Transportation

PAT McCRORY
Governor

NICHOLAS J. TENNYSON
Secretary

August 11, 2016

US Army Corps of Engineers
Regulatory Field Office
2407 West 5th Street
Washington, NC 27889

Attention: Kyle Barnes
Regulatory Project Manager

Subject: **Application for Section 404 Individual Permit and Section 401 Water Quality Certification** for the construction of the NC 125 Williamston Bypass from SR 1182 (East College Road) southwest of Williamston to NC 125 northwest of Williamston, Martin County. TIP No. R-3826 Debit $570 from WBS 34553.1.1.

Dear Sir:

The North Carolina Department of Transportation (NCDOT) proposes to construct a 2.6 mile partial controlled access facility on new alignment from SR 1182 (East College Road) southwest of Williamston to NC 125 northwest of Williamston.

The purpose of this letter is to request approval for a Section 404 Individual Permit and Section 401 Water Quality Certification. In addition to this cover letter, this application package includes the following for R-3826: ENG Form 4345, stormwater management plan, permit drawings, roadway plans, DMS acceptance letter, and 4B/4C merger meeting minutes.

1.0 Purpose and Need

The purpose of this project is to reduce truck traffic and improve safety on existing NC 125 through downtown Williamston. The proposed project is intended to address the following deficiencies:

- Portions of existing NC 125 in Williamston will operate above capacity in the design year (2030).
- Truck traffic within Williamston is incompatible with existing residential and commercial development.

2.0 Project Description

The proposed project will provide a three-lane roadway from SR 1182 to north of SR 1420 (McCaskey Road). In addition, four-foot paved shoulders are proposed for portions of the project with shoulders.

3.0 Summary of Impacts

Waters of the U.S.: Proposed impacts to jurisdictional resources total 1.31 acres of permanent wetland impacts and 270 linear feet of permanent stream impacts. Proposed temporary impacts include 0.02 acre of wetland impacts and 37 linear feet of stream impacts.

4.0 Summary of Mitigation

The NCDOT has avoided and minimized impacts to jurisdictional resources to the greatest extent possible. The proposed construction of R-3826 will result in unavoidable permanent impacts to 1.31 acres of riparian wetlands and 270 linear feet of jurisdictional stream that will require mitigation. The Department has acquired the compensatory mitigation for unavoidable impacts from the North Carolina Department of Environmental Quality (NCDEQ)-Division of Mitigation Services (DMS).

5.0 Project Schedule

R-3826 has review date of November 29, 2016 with a scheduled let date of January 17, 2017.

6.0 NEPA Document Status

The Environmental Assessment (EA) and the Finding of No Significant Impact (FONSI) for the EA were approved in April 2009 and January 2011 respectively. Since the completion of the FONSI, a Right of Way Consultation and Reevaluation were approved in December 2012 and November 2014 respectively.

7.0 Resource Status

The project is located in the Roanoke River Basin (USGS Hydrologic Unit 03010107, NCDWR Subbasin 03-02-09). The project crosses one tributary to Skewakee Gut and two jurisdictional wetlands. Wetland and stream delineations were verified in February 2004 (Action ID 200411101). A reevaluation of one of the features (UT10) within the selected alignment was conducted in the field with USACE and NCDWR on January 31, 2012.

7.1 Wetland Delineations

A wetland identification and preliminary assessment analysis for the study area was performed and summarized in the 2003 Natural Resources Technical Report (NRTR). The wetlands within the study area were delineated based on the 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual and a preliminary design was prepared to avoid and minimize wetlands to the maximum extent possible.

7.2 Stream Delineations

The stream channels within the project study area were identified, evaluated, and classified using the NCDWQ stream identification form. Water quality information for the streams within the project study area was derived from available sources provided through the NCDEQ.

7.3 Characterization of Jurisdictional Sites

7.3.1 Wetlands

There are two wetland types found within the project study area based on the Cowardin classification, Palustrine Forested and Palustrine Scrub-Shrub. More detailed information about the wetlands can be found in the NRTR (2003) which includes figures showing the wetlands within the project area.

7.3.2 Streams

The only stream within the project footprint with a surface water classification is an unnamed tributary to Skewakee Gut. The Best Usage Classification for Skewakee Gut is "C." Details for the jurisdictional streams within the project area are provided in the NRTR. There are no waters within the project vicinity classified as High Quality Waters (HQW). Neither Water Supplies (WS-I: undeveloped watersheds or WS-II: predominately undeveloped watersheds), nor Outstanding Resource Waters (ORW) occur within 1.0 mile of the project area. Streams within the R-3826 project area are not designated as National Wild and Scenic Rivers. Additionally, these waters are not listed on the 2014 303(d) list of impaired waters due to sedimentation or turbidity.

7.4 Impacts to Jurisdictional Resources

Impacts to jurisdictional wetlands and surface waters for R-3826 are summarized below in Tables 1 and 2 respectively.

Table 1. R-3826 Wetland Impacts

Permit Drawing Site Number	NRTR Label	Type	Permanent Impacts (ac.)	Temporary Impacts (ac.)	Mitigation Required* (2:1)
1	WM	Riparian	0.68	0	Yes
2	WF	Riparian	0.63	0.02	Yes
		Total:	**1.31**	**0.02**	

Note: * - For permanent impacts

Table 2. R-3826 Surface Water Impacts

Permit Drawing Site Number	NRTR Label	Permanent (lf)	Temporary (lf)	Permanent (ac.)	Temporary (ac.)	Mitigation Required
2	UT3	270	37	0.03	<0.01	Yes*
	Total:	**270**	**37**	**0.03**	**<0.01**	

Note: * - Mitigation ratio for Site 2 impacts will be 180 ft at 2:1 to satisfy USACE requirements and 270 ft (including 90 ft of bank stabilization) at 1:1 to satisfy NCDWR requirements

Permanent Impacts: Proposed permanent impacts for R-3826 include fill in 1.31 acres of riparian wetlands. Proposed permanent impacts to jurisdictional streams are 270 linear feet (180 linear feet of fill, 90 linear feet of bank stabilization).

Temporary Impacts: There will be 37 linear feet of temporary impacts to jurisdictional streams. Proposed temporary impacts to riparian wetlands are 0.02 acre. Hand clearing is proposed for 0.05 acre of riparian wetlands.

8.0 Protected Species

The U. S. Fish and Wildlife Service (USFWS) list two federally protected species and the National Marine Fisheries Service lists one federally protected species for Martin County as of the June 29, 2016 listing (Table 3).

Table 3. Federally Protected Species in Martin County

Common Name	Scientific Name	Habitat	Status	Biological Conclusion
Bald eagle	*Haliaeetus leucocephalus*	No	BGPA	N/A
Atlantic sturgeon	*Acipenser oxyrinchus*	No	E	No Effect
Northern long-eared bat	*Myotis septentrionalis*	Yes	E	MALAA

Note: BGPA - Bald and Golden Eagle Protection Act
E-Endangered
MALAA - May Affect, Likely to Adversely Affect

The USFWS has developed a programmatic biological opinion (PBO) in conjunction with the Federal Highway Administration (FHWA), the US Army Corps of Engineers (USACE), and NCDOT for the northern long-eared bat (NLEB) (*Myotis septentrionalis*) in eastern North Carolina. The PBO covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. The programmatic determination for NLEB for the NCDOT program is "May Affect, Likely to Adversely Affect." The PBO provides incidental take coverage for NLEB and will ensure compliance with Section 7 of the Endangered Species Act for five years for all NCDOT projects with federal nexus in Divisions 1-8, which includes Martin County, where TIP R-3826 is located.

8.1 Bald and Golden Eagle Protection Act (BGPA)

In the July 9, 2007 Federal Register (72:37346-37372), the bald eagle was declared recovered, and removed (de-listed) from the Federal List of Threatened and Endangered wildlife. This delisting took effect August 8, 2007. After delisting, the Bald and Golden Eagle Protection Act (Eagle Act) (16 U.S.C. 668-668d) became the primary law protecting bald eagles. Nesting and foraging habitat are not present in the project area, nor have bald eagle nests or individuals have been seen within a 660-foot radius of the project area.

8.2 Moratoria

No in-water work moratoria have been requested for R-3826.

9.0 Cultural Resources

9.1 Historic Architectural Resources

A field survey of the area of potential effects (APE) was conducted by architectural historians in 2003. All structures over fifty years of age within the APE were evaluated for eligibility according to National Register of Historic Places criteria. The APE included areas that may be physically and/or visually affected by the project.

No properties listed on the National Register of Historic Places are located within the project APE. The National Register-listed Williamston Historic District, Williamston Commercial Historic District and the Asa Biggs House are located on or near existing NC 125 in Williamston, but these properties are outside the APE of the proposed bypass. Following this evaluation, the North Carolina State Historic Preservation Office (HPO) requested in-depth evaluations of four properties in the APE. Following this additional evaluation, the State Historic Preservation Office cited the Slade Cemetery as eligible for the National Register of Historic Places in a letter dated June 23, 2005 and concurred with the eligible boundaries in a letter dated January 11, 2006 (see Appendix A of the EA)

The Slade Cemetery was determined eligible for the National Register under Criterion A, for its association with the growth and development of plantation family burials in Martin County. The cemetery contains markers that span over 150 years, from the last quarter of the eighteenth century through the mid-twentieth century. The cemetery is located on the south side of NC 125 east of SR 1421. The National Register eligible boundaries for the cemetery are approximately sixty feet by sixty feet, and include the ironwork fence surrounding the cemetery. The location of the cemetery relative to the project alternatives is shown on Figure 5 of the EA.

It is anticipated the proposed project will have "no effect" on the Slade Cemetery. The State Historic Preservation Office concurred with this finding on August 30, 2006. A copy of the concurrence form is included in Appendix A of the EA.

9.2 Archaeological Resources

An intensive archaeological survey has been conducted for Alternative 1A. No sites eligible for inclusion in the National Register of Historic Places were found. The State Historic Preservation Office concurred with this finding in a letter dated December 23, 2010 (see the Appendix of FONSI).

The survey report stated a property owner mentioned the possible existence of a family cemetery on property (Whitley Farm) adjacent to the selected alternative on the east side of existing NC 125 near the northern terminus of the project. The presence of unmarked graves along the east side of existing NC 125 near the northern terminus of the project (Whitley Farm) has been investigated. No unmarked graves exist within the existing or proposed right of way.

10.0 FEMA Compliance

There are no insurable structures along the stream reach in the project area that could be impacted by project related activities. Therefore coordination with the Federal Emergency Management Agency (FEMA) was not required.

11.0 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 planning and NEPA compliance stages; minimization measures were incorporated as part of the project design.

11.1 Avoidance and Minimization

All jurisdictional features were delineated, field verified and surveyed within the corridor for R-3826. Using these features, preliminary designs were adjusted to avoid and/or minimize impacts to jurisdictional areas. NCDOT employs many strategies to avoid and minimize impacts to jurisdictional areas in all of its designs. Many of these strategies have been incorporated into BMP documents that have been reviewed and approved by the resource agencies and which will be followed throughout construction. All wetland areas not affected by the project will be protected from unnecessary encroachment. Individual avoidance and minimization items are as follows:

- No staging of construction equipment or storage of construction supplies will be allowed in wetlands or near surface waters.
- The project was designed to avoid or minimize disturbance to aquatic life movements.
- NCDOT and its contractors will not excavate, fill, or perform land clearing activities within Waters of the U.S. or any areas under the jurisdiction of the USACE, except as authorized by the USACE. To ensure that all borrow and waste activities occur on high ground, except as authorized by permit, the NCDOT shall require its contractors to identify all areas to be used to borrow material, or to dispose of dredged, fill or waste material. Documentation of the location and characteristics of all borrow and disposal sites associated with the project will be available to the USACE on request.
- The proposed box culvert at UT3 will be buried 1 ft. to provide for fish passage.
- Sediment and erosion control devices will be utilized where appropriate.
- The use of hand clearing rather than mechanized clearing where possible.
- Bank stabilization at outlets of culverts will not impact the stream bed where possible.
- Equalizer pipes were used to maintain hydraulic conductivity under the proposed roadway from Sta. 62+75 to 65+75 -L-.
- A 6' x 6' RCBC was used for the Jurisdictional Stream crossing (132+55 -L-) to pass the 50-year storm under the proposed roadway.
- 3:1 slopes with guardrail were used in jurisdictional areas to address stability issues and reduce impacts.
- The horizontal alignment will cross wetland WM at its narrowest point.

11.2 Compensation

The NCDOT has avoided and minimized impacts to jurisdictional resources to the greatest extent possible as described above. The unavoidable impacts to Waters of the U.S. will be offset by compensatory mitigation provided by the North Carolina Department of Environmental Quality (NCDEQ)-Division of Mitigation Services (DMS) as well as an onsite stream relocation. An acceptance letter from DMS is attached.

12.0 Indirect and Cumulative Effects

NCDOT prepared an Indirect and Cumulative Effects Screening Report for R-3826 in April, 2011. The conclusions of these studies confirmed that both indirect and cumulative effects from the proposed project are expected to be insignificant.

13.0 Essential Fish Habitat

The project will not impact any Essential Fish Habitat afforded protection under the Magnuson-Stevens Act of 1996 (16 U.S.C 1801 et seq.).

14.0 Regulatory Approvals

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

Section 401: We are requesting a Section 401 Individual Water Quality Certification from NCDWR. We are providing this application to NCDEQ, for their approval. Authorization to debit the $570 Permit Application Fee from WBS Element 34553.1.1 is hereby given.

A copy of this permit request and its distribution list will be posted on the NCDOT website at: https://connect.ncdot.gov/resources/Environmental

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Chris Rivenbark at crivenbark@ncdot.gov or (919) 707-6152.

Sincerely,

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

cc:

NCDOT Permit Application Standard Distribution List

U.S. ARMY CORPS OF ENGINEERS

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT

(33 CFR 325)

OMB APPROVAL NO. 0710-0003
EXPIRES: 31 AUGUST 2012

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

PRIVACY ACT STATEMENT

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

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

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

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required)
First - Philip Middle - S Last - Harris III	First - Middle - Last -
Company - North Carolina Department of Transportation (NCDOT)	Company -
E-mail Address - pharris@ncdot.gov	E-mail Address -
6. APPLICANT'S ADDRESS:	**9. AGENT'S ADDRESS:**
Address- 1020 Birch Ridge Drive	Address-
City - Raleigh State - NC Zip - 27610 Country - USA	City - State - Zip - Country -
7. APPLICANT'S PHONE NOs. w/AREA CODE	**10. AGENTS PHONE NOs. w/AREA CODE**
a. Residence b. Business 919-707-2900 c. Fax	a. Residence b. Business c. Fax

STATEMENT OF AUTHORIZATION

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

_____ _____
SIGNATURE OF APPLICANT DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)

R-3826 NC 125 Williamston Bypass from SR 1182 (East College Road) southwest of Williamston to NC 125 northwest of Williamston

13. NAME OF WATERBODY, IF KNOWN (if applicable)	14. PROJECT STREET ADDRESS (if applicable)
Unnamed tributary to Skewakee Gut	Address
15. LOCATION OF PROJECT Latitude: ◦N 35°51'03.0" Longitude: ◦W 77°04'54.8"	City - State- Zip-

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)

State Tax Parcel ID Municipality Williamston, NC

Section - Township - Martin County Range -

17. DIRECTIONS TO THE SITE

To southern terminus: From US 13 /US-64 take exit 512, turn onto NC 125 N towards Williamston, NC. Project begins at SR 1182 (East College Rd and proceeds northwest.

18. Nature of Activity (Description of project, include all features)

Construction of 2.6 mile partial controlled access facility on new alignment. The proposed project will provide a three-lane roadway from SR 1182 to north of SR 1420 (McCaskey Road). In addition, four-foot paved shoulders are proposed for portions of the project with shoulders.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

The purpose of this project is to reduce truck traffic and improve safety on existing NC 125 through downtown Williamston. The proposed project is intended to address the following deficiencies:

- Portions of existing NC 125 in Williamston will operate above capacity in the design year (2030).
- Truck traffic within Williamston is incompatible with existing residential and commercial development.

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

20. Reason(s) for Discharge

The project will require clean fill material be discharged into wetlands and waters to accommodate highway and associated improvements, crossing of streams/wetlands, stabilization of outfall discharges to waters, or for improvement of embankments for construction or safety areas on or adjacent to wetlands/waters.

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

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards
Please see attached Permit Drawings		

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres 1.31 acres permanent wetland impacts, 0.02 acre of temporary wetland impacts

or

Linear Feet 270 feet of permanent stream impacts, 37 feet of temporary stream impacts

23. Description of Avoidance, Minimization, and Compensation (see instructions)

- Equalizer pipes were used to maintain hydraulic conductivity under the proposed roadway from Sta. 62+75 to 65+75 -L-.
- A 6' x 6' RCBC was used for the Jurisdictional Stream crossing (132+55 -L-) to pass the 50-year storm under the proposed roadway.
- 3:1 slopes with guardrail were used in jurisdictional areas to address stability issues and reduce impacts.
- The unavoidable impacts to Waters of the U.S. will be offset by compensatory mitigation provided by the North Carolina Department of Environmental Quality (NCDEQ)-Division of Mitigation Services (DMS) as well as an onsite stream relocation.

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

NOTE: IF any element is initiated before the submittal need to include here

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

a. Address- See attached labels

City - State - Zip -

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-

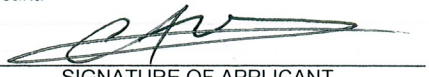
City - State - Zip -

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

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
N/A					

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

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



08/11/2016

SIGNATURE OF APPLICANT DATE SIGNATURE OF AGENT DATE

for PHILIP S. HARRIS

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

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

Subject: Minutes from the **Interagency 4B Concurrence Meeting** for Hydraulic Design July 26, 2012 for **R-3826 in Martin County**

Team Members:
Ron Lucas - FHWA
David Wainwright - NCDWQ
Chris Militscher – EPA (Phone)
Bill Biddlecome – USACE
Gary Jordan – USFWS
Travis Wilson–NCWRC

Other Participants:
Marshall Clawson - Hydraulics
Dan Bacon - USACE
Gary Jordan – USFWS
Gary Lovering– Roadway
Mark Staley - REU
John Richards – PDEA
Omar Azizi – Structures
John Merritt – NES
Phil Harris – PDEA/NES
Bob Capehart – Division 1 (Phone)
Jonathan Henderson, HDR
James Rice, HDR
Amanda Cochran, HDR
Josh Massrock, HDR

General introduction of the project was initiated by Marshall Clawson. Introductions were made by all in attendance. James Rice, HDR hydraulic design engineer initiated the review by describing the overall project.

Each plan sheet was then reviewed.

Sheet 4:

No comments.

Sheet 5:

No comments.

Sheet 6:

No comments.

Sheet 7:

James Rice stated that guardrail will be drawn in for the 3:1 slopes and that the hydraulic design includes boxes discharging into a preformed scour hole for the shoulder berm gutter that will be needed along the guardrail.

Bill Biddlecome asked if the 30" equalizer pipes will be buried.

Marshall Clawson stated that equalizer pipes are not buried.

Sheet 8:

Bill Biddlecome stated that the stream showing up was considered a JD (UT 10) in the FONSI. John Merritt confirmed with Bill that the JD expired in 2009 and would need to be updated. NEU is to verify the stream based on the new requirements of ordinary high water. Updated file is to be provided to the Team when verified.

Sheet 9:

No comments.

Sheet 10:

No comments.

Sheet 11:

No comments.

Sheet 12:

Bill Biddlecome asked about the access and farm land acquisition which were issues from the farmers discussed from previous concurrence meetings. Gary Lovering stated that roadway has revised alignment to help minimize the impact to farmland. Bill Biddlecome asked for the impact of farmland.

Bill Biddlecome asked if the culvert was aligned with the stream.
James Rice responded that the culvert is aligned with the stream based on HDR's field survey.

Bill Biddlecome asked about the previous commitment to look at slopes steeper than 3:1 in this area. Marshall Clawson responded that the Division did not want slopes steeper than 3:1 due to concerns with erosion and stability of the steeper slopes.

Sheet 13:

Marshall Clawson noted the blue dashed line outside the ROW and stated that it looks like it corresponds to wetland site WC. Marshall stated that if it is a wetland site that the wetland shape is usually closed. This wetland is not impacted by the project.

Sheet 14:

No comments.

Sheet 15:

No comments.

Conclusion:

Marshall initiated a discussion of stream lengths and differences in stream designation from the original design to the alternative that is currently proposed. The current stream lengths and designations do not match the FONSI due to the new alignment.

John Merritt stated that he would make a field visit to verify JD.

Marshall Clawson said that the 4C meeting would tentatively be late 2013 to early 2014.

Division proposed a question to the agencies about flattening out the side slopes at the wetland on Sheet 7 due to maintenance and safety concerns. Chris Militscher stated that the division has already made the commitment to use 3:1 slopes from the 4A meeting. The discussion concluded with the team providing impact numbers to compare the 3:1 slopes and guardrail impacts with the 4:1 slope without guardrail impacts and a decision would be made after looking at the impact numbers.

Meeting Adjourned

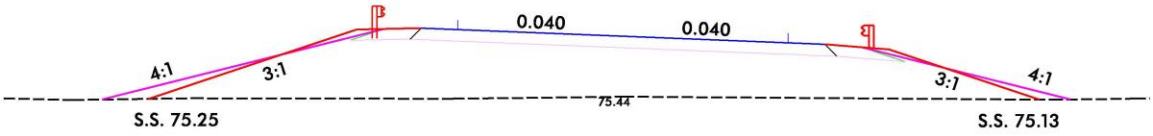
Impact numbers to wetland WM as calculated by HDR (Plansheet 7)

4:1 slopes without guardrail
Permanent fill in wetlands = 0.61 AC
Mechanized Clearing = 0.12 AC

3:1 slopes with guardrail
Permanent fill in wetlands = 0.56 AC
Mechanized Clearing = 0.12 AC

Note: The 4:1 side slopes are also going to require some additional ROW or easement compared to the 3:1 slopes.

The following cross section is an example of the differences between 3:1 side slopes with guardrail (shown in red) and 4:1 side slopes without guardrail (shown in purple).



Subject: Minutes from the **Interagency 4C Concurrence Meeting** for Hydraulic Design March 13, 2014 for **R-3826 in Martin County**

Team Members:
Ron Lucas - FHWA
David Wainwright - NCDWQ
Chris Militscher – EPA
Tracy Wheeler – USACE
Gary Jordan – USFWS
Travis Wilson–NCWRC

Highlighted - Not present

Other Participants:
Bill Zerman – Hydraulics
Vincent Rivers – Hydraulics
Susan Lancaster – Roadway
Gary Lovering – Roadway
Shawn Mebane – Division 1
Mark Staley - REU
Jay McInnis – PDEA
Keith Paschal – Structures
John Merritt – NES
Chris Rivenbark – NES
Jonathan Henderson – HDR
James Rice – HDR

General introduction of the project was initiated by Bill Zerman. Introductions were made by all in attendance. James Rice, HDR hydraulic design engineer initiated the review by describing the overall project.

James then discussed the action items from 4B including the side slopes and expired JD. The side slopes for the permit sites will be 3:1 with guardrail and the JD will be updated at a later date once the ROW date has been determined.

Each plan sheet of the permit set was then reviewed.

Stormwater Management Plan:

- No comments.

Title Sheet:

- No comments.
- After the meeting, it was determined that that there was a revised title sheet. The revised title sheet will be added to the final permit set.

Sheet 7 (Site 1):

- James inquired if impacts should be taken to the limits of the easement or if the impacts should only extend 10 feet beyond the limits of construction. Consensus was that the impacts should only extend 10 feet beyond the limits of construction.

Sheet 12 (Site 2):

- Mark Staley asked if the culvert construction sequence was included in the impacts. James Rice replied that they had been included.
- Temporary impacts lead to a discussion about mechanized clearing impacts taken to the end of the rip rap. Consensus was that the mechanized clearing should extend 10 feet past the limits of construction, temporary excavation in wetlands for the temporary diversion channel, and hand clearing along the limits of the rip rap.
- It was also decided that impacts should be extended to the right of way on both sides of the stream on the east side of the alignment.

Summary Table:

- The temporary fill in wetland column should have an asterisk to show that temporary excavation will be utilized for the temporary diversion channel.

Meeting Adjourned

Mitigation Services
ENVIRONMENTAL QUALITY

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

July 6, 2016

Mr. Philip S. Harris, III, P.E., CPM
Project Development and Environmental Analysis Unit
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Harris:

Subject: Mitigation Acceptance Letter:

R-3826, NC 125 from SR 1182 (East College Road) to NC 125 Northwest of Williamston, Martin County

The purpose of this letter is to notify you that the Division of Mitigation Services (DMS) will provide the compensatory stream and wetland mitigation for the subject project. Based on the information supplied by you on June 29, 2016, the impacts are located in CU 03010107 of the Roanoke River basin in the Northern Inner Coastal Plain (NICP) Eco-Region, and are as follows:

Roanoke 03010107 NICP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	270.0	1.31	0	0	0	0

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

DMS commits to implementing sufficient compensatory stream and wetland mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies in accordance with the In-Lieu Fee Instrument dated July 28, 2010. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from DMS.

If you have any questions or need additional information, please contact Beth Harmon at 919-707-8420.

Sincerely,

James B. Stanfill
Credit Management Supervisor

cc: Ms. Tracey Wheeler, USACE – Washington Regulatory Field Office
Ms. Amy Chapman, NCDWR
File: R-3826

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR LINEAR ROADWAY PROJECTS

(Version 1.2; Released September 2011)

Project/TIP No.: R-3826 **County(ies):** Martin

General Project Information

Project No.:	R-3826	**Project Type:**	New Location	**Date:**	2/28/2014
NCDOT Contact:	Bill Zerman	**Contractor / Designer:**	HDR Engineering - James Rice, PE		
Address:	1591 Mail Service Center Raleigh, NC 27699	**Address:**	3733 National Dr Suite 207 Raleigh, NC 27612		
Phone:	(919) 707-6755	**Phone:**	(919) 232-6621		
Email:	bzerman@ncdot.gov	**Email:**	james.rice@hdrinc.com		
City/Town:	Williamston	**County(ies):**	Martin		
River Basin(s):	Roanoke	**CAMA County?**	No		
Primary Receiving Water:	Skewakee Gut	**NCDWQ Stream Index No.:**	23-49.5-(1)		
NCDWQ Surface Water Classification for Primary Receiving Water	**Primary:**	Water Supply IV (WS-IV)			
	Supplemental:				
Other Stream Classification:	None				
303(d) Impairments:	None				
Buffer Rules in Effect	N/A				

Project Description

Project Length (lin. Miles or feet):	2.595 miles	**Surrounding Land Use:**	Rural / Farm Land

	Proposed Project	**Existing Site**
Project Built-Upon Area (ac.)	15.50 ac.	0.00 ac.
Typical Cross Section Description:	(2) 12 foot lanes with a 4' paved shoulder	N/A
Average Daily Traffic (veh/hr/day):	Design/Future: 11500	Existing: 7020

General Project Narrative:

The project will widen existing NC 125 between SR 1182 (East College Road) and US 64 Alternate to three lanes. It also involves constructing a NC 125 bypass of Williamston, from US 64 Alternate to existing NC 125 northwest of Williamston. Portions of this project follow the existing roadway, while most other portions are new location.

- Equilizer Pipes were used to maintain hydraulic conductivity under the proposed roadway from Sta. 62+75 to 65+75 -L-.
- A 6' x 6' RCBC was used for the Jurisdictional Stream crossing (132+55 -L-) to pass the 50-year storm under the proposed roadway.
- 3:1 slopes with guardrail were used in jurisdictional areas to address stability issues and reduce impacts.

References

North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR LINEAR ROADWAY PROJECTS

(Version 1.2; Released September 2011)

Project/TIP No.: R-3826 **County(ies):** Martin

Project Environmental Summary

Surface Water Impacts

Sheet No.	Station (From / To)	Feature Impacted	Water / Wetland / Buffer Type	Receiving Surface Water Name	NRTR Map ID	NCDWQ Stream Index	NCDWQ Surface Water Classification	303(d) Impairments	Type of Impact	Existing SCM	Proposed SCM
7	62+75 65+75	Wetland	Disturbed Scrub Shrub		WM			None	Fill	N/A	N/A
12	131+52 133+63	Stream	Perennial	UT to Skewakee Gut Canal	UT3	23-49.5-(1)	WS-IV	None	Fill	N/A	N/A
12	131+52 133+63	Stream	Perennial	UT to Skewakee Gut Canal	UT3	23-49.5-(1)	WS-IV	None	Stabilization	N/A	N/A
12	131+52 133+63	Wetland	Headwater and Riparian Hardwood		WF			None	Fill	N/A	N/A

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

Description of Minimization of Impacts or Mitigation

Site 1- 30" equalizer pipes and 3:1 slopes with guardrail
Site 2- 3:1 slopes with guardrail

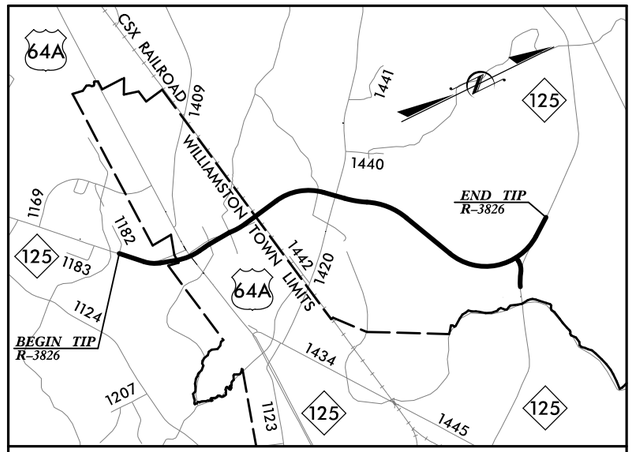
References

09/08/99

TIP PROJECT: R-3826

CONTRACT:

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Symbology Sheet
See Sheets For Control Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MARTIN COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-3826	1	

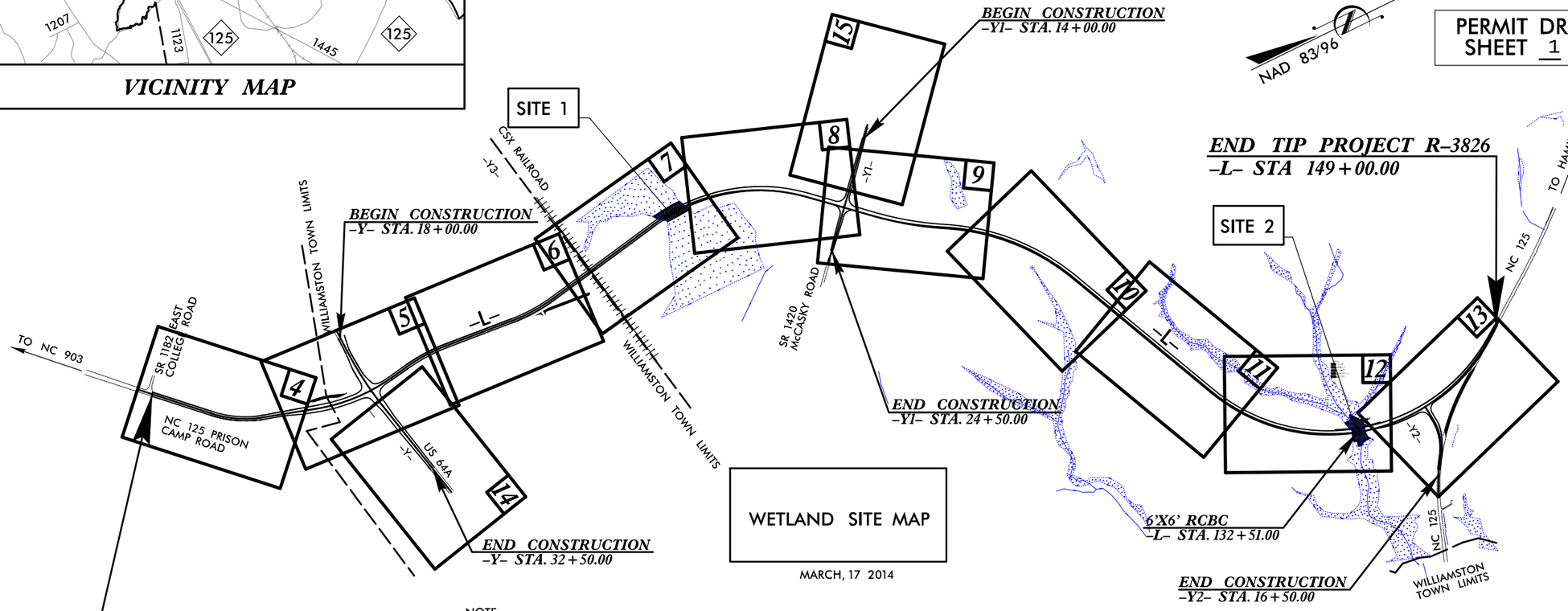
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34553.1.1	STP-125(1)	PE
34553.4.1	STP-0125(1)	R/W
34553.4.U1	STP-0125(1)	UTILITIES

LOCATION: *NC 125 WILLIAMSTON BYPASS FROM SR 1182 (EAST COLLEGE ROAD) TO NC 125 NORTHWEST OF WILLIAMSTON*

TYPE OF WORK: *GRADING, DRAINAGE, PAVING, AND CULVERT*

NAD 83/96

PERMIT DRAWING
SHEET 1 OF 9



WETLAND SITE MAP

MARCH, 17 2014

NOTE:

1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
2. A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE TOWN OF WILLIAMSTON.
3. THIS IS A PARTIAL CONTROLLED ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON PLANS.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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 2015 = 7020
ADT 2035 = 11500
DHV = 60 %
D = 11 %
T = 11 % *
V = 60 MPH
* (TTST 4% + DUAL 7%)
FUNC CLASS =
MAJOR COLLECTOR
REGIONAL TIER

PROJECT LENGTH

TOTAL PROJECT LENGTH TIP R-3826 = 2.595 MI.

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JULY 18, 2014

LETTING DATE: JULY 19, 2016

GARY LOVERING, PE
PROJECT ENGINEER

SUSAN C. LANCASTER, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION

4/3/2014
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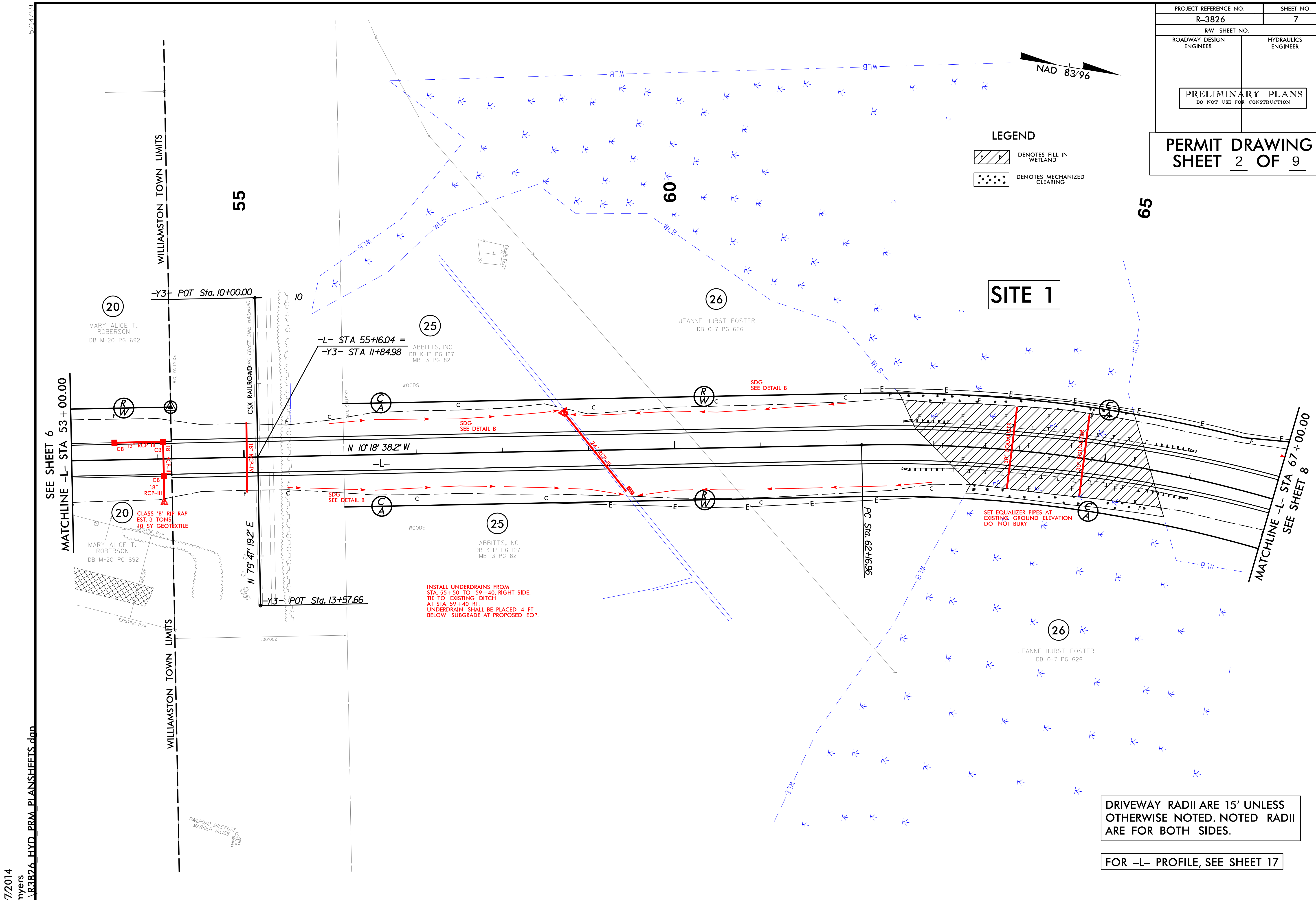
PROJECT REFERENCE NO.
R-3826
SHEET NO.
7
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PERMIT DRAWING
SHEET 2 OF 9
NAD 83/96
LEGEND
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
SITE 1
55
60
65
WILLIAMSTON TOWN LIMITS
-Y3- POT Sta. 10+00.00
-Y3- POT Sta. 13+57.66
-L- STA 55+16.04 =
-Y3- STA 11+84.98
CSX RAILROAD
N 10°18' 38.2" W
-L-
N 79°47' 19.2" E
PC Sta. 62+16.96
MARY ALICE T. ROBERSON
DB M-20 PG 692
ABBITTS, INC
DB K-17 PG 127
MB 13 PG 82
JEANNE HURST FOSTER
DB 0-7 PG 626
WOODS
SDG
SEE DETAIL B
CB
15" RCP-III
18" RCP-III
18" RCP-IV
CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEOTEXTILE
SET EQUALIZER PIPES AT
EXISTING GROUND ELEVATION
DO NOT BURY
INSTALL UNDERDRAINS FROM
STA. 55+50 TO 59+40, RIGHT SIDE.
TIE TO EXISTING DITCH
AT STA. 59+40 RT.
UNDERDRAIN SHALL BE PLACED 4 FT
BELOW SUBGRADE AT PROPOSED EOP.
MATCHLINE -L- STA 53+00.00
SEE SHEET 6
MATCHLINE -L- STA 67+00.00
SEE SHEET 8
RAILROAD MILEPOST MARKER No.65
DRIVEWAY RADII ARE 15' UNLESS OTHERWISE NOTED. NOTED RADII ARE FOR BOTH SIDES.
FOR -L- PROFILE, SEE SHEET 17
4/7/2014
cmyers
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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-3826	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 3 OF 9

NAD 83/96

LEGEND

- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING

SITE 1

WILLIAMSTON TOWN LIMITS

55 60 65

-Y3- POT Sta. 10+00.00

-L- STA 55+16.04 =
-Y3- STA 11+84.98

20 MARY ALICE T. ROBERSON DB M-20 PG 692

25 ABBITTS, INC DB K-17 PG 127 MB 13 PG 82

26 JEANNE HURST FOSTER DB 0-7 PG 626

CSX RAILROAD

WOODS

CEMETERY

EXISTING R/W

SDG SEE DETAIL B

N 10° 18' 38.2" W

-L-

CB 15" RCP-III

CB 18" RCP-III

CB 18" RCP-III

CLASS 'B' RIP RAP EST. 3 TONS 30 SY GEOTEXTILE

N 79° 47' 19.2" E

-Y3- POT Sta. 13+57.66

INSTALL UNDERDRAINS FROM STA. 55+50 TO 59+40, RIGHT SIDE. TIE TO EXISTING DITCH AT STA. 59+40 RT. UNDERDRAIN SHALL BE PLACED 4 FT BELOW SUBGRADE AT PROPOSED EOP.

PC Sta. 62+16.96

SET EQUALIZER PIPES AT EXISTING GROUND ELEVATION DO NOT BURY

RAILROAD MILEPOST MARKER NO.165

200.00'

SEE SHEET 6 MATCHLINE -L- STA 53+00.00

MATCHLINE -L- STA 67+00.00 SEE SHEET 8

DRIVEWAY RADII ARE 15' UNLESS OTHERWISE NOTED. NOTED RADII ARE FOR BOTH SIDES.

FOR -L- PROFILE, SEE SHEET 17

4/7/2014
cmyers
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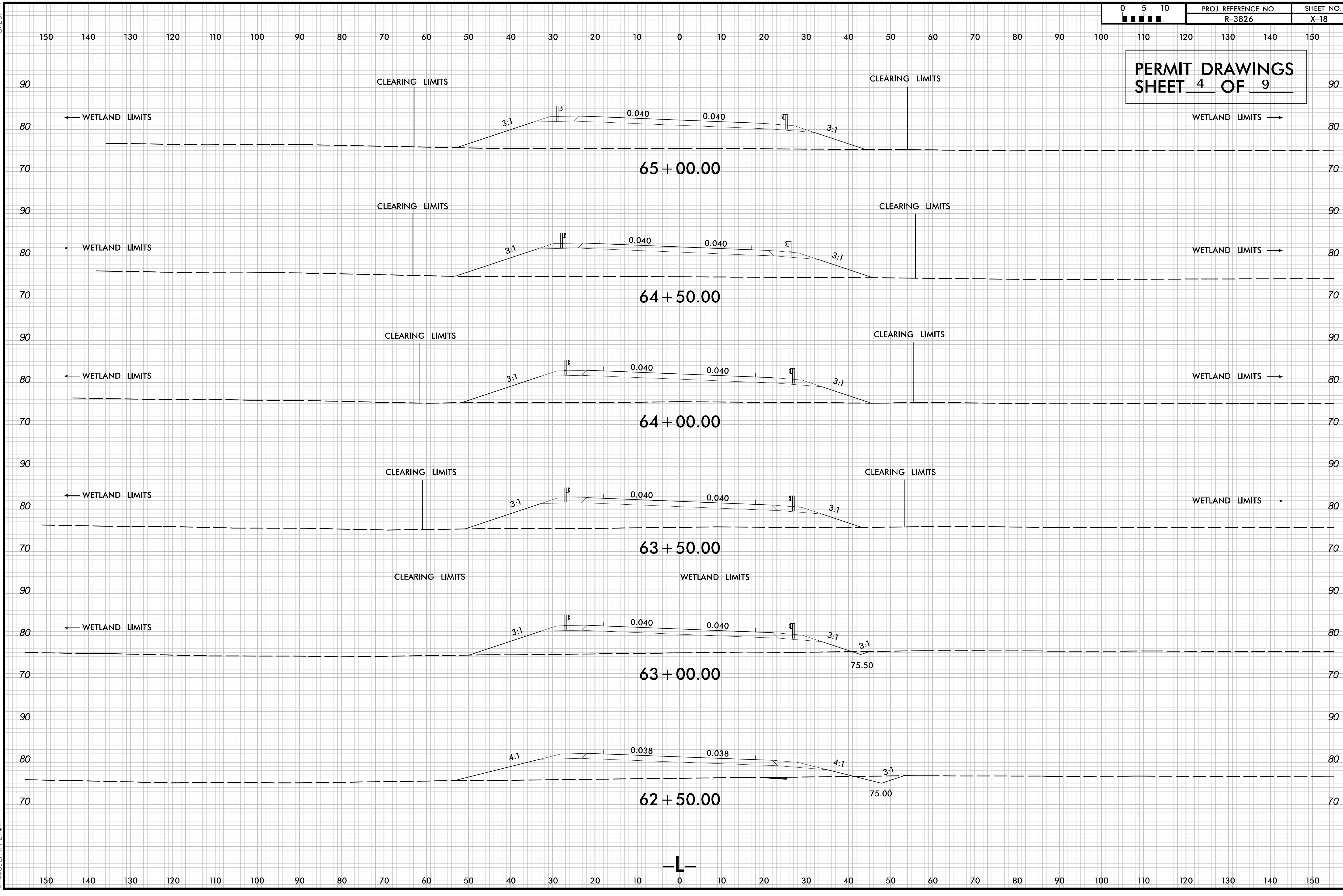
8/23/99



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PROJECT REFERENCE NO.	SHEET NO.
R-3826	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 5 OF 9

NAD 83/96

LEGEND

- F F — DENOTES FILL IN WETLAND
- S S — DENOTES IMPACTS IN SURFACE WATER
- TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- T T — DENOTES TEMPORARY EXCAVATION IN WETLAND
- HC HC — DENOTES HAND CLEARING
- DENOTES MECHANIZED CLEARING

SITE 2

SEE SHEET 11
MATCHLINE –L– STA 121+00.00

SEE SHEET 13
MATCHLINE –L– STA 135+00.00

35
SIMON A. GRIFFIN
WB 09-E PG 147
L-299 (UNRECORD MAP)

36
JOSEPH C. LEGGETT
DB E-12 PG 887
MB 8 PG 57

CLASS 'I' RIP RAP
EST. 21 TONS
49 SY FILTER FABRIC

2GI W/
FLAT GRATE

15" RCP

18" RCP

2 LATERAL BASE DITCH
W/ CLASS 'B' RIP RAP
EST. 45 TONS
48 SY FILTER FABRIC
SEE DETAIL

CLASS 'B' RIP RAP
EST. 2 TONS
7 SY FILTER FABRIC

CLASS 'I' RIP RAP
EST. 16 TONS
38 SY FILTER FABRIC

DRIVEWAY RADII ARE 15' UNLESS OTHERWISE NOTED. NOTED RADII ARE FOR BOTH SIDES.

FOR –L– PROFILE, SEE SHEET 20

FOR CULVERT, SEE SHEET C-? THROUGH C-?

