Transportation

PAT McCRORY
Governor

NICHOLAS J. TENNYSON
Secretary

February 25, 2016

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

Attention: Thomas Steffens
NCDOT Coordinator

Dear Sir:

Subject: **Application for Section 404 Individual Permit, Section 401 Water Quality Certification, and Neuse Riparian Buffer Authorization** for the construction of the Greenville Southwest Bypass from south of Old NC 11 to US 264 in Pitt County. TIP No. R-2250 (Formerly R-2250A, B, and C). Debit $570 from WBS 34411.1.2.

The North Carolina Department of Transportation (NCDOT) proposes to construct a 12.3 mile controlled-access freeway facility on new alignment from south of Old NC 11 to US 264 (Stantonsburg Road) in Pitt County.

The purpose of this letter is to request approval for a Section 404 Individual Permit, Section 401 Water Quality Certification, and Riparian Buffer Authorization. In addition to this cover letter, this application package includes the following for R-2250: 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 the project as stated in the Record of Decision is to improve traffic flow and congestion on Memorial Drive (NC 11) and Stantonsburg Road (US 264 Business) within the project area; relieve congestion on NC 11 in Greenville, thereby improving safety and reducing the potential for accidents; and improve regional travel along the US 264/NC 11 corridor.

2.0 Project Description

The project consists of constructing a new roadway from Memorial Drive (NC 11) in the vicinity of NC 102, continuing northwest to connect with the existing US 264/Stantonsburg Road (US 264 Business) interchange.

3.0 Summary of Impacts

Waters of the U.S.: Proposed permanent impacts to jurisdictional areas total 0.33 acre of permanent wetland impacts and 2,204 linear feet of permanent 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-2250 will result in unavoidable impacts 0.33 acre of non-riparian wetlands and 2,204 linear feet of jurisdictional stream that will require mitigation. In addition to an onsite stream relocation, the Department has acquired the compensatory mitigation for remaining unavoidable impacts from the North Carolina Department of Environmental Quality (NCDEQ)-Division of Mitigation Services (DMS).

5.0 Project Schedule

R-2250 was awarded as a Design Build project in May 2015. Construction is anticipated to start May 2016 upon receipt of all necessary permits and approvals and completed by June 28, 2019.

6.0 SEPA Document Status

The Final Environmental Impact Statement (FEIS) and the Record of Decision (ROD) for the FEIS were approved in December 2007 and August 2008 respectively for R-2250.

7.0 Resource Status

The project is located in the Neuse and Tar Pamlico River Basins and lies within Hydrologic Units 03020103 (Subbasin Lower Tar River), 03020203 (Subbasin Contentnea), and 03020202 (Subbasin Middle Neuse). This is within the Middle Atlantic Coastal Plain eco-region. The project crosses Gum Swamp, as well as several tributaries to waters of the US, and one wetland.

Wetland and stream delineations were reverified in November 2013-January 2014. Jurisdictional areas within the project study area were reviewed by the USACE (Tom Steffens) and by NCDWR (Garcy Ward) on November 6, 2014.

7.1 Wetland Delineations

A wetland identification and preliminary assessment analysis for the study area was performed and summarized in the 2004 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. A reevaluation of the wetlands within the preferred alignment was completed in November 2013-January 2014 and reviewed by USACE and NCDWR in November 2014.

7.2 Stream Delineations

The stream channels within the project study area were identified, evaluated, and classified using the NCDWR 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 is one wetland type found within the project study area based on the Cowardin classification, Palustrine Scrub-Shrub (PSS). More detailed information about the wetlands can be found in the NRTR (2004) and Delineation Update Memo (2014) 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 Gum Swamp. The Best Usage Classification for Gum Swamp is "C, SW, NSW." Details for the jurisdictional streams within the project area are provided in the NRTR and the 2014 Delineation Update Memo. 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-2250 project area are not designated as North Carolina Natural or Scenic Rivers, or 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-2250 are summarized below in Tables 1 and 2 respectively. Buffer impacts are summarized in Table 3.

Table 1. R-2250 Wetland Impacts

Permit Drawing Site Number	NRTR Update Label (2014)	Type	Permanent Impacts (ac.)	Temporary Impacts (ac.)	Mitigation Required
8	WA	Non-riparian	0.33	0	Yes
		Total:	**0.33**	**0**	**0.33**

Table 2. R-2550 Surface Water Impacts

Permit Drawing Site Number	Waterbody (Label in NRTR Update 2014)	Permanent (lf)	Temporary (lf)	Permanent (ac.)	Temporary (ac.)	Mitigation Required
1	SC (Intermittent)	1532	92	0.14	<0.01	Yes* (1:1)
2	SE (Perennial)	-	50	-	0.01	No
3	SE (Perennial)	246	117	0.03	0.01	Yes (2:1)
5	SF (Tributary)	-	-	0.03	<0.01	No
6	SF (Tributary)	-	-	0.08	0.02	No
7	SB Gum Swamp (Intermittent)	233	244	0.05	0.06	Yes (2:1)
9	SE (Perennial)	132	38	0.02	<0.01	Yes (2:1)
10	SH (Tributary)	-	-	<0.01	<0.01	No
11	SA (Intermittent)	61	59	0.01	0.01	Yes (2:1)
	Total:	**2,204**	**600**	**0.37**	**0.14**	**2,876**

* Proposed stream relocation of approximately 1,914 linear feet. Mitigation ratio for Site 1 impacts will be 1:1.

Table 3. Summary of Buffer Impacts

Permit Drawing Site Number	Zone 1 Impacts Requiring Mitigation (sq. ft.)	Zone 2 Impacts Requiring Mitigation (sq. ft.)	Total Impacts Requiring Mitigation (sq. ft.)
1	89,889	60,675	*150,564
2	7,825	-	7,825
3	17,579	12,145	29,724
5	8,453	5,414	13,867
7	15,578	10,057	25,635
9	12,010	5,172	17,182
10	4,619	3,095	7,714
11	3,261	4,934	8,195
Totals	**159,214**	**101,492**	**260,706**

* Proposed buffers associated with Site 1 stream relocation includes 56,191 sq.ft. in Zone 1 and 37,896 sq.ft. in Zone 2.

Permanent Impacts: Proposed permanent impacts for R-2250 include fill in 0.33 acre of non-riparian wetlands. Proposed permanent impacts to jurisdictional streams are 2,204 linear feet.

Temporary Impacts: There will be 619 linear feet of temporary impacts to jurisdictional streams due to culvert installations. There will also be allowable impacts to 6,557 square feet of Zone 1 and 4,476 square feet of Zone 2 Neuse River Buffers at site 7 due to a diversion channel necessary for culvert installation.

Stream Relocations: Stream SC at permit site 1 will be relocated. Approximately 1,532 linear feet of buffered intermittent stream channel will be moved outside the fill slope and will tie to SE as it currently does. The relocation will result in 1,914 linear feet of stream channel. The mitigation ratio required for this site will be 1:1.

Utility Impacts: There is one jurisdictional impact resulting in 50 linear feet of temporary stream impact from utility relocation on this project at permit site 2. This site will also result in 806 square feet of allowable Zone 2 Neuse River Buffer impact due to the underground utility installation.

Exempt riparian buffer impacts due to utilities are described by site number below and illustrated on the attached plan sheets.

Site 1:
Town of Ayden Power: An aerial power pole line will be relocated left of Line -FLYBY7- crossing the buffer zones between two power poles at Sta. 23+97 and Sta. 26+19. The aerial power line crossing the buffer zones will be hand cleared from the proposed right of way to 15' back of the aerial power line. Both proposed power poles will be located outside the buffer zones.

BroadPlex: A proposed aerial communication line will be attached to the Town on Ayden's proposed power poles as noted above. No additional impacts will occur beyond those noted above.

Greenville Utility Commissions Gas (GUC): The existing 8" steel gas line will be relocated left of Line -FLYBY7- crossing the buffer zones from Sta. 24+50 to Sta. 26+00. The 8" proposed gas line will be directionally bored under the buffer zones. The buffer zones will not be disturbed.

Site 2:
Contentnea Metropolitan Sewer District (CMSD): The 6" and 14" force sewer mains will be open cut through the buffer zones right of Line -Y7RPC- from Sta. 25+48 to Sta. 31+93. The trench

width and depth for the 6" force main will be 30" wide by 36" deep and the trench width and depth for 14" force main will be 38" wide by 36" deep.

Town of Ayden Power: The aerial power pole line and underground power will be relocated right of Line -Y7RPC- crossing the buffer zones from Sta. 25+20 to Sta. 31+84. The aerial power pole line crossing the buffer zones right of Line -Y7RPC- from Sta. 25+20 to Sta. 29+79 will be hand cleared form the proposed right of way to 15' back of the aerial power line. Two power poles will be placed in buffer zone 2 right of Line -Y7RPC- at approximately Sta. 27+82 and Sta. 29+79. The underground power line will be relocated right of Line -Y7RPC- crossing buffer zone 2 from Sta. 29+79 to Sta. 31+84 by open cut. The trench width and depth for the distribution power will be 24" wide by 48" to 60" deep.

Site 3:
Town of Ayden Power: The aerial power pole line will be relocated left of Line -L- crossing the buffer zones from Sta. 100+94 to Sta. 104+54. The aerial power pole line crossing the buffer zones will be hand cleared form the proposed right of way to 15' back of the aerial power line. One power pole will be placed in buffer zone 1 left of Line -L- at approximately Sta. 103+73.

Site 9:
Greenville Utility Commissions Gas (GUC): The existing 8" steel gas line will be relocated left of Line -FLYBY7- crossing the buffer zones from Sta. 39+00 to Sta. 41+50. The proposed 8" gas line will be directionally bored under the buffer zones. The buffer zones will not be disturbed.

Site 11:
Greenville Utility Commissions Power (GUC): The aerial power pole line will be relocated left of Line -Y18- crossing the buffer zones from Sta. 5+77 to Sta. 7+12. The aerial power pole line crossing the buffer zones will be hand cleared from the proposed right of way to 15' back of the aerial power line.

CenturyLink Telephone: The underground communication lines will be relocated to the left side of Line -Y-18- crossing the buffer zones from Sta. 5+77 to Sta. 7+11. The underground communication lines will be directionally bored across the buffer zones.

Bell Arthur Water Corporation (BAWC): The 10" water line will be open cut through the buffer zones right of Line -L- from Sta. 5+79 to Sta. 7+03. The trench width and depth for the 10" water line will be 34" wide by 36" deep.

8.0 Protected Species

The United States Fish and Wildlife Service (USFWS) list 4 federally protected species for Pitt County as of the March 9, 2015 listing (Table 4).

Table 4. Federally Protected Species in Pitt County

Common Name	Scientific Name	Habitat	Federal Status*	Biological Conclusion
Bald eagle	*Haliaeetus leucocephalus*	No	BGPA	N/A
Red-cockaded woodpecker	*Picoides borealis*	Yes	E	No Effect
West Indian manatee	*Trichechus manatus*	No	E	No Effect
Tar River spinymussel	*Elliptio steinstansana*	No	E	No Effect

* BGPA - Bald and Golden Eagle Protection Act
E - Endangered

The US Fish and Wildlife Service 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 Pitt County, where TIP R-2250 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

There is no in-stream work moratorium required for R-2550.

9.0 Cultural Resources

The potential effect of the proposed project on historic architectural resources was evaluated in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended. There were six properties within the Area of Potential Effects (APE) which are either listed on the National Register of Historic Places or have been determined to be eligible for listing on the National Register. The project alignment avoids all of these resources with the exception of the Renston Rural Historic District in which the roadway project would have an adverse impact.

Design modifications were incorporated into the preferred alternative to minimize impacts on the Renston Rural Historic District. These modifications included removing the proposed interchange at NC 903, thereby reducing the total number of acres impacted within the historic district and eliminating all impacts to contributing structures in the historic district. In order to further minimize and mitigate impacts on the historic district, NCDOT, the USACE, and the HPO, along

with input from local Renston property owners who requested to be consulting parties, participated in the consultation process established by Section 106 of the National Preservation Act of 1966, as amended. To complete Section 106 consultation, NCDOT, USACE, and HPO, along with the Renston consulting parties, developed a Memorandum of Agreement (MOA) stipulating measures NCDOT will follow during final design and construction of the Bypass to mitigate adverse impacts to Renston Rural Historic District.

The MOA was finalized and approval was received on August 25, 2008. The key stipulations included in the MOA and carried through in the project commitments are as follows:

- NCDOT will use two-bar, galvanized metal rails and galvanized guardrails on Bypass bridges within Renston. Abutments for the bridges will be sloped and constructed of concrete.
- Earthen slopes on either side of the Bypass bridges within Renston will be planted with native shrubs. A wood and wire fence will be erected along the control of access within Renston, and native trees and shrubs will be planted along the fence.
- NCDOT will install two signs denoting the historic district on NC 903, one at each end of Renston.
- NCDOT will not allow the erection of billboards along the new facility within NCDOT's Right of Way.
- NCDOT will lease, or make available to lease, property within Renston acquired for project right-of-way back to the original owners for continued maintenance until construction commences.
- NCDOT will work with Renston residents and the Winterville Historical Association to compile a collective history of the historic district.

An archaeological survey of the Preferred Alternative was conducted in 2007. The survey identified 47 archaeological sites and one historic cemetery. All of the sites were recommended ineligible for the National Register of Historic Places (NRHP), and no further work was recommended. The HPO agreed with the preliminary results of the survey on June 7, 2007. In a letter dated June 11, 2008, HPO comments reaffirmed the preliminary archaeological site eligibility findings. Should the project limits expand via the Design-Build team, then additional consultations regarding archaeological investigations may be required.

10.0 FEMA Compliance

The project has been coordinated with appropriate state and local officials and the Federal Emergency Management Agency (FEMA) to assure compliance with FEMA, state, and local floodway regulations.

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 SEPA 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-2250. 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.
- Grass swale treatments have been incorporated in areas where flat slopes can be maintained.
- Proposed box culverts will be buried 1 ft. to provide for fish passage.
- Cross pipes in jurisdictional streams will be buried 1ft. for all pipes where possible.
- 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.
- Considering environmental, hydraulic, and roadway perspectives, 3:1 slopes are proposed within the wetlands where most practical.
- Shifted alignment of the project to avoid impacts to Wetlands B, C, D, E, F, G, and H identified in the 2014 Delineation Update.

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 however it was issued based on previously proposed impacts. As a result of additional avoidance and minimization, proposed impacts have been reduced and an updated acceptance letter will be forwarded once it is received.

12.0 Indirect and Cumulative Effects

An Indirect and Cumulative Impact Analysis (ICI) technical memorandum was completed in May 2006. After evaluating the information available, the qualitative analysis of indirect and cumulative impacts yielded the following general characteristics for the region. First, growth in the Greenville region has largely been dependent on the presence and growth of the regional medical center and East Carolina University. Second, availability of water is not considered the controlling factor when it comes to growth in the ICI Study Area. However sewer service is considered a

limiting growth factor for the portion of the ICI Study Area in Greenville's planning area. Recent transportation improvements in the Greenville region were constructed to improve congestion rather than to spur additional development.

In an addendum and subsequent update to the ICI (Stantec, 2006), modeling analyses suggested that development activity expected in the project area with or without the roadway will lead to increases in storm event runoff volume and nonpoint source pollutant loading. However, overall increases are expected to be fairly small due in part to the mitigative effect of regulations governing the jurisdictions (Neuse Nutrient Sensitive Water rules, Neuse Buffer rules, and NPDES Stormwater Phase II). Overall increases are expected to be slightly higher if the project is constructed, relative to the No-Build scenario, although predicted increases in pollutant loads to the two impaired streams in the ICI Study Area, Swift Creek and Little Contentnea Creek were confirmed by NCDWR not to be significant.

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 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 34411.1.2 is hereby given.

Neuse River Riparian Buffer Authorization: We are requesting a Neuse Riparian Buffer Authorization from the NCDWR.

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 Gordon Cashin at or (919) 707-6107.

Sincerely,

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

CC:

NCDOT Permit Application Standard Distribution List

North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Division of Mitigation Services

Donald R. van der Vaart
Secretary

April 21, 2015

Mr. Richard W. Hancock, P.E.
Project Development and Environmental Analysis Unit
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Hancock:

Subject: EEP Mitigation Acceptance Letter:

R-2250, NC 11 / 903 (Greenville Southwest Bypass) from NC 11 to SR 1128 (Davenport Farm Road), Pitt County

The purpose of this letter is to notify you that the NCDENR Division of Mitigation Services (NCDENR DMS) will provide the stream, wetland and buffer mitigation for the subject project. Based on the information supplied by you on April 17, 2015, the stream, wetland and buffer impacts are located in CUs 03020202 and 03020203 of the Neuse River basin and CU 03020103 of the Tar-Pamlico River basin in the Northern Inner Coastal Plain (NICP) Eco-Region, and are as follows:

Stream and Wetlands	River Basin	CU Location	Eco-Region	Stream			Wetlands		
				Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh
Impacts	Neuse	03020202	NICP	0	0	527.0	0	0	0
Impacts	Neuse	03020203	NICP	0	0	3,738.0	0.14	0	0
Impacts	Tar-Pamlico	03010203	NICP	0	0	0	0	0.33	0

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

All buffer mitigation requests and approvals are administrated through the Riparian Restoration Buffer Fund. The NCDOT will be responsible to ensure that appropriate compensation for the buffer mitigation will be provided in the agreed upon method of fund transfer. Upon receipt of the NCDWQ's Buffer Authorization Certification, NCDENR DMS will transfer funds from the NCDOT 2984 Fund into the Riparian Restoration Buffer Fund. Upon completion of transfer payment, NCDOT will have completed its riparian buffer mitigation responsibility for TIP Number R-2250. Subsequently, DMS will conduct a review of current NCDOT ILF Program mitigation projects in the river basin to determine if available buffer mitigation credits exist. If there are buffer mitigation credits available, then the Riparian Restoration Buffer Fund will purchase the appropriate amount of buffer mitigation credits from NCDOT ILF Program.

Buffer	River Basin	CU	Eco-Region	Buffer Impacts		
				Zone 1	Zone 2	TOTAL
Impacts	Neuse	03020202	NICP	31,620.0	21,080.0	52.700.0
Impacts	Neuse	03020203	NICP	224,280.0	149,520.0	373,800.0

This mitigation acceptance letter replaces the mitigation acceptance letter issued on March 3, 2015. NCENR DMS commits to implementing sufficient compensatory stream mitigation and wetland mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies in accordance with the N.C. Department of Environment and Natural Resources' In-Lieu Fee Instrument dated July 28, 2010. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

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

Sincerely,

James B. Stanfill
NCDENR DMS Asset Management Supervisor

Cc: Mr. Tom Steffens, USACE – Washington Regulatory Field Office
Ms. Amy Chapman, NC Division of Water Resources
File: R-2250

TO: **Paul Atkinson, PE**
NCDOT Hydraulics Unit

FROM: **Wyatt Yelverton, PE**

DATE: **September 17, 2015**

SUBJECT: **R-2250 4B Meeting Minutes**

Meeting Date: September 16th, 2015

Meeting Attendees:

Gary Jordan	US Fish and Wildlife
Garcy Ward	NC Division Water Resources
Tom Steffens	US Army Corps of Engineers
Carlos Moya-Astudill	NCDOT (TPB)
Drew Johnson	Barnhill Contracting
Byron Kyle	NCDOT Design-Build
Chris Rivenbark	NCDOT Natural Environment Section
Paul Atkinson	NCDOT Hydraulics
Brook Anderson	NCDOT Hydraulics
Craig Freeman	NCDOT Hydraulics
Brian Yamamoto	NCDOT PDEA
Cynthia Van Der Wiele	US Environmental Protection Agency
Travis Wilson	NC Wildlife Resource Commission (via phone)
Donna Hood	NC Division Water Resources
Paul Meehan	HDR
Vickie Miller	HDR
Jonathan Henderson	HDR
Wyatt Yelverton	HDR

The meeting was opened with introductions and the following agenda items were covered with Wyatt Yelverton facilitating. A full set of PDF drawings was projected on screen as well as additional PDF figures to highlight certain areas for discussion. These resources have been made available to the Merger Team.

The *italicized* text indicates notes from the meeting discussion.

General

- For this project we will be constructing 12.6 miles of a four-lane divided facility with a minimum 46-ft median on new location from NC11 to US264 to the west of Greenville in Pitt County.
- We have 5 major interchanges, NC11, NC102, Forlines Rd, US13/264A, and US264.
- Mostly rural drainage areas with primarily farming/agricultural land use. It is anticipated that the bypass will encourage commercial/industrial development, so most cross-pipes were designed with urban equations, mainly around interchanges.

- This project is located in both the Neuse and Tar/Pamlico Watersheds. There are no buffered streams located in the Tar/Pamlico portion of the project, so only Neuse Stormwater Requirements apply. (Figure 1)
- Will utilize dry detention basins where feasible near jurisdictional areas. High groundwater tables have ruled out the use of dry detention basins in most locations.
- Proposed ditches are designed to achieve grass swale treatment where possible.
- Since the project is located on the ridge line of 2 major watersheds, there are few jurisdictional streams.
- There are a total of 72 plan sheets, but only 10 have jurisdictional features.

PSH 4

- Jurisdictional stream – Station 10+75
    - 2014 NRTR Update – Stream SD
    - Off the project, no impacts.

Tom Steffens asked about the pond shown at approximate station 20+50 left. This constructed pond is associated with an offsite development and will continue to drain into the roadside ditch, matching existing conditions.

PSH 8

- Jurisdictional stream – FLYBY7
    - 2014 NRTR Update – Stream SC
    - Existing has been straightened and near vertical side slopes
    - Relocate approximately 1550 linear feet to the outside of the project
        - 4 ft base
        - 3:1 side slopes
        - Approximately 4 ft deep

The question was raised about needing rip rap at fill slope where stream relocation begins. Rip rap will be included at this location.

The Team was asked about the required mitigation ratio for the 1550' relocation. This will be determined later.

- Jurisdictional stream – Y7RPC
    - EIS / NRTR Stream ID – Stream B
    - 2014 NRTR Update – Stream SE
    - Runs parallel to NC11, then through an existing 60" pipe under NC11
    - Due to relocation of a sanitary sewer line that needs to be relocated out of the interchange, the stream will need to be relocated.
        - If the stream were to be left in place, the top of the sewer line would be at the same elevation as the invert of the stream.

- The sewer line transitions from gravity to forced at the manhole at station 26+90 so the sewer line can dive down to provide adequate cover from the top of sewer to the invert of stream.
- Ties back into roadside ditch at station 29+00

Tom Steffens noted that the drawings shown as part of the presentation were different regarding ditch detail. The drawings shown during the presentation represent the most current drawings where ditches have been further refined to provide better detail. Updated plans have been sent to the Merger Team.

Cynthia Van Der Wiele asked why the ditch narrows at FLYBY7 Rt, specifically around station 37+00+/- Rt. The ditch crosses an existing ditch in this location; therefore the amount of cut needed here is less than upstream and downstream in the same ditch.

Tom Steffens asked about the rip rap shown within the channel on sheet 8B at Y3 Sta. 37+50+/- Lt. The rip rap was not intended to be inside the channel but instead to protect the fill slope and help direct flow to realigned ditch. This will be revised.

PSH 9

- Jurisdictional stream – Continuation from Sheet 8
  - 2014 NRTR Update – Stream SC
- Tie stream relocation back in to SE
- Stream crossing is a 72" RCP buried 1 foot
- 24" open end pipe at station 102+00 Rt
  - Eliminates need to ditch through the buffer
  - Conveying water from SBG but should achieve grass swale treatment before entering the stream

The question was asked about rip rap shown in the channel at the outlet of 72" pipe and if it should be shown on the bank rather than inside the channel. Paul Atkinson mentioned it was best to have it inside the channel for stabilization. Garcy Ward noted that the rip rap would need to be embedded rather than raised in the channel so as not to block aquatic passage.

Cynthia Van Der Wiele asked about the amount of Class I rip rap noted to be used at the outlet of the 72" pipe. Wyatt Yelverton stated that this was relative to the pipe size.

Chris Rivenbark asked about the final tie-in of the relocated channel and if we could have the channel tie to the bend just before the ROW line? We will look to create a better tie-in at the location noted.

PSH 19

- Jurisdictional stream
  - 2014 NRTR Update – Stream SF (1, 2, & 3)
- Stream SF-1 and SF-3 both have buffers, but SF-2 does not

- 54” pipe buried 1 foot under -L-
    - Need to realign to avoid piles for proposed bridge abutment
    - Channel relocation – Match downstream conditions
        - 10 ft base
        - 3:1 side slopes
        - Approximately 5 ft deep
- 2 @ 30” pipe buried 0.5 feet under -Y10-
    - Due to existing conditions, a 30” pipe is the tallest pipe that will fit under -Y10-, so 2 pipes needed to be utilized
- 54” pipe buried 1 foot under -Y9-

Tom Steffens had some general questions about drainage design for sheet 18. There is a cross pipe show on sheet 18 that drains across Y9. The cross pipe under L line for this same ditch shows up on sheet 17.

Cynthia Van Der Wiele asked about slope in drainage ditches and if they were so low, would it be appropriate to consider some version of linear wetlands? Wyatt Yelverton indicated that the ditches with the lowest slopes are the agricultural ditches and others crossing alignments. In those cases the design matches existing slopes. Other ditches that convey flow from the project have appropriate slope to the point where they tie to existing agricultural ditches.

PSH 32

- Jurisdictional stream
    - 2014 NRTR Update – Stream SB
- 10’x7’ RCBC buried 1 foot
    - Existing stream is 12 feet wide
    - Daily flow only flows about 6-7 feet wide.
- Discharging median drainage outside of the buffers
    - Receives grass swale credit in median ditch

Tom Steffens noted that slope stake lines were shown across the channel upstream and downstream. These will be corrected to tie to culvert wing walls.

The creation of a floodplain bench (shown with rip rap at outlet) will be included in permit impact calculations.

Tom Steffens asked about the contours at outlet of culvert. The extent of the DTM data is limited in this location. The design-build team will incorporate information from field investigations at this location. The channel does continue downstream of the culvert outlet with similar cross section.

PSH 37

- Wetlands

    - 2014 NRTR Update – Wetlands WB, WC, WD, WE, WF, WG, WH
- Shifted the alignment to avoid all these impacts.

Tom Steffens asked about the soil road shown at the bottom of sheet 37. Are we cutting off any access? Paul Meehan said that access was being provided from Y19 (Frog Level Rd) via SR5 shown on sheet 38.

Tom Steffens asked about access to the cell phone tower on sheet 45. Paul Meehan said that alternative access is available from a different direction and they will be reimbursed for the loss of this access as part of their settlement agreement.

PSH 47

- Wetlands
    - 2014 NRTR Update – Wetlands WA
- Unavoidable impact, anticipate total take

Everyone was in agreement that this is a total take of WA.

PSH 52

- Continuation of stream from PSH 8
- The existing stream SC ties to Stream SE here, but SC is being relocated and will tie to SE on plan sheet 9
- Jurisdictional stream SE
    - Existing 60" pipe to be retained and extended
        - Existing pipe is not buried, so not intending to bury the outlet of the extension

The original plans provided for 4B distribution indicated that the pipe extension would be buried but upon further investigation the existing pipe inlet is not buried and the system is stable. Therefore we proposed to extend this pipe and tie to the existing channel bottom. Garcy Ward noted that we need to make sure this pipe outlet is not perched.

    - Existing ditch will be relocated to the outside of -FLYBY7- so ditching through the buffers is unavoidable on this side.
    - On the opposite bank, the 36" pipe that drains the interchange needs to outlet. There is too much flow to outlet the pipe at the top of bank and let it flow down to the stream bottom, so the pipe will outlet at the same invert as the stream.

Garcy Ward noted that drainage areas, swale computations, etc. will be needed. These will be provided on the 4C meeting permit sheets as well as with the permit application.

PSH 55

- Jurisdictional stream

    - 2014 NRTR Update – Stream SH
- Existing 96" CSP to be retained
    - Existing Inlet is buried, so the extension will be buried 1 foot.
- Most drainage structures along NC102 receive grass swale credit before they reach the stream. The structures that do not have a chance for grass swale credit will be treated via the dry detention basins.
    - Based on the preliminary geotech data, this is the only location that shows the groundwater table is low enough to allow for a dry detention basin. Before the 4C meeting we will perform a more thorough investigation at these locations to verify the ground water elevation.

On Sheet 54, Tom Steffens asked about the tie-in of an offsite ditch and roadside ditch on Y8C (Sta. 11+50+/- Rt). We will show a better transition (with special ditch grade if needed) from existing ditch to roadside ditch at this intersection and tie to pipe outlet at Y8 50+75+/- Lt. We will also check to make sure we have adequate ROW in this location.

PSH 67

- Jurisdictional stream
    - 2014 NRTR Update – Stream SA
- 9'x7' RCBC buried 1 foot
- Replacing the 4 existing roadway ditches, so it is unavoidable to ditch through the buffers.

Paul Atkinson noted that the 4B distribution set differs from the current PDF shown during the meeting (original distribution showed a double barrel culvert in this location. The current design shows a single barrel). The design has been refined with better information and backup computations. The 4B distribution set presented the plan for this area from the team's original proposal.

A question came up about direction of flow for this culvert. The flow runs from north to south (top to bottom of page).

The creation of a floodplain bench (shown with rip rap at outlet) will be included in permit impact calculations.

Cynthia Van Der Wiele asked about using discharge determination methodology and its impact on pipe sizes. Also, were long range plans for future land use taken into account and how realistic are those plans? The response was that the future long range land use plans were taken into account and pipes were sized utilizing urban drainage standards. Our design does not consider future stormwater requirements. Not including future development stormwater BMPs along with using urban standards and impervious area percentages provides a conservative design.

4C will tentatively be held in December 2015

TO: **Paul Atkinson, PE**
NCDOT Hydraulics Unit

FROM: **James Rice, PE**

DATE: **December 17, 2015**

SUBJECT: **R-2250 4C Meeting Minutes**

Meeting Date: December 17th, 2015

Meeting Attendees:

Garcy Ward	NC Division Water Resources
Tom Steffens	US Army Corps of Engineers
Chris Rivenbark	NCDOT Natural Environment Section
Paul Atkinson	NCDOT Hydraulics
Craig Freeman	NCDOT Hydraulics
Brian Yamamoto	NCDOT PDEA
Mark Staley	NCDOT REU
Travis Wilson	NC Wildlife Resource Commission (via phone)
Gordon Cashin	NCDOT PDEA NEU
Ed Eatmon	NCDOT Division 12
Corey Bousquet	Hinde Engineering
Aaron Graven	Barnhill Contracting
Drew Johnson	Barnhill Contracting
Paul Meehan	HDR
Sara Easterly	HDR
James Rice	HDR
Wyatt Yelverton	HDR
Domenic Wainwright	HDR

The meeting was opened with introductions and the following agenda items were covered with James Rice facilitating. A full set of PDF drawings was projected on screen as well as additional PDF figures to highlight certain areas for discussion. These resources have been made available to the Merger Team.

The *italicized* text indicates notes from the meeting discussion.

General

- For this project we will be constructing 12.6 miles of a four-lane divided facility with a minimum 46-ft median on new location from NC11 to US264 to the west of Greenville in Pitt County.
- We have 5 major interchanges, NC11, NC102, Forlines Rd, US13/264A, and US264.
- Mostly rural drainage areas with primarily farming/agricultural land use.
- This project is located in both the Neuse and Tar/Pamlico Watersheds. There are no buffered streams located in the Tar/Pamlico portion of the project, so only Neuse Stormwater Requirements apply.

- Dry detention basins were originally proposed in certain locations. However, high groundwater and design constraints ruled out any dry detention basin use.
- Proposed ditches are designed to achieve grass swale treatment where possible.
- Since the project is located on the ridge line of 2 major watersheds, there are few jurisdictional streams.
- There are a total of 72 plan sheets, but only 9 have jurisdictional features.

Wetland/Stream Permit Set

SMP

- Some ditches are highlighted on the sheet due to the slopes being less than 0.3%, will this be a problem for grass swale credit?

Garcy Ward stated that he didn't anticipate any issues with grass swale credit due to the slopes being flatter than 0.3%.

PSH 8

- **Permit Site 1**
- Jurisdictional stream – FLYBY7 –
    - 2014 NRTR Update – Stream SC
    - Existing has been straightened and near vertical side slopes
    - Relocate approximately 1550 linear feet to the outside of the project
        - 4 ft base
        - 3:1 side slopes
        - Approximately 4 ft deep
        - Embankment rip rap added where stream relocation begins. Comment from 4B meeting.
    - Showing temporary impacts upstream of pipes all the way to the easement to allow for dewatering.

James Rice asked if a mitigation ratio had been determined for the stream relocation. Tom Steffens said that his initial comment is that a 1:1 ratio would be required.

- **Permit Site 2**
- Jurisdictional stream – Y7RPC –
    - EIS / NRTR Stream ID – Stream B
    - 2014 NRTR Update – Stream SE
    - Runs parallel to NC11, then through an existing 60" pipe under NC11
    - Based on revised utility design, the diversion is no longer needed, so permanent impacts will be eliminated.
    - Temporary impacts will be required for the two forced sewer lines that will be installed via open cut.

Tom Steffens asked if the forced sewer lines could be installed via boring under the stream. Corey Bousquet noted the short distance of pipe to the structure where the sewer line transitions from forced to gravity and that it needed to be installed via open cut. Tom was satisfied with the response and noted that he was happy that we were eliminating the permanent impacts for this site.

PSH 9

- **Permit Site 3**
- Jurisdictional stream
    - 2014 NRTR Update – Stream SC
- Stream crossing is a 72" RCP buried 1 foot
- Temporary impacts will be taken all the way to the easement on both sides of the pipe to allow for dewatering and culvert construction.

Tom Steffens asked about rip rap shown at outlet of the 72" pipe. James Rice explained that the rip rap will be in the channel but will be embedded in channel rather than raised so as not to block aquatic passage.

Tom Steffens asked about if the stream relocation tie-in has been adjusted to tie to bend of JS as discussed in 4B. James Rice verified that is had been addressed.

PSH 17

- **Permit Site 4**
- Added this site for discussion

Tom Steffens noted that if it wasn't called jurisdictional in the beginning, then it is not jurisdictional. James Rice stated that the permit site would be removed. Chris Rivenbark suggested that the permit site numbers remain the same for consistency. The summary sheet will have a note that Permit Site 4 has been removed.

Tom Steffens recommended checking with the property owner before the pond is filled to ensure there is nothing important going to this pond. This information will be passed on to our right of way agents to address during negotiations.

Drew Johnson recommended that a ditch be installed from the pond to an existing ditch to ensure positive drainage. The ditch will be added to the plans.

PSH 19

- Jurisdictional stream
    - 2014 NRTR Update – Stream SF (1, 2, & 3)
- Stream SF-1 and SF-3 both have buffers, but SF-2 does not

- **Permit Site 5**
- 54" pipe buried 1 foot under -Y9-
    - Rip rap in bed of stream to eliminate potential for scour.

Tom Steffens asked if the rip rap was in the bed of stream and if so would it inhibit wildlife passage. James Rice noted that the rip rap would be placed in the bed of the stream flush with the bed as to not inhibit wildlife passage.

Garcy Ward asked if the pipe would be buried. James Rice confirmed that the pipe would be buried one foot.

- **Permit Site 6**
- 54" pipe buried 1 foot under -L-
    - Need to realign to avoid piles for proposed bridge abutment
    - Channel relocation – Match downstream conditions
        - 10 ft base
        - 3:1 side slopes
        - Approximately 5 ft deep
- 2 @ 30" pipe buried 0.5 feet under -Y10-
    - Due to existing conditions, a 30" pipe is the tallest pipe that will fit under -Y10-, so 2 pipes needed to be utilized

Tom Steffens noted that the 54" pipe was buried one foot and the double 30" pipes were buried half a foot and asked if there would be any issues with positive drainage. James Rice stated that there wouldn't be an issue since the bed of the stream would match the existing, it was just the pipe invert that was buried.

PSH 32

- **Permit Site 7**
- Jurisdictional stream
    - 2014 NRTR Update – Stream SB
- 10'x7' RCBC buried 1 foot
    - No rip rap in bed of channel
- Discharging median drainage outside of the buffers
    - Receives grass swale credit in median ditch
- Temporary diversion will be required for culvert construction
    - Diversion will be on South Side

The impacts were shown on both sides for the meeting since it hadn't been decided which side hauling of materials for the culvert construction would take place. Tom Steffens asked if we could provide an updated culvert construction sequence with the diversion on the south side. James stated that an updated construction sequence would be provided.

Garcy Ward noticed that the permanent impacts had not been taken to the end of the wing walls. James Rice noted this and stated that it would be revised for the final submittal.

Tom Steffens asked about the note from 4B regarding a floodplain bench. James Rice explained that the current design did not require a floodplain bench, so the detail shown on the permit impact sheets was correct.

PSH 47

- **Permit Site 8**
- Wetlands
    - 2014 NRTR Update – Wetlands WA
- Unavoidable impact, anticipate total take

Chris Rivenbark noted the small area of wetland that was not inside the fill slope and asked if it needed to be broken out separately. Tom Steffens stated that it was fine to keep it like it was shown as a total take and don't separate anything out or revise the slope stakes.

PSH 52

- **Permit Site 9**
- Jurisdictional stream SE
    - Existing 60" pipe to be retained and extended
        - Existing pipe is not buried, so not intending to bury the outlet of the extension
- Continuation of stream from PSH 8 (Site 1)
- The existing stream SC ties to Stream SE here, but SC is being relocated and will tie to SE on plan sheet 9

No Comments

PSH 55

- **Permit Site 10**
- Jurisdictional stream
    - 2014 NRTR Update – Stream SH
- Existing 96" CSP to be retained
    - Existing Inlet is buried, so the extension will be buried 1 foot.
- After final drainage design, dry detention basins were not feasible due to site constraints.
- Curb and gutter was eliminated for most of Y8.

James Rice noted that the permanent impacts would be revised to extend to the end of the wing walls.

PSH 67

- **Permit Site 11**
- Jurisdictional stream
    - 2014 NRTR Update – Stream SA
- 9'x7' RCBC buried 1 foot
- Replacing the 4 existing roadway ditches, so it is unavoidable to ditch through the buffers.
- Rip rap in channel on downstream side due to waterline installation. Anticipate open cut installation of water line, so rip rap will be utilized to help armor where the pipe will be installed.

James Rice noted that the permanent impacts would be revised to extend to the end of the wing walls.

Paul Atkinson asked if we should take the impacts all the way to PUE. James Rice stated that the impacts were taken all the way to the PUE since that would be the most conservative since the contractor could use all that area if needed for culvert construction.

Tom Steffens asked about potential duration of temporary diversion. James Rice explained that the temporary diversion was shown as worst case scenario as far as impacts. Bell Arthur can only be shut down for a maximum of 100 days per the contract, so a pump around operation may be required to meet the tight construction window. Tom Steffens stated that he was fine with a pump around if that were required.

Tom Steffens asked about the terra cotta pipe that is labeled to be removed and if that would cause a problem. James Rice said that the team would investigate this further.
UPDATE: After further review and consultation of the filed notes for this area, the terrra cotta pipe was buried and not found to be functioning. There are existing roadway ditches that tie to each end of the existing culvert, so it is not a problem for the pipe to not function. Our proposed design maintains the existing drainage pattern and bypasses the old culvert. To eliminate any maintenance concerns with the old terra cotta pipe, the pipe has been called to be removed. Since the road will be shut down, the pipe can be removed without any special consideration for traffic control. The pipe can also be filled with flowable material, which is also an approved method of removal.

Impact Summary

Chris Rivenbark recommended adding a note to the impact summary that permit site 4 was removed. This should help eliminate any confusion with referencing site numbers to the meeting minutes. James Rice agreed to make the revision.

Buffer Permit Set

Due to the inexperience with including utility impacts in the permit set, and unclear language of the Neuse Buffer Rules, additional coordination was required outside of the 4C meeting. After further review of the Neuse Buffer Rules and how they apply to utilities, a revised set of buffer impact sheets was sent out by James Rice for initial comment on 12/21/15. The biggest concern was how to show impacts that were deemed exempt by the Neuse Buffer Rules. It was decided to create an additional hatching pattern to show the exempt impacts due to utilities.

PSH 8

- **Permit Site 1**
- Jurisdictional stream
    - 2014 NRTR Update – Stream SC
- Roadway impacts
    - Impacts taken to 10' off slope stake line unless close to easement line, then taken to easement.
- Proposed overhead power line
    - Non perpendicular crossing
    - Impacts are exempt

- **Permit Site 2**
- Jurisdictional stream – Y7RPC –
    - EIS / NRTR Stream ID – Stream B
    - 2014 NRTR Update – Stream SE
- No Roadway impacts to buffers
- Proposed 6" and 14" force sewer mains crossing installed by open cut
    - Non-electric utility lines
    - Non perpendicular crossing
    - Zone 1 impacts are mitigable
    - Zone 2 impacts are allowable
- Proposed overhead power line to approx. station 30+00 -Y7RPC-
    - Non perpendicular crossing
    - Impacts are exempt
- Proposed underground power line past station 30+00 -Y7RPC-
    - Non perpendicular crossing
    - Impacts are exempt

PSH 9

- **Permit Site 3**
- Jurisdictional stream
    - 2014 NRTR Update – Stream SC

- Roadway impacts
    - Impacts taken to 10 feet off slope stake line except where close to ROW
- Proposed overhead power line
    - Non-perpendicular to stream crossing
    - Impacts are exempt

PSH 17

- **Permit Site 4**
- No buffers – Site removed

PSH 19

- Jurisdictional stream
    - 2014 NRTR Update – Stream SF (1, 2, & 3)
- Stream SF-1 and SF-3 both have buffers, but SF-2 does not
- **Permit Site 5**
- 54" pipe buried 1 foot under -Y9-
    - Since impacts are so close to ROW, impacts were taken to limits of ROW and PDE.
- **Permit Site 6**
- No buffers

PSH 32

- **Permit Site 7**
- Jurisdictional stream
    - 2014 NRTR Update – Stream SB
- 10'x7' RCBC buried 1 foot
- Since impacts are so close to ROW, impacts were taken to limits of ROW and PDE.
- Due to diversion channel required for construction, allowable impacts were taken to limits of the TDE.
    - Currently diversion channel is located on the North side of the existing stream.

After discussion of material hauling for culvert construction, it was decided to move the channel relocation to the South side of the existing stream. Buffer impacts have been updated accordingly.

PSH 47

- **Permit Site 8**
- No buffer

PSH 52

- **Permit Site 9**
- Jurisdictional stream SE

    - Existing 60" pipe to be retained and extended
- Since impacts are so close to ROW, impacts were taken to limits of ROW

PSH 55

- **Permit Site 10**
- Jurisdictional stream
    - 2014 NRTR Update – Stream SH
- Existing 96" CSP to be retained
- Since impacts are so close to ROW, impacts were taken to limits of PDE

PSH 67

- **Permit Site 11**
- Jurisdictional stream
    - 2014 NRTR Update – Stream SA
- 9'x7' RCBC buried 1 foot
- Roadway impacts
    - Impacts taken to 10' off slope stake line unless close to ROW/easement line, then taken to easement.
- Proposed overhead power line on North side of alignment
    - Crossing 90 degrees
    - 80 lf of Zone 1 impact
    - 40 lf of Zone 2 impact
    - 120 lf total impact to buffer
    - Hand clearing, no grubbing of stumps
    - Poles will be placed outside the buffer
    - Exempt for these impacts
- Proposed 10" water line on the South side installed by open cut
    - Fall within mitigable impacts for roadway crossing

After conclusion of the buffer impacts, the discussion turned to borrow pits and impacts due to haul roads. The Moye pit is the only pit out of the 7 pits that would require any impacts to jurisdictional features at this point. The pit would require widening an existing 21 foot stream crossing to a 40 foot stream crossing. Stream impacts would be temporary. According to Tom Steffens with the US Army Corp of Engineers the temporary crossing is exempt due to its use for moving mining equipment.

Drew Johnson asked if work could begin on preparing the borrow pits after the reclamation plan was approved, but before the permit was approved. Tom Steffens wanted to clarify that no fill would be hauled to the job during this operation. Drew Johnson stated that no fill would be hauled to the job. Tom Steffens stated that he didn't see a problem with this.

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 2.03; Released October 2015)

General Project Information

WBS Element:	34411.1.2	**TIP Number:**	R-2250	**Project Type:**	New Location	**Date:**	11/13/2015
NCDOT Contact:	Paul Atkinson			**Contractor / Designer:**	James Rice		
Address:	1000 Birch Ridge Dr. Raleigh, NC 27610			**Address:**	555 Fayetteville St., Suite 900 Raleigh, NC 27601		
Phone:	919-707-6707			**Phone:**	919-232-6621		
Email:	patkinson@ncdot.gov			**Email:**	james.rice@hdrinc.com		
City/Town:	Greenville			**County(ies):**	Pitt		
River Basin(s):	Neuse			**CAMA County?**	No		
Wetlands within Project Limits?	Yes						

Project Description

Project Length (lin. miles or feet):	12.594 mi	**Surrounding Land Use:**	Rural/Agricultural				
	Proposed Project			**Existing Site**			
Project Built-Upon Area (ac.)	215.0	ac.		49.8	ac.		
Typical Cross Section Description:	4 lane divided freeway w/ a 46 ft median: (2) 12 foot paved shoulders, (2) 12 foot travel lanes, (2) 4 foot paved median shoulders, and 38 foot grass median - Total width of 114'			New Location			
Annual Avg Daily Traffic (veh/hr/day):	Design/Future: 34,000	Year: 2040		Existing: 17,700		Year: 2014	
General Project Narrative: (Description of Minimization of Water Quality Impacts)	The proposed project (TIP R-2250) is to construct a fully controlled access, four-lane divided freeway from US 264 (Greenville Southwest Bypass) south of SR 1149 (Old NC 11) to the US 264 Interchange. The project will have interchanges at NC 11, NC 102, Forlines Rd, US 13/US 264A, and US 264. All stream crossings through the alignment will use culverts or pipes. The Design-Build team has designed ditches to achieve grass swale criteria to the maximum extent practical throughout the entire project. In an effort to minimize impacts to the project the team used 3:1 side slopes with guardrail in stream areas where feasible.						

Waterbody Information

Surface Water Body (1):	Tributary to Little Contentnea Creek		**NCDWR Stream Index No.:**	27-86-26		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	Swamp Waters (Sw)	(NSW)		
Other Stream Classification:						
Impairments:						
Aquatic T&E Species?		Comments:				
NRTR Stream ID:	SA, SC, SD, SE, SF-1, SF-2, SF-3, SH			**Buffer Rules in Effect:**	Neuse	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 2.03; Released October 2015)

Additional Waterbody Information

Surface Water Body (2):	Gum Swamp		**NCDWR Stream Index No.:**	27-97-1		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	Swamp Waters (Sw)	(NSW)		
Other Stream Classification:						
Impairments:						
Aquatic T&E Species?		Comments:				
NRTR Stream ID:	SB			**Buffer Rules in Effect:**	Neuse	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (3):	Wetland WA		**NCDWR Stream Index No.:**			
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class WL			
		Supplemental Classification:				
Other Stream Classification:						
Impairments:						
Aquatic T&E Species?		Comments:				
NRTR Stream ID:	WA			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 2.03; Released October 2015)

WBS Element: 34411.1.2 **TIP No.:** R-2250 **County(ies):** Pitt

Swales

Sheet No.	Station & Coordinates (Road and Non Road Projects)	Surface Water Body	Base Width (ft)	Front Slope (H:1)	Back Slope (H:1)	Drainage Area (ac)	Recommended Treatm't Length (ft)	Actual Length (ft)	Longitudinal Slope (%)	Q2 (cfs)	V2 (fps)	Q10 (cfs)	V10 (fps)	Rock Checks Used	BMP Associated w/ Buffer Rules?
8	-L- 72+50- 78+75 Lt. 35.460146 / -77.434259	(1)Tributary to Little	0.0	4.0	3.0	2.3	231	725	0.23%	5.6	1.6	7.2	2.1		
8	-L- 82+00 - 87+80 Lt. 35.462022 / -77.436104	(1)Tributary to Little	2.0	4.0	3.0	15.6	1555	1630	0.23%	3.5	0.6	4.9	0.9		
8	-L- 70+50 - 73+07 Rt. 35.458777 / -77.433444	(1)Tributary to Little	0.0	4.0	3.0	0.4	43	257	0.28%	1.1	0.1	1.3	0.4		
8	-Y7RPC- 11+56 - 26+75 Rt. 35.462840 / -77.434740	(1)Tributary to Little	2.0	4.0	4.0	4.4	435	1776	0.14%	9.7	0.3	12.5	2.1		
8	-Y7RPC-18+50 - 31+32 Lt. 35.463929 / -77.435599	(1)Tributary to Little	0.0	4.0	3.0	1.6	161	1282	0.34%	2.4	1.6	3.1	0.9		
8	-FLYBY7- 26+50 - 32+20 Rt. 35.462142 / -77.436409	(1)Tributary to Little	0.0	3.0	3.0	1.8	175	570	0.89%	1.8	1.7	6.7	2.2		
8	-FLYBY7- 39+00 - 43+00 Rt. 35.464112 / -77.435441	(1)Tributary to Little	0.0	3.0	3.0	1.4	143	400	1.86%	3.2	1.1	4.1	1.4		
8	-L- 67+00 - 68+34 M 35.457638 / -77.432627	(1)Tributary to Little	0.0	8.0	7.0	0.1	11	134	0.30%	0.2	0.0	0.2	0.0		
8	-L- 68+34 - 70+00 M 35.458139 / -77.432866	(1)Tributary to Little	0.0	8.0	7.0	0.1	10	166	0.31%	0.2	0.0	0.2	0.0		
8	-L- 70+00 - 73+09 M 35.458855 / -77.433209	(1)Tributary to Little	0.0	6.0	7.0	0.4	43	309	0.34%	1.2	0.2	1.5	0.2		
8	-L- 73+09 - 75+50 M 35.459026 / -77.433296	(1)Tributary to Little	0.0	6.0	7.0	0.6	56	241	0.30%	1.9	0.3	2.4	0.4		
8	-L- 75+50 - 78+00 M 35.460070 / -77.433919	(1)Tributary to Little	0.0	6.0	6.0	0.5	52	250	0.40%	1.7	0.3	2.2	0.4		
8	-L- 78+00 - 80+50 M 35.460659 / -77.434350	(1)Tributary to Little	0.0	6.0	6.0	0.5	45	250	0.64%	1.4	0.2	1.8	0.3		
8	-L- 80+50 - 85+50 M 35.463972 / -77.435071	(1)Tributary to Little	0.0	6.0	6.0	0.9	88	500	0.93%	2.7	0.5	3.5	0.6		
8	-L- 85+50 - 88+35 M 35.462342 / -77.435991	(1)Tributary to Little	0.0	6.0	6.0	0.5	53	285	0.28%	1.7	0.3	2.1	0.4		
8	-L- 88+35 - 90+00 M 35.462660 / -77.436387	(1)Tributary to Little	0.0	6.0	6.0	0.3	29	165	0.30%	0.9	0.2	1.2	0.2		
8	-L- 90+50 - 91+50 M 35.462938 / -77.436758	(1)Tributary to Little	0.0	6.0	6.0	0.2	16	100	0.30%	0.5	0.1	0.6	0.1		
8	-L- 91+50 - 94+00 M 35.463147 / -77.437053	(1)Tributary to Little	0.0	6.0	6.0	0.2	21	200	0.28%	0.5	0.1	0.7	0.1		
8	-L- 94+00 - 99+00M 35.464292 / -77.438657	(1)Tributary to Little	0.0	6.0	6.0	0.4	41	500	0.60%	0.6	0.1	0.8	0.1		

Additional Comments

Highlighted cells indicate ditches with slopes below 0.30%. These slopes are below the minimum swale criteria due to site constraints.

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 2.03; Released October 2015)

WBS Element: 34411.1.2 **TIP No.:** R-2250 **County(ies):** Pitt

Swales

Sheet No.	Station & Coordinates (Road and Non Road Projects)	Surface Water Body	Base Width (ft)	Front Slope (H:1)	Back Slope (H:1)	Drainage Area (ac)	Recommended Treatm't Length (ft)	Actual Length (ft)	Longitudinal Slope (%)	Q2 (cfs)	V2 (fps)	Q10 (cfs)	V10 (fps)	Rock Checks Used	BMP Associated w/ Buffer Rules?
8	-FLYBY7- 10+00 - 14+03 Lt 35.457848 / -77.432687	(1)Tributary to Little	0.0	4.0	3.0	3.1	311	590	0.20%	6.9	2.0	8.9	2.6		
8	-FLYBY7- 14+03 - 15+90 Lt 35.458876 / -77.433536	(1)Tributary to Little	0.0	6.0	4.0	0.8	84	187	0.67%	1.9	0.4	2.4	0.5		
8	-FLYBY7- 15+90 - 17+50 Lt 35.458666 / -77.433813	(1)Tributary to Little	0.0	6.0	6.0	0.8	84	160	1.98%	1.9	0.3	2.4	0.4		
9	-L- 99+00 - 100+00 M 35.464680 / -77.438635	(1)Tributary to Little	0.0	5.0	5.0	0.1	8	100	0.66%	0.1	0.0	0.2	0.0		
9	-L- 100+00 - 100+37 M 35.464747 / -77.438730	(1)Tributary to Little	0.0	5.0	6.0	0.1	11	137	0.84%	0.2	0.0	0.2	0.0		
9	-L- 100+37 - 101+00 M 35.464861 / -77.438889	(1)Tributary to Little	0.0	5.0	6.0	0.1	9	63	0.21%	0.1	0.0	0.2	0.0		
9	-L- 101+00 - 101+50 M 35.464951 / -77.439016	(1)Tributary to Little	0.0	5.0	6.0	0.0	4	113	0.22%	0.1	0.0	0.1	0.0		
9	-L- 101+50 - 105+00 M 35.465582 / -77.439903	(1)Tributary to Little	0.0	6.0	6.0	0.3	29	350	1.31%	0.4	0.1	0.6	0.1		
9	-L- 105+00 - 107+50 M 35.466027 / -77.440542	(1)Tributary to Little	0.0	6.0	6.0	0.4	35	322	2.50%	0.5	0.1	0.6	0.1		
9	-L- 107+50 - 108+22 M 35.466162 / -77.440719	(1)Tributary to Little	0.0	6.0	6.0	0.5	46	134	1.94%	0.1	0.0	0.2	0.0		
9	-L- 109+50 - 110+77 M 35.466630 / -77.441356	(1)Tributary to Little	0.0	10.0	10.0	0.6	62	127	1.43%	2.0	1.6	2.6	1.7		
9	-L- 110+77 - 113+00 M 35.467070 / -77.441890	(1)Tributary to Little	0.0	10.0	10.0	0.4	39	223	0.74%	1.3	1.1	1.6	1.2		
9	-L- 101+90 - 105+00 Rt. 35.465221 / -77.438908	(1)Tributary to Little	2.0	3.0	3.0	5.6	560	1010	0.40%	11.7	2.0	15.0	2.1		
9	-L- 105+00 - 108+22 Rt. 35.465803 / -77.439668	(1)Tributary to Little	2.0	3.0	3.0	5.6	560	700	0.30%	11.9	1.8	15.4	1.9		
9	-L- 108+22 - 112+00 Rt. 35.466422 / -77.440442	(1)Tributary to Little	2.0	3.0	3.0	1.5	150	378	0.30%	2.9	1.3	3.7	1.3		
19	-L- 244+00 - 245+13 M 35.502078 / -77.451061	(1)Tributary to Little	0.0	8.0	8.0	0.4	38	113	2.64%	0.7	0.1	0.9	0.1		
19	-L- 245+13 - 246+32 M 35.502401 / -77.451120	(1)Tributary to Little	0.0	10.0	10.0	0.3	29	119	2.28%	0.6	0.1	0.8	0.1		
19	-L- 246+32 - 248+50 M 35.502994 / -77.451230	(1)Tributary to Little	0.0	10.0	10.0	0.2	19	218	0.93%	0.4	0.0	0.5	0.1		
19	-L- 249+90 - 252+08 M 35.503966 / -77.451141	(1)Tributary to Little	0.0	10.0	10.0	0.2	19	218	0.20%	0.4	0.0	0.5	0.1		

Additional Comments

Highlighted cells indicate ditches with slopes below 0.30%. These slopes are below the minimum swale criteria due to site constraints.

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 2.03; Released October 2015)

WBS Element: 34411.1.2 **TIP No.:** R-2250 **County(ies):** Pitt

Swales

Sheet No.	Station & Coordinates (Road and Non Road Projects)	Surface Water Body	Base Width (ft)	Front Slope (H:1)	Back Slope (H:1)	Drainage Area (ac)	Recommended Treatm't Length (ft)	Actual Length (ft)	Longitudinal Slope (%)	Q2 (cfs)	V2 (fps)	Q10 (cfs)	V10 (fps)	Rock Checks Used	BMP Associated w/ Buffer Rules?
19	-L- 252+08 - 253+25 M 35.504284 / -77.451467	(1)Tributary to Little	0.0	10.0	10.0	0.3	28	119	1.58%	0.6	0.1	0.7	0.1		
19	L- 253+25 - 255+18 M 35.505020 / -77.451288	(1)Tributary to Little	0.0	6.1	6.1	0.4	44	310	2.19%	0.8	0.1	1.0	0.2		
19	-L- 255+18 - 255+25 M 35.504827 / -77.451567	(1)Tributary to Little	0.0	6.0	6.0	0.0	1	200	3.00%	0.0	0.0	0.0	0.0		
19	-L- 255+25 - 258+00 M 35.505575 / -77.451705	(1)Tributary to Little	0.0	6.0	6.0	0.2	23	275	2.13%	0.3	0.1	0.4	0.1		
19	-Y9- 74+00 - 75+50 Lt. 35.503866 / -77.452699	(1)Tributary to Little	0.0	4.0	3.0	0.3	27	150	1.89%	0.6	0.2	0.8	0.2		
19	-Y9- 73+50 - 75+50 Lt. 35.503866 / -77.452699	(1)Tributary to Little	0.0	4.0	3.0	0.3	32	200	1.30%	0.8	0.2	1.0	0.3		
19	-Y10- 14+42 - 17+35 Rt. 35.503466 / -77.451527	(1)Tributary to Little	0.0	4.0	3.0	1.6	158	293	0.74%	3.9	1.1	5.0	1.4		
19	-Y10- 15+00 - 16+85 Lt. 35.503726 / -77.451568	(1)Tributary to Little	0.0	4.0	3.0	0.4	44	185	2.11%	1.1	0.3	1.4	0.4		
19	-Y10- 13+50 - 15+00 Lt. 35.503915 / -77.452147	(1)Tributary to Little	0.0	4.0	3.0	0.4	44	150	1.00%	1.1	0.3	1.4	0.4		
19	-L- 255+18 - 258+00 Lt. 35.505744 / -77.451784	(1)Tributary to Little	2.0	3.0	3.0	1.5	151	282	0.30%	3.7	0.8	4.8	1.0		
32	-L- 431+00 - 434+50 M 35.551162 / -77.4609857	(2)Gum Swamp	0.0	6.0	6.0	0.3	31	450	0.31%	0.5	0.7	0.6	0.8		
32	-L- 434+50 - 435+50 M 35.551436 / -77.460959	(2)Gum Swamp	0.0	6.0	6.0	0.1	9	100	0.07%	0.1	0.3	0.2	0.3		
32	-L- 435+50 - 439+50 M 35.552532 / -77.460876	(2)Gum Swamp	0.0	6.0	6.0	0.4	35	400	0.22%	0.5	0.6	0.7	0.7		
52	-Y7SBL- 11+50 - 13+00 M 35.467588 / -77.435617	(1)Tributary to Little	0.0	7.0	5.0	0.2	20	150	0.48%	0.7	0.1	0.9	0.2		
52	-Y7SBL- 13+00 - 15+06 M 35.468154 / -77.435598	(1)Tributary to Little	0.0	5.0	4.0	0.4	39	206	0.23%	1.3	0.3	1.7	0.4		
55	-Y8- 53+67 - 54+44 Rt. 35.475912 / -77.438204	(1)Tributary to Little	2.0	3.0	3.0	0.8	77	77	1.69%	3.3	0.6	4.2	0.8		
55	-Y8- 55+20 - 56+68 Rt. 35.475835 / -77.437484	(1)Tributary to Little	0.0	4.0	3.0	1.0	100	148	0.30%	3.0	0.9	3.8	1.1		
55	-Y8- 55+80 - 56+30 Lt. 35.476239 / -77.437537	(1)Tributary to Little	0.0	4.0	3.0	0.2	19	50	0.30%	0.4	0.1	0.6	0.2		
55	-Y8- 56+30 - 59+00 Lt. 35.476149 / -77.436636	(1)Tributary to Little	0.0	4.0	3.0	0.3	30	270	1.11%	0.7	0.2	0.8	0.2		

Additional Comments

Highlighted cells indicate ditches with slopes below 0.30%. These slopes are below the minimum swale criteria due to site constraints.

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 2.03; Released October 2015)

WBS Element: 34411.1.2 **TIP No.:** R-2250 **County(ies):** Pitt

Swales

Sheet No.	Station & Coordinates (Road and Non Road Projects)	Surface Water Body	Base Width (ft)	Front Slope (H:1)	Back Slope (H:1)	Drainage Area (ac)	Recommended Treatm't Length (ft)	Actual Length (ft)	Longitudinal Slope (%)	Q2 (cfs)	V2 (fps)	Q10 (cfs)	V10 (fps)	Rock Checks Used	BMP Associated w/ Buffer Rules?
67	-Y18- 8+00 - 10+00 Lt. 35.562909 / -77.467512	(1)Tributary to Little	2.0	4.0	3.0	3.0	304	900	0.66%	5.3	1.9	6.8	2.0		
67	-Y18- 10+00 - 17+00 Lt. 35.561363 / -77.466149	(1)Tributary to Little	2.0	4.0	3.0	3.0	304	700	0.30%	5.3	1.4	6.8	1.5		

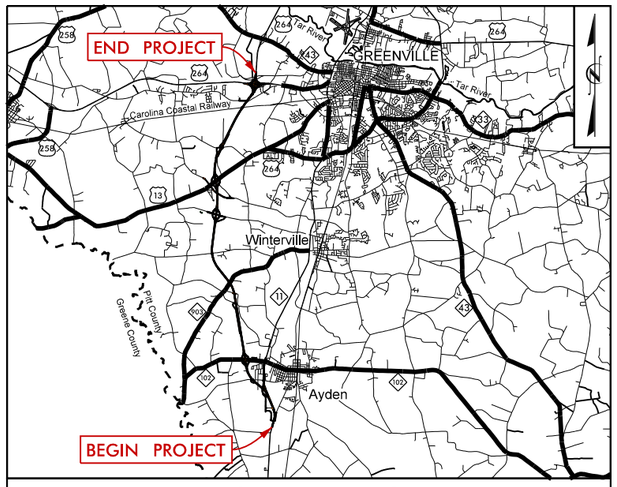
Additional Comments

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USER: kbell DATE: 11/18/2015 TIME: 9:25:05 AM
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CONTRACT: C 203609

TIP PROJECT: R-2250

See Sheet 1A-1 For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PITT COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2250	1	30

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34411.1.2		P.E.
34411.3.R7		CONSTRUCTION

NAD 83/95

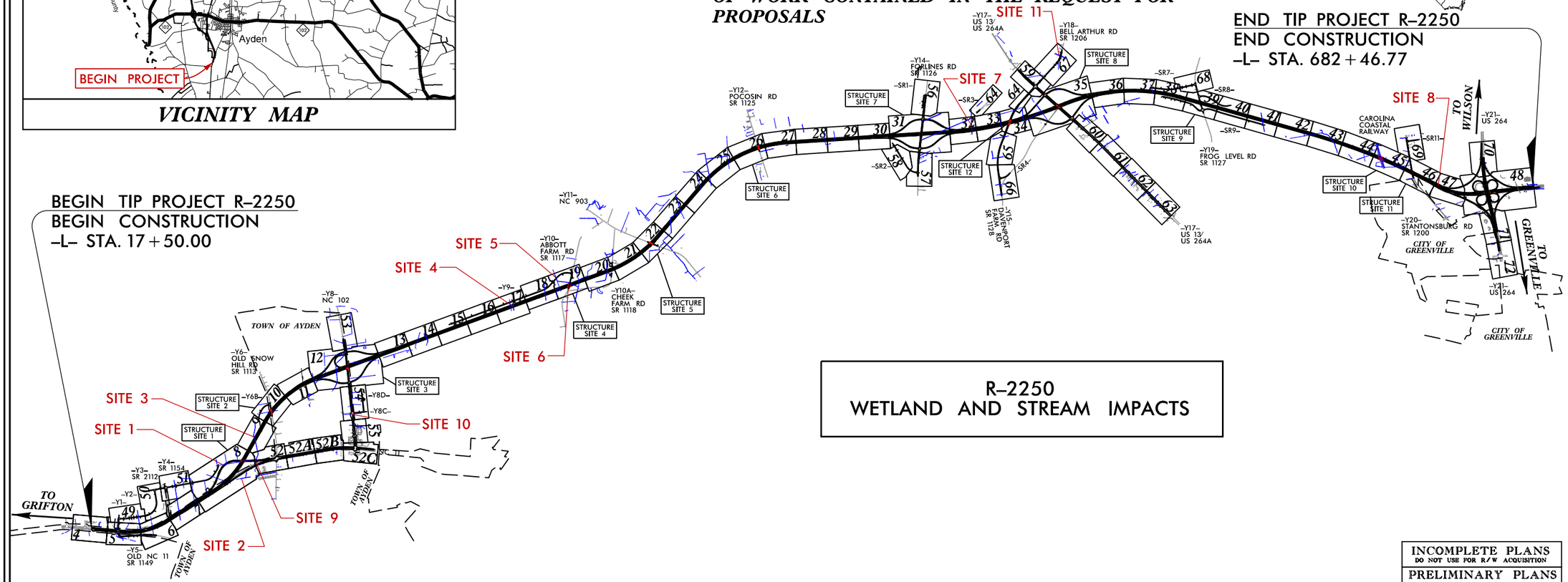


LOCATION: US 264 (GREENVILLE SOUTHWEST BYPASS) FROM SOUTH OF SR 1149 (OLD NC 11) TO THE US 264 INTERCHANGE

TYPE OF WORK: DESIGN-BUILD AS SPECIFIED IN THE SCOPE OF WORK CONTAINED IN THE REQUEST FOR PROPOSALS

BEGIN TIP PROJECT R-2250
BEGIN CONSTRUCTION
-L- STA. 17+50.00

END TIP PROJECT R-2250
END CONSTRUCTION
-L- STA. 682+46.77



R-2250
WETLAND AND STREAM IMPACTS

A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE TOWN OF AYDEN AND THE CITY OF GREENVILLE.

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

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

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWINGS
SHEET 1 OF 30

BARNHILL CONTRACTING COMPANY

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

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 2014 = 19,700 VPD
ADT 2040 = 34,000 VPD
DHV = 10 %
D = 60 %
* T = 8 %
V = 70 MPH
*(TTST 3% + DUALS 5%)

FUNC. CLASS. = FREEWAY
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2250 = 12.333 MILES
LENGTH STRUCTURE TIP PROJECT R-2250 = 0.261 MILES
TOTAL LENGTH TIP PROJECT R-2250 = 12.594 MILES

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
-

LETTING DATE:
APRIL 21, 2015

PAUL A. MEEHAN, PE
PROJECT ENGINEER

DOMINIC M. WAINWRIGHT, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

REVISIONS

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)

FROM STA. 10+00 -FLYBY7- TO STA. 13+90 -FLYBY7- LT
FROM STA. 18+50 -Y7RPC- TO STA. 21+52 -Y7RPC- LT
FROM STA. 55+35 -L- TO STA. 70+50 -L- RT
FROM STA. 63+75 -L- TO STA. 67+50 -L- RT
FROM STA. 70+50 -L- TO STA. 71+50 -L- RT
FROM STA. 71+50 -L- TO STA. 78+75 -L- LT

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)

FROM STA. 11+56 -FLYBY7- TO STA. 26+75 -FLYBY7- RT
FROM STA. 26+75 -FLYBY7- TO STA. 27+00 -FLYBY7- RT
FROM STA. 27+43 -Y7RPC- TO STA. 42+00 -Y7RPC- LT
FROM STA. 82+00 -L- TO STA. 87+80 -L- LT

DETAIL G
4' BASE STREAM RELOCATION
(Not to Scale)

FROM STA. 25+75 -FLYBY7- LT TO STA. 101+34 -L- LT

LEGEND:

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NAD 83

PROJECT REFERENCE NO.	SHEET NO.
R-2250	8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St. Suite 900 Raleigh, NC 27601
N.C.B.E.L.S. License Number: P-0116

BARNHILL CONTRACTING COMPANY

ENLARGEMENTS FOLLOW

SITE 1

SITE 2

END CONSTRUCTION
-Y3- STA. 42+94.70

END FULL TYPICAL SECTION
BEGIN RESURFACING ONLY
-Y7RPC- STA. 23+50.00

MATCHLINE -L- STA. 28+00, SEE SHEET 51

MATCHLINE -L- STA. 65+00, SEE SHEET 7

MATCHLINE -L- STA. 95+00, SEE SHEET 9

MATCHLINE -FLYBY7- STA. 39+50 SEE SHEET 52

MATCHLINE -Y7RPC- STA. 31+50 SEE SHEET 52

N 70°58'47.0" W

N 22°12'03.9" W

N 22°10'50.2" W

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NOS. 76 THRU 78 FOR -L- PROFILE
SEE SHEET NO. 123 FOR -Y3- PROFILE
SEE SHEET NOS. 127 & 128 FOR -FLYBY7- PROFILE
SEE SHEET NO. 125A FOR -Y7RPC- PROFILE
SEE SHEET NO. 28-1 FOR BRIDGE SKETCH

PERMIT DRAWINGS
SHEET 2 OF 30

GRAPHIC SCALE
50 25 0 50 100
PLANS

LOCATION:
TIP NO.: COUNTY:
DESIGNED BY:
CHECKED BY: DATE:

PLOT DRIVER: NCDOT.pet-color.stng.300dpi
USER: tbell
DGN: North Carolina Dept of Transportation
PENTABLE: NCDOT.pen-tris.300DPI.tbl
TIME: 8:52:07 AM
DATE: 1/17/2018
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REVISIONS

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)

FROM STA. 10+00 -FLYBY1- TO STA. 13+90 -FLYBY1- LT
FROM STA. 18+50 -Y7RPC- TO STA. 21+52 -Y7RPC- LT
FROM STA. 55+50 -L- TO STA. 70+50 -L- RT
FROM STA. 63+75 -L- TO STA. 81+50 -L- RT
FROM STA. 70+50 -L- TO STA. 77+50 -L- RT
FROM STA. 71+50 -L- TO STA. 78+75 -L- LT

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)

FROM STA. 11+56 -FLYBY1- TO STA. 26+75 -FLYBY1- RT
FROM STA. 27+43 -L- TO STA. 27+90 -FLYBY1- RT
FROM STA. 37+43 -L- TO STA. 42+00 -FLYBY1- LT
FROM STA. 82+00 -L- TO STA. 87+80 -L- LT

DETAIL G
4' BASE STREAM RELOCATION
(Not to Scale)

FROM STA. 25+75 -FLYBY1- LT TO STA. 101+34 -L- LT

LEGEND:

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PROJECT REFERENCE NO.	SHEET NO.
R-2250	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
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DO NOT USE FOR CONSTRUCTION

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N.C.B.E.L.S. License Number: P-0116

BARNHILL CONTRACTING COMPANY

ENLARGEMENTS FOLLOW

NAD 83

SITE 1

SITE 2

END CONSTRUCTION
-Y3- STA. 42+94.70

MATCHLINE -L- STA. 28+00, SEE SHEET 51

MATCHLINE -L- STA. 65+00, SEE SHEET 7

MATCHLINE -L- STA. 95+00, SEE SHEET 9

MATCHLINE -FLYBY2- STA. 39+50 SEE SHEET 52

MATCHLINE -Y7RPC- STA. 31+50 SEE SHEET 52

END FULL TYPICAL SECTION
BEGIN RESURFACING ONLY
-Y7RPC- STA. 23+50.00

BILLY POWELL McLAMHORN, ET UX (29)
ANN B. MACGILL (30)
S & K PROPERTIES (31)
COX BROTHERS (32)
COX FARM PROPERTIES, LLC (33)
MATTHEW COLE WADE (34)
ELIZABETH SPIVEY, LIFE ESTATE (35)
YADKIN BANK (36)
HILCO, LTD (37)

KYGER CITY LIMIT

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NOS. 76 THRU 78 FOR -L- PROFILE
SEE SHEET NO. 123 FOR -Y3- PROFILE
SEE SHEET NOS. 127 & 128 FOR -FLYBY7- PROFILE
SEE SHEET NO. 125A FOR -Y7RPC- PROFILE
SEE SHEET NO. 28-1 FOR BRIDGE SKETCH

PERMIT DRAWINGS
SHEET 3 OF 30

GRAPHIC SCALE
50 25 0 50 100
PLANS

LOCATION:	
TIP NO.:	COUNTY:
DESIGNED BY:	
CHECKED BY:	DATE:

PLOT DRIVEN: NCDOT.pet.color.eng.300.tbl
USER: tbell
FILE: North Carolina Dept of Transportation\R-2250A, S.C. Expressway, Southwest Bypass, BRUNS.0, Project Design\R-2250_NCDOT_Plan_Structure\engineering\sheets\Environmental\Drawings\R2250_NCDOT_PERM_ENG.dgn
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DATE: 1/17/2018

GRAPHICS SCALE

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PLANS

PROJECT REFERENCE NO.	SHEET NO.
R–2250	8A
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

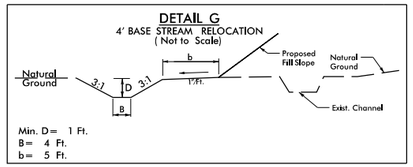
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

DETAIL G
4' BASE STREAM RELOCATION
(Not to Scale)



Min. D= 1 Ft.
B= 4 Ft.
b= 5 Ft.

FROM STA. 25+75 –FLYBY7– LT TO STA. 101+34 –L– LT

SITE 1

LEGEND:

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NAD 83

MATCHLINE, SEE SHEET 8B

MATCHLINE, SEE SHEET 8D

MATCHLINE SHEET 9 95+00, SEE SHEET 9 –L– STA.

END CONSTRUCTION
-Y3- STA. 42+94.70

4' BASE STREAM RELOCATION SEE DETAIL 'G'

CLASS 'I' RIP RAP EST. 20 TONS 39 SY GEO–TEXTILE

CLASS 'B' RIP RAP EST. 3 TONS 10 SY GEO–TEXTILE

LATERAL 'V' DITCH SEE DETAIL 'D'

CLASS 'B' RIP RAP EST. 3 TONS 10 SY GEO–TEXTILE

CLASS 'B' RIP RAP EST. 3 TONS 10 SY FILTER FABRIC

18" CAAP W/ELBOWS

30" RCP–III

SPECIAL CUT MEDIAN DITCH SEE DETAIL 'C'

SPECIAL CUT

2GI W/FG

N 11° 23' 44.5" E

N 49° 52' 56.7" W

-FLYBY7-

R=850'

CHORD

PUE

PDE

HW

TS

TB

BZ 1

BZ 2

30 ANN B. MACGILL

32 COX BROTHERS

33 COX FARM PROPERTIES, LLC

25 30 85 90 95

REVISIONS

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DATE: 1/12/2016
TIME: 3:20:10 PM

PERMIT DRAWINGS
SHEET 4 OF 30

GRAPHICS SCALE

50 25 0 50 100

PLANS

PROJECT REFERENCE NO.	SHEET NO.
R–2250	8A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

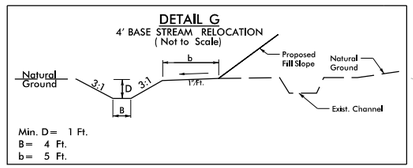
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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BARNHILL CONTRACTING COMPANY

DETAIL G
4' BASE STREAM RELOCATION
(Not to Scale)



Min. D= 1 Ft.
B= 4 Ft.
b= 5 Ft.

FROM STA. 25+75 –FLYBY7– LT TO STA. 101+34 –L– LT

LEGEND:

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SITE 1

END CONSTRUCTION
-Y3- STA. 42+94.70

4' BASE STREAM RELOCATION SEE DETAIL 'G'

CLASS 'I' RIP RAP
EST. 20 TONS
59 SY GEO-TEXTILE

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

LATERAL 'V' DITCH
SEE DETAIL 'D'

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

18" CAAP W/ELBOWS

2GI W/FG

30" RCP-III

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY FILTER FABRIC

SPECIAL CUT MEDIAN DITCH SEE DETAIL 'C'

SPECIAL CUT

32 COX BROTHERS

30 ANN B. MACGILL

33 COX FARM PROPERTIES, LLC

33 COX FARM PROPE

NAD 83

N 49° 52' 56.7" W

N 11° 23' 44.5" E

-FLYBY7-

-L- STA. 95+00, SEE SHEET 9

MATCHLINE, SEE SHEET 8B

MATCHLINE, SEE SHEET 8D

PERMIT DRAWINGS
SHEET 5 OF 30

REVISIONS

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GRAPHICS SCALE
50 25 0 50 100
PLANS

PROJECT REFERENCE NO.	SHEET NO.
R-2250	8B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

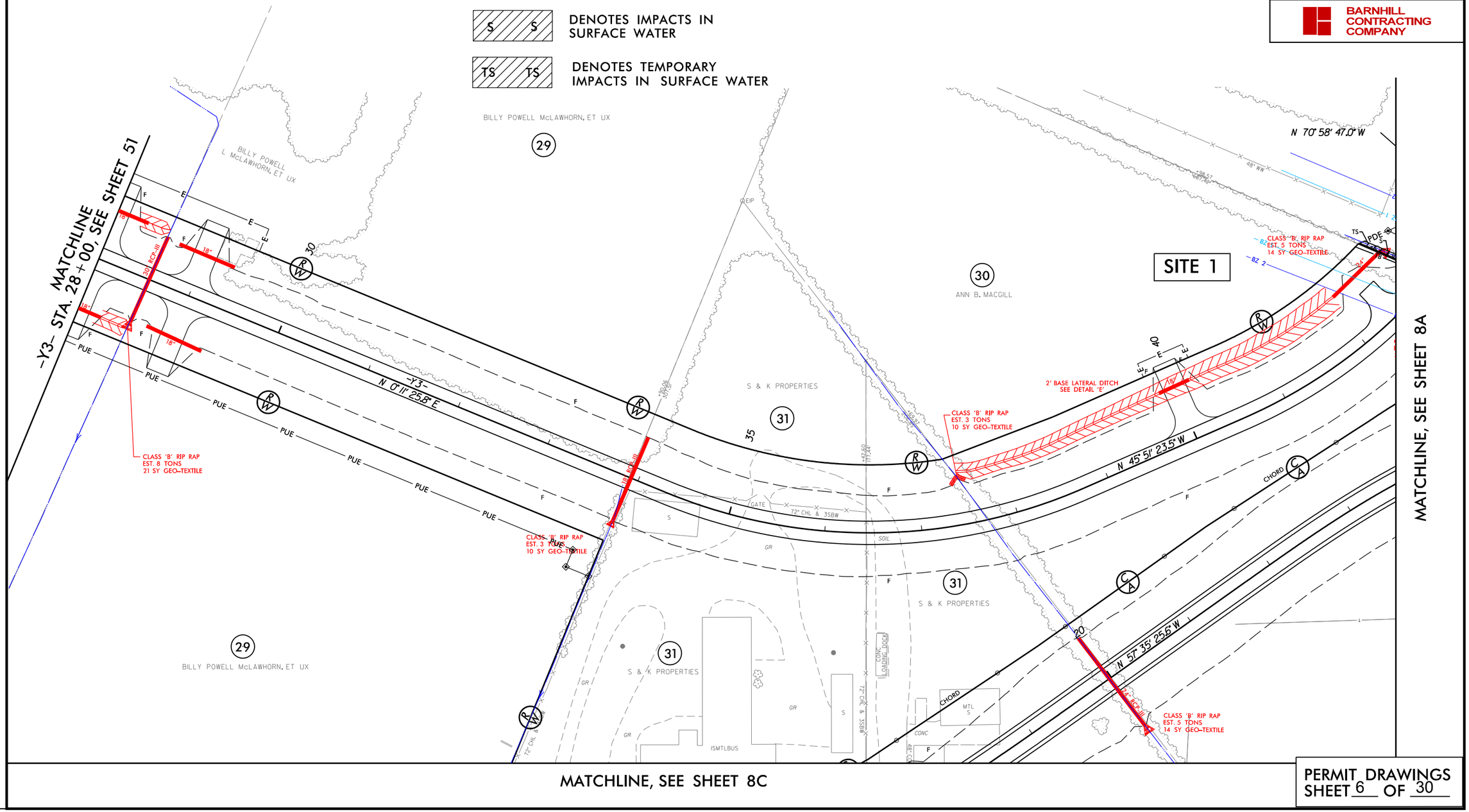
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N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

LEGEND:

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PERMIT DRAWINGS
SHEET 6 OF 30

REVISIONS

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GRAPHICS SCALE

50 25 0 50 100

PLANS

PROJECT REFERENCE NO.	SHEET NO.
R-2250	8B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

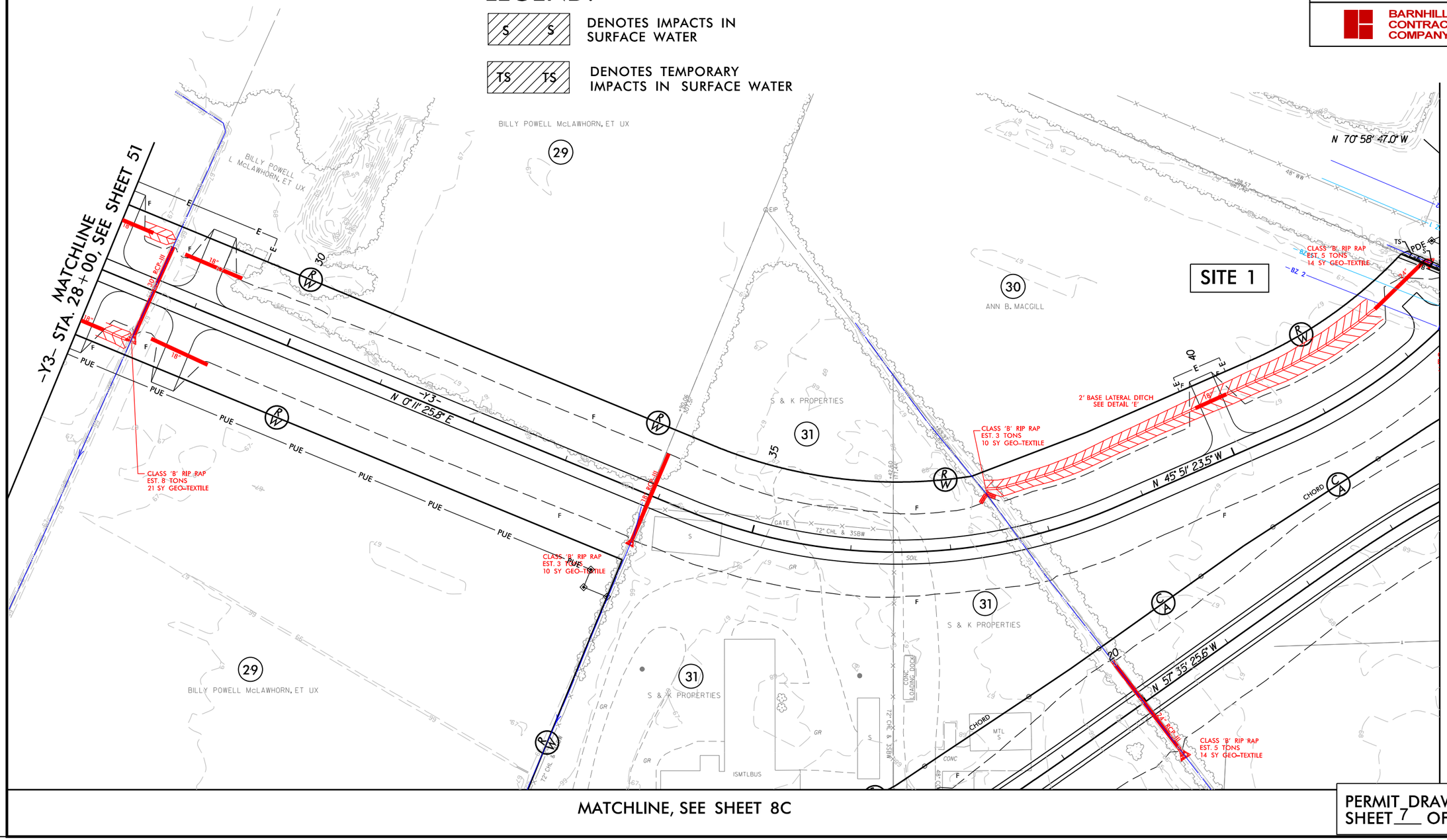
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N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

LEGEND:

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PERMIT DRAWINGS
SHEET 7 OF 30

REVISIONS

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GRAPHICS SCALE

50 25 0 50 100

PLANS

PROJECT REFERENCE NO.	SHEET NO.
R-2250	8D
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

MATCHLINE, SEE SHEET 8A

MATCHLINE, SEE SHEET 8C

SITE 1

SITE 2

-Y7RPC- N 22° 10' 50.2" W

-Y7RPC- STA. 23+50.00

END FULL TYPICAL SECTION
BEGIN RESURFACING ONLY

MATCHLINE -Y7RPC- STA. 31+50 SEE SHEET 52

MATCHLINE -FLYBY7- STA. 39+50 SEE SHEET 52 SITE 1 CONT.

AYDEN CITY LIMIT

36 YADKIN BANK

37 HILLCO, LTD

20 25 30

LEGEND:

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PERMIT DRAWINGS
SHEET 8 OF 30

REVISIONS

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GRAPHICS SCALE
50 25 0 50 100
PLANS

PROJECT REFERENCE NO.	SHEET NO.
R-2250	8D
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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BARNHILL CONTRACTING COMPANY

MATCHLINE, SEE SHEET 8A

MATCHLINE, SEE SHEET 8C

SITE 1

SITE 2

2' BASE SPECIAL CUT DITCH SEE DETAIL 'B'
2' BASE LATERAL DITCH SEE DETAIL 'E'
MEDIAN DITCH SEE DETAIL 'C'
CLASS 'B' RIP RAP EST. 8 TONS 21 SY GEO-TEXTILE
CLASS 'B' RIP RAP EST. 3 TONS 10 SY GEO-TEXTILE
18" CAAP W/ELBOWS
2GI W/FG
SPECIAL CUT DITCH SEE DETAIL 'A'
2' BASE TAIL DITCH W/CLASS B RIP RAP SEE DETAIL 'F'
REMOVE
REMOVE DI
END WW FENCE
END FULL TYPICAL SECTION
BEGIN RESURFACING ONLY
-Y7RPC- STA. 23+50.00
-Y7RPC- N 22° 10' 50.2" W
AYDEN CITY LIMIT
YADKIN BANK
HILLCO, LTD
MATCHLINE -Y7RPC- STA. 31+50 SEE SHEET 52
MATCHLINE -FLYBY7- STA. 39+50 SEE SHEET 52 SITE 1 CONT.

LEGEND:

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PERMIT DRAWINGS
SHEET 9 OF 30

REVISIONS

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MATCHLINE SEE SHEET 72A

PROJECT REFERENCE NO.	SHEET NO.
R-2250	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

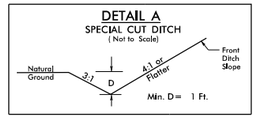
GRAPHICS SCALE
50 25 0 50 100
PLANS

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
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N.C.B.E.L.S. License Number: F-0116

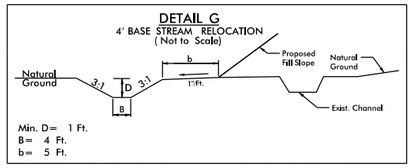
BARNHILL CONTRACTING COMPANY

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 10+20 -DRI- TO STA. 12+80 -DRI- RT

DETAIL G
4' BASE STREAM RELOCATION
(Not to Scale)



Min. D= 1 Ft.
B= 4 Ft.
b= 5 Ft.

FROM STA. 25+75 -FLYBY7- LT TO STA. 101+34 -L- LT

LEGEND:

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NAD 83

33
COX FARM PROPERTIES, LLC

SITE 3

95 100 105

MATCHLINE -L- STA. 95+00, SEE SHEET 8

MATCHLINE -L- STA. 109+00, SEE SHEET 10

MATCHLINE -DRI- STA. 11+50 SEE SHEET 10

CLASS 'I' RIP RAP
EST. 57 TONS
104 SY GEO-TEXTILE

4' BASE STREAM RELOCATION
SEE DETAIL 'G'

END WW FENCE

BEGIN WW FENCE

72" RCP-III BURIED 1'

REMOVE

N 49° 52' 56.7" W

-L-

SPECIAL CUT MEDIAN DITCH SEE DETAIL 'C'

24" RCP-III

2' LATERAL BASE DITCH SEE DETAIL 'E'

18" RCP-III

18" CAAP W/ELBOWS

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

-DRI-

N 89° 16' 39.2" W

SPECIAL CUT DITCH SEE DETAIL 'A'

33
COX FARM PROPERTIES, LLC

MATCHLINE SEE SHEET 72C

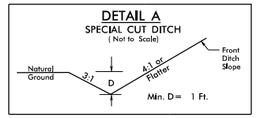
PERMIT DRAWINGS
SHEET 10 OF 30

SEE SHEET NOS. 78 & 79 FOR -L- PROFILE

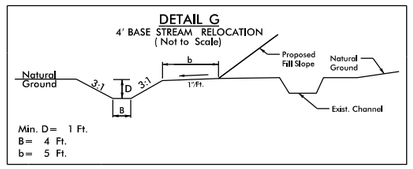
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DATE: 1/12/2016
TIME: 3:22:12 PM

MATCHLINE SEE SHEET 72A



FROM STA. 10+20 –DR1– TO STA. 12+80 –DR1– RT



FROM STA. 25+75 –FLYBY7– LT TO STA. 101+34 –L– LT

GRAPHICS SCALE
50 25 0 50 100
PLANS

PROJECT REFERENCE NO.	SHEET NO.
R–2250	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

LEGEND:

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NAD 83

33
COX FARM PROPERTIES, LLC

SITE 3

MATCHLINE –L– STA. 95+00, SEE SHEET 8

MATCHLINE –L– STA. 109+00, SEE SHEET 10

MATCHLINE –DR1– STA. 11+50 SEE SHEET 10

CLASS 'I' RIP RAP
EST. 57 TONS
104 SY GEO–TEXTILE

4' BASE STREAM RELOCATION
SEE DETAIL 'G'

END WW FENCE

BEGIN WW FENCE

72" RCP–III BURIED 1'

REMOVE

N 49° 52' 56.7" W

–L–

N 89° 39' 39.2" W

–DR1–

SPECIAL CUT MEDIAN DITCH SEE DETAIL 'C'

SPECIAL CUT DITCH SEE DETAIL 'A'

24" RCP–III

18" RCP–III

18" CAAP W/ELBOWS

2' LATERAL BASE DITCH SEE DETAIL 'E'

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO–TEXTILE

2GI W/FG

PUE

TB

TS

S

F

HW

BZ 1

BZ 2

MATCHLINE SEE SHEET 72C

PERMIT DRAWINGS
SHEET 11 OF 30

SEE SHEET NOS. 78 & 79 FOR –L– PROFILE

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng.100.plt
USER: kbell
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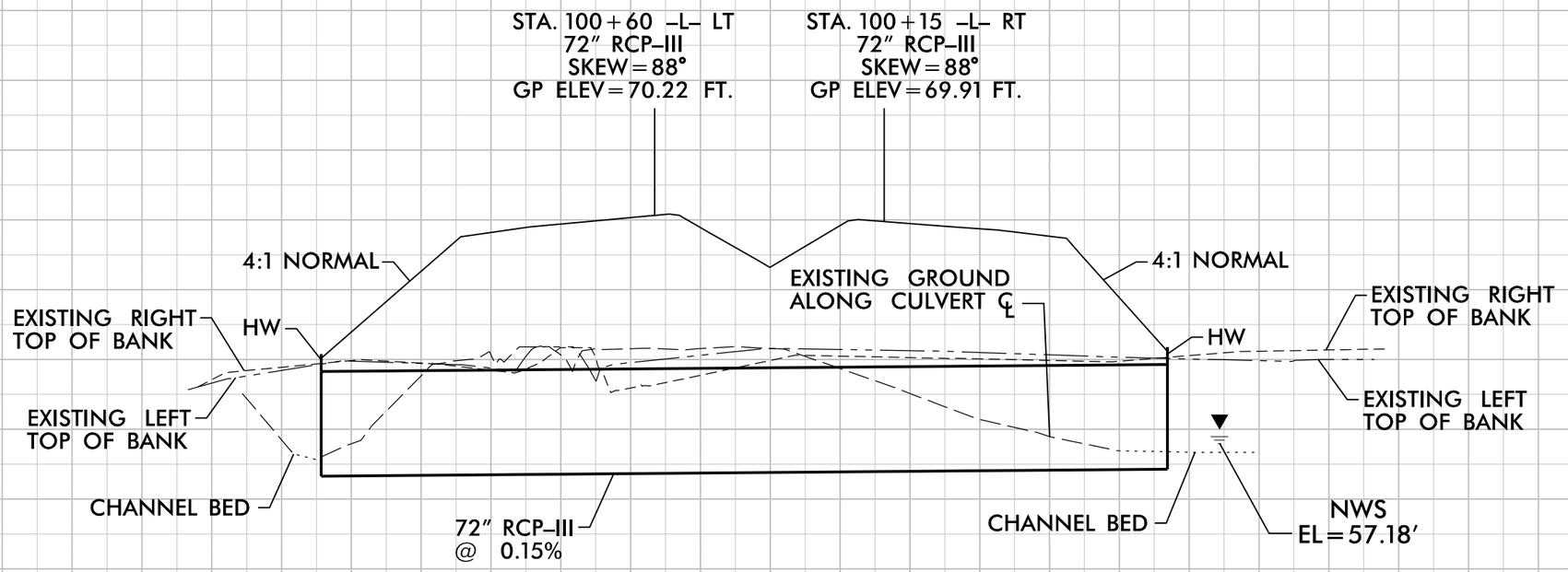
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-2250	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SITE 3



PERMIT DRAWINGS
SHEET 12 OF 30

2/2/42 PM
R:\2250\HYD_PRM_PIPE_PROFILES.dgn
$$$$USERNAME$$$$

LEGEND:

S S — DENOTES IMPACTS IN SURFACE WATER

TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER

MATCHLINE SEE SHEET 72F

SITE 5

SITE 6

GRAPHICS SCALE
50 25 0 50 100
PLANS

PROJECT REFERENCE NO.	SHEET NO.
R–2250	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

BEGIN CONSTRUCTION
-Y10- STA. 13+25.00

DETAIL K
RIP RAP AT EMBANKMENT
(Not to Scale)
10' min. · Ditch Grade · 1.0' min. · 1.0' · GEOTEXTILE
Type of Liner = Class B Rip-Rap

STA. 253+57 –L– LT

NAD 83

MATCHLINE –Y9– STA. 66+50, SEE SHEET 18

MATCHLINE –L– STA. 243+00, SEE SHEET 18

MATCHLINE –L– STA. 256+00, SEE SHEET 20

END CONSTRUCTION
-Y10- STA. 20+55.00

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

FROM STA. 74+00 –Y9– TO STA. 75+50 –Y9– LT
FROM STA. 73+50 –Y9– TO STA. 75+50 –Y9– RT
FROM STA. 13+25 –Y10– RT TO STA. 75+50 –Y9– LT
FROM STA. 14+42 –Y10– TO STA. 17+35 –Y10– RT
FROM STA. 15+00 –Y10– TO STA. 16+85 –Y10– LT

DETAIL B
10' BASE SPECIAL CUT DITCH
(Not to Scale)
Natural Ground · 3:1 · D · B · 4:1 or Flatter · Front Ditch Slope
Min. D= 1 Ft.
B= 10 Ft.

FROM STA. 248+55 –L– TO STA. 049+70 –L– LT
FROM STA. 250+65 –L– TO STA. 251+00 –L– LT

PERMIT DRAWINGS
SHEET 13 OF 30

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NOS. 89 & 90 FOR –L– PROFILE
SEE SHEET NOS. 139 & 140 FOR –Y9– PROFILE
SEE SHEET NO. 140 FOR –Y10– PROFILE
SEE SHEET NO. 2B–2 FOR BRIDGE SKETCH

REVISIONS

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LEGEND:

S S — DENOTES IMPACTS IN SURFACE WATER

TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER

MATCHLINE SEE SHEET 72F

GRAPHICS SCALE
50 25 0 50 100
PLANS

PROJECT REFERENCE NO.	SHEET NO.
R–2250	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

BEGIN CONSTRUCTION
-Y10- STA. 13+25.00

DETAIL K
RIP RAP AT EMBANKMENT
(Not to Scale)
10' min. 1.0' min. Ditch Grade 1.0' GEOTEXTILE
Type of Liner = Class B Rip-Rap
STA. 253+57 –L– LT

NAD 83

SITE 5

SITE 6

MATCHLINE –Y9– STA. 66+50, SEE SHEET 18

MATCHLINE –L– STA. 243+00, SEE SHEET 18

MATCHLINE –L– STA. 256+00, SEE SHEET 20

END CONSTRUCTION
-Y10- STA. 20+55.00

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

FROM STA. 74+00 –Y9– TO STA. 75+50 –Y9– LT
FROM STA. 73+50 –Y9– TO STA. 75+50 –Y9– RT
FROM STA. 13+25 –Y10– RT TO STA. 75+50 –Y9– LT
FROM STA. 14+42 –Y10– TO STA. 17+35 –Y10– RT
FROM STA. 15+00 –Y10– TO STA. 16+85 –Y10– LT

DETAIL B
10' BASE SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 3:1, D, 4:1 or Flatter, Front Ditch Slope
Min. D= 1 Ft.
B= 10 Ft.

FROM STA. 248+55 –L– TO STA. 049+70 –L– LT
FROM STA. 250+65 –L– TO STA. 251+00 –L– LT

PERMIT DRAWINGS
SHEET 14 OF 30

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NOS. 89 & 90 FOR –L– PROFILE
SEE SHEET NOS. 139 & 140 FOR –Y9– PROFILE
SEE SHEET NO. 140 FOR –Y10– PROFILE
SEE SHEET NO. 2B–2 FOR BRIDGE SKETCH

REVISIONS

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LEGEND:

S S — DENOTES IMPACTS IN SURFACE WATER

TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER

GRAPHICS SCALE
50 25 0 50 100
PLANS

NAD 83

PROJECT REFERENCE NO.	SHEET NO.
R–2250	32
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

DETAIL P
RIP RAP AT CULVERT OUTLET
(NOT TO SCALE)
2:1 SIDE SLOPES
CLASS 'I' RIP RAP
1'
10'
STA. 437+00 –L– RT

81 JEANNETTE DAVIS TRUSTEES

88 PITT COUNTY FARMS LLC

89 ROBERT M. SMITH, ET UX

90 EDWIN CARL CRAWFORD JR.

MATCHLINE –L– STA. 428+00, SEE SHEET 31

MATCHLINE –L– STA. 439+00, SEE SHEET 33

CLASS 'B' RIP RAP
EST. 15 TONS
37 SY FILTER FABRIC

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO–TEXTILE

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO–TEXTILE

18" RCP III

2GI

FS

15"

10'x7' RCBC BURIED 1'

BACKFILL CULVERT W/ NATIVE MATERIAL TO NATURAL CHANNEL BED ELEVATION

RETAIN

CLASS 'I' RIP RAP
EST. 67 TONS
95 SY GEO–TEXTILE
SEE DETAIL 'P'

TDE

SITE 7

PERMIT DRAWINGS
SHEET 15 OF 30

SEE SHEET NOS. 102 & 103 FOR –L– PROFILE
SEE SHEET NO. 144 FOR –Y14RPA– PROFILE
SEE SHEET NO. 147 FOR –Y14RPD– PROFILE

REVISIONS

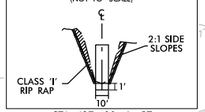
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LEGEND:

S S — DENOTES IMPACTS IN SURFACE WATER

TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DETAIL P
RIP RAP AT CULVERT OUTLET
(NOT TO SCALE)



STA. 437+00 –L– RT

GRAPHICS SCALE
50 25 0 50 100
PLANS

NAD 83

PROJECT REFERENCE NO.	SHEET NO.
R–2250	32
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

81 JEANNETTE DAVIS TRUSTEES

88 PITT COUNTY FARMS LLC

89 ROBERT M. SMITH, ET UX

90 EDWIN CARL CRAWFORD JR.

MATCHLINE –L– STA. 428+00, SEE SHEET 31

MATCHLINE –L– STA. 439+00, SEE SHEET 33

CLASS 'B' RIP RAP
EST. 15 TONS
37 SY FILTER FABRIC

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO–TEXTILE

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO–TEXTILE

18" RCP III

2GI

FS

15"

10'x7' RCBC BURIED 1'

BACKFILL CULVERT W/ NATIVE MATERIAL TO NATURAL CHANNEL BED ELEVATION

RETAIN

CLASS 'I' RIP RAP
EST. 67 TONS
95 SY GEO–TEXTILE
SEE DETAIL 'P'

TDE

SITE 7

PERMIT DRAWINGS
SHEET 16 OF 30

SEE SHEET NOS. 102 & 103 FOR –L– PROFILE
SEE SHEET NO. 144 FOR –Y14RPA– PROFILE
SEE SHEET NO. 147 FOR –Y14RPD– PROFILE

REVISIONS

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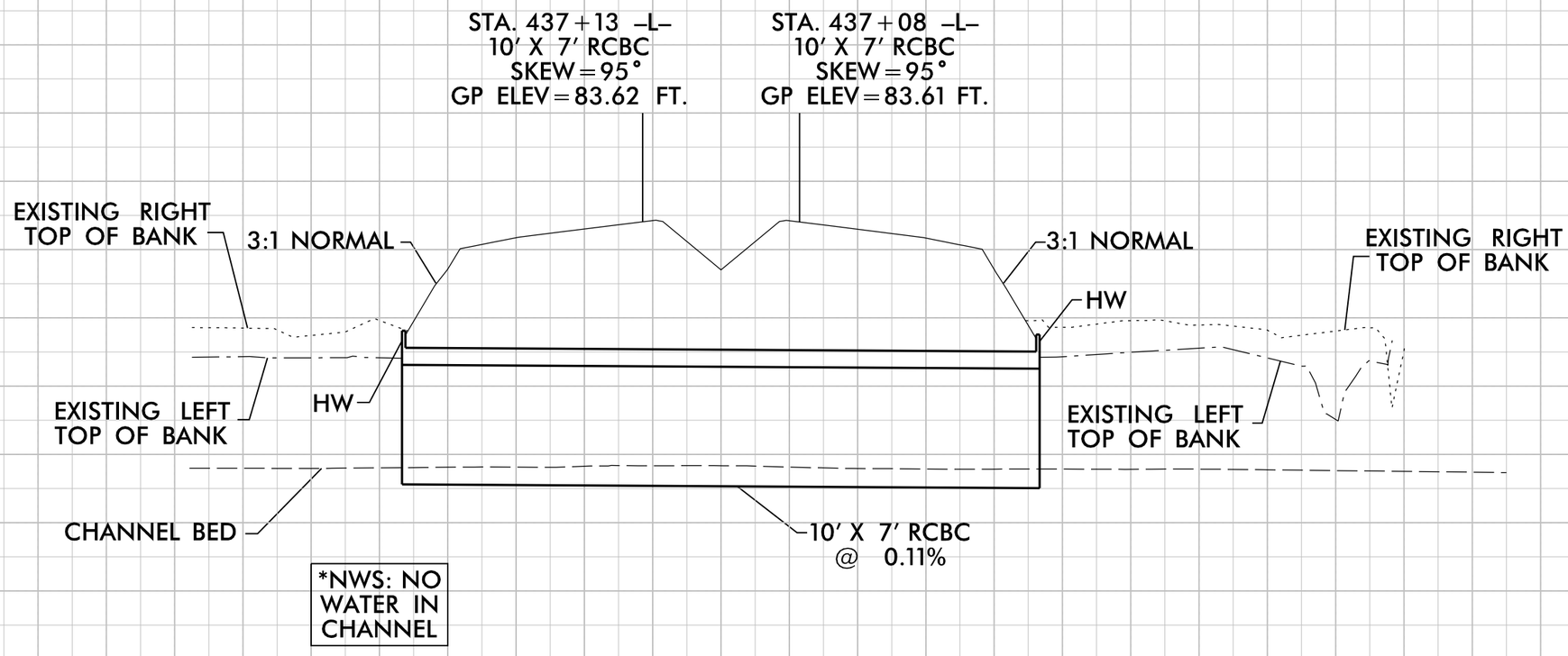
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-2250	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

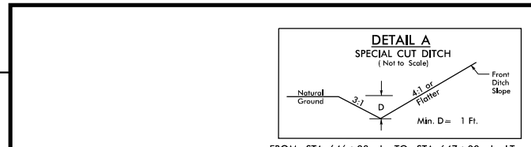
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SITE 7



PERMIT DRAWINGS
SHEET 17 OF 30

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R-2250_HYD_PRM_PIPE_PROFILES.dgn
$$$$USERNAME$$$$



FROM STA. 646+00 -L- TO STA. 647+00 -L- LT

NAD 83

LEGEND:

F F DENOTES FILL IN WETLAND

GRAPHICS SCALE
50 25 0 50 100
PLANS

PROJECT REFERENCE NO.	SHEET NO.
R-2250	47
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

MATCHLINE -Y21RPB- STA. 22+00

MATCHLINE -L- STA. 638+00, SEE SHEET 46

MATCHLINE -L- STA. 651+00 SEE SHEET 48

MATCHLINE -Y21RPC- STA. 20+00

640 645 650

159 MEDICAL FOUNDATION OF ECU INC

161 TERESA MANNING BUTTS ET AL

160 MRS. P.E. BRITT HEIRS
MAP ATTACHED TO "81SP 43I"

162 STANTONSBURG ROAD, LLC

B

C

SITE 8

-Y21RPB-

-Y21RPC-

-L-

2' BASE LATERAL DITCH SEE DETAIL 'E'

LATERAL 'V' DITCH SEE DETAIL 'D'

SPECIAL CUT DITCH SEE DETAIL 'A'

HW

30" RCP-III

EXISTING R/W

FS 15" 2GI

18" RCP-III

CHORD

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

N 31° 46' 26.9" E

2GI W/FG

15" CAAP W/ELBOWS

4' BASE LATERAL DITCH SEE DETAIL 'H'

CLASS 'B' RIP RAP
EST. 8 TONS
21 SY GEO-TEXTILE

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

2' BASE TAIL DITCH
SEE DETAIL 'O'
SLOPE = 0.20%

50' PIEDMONT NATURAL GAS EASEMENT

8" STEEL (ENG)

PERMIT DRAWINGS
SHEET 18 OF 30

SEE SHEET NOS. 117 & 118 FOR -L- PROFILE
SEE SHEET NO. 166 FOR -Y21RPB- PROFILE
SEE SHEET NO. 169 FOR -Y21RPC- PROFILE

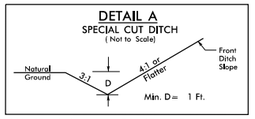
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DATE: 12/21/2015
TIME: 2:37:51 PM

REVISIONS

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 646+00 -L- TO STA. 647+00 -L- LT

NAD 83

GRAPHICS SCALE
50 25 0 50 100
PLANS

PROJECT REFERENCE NO.	SHEET NO.
R-2250	47
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

LEGEND:

F F DENOTES FILL IN WETLAND

-Y21RPB- STA. 22+00

MATCHLINE -L- STA. 638+00, SEE SHEET 46

MATCHLINE -L- STA. 651+00 SEE SHEET 48

MATCHLINE -Y21RPC- STA. 20+00

159 MEDICAL FOUNDATION OF ECU INC

160 MRS. P.E. BRITT HEIRS
MAP ATTACHED TO "81SP 43"

161 TERESA MANNING BUTTS ET AL

162 STANTONSBURG ROAD, LLC

SITE 8

B

C

2' BASE LATERAL DITCH SEE DETAIL 'E'

LATERAL 'V' DITCH SEE DETAIL 'D'

SPECIAL CUT DITCH SEE DETAIL 'A'

HW

30" RCP-III

18" RCP-III

15" RCP-III

FS 15" 2GI

FS -L- 15" 2GI

2GI W/FG

15" CAAP W/ELBOWS

4' BASE LATERAL DITCH SEE DETAIL 'H'

CHORD C A

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

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

CLASS 'B' RIP RAP
EST. 8 TONS
21 SY GEO-TEXTILE

2' BASE TAIL DITCH SEE DETAIL 'G' SLOPE = 0.20%

N 31° 46' 26.9" E

EXISTING R/W

50' PIEDMONT NATURAL GAS EASEMENT

8" STEEL (ENG)

PERMIT DRAWINGS
SHEET 19 OF 30

SEE SHEET NOS. 117 & 118 FOR -L- PROFILE
SEE SHEET NO. 166 FOR -Y21RPB- PROFILE
SEE SHEET NO. 169 FOR -Y21RPC- PROFILE

8/23/99

0 10 20

PROJ. REFERENCE NO.	SHEET NO.
R-2250	X-163

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

100 90 80

Y21RPB 14+26.95 | 0.080 | 0.070 | 6:1 | 6:1 | 0.070 | 0.055 | 3:1 | Y21RPC 10+43.67
D.P.89.03
83.38
642+50.00

Y21RPB 13+78.35 | 0.080 | 0.070 | 6:1 | 6:1 | 0.070 | 3:1
D.P.88.70
83.26
642+00.00

Y21RPB 13+29.66 | 0.080 | 0.070 | 6:1 | 6:1 | 0.070 | 3:1
D.P.88.46
83.32
641+50.00

Y21RPB 12+80.85 | 0.080 | 0.061 | 6:1 | 6:1 | 0.061 | 3:1
D.P.88.30
83.59
641+00.00

Y21RPB 12+31.81 | 0.077 | 0.049 | 6:1 | 6:1 | 0.049 | 3.08:1
D.P.88.23
83.40
640+50.00

Y21RPB 11+82.55 | 0.061 | 0.038 | 6:1 | 6:1 | 0.038 | 3.10:1
5.75:1
D.P.88.25
82.98
640+00.00

WETLANDS WETLANDS

Y21RPB 11+33.08 | 0.045 | 0.028 | 6:1 | 6:1 | 0.027 | 3.11:1
5.14:1
D.P.88.37
82.30
639+50.00

R-2250
PERMIT SITE 8

WETLANDS WETLANDS

Y21RPB 10+83.36 | 0.028 | 0.025 | 6:1 | 6:1 | 0.016 | 3.13:1
4.65:1
D.P.88.53
82.45
639+00.00

R-2250
PERMIT SITE 8

—L—

PERMIT DRAWINGS
SHEET 20 OF 30

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MATCHLINE SEE SHEET 72C

NAD 83

GRAPHICS SCALE
50 25 0 50 100
PLANS

PROJECT REFERENCE NO.	SHEET NO.
R-2250	52
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

LEGEND:

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SITE 1

SITE 9

MATCHLINE -FLYBY7- STA. 39+50 SEE SHEET 8

MATCHLINE -Y7RPC- STA. 31+50 SEE SHEET 8

MATCHLINE -Y7SBL- STA. 14+00, SEE SHEET 52A

BEGIN CONSTRUCTION -Y6- STA. 41+75.00

END CONSTRUCTION -Y6A- STA. 11+10.00

CLASS 'B' RIP RAP EST. 11 TONS 28 SY GEO-TEXTILE

CLASS 'I' RIP RAP EST. 40 TONS 75 SY GEO-TEXTILE

2' LATERAL BASE DITCH SEE DETAIL 'E'

2' BASE LATERAL DITCH SEE DETAIL 'E'

LATERAL 'V' DITCH SEE DETAIL 'D'

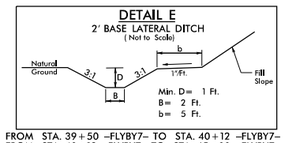
4' BASE SPECIAL CUT DITCH SEE DETAIL 'I'

SPECIAL CUT MEDIAN DITCH SEE DETAIL 'C'

CLASS 'B' RIP RAP EST. 3 TONS 10 SY GEO-TEXTILE

REMOVE DI

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)



FROM STA. 39+50 -FLYBY7- TO STA. 40+12 -FLYBY7- LT
FROM STA. 40+12 -FLYBY7- TO STA. 45+00 -FLYBY7- LT

KENNETH H. SMITH, ET UX

JANET A. JOHNSON HOUSE

CLIFTON E. WOOTEN, ET UX

HILLCO, LTD

AYDEN CITY LIMIT

"NRWASA" NEUSE REGIONAL WATER AND SEWER AUTHORITY

CONTROL VALVE/ METER SITE

HOT BOX PAD ON CONCRETE PAD ONE-SIDE REGIONAL NEUSE RIVER WASTE WATER SITE

SLICK BOX ON CONCRETE PAD

PERMIT DRAWINGS
SHEET 21 OF 30

SEE SHEET NO. 128 FOR -FLYBY7- PROFILE
SEE SHEET NO. 128A FOR -Y7RPC- PROFILE
SEE SHEET NO. 128B FOR -Y7SBL- & -Y7NBL- PROFILES

MATCHLINE SEE SHEET 72B

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	52
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

GRAPHICS SCALE
50 25 0 50 100
PLANS

NAD 83

MATCHLINE SEE SHEET 72C

LEGEND:

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SITE 1

SITE 9

MATCHLINE -FLYBY7- STA. 39+50 SEE SHEET 8

MATCHLINE -Y7RPC- STA. 31+50 SEE SHEET 8

MATCHLINE -Y7SBL- STA. 14+00, SEE SHEET 52A

BEGIN CONSTRUCTION
-Y6- STA. 41+75.00

END CONSTRUCTION
-Y6A- STA. 11+10.00

CLASS 'B' RIP RAP
EST. 11 TONS
28 SY GEO-TEXTILE

CLASS 'I' RIP RAP
EST. 40 TONS
75 SY GEO-TEXTILE

2' LATERAL BASE DITCH
SEE DETAIL 'E'

2' BASE LATERAL DITCH
SEE DETAIL 'E'

4' BASE SPECIAL CUT DITCH
SEE DETAIL 'I'

LATERAL 'V' DITCH
SEE DETAIL 'D'

SPECIAL CUT
MEDIAN DITCH
SEE DETAIL 'C'

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

END WW FENCE

BEGIN WW FENCE

END WW FENCE +74.71

48" WW & ISBW

30" DI NRWASA

6" PVC FSS

14" PVC (WINTERVILLE)

8" STEEL (GUC)

12" HDPE

72" PVC

AYDEN CITY LIMIT

LINE CONTINUES AS 6" PVC FSS (AYDEN)

KENNETH H. SMITH, ET UX

HILLCO, LTD

JANET A. JOHNSON HOUSE

CLIFTON E. WOOTEN, ET UX

"NRWASA" NEUSE REGIONAL WATER AND SEWER AUTHORITY

CONTROL VALVE/ METER SITE

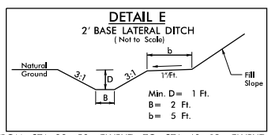
HOT BOX ON CONCRETE PAD

SLICK BOX ON CONCRETE PAD

NRWASA SPECIAL EASEMENT

AREA U/C

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)



FROM STA. 39+50 -FLYBY7- TO STA. 40+12 -FLYBY7- LT
FROM STA. 40+12 -FLYBY7- TO STA. 45+00 -FLYBY7- LT

PERMIT DRAWINGS
SHEET 22 OF 30

SEE SHEET NO. 128 FOR -FLYBY7- PROFILE
SEE SHEET NO. 128A FOR -Y7RPC- PROFILE
SEE SHEET NO. 128B FOR -Y7SBL- & -Y7NBL- PROFILES

MATCHLINE SEE SHEET 72B

REVISIONS

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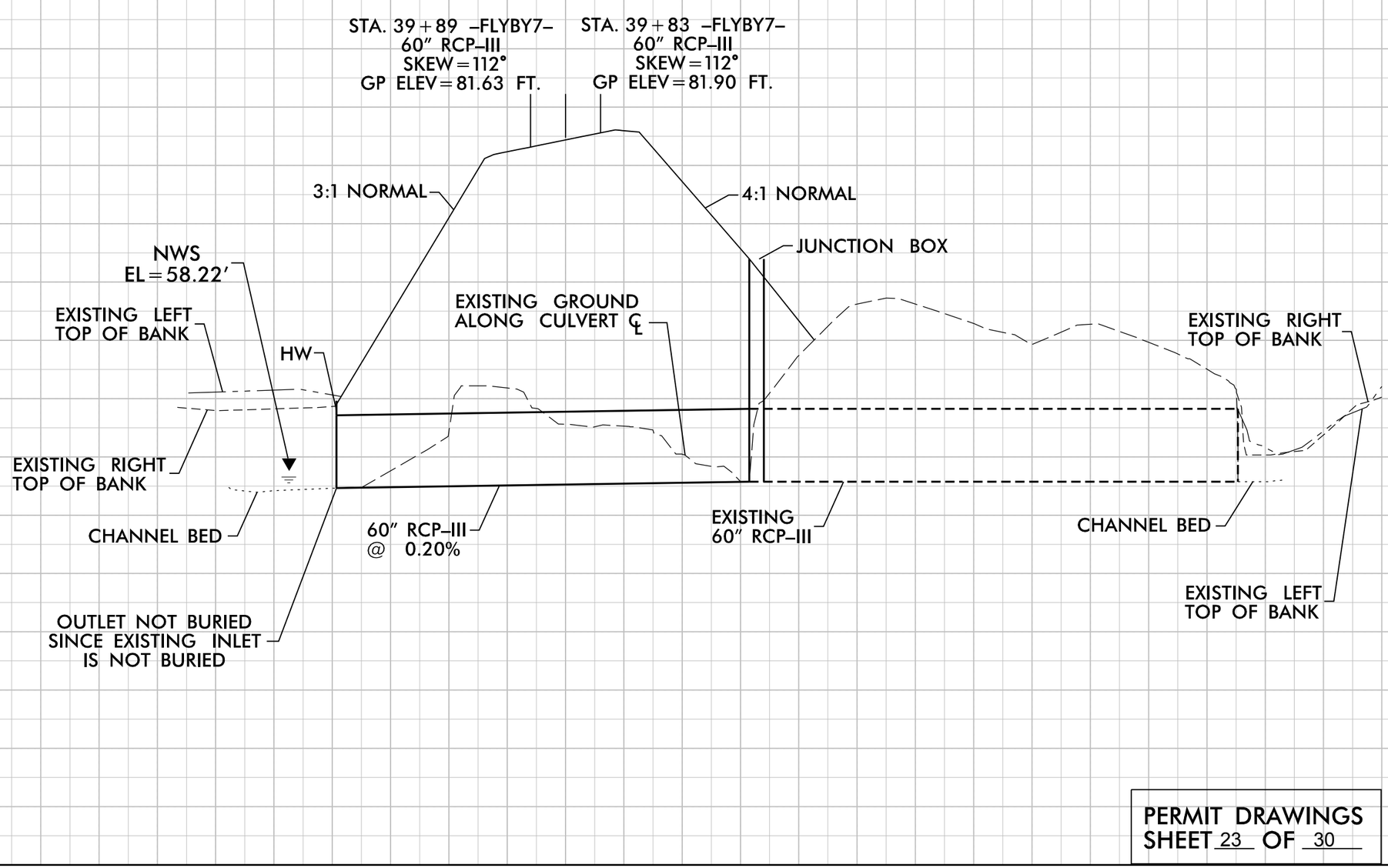
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

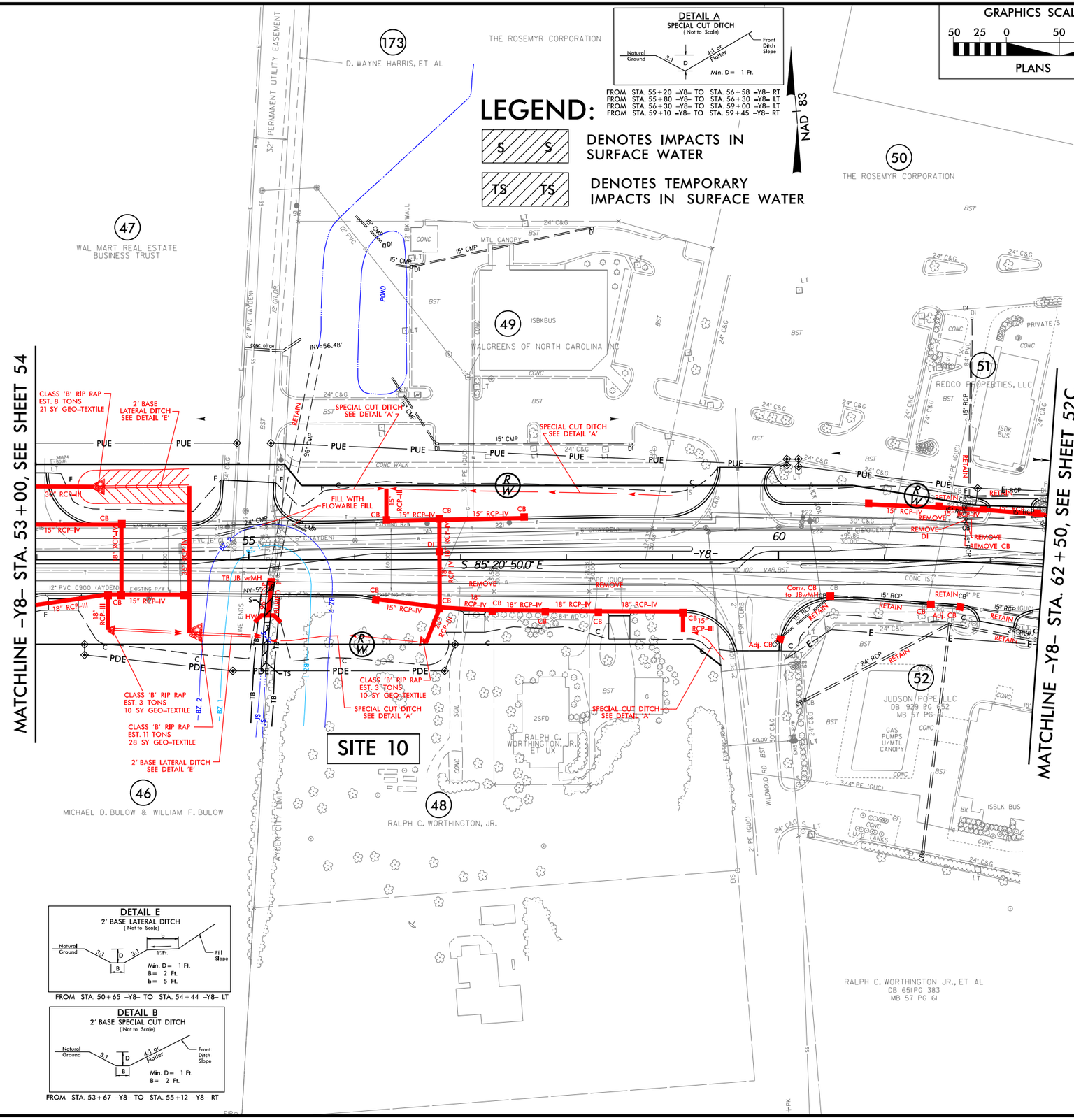
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SITE 9



PERMIT DRAWINGS
SHEET 23 OF 30

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	55
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

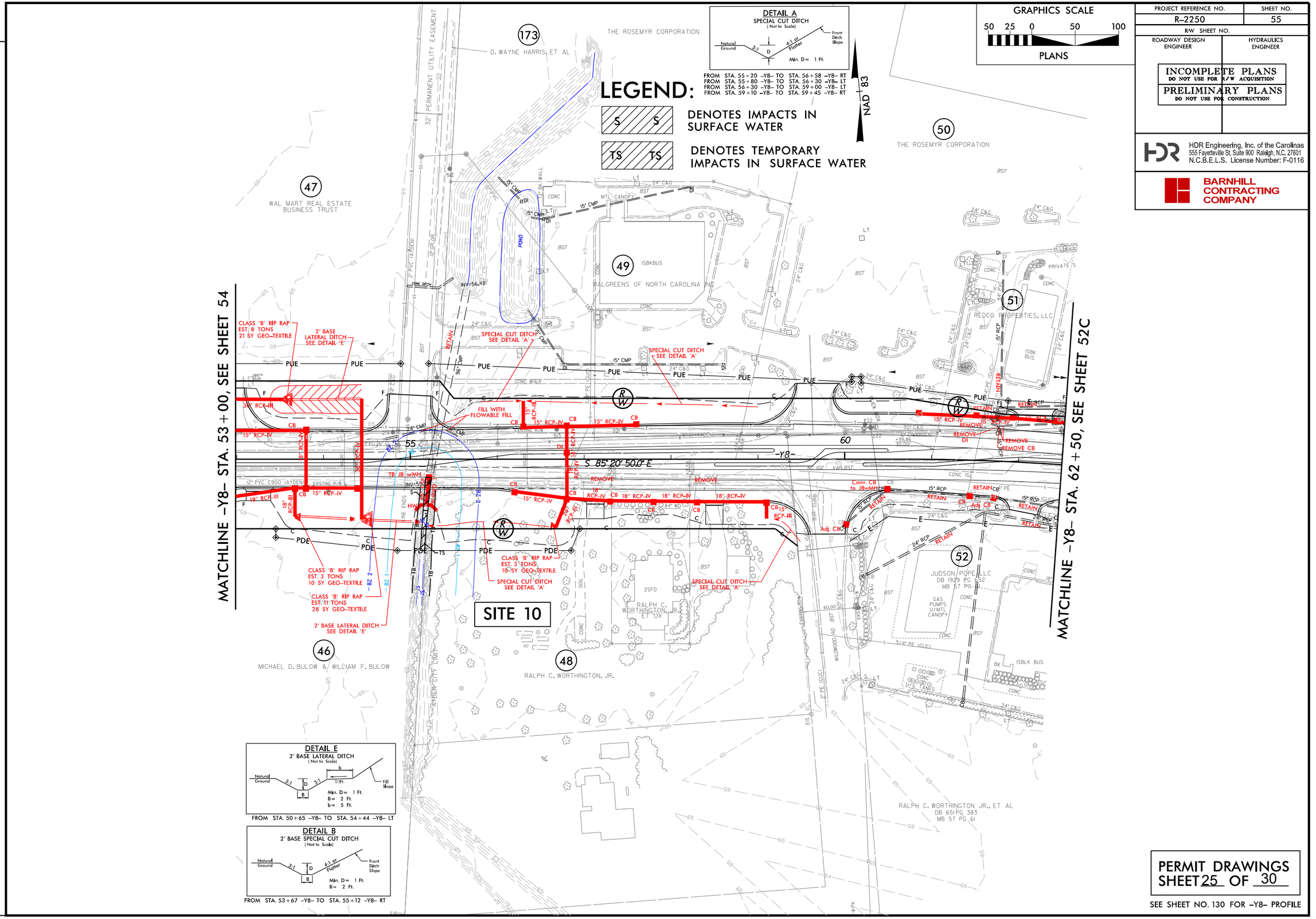
BARNHILL CONTRACTING COMPANY

PERMIT DRAWINGS
SHEET 24 OF 30

SEE SHEET NO. 130 FOR -Y8- PROFILE

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	55
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

REVISIONS

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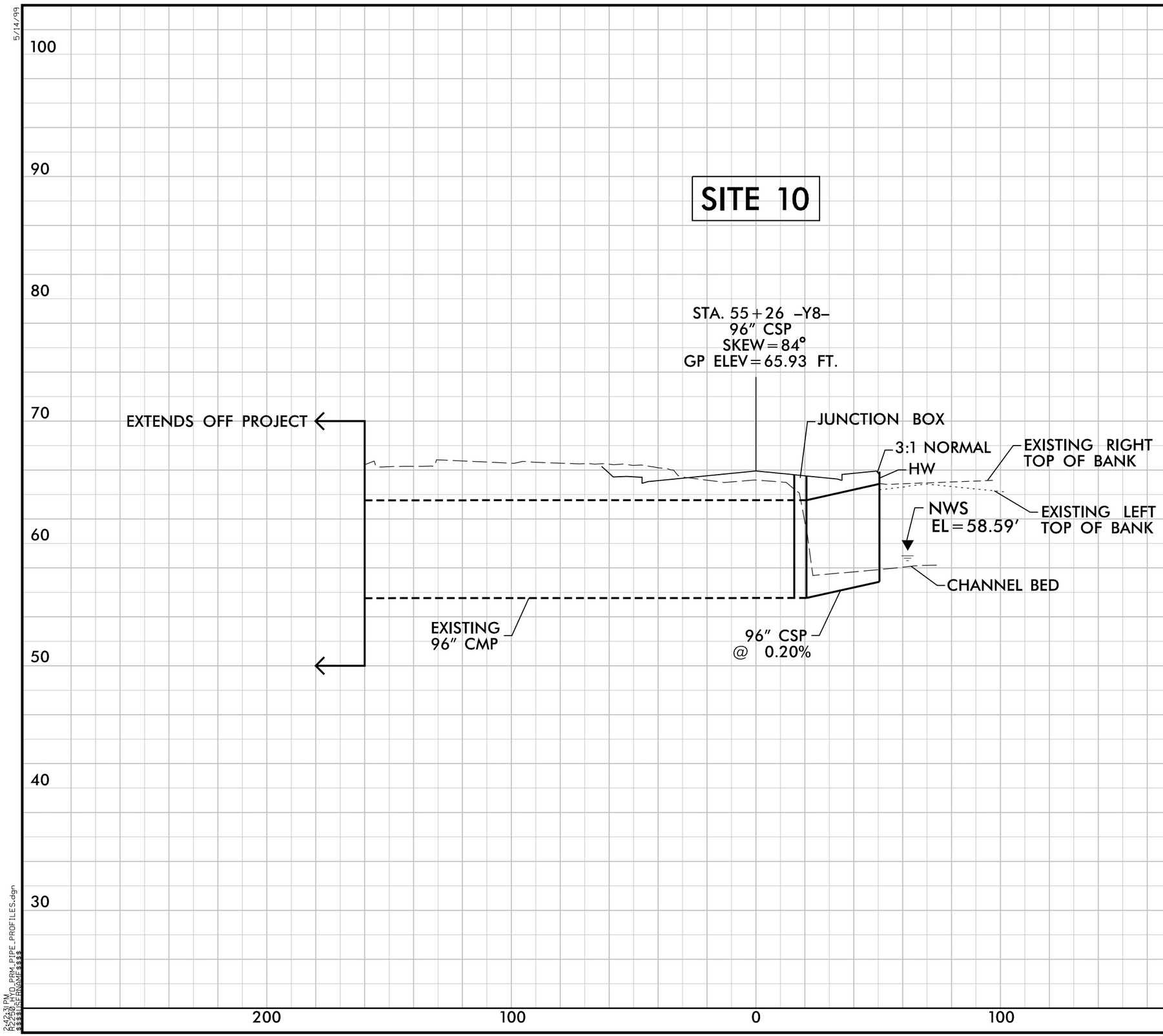
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-2250	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SITE 10



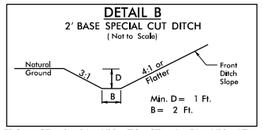
PERMIT DRAWINGS
SHEET 26 OF 30

2/12/21 PW
R-2250 WD_PRM_PIPE_PROFILES.dgn
$$$$USERNAME$$$$

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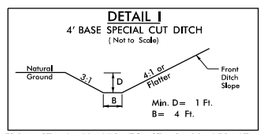
REVISIONS

DETAIL B
2' BASE SPECIAL CUT DITCH
(Not to Scale)



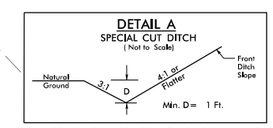
FROM STA. 3+80 –Y18– TO STA. 6+50 –Y18– LT
FROM STA. 3+80 –Y18– TO STA. 6+36 –Y18– RT
FROM STA. 8+00 –Y18– TO STA. 17+00 –Y18– LT

DETAIL I
4' BASE SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 6+50 –Y18– TO STA. 8+00 –Y18– LT
FROM STA. 6+40 –Y18– TO STA. 8+22 –Y18– RT

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



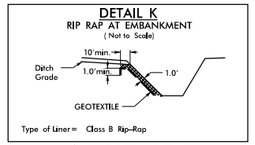
FROM STA. 3+50 –Y18– TO STA. 3+80 –Y18– LT
FROM STA. 17+30 –Y18– TO STA. 20+00 –Y18– RT
FROM STA. 17+38 –Y18– TO STA. 20+00 –Y18– LT

LEGEND:

S S — DENOTES IMPACTS IN SURFACE WATER

TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER

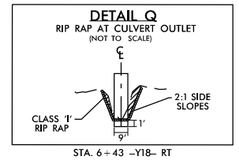
DETAIL K
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner= Class B Rip-Rap

STA. 6+54 –Y7RPC– RT

DETAIL Q
RIP RAP AT CULVERT OUTLET
(NOT TO SCALE)



STA. 6+43 –Y18– RT

GRAPHICS SCALE
50 25 0 50 100
PLANS

PROJECT REFERENCE NO.	SHEET NO.
R–2250	67
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

94 LEWIS O. TRIPP, ET AL

NAD 83

93 REBECCA WINSTEAD GAY

95 AMA HOLDINGS LLC

97 RICHARD L. HILL, ET UX

96 MELISSA THORNE

EDMONSON CONSTRUCTION CO. OF GREENVILLE LLC

RIP RAP AT EMBANKMENT SEE DETAIL 'K'

4' BASE SPECIAL CUT DITCH SEE DETAIL 'I'

2' BASE SPECIAL CUT DITCH SEE DETAIL 'B'

SPECIAL CUT DITCH SEE DETAIL 'A'

TIE TO LITTLE CONTENTNEA RIPARIAN BUFFER

REMOVE

RETAIN

CLASS 'I' RIP RAP EST. 38 TONS 55 SY GEO-TEXTILE SEE DETAIL 'Q'

9'x7' RCBC BURIED 1' BACKFILL CULVERT W/ NATIVE MATERIAL TO NATURAL CHANNEL BED ELEVATION

CLASS 'B' RIP RAP EST. 5 TONS 14 SY GEO-TEXTILE

COLLAR AND EXTEND

-Y18-

S 36° 52' 05.0" E

SR 1206 BELL ARTHUR RD 20' BST

S 65° 29' 11" E

4" PVC SDR 26 (BAWC)

10" PVC C900 (BAWC)

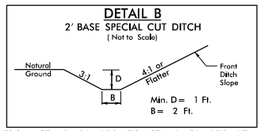
24" TERRA MAX

EXISTING R/W

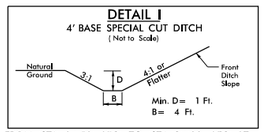
MATCHLINE –Y18– STA. 18+00, SEE SHEET 59

PERMIT DRAWINGS
SHEET 27 OF 30

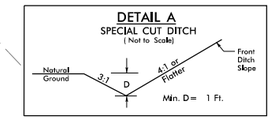
DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NO. 158 FOR –Y18– PROFILE



FROM STA. 3+80 –Y18– TO STA. 6+50 –Y18– LT
FROM STA. 3+80 –Y18– TO STA. 6+36 –Y18– RT
FROM STA. 8+00 –Y18– TO STA. 17+00 –Y18– LT



FROM STA. 6+50 –Y18– TO STA. 8+00 –Y18– LT
FROM STA. 6+40 –Y18– TO STA. 8+22 –Y18– RT

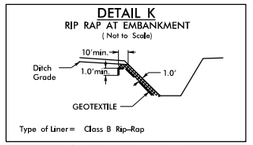


FROM STA. 3+50 –Y18– TO STA. 3+80 –Y18– LT
FROM STA. 17+30 –Y18– TO STA. 20+00 –Y18– RT
FROM STA. 17+38 –Y18– TO STA. 20+00 –Y18– LT

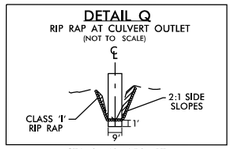
LEGEND:

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER



STA. 6+54 –Y7RPC– RT



STA. 6+43 –Y18– RT

GRAPHICS SCALE
50 25 0 50 100
PLANS

PROJECT REFERENCE NO.	SHEET NO.
R–2250	67
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
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96 MELISSA THORNE

EDMONSON CONSTRUCTION CO. OF GREENVILLE LLC

RIP RAP AT EMBANKMENT SEE DETAIL 'K'

4' BASE SPECIAL CUT DITCH SEE DETAIL 'I'

2' BASE SPECIAL CUT DITCH SEE DETAIL 'B'

SPECIAL CUT DITCH SEE DETAIL 'A'

-Y18-

S 36° 52' 05.0" E

SR 1206 BELL ARTHUR RD 20' BST

COLLAR AND EXTEND

CLASS 'B' RIP RAP EST. 5 TONS 14 SY GEO-TEXTILE

9'x7' RCBC BURIED 1' BACKFILL CULVERT W/ NATIVE MATERIAL TO NATURAL CHANNEL BED ELEVATION

CLASS 'I' RIP RAP EST. 38 TONS 55 SY GEO-TEXTILE SEE DETAIL 'Q'

S 65° 29' 11" E

REMOVE

RETAIN

15" RCP

15" HDPE

18" RCP

24" RCP

4" PVC SDR-26 (BAWC)

10" PVC C900 (BAWC)

24" TERRA COTTA

EXISTING R/W

CONC HH

CONC

ISFD

CEMETERY

SILO

GATE

MATCHLINE –Y18– STA. 18+00, SEE SHEET 59

SITE 11

PERMIT DRAWINGS
SHEET 28 OF 30

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NO. 158 FOR –Y18– PROFILE

REVISIONS

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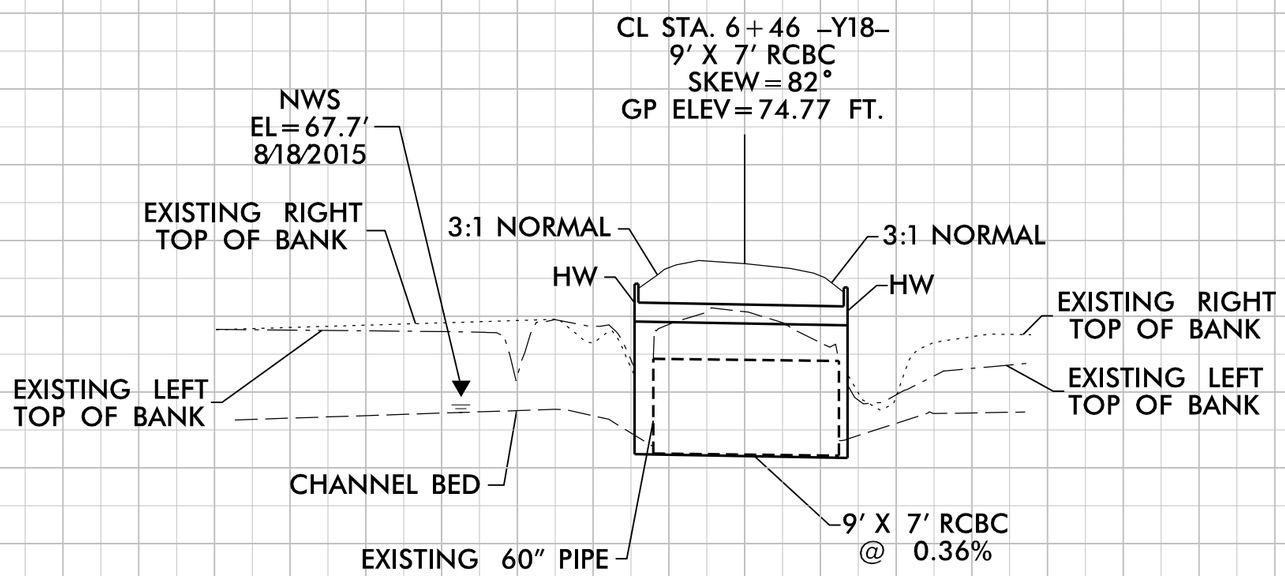
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-2250	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SITE 11



110
100
90
80
70
60
50
40

200 100 0 100 200

PERMIT DRAWINGS
SHEET 29 OF 30

3/31/00 PW
R-2250_HYD_PRM_PIPE_PROFILES.dgn
$$$$USERNAME$$$$

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	23+91 - 39+93 -FLYBY7-	ROADWAY FILL						0.14	< 0.01	1,532	92	
2	26+00 - 28+50 -Y7RPC-	UTILITY RELOCATION							0.01		50	
3	99+52 - 101+50 -L-	72" RCP-III						0.03	0.01	246	117	
5	67+77 - 69+66 -Y9-	54" RCP-III						0.03	< 0.01			
6	247+99 - 252+06 -L-	54" RCP-IV						0.08	0.02			
7	436+30 - 437+83 -L-	10' x 7' RCBC						0.05	0.06	233	244	
8	638+38 - 639+86 -L-	ROADWAY FILL	0.33									
9	39+16 - 41+02 -FLYBY7-	60" PIPE EXTENSION						0.02	< 0.01	132	38	
10	54+55 - 55+79 -Y8-	96" CSP EXTENSION						< 0.01	< 0.01			
11	5+78 - 7+11 -Y18-	9' x 7' RCBC						0.01	0.01	61	59	
TOTALS*:			0.33					0.37	0.14	2,204	600	0

*Rounded totals are sum of actual impacts

NOTES:
SITE 1 PROPOSED STREAM RELOCATION: 1,914 FT.
SITE 4 HAS BEEN ELIMINATED

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
2/25/2016
PITT COUNTY
R-2250
34411.1.2
SHEET 30 OF 30

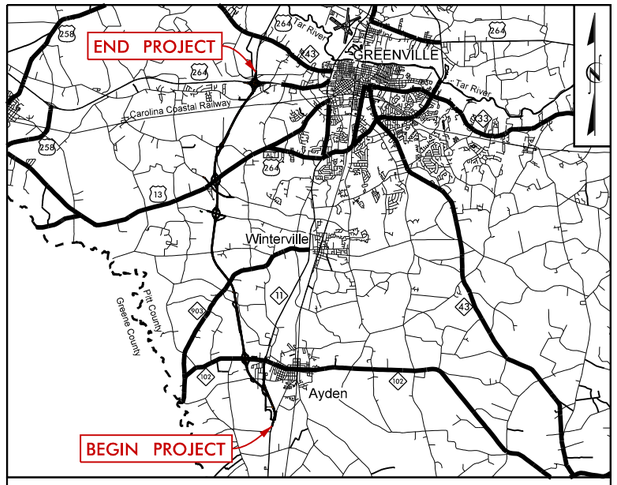
Revised 2013 10 24

09/08/99
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CONTRACT: C 203609

TIP PROJECT: R-2250

See Sheet 1A-1 For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PITT COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2250	1	13

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34411.1.2		P.E.
34411.3.R7		CONSTRUCTION

NAD 83/95

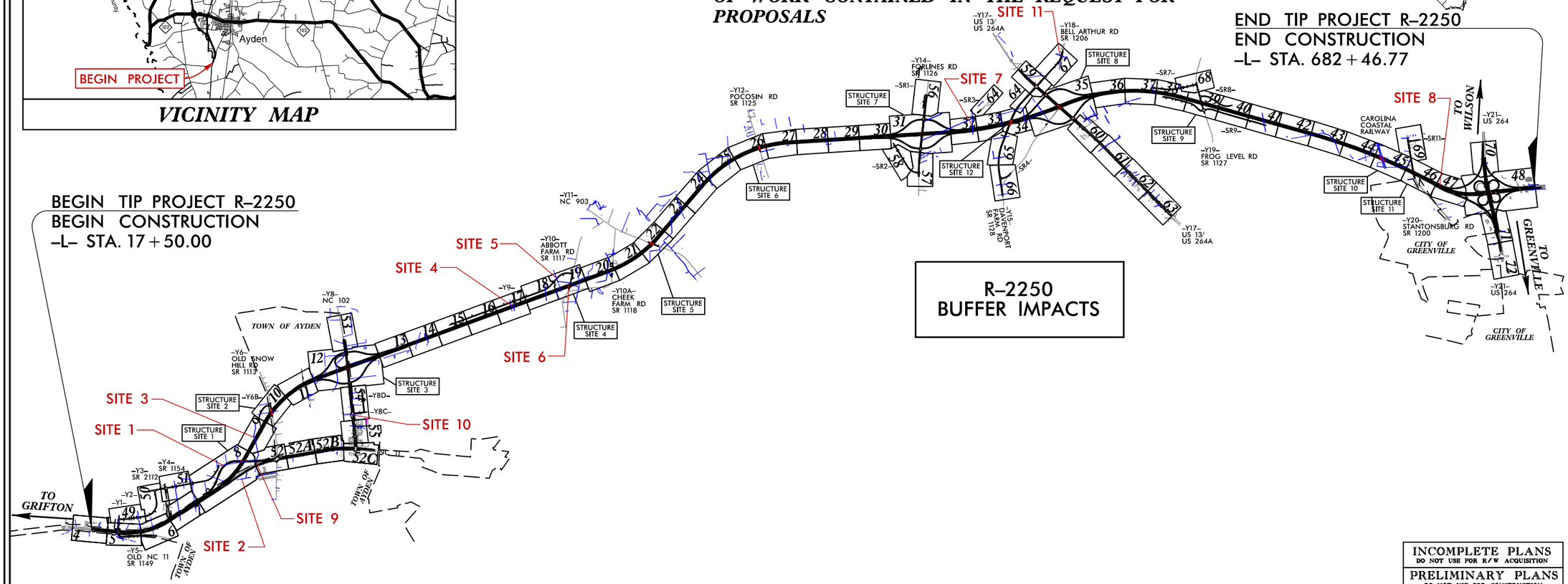


***LOCATION:** US 264 (GREENVILLE SOUTHWEST BYPASS) FROM SOUTH OF SR 1149 (OLD NC 11) TO THE US 264 INTERCHANGE*

***TYPE OF WORK:** DESIGN-BUILD AS SPECIFIED IN THE SCOPE OF WORK CONTAINED IN THE REQUEST FOR PROPOSALS*

BEGIN TIP PROJECT R-2250
BEGIN CONSTRUCTION
-L- STA. 17+50.00

END TIP PROJECT R-2250
END CONSTRUCTION
-L- STA. 682+46.77



R-2250 BUFFER IMPACTS

A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE TOWN OF AYDEN AND THE CITY OF GREENVILLE.

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

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

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWINGS
SHEET 1 OF 13

BARNHILL CONTRACTING COMPANY

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

GRAPHIC SCALES

PLANS 50 25 0 50 100
PROFILE (HORIZONTAL) 50 25 0 50 100
PROFILE (VERTICAL) 10 5 0 10 20

DESIGN DATA

ADT 2014 = 19,700 VPD
ADT 2040 = 34,000 VPD
DHV = 10 %
D = 60 %
* T = 8 %
V = 70 MPH
*(TTST 3% + DUALS 5%)

FUNC. CLASS. = FREEWAY
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2250 = 12.333 MILES
LENGTH STRUCTURE TIP PROJECT R-2250 = 0.261 MILES
TOTAL LENGTH TIP PROJECT R-2250 = 12.594 MILES

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
-

LETTING DATE:
APRIL 21, 2015

PAUL A. MEEHAN, PE
PROJECT ENGINEER

DOMINIC M. WAINWRIGHT, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2250	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR C.E.I. ACCEPTANCE
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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555 Fayetteville St. Suite 900 Raleigh, NC 27601
N.C.B.E.L.S. License Number: P-0116

BARNHILL CONTRACTING COMPANY

ENLARGEMENTS FOLLOW

MATCHLINE SEE SHEET 72A

NAD 83

LEGEND:
- MITIGABLE IMPACTS ZONE 1
- MITIGABLE IMPACTS ZONE 2
- ALLOWABLE IMPACTS ZONE 2
- EXEMPT

SITE 1

SITE 2

DETAIL B
2' BASE SPECIAL CUT DITCH
(Not to Scale)
FROM STA. 78+75 -L- TO STA. 82+00 -L- LT

DETAIL D
LATERAL "V" DITCH
(Not to Scale)
FROM STA. 39+00 -FLYBY7- TO STA. 43+00 -FLYBY7- RT

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)
FROM STA. 11+56 -Y7RPC- TO STA. 26+75 -Y7RPC- RT
FROM STA. 82+00 -L- TO STA. 87+80 -L- LT

DETAIL G
4' BASE STREAM RELOCATION
(Not to Scale)
FROM STA. 23+75 -FLYBY7- LT TO STA. 101+34 -L- LT

DETAIL DA
LATERAL "V" DITCH
(Not to Scale)
FROM STA. 26+50 -FLYBY7- TO STA. 32+20 -FLYBY7- RT

DETAIL EA
2' BASE LATERAL DITCH
(Not to Scale)
FROM STA 3A+
FROM STA 3A+
-FLYBY7- TO STA. 39+00 -FLYBY7- RT
43+00 -L- TO STA. 43+00 -L- LT

DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)
FROM STA. 67+00 -L- TO STA. 68+34 -L- M
FROM STA. 68+34 -L- TO STA. 70+00 -L- M
FROM STA. 70+00 -L- TO STA. 73+09 -L- M
FROM STA. 73+50 -L- TO STA. 78+00 -L- M
FROM STA. 88+35 -L- TO STA. 90+00 -L- M
FROM STA. 90+00 -L- TO STA. 91+50 -L- M

DETAIL AA
SPECIAL CUT DITCH
(Not to Scale)
FROM STA. 10+00 -FLYBY7- TO STA. 14+00 -FLYBY7- LT
FROM STA. 71+50 -L- TO STA. 78+75 -L- LT

END CONSTRUCTION
-Y3- STA. 42+94.70

END FULL TYPICAL SECTION
BEGIN RESURFACING ONLY
-Y7RPC- STA. 23+50.00

MATCHLINE -L- STA. 28+00, SEE SHEET 51

MATCHLINE -L- STA. 65+00, SEE SHEET 7

MATCHLINE -L- STA. 95+00, SEE SHEET 9

MATCHLINE -FLYBY7- STA. 39+50 SEE SHEET 52 SITE 1 CONT.

MATCHLINE -Y7RPC- STA. 31+50 SEE SHEET 52

MATCHLINE SEE SHEET 72B

BILLY POWELL McLAMHORN, ET UX (29)
ANN B. MACGILL (30)
S & K PROPERTIES (31)
COX BROTHERS (32)
COX FARM PROPERTIES, LLC (33)
MATTHEW COLE WADE (34)
ELIZABETH SPIVEY, LIFE ESTATE (35)
YADKIN BANK (36)
HELCO, LTD (37)

PAVEMENT REMOVAL

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NOS. 76 THRU. 78 FOR -L- PROFILE
SEE SHEET NO. 123 FOR -Y3- PROFILE
SEE SHEET NOS. 127 & 128 FOR -FLYBY7- PROFILE
SEE SHEET NO. 128A FOR -Y7RPC- PROFILE
SEE SHEET NO. 28-1 FOR BRIDGE SKETCH

LOCATION:
TIP NO. COUNTY:
DESIGNED BY:
CHECKED BY: DATE:

GRAPHIC SCALE
50 25 0 50 100
PLANS

BUFFER DRAWINGS
SHEET 2 OF 13

PLOT DRIVEN: NCDOT.pltdrvr.eng.JOLLEY
USER: HELL
DATE: 1/29/2016
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TIME: 1:42:06 PM

REVISIONS

GRAPHICS SCALE
50 25 0 50 100
PLANS

PROJECT REFERENCE NO.	SHEET NO.
R-2250	8A
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

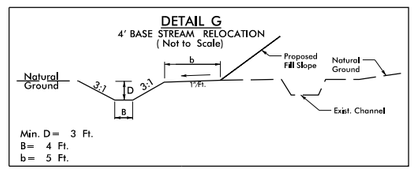
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

MATCHLINE SEE SHEET 72A

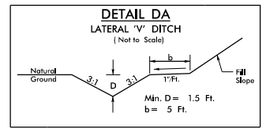
DETAIL G
4' BASE STREAM RELOCATION
(Not to Scale)



Min. D = 3 Ft.
B = 4 Ft.
b = 5 Ft.

FROM STA. 25+75 –FLYBY7– LT TO STA. 101+34 –L– LT

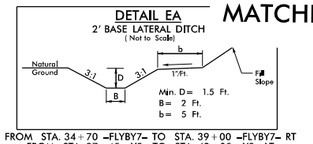
DETAIL DA
LATERAL 'V' DITCH
(Not to Scale)



Min. D = 1.5 Ft.
b = 5 Ft.

FROM STA. 26+50 –FLYBY7– TO STA. 32+20 –FLYBY7– RT

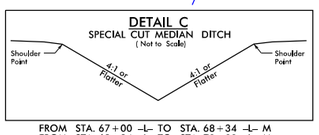
DETAIL EA
2' BASE LATERAL DITCH
(Not to Scale)



Min. D = 1.5 Ft.
B = 2 Ft.
b = 5 Ft.

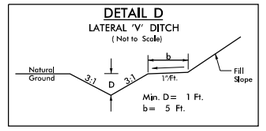
FROM STA. 34+70 –FLYBY7– TO STA. 39+00 –FLYBY7– RT
FROM STA. 37+45 –Y3– TO STA. 42+05 –Y3– LT

DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)



FROM STA. 67+00 –L– TO STA. 68+34 –L– M
FROM STA. 68+34 –L– TO STA. 70+00 –L– M
FROM STA. 70+00 –L– TO STA. 73+09 –L– M
FROM STA. 73+09 –L– TO STA. 75+50 –L– M
FROM STA. 75+50 –L– TO STA. 78+00 L– M
FROM STA. 88+35 –L– TO STA. 90+00 –L– M
FROM STA. 90+00 –L– TO STA. 91+50 –L– M

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



Min. D = 1 Ft.
b = 5 Ft.

FROM STA. 26+50 –FLYBY7– TO STA. 32+20 –FLYBY7– RT
FROM STA. 39+00 –FLYBY7– TO STA. 43+00 –FLYBY7– RT

LEGEND:

- MITIGABLE IMPACTS ZONE 1
- MITIGABLE IMPACTS ZONE 2
- ALLOWABLE IMPACTS ZONE 2
- EXEMPT

SITE 1

32 COX BROTHERS

33 COX FARM PROPERTIES, LLC

30 ANN B. MACGILL

END CONSTRUCTION
-Y3- STA. 42+94.70

4' BASE STREAM RELOCATION SEE DETAIL 'G'

CLASS 'I' RIP RAP
EST. 20 TONS
39 SY GEO-TEXTILE

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

LATERAL 'V' DITCH
SEE DETAIL 'DA'

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

SPECIAL CUT
MEDIAN DITCH
SEE DETAIL 'C'

GRASS SWALE DATA
DA= 0.41 AC
SLOPE= 0.60%
L REQ.= 41 FT
L PRO.= 500 FT
Q2= 0.61 CFS
V2= 0.10 FPS
Q10= 0.78 CFS
V10= 0.13 FPS
STA. 94+00 – 99+00

GRASS SWALE DATA
DA= 0.25 AC
SLOPE= 0.28%
L REQ.= 25 FT
L PRO.= 250 FT
Q2= 0.51 CFS
V2= 0.08 FPS
Q10= 0.65 CFS
V10= 0.11 FPS
STA. 91+50 – 94+00

GRASS SWALE DATA
DA= 0.16 AC
SLOPE= 0.30%
L REQ.= 16 FT
L PRO.= 100 FT
Q2= 0.46 CFS
V2= 0.08 FPS
Q10= 0.59 CFS
V10= 0.10 FPS
STA. 90+50 – 91+50

GRASS SWALE DATA
DA= 1.75 AC
SLOPE= 0.89%
L REQ.= 175 FT
L PRO.= 570 FT
Q2= 5.21 CFS
V2= 1.74 FPS
Q10= 6.70 CFS
V10= 2.23 FPS
STA. 26+50 – 32+20

GRASS SWALE DATA
DA= 0.53 AC
SLOPE= 0.28%
L REQ.= 53 FT
L PRO.= 285 FT
Q2= 1.66 CFS
V2= 0.28 FPS
Q10= 2.13 CFS
V10= 0.36 FPS
STA. 85+50 – 88+35

GRASS SWALE DATA
DA= 0.29 AC
SLOPE= 0.30%
L REQ.= 29 FT
L PRO.= 165 FT
Q2= 0.93 CFS
V2= 0.16 FPS
Q10= 1.20 CFS
V10= 0.20 FPS
STA. 88+35 – 90+00

GRASS SWALE DATA
DA= 15.55 AC
SLOPE= 0.23%
L REQ.= 1555 FT
L PRO.= 1630 FT
Q2= 3.45 CFS
V2= 0.63 FPS
Q10= 4.93 CFS
V10= 0.90 FPS
STA. 82+00 – 87+80

MATCHLINE, SEE SHEET 8B

MATCHLINE, SEE SHEET 8D

MATCHLINE SEE SHEET 9
-L- STA. 95+00

NAD 83

N 49° 52' 56.7" W

-FLYBY7-

BUFFER DRAWINGS
SHEET 3 OF 13

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt
USER: kbell
FILE: North_Carolina_Dept_of_Transportation\R-2250A_B_C_Greenville_Southwest_Bypass.DB\06.00_Project_Design\R-2250_NCDOT_File_Structure\Hydraulics\PERMITS_Environment\Drawings\R2250_HYD_PRM_BUF_PSH.dgn
PENTABLE: NCDOT_permits_NOCON.tbl
DATE: 1/12/2016
TIME: 2:00:28 PM

REVISIONS

GRAPHICS SCALE
50 25 0 50 100
PLANS

PROJECT REFERENCE NO.	SHEET NO.
R-2250	8B
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

LEGEND:
- MITIGABLE IMPACTS ZONE 1
- MITIGABLE IMPACTS ZONE 2

DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)

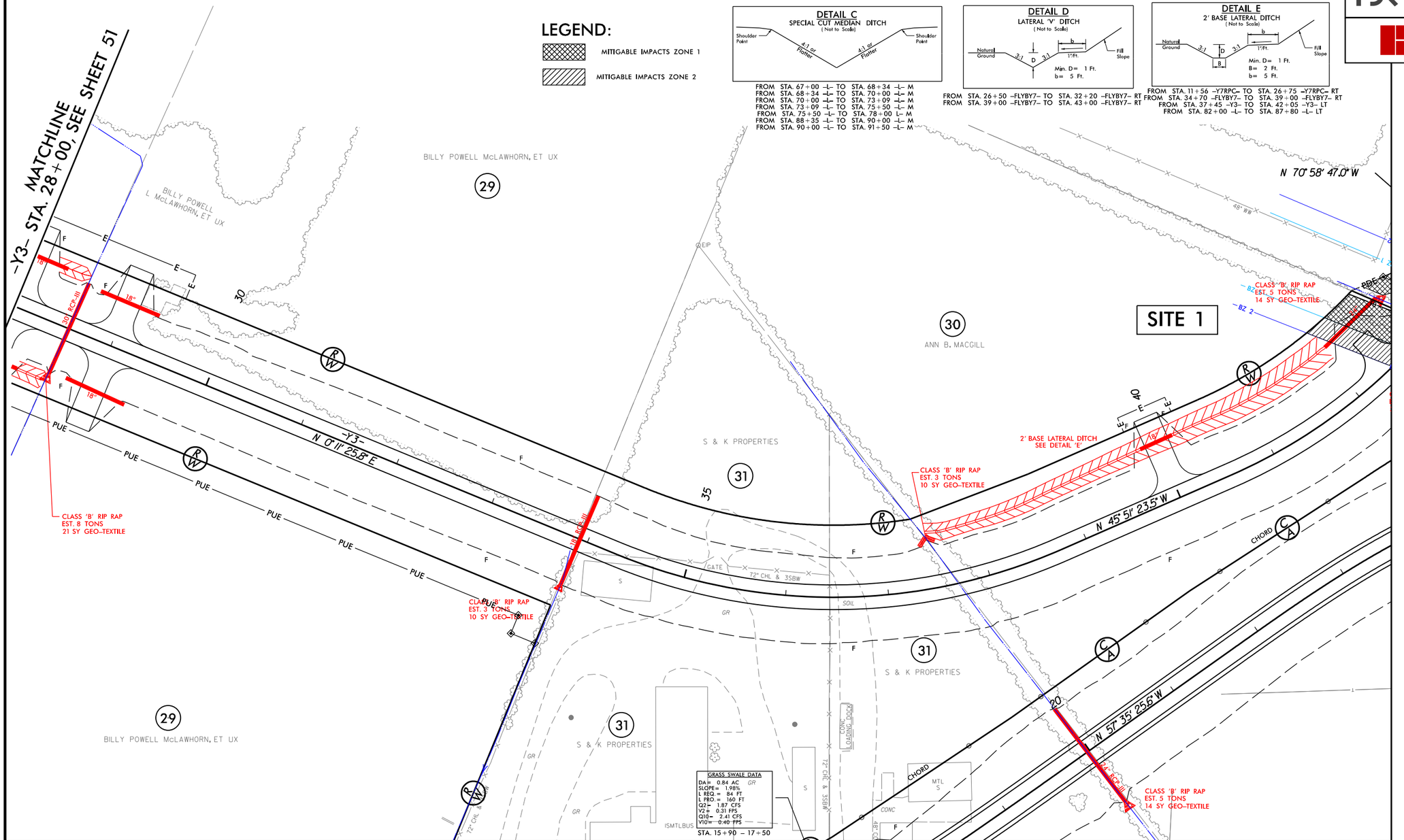
FROM STA. 67+00 -L- TO STA. 68+34 -L- M
FROM STA. 68+34 -L- TO STA. 70+00 -L- M
FROM STA. 70+00 -L- TO STA. 73+09 -L- M
FROM STA. 73+09 -L- TO STA. 75+50 -L- M
FROM STA. 75+50 -L- TO STA. 78+00 L- M
FROM STA. 88+35 -L- TO STA. 90+00 -L- M
FROM STA. 90+00 -L- TO STA. 91+50 -L- M

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

FROM STA. 26+50 -FLYBY7- TO STA. 32+20 -FLYBY7- RT
FROM STA. 39+00 -FLYBY7- TO STA. 43+00 -FLYBY7- RT

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)

FROM STA. 11+56 -Y7RPC- TO STA. 26+75 -Y7RPC- RT
FROM STA. 34+70 -FLYBY7- TO STA. 39+00 -FLYBY7- RT
FROM STA. 37+45 -Y3- TO STA. 42+05 -Y3- LT
FROM STA. 82+00 -L- TO STA. 87+80 -L- LT



BUFFER DRAWINGS
SHEET 4 OF 13

GRAPHICS SCALE

50 25 0 50 100

PLANS

PROJECT REFERENCE NO.	SHEET NO.
R-2250	8C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

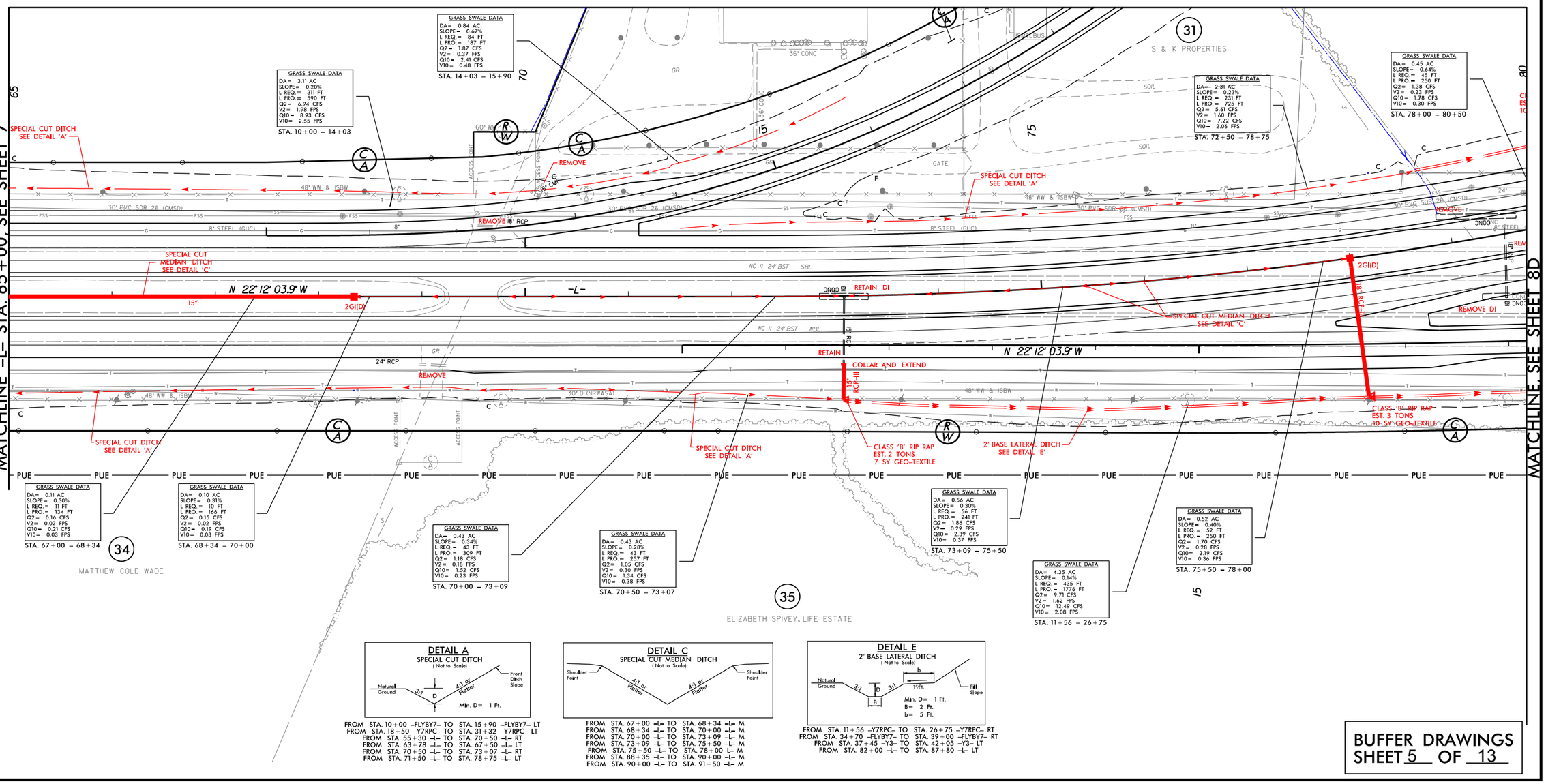
MATCHLINE, SEE SHEET 8B

MATCHLINE -L- STA. 65+00, SEE SHEET 7

MATCHLINE, SEE SHEET 8D

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt PENTABLE: NCDOT_permits_NOCON.tbl
USER: kbell DATE: 1/13/2016 TIME: 9:05:06 AM
FILE: North_Carolina_Dept_of_Transportation\R-2250A_B_C_Greenville_Southwest_Bypass_DB\06.00_Project_Design\R-2250_NCDOT_File_Structure\Hydraulics\PERMITS_Environmental\Drawings\R2250_HYD_PRM_BUF_PSH.dgn



DETAIL A
SPECIAL CUT DITCH
(Not to Scale)

FROM STA. 10+00 –FLYBY7– TO STA. 15+90 –FLYBY7– LT
FROM STA. 18+50 –Y7RPC– TO STA. 31+32 –Y7RPC– LT
FROM STA. 55+30 –L– TO STA. 70+50 –L– RT
FROM STA. 63+78 –L– TO STA. 67+50 –L– LT
FROM STA. 70+50 –L– TO STA. 73+07 –L– RT
FROM STA. 71+50 –L– TO STA. 78+75 –L– LT

DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)

FROM STA. 67+00 –L– TO STA. 68+34 –L– M
FROM STA. 68+34 –L– TO STA. 70+00 –L– M
FROM STA. 70+00 –L– TO STA. 73+09 –L– M
FROM STA. 73+09 –L– TO STA. 75+50 –L– M
FROM STA. 75+50 –L– TO STA. 78+00 L– M
FROM STA. 88+35 –L– TO STA. 90+00 –L– M
FROM STA. 90+00 –L– TO STA. 91+50 –L– M

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)

FROM STA. 11+56 –Y7RPC– TO STA. 26+75 –Y7RPC– RT
FROM STA. 34+70 –FLYBY7– TO STA. 39+00 –FLYBY7– RT
FROM STA. 37+45 –Y3– TO STA. 42+05 –Y3– LT
FROM STA. 82+00 –L– TO STA. 87+80 –L– LT

BUFFER DRAWINGS
SHEET 5 OF 13

GRAPHICS SCALE
50 25 0 50 100
PLANS

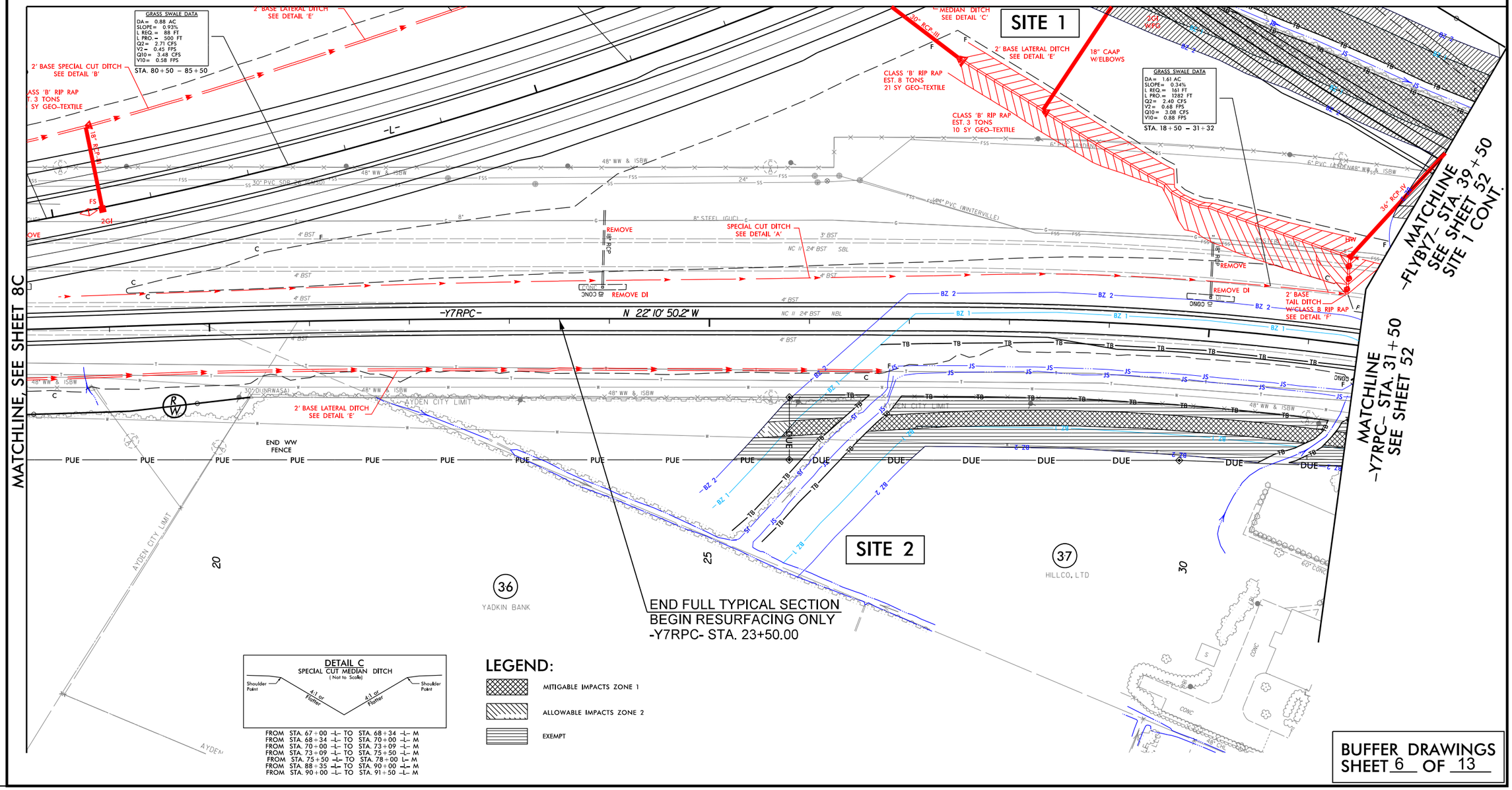
PROJECT REFERENCE NO.	SHEET NO.
R-2250	8D
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

MATCHLINE, SEE SHEET 8A



DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)
Shoulder Point
4:1 or Flatter
4:1 or Flatter
Shoulder Point

FROM STA. 67+00 -L- TO STA. 68+34 -L- M
FROM STA. 68+34 -L- TO STA. 70+00 -L- M
FROM STA. 70+00 -L- TO STA. 73+09 -L- M
FROM STA. 73+09 -L- TO STA. 75+50 -L- M
FROM STA. 75+50 -L- TO STA. 78+00 L- M
FROM STA. 88+35 -L- TO STA. 90+00 -L- M
FROM STA. 90+00 -L- TO STA. 91+50 -L- M

LEGEND:
MITIGABLE IMPACTS ZONE 1
ALLOWABLE IMPACTS ZONE 2
EXEMPT

BUFFER DRAWINGS
SHEET 6 OF 13

REVISIONS

PLOT DRIVER: NCDOT_pdf_color-eng_100.plt PENTABLE: NCDOT_permits_NOCON.tbl
USER: kbell DATE: 1/12/2016 TIME: 2:01:12 PM
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

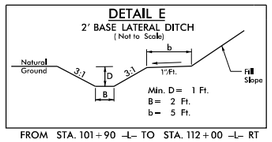
BARNHILL CONTRACTING COMPANY

GRAPHICS SCALE
50 25 0 50 100
PLANS

LEGEND:

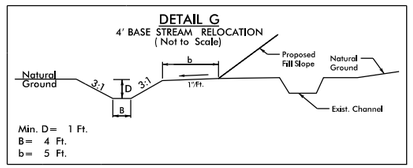
- MITIGABLE IMPACTS ZONE 1
- MITIGABLE IMPACTS ZONE 2
- EXEMPT

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)



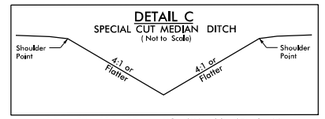
FROM STA. 101+90 –L– TO STA. 112+00 –L– RT

DETAIL G
4' BASE STREAM RELOCATION
(Not to Scale)



FROM STA. 25+75 –FLYBY7– LT TO STA. 101+34 –L– LT

DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)



FROM STA. 100+00 –L– TO STA. 100+37 –L– M
FROM STA. 100+37 –L– TO STA. 101+00 –L– M
FROM STA. 107+50 –L– TO STA. 108+22 –L– M
FROM STA. 108+22 –L– TO STA. 109+50 –L– M
FROM STA. 109+50 –L– TO STA. 113+00 –L– M

NAD 83

33
COX FARM PROPERTIES, LLC

MATCHLINE –L– STA. 95+00, SEE SHEET 8

MATCHLINE –L– STA. 11+50 –DRI– SEE SHEET 10

MATCHLINE –L– STA. 109+00, SEE SHEET 10

SITE 3

GRASS SWALE DATA
DA= 0.08 AC
SLOPE= 0.66%
L REQ.= 8 FT
L PRO.= 100 FT
Q2= 0.12 CFS
V2= 0.70 FPS
Q10= 0.16 CFS
V10= 0.75 FPS
STA. 99+00 – 100+00

GRASS SWALE DATA
DA= 0.11 AC
SLOPE= 0.84%
L REQ.= 11 FT
L PRO.= 137 FT
Q2= 0.17 CFS
V2= 0.81 FPS
Q10= 0.22 CFS
V10= 0.86 FPS
STA. 100+00 – 100+37

GRASS SWALE DATA
DA= 0.09 AC
SLOPE= 0.21%
L REQ.= 9 FT
L PRO.= 63 FT
Q2= 0.13 CFS
V2= 0.45 FPS
Q10= 0.17 CFS
V10= 0.48 FPS
STA. 100+37 – 101+00

GRASS SWALE DATA
DA= 0.04 AC
SLOPE= 0.22%
L REQ.= 4 FT
L PRO.= 113 FT
Q2= 0.06 CFS
V2= 0.38 FPS
Q10= 0.08 CFS
V10= 0.40 FPS
STA. 101+00 – 101+50

GRASS SWALE DATA
DA= 0.29 AC
SLOPE= 1.31%
L REQ.= 29 FT
L PRO.= 350 FT
Q2= 0.43 CFS
V2= 1.19 FPS
Q10= 0.56 CFS
V10= 1.27 FPS
STA. 101+50 – 105+00

GRASS SWALE DATA
DA= 0.29 AC
SLOPE= 2.57%
L REQ.= 29 FT
L PRO.= 250 FT
Q2= 0.47 CFS
V2= 1.56 FPS
Q10= 0.60 CFS
V10= 1.67 FPS
STA. 105+00 – 107+50

GRASS SWALE DATA
DA= 0.07 AC
SLOPE= 3.03%
L REQ.= 7 FT
L PRO.= 72 FT
Q2= 0.12 CFS
V2= 1.20 FPS
Q10= 0.16 CFS
V10= 1.27 FPS
STA. 107+50 – 108+22

GRASS SWALE DATA
DA= 5.60 AC
SLOPE= 0.40%
L REQ.= 560 FT
L PRO.= 1010 FT
Q2= 11.67 CFS
V2= 1.99 FPS
Q10= 15.01 CFS
V10= 2.13 FPS
STA. 101+90 – 105+00

GRASS SWALE DATA
DA= 5.60 AC
SLOPE= 0.30%
L REQ.= 560 FT
L PRO.= 700 FT
Q2= 11.94 CFS
V2= 1.82 FPS
Q10= 15.36 CFS
V10= 1.94 FPS
STA. 105+00 – 108+22

GRASS SWALE DATA
DA= 1.50 AC
SLOPE= 0.30%
L REQ.= 150 FT
L PRO.= 378 FT
Q2= 2.90 CFS
V2= 1.25 FPS
Q10= 3.73 CFS
V10= 1.34 FPS
STA. 108+22 – 112+00

4' BASE STREAM RELOCATION SEE DETAIL 'G'

CLASS 'I' RIP RAP
EST. 57 TONS
104 SY GEO-TEXTILE

END WW FENCE

BEGIN WW FENCE

SPECIAL CUT MEDIAN DITCH SEE DETAIL 'C'

SPECIAL CUT SEE DETAIL 'A'

2' LATERAL BASE DITCH SEE DETAIL 'E'

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

18" CAAP W/ELBOWS

N 49° 52' 56.7" W

N 89° 16' 39.2" W

–L–

–DRI–

BUFFER DRAWINGS
SHEET 7 OF 13

SEE SHEET NOS. 78 & 79 FOR –L– PROFILE

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt
USER: kbell
FILE: North_Carolina_Dept_of_Transportation\R-2250A_B_C_Greenville_Southwest_Bypass.DB\06.00_Project_Design\R-2250_NCDOT_File_Structure\Hydraulics\PERMITS_Environmental\Drawings\R2250_HYD_PRM_BUF_PSH.dgn
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DATE: 1/12/2016
TIME: 2:01:32 PM

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt
USER: kbell
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PENTABLE: NCDOT_permits_NOCON.tbl
DATE: 1/12/2016
TIME: 2:01:51 PM
REVISIONS

LEGEND:

MITIGABLE IMPACTS ZONE 1

MITIGABLE IMPACTS ZONE 2

MATCHLINE SEE SHEET 72F

DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)

Shoulder Point — 4:1 or Flatter — 4:1 or Flatter — Shoulder Point

FROM STA. 244+00 –L– TO STA. 245+13 –L– M
FROM STA. 245+13 –L– TO STA. 248+19 –L– M
FROM STA. 248+19 –L– TO STA. 248+50 –L– M
FROM STA. 249+90 –L– TO STA. 253+25 –L– M
FROM STA. 253+25 –L– TO STA. 255+18 –L– M
FROM STA. 255+18 –L– TO STA. 255+25 –L– M

DETAIL K
RIP RAP AT EMBANKMENT
(Not to Scale)

10' min. — Ditch Grade — 1.0' min. — 1.0' — GEOTEXTILE

Type of Liner= Class B Rip-Rap

STA. 253+57 –L– LT

SITE 5

SITE 6

GRAPHICS SCALE
50 25 0 50 100
PLANS

PROJECT REFERENCE NO.	SHEET NO.
R–2250	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

NAD 83

BEGIN CONSTRUCTION
-Y10- STA. 13+25.00

END CONSTRUCTION
-Y10- STA. 20+55.00

MATCHLINE –L– STA. 243+00, SEE SHEET 18

MATCHLINE –L– STA. 256+00, SEE SHEET 20

–Y9– STA. 66+50, SEE SHEET 18

N 37° 43' 27.0" W

N 24° 01' 05.0" E

S 65° 55' 56.3" E

N 9° 28' 00.0" W

S 47° 35' 00.0" E

BROWNIE D. McLAWHORN

CAROLINA AGRIBUSINESS

FORK SWAMP LAND LLC

ANDREW STOCKS,JR., ET UX

SR 1118 CHEEK FARM RD

EXISTING R/W

EXISTING C/L

GRASS SWALE DATA
DA= 0.27 AC
SLOPE= 1.89%
L REQ.= 27 FT
L PRO.= 150 FT
Q2= 0.60 CFS
V2= 0.17 FPS
Q10= 0.78 CFS
V10= 0.22 FPS
STA. 74+00 – 75+50

GRASS SWALE DATA
DA= 0.32 AC
SLOPE= 1.30%
L REQ.= 32 FT
L PRO.= 200 FT
Q2= 0.76 CFS
V2= 0.22 FPS
Q10= 0.98 CFS
V10= 0.28 FPS
STA. 73+50 – 75+50

GRASS SWALE DATA
DA= 1.58 AC
SLOPE= 0.74%
L REQ.= 158 FT
L PRO.= 293 FT
Q2= 3.92 CFS
V2= 1.12 FPS
Q10= 5.04 CFS
V10= 1.44 FPS
STA. 14+42 – 17+35

GRASS SWALE DATA
DA= 0.19 AC
SLOPE= 0.93%
L REQ.= 19 FT
L PRO.= 218 FT
Q2= 0.39 CFS
V2= 0.04 FPS
Q10= 0.50 CFS
V10= 0.05 FPS
STA. 246+32 – 248+50

GRASS SWALE DATA
DA= 0.29 AC
SLOPE= 2.28%
L REQ.= 15 FT
L PRO.= 119 FT
Q2= 0.59 CFS
V2= 0.06 FPS
Q10= 0.76 CFS
V10= 0.08 FPS
STA. 245+13 – 24632

GRASS SWALE DATA
DA= 0.38 AC
SLOPE= 2.64%
L REQ.= 38 FT
L PRO.= 113 FT
Q2= 0.73 CFS
V2= 0.09 FPS
Q10= 0.94 CFS
V10= 0.12 FPS
STA. 244+00 – 245+13

GRASS SWALE DATA
DA= 0.44 AC
SLOPE= 1.00%
L REQ.= 44 FT
L PRO.= 150 FT
Q2= 1.09 CFS
V2= 0.31 FPS
Q10= 1.40 CFS
V10= 0.40 FPS
STA. 13+50 – 15+00

GRASS SWALE DATA
DA= 0.44 AC
SLOPE= 2.11%
L REQ.= 44 FT
L PRO.= 185 FT
Q2= 1.09 CFS
V2= 0.31 FPS
Q10= 1.40 CFS
V10= 0.40 FPS
STA. 15+00 – 16+85

GRASS SWALE DATA
DA= 1.51 AC
SLOPE= 0.30%
L REQ.= 151 FT
L PRO.= 282 FT
Q2= 3.74 CFS
V2= 0.75 FPS
Q10= 4.82 CFS
V10= 0.96 FPS
STA. 255+18 – 258+00

DITCH DATA
DA= 8.69 AC
SLOPE= 1.10%
L REQ.= 869 FT
L PRO.= 700 FT
Q2= 2.51 CFS
V2= 0.50 FPS
Q10= 19.40 CFS
V10= 3.88 FPS
STA. 251+00 – 255+18

GRASS SWALE DATA
DA= 0.19 AC
SLOPE= 0.20%
L REQ.= 19 FT
L PRO.= 218 FT
Q2= 0.36 CFS
V2= 0.04 FPS
Q10= 0.46 CFS
V10= 0.05 FPS
STA. 249+90 – 252+08

GRASS SWALE DATA
DA= 0.44 AC
SLOPE= 2.19%
L REQ.= 44 FT
L PRO.= 193 FT
Q2= 0.79 CFS
V2= 0.13 FPS
Q10= 1.02 CFS
V10= 0.17 FPS
STA. 253+25 – 255+18

GRASS SWALE DATA
DA= 0.23 AC
SLOPE= 2.13%
L REQ.= 23 FT
L PRO.= 282 FT
Q2= 0.34 CFS
V2= 0.06 FPS
Q10= 0.44 CFS
V10= 0.07 FPS
STA. 255+18 – 258+00

GRASS SWALE DATA
DA= 0.28 AC
SLOPE= 1.58%
L REQ.= 28 FT
L PRO.= 117 FT
Q2= 0.55 CFS
V2= 0.05 FPS
Q10= 0.70 CFS
V10= 0.07 FPS
STA. 252+08 – 253+25

CLASS 'I' RIP RAP
EST. 33 TONS
62 SY GEO–TEXTILE

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO–TEXTILE

CLASS 'I' RIP RAP
EST. 78 TONS
150 SY GEO–TEXTILE

SPECIAL CUT DITCH
SEE DETAIL 'A'

SPECIAL CUT
MEDIAN DITCH
SEE DETAIL 'C'

2' BASE LATERAL DITCH
SEE DETAIL 'E'

10' LATERAL
BASE DITCH

RIP RAP EMBANKMENT
SEE DETAIL 'K'

GRADE TO DRAIN

FILL WITH FLOWABLE FILL

18" CAAP W/ELBOWS

2GI W/FG

18" RCP–III

15" RCP–III

54" RCP–IV BURIED 1'

30" RCP–IV BURIED 1'

36" CMP

18" CMP

SOIL

BEGIN WW FENCE

END WW FENCE

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)

Natural Ground — 3:1 — b — 1'-Ft. — 3:1 — Fill Slope — D — B

Min. D= 1 Ft.
B= 2 Ft.
b= 5 Ft.

FROM STA. 238+29 –L– TO STA. 247+90 –L– RT
FROM STA. 251+00 –L– TO STA. 258+00 –L– LT

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground — 3:1 — D — 4:1 or Flatter — Front Ditch Slope

Min. D= 1 Ft.

FROM STA. 74+00 –Y9– TO STA. 75+50 –Y9– LT
FROM STA. 73+50 –Y9– TO STA. 75+50 –Y9– RT
FROM STA. 13+25 –Y10– RT TO STA. 75+50 –Y9– LT
FROM STA. 14+42 –Y10– TO STA. 17+35 –Y10– RT
FROM STA. 15+00 –Y10– TO STA. 16+85 –Y10– LT

DETAIL B
10' BASE SPECIAL CUT DITCH
(Not to Scale)

Natural Ground — 3:1 — D — B — 4:1 or Flatter — Front Ditch Slope

Min. D= 1 Ft.
B= 10 Ft.

FROM STA. 248+55 –L– TO STA. 049+70 –L– LT
FROM STA. 250+65 –L– TO STA. 251+00 –L– LT

BUFFER DRAWINGS
SHEET 8 OF 13

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NOS. 89 & 90 FOR –L– PROFILE
SEE SHEET NOS. 139 & 140 FOR –Y9– PROFILE
SEE SHEET NO. 140 FOR –Y10– PROFILE
SEE SHEET NO. 2B–2 FOR BRIDGE SKETCH

LEGEND:

- MITIGABLE IMPACTS ZONE 1
- ALLOWABLE IMPACTS ZONE 1
- MITIGABLE IMPACTS ZONE 2
- ALLOWABLE IMPACTS ZONE 2

GRAPHICS SCALE
50 25 0 50 100
PLANS

NAD 83

PROJECT REFERENCE NO.	SHEET NO.
R-2250	32
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

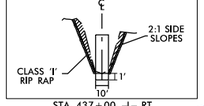
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

DETAIL P
RIP RAP AT CULVERT OUTLET
(NOT TO SCALE)



STA. 437+00 –L– RT

81
JEANNETTE DAVIS TRUSTEES

430

435

88
PITT COUNTY FARMS LLC

89
ROBERT M. SMITH, ET UX

ROBERT M. SMITH, ET UX

GRASS SWALE DATA
DA= 0.31 AC
SLOPE= 0.31%
L REQ.= 31 FT
L PRO.= 350 FT
Q2= 0.45 CFS
V2= 0.70 FPS
Q10= 0.58 CFS
V10= 0.75 FPS
STA. 431+00 – 434+50

GRASS SWALE DATA
DA= 0.09 AC
SLOPE= 0.07%
L REQ.= 9 FT
L PRO.= 100 FT
Q2= 0.13 CFS
V2= 0.29 FPS
Q10= 0.17 CFS
V10= 0.31 FPS
STA. 434+50 – 435+50

GRASS SWALE DATA
DA= 0.35 AC
SLOPE= 0.22%
L REQ.= 35 FT
L PRO.= 400 FT
Q2= 0.52 CFS
V2= 0.64 FPS
Q10= 0.67 CFS
V10= 0.68 FPS
STA. 435+50 – 439+50

CLASS 'B' RIP RAP
EST. 15 TONS
37 SY FILTER FABRIC

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO–TEXTILE

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO–TEXTILE

MATCHLINE –L– STA. 428+00, SEE SHEET 31

MATCHLINE –L– STA. 439+00, SEE SHEET 33

A

I5

18" RCP III

2GI

FS

–L–

15"

BACKFILL CULVERT W/
NATIVE MATERIAL TO
NATURAL CHANNEL BED ELEVATION

PDE

CLASS 'I' RIP RAP
EST. 67 TONS
95 SY GEO–TEXTILE
SEE DETAIL 'P'

TDE

RW

CA

F

88
PITT COUNTY FARMS LLC

90
EDWIN CARL CRAWFORD JR.

89
ROBERT M. SMITH, ET UX

SITE 7

BUFFER DRAWINGS
SHEET 9 OF 13

SEE SHEET NOS. 102 & 103 FOR –L– PROFILE
SEE SHEET NO. 144 FOR –Y14RPA– PROFILE
SEE SHEET NO. 147 FOR –Y14RPD– PROFILE

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt
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REVISIONS

NAD 83

GRAPHICS SCALE
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PLANS

PROJECT REFERENCE NO.	SHEET NO.
R-2250	52
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

LEGEND

- MITIGABLE IMPACTS ZONE 1
- MITIGABLE IMPACTS ZONE 2
- ALLOWABLE IMPACTS ZONE 2
- EXEMPT

33
COX FARM PROPERTIES, LLC

DITCH DATA
DA= 7.78 AC
SLOPE= 0.93%
L REQ.= 378 FT
L PRO.= 488 FT
Q2= 2.95 CFS
V2= 0.59 FPS
Q10= 22.83 CFS
V10= 4.57 FPS
STA. 40+12 – 45+00

GRASS SWALE DATA
DA= 1.43 AC
SLOPE= 1.86%
L REQ.= 143 FT
L PRO.= 400 FT
Q2= 3.19 CFS
V2= 1.06 FPS
Q10= 4.11 CFS
V10= 1.37 FPS
STA. 39+00 – 43+00

SITE 9

SITE 2

CLASS 'B' RIP RAP
EST. 11 TONS
28 SY GEO-TEXTILE

2' LATERAL BASE DITCH
SEE DETAIL 'E'

CLASS 'I' RIP RAP
EST. 40 TONS
75 SY GEO-TEXTILE

GUC GAS EASEMENT

2' BASE LATERAL DITCH
SEE DETAIL 'E'

LATERAL 'V' DITCH
SEE DETAIL 'D'

JB w/MH

REMOVE DI

4' BASE SPECIAL CUT DITCH
SEE DETAIL 'I'

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

SPECIAL CUT
MEDIAN DITCH
SEE DETAIL 'C'

MATCHLINE -FLYBY7- STA. 39+50
SEE SHEET 8

MATCHLINE -Y7RPC- STA. 31+50
SEE SHEET 8

MATCHLINE -Y7SBL- STA. 14+00, SEE SHEET 52A

BEGIN CONSTRUCTION
-Y6- STA. 41+75.00

END CONSTRUCTION
-Y6A- STA. 11+10.00

DETAIL I
4' BASE SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 3:1, D, B, 4:1 or Flatter, Front Ditch Slope
Min. D= 2 Ft.
B= 4 Ft.
FROM STA. 33+80 -Y7RPC- TO STA. 38+30 -Y7RPC- RT

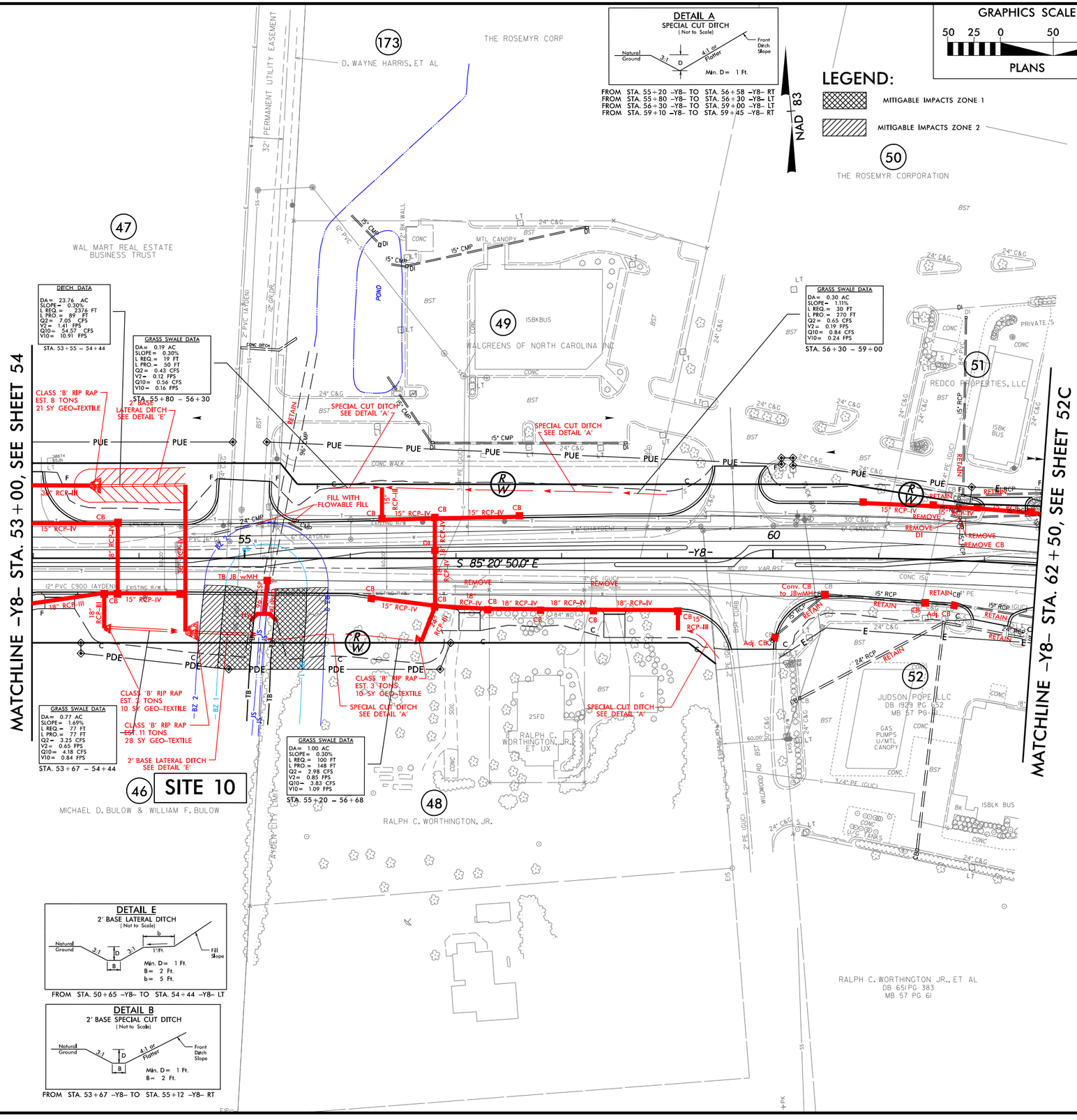
DETAIL D
LATERAL 'V' DITCH
(Not to Scale)
Natural Ground, 2:1, D, 3:1, b, 1'-Ft., Fill Slope
Min. D= 1 Ft.
b= 5 Ft.
FROM STA. 31+32 -Y7RPC- TO STA. 35+35 -Y7RPC- LT

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)
Natural Ground, 2:1, D, 3:1, b, 1'-Ft., Fill Slope
Min. D= 1.5 Ft.
B= 2 Ft.
b= 5 Ft.
FROM STA. 39+50 -FLYBY7- TO STA. 40+12 -FLYBY7- LT
FROM STA. 40+12 -FLYBY7- TO STA. 45+00 -FLYBY7- LT

KENNETH H. SMITH, ET UX
NEUSE REGIONAL WATER AND SEWER AUTHORITY
JANET A. JOHNSON HOUSE HEIRS
CLIFTON E. WOOTEN, ET UX
AYDEN CITY LIMIT
HILLCO, LTD

BUFFER DRAWINGS
SHEET 10 OF 13

SEE SHEET NO. 128 FOR -FLYBY7- PROFILE
SEE SHEET NO. 128A FOR -Y7RPC- PROFILE
SEE SHEET NO. 128B FOR -Y7SBL- & -Y7NBL- PROFILES



PROJECT REFERENCE NO.: R-2250
SHEET NO.: 55
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt
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DATE: 1/12/2016

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2250	67
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

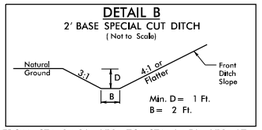
HDR Engineering, Inc. of the Carolinas
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N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

GRAPHICS SCALE
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PLANS

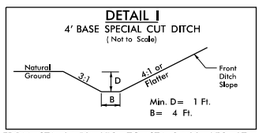
NAD 83

DETAIL B
2' BASE SPECIAL CUT DITCH
(Not to Scale)



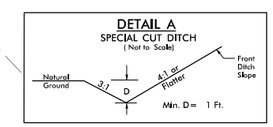
FROM STA. 3+80 –Y18– TO STA. 6+50 –Y18– LT
FROM STA. 3+80 –Y18– TO STA. 6+36 –Y18– RT
FROM STA. 8+00 –Y18– TO STA. 17+00 –Y18– LT

DETAIL I
4' BASE SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 6+50 –Y18– TO STA. 8+00 –Y18– LT
FROM STA. 6+40 –Y18– TO STA. 8+22 –Y18– RT

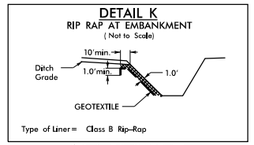
DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 3+50 –Y18– TO STA. 3+80 –Y18– LT
FROM STA. 17+30 –Y18– TO STA. 20+00 –Y18– RT
FROM STA. 17+38 –Y18– TO STA. 20+00 –Y18– LT

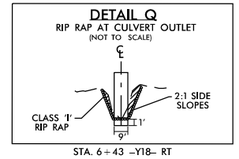
LEGEND:
MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2
EXEMPT

DETAIL K
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner= Class B Rip-Rap
STA. 6+54 –Y7RPC– RT

DETAIL Q
RIP RAP AT CULVERT OUTLET
(NOT TO SCALE)



STA. 6+43 –Y18– RT

DITCH DATA
DA= 7.59 AC
SLOPE= 2.17%
L REQ.= 759 FT
L PRO.= 1046 FT
Q2= 12.05 CFS
V2= 3.51 FPS
Q10= 15.50 CFS
V10= 3.78 FPS
STA. 6+54 – 8+00

GRASS SWALE DATA
DA= 3.04 AC
SLOPE= 0.66%
L REQ.= 304 FT
L PRO.= 900 FT
Q2= 5.28 CFS
V2= 1.90 FPS
Q10= 6.79 CFS
V10= 2.03 FPS
STA. 8+00 – 10+00

GRASS SWALE DATA
DA= 3.04 AC
SLOPE= 0.30%
L REQ.= 304 FT
L PRO.= 700 FT
Q2= 5.28 CFS
V2= 1.43 FPS
Q10= 6.79 CFS
V10= 1.52 FPS
STA. 10+00 – 17+00

DITCH DATA
DA= 17.35 AC
SLOPE= 1.39%
L REQ.= 1735 FT
L PRO.= 270 FT
Q2= 6.42 CFS
V2= 2.64 FPS
Q10= 9.17 CFS
V10= 2.91 FPS
STA. 3+80 – 6+50

DITCH DATA
DA= 17.61 AC
SLOPE= 0.77%
L REQ.= 1761 FT
L PRO.= 182 FT
Q2= 6.50 CFS
V2= 2.03 FPS
Q10= 9.28 CFS
V10= 2.25 FPS
STA. 6+40 – 8+22

DITCH DATA
DA= 2.26 AC
SLOPE= 2.33%
L REQ.= 226 FT
L PRO.= 256 FT
Q2= 5.04 CFS
V2= 2.29 FPS
Q10= 6.49 CFS
V10= 3.20 FPS
STA. 5+50 – 6+36

93 REBECCA WINSTEAD GAY
94 LEWIS O. TRIPP, ET AL
95 AMA HOLDINGS LLC
96 MELISSA THORNE
97 RICHARD L. HILL, ET UX

RIP RAP AT EMBANKMENT SEE DETAIL 'K'
4' BASE SPECIAL CUT DITCH SEE DETAIL 'I'
2' BASE SPECIAL CUT DITCH SEE DETAIL 'B'
SPECIAL CUT DITCH SEE DETAIL 'A'
9'x7' RCBC BURIED 1' BACKFILL CULVERT W/ NATIVE MATERIAL TO NATURAL CHANNEL BED ELEVATION
CLASS 'I' RIP RAP EST. 38 TONS 55 SY GEO-TEXTILE SEE DETAIL 'Q'
CLASS 'B' RIP RAP EST. 5 TONS 14 SY GEO-TEXTILE
COLLAR AND EXTEND
REMOVE
RETAIN
15" HDPE
15" RCP
24" RCP
4" PVC SDR 26 (BAWC)
10" PVC C900 (BAWC)
-Y18-
S 36° 52' 05.0" E
SR 1206 BELL ARTHUR RD 20' BST
EXISTING R/W
S 65° 29' 11" E
EDMONSON CONSTRUCTION CO. OF GREENVILLE LLC
CEMETERY
SITE 11

MATCHLINE –Y18– STA. 18+00, SEE SHEET 59

BUFFER DRAWINGS
SHEET 12 OF 13

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NO. 158 FOR –Y18– PROFILE

BUFFER IMPACTS SUMMARY

			IMPACT									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE				
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)
1	ROADWAY FILL	23+91 - 39+93 -FLYBY7-	X						89,889	60,675	150,564		
2	UTILITY RELOCATION	26+00 - 28+50 -Y7RPC-			X		806	806	7,825		7,825		
3	72" RCP-III	99+52 - 101+50 -L-	X						17,579	12,145	29,724		
5	54" RCP-III	67+77 - 69+66-Y9-	X						8,453	5,414	13,867		
7	10' x 7' RCBC	436+30 - 437+83 -L-	X			6,557	4,476	11,033	15,578	10,057	25,635		
9	60' PIPE EXTENSION	39+16 - 41+02 -FLYBY7-	X						12,010	5,172	17,182		
10	96" CSP EXTENSION	54+55 - 55+79 -Y8-	X						4,619	3,095	7,714		
11	9' x 7' RCBC	5+78 - 7+11 -Y18-	X						3,261	4,934	8,195		
TOTAL:						6,557	5,282	11,839	159,214	101,492	260,706		

NOTES:
SITE 1 PROPOSED STREAM RELOCATION:
BUFFER ZONE 1: 1.29 AC
BUFFER ZONE 2: 0.87 AC

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

PITT COUNTY
PROJECT: 34411.1.2 (R-2250)

2/25/2016
SHEET 13 OF 13

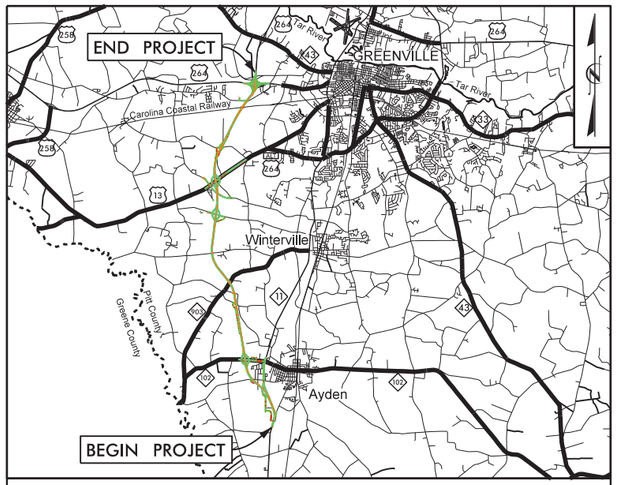
Rev. May 2006

09/08/99

TIP PROJECT: R–2250

CONTRACT: C203609

See Sheet 1A-1 For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PITT COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R–2250	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34411.1.2		P.E.
34411.3.R7		CONSTRUCTION

NAD 83/95

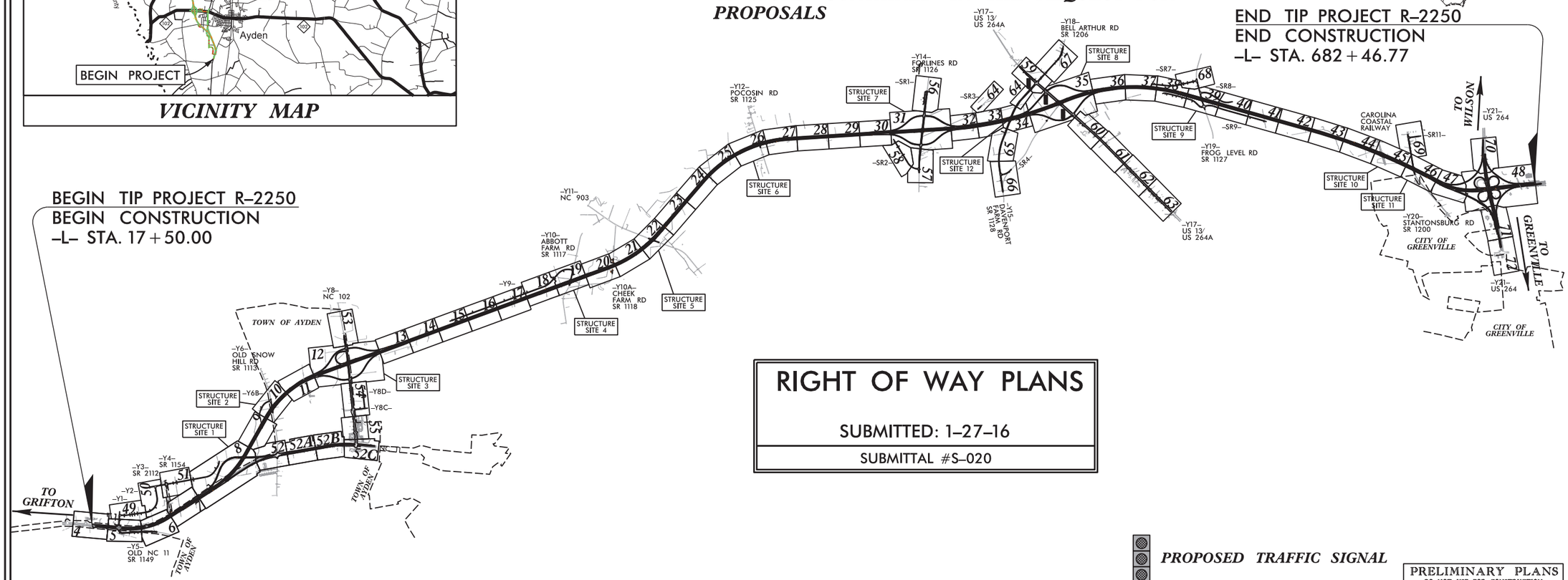


LOCATION: US 264 (GREENVILLE SOUTHWEST BYPASS) FROM SOUTH OF SR 1149 (OLD NC 11) TO THE US 264 INTERCHANGE

TYPE OF WORK: DESIGN–BUILD AS SPECIFIED IN THE SCOPE OF WORK CONTAINED IN THE REQUEST FOR PROPOSALS

BEGIN TIP PROJECT R–2250
BEGIN CONSTRUCTION
–L– STA. 17 + 50.00

END TIP PROJECT R–2250
END CONSTRUCTION
–L– STA. 682 + 46.77



RIGHT OF WAY PLANS

SUBMITTED: 1–27–16

SUBMITTAL #S–020

PROPOSED TRAFFIC SIGNAL

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BARNHILL CONTRACTING COMPANY

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE TOWN OF AYDEN AND THE CITY OF GREENVILLE.

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

THIS IS A CONTROLLED–ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.

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 2014 = 19,700 VPD
ADT 2040 = 34,000 VPD
DHV = 10 %
D = 60 %
* T = 8 %
V = 70 MPH
*(TTST 3% + DUALS 5%)

FUNC. CLASS. = FREEWAY
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R–2250 = 12.333 MILES
LENGTH STRUCTURE TIP PROJECT R–2250 = 0.261 MILES
TOTAL LENGTH TIP PROJECT R–2250 = 12.594 MILES

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: MAY 5, 2015

LETTING DATE: MAY 5, 2015

PAUL A. MEEHAN, PE
PROJECT ENGINEER

DOMINIC M. WAINWRIGHT, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER

SIGNATURE: *P.E.*

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

PLOT DRIVER: NCDOT.pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfi.tbl
USER: dwainwri DATE: 1/25/2016 TIME: 5:44:12 PM
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	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 — 23
- 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

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 Marker — RW
- 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 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 Wheel Chair Ramp — WCR
- 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 — HH
- 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:

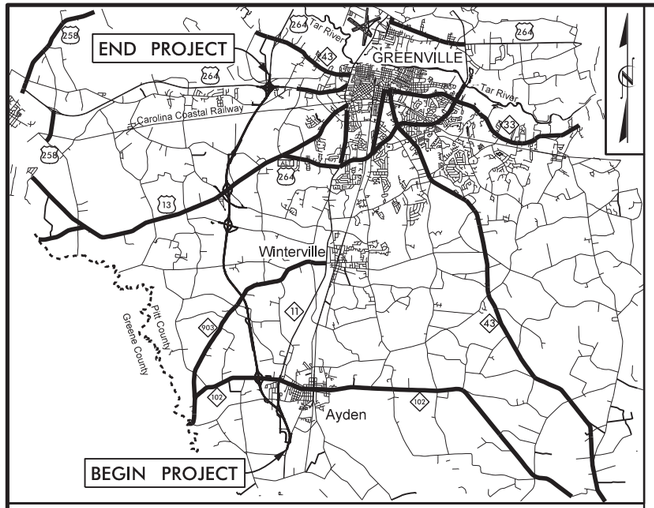
- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- A/G Tank; Water, Gas, Oil
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

09/08/09
PLOT DRIVER: NCDOT_pdf_color_eng_50.pit PENTABLE: NCDOT_pshpfil.tbl
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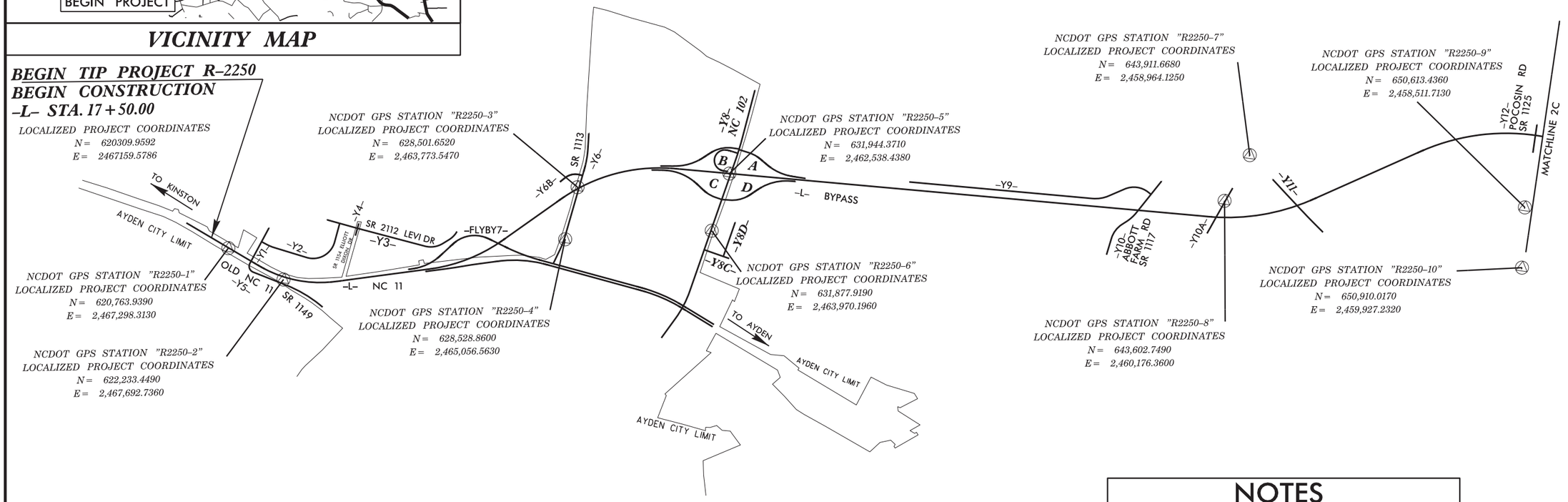
See Sheet 1A-1 For Index of Sheets

PROJECT REFERENCE NO.	SHEET NO.
R–2250	1C–1
LOCATION AND SURVEYS	

SURVEY CONTROL SHEET R–2250



VICINITY MAP



NAD 83 (CORS 96)

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "R2250-9"
WITH NAD 83 (CORS 96) STATE PLANE GRID COORDINATES OF
NORTHING: 650613.436(ft) EASTING: 2,458,511.714(ft)
ELEVATION: 75.53(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998871027
THE N.C. LAMBERT GRID BEARING AND
LOCALIZED HORIZONTAL GROUND DISTANCE FROM
"R2250-9" TO -L- STATION 17+50.00 IS
S 15° 55' 38.79" E 31,513.27'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

CORS GPS CONTROL NETWORK
(STATE PLANE GRID COORDINATES)

CORS	NORTHING	EASTING	ELEV (ARP)
NCJA	971229.661	2459801.782	156.394
NCWI	762858.754	2582519.372	50.922
WASR	664264.558	2577314.736	37.074
NBR2	524331.942	2582725.458	44.076
NCKN	435318.558	2305505.591	168.385
NCRD	733167.431	2124896.322	279.022

NOTE: DRAWING NOT TO SCALE

NOTES

1. THE SITE CALIBRATION SHOWN IS BASED UPON A NETWORK TIED TO THE NGS CORS (CONTINUOUSLY OPERATING REFERENCE STATIONS) NAD 83 (CORS 96) ADJUSTMENT. THIS CALIBRATION WILL ALLOW THE END USER TO WORK WITHIN THE SAME COORDINATE SYSTEM WHEN USING RTK (REAL TIME KINEMATIC) GPS AND A LOCAL BASE STATION. IF ANOTHER SYSTEM SUCH AS VRS (VIRTUAL REFERENCE STATION) IS USED, ADDITIONAL FIELD TIES MAYBE NEEDED TO REDUCE POSSIBLE ERRORS, OR BIASES.
2. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT HTTP://WWW.NCDOT.GOV/DOH//PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/

   THE FILES TO BE FOUND ARE AS FOLLOWS:

   R2250_LS_GPSCALIB_131115.HTML
   R2250_LS_WGS84_131115.TXT
   R2250_LS_LOCAL_131115.TXT
   R2250_LS_CONTROL.TXT

   THE WGS84 AND LOCAL FILES ARE COMMA DELIMITED AND CAN BE USED TO REPRODUCE THE SITE CALIBRATION FOR THE END USER'S GPS EQUIPMENT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

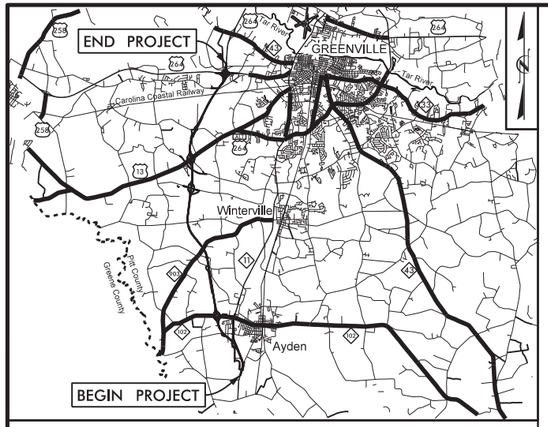
△ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
PROJECT CONTROL ESTABLISHED UTILIZING GLOBAL POSITIONING SYSTEM.

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfi.tbl
USER: dwainwri DATE: 1/25/2016 TIME: 5:44:22 PM
FILE: North_Carolina_Dept_of_Transportation\R_2250A_B_C_Greenville_Southwest_Bypass_DB\06_00_Project_Design\R-2250_NCDOT_File_Structure\Roadway\Proj\r2250_ls_1C-1.dgn

See Sheet 1A-1 For Index of Sheets

PROJECT REFERENCE NO.	SHEET NO.
R-2250	IC-2
LOCATION AND SURVEYS	

SURVEY CONTROL SHEET R-2250



VICINITY MAP

NAD 83 (CORS 96)

NCDOT GPS STATION "R2250–13"
LOCALIZED PROJECT COORDINATES
N = 661,316.7560
E = 2,455,208.2730

NCDOT GPS STATION "R2250–14"
LOCALIZED PROJECT COORDINATES
N = 662,132.5470
E = 2,456,396.7640

NCDOT GPS STATION "R2250–11"
LOCALIZED PROJECT COORDINATES
N = 657,590.3330
E = 2,456,194.9340

NCDOT GPS STATION "R2250–12"
LOCALIZED PROJECT COORDINATES
N = 657,216.6480
E = 2,457,399.3270

NCDOT GPS STATION "R2250–15"
LOCALIZED PROJECT COORDINATES
N = 666,035.5030
E = 2,461,791.1380

NCDOT GPS STATION "R2250–16"
LOCALIZED PROJECT COORDINATES
N = 666,623.7490
E = 2,462,715.3920

NCDOT GPS STATION "R2250–17"
LOCALIZED PROJECT COORDINATES
N = 668,807.1690
E = 2,458,767.5250

NCDOT GPS STATION "R2250–18"
LOCALIZED PROJECT COORDINATES
N = 668,969.7030
E = 2,459,727.3690

NCDOT GPS STATION "R2250–19"
LOCALIZED PROJECT COORDINATES
N = 676,882.4080
E = 2,461,171.9710

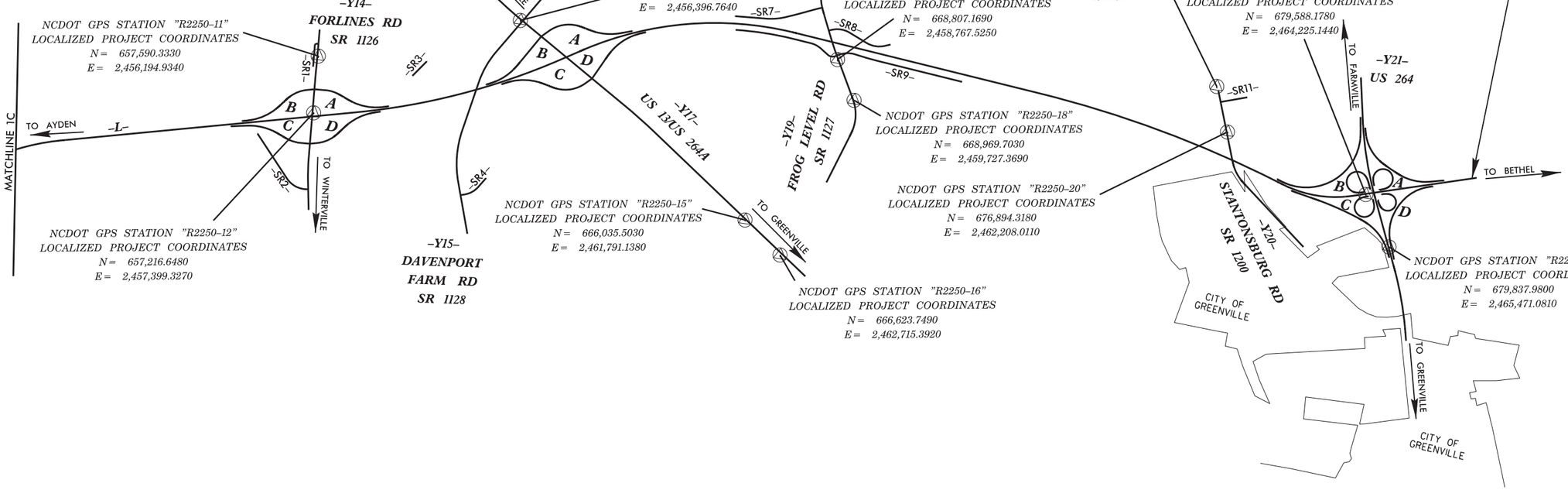
NCDOT GPS STATION "R2250–20"
LOCALIZED PROJECT COORDINATES
N = 676,894.3180
E = 2,462,208.0110

NCDOT GPS STATION "R2250–21"
LOCALIZED PROJECT COORDINATES
N = 679,588.1780
E = 2,464,225.1440

NCDOT GPS STATION "R2250–22"
LOCALIZED PROJECT COORDINATES
N = 679,837.9800
E = 2,465,471.0810

END TIP PROJECT R–2250
END CONSTRUCTION
–L– STA. 682+46.77
LOCALIZED PROJECT COORDINATES
N = 681963.2358
E = 2464389.5346

–Y14– FORLINES RD SR 1126
–Y15– DAVENPORT FARM RD SR 1128
–Y17– US 13US 264A
–Y19– FROG LEVEL RD SR 1127
–Y20– STANTONSBURG RD SR 1200
–Y21– US 264



DATUM DESCRIPTION

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THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998871027

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ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES

VERTICAL DATUM USED IS NAVD 88

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(STATE PLANE GRID COORDINATES)

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NCKN	435318.558	2305505.591	168.385
NCRD	733167.431	2124896.322	279.022

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NOTES

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   R2250_LS_WGS84_131115.TXT
   R2250_LS_LOCAL_131115.TXT
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△ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
PROJECT CONTROL ESTABLISHED UTILIZING GLOBAL POSITIONING SYSTEM.

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: dwalnwri
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PENTABLE: NCDOT_pshpfl.tbl
DATE: 1/25/2016
TIME: 5:44:31 PM

GPS Calibration Report

Project : r2250z

TIP Number	R-2250		
User name	rstalls	Date & Time	2:58:19 PM 3/20/2007
Coordinate System	US State Plane 1983(at ground)	Zone	North Carolina 3200
Horizontal Datum	NAD 1983 (Conus)		
Vertical Datum	NAVD88	Geoid Model	Geoid03 (Conus) NC Sub Grid
Coordinate Units	US survey feet		
Distance Units	US survey feet		
Height Units	US survey feet		

LOCAL SITE INFORMATION

Localized around	R2250-9
Latitude	35*31'40.40985"N
Longitude	77*27'31.97093"W
Site Scale Factor	1.0001129100
Height	-42.137sft

The North Carolina Department of Transportation uses a Localized Coordinate System
which is very similar to North Carolina Zone 3200 from which it is derived.
Please take care in utilizing these coordinates to eliminate confusion of the two systems.
This file is to aid in the use of Real Time Kinematic (RTK) GPS during construction layout.

Datum Transformation Parameters

Datum Transformation computation not requested

Updated Default Projection (Transverse Mercator) Definition

Updated default projection not requested

Horizontal Adjustment Parameters

Northing coordinate of rotation center	653399.238sft
Easting coordinate of rotation center	2461326.611sft
Rotation about the center point	0*00'00"
Translation north	0.005sft
Translation east	0.032sft
Scale factor	1.00000005

Vertical Adjustment Parameters

Northing coordinate of origin point	620763.937sft
Easting coordinate of origin point	2467298.309sft
Vertical separation at origin	0.040sft
Slope north	-0.103ppm
Slope east	0.167ppm

Geoid Model Definition

Geoid03 (Conus) NC Sub Grid

Residual Differences Between GPS (WGS84) And Local Coordinates

Summary

	Maximum error	Root Mean Square error	Point
Horizontal	0.005sft	0.001	R2250-1 GPS
Vertical	0.002sft	0.000	R2250-16 GPS
Three-dimensional	0.005sft	0.001	R2250-1 GPS

Point Residuals

WGS84 Coordinates	Calculated point FOR DISPLAY ONLY	Local Coordinates
Point R2250-1 GPS	Northing 620763.937sft	Point R2250-1
Latitude 35*26'43.87377"N	Easting 2467298.309sft	Northing 620763.939sft
Longitude 77*25'51.38994"W	Elevation 63.989sft	Easting 2467298.313sft
Height -54.449sft	Horz error 0.005sft	Elevation 63.989sft
	Vert error 0.000sft	Utilized Horz and Vert
	3D error 0.005sft	Adjusted
		Quality quality
Point R2250-2 GPS	Northing 622233.447sft	Point R2250-2
Latitude 35*26'58.34383"N	Easting 2467692.733sft	Northing 622233.449sft
Longitude 77*25'46.34258"W	Elevation 66.898sft	Easting 2467692.736sft
Height -51.520sft	Horz error 0.003sft	Elevation 66.898sft
	Vert error 0.001sft	Utilized Horz and Vert
	3D error 0.003sft	Adjusted
		Quality quality
Point R2250-3 GPS	Northing 628501.652sft	Point R2250-3
Latitude 35*28'00.93965"N	Easting 2463773.547sft	Northing 628501.652sft
Longitude 77*26'32.51754"W	Elevation 63.860sft	Easting 2463773.547sft
Height -54.342sft	Horz error 0.000sft	Elevation 63.861sft
	Vert error 0.000sft	Utilized Horz and Vert
	3D error 0.001sft	Adjusted
		Quality quality
Point R2250-4 GPS	Northing 628528.859sft	Point R2250-4
Latitude 35*28'01.00934"N	Easting 2465056.563sft	Northing 628528.860sft
Longitude 77*26'17.00372"W	Elevation 64.844sft	Easting 2465056.563sft
Height -53.388sft	Horz error 0.001sft	Elevation 64.844sft
	Vert error 0.000sft	Utilized Horz and Vert
	3D error 0.001sft	Adjusted
		Quality quality
Point R2250-5 GPS	Northing 631944.371sft	Point R2250-5
Latitude 35*28'35.17544"N	Easting 2462538.440sft	Northing 631944.371sft
Longitude 77*26'46.79576"W	Elevation 63.382sft	Easting 2462538.438sft
Height -54.728sft	Horz error 0.002sft	Elevation 63.382sft
	Vert error 0.000sft	Utilized Horz and Vert
	3D error 0.002sft	Adjusted
		Quality quality
Point R2250-6 GPS	Northing 631877.919sft	Point R2250-6
Latitude 35*28'34.29637"N	Easting 2463970.198sft	Northing 631877.919sft
Longitude 77*26'29.49973"W	Elevation 65.503sft	Easting 2463970.196sft
Height -52.641sft	Horz error 0.004sft	Elevation 65.503sft
	Vert error 0.000sft	Utilized Horz and Vert
	3D error 0.004sft	Adjusted
		Quality quality

SURVEY CONTROL SHEET R-2250

Point R2250-7 GPS	Northing 643911.669sft	Point R2250-7	
Latitude 35*30'34.06846"N	Easting 2458964.128sft	Northing 643911.668sft	
Longitude 77*27'27.75815"W	Elevation 66.020sft	Easting 2458964.125sft	
Height -51.798sft	Horz error 0.004sft	Elevation 66.021sft	
	Vert error 0.001sft	Utilized Horz and Vert	
	3D error 0.004sft	Adjusted	
		Quality quality	
Point R2250-8 GPS	Northing 643602.750sft	Point R2250-8	
Latitude 35*30'30.82714"N	Easting 2460176.363sft	Northing 643602.749sft	
Longitude 77*27'13.15556"W	Elevation 67.647sft	Easting 2460176.360sft	
Height -50.202sft	Horz error 0.003sft	Elevation 67.648sft	
	Vert error 0.001sft	Utilized Horz and Vert	
	3D error 0.003sft	Adjusted	
		Quality quality	
Point R2250-9 GPS	Northing 650613.437sft	Point R2250-9	
Latitude 35*31'40.40981"N	Easting 2458511.715sft	Northing 650613.436sft	
Longitude 77*27'31.97128"W	Elevation 75.529sft	Easting 2458511.713sft	
Height -42.172sft	Horz error 0.002sft	Elevation 75.529sft	
	Vert error 0.000sft	Utilized Horz and Vert	
	3D error 0.002sft	Adjusted	
		Quality quality	
Point R2250-10 GPS	Northing 650910.018sft	Point R2250-10	
Latitude 35*31'43.12495"N	Easting 2459927.234sft	Northing 650910.017sft	
Longitude 77*27'14.79222"W	Elevation 70.757sft	Easting 2459927.232sft	
Height -46.967sft	Horz error 0.002sft	Elevation 70.758sft	
	Vert error 0.001sft	Utilized Horz and Vert	
	3D error 0.002sft	Adjusted	
		Quality quality	
Point R2250-11 GPS	Northing 657590.334sft	Point R2250-11	
Latitude 35*32'49.75690"N	Easting 2456194.934sft	Northing 657590.333sft	
Longitude 77*27'58.69287"W	Elevation 75.461sft	Easting 2456194.934sft	
Height -42.095sft	Horz error 0.001sft	Elevation 75.460sft	
	Vert error 0.001sft	Utilized Horz and Vert	
	3D error 0.001sft	Adjusted	
		Quality quality	
Point R2250-12 GPS	Northing 657216.648sft	Point R2250-12	
Latitude 35*32'45.87740"N	Easting 2457399.328sft	Northing 657216.648sft	
Longitude 77*27'44.19017"W	Elevation 75.037sft	Easting 2457399.327sft	
Height -42.546sft	Horz error 0.001sft	Elevation 75.037sft	
	Vert error 0.001sft	Utilized Horz and Vert	
	3D error 0.001sft	Adjusted	
		Quality quality	
Point R2250-13 GPS	Northing 661316.758sft	Point R2250-13	
Latitude 35*33'26.75678"N	Easting 2455208.269sft	Northing 661316.756sft	
Longitude 77*28'09.93596"W	Elevation 75.279sft	Easting 2455208.273sft	
Height -42.207sft	Horz error 0.004sft	Elevation 75.278sft	
	Vert error 0.000sft	Utilized Horz and Vert	
	3D error 0.004sft	Adjusted	
		Quality quality	
Point R2250-14 GPS	Northing 662132.548sft	Point R2250-14	
Latitude 35*33'34.64237"N	Easting 2456396.763sft	Northing 662132.547sft	
Longitude 77*27'55.40115"W	Elevation 78.115sft	Easting 2456396.764sft	
Height -39.381sft	Horz error 0.002sft	Elevation 78.115sft	
	Vert error 0.000sft	Utilized Horz and Vert	
	3D error 0.002sft	Adjusted	
		Quality quality	
Point R2250-15 GPS	Northing 666035.503sft	Point R2250-15	
Latitude 35*34'12.40751"N	Easting 2461791.137sft	Northing 666035.503sft	
Longitude 77*26'49.38231"W	Elevation 78.280sft	Easting 2461791.138sft	
Height -39.258sft	Horz error 0.001sft	Elevation 78.278sft	
	Vert error 0.002sft	Utilized Horz and Vert	
	3D error 0.002sft	Adjusted	
		Quality quality	
Point R2250-16 GPS	Northing 666623.747sft	Point R2250-16	
Latitude 35*34'18.08127"N	Easting 2462715.392sft	Northing 666623.749sft	
Longitude 77*26'38.08441"W	Elevation 79.442sft	Easting 2462715.392sft	
Height -38.103sft	Horz error 0.001sft	Elevation 79.440sft	
	Vert error 0.002sft	Utilized Horz and Vert	
	3D error 0.003sft	Adjusted	
		Quality quality	
Point R2250-17 GPS	Northing 668807.169sft	Point R2250-17	
Latitude 35*34'40.28156"N	Easting 2458767.524sft	Northing 668807.169sft	
Longitude 77*27'25.45588"W	Elevation 80.002sft	Easting 2458767.525sft	
Height -37.447sft	Horz error 0.001sft	Elevation 80.002sft	
	Vert error 0.000sft	Utilized Horz and Vert	
	3D error 0.001sft	Adjusted	
		Quality quality	
Point R2250-18 GPS	Northing 668969.703sft	Point R2250-18	
Latitude 35*34'41.74110"N	Easting 2459727.368sft	Northing 668969.703sft	
Longitude 77*27'13.80707"W	Elevation 80.760sft	Easting 2459727.369sft	
Height -36.704sft	Horz error 0.001sft	Elevation 80.759sft	
	Vert error 0.000sft	Utilized Horz and Vert	
	3D error 0.001sft	Adjusted	
		Quality quality	
Point R2250-19 GPS	Northing 676882.408sft	Point R2250-19	
Latitude 35*35'59.76318"N	Easting 2461171.971sft	Northing 676882.408sft	
Longitude 77*26'54.82427"W	Elevation 82.530sft	Easting 2461171.971sft	
Height -34.857sft	Horz error 0.001sft	Elevation 82.531sft	
	Vert error 0.001sft	Utilized Horz and Vert	
	3D error 0.001sft	Adjusted	
		Quality quality	
Point R2250-20 GPS	Northing 676894.318sft	Point R2250-20	
Latitude 35*35'59.72065"N	Easting 2462208.011sft	Northing 676894.318sft	
Longitude 77*26'42.27816"W	Elevation 82.511sft	Easting 2462208.011sft	
Height -34.892sft	Horz error 0.001sft	Elevation 82.511sft	
	Vert error 0.001sft	Utilized Horz and Vert	
	3D error 0.001sft	Adjusted	
		Quality quality	
Point R2250-21 GPS	Northing 679588.177sft	Point R2250-21	
Latitude 35*36'26.04565"N	Easting 2464225.143sft	Northing 679588.178sft	
Longitude 77*26'17.34259"W	Elevation 112.933sft	Easting 2464225.144sft	
Height -4.468sft	Horz error 0.001sft	Elevation 112.935sft	
	Vert error 0.002sft	Utilized Horz and Vert	
	3D error 0.002sft	Adjusted	
		Quality quality	
Point R2250-22 GPS	Northing 679837.978sft	Point R2250-22	
Latitude 35*36'28.32169"N	Easting 2465471.081sft	Northing 679837.980sft	
Longitude 77*26'02.20835"W	Elevation 86.820sft	Easting 2465471.081sft	
Height -30.599sft	Horz error 0.001sft	Elevation 86.819sft	
	Vert error 0.000sft	Utilized Horz and Vert	
	3D error 0.001sft	Adjusted	
		Quality quality	

NOTES

1. THE SITE CALIBRATION SHOWN IS BASED UPON A NETWORK TIED TO THE NGS CORS (CONTINUOUSLY OPERATING REFERENCE STATIONS) NAD 83 (CORS 96) ADJUSTMENT. THIS CALIBRATION WILL ALLOW THE END USER TO WORK WITHIN THE SAME COORDINATE SYSTEM WHEN USING RTK (REAL TIME KINEMATIC) GPS AND A LOCAL BASE STATION. IF ANOTHER SYSTEM SUCH AS VRS (VIRTUAL REFERENCE STATION) IS USED, ADDITIONAL FIELD TIES MAYBE NEEDED TO REDUCE POSSIBLE ERRORS, OR BIASES.

2. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT HTTP://WWW.NCDOT.GOV/DOH//PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/

   THE FILES TO BE FOUND ARE AS FOLLOWS:

   R2250_LS_GPSCALIB_131115.HTML
   R2250_LS_WGS84_131115.TXT
   R2250_LS_LOCAL_131115.TXT
   R2250_LS_CONTROL.TXT

   THE WGS84 AND LOCAL FILES ARE COMMA DELIMITED AND CAN BE USED TO REPRODUCE THE SITE CALIBRATION FOR THE END USER'S GPS EQUIPMENT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "R2250-9" WITH NAD 83 (CORS 96) STATE PLANE GRID COORDINATES OF NORTHING: 650613.436(ft) EASTING: 2,458,511.714(ft) ELEVATION: 75.53(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998871027

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "R2250-9" TO -L- STATION 17+50.00 IS S 15° 55' 38.79" E 31,513.27'

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES

VERTICAL DATUM USED IS NAVD 88

5/28/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: dwainwri DATE: 1/25/2016 TIME: 5:44:39 PM
FILE: North_Carolina_Dept_of_Transportation\R_2250A_B_C_Greenville_Southwest_Bypass_DB\06_00_Project_Design\R-2250_NCDOT_File_Structure\Roadway\Proj\r2250_ls_1C-3.dgn

SURVEY CONTROL SHEET R-2250

CONTROL DATA

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
BL28		619256.7630	2466867.3860	62.50	OUTSIDE PROJECT LIMITS	
BL29		620065.8730	2467095.3460	62.69	14+97.66	5.33 RT
R22501	R2250-1	620763.9390	2467298.3130	63.99	22+24.63	8.62 RT
R22502	GPS R2250-2	622233.4490	2467692.7360	66.90	37+37.61	62.00 RT
BL30	BL-30	623279.1810	2467399.9500	65.38	48+24.71	84.00 LT
BL31	BL-31	624165.4370	2467037.8590	66.34	57+86.99	90.36 LT
BL32		625225.7140	2466609.5990	66.54	69+30.48	86.23 LT
BL33		626188.9120	2466205.0710	65.79	79+84.81	30.65 LT
BL34	BL-34	627026.1770	2465589.2960	65.67	90+22.98	43.01 RT
BL35	BL-35	627760.8910	2464706.5990	62.49	101+70.00	33.34 RT
R22503	GPS R2250-3	628501.6520	2463773.5470	63.86	113+58.16	32.32 LT
BL36	BL-36	629083.8720	2463301.5140	64.75	121+01.12	49.35 LT
BL37	BL-37	629791.1340	2462955.0650	65.14	128+81.66	35.62 LT
BL38	BL-38	630523.5320	2462771.1830	64.20	136+33.50	5.31 LT
BL39	BL-39	631167.5310	2462667.7230	64.42	142+85.61	0.81 RT
R22505	GPS R2250-5	631944.3710	2462538.4380	63.38	150+73.13	1.05 RT
BL40	BL-40	632747.2990	2462403.9210	64.86	158+87.25	0.43 RT
BL41	BL-41	633532.8340	2462274.2150	64.90	166+83.42	1.69 RT
BL42	BL-42	634340.4410	2462138.8970	64.50	175+02.28	1.04 RT
BL43	BL-43	635129.5260	2462012.2090	64.62	183+01.46	5.86 RT
BL44	BL-44	636114.8100	2461843.1060	65.12	193+01.14	1.12 RT
BL45	BL-45	637010.0120	2461694.1830	65.08	202+08.64	1.46 RT
BL46	BL-46	638038.1040	2461523.7460	66.24	212+50.77	2.44 RT
BL47	BL-47	638818.7480	2461393.8010	67.34	220+42.15	2.66 RT
BL48	BL-48	639728.7040	2461240.0300	68.81	229+65.01	0.64 RT
BL49	BL-49	640616.4470	2461094.6250	67.70	238+64.57	3.23 RT
BL50		641676.4840	2460915.3510	66.43	249+39.66	0.75 RT
BL51		642594.9930	2460759.3270	70.84	258+71.32	2.08 LT
R22508	GPS R2250-8	643602.7490	2460176.3600	67.65	269+91.11	398.29 LT
BL52	BL-52	644346.1230	2460068.0040	68.67	277+84.21	268.42 LT
BL53		644922.0840	2459630.0420	66.35	285+47.28	396.96 LT
BL54	BL-54	645501.0820	2459058.7030	63.96	294+07.69	519.53 LT
BL55	BL-55	646721.8460	2458310.5840	67.81	308+28.53	343.01 LT
BL56	BL-56	647412.1450	2457795.9140	77.09	316+89.11	314.82 LT
BL57	BL-57	648190.1730	2457327.0850	78.14	325+65.43	228.98 LT
BL58	BL-58	649068.8540	2456984.2430	76.08	334+72.53	134.10 LT
BL59	BL-59	649732.0750	2456849.4950	76.61	341+32.81	55.11 LT
BL60		650402.0410	2456744.9830	76.28	348+05.11	34.39 LT

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
BL61	BL-61	651264.4630	2456741.8560	75.09	356+64.54	8.47 LT
BL62	BL-62	652015.4840	2456820.8090	76.32	364+19.27	9.38 LT
BL63	BL-63	652703.5700	2456902.9960	77.60	371+12.24	12.78 LT
BL64	BL-64	653604.5670	2457003.2690	75.81	380+18.72	24.53 LT
BL65	BL-65	654478.8610	2457101.8620	75.92	388+98.50	34.65 LT
BL66	BL-66	655285.6770	2457192.5610	76.05	397+10.34	44.27 LT
BL67	BL-67	656217.8740	2457297.5600	76.40	406+48.37	55.18 LT
R225012	(GPS R2250-12)	657216.6480	2457399.3270	75.04	416+52.07	77.52 LT
BL68	BL-68	658266.1780	2457476.6460	76.40	427+04.13	129.93 LT
BL69	BL-69	659264.9360	2457496.5040	77.37	437+12.15	192.34 LT
BL70	BL-70	660468.3460	2457495.8890	75.76	449+31.91	202.70 LT
BL71	BL-71	661654.6130	2457494.6090	76.78	461+28.27	118.04 LT
BL72	BL-72	662238.4200	2457493.8820	76.20	467+10.25	42.07 LT
BL73	BL-73	663037.5710	2457490.0900	77.01	474+97.56	93.73 RT
BL74	BL-74	663844.9970	2457492.6630	75.87	483+06.12	231.85 RT
BL75	BL-75	664795.6440	2457498.9800	75.93	492+90.42	290.84 RT
BL76	BL-76	665844.7080	2457498.8900	76.33	503+72.74	202.15 RT
BL77	BL-77	666914.6730	2457636.5750	77.39	514+68.39	90.39 RT
BL78	BL-78	667851.7400	2457931.0960	79.80	524+56.74	23.72 RT
BL79	BL-79	668795.5100	2458376.0160	79.58	535+00.45	3.92 RT
BL80	BL-80	669601.8230	2458780.9930	79.73	544+02.74	7.62 RT
BL81	BL-81	670326.3440	2459142.2420	79.51	552+12.33	8.57 RT
BL82	BL-82	671159.1140	2459546.1730	80.35	561+37.84	0.45 LT
BL83	BL-83	671920.7070	2459910.8490	81.05	569+82.15	12.94 LT
BL84	BL-84	673001.3530	2460476.5420	79.71	582+01.64	12.55 RT
BL85	BL-85	673899.3470	2460914.9910	81.58	592+00.62	14.50 LT
BL86	BL-86	675046.4910	2461480.8010	81.37	604+73.88	102.06 LT
BL87	BL-87	675695.9570	2461972.9400	81.28	612+83.92	36.88 LT
BL88	BL-88	676448.3680	2462549.4490	85.30	622+30.17	10.78 RT
BL89	BL-89	676837.2440	2462890.5220	81.93	627+46.16	55.86 RT
BL90	BL-90	677542.4870	2463479.2080	84.74	636+66.96	87.16 RT
BL91	BL-91	678334.4870	2463919.8410	82.55	645+65.86	6.81 LT
BL92	BL-92	678858.2340	2464049.8980	82.78	651+10.98	67.55 LT
BL93	BL-93	679008.3020	2464106.2980	106.82	652+73.27	45.00 LT
R225021	(GPS R2250-21)	679588.1780	2464225.1440	112.94	658+66.06	12.74 RT

DATUM DESCRIPTION

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ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES

VERTICAL DATUM USED IS NAVD 88

NO SUPPLEMENTARY BENCHMARKS SET

NOTES

1. THE SITE CALIBRATION SHOWN IS BASED UPON A NETWORK TIED TO THE NGS CORS (CONTINUOUSLY OPERATING REFERENCE STATIONS) NAD 83 (CORS 96) ADJUSTMENT. THIS CALIBRATION WILL ALLOW THE END USER TO WORK WITHIN THE SAME COORDINATE SYSTEM WHEN USING RTK (REAL TIME KINEMATIC) GPS AND A LOCAL BASE STATION. IF ANOTHER SYSTEM SUCH AS VRS (VIRTUAL REFERENCE STATION) IS USED, ADDITIONAL FIELD TIES MAYBE NEEDED TO REDUCE POSSIBLE ERRORS, OR BIASES.

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   THE FILES TO BE FOUND ARE AS FOLLOWS:

   R2250_LS_GPSCALIB_131115.HTML
   R2250_LS_WGS84_131115.TXT
   R2250_LS_LOCAL_131115.TXT
   R2250_LS_CONTROL.TXT

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5/28/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: dwalnwri DATE: 1/25/2016 TIME: 5:44:47 PM
FILE: North_Carolina_Dept_of_Transportation\R-2250A_B_C_Greenville_Southwest_Bypass_DB\06.00_Project_Design\R-2250_NCDOT_File_Structure\Roadway\Proj\r2250_ls_1C-4.dgn

SURVEY CONTROL SHEET R-2250

CONTROL DATA

BY5

POINT	DESC.	NORTH	EAST	ELEVATION	Y5 STATION	OFFSET
EQR22502		622233.4490	2467692.7360	66.90	20+55.23	102.37 LT
BY5100	BY5-100	623031.8250	2467961.3710	65.76	28+83.07	15.84 LT
BY5101	BY5-101	623808.1020	2468306.2940	64.05	OUTSIDE PROJECT LIMITS	

BY6

POINT	DESC.	NORTH	EAST	ELEVATION	Y6 STATION	OFFSET
BY6102	BY6-102	628424.9080	2462277.2970	64.85	OUTSIDE PROJECT LIMITS	
BY6103	BY6-103	628572.0150	2463020.9410	64.30	15+80.39	31.75 LT
EQR22503		628501.6520	2463773.5470	63.86	23+31.23	37.35 RT
R22504	GPS R2250-4	628528.8600	2465056.5630	64.84	36+12.25	24.48 LT
BY6104	BY6-104	628453.2300	2465625.6950	65.91	41+82.99	40.80 LT
BY6105	BY6-105	628211.8630	2466400.0570	66.28	OUTSIDE PROJECT LIMITS	
BY6106	BY6-106	628136.5660	2466788.5020	65.87	OUTSIDE PROJECT LIMITS	
BY6107	BY6-107	628045.5410	2467321.0230	66.70	OUTSIDE PROJECT LIMITS	

BY7

POINT	DESC.	NORTH	EAST	ELEVATION	FLYBY7 STATION	OFFSET
EQBL33		626188.9120	2466205.0710	65.79	20+86.28	394.35 RT
BY7108	BY7-108	627327.9100	2465790.7350	68.84	38+01.94	167.00 RT
BY7109	BY7-109	627902.4370	2465678.1030	69.16	43+51.74	7.17 LT
EQBY6104		628453.2300	2465625.6950	65.92	OUTSIDE PROJECT LIMITS	
BY7110	BY7-110	629252.2550	2465677.9280	65.38	OUTSIDE PROJECT LIMITS	
BY7111	BY7-111	630108.9440	2465686.4450	64.53	OUTSIDE PROJECT LIMITS	
BY7112	BY7-112	630915.4580	2465712.5940	66.40	OUTSIDE PROJECT LIMITS	
BY7113	BY7-113	631625.3530	2465830.6660	63.92	OUTSIDE PROJECT LIMITS	
BY7114	BY7-114	632536.0070	2466119.5870	62.01	OUTSIDE PROJECT LIMITS	

BY8

POINT	DESC.	NORTH	EAST	ELEVATION	Y8 STATION	OFFSET
BY8115	BY8-115	632050.5180	2460166.1240	60.41	OUTSIDE PROJECT LIMITS	
BY8116	BY8-116	632004.7420	2461027.2460	62.15	15+76.36	25.97 RT
BY8117	BY8-117	632056.0470	2461778.3120	62.56	23+26.67	28.96 LT
EQR22505		631944.3710	2462538.4380	63.38	30+91.92	31.98 RT
R22506	GPS R2250-6	631877.9190	2463970.1960	65.50	45+24.35	17.92 LT
BY8118	BY8-118	631796.0320	2464436.8140	65.12	49+96.07	25.84 RT
BY8119	BY8-119	631803.8630	2465013.5180	64.71	55+70.24	28.74 LT
EQBY7113		631625.3530	2465830.6660	63.92	64+08.37	60.68 RT
BY8120	BY8-120	631527.0840	2466434.0910	67.31	70+17.14	38.06 LT

BY10

POINT	DESC.	NORTH	EAST	ELEVATION	Y10 STATION	OFFSET
BY10121	BY10-121	642344.0870	2459385.0150	68.10	OUTSIDE PROJECT LIMITS	
BY10122	BY10-122	642039.2240	2460097.5100	67.05	OUTSIDE PROJECT LIMITS	
EQBL50		641676.4840	2460915.3510	66.43	18+82.38	16.72 LT
BY10123	BY10-123	641227.6990	2461533.7330	69.60	26+45.01	16.45 RT
BY10124	BY10-124	641148.1230	2462775.4010	70.39	OUTSIDE PROJECT LIMITS	

BY10A

POINT	DESC.	NORTH	EAST	ELEVATION	Y10A STATION	OFFSET
R22507	GPS R2250-7	643911.6680	2458964.1250	66.02	OUTSIDE PROJECT LIMITS	
EQR22508		643602.7490	2460176.3600	67.65	13+63.11	17.21 RT
BY10125	BY10-125	643337.4630	2461228.9210	69.53	OUTSIDE PROJECT LIMITS	

BY11

POINT	DESC.	NORTH	EAST	ELEVATION	Y11 STATION	OFFSET
BY11126	BY11-126	642971.5330	2457931.3180	64.05	OUTSIDE PROJECT LIMITS	
BY11127	BY11-127	643476.7980	2458550.7370	64.96	OUTSIDE PROJECT LIMITS	
EQR22507		643911.6680	2458964.1250	66.02	OUTSIDE PROJECT LIMITS	
EQBL53		644922.0840	2459630.0420	66.35	14+09.53	26.13 RT
BY11128	BY11-128	645662.2740	2460082.0230	64.57	22+76.37	16.20 RT
BY11129	BY11-129	646521.1040	2460589.4840	65.60	OUTSIDE PROJECT LIMITS	
BY11130	BY11-130	647064.0750	2461541.8070	63.80	OUTSIDE PROJECT LIMITS	

BY12

POINT	DESC.	NORTH	EAST	ELEVATION	Y12 STATION	OFFSET
BY12131	BY12-131	650201.8130	2454920.6370	76.78	OUTSIDE PROJECT LIMITS	
BY12132	BY12-132	650306.3410	2455907.6070	75.63	OUTSIDE PROJECT LIMITS	
EQBL60		650402.0410	2456744.9830	76.28	12+24.76	17.62 RT
BY12150	BY12-150	650506.3880	2457607.6190	76.87	OUTSIDE PROJECT LIMITS	
R22509	(GPS R2250-9)	650613.4360	2458511.7130	75.53	OUTSIDE PROJECT LIMITS	
R225010	(GPS R2250-10)	650910.0170	2459927.2320	70.76	OUTSIDE PROJECT LIMITS	

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "R2250-9" WITH NAD 83 (CORS 96) STATE PLANE GRID COORDINATES OF NORTHING: 650613.436(ft) EASTING: 2,458,511.714(ft) ELEVATION: 75.53(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998871027

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "R2250-9" TO -L- STATION 17+50.00 IS S 15° 55' 38.79" E 31,513.27'

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES

VERTICAL DATUM USED IS NAVD 88

NO SUPPLEMENTARY BENCHMARKS SET

NOTES

1. THE SITE CALIBRATION SHOWN IS BASED UPON A NETWORK TIED TO THE NGS CORS (CONTINUOUSLY OPERATING REFERENCE STATIONS) NAD 83 (CORS 96) ADJUSTMENT. THIS CALIBRATION WILL ALLOW THE END USER TO WORK WITHIN THE SAME COORDINATE SYSTEM WHEN USING RTK (REAL TIME KINEMATIC) GPS AND A LOCAL BASE STATION. IF ANOTHER SYSTEM SUCH AS VRS (VIRTUAL REFERENCE STATION) IS USED, ADDITIONAL FIELD TIES MAYBE NEEDED TO REDUCE POSSIBLE ERRORS, OR BIASES.

2. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT HTTP://WWW.NCDOT.GOV/DOH//PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/

   THE FILES TO BE FOUND ARE AS FOLLOWS:

   R2250_LS_GPSCALIB_131115.HTML
   R2250_LS_WGS84_131115.TXT
   R2250_LS_LOCAL_131115.TXT
   R2250_LS_CONTROL.TXT

   THE WGS84 AND LOCAL FILES ARE COMMA DELIMITED AND CAN BE USED TO REPRODUCE THE SITE CALIBRATION FOR THE END USER'S GPS EQUIPMENT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

5/28/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: dwalnwri DATE: 1/25/2016 TIME: 5:44:56 PM
FILE: North_Carolina_Dept_of_Transportation\R-2250A_B_C_Greenville_Southwest_Bypass_DB\06_00_Project_Design\R-2250_NCDOT_File_Structure\Roadway\Proj\r2250_ls_1C-5.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2250	1C-6
LOCATION AND SURVEYS	

SURVEY CONTROL SHEET R-2250

CONTROL DATA

BY14

POINT	DESC.	NORTH	EAST	ELEVATION	Y14 STATION	OFFSET
BY14133	BY14-133	657902.7380	2455074.3500	76.17	OUTSIDE PROJECT LIMITS	
R225011	(GPS R2250-11)	657590.3330	2456194.9340	75.43	15+83.32	18.63 LT
EOR225012		657216.6480	2457399.3270	75.04	28+44.57	25.18 LT
BY14134	BY14-134	656829.3130	2458654.9040	75.34	41+59.88	18.25 LT
BY14135	BY14-135	656590.2690	2459844.1540	74.29	OUTSIDE PROJECT LIMITS	

BY16A

POINT	DESC.	NORTH	EAST	ELEVATION	Y15 STATION	OFFSET
EOBL72		662238.4200	2457493.8820	76.20	15+98.02	895.17 LT
BY16152	BY16A-152	662433.8850	2457906.1620	76.53	16+89.01	1342.28 LT
BY16153	BY16A-153	661685.7900	2458619.9470	75.77	32+16.81	1205.66 LT
BY16154	BY16A-154	660969.5610	2459414.0610	76.03	45+95.31	930.65 LT
BY16155	BY16A-155	660035.6350	2460080.6580	74.13	54+55.94	44.90 LT

BY17

POINT	DESC.	NORTH	EAST	ELEVATION	Y17 STATION	OFFSET
BY17136	BY17-136	660873.4720	2454083.8960	74.83	OUTSIDE PROJECT LIMITS	
R225013	(GPS R2250-13)	661316.7560	2455208.2730	75.28	OUTSIDE PROJECT LIMITS	
R225014	(GPS R2250-14)	662132.5470	2456396.7640	78.11	19+70.68	23.68 RT
EOBL73		663037.5710	2457490.0900	77.01	33+89.32	19.85 LT
BY17137	BY17-137	663700.4070	2458415.5870	79.47	45+26.82	24.84 RT
BY17138	BY17-138	664324.6710	2459232.6970	78.37	55+56.21	18.32 RT
BY17139	BY17-139	665206.2110	2460550.2330	77.65	71+41.89	21.16 RT
R225015	R2250-15	666035.5030	2461791.1380	78.28	86+34.40	21.67 RT
R225016	(GPS MONR2250-1	666623.7490	2462715.3920	79.44	97+29.69	46.52 RT

BY19

POINT	DESC.	NORTH	EAST	ELEVATION	Y19 STATION	OFFSET
BY19140	BY19-140	669198.1620	2456288.9280	78.37	OUTSIDE PROJECT LIMITS	
BY19141	BY19-141	668725.3900	2457348.4410	80.51	20+62.80	18.60 RT
EOBL79		668795.5100	2458376.0160	79.58	30+91.44	17.17 LT
R225017	(GPS R2250-17)	668807.1690	2458767.5250	80.00	34+81.95	16.61 RT
R225018	(GPS R2250-18)	668969.7030	2459727.3690	80.76	44+54.32	16.75 LT
BY19142	BY19-142	668871.0570	2460272.0460	80.65	50+05.74	18.56 LT
BY19143	BY19-143	668313.1230	2460989.8900	78.55	59+12.21	19.43 LT

BY20

POINT	DESC.	NORTH	EAST	ELEVATION	Y20 STATION	OFFSET
BY20144		676928.3230	2460406.8410	82.44	OUTSIDE PROJECT LIMITS	
R225019	(GPS R2250-19)	676882.4080	2461171.9710	82.53	OUTSIDE PROJECT LIMITS	
R225020	(GPS R2250-20)	676894.3180	2462208.0110	82.51	19+35.37	16.42 LT
EOBL89		676837.2440	2462890.5220	81.93	26+18.09	27.70 RT
BY20145	BY20-145	677013.7680	2463447.3770	82.30	31+98.47	17.17 RT
BY20146	BY20-146	677447.2970	2464180.4930	81.08	40+50.13	17.02 RT
BY20147	BY20-147	677875.3590	2464917.2170	80.95	49+02.16	23.44 RT

BY21

POINT	DESC.	NORTH	EAST	ELEVATION	Y21 STATION	OFFSET
BY21148	BY21-148	679934.4050	2462306.8520	87.73	16+41.15	1.67 LT
BY21149	BY21-149	679720.0380	2463306.9020	88.89	26+57.80	69.40 RT
EOR225021		679588.1780	2464225.1440	112.94	35+64.43	181.13 RT
R225022	(GPS R2250-22)	679837.9800	2465471.0810	86.82	48+18.93	11.25 LT
BY21151	BY21-151	679849.6960	2466859.0230	84.32	62+06.66	11.19 LT

DATUM DESCRIPTION

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WITH NAD 83 (CORS 96) STATE PLANE GRID COORDINATES OF NORTHING: 650613.436(ft) EASTING: 2,458,511.714(ft)
ELEVATION: 75.53(ft)
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   R2250_LS_GPSCALIB_131115.HTML
   R2250_LS_WGS84_131115.TXT
   R2250_LS_LOCAL_131115.TXT
   R2250_LS_CONTROL.TXT

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5/28/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: dwainwri DATE: 1/25/2016 TIME: 5:45:03 PM
FILE: North_Carolina_Dept_of_Transportation\R-2250A_B_C_Greenville_Southwest_Bypass_DB\06_00_Project_Design\R-2250_NCDOT_File_Structure\Roadway\Proj\r2250_ls_1C-6.dgn

PROJ. REFERENCE NO.	SHEET NO.
R-2250	1D-1

HDR Engineering, Inc. of the Carolinas
3733 National Drive, Suite 207 Raleigh, N.C. 27612
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CENTERLINE COORDINATE LIST

Point #	Chain	Station	Northing (Y)	Easting (X)
1	L	11+00.00	619684.9917	2466980.9293
2	L	12+00.00	619781.1406	2467008.4138
3	L	13+00.00	619877.2894	2467035.8983
4	L	14+00.00	619973.4383	2467063.3828
5	L	15+00.00	620069.5871	2467090.8673
6	L	16+00.00	620165.7360	2467118.3518
7	L	17+00.00	620261.8848	2467145.8363
8	L	18+00.00	620358.0337	2467173.3208
9	L	19+00.00	620454.1825	2467200.8053
10	L	20+00.00	620550.3314	2467228.2898
11	L	21+00.00	620646.4803	2467255.7743
12	L	22+00.00	620742.6291	2467283.2588
13	L	23+00.00	620838.7780	2467310.7433
14	L	24+00.00	620934.9268	2467338.2278
15	L	25+00.00	621031.0757	2467365.7123
16	L	26+00.00	621127.2245	2467393.1968
17	L	27+00.00	621223.3734	2467420.6813
18	L	28+00.00	621319.5222	2467448.1658
19	L	29+00.00	621415.6711	2467475.6503
20	L	30+00.00	621511.8428	2467503.0545
21	L	31+00.00	621608.2441	2467529.6371
22	L	32+00.00	621705.1457	2467554.3262
23	L	33+00.00	621802.7470	2467576.0744
24	L	34+00.00	621901.0459	2467594.4135
25	L	35+00.00	621999.9248	2467609.3110
26	L	36+00.00	622099.2635	2467620.7490
27	L	37+00.00	622198.9407	2467628.7133
28	L	38+00.00	622298.8352	2467633.1944
29	L	39+00.00	622398.8252	2467634.1867
30	L	40+00.00	622498.7889	2467631.6891
31	L	41+00.00	622598.6046	2467625.7045
32	L	42+00.00	622698.1506	2467616.2404
33	L	43+00.00	622797.3058	2467603.3082
34	L	44+00.00	622895.9492	2467586.9236
35	L	45+00.00	622993.9608	2467567.1066
36	L	46+00.00	623091.2212	2467543.8815
37	L	47+00.00	623187.6118	2467517.2764
38	L	48+00.00	623283.0153	2467487.3237
39	L	49+00.00	623377.3361	2467454.1169
40	L	50+00.00	623470.7209	2467418.3552
41	L	51+00.00	623563.5160	2467381.0863
42	L	52+00.00	623656.1091	2467343.3172
43	L	53+00.00	623748.6955	2467305.5313
44	L	54+00.00	623841.2818	2467267.7455
45	L	55+00.00	623933.8681	2467229.9596
46	L	56+00.00	624026.4545	2467192.1738
47	L	57+00.00	624119.0408	2467154.3880
48	L	58+00.00	624211.6272	2467116.6021
49	L	59+00.00	624304.2135	2467078.8163
50	L	60+00.00	624396.7998	2467041.0304
51	L	61+00.00	624489.3862	2467003.2446
52	L	62+00.00	624581.9725	2466965.4588
53	L	63+00.00	624674.5589	2466927.6729
54	L	64+00.00	624767.1452	2466889.8871
55	L	65+00.00	624859.7315	2466852.1012
56	L	66+00.00	624952.3179	2466814.3154
57	L	67+00.00	625044.9042	2466776.5296
58	L	68+00.00	625137.4906	2466738.7437
59	L	69+00.00	625230.0769	2466700.9579
60	L	70+00.00	625322.6632	2466663.1720
61	L	71+00.00	625415.2496	2466625.3862
62	L	72+00.00	625507.8280	2466587.5811
63	L	73+00.00	625600.1885	2466549.2478
64	L	74+00.00	625691.8910	2466509.3700
65	L	75+00.00	625782.5797	2466467.2391
66	L	76+00.00	625872.1613	2466422.8028
67	L	77+00.00	625960.5773	2466376.0902
68	L	78+00.00	626047.7698	2466327.1319
69	L	79+00.00	626133.6819	2466275.9598
70	L	80+00.00	626218.2572	2466222.6075
71	L	81+00.00	626301.4404	2466167.1098
72	L	82+00.00	626383.1773	2466109.5030
73	L	83+00.00	626463.4143	2466049.8248
74	L	84+00.00	626542.0989	2465988.1143
75	L	85+00.00	626619.1796	2465924.4118
76	L	86+00.00	626694.6062	2465858.7589
77	L	87+00.00	626768.3291	2465791.1987
78	L	88+00.00	626840.3002	2465721.7753
79	L	89+00.00	626910.4725	2465650.5341
80	L	90+00.00	626978.7999	2465577.5217
81	L	91+00.00	627045.2670	2465502.8113
82	L	92+00.00	627110.3226	2465426.8664
83	L	93+00.00	627174.8003	2465350.4294
84	L	94+00.00	627239.2362	2465273.9570
85	L	95+00.00	627303.6720	2465197.4846
86	L	96+00.00	627368.1078	2465121.0122
87	L	97+00.00	627432.5436	2465044.5398
88	L	98+00.00	627496.9795	2464968.0675
89	L	99+00.00	627561.4153	2464891.5951
90	L	100+00.00	627625.8511	2464815.1227
91	L	101+00.00	627690.2869	2464738.6503
92	L	102+00.00	627754.7228	2464662.1780
93	L	103+00.00	627819.1586	2464585.7056
94	L	104+00.00	627883.5944	2464509.2332
95	L	105+00.00	627948.0302	2464432.7608
96	L	106+00.00	628012.4661	2464356.2884
97	L	107+00.00	628076.9019	2464279.8161
98	L	108+00.00	628141.3571	2464203.3600
99	L	109+00.00	628206.2570	2464127.2818
100	L	110+00.00	628272.3977	2464052.2817
101	L	111+00.00	628340.2959	2463978.8696
102	L	112+00.00	628409.9642	2463907.1351
103	L	113+00.00	628481.3613	2463837.1211
104	L	114+00.00	628554.4446	2463768.8691
105	L	115+00.00	628629.1707	2463702.4198
106	L	116+00.00	628705.4951	2463637.8126
107	L	117+00.00	628783.3725	2463575.0861
108	L	118+00.00	628862.7564	2463514.2774
109	L	119+00.00	628943.5998	2463455.4229
110	L	120+00.00	629025.8544	2463398.5574
111	L	121+00.00	629109.4714	2463343.7149
112	L	122+00.00	629194.4010	2463290.9279
113	L	123+00.00	629280.5927	2463240.2278
114	L	124+00.00	629367.9952	2463191.6449
115	L	125+00.00	629456.5566	2463145.2080
116	L	126+00.00	629546.2241	2463100.9447
117	L	127+00.00	629636.9445	2463058.8814
118	L	128+00.00	629728.6637	2463019.0430
119	L	129+00.00	629821.3271	2462981.4533
120	L	130+00.00	629914.8798	2462946.1347
121	L	131+00.00	630009.2660	2462913.1081
122	L	132+00.00	630104.4295	2462882.3933
123	L	133+00.00	630200.3138	2462854.0083
124	L	134+00.00	630296.8619	2462827.9703
125	L	135+00.00	630394.0162	2462804.2946
126	L	136+00.00	630491.7190	2462782.9953
127	L	137+00.00	630589.9052	2462764.0469
128	L	138+00.00	630688.4143	2462746.8471
129	L	139+00.00	630787.0442	2462730.3506
130	L	140+00.00	630885.6823	2462713.9032
131	L	141+00.00	630984.3205	2462697.4558
132	L	142+00.00	631082.9586	2462681.0084
133	L	143+00.00	631181.5968	2462664.5611
134	L	144+00.00	631280.2349	2462648.1137
135	L	145+00.00	631378.8731	2462631.6663
136	L	146+00.00	631477.5112	2462615.2189
137	L	147+00.00	631576.1494	2462598.7715
138	L	148+00.00	631674.7875	2462582.3242
139	L	149+00.00	631773.4256	2462565.8768
140	L	150+00.00	631872.0638	2462549.4294
141	L	151+00.00	631970.7019	2462532.9820
142	L	152+00.00	632069.3401	2462516.5347
143	L	153+00.00	632167.9782	2462500.0873
144	L	154+00.00	632266.6164	2462483.6399
145	L	155+00.00	632365.2545	2462467.1925
146	L	156+00.00	632463.8927	2462450.7451
147	L	157+00.00	632562.5308	2462434.2978
148	L	158+00.00	632661.1690	2462417.8504
149	L	159+00.00	632759.8071	2462401.4030
150	L	160+00.00	632858.4452	2462384.9556
151	L	161+00.00	632957.0834	2462368.5083
152	L	162+00.00	633055.7215	2462352.0609
153	L	163+00.00	633154.3597	2462335.6135
154	L	164+00.00	633252.9978	2462319.1661
155	L	165+00.00	633351.6360	2462302.7187
156	L	166+00.00	633450.2741	2462286.2714
157	L	167+00.00	633548.9123	2462269.8240
158	L	168+00.00	633647.5504	2462253.3766
159	L	169+00.00	633746.1886	2462236.9292
160	L	170+00.00	633844.8267	2462220.4819
161	L	171+00.00	633943.4648	2462204.0345
162	L	172+00.00	634042.1030	2462187.5871
163	L	173+00.00	634140.7411	2462171.1397
164	L	174+00.00	634239.3793	2462154.6923
165	L	175+00.00	634338.0174	2462138.2450
166	L	176+00.00	634436.6556	2462121.7976
167	L	177+00.00	634535.2937	2462105.3502
168	L	178+00.00	634633.9319	2462088.9028
169	L	179+00.00	634732.5700	2462072.4555
170	L	180+00.00	634831.2082	2462056.0081
171	L	181+00.00	634929.8463	2462039.5607
172	L	182+00.00	635028.4844	2462023.1133
173	L	183+00.00	635127.1226	2462006.6659
174	L	184+00.00	635225.7607	2461990.2186
175	L	185+00.00	635324.3989	2461973.7712
176	L	186+00.00	635423.0370	2461957.3238
177	L	187+00.00	635521.6752	2461940.8764
178	L	188+00.00	635620.3133	2461924.4290
179	L	189+00.00	635718.9515	2461907.9817
180	L	190+00.00	635817.5896	2461891.5343
181	L	191+00.00	635916.2278	2461875.0869
182	L	192+00.00	636014.8659	2461858.6395
183	L	193+00.00	636113.5040	2461842.1922
184	L	194+00.00	636212.1422	2461825.7448
185	L	195+00.00	636310.7803	2461809.2974
186	L	196+00.00	636409.4185	2461792.8500
187	L	197+00.00	636508.0566	2461776.4026
188	L	198+00.00	636606.6948	2461759.9553
189	L	199+00.00	636705.3329	2461743.5079
190	L	200+00.00	636803.9711	2461727.0605
191	L	201+00.00	636902.6092	2461710.6131
192	L	202+00.00	637001.2474	2461694.1658
193	L	203+00.00	637099.8855	2461677.7184
194	L	204+00.00	637198.5236	2461661.2710
195	L	205+00.00	637297.1618	2461644.8236
196	L	206+00.00	637395.7999	2461628.3762
197	L	207+00.00	637494.4381	2461611.9289
198	L	208+00.00	637593.0762	2461595.4815
199	L	209+00.00	637691.7144	2461579.0341
200	L	210+00.00	637790.3525	2461562.5867
201	L	211+00.00	637888.9907	2461546.1394
202	L	212+00.00	637987.6288	2461529.6920
203	L	213+00.00	638086.2670	2461513.2446
204	L	214+00.00	638184.9051	2461496.7972
205	L	215+00.00	638283.5432	2461480.3498
206	L	216+00.00	638382.1814	2461463.9025
207	L	217+00.00	638480.8195	2461447.4551
208	L	218+00.00	638579.4577	2461431.0077
209	L	219+00.00	638678.0958	2461414.5603
210	L	220+00.00	638776.7340	2461398.1130
211	L	221+00.00	638875.3721	2461381.6656
212	L	222+00.00	638974.0103	2461365.2182
213	L	223+00.00	639072.6484	2461348.7708
214	L	224+00.00	639171.2866	2461332.3234
215	L	225+00.00	639269.9247	2461315.8761
216	L	226+00.00	639368.5628	2461299.4287
217	L	227+00.00	639467.2010	2461282.9813
218	L	228+00.00	639565.8391	2461266.5339
219	L	229+00.00	639664.4773	2461250.0866
220	L	230+00.00	639763.1154	2461233.6392
221	L	231+00.00	639861.7536	2461217.1918
222	L	232+00.00	639960.3917	2461200.7444
223	L	233+00.00	640059.0299	2461184.2970
224	L	234+00.00	640157.6680	2461167.8497
225	L	235+00.00	640256.3062	2461151.4023
226	L	236+00.00	640354.9443	2461134.9549
227	L	237+00.00	640453.5825	2461118.5075
228	L	238+00.00	640552.2206	2461102.0601
229	L	239+00.00	640650.8587	2461085.6128
230	L	240+00.00	640749.4969	2461069.1654
231	L	241+00.00	640848.1350	2461052.7180
232	L	242+00.00	640946.7732	2461036.2706
233	L	243+00.00	641045.4113	2461019.8233
234	L	244+00.00	641144.0495	2461003.3759
235	L	245+00.00	641242.6876	2460986.9285
236	L	246+00.00	641341.3258	2460970.4811
237	L	247+00.00	641439.9639	2460954.0337
238	L	248+00.00	641538.6021	2460937.5864
239	L	249+00.00	641637.2402	2460921.1390
240	L	250+00.00	641735.8783	2460904.6916
241	L	251+00.00	641834.5165	2460888.2442
242	L	252+00.00	641933.1546	2460871.7969
243	L	253+00.00	642031.7928	2460855.3495
244	L	254+00.00	642130.4309	2460838.9021
245	L	255+00.00	642229.0691	2460822.4547
246	L	256+00.00	642327.7072	2460806.0073
247	L	257+00.00	642426.3454	2460789.5600
248	L	258+00.00	642524.9835	2460773.1126
249	L	259+00.00	642623.6217	2460756.6652
250	L	260+00.00	642722.2598	2460740.2178
251	L	261+00.00	642820.8979	2460723.7705
252	L	262+00.00	642919.5361	2460707.3231
253	L	263+00.00	643018.1742	2460690.8757
254	L	264+00.00	643116.8124	2460674.4283
255	L	265+00.00	643215.4505	2460657.9809
256	L	266+00.00	643314.0766	2460641.4613
257	L	267+00.00	643412.5642	2460624.1400
258	L	268+00.00	643510.7310	2460605.0886
259	L	269+00.00	643608.5013	2460584.0971
260	L	270+00.00	643705.8368	2460561.1738
261	L	271+00.00	643802.6993	2460536.3278
262	L	272+00.00	643899.0508	2460509.5686
263	L	273+00.00	643994.8536	2460480.9069
264	L	274+00.00	644090.0701	2460450.3538
265	L	275+00.00	644184.6630	2460417.9214
266	L	276+00.00	644278.5951	2460383.6223
267	L	277+00.00	644371.8297	2460347.4700
268	L	278+00.00	644464.3302	2460309.4787
269	L	279+00.00	644556.0602	2460269.6633
270	L	280+00.00	644646.9839	2460228.0393
271	L	281+00.00	644737.0656	2460184.6232
272	L	282+00.00	644826.2700	2460139.4319
273	L	283+00.00	644914.5621	2460092.4832
274	L	284+00.00	645001.9072	2460043.7954
275	L	285+00.00	645088.2712	2459993.3876
276	L	286+00.00	645173.6201	2459941.2797
277	L	287+00.00	645257.9205	2459887.4921
278	L	288+00.00	645341.1394	2459832.0457
279	L	289+00.00	645423.2440	2459774.9625
280	L	290+00.00	645504.2023	2459716.2647
281	L	291+00.00	645583.9825	2459655.9755
282	L	292+00.00	645662.6939	2459594.2959
283	L	293+00.00	645740.9080	2459531.9858
284	L	294+00.00	645819.0781	2459469.6205
285	L	295+00.00	645897.2483	2459407.2553
286	L	296+00.00	645975.4185	2459344.8901
287	L	297+00.00	646053.5887	2459282.5249
288	L	298+00.00	646131.7589	2459220.1596
289	L	299+00.00	646209.9291	2459157.7944
290	L	300+00.00	646288.0993	2459095.4292
291	L	301+00.00	646366.2695	2459033.0640
292	L	302+00.00	646444.4397	2458970.6988
293	L	303+00.00	646522.6099	2458908.3335
294	L	304+00.00	646600.7801	2458845.9683
295	L	305+00.00	646678.9503	2458783.6031
296	L	306+00.00	646757.1204	2458721.2379
297	L	307+00.00	646835.2906	2458658.8726
298	L	308+00.00	646913.4608	2458596.5074
299	L	309+00.00	646991.6310	2458534.1422
300	L	310+00.00	647069.8012	2458471.7770
301	L	311+00.00	647147.9714	2458409.4117
302	L	312+00.00	647226.1416	2458347.0465
303	L	313+00.00	647304.3118	2458284.6813
304	L	314+00.00	647382.4820	2458222.3161
305	L	315+00.00	647460.6522	2458159.9508
306	L	316+00.00	647538.8224	2458097.5856
307	L	317+00.00	647616.9926	2458035.2204
308	L	318+00.00	647695.1627	2457972.8552
309	L	319+00.00	647773.3329	2457910.4900
310	L	320+00.00	647851.5765	2457848.2169
311	L	321+00.00	647930.4072	2457786.6903
312	L	322+00.00	648010.3496	2457726.6163
313	L	323+00.00	648091.4659	2457668.1370
314	L	324+00.00	648173.7242	2457611.2754
315	L	325+00.00	648257.0923	2457556.0537
316	L	326+00.00	648341.5374	2457502.4935
317	L	327+00.00	648427.0265	2457450.6159
318	L	328+00.00	648513.5261	2457400.4413
319	L	329+00.00	648601.0022	2457351.9892
320	L	330+00.00	648689.4206	2457305.2787
321	L	331+00.00	648778.7465	2457260.3281
322	L	332+00.00	648868.9449	2457217.1550
323	L	333+00.00	648959.9805	2457175.7764
324	L	334+00.00	649051.8176	2457136.2085
325	L	335+00.00	649144.4202	2457098.4668
326	L	336+00.00	649237.7519	2457062.5660
327	L	337+00.00	649331.7762	2457028.5204
328	L	338+00.00	649426.4562	2456996.3431
329	L	339+00.00	649521.7547	2456966.0469
330	L	340+00.00	649617.6345	2456937.6436
331	L	341+00.00	649714.0578	2456911.1444
332	L	342+00.00	649810.9870	2456886.5596
333	L	343+00.00	649908.3839	2456863.8988
334	L	344+00.00	650006.2105	2456843.1711
335	L	345+00.00	650104.4283	2456824.3844
336	L	346+00.00	650202.9988	2456807.5463
337	L	347+00.00	650301.8834	2456792.6631
338	L	348+00.00	650401.0433	2456779.7409
339	L	349+00.00	650500.4397	2456768.7847
340	L	350+00.00	650600.0335	2456759.7987
341	L	351+00.00	650699.7857	2456752.7865
342	L	352+00.00	650799.6572	2456747.7508
343	L	353+00.00	650899.6088	2456744.6936
344	L	354+00.00	650999.6013	2456743.6162
345	L	355+00.00	651099.5956	2456744.5189
346	L	356+00.00	651199.5525	2456747.4014
347	L	357+00.00	651299.4326	2456752.2625
348	L	358+00.00	651399.1969	2456759.1003
349	L	359+00.00	651498.8063	2456767.9123
350	L	360+00.00	651598.2262	2456778.6546
351	L	361+00.00	651697.4987	2456790.6927
352	L	362+00.00	651796.7336	2456803.0393
353	L	363+00.00	651895.9683	2456815.3872
354	L	364+00.00	651995.2030	2456827.7352
355	L	365+00.00	652094.4378	2456840.0831
356	L	366+00.00	652193.6725	2456852.4311
357	L	367+00.00	652292.9072	2456864.7790
358	L	368+00.00	652392.1419	2456877.1269
359	L	369+00.00	652491.3766	2456889.4749
360	L	370+00.00	652590.6113	2456901.8228
361	L	371+00.00	652689.8460	2456914.1708
362	L	372+00.00	652789.0807	2456926.5187
363	L	373+00.00	652888.3155	2456938.8667
364	L	374+00.00	652987.5502	2456951.2146
365	L	375+00.00	653086.7849	2456963.5626
366	L	376+00.00	653186.0196	2456975.9105
367	L	377+00.00	653285.2543	2456988.2584
368	L	378+00.00	653384.4890	2457000.6064
369	L	379+00.00	653483.7237	2457012.9543
370	L	380+00.00	653582.9585	2457025.3023
371	L	381+00.00	653682.1932	2457037.6502
372	L	382+00.00	653781.4279	2457049.9982
373	L	383+00.00	653880.6626	2457062.3461
374	L	384+00.00	653979.8973	2457074.6941
375	L	385+00.00	654079.1320	2457087.0420
376	L	386+00.00	654178.3667	2457099.3899
377	L	387+00.00	654277.6014	2457111.7379
378	L	388+00.00	654376.8362	2457124.0858
379	L	389+00.00	654476.0709	2457136.4338
380	L	390+00.00	654575.3056	2457148.7817
381	L	391+00.00	654674.5403	2457161.1297
382	L	392+00.00	654773.7750	2457173.4776
383	L	393+00.00	654873.0097	2457185.8256
384	L	394+00.00	654972.2444	2457198.1735
385	L	395+00.00	655071.4791	2457210.5214
386	L	396+00.00	655170.7139	2457222.8694
387	L	397+00.00	655269.9486	2457235.2173
388	L	398+00.00	655369.1833	2457247.5653
389	L	399+00.00	655468.4180	2457259.9132
390	L	400+00.00	655567.6527	2457272.2612
391	L	401+00.00	655666.8874	2457284.6091
392	L	402+00.00	655766.1221	2457296.9570
393	L	403+00.00	655865.3569	2457309.3050
394	L	404+00.00	655964.5916	2457321.6529
395	L	405+00.00	656063.8263	2457334.0009
396	L	406+00.00	656163.0610	2457346.3488
397	L	407+00.00	656262.2957	2457358.6968
398	L	408+00.00	656361.5304	2457371.0447
399	L	409+00.00	656460.7651	2457383.3927
400	L	410+00.00	656559.9998	2457395.7406
401	L	411+00.00	656659.2346	2457408.0885
402	L	412+00.00	656758.4693	2457420.4365
403	L	413+00.00	656857.7040	2457432.7844
404	L	414+00.00	656956.9387	2457445.1324
405	L	415+00.00	657056.1734	2457457.4803
406	L	416+00.00	657155.4081	2457469.8283
407	L	417+00.00	657254.6428	2457482.1762
408	L	418+00.00	657353.8775	2457494.5242
409	L	419+00.00	657453.1123	2457506.8721
410	L	420+00.00	657552.3470	2457519.2200

PROJ. REFERENCE NO.	SHEET NO.
R-2250	1D-2

HDR Engineering, Inc. of the Carolinas
3733 National Drive, Suite 207 Raleigh, N.C. 27612
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CENTERLINE COORDINATE LIST

Point #	Chain	Station	Northing (Y)	Easting (X)
411	L	421+00.00	657651.5817	2457531.5680
412	L	422+00.00	657750.8164	2457543.9159
413	L	423+00.00	657850.0511	2457556.2639
414	L	424+00.00	657949.2858	2457568.6118
415	L	425+00.00	658048.5205	2457580.9598
416	L	426+00.00	658147.7560	2457593.3017
417	L	427+00.00	658247.0419	2457605.2293
418	L	428+00.00	658346.4052	2457616.4947
419	L	429+00.00	658445.8413	2457627.0975
420	L	430+00.00	658545.3459	2457637.0371
421	L	431+00.00	658644.9146	2457646.3132
422	L	432+00.00	658744.5428	2457654.9253
423	L	433+00.00	658844.2263	2457662.8730
424	L	434+00.00	658943.9606	2457670.1559
425	L	435+00.00	659043.7412	2457676.7738
426	L	436+00.00	659143.5637	2457682.7264
427	L	437+00.00	659243.4236	2457688.0134
428	L	438+00.00	659343.3166	2457692.6345
429	L	439+00.00	659443.2382	2457696.5895
430	L	440+00.00	659543.1839	2457699.8784
431	L	441+00.00	659643.1493	2457702.5008
432	L	442+00.00	659743.1300	2457704.4568
433	L	443+00.00	659843.1215	2457705.7462
434	L	444+00.00	659943.1194	2457706.3689
435	L	445+00.00	660043.1192	2457706.3250
436	L	446+00.00	660143.1165	2457705.6145
437	L	447+00.00	660243.1068	2457704.2373
438	L	448+00.00	660343.0857	2457702.1935
439	L	449+00.00	660443.0488	2457699.4833
440	L	450+00.00	660542.9916	2457696.1067
441	L	451+00.00	660642.9097	2457692.0639
442	L	452+00.00	660742.7986	2457687.3551
443	L	453+00.00	660842.6538	2457681.9805
444	L	454+00.00	660942.4711	2457675.9403
445	L	455+00.00	661042.2458	2457669.2347
446	L	456+00.00	661141.9736	2457661.8642
447	L	457+00.00	661241.6501	2457653.8290
448	L	458+00.00	661341.2708	2457645.1295
449	L	459+00.00	661440.8313	2457635.7660
450	L	460+00.00	661540.3271	2457625.7390
451	L	461+00.00	661639.7539	2457615.0489
452	L	462+00.00	661739.1072	2457603.6962
453	L	463+00.00	661838.3826	2457591.6814
454	L	464+00.00	661937.5757	2457579.0051
455	L	465+00.00	662036.6821	2457565.6677
456	L	466+00.00	662135.6974	2457551.6700
457	L	467+00.00	662234.6171	2457537.0124
458	L	468+00.00	662333.4370	2457521.6958
459	L	469+00.00	662432.1525	2457505.7206
460	L	470+00.00	662530.7594	2457489.0877
461	L	471+00.00	662629.2532	2457471.7979
462	L	472+00.00	662727.6295	2457453.8518
463	L	473+00.00	662825.8851	2457435.2562
464	L	474+00.00	662924.0943	2457416.4160
465	L	475+00.00	663022.3035	2457397.5758
466	L	476+00.00	663120.5127	2457378.7357
467	L	477+00.00	663218.7219	2457359.8955
468	L	478+00.00	663316.9388	2457341.0953
469	L	479+00.00	663415.2718	2457322.9152
470	L	480+00.00	663513.8305	2457306.0029
471	L	481+00.00	663612.6088	2457290.4239
472	L	482+00.00	663711.5885	2457276.1812
473	L	483+00.00	663810.7517	2457263.2774
474	L	484+00.00	663910.0802	2457251.7147
475	L	485+00.00	664009.5559	2457241.4953
476	L	486+00.00	664109.1606	2457232.6210
477	L	487+00.00	664208.8761	2457225.0935
478	L	488+00.00	664308.6843	2457218.9142
479	L	489+00.00	664408.5668	2457214.0842
480	L	490+00.00	664508.5055	2457210.6043
481	L	491+00.00	664608.4820	2457208.4752
482	L	492+00.00	664708.4782	2457207.6974
483	L	493+00.00	664808.4758	2457208.2708
484	L	494+00.00	664908.4566	2457210.1955
485	L	495+00.00	665008.4021	2457213.4710
486	L	496+00.00	665108.2943	2457218.0969
487	L	497+00.00	665208.1149	2457224.0721
488	L	498+00.00	665307.8456	2457231.3957
489	L	499+00.00	665407.4682	2457240.0663
490	L	500+00.00	665506.9646	2457250.0823
491	L	501+00.00	665606.3165	2457261.4419
492	L	502+00.00	665705.5059	2457274.1430

Point #	Chain	Station	Northing (Y)	Easting (X)
493	L	503+00.00	665804.5146	2457288.1834
494	L	504+00.00	665903.3245	2457303.5603
495	L	505+00.00	666001.9175	2457320.2711
496	L	506+00.00	666100.2758	2457338.3126
497	L	507+00.00	666198.3813	2457357.6816
498	L	508+00.00	666296.2161	2457378.3746
499	L	509+00.00	666393.7624	2457400.3877
500	L	510+00.00	666491.0022	2457423.7170
501	L	511+00.00	666587.9180	2457448.3582
502	L	512+00.00	666684.4919	2457474.3067
503	L	513+00.00	666780.7064	2457501.5579
504	L	514+00.00	666876.5438	2457530.1067
505	L	515+00.00	666971.9867	2457559.9480
506	L	516+00.00	667067.0176	2457591.0763
507	L	517+00.00	667161.6192	2457623.4860
508	L	518+00.00	667255.7742	2457657.1710
509	L	519+00.00	667349.4654	2457692.1253
510	L	520+00.00	667442.6758	2457728.3424
511	L	521+00.00	667535.3882	2457765.8158
512	L	522+00.00	667627.5858	2457804.5386
513	L	523+00.00	667719.2516	2457844.5038
514	L	524+00.00	667810.3691	2457885.7040
515	L	525+00.00	667900.9215	2457928.1317
516	L	526+00.00	667990.8994	2457971.7647
517	L	527+00.00	668080.4968	2458016.1753
518	L	528+00.00	668170.0417	2458060.6916
519	L	529+00.00	668259.5867	2458105.2079
520	L	530+00.00	668349.1316	2458149.7242
521	L	531+00.00	668438.6765	2458194.2406
522	L	532+00.00	668528.2215	2458238.7569
523	L	533+00.00	668617.7664	2458283.2732
524	L	534+00.00	668707.3114	2458327.7896
525	L	535+00.00	668796.8563	2458372.3059
526	L	536+00.00	668886.4012	2458416.8222
527	L	537+00.00	668975.9462	2458461.3386
528	L	538+00.00	669065.4911	2458505.8549
529	L	539+00.00	669155.0361	2458550.3712
530	L	540+00.00	669244.5810	2458594.8876
531	L	541+00.00	669334.1259	2458639.4039
532	L	542+00.00	669423.6709	2458683.9202
533	L	543+00.00	669513.2158	2458728.4366
534	L	544+00.00	669602.7608	2458772.9529
535	L	545+00.00	669692.3057	2458817.4692
536	L	546+00.00	669781.8506	2458861.9855
537	L	547+00.00	669871.3956	2458906.5019
538	L	548+00.00	669960.9405	2458951.0182
539	L	549+00.00	670050.4855	2458995.5345
540	L	550+00.00	670140.0304	2459040.0509
541	L	551+00.00	670229.5753	2459084.5672
542	L	552+00.00	670319.1203	2459129.0835
543	L	553+00.00	670408.6652	2459173.5999
544	L	554+00.00	670498.2101	2459218.1162
545	L	555+00.00	670587.7551	2459262.6325
546	L	556+00.00	670677.3000	2459307.1489
547	L	557+00.00	670766.8450	2459351.6652
548	L	558+00.00	670856.3899	2459396.1815
549	L	559+00.00	670945.9348	2459440.6979
550	L	560+00.00	671035.4798	2459485.2142
551	L	561+00.00	671125.0247	2459529.7305
552	L	562+00.00	671214.5697	2459574.2468
553	L	563+00.00	671304.1146	2459618.7632
554	L	564+00.00	671393.6595	2459663.2795
555	L	565+00.00	671483.2045	2459707.7958
556	L	566+00.00	671572.7494	2459752.3122
557	L	567+00.00	671662.2944	2459796.8285
558	L	568+00.00	671751.8393	2459841.3448
559	L	569+00.00	671841.3842	2459885.8612
560	L	570+00.00	671930.9292	2459930.3775
561	L	571+00.00	672020.4741	2459974.8938
562	L	572+00.00	672110.0191	2460019.4102
563	L	573+00.00	672199.5640	2460063.9265
564	L	574+00.00	672289.1089	2460108.4428
565	L	575+00.00	672378.6539	2460152.9592
566	L	576+00.00	672468.1988	2460197.4755
567	L	577+00.00	672557.7438	2460241.9918
568	L	578+00.00	672647.2887	2460286.5081
569	L	579+00.00	672736.8336	2460331.0245
570	L	580+00.00	672826.3786	2460375.5408
571	L	581+00.00	672915.9235	2460420.0571
572	L	582+00.00	673005.4685	2460464.5735
573	L	583+00.00	673094.9300	2460509.2570
574	L	584+00.00	673184.2122	2460554.2978

Point #	Chain	Station	Northing (Y)	Easting (X)
575	L	585+00.00	673273.3135	2460599.6954
576	L	586+00.00	673362.2325	2460645.4491
577	L	587+00.00	673450.9678	2460691.5580
578	L	588+00.00	673539.5180	2460738.0215
579	L	589+00.00	673627.8816	2460784.8389
580	L	590+00.00	673716.0572	2460832.0093
581	L	591+00.00	673804.0434	2460879.5320
582	L	592+00.00	673891.8388	2460927.4063
583	L	593+00.00	673979.4421	2460975.6314
584	L	594+00.00	674066.8517	2461024.2066
585	L	595+00.00	674154.0663	2461073.1309
586	L	596+00.00	674241.0846	2461122.4038
587	L	597+00.00	674327.9050	2461172.0243
588	L	598+00.00	674414.5263	2461221.9917
589	L	599+00.00	674500.9470	2461272.3052
590	L	600+00.00	674587.1658	2461322.9640
591	L	601+00.00	674673.1812	2461373.9672
592	L	602+00.00	674758.9919	2461425.3141
593	L	603+00.00	674844.5966	2461477.0039
594	L	604+00.00	674929.9938	2461529.0356
595	L	605+00.00	675015.1822	2461581.4085
596	L	606+00.00	675100.1605	2461634.1217
597	L	607+00.00	675184.9272	2461687.1744
598	L	608+00.00	675269.4810	2461740.5658
599	L	609+00.00	675353.8206	2461794.2950
600	L	610+00.00	675437.9446	2461848.3611
601	L	611+00.00	675521.8516	2461902.7632
602	L	612+00.00	675605.5404	2461957.5005
603	L	613+00.00	675689.0096	2462012.5722
604	L	614+00.00	675772.2578	2462067.9773
605	L	615+00.00	675855.2837	2462123.7149
606	L	616+00.00	675938.0860	2462179.7842
607	L	617+00.00	676020.6633	2462236.1843
608	L	618+00.00	676103.0144	2462292.9142
609	L	619+00.00	676185.1380	2462349.9730
610	L	620+00.00	676267.0326	2462407.3599
611	L	621+00.00	676348.6970	2462465.0739
612	L	622+00.00	676430.1299	2462523.1142
613	L	623+00.00	676511.3300	2462581.4796
614	L	624+00.00	676592.2960	2462640.1694
615	L	625+00.00	676673.0266	2462699.1826
616	L	626+00.00	676753.5205	2462758.5183
617	L	627+00.00	676833.7764	2462818.1755
618	L	628+00.00	676913.7931	2462878.1531
619	L	629+00.00	676993.5692	2462938.4504
620	L	630+00.00	677073.1034	2462999.0663
621	L	631+00.00	677152.3946	2463059.9999
622	L	632+00.00	677231.4414	2463121.2501
623	L	633+00.00	677310.2425	2463182.8161
624	L	634+00.00	677388.7968	2463244.6967
625	L	635+00.00	677467.1029	2463306.8911
626	L	636+00.00	677545.1596	2463369.3982
627	L	637+00.00	677622.9657	2463432.2170
628	L	638+00.00	677700.5199	2463495.3465
629	L	639+00.00	677777.9370	2463558.6441
630	L	640+00.00	677855.9079	2463621.2567
631	L	641+00.00	677935.1883	2463682.1993
632	L	642+00.00	678016.4419	2463740.4800
633	L	643+00.00	678099.8840	2463795.5814
634	L	644+00.00	678185.3986	2463847.4080
635	L	645+00.00	678272.8573	2463895.8820
636	L	646+00.00	678362.1286	2463940.9306
637	L	647+00.00	678453.0786	2463982.4861
638	L	648+00.00	678545.5705	2464020.4861
639	L	649+00.00	678639.4654	2464054.8734
640	L	650+00.00	678734.6223	2464085.5966
641	L	651+00.00	678830.8983	2464112.6093
642	L	652+00.00	678928.1487	2464135.8710
643	L	653+00.00	679026.2274	2464155.3468
644	L	654+00.00	679124.9872	2464171.0075
645	L	655+00.00	679224.2611	2464182.9979
646	L	656+00.00	679323.8272	2464192.2833
647	L	657+00.00	679423.5221	2464200.0836
648	L	658+00.00	679523.2449	2464207.5244
649	L	659+00.00	679622.9679	2464214.9632
650	L	660+00.00	679722.6908	2464222.4020
651	L	661+00.00	679822.4137	2464229.8407
652	L	662+00.00	679922.1367	2464237.2795
653	L	663+00.00	680021.8596	2464244.7183
654	L	664+00.00	680121.5826	2464252.1571
655	L	665+00.00	680221.3055	2464259.5959
656	L	666+00.00	680321.0284	2464267.0347

Point #	Chain	Station	Northing (Y)	Easting (X)
657	L	667+00.00	680420.7514	2464274.4735
658	L	668+00.00	680520.4743	2464281.9123
659	L	669+00.00	680620.1972	2464289.3511
660	L	670+00.00	680719.9202	2464296.7899
661	L	671+00.00	680819.6431	2464304.2287
662	L	672+00.00	680919.3661	2464311.6675
663	L	673+00.00	681019.0890	2464319.1063
664	L	674+00.00	681118.8119	2464326.5451
665	L	675+00.00	681218.5349	2464333.9839
666	L	676+00.00	681318.2578	2464341.4227
667	L	677+00.00	681417.9808	2464348.8615
668	L	678+00.00	681517.7037	2464356.3003
669	L	679+00.00	681617.4266	2464363.7390
670	L	680+00.00	681717.1496	2464371.1778
671	L	681+00.00	681816.8725	2464378.6166
672	L	682+00.00	681916.5954	2464386.0554
673	L	683+00.00	682016.3184	2464393.4942
674	L	683+50.00	682066.1798	2464397.2136
675	FLYBY7	10+00.00	625068.5535	2466703.1536
676	FLYBY7	11+00.00	625160.8935	2466664.7739
677	FLYBY7	12+00.00	625251.6731	2466622.8663
678	FLYBY7	13+00.00	625339.1246	2466574.4259
679	FLYBY7	14+00.00	625422.2419	2466518.8766
680	FLYBY7	15+00.00	625500.4471	2466456.6016
681	FLYBY7	16+00.00	625573.1973	2466388.0333
682	FLYBY7	17+00.00	625639.9876	2466313.6473
683	FLYBY7	18+00.00	625700.4608	2466234.0362
684	FLYBY7	19+00.00	625756.0452	2466150.9162
685	FLYBY7	20+00.00	625809.7433	2466066.5570
686	FLYBY7	21+00.00	625863.3401	2465982.1331
687	FLYBY7	22+00.00	625916.9651	2465897.7272
688	FLYBY7	23+00.00	625972.6725	2465814.6968
689	FLYBY7	24+00.00	626035.5254	2465736.9968
690	FLYBY7	25+00.00	626107.8642	2465668.0577
691	FLYBY7	26+00.00	626188.6429	2465609.2334
692	FLYBY7	27+00.00	626276.4577	2465561.5461
693	FLYBY7	28+00.00	626369.7823	2465525.8247
694	FLYBY7	29+00.00	626466.9949	2465502.6900
695	FLYBY7	30+00.00	626566.4060	2465492.5441
696	FLYBY7	31+00.00	626666.2885	2465495.5564
697	FLYBY7	32+00.00	626765.2329	2465509.8358
698	FLYBY7	33+00.00	626863.3501	2465529.1414
699	FLYBY7	34+00.00	626961.3787	2465548.8998
700	FLYBY7	35+00.00	627059.4073	2465568.6582
701	FLYBY7	36+00.00	627157.4359	2465588.4165
702	FLYBY7	37+00.00	627255.5127	2465607.9327
703	FLYBY7	38+00.00	627353.9080	2465625.7640
704	FLYBY7	39+00.00	627452.6692	2465641.4429
705	FLYBY7	40+00.00	627551.7492	2465654.9619
706	FLYBY7	41+00.00	627651.1007	2465666.3145
707	FLYBY7	42+00.00	627750.6764	2465675.4954
708	FLYBY7	43+00.00	627850.4288	2465682.5001
709	FLYBY7	44+00.00	627950.3103	2465687.3253
710	FLYBY7	45+00.00	628050.2732	2465689.9752
711	FLYBY7	46+00.00	628150.2656	2465691.2064
712	FLYBY7	47+00.00	628250.2593	2465692.3281
713	FLYBY7	48+00.00	628350.2530	2465693.4498
714	FLYBY7	48+47.92	628398.1689	2465693.9873
715	Y1	10+00.00	621584.6315	2466582.2335
716	Y1	11+00.00	621560.9714	2466679.3942
717	Y1	12+00.00	621537.3112	2466776.5549
718	Y1	13+00.00	621513.6511	2466873.7155
719	Y1	14+00.00	621489.9910	2466970.8762
720	Y1	15+00.00	621466.3308	2467068.0369
721	Y1	16+00.00	621442.6707	2467165.1976
722	Y1	17+00.00	621419.0106	2467262.3583
723	Y1	18+00.00	621395.3504	2467359.5190
724	Y1	19+00.00	621371.6903	2467456.6796
725	Y1	19+06.16	621370.2336	2467462.6618
726	Y2	10+00.00	621495.4328	2466948.5293
727	Y2	11+00.00	621592.5991	2466972.1662
728	Y2	12+00.00	621690.1724	2466993.9675
729	Y2	13+00.00	621789.3219	2467006.6582
730	Y2	14+00.00	621889.2036	2467011.3972
731	Y2	15+00.00	621989.1207	2467015.4680
732	Y2	16+00.00	622089.0378	2467019.5389
733	Y2	17+00.00	622188.9549	2467023.6097
734	Y2	18+00.00	622288.8721	2467027.6805
735	Y2	19+00.00	622388.7892	2467031.7513

Point #	Chain	Station	Northing (Y)	Easting (X)
736	Y2	20+00.00	622488.7063	2467035.8221
737	Y2	21+00.00	622588.6234	2467039.8929
738	Y2	22+00.00	622688.4835	2467037.9300
739	Y2	23+00.00	622786.2742	2467017.7392
740	Y2	24+00.00	622878.5830	2466979.6630
741	Y2	25+00.00	622962.1699	2466925.0376
742	Y2	26+00.00	623034.1013	2466855.7804
743	Y2	27+00.00	623091.8527	2466774.3219
744	Y2	28+00.00	623133.3971	2466683.5213
745	Y2	29+00.00	623157.2765	2466586.5652
746	Y2	30+00.00	623163.6050	2466486.8566
747	Y2	31+00.00	623165.5887	2466386.8762
748	Y2	32+00.00	623167.5723	2466286.8959
749	Y2	33+00.00	623169.5560	2466186.9156
750	Y2	34+00.00	623171.5396	2466086.9353
751	Y2	34+37.03	623172.2743	2466049.9084
752	Y3	10+00.00	622882.5223	2466044.9130
753	Y3	11+00.00	622982.5074	2466046.6412
754	Y3	12+00.00	623082.4925	2466048.3694
755	Y3	13+00.00	623182.4775	2466050.0976
756	Y3	14+00.00	623282.4626	2466051.8258
757	Y3	15+00.00	623382.4476	2466053.5539
758	Y3	16+00.00	623482.4327	2466055.2821
759	Y3	17+00.00	623582.4178	2466057.0103
760	Y3	18+00.00	623682.4088	2466058.1587
761	Y3	19+00.00	623782.4083	2466058.4912
762	Y3	20+00.00	623882.4077	2466058.8237
763	Y3	21+00.00	623982.4072	2466059.1562
764	Y3	22+00.00	624082.4066	2466059.4887
765	Y3	23+00.00	624182.4061	2466059.8212
766	Y3	24+00.00	624282.4055	2466060.1537
767	Y3	25+00.00	624382.4050	2466060.4862
768	Y3	26+00.00	624482.4044	2466060.8187
769	Y3	27+00.00	624582.4038	2466061.1511
770	Y3	28+00.00	624682.4033	2466061.4836
771	Y3	29+00.00	624782.4027	2466061.8161
772	Y3	30+00.00	624882.4022	2466062.1486
773	Y3	31+00.00	624982.4016	2466062.4811
774	Y3	32+00.00	625082.4011	2466062.8136
775	Y3	33+00.00	625182.4005	2466063.1461
776	Y3	34+00.00	625282.4000	2466063.4786
777	Y3	35+00.00	625382.2360	2466059.5397
778	Y3	36+00.00	625479.8566	2466038.4994
779	Y3	37+00.00	625572.0637	2466000.1543
780	Y3	38+00.00	625655.8173	2465945.7686
781	Y3	39+00.00	625728.8240	2465877.5745
782	Y3	40+00.00	625798.4697	2465805.8147
783	Y3	41+00.00	625866.6025	2465732.6700
784	Y3	42+00.00	625922.0658	2465649.6367
785	Y3	43+00.00	625961.2201	2465557.7665
786	Y3	43+90.00	625990.5513	2465472.6802
787	Y4	10+00.00	623643.0897	2465937.8325
788	Y4	11+00.00	623641.2422	2466037.8154
789	Y4	12+00.00	623639.3948	2466137.7984
790	Y4	13+00.00	623637.5473	2466237.7813
791	Y4	13+02.16	623637.5075	2466239.9365
792	Y5	10+00.00	621370.2336	2467462.6618
793	Y5	11+00.00	621352.0442	2467560.6416
794	Y5	12+00.00	621387.1719	2467652.2992
795	Y5	13+00.00	621471.4566	2467702.6098
796	Y5	14+00.00	621570.6464	2467715.2091
797	Y5	15+00.00	621669.9141	2467727.2885
798	Y5	16+00.00	621769.1819	2467739.3680
799	Y5	17+00.00	621868.4496	2467751.4475
800	Y5	18+00.00	621967.7174	2467763.5270
801	Y5	19+00.00	622066.9851	2467775.6065
802	Y5	20+00.00	622166.2528	2467787.6859
803	Y5	21+00.00	622265.5206	2467799.7654
804	Y5	22+00.00	622364.7751	2467811.9514
805	Y5	23+00.00	622463.7035	2467826.5201
806	Y5	24+00.00	622562.0914	2467844.3778
807	Y5	25+00.00	622659.8295	2467865.5045
808	Y5	26+00.00	622756.8092	2467889.8768
809	Y5	27+00.00	622852.9228	2467917.4677
810	Y5	28+00.00	622948.0634	2467948.2464
811	Y5	29+00.00	623042.1255	2467982.1787
812	Y5	30+00.00	623135.0044	2468019.2271
813	Y5	31+00.00	623226.5977	2468059.3488
814	Y5	31+90.00	623308.4601	2468096.7459

PROJ. REFERENCE NO.	SHEET NO.
R-2250	1D-3

HDR Engineering, Inc. of the Carolinas
3733 National Drive, Suite 207 Raleigh, N.C. 27612
N.C.B,E,L,S, License Number: F-0116

BARNHILL CONTRACTING COMPANY

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CENTERLINE COORDINATE LIST

Point #	Chain	Station	Northing (Y)	Easting (X)
815	Y6	10+00.00	628438.8011	2462452.9297
816	Y6	11+00.00	628457.8870	2462551.0915
817	Y6	12+00.00	628476.9729	2462649.2532
818	Y6	13+00.00	628496.0589	2462747.4150
819	Y6	14+00.00	628514.7117	2462845.6591
820	Y6	15+00.00	628530.7617	2462944.3561
821	Y6	16+00.00	628542.3194	2463043.6764
822	Y6	17+00.00	628549.1363	2463143.4343
823	Y6	18+00.00	628551.2342	2463243.4036
824	Y6	19+00.00	628549.8104	2463343.3912
825	Y6	20+00.00	628547.3173	2463443.3601
826	Y6	21+00.00	628544.8034	2463543.3285
827	Y6	22+00.00	628542.2896	2463643.2969
828	Y6	23+00.00	628539.7757	2463743.2653
829	Y6	24+00.00	628537.2619	2463843.2337
830	Y6	25+00.00	628534.7480	2463943.2021
831	Y6	26+00.00	628532.2342	2464043.1705
832	Y6	27+00.00	628529.7203	2464143.1389
833	Y6	28+00.00	628527.2065	2464243.1073
834	Y6	29+00.00	628524.6926	2464343.0757
835	Y6	30+00.00	628522.1788	2464443.0441
836	Y6	31+00.00	628519.6649	2464543.0125
837	Y6	32+00.00	628517.1511	2464642.9809
838	Y6	33+00.00	628514.6372	2464742.9493
839	Y6	34+00.00	628512.1234	2464842.9177
840	Y6	35+00.00	628509.5919	2464942.8856
841	Y6	36+00.00	628505.1853	2465042.7844
842	Y6	37+00.00	628497.6594	2465142.4967
843	Y6	38+00.00	628485.7673	2465241.7712
844	Y6	39+00.00	628467.9687	2465340.1633
845	Y6	40+00.00	628448.6144	2465438.2725
846	Y6	41+00.00	628429.2602	2465536.3817
847	Y6	42+00.00	628409.9059	2465634.4909
848	Y6	42+60.64	628398.1689	2465693.9873
849	Y6B	11+00.00	628115.2525	2463684.1681
850	Y6B	12+00.00	628176.3466	2463605.0418
851	Y6B	13+00.00	628251.5801	2463539.5594
852	Y6B	14+00.00	628340.6754	2463494.7258
853	Y6B	15+00.00	628438.0929	2463473.3284
854	Y6B	16+00.00	628538.0244	2463473.1359
855	Y6B	16+08.54	628546.5631	2463473.3506
856	Y7RPC	10+00.00	625481.2371	2466649.2191
857	Y7RPC	11+00.00	625573.8235	2466611.4333
858	Y7RPC	12+00.00	625666.4098	2466573.6475
859	Y7RPC	13+00.00	625758.9961	2466535.8616
860	Y7RPC	14+00.00	625851.5825	2466498.0758
861	Y7RPC	15+00.00	625944.1688	2466460.2899
862	Y7RPC	16+00.00	626036.5897	2466422.1020
863	Y7RPC	17+00.00	626128.6750	2466383.1119
864	Y7RPC	18+00.00	626220.4178	2466343.3225
865	Y7RPC	19+00.00	626311.8112	2466302.7369
866	Y7RPC	20+00.00	626403.0943	2466261.9037
867	Y7RPC	21+00.00	626494.7188	2466221.8428
868	Y7RPC	22+00.00	626586.6882	2466182.5800
869	Y7RPC	23+00.00	626678.9956	2466144.1185
870	Y7RPC	24+00.00	626771.5715	2466106.3071
871	Y7RPC	25+00.00	626864.1713	2466068.5544
872	Y7RPC	26+00.00	626956.7711	2466030.8016
873	Y7RPC	27+00.00	627049.3769	2465993.0634
874	Y7RPC	28+00.00	627142.2518	2465955.9952
875	Y7RPC	29+00.00	627235.9733	2465921.1320
876	Y7RPC	30+00.00	627330.8185	2465889.4556
877	Y7RPC	31+00.00	627426.6994	2465861.0678
878	Y7RPC	32+00.00	627523.5020	2465836.0026
879	Y7RPC	33+00.00	627621.1112	2465814.2896
880	Y7RPC	34+00.00	627719.4109	2465795.9546
881	Y7RPC	35+00.00	627818.2844	2465781.0196
882	Y7RPC	36+00.00	627917.6139	2465769.5021
883	Y7RPC	37+00.00	628017.2815	2465761.4160
884	Y7RPC	38+00.00	628117.1686	2465756.7709
885	Y7RPC	39+00.00	628217.1559	2465755.4246
886	Y7RPC	40+00.00	628317.1527	2465756.1437
887	Y7RPC	40+78.31	628395.4555	2465757.0908
888	Y7NBL	10+00.00	628395	2465757
889	Y7NBL	11+00.00	628495	2465758
890	Y7NBL	12+00.00	628595	2465760
891	Y7NBL	13+00.00	628695	2465761
892	Y7NBL	14+00.00	628795	2465762

Point #	Chain	Station	Northing (Y)	Easting (X)
893	Y7NBL	15+00.00	628895	2465763
894	Y7NBL	16+00.00	628995	2465764
895	Y7NBL	17+00.00	629095	2465766
896	Y7NBL	18+00.00	629195	2465767
897	Y7NBL	19+00.00	629295	2465768
898	Y7NBL	20+00.00	629395	2465769
899	Y7NBL	21+00.00	629495	2465770
900	Y7NBL	22+00.00	629595	2465772
901	Y7NBL	23+00.00	629695	2465773
902	Y7NBL	24+00.00	629795	2465774
903	Y7NBL	25+00.00	629895	2465775
904	Y7NBL	26+00.00	629995	2465776
905	Y7NBL	27+00.00	630095	2465778
906	Y7NBL	28+00.00	630195	2465779
907	Y7NBL	29+00.00	630295	2465780
908	Y7NBL	30+00.00	630395	2465781
909	Y7NBL	31+00.00	630495	2465783
910	Y7NBL	32+00.00	630595	2465784
911	Y7NBL	33+00.00	630695	2465787
912	Y7NBL	34+00.00	630795	2465792
913	Y7NBL	35+00.00	630895	2465799
914	Y7NBL	36+00.00	630994	2465809
915	Y7NBL	37+00.00	631094	2465822
916	Y7NBL	38+00.00	631192	2465837
917	Y7NBL	39+00.00	631291	2465855
918	Y7NBL	40+00.00	631389	2465876
919	Y7NBL	41+00.00	631486	2465899
920	Y7NBL	42+00.00	631583	2465924
921	Y7NBL	43+00.00	631679	2465952
922	Y7NBL	44+00.00	631774	2465981
923	Y7NBL	45+00.00	631870	2466010
924	Y7NBL	46+00.00	631966	2466039
925	Y7NBL	47+00.00	632062	2466068
926	Y7NBL	48+00.00	632157	2466097
927	Y7NBL	49+00.00	632253	2466126
928	Y7NBL	50+00.00	632349	2466154
929	Y7NBL	51+00.00	632444	2466183
930	Y7NBL	51+37.82	632481	2466194
931	Y7SBL	10+00.00	628398	2465694
932	Y7SBL	11+00.00	628498	2465695
933	Y7SBL	12+00.00	628598	2465696
934	Y7SBL	13+00.00	628698	2465697
935	Y7SBL	14+00.00	628798	2465698
936	Y7SBL	15+00.00	628898	2465700
937	Y7SBL	16+00.00	628998	2465701
938	Y7SBL	17+00.00	629098	2465702
939	Y7SBL	18+00.00	629198	2465703
940	Y7SBL	19+00.00	629298	2465704
941	Y7SBL	20+00.00	629398	2465705
942	Y7SBL	21+00.00	629498	2465706
943	Y7SBL	22+00.00	629598	2465707
944	Y7SBL	23+00.00	629698	2465709
945	Y7SBL	24+00.00	629798	2465710
946	Y7SBL	25+00.00	629898	2465711
947	Y7SBL	26+00.00	629998	2465712
948	Y7SBL	27+00.00	630098	2465713
949	Y7SBL	28+00.00	630198	2465714
950	Y7SBL	29+00.00	630298	2465715
951	Y7SBL	30+00.00	630398	2465716
952	Y7SBL	31+00.00	630498	2465718
953	Y7SBL	32+00.00	630598	2465719
954	Y7SBL	33+00.00	630698	2465722
955	Y7SBL	34+00.00	630798	2465727
956	Y7SBL	35+00.00	630898	2465735
957	Y7SBL	36+00.00	630997	2465745
958	Y7SBL	37+00.00	631096	2465758
959	Y7SBL	38+00.00	631195	2465774
960	Y7SBL	39+00.00	631293	2465792
961	Y7SBL	40+00.00	631391	2465812
962	Y7SBL	41+00.00	631488	2465836
963	Y7SBL	42+00.00	631585	2465861
964	Y7SBL	43+00.00	631681	2465889
965	Y7SBL	44+00.00	631777	2465917
966	Y7SBL	45+00.00	631873	2465946
967	Y7SBL	46+00.00	631969	2465974
968	Y7SBL	47+00.00	632065	2466003
969	Y7SBL	48+00.00	632160	2466031
970	Y7SBL	49+00.00	632256	2466060
971	Y7SBL	50+00.00	632352	2466088
972	Y7SBL	51+00.00	632448	2466117
973	Y7SBL	51+53.72	632499.5201	2466132.0848

Point #	Chain	Station	Northing (Y)	Easting (X)
974	Y8	10+00.00	632032.1970	2460450.9542
975	Y8	11+00.00	632031.9395	2460550.9539
976	Y8	12+00.00	632031.6821	2460650.9535
977	Y8	13+00.00	632031.4246	2460750.9532
978	Y8	14+00.00	632031.1672	2460850.9529
979	Y8	15+00.00	632030.9097	2460950.9525
980	Y8	16+00.00	632030.6523	2461050.9522
981	Y8	17+00.00	632030.3948	2461150.9519
982	Y8	18+00.00	632030.1374	2461250.9515
983	Y8	19+00.00	632029.8799	2461350.9512
984	Y8	20+00.00	632029.6224	2461450.9509
985	Y8	21+00.00	632029.3650	2461550.9506
986	Y8	22+00.00	632029.0559	2461650.9500
987	Y8	23+00.00	632027.7002	2461750.9400
988	Y8	24+00.00	632024.9162	2461850.9004
989	Y8	25+00.00	632020.7046	2461950.8108
990	Y8	26+00.00	632015.0661	2462050.6509
991	Y8	27+00.00	632008.0020	2462150.4002
992	Y8	28+00.00	631999.9297	2462250.0738
993	Y8	29+00.00	631991.8180	2462349.7443
994	Y8	30+00.00	631983.7063	2462449.4147
995	Y8	31+00.00	631975.5946	2462549.0852
996	Y8	32+00.00	631967.4829	2462648.7556
997	Y8	33+00.00	631959.3712	2462748.4261
998	Y8	34+00.00	631951.2595	2462848.0966
999	Y8	35+00.00	631943.1478	2462947.7670
1000	Y8	36+00.00	631935.0361	2463047.4375
1001	Y8	37+00.00	631926.9244	2463147.1079
1002	Y8	38+00.00	631918.8127	2463246.7784
1003	Y8	39+00.00	631910.7010	2463346.4488
1004	Y8	40+00.00	631902.5893	2463446.1193
1005	Y8	41+00.00	631894.4776	2463545.7898
1006	Y8	42+00.00	631886.3659	2463645.4602
1007	Y8	43+00.00	631878.2542	2463745.1307
1008	Y8	44+00.00	631870.1425	2463844.8011
1009	Y8	45+00.00	631862.0308	2463944.4716
1010	Y8	46+00.00	631853.9191	2464044.1421
1011	Y8	47+00.00	631845.8074	2464143.8125
1012	Y8	48+00.00	631837.6957	2464243.4830
1013	Y8	49+00.00	631829.5840	2464343.1534
1014	Y8	50+00.00	631821.4723	2464442.8239
1015	Y8	51+00.00	631813.3606	2464542.4943
1016	Y8	52+00.00	631805.2489	2464642.1648
1017	Y8	53+00.00	631797.1372	2464741.8353
1018	Y8	54+00.00	631789.0255	2464841.5057
1019	Y8	55+00.00	631780.9138	2464941.1762
1020	Y8	56+00.00	631772.8021	2465040.8466
1021	Y8	57+00.00	631764.6904	2465140.5171
1022	Y8	58+00.00	631756.5787	2465240.1876
1023	Y8	59+00.00	631748.4670	2465339.8580
1024	Y8	60+00.00	631740.3553	2465439.5285
1025	Y8	61+00.00	631732.0726	2465539.1843
1026	Y8	62+00.00	631720.8051	2465638.5408
1027	Y8	63+00.00	631705.5733	2465737.3672
1028	Y8	64+00.00	631686.4018	2465835.5055
1029	Y8	65+00.00	631663.3211	2465932.7986
1030	Y8	66+00.00	631636.3682	2466029.0909
1031	Y8	67+00.00	631605.5862	2466124.2284
1032	Y8	68+00.00	631571.0243	2466218.0587
1033	Y8	69+00.00	631534.4735	2466311.1396
1034	Y8	70+00.00	631497.9208	2466404.2197
1035	Y8	71+00.00	631461.3682	2466497.2997
1036	Y8	72+00.00	631424.8155	2466590.3798
1037	Y8	73+00.00	631388.2628	2466683.4599
1038	Y8	73+84.12	631357.5134	2466761.7622
1039	Y8C	10+00.00	631820.2401	2464457.9638
1040	Y8C	11+00.00	631919.9105	2464466.0762
1041	Y8C	12+00.00	632019.5809	2464474.1885
1042	Y8C	13+00.00	632119.2514	2464482.3008
1043	Y8C	14+00.00	632218.9218	2464490.4132
1044	Y8C	15+00.00	632318.5922	2464498.5255
1045	Y8C	16+00.00	632418.2626	2464506.6378
1046	Y8C	16+35.00	632453.1472	2464509.4772
1047	Y8D	9+00.00	632381.9694	2463534.8760
1048	Y8D	10+00.00	632373.8577	2463634.5465
1049	Y8D	11+00.00	632365.7460	2463734.2170
1050	Y8D	12+00.00	632357.6343	2463833.8874
1051	Y8D	13+00.00	632349.5226	2463933.5579
1052	Y8D	14+00.00	632341.4109	2464033.2283

Point #	Chain	Station	Northing (Y)	Easting (X)
1053	Y8D	15+00.00	632333.2992	2464132.8988
1054	Y8D	16+00.00	632325.1875	2464232.5692
1055	Y8D	17+00.00	632317.0758	2464332.2397
1056	Y8D	18+00.00	632308.9641	2464431.9102
1057	Y8D	18+65.61	632303.6416	2464497.3086
1058	Y8RPA	10+00.00	633738.4583	2462190.5693
1059	Y8RPA	11+00.00	633639.0000	2462200.9643
1060	Y8RPA	12+00.00	633539.5417	2462211.3593
1061	Y8RPA	13+00.00	633440.0249	2462221.1633
1062	Y8RPA	14+00.00	633340.2359	2462227.4761
1063	Y8RPA	15+00.00	633240.2651	2462226.9500
1064	Y8RPA	16+00.00	633140.6830	2462218.1390
1065	Y8RPA	17+00.00	633042.1800	2462201.0697
1066	Y8RPA	18+00.00	632945.4395	2462175.8606
1067	Y8RPA	19+00.00	632851.1274	2462142.7012
1068	Y8RPA	20+00.00	632759.3880	2462102.9357
1069	Y8RPA	21+00.00	632669.2235	2462059.6924
1070	Y8RPA	22+00.00	632579.0455	2462016.4803
1071	Y8RPA	23+00.00	632486.4916	2461978.7097
1072	Y8RPA	24+00.00	632390.1880	2461952.0428
1073	Y8RPA	25+00.00	632291.2135	2461938.2747
1074	Y8RPA	26+00.00	632191.3459	2461933.1576
1075	Y8RPA	27+00.00	632091.4668	2461928.2421
1076	Y8RPA	27+69.61	632021.9378	2461924.8202
1077	Y8RPB	10+00.00	630298.9219	2462778.9434
1078	Y8RPB	11+00.00	630395.8671	2462754.4154
1079	Y8RPB	12+00.00	630492.8124	2462729.8875
1080	Y8RPB	13+00.00	630589.7061	2462705.1582
1081	Y8RPB	14+00.00	630685.9494	2462678.0336
1082	Y8RPB	15+00.00	630780.4025	2462645.2648
1083	Y8RPB	16+00.00	630871.8724	2462604.9229
1084	Y8RPB	17+00.00	630959.6670	2462557.1073
1085	Y8RPB	18+00.00	631043.1768	2462502.1498
1086	Y8RPB	19+00.00	631121.8224	2462440.4320
1087	Y8RPB	20+00.00	631195.1668	2462372.4934
1088	Y8RPB	21+00.00	631264.2693	2462300.2214
1089	Y8RPB	22+00.00	631331.4661	2462226.1639
1090	Y8RPB	23+00.00	631400.0098	2462153.3650
1091	Y8RPB	24+00.00	631474.2531	2462086.4546
1092	Y8RPB	25+00.00	631556.3704	2462029.5138
1093	Y8RPB	26+00.00	631645.2644	2461983.8699
1094	Y8RPB	27+00.00	631739.3901	2461950.3160
1095	Y8RPB	28+00.00	631837.1116	2461929.4354
1096	Y8RPB	29+00.00	631936.4603	2461918.0803
1097	Y8RPB	29+86.71	632022.6564	2461908.6460
1098	Y8RPC	10+00.00	630118.3193	2462927.2940
1099	Y8RPC	11+00.00	630215.2685	2462902.7815
1100	Y8RPC	12+00.00	630312.2396	2462878.3566
1101	Y8RPC	13+00.00	630409.6580	2462855.8053
1102	Y8RPC	14+00.00	630508.1260	2462838.4887
1103	Y8RPC	15+00.00	630607.6515	2462829.0606
1104	Y8RPC	16+00.00	630707.6164	2462827.9494
1105	Y8RPC	17+00.00	630807.3269	2462835.1629
1106	Y8RPC	18+00.00	630906.0909	2462850.6509
1107	Y8RPC	19+00.00	631003.2231	2462874.3059
1108	Y8RPC	20+00.00	631098.0492	2462905.9639
1109	Y8RPC	21+00.00	631189.9420	2462945.3386
1110	Y8RPC	22+00.00	631279.0899	2462990.6229
1111	Y8RPC	23+00.00	631366.7913	2463038.6677
1112	Y8RPC	24+00.00	631454.9873	2463085.7855
1113	Y8RPC	25+00.00	631546.3359	2463126.3573
1114	Y8RPC	26+00.00	631641.9757	2463155.3147
1115	Y8RPC	27+00.00	631740.5936	2463171.4397
1116	Y8RPC	28+00.00	631840.2568	2463179.6353
1117	Y8RPC	28+83.74	631923.7243	2463186.4283
1118	Y8RPD	10+00.00	633526.0755	2462321.2808
1119	Y8RPD	11+00.00	633427.5355	2462338.2985
1120	Y8RPD	12+00.00	633329.6555	2462358.7247
1121	Y8RPD	13+00.00	633233.4106	2462385.7687
1122	Y8RPD	14+00.00	633139.7390	2462420.6949
1123	Y8RPD	15+00.00	633049.2996	2462463.2968
1124	Y8RPD	16+00.00	632962.7200	2462513.2788
1125	Y8RPD	17+00.00	632880.6013	2462570.2940
1126	Y8RPD	18+00.00	632803.5133	2462633.9466
1127	Y8RPD	19+00.00	632731.8379	2462703.6454
1128	Y8RPD	20+00.00	632664.3329	2462777.4130
1129	Y8RPD	21+00.00	632598.5770	2462852.7530
1130	Y8RPD	22+00.00	632531.1426	2462926.5779

Point #	Chain	Station	Northing (Y)	Easting (X)
1131	Y8RPD	23+00.00	632457.6115	2462994.2647
1132	Y8RPD	24+00.00	632376.0280	2463051.9678
1133	Y8RPD	25+00.00	632287.5629	2463098.4375
1134	Y8RPD	26+00.00	632193.7538	2463132.8665
1135	Y8RPD	27+00.00	632096.2772	2463154.9232
1136	Y8RPD	28+00.00	631997.9035	2463172.8845
1137	Y8RPD	28+75.41	631923.7243	2463186.4283
1138	Y8LPB	10+00.00	631897.9016	2462497.4722
1139	Y8LPB	11+00.00	631798.8142	2462510.6175
1140	Y8LPB	12+00.00	631699.4223	2462503.8401
1141	Y8LPB	13+00.00	631609.3293	2462461.9997
1142	Y8LPB	14+00.00	631542.6415	2462388.3782
1143	Y8LPB	15+00.00	631509.8876	2462294.5989
1144	Y8LPB	16+00.00	631516.2386	2462195.4675
1145	Y8LPB	17+00.00	631560.6919	2462106.6346
1146	Y8LPB	18+00.00	631636.2292	2462042.1250
1147	Y8LPB	19+00.00	631730.7904	2462011.3794
1148	Y8LPB	20+00.00	631830.5822	2462007.5500
1149	Y8LPB	21+00.00	631930.4701	2462012.2680
1150	Y8LPB	21+86.79	632017.1538	2462016.5341
1151	Y9	17+00.00	636171.7397	2461645.5729
1152	Y9	18+00.00	636270.3792	2461629.1341
1153	Y9	19+00.00	636369.0188	2461612.6954
1154	Y9	20+00.00	636467.6584	2461596.2566
1155	Y9	21+00.00	636566.2980	2461579.8178
1156	Y9	22+00.00	636664.9376	2461563.3791
1157	Y9	23+00.00	636763.5771	2461546.9403
1158	Y9	24+00.00	636862.2167	2461530.5015
1159	Y9	25+00.00	636960.8563	2461514.0627
1160	Y9	26+00.00	637059.4959	2461497.6240
1161	Y9	27+00.00	637158.1355	2461481.1852
1162	Y9	28+00.00	637256.7750	2461464.7464
1163	Y9	29+00.00	637355.4146	2461448.3077
1164	Y9	30+00.00	637454.0542	2461431.8689
1165	Y9	31+00.00	637552.6938	2461415.4301
1166	Y9	32+00.00	637651.3334	2461398.9914
1167	Y9	33+00.00	637749.9730	2461382.5526
1168	Y9	34+00.00	637848.6125	2461366.1138
1169	Y9	35+00.00	637947.2521	2461349.6750
1170	Y9	36+00.00	638045.8917	2461333.2363
1171	Y9	37+00.00	638144.5313	2461316.7975
1172	Y9	38+00.00	638243.1709	2461300.3587
1173	Y9	39+00.00	638341.8104	2461283.9200
1174	Y9	40+00.00	638440.4500	2461267.4812
1175	Y9	41+00.00	638539.0896	2461251.0424
1176	Y9	42+00.00	638637.7292	2461234.6037
1177	Y9	43+00.00	638736.3688	2461218.1649
1178	Y9	44+00.00	638835.0083	2461201.7261
1179	Y9	45+00.00	638933.6479	2461185.2873
1180	Y9	46+00.00	639032.2875	2461168.8486
1181	Y9	47+00.00	639130.9271	2461152.4098
1182	Y9	48+00.00	639229.5667	2461135.9710
1183	Y9	49+00.00	639328.2062	2461119.5323
1184	Y9	50+00.00	639426.8458	2461103.0935
1185	Y9	51+00.00	639525.4854	2461086.6547
1186	Y9	52+00.00	639624.1250	2461070.2160
1187	Y9	53+00.00	639722.7646	2461053.7772
1188	Y9	54+00.00	639821.4041	2461037.3384
1189	Y9	55+00.00	639920.0437	2461020.8996
1190	Y9	56+00.00	640018.6833	2461004.4609
1191	Y9	57+00.00	640117.3229	2460988.0221
1192	Y9	58+00.00	640215.9625	2460971.5833
1193	Y9	59+00.00	640314.6020	2460955.1446
1194	Y9	60+00.00	640413.2416	2460938.7058
1195	Y9	61+00.00	640511.8812	2460922.2670
1196	Y9	62+00.00	640609.5540	2460901.1015
1197	Y9	63+00.00	640703.8518	2460868.0119
1198	Y9	64+00.00	640793.2883	2460823.4240
1199	Y9	65+00.00	640876.4681	2460768.0334
1200	Y9	66+00.00	640955.5820	2460706.8699
1201	Y9	67+00.00	641034.6785	2460645.6838
1202	Y9	68+00.00	641113.7751	2460584.4977
1203	Y9	69+00.00	641192.8716	2460523.3117
1204	Y9	70+00.00	641274.4486	2460465.6238
1205	Y9	71+00.00	641364.6883	2460422.8537
1206	Y9	72+00.00	641461.1742	2460397.1057
1207	Y9	73+00.00	641560.7253	2460389.2284
1208	Y9	74+00.00	641660.0599	2460399.4816
1209	Y9	75+00.00	641755.9031	2460427.5274
1210	Y9	76+00.00	641847.4507	2460467.7490

PROJ. REFERENCE NO.	SHEET NO.
R-2250	1D-4

HDR Engineering, Inc. of the Carolinas
3733 National Drive, Suite 207 Raleigh, N.C. 27612
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CENTERLINE COORDINATE LIST

Point #	Chain	Station	Northing (Y)	Easting (X)
1211	Y9	76+09.72	641856.3261	2460471.7040
1212	Y10	10+00.00	642021.0685	2460102.8600
1213	Y10	11+00.00	641980.2869	2460194.1664
1214	Y10	12+00.00	641939.5054	2460285.4729
1215	Y10	13+00.00	641898.7238	2460376.7793
1216	Y10	14+00.00	641857.9422	2460468.0857
1217	Y10	15+00.00	641817.1606	2460559.3921
1218	Y10	16+00.00	641776.3791	2460650.6986
1219	Y10	17+00.00	641735.5975	2460742.0050
1220	Y10	18+00.00	641694.8159	2460833.3114
1221	Y10	19+00.00	641654.0344	2460924.6178
1222	Y10	20+00.00	641612.5969	2461015.6212
1223	Y10	21+00.00	641563.8145	2461102.8651
1224	Y10	22+00.00	641506.3560	2461184.6561
1225	Y10	23+00.00	641441.0656	2461260.3577
1226	Y10	24+00.00	641373.6139	2461334.1836
1227	Y10	25+00.00	641310.2963	2461411.4592
1228	Y10	26+00.00	641260.5630	2461498.0786
1229	Y10	27+00.00	641226.0731	2461591.8164
1230	Y10	28+00.00	641207.8049	2461690.0131
1231	Y10	29+00.00	641202.7123	2461789.8684
1232	Y10	30+00.00	641198.6488	2461889.7858
1233	Y10	31+00.00	641194.5853	2461989.7032
1234	Y10	32+00.00	641190.5217	2462089.6206
1235	Y10	32+50.00	641188.4900	2462139.5792
1236	Y10A	10+00.00	643713.9431	2459830.2692
1237	Y10A	11+00.00	643687.8974	2459926.8178
1238	Y10A	12+00.00	643661.8518	2460023.3663
1239	Y10A	13+00.00	643635.8061	2460119.9149
1240	Y10A	14+00.00	643609.7605	2460216.4634
1241	Y10A	15+00.00	643583.8454	2460313.0469
1242	Y10A	16+00.00	643558.5318	2460409.7899
1243	Y10A	17+00.00	643533.2183	2460506.5330
1244	Y10A	18+00.00	643507.9048	2460603.2761
1245	Y10A	19+00.00	643482.5913	2460700.0192
1246	Y10A	20+00.00	643457.2771	2460796.7622
1247	Y10A	21+00.00	643431.8690	2460893.4804
1248	Y10A	22+00.00	643406.3003	2460990.1564
1249	Y10A	22+50.00	643393.4654	2461038.4815
1250	Y11	10+00.00	644590.4755	2459388.3073
1251	Y11	11+00.00	644674.8705	2459441.9495
1252	Y11	12+00.00	644759.2654	2459495.5918
1253	Y11	13+00.00	644843.6604	2459549.2340
1254	Y11	14+00.00	644928.0554	2459602.8762
1255	Y11	15+00.00	645012.4534	2459656.5137
1256	Y11	16+00.00	645096.9410	2459710.0099
1257	Y11	17+00.00	645181.5019	2459763.3902
1258	Y11	18+00.00	645266.0631	2459816.7700
1259	Y11	19+00.00	645350.6243	2459870.1498
1260	Y11	20+00.00	645435.3059	2459923.3379
1261	Y11	21+00.00	645520.3650	2459975.9204
1262	Y11	22+00.00	645605.5364	2460028.3211
1263	Y11	23+00.00	645690.8902	2460080.4237
1264	Y11	24+00.00	645776.6495	2460131.8560
1265	Y11	25+00.00	645862.8082	2460182.6166
1266	Y11	26+00.00	645949.1323	2460233.0959
1267	Y11	27+00.00	646035.4563	2460283.5752
1268	Y11	27+50.00	646078.6207	2460308.8162
1269	Y12	10+00.00	650395.1779	2456519.6425
1270	Y12	11+00.00	650406.0244	2456619.0525
1271	Y12	12+00.00	650416.8708	2456718.4626
1272	Y12	13+00.00	650427.7173	2456817.8726
1273	Y12	14+00.00	650438.5639	2456917.2826
1274	Y12	15+00.00	650449.6782	2457016.6630
1275	Y12	16+00.00	650461.3031	2457115.9848
1276	Y12	16+80.54	650471.0368	2457195.9338
1277	Y14	10+00.00	657746.8590	2455632.5500
1278	Y14	11+00.00	657717.1727	2455728.0420
1279	Y14	12+00.00	657687.4864	2455823.5340
1280	Y14	13+00.00	657657.8001	2455919.0261
1281	Y14	14+00.00	657628.0606	2456014.5015
1282	Y14	15+00.00	657597.9699	2456109.8668
1283	Y14	16+00.00	657567.4822	2456205.1059
1284	Y14	17+00.00	657536.5979	2456300.2171
1285	Y14	18+00.00	657505.3867	2456395.2216
1286	Y14	19+00.00	657474.4376	2456490.3117
1287	Y14	20+00.00	657443.8849	2456585.5300

Point #	Chain	Station	Northing (Y)	Easting (X)
1288	Y14	21+00.00	657413.7292	2456680.8748
1289	Y14	22+00.00	657383.9508	2456776.3380
1290	Y14	23+00.00	657354.2645	2456871.8300
1291	Y14	24+00.00	657324.5782	2456967.3220
1292	Y14	25+00.00	657294.8919	2457062.8140
1293	Y14	26+00.00	657265.2056	2457158.3061
1294	Y14	27+00.00	657235.5192	2457253.7981
1295	Y14	28+00.00	657205.8329	2457349.2901
1296	Y14	29+00.00	657176.1466	2457444.7821
1297	Y14	30+00.00	657146.4603	2457540.2741
1298	Y14	31+00.00	657116.7740	2457635.7661
1299	Y14	32+00.00	657087.0877	2457731.2581
1300	Y14	33+00.00	657057.4014	2457826.7501
1301	Y14	34+00.00	657027.7151	2457922.2421
1302	Y14	35+00.00	656998.0288	2458017.7341
1303	Y14	36+00.00	656968.3425	2458113.2261
1304	Y14	37+00.00	656938.6562	2458208.7181
1305	Y14	38+00.00	656908.9699	2458304.2101
1306	Y14	39+00.00	656879.5570	2458399.7861
1307	Y14	40+00.00	656851.8565	2458495.8712
1308	Y14	41+00.00	656826.0871	2458592.4921
1309	Y14	42+00.00	656802.2589	2458689.6100
1310	Y14	43+00.00	656780.3817	2458787.1859
1311	Y14	44+00.00	656760.4066	2458885.1693
1312	Y14	45+00.00	656740.9958	2458983.2673
1313	Y14	46+00.00	656721.5850	2459081.3653
1314	Y14	47+00.00	656702.1742	2459179.4633
1315	Y14	48+00.00	656682.7634	2459277.5613
1316	Y14	49+00.00	656663.3526	2459375.6593
1317	Y14	50+00.00	656643.9418	2459473.7573
1318	Y14RPA	10+00.00	658876.6240	2457618.1825
1319	Y14RPA	11+00.00	658776.9701	2457609.8960
1320	Y14RPA	12+00.00	658677.7207	2457597.7690
1321	Y14RPA	13+00.00	658579.5664	2457578.7908
1322	Y14RPA	14+00.00	658483.3243	2457551.7415
1323	Y14RPA	15+00.00	658389.6676	2457516.7751
1324	Y14RPA	16+00.00	658299.2465	2457474.1344
1325	Y14RPA	17+00.00	658212.6884	2457424.1153
1326	Y14RPA	18+00.00	658130.5941	2457367.0649
1327	Y14RPA	19+00.00	658053.2410	2457303.7204
1328	Y14RPA	20+00.00	657979.2345	2457236.4741
1329	Y14RPA	21+00.00	657906.3079	2457168.0515
1330	Y14RPA	22+00.00	657831.0575	2457102.2218
1331	Y14RPA	23+00.00	657749.7269	2457044.1526
1332	Y14RPA	24+00.00	657661.5271	2456997.1815
1333	Y14RPA	25+00.00	657567.9258	2456962.1849
1334	Y14RPA	26+00.00	657472.4338	2456932.4985
1335	Y14RPA	27+00.00	657376.9418	2456902.8122
1336	Y14RPA	27+30.85	657347.4801	2456893.6533
1337	Y14RPB	10+00.00	655628.7366	2457232.4995
1338	Y14RPB	11+00.00	655728.0398	2457244.2728
1339	Y14RPB	12+00.00	655827.6818	2457252.5908
1340	Y14RPB	13+00.00	655927.6427	2457254.0995
1341	Y14RPB	14+00.00	656027.3836	2457247.3196
1342	Y14RPB	15+00.00	656126.2140	2457232.2610
1343	Y14RPB	16+00.00	656223.4481	2457209.0284
1344	Y14RPB	17+00.00	656318.4109	2457177.7829
1345	Y14RPB	18+00.00	656410.4434	2457138.7415
1346	Y14RPB	19+00.00	656499.2207	2457092.7512
1347	Y14RPB	20+00.00	656585.7448	2457042.6230
1348	Y14RPB	21+00.00	656671.7138	2456991.5429
1349	Y14RPB	22+00.00	656759.7615	2456944.1847
1350	Y14RPB	23+00.00	656852.2622	2456906.3737
1351	Y14RPB	24+00.00	656948.9176	2456881.0115
1352	Y14RPB	25+00.00	657048.0693	2456868.5841
1353	Y14RPB	26+00.00	657147.9942	2456869.3075
1354	Y14RPB	27+00.00	657247.3092	2456880.8756
1355	Y14RPB	28+00.00	657346.5054	2456893.5289
1356	Y14RPB	28+00.98	657347.4801	2456893.6533
1357	Y14RPC	10+00.00	655363.3797	2457294.2056
1358	Y14RPC	11+00.00	655461.8322	2457311.7301
1359	Y14RPC	12+00.00	655560.2847	2457329.2547
1360	Y14RPC	13+00.00	655658.7226	2457346.8604
1361	Y14RPC	14+00.00	655756.8078	2457366.3086
1362	Y14RPC	15+00.00	655853.7141	2457390.9064
1363	Y14RPC	16+00.00	655948.3556	2457423.1120
1364	Y14RPC	17+00.00	656039.9879	2457463.0836
1365	Y14RPC	18+00.00	656127.9752	2457510.5436
1366	Y14RPC	19+00.00	656211.7067	2457565.1627

