPOSED NOISE WALL 3

2:1

2:1

817.78

MATCHLINE

2:1

2:1

0.0200

6:1

841.81

444+50.00 -L-

D.P. 823.5

MATCHLINE

PROPOSED NOISE WALL 3

2:1

2:1

817.53

MATCHLINE

2:1

2:1

0.0200

6:1

836.5

444+00.00 -L-

D.P. 822.0

31-MAR-2016 16:22
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-27

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

860 855 850 845 840 835 830 825 820

END PROPOSED
NOISE WALL 3
STA.445+75.17 -L-

MATCHLINE

2:1

2:1

MATCHLINE

2:1

850.10

0.0226

5.898:1

445 + 50.00 -L-

D.P. 825.5

MATCHLINE

PROPOSED
NOISE WALL 3

2:1

2:1

MATCHLINE

2:1

845.73

0.0200

6:1

445 + 00.00 -L-

D.P. 824.3

818.03

31-MAR-2016 16:22
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-28

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

860 855 850 845 840 835 830 825 820

MATCHLINE

2:1

2:1

MATCHLINE

0.0393

5.327:1

856.39

446 + 50.00 –L–

D.P. 827.8

MATCHLINE

2:1

2:1

2:1

2:1

818.53

0.0310

5.598:1

854.49

446 + 00.00 –L–

D.P. 826.6

31-MAR-2016 16:22
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-29

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

865 860 855 850 845 840 835 830 825 820

856.38

BRIDGE BENT

PROPOSED
RETAINING WALL 13

829.49

0.056

832.48

447+50.00 -L-

BEGIN RETAINING WALL 13
STA. 446+91.01 -L-

828.69

0.0476

857.24

BRIDGE BENT

447+00.00 -L-

D.P. 828.69

31-MAR-2016 16:22
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-30

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

865 860 855 850 845 840 835 830 825

857.45

END RETAINING WALL 13
STA. 448+68.88 -L-

831.14

834.80

0.070

4:1

448+50.00 -L-

D.P. 832

857.61

PROPOSED
RETAINING WALL 13

830.21

833.64

0.064

4:1

832

31-MAR-2016 16:23
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-31

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

865 860 855 850 845 840 835 830 825

858.72

836.94

2:1

0.070

4:1

449+50.00 -L-

D.P. 834

859.15

835.92

2:1

0.070

4:1

449+00.00 -L-

D.P. 833

31-MAR-2016 16:23
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-32

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

865 860 855 850 845 840 835 830 825

2:1

0.0700

4:1

855.00

450+50.00 -L-

D.P. 836.088

2:1

0.070

837.88

4:1

859.41

D.P. 835

450+00.00 -L-

31-MAR-2016 16:23
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-33

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

865 860 855 850 845 840 835 830

857.35

2:1

0.0700

4:1

451+50.00 -L-

D.P. 837.497

865 860 855 850 845 840 835 830

857.60

2:1

0.0700

4:1

451+00.00 -L-

D.P. 836.838

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

31-MAR-2016 16:23
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-34

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

860 855 850 845 840 835 830

856.45

END PROPOSED
RETAINING WALL 14
STA. -L- 452+72.28

PROPOSED
RETAINING WALL 14

837.53

0.0700

4:1

452+50.00 -L-

D.P. 838.047

856.42

PROPOSED
RETAINING WALL 14

837.05

0.0700

4:1

452+00.00 -L-

D.P. 838.065

865 860 855 850 845 840 835 830

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

31-MAR-2016 16:23
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-35

PROPOSED NOISE WALL 6

0.0700

2:1

6:1

4:1

852.04

835.490

454+00.00 -L-

D.P. 839.420

PROPOSED NOISE WALL 6

0.0700

2:1

6:1

4:1

853.64

835.288

453+50.00 -L-

D.P. 839.218

BEGIN PROPOSED NOISE WALL 6 STA.452+79.17 -L-

0.0700

2:1

6:1

4:1

855.02

834.995

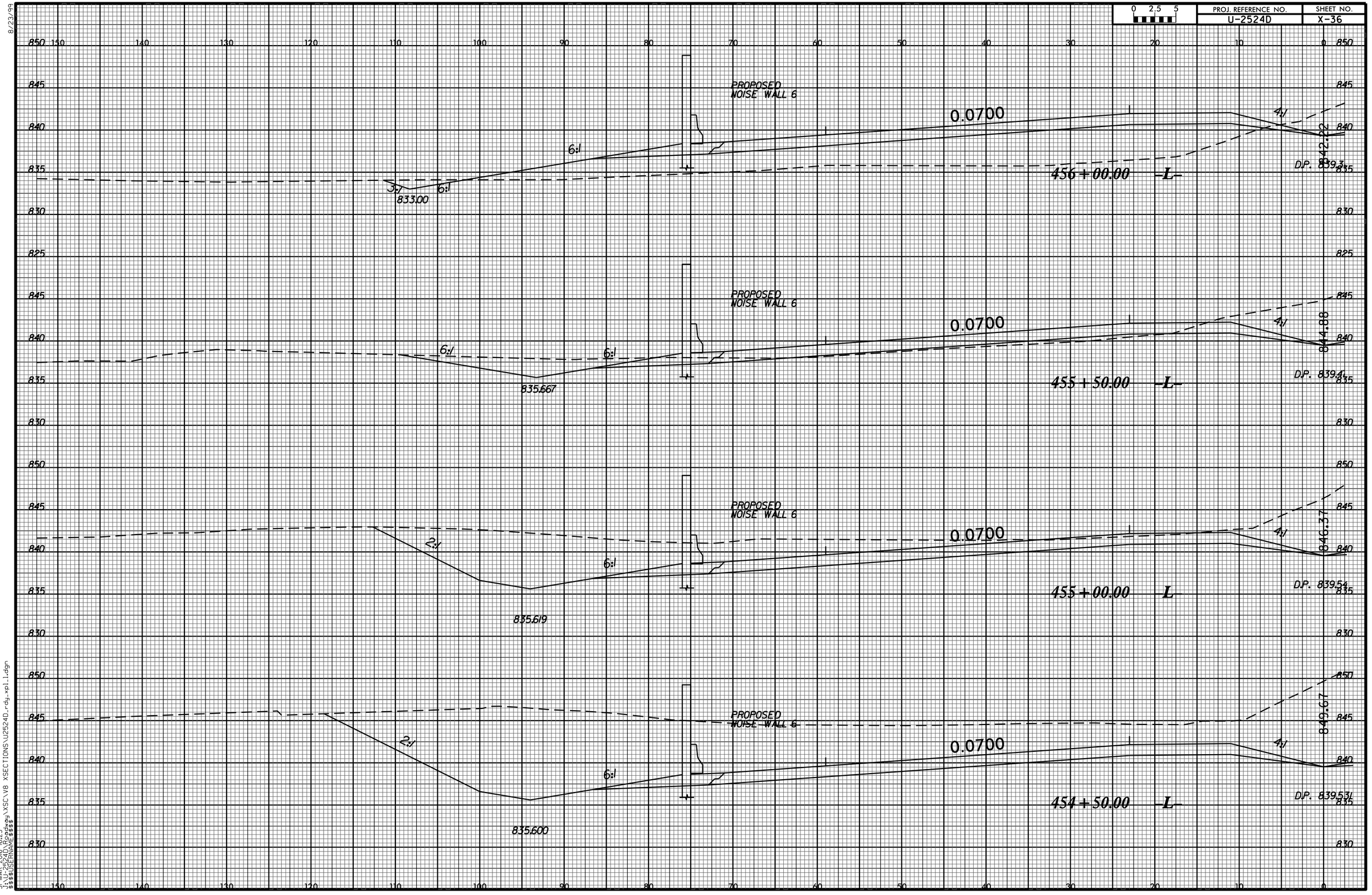
453+00.00 -L-

D.P. 838.926

31-MAR-2016 16:23
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-36



31-MAR-2016 16:23
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-37

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

850 845 840 835 830 825

PROPOSED NOISE WALL 6

0.0700

4:1

3.87:1

3:1

3.87:1

828.27

457+50.00 -L-

D.P. 6382

833.66

PROPOSED NOISE WALL 6

0.0700

4:1

4.07:1

3:1

4.07:1

829.35

457+00.00 -L-

D.P. 6382

833.09

PROPOSED NOISE WALL 6

0.0700

4:1

4.99:1

3:1

4.99:1

831.07

456+50.00 -L-

D.P. 6382

837.66

31-MAR-2016 16:23
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-38

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

850 845 840 835 830 825 820 815

PROPOSED
NOISE WALL 6

0.0691

4:1

3.3:1

2:1

826.09

3.3:1

D.P. 837.10

458+50.00 -L-

825.24

PROPOSED
NOISE WALL 6

0.0700

4:1

4.3:1

2:1

827.18

4.3:1

D.P. 837.7

458+00.00 -L-

826.74

31-MAR-2016 16:23
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-39

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

845 840 835 830 825 820 815

PROPOSED
NOISE WALL 6

0.0524

4.640:1

3:1

2:1

3:1

825.40

D.P. 835.71

459+50.00 -L-

2.27

PROPOSED
NOISE WALL 6

0.0607

4.278:1

3:1

2:1

3:1

825.74

D.P. 836.41

459+00.00 -L-

823.04

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

845 840 835 830 825 820 815

31-MAR-2016 16:23
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-40

PROPOSED
NOISE WALL 6

0.0357

5.440:1

6:1

3:1

6:1

827.80

460+50.00 -L-

D.P. 834.0

PROPOSED
NOISE WALL 6

0.0441

5.067:1

4.27:1

3:1

4.27:1

826.60

460+00.00 -L-

D.P. 834.91

220.69

31-MAR-2016 16:23
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-41

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

840 835 830 825 820 815 845 840 835 830 825 820 815 810

PROPOSED NOISE WALL 6

3:1 6:1 827.97 6:1 0.0200 6:1

D.P. 831.96

461+50.00 -L-

PROPOSED NOISE WALL 6

3:1 6:1 829.00 6:1 0.0274 5.722:1

D.P. 833.00

461+00.00 -L-

686.8ft

31-MAR-2016 16:23
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-42

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

840 835 830 825 820 815 810

PROPOSED
NOISE WALL 6

0.0200

3:1 6:1 6:1 6:1

825.90

462+50.00 -L-

D.P. 829.90

818.33

840 835 830 825 820 815 810

PROPOSED
NOISE WALL 6

0.0200

3:1 6:1 6:1 6:1

826.83

462+00.00 -L-

D.P. 830.9

815.98

840 835 830 825 820 815 810

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

31-MAR-2016 16:23
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-43

PROPOSED NOISE WALL 6

0.0200

2:1

6:1

6:1

824.71S

464+00.00 -L-

D.P. 826.8(

821.33

PROPOSED NOISE WALL 6

0.0200

825.1I

463+50.00 -L-

D.P. 827.83S

89.73

PROPOSED NOISE WALL 6

0.0200

825.5I

463+00.00 -L-

D.P. 828.8(

88.38

31-MAR-2016 16:23
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-44

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

840 835 830 825 820 815

PROPOSED NOISE WALL 6

2:1

6:1

UNDERCUT

0.0200

6:1

822.616

465+50.00 -L-

D.P. 823.88

822.55

PROPOSED NOISE WALL 6

2:1

6:1

UNDERCUT

0.0200

6:1

822.649

465+00.00 -L-

D.P. 824.71

822.39

PROPOSED NOISE WALL 6

2:1

6:1

0.0200

6:1

823.682

464+50.00 -L-

D.P. 825.76

822.04

31-MAR-2016 16:23
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-45

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

835 830 825 820 815 810 805

PROPOSED NOISE WALL 6

2:1

6:1

UNDERCUT

818.516

0.0200

6:1

D.P. 820603

467+00.00 -L-

812.73

PROPOSED NOISE WALL 6

2:1

6:1

UNDERCUT

819.549

0.0200

6:1

D.P. 821636

466+50.00 -L-

817.96

PROPOSED NOISE WALL 6

2:1

6:1

UNDERCUT

820.582

0.0200

6:1

D.P. 822669

466+00.00 -L-

820.73

31-MAR-2016 16:23
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-46

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

825 820 815 810 805 830 825 820 815 810 805 830 825 820 815 810 805 800

PROPOSED NOISE WALL 6

0.0200

6:1

4.85:1

2:1

2:1

809.40

468+50.00 -L-

D.P. 817.50

810.06

PROPOSED NOISE WALL 6

0.0200

6:1

6:1

2:1

2:1

814.00

468+00.00 -L-

D.P. 818.93

810.26

PROPOSED NOISE WALL 6

0.0200

6:1

6:1

2:1

2:1

815.00

467+50.00 -L-

D.P. 819.57

809.84

31-MAR-2016 16:23
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-47

PROPOSED NOISE WALL 6

0.0200

6H

D.P. 814.404

470+00.00 -L-

808.46

2.0:1

2:1

2:1

799.09

PROPOSED NOISE WALL 6

0.0200

6H

D.P. 815.437

469+50.00 -L-

809.69

2.22:1

2:1

2:1

801.36

PROPOSED NOISE WALL 6

0.0200

6H

D.P. 816.47

469+00.00 -L-

809.67

2.73:1

2:1

2:1

31-MAR-2016 16:23
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-48

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

820 815 810 805 800 795 790

PROPOSED NOISE WALL 6

0.0200

6y

2:1

2:1

471+00.00 -L-

D.P. 812.337

805.87

796.82

PROPOSED NOISE WALL 6

0.0200

6y

2:1

2:1

2:1

D.P. 813.310

470+50.00 -L-

807.98

820 815 810 805 800 795 790

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

31-MAR-2016 16:24
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-49

PROPOSED NOISE WALL 6

0.0200

6:1

2.62:1

D.P. 809.238

809.27

472+50.00 -L-

PROPOSED NOISE WALL 6

0.0200

6:1

2.40:1

D.P. 810.271

809.85

472+00.00 -L-

PROPOSED NOISE WALL 6

0.0200

6:1

2.15:1

D.P. 811.304

807.49

471+50.00 -L-

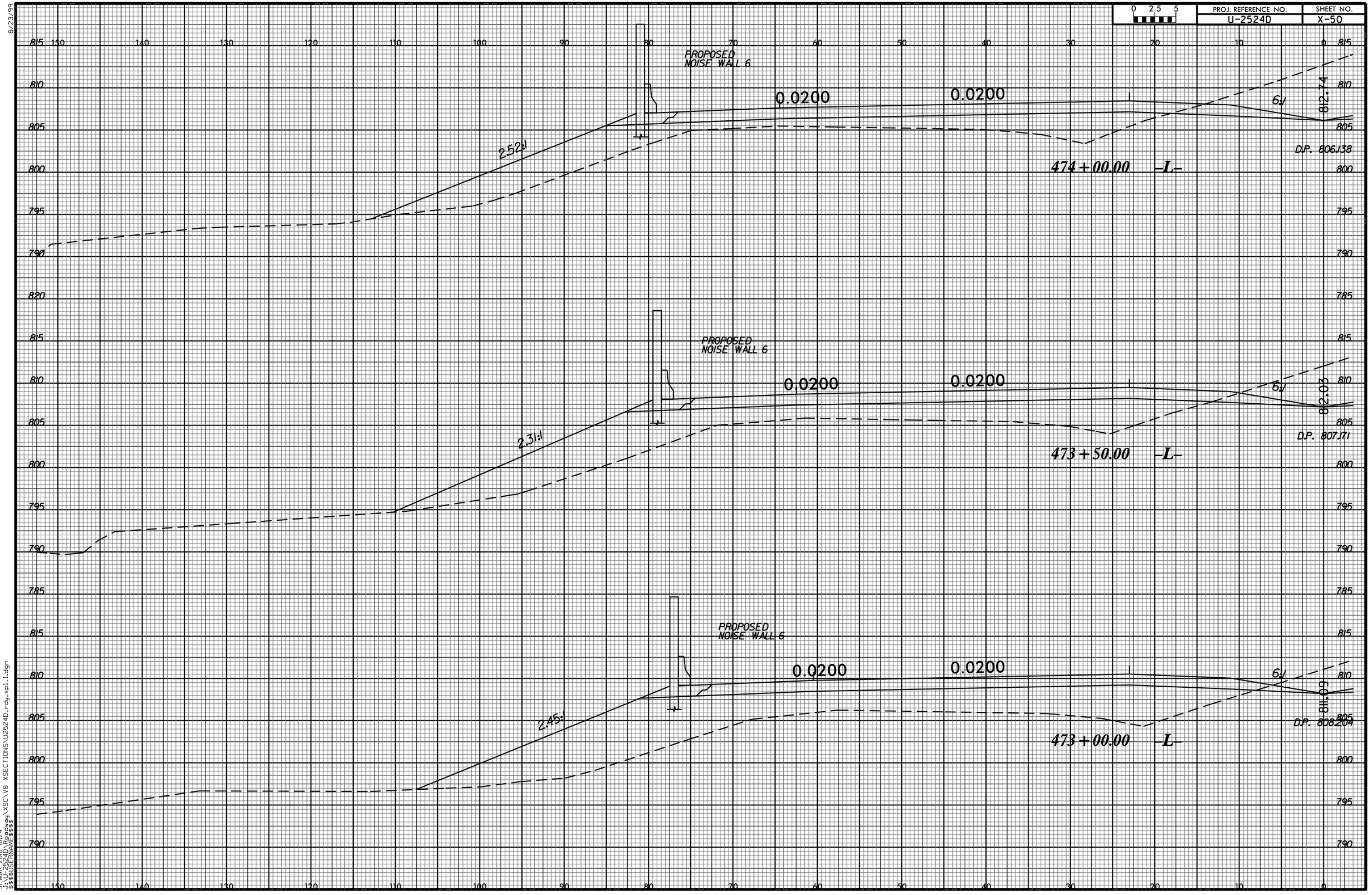
820 815 810 805 800 795 790

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

31-MAR-2016 16:24
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-50



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$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-51