REVISIONS

5/14/99 R/W REVISION (02/20/15) - PARCEL 35 (SIMON A. GRIFFIN) AND PARCEL 36 (JOSEPH C. LEGGETT) PROPERTY BOUNDARY DISPLAY EXTENDED EAST BEYOND PROPOSED PDE. - MTP

8/4/2016
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PROJECT REFERENCE NO.	SHEET NO.
R-3826	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 6 OF 9

NAD 83/96

LEGEND

- DENOTES FILL IN WETLAND
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY EXCAVATION IN WETLAND
- DENOTES HAND CLEARING
- DENOTES MECHANIZED CLEARING

SITE 2

SEE SHEET 11
MATCHLINE –L– STA 121+00.00

SEE SHEET 13
MATCHLINE –L– STA 135+00.00

35
SIMON A. GRIFFIN
WB 09-E PG 147
L-299 (UNRECORD MAP)

36
JOSEPH C. LEGGETT
DB E-12 PG 887
MB 8 PG 57

CLASS 'I' RIP RAP
EST. 21 TONS
49 SY FILTER FABRIC

2GI W/
FLAT GRATE

15" RCP (K)

18" RCP (K)

2 LATERAL BASE DITCH
W/CLASS 'B' RIP RAP
EST. 165 TONS
49 SY FILTER FABRIC
SEE DETAIL 'E'

CLASS 'B' RIP RAP
EST. 2 TONS
7 SY FILTER FABRIC

CLASS 'I' RIP RAP
EST. 16 TONS
38 SY FILTER FABRIC

DRIVEWAY RADII ARE 15' UNLESS OTHERWISE NOTED. NOTED RADII ARE FOR BOTH SIDES.

FOR –L– PROFILE, SEE SHEET 20

FOR CULVERT, SEE SHEET C-? THROUGH C-?

REVISIONS

R/W REVISION (02/20/15) - PARCEL 35 (SIMON A.GRIFFIN) AND PARCEL 36 (JOSEPH C. LEGGETT) PROPERTY BOUNDARY DISPLAY EXTENDED EAST BEYOND PROPOSED PDE. - MTP

5/14/99

8/4/2016
cmyers
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R–3826	X–41

PERMIT DRAWINGS
SHEET 7 OF 9

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

60 50 40 30 20

CLEARING LIMITS WETLAND LIMITS

CLEARING LIMITS

← WETLAND LIMITS

WETLAND LIMITS →

0.040

3:1

3:1

S.S. 24.65

133 + 00.00

CLEARING LIMITS

CLEARING LIMITS

← WETLAND LIMITS

WETLAND LIMITS →

0.040

3:1

3:1

S.S. 24.56

132 + 50.00

CLEARING LIMITS WETLAND LIMITS

CLEARING LIMITS WETLAND LIMITS

← WETLAND LIMITS

WETLAND LIMITS →

0.040

3:1

3:1

132 + 00.00

CLEARING LIMITS WETLAND LIMITS

← WETLAND LIMITS

0.040

3:1

3:1

131 + 50.00

–L–

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5/14/99

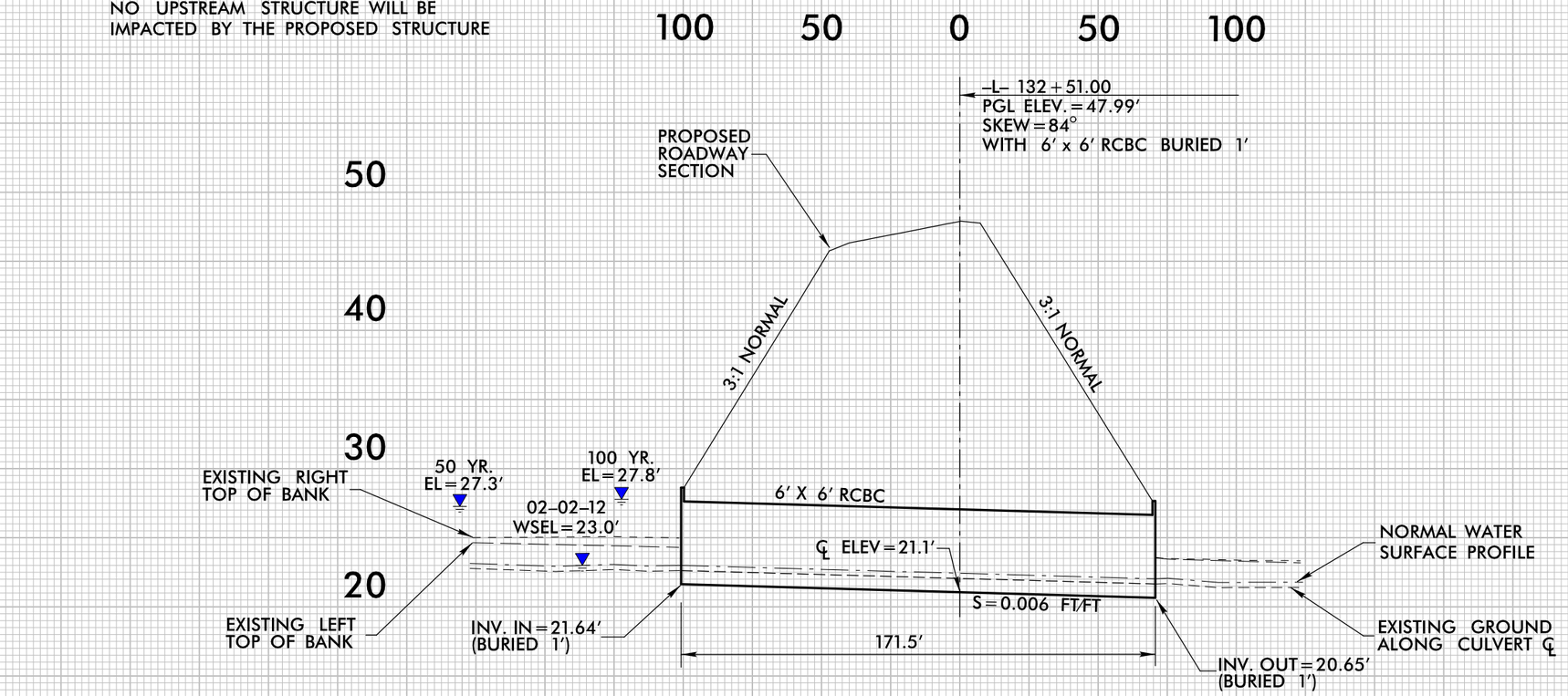
PROJECT REFERENCE NO.	SHEET NO.
R–3826	CSR
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 8 OF 9

SCALE:
1″ = 50′ HORIZONTAL
1″ = 10′ VERTICAL

NOTE:
NO UPSTREAM STRUCTURE WILL BE IMPACTED BY THE PROPOSED STRUCTURE



PROFILE ALONG ℄ OF CULVERT

4/3/2014
cmyers
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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	62+65 to 65+75 - L-	Roadway Fill	0.56			0.12						
2	131+52 to 133+63 -L-	Roadway Fill/Culvert	0.56			0.07	0.05	0.02		180		
		Bank Stabilization						0.01		90		
		Culvert Construction		0.02					<0.01		37	
TOTALS:			1.12	*0.02	0.00	0.19	0.05	0.03	<0.01	270	37	0

* Excavation in Wetlands for Culvert Construction.

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

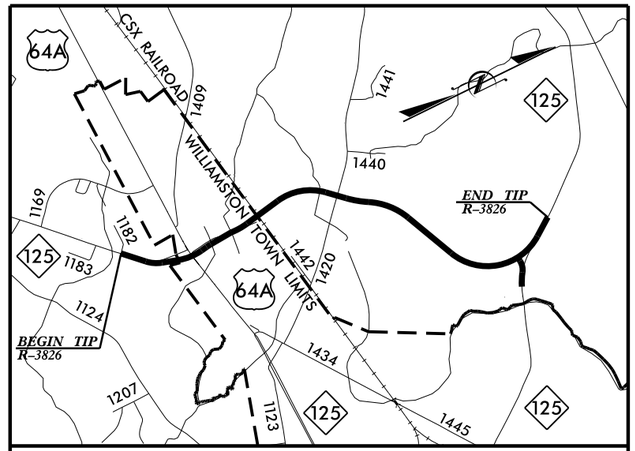
MARTIN COUNTY
WBS - 34553.1.1 (R-3826)

4/7/2014

09/08/99

TIP PROJECT: R-3826

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Symbology Sheet
See Sheets For Control Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

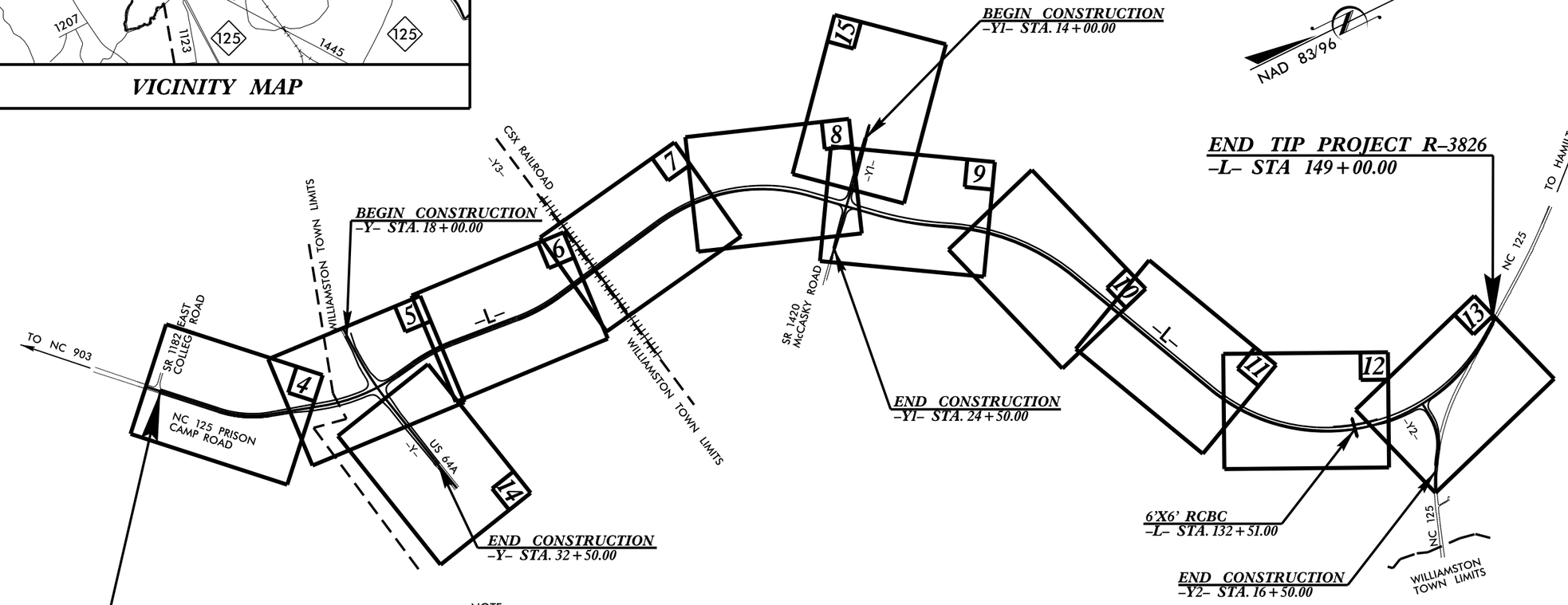
MARTIN COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-3826	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34553.1.1	STP-125(1)	PE
34553.4.FR1	STP-0125(1)	R/W
34553.4.FRU1	STP-0125(1)	UTILITIES

LOCATION: *NC 125 WILLIAMSTON BYPASS FROM SR 1182 (EAST COLLEGE ROAD) TO NC 125 NORTHWEST OF WILLIAMSTON*

TYPE OF WORK: *GRADING, DRAINAGE, PAVING, AND CULVERT*



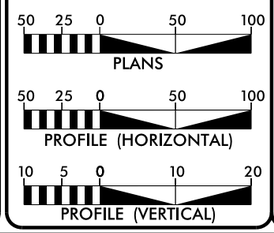
NOTE:

1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
2. A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE TOWN OF WILLIAMSTON.
3. THIS IS A PARTIAL CONTROLLED ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON PLANS.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:

GRAPHIC SCALES



DESIGN DATA

ADT 2015 = 7020
ADT 2035 = 11500
D = 60 %
K = 11 %
T = 11 % *
V = 60 MPH
* (TTST 4% + DUALS 7%)
FUNC CLASS =
MAJOR COLLECTOR
REGIONAL TIER

PROJECT LENGTH

TOTAL PROJECT LENGTH TIP R-3826 = 2.595 MI.

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JANUARY 15, 2015

LETTING DATE:
JANUARY 17, 2017

GARY LOVERING, PE
PROJECT ENGINEER

SUSAN C. LANCASTER, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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$$$$USERNAME$$$$

12/05/11

PROJECT REFERENCE NO.	SHEET NO.
R-3826	1B

Note: Not to Scale

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

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

TELEPHONE:

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

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

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

6/2/99

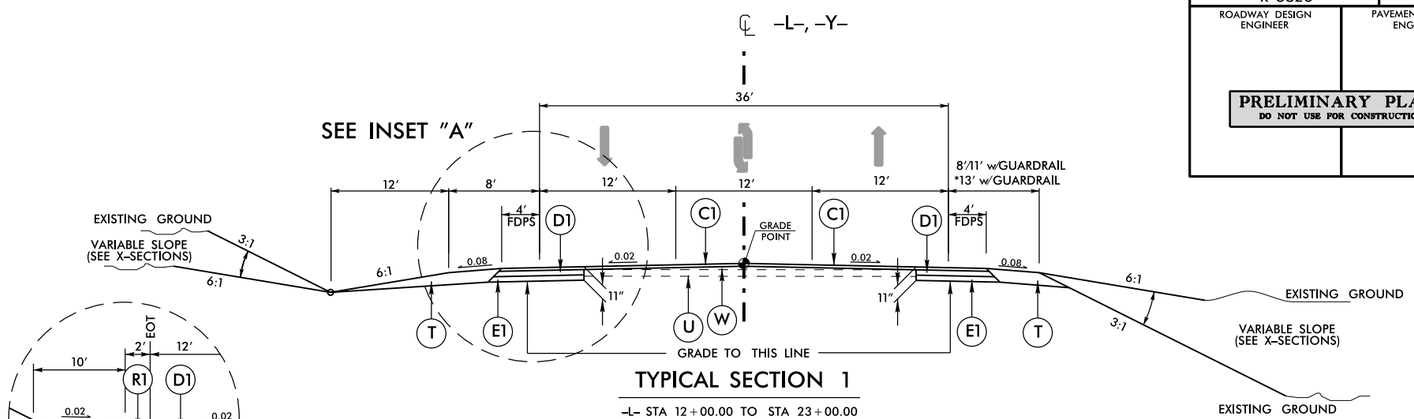
PROJECT REFERENCE NO.	SHEET NO.
R-3826	2A-1
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PAVEMENT SCHEDULE
PRELIMINARY PAVEMENT DESIGN

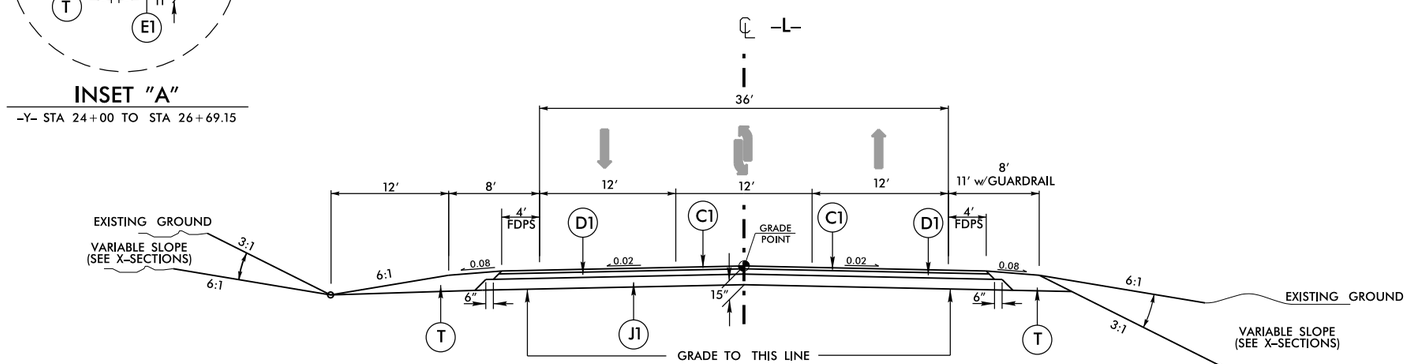
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. TO BE PLACED IN TWO LAYERS
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 1 1/2" IN DEPTH OR GREATER THAN 2" IN DEPTH.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 4" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
J1	PROP. 8" AGGREGATE BASE COURSE.
J2	PROP. VAR. DEPTH AGGREGATE BASE COURSE.
R1	2'-6" CONCRETE CURB AND GUTTER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL SHOWING METHOD OF WEDGING)

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



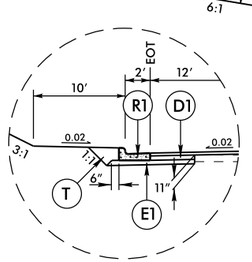
TYPICAL SECTION 1

-L- STA 12+00.00 TO STA 23+00.00
*-Y- STA 19+50.00 TO STA 32+50.00



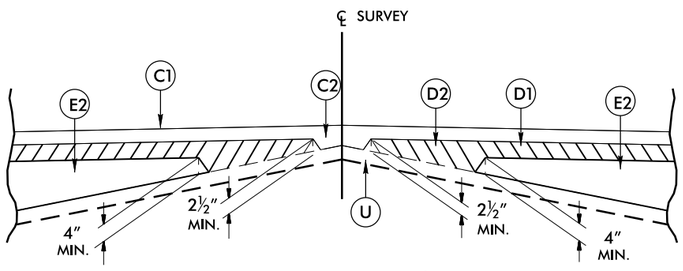
TYPICAL SECTION 2

-L- STA 23+00.00 TO STA 32+05.68
-L- STA 54+15.00 TO STA 64+00.00

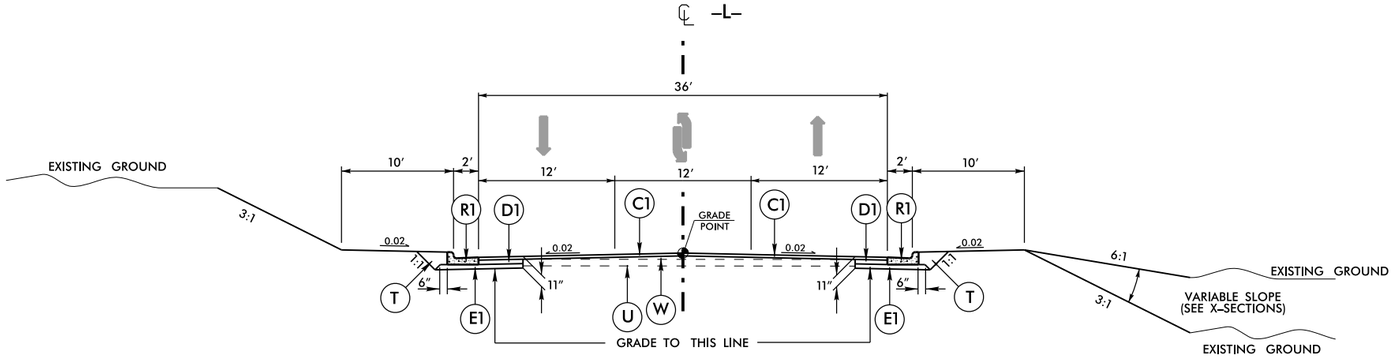


INSET "A"

-Y- STA 24+00 TO STA 26+69.15



Detail Showing Method of Wedging



TYPICAL SECTION 3

-L- STA 32+80.30 TO STA 45+50.00

15-JAN-2015 14:19
R:\Roadway\Proj\R3826_Rdy_typ.dgn
$$$$USERNAME$$$$

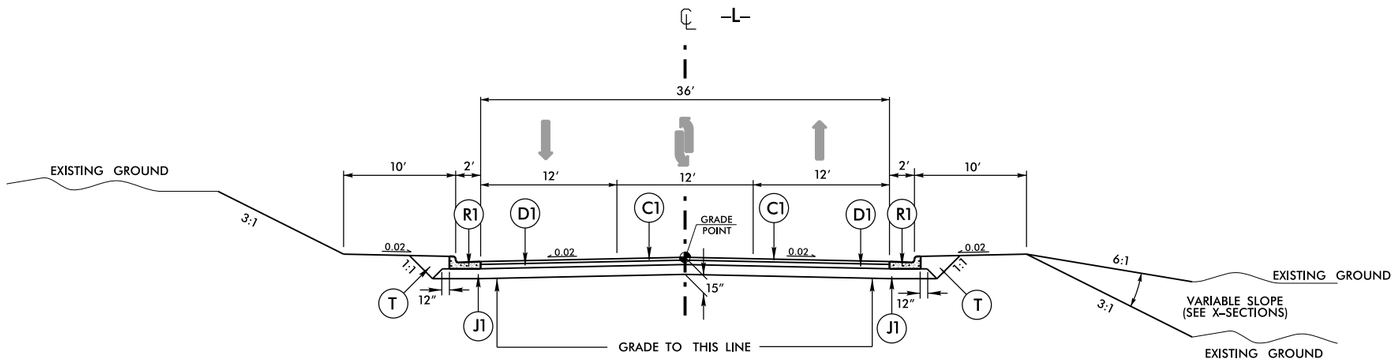
6/2/99

PROJECT REFERENCE NO.	SHEET NO.
R-3826	2A-2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

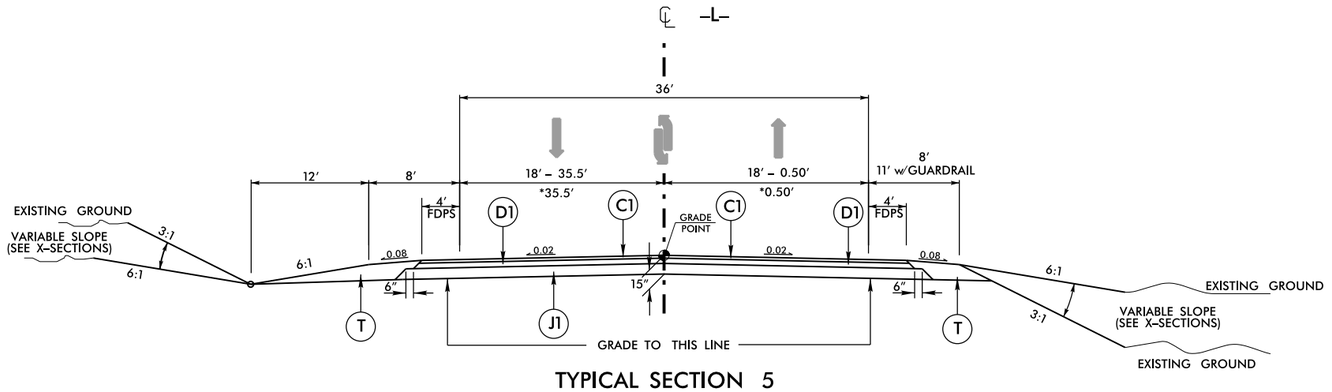
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PAVEMENT SCHEDULE
PRELIMINARY PAVEMENT DESIGN

C1	3″ S9.5B
C2	VAR. S9.5B
D1	4″ I19.0B
D2	VAR. I19.0B
E1	4″ B25.0B
E2	VAR. B25.0B
J1	8″ ABC
J2	VAR. ABC
R1	2′-6″ C&G
R2	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING DETAIL

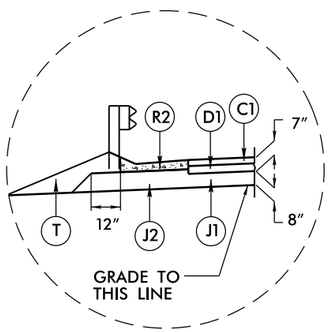


TYPICAL SECTION 4
–L– STA 45+50.00 TO STA 54+15.00

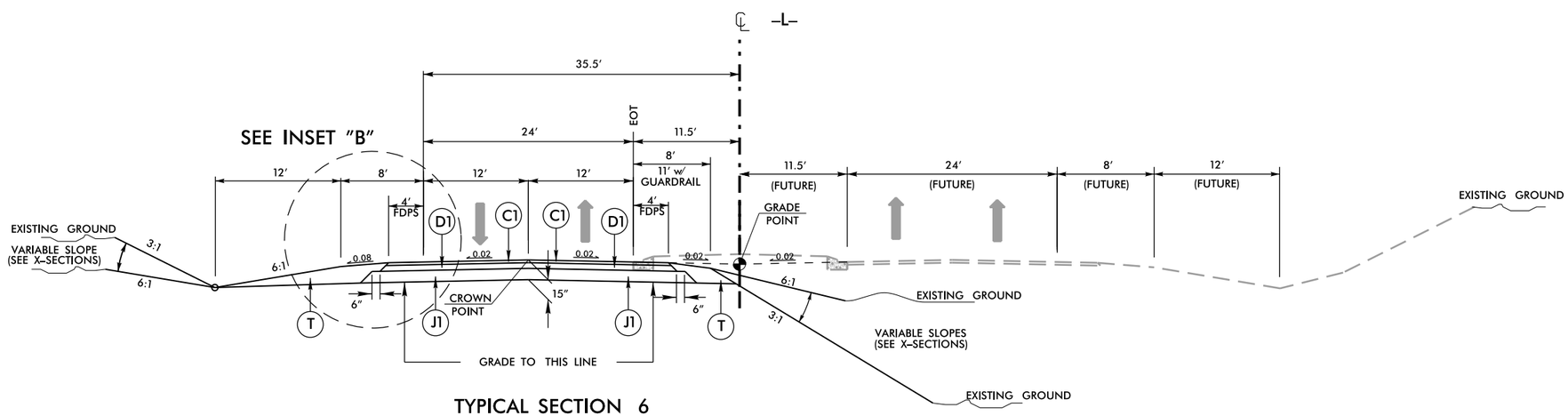


TYPICAL SECTION 5
–L– STA 64+00.00 TO STA 74+00.00
*–L– STA 74+00.00 TO STA 83+08.62

NOTE: TRANSITION FROM TYPICAL SECTION 5 TO TYPICAL SECTION 6
FROM -L- STA 83+08.62 TO STA 89+65.57



INSET "B"
–L– STA 130+51.15 TO STA 134+76.15 LT



TYPICAL SECTION 6
–L– STA 89+65.57 TO STA 134+50.00

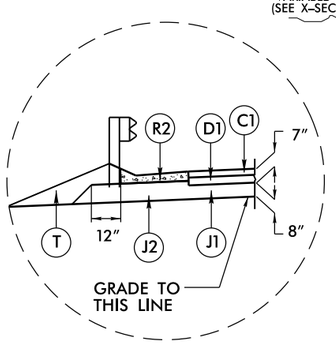
6/2/99

PROJECT REFERENCE NO.	SHEET NO.
R-3826	2A-3
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

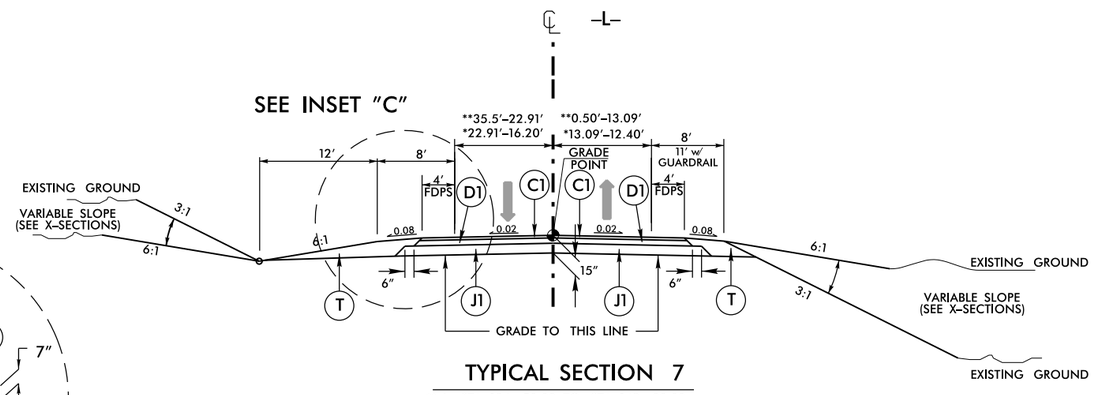
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PAVEMENT SCHEDULE
PRELIMINARY PAVEMENT DESIGN

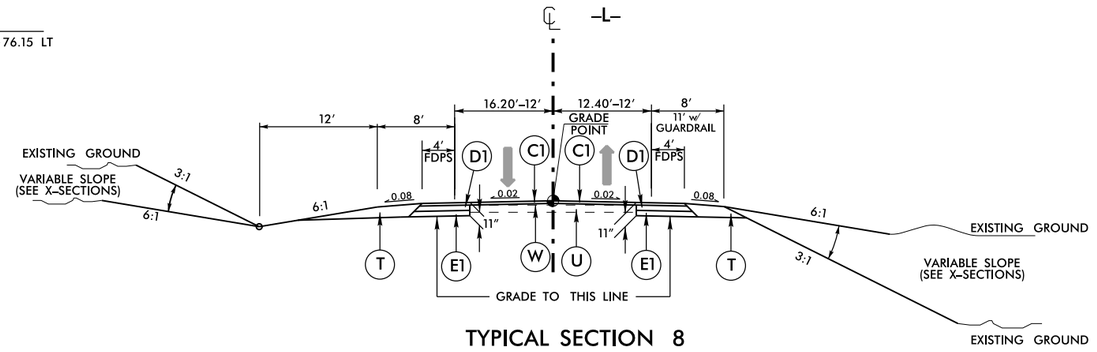
C1	3″ S9.5B
C2	VAR. S9.5B
D1	4″ I19.0B
D2	VAR. I19.0B
E1	4″ B25.0B
E2	VAR. B25.0B
J1	8″ ABC
J2	VAR. ABC
R1	2′-6″ C&G
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING DETAIL



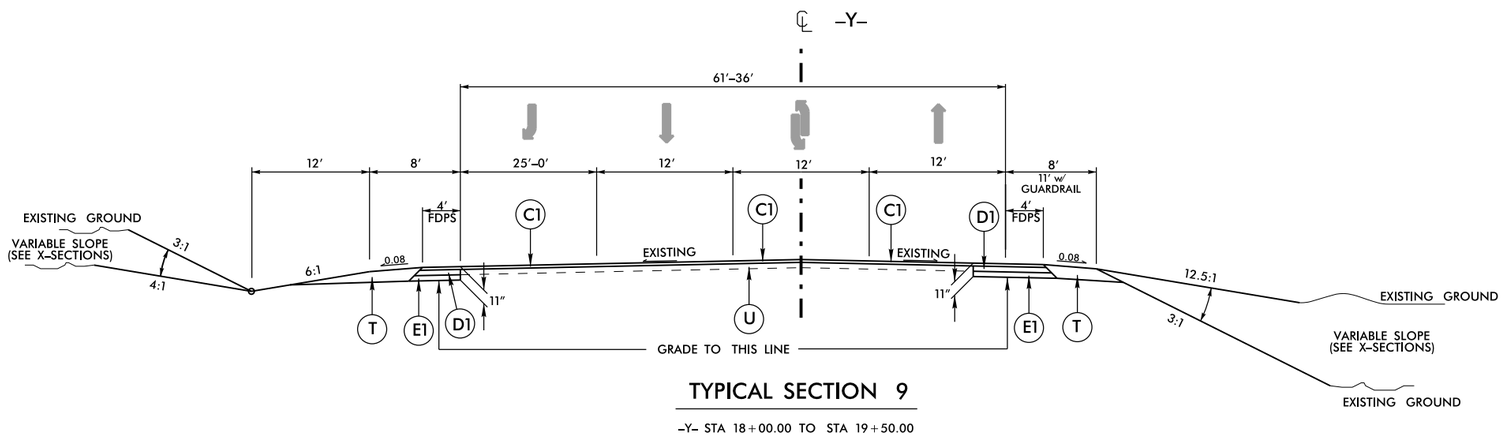
INSET "C"
–L– STA 130+51.15 TO STA 134+76.15 LT



TYPICAL SECTION 7
**–L– STA 134+50.00 TO STA 142+00.00
*–L– STA 142+00.00 TO STA 146+00.00



TYPICAL SECTION 8
–L– STA 146+00.00 TO STA 149+00.00



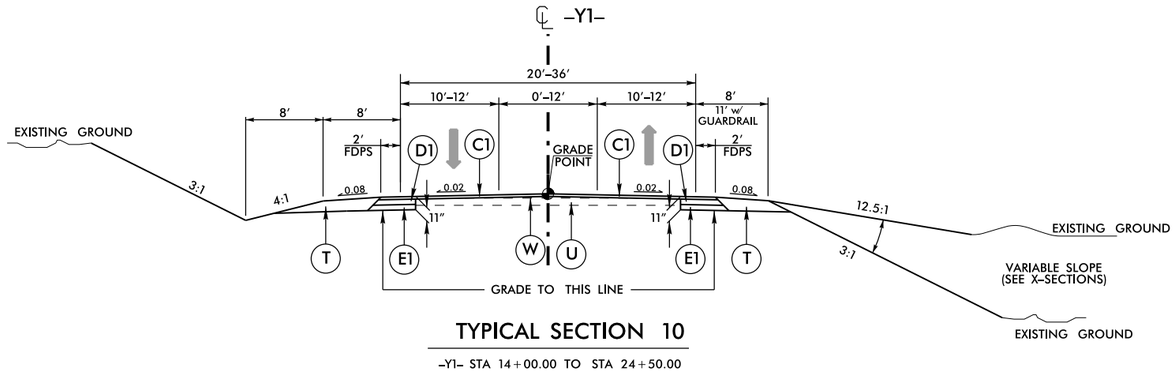
TYPICAL SECTION 9
–Y– STA 18+00.00 TO STA 19+50.00

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
R-3826	2A-4
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

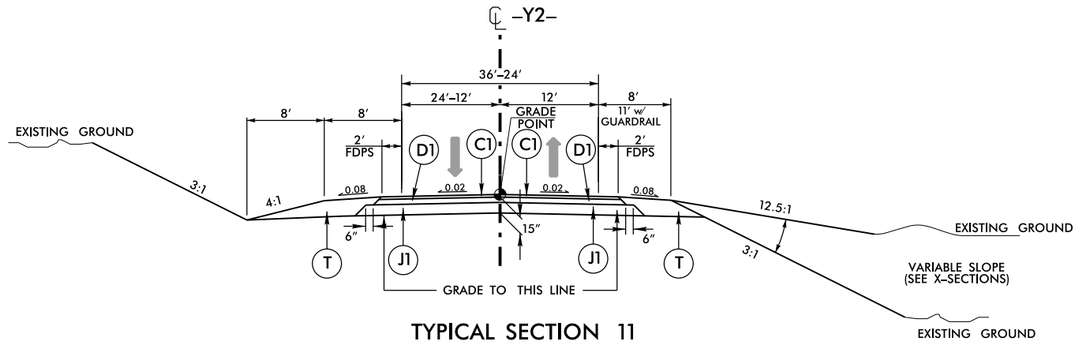
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PAVEMENT SCHEDULE PRELIMINARY PAVEMENT DESIGN	
C1	3" S9.5B
C2	VAR. S9.5B
D1	4" I19.0B
D2	VAR. I19.0B
E1	4" B25.0B
E2	VAR. B25.0B
J1	8" ABC
J2	VAR. ABC
R1	2'-6" C&G
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING DETAIL



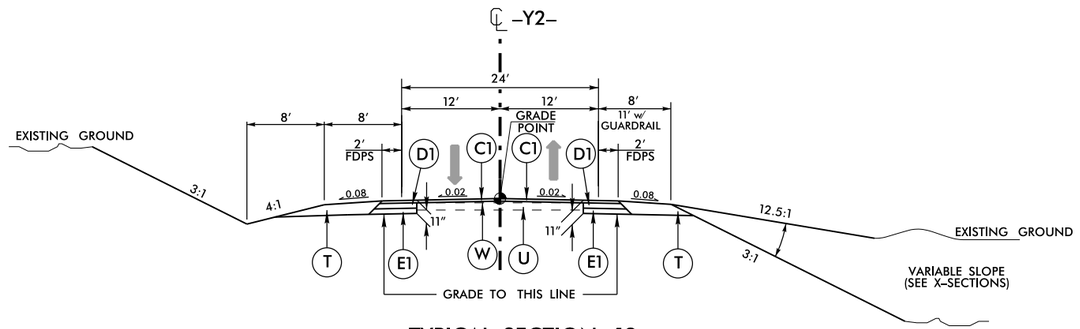
TYPICAL SECTION 10

–Y1– STA 14+00.00 TO STA 24+50.00



TYPICAL SECTION 11

–Y2– STA 10+12.45 TO STA 14+50.00



TYPICAL SECTION 12

–Y2– STA 14+50.00 TO STA 16+00.00

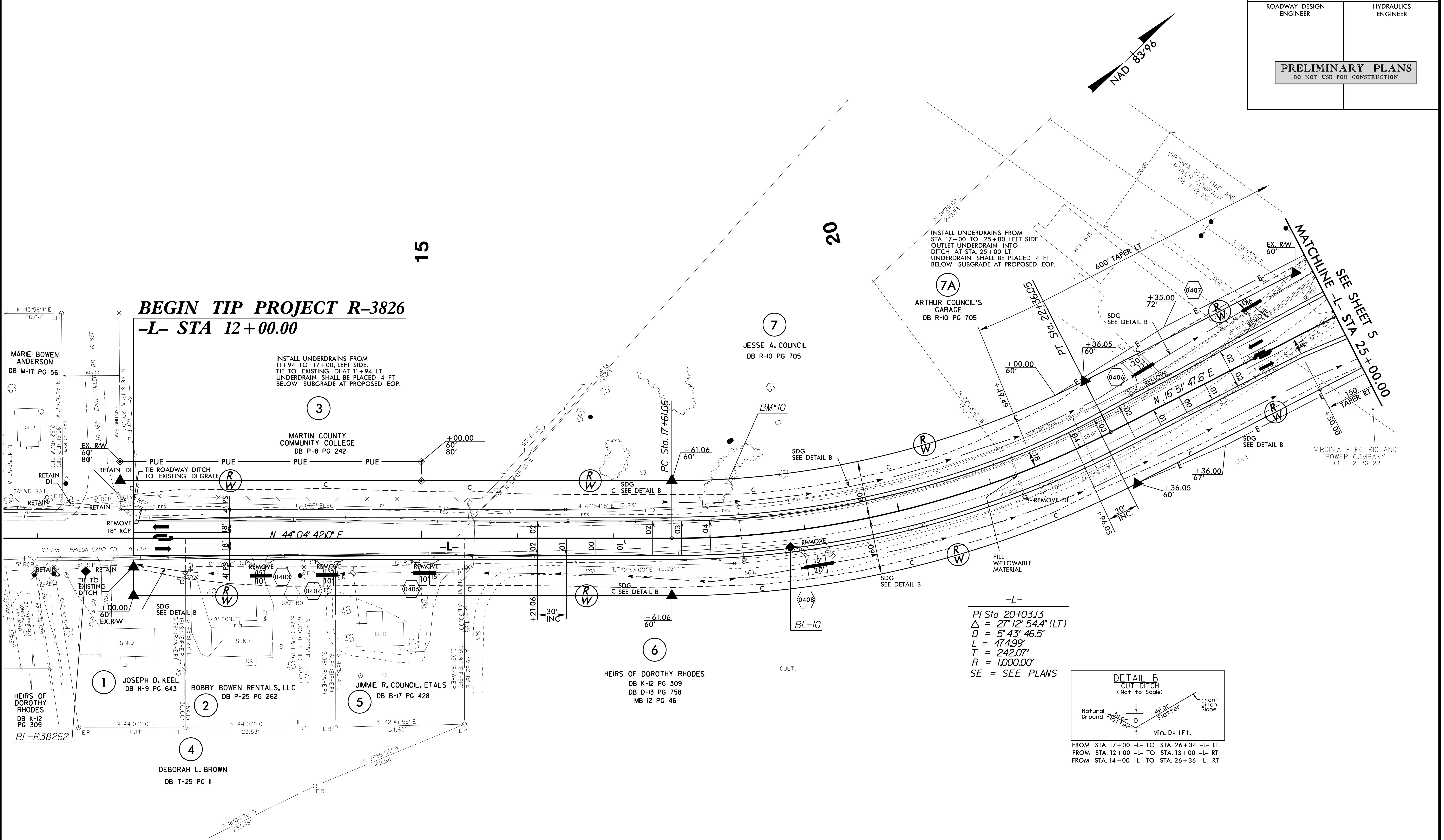
PROJECT REFERENCE NO.	SHEET NO.
R-3826	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

R/W REVISION (05/29/15) - ADDED DEED INFORMATION FOR PARCEL 6 (HEIRS OF DOROTHY RHODES). - MTP

R/W REVISION (06/15/15) - CHANGED OWNER'S NAME, DEED BOOK NUMBER, AND PAGE NUMBER FOR PARCEL 1. - JDG



NAD 83/96
BEGIN TIP PROJECT R-3826
-L- STA 12+00.00
15
20
INSTALL UNDERDRAINS FROM 11+94 TO 17+00, LEFT SIDE. TIE TO EXISTING DI AT 11+94 LT. UNDERDRAIN SHALL BE PLACED 4 FT BELOW SUBGRADE AT PROPOSED EOP.
INSTALL UNDERDRAINS FROM STA. 17+00 TO 25+00, LEFT SIDE. OUTLET UNDERDRAIN INTO DITCH AT STA. 25+00 LT. UNDERDRAIN SHALL BE PLACED 4 FT BELOW SUBGRADE AT PROPOSED EOP.
MATCHLINE -L- STA 25+00.00 SEE SHEET 5
MARIE BOWEN ANDERSON DB M-17 PG 56
3 MARTIN COUNTY COMMUNITY COLLEGE DB P-8 PG 242
7 JESSE A. COUNCIL DB R-10 PG 705
7A ARTHUR COUNCIL'S GARAGE DB R-10 PG 705
VIRGINIA ELECTRIC AND POWER COMPANY DB T-12 PG 1
VIRGINIA ELECTRIC AND POWER COMPANY DB U-12 PG 22
1 JOSEPH D. KEEL DB H-9 PG 643
2 BOBBY BOWEN RENTALS, LLC DB P-25 PG 262
4 DEBORAH L. BROWN DB T-25 PG II
5 JIMMIE R. COUNCIL, ETALS DB B-17 PG 428
6 HEIRS OF DOROTHY RHODES DB K-12 PG 309 DB D-13 PG 758 MB 12 PG 46
HEIRS OF DOROTHY RHODES DB K-12 PG 309
BL-R38262
BM#10
BL-10
PC Sta. 17+61.06
PT Sta. 22+36.05
N 44° 04' 42.0" E
N 16° 51' 47.6" E
NC 125 PRISON CAMP RD
600' TAPER LT
150' TAPER RT
FILL W/FLOWABLE MATERIAL
-L-
PI Sta 20+03.13
Δ = 27° 12' 54.4" (LT)
D = 5° 43' 46.5"
L = 474.99'
T = 242.07'
R = 1,000.00'
SE = SEE PLANS
DETAIL B
CUT DITCH
(Not to Scale)
Natural Ground
3:1 or Flatter
4:1 or Flatter
Front Ditch Slope
Min. D= 1 Ft.
FROM STA. 17+00 -L- TO STA. 26+34 -L- LT
FROM STA. 12+00 -L- TO STA. 13+00 -L- RT
FROM STA. 14+00 -L- TO STA. 26+36 -L- RT

DRIVEWAY RADII ARE 15' UNLESS OTHERWISE NOTED. NOTED RADII ARE FOR BOTH SIDES.