Point #	Chain	Station	Northing (Y)	Easting (X)
1367	Y14RPC	20+00.00	656290.6665	2457626.4828
1368	Y14RPC	21+00.00	656365.5989	2457692.6895
1369	Y14RPC	22+00.00	656438.5800	2457761.0534
1370	Y14RPC	23+00.00	656512.4872	2457828.4039
1371	Y14RPC	24+00.00	656591.2970	2457889.8773
1372	Y14RPC	25+00.00	656677.1599	2457940.9956
1373	Y14RPC	26+00.00	656769.0009	2457980.3750
1374	Y14RPC	27+00.00	656864.3265	2458010.5735
1375	Y14RPC	28+00.00	656959.8186	2458040.2598
1376	Y14RPC	28+29.80	656988.2759	2458049.1066
1377	Y14RPD	10+00.00	658668.5115	2457695.5954
1378	Y14RPD	11+00.00	658568.8482	2457687.4127
1379	Y14RPD	12+00.00	658468.9709	2457682.6953
1380	Y14RPD	13+00.00	658369.0207	2457684.7943
1381	Y14RPD	14+00.00	658269.5894	2457695.1687
1382	Y14RPD	15+00.00	658171.3666	2457713.7834
1383	Y14RPD	16+00.00	658075.0342	2457740.5092
1384	Y14RPD	17+00.00	657981.2606	2457775.1607
1385	Y14RPD	18+00.00	657890.6771	2457817.4587
1386	Y14RPD	19+00.00	657803.1417	2457865.7842
1387	Y14RPD	20+00.00	657717.2896	2457917.0596
1388	Y14RPD	21+00.00	657631.1191	2457967.7903
1389	Y14RPD	22+00.00	657541.7609	2458012.5860
1390	Y14RPD	23+00.00	657447.6560	2458046.1982
1391	Y14RPD	24+00.00	657349.9474	2458067.1394
1392	Y14RPD	25+00.00	657250.3332	2458075.0457
1393	Y14RPD	26+00.00	657150.5446	2458069.7796
1394	Y14RPD	27+00.00	657051.3452	2458057.1516
1395	Y14RPD	27+63.58	656988.2759	2458049.1066
1396	Y15	10+00.00	662179.7708	2456418.9289
1397	Y15	11+00.00	662099.7689	2456478.9263
1398	Y15	12+00.00	662019.7669	2456538.9237
1399	Y15	13+00.00	661939.7650	2456598.9212
1400	Y15	14+00.00	661859.7631	2456658.9186
1401	Y15	15+00.00	661779.7612	2456718.9160
1402	Y15	16+00.00	661699.7592	2456778.9135
1403	Y15	17+00.00	661619.7573	2456838.9109
1404	Y15	18+00.00	661539.7554	2456898.9083
1405	Y15	19+00.00	661459.7535	2456958.9058
1406	Y15	20+00.00	661380.9520	2457020.4557
1407	Y15	21+00.00	661305.3046	2457085.8421
1408	Y15	22+00.00	661233.0197	2457154.9276
1409	Y15	23+00.00	661164.2779	2457227.5395
1410	Y15	24+00.00	661099.2512	2457303.4963
1411	Y15	25+00.00	661038.1019	2457382.6082
1412	Y15	26+00.00	660980.9831	2457464.6774
1413	Y15	27+00.00	660927.7980	2457549.3539
1414	Y15	28+00.00	660875.5503	2457634.6193
1415	Y15	29+00.00	660823.3027	2457719.8847
1416	Y15	30+00.00	660771.0551	2457805.1500
1417	Y15	31+00.00	660718.8075	2457890.4154
1418	Y15	32+00.00	660666.5598	2457975.6808
1419	Y15	33+00.00	660614.3122	2458060.9462
1420	Y15	34+00.00	660562.0646	2458146.2116
1421	Y15	35+00.00	660509.8170	2458231.4770
1422	Y15	36+00.00	660457.5693	2458316.7423
1423	Y15	37+00.00	660405.3217	2458402.0077
1424	Y15	38+00.00	660353.0741	2458487.2731
1425	Y15	39+00.00	660302.3699	2458573.4565
1426	Y15	40+00.00	660255.4439	2458661.7536
1427	Y15	41+00.00	660212.3999	2458752.0068
1428	Y15	42+00.00	660173.3195	2458844.0456
1429	Y15	43+00.00	660138.2764	2458937.6961
1430	Y15	44+00.00	660107.3369	2459032.7812
1431	Y15	45+00.00	660080.5595	2459129.1212
1432	Y15	46+00.00	660057.9948	2459226.5340
1433	Y15	47+00.00	660039.6854	2459324.8355
1434	Y15	48+00.00	660025.6659	2459423.8399
1435	Y15	49+00.00	660015.9628	2459523.3602
1436	Y15	50+00.00	660010.4509	2459623.2024
1437	Y15	51+00.00	660006.1367	2459723.1093
1438	Y15	52+00.00	660001.8226	2459823.0162
1439	Y15	53+00.00	659997.5084	2459922.9231
1440	Y15	54+00.00	659993.1942	2460022.8300
1441	Y15	55+00.00	659988.8800	2460122.7369
1442	Y15	56+00.00	659984.5659	2460222.6438
1443	Y15	57+00.00	659980.2517	2460322.5507
1444	Y15	58+00.00	659975.9375	2460422.4576
1445	Y15	59+00.00	659971.6233	2460522.3645
1446	Y15	60+00.00	659967.3092	2460622.2714

Point #	Chain	Station	Northing (Y)	Easting (X)
1447	Y15	61+00.00	659962.9950	2460722.1783
1448	Y15	61+30.76	659961.6681	2460752.9060
1449	Y17	10+00.00	661590.7044	2455590.0245
1450	Y17	11+00.00	661646.9694	2455672.6940
1451	Y17	12+00.00	661703.2344	2455755.3635
1452	Y17	13+00.00	661759.4994	2455838.0330
1453	Y17	14+00.00	661815.7644	2455920.7026
1454	Y17	15+00.00	661872.3206	2456003.1727
1455	Y17	16+00.00	661929.8185	2456084.9888
1456	Y17	17+00.00	661988.2749	2456166.1228
1457	Y17	18+00.00	662047.6818	2456246.5635
1458	Y17	19+00.00	662108.0309	2456326.2998
1459	Y17	20+00.00	662169.2382	2456405.3795
1460	Y17	21+00.00	662230.6110	2456484.3313
1461	Y17	22+00.00	662291.9838	2456563.2830
1462	Y17	23+00.00	662353.3566	2456642.2348
1463	Y17	24+00.00	662414.7293	2456721.1866
1464	Y17	25+00.00	662476.1021	2456800.1384
1465	Y17	26+00.00	662537.4749	2456879.0901
1466	Y17	27+00.00	662598.8477	2456958.0419
1467	Y17	28+00.00	662660.2205	2457036.9937
1468	Y17	29+00.00	662721.5932	2457115.9454
1469	Y17	30+00.00	662782.9660	2457194.8972
1470	Y17	31+00.00	662844.3388	2457273.8490
1471	Y17	32+00.00	662905.7116	2457352.8008
1472	Y17	33+00.00	662967.0843	2457431.7525
1473	Y17	34+00.00	663028.4571	2457510.7043
1474	Y17	35+00.00	663089.8299	2457589.6561
1475	Y17	36+00.00	663151.2027	2457668.6079
1476	Y17	37+00.00	663212.5754	2457747.5596
1477	Y17	38+00.00	663273.9482	2457826.5114
1478	Y17	39+00.00	663335.3210	2457905.4632
1479	Y17	40+00.00	663396.6938	2457984.4149
1480	Y17	41+00.00	663458.0665	2458063.3667
1481	Y17	42+00.00	663519.4393	2458142.3185
1482	Y17	43+00.00	663580.8121	2458221.2703
1483	Y17	44+00.00	663642.1849	2458300.2220
1484	Y17	45+00.00	663703.5576	2458379.1738
1485	Y17	46+00.00	663764.9304	2458458.1256
1486	Y17	47+00.00	663826.3032	2458537.0773
1487	Y17	48+00.00	663887.6760	2458616.0291
1488	Y17	49+00.00	663949.0487	2458694.9809
1489	Y17	50+00.00	664010.2977	2458774.0286
1490	Y17	51+00.00	664070.9630	2458853.5250
1491	Y17	52+00.00	664130.9979	2458933.4984
1492	Y17	53+00.00	664190.3987	2459013.9440
1493	Y17	54+00.00	664249.1618	2459094.8566
1494	Y17	55+00.00	664307.2834	2459176.2312
1495	Y17	56+00.00	664364.7599	2459258.0627
1496	Y17	57+00.00	664421.5878	2459340.3460
1497	Y17	58+00.00	664477.7634	2459423.0760
1498	Y17	59+00.00	664533.4057	2459506.1659
1499	Y17	60+00.00	664588.9980	2459589.2893
1500	Y17	61+00.00	664644.5903	2459672.4126
1501	Y17	62+00.00	664700.1826	2459755.5360
1502	Y17	63+00.00	664755.7749	2459838.6594
1503	Y17	64+00.00	664811.3672	2459921.7828
1504	Y17	65+00.00	664866.9595	2460004.9061
1505	Y17	66+00.00	664922.5518	2460088.0295
1506	Y17	67+00.00	664978.1441	2460171.1529
1507	Y17	68+00.00	665033.7364	2460254.2763
1508	Y17	69+00.00	665089.3287	2460337.3996
1509	Y17	70+00.00	665144.9210	2460420.5230
1510	Y17	71+00.00	665200.5133	2460503.6464
1511	Y17	72+00.00	665256.1057	2460586.7698
1512	Y17	73+00.00	665311.6980	2460669.8931
1513	Y17	74+00.00	665367.2903	2460753.0165
1514	Y17	75+00.00	665422.8826	2460836.1399
1515	Y17	76+00.00	665478.4749	2460919.2633
1516	Y17	77+00.00	665534.0672	2461002.3866
1517	Y17	78+00.00	665589.6595	2461085.5100
1518	Y17	79+00.00	665645.2518	2461168.6334
1519	Y17	80+00.00	665700.8441	2461251.7568
1520	Y17	81+00.00	665756.4364	2461334.8801
1521	Y17	82+00.00	665812.0287	2461418.0035
1522	Y17	83+00.00	665867.6210	2461501.1269
1523	Y17	84+00.00	665923.2133	2461584.2503
1524	Y17	85+00.00	665978.8056	2461667.3736
1525	Y17	86+00.00	666034.3979	2461750.4970
1526	Y17	87+00.00	666089.9902	2461833.6204
1527	Y17	88+00.00	666145.5826	2461916.7438

Point #	Chain	Station	Northing (Y)	Easting (X)
1528	Y17	89+00.00	666201.1749	2461999.8671
1529	Y17	90+00.00	666256.7672	2462082.9905
1530	Y17	91+00.00	666312.3595	2462166.1139
1531	Y17	92+00.00	666367.9518	2462249.2373
1532	Y17	93+00.00	666423.5441	2462332.3606
1533	Y17	94+00.00	666479.1364	2462415.4840
1534	Y17	95+00.00	666534.7287	2462498.6074
1535	Y17	96+00.00	666590.3210	2462581.7308
1536	Y17	97+00.00	666645.9133	2462664.8541
1537	Y17	98+00.00	666701.5056	2462747.9775
1538	Y17	99+00.00	666757.0979	2462831.1009
1539	Y17	100+00.00	666812.6902	2462914.2243
1540	Y17	101+00.00	666868.2825	2462997.3476
1541	Y17	102+00.00	666923.8748	2463080.4710
1542	Y17	103+00.00	666979.4672	2463163.5944
1543	Y17	104+00.00	667035.0595	2463246.7178
1544	Y17	104+62.56	667069.8400	2463298.7228
1545	Y17RPA	10+00.00	664507.1873	2457163.6228
1546	Y17RPA	11+00.00	664407.2419	2457160.3197
1547	Y17RPA	12+00.00	664307.2990	2457156.9407
1548	Y17RPA	13+00.00	664207.4400	2457151.7306
1549	Y17RPA	14+00.00	664108.0056	2457141.3034
1550	Y17RPA	15+00.00	664009.7168	2457123.0408
1551	Y17RPA	16+00.00	663913.2892	2457096.6603
1552	Y17RPA	17+00.00	663819.3920	2457062.3450
1553	Y17RPA	18+00.00	663728.6770	2457020.3330
1554	Y17RPA	19+00.00	663641.6225	2456971.1691
1555	Y17RPA	20+00.00	663557.4187	2456917.2387
1556	Y17RPA	21+00.00	663474.3359	2456861.5862
1557	Y17RPA	22+00.00	663389.7704	2456808.2411
1558	Y17RPA	23+00.00	663300.7235	2456762.8732
1559	Y17RPA	24+00.00	663206.5721	2456729.3916
1560	Y17RPA	25+00.00	663108.8346	2456708.5859
1561	Y17RPA	26+00.00	663009.2095	2456700.8177
1562	Y17RPA	27+00.00	662909.4282	2456706.2221
1563	Y17RPA	28+00.00	662811.2250	2456724.7052
1564	Y17RPA	29+00.00	662716.3064	2456755.9457
1565	Y17RPA	30+00.00	662624.1275	2456794.7138
1566	Y17RPA	31+00.00	662531.9815	2456833.5611
1567	Y17RPA	31+24.44	662509.4628	2456843.0546
1568	Y17RPB	10+00.00	661083.6620	2457619.1284
1569	Y17RPB	11+00.00	661183.3230	2457610.9273
1570	Y17RPB	12+00.00	661282.5827	2457598.8854
1571	Y17RPB	13+00.00	661380.7532	2457579.9913
1572	Y17RPB	14+00.00	661477.0185	2457553.0245
1573	Y17RPB	15+00.00	661570.7051	2457518.1384
1574	Y17RPB	16+00.00	661661.1627	2457475.5753
1575	Y17RPB	17+00.00	661747.7637	2457425.6304
1576	Y17RPB	18+00.00	661830.2944	2457369.1926
1577	Y17RPB	19+00.00	661910.0971	2457308.9367
1578	Y17RPB	20+00.00	661989.0644	2457247.5838
1579	Y17RPB	21+00.00	662068.0161	2457186.2110
1580	Y17RPB	22+00.00	662146.9679	2457124.8383
1581	Y17RPB	23+00.00	662225.9197	2457063.4655
1582	Y17RPB	24+00.00	662304.8715	2457002.0927
1583	Y17RPB	25+00.00	662383.8232	2456940.7199
1584	Y17RPB	26+00.00	662462.7750	2456879.3472
1585	Y17RPB	26+59.13	662509.4628	2456843.0546
1586	Y17RPC	10+00.00	661421.0213	2457684.8982
1587	Y17RPC	11+00.00	661520.6180	2457675.9411
1588	Y17RPC	12+00.00	661620.4556	2457670.4476
1589	Y17RPC	13+00.00	661720.4191	2457671.7696
1590	Y17RPC	14+00.00	661819.9281	2457681.3708
1591	Y17RPC	15+00.00	661918.2925	2457699.2215
1592	Y17RPC	16+00.00	662014.8298	2457725.1978
1593	Y17RPC	17+00.00	662108.8699	2457759.1194
1594	Y17RPC	18+00.00	662199.7601	2457800.7509
1595	Y17RPC	19+00.00	662286.9643	2457849.6447
1596	Y17RPC	20+00.00	662371.1253	2457903.6393
1597	Y17RPC	21+00.00	662453.9298	2457959.7049
1598	Y17RPC	22+00.00	662537.8633	2458014.0454
1599	Y17RPC	23+00.00	662626.0398	2458061.0942
1600	Y17RPC	24+00.00	662719.4817	2458096.5075
1601	Y17RPC	25+00.00	662816.7701	2458119.3215
1602	Y17RPC	26+00.00	662916.2141	2458129.1394
1603	Y17RPC	27+00.00	663016.0855	2458125.7908
1604	Y17RPC	28+00.00	663114.6485	2458109.3339
1605	Y17RPC	29+00.00	663210.1903	2458080.0546
1606	Y17RPC	30+00.00	663302.5181	2458041.6531

PROJ. REFERENCE NO.	SHEET NO.
R-2250	1D-5

HDR Engineering, Inc. of the Carolinas
3733 National Drive, Suite 207 Raleigh, N.C. 27612
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CENTERLINE COORDINATE LIST

Point #	Chain	Station	Northing (Y)	Easting (X)
1607	Y17RPC	31+00.00	663394.6641	2458002.8058
1608	Y17RPC	31+13.34	663406.9602	2457997.6220
1609	Y17RPD	10+00.00	664792.4382	2457255.0904
1610	Y17RPD	11+00.00	664692.4417	2457255.2156
1611	Y17RPD	12+00.00	664592.5517	2457259.6044
1612	Y17RPD	13+00.00	664493.2351	2457271.0335
1613	Y17RPD	14+00.00	664395.2093	2457290.6591
1614	Y17RPD	15+00.00	664299.1573	2457318.3760
1615	Y17RPD	16+00.00	664205.7457	2457353.9918
1616	Y17RPD	17+00.00	664115.6228	2457397.2593
1617	Y17RPD	18+00.00	664029.4141	2457447.8782
1618	Y17RPD	19+00.00	663947.7176	2457505.4968
1619	Y17RPD	20+00.00	663870.6064	2457569.1409
1620	Y17RPD	21+00.00	663796.4482	2457636.2221
1621	Y17RPD	22+00.00	663723.1346	2457704.2304
1622	Y17RPD	23+00.00	663649.8323	2457772.2507
1623	Y17RPD	24+00.00	663576.5299	2457840.2710
1624	Y17RPD	25+00.00	663503.2276	2457908.2914
1625	Y17RPD	26+00.00	663429.9252	2457976.3117
1626	Y17RPD	26+31.33	663406.9602	2457997.6220
1627	Y18	1+00.00	663669.4803	2454874.8743
1628	Y18	2+00.00	663627.9894	2454965.8606
1629	Y18	3+00.00	663586.4986	2455056.8469
1630	Y18	4+00.00	663545.0077	2455147.8332
1631	Y18	5+00.00	663503.5168	2455238.8195
1632	Y18	6+00.00	663462.0259	2455329.8058
1633	Y18	7+00.00	663419.0479	2455420.0814
1634	Y18	8+00.00	663364.9078	2455504.0068
1635	Y18	9+00.00	663296.9624	2455577.2038
1636	Y18	10+00.00	663218.8947	2455639.6381
1637	Y18	11+00.00	663138.8928	2455699.6356
1638	Y18	12+00.00	663058.8909	2455759.6330
1639	Y18	13+00.00	662978.8889	2455819.6304
1640	Y18	14+00.00	662898.8870	2455879.6278
1641	Y18	15+00.00	662818.8851	2455939.6253
1642	Y18	16+00.00	662738.8831	2455999.6227
1643	Y18	17+00.00	662658.8812	2456059.6201
1644	Y18	18+00.00	662578.8793	2456119.6176
1645	Y18	19+00.00	662498.8774	2456179.6150
1646	Y18	20+00.00	662418.8754	2456239.6124
1647	Y18	21+00.00	662338.8735	2456299.6099
1648	Y18	22+00.00	662258.8716	2456359.6073
1649	Y18	22+98.87	662179.7708	2456418.9289
1650	Y19	10+00.00	669169.5577	2456382.0242
1651	Y19	11+00.00	669124.7106	2456471.4040
1652	Y19	12+00.00	669079.8635	2456560.7837
1653	Y19	13+00.00	669035.0164	2456650.1634
1654	Y19	14+00.00	668990.1693	2456739.5432
1655	Y19	15+00.00	668945.3223	2456828.9229
1656	Y19	16+00.00	668900.4752	2456918.3027
1657	Y19	17+00.00	668856.2078	2457007.9690
1658	Y19	18+00.00	668815.5793	2457099.3268
1659	Y19	19+00.00	668781.8659	2457193.4430
1660	Y19	20+00.00	668755.9393	2457289.9949
1661	Y19	21+00.00	668737.9720	2457388.3393
1662	Y19	22+00.00	668728.0837	2457487.8213
1663	Y19	23+00.00	668726.2775	2457587.7791
1664	Y19	24+00.00	668730.6749	2457687.6746
1665	Y19	25+00.00	668737.3683	2457787.4502
1666	Y19	26+00.00	668744.1733	2457887.2184
1667	Y19	27+00.00	668750.9783	2457986.9866
1668	Y19	28+00.00	668757.7833	2458086.7548
1669	Y19	29+00.00	668764.5883	2458186.5230
1670	Y19	30+00.00	668771.3947	2458286.2911
1671	Y19	31+00.00	668779.1285	2458385.9904
1672	Y19	32+00.00	668788.5786	2458485.5416
1673	Y19	33+00.00	668799.7421	2458584.9153
1674	Y19	34+00.00	668812.5949	2458684.0848
1675	Y19	35+00.00	668826.0555	2458783.1747
1676	Y19	36+00.00	668839.5161	2458882.2646
1677	Y19	37+00.00	668852.9766	2458981.3545
1678	Y19	38+00.00	668866.4372	2459080.4445
1679	Y19	39+00.00	668879.8978	2459179.5344
1680	Y19	40+00.00	668893.3584	2459278.6243
1681	Y19	41+00.00	668906.8189	2459377.7142
1682	Y19	42+00.00	668920.2795	2459476.8041
1683	Y19	43+00.00	668933.7401	2459575.8941
1684	Y19	44+00.00	668946.9662	2459675.0151
1685	Y19	45+00.00	668956.7242	2459774.5219

Point #	Chain	Station	Northing (Y)	Easting (X)
1686	Y19	46+00.00	668957.9101	2459874.4684
1687	Y19	47+00.00	668948.4042	2459973.9672
1688	Y19	48+00.00	668928.2751	2460071.8712
1689	Y19	49+00.00	668897.7551	2460167.0494
1690	Y19	50+00.00	668857.1969	2460258.4026
1691	Y19	51+00.00	668807.0689	2460344.8755
1692	Y19	52+00.00	668748.6711	2460426.0190
1693	Y19	53+00.00	668685.9989	2460503.9392
1694	Y19	54+00.00	668622.6373	2460581.3039
1695	Y19	55+00.00	668559.2756	2460658.6686
1696	Y19	56+00.00	668495.9140	2460736.0334
1697	Y19	57+00.00	668432.5523	2460813.3981
1698	Y19	58+00.00	668369.1906	2460890.7628
1699	Y19	59+00.00	668305.8290	2460968.1275
1700	Y19	60+00.00	668242.4673	2461045.4922
1701	Y19	61+00.00	668179.1057	2461122.8570
1702	Y19	62+00.00	668115.7440	2461200.2217
1703	Y19	63+00.00	668052.3823	2461277.5864
1704	Y19	64+00.00	667989.0207	2461354.9511
1705	Y19	64+18.06	667977.5765	2461368.9245
1706	Y20	10+00.00	676896.4089	2461272.4978
1707	Y20	11+00.00	676894.4307	2461372.4782
1708	Y20	12+00.00	676892.4526	2461472.4587
1709	Y20	13+00.00	676890.4744	2461572.4391
1710	Y20	14+00.00	676888.4962	2461672.4195
1711	Y20	15+00.00	676886.5180	2461772.4000
1712	Y20	16+00.00	676884.5399	2461872.3804
1713	Y20	17+00.00	676882.5617	2461972.3608
1714	Y20	18+00.00	676880.5835	2462072.3413
1715	Y20	19+00.00	676878.6054	2462172.3217
1716	Y20	20+00.00	676876.6272	2462272.3021
1717	Y20	21+00.00	676874.6490	2462372.2826
1718	Y20	22+00.00	676872.5972	2462472.2615
1719	Y20	23+00.00	676870.5186	2462572.2399
1720	Y20	24+00.00	676868.4401	2462672.2183
1721	Y20	25+00.00	676866.3616	2462772.1967
1722	Y20	26+00.00	676864.8696	2462872.1837
1723	Y20	27+00.00	676868.0400	2462972.1108
1724	Y20	28+00.00	676880.6122	2463071.2691
1725	Y20	29+00.00	676903.7290	2463168.5112
1726	Y20	30+00.00	676937.1266	2463262.7185
1727	Y20	31+00.00	676980.1493	2463352.9484
1728	Y20	32+00.00	677029.3519	2463439.9974
1729	Y20	33+00.00	677080.2196	2463526.0931
1730	Y20	34+00.00	677131.1082	2463612.1765
1731	Y20	35+00.00	677181.9968	2463698.2599
1732	Y20	36+00.00	677232.8854	2463784.3433
1733	Y20	37+00.00	677283.7740	2463870.4266
1734	Y20	38+00.00	677334.6626	2463956.5100
1735	Y20	39+00.00	677385.5512	2464042.5934
1736	Y20	40+00.00	677436.4399	2464128.6768
1737	Y20	41+00.00	677487.3285	2464214.7602
1738	Y20	42+00.00	677538.2171	2464300.8436
1739	Y20	43+00.00	677589.1057	2464386.9270
1740	Y20	44+00.00	677639.9943	2464473.0104
1741	Y20	45+00.00	677690.8829	2464559.0938
1742	Y20	46+00.00	677741.7715	2464645.1771
1743	Y20	47+00.00	677792.6601	2464731.2605
1744	Y20	48+00.00	677843.5487	2464817.3439
1745	Y20	49+00.00	677894.4373	2464903.4273
1746	Y20	50+00.00	677945.3259	2464989.5107
1747	Y20	50+80.45	677986.2654	2465058.7641
1748	Y21	10+00.00	680044.0567	2461675.1498
1749	Y21	11+00.00	680026.6977	2461773.6316
1750	Y21	12+00.00	680009.3387	2461872.1134
1751	Y21	13+00.00	679991.9797	2461970.5952
1752	Y21	14+00.00	679974.6207	2462069.0770
1753	Y21	15+00.00	679957.2617	2462167.5588
1754	Y21	16+00.00	679939.9027	2462266.0406
1755	Y21	17+00.00	679922.5437	2462364.5224
1756	Y21	18+00.00	679905.1847	2462463.0042
1757	Y21	19+00.00	679887.8294	2462561.4866
1758	Y21	20+00.00	679870.7773	2462660.0218
1759	Y21	21+00.00	679854.7661	2462758.7310
1760	Y21	22+00.00	679840.0453	2462857.6408
1761	Y21	23+00.00	679826.6187	2462956.7346
1762	Y21	24+00.00	679814.4885	2463055.9955
1763	Y21	25+00.00	679803.6569	2463155.4064
1764	Y21	26+00.00	679794.1257	2463254.9505
1765	Y21	27+00.00	679785.8964	2463354.6106

Point #	Chain	Station	Northing (Y)	Easting (X)
1766	Y21	28+00.00	679778.9706	2463454.3697
1767	Y21	29+00.00	679773.3493	2463554.2109
1768	Y21	30+00.00	679769.0337	2463654.1170
1769	Y21	31+00.00	679766.0243	2463754.0710
1770	Y21	32+00.00	679764.3217	2463854.0558
1771	Y21	33+00.00	679763.9262	2463954.0543
1772	Y21	34+00.00	679764.8379	2464054.0494
1773	Y21	35+00.00	679767.0566	2464154.0241
1774	Y21	36+00.00	679770.5720	2464253.9616
1775	Y21	37+00.00	679775.0073	2464353.8631
1776	Y21	38+00.00	679779.6308	2464453.7562
1777	Y21	39+00.00	679784.2543	2464553.6492
1778	Y21	40+00.00	679788.8779	2464653.5423
1779	Y21	41+00.00	679793.5014	2464753.4353
1780	Y21	42+00.00	679798.1250	2464853.3284
1781	Y21	43+00.00	679802.7485	2464953.2215
1782	Y21	44+00.00	679807.3721	2465053.1145
1783	Y21	45+00.00	679811.9957	2465153.0076
1784	Y21	46+00.00	679816.6192	2465252.9006
1785	Y21	47+00.00	679821.2428	2465352.7937
1786	Y21	48+00.00	679825.8663	2465452.6867
1787	Y21	49+00.00	679830.4899	2465552.5798
1788	Y21	50+00.00	679835.1134	2465652.4729
1789	Y21	51+00.00	679839.7370	2465752.3659
1790	Y21	52+00.00	679844.3605	2465852.2590
1791	Y21	53+00.00	679848.9485	2465952.1537
1792	Y21	54+00.00	679852.9842	2466052.0718
1793	Y21	55+00.00	679855.8103	2466152.0311
1794	Y21	56+00.00	679857.3296	2466252.0189
1795	Y21	57+00.00	679857.5418	2466352.0179
1796	Y21	58+00.00	679856.4468	2466452.0112
1797	Y21	59+00.00	679854.0449	2466551.9817
1798	Y21	60+00.00	679850.3364	2466651.9122
1799	Y21	61+00.00	679845.3219	2466751.7857
1800	Y21	62+00.00	679839.0024	2466851.5851
1801	Y21	63+00.00	679831.3789	2466951.2933
1802	Y21	64+00.00	679822.4527	2467050.8934
1803	Y21	65+00.00	679812.2254	2467150.3684
1804	Y21	66+00.00	679800.6986	2467249.7011
1805	Y21	67+00.00	679787.9107	2467348.8795
1806	Y21	68+00.00	679774.3797	2467447.9598
1807	Y21	69+00.00	679760.7545	2467547.0272
1808	Y21	69+32.65	679756.3060	2467579.3719
1809	Y21RPA	10+00.00	681349.7084	2464296.6381
1810	Y21RPA	11+00.00	681250.5115	2464283.9904
1811	Y21RPA	12+00.00	681151.3145	2464271.3427
1812	Y21RPA	13+00.00	681052.1683	2464258.3105
1813	Y21RPA	14+00.00	680953.5760	2464241.6787
1814	Y21RPA	15+00.00	680856.5969	2464217.4256
1815	Y21RPA	16+00.00	680762.2182	2464184.4744
1816	Y21RPA	17+00.00	680671.2207	2464143.0911
1817	Y21RPA	18+00.00	680584.3560	2464093.6176
1818	Y21RPA	19+00.00	680502.3413	2464036.4625
1819	Y21RPA	20+00.00	680425.7822	2463972.1780
1820	Y21RPA	21+00.00	680353.8349	2463902.7414
1821	Y21RPA	22+00.00	680284.1760	2463830.9960
1822	Y21RPA	23+00.00	680215.5906	2463758.2233
1823	Y21RPA	24+00.00	680148.1597	2463684.3808
1824	Y21RPA	25+00.00	680083.8030	2463607.8634
1825	Y21RPA	26+00.00	680026.0610	2463526.2707
1826	Y21RPA	27+00.00	679977.0220	2463439.1718
1827	Y21RPA	28+00.00	679937.2557	2463347.4674
1828	Y21RPA	29+00.00	679907.1888	2463252.1414
1829	Y21RPA	30+00.00	679887.1439	2463154.2167
1830	Y21RPA	31+00.00	679877.3359	2463054.7438
1831	Y21RPA	32+00.00	679877.8639	2462954.7896
1832	Y21RPA	33+00.00	679887.4373	2462855.2706
1833	Y21RPA	33+79.67	679898.7796	2462776.4107
1834	Y21RPB	10+00.00	677743.0702	2463469.4298
1835	Y21RPB	11+00.00	677820.8204	2463532.3157
1836	Y21RPB	12+00.00	677900.6987	2463592.4586
1837	Y21RPB	13+00.00	677984.4760	2463647.0098
1838	Y21RPB	14+00.00	678072.4846	2463694.4303
1839	Y21RPB	15+00.00	678164.1349	2463734.3607
1840	Y21RPB	16+00.00	678258.7908	2463766.5238
1841	Y21RPB	17+00.00	678355.7955	2463790.6964
1842	Y21RPB	18+00.00	678454.4755	2463806.7108
1843	Y21RPB	19+00.00	678554.1461	2463814.4558
1844	Y21RPB	20+00.00	678654.1155	2463813.8777
1845	Y21RPB	21+00.00	678753.6899	2463804.9804

Point #	Chain	Station	Northing (Y)	Easting (X)
1846	Y21RPB	22+00.00	678852.1781	2463787.8257
1847	Y21RPB	23+00.00	678948.8966	2463762.5327
1848	Y21RPB	24+00.00	679043.1743	2463729.2769
1849	Y21RPB	25+00.00	679134.3566	2463688.2891
1850	Y21RPB	26+00.00	679221.8108	2463639.8539
1851	Y21RPB	27+00.00	679304.9299	2463584.3073
1852	Y21RPB	28+00.00	679383.1371	2463522.0349
1853	Y21RPB	29+00.00	679455.8895	2463453.4688
1854	Y21RPB	30+00.00	679522.6822	2463379.0850
1855	Y21RPB	31+00.00	679583.0516	2463299.3997
1856	Y21RPB	32+00.00	679636.5788	2463214.9660
1857	Y21RPB	33+00.00	679682.8923	2463126.3699
1858	Y21RPB	34+00.00	679721.6705	2463034.2262
1859	Y21RPB	35+00.00	679752.7151	2462939.1951
1860	Y21RPB	36+00.00	679777.5101	2462842.3281
1861	Y21RPB	37+00.00	679799.2778	2462744.7269
1862	Y21RPB	38+00.00	679820.6376	2462647.0347
1863	Y21RPB	39+00.00	679841.9975	2462549.3426
1864	Y21RPB	39+25.52	679847.4480	2462524.4140
1865	Y21RPC	10+00.00	677995.7589	2463783.2904
1866	Y21RPC	11+00.00	678079.1902	2463838.4126
1867	Y21RPC	12+00.00	678163.8273	2463891.6703
1868	Y21RPC	13+00.00	678248.8314	2463944.3419
1869	Y21RPC	14+00.00	678333.8445	2463996.9991
1870	Y21RPC	15+00.00	678418.8456	2464049.6755
1871	Y21RPC	16+00.00	678503.6445	2464102.6766
1872	Y21RPC	17+00.00	678587.9077	2464156.5242
1873	Y21RPC	18+00.00	678671.3810	2464211.5880
1874	Y21RPC	19+00.00	678754.0168	2464267.9008
1875	Y21RPC	20+00.00	678835.7965	2464325.4498
1876	Y21RPC	21+00.00	678916.7017	2464384.2221
1877	Y21RPC	22+00.00	678996.7139	2464444.2042
1878	Y21RPC	23+00.00	679075.8151	2464505.3827
1879	Y21RPC	24+00.00	679153.9874	2464567.7438
1880	Y21RPC	25+00.00	679231.2131	2464631.2733
1881	Y21RPC	26+00.00	679307.4749	2464695.9568
1882	Y21RPC	27+00.00	679382.4896	2464762.0788
1883	Y21RPC	28+00.00	679454.5941	2464831.3475
1884	Y21RPC	29+00.00	679521.5111	2464905.6183
1885	Y21RPC	30+00.00	679581.7658	2464985.3872
1886	Y21RPC	31+00.00	679634.8651	2465070.0876
1887	Y21RPC	32+00.00	679680.4078	2465159.0795
1888	Y21RPC	33+00.00	679718.0498	2465251.6904
1889	Y21RPC	34+00.00	679747.5065	2465347.2205
1890	Y21RPC	35+00.00	679768.5555	2465444.9479
1891	Y21RPC	36+00.00	679781.3362	2465544.1034
1892	Y21RPC	37+00.00	679788.3292	2465643.8518
1893	Y21RPC	37+60.78	679791.2746	2465704.5555
1894	Y21RPD	10+00.00	681079.0685	2464370.7110
1895	Y21RPD	11+00.00	680979.2875	2464364.1429
1896	Y21RPD	12+00.00	680879.3223	2464362.8057
1897	Y21RPD	13+00.00	680779.7089	2464371.0537
1898	Y21RPD	14+00.00	680681.5031	2464389.6682
1899	Y21RPD	15+00.00	680585.7809	2464418.4452
1900	Y21RPD	16+00.00	680493.5907	2464457.0696
1901	Y21RPD	17+00.00	680405.9345	2464505.1050
1902	Y21RPD	18+00.00	680323.1307	2464561.1165
1903	Y21RPD	19+00.00	680245.4804	2464624.0783
1904	Y21RPD	20+00.00	680173.5654	2464693.5188
1905	Y21RPD	21+00.00	680107.9245	2464768.9179
1906	Y21RPD	22+00.00	680049.0620	2464849.7192
1907	Y21RPD	23+00.00	679998.3816	2464935.8723
1908	Y21RPD	24+00.00	679956.9835	2465026.8507
1909	Y21RPD	25+00.00	679925.3213	2465121.6577
1910	Y21RPD	26+00.00	679903.7418	2465219.2548
1911	Y21RPD	27+00.00	679892.3851	2465318.5656
1912	Y21RPD	28+00.00	679888.8348	2465418.4904
1913	Y21RPD	29+00.00	679888.1014	2465518.4876
1914	Y21RPD	30+00.00	679887.4905	2465618.4857
1915	Y21RPD	31+00.00	679886.8797	2465718.4838
1916	Y21RPD	31+46.98	679886.5927	2465765.4635
1917	Y21LPA	10+00.00	679900.7205	2464188.5514
1918	Y21LPA	11+00.00	680000.5895	2464192.7941
1919	Y21LPA	12+00.00	680099.1296	2464177.9481
1920	Y21LPA	13+00.00	680184.8479	2464128.1089
1921	Y21LPA	14+00.00	680239.6091	2464045.4924
1922	Y21LPA	15+00.00	680251.9189	2463947.1422
1923	Y21LPA	16+00.00	680219.2091	2463853.5775
1924	Y21LPA	17+00.00	680148.3042	2463784.3189

Point #	Chain	Station	Northing (Y)	Easting (X)
1925	Y21LPA	18+00.00	680053.9970	2463753.8158
1926	Y21LPA	19+00.00	679955.9631	2463768.4323
1927	Y21LPA	20+00.00	679874.6556	2463825.1188
1928	Y21LPA	21+00.00	679826.6324	2463911.9071
1929	Y21LPA	22+00.00	679811.6342	2464010.4952
1930	Y21LPA	22+69.77	679811.5015	2464080.2563
1931	Y21LPB	10+00.00	679558.3876	2464163.0152
1932	Y21LPB	11+00.00	679458.9709	2464152.5734
1933	Y21LPB	12+00.00	679363.3241	2464124.4690
1934	Y21LPB	13+00.00	679283.8130	2464065.0725
1935	Y21LPB	14+00.00	679236.5662	2463977.8303
1936	Y21LPB	15+00.00	679230.4627	2463878.8040
1937	Y21LPB	16+00.00	679266.6383	2463786.4201
1938	Y21LPB	17+00.00	679338.3615	2463717.8691
1939	Y21LPB	18+00.00	679432.2863	2463685.9067
1940	Y21LPB	19+00.00	679530.9354	2463696.4804
1941	Y21LPB	20+00.00	679615.9527	2463747.6226
1942	Y21LPB	21+00.00	679672.1993	2463829.4787
1943	Y21LPB	22+00.00	679698.4778	2463925.6626
1944	Y21LPB	23+00.00	679706.0162	2464025.3177
1945	Y21LPB	24+00.00	679708.2670	2464125.2922
1946	Y21LPB	24+06.94	679708.4421	2464132.2270
1947	Y21LPC	10+00.00	679640.2418	2464275.4156
1948	Y21LPC	11+00.00	679540.3769	2464270.9543
1949	Y21LPC	12+00.00	679441.5757	2464284.2968
1950	Y21LPC	13+00.00	679354.0515	2464330.9914
1951	Y21LPC	14+00.00	679296.3093	2464411.5324
1952	Y21LPC	15+00.00	679280.8259	2464509.4164
1953	Y21LPC	16+00.00	679310.8910	2464603.8469
1954	Y21LPC	17+00.00	679380.1168	2464674.7610
1955	Y21LPC	18+00.00	679473.7955	2464707.0922
1956	Y21LPC	19+00.00	679572.0241	2464693.9714
1957	Y21LPC	20+00.00	679653.9329	2464638.1863
1958	Y21LPC	21+00.00	679702.7495	2464551.8234
1959	Y21LPC	22+00.00	679718.6431	2464453.3967
1960	Y21LPC	22+99.10	679716.9674	2464354.3408
1961	Y21LPD	10+00.00	679928.3033	2464296.9035
1962	Y21LPD	11+00.00	680027.5849	2464308.3203
1963	Y21LPD	12+00.00	680120.8499	2464342.8616
1964	Y21LPD	13+00.00	680188.3760	2464414.9863
1965	Y21LPD	14+00.00	680209.2160	2464511.5501
1966	Y21LPD	15+00.00	680177.3932	2464605.0711
1967	Y21LPD	16+00.00	680101.9814	2464668.8829
1968	Y21LPD	17+00.00	680004.4836	2464684.7902
1969	Y21LPD	18+00.00	679912.7000	2464648.2573
1970	Y21LPD	19+00.00	679852.3390	2464569.9296
1971	Y21LPD	20+00.00	679828.4352	2464473.2160
1972	Y21LPD	20+74.46	679823.3432	2464398.9442
1973	Y22	10+00.00	675639.2084	2461585.3994
1974	Y22	11+00.00	675650.9655	2461684.7058
1975	Y22	12+00.00	675662.7225	2461784.0123
1976	Y22	13+00.00	675674.4796	2461883.3187
1977	Y22	14+00.00	675686.2367	2461982.6252
1978	Y22	15+00.00	675697.9938	2462081.9316
1979	Y22	16+00.00	675709.7509	2462181.2381
1980	Y22	17+00.00	675721.5080	2462280.5445
1981	Y22	18+00.00	675733.2651	2462379.8510
1982	Y22	18+80.00	675742.6708	2462459.2961
1983	SR1	10+00.00	657653.3471	2455933.3499
1984	SR1	11+00.00	657567.8932	2455948.8476
1985	SR1	12+00.00	657538.2069	2456044.3396
1986	SR1	13+00.00	657508.5206	2456139.8316
1987	SR1	14+00.00	657478.8343	2456235.3236
1988	SR1	15+00.00	657449.1480	2456330.8156
1989	SR1	15+72.42	657427.6495	2456399.9701
1990	SR2	10+00.00	655904.4933	2457579.2259
1991	SR2	11+00.00	655939.7848	2457672.7915
1992	SR2	12+00.00	655975.0763	2457766.3570
1993	SR2	13+00.00	656010.3678	2457859.9225
1994	SR2	14+00.00	656045.6593	2457953.4881
1995	SR2	15+00.00	656080.9508	2458047.0536
1996	SR2	16+00.00	656116.2423	2458140.6192
1997	SR2	17+00.00	656151.5338	2458234.1847
1998	SR2	18+00.00	656186.8253	2458327.7503
1999	SR2	19+00.00	656222.1167	2458421.3158
2000	SR2	20+00.00	656257.4082	2458514.8813

PROJ. REFERENCE NO.	SHEET NO.
R-2250	1D-6

HDR Engineering, Inc. of the Carolinas
3733 National Drive, Suite 207 Raleigh, N.C. 27612
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CENTERLINE COORDINATE LIST

Point #	Chain	Station	Northing (Y)	Easting (X)
2000	SR2	20+00.00	656257.4082	2458514.8813
2001	SR2	21+00.00	656292.6997	2458608.4469
2002	SR2	22+00.00	656328.2365	2458701.9170
2003	SR2	23+00.00	656374.8702	2458790.2119
2004	SR2	24+00.00	656437.1542	2458868.2593
2005	SR2	25+00.00	656512.9026	2458933.3200
2006	SR2	26+00.00	656599.4566	2458983.1105
2007	SR2	27+00.00	656693.7786	2459015.8833
2008	SR2	27+40.34	656733.2311	2459024.2959
2009	SR3	10+00.00	659911.2256	2456832.1973
2010	SR3	11+00.00	659827.1137	2456886.2825
2011	SR3	12+00.00	659743.0019	2456940.3676
2012	SR3	13+00.00	659658.8901	2456994.4528
2013	SR3	14+00.00	659574.7783	2457048.5379
2014	SR3	14+50.00	659532.7224	2457075.5805
2015	SR4	10+00.00	660633.2634	2459639.8835
2016	SR4	11+00.00	660552.3333	2459698.6230
2017	SR4	12+00.00	660471.4033	2459757.3625
2018	SR4	13+00.00	660389.7986	2459815.1262
2019	SR4	14+00.00	660300.2959	2459859.3526
2020	SR4	15+00.00	660203.7909	2459884.9159
2021	SR4	16+00.00	660104.1308	2459890.7972
2022	SR4	17+00.00	660004.2350	2459886.2335
2023	SR4	17+05.14	659999.1029	2459885.9987
2024	SR4A	10+00.00	662379.6358	2457976.7633
2025	SR4A	11+00.00	662304.8372	2458043.1347
2026	SR4A	12+00.00	662230.0385	2458109.5061
2027	SR4A	13+00.00	662155.2399	2458175.8775
2028	SR4A	13+36.17	662128.1833	2458199.8858
2029	SR5	10+00.00	666744.9369	2457635.9140
2030	SR5	11+00.00	666840.7606	2457664.5090
2031	SR5	12+00.00	666936.1813	2457694.4210
2032	SR5	13+00.00	667031.1810	2457725.6442
2033	SR5	14+00.00	667125.7418	2457758.1728
2034	SR5	15+00.00	667219.8456	2457792.0005
2035	SR5	16+00.00	667313.4746	2457827.1211
2036	SR5	17+00.00	667406.6110	2457863.5277
2037	SR5	18+00.00	667499.2373	2457901.2136
2038	SR5	19+00.00	667591.3357	2457940.1715
2039	SR5	20+00.00	667682.8889	2457980.3940
2040	SR5	21+00.00	667773.8795	2458021.8736
2041	SR5	22+00.00	667864.2902	2458064.6024
2042	SR5	23+00.00	667954.1049	2458108.5702
2043	SR5	24+00.00	668043.6498	2458153.0865
2044	SR5	25+00.00	668133.1948	2458197.6028
2045	SR5	26+00.00	668222.7397	2458242.1191
2046	SR5	27+00.00	668312.2580	2458286.6884
2047	SR5	28+00.00	668396.3204	2458340.5792
2048	SR5	29+00.00	668468.8559	2458409.2035
2049	SR5	30+00.00	668529.0977	2458488.9580
2050	SR5	31+00.00	668587.3112	2458570.2672
2051	SR5	32+00.00	668648.8273	2458648.7866
2052	SR5	33+00.00	668740.1346	2458684.8151
2053	SR5	33+72.04	668811.7356	2458677.7591
2054	SR7	10+00.00	666803.8405	2457337.4303
2055	SR7	11+00.00	666899.4709	2457366.6677
2056	SR7	12+00.00	666995.1013	2457395.9051
2057	SR7	13+00.00	667090.7317	2457425.1425
2058	SR7	14+00.00	667186.3621	2457454.3799
2059	SR7	15+00.00	667281.9925	2457483.6173
2060	SR7	16+00.00	667377.6229	2457512.8547
2061	SR7	17+00.00	667473.2546	2457542.0880
2062	SR7	18+00.00	667569.9308	2457567.5688
2063	SR7	19+00.00	667668.2078	2457585.9314
2064	SR7	20+00.00	667767.5623	2457597.0779
2065	SR7	21+00.00	667867.4651	2457600.9490
2066	SR7	22+00.00	667967.4408	2457598.9104
2067	SR7	23+00.00	668067.4076	2457596.3352
2068	SR7	24+00.00	668167.3657	2457593.4542
2069	SR7	25+00.00	668267.2822	2457589.3845
2070	SR7	26+00.00	668367.1766	2457584.7888
2071	SR7	27+00.00	668467.0709	2457580.1931
2072	SR7	28+00.00	668566.9656	2457575.6048

Point #	Chain	Station	Northing (Y)	Easting (X)
2073	SR7	29+00.00	668666.9132	2457572.4514
2074	SR7	29+59.14	668726.0533	2457571.7215
2075	SR8	10+00.00	668758.7143	2458100.4042
2076	SR8	11+00.00	668858.5955	2458097.5830
2077	SR8	12+00.00	668957.3726	2458112.2048
2078	SR8	13+00.00	669051.6890	2458144.9937
2079	SR8	14+00.00	669138.2345	2458194.7990
2080	SR8	15+00.00	669214.3117	2458259.5257
2081	SR8	16+00.00	669286.7313	2458328.4851
2082	SR8	17+00.00	669359.1509	2458397.4445
2083	SR8	18+00.00	669431.5705	2458466.4039
2084	SR8	19+00.00	669503.9901	2458535.3633
2085	SR8	20+00.00	669579.9993	2458600.1725
2086	SR8	21+00.00	669666.4754	2458650.0982
2087	SR8	22+00.00	669760.7461	2458683.0183
2088	SR8	23+00.00	669859.5027	2458697.7775
2089	SR8	24+00.00	669959.4872	2458698.1722
2090	SR8	24+67.82	670027.3052	2458697.7833
2091	SR9	10+00.00	668811.7356	2458677.7591
2092	SR9	11+00.00	668911.0459	2458666.2233
2093	SR9	12+00.00	669010.8376	2458669.7315
2094	SR9	13+00.00	669108.2239	2458691.7912
2095	SR9	14+00.00	669199.7865	2458731.6280
2096	SR9	15+00.00	669286.6838	2458781.1135
2097	SR9	16+00.00	669373.5803	2458830.6008
2098	SR9	17+00.00	669460.9324	2458879.2782
2099	SR9	18+00.00	669548.8860	2458926.8599
2100	SR9	19+00.00	669637.4276	2458973.3385
2101	SR9	20+00.00	669726.5432	2459018.7068
2102	SR9	21+00.00	669816.0689	2459063.2618
2103	SR9	22+00.00	669905.6138	2459107.7782
2104	SR9	23+00.00	669995.1587	2459152.2945
2105	SR9	24+00.00	670084.7037	2459196.8108
2106	SR9	25+00.00	670174.2486	2459241.3272
2107	SR9	26+00.00	670263.7936	2459285.8435
2108	SR9	27+00.00	670353.3385	2459330.3598
2109	SR9	28+00.00	670442.8834	2459374.8762
2110	SR9	29+00.00	670532.4284	2459419.3925
2111	SR9	30+00.00	670621.9733	2459463.9088
2112	SR9	31+00.00	670711.5183	2459508.4251
2113	SR9	32+00.00	670801.0632	2459552.9415
2114	SR9	33+00.00	670890.6081	2459597.4578
2115	SR9	34+00.00	670980.1531	2459641.9741
2116	SR9	35+00.00	671069.6980	2459686.4905
2117	SR9	36+00.00	671159.2430	2459731.0068
2118	SR9	37+00.00	671248.7879	2459775.5231
2119	SR9	38+00.00	671338.3328	2459820.0395
2120	SR9	38+64.61	671396.1906	2459848.8029
2121	SR11	10+00.00	676891.3929	2461526.0177
2122	SR11	11+00.00	676991.2822	2461530.7204
2123	SR11	12+00.00	677091.1716	2461535.4231
2124	SR11	13+00.00	677191.0609	2461540.1259
2125	SR11	14+00.00	677290.9503	2461544.8286
2126	SR11	15+00.00	677390.8397	2461549.5313
2127	SR11	16+00.00	677490.7290	2461554.2340
2128	DR1	10+00.00	627961.3537	2464081.3819
2129	DR1	11+00.00	627967.2348	2463981.6580
2130	DR1	12+00.00	627991.8084	2463884.8962
2131	DR1	13+00.00	628035.1159	2463794.9452
2132	DR1	13+46.77	628061.3424	2463756.2354
2133	DR2	10+00.00	660522.3564	2458211.0133
2134	DR2	11+00.00	660437.0910	2458158.7656
2135	DR2	12+00.00	660351.8256	2458106.5180
2136	DR2	12+16.00	660338.1832	2458098.1584

Point #	Chain	Station	Northing (Y)	Easting (X)

Point #	Chain	Station	Northing (Y)	Easting (X)

Point #	Chain	Station	Northing (Y)	Easting (X)

PROJECT REFERENCE NO.	SHEET NO.
R-2250	2A-1
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

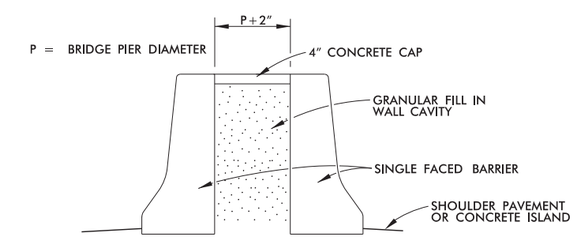
HDR Engineering, Inc. of the Carolinas
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1.5″ ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	D6	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2.5″ IN DEPTH OR GREATER THAN 4″ IN DEPTH.	J3	PROP. 10″ AGGREGATE BASE COURSE.
C2	PROP. APPROX. 2″ ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	D7	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2.5″ IN DEPTH OR GREATER THAN 4″ IN DEPTH.	J4	PROP. VARIABLE AGGREGATE BASE COURSE.
C3	PROP. APPROX. 3″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	E1	PROP. APPROX. 2.5″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	P	PRIME COAT AT THE RATE OF .35 GAL. PER SQ. YD.
C4	PROP. APPROX. 3″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	E2	PROP. APPROX. 4″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R1	5″ MONOLITHIC CONCRETE ISLAND (KEYED IN)
C5	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1″ DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2″ IN DEPTH.	E3	PROP. APPROX. 5″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.	R2	2′-6″ CONCRETE CURB AND GUTTER
C6	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1″ DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2″ IN DEPTH.	E4	PROP. APPROX. 4.0″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R3	SHOULDER BERM GUTTER
C7	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1″ DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2″ IN DEPTH.	E5	PROP. APPROX. 5.0″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.	R4	3′-0″ SINGLE FACED CONCRETE BARRIER
D1	PROP. APPROX. 2.5″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	E6	PROP. APPROX. 5.5″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.	T	EARTH MATERIAL
D2	PROP. APPROX. 4″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	E7	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 5.5″ IN DEPTH.	U	EXISTING PAVEMENT
D3	PROP. APPROX. 3″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.	E8	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 4″ IN DEPTH OR GREATER THAN 5.5″ IN DEPTH.	V	MILLED RUMBLE STRIPS
D4	PROP. APPROX. 3.5″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD.	J1	PROP. 6″ AGGREGATE BASE COURSE.	W	VAR. DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAILS)
D5	PROP. APPROX. 4″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	J2	PROP. 8″ AGGREGATE BASE COURSE.		

ALL PAVEMENT SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.



SECTION THROUGH BARRIER UNDER GRADE SEPARATION BRIDGES

-L- STA 452+75 TO 453+33
-Y17- STA 32+07 TO 33+41

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	2A-2

ROADWAY DESIGN ENGINEER

PAVEMENT DESIGN ENGINEER

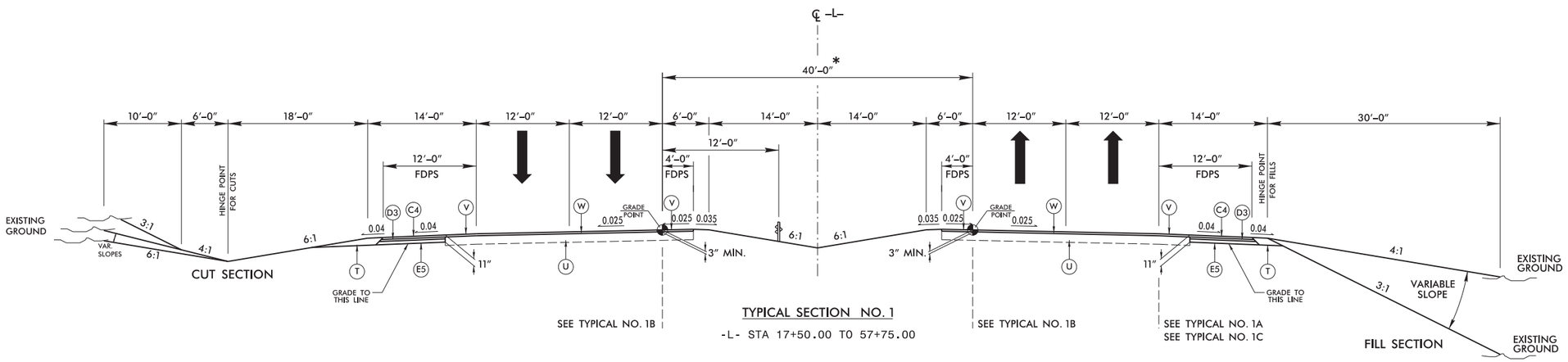
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

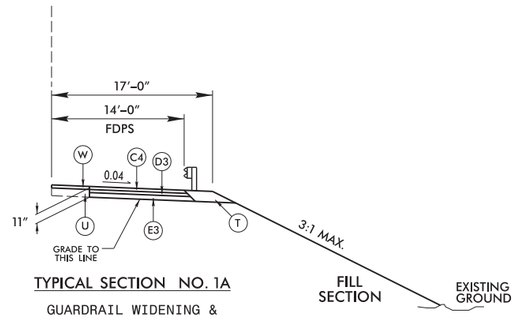
PAVEMENT SCHEDULE

CODE	DESCRIPTION
C4	3″ S9.5C
D3	3″ I19.0C
E5	5″ B25.0C
R1	MONOLITHIC CONC ISLAND
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLED RUMBLE STRIPS
W	WEDGING



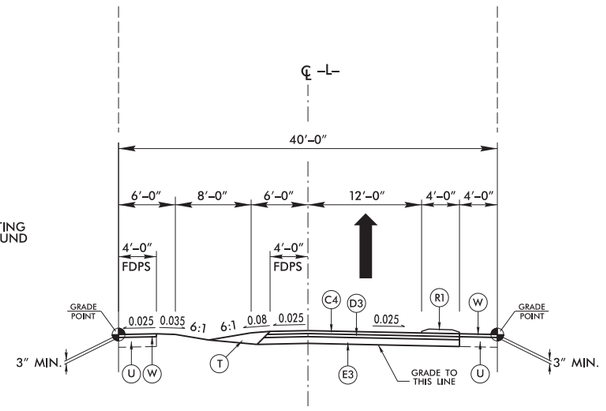
TYPICAL SECTION NO. 1

-L- STA 17+50.00 TO 57+75.00



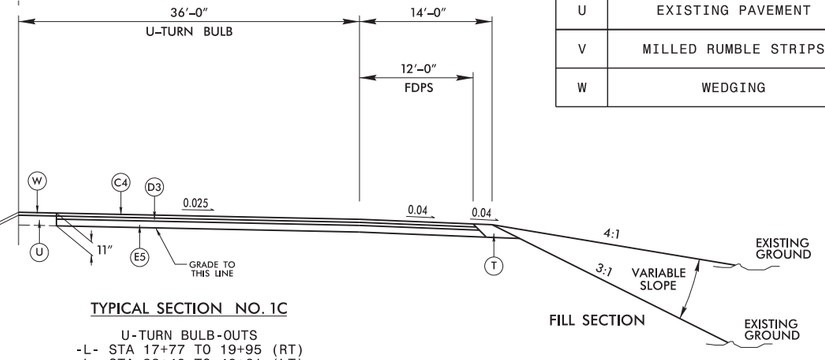
TYPICAL SECTION NO. 1A

GUARDRAIL WIDENING &
FULL-DEPTH PAVED SHOULDERS



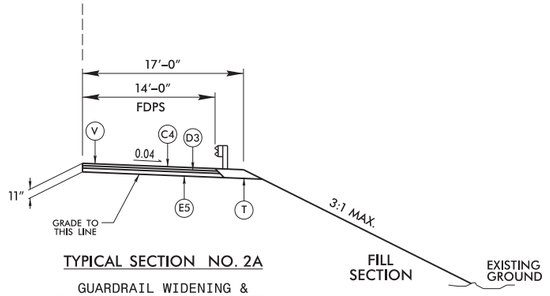
TYPICAL SECTION NO. 1B

MEDIAN CROSSOVERS U-TURNS
-L- STA 17+60 TO 23+90 (LT)
-L- STA 21+90 TO 28+53 (RT)
-L- STA 28+53 TO 34+30 (LT)
-L- STA 34+45 TO 40+75 (RT)



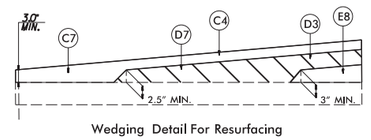
TYPICAL SECTION NO. 1C

U-TURN BULB-OUTS
-L- STA 17+77 TO 19+95 (RT)
-L- STA 38+40 TO 40+61 (LT)

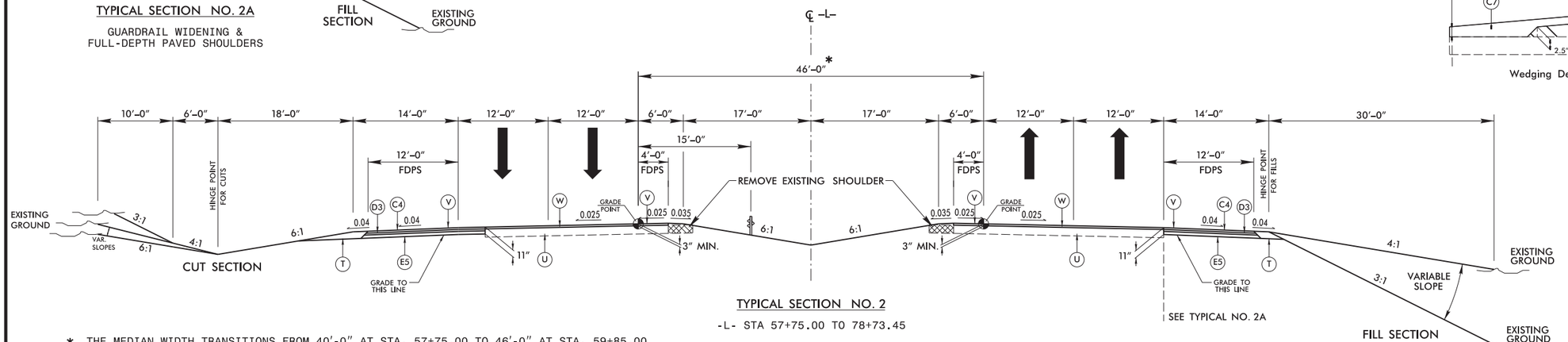


TYPICAL SECTION NO. 2A

GUARDRAIL WIDENING &
FULL-DEPTH PAVED SHOULDERS



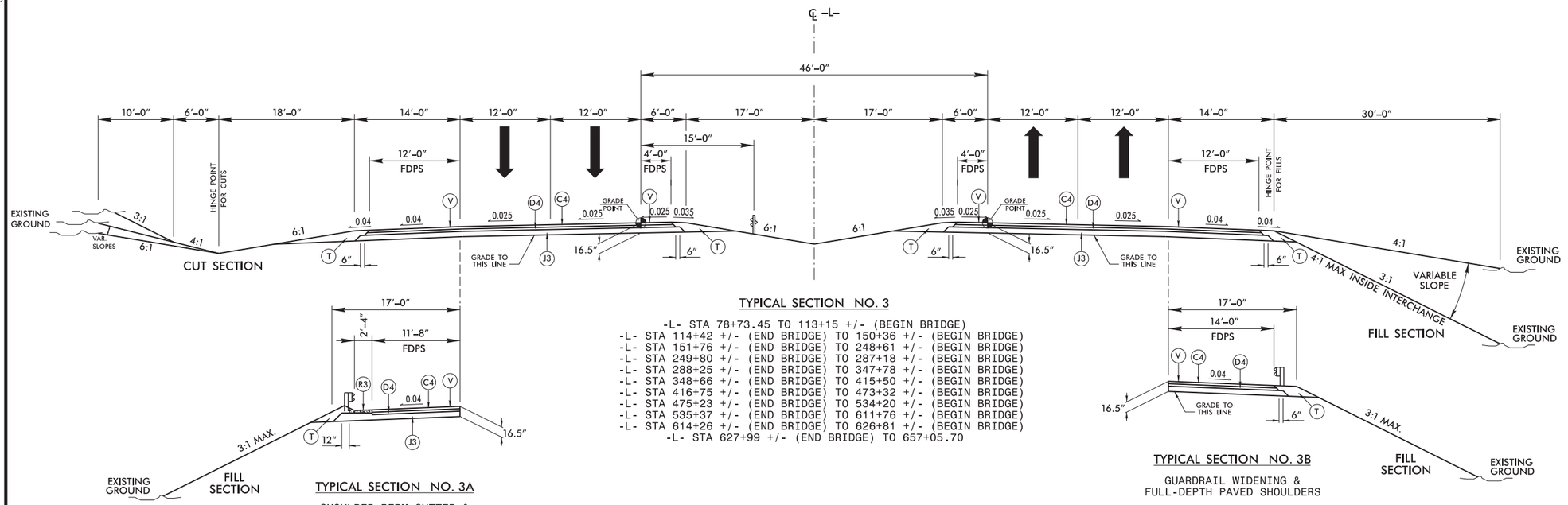
Wedging Detail For Resurfacing



TYPICAL SECTION NO. 2

-L- STA 57+75.00 TO 78+73.45

* THE MEDIAN WIDTH TRANSITIONS FROM 40′-0″ AT STA. 57+75.00 TO 46′-0″ AT STA. 59+85.00
THE GRADE POINT ALSO TRANSITIONS TO FOLLOW THE INSIDE EDGE OF TRAVEL.



TYPICAL SECTION NO. 3

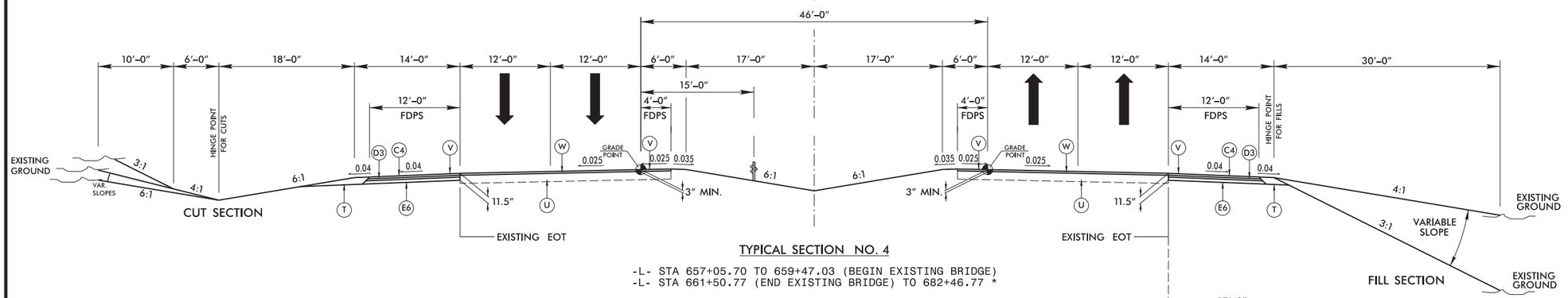
-L- STA 78+73.45 TO 113+15 +/- (BEGIN BRIDGE)
-L- STA 114+42 +/- (END BRIDGE) TO 150+36 +/- (BEGIN BRIDGE)
-L- STA 151+76 +/- (END BRIDGE) TO 248+61 +/- (BEGIN BRIDGE)
-L- STA 249+80 +/- (END BRIDGE) TO 287+18 +/- (BEGIN BRIDGE)
-L- STA 288+25 +/- (END BRIDGE) TO 347+78 +/- (BEGIN BRIDGE)
-L- STA 348+66 +/- (END BRIDGE) TO 415+50 +/- (BEGIN BRIDGE)
-L- STA 416+75 +/- (END BRIDGE) TO 473+32 +/- (BEGIN BRIDGE)
-L- STA 475+23 +/- (END BRIDGE) TO 534+20 +/- (BEGIN BRIDGE)
-L- STA 535+37 +/- (END BRIDGE) TO 611+76 +/- (BEGIN BRIDGE)
-L- STA 614+26 +/- (END BRIDGE) TO 626+81 +/- (BEGIN BRIDGE)
-L- STA 627+99 +/- (END BRIDGE) TO 657+05.70

TYPICAL SECTION NO. 3A

SHOULDER BERM GUTTER &
FULL-DEPTH PAVED SHOULDERS
(SEE PLANS FOR SBG LOCATIONS)

TYPICAL SECTION NO. 3B

GUARDRAIL WIDENING &
FULL-DEPTH PAVED SHOULDERS



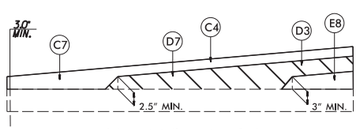
TYPICAL SECTION NO. 4

-L- STA 657+05.70 TO 659+47.03 (BEGIN EXISTING BRIDGE)
-L- STA 661+50.77 (END EXISTING BRIDGE) TO 682+46.77 *

TYPICAL SECTION NO. 4A

GUARDRAIL WIDENING &
FULL-DEPTH PAVED SHOULDERS

* -L- STA 679+51.08 (LT): END SBL CONSTRUCTION



Wedging Detail For Resurfacing

PROJECT REFERENCE NO.	SHEET NO.
R-2250	2A-3

ROADWAY DESIGN ENGINEER

PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

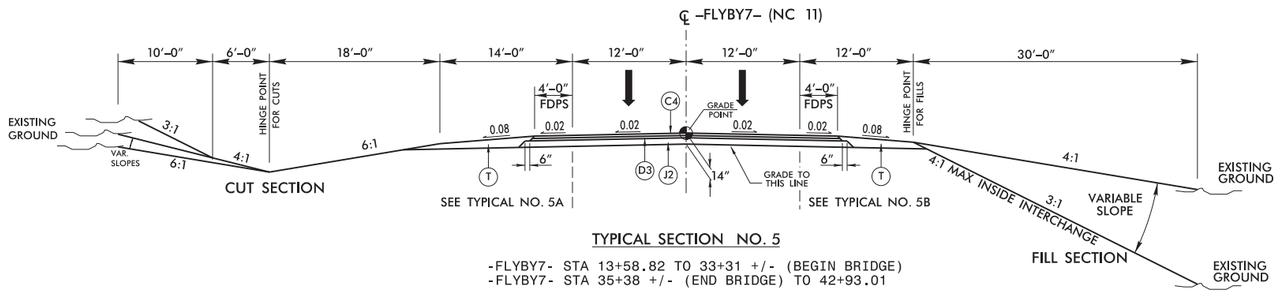
HDR Engineering, Inc. of the Carolinas
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

PAVEMENT SCHEDULE

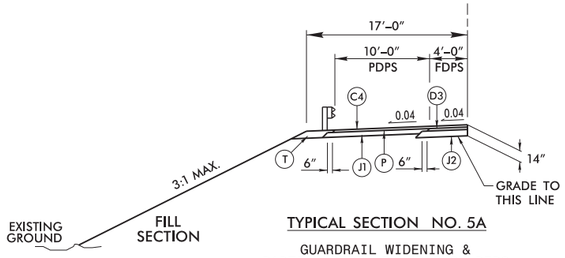
CODE	DESCRIPTION
C4	3" S9.5C
D3	3" I19.0C
D4	3.5" I19.0C
E6	5.5" B25.0C
J3	10" ABC
R3	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLED RUMBLE STRIPS
W	WEDGING

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: dwainwri DATE: 1/25/2016 TIME: 5:45:14 PM
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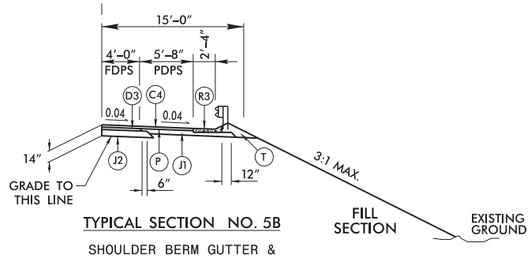
TYPICAL SECTION NO. 5

-FLYBY7- STA 13+58.82 TO 33+31 +/- (BEGIN BRIDGE)
-FLYBY7- STA 35+38 +/- (END BRIDGE) TO 42+93.01



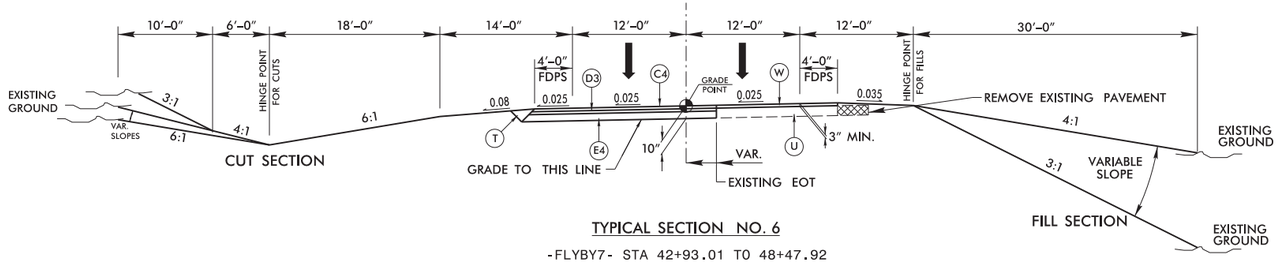
TYPICAL SECTION NO. 5A

GUARDRAIL WIDENING &
PARTIAL-DEPTH PAVED SHOULDERS



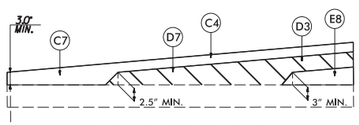
TYPICAL SECTION NO. 5B

SHOULDER BERM GUTTER &
PARTIAL-DEPTH PAVED SHOULDERS
(SEE PLANS FOR SBG LOCATIONS)

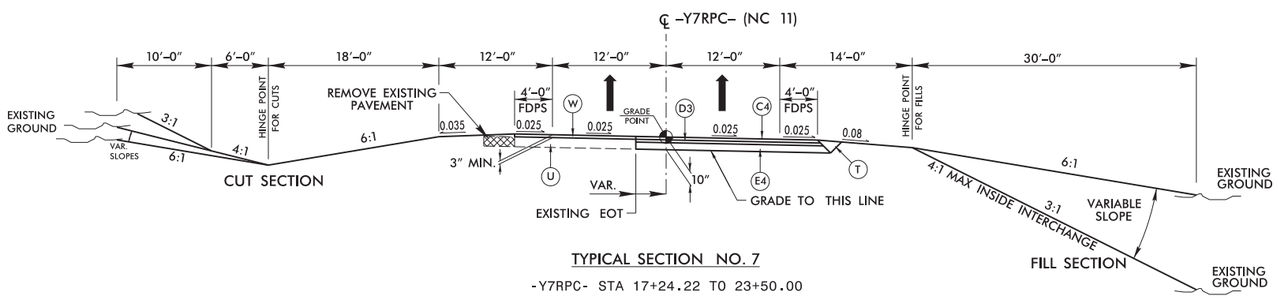


TYPICAL SECTION NO. 6

-FLYBY7- STA 42+93.01 TO 48+47.92



Wedging Detail For Resurfacing



TYPICAL SECTION NO. 7

-Y7RPC- STA 17+24.22 TO 23+50.00

PROJECT REFERENCE NO.	SHEET NO.
R–2250	2A–4

ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

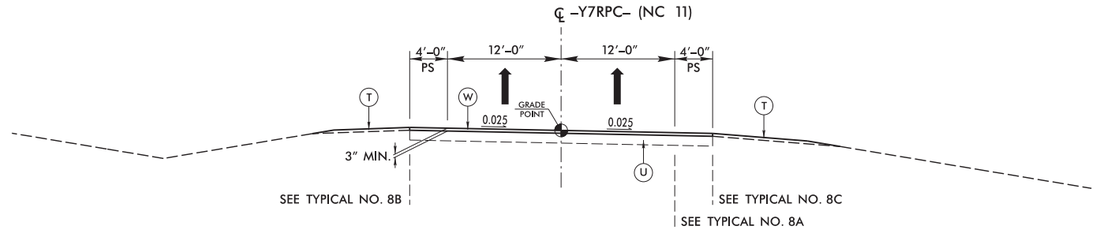
HDR Engineering, Inc. of the Carolinas
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

PAVEMENT SCHEDULE

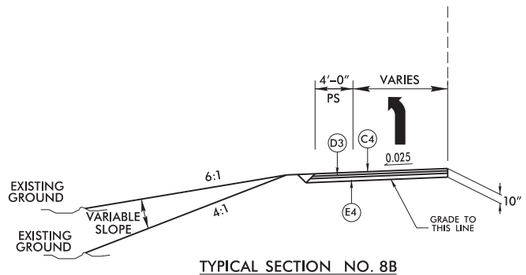
CODE	DESCRIPTION
C4	3" S9.5C
D3	3" I19.0C
E4	4" B25.0C
J1	6" ABC
J2	8" ABC
P	PRIME COAT
R3	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: dwainwri DATE: 1/25/2016 TIME: 5:45:15 PM
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TYPICAL SECTION NO. 8

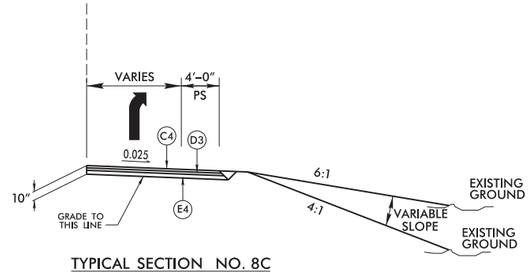
-Y7RPC- STA 23+50.00 TO 40+78.31



TYPICAL SECTION NO. 8B

-Y7RPC- MEDIAN TURN LANE WIDENING (NC 11)

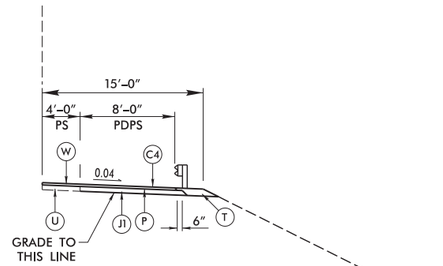
-Y7RPC- STA. 33+45.00 TO 40+18.00



TYPICAL SECTION NO. 8C

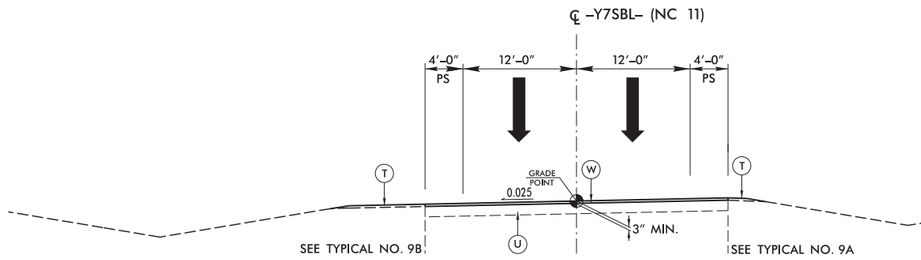
-Y7RPC- OUTSIDE TURN LANE WIDENING (NC 11)

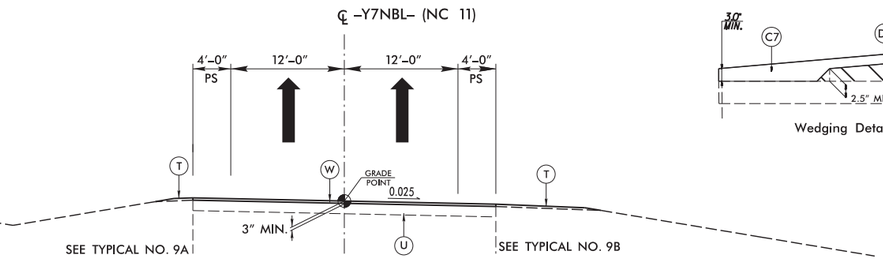
-Y7RPC- STA. 33+00.00 TO 39+80.00



TYPICAL SECTION NO. 8A

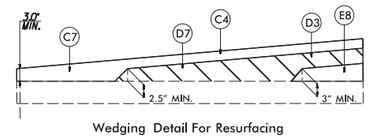
GUARDRAIL WIDENING &
PARTIAL-DEPTH PAVED SHOULDERS



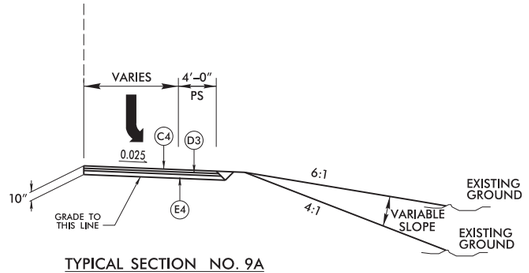


TYPICAL SECTION NO. 9

-Y7SBL- STA 10+00.00 TO 50+85.00
-Y7NBL- STA 10+00.00 TO 44+75.00



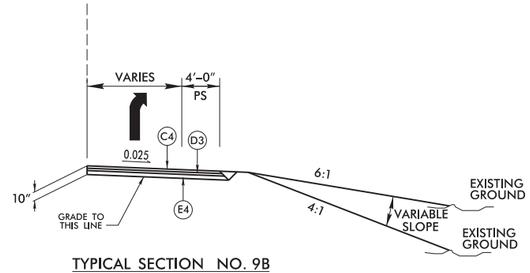
Wedging Detail For Resurfacing



TYPICAL SECTION NO. 9A

-Y7SBL- & -Y7NBL- MEDIAN TURN LANE WIDENING (NC 11)

-Y7SBL- STA. 10+57.00 TO 17+37.00
-Y7NBL- STA. 35+60.00 TO 42+40.00
-Y7SBL- STA. 43+85.00 TO 50+30.00



TYPICAL SECTION NO. 9B

-Y7SBL- & -Y7NBL- OUTSIDE TURN LANE WIDENING (NC 11)

-Y7SBL- STA. 10+90.00 TO 17+70.00
-Y7NBL- STA. 35+60.00 TO 42+40.00
-Y7SBL- STA. 43+85.00 TO 50+85.00

PROJECT REFERENCE NO.	SHEET NO.
R–2250	2A–5

ROADWAY DESIGN ENGINEER

PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

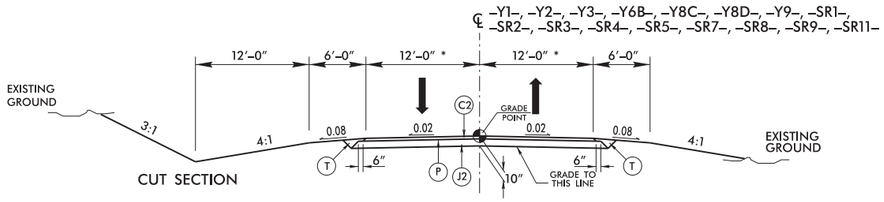
BARNHILL CONTRACTING COMPANY

PAVEMENT SCHEDULE

CODE	DESCRIPTION
C4	3" S9.5C
D3	3" I19.0C
E4	4" B25.0C
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

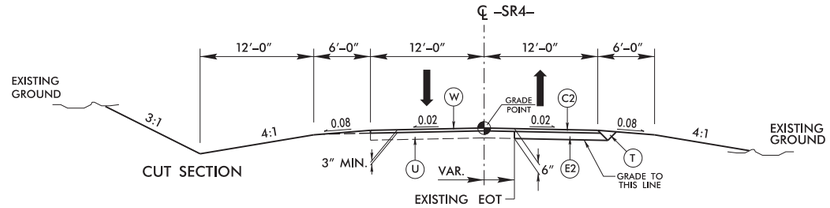
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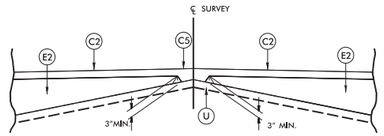
TYPICAL SECTION NO. 10

-Y1- STA 13+15.00 TO 18+62.12
-Y2- STA 10+12.00 TO 34+58.74
-Y3- STA 10+20.00 TO 14+84.67
-Y3- STA 17+43.46 TO 42+35.00
-Y6B- STA 10+10.00 TO 16+00.00
-Y8C- STA 10+32.00 TO 15+35.00
-Y8D- STA 10+35.00 TO 18+53.61
-Y9- STA 20+50.00 TO 76+00.00
-SR1- STA 10+12.00 TO 15+25.00
-SR2- STA 11+10.00 TO 27+28.00
-SR3- STA 12+80.86 TO 14+00.00 * 10' LANES ON -SR3-
-SR4- STA 14+03.44 TO 16+93.14
-SR5- STA 15+95.00 TO 33+60.86
-SR7- STA 11+20.00 TO 29+47.57
-SR8- STA 10+10.31 TO 23+75.00
-SR9- STA 10+09.19 TO 36+10.00
-SR11- STA 10+09.62 TO 14+55.00

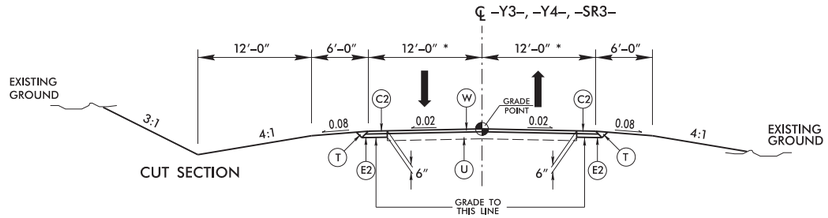


TYPICAL SECTION NO. 10A

-SR4- STA 11+75.00 TO 14+03.44

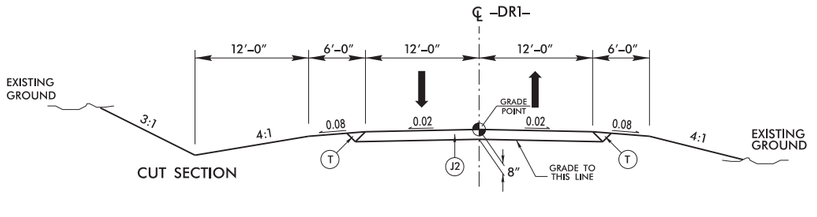


Detail Showing Method of Wedging



TYPICAL SECTION NO. 11

-Y3- STA 14+84.67 TO 17+43.46
-Y4- STA 10+37.00 TO 13+00.00
-SR3- STA 11+65.00 TO 12+80.86 * 10' LANES ON -SR3-



TYPICAL SECTION NO. 12

-DR1- STA 10+04.74 TO 13+46.77

PROJECT REFERENCE NO.	SHEET NO.
R-2250	2A-6
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

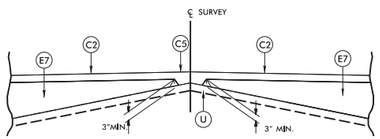
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

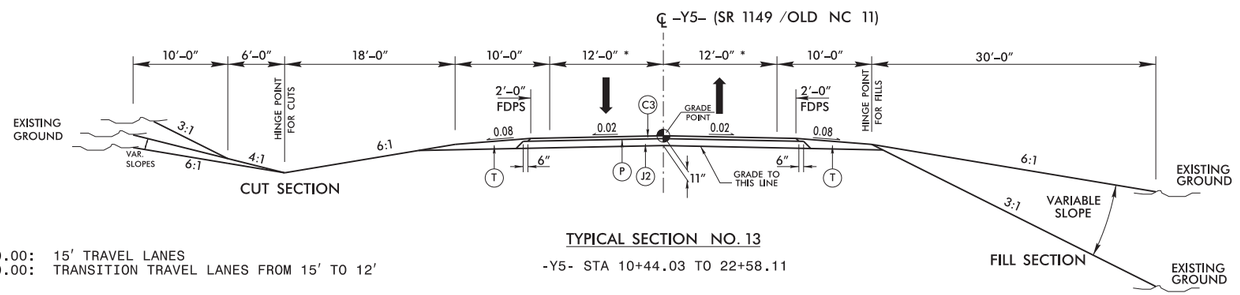
BARNHILL CONTRACTING COMPANY

PAVEMENT SCHEDULE

CODE	DESCRIPTION
C2	2" SF9.5A
C3	3" S9.5B
E2	4" B25.0B
J2	8" ABC
P	PRIME COAT
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING



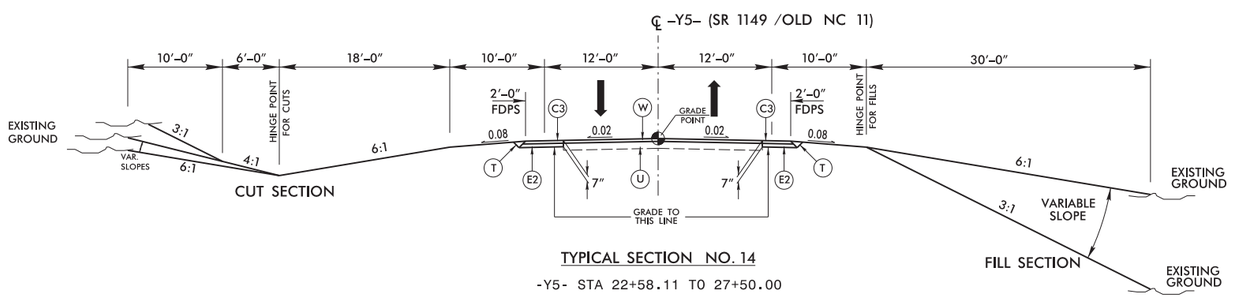
Detail Showing Method of Wedging



TYPICAL SECTION NO. 13

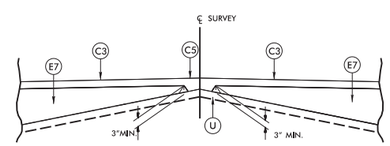
-Y5- STA 10+44.03 TO 22+58.11

* -Y5- STA 10+44.03 TO 13+20.00: 15' TRAVEL LANES
-Y5- STA 13+20.00 TO 15+00.00: TRANSITION TRAVEL LANES FROM 15' TO 12'

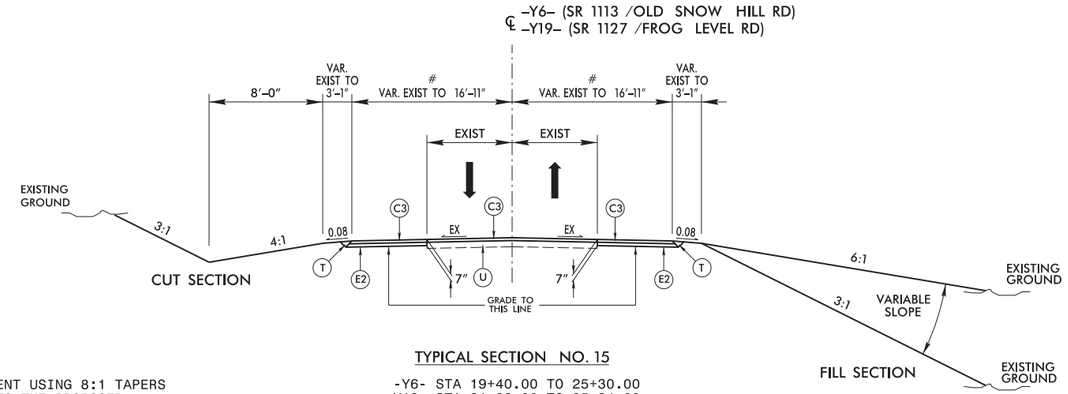


TYPICAL SECTION NO. 14

-Y5- STA 22+58.11 TO 27+50.00



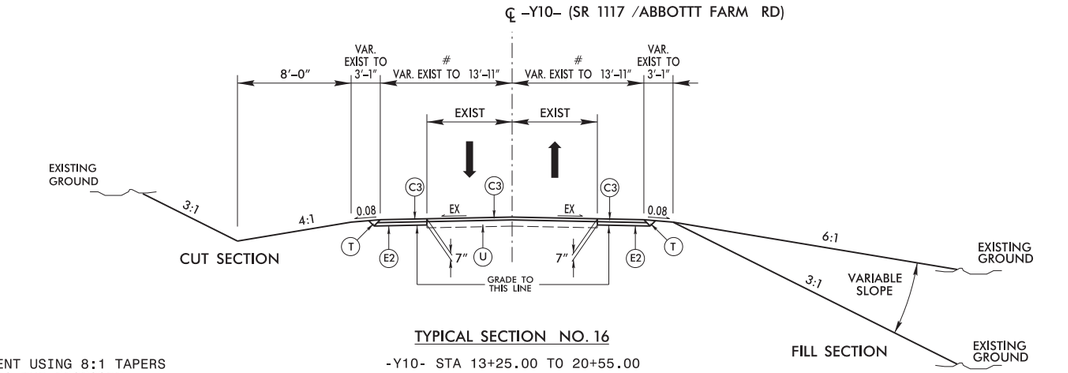
Detail Showing Method of Wedging



TYPICAL SECTION NO. 15

-Y6- STA 19+40.00 TO 25+30.00
-Y19- STA 21+98.00 TO 35+34.00

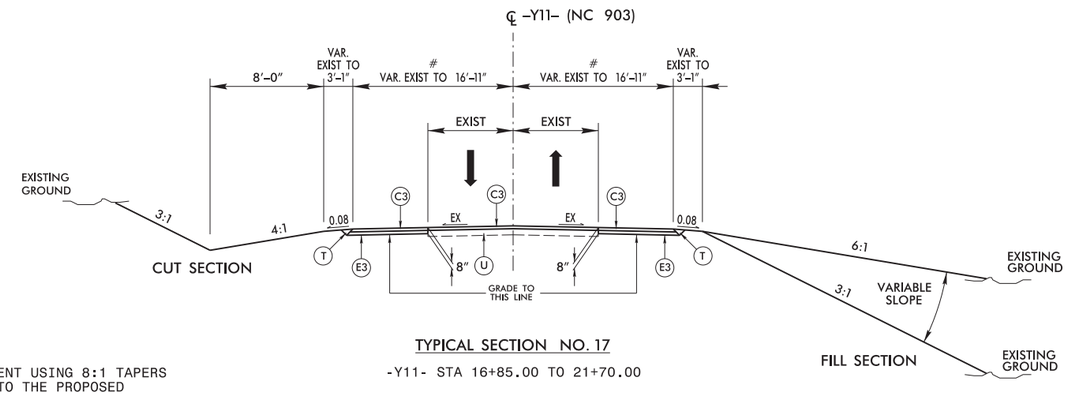
\# TAPER SHOULDERS FROM EXISTING EDGE OF PAVEMENT USING 8:1 TAPERS TO MATCH THE PROPOSED PAVED SHOULDER WIDTH TO THE PROPOSED FULL-DEPTH PAVED SHOULDER UNDER THE -L- BRIDGES OVER -Y6- AND -Y19-



TYPICAL SECTION NO. 16

-Y10- STA 13+25.00 TO 20+55.00

\# TAPER SHOULDERS FROM EXISTING EDGE OF PAVEMENT USING 8:1 TAPERS TO MATCH THE PROPOSED PAVED SHOULDER WIDTH TO THE PROPOSED FULL-DEPTH PAVED SHOULDER UNDER THE -L- BRIDGES OVER -Y10-



TYPICAL SECTION NO. 17

-Y11- STA 16+85.00 TO 21+70.00

\# TAPER SHOULDERS FROM EXISTING EDGE OF PAVEMENT USING 8:1 TAPERS TO MATCH THE PROPOSED PAVED SHOULDER WIDTH TO THE PROPOSED FULL-DEPTH PAVED SHOULDER UNDER THE -L- BRIDGES OVER -Y11-

PROJECT REFERENCE NO.	SHEET NO.
R–2250	2A–7

ROADWAY DESIGN ENGINEER

PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

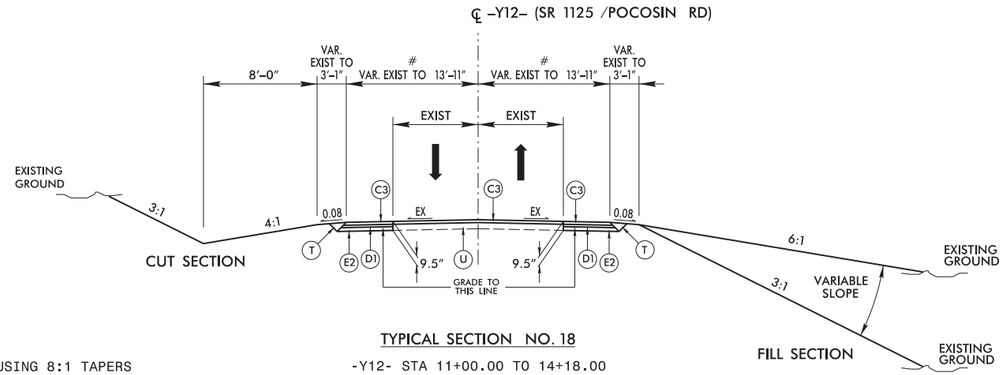
BARNHILL CONTRACTING COMPANY

PAVEMENT SCHEDULE

CODE	DESCRIPTION
C3	3″ S9.5B
E2	4″ B25.0B
E3	5″ B25.0B
T	EARTH MATERIAL
U	EXISTING PAVEMENT

PLOT DRIVER: NCDOT.pdf.color_eng.50.plt PENTABLE: NCDOT.pshpfl.tbl
USER: dwainwri DATE: 1/25/2016 TIME: 5:45:17 PM
FILE: North_Carolina_Dept_of_Transportation\R-2250A_B_C_Greenville_Southwest_Bypass_DB\06.00_Project_Design\R-2250_NCDOT_File_Structure\Roadway\Proj\R2250_RDY_TYP.dgn 6/2/99

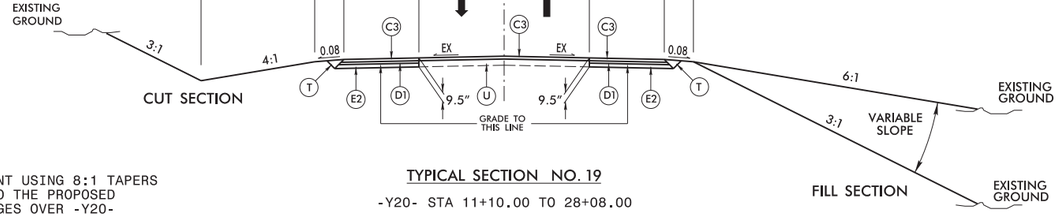
6/2/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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TYPICAL SECTION NO. 18

-Y12- STA 11+00.00 TO 14+18.00

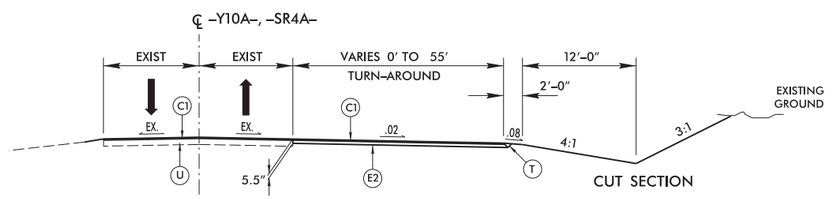
\# TAPER SHOULDERS FROM EXISTING EDGE OF PAVEMENT USING 8:1 TAPERS TO MATCH THE PROPOSED PAVED SHOULDER WIDTH TO THE PROPOSED FULL-DEPTH PAVED SHOULDER UNDER THE -L- BRIDGES OVER -Y12-



TYPICAL SECTION NO. 19

-Y20- STA 11+10.00 TO 28+08.00

\# TAPER SHOULDERS FROM EXISTING EDGE OF PAVEMENT USING 8:1 TAPERS TO MATCH THE PROPOSED PAVED SHOULDER WIDTH TO THE PROPOSED FULL-DEPTH PAVED SHOULDER UNDER THE -L- BRIDGES OVER -Y20-



TYPICAL SECTION NO. 20

-Y10A- STA 14+90.00 TO 16+50.00
-Y10A- STA 19+50.00 TO 21+15.00
-SR4A- STA 10+20.00 TO 10+84.92

PROJECT REFERENCE NO.	SHEET NO.
R–2250	2A–8
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

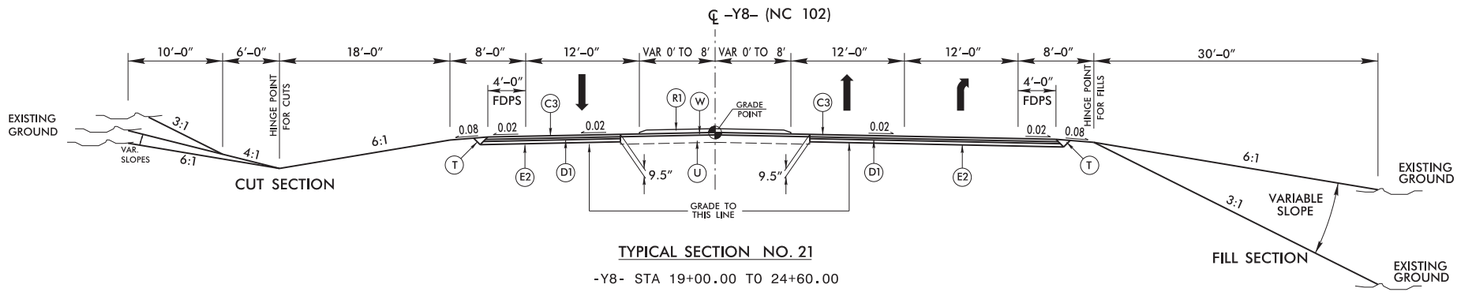
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

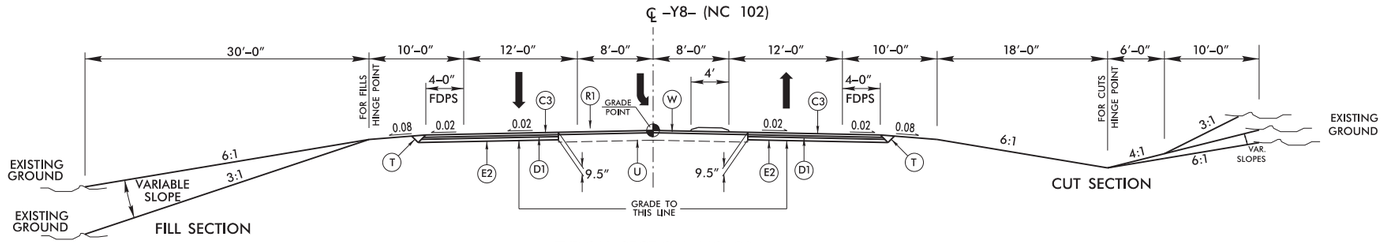
PAVEMENT SCHEDULE	
CODE	DESCRIPTION
C1	1.5" SF9.5A
C3	3" S9.5B
D1	2.5" I19.0B
E2	4" B25.0B
T	EARTH MATERIAL
U	EXISTING PAVEMENT

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfi.tbl
USER: dwainwri DATE: 1/25/2016 TIME: 5:45:18 PM
FILE: North_Carolina_Dept_of_Transportation\R_2250A_B_C_Greenville_Southwest_Bypass_DB\06.00_Project_Design\R-2250_NCDOT_File_Structure\Roadway\Proj\R2250_RDY_TYP.dgn 6/2/99



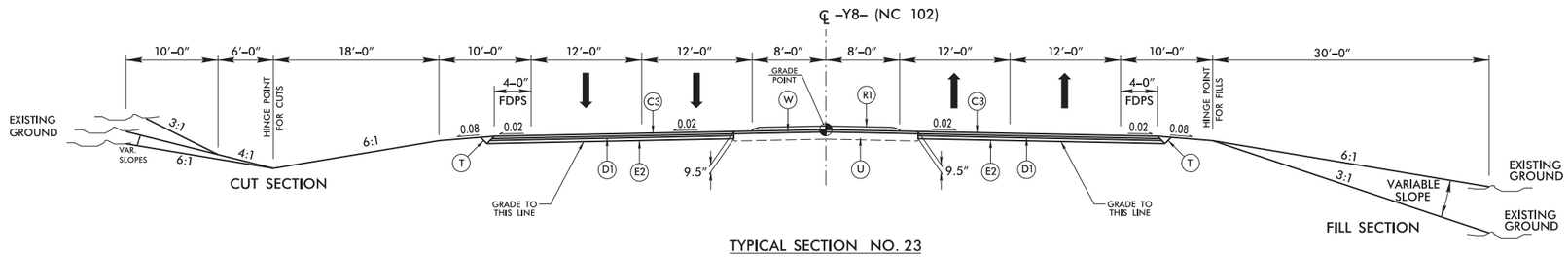
TYPICAL SECTION NO. 21

-Y8- STA 19+00.00 TO 24+60.00



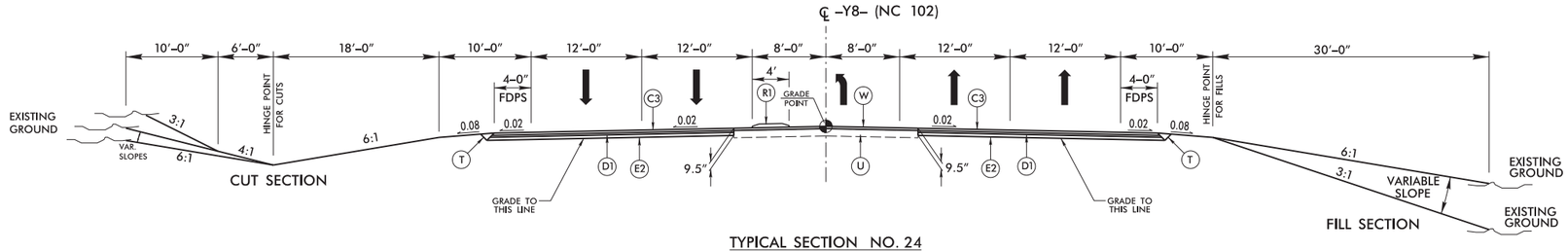
TYPICAL SECTION NO. 22

-Y8- STA 24+60.00 TO 37+60.00



TYPICAL SECTION NO. 23

-Y8- STA 37+60.00 TO 46+17.00



TYPICAL SECTION NO. 24

-Y8- STA 46+17.00 TO 50+15.00

PROJECT REFERENCE NO.	SHEET NO.
R-2250	2A-9
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

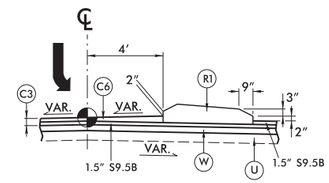
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

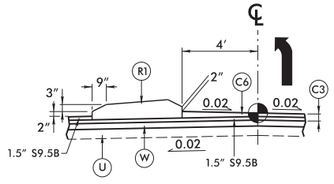
PAVEMENT SCHEDULE

CODE	DESCRIPTION
C3	3" S9.5B
D1	2.5" I19.0B
E1	2.5" B25.0B
E2	4" B25.0B
R1	MONOLITHIC CONC ISLAND
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING



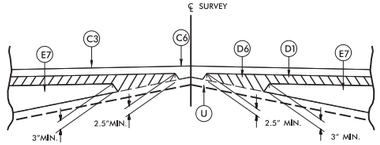
CONCRETE ISLAND PAVING DETAIL

-Y8- STA 27+24 TO 30+58



CONCRETE ISLAND PAVING DETAIL

-Y8- STA 31+08 TO 36+74
-Y8- STA 46+17 TO 49+62



Detail Showing Method of Wedging

6/2/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: dwainwri DATE: 1/25/2016 TIME: 5:45:19 PM
FILE: North_Carolina_Dept_of_Transportation\R-2250A_B_C_Greenville_Southwest_Bypass_DB\06.00_Project_Design\R-2250_NCDOT_File_Structure\Roadway\Proj\R2250_RDY_TYP.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2250	2A-10
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

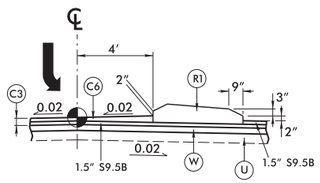
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

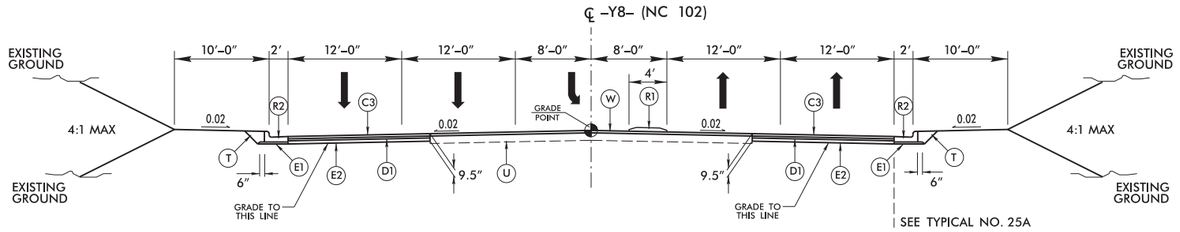
PAVEMENT SCHEDULE

CODE	DESCRIPTION
C3	3" S9.5B
D1	2.5" I19.0B
E1	2.5" B25.0B
E2	4" B25.0B
J2	8" ABC
R1	MONOLITHIC CONC ISLAND
R2	2'-6" CURB & GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING



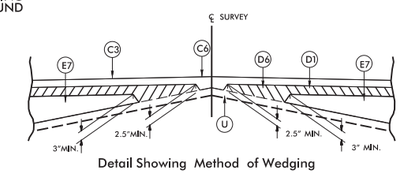
CONCRETE ISLAND PAVING DETAIL

-Y8- STA 51+00 TO 54+81
-Y8- STA 61+86 TO 64+10

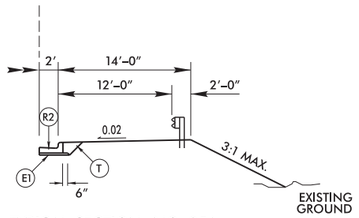


TYPICAL SECTION NO. 25

-Y8- STA 50+15.00 TO 64+40.67

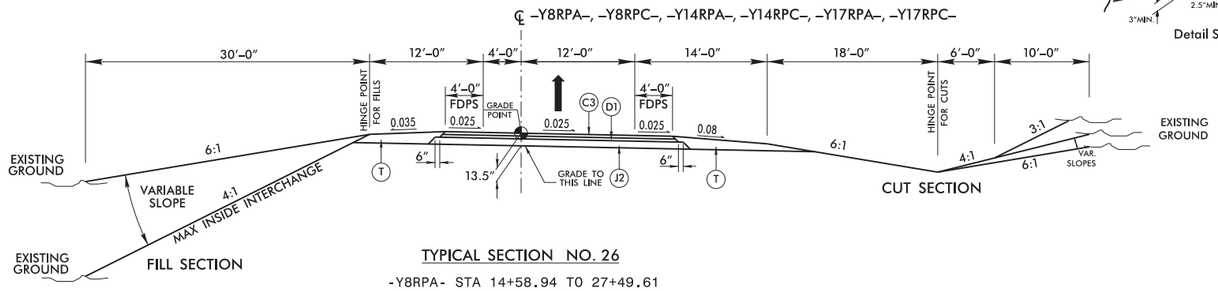


Detail Showing Method of Wedging



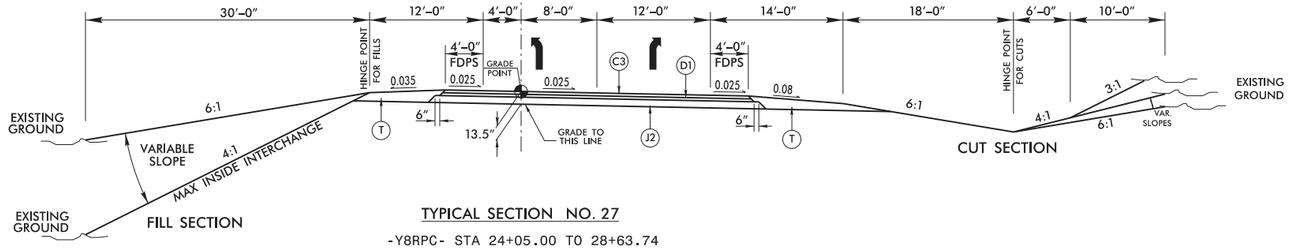
TYPICAL SECTION NO. 25A

CONCRETE CURB & GUTTER
AND BERM WIDTH W/ GUARDRAIL
-Y8- STA 53+68 TO 55+37



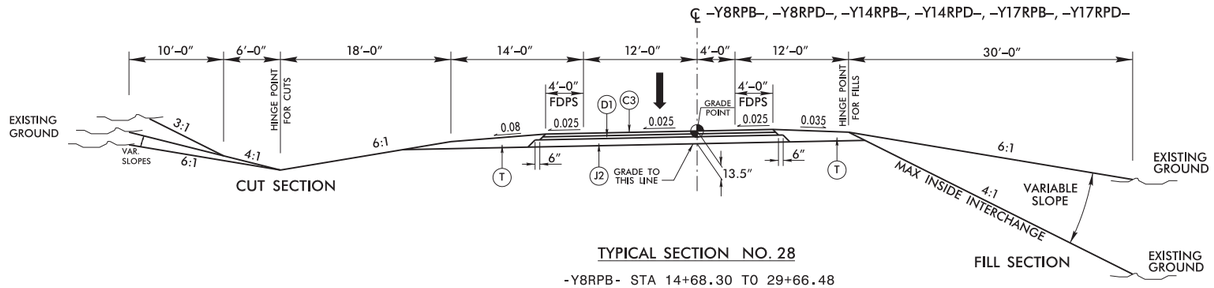
TYPICAL SECTION NO. 26

-Y8RPA- STA 14+58.94 TO 27+49.61
-Y8RPC- STA 16+16.47 TO 24+05.00
-Y14RPA- STA 14+37.95 TO 22+50.00
-Y14RPC- STA 15+15.23 TO 23+50.00
-Y17RPA- STA 13+75.78 TO 25+00.00
-Y17RPC- STA 14+04.06 TO 25+65.00



TYPICAL SECTION NO. 27

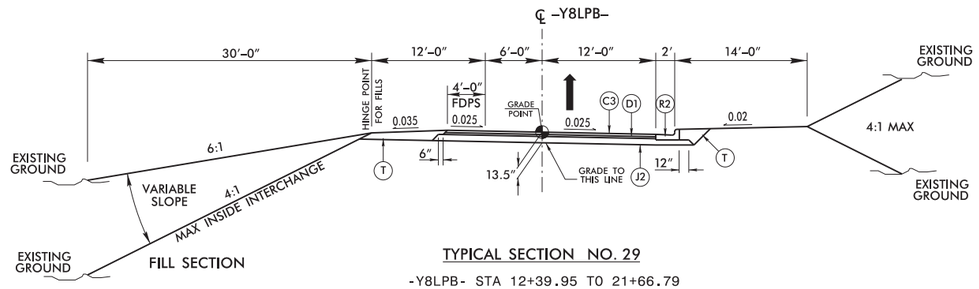
-Y8RPC- STA 24+05.00 TO 28+63.74
-Y14RPA- STA 22+50.00 TO 27+10.85
-Y14RPC- STA 23+50.00 TO 28+09.80
-Y17RPA- STA 25+00.00 TO 30+85.10
-Y17RPC- STA 25+65.00 TO 30+74.00



TYPICAL SECTION NO. 28

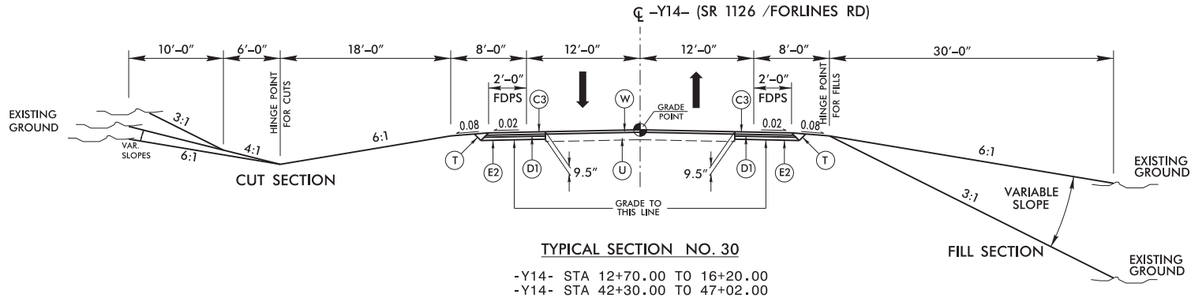
-Y8RPB- STA 14+68.30 TO 29+66.48
-Y8RPD- STA 13+88.00 TO 28+54.70
-Y14RPB- STA 13+88.00 TO 27+80.67
-Y14RPD- STA 13+67.15 TO 27+43.27
-Y17RPB- STA 14+00.18 TO 26+21.13
-Y17RPD- STA 14+14.54 TO 25+93.18

6/2/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: dwainwri DATE: 1/25/2016 TIME: 5:45:20 PM
FILE: North_Carolina_Dept_of_Transportation\R-2250A_B_C_Greenville_Southwest_Bypass_DB\06.00_Project_Design\R-2250_NCDOT_File_Structure\Roadway\Proj\R2250_RDY_TYP.dgn



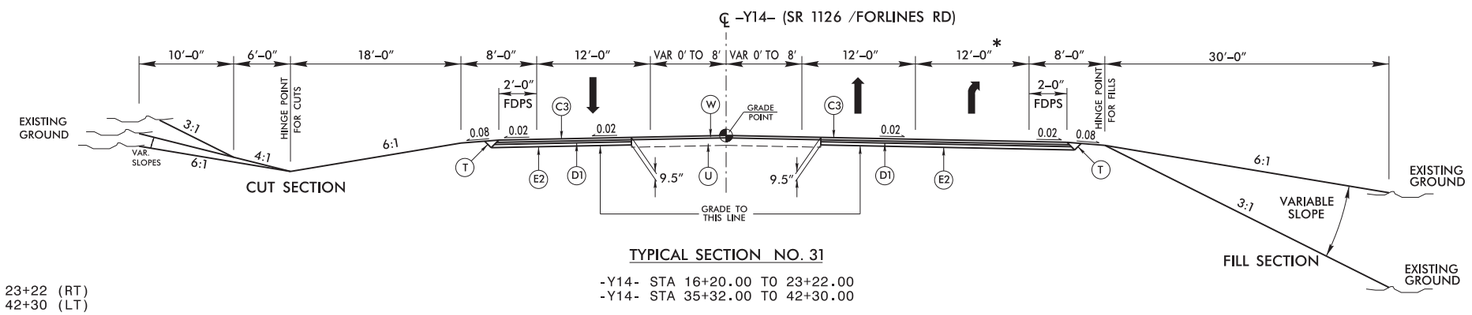
TYPICAL SECTION NO. 29

-Y8LPB- STA 12+39.95 TO 21+66.79



TYPICAL SECTION NO. 30

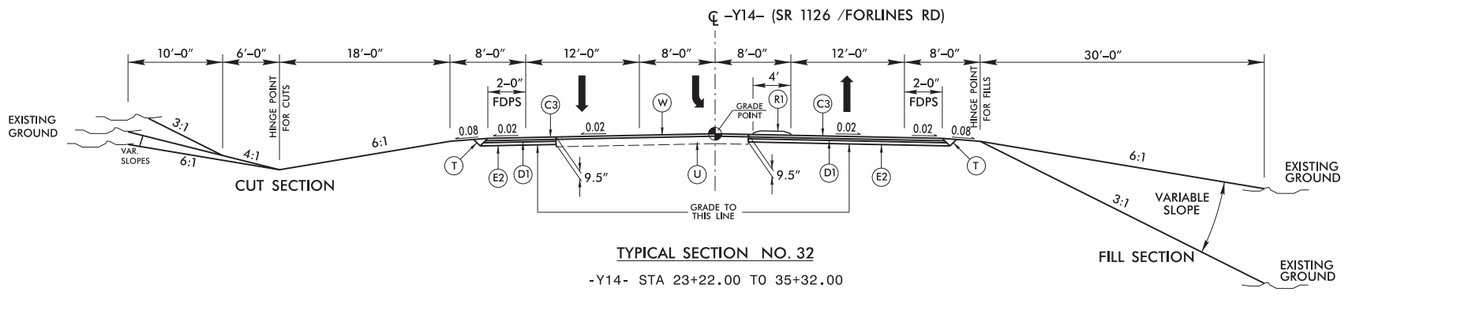
-Y14- STA 12+70.00 TO 16+20.00
-Y14- STA 42+30.00 TO 47+02.00



TYPICAL SECTION NO. 31

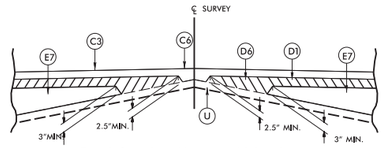
-Y14- STA 16+20.00 TO 23+22.00
-Y14- STA 35+32.00 TO 42+30.00

* RIGHT TURN LANE:
-Y14- STA 16+20 TO 23+22 (RT)
-Y14- STA 35+32 TO 42+30 (LT)

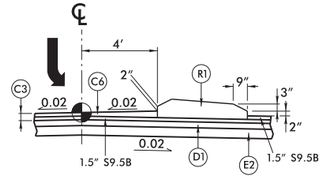


TYPICAL SECTION NO. 32

-Y14- STA 23+22.00 TO 35+32.00



Detail Showing Method of Wedging



CONCRETE ISLAND PAVING DETAIL

-Y14- STA 23+90 TO 34+67

PROJECT REFERENCE NO.	SHEET NO.
R-2250	2A-11

ROADWAY DESIGN ENGINEER

PAVEMENT DESIGN ENGINEER

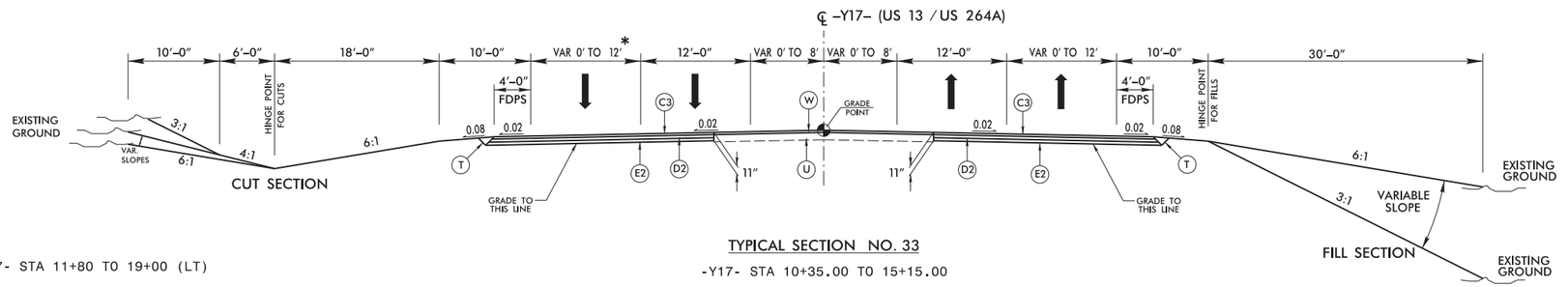
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

PAVEMENT SCHEDULE

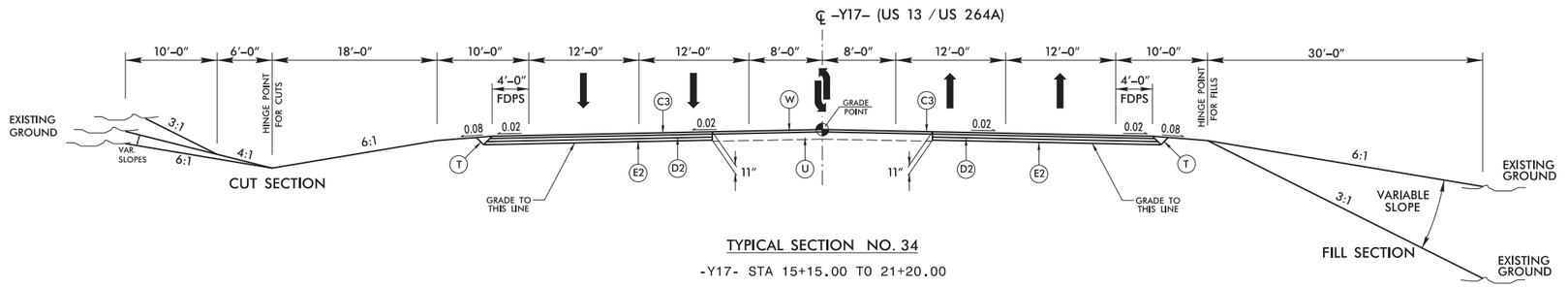
CODE	DESCRIPTION
C3	3" S9.5B
D1	2.5" I19.0B
E2	4" B25.0B
J2	8" ABC
R1	MONOLITHIC CONC ISLAND
R2	2'-6" CURB & GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING



TYPICAL SECTION NO. 33

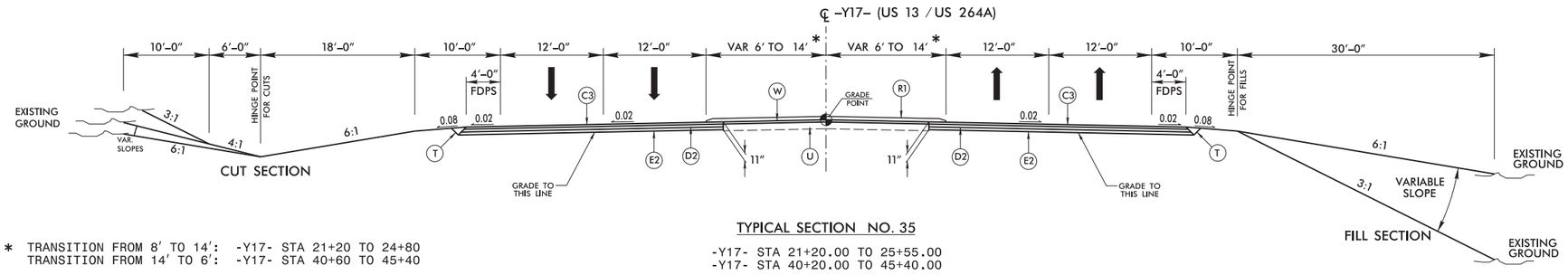
-Y17- STA 10+35.00 TO 15+15.00

* -Y17- STA 11+80 TO 19+00 (LT)



TYPICAL SECTION NO. 34

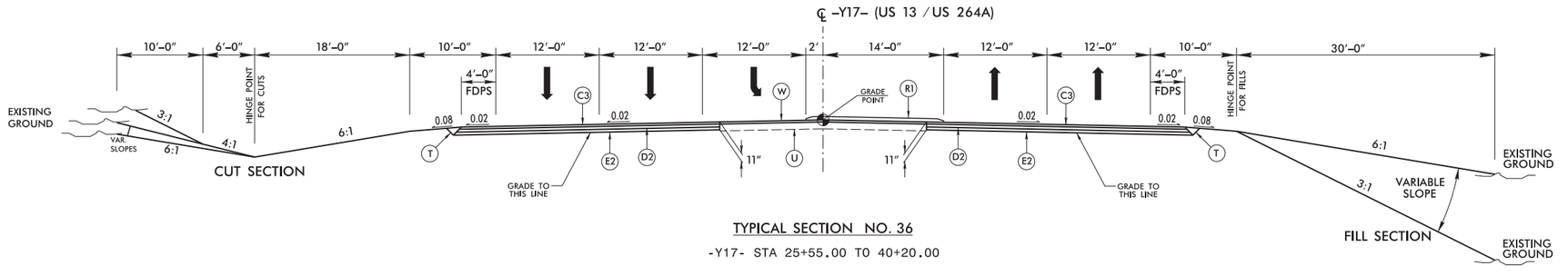
-Y17- STA 15+15.00 TO 21+20.00



TYPICAL SECTION NO. 35

-Y17- STA 21+20.00 TO 25+55.00
-Y17- STA 40+20.00 TO 45+40.00

* TRANSITION FROM 8' TO 14': -Y17- STA 21+20 TO 24+80
TRANSITION FROM 14' TO 6': -Y17- STA 40+60 TO 45+40



TYPICAL SECTION NO. 36

-Y17- STA 25+55.00 TO 40+20.00

PROJECT REFERENCE NO.	SHEET NO.
R-2250	2A-12

ROADWAY DESIGN ENGINEER

PAVEMENT DESIGN ENGINEER

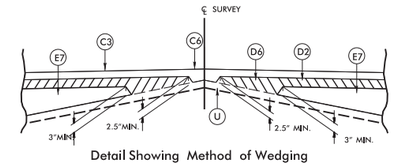
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

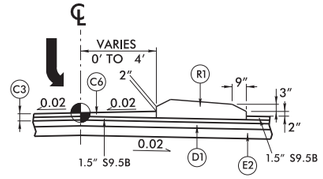
BARNHILL CONTRACTING COMPANY

PAVEMENT SCHEDULE

CODE	DESCRIPTION
C3	3" S9.5B
D2	4" I19.0B
E2	4" B25.0B
R1	MONOLITHIC CONC ISLAND
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING



Detail Showing Method of Wedging



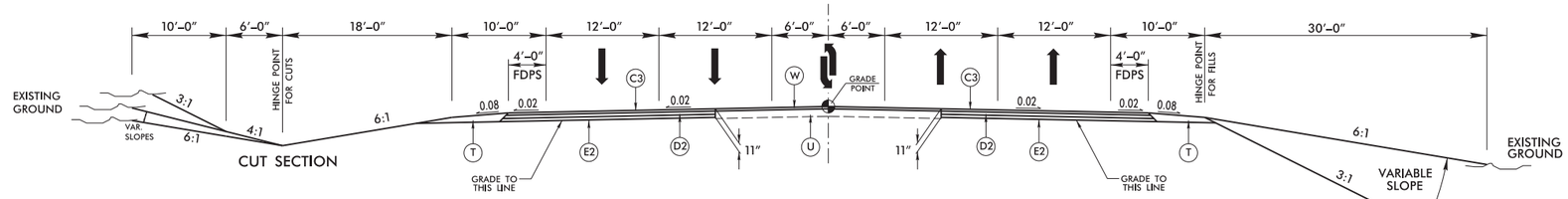
CONCRETE ISLAND PAVING DETAIL

-Y17- STA 20+83 TO 23+60

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: dwainwri DATE: 1/25/2016 TIME: 5:45:20 PM
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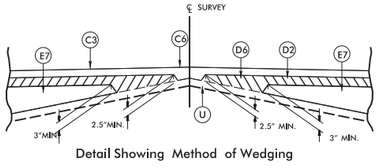
6/2/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: dwainwri DATE: 1/25/2016 TIME: 5:45:21 PM
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℄ –Y17– (US 13 / US 264A)



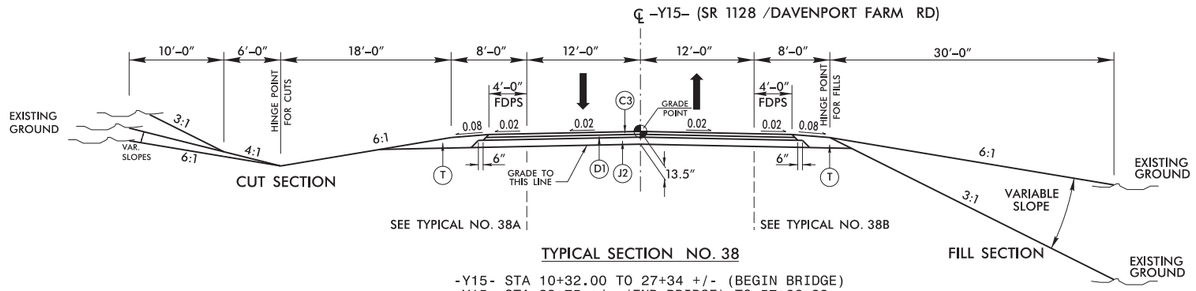
TYPICAL SECTION NO. 37

-Y17- STA 45+40.00 TO 97+40.00



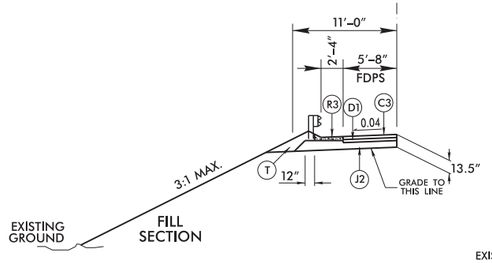
Detail Showing Method of Wedging

℄ –Y15– (SR 1128 /DAVENPORT FARM RD)



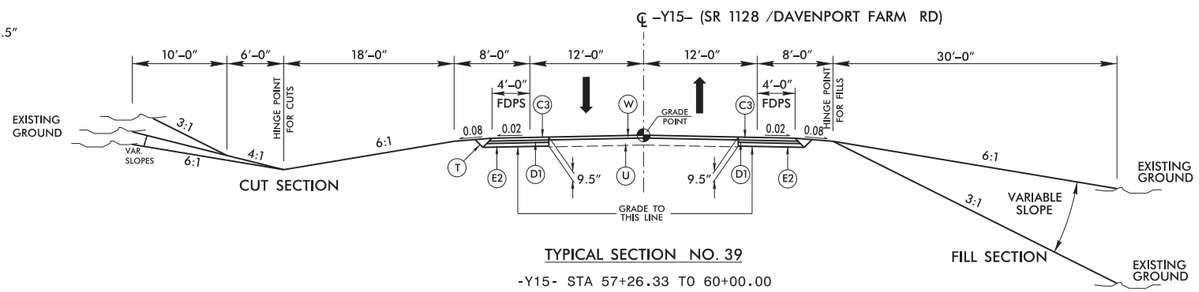
TYPICAL SECTION NO. 38

-Y15- STA 10+32.00 TO 27+34 +/- (BEGIN BRIDGE)
-Y15- STA 29+75 +/- (END BRIDGE) TO 57+26.33



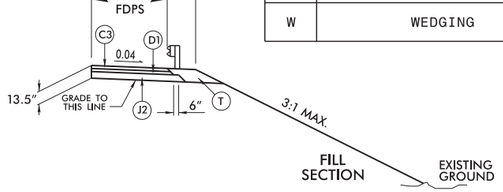
TYPICAL SECTION NO. 38A

SHOULDER BERM GUTTER &
FULL-DEPTH PAVED SHOULDERS
(SEE PLANS FOR SBG LOCATIONS)



TYPICAL SECTION NO. 39

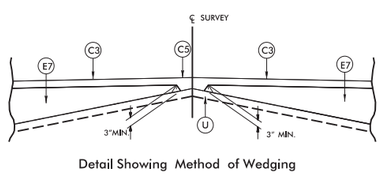
-Y15- STA 57+26.33 TO 60+00.00



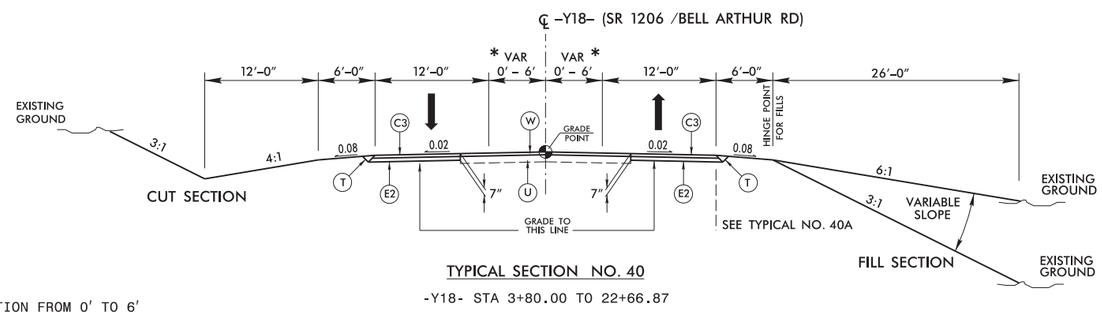
TYPICAL SECTION NO. 38B

GUARDRAIL WIDENING &
FULL-DEPTH PAVED SHOULDERS

℄ –Y18– (SR 1206 /BELL ARTHUR RD)



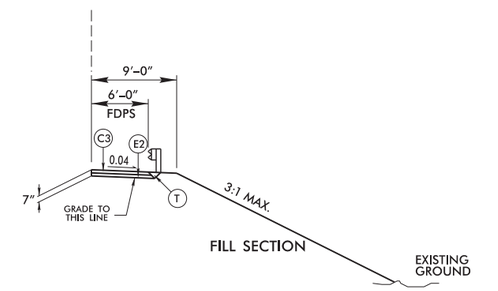
Detail Showing Method of Wedging



* -Y18- STA 3+80.00 TO 18+15.00: 0′
-Y18- STA 18+15.00 TO 20+25.00: TRANSITION FROM 0′ TO 6′
-Y18- STA 20+25.00 TO 22+66.87: 6′

TYPICAL SECTION NO. 40

-Y18- STA 3+80.00 TO 22+66.87



TYPICAL SECTION NO. 40A

GUARDRAIL WIDENING &
FULL-DEPTH PAVED SHOULDERS

PROJECT REFERENCE NO.	SHEET NO.
R–2250	2A–13

ROADWAY DESIGN ENGINEER

PAVEMENT DESIGN ENGINEER

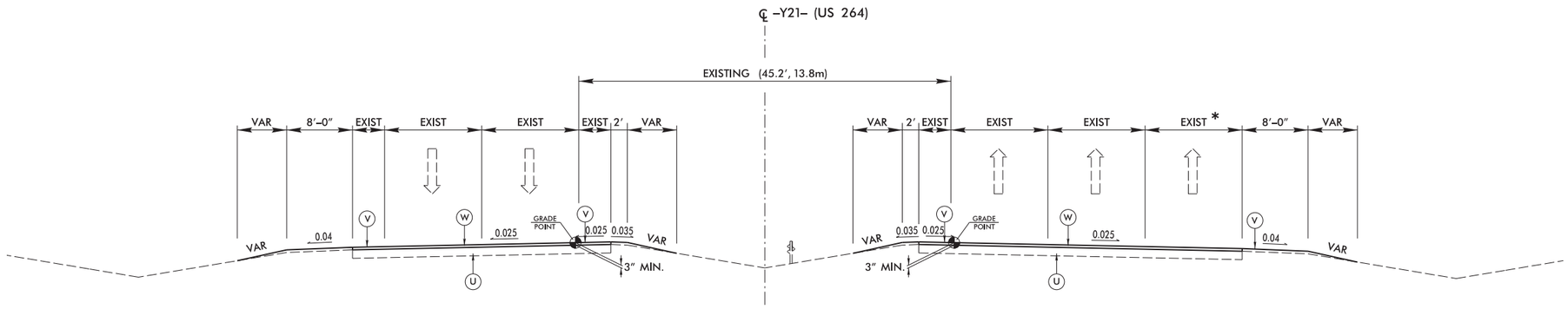
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

PAVEMENT SCHEDULE

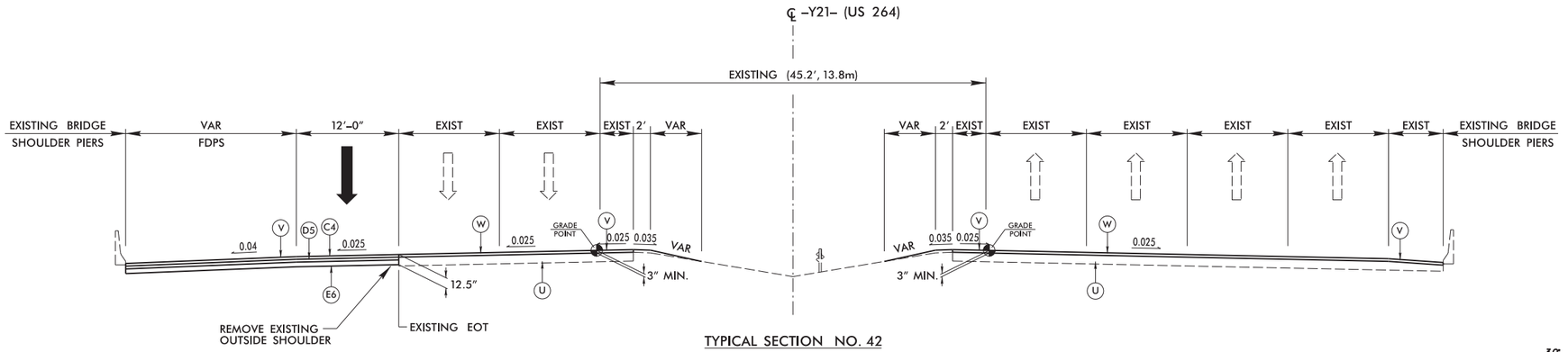
CODE	DESCRIPTION
C3	3″ S9.5B
D1	2.5″ I19.0B
D2	4″ I19.0B
E2	4″ B25.0B
J2	8″ ABC
R3	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING



TYPICAL SECTION NO. 41

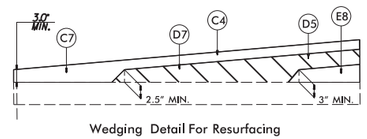
-Y21- STA 15+00.00 TO 32+23.78 (RT)
-Y21- STA 39+05.76 TO 47+64.65 (RT)
-Y21- STA 21+10.77 TO 32+23.78 (LT)
-Y21- STA 39+05.76 TO 52+70.00 (LT)

* -Y21- STA 28+00.00 TO 46+40.00 (RT)

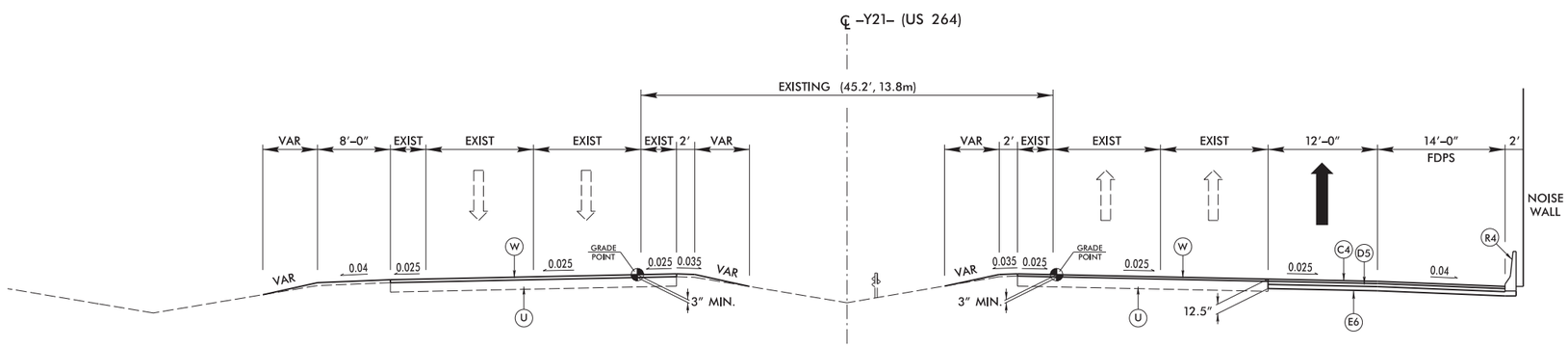


TYPICAL SECTION NO. 42

-Y21- STA 32+23.78 TO 39+05.76



Wedging Detail For Resurfacing



TYPICAL SECTION NO. 43

-Y21- STA 47+64.65 TO 55+00.00 (RT)

PROJECT REFERENCE NO.	SHEET NO.
R-2250	2A-14

ROADWAY DESIGN ENGINEER

PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
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N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

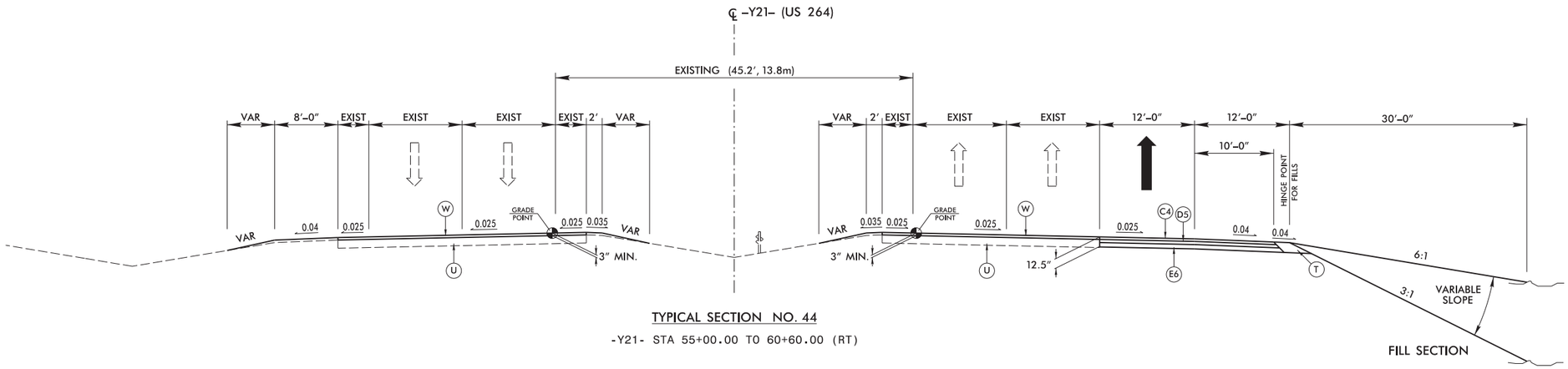
PAVEMENT SCHEDULE

CODE	DESCRIPTION
C4	3" S9.5C
D5	4" I19.0C
E6	5.5" B25.0C
R4	SINGLE FACE CONC BARRIER
U	EXISTING PAVEMENT
V	MILLED RUMBLE STRIPS
W	WEDGING

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6/2/99

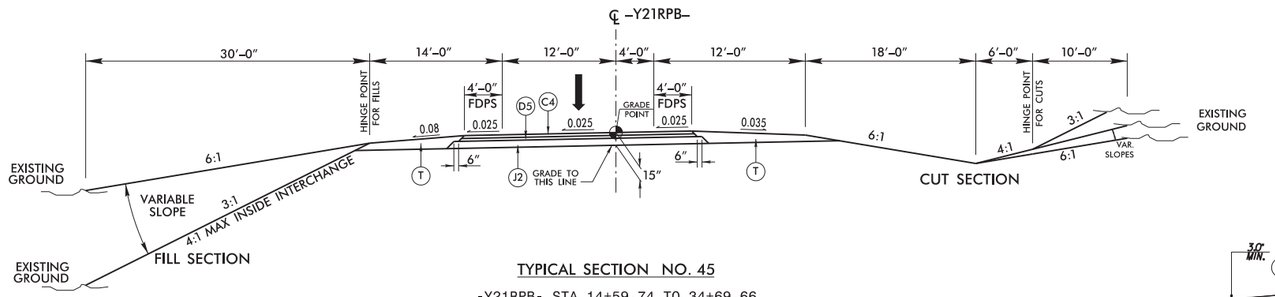
6/2/99

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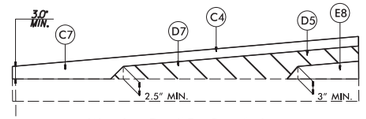
TYPICAL SECTION NO. 44

-Y21- STA 55+00.00 TO 60+60.00 (RT)



TYPICAL SECTION NO. 45

-Y21RPB- STA 14+59.74 TO 34+69.66



Wedging Detail For Resurfacing

PROJECT REFERENCE NO.	SHEET NO.
R–2250	2A–15

ROADWAY DESIGN ENGINEER

PAVEMENT DESIGN ENGINEER

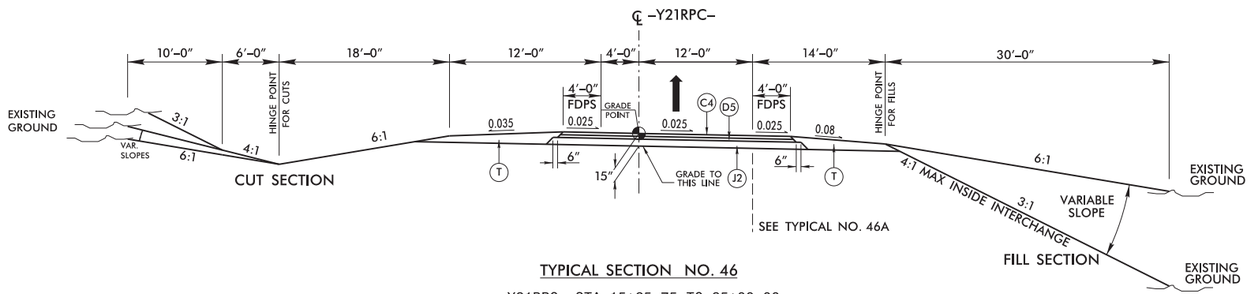
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
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N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

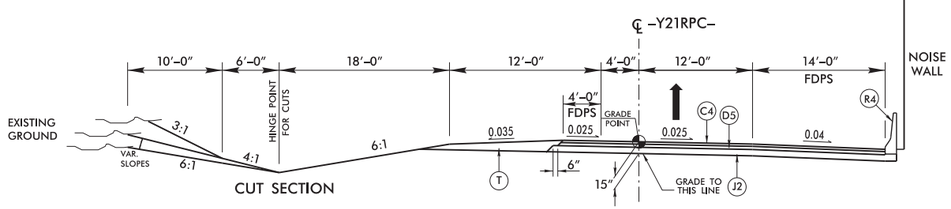
PAVEMENT SCHEDULE

CODE	DESCRIPTION
C4	3" S9.5C
D5	4" I19.0C
E6	5.5" B25.0C
J1	6" ABC
J2	8" ABC
R3	SHOULDER BERM GUTTER
R4	SINGLE FACE CONC BARRIER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING



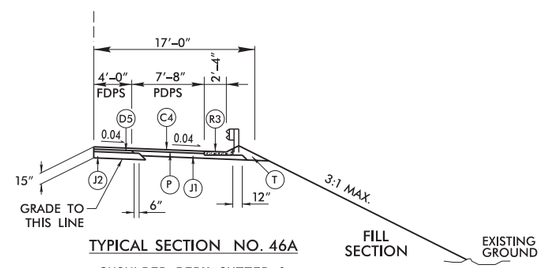
TYPICAL SECTION NO. 46

-Y21RPC- STA 15+65.75 TO 25+00.00



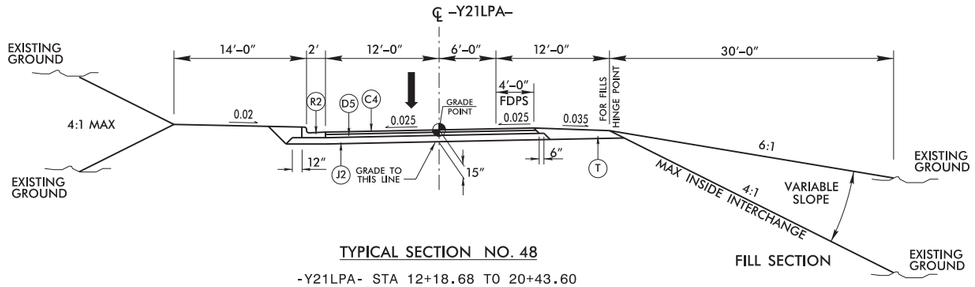
TYPICAL SECTION NO. 47

-Y21RPC- STA 25+00.00 TO 34+09.42



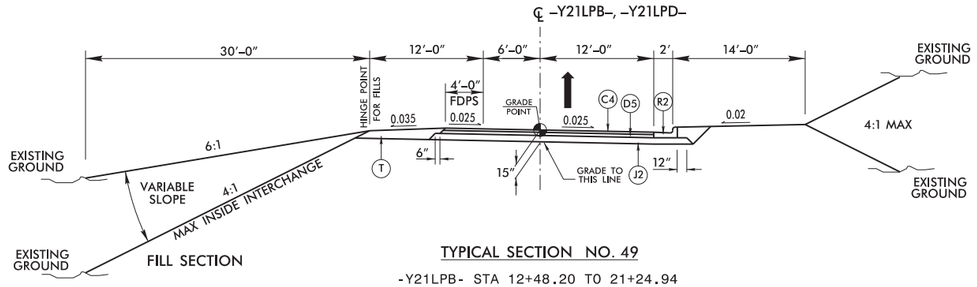
TYPICAL SECTION NO. 46A

SHOULDER BERM GUTTER &
PARTIAL-DEPTH PAVED SHOULDERS
(SEE PLANS FOR SBG LOCATIONS)



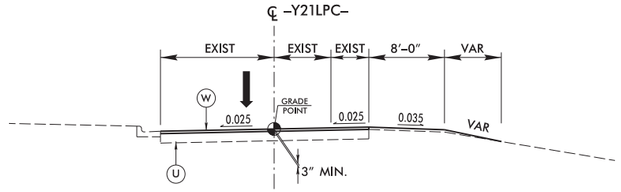
TYPICAL SECTION NO. 48

-Y21LPA- STA 12+18.68 TO 20+43.60



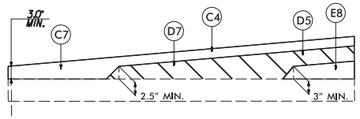
TYPICAL SECTION NO. 49

-Y21LPB- STA 12+48.20 TO 21+24.94
-Y21LPD- STA 12+25.39 TO 18+85.95

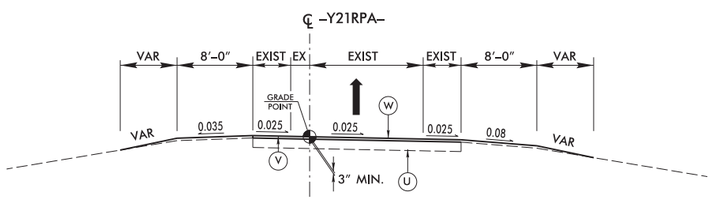


TYPICAL SECTION NO. 50

-Y21LPC- STA 12+13.86 TO 20+74.00

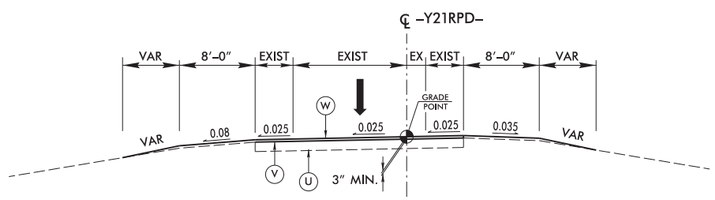


Wedging Detail For Resurfacing



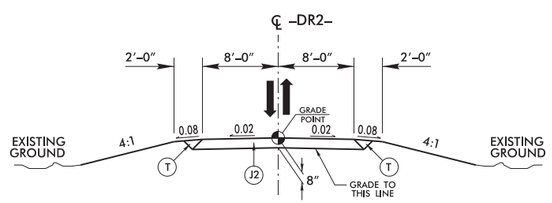
TYPICAL SECTION NO. 51

-Y21RPA- STA 10+00.00 TO 33+79.67



TYPICAL SECTION NO. 52

-Y21RPD- STA 10+00.00 TO 31+46.98



NOTE: PAVE -DR2- FROM 10+16.00 TO 10+32.00 WITH -Y15- PAVEMENT DESIGN.

TYPICAL SECTION NO. 53

-DR2- STA 10+16.00 TO 11+87.00

PROJECT REFERENCE NO.	SHEET NO.
R-2250	2A-16

ROADWAY DESIGN ENGINEER

PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

PAVEMENT SCHEDULE

CODE	DESCRIPTION
C4	3″ S9.5C
D5	4″ I19.0C
J2	8″ ABC
R2	2′-6″ CURB & GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

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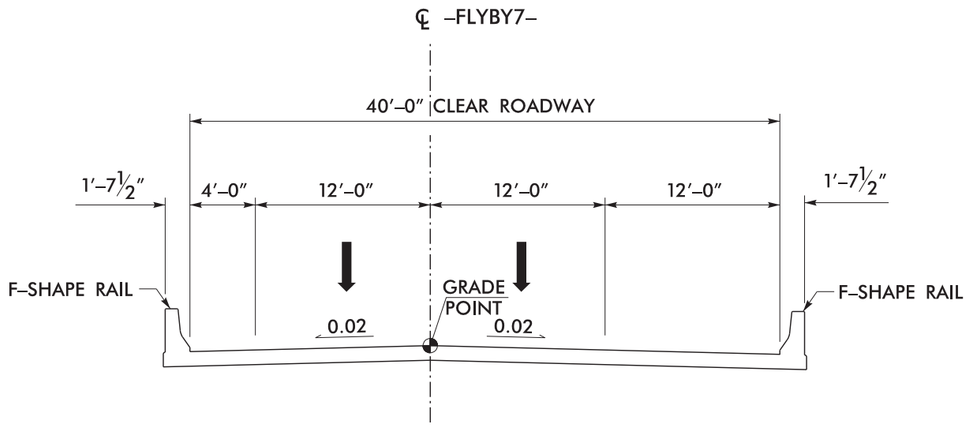
NC 11 SOUTHBOUND FLYOVER OVER GREENVILLE BYPASS

PROJECT REFERENCE NO.	SHEET NO.
R–2250	2A–17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

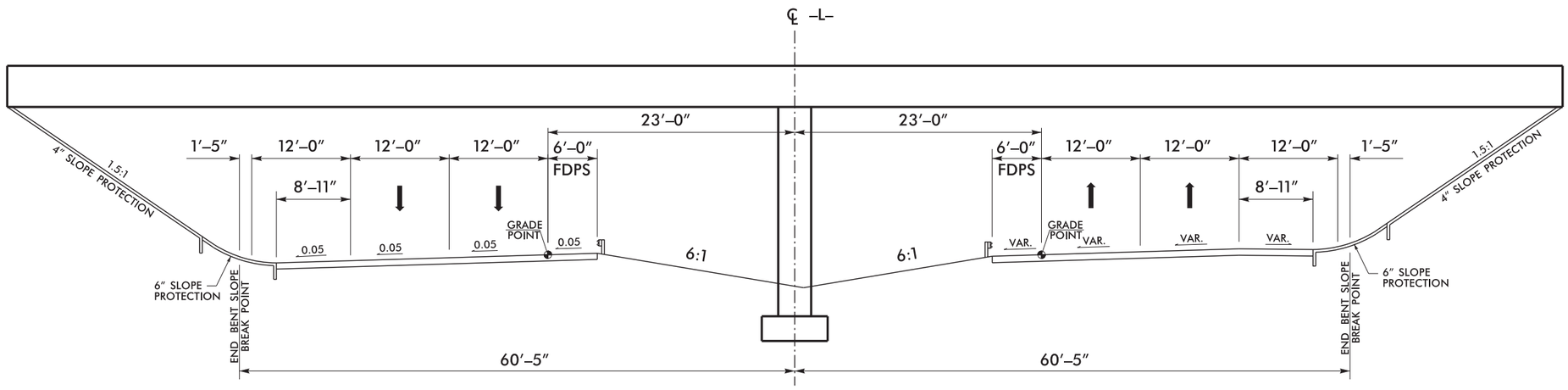
BARNHILL CONTRACTING COMPANY



SITE #1 – TYPICAL SECTION NO. 1

–FLYBY7– FUNCTIONAL CLASS. = DIRECTIONAL RAMP

(–FLYBY7–) NC 11 SOUTHBOUND FLYOVER			
2014 ADT	10,600	TTST =	3%
2040 ADT	11,700	DUALS =	2%
		DHV =	9%
		DIR =	55%



SITE #1 – TYPICAL SECTION NO. 2

–L– (GREENVILLE BYPASS) UNDER
–FLYBY7–
MINIMUM VERTICAL CLEARANCE = 17′–0″
–L– FUNCTIONAL CLASS. = FREEWAY/INTERSTATE

(–L–) GREENVILLE BYPASS			
2014 ADT	8,500	TTST =	3%
2040 ADT	14,300	DUALS =	5%
		DHV =	10%
		DIR =	60%

SEE SHEET 2B–1 FOR BRIDGE SKETCH
SEE SHEET 2A–4 FOR APPROACH ROADWAY TYPICAL SECTION

REVISIONS

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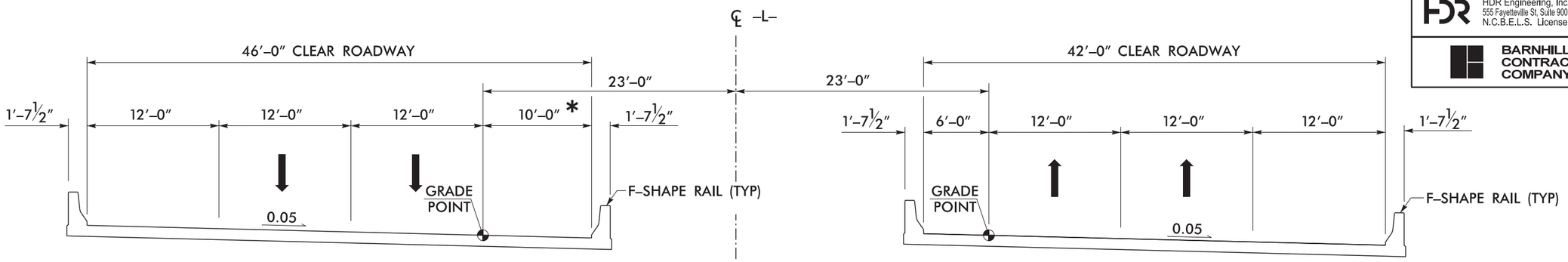
GREENVILLE BYPASS OVER
–Y6– OLD SNOW HILL RD.

PROJECT REFERENCE NO.	SHEET NO.
R–2250	2A–18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

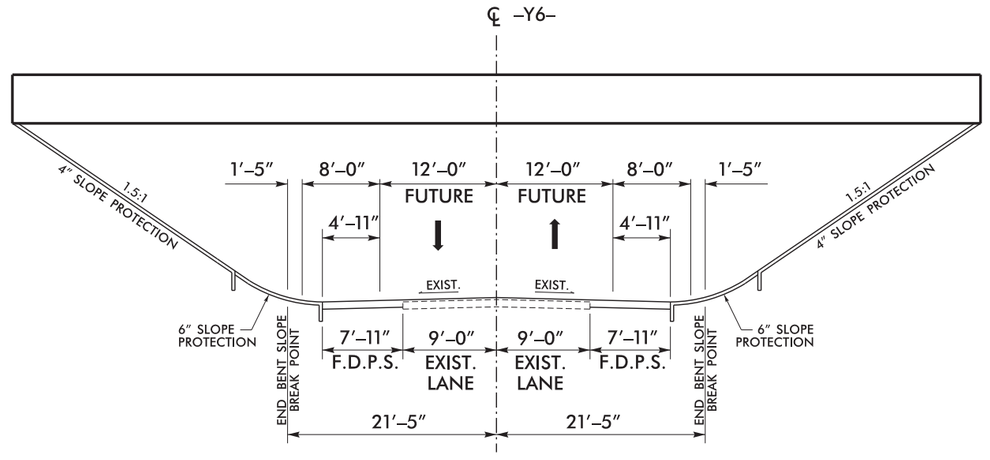


SITE #2 – TYPICAL SECTION NO. 1

–L– FUNCTIONAL CLASS. = FREEWAY/INTERSTATE

* MEETS HORIZONTAL SSD FOR 70 MPH.

(–L–) GREENVILLE BYPASS			
2014 ADT	8,500	TTST =	3%
2040 ADT	14,300	DUALS =	5%
		DHV =	10%
		DIR =	60%



SITE #2 – TYPICAL SECTION NO. 2

–Y6– (OLD SNOW HILL RD.) UNDER
–L– (GREENVILLE BYPASS)
MINIMUM VERTICAL CLEARANCE = 15′–6″
–Y6– FUNCTIONAL CLASS = LOCAL

(–Y6–) OLD SNOW HILL RD.			
2014 ADT	1,700	TTST =	1%
2040 ADT	2,900	DUALS =	2%
		DHV =	10%
		DIR =	60%

SEE SHEET 2B–1 FOR BRIDGE SKETCH
SEE SHEET 2A–3 FOR APPROACH ROADWAY TYPICAL SECTION

REVISIONS

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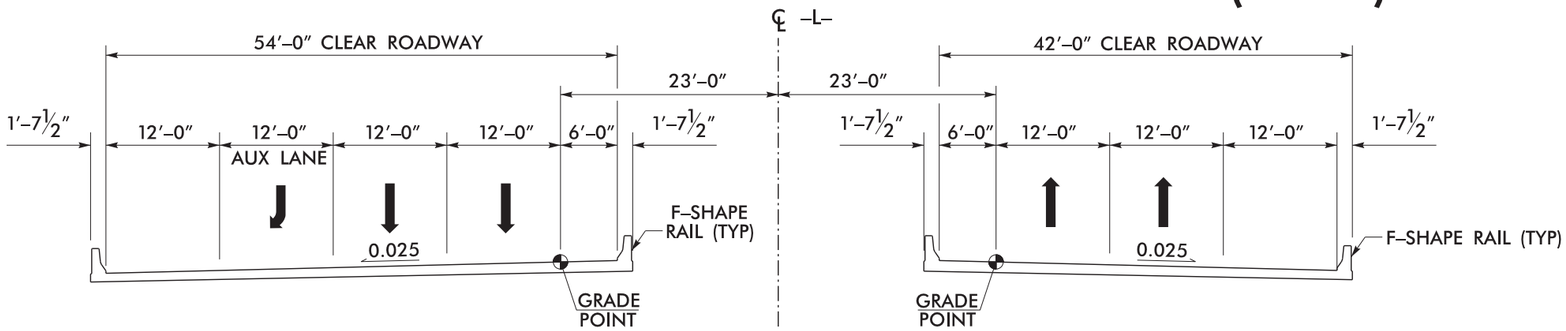
GREENVILLE BYPASS OVER NC 102 (–Y8–)

PROJECT REFERENCE NO.	SHEET NO.
R–2250	2A–19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

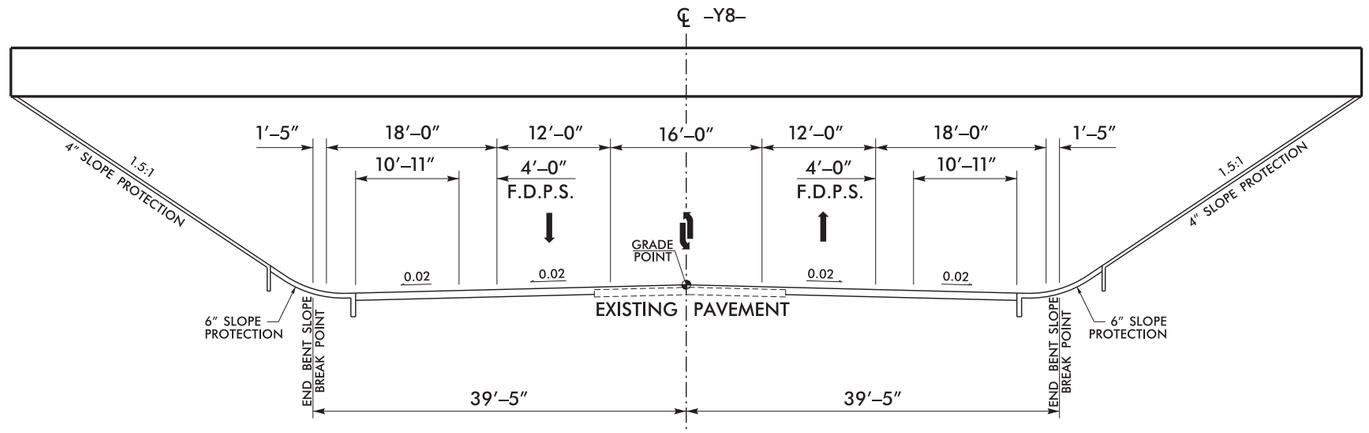
BARNHILL CONTRACTING COMPANY



SITE #3 – TYPICAL SECTION NO.1

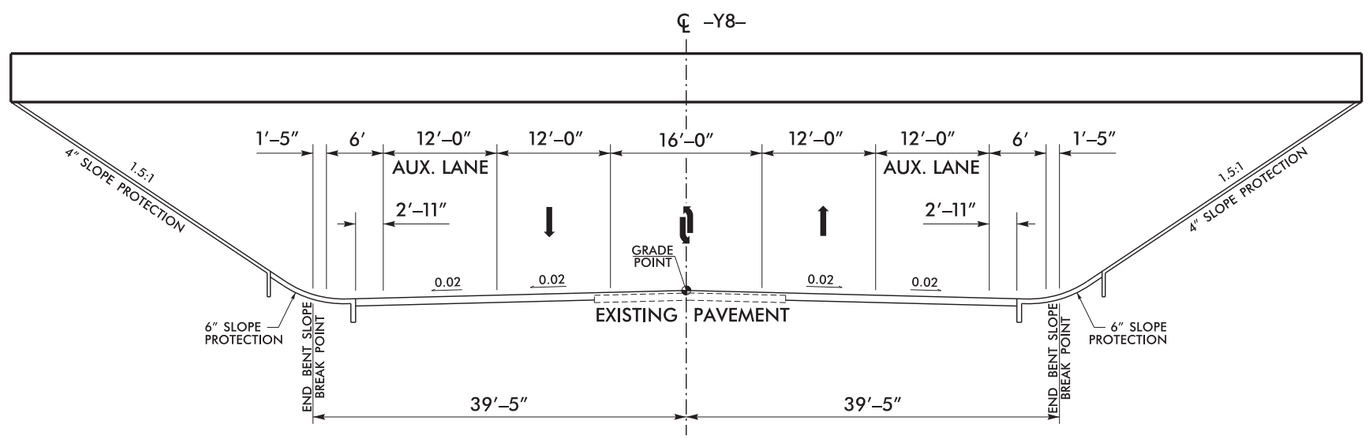
–L– FUNCTIONAL CLASS. = FREEWAY/INTERSTATE

(–L–) GREENVILLE BYPASS			
2014 ADT	16,100	TTST =	3%
2040 ADT	28,100	DUALS =	5%
		DHV =	10%
		DIR =	60%



SITE #3 – TYPICAL SECTION NO.2

(–Y8–) NC 102			
2014 ADT	6,700	TTST =	2%
2040 ADT	12,800	DUALS =	2%
		DHV =	10%
		DIR =	55%



SITE #3 – FUTURE TYPICAL SECTION NO. 3

–Y8– (NC 102) UNDER –L– (GREENVILLE BYPASS)
MINIMUM VERTICAL CLEARANCE = 17′–0″
–Y8– FUNCTIONAL CLASS = ARTERIAL

SEE SHEET 2B–2 FOR BRIDGE SKETCH
SEE SHEET 2A–3 FOR APPROACH ROADWAY TYPICAL SECTION

REVISIONS

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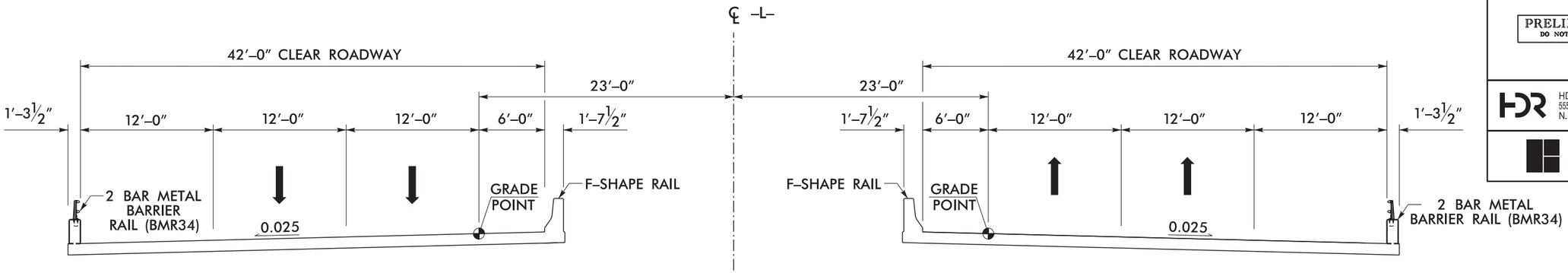
GREENVILLE BYPASS OVER –Y10– ABBOT FARM RD.