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

820 815 810 805 800 795 790 785

PROPOSED
NOISE WALL 6

0.0200 0.0200

2:1 6:1

813.53

DP. 804J07

475+00.00 -L-

PROPOSED
NOISE WALL 6

0.0200 0.0200

2.70:1 6:1

813.30

DP. 805J05

474+50.00 -L-

31-MAR-2016 16:24
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-52

PROPOSED NOISE WALL 6

0.0200 0.0200

2:1 6:1

809.99

D.P. 800.972

476+50.00 -L-

PROPOSED NOISE WALL 6

0.0200 0.0200

2:1 6:1

811.33

D.P. 802.005

476+00.00 -L-

PROPOSED NOISE WALL 6

0.0200 0.0200

2:1 6:1

812.31

D.P. 803.038

475+50.00 -L-

31-MAR-2016 16:24
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-53

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

PROPOSED NOISE WALL 6

0.0200

0.0200

2.29:1

6:1

805.65

D.P. 798.905

477+50.00 -L-

810 805 800 795 790 785 780

PROPOSED NOISE WALL 6

0.0200

0.0200

2.24:1

6:1

806.74

D.P. 799.939

477+00.00 -L-

810 805 800 795 790 785 780

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

31-MAR-2016 16:24
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-54

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

805 800 795 790 785 780

PROPOSED NOISE WALL 6

0.0200 0.0200

6:1

2.48:1

3:1 3:1

D.P. 795.855

794.95

479+00.00 -L-

PROPOSED NOISE WALL 6

0.0200 0.0200

6:1

2:1

3:1 3:1

782.65

795.98

D.P. 796.839

478+50.00 -L-

805 800 795 790 785 780 810

PROPOSED NOISE WALL 6

0.0200 0.0200

6:1

2.43:1

798.22

D.P. 797.872

478+00.00 -L-

31-MAR-2016 16:24
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-55

PROPOSED NOISE WALL 6

480+50.00 –L–

D.P. 793.191

786.73

PROPOSED NOISE WALL 6

480+00.00 –L–

D.P. 794.181

785.45

PROPOSED NOISE WALL 6

479+50.00 –L–

D.P. 794.969

784.77

31-MAR-2016 16:24
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-56

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

800 795 790 785 780 775 770

PROPOSED NOISE WALL 6

3.59:1

6:1

790.080

0.0200

0.0200

6:1

DP. 792.406

481+50.00 -L-

779.42

PROPOSED NOISE WALL 6

5.4:1

3:1

3:1

788.00

0.0200

0.0200

6:1

DP. 792.900

481+00.00 -L-

779.36

805

31-MAR-2016 16:24
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-57

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

805 800 795 790 785 780 775 770

PROPOSED NOISE WALL 6

2:1

6:1

0.0348

0.0200

6:1

788.696

0+86.78 -RPBY8

482+50.00 -L-

D.P. 791.714

780.43

PROPOSED NOISE WALL 6

2:1

6:1

0.0200

0.0200

6:1

789.257

0+36.78 RPBY8

482+00.00 -L-

D.P. 792.011

779.98

31-MAR-2016 16:24
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-58

PROPOSED NOISE WALL 6

5.48:1 | 6.02:1 | 0.0800 | 0.0200 | 6:1

787.466

2+36.90 RPBY8

484+00.00 -L-

D.P. 791.412

780.91

PROPOSED NOISE WALL 6

4.89:1 | 6.01:1 | 0.0750 | 0.0200 | 6:1

787.603

1+86.82 RPBY8

483+50.00 -L-

D.P. 791.415

780.73

PROPOSED NOISE WALL 6

2:1 | 6:1 | 0.0549 | 0.0200 | 6:1

788.116

1+36.79 RPBY8

483+00.00 -L-

D.P. 791.515

780.56

31-MAR-2016 16:24
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-59

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

800 795 790 785 780 775

PROPOSED NOISE WALL 6

3.56:1

6.01:1

0.0543

0.0200

6:1

788.243

3+87.86 RPBY8

485+50.00 -L-

D.P. 791.99

780.71

PROPOSED NOISE WALL 6

2.31:1

6.05:1

0.0751

0.0200

6:1

787.593

3+37.40 RPBY8

485+00.00 -L-

D.P. 791.70

781.15

PROPOSED NOISE WALL 6

2.68:1

6.03:1

0.0796

0.0200

6:1

787.05

2+87.09 RPBY8

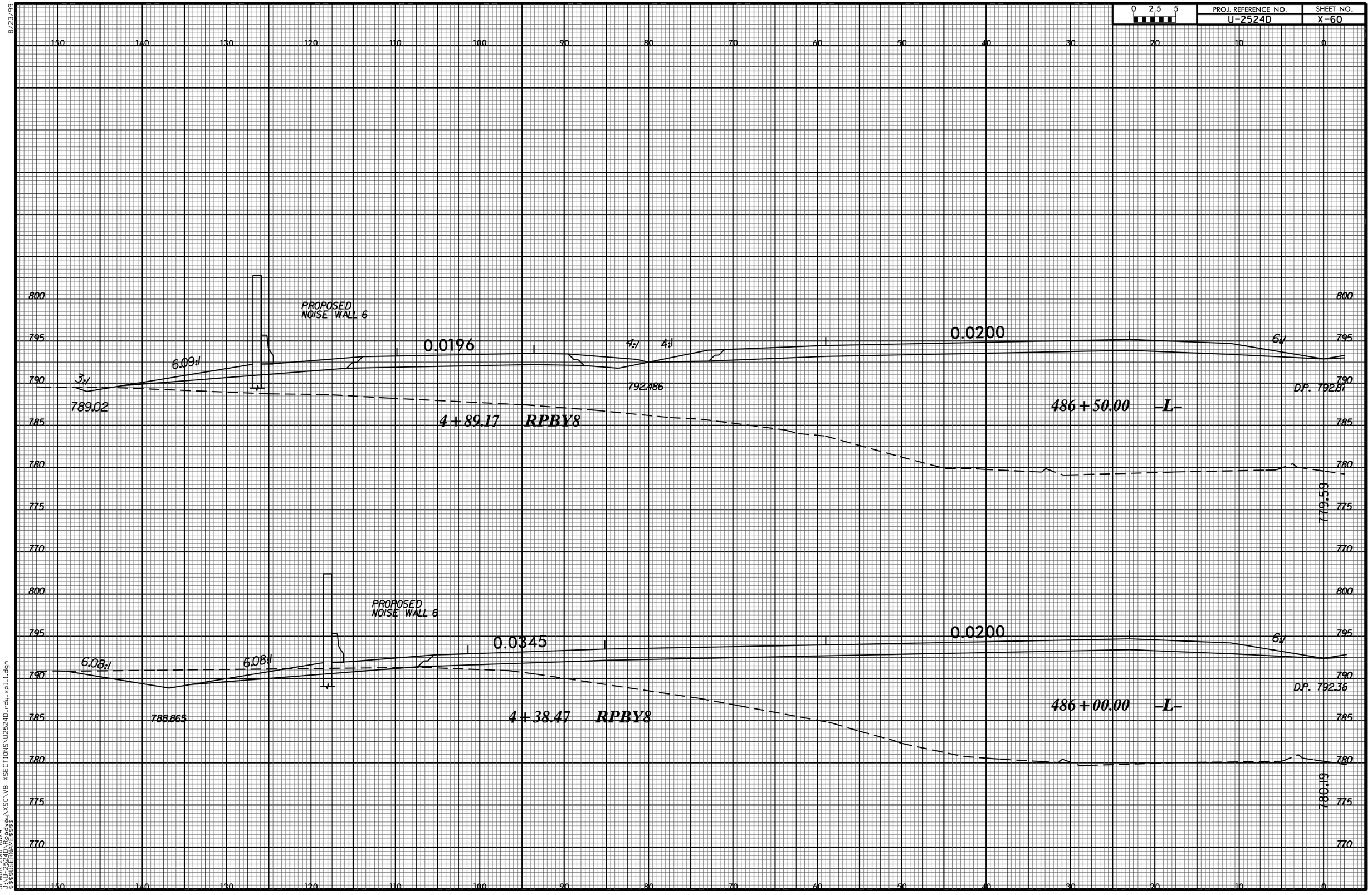
484+50.00 -L-

D.P. 791.50

781.59

31-MAR-2016 16:24
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-60



8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-61

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

805 800 795 790 785 780 775 770

SP 18

4:1

0.0200

6:1

DP. 794.43

487+50.00 -L-

778.06

SP 17

4:1

0.0200

6:1

DP. 793.50

487+00.00 -L-

778.94

31-MAR-2016 16:24
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-62

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

805 800 795 790 785 780 775 770

SP 20

4:1

0.0200

6:1

DP. 795.807

488+50.00 -L-

775.59

SP 19

4:1

0.0200

6:1

DP. 794.926

488+00.00 -L-

776.93

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

805 800 795 790 785 780 775 770

31-MAR-2016 16:24
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-63

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

810 805 800 795 790 785 780 775 770 765

0.0200

6:1

SP 2I

4:1

DP. 796.737

489+00.00 -L-

772.30

31-MAR-2016 16:24
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-64

SP 23

4:1

0.004

6:1

490+00.00 -LREV-

D.P. 798

772.35

SP 22

4:1

0.016

489+50.00 LREV

772.08

810 805 800 795 790 785 780 775 770 765

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

31-MAR-2016 16:31
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-65

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

810 805 800 795 790 785 780 775 770 765 760

SP 24

4:1

0.012

6:1

D.P. 796

490+50.00 –LREV–

767.86

31-MAR-2016 16:31
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-66

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

SP 25

0.019

6:/

D.P. 80(

STA 491+00 –LREV–
BEGIN RETAINING WALL

491+00.00 LREV

768.60

810 805 800 795 790 785 780 775 770 765 760

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

31-MAR-2016 16:31
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-67

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

SP. 26

0.027

6:1

D.P. 800

491+50.00 LREV

771.76

810 805 800 795 790 785 780 775 770 765

31-MAR-2016 16:31
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-68

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

810 805 800 795 790 785 780 775 770 765

SP. 27

0.035

6:1

D.P. 801

492+00.00 -LREV-

2.28

31-MAR-2016 16:31
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-69

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

810 805 800 795 790 785 780 775 770 765 760

SP 28

0.043

6%

D.P. 801

492+50.00 -LREV-

774.70

31-MAR-2016 16:31
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-70

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

815 810 805 800 795 790 785 780 775 770 765 760

SP 29

0.050

6:1

D.P. 802

493+00.00 –LREV–

774.61

31-MAR-2016 16:32
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-71

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

815 810 805 800 795 790 785 780 775 770 765 760

SP 30

0.058

6.1

4

D.P. 802

493+50.00 -LREV-

774.4

31-MAR-2016 16:32
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-72

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

815 810 805 800 795 790 785 780 775 770 765 760 755

SP 31

0.060

6:1

D.P. 802

STA. 493+95.00 –LREV–
BEGIN BRIDGE

-0.994

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

31-MAR-2016 16:32
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-73

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

815 810 805 800 795 790 785 780 775 770 765 760

SP 68

0.060

6:1

4

D.P. 802

STA. 496+35.00 –LREV–
END BRIDGE

766.32

31-MAR-2016 16:32
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-74

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

815 810 805 800 795 790 785 780 775 770 765 760 755

SP 75

0.041

5.413:1

D.P. 802

496 + 50.00 –LREV–

764.40

31-MAR-2016 16:34
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-75

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

815 810 805 800 795 790 785 780 775 770 765 760 755

SP 76

0.060

6:1

D.P. 802

497+00.00 -LREV-

762.05

31-MAR-2016 16:32
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-76

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

815 810 805 800 795 790 785 780 775 770 765 760 755

SP 77

0.060

6:1

D.P. 801

497+50.00 -LREV-

765.35

31-MAR-2016 16:32
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-77

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

815 810 805 800 795 790 785 780 775 770 765 760 755

SP 78

0.060

6:1

D.P. 801

498+00.00 –LREV–

768.01

31-MAR-2016 16:32
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-78

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

815 810 805 800 795 790 785 780 775 770 765 760 755

SP 79

0.060

6:1

D.P. 80C

498+50.00 -LREV-

764.05

31-MAR-2016 16:32
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-79

SP 80

0.060

6%

D.P. 800

499+00.00 -LREV-

770.08

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

815 810 805 800 795 790 785 780 775 770 765 760

31-MAR-2016 16:32
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-80

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

815 810 805 800 795 790 785 780 775 770 765 760

SP 81

0.054

6:1

D.P. 799

499+50.00 –LREV–

769.59

31-MAR-2016 16:32
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-81

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

810 805 800 795 790 785 780 775 770 765 760

SP. 82

0.046

6:1

D.P. 7.99

500+00.00 –LREV–

7.99 6:1

31-MAR-2016 16:32
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-82

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

SP. 83

0.038

6:1

D.P. 798

500+50.00 -LREV-

768.38

810 805 800 795 790 785 780 775 770 765 760

31-MAR-2016 16:32
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-83

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

810 805 800 795 790 785 780 775 770 765 760 755

SP 84

0.031

6%

D.P. 797

STA. 501+00 –LREV–
END RETAINING WALL

501+00.00 –LREV–

766.03

31-MAR-2016 16:32
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-84

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

805 800 795 790 785 780 775 770 765 760

SP 85

3:1

0.023

6:1

D.P. 796

501+50.00 –LREV–

766.10

31-MAR-2016 16:32
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-85

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

805 800 795 790 785 780 775 770 765 760

SP 86

0.015

6%

25%

D.P. 795

502+00.00 -LREV-

767.07

31-MAR-2016 16:32
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-86

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

805 800 795 790 785 780 775 770 765 760

SP 87

0.008

6:1

2.5:1

D.P. 794

502+50.00 –LREV–

767.03

31-MAR-2016 16:32
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-87

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

800 795 790 785 780 775 770 765 760

SP 87A

0.000

6:1

3:1

D.P. 792

766.77

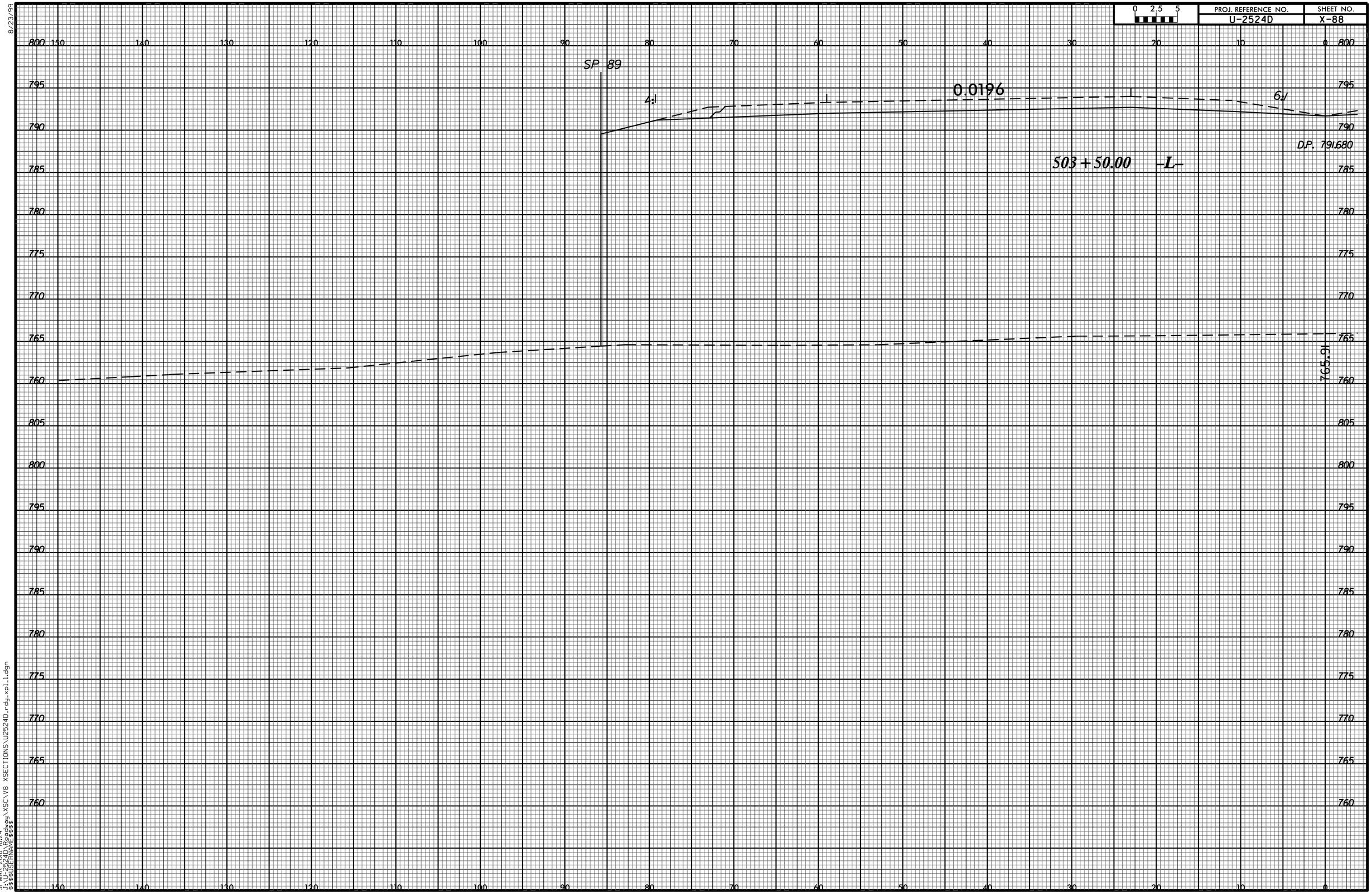
502+99.94 –LREV– BK =
503+00.89 –L– AH

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

31-MAR-2016 16:34
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-88



31-MAR-2016 16:24
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-89

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

800 795 790 785 780 775 770 765 760 755

SP 90

0.0200

6J

DP. 790.475

504+00.00 -L-

764.59

31-MAR-2016 16:24
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-90

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

820 815 810 805 800 795 790 785 780 775 770 765 760 755

MATCHLINE

PROPOSED NOISE WALL 8

0.0186 0.0186 0.0200

6:1

2.04:1

D.P. 789.33

4+75.54 RPAY8

504+50.00 -L-

MATCHLINE

793.69

31-MAR-2016 16:25
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-91

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

815 810 805 800 795 790 785 780 775 770 765 760 755

2.04:1

MATCHLINE

PROPOSED NOISE WALL 8

0.0277 0.0286

0.0200

6:1

D.P. 798.25

505+00.00 -L-

4+25.03 RPAV8

2.04:1

MATCHLINE

764.44

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

31-MAR-2016 16:25
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-92

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

MATCHLINE

PROPOSED NOISE WALL 8

0.0476 0.0484 0.0200 6:1

3+74.62 RPAY8

505+50.00 -L-

D.P. 787.3

2.03:1

769.07

MATCHLINE

810 805 800 795 790 785 780 775 770 765 760 755 750

31-MAR-2016 16:25
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-93

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

815 810 805 800 795 790 785 780 775 770 765 760 755 750

MATCHLINE

PROPOSED
NOISE WALL 8

0.0582 0.0582

0.0200

6%

D.P. 786.58

506+00.00 -L-

3+24.32 RPAY8

2.02%

MATCHLINE

770.47

31-MAR-2016 16:25
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-94

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

795 790 785 780 775 770 765 760 755

PROPOSED NOISE WALL 8

0.0597 0.0200

2:1 6:1

DP. 785J09

2+24.02 RPAY8 507+00.00 -L-

709.41

PROPOSED NOISE WALL 8

0.0590 0.0590 0.0200

2:1 6:1

DP. 785J98

2+74.13 RPAY8 506+50.00 -L-

762.94

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

795 790 785 780 775 770 765 760 755

31-MAR-2016 16:25
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-95

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

795 790 785 780 775 770 765 760 755

PROPOSED NOISE WALL 8

0.0372 0.0200 6:1

DP. 784544

1+23.96 RPAY8 508+00.00 -L-

2:1

775.47

795 790 785 780 775 770 765 760 755

PROPOSED NOISE WALL 8

0.0521 0.0200 6:1

DP. 784880

1+73.97 RPAY8 507+50.00 -L-

2:1

770.28

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

31-MAR-2016 16:25
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-96

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

795 790 785 780 775 770 765 760 755

PROPOSED NOISE WALL 8

0.0222 0.0200

6:1

2:1

786.47

DP. 784221

0+23.95 RPAY8

509+00.00 -L-

PROPOSED NOISE WALL 8

0.0222 0.0200

6:1

2:1

786.92

DP. 784325

0+73.96 RPAY8

508+50.00 -L-

795 790 785 780 775 770 765 760 755 750

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

31-MAR-2016 16:25
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-97

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

800 795 790 785 780 775 770 765 760 755 750

PROPOSED NOISE WALL 8

0.0200

0.0200

6:1

790.37

D.P. 784.233

509+50.00 -L-

2:1

31-MAR-2016 16:25
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-98

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

805 800 795 790 785 780 775 770 765 760 755 750

PROPOSED NOISE WALL 8

795.65

0.0200 0.0200

6:1

2:1

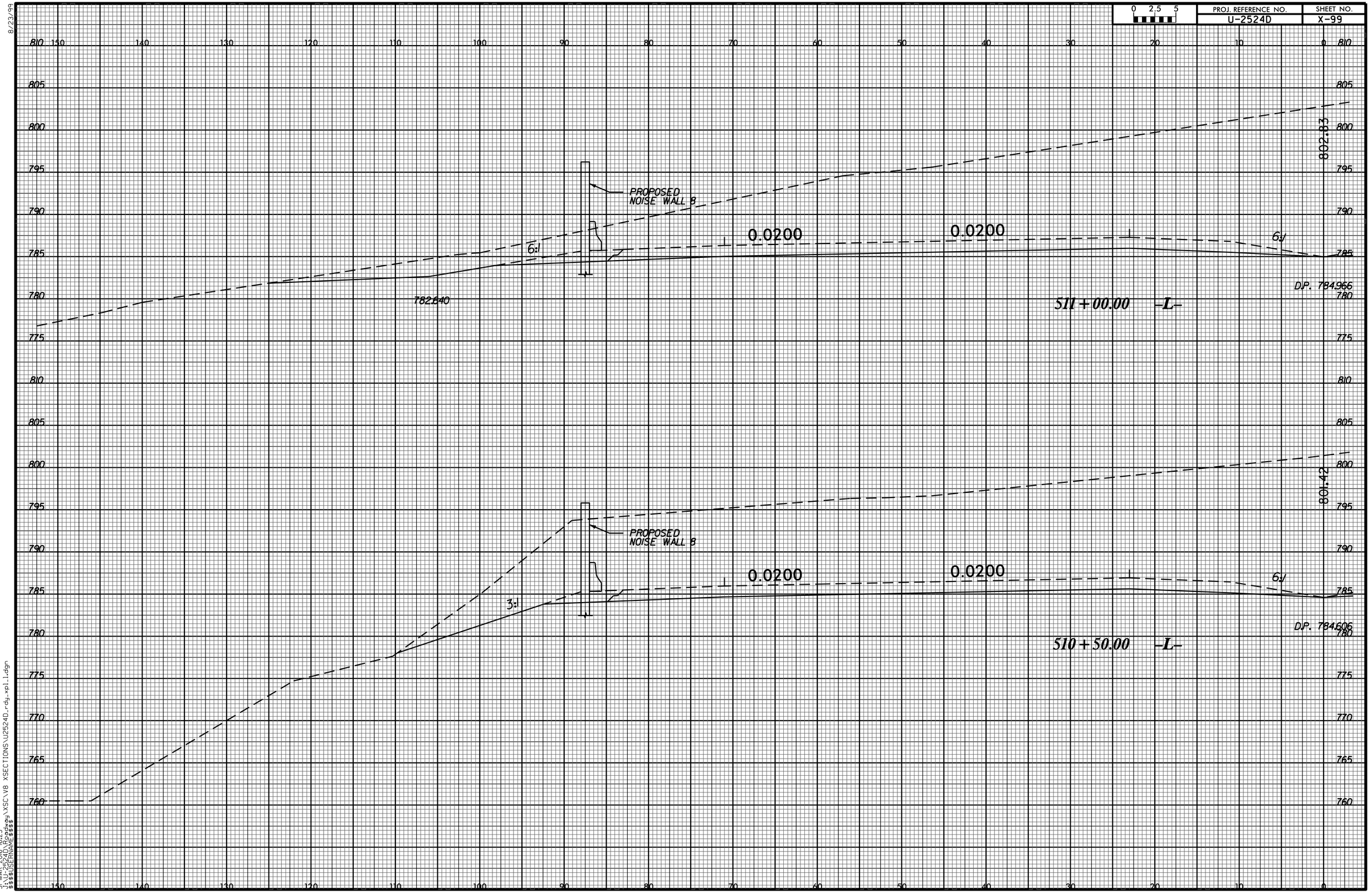
D.P. 784.362

510+00.00 -L-

31-MAR-2016 16:25
J:\U-2524D\RDWAY\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-99



31-MAR-2016 16:25
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-100

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

805 800 795 790 785 780 775

PROPOSED NOISE WALL 8

2:1 6:1 0.0200 0.0200 6:1

784239

803.08

DP. 786.685

512 + 50.00 -L-

PROPOSED NOISE WALL 8

2:1 6:1 0.0200 0.0200 6:1

783.589

798.07

DP. 786.035

512 + 00.00 -L-

PROPOSED NOISE WALL 8

4:1 0.0200 0.0200 6:1

799.69

DP. 785.443

511 + 50.00 -L-

31-MAR-2016 16:25
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-101

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

815 810 805 800 795 790 785 780

PROPOSED NOISE WALL 8

2:1 6:1 0.0200 0.0200 6:1

785.592

803.22

D.P. 787.985

513+50.00 -L-

PROPOSED NOISE WALL 8

2:1 6:1 0.0200 0.0200 6:1

784.902

803.22

D.P. 787.335

513+00.00 -L-

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

815 810 805 800 795 790 785 780

31-MAR-2016 16:25
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-102

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

MATCHLINE

MATCHLINE

815
810
805
800
795
790
785
780

2:1

6:1

END PROPOSED
NOISE WALL 8
STA. 514+14.10 -L-

0.0200

0.0200

6:1

799.74

D.P. 798.66

786.282

514+00.00 -L-

31-MAR-2016 16:25
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-103

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

845 840 835 830 825 820 815 810 805 800 795 790 785 780

MATCHLINE

MATCHLINE

2:1

6:1

0.0200

0.0200

6:1

802.208

786.972

D.P. 789.285

514+50.00 -L-

31-MAR-2016 16:25
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-104

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

845 840 835 830 825 820 815 810 805 800 795 790 785 780

MATCHLINE

MATCHLINE

8.0%

6:1

787.662

0.0200

0.0200

6:1

808.88

DP. 799.935

515+00.00 -L-

31-MAR-2016 16:25
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-105

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

845 840 835 830 825 820 815 810 805 800 795 790 785 780

MATCHLINE

MATCHLINE

2:1

6:1

0.0200

0.0200

6:1

813.52

788.592

DP. 790.586

515 + 50.00 -L-

31-MAR-2016 16:25
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-106

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

825 820 815 810 805 800 795 790 785

2:1

789.919

6:1

0.0200

6:1

820.04

D.P. 791.886

516 + 50.00 -L-

818.55

2:1

789.269

6:1

0.0200

6:1

D.P. 791.236

516 + 00.00 -L-

31-MAR-2016 16:25
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-107

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

820 815 810 805 800 795 790 785 825

2:1

6:1

0.0200

6:1

791.219

517+50.00 -L-

DP. 793.186

820.00

820 815 810 805 800 795 790 785 825

2:1

6:1

0.0200

6:1

790.569

517+00.00 -L-

D.P. 792.536

820.00

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

31-MAR-2016 16:25
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-108

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

815 810 805 800 795 790 785

2:1

6:1

792.520

0.020

6:1

813.67

518+50.00 -L-

820 815 810 805 800 795 790 785

2:1

6:1

791.869

0.020

6:1

816.66

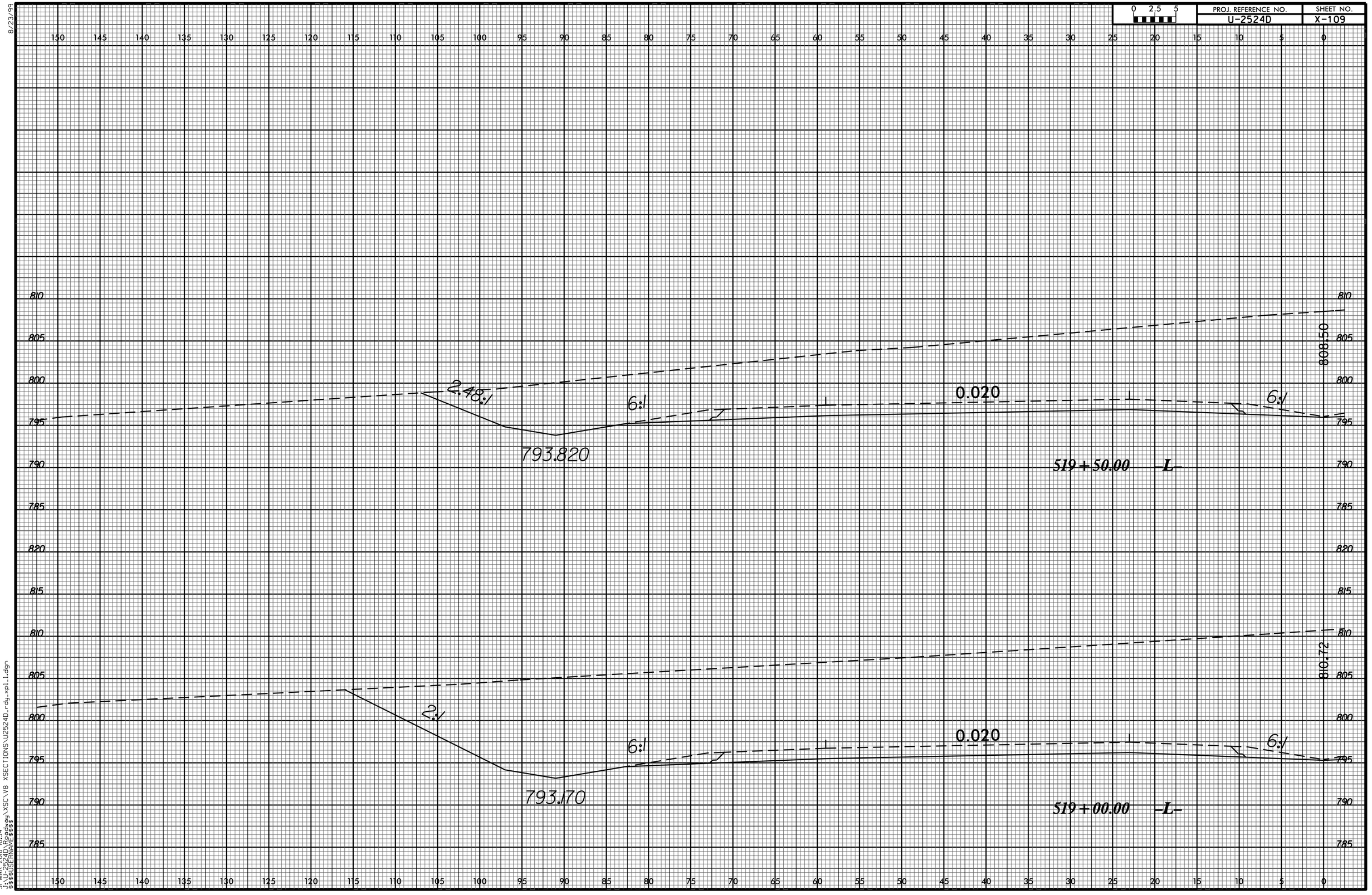
518+00.00 -L-

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

31-MAR-2016 16:25
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-109



31-MAR-2016 16:34
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-110

150 145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0

810
805
800
795
790
785
780

6:1

0.020

6:1

805.16

520+00.00 –L–

150 145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0

31-MAR-2016 16:34
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-111

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

810 805 800 795 790 785 780 775 770 765

0.020

6:1

2:1

796.96

520+50.00 –L–

END PROJECT
STA. 520+34.53 –L–

31-MAR-2016 16:34
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-112

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

805 800 795 790 785 780 775 770 765 760

0.020

6:1

2:1

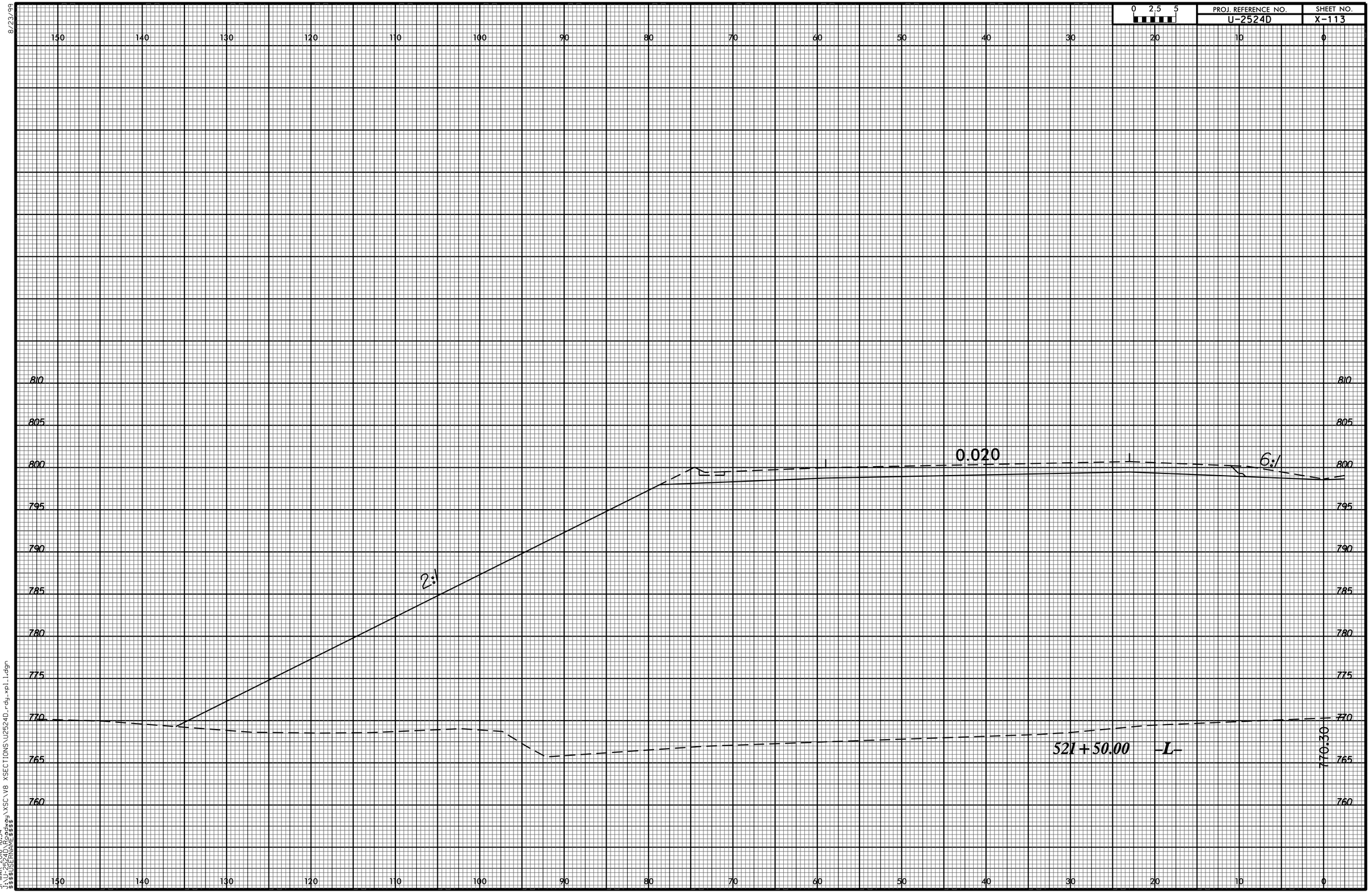
785.47

521+00.00 –L–

31-MAR-2016 16:34
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-113



31-MAR-2016 16:34
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-114

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

810 805 800 795 790 785 780 775 770

0.020

6:1

2:1

522+00.00 -L-

777.73

31-MAR-2016 16:34
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-115

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

810 805 800 795 790 785 780 775

0.020

6:1

2:1

522+50.00 -L-

782.17

31-MAR-2016 16:34
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-116

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

810 805 800 795 790 785 780 775

0.020

6:1

2.27:1

523+00.00 –L–

799.80

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

31-MAR-2016 16:34
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-117

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

810 805 800 795 790 785 780

6:1 0.020 6:1

524+00.00 -L-

790.96

810 805 800 795 790 785 780

3.99:1 0.020 6:1

523+50.00 -L-

786.97

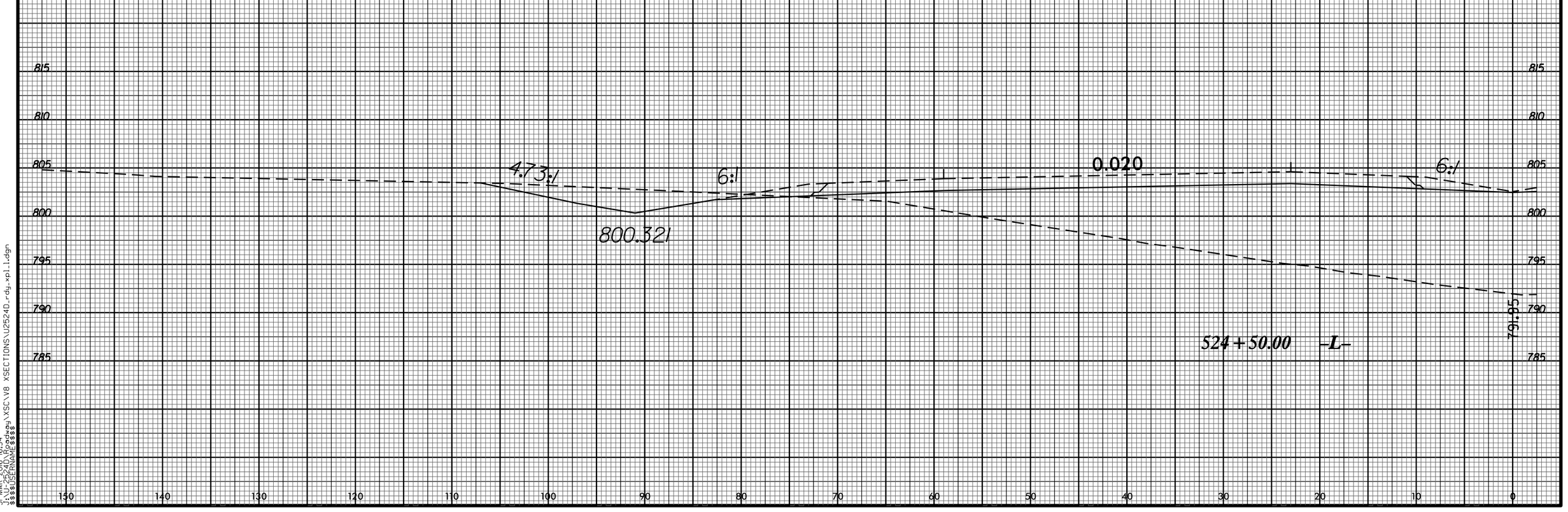
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0

31-MAR-2016 16:34
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-118

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

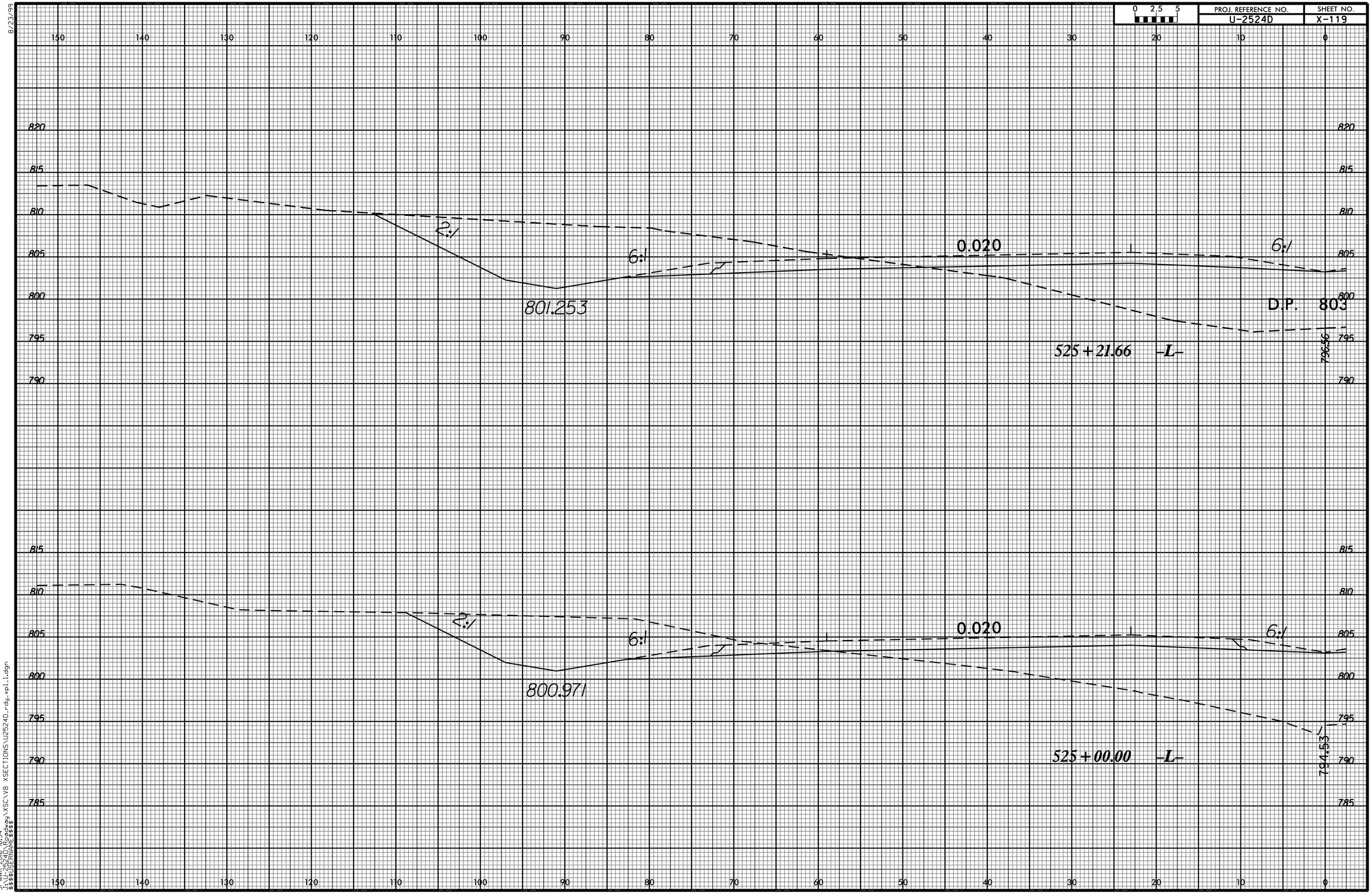


150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0

31-MAR-2016 16:34
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-119



31-MAR-2016 16:34
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-120

MATCHLINE

4.308:1

0.0600

DB 779.274

422+50.00 –L–

774.75

0.0601 0.0601

PROPOSED NOISE WALL 2

2:1

771.76

3+62.16 RPDY4

MATCHLINE

4.308:1

0.0600

779.12

6:1 4:1

0.0594 0.0586

422+00.00 –L–

772.26

4+11.07 RPDY4

771.38

PROPOSED NOISE WALL 2

MATCHLINE

4.308:1

0.0600

421+69.00 –L–

779.366

771.23

6:1 4:1

0.0594 0.0586

4+41.40 RPDY4

771.43

MATCHLINE

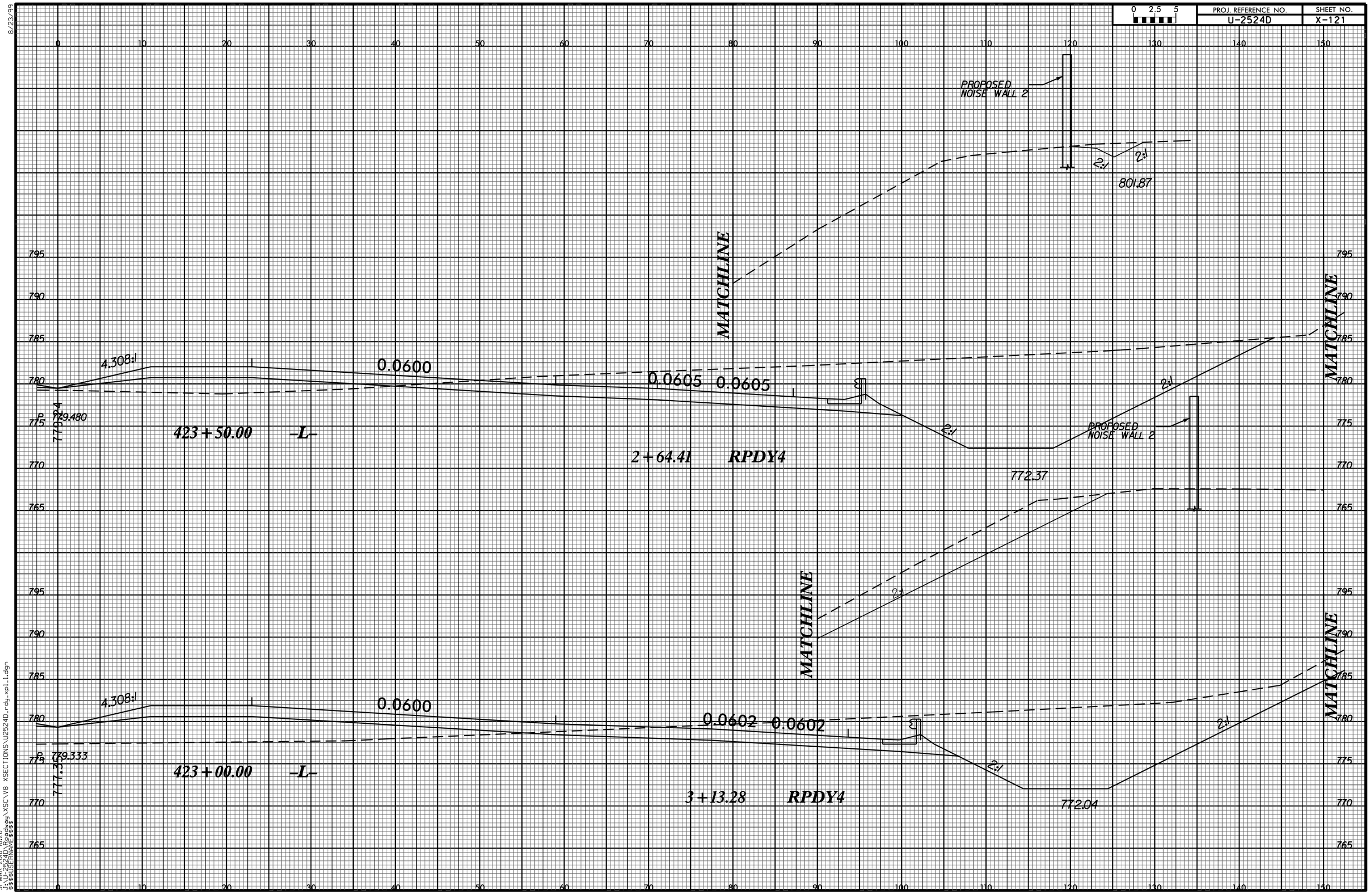
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

795 790 785 780 775 770 765

31-MAR-2016 16:26
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-121



31-MAR-2016 16:26
J:\U-2524D\Rpdy\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-122

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

PROPOSED NOISE WALL 2

MATCHLINE

4.308:1

0.0600

0.0606 0.0606

2:1

801.2

P. 780.039

424+50.00 –L–

1+66.72 RPDY4

773.03

PROPOSED NOISE WALL 2

MATCHLINE

801.

MATCHLINE

4.308:1

0.0600

0.0606 0.0606

2:1

781.29

P. 779.715

424+00.00 –L–

2+15.56 RPDY4

772.70

MATCHLINE

800 795 790 785 780 775 770 805

31-MAR-2016 16:26
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-123

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

830 825 820 815 810 805 800 795 790 785 780 775 770

PROPOSED NOISE WALL 2

2:1 2:1 2:1

801.63

MATCHLINE

MATCHLINE

BEGIN RETAINING WALL 4
STA. 425+00.00 L

2:1

5:1

784.72

4.308:1

0.0600 0.0606 0.0606

D.P. 780.45I

425+00.00 L

1+17.89 RPDY4

775.879

31-MAR-2016 16:26
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-124

PROPOSED NOISE WALL 2

MATCHLINE

2:1

809.81

PROPOSED NOISE WALL 2

MATCHLINE

PROPOSED RETAINING WALL 4

4.308:1

787.59

0.0600

0.0604

6:1

2:1

777.887

P. 781.540

426+00.00 -L-

0+20.24 RPDY4

PROPOSED NOISE WALL 2

MATCHLINE

2:1

805.72

PROPOSED RETAINING WALL 4

4.308:1

784.35

0.0600

0.0604

6:1

2:1

776.508

P. 780.951

425+50.00 -L-

0+69.06 RPDY4

31-MAR-2016 16:26
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-125

PROPOSED NOISE WALL 2

PROPOSED RETAINING WALL 4

CRYSTALLINE ROCK (META-GRANITE)

793.91

4.46:1

0.0564

0.0564

6:1

2:1

2:1

D.P. 782.260

426+50.00 –L–

778.309

31-MAR-2016 16:26
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-126

PROPOSED NOISE WALL 2

PROPOSED RETAINING WALL 4

CRYSTALLINE ROCK (META-GRANITE)

0.50%

4.749:1

0.0501

0.0501

6:1

2:1

799.52

DF. 783.00

427+00.00 –L–

779.446

31-MAR-2016 16:26
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-127

PROPOSED NOISE WALL 2

PROPOSED RETAINING WALL 4

CRYSTALLINE ROCK (META-GRANITE)

0.50%

2:1

5.078:1

0.0439

0.0439

6:1

2:1

784.028

427+50.00 -L-

780.673

805.93

31-MAR-2016 16:26
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-128

PROPOSED NOISE WALL 2

0.50%

2:1

PROPOSED RETAINING WALL 4

2:1

5.36%

0.0380

0.0380

6%

CRYSTALLINE ROCK (META-GRANITE)

D.P. 785.016

428+00.00 -L-

781.945

806.90

31-MAR-2016 16:26
J:\U-2524D\RDs\xsc\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-129

PROPOSED NOISE WALL 2

0.50%

2:1

PROPOSED RETAINING WALL 4

CRYSTALLINE ROCK (META-GRANITE)

5.581:1

0.0315

0.0315

6:1

2:1

D.P. 786.046

428 + 50.00 -L-

785.289

813.29

31-MAR-2016 16:26
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-130

PROPOSED NOISE WALL 2

PROPOSED RETAINING WALL 4

0.50%

2:1

816.61

CRYSTALLINE ROCK (META-GRANITE)

5.80:1

0.0252

0.0252

6:1

2:1

784.706

D.P. 787J64

429+00.00 -L-

31-MAR-2016 16:26
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-131

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

855 850 845 840 835 830 825 820 815 810 805 800 795 790 785 780

PROPOSED NOISE WALL 2

0.50%

2:1

821.99

PROPOSED RETAINING WALL 4

6:1

0.0200

0.0200

6:1

2:1

CRYSTALLINE ROCK (MF)

BF: 788.326

429+50.00 -L-

786.19

31-MAR-2016 16:26
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-132

PROPOSED NOISE WALL 2

PROPOSED RETAINING WALL 4

6:1

0.0200

0.0200

6:1

2:1

2:1

0.50%

P 789.488

430+00.00 -L-

787.281

823.83

31-MAR-2016 16:26
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-133

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

835 830 825 820 815 810 805 800 795 790 785 780

825.79

PROPOSED NOISE WALL 2

2:1

0.50%

PROPOSED RETAINING WALL 4

6:1

0.0200

0.0200

6:1

2:1

P. 790.650

430 + 50.00 –L–

788.444

CRYSTALLINE

31-MAR-2016 16:26
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-134

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

835 830 825 820 815 810 805 800 795 790 785

826.97

PROPOSED NOISE WALL 2

2:1

0.50%

PROPOSED RETAINING WALL 4

6:1

0.0200

0.0200

6:1

2:1

P. 791.812

431+00.00 -L-

789.606

31-MAR-2016 16:26
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-135

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

835 830 825 820 815 810 805 800 795 790 785

826+34

PROPOSED NOISE WALL 2

PROPOSED RETAINING WALL 4

2:1

0.50%

6:1

0.0200

0.0200

6:1

2:1

P. 792.975

431+50.00 –L–

790.768

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

835 830 825 820 815 810 805 800 795 790 785

31-MAR-2016 16:26
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-136

PROPOSED NOISE WALL 2

PROPOSED RETAINING WALL 4

0.50%

2:1

6:1

0.0200

0.0200

6:1

2:1

825.83

794.137

791.930

432+00.00 -L-

31-MAR-2016 16:26
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-137

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

835 830 825 820 815 810 805 800 795 790 785

827.10

PROPOSED NOISE WALL 2

2:1

0.50%

PROPOSED RETAINING WALL 4

6:1

0.0200

0.0200

6:1

2:1

P. 795.299

432+50.00 -L-

793.092

31-MAR-2016 16:26
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-138

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

835 830 825 820 815 810 805 800 795 790

82.50

PROPOSED NOISE WALL 2

2:1

0.50%

PROPOSED RETAINING WALL 4

6:1

0.0200

0.0200

6:1

2:1

DP. 796.461

433+00.00 –L–

794.254

31-MAR-2016 16:27
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-139

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

860 855 850 845 840 835 830 825 820 815 810 805 800 795 790

PROPOSED NOISE WALL 2

2:1

0.50%

823.14

PROPOSED RETAINING WALL 4

6:1

0.0200

0.0200

6:1

2:1

DP. 797.623

433+50.00 -L-

795.430

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

31-MAR-2016 16:27
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-140

END PROPOSED
NOISE WALL 2
STA. 434+06.08 -L-

PROPOSED
RETAINING WALL 4

6:1

2:1

0.0200

0.0200

823.77

798.785

796.579

434+00.00 -L-

31-MAR-2016 16:27
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-141

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

870 865 860 855 850 845 840 835 830 825 820 815 810 805 800 795 790

831.06

838.23

PROPOSED
RETAINING WALL 4

2:1

2:1

2:1

6:1

6:1

0.0200

0.0200

DP. 799948

434+50.00 -L-

797.741

31-MAR-2016 16:27
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-142

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

870 865 860 855 850 845 840 835 830 825 820 815 810 805 800 795 790

835.76

6:1

0.0200

0.0200

6:1

2:1

2:1

2:1

839.52

PROPOSED
RETAINING WALL 4

798.903

D.P. 801.10

435+00.00 –L–

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

31-MAR-2016 16:27
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-143

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

875 870 865 860 855 850 845 840 835 830 825 820 815 810 805 800 795

835.53

6:1

0.0200

0.0200

6:1

2:1

PROPOSED
RETAINING WALL 4

D.P. 802.272

435+50.00 –L–

800.065

31-MAR-2016 16:27
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-144

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

870 865 860 855 850 845 840 835 830 825 820 815 810 805 800 795

834.42

PROPOSED
RETAINING WALL 4

6:1

0.0200

0.0200

6:1

2:1

2:1

B.F. 803.434

436+00.00 -L-

801.227

31-MAR-2016 16:27
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-145

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

875 870 865 860 855 850 845 840 835 830 825 820 815 810 805 800 795

836.7ft

6:1

0.0200

0.0200

6:1

2:1

2:1

PROPOSED
RETAINING WALL 4

DP 804.596

436+50.00 -L-

802.389

31-MAR-2016 16:27
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-146

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

875 870 865 860 855 850 845 840 835 830 825 820 815 810 805 800 795

836.82

6:1

0.0200

D.P. 805758

437+00.00 -L-

6:1

2:1

PROPOSED
RETAINING WALL 4

2:1

803.580

31-MAR-2016 16:27
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-147

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

855 850 845 840 835 830 825 820 815 810 805 800

838.73

6:1

0.0200

6:1

2:1

2:1

PROPOSED
RETAINING WALL 4

D.P. 806920

437+50.00 -L-

804782

31-MAR-2016 16:27
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-148

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

860 855 850 845 840 835 830 825 820 815 810 805 800

839.00

6:1

0.0200

6:1

2:1

2:1

PROPOSED
RETAINING WALL 4

D.P. 808.083

438+00.00 -L-

805.984

31-MAR-2016 16:27
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-149

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

855 850 845 840 835 830 825 820 815 810 805 800

837.07

PROPOSED
RETAINING WALL 4

2:1

6:1

0.0200

6:1

2:1

DB 809.245

438+50.00 -L-

807.186

31-MAR-2016 16:27
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-150

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

855 850 845 840 835 830 825 820 815 810 805 800

2:1

PROPOSED
RETAINING WALL 4

823.32

6:1

0.0200

6:1

2:1

D.P. 810.407

439+00.00 -L-

808.388

31-MAR-2016 16:27
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-151

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

855 850 845 840 835 830 825 820 815 810 805

2:1

PROPOSED
RETAINING WALL 4

827.12

6:1

0.0200

6:1

2:1

D.P. 811.569

439+50.00 –L–

809.591

31-MAR-2016 16:27
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-152

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

860 855 850 845 840 835 830 825 820 815 810 805

831.52

6:1

0.0200

6:1

2:1

2:1

PROPOSED
RETAINING WALL 4

D.P. 812731

440+00.00 –L–

810.764

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

31-MAR-2016 16:27
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-153

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

860 855 850 845 840 835 830 825 820 815 810 805

825.89

6:1

0.0200

6:1

6:1

2:1

2:1

PROPOSED
RETAINING WALL 4

BB. 813.893

440+50.00 –L–

812.057

31-MAR-2016 16:27
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-154

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

855 850 845 840 835 830 825 820 815 810 805

PROPOSED RETAINING WALL 4

2:1

6:1

0.0200

6:1

2:1

817.44

DP. 815.055

813.219

441+00.00 -L-

31-MAR-2016 16:27
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-155

840 835 830 825 820 815 810 805 855 850 845 840 835 830 825 820 815 810 805 800

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

6:1

0.0200

D.P. 817.380

442+00.00 -L-

810.83

END RETAINING WALL 4
STA. 442+00.00 -L-

2:1

6:1

3.2:1

816.127

6:1

0.0200

D.P. 816.218

441+50.00 -L-

810.26

PROPOSED
RETAINING WALL 4

2:1

6:1

2:1

814.381

31-MAR-2016 16:27
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-156

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

835 830 825 820 815 810 805 840

830.47

6:1

0.0107

2:1

D.P. 820.866

443+50.00 –L–

819.115

823.22

6:1

0.0190

6:1

2:1

D.P. 819.704

443+00.00 –L–

817.653

817.80

6:1

0.0200

2:1

D.P. 818.542

442+50.00 –L–

816.456

31-MAR-2016 16:27
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-157

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

850 845 840 835 830 825 820 845 840 835

845.73

6:1 0.0143 6:1 2:1

823.502

O.P. 824.353

445+00.00 -L-

841.8

850 845 840 835 830 825 820 845 840 835

6:1 0.0060 6:1 2:1

822.039

O.P. 823.190

444+50.00 -L-

836.5

835 830 825 820 835 830 825 820

6:1 0.0024 6:1 2:1

820.577

O.P. 822.028

444+00.00 -L-

815

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

31-MAR-2016 16:28
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-158

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

860 855 850 845 840 835 830 825

854.49

PROPOSED
RETAINING WALL 12

829.61

0.0310

6:1

DP. 826.677

446+00.00 -L-

850.10

BEGIN RETAINING WALL 12
STA.445+52.33 -L-

0.0226

6:1

6:1

2:1

824.994

DP. 825.515

445+50.00 -L-

31-MAR-2016 16:28
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-159

857.24

END RETAINING WALL 12
STA 447+25.73 -L-

832.80

0.0476

D.P. 828.909

447+00.00 -L-

856.39

PROPOSED
RETAINING WALL 12

831.22

0.0393

D.P. 827.839

446+50.00 -L-

31-MAR-2016 16:28
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-160

857.69

833.64

0.064

6:1

832.17

6:1

833.760

2:1

856.88

832.48

0.056

6:1

831.364

2:1

447+50.00 –L–

31-MAR-2016 16:28
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-161

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

870 865 860 855 850 845 840 835 830 825

858.15

6.45:1

835.92

0.070

6:1

2:1

837.102

PROPOSED RETAINING WALL 5

2:1

833.287

440+00.00 -L-

857.45

6.45:1

834.80

0.070

6:1

2:1

835.986

BEGIN RETAINING WALL 5
STA. 448+50.00 -L-

2:1

832.171

448+50.00 -L-

31-MAR-2016 16:28
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-162

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

870 865 860 855 850 845 840 835 830 825

858.44

PROPOSED
RETAINING WALL 5

2:1

6:1

2:1

837.88

6.45:1

0.070

838.794

835.246

858.72

PROPOSED
RETAINING WALL 5

2:1

6:1

2:1

836.94

6.45:1

0.070

838.058

834.312

449+50.00

31-MAR-2016 16:28
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-163

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

870 865 860 855 850 845 840 835 830

857.60

PROPOSED
RETAINING WALL 5

2:1

0.0700

6:1

6.145:1

6:1

2:1

839.534

D.P. 836.838

451+00.00 –L–

870 865 860 855 850 845 840 835 830

855.00

PROPOSED
RETAINING WALL 5

2:1

0.0700

6:1

6.145:1

6:1

2:1

839.249

D.P. 836.088

450+50.00 –L–

870 865 860 855 850 845 840 835 830

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

31-MAR-2016 16:28
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-164

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

865 860 855 850 845 840 835 830

856.42

856.42

0.0700

6:1

6.145:1

BEGIN RETAINING WALL 15
STA.452+13.46 -L-

2:1

840.135

D.P. 838.065

452+00.00 -L-

857.65

0.0700

6:1

6.145:1

2:1

END RETAINING WALL 5
STA.451+50.00 -L-

839.687

D.P. 837.497

451+50.00 -L-

31-MAR-2016 16:28
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-165

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

860 855 850 845 840 835 830 865

856.02

END PROPOSED
RETAINING WALL 15
BEGIN PROPOSED
RETAINING WALL 11
STA. -L- 453+00.00

0.0700

6.145:1

838.926

453+00.00 -L-

856.45

PROPOSED
RETAINING WALL 15

843.85

0.0700

6.145:1

838.541

452+50.00 -L-

31-MAR-2016 16:28
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-166

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

860 855 850 845 840 835 830

849.67

6.45:1

0.0700

2:1

PROPOSED RETAINING WALL II

844.84

D.P. 839.531

454+50.00 -L-

852.04

6.45:1

0.0700

2:1

PROPOSED RETAINING WALL II

844.73

D.P. 839.420

454+00.00 L

853.94

6.45:1

0.0700

PROPOSED RETAINING WALL II

844.53

D.P. 839.219

453+50.00 -L-

31-MAR-2016 16:28
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-167

456+00.00 -L-

DP 839.312

6.145:1

0.0700

2:1

42.22

455+50.00 -L-

DP 839.477

6.145:1

0.0700

2:1

44.88

455+00.00 -L-

DP 839.549

6.145:1

0.0700

2:1

84486

46.37

END RETAINING WALL II
STA 455+20 -L-

31-MAR-2016 16:28
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-168

PROPOSED NOISE WALL 7

0.0700

6.145:1

2.35:1

DIF. 838.27

457+50.00 -L-

836.00

82.81

PROPOSED NOISE WALL 7

0.0700

6.145:1

3:1

DIF. 838.10

457+00.00 -L-

838.83

83.09

BEGIN PROPOSED NOISE WALL 7
STA. 456+44.58 -L-

0.0700

6.145:1

6:1

6:1

DIF. 839.057

456+50.00 -L-

842.54

837.

31-MAR-2016 16:28
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-169

PROPOSED
NOISE WALL 7

0.0691

6.07:1

2.11:1

2:1

2:1

D.P. 837.08

458+50.00 -L-

825.24

825.00

PROPOSED
NOISE WALL 7

0.0700

6.45:1

2.35:1

D.P. 837.741

458+00.00 -L-

832.41

826.74

850 845 840 835 830 825 820

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

31-MAR-2016 16:28
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-170

PROPOSED
NOISE WALL 7

0.0524

6:1

2:1

2:1

2:1

D.P. 835.770

459+50.00 -L-

822.27

823.67

PROPOSED
NOISE WALL 7

0.0607

6:1

2:1

2:1

2:1

D.P. 836.474

459+00.00 -L-

823.34

824.33

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

845 840 835 830 825 820 815

31-MAR-2016 16:28
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-171

PROPOSED
NOISE WALL 7

0.0357

6:1

2.35:1

D.P. 834035

460 + 50.00 -L-

2:1

2:1

820.60

320.09

PROPOSED
NOISE WALL 7

0.0441

6:1

2.34:1

D.P. 834974

460 + 00.00 -L-

2:1

2:1

823.00

820.69

31-MAR-2016 16:28
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-172

PROPOSED
NOISE WALL 7

0.0191

6:1

2.24%

D.P. 831.968

461+50.00 -L-

818.48

PROPOSED
NOISE WALL 7

0.0274

6:1

2.32%

D.P. 833.002

461+00.00 -L-

818.68

818.20

2:1

2%

2:1

2%

2:1

31-MAR-2016 16:28
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-173

PROPOSED
NOISE WALL 7

0.0024

6:1

2.21H

D.P. 829.902

462+50.00 -L-

818.33

2:1

2:1

PROPOSED
NOISE WALL 7

0.0107

6:1

2.23H

D.P. 830.935

462+00.00 -L-

815.98

2:1

2:1

31-MAR-2016 16:28
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-174

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

840 835 830 825 820 815 810 805

PROPOSED NOISE WALL 7

0.0143

6:1

2:1

D.P. 827.835

463+50.00 -L-

89.73

PROPOSED NOISE WALL 7

0.0059

6:1

2:1

D.P. 828.869

463+00.00 -L-

818.38

31-MAR-2016 16:28
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-175

PROPOSED
NOISE WALL 7

6:1

0.0200

2:1

D.P. 825.769

464+50.00 -L-

822.04

PROPOSED
NOISE WALL 7

6:1

0.0200

2:1

D.P. 826.802

464+00.00 -L-

821.33

31-MAR-2016 16:28
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-176

PROPOSED NOISE WALL 7

0.0200

6:1

821.50

823703

465+50.00 -L-

2.084

2:1

2:1

MATCHLINE

PROPOSED NOISE WALL 7

0.0200

6:1

DP 824736

822.25

465+00.00 -L-

2:1

2:1

MATCHLINE

31-MAR-2016 16:29
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-177

PROPOSED NOISE WALL 7

6:1

0.0200

P. 821636

466+50.00 –L–

817.36

2:1

2:1

2:1

803.66

MATCHLINE

PROPOSED NOISE WALL 7

6:1

0.0200

DP. 822669

820.72

466+00.00 –L–

2.34:1

2:1

2:1

MATCHLINE

31-MAR-2016 16:29
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-178

PROPOSED NOISE WALL 7

6:1

0.0200

2:1

2:1

2:1

810.38

D.P. 818.536

468+00.00 -L-

810.26

PROPOSED NOISE WALL 7

6:1

0.0200

2.77:1

D.P. 819.570

467+50.00 -L-

809.84

PROPOSED NOISE WALL 7

6:1

0.0200

2.17:1

D.P. 820.603

467+00.00 -L-

812.73

830 825 820 815 810 805 800

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

31-MAR-2016 16:29
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-179

PROPOSED NOISE WALL 7

0.0200

6:1

6:1

2:1

812.34

D.P. 815.437

469+50.00 -L-

809.68

PROPOSED NOISE WALL 7

0.0200

6:1

2:1

2:1

2:1

812.09

D.P. 816.470

469+00.00 -L-

809.67

PROPOSED NOISE WALL 7

0.0200

6:1

2:1

2:1

809.28

D.P. 817.503

468+50.00 -L-

810.09

31-MAR-2016 16:29
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-180

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

835 830 825 820 815 810 805 800

PROPOSED NOISE WALL 7

6:1 0.0200 6:1 2:1 2:1

819.66

BP. 813.370

807.38

470+50.00 -L-

811.404

PROPOSED NOISE WALL 7

6:1 0.0200 6:1 2:1 2:1

812.59

812.437

DP. 814.404

808.46

470+00.00 -L-

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

835 830 825 820 815 810 805 800

31-MAR-2016 16:29
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-181

PROPOSED
NOISE WALL 7

826.98

PROPOSED
RETAINING WALL 6

0.0200

6:1

2:1

D.P. 812.304

807.49

471+50.00 -L-

809.337

BEGIN RETAINING WALL 6
STA. 471+00.00 -L-

826.73

0.0200

D.P. 812.337

805.87

471+00.00 -L-

810.371

31-MAR-2016 16:29
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-182

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

835 830 825 820 815 810 805 800

PROPOSED NOISE WALL 7

PROPOSED RETAINING WALL 6

6:1 0.0200 6:1 2:1 2:1 2:1 2:1

828.19

807.27I

D.P. 809.238

-L- 472+50.00

808.27

6:1 0.0200 6:1 2:1

D.P. 810.27I

-L- 472+00.00

808.304

827.59

31-MAR-2016 16:29
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-183

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

835 830 825 820 815 810 805

PROPOSED NOISE WALL 7

PROPOSED RETAINING WALL 6

828.49

2:1 2:1 2:1 6:1 6:1 2:1

0.0200

8:1 6:1

D.P. 807.171

473+50.00 –L–

805.204

PROPOSED NOISE WALL 7

PROPOSED RETAINING WALL 6

828.34

2:1 2:1 2:1 6:1 6:1 2:1

0.0200

8:1 6:1

811.09

D.P. 808.204

473+00.00 –L–

806.238

840 835 830 825 820 815 810 805 800

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

31-MAR-2016 16:29
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-184

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

835 830 825 820 815 810 805 800 795

PROPOSED NOISE WALL 7

PROPOSED RETAINING WALL 6

828.79

2:1 2:1 2:1

813.30

6:1

0.0200

6:1

2:1

803.38

D.P. 805J05

474+50.00 –L–

PROPOSED NOISE WALL 7

828.64

2:1 2:1 2:1

PROPOSED RETAINING WALL 6

812.74

6:1

0.0200

6:1

2:1

804.171

D.P. 806J38

474+00.00 –L–

31-MAR-2016 16:29
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-185

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

830 825 820 815 810 805 800 795

PROPOSED NOISE WALL 7

PROPOSED RETAINING WALL 6

812.54

6:1

0.0200

0.0200

6:1

2:1

O.P. 803038

475+50.00 -L-

801.027

PROPOSED NOISE WALL 7

2:1 2:1 2:1

828.94

PROPOSED RETAINING WALL 6

813.53

6:1

0.0200

0.0200

6:1

2:1

O.P. 804071

475+00.00 -L-

802.00

835 830 825 820 815 810 805 800 795

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

31-MAR-2016 16:29
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-186

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

830 825 820 815 810 805 800 795 790

809.49

6:1 0.0200 0.0200 6:1 2:1

D.P. 800.972

476+50.00 –L–

798.881

PROPOSED NOISE WALL 7

PROPOSED RETAINING WALL 6

811.33

6:1 0.0200 0.0200 6:1 2:1

D.P. 802.005

476+00.00 –L–

799.954

PROPOSED NOISE WALL 7

PROPOSED RETAINING WALL 6

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

830 825 820 815 810 805 800 795 790

31-MAR-2016 16:29
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-187

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

825 820 815 810 805 800 795 790

PROPOSED NOISE WALL 7

PROPOSED RETAINING WALL 6

2:1

6:1

0.0200

0.0200

6:1

2:1

806.74

DP. 798.905

477+50.00 –L–

796.734

DP. 799.939

477+00.00 –L–

797.808

PROPOSED NOISE WALL 7

PROPOSED RETAINING WALL 6

2:1

6:1

0.0200

0.0200

6:1

2:1

806.74

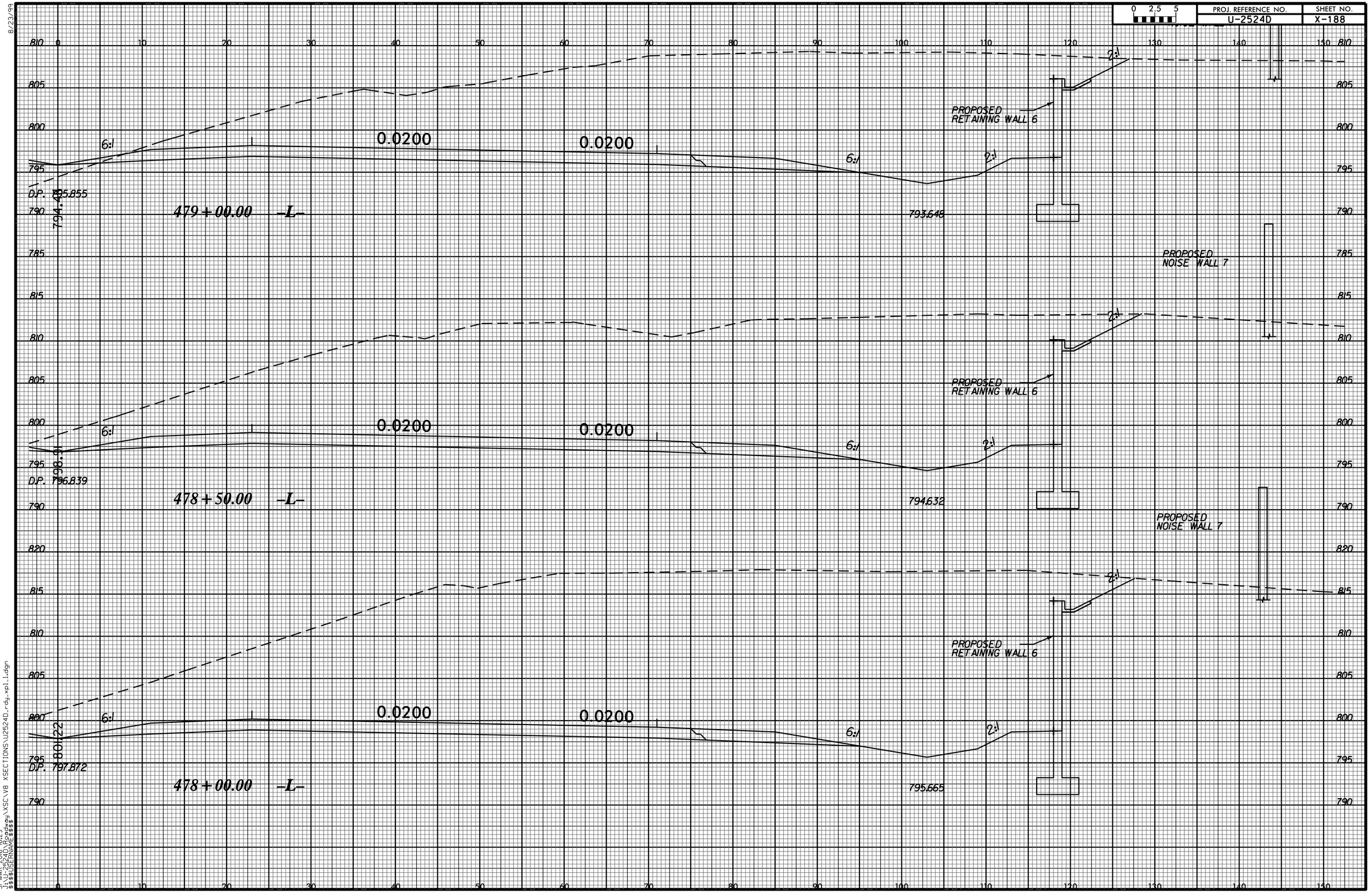
825 820 815 810 805 800 795 790

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

31-MAR-2016 16:29
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-188



31-MAR-2016 16:29
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl_1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-189

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

810 805 800 795 790 785 780 775

6:1

0.0200

0.0200

6:1

END RETAINING WALL 6
STA. 480+00.00 -L-

2:1

PROPOSED
NOISE WALL 7

2:1

2:1

2:1

800.10

791.974

D.P. 794181

480+00.00 -L-

785.04

PROPOSED
NOISE WALL 7

2:1

2:1

2:1

2:1

803.30

PROPOSED
RETAINING WALL 6

6:1

0.0200

0.0200

6:1

2:1

792.762

D.P. 794969

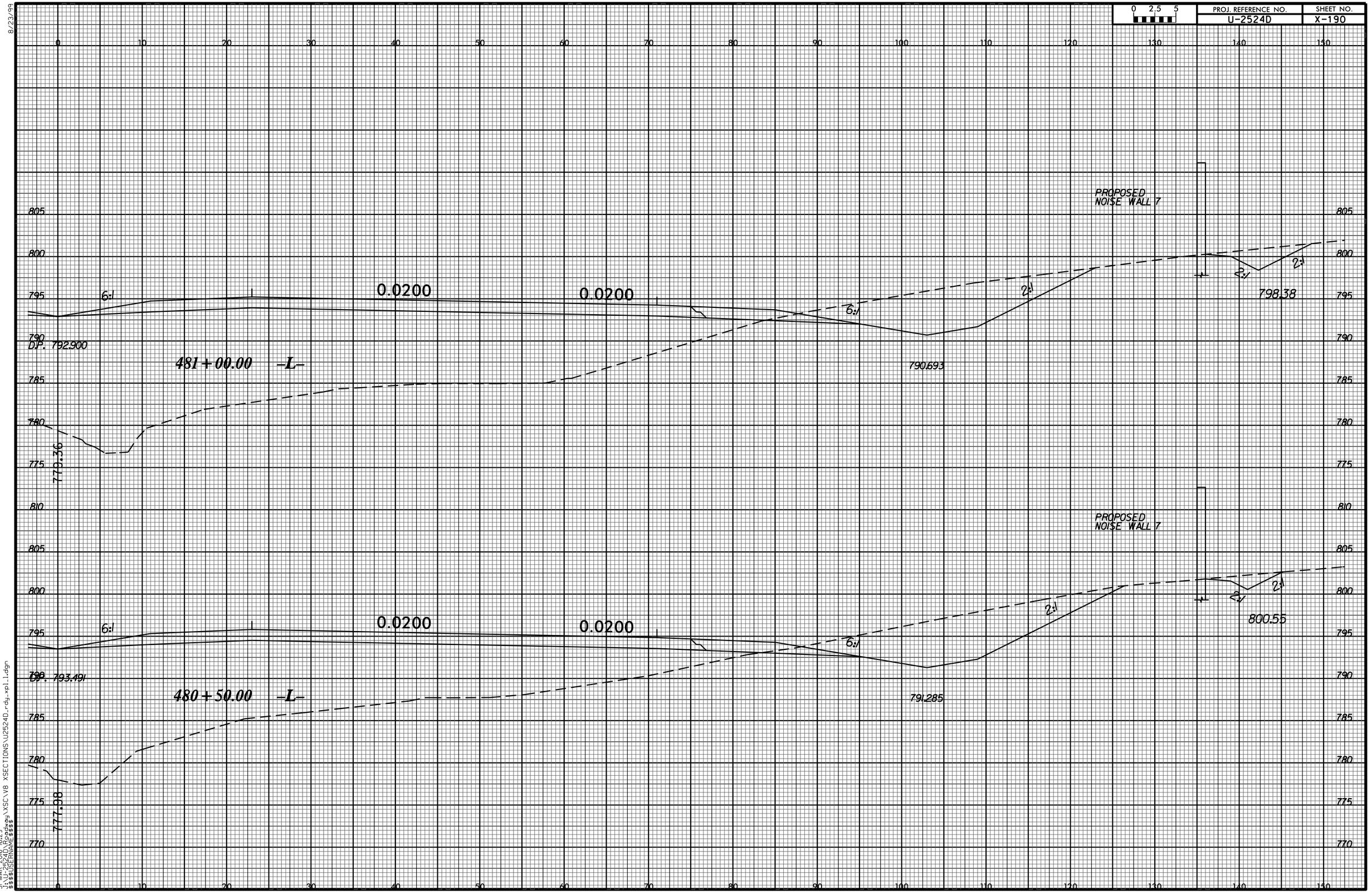
479+50.00 -L-

784.73

31-MAR-2016 16:29
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

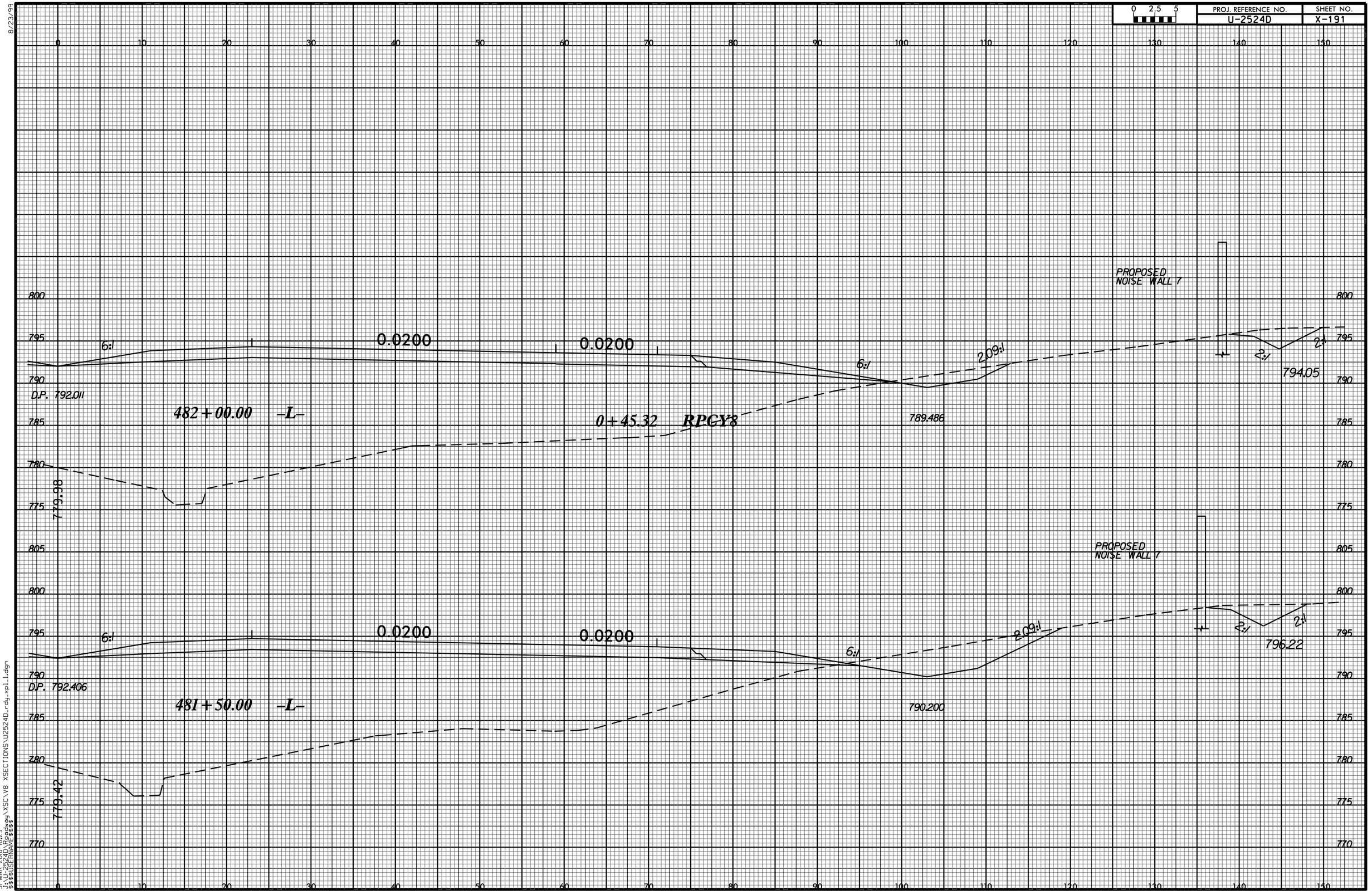
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-190



31-MAR-2016 16:29
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-191



31-MAR-2016 16:29
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
NOISE WALL	U25240	X-02

D.P. 791.415

483+50.00 –L–

1+95.35 RPCY8

6:1

0.0200

0.0589

5:1

3:1

786.300

780.73

MATCHLINE

795.04

2:1

PROPOSED NOISE WALL 7

D.P. 791.515

483+00.00 –L–

1+45.32 RPCY8

6:1

0.0200

0.0438

4:1

3:1

783.600

780.56

MATCHLINE

786.73

2:1

PROPOSED NOISE WALL 7

D.P. 791.714

482+50.00 –L–

0+95.32 RPCY8

6:1

0.0200

0.0287

4:1

3:1

786.540

780.43

MATCHLINE

788.44

2:1

31-MAR-2016 16:29
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-193

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

805 800 795 790 785 780 775 770

6:1

0.0200

0.0596

D.P. 791.508

484+50.00 –L–

2+95.56 RPCY8

781.59

787.914

MATCHLINE

PROPOSED NOISE WALL 7

2:1

2:1

793.23

2:1

6:1

MATCHLINE

6:1

0.0200

0.0600

D.P. 791.412

484+00.00 –L–

2+45.42 RPCY8

780.91

787.430

MATCHLINE

PROPOSED NOISE WALL 7

2:1

2:1

796.23

2:1

6:1

31-MAR-2016 16:29
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-194

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

800 795 790 785 780 775 770

6:1 0.0200 0.0587 6:1 3:1

D.P. 791.994

485+50.00 –L–

3+96.15 RPCY8

780.71

788.43

791.51

MATCHLINE

PROPOSED NOISE WALL 7

2:1 1:1

6:1 0.0200 0.0590 6:1 3:1

D.P. 791.702

485+00.00 –L–

3+45.79 RPCY8

781.45

788.090

MATCHLINE

PROPOSED NOISE WALL 7

2:1 2:1

31-MAR-2016 16:30
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-195

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

800 795 790 785 780 775 770

6:1

DP. 792.872

486+50.00 –L–

779.59

0.0314

4+97.26 RPCY8

MATCHLINE

PROPOSED NOISE WALL 7

2:1 2:1

789.89

6:1 3:1

789.19

MATCHLINE

6:1

DP. 792.384

486+00.00 –L–

780.19

0.0200

0.0459

4+46.64 RPCY8

MATCHLINE

PROPOSED NOISE WALL 7

2:1 2:1

790.64

6:1 3:1

788.90

MATCHLINE

31-MAR-2016 16:30
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-196

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

805 800 795 790 785 780 775 770 765

6:1

0.0200

4:1

SP 45

B. 794.143

487+50.00 -L-

778.06

6:1

0.0200

4:1

SP 44

F. 793.458

791.943

487+00.00 -L-

778.94

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

805 800 795 790 785 780 775 770 765

31-MAR-2016 16:30
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-197

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

805 800 795 790 785 780 775 770 765

6:1

0.0200

4:1 SP 47

D.P. 795.807

488+50.00 -L-

775.59

6:1

0.0200

SP 46 4:1

P. 794926

488+00.00 -L-

776.93

31-MAR-2016 16:30
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-198

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

810 805 800 795 790 785 780 775 770 765

6:1

0.0200

3.7:1

SP 48

DP. 796737

489+00.00 -L-

772.30

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

810 805 800 795 790 785 780 775 770 765

31-MAR-2016 16:30
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-199

6:1

0.020

490+00.00 -LREV-

798.556

3.8:1

SP 50

772.35

0.020

489+50.00 LREV

3.8:1

SP 49

772.08

31-MAR-2016 16:32
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-200

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

810 805 800 795 790 785 780 775 770 765 760

6:1

0.020

3.8:1

SP 51

799.362

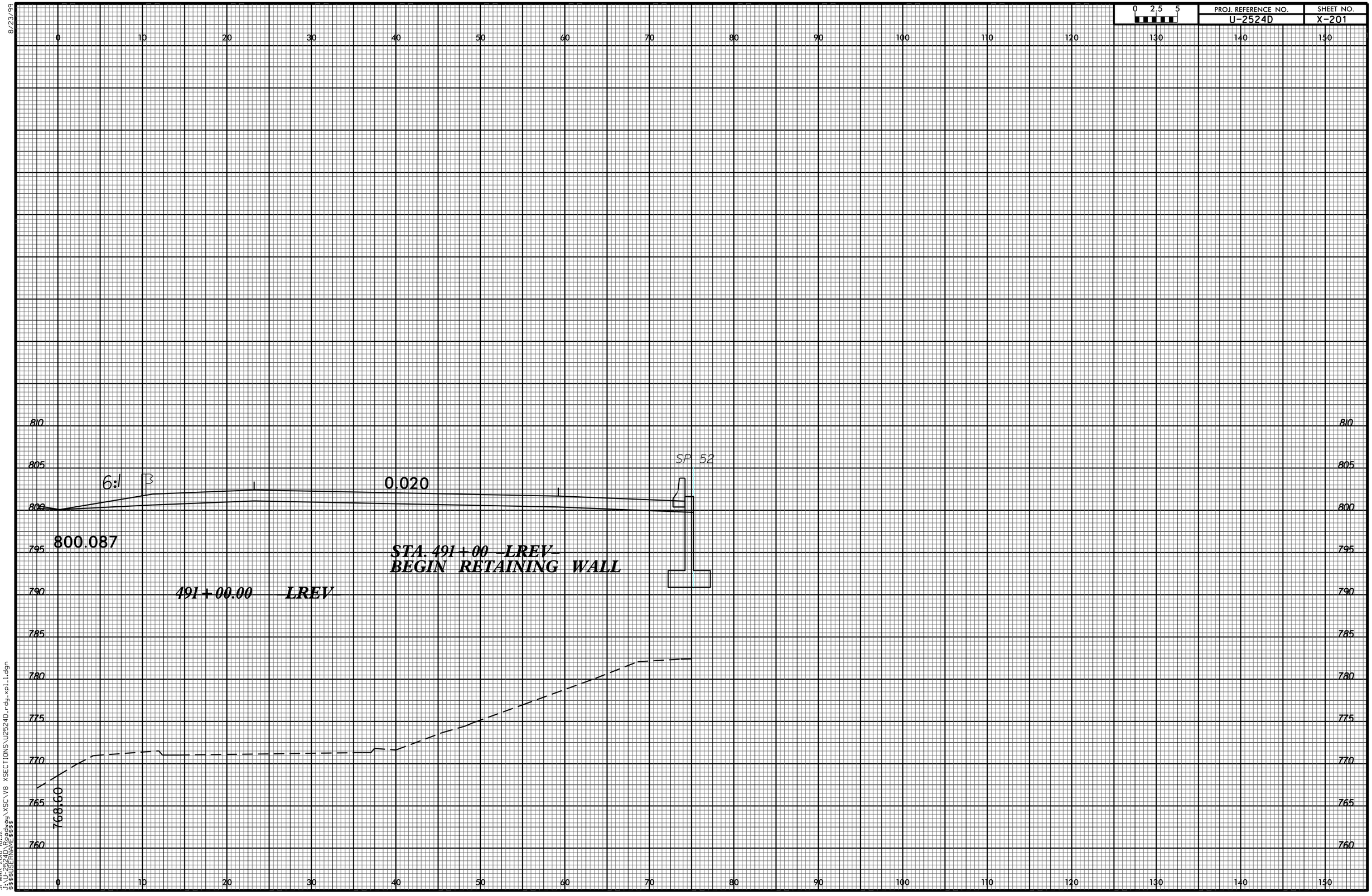
490+50.00 –LREV–

767.86

31-MAR-2016 16:32
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-201



31-MAR-2016 16:32
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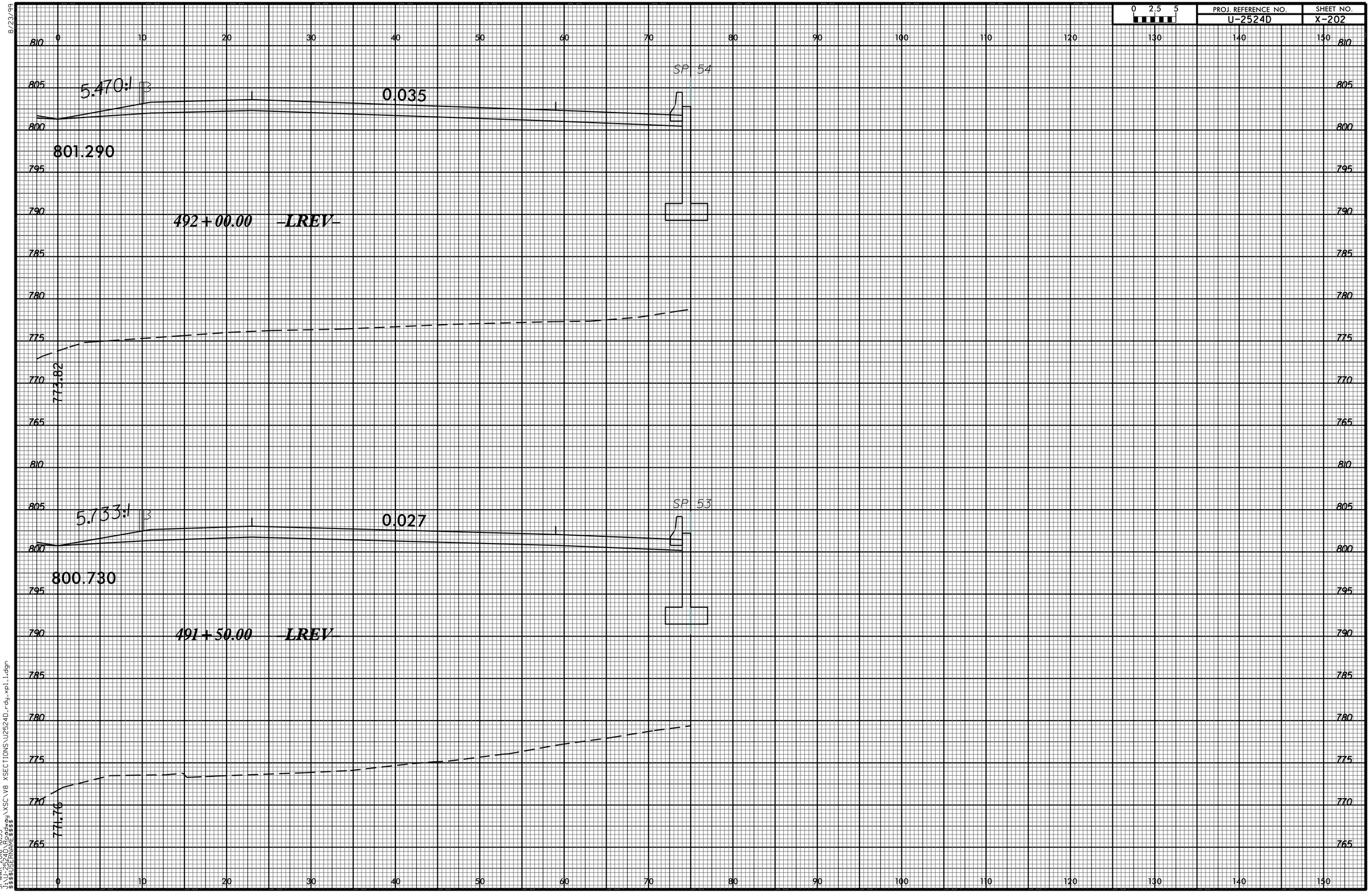
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-202



31-MAR-2016 16:33
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-203

SP 56

4.746:1

0.050

802.043

493+00.00 -LREV-

774.61

SP 55

5.156:1

0.043

801.738

492+50.00 -LREV-

774.70

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

810 805 800 795 790 785 780 775 770 765

31-MAR-2016 16:33
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-204

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

SP 57

4.396:1

0.058

802.264

493+50.00 –LREV–

77.14

810 805 800 795 790 785 780 775 770 765

31-MAR-2016 16:33
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-205

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

810 805 800 795 790 785 780 775 770 765 760 755

4.308:1

0.060

SP 58

802.477

STA. 493+95.00 –LREV–
BEGIN BRIDGE

766.97

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

31-MAR-2016 16:33
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-206

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

815 810 805 800 795 790 785 780 775 770 765 760

4.308:1

0.060

SP 69A

802.477

STA. 496+35.00 -LREV-
END BRIDGE

766.32

31-MAR-2016 16:33
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-207

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

810 805 800 795 790 785 780 775 770 765 760 755

6:1

0.060

SP 70A

802.772

496+50.00 –LREV–

764.40

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

31-MAR-2016 16:33
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-208

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

810 805 800 795 790 785 780 775 770 765 760 755

SP 95

4.308:1

0.060

802.138

497+00.00 -LREV-

762.95

31-MAR-2016 16:33
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-209

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

810 805 800 795 790 785 780 775 770 765 760 755

4.308:1

0.060

SP 96

801.795

497+50.00 –LREV–

765.35

31-MAR-2016 16:33
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-210

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

810 805 800 795 790 785 780 775 770 765 760

4.308:1

0.060

801.370

SP 97

498+00.00 –LREV–

STA. 498+00 –LREV–
END RETAINING WALL

768.01

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

31-MAR-2016 16:33
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-211

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

810 805 800 795 790 785 780 775 770 765 760 755

4.308:1

0.060

800.863

SP 98

25.1

498+50.00 –LREV–

764.05

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

31-MAR-2016 16:33
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-212

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

810 805 800 795 790 785 780 775 770 765 760

4.308:1

0.060

800.274

SP 99

3:1

499+00.00 –LREV–

770.08

31-MAR-2016 16:33
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-213

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

810 805 800 795 790 785 780 775 770 765 760

4.573:1

0.054

SP 100

3.5:1

799.677

769.59

499+50.00 –LREV–

31-MAR-2016 16:33
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-214

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

810 805 800 795 790 785 780 775 770 765 760

4.953:1

0.046

799.015

4:1

SP 101

500+00.00 –LREV–

769.95

31-MAR-2016 16:33
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
U-2524D	X-215

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

810 805 800 795 790 785 780 775 770 765 760

5.354:1

0.038

SP 102

4:1

798.254

500+50.00 –LREV–

768.28

31-MAR-2016 16:33
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-216

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

805 800 795 790 785 780 775 770 765 760 755

5.605:1

0.031

SP 103

4:1

797.336

501+00.00 -LREV-

766.03

31-MAR-2016 16:33
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-217

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

805 800 795 790 785 780 775 770 765 760

5.883:1

0.023

SP 104

4:1

796.336

766.10

501 + 50.00 –LREV–

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

31-MAR-2016 16:33
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-218

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

805 800 795 790 785 780 775 770 765 760

6:1

0.020

4:1

SP 105

795.254

502+00.00 –LREV–

767.07

31-MAR-2016 16:33
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-219

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

805 800 795 790 785 780 775 770 765 760

6:1

0.020

4:1

SP 106

794.090

767.05

502+50.00 –LREV–

31-MAR-2016 16:33
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-220

6:1

0.020

SP 107A

4:1

792.864

502+99.94 –LREV– BK =

503+00.89 –L– AH

766.77

31-MAR-2016 16:34
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-221

6:1

0.0200

4:1

SP 108

D.P. 791.680

503+50.00 -L-

765.91

31-MAR-2016 16:30
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-222

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

800 795 790 785 780 775 770 765 760 755

6:1

0.0200

4:1

SP 109

DP. 790.475

504+00.00 –L–

764.59

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

31-MAR-2016 16:30
J:\U-2524D\RDWAY\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-223

MATCHLINE

2.06:1

PROPOSED NOISE WALL 9

6:1

0.0200

4:1

1:1

0.0221

0.0213

2.06:1

MATCHLINE

D.P. 789.328

504 + 50.00 -L-

788.331

5 + 27.13 RPDY8

763.69

31-MAR-2016 16:30
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-224

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

795 790 785 780 775 770 765 760 755

PROPOSED NOISE WALL 9

6:1

0.0200

0.0515 0.0508

P. 787.381

505+50.00 -L-

4+25.87 RPDY8

2.64:1

MATCHLINE

769.07

2:1 2:1

772.49

MATCHLINE

PROPOSED NOISE WALL 9

6:1

0.0200

0.0367 0.0360

P. 788.296

505+00.00 -L-

4+76.44 RPDY8

3:1

MATCHLINE

764.44

3:1

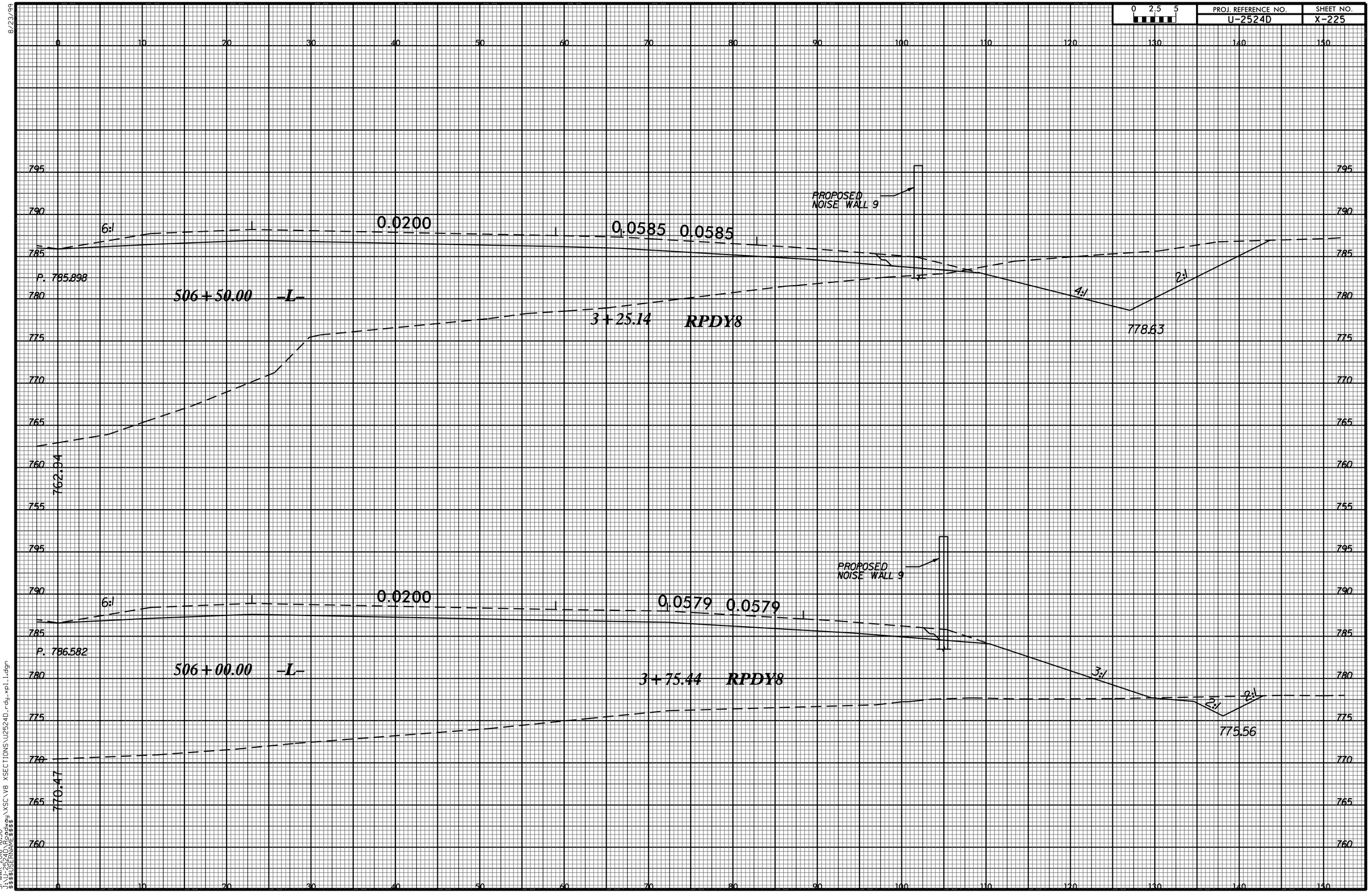
2:1 2:1

769.42

31-MAR-2016 16:30
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

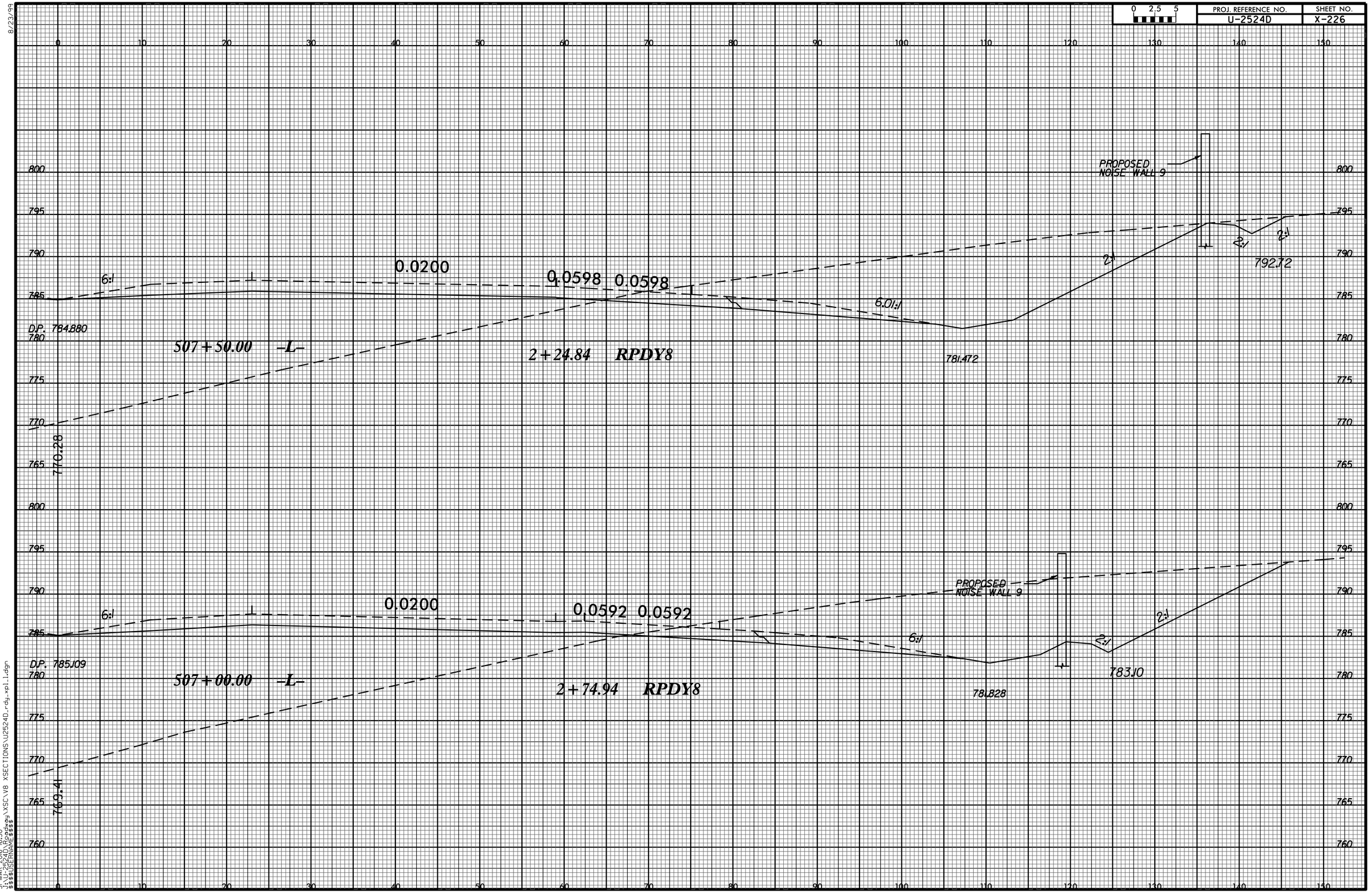
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-225



31-MAR-2016 16:30
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-226



31-MAR-2016 16:30
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-227

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

805 800 795 790 785 780 775 770 765

MATCHLINE

PROPOSED NOISE WALL 9

2:1

798.97

MATCHLINE

2:1

6:1

0.0200

0.0375

6:1

P 784.325

781.92

508+50.00 -L-

1+24.77 RPDY8

PROPOSED NOISE WALL 9 781.230

MATCHLINE

2:1

2:1

795.85

PROPOSED NOISE WALL 9

MATCHLINE

6:1

0.0200

0.0524

6:1

P 784.544

781.300

508+00.00 -L-

1+74.79 RPDY8

775.47

2:1

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

805 800 795 790 785 780 775 770 765

31-MAR-2016 16:30
J:\U-2524D\Rpdwg\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-228

PROPOSED NOISE WALL 9

MATCHLINE

2:1

2:1

2:1

80468

MATCHLINE

2:1

P. 786.67

6:1

0.0200

0.0225

6:1

P. 784.233

509+50.00 –L–

0+24.77 RPDY8

781.320

PROPOSED NOISE WALL 9

MATCHLINE

2:1

2:1

2:1

80200

MATCHLINE

2:1

P. 786.67

6:1

0.0200

0.0225

6:1

P. 784.221

509+00.00 –L–

0+74.77 RPDY8

781.070

31-MAR-2016 16:30
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-229

PROPOSED NOISE WALL 9

MATCHLINE

2:1

2:1

807.82

MATCHLINE

2:1

795.65

6:1

0.0200

0.0200

6:1

784.362

510 + 00.00 -L-

782.55

31-MAR-2016 16:30
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-230

PROPOSED NOISE WALL 9

2:1

2:1

810.96

MATCHLINE

2:1

MATCHLINE

805.42

6:1

0.0200

0.0200

6:1

784.606

510 + 50.00 –L–

782.399

31-MAR-2016 16:30
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-231

PROPOSED
NOISE WALL 9

814.10

MATCHLINE

MATCHLINE

802.83

6:1

0.0200

0.0200

6:1

P. 784966

SII+00.00 –L–

782.76

782.760

2:1

2:1

31-MAR-2016 16:30
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-232

PROPOSED NOISE WALL 9

815.81

2:1

2:1

MATCHLINE

2:1

MATCHLINE

799.69

6:1

0.0200

0.0200

6:1

2:1

P. 785.443

511+50.00 –L–

783.236

31-MAR-2016 16:30
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-233

PROPOSED
NOISE WALL 9

817.80

MATCHLINE

2:1

2:1

2:1

MATCHLINE

798.10

6:1

0.0200

0.0200

6:1

P. 796.035

512+00.00 –L–

783.828

31-MAR-2016 16:30
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-234

PROPOSED
NOISE WALL 9

MATCHLINE

2:1

MATCHLINE

2:1

6:1

0.0200

0.0200

6:1

803.01

P. 786.685

512+50.00 –L–

784.478

31-MAR-2016 16:30
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-235

PROPOSED NOISE WALL 9

MATCHLINE

2:1

MATCHLINE

2:1

803.22

6:1

0.0200

0.0200

6:1

P. 787.335

513+00.00 –L–

785J28

31-MAR-2016 16:31
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-236

PROPOSED NOISE WALL 9

MATCHLINE

MATCHLINE

2:1

6:1

6:1

2:1

0.0200

0.0200

798.69

P. 787.985

513+50.00 –L–

785.778

31-MAR-2016 16:31
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-237

PROPOSED NOISE WALL 9

2:1

2:1

827.51

MATCHLINE

6:1

MATCHLINE

2:1

799.74

6:1

0.0200

0.0200

6:1

788.635

514+00.00 –L–

786.428

31-MAR-2016 16:31
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-238

PROPOSED
NOISE WALL 9

826.91

MATCHLINE

2:1

2:1

2:1

MATCHLINE

802.80

6:1

0.0200

0.0200

6:1

2:1

P 789.285

514+50.00 -L-

787.079

31-MAR-2016 16:31
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-239

PROPOSED NOISE WALL 9

2:1 2:1

821.90

MATCHLINE

2:1

6:1

0.0200

0.0200

6:1

P. 789.935

515+00.00 –L–

787.729

808.18

MATCHLINE

2:1

31-MAR-2016 16:31
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-240

PROPOSED
NOISE WALL 9

MATCHLINE

2:1

2:1

2:1

818.43

813.52

MATCHLINE

6:1

0.0200

0.0200

6:1

2:1

P. 790.586

515 + 50.00 -L-

788.379

31-MAR-2016 16:31
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-241

PROPOSED
NOISE WALL 9

821.70

MATCHLINE

2:1

2:1

2:1

818.55

6:1

0.0200

0.0200

6:1

2:1

MATCHLINE

P. 791.236

516+00.00 -L-

789.049

850 845 840 835 830 825 820 815 810 805 800 795 790 785 780

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

31-MAR-2016 16:31
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-242

PROPOSED
NOISE WALL 9

MATCHLINE

2:1

1'

2:1

825.97

MATCHLINE

820.84

6:1

0.0200

0.0200

6:1

2:1

P. 791.886

516+50.00 –L–

789739

31-MAR-2016 16:31
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-243

PROPOSED
NOISE WALL 9

830.23

MATCHLINE

MATCHLINE

820.00

6:1

0.0200

0.0200

6:1

2:1

2:1

2:1

P. 792.536

517+00.00 –L–

790.429

31-MAR-2016 16:31
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-244

PROPOSED NOISE WALL 9

MATCHLINE

2:1

2:1

830.27

MATCHLINE

2:1

816.88

6:1

0.0200

0.0200

6:1

P. 793.86

517+50.00 -L-

791.20

31-MAR-2016 16:31
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-245

PROPOSED
NOISE WALL 9

827.05

2:1

2:1

MATCHLINE

MATCHLINE

816.66

2:1

6:1

0.020

0.020

6:1

791.810

518+00.00 -L-

31-MAR-2016 16:31
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-246

PROPOSED NOISE WALL 9

MATCHLINE

2:1

2:1

823.83

MATCHLINE

2:1

813.67

6:1

0.020

0.020

6:1

792.500

518+50.00 -L-

31-MAR-2016 16:31
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-247

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

825 820 815 810 805 800 795 790 785

808.50

6:1 0.020 6:1

519+50.00 -L-

793.820

MATCHLINE

PROPOSED NOISE WALL 9

2:1 2:1 2:1

818.21

812.58

2:1

819.72

6:1 0.020 6:1

519+00.00 -L-

793.170

MATCHLINE

2:1

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

825 820 815 810 805 800 795 790 785

31-MAR-2016 16:31
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-248

PROPOSED
NOISE WALL 9

805.16

6:1

0.020

6:1

794.470

2:1

2:1

2:1

802.28

520+00.00 -L-

31-MAR-2016 16:33
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-249

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

810 805 800 795 790 785 780 775 770 765

6:1

0.020

PROPOSED NOISE WALL 9

6:1

2.5:1

795.120

796.96

520+50.00 –L–

END PROJECT
STA. 520+34.53 –L–

31-MAR-2016 16:34
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-250

PROPOSED
NOISE WALL 9

6:1

0.020

2.5:1

7.5:1

521+00.00 –L–

31-MAR-2016 16:34
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-251

PROPOSED
NOISE WALL 9

0.020

6:1

2:1

770.30

521+50.00 -L-

31-MAR-2016 16:34
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-252

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

810 805 800 795 790 785 780 775 770

6:1

0.020

PROPOSED NOISE WALL 9

2:1

777.73

522+00.00 -L-

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

31-MAR-2016 16:34
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-253

PROPOSED
NOISE WALL 9

6:1

0.020

2.25%

782.17

522+50.00 -L-

31-MAR-2016 16:35
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-254

PROPOSED
NOISE WALL 9

6:1

0.020

3.95:1

523+00.00 -L-

2.00

31-MAR-2016 16:35
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-255

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

810 805 800 795 790 785 780

6:1

0.020

PROPOSED NOISE WALL 9

6:1

786.97

524+00.00 –L–

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

810 805 800 795 790 785 780

6:1

0.020

PROPOSED NOISE WALL 9

5.87:1

786.97

523+50.00 –L–

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

31-MAR-2016 16:35
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
U-2524D	X-256

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

815 810 805 800 795 790 785

6:1

0.020

PROPOSED NOISE WALL 9

6:1

791.95'

524+50.00 -L-

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

815 810 805 800 795 790 785

31-MAR-2016 16:35
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-257

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

820 815 810 805 800 795 790

END PROPOSED
NOISE WALL 9
STA.525+21.66

6:1

0.020

6:1

2.09:1

803.220

801.253

795.96

525+21.66 -L-

820 815 810 805 800 795 790 785

PROPOSED
NOISE WALL 9

6:1

0.020

6:1

3.19:1

800.971

794.53

525+00.00 -L-

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

31-MAR-2016 16:35
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-258

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

855 850 845 840

2:1 0.017 0.020 S.S.846.769 2:1

847.54

13 + 50.00 -Y5-

850 845 840

2:1 0.004 0.020 2:1

846.48

13 + 00.00 -Y5-

850 845 840

2:1 0.020 0.020 2:1

845.59

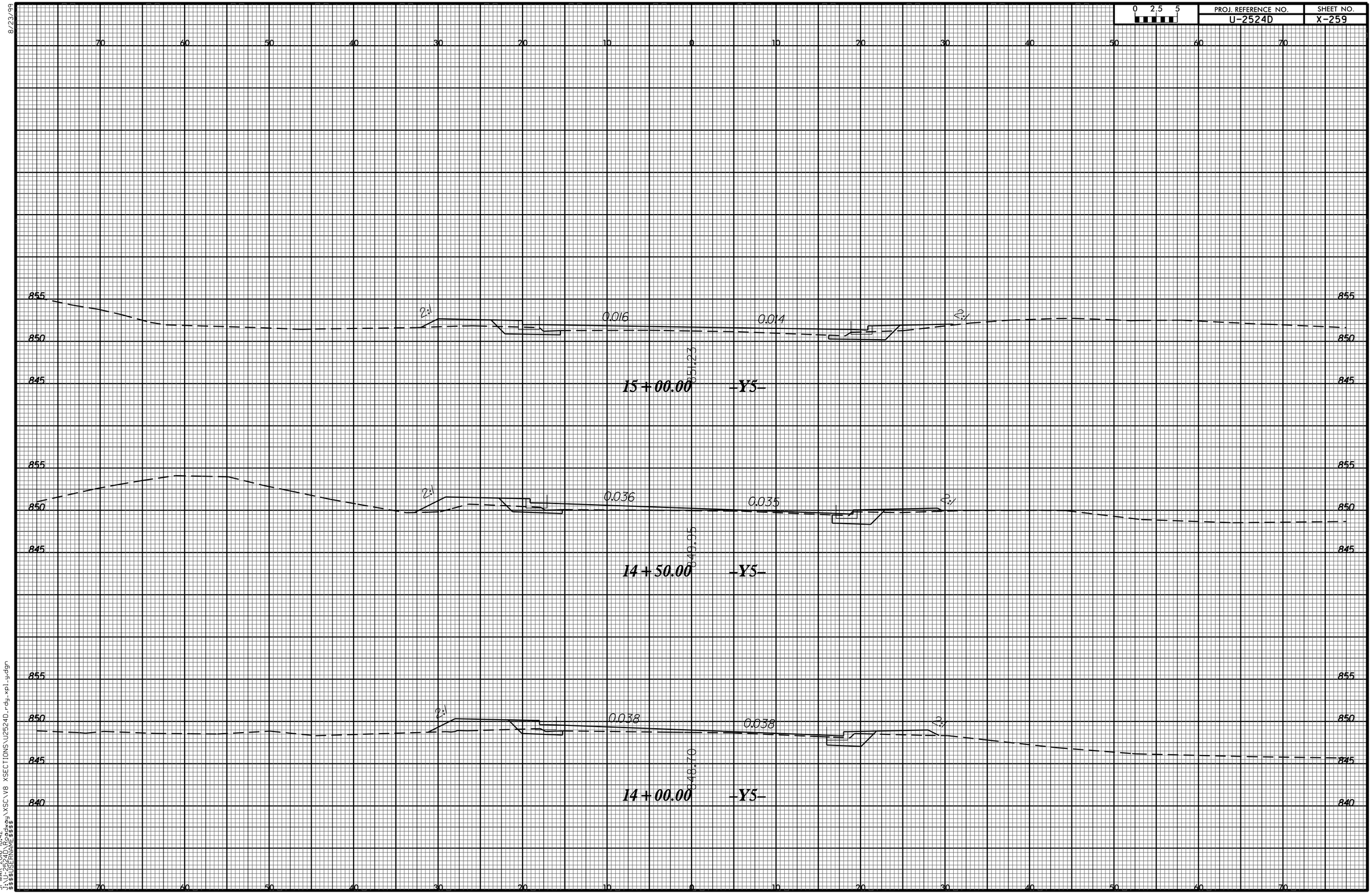
12 + 50.00 -Y5-

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

31-MAR-2016 18:42
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl-y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-259



31-MAR-2016 18:42
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl_y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-260

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

860 855 850 845

2% 0.006 0.006 2%

15+50.00 -Y5-

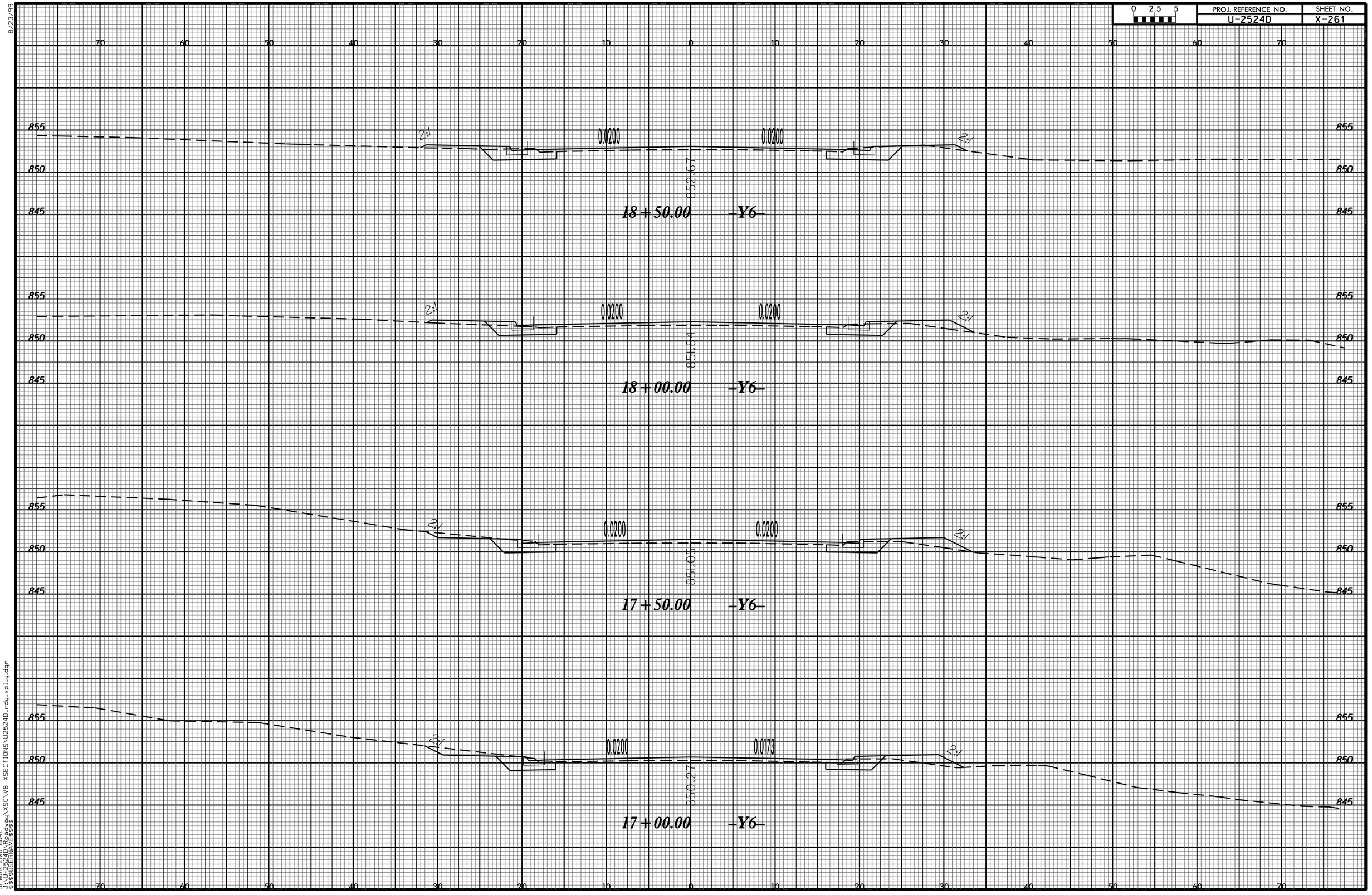
-L- 52.30

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

31-MAR-2016 18:42
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl-y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-261



31-MAR-2016 18:42
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl_y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-262

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

860 855 850

2:1 0.0895 0.0894 2:1

855.01

20+00.00 –Y6–

860 855 850

2:1 0.0200 0.0026 2:1

854.22

19+50.00 –Y6–

860 855 850

2:1 0.0200 0.0142 2:1

853.45

19+00.00 –Y6–

860 855 850 845

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

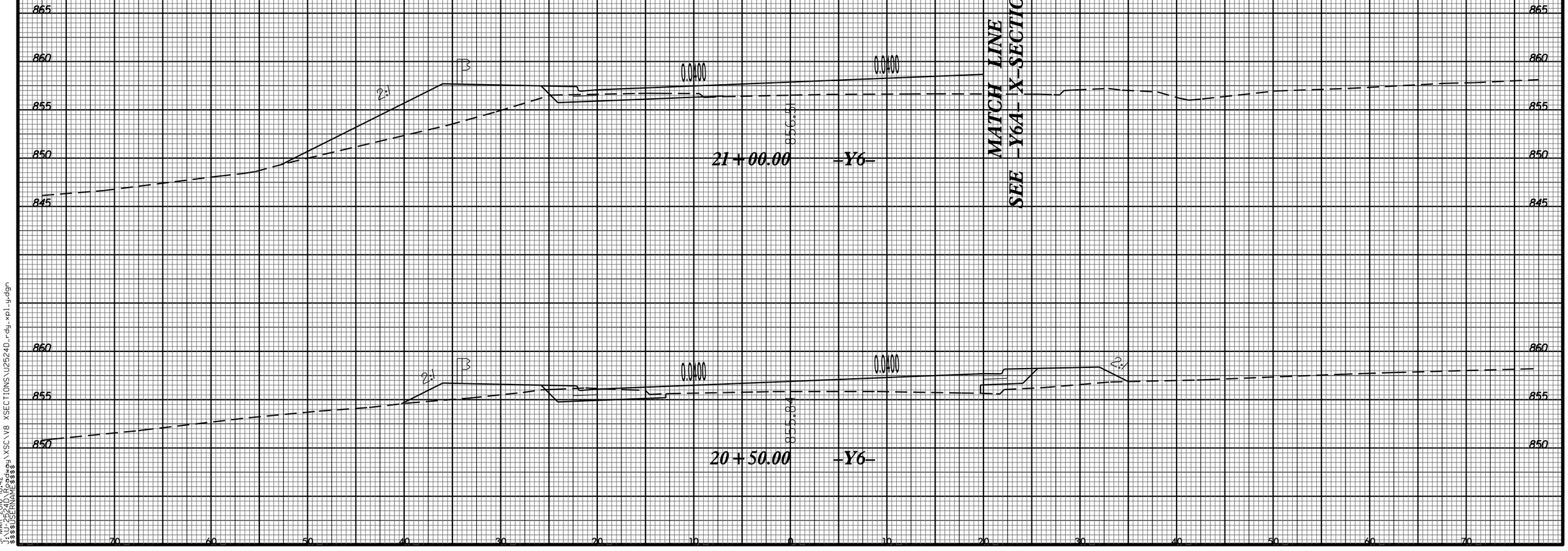
31-MAR-2016 18:42
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy_xpl-y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-263

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

865 860 855 850 845



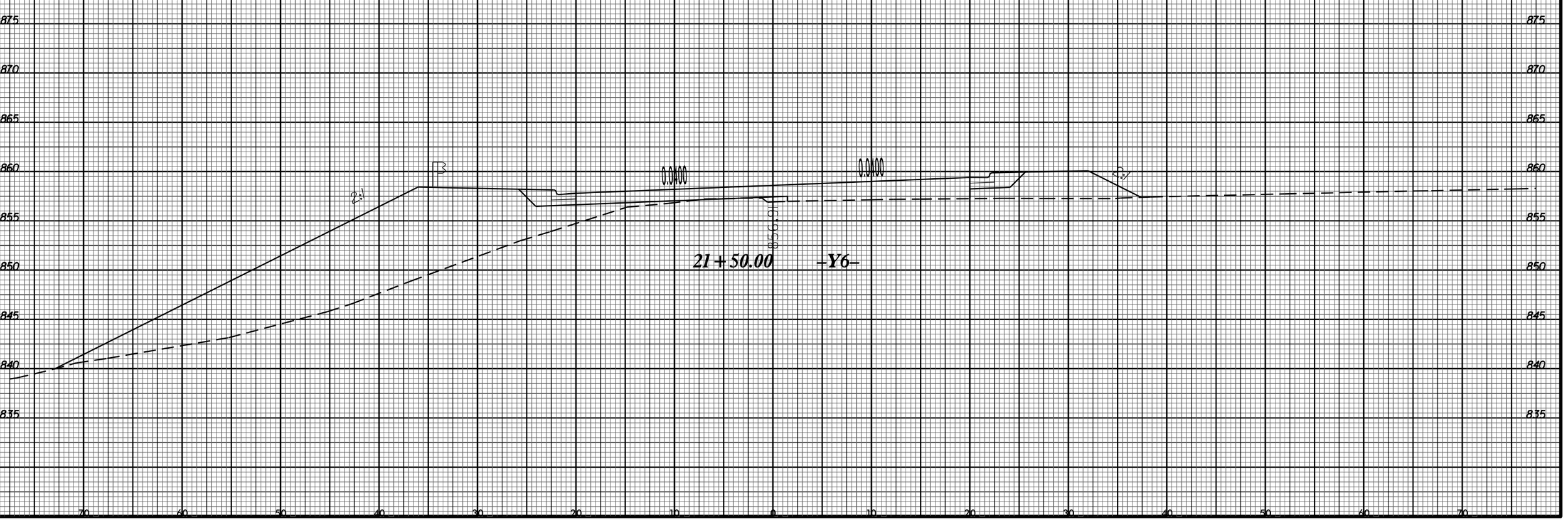
31-MAR-2016 18:42
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl_yr.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-264

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

885 880 875 870 865 860 855 850 845 840 835



31-MAR-2016 18:42
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl-y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-265

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

885 880 875 870 865 860 855 850 845 840 835 830

MATCH LINE

0.1

S.S. 833.522

2:1

0.0400

0.0400

2:1

356.69

22+00.00

-Y6-

MATCH LINE

31-MAR-2016 18:43
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy_xpl-y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-266

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

885 880 875 870 865 860 855 850 845 840 835

MATCH LINE

2:1

0.027% 0.027%

2:1 2:1

22+50.00 -Y6-

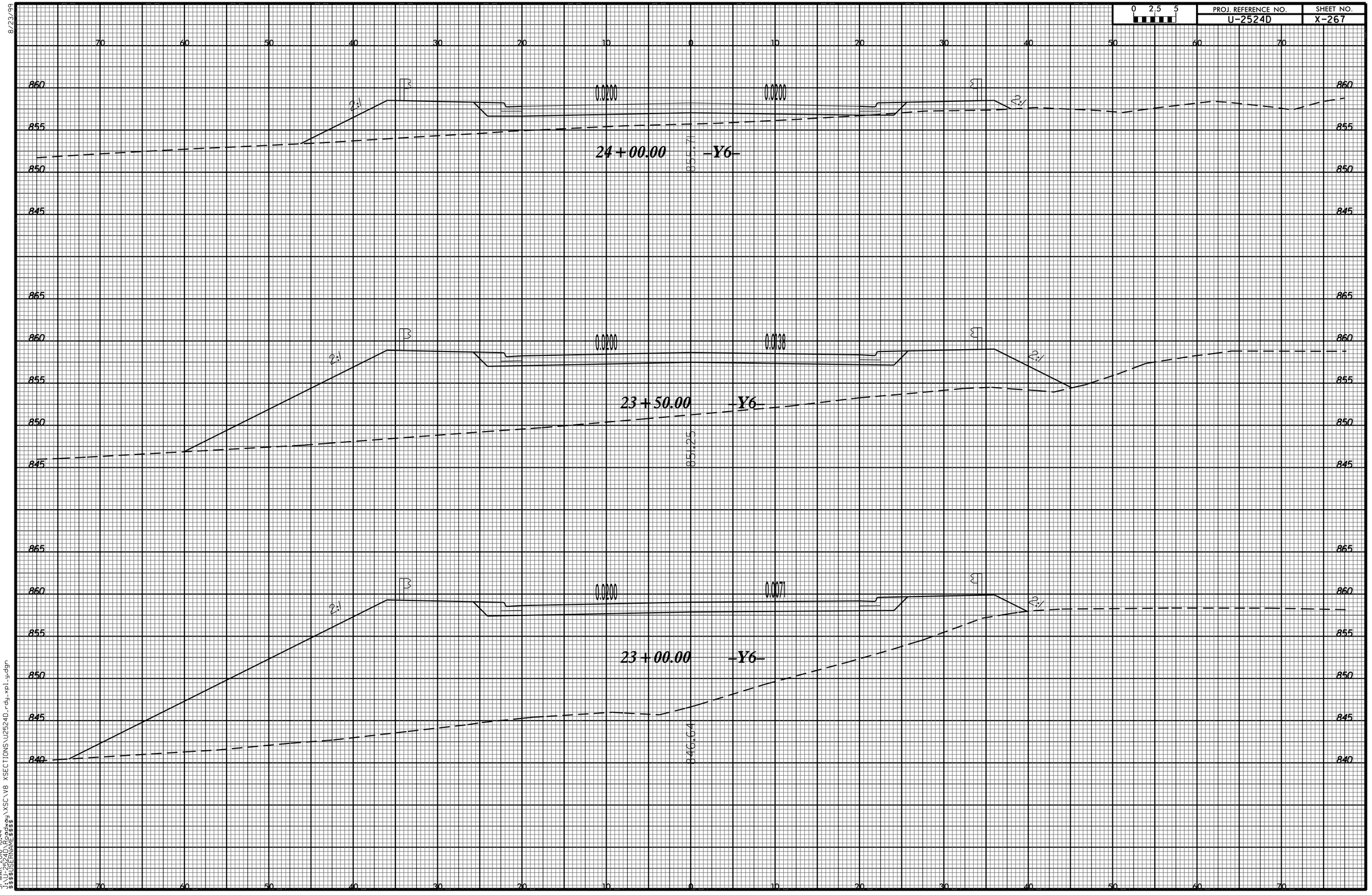
85.74

MATCH LINE

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

31-MAR-2016 18:43
J:\U-2524D\RDWAY\XSC\V8 XSECTIONS\U2524D_rdy_xpl-yy.dgn
$$$$USERNAME$$$$

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-267



8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-268

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

860 855 850

0.0200 0.0200

857.58

26+00.00 –Y6–

END BRIDGE 26+29.62

860 855 850

0.0200 0.0200

857.93

25+50.00 –Y6–

860 855 850

0.0200 0.0200

857.03

25+50.00 –Y6–

860 855 850

0.0200 0.0200

857.46

24+50.00 –Y6–

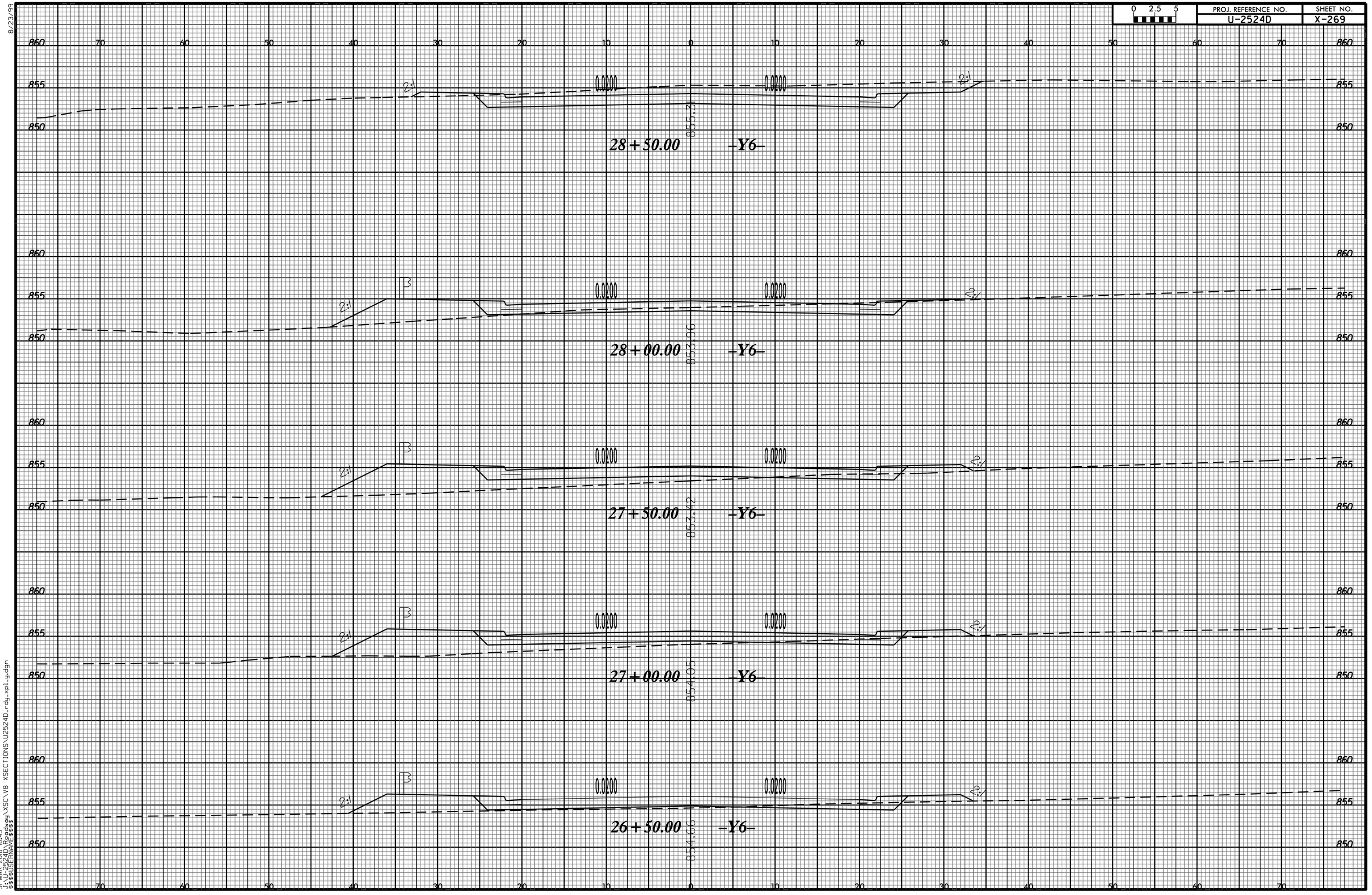
BEGIN BRIDGE 24+10.12

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

31-MAR-2016 18:43
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl-y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-269



31-MAR-2016 18:43
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl_gy.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-270

860 855 850 845 865

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

2:1 0.0200 0.0200 2:1

853.73

30+50.00 -Y6-

2:1 0.0200 0.0200 2:1

853.47

30+00.00 -Y6-

MATCH LINE SEE -Y5- X-SECTIONS

2:1 0.0200 0.0200 2:1

853.23

29+50.00 -Y6-

2:1 0.0200 0.0200 2:1

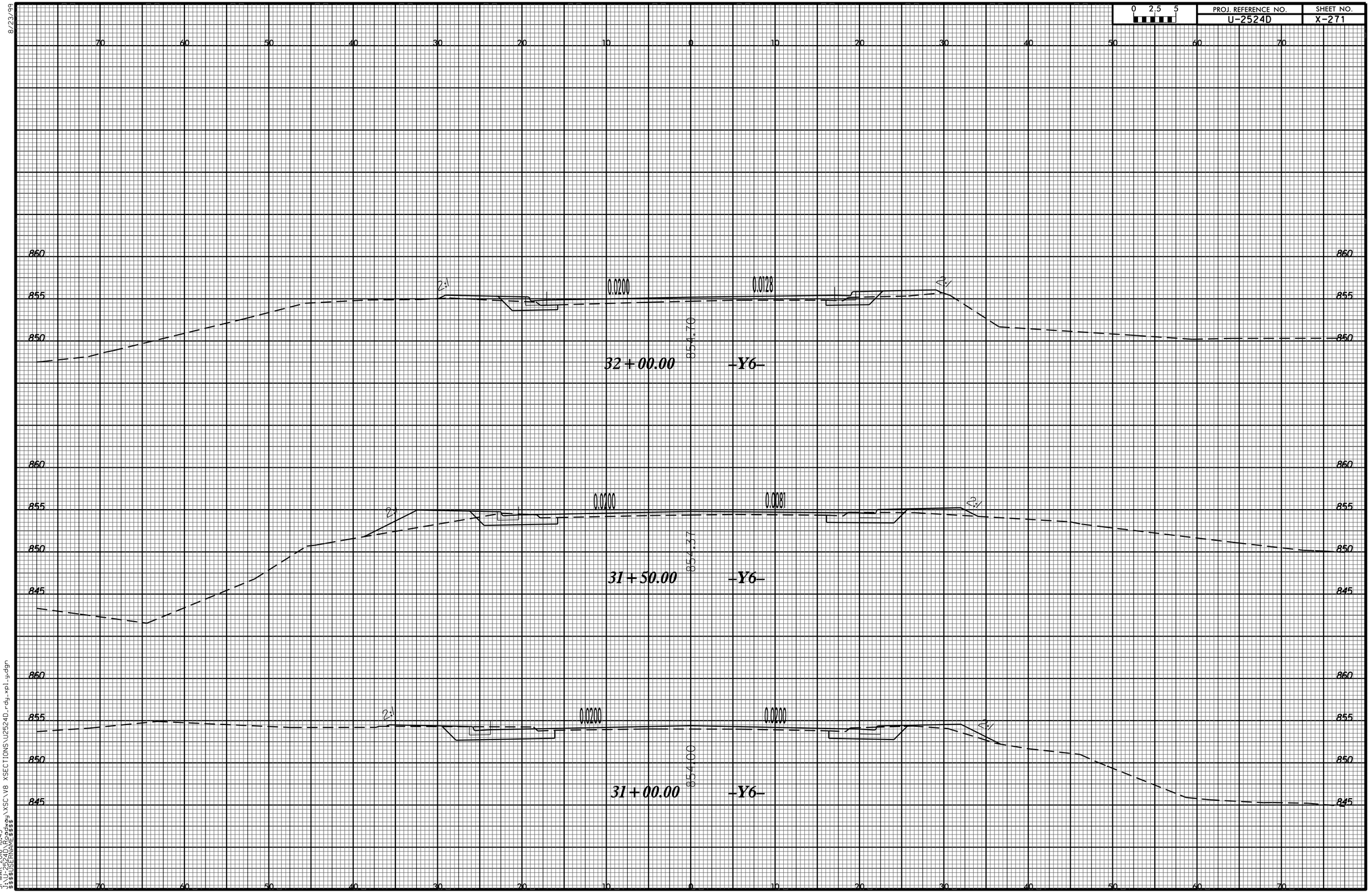
852.33

29+00.00 -Y6-

31-MAR-2016 18:43
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl-y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-271



31-MAR-2016 18:43
J:\U-2524D\Rdwg\XSC\V8 XSECTIONS\U2524D_rdy_xpl_gy.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-272

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

865 860 855

2:1 0.040 0.040 2:1

899.72

11+50.00 -Y6A-

865 860 855

2:1 0.018 0.018 2:1

899.94

11+00.00 -Y6A-

865 860 855

2:1 0.010 0.005 2:1

896.83

10+50.00 -Y6A-

850

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

31-MAR-2016 18:43
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_rdy_xpl_y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-273

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

865 860 855

2:1 0.040 0.040 2:1

856.38

13+50.00 -Y6A-

865 860 855

2:1 0.040 0.040 2:1

856.43

13+00.00 -Y6A-

865 860 855

2:1 0.040 0.040 2:1

860.26

12+50.00 -Y6A-

865 860 855

2:1 0.040 0.040 2:1

860.33

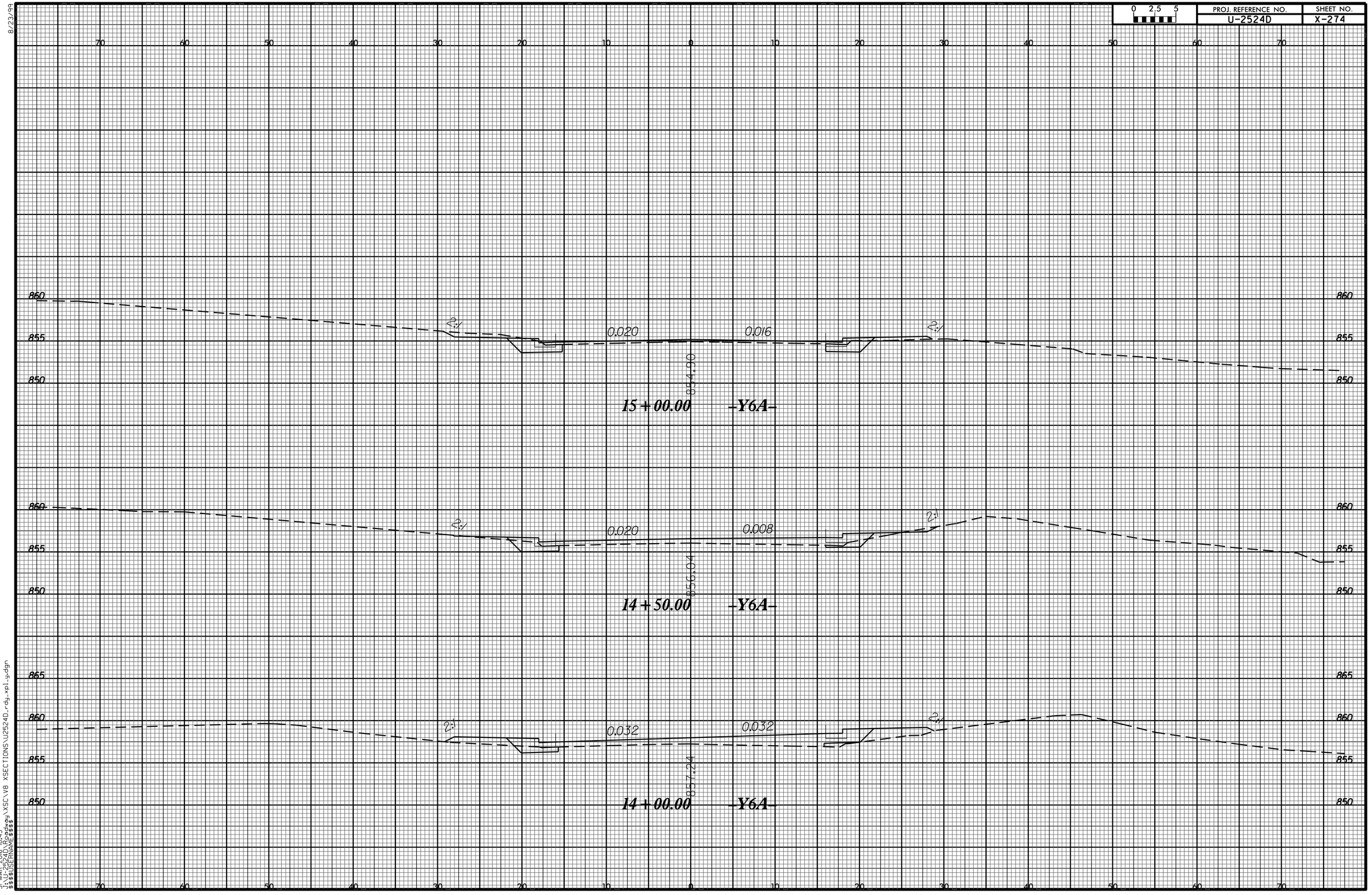
12+00.00 -Y6A-

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

31-MAR-2016 18:43
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl-y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-274



31-MAR-2016 18:43
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl_yy.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-275

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

835 830 825

2:1 0.020 0.020 2:1

830.27

12+00.00 -Y7A-

835 830 825

2:1 0.032 0.032 2:1

831.14

11+50.00 -Y7A-

840 835 830 825

2:1 0.040 0.040 2:1

832.22

11+00.00 -Y7A-

840 835 830

2:1 0.040 0.040 2:1

835.03

10+50.00 -Y7A-

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

31-MAR-2016 18:43
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl_y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-276

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

840
835
830
825

2:1 0.040 0.040 2:1

832.04

13 + 00.00 -Y7A-

835
830
825

2:1 0.037 0.037 2:1

830.58

12 + 50.00 -Y7A-

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

31-MAR-2016 18:43
J:\U-2524D\Rdwg\XSC\V8 XSECTIONS\U2524D_rdy_xpl_y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-277

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

795 790 785

2:1 0.020 794.34

12+50.00 –Y8–

800 795 790 785

2:1 0.020 792.69

12+00.00 –Y8–

800 795 790

2:1 0.020 794.37

11+50.00 –Y8–

800 795 790

2:1 0.020 796.03

11+00.00 –Y8–

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

31-MAR-2016 18:43
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl-y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-278

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

790 785 780 775

2:1

0.020

784.27

14+50.00 -Y8-

790 785 780

2:1

0.020

785.22

14+00.00 -Y8-

795 790 785 780

2:1

0.020

787.15

13+50.00 -Y8-

795 790 785

2:1

0.020

786.06

13+00.00 -Y8-

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

31-MAR-2016 18:43
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_rdy_xpl-y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-279

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

790 785 780 775 770

SP 62

777.43

16+00.00 -Y8-

785 780 775

SEE SPUR X-SECTION

0.020

779.38

15+50.00 -Y8-

785 780 775

2%

0.020

781.32

15+00.00 -Y8-

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

31-MAR-2016 18:43
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl-y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-280

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

785 780 775 770

SP 65

4:1

0.020

772.30200

17+50.00 –Y8–

SP 64

4:1

0.020

774.30400

17+00.00 –Y8–

SP 63

4:1

0.020

775.07600

16+50.00 –Y8–

31-MAR-2016 18:43
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_rdy_xpl_y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-281

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

780 775 770 765

PROPOSED RETAINING WALL 9 & 10

0.020

772.46

19+00.00 –Y8–

780 775 770 765

PROPOSED RETAINING WALL 9 & 10

0.032 0.041 0.020

772.29

14+43.25 RPAY8 **18+50.00 –Y8–**

785 780 775 770 765

SP '66

773.26

0.020 0.026 4:1 4:1 0.020

772.4

13+73.55 RPAY8 **18+00.00 –Y8–**

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

31-MAR-2016 18:43
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy_xpl-y.dgn
$$$$USERNAME$$$$

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

780 775 770 765

SP 71

4:1

0.002

772.22

20+50.00 -Y8-

SP 70

6:1

0.018

772.05

20+00.00 -Y8-

SP 69

PROPOSED RETAINING WALL 9 & 10

0.034

0.036

0.020

772.15

14+18.23 RPDY8

19+50.00 -Y8-

8/23/99
31-MAR-2016 18:43
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl-y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-283

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

790 785 780 775

SP 74

0.040

-0.040

22+00.00 -Y8-

785 780 775 770

SP 73

4:1

0.040

-0.023

21+50.00 -Y8-

785 780 775 770

SP 72

4:1

0.023

-0.023

21+00.00 -Y8-

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

31-MAR-2016 18:43
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_rdy_xpl-y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-284

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

795 790 785

BEGIN RETAINING WALL 16
STA. 23+28.00 -Y8-

0.007 0.037

788.28

23+50.00 -Y8-

795 790 785

BEGIN PROPOSED
NOISE WALL 9
STA. 23+10.73 -Y8-

2:1

0.010 0.040

784.50

23+00.00 -Y8-

790 785 780

PROPOSED
NOISE WALL 9

2:1

0.027 0.040

781.02

3+50.40 SPDY8

22+50.00 -Y8-

790 785 780 775

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

31-MAR-2016 18:43
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl_y.dgn
$$$$USERNAME$$$$

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-285

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

END RETAINING WALL 17
STA. 25+50.00 -Y8-

0.030

795.33

25+50.00 -Y8-

BEGIN RETAINING WALL 17
STA. 25+00.00 -Y8-

0.026

795.59

25+00.00 -Y8-

2:1

0.005

795.84

24+50.00 -Y8-

END RETAINING WALL 16
STA. 24+00.00 -Y8-

0.016

792.12

24+00.00 -Y8-

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-286

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

815 810 805

2:1 0.030

813.05

27+00.00 -Y8-

815 810 805

2:1 0.030

810.13

26+50.00 -Y8-

810 805 800

2:1 0.030

800.08

26+00.00 -Y8-

31-MAR-2016 18:43
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_rdy_xpl-y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-287

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

795 790 785 800

0.020 2:1

PC=0+00.24

12+50.00 –Y8–

0.020 2:1

PC=0+00.00

12+00.00 –Y8–

0.020 2:1

PT=2+94.27

11+50.00 –Y8–

0.020 2:1

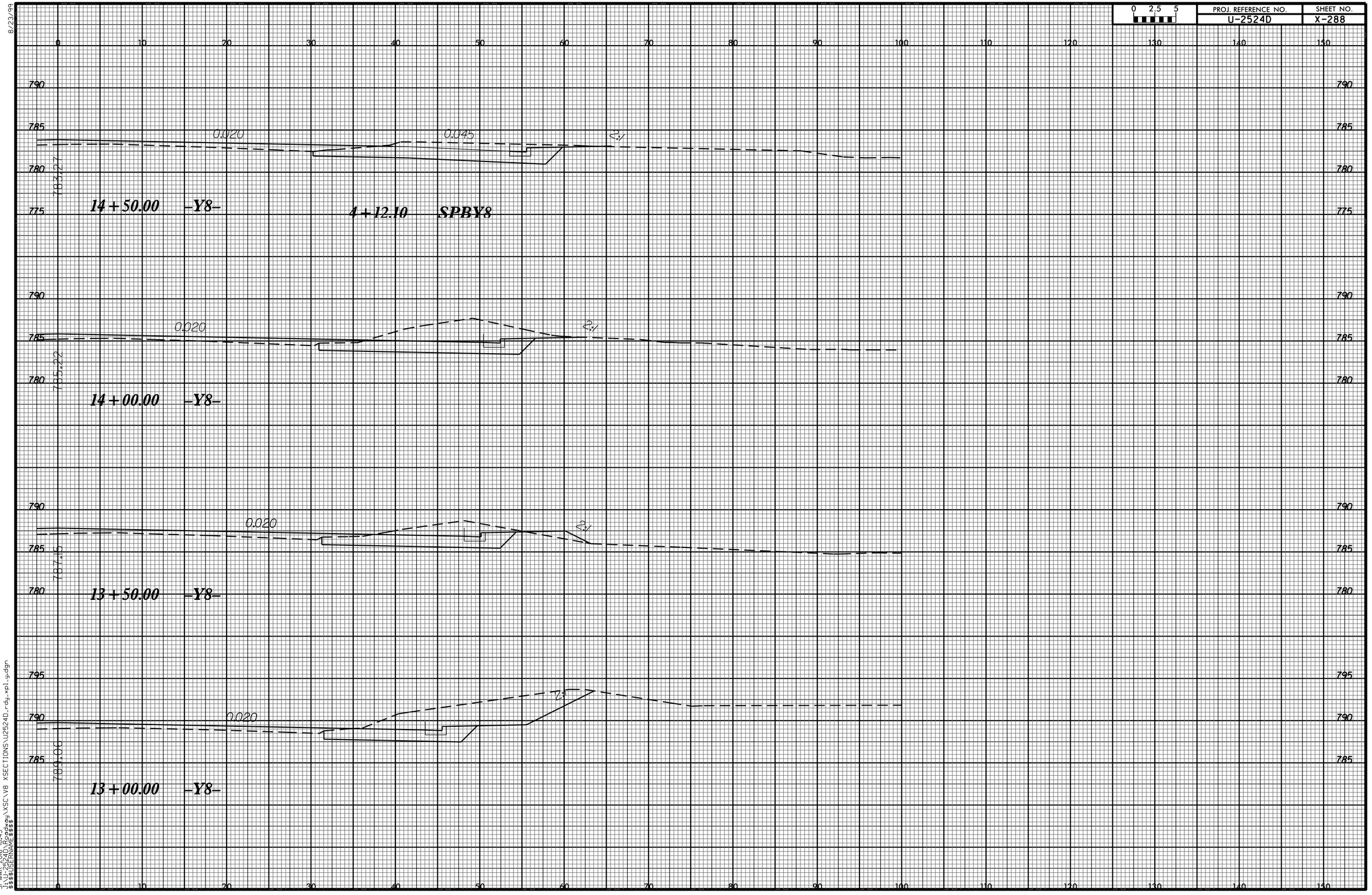
PT=2+50.02

11+00.00 –Y8–

31-MAR-2016 18:43
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy_xpl-y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-288



31-MAR-2016 18:43
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$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-289

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

790 785 780 775 770

SP 33

0.020

4:1

-L- 16+00.00

16+00.00 –Y8–

SP 32

0.020

-L- 15+50.00

15+50.00 –Y8–

0.020

0.053

2:1

-L- 15+00.00

15+00.00 –Y8–

3+60.66 SPBY8

31-MAR-2016 18:44
J:\U-2524D\Roadway\XSC\Y8 XSECTIONS\U2524D_rdy_xpl-y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-290

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

785 780 775 770

SP 36

0.020 4:1

-12.00 -11.00 -10.00

17+50.00 -Y8-

780 775 770

SP 35

0.020 4:1

-12.00 -11.00 -10.00

17+00.00 -Y8-

785 780 775 770

SP 34

0.020 4:1

-12.00 -11.00 -10.00

16+50.00 -Y8-

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

31-MAR-2016 18:44
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy_xpl-yv.dgn
$$$$USERNAME$$$$

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-291

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

780 775 770 765

772.49

0.020

PROPOSED RETAINING WALL 7 & 8

19+00.00 -Y8-

780 775 770 765

772.28

0.020 0.00

PROPOSED RETAINING WALL 7 & 8

18+50.00 -Y8-

785 780 775 770 765

772.44

0.020 0.029 0.025

SP 31

18+00.00 -Y8-

13+45.18 RPBY8

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

31-MAR-2016 18:44
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy_xpl-y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-292

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

780 775 770

SP 40

0.020

4%

2%

772.5

20+50.00 –Y8–

780 775 770

SP 39

0.020

4%

1"/FT.

772.5

2%

20+00.00 –Y8–

775 770 765

0.020

0.032

0.030

PROPOSED RETAINING WALL 7 & 8

772.5

2%

19+50.00 –Y8–

13+23.70 RPCY8

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

31-MAR-2016 18:44
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy-xpl-y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-293

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

785 780 775

0.040

2:1

22+50.00 –Y8–

0.040

22+00.00 –Y8–

SEE 'SPUR 'C' X-SECTIONS

785 780 775 770

0.040

21+50.00 –Y8–

SEE 'SPUR 'C' X-SECTIONS

785 780 775 770

SP 4I

0.023

21+00.00 –Y8–

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

31-MAR-2016 18:44
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl_uy.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-294

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

805 800 795 790

2%

2:1

0.005

795.84

24+50.00 –Y8–

800 795 790 785

2:1

0.016

792.12

24+00.00 –Y8–

795 790 785

0.037

788.28

2:1

23+50.00 –Y8–

790 785 780

0.040

784.50

2:1

23+00.00 –Y8–

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

31-MAR-2016 18:44
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl-y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-295

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

815
810
805
800
795

0.030
11%
806.13
26+50.00 -Y8-

0.030
2%
806.01
26+00.00 -Y8-

0.030
9%
805.33
25+50.00 -Y8-

PROPOSED PARKING LOT GRADING

0.026
799.50
25+00.00 -Y8-

31-MAR-2016 18:44
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl-yy.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-296

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

820
815
810
805

0.030

5.4:1

813.05

27+00.00 –Y8–

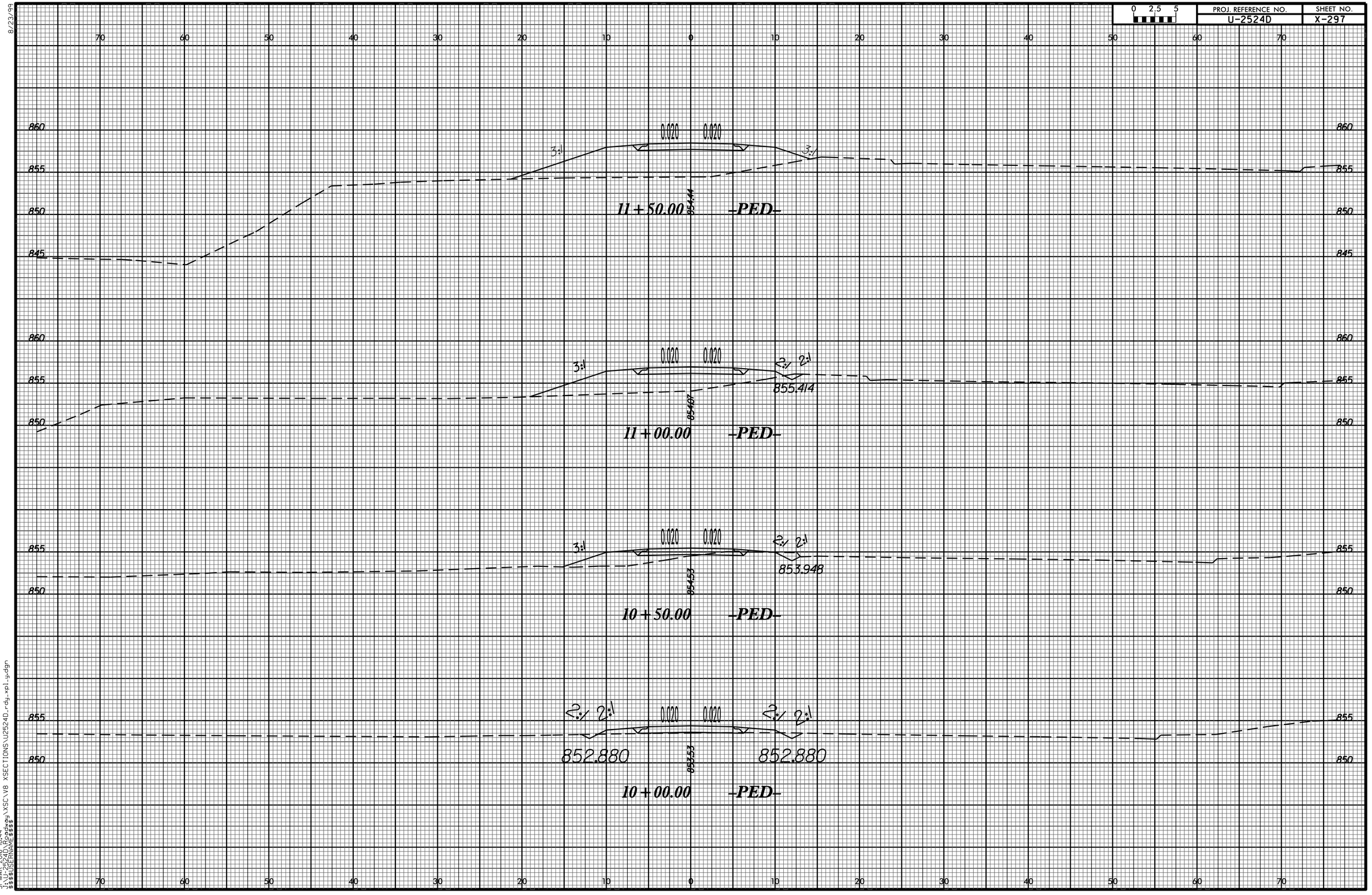
820
815
810
805

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

31-MAR-2016 18:44
J:\U-2524D\Proj\XSC\V8 XSECTIONS\U2524D_rdy_xpl_y.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-297



31-MAR-2016 18:44
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$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-298

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

865 860 855 850

13+00.00 –PED–

856.87

BEGIN BRIDGE
STA. 12+77.84 –PED–

865 860 855 850

0.020 0.020

2:1 3:1

12+50.00 –PED–

856.74

865 860 855 850

0.020 0.020

2:1 3:1

12+00.00 –PED–

855.33

865 860 855 850

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

31-MAR-2016 18:44
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_rdy_xpl_gy.dgn
$$$$USERNAME$$$$

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-299

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

870 865 860 855 850

0.0200 0.0200

2:1 2:1

14+50.00 –PED–

856.27

END BRIDGE
STA. 14+47.84 –PED–

865 860 855 850

14+00.00 –PED–

856.69

865 860 855 850

13+50.00 –PED–

856.27

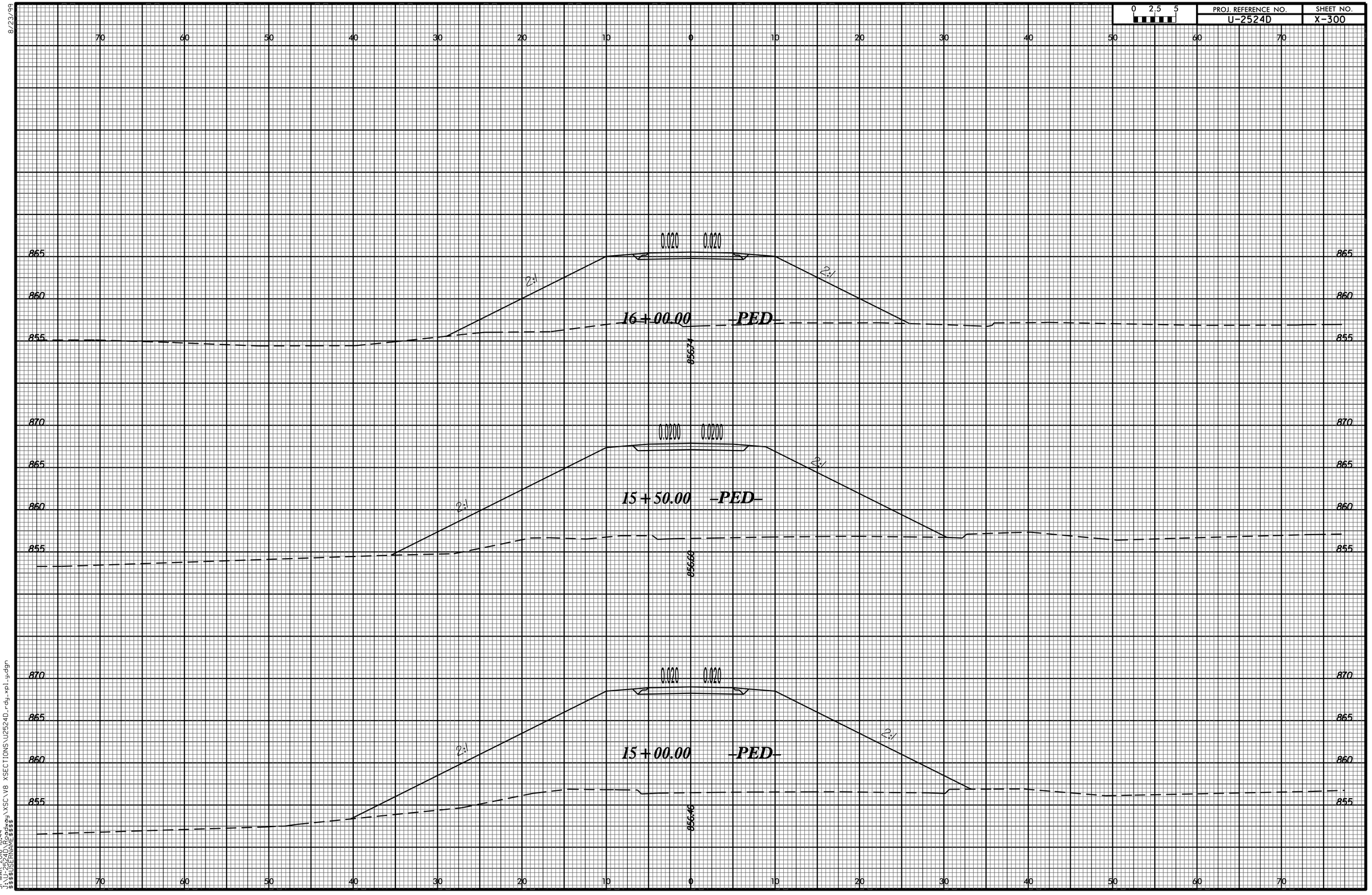
865 860 855 850

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

31-MAR-2016 18:44
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_rdwy_xpl-yu.dgn
$$$$USERNAME$$$$

8/23/99

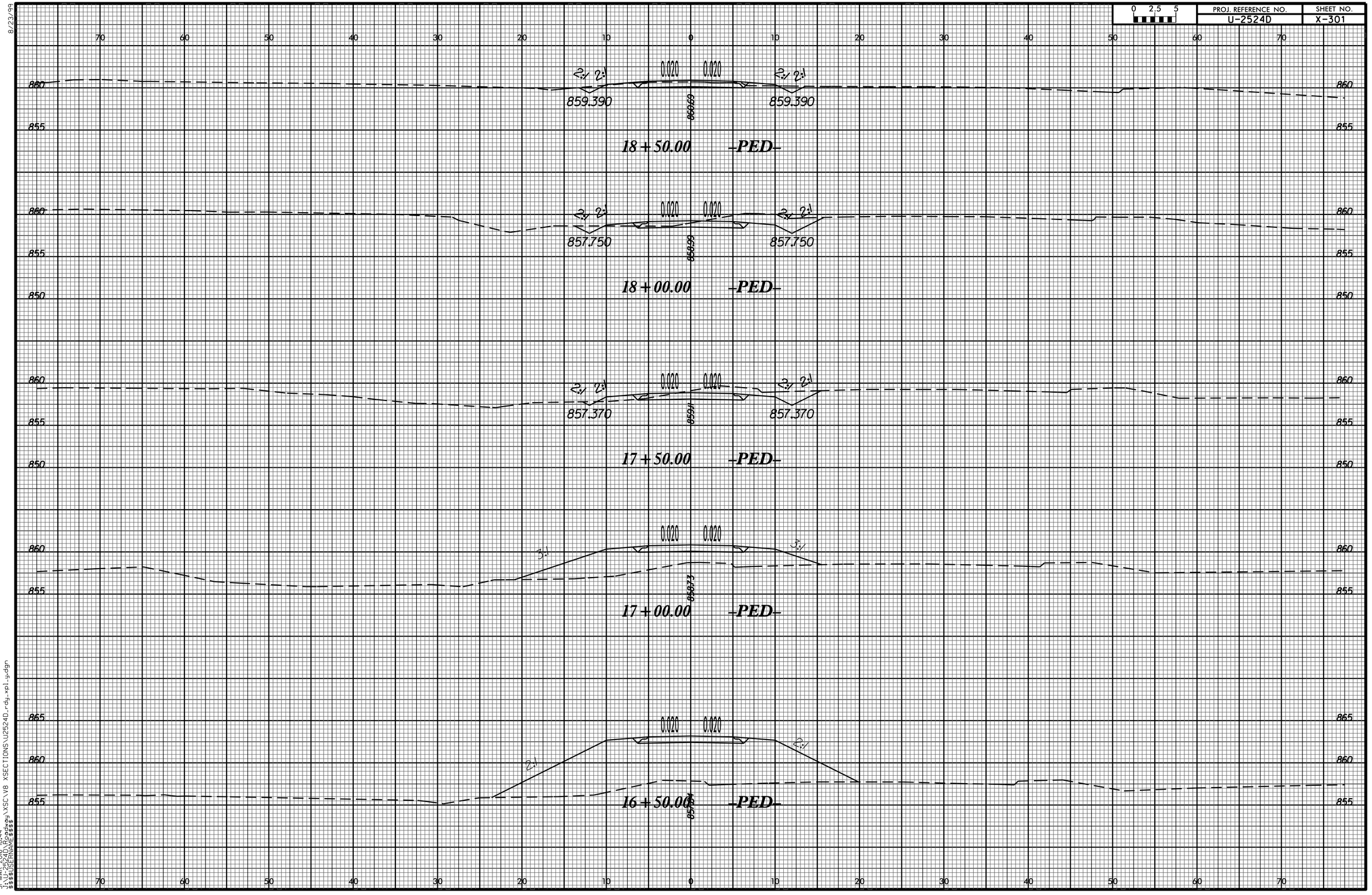
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-300



31-MAR-2016 18:44
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D-rdy_xpl-yy.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-301



31-MAR-2016 18:44
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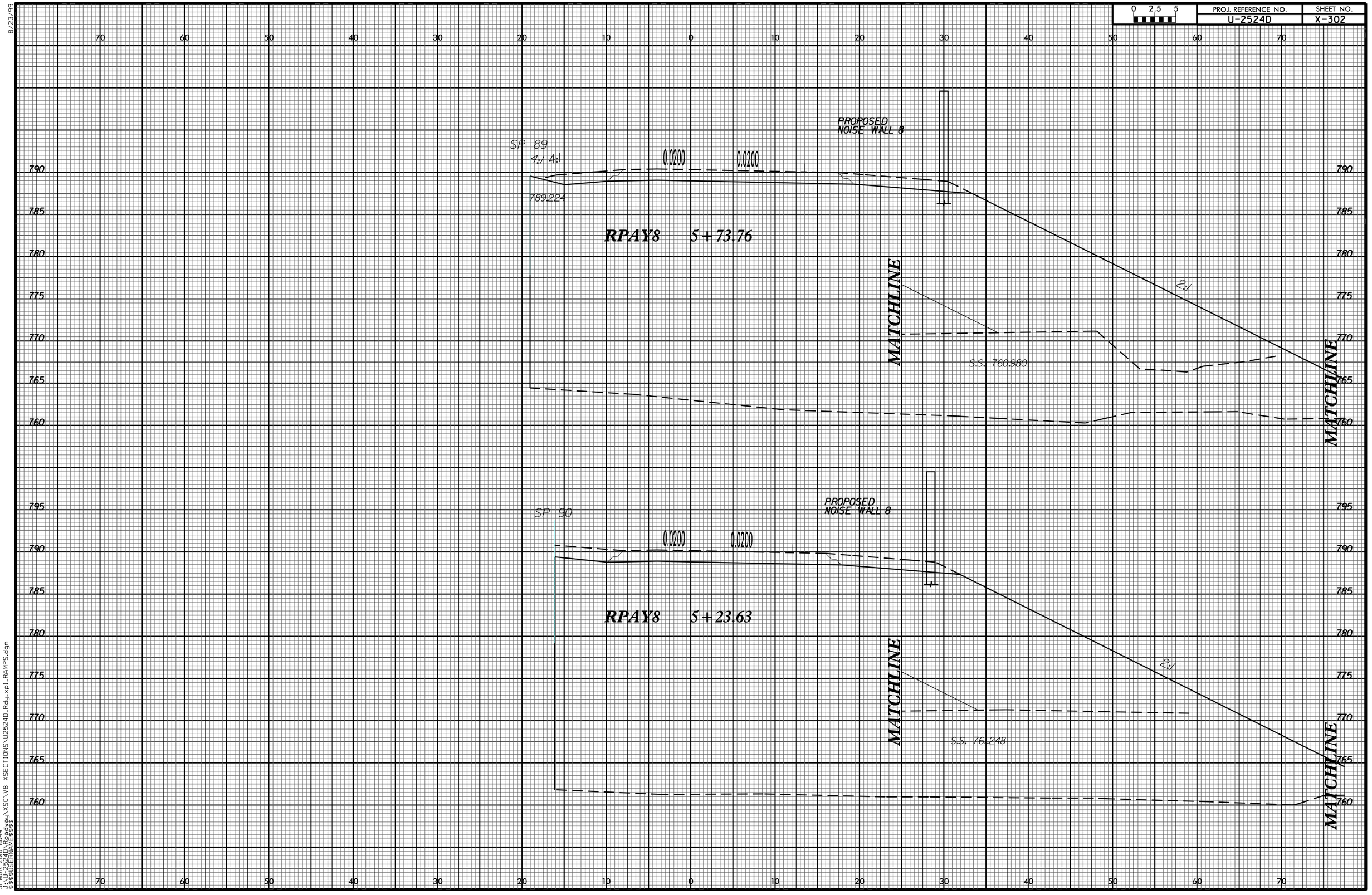
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-302



31-MAR-2016 18:44
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-303

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

795 790 785 780 775 770 765 760

SP 87A

4:1

2.5:1

0.02.00

0.02.00

787.652

PROPOSED NOISE WALL 8

RPAY8 6+74.04

MATCHLINE

2:1

3.0

2.00:1

2.00:1

S.S. 761.080

757.58

MATCHLINE

SP 88A

4:1 4:1

0.02.00

0.02.00

788.983

PROPOSED NOISE WALL 8

RPAY8 6+23.90

MATCHLINE

2:1

S.S. 756.91

MATCHLINE

31-MAR-2016 18:44
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-304

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

795 790 785 780 775 770 765 760

SP 85A

2.5:1

4:1

0.0200

0.0200

786.581

PROPOSED NOISE WALL 8

RPAY8 7+73.75

MATCHLINE

2:1

3.0

2.00:1

2.00:1

S.S. 763.563

758.31

MATCHLINE

SP 86A

4:1

0.0200

0.0200

2.5:1

786.945

PROPOSED NOISE WALL 8

RPAY8 7+24.18

MATCHLINE

2:1

3.0

2.00:1

2.00:1

S.S. 761.622

757.95

MATCHLINE

31-MAR-2016 18:44
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-305

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

SP 84A

800 795 790 785 780 775 770 765 760

PROPOSED
RETAINING WALL 9-10

2.8:1

4:1

784.874

0.0200

0.0200

PROPOSED
NOISE WALL 8

8+19.56 RPAY8

MATCHLINE

2:1

3.0

2.00:1

2.00:1

2:1

S.S. 763.775

758.65

762.220

MATCHLINE

31-MAR-2016 18:44
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
U-2524D	X-306

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

805 800 795 790 785 780 775 770 765 760 755

PROPOSED
RETAINING WALL 9-10

4:1

784.010

4:1

0.0200

0.0200

8+69.34 RPAY8

PROPOSED
NOISE WALL 18

MATCHLINE

4:1

S.S. 764533

2:1

MATCHLINE

757.59

31-MAR-2016 18:44
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-307

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

835 830 825 820 815 810 805 800 795 790 785 780 775 770 765 760

SP 82A

PROPOSED
RETAINING WALL 9-10

4:1

MATCHLINE

4:1

0.0200

0.0200

PROPOSED
NOISE WALL 8

MATCHLINE

782.966

9+19.21 RPAY8

2:1

S.S. 764.632

2:1

763.341

MATCHLINE

31-MAR-2016 18:44
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-308

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

835
830
825
820
815
810
805
800
795
790
785
780
775
770
765
760

PROPOSED
RETAINING WALL 9-10

4:1

MATCHLINE

4:1

4:1

0.0023

0.0023

END PROPOSED
NOISE WALL 8
STA.9+83.78 -RPAY8-

781.534

9+69.17 RPAY8

4:1

764.02

MATCHLINE

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

31-MAR-2016 18:44
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-309

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

DA

835

PROPOSED
RETAINING WALL 9-10

830

825

4:1

820

815

810

805

800

795

790

785

780

775

770

765

760

MATCHLINE

4:1

4:1

0.0170

0.0170

0.0036

2:1 2:1

779748

10+22.27 RPAY8 0+47.09 SPAY8

764.96

MATCHLINE

835 830 825 820 815 810 805 800 795 790 785 780 775 770 765 760

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

31-MAR-2016 18:44
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-310

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

840 835 830 825 820 815 810 805 800 795 790 785 780 775 770 765 760

PROPOSED
RETAINING WALL 9-10

4:1

MATCHLINE

4:1

4:1

0.0405

0.0405

0.0167

0.0179

3.35:1

10+86.62 RPAY8 1+13.99 SPAY8

777.184

766.26

MATCHLINE

31-MAR-2016 18:44
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-311

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

830 825 820 815 810 805 800 795 790 785 780 775 770 765

SP 78A

PROPOSED
RETAINING WALL 9-10

4:1

MATCHLINE

4:1

775.553

4:1

0.040

0.040

11+64.76 RPAY8

775.637

SP 92

4:1

MATCHLINE

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

31-MAR-2016 18:44
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-312

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

820 815 810 805 800 795 790 785 780 775 770 765

SP 77A

PROPOSED
RETAINING WALL 9-10

4:1

MATCHLINE

MATCHLINE

4:1

4:1

0.0400

0.0400

4:1

772.750

SP 91

12+34.89 769.63 RPAY8

31-MAR-2016 18:45
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-313

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

810 805 800 795 790 785 780 775 770 765

SP 76A

PROPOSED
RETAINING WALL 9-10

0.0400

0.0400

4:1

SP 64

2.6694

12+95.03 RPAY8

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

31-MAR-2016 18:45
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-314

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

SP 75A

SP 66

SP 65

PROPOSED
RETAINING WALL 9-10

0.0400

0.0400

4:1

770.66

13+44.51 RPAY8

810 805 800 795 790 785 780 775 770 765

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

31-MAR-2016 18:45
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-315

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

785 780 775 770 765

64

4:1

0.0201 0.0200

2:1

3+36.26 -L- SPAY8

SP 91

4:1

0.0201 0.0200

2:1

2+73.37 -L- SPAY8

771.338

SP 92

4:1 4:1

0.0200 0.0200

2:1

1+95.85 SPAY8

771.239

31-MAR-2016 18:45
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-316

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

790 785 780 775 770

SP 62

0.020' 0.020'

2:1

778.42

4+42.04 SPAY8

SP 63

0.020' 0.020'

4:1 2:1

775.45

3+78.20 SPAY8

790 785 780 775 770

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

31-MAR-2016 18:45
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-317

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

795 790 785 780

PROPOSED NOISE WALL 6

SP 19

5.43:1 2:1 2:1 6:1 0.020 0.020 4:1 4:1

790.34 788.647 789.757

6+36.02 RPBY8

782.67

PROPOSED NOISE WALL 6

SP 18

3.44:1 2:1 2:1 6:1 0.020 0.020 4:1 4:1

791.63 789.056 790.651

5+86.10 RPBY8

784.20

800 795 790 785

SP 17

PROPOSED NOISE WALL 6

3.48:1 6:1 0.020 0.020 4:1 4:1

789.287 791.504

5+36.18 RPBY8

786.77

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

31-MAR-2016 18:45
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-318

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

795 790 785 780

PROPOSED NOISE WALL 6

2:1 2:1 3:1 6:1 0.0200 0.0200 4:1 4:1

SP 22A

186.49 785.360 787.110

7+85.12 — RPBY8

782.69

PROPOSED NOISE WALL 6

6:1 6:1 2:1 2:1 0.0200 0.0200 4:1 4:1

SP 21

787.76 787.290 787.870

7+35.86 — RPBY8

782.45

PROPOSED NOISE WALL 6

5.80:1 2:1 2:1 6:1 0.0200 0.0200 4:1 4:1

SP 20

789.05 788.058 788.823

6+85.94 — RPBY8

784.58

31-MAR-2016 18:45
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-319

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

795 790 785 780

PROPOSED NOISE WALL 6

SP 24A

2:1 2:1 3:1 6:1 0.0200 0.0200 4:1 4:1

782.77 782.550 785.360

8+83.63 RPBY8

782.250

PROPOSED NOISE WALL 6

SP 23A

2:1 2:1 3:1 6:1 0.0200 0.0200 4:1 4:1

783.53 783.430 786.299

8+34.38 RPBY8

782.250

795 790 785 780

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

31-MAR-2016 18:45
J:\U-2524D\Rpt\xsc\xsc\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-320

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

825 820 815 810 805 800 795 790 785 780 775

PROPOSED
NOISE WALL 6

PROPOSED
RETAINING WALL 7-8

MATCHLINE

MATCHLINE

2:1 2:1 3:1 6:1 4:1 3.5:1 3.5:1

0.011% 0.011%

0.022%

782.07 781.750 782.739

9+28.64 RPBY8

31-MAR-2016 18:45
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-321

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

825 820 815 810 805 800 795 790 785 780 775

SP 26A

4:1

PROPOSED
RETAINING WALL 7-8

MATCHLINE

PROPOSED
NOISE WALL 6

2:1 2:1 781.82

6:1 781.328

6:1 0.006% 0.006% 781.93

4:1 781.328

4:1

MATCHLINE

9+78.63 RPBY8

31-MAR-2016 18:45
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-322

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

825 820 815 810 805 800 795 790 785 780 775

SP 27A

PROPOSED
RETAINING WALL 7-8

4:1

MATCHLINE

PROPOSED
NOISE WALL 6

2:1 2:1 6:1 6:1

780.16 779.410

0.028% 0.028%

-1.92%

4:1 4:1

778.803

MATCHLINE

10 + 38.48 RPBY8

31-MAR-2016 18:45
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-323

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

825 820 815 810 805 800 795 790 785 780 775 770 765

SP

PROPOSED
RETAINING WALL 7-8

4:1

MATCHLINE

SP 42

0.0400

0.0400

4:1

11+18.33 RPBY8

TOE PT

MATCHLINE

31-MAR-2016 18:45
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-324

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

SP 29A

815 810 805 800 795 790 785 780 775 770

PROPOSED
RETAINING WALL 7-B

4:1

MATCHLINE

SP 43

4:1

0.0400

0.0400

4:1

4:1

774.12

774.12

11+94.62 RPBY8

MATCHLINE

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

815 810 805 800 795 790 785 780 775 770

31-MAR-2016 18:45
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-325

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

810 805 800 795 790 785 780 775 770 765

SP 35

4:1

0.0400

0.0400

4:1

4:1

PROPOSED
RETAINING WALL 7-8

771829

766824

12+57.49 RPBY8

31-MAR-2016 18:45
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-326

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

810 805 800 795 790 785 780 775 770 765

SP 31

PROPOSED
RETAINING WALL 7-8

SP 31A

SP 36

0.0400

0.0400

17.2500

13+06.47 RPBY8

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

31-MAR-2016 18:45
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-327

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

780 775 770

2:1 0.0400 0.0400 4:1

775.30

1+91.65 SPBY8

780 775 770

SP 43

2:1 0.0302 0.0302 4:1 4:1

774.87

1+48.36 SPBY8

785 780 775 770 765

SP 42

0.0000 2:1 4:1

767.78

0+72.44 SPBY8

31-MAR-2016 18:45
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-328

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

795 790 785 780 775 770

SP 33

2:1 0.0400 0.0400 4:1

770.27

2+69.50 SPBY8

SP 34

2:1 0.0400 0.0400 4:1

774.27

2+27.94 SPBY8

31-MAR-2016 18:45
J:\U-2524D\Roads\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

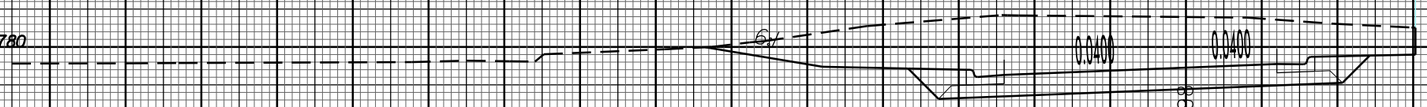
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-329

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

795 790 785 780 775 770

SP 32



3+13.94 SPBY8

31-MAR-2016 18:45
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-330

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

795 790 785 780 775

SP 46

4:1 4:1

0.0200 0.0200

6:1

3:1

790.060

787.68

PROPOSED NOISE WALL 7

2:1

788.72

6+44.68 RPCY8

788.72

SP 45

4:1 4:1

0.0200 0.0200

6:1

3:1

791.063

787.93

PROPOSED NOISE WALL 7

2:1

788.62

5+94.78 RPCY8

790.88

SP 44

4:1

0.0200 0.0200

6:1

3:1

788.180

789

PROPOSED NOISE WALL 7

2:1

5+44.95 RPCY8

777.08

31-MAR-2016 18:45
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-331

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

795 790 785 780

SP 49A

3.8:1 4:1 0.0200 0.0200 6:1 3:1

787.08

PROPOSED NOISE WALL 7

783.69

7+93.70 RPCY8

SP 48A

3.7:1 4:1 0.0200 0.0200 6:1 3:1

786.05

PROPOSED NOISE WALL 7

785.24

7+44.48 RPCY8

SP 47

4:1 4:1 0.0200 0.0200 6:1 3:1

789.004

PROPOSED NOISE WALL 7

787.43

6+94.58 RPCY8

31-MAR-2016 18:45
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-332

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

795 790 785 780

SP 51A

3.8:1

4:1

0.0098

0.0098

6:1

784.639

784.417

8 + 92.15 RPCY8

MATCHLINE

PROPOSED NOISE WALL 7

3:1

6:1

2:1

2:1

780.74

780.96

SP 50A

3.8:1

4:1

0.0200

0.0200

6:1

3:1

785.978

785.775

8 + 42.93 RPCY8

PROPOSED NOISE WALL 7

782.21

MATCHLINE

795 790 785 780

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

31-MAR-2016 18:45
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-333

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

815 810 805 800 795 790 785 780

SP 52A

PROPOSED RETAINING WALL 7-8

3:2:1

MATCHLINE

3.2:1

780.896

0.0050 0.0050 0.0017

4:1

1.52%

9+37.22 RPCY8 0+15.57 SPCY8

MATCHLINE

PROPOSED NOISE WALL 7

2:1 2:1

779.69

6:1 6:1 3:1

779.20

MATCHLINE

31-MAR-2016 18:45
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-334

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

815 810 805 800 795 790 785 780 775

SP 53A

PROPOSED
RETAINING WALL 7-8

4:1

MATCHLINE

4:1

4:1

778.612

0.022

0.022

0.007

78.32

6.02%

9+91.75 RPCY8

0+70.85 SPCY8

MATCHLINE

PROPOSED
NOISE WALL 7

3:1

779.29

2:1

2:1

MATCHLINE

31-MAR-2016 18:45
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-335

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

SP 54A

815 810 805 800 795 790 785 780 775 770 765

PROPOSED
RETAINING WALL 7-8

4:1

MATCHLINE

MATCHLINE

4:1

0.0400

4:1

0.0400

0.0164

0.0167

MATCHLINE

3.33:1

S.S. 770.112

3.33:1

MATCHLINE

775.827

10+57.16 RPCY8 1+39.78 SPCY8

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

31-MAR-2016 18:46
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-336

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

815 810 805 800 795 790 785 780 775 770 765

SP 55A

PROPOSED
RETAINING WALL 7-8

MATCHLINE

MATCHLINE

0.0400

0.0400

SHLDR

SP 59

11+26.30 RPCY8

31-MAR-2016 18:46
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-337

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

815 810 805 800 795 790 785 780 775 770 765

SP 56A

PROPOSED
RETAINING WALL 7-8

MATCHLINE

MATCHLINE

0.0400

0.0400

4:1

4:1

SP 60

773.087

11+89.34

767.62

RPCY8

31-MAR-2016 18:46
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-338

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

805 800 795 790 785 780 775 770 765 760

SP 57A

PROPOSED
RETAINING WALL 7-8

0.0400

0.0400

4.1

SP 61

12+43.49

RPCY8

TOESLOPE

31-MAR-2016 18:46
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-339

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

805 800 795 790 785 780 775 770 765 760

SP 58A

PROPOSED
RETAINING WALL 7-8

0.0400

0.0400

4%

SP 39

12+88.23

RPCY8

ZERO

31-MAR-2016 18:46
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-340

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

780 775 770 765

SP 61

4:1

0.0200 0.0200

2.004:1

3+31.24 SPCY8

767.30'

768.87'

SP 60

4:1

0.0200 0.0200

2:1

2+78.58 SPCY8

767.06'

785 780 775 770 765

SP 59

0.0200 0.0200

2:1

2+09.89 SPCY8

768.57'

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

31-MAR-2016 18:46
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-341

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

785 780 775 770 765

SP 41

0.0200 0.0200 2%

3+93.47 SPCY8

770.84

SP 40

0.0200 0.0200 4%

4%

3+54.97 SPCY8

769.88

SS. 767.863

31-MAR-2016 18:46
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-342

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

795 790 785 780 775 770

PROPOSED NOISE WALL 9

0.0200 0.0200

4:1 4:1

SP 108

787.468

2:1 3:1 5:1

771.90

RPDY8 6+23.82

PROPOSED NOISE WALL 9

0.0200 0.0200

4:1 4:1

SP 109

787.941

2.08:1

RPDY8 5+73.96

795 790 785 780 775 770

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

31-MAR-2016 18:46
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-343

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

790
785
780
775
770

PROPOSED NOISE WALL 9

SP 106A

0.020 0.020 4:1 4:1

786.277

2:1 3:1 3:1

771.50

RPDY8 7+23.59

PROPOSED NOISE WALL 9

SP 107A

0.020 0.020 4:1 4:1

786.913

2:1 3:1 3:1

771.70

RPDY8 6+73.70

790 785 780 775 770

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

31-MAR-2016 18:46
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-344

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

795 790 785 780 775 770

PROPOSED NOISE WALL 9

0.020D 0.020D

2.2:1 4:1 4:1

SP 104A

784.788

RPDY8 8+22.54

2.5:1 3:1

771.11

PROPOSED NOISE WALL 9

0.020D 0.020D

2.10:1 4:1 4:1

SP 105A

785.540

RPDY8 7+73.46

3:1 3:1

771.30

31-MAR-2016 18:46
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-345

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

795 790 785 780 775 770

PROPOSED NOISE WALL 9

0.020 0.020

SP 102A

4:1

4:1

2@3:1

7832.53

RPDY8 9 + 20.16

3:1 3:1

770.71

PROPOSED NOISE WALL 9

0.020 0.020

SP 103A

4:1

4:1

2@3:1

784.090

RPDY8 8 + 71.43

2.5:1 3:1

770.91

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

31-MAR-2016 18:46
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-346

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

815 810 805 800 795 790 785 780 775 770

SP 100A

MATCHLINE

MATCHLINE

PROPOSED NOISE WALL 9

0.0029

0.0029

3.5:

4:1

3:1

3:1

3.05:1

RPDY8 10+17.17

780.202

770.33

MATCHLINE

MATCHLINE

PROPOSED NOISE WALL 9

SP 101A

0.019

0.019

4:1

4:1

3:1

3:1

2.65:1

RPDY8 9+68.73

782.266

770.52

31-MAR-2016 18:46
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-347

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

815 810 805 800 795 790 785 780 775 770

SP 99A

MATCHLINE

MATCHLINE

PROPOSED
NOISE WALL 9

0.0138

0.0138

3:1

3.65:1

3:1

4:1

3:1

MATCHLINE

MATCHLINE

RPDY8 10+67.33

770.13

777.210

31-MAR-2016 18:46
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-348

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

815 810 805 800 795 790 785 780 775 770

SP 98A

2.5:1

MATCHLINE

MATCHLINE

PROPOSED NOISE WALL 9

0.032% 0.032%

3:1 4:1 3:1 3:1 4:1 2.5:1

SPDY8 0+20.81 RPDY8 11+24.61

769.90

773.881

MATCHLINE

MATCHLINE

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

31-MAR-2016 18:46
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-349

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

825 820 815 810 805 800 795 790 785 780 775 770

SP 97A

2.6:1

PROPOSED RETAINING WALL 9-10

PROPOSED NOISE WALL 9

SP 94

0.0400

0.0400

4:1

II+96.20 RPDY8

771.499

773.319

2.0:1

MATCHLINE

MATCHLINE

31-MAR-2016 18:46
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-350

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

810 805 800 795 790 785 780 775 770

SP 96A

PROPOSED RETAINING WALL 9-10

4:1

MATCHLINE

4:1

0.0400

0.0400

4:1

4:1

SP 93

774.232

772.337

772.646

MATCHLINE

12+62.77 RPDY8

31-MAR-2016 18:46
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-351

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

795 790 785 780 775 770 765

SP 71

SP 71A

PROPOSED RETAINING WALL 9-10

4:1

0.0400

0.0400

772.274

13+37.88 RPDY8

805 800 795 790 785 780 775 770

SP 95A

PROPOSED RETAINING WALL 9-10

4:1

0.0400

0.0400

772.322

4:1

4:1

770.894

13+19.42 RPDY8

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

31-MAR-2016 18:46
J:\U-2524D\Roadway\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-352

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

805 800 795 790 785 780 775 770 765

SP 69A

SP 70

PROPOSED RETAINING WALL 9-10

A:

0.0400

0.0400

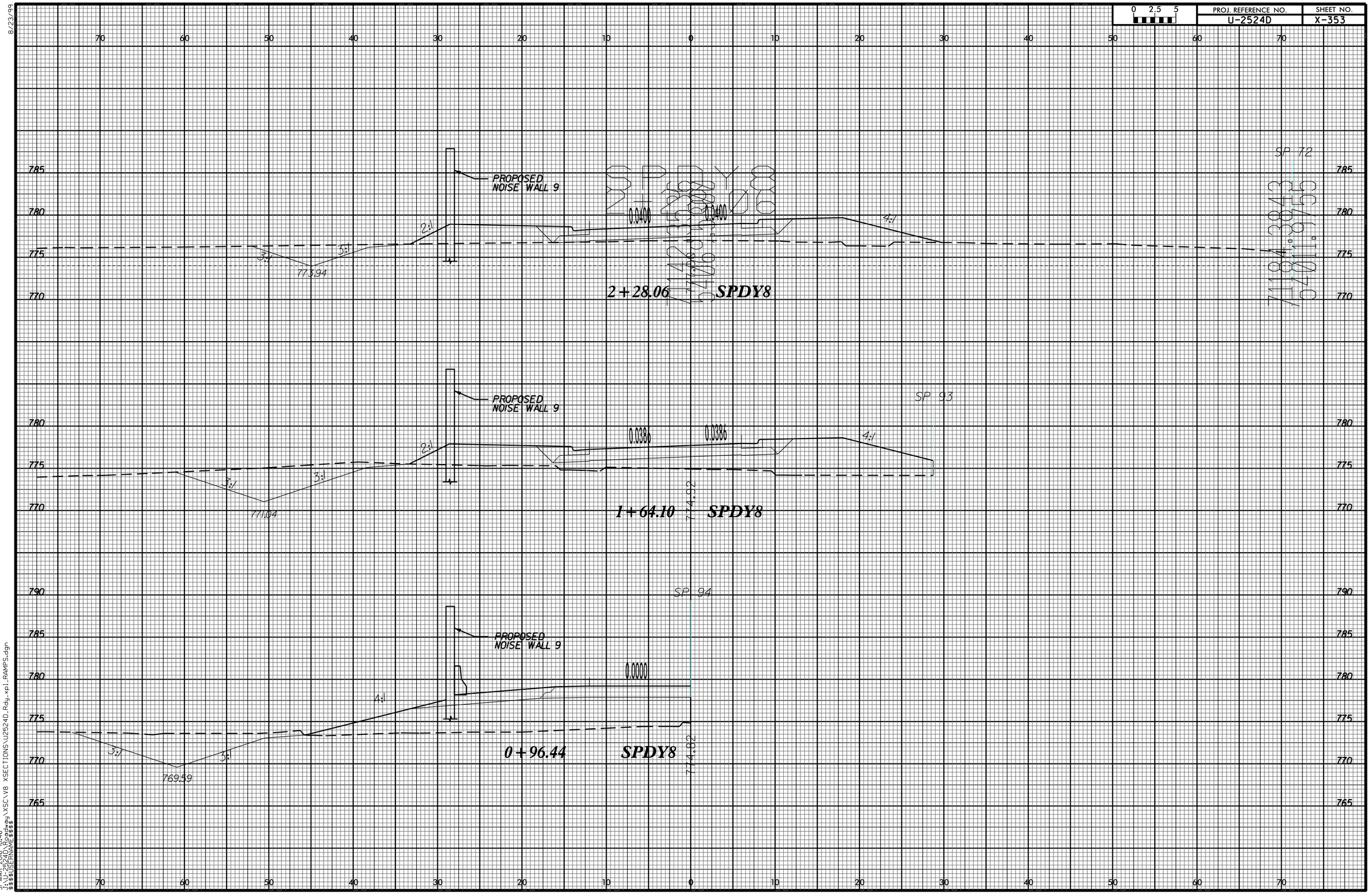
772.05

13+78.15 RPDY8

31-MAR-2016 18:46
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-353



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$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-354

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

790 785 780 775

SP 74

PROPOSED NOISE WALL 9

0.0395 0.0395

2:1

775.94

3+01.10 SPDY8

790 785 780 775

SP 73

PROPOSED NOISE WALL 9

0.0400 0.0400

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

775.14

776.97

2+54.48 SPDY8

31-MAR-2016 18:46
J:\U-2524D\Rdwy\XSC\V8 XSECTIONS\U2524D_Rdy_xpl_RAMPS.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-355

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

790 785 780 775 770 785 790

2:1
4:1
0.038
0.038
774.28
777.44

13+50.00 -Y8_DET-

2:1
4:1
0.030
777.37
779.38

13+00.00 -Y8_DET-

2:1
4:1
0.030
779.57
781.62

12+50.00 -Y8_DET-

-Y8_DET-

790 785 780 775 770 795 790 785 780 775

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

04-APR-2016 11:52
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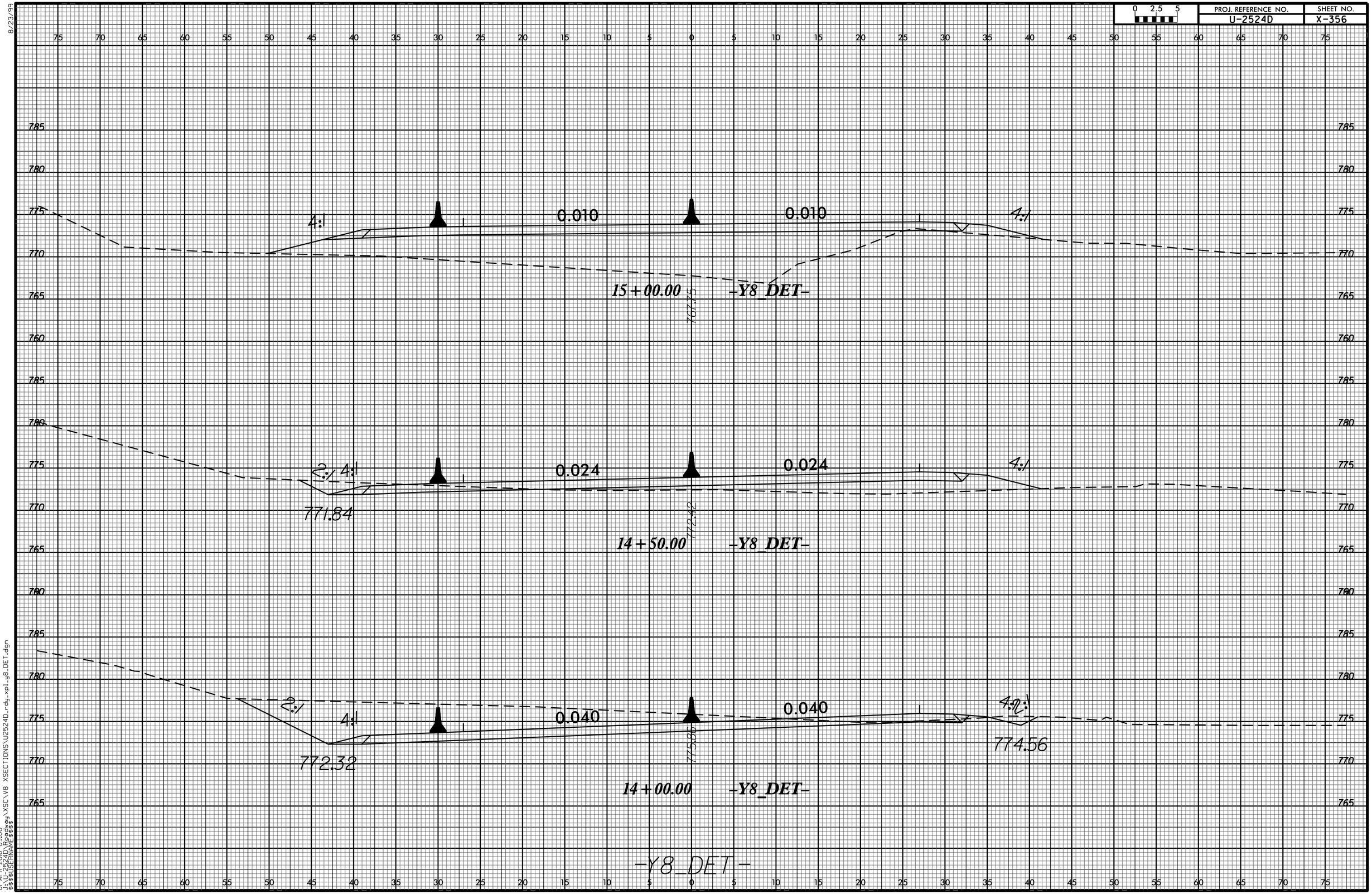
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-356



01-APR-2016 09:00
$$$$USERNAME$$$$
$$$$DESIGN$$$$ d:\projects\$$$$dgn\XSC\V8 XSECTIONS\U2524D_rdy_xp1_g8_DET.dgn

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-357

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

785 780 775 770 765

0.040 0.040

2:1 4:1

16+50.00 -Y8_DET-

767.50

0.039 0.039

2:1 4:1

16+00.00 -Y8_DET-

769.22

0.012 0.012

3:1 4:1

15+50.00 -Y8_DET-

770.44

-Y8_DET-

01-APR-2016 09:00
\\fs1\Projects\U2524D_Durham\dgn\XSC\V8 XSECTIONS\U2524D_rdy_xs1_g8_DET.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-358

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

795 790 785 780 775 770 765 760 755

0.040 0.040

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

MATCHLINE MATCHLINE MATCHLINE MATCHLINE

17+50.00 -Y8_DET-

765.23

0.040 0.040

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

MATCHLINE MATCHLINE MATCHLINE MATCHLINE

17+00.00 -Y8_DET-

763.54

-Y8_DET-

01-APR-2016 09:00
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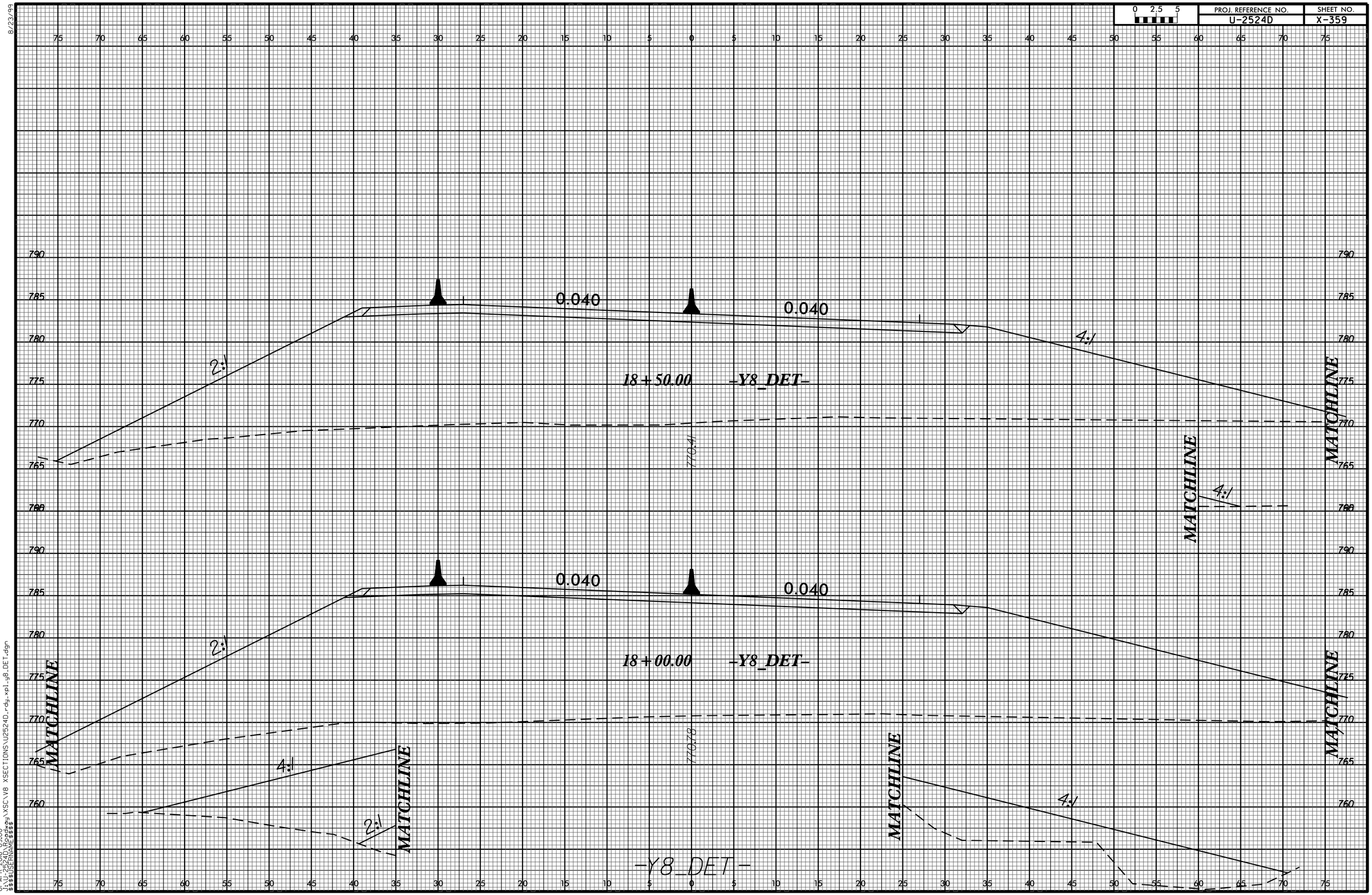
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-359



01-APR-2016 09:00
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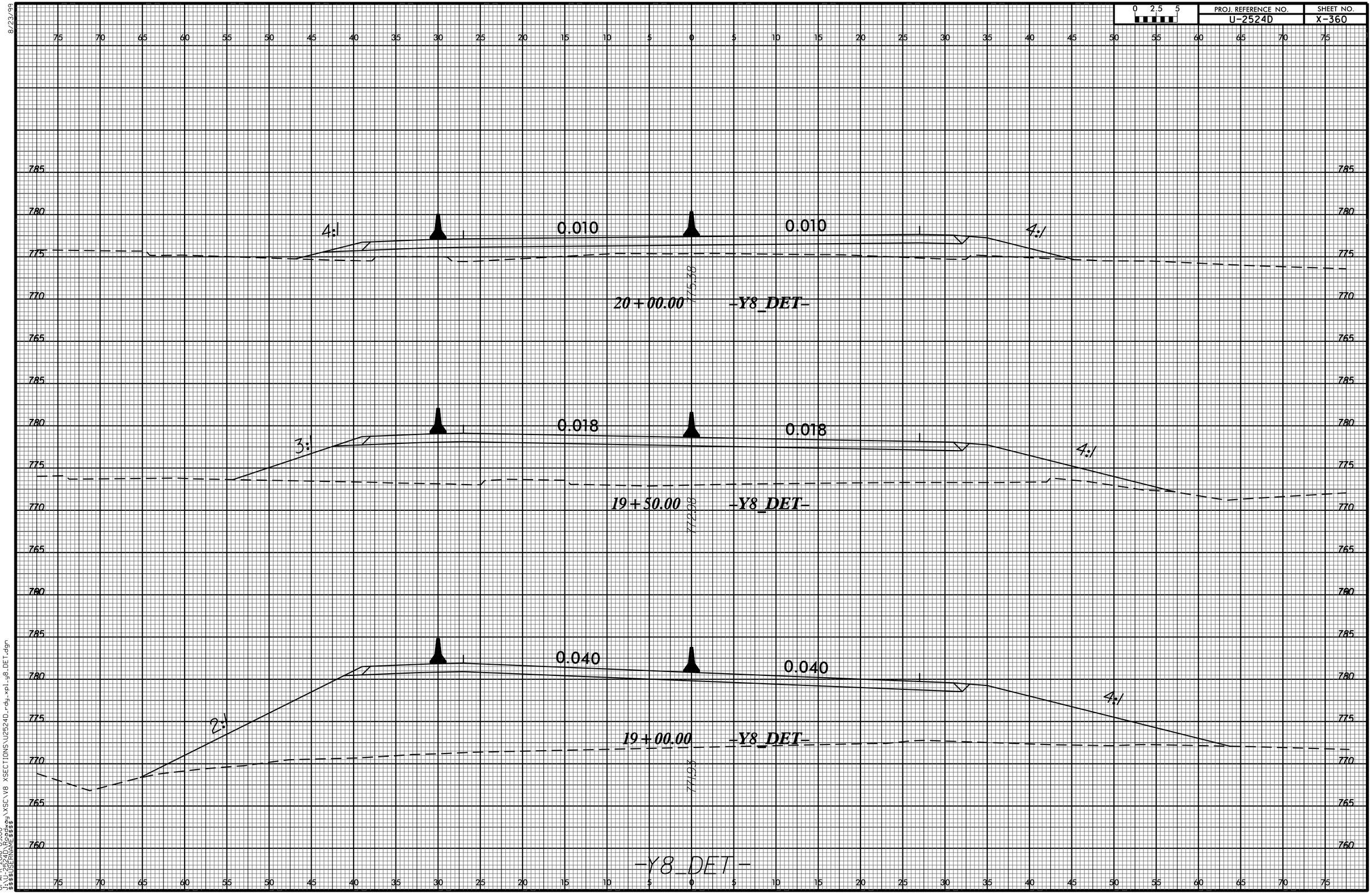
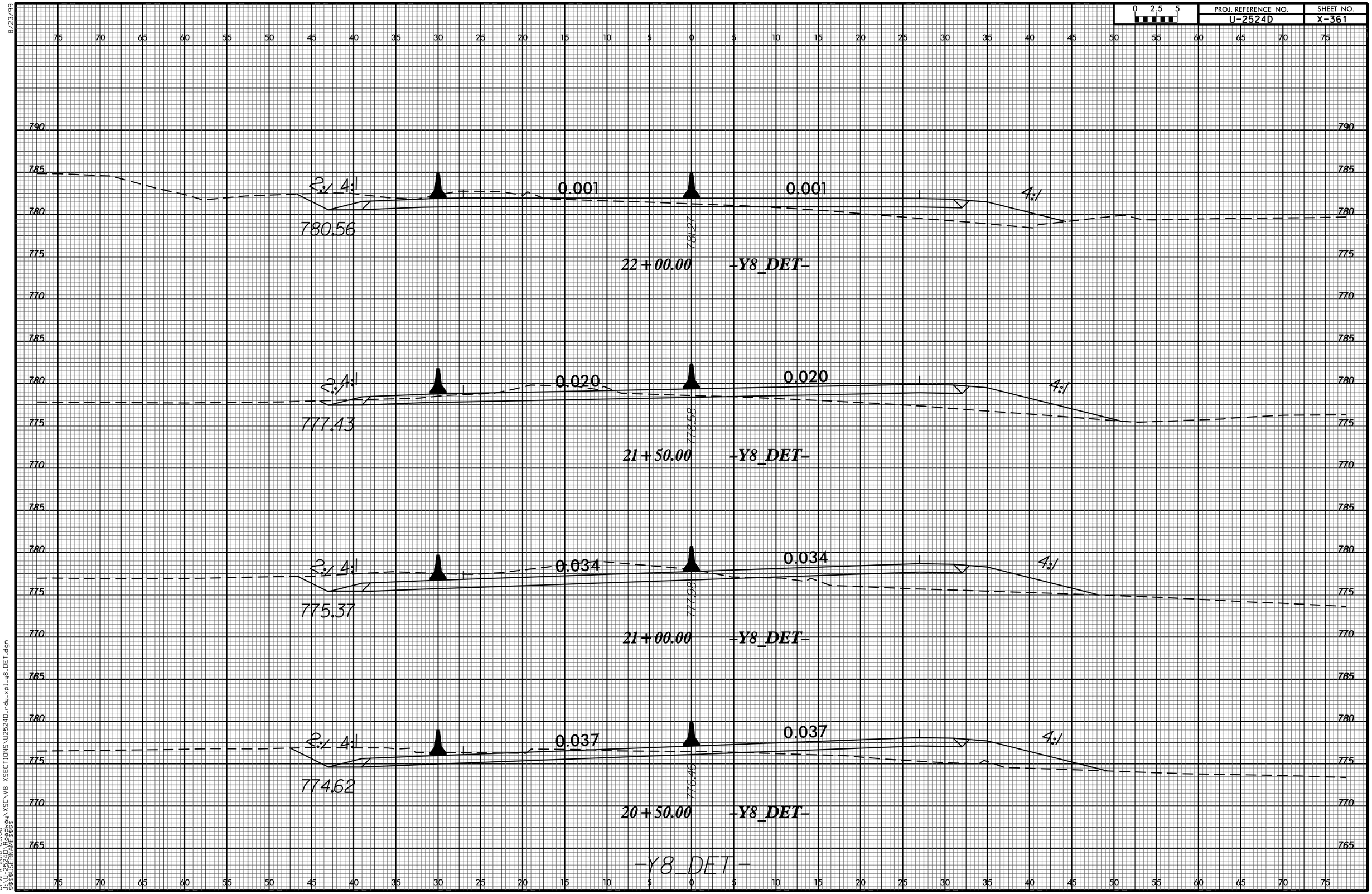
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-360



01-APR-2016 09:00
$$$$USERNAME$$$$
$$$$DIVISION$$$$\$$$$dgn\XSC\V8 XSECTIONS\U2524D_rdy_xs1_g8_DET.dgn

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-361



01-APR-2016 09:00
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$$$$DIR=C:\Projects\U2524D_rdy\XSC\V8 XSECTIONS\U2524D_rdy_xpl_y8_DET.dgn
$$$$USERNAME=$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-362

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

800 795 790 785 780 775

23+50.00 -Y8_DET- 791.75

0.020 4:1

787.27

23+00.00 -Y8_DET- 788.32

0.020 4:1

783.96

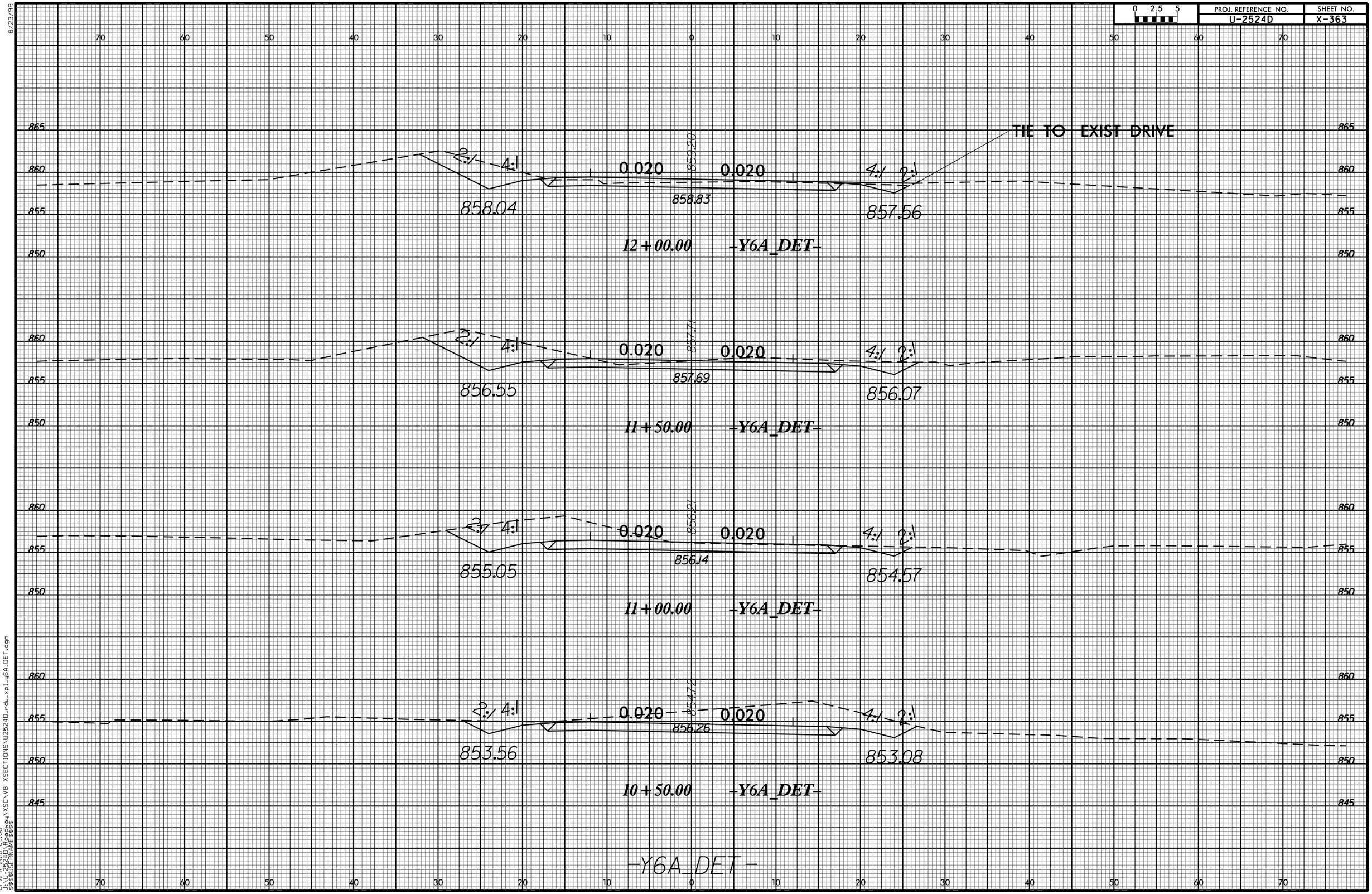
22+50.00 -Y8_DET- 784.45

-Y8_DET-

01-APR-2016 09:00
$$$$USERNAME$$$$ d:\projects\$$$$dgn\XSC\V8_XSECTIONS\U2524D_rdy_xpl_g8_DET.dgn

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-363



01-APR-2016 09:00
$$$$USERNAME$$$$
$$$$DGN$$$$ ...\XSC\V8 XSECTIONS\U2524D_rdy_xpl_y6A_DET.dgn

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-2524D	X-364

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

865 860 855 850

0.010 0.020

859.82

859.69

14+00.00 -Y6A_DET-

2:1 4:1 0.004 0.020 4:1 2:1

860.16

859.31 860.49 859.62

13+50.00 -Y6A_DET-

870 865 860 855 850

2:1 4:1 0.016 0.020 4:1 2:1

861.31

860.10 860.93 859.67

13+00.00 -Y6A_DET-

2:1 4:1 0.020 0.020 4:1 2:1

859.98

859.51 859.86 859.03

12+50.00 -Y6A_DET-

-Y6A_DET-

01-APR-2016 09:00
$$$$USERNAME$$$$
C:\pwworking\$$$$dgn\XSC\V8 XSECTIONS\U2524D_rdy_xpl_y6A_DET.dgn