FOR -L- PROFILE, SEE SHEET 16

5/14/99

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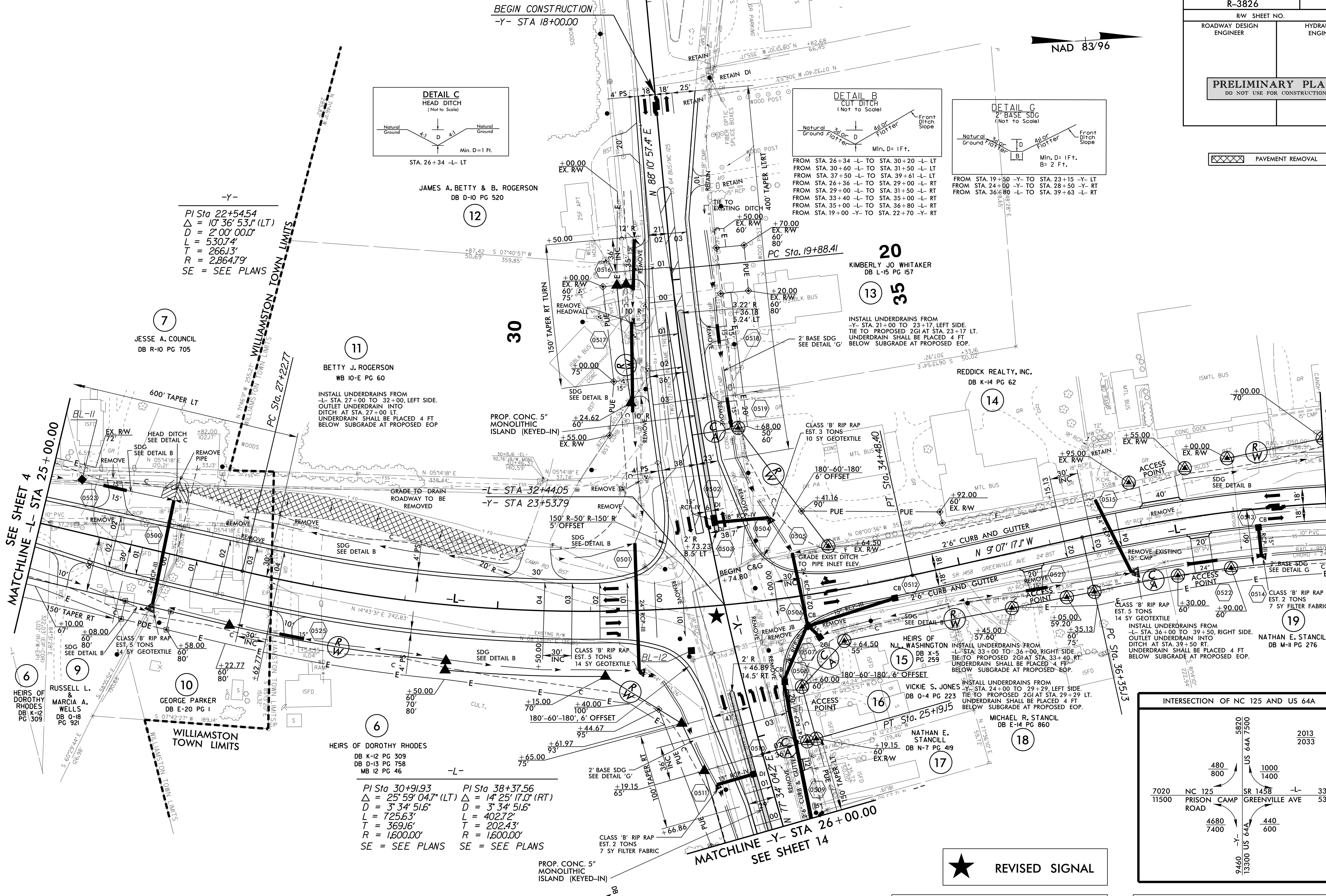
PROJECT REFERENCE NO.	SHEET NO.
R-3826	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



BEGIN CONSTRUCTION
-Y- STA 18+00.00
NAD 83/96
DETAIL C
HEAD DITCH
(Not to Scale)
Natural Ground
Min. D=1 Ft.
STA. 26+34 -L- LT
DETAIL B
CUT DITCH
(Not to Scale)
Min. D= 1 Ft.
FROM STA. 26+34 -L- TO STA. 30+20 -L- LT
FROM STA. 30+60 -L- TO STA. 31+50 -L- LT
FROM STA. 37+50 -L- TO STA. 39+61 -L- LT
FROM STA. 26+36 -L- TO STA. 29+00 -L- RT
FROM STA. 29+00 -L- TO STA. 31+50 -L- RT
FROM STA. 33+40 -L- TO STA. 35+00 -L- RT
FROM STA. 35+00 -L- TO STA. 36+80 -L- RT
FROM STA. 19+00 -Y- TO STA. 22+70 -Y- RT
DETAIL G
2' BASE SDG
(Not to Scale)
Min. D= 1 Ft.
B= 2 Ft.
FROM STA. 19+50 -Y- TO STA. 23+15 -Y- LT
FROM STA. 24+00 -Y- TO STA. 28+50 -Y- RT
FROM STA. 36+80 -L- TO STA. 39+63 -L- RT
PAVEMENT REMOVAL
JAMES A. BETTY & B. ROGERSON
DB D-10 PG 520
KIMBERLY JO WHITAKER
DB L-15 PG 157
INSTALL UNDERDRAINS FROM -Y- STA. 21+00 TO 23+17, LEFT SIDE. TIE TO PROPOSED 2GI AT STA. 23+17 LT. UNDERDRAIN SHALL BE PLACED 4 FT BELOW SUBGRADE AT PROPOSED EOP.
-Y-
PI Sta 22+54.54
△ = 10° 36' 53.1" (LT)
D = 2° 00' 00.0"
L = 530.74'
T = 266.13'
R = 2,864.79'
SE = SEE PLANS
JESSE A. COUNCIL
DB R-10 PG 705
BETTY J. ROGERSON
WB 10-E PG 60
INSTALL UNDERDRAINS FROM -L- STA. 27+00 TO 32+00, LEFT SIDE. OUTLET UNDERDRAIN INTO DITCH AT STA. 27+00 LT. UNDERDRAIN SHALL BE PLACED 4 FT BELOW SUBGRADE AT PROPOSED EOP
REDDICK REALTY, INC.
DB K-14 PG 62
WILLIAMSTON TOWN LIMITS
PC Sta. 27+22.77
PROP. CONC. 5" MONOLITHIC ISLAND (KEYED-IN)
-L- STA 32+44.05 =
-Y- STA 23+53.79
GRADE TO DRAIN ROADWAY TO BE REMOVED
MATCHLINE -L- STA 25+00.00
SEE SHEET 4
MATCHLINE -L- STA 39+00.00
SEE SHEET 6
N 9° 07' 17.1" W
2'6" CURB AND GUTTER
PT Sta. 34+48.40
PC Sta. 19+88.41
PC Sta. 36+35.13
PT Sta. 25+19.15
HEIRS OF N.L. WASHINGTON
DB X-5 PG 259
INSTALL UNDERDRAINS FROM -L- STA. 33+00 TO 36+00, RIGHT SIDE. TIE TO PROPOSED 2GI AT STA. 33+40 RT. UNDERDRAIN SHALL BE PLACED 4 FT BELOW SUBGRADE AT PROPOSED EOP.
INSTALL UNDERDRAINS FROM -Y- STA. 24+00 TO 29+29, LEFT SIDE. TIE TO PROPOSED 2GI AT STA. 29+29 LT. UNDERDRAIN SHALL BE PLACED 4 FT BELOW SUBGRADE AT PROPOSED EOP.
INSTALL UNDERDRAINS FROM -L- STA. 36+00 TO 39+50, RIGHT SIDE. OUTLET UNDERDRAIN INTO DITCH AT STA. 39+50 RT. UNDERDRAIN SHALL BE PLACED 4 FT BELOW SUBGRADE AT PROPOSED EOP.
NATHAN E. STANCILL
DB M-11 PG 276
VICKIE S. JONES
DB 0-4 PG 223
MICHAEL R. STANCIL
DB E-14 PG 860
NATHAN E. STANCILL
DB N-7 PG 419
HEIRS OF DOROTHY RHODES
DB K-12 PG 309
DB D-13 PG 758
MB 12 PG 46
RUSSELL L. & MARCIA A. WELLS
DB 0-18 PG 921
GEORGE PARKER
DB E-20 PG 1
WILLIAMSTON TOWN LIMITS
-L-
PI Sta 30+91.93
△ = 25° 59' 04.7" (LT)
D = 3° 34' 51.6"
L = 725.63'
T = 369.16'
R = 1,600.00'
SE = SEE PLANS
PI Sta 38+37.56
△ = 14° 25' 17.0" (RT)
D = 3° 34' 51.6"
L = 402.72'
T = 202.43'
R = 1,600.00'
SE = SEE PLANS
MATCHLINE -Y- STA 26+00.00
SEE SHEET 14
PROP. CONC. 5" MONOLITHIC ISLAND (KEYED-IN)

REVISIONS

R/W REVISION (06/15/15) - MOVED DRIVEWAY AND ACCESS POINTS ON PARCEL 19 FROM -L- STA.38+50 RT. TO -L- STA.37+59 RT. - JDG

INTERSECTION OF NC 125 AND US 64A

7020 / 11500 NC 125 PRISON CAMP ROAD	5820 / 7500 US 64A (north); 480/800; 1000/1400; 4680/7400; 440/600; 9460 / 13300 US 64A -Y- (south); 2013/2033	SR 1458 -L- GREENVILLE AVE 3300 / 5300

★ REVISED SIGNAL

DRIVEWAY RADII ARE 15' UNLESS OTHERWISE NOTED. NOTED RADII ARE FOR BOTH SIDES.

FOR -L- PROFILE, SEE SHEET 16
FOR -Y- PROFILE, SEE SHEET 21

5/14/99

15-JUN-2015 15:03
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PROJECT REFERENCE NO.	SHEET NO.
R-3826	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

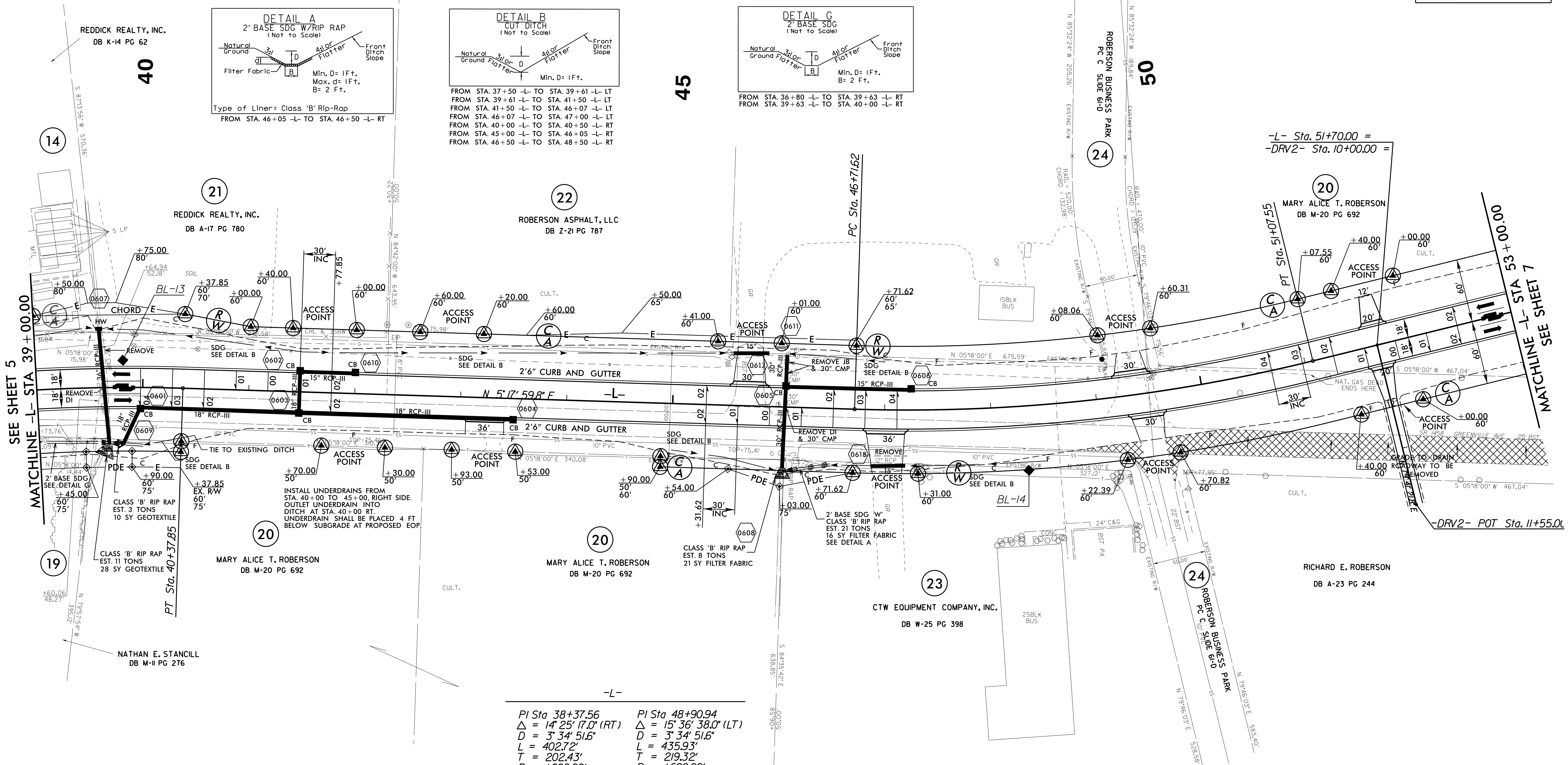
PAVEMENT REMOVAL

NAD 83/96

DETAIL A
2' BASE SDG W/RIP RAP
(Not to Scale)
Natural Ground; 3:1; 4:1 or Flatter; Front Ditch Slope; D; d; B; Filter Fabric
Min. D= 1 Ft.
Max. d= 1 Ft.
B= 2 Ft.
Type of Liner= Class 'B' Rip-Rap
FROM STA. 46+05 -L- TO STA. 46+50 -L- RT

DETAIL B
CUT DITCH
(Not to Scale)
Natural Ground; 3:1 or Flatter; 4:1 or Flatter; Front Ditch Slope; D
Min. D= 1 Ft.
FROM STA. 37+50 -L- TO STA. 39+61 -L- LT
FROM STA. 39+61 -L- TO STA. 41+50 -L- LT
FROM STA. 41+50 -L- TO STA. 46+07 -L- LT
FROM STA. 46+07 -L- TO STA. 47+00 -L- LT
FROM STA. 40+00 -L- TO STA. 40+50 -L- RT
FROM STA. 45+00 -L- TO STA. 46+05 -L- RT
FROM STA. 46+50 -L- TO STA. 48+50 -L- RT

DETAIL G
2' BASE SDG
(Not to Scale)
Natural Ground; 3:1 or Flatter; 4:1 or Flatter; Front Ditch Slope; D; B
Min. D= 1 Ft.
B= 2 Ft.
FROM STA. 36+80 -L- TO STA. 39+63 -L- RT
FROM STA. 39+63 -L- TO STA. 40+00 -L- RT



-L-

PI Sta 38+37.56	PI Sta 48+90.94
Δ = 14° 25' 17.0" (RT)	Δ = 15° 36' 38.0" (LT)
D = 3° 34' 51.6"	D = 3° 34' 51.6"
L = 402.72'	L = 435.93'
T = 202.43'	T = 219.32'
R = 1,600.00'	R = 1,600.00'
SE = SEE PLANS	SE = SEE PLANS

DRIVEWAY RADII ARE 15' UNLESS OTHERWISE NOTED. NOTED RADII ARE FOR BOTH SIDES.

FOR -L- PROFILE, SEE SHEET 17

REVISIONS

R/W REVISION (05/29/15) - ADDED ACCESS POINTS TO PARCEL 20 (MARY ALICE T. ROBERSON), PARCEL 21 (REDDICK REALTY, INC.) AND PARCEL 22 (ROBERSON ASPHALT, LLC). - MTP
PARCEL 23 (CTW EQUIPMENT COMPANY, INC.) OWNER CHANGE, PREVIOUSLY CHARLES B. ROBERSON. - MTP
R/W REVISION (09/01/15) - PROVIDED ACCESS POINTS TO PARCEL 20, MARY ALICE T. ROBERSON, AND THE UNNUMBERED PARCEL, RICHARD E. ROBERSON. - DDL

5/14/99
01-SEP-2015 15:52
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PROJECT REFERENCE NO.	SHEET NO.
R-3826	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83/96

PAVEMENT REMOVAL

REVISIONS
5/14/99
R/W REVISION (02/03/15) – PARCEL 25 (LAKE PHELPS HOLDING,LLC) OWNER CHANGE, PREVIOUSLY ABBITS,INC. – MTP
R/W REVISION (04/07/15) – ADDED ACCESS POINT ON PARCEL 26 DDL

SEE SHEET 6
MATCHLINE –L– STA 53+00.00

WILLIAMSTON TOWN LIMITS

55

60

65

DETAIL B
CUT DITCH
(Not to Scale)
Natural Ground
3:1 or Flatter
D
4:1 or Flatter
Front Ditch Slope
Min. D= 1Ft.

FROM STA. 56+00 –L– TO STA. 58+66 –L– LT
FROM STA. 58+66 –L– TO STA. 62+00 –L– LT
FROM STA. 55+50 –L– TO STA. 59+40 –L– RT
FROM STA. 59+40 –L– TO STA. 63+00 –L– RT

–L–
PI Sta 70+04.32
△ = 52° 24' 13.5" (RT)
D = 3° 34' 51.6"
L = 1,463.39'
T = 787.36'
R = 1,600.00'
SE = SEE PLANS

–Y3– POT Sta. 10+00.00

20
MARY ALICE T. ROBERSON
DB M-20 PG 692

CLASS 'B' RIP RAP
EST. 2 TONS
7 SY GEO–TEXTILE

EX. RR R/W
60'

END C&G AT RR R/W – BEGIN 4' PS

CSX RAILROAD

–L– STA 55+16.04 =
–Y3– STA 11+84.98

25
LAKE PHELPS HOLDINGS, LLC
DB B-25 PG 314

CLASS 'B' RIP RAP
EST. 5 TONS
14 SY FILTER FABRIC

EX. RR R/W
60'
BEGIN WW FENCE

WOODS

+95.00
60'
END WW FENCE

ACCESS POINT

26
JEANNE HURST FOSTER
DB 0-7 PG 626

+55.00
60'
BEGIN WW FENCE

SDG
SEE DETAIL B

+16.96
60'
65'

BL–16

1000' TAPER LT/RT

+00.00

30' INC.

+56.96

+50.00
60'
65'

2'6" CURB AND GUTTER

18" RCP–III

0701 0702 0703 0704 0710 0711 0712 0713

CLASS 'B' RIP RAP
EST. 2 TONS
7 SY FILTER FABRIC

20' EQUALIZER

BL–15

END C&G AT RR R/W – BEGIN 4' PS
EX. RR R/W
60'

SDG
SEE DETAIL B

CENTERLINE TRACK #2
–L– STA 55+31.35
BM#11

–Y3– POT Sta. 13+57.66

INSTALL UNDERDRAINS FROM STA. 55+50 TO 59+40, RIGHT SIDE. TIE TO EXISTING DITCH AT STA. 59+40 RT. UNDERDRAIN SHALL BE PLACED 4 FT BELOW SUBGRADE AT PROPOSED EOP.

+50.00
60'
END WW FENCE

ACCESS POINT

+10.00
60'
BEGIN WW FENCE

PC Sta. 63+16.96

+00.00
60'

SET EQUALIZER PIPES AT EXISTING GROUND ELEVATION DO NOT BURY

+50.00
60'

+60.00
70'

RAILROAD MILEPOST MARKER No.165

MATCHLINE –L– STA 67+00.00
SEE SHEET 8

DRIVEWAY RADII ARE 15' UNLESS OTHERWISE NOTED. NOTED RADII ARE FOR BOTH SIDES.

FOR –L– PROFILE, SEE SHEET 17

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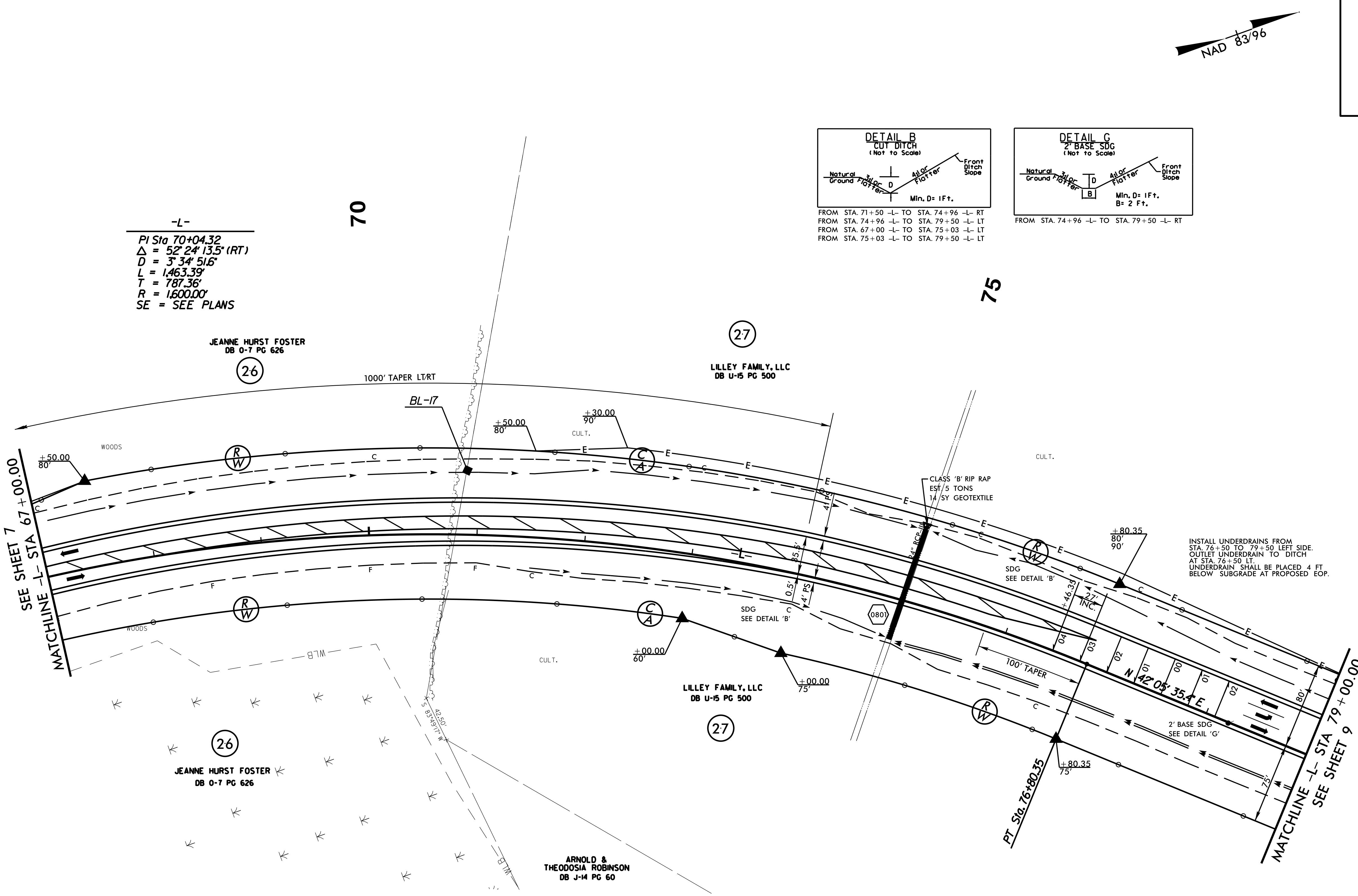
PROJECT REFERENCE NO.	SHEET NO.
R-3826	8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



NAD 83/96
DETAIL B
CUT DITCH
(Not to Scale)
Natural Ground
3:1 or Flatter
4:1 or Flatter
Front Ditch Slope
Min. D= 1 Ft.
FROM STA. 71+50 -L- TO STA. 74+96 -L- RT
FROM STA. 74+96 -L- TO STA. 79+50 -L- LT
FROM STA. 67+00 -L- TO STA. 75+03 -L- LT
FROM STA. 75+03 -L- TO STA. 79+50 -L- LT
DETAIL G
2' BASE SDG
(Not to Scale)
Min. D= 1 Ft.
B= 2 Ft.
FROM STA. 74+96 -L- TO STA. 79+50 -L- RT
-L-
PI Sta 70+04.32
Δ = 52° 24' 13.5" (RT)
D = 3° 34' 51.6"
L = 1,463.39'
T = 787.36'
R = 1,600.00'
SE = SEE PLANS
70
75
JEANNE HURST FOSTER
DB 0-7 PG 626
26
LILLEY FAMILY, LLC
DB U-15 PG 500
27
1000' TAPER LT/RT
BL-17
CLASS 'B' RIP RAP
EST. 5 TONS
14 SY GEOTEXTILE
INSTALL UNDERDRAINS FROM STA. 76+50 TO 79+50 LEFT SIDE. OUTLET UNDERDRAIN TO DITCH AT STA. 76+50 LT. UNDERDRAIN SHALL BE PLACED 4 FT BELOW SUBGRADE AT PROPOSED EOP.
SDG SEE DETAIL 'B'
100' TAPER
N 42° 05' 35.4" E
2' BASE SDG SEE DETAIL 'G'
PT Sta. 76+80.35
ARNOLD & THEODOSIA ROBINSON
DB J-14 PG 60
SEE SHEET 7
MATCHLINE -L- STA 67+00.00
MATCHLINE -L- STA 79+00.00
SEE SHEET 9

DRIVEWAY RADII ARE 15' UNLESS OTHERWISE NOTED. NOTED RADII ARE FOR BOTH SIDES.

FOR -L- PROFILE, SEE SHEET 18

PROJECT REFERENCE NO.	SHEET NO.
R-3826	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83/96

REVISIONS

R/W REVISION (02/23/15) - PARCEL 31 (BILLY S. BIGGS) OWNER CHANGE, PREVIOUSLY JAMES K. & DOROTHY CULLIPHER. - MTP
R/W REVISION (9/01/15) - ADDED DRAINAGE PIPES TO PARCEL 30. - DDL

5/14/99

SEE SHEET 15
MATCHLINE -Y1- STA 17+00.00

SEE SHEET 8
MATCHLINE -L- STA 79+00.00

SEE SHEET 10
MATCHLINE -L- STA 93+00.00

-Y1-
PI Sta 19+13.64
Δ = 0° 23' 25.9" (LT)
D = 0° 15' 00.0"
L = 156.21'
T = 78.11'
R = 22,918.31'
SE = SEE PLANS

PI Sta 27+74.54
Δ = 2° 21' 57.1" (LT)
D = 0° 24' 00.0"
L = 591.46'
T = 295.77'
R = 14,323.94'
SE = SEE PLANS

-L-
PI Sta 86+38.41
Δ = 12° 32' 48.3" (LT)
D = 1° 54' 35.5"
L = 656.95'
T = 329.79'
R = 3,000.00'
SE = SEE PLANS

PI Sta 96+17.57
Δ = 36° 06' 43.1" (RT)
D = 2° 51' 53.2"
L = 1,260.55'
T = 652.00'
R = 2,000.00'
SE = SEE PLANS

DETAIL B
CUT DITCH
(Not to Scale)
Natural Ground — 3:1 or Flatter — D — 4:1 or Flatter — Front Ditch Slope
Min. D= 1Ft.

FROM		TO	
STA. 81+00	-L-	STA. 89+00	-L- LT
STA. 81+00	-L-	STA. 85+50	-L- RT
STA. 17+25	-Y1-	STA. 19+83	-Y1- RT
STA. 21+00	-Y1-	STA. 22+00	-Y1- RT
STA. 22+00	-Y1-	STA. 25+25	-Y1- RT
STA. 14+00	-Y1-	STA. 19+81	-Y1- LT
STA. 21+00	-Y1-	STA. 22+25	-Y1- LT

PEGGY O. HARRELL
DB R-8 PG 713

INSTALL UNDERDRAIN FROM -Y1- STA. 14+00 TO 19+83, RIGHT SIDE. TIE TO -L- LINE UNDERDRAIN AT -L- STA. 79+50 LT. UNDERDRAIN SHALL BE PLACED 4 FT BELOW SUBGRADE AT PROPOSED EOP.

LILLEY FAMILY, LLC
DB U-15 PG 500

BILLY S. BIGGS
DB K-25 PG 409

RUBICEL C. OVANDO & JESUS C. CUPIL
DB T-23 PG 213

SIMON A. GRIFFIN
WB 09-E PG 147
L-299 (UNRECORD MAP)

LARRY W. & WANDA M. SPELLER
DB H-9 PG 43

SHELBY MODLIN
DB R-8 PG 149
DB A-13 PG 468

ARNOLD & THEODOSIA ROBINSON
DB J-14 PG 60

INSTALL UNDERDRAIN FROM -L- STA. 81+00 TO 87+00, LEFT SIDE. OUTLET UNDERDRAIN TO DITCH AT STA. 81+00 LT. UNDERDRAIN SHALL BE PLACED 4 FT BELOW SUBGRADE AT PROPOSED EOP.

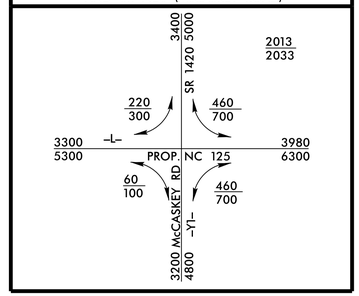
INSTALL UNDERDRAIN FROM -Y1- STA. 21+00 TO 25+75, RIGHT SIDE. TIE TO -L- LINE UNDERDRAIN AT -L- STA. 79+50 RT. UNDERDRAIN SHALL BE PLACED 4 FT BELOW SUBGRADE AT PROPOSED EOP.

PC Sta. 18+35.53
PT Sta. 19+89.74
PC Sta. 83+08.62
PRC Sta. 89+65.57
BL-18
BL-19
-L- STA 80+28.88 = -Y1- STA 20+49.17
END CONSTRUCTION -Y1- STA 24+50.00
PC Sta. 24+78.77

150' TAPER
656.95' TAPER RT
265' TAPER LT/RT

CLASS 'B' RIP RAP EST. 5 TONS 14 SY GEOTEXTILE
FILL WITH FLOWABLE MATERIAL
CLASS 'B' RIP RAP EST. 2 TONS 7 SY FILTER FABRIC
SDG SEE DETAIL 'B'
WOODS
CULT.

INTERSECTION OF PROPOSED NC 125 AND SR 1420 (McCASKEY ROAD)



★ PROPOSED SIGNAL

DRIVEWAY RADII ARE 15' UNLESS OTHERWISE NOTED. NOTED RADII ARE FOR BOTH SIDES.

FOR -L- PROFILE, SEE SHEET 18
FOR -Y1- PROFILE, SEE SHEET 21

01-SEP-2015 15:52
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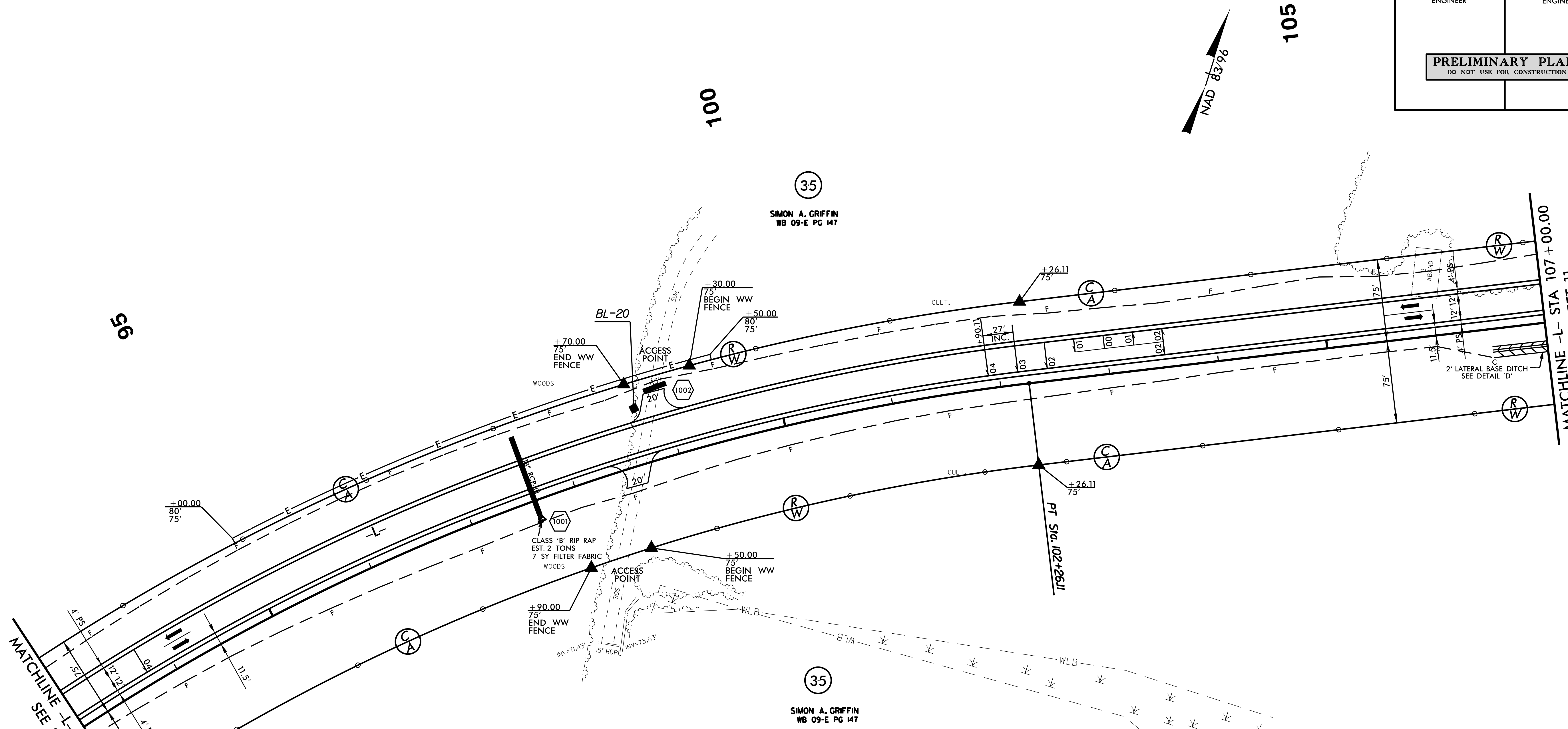
25
85
90

PROJECT REFERENCE NO.	SHEET NO.
R-3826	10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

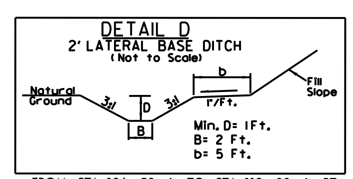
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



NAD 83/96
95
100
105
35
SIMON A. GRIFFIN
WB 09-E PG 147
BL-20
ACCESS POINT
+70.00
75'
END WW FENCE
+30.00
75'
BEGIN WW FENCE
+50.00
80'
75'
+26.11
75'
+00.00
80'
75'
+90.00
75'
END WW FENCE
+50.00
75'
BEGIN WW FENCE
1001
1002
CLASS 'B' RIP RAP
EST. 2 TONS
7 SY FILTER FABRIC
WOODS
CULT.
27'
INC.
2' LATERAL BASE DITCH
SEE DETAIL 'D'
PT Sta. 102+26.11
MATCHLINE -L- STA 93+00.00
SEE SHEET 9
MATCHLINE -L- STA 107+00.00
SEE SHEET 11
-L-
20'
4' PS
11.5'
WLB

-L-

PI Sta 96+17.57
Δ = 36° 06' 43.1" (RT)
D = 2° 51' 53.2"
L = 1,260.55'
T = 652.00'
R = 2,000.00'
SE = SEE PLANS



FROM STA. 106+50 -L- TO STA. 119+00 -L- RT

DRIVEWAY RADII ARE 15' UNLESS OTHERWISE NOTED. NOTED RADII ARE FOR BOTH SIDES.

FOR -L- PROFILE, SEE SHEET 19

5/14/99

15-JAN-2015 14:19

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-3826	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

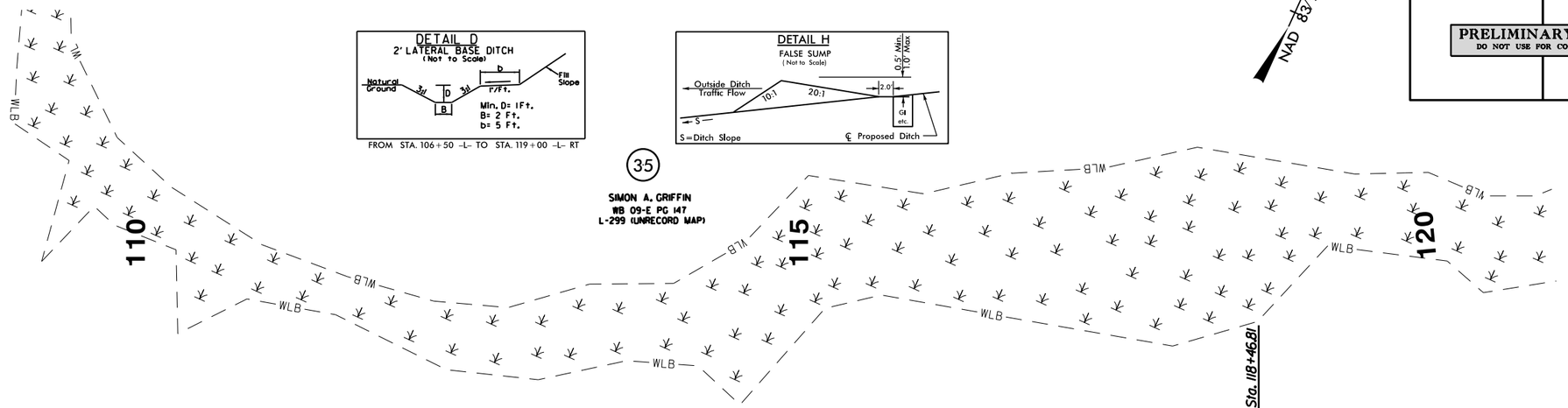
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

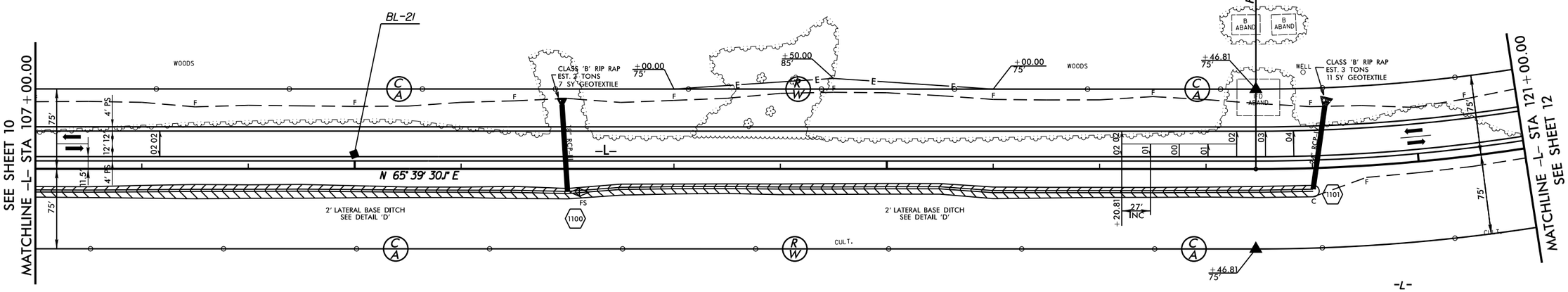
NAD 83/96

DETAIL D
2' LATERAL BASE DITCH
(Not To Scale)

FROM STA. 106+50 -L- TO STA. 119+00 -L- RT

DETAIL H
FALSE SUMP
(Not to Scale)





-L-

PI Sta 138+60.98
△ = 101° 21' 05.8" (LT)
D = 3° 28' 20.9"
L = 2,918.72'
T = 2,014.17'
R = 1,650.00'
SE = SEE PLANS

35
SIMON A. GRIFFIN
WB 09-E PG 147
L-299 (UNRECORD MAP)

DRIVEWAY RADII ARE 15' UNLESS OTHERWISE NOTED. NOTED RADII ARE FOR BOTH SIDES.

FOR -L- PROFILE, SEE SHEET 19

15-JAN-2015 14:20
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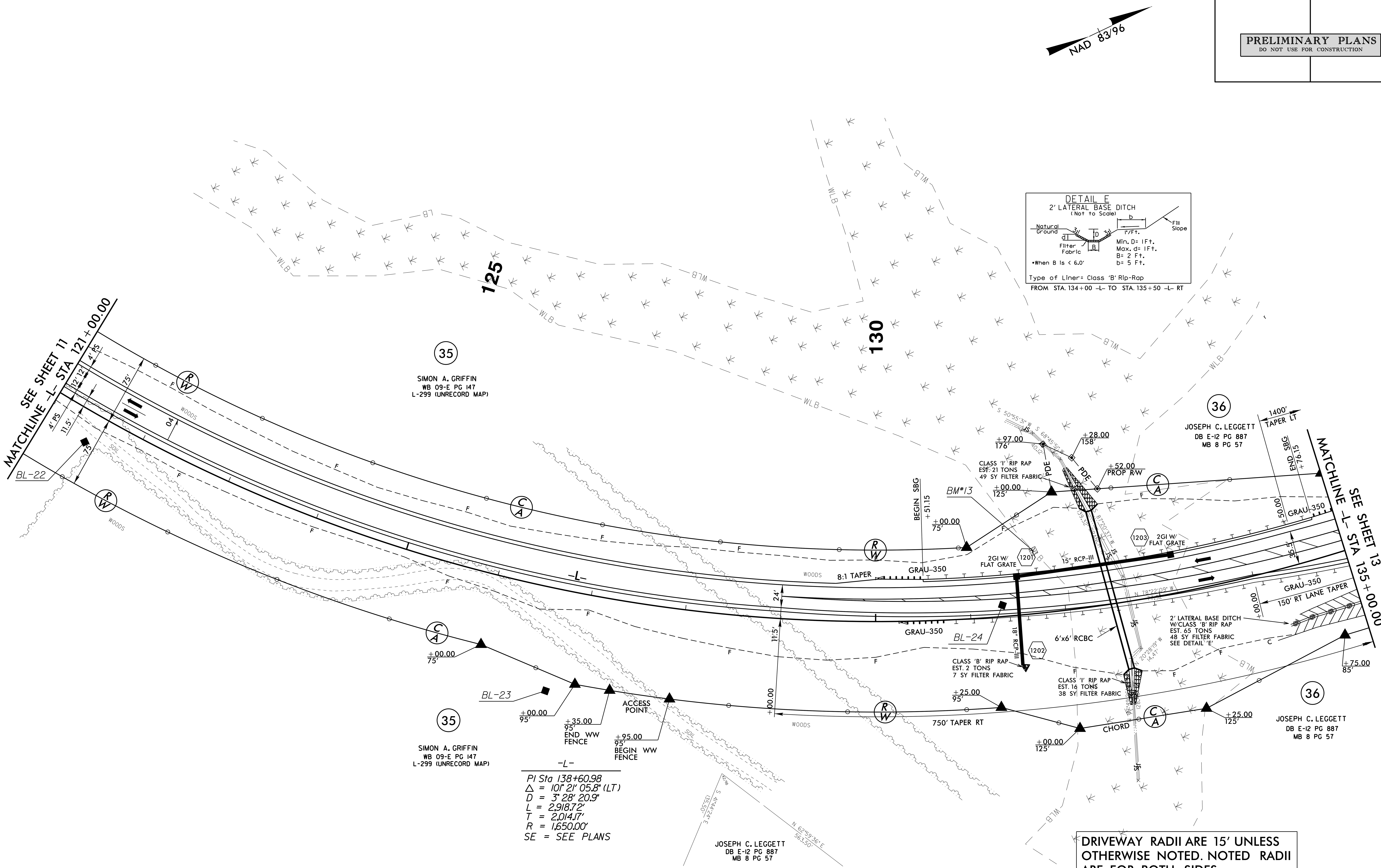
PROJECT REFERENCE NO.	SHEET NO.
R–3826	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

R/W REVISION (02/20/15) – PARCEL 35 (SIMON A. GRIFFIN) AND PARCEL 36 (JOSEPH C. LEGGETT) PROPERTY BOUNDARY DISPLAY EXTENDED EAST BEYOND PROPOSED PDE. – MTP

5/14/99



-L-
PI Sta 138+60.98
Δ = 101° 21' 05.8" (LT)
D = 3° 28' 20.9"
L = 2,918.72'
T = 2,014.17'
R = 1,650.00'
SE = SEE PLANS

DRIVEWAY RADII ARE 15' UNLESS OTHERWISE NOTED. NOTED RADII ARE FOR BOTH SIDES.

FOR -L- PROFILE, SEE SHEET 20

FOR CULVERT, SEE SHEET C–? THROUGH C–?

17-DEC-2015 08:34
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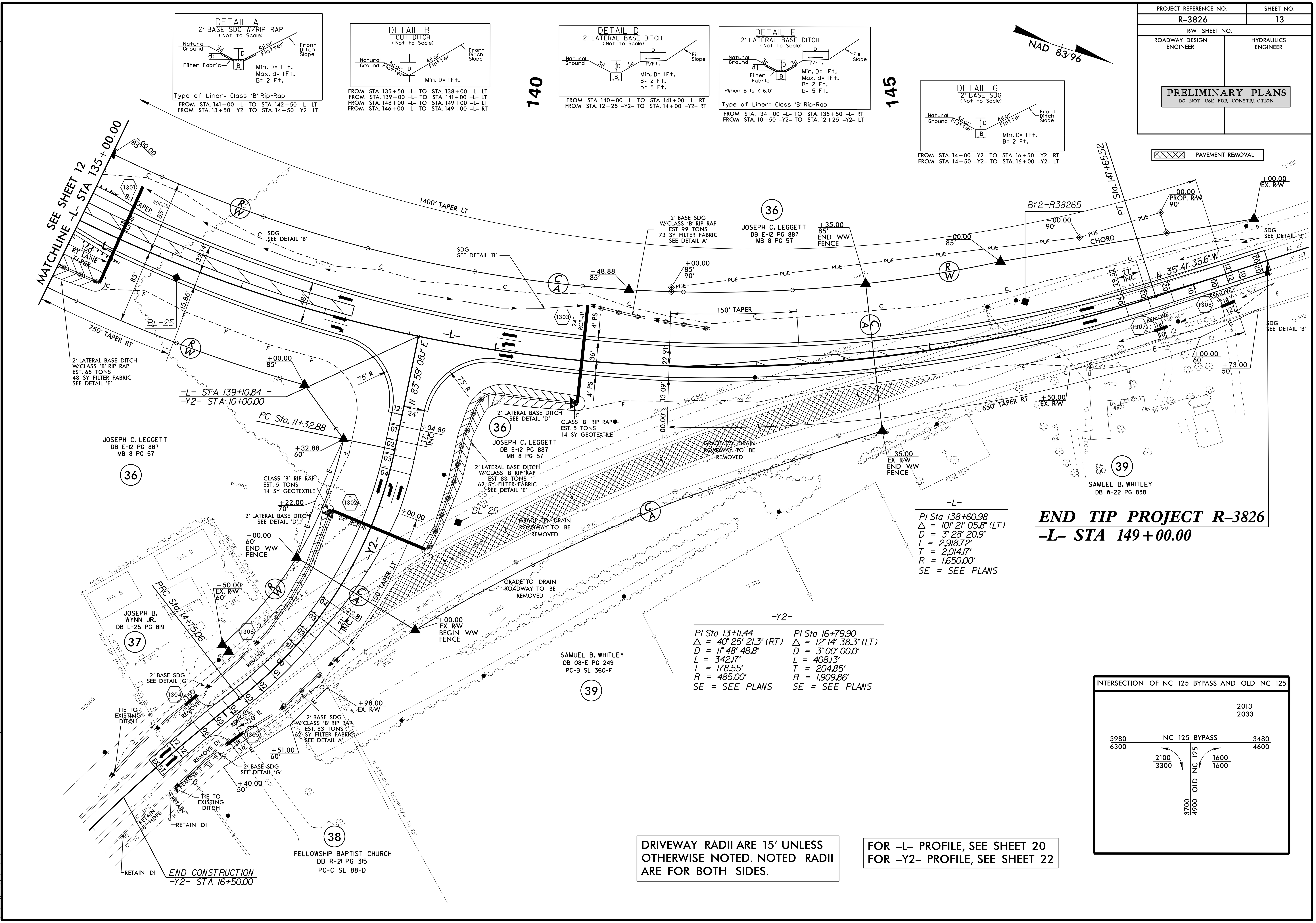
PROJECT REFERENCE NO.	SHEET NO.
R-3826	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS
R/W REVISION (05/29/15) - REMOVED DRIVEWAY TURNOUT ON PARCEL 37 (JOSEPH B. WYNN JR.) - JDG



DETAIL A
2' BASE SDG W/RIP RAP
(Not to Scale)
Min. D= 1Ft.
Max. d= 1Ft.
B= 2 Ft.
Type of Liner= Class 'B' Rip-Rap
FROM STA. 141+00 -L- TO STA. 142+50 -L- LT
FROM STA. 13+50 -Y2- TO STA. 14+50 -Y2- LT
DETAIL B
CUT DITCH
(Not to Scale)
Min. D= 1Ft.
FROM STA. 135+50 -L- TO STA. 138+00 -L- LT
FROM STA. 139+00 -L- TO STA. 141+00 -L- LT
FROM STA. 148+00 -L- TO STA. 149+00 -L- LT
FROM STA. 146+00 -L- TO STA. 149+00 -L- RT
DETAIL D
2' LATERAL BASE DITCH
(Not to Scale)
Min. D= 1Ft.
B= 2 Ft.
b= 5 Ft.
FROM STA. 140+00 -L- TO STA. 141+00 -L- RT
FROM STA. 12+25 -Y2- TO STA. 14+00 -Y2- RT
DETAIL E
2' LATERAL BASE DITCH
(Not to Scale)
Min. D= 1Ft.
Max. d= 1Ft.
B= 2 Ft.
b= 5 Ft.
*When B is < 6.0'
Type of Liner= Class 'B' Rip-Rap
FROM STA. 134+00 -L- TO STA. 135+50 -L- RT
FROM STA. 10+50 -Y2- TO STA. 12+25 -Y2- LT
DETAIL G
2' BASE SDG
(Not to Scale)
Min. D= 1Ft.
B= 2 Ft.
FROM STA. 14+00 -Y2- TO STA. 16+50 -Y2- RT
FROM STA. 14+50 -Y2- TO STA. 16+00 -Y2- LT
NAD 83/96
140
145
PAVEMENT REMOVAL
MATCHLINE -L- STA 135+00.00
SEE SHEET 12
1400' TAPER LT
750' TAPER RT
150' TAPER
650' TAPER RT
150' TAPER LT
-L- STA 139+10.84 =
-Y2- STA 10+00.00
PC Sta. 11+32.88
PRC Sta. 14+75.06
PT Sta. 147+65.52
BY2-R38265
N 83° 59' 08.1" E
N 35° 41' 35.6" W
JOSEPH C. LEGGETT
DB E-12 PG 887
MB 8 PG 57
36
JOSEPH B. WYNN JR.
DB L-25 PG 819
37
FELLOWSHIP BAPTIST CHURCH
DB R-21 PG 315
PC-C SL 88-D
38
SAMUEL B. WHITLEY
DB 08-E PG 249
PC-B SL 360-F
39
SAMUEL B. WHITLEY
DB W-22 PG 838
GRADE TO DRAIN ROADWAY TO BE REMOVED
CEMETERY
WOODS
END CONSTRUCTION
-Y2- STA 16+50.00
END TIP PROJECT R-3826
-L- STA 149+00.00

-L-
PI Sta 138+60.98
Δ = 101° 21' 05.8" (LT)
D = 3° 28' 20.9"
L = 2,918.72'
T = 2,014.17'
R = 1,650.00'
SE = SEE PLANS

-Y2-

PI Sta 13+11.44	PI Sta 16+79.90
Δ = 40° 25' 21.3" (RT)	Δ = 12° 14' 38.3" (LT)
D = 11° 48' 48.8"	D = 3° 00' 00.0"
L = 342.17'	L = 408.13'
T = 178.55'	T = 204.85'
R = 485.00'	R = 1,909.86'
SE = SEE PLANS	SE = SEE PLANS

DRIVEWAY RADII ARE 15' UNLESS OTHERWISE NOTED. NOTED RADII ARE FOR BOTH SIDES.

FOR -L- PROFILE, SEE SHEET 20
FOR -Y2- PROFILE, SEE SHEET 22

INTERSECTION OF NC 125 BYPASS AND OLD NC 125

5/14/99
28-MAY-2015 15:01
R3826_Rdy_psh_13.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-3826	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

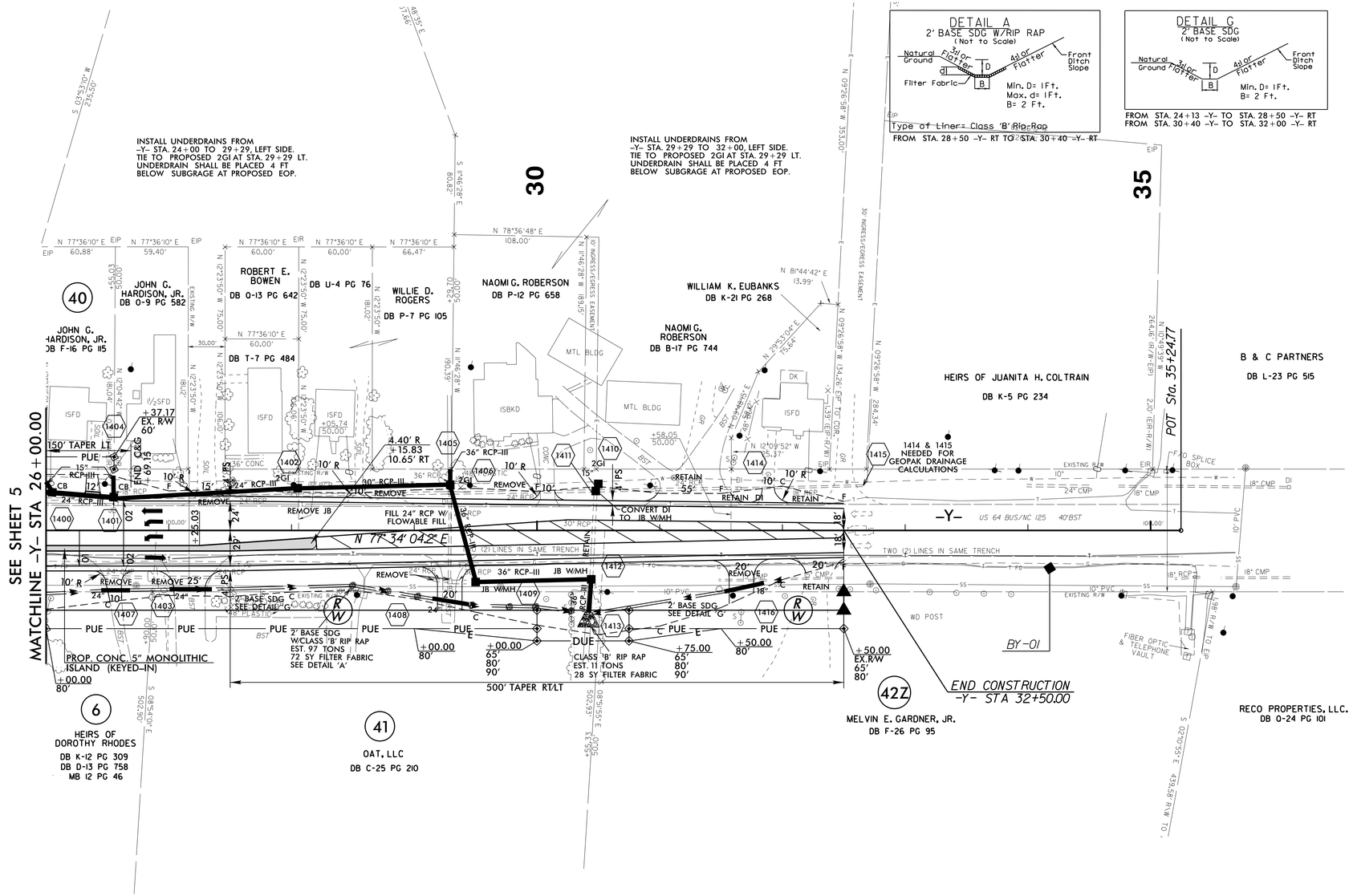
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83/96

5/14/99

REVISIONS

R/W REVISION (03/09/16) - REVISED EASEMENTS ON PARCELS 41 AND 42 - JDG
R/W REVISION (04/14/16) - REVISED PROPERTY OWNER INFORMATION AND PARCEL NUMBER FOR PARCEL 42Z - JDG



PROJECT REFERENCE NO.	SHEET NO.
R-3826	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

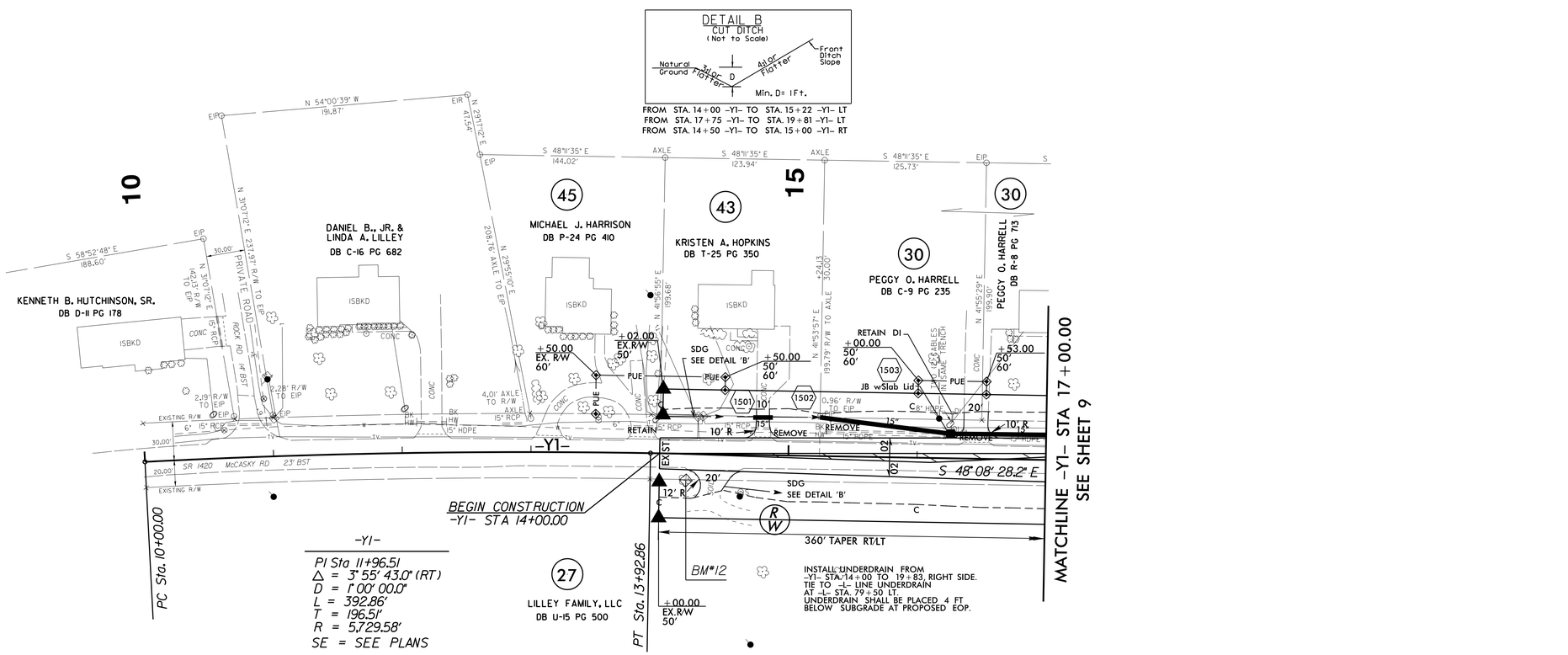
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83/96

REVISIONS

5/14/99

R/W REVISION (02/23/15) – PARCEL 43 (KRISTEN A. HOPKINS) OWNER CHANGE. PREVIOUSLY BRAXTON M. & KATHERINE E. MANNING. – MTP
PARCEL 45 (MICHAEL J. HARRISON) OWNER CHANGE. PREVIOUSLY VALERIE J. BURDOCK. – MTP
R/W REVISION (05/29/15) – COMBINED PARCELS 29 AND 30 TO MAKE ONE PARCEL 30 (PEGGY O. HARRELL). – MTP
R/W REVISION (09/01/15) – ADDED DRAINAGE PIPES TO PARCEL 30. – DDL



DRIVEWAY RADII ARE 15' UNLESS OTHERWISE NOTED. NOTED RADII ARE FOR BOTH SIDES.

FOR -Y1- PROFILE, SEE SHEET 21

PROJECT REFERENCE NO.	SHEET NO.
R-3826	16

ROADWAY DESIGN ENGINEER

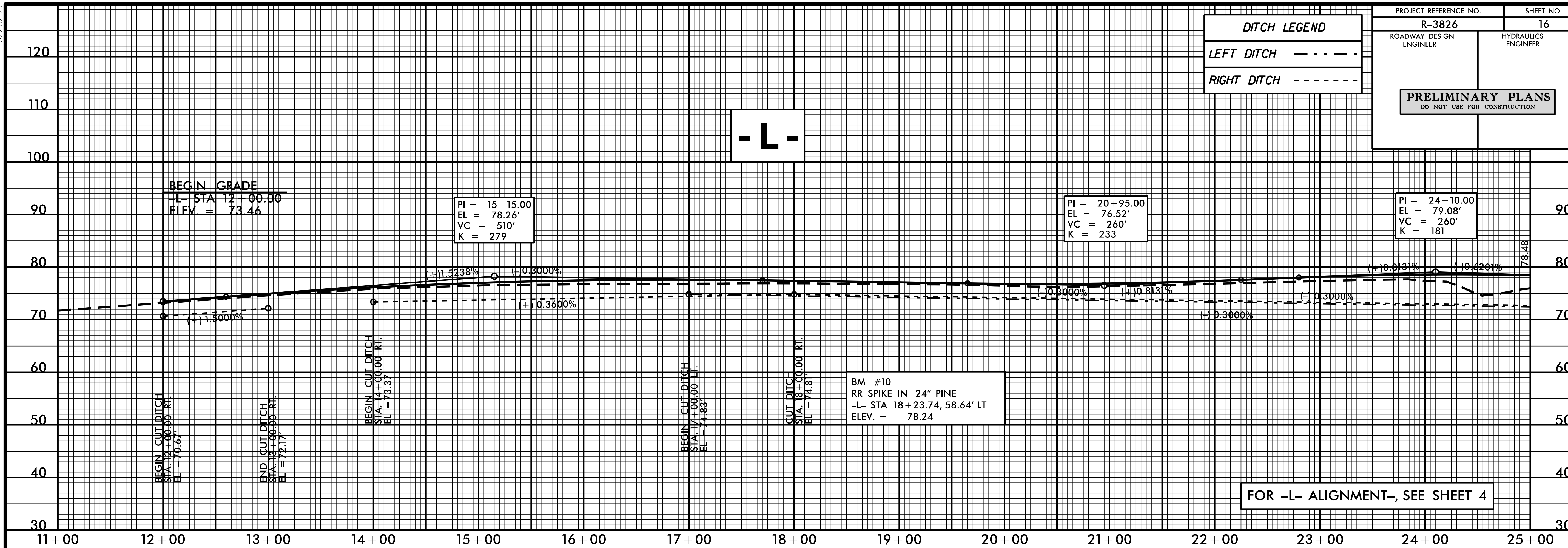
HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

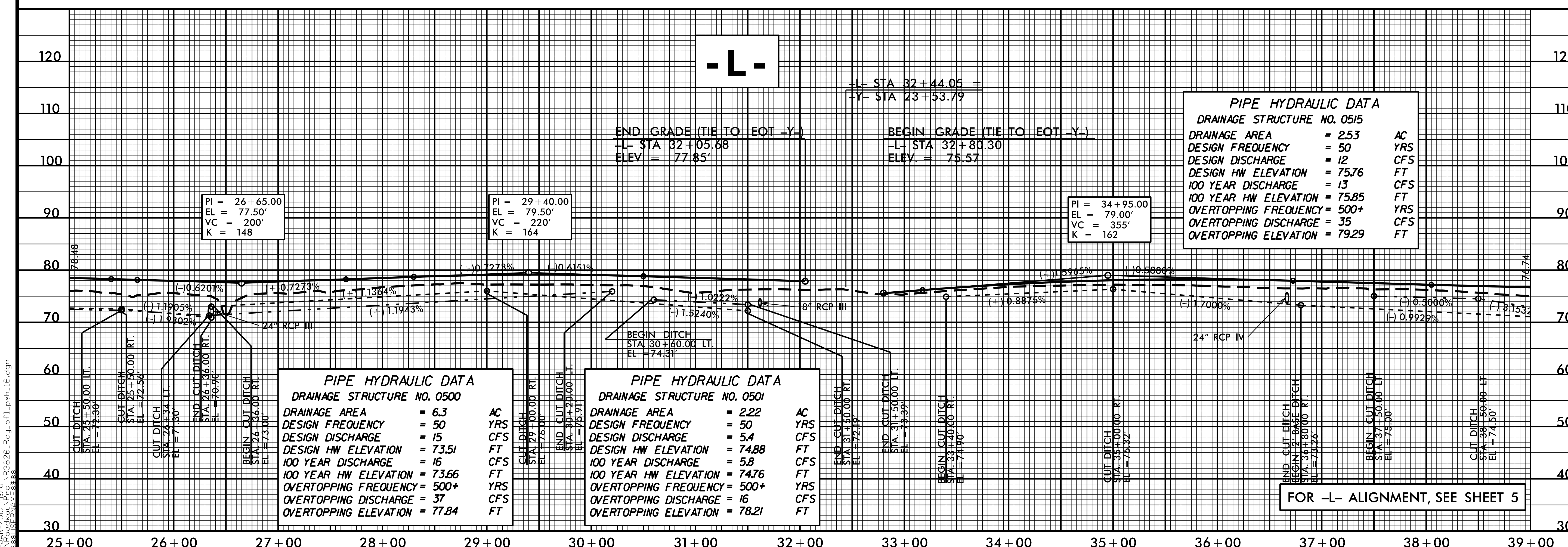
DITCH LEGEND

LEFT DITCH — · · —

RIGHT DITCH - - - - - -



-L-
BEGIN GRADE
-L- STA 12 00.00
ELEV = 73.46
PI = 15+15.00
EL = 78.26'
VC = 510'
K = 279
PI = 20+95.00
EL = 76.52'
VC = 260'
K = 233
PI = 24+10.00
EL = 79.08'
VC = 260'
K = 181
(+)1.5238%
(-)0.3000%
(+) 0.3600%
(+) 1.5000%
(-)0.3000%
(+)0.8131%
(-)0.6201%
(-) 0.3000%
78.48
BEGIN CUT DITCH STA. 12+00.00 RT. EL =70.67'
END CUT DITCH STA. 13+00.00 RT. EL =72.17'
BEGIN CUT DITCH STA. 14+00.00 RT. EL =73.37
BEGIN CUT DITCH STA. 17+00.00 LT. EL =74.83'
CUT DITCH STA. 18+00.00 RT. EL =74.81'
BM #10
RR SPIKE IN 24" PINE
-L- STA 18+23.74, 58.64' LT
ELEV. = 78.24
FOR -L- ALIGNMENT-, SEE SHEET 4
11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00



-L-
-L- STA 32+44.06 =
-Y- STA 23+53.79
END GRADE (TIE TO EOT -Y-)
-L- STA 32+05.68
ELEV = 77.85'
BEGIN GRADE (TIE TO EOT -Y-)
-L- STA 32+80.30
ELEV. = 75.57
PI = 26+65.00
EL = 77.50'
VC = 200'
K = 148
PI = 29+40.00
EL = 79.50'
VC = 220'
K = 164
PI = 34+95.00
EL = 79.00'
VC = 355'
K = 162
78.48
76.74
(-)0.6201%
(+) 0.7273%
(+)1.1364%
(+)0.7273%
(-)0.6151%
(-) 1.1905%
(-) 1.9802%
(+) 1.1943%
(-) 1.0222%
(-) 1.5240%
(+)1.5965%
(-)0.5886%
(+) 0.8875%
(-) 1.7000%
(-) 0.5000%
(-) 0.9929%
24" RCP III
18" RCP III
24" RCP IV
BEGIN DITCH STA. 30+60.00 LT. EL =74.31'
CUT DITCH STA. 25+50.00 LT. EL =72.30'
CUT DITCH STA. 25+50.00 RT. EL =72.56'
CUT DITCH STA. 26+34 LT. EL =71.30'
END CUT DITCH STA. 26+36.00 RT. EL =70.90'
BEGIN CUT DITCH STA. 26+36.00 RT. EL =73.00'
CUT DITCH STA. 29+00.00 RT. EL =76.00'
END CUT DITCH STA. 30+20.00 LT. EL =75.91'
END CUT DITCH STA. 31+50.00 RT. EL =72.19'
END CUT DITCH STA. 31+50.00 LT.
BEGIN CUT DITCH STA. 33+40.00 RT. EL =74.90'
CUT DITCH STA. 35+00.00 RT. EL =76.32'
END CUT DITCH STA. 36+80.00 RT. EL =73.26'
BEGIN CUT DITCH STA. 37+50.00 LT. EL =75.00'
CUT DITCH STA. 38+50.00 LT. EL =74.50'
FOR -L- ALIGNMENT, SEE SHEET 5
25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00 37+00 38+00 39+00

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 0515

DRAINAGE AREA	= 2.53	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 12	CFS
DESIGN HW ELEVATION	= 75.76	FT
100 YEAR DISCHARGE	= 13	CFS
100 YEAR HW ELEVATION	= 75.85	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 35	CFS
OVERTOPPING ELEVATION	= 79.29	FT

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 0500

DRAINAGE AREA	= 6.3	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 15	CFS
DESIGN HW ELEVATION	= 73.51	FT
100 YEAR DISCHARGE	= 16	CFS
100 YEAR HW ELEVATION	= 73.66	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 37	CFS
OVERTOPPING ELEVATION	= 77.84	FT

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 0501

DRAINAGE AREA	= 2.22	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 5.4	CFS
DESIGN HW ELEVATION	= 74.88	FT
100 YEAR DISCHARGE	= 5.8	CFS
100 YEAR HW ELEVATION	= 74.76	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 16	CFS
OVERTOPPING ELEVATION	= 78.21	FT

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PROJECT REFERENCE NO.	SHEET NO.
R-3826	17

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DITCH LEGEND	
LEFT DITCH	— - - — -
RIGHT DITCH	- - - - - - -

-L-

PI = 39+95.00
EL = 76.06'
VC = 380'
K = 366

PI = 51+20.00
EL = 81.12'
VC = 500'
K = 372

76.74

79.45

(-)0.5880%

(-)0.450%

(+)2.2487%

(-)0.3125%

(+)0.7000%

(-)0.2982%

(-)4.5278%

(+)6.2444%

(+)0.7700%

(+)0.4501%

(-)0.8923%

(+)1.4400%

(+)0.2973%

CUT DITCH
STA. 39+61.00 LT
EL = 71.00'

2' BASE DITCH
STA. 39+63.00 RT
EL = 70.45'

2' BASE DITCH
BEGIN CUT DITCH
STA. 40+00.00 RT
EL = 70.56'

END CUT DITCH
STA. 40+50.00 RT
EL = 72.63'

CUT DITCH
STA. 41+50.00 LT
EL = 73.25'

BEGIN CUT DITCH
STA. 44+00.00 RT
EL = 74.49'

CUT DITCH
STA. 45+50.00 LT
EL = 74.00'

CUT DITCH
STA. 45+50.00 RT
EL = 74.14'

END CUT DITCH
BEGIN 2' BASE DITCH
STA. 45+90.00 RT
EL = 71.65'

END 2' BASE DITCH
BEGIN CUT DITCH
STA. 46+50.00 RT
EL = 74.46'

CUT DITCH
STA. 46+97.00 LT
EL = 73.83'

END CUT DITCH
STA. 47+00.00 LT
EL = 75.36'

END CUT DITCH
STA. 48+50 RT
EL = 76.00'

FOR –L– ALIGNMENT, SEE SHEET 6

30	40	50	60	70	80	90	100	110	120

39+00 40+00 41+00 42+00 43+00 44+00 45+00 46+00 47+00 48+00 49+00 50+00 51+00 52+00 53+00

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 0710

DRAINAGE AREA	= 1.53	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 4.7	CFS
DESIGN HW ELEVATION	= 75.24	FT
100 YEAR DISCHARGE	= 5.1	CFS
100 YEAR HW ELEVATION	= 75.30	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 13	CFS
OVERTOPPING ELEVATION	= 76.97	FT

CENTERLINE INTERSECTION
RR TRACKS
–L– STA 55+16.04 =
–Y3– STA 11+84.98

END GRADE AT RR TRACKS
–L– STA 55+11.50
ELEV. = 77.63

BEGIN GRADE AT RR TRACKS
–L– STA 55+36.00
ELEV. = 77.63

BM #11
RR SPIKE IN 16" GUM
–L– STA 55+54.73, 129.93' RT
ELEV. = 76.10'

PI = 57+50.00
EL = 75.72'
VC = 420'
K = 198

PI = 63+80.00
EL = 83.45'
VC = 700'
K = 408

79.45

81.48

(-)0.8923%

(+)0.8923%

(-)0.6026%

(-)0.9840%

(-)0.9575%

(+)1.1762%

(+)1.2276%

(-)0.4880%

(-)0.5038%

(+)1.0083%

18" RCP IV

24" RCP III

BEGIN CUT DITCH
STA. 53+50 RT
EL = 74.22'

BEGIN CUT DITCH
STA. 56+00.00 LT
EL = 74.16'

CUT DITCH
STA. 58+50.00 LT
EL = 71.70'

END CUT DITCH
STA. 58+66.00 LT
EL = 71.55'

CUT DITCH
STA. 59+40.00 RT
EL = 71.87'

CUT DITCH
STA. 59+97.00 LT
ELEV. 73.49'

END CUT DITCH
STA. 62+00.00 LT
ELEV. 75.50

END CUT DITCH
STA. 63+00.00 RT
EL = 75.50'

BEGIN CUT DITCH

FOR –L– ALIGNMENT, SEE SHEET 7

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 0711

DRAINAGE AREA	= 9.24	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 15	CFS
DESIGN HW ELEVATION	= 74.10	FT
100 YEAR DISCHARGE	= 16	CFS
100 YEAR HW ELEVATION	= 74.24	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 36	CFS
OVERTOPPING ELEVATION	= 78.13	FT

30	40	50	60	70	80	90	100	110	120

53+00 54+00 55+00 56+00 57+00 58+00 59+00 60+00 61+00 62+00 63+00 64+00 65+00 66+00 67+00

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PROJECT REFERENCE NO.	SHEET NO.
R-3826	18
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DITCH LEGEND

LEFT DITCH — - - — -

RIGHT DITCH - - - - - - -

-L-

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 0801

DRAINAGE AREA	= 19.39	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 11	CFS
DESIGN HW ELEVATION	= 72.35	FT
100 YEAR DISCHARGE	= 14	CFS
100 YEAR HW ELEVATION	= 72.54	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 39	CFS
OVERTOPPING ELEVATION	= 78.13	FT

PI = 76+00.00
EL = 77.50'
VC = 600'
K = 719

CUT DITCH
STA. 74+50.00 LT
EL = 73.22

24" RCP III

(-) 0.4067%

(-) 0.2000%

(-) 2.3000%

(-) 4.2768%

(-) 0.4880%

(-) 0.8000%

(-) 0.3464%

(-) 0.2900%

(-) 0.4356%

STA. 67+06.00 LT
ELEV. 76.27

BEGIN CUT DITCH
STA. 71+00.00 RT
ELEV. 75.90

CUT DITCH
STA. 73+50 RT
EL = 75.50

CUT DITCH
STA. 74+00.00 LT
EL = 74.45

END CUT DITCH
BEGIN 2' BASE DITCH
STA. 74+96.00 LT
ELEV. 70.38

END BEGIN CUT DITCH
STA. 75+08.00 LT
EL = 76.15

CUT DITCH
STA. 75+50.00 LT
EL = 72.85

CUT DITCH
STA. 76+50.00 LT
ELEV. 73.74

78.62

81.88

FOR –L– ALIGNMENT, SEE SHEET 8

67+00 68+00 69+00 70+00 71+00 72+00 73+00 74+00 75+00 76+00 77+00 78+00 79+00

-L-

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 0907

DRAINAGE AREA	= 5.65	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 15	CFS
DESIGN HW ELEVATION	= 75.36	FT
100 YEAR DISCHARGE	= 16	CFS
100 YEAR HW ELEVATION	= 75.50	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 36	CFS
OVERTOPPING ELEVATION	= 79.23	FT

–L– STA 80+28.88 =
–YL 20+49.17

78.62

24" RCP III

(+) 3.1100%

(+) 2.5200%

(+) 0.8900%

(+) 0.2914%

(+) 0.2200%

(+) 0.3464%

(+) 0.3167%

83.30

END 2' BASE DITCH
STA. 79+50.00 RT.
EL = 77.33

END CUT DITCH
STA. 79+50.00 LT.
EL = 74.61

BEGIN CUT DITCH
STA. 81+00.00 LT.
EL = 73.16

BEGIN CUT DITCH
STA. 81+00.00 RT.
EL = 72.94

CUT DITCH
STA. 81+50.00 LT.
EL = 74.42

CUT DITCH
STA. 82+00.00 RT.
EL = 75.95

CUT DITCH
STA. 83+50.00 LT.
EL = 76.24

END CUT DITCH
STA. 85+50.00 RT.
ELEV. 76.97

CUT DITCH
STA. 86+00.00 LT.
ELEV. 76.75

END CUT DITCH
STA. 89+00.00 LT.
ELEV. 77.75

FOR –L– ALIGNMENT, SEE SHEET 9

79+00 80+00 81+00 82+00 83+00 84+00 85+00 86+00 87+00 88+00 89+00 90+00 91+00 92+00 93+00

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PROJECT REFERENCE NO.	SHEET NO.
R-3826	19
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DITCH LEGEND

LEFT DITCH — - - — -

RIGHT DITCH - - - - - - -

-L-

PI = 94+00.00
EL = 83.73'
VC = 400'
K = 551

PI = 106+00.00
EL = 79.18'
VC = 400'
K = 349

83.90

(+)0.3464%

(-)0.3796%

(-)0.3796%

(-)1.5237%

77.51

18" RCP III

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 1001

DRAINAGE AREA	= 2.81	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 5.4	CFS
DESIGN HW ELEVATION	= 79.12	FT
100 YEAR DISCHARGE	= 5.8	CFS
100 YEAR HW ELEVATION	= 79.01	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 23	CFS
OVERTOPPING ELEVATION	= 83.91	FT

FOR –L– ALIGNMENT, SEE SHEET 10

BEGIN 2' LATERAL BASE DITCH
STA. 104+50.00 RT.
EL. =72.84

93+00 94+00 95+00 96+00 97+00 98+00 99+00 100+00 101+00 102+00 103+00 104+00 105+00 106+00 107+00

120 110 100 90 80 70 60 50 40 30

-L-

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 1100

DRAINAGE AREA	= 3.61	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 6.7	CFS
DESIGN HW ELEVATION	= 66.78	FT
100 YEAR DISCHARGE	= 7.2	CFS
100 YEAR HW ELEVATION	= 66.86	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 21	CFS
OVERTOPPING ELEVATION	= 72.12	FT

PI = 113+00.00
EL = 68.50'
VC = 900'
K = 984

77.51

(-)1.4236%

18" RCP III

(-)1.5257%

(-)0.6112%

(-)0.0314%

63.61

24" RCP IV

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 1101

DRAINAGE AREA	= 8.79	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 15	CFS
DESIGN HW ELEVATION	= 61.29	FT
100 YEAR DISCHARGE	= 16	CFS
100 YEAR HW ELEVATION	= 61.38	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 35	CFS
OVERTOPPING ELEVATION	= 64.53	FT

FOR –L– ALIGNMENT, SEE SHEET 11

2' LATERAL BASE DITCH
STA. 112+00.00 RT.
EL. =65.01

END 2' LATERAL BASE DITCH
STA. 119+00.00 RT.
EL. =59.19

107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00 115+00 116+00 117+00 118+00 119+00 120+00 121+00

120 110 100 90 80 70 60 50 40 30

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PROJECT REFERENCE NO.	SHEET NO.
R-3826	20
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DITCH LEGEND

LEFT DITCH — - - — -

RIGHT DITCH - - - - - - -

-L-

CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 140	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 27.3'	FT
BASE DISCHARGE	= 170	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 27.8'	FT
OVERTOPPING DISCHARGE	= 750	CFS
OVERTOPPING FREQUENCY	= >500	YRS
OVERTOPPING ELEVATION	= 47.9'	FT

PI = 125+50.00
EL = 60.86'
VC = 500'
K = 301

PI = 132+50.00
EL = 44.94'
VC = 650'
K = 173

63.61

48.80

(-)0.6112%

(-)2.2741%

(-)2.2741%

(+)1.4770%

(+)5.9533%

BM #13
RR SPIKE IN 18" OAK
-L- STA 131+72.60, 65.53' LT
ELEV. = 34.33

6'x6' RCBC

BEGIN 2' LATERAL BASE DITCH
STA 134+00.00 RT.
EL = 31.57

FOR -L- ALIGNMENT, SEE SHEET 12

121+00 122+00 123+00 124+00 125+00 126+00 127+00 128+00 129+00 130+00 131+00 132+00 133+00 134+00 135+00

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 1301

DRAINAGE AREA	= 2.20	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 4.8	CFS
DESIGN HW ELEVATION	= 44.92	FT
100 YEAR DISCHARGE	= 5.2	CFS
100 YEAR HW ELEVATION	= 44.99	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 17	CFS
OVERTOPPING ELEVATION	= 47.46	FT

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 1303

DRAINAGE AREA	= 7.31	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 14	CFS
DESIGN HW ELEVATION	= 49.78	FT
100 YEAR DISCHARGE	= 15	CFS
100 YEAR HW ELEVATION	= 49.87	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 35	CFS
OVERTOPPING ELEVATION	= 52.98	FT

PI = 138+00.00
EL = 53.06'
VC = 300'
K = 281

PI = 141+50.00
EL = 54.50'
VC = 250'
K = 194

PI = 147+50.00
EL = 64.68'
VC = 200'
K = 151

48.80

(+)2.1760%

(+)1.4770%

(+)0.4101%

(+)0.4101%

(+)0.0250%

(-)1.1300%

(+)3.9800%

(+)11.6967%

(+)11.6967%

(+)0.9867%

(+)0.3795%

(+)0.4000%

-L- STA 139+10.84
-Y2- STA 10+00.00

24" RCP III

18" RCP III

END GRADE
-L- STA 149+00.00
ELEV. = 65.25

END 2' LATERAL BASE DITCH
STA 135+50.00 RT.
EL = 40.50'

BEGIN CUT DITCH
STA 135+50.00 LT.
EL = 43.56'

END CUT DITCH
STA 138+00.00 LT.
EL = 49.00'

BEGIN CUT DITCH
STA 139+00.00 LT.
EL = 49.83'

BEGIN 2' LATERAL BASE DITCH
STA 140+00.00 RT.
EL = 45.40'

END 2' LATERAL BASE DITCH
STA 141+00.00 RT.
EL = 46.53'

END CUT DITCH
BEGIN 2' BASE DITCH
STA 141+00.00 LT.
EL = 47.78'

END 2' BASE DITCH
STA 142+50.00 LT.
EL = 52.85'

BEGIN CUT DITCH
STA 146+00.00 RT.
EL = 59.04'

BEGIN CUT DITCH
STA 148+00.00 LT.
EL = 62.13'

END CUT DITCH
STA 149+00.00 LT.
EL = 62.53'

END CUT DITCH
STA 149+00.00 RT.
EL = 62.00'

FOR -L- ALIGNMENT, SEE SHEET 13

135+00 136+00 137+00 138+00 139+00 140+00 141+00 142+00 143+00 144+00 145+00 146+00 147+00 148+00 149+00

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PROJECT REFERENCE NO.	SHEET NO.
R-3826	21
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DITCH LEGEND	
LEFT DITCH	— - - — -
RIGHT DITCH	- - - - - - -

REVISIONS 5/28/99

-Y-

**BEGIN RESURFACING
-Y- STA 18+00.00

END RESURFACING/BEGIN GRADE
-Y- STA 19+50.00
ELEV. = 79.02

PI = 21+55.00
EL = 78.42'
VC = 300'
K = 517

PI = 29+55.00
EL = 71.44'
VC = 240'
K = 115

END GRADE
-Y- STA 32+50.00
ELEV. = 75.00

(-) 0.2927%
(-) 0.5000%
(-) 0.2960%
(-) 0.8725%
(-) 1.7500%
(-) 0.3130%
(-) 0.6733%
(-) 0.8725%
(-) 2.0660%
(-) 3.4270%
(-) 4.6250%

BEGIN CUT DITCH
STA 19+00.00 RT
EL = 76.25'

BEGIN 2' BASE DITCH
STA 19+50.00 LT
EL = 74.84'

CUT DITCH
STA 21+50.00 RT
EL = 75.00'

2' BASE DITCH
STA 22+00.00 LT
EL = 74.10'

END CUT DITCH
STA 22+70.00 RT
EL = 72.90'

END 2' BASE DITCH
STA 23+15.00 LT
EL = 73.74'

CENTERLINE INTERSECTION
-Y- STA 23+53.79 =
-L- STA 331+44.05

BEGIN 2' BASE DITCH
STA 24+13 RT
EL = 72.19'

END 2' BASE DITCH
BEGIN 2' BASE DITCH W/RIP RAP
STA 28+90.00 RT.
EL = 69.16'

END 2' BASE DITCH W/RIP RAP
BEGIN 2' BASE DITCH
STA 30+40.00 RT.
EL = 67.46'

END 2' BASE DITCH
STA 33+00.00 RT.
EL = 70.06'

FOR -Y- ALIGNMENT,
SEE SHEETS 5 AND 14

-Y1-

BEGIN GRADE
-Y1- STA 14+00.00
ELEV. = 79.22

PI = 17+60.00
EL = 78.14'
VC = 180'
K = 282

PI = 19+35.00
EL = 78.73'
VC = 150'
K = 161

BEGIN GRADE
-Y1- STA 20+49.17 =
-L- STA 80+28.88
ELEV. = 78.99

PI = 21+45.00
EL = 78.02'
VC = 150'
K = 111

END GRADE
-Y1- STA 20+13.67
ELEV. = 78.27

PI = 24+00.00
EL = 78.87'
VC = 100'
K = 158

END GRADE
-Y1- STA 24+50.00
ELEV. = 78.72

(-) 0.3360%
(-) 2.3200%
(-) 0.3000%
(-) 0.3022%
(-) 0.3013%
(-) 0.3394%
(-) 0.4242%
(-) 2.1605%
(-) 0.5857%
(-) 1.0122%
24" RCP III
(-) 2.3400%
(-) 2.2133%
(-) 1.4600%
(-) 0.3333%
(-) 0.3260%
(-) 0.4080%
(-) 0.3000%

BEGIN CUT DITCH
STA 14+00.00 LT
EL = 76.46'

BEGIN CUT DITCH
STA 14+50.00 RT
EL = 77.29'

END CUT DITCH
STA 15+00.00 RT
EL = 76.13'

CUT DITCH
STA 15+25.00 LT
EL = 76.04'

BEGIN CUT DITCH
STA 17+25.00 RT
EL = 75.43'

CUT DITCH
STA 19+00.00 LT
EL = 74.91'

CUT DITCH
STA 19+50.00 RT
EL = 74.95'

END CUT DITCH
STA 19+73.18 LT
EL = 73.18'

END CUT DITCH
STA 19+83.00 RT
EL = 74.61'

BEGIN CUT DITCH
STA 21+00.00 RT
EL = 72.42'

BEGIN CUT DITCH
STA 21+00.00 LT
EL = 72.77'

CUT DITCH
STA 21+75.00 LT
EL = 74.43'

CUT DITCH
STA 22+00.00 RT
EL = 76.08'

CUT DITCH
STA 22+00.00 LT
EL = 74.80'

END CUT DITCH
STA 22+25.00 LT
EL = 74.88'

END CUT DITCH
STA 24+50.00 RT.
EL = 75.06'

BM#12
-Y1- STA 14+20.61, 20.65' RT
RR SPIKE IN 36 IN PECAN
ELEV. = 80.22'

FOR -Y1- ALIGNMENT, SEE SHEETS 9 AND 15

PIPE HYDRAULIC DATA

DRAINAGE STRUCTURE NO. 0906

DRAINAGE AREA	= 13.38	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 83	CFS
DESIGN HW ELEVATION	= 74.40	FT
100 YEAR DISCHARGE	= 10	CFS
100 YEAR HW ELEVATION	= 74.63	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 33	CFS
OVERTOPPING ELEVATION	= 78.38	FT

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PROJECT REFERENCE NO.	SHEET NO.
R-3826	22

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y2-

DITCH LEGEND

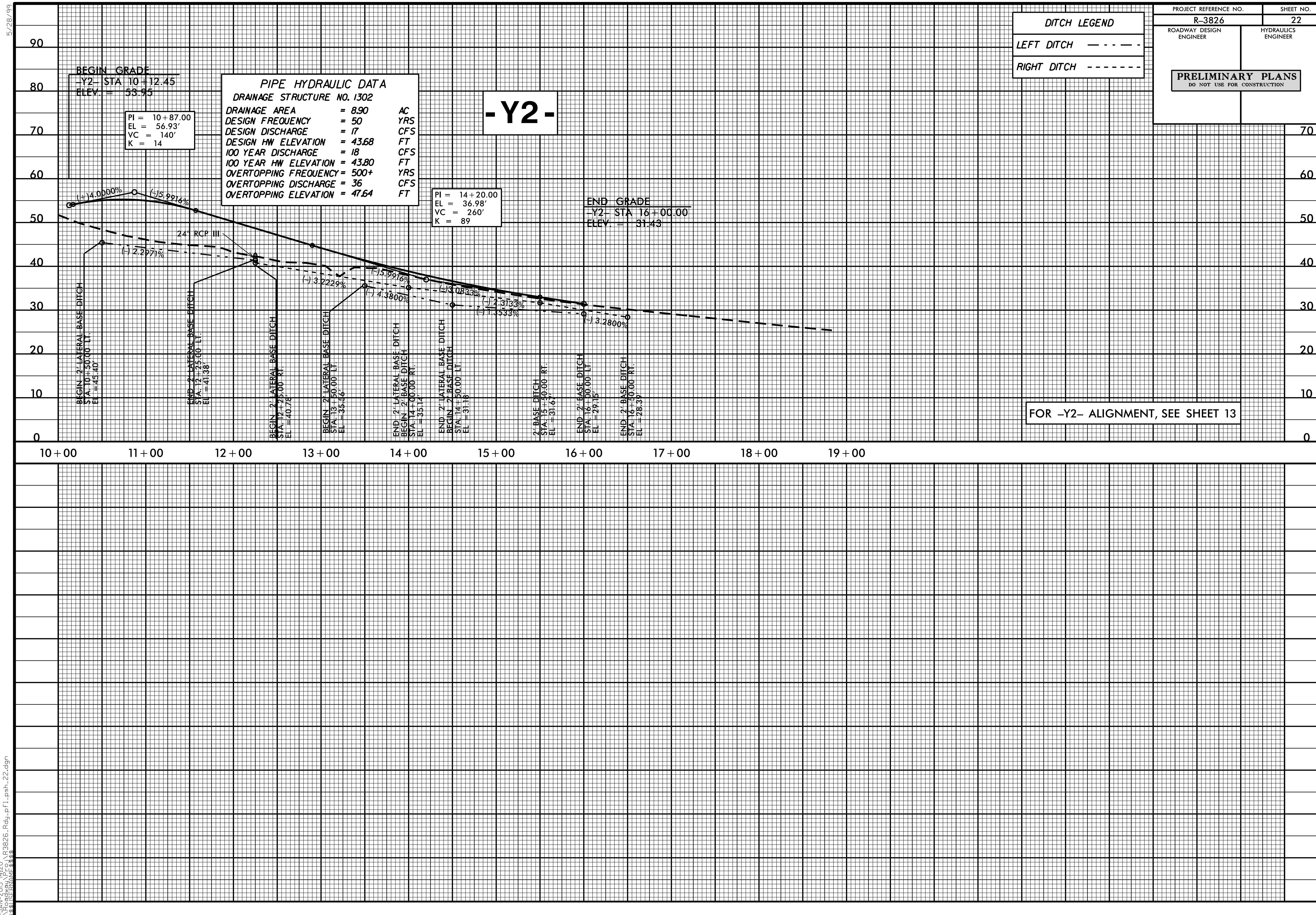
LEFT DITCH — - · — -

RIGHT DITCH - - - - - -

PIPE HYDRAULIC DATA

DRAINAGE STRUCTURE NO. 1302

DRAINAGE AREA	= 8.90	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 17	CFS
DESIGN HW ELEVATION	= 43.68	FT
100 YEAR DISCHARGE	= 18	CFS
100 YEAR HW ELEVATION	= 43.80	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 36	CFS
OVERTOPPING ELEVATION	= 47.64	FT



BEGIN GRADE
-Y2- STA 10+12.45
ELEV. = 53.95
PI = 10+87.00
EL = 56.93'
VC = 140'
K = 14
(+) 4.0000%
(-) 5.9916%
24" RCP III
(-) 2.2971%
(-) 3.2229%
(-) 5.9916%
(-) 4.3800%
(-) 3.0833%
(-) 2.3133%
(-) 1.3533%
(-) 3.2800%
PI = 14+20.00
EL = 36.98'
VC = 260'
K = 89
END GRADE
-Y2- STA 16+00.00
ELEV. = 31.43
BEGIN 2' LATERAL BASE DITCH STA. 10+50.00 LT. EL = 45.40'
END 2' LATERAL BASE DITCH STA. 12+25.00 LT. EL = 41.38'
BEGIN 2' LATERAL BASE DITCH STA. 12+25.00 RT. EL = 40.78'
BEGIN 2' LATERAL BASE DITCH STA. 13+50.00 LT. EL = 35.56'
END 2' LATERAL BASE DITCH BEGIN 2' BASE DITCH STA. 14+00.00 RT. EL = 35.14'
END 2' LATERAL BASE DITCH BEGIN 2' BASE DITCH STA. 14+50.00 LT. EL = 31.18'
2' BASE DITCH STA. 15+50.00 RT. EL = 31.67'
END 2' BASE DITCH STA. 16+00.00 LT. EL = 29.15'
END 2' BASE DITCH STA. 16+50.00 RT. EL = 28.39'
90
80
70
60
50
40
30
20
10
0
10+00
11+00
12+00
13+00
14+00
15+00
16+00
17+00
18+00
19+00

FOR -Y2- ALIGNMENT, SEE SHEET 13

5/28/99

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