PROJECT REFERENCE NO.	SHEET NO.
R–2250	2A–20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

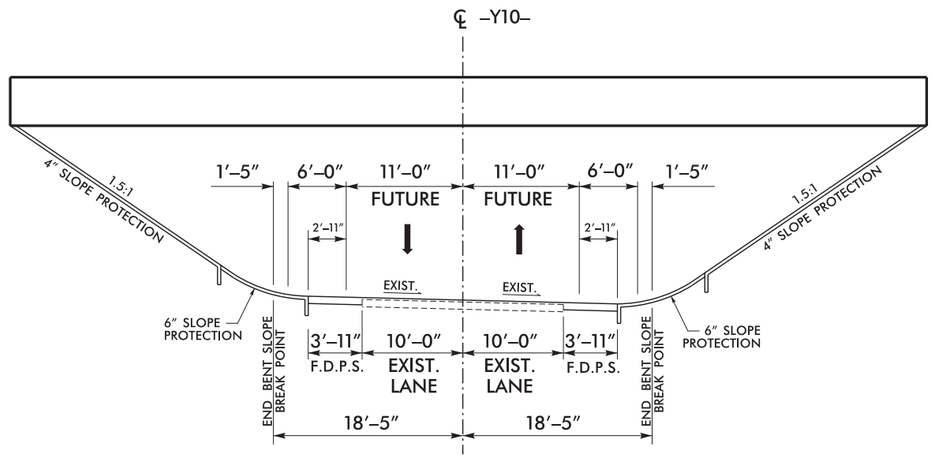
BARNHILL CONTRACTING COMPANY



SITE #4 – TYPICAL SECTION NO.1

–L– FUNCTIONAL CLASS. = FREEWAY/INTERSTATE

(–L–) GREENVILLE BYPASS		
2014 ADT / 2040 ADT	16,100 / 28,100	TTST = 3% DUALS = 5% DHV = 10% DIR = 60%



SITE #4 – TYPICAL SECTION NO. 2

–Y10– (ABBOT FARM RD.) UNDER
–L– (GREENVILLE BYPASS)
MINIMUM VERTICAL CLEARANCE = 15′–6″
–Y10– FUNCTIONAL CLASS = LOCAL RURAL

(–Y10–) ABBOTT FARM RD.		
2014 ADT / 2040 ADT	300 / 800	TTST = 1% DUALS = 6% DHV = 12% DIR = 65%

SEE SHEET 2B–2 FOR BRIDGE SKETCH
SEE SHEET 2A–3 FOR APPROACH ROADWAY TYPICAL SECTION

REVISIONS

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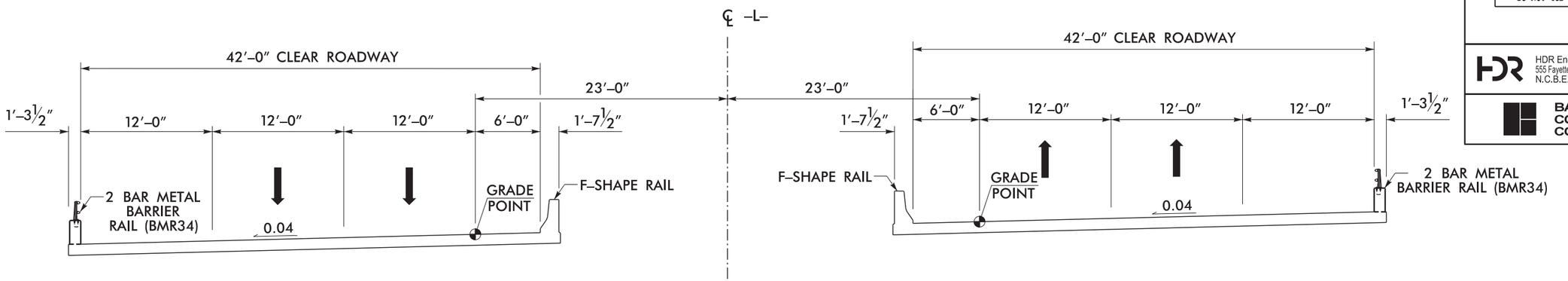
GREENVILLE BYPASS OVER
–Y11– NC 903

PROJECT REFERENCE NO.	SHEET NO.
R–2250	2A–21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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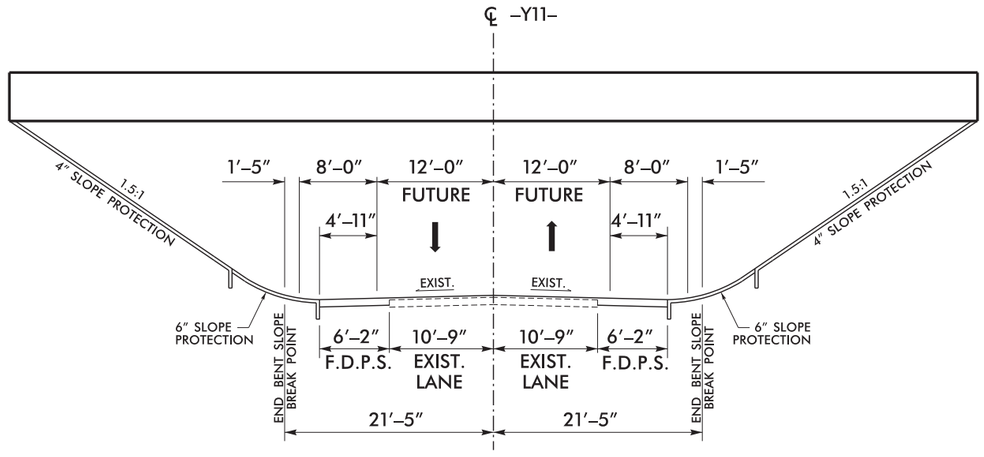
BARNHILL CONTRACTING COMPANY



SITE #5 – TYPICAL SECTION NO.1

–L– FUNCTIONAL CLASS. = FREEWAY/INTERSTATE

(–L–) GREENVILLE BYPASS		
2014 ADT	16,100	TTST = 3%
2040 ADT	28,100	DUALS = 5%
		DHV = 10%
		DIR = 60%



SITE #5 – TYPICAL SECTION NO. 2

–Y11– (NC 903) UNDER
–L– (GREENVILLE BYPASS)
MINIMUM VERTICAL CLEARANCE = 15′–6″
–Y11– FUNCTIONAL CLASS = MAJOR COLLECTOR

(–Y11–) NC 903		
2014 ADT	2,000	TTST = 1%
2040 ADT	3,200	DUALS = 9%
		DHV = 10%
		DIR = 60%

SEE SHEET 2B–3 FOR BRIDGE SKETCH
SEE SHEET 2A–3 FOR APPROACH ROADWAY TYPICAL SECTION

REVISIONS

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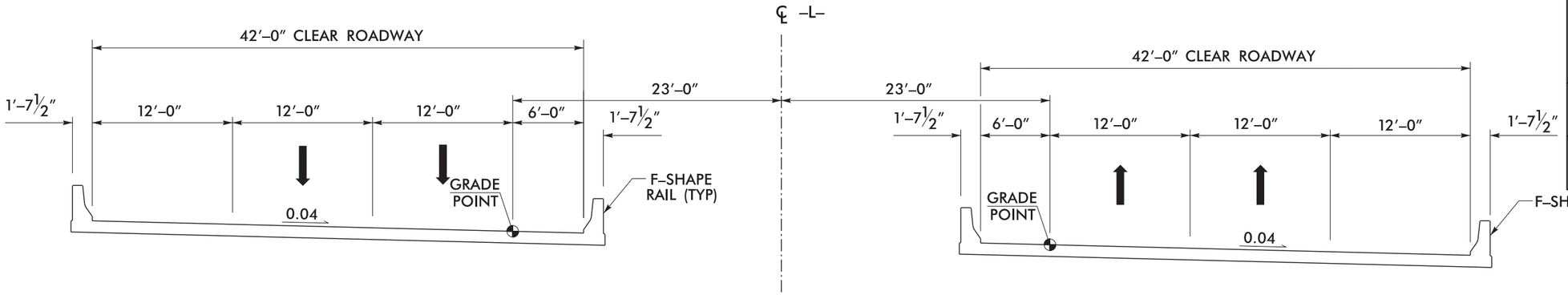
GREENVILLE BYPASS OVER –Y12– POCOSIN RD.

PROJECT REFERENCE NO.	SHEET NO.
R–2250	2A–22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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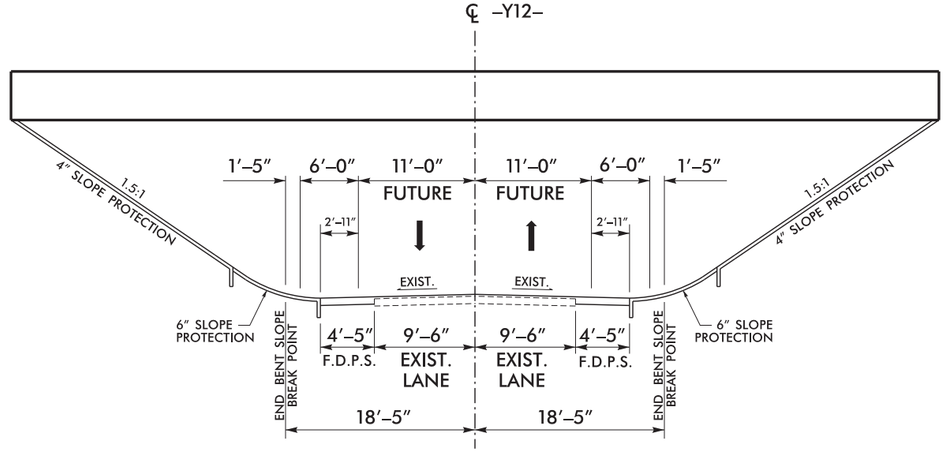
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SITE #6 – TYPICAL SECTION NO. 1

–L– FUNCTIONAL CLASS. = FREEWAY/INTERSTATE

(–L–) GREENVILLE BYPASS		
2014 ADT	16,100	TTST = 3%
2040 ADT	28,100	DUALS = 5%
		DHV = 10%
		DIR = 60%



SITE #6 – TYPICAL SECTION NO. 2

–Y12– (POCOSIN RD.) UNDER
–L– (GREENVILLE BYPASS)
MINIMUM VERTICAL CLEARANCE = 15′–6″
–Y12– FUNCTIONAL CLASS = LOCAL RURAL

(–Y12–) POCOSIN RD.		
2014 ADT	1,000	TTST = 2%
2040 ADT	1,000	DUALS = 9%
		DHV = 11%
		DIR = 70%

SEE SHEET 2B–3 FOR BRIDGE SKETCH
SEE SHEET 2A–3 FOR APPROACH ROADWAY TYPICAL SECTION

REVISIONS

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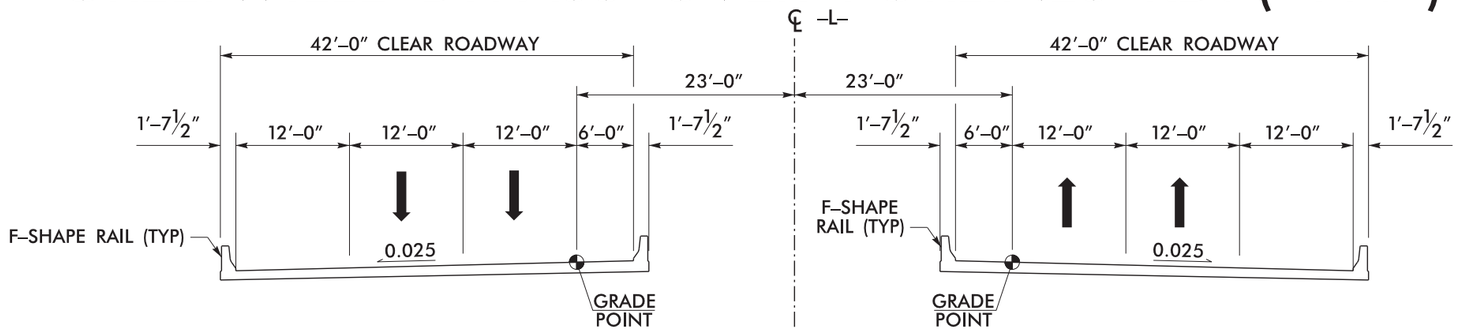
GREENVILLE BYPASS OVER FORLINES RD. (–Y14–)

PROJECT REFERENCE NO.	SHEET NO.
R–2250	2A–23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
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N.C.B.E.L.S. License Number: F-0116

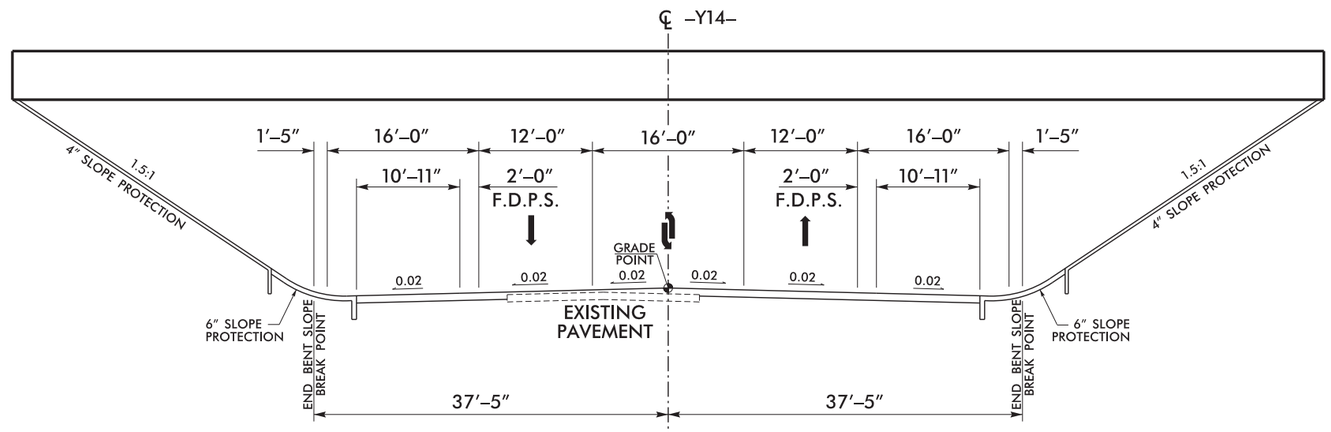
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SITE #7 – TYPICAL SECTION NO. 1

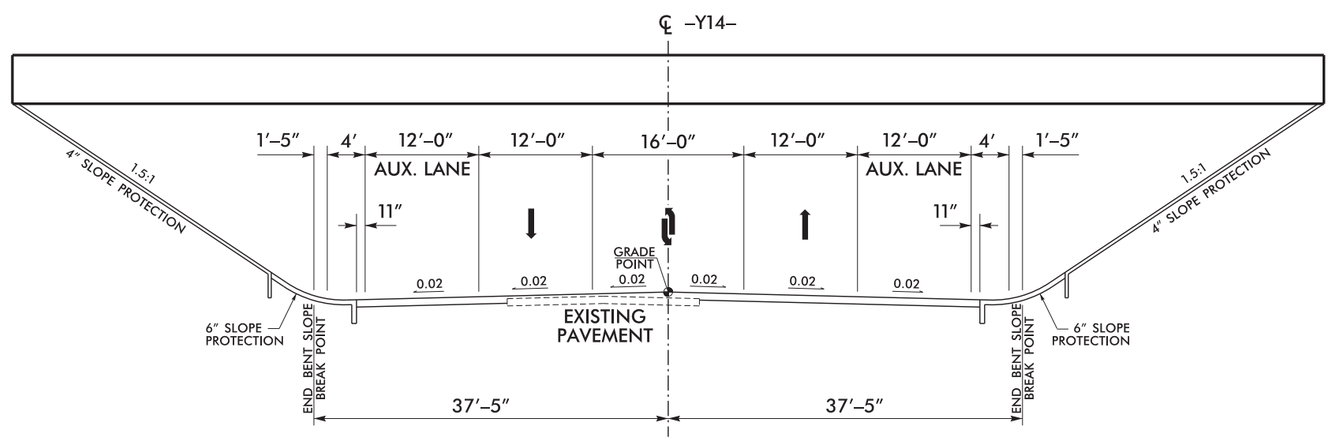
–L– FUNCTIONAL CLASS. = FREEWAY/INTERSTATE

(–L–) GREENVILLE BYPASS		
2014 ADT	19,700	TTST = 3%
2040 ADT	34,000	DUALS = 5%
		DHV = 10%
		DIR = 60%



SITE #7 – TYPICAL SECTION NO.2

(–Y14–) FORLINES RD.		
2014 ADT	5,200	TTST = 1%
2040 ADT	6,700	DUALS = 2%
		DHV = 9%
		DIR = 60%



SITE #7 – TYPICAL SECTION NO. 3 (FUTURE TYPICAL SECTION)

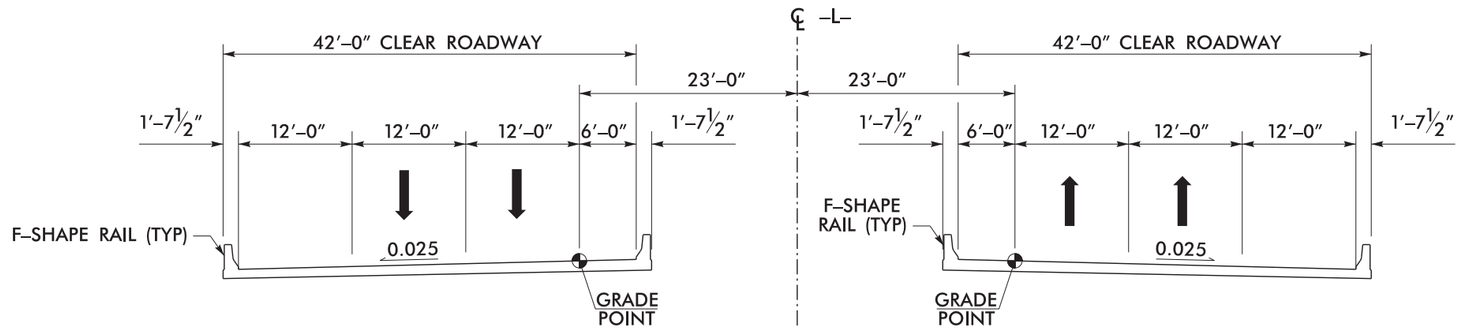
–Y14– (FORLINES ROAD) UNDER –L– (GREENVILLE BYPASS)
MINIMUM VERTICAL CLEARANCE = 15–6″
–Y14– FUNCTIONAL CLASS = LOCAL

SEE SHEET 2B–4 FOR BRIDGE SKETCH
SEE SHEET 2A–3 FOR APPROACH ROADWAY TYPICAL SECTION

REVISIONS

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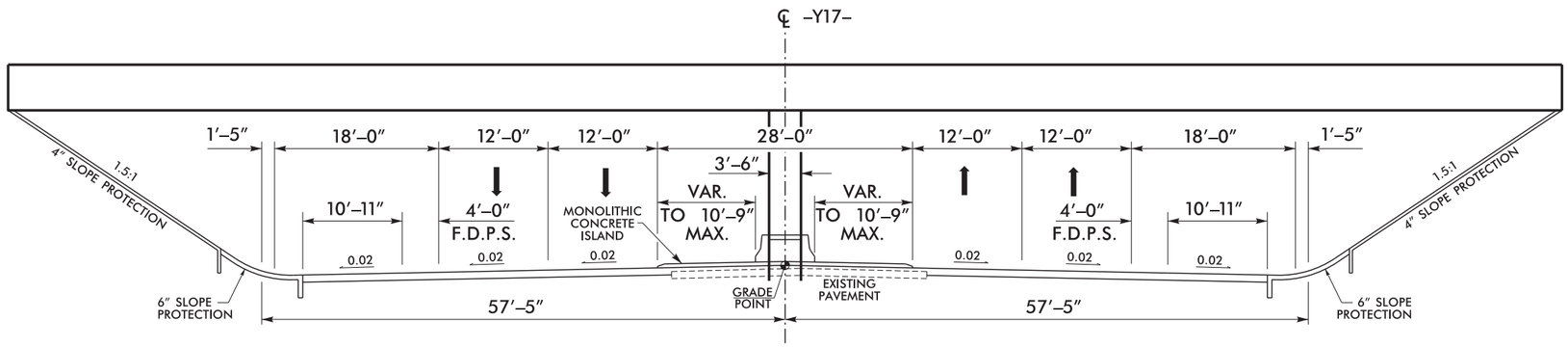
GREENVILLE BYPASS OVER –Y17– US 13/US 264ALT



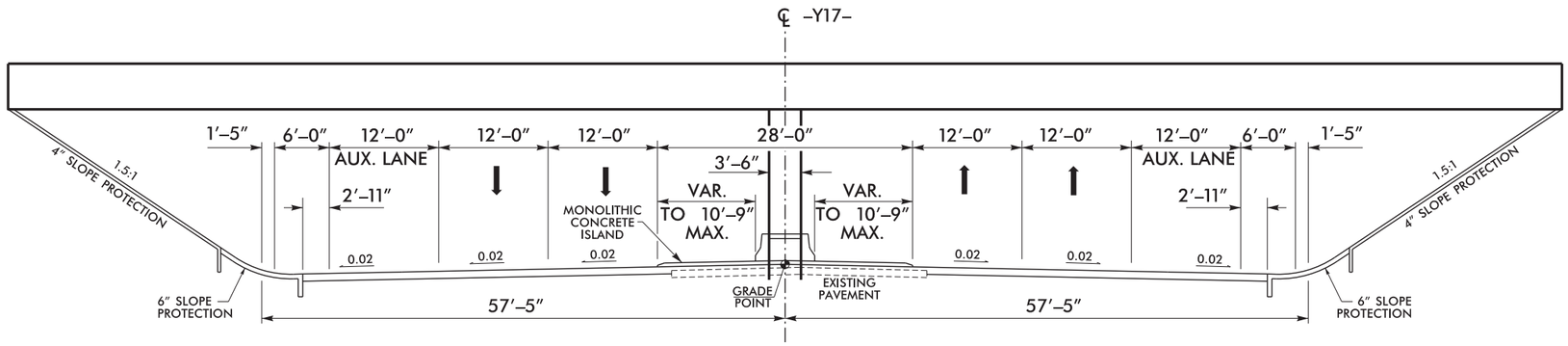
SITE #8 – TYPICAL SECTION NO.1

–L– FUNCTIONAL CLASS. = FREEWAY/INTERSTATE

(–L–) GREENVILLE BYPASS			
2014 ADT	19,700	TTST =	3%
2040 ADT	34,000	DUALS =	5%
		DHV =	10%
		DIR =	60%



SITE #8 – TYPICAL SECTION NO.2



SITE #8 – FUTURE TYPICAL SECTION NO.3

–Y17– (US 13 /264 ALT) UNDER –L– (GREENVILLE BYPASS)
MINIMUM VERTICAL CLEARANCE = 17′–0″
–Y17– FUNCTIONAL CLASS = MINOR ARTERIAL

(–Y17–) US 13/US 264A (EAST)			
2014 ADT	12,100	TTST =	1%
2040 ADT	16,500	DUALS =	2%
		DHV =	9%
		DIR =	60%

SEE SHEET 2B–4 FOR BRIDGE SKETCH
SEE SHEET 2A–3 FOR APPROACH ROADWAY TYPICAL SECTION

PROJECT REFERENCE NO.	SHEET NO.
R–2250	2A–24
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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REVISIONS

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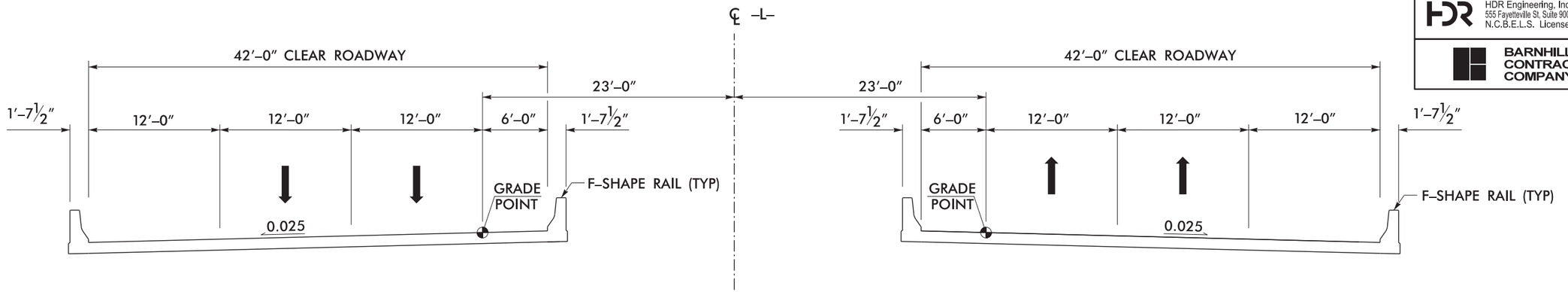
GREENVILLE BYPASS OVER –Y19– FROG LEVEL RD.

PROJECT REFERENCE NO.	SHEET NO.
R–2250	2A–25
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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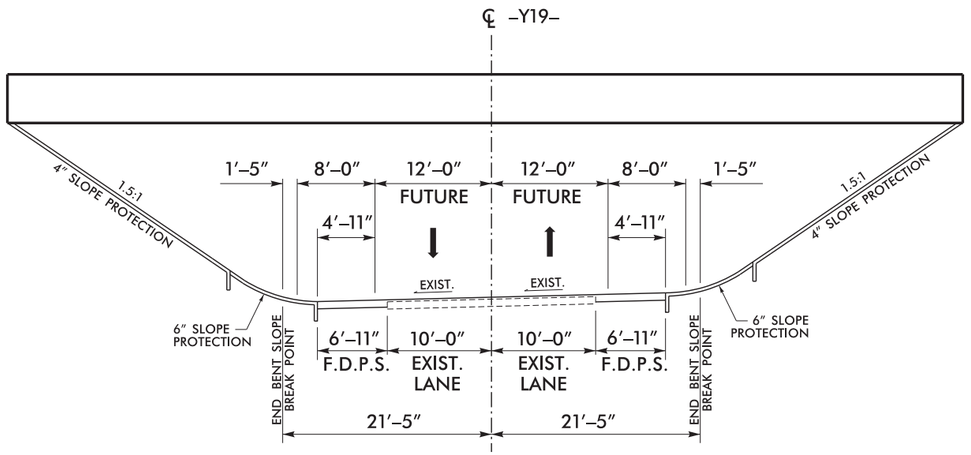
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SITE #9 – TYPICAL SECTION NO.1

–L– FUNCTIONAL CLASS. = FREEWAY/INTERSTATE

(–L–) GREENVILLE BYPASS		
2014 ADT	15,000	TTST = 3%
2040 ADT	33,200	DUALS = 5%
		DHV = 10%
		DIR = 60%



SITE #9 – TYPICAL SECTION NO.2

–Y19– (FROG LEVEL RD.) UNDER
–L– (GREENVILLE BYPASS)
MINIMUM VERTICAL CLEARANCE = 15′–6″
–Y19– FUNCTIONAL CLASS = LOCAL

(–Y19–) FROG LEVEL RD.		
2014 ADT	1,500	TTST = 1%
2040 ADT	2,700	DUALS = 2%
		DHV = 10%
		DIR = 70%

SEE SHEET 2B–5 FOR BRIDGE SKETCH
SEE SHEET 2A–3 FOR APPROACH ROADWAY TYPICAL SECTION

REVISIONS

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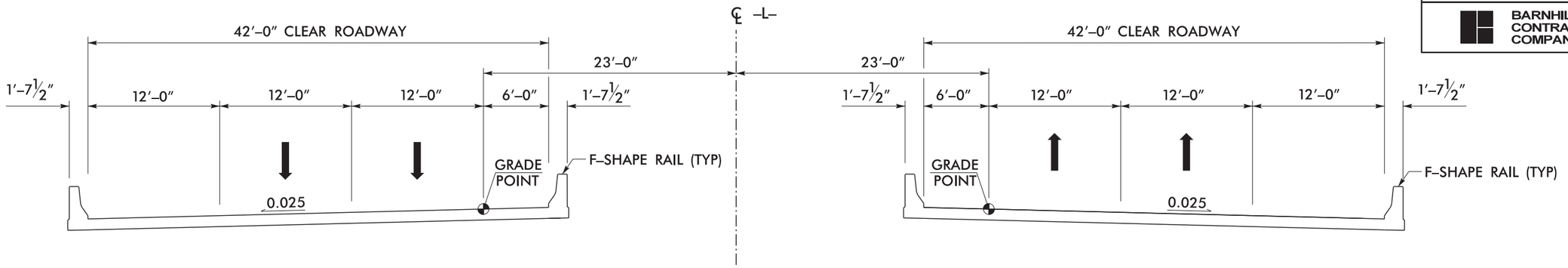
GREENVILLE BYPASS OVER NORFOLK SOUTHERN RAILWAY/ CAROLINA COASTAL RAILWAY

PROJECT REFERENCE NO.	SHEET NO.
R–2250	2A–26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
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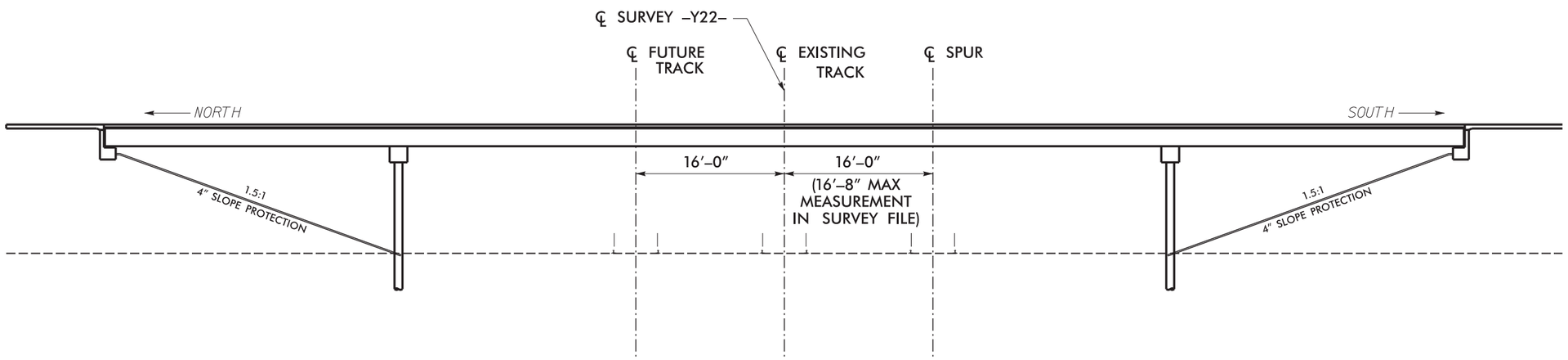
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SITE #10 – TYPICAL SECTION NO.1

–L– FUNCTIONAL CLASS. = FREEWAY/INTERSTATE

(–L–) GREENVILLE BYPASS		
2014 ADT	15,000	TTST = 3%
2040 ADT	33,200	DUALS = 5%
		DHV = 10%
		DIR = 60%



SITE #10 – TYPICAL SECTION NO.2

NSR /CLNA UNDER
–L– (GREENVILLE BYPASS)
MINIMUM VERTICAL CLEARANCE = 23′–0″

SEE SHEET 2B–5 FOR BRIDGE SKETCH
SEE SHEET 2A–3 FOR APPROACH ROADWAY TYPICAL SECTION

REVISIONS

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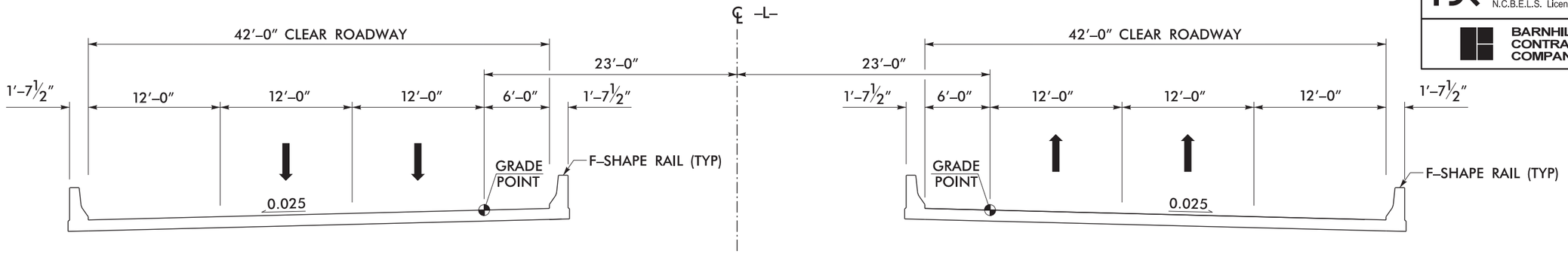
GREENVILLE BYPASS OVER –Y20– STANTONSBURG RD.

PROJECT REFERENCE NO.	SHEET NO.
R–2250	2A–27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
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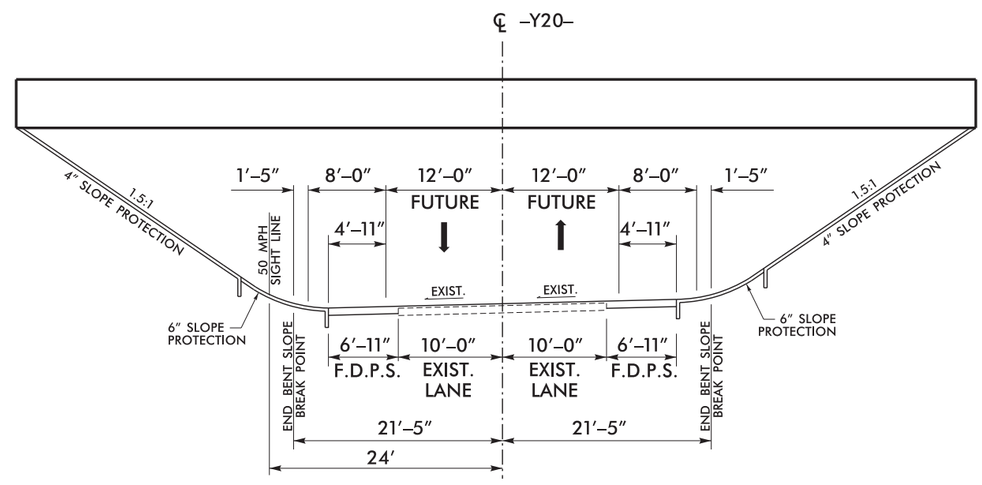
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SITE #11 – TYPICAL SECTION NO.1

–L– FUNCTIONAL CLASS. = FREEWAY/INTERSTATE

(–L–) GREENVILLE BYPASS		
2014 ADT	15,000	TTST = 3%
2040 ADT	33,200	DUALS = 5%
		DHV = 10%
		DIR = 60%



SITE #11 – TYPICAL SECTION NO.2

–Y20– (STANTONSBURG RD.) UNDER
–L– (GREENVILLE BYPASS)
MINIMUM VERTICAL CLEARANCE = 17′–0″
–Y20– FUNCTIONAL CLASS = MINOR ARTERIAL

(–Y20–) STANTONSBURG RD.		
2014 ADT	3,400	TTST = 3%
2040 ADT	3,500	DUALS = 5%
		DHV = 10%
		DIR = 60%

SEE SHEET 2B–6 FOR BRIDGE SKETCH
SEE SHEET 2A–3 FOR APPROACH ROADWAY TYPICAL SECTION

REVISIONS

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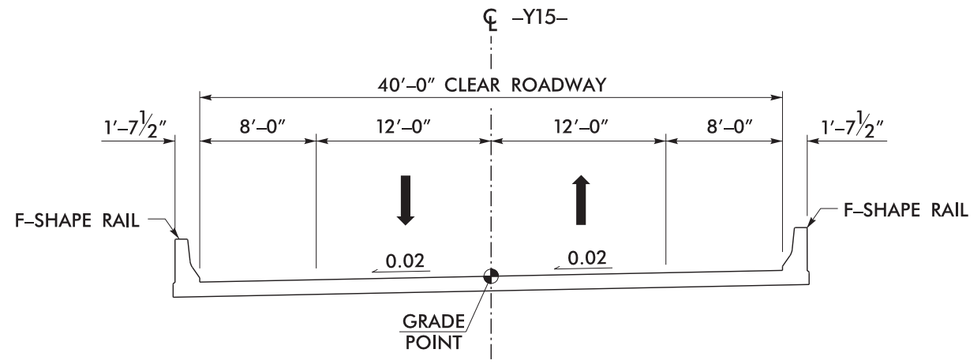
–Y15– DAVENPORT FARM RD. OVER GREENVILLE BYPASS

PROJECT REFERENCE NO.	SHEET NO.
R–2250	2A–28
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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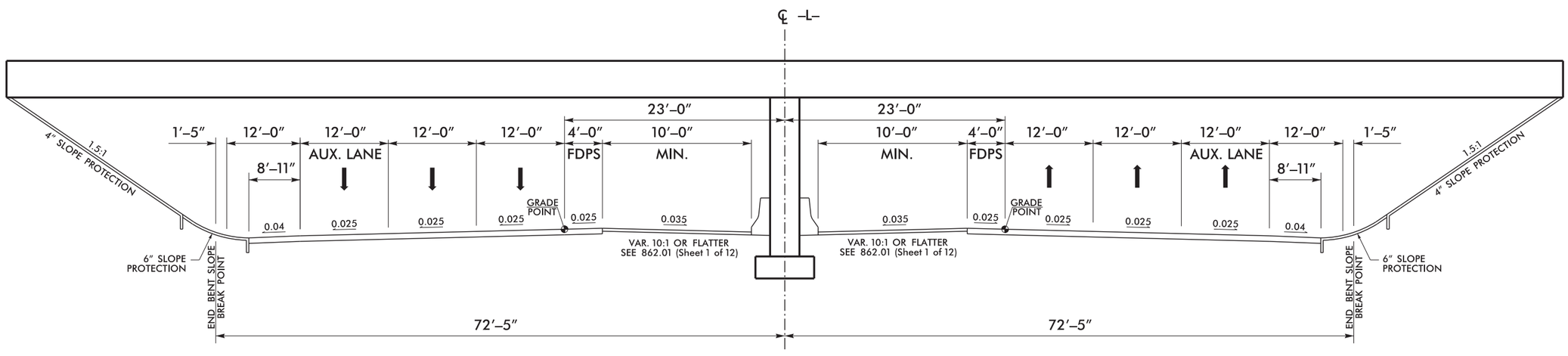
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SITE #12 – TYPICAL SECTION NO. 1

–Y15– FUNCTIONAL CLASS = MAJOR COLLECTOR

(–Y15–) DAVENPORT FARM RD.			
2014 ADT	4,100	TTST =	1%
2040 ADT	10,700	DUALS =	2%
		DHV =	10%
		DIR =	60%



SITE #12 – TYPICAL SECTION NO. 2

–L– (GREENVILLE BYPASS) UNDER
–Y15– (DAVENPORT FARM RD.)
MINIMUM VERTICAL CLEARANCE = 17′–0″
–L– FUNCTIONAL CLASS. = FREEWAY/INTERSTATE

(–L–) GREENVILLE BYPASS			
2014 ADT	19,700	TTST =	3%
2040 ADT	34,000	DUALS =	5%
		DHV =	10%
		DIR =	60%

SEE SHEET 2B–6 FOR BRIDGE SKETCH
SEE SHEET 2A–13 FOR APPROACH ROADWAY TYPICAL SECTION

REVISIONS

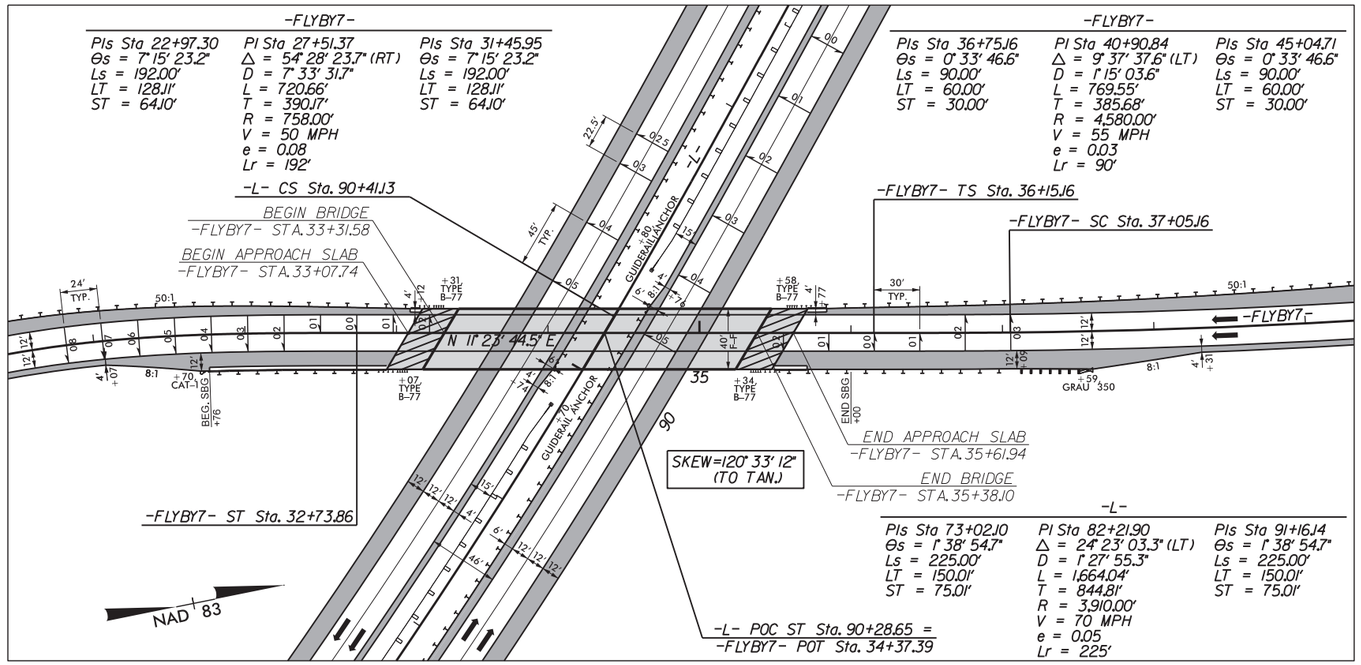
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	2B-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

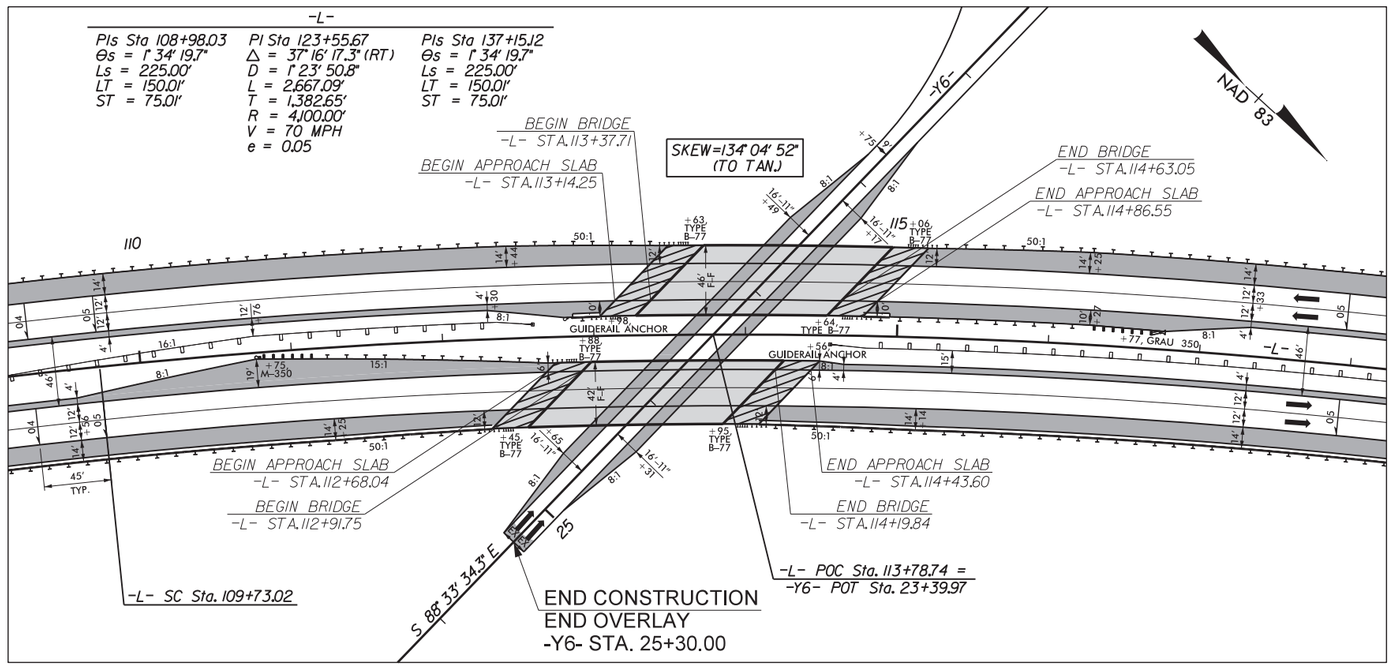
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STRUCTURE SITE 1: –FLYBY7– OVER –L– (SEE PLAN SHEET 8)



STRUCTURE SITE 2: –L– OVER –Y6– (SEE PLAN SHEET 10)

REVISIONS

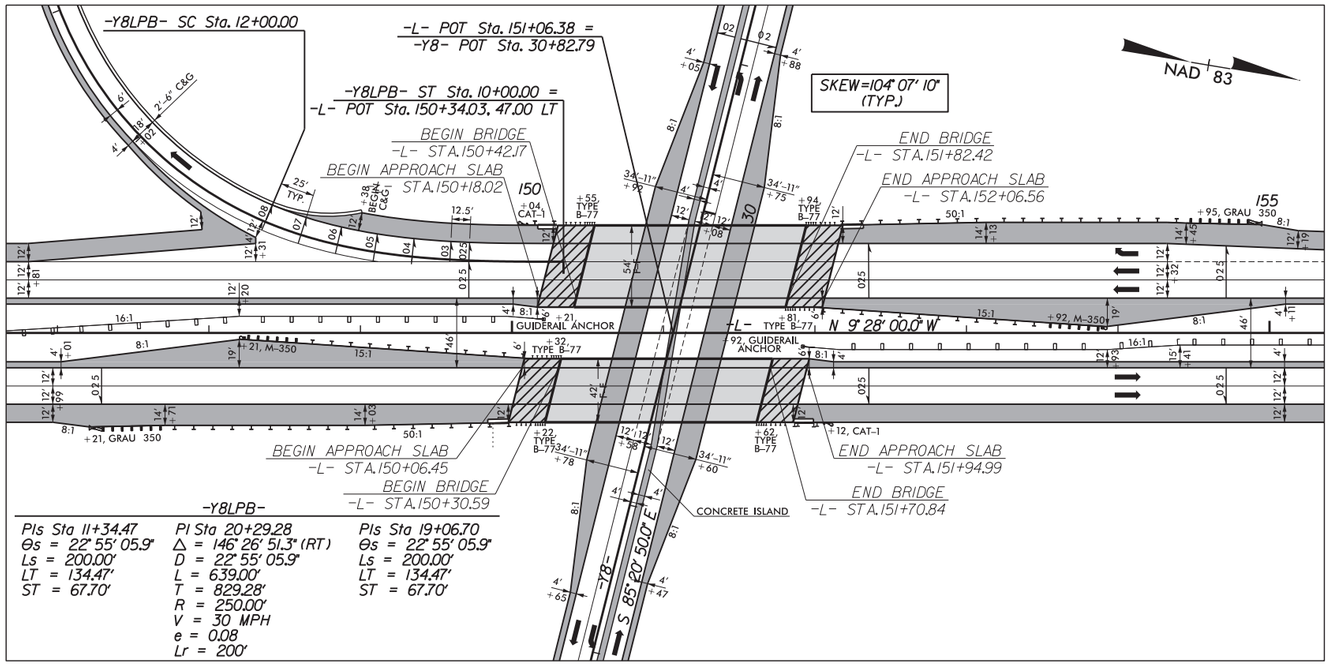
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	2B-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

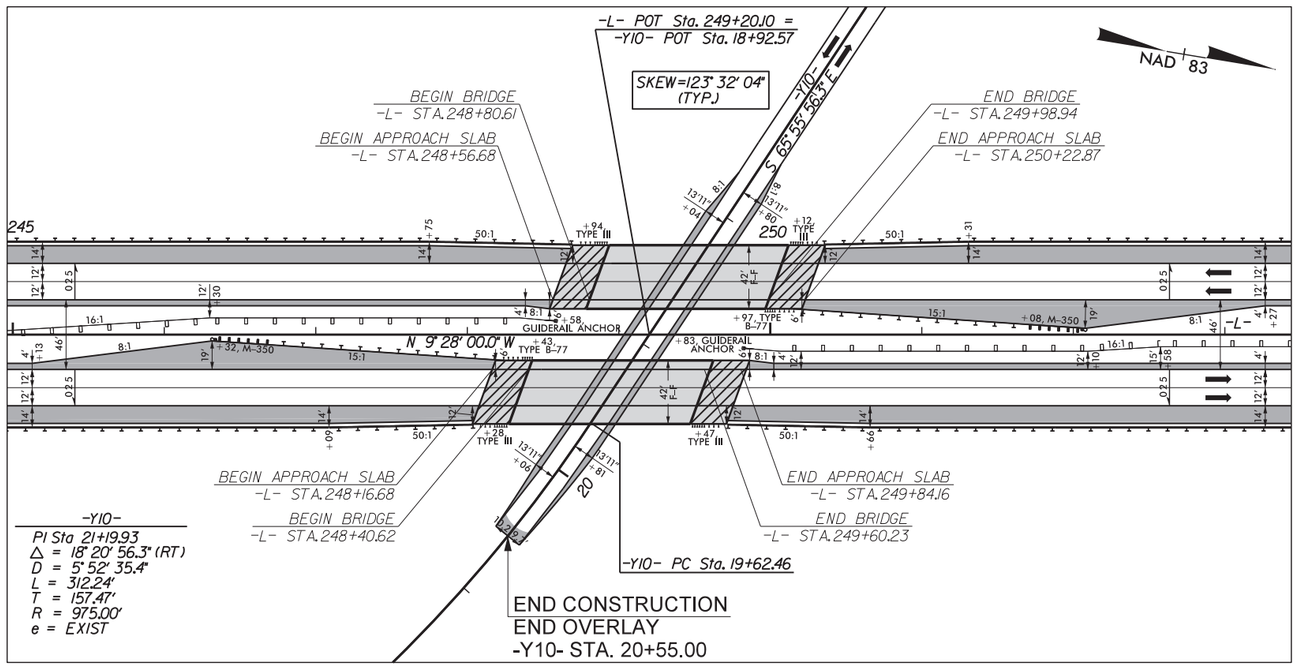
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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N.C.B.E.L.S. License Number: F-0116

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STRUCTURE SITE 3: -L- OVER -Y8- (SEE PLAN SHEET 12)



STRUCTURE SITE 4: -L- OVER -Y10- (SEE PLAN SHEET 19)

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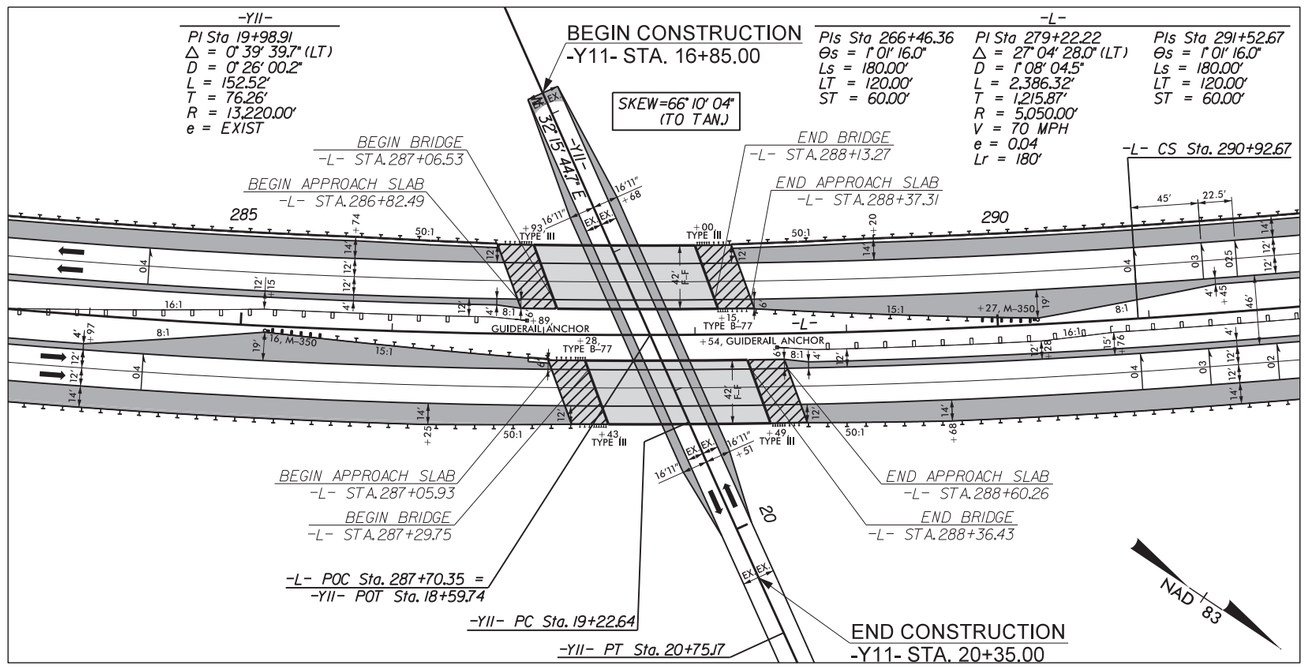
REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R–2250	2B–3
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

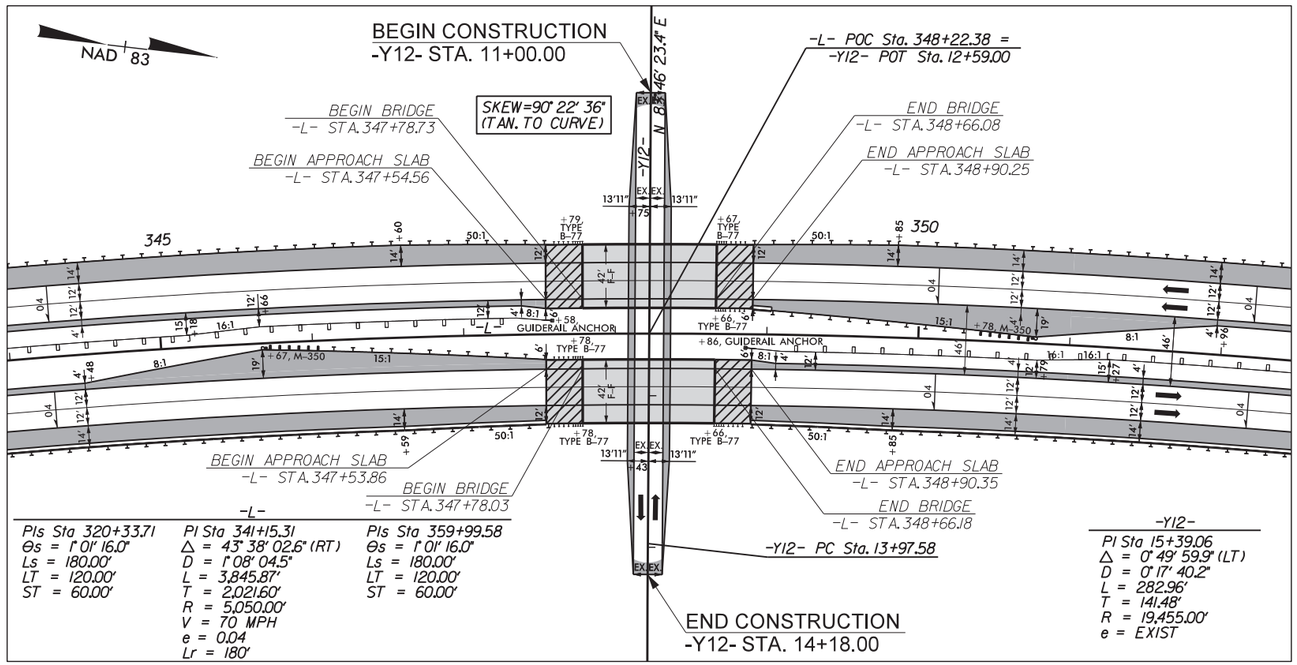
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY



STRUCTURE SITE 5: –L– OVER –Y11– (SEE PLAN SHEET 22)



STRUCTURE SITE 6: –L– OVER –Y12– (SEE PLAN SHEET 26)

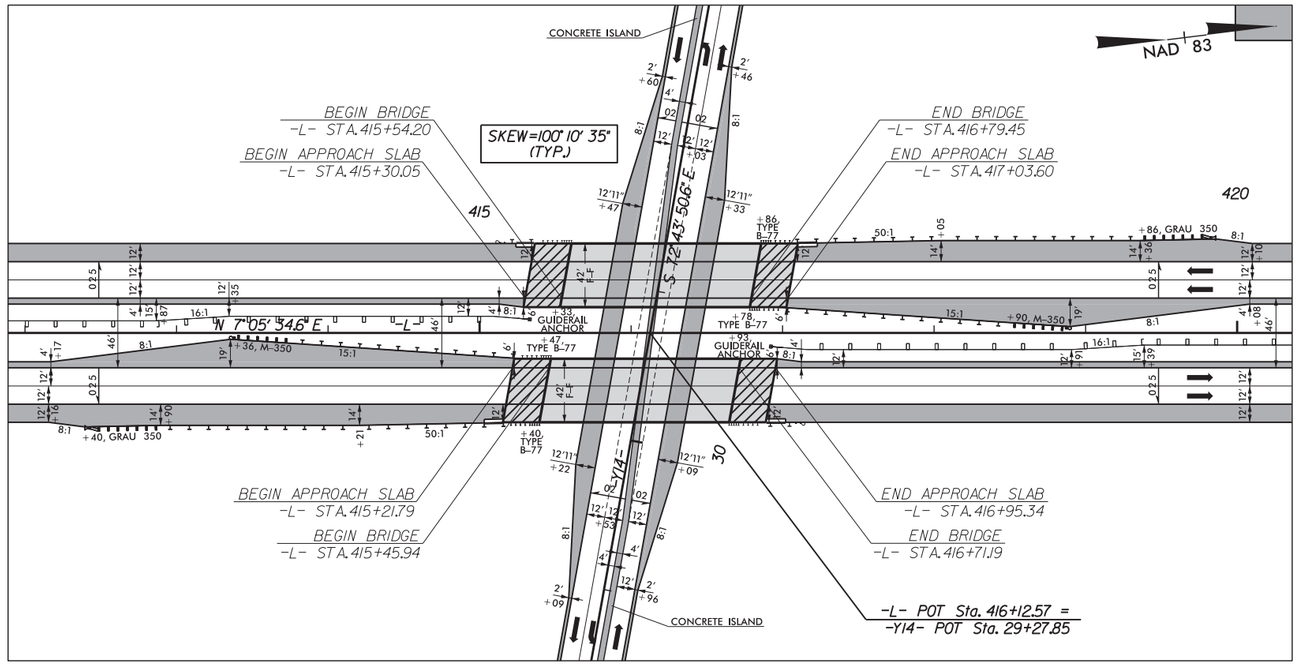
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TIME: 5:46:03 PM
REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R–2250	2B–4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

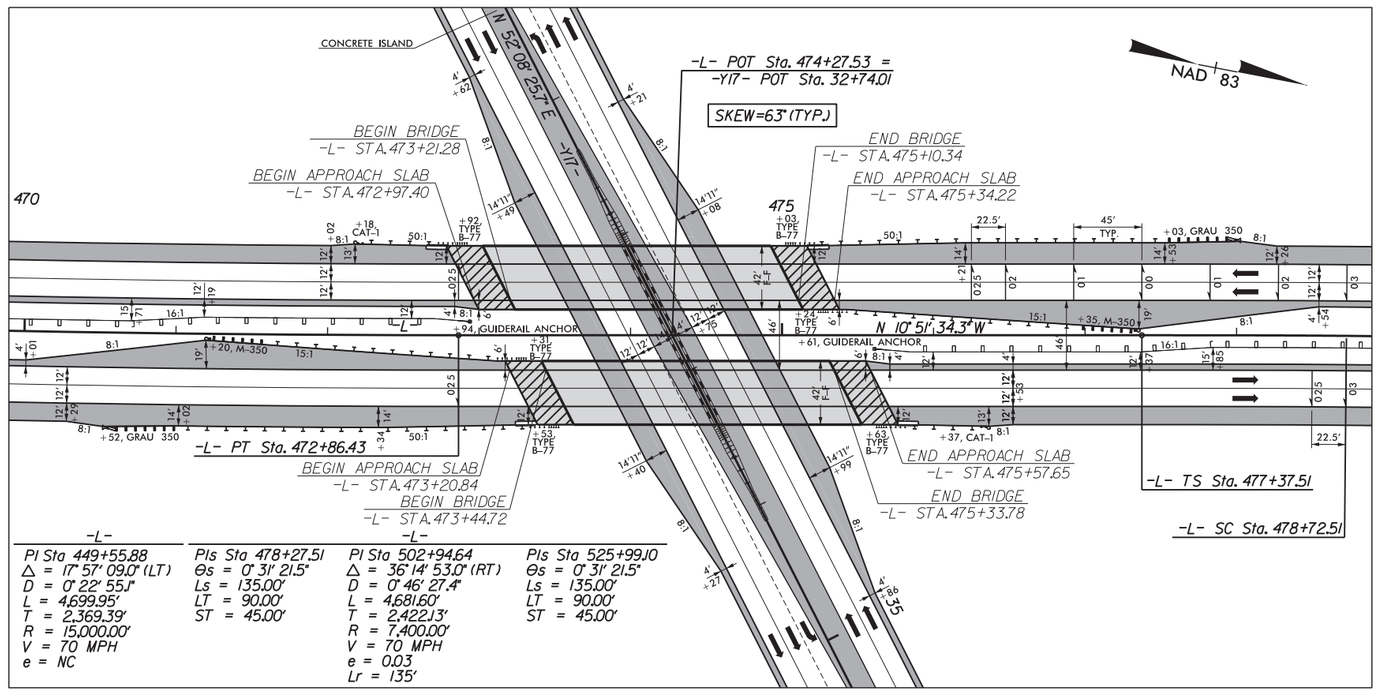
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY



STRUCTURE SITE 7: –L– OVER –Y14– (SEE PLAN SHEET 31)



STRUCTURE SITE 8: –L– OVER –Y17– (SEE PLAN SHEET 35)

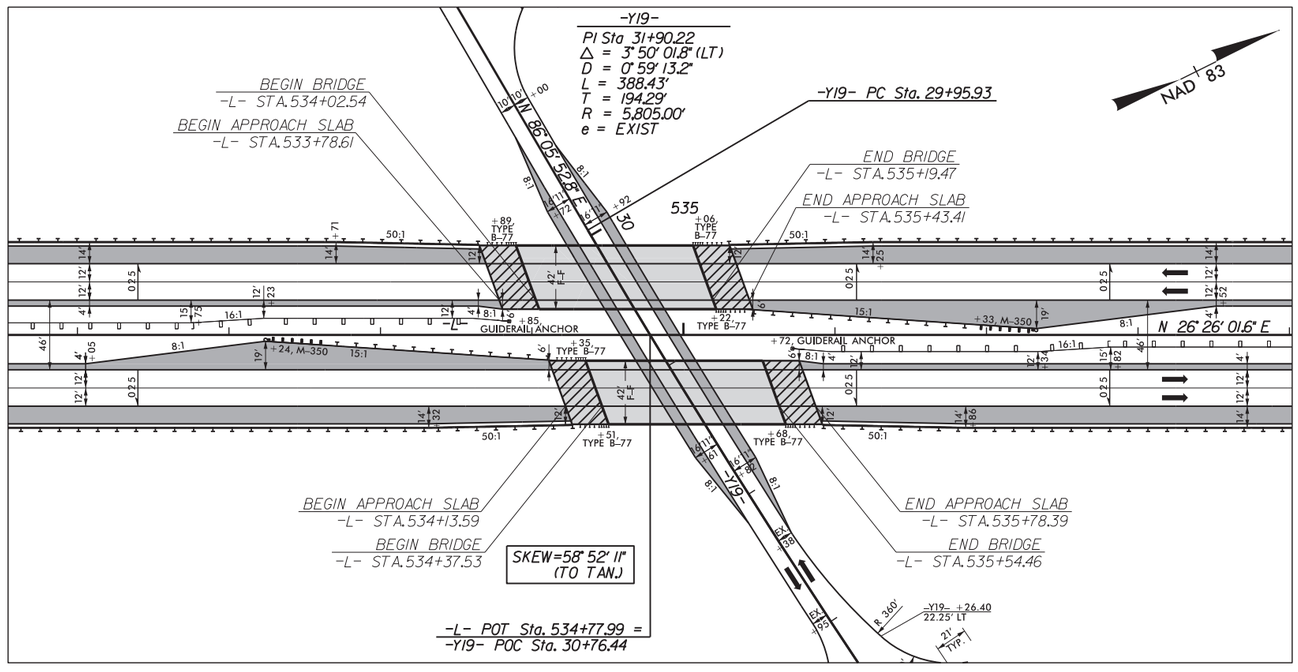
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TIME: 5:46:04 PM
REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2250	2B-5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

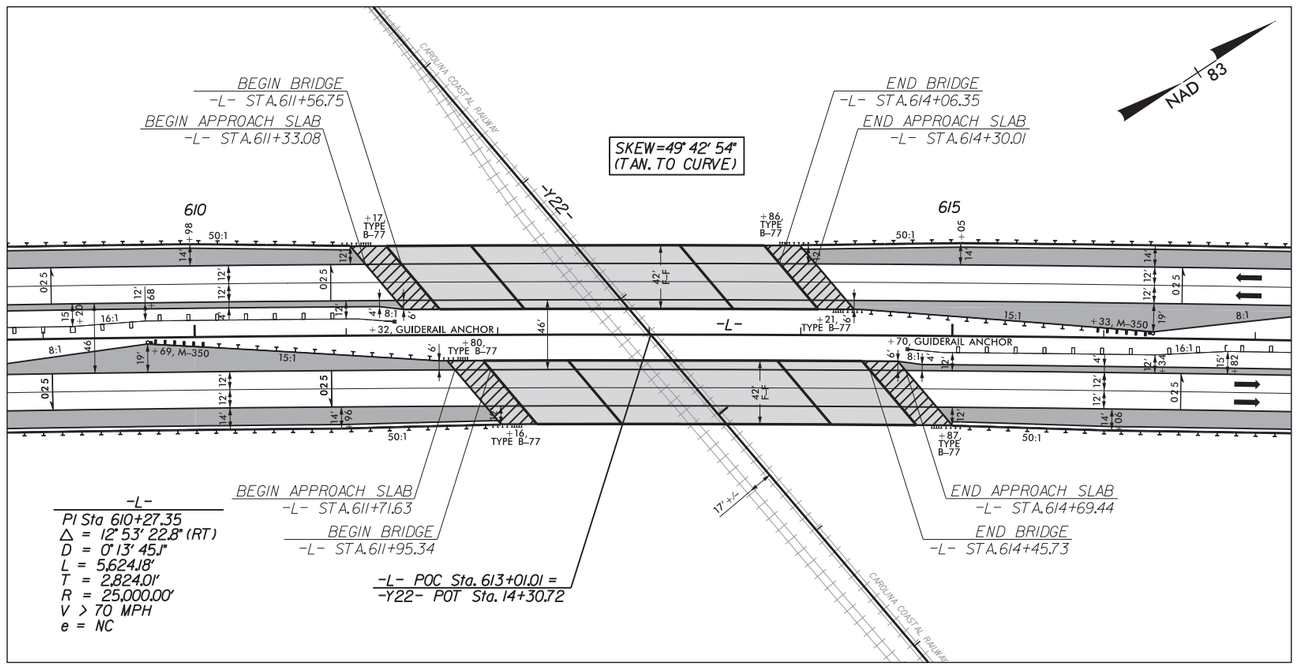
PRELIMINARY PLANS
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HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

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STRUCTURE SITE 9: -L- OVER -Y19- (SEE PLAN SHEET 39)



STRUCTURE SITE 10: -L- OVER -Y22- (RAILWAY) (SEE PLAN SHEET 45)

REVISIONS

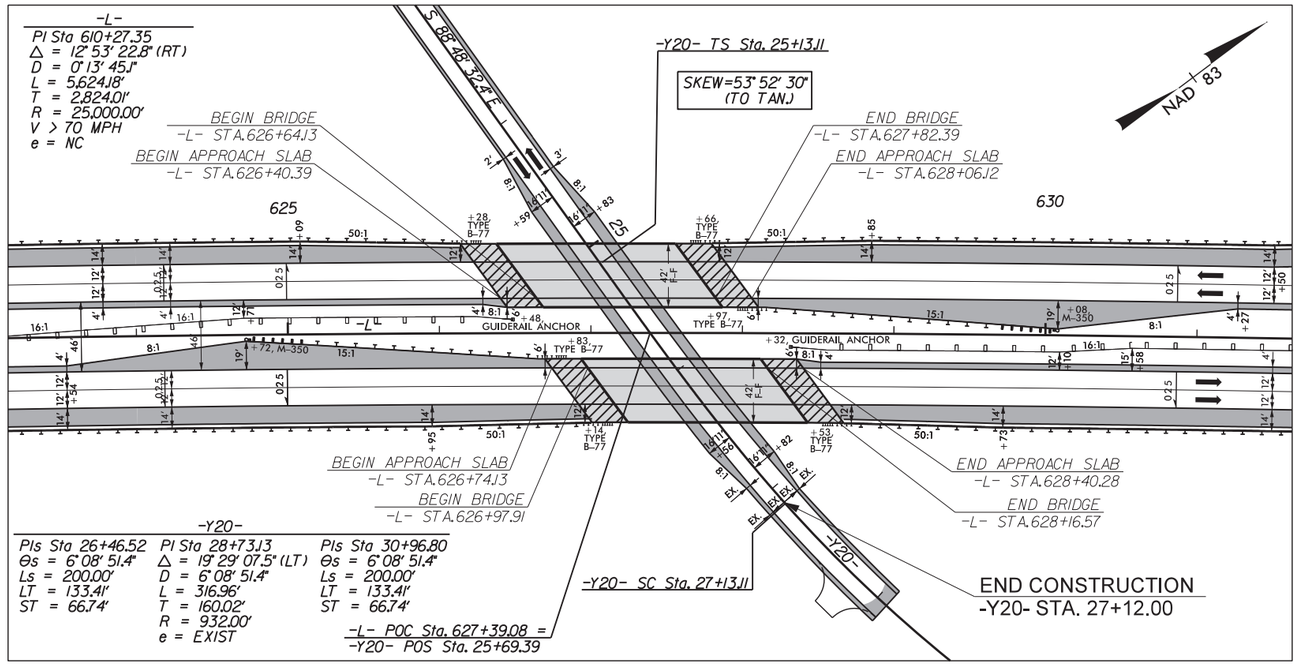
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	2B-6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

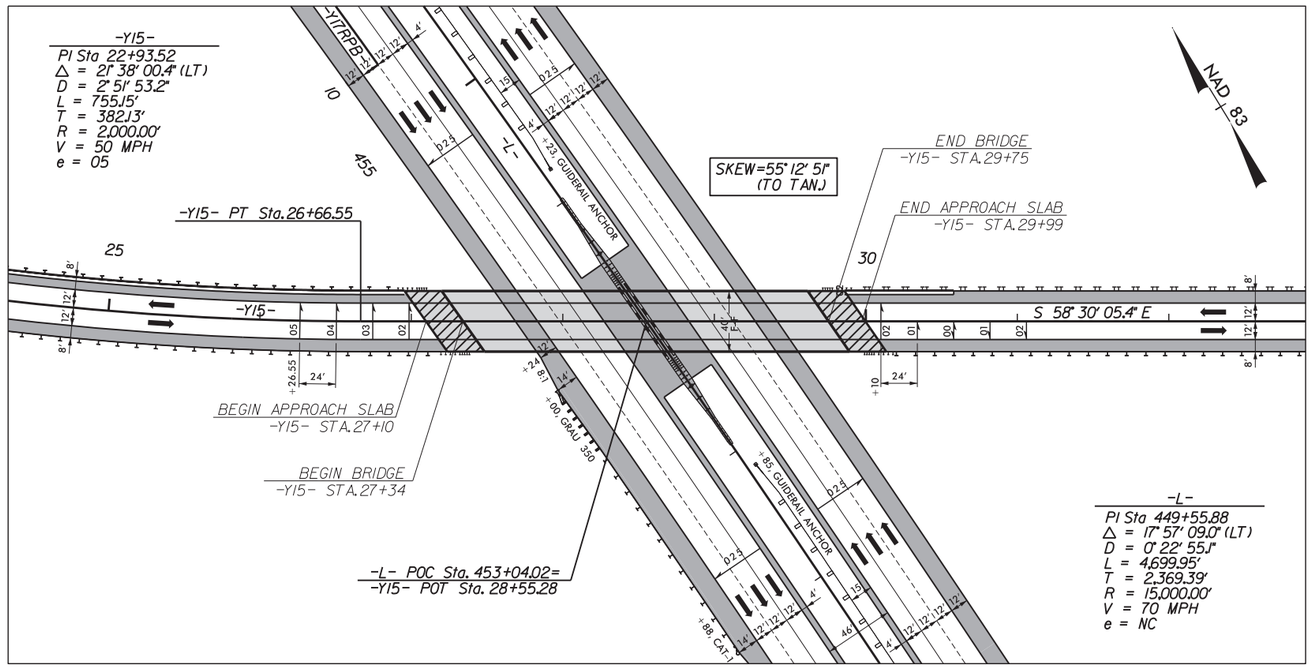
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555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

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STRUCTURE SITE 11: –L– OVER –Y20– (SEE PLAN SHEET 46)



STRUCTURE SITE 12: –Y15– OVER –L– (SEE PLAN SHEET 34)

REVISIONS

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PROJ. REFERENCE NO.	SHEET NO.
R-2250	3P-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
3	5	Carolina Catfish Classics
4	5	Tripp Farms, LLC
5	5	Gregory Stewart
6	5,49	Dan Stewart Heirs/Jesse Stewart
7	5,49	Monica Stewart Living Trust
8	5	Marvin Strickland Sr
9	5	Dan Stewart Heirs/Jesse Stewart
10	5,49	Ray Edwards et al
11	5,49	Ruben Hassell, Jr
12	5	Lucy Mae Stewart
13	5,49	Martin Van Buren Stewart Heirs
14	5,49	Richard Hardy Heirs
15	5,49	Delores King Hector Heirs
16	5	Curcelia Collins Heirs
17	5	Curcelia Collins Heirs
18	6,49,50	Gregory Anderson
19	6,49,50	Levi Worthington Heirs
20	6,7,50	CORFAC Industries, LLC
21	6	Tripp Farms, LLC
22	6	Farmville Real Estate Company
23	7	Burney Laverne Hawkins
24	10	Irene Tripp
25	10,11	Nelson E Cannon, Life Estate
26	6,7	Joe Lane Gresham
27	7,51	Billy P. McLawhorn
28	7,51	Happy Trail Farms LLC (Woody Whichard)
29	7,8	Billy P. McLawhorn
30	8	Ann B Macgill
31	8	S&K Properties, LLC
32	8	Cox Brothers
33	8,9,10,52	Cox Farm Properties LLC
34	7,8	Matthew Cole Wade
35	8	Elizabeth Spivey, Life Estate
36	8	Yadkin Bank
37	8,52	Hillco LTD
38	10,11	Pitt County Farms, LLC
39	11	Camilla Sumrell Spencer
40	11,12	Charles Hugh Allen
41	10	Sumrell Properties
42	12	Robert D Parrott
43	12,13	Ferrall Sumrell Jr
44	54	Bulow Inc
45	54	Hardee Family Holdings
46	54,55	Michael and William Bulow
47	54,55	Walmart Real Estate Business Trust
48	55	Ralph C Worthington, Jr
49	55	Walgreens of North Carolina
50	55,52C	The Rosemyr Corporation
51	55,52C	Redco Properties
52	55,52C	Judson Pope, LLC
53	12,13,14,53	Sydney P. Britt
54	14,15,16	Hayden Stevan Thompson
55	15,16	Bobby J. Tripp
56	16,17	Bobby J. Tripp
57	61	Littles Nursery of Greenville Inc
58	17	Steven W. Stox, Jr.
59	17	JGC Holdings, LLC
60	17	Janet G. Mintern et vir
61	17,18,19	Carolina Agribusiness
62	19	Brownie D McLawhorn

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
63	19,20,21	Fork Swamp Land LLC
64	20	Ernest Averette III
65	20,21,22	Ernest Averette III
66	22,23	Catherine Dews Nelson, et vir
67	23,24	Carolina Agribusiness
68	24,25	Jean Senn
69	25	Charles V. Wilkerson, Jr.
70	25,26	Catherine Dews Nelson
71	25,26	Paul E. Castelloe
72	26,27	Charles V. Wilkerson, Jr.
73	26	Joseph A, Nelson, et ux
74	26,27,28	Adam & Casey Beaman
75	27,28	Carl W. Blackwood/John B. Lewis, Jr
76	63	American Builders, Inc.
77	28,29	Keith E, Wainright, et ux
78	29,30,31,56	Worthington Farms
79	29,30,31	Eastern ACME Inc
80	31	Jack A. Fisher et.ux, Janice Livingston
81	31,32,58	Jeanette Davis Trustees
82	31,57,58	NG Family LLC
83	57	Hui So Yin
84	57	John Milton May Jr
85	57	Antoinette Darden
86	57	Jordan Chapel Church
87	57	Ernest Credle
88	31,32,57	Pitt County Farms, LLC
89	32,33,34,35,59,64,65	Robert Smith
90	32,65,66	Edwin Crawford
91	66	Nannie Sue Fields
92	33,34,35	Robert Smith
93	35,59,60,67	Rebecca Gay
94	35,36,37,67	Lewis Tripp
95	67	AMA Holdings LLC
96	67	Melissa Thorne
97	67	Richard L. Hill, et ux
98	35	Mary Carr Maebry Heirs
99	35,36	Dorothy Frizzell Forbes/Oro Frizzell Flynn
100	60	Usha Lee Carr, etal
101	60	Piney Grove FWB Church
102	60	Town of Farmville
103	60	Jessie Kilpatrick, et ux
104	60,61	Gayle Wainright
105	60,61,62	Daphne Richardson
106	39,61,62	Gayle Wainright
107	62	Steve Wood
108	62	Signature Automotive
109	62	Mary Burney
110	62	Foss Enterprises Inc
111	62	Charles Brinkley Moore Jr
112	62	Connolly P. Branch/Wm. Clark
113	62	Foss Enterprises Inc
114	62	Nancy A. Beardsworth
115	62,63	William H. Watson Jr. etal
116	62	Landmark Missionary Baptist Church Inc.
117	62,63	Philip E. Trull
118	63	Charles Brinkley Moore
119	63	Gail Porter Nichols Co-Executrix
120	63	The Jerry L. Price Family LLC
121	63	Charles L. Warters
122	63	Archie Lee Oakley Jr.

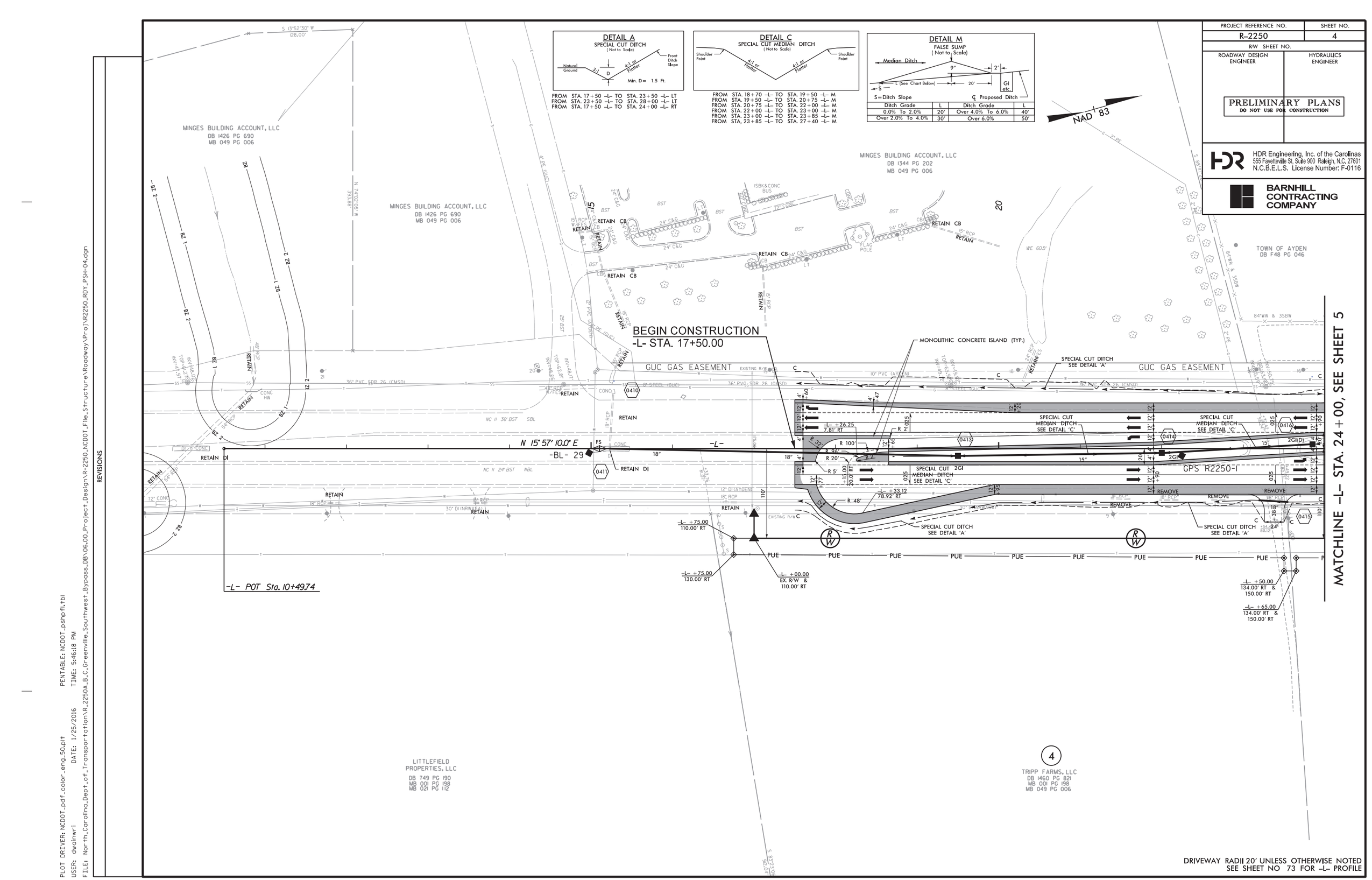
PROJ. REFERENCE NO.	SHEET NO.
R-2250	3P-2

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
123	63	City of Greenville
124	63	Foss Enterprises, Inc.
125	63	Foss Enterprises, Inc.
126	63	Anne Wehman Meeks, Trustee
127	63	Gail Porter Nichols Co-Executrix
128	36	Charlie Thigpen/Amos Thigpen Heirs
129	36,37	Worthington Farms Inc.
130	37,38	Charles Sylvester Baker
131	37,38	Alice Delores Bullie
132	38	James Berinard Baker
134	38	Audrey Lane
135	38	James H. Lane Jr.
136	38	Viola T. Knox Heirs
137	38,39,68	William T. Turnage Jr. Heirs
138	39,68	Estella Wright Heirs
139	68	Jasper L. Wright
140	39	Kevin A. Wright
141	38,39	Dorothy Frizzell Forbes/Oro Frizzell Flynn
142	39,40	Weyerhaeuser Company
143	39	Jesucita Garcia Cerino
144	39,40	Calvary Mobile Homes Inc.
145	40,41	Wyatt Livingstone Brown Jr.
146	41,42,43	Edwards Timber Co Inc
147	42,43	Edith Lee Braudwell
148	42,43	Happy Trail Farms LLC (Woody Whichard)
150	43,44,45	Happy Trail Farms LLC (Woody Whichard)
153	43,45,46	Pitt County
154	69	City of Greenville
155	69	LMS Drywall & Plaster
156	46	Herbert Lewis Heirs
157	46	Hoover E. Taft III Etal
158	46	John Shields Harvey
159	47,48,70	Medical Foundation of ECU Inc.
160	46,47	Mrs. P.E. Britt Heirs
161	47	Teresa Manning Butts etals
162	47,48	Stantonsburg Road, LLC
163	56	Johnny A. Pittman et ux
164	50	Pitt County
165	50,51	MES & JBS LLC
167	64	Derek L. Best
168	56	Alicia S. Hawk etal
169	56	David A. Rushing
170	59	Robert E. Jones
171	10	Clifton H. Cahoon et ux
172	50,51	Good Buddy LLC
173	55	Dixie Wayne Harris
174	39, 68	Thomas Turnage
175	51	Maxine A. Speight
177	51	Joe Lane Gresham
178	52	Janet A. Johnson House Heirs

PARCEL No.	SHEET No.	PROPERTY OWNER NAME



REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R–2250	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

MATCHLINE –Y1– STA. 15+50, SEE SHEET 49

DETAIL AA
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground, 3:1, D, 4:1 or Flatter, Front Ditch Slope
Min. D= 1.5 Ft.

FROM STA. 29+50 –L– TO STA. 37+90 –L– LT

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground, 3:1, D, 4:1 or Flatter, Front Ditch Slope
Min. D= 1 Ft.

FROM STA. 11+00 –Y5– TO STA. 16+50 –Y5– LT
FROM STA. 16+50 –Y5– TO STA. 20+85 –Y5– LT
FROM STA. 17+00 –Y1– TO STA. 18+10 –Y1– LT
FROM STA. 17+00 –Y1– TO STA. 18+10 –Y1– RT
FROM STA. 23+50 –L– TO STA. 28+00 –L– LT
FROM STA. 24+00 –L– TO STA. 27+90 –L– RT
FROM STA. 29+00 –L– TO STA. 29+50 –L– LT
FROM STA. 29+50 –L– TO STA. 37+90 –L– LT
FROM STA. 29+25 –L– TO STA. 33+50 –L– RT
FROM STA. 33+50 –L– TO STA. 37+73 –L– RT

DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)

Shoulder Point, 4:1 or Flatter, 4:1 or Flatter, Shoulder Point

FROM STA. 23+85 –L– TO STA. 27+40 –L– M
FROM STA. 29+65 –L– TO STA. 30+20 –L– M
FROM STA. 30+20 –L– TO STA. 31+50 –L– M
FROM STA. 31+50 –L– TO STA. 34+18 –L– M
FROM STA. 34+18 –L– TO STA. 38+93 –L– M

3 CAROLINA CLASSICS CATFISH INC. DB 126 PG 090

6 DAN STEWART, HEIRS DIV. OF LANDS BK 04 PG 275 MB 003 PG 232 TRACT

7 MONICA STEWART LIVING TRUST DB 2887 PG 685

TOWN OF AYDEN DB F48 PG 046

5 GREGORY STEWART DB 2014E PG 553

GUC GAS EASEMENT

MONOLITHIC CONCRETE ISLAND (TYP.)

400–70–400 OFFSET=10.0'

400–70–400 OFFSET=10.0'

-L- TS Sta. 29+23.23

-L- SC Sta. 32+38.23

10 RAY EDWARDS, ET AL DB 062 PG 247 MB 003 PG 232 TRACTS 2 & 3

11 RUBEN HASSELL, JR. DB 297 PG 385 MB 12 PG 89

13 MARTIN V. B. STEWART, ET AL DB L40 PG 354 MB 12 PG 89

14 RICHARD W. HARDY, HEIRS MB 12 PG 89

15 DELORES KING HECTOR DB 050 PG 134 MB 12 PG 89

CURCELIA COLLINS HEIRS DB 2615 PG 848 MB 71PG 145

16

NAD 83

MATCHLINE –L– STA. 24+00, SEE SHEET 4

MATCHLINE –L– STA. 38+00 SEE SHEET 6

GPS R2250A

4 TRIPP FARMS, LLC DB 889 PG 169 TRACT TWO MB 48 PG 177

THIS TRACT WAS PART OF MB 32 PG 123

-Y5- POT Sta. 10+00.00 =
-Y1- POT Sta.19+06.16 =
-L- POT Sta. 28+52.74

-Y5- PC Sta. 10+59.31

CLASS 'B' RIP RAP EST. 15 TONS 37 SY GEO-TEXTILE

8 MARVIN J. STRICKLAND, SR., ET UX DB 070 PG 766 MB 032 PG 123 DB 076 PG 657 DB 161 PG 730 DB 331 PG 715

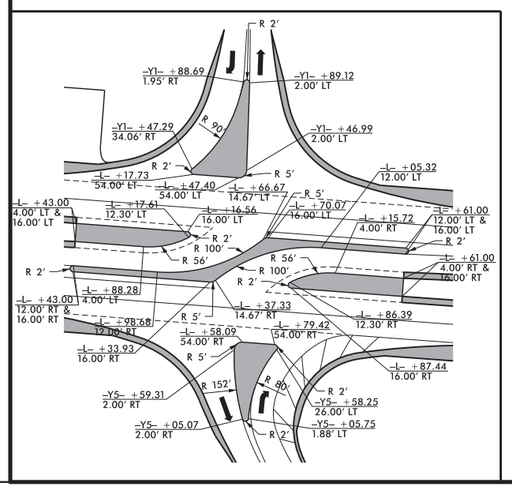
-Y5- PT Sta. 13+12.56

9 DAN STEWART, HEIRS DIV. OF LANDS BK 04 PG 275 MB 003 PG 232 TRACT

12 LUCY M. STEWART DB T37 PG 311

17 CURCELIA COLLINS HEIRS DB 422 PG 671

LILL M. HART DB R33 PG 147 MB 049 PG 006



-Y5-
PI Sta 12+28.06
Δ = 96° 44' 04.3" (LT)
D = 38° 11' 49.9"
L = 253.25'
T = 168.75'
R = 150.00'
V = 25 MPH
e = 0.06
Lr = 162'

AADT YEAR 2014/2040 (VOLUME IN 100s)

NC 11 (–L–) — 195/260 — 16/21 — 12/21 — 191/260 — NC 11 (–L–)

28/42

OLD NC 11 (–Y5–)

-L-

PIs Sta 31+33.27	PI Sta 40+55.82	PIs Sta 49+36.10
Θs = 3° 08' 59.2"	Δ = 31° 51' 15.6" (LT)	Θs = 3° 08' 59.2"
Ls = 315.00'	D = 1° 59' 59.5"	Ls = 315.00'
LT = 210.03'	L = 1,592.83'	LT = 210.03'
ST = 105.03'	T = 817.59'	ST = 105.03'
	R = 2,865.00'	
	V = 70 MPH	
	e = 0.07	
	Lr = 315'	

PAVEMENT REMOVAL

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NOS. 73 & 74 FOR –L– PROFILE
SEE SHEET NO. 121 FOR –Y1– PROFILE
SEE SHEET NO. 124 FOR –Y5– PROFILE

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

REVISIONS

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NAD 83

DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)
Shoulder Point, 4:1 or Flatter, 4:1 or Flatter, Shoulder Point

FROM STA. 38+93 -L- TO STA. 39+90 -L- M
FROM STA. 40+85 -L- TO STA. 44+82 -L- M
FROM STA. 44+82 -L- TO STA. 49+50 -L- M
FROM STA. 49+50 -L- TO STA. 50+81 -L- M
FROM STA. 50+81 -L- TO STA. 53+00 -L- M

MATCHLINE -L- STA. 38+00 SEE SHEET 5

MATCHLINE -L- STA. 51+00 SEE SHEET 7

MATCHLINE -Y5- STA. 21+00 SEE SHEET 5

18 GREGORY L. ANDERSON, ET UX
DB 832 PG 750
MB 38 PG 157

19 LEVIG. WORTHINGTON HEIRS
DB Z35 PG 175
DB A38 PG 88
MB 38 PG 157

20 CORFAC INDUSTRIES LLC
DB 2741 PG 616
MB 38 PG 157

21 TRIPP FARMS, LLC
DB 889 PG 169
TRACT ONE
DB 146 PG 419

21 TRIPP FARMS, LLC
DB 889 PG 169
SIXTH TRACT

22 FARMVILLE REAL ESTATE COMPANY LLC
DB 2931 PG 276
MB 60 PG 89

26 JOE LANE GRESHAM
DB 2697 PG 686

FARMVILLE REAL ESTATE COMPANY LLC
DB 2931 PG 276
MB 67 PG 14

DANIEL T. JOHNSON
HANNAH E. FORTUNE
DB 3371 PG 209
MB 67 PG 14

-L- CS Sta. 48+31.07

-L- +02.00 176.00' LT
-L- +02.00 164.00' LT
CLASS 'B' RIP RAP EST. 2 TONS 7 SY GEO-TEXTILE
-L- +13.00 176.00' LT
-L- +14.00 164.00' LT
-L- +53.00 172.00' LT
-L- +00.00 110.00' LT & 130.00' LT
-L- +52.00 160.00' LT
-L- +65.00 171.00' LT
-L- +64.00 159.00' LT
MONOLITHIC CONCRETE ISLAND (TYP.)
-L- +64.00 110.00' LT & 131.00' LT
SPECIAL CUT DITCH SEE DETAIL 'AB'
840' LANE DROP
-L- +31.07 110.00' LT
-L- +05.04 79.19' LT
R 48'
R 20'
R 100'
SPECIAL CUT MEDIAN DITCH SEE DETAIL 'C'
REMOVE 12' OF EX. 15" RCP
REMOVE DI
+95 GUIDERAIL ANCHOR
REMOVE 6' OF EX. 18" RCP
-L- 15" RCP
REMOVE DI
COLLAR AND EXTEND
RETAIN
-L- +00.00 125.00' RT
-Y5- +83 EX R/W
-L- +50.00 125.00' RT
SPECIAL CUT DITCH SEE DETAIL 'A'
-L- +27.00 148.00' RT
CLASS 'B' RIP RAP EST. 2 TONS 7 SY GEO-TEXTILE
SPECIAL CUT DITCH SEE DETAIL 'AA'
-L- +10.00 148.00' RT & 165.00' RT
-L- +20.00 148.00' RT & 165.00' RT
-L- +31.07 125.00' RT
CLASS 'B' RIP RAP EST. 3 TONS 10 SY GEO-TEXTILE
-Y5- +74.63 60.00' RT & 80.00' RT
-Y5- +74.63 113.41' RT
-Y5- PC Sta. 21+74.63
RIP RAP AT EMBANKMENT SEE DETAIL 'K'
CLASS 'I' RIP RAP EST. 33 TONS 62 SY GEO-TEXTILE
2' BASE SPECIAL CUT DITCH SEE DETAIL 'B'
CLASS 'B' RIP RAP EST. 5 TONS 14 SY GEO-TEXTILE
-Y5- +50.00 80.00' RT
-Y5- +17.00 84.38' RT
-Y5- +23.00 102.00' RT
-Y5- +34.00 98.00' RT
-Y5- +29.00 84.50' RT
-Y5- +50.00 EX. R/W
-Y5- PROP. PUE 65.00' LT
-Y5- +87.00 EX. R/W
-Y5- +50.00 EX. R/W & 65.00' LT
END CONSTRUCTION
-Y5- STA. 27+50.00
100' TRANSITION TO EXISTING LANE WIDTHS
-BY5- 100
-Y5- PT Sta. 30+96.91
-Y5- POT Sta. 31+90.00
-Y5- P/L 60.00' RT
N 24° 33' 09.2" E
-BL- 30
GUC GAS EASEMENT
SPECIAL CUT DITCH SEE DETAIL 'AB'
REMOVE
COLLAR AND EXTEND
CHORD
PUE
DUE
RETAIN
SPECIAL CUT MEDIAN DITCH SEE DETAIL 'C'
SPECIAL CUT DITCH SEE DETAIL 'A'
SPECIAL CUT DITCH SEE DETAIL 'AA'
SPECIAL CUT DITCH SEE DETAIL 'AB'
SPECIAL CUT DITCH SEE DETAIL 'A'
SPECIAL CUT DITCH SEE DETAIL 'A'
SPECIAL CUT DITCH SEE DETAIL 'A

PROJECT REFERENCE NO.	SHEET NO.
R–2250	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

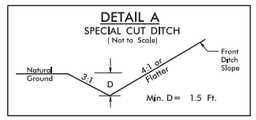
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

NAD 83

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 51+00 –L– TO STA. 56+15 –L– LT
FROM STA. 56+15 –L– TO STA. 63+78 –L– LT
FROM STA. 63+78 –L– TO STA. 67+50 –L– LT
FROM STA. 50+79 –L– TO STA. 55+30 –L– RT
FROM STA. 63+50 –L– TO STA. 70+50 –L– RT

MATCHLINE –L– STA. 51+00, SEE SHEET 6

MATCHLINE –L– STA. 65+00, SEE SHEET 8

BEGIN CONSTRUCTION
-L- STA. 52+50.10, 236' LT

20 CORFAC INDUSTRIES, LLC
DB 2741 PG 616
MB 38 PG 157

23 BURNEY LAVERNE HAWKINS
DB 2972 PG 490
MB 511 PG 210

ALGIE D. HICKS, JR., ET UX
DB 2274 PG 686
DB 511 PG 211

27 BILLY P. MCLAWHORN, ET UX
DB P40 PG 182
MB 021 PG 050
TRACT NO. 1

28 HAPPY TRAIL FARMS, LLC
DB 3075 PG 707
MB 33 PG 199

29 BILLY POWELL MCLAWHORN, ET UX
DB 552 PG 794

26 JOE LANE GRESHAM
DB 2697 PG 686

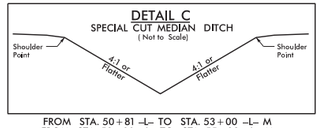
34 MATTHEW COLE WADE
DB 3108 PG 844

-L- ST Sta. 51+46.07

-L-

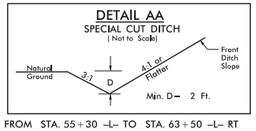
PIs Sta 31+33.27	PI Sta 40+55.82	PIs Sta 49+36.10
Θs = 3° 08' 59.2"	Δ = 31° 51' 15.6" (LT)	Θs = 3° 08' 59.2"
Ls = 315.00'	D = 1° 59' 59.5"	Ls = 315.00'
LT = 210.03'	L = 1,592.83'	LT = 210.03'
ST = 105.03'	T = 817.59'	ST = 105.03'
	R = 2,865.00'	
	V = 70 MPH	
	e = 0.07	
	Lr = 315'	

DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)



FROM STA. 50+81 –L– TO STA. 53+00 –L– M
FROM STA. 53+00 –L– TO STA. 55+29 –L– M
FROM STA. 55+29 –L– TO STA. 57+00 –L– M
FROM STA. 60+00 –L– TO STA. 63+53 –L– M
FROM STA. 63+53 –L– TO STA. 67+00 –L– M

DETAIL AA
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 55+30 –L– TO STA. 63+50 –L– RT

SEE SHEET NOS. 75 & 76 FOR –L– PROFILE

REVISIONS

PLOT DRIVER: NCDOT_pdf_color-eng_50.plt PENTABLE: NCDOT_pshpfi.tbl
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REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2250	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St Suite 900 Raleigh, NC 27601
N.C.B.E.L.S. License Number: P-0116

BARNHILL CONTRACTING COMPANY

NAD 83

DETAIL A — SPECIAL CUT DITCH (Not to Scale)
FROM STA. 14+03 -FLYBY7- TO STA. 15+90 -FLYBY7- LT
FROM STA. 18+50 -FTRPC- TO STA. 21+33 -FTRPC- LT
FROM STA. 33+29 -L- TO STA. 70+50 -L- RT
FROM STA. 70+50 -L- TO STA. 73+01 -L- RT
FROM STA. 73+50 -L- TO STA. 73+97 -L- RT
FROM STA. 77+50 -L- TO STA. 78+73 -L- LT

DETAIL B — 2' BASE SPECIAL CUT DITCH (Not to Scale)
FROM STA. 78+75 -L- TO STA. 82+00 -L- LT

DETAIL D — LATERAL 'V' DITCH (Not to Scale)
FROM STA. 39+00 -FLYBY7- TO STA. 43+00 -FLYBY7- RT

DETAIL E — 2' BASE LATERAL DITCH (Not to Scale)
FROM STA. 11+56 -FTRPC- TO STA. 26+75 -FTRPC- RT
FROM STA. 82+00 -L- TO STA. 87+80 -L- LT

DETAIL G — 4' BASE STREAM RELOCATION (Not to Scale)
FROM STA. 25+75 -FLYBY7- LT TO STA. 30+34 -L- LT

DETAIL DA — LATERAL 'V' DITCH (Not to Scale)
FROM STA. 26+50 -FLYBY7- TO STA. 32+20 -FLYBY7- RT

DETAIL EA — 2' BASE LATERAL DITCH (Not to Scale)
FROM STA. 34+75 -FLYBY7- TO STA. 39+00 -FLYBY7- RT
FROM STA. 37+43 -L- TO STA. 42+55 -L- LT

-Y3- STA. 28+00.00 SEE SHEET 51 — MATCHLINE

-Y3-
PI Sta 36+65.14	PI Sta 41+72.00
Δ = 46°02'49.3" (LT)	Δ = 25°07'23.8" (LT)
D = 17°25'02.7"	D = 10°44'58.8"
L = 442.00'	L = 233.71'
T = 233.73'	T = 118.76'
R = 550.00'	R = 533.00'
V = 40 MPH	V = 40 MPH
e = 0.04	e = 0.04
Lr = 84'	Lr = 84'

-FLYBY7-
Pis Sta 11+44.06	PI Sta 14+82.81	Pis Sta 18+13.25
Bs = S 0°09'23.8" E	Δ = 25°04'34.4" (LT)	Bs = S 0°09'23.8" E
Ls = 216.00'	D = 4°46'28.7"	Ls = 216.00'
LT = 144.06'	L = 525.19'	LT = 144.06'
ST = 72.06'	T = 266.87'	ST = 72.06'
	R = 1200.00'	
	V = 60 MPH	
	e = 0.08	
	Lr = 216'	

-FLYBY7-
Pis Sta 22+97.30	PI Sta 27+51.37	Pis Sta 31+45.95
Bs = S 7°16'23.2" E	Δ = 54°28'23.7" (RT)	Bs = S 7°16'23.2" E
Ls = 192.00'	D = 7°33'31.7"	Ls = 192.00'
LT = 128.11'	L = 712.66'	LT = 128.11'
ST = 64.10'	T = 380.17'	ST = 64.10'
	R = 758.00'	
	V = 50 MPH	
	e = 0.08	
	Lr = 192'	

-Y3- PC Sta. 40+53.23

-Y3- PT Sta. 38+73.43

-Y3- PC Sta. 34+31.41

-Y3- POT Sta. 43+90.00
N 70°58'47.0" W

-Y3- PT Sta. 42+86.95

END CONSTRUCTION
-Y3- STA. 42+94.70

-L- ST Sta. 92+66.13

-L- CS Sta. 90+41.13

-L- STA. 95+00.00 SEE SHEET 9 — MATCHLINE

-FLYBY7- ST Sta. 19+57.79

-FLYBY7- CS Sta. 17+41.13

-FLYBY7- SC Sta. 12+16.00

-FLYBY7- ST Sta. 10+00.00 =
-L- POC ST Sta. 67+49.62, 59.00' LT

-FLYBY7- SC Sta. 23+61.20

-FLYBY7- CS Sta. 30+81.86

-FLYBY7- ST Sta. 32+17.86

-FLYBY7- TS Sta. 21+69.20

-FLYBY7- TS Sta. 36+15.16

-FLYBY7- SC Sta. 37+05.16

-L- POC ST Sta. 90+29.65 =
-FLYBY7- POT Sta. 34+37.39

-FLYBY7- MATCHLINE STA. 39+50 SEE SHEET 52

-L- MATCHLINE STA. 31+50 SEE SHEET 52

-Y7RPC-
Pi Sta 17+08.54	PI Sta 21+27.63	
Δ = 2°04'39.9" (LT)	Δ = 2°05'53.6" (RT)	
D = 1°29'53.6"	D = 1°29'53.6"	
L = 417.03'	L = 421.14'	
T = 208.54'	T = 210.59'	
R = 1,500.00'	R = 1,500.00'	
V = 60 MPH	V = 60 MPH	
e = NC	e = NC	
Pis Sta 27+95.44	PI Sta 33+45.42	Pis Sta 38+86.60
Bs = S 1°58'32.6" E	Δ = 18°55'25.8" (RT)	Bs = S 1°58'32.6" E
Ls = 200.00'	D = 1°58'32.6"	Ls = 200.00'
LT = 133.34'	L = 957.82'	LT = 133.34'
ST = 66.67'	T = 483.3'	ST = 66.67'
	R = 2,900.00'	
	V = 50 MPH	
	e = 0.08	
	Lr = 200'	

-Y7RPC- PC Sta. 15+00.00

-Y7RPC- POT Sta. 10+00.00 =
-L- POT Sta. 71+52.09, 47.00' RT

-Y7RPC- PRC Sta. 19+17.03

-Y7RPC- PT Sta. 23+38.18

-Y7RPC- TS Sta. 26+62.10

-Y7RPC- SC Sta. 28+62.10

END FULL TYPICAL SECTION
BEGIN RESURFACING ONLY
-Y7RPC- STA. 23+50.00

-L- POC ST Sta. 34+37.39

-FLYBY7- POT Sta. 34+37.39

-L- MATCHLINE STA. 65+00 SEE SHEET 7

DETAIL C — SPECIAL CUT MEDIAN DITCH (Not to Scale)
FROM STA. 67+00 -L- TO STA. 68+34 -L- M
FROM STA. 68+34 -L- TO STA. 70+00 -L- M
FROM STA. 70+00 -L- TO STA. 73+50 -L- M
FROM STA. 73+50 -L- TO STA. 73+97 -L- M
FROM STA. 73+50 -L- TO STA. 78+00 -L- M
FROM STA. 88+00 -L- TO STA. 90+00 -L- M
FROM STA. 90+00 -L- TO STA. 91+50 -L- M

DETAIL F — 2' BASE TAB DITCH (Not to Scale)
Type of Lane ➡ Curb 'R' Reg.Req.
FROM STA. 39+00 -FLYBY7- RT TO STA. 31+32 -FTRPC- LT

DETAIL AA — SPECIAL CUT DITCH (Not to Scale)
FROM STA. 10+00 -FLYBY7- TO STA. 14+50 -FLYBY7- LT
FROM STA. 71+50 -L- TO STA. 78+75 -L- LT

-L-
Pis Sta 73+02.10	PI Sta 82+21.90	Pis Sta 91+16.14
Bs = S 1°58'54.7" E	Δ = 24°23'03.3" (LT)	Bs = S 1°39'54.7" E
Ls = 225.00'	D = 1°27'55.3"	Ls = 225.00'
LT = 150.01'	L = 1,664.04'	LT = 150.01'
ST = 75.01'	T = 844.81'	ST = 75.01'
	R = 3,910.00'	
	V = 70 MPH	
	e = 0.05	
	Lr = 225'	

AADT YEAR 2014 / 2040 (VOLUME IN 100s)
BY-PASS (—L—)
85 / 143
NC_11 (—Y7—) 191 / 260
NC_11 (—Y7—) 106 / 117

DETAIL M — FALSE SUMP (Not to Scale)
Median Ditch
1:1 Ditch Slope
℄ Proposed Ditch
Ditch Grade	℄	Ditch Grade	℄
0.0% To 2.0%	2.0'	Over 4.0% To 6.0%	4.0'
Over 2.0% To 4.0%	3.0'	Over 6.0%	5.0'

PAVEMENT REMOVAL

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NOS. 76 THRU 78 FOR -L- PROFILE
SEE SHEET NO. 123 FOR -Y3- PROFILE
SEE SHEET NOS. 127 & 128 FOR -FLYBY7- PROFILE
SEE SHEET NO. 128A FOR -Y7RPC- PROFILE
SEE SHEET NO. 28-1 FOR BRIDGE SKETCH

GRAPHIC SCALE
50 25 0 50 100
PLANS

LOCATION:
TIP NO.: COUNTY:
DESIGNED BY:
CHECKED BY: DATE:

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USER: rhamilton
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DATE: 1/25/2016
TIME: 5:06:02 PM

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PENTABLE: NCDOT_pshpf1.tbl
DATE: 1/25/2016
TIME: 5:47:04 PM

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2250	9

R/W SHEET NO.

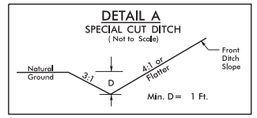
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

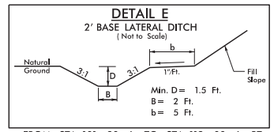
BARNHILL CONTRACTING COMPANY

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



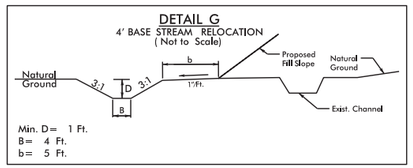
FROM STA. 10+20 –DR1– TO STA. 12+80 –DR1– RT

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)



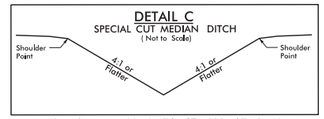
FROM STA. 101+90 –L– TO STA. 112+00 –L– RT

DETAIL G
4' BASE STREAM RELOCATION
(Not to Scale)



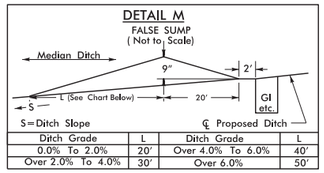
FROM STA. 25+75 –FLYBY7– LT TO STA. 101+34 –L– LT

DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)



FROM STA. 100+00 –L– TO STA. 100+37 –L– M
FROM STA. 100+37 –L– TO STA. 101+00 –L– M
FROM STA. 107+50 –L– TO STA. 108+22 –L– M
FROM STA. 108+22 –L– TO STA. 109+50 –L– M
FROM STA. 109+50 –L– TO STA. 113+00 –L– M

DETAIL M
FALSE SUMP
(Not to Scale)



S= Ditch Slope ℄ Proposed Ditch

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

NAD 83

MATCHLINE –L– STA. 95+00, SEE SHEET 8

MATCHLINE –L– STA. 109+00, SEE SHEET 10

MATCHLINE –DR1– STA. 11+50 SEE SHEET 10

95 100 105

33
COX FARM PROPERTIES, LLC
DB 1208 PG 445

–DR1–
PI Sta 11+94.78
△ = 36° 04' 33.2" (RT)
D = 11° 27' 33.0"
L = 314.82'
T = 162.83'
R = 500.00'
e = NC

–DR1– POT Sta. 10+00.00

–DR1– PCSta. 10+31.95

–L– +10.00
270.00' LT

–DR1–

N 89° 39' 27.2" W

PROP. 8" ABC

–L– +90.00
177.91' LT

–DR1– +45.00
45.00' RT

SPECIAL CUT DITCH
SEE DETAIL 'A'

R 20'

–L– +27.00
179.03' LT

–L– +48.02
150.00' LT

–L– +07.00
170.00' LT

–L– +00.00
125.00' LT

–L– +60.00
145.00' LT

–L– +90.00
125.00' LT

CLASS 'I' RIP RAP
EST. 57 TONS
104 SY GEO–TEXTILE

END WW FENCE

4' BASE STREAM RELOCATION
SEE DETAIL 'G'

PUE

72" RCP–III BURIED 1'

HWF

BEG. WW FENCE

0913

0914

REMOVE

N 49° 52' 56.7" W

0912

0910

2GI

FS

15"

24"

–L–

+00
INTERMEDIATE GUIDERAIL ANCHORS

–BL– 35

SPECIAL CUT MEDIAN DITCH
SEE DETAIL 'C'

24" RCP–III

0915

2' LATERAL BASE DITCH
SEE DETAIL 'E'

0911

END WW FENCE

BEG. WW FENCE

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO–TEXTILE

–L– +00.00
125.00' RT

0919

0916

+88
CAT–1
8:1

BEG. SBG +98

22.5'

45' TYP.

BEG. SBG +50

SPECIAL CUT MEDIAN DITCH
SEE DETAIL 'C'

2GI W/FG

0917

18" RCP–III

+45, GRAU 350
8:1

BEG. SBG 94.50

0918

0920

0921

0922

18" CAAP W/ELBOWS

0923

2' LATERAL BASE DITCH
SEE DETAIL 'E'

–L– +48.02
150.00' RT

–L– TS Sta. 107+48.02

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO–TEXTILE

33
COX FARM PROPERTIES, LLC
DB 1208 PG 445

–L–

PIs Sta 108+98.03	PI Sta 123+55.67	PIs Sta 137+15.12
Θs = 1° 34' 19.7"	△ = 37° 16' 17.3" (RT)	Θs = 1° 34' 19.7"
Ls = 225.00'	D = 1° 23' 50.8"	Ls = 225.00'
LT = 150.01'	L = 2,667.09'	LT = 150.01'
ST = 75.01'	T = 1,382.65'	ST = 75.01'
	R = 4,100.00'	
	V = 70 MPH	
	e = 0.05	
	Lr = 225'	

SEE SHEET NOS. 78 & 79 FOR –L– PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-2250	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

DETAIL M
FALSE SUMP
(Not to Scale)

S=Ditch Slope

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

-DR1-
PI Sta 11+94.78
Δ = 36° 04' 33.2" (RT)
D = 11° 27' 33.0"
L = 314.82'
T = 162.83'
R = 500.00'
e = NC

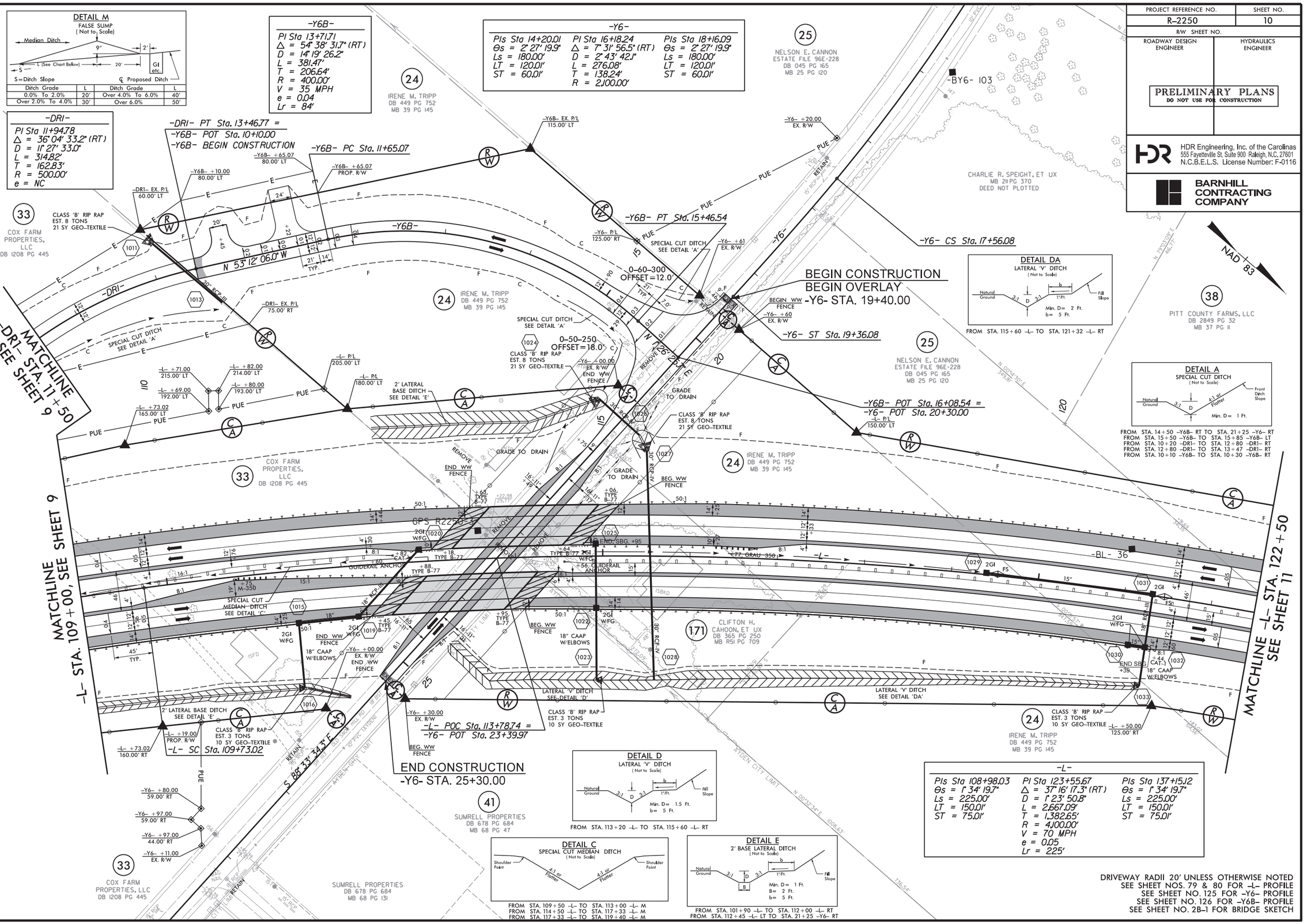
-Y6B-
PI Sta 13+71.71
Δ = 54° 38' 31.7" (RT)
D = 14° 19' 26.2"
L = 381.47'
T = 206.64'
R = 400.00'
V = 35 MPH
e = 0.04
Lr = 84'

-Y6-

PIs Sta 14+20.01	PI Sta 16+18.24	PIs Sta 18+16.09
Θs = 2° 27' 19.9"	Δ = 7° 31' 56.5" (RT)	Θs = 2° 27' 19.9"
Ls = 180.00'	D = 2° 43' 42.1"	Ls = 180.00'
LT = 120.01'	L = 276.08'	LT = 120.01'
ST = 60.01'	T = 138.24'	ST = 60.01'
	R = 2,100.00'	

-L-

PIs Sta 108+98.03	PI Sta 123+55.67	PIs Sta 137+15.12
Θs = 1° 34' 19.7"	Δ = 37° 16' 17.3" (RT)	Θs = 1° 34' 19.7"
Ls = 225.00'	D = 1° 23' 50.8"	Ls = 225.00'
LT = 150.01'	L = 2,667.09'	LT = 150.01'
ST = 75.01'	T = 1,382.65'	ST = 75.01'
	R = 4,100.00'	
	V = 70 MPH	
	e = 0.05	
	Lr = 225'	



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

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

FROM STA. 115+60 -L- TO STA. 121+32 -L- RT

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)

Min. D= 1 Ft.

FROM STA. 14+50 -Y6B- RT TO STA. 21+25 -Y6- RT
FROM STA. 15+50 -Y6B- TO STA. 15+85 -Y6B- LT
FROM STA. 10+20 -DR1- TO STA. 12+80 -DR1- RT
FROM STA. 12+80 -DR1- TO STA. 13+47 -DR1- RT
FROM STA. 10+10 -Y6B- TO STA. 10+30 -Y6B- RT

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

Min. D= 1.5 Ft.
b= 5 Ft.

FROM STA. 113+20 -L- TO STA. 115+60 -L- RT

DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)

FROM STA. 109+50 -L- TO STA. 113+00 -L- M
FROM STA. 114+50 -L- TO STA. 117+33 -L- M
FROM STA. 117+33 -L- TO STA. 119+40 -L- M

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)

Min. D= 1 Ft.
B= 2 Ft.
b= 5 Ft.

FROM STA. 101+90 -L- TO STA. 112+00 -L- RT
FROM STA. 112+45 -L- LT TO STA. 21+25 -Y6- RT

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NOS. 79 & 80 FOR -L- PROFILE
SEE SHEET NO. 125 FOR -Y6- PROFILE
SEE SHEET NO. 126 FOR -Y6B- PROFILE
SEE SHEET NO. 2B-1 FOR BRIDGE SKETCH

REVISIONS

PLOT DRIVER: NCDOT_pdf_color-eng-50.plt PENTABLE: NCDOT_pshpfi.tbl
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FILE: North_Carolina_Dept_of_Transportation\R-2250A_B_C_Greenville_Southwest_Bypass_DB\06.00_Project_Design\R-2250_RDY_PSH-10.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2250	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

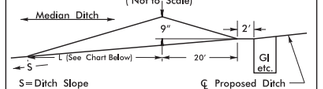
HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

-L-

PIs Sta 108+98.03	PI Sta 123+55.67	PIs Sta 137+15.12
Θs = 1° 34' 19.7"	Δ = 37° 16' 17.3" (RT)	Θs = 1° 34' 19.7"
Ls = 225.00'	D = 1° 23' 50.8"	Ls = 225.00'
LT = 150.01'	L = 2,667.09'	LT = 150.01'
ST = 75.01'	T = 1,382.65'	ST = 75.01'
	R = 4,100.00'	
	V = 70 MPH	
	e = 0.05	
	Lr = 225'	

DETAIL M
FALSE SUMP
(Not to Scale)



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

LAURA SUMRELL SHADBURN
JAMES GRAYSON SUMRELL
DB 2885 PG 78
MB 21 PG 16

606.74'
N 04°24'13" W

S 80°06'50" W
344.00'

N 02°19'39" E
417.34'

295.28'

22' R/W EASEMENT

20' WOODS RIGHT OF WAY
(BOOK 21, MAP 16 OCTOBER 20, 1971)

S 85°57'20" E
350.95'

NAD 83

38
PITT COUNTY FARMS, LLC
DB 2849 PG 32
MB 37 PG 11

125

39
CAMILLA S. SPENCER &
MARTIE S. WELLS
DB 98E PG 255
MB 21 PG 16

130

40
CHARLES H. ALLEN
ESTATE FILE 05E-262
DB X40 PG 398
MB 21PG 118

-Y8RPB- POT Sta. 10+00.00 =
-L- POC Sta. 134+14.02, 47.00' LT

-L- +14.02
125.00' LT

-L- +00.00
125.00' LT

300' TAPER

-BL- 37

GRAU 06+350 8:1

N 14° 11' 54.0" W

30' TYP.

INTERMEDIATE GUIDERAIL ANCHORS

N 14° 11' 21.2" W

1110 2GI FS
1111 CLASS 'B' RIP RAP EST. 3 TONS 10 SY GEO-TEXTILE
1125 2GI FS
1126 CLASS 'B' RIP RAP EST. 3 TONS 10 SY GEO-TEXTILE
1127 2GI FS
1128 CLASS 'B' RIP RAP EST. 3 TONS 10 SY GEO-TEXTILE
1129 2GI FS

18" RCP-III

-L- +95.78
125.00' RT

-Y8RPC- +86.16
90.00' RT

-Y8RPC- POT Sta. 10+00.00 =
-L- POC Sta. 132+00.00, 47.00' RT
Δ = 3° 00' 00.0"

-Y8RPC- TS Sta. 11+46.16

-Y8RPC- SC Sta. 13+86.16

MATCHLINE -L- STA. 122+50, SEE SHEET 10

MATCHLINE -L- STA. 136+00, SEE SHEET 12

25
NELSON E. CANNON
ESTATE FILE 96E-228
DB 045 PG 165
MB 25 PG 120

39
CAMILLA S. SPENCER &
MARTIE S. WELLS
ESTATE FILE 98E-255
ESTATE FILE 93E-124
ESTATE FILE 70E-145
DB L11 PG 506
MB 21 PG 16

40
CHARLES H. ALLEN
ESTATE FILE 05E-262
DB X40 PG 398
MB 21PG 118

S 33°41'35" E
587.67'

S 81°43'00" W
140.88'

N 02°48'57" E
426.73'
529.42'

RALPH C. WORTHINGTON, JR. &
JANIPAT WORTHINGTON
TRACT A 6.086 AC.
MB 55 PG 169

168.16'

S 27°49'56" W
14.16'

LIMIT OF AYDEN

CHRIS SADLER &
ROBIN SADLER

-Y8RPC-

PIs Sta 13+06.24	PI Sta 17+26.69	PIs Sta 21+29.86
Θs = 5° 43' 46.5"	Δ = 31° 41' 08.3" (RT)	Θs = 5° 43' 46.5"
Ls = 240.00'	D = 4° 46' 28.7"	Ls = 240.00'
LT = 160.08'	L = 663.62'	LT = 160.08'
ST = 80.08'	T = 340.53'	ST = 80.08'
	R = 1,200.00'	
	V = 60 MPH	
	e = 0.08	
	Lr = 240'	
PIs Sta 24+23.24	PI Sta 26+01.34	
Θs = 7° 33' 31.7"	Δ = 16° 44' 38.4" (LT)	
Ls = 200.00'	D = 7° 33' 31.7"	
LT = 133.46'	L = 221.52'	
ST = 66.78'	T = 111.55'	
	R = 758.00'	
	V = 50 MPH	
	e = 0.08	
	Lr = 200'	

SEE SHEET NOS. 80 & 81 FOR -L- PROFILE
SEE SHEET NO. 136 FOR -Y8A- & -Y8B- PROFILES

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: dwalnwri DATE: 1/25/2016 TIME: 5:47:26 PM
FILE: North_Carolina_Dept_of_Transportation\R-2250A_B_C_Greenville_Southwest_Bypass_DB\06.00_Project_Design\R-2250_RDY_PSH-11.dgn

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2250	12
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
500 Fayetteville St Suite 500 Raleigh, NC 27601
N.C.B.E.L.S. License Number: P-0116

BARNHILL CONTRACTING COMPANY

NAD 83

-Y8RPB-

Pt Sta 13+89.00	Pt Sta 17+05.16	Pt Sta 20+15.52	Pt Sta 23+08.89	Pt Sta 26+08.11
Gs = 5°43' 46.5"	Δ = 22° 16' 29.6" (LT)	Gs = 5°43' 46.5"	Gs = 7°33' 31.7"	Δ = 34° 07' 38.4" (RT)
Ls = 240.00'	D = 4° 46' 28.7"	Ls = 240.00'	D = 7°33' 31.7"	D = 7°33' 31.7"
LT = 160.08'	L = 466.52'	LT = 160.08'	L = 133.46'	L = 451.49'
ST = 80.08'	T = 236.25'	ST = 80.08'	ST = 66.78'	T = 232.67'
	R = 1200.00'			R = 758.00'
	V = 60 MPH			V = 50 MPH
	e = 0.08			e = 0.08
	Lr = 240'			Lr = 200'

-Y8-

Pt Sta 24+48.47
Δ = 4° 30' 19.0" (RT)
D = 0°49' 06.6"
L = 550.49'
T = 275.35'
R = 7,000.00'
V = 60 MPH
e = 0.03
Lr = 120'

-Y8LPB-

Pt Sta 11+34.47	Pt Sta 20+29.28	Pt Sta 19+06.70
Gs = 22° 55' 05.9"	Δ = 146° 26' 51.3" (RT)	Gs = 22° 55' 05.9"
Ls = 200.00'	D = 22° 55' 05.9"	Ls = 200.00'
LT = 134.47'	L = 639.00'	LT = 134.47'
ST = 67.70'	T = 829.28'	ST = 67.70'
	R = 250.00'	
	V = 30 MPH	
	e = 0.08	
	Lr = 200'	

-Y8RPA-

Pt Sta 13+59.22	Pt Sta 16+56.89	Pt Sta 19+50.04	Pt Sta 22+43.42	Pt Sta 24+14.38
Gs = 5°43' 46.5"	Δ = 28° 56' 14.4" (RT)	Gs = 5°43' 46.5"	Gs = 7°33' 31.7"	Δ = 15° 41' 12.5" (LT)
Ls = 240.00'	D = 4° 46' 28.7"	Ls = 240.00'	Ls = 200.00'	D = 7°33' 31.7"
LT = 160.08'	L = 430.43'	LT = 160.08'	LT = 133.46'	L = 207.53'
ST = 80.08'	T = 219.76'	ST = 80.08'	ST = 66.78'	T = 104.42'
	R = 1200.00'			R = 758.00'
	V = 60 MPH			V = 50 MPH
	e = 0.08			e = 0.08
	Lr = 240'			Lr = 200'

MATCHLINE -Y8- STA. 23+50, SEE SHEET 53

MATCHLINE -L- STA. 165+00, SEE SHEET 13

MATCHLINE -L- STA. 136+00, SEE SHEET 11

MATCHLINE -Y8- STA. 39+00, SEE SHEET 54

A

B

C

D

-Y8RPB- PT Sta. 28+26.93 = -Y8- POC Sta. 24+57.79

-Y8RPA- SC Sta. 23+09.97

-Y8RPA- SRS Sta. 21+09.97

-Y8RPA- CS Sta. 18+69.97

-Y8RPA- PT Sta. 25+17.50

-Y8RPB- POT Sta. 27+69.61 = -Y8- POC Sta. 24+73.38

-Y8RPB- POT Sta. 21+69.79 = -Y8- POC Sta. 25+65.82

-Y8RPB- SC Sta. 23+75.44

-Y8RPB- SRS Sta. 21+75.44

-Y8RPB- CS Sta. 19+35.44

-Y8RPB- SC Sta. 14+68.92

-Y8RPB- TS Sta. 12+28.92

-Y8RPA- SC Sta. 14+39.14

-Y8RPD- CS Sta. 18+28.22

-Y8RPD- SRS Sta. 20+68.22

-Y8RPD- SC Sta. 22+68.22

-Y8RPC- CS Sta. 20+49.78

-Y8RPC- SRS Sta. 22+89.78

-Y8RPC- SC Sta. 24+89.78

-Y8RPC- PT Sta. 27+41.30

-Y8RPD- PT Sta. 26+79.74

-Y8RPC- POT Sta. 28+83.74 = -Y8RPD- POT Sta. 28+75.41 = -Y8- POT Sta. 31+39.45

-Y8LPB- ST Sta. 13+00.00 = -L- POT Sta. 150+34.03, 47.00' LT

-Y8LPB- CS Sta. 12+00.00

-Y8LPB- CS Sta. 18+39.00

-Y8LPB- ST Sta. 20+79.00

-L- POT Sta. 151+06.38 = -Y8- POT Sta. 30+86.79

-L- ST Sta. 138+65.11

-L- CS Sta. 136+40.11

-L-

Pt Sta 108+98.03	Pt Sta 123+55.67	Pt Sta 137+15.12
Gs = 1°34' 19.7"	Δ = 37° 16' 17.3" (RT)	Gs = 1°34' 19.7"
Ls = 225.00'	D = 1°23' 50.8"	Ls = 225.00'
LT = 150.01'	L = 2667.09'	LT = 150.01'
ST = 75.01'	T = 1,382.65'	ST = 75.01'
	R = 4,100.00'	
	V = 70 MPH	
	e = 0.05	
	Lr = 225'	

-Y8RPC-

Pt Sta 17+20.69	Pt Sta 21+29.86	Pt Sta 24+23.24	Pt Sta 26+01.34
Δ = 37° 41' 08.3" (RT)	Gs = 5°43' 46.5"	Gs = 7°33' 31.7"	Δ = 16° 44' 19.4" (LT)
D = 4° 46' 28.7"	Ls = 240.00'	Ls = 200.00'	D = 7°33' 31.7"
L = 663.62'	LT = 160.08'	LT = 133.46'	L = 221.52'
T = 340.53'	ST = 80.08'	ST = 66.78'	T = 111.55'
R = 1200.00'			R = 758.00'
V = 60 MPH			V = 50 MPH
e = 0.08			e = 0.08
Lr = 240'			Lr = 200'

-Y8RPD-

Pt Sta 11+60.08	Pt Sta 15+40.15	Pt Sta 19+08.30	Pt Sta 22+01.68	Pt Sta 24+79.93
Gs = 5°43' 46.5"	Δ = 28° 05' 08.2" (LT)	Gs = 5°43' 46.5"	Gs = 7°33' 31.7"	Δ = 37° 06' 19.4" (RT)
Ls = 240.00'	D = 4° 46' 28.7"	Ls = 240.00'	Ls = 200.00'	D = 7°33' 31.7"
LT = 160.08'	L = 586.22'	LT = 160.08'	LT = 133.46'	L = 461.52'
ST = 80.08'	T = 300.15'	ST = 80.08'	ST = 66.78'	T = 240.96'
	R = 1,200.00'			R = 758.00'
	V = 60 MPH			V = 50 MPH
	e = 0.08			e = 0.08
	Lr = 240'			Lr = 200'

DETAIL D — LATERAL 'V' DITCH
FROM STA. 14+30 -Y8RPB- TO STA. 16+59 -Y8RPB- LT
FROM STA. 123+00 -L- TO STA. 145+90 -L- LT

DETAIL X — SPECIAL ROADWAY DITCH
FROM STA. 146+00 -L- TO STA. 147+00 -L- LT

DETAIL B — 2' BASE SPECIAL CUT DITCH
FROM STA. 20+68 -Y8- TO STA. 24+23 -Y8- LT
FROM STA. 33+75 -Y8- TO STA. 36+87 -Y8- LT
FROM STA. 38+00 -Y8- TO STA. 41+73 -Y8- LT

DETAIL J — 4' BASE SPECIAL CUT DITCH
FROM STA. 20+68 -Y8- TO STA. 24+12 -Y8- RT

DETAIL N — 4' BASE TAIL DITCH
FROM STA. 23+85 -Y8RPC- LT TO STA. 145+85 -L- RT

DETAIL A — SPECIAL CUT DITCH
FROM STA. 15+50 -Y8LPB- TO STA. 16+78 -Y8LPB- LT
FROM STA. 18+00 -Y8- TO STA. 20+68 -Y8- RT
FROM STA. 20+68 -Y8- TO STA. 24+23 -Y8- RT
FROM STA. 29+00 -Y8- TO STA. 33+75 -Y8- RT
FROM STA. 23+50 -Y8RPC- TO STA. 24+00 -Y8RPC- RT
FROM STA. 24+00 -Y8RPC- TO STA. 28+39 -Y8RPD- RT
FROM STA. 28+39 -Y8RPD- TO STA. 29+00 -Y8- RT
FROM STA. 29+00 -Y8- TO STA. 30+00 -Y8- RT
FROM STA. 31+17 -Y8- TO STA. 31+00 -Y8- RT
FROM STA. 31+50 -Y8- TO STA. 31+85 -Y8- RT
FROM STA. 32+85 -Y8- TO STA. 37+00 -Y8- RT
FROM STA. 160+50 -L- TO STA. 161+00 -L- RT
FROM STA. 159+74 -L- TO STA. 160+00 -L- RT
FROM STA. 160+50 -L- TO STA. 162+00 -L- LT

DETAIL C — SPECIAL CUT INTERNAL DITCH
FROM STA. 145+00 -L- TO STA. 147+80 -L- M
FROM STA. 147+00 -L- TO STA. 150+10 -L- M
FROM STA. 153+00 -L- TO STA. 153+70 -L- M
FROM STA. 155+10 -L- TO STA. 158+10 -L- M

DETAIL K — RIP RAP AT EMBANKMENT
STA. 166+00 -L- LT

DETAIL E — 2' BASE LATERAL DITCH
FROM STA. 15+15 -Y8LPB- TO STA. 17+78 -Y8LPB- RT
FROM STA. 17+78 -Y8LPB- TO STA. 21+26 -Y8LPB- RT
FROM STA. 21+00 -Y8RPA- TO STA. 27+11 -Y8RPA- LT

DETAIL H — 4' BASE LATERAL DITCH
FROM STA. 13+98 -Y8LPB- TO STA. 15+00 -Y8LPB- LT
FROM STA. 22+50 -Y8RPB- TO STA. 23+58 -Y8RPB- LT
FROM STA. 23+83 -Y8RPC- TO STA. 28+14 -Y8RPC- RT
FROM STA. 25+10 -Y8RPA- TO STA. 29+00 -Y8RPA- LT
FROM STA. 153+86 -L- TO STA. 154+50 -L- RT

DETAIL M — MEDIAN DITCH

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	30'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	35'	Over 6.0%	50'

DETAIL EA — 2' BASE LATERAL DITCH
FROM STA. 12+40 -Y8RPA- TO STA. 18+70 -Y8RPA- LT

DETAIL EB — 2' BASE LATERAL DITCH
FROM STA. 28+50 -Y8- LT TO STA. 152+50 -Y8- LT
FROM STA. 33+75 -Y8- LT TO STA. 160+50 -Y8- RT
FROM STA. 141+20 -Y8- RT TO STA. 143+85 -Y8- RT

DETAIL EC — 2' BASE LATERAL DITCH
FROM STA. 152+50 -Y8- TO STA. 161+50 -Y8- LT
FROM STA. 151+72 -Y8- TO STA. 159+74 -Y8- RT

AADT YEAR 2014 / 2040 (VOLUME IN 100s)
NC 102 (-Y8-)
BY-PASS (-L-)
BY-PASS (-L-)
NC 102 (-Y8-)

SEE SHEET NOS. 81 THRU 83 FOR -L- PROFILE
SEE SHEET NO. 129 FOR -Y8- PROFILE
SEE SHEET NO. 131 FOR -Y8RPA- PROFILE
SEE SHEET NO. 132 FOR -Y8RPB- PROFILE
SEE SHEET NO. 133 FOR -Y8LPB- PROFILE
SEE SHEET NO. 134 FOR -Y8RPC- PROFILE
SEE SHEET NO. 135 FOR -Y8RPD- PROFILE
SEE SHEET NOS. 28-2 FOR BRIDGE SKETCH

LOCATION:
TIP NO.: COUNTY:
DESIGNED BY:
CHECKED BY: DATE:

GRAPHIC SCALE
50 25 0 50 100
PLANS

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PENTABLE: MODOT.pdf.pcf.tbl
USER: dwalmer
TIME: 3:45:3 PM
DATE: 7/29/2016
FILE: N:\Highway Design\Projects\R-2250A & B\Barnhill_Southwest Bypass\SB\06.00 Project Design\R-2250_MODOT_File_Structure\Roadway\R-2250_ROY_PSH-12.dgn

DO NOT DELETE ANY LINES OR TEXT FROM THIS FILE

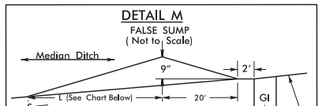
PROJECT REFERENCE NO.	SHEET NO.
R-2250	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

DETAIL M
FALSE SUMP
(Not to Scale)



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

-Y8RPA-

PIs Sta 13+59.22	PI Sta 16+56.89	PIs Sta 19+50.04	PIs Sta 22+43.42	PI Sta 24+14.38
Θs = 5° 43' 46.5"	Δ = 20° 34' 14.4" (RT)	Θs = 5° 43' 46.5"	Θs = 7° 33' 31.7"	Δ = 15° 41' 12.5" (LT)
Ls = 240.00'	D = 4° 46' 28.7"	Ls = 240.00'	Ls = 200.00'	D = 7° 33' 31.7"
LT = 160.08'	L = 430.83'	LT = 160.08'	LT = 133.46'	L = 207.53'
ST = 80.08'	T = 217.76'	ST = 80.08'	ST = 66.78'	T = 104.42'
	R = 1,200.00'			R = 758.00'
	V = 60 MPH			V = 50 MPH
	e = 0.08			e = 0.08
	Lr = 240'			Lr = 200'

NAD 83

MATCHLINE -L- STA. 165+00, SEE SHEET 12

MATCHLINE -L- STA. 178+00, SEE SHEET 14

-Y8RPA- TS Sta. 11+99.14

-Y8RPA- POT Sta. 10+00.00 =
-L- POT Sta. 169+00.00, 47.00' LT
Δ = 3° 30' 00.0"

-L- +04.77
125.00' LT

-L- +69.01
125.00' RT

S 5° 58' 00.0" E

N 9° 28' 00.0" W

-BL- 41

-BL- 42

+83, IMPACT ATTENUATOR TYPE 350

+63, GUIDERAIL ANCHOR

+17, IMPACT ATTENUATOR TYPE 350 2GI FS

+37, GUIDERAIL ANCHOR

+88, CAT-1

+00, GRAU 350

18" RCP-III

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

-Y8RPD- ST Sta. 10+00.00 =
-L- POT Sta. 166+69.01, 47.00' RT

43
FERRALL N. SUMRELL, JR.
DB 1981 PG 635
MB 63 PG 144

53
SYDNEY P. BRITT
DB 546 PG 606

53
SYDNEY P. BRITT, ET UX
DB 1839 PG 347
MB 11 PG 159

-Y8RPD-

PIs Sta 11+60.08	PI Sta 15+40.15	PIs Sta 19+08.30	PIs Sta 22+01.68	PI Sta 24+79.19
Θs = 5° 43' 46.5"	Δ = 28° 05' 08.2" (LT)	Θs = 5° 43' 46.5"	Θs = 7° 33' 31.7"	Δ = 31° 06' 19.4" (RT)
Ls = 240.00'	D = 4° 46' 28.7"	Ls = 240.00'	Ls = 200.00'	D = 7° 33' 31.7"
LT = 160.08'	L = 588.22'	LT = 160.08'	LT = 133.46'	L = 411.51'
ST = 80.08'	T = 300.15'	ST = 80.08'	ST = 66.78'	T = 210.96'
	R = 1,200.00'			R = 758.00'
	V = 60 MPH			V = 50 MPH
	e = 0.08			e = 0.08
	Lr = 240'			Lr = 200'

SEE SHEET NOS. 83 & 84 FOR -L- PROFILE

REVISIONS

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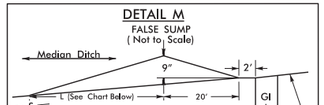
PROJECT REFERENCE NO.	SHEET NO.
R-2250	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

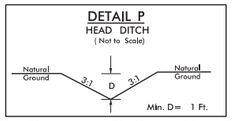
DETAIL M
FALSE SUMP
(Not to Scale)



S = Ditch Slope

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

DETAIL P
HEAD DITCH
(Not to Scale)



FROM STA. 185+71 -L- TO STA. 185+79 -L- LT

NAD 83

MATCHLINE -L- STA. 178+00, SEE SHEET 13

MATCHLINE -L- STA. 191+00, SEE SHEET 15

53
SYDNEY P. BRITT, ET UX
DB 1839 PG 347
MB 11 PG 159

54
HAYDEN STEVAN THOMPSON
MADGE GAY DEWS THOMPSON
DB 3025 PG 576

HEAD DITCH
SEE DETAIL 'P'
SLOPE=9.00%

24" RCP-III

18" RCP-III

2GI

FS

-BL- 43

-L-

N 9° 28' 00.0" W

INTERMEDIATE GUIDERAIL ANCHORS

CLASS 'B' RIP RAP
EST. 5 TONS
14 SY GEO-TEXTILE

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

SCRUB

SEE SHEET NOS. 84 & 85 FOR -L- PROFILE

REVISIONS

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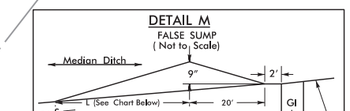
PROJECT REFERENCE NO.	SHEET NO.
R-2250	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
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N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

DETAIL M
FALSE SUMP
(Not to Scale)



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

-Y9- POT Sta. 17+00.00

54
HAYDEN STEVAN THOMPSON
MADGE GAY DEWS THOMPSON
DB 3025 PG 576

55
BOBBY J. TRIPP
DB 3167 PG 831

N 73°24'52" E
1395.00'

NAD 83

BEGIN CONSTRUCTION
-Y9- STA. 20+50.00

MATCHLINE -L- STA. 191+00, SEE SHEET 14

MATCHLINE -L- STA. 204+00, SEE SHEET 16

-BL- 44 | -L- | N 9° 28' 00.0" W | -BL- 45

-Y9- P/L 75.00' LT
-Y9- +20.00 75.00' LT
-Y9- P/L 60.00' LT
-Y9- +20.00 60.00' LT
-Y9- +60.00 60.00' LT
-L- +50.00 125.00' LT
-L- P/L 125.00' LT

RELIEF PIPE
NO INLET COMPUTATIONS

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

DRIVEWAY

N 9° 27' 42.0" W

-Y9-

SCRUB

SEE SHEET NOS. 85 & 86 FOR -L- PROFILE
SEE SHEET NO. 138 FOR -Y9- PROFILE

REVISIONS

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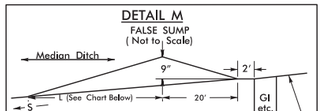
PROJECT REFERENCE NO.	SHEET NO.
R–2250	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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BARNHILL CONTRACTING COMPANY

DETAIL M
FALSE SUMP
(Not to Scale)



S = Ditch Slope ℄ Proposed Ditch

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

NAD 83

55
BOBBY J. TRIPP
DB 3167 PG 831

BOBBY TRIPP, ET UX
DB 1002 PG 463
DB 642 PG 343
MB 53 PG 3
56

–Y9– +70.00
60.00' LT &
90.00' LT

–Y9– +30.00
60.00' LT &
90.00' LT

–Y9– +75.00
60.00' LT &
90.00' LT

–Y9– +30.00
60.00' LT &
90.00' LT

MATCHLINE –L– STA. 204 + 00, SEE SHEET 15

MATCHLINE –L– STA. 217 + 00, SEE SHEET 17

N 9° 27' 42.0" W –Y9–

N 9° 28' 00.0" W –L–

–BL– 46

100' INTERMEDIATE GUIDERAIL ANCHORS

RELIEF PIPE NO INLET COMPUTATIONS

CLASS 'B' RIP RAP EST. 3 TONS 10 SY GEO–TEXTILE

18" RCP–III

2GI

SCRUB

54
HAYDEN STEVAN THOMPSON
MADGE GAY DEWS THOMPSON
DB 3025 PG 576

ROBERT ROUSE, ET UX
DB 89 PG 587

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NOS. 86 & 87 FOR –L– PROFILE
SEE SHEET NO. 138 FOR –Y9– PROFILE

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfi.tbl
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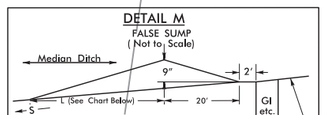
PROJECT REFERENCE NO.	SHEET NO.
R–2250	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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BARNHILL CONTRACTING COMPANY

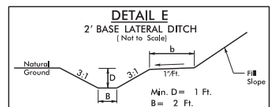
DETAIL M
FALSE SUMP
(Not to Scale)



S = Ditch Slope ℄ Proposed Ditch

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

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)



Min. D = 1 Ft.
B = 2 Ft.
b = 5 Ft.

FROM STA. 223+10 –L– TO STA. 224+10 –L– RT

56 BOBBY TRIPP, ET UX
DB 1002 PG 463
DB 642 PG 343
MB 53 PG 3

58 STEVEN W. STOX, JR.
DB 243 PG 561

60 JANET G. MINTERN ET VIR
DB 2712 PG 212

61 CAROLINA AGRIBUSINESS
FILE 60833

59 RICHARD McLAWHORN,III, ET AL
DB 1755 PG 802

NAD 83

MATCHLINE –L– STA. 217+00, SEE SHEET 16

MATCHLINE –L– STA. 230+00, SEE SHEET 18

–Y9– +70.00 60.00' LT & 90.00' LT
–Y9– +30.00 60.00' LT & 90.00' LT
–Y9– +59.00 60.00' LT & 90.00' LT
–Y9– +19.00 60.00' LT & 90.00' LT
–Y9– +80.00 60.00' LT & 90.00' LT
–Y9– +20.00 60.00' LT & 90.00' LT

1710 RELIEF PIPE NO INLET COMPUTATIONS
1711 CLASS 'B' RIP RAP EST. 3 TONS 10 SY GEO–TEXTILE
1712 RELIEF PIPE NO INLET COMPUTATIONS
1713 CLASS 'B' RIP RAP EST. 3 TONS 10 SY GEO–TEXTILE
1714 18" RCP–III
1715 CLASS 'B' RIP RAP EST. 5 TONS 14 SY GEO–TEXTILE
1716 2GI FS
1717 24" RCP–III
1718 CLASS 'B' RIP RAP EST. 5 TONS 14 SY GEO–TEXTILE
1719 24" RCP–III
1720 18" RCP–III
1721 RELIEF PIPE NO INLET COMPUTATIONS
1722 CLASS 'B' RIP RAP EST. 3 TONS 10 SY GEO–TEXTILE
1723 +71, CAT–1
1724 2GI
1725 RELIEF PIPE NO INLET COMPUTATIONS
1726 18" RCP–III
1727 CLASS 'B' RIP RAP EST. 5 TONS 14 SY FILTER FABRIC
1729 +65, GRAU 350

2' BASE LATERAL DITCH SEE DETAIL 'E'

–L– +90.00 125.00' RT
–L– +29.00 125.00' RT
–L– +17.00 196.00' RT
–L– +94.00 192.00' RT
TDE

N 9° 27' 42.0" W
N 9° 28' 00.0" W

–BL– 47
–BL– 48

+00 INTERMEDIATE GUIDERAIL ANCHORS

59 JGC HOLDINGS, LLC
DB 2963 PG 825

GENE H. ARTHUR
DB 349 PG 1

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NOS. 87 & 88 FOR –L– PROFILE
SEE SHEET NOS. 138 & 139 FOR –Y9– PROFILE

REVISIONS

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REVISIONS

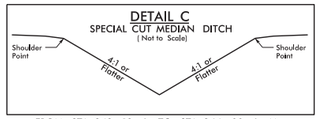
PROJECT REFERENCE NO.	SHEET NO.
R-2250	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

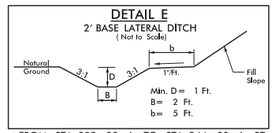
BARNHILL CONTRACTING COMPANY

DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)



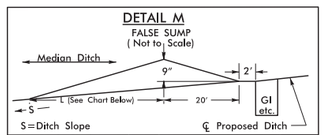
FROM STA. 243+13 –L– TO STA. 244+00 –L– M

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)



FROM STA. 238+29 –L– TO STA. 244+00 –L– RT

DETAIL M
FALSE SUMP
(Not to Scale)



S=Ditch Slope ℄ Proposed Ditch

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

–Y9–
PI Sta 63+13.54
Δ = 28° 15' 45.0" (LT)
D = 7° 09' 43.1"
L = 394.62'
T = 201.41'
R = 800.00'
V = 45 MPH
e = 0.04
Lr = 84'

NAD 83

61
CAROLINA AGRIBUSINESS ESTATE FILE NE/777

61
CAROLINA AGRIBUSINESS FILE 60833

–Y9– PT Sta. 65+06.74
–Y9– PC Sta. 61+12.12

MATCHLINE –L– STA. 230+00, SEE SHEET 17

MATCHLINE –L– STA. 243+00, SEE SHEET 19

MATCHLINE –Y9– STA. 66+50 SEE SHEET 19

–Y9– +70.00 60.00' LT & 90.00' LT
–Y9– +30.00 60.00' LT & 90.00' LT
–Y9– +12.12 60.00' LT
–Y9– +20.00 80.00' LT
–Y9– +11.00 60.00' LT
–Y9– +75.00 60.00' LT
–Y9– +06.74 60.00' LT
–Y9– +06.74 60.00' RT
–L– +09.13 125.00' LT
–L– +00.00 125.00' LT
–L– +30.00 125.00' RT & 133.00' RT
–L– +00.00 133.00' RT
–L– +00.00 125.00' RT
–L– +67.00 136.52' RT & 144.00' RT

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY FILTER FABRIC

CLASS 'B' RIP RAP
EST. 15 TONS
37 SY GEO–TEXTILE

CLASS 'B' RIP RAP
EST. 15 TONS
37 SY GEO–TEXTILE

2' BASE LATERAL DITCH
SEE DETAIL 'E'

–Y9– N 9° 27' 42.0" W
–L– N 9° 28' 00.0" W
–BL– 49

PDE

BEG. SBG +50
+44, CAT–1
BEG. SBG +77
+27, GRAU 350

1810 1811 1812 1813 1814 1815 1816 1817 1818 1819 1820 1821 1822 1823 1824

18" RCP III
24" RCP III
42" RCP III
8" RCP III
15"
2GI W/FG
2GI
FS
HW
PDE

55 60 65 230 235 240

SR 1119 DENNIS McLAWHORN RD 20' BST

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NOS. 88 & 89 FOR –L– PROFILE
SEE SHEET NO. 139 FOR –L– PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-2250	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

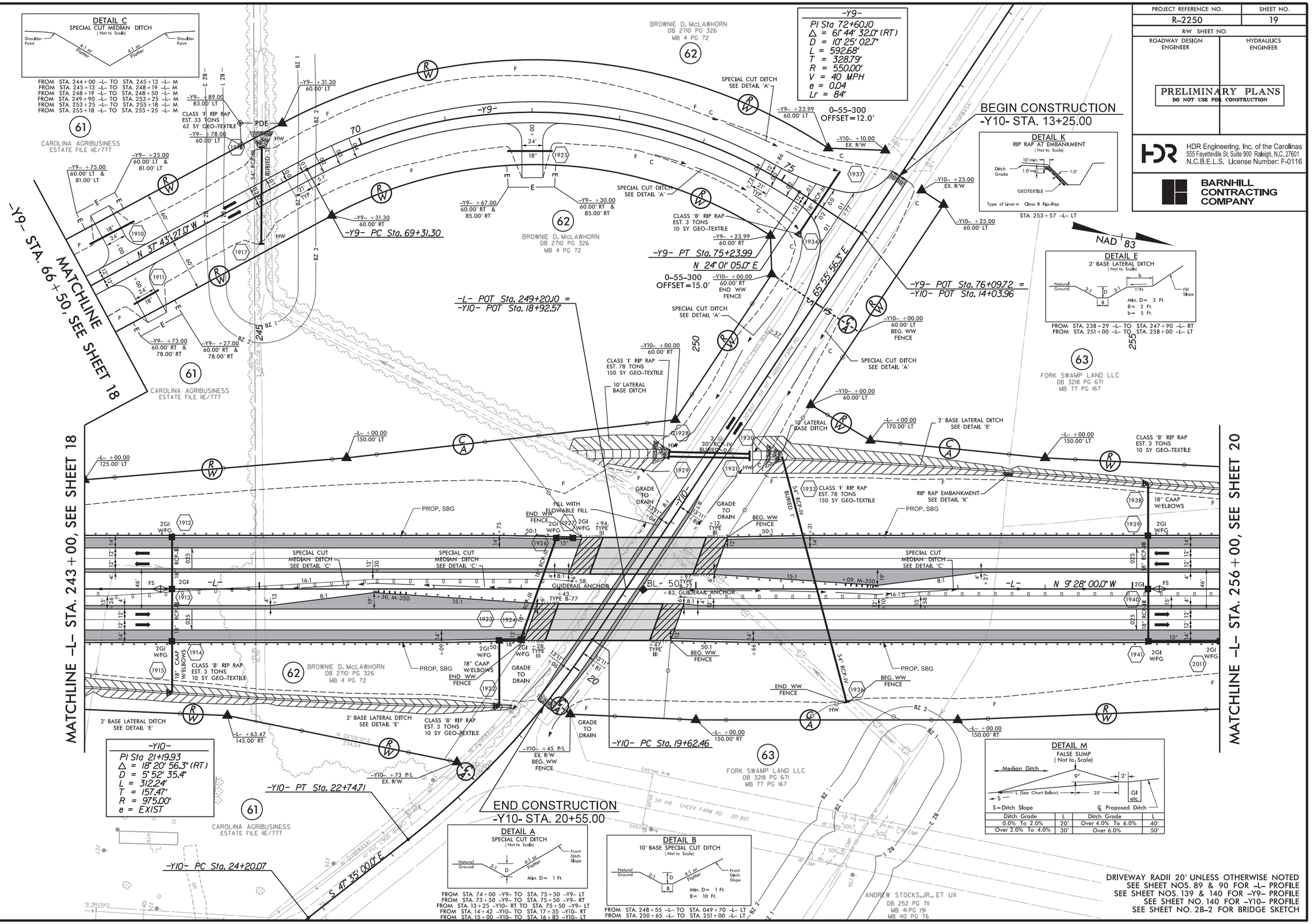
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

REVISIONS

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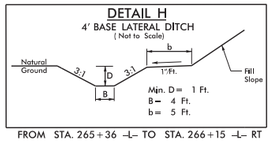
PROJECT REFERENCE NO.	SHEET NO.
R-2250	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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N.C.B.E.L.S. License Number: F-0116

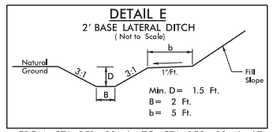
BARNHILL CONTRACTING COMPANY

DETAIL H
4' BASE LATERAL DITCH
(Not to Scale)



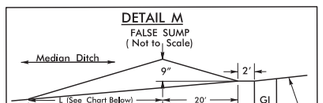
FROM STA. 265+36 -L- TO STA. 266+15 -L- RT

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)



FROM STA. 251+00 -L- TO STA. 258+00 -L- LT
FROM STA. 266+25 -L- TO STA. 271+80 -L- LT

DETAIL M
FALSE SUMP
(Not to Scale)

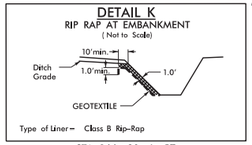


Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

-L-

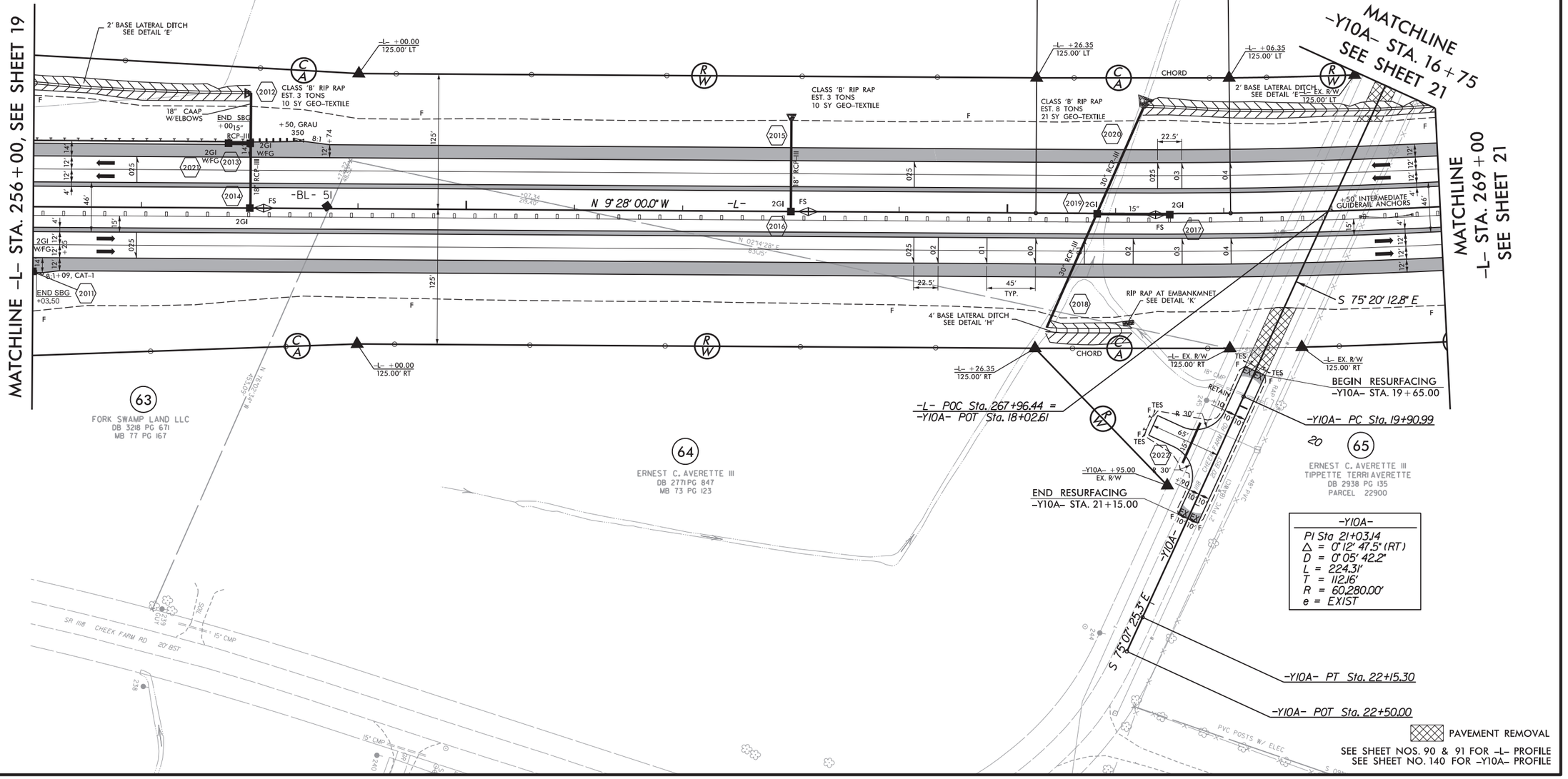
PIs Sta 266+46.36	PI Sta 279+22.22	PIs Sta 291+52.67
Θs = 1° 01' 16.0"	Δ = 27° 04' 28.0" (LT)	Θs = 1° 01' 16.0"
Ls = 180.00'	D = 1° 08' 04.5"	Ls = 180.00'
LT = 120.00'	L = 2,386.32'	LT = 120.00'
ST = 60.00'	T = 1,215.87'	ST = 60.00'
	R = 5,050.00'	
	V = 70 MPH	
	e = 0.04	
	Lr = 180'	

DETAIL K
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner- Class B Rip-Rap
STA. 266+90 -L- RT

NAD 83



SEE SHEET NOS. 90 & 91 FOR -L- PROFILE
SEE SHEET NO. 140 FOR -Y10A- PROFILE

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfi.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

-L-

PIs Sta 266+46.36	PI Sta 279+22.22	PIs Sta 291+52.67
Θs = 1° 01' 16.0"	Δ = 27° 04' 28.0" (LT)	Θs = 1° 01' 16.0"
Ls = 180.00'	D = 1° 08' 04.5"	Ls = 180.00'
LT = 120.00'	L = 2,386.32'	LT = 120.00'
ST = 60.00'	T = 1,215.87'	ST = 60.00'
	R = 5,050.00'	
	V = 70 MPH	
	e = 0.04	
	Lr = 180'	

-Y10A-

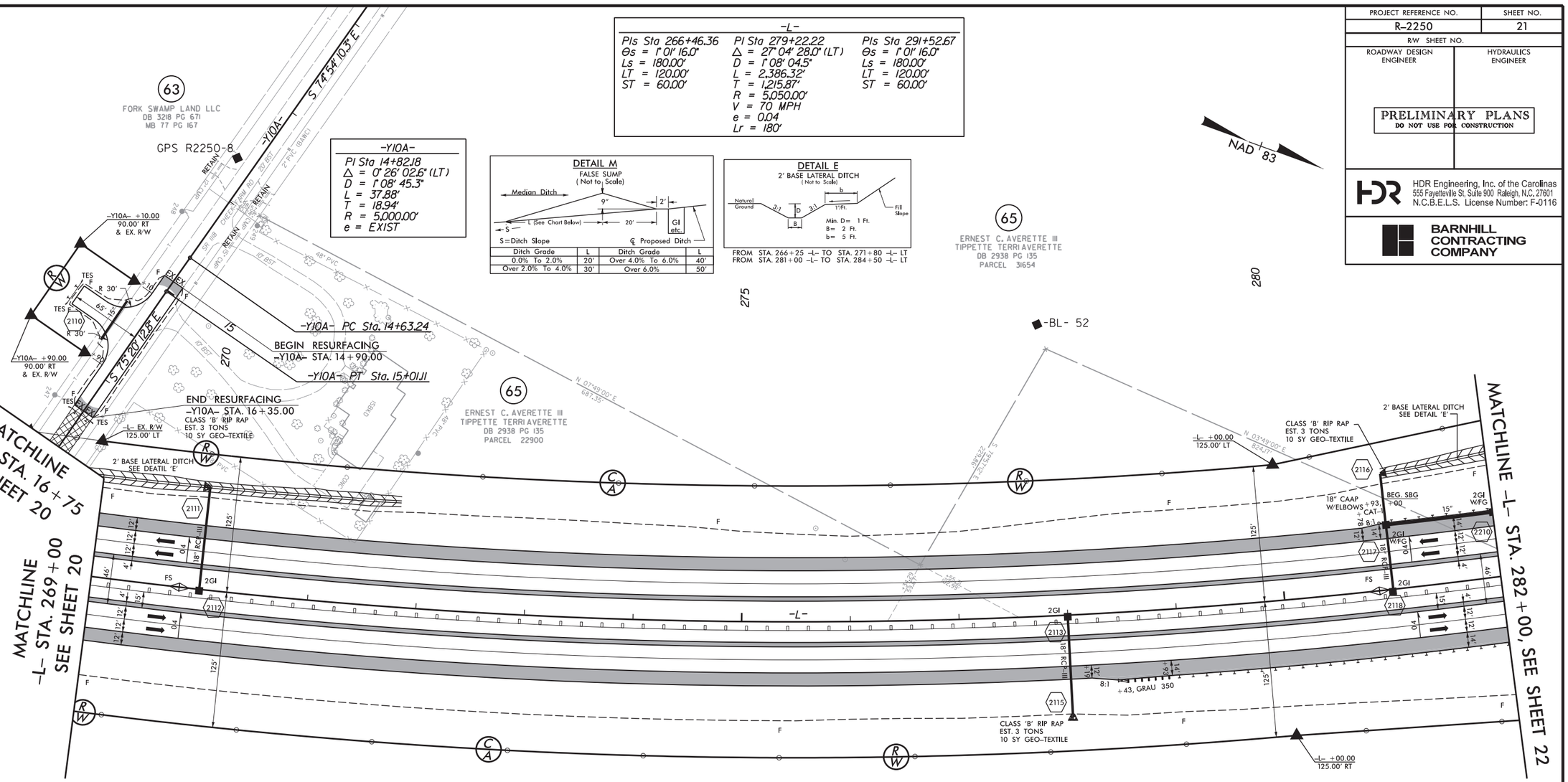
PI Sta 14+82.18
Δ = 0° 26' 02.6" (LT)
D = 1° 08' 45.3"
L = 37.88'
T = 18.94'
R = 5,000.00'
e = EXIST

DETAIL M
FALSE SUMP
(Not to Scale)

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

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)

FROM STA. 266+25 -L- TO STA. 271+80 -L- LT
FROM STA. 281+00 -L- TO STA. 284+50 -L- LT



PAVEMENT REMOVAL

SEE SHEET NO. 91 FOR -L- PROFILE
SEE SHEET NO. 140 FOR -Y10A- PROFILE

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: dwainwri
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DATE: 1/25/2016
TIME: 5:49:06 PM

PROJECT REFERENCE NO.	SHEET NO.
R–2250	22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

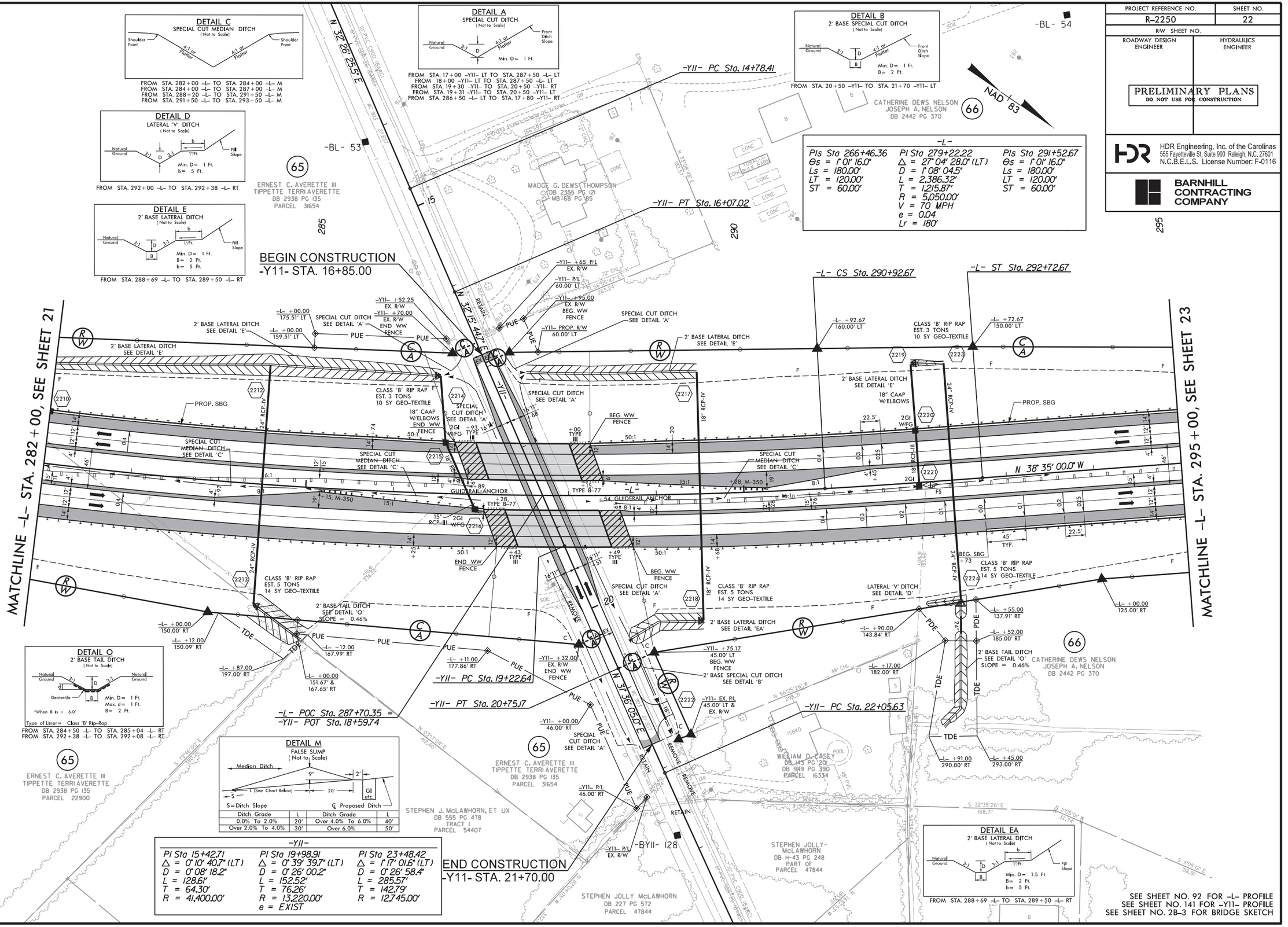
HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

295

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshdfi.tbl
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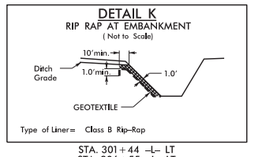
PROJECT REFERENCE NO.	SHEET NO.
R–2250	23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

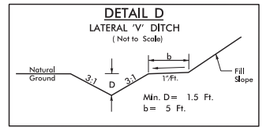
DETAIL K
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner= Class B Rip–Rap

STA. 301+44 –L– LT
STA. 306+55 –L– LT
STA. 305+55 –L– RT

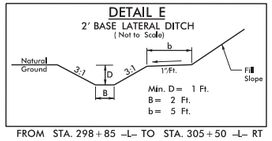
DETAIL D
LATERAL 'V' DITCH
(Not to Scale)



Min. D= 1.5 Ft.
b= 5 Ft.

FROM STA. 295+40 –L– TO STA. 298+85 –L– RT
FROM STA. 305+50 –L– TO STA. 310+25 –L– RT
FROM STA. 301+22 –L– TO STA. 311+50 –L– LT

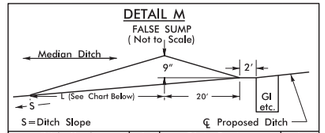
DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)



Min. D= 1 Ft.
B= 2 Ft.
b= 5 Ft.

FROM STA. 298+85 –L– TO STA. 305+50 –L– RT

DETAIL M
FALSE SUMP
(Not to Scale)



S=Ditch Slope ℄ Proposed Ditch

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

NAD 83

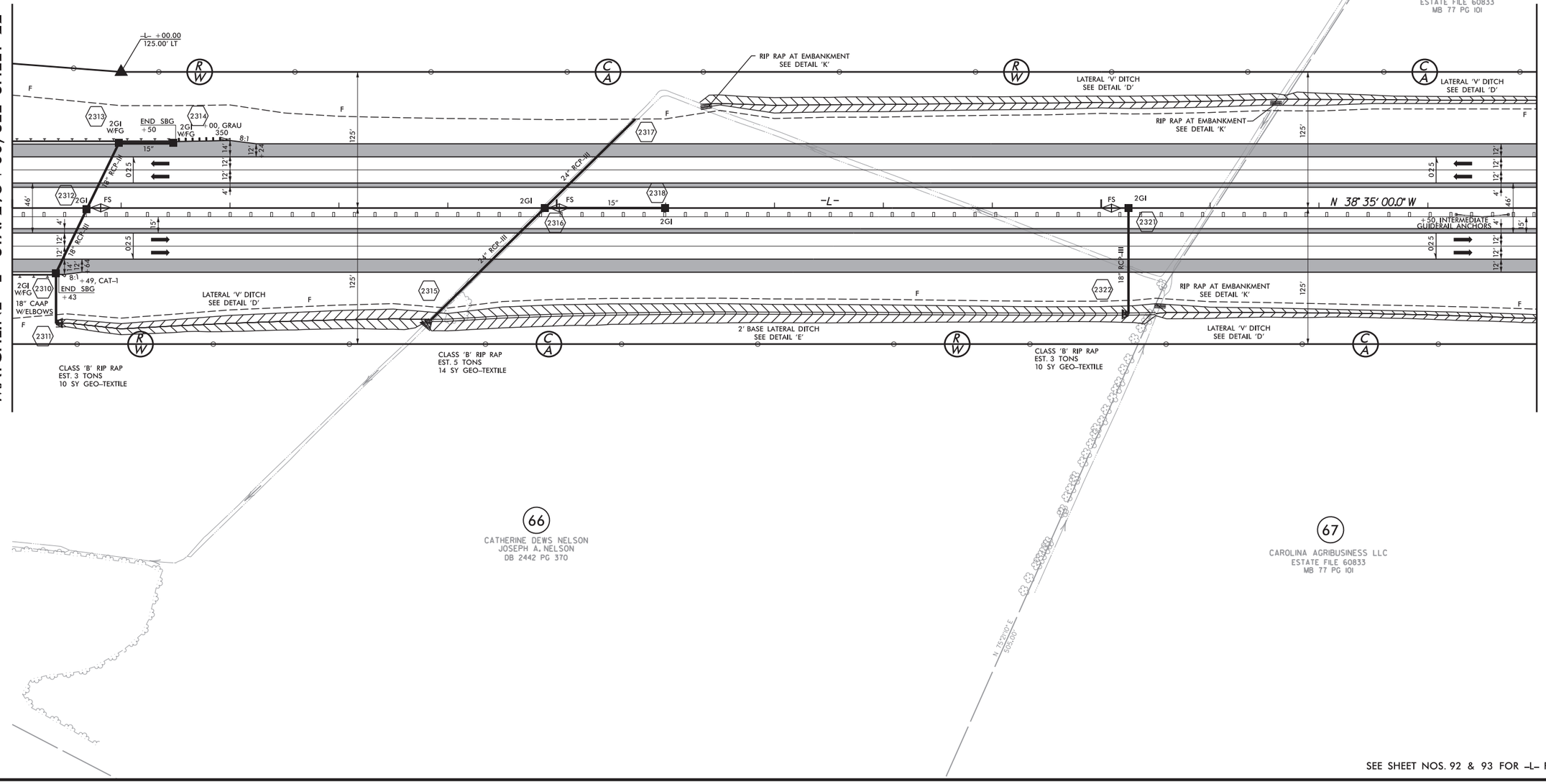
66
CATHERINE DEWS NELSON
JOSEPH A. NELSON
DB 2442 PG 370

67
CAROLINA AGRIBUSINESS LLC
ESTATE FILE 60833
MB 77 PG 101

295 300 305

MATCHLINE –L– STA. 295+00, SEE SHEET 22

MATCHLINE –L– STA. 309+00, SEE SHEET 24



SEE SHEET NOS. 92 & 93 FOR –L– PROFILE

REVISIONS

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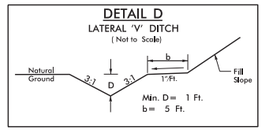
PROJECT REFERENCE NO.	SHEET NO.
R-2250	24
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

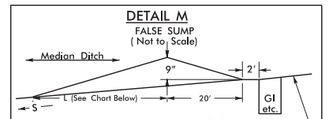
DETAIL D
LATERAL 'V' DITCH
(Not to Scale)



Min. D = 1 Ft.
b = 5 Ft.

FROM STA. 305+50 -L- TO STA. 310+25 -L- RT
FROM STA. 301+22 -L- TO STA. 311+50 -L- LT

DETAIL M
FALSE SUMP
(Not to Scale)



S=Ditch Slope ℄ Proposed Ditch

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

-BL- 56

NAD 83

310 315 320

67
CAROLINA AGRIBUSINESS LLC
ESTATE FILE 60833
MB 77 PG 101

68
JEAN S. SENN
DB 579 PG 50
MB 6 PG 63

MATCHLINE -L- STA. 309+00, SEE SHEET 23

MATCHLINE -L- STA. 323+00, SEE SHEET 25

LATERAL 'V' DITCH SEE DETAIL 'D'

CLASS 'B' RIP RAP EST. 5 TONS 14 SY GEO-TEXTILE

CLASS 'B' RIP RAP EST. 3 TONS 10 SY GEO-TEXTILE

-L- +13.71 125.00' LT

-L- +93.71 125.00' LT

-L- +13.71 125.00' RT

-L- +93.71 125.00' RT

CHORD

-L- TS Sta. 319+13.71

-L- SC Sta. 320+93.71

N 38° 35' 00.0" W

24" RCP-III

18" RCP-III

15" 2GI

-L-

Pls Sta 320+33.71	Pl Sta 341+15.31	Pls Sta 359+99.58
Θs = 1° 01' 16.0"	△ = 43° 38' 02.6" (RT)	Θs = 1° 01' 16.0"
Ls = 180.00'	D = 1° 08' 04.5"	Ls = 180.00'
LT = 120.00'	L = 3,845.87'	LT = 120.00'
ST = 60.00'	T = 2,021.60'	ST = 60.00'
	R = 5,050.00'	
	V = 70 MPH	
	e = 0.04	
	Lr = 180'	

JOHN KELLY EDWARDS
DB 3198 PG 645
MB 6 PG 63

SEE SHEET NOS. 93 & 94 FOR -L- PROFILE

REVISIONS

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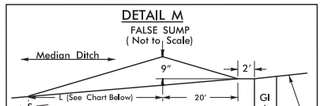
PROJECT REFERENCE NO.	SHEET NO.
R-2250	25
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

DETAIL M
FALSE SUMP
(Not to Scale)



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

-L-

PIs Sta 320+33.71	PI Sta 341+15.31	PIs Sta 359+99.58
Θs = 1° 01' 16.0"	Δ = 43° 38' 02.6" (RT)	Θs = 1° 01' 16.0"
Ls = 180.00'	D = 1° 08' 04.5"	Ls = 180.00'
LT = 120.00'	L = 3,845.87'	LT = 120.00'
ST = 60.00'	T = 2,021.60'	ST = 60.00'
	R = 5,050.00'	
	V = 70 MPH	
	e = 0.04	
	Lr = 180'	

NAD 83

68
JEAN S. SENN
DB 579 PG 50
MB 6 PG 63

69
CHARLES V. WILKERSON, JR.
DB 2704 PG 176
MB 003 PG 001

70
CATHERINE DEWS NELSON
DB 2442 PG 370
MB 3 PG 1

71
PAUL E. CASTELLOE, ET AL
DB S-20 PG 344
WILL BOOK 89-E PG 142
MB 3 PG 1

325 330 335

-BL- 57 -BL- 58

CLASS 'B' RIP RAP
EST. 5 TONS
14 SY GEO-TEXTILE

CLASS 'B' RIP RAP
EST. 8 TONS
21 SY GEO-TEXTILE

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

24" RCP-III
30" RCP-III
36" RCP-III

2510 2512 2513 2514 2515 2516 2517 2518

+50 INTERMEDIATE GUIDERAIL ANCHORS

2GI FS

-L-

MATCHLINE -L- STA. 323+00, SEE SHEET 24

MATCHLINE -L- STA. 337+00, SEE SHEET 26

SEE SHEET NOS. 94 & 95 FOR -L- PROFILE

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

-L-

PIs Sta 320+33.71	PI Sta 341+15.31	PIs Sta 359+99.58
Θs = 1° 01' 16.0"	Δ = 43° 38' 02.6" (RT)	Θs = 1° 01' 16.0"
Ls = 180.00'	D = 1° 08' 04.5"	Ls = 180.00'
LT = 120.00'	L = 3,845.87'	LT = 120.00'
ST = 60.00'	T = 2,021.60'	ST = 60.00'
	R = 5,050.00'	
	V = 70 MPH	
	e = 0.04	
	Lr = 180'	

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground, 3:1, D, 4:1 or Flatter, Front Ditch Slope
Min. D= 1 Ft.

FROM STA. 10+85 -Y12- TO STA. 12+00 -Y12- RT
FROM STA. 11+00 -Y12- TO STA. 12+00 -Y12- LT
FROM STA. 13+31 -Y12- TO STA. 14+38 -Y12- LT
FROM STA. 13+32 -Y12- TO STA. 14+29 -Y12- RT

DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)

Shoulder Point, 4:1 or Flatter, 4:1 or Flatter, Shoulder Point

FROM STA. 342+50 -L- TO STA. 342+75 -L- M
FROM STA. 342+75 -L- TO STA. 344+50 -L- M
FROM STA. 344+50 -L- TO STA. 347+80 -L- M
FROM STA. 348+65 -L- TO STA. 352+00 -L- M
FROM STA. 352+00 -L- TO STA. 354+00 -L- M

DETAIL M
FALSE SUMP
(Not to Scale)

Median Ditch, 9", 2', L (See Chart Below), S, 20', GI etc.

S=Ditch Slope ℄ Proposed Ditch

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

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)

Natural Ground, 3:1, D, 3:1, 1'-Ft., b, B, Fill Slope
Min. D= 1 Ft.
B= 2 Ft.
b= 5 Ft.

FROM STA. 339+93 -L- TO STA. 347+40 -L- RT

NAD 83

-Y12- POT Sta. 9+00.00

BEGIN CONSTRUCTION
-Y12- STA. 11+00.00

END CONSTRUCTION
-Y12- STA. 14+18.00

-L- POC Sta. 348+22.38 =
-Y12- POT Sta. 12+59.00

-Y12- PC Sta. 13+97.58

-Y12- PT Sta. 16+80.54

MATCHLINE -L- STA. 337+00, SEE SHEET 25

MATCHLINE -L- STA. 351+00, SEE SHEET 27

70
CATHERINE D. NELSON, ET VIR
DB 937 PG 667
PARCEL 60472

71
PAUL E. CASTELLOE, ET AL
DB S-20 PG 344
WILL BOOK 89-E PG 142
MB 3 PG 1

72
CHARLES V. WILKERSON, JR.
DB 2704 PG 176
MB 003 PG 001

73
JOSEPH A. NELSON, ET UX
CATHERINE NELSON
DB 885 PG 391
MB 603 PG 604

73
JOSEPH A. NELSON, ET UX
CATHERINE NELSON
DB 611 PG 001

ADAM B. BEAMAN
CASEY K. BEAMAN
DB 2871PG 864
MB 611 PG 001

74
ADAM B. BEAMAN
CASEY K. BEAMAN
DB 2871PG 864
MB 611 PG 001

72
CHARLES V. WILKERSON, JR.
DB 2704 PG 176
MB 003 PG 001

-L- +00.00
125.00' LT

-L- +00.00
150.00' LT

-L- +75.00
165.00' LT

-L- +80.00
125.00' RT

-L- +64.00
167.00' RT

-Y12- +60.00
EX. R/W
END WW FENCE

-Y12- +90.00
EX. R/W

-Y12- +90.00
EX. R/W
BEG. WW FENCE

-L- +40.00
EX. P/L

-Y12- +49.40 P/L
EX. R/W
BEG. WW FENCE

-Y12- +57.00
EX. R/W
END WW FENCE

-Y12- +00.00
EX. R/W

4' BASE LATERAL DITCH
SEE DETAIL 'HA'

4' BASE LATERAL DITCH
SEE DETAIL 'H'

4' BASE TAIL DITCH
SEE DETAIL 'N'
SLOPE = 0.49%

SPECIAL CUT MEDIAN DITCH
SEE DETAIL 'C'

2' BASE LATERAL DITCH
SEE DETAIL 'E'

2' LATERAL BASE DITCH
SEE DETAIL 'E'

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

CLASS 'B' RIP RAP
EST. 18 TONS
47 SY GEO-TEXTILE

CLASS 'B' RIP RAP
EST. 11 TONS
24 SY GEO-TEXTILE

GRADE TO DRAIN

END WW FENCE

BEG. WW FENCE

END SBG. +03

BEG. SBG +41

BEG. SBG +91, GRAU 350

PROP. SBG

GUIDERAIL ANCHOR

TYPE B-77

2GI W/FG

18" CAAP W/ELBOWS

42" RCP-IV

30" RCP-IV

18" RCP-III

6' PVC SUB 24" HDPE

15" RCP

RETAIN

PUE

HW

EX. EX.

-BL- 59

-BL- 60

-L-

-Y12-

2611 2612 2613 2614 2615 2616 2617 2618 2619 2620 2622 2623 2624

DETAIL HA
4' BASE LATERAL DITCH
(Not to Scale)

Natural Ground, 3:1, D, 3:1, 1'-Ft., b, B, Fill Slope
Min. D= 1.5 Ft.
B= 4 Ft.
b= 5 Ft.

FROM STA. 347+40 -L- LT TO 10+85 -Y12- RT
FROM STA. 347+40 -L- RT TO STA. 14+29 -Y12- RT

DETAIL N
4' BASE TAIL DITCH
(Not to Scale)

Natural Ground, 3:1, D, d, 3:1, Natural Ground, Geotextile, B
Min. D= 1 Ft.
Max. d= 1 Ft.
B= 4 Ft.
*When B is < 6.0'
Type of Liner= Class 'B' Rip-Rap

FROM STA. 349+04 -L- TO STA. 349+04 -L- RT

DETAIL H
4' BASE LATERAL DITCH
(Not to Scale)

Natural Ground, 3:1, D, 3:1, 1'-Ft., b, B, Fill Slope
Min. D= 1 Ft.
B= 4 Ft.
b= 5 Ft.

FROM STA. 11+00 -Y12- LT TO STA. 349+04 -L- LT

-Y12-
PI Sta 15+39.06
Δ = 0° 49' 59.9" (LT)
D = 0° 17' 40.2"
L = 282.96'
T = 141.48'
R = 19,455.00'
e = EXIST

SEE SHEET NOS. 95 & 96 FOR -L- PROFILE
SEE SHEET NO. 141 FOR -Y12- PROFILE
SEE SHEET NO. 2B-3 FOR BRIDGE SKETCH

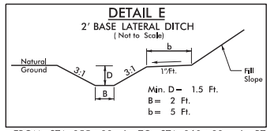
REVISIONS

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DATE: 1/25/2016
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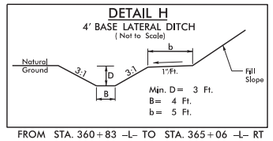
REVISIONS

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)



FROM STA. 355+33 -L- TO STA. 360+83 -L- RT

DETAIL H
4' BASE LATERAL DITCH
(Not to Scale)



FROM STA. 360+83 -L- TO STA. 365+06 -L- RT

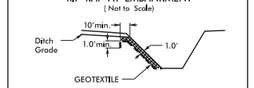
DETAIL M
FALSE SUMP
(Not to Scale)



S=Ditch Slope ℄ Proposed Ditch

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

DETAIL K
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner= Class B Rip-Rap

STA. 361+30 -L- RT

-L-		
PIs Sta 320+33.71	PI Sta 341+15.31	PIs Sta 359+99.58
Θs = 1° 01' 16.0"	△ = 43° 38' 02.6" (RT)	Θs = 1° 01' 16.0"
Ls = 180.00'	D = 1° 08' 04.5"	Ls = 180.00'
LT = 120.00'	L = 3,845.87'	LT = 120.00'
ST = 60.00'	T = 2,021.60'	ST = 60.00'
	R = 5,050.00'	
	V = 70 MPH	
	e = 0.04	
	Lr = 180'	

NAD 83

PROJECT REFERENCE NO.	SHEET NO.
R-2250	27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

355

360

MATCHLINE -L- STA. 351+00, SEE SHEET 26

MATCHLINE -L- STA. 364+00, SEE SHEET 28

-L- +00.00
150.00' LT

-L- +00.00
125.00' LT

-L- +39.58
125.00' LT

CHORD

-L- +19.58
125.00' LT

+04, GRAU 350
8:1

SPECIAL CUT
MEDIAN DITCH
SEE DETAIL 'C'

-L- ◆BL- 61

2GI W/FG (2702)

18" RCP-III

2GI W/FG

18" CAP

8:1
+41, CAT-1
BEG. SBG
+35

2704

2705

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

2' BASE LATERAL DITCH
SEE DETAIL 'E'

2706

2707

2708

N 7° 05' 34.6" E

45' TYP.

22.5'

125'

RIP RAP AT EMBANKMENT
SEE DETAIL 'K'

4' BASE LATERAL DITCH
SEE DETAIL 'H'

-L- +39.58
EX. P/L

-L- +19.58
140.00' RT

-L- CS Sta. 359+39.58

-L- ST Sta. 361+19.58

74
ADAM B. BEAMAN
CASEY K. BEAMAN
DB 2871 PG 864
MB 611 PG 001

72
CHARLES V. WILKERSON, JR.
DB 2704 PG 176
MB 003 PG 001

75
CARL W. BLACKWOOD
& JOHN B. LEWIS, JR.
DB N52 PG 636
MB 13 PG 100

SEE SHEET NOS. 96 & 97 FOR -L- PROFILE

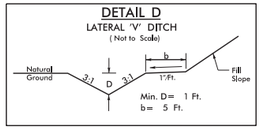
PROJECT REFERENCE NO.	SHEET NO.
R–2250	28
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

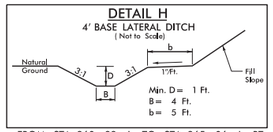
BARNHILL CONTRACTING COMPANY

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



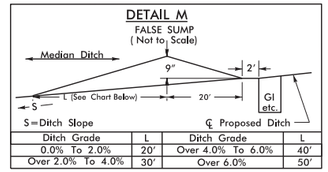
FROM STA. 365+06 –L– TO STA. 366+92 –L– RT

DETAIL H
4' BASE LATERAL DITCH
(Not to Scale)



FROM STA. 360+83 –L– TO STA. 365+06 –L– RT

DETAIL M
FALSE SUMP
(Not to Scale)



S=Ditch Slope

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

NAD 83

74
ADAM B. BEAMAN
CASEY K. BEAMAN
DB 2871 PG 864
MB 6H PG 001

75
CARL W. BLACKWOOD
& JOHN B. LEWIS, JR.
DB N52 PG 636
MB 13 PG 100

77
KEITH E. WAINRIGHT
SANDRA M. WAINRIGHT
DB 335 PG 609
MB 2 PG 99

365 370 375

MATCHLINE –L– STA. 364+00, SEE SHEET 27

MATCHLINE –L– STA. 377+00, SEE SHEET 29

CLASS 'I' RIP RAP
EST. 20 TONS
39 SY FILTER FABRIC

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO–TEXTILE

CLASS 'B' RIP RAP
EST. 8 TONS
21 SY GEO–TEXTILE

+00 INTERMEDIATE GUIDERAIL ANCHORS

–BL– 62 –L– –BL– 63

N 7°05' 34.6" E

LATERAL 'V' DITCH
SEE DETAIL 'D'

4' BASE LATERAL DITCH
SEE DETAIL 'H'

–L– +65.00
125.00' RT

–L– +65.00
140.00' RT

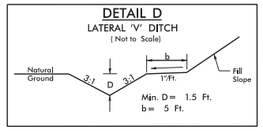
SEE SHEET NOS. 97 & 98 FOR –L– PROFILE

REVISIONS

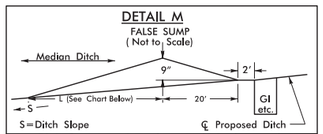
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REVISIONS



FROM STA. 378+70 –L– TO STA. 380+20 –L– RT



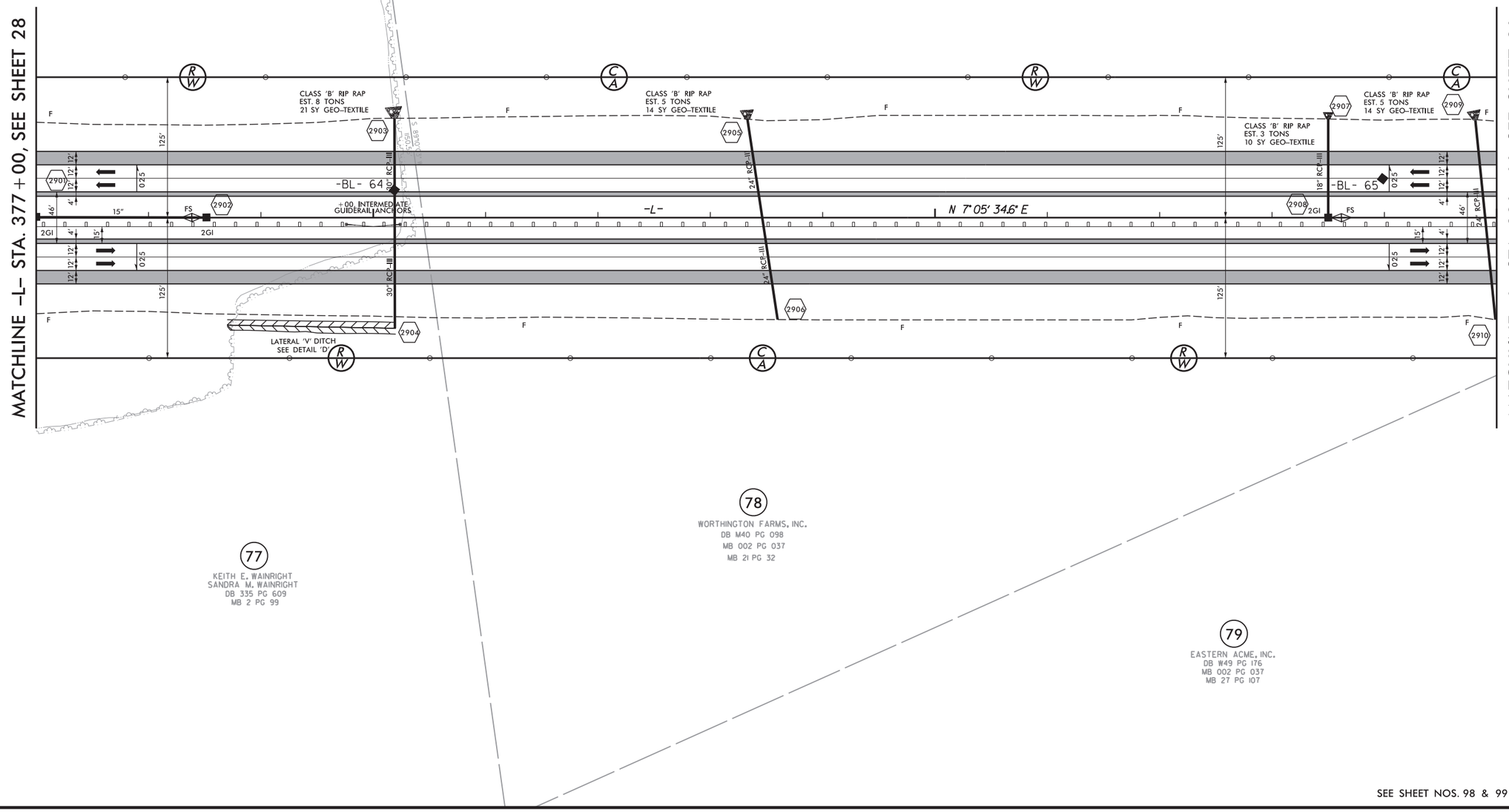
Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

PROJECT REFERENCE NO.	SHEET NO.
R–2250	29
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY



SEE SHEET NOS. 98 & 99 FOR –L– PROFILE

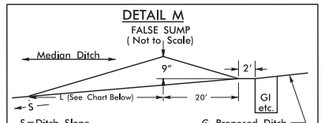
PROJECT REFERENCE NO.	SHEET NO.
R-2250	30
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

DETAIL M
FALSE SUMP
(Not to Scale)



S=Ditch Slope ℄ Proposed Ditch

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

-Y14RPB-

PIs Sta 11+60.08	PI Sta 15+22.93	PIs Sta 18+75.80	PIs Sta 21+69.17	PI Sta 24+43.16
Θs = 5° 43' 46.5"	Δ = 26° 32' 01.2" (LT)	Θs = 5° 43' 46.5"	Θs = 7° 33' 31.7"	Δ = 30° 36' 37.3" (RT)
Ls = 240.00'	D = 4° 46' 28.7"	Ls = 240.00'	Ls = 200.00'	D = 7° 33' 31.7"
LT = 160.08'	L = 555.72'	LT = 160.08'	LT = 133.46'	L = 404.96'
ST = 80.08'	T = 282.93'	ST = 80.08'	ST = 66.78'	T = 207.44'
	R = 1,200.00'			R = 758.00'
	V = 60 MPH			V = 50 MPH
	e = 0.08			e = 0.08
	Lr = 240'			Ls = 200'

NAD 83

78
WORTHINGTON FARMS, INC.
DB M40 PG 098
MB 002 PG 037
MB 21 PG 32

79
EASTERN ACME, INC.
DB W49 PG 176
MB 002 PG 037
MB 27 PG 107

390 395 400

MATCHLINE -L- STA. 390+00, SEE SHEET 29

MATCHLINE -L- STA. 403+00, SEE SHEET 31

-Y14RPB- ST Sta. 10+00.00 =
-L- POT Sta. 400+55.71, 47.00' LT

-Y14RPB- SC Sta. 12+40.00

-L- +55.71
125.00' LT

-Y14RPB- +40.00
90.00' LT

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

-BL- 66

+83, IMPACT ATTENUATOR TYPE 350

+17, IMPACT ATTENUATOR TYPE 350

+37, GUIDERAIL ANCHOR

+63, GUIDERAIL ANCHOR

N 7° 05' 34.6" E

N 10° 05' 34.6" E

+00, GRAU 350

+13, CAT-1

-L- +95.91
125.00' RT

-Y14RPC- POT Sta. 10+00.00 =
-L- POT Sta. 398+00.00, 47.00' RT
Δ = 3° 00' 00.0"

-Y14RPC- +87.79
90.00' RT

-Y14RPC- TS Sta. 12+47.79

-Y14RPC- SC Sta. 14+87.79

-Y14RPC-

PIs Sta 14+07.87	PI Sta 17+18.60	PIs Sta 20+23.92	PIs Sta 23+17.30	PI Sta 25+07.28
Θs = 5° 43' 46.5"	Δ = 21° 46' 29.8" (RT)	Θs = 5° 43' 46.5"	Θs = 7° 33' 31.7"	Δ = 18° 29' 56.3" (LT)
Ls = 240.00'	D = 4° 46' 28.7"	Ls = 240.00'	Ls = 200.00'	D = 7° 33' 31.7"
LT = 160.08'	L = 456.05'	LT = 160.08'	LT = 133.46'	L = 244.73'
ST = 80.08'	T = 230.81'	ST = 80.08'	ST = 66.78'	T = 123.44'
	R = 1,200.00'			R = 758.00'
	V = 60 MPH			V = 50 MPH
	e = 0.08			e = 0.08
	Lr = 240'			Ls = 200'

SEE SHEET NOS. 99 & 100 FOR -L- PROFILE
SEE SHEET NO. 145 FOR -Y14RPB- PROFILE
SEE SHEET NO. 146 FOR -Y14RPC- PROFILE

REVISIONS

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REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2250	31
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
500 Eastman St. Suite 900 Raleigh, NC 27560
N.C.B.E.L.S. License Number: P-0116

BARNHILL CONTRACTING COMPANY

NAD 83

MATCHLINE -Y14- STA. 21+50, SEE SHEET 56

MATCHLINE -L- STA. 403+00, SEE SHEET 30

MATCHLINE -L- STA. 428+00, SEE SHEET 32

MATCHLINE -SR2- STA. 12+00 SEE SHEET 58

MATCHLINE -Y14- STA. 37+00, SEE SHEET 57

A **B** **C** **D**

-Y14RPB-
PI Sta 11+60.08	PI Sta 15+22.93	PI Sta 18+75.80	PI Sta 21+69.17	PI Sta 24+43.16
Θs = 5°43'46.5"	Δ = 26°32'01.2" (LT)	Θs = 5°43'46.5"	Θs = 7°33'31.7"	Δ = 32°36'37.3" (RT)
Ls = 240.00'	D = 4°46'28.7"	Ls = 240.00'	Ls = 200.00'	D = 7°33'31.7"
LT = 160.08'	L = 555.72'	LT = 160.08'	LT = 133.46'	L = 404.96'
ST = 80.08'	T = 282.93'	ST = 80.08'	ST = 66.78'	T = 207.44'
	R = 1,200.00'			R = 758.00'
	V = 60 MPH			V = 50 MPH
	e = 0.08			e = 0.08
	Lr = 240'			Ls = 200'

-Y14RPC-
PI Sta 14+07.87	PI Sta 17+18.60	PI Sta 20+23.92	PI Sta 23+17.30	PI Sta 25+01.28
Θs = 5°43'46.5"	Δ = 21°46'29.8" (RT)	Θs = 5°43'46.5"	Θs = 7°33'31.7"	Δ = 18°29'56.3" (LT)
Ls = 240.00'	D = 4°46'28.7"	Ls = 240.00'	Ls = 200.00'	D = 7°33'31.7"
LT = 160.08'	L = 456.05'	LT = 160.08'	LT = 133.46'	L = 244.73'
ST = 80.08'	T = 230.84'	ST = 80.08'	ST = 66.78'	T = 123.44'
	R = 1,200.00'			R = 758.00'
	V = 60 MPH			V = 50 MPH
	e = 0.08			e = 0.08
	Lr = 240'			Ls = 200'

-Y14-
PI Sta 19+63.13
Δ = 0°58'42.2" (LT)
D = 0°14'19.4"
L = 409.88'
T = 204.95'
R = 24,000.00'
V = > 60 MPH
e = NC

-Y14RPA-
PI Sta 1+54.16	PI Sta 15+29.47	PI Sta 18+88.16	PI Sta 21+81.54	PI Sta 23+71.34
Θs = 17°27'13.3"	Δ = 27°07'26.9" (RT)	Θs = 5°43'46.5"	Θs = 7°33'31.7"	Δ = 18°28'18.5" (LT)
Ds = 5°43'46.5"	D = 4°46'28.7"	Ls = 240.00'	Ls = 200.00'	D = 7°33'31.7"
Ls = 240.00'	L = 568.09'	LT = 160.08'	LT = 133.46'	L = 244.37'
LT = 154.16'	T = 289.47'	ST = 80.08'	ST = 66.78'	T = 123.26'
ST = 86.04'	R = 1,200.00'			R = 758.00'
	V = 60 MPH			V = 50 MPH
	e = 0.08			e = 0.08
	Lr = 240'			Lr = 200'

-L-
PI Sta 449+55.88
Δ = 17°57'09.0" (LT)
D = 0°22'55.1"
L = 4,699.95'
T = 2,369.39'
R = 15,000.00'
V = 70 MPH
e = NC

-Y14RPD-
PI Sta 11+60.08	PI Sta 15+03.01	PI Sta 18+37.90	PI Sta 21+31.28	PI Sta 24+07.10
Θs = 5°43'46.5"	Δ = 24°43'27.5" (LT)	Θs = 5°43'46.5"	Θs = 7°33'31.7"	Δ = 30°52'09.5" (RT)
Ls = 240.00'	D = 4°46'28.7"	Ls = 240.00'	Ls = 200.00'	D = 7°33'31.7"
LT = 160.08'	L = 517.82'	LT = 160.08'	LT = 133.46'	L = 408.38'
ST = 80.08'	T = 263.01'	ST = 80.08'	ST = 66.78'	T = 209.28'
	R = 1,200.00'			R = 758.00'
	V = 60 MPH			V = 50 MPH
	e = 0.08			e = 0.08
	Lr = 240'			Lr = 200'

AADT YEAR 2014 2040 (VOLUME IN 100s)
FORLINES RD (-Y14-)
BY-PASS (-L-) 12/20, 2/3, 2/10, 161/281, 4/4, 40/56, 197/340, 22/27 BY-PASS (-L-)
FORLINES RD (-Y14-)

SEE SHEET NOS. 100 THRU 102 FOR -L- PROFILE
SEE SHEET NO. 142 FOR -Y14- PROFILE
SEE SHEET NO. 144 FOR -Y14RPA- PROFILE
SEE SHEET NO. 145 FOR -Y14RPB- PROFILE
SEE SHEET NO. 146 FOR -Y14RPC- PROFILE
SEE SHEET NO. 147 FOR -Y14RPD- PROFILE
SEE SHEET NO. 28-A FOR BRIDGE SKETCH

GRAPHIC SCALE
50 25 0 50 100
PLANS

LOCATION:
TIP NO.: COUNTY:
DESIGNED BY:
CHECKED BY: DATE:

PLOT DRIVEN: NCDOT.ctb,color-eng-100.ctb PENTABLES: NCDOT.pen,ptb,ctb
USER: dwarner DATE: 12/5/2016 TIME: 5:03:25 PM
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	32
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

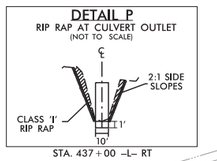
HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

-Y14RPA-

PIs Sta 11+54.16	PI Sta 15+29.47	PIs Sta 18+88.16	PIs Sta 21+81.54	PI Sta 23+71.34
Θs = 0° 27' 33.3"	Δ = 27° 07' 26.9" (RT)	Θs = 5° 43' 46.5"	Θs = 7° 33' 31.7"	Δ = 18° 28' 18.5" (LT)
Θs = 5° 43' 48.5"	D = 4° 46' 28.7"	Ls = 240.00'	Ls = 200.00'	D = 7° 33' 31.7"
Ls = 240.00'	L = 568.09'	LT = 160.08'	LT = 133.46'	L = 244.37'
LT = 154.16'	T = 289.47'	ST = 80.08'	ST = 66.78'	T = 123.26'
ST = 86.04'	R = 1,200.00'			R = 758.00'
	V = 60 MPH			V = 50 MPH
	e = 0.08			e = 0.08
	Lr = 240'			Lr = 200'

DETAIL P
RIP RAP AT CULVERT OUTLET
(NOT TO SCALE)



STA. 437+00 -L- RT

NAD 83

MATCHLINE -L- STA. 428+00, SEE SHEET 31

MATCHLINE -L- STA. 439+00, SEE SHEET 33

81
JEANNETTE DAVIS TRUSTEES
DB 1234 PG 149

88
PITT COUNTY FARMS LLC
DB 2849 PG 32
MB 2 PG 37

89
ROBERT M. SMITH, ET UX
DB K44 PG 019
MB 24 PG 87

90
EDWIN CARL CRAWFORD JR.
DB 804 PG 774
MB 64 PG 15

-Y14RPA- SC Sta. 12+40.00

-Y14RPA- ST Sta. 10+00.00 =
-L- POC Sta. 433+28.99, 47.00' LT

-Y14RPA- +40.00
90.00' RT

-L- +80.00
250.00' LT

-L- +55.00
255.00' LT

-L- +28.99
125.00' LT

-L- +40.00
125.00' LT

-L- +39.00
125.00' LT

-BL- 69

CLASS 'B' RIP RAP
EST. 15 TONS
37 SY FILTER FABRIC

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

END WW FENCE

BEG. WW FENCE

RETAIN 24" CMP

RETAIN 18" CMP

10'x7' RCBC BURIED 1'

+00 INTERMEDIATE GUIDERAIL ANCHORS

+00, GRAU 350

+38, CAT-1

+50, CAT-1

BACKFILL CULVERT W/ NATIVE MATERIAL TO NATURAL CHANNEL BED ELEVATION

-L- +20.00
125.00' RT

-L- +27.82
125.00' RT

-Y14RPD- +40.00
90.00' LT

-L- +75.00
125.00' RT

-L- +70.00
125.00' RT
& 145.00' RT

-L- +30.00
125.00' RT
& 145.00' RT

-L- +13.00
144.98' RT

-L- +06.00
220.00' RT

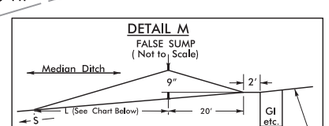
-L- +45.00
220.00' RT

CLASS 'I' RIP RAP
EST. 67 TONS
95 SY GEO-TEXTILE
SEE DETAIL 'P'

-Y14RPD- SC Sta. 12+40.00

-Y14RPD- ST Sta. 10+00.00 =
-L- POC Sta. 431+27.82, 47.00' RT

DETAIL M
FALSE SUMP
(Not to Scale)



S=Ditch Slope ℄ Proposed Ditch

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

-Y14RPD-

PIs Sta 11+60.08	PI Sta 15+03.01	PIs Sta 18+37.90	PIs Sta 21+31.28	PI Sta 24+07.10
Θs = 5° 43' 46.5"	Δ = 24° 43' 27.5" (LT)	Θs = 5° 43' 46.5"	Θs = 7° 33' 31.7"	Δ = 30° 52' 07.5" (RT)
Ls = 240.00'	D = 4° 46' 28.7"	Ls = 240.00'	Ls = 200.00'	D = 7° 33' 31.7"
LT = 160.08'	L = 517.82'	LT = 160.08'	LT = 133.46'	L = 408.38'
ST = 80.08'	T = 263.01'	ST = 80.08'	ST = 66.78'	T = 209.28'
	R = 1,200.00'			R = 758.00'
	V = 60 MPH			V = 50 MPH
	e = 0.08			e = 0.08
	Lr = 240'			Lr = 200'

-L-

PI Sta 449+55.88
Δ = 17° 57' 09.0" (LT)
D = 0° 22' 55.1"
L = 4,699.95'
T = 2,369.39'
R = 15,000.00'
V = 70 MPH
e = NC

SEE SHEET NOS. 102 & 103 FOR -L- PROFILE
SEE SHEET NO. 144 FOR -Y14RPA- PROFILE
SEE SHEET NO. 147 FOR -Y14RPD- PROFILE

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: DWAINWRI DATE: 1/28/2016 TIME: 1:18:37 PM
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	33
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

-L-
PI Sta 449+55.88
Δ = 17° 57' 09.0" (LT)
D = 0° 22' 55.1"
L = 4,699.95'
T = 2,369.39'
R = 15,000.00'
V = 70 MPH
e = NC

NAD 83

ROBERT M. SMITH, ET UX
DB K44 PG 019
MB 24 PG 87

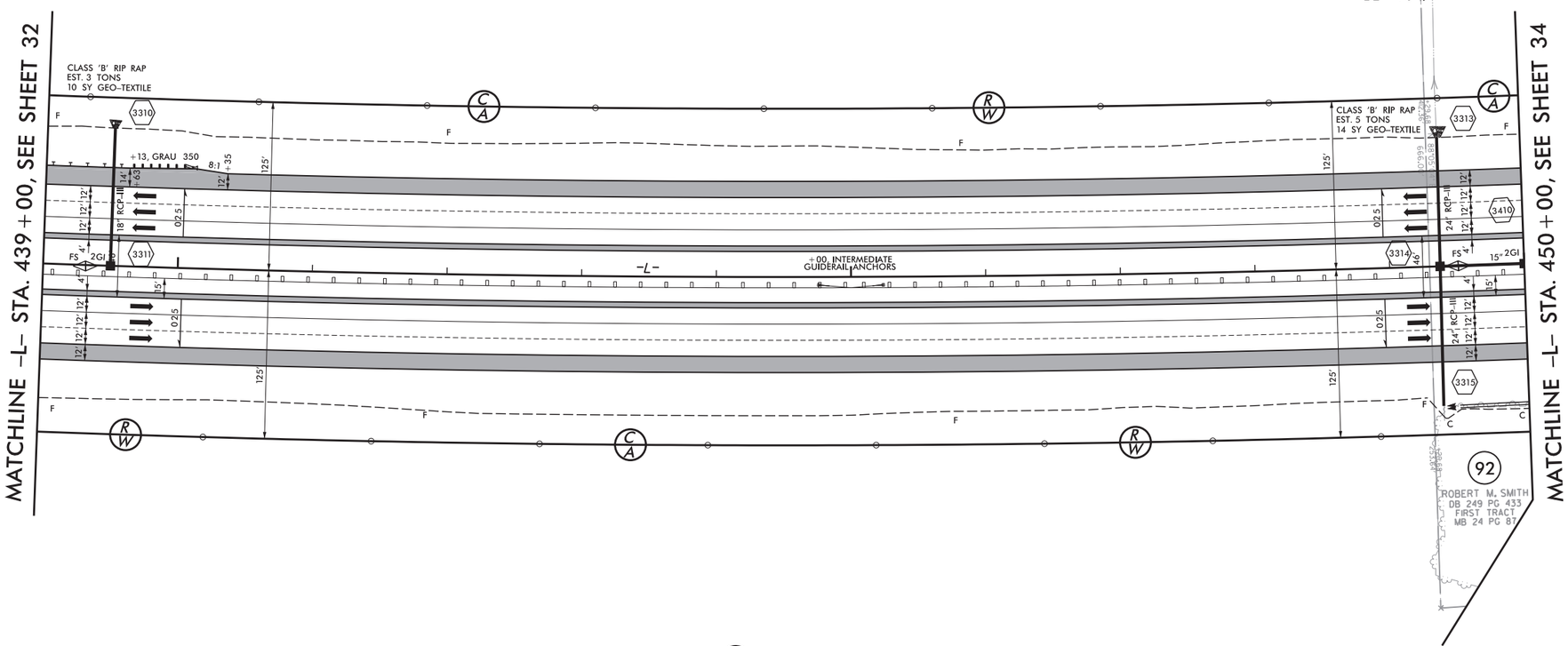
89

ROBERT M. SMITH, ET UX
DB K44 PG 019
MB 24 PG 87

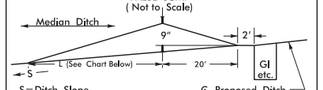
92

ROBERT M. SMITH
DB 249 PG 433
FIRST TRACT
MB 24 PG 87

-BL- 70



DETAIL M
FALSE SUMP
(Not to Scale)



S = Ditch Slope

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

SEE SHEET NO. 103 FOR -L- PROFILE

REVISIONS

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DATE: 1/25/2016
TIME: 5:51:19 PM

PROJECT REFERENCE NO.	SHEET NO.
R-2250	34
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

REVISIONS

PLOT DRIVER: NCDOT.pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfi.tbl
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NAD 83

-Y15-
PI Sta 22+93.52
Δ = 21° 38' 00.4" (LT)
D = 2° 51' 53.2"
L = 755.15'
T = 382.13'
R = 2,000.00'
V = 50 MPH
e = 0.05
Lr = 120'

-Y17RPB-
PIs Sta 11+54.16
Θs = 0° 27' 32.8"
Θs = 5° 43' 49.0"
Ls = 240.00'
LT = 154.16'
ST = 86.04'

PI Sta 14+70.35
Δ = 21° 43' 58.4" (LT)
D = 4° 46' 28.7"
L = 455.17'
T = 230.35'
R = 1,200.00'
V = 60 MPH
e = 0.08
Lr = 240'

PIs Sta 17+75.25
Θs = 5° 43' 46.5"
Ls = 240.00'
LT = 160.08'
ST = 80.08'

MATCHLINE -Y15- STA. 23+00, SEE SHEET 64

MATCHLINE -L- STA. 450+00, SEE SHEET 33

MATCHLINE -L- STA. 461+00, SEE SHEET 35

MATCHLINE -Y15- STA. 33+00, SEE SHEET 65

89 ROBERT M. SMITH, ET UX
DB K44 PG 13
MB 36 PG 61
MB 24 PG 87

92 ROBERT M. SMITH
DB 249 PG 433
FIRST TRACT
MB 24 PG 87

-Y15- PT Sta. 26+66.55

-Y17RPB- SC Sta. 12+40.00

-Y17RPB- ST Sta. 10+00.00 =
-L- POC Sta. 455+44.98, 47.00' LT

-L- POC Sta. 453+04.02=
-Y15- POT Sta. 28+55.28

-Y17RPC- ST Sta. 10+00.00 =
-L- POC Sta. 458+75.60, 47.00' RT

S 05°04'56" E 678.00'

S 58° 30' 05.4" E 98

-Y15- +00.00 118.00' RT
-Y15- +98.00 134.00' RT
-L- +20.00 125.00' LT & 155.00 LT
-L- +19.65 155.00' LT
-L- +15.00 125.00' LT
-L- +45.00 125.00' LT
-Y17RPB- +40.00 90.00' LT
-L- +20.00 125.00' RT
-L- +68.00 125.00' RT
-Y15- +71.00 125.01' RT
-L- +95.00 145.00' RT
-L- +75.60 145.00' RT

3415 48" RCP-III
CLASS 'I' RIP RAP EST. 26 TONS 50 SY GEO-TEXTILE

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

3416 2GI W/FG 15" CAAP W/ELBOWS

3414 +38 TYPE B-77 +10 TYPE B-77

3419 CLASS 'B' RIP RAP EST. 8 TONS 21 SY GEO-TEXTILE

3418 30" RCP-III

3417 +13, CAT-1 +00, GRAU 350

3412 +99 TYPE B-77 +72 TYPE B-77 2GI W/FG

3411 15" RCP-III 2GI W/FG END SBG 68 15" CAAP W/ELBOWS

3413 CLASS 'B' RIP RAP EST. 2 TONS 7 SY GEO-TEXTILE

3410 +88, CAT-1 +00, GRAU 350

LATERAL 'V' DITCH SEE DETAIL 'D'

SPECIAL CUT MEDIAN DITCH SEE DETAIL 'C'

2' BASE SPECIAL CUT DITCH SEE DETAIL 'B'

2' BASE LATERAL DITCH SEE DETAIL 'E'

+05, IMPACT ATTENUATOR TYPE 350
+85, GUIDERAIL ANCHOR
+03, IMPACT ATTENUATOR TYPE 350
+23, GUIDERAIL ANCHOR
+83, IMPACT ATTENUATOR TYPE 350
+63, GUIDERAIL ANCHOR
+37, GUIDERAIL ANCHOR
+17, IMPACT ATTENUATOR TYPE 350

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

FROM STA. 449+38 -L- TO STA. 450+85 -L- RT

DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)
Shoulder Point, 4:1 or Flatter, 4:1 or Flatter, Shoulder Point

FROM STA. 450+00 -L- TO STA. 453+04 -L- M
FROM STA. 453+04 -L- TO STA. 455+50 -L- M

DETAIL D
LATERAL 'V' DITCH
(Not to Scale)
Natural Ground, 3:1, D, 3:1, b, 1'-Ft., Fill Slope
Min. D = 1 Ft.
b = 5 Ft.

FROM STA. 31+00 -Y15- TO STA. 35+40 -Y15- RT
FROM STA. 455+15 -L- TO STA. 459+15 -L- LT

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)
Natural Ground, 3:1, D, 3:1, b, 1'-Ft., B, Fill Slope
Min. D = 2 Ft.
B = 2 Ft.
b = 5 Ft.

FROM STA. 29+10 -Y15- TO STA. 30+56 -Y15- LT
FROM STA. 453+75 -L- TO STA. 458+68 -L- RT
FROM STA. 458+68 -L- TO STA. 459+40 -L- RT

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

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

-L-
PI Sta 449+55.88
Δ = 17° 57' 09.0" (LT)
D = 0° 22' 55.1"
L = 4,699.95'
T = 2,369.39'
R = 15,000.00'
V = 70 MPH
e = NC

-Y17RPC-

PIs Sta 11+60.08	PI Sta 15+41.96	PIs Sta 19+11.72	PIs Sta 22+05.10	PI Sta 26+21.40
Θs = 5° 43' 46.5"	Δ = 28° 14' 56.3" (RT)	Θs = 5° 43' 46.5"	Θs = 7° 33' 31.7"	Δ = 49° 32' 18.0" (LT)
Ls = 240.00'	D = 4° 46' 28.7"	Ls = 240.00'	Ls = 200.00'	D = 7° 33' 31.7"
LT = 160.08'	L = 591.65'	LT = 160.08'	LT = 133.46'	L = 655.37'
ST = 80.08'	T = 301.96'	ST = 80.08'	ST = 66.78'	T = 349.75'
	R = 1,200.00'			R = 758.00'
	V = 60 MPH			V = 50 MPH
	e = 0.08			e = 0.08
	Lr = 240'			Lr = 200'

SEE SHEET NO. 104 FOR -L- PROFILE
SEE SHEET NO. 148 FOR -Y15- PROFILE
SEE SHEET NO. 155 FOR -Y17RPB- PROFILE
SEE SHEET NO. 156 FOR -Y17RPC- PROFILE
SEE SHEET NO. 2B-6 FOR BRIDGE SKETCH

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2250	35
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St Suite 900 Raleigh, NC 27601
N.C.B.E.L.S. License Number: P-0116

BARNHILL CONTRACTING COMPANY

NAD 83

MATCHLINE -Y17- STA. 24+50, SEE SHEET 59

MATCHLINE -L- STA. 461+00, SEE SHEET 34

MATCHLINE -L- STA. 489+00, SEE SHEET 36

MATCHLINE -SR4- STA. 14+50 SEE SHEET 65

MATCHLINE -Y17- STA. 41+50 SEE SHEET 60

-Y17RPA-

PIs Sta 13+09.28	PI Sta 16+07.01	PIs Sta 19+00.21
Gs = 5°43'46.5"	Δ = 20°34'33.2" (RT)	Gs = 5°43'46.5"
Ls = 240.00'	D = 4°46'28.7"	Ls = 240.00'
LT = 160.08'	L = 430.94'	LT = 160.08'
ST = 80.08'	T = 217.82'	ST = 80.08'
	R = 1,200.00'	
	V = 60 MPH	
	e = 0.08	
	Lr = 240'	

PIs Sta 19+49.59	PI Sta 26+07.40	
Δ = 7°33'31.7"	Δ = 49°13'43.2" (LT)	
D = 7°33'31.7"	L = 651.28'	
L = 133.46'	T = 347.27'	
T = 66.78'	R = 758.00'	
	V = 50 MPH	
	e = 0.08	
	Lr = 200'	

-Y17RPB-

PIs Sta 11+54.16	PI Sta 14+70.35	PIs Sta 17+75.25
Gs = 17.27° 52.8'	Δ = 27°43'56.4" (LT)	Gs = 5°43'46.5"
Gs = 5°43'49.0"	D = 4°46'28.7"	Ls = 240.00'
Ls = 240.00'	L = 455.17'	LT = 160.08'
LT = 154.16'	T = 230.35'	ST = 80.08'
ST = 86.04'	R = 1,200.00'	
	V = 60 MPH	
	e = 0.08	
	Lr = 240'	

-Y17RPC-

PIs Sta 11+60.08	PI Sta 15+41.96	PIs Sta 19+11.72	PIs Sta 22+05.10
Gs = 5°43'46.5"	Δ = 28°14'56.3" (RT)	Gs = 5°43'46.5"	Gs = 7°33'31.7"
Ls = 240.00'	D = 4°46'28.7"	Ls = 240.00'	Ls = 200.00'
LT = 160.08'	L = 591.65'	LT = 160.08'	LT = 133.46'
ST = 80.08'	T = 301.96'	ST = 80.08'	ST = 66.78'
	R = 1,200.00'		
	V = 60 MPH		
	e = 0.08		
	Lr = 240'		

PIs Sta 26+21.40		
Δ = 49°32'18.0" (LT)		
D = 7°33'31.7"		
Ls = 655.37'		
T = 349.75'		
R = 758.00'		
V = 50 MPH		
e = 0.08		
Lr = 200'		

-L-

PI Sta 449+55.88
Δ = 17°52'55.1" (LT)
D = 13°22'55.6"
L = 499.95'
T = 2,569.39'
R = 429.00'
V = 70 MPH
e = NC

-Y17RPD-

PIs Sta 11+48.90	PI Sta 15+73.47	PIs Sta 19+70.61
Gs = 0°56'01.5"	Δ = 31°03'38.2" (LT)	Gs = 5°43'46.5"
Gs = 5°43'51.2"	D = 4°46'28.7"	Ls = 240.00'
Ls = 240.00'	L = 650.53'	LT = 160.08'
LT = 148.90'	T = 333.40'	ST = 80.08'
ST = 91.34'	R = 1,200.00'	
	V = 60 MPH	
	e = 0.08	
	Lr = 240'	

PIs Sta 478+27.51	PI Sta 502+94.64	PIs Sta 525+99.00
Gs = 13°31'21.5"	Δ = 36°14'53.0" (RT)	Gs = 13°31'21.5"
Ls = 135.00'	D = 13°46'27.4"	Ls = 135.00'
LT = 90.00'	L = 4,061.60'	LT = 90.00'
ST = 45.00'	T = 2,422.13'	ST = 45.00'
	R = 7,400.00'	
	V = 70 MPH	
	e = 0.03	
	Lr = 135'	

AADT YEAR 2014 / 2040 (VOLUME IN 100s)

US 13 /264A [-Y17-]

BY-PASS [-L-] 108/141 | 23/20 | 12/20 | BY-PASS [-L-]

197/340 | 42/30 | 6/48 | 150/332

121/165

US 13 /264A [-Y17-]

DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)

FROM STA. 468+00 -L- TO STA. 470+00 -L- M
FROM STA. 470+00 -L- TO STA. 473+50 -L- M
FROM STA. 475+00 -L- TO STA. 478+50 -L- M
FROM STA. 478+50 -L- TO STA. 482+50 -L- M
FROM STA. 482+50 -L- TO STA. 489+25 -L- M

DETAIL K
RIP RAP AT EMBANKMENT
(Not to Scale)

GEOTEXTILE

Type of Stone - Class B Equivalent

STA. 23+75 -Y17RPA- LT
STA. 24+50 -Y17RPA- LT
STA. 470+00 -L- LT

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)

Min. D= 1.5 ft.
T = 7 ft.
L = 9 ft.

FROM STA. 19+97 -Y17RPC- TO STA. 21+03 -Y17RPC- LT
FROM STA. 23+03 -Y17RPC- TO STA. 25+74 -Y17RPC- RT
FROM STA. 25+74 -Y17RPC- TO STA. 27+00 -Y17RPC- LT
FROM STA. 26+22 -Y17RPA- TO STA. 29+00 -Y17RPA- RT
FROM STA. 462+00 -L- TO STA. 463+73 -L- LT
FROM STA. 463+50 -L- TO STA. 467+56 -L- RT
FROM STA. 474+00 -L- TO STA. 476+50 -L- LT
FROM STA. 476+00 -L- TO STA. 483+50 -L- RT
FROM STA. 483+00 -L- LT TO STA. 17+05 -Y17RPA- LT

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)

Min. D= 1.5 ft.

FROM STA. 23+50 -Y17RPA- TO STA. 25+00 -Y17RPA- LT
FROM STA. 24+00 -Y17RPA- TO STA. 26+00 -Y17+ RT
FROM STA. 24+00 -Y17RPA- TO STA. 26+00 -Y17+ LT
FROM STA. 26+00 -Y17RPA- TO STA. 29+00 -Y17RPA- RT
FROM STA. 26+50 -Y17+ TO STA. 29+00 -Y17+ LT
FROM STA. 28+30 -Y17RPA- TO STA. 30+50 -Y17+ LT
FROM STA. 29+00 -Y17RPA- TO STA. 31+00 -Y17RPA- RT
FROM STA. 29+50 -Y17RPC- TO STA. 30+25 -Y17RPC- RT
FROM STA. 30+50 -Y17+ TO STA. 32+00 -Y17+ RT
FROM STA. 31+00 -Y17+ TO STA. 33+00 -Y17+ RT
FROM STA. 33+50 -Y17+ TO STA. 39+65 -Y17+ RT
FROM STA. 39+00 -Y17+ TO STA. 41+00 -Y17+ RT
FROM STA. 39+50 -Y17+ TO STA. 41+00 -Y17+ RT
FROM STA. 41+00 -Y17+ TO STA. 53+00 -Y17+ RT
FROM STA. 460+00 -L- TO STA. 462+00 -L- RT
FROM STA. 461+00 -L- TO STA. 463+00 -L- RT
FROM STA. 464+00 -L- TO STA. 465+00 -L- RT
FROM STA. 483+00 -L- TO STA. 484+00 -L- RT
FROM STA. 485+50 -L- TO STA. 487+00 -L- RT

DETAIL H
4' BASE LATERAL DITCH
(Not to Scale)

Min. D= 2 ft.
B = 4 ft.
S = 3 ft.

FROM STA. 13+00 -Y17RPA- TO STA. 24+00 -Y17RPA- LT
FROM STA. 15+50 -Y17RPA- TO STA. 24+00 -Y17RPA- RT
FROM STA. 22+32 -Y17RPA- TO STA. 26+22 -Y17RPA- RT

DETAIL M
FALSE SUMP
(Not to Scale)

S= Ditch Slope	L	Ditch Depth D
0.0% to 2.0%	10'	Over 0.5ft. to 1.0ft.
Over 2.0% to 4.0%	20'	Over 1.0ft.
Over 4.0%	30'	

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

Min. D= 1 ft.
S = 3 ft.

FROM STA. 17+05 -Y17RPA- TO STA. 20+00 -Y17RPA- LT
FROM STA. 17+05 -Y17RPA- LT TO STA. 20+00 -Y17+ RT
FROM STA. 20+00 -Y17+ TO STA. 23+00 -Y17+ RT
FROM STA. 473+25 -L- TO STA. 474+00 -L- RT
FROM STA. 474+00 -L- RT TO STA. 24+79 -Y17+ RT

PAVEMENT REMOVAL

SEE SHEET NOS. 104 THRU 106 FOR -L- PROFILE
SEE SHEET NOS. 150 & 151 FOR -Y17- PROFILE
SEE SHEET NO. 154 FOR -Y17RPA- PROFILE
SEE SHEET NO. 155 FOR -Y17RPB- PROFILE
SEE SHEET NO. 156 FOR -Y17RPC- PROFILE
SEE SHEET NO. 157 FOR -Y17RPD- PROFILE
SEE SHEET NO. 2B-4 FOR BRIDGE SKETCH

GRAPHIC SCALE
50 25 0 50 100
PLANS

LOCATION:
TIP NO.: COUNTY:
DESIGNED BY:
CHECKED BY: DATE:

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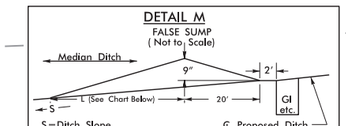
PROJECT REFERENCE NO.	SHEET NO.
R-2250	36
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

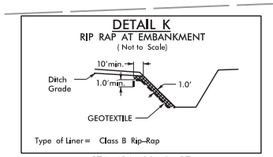
DETAIL M
FALSE SUMP
(Not to Scale)



S = Ditch Slope ℄ Proposed Ditch

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

DETAIL K
RIP RAP AT EMBANKMENT
(Not to Scale)



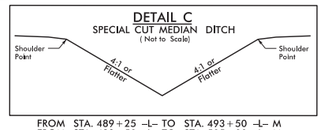
Type of Liner = Class B Rip-Rap

STA. 494+90 –L– RT

–L–

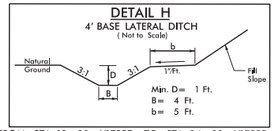
PIs Sta 478+27.51	PI Sta 502+94.64	PIs Sta 525+99.10
Θs = 0° 31' 21.5"	Δ = 36° 14' 53.0" (RT)	Θs = 0° 31' 21.5"
Ls = 135.00'	D = 0° 46' 27.4"	Ls = 135.00'
LT = 90.00'	L = 4,681.60'	LT = 90.00'
ST = 45.00'	T = 2,422.13'	ST = 45.00'
	R = 7,400.00'	
	V = 70 MPH	
	e = 0.03	
	Lr = 135'	

DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)



FROM STA. 489+25 –L– TO STA. 493+50 –L– M
FROM STA. 493+50 –L– TO STA. 505+00 –L– M

DETAIL H
4' BASE LATERAL DITCH
(Not to Scale)

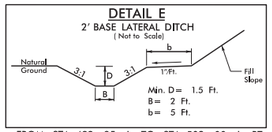


Min. D= 1 Ft.
B= 4 Ft.
b= 5 Ft.

FROM STA. 12+00 –Y17RPD– TO STA. 24+00 –Y17RPD– LT
FROM STA. 10+00 –Y17RPA– TO STA. 17+05 –Y17RPA– RT

NAD 83

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)



Min. D= 1.5 Ft.
B= 2 Ft.
b= 5 Ft.

FROM STA. 492+85 –L– TO STA. 502+00 –L– RT

490 495 500

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

S 1° 53' 34.4" W

–Y17RPA– POT Sta. 10+00.00 =
–L– POC Sta. 490+00.00, 47.00' LT
Δ = 3° 30' 00.0"

–L– +90.00
125.00' LT &
170.00' LT

CLASS 'I' RIP RAP
EST. 57 TONS
104 SY GEO-TEXTILE

94
LEWIS O. TRIPP, ET AL
MB 2 PG 227

NATURAL GAS PIPELINE

MATCHLINE –L– STA. 489+00, SEE SHEET 35

MATCHLINE –L– STA. 502+50, SEE SHEET 37

+50, GRAU 350

+50, CAT-1

SPECIAL CUT MEDIAN DITCH SEE DETAIL 'C'

+37, GUIDERAIL ANCHOR

+83, IMPACT ATTENUATOR TYPE 350

+17, IMPACT ATTENUATOR TYPE 350

2GI GUIDERAIL ANCHOR

18" RCP-III

RIP RAP AT EMBANKMENT SEE DETAIL 'K'

2' BASE LATERAL DITCH SEE DETAIL 'E'

+12, GRAU 350

30' TYP. END WW FENCE

SEC. WW FENCE

+75, CAT-1

HW

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

–L– +12.00
135.00' RT

–L– +03.00
125.00' RT

–Y17RPD– +40.00
100.00' LT

–Y17RPD– SC Sta. 12+40.00

–Y17RPD– ST Sta. 10+00.00 =
–L– POT Sta. 492+84.45, 47.00' RT

–BL– 75

99
DOROTHY FRIZZELL FORBES HEIRS
DB R-51 PG 1

128
CHARLIE THIGPEN HEIRS
AMOS THIGPEN HEIRS
WB 14 PG 332
MB 23 PG 141

129
CHESTER WORTHINGTON C/O
WORTHINGTON FARMS INC.
DB F-34 PG 655
MB 23 PG 141

S 67°19'50" W
605.60'

S 67°19'50" W
605.60'

–Y17RPD–

PIs Sta 11+48.90	PI Sta 15+73.47	PIs Sta 19+70.61
Θs = 0° 56' 01.5"	Δ = 31° 03' 38.2" (LT)	Θs = 5° 43' 46.5"
Θs = 5° 43' 51.2"	D = 4° 46' 28.7"	Ls = 240.00'
Ls = 240.00'	L = 650.53'	LT = 160.08'
LT = 148.90'	T = 333.47'	ST = 80.08'
ST = 91.34'	R = 1,200.00'	
	V = 60 MPH	
	e = 0.08	
	Lr = 240'	

SEE SHEET NOS. 106 & 107 FOR –L– PROFILE
SEE SHEET NO. 154 FOR –Y17RPA– PROFILE
SEE SHEET NO. 157 FOR –Y17RPD– PROFILE

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: dwainwri
FILE: North_Carolina_Dept_of_Transportation\R-2250A_B_C_Greenville_Southwest_Bypass_DB\06.00_Project_Design\R-2250_RDY_PSH-36.dgn
PENTABLE: NCDOT_pshpfl.tbl
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TIME: 5:51:41 PM

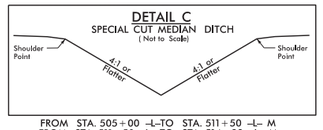
PROJECT REFERENCE NO.	SHEET NO.
R-2250	37
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

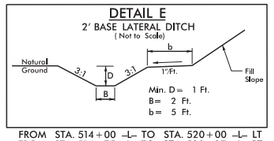
BARNHILL CONTRACTING COMPANY

DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)



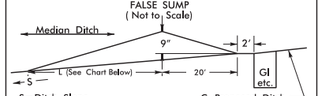
FROM STA. 505+00 -L- TO STA. 511+50 -L- M
FROM STA. 511+50 -L- TO STA. 514+38 -L- M

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)



FROM STA. 514+00 -L- TO STA. 520+00 -L- LT
FROM STA. 514+75 -L- TO STA. 520+27 -L- RT

DETAIL M
FALSE SUMP
(Not to Scale)



S=Ditch Slope ℄ Proposed Ditch

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

-L-		
PIs Sta 478+27.51	PI Sta 502+94.64	PIs Sta 525+99.10
Θs = 0° 31' 21.5"	Δ = 36° 14' 53.0" (RT)	Θs = 0° 31' 21.5"
Ls = 135.00'	D = 0° 46' 27.4"	Ls = 135.00'
LT = 90.00'	L = 4,681.60'	LT = 90.00'
ST = 45.00'	T = 2,422.13'	ST = 45.00'
	R = 7,400.00'	
	V = 70 MPH	
	e = 0.03	
	Lr = 135'	

NAD 83

MATCHLINE -L- STA. 502+50, SEE SHEET 36

MATCHLINE -SR7- STA. 12+75 -L- STA. 515+50 SEE SHEET 38

BEGIN CONSTRUCTION
-SR7- STA. 11+20.00

-SR7- POT Sta. 10+00.00

94
LEWIS O. TRIPP, ET AL
MB 2 PG 227

129
CHESTER WORTHINGTON C/O WORTHINGTON FARMS INC.
DB F-34 PG 655
MB 23 PG 141

131
ALICE DERLORES BULLIE
DB T-48 PG 693
MB 66 PG 94

130
CHARLES SYLVESTER BAKER
DB 65 PG 851
MB 33 PG 47

WILLIE LEE BAKER
DB 65 PG 842
MB 33 PG 47

-BL- 76

-BL- 77

-SR7- +25.00 45.00' LT
-SR7- P/L 45.00' LT
-SR7- +11.00 45.00' LT & 76.00' LT
-SR7- +95.00 45.00' LT & 76.00' LT
-L- +00.00 125.00' LT
-L- P/L 125.00' LT

DRIVEWAY

-SR7- N 17° 00' 00.5" E 202

SPECIAL CUT MEDIAN DITCH SEE DETAIL 'C'

+50 INTERMEDIATE GUIDERAIL ANCHORS

CLASS 'B' RIP RAP EST. 3 TONS 10 SY GEO-TEXTILE

2' BASE LATERAL DITCH SEE DETAIL 'E'

2GI 15" 46'

18" RCP-III

24" RCP-III

RUINS

SEE SHEET NOS. 107 & 108 FOR -L- PROFILE
SEE SHEET NO. 174 FOR -SR5- PROFILE
SEE SHEET NO. 175 FOR -SR7- PROFILE

REVISIONS

PLOT DRIVER: NCDOT_pdf_color-eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: dwalnwri DATE: 1/25/2016 TIME: 5:51:52 PM
FILE: North_Carolina_Dept_of_Transportation\R_2250A_B_C_Greenville_Southwest_Bypass_DB\06.00_Project_Design\R-2250_NCDOT_F

PROJECT REFERENCE NO.	SHEET NO.
R-2250	38
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

NAD 83

-SR7-
PI Sta 19+19.39
Δ = 18° 28' 32.7" (LT)
D = 4° 10' 55.8"
L = 441.77'
T = 222.82'
R = 1,370.00'
V = 40 MPH
e = 0.03
Lr = 63'

DETAIL K
RIP RAP AT EMBANKMENT
(Not to Scale)
Type of Liner = Class B Rip-Rap

DETAIL M
FALSE SUMP
(Not to Scale)

S=Ditch Slope	℄ Proposed Ditch		
Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

STA. 519+60 -L- LT

131 ALICE DERLORES BULLIE
DB T-48 PG 693
MB 66 PG 94

134 AUDREY LANE
DB 2738 PG 487
MB 50 PG 130

135 JAMES H. LANE, JR.
DB 863 PG 485
MB 50 PG 130

136 VIOLA T. KNOX HEIRS
DB DC87 PG 573
MB 48 PG 97

137 WILLIAM THOMAS TURNAGE JR HEIRS
E 130
MB 49 PG 97

MATCHLINE -SR7- STA. 23+00
SEE SHEET 68

-SR7- PT Sta. 21+38.34
N 12° 28' 32.2" W

-SR7- PC Sta. 16+96.57
N 17° 00' 00.5" E

-SR7- +38.34 60.00' LT
-SR7- +70.00 60.00' LT & 72.00' LT
-SR7- +20.00 60.00' LT & 72.00' LT
-SR7- +70.00 60.00' LT & 78.00' LT
-SR7- +20.00 60.00' LT & 78.00' LT
-SR7- +72.00 45.00' LT & 76.00' LT
-SR7- +28.00 45.00' LT & 76.00' LT
-SR7- +96.57 60.00' LT
-SR7- +96.57 45.00' LT
-SR7- +38.34 55.00' RT
-SR7- +38.34 71.00' RT
-SR7- P/L 71.00' RT
-SR7- P/L 55.00' RT
-L- P/L 125.00' LT
-L- +54.10 125.00' LT
-L- P/L 105.00' RT
-L- +08.00 125.00' RT
-L- +50.00 125.00' RT
-L- +89.10 105.00' RT

LATERAL 'V' DITCH SEE DETAIL 'D'
RIP RAP AT EMBANKMENT SEE DETAIL 'K'
2' BASE LATERAL DITCH SEE DETAIL 'E'
SPECIAL CUT DITCH SEE DETAIL 'A'

-L- CS Sta. 525+54.10
-L- ST Sta. 526+89.10

MATCHLINE -SR7- STA. 12+75
SEE SHEET 37

MATCHLINE -L- STA. 515+50
SEE SHEET 37

MATCHLINE -L- STA. 528+50
SEE SHEET 39

MATCHLINE -SR5- STA. 25+25
SEE SHEET 39

-L- +50 INTERMEDIATE GUIDERAIL ANCHORS
CLASS 'B' RIP RAP EST. 3 TONS 10 SY GEO-TEXTILE
CLASS 'B' RIP RAP EST. 5 TONS 14 SY GEO-TEXTILE
BEG. SBG +47 2GI W/FG +40, CAT-1
SBG +51, GRAU 350
BEG. SBG W/FG +01 24" CAAP W/ELBOWS
-BL- 78
N 26° 26' 01.6" E

-SR5- PC Sta. 14+00.00
-SR5- PT Sta. 22+94.22
-SR5- +95.00 53.00' RT
-SR5- P/L 50.00' RT
-SR5- +11.31 66.00' RT
-SR5- +30.00 66.00' RT & 82.00' RT
-SR5- +75.00 66.00' RT & 90.00' RT
-SR5- +25.00 66.00' RT & 90.00' RT
-SR5- +75.00 66.00' RT & 80.00' RT
-SR5- +25.00 66.00' RT & 80.00' RT
-SR5- +94.22 50.00' RT
-SR5- +94.22 66.00' RT
-SR5- +75.00 66.00' RT & 80.00' RT
-SR5- +25.00 66.00' RT & 80.00' RT

BEGIN CONSTRUCTION
-SR5- STA. 15+95.00

130 CHARLES SYLVESTER BAKER
DB 65 PG 851
MB 33 PG 47

132 JAMES BERINARD BAKER
DB DC97 PG 1862
MB 33 PG 47

131 ALICE DERLORES BULLIE
DB T-48 PG 693
MB 66 PG 94

141 DOROTHY FRIZELL FORBES HEIRS
DB R-516 I
MB 23 PG 141

NCDOT
DB 2836 PG 550
TRACTS 1&2
DB 2836 PG 553
TRACTS 1&2
MB 50 PG 130

135 JAMES H. LANE, JR.
DB 863 PG 485
MB 50 PG 130

136 VIOLA T. KNOX
DB 745 PG 91
MB 50 PG 130

-SR5-
PI Sta 18+47.68
Δ = 7° 03' 22.3" (RT)
D = 0° 47' 20.7"
L = 894.22'
T = 447.68'
R = 7,261.00'
V = 50 MPH
e = NC

-L-

PIs Sta 478+27.51	PI Sta 502+94.64	PIs Sta 525+99.10
Θs = 0° 31' 21.5"	Δ = 36° 14' 53.0" (RT)	Θs = 0° 31' 21.5"
Ls = 135.00'	D = 0° 46' 27.4"	Ls = 135.00'
LT = 90.00'	L = 4,681.60'	LT = 90.00'
ST = 45.00'	T = 2,422.13'	ST = 45.00'
	R = 7,400.00'	
	V = 70 MPH	
	e = 0.03	
	Lr = 135'	

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)
Min. D = 2 Ft.
FROM STA. 519+00 -L- TO STA. 526+50 -L- RT

DETAIL D
LATERAL 'V' DITCH
(Not to Scale)
Min. D = 1.5 Ft.
b = 5 Ft.
FROM STA. 18+00 -SR7- TO STA. 22+14 -SR7- LT
FROM STA. 18+18 -SR7- TO STA. 25+00 -SR7- RT
FROM STA. 22+14 -SR7- TO STA. 24+90 -SR7- LT

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)
Min. D = 2 Ft.
B = 2 Ft.
b = 5 Ft.
FROM STA. 514+00 -L- TO STA. 520+00 -L- LT
FROM STA. 514+75 -L- TO STA. 520+27 -L- LT

DRIVEWAY RADII 10' UNLESS OTHERWISE NOTED
SEE SHEET NOS. 108 & 109 FOR -L- PROFILE
SEE SHEET NO. 174 FOR -SR5- PROFILE
SEE SHEET NO. 175 FOR -SR7- PROFILE

REVISIONS

PLOT DRIVER: NCDOT_pdf_color-eng_50.plt PENTABLE: NCDOT_pshpfi.tbl
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FILE: North_Carolina_Dept_of_Transportation\R-2250A_B_C_Greenville_Southwest_Bypass_DB\06.00_Project_Design\R-2250_RDY_PSH-38.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2250	39
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

REVISIONS

PLOT DRIVER: NCDOT.pdf.color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: DWAINWRI DATE: 1/26/2016 TIME: 9:32:37 AM
FILE: North_Carolina_Dept_of_Transportation\R-2250A_B_C_Greenville_Southwest_Bypass_DB\06.00_Project_Design\R-2250_RDY_PSH-39.dgn

-Y19-
PI Sta 31+90.22
Δ = 3° 50' 01.8" (LT)
D = 0° 59' 13.2"
L = 388.43'
T = 194.29'
R = 5,805.00'
e = EXIST

-SR8-
PI Sta 12+70.31
Δ = 41° 23' 24.5" (RT)
D = 10° 44' 58.8"
L = 440.85'
T = 233.92'
R = 533.00'
V = 40 MPH
e = 0.04
Lr = 84'

DETAIL M
FALSE SUMP
(Not to Scale)

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

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)
Min. D= 1.5 Ft.

FROM STA. 10+50 -SR8- TO STA. 11+50 -SR8- LT
FROM STA. 10+50 -SR8- TO STA. 12+50 -SR8- RT
FROM STA. 10+50 -SR9- TO STA. 12+00 -SR9- RT
FROM STA. 10+50 -SR9- TO STA. 12+00 -SR9- LT
FROM STA. 25+09 -Y19- TO STA. 30+00 -Y19- RT
FROM STA. 28+50 -Y19- TO STA. 29+32 -Y19- LT
FROM STA. 29+32 -Y19- TO STA. 30+00 -Y19- LT
FROM STA. 31+50 -Y19- TO STA. 32+20 -Y19- RT
FROM STA. 32+00 -Y19- TO STA. 33+50 -Y19- RT
FROM STA. 32+20 -Y19- TO STA. 33+50 -Y19- LT
FROM STA. 32+50 -SR5- TO STA. 33+30 -SR5- RT
FROM STA. 34+50 -Y19- TO STA. 35+00 -Y19- RT
FROM STA. 34+50 -Y19- TO STA. 35+00 -Y19- LT
FROM STA. 538+11 -L- TO STA. 538+75 -L- RT
FROM STA. 540+50 -L- TO STA. 541+00 -L- RT

MATCHLINE -Y19- STA. 26+00, SEE SHEET 68

MATCHLINE -L- STA. 528+50 SEE SHEET 38

MATCHLINE -SR5- STA. 25+25 SEE SHEET 38

MATCHLINE -SR8- STA. 19+00

MATCHLINE -L- STA. 542+00 SEE SHEET 40

MATCHLINE -SR9- STA. 16+00

ROW AGREEMENT W48-27
THOMAS TURNAGE, ET AL
TO NCDOT, 35' EACH SIDE CL.
DB G-10 PG 467
DB W-48 PG 27
MB 50 PG 130

(137) WILLIAM THOMAS TURNAGE JR HEIRS
E 130
MB 49 PG 97

(138) ESTELLA WRIGHT HEIRS
DB 745 PG 23
MB 48 PG 97

(140) KEVIN A. WRIGHT
DB 3141 PG 52

(141) DOROTHY FRIZZELL FORBES HEIRS
DB R-51PG 1
MB 23 PG 141

(142) WEYERHAEUSER COMPANY
DB Z31 PG 135
MB 001 PG 042

(143) JESUCITA GARCIA CERINO
DB 3161 PG 499

(144) CALVARY MOBILE HOMES, INC.
DB 629 PG 511
MB 035 PG 129
TRACT ONE

(106) GAYLE LITTLE WAINRIGHT
DB 1089 PG 568

DETAIL O
2' BASE TAIL DITCH
(Not to Scale)
Min. D= 1.5 Ft.
Max. d= 1 Ft.
B= 2 Ft.
*When B is < 6.0'
Type of Liner= Class 'B' Rip-Rap
FROM STA. 538+00 -L- RT TO STA. 12+00 -SR9- LT

-Y19- POT Sta. 28+13.68
-SR8- POT Sta. 10+00.00

-SR8- PC Sta. 10+36.39

-SR8- PT Sta. 14+77.24

-Y19- PC Sta. 29+95.93

-Y19- PT Sta. 33+84.36

-SR5- PC Sta. 26+92.05

-SR5- PT Sta. 29+52.20

-SR5- PC Sta. 31+63.96

-SR5- PT Sta. 33+25.68

-SR9- PC Sta. 10+62.66

-SR9- PT Sta. 14+07.47

-SR9- PC Sta. 15+71.63

-L- POT Sta. 534+77.99 =
-Y19- POC Sta. 30+76.44

-Y19- POT Sta. 33+93.62 =
-SR5- POT Sta. 33+72.04
-SR9- POT Sta. 10+00.00

65-250
OFFSET=8'

70-300
OFFSET=14.0'

75-240
OFFSET=8.0'

60-300
OFFSET=10.0'

-BL- 79

N 3° 47' 31.8" W

N 86° 05' 52.8" E

N 43° 35' 52.8" E

N 54° 23' 56.9" E

N 26° 26' 01.6" E

N 7° 22' 29.4" W

N 29° 41' 24.8" E

NAD 83

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)
Min. D= 1.5 Ft.
B= 2 Ft.
b= 5 Ft.
FROM STA. 12+00 -SR9- TO STA. 19+30 -SR9- RT
FROM STA. 534+33 -L- TO STA. 538+00 -L- LT
FROM STA. 538+00 -L- TO STA. 542+00 -L- LT

DETAIL Q
3' BASE SPECIAL CUT DITCH
(Not to Scale)
Min. D= 1 Ft.
B= 3 Ft.
FROM STA. 25+11 -Y19- TO STA. 27+50 -Y19- LT

DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)
FROM STA. 531+00 -L- TO STA. 532+24 -L- M
FROM STA. 532+24 -L- TO STA. 533+75 -L- M
FROM STA. 533+75 -L- TO STA. 534+11 -L- M
FROM STA. 535+46 -L- TO STA. 535+75 -L- M
FROM STA. 535+75 -L- TO STA. 537+33 -L- M
FROM STA. 537+33 -L- TO STA. 538+52 -L- M

DETAIL D
LATERAL 'V' DITCH
(Not to Scale)
Min. D= 1.5 Ft.
b= 5 Ft.
FROM STA. 533+00 -L- TO STA. 533+57 -L- LT
FROM STA. 533+00 -L- TO STA. 535+30 -L- RT
FROM STA. 541+00 -L- TO STA. 545+50 -L- RT

-SR5-
PI Sta 28+24.77
Δ = 27° 57' 55.2" (RT)
D = 10° 44' 58.8"
L = 260.15'
T = 132.72'
R = 533.00'
V = 40 MPH
e = 0.04
Lr = 84'

PI Sta 32+53.68
Δ = 61° 46' 26.3" (LT)
D = 38° 11' 49.9"
L = 161.72'
T = 89.73'
R = 150.00'
V = 20 MPH
e = 0.04
Lr = 84'

-SR9-
PI Sta 12+41.34
Δ = 37° 03' 54.2" (RT)
D = 10° 44' 58.8"
L = 344.80'
T = 178.68'
R = 533.00'
V = 40 MPH
e = 0.04
Lr = 84'

PI Sta 17+99.04
Δ = 3° 15' 23.1" (LT)
D = 0° 42' 58.3"
L = 454.68'
T = 227.40'
R = 8,000.00'
V > 40 MPH
e = NC

END CONSTRUCTION
-Y19- STA. 35+34.00

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NOS. 109 & 110 FOR -L- PROFILE
SEE SHEET NO. 159 FOR -Y19- PROFILE
SEE SHEET NO. 174 FOR -SR5- PROFILE
SEE SHEET NO. 176 FOR -SR8- PROFILE
SEE SHEET NO. 176 FOR -SR9- PROFILE
SEE SHEET NO. 2B-5 FOR BRIDGE SKETCH

PROJECT REFERENCE NO.	SHEET NO.
R-2250	40
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

-SR8-
PI Sta 21+38.45
△ = 43° 55' 35.5" (LT)
D = 10° 44' 58.8"
L = 408.63'
T = 214.95'
R = 533.00'
V = 40 MPH
e = 0.04
Lr = 84'

-SR8- POT Sta. 24+67.82

END CONSTRUCTION
-SR8- STA. 23+75.00

-SR8- PT Sta. 23+32.13

-SR8- PC Sta. 19+23.50

142
WEYERHAEUSER COMPANY
DB Z31 PG 135
MB 001 PG 042

145
WYATT L. BROWN, SR., HEIRS
DB A24 PG 547
MB 001 PG 042

NAD 83

MATCHLINE -SR8- STA. 19+00 SEE SHEET 39

MATCHLINE -L- STA. 542+00 SEE SHEET 39

MATCHLINE -L- STA. 555+00 SEE SHEET 41

MATCHLINE -SR9- STA. 16+00 SEE SHEET 39

MATCHLINE -SR9- STA. 29+00 SEE SHEET 41

-SR8- +23.50 50.00' LT
-SR8- +32.13 50.00' LT
-SR8- +75.00 50.00' LT
-SR8- +65.00 25.00' LT
-L- +80.00 220.00' LT
-SR8- +60 EX. P/L
-L- P/L 205.00' LT
-SR8- +75.00 EX. P/L
-L- P/L 125.00' LT
-SR8- +23.50 50.00' RT
-L- +89.63 125.00' LT

DRIVEWAY
N 0°15'42.8" W

4' BASE LATERAL DITCH
SEE DETAIL 'H'

CLASS 'B' RIP RAP
EST. 11 TONS
28 SY GEO-TEXTILE

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

END SBG
+19 +69
2GI GRAU 350
WFG 8:1

-BL- 80

-BL- 81

N 26° 26' 01.6" E

-L-

-SR9-

+00 INTERMEDIATE GUIDERAIL ANCHORS

LATERAL 'V' DITCH
SEE DETAIL 'D'

4' BASE TAIL DITCH
SEE DETAIL 'N'
SLOPE = 0.0%

RELIEF PIPE
NO INLET COMPUTATIONS

2' BASE LATERAL DITCH
SEE DETAIL 'E'

-SR9- +26.32
50.00' RT

-SR9- +50.00
70.00' RT

144
CALVARY MOBILE HOMES, INC.
DB 629 PG 511
MB 035 PG 129
TRACT ONE

-SR9-
PI Sta 17+99.04
△ = 3° 15' 23.1" (LT)
D = 0° 42' 58.3"
L = 454.68'
T = 227.40'
R = 8,000.00'
V > 40 MPH
e = NC

-SR9- PT Sta. 20+26.32

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)
Min. D = 2 Ft.
B = 2 Ft.
b = 5 Ft.
FROM STA. 12+00 -SR9- TO STA. 19+30 -SR9- RT

DETAIL H
4' BASE LATERAL DITCH
(Not to Scale)
Min. D = 1.5 Ft.
B = 4 Ft.
b = 5 Ft.
FROM STA. 22+35 -SR8- TO STA. 24+67 -SR8- RT

DETAIL N
4' BASE TAIL DITCH
(Not to Scale)
Min. D = 3 Ft.
Max. d = 1 Ft.
B = 4 Ft.
*When B is < 6.0'
Type of Liner = Class 'B' Rip-Rap
FROM STA. 19+29 -SR9- LT TO STA. 545+50 -L- RT

DETAIL M
FALSE SUMP
(Not to Scale)
Median Ditch
S=Ditch Slope
℄ Proposed Ditch

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

SEE SHEET NOS. 110 & 111 FOR -L- PROFILE
SEE SHEET NO. 176 FOR -SR8- PROFILE
SEE SHEET NOS. 176 & 177 FOR -SR9- PROFILE

REVISIONS

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DATE: 1/25/2016
TIME: 5:52:38 PM

REVISIONS

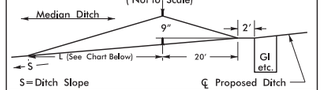
PROJECT REFERENCE NO.	SHEET NO.
R-2250	41
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

DETAIL M
FALSE SUMP
(Not to Scale)



S=Ditch Slope ℄ Proposed Ditch

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

NAD 83

(145) WYATT L. BROWN, SR., HEIRS
DB A24 PG 547
MB 001 PG 042

(146) EDWARDS TIMBER COMPANY, INC.
DB 2079 PG 817
MB 001 PG 042

555 560 565

MATCHLINE -L- STA. 555+00 SEE SHEET 40

MATCHLINE -SR9- STA. 29+00 SEE SHEET 40

MATCHLINE -L- STA. 568+00, SEE SHEET 42

CLASS 'B' RIP RAP EST. 3 TONS 10 SY GEO-TEXTILE

4111 4112 4113 4114 4115 4116 4117

18" RCP III

2GI

-L- N 26° 26' 01.6" E

-BL- 8GI

-L- P/L 110.00' RT

-L- P/L 125.00' RT

-SR9- +00.00 40.00' LT

-SR9- +00.00 75.00' RT

DRIVEWAY

-SR9- N 26° 26' 01.6" E

4110 -SR9- +00 18" 24'

-SR9- +68.00 50.00' RT & 80.00' RT

-SR9- +32.00 50.00' RT & 80.00' RT

-SR9- +50 24'

-SR9- +42.00 50.00' RT & 75.00' RT

-SR9- P/L 50.00' RT

END CONSTRUCTION
-SR9- STA. 36+10.00

-SR9- POT Sta. 38+64.61

(145) WYATT L. BROWN, SR., HEIRS
DB A24 PG 547
MB 001 PG 042

(146) EDWARDS TIMBER COMPANY, INC.
DB 2079 PG 817
MB 001 PG 042

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NOS. 111 & 112 FOR -L- PROFILE
SEE SHEET NO. 177 FOR -SR9- PROFILE

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REVISIONS

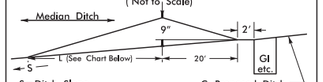
PROJECT REFERENCE NO.	SHEET NO.
R–2250	42
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

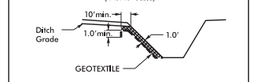
DETAIL M
FALSE SUMP
(Not to Scale)



S = Ditch Slope ℄ Proposed Ditch

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

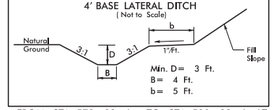
DETAIL K
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner = Class B Rip–Rap

STA. 578+83 –L– RT
STA. 581+10 –L– RT

DETAIL H
4' BASE LATERAL DITCH
(Not to Scale)



Min. D = 3 Ft.
B = 4 Ft.
b = 5 Ft.

FROM STA. 578+82 –L– TO STA. 590+22 –L– LT
FROM STA. 578+15 –L– TO STA. 592+89 –L– RT

146

EDWARDS TIMBER COMPANY, INC.
DB 2079 PG 817
MB 001 PG 042

NAD '83

570 575 580

MATCHLINE –L– STA. 568+00, SEE SHEET 41

MATCHLINE –L– STA. 582+00, SEE SHEET 43

CLASS 'B' RIP RAP
EST. 8 TONS
21 SY GEO–TEXTILE

RIP RAP AT EMBANKMENT
SEE DETAIL 'K'

4' BASE LATERAL DITCH
SEE DETAIL 'H'

-BL- 83

N 26° 26' 01.6" E

+00 INTERMEDIATE GUIDERAIL ANCHORS

-L-

16:1

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO–TEXTILE

RIP RAP AT EMBANKMENT
SEE DETAIL 'K'

REMOVE

4' LATERAL BASE DITCH
SEE DETAIL 'H'

–L– +75.00
125.00' RT

–L– +75.00
135.00' RT

GUC TRANSMISSION
LINE EASEMENT

50' PIEDMONT NATURAL GAS EASEMENT

100' GREENVILLE UTILITIES COMMISSION OVERHEAD POWER EASEMENT

146
EDWARDS TIMBER COMPANY, INC.
DB 2079 PG 817
MB 001 PG 042

147
EDITH L. BRAUDWELL
DB 258 PG 50
MB 38 PG 103

148
HAPPY TRAIL FARMS, LLC
DB 3005 PG 769
MB 38 PG 103

SEE SHEET NOS. 112 & 113 FOR –L– PROFILE

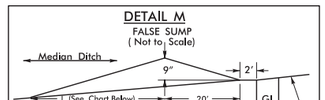
PROJECT REFERENCE NO.	SHEET NO.
R-2250	43
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

DETAIL M
FALSE SUMP
(Not to Scale)

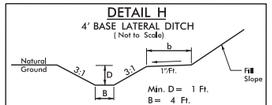


S = Ditch Slope ℄ Proposed Ditch

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

-L-
PI Sta 610+27.35
Δ = 12° 53' 22.8" (RT)
D = 0° 13' 45.1"
L = 5,624.18'
T = 2,824.01'
R = 25,000.00'
V > 70 MPH
e = NC

DETAIL H
4' BASE LATERAL DITCH
(Not to Scale)



Min. D = 1 Ft.
B = 4 Ft.
b = 5 Ft.

FROM STA. 578+82 -L- TO STA. 590+22 -L- LT
FROM STA. 578+15 -L- TO STA. 592+89 -L- RT

(146) EDWARDS TIMBER COMPANY, INC.
DB 2079 PG 817
MB 001 PG 042

(142) WEYERHAEUSER COMPANY
DB 231 PG 135
MB 001 PG 042

(147) EDITH L. BRAUDWELL
DB 258 PG 50
MB 38 PG 103

(148) HAPPY TRAIL FARMS, LLC
DB 3005 PG 769
MB 38 PG 103

(150) HAPPY TRAIL FARMS, LLC
DB 3005 PG 769
MB 38 PG 103

(153) PITT COUNTY
DB L-42 PG 69
MB 22 PG 168-168D

MATCHLINE -L- STA. 582+00, SEE SHEET 42

MATCHLINE -L- STA. 596+00, SEE SHEET 44

-L- PC Sta. 582+03.34

-L- +03.34
125.00' LT

-L- +30.00
130.00' LT

-L- +45.00
135.00' LT

-L- +30.00
125.00' LT &
135.00' LT

-L- +03.34
135.00' RT

4' BASE LATERAL DITCH
SEE DETAIL 'H'

RIP RAP AT EMBANKMENT
SEE DETAIL 'K'

4' LATERAL BASE DITCH
SEE DETAIL 'H'

GUC TRANSMISSION LINE EASEMENT

50' PIEDMONT NATURAL GAS EASEMENT

8" STEEL (PNG)

24" RCP-III

-BL- 85

-BL- 84

-L-

+00 INTERMEDIATE GUIDERAIL ANCHORS

CLASS 'B' RIP RAP
EST. 8 TONS
21 SY GEO-TEXTILE

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

100' GREENVILLE UTILITIES COMMISSION OVERHEAD POWER EASEMENT

NAD 83

SEE SHEET NOS. 113 & 114 FOR -L- PROFILE

REVISIONS

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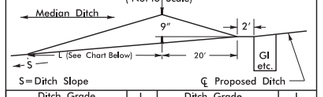
PROJECT REFERENCE NO.	SHEET NO.
R-2250	44
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

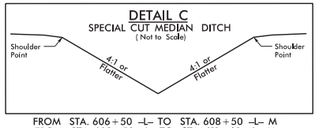
DETAIL M
FALSE SUMP
(Not to Scale)



S = Ditch Slope

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

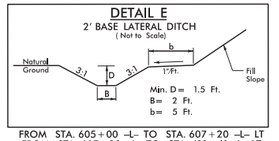
DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)



FROM STA. 606+50 -L- TO STA. 608+50 -L- M
FROM STA. 608+50 -L- TO STA. 611+60 -L- M

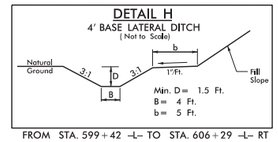
-L-
PI Sta 610+27.35
Δ = 12° 53' 22.8" (RT)
D = 0° 13' 45.1"
L = 5,624.18'
T = 2,824.01'
R = 25,000.00'
V > 70 MPH
e = NC

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)



FROM STA. 605+00 -L- TO STA. 607+20 -L- LT
FROM STA. 607+20 -L- TO STA. 610+61 -L- LT

DETAIL H
4' BASE LATERAL DITCH
(Not to Scale)



FROM STA. 599+42 -L- TO STA. 606+29 -L- RT

NAD 83

147
EDITH L. BRAUDWELL
DB 258 PG 50
MB 38 PG 103

150
HAPPY TRAIL FARMS, LLC
DB 3005 PG 769
MB 38 PG 103

150
HAPPY TRAIL FARMS, LLC
DB 3035 PG 573
MB 38 PG 103

MATCHLINE -L- STA. 596+00, SEE SHEET 43

MATCHLINE -L- STA. 610+00, SEE SHEET 45

-L- +00.00
125.00' LT

-L- +00.00
190.00' LT

-BL- 86

2' BASE LATERAL DITCH
SEE DETAIL 'E'

SPECIAL CUT
MEDIAN DITCH
SEE DETAIL 'C'

4' BASE LATERAL DITCH
SEE DETAIL 'H'

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

CLASS 'B' RIP RAP
EST. 8 TONS
21 SY GEO-TEXTILE

LATERAL 'V' DITCH
SEE DETAIL 'D'

-L- +95.00
135.00' RT

-L- +00.00
190.00' RT

GUC TRANSMISSION LINE EASEMENT

50' PIEDMONT NATURAL GAS EASEMENT

8" STEEL (PNG)

SEE SHEET NOS. 114 & 115 FOR -L- PROFILE

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
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FILE: North_Carolina_Dept_of_Transportation\R-2250A_B_C_Greenville_Southwest_Bypass_DB\06.00_Project_Design\R-2250_NCDOT_File_Structure\RoadwayProj\R2250_RDY_PSH-44.dgn
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	45
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

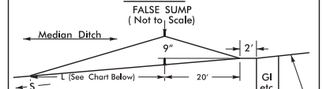
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

-L-
PI Sta 610+27.35
Δ = 12° 53' 22.8" (RT)
D = 0° 13' 45.1"
L = 5,624.18'
T = 2,824.01'
R = 25,000.00'
V > 70 MPH
e = NC

DETAIL M
FALSE SUMP
(Not to Scale)



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

-Y22- POT Sta. 10+00.00

GREENVILLE COMMUNITY CHURCH OF THE NAZARENE CTM
DB 1065 PG 257
MB 38 PG 103
DB 2572 PG 263

NAD 83

MATCHLINE -L- STA. 610+00, SEE SHEET 44

MATCHLINE -L- STA. 624+00, SEE SHEET 46

150 HAPPY TRAIL FARMS, LLC
DB 3005 PG 769
MB 38 PG 103

HAPPY TRAILS FARM, LLC
DB 3035 PG 57
MB 38 PG 103

153 PITT COUNTY
DB L-42 PG 69
MB 22 PG 168-168D

NORFOLK SOUTHERN RAILROAD
CAROLINA COASTAL RAILWAY

-BL- 87

-BL- 88

-L- POC Sta. 613+01.01 = -Y22- POT Sta. 14+30.72

-Y22- POT Sta. 18+80.00

N 85° 14' 53.0" E

GUC TRANSMISSION LINE EASEMENT

50' PIEDMONT NATURAL GAS EASEMENT
8" STEEL (PNG)

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

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

CLASS 'B' RIP RAP
EST. 5 TONS
14 SY GEO-TEXTILE

CLASS 'B' RIP RAP
EST. 11 TONS
28 SY GEO-TEXTILE

2' BASE LATERAL DITCH SEE DETAIL 'E'

4' LATERAL BASE DITCH SEE DETAIL 'H'

SPECIAL CUT MEDIAN DITCH SEE DETAIL 'C'

-L- EX. R/W 190.00' LT

-L- +00.00 190.00' LT

-L- EX. R/W 190.00' RT END WW FENCE

-L- P/L 154.00' LT

-L- +87.10 145.75' LT

-L- +30.00 PROP. R/W

-L- P/L 163.00' RT

-L- +17.00 156.97' RT & 167.00' RT

-L- +70.31 135.02' RT

-L- +70.00 125.00' RT

-Y22- +33 P/L EX. R/W

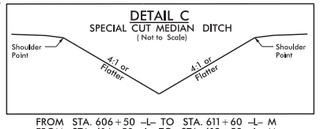
BEG. WW FENCE

END WW FENCE

PROP. SBG

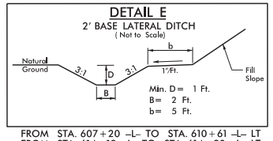
PUE

DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)



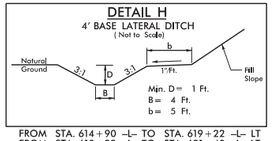
FROM STA. 606+50 -L- TO STA. 611+60 -L- M
FROM STA. 614+50 -L- TO STA. 619+50 -L- M
FROM STA. 621+50 -L- TO STA. 623+50 -L- M
FROM STA. 623+50 -L- TO STA. 624+72 -L- M

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)



FROM STA. 607+20 -L- TO STA. 610+61 -L- LT
FROM STA. 614+13 -L- TO STA. 614+90 -L- LT
FROM STA. 621+40 -L- TO STA. 626+18 -L- LT

DETAIL H
4' BASE LATERAL DITCH
(Not to Scale)

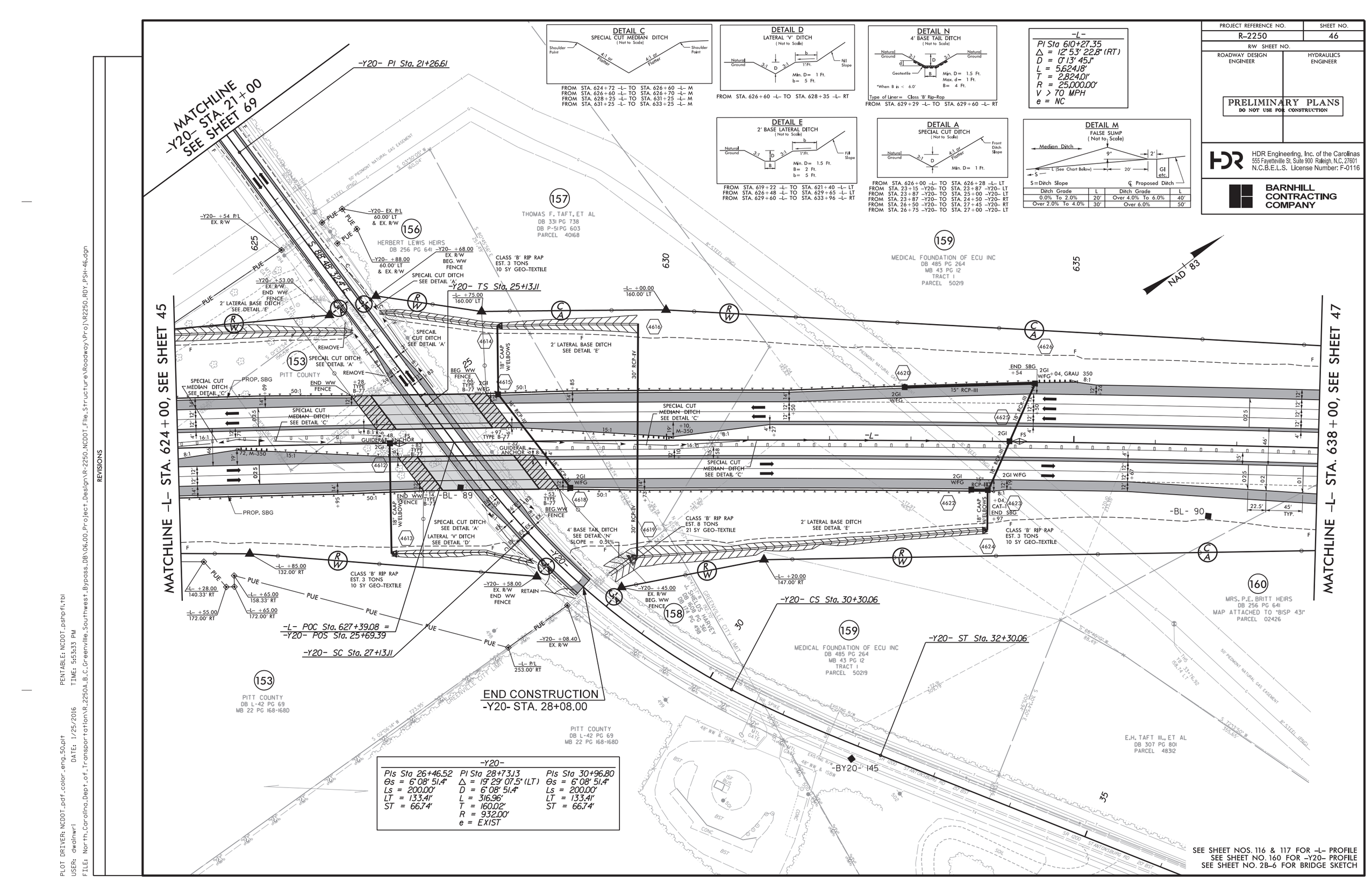


FROM STA. 614+90 -L- TO STA. 619+22 -L- LT
FROM STA. 619+22 -L -TO STA. 621+40 -L- LT

SEE SHEET NOS. 115 & 116 FOR -L- PROFILE
SEE SHEET NO. 2B-5 FOR BRIDGE SKETCH

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.pit PENTABLE: NCDOT_pshpfi.tbl
USER: dwalnwri DATE: 1/25/2016 TIME: 5:53:22 PM
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DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)
Shoulder Point
4:1 or Flatter
FROM STA. 624+72 -L- TO STA. 626+60 -L- M
FROM STA. 626+60 -L- TO STA. 626+70 -L- M
FROM STA. 628+25 -L- TO STA. 631+25 -L- M
FROM STA. 631+25 -L- TO STA. 633+25 -L- M
DETAIL D
LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
Fill Slope
Min. D= 1 Ft.
b= 5 Ft.
FROM STA. 626+60 -L- TO STA. 628+35 -L- RT
DETAIL N
4' BASE TAIL DITCH
(Not to Scale)
Geotextile
Min. D= 1.5 Ft.
Max. d= 1 Ft.
B= 4 Ft.
*When B is < 6.0'
Type of Liner= Class 'B' Rip-Rap
FROM STA. 629+29 -L- TO STA. 629+60 -L- RT
-L-
PI Sta 610+27.35
Δ = 12° 53' 22.8" (RT)
D = 0° 13' 45.1"
L = 5,624.18'
T = 2,824.01'
R = 25,000.00'
V > 70 MPH
e = NC
DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)
Min. D= 1.5 Ft.
B= 2 Ft.
b= 5 Ft.
FROM STA. 619+22 -L- TO STA. 621+40 -L- LT
FROM STA. 626+48 -L- TO STA. 629+65 -L- LT
FROM STA. 629+60 -L- TO STA. 633+96 -L- RT
DETAIL A
SPECIAL CUT DITCH
(Not to Scale)
Front Ditch Slope
Min. D= 1 Ft.
FROM STA. 626+00 -L- TO STA. 626+28 -L- LT
FROM STA. 23+15 -Y20- TO STA. 23+87 -Y20- LT
FROM STA. 23+87 -Y20- TO STA. 25+00 -Y20- LT
FROM STA. 23+87 -Y20- TO STA. 24+50 -Y20- RT
FROM STA. 26+50 -Y20- TO STA. 27+45 -Y20- RT
FROM STA. 26+75 -Y20- TO STA. 27+00 -Y20- LT
DETAIL M
FALSE SUMP
(Not to Scale)
Median Ditch
9"
2'
L (See Chart Below)
20'
GI etc.
S
S=Ditch Slope
℄ Proposed Ditch
Ditch Grade | L | Ditch Grade | L
0.0% To 2.0% | 20' | Over 4.0% To 6.0% | 40'
Over 2.0% To 4.0% | 30' | Over 6.0% | 50'
PROJECT REFERENCE NO. R-2250
SHEET NO. 46
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116
BARNHILL CONTRACTING COMPANY
MATCHLINE -Y20- STA. 21+00 SEE SHEET 69
-Y20- PI Sta. 21+26.61
-Y20- TS Sta. 25+13.11
-Y20- SC Sta. 27+13.11
-L- POC Sta. 627+39.08 = -Y20- POS Sta. 25+69.39
-Y20- CS Sta. 30+30.06
-Y20- ST Sta. 32+30.06
-BY20- 145
-BL- 89
-BL- 90
-Y20-
-L-
S 88° 48' 32" E
S 03°30'05" W 160.04'
S 80°45'56" E 237.79'
S 66°46'02" W 85.49'
S 17°34'50" W 325.63'
S 02°06'14" W 724.95'
S 05°25'40" E 308.98'
NAD 83
625
630
635
153 PITT COUNTY DB L-42 PG 69 MB 22 PG 168-168D
156 HERBERT LEWIS HEIRS DB 256 PG 641
157 THOMAS F. TAFT, ET AL DB 331 PG 738 DB P-5IPG 603 PARCEL 40168
158 J. SHIELDS HARVEY DB 604 PG 498
159 MEDICAL FOUNDATION OF ECU INC DB 485 PG 264 MB 43 PG 12 TRACT 1 PARCEL 50219
160 MRS. P.E. BRITT HEIRS DB 256 PG 641 MAP ATTACHED TO "BISP 431" PARCEL 02426
E.H. TAFT III., ET AL DB 307 PG 801 PARCEL 48312
-Y20- +54 P/L EX. R/W
-Y20- EX. P/L 60.00' LT & EX. R/W
-Y20- +88.00 60.00' LT & EX. R/W
-Y20- +68.00 EX. R/W BEG. WW FENCE
-Y20- +53.00 EX. R/W END WW FENCE
2' LATERAL BASE DITCH SEE DETAIL 'E'
SPECIAL CUT DITCH SEE DETAIL 'A'
REMOVE SPECIAL CUT DITCH SEE DETAIL 'A'
CLASS 'B' RIP RAP EST. 3 TONS 10 SY GEO-TEXTILE
-L- +75.00 160.00' LT
-L- +00.00 160.00' LT
SPECIAL CUT MEDIAN DITCH SEE DETAIL 'C'
PROP. SBG
END WW FENCE +28 TYPE B-77
+56 TYPE B-77 2GI W/FG
+97 TYPE B-77
GUIDERAIL ANCHOR 8:1
48' FS
+83 TYPE B-77
END WW +14 FENCE TYPE B-77
+53 TYPE B-77 BEG. WW FENCE
18" CAAP W/ELBOWS
30" RCP-IV
18" RCP-III
15" RCP-III
16" RCP-III
2GI W/FG
END SBG +54
+04, GRAU 350 8:1
+04, CAT-1 END SBG +27
SPECAIL CUT DITCH SEE DETAIL 'A'
LATERAL 'V' DITCH SEE DETAIL 'D'
4' BASE TAIL DITCH SEE DETAIL 'N' SLOPE = 0.31%
CLASS 'B' RIP RAP EST. 8 TONS 21 SY GEO-TEXTILE
CLASS 'B' RIP RAP EST. 3 TONS 10 SY GEO-TEXTILE
-L- +85.00 132.00' RT
-L- +28.00 140.33' RT
-L- +65.00 158.33' RT
-L- +55.00 172.00' RT
-L- +65.00 172.00' RT
-L- +20.00 147.00' RT
-Y20- +58.00 EX. R/W END WW FENCE
-Y20- +08.40 EX. R/W
-Y20- +45.00 EX. R/W BEG. WW FENCE
-L- P/L 253.00' RT
RETAIN
END CONSTRUCTION -Y20- STA. 28+08.00
-Y20-
PIs Sta 26+46.52 Øs = 6° 08' 51.4" Ls = 200.00' LT = 133.41' ST = 66.74'
PI Sta 28+73.13 Δ = 19° 29' 07.5" (LT) D = 6° 08' 51.4" L = 316.96' T = 160.02' R = 932.00' e = EXIST
PIs Sta 30+96.80 Øs = 6° 08' 51.4" Ls = 200.00' LT = 133.41' ST = 66.74'
SEE SHEET NOS. 116 & 117 FOR -L- PROFILE
SEE SHEET NO. 160 FOR -Y20- PROFILE
SEE SHEET NO. 2B-6 FOR BRIDGE SKETCH
MATCHLINE -L- STA. 624+00, SEE SHEET 45
MATCHLINE -L- STA. 638+00, SEE SHEET 47
REVISIONS
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PENTABLE: NCDOT_pshpfl.tbl
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TIME: 5:53:33 PM

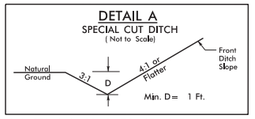
PROJECT REFERENCE NO.	SHEET NO.
R–2250	47
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

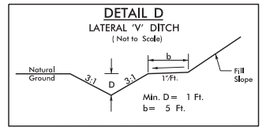
BARNHILL CONTRACTING COMPANY

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 646+00 –L– TO STA. 647+00 –L– LT

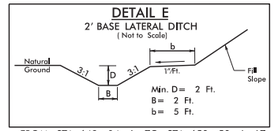
DETAIL D
LATERAL 'V' DITCH
(Not to Scale)



FROM STA. 647+00 –L– TO STA. 648+04 –L– LT

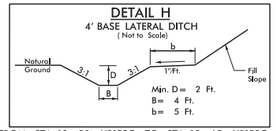
NAD 83

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)



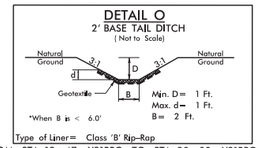
FROM STA. 648+04 –L– TO STA. 650+50 –L– LT

DETAIL H
4' BASE LATERAL DITCH
(Not to Scale)



FROM STA. 12+50 –Y21RPC– TO STA. 15+65 –Y21RPC– RT

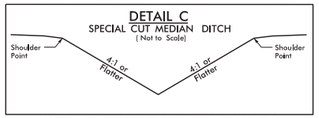
DETAIL O
2' BASE TAIL DITCH
(Not to Scale)



FROM STA. 19+47 –Y21RPC– TO STA. 20+00 –Y21RPC– RT

–Y21RPB–		
PI Sta 11+60.08	PI Sta 28+18.24	PI Sta 35+29.78
Θs = 5° 43' 46.5"	Δ = 105° 30' 20.6" (LT)	Θs = 5° 43' 46.5"
Ls = 240.00'	D = 4° 46' 28.7"	Ls = 240.00'
LT = 160.08'	L = 2,209.71'	LT = 160.08'
ST = 80.08'	T = 1,578.24'	ST = 80.08'
	R = 1,200.00'	
	V = 60 MPH	
	e = 0.08	
	Lr = 240'	

DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)



FROM STA. 653+00 –L– TO STA. 655+00 –L– M

159
MEDICAL FOUNDATION OF ECU INC
DB 485 PG 264
MB 43 PG 12
TRACT 1
PARCEL 50219

640

–Y21RPB– ST Sta. 10+00.00 =
–L– POC Sta. 638+16.51, 47.00' LT

–Y21RPB– SC Sta. 12+40.00

–L– +16.51
125.00' LT

–Y21RPB– +40.00
90.00' LT

MATCHLINE –L– STA. 638+00, SEE SHEET 46

MATCHLINE –Y21RPB– STA. 22+00

MATCHLINE –L– STA. 651+00 SEE SHEET 48

MATCHLINE –Y21RPC– STA. 20+00

S 05°48'38" W
904.42'

B

2' BASE LATERAL DITCH
SEE DETAIL 'E'

LATERAL 'V' DITCH
SEE DETAIL 'D'

SPECIAL CUT DITCH
SEE DETAIL 'A'

161
TERESA MANNING BUTTS ET AL
DB 96E PG 718
PARCEL 27336

645

650

+83, IMPACT ATTENUATOR TYPE 350

63, GUIDERAIL ANCHOR

+17, IMPACT ATTENUATOR TYPE 350

+37, GUIDERAIL ANCHOR

–BL– 91

+00, GRAU 350

N 31° 46' 26.9" E

C

–L– +27.52
125.00' RT

CHORD

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO–TEXTILE

160
MRS. P.E. BRITT HEIRS
DB 256 PG 641
MAP ATTACHED TO "BISP 431"
PARCEL 02426

–L– +42.52
125.00' RT

–L– CS Sta. 638+27.52

–L– SC Sta. 641+42.52

–L– EX. R/W
130.00' RT

–Y21RPC– +40.00
108.00' RT

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO–TEXTILE

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

CLASS 'B' RIP RAP
EST. 8 TONS
21 SY GEO–TEXTILE

4' BASE LATERAL DITCH
SEE DETAIL 'H'

2' BASE TAIL DITCH
SEE DETAIL 'O'
SLOPE = 0.20%

–Y21RPC– +00.00
EX. R/W

–Y21RPC– +10.00
150.00' RT

–Y21RPC– SC Sta. 16+80.00

–Y21RPC– ST Sta. 10+00.00 =
–L– POC Sta. 642+07.11, 47.00' RT

–Y21RPC– ST Sta. 12+40.00

–Y21RPC– TS Sta. 14+40.00

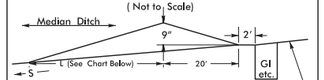
TERESA MANNING BUTTS ET AL
DB 96E PG 718
PARCEL 27336

S 00°50'01" W
202.31'

162
STANTONSBURG ROAD, LLC
DB 1954 PG 523

–L–
PI Sta 610+27.35
Δ = 12° 53' 22.8" (RT)
D = 0° 13' 45.1"
L = 5,624.18'
T = 2,824.01'
R = 25,000.00'
V > 70 MPH
e = NC

DETAIL M
FALSE SUMP
(Not to Scale)



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

–L–		
PI Sta 640+37.57	PI Sta 647+87.27	PI Sta 655+11.18
Θs = 3° 29' 51.7"	Δ = 28° 03' 43.2" (LT)	Θs = 3° 29' 51.7"
Ls = 315.00'	D = 2° 13' 14.8"	Ls = 315.00'
LT = 210.04'	L = 1,263.62'	LT = 210.04'
ST = 105.04'	T = 644.75'	ST = 105.04'
	R = 2,580.00'	
	V = 70 MPH	
	e = 0.07	
	Lr = 315'	

–Y21RPC–					
PI Sta 10+80.02	PI Sta 16+00.00	PI Sta 21+44.32	PI Sta 27+55.48	PI Sta 31+93.93	PI Sta 36+00.86
Θs = 2° 37' 02.1"	Θs = 1° 02' 02.1"	Δ = 7° 59' 17.1" (RT)	Θs = 1° 01' 57.6"	Δ = 33° 33' 45.1" (RT)	Θs = 5° 58' 43.3"
Ls = 240.00'	Ls = 240.00'	D = 0° 51' 41.7"	Θs = 5° 58' 47.8"	D = 4° 58' 56.1"	Ls = 240.00'
LT = 160.02'	LT = 160.00'	L = 927.13'	Ls = 240.00'	L = 673.64'	LT = 160.09'
ST = 80.02'	ST = 80.00'	T = 464.32'	LT = 148.35'	T = 346.80'	ST = 80.08'
		R = 6,650.00'	ST = 91.92'	R = 1,150.00'	
		V = 60 MPH		V = 55 MPH	
		e = 0.025		e = 0.08	
		Lr = 75'		Lr = 240'	

SEE SHEET NOS. 117 & 118 FOR –L– PROFILE
SEE SHEET NO. 166 FOR –Y21RPB– PROFILE
SEE SHEET NO. 169 FOR –Y21RPC– PROFILE

REVISIONS

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REVISIONS

SEE SHEET 70

SEE SHEET 47

SEE SHEET 71

MATCHLINE –Y21– STA. 29+00

MATCHLINE –Y21RPB– STA. 29+00

MATCHLINE –Y21RPA– STA. 26+00

MATCHLINE –Y21RPB– STA. 21+00

MATCHLINE –Y21RPC– STA. 20+00

MATCHLINE –L– STA. 651+00

MATCHLINE –Y21– STA. 43+00

MATCHLINE –Y21RPC– STA. 30+00

MATCHLINE –Y21RPD– STA. 23+50

MATCHLINE –L– STA. 679+00, SEE INSET

MATCHLINE –L– STA. 679+00, SEE THIS SHEET

159 MEDICAL FOUNDATION OF ECU INC DB 485 PG 264 MB 43 PG 12 TRACT 1 PARCEL 5029

161 TERESA MANNING BUTTS ET AL DB 166 PG 78 PARCEL 27536

162 STANTONSBURG ROAD, LLC DB 1954 PG 523 PARCEL 18294

JAMES S. KITTRELL DB 1890 PG 832 MB 40 PG 140 MB 43 PG 148

DAVID L. BOND DB 1890 PG 832 MB 40 PG 140 MB 43 PG 148

–Y21RPB–

Pis Sta 11+60.08	PI Sta 28+18.24	Pis Sta 35+29.78
θs = 5° 43' 46.5"	Δ = 105° 30' 20.6" (LT)	θs = 5° 43' 46.5"
Ls = 240.00'	D = 4° 46' 28.2"	Ls = 240.00'
LT = 160.08'	L = 2,209.71'	LT = 160.08'
ST = 80.08'	T = 1,578.24'	ST = 80.08'
	R = 1,200.00'	
	V = 60 MPH	
	e = 0.08	
	Lr = 240'	

–Y21LPB–

Pis Sta 11+62.34	PI Sta 27+53.56	Pis Sta 21+36.17	Pis Sta 23+81.94
θs = 29° 53' 36.4"	Δ = 191° 16' 51.9" (RT)	θs = 37° 22' 00.5"	θs = 17° 16' 43.5"
Ls = 240.00'	D = 24° 54' 40.4"	Ls = 300.00'	Ls = 75.00'
LT = 162.34'	L = 719.06'	LT = 204.65'	LT = 50.03'
ST = 82.13'	T = 1,513.56'	ST = 104.24'	ST = 25.00'
	R = 230.00'		
	V = 30 MPH		
	e = 0.08		
	Lr = 240'		

–Y21LPC–

Pis Sta 11+76.77	PI Sta 21+34.50	Pis Sta 21+28.91
θs = 34° 38' 38.3"	Δ = 207° 51' 30.0" (LT)	θs = 34° 38' 38.3"
Ls = 260.00'	D = 26° 38' 57.1"	Ls = 260.00'
LT = 176.77'	L = 719.06'	LT = 176.77'
ST = 89.80'	T = 874.50'	ST = 89.80'
	R = 215.00'	
	V = 30 MPH	
	e = EXIST	

–Y21RPC–

Pis Sta 16+00.00	PI Sta 21+44.32	Pis Sta 27+55.48	PI Sta 31+93.93	Pis Sta 36+00.86
θs = 1° 02' 02.2"	Δ = 7° 59' 17.2" (RT)	θs = 1° 01' 57.6"	Δ = 33° 33' 45.7" (RT)	θs = 5° 58' 43.3"
Ls = 240.00'	D = 0° 51' 41.7"	Ls = 240.00'	D = 4° 58' 56.7"	Ls = 240.00'
LT = 160.00'	L = 927.13'	LT = 148.35'	L = 671.54'	LT = 160.00'
ST = 80.00'	T = 464.32'	ST = 91.52'	T = 346.80'	ST = 80.08'
	R = 6,850.00'		R = 1,150.00'	
	V = 60 MPH		V = 55 MPH	
	e = 0.025		e = 0.08	
	Lr = 75'		Lr = 240'	

–Y21RPA–

Pis Sta 13+53.39	PI Sta 16+87.41	Pis Sta 20+20.56	PI Sta 22+43.31	Pis Sta 24+67.54	PI Sta 28+72.96	Pis Sta 32+43.94
θs = 5° 12' 31.3"	Δ = 27° 20' 00.0" (RT)	θs = 17° 49' 03.9"	Δ = 1° 36' 51.1" (RT)	θs = 17° 49' 03.0"	Δ = 37° 51' 45.7" (RT)	θs = 17° 45' 05.3"
Ls = 200.00'	D = 5° 12' 31.3"	θs = 5° 12' 34.1"	D = 17° 49' 06.8"	θs = 5° 56' 18.2"	D = 5° 56' 14.6"	θs = 5° 56' 18.0"
LT = 153.39'	L = 524.76'	Ls = 200.00'	L = 197.21'	Ls = 200.00'	L = 637.72'	Ls = 200.00'
ST = 66.72'	T = 267.47'	LT = 124.37'	T = 98.66'	LT = 125.36'	T = 330.98'	LT = 125.93'
	R = 1,050.00'	ST = 75.80'	R = 7,000.00'	ST = 74.84'	R = 965.00'	ST = 74.27'
	V = 55 MPH		V = 60 MPH		V = 55 MPH	
	e = 0.08		e = 0.025		e = 0.08	
	Lr = 200'				Lr = 200'	

–Y21LPA–

Pis Sta 11+62.64	PI Sta 19+54.04	Pis Sta 21+27.15
θs = 31° 41' 03.5"	Δ = 213° 48' 31.5" (LT)	θs = 17° 48' 05.9"
Ls = 240.00'	D = 26° 24' 12.5"	θs = 29° 04' 15.8"
LT = 162.64'	L = 809.77'	Ls = 220.00'
ST = 82.41'	T = 714.04'	LT = 146.83'
	R = 217.00'	ST = 77.37'
	V = 30 MPH	
	e = 0.08	
	Lr = 240'	

–Y21–

Pis Sta 19+70.53	PI Sta 27+92.41	Pis Sta 36+09.08
θs = 0° 33' 42.2"	Δ = 11° 31' 23.6" (LT)	θs = 0° 33' 42.2"
Ls = 150.00'	D = 0° 44' 56.3"	Ls = 150.00'
LT = 100.00'	L = 1,538.55'	LT = 100.00'
ST = 50.00'	T = 771.88'	ST = 50.00'
	R = 7,650.00'	
	V = 70 MPH	
	e = 0.03	
	Lr = 150'	

NAD 83

AADT YEAR 2014 / 2040 (VOLUME IN 100s)

US 264 (–Y21–)

BY-PASS (–L–) 43/100 150/332 241/468 42/94 195/435 49/97 194/370 US 264 (–L–)

221/424

STANTONSBURG RD (–Y21–)

CULVERT #1 TWO BARRELS

	NORTH	EAST	ELEV.
CUL1	681886.55	2464476.68	53.76
CUL2	681896.43	2464477.00	53.82
CUL3	681895.44	2464477.01	53.74
CUL4	681903.00	2464477.54	53.76
CE1	681896.27	2464476.46	58.80
HW1	681894.95	2464476.41	60.68
CUL5	681847.96	2464294.71	54.45
CUL6	681859.23	2464292.53	54.42
CUL7	681860.84	2464292.51	54.45
CUL8	681871.58	2464289.98	54.41
CE2	681859.23	2464293.47	59.51
HW2	681859.81	2464293.43	61.38

–Y21RPA– PCT Sta. 10+00.00 = –L– POT Sta. 676+28.03 4,100 RT Δ = 3° 00' 00.0"

–Y21RPD– PT Sta. 10+00.00 = –L– POT Sta. 673+63.65 4,100 LT

–Y21RPD– SC Sta. 12+00.00

–Y21RPD– PCC Sta. 16+86.93

–Y21RPA– TS Sta. 12+20.00

–Y21RPA– SC Sta. 14+20.00

–Y21RPA– SC Sta. 19+44.76

–Y21RPA– SC Sta. 21+44.76

–Y21RPA– CS Sta. 23+41.97

–Y21RPA– SC Sta. 25+41.97

–Y21LPB– SC Sta. 12+45.00

–Y21LPB– SRS Sta. 23+11.94

–Y21LPB– ST Sta. 24+06.94 = –Y2I– POC Sta. 34+76.31, 58.00 RT

–Y21LPB– ST Sta. 10+00.00 = –L– POT Sta. 658+31.73, 4,100 LT

–Y21LPB– CS Sta. 20+41.94

–Y21LPA– SC Sta. 12+40.00

–Y21LPA– ST Sta. 8+69.77 = –Y2I– POC Sta. 34+21.04, 46.20 LT

–Y21LPA– ST Sta. 10+00.00 = –L– POT Sta. 660+75.05, 4,100 LT

–Y21LPA– CS Sta. 20+49.27

–Y21– CS Sta. 35+59.28

–Y21LPC– ST Sta. 9+00.00 = –L– POT Sta. 659+21.12, 59.00 RT

–Y21LPC– SC Sta. 12+60.00

–Y21LPC– ST Sta. 22+99.20 = –Y2I– POS Sta. 36+19.80, 58.00 RT

–Y21LPC– CS Sta. 20+39.10

–Y21LPC– SC Sta. 26+07.13

–Y21LPC– SC Sta. 28+47.13

–Y21LPD– ST Sta. 10+00.00 = –L– POT Sta. 662+10.58, 59.00 RT

–Y21– ST Sta. 37+09.08

–Y21LPD– ST Sta. 20+17.46 = –Y2I– POT Sta. 37+47.27, 45.28 LT

–Y21LPD– SC Sta. 12+25.00

–Y21LPD– CS Sta. 18+49.46

–Y21RPC– SC Sta. 10+00.00

–Y21RPC– ST Sta. 10+00.00 = –L– POT Sta. 663+75.26, 4,100 RT

–Y21RPC– CS Sta. 25+00, 26.00 RT

–Y21RPC– ST Sta. 11+00.00 = –L– POT Sta. 665+24.47, 4,100 RT

–Y21RPC– SC Sta. 12+00.00

–Y21RPC– CS Sta. 14+00.00

–Y21RPC– ST Sta. 12+00.00 = –L– POT Sta. 666+73.68, 4,100 RT

–Y21RPC– SC Sta. 13+00.00

–Y21RPC– ST Sta. 13+00.00 = –L– POT Sta. 668+23.09, 4,100 RT

–Y21RPC– CS Sta. 15+00.00

–Y21RPC– ST Sta. 14+00.00 = –L– POT Sta. 669+72.50, 4,100 RT

–Y21RPC– SC Sta. 16+00.00

–Y21RPC– ST Sta. 15+00.00 = –L– POT Sta. 671+21.91, 4,100 RT

–Y21RPC– CS Sta. 17+00.00

–Y21RPC– ST Sta. 16+00.00 = –L– POT Sta. 672+71.32, 4,100 RT

–Y21RPC– SC Sta. 18+00.00

–Y21RPC– ST Sta. 17+00.00 = –L– POT Sta. 674+20.73, 4,100 RT

–Y21RPC– CS Sta. 19+00.00

–Y21RPC– ST Sta. 18+00.00 = –L– POT Sta. 675+70.14, 4,100 RT

–Y21RPC– SC Sta. 20+00.00

–Y21RPC– ST Sta. 19+00.00 = –L– POT Sta. 677+19.55, 4,100 RT

–Y21RPC– CS Sta. 21+00.00

–Y21RPC– ST Sta. 20+00.00 = –L– POT Sta. 678+68.96, 4,100 RT

–Y21RPC– SC Sta. 22+00.00

–Y21RPC– ST Sta. 21+00.00 = –L– POT Sta. 680+18.37, 4,100 RT

–Y21RPC– CS Sta. 23+00.00

–Y21RPC– ST Sta. 22+00.00 = –L– POT Sta. 681+67.78, 4,100 RT

–Y21RPC– SC Sta. 24+00.00

–Y21RPC– ST Sta. 23+00.00 = –L– POT Sta. 683+17.19, 4,100 RT

–Y21RPC– CS Sta. 25+00.00

–Y21RPC– ST Sta. 24+00.00 = –L– POT Sta. 684+66.60, 4,100 RT

–Y21RPC– SC Sta. 26+00.00

–Y21RPC– ST Sta. 25+00.00 = –L– POT Sta. 686+16.01, 4,100 RT

–Y21RPC– CS Sta. 27+00.00

–Y21RPC– ST Sta. 26+00.00 = –L– POT Sta. 687+65.42, 4,100 RT

–Y21RPC– SC Sta. 28+00.00

–Y21RPC– ST Sta. 27+00.00 = –L– POT Sta. 689+14.83, 4,100 RT

–Y21RPC– CS Sta. 29+00.00

–Y21RPC– ST Sta. 28+00.00 = –L– POT Sta. 690+64.24, 4,100 RT

–Y21RPC– SC Sta. 30+00.00

–Y21RPC– ST Sta. 29+00.00 = –L– POT Sta. 692+13.65, 4,100 RT

–Y21RPC– CS Sta. 31+00.00

–Y21RPC– ST Sta. 30+00.00 = –L– POT Sta. 693+63.06, 4,100 RT

–Y21RPC– SC Sta. 32+00.00

–Y21RPC– ST Sta. 31+00.00 = –L– POT Sta. 695+12.47, 4,100 RT

–Y21RPC– CS Sta. 33+00.00

–Y21RPC– ST Sta. 32+00.00 = –L– POT Sta. 696+61.88, 4,100 RT

–Y21RPC– SC Sta. 34+00.00

–Y21RPC– ST Sta. 33+00.00 = –L– POT Sta. 698+11.29, 4,100 RT

–Y21RPC– CS Sta. 35+00.00

–Y21RPC– ST Sta. 34+00.00 = –L– POT Sta. 699+60.70, 4,100 RT

–Y21RPC– SC Sta. 36+00.00

–Y21RPC– ST Sta. 35+00.00 = –L– POT Sta. 701+10.11, 4,100 RT

–Y21RPC– CS Sta. 37+00.00

–Y21RPC– ST Sta. 36+00.00 = –L– POT Sta. 702+59.52, 4,100 RT

–Y21RPC– SC Sta. 38+00.00

–Y21RPC– ST Sta. 37+00.00 = –L– POT Sta. 704+08.93, 4,100 RT

–Y21RPC– CS Sta. 39+00.00

–Y21RPC– ST Sta. 38+00.00 = –L– POT Sta. 705+58.34, 4,100 RT

–Y21RPC– SC Sta. 40+00.00

–Y21RPC– ST Sta. 39+00.00 = –L– POT Sta. 707+07.75, 4,100 RT

–Y21RPC– CS Sta. 41+00.00

–Y21RPC– ST Sta. 40+00.00 = –L– POT Sta. 708+57.16, 4,100 RT

–Y21RPC– SC Sta. 42+00.00

–Y21RPC– ST Sta. 41+00.00 = –L– POT Sta. 710+06.57, 4,100 RT

–Y21RPC– CS Sta. 43+00.00

–Y21RPC– ST Sta. 42+00.00 = –L– POT Sta. 711+55.98, 4,100 RT

–Y21RPC– SC Sta. 44+00.00

–Y21RPC– ST Sta. 43+00.00 = –L– POT Sta. 713+05.39, 4,100 RT

–Y21RPC– CS Sta. 45+00.00

–Y21RPC– ST Sta. 44+00.00 = –L– POT Sta. 714+54.80, 4,100 RT

–Y21RPC– SC Sta. 46+00.00

–Y21RPC– ST Sta. 45+00.00 = –L– POT Sta. 716+04.21, 4,100 RT

–Y21RPC– CS Sta. 47+00.00

–Y21RPC– ST Sta. 46+00.00 = –L– POT Sta. 717+53.62, 4,100 RT

–Y21RPC– SC Sta. 48+00.00

–Y21RPC– ST Sta. 47+00.00 = –L– POT Sta. 719+03.03, 4,100 RT

–Y21RPC– CS Sta. 49+00.00

–Y21RPC– ST Sta. 48+00.00 = –L– POT Sta. 720+52.44, 4,100 RT

–Y21RPC– SC Sta. 50+00.00

–Y21RPC– ST Sta. 49+00.00 = –L– POT Sta. 722+01.85, 4,100 RT

–Y21RPC– CS Sta. 51+00.00

–Y21RPC– ST Sta. 50+00.00 = –L– POT Sta. 723+51.26, 4,100 RT

–Y21RPC– SC Sta. 52+00.00

–Y21RPC– ST Sta. 51+00.00 = –L– POT Sta. 725+00.67, 4,100 RT

–Y21RPC– CS Sta. 53+00.00

–Y21RPC– ST Sta. 52+00.00 = –L– POT Sta. 726+50.08, 4,100 RT

–Y21RPC– SC Sta. 54+00.00

–Y21RPC– ST Sta. 53+00.00 = –L– POT Sta. 727+99.49, 4,100 RT

–Y21RPC– CS Sta. 55+00.00

–Y21RPC– ST Sta. 54+00.00 = –L– POT Sta. 729+48.91, 4,100 RT

–Y21RPC– SC Sta. 56+00.00

–Y21RPC– ST Sta. 55+00.00 = –L– POT Sta. 730+98.32, 4,100 RT

–Y21RPC– CS Sta. 57+00.00

–Y21RPC– ST Sta. 56+00.00 = –L– POT Sta. 732+47.73, 4,100 RT

–Y21RPC– SC Sta. 58+00.00

–Y21RPC– ST Sta. 57+00.00 = –L– POT Sta. 733+97.14, 4,100 RT

–Y21RPC– CS Sta. 59+00.00

–Y21RPC– ST Sta. 58+00.00 = –L– POT Sta. 735+46.55, 4,100 RT

–Y21RPC– SC Sta. 60+00.00

–Y21RPC– ST Sta. 59+00.00 = –L– POT Sta. 736+95.96, 4,100 RT

–Y21RPC– CS Sta. 61+00.00

–Y21RPC– ST Sta. 60+00.00 = –L– POT Sta. 738+45.37, 4,100 RT

–Y21RPC– SC Sta. 62+00.00

–Y21RPC– ST Sta. 61+00.00 = –L– POT Sta. 739+94.78, 4,100 RT

–Y21RPC– CS Sta. 63+00.00

–Y21RPC– ST Sta. 62+00.00 = –L– POT Sta. 741+44.19, 4,100 RT

–Y21RPC– SC Sta. 64+00.00

–Y21RPC– ST Sta. 63+00.00 = –L– POT Sta. 742+93.60, 4,100 RT

–Y21RPC– CS Sta. 65+00.00

–Y21RPC– ST Sta. 64+00.00 = –L– POT Sta. 744+43.01, 4,100 RT

–Y21RPC– SC Sta. 66+00.00

–Y21RPC– ST Sta. 65+00.00 = –L– POT Sta. 745+92.42, 4,100 RT

–Y21RPC– CS Sta. 67+00.00

–Y21RPC– ST Sta. 66+00.00 = –L– POT Sta. 747+41.83, 4,100 RT

–Y21RPC– SC Sta. 68+00.00

–Y21RPC– ST Sta. 67+00.00 = –L– POT Sta. 748+91.24, 4,100 RT

–Y21RPC– CS Sta. 69+00.00

–Y21RPC– ST Sta. 68+00.00 = –L– POT Sta. 750+40.65, 4,100 RT

–Y21RPC– SC Sta. 70+00.00

–Y21RPC– ST Sta. 69+00.00 = –L– POT Sta. 751+90.06, 4,100 RT

–Y21RPC– CS Sta. 71+00.00

–Y21RPC– ST Sta. 70+00.00 = –L– POT Sta. 753+39.47, 4,100 RT

–Y21RPC– SC Sta. 72+00.00

–Y21RPC– ST Sta. 71+00.00 = –L– POT Sta. 754+88.88, 4,100 RT

–Y21RPC– CS Sta. 73+00.00

–Y21RPC– ST Sta. 72+00.00 = –L– POT Sta. 756+38.29, 4,100 RT

–Y21RPC– SC Sta. 74+00.00

–Y21RPC– ST Sta. 73+00.00 = –L– POT Sta. 757+87.70, 4,100 RT

–Y21RPC– CS Sta. 75+00.00

–Y21RPC– ST Sta. 74+00.00 = –L– POT Sta. 759+37.11, 4,100 RT

–Y21RPC– SC Sta. 76+00.00

–Y21RPC– ST Sta. 75+00.00 = –L– POT Sta. 760+86.52, 4,100 RT

–Y21RPC– CS Sta. 77+00.00

–Y21RPC– ST Sta. 76+00.00 = –L– POT Sta. 762+35.93, 4,100 RT

–Y21RPC– SC Sta. 78+00.00

–Y21RPC– ST Sta. 77+00.00 = –L– POT Sta. 763+85.34, 4,100 RT

–Y21RPC– CS Sta. 79+00.00

–Y21RPC– ST Sta. 78+00.00 = –L– POT Sta. 765+34.75, 4,100 RT

–Y21RPC– SC Sta. 80+00.00

–Y21RPC– ST Sta. 79+00.00 = –L– POT Sta. 766+84.16, 4,100 RT

–Y21RPC– CS Sta. 81+00.00

–Y21RPC– ST Sta. 80+00.00 = –L– POT Sta. 768+33.57, 4,100 RT

–Y21RPC– SC Sta. 82+00.00

–Y21RPC– ST Sta. 81+00.00 = –L– POT Sta. 769+82.98, 4,100 RT

–Y21RPC– CS Sta. 83+00.00

–Y21RPC– ST Sta. 82+00.00 = –L– POT Sta. 771+32.39, 4,100 RT

–Y21RPC– SC Sta. 84+00.00

–Y21RPC– ST Sta. 83+00.00 = –L– POT Sta. 772+81.80, 4,100 RT

–Y21RPC– CS Sta. 85+00.00

–Y21RPC– ST Sta. 84+00.00 = –L– POT Sta. 774+31.21, 4,100 RT

–Y21RPC– SC Sta. 86+00.00

–Y21RPC– ST Sta. 85+00.00 = –L– POT Sta. 775+80.62, 4,100 RT

–Y21RPC– CS Sta. 87+00.00

–Y21RPC– ST Sta. 86+00.00 = –L– POT Sta. 777+30.03, 4,100 RT

–Y21RPC– SC Sta. 88+00.00

–Y21RPC– ST Sta. 87+00.00 = –L– POT Sta. 778+79.44, 4,100 RT

–Y21RPC– CS Sta. 89+00.00

–Y21RPC– ST Sta. 88+00.00 = –L– POT Sta. 780+28.85, 4,100 RT

–Y21RPC– SC Sta. 90+00.00

–Y21RPC– ST Sta. 89+00.00 = –L– POT Sta. 781+78.26, 4,100 RT

–Y21RPC– CS Sta. 91+00.00

–Y21RPC– ST Sta. 90+00.00 = –L– POT Sta. 783+27.67, 4,100 RT

–Y21RPC– SC Sta. 92+00.00

–Y21RPC– ST Sta. 91+00.00 = –L– POT Sta. 784+77.08, 4,100 RT

–Y21RPC– CS Sta. 93+00.00

–Y21RPC– ST Sta. 92+00.00 = –L– POT Sta. 786+26.49, 4,100 RT

–Y21RPC– SC Sta. 94+00.00

–Y21RPC– ST Sta. 93+00.00 = –L– POT Sta. 787+75.90, 4,100 RT

–Y21RPC– CS Sta. 95+00.00

–Y21RPC– ST Sta. 94+00.00 = –L– POT Sta. 789+25.31, 4,100 RT

–Y21RPC– SC Sta. 96+00.00

–Y21RPC– ST Sta. 95+00.00 = –L– POT Sta. 790+74.72, 4,100 RT

–Y21RPC– CS Sta. 97+00.00

–Y21RPC– ST Sta. 96+00.00 = –L– POT Sta. 792+24.13, 4,100 RT

–Y21RPC– SC Sta. 98+00.00

–Y21RPC– ST Sta. 97+00.00 = –L– POT Sta. 793+73.54, 4,100 RT

–Y21RPC– CS Sta. 99+00.00

–Y21RPC– ST Sta. 98+00.00 = –L– POT Sta. 795+22.95, 4,100 RT

–Y21RPC– SC Sta. 100+00.00

–Y21RPC– ST Sta. 99+00.00 = –L– POT Sta. 796+72.36, 4,100 RT

–Y21RPC– CS Sta. 101+00.00

–Y21RPC– ST Sta. 100+00.00 = –L– POT Sta. 798+21.77, 4,100 RT

–Y21RPC– SC Sta. 102+00.00

–Y21RPC– ST Sta. 101+00.00 = –L– POT Sta. 799+71.18, 4,100 RT

–Y21RPC– CS Sta. 103+00.00

–Y21RPC– ST Sta. 102+00.00 = –L– POT Sta. 801+20.59, 4,100 RT

–Y21RPC– SC Sta. 104+00.00

–Y21RPC– ST Sta. 103+00.00 = –L– POT Sta. 802+70.00, 4,100 RT

–Y21RPC– CS Sta. 105+00.00

–Y21RPC– ST Sta. 104+00.00 = –L– POT Sta. 804+19.41, 4,100 RT

–Y21RPC– SC Sta. 106+00.00

–Y21RPC– ST Sta. 105+00.00 = –L– POT Sta. 805+68.82, 4,100 RT

–Y21RPC– CS Sta. 107+00.00

–Y21RPC– ST Sta. 106+00.00 = –L– POT Sta. 807+18.23, 4,100 RT

–Y21RPC– SC Sta. 108+00.00

–Y21RPC– ST Sta. 107+00.00 = –L– POT Sta. 808+67.64, 4,100 RT

–Y21RPC– CS Sta. 109+00.00

–Y21RPC– ST Sta. 108+00.00 = –L– POT Sta. 810+17.05, 4,100 RT

–Y21RPC– SC Sta. 110+00.00

–Y21RPC– ST Sta. 109+00.00 = –L– POT Sta. 811+66.46, 4,100 RT

–Y21RPC– CS Sta. 111+00.00

–Y21RPC– ST Sta. 110+00.00 = –L– POT Sta. 813+15.87, 4,100 RT

–Y21RPC– SC Sta. 112+00.00

–Y21RPC– ST Sta. 111+00.00 = –L– POT Sta. 814+65.28, 4,100 RT

–Y21RPC– CS Sta. 113+00.00

–Y21RPC– ST Sta. 112+00.00 = –L– POT Sta. 816+14.69, 4,100 RT

–Y21RPC– SC Sta. 114+00.00

–Y21RPC– ST Sta. 113+00.00 = –L– POT Sta. 817+64.10, 4,100 RT

–Y21RPC– CS Sta. 115+00.00

–Y21RPC– ST Sta. 114+00.00 = –L– POT Sta. 819+13.51, 4,100 RT

–Y21RPC– SC Sta. 116+00.00

–Y21RPC– ST Sta. 115+00.00 = –L– POT Sta. 820+62.92, 4,100 RT

–Y21RPC– CS Sta. 117+00.00

–Y21RPC– ST Sta. 116+00.00 = –L– POT Sta. 822+12.33, 4,100 RT

–Y21RPC– SC Sta. 118+00.00

–Y21RPC– ST Sta. 117+00.00 = –L– POT Sta. 823+61.74, 4,100 RT

–Y21RPC– CS Sta. 119+00.00

–Y21RPC– ST Sta. 118+00.00 = –L– POT Sta. 825+11.15, 4,100 RT

–Y21RPC– SC Sta. 120+00.00

–Y21RPC– ST Sta. 119+00.00 = –L– POT Sta. 826+60.56, 4,100 RT

–Y21RPC– CS Sta. 121+00.00

–Y21RPC– ST Sta. 120+00.00 = –L– POT Sta. 828+09.97, 4,100 RT

–Y21RPC– SC Sta. 122+00.00

–Y21RPC– ST Sta. 121+00.00 = –L– POT Sta. 829+59.38, 4,100 RT

–Y21RPC– CS Sta. 123+00.00

–Y21RPC– ST Sta. 122+00.00 = –L– POT Sta. 831+08.79, 4,100 RT

–Y21RPC– SC Sta. 124+00.00

–Y21RPC– ST Sta. 123+00.00 = –L– POT Sta. 832+58.20, 4,100 RT

–Y21RPC– CS Sta. 125+00.00

–Y21RPC– ST Sta. 124+00.00 = –L– POT Sta. 834+07.61, 4,100 RT

–Y21RPC– SC Sta. 126+00.00

–Y21RPC– ST Sta. 125+00.00 = –L– POT Sta. 835+57.02, 4,100 RT

–Y21RPC– CS Sta. 127+00.00

–Y21RPC– ST Sta. 126+00.00 = –L– POT Sta. 837+06.43, 4,100 RT

–Y21RPC– SC Sta. 128+00.00

–Y21RPC– ST Sta. 127+00.00 = –L– POT Sta. 838+55.84, 4,100 RT

–Y21RPC– CS Sta. 129+00.00

–Y21RPC– ST Sta. 128+00.00 = –L– POT Sta. 840+05.25, 4,100 RT

–Y21RPC– SC Sta. 130+00.00

–Y21RPC– ST Sta. 129+00.00 = –L– POT Sta. 841+54.66, 4,100 RT

–Y21RPC– CS Sta. 131+00.00

–Y21RPC– ST Sta. 130+00.00 = –L– POT Sta. 843+04.07, 4,100 RT

–Y21RPC– SC Sta. 132+00.00

–Y21RPC– ST Sta. 131+00.00 = –L– POT Sta. 844+53.48, 4,100 RT

–Y21RPC– CS Sta. 133+00.00

–Y21RPC– ST Sta. 132+00.00 = –L– POT Sta. 846+02.89, 4,100 RT

–Y21RPC– SC Sta. 134+00.00

–Y21RPC– ST Sta. 133+00.00 = –L– POT Sta. 847+52.30, 4,100 RT

–Y21RPC– CS Sta. 135+00.00

–Y21RPC– ST Sta. 134+00.00 = –L– POT Sta. 849+01.71, 4,100 RT

–Y21RPC– SC Sta. 136+00.00

–Y21RPC– ST Sta. 135+00.00 = –L– POT Sta. 850+51.12, 4,100 RT

–Y21RPC– CS Sta. 137+00.00

–Y21RPC– ST Sta. 136+00.00 = –L– POT Sta. 852+00.53, 4,100 RT

–Y21RPC– SC Sta. 138+00.00

–Y21RPC– ST Sta. 137+00.00 = –L– POT Sta. 853+49.94, 4,100 RT

–Y21RPC– CS Sta. 139+00.00

–Y21RPC– ST Sta. 138+00.00 = –L– POT Sta. 854+99.35, 4,100 RT

–Y21RPC– SC Sta. 140+00.00

–Y21RPC– ST Sta. 139+00.00 = –L– POT Sta. 856+48.77, 4,100 RT

–Y21RPC– CS Sta. 141+00.00

–Y21RPC– ST Sta. 140+00.00 = –L– POT Sta. 857+98.18, 4,100 RT

–Y21RPC– SC Sta. 142+00.00

–Y21RPC– ST Sta. 141+00.00 = –L– POT Sta. 859+47.60, 4,100 RT

–Y21RPC– CS Sta. 143+00.00

–Y21RPC– ST Sta. 142+00.00 = –L– POT Sta. 860+97.01, 4,100 RT

–Y21RPC– SC Sta. 144+00.00

–Y21RPC– ST Sta. 143+00.00 = –L– POT Sta. 862+46.42, 4,100 RT

–Y21RPC– CS Sta. 145+00.00

–Y21RPC– ST Sta. 144+00.00 = –L– POT Sta. 863+95.83, 4,100 RT

–Y21RPC– SC Sta. 146+00.00

–Y21RPC– ST Sta. 145+00.00 = –L– POT Sta. 865+45.24, 4,100 RT

–Y21RPC– CS Sta. 147+00.00

–Y21RPC– ST Sta. 146+00.00 = –L– POT Sta. 866+94.65, 4,100 RT

–Y21RPC– SC Sta. 148+00.00

–Y21RPC– ST Sta. 147+00.00 = –L– POT Sta. 868+44.06, 4,100 RT

–Y21RPC– CS Sta. 149+00.00

–Y21RPC– ST Sta. 148+00.00 = –L– POT Sta. 869+93.47, 4,100 RT

–Y21RPC– SC Sta. 150+00.00

–Y21RPC– ST Sta. 149+00.00 = –L– POT Sta. 871+42.88, 4,100 RT

–Y21RPC– CS Sta. 151+00.00

–Y21RPC– ST Sta. 150+00.00 = –L– POT Sta. 872+92.29, 4,100 RT

–Y21RPC– SC Sta. 152+00.00

–Y21RPC– ST Sta. 151+00.00 = –L– POT Sta. 874+41.70, 4,100 RT

–Y21RPC– CS Sta. 153+00.00

–Y21RPC– ST Sta. 152+00.00 = –L– POT Sta. 875+91.11, 4,100 RT

–Y21RPC– SC Sta. 154+00.00

–Y21RPC– ST Sta. 153+00.00 = –L– POT Sta. 877+40.52, 4,100 RT

–Y21RPC– CS Sta. 155+00.00

–Y21RPC– ST Sta. 154+00.00 = –L– POT Sta. 878+89.93, 4,100 RT

–Y21RPC– SC Sta. 156+00.00

–Y21RPC– ST Sta. 155+00.00 = –L– POT Sta. 880+39.34, 4,100 RT

–Y21RPC– CS Sta. 157+00.00

–Y21RPC– ST Sta. 156+00.00 = –L– POT Sta. 881+88.75, 4,100 RT

–Y21RPC– SC Sta. 158+00.00

–Y21RPC– ST Sta. 157+00.00 = –L– POT Sta. 883+38.16, 4,100 RT

–Y21RPC– CS Sta. 159+00.00

–Y21RPC– ST Sta. 158+00.00 = –L– POT Sta. 884+87.57, 4,100 RT

–Y21RPC– SC Sta. 160+00.00

–Y21RPC– ST Sta. 159+00.00 = –L– POT Sta. 886+36.98, 4,100 RT

–Y21RPC– CS Sta. 161+00.00

–Y21RPC– ST Sta. 160+00.00 = –L– POT Sta. 887+86.39, 4,100 RT

–Y21RPC– SC Sta. 162+00.00

–Y21RPC– ST Sta. 161+00.00 = –L– POT Sta. 889+35.80, 4,100 RT

–Y21RPC– CS Sta. 163+00.00

–Y21RPC– ST Sta. 162+00.00 = –L– POT Sta. 890+85.21, 4,100 RT

–Y21RPC– SC Sta. 164+00.00

–Y21RPC– ST Sta. 163+00.00 = –L– POT Sta. 892+34.62, 4,100 RT

–Y21RPC– CS Sta. 165+00.00

–Y21RPC– ST Sta. 164+00.00 = –L– POT Sta. 893+84.03, 4,100 RT

–Y21RPC– SC Sta. 166+00.00

–Y21RPC– ST Sta. 165+00.00 = –L– POT Sta. 895+33.44, 4,100 RT

–Y21RPC– CS Sta. 167+00.00

–Y21RPC– ST Sta. 166+00.00 = –L– POT Sta. 896+82.85, 4,100 RT

–Y21RPC– SC Sta. 168+00.00

–Y21RPC– ST Sta. 167+00.00 = –L– POT Sta. 898+32.26, 4,100 RT

–Y21RPC– CS Sta. 169+00.00

–Y21RPC– ST Sta. 168+00.00 = –L– POT Sta. 899+81.67, 4,100 RT

–Y21RPC– SC Sta. 170+00.00

–Y21RPC– ST Sta. 169+00.00 = –L– POT Sta. 901+31.08, 4,100 RT

–Y21RPC– CS Sta. 171+00.00

–Y21RPC– ST Sta. 170+00.00 = –L– POT Sta. 902+80.49, 4,100 RT

–Y21RPC– SC Sta. 172+00.00

–Y21RPC– ST Sta. 171+00.00 = –L– POT Sta. 904+29.90, 4,100 RT

–Y21RPC– CS Sta. 173+00.00

–Y21RPC– ST Sta. 172+00.00 = –L– POT Sta. 905+79.31, 4,100 RT

–Y21RPC– SC Sta. 174+00.00

–Y21RPC– ST Sta. 173+00.00 = –L– POT Sta. 907+28.72, 4,100 RT

–Y21RPC– CS Sta. 175+00.00

–Y21RPC– ST Sta. 174+00.00 = –L– POT Sta. 908+78.13, 4,100 RT

–Y21RPC– SC Sta. 176+00.00

–Y21RPC– ST Sta. 175+00.00 = –L– POT Sta. 910+27.54, 4,100 RT

–Y21RPC– CS Sta. 177+00.00

–Y21RPC– ST Sta. 176+00.00 = –L– POT Sta. 911+76.95, 4,100 RT

–Y21RPC– SC Sta. 178+00.00

–Y21RPC– ST Sta. 177+00.00 = –L– POT Sta. 913+26.36, 4,100 RT

–Y21RPC– CS Sta. 179+00.00

–Y21RPC– ST Sta. 178+00.00 = –L– POT Sta. 914+75.78, 4,100 RT

–Y21RPC– SC Sta. 180+00.00

–Y21RPC– ST Sta. 179+00.00 = –L– POT Sta. 916+25.19, 4,100 RT

–Y21RPC– CS Sta. 181+00.00

–Y21RPC– ST Sta. 180+00.00 = –L– POT Sta. 917+74.60, 4,100 RT

–Y21RPC– SC Sta. 182+00.00

–Y21RPC– ST Sta. 181+00.00 = –L– POT Sta. 919+24.01, 4,100 RT

–Y21RPC– CS Sta. 183+00.00

–Y21RPC– ST Sta. 182+00.00 = –L– POT Sta. 920+73.43, 4,100 RT

–Y21RPC– SC Sta. 184+00.00

–Y21RPC– ST Sta. 183+00.00 = –L– POT Sta. 922+22.84, 4,100 RT

–Y21RPC– CS

PROJECT REFERENCE NO.	SHEET NO.
R-2250	49
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)

Natural Ground, 3:1, D, 3:1, b, 1':Ft., Fill Slope, B
Min. D= 1 Ft.
B= 2 Ft.
b= 5 Ft.

FROM STA. 18+15 -Y2- TO STA. 32+00 -Y2- LT
FROM STA. 18+15 -Y2- TO STA. 32+00 -Y2- RT

-Y2-
PI Sta 12+37.95
Δ = 11° 20' 21.5" (LT)
D = 5° 43' 46.5"
L = 197.91'
T = 99.28'
R = 1,000.00'
V = 50 MPH
e = 0.04
Lr = 84'

-Y1- POT Sta. 10+00.00

NAD 83

S 04°53'54" W 159.38'

N 87°55'06" W 300.17'

RUTH J. HART
DB Y49 PG 364

10
RAY EDWARDS, ET AL
DB 062 PG 247
MB 003 PG 232
TRACTS 2 & 3

BEGIN CONSTRUCTION
-Y1- STA. 13+15.00

-Y1- +10.00 EX. P/L

-Y2- POT Sta. 10+00.00 =
-Y1- POT Sta. 13+77.00

6
DAN STEWART, HEIRS
DIV. OF LANDS
BK 04 PG 275
MB 003 PG 232
TRACT 1

-Y1- +10.00 50.00' LT

-Y2- PC Sta. 11+38.68

-Y2- PT Sta. 13+36.58

11
RUBEN HASSELL, JR.
DB 297 PG 385
MB 12 PG 89

13
MARTIN V. B. STEWART, ET AL
DB L40 PG 354
MB 12 PG 89

14
RICHARD W. HARDY, HEIRS
MB 12 PG 89

15
DELORES KING HECTOR
DB 050 PG 134
MB 12 PG 89

19
LEVI G. WORTHINGTON HEIRS
DB Z35 PG 175
DB A38 PG 88
MB 38 PG 157

-Y1- +15.00 EX. P/L

-Y1- +79 EX. P/L

-Y2- +24.00 95.00' LT

-Y2- +18.00 78.00' LT

-Y2- +34.00 92.00' LT

-Y2- +31.00 80.54' LT

-Y1- +15.00 50.00' LT

-Y2- +38.68 50.00' LT

-Y1- +15.00 EXF P/L

-Y2- +36.58 50.00' LT

-Y2- +00.00 50.00' LT & 80.00' LT

-Y2- +07.00 100.00' LT

DRIVEWAY

PUE

2' LATERAL BASE DITCH SEE DETAIL 'E'

3
CAROLINA CLASSICS CATFISH INC.
DB 126 PG 090

SOIL & GR

N 16°02'30" E 60.00'

N 13° 40' 20.4" E

S 76° 18' 50.3" E

CLASS 'B' RIP RAP EST. 3 TONS 10 SY FILTER FABRIC

0-55-300 OFFSET=15.0'

-Y1- PROP. R/W 83.00' LT

-Y1- +63 EX. P/L

-Y2- +75.00 63.78' RT & 85.00' RT

-Y2- +30.00 55.94' RT & 85.00' RT

-Y2- +39 EX. P/L

7
MONICA STEWART LIVING TRUST
DB 2887 PG 685

6
DAN STEWART, HEIRS
DIV. OF LANDS BK 04 PG 275
MB 003 PG 232
TRACT 1

10
RAY EDWARDS, ET AL
DB 062 PG 247
MB 003 PG 232
TRACTS 2 & 3

-Y2- +36.58 50.00' RT

-Y2- +10.00 50.00' RT & 85.00' RT

-Y2- +60.00 50.00' RT & 85.00' RT

-Y2- +00.00 50.00' RT & 95.00' RT

-Y2- +65.00 50.00' RT & 95.00' RT

11
RUBEN HASSELL, JR.
DB 297 PG 385
MB 12 PG 89

13
MARTIN V. B. STEWART, ET AL
DB L40 PG 354
MB 12 PG 89

14
RICHARD W. HARDY, HEIRS
MB 12 PG 89

15
DELORES KING HECTOR
DB 050 PG 134
MB 12 PG 89

-Y2- +25.00 50.00' RT & 90.00' RT

-Y2- +50.00 50.00' RT & 95.00' RT

-Y2- +75.00 50.00' RT & 90.00' RT

-Y2- +00.00 50.00' RT & 85.00' RT

CLASS 'B' RIP RAP EST. 15 TONS 37 SY GEO-TEXTILE

18
GREGORY L. ANDERSON, ET UX
DB 832 PG 750
MB 38 PG 157

2' LATERAL BASE DITCH SEE DETAIL 'E'

ISMTLBUS

N 2°19'59.0" E

S 16°04'54" W 50.00'

MATCHLINE -Y1- STA. 15+50
SEE SHEET 5

MATCHLINE -Y2- STA. 21+00, SEE SHEET 50

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NO. 121 FOR -Y1- PROFILE
SEE SHEET NO. 121 FOR -Y2- PROFILE

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	50
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

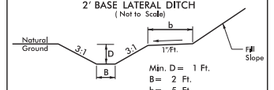
NAD 83

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



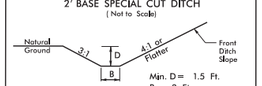
FROM STA. 11+00 -Y3- TO STA. 12+44 -Y3- RT

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)



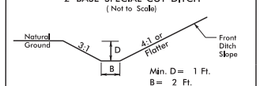
FROM STA. 18+20 -Y2- TO STA. 31+50 -Y2- LT
FROM STA. 18+20 -Y2- TO 31+50 -Y2- RT

DETAIL BA
2' BASE SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 31+50 -Y2- TO STA. 34+00 -Y2- RT

DETAIL B
2' BASE SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 10+20 -Y3- TO 17+22 -Y3- LT
FROM STA. 13+40 -Y3- TO STA. 17+00 -Y3- RT
FROM STA. 31+50 -Y2- TO STA. 34+00 -Y2- LT
FROM STA. 31+50 -Y2- TO STA. 34+00 -Y2- RT

-Y2-
PI Sta 26+64.02
Δ = 91° 11' 47.1" (LT)
D = 10° 44' 58.8"
L = 848.36'
T = 544.25'
R = 533.00'
V = 40 MPH
e = 0.04
Lr = 84'

MATCHLINE -Y2- STA. 21+00, SEE SHEET 49

-Y2- +19.77
85.00' RT

-Y2- +19.77
80.00' LT

-Y2- PC Sta. 21+19.77

-Y2- +77.00
118.00' LT

-Y2- +66.00
115.00' LT

-Y2- +35.00
120.00' LT

-Y2- PT Sta. 29+68.14

-Y2- EX. P/L
106.00' LT

-Y2- +68.14
80.00' LT

-Y2- +20.00
85.00' RT &
100.00' RT

-Y2- +80.00
85.00' RT &
100.00' RT

-Y2- +68.14
EX. P/L

-Y2- POT Sta. 34+37.03 =
-Y3- POT Sta. 12+89.79

-Y3- +00.00
EX. P/L &
50.00' RT

-Y3- +00.00
EX. P/L &
50.00' LT

-Y3- POT Sta. 10+00.00

BEGIN CONSTRUCTION
-Y3- STA. 10+20.00

-Y3- 50.00' RT
PROP. R/W

-Y3- 50.00' RT
EX. P/L

-Y3- +44.07
26.24' RT

-Y2- +85.35
26.24' LT

55-350
OFFSET=12.0'

55-350
OFFSET=12.0'

18 GREGORY L. ANDERSON, ET UX
DB 832 PG 750
MB 38 PG 157

19 LEVI G. WORTHINGTON HEIRS
DB 235 PG 175
DB 438 PG 88
MB 38 PG 157

19 LEVI G. WORTHINGTON HEIRS
DB 235 PG 175
DB 438 PG 88
MB 38 PG 157

20 CORFAC INDUSTRIES LLC
DB 2741 PG 616
MB 38 PG 157

164 COUNTY OF PITT
DB 1105 PG 060
MB 038 PG 157

165 MES & JBS LLC
DB 2866 PG 205
MB 038 PG 157

172 GOOD BUDDY LLC
DB 3273 PG 465
MB 78 PG 101

BOBBY ALLEN MCLAWHORN
DB 3290 PG 450
MB 78 PG 101

10" PVC (AYDEN)

45' RCP
RETAIN

N 02°04'05" E
140.65'

+81.43
160.55'

S 88°51'48" E
342.61'

S 88°51'48" E
420.00'

N 88° 51' 48.1" W

N 01°08'12" E
426.30'

N 01°08'12" E
426.30'

N 01°59'24" E

2' LATERAL BASE DITCH
SEE DETAIL 'E'

2' BASE
SPECIAL CUT DITCH
SEE DETAIL 'B'

2' BASE
SPECIAL CUT DITCH
SEE DETAIL 'BA'

SPECIAL CUT DITCH
SEE DETAIL 'A'

SPECIAL CUT DITCH
SEE DETAIL 'B'

SPECIAL CUT DITCH
SEE DETAIL 'B'

PUE

-Y2-

-Y3-

5011 5013 5016 5019

ISMTLBUS

2SMTLBUS

CONC

R CONC

PROPANE

2" CHL

MATCHLINE -Y3- STA. 15+50, SEE SHEET 51

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NOS. 121 & 122 FOR -Y2- PROFILE
SEE SHEET NO. 122 FOR -Y3- PROFILE

REVISIONS

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REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2250	51
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

NAD 83

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 3:1, D, 4:1 or Flatter, Front Ditch Slope
Min. D= 1 Ft.
FROM STA. 18+50 –Y3– TO STA. 21+50 –Y3– LT
FROM STA. 18+50 –Y3– TO STA. 21+50 –Y3– RT

DETAIL B
2' BASE SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 3:1, D, B, Front Ditch Slope
Min. D= 1 Ft.
B= 2 Ft.
FROM STA. 10+20 –Y3– TO STA. 17+22 –Y3– LT
FROM STA. 13+50 –Y3– TO STA. 17+00 –Y3– RT

DETAIL D
LATERAL 'V' DITCH
(Not to Scale)
Natural Ground, 3:1, D, 3:1, b, 1'-Ft., Fill Slope
Min. D= 1 Ft.
b= 5 Ft.
FROM STA. 25+05 –L– TO STA. 28+57 –L– LT

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)
Natural Ground, 3:1, D, 3:1, b, 1'-Ft., Fill Slope, B
Min. D= 1.5 Ft.
B= 2 Ft.
b= 5 Ft.
FROM STA. 25+00 –L– TO STA. 28+54 –L– RT

LEVI G. WORTHINGTON HEIRS
DB Z35 PG 175
DB A38 PG 88
MB 38 PG 157

N 01°07'06" E 510.00'

30' UTILITY EASEMENT

165
MES & JBS LLC
DB 2866 PG 205
MB 038 PG 157

177
JOE LANE GRESHAM
DB 2697 PG 686

27
BILLY P. MCLAWHORN, ET UX
DB P40 PG 182
MB 021 PG 050
TRACT NO. 1

28
HAPPY TRAIL FARMS, LLC
DB 3075 PG 707
MB 33 PG 199

S 88°07'25" E 903.09'

MATCHLINE –Y3– STA. 15+50, SEE SHEET 50

MATCHLINE –Y3– STA. 28+00, SEE SHEET 8

BEGIN CONSTRUCTION
-Y4- STA. 10+37.00

-Y4- +15.00
EX. P/L

-Y4- POT Sta. 10+00.00

-Y4- +50.00
EX. P/L

0-60-180
OFFSET = 6.5'

-Y3- +00.00
50.00' LT

-Y3- +30.00
70.00' LT

SPECIAL CUT DITCH
SEE DETAIL 'B'

SPECIAL CUT DITCH
SEE DETAIL 'A'

-Y3- +70.00
70.00' LT &
90.00' LT

-Y3- +30.00
70.00' LT &
90.00' LT

-Y3- +65.00
70.00' LT &
95.00' LT

LATERAL 'V' DITCH
SEE DETAIL 'D'

2' BASE LATERAL DITCH
SEE DETAIL 'E'

-Y3- N 0° 11' 25.8" E

N 0° 59' 24.8" E

COLLAR AND EXTEND

RETAIN

REMOVE

18" RCP

30" RCP-III

N 01°07'54" E 342.72'

-Y3- +00.00
50.00' RT

-Y3- +30.00
70.00' RT

-Y3- +89.00
91.00' RT

-Y3- POT Sta. 17+58.46 =
-Y4- POT Sta. 11+20.21

-Y4- S 88°56'29" E

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

CLASS 'B' RIP RAP
EST. 8 TONS
21 SY GEO-TEXTILE

18" PIPE TO PROVIDE
SAME CONVEYANCE AS EXISTING

-Y4- +40.00
EX. R/W

-Y4- +50.00
EX. R/W

-Y4- POT Sta. 13+02.16

-Y4- +88.00
EX. R/W

-Y3- EX. R/W
200.00' RT

-Y3- +95.00
230.00' RT

END CONSTRUCTION
-Y4- STA. 13+00.00

-Y3- +03.00
238.00' RT

-Y3- EX. R/W
215.00' RT

N 01°07'55" E 339.24'

N 01°07'55" E 337.52'

-Y3- EX. R/W
432.00' RT

-Y3- +14.00
432.00' RT

-Y3- +14.00
443.00' RT

-Y3- EX. R/W
443.00' RT

172
GOOD BUDDY LLC
DB 3273 PG 465
MB 78 PG 101

BOBBY ALLEN MCLAWHORN
DB 3290 PG 450
MB 78 PG 101

175
MAXINE A. SPEIGHT
DB 1085 PG 349
MB 054 PG 103

MTL BUS U/C

2SMTLBUS

ISMTLBUS

SR 1154 ELLIOTT DIXON DR

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NOS. 122 & 123 FOR –Y3– PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-2250	52
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

NAD 83

-Y6-

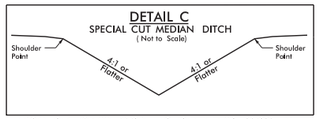
PI Sta 35+99.77	PI Sta 37+90.67
Δ = 3° 57' 04.2" (RT)	Δ = 5° 46' 04.6" (RT)
D = 1° 47' 25.8"	D = 3° 34' 51.6"
L = 220.67'	L = 161.07'
T = 110.38'	T = 80.60'
R = 3,200.00'	R = 1,600.00'

-Y6- PT Sta. 38+71.13

-FLYBY7-

PIs Sta 36+75.16	PI Sta 40+90.84	PIs Sta 45+04.71
Θs = 0° 33' 46.6"	Δ = 9° 37' 37.6" (LT)	Θs = 0° 33' 46.6"
Ls = 90.00'	D = 1° 15' 03.6"	Ls = 90.00'
LT = 60.00'	L = 769.55'	LT = 60.00'
ST = 30.00'	T = 385.68'	ST = 30.00'
	R = 4,580.00'	
	V = 55 MPH	
	e = 0.03	
	Lr = 90'	

DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)



FROM STA. 13+00 -Y7SBL- TO STA. 15+06 -Y7SBL- M

-FLYBY7- POT Sta. 48+47.92 =
-Y7SBL- POT Sta. 10+00.00 =
-Y6- POT Sta. 42+60.64

-FLYBY7- ST Sta. 45+64.71

-FLYBY7- CS Sta. 44+74.71

-FLYBY7- 130.00' LT
EX. R/W

END WW FENCE

GUC GAS EASEMENT

2' BASE LATERAL DITCH
SEE DETAIL 'E'

BEG. WW FENCE

CLASS 'B' RIP RAP
EST. 11 TONS
28 SY GEO-TEXTILE

2' LATERAL BASE DITCH
SEE DETAIL 'E'

END WW FENCE

CLASS 'I' RIP RAP
EST. 40 TONS
75 SY GEO-TEXTILE

MATCHLINE -FLYBY7- STA. 39+50
SEE SHEET 8

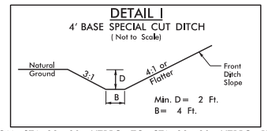
MATCHLINE -Y7RPC- STA. 31+50
SEE SHEET 8

MATCHLINE -Y7SBL- STA. 14+00, SEE SHEET 52A

KENNETH H. SMITH, ET UX
DB 1366 PG 211

BEGIN CONSTRUCTION
-Y6- STA. 41+75.00

DETAIL I
4' BASE SPECIAL CUT DITCH
(Not to Scale)



Min. D = 2 Ft.
B = 4 Ft.

FROM STA. 33+80 -Y7RPC- TO STA. 38+30 -Y7RPC- RT

-Y6- S 78° 50' 25.4" E

MONOLITHIC CONCRETE ISLAND (TYP.)

BY6- 104

-Y7SBL- +78.97
41.50' RT

-Y7RPC- +00.72
41.19' LT

-Y7SBL-

N 0° 38' 33.7" E

SPECIAL CUT MEDIAN DITCH
SEE DETAIL 'C'

-Y7NBL-

N 0° 41' 40.7" E

-Y7NBL- +87 P/L
EX. R/W

-Y7NBL- EX. P/L
88.00' RT

-Y7NBL- +46.00
101.00' RT
& 118.00 RT

-Y7NBL- +35.00
106.00' RT
& 118.00 RT

-Y7RPC- POT Sta. 40+78.31 =
-Y7NBL- POT Sta. 10+00.00

-Y6A- POT Sta. 10+00.00 =
-Y7RPC- ST Sta. 40+65.44

-Y7RPC- ST Sta. 40+19.92

END CONSTRUCTION
-Y6A- STA. 11+10.00

-Y7RPC- CS Sta. 38+19.92

-Y7RPC- +00.00
117.00' RT

-Y7RPC- +27.00
112.00' RT

-Y7RPC- +60.00
EX. R/W &
121.00' RT

-Y7RPC- EX. R/W
124.00' RT

-Y6A- +80.00
EX. R/W

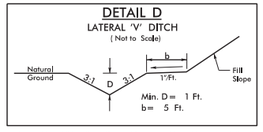
-Y6A-

S 78° 08' 37.9" E

-Y7RPC-

PIs Sta 27+95.44	PI Sta 33+45.42	PIs Sta 38+86.60
Θs = 1° 58' 32.6"	Δ = 18° 55' 25.8" (RT)	Θs = 1° 58' 32.6"
Ls = 200.00'	D = 1° 58' 32.6"	Ls = 200.00'
LT = 133.34'	L = 957.82'	LT = 133.34'
ST = 66.67'	T = 483.31'	ST = 66.67'
	R = 2,900.00'	
	V = 50 MPH	
	e = 0.08	
	Lr = 200'	

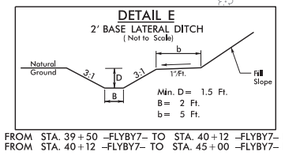
DETAIL D
LATERAL 'V' DITCH
(Not to Scale)



Min. D = 1 Ft.
b = 5 Ft.

FROM STA. 31+32 -Y7RPC- TO STA. 35+35 -Y7RPC- LT

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)



Min. D = 1.5 Ft.
B = 2 Ft.
b = 5 Ft.

FROM STA. 39+50 -FLYBY7- TO STA. 40+12 -FLYBY7- LT
FROM STA. 40+12 -FLYBY7- TO STA. 45+00 -FLYBY7- LT

AADT YEAR 2014/2040 (VOLUME IN 100s)

OLD SNOW HILL RD
(-Y6-)

NC 11 (-Y7-)

17/29
4/7 4/4
106/117 3/5 8/19 111/128
20/42

NC 11 (-Y7-)

SNOW HILL ST
(-Y6A-)

(37) HILLCO, LTD
DB 767 PG 460
MB 49 PG 21
FOLDER 42 - 91

(178) JANET A. JOHNSON HOUSE HEIRS
DB DC93 PG 1642
MB 34 PG 81

"NRWASA"
NEUSE REGIONAL WATER AND SEWER AUTHORITY
DB 2102 PG 669

(33) COX FARM PROPERTIES, LLC
DB 1208 PG 445

CLIFTON E. WOOTEN, ET UX
DB 385 PG 34

JANET A. JOHNSON HOUSE HEIRS
DB DC93 PG 1642
MB 34 PG 81

AYDEN CITY LIMIT

PAVEMENT REMOVAL

SEE SHEET NO. 128 FOR -FLYBY7- PROFILE
SEE SHEET NO. 128A FOR -Y7RPC- PROFILE
SEE SHEET NO. 128B FOR -Y7SBL- & -Y7NBL- PROFILES

REVISIONS

PLOT DRIVER: NCDOT_pdf_color-eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: dwainwri DATE: 1/25/2016 TIME: 5:54:28 PM
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	52A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

NAD 83

AYDEN CITY LIMIT

PINE VIEW SUBDIVISION - SECTION 2
& LOT 5 - SECTION 1 REVISED
C/O REGGIE SPAIN CONSTRUCTION, LLC
DB 2466 PG 368
TRACT 3
SUBDIVISION MAP IS UNRECORDED

MICHAEL J. HOUSE, ET UX
DB 87 PG 747

ROBERT JOHNSON, JR.
DB 0-30 PG 529

KENNETH H. SMITH, ET UX
DB 2466 PG 340

MATCHLINE -Y7SBL- STA. 14+00, SEE SHEET 52

MATCHLINE -Y7SBL- STA. 26+00, SEE SHEET 52B

-BY7- 110

-Y7SBL-

-Y7NBL-

N 0° 38' 33.7" E

N 0° 41' 40.7" E

SPECIAL CUT MEDIAN DITCH SEE DETAIL 'C'

COLLAR AND EXTEND

REMOVE DI

RETAIN

RETAIN DI

LINE BEGINS 8" STEEL (GUC)

LINE CONTINUES PER NRWASA

14" PVC (WINTERVILLE)

8" PVC (AYDEN)

30" DI(NRWASA)

48" WW & ISBW

AYDEN CITY LIMIT

2SBKD

60" BK

2" CONC

15" RCP

DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)

Shoulder Point — 4:1 or Flatter — 4:1 or Flatter — Shoulder Point

FROM STA. 13+00 -Y7SBL- TO STA. 15+06 -Y7SBL- M
FROM STA. 15+06 -Y7SBL- TO STA. 16+50 -Y7SBL- M
FROM STA. 16+50 -Y7SBL- TO STA. 21+00 -Y7SBL- M
FROM STA. 21+00 -Y7SBL- TO STA. 23+00 -Y7SBL- M

SEE SHEET NOS. 128B & 128C FOR -Y7SBL- PROFILE
SEE SHEET NOS. 128B & 128C FOR -Y7NBL- PROFILE

REVISIONS

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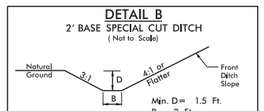
PROJECT REFERENCE NO.	SHEET NO.
R-2250	52B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

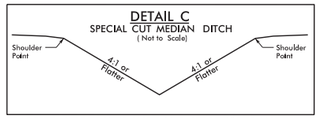
BARNHILL CONTRACTING COMPANY

DETAIL B
2' BASE SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 35+50 –Y7SBL– TO STA. 41+50 –Y7SBL– RT
FROM STA. 41+50 –Y7SBL– TO STA. 42+43 –Y7SBL– RT

DETAIL C
SPECIAL CUT MEDIAN DITCH
(Not to Scale)

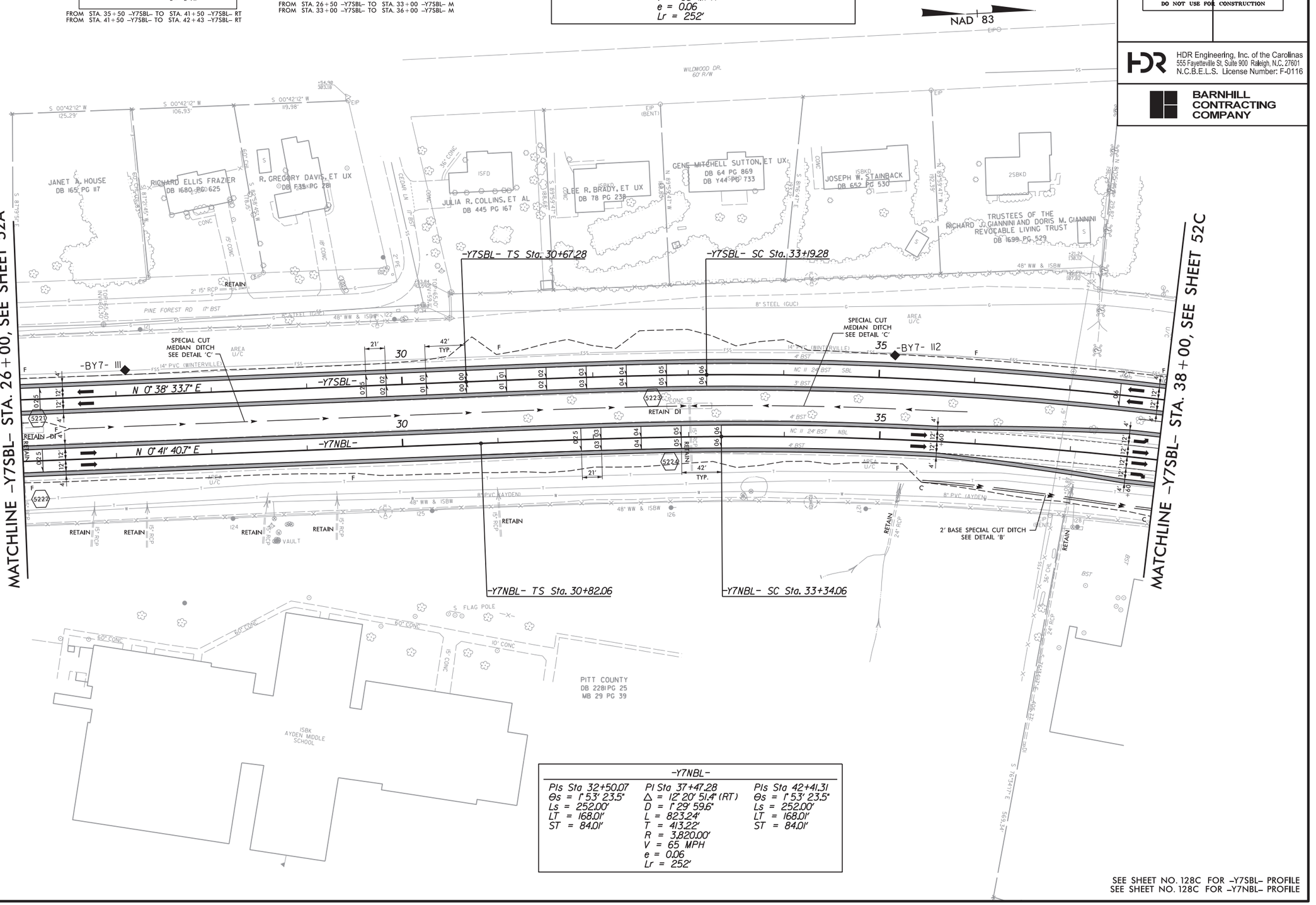


FROM STA. 26+50 –Y7SBL– TO STA. 33+00 –Y7SBL– M
FROM STA. 33+00 –Y7SBL– TO STA. 36+00 –Y7SBL– M

–Y7SBL–

PIs Sta 32+35.29	PI Sta 37+29.84	PIs Sta 42+21.32
Θs = 1° 52' 30.5"	Δ = 12° 10' 26.5" (RT)	Θs = 1° 52' 30.5"
Ls = 252.00'	D = 1° 29' 17.5"	Ls = 252.00'
LT = 168.01'	L = 818.04'	LT = 168.01'
ST = 84.01'	T = 410.56'	ST = 84.01'
	R = 3,850.00'	
	V = 65 MPH	
	e = 0.06	
	Lr = 252'	

NAD 83



–Y7NBL–

PIs Sta 32+50.07	PI Sta 37+47.28	PIs Sta 42+41.31
Θs = 1° 53' 23.5"	Δ = 12° 20' 51.4" (RT)	Θs = 1° 53' 23.5"
Ls = 252.00'	D = 1° 29' 59.6"	Ls = 252.00'
LT = 168.01'	L = 823.24'	LT = 168.01'
ST = 84.01'	T = 413.22'	ST = 84.01'
	R = 3,820.00'	
	V = 65 MPH	
	e = 0.06	
	Lr = 252'	

SEE SHEET NO. 128C FOR –Y7SBL– PROFILE
SEE SHEET NO. 128C FOR –Y7NBL– PROFILE

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfi.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	52C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

NAD 83

MATCHLINE -Y7SBL- STA. 38+00, SEE SHEET 52B

MATCHLINE -Y8- STA. 62+50, SEE SHEET 55

-Y8- POC Sta.64+52.68 =
-Y7SBL- POC Sta.42+93.25

-Y7SBL- CS Sta. 41+37.32

-Y7SBL- ST Sta. 43+89.32

-Y7SBL- POT Sta. 51+53.72

END CONSTRUCTION
-Y7SBL- STA. 50+85.00

-Y7NBL- CS Sta. 41+57.30

-Y7NBL- ST Sta. 44+09.30

END CONSTRUCTION
-Y7NBL- STA. 44+75.00

-Y7NBL- POT Sta. 51+37.82

END CONSTRUCTION
-Y8- STA. 65+95.00

-Y8- POC Sta.65+14.22 =
-Y7NBL- POC Sta.42+80.27

-Y8- PT Sta. 68+03.19

-BY7- 113

-BY7- 114

-BY8- 120

JUDSON POPE LLC
DB 1929 PG 652
MB 57 PG 61

REDCO PROPERTIES, LLC
DB 1313 PG 510
MB 53 PG 90

THE ROSEMYR CORPORATION
DB 3057 PG 27
MB 53 PG 90

FIRST FRDERAL SAVINGS AND LOAN ASSOCIATION
DB 137 PG 625

DEXTER E. FLOYD, ET AL
DB 2082 PG 363
MB 65 PG 77

MORNING STAR, LLC
DB 1047 PG 563

R. HORACE TRIPP
DB 495 PG 694

GREENBRIER APARTMENTS
DB 651PG 725

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

CLASS 'B' RIP RAP
EST. 8 TONS
24 SY GEO-TEXTILE

CLASS 'B' RIP RAP
EST. 8 TONS
21 SY GEO-TEXTILE

SPECIAL CUT DITCH
SEE DETAIL 'A'

SPECIAL CUT
MEDIAN DITCH
SEE DETAIL 'C'

2' BASE SPECIAL CUT DITCH
SEE DETAIL 'B'

4' BASE SPECIAL CUT DITCH
SEE DETAIL 'I'

REMOVE DI
SPECIAL CUT DITCH
SEE DETAIL 'A'

REMOVE 22'
OF 18" RCP

REMOVE
CB
REMOVE

COLLAR
AND
EXTEND

RETAIN

RETAIN DI

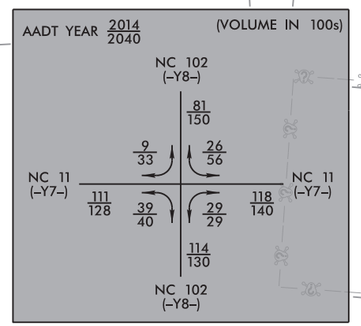
0-65-305
OFFSET = 6.5'

0-50-200
OFFSET = 6.5'

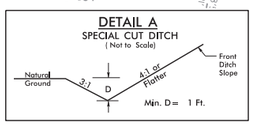
N 16° 34' 01.1" E

N 16° 49' 19.2" E

AADT YEAR 2014/2040 (VOLUME IN 100s)

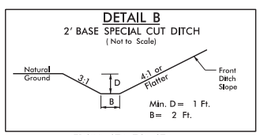


DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



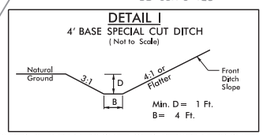
FROM STA. 63+00 -Y8- TO STA. 63+67 -Y8- RT

DETAIL B
2' BASE SPECIAL CUT DITCH
(Not to Scale)



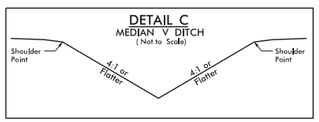
FROM STA. TO STA.

DETAIL I
4' BASE SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 45+00 -Y7SBL- TO STA. 49+70 -Y7SBL- LT

DETAIL C
MEDIAN V DITCH
(Not to Scale)



FROM STA. 37+75 -Y7SBL- TO STA. 39+07 -Y7SBL- M
FROM STA. 39+07 -Y7SBL- TO STA. 40+00 -Y7SBL- M
FROM STA. 40+00 -Y7SBL- TO STA. 41+00 -Y7SBL- M
FROM STA. 41+00 -Y7SBL- TO STA. 42+00 -Y7SBL- M
FROM STA. 44+50 -Y7SBL- TO STA. 50+10 -Y7SBL- M

-Y7SBL-

PIs Sta 32+35.29	PI Sta 37+29.84	PIs Sta 42+21.32
Θs = 1° 52' 30.5"	Δ = 12° 10' 26.5" (RT)	Θs = 1° 52' 30.5"
Ls = 252.00'	D = 1° 29' 17.5"	Ls = 252.00'
LT = 168.01'	L = 818.04'	LT = 168.01'
ST = 84.01'	T = 410.56'	ST = 84.01'
	R = 3,850.00'	
	V = 65 MPH	
	e = 0.06	
	Lr = 252'	

-Y7NBL-

PIs Sta 32+50.07	PI Sta 37+47.28	PIs Sta 42+41.31
Θs = 1° 53' 23.5"	Δ = 12° 20' 51.4" (RT)	Θs = 1° 53' 23.5"
Ls = 252.00'	D = 1° 29' 59.6"	Ls = 252.00'
LT = 168.01'	L = 823.24'	LT = 168.01'
ST = 84.01'	T = 413.22'	ST = 84.01'
	R = 3,820.00'	
	V = 65 MPH	
	e = 0.06	
	Lr = 252'	

SEE SHEET NO. 130 FOR -Y8- PROFILE
SEE SHEET NO. 128D FOR -Y7SBL- PROFILE
SEE SHEET NO. 128D FOR -Y7NBL- PROFILE

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	53
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

NAD 83

MATCHLINE -Y8- STA. 23+50, SEE SHEET 12

-Y8- POT Sta. 10+00.00

-Y8-
PI Sta 24+48.47
Δ = 4° 30' 19.0" (RT)
D = 0° 49' 06.6"
L = 550.42'
T = 275.35'
R = 7,000.00'
V = 70 MPH
e = 0.03
Lr = 120'

53
SYDNEY P. BRITT
ESTATE FILE 1985E PG 180

43
FERRALL N. SUMRELL, JR.
DB 1981 PG 635
MB 63 PG 144

S 89° 51' 09.0" E -Y8-

-BY8- 116

-BY8- 117

-Y8- +87.00 EX. R/W

-Y8- +89.00 80.00' LT & EX. R/W BEG. WW FENCE

-Y8- +89.00 66.00' LT

-Y8- +27.00 133.00' LT

-Y8- +32.00 116.00' LT

-Y8- +38.00 136.00' LT

-Y8- +43.00 120.00' LT

-Y8- +30.00 80.00' LT

-Y8- +73.12 80.00' LT

500' MEDIAN WIDTH TRANSITION (VARIES 0' TO 16')

150' TAPER TO EXISTING LANE WIDTHS

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

FILL WITH FLOWABLE FILL

SPECIAL CUT DITCH SEE DETAIL 'A'

2' BASE SPECIAL CUT DITCH SEE DETAIL 'B'

SPECIAL CUT DITCH SEE DETAIL 'AA'

REMOVE

MONOLITHIC CONCRETE ISLAND

4' BASE SPECIAL CUT DITCH SEE DETAIL 'I'

-Y8- +89.00 90.00' RT & EX. R/W BEG. WW FENCE

-Y8- +73.12 90.00' RT

-Y8- +20.00 90.00' RT

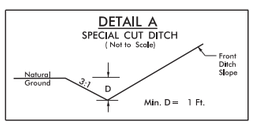
CLASS 'B' RIP RAP EST. 11 TONS 28 SY GEO-TEXTILE

-Y8- PC Sta. 21+73.12

BEGIN CONSTRUCTION
-Y8- STA. 19+00.00

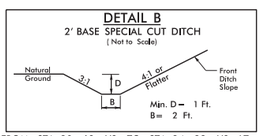
53
SYDNEY P. BRITT
ESTATE FILE 1985E PG 180

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



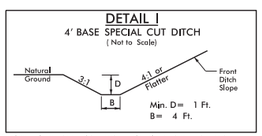
FROM STA. 19+00 -Y8- TO STA. 20+68 -Y8- LT
FROM STA. 18+75 -Y8- TO STA. 20+68 -Y8- RT

DETAIL B
2' BASE SPECIAL CUT DITCH
(Not to Scale)



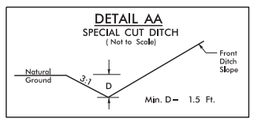
FROM STA. 20+68 -Y8- TO STA. 24+23 -Y8- LT

DETAIL I
4' BASE SPECIAL CUT DITCH
(Not to Scale)



FROM STA 20+68 -Y8- TO STA. 24+12 -Y8- RT

DETAIL AA
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 19+00 -Y8- TO STA. 20+68 -Y8- LT

SEE SHEET NO. 129 FOR -Y8- PROFILE

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: dwainwri DATE: 1/25/2016 TIME: 5:55:13 PM
FILE: North_Carolina_Dept_of_Transportation\R_2250A_B_C_Greenville_Southwest_Bypass_DB\06_00_Project_Design\R-2250_NCDOT_File_S

PROJECT REFERENCE NO.	SHEET NO.
R-2250	54
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

MATCHLINE -Y8- STA. 39+00, SEE SHEET 12

MATCHLINE -Y8- STA. 53+00, SEE SHEET 55

-Y8D- POT Sta. 9+00.00

BEGIN CONSTRUCTION
-Y8D- STA. 10+35.00

-Y8C- POT Sta. 16+35.00

END CONSTRUCTION
-Y8C- STA. 15+35.00

-Y8D- POT Sta. 18+65.61 =
-Y8C- POT Sta. 14+85.00

-Y8C- POT Sta. 10+00.00 =
-Y8- PC Sta. 50+15.19

-Y8D- S 85° 20' 50.0" E

-Y8C- N 4° 39' 11.3" E

-Y8- S 85° 20' 50.0" E

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground, 3:1, D, 4:1 or Flatter, Front Ditch Slope
Min. D = 1 Ft.

FROM STA. 10+82 -Y8C- TO STA. 12+71 -Y8C- LT
FROM STA. 10+77 -Y8C- TO STA. 11+50 -Y8C- RT
FROM STA. 38+00 -Y8- TO STA. 44+00 -Y8- RT
FROM STA. 41+75 -Y8- TO STA. 42+50 -Y8- LT
FROM STA. 42+50 -Y8- TO STA. 44+15 -Y8- LT
FROM STA. 44+00 -Y8- TO STA. 47+33 -Y8- RT
FROM STA. 47+33 -Y8- TO STA. 49+50 -Y8- RT

DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)

Natural Ground, 3:1, D, 3:1, b, 1'Ft., B, Fill Slope
Min. D = 1 Ft.
B = 2 Ft.
b = 5 Ft.

FROM STA. 50+70 -Y8- TO STA. 54+44 -Y8- LT

DETAIL B
2' BASE SPECIAL CUT DITCH
(Not to Scale)

Natural Ground, 3:1, D, 4:1 or Flatter, B, Front Ditch Slope
Min. D = 1 Ft.
B = 2 Ft.

FROM STA. 38+00 -Y8- TO STA. 41+75 -Y8- LT
FROM STA. 46+58 -Y8- TO STA. 49+65 -Y8- LT

CLASS 'B' RIP RAP
EST. 8 TONS
21 SY GEO-TEXTILE

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

CLASS 'B' RIP RAP
EST. 5 TONS
14 SY GEO-TEXTILE

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

CLASS 'B' RIP RAP
EST. 8 TONS
21 SY GEO-TEXTILE

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

SPECIAL CUT DITCH SEE DETAIL 'A'
2' BASE SPECIAL CUT DITCH SEE DETAIL 'B'
2' BASE SPECIAL CUT DITCH SEE DETAIL 'BA'
2' BASE LATERAL DITCH SEE DETAIL 'E'
END WW FENCE
MONOLITHIC CONCRETE ISLAND (TYP.)
COLLAR AND EXTEND
REMOVE
RETAIN

ELEVATIONS FOR EXISTING PIPE UNKNOWN, PIPE MOSTLY BURIED. DESIGN NOT UTILIZING THIS PIPE BUT WILL EXTEND TO PROPOSED DITCHES. NO COMPUTATIONS.

0-55-350 OFFSET = 11.0'
0-50-320 OFFSET = 13.0'

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NOS. 129 & 130 FOR -Y8- PROFILE
SEE SHEET NO. 137 FOR -Y8C- PROFILE
SEE SHEET NO. 137 FOR -Y8D- PROFILE

45 HARDEE FAMILY HOLDINGS LLC DB 2972 PG 626
45 HARDEE FAMILY HOLDINGS LLC DB 2972 PG 626 MB74 PG 193
43 FERRALL N. SUMRELL, JR. DB 1981 PG 635 MB 63 PG 144
44 BULOW, INC. DB 378 PG 104
46 MICHAEL D. BULOW & WILLIAM F. BULOW DB 1635 PG 417

REVISIONS

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TIME: 6:50:20 PM

PROJECT REFERENCE NO.	SHEET NO.
R-2250	55
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

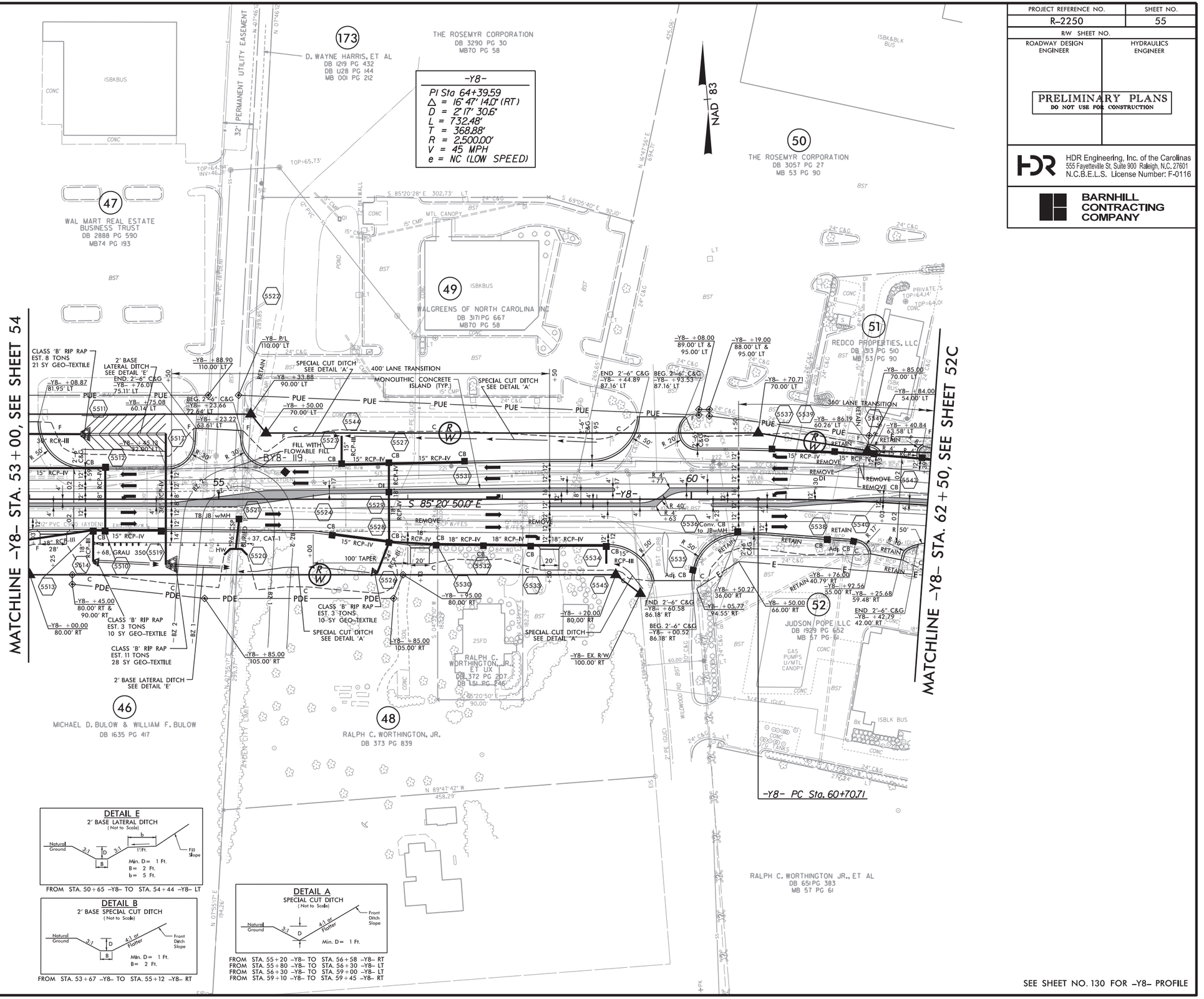
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

REVISIONS

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DETAIL E
2' BASE LATERAL DITCH
(Not to Scale)

Min. D= 1 Ft.
B= 2 Ft.
b= 5 Ft.

FROM STA. 50+65 -Y8- TO STA. 54+44 -Y8- LT

DETAIL B
2' BASE SPECIAL CUT DITCH
(Not to Scale)

Min. D= 1 Ft.
B= 2 Ft.

FROM STA. 53+67 -Y8- TO STA. 55+12 -Y8- RT

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)

Min. D= 1 Ft.

FROM STA. 55+20 -Y8- TO STA. 56+58 -Y8- RT
FROM STA. 55+80 -Y8- TO STA. 56+30 -Y8- LT
FROM STA. 56+30 -Y8- TO STA. 59+00 -Y8- LT
FROM STA. 59+10 -Y8- TO STA. 59+45 -Y8- RT

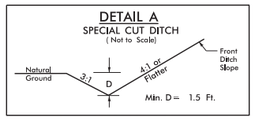
PROJECT REFERENCE NO.	SHEET NO.
R-2250	56
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 10+35 -SR1- TO STA. 11+45 -SR1- RT
FROM STA. 11+45 -SR1- TO STA. 14+58 -SR1- RT
FROM STA. 13+00 -Y14- TO STA. 22+62 -Y14- LT
FROM STA. 13+50 -Y14- TO STA. 14+41 -Y14- RT
FROM STA. 14+41 -Y14- TO STA. 17+50 -Y14- RT
FROM STA. 17+50 -Y14- TO STA. 22+60 -Y14- RT

-Y14-	
PI Sta 15+53.24	PI Sta 19+63.13
Δ = 0° 58' 42.7" (RT)	Δ = 0° 58' 42.7" (LT)
D = 0° 14' 19.4"	D = 0° 14' 19.4"
L = 409.88'	L = 409.88'
T = 204.95'	T = 204.95'
R = 24,000.00'	R = 24,000.00'
V > 60 MPH	V = > 60 MPH
e = NC	e = NC

-SR1-
PI Sta 10+77.00
Δ = 90° 00' 00.0" (LT)
D = 143° 14' 22.0"
L = 62.83'
T = 40.00'
R = 40.00'

(168) ALICIA S. HAWK, ET AL
DB 2821 PG 363

(78) WORTHINGTON FARMS, INC.
DB M40 PG 098
MB 21 PG 32
MB 02 PG 37

NAD 83

-Y14- POT Sta. 10+00.00

-SR1- POT Sta. 10+00.00 =
-Y14- PC Sta. 13+15.00

-Y14- PC Sta. 13+48.30

-Y14- PRC Sta. 17+58.18

BEGIN CONSTRUCTION
-Y14- STA. 12+70.00

-Y14- +50.00
100.00' LT
& EX. R/W

-Y14- +48.30
100.00' LT

-Y14- +48.30
70.00' LT
BEG. WW
FENCE

(5610) CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

FILL WITH
FLOWABLE FILL

-Y14- +58.18
70.00' LT

-Y14- +50.00
50.00' LT
& EX. R/W

-Y14- +70.00
50.00' LT
& EX. R/W

PUE

SPECIAL CUT DITCH
SEE DETAIL 'A'

480' MEDIAN WIDTH TRANSITION (VARIES 0' TO 16')

15" RCP REMOVE

18" RCP-III COLLAR AND EXTEND

GPS R2250-II

118" RCP-III (5611)

(5612) REMOVE

COLLAR AND EXTEND
SPECIAL CUT DITCH
SEE DETAIL 'A'

-Y14- +48.30
47.00' RT
BEG. WW
FENCE

(5613)

-SR1- P/L
30.00' LT

(5619)

SPECIAL CUT DITCH
SEE DETAIL 'A'

-SR1- PC Sta. 10+37.00

(5614)

(5621)

(5620)

DRIVEWAY

-Y14- +60.00
70.00' RT

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

-Y14- +40.00
EX. R/W

-Y14- +50.00
EX. R/W

-Y14- +20.00
138.00' RT

-Y14- +50.00
122.00' RT

-SR1- +00.00
61.00' RT
& 75.00' RT

-SR1- +60.00
61.00' RT

-SR1- +90.00
80.00' RT

-SR1- +70.00
61.00' RT
& 75.00' RT

-SR1- +27.00
61.00' RT

-SR1- P/L
45.00' RT

-SR1- PT Sta. 10+99.83

-SR1- PC Sta. 15+72.42

(78) WORTHINGTON FARMS, INC.
DB M40 PG 098
MB 002 PG 037
MB 21 PG 32

(169) DAVID A. RUSHING
DB 2782 PG 462

(163) JOHNNY A. PITTMAN, ET UX
DB 196 PG 579

(163) JOHNNY A. PITTMAN, ET UX
DB 046 PG 470

SAMMY R. MILLS
DB 1291 PG 60

S 72° 43' 50.6" E

S 17° 16' 09.4" W

S 72° 43' 50.6" E

S 88°45'06" W 492.61'

S 8°33'14" W 386.73'

N 01°15'39" E 645.60'

S 16°07'29" W 365.50'

S 10°16'56" W 500.81'

S 17°04'57" E 113.29'

S 25°34'47" W 274.52'

MATCHLINE -Y14- STA. 21+50, SEE SHEET 31

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NO. 142 FOR -Y14- PROFILE
SEE SHEET NO. 172 FOR -SR1- PROFILE

REVISIONS

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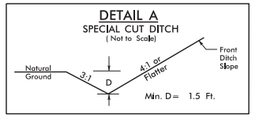
PROJECT REFERENCE NO.	SHEET NO.
R-2250	57
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

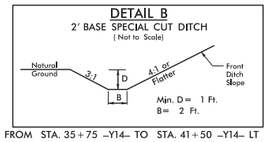
BARNHILL CONTRACTING COMPANY

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



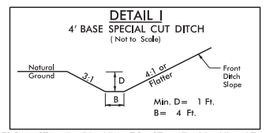
FROM STA. 26+00 -SR2- TO STA. 26+50 -SR2- LT
FROM STA. 36+50 -Y14- TO STA. 43+00 -Y14- RT
FROM STA. 43+00 -Y14- RT TO STA. 26+50 -SR2- LT
FROM STA. 46+00 -Y14- TO STA. 47+00 -Y14- RT

DETAIL B
2' BASE SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 35+75 -Y14- TO STA. 41+50 -Y14- LT

DETAIL I
4' BASE SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 41+50 -Y14- TO STA. 47+00 -Y14- LT

-Y14-
PI Sta 41+11.44
Δ = 6° 04' 36.0" (LT)
D = 1° 08' 53.6"
L = 529.23'
T = 264.86'
R = 4,990.00'
V = 60 MPH
e = 0.03
Lr = 120'

-SR2-
PI Sta 24+78.56
Δ = 57° 58' 36.6" (LT)
D = 10° 44' 58.8"
L = 539.34'
T = 295.31'
R = 533.00'
V = 40 MPH
e = 0.04
Lr = 84'

NAD 83

85 ANTOINETTE DARDEN, ET AL
DB T-51 PG 28
DB P-50 PG 576
DB Y-40 PG 666

86 JORDAN CHAPEL CHURCH
DB 2857 PG 410

87 ERNEST CREDLE
DB 3331 PG 806

88 PITT COUNTY FARMS LLC
DB 2969 PG 32
MB 2 PG 37

84 JOHN MILTON MAY JR.
DB 2013E PG 803

45 WILLIAM O. BRADLEY
DB 2013E PG 588

WILLIAM O. BRADLEY
DB 2013E PG 588

BURNEY M. FLEMING JR.
DB 3340 PG 572
MB 33 PG 70

MATCHLINE -Y14- STA. 37+00, SEE SHEET 31

-Y14- PC Sta. 38+46.58

-SR2- POT Sta. 27+40.00 =
-Y14- POT Sta. 45+41.75

-Y14- PT Sta. 43+75.81

-Y14- POT Sta. 50+00.00

-SR2- PT Sta. 27+22.59

FILL WITH FLOWABLE FILL

-Y14- +46.58
70.00' LT

2' BASE SPECIAL CUT DITCH
SEE DETAIL 'B'

4' BASE SPECIAL CUT DITCH
SEE DETAIL 'A'

-Y14- +75.81
70.00' LT

-Y14- +50.00
70.00' LT
END WW FENCE

-Y14- P/L
70.00' LT

-Y14- +62 P/L
EX. R/W

REMOVE

BY14- 134

-Y14-

-SR2-

SPECIAL CUT DITCH
SEE DETAIL 'A'

S 78° 48' 26.5" E

N 11° 21' 26.9" E

END CONSTRUCTION
-Y14- STA. 47+02.00

-Y14- +46.58
80.00' RT

-Y14- +46.58
96.00' RT

480' MEDIAN WIDTH TRANSITION (VARIES 16' TO 0')

-Y14- +75.81
80.00' RT

-Y14- +75.81
96.00' RT

-Y14- +54.79
96.00' RT

-Y14- +50.00
80.00' RT
END WW FENCE C

0-55-275
OFFSET=12.0'

0-50-400
OFFSET=15.0'

-Y14- +60.00
86.00' RT

-SR2- +76.61
75.00' RT

-Y14- +25.00
70.00' RT
& EX. R/W

-Y14- +25.00
86.00' RT

-SR2- +30.00
91.00' RT

-SR2- +70.00
50.00' LT

SPECIAL CUT DITCH
SEE DETAIL 'A'

-SR2- +50.00
50.00' RT &
75.00' RT

CLASS 'B' RIP RAP
EST. 8 TONS
21 SY GEO-TEXTILE

-SR2- +00.00
91.00' RT

MATCHLINE -SR2- STA. 24+00
SEE SHEET 58

82 NG FAMILY LLC
DB 2999 PG 814
MB 2 PG 37

83 HUI SO YIN, ET AL
DB K 49 PG 245
MB 2 PG 37

SEE SHEET NOS. 142 & 143 FOR -Y14- PROFILE
SEE SHEET NO. 173 FOR -SR2- PROFILE

REVISIONS

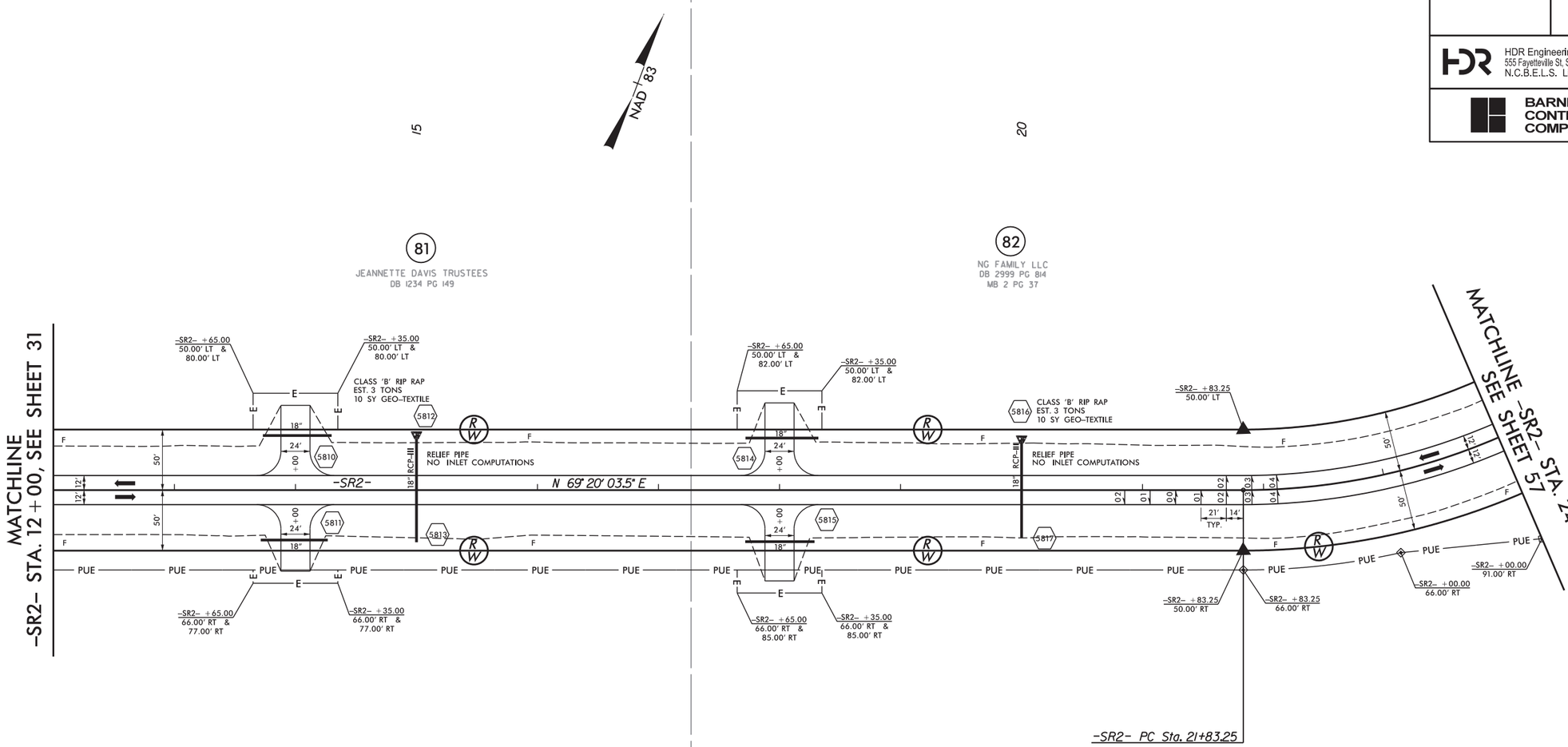
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	58
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY



-SR2-
PI Sta 24+78.56
Δ = 57° 58' 36.6" (LT)
D = 10° 44' 58.8"
L = 539.34'
T = 295.31'
R = 533.00'
V = 40 MPH
e = 0.04
Lr = 84'

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NO. 173 FOR -SR2- PROFILE

REVISIONS

PLOT DRIVER: NCDOT_pdf_color-eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R–2250	59
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

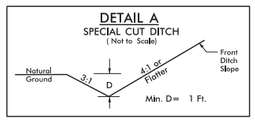
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

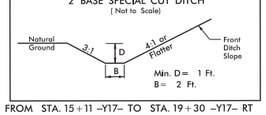
MATCHLINE –Y18– STA. 18+00, SEE SHEET 67

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 10+50 –Y17– TO STA. 15+11 –Y17– RT
FROM STA. 10+50 –Y17– TO STA. 15+30 –Y17– LT
FROM STA. 15+30 –Y17– TO STA. 18+00 –Y17– LT
FROM STA. 17+30 –Y18– TO STA. 20+00 –Y18– LT
FROM STA. 17+38 –Y18– TO STA. 20+00 –Y18– LT
FROM STA. 19+30 –Y17– RT TO STA. 11+00 –Y15– RT
FROM STA. 21+00 –Y17– RT TO STA. 11+00 –Y15– LT
FROM STA. 21+00 –Y17– TO STA. 24+00 –Y17– RT

DETAIL B
2' BASE SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 15+11 –Y17– TO STA. 19+30 –Y17– RT

DANIEL W. BAGLEY, ET UX
DB 816 PG 1

NAD 83

93
REBECCA WINSTEAD GAY
WB 03E PG 84

170
ROBERT E. JONES
DB 1745 PG 794

–Y17– PC Sta. 14+22.55

BEGIN CONSTRUCTION
–Y17– STA. 10+35.00

720' LANE DROP

65' TRANSITION TO EXISTING LANE WIDTHS

SPECIAL CUT DITCH SEE DETAIL 'A'

CLASS 'B' RIP RAP EST. 8 TONS 21 SY GEO–TEXTILE

FILL WITH FLOWABLE FILL

N 55°45'38.6" E

480' MEDIAN WIDTH TAPER (VARIES 0' TO 16')

2' BASE SPECIAL CUT DITCH SEE DETAIL 'B'

–Y17– POT Sta. 10+00.00

–Y17– PT Sta. 19+59.62

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

0–65–400 OFFSET=10.0'

0–55–300 OFFSET=14.0'

0–50–300 OFFSET=14.0'

S 36°52'05.0" E

360' MEDIAN WIDTH TAPER (VARIES 16' TO 28')

–Y15– POT Sta. 10+00.00 =
–Y17– POT Sta. 20+17.16 =
–Y18– POT Sta. 22+98.87

0–55–275 OFFSET=15.0'

MONOLITHIC CONCRETE ISLAND

N 52°08'25.7" E

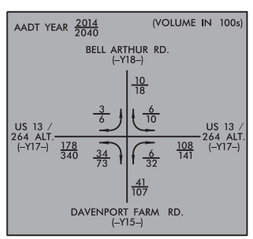
GPS R2250–14

JACOB NELSON, ET AL
DB M39 PG 423
MB 16 PG 41

89
ROBERT M. SMITH, ET UX
DB K44 PG 13
MB 36 PG 61
MB 24 PG 87

–Y17–
PI Sta 16+91.18
Δ = 3° 37' 13.0" (LT)
D = 0° 40' 26.6"
L = 537.08'
T = 268.63'
R = 8,500.00'
V = 60 MPH
e = 02
Lr = 80'

AADT YEAR 2014 / 2040 (VOLUME IN 100s)



MATCHLINE –Y15– STA. 14+00, SEE SHEET 64

MATCHLINE –Y17– STA. 24+50, SEE SHEET 35

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NO. 148 FOR –Y15– PROFILE
SEE SHEET NO. 150 FOR –Y17– PROFILE
SEE SHEET NO. 158 FOR –Y18– PROFILE

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	60
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

MATCHLINE -Y17- STA. 41+50, SEE SHEET 35

MATCHLINE -Y17- STA. 55+50, SEE SHEET 61

-Y17-
PI Sta 53+88.22
Δ = 4° 05' 06.8" (RT)
D = 0° 27' 10.6"
L = 901.95'
T = 451.17'
R = 12,650.00'
V = 65 MPH
e = NC

-Y17- PC Sta. 49+37.05

NAD 83

100 USHA LEE CARR, ET AL
DB 3132 PG 748

101 PINEY GROVE FREE WILL BAPTIST CHURCH
DB W27 PG 157
DB H32 PG 571
DB Z37 PG 467
DB 045 PG 856
DB W38 PG 019
MB 005 PG 014

102 TOWN OF FARMVILLE
DB 2304 PG 612
DB 2304 PG 614
MB 67 PG 140

103 JESSIE KILPATRICK
DIV. OF LAND BK 3 PG 236
MB 23 PG 141

104 GAYLE LITTLE WAINRIGHT
DB 1071 PG 116

105 DAPHNE L. RICHARDSON, ET AL
DB 1089 PG 587

93 REBECCA WINSTEAD GAY
WB 03E PG 84

REBECCA W. GAY, ET AL
DB K27 PG 148
MB 13 PG 10
PER MB 67 PG 140

DORETHA MABERY
DB 140 PG 400

480' MEDIAN WIDTH TAPER (VARIES 28' TO 12')

-Y17- +45.00 115.57' LT END WW FENCE
-Y17- +97.00 PROP. R/W
-Y17- +00.00 142.00' LT
-Y17- +58.84 98.13' LT P/L
-Y17- +60.00 120.00' LT
-Y17- +58.00 PROP. R/W
-Y17- P/L 85.00' LT
-Y17- +20.00 85.00' RT
-Y17- +21.00 101.00' RT
-Y17- +47.00 111.00' RT
-Y17- +45.00 94.92' RT END WW FENCE
-Y17- +33.00 154.00' RT
-Y17- +37.05 85.00' RT
-Y17- +37.05 101.00' RT

MONOLITHIC CONCRETE ISLAND
SPECIAL CUT DITCH SEE DETAIL 'A'
REMOVE
BY17- 137
PUE
EXISTING R/W
6" PVC SDR 26 (BAWC)
48" RCP
48" MTL
24" DI (FARMVILLE)
RIP RAP/CONC
6010 6011 6013 6014 6016
ISBK PINEY GROVE FREE WILL BAPTIST CHURCH
ISBK
ISBKD
GREENHOUSE
PLANT NURSERY
ISFD
CANOPY
WATER TOWER

N 52° 08' 25.7" E
N 68°30'54" E 244.68'
S 57°01'09" W 309.18'
S 57°01'09" W 223.13'
N 56°48'02" E 508.61'
N 56°48'02" E 292.02'
N 37°38'24" W 220.41'
N 29°19'37" W 227.65'
N 01°58'26" E 132.18'
S 78°51'36" W 265.00'
N 01°00'42" E 116.36'
N 46°48'50" E 85.62'
N 14°18'35" W 47.18'
N 29°34'56" W 58.29'
S 37°57'16" E 239.26'
S 37°57'16" E 280.75'
N 72°54'16" W 182.71'
S 52°02'44" W 315.30'

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground
3:1
D
4:1 or Flatter
Front Ditch Slope
Min. D = 1.5 Ft.

FROM STA. 41+00 -Y17- TO STA. 46+35 -Y17- LT
FROM STA. 41+00 -Y17- TO STA. 46+50 -Y17- RT
FROM STA. 46+66 -Y17- TO STA. 55+00 -Y17- LT
FROM STA. 50+50 -Y17- TO STA. 57+66 -Y17- RT
FROM STA. 55+00 -Y17- TO STA. 57+84 -Y17- LT

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NO. 149 FOR -Y15- PROFILE
SEE SHEET NO. 151 FOR -Y17- PROFILE

REVISIONS

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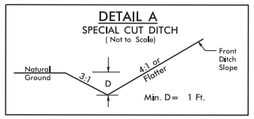
PROJECT REFERENCE NO.	SHEET NO.
R-2250	61
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

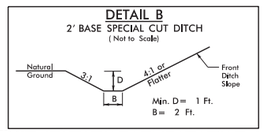
BARNHILL CONTRACTING COMPANY

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 50+50 –Y17– TO STA. 57+66 –Y17– RT
FROM STA. 55+00 –Y17– TO STA. 57+84 –Y17– LT
FROM STA. 58+40 –Y17– TO STA. 64+68 –Y17– LT
FROM STA. 57+78 –Y17– TO STA. 64+78 –Y17– RT
FROM STA. 64+84 –Y17– TO STA. 70+32 –Y17– LT
FROM STA. 65+00 –Y17– TO STA. 68+00 –Y17– RT
FROM STA. 70+32 –Y17– TO STA. 70+50 –Y17– LT

DETAIL B
2' BASE SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 68+00 –Y17– TO STA. 70+32 –Y17– RT
FROM STA. 69+00 –Y17– TO STA. 70+32 –Y17– LT

NAD 83

104
GAYLE LITTLE WAINRIGHT
DB 1071 PG 116

–Y17–
PI Sta 53+88.22
Δ = 4° 05' 06.8" (RT)
D = 0° 27' 10.6"
L = 901.95'
T = 451.17'
R = 12,650.00'
V = 65 MPH
e = NC

57
LITTLES NURSERY OF GREENVILLE INC
DB 3315 PG 199

106
GAYLE LITTLE WAINRIGHT
DB 1089 PG 568

105
DAPHNE L. RICHARDSON, ET AL
DB 1089 PG 587

MATCHLINE –Y17– STA. 55+50, SEE SHEET 60

MATCHLINE –Y17– STA. 69+50, SEE SHEET 62

–Y17– PT Sta. 58+39.00

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NOS. 151 & 152 FOR –Y17– PROFILE

REVISIONS

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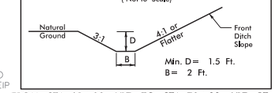
PROJECT REFERENCE NO.	SHEET NO.
R-2250	62
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

DETAIL B
2' BASE SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 68+00 -Y17- TO STA. 70+32 -Y17- RT
FROM STA. 69+00 -Y17- TO STA. 70+32 -Y17- LT
FROM STA. 70+50 -Y17- TO STA. 77+50 -Y17- LT
FROM STA. 70+32 -Y17- TO STA. 71+40 -Y17- RT
FROM STA. 71+40 -Y17- TO STA. 76+75 -Y17- RT
FROM STA. 76+75 -Y17- TO STA. 82+50 -Y17- RT
FROM STA. 77+50 -Y17- TO STA. 85+00 -Y17- LT
FROM STA. 82+50 -Y17- TO STA. 90+92 -17- RT

MATCHLINE -Y17- STA. 69+50, SEE SHEET 61

MATCHLINE -Y17- STA. 83+50, SEE SHEET 63

106 GAYLE LITTLE WAINRIGHT
DB 1089 PG 568

110 FOSS ENTERPRISES, INC.
DB 846 PG 507
DB Y-35 PG 266

114 NANCY A. BEARDSWORTH
DB Y-35 PG 266

115 WILLIAM H. WATSON JR. ET AL
ESTATE FILE 2009E 104
DB R50 PG 312

107 STEVE WOOD, ET UX
DB 1880 PG 528

109 MARY BURNEY
DEATH CERTIFICATE

111 CHARLES BRINKLEY MOORE, JR.
DB 1052 PG 47

112 CONNALLY P. BRANCH
DB L-54 PG 778

113 FOSS ENTERPRISES, INC.
DB 740 PG 815

108 SIGNATURE AUTOMOTIVE
DB 3270 PG 153

116 LANDMARK MISSIONARY BAPTIST CHURCH INC.
DB 2710 PG 95

117 PHILLIP E. TRULL
DB 1802 PG 142

DO NOT DISTURB EXISTING BILLBOARD
DO NOT DISTURB EXISTING WELL
-Y17- +13.00 67.00' LT & 75.00' LT
-Y17- +80.00 67.00' LT & 85.00' LT
2' BASE SPECIAL CUT DITCH SEE DETAIL 'B'
REMOVE
COLLAR AND EXTEND
REMOVE HW
CLASS 'B' RIP RAP EST. 8 TONS 21 SY GEO-TEXTILE
-Y17- P/L 96.00' RT & 101.00' RT
-BY17- 139
-Y17-
N 56°13' 32.5" E
30' U/G GAS EASEMENT
NATURAL GAS PIPELINE
50' PIEDMONT NATURAL GAS EASEMENT
6" PVC SDR 28 (BAWC)
6" PVC SDR 26 (BAWC)
OLD US 264A / NC 13 24' BST
24' DI (CUT)
15" RCP
18" RCP
ISBKBUS
2SBKBUS
2SF BUS
ISF BUS
2SF&BKBUS
2SMTLBUS
ISMTLBUS
ISBK LANDMARK BAPTIST CHURCH
CANOPY
GATE
TANK
72' CHL
48" CONC
60" CONC
R-STEEL (PND)
TRACT 1
TRACT 2
DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NO. 152 FOR -Y17- PROFILE

REVISIONS

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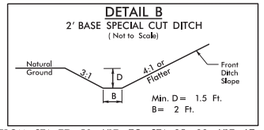
PROJECT REFERENCE NO.	SHEET NO.
R-2250	63
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

DETAIL B
2' BASE SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 77+50 -Y17- TO STA. 85+00 -Y17- LT
FROM STA. 82+50 -Y17- TO STA. 90+92 -Y17- RT
FROM STA. 85+00 -Y17- TO STA. 90+94 -Y17- LT
FROM STA. 90+94 -Y17- TO STA. 97+15 -Y17- LT
FROM STA. 90+96 -Y17- TO STA. 97+40 -Y17- RT

MATCHLINE -Y17- STA. 83+50, SEE SHEET 62

-Y17- N 56°13'32.5" E

GPS / R2250-15

GPS / R2250-16

END CONSTRUCTION
-Y17- STA. 97+40.00

NAD 83

115 WILLIAM H. WATSON JR. ET AL ESTATE FILE 2009E 104 DB R50 PG 312

119 GAIL PORTER NICHOLS CO-EXECUTRIX DB 2015E PG 378

124 FOSS ENTERPRISES, INC. DB 2757 PG 378

127 GAIL PORTER NICHOLS CO-EXECUTRIX DB 2015E PG 378

117 PHILLIP E. TRULL DB 1802 PG 142

118 CHARLES BRINKLEY MOORE DB 2094 PG 377

120 JERRY LINWOOD PRICE, ET UX DB 1878 PG 116

121 CHARLES L. WARTERS, ET UX DB 1143 PG 203 MB 55 PG 62

ARCHIE L. OAKLEY, ET UX DB 1026 PG 499 MB 53 PG 99

76 AMERICAN BUILDERS, INC. DB 905 PG 555 MB 55 PG 62

122 ARCHIE L. OAKLEY, JR. DB 2410 PG 513

122 ARCHIE OAKLEY, JR. ET UX ISMTLBUS DB 564 PG 412

123 CITY OF GREENVILLE DB T-50 PG 341

125 FOSS ENTERPRISES, INC DB 962 PG 639

FOSS ENTERPRISES, INC DB 1789 PG 711 DB 693 PG 663

126 ANNE W. MEEKS DB K-54 PG 410 ESTATE FILE 07-E-0143

126 ANNE W. MEEKS DB 224 PG 541 ESTATE FILE 07-E-0143

2' BASE SPECIAL CUT DITCH SEE DETAIL 'B'

-Y17- +12.00 100.00' LT
-Y17- +96.00 85.00' LT & 100.00' LT
-Y17- +21.00 120.00' LT
-Y17- +36.00 114.00' LT
-Y17- +30.00 100.00' LT
-Y17- +20.00 85.00' LT
-Y17- EX. R/W 100.00' LT
-Y17- +40.00 EX. R/W
-Y17- P/L 85.00' RT & 101.00' RT
-Y17- EX. R/W 85.00' RT
-Y17- EX. R/W 101.00' RT

DO NOT DISTURB EXISTING MONITORING WELL
DO NOT DISTURB EXISTING UNDERGROUND STORAGE TANKS

CLASS 'I' RIP RAP EST. 20 TONS 39 SY GEO-TEXTILE

FILL WITH FLOWABLE FILL

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NOS. 152 & 153 FOR -Y17- PROFILE

REVISIONS

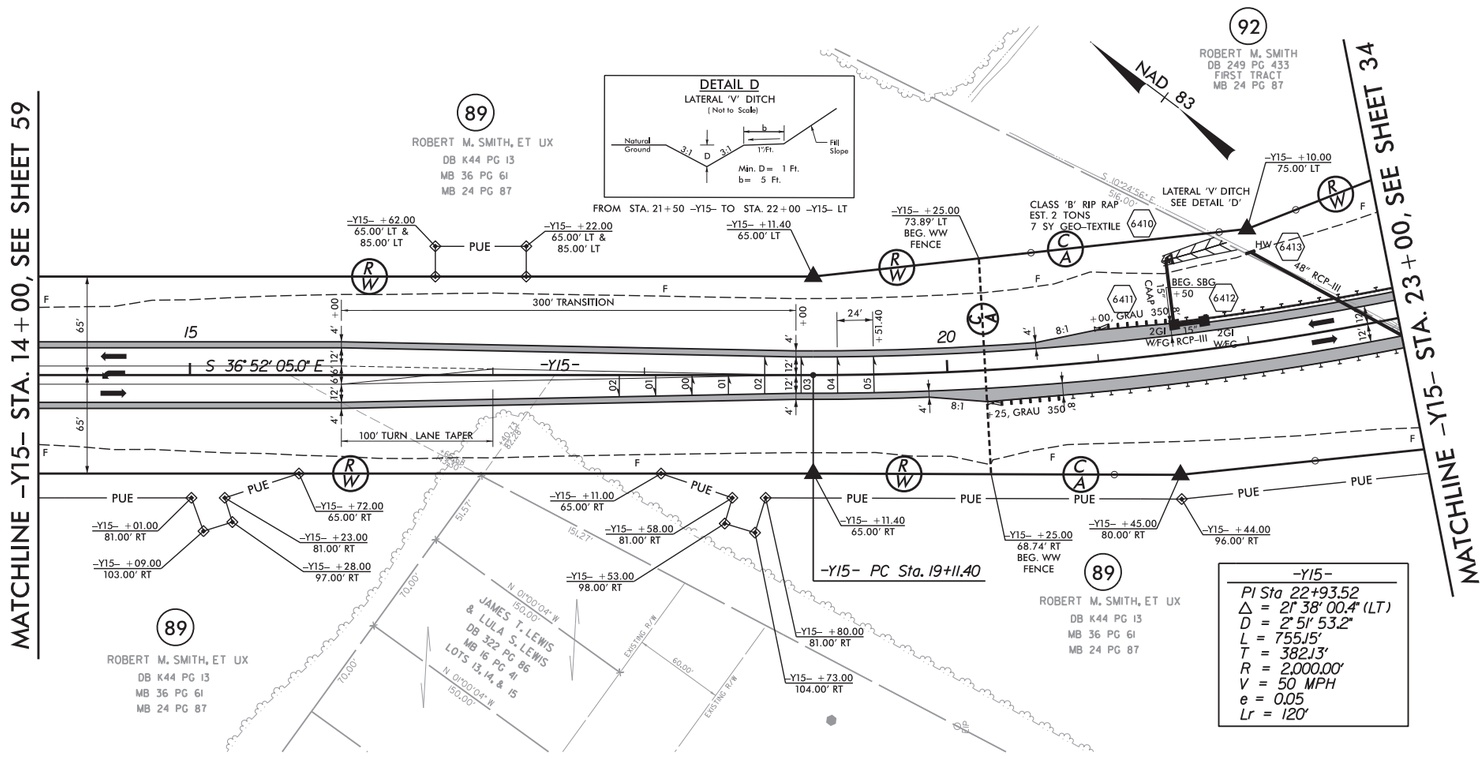
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	64
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

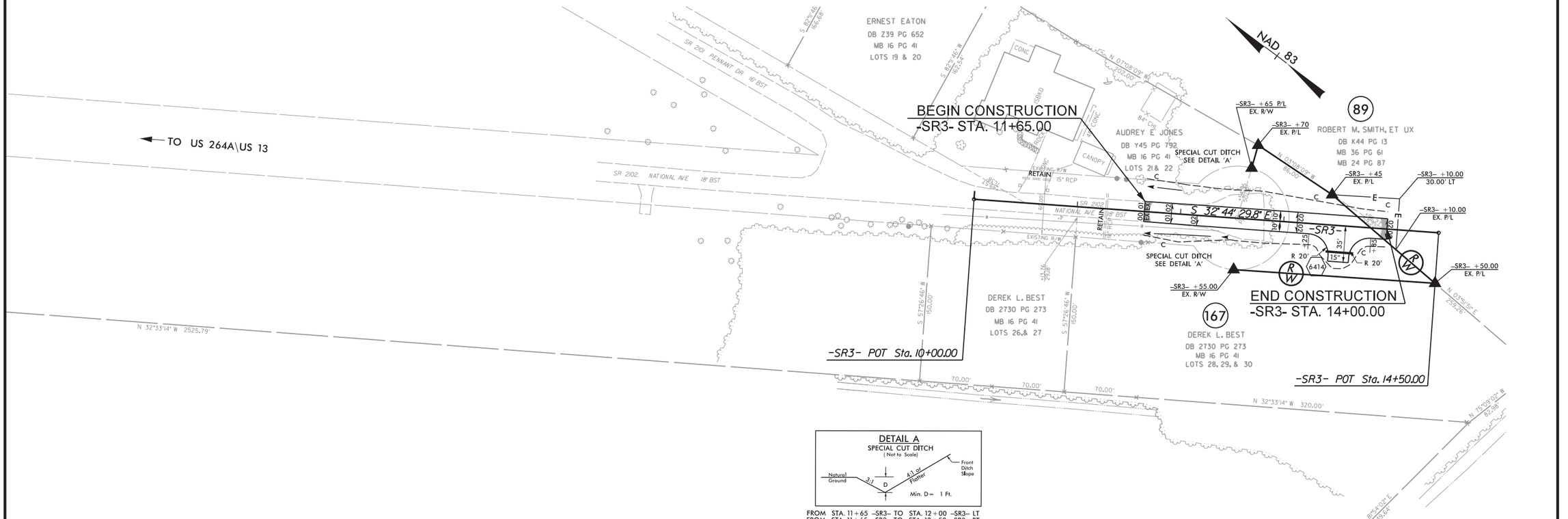
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY



SEE SHEET NO. 148 FOR -Y15- PROFILE



SEE SHEET NO. 173 FOR -SR3- PROFILE

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REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2250	65
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

NAD 83

90
EDWIN CARL CRAWFORD JR.
DB 804 PG 774
MB 64 PG 15

-Y15-
PI Sta 44+04.48
Δ = 29° 01' 33.2" (LT)
D = 2° 29' 28.0"
L = 1,165.17'
T = 595.37'
R = 2,300.00'
V = 50 MPH
e = 0.04
Lr = 96'

-Y15- PC Sta. 38+09.11

-DR2- POT Sta. 10+00.00 =
-Y15- POT Sta. 34+76.00

89
ROBERT M. SMITH, ET UX
DB K44 PG 019
MB 24 PG 87

S 00°40'50" E
692.63'

MATCHLINE -Y15-
STA. 33+00, SEE SHEET 34

-Y15- +65.00
75.00' LT

-Y15- +78.00
70.30' LT
END WW
FENCE

-Y15- +09.11
60.00' LT

30" RCP-III

35

+78, GRAU 350

8:1

+05, GRAU 350

S 58° 30' 05.4" E

LATERAL 'V' DITCH
SEE DETAIL 'D'

6510 6511 6512 6513 6514

CLASS 'B' RIP RAP
EST. 8 TONS
21 SY GEO-TEXTILE

40

45

-Y15-

24" RCP-III

CLASS 'B' RIP RAP
EST. 5 TONS
14 SY GEO-TEXTILE

-DR2-

15"

S 31° 29' 54.6" W

PUE

-Y15- +06.00
96.66' RT
END WW
FENCE

-Y15- +35.00
110.09' RT

-Y15- +23.00
102.09' RT

-Y15- +91.00
200.00' RT

-Y15- +60.00
200.00' RT

-Y15- +09.11
60.00' RT

-Y15- +09.81
76.00' RT

-DR2- POT Sta. 12+16.00

MATCHLINE -Y15- STA. 47+00, SEE SHEET 66

SOIL

SEE SHEET NOS. 148 & 149 FOR -Y15- PROFILE
SEE SHEET NO. 149 FOR -DR2- PROFILE

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	66
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

-SR4- POT Sta. 10+00.00

S 35° 58' 20.5" E

BEGIN CONSTRUCTION
-SR4- STA. 11+75.00

-SR4- +75.00
50.00' LT
& EX. R/W

-SR4- +75.00
50.00' RT
& EX. R/W

-SR4- +75.00
66.00' RT

-SR4- +65.55
66.00' RT

-SR4- +65.55
50.00' RT

-SR4- PC Sta. 12+65.55

-SR4- +65.55
50.00' LT

-SR4- EX. R/W
50.00' LT

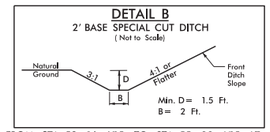
-Y15-
PI Sta 44+04.48
△ = 29° 01' 33.2" (LT)
D = 2° 29' 28.0"
L = 1,165.17'
T = 595.37'
R = 2,300.00'
V = 50 MPH
e = 0.04
Lr = 96'

-SR4-
PI Sta 14+40.61
△ = 38° 35' 28.2" (RT)
D = 11° 27' 33.0"
L = 336.77'
T = 175.05'
R = 500.00'
V = 35 MPH
e = 0.04
Lr = 84'

90
EDWIN CARL CRAWFORD JR.
DB 804 PG 774
MB 64 PG 15

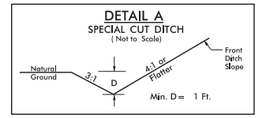
91
NANNIE B. FIELDS
DB 1459 PG 001
MB 60 PG 35

DETAIL B
2' BASE SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 53+16 -Y15- TO STA. 55+29 -Y15- LT

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 11+75 -SR4- TO STA. 16+50 -SR4- RT
FROM STA. 11+75 -SR4- TO STA. 16+50 -SR4- LT
FROM STA. 56+00 -Y15- TO STA. 59+37 -Y15- LT
FROM STA. 56+50 -Y15- TO STA. 59+37 -Y15- RT

NAD 83

-Y15- PT Sta. 49+74.28

MATCHLINE -Y15- STA. 47+00, SEE SHEET 65

-SR4- PT Sta. 16+02.33

-SR4- +50.00
66.00' RT

-SR4- +02.33
50.00' RT

-Y15- +74.28
60.00' LT

-Y15- +87.00
60.00' LT

-Y15- +60.00
60.00' LT

-Y15- +74.28
60.00' RT

-Y15- +74.28
76.00' RT

0-50-320
OFFSET=12.0'

18" RCP-III

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY FILTER FABRIC

0-55-300
OFFSET=12.0'

2' BASE SPECIAL CUT DITCH
SEE DETAIL 'B'

-BY16A- 155

S 2° 37' 07.7" W

-SR4- POT Sta. 17+05.14 =
-Y15- POT Sta. 52+63.04

SPECIAL CUT DITCH
SEE DETAIL 'A'

-Y15- POT Sta. 61+30.76

END CONSTRUCTION
-Y15- STA. 60+00.00

-Y15- EX. R/W
60.00' LT

-Y15- +00.00
60.00' LT
& EX. R/W

-Y15- +00.00
60.00' RT
& EX. R/W

-Y15- +00.00
76.00' RT

24" RCP-III

COLLAR AND EXTEND

COLLAR AND EXTEND 24" RCP-III

42" RCP-III

-Y15-
S 87° 31' 38.6" E

CLASS 'B' RIP RAP
EST. 15 TONS
37 SY GEO-TEXTILE

CLASS 'B' RIP RAP
EST. 5 TONS
14 SY GEO-TEXTILE

DAVENPORT FARM RD
SR 1128 20' BST

EXISTING R/W

PAVEMENT REMOVAL

SEE SHEET NO. 149 FOR -Y15- PROFILE
SEE SHEET NO. 174 FOR -SR4- PROFILE

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: dwainwri DATE: 1/25/2016 TIME: 5:57:43 PM
FILE: North_Carolina_Dept_of_Transportation\R-2250A_B_C_Greenville_Southwest_Bypass_DB\06.00_Project_Design\R-2250_NCDOT_File_Structure\Roadway\Proj\R2250_RDY_PSH-66.dgn

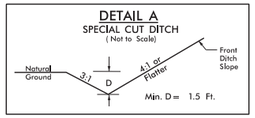
PROJECT REFERENCE NO.	SHEET NO.
R-2250	67
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

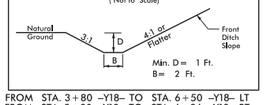
BARNHILL CONTRACTING COMPANY

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 3+50 –Y18– TO STA. 3+80 –Y18– LT
FROM STA. 17+30 –Y18– TO STA. 20+00 –Y18– RT
FROM STA. 17+38 –Y18– TO STA. 20+00 –Y18– LT

DETAIL B
2' BASE SPECIAL CUT DITCH
(Not to Scale)

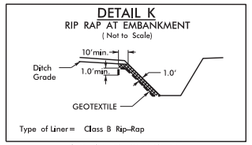


FROM STA. 3+80 –Y18– TO STA. 6+50 –Y18– LT
FROM STA. 3+80 –Y18– TO STA. 6+36 –Y18– RT
FROM STA. 8+00 –Y18– TO STA. 17+00 –Y18– LT

–Y18–

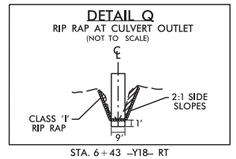
PIs Sta 6+84.09	PI Sta 8+10.56	PIs Sta 9+35.46
Θs = 5° 01' 33.4"	Δ = 18° 33' 59.3" (RT)	Θs = 5° 01' 33.4"
Ls = 100.00'	D = 10° 03' 06.8"	Ls = 100.00'
LT = 66.69'	L = 184.71'	LT = 66.69'
ST = 33.36'	T = 93.17'	ST = 33.36'
	R = 570.00'	
	V = 40 MPH	
	e = 0.04	
	Lr = 100'	

DETAIL K
RIP RAP AT EMBANKMENT
(Not to Scale)



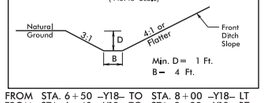
Type of Liner = Class B Rip-Rap
STA. 6+54 –Y7RPC– RT

DETAIL Q
RIP RAP AT CULVERT OUTLET
(NOT TO SCALE)



STA. 6+43 –Y18– RT

DETAIL I
4' BASE SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 6+50 –Y18– TO STA. 8+00 –Y18– LT
FROM STA. 6+40 –Y18– TO STA. 8+22 –Y18– RT

94
LEWIS O. TRIPP, ET AL
DB A-53 PG 469
MB 2 PG 227

NAD 1983

95
AMA HOLDINGS LLC
DB 2849 PG 26

93
REBECCA WINSTEAD GAY
WB 03E PG 84
MB 2 PG 227

S 85°39'54" W 57.02'

S 00°30'35" E 276.00'

N 00°30'35" W 276.00'

97
RICHARD L. HILL, ET UX
DB 1418 PG 727
MB 2 PG 227

RIP RAP AT EMBANKMENT SEE DETAIL 'K'

–Y18– +17.39 75.00' LT
–Y18– +18.00 108.00' LT
–Y18– +16.00 92.00' LT
–Y18– +36.00 106.00' LT
–Y18– +34.00 87.00' LT
–Y18– +80.00 94.00' LT
–Y18– +79.00 110.00' LT
–Y18– +58.00 109.00' LT
–Y18– +59.00 91.00' LT
–Y18– +00.00 76.00' LT
–Y18– +70.00 55.71' LT
–Y18– +50.00 40.00' LT & EX. R/W
–Y18– +60.00 71.20' LT
–Y18– +02.10 50.00' LT
–Y18– +61.25 60.00' LT
–Y18– +62.46 48.97' LT
–Y18– +02.10 60.00' LT
–Y18– +02.10 50.00' LT

4' BASE SPECIAL CUT DITCH SEE DETAIL 'I'
2' BASE SPECIAL CUT DITCH SEE DETAIL 'B'
SPECIAL CUT DITCH SEE DETAIL 'A'

PUE
RW
E
C
F
I 78
Z 2
B 7
B 8
6710
6711
6712
6713
6714
6715
6716
6717
6718

15
720' TAPER
COLLAR AND EXTEND
COLLAR AND EXTEND 300' TAPER
REMAIN
REMOVE
RETAIN
25' TYP.
R 10'
18"
16"
50'
24"
12"
S 36° 52' 05.0" E
–Y18–
SR 1206 BELL ARTHUR RD 20' BST
EXISTING R/W
24" TERRA COTTA
10" PVC C900 (BAWC)
CLASS 'B' RIP RAP EST. 5 TONS 14 SY GEO-TEXTILE
LEWIS O. TRIPP, ET AL
DB A-53 PG 469
MB 2 PG 227
94

–Y18– ST Sta. 10+02.10
–Y18– CS Sta. 9+02.10
–Y18– SC Sta. 7+17.39
–Y18– TS Sta. 6+17.39

–Y18– +17.39 75.00' RT
–Y18– +25.00 50.00' RT
–Y18– P/L 50.00' RT
–Y18– P/L 30.00' RT
–Y18– +65.80 59.43' RT
–Y18– +02.10 50.00' RT

CLASS 'I' RIP RAP EST. 38 TONS 55 SY GEO-TEXTILE SEE DETAIL 'Q'

9'x7' RCBC BURIED 1' BACKFILL CULVERT W/ NATIVE MATERIAL TO NATURAL CHANNEL BED ELEVATION

REMOVE
RETAIN
S 65°29'11" E
15" RCP
CONC
15FD
25FD
S 25°30'45" W 143.81'
S 18°33'00" W 56.08'
N 69°57'57" W 74.27'
N 20°02'03" E 56.07'
N 62°31'46" E 120.05'
N 64°16'51" E 101.19'
S 10°05'15" W 20.66'
EIS
CEMETERY
SWAMP
N 31°00'51" E 103.97'
PROPERTY LINE ALONG CENTERLINE OF FARMER CREEK
UT TO UTLEY CENTERLINE CREEK
SILO

96
MELISSA THORNE
DB 2628 PG 97
MB 70-104

EDMONSON CONSTRUCTION CO. OF GREENVILLE LLC
DB 2437 PG 710
MB 70-136

93
REBECCA WINSTEAD GAY
WB 03E PG 84

MATCHLINE –Y18– STA. 18+00, SEE SHEET 59

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NO. 158 FOR –Y18– PROFILE

REVISIONS

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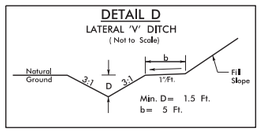
PROJECT REFERENCE NO.	SHEET NO.
R-2250	68
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

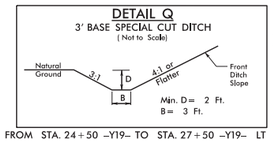
HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

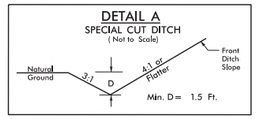
NAD 83



FROM STA. 18+18 –SR7– TO STA. 25+00 –SR7– RT
FROM STA. 22+14 –SR7– TO STA. 24+90 –SR7– LT
FROM STA. 24+90 –SR7– TO STA. 27+80 –SR7– LT
FROM STA. 25+00 –SR7– TO STA. 27+80 –SR7– RT



FROM STA. 24+50 –Y19– TO STA. 27+50 –Y19– LT



FROM STA. 21+98 –Y19– TO STA. 22+43 –Y19– RT
FROM STA. 23+27 –Y19– TO STA. 25+09 –Y19– RT
FROM STA. 25+09 –Y19– TO STA. 30+00 –Y19– RT
FROM STA. 25+11 –Y19– TO STA. 27+50 –Y19– LT
FROM STA. 27+80 –SR7– TO STA. 29+12 –SR7– RT
FROM STA. 28+15 –SR7– TO STA. 29+18 –SR7– LT

–Y19–		
PIs Sta 17+35.05	PI Sta 20+30.85	PIs Sta 23+21.50
Θs = 4° 40' 37.9"	Δ = 21° 11' 35.5" (LT)	Θs = 4° 40' 37.9"
Ls = 200.00'	D = 4° 40' 37.9"	Ls = 200.00'
LT = 133.38'	L = 453.12'	LT = 133.38'
ST = 66.71'	T = 229.18'	ST = 66.71'
	R = 1,225.00'	
	e = EXIST	

–SR7–	
PI Sta 24+10.90	PI Sta 28+66.65
Δ = 1° 09' 30.5" (LT)	Δ = 2° 07' 50.5" (RT)
D = 0° 42' 58.3"	D = 1° 25' 56.6"
L = 161.75'	L = 148.75'
T = 80.88'	T = 74.38'
R = 8,000.00'	R = 4,000.00'
V = 50 MPH	V = 35 MPH
e = NC	e = NC

136
VIOLA T. KNOX HEIRS
DB DC87 PG 573
MB 48 PG 97

137
WILLIAM THOMAS TURNAGE JR HEIRS
E 130
MB 49 PG 97

138
ESTELLA WRIGHT HEIRS
DB 745 PG 23

JEFFREY L. WRIGHT
DB 862 PG 628
MB 50 PG 130

FENNER ALLEN, HEIRS
DB 014 PG 041
MB 001 PG 042

139
JASPER L. WRIGHT
DB R-41 PG 10
MB 90 PG 130

174
ROW AGREEMENT W48-27
THOMAS TURNAGE, ET AL
TO NCDOT. 35' EACH SIDE CL.
DB G-10 PG 467
DB W-48 PG 27
MB 50 PG 130

BEGIN CONSTRUCTION
–Y19– POC STA. 21+98.00

–SR7– PC Sta. 23+30.03
–SR7– PT Sta. 24+91.78
–SR7– PC Sta. 27+92.27
–SR7– PT Sta. 29+41.02
–Y19– CS Sta. 22+54.79
–Y19– POS Sta. 22+83.94 = –SR7– POT Sta. 29+59.14
–Y19– ST Sta. 24+54.79
–BY19– 141

MATCHLINE –SR7– STA. 23+00, SEE SHEET 38
MATCHLINE –Y19– STA. 26+00 SEE SHEET 39

–SR7– +22.00 60.00' LT & 74.00' LT
–SR7– +15.00 60.00' LT & 77.00' LT
–SR7– +30.03 60.00' LT
–SR7– +91.78 60.00' LT
–SR7– +37.00 60.00' LT & 76.00' LT
–SR7– +87.00 60.00' LT & 76.00' LT
–SR7– +75.00 60.00' LT & 75.00' LT
–SR7– +23.00 60.12' LT & 75.00' LT
–SR7– +55.00 60.50' LT
–SR7– +00.13 24.33' LT
–Y19– +00.00 EX. R/W
N 0° 30' 12.1" W
70–400 OFFSET=10'
N 2° 38' 02.6" W
LATERAL 'V' DITCH SEE DETAIL 'D'
CLASS 'B' RIP RAP EST. 3 TONS 10 SY GEO–TEXTILE
REMOVE
PUE
–SR7– +30.03 55.00' RT
–SR7– +30.03 71.00' RT
–SR7– +91.78 55.00' RT
–SR7– +91.78 71.00' RT
–SR7– +31.93 70.81' RT
–SR7– +60.00 54.43' RT
–Y19– +49.09 21.65' RT
–Y19– +00.00 EX. R/W
–Y19– +75.00 50.00' RT
–Y19– +00.24 66.11' RT
–Y19– +54.79 50.00' RT
–Y19– +54.79 50.00' LT
3' BASE SPECIAL CUT DITCH SEE DETAIL 'Q'
SPECIAL CUT DITCH SEE DETAIL 'A'
CLASS 'B' RIP RAP EST. 3 TONS 10 SY GEO–TEXTILE COLLAR AND EXTEND
18" RCP–III
COLLAR AND EXTEND
RETAIN
EX. EX
N 86°50'28" W 528.05'
S 89°54'42" W 505.52'
S 89°54'42" W 208.46'
S 02°21'35" E 74.16'
S 02°21'35" E 210.00'
S 03°45'09" E 200.20'
N 86°14'51" E 100.00'
N 03°45'09" W 200.91'
N 89°54'17" E 740.41'

DRIVEWAY RADII 20' UNLESS OTHERWISE NOTED
SEE SHEET NO. 159 FOR –Y19– PROFILE
SEE SHEET NO. 175 FOR –SR7– PROFILE

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	69
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

-SR11- POT Sta. 16+00.00

-SR11- +45.00
46.00' LT
EX. P/L

END CONSTRUCTION
-SR11- STA. 14+55.00

-SR11- +45.00
55.31' RT

-SR11- +59
EX. P/L

-SR11- +54.79
EX. P/L

-SR11- P/L
60.00' LT

DRIVEWAY

CLASS 'B' RIP RAP
EST. 5 TONS
14 SY GEO-TEXTILE

15" RCP

24" RCP-III

-SR11-

N 2° 41' 43.6" E

60'

154
CITY OF GREENVILLE
DB 1240 PG 625
TRACT 1
PARCEL 48284

SPECIAL CUT DITCH
SEE DETAIL 'A'

-Y20- POT Sta. 10+00.00

-SR11- +70.00
60.00' LT

0-50-320
OFFSET=12.0'

-Y20- +25.00
EX. R/W

-SR11- +75.00
EX. P/L

0-50-350
OFFSET=12.0'

-Y20- +65.00
EX. R/W

GPS R2250-19

GPS R2250-20

-Y20-

-Y20- POT Sta. 12+53.57 =
-SR11- POT Sta. 10+00.00

BEGIN CONSTRUCTION
-Y20- STA. 11+10.00

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground
3:1
D
4:1 or Flatter
Front Ditch Slope
Min. D = 1 Ft.

FROM STA. 13+15 -Y20- LT TO STA. 10+50 -SR11- RT
FROM STA. 10+50 -SR11- TO STA. 13+18 -SR11- RT
FROM STA. 10+50 -SR11- TO STA. 13+29 -SR11- LT

159
MEDICAL FOUNDATION OF ECU INC
DB 485 PG 264
MB 43 PG 12
TRACT 1
PARCEL 50219

MARGARET SUMMERS
DBA LMS DRYWALL AND PLASTER
DB 2289 PG 62
PARCEL 30714

155

ISBKBUS
ISFBUS

E.H. TAFT, JR., ET AL
DB 259 PG 93
MB 38 PG 103

157
THOMAS F. TAFT, ET AL
DB 331PG 738
DB P-51PG 603
PARCEL 40168

150
HAPPY TRAIL FARMS, LLC
DB 3005 PG 769
MB 38 PG 103

WILLIAM VAN STOCKS, SR.
CHARLOTTE H. STOCKS
DB 3015 PG 54
MB 38 PG 103

GREENVILLE COMMUNITY CHURCH
OF THE NAZARENE CTM
DB 1065 PG 257
MB 38 PG 103
DB 2572 PG 263

NAD 83

MATCHLINE -Y20- STA. 21+00, SEE SHEET 46

SEE SHEET NO. 160 FOR -Y20- PROFILE
SEE SHEET NO. 177 FOR -SR11- PROFILE

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	70
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

-Y21-

PIs Sta 19+70.53	PI Sta 27+92.41	PIs Sta 36+09.08
Θs = 0° 33' 42.2"	Δ = 11° 31' 23.6" (LT)	Θs = 0° 33' 42.2"
Ls = 150.00'	D = 0° 44' 56.3"	Ls = 150.00'
LT = 100.00'	L = 1,538.55'	LT = 100.00'
ST = 50.00'	T = 771.88'	ST = 50.00'
	R = 7,650.00'	
	V = 70 MPH	
	e = 0.03	
	Lr = 150'	

-Y21RPA-

PIs Sta 13+53.39	PI Sta 16+87.47	PIs Sta 20+20.56	PI Sta 22+43.37	PIs Sta 24+67.34	PI Sta 28+72.96	PIs Sta 32+53.94
Θs = 5° 12' 31.3"	Δ = 27° 20' 00.0" (RT)	Θs = 0° 49' 03.9"	Δ = 1° 36' 51.1" (RT)	Θs = 0° 49' 03.0"	Δ = 37° 51' 45.7" (RT)	Θs = 0° 45' 09.3"
Ls = 200.00'	D = 5° 12' 31.3"	Es = 5° 12' 34.1"	D = 0° 49' 06.6"	Es = 5° 56' 18.2"	D = 5° 56' 14.6"	Es = 5° 56' 18.0"
LT = 133.39'	L = 524.76'	Ls = 200.00'	L = 197.21'	Ls = 200.00'	L = 637.70'	Ls = 200.00'
ST = 66.72'	T = 267.47'	LT = 124.37'	T = 98.61'	LT = 125.36'	T = 330.98'	LT = 125.93'
	R = 1,100.00'	ST = 75.80'	R = 7,000.00'	ST = 74.84'	R = 965.00'	ST = 74.27'
	V = 55 MPH		V = 60 MPH		V = 55 MPH	
	e = 0.08		e = 0.025		e = 0.08	
	Lr = 200'				Lr = 200'	

NAD 83

BEGIN CONSTRUCTION
-Y21RPA- STA. 33+79.67
-Y21- STA. 21+10.77

-Y21RPA- ST Sta. 33+79.67 =
-Y21- POC Sta. 21+10.77, 46.20' LT

-Y21- SC Sta. 20+20.53

-Y21- TS Sta. 18+70.53

-Y21RPA- CS Sta. 31+79.67

-Y21RPA- STA. 26+00

-Y21RPA- STA. 29+00

MATCHLINE -Y21- STA. 29+00
SEE SHEET 48

BEGIN CONSTRUCTION
-Y21- STA. 15+00.00

-Y21RPB- POT Sta. 39+25.52 =
-Y21- POT Sta. 18+70.50, 46.20' RT
Δ = 2° 20' 12.0"

-Y21RPB- ST Sta. 36+89.71

-Y21RPB- CS Sta. 34+49.71

-Y21RPB- +82.78
107.73' LT
BEG. WW
FENCE

-Y21RPB- +40.00
130.00' LT

-Y21RPB- +50.00
PROP. R/W

-Y21RPB- +90.00
105.00' LT

-Y21RPB- +49.71
105.00' LT

-Y21RPB- +10.00
90.00' LT &
105.00' LT

CLASS 'B' RIP RAP
EST. 8 TONS
21 SY GEO-TEXTILE

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

SPECIAL CUT DITCH
SEE DETAIL 'A'

2' BASE SPECIAL CUT DITCH
SEE DETAIL 'B'

COLLAR AND EXTEND

REMOVE DI

RETAIN DI

REMOVE HEADWALL

COLLAR 8:1 AND EXTEND

REMOVE FINAL SEGMENTS C OF PIPE TO FACILITATE DRAINAGE

S 80° 00' 12.2" E

N 77° 40' 00.0" W

-BY21- 148

-BY21- 149

-Y21-

-Y21RPB-

15" RCP RETAIN

30" RCP RETAIN

18" RCP RETAIN

4' BST

US 264 24' BST WBL

US 264 24' BST EBL

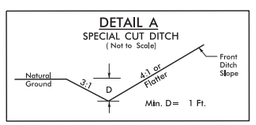
CABLE

MTL

EXISTING R/W

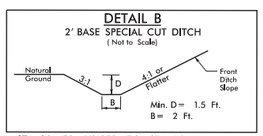
159
MEDICAL FOUNDATION OF ECU INC
DB 485 PG 264
MB 43 PG 12
TRACT 1
PARCEL 50219

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 24+00 -Y21- TO STA. 25+00 -Y21- RT
FROM STA. 25+00 -Y21- TO STA. 26+00 -Y21- LT
FROM STA. 25+50 -Y21- TO STA. 27+50 -Y21- RT

DETAIL B
2' BASE SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 29+50 -Y21RPB- TO STA. 36+25 -Y21RPB- LT

-Y21RPB-

PIs Sta 11+60.08	PI Sta 28+18.24	PIs Sta 35+29.78
Θs = 5° 43' 46.5"	Δ = 105° 30' 20.6" (LT)	Θs = 5° 43' 46.5"
Ls = 240.00'	D = 4° 46' 28.7"	Ls = 240.00'
LT = 160.08'	L = 2,209.71'	LT = 160.08'
ST = 80.08'	T = 1,578.24'	ST = 80.08'
	R = 1,200.00'	
	V = 60 MPH	
	e = 0.08	
	Lr = 240'	

SEE SHEET NOS. 161 & 162 FOR -Y21- PROFILE
SEE SHEET NO. 165 FOR -Y21RPA- PROFILE
SEE SHEET NOS. 166 & 167 FOR -Y21RPB- PROFILE

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: dwalnwrl
FILE: North_Carolina_Dept_of_Transportation\R-2250A_B_C_Greenville_Southwest_Bypass_DB\06_00_Project_Design\R-2250_NCDOT_File_Structure\Roadway\Proj\R2250_RDY_PSH-70.dgn
DATE: 1/25/2016
TIME: 5:58:29 PM
PENTABLE: NCDOT_pshpfi.tbl

PROJECT REFERENCE NO.	SHEET NO.
R-2250	71
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

NAD 83

-Y21RPD-

PIs Sta 11+33.41	PI Sta 14+48.88	PI Sta 19+40.96	PI Sta 24+24.21	PIs Sta 27+18.72
Θs = 5° 59' 58.4"	Δ = 29° 12' 48.1" (LT)	Δ = 24° 48' 30.2" (LT)	Δ = 27° 53' 42.6" (LT)	Θs = 5° 59' 58.4"
Ls = 200.00'	D = 5° 59' 58.4"	D = 4° 57' 38.4"	D = 5° 59' 58.4"	Ls = 200.00'
LT = 133.41'	L = 486.93'	L = 500.10'	L = 464.95'	LT = 133.41'
ST = 66.74'	T = 248.88'	T = 254.03'	T = 237.18'	ST = 66.74'
	R = 955.00'	R = 1,155.00'	R = 955.00'	
	V ≅ 55 MPH	V = 55 MPH	V ≅ 55 MPH	
	e = 0.08	e = 0.08	e = 0.08	
	Lr = 200'		Lr = 200'	

-Y21-

PIs Sta 53+37.40	PI Sta 60+13.50	PIs Sta 66+86.81
Θs = 0° 33' 42.2"	Δ = 9° 21' 27.4" (RT)	Θs = 0° 33' 42.2"
Ls = 150.00'	D = 0° 44' 56.3"	Ls = 150.00'
LT = 100.00'	L = 1,249.41'	LT = 100.00'
ST = 50.00'	T = 626.10'	ST = 50.00'
	R = 7,650.00'	
	V = 70 MPH	
	e = 0.03	
	Lr = 150'	

-Y21RPD- CS Sta. 26+51.98

-Y21RPD- ST Sta. 28+51.98

-Y21RPD- POT Sta. 31+46.98 =
-Y21- POT Sta. 51+15.25, 46.20' LT
Δ = 3° 00' 00.0"

-Y21- TS Sta. 52+37.40

END CONSTRUCTION
-Y21- STA. 52+70.00

-Y21- SC Sta. 53+87.40

-Y21RPD- STA. 23+50

SEE SHEET 48
MATCHLINE -Y21- STA. 43+00

MATCHLINE -Y21- STA. 57+00, SEE SHEET 72

-Y21RPC- STA. 30+00

-Y21RPC- CS Sta. 35+20.78

-Y21RPC- ST Sta. 37+60.78 =
-Y21- POT Sta. 50+50.00, 46.20' LT

END NOISE WALL
-Y21- Sta. 55+00, 72.20' RT

-Y21RPC-

PIs Sta 16+00.00	PI Sta 21+44.32	PIs Sta 27+55.48
Θs = 1° 02' 02.1"	Δ = 7° 59' 17.1" (RT)	Θs = 1° 01' 57.6"
Ls = 240.00'	D = 0° 51' 41.7"	Θs = 5° 58' 47.8"
LT = 160.00'	L = 927.13'	Ls = 240.00'
ST = 80.00'	T = 464.32'	LT = 148.35'
	R = 6,650.00'	ST = 91.92'
	V = 60 MPH	
	e = 0.025	
	Lr = 75'	
	PI Sta 31+93.93	PIs Sta 36+00.86
	Δ = 33° 33' 45.1" (RT)	Θs = 5° 58' 43.3"
	D = 4° 58' 56.1"	Ls = 240.00'
	L = 673.64'	LT = 160.09'
	T = 346.80'	ST = 80.08'
	R = 1,150.00'	
	V = 55 MPH	
	e = 0.08	
	Lr = 240'	

SEE SHEET NOS. 163 & 164 FOR -Y21- PROFILE
SEE SHEET NO. 169 FOR -Y21RPC- PROFILE
SEE SHEET NO. 171 FOR -Y21RPD- PROFILE

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	72
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

NAD 83

-Y21-		
PIs Sta 53+37.40	PI Sta 60+13.50	PIs Sta 66+86.81
Θs = 0° 33' 42.2"	Δ = 9° 21' 27.4" (RT)	Θs = 0° 33' 42.2"
Ls = 150.00'	D = 0° 44' 56.3"	Ls = 150.00'
LT = 100.00'	L = 1,249.41'	LT = 100.00'
ST = 50.00'	T = 626.10'	ST = 50.00'
	R = 7,650.00'	
	V = 70 MPH	
	e = 0.03	
	Lr = 150'	

END CONSTRUCTION
-Y21- STA. 60+60.00

-Y21- CS Sta. 66+36.81

-Y21- ST Sta. 67+86.81

-Y21- POT Sta. 69+32.65

MATCHLINE -Y21- STA. 57+00, SEE SHEET 73

EXISTING R/W

4' BST

US 264 24' BST WBL

SR 1204 BYS BARBECUE 22' BST

RETAIN 24" RCP

SIG LT

GREENVILLE CITY LIMIT

-BY21- 151

RETAIN D1

-Y21-

S 82° 10' 08.3" E

15" RCP RETAIN

24" RCP RETAIN

48" WW & ISBW

48" MTL

SR 1200 STANTONSBURG RD 20' BST

24" C&G

60' CONC

ISBKBUS

BST

18" RCP

ALBERT L. MORRIS, III, ET AL
DB 1539 PG 448
MB 47 PG 181

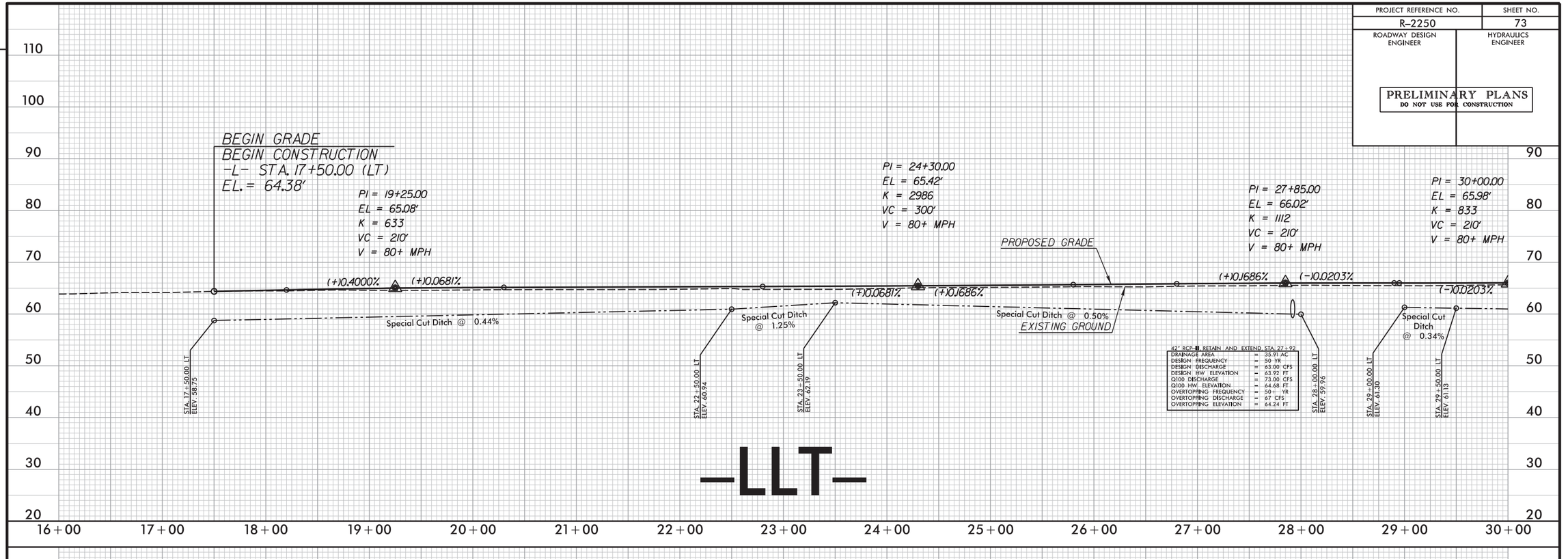
SEE SHEET NO. 164 FOR -Y21- PROFILE

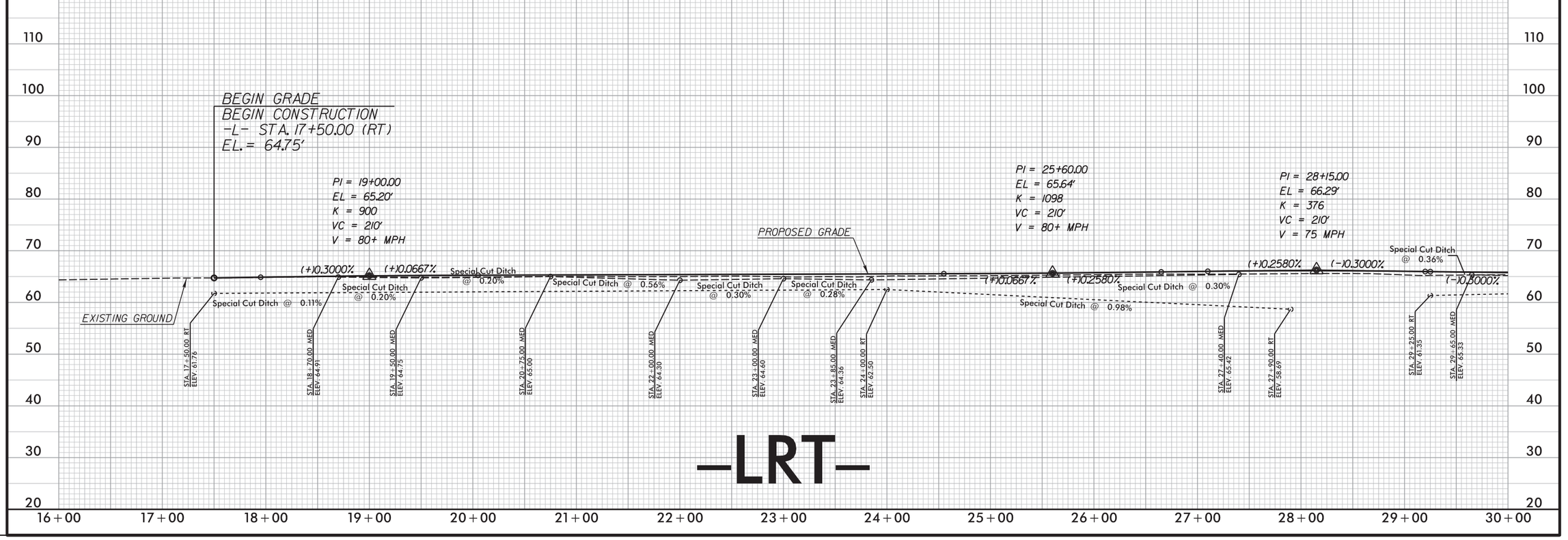
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	73
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



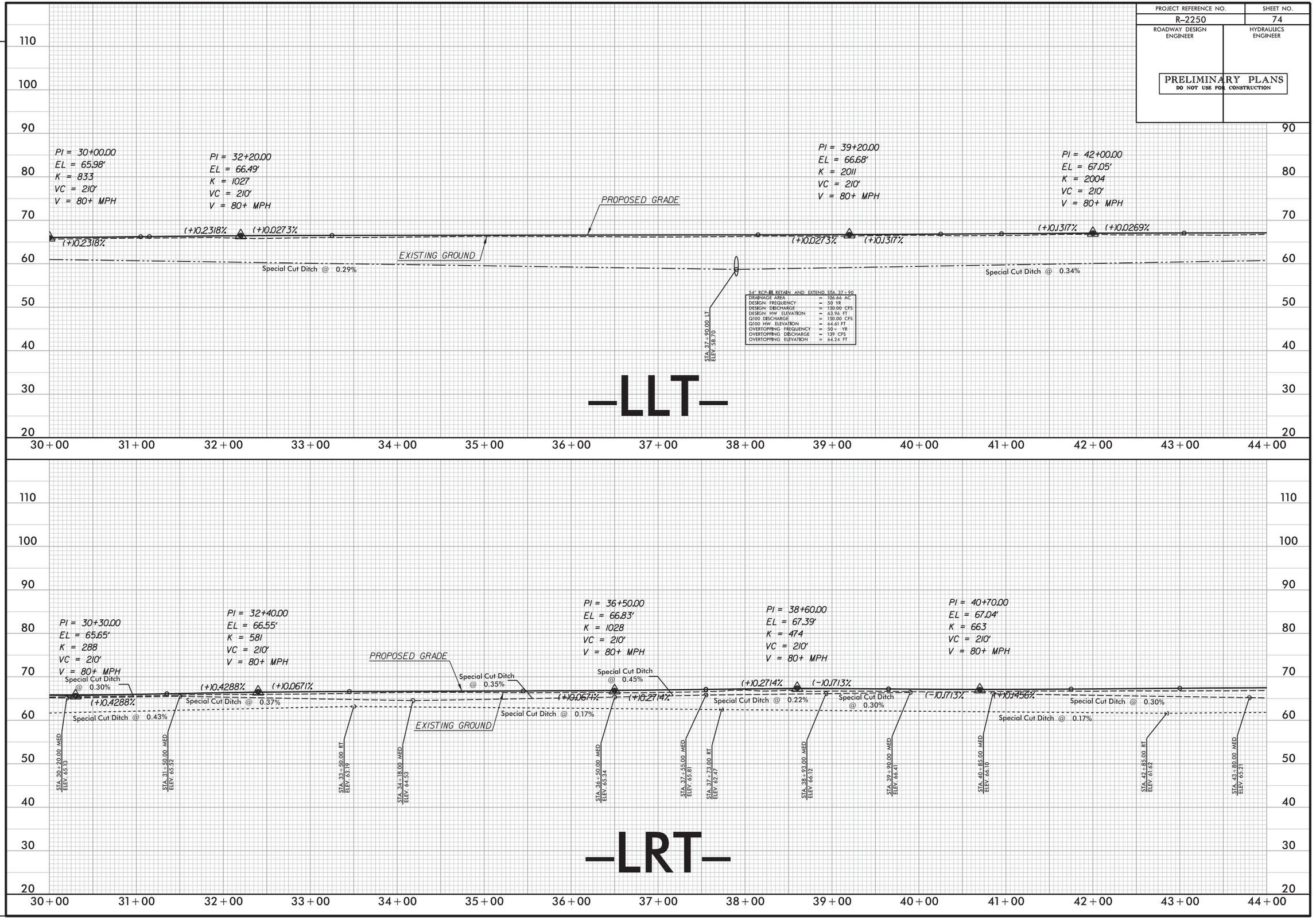


REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	74
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

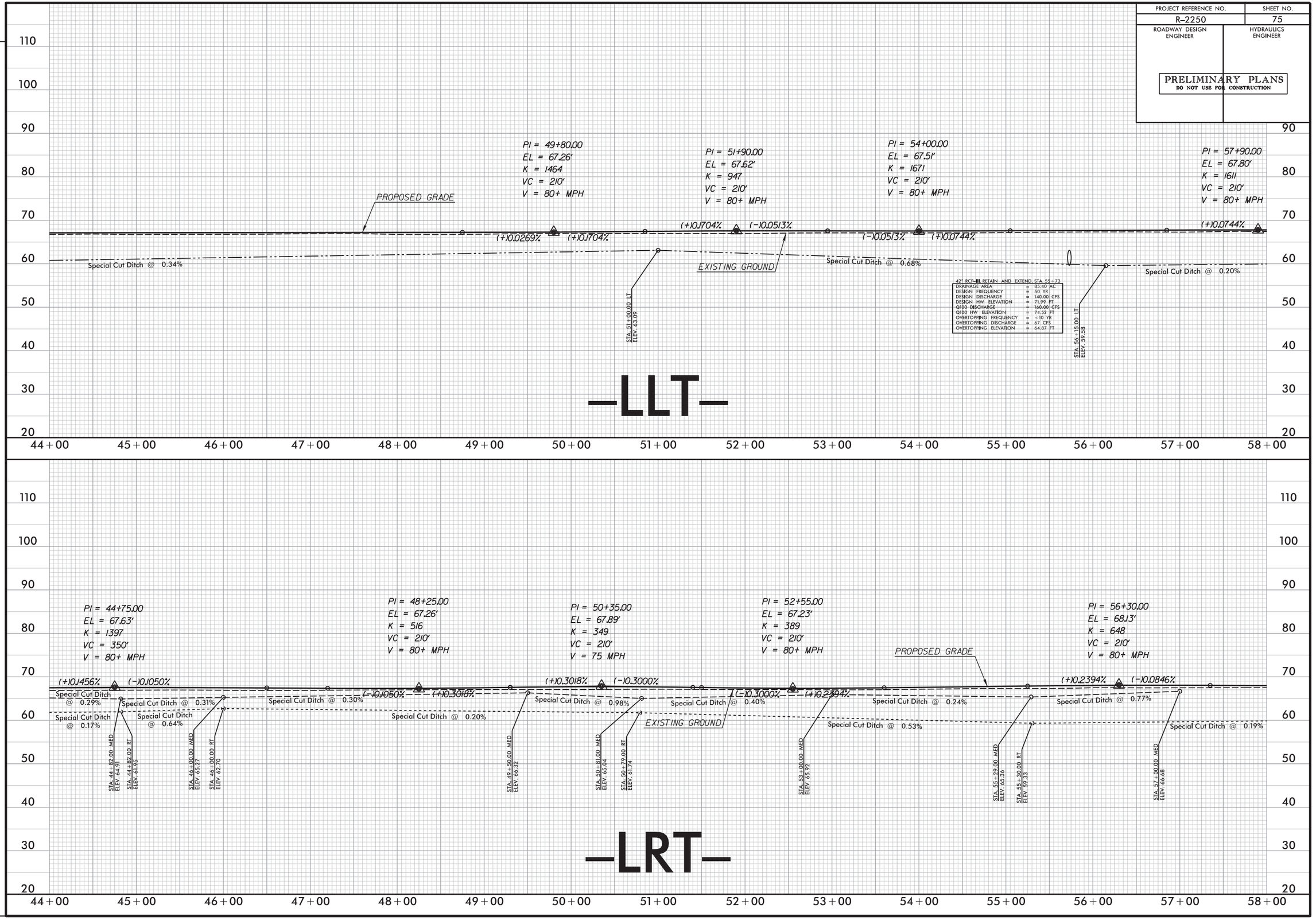


REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	75
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

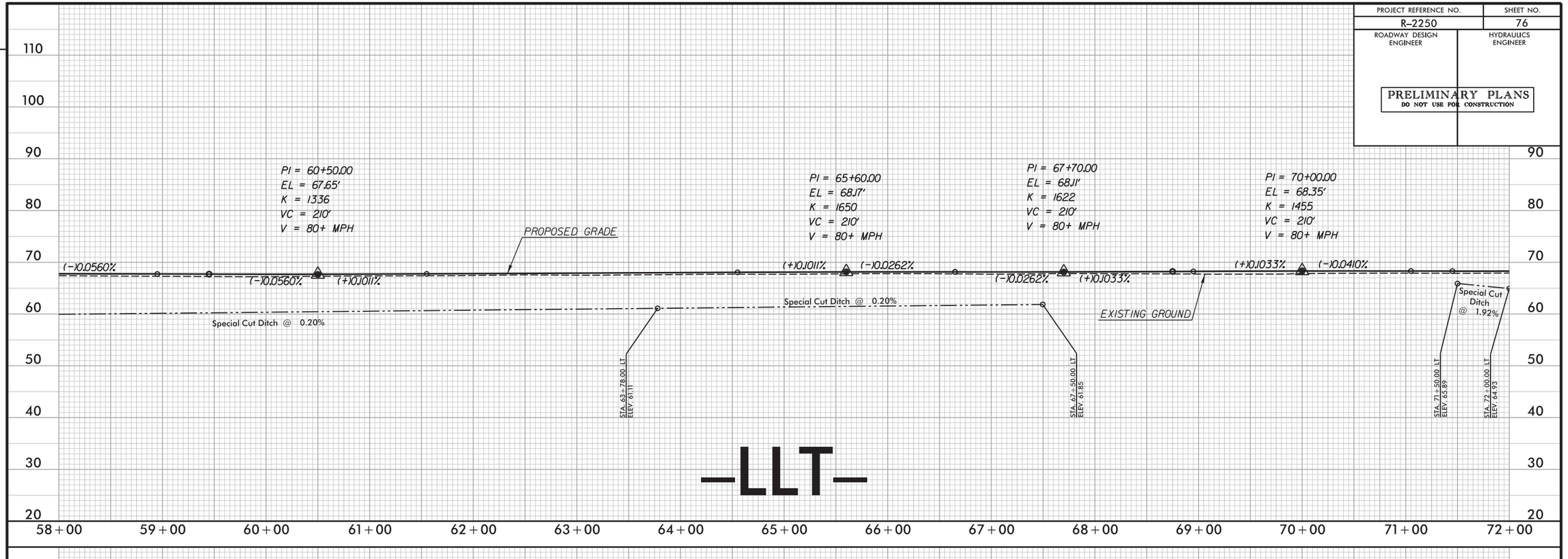


REVISIONS

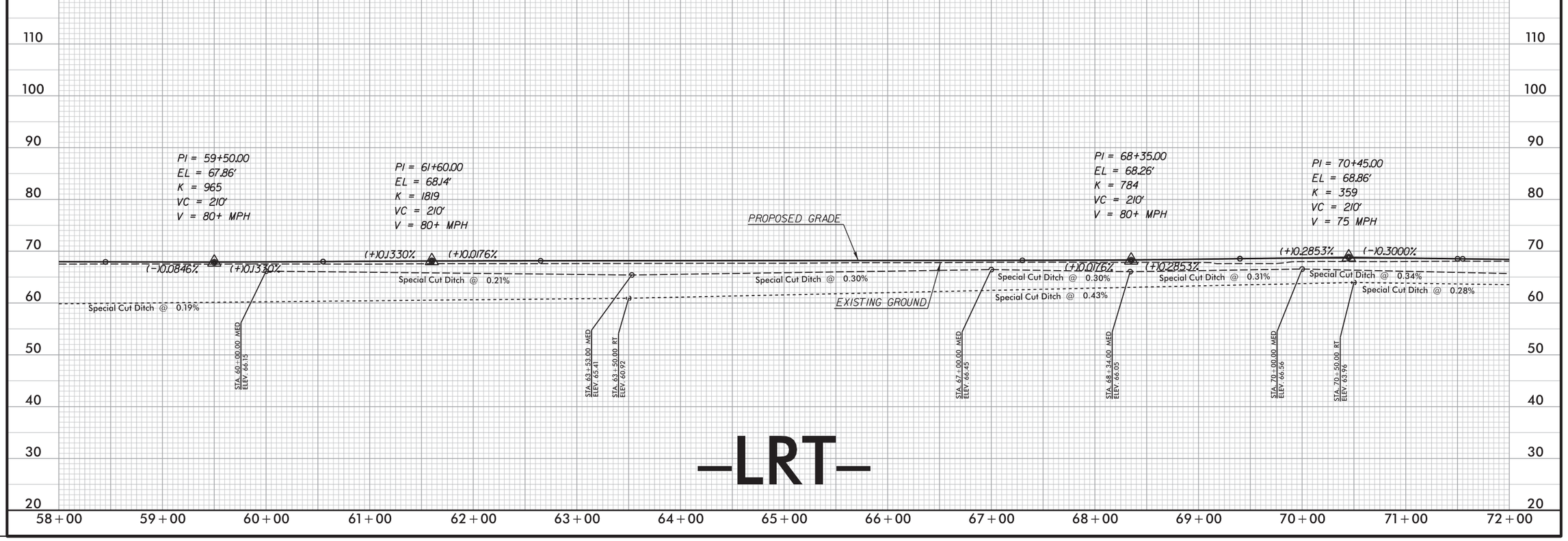
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	76
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



-LLT-



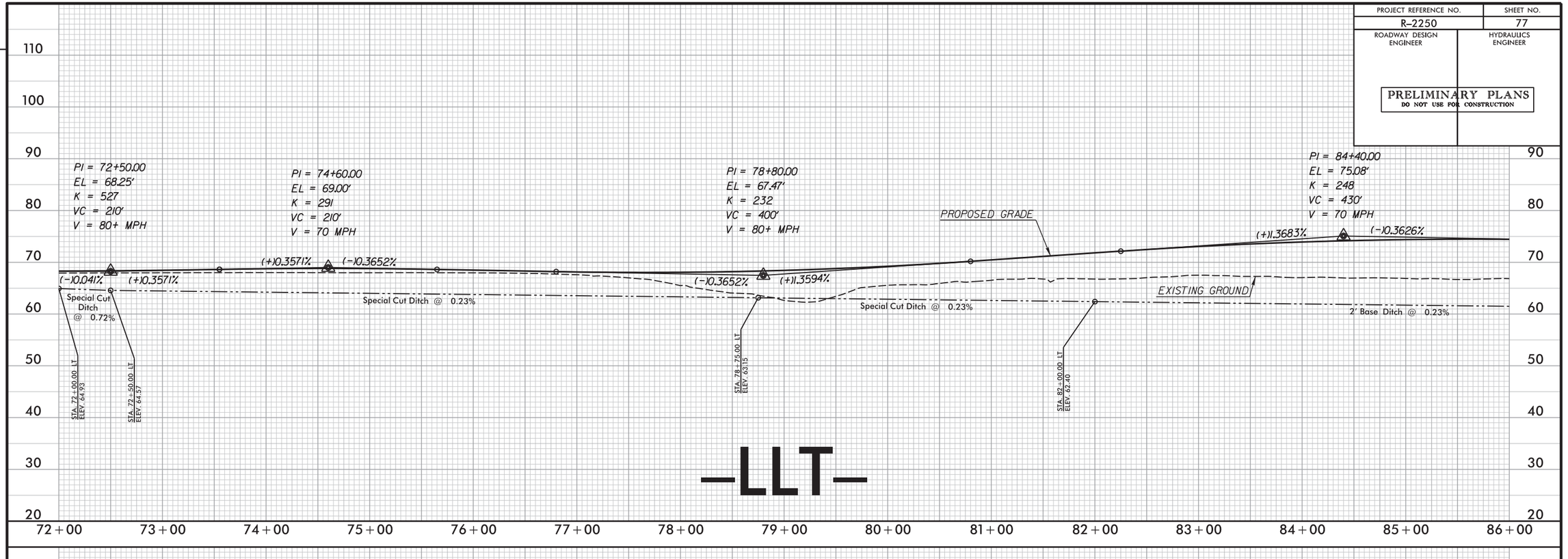
-LRT-

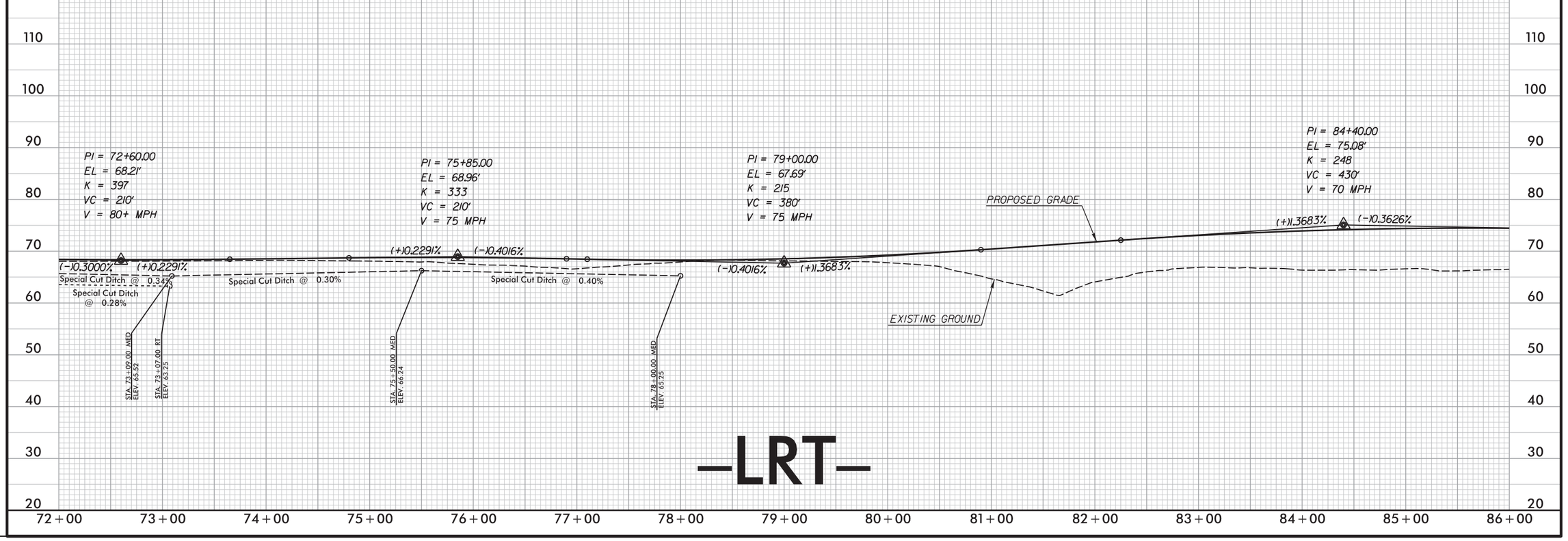
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	77
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



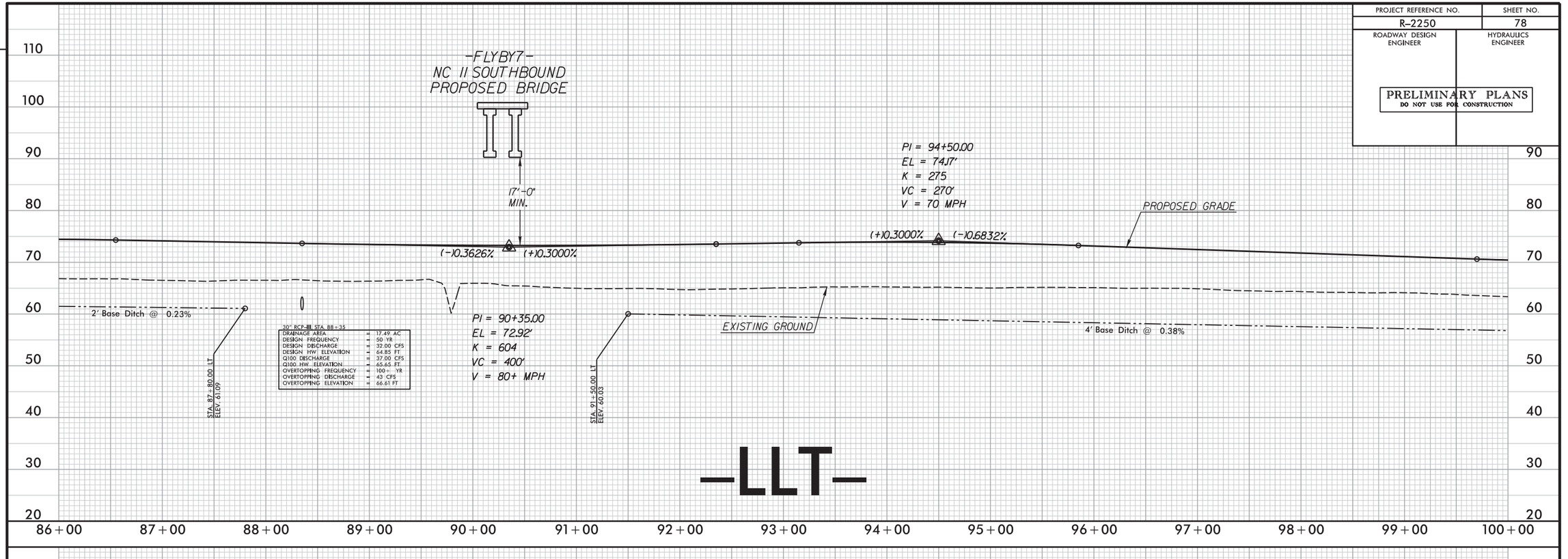


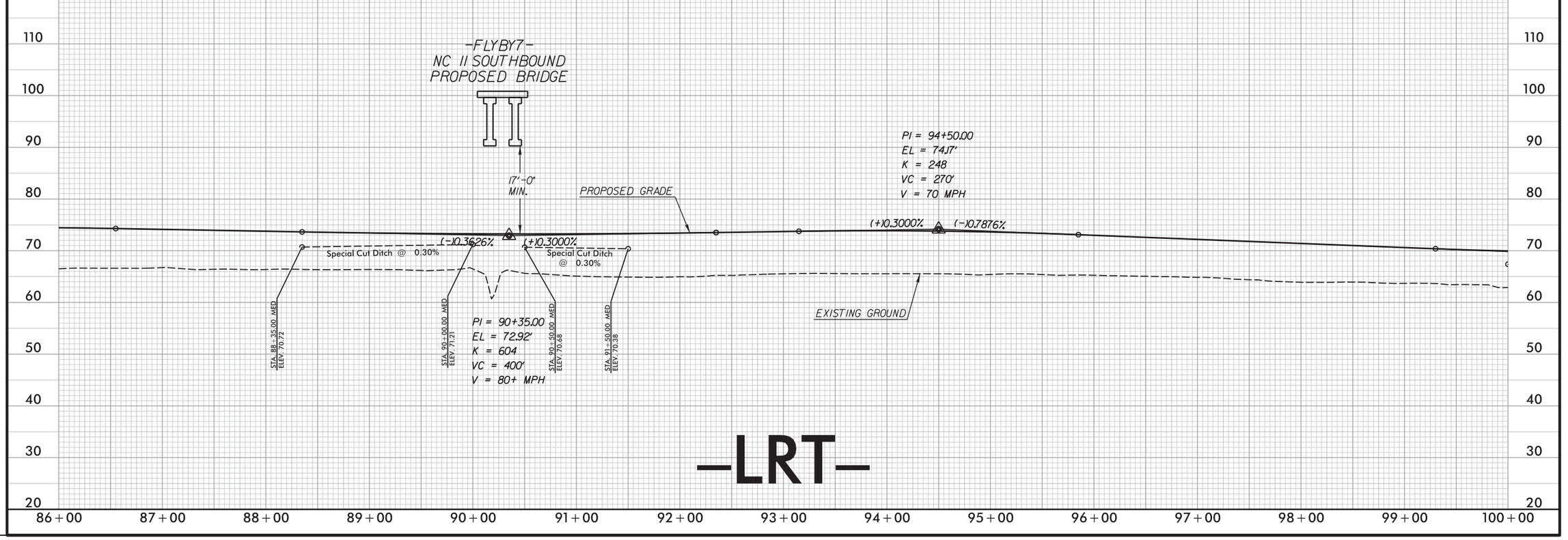
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	78
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





REVISIONS

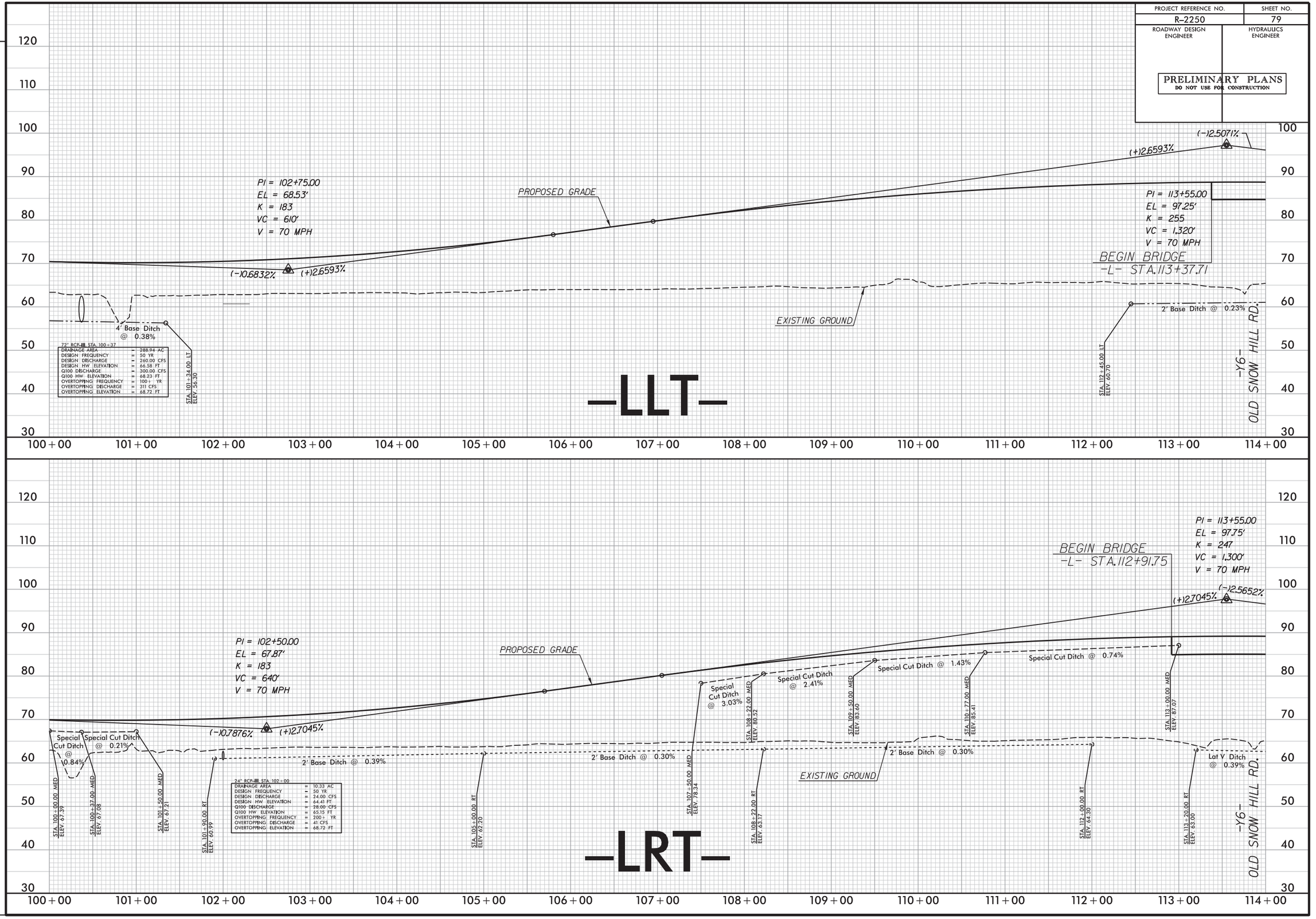
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	79

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

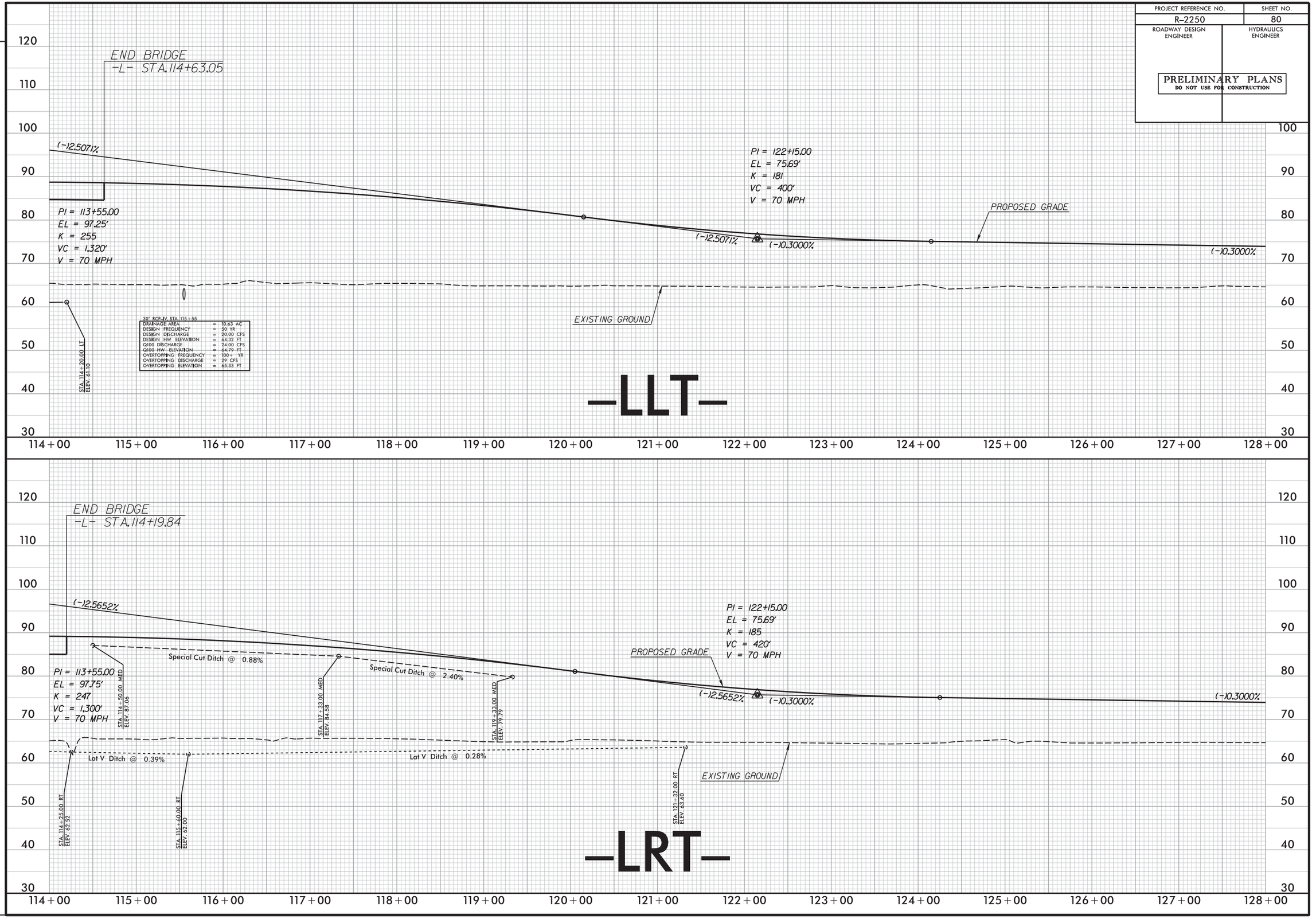


REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	80
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

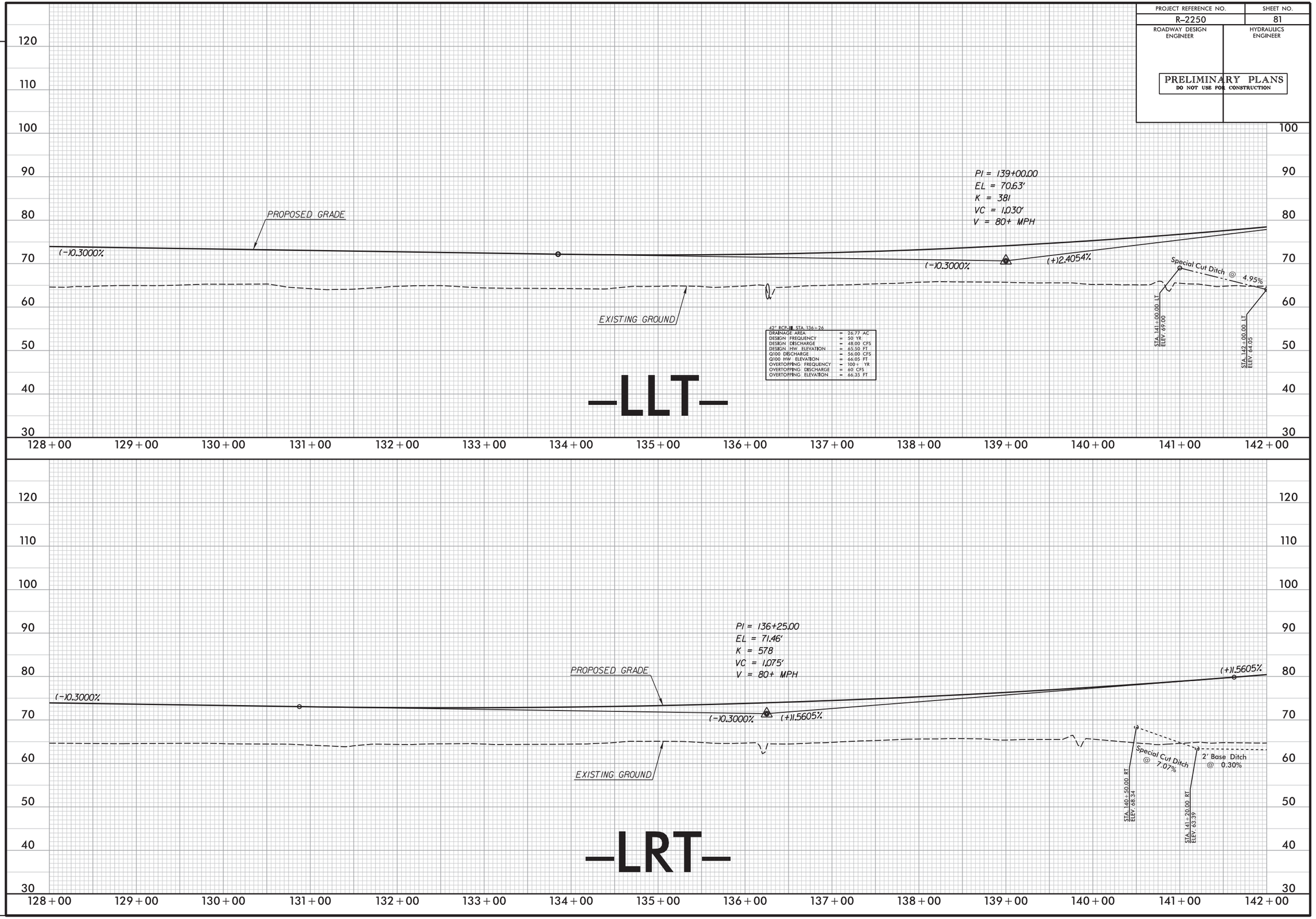


REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	81
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

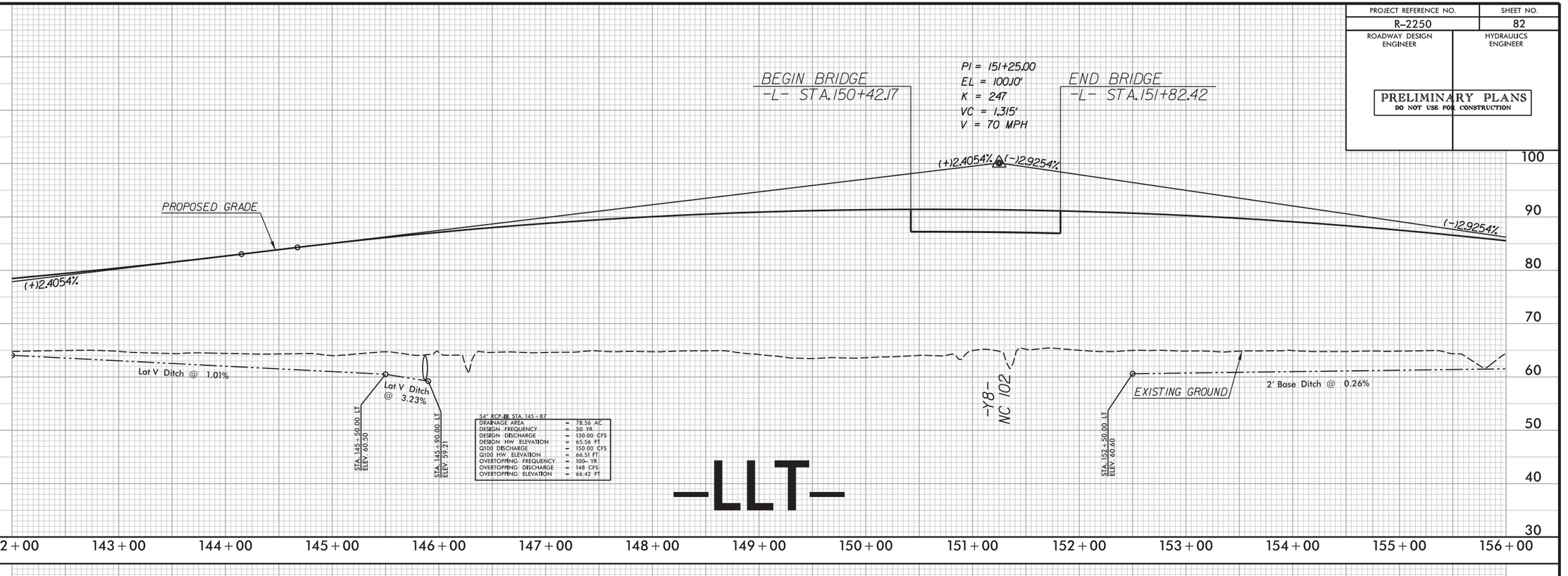


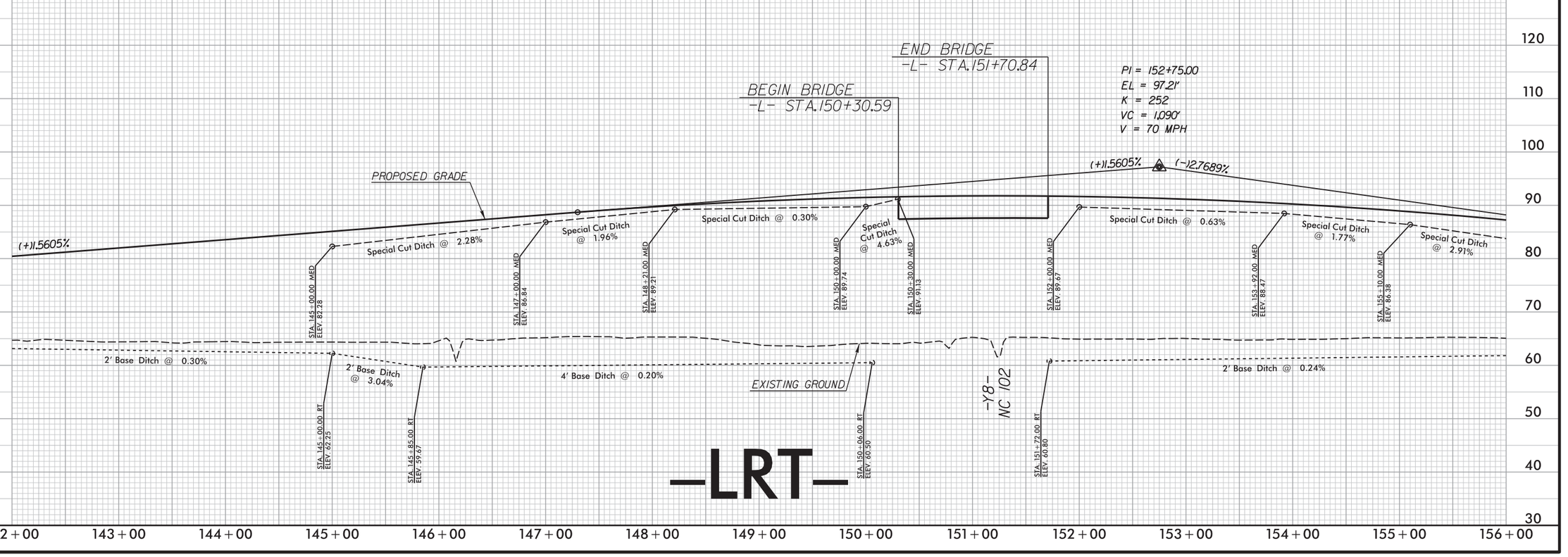
REVISIONS

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DATE: 1/25/2016
TIME: 2:36:21 PM

PROJECT REFERENCE NO.	SHEET NO.
R-2250	82
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



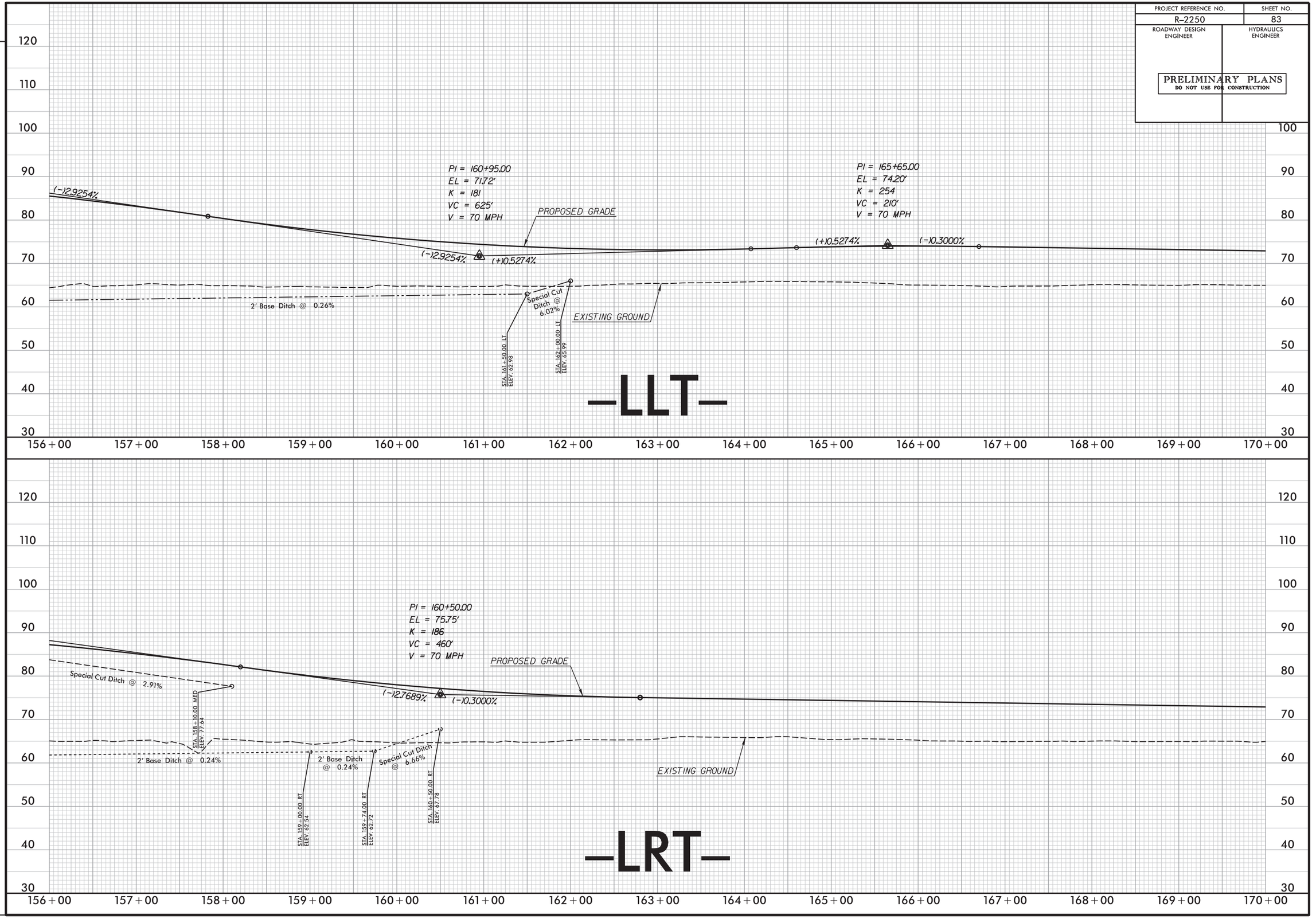


REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	83
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	84
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 176+70.00
EL = 70.89'
K = 833
VC = 500'
V = 80+ MPH

PROPOSED GRADE

(-)0.3000%

(-)0.3000%

(+)0.3002%

(+)0.3002%

EXISTING GROUND

24" RCP-III, STA: 181+90

DRAINAGE AREA	=	3.57 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	9.90 CFS
DESIGN HW ELEVATION	=	64.08 FT
Q100 DISCHARGE	=	11.00 CFS
Q100 HW ELEVATION	=	64.32 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	33 CFS
OVERTOPPING ELEVATION	=	71.26 FT

-LLT-

110 100 90 80 70 60 50 40 30 20

170+00 171+00 172+00 173+00 174+00 175+00 176+00 177+00 178+00 179+00 180+00 181+00 182+00 183+00 184+00

PI = 176+70.00
EL = 70.89'
K = 833
VC = 500'
V = 80+ MPH

PROPOSED GRADE

(-)0.3000%

(-)0.3000%

(+)0.3002%

(+)0.3002%

EXISTING GROUND

-LRT-

110 100 90 80 70 60 50 40 30 20

170+00 171+00 172+00 173+00 174+00 175+00 176+00 177+00 178+00 179+00 180+00 181+00 182+00 183+00 184+00

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	85
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 189+15.00
EL = 74.62'
K = 830
VC = 500'
V = 80+ MPH

(+)0.3002%

(-)0.3024%

PROPOSED GRADE

EXISTING GROUND

18" RCP-III STA. 185+85

DRAINAGE AREA	=	2.41 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	6.10 CFS
DESIGN HW ELEVATION	=	63.55 FT
Q100 DISCHARGE	=	6.60 CFS
Q100 HW ELEVATION	=	63.75 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	19 CFS
OVERTOPPING ELEVATION	=	71.26 FT

-LLT-

110 100 90 80 70 60 50 40 30 20

184+00 185+00 186+00 187+00 188+00 189+00 190+00 191+00 192+00 193+00 194+00 195+00 196+00 197+00 198+00

PI = 189+15.00
EL = 74.62'
K = 830
VC = 500'
V = 80+ MPH

(+)0.3002%

(-)0.3024%

PROPOSED GRADE

EXISTING GROUND

-LRT-

110 100 90 80 70 60 50 40 30 20

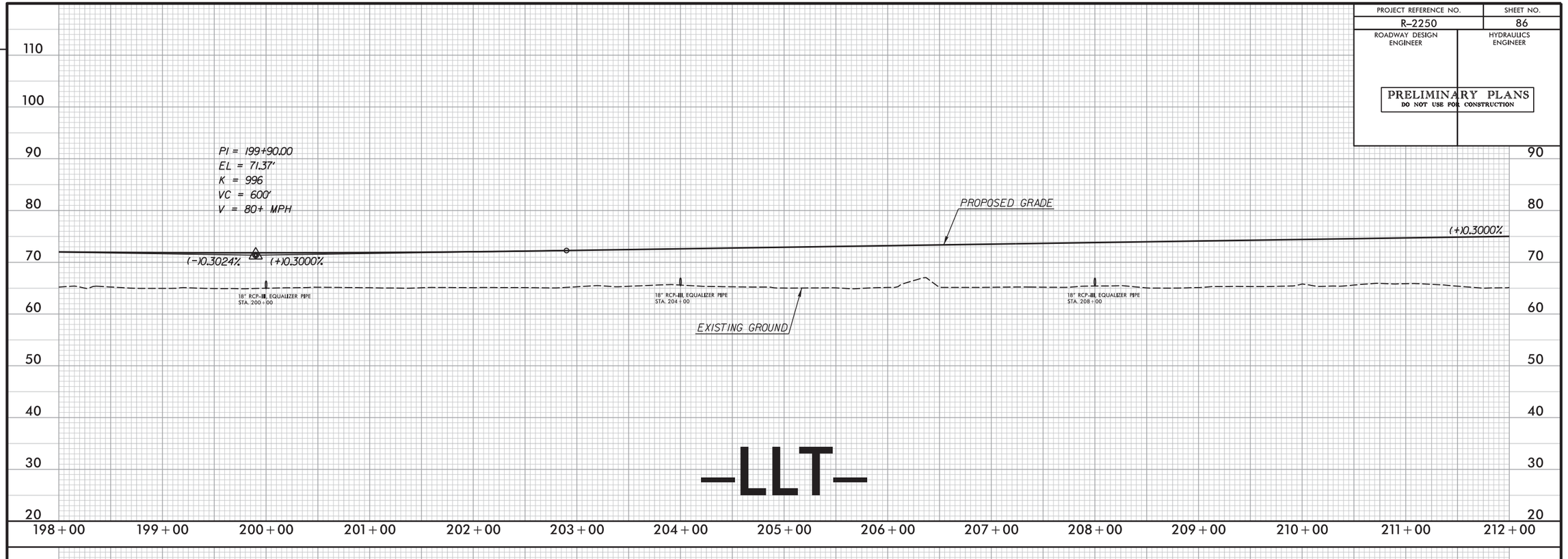
184+00 185+00 186+00 187+00 188+00 189+00 190+00 191+00 192+00 193+00 194+00 195+00 196+00 197+00 198+00

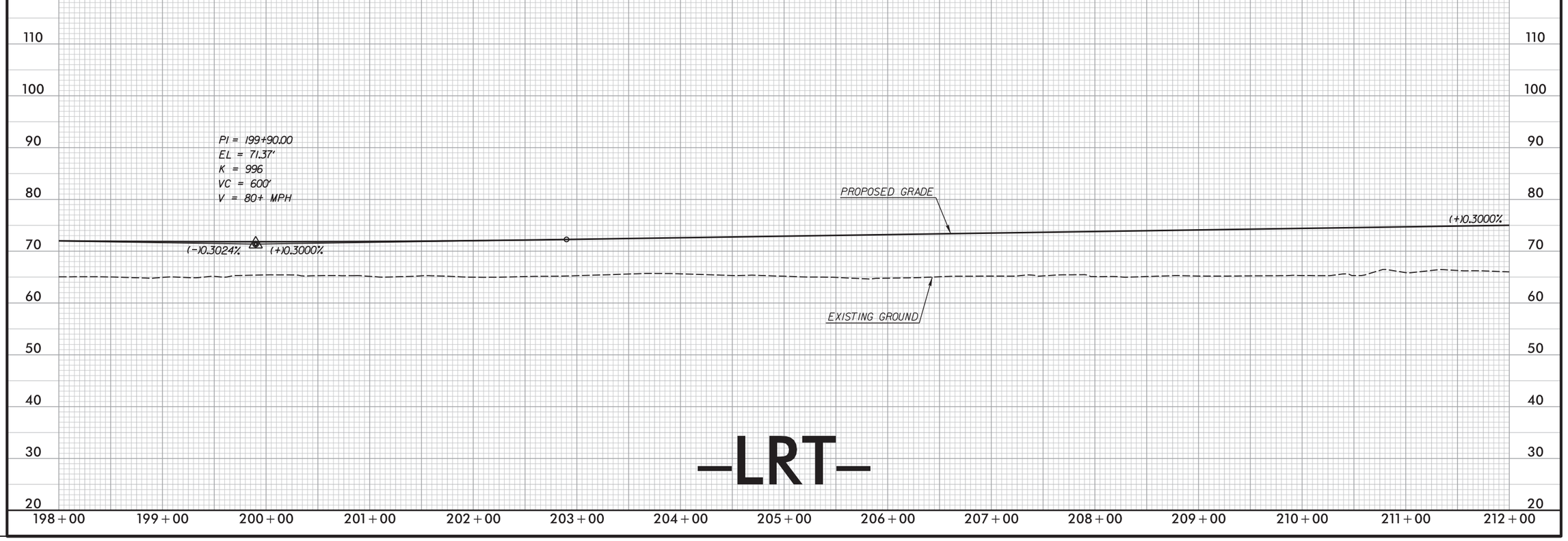
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	86
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	87
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 218+90.00
EL = 77.07'
K = 833
VC = 500'
V = 80+ MPH

PROPOSED GRADE

(+)0.3000%

(+)0.3000%

(-)0.3000%

(-)0.3000%

18" RCP-III, EQUALIZER PIPE
STA. 212+10

18" RCP-III, EQUALIZER PIPE
STA. 216+00

18" RCP-III, EQUALIZER PIPE
STA. 219+00

EXISTING GROUND

24" RCP-III, STA. 223+28

DRAINAGE AREA	=	8.19 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	16.00 CFS
DESIGN HW ELEVATION	=	68.23 FT
Q100 DISCHARGE	=	17.00 CFS
Q100 HW ELEVATION	=	68.40 FT
OVERTOPPING FREQUENCY	=	100 YR
OVERTOPPING DISCHARGE	=	16 CFS
OVERTOPPING ELEVATION	=	68.30 FT

-LLT-

110 100 90 80 70 60 50 40 30 20

212+00 213+00 214+00 215+00 216+00 217+00 218+00 219+00 220+00 221+00 222+00 223+00 224+00 225+00 226+00

PI = 218+90.00
EL = 77.07'
K = 833
VC = 500'
V = 80+ MPH

PROPOSED GRADE

(+)0.3000%

(+)0.3000%

(-)0.3000%

(-)0.3000%

EXISTING GROUND

2' Base Ditch
@ 0.21%

STA. 223+10.00 RT
ELEV. 65.42

STA. 224+10.00 RT
ELEV. 65.63

-LRT-

110 100 90 80 70 60 50 40 30 20

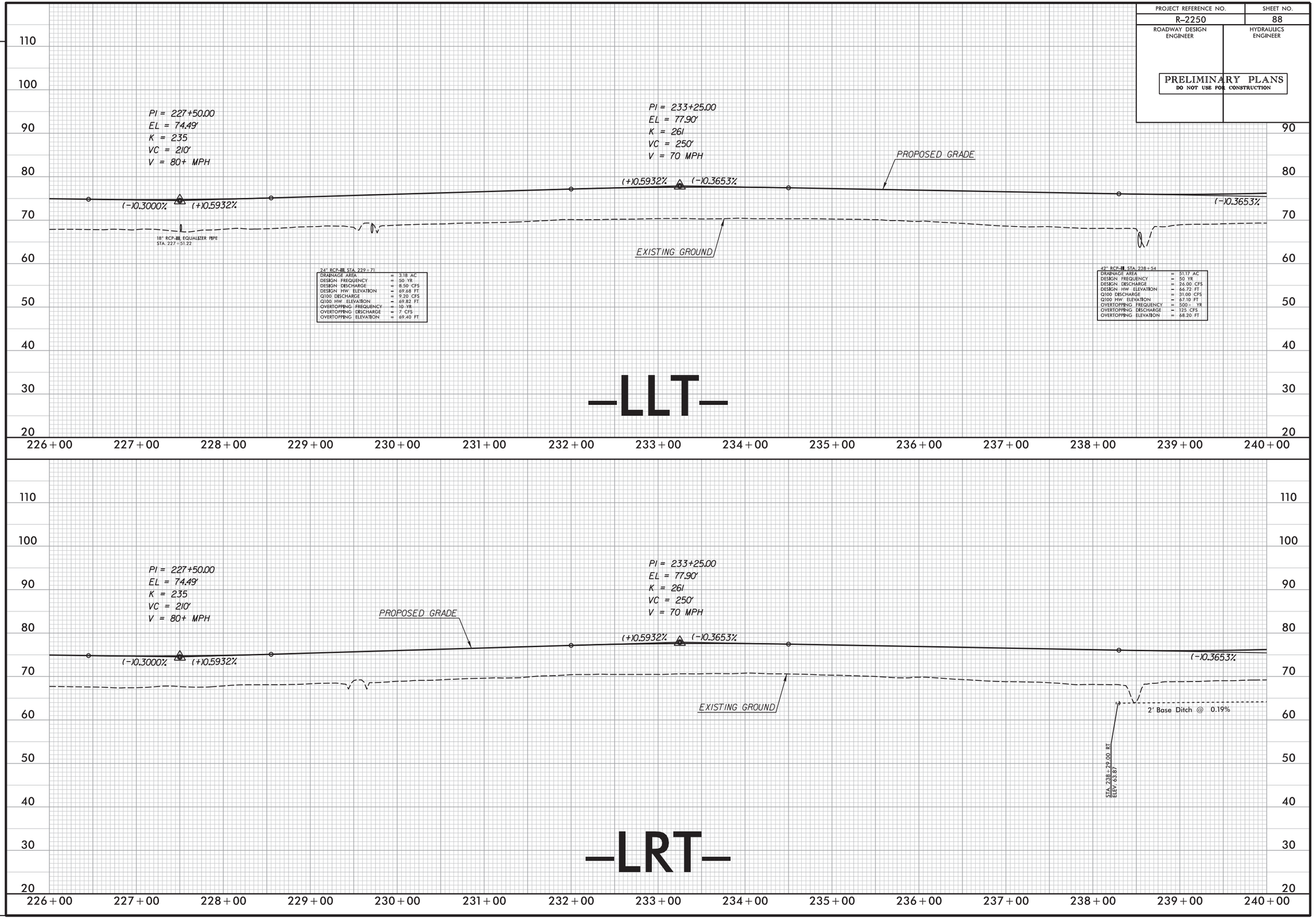
212+00 213+00 214+00 215+00 216+00 217+00 218+00 219+00 220+00 221+00 222+00 223+00 224+00 225+00 226+00

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	88
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

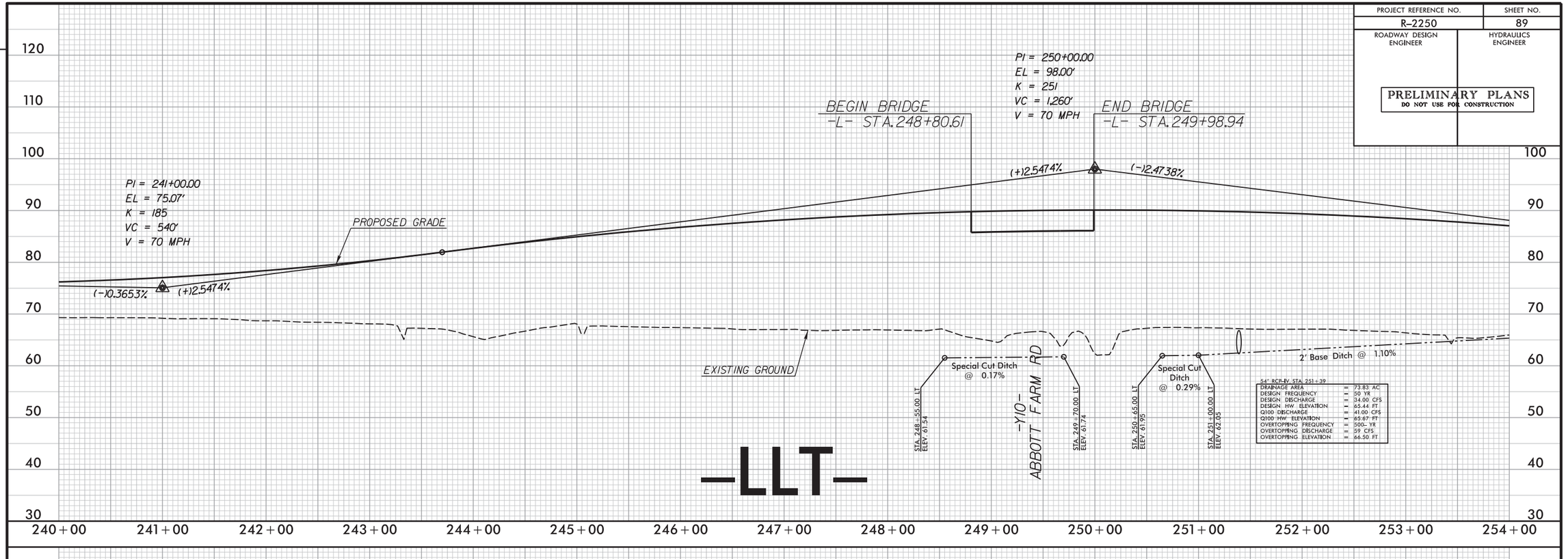


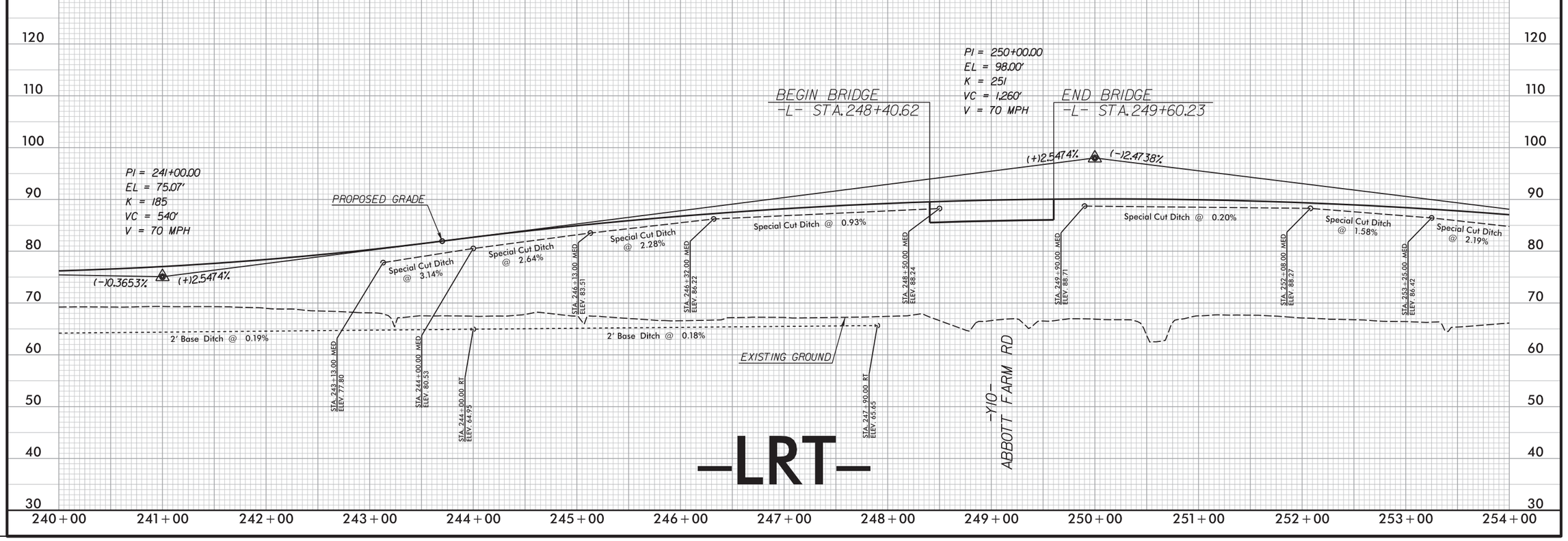
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	89
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



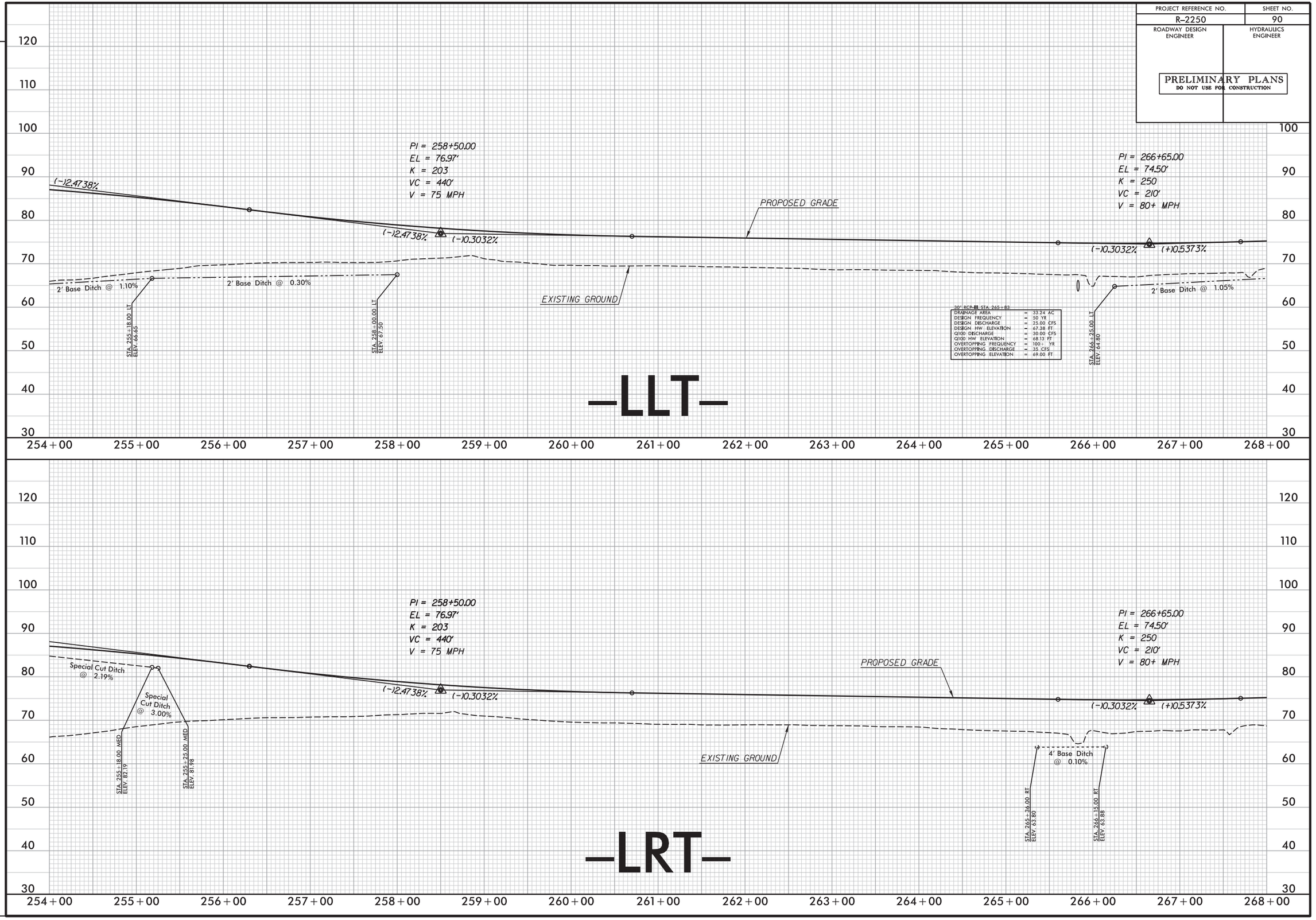


REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	90
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

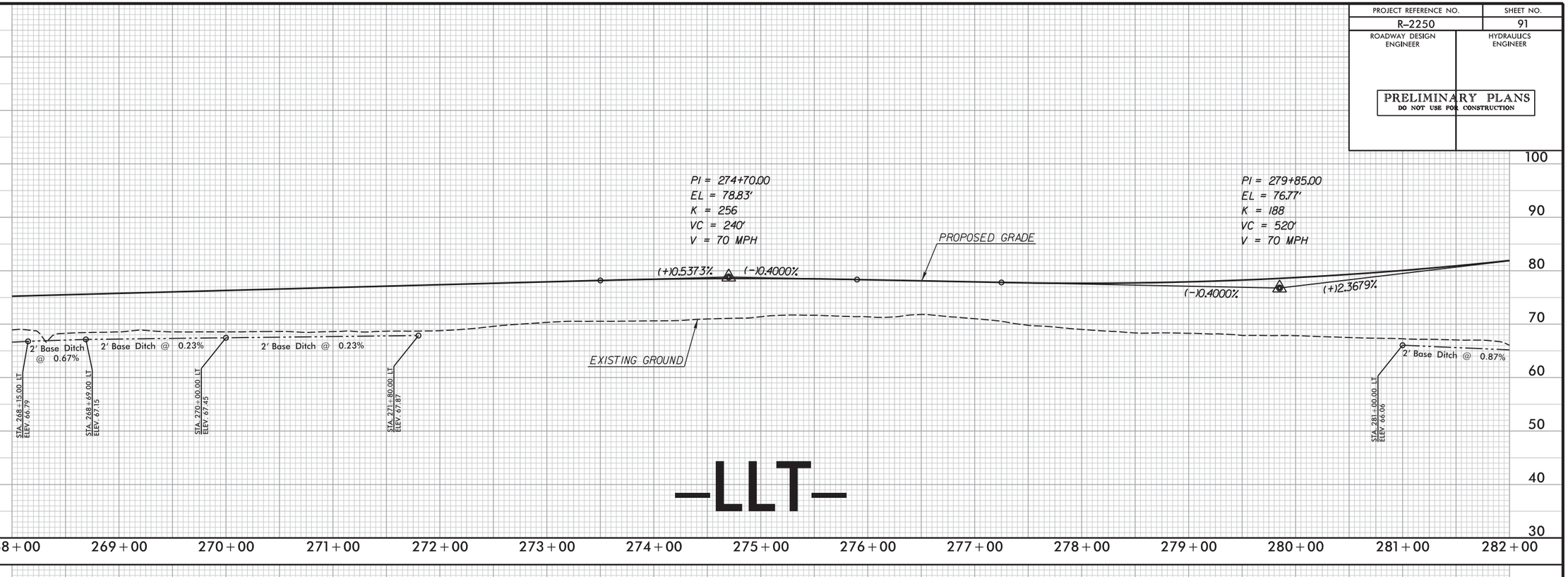


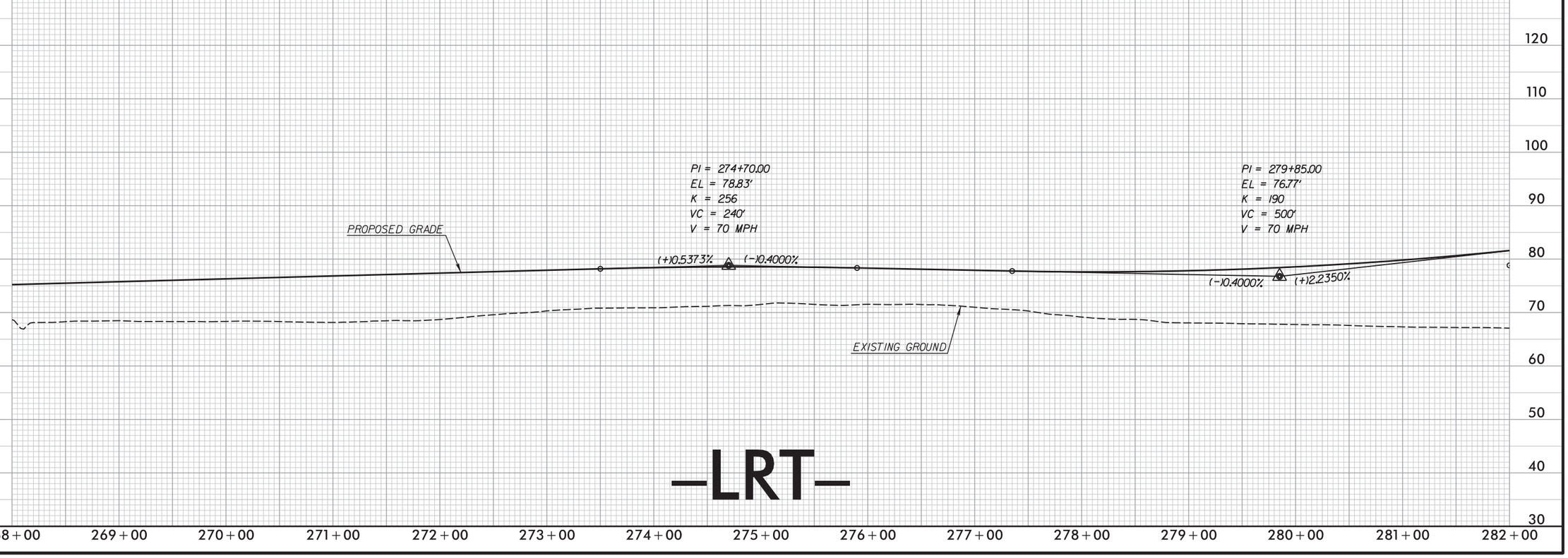
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	91
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	92
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 288+50.00
EL = 97.25'
K = 247
VC = 1,210'
V = 70 MPH

BEGIN BRIDGE
-L- STA. 287+06.53

END BRIDGE
-L- STA. 288+13.27

(+)2.3679%

(+)2.3679%

(-)12.5307%

(-)12.5307%

PROPOSED GRADE

2' Base Ditch @ 0.87%

2' Base Ditch @ 1.30%

Lat V Ditch @ 0.14%

Lat V Ditch @ 0.14%

EXISTING GROUND

Lat V Ditch @ 0.26%

STA. 284+50.00 LT
ELEV. 63.00

STA. 286+50.00 LT
ELEV. 65.60

STA. 287+50.00 LT
ELEV. 64.78

STA. 288+44.00 LT
ELEV. 64.65

STA. 289+50.00 LT
ELEV. 64.50

STA. 292+00.00 LT
ELEV. 63.00

STA. 292+38.00 LT
ELEV. 63.50

-Y11-
NC 903

-LLT-

24" RCP-III STA. 284+50

DRAINAGE AREA	=	10.40 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	10.00 CFS
DESIGN HW ELEVATION	=	64.86 FT
Q100 DISCHARGE	=	12.00 CFS
Q100 HW ELEVATION	=	64.84 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	21 CFS
OVERTOPPING ELEVATION	=	66.93 FT

18" RCP-III STA. 289+50

DRAINAGE AREA	=	1.25 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	3.50 CFS
DESIGN HW ELEVATION	=	65.64 FT
Q100 DISCHARGE	=	3.80 CFS
Q100 HW ELEVATION	=	65.69 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	8 CFS
OVERTOPPING ELEVATION	=	66.93 FT

24" RCP-III STA. 292+40

DRAINAGE AREA	=	11.13 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	11.00 CFS
DESIGN HW ELEVATION	=	65.48 FT
Q100 DISCHARGE	=	13.00 CFS
Q100 HW ELEVATION	=	65.44 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	20 CFS
OVERTOPPING ELEVATION	=	66.93 FT

120 110 100 90 80 70 60 50 40 30

282+00 283+00 284+00 285+00 286+00 287+00 288+00 289+00 290+00 291+00 292+00 293+00 294+00 295+00 296+00

PI = 288+50.00
EL = 96.10'
K = 260
VC = 1,210'
V = 70 MPH

BEGIN BRIDGE
-L- STA. 287+29.75

END BRIDGE
-L- STA. 288+36.43

(+)2.2350%

(+)2.2350%

(-)12.4140%

(-)12.4140%

PROPOSED GRADE

EXISTING GROUND

Special Cut Ditch @ 2.61%

Special Cut Ditch @ 1.78%

Special Cut Ditch @ 0.80%

Special Cut Ditch @ 0.50%

Special Cut Ditch @ 1.02%

Special Cut Ditch @ 1.70%

Special Cut Ditch @ 2.33%

2' Base Ditch @ 0.15%

Lat V Ditch @ 0.53%

Lat V Ditch @ 0.70%

STA. 282+00.00 MED
ELEV. 78.83

STA. 284+00.00 MED
ELEV. 84.04

STA. 285+16.00 MED
ELEV. 86.11

STA. 287+00.00 MED
ELEV. 87.59

STA. 288+20.00 MED
ELEV. 87.90

STA. 290+27.00 MED
ELEV. 86.87

STA. 291+50.00 MED
ELEV. 85.61

STA. 292+00.00 MED
ELEV. 84.76

STA. 293+50.00 MED
ELEV. 81.27

STA. 288+69.00 RT
ELEV. 63.99

STA. 289+50.00 RT
ELEV. 64.11

STA. 292+00.00 RT
ELEV. 62.90

STA. 292+40.00 RT
ELEV. 62.70

STA. 295+40.00 RT
ELEV. 65.78

-Y11-
NC 903

-LRT-

120 110 100 90 80 70 60 50 40 30

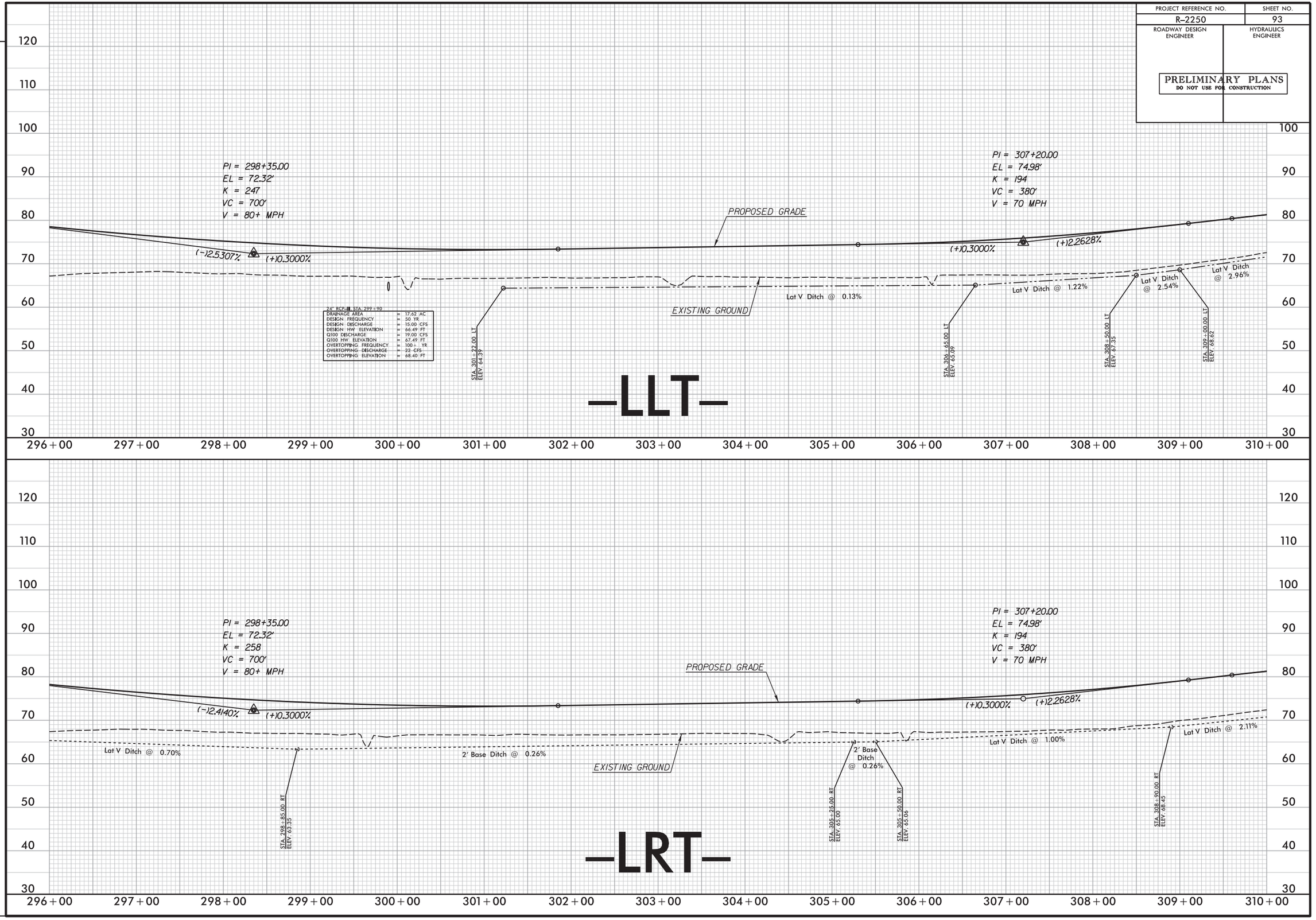
282+00 283+00 284+00 285+00 286+00 287+00 288+00 289+00 290+00 291+00 292+00 293+00 294+00 295+00 296+00

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	93
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

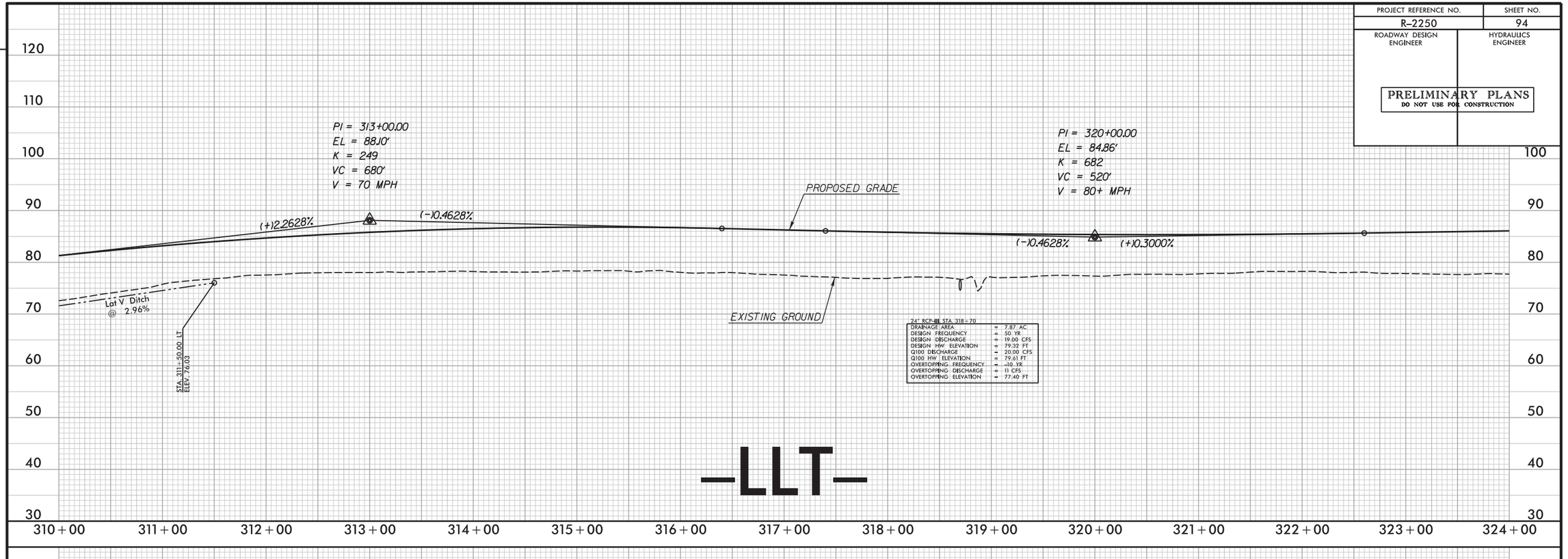


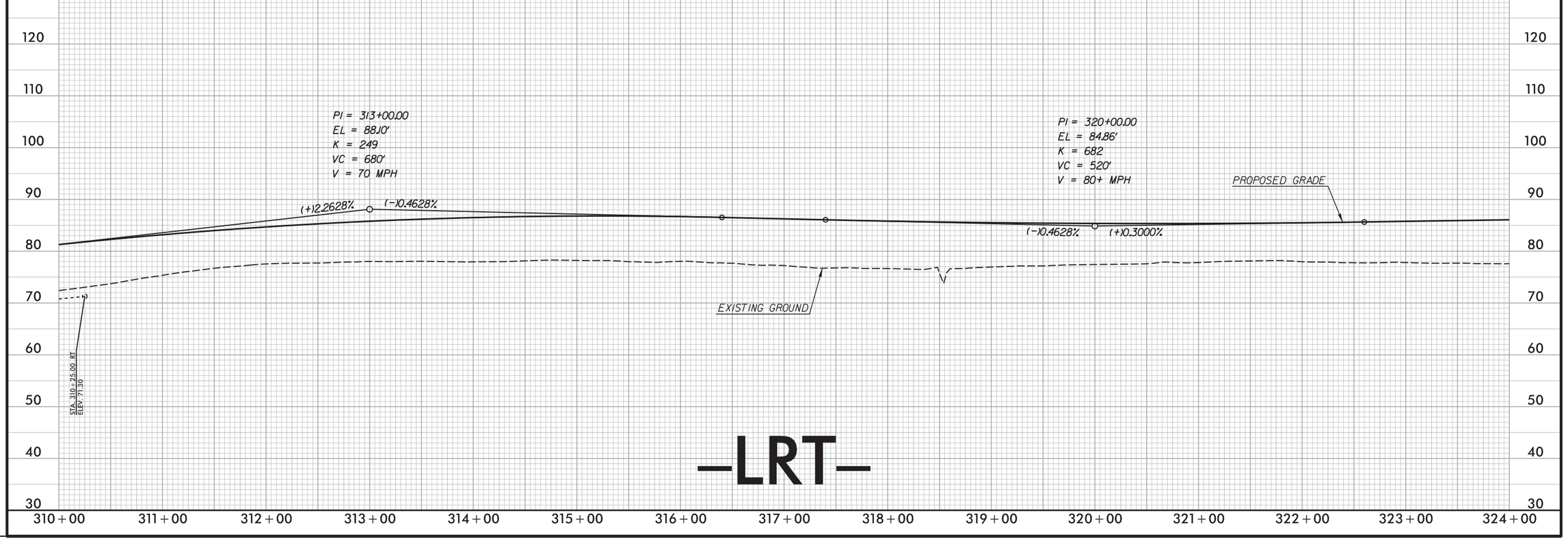
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	94
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



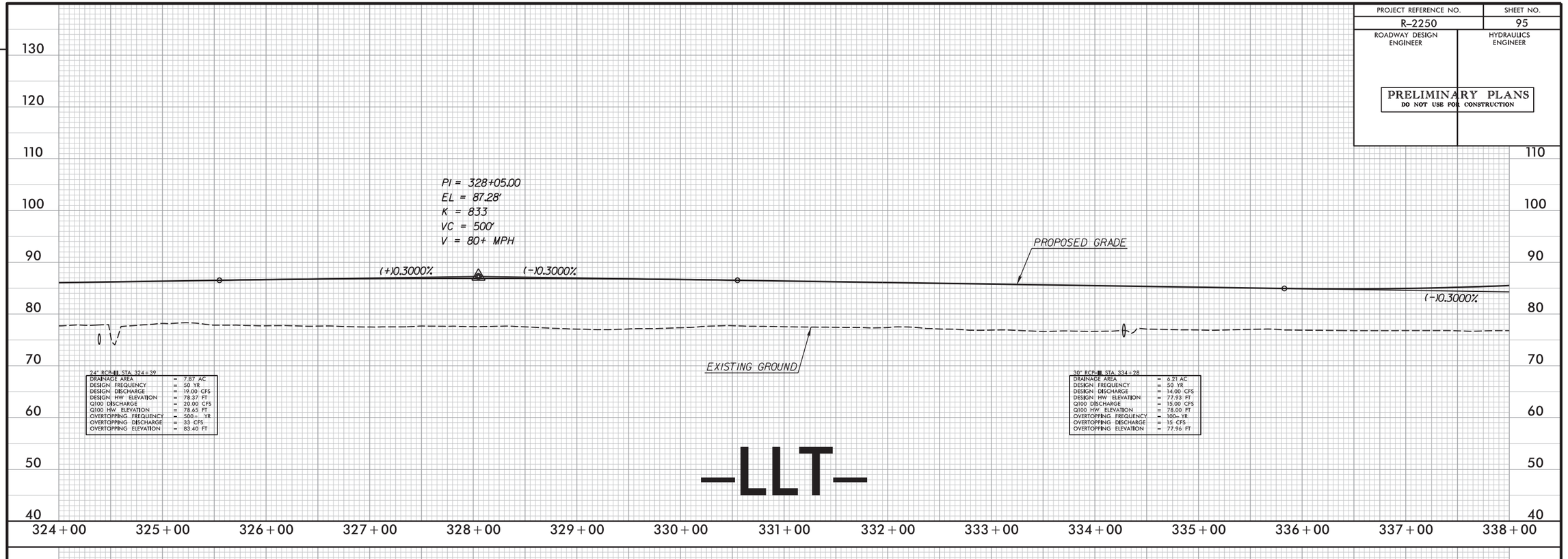


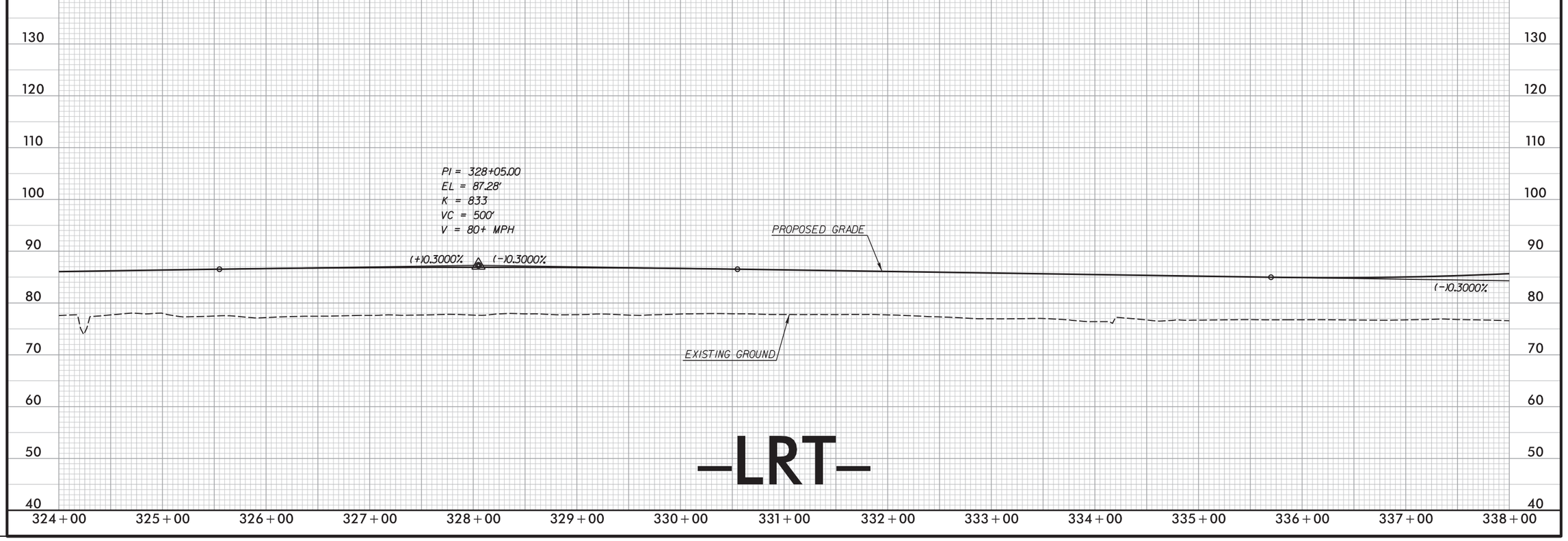
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	95
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



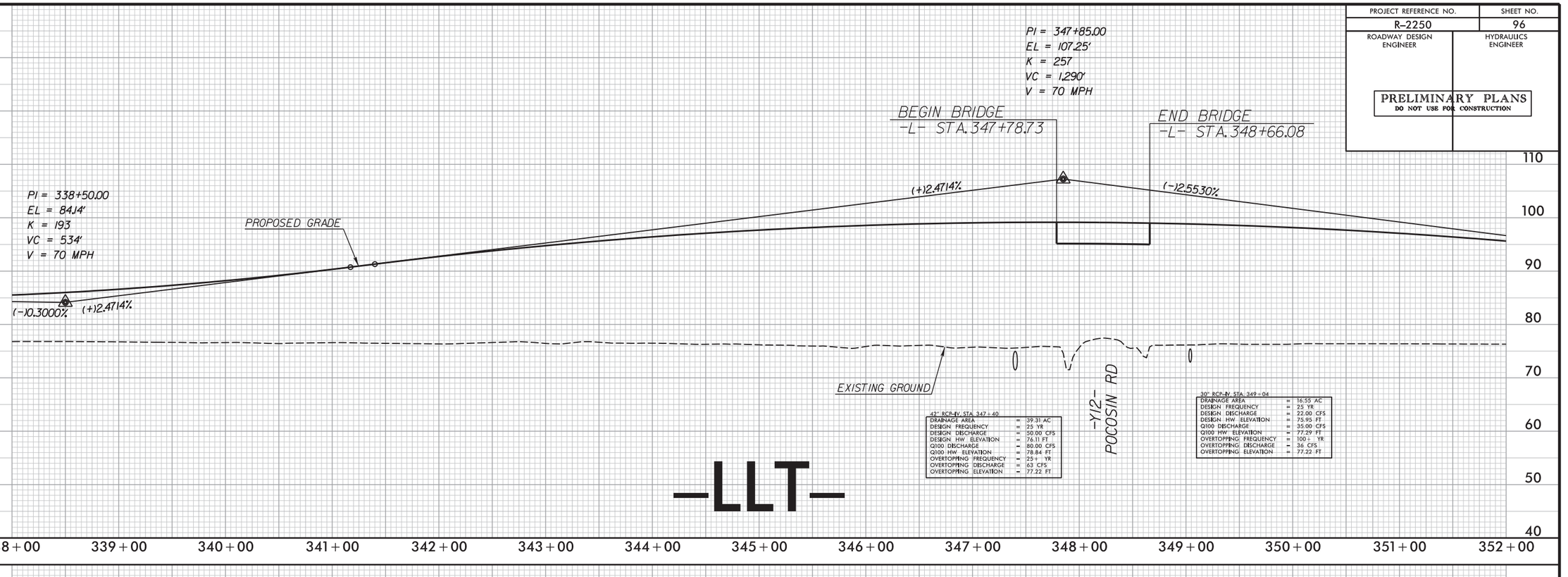


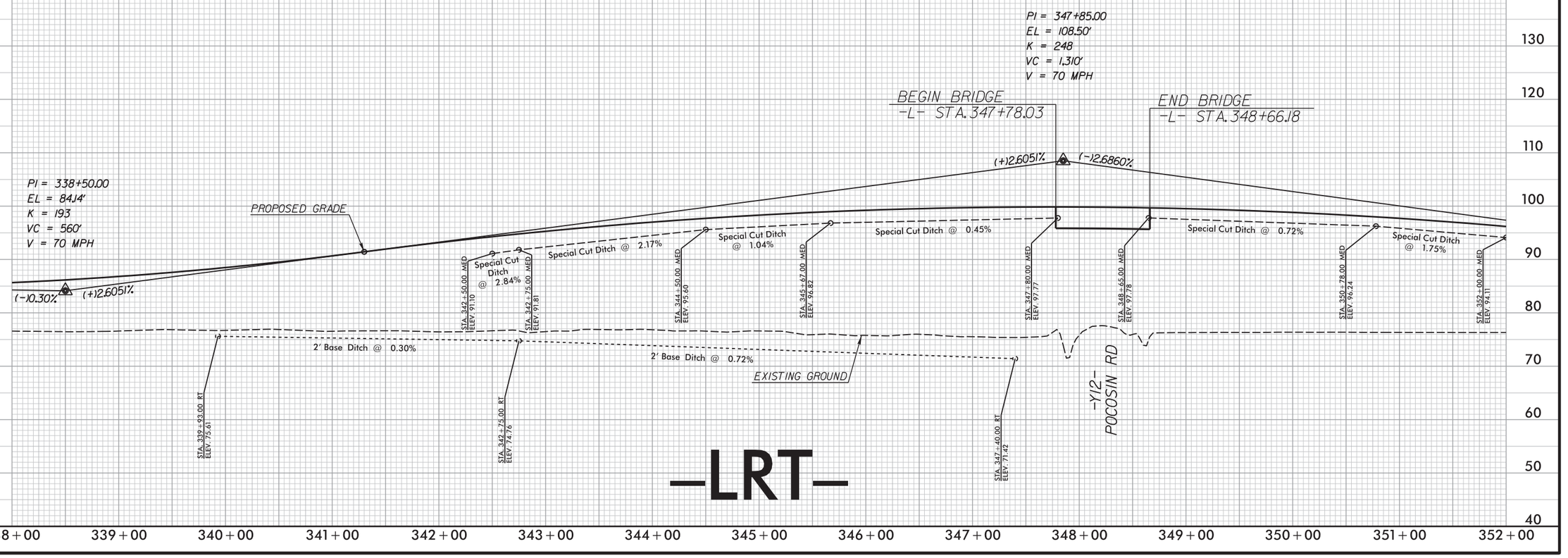
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	96
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



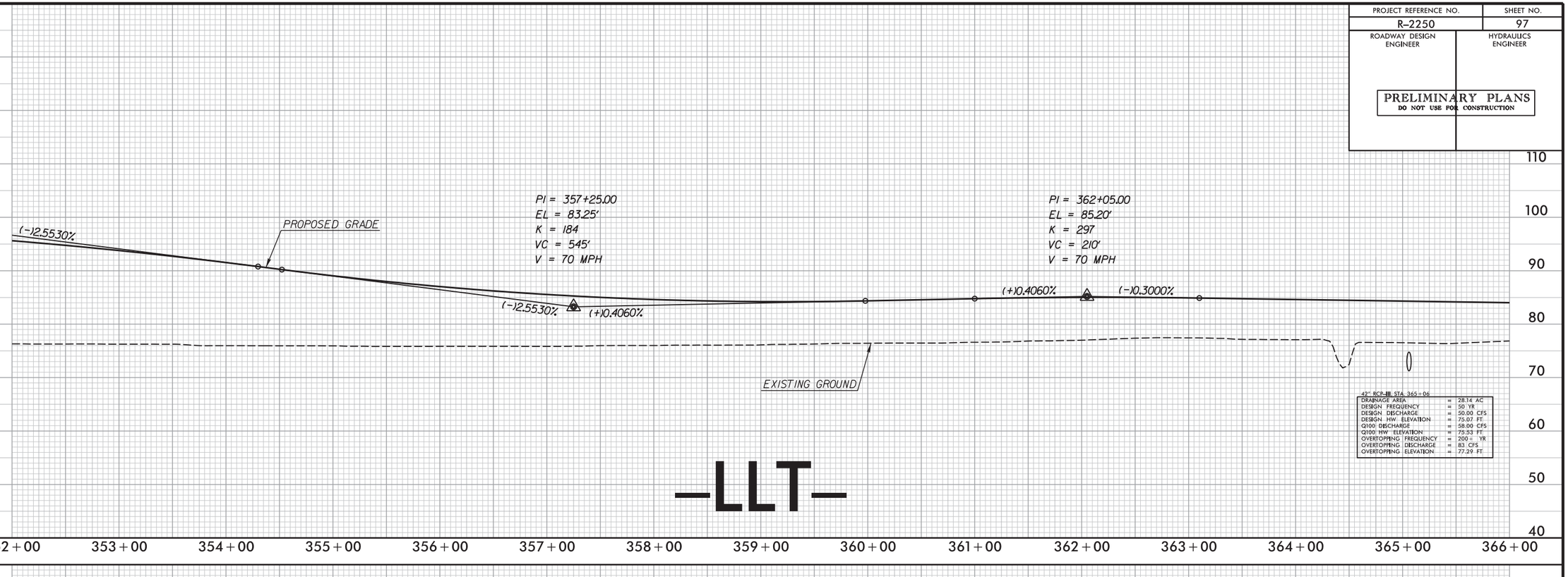


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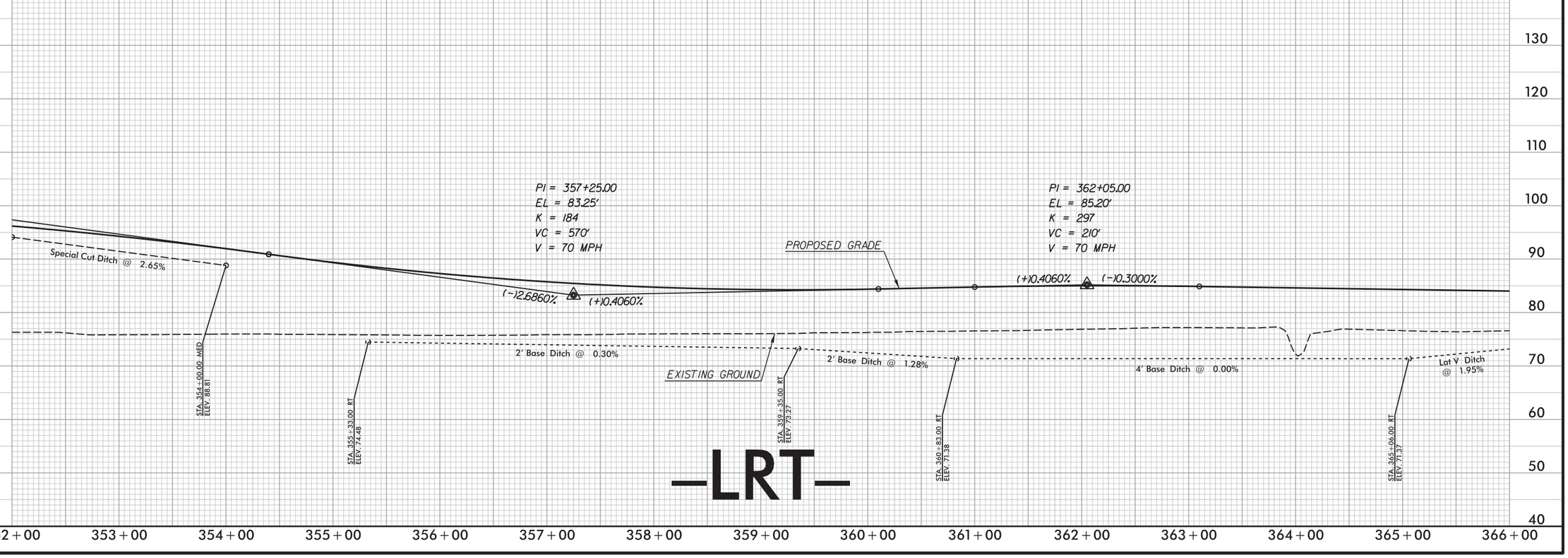
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	97
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



-LLT-



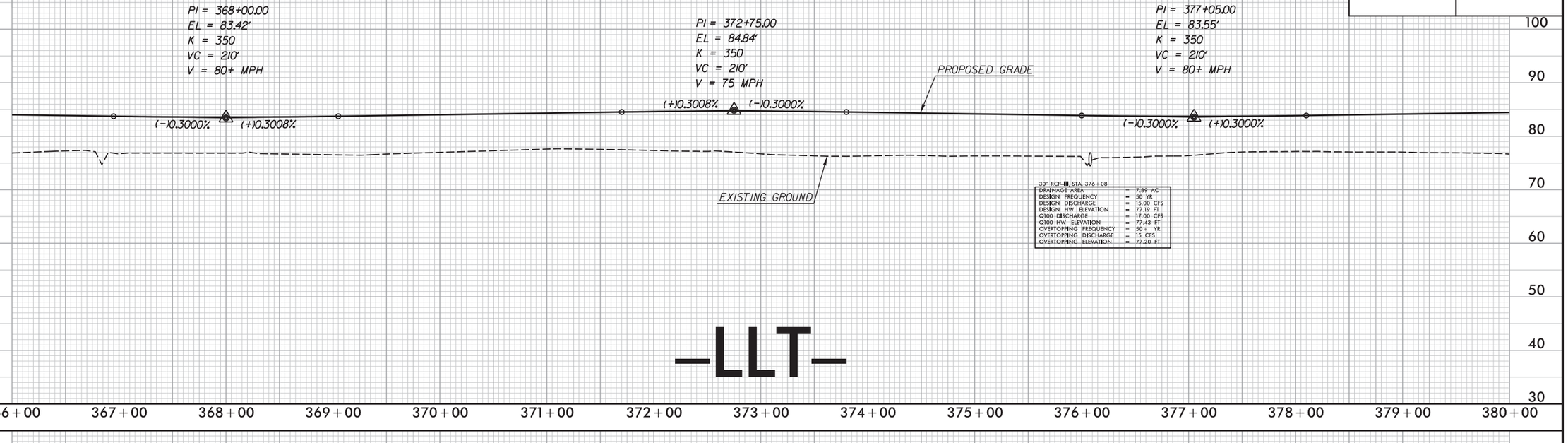
-LRT-

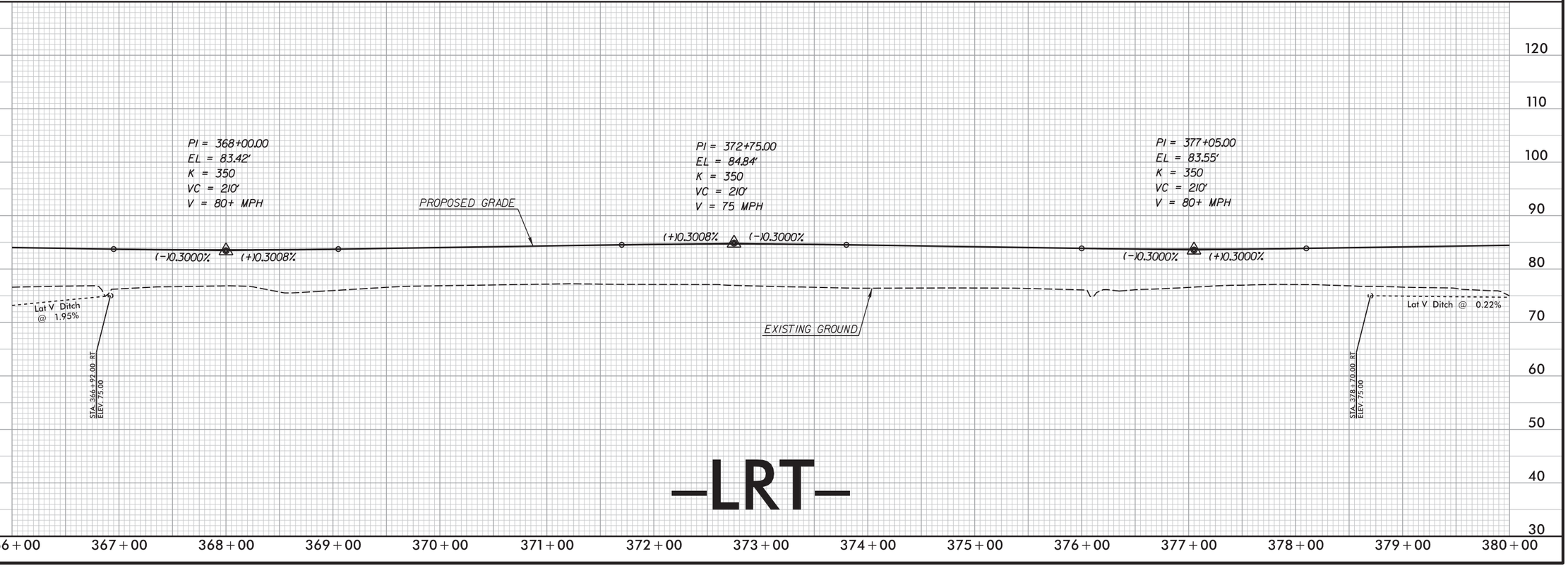
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	98
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



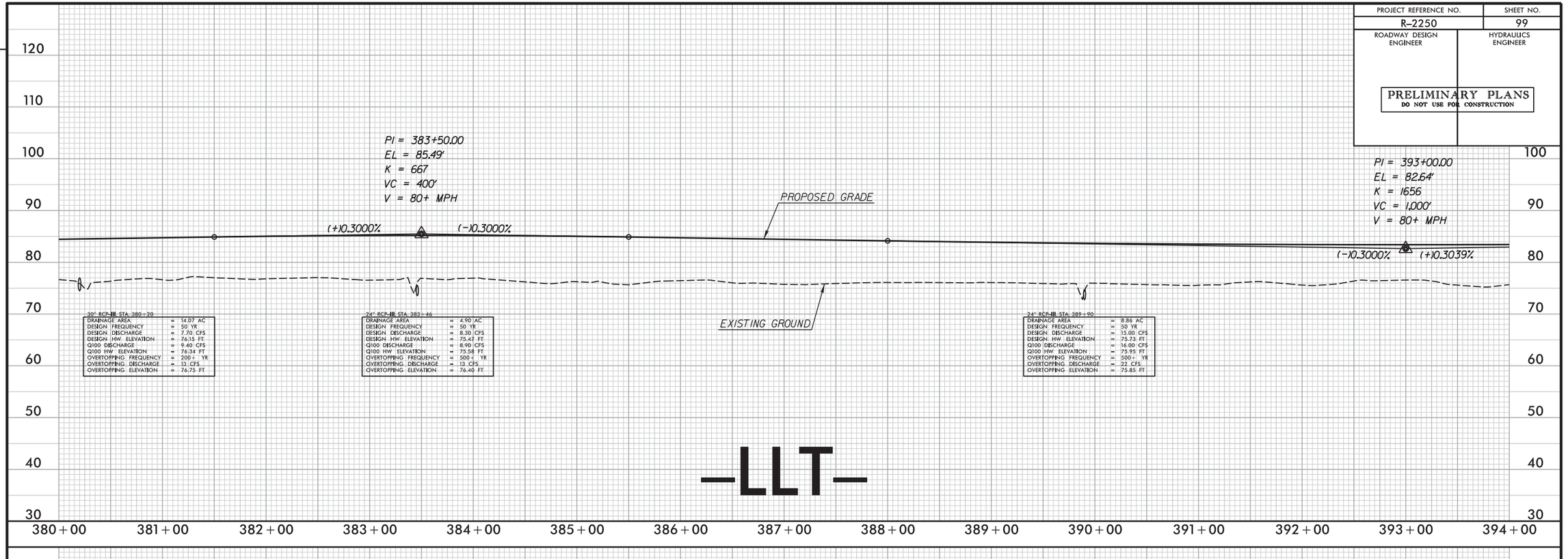


REVISIONS

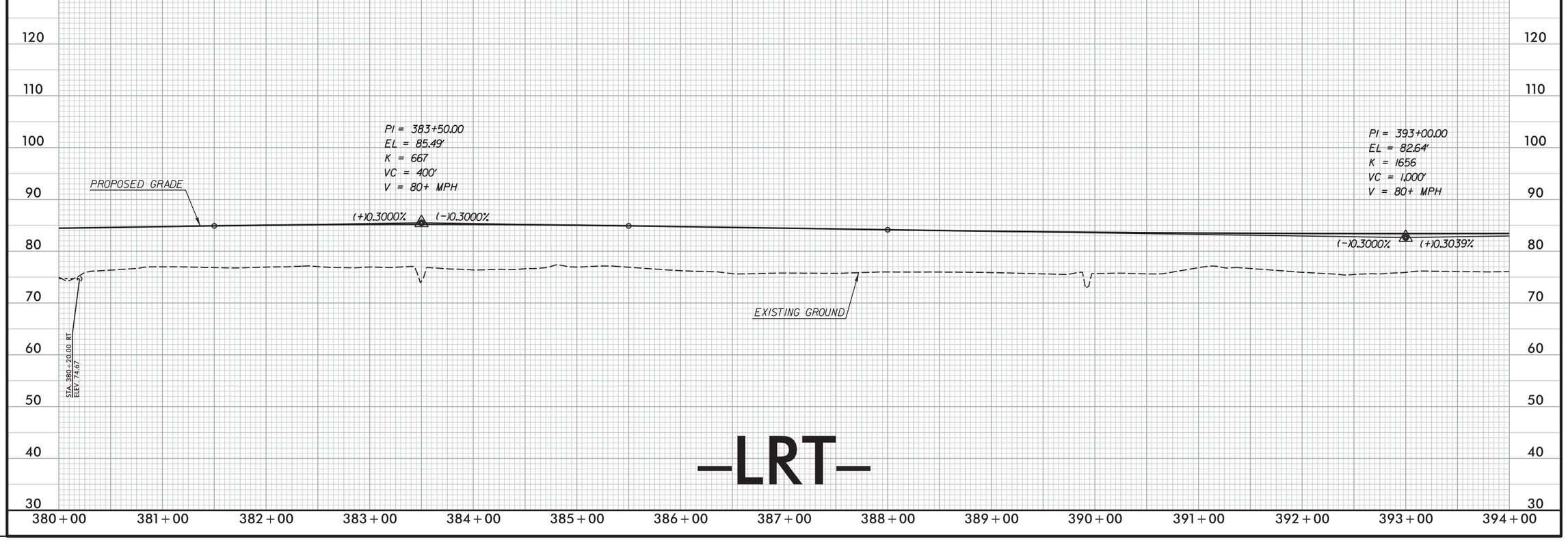
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	99
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



-LLT-



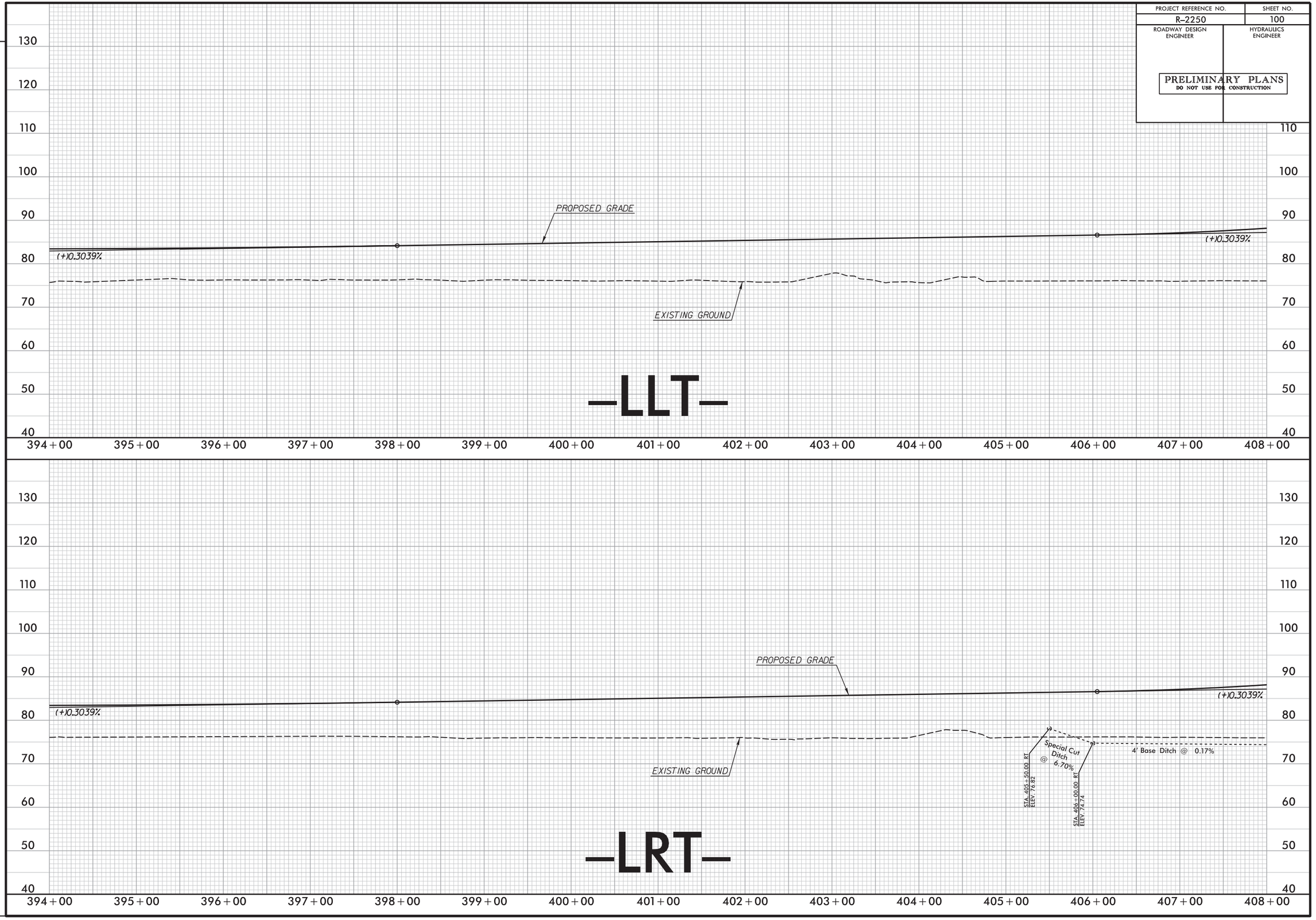
-LRT-

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	100
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

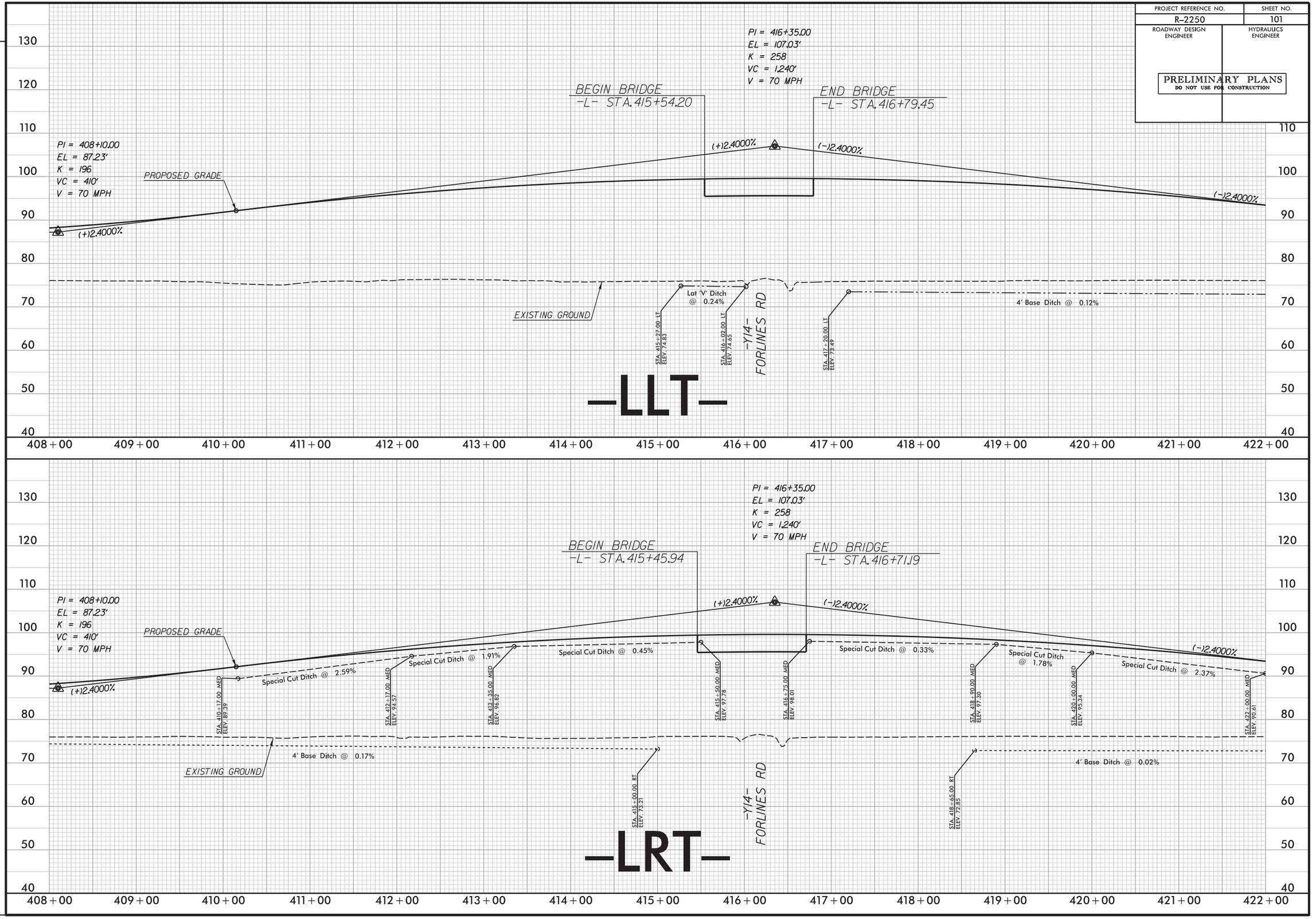


REVISIONS

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DATE: 1/25/2016
TIME: 2:39:10 PM

PROJECT REFERENCE NO.	SHEET NO.
R-2250	101
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

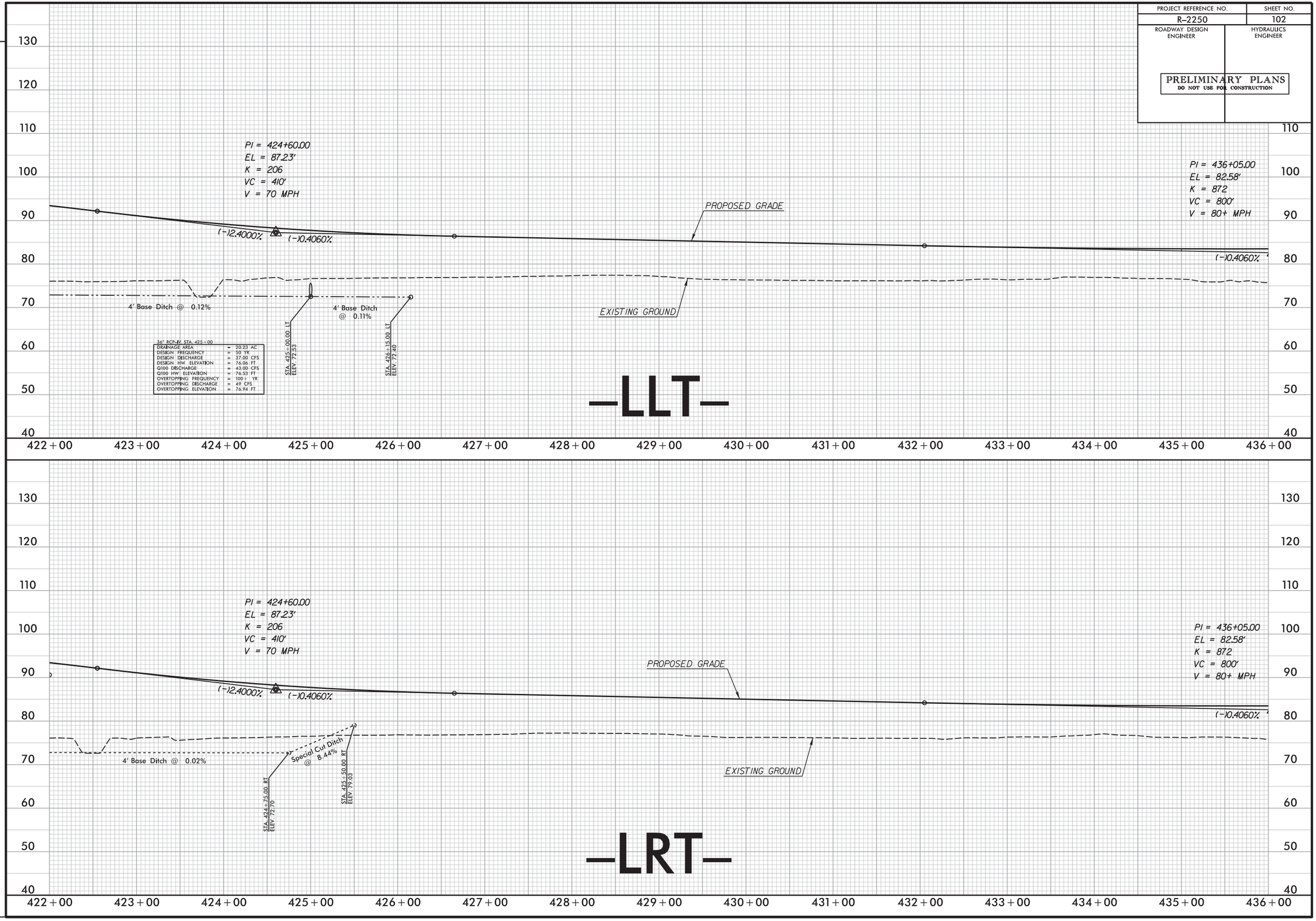


REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	102
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	103
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 436+05.00
EL = 82.58'
K = 872
VC = 800'
V = 80+ MPH

PI = 444+50.00
EL = 86.90'
K = 284
VC = 300'
V = 70 MPH

PI = 450+00.00
EL = 83.90'
K = 211
VC = 210'
V = 75 MPH

(+)0.5109%

(-)0.5445%

PROPOSED GRADE

EXISTING GROUND

10'x7' RCBC STA. 437+11

DRAINAGE AREA	=	398.0 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	300.00 CFS
DESIGN HW ELEVATION	=	75.80 FT
Q100 DISCHARGE	=	350.00 CFS
Q100 HW ELEVATION	=	76.53 FT
OVERTOPPING FREQUENCY	=	200+ YR
OVERTOPPING DISCHARGE	=	390.00 CFS
OVERTOPPING ELEVATION	=	77.13 FT

24" RCP-III STA. 449+37

DRAINAGE AREA	=	1.99 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	6.20 CFS
DESIGN HW ELEVATION	=	76.80 FT
Q100 DISCHARGE	=	6.70 CFS
Q100 HW ELEVATION	=	76.88 FT
OVERTOPPING FREQUENCY	=	~10 YR
OVERTOPPING DISCHARGE	=	4 CFS
OVERTOPPING ELEVATION	=	76.50 FT

-LLT-

-LRT-

Special Cut Ditch @ 0.20%

STA. 449+38.00 RT
ELEV. 75.15

120 110 100 90 80 70 60 50 40 30

436+00 437+00 438+00 439+00 440+00 441+00 442+00 443+00 444+00 445+00 446+00 447+00 448+00 449+00 450+00

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	104
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 450+00.00
EL = 83.90'
K = 211
VC = 210'
V = 75 MPH

PI = 454+05.00
EL = 85.73'
K = 280
VC = 210'
V = 70 MPH

PI = 464+10.00
EL = 82.71'
K = 192
VC = 615'
V = 70 MPH

(+)0.4502%

(+)0.4502%

(-)0.3000%

(-)0.3000%

PROPOSED GRADE

EXISTING GROUND

Lat V Ditch @ 0.73%

2' Base Ditch @ 0.35%

Special Cut Ditch @ 4.56%

STA. 455+15.00 LT
ELEV. 76.72

STA. 459+15.00 LT
ELEV. 73.80

STA. 461+50.00 LT
ELEV. 78.02

STA. 462+00.00 LT
ELEV. 75.74

30" RCP-III STA. 458+92

DRAINAGE AREA	=	9.32 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	29.00 CFS
DESIGN HW ELEVATION	=	77.66 FT
Q100 DISCHARGE	=	32.00 CFS
Q100 HW ELEVATION	=	78.08 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	57 CFS
OVERTOPPING ELEVATION	=	82.87 FT

-LLT-

120 110 100 90 80 70 60 50 40 30

450+00 451+00 452+00 453+00 454+00 455+00 456+00 457+00 458+00 459+00 460+00 461+00 462+00 463+00 464+00

PI = 450+00.00
EL = 83.90'
K = 211
VC = 210'
V = 75 MPH

PI = 455+33.50
EL = 86.30'
K = 280
VC = 210'
V = 70 MPH

PI = 464+10.00
EL = 83.67'
K = 206
VC = 640'
V = 75 MPH

(+)0.4502%

(+)0.4502%

(-)0.3000%

(-)0.3000%

PROPOSED GRADE

PROPOSED GRADE

EXISTING GROUND

Special Cut Ditch @ 1.05%

Special Cut Ditch @ 0.20%

Special Cut Ditch @ 0.45%

Special Cut Ditch @ 1.25%

Special Cut Ditch @ 0.20%

Special Cut Ditch @ 0.20%

Special Cut Ditch @ 1.34%

2' Base Ditch @ 0.15%

2' Base Ditch @ 0.07%

STA. 450+00.00 MED
ELEV. 81.36

STA. 450+85.00 RT
ELEV. 75.44

STA. 451+45.00 MED
ELEV. 82.88

STA. 452+05.00 MED
ELEV. 83.15

STA. 453+04.00 MED
ELEV. 84.39

STA. 453+75.00 RT
ELEV. 74.64

STA. 454+03.00 MED
ELEV. 84.19

STA. 454+63.00 MED
ELEV. 84.07

STA. 455+50.00 MED
ELEV. 82.90

STA. 458+68.00 RT
ELEV. 73.90

STA. 459+40.00 RT
ELEV. 73.95

-LRT-

120 110 100 90 80 70 60 50 40 30

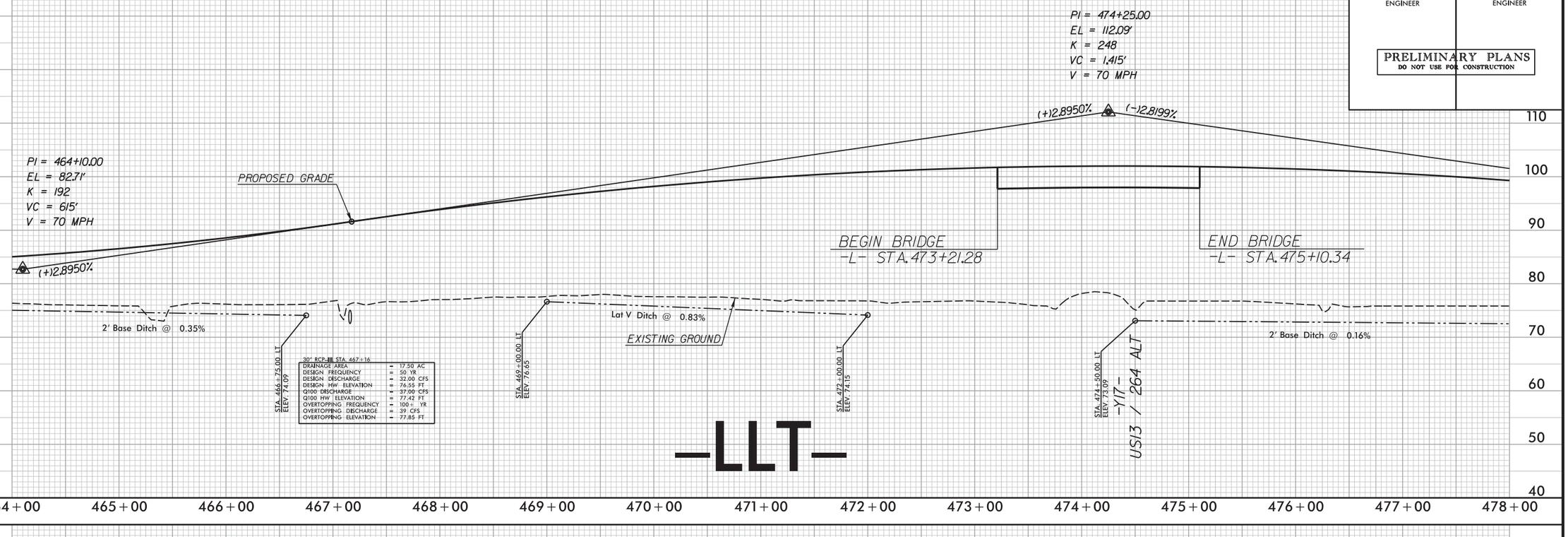
450+00 451+00 452+00 453+00 454+00 455+00 456+00 457+00 458+00 459+00 460+00 461+00 462+00 463+00 464+00

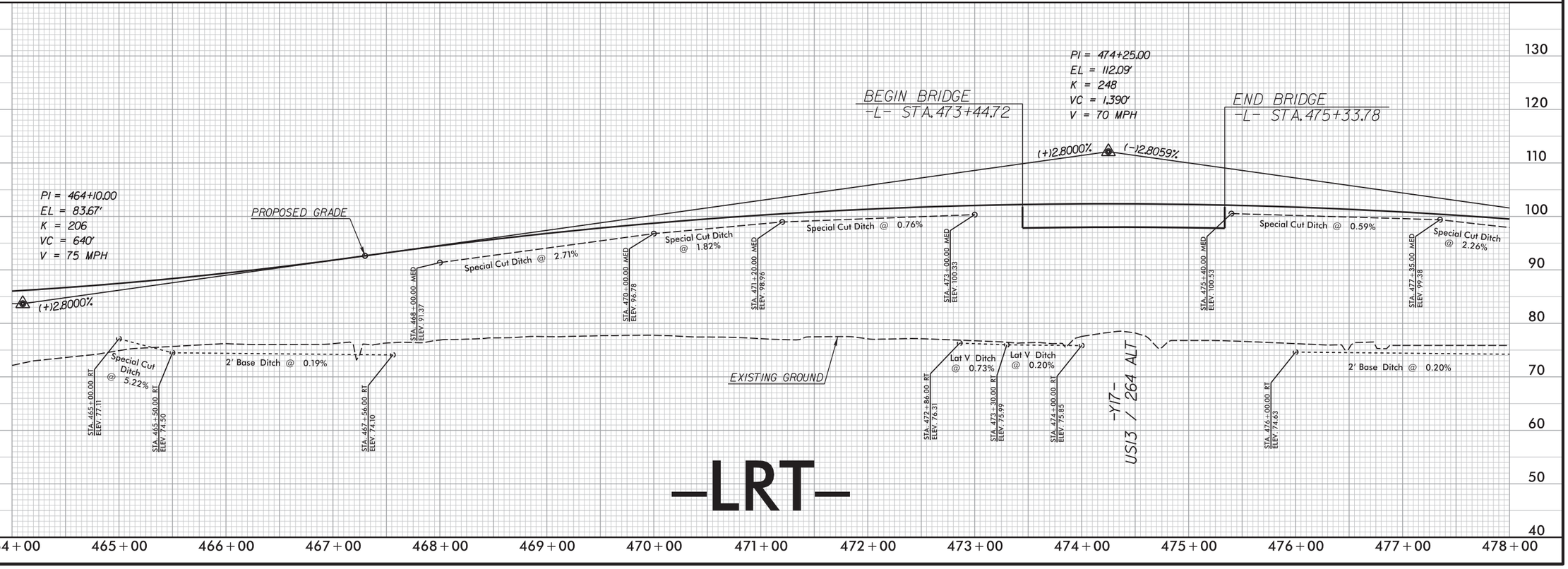
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	105
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





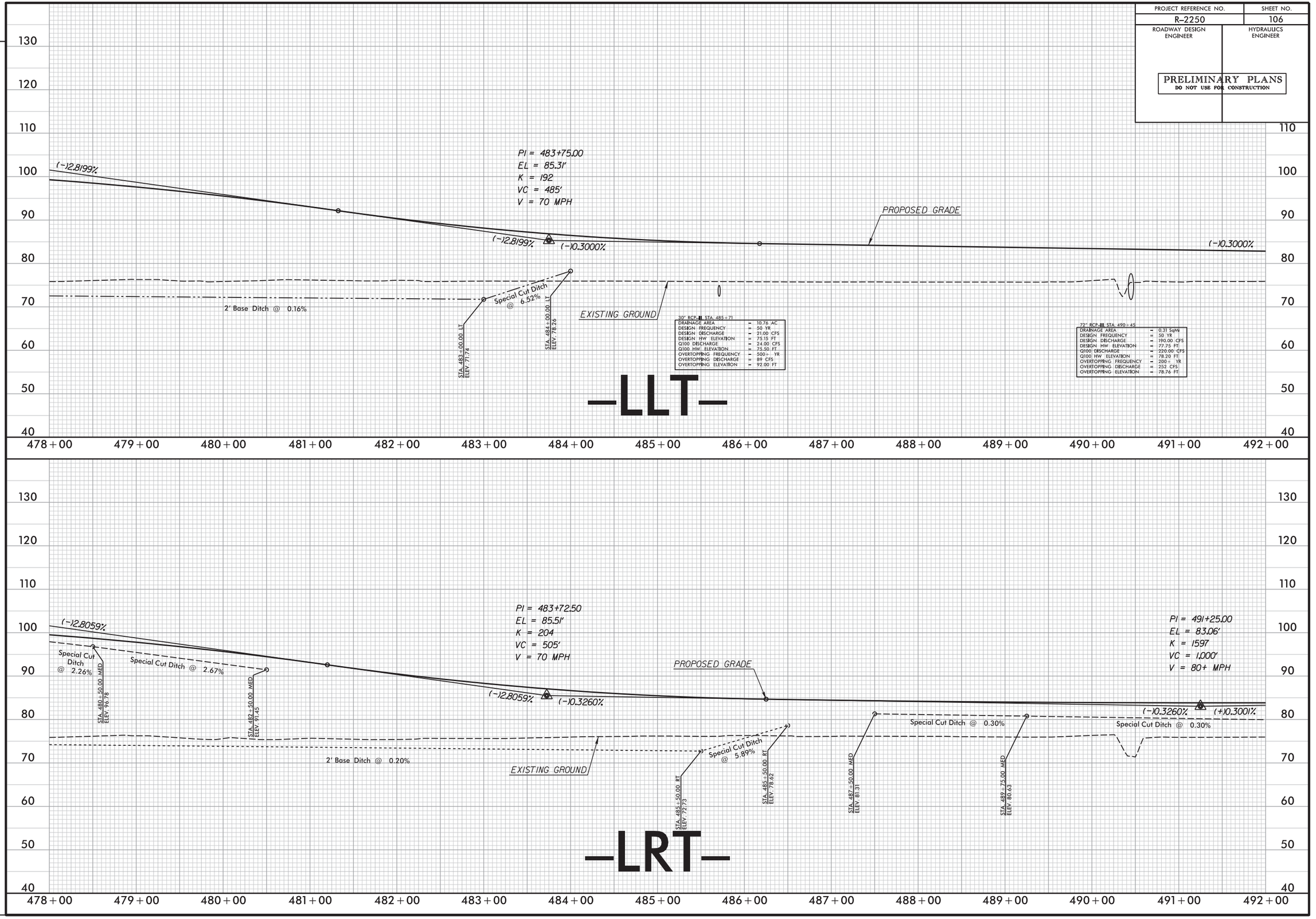
REVISIONS

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TIME: 2:39:51 PM

PROJECT REFERENCE NO.	SHEET NO.
R-2250	106
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	107
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 493+95.00
EL = 82.25'
K = 600
VC = 360'
V = 80+ MPH

PROPOSED GRADE

(-)0.3000%

(+)0.3001%

EXISTING GROUND

-LLT-

PI = 503+50.00
EL = 86.73'
K = 1333
VC = 800'
V = 80+ MPH

(+)0.3001%

(-)0.3000%

PROPOSED GRADE

(+)0.3001%

Special Cut Ditch @ 0.30%

Special Cut Ditch @ 0.28%

2' Base Ditch @ 0.22%

2' Base Ditch @ 0.26%

Special Cut Ditch @ 0.28%

2' Base Ditch @ 0.28%

Special Cut Ditch @ 0.28%

2' Base Ditch @ 0.20%

Special Cut Ditch @ 0.28%

Special Cut Ditch @ 0.30%

STA. 492+50.00 MED
ELEV. 79.81

STA. 492+85.00 RT
ELEV. 73.06

STA. 493+50.00 RT
ELEV. 73.20

STA. 493+50.00 MED
ELEV. 79.51

STA. 496+00.00 MED
ELEV. 80.21

STA. 496+00.00 RT
ELEV. 73.86

STA. 499+00.00 MED
ELEV. 81.06

STA. 499+00.00 RT
ELEV. 74.70

STA. 502+00.00 MED
ELEV. 81.90

STA. 502+00.00 RT
ELEV. 75.29

STA. 505+00.00 MED
ELEV. 82.75

EXISTING GROUND

-LRT-

120 110 100 90 80 70 60 50 40 30

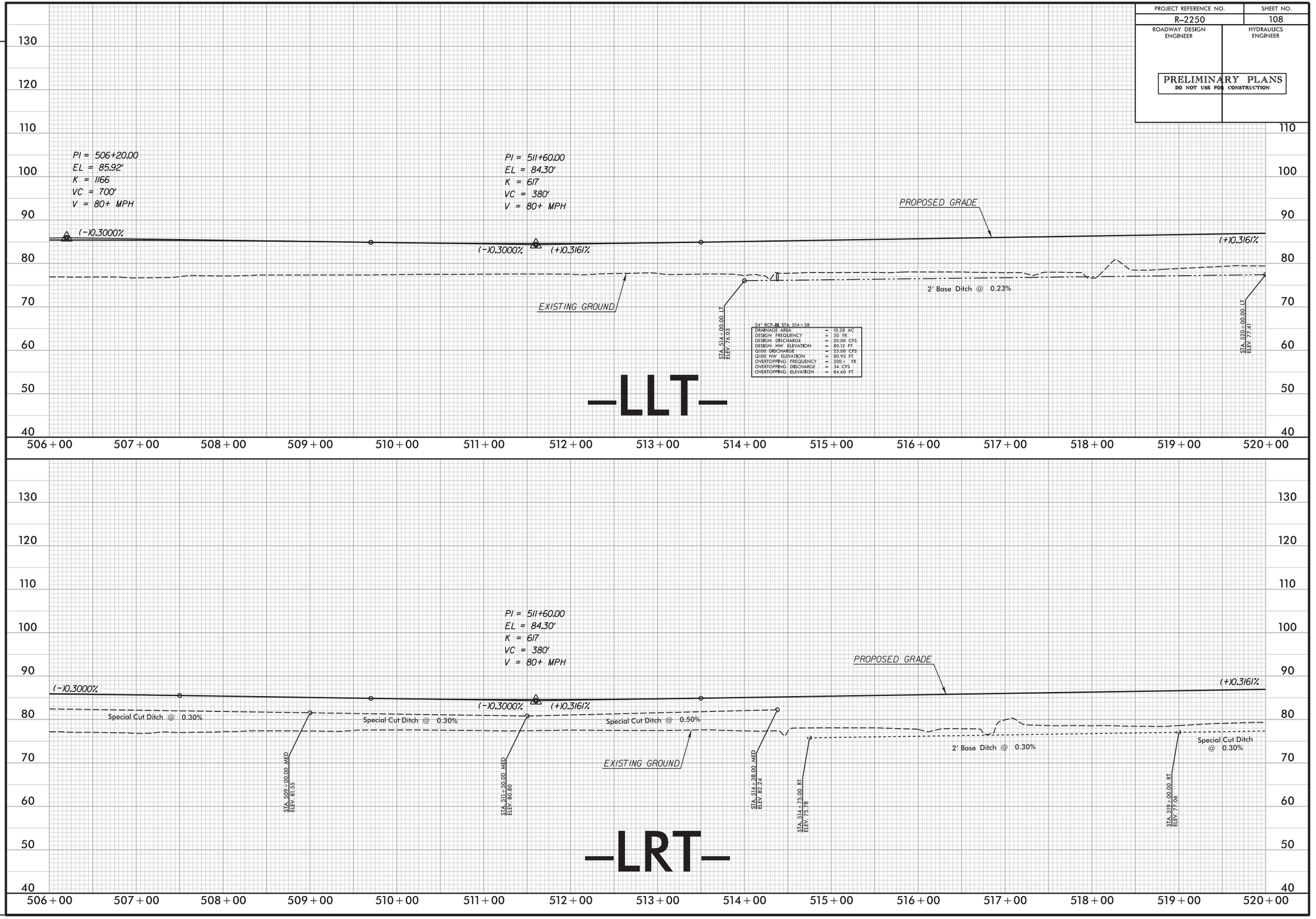
492+00 493+00 494+00 495+00 496+00 497+00 498+00 499+00 500+00 501+00 502+00 503+00 504+00 505+00 506+00

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	108
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

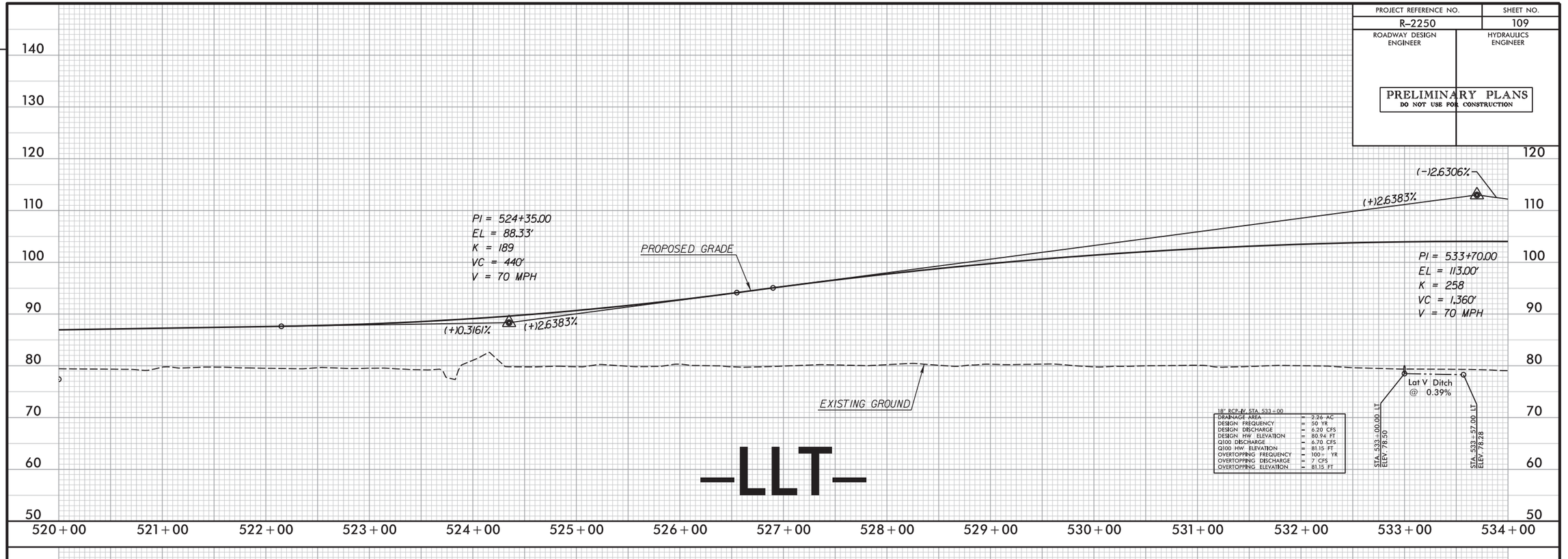


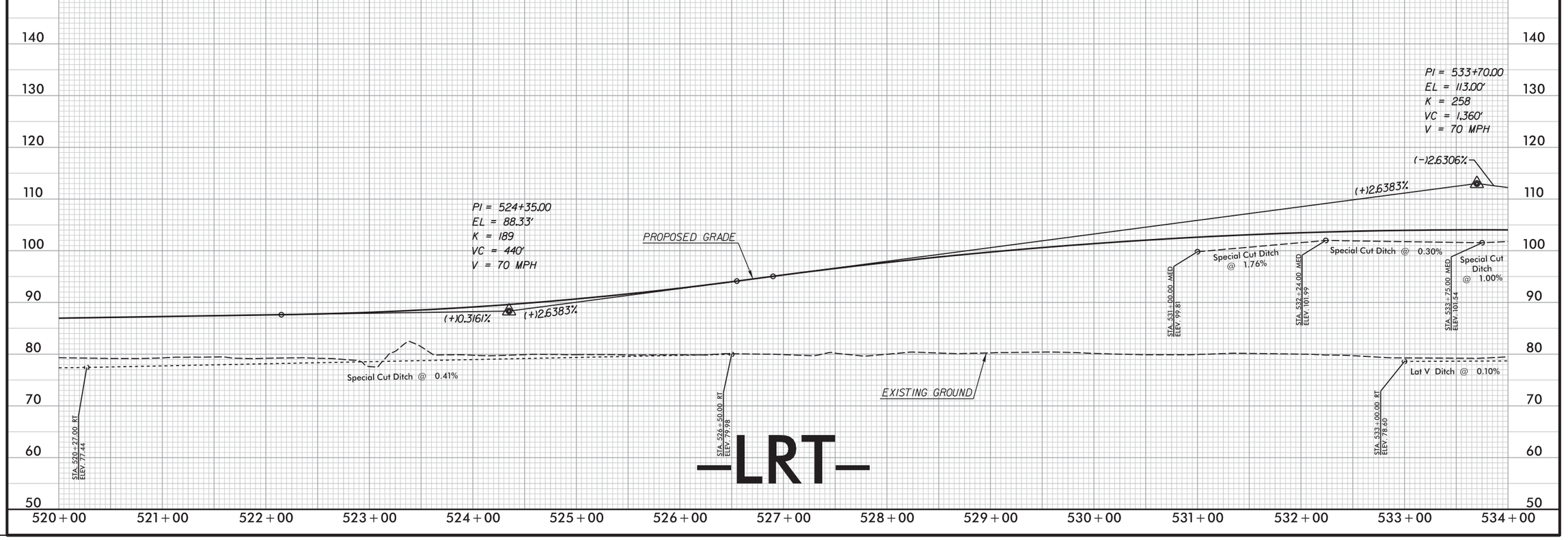
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	109
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



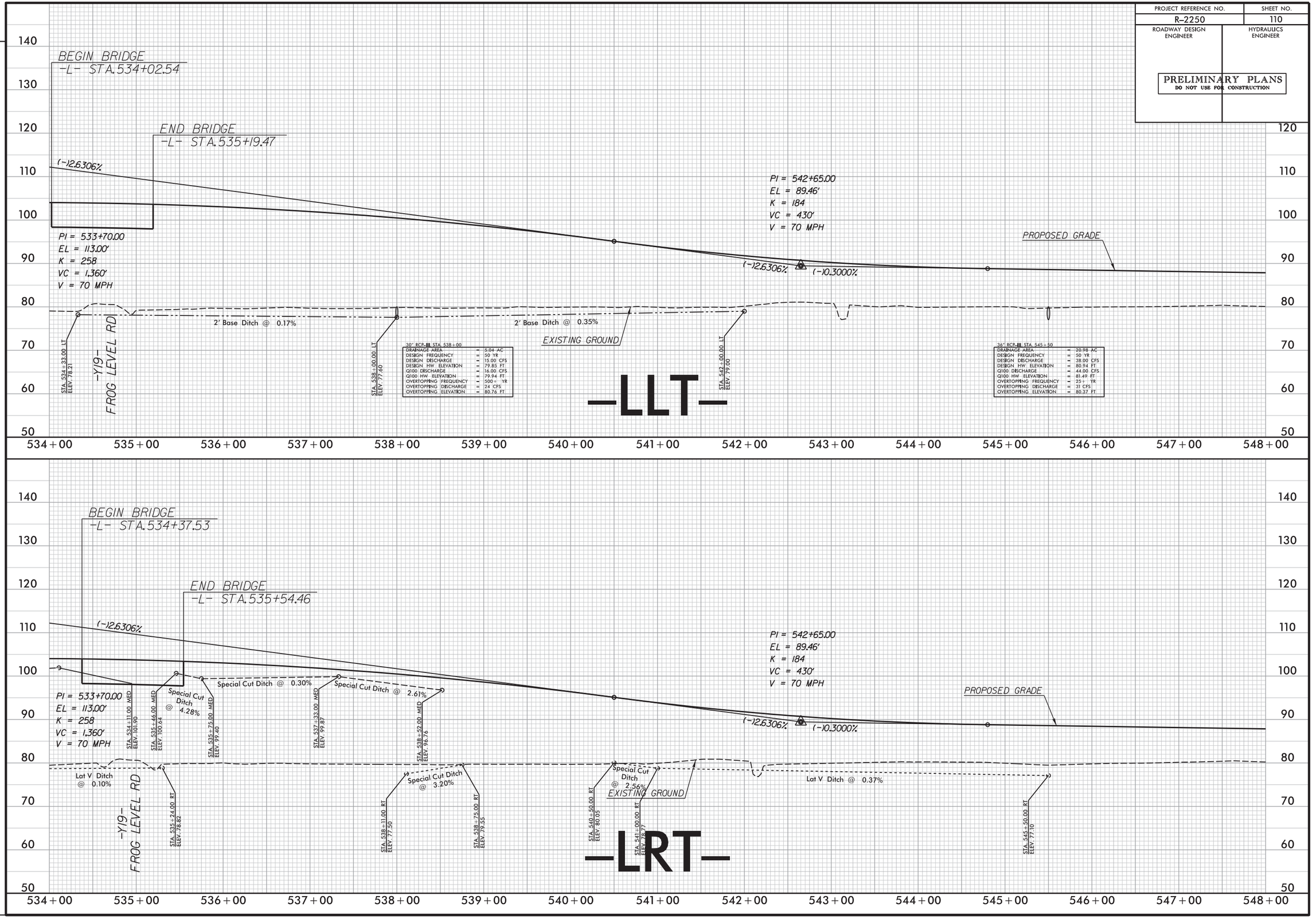


REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	110
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	111
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 551+40.00
EL = 86.83'
K = 833
VC = 500'
V = 80+ MPH

(−)0.3000% (+)0.3000%

PROPOSED GRADE

(+)0.3000%

EXISTING GROUND

18" RCP-II STA 561+49

DRAINAGE AREA	=	13.68 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	8.40 CFS
DESIGN HW ELEVATION	=	79.83 FT
Q100 DISCHARGE	=	10.00 CFS
Q100 HW ELEVATION	=	80.52 FT
OVERTOPPING FREQUENCY	=	100+ YR
OVERTOPPING DISCHARGE	=	13 CFS
OVERTOPPING ELEVATION	=	81.80 FT

-LLT-

130 120 110 100 90 80 70 60 50 40

548+00 549+00 550+00 551+00 552+00 553+00 554+00 555+00 556+00 557+00 558+00 559+00 560+00 561+00 562+00

PI = 551+40.00
EL = 86.83'
K = 833
VC = 500'
V = 80+ MPH

(−)0.3000% (+)0.3000%

PROPOSED GRADE

(+)0.3000%

EXISTING GROUND

-LRT-

130 120 110 100 90 80 70 60 50 40

548+00 549+00 550+00 551+00 552+00 553+00 554+00 555+00 556+00 557+00 558+00 559+00 560+00 561+00 562+00

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	112
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 563+65.00
EL = 90.51'
K = 1667
VC = 1,000'
V = 80+ MPH

(+)0.3000% (−)0.3000%

PI = 574+95.00
EL = 87.12'
K = 1000
VC = 600'
V = 80+ MPH

(−)0.3000% (+)0.3000%

PROPOSED GRADE

EXISTING GROUND

24" RCP-III STA. 570+70

DRAINAGE AREA	=	6.24 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	12.00 CFS
DESIGN HW ELEVATION	=	80.81 FT
Q100 DISCHARGE	=	13.00 CFS
Q100 HW ELEVATION	=	80.89 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	37 CFS
OVERTOPPING ELEVATION	=	87.57 FT

-LLT-

130 120 110 100 90 80 70 60 50 40

562+00 563+00 564+00 565+00 566+00 567+00 568+00 569+00 570+00 571+00 572+00 573+00 574+00 575+00 576+00

PI = 563+65.00
EL = 90.51'
K = 1667
VC = 1,000'
V = 80+ MPH

(+)0.3000% (−)0.3000%

PI = 574+95.00
EL = 87.12'
K = 1000
VC = 600'
V = 80+ MPH

(−)0.3000% (+)0.3000%

PROPOSED GRADE

EXISTING GROUND

-LRT-

130 120 110 100 90 80 70 60 50 40

562+00 563+00 564+00 565+00 566+00 567+00 568+00 569+00 570+00 571+00 572+00 573+00 574+00 575+00 576+00

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	113
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 586+70.00
EL = 90.64'
K = 1331
VC = 800'
V = 80+ MPH

PROPOSED GRADE

(+)0.3000%

(+)0.3000%

(-)0.3009%

EXISTING GROUND

STA. 578+82.00 LT
ELEV. 77.75

4' Base Ditch @ 0.02%

-LLT-

130 120 110 100 90 80 70 60 50 40

576+00 577+00 578+00 579+00 580+00 581+00 582+00 583+00 584+00 585+00 586+00 587+00 588+00 589+00 590+00

PI = 586+70.00
EL = 90.64'
K = 1331
VC = 800'
V = 80+ MPH

PROPOSED GRADE

(+)0.3000%

(+)0.3000%

(-)0.3009%

EXISTING GROUND

STA. 578+15.00 RT
ELEV. 77.45

4' Base Ditch @ 0.01%

-LRT-

130 120 110 100 90 80 70 60 50 40

576+00 577+00 578+00 579+00 580+00 581+00 582+00 583+00 584+00 585+00 586+00 587+00 588+00 589+00 590+00

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	114
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 598+30.00
EL = 87.15'
K = 184
VC = 600'
V = 70 MPH

PROPOSED GRADE

(-)0.3009%

(+)2.9518%

EXISTING GROUND

STA. 590+22.00 LT
ELEV. 77.50

24" RCP-III STA. 591+61

DRAINAGE AREA	=	20.15 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	14.00 CFS
DESIGN HW ELEVATION	=	80.08 FT
Q100 DISCHARGE	=	17.00 CFS
Q100 HW ELEVATION	=	80.72 FT
OVERTOPPING FREQUENCY	=	100+ YR
OVERTOPPING DISCHARGE	=	16 CFS
OVERTOPPING ELEVATION	=	80.50 FT

-LLT-

PI = 598+30.00
EL = 87.15'
K = 184
VC = 600'
V = 70 MPH

PROPOSED GRADE

(-)0.3009%

(+)2.9518%

4' Base Ditch @ 0.01%

EXISTING GROUND

4' Base Ditch @ 0.15%

STA. 592+89.00 RT
ELEV. 77.25

STA. 599+42.00 RT
ELEV. 80.10

-LRT-

140 130 120 110 100 90 80 70 60 50

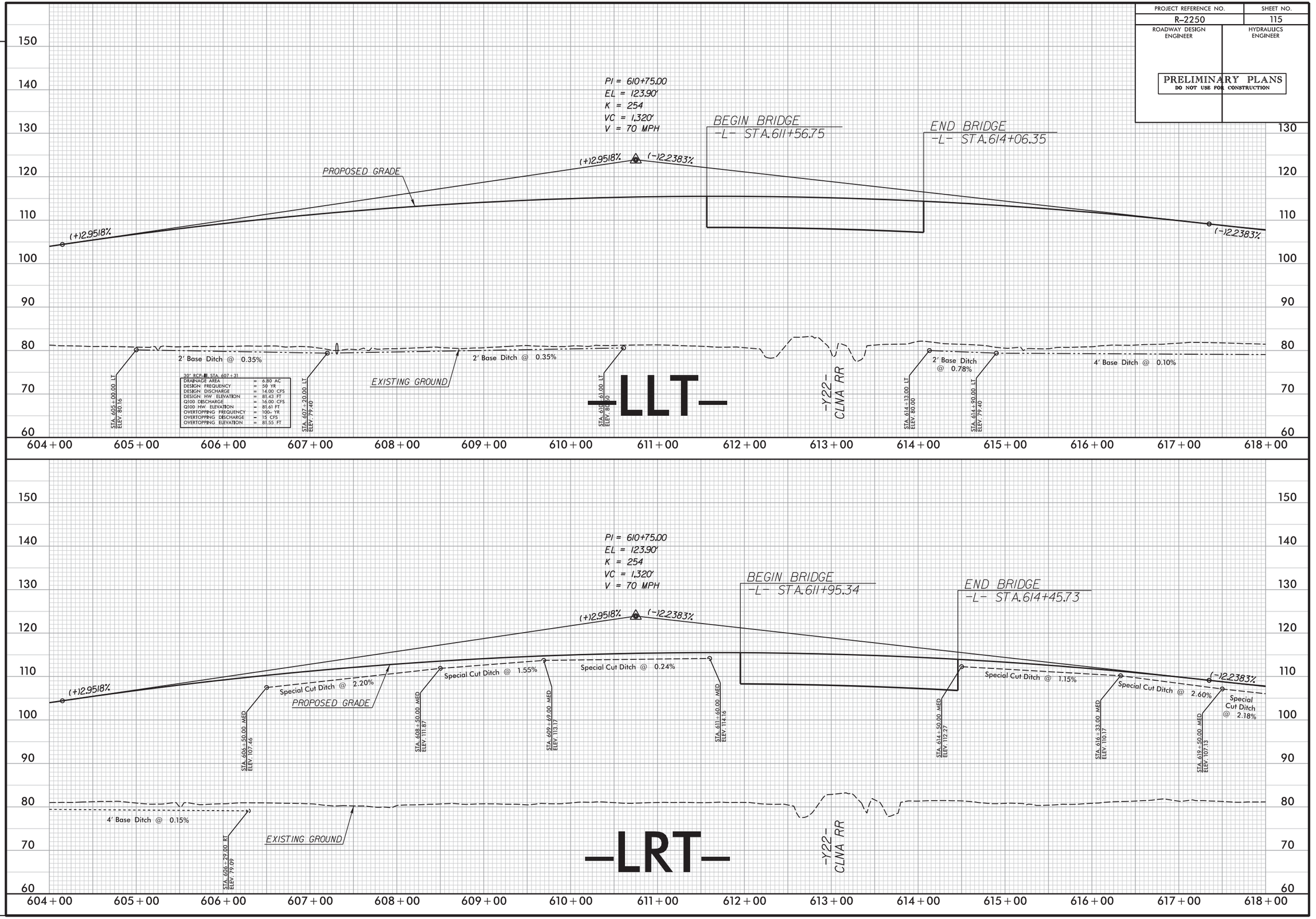
590+00 591+00 592+00 593+00 594+00 595+00 596+00 597+00 598+00 599+00 600+00 601+00 602+00 603+00 604+00

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	115
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

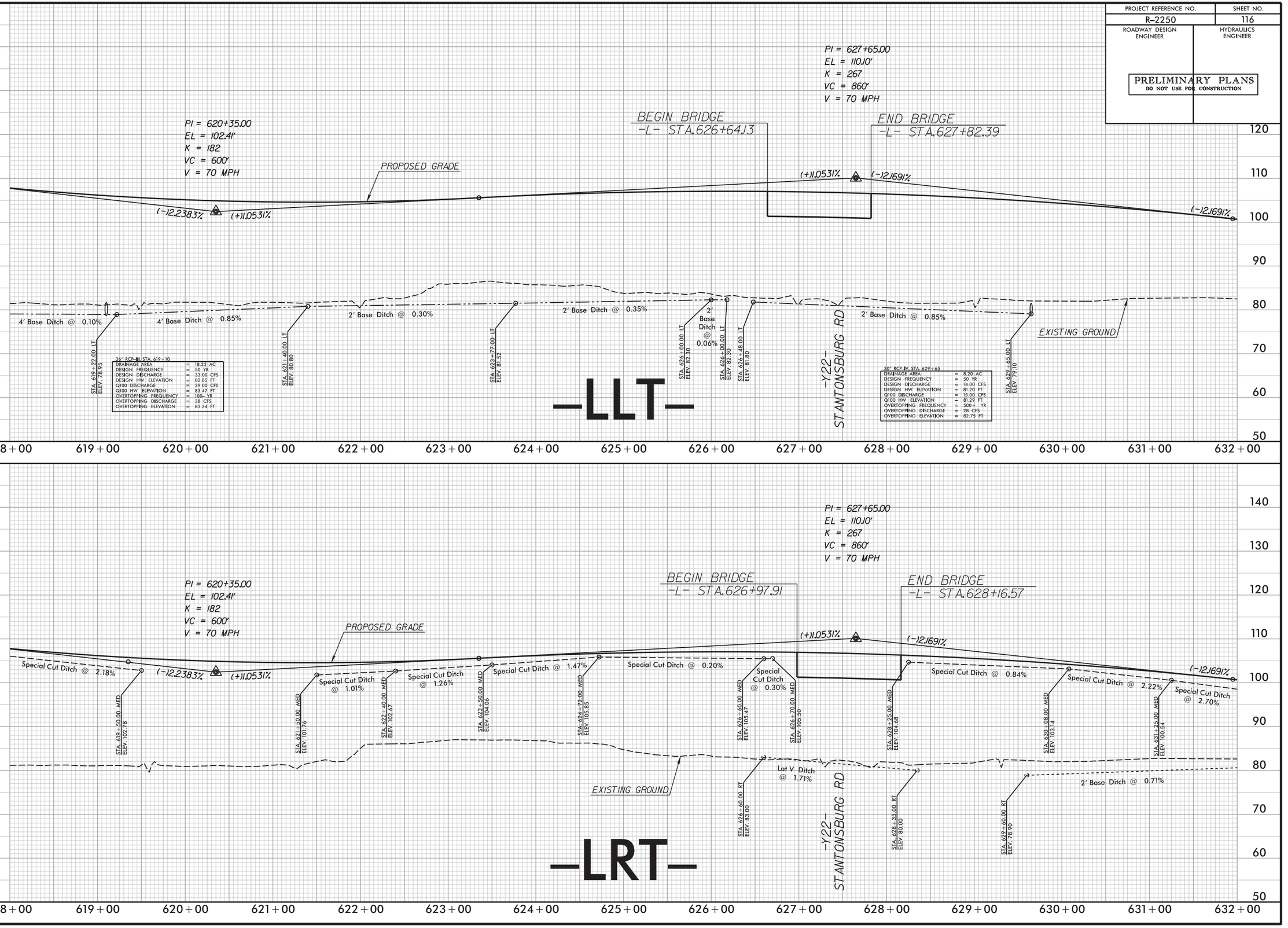


REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	116
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



618+00 619+00 620+00 621+00 622+00 623+00 624+00 625+00 626+00 627+00 628+00 629+00 630+00 631+00 632+00

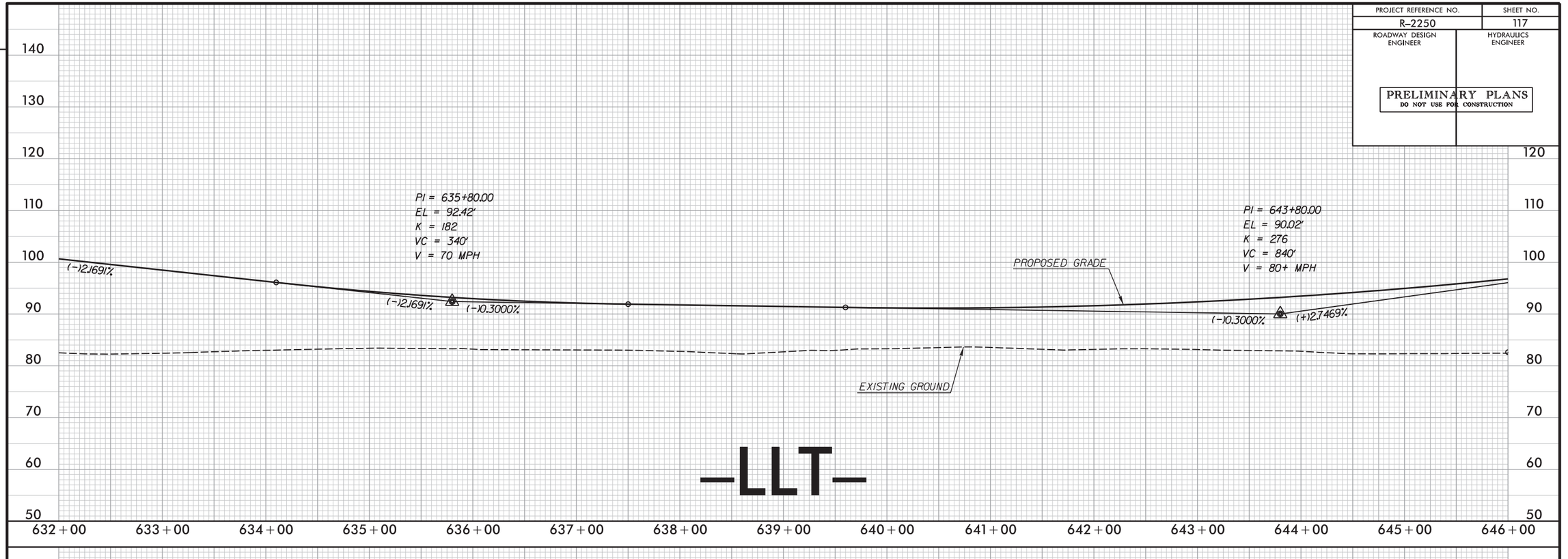
50 60 70 80 90 100 110 120 130 140

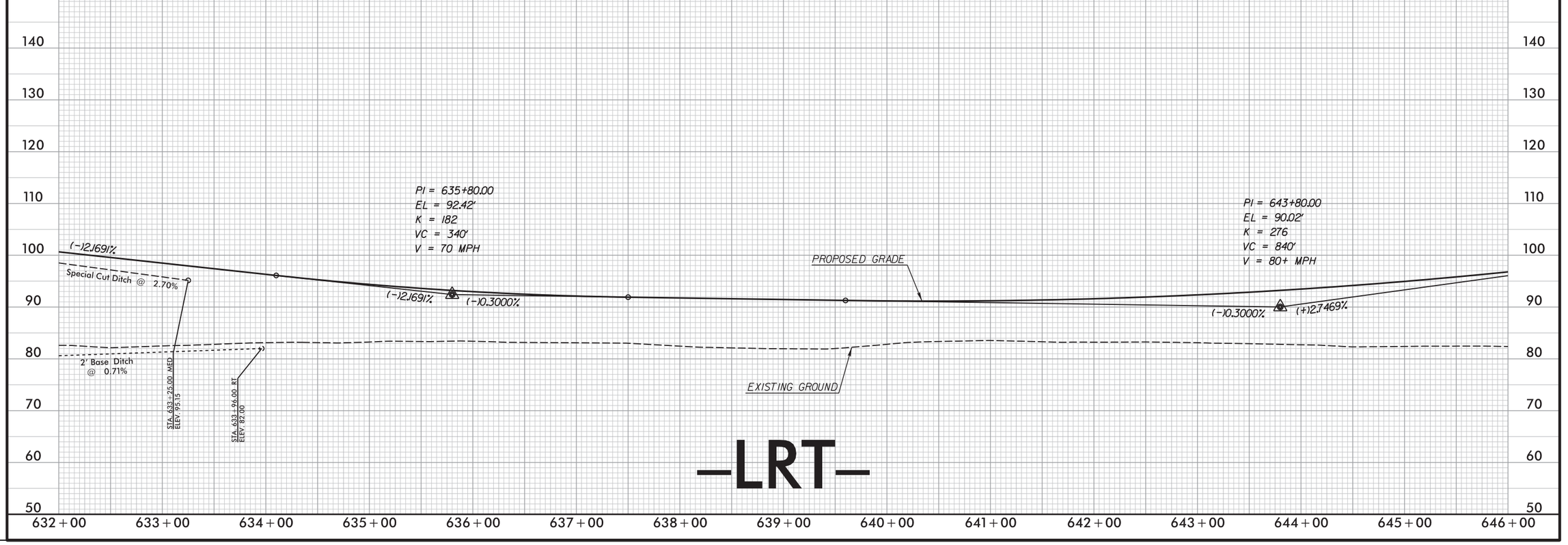
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	117
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



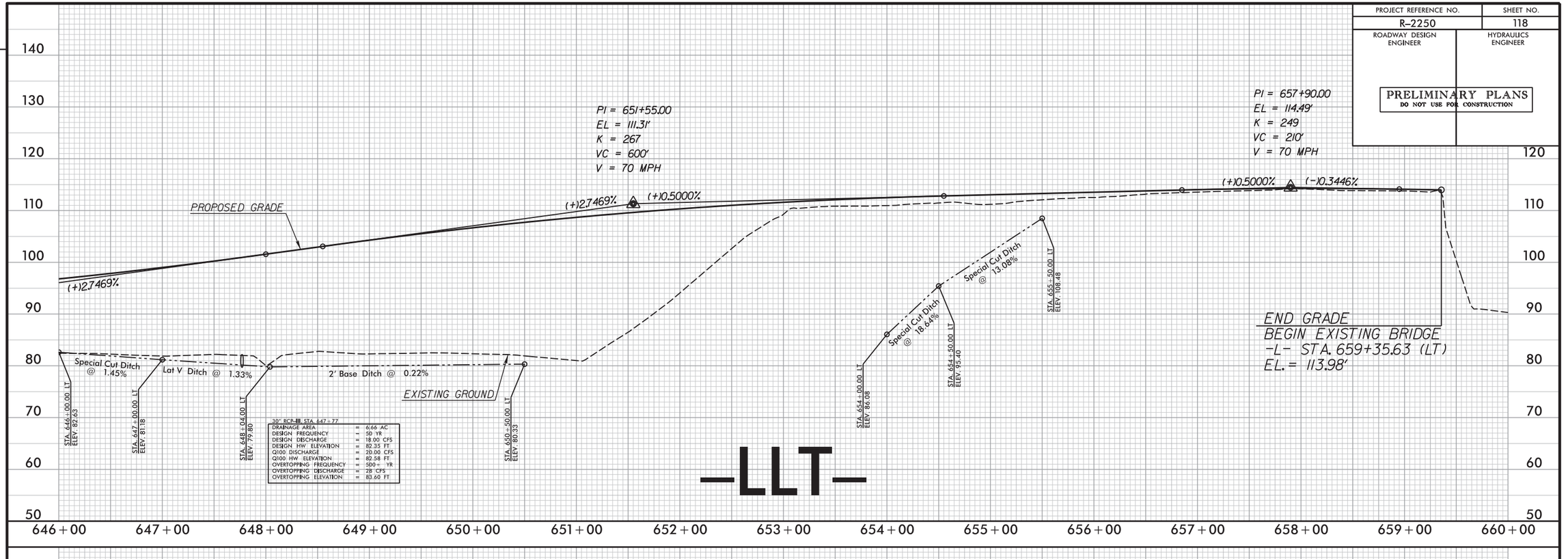


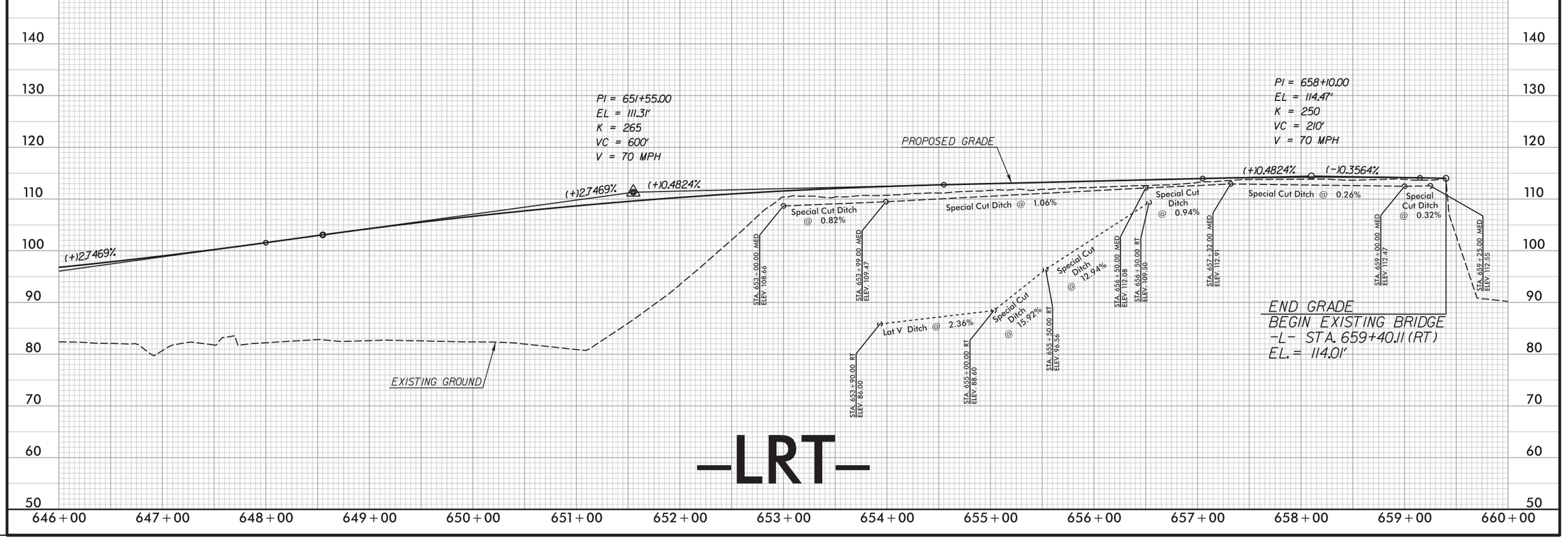
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	118
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



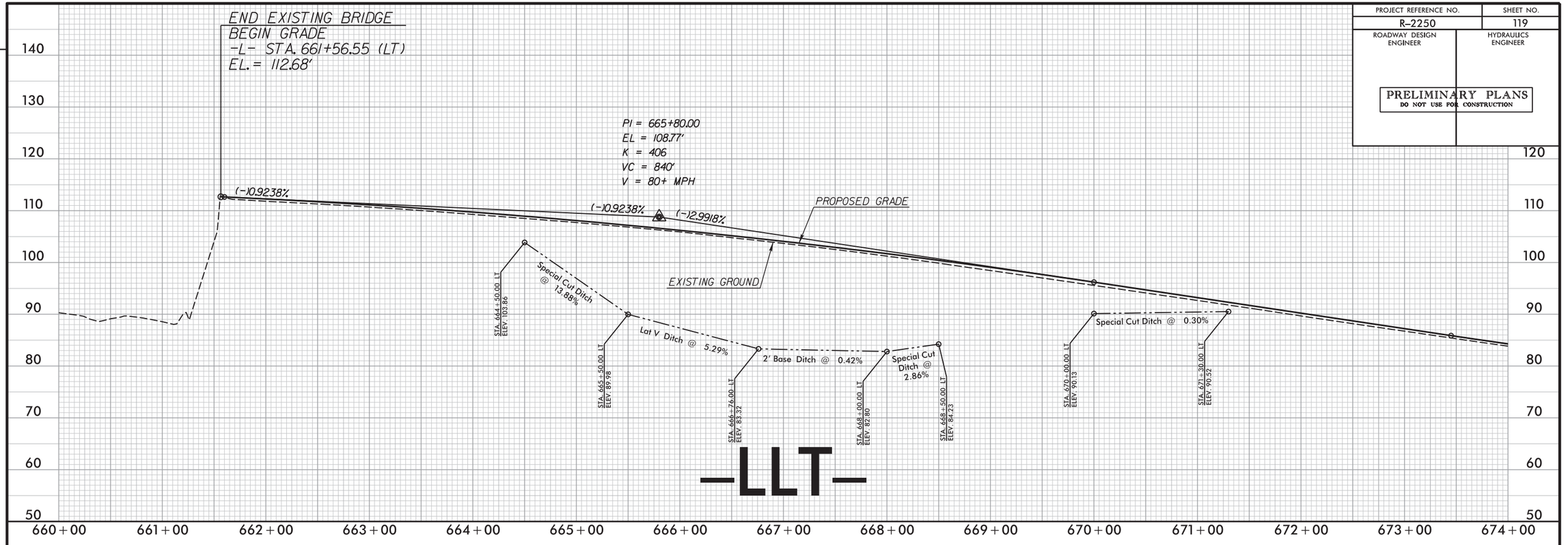


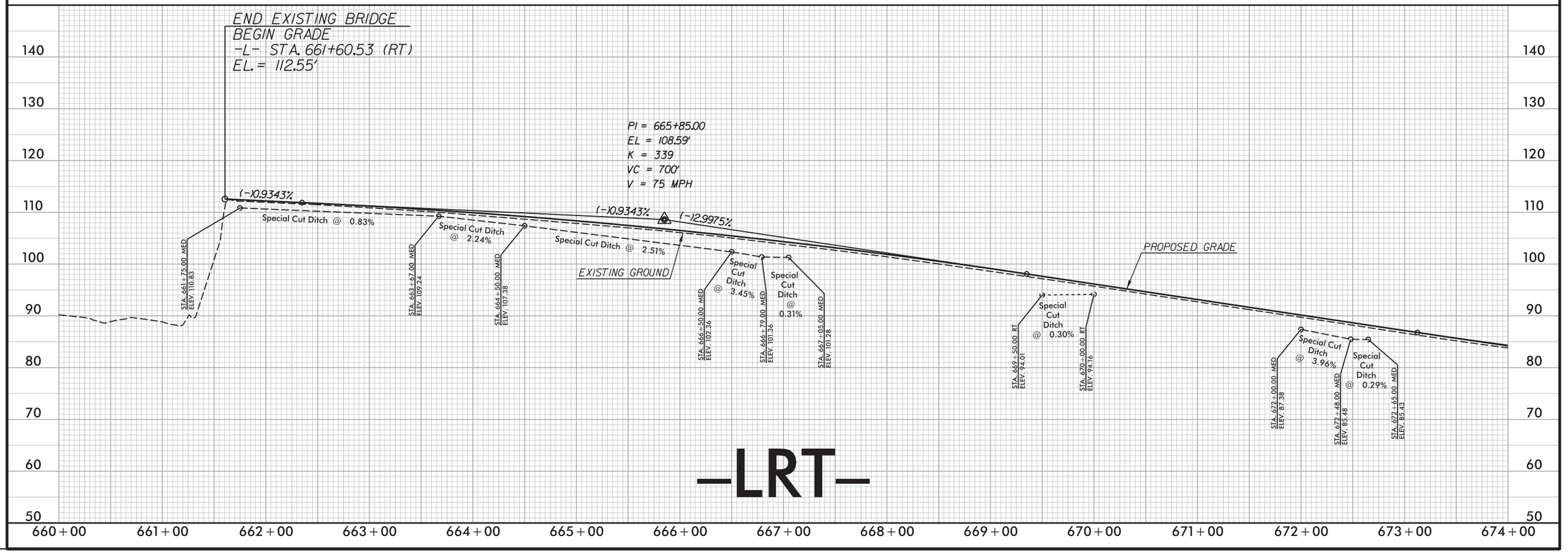
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	119
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



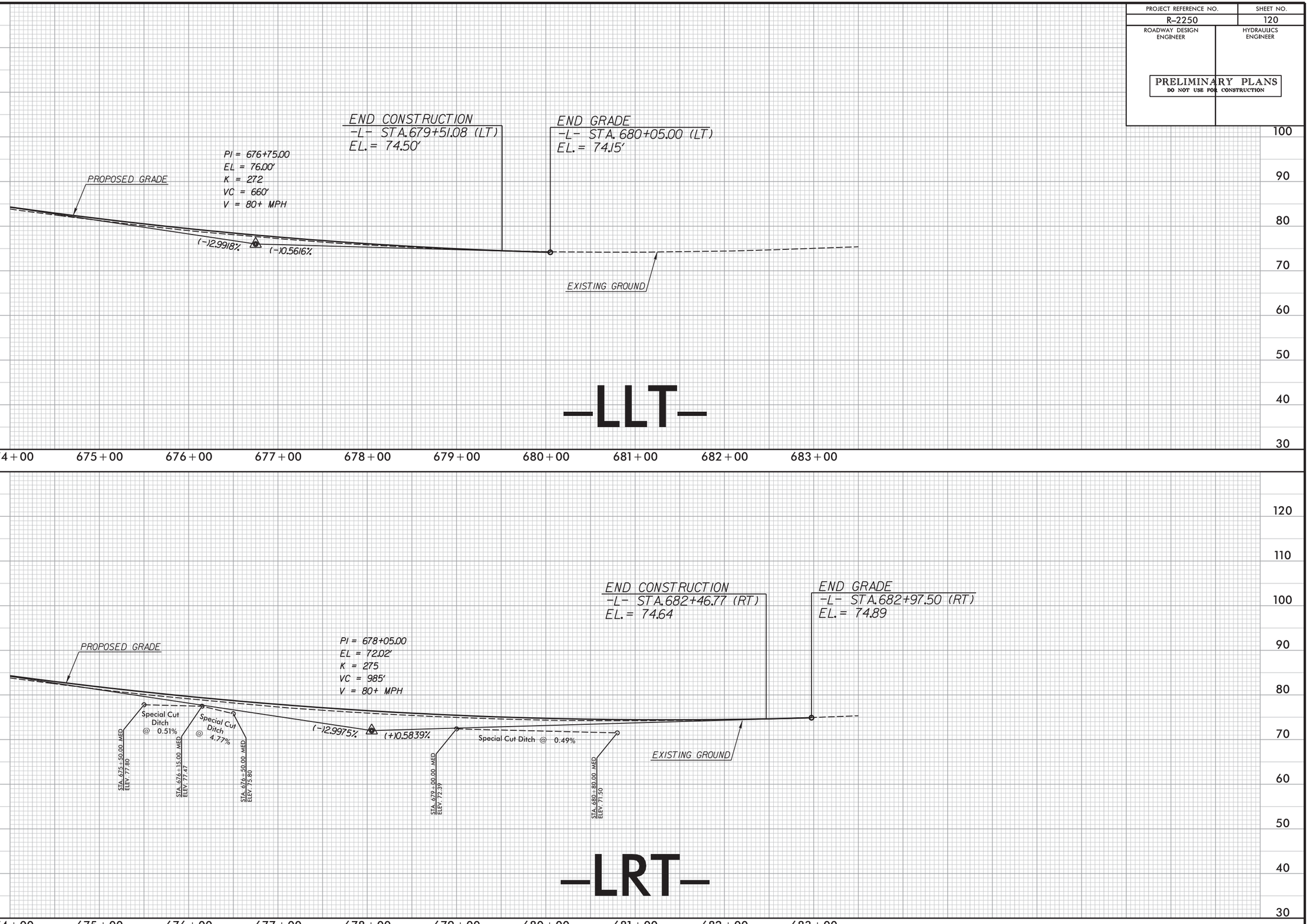


REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
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DATE: 1/25/2016
TIME: 2:41:49 PM

PROJECT REFERENCE NO.	SHEET NO.
R-2250	120
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

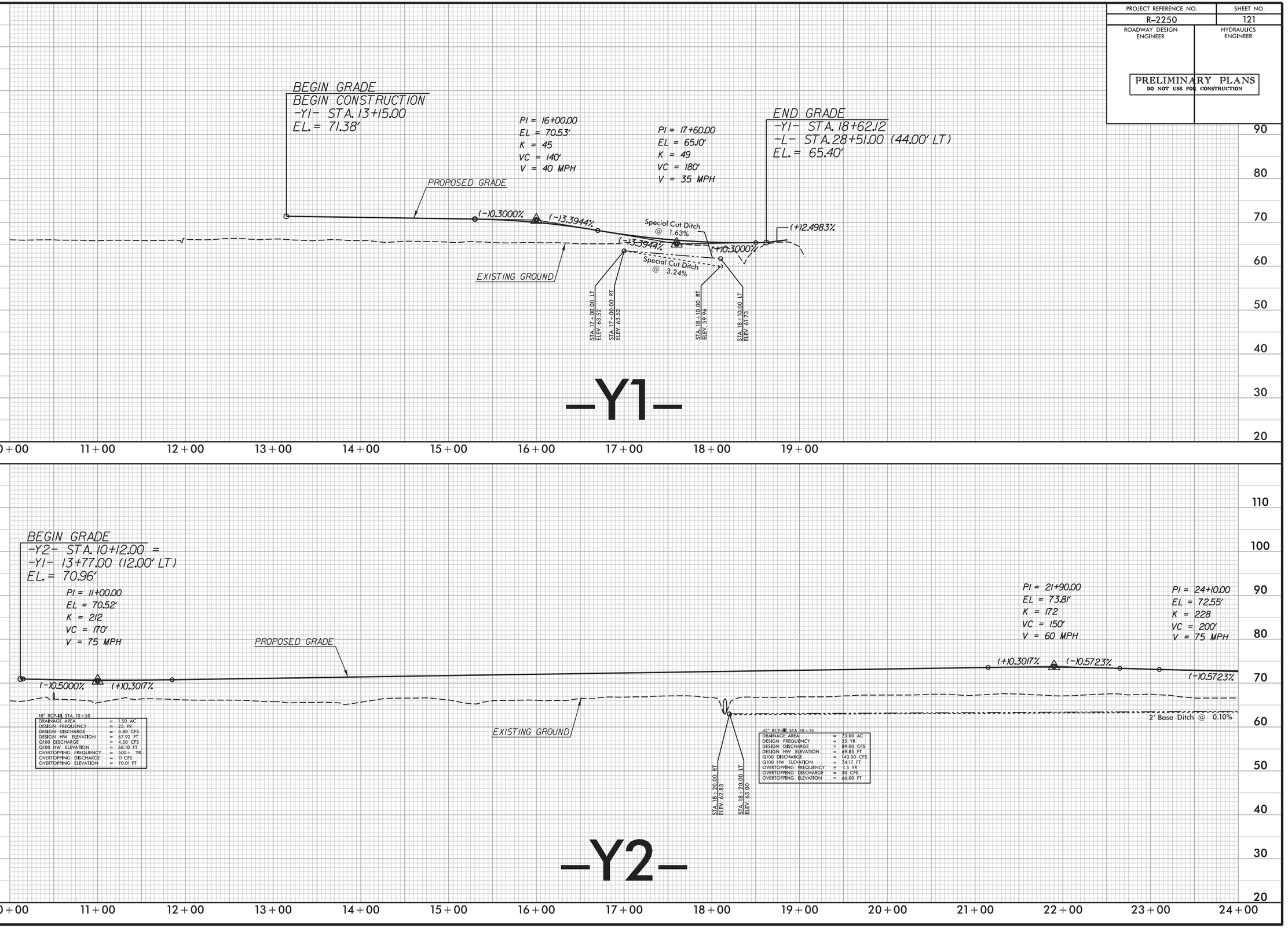


REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	121
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

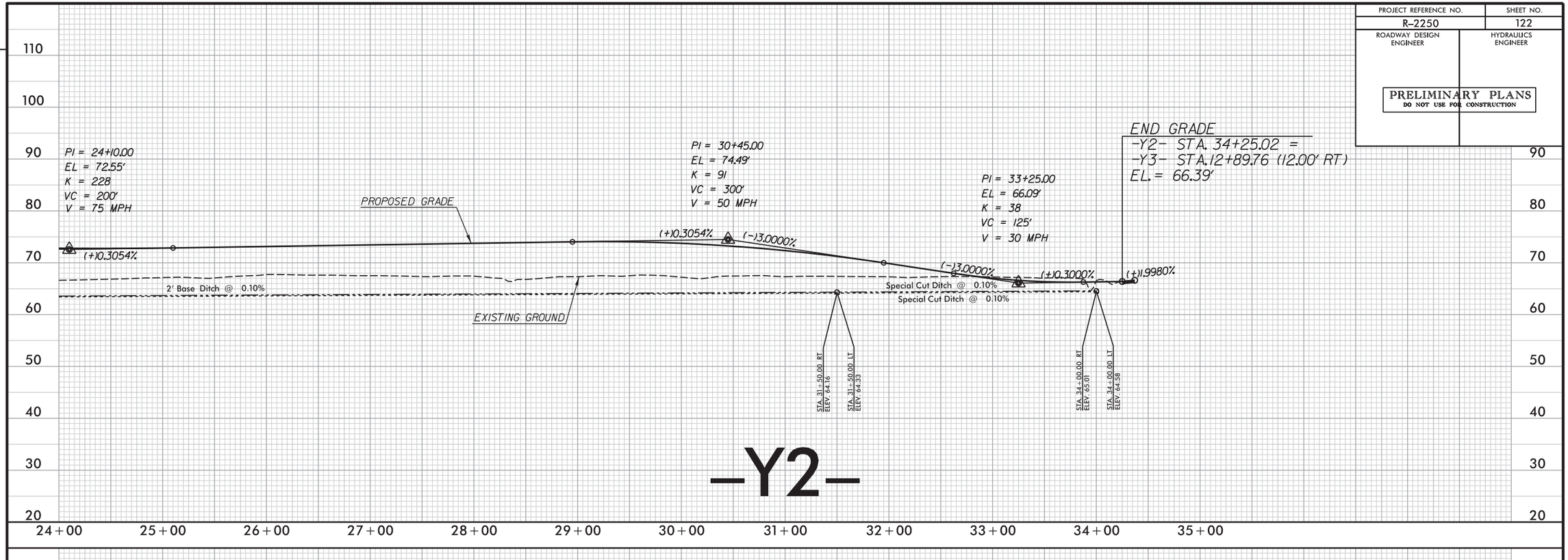


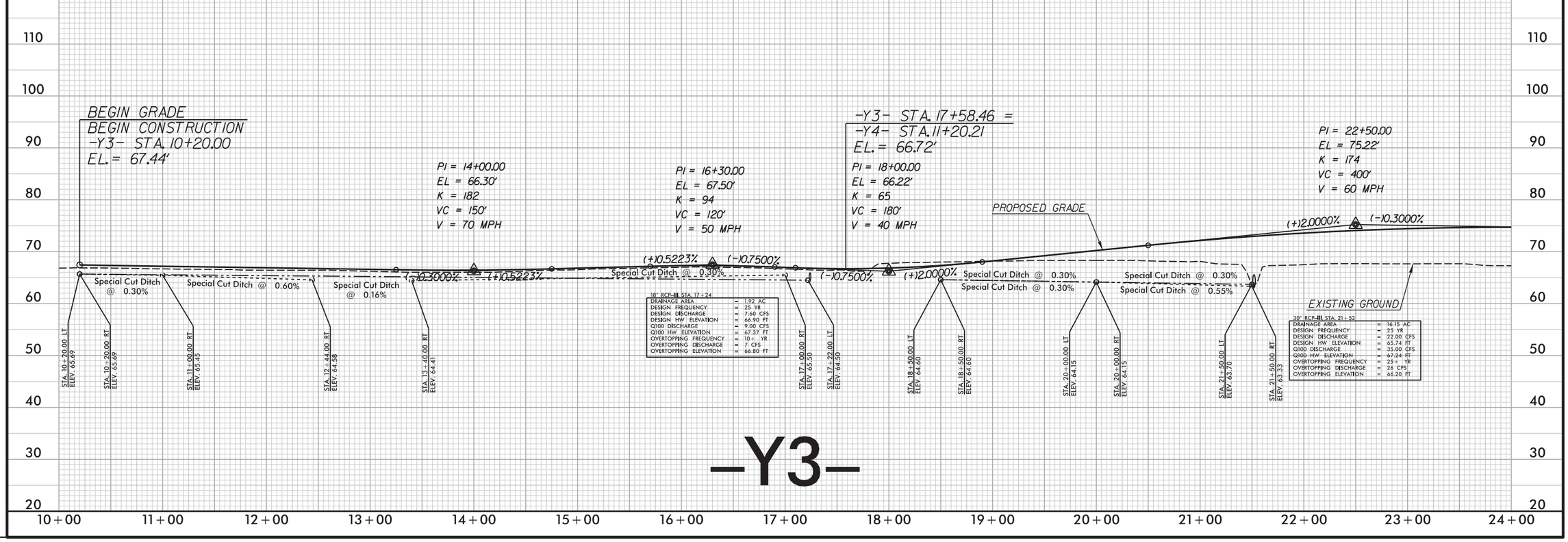
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	122
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	123
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 28+00.00
EL = 73.58'
K = 200
VC = 120'
V = 70 MPH

PI = 31+50.00
EL = 74.63'
K = 200
VC = 120'
V = 65 MPH

PI = 37+00.00
EL = 72.97'
K = 833
VC = 500'
V = 80+ MPH

PROPOSED GRADE

(-)0.3000% (+)0.3000% (+)0.3000% (-)0.3000% (-)0.3000% (+)0.3000%

Lat V Ditch @ 0.26%
2' Base Ditch @ 0.28%

EXISTING GROUND

STA. 25+00.00 RT
ELEV. 65.41
STA. 25+05.00 LT
ELEV. 65.41

STA. 28+54.00 RT
ELEV. 64.42
STA. 28+57.00 LT
ELEV. 64.50

30" RCP-III STA. 28+56

DRAINAGE AREA	=	21.53 AC
DESIGN FREQUENCY	=	25 YR
DESIGN DISCHARGE	=	28.00 CFS
DESIGN HW ELEVATION	=	68.19 FT
Q100 DISCHARGE	=	45.00 CFS
Q100 HW ELEVATION	=	70.43 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	103 CFS
OVERTOPPING ELEVATION	=	72.90 FT

18" RCP-III STA. 33+92

DRAINAGE AREA	=	1.76 AC
DESIGN FREQUENCY	=	25 YR
DESIGN DISCHARGE	=	3.80 CFS
DESIGN HW ELEVATION	=	66.48 FT
Q100 DISCHARGE	=	4.50 CFS
Q100 HW ELEVATION	=	66.66 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	20 CFS
OVERTOPPING ELEVATION	=	72.80 FT

STA. 37+45.00 LT
ELEV. 64.75

-Y3-

END GRADE
END CONSTRUCTION
-Y3- STA. 42+94.70
EL. = 73.26'

PI = 40+45.00
EL = 74.01'
K = 200
VC = 120'
V = 65 MPH

PROPOSED GRADE

(+)0.3000% (-)0.3000%

2' Base Ditch @ 0.33%

EXISTING GROUND

STA. 42+05.00 LT
ELEV. 63.25

42" RCP-III STA. 43+02

DRAINAGE AREA	=	62.17 AC
DESIGN FREQUENCY	=	25 YR
DESIGN DISCHARGE	=	77.00 CFS
DESIGN HW ELEVATION	=	67.95 FT
Q100 DISCHARGE	=	120.00 CFS
Q100 HW ELEVATION	=	70.89 FT
OVERTOPPING FREQUENCY	=	100+ YR
OVERTOPPING DISCHARGE	=	139 CFS
OVERTOPPING ELEVATION	=	72.39 FT

-Y3-

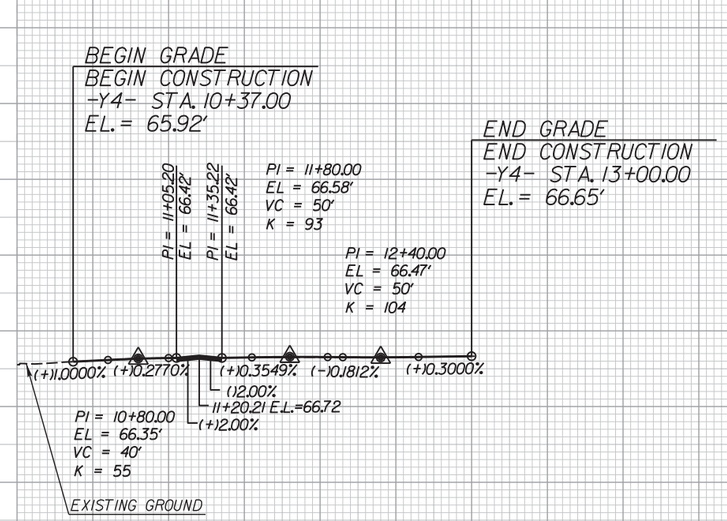
24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00 37+00 38+00
38+00 39+00 40+00 41+00 42+00 43+00 44+00
110 100 90 80 70 60 50 40 30 20

REVISIONS

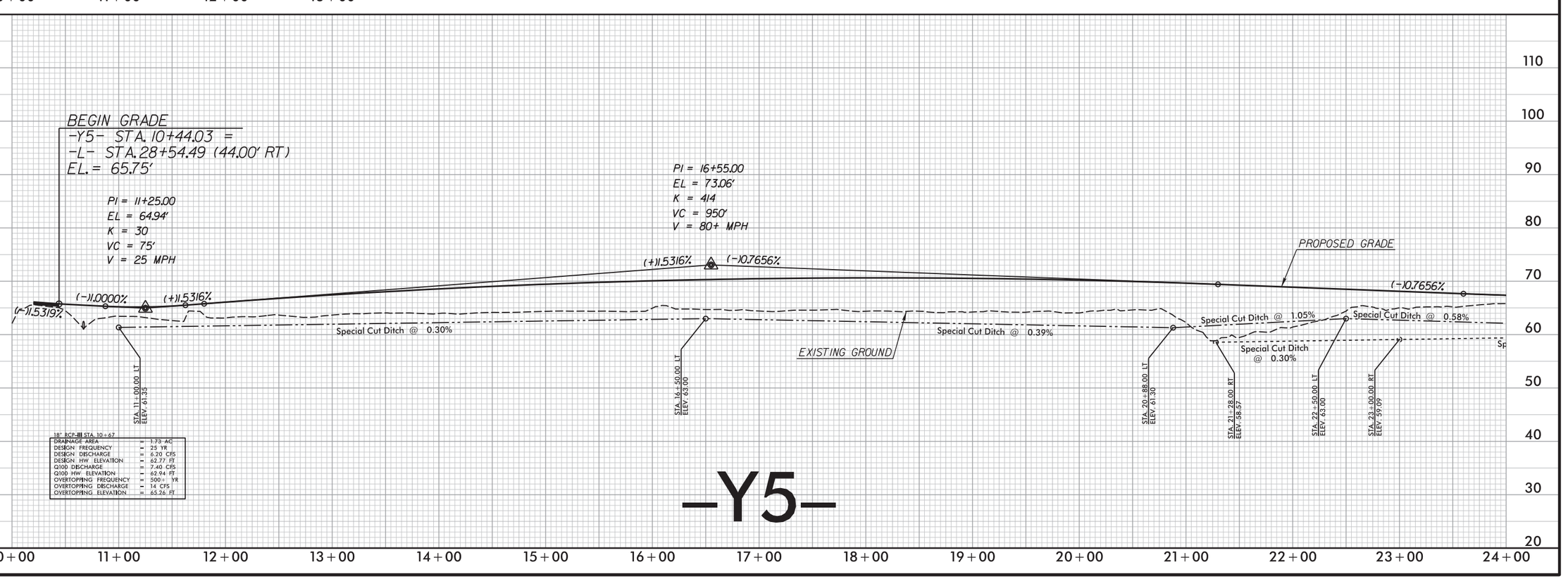
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	124
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



-Y4-



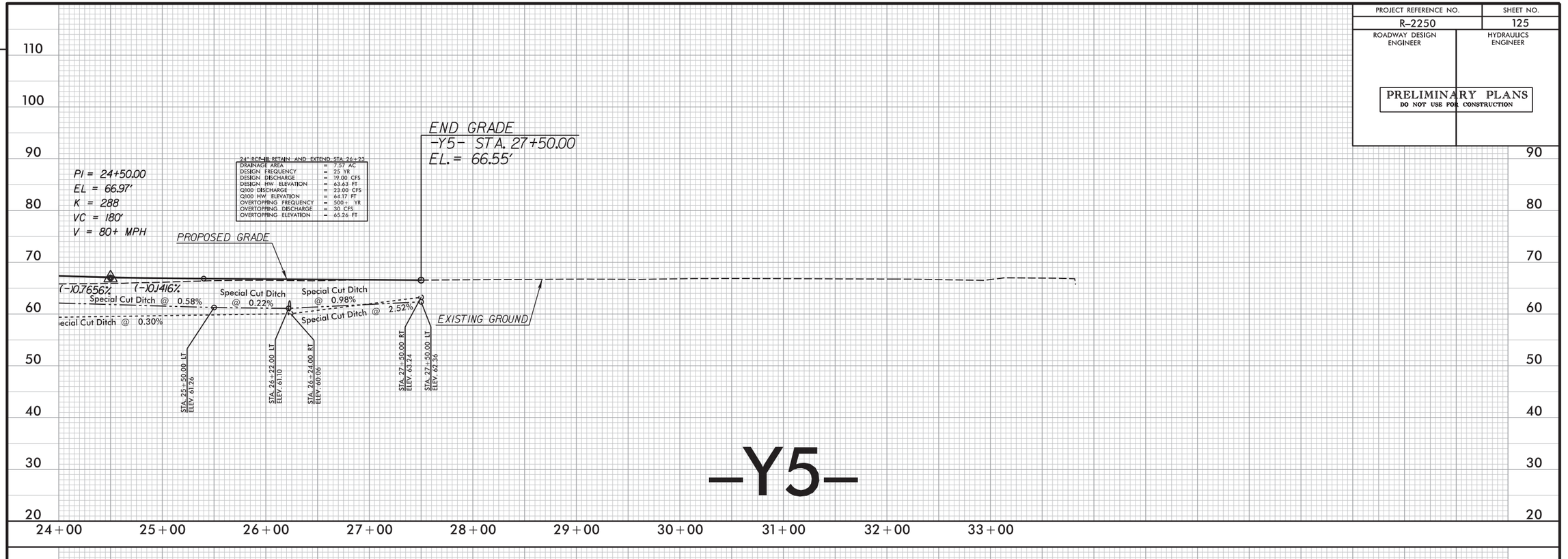
-Y5-

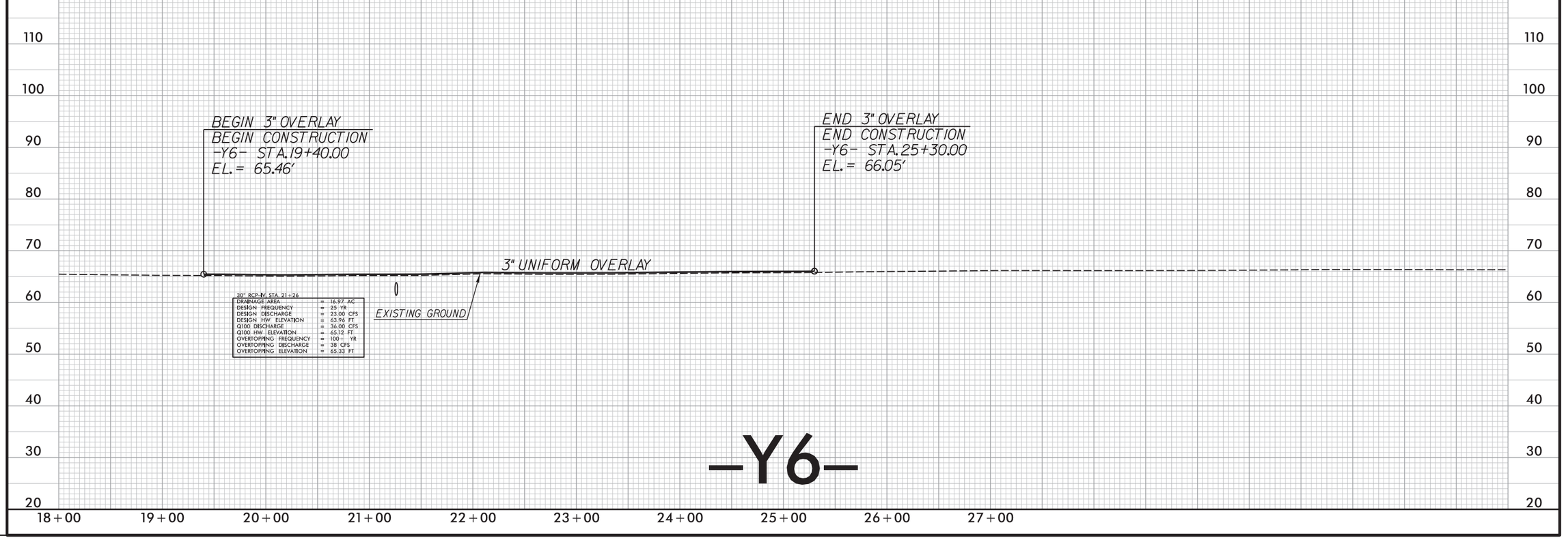
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	125
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



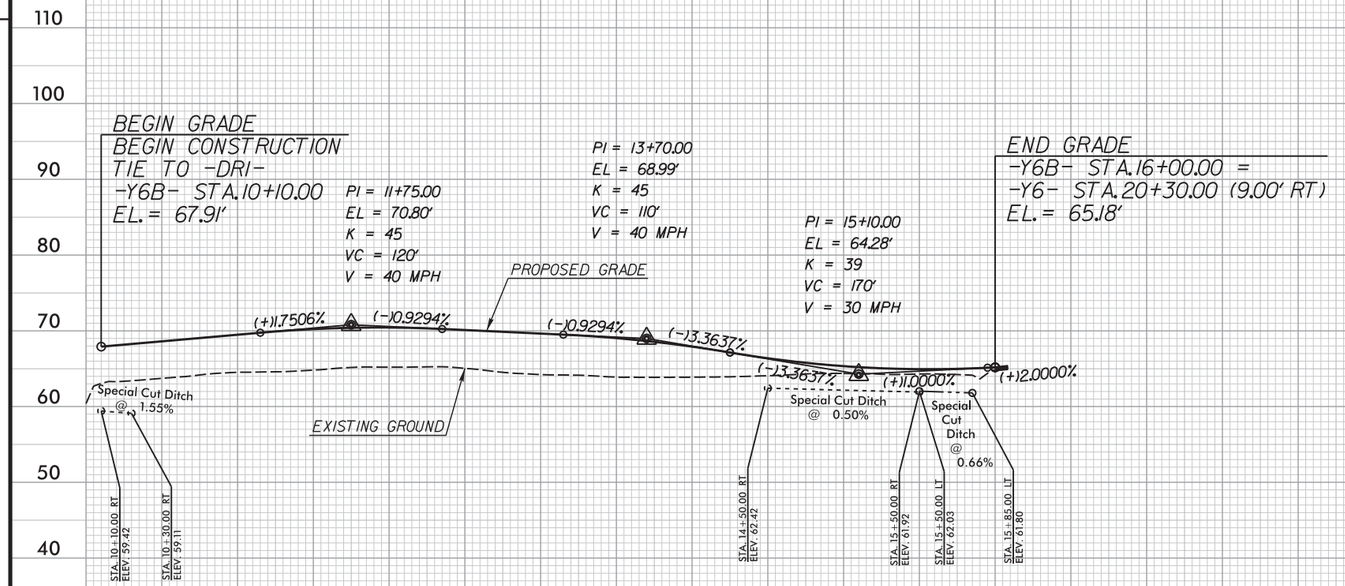


REVISIONS

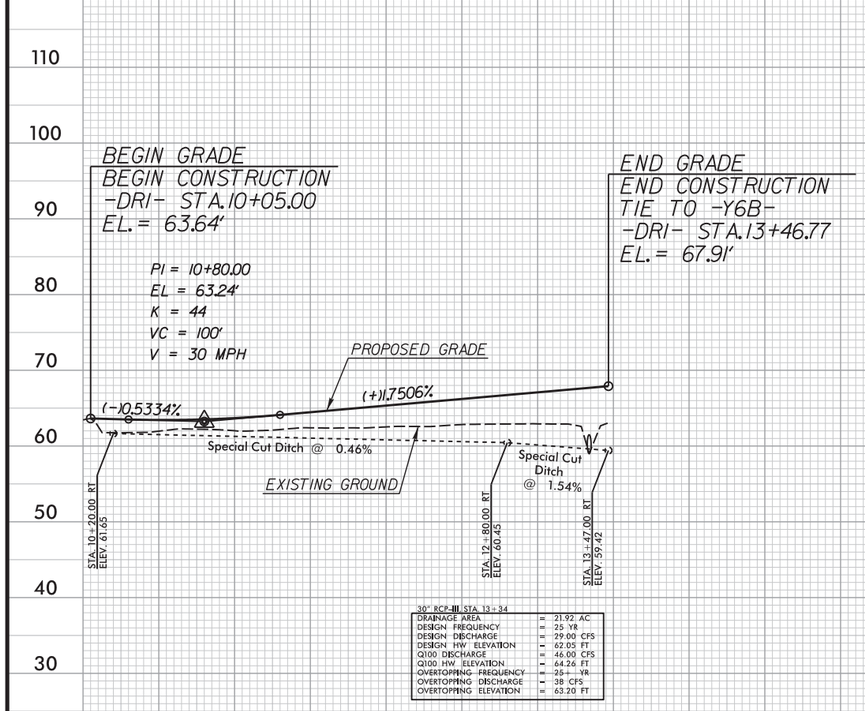
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	126
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



-Y6B-



-DR1-

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: dwalnwri DATE: 1/25/2016 TIME: 2:42:50 PM
FILE: North_Carolina_Dept_of_Transportation\R-2250A_B_C_Greenville_Southwest_Bypass_DB\06.00_Project_Design\R-2250_NCDOT_File_Structure\Roadway\Proj\R2250_RDY_PFL-126.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2250	127
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BEGIN GRADE
-FLYBY7- STA.10+00.00 =
-L- STA.67+49.62 (59.00' LT)
EL.= 67.24'

PI = 11+00.00
EL = 67.36'
K = 191
VC = 180'
V = 60 MPH

PI = 14+30.00
EL = 64.65'
K = 98
VC = 310'
V = 50 MPH

PI = 18+50.00
EL = 74.49'
K = 95
VC = 250'
V = 50 MPH

PI = 20+50.00
EL = 73.89'
K = 162
VC = 150'
V = 65 MPH

PI = 23+70.00
EL = 75.88'
K = 160
VC = 150'
V = 60 MPH

(+)0.1200% (-)0.8216% (-)0.8216% (+)2.3416% (+)2.3416% (-)0.3000% (-)0.3000% (+)0.6235% (+)0.6235%

Special Cut Ditch @ 0.20%

Special Cut Ditch @ 0.67%

EXISTING GROUND

STA. 10+00.00 LT
ELEV. 61.85

STA. 14+03.00 LT
ELEV. 62.66

STA. 15+90.00 LT
ELEV. 63.92

24" RCP-III STA 19+97

DRAINAGE AREA	=	2.88 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	12.00 CFS
DESIGN HW ELEVATION	=	66.58 FT
Q100 DISCHARGE	=	13.00 CFS
Q100 HW ELEVATION	=	66.70 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	42 CFS
OVERTOPPING ELEVATION	=	73.71 FT

-FLYBY7-

PI = 34+55.00
EL = 107.86'
K = 85
VC = 830'
V = 50 MPH

BEGIN BRIDGE
-FLYBY7- STA.33+31.58

END BRIDGE
-FLYBY7- STA.35+38.10

PI = 27+70.00
EL = 74.62'
K = 97
VC = 500'
V = 50 MPH

(-)0.3145% (-)0.3145% (+)4.8518% (+)4.8518% (-)4.9232%

-L- GREENVILLE BYPASS

EXISTING GROUND

Lat V Ditch @ 0.89%

4' Base Ditch @ 0.34%

4' Base Ditch @ 0.34%

2' Base Ditch @ 0.20%

STA. 25+75.00 LT
ELEV. 62.90

STA. 26+50.00 RT
ELEV. 66.18

STA. 32+05.00 LT
ELEV. 60.76

STA. 32+20.00 RT
ELEV. 61.09

STA. 33+75.00 LT
ELEV. 60.18

STA. 34+70.00 RT
ELEV. 66.49

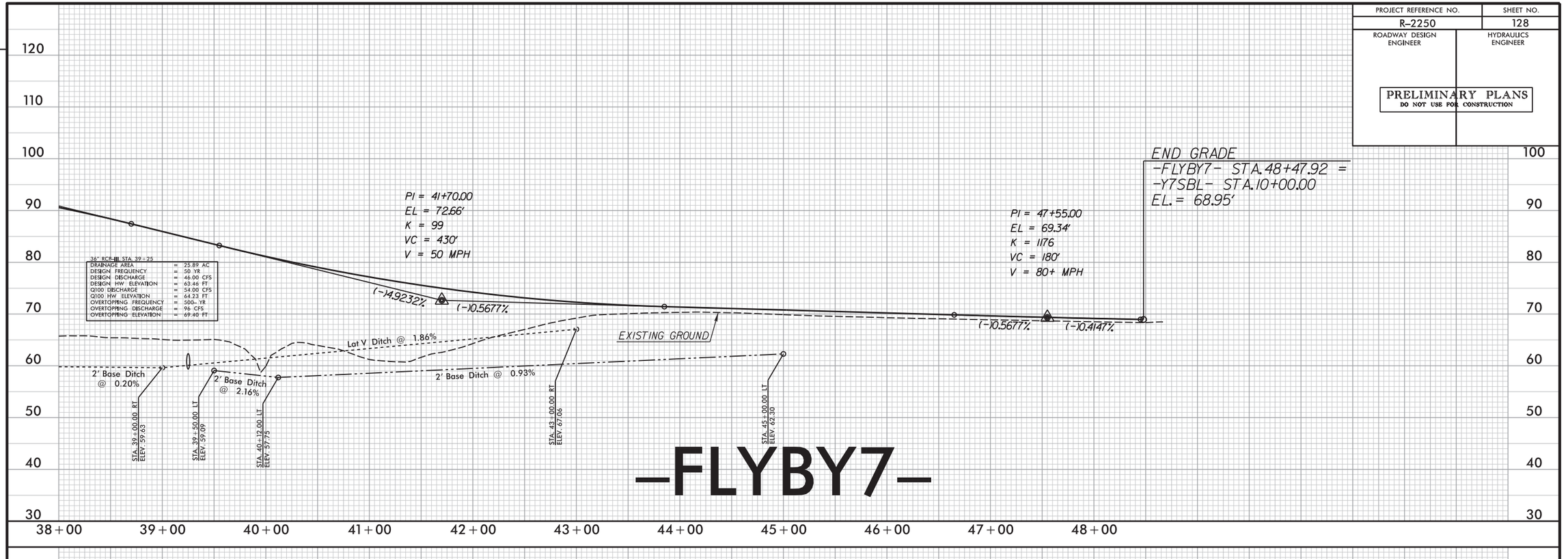
-FLYBY7-

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	128
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
R-2250	128A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BEGIN GRADE
-Y7RPC- STA. 14+14.00 =
-L- STA. 75+61.90 (59.00' RT)
EL. = 70.60'

PI = 15+04.00
EL = 70.59'
K = 250
VC = 180'
V = 70 MPH

PI = 16+84.00
EL = 69.25'
K = 247
VC = 180'
V = 80+ MPH

PI = 18+49.00
EL = 69.24'
K = 405
VC = 150'
V = 80+ MPH

PI = 19+99.00
EL = 68.67'
K = 321
VC = 150'
V = 80+ MPH

PI = 24+00.00
EL = 69.02'
K = 716
VC = 150'
V = 80+ MPH

PI = 25+50.00
EL = 68.84'
K = 503
VC = 150'
V = 80+ MPH

(-)0.0196% (-)0.7400% (-)0.7400% (-)0.0100% (-)0.0100% (-)0.3800% (-)0.3800% (+)0.0880% (+)0.0880% (-)0.1215% (-)0.1215% (+)0.1766% (+)0.1766%

PROPOSED GRADE

Special Cut Ditch @ 0.34%

2' Base Ditch @ 0.14%

EXISTING GROUND

STA. 18+50.00 LT
ELEV. 67.33

STA. 26+04.00 RT
ELEV. 61.30

STA. 26+75.00 RT
ELEV. 61.19

-Y7RPC-

110 100 90 80 70 60 50 40 30 20

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 26+00 27+00

PI = 27+25.00
EL = 69.15'
K = 629
VC = 200'
V = 80+ MPH

PI = 33+10.00
EL = 68.32'
K = 420
VC = 150'
V = 80+ MPH

PI = 34+60.00
EL = 68.64'
K = 277
VC = 150'
V = 70 MPH

PI = 36+80.00
EL = 67.93'
K = 183
VC = 150'
V = 70 MPH

PI = 38+55.00
EL = 68.80'
K = 331
VC = 200'
V = 75 MPH

END GRADE
-Y7RPC- STA. 40+78.31 =
-Y7NBL- STA. 10+00.00
EL. = 68.56'

(-)0.1413% (-)0.1413% (+)0.2160% (+)0.2160% (-)0.3246% (-)0.3246% (+)0.4967% (+)0.4967% (-)0.1071%

PROPOSED GRADE

Special Cut Ditch @ 0.34%

4' Base Ditch @ 0.15%

EXISTING GROUND

Lateral 'V' Ditch @ 1.28%

Special Cut Ditch @ 0.09%

STA. 29+04.00 RT
ELEV. 60.83

STA. 31+32.00 LT
ELEV. 60.02

60" RCP-III, RETAIN AND EXTEND, STA. 31+72

DRAINAGE AREA	=	233.10 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	230.00 CFS
DESIGN HW ELEVATION	=	68.85 FT
Q100 DISCHARGE	=	260.00 CFS
Q100 HW ELEVATION	=	70.55 FT
OVERTOPPING FREQUENCY	=	25+ YR
OVERTOPPING DISCHARGE	=	215 CFS
OVERTOPPING ELEVATION	=	68.07 Ft

STA. 33+89.00 RT
ELEV. 60.65

STA. 35+25.00 LT
ELEV. 68.18

STA. 38+30.00 RT
ELEV. 61.07

-Y7RPC-

110 100 90 80 70 60 50 40 30 20

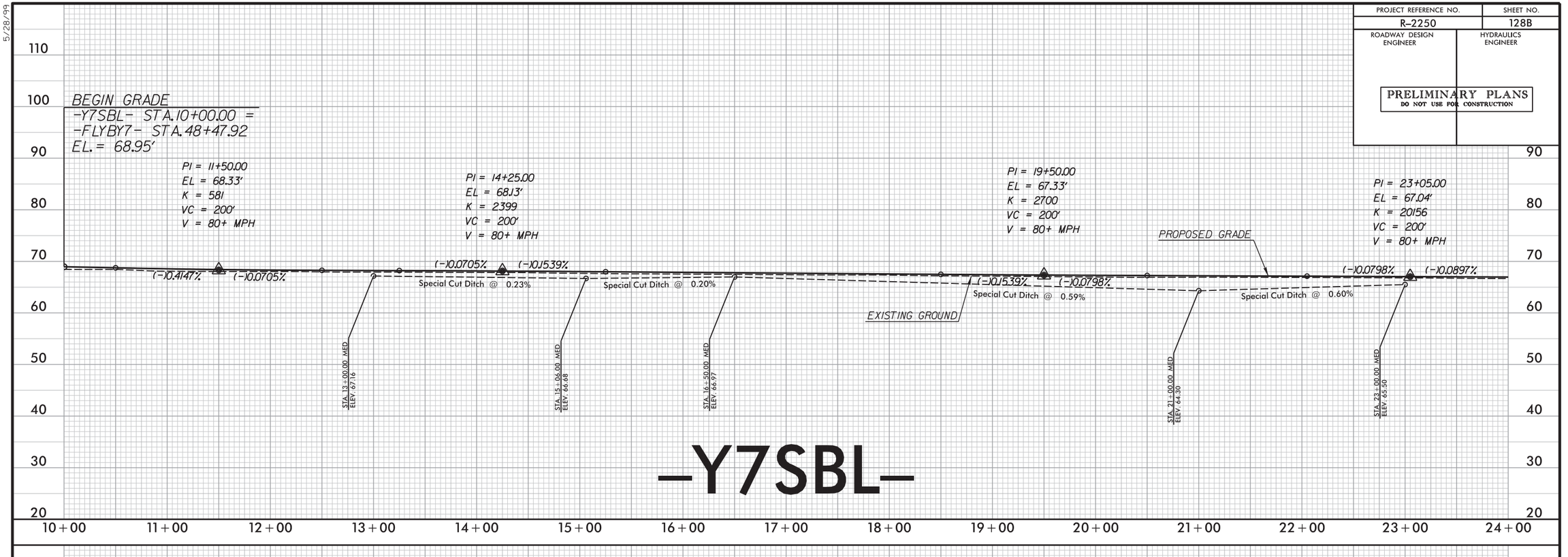
27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00 37+00 38+00 39+00 40+00

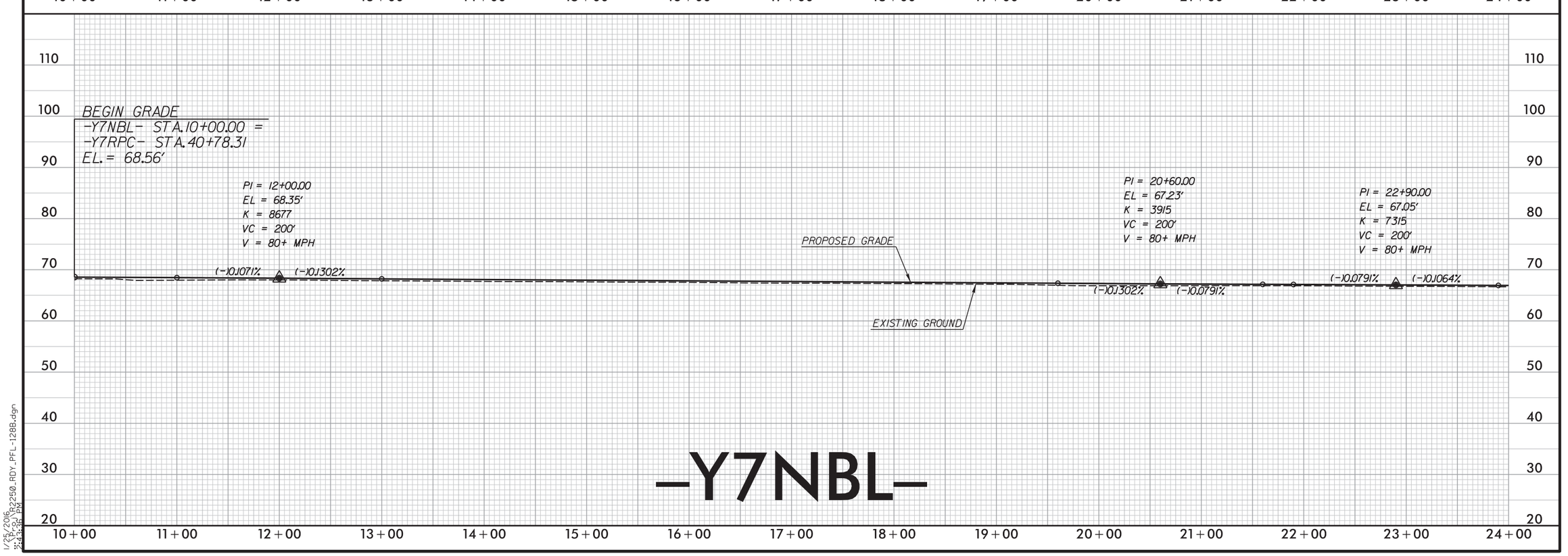
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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
R-2250	128B
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



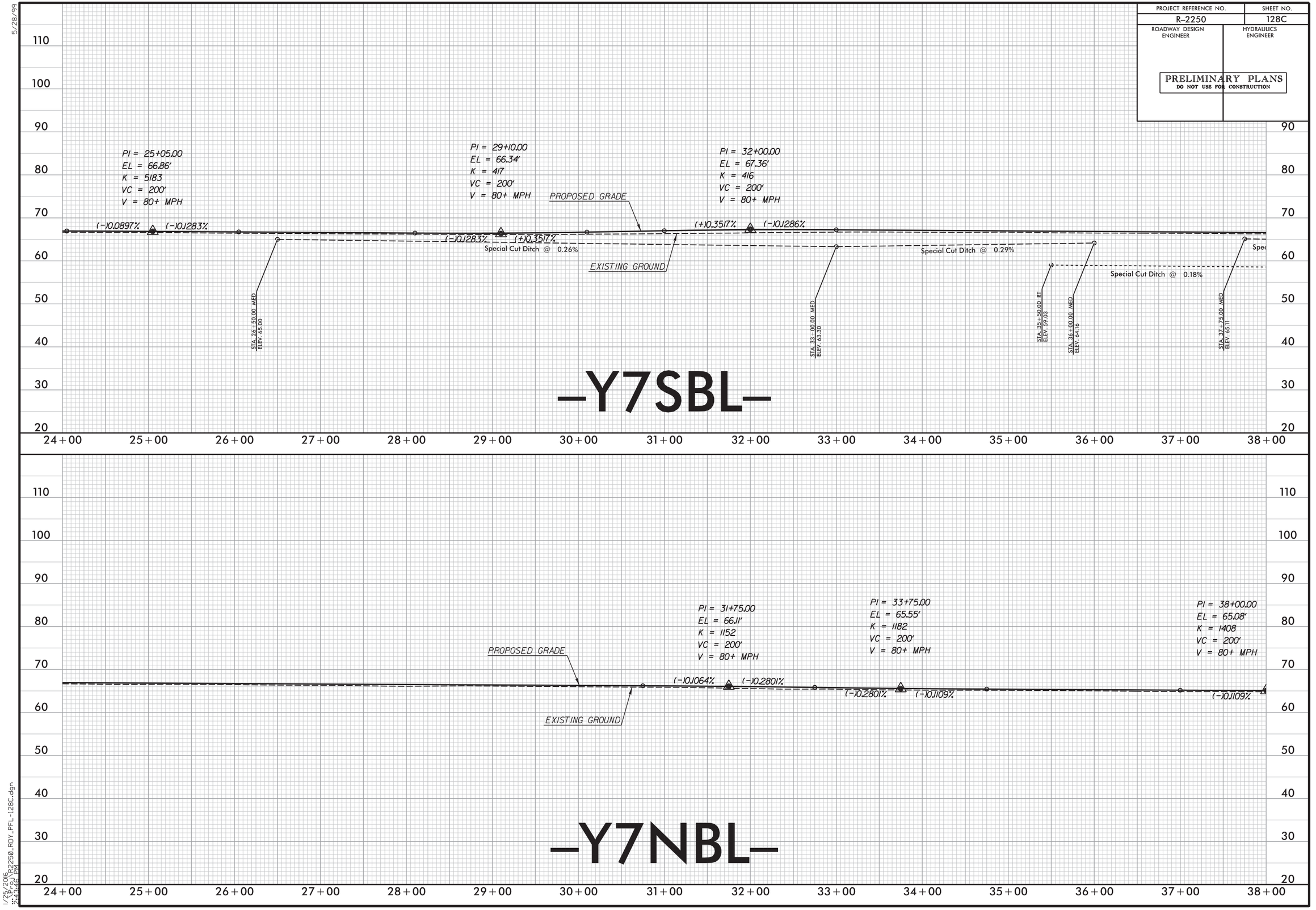


1/25/2016
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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
R-2250	128C
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



-Y7SBL-

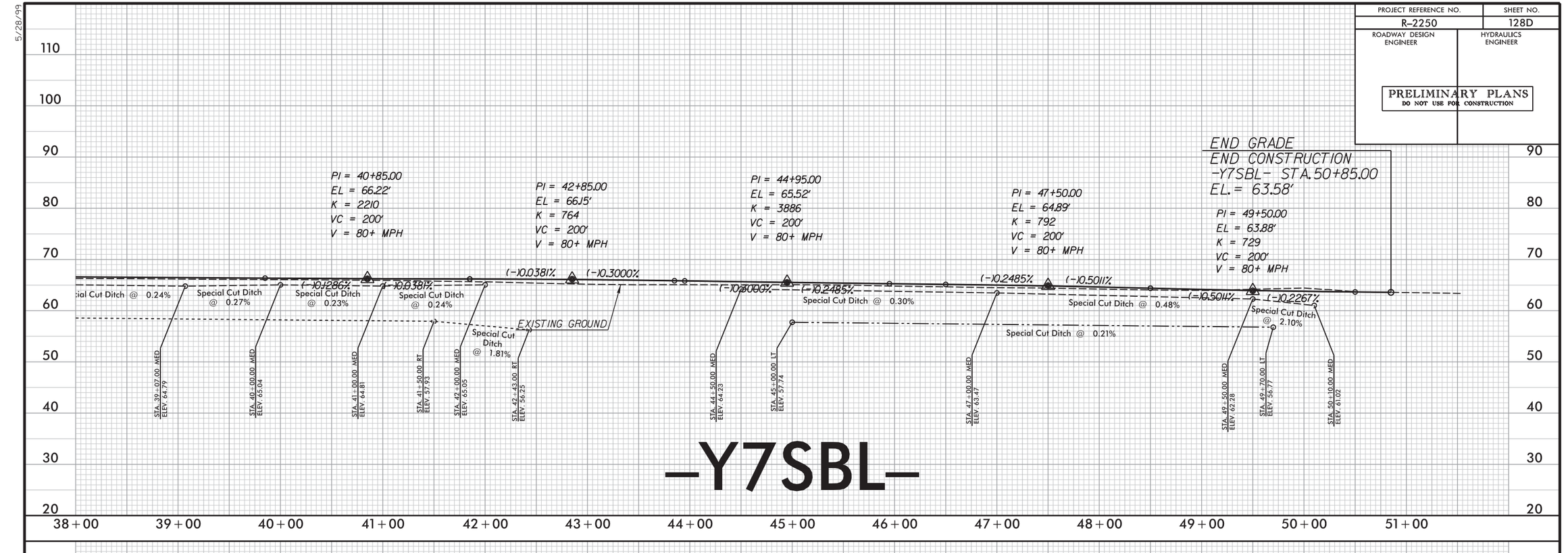
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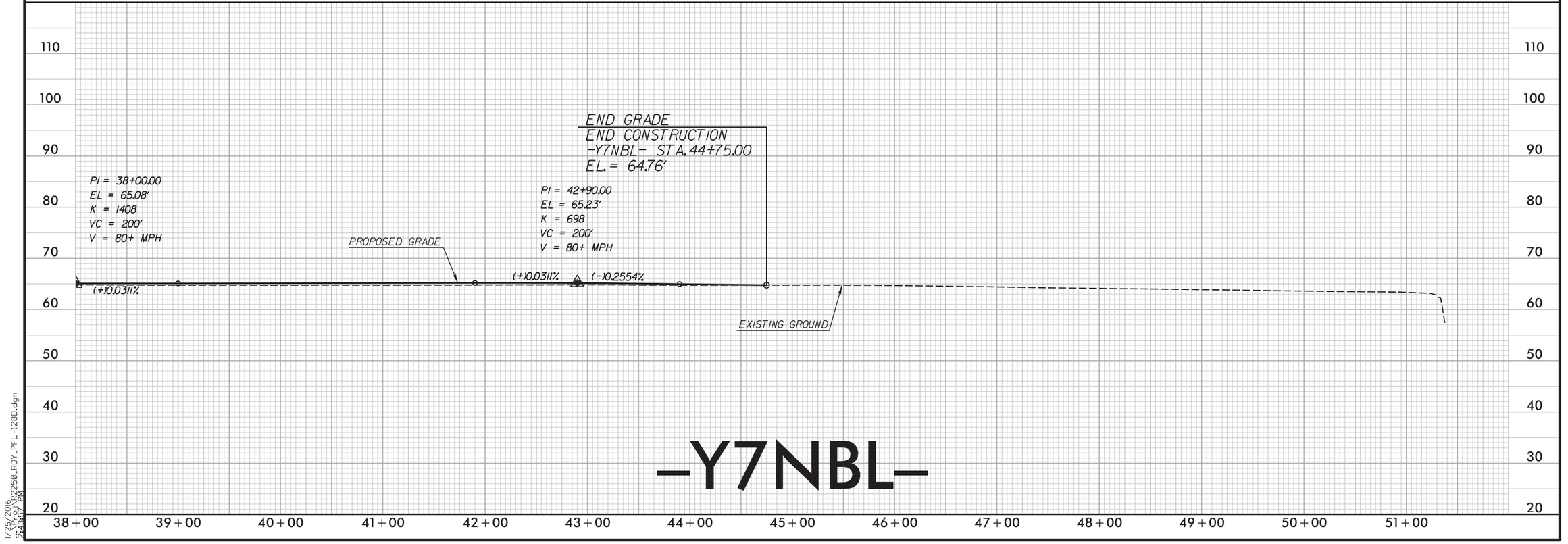
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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
R-2250	128D
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

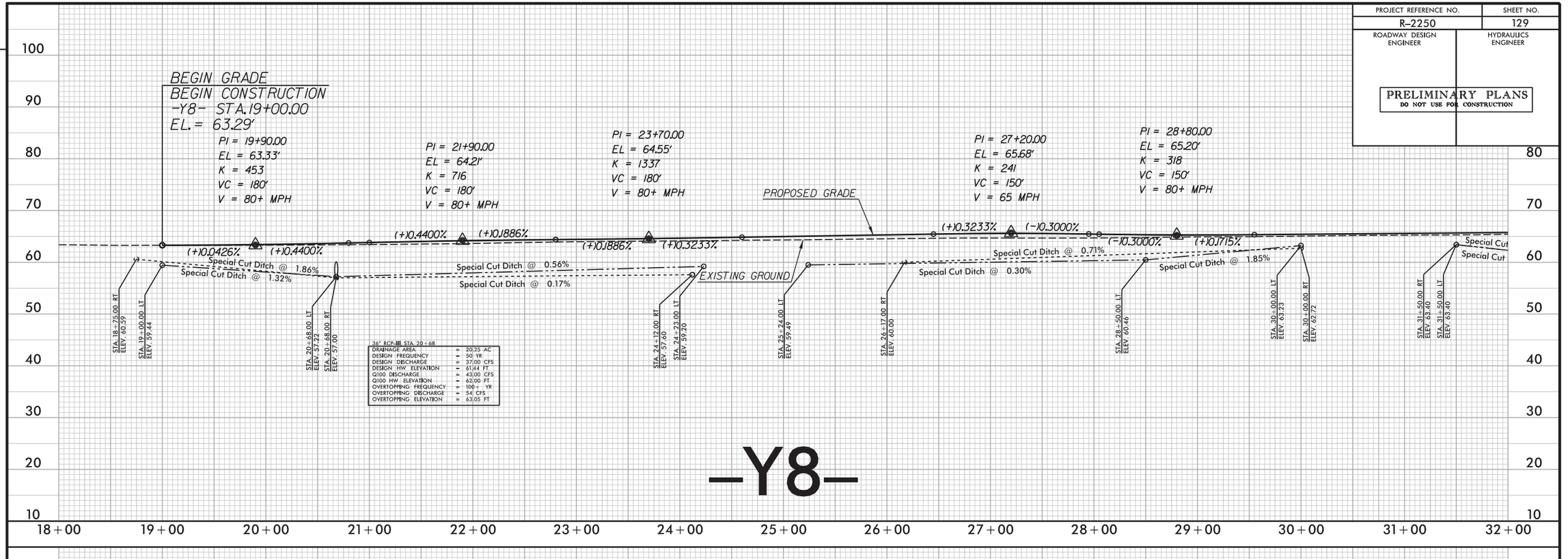


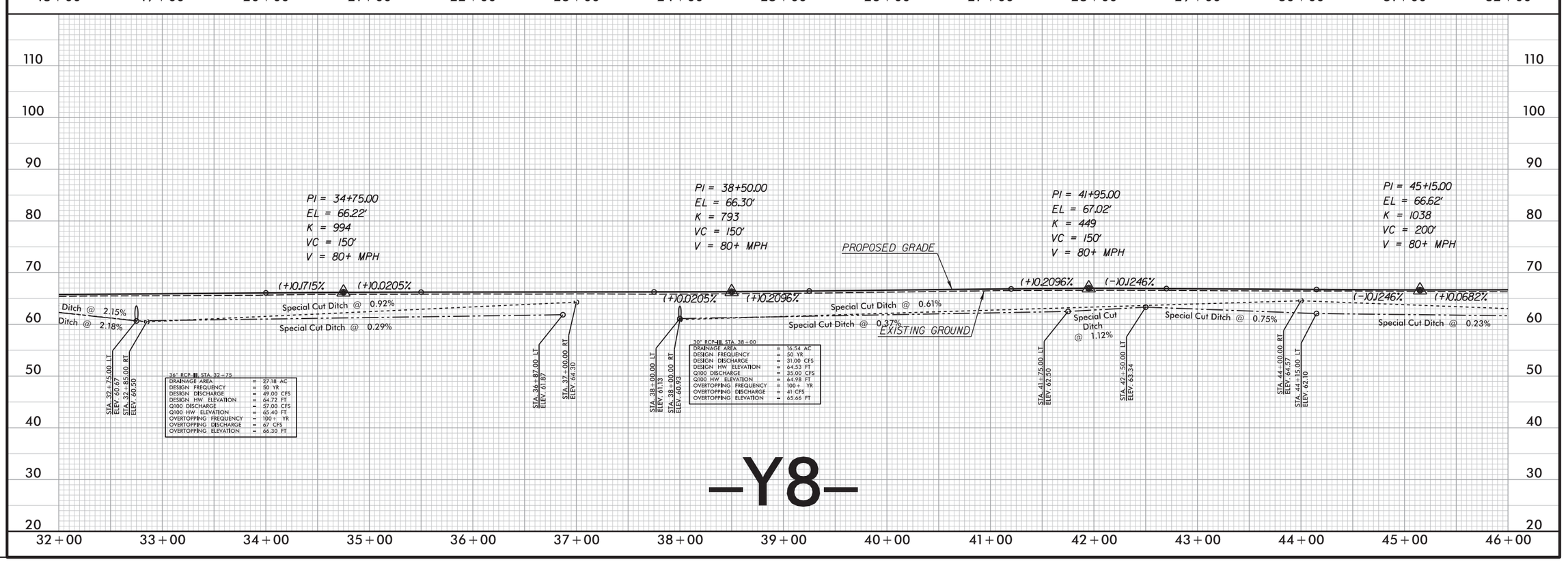


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PROJECT REFERENCE NO.	SHEET NO.
R-2250	129
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



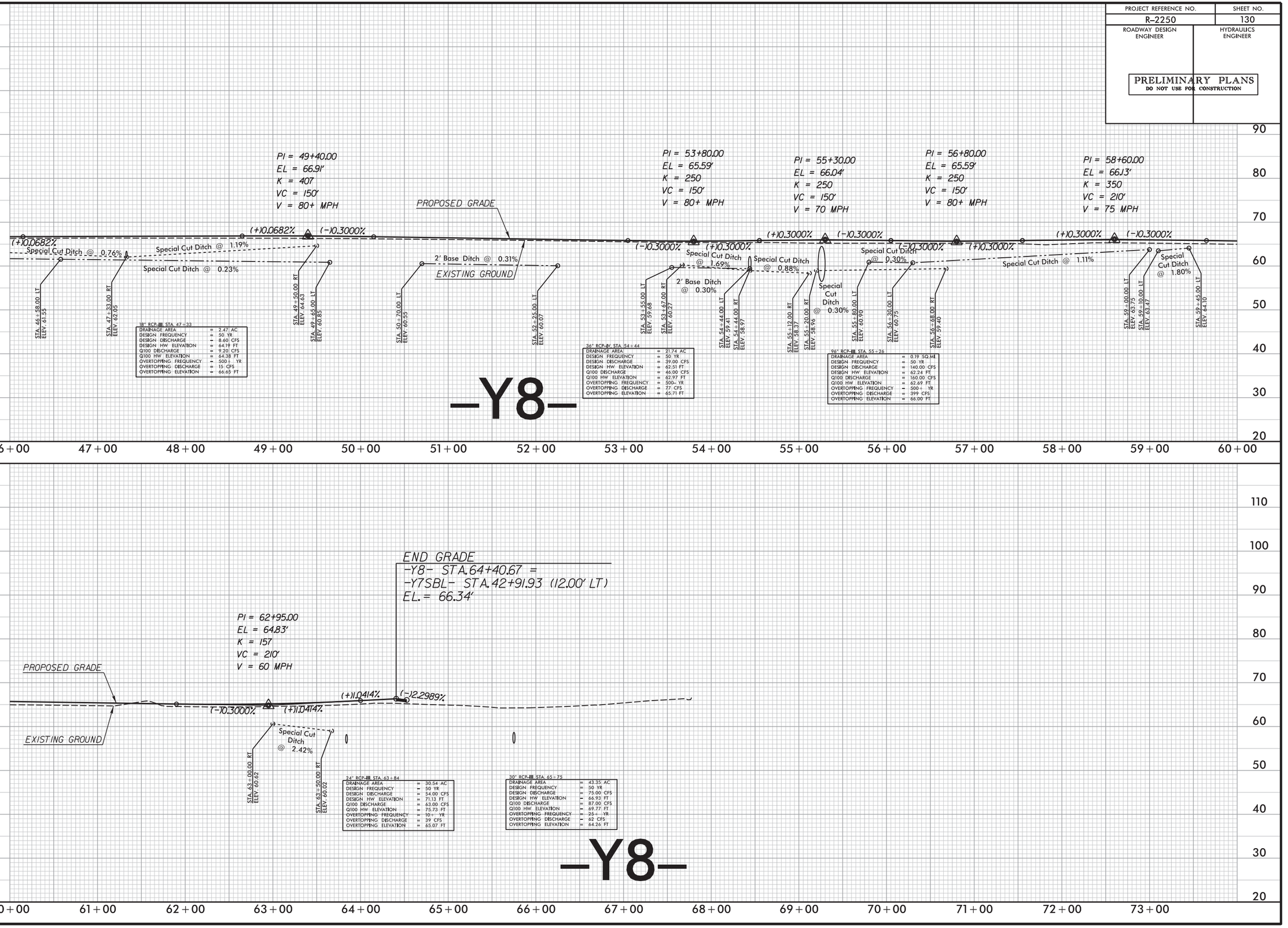


REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	130
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: dwalnwri DATE: 1/25/2016 TIME: 2:44:22 PM
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	131
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BEGIN GRADE
-Y8RPA- STA.10+00.00 =
-L- 169+00.00 (47' RT)
EL.= 72.59'

PI = 11+50.00
EL = 73.04'
K = 391
VC = 300'
V = 80+ MPH

PI = 15+75.00
EL = 71.05'
K = 274
VC = 210'
V = 80+ MPH

PI = 17+55.00
EL = 71.59'
K = 149
VC = 150'
V = 55 MPH

PI = 20+00.00
EL = 69.86'
K = 149
VC = 150'
V = 60 MPH

PROPOSED GRADE

(+)0.3000% (-)0.4677% (-)0.4677% (+)0.3000% (+)0.3000% (-)0.7069% (-)0.7069% (+)0.3000% (+)0.3000%

EXISTING GROUND

2' Base Ditch @ 0.62%

STA. 21+00.00 LT
ELEV. 63.30

110 100 90 80 70 60 50 40 30 20

10+00 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

-Y8RPA-

END GRADE
-Y8RPA- STA.27+49.61 =
-Y8- STA.24+75.05 (20' LT)
EL.= 65.49'

PI = 24+65.00
EL = 71.26'
K = 129
VC = 300'
V = 55 MPH

PROPOSED GRADE

(+)0.3000% (-)12.0270% (-)12.0270% (-)13.0000%

2' Base Ditch @ 0.62%

EXISTING GROUND

STA. 27+11.00 LT
ELEV. 57.49'

24" RCP-III STA. 27+11

DRAINAGE AREA	=	10.44 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	20.00 CFS
DESIGN HW ELEVATION	=	62.43 FT
Q100 DISCHARGE	=	23.00 CFS
Q100 HW ELEVATION	=	62.94 FT
OVERTOPPING FREQUENCY	=	200 + YR
OVERTOPPING DISCHARGE	=	35 CFS
OVERTOPPING ELEVATION	=	65.47 FT

110 100 90 80 70 60 50 40 30 20

24+00 25+00 26+00 27+00

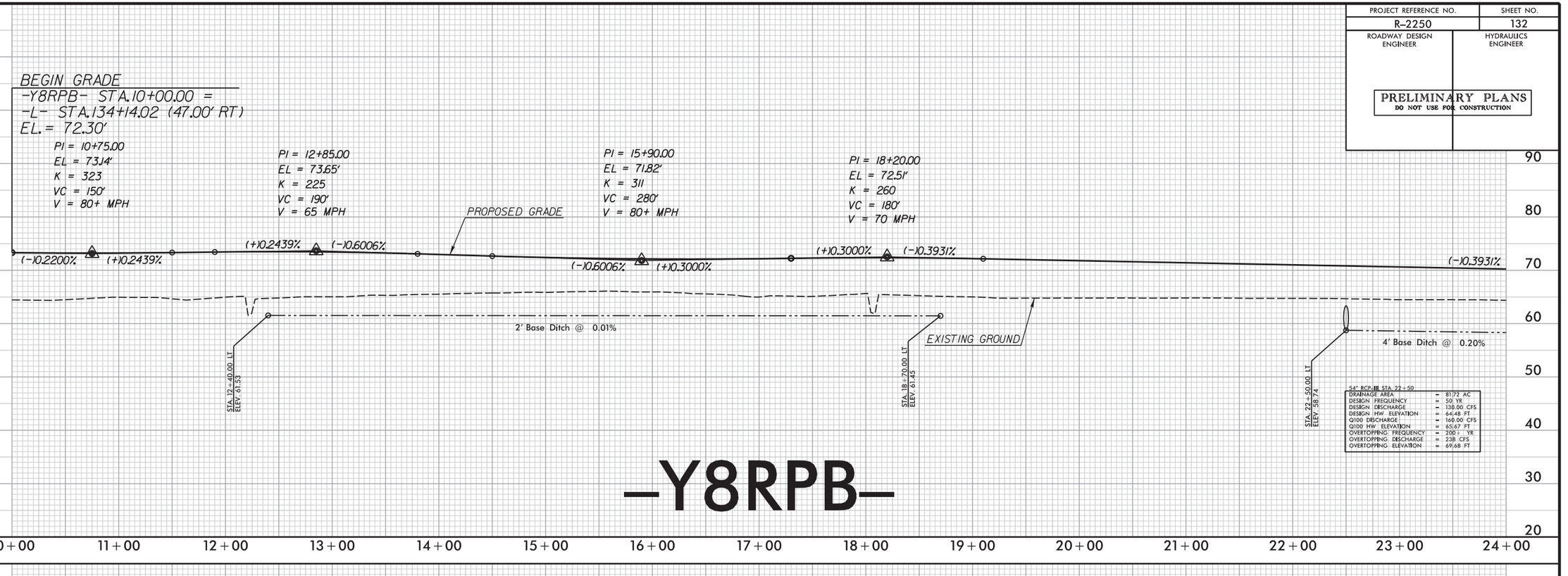
-Y8RPA-

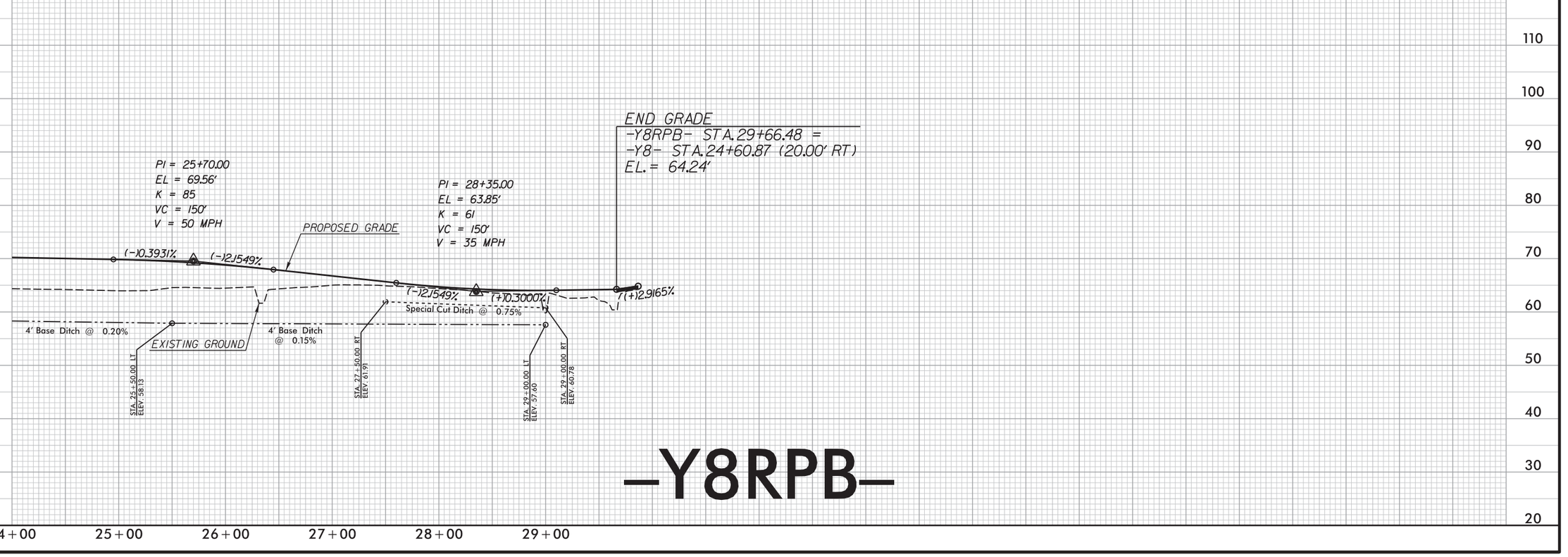
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	132
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



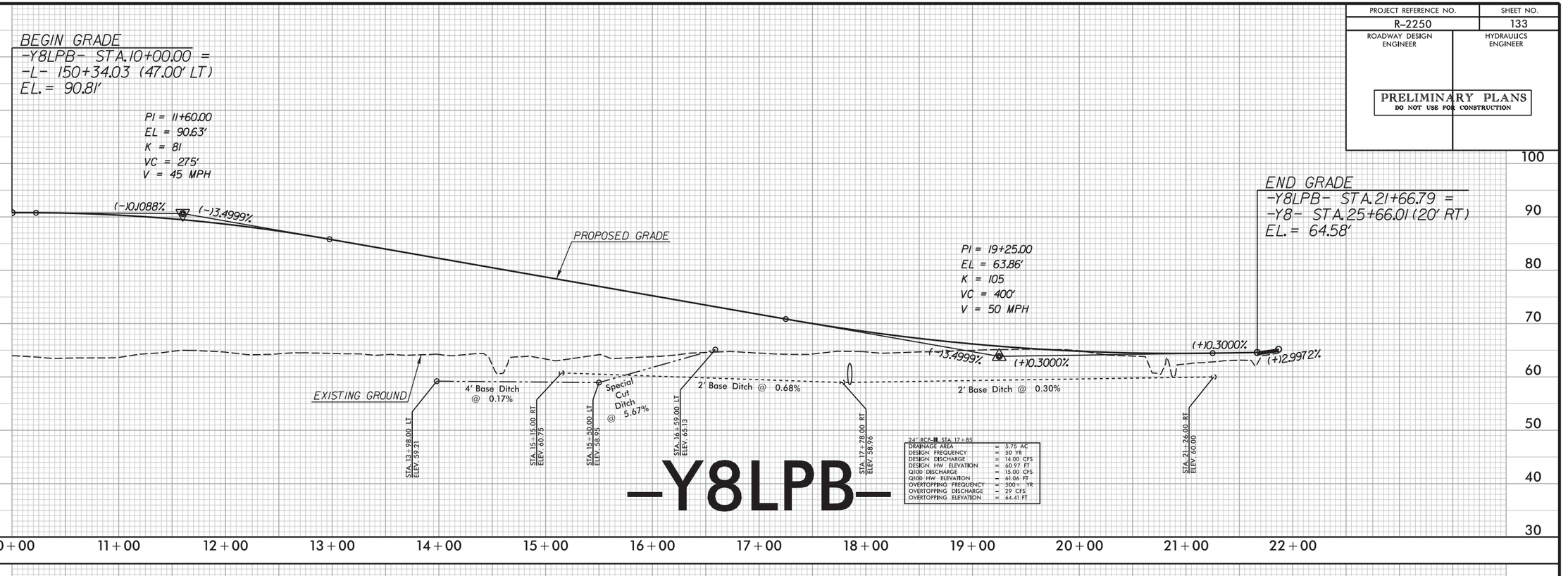


REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	133
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

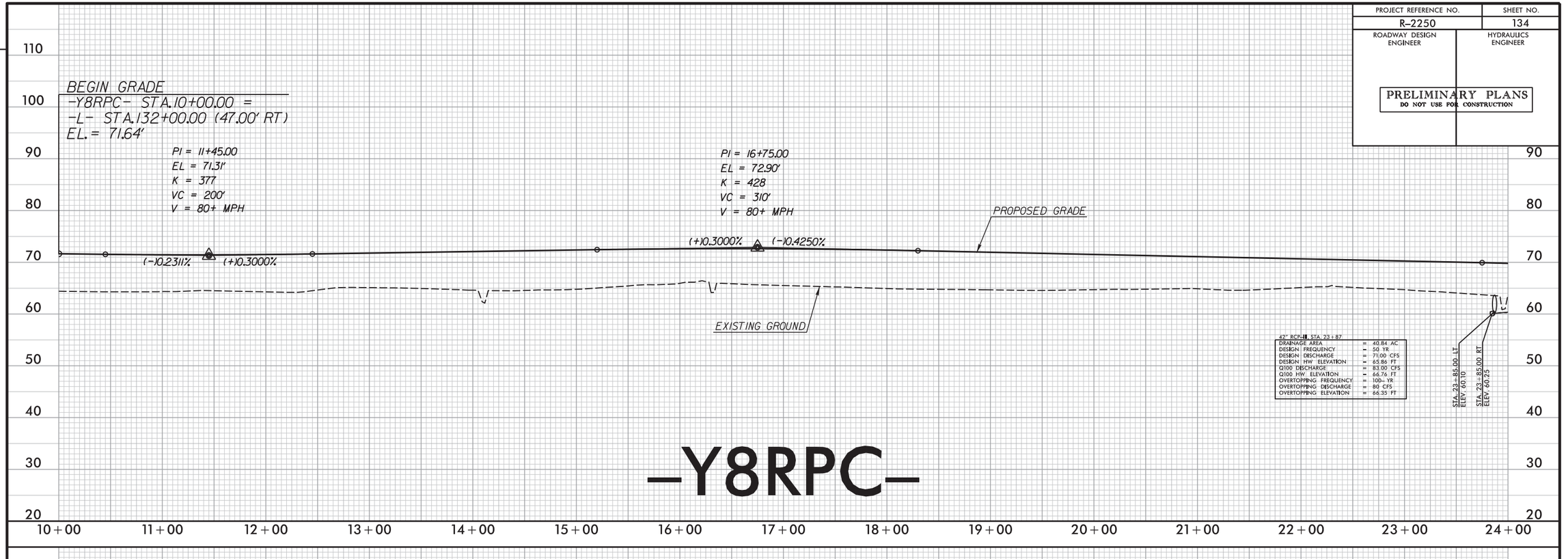


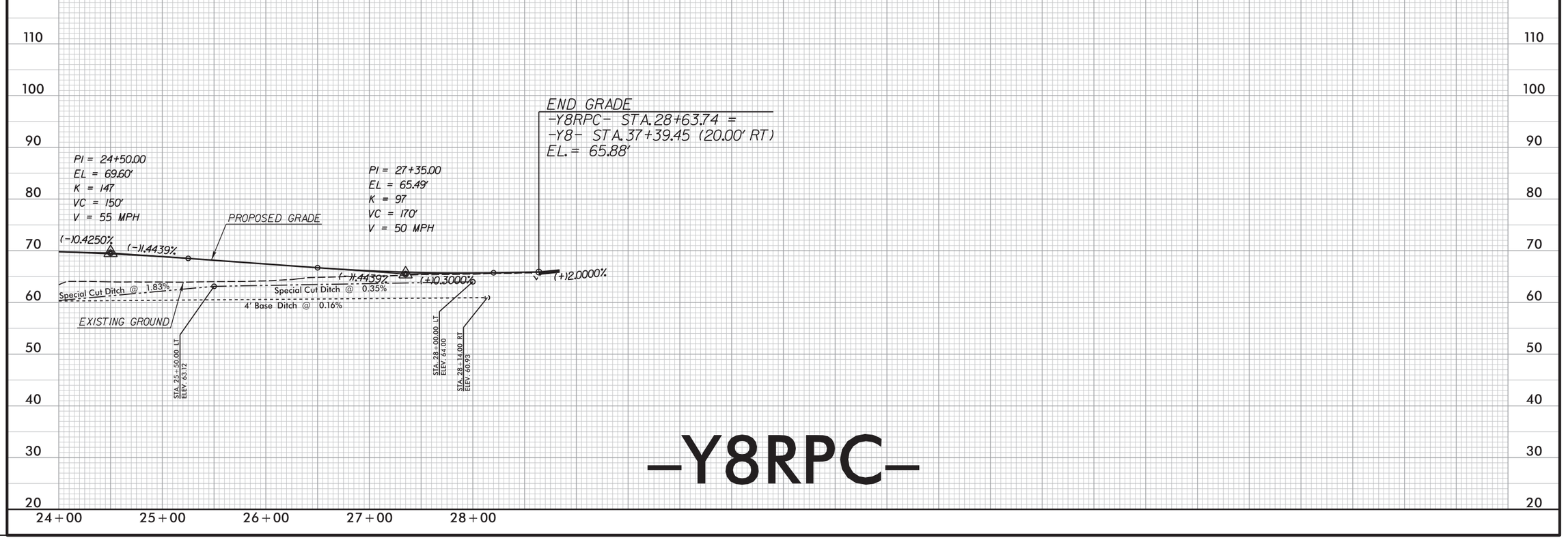
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	134
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



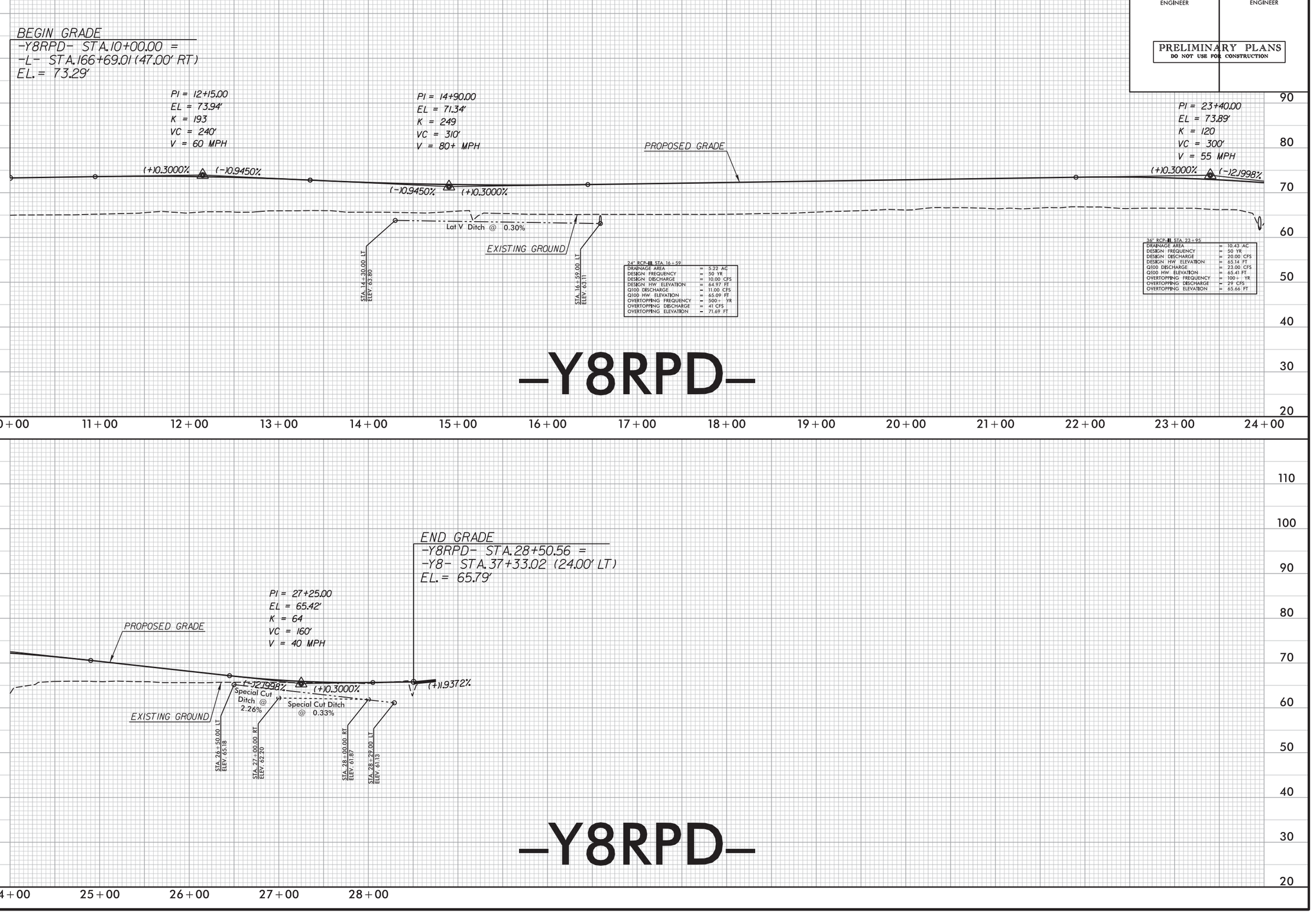


REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	135
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

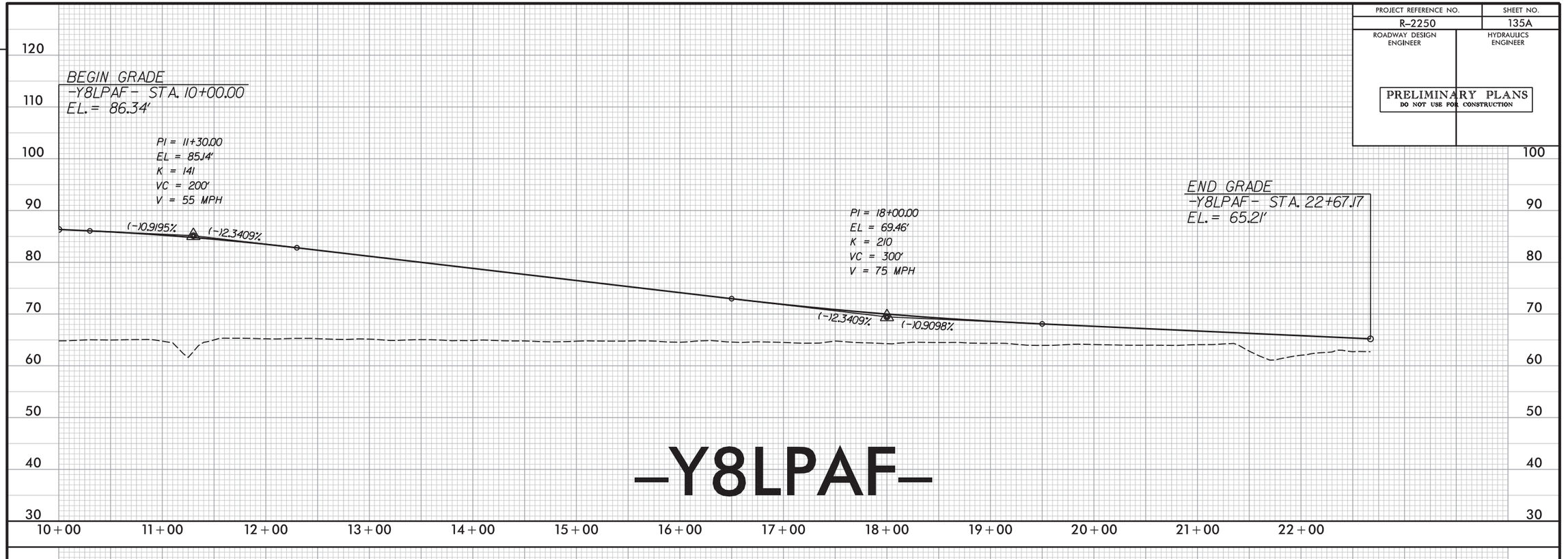


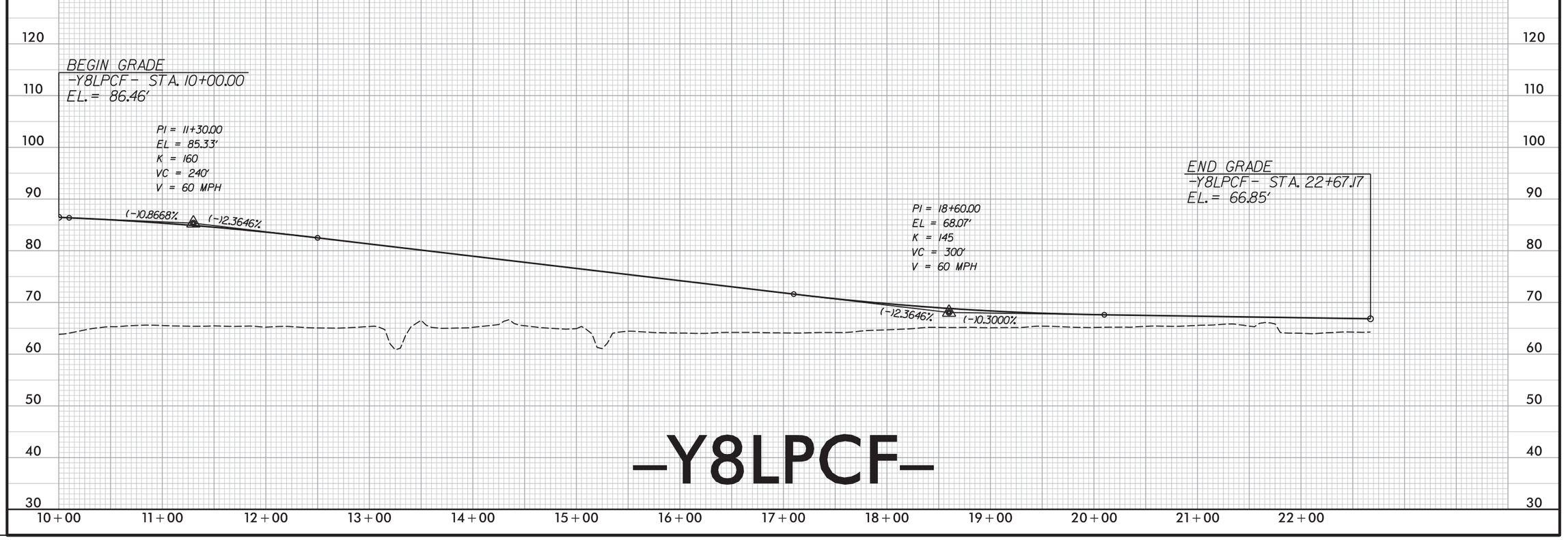
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	135A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



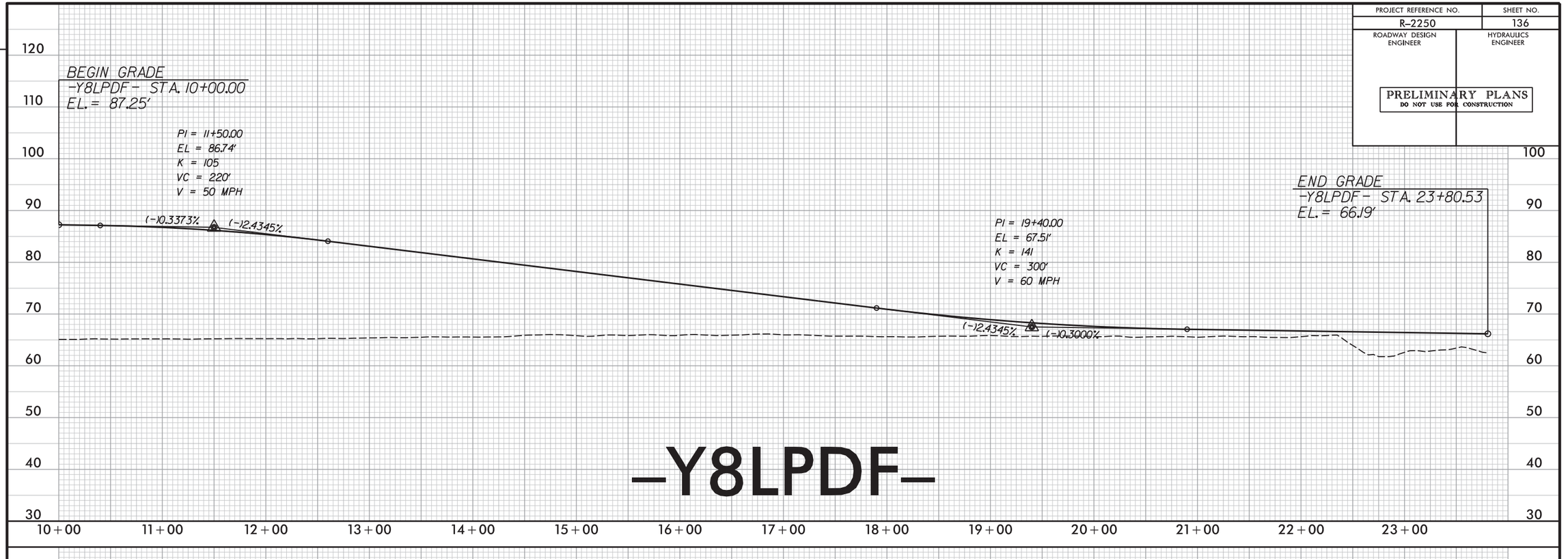


REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	136
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

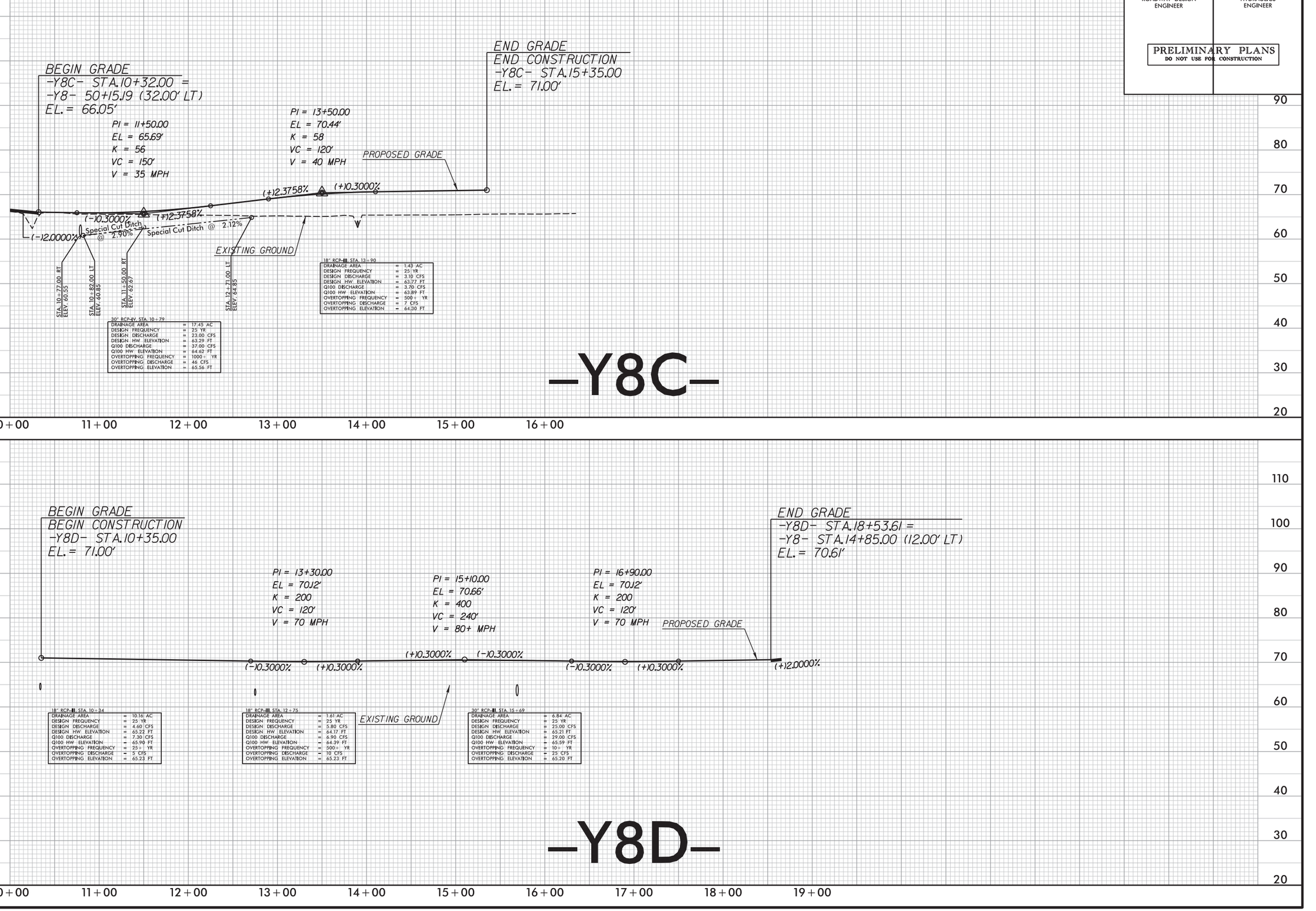


REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	137
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

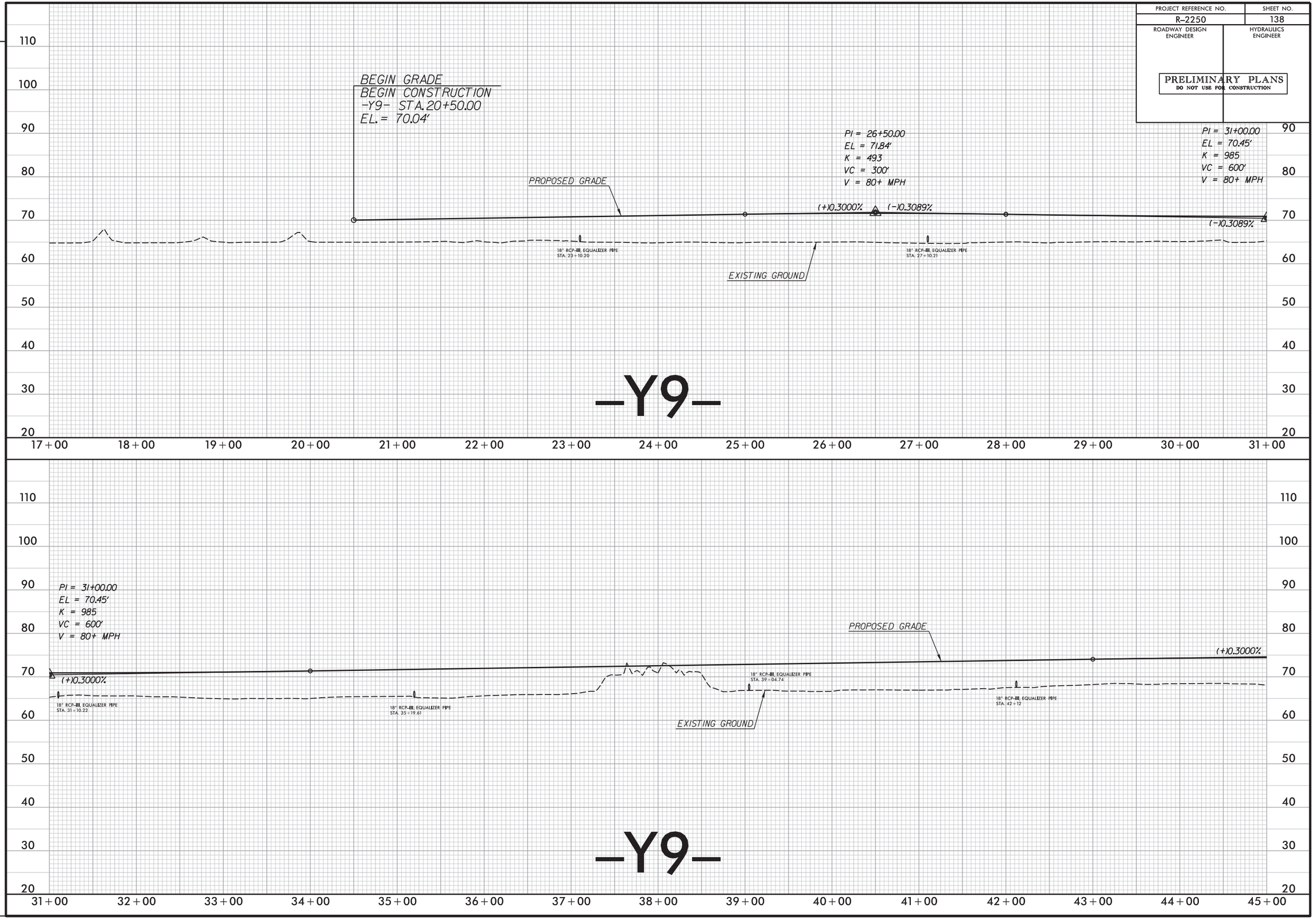


REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	138
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

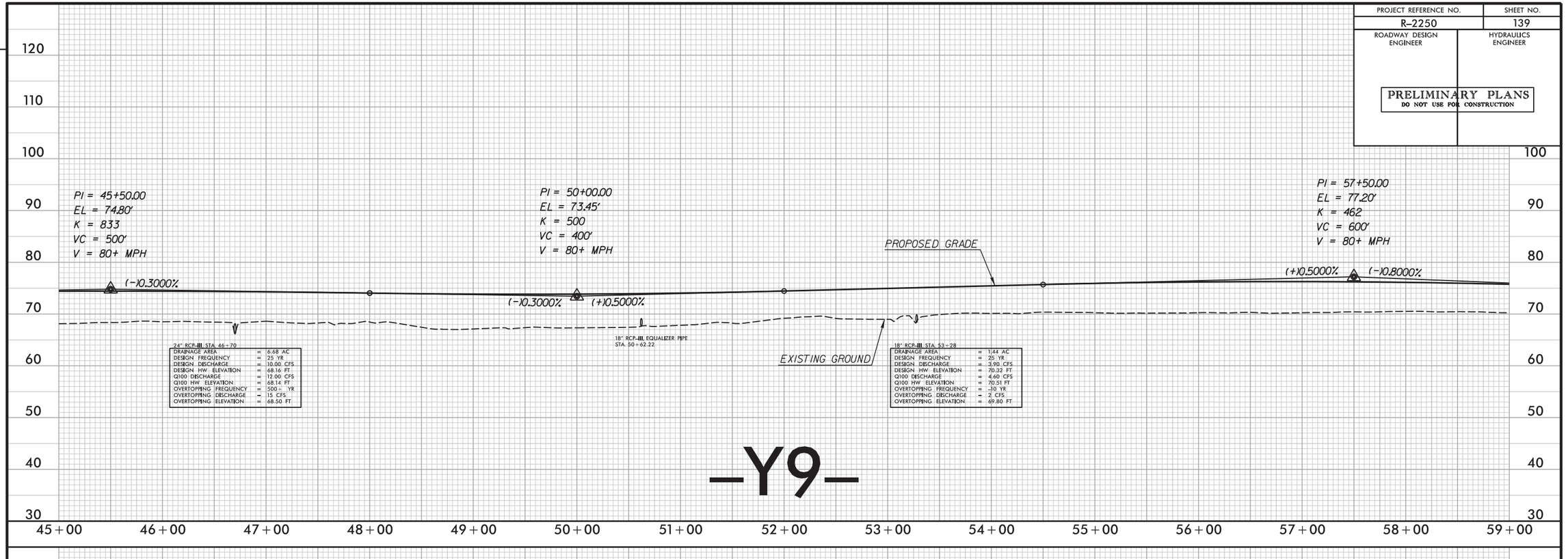


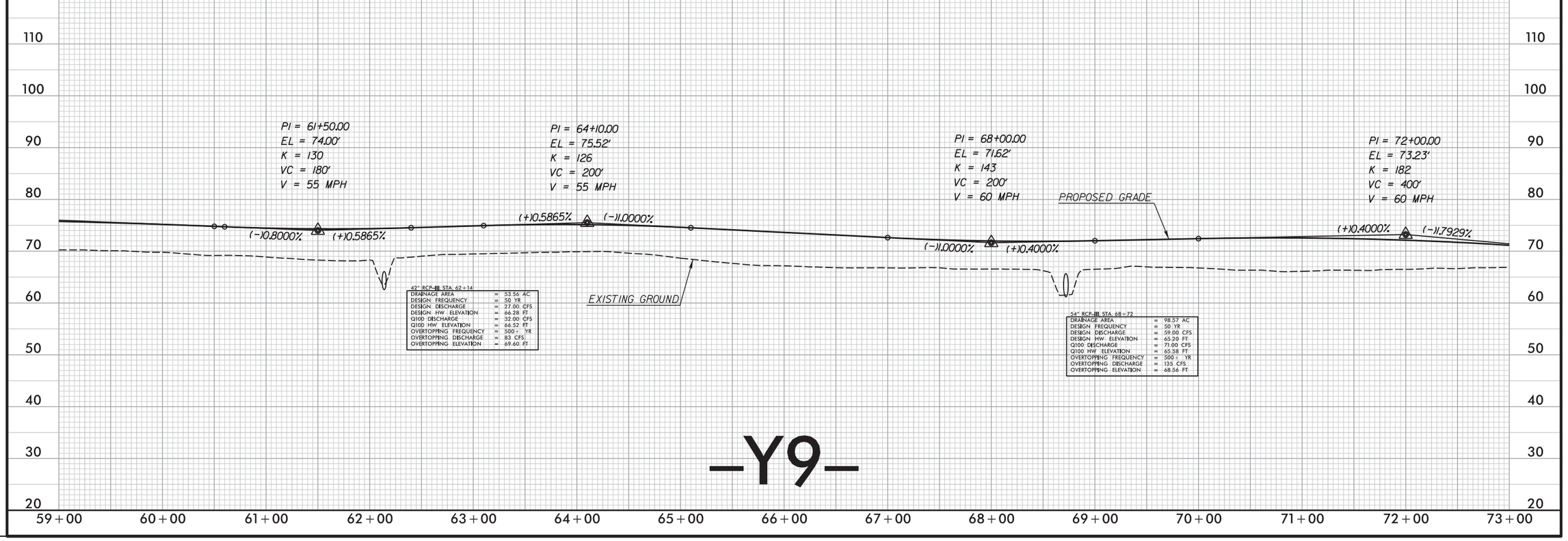
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	139
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	140
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

END GRADE
-Y9- STA.75+99.72 =
-Y10- STA.14+03.97
(11.00' RT) EL.= 68.77'

PI = 74+70.00
EL = 68.38'
K = 67
VC = 140'
V = 40 MPH

PROPOSED GRADE
(-)1.7929%
(+)0.3000%
(+)2.5768%
Special Cut Ditch @ 1.89%
Special Cut Ditch @ 1.30%
EXISTING GROUND

STA. 73+50.00 RT
ELEV. 66.51
STA. 74+00.00 LT
ELEV. 67.00
STA. 75+50.00 RT
ELEV. 63.91
STA. 75+50.00 LT
ELEV. 64.16

18" RCP-III STA. 75+50

DRAINAGE AREA	=	0.27 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	0.75 CFS
DESIGN HW ELEVATION	=	64.83 FT
Q100 DISCHARGE	=	0.80 CFS
Q100 HW ELEVATION	=	64.84 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	16 CFS
OVERTOPPING ELEVATION	=	68.56 FT

-Y9-

BEGIN 3" OVERLAY
BEGIN CONSTRUCTION
-Y10A- STA.14+90.00
EL.= 69.41'

END 3" OVERLAY
-Y10A- STA.16+50.00
EL.= 69.44'

BEGIN 3" OVERLAY
-Y10A- STA.19+50.00
EL.= 69.23

UNIFORM 1.5" OVERLAY
UNIFORM 1.5" OVERLAY
EXISTING GROUND

END 3" OVERLAY
END CONSTRUCTION
-Y10A- STA.21+15.00
EL.= 70.16'

-Y10A-

BEGIN 3" OVERLAY
BEGIN CONSTRUCTION
-Y10- STA.13+25.00
EL.= 69.04'

END 3" OVERLAY
END CONSTRUCTION
-Y10- STA.20+55.00
EL.= 67.73'

UNIFORM 3" OVERLAY
Special Cut Ditch @ 2.11%
Special Cut Ditch @ 0.74%
EXISTING GROUND

STA. 14+42.00 RT
ELEV. 63.91
STA. 15+00.00 LT
ELEV. 65.86
STA. 16+85.00 LT
ELEV. 61.95
STA. 17+35.00 RT
ELEV. 61.74

2@30" RCP-IV STA. 17+11

DRAINAGE AREA	=	83.13 AC
DESIGN FREQUENCY	=	25 YR
DESIGN DISCHARGE	=	39.00 CFS
DESIGN HW ELEVATION	=	64.89 FT
Q100 DISCHARGE	=	62.00 CFS
Q100 HW ELEVATION	=	67.70 FT
OVERTOPPING FREQUENCY	=	50+ YR
OVERTOPPING DISCHARGE	=	53 CFS
OVERTOPPING ELEVATION	=	66.50 FT

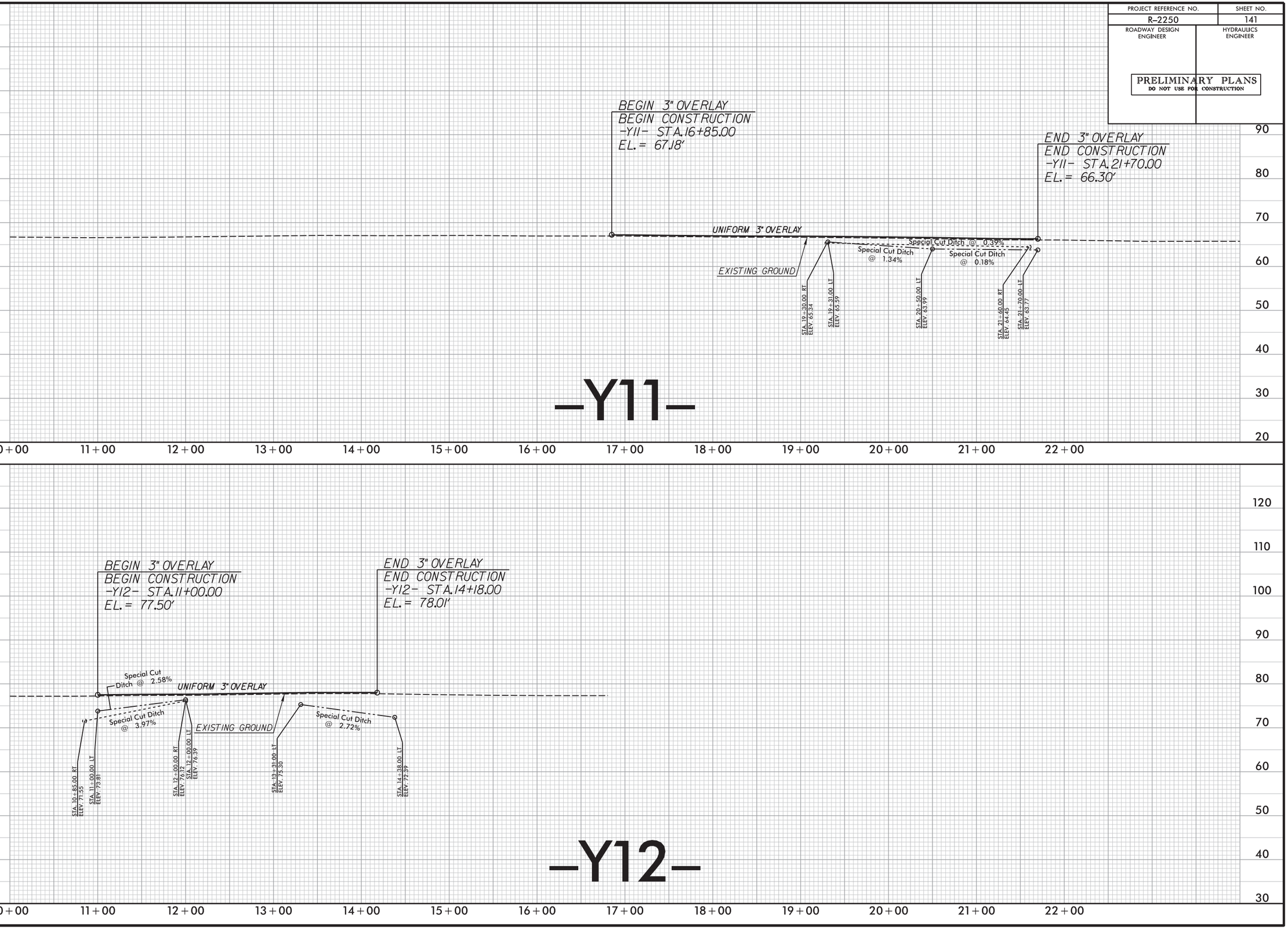
-Y10-

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	141
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

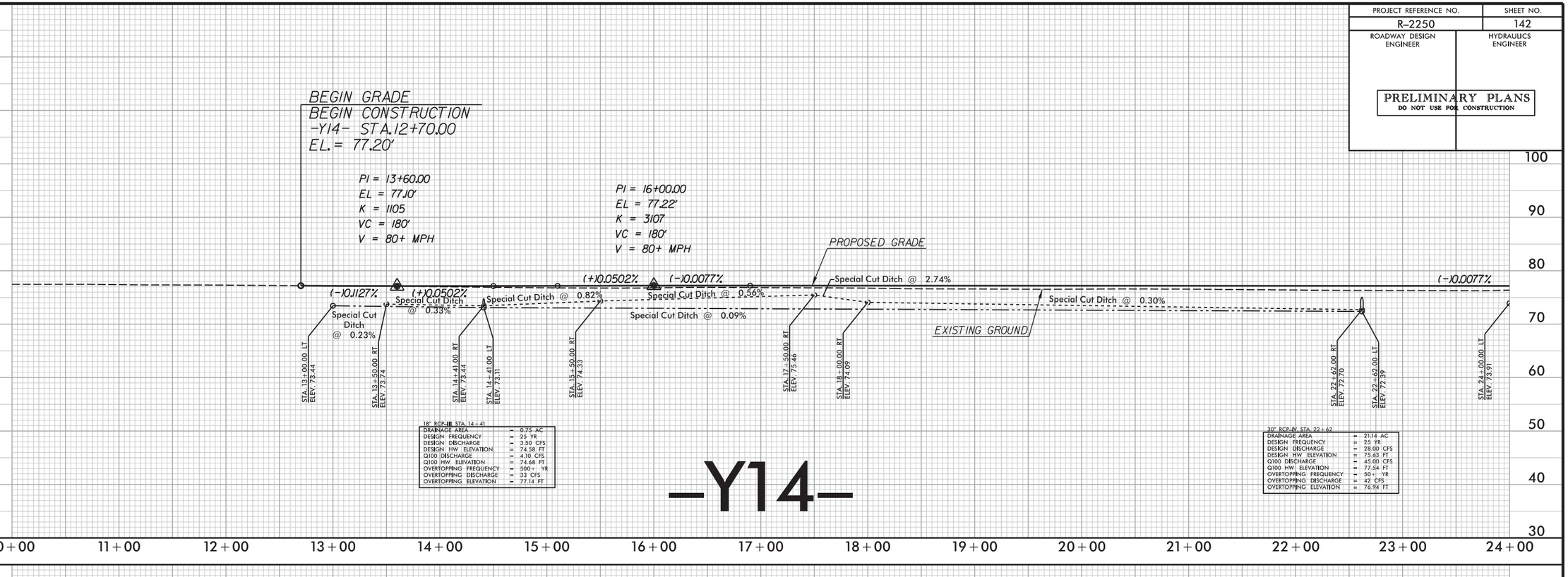


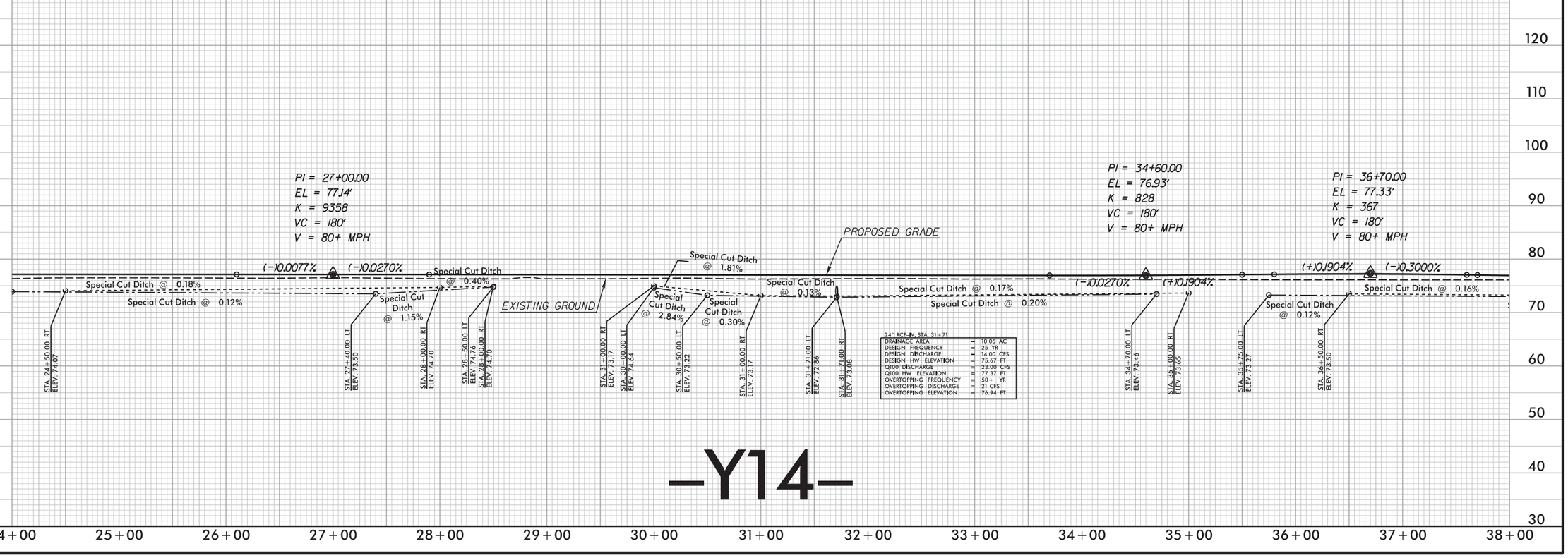
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	142
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



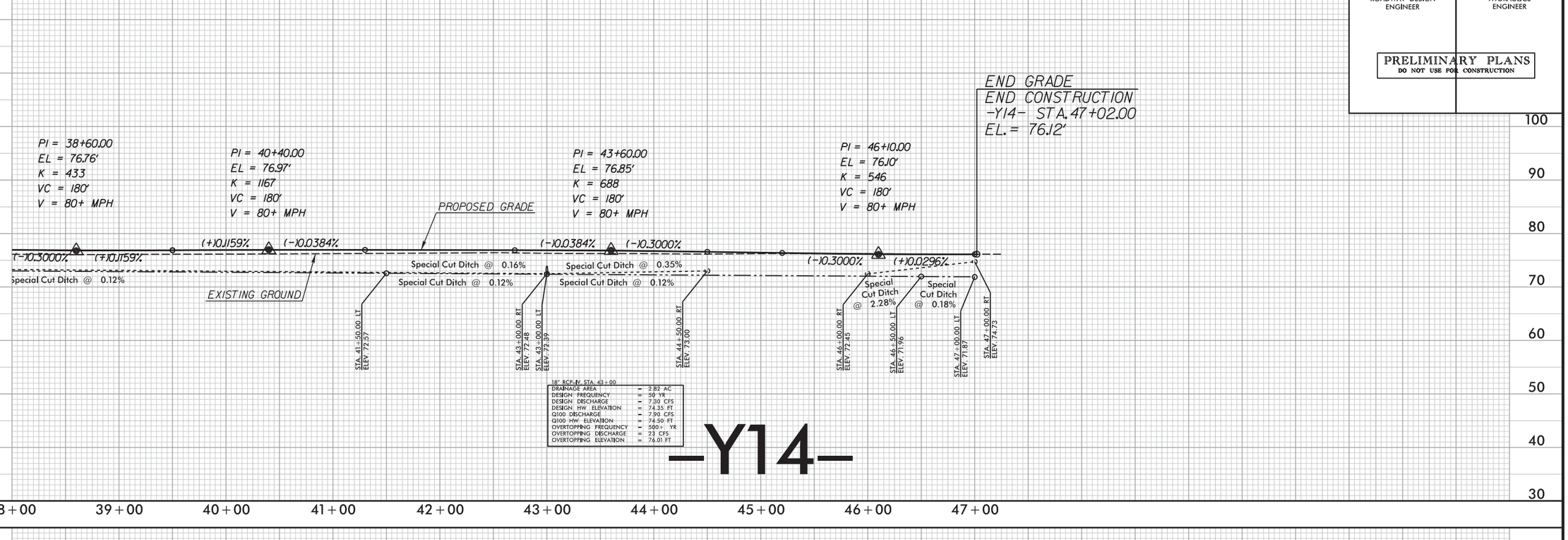


REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	143
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	144
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BEGIN GRADE
-Y14RPA- STA. 10+00.00 =
-L- STA. 433+28.99 (47' LT)
EL. = 83.19'

PI = 11+95.00
EL = 83.84'
K = 259
VC = 200'
V = 70 MPH

PI = 13+95.00
EL = 82.96'
K = 244
VC = 200'
V = 80+ MPH

PI = 16+50.00
EL = 83.93'
K = 220
VC = 150'
V = 65 MPH

PI = 23+75.00
EL = 81.75'
K = 87
VC = 190'
V = 50 MPH

(+)0.3327%
(-)0.4401%
(-)0.4401%
(+)0.3810%
(+)0.3810%
(-)0.3000%
(-)0.3000%

PROPOSED GRADE

EXISTING GROUND

4" Base Ditch @ 0.01%

STA. 15+50.00 RT
ELEV. 72.25

42" RCP-III STA. 16+25

DRAINAGE AREA	=	30.21 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	54.00 CFS
DESIGN HW ELEVATION	=	76.62 FT
Q100 DISCHARGE	=	62.00 CFS
Q100 HW ELEVATION	=	77.19 FT
OVERTOPPING FREQUENCY	=	100+ YR
OVERTOPPING DISCHARGE	=	70 CFS
OVERTOPPING ELEVATION	=	77.01 FT

-Y14RPA-

END GRADE
-Y14RPA- STA. 27+10.85 =
-Y14- STA. 23+22.85 (20' LT)
EL. = 76.76'

PI = 25+90.00
EL = 76.40'
K = 50
VC = 140'
V = 35 MPH

(-)12.4893%
(-)12.4893%
(+)0.3000%
(+)2.0000%

Special Cut Ditch @ 0.80%

Special Cut Ditch @ 0.01%

PROPOSED GRADE

EXISTING GROUND

STA. 24+50.00 LT
ELEV. 75.66

STA. 25+00.00 RT
ELEV. 72.37

STA. 26+50.00 LT
ELEV. 74.06

STA. 26+65.00 RT
ELEV. 72.39

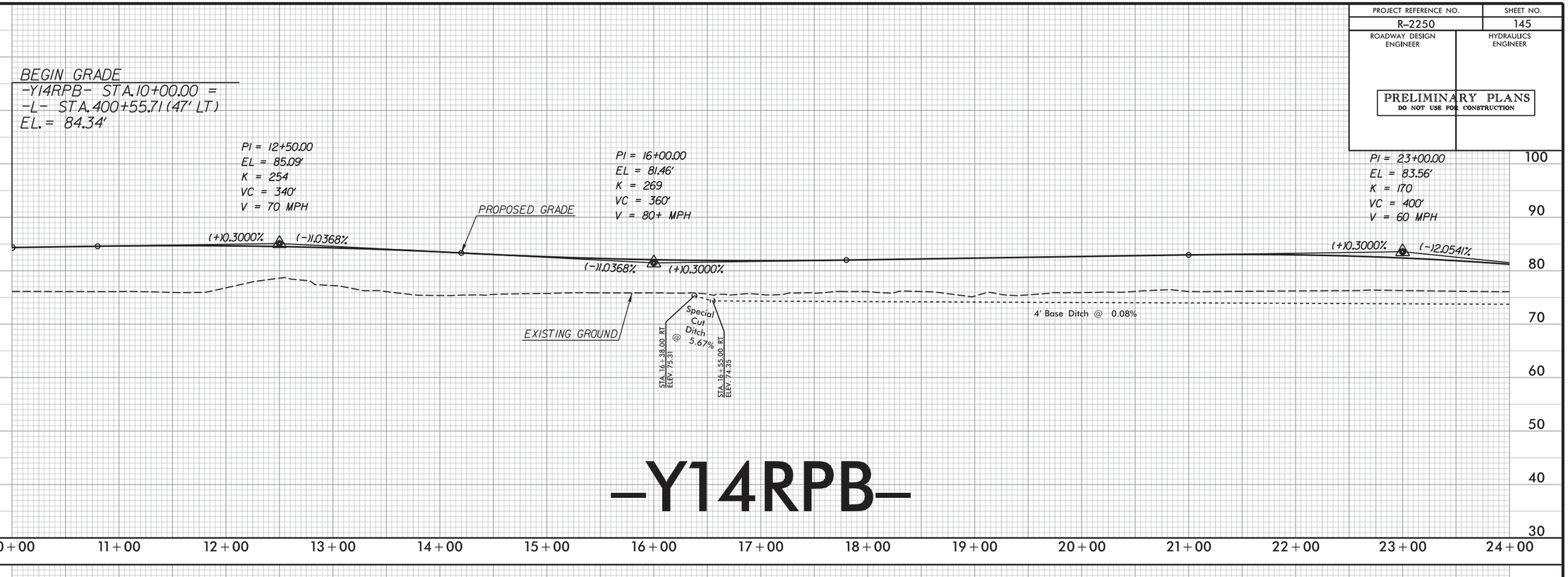
-Y14RPA-

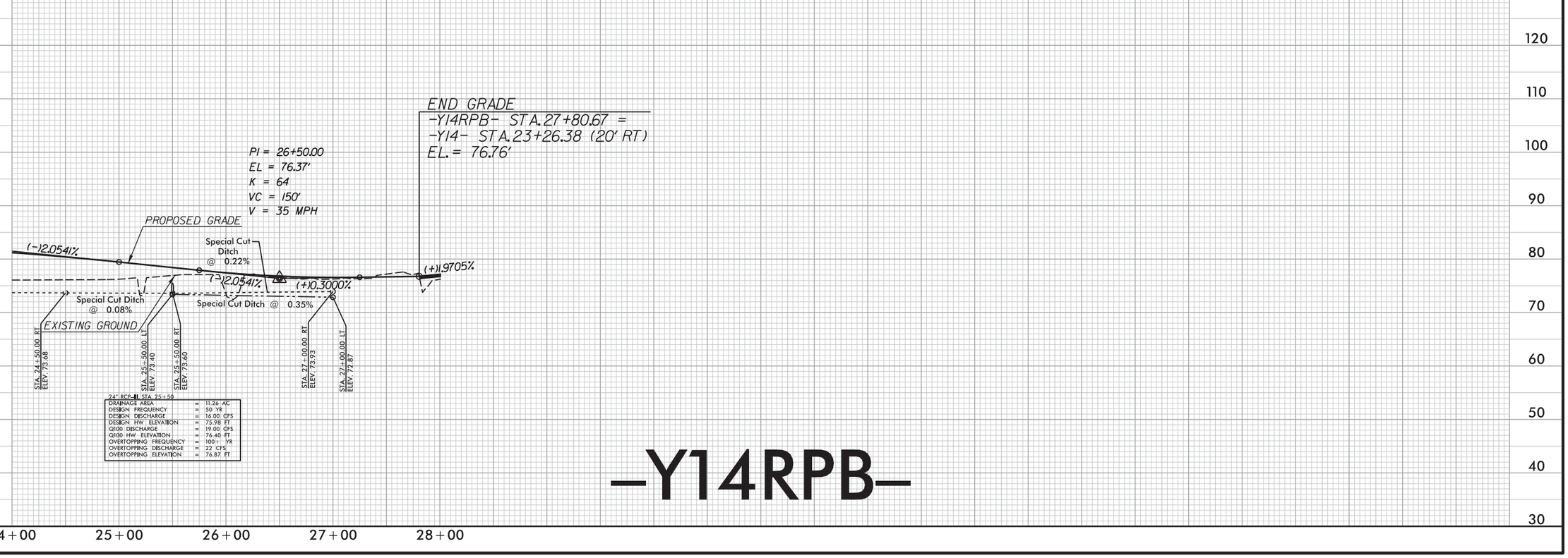
REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	145
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





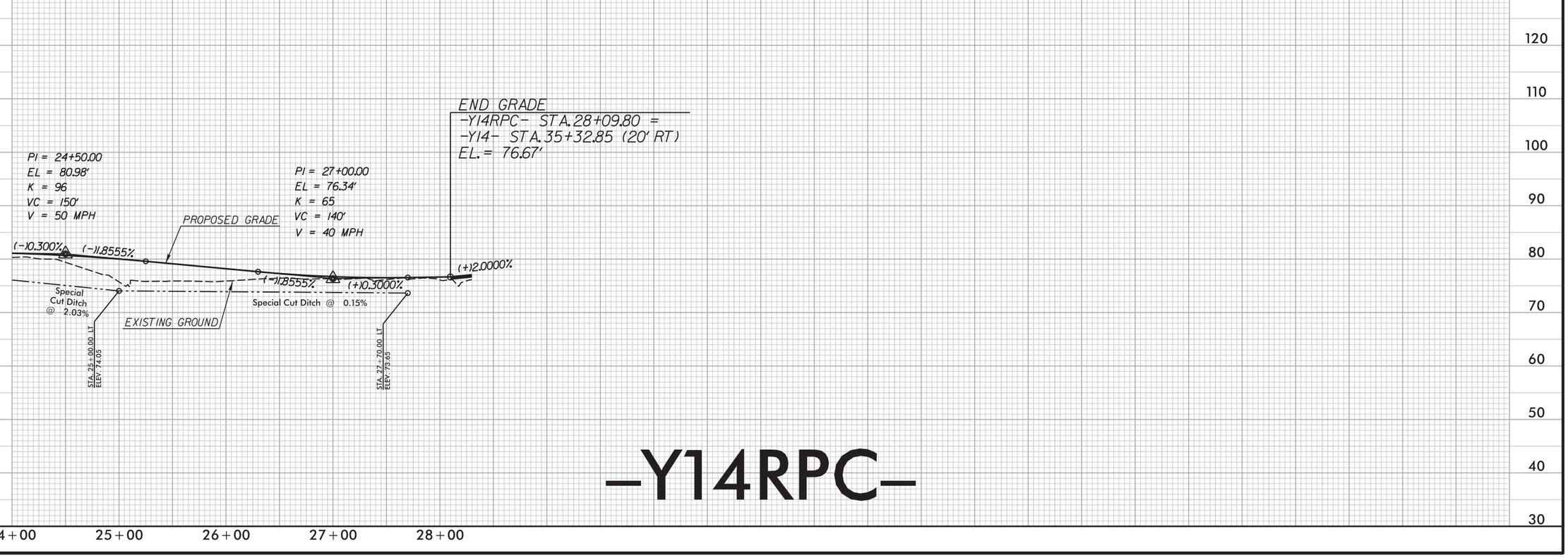
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	146
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





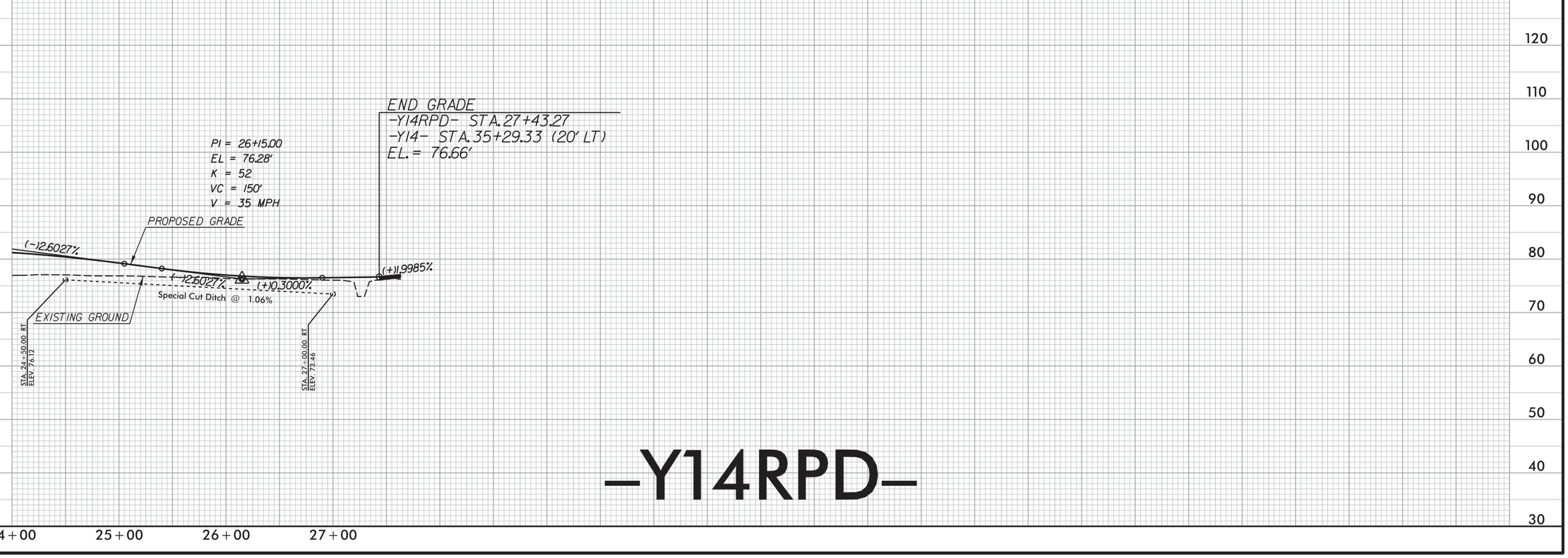
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	147
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



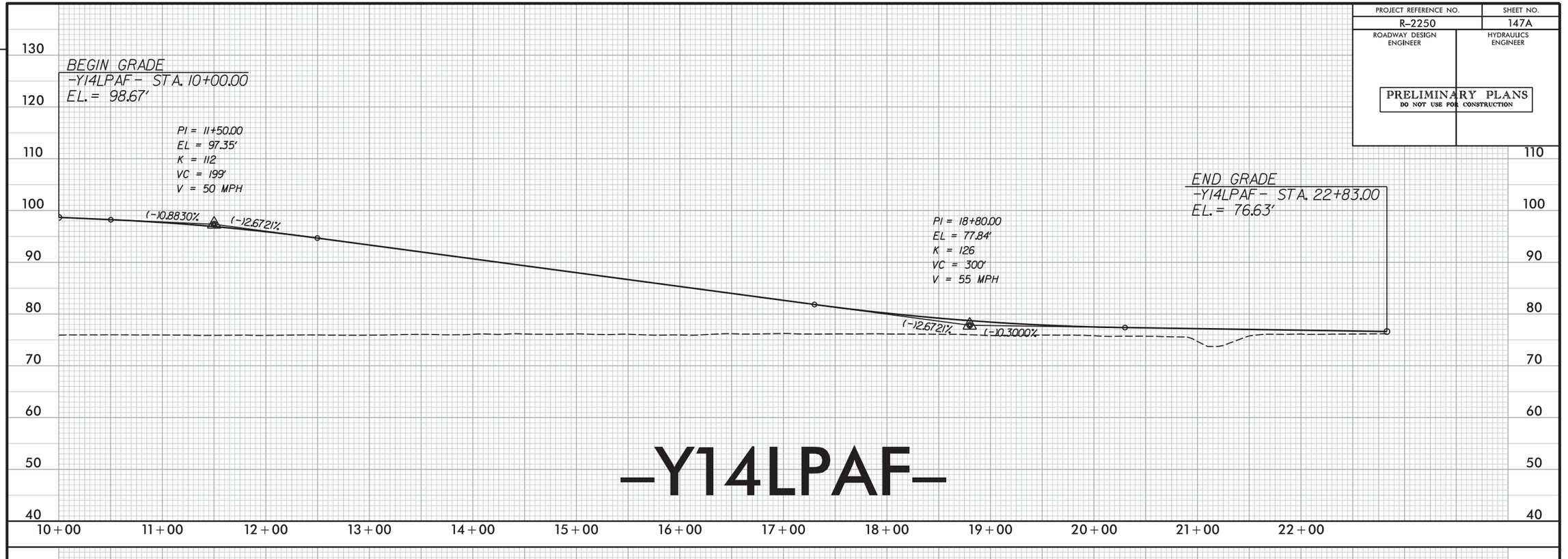


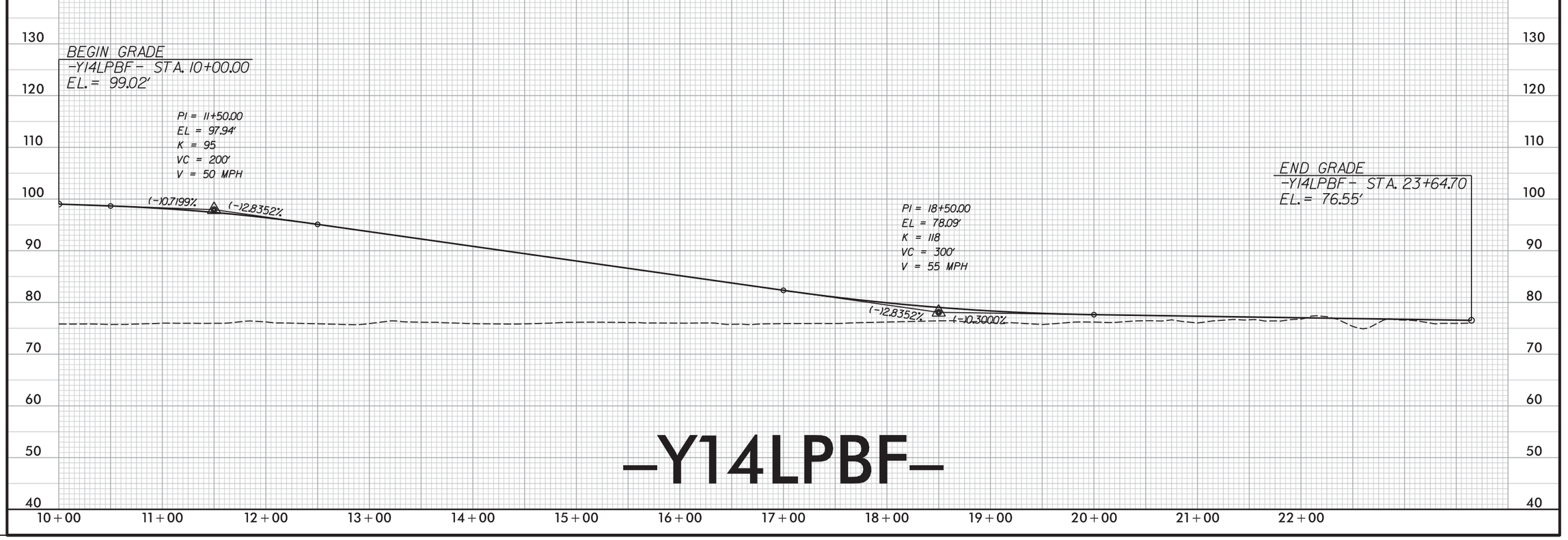
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	147A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





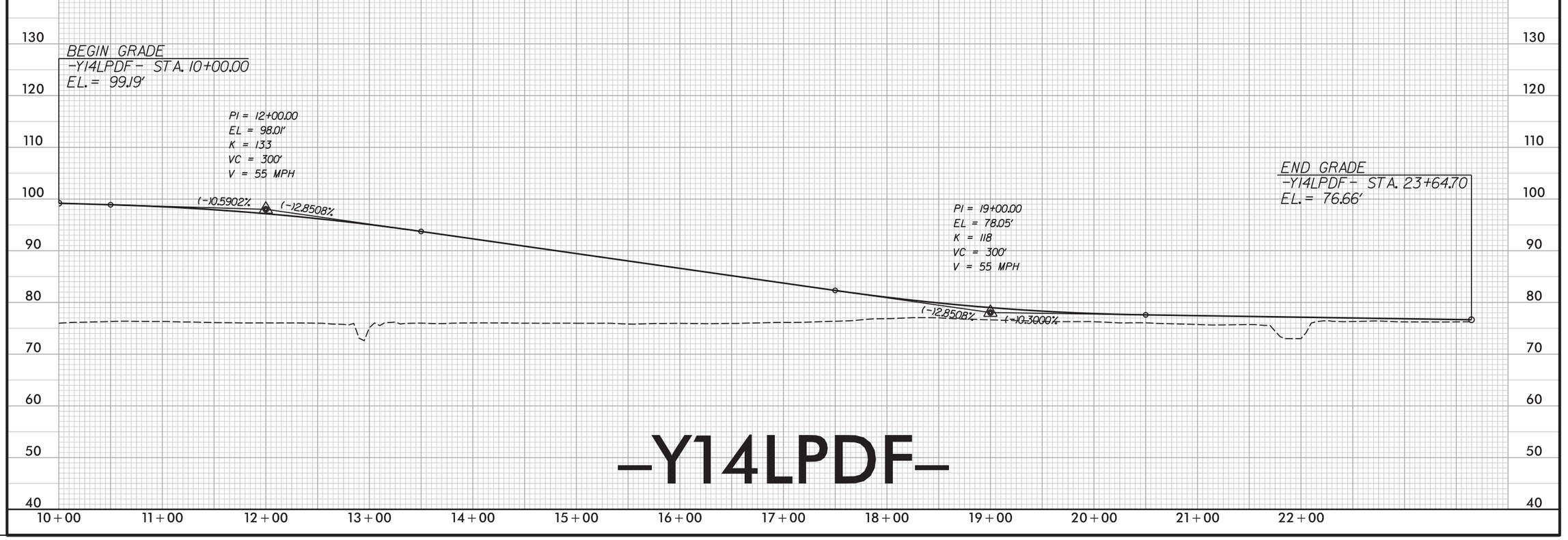
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	147B
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: dwalnwri DATE: 1/25/2016 TIME: 2:47:48 PM
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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
R-2250	148
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BEGIN GRADE
-Y15- STA. 10+32.00 =
-Y17- STA. 20+16.61 (32.00' RT)
EL. = 79.45'

PI = 11+15.00
EL = 79.20'
K = 193
VC = 150'
V = 70 MPH

(-)0.3000%
(+)0.4774%
(-)2.0072%
15" RCP-IV, RELIEF PIPE

PROPOSED GRADE
EXISTING GROUND

PI = 21+05.00
EL = 83.93'
K = 99
VC = 430'
V = 50 MPH

(+)0.4774%
(+)4.8415%

Lat V Ditch @ 1.70%

STA. 21+50.00 LT
ELEV. 75.15

STA. 22+00.00 LT
ELEV. 74.30

48" RCP-III STA. 22+86

DRAINAGE AREA	=	49.66 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	85.00 CFS
DESIGN HW ELEVATION	=	79.40 FT
Q100 DISCHARGE	=	99.00 CFS
Q100 HW ELEVATION	=	80.25 FT
OVERTOPPING FREQUENCY	=	50+ YR
OVERTOPPING DISCHARGE	=	93 CFS
OVERTOPPING ELEVATION	=	79.89 FT

-Y15-

10+00 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

PI = 28+50.00
EL = 120.00'
K = 85
VC = 870'
V = 50 MPH

(+)4.8415%
(-)5.4018%

BEGIN BRIDGE
-Y15- STA. 27+34

END BRIDGE
-Y15- STA. 29+75

PROPOSED GRADE

PI = 35+85.00
EL = 80.30'
K = 105
VC = 600'
V = 50 MPH

(-)5.4018%
(+)0.3000%

2' Base Ditch @ 0.38%
EXISTING GROUND
Lat V Ditch @ 0.41%
Lat V Ditch @ 0.41%

STA. 29+10.00 LT
ELEV. 74.64

STA. 30+56.00 LT
ELEV. 75.20

STA. 31+00.00 RT
ELEV. 75.00

STA. 34+35.00 RT
ELEV. 73.64

STA. 35+19.00 RT
ELEV. 73.30

STA. 35+40.00 RT
ELEV. 73.21

30" RCP-III STA. 35+00

DRAINAGE AREA	=	9.16 AC
DESIGN FREQUENCY	=	25 YR
DESIGN DISCHARGE	=	23.00 CFS
DESIGN HW ELEVATION	=	76.05 FT
Q100 DISCHARGE	=	27.00 CFS
Q100 HW ELEVATION	=	76.42 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	59 CFS
OVERTOPPING ELEVATION	=	81.24 FT

-Y15-

24+00 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

1/25/2016
2:48:00 PM
R2250_RDY_PFL-148.dgn

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
R-2250	149
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 48+40.00
EL = 84.06'
K = 859
VC = 800'
V = 80+ MPH

PROPOSED GRADE

(+)0.3000%

(-)0.6317%

EXISTING GROUND

24" RCP-III STA. 43+97

DRAINAGE AREA	=	26.12 AC
DESIGN FREQUENCY	=	25 YR
DESIGN DISCHARGE	=	14.00 CFS
DESIGN HW ELEVATION	=	74.14 FT
Q100 DISCHARGE	=	23.00 CFS
Q100 HW ELEVATION	=	75.86 FT
OVERTOPPING FREQUENCY	=	50+ YR
OVERTOPPING DISCHARGE	=	21 CFS
OVERTOPPING ELEVATION	=	75.44 FT

-Y15-

38+00 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

120 110 100 90 80 70 60 50 40 30

PI = 55+70.00
EL = 79.45'
K = 146
VC = 150'
V = 55 MPH

PI = 57+70.00
EL = 76.13'
K = 130
VC = 150'
V = 55 MPH

END GRADE
END CONSTRUCTION
-Y15- STA. 60+00.00
EL. = 74.98'

PROPOSED GRADE

(-)0.6317%

(-)1.1.6582%

(-)1.6582%

(-)0.5000%

Special Cut Ditch @ 0.31%

Special Cut Ditch @ 1.90%

Special Cut Ditch @ 0.66%

EXISTING GROUND

STA. 53+16.00 LT
ELEV. 74.38

STA. 55+79.00 LT
ELEV. 73.34

STA. 56+00.00 LT
ELEV. 73.23

STA. 56+60.00 RT
ELEV. 74.48

STA. 59+37.00 LT
ELEV. 72.20

STA. 59+37.00 RT
ELEV. 70.20

42" RCP-III STA. 55+21

DRAINAGE AREA	=	87.95 AC
DESIGN FREQUENCY	=	25 YR
DESIGN DISCHARGE	=	79.00 CFS
DESIGN HW ELEVATION	=	77.84 FT
Q100 DISCHARGE	=	130.00 CFS
Q100 HW ELEVATION	=	82.28 FT
OVERTOPPING FREQUENCY	=	10 YR
OVERTOPPING DISCHARGE	=	39 CFS
OVERTOPPING ELEVATION	=	74.84 FT

24" RCP-III STA. 59+37

DRAINAGE AREA	=	13.44 AC
DESIGN FREQUENCY	=	25 YR
DESIGN DISCHARGE	=	14.00 CFS
DESIGN HW ELEVATION	=	73.00 FT
Q100 DISCHARGE	=	22.00 CFS
Q100 HW ELEVATION	=	74.13 FT
OVERTOPPING FREQUENCY	=	100+ YR
OVERTOPPING DISCHARGE	=	26 CFS
OVERTOPPING ELEVATION	=	74.84 FT

-Y15-

52+00 53+00 54+00 55+00 56+00 57+00 58+00 59+00 60+00 61+00

120 110 100 90 80 70 60 50 40 30

BEGIN GRADE
-DR2- STA. 10+16.00 =
-Y15- STA. 34+76.00 (16.00' RT)
EL. = 87.60'

END GRADE
END CONSTRUCTION
-DR2- STA. 11+87.00
EL. = 75.99'

PI = 11+62.00
EL = 75.92'
K = 6
VC = 50'

(-)2.0000%

(-)8.0006%

(+)0.3000%

-DR2-

10+00 11+00 12+00

120 110 100 90 80 70 60 50 40 30

1/25/2016
2:48:10 PM
R2250_RDY_PFL-149.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2250	150
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BEGIN GRADE
BEGIN CONSTRUCTION
-Y17- STA.10+35.00
EL.= 78.46'

PI = 11+05.00
EL = 78.79'
K = 416
VC = 140'
V = 80+ MPH

PI = 12+85.00
EL = 80.22'
K = 152
VC = 220'
V = 60 MPH

PI = 15+10.00
EL = 78.75'
K = 322
VC = 180'
V = 80+ MPH

PI = 18+20.00
EL = 78.46'
K = 176
VC = 180'
V = 65 MPH

PI = 20+65.00
EL = 80.74'
K = 152
VC = 250'
V = 60 MPH

PI = 23+60.00
EL = 78.61'
K = 243
VC = 180'
V = 80+ MPH

PROPOSED GRADE
EXISTING GROUND

(+)0.4600%
(+)0.7964%
(+)0.7964%
(-)0.6532%
(-)0.6532%
(-)0.0935%
(-)0.0935%
(+)0.9290%
(+)0.9290%
(-)0.7207%
(-)0.7207%
(+)0.0207%

Special Cut Ditch @ 0.29%
Special Cut Ditch @ 0.20%
Special Cut Ditch @ 0.27%
Special Cut Ditch @ 0.42%
Special Cut Ditch @ 0.23%

STA. 10+50.00 RT ELEV. 75.18
STA. 10+50.00 LT ELEV. 74.72
STA. 15+30.00 RT ELEV. 74.22
STA. 15+30.00 LT ELEV. 73.32
STA. 18+00.00 LT ELEV. 74.46
STA. 19+30.00 RT ELEV. 75.31
STA. 21+00.00 RT ELEV. 75.48
STA. 24+00.00 RT ELEV. 74.79

30" RCP-IV STA. 15+30

DRAINAGE AREA	=	6.48 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	23.00 CFS
DESIGN HW ELEVATION	=	76.73 FT
Q100 DISCHARGE	=	25.00 CFS
Q100 HW ELEVATION	=	76.95 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	43 CFS
OVERTOPPING ELEVATION	=	79.26 FT

-Y17-

PI = 32+60.00
EL = 78.80'
K = 644
VC = 180'
V = 80+ MPH

PI = 36+40.00
EL = 79.94'
K = 549
VC = 180'
V = 80+ MPH

PROPOSED GRADE
EXISTING GROUND

(+)0.0207%
(+)0.0207%
(+)0.3003%
(+)0.3003%
(-)0.0273%

Special Cut Ditch @ 0.30%
Special Cut Ditch @ 0.11%
Special Cut Ditch @ 0.30%
Special Cut Ditch @ 1.72%
Special Cut Ditch @ 1.00%
Special Cut Ditch @ 0.15%
Special Cut Ditch @ 4.54%
Special Cut Ditch @ 0.62%
Special Cut Ditch @ 0.75%
Special Cut Ditch @ 0.20%
Special Cut Ditch @ 0.20%

STA. 25+00.00 RT ELEV. 74.49
STA. 26+00.00 RT ELEV. 74.02
STA. 26+50.00 LT ELEV. 74.36
STA. 30+00.00 RT ELEV. 73.57
STA. 30+00.00 LT ELEV. 73.31
STA. 30+50.00 RT ELEV. 74.43
STA. 31+00.00 LT ELEV. 73.16
STA. 31+50.00 RT ELEV. 75.43
STA. 32+00.00 LT ELEV. 77.70
STA. 34+00.00 RT ELEV. 75.80
STA. 33+50.00 LT ELEV. 75.76
STA. 34+00.00 RT ELEV. 75.80
STA. 35+00.00 LT ELEV. 74.63

30" RCP-IV STA. 30+05

DRAINAGE AREA	=	8.33 AC
DESIGN FREQUENCY	=	25 YR
DESIGN DISCHARGE	=	20.00 CFS
DESIGN HW ELEVATION	=	75.91 FT
Q100 DISCHARGE	=	24.00 CFS
Q100 HW ELEVATION	=	76.26 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	35 CFS
OVERTOPPING ELEVATION	=	77.32 FT

-Y17-

10+00 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
24+00 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
120 110 100 90 80 70 60 50 40 30

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: dwalnwri DATE: 1/25/2016 TIME: 2:48:18 PM
FILE: North_Carolina_Dept_of_Transportation\R-2250A_B_C_Greenville_Southwest_Bypass_DB\06.00_Project_Design\R-2250_NCDOT_File_Structure\Roadway\Proj\R2250_RDY_PFL-150.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2250	151
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 41+80.00
EL = 79.79'
K = 293
VC = 180'
V = 80+ MPH

PI = 45+25.00
EL = 81.81'
K = 345
VC = 300'
V = 75 MPH

PI = 50+85.00
EL = 80.23'
K = 342
VC = 180'
V = 80+ MPH

PROPOSED GRADE

(+)0.5869%
(-)0.2830%
(-)0.0273%
(+)0.5869%
(-)0.2830%
(+)0.2425%

Special Cut Ditch @ 0.20%
Special Cut Ditch @ 0.20%
Special Cut Ditch @ 0.26%
Special Cut Ditch @ 0.53%
Special Cut Ditch @ 0.36%
Special Cut Ditch @ 0.15%
Special Cut Ditch @ 0.16%

EXISTING GROUND

STA. 39+50.00 LT
ELEV. 75.33
STA. 39+65.00 RT
ELEV. 74.67
STA. 40+50.00 RT
ELEV. 74.50
STA. 41+00.00 RT
ELEV. 74.37
STA. 41+00.00 LT
ELEV. 74.05
STA. 46+35.00 LT
ELEV. 75.96
STA. 46+50.00 RT
ELEV. 77.29
STA. 46+66.00 LT
ELEV. 76.54
STA. 50+50.00 RT
ELEV. 76.21

30" RCP-IV, STA. 41+00

DRAINAGE AREA	=	7.18 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	19.00 CFS
DESIGN HW ELEVATION	=	76.83 FT
Q100 DISCHARGE	=	21.00 CFS
Q100 HW ELEVATION	=	76.78 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	48 CFS
OVERTOPPING ELEVATION	=	79.81 FT

-Y17-

38+00 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

PI = 54+85.00
EL = 81.20'
K = 701
VC = 350'
V = 80+ MPH

PI = 57+70.00
EL = 80.47'
K = 762
VC = 180'
V = 80+ MPH

PI = 62+95.00
EL = 80.36'
K = 747
VC = 180'
V = 80+ MPH

PI = 65+85.00
EL = 81.00'
K = 371
VC = 280'
V = 75 MPH

PROPOSED GRADE

(+)0.2425%
(-)0.2566%
(-)0.2566%
(-)0.0205%
(-)0.0205%
(+)0.2203%
(+)0.2203%
(-)0.5333%

Special Cut Ditch @ 0.20%
Special Cut Ditch @ 0.16%
Special Cut Ditch @ 0.30%
Special Cut Ditch @ 6.41%
Special Cut Ditch @ 0.30%
Special Cut Ditch @ 0.30%
Special Cut Ditch @ 0.35%
Special Cut Ditch @ 0.52

EXISTING GROUND

STA. 55+00.00 LT
ELEV. 77.78
STA. 57+50.00 LT
ELEV. 77.03
STA. 57+66.00 RT
ELEV. 75.09
STA. 57+78.00 RT
ELEV. 75.09
STA. 57+84.00 LT
ELEV. 74.85
STA. 58+40.00 LT
ELEV. 76.26
STA. 64+68.00 LT
ELEV. 78.14
STA. 64+78.00 RT
ELEV. 77.18
STA. 64+84.00 LT
ELEV. 78.13
STA. 65+00.00 RT
ELEV. 77.25

42" RCP-IV, STA. 57+81

DRAINAGE AREA	=	32.00 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	57.00 CFS
DESIGN HW ELEVATION	=	78.06 FT
Q100 DISCHARGE	=	66.00 CFS
Q100 HW ELEVATION	=	78.41 FT
OVERTOPPING FREQUENCY	=	200+ YR
OVERTOPPING DISCHARGE	=	103 CFS
OVERTOPPING ELEVATION	=	80.38 FT

-Y17-

52+00 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

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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FILE: North_Carolina_Dept_of_Transportation\R-2250A_B_C_Greenville_Southwest_Bypass_DB\06.00_Project_Design\R-2250_NCDOT_File_Structure\Roadway\Proj\R2250_RDY_PFL-151.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2250	152
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 69+00.00
EL = 79.32'
K = 297
VC = 180'
V = 80+ MPH

PI = 73+20.00
EL = 79.63'
K = 275
VC = 180'
V = 80+ MPH

PI = 76+85.00
EL = 82.28'
K = 242
VC = 250'
V = 65 MPH

PROPOSED GRADE

EXISTING GROUND

(-)0.5333%
(+)0.0727%
(-)0.5333%
(+)0.0727%
(+)0.7260%
(-)0.3007%

Special Cut Ditch @ 0.35%
Special Cut Ditch @ 0.52%
Special Cut Ditch @ 0.51%
Special Cut Ditch @ 1.34%
Special Cut Ditch @ 2.17%
Special Cut Ditch @ 2.18%
Special Cut Ditch @ 1.34%
Special Cut Ditch @ 0.28%
Special Cut Ditch @ 0.67%
Special Cut Ditch @ 0.25%
Special Cut Ditch @ 0.20%
Special Cut Ditch @ 0.23%

STA. 68+00.00 RT
ELEV. 75.69

STA. 69+00.00 LT
ELEV. 76.67

STA. 70+00.00 LT
ELEV. 75.33

STA. 70+32.00 LT
ELEV. 74.90

STA. 70+32.00 RT
ELEV. 74.50

STA. 70+50.00 LT
ELEV. 75.29

STA. 71+00.00 LT
ELEV. 76.38

STA. 71+40.00 RT
ELEV. 74.20

STA. 76+75.00 RT
ELEV. 77.80

STA. 77+50.00 LT
ELEV. 78.00

24" RCP-II STA. 70+32

DRAINAGE AREA	=	10.37 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	20.00 CFS
DESIGN HW ELEVATION	=	78.14 FT
Q100 DISCHARGE	=	23.00 CFS
Q100 HW ELEVATION	=	78.74 FT
OVERTOPPING FREQUENCY	=	100 = YR
OVERTOPPING DISCHARGE	=	26 CFS
OVERTOPPING ELEVATION	=	79.41 FT

-Y17-

PI = 83+00.00
EL = 80.43'
K = 605
VC = 180'
V = 80+ MPH

PI = 93+30.00
EL = 80.39'
K = 233
VC = 180'
V = 80+ MPH

PROPOSED GRADE

EXISTING GROUND

(-)0.3007%
(-)0.0032%
(-)0.0032%
(+)0.7680%

Special Cut Ditch @ 0.20%
Special Cut Ditch @ 0.23%
Special Cut Ditch @ 0.24%
Special Cut Ditch @ 0.54%
Special Cut Ditch @ 0.37%
Special Cut Ditch @ 0.24%
Special Cut Ditch @ 2.18%
Special Cut Ditch @ 2.18%
Special Cut Ditch @ 2.16%
Special Cut Ditch @ 2.16%
Special Cut Ditch @ 3.00%
Special Cut Ditch @ 0.28%
Special Cut Ditch @ 0.39%

STA. 82+50.00 RT
ELEV. 76.46

STA. 85+00.00 LT
ELEV. 76.50

STA. 87+75.00 LT
ELEV. 75.02

STA. 90+50.00 LT
ELEV. 74.00

STA. 90+75.00 LT
ELEV. 73.45

STA. 90+97.00 RT
ELEV. 74.47

STA. 90+94.00 LT
ELEV. 73.04

STA. 90+96.00 RT
ELEV. 74.47

STA. 91+25.00 LT
ELEV. 73.71

STA. 91+80.00 LT
ELEV. 74.90

STA. 92+00.00 LT
ELEV. 75.50

42" RCP-IV STA. 90+94

DRAINAGE AREA	=	36.48 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	64.00 CFS
DESIGN HW ELEVATION	=	77.24 FT
Q100 DISCHARGE	=	74.00 CFS
Q100 HW ELEVATION	=	77.85 FT
OVERTOPPING FREQUENCY	=	500 YR
OVERTOPPING DISCHARGE	=	125 CFS
OVERTOPPING ELEVATION	=	80.50 FT

-Y17-

66+00 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 80+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 94+00

120 110 100 90 80 70 60 50 40 30

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	153
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: dwalnwri DATE: 1/25/2016 TIME: 2:48:44 PM
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	154
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BEGIN GRADE
-Y17RPA- STA. 10+00.00 =
-L- 490+00.00 (47' LT)
EL. = 84.15'

PI = 12+25.00
EL = 85.16'
K = 278
VC = 300'
V = 70 MPH

PI = 18+30.00
EL = 81.36'
K = 485
VC = 450'
V = 80+ MPH

PROPOSED GRADE

(+)0.4500%

(-)0.6285%

(-)0.6285%

(+)0.3000%

(+)0.3000%

EXISTING GROUND

4' Base Ditch @ 0.12%

Lat V Ditch @ 0.95%

2' Base Ditch @ 0.15%

4' Base Ditch @ 0.08%

STA. 10+70.00 RT
ELEV. 70.75

STA. 17+05.00 LT
ELEV. 71.70

STA. 17+05.00 RT
ELEV. 71.51

STA. 20+00.00 LT
ELEV. 74.50

STA. 22+32.00 LT
ELEV. 72.53

STA. 22+32.00 RT
ELEV. 72.40

36" RCP-II STA. 17+05

DRAINAGE AREA	=	17.67 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	33.00 CFS
DESIGN HW ELEVATION	=	74.71 FT
Q100 DISCHARGE	=	38.00 CFS
Q100 HW ELEVATION	=	75.04 FT
OVERTOPPING FREQUENCY	=	100+ YR
OVERTOPPING DISCHARGE	=	41 CFS
OVERTOPPING ELEVATION	=	75.23 FT

24" RCP-III STA. 22+32

DRAINAGE AREA	=	4.17 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	11.00 CFS
DESIGN HW ELEVATION	=	74.51 FT
Q100 DISCHARGE	=	12.00 CFS
Q100 HW ELEVATION	=	74.67 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	18 CFS
OVERTOPPING ELEVATION	=	75.80 FT

-Y17RPA-

END GRADE
-Y17RPA- STA. 30+85.10 =
-Y17- STA. = 25+64.54 (38.0' LT)
EL. = 77.89'

PI = 26+40.00
EL = 83.79'
K = 242
VC = 500'
V = 65 MPH

PI = 29+90.00
EL = 77.61'
K = 51
VC = 105'
V = 35 MPH

(+)0.3000%

(-)1.7666%

(-)1.7666%

(+)0.3000%

(+)1.9266%

Special Cut Ditch @ 0.81%

2' Base Ditch @ 0.15%

4' Base Ditch @ 0.08%

2' Base Ditch @ 0.34%

EXISTING GROUND

Special Cut Ditch @ 0.30%

STA. 26+22.00 RT
ELEV. 72.70

STA. 26+45.00 LT
ELEV. 73.15

STA. 28+50.00 LT
ELEV. 75.78

STA. 29+50.00 RT
ELEV. 73.80

STA. 30+00.00 LT
ELEV. 74.57

STA. 30+50.00 RT
ELEV. 74.10

-Y17RPA-

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	155
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BEGIN GRADE
-Y17RPB- STA.10+00.00 =
-L- STA.455+44.98 (47.0' LT)
EL.= 84.71'

PI = 11+70.00
EL = 84.15'
K = 321
VC = 180'
V = 75 MPH

PI = 14+20.00
EL = 81.92'
K = 110
VC = 180'
V = 50 MPH

PI = 16+00.00
EL = 83.26'
K = 139
VC = 180'
V = 55 MPH

PI = 19+75.00
EL = 81.20'
K = 187
VC = 240'
V = 70 MPH

PI = 22+40.00
EL = 83.15'
K = 84
VC = 230'
V = 50 MPH

(-)0.3300% (-)0.8905% (-)0.8905% (+)0.7437% (+)0.7437% (-)0.5497% (-)0.5497% (+)0.7358% (+)0.7358% (-)1.9869%

PROPOSED GRADE

EXISTING GROUND

Special Cut Ditch @ 1.73%

42" RCP-IV, STA. 21+17

DRAINAGE AREA	=	22.51 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	41.00 CFS
DESIGN HW ELEVATION	=	77.56 FT
Q100 DISCHARGE	=	47.00 CFS
Q100 HW ELEVATION	=	77.84 FT
OVERTOPPING FREQUENCY	=	100+ YR
OVERTOPPING DISCHARGE	=	45 CFS
OVERTOPPING ELEVATION	=	77.73 FT

STA. 23+50.00 LT
ELEV. 76.84

STA. 24+00.00 RT
ELEV. 76.81

-Y17RPB-

10+00 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

120 110 100 90 80 70 60 50 40 30

END GRADE
-Y17RPB- STA.26+21.13 =
-Y17- STA.25+54.36 (38.00' RT)
EL.= 77.89'

PI = 25+20.00
EL = 77.59'
K = 48
VC = 110'
V = 30 MPH

PROPOSED GRADE

(-)1.9869% (+)0.3000% (+)2.0000%

Special Cut Ditch @ 2.70%

Special Cut Ditch @ 0.12%

Special Cut Ditch @ 0.28%

STA. 25+50.00 LT
ELEV. 74.25

STA. 25+00.00 RT
ELEV. 74.11

STA. 25+50.00 RT
ELEV. 74.05

STA. 25+85.00 LT
ELEV. 74.49

EXISTING GROUND

18" RCP-IV, STA. 25+00

DRAINAGE AREA	=	2.71 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	6.40 CFS
DESIGN HW ELEVATION	=	75.85 FT
Q100 DISCHARGE	=	6.90 CFS
Q100 HW ELEVATION	=	75.95 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	13 CFS
OVERTOPPING ELEVATION	=	77.73 FT

-Y17RPB-

24+00 25+00 26+00

120 110 100 90 80 70 60 50 40 30

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	156
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BEGIN GRADE
-Y17RPC- STA. 10+00.00 =
-L- 458+75.60 (47.00' RT)
EL. = 84.68'

PI = 11+05.00
EL = 84.36'
K = 260
VC = 90'
V = 70 MPH

PI = 13+60.00
EL = 82.71'
K = 164
VC = 155'
V = 65 MPH

PI = 15+40.00
EL = 83.25'
K = 342
VC = 205'
V = 75 MPH

PI = 17+20.00
EL = 82.71'
K = 258
VC = 155'
V = 80+ MPH

(-)0.3000% (-)0.6465% (-)0.6465% (+)0.3000% (+)0.3000% (-)0.3000% (-)0.3000% (+)0.3000% (+)0.3000%

PROPOSED GRADE

EXISTING GROUND

2' Base Ditch @ 0.92%

2' Base Ditch @ 0.94%

STA. 19+97.00 LT ELEV. 74.10
STA. 20+21.00 RT ELEV. 74.91
STA. 20+74.00 RT ELEV. 75.40
STA. 21+03.00 LT ELEV. 75.10

24" RCP-III STA. 20+14

DRAINAGE AREA	=	7.62 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	22.00 CFS
DESIGN HW ELEVATION	=	78.00 FT
Q100 DISCHARGE	=	24.00 CFS
Q100 HW ELEVATION	=	78.44 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	40 CFS
OVERTOPPING ELEVATION	=	82.83 FT

-Y17RPC-

10+00 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

120 110 100 90 80 70 60 50 40 30

END GRADE
-Y17RPC- STA. 30+74.00 =
-Y17- STA. 40+06.55 (38.00' RT)
EL. = 79.08'

PI = 25+75.00
EL = 85.28'
K = 225
VC = 450'
V = 65 MPH

PI = 29+60.00
EL = 78.74'
K = 53
VC = 105'
V = 35 MPH

(+)0.3000% (-)1.6996% (-)1.6996% (+)0.3000% (+)1.9248%

PROPOSED GRADE

EXISTING GROUND

Special Cut Ditch @ 3.31%

Special Cut Ditch @ 0.55%

STA. 29+50.00 RT ELEV. 76.98
STA. 29+50.00 LT ELEV. 75.08
STA. 30+25.00 LT ELEV. 74.67
STA. 30+25.00 RT ELEV. 74.50

24" RCP-IV STA. 30+25

DRAINAGE AREA	=	5.26 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	15.00 CFS
DESIGN HW ELEVATION	=	76.95 FT
Q100 DISCHARGE	=	17.00 CFS
Q100 HW ELEVATION	=	77.22 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	24 CFS
OVERTOPPING ELEVATION	=	77

-Y17RPC-

24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00

120 110 100 90 80 70 60 50 40 30

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	157
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BEGIN GRADE
-Y17RPD- STA. 10+00.00 =
-L- STA. 492+84.45 (47.00' RT)
EL. = 83.18'

PI = 11+85.00
EL = 83.02'
K = 319
VC = 180'
V = 75 MPH

PI = 13+85.00
EL = 81.71'
K = 146
VC = 220'
V = 60 MPH

PI = 16+50.00
EL = 83.98'
K = 268
VC = 310'
V = 70 MPH

PI = 23+40.00
EL = 81.91'
K = 89
VC = 160'
V = 50 MPH

(-)0.0869%
(-)0.6519%
(-)0.6519%
(+)0.8568%
(+)0.8568%
(-)0.3000%
(-)0.3000%
(-)12.0978%

PROPOSED GRADE
EXISTING GROUND
4' Base Ditch @ 0.16%

STA. 12+00.00 LT
ELEV. 71.89'

STA. 24+00.00 LT
ELEV. 73.77'

-Y17RPD-

10+00 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

END GRADE
-Y17RPD- STA. 25+93.18 =
-Y17- STA. 40+13.40 (38.00' RT)
EL. = 79.08'

PI = 24+90.00
EL = 78.77'
K = 37
VC = 90'
V = 30 MPH

PROPOSED GRADE
(-)12.0978%
(+)0.3000%
(+)1.9898%
Special Cut Ditch @ 0.16%
EXISTING GROUND

STA. 25+25.00 LT
ELEV. 73.97'

-Y17RPD-

24+00 25+00 26+00

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: dwalnwri DATE: 1/25/2016 TIME: 2:49:22 PM
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	157A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BEGIN GRADE
-Y17LPAF- STA. 10+00.00
EL.= 106.50'

PI = 12+10.00
EL = 105.87'
K = 134
VC = 300'
V = 55 MPH

(-)10.3000%
(-)12.5321%

-Y17LPAF-

END GRADE
-Y17LPAF- STA. 26+65.50
EL.= 77.95'

PI = 23+50.00
EL = 77.00'
K = 141
VC = 400'
V = 60 MPH

(-)12.5321%
(+)10.3000%

-Y17LPAF-

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: dwalnwri DATE: 1/25/2016 TIME: 2:49:33 PM
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	157B
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BEGIN GRADE
-Y17LPBF- STA. 10+00.00
EL.= 102.25'

PI = 12+00.00
EL = 97.97'
K = 343
VC = 400'
V = 75 MPH

(-)2.1397%
(-)3.3047%

PI = 17+60.00
EL = 79.46'
K = 133
VC = 400'
V = 55 MPH

(-)3.3047%
(-)0.3000%

END GRADE
-Y17LPBF- STA. 22+12.33
EL.= 78.11'

-Y17LPBF-

BEGIN GRADE
-Y17LPCF- STA. 10+00.00
EL.= 105.82'

PI = 11+60.00
EL = 104.35'
K = 138
VC = 280'
V = 55 MPH

(-)0.9201%
(-)2.9421%

PI = 19+70.00
EL = 80.52'
K = 114
VC = 300'
V = 50 MPH

(-)2.9421%
(-)0.3000%

-Y17LPCF-

130 120 110 100 90 80 70 60 50 40

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: dwalnwri
FILE: North_Carolina_Dept_of_Transportation\R-2250A_B_C_Greenville_Southwest_Bypass_DB\06.00_Project_Design\R-2250_NCDOT_File_Structure\Roadway\Proj\R2250_RDY_PFL-157B.dgn
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DATE: 1/25/2016
TIME: 2:49:47 PM

PROJECT REFERENCE NO.	SHEET NO.
R-2250	157C
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

END GRADE
-Y17LPCF- STA. 26+65.50
EL. = 78.43'

(-)0.3000%

-Y17LPCF-

BEGIN GRADE
-Y17LPDF- STA. 10+00.00
EL. = 105.51'

PI = 12+00.00
EL = 103.09'
K = 92
VC = 280'
V = 50 MPH

(-)11.2100%

(-)14.2516%

PI = 17+30.00
EL = 80.56'
K = 76
VC = 300'
V = 40 MPH

(-)14.2516%

(-)10.3000%

END GRADE
-Y17LPDF- STA. 22+15.46
EL. = 79.10'

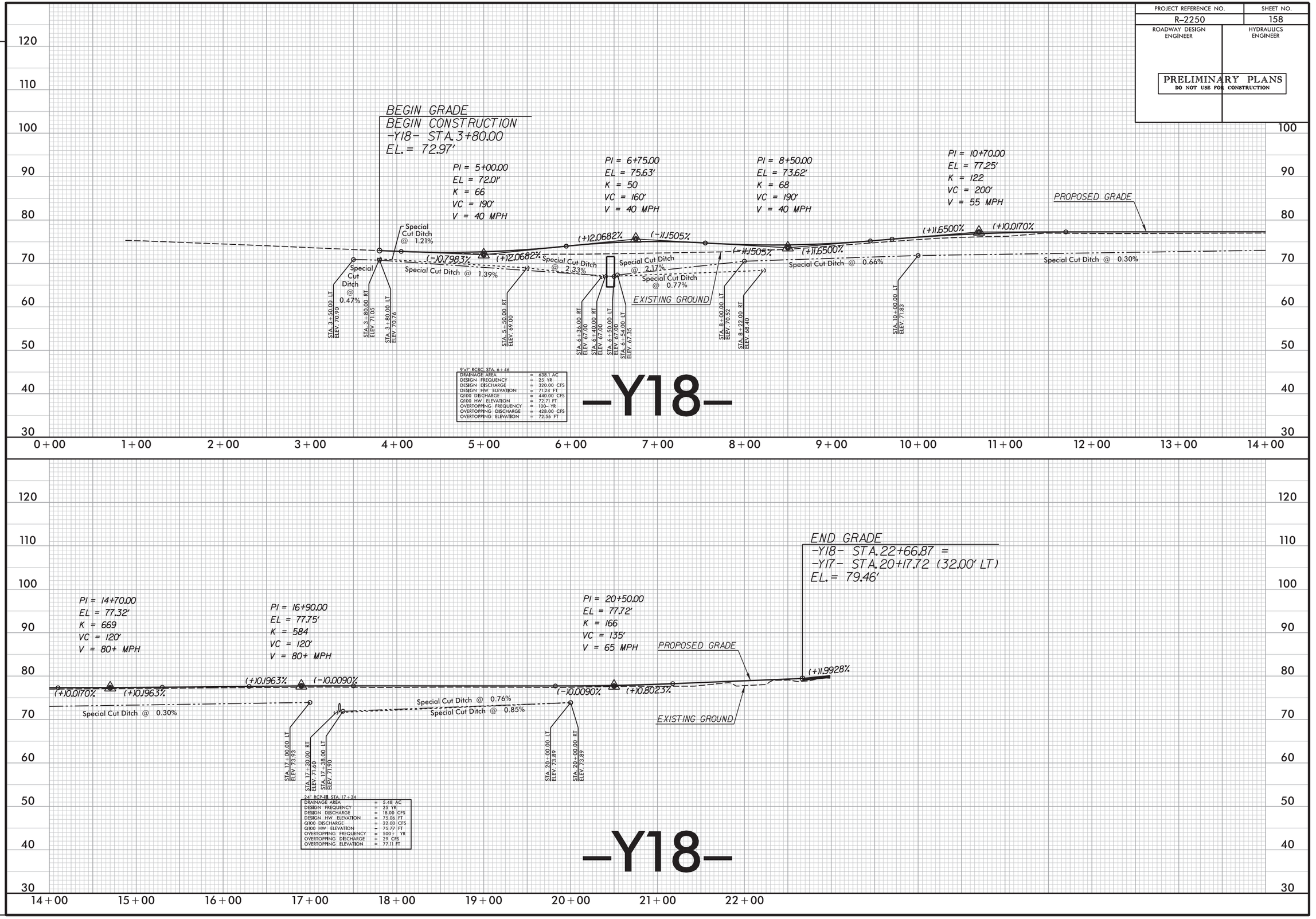
-Y17LPDF-

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	158
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

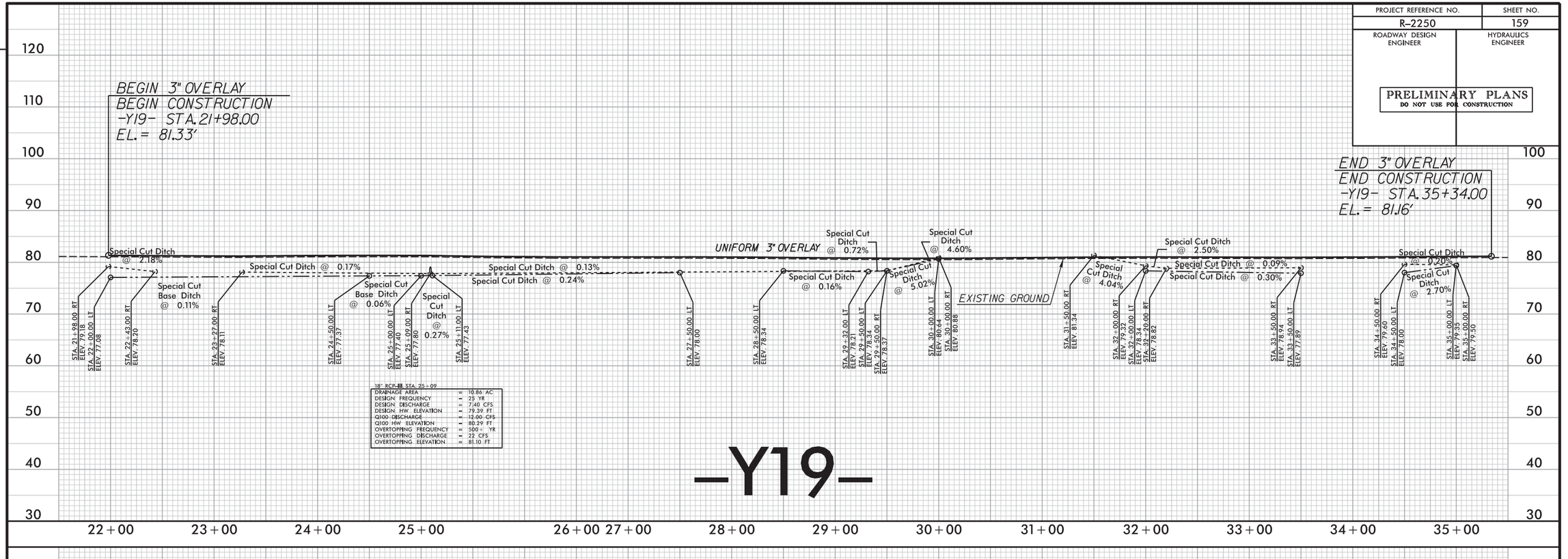


REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	159
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	160
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BEGIN 3" OVERLAY
BEGIN CONSTRUCTION
-Y20- STA. 11+10.00
EL. = 84.03'

UNIFORM 3" OVERLAY

EXISTING GROUND

Special Cut Ditch @ 0.47%

STA. 23+15.00 LT
ELEV. 82.14

STA. 23+87.00 RT
ELEV. 82.31

STA. 23+87.00 LT
ELEV. 81.80

-Y20-

END 3" OVERLAY
END CONSTRUCTION
-Y20- STA. 28+08.00
EL. = 81.89'

Special Cut Ditch @ 0.30%

UNIFORM 3" OVERLAY

Special Cut Ditch @ 0.20%

Special Cut Ditch @ 5.80%

Special Cut Ditch @ 2.89%

EXISTING GROUND

STA. 24+50.00 RT
ELEV. 82.50

STA. 25+00.00 LT
ELEV. 82.03

STA. 23+87.00 RT
ELEV. 82.31

STA. 26+75.00 LT
ELEV. 80.79

STA. 27+00.00 LT
ELEV. 79.34

STA. 23+87.00 RT
ELEV. 82.31

30" RCP-III STA. 28+10

DRAINAGE AREA	=	15.17 AC
DESIGN FREQUENCY	=	25 YR
DESIGN DISCHARGE	=	21.00 CFS
DESIGN HW ELEVATION	=	78.76 FT
Q100 DISCHARGE	=	33.00 CFS
Q100 HW ELEVATION	=	80.87 FT
OVERTOPPING FREQUENCY	=	100+ YR
OVERTOPPING DISCHARGE	=	37 CFS
OVERTOPPING ELEVATION	=	81.64 FT

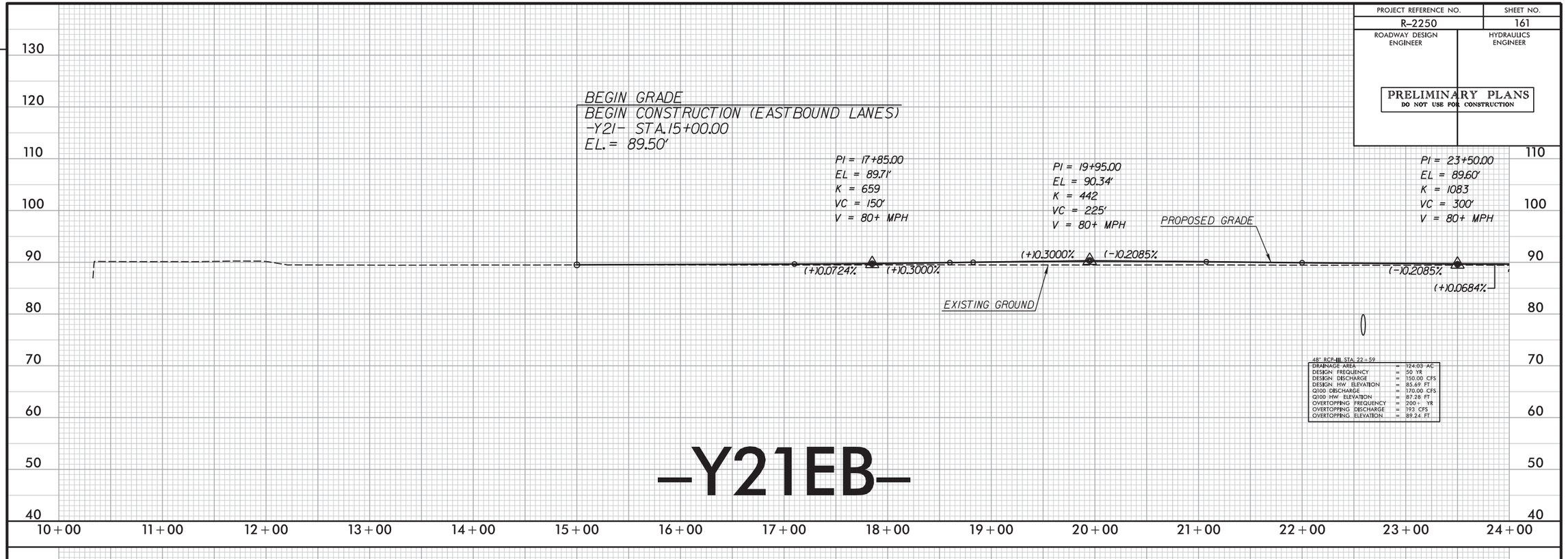
-Y20-

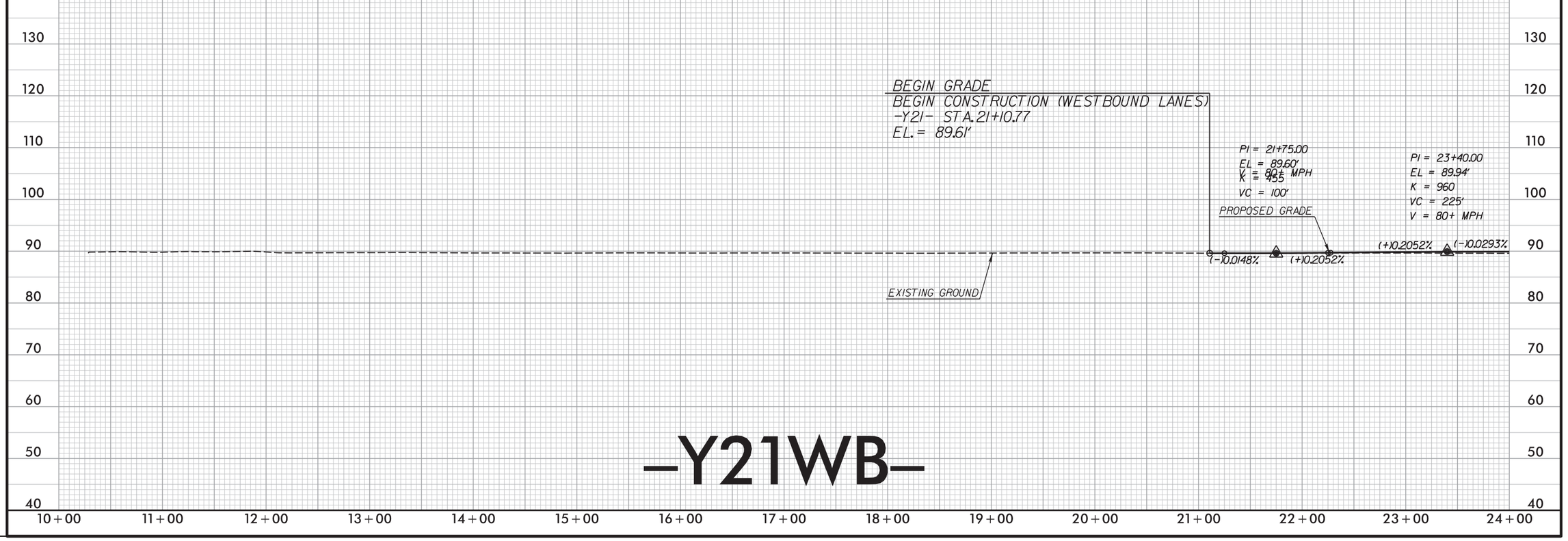
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	161
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





REVISIONS

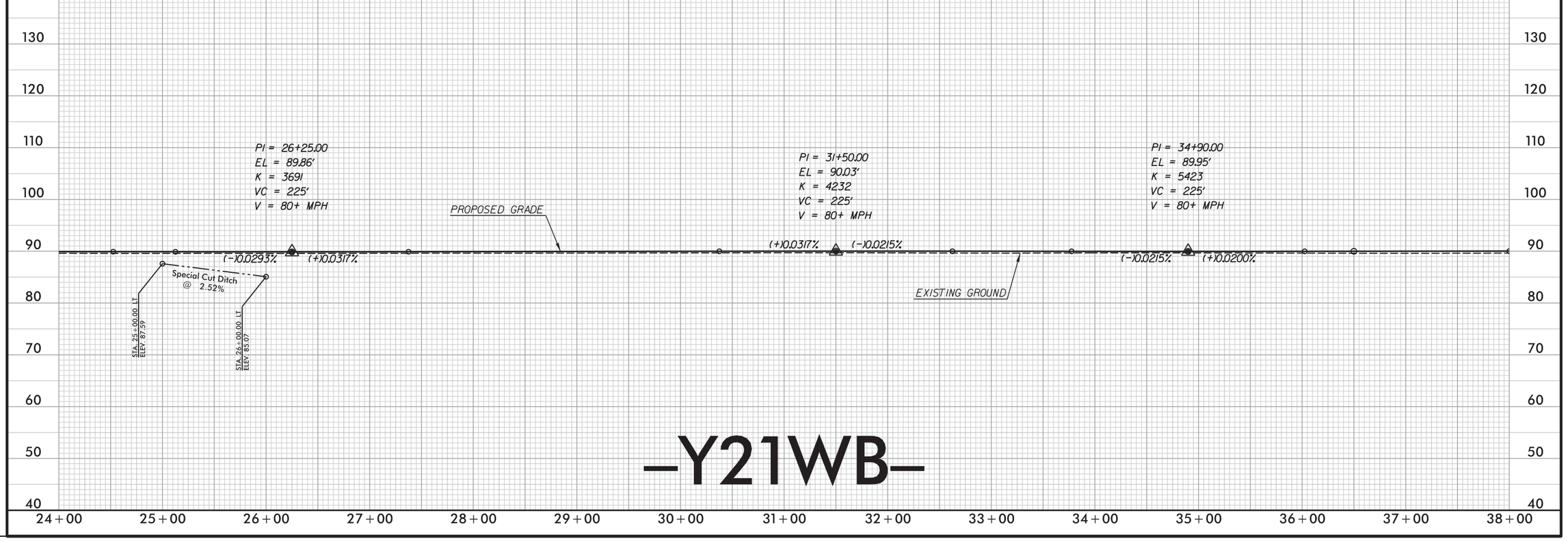
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	162
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



-Y21EB-



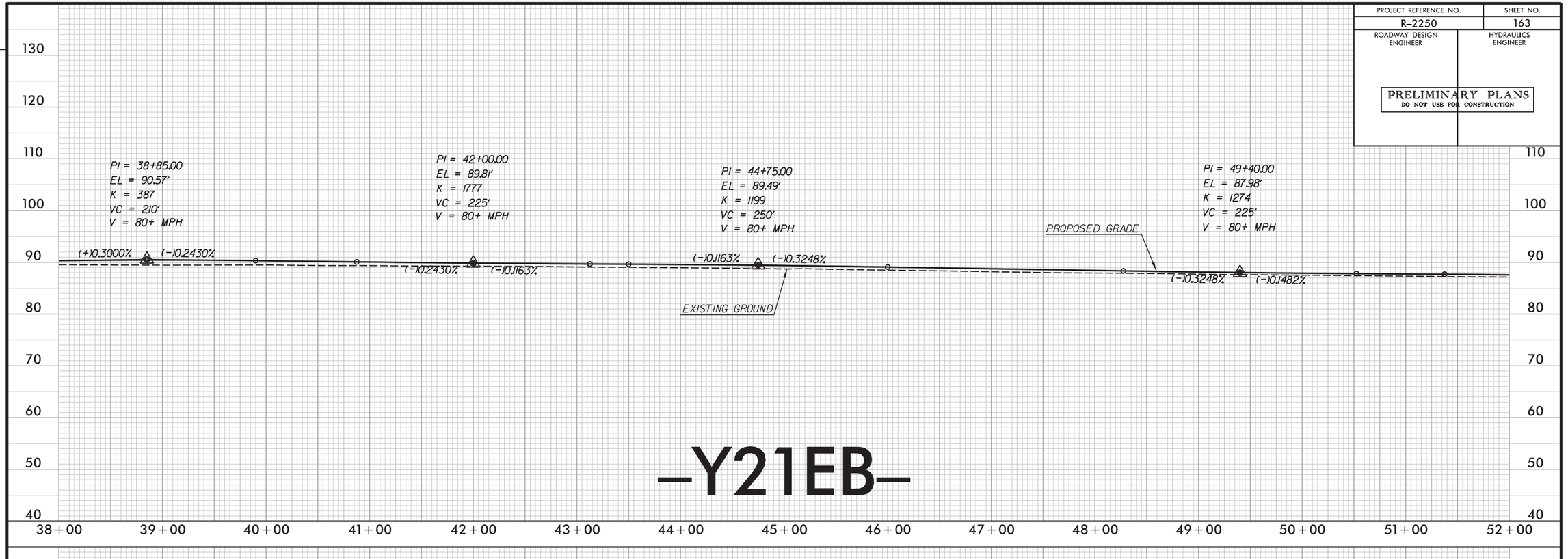
-Y21WB-

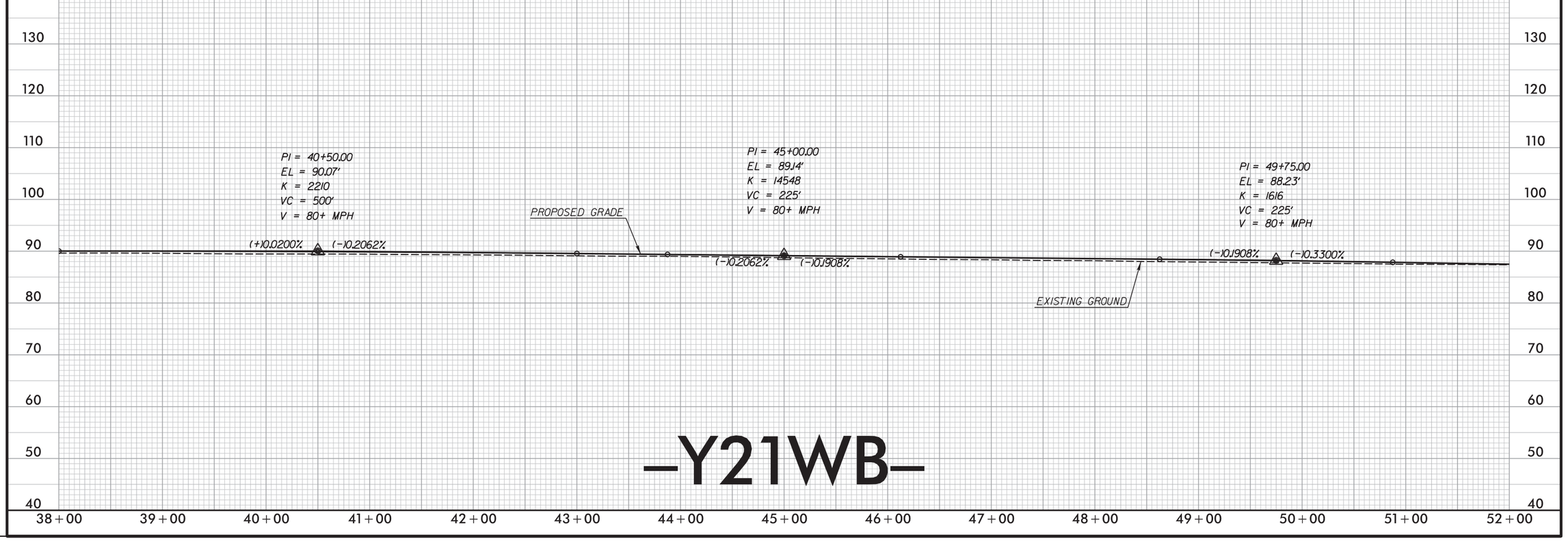
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	163
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





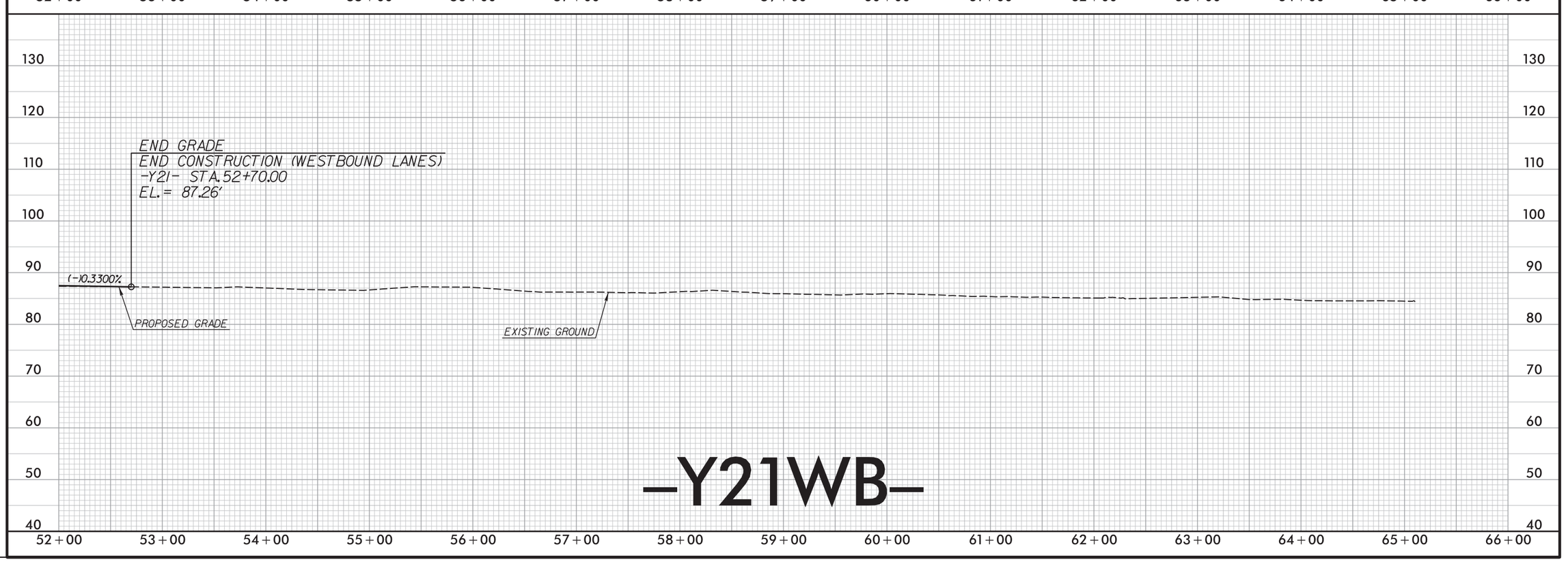
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	164
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



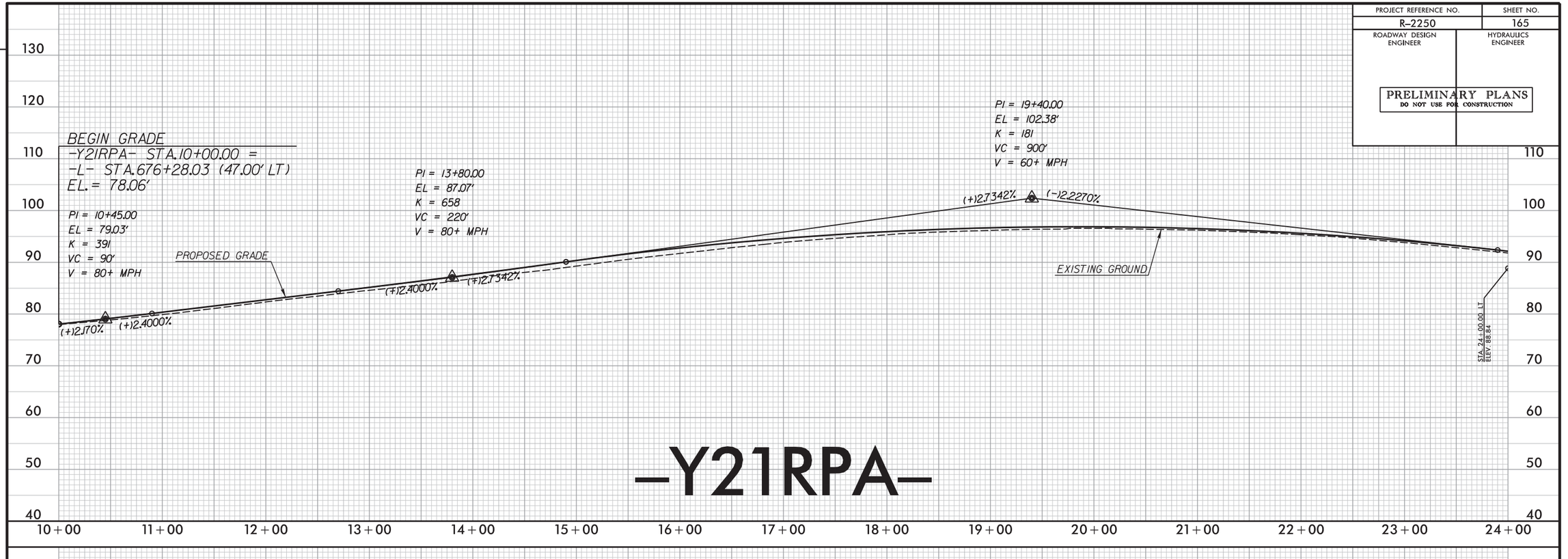


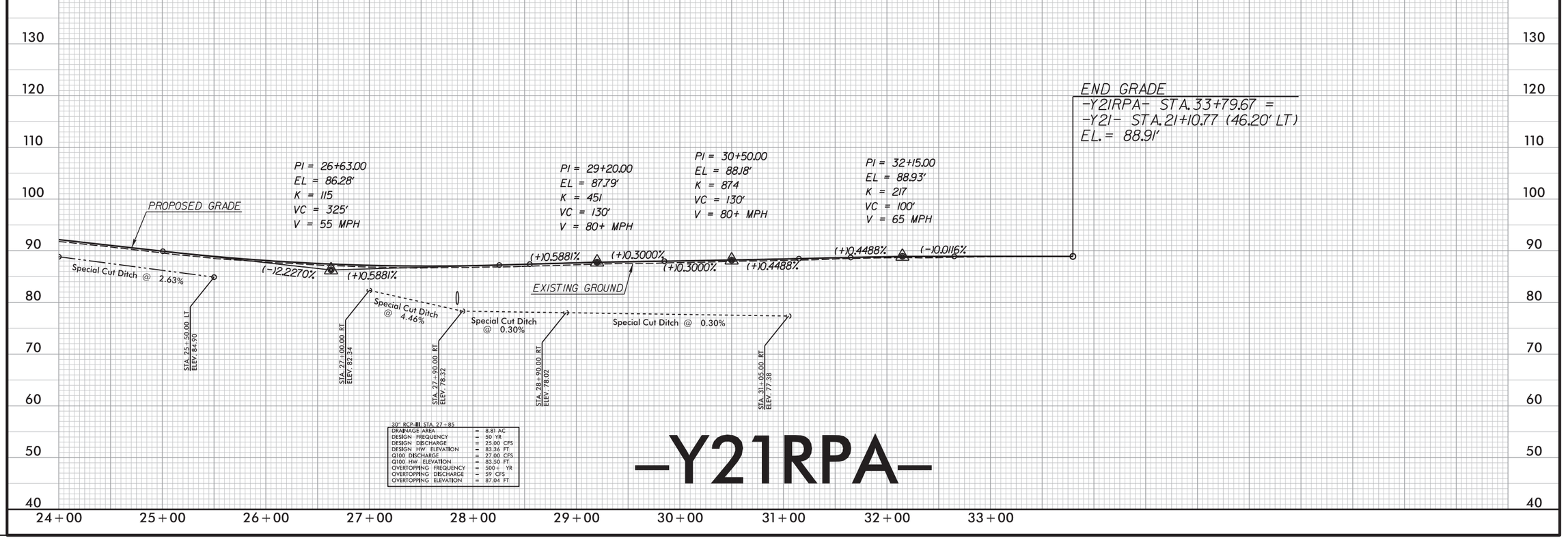
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	165
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



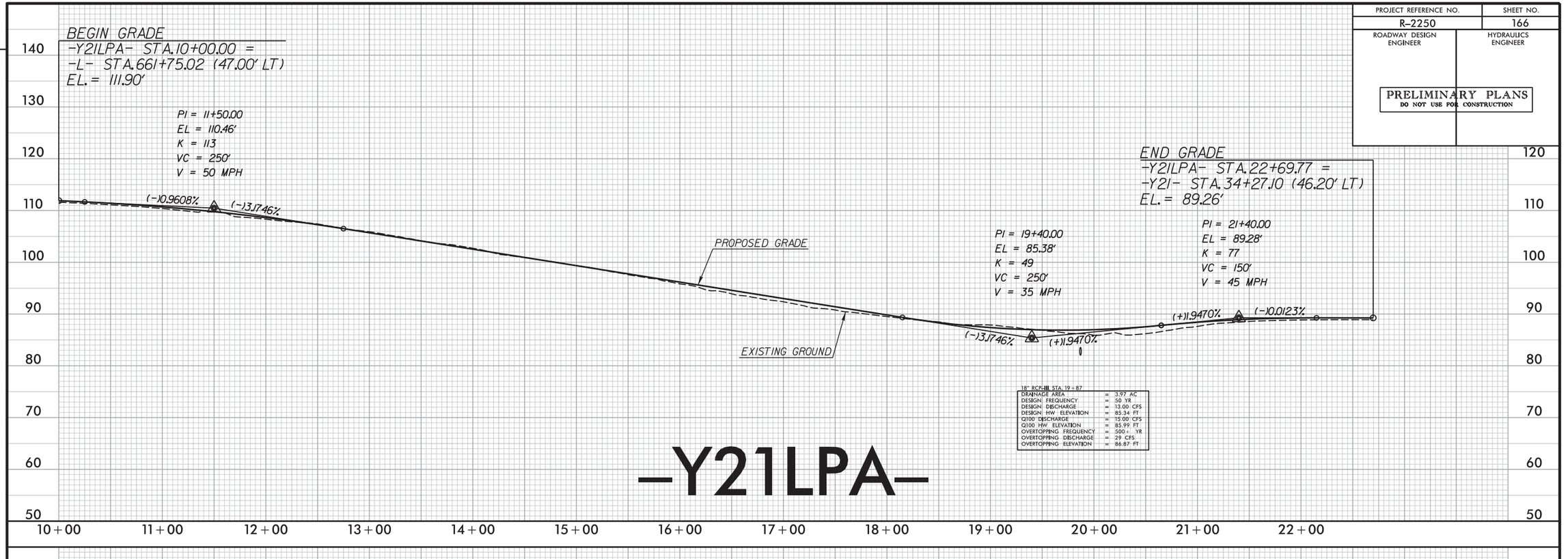


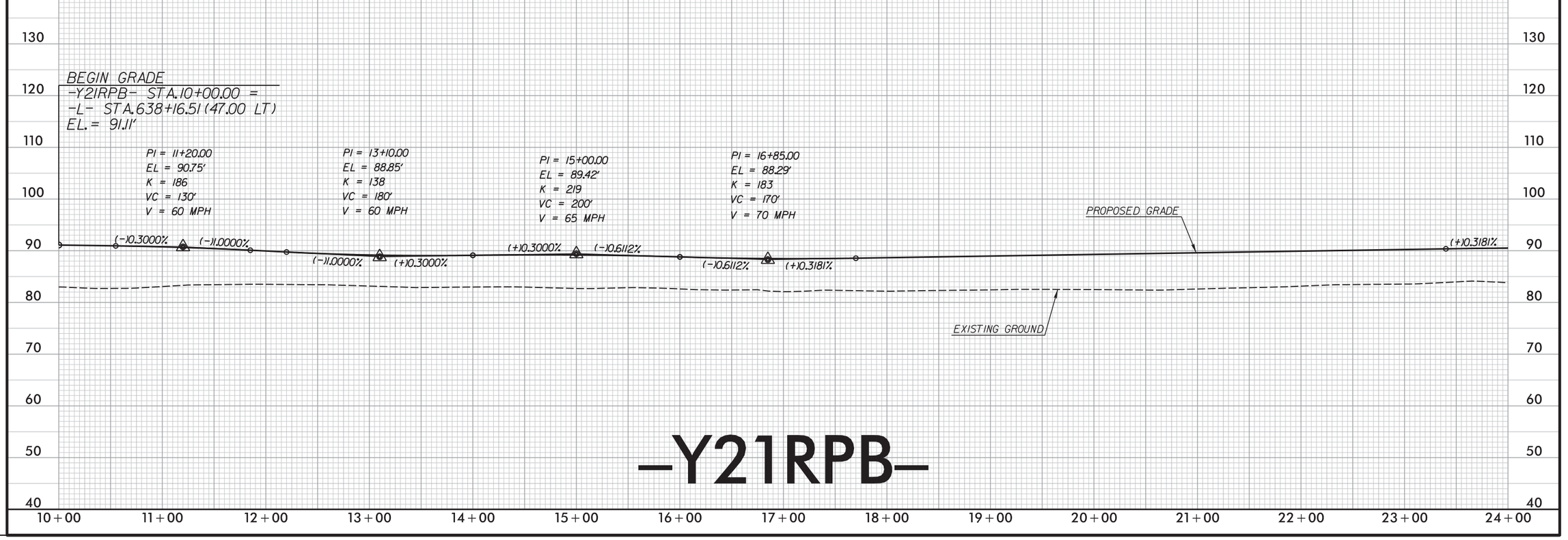
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	166
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	167
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 24+40.00
EL = 90.69'
K = 283
VC = 200'
V = 70 MPH

PI = 27+10.00
EL = 89.64'
K = 144
VC = 180'
V = 60 MPH

PI = 29+70.00
EL = 91.87'
K = 129
VC = 200'
V = 55 MPH

PI = 34+05.00
EL = 88.89'
K = 114
VC = 180'
V = 50 MPH

PI = 37+10.00
EL = 91.62'
K = 150
VC = 250'
V = 55 MPH

(+)0.3181% (-)0.3892% (-)0.3892% (+)0.8583% (+)0.8583% (-)0.6865% (-)0.6865% (+)0.8959% (+)0.8959% (-)0.7660%

PROPOSED GRADE

EXISTING GROUND

Special Cut Ditch @ 3.50%

Special Cut Ditch @ 1.86%

Special Cut Ditch @ 0.39%

30" RCP-III STA. 29+50

DRAINAGE AREA	=	8.55 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	24.00 CFS
DESIGN HW ELEVATION	=	81.54 FT
Q100 DISCHARGE	=	25.00 CFS
Q100 HW ELEVATION	=	81.63 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	75 CFS
OVERTOPPING ELEVATION	=	89.24 FT

STA. 29+50.00 RT
ELEV. 78.88

STA. 29+50.00 LT
ELEV. 78.60

STA. 30+00.00 RT
ELEV. 80.63

STA. 33+00.00 RT
ELEV. 86.22

STA. 36+25.00 LT
ELEV. 75.65

-Y21RPB-

130 120 110 100 90 80 70 60 50 40

24+00 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

END GRADE
-Y21RPB- STA. 39+25.52 =
-Y21- STA. 18+70.50 (46.20 RT)
EL. = 89.97'

(-)0.7660%

-Y21RPB-

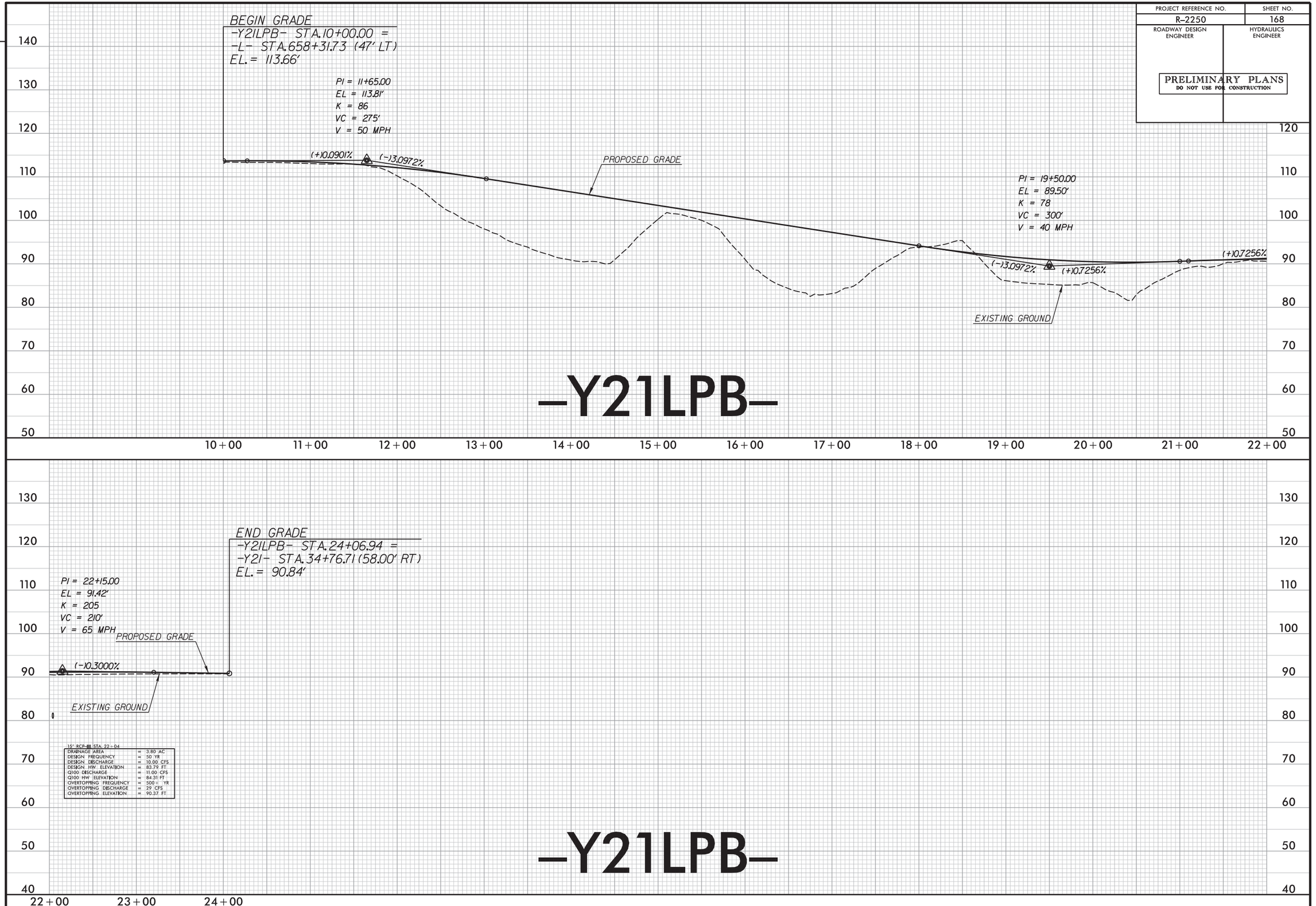
38+00 39+00

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	168
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	169
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BEGIN GRADE
-Y2IRPC- STA.10+00.00 =
-L- STA.642+07.11 (47.00' RT)
EL. = 93.33'

PI = 12+17.50
EL = 94.63'
K = 230
VC = 400'
V = 75 MPH

PROPOSED GRADE

(+)0.5963%

(+)2.3328%

PI = 18+45.00
EL = 109.27'
K = 136
VC = 550'
V = 55 MPH

(+)2.3328%

(-)11.7239%

(-)11.7239%

4' Base Ditch @ 0.13%

STA. 12+50.00 RT
ELEV. 79.20

STA. 15+65.00 RT
ELEV. 79.60

EXISTING GROUND

STA. 20+00.00 RT
ELEV. 80.94

2' Base Ditch @ 0.20%

Lat V Ditch @ 4.37%

STA. 21+20.00 LT
ELEV. 87.61

STA. 21+50.00 LT
ELEV. 86.30

STA. 22+17.00 RT
ELEV. 81.37

STA. 22+50.00 LT
ELEV. 86.14

2' Base Ditch @ 0.46%

Lat V Ditch @ 0.30%

STA. 23+10.00 RT
ELEV. 81.80

STA. 23+70.00 LT
ELEV. 86.50

18" RCP-III STA. 23+19

DRAINAGE AREA	=	3.58 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	9.00 CFS
DESIGN HW ELEVATION	=	86.84 FT
Q100 DISCHARGE	=	9.70 CFS
Q100 HW ELEVATION	=	86.98 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	26 CFS
OVERTOPPING ELEVATION	=	96.45 FT

-Y21RPC-

END GRADE
-Y2IRPC- STA.37+60.78 =
-Y2I- STA.50+50.00 (46.40' LT)
EL. = 87.22'

PI = 32+50.00
EL = 85.05'
K = 155
VC = 400'
V = 60 MPH

PI = 35+40.00
EL = 87.53'
K = 180
VC = 180'
V = 60 MPH

(-)11.7239%

PROPOSED GRADE

Special Cut Ditch @ 5.30%

STA. 25+00.00 LT
ELEV. 93.39

EXISTING GROUND

(-)11.7239%

(+)0.8574%

(+)0.8574%

(-)10.1411%

24" RCP-III STA. 31+83

DRAINAGE AREA	=	6.69 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	19.00 CFS
DESIGN HW ELEVATION	=	83.55 FT
Q100 DISCHARGE	=	20.00 CFS
Q100 HW ELEVATION	=	83.73 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	35 CFS
OVERTOPPING ELEVATION	=	87.13 FT

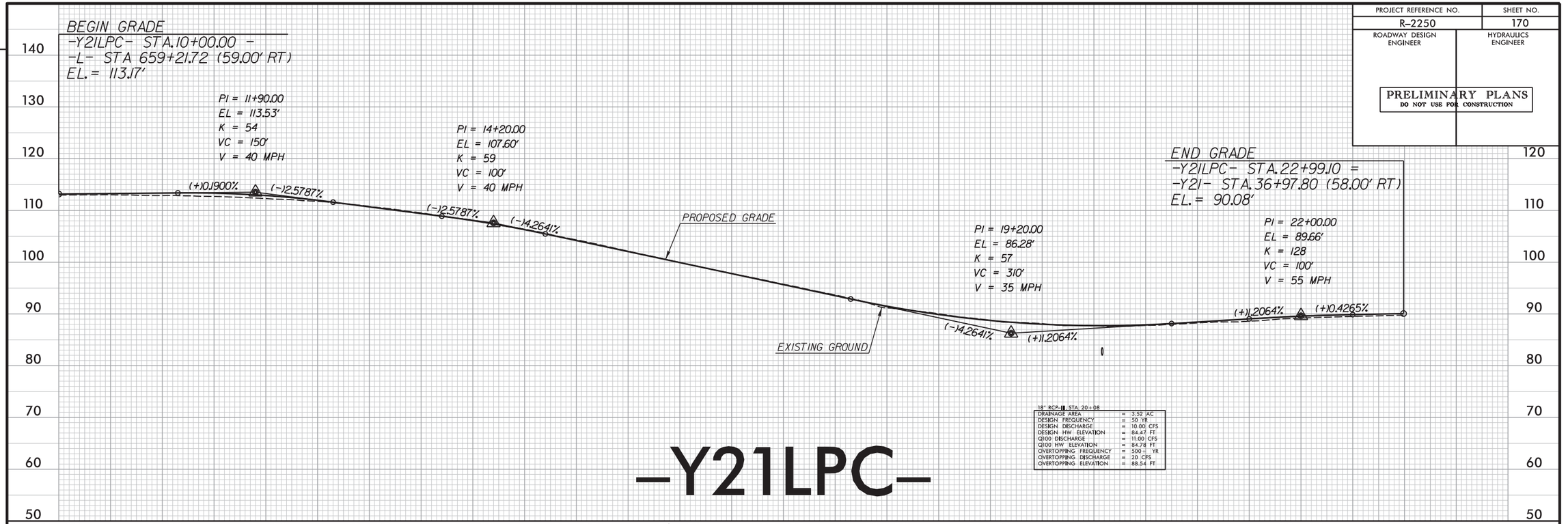
-Y21RPC-

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	170
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



18" RCP-B STA. 20+08

DRAINAGE AREA	=	3.52 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	10.00 CFS
DESIGN HW ELEVATION	=	84.47 FT
Q100 DISCHARGE	=	11.00 CFS
Q100 HW ELEVATION	=	84.78 FT
OVERTOPPING FREQUENCY	=	500 + YR
OVERTOPPING DISCHARGE	=	20 CFS
OVERTOPPING ELEVATION	=	88.34 FT

-Y21LPC-

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: dwalnwri DATE: 1/25/2016 TIME: 2:52:04 PM
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	171
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BEGIN GRADE
-Y21RPD- STA.10+00.00 =
-L- STA.376+63.65 (47.00' RT)
EL.= 85.17'

PI = 12+00.00
EL = 90.76'
K = 289
VC = 200'
V = 70 MPH

PROPOSED GRADE

(+)2.7955%

(+)2.1032%

PI = 17+43.00
EL = 102.18'
K = 166
VC = 720'
V = 60 MPH

(+)2.1032%

(-)2.2220%

EXISTING GROUND

130 120 110 100 90 80 70 60 50 40

10+00 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

-Y21RPD-

PI = 24+85.00
EL = 85.69'
K = 162
VC = 445'
V = 65 MPH

PROPOSED GRADE

(-)2.2220%

(+)0.5173%

PI = 28+75.00
EL = 87.71'
K = 284
VC = 200'
V = 70 MPH

(+)0.5173%

(-)0.1881%

EXISTING GROUND

END GRADE
-Y21RPD- STA.31+46.98 =
-Y21- STA.5I+15.25 (46.20' RT)
EL.= 87.20'

24" RCP-II STA. 24+18

DRAINAGE AREA	=	10.53 AC
DESIGN FREQUENCY	=	50 YR
DESIGN DISCHARGE	=	20.00 CFS
DESIGN HW ELEVATION	=	83.55 FT
Q100 DISCHARGE	=	23.00 CFS
Q100 HW ELEVATION	=	84.18 FT
OVERTOPPING FREQUENCY	=	200+ YR
OVERTOPPING DISCHARGE	=	36 CFS
OVERTOPPING ELEVATION	=	87.44 FT

130 120 110 100 90 80 70 60 50 40

24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00

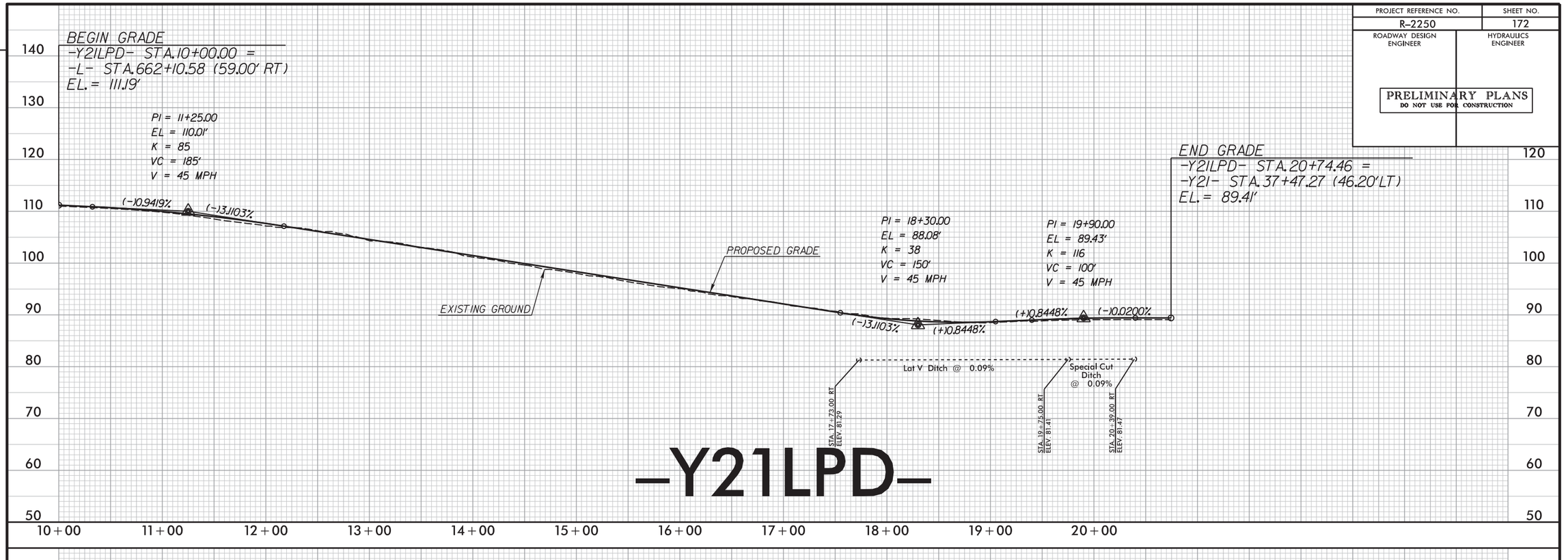
-Y21RPD-

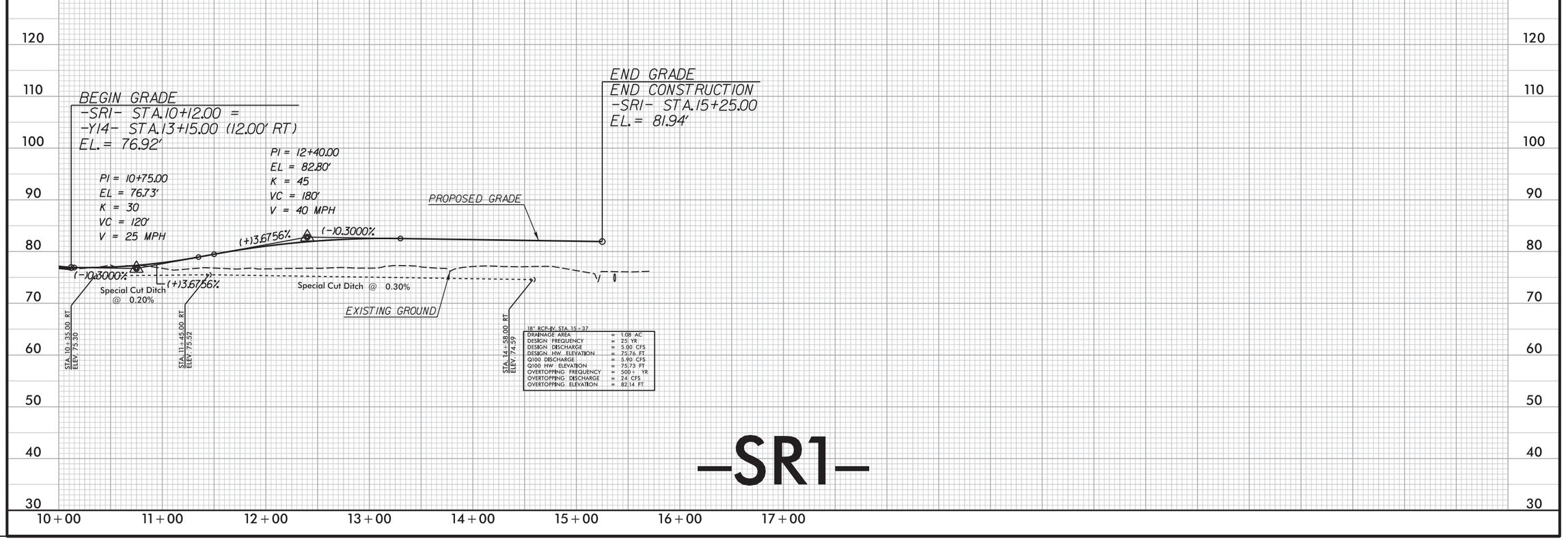
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	172
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	173
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BEGIN GRADE
BEGIN CONSTRUCTION
-SR2- STA. 11+10.00
EL. = 80.86'

PI = 16+65.00
EL = 82.52'
K = 1662
VC = 1,000'
V = 80+ MPH

(+)0.3000%
(-)0.3018%
PROPOSED GRADE
(-)0.3018%
EXISTING GROUND

-SR2-

END GRADE
END CONSTRUCTION
-SR2- STA. 27+28.00 =
-Y14- STA. 45+41.72 (12.00' RT)
EL. = 76.07'

PI = 24+65.00
EL = 80.11'
K = 69
VC = 120'
V = 45 MPH

PI = 26+75.00
EL = 75.81'
K = 40
VC = 100'
V = 30 MPH

PROPOSED GRADE
(-)0.3018%
(-)12.0469%
(-)12.0469%
(+)0.4781%
(+)2.0000%
Special Cut Ditch @ 0.33%
Special Cut Ditch @ 0.30%
EXISTING GROUND

STA. 24+98.00 RT ELEV. 71.80
STA. 26+00.00 LT ELEV. 73.30
STA. 26+50.00 LT ELEV. 73.13
STA. 26+50.00 RT ELEV. 72.30

30" RCP-III, STA. 24+63

DRAINAGE AREA	=	10.68 AC
DESIGN FREQUENCY	=	25 YR
DESIGN DISCHARGE	=	15.00 CFS
DESIGN HW ELEVATION	=	74.44 FT
Q100 DISCHARGE	=	24.00 CFS
Q100 HW ELEVATION	=	75.32 FT
OVERTOPPING FREQUENCY	=	100+ YR
OVERTOPPING DISCHARGE	=	30 CFS
OVERTOPPING ELEVATION	=	76.01 FT

-SR2-

BEGIN GRADE
BEGIN CONSTRUCTION
-SR3- STA. 11+65.00
EL. = 74.97'

END GRADE
END CONSTRUCTION
-SR3- STA. 14+00.00
EL. = 75.35'

PROPOSED GRADE
(+)0.1621%
Special Cut Ditch @ 0.31%
Special Cut Ditch @ 0.91%
Special Cut Ditch @ 0.42%
EXISTING GROUND

STA. 11+65.00 RT ELEV. 73.41
STA. 11+65.00 LT ELEV. 72.31
STA. 12+00.00 LT ELEV. 72.63
STA. 12+00.00 RT ELEV. 73.52
STA. 12+50.00 RT ELEV. 73.73

-SR3-

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	174
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BEGIN GRADE
BEGIN CONSTRUCTION
-SR4- STA. 11+75.00
EL. = 77.84'

END GRADE
-SR4- STA. 16+93.14 =
-Y19- STA. 52+63.07 (12.00' LT)
EL. = 81.15'

PI = 15+90.00
EL = 79.09'
K = 71
VC = 120'
V = 40 MPH

PROPOSED GRADE

(+)0.3005%

(+)2.0000%

(+)2.0000%

Special Cut Ditch @ 0.30%

Special Cut Ditch @ 0.30%

EXISTING GROUND

STA. 11+75.00 RT
ELEV. 76.16

STA. 11+75.00 LT
ELEV. 75.81

STA. 16+50.00 RT
ELEV. 74.72

STA. 16+50.00 LT
ELEV. 74.38

18" RCP-1V STA. 16+50		
DRAINAGE AREA	=	3.23 AC
DESIGN FREQUENCY	=	25 YR
DESIGN DISCHARGE	=	7.70 CFS
DESIGN HW ELEVATION	=	76.55 FT
Q100 DISCHARGE	=	9.10 CFS
Q100 HW ELEVATION	=	76.96 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	11 CFS
OVERTOPPING ELEVATION	=	76.72 FT

-SR4-

BEGIN GRADE
BEGIN CONSTRUCTION
-SR5- STA. 15+95.00
EL. = 83.63'

PI = 19+00.00
EL = 86.22'
K = 174
VC = 200'
V = 60 MPH

PROPOSED GRADE

(+)0.8500%

(-)0.3000%

EXISTING GROUND

-SR5-

END GRADE
-SR5- STA. 33+60.86 =
-Y19- STA. 33+93.55 (11.18' RT)
EL. = 81.04'

PI = 23+00.00
EL = 85.02'
K = 999
VC = 600'
V = 80+ MPH

PI = 29+90.00
EL = 87.10'
K = 126
VC = 290'
V = 55 MPH

PI = 32+25.00
EL = 82.40'
K = 180
VC = 180'
V = 65 MPH

PROPOSED GRADE

(-)0.3000%

(+)0.3007%

(+)0.3007%

(-)12.0000%

(-)12.0000%

(-)1.0000%

(-)0.3256%

EXISTING GROUND

Special Cut Ditch @ 0.26%

Special Cut Ditch @ 0.19%

STA. 32+00.00 LT
ELEV. 79.20

STA. 32+50.00 RT
ELEV. 79.75

STA. 33+00.00 LT
ELEV. 78.94

STA. 33+30.00 RT
ELEV. 79.60

-SR5-

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	175
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BEGIN GRADE
BEGIN CONSTRUCTION
-SR7- STA. 11+20.00
EL. = 82.69'

PROPOSED GRADE

EXISTING GROUND

PI = 18+50.00
EL = 86.01'
K = 531
VC = 400'
V = 80+ MPH

(+)0.4538%

(-)0.3000%

PI = 23+10.00
EL = 84.63'
K = 318
VC = 200'
V = 80+ MPH

(-)0.3000%

(+)0.3296%

Lat V Ditch @ 0.29%

Lat V Ditch @ 0.17%

Lat V Ditch @ 0.35%

STA. 18+00.00 LT
ELEV. 78.80

STA. 18+18.00 RT
ELEV. 77.57

STA. 22+14.00 LT
ELEV. 77.60

18" RCP-LV STA. 11+04

DRAINAGE AREA	=	2.56 AC
DESIGN FREQUENCY	=	25 YR
DESIGN DISCHARGE	=	4.30 CFS
DESIGN HW ELEVATION	=	77.40 FT
Q100 DISCHARGE	=	5.10 CFS
Q100 HW ELEVATION	=	77.53 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	9 CFS
OVERTOPPING ELEVATION	=	77.50 FT

-SR7-

10+00 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

120 110 100 90 80 70 60 50 40 30

END GRADE
-SR7- STA. 29+47.57
-Y19- STA. 22+83.94 (11.63' RT)
EL. = 81.64'

PI = 28+20.00
EL = 86.31'
K = 47
VC = 180'
V = 40 MPH

PROPOSED GRADE

EXISTING GROUND

(+)0.3296%

(+)0.3296%

(-)13.5050%

(-)15.1895%

Lat V Ditch @ 0.15%

Lat V Ditch @ 0.08%

Special Cut Ditch @ 0.08%

Special Cut Ditch @ 0.16%

STA. 24+90.00 LT
ELEV. 78.56

STA. 25+00.00 RT
ELEV. 78.75

STA. 27+80.00 LT
ELEV. 78.32

STA. 25+00.00 RT
ELEV. 78.75

STA. 28+15.00 LT
ELEV. 78.28

STA. 25+00.00 RT
ELEV. 78.75

STA. 29+18.00 LT
ELEV. 78.20

18" RCP-LV STA. 29+20

DRAINAGE AREA	=	1.59 AC
DESIGN FREQUENCY	=	25 YR
DESIGN DISCHARGE	=	3.70 CFS
DESIGN HW ELEVATION	=	79.43 FT
Q100 DISCHARGE	=	4.30 CFS
Q100 HW ELEVATION	=	79.56 FT
OVERTOPPING FREQUENCY	=	10 YR
OVERTOPPING DISCHARGE	=	6 CFS
OVERTOPPING ELEVATION	=	80.00 FT

-SR7-

24+00 25+00 26+00 27+00 28+00 29+00

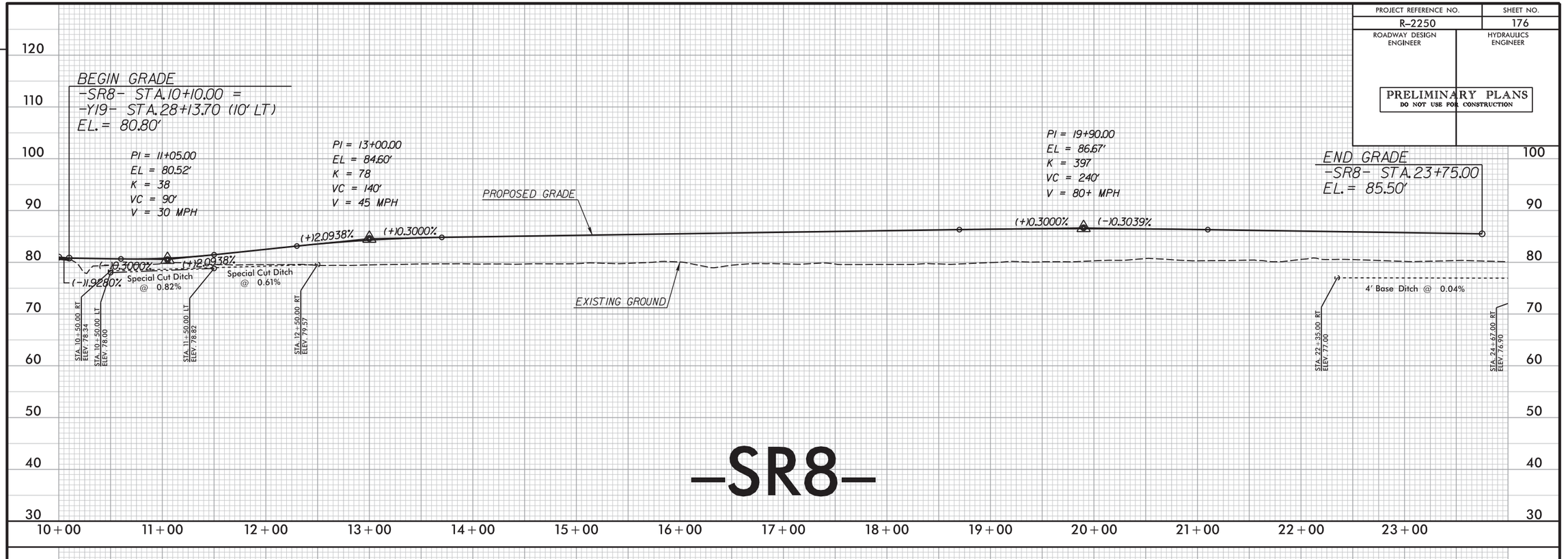
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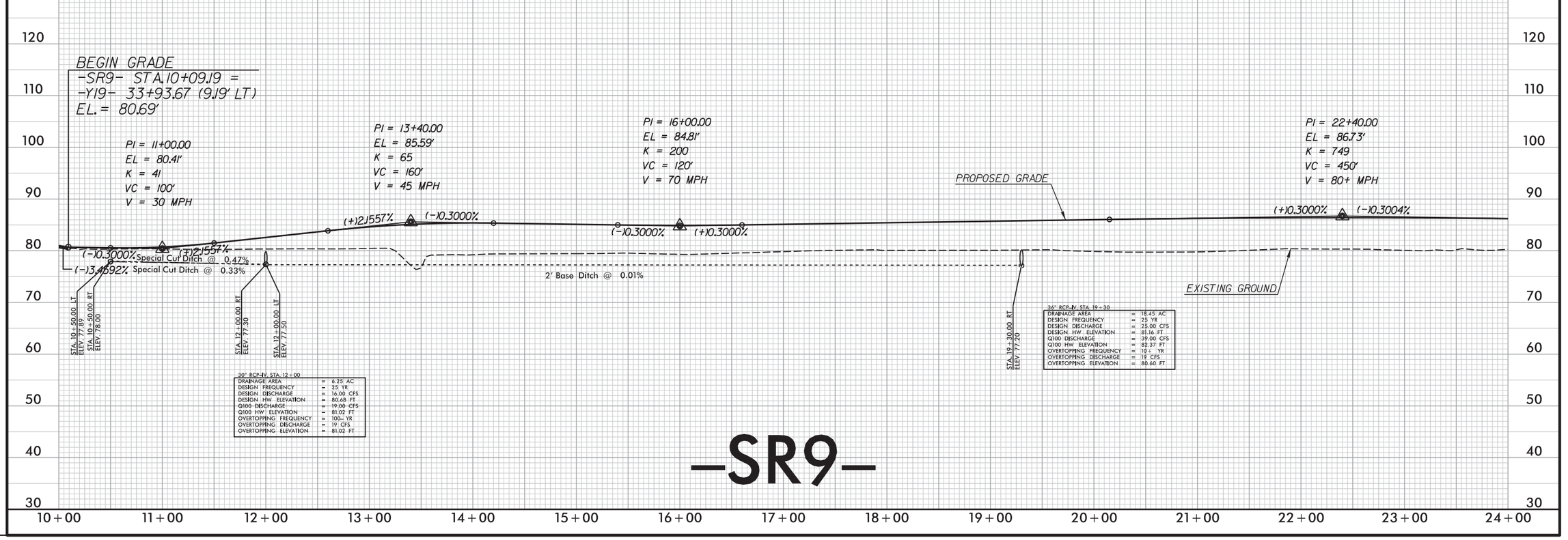
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-2250	176
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
R-2250	177
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

END GRADE
END CONSTRUCTION
-SR9- STA. 36+10
EL. = 87.23'

PI = 27+35.00
EL = 85.24'
K = 602
VC = 540'
V = 80+ MPH

PI = 31+20.00
EL = 87.54'
K = 240
VC = 230'
V = 65 MPH

PI = 34+50.00
EL = 86.35'
K = 220
VC = 200'
V = 75 MPH

PROPOSED GRADE

(-)0.3004%
(+)0.5973%
(+)0.5973%
(-)0.3606%
(-)0.3606%
(+)0.5476%

EXISTING GROUND

18" RCP-III, STA. 36+07

DRAINAGE AREA	=	12.06 AC
DESIGN FREQUENCY	=	25 YR
DESIGN DISCHARGE	=	5.80 CFS
DESIGN HW ELEVATION	=	79.67 FT
Q100 DISCHARGE	=	9.20 CFS
Q100 HW ELEVATION	=	80.42 FT
OVERTOPPING FREQUENCY	=	200+ YR
OVERTOPPING DISCHARGE	=	13 CFS
OVERTOPPING ELEVATION	=	81.61 FT

-SR9-

BEGIN GRADE
-SR11- STA. 10+09.56 =
-Y20- 12+53.83 (9.56' LT)
EL. = 83.65'

END GRADE
END CONSTRUCTION
-SR11- STA. 14+55.00
EL. = 88.02'

PI = 10+90.00
EL = 83.41'
K = 38
VC = 140'
V = 30 MPH

PI = 12+50.00
EL = 88.79'
K = 48
VC = 180'
V = 40 MPH

PROPOSED GRADE

(-)2.0220%
(-)0.3000%
(+)3.3624%
(+)3.3624%
(-)0.3750%

Special Cut Ditch @ 0.30%
Special Cut Ditch @ 0.29%

EXISTING GROUND

STA. 10+50.00 LT
ELEV. 81.33

STA. 10+50.00 RT
ELEV. 81.17

STA. 13+18.00 RT
ELEV. 80.40

STA. 13+29.00 LT
ELEV. 80.56

24" RCP-IV, STA. 13+23

DRAINAGE AREA	=	2.92 AC
DESIGN FREQUENCY	=	25 YR
DESIGN DISCHARGE	=	9.80 CFS
DESIGN HW ELEVATION	=	83.19 FT
Q100 DISCHARGE	=	12.00 CFS
Q100 HW ELEVATION	=	83.56 FT
OVERTOPPING FREQUENCY	=	500+ YR
OVERTOPPING DISCHARGE	=	14 CFS
OVERTOPPING ELEVATION	=	83.91 FT

-SR11-

REVISIONS

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