STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

March 6, 2012 Revised March 8, 2012

Wilmington Regulatory Field Office
US Army Corps of Engineers
69 Darlington Avenue
Wilmington, North Carolina 28403

ATTN: Mr. Brad Shaver
NCDOT Coordinator
Dear Sir:

Subject: **Application for Individual Section 404 and Section 401 Water Quality Certification** for the proposed improvements to NC 24 from 2.8 miles east of I-95 to I-40 in Cumberland, Sampson, and Duplin Counties. Federal Aid Project No. STPNHF-F-8-2(17), TIP No. R-2303. Debit $570.00 from WBS 34416.

The North Carolina Department of Transportation (NCDOT), Division of Highways, in consultation with the Federal Highway Administration (FHWA), proposes to improve NC 24 from 2.8 miles east of I-95 to I-40, from a two-lane to a four-lane divided facility for a total distance of 41.8 miles. Section A for which we are proposing a final design, begins 2.8 miles east of I-95 (west of SR 1006) and ends at SR 1853 (John Nunnery Rd.).

The purpose of this letter is to request approval for a Section 404 Individual Permit and a Section 401 Water Quality Certification for R-2303 based on final design impacts for Section A and preliminary design for Sections B through F. In addition to the cover letter and ENG Form 4345, this application package includes the following for R-2303: permit drawings, half size roadway plans, On-site Mitigation Plan for NC Highway 24 Improvements and NC Ecosystem Enhancement Program (EEP) Acceptance Letters.

1.0 Purpose and Need

The purpose and need for this project, as identified in the Final Environmental Impact Statement (FEIS), is to provide an efficient link between two major interstate highways (I-95 and I-40), increase capacity, improve traffic operations, and improve safety of travel within and through the NC 24 study area corridor.

2.0 Project Description

The proposed action involves a combination of widening, new location segments, and other improvements to the existing NC 24 roadway from 2.8 miles east of I-95 to I-40 to create a four-lane

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

TELEPHONE: 919-707-6100
FAX: 919-212-5785

WEBSITE: WWW.NCDOT.ORG

LOCATION:
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610-4328

divided facility. There will be bypasses and/or other alternate routings around Stedman, Autryville, and Roseboro. Widening portions will have partial control of access, while new location segments will have limited control of access. R-2303 has been divided into six Sections A through F. This permit application will cover the entire project, but only provides final design and impacts for the A Section.

3.0 Summary of Impacts

Waters of the U.S.: Proposed impacts to jurisdictional areas total 57.27 acres of permanent wetland impacts, 0.12 acre of temporary wetland impacts, 10,774 linear feet (lf) of permanent stream impacts, and 993 lf of temporary stream impacts. See Table 1 for the permanent and temporary impact summary for all sections.

Table 1. Summary of Wetland and Stream Impacts for R-2303

Section	Permanent Wetland (ac.)		Temporary Wetland (ac.)		Permanent Stream (lf.)	Temporary Stream (lf.)
	Riparian	Non-riparian	Riparian	Non-riparian		
A	2.46	5.22	0	0	501	53
B*	5.13	0.57	0.11	0.01	296	113
C*	10.92	1.21	0	0	2,990	301
D*	7.54	0.84	0	0	1,792	77
E*	1.42	0.16	0	0	1,336	155
F*	19.62	2.18	0	0	3,859	294
Total	**47.09**	**10.18**	**0.11**	**0.01**	**10,774**	**993**

* Impacts are based on preliminary design; therefore, these sections are expected to decrease once the final design is completed.

4.0 Summary of Mitigation

The proposed construction of R-2303 will impact 47.09 acres of riparian and 10.18 acres of non-riparian wetlands that will require mitigation. The unavoidable impacts to 10.31 acres of jurisdictional wetlands will be offset by on-site riparian wetland mitigation. The remaining unavoidable impacts to 36.78 acres of jurisdictional riparian wetlands and 10.18 acres of non-riparian wetlands will be offset by compensatory mitigation provided by the EEP. In addition, the unavoidable impacts to 969 lf of jurisdictional stream will also be offset by on-site mitigation. The remaining 9,804.2 lf of permanent stream impacts will be provided by the EEP.

Table 2. Summary of On-site Riparian Wetland Mitigation for R-2303

Section	Riparian Wetland Mitigation (ac) (Ratio)			Total Credits Proposed (ac)*
	Restoration (1:1)	Enhancement (5:1)	Preservation (10:1)	
R-2303B (Site 1)	2.25	1.08	0.02	**5.54**
R-2303B (Site 2)	2.19	0	0	
R-2303C (Site 1)	2.5	0	0	**2.5**
R-2303D (Site 1)	1.55	0.26	0	**2.68**
R-2303D (Site 2)	0.87	0	0	

*Credits proposed to be used within the same section as the mitigation.

Table 3. Summary of On-site Stream Mitigation for R-2303

Section	Stream Mitigation (lf) (Ratio)			Total Credits Proposed (lf)*
	Restoration (1:1)	Preservation (10:1)	NSD**	
R-2303A (Site 8)	0	0	67	**67**
R-2303B (Site 1)	300	12.3	0	**312.3**
R-2303C (Site 1)	550	0	0	**550**
R-2303D (Site 22)	0	0	56	**56**

* Credits proposed to be used within the same section as the mitigation.
** Natural Stream Design

5.0 Project Schedule

Currently, R-2303A has a review date of August 28, 2012 and is scheduled to let October 16, 2012. Let dates of the remaining sections are provided in Table 4. below.

Table 4. R-2303 Remaining Sections

Section	Letting Type	Let Date
R-2303B	Traditional	March 19, 2013
R-2303C	Traditional	May 21, 2013
R-2303D	Traditional	June 18, 2013
R-2303E	Design Build	October 1, 2015
R-2303F	Design Build	October 1, 2015

6.0 NEPA Document Status

The FHWA and NCDOT completed the first Draft Environmental Impact Statement (DEIS) in June 1994 in compliance with the NEPA guidelines of that time. A second DEIS was needed due to the changing environmental regulations and the time since the previous DEIS, and was completed in May 2006. The DEIS was approved and circulated to federal, state, and local agencies. A Final Environmental Impact Statement (FEIS) was completed in March 2010. A Record of Decision (ROD) was completed in September 2010. Copies of the project documents have been provided to regulatory review agencies involved in the approval process. Additional copies will be provided upon request.

Sections A through D have gone through Concurrence Point (CP) 4C of the merger process; while sections E and F have been through 4A (December 13, 2007) and are in the Design Build process. R-2303A completed CP 4B in June 13, 2007 and CP 4C in March 17, 2011. R-2303B and C completed CP 4B in February 25, 2009 and CP 4C in December 8, 2011. R-2303D completed CP 4B in December 16, 2009 and CP 4C December 8, 2011.

6.1 Independent Utility

R-2303 is in compliance with 23 CFR Part 771.111(f) which lists the FHWA characteristics of the independent utility of a project. The project meets the criteria for independent utility as discussed below:

- The project has logical termini and independent utility and is of sufficient length to address environmental matters on a broad scope;
- The project is usable and a reasonable expenditure of funds, even if no additional transportation improvements are made in the area; and
- The project does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

7.0 Resource Status

The project is located in the Cape Fear River Basin and lies within Hydrologic Unit 03030006 (Subbasins 03-06-18/03-06-19). This is within the Southern Inner Coastal Plain eco-region. The project crosses South River, Big Swamp, Little Coharie Creek, Bearskin Swamp, Great Coharie Creek, Six Runs Creek, and their tributaries.

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.

Project study area wetlands for the western division and the northern alignment of the eastern division were delineated between December 1999 and October 2000. The wetlands were flagged in the field for future reference. The jurisdictional delineation was reviewed and verified by the USACE during separate visits. These visits were on February 23, 2000; July 26-27, 2000; and October 25-26, 2000. The USACE assigned this jurisdictional determination Action ID No. 199203237, and the Notification of Jurisdictional Determination was issued on October 1, 2001.

The jurisdictional wetlands within the southern alignment of the eastern division were delineated between April 2002 and February 2003. The wetlands were flagged in the field for future reference. These wetlands were reviewed and verified by the USACE on March 13, 2003. Subsequently, wetland delineations were updated August to November of 2011 for the whole project. This delineation was later field verified by Mr. Brad Shaver of the USACE, Wilmington District, and Mr. Mason Herndon with the N.C. Division of Water Quality (NCDWQ) on November 29, 2011 and December 6, 2011.

7.2 Stream Delineations

Data collected for streams were derived from USGS topographic maps, the county soil survey, lidar, and site reconnaissance. Stream delineations were updated in 2011 along with the wetlands for the whole project. This delineation was later field verified by Mr. Brad Shaver of the USACE, Wilmington District, and Mr. Mason Herndon with the N.C. Division of Water Quality (NCDWQ) on November 29, 2011 and December 6, 2011.

7.3 R-2303: Characterization of Jurisdictional Sites

7.3.1 Wetlands

Jurisdictional wetlands within the project study area are primarily palustrine in nature, as defined in Cowardin et al. (1979) and as identified on National Wetland Inventory mapping. Wetland systems vary in vegetative composition depending on hydrological regime and site-specific disturbances. Five Cowardin wetland types were identified within the project study area: palustrine emergent, palustrine forested, palustrine scrub-shrub, palustrine unconsolidated bottom, and riverine lower perennial. Wetlands identified within the study corridors are shown and described in the NRTR and the FEIS.

7.3.2 Streams

The N.C. Division of Water Quality (DWQ) identifies two sub-basins in which the project study area occurs. Sub-basin 03-06-18 includes the South River and Big Swamp and their tributaries. Sub-basin 03-06-19 includes Little Coharie Creek, Bearskin Swamp, Moccasin Branch, Great Coharie Creek, Six Runs Creek, and Buckhall Creek along with their tributaries. All streams located within the project study area have a Best Usage Classification of C Sw.

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 study area. Streams within the R-2303 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 Final 2010 303(d) list of impaired waters due to sedimentation or turbidity for the Cape Fear River Basin.

7.4 Impacts to Jurisdictional Resources

Preliminary estimated impacts to jurisdictional areas within Sections B through F (as shown in Table 1) are the result of minimization and avoidance measures and represent the maximum possible impacts foreseen at this time. Proposed changes will be coordinated with the relevant review agencies in the form of permit modification requests. Impacts to jurisdictional wetlands and surface waters for R-2303A are summarized below in Tables 5 & 6 respectively.

Table 5. R-2303A Wetland Impacts

Permit Drawing Site Number (2012)	Map Label in FEIS (2010)	Type	Permanent Impacts (ac.)	Temporary Impacts (ac.)	Mitigation Required*
2	7	Non-Riparian	4.97	0	Yes
5	21	Non-Riparian	0.07	0	Yes
8	31	Riparian	2.25	0	Yes
9	33,34,35	Riparian	0.21	0	Yes
10	36	Non-Riparian	0.18	0	Yes
		Total:	**7.68**	**0**	

*For permanent impacts

Table 6. R-2303A Surface Water Impacts

Permit Drawing Site Number	Waterbody	Permanent (ft)	Temporary (ft)	Permanent (ac.)	Temporary (ac.)	Mitigation Required*
1	pond	0	0	0.27	0	No
3	ditch	0	0	<0.01	0	No
4	pond	0	0	0.18	0	No
6	tributary	0	0	0.02	0	No
7	pond	0	0	0.24	0	No
8	stream	501	53	0.07	<0.01	Yes
9	tributary	0	0	<0.01	0	No
	Total:	**501**	**53**	**0.79**	**0**	

* For permanent impacts

Permanent Impacts: Proposed permanent impacts for R-2303A include fill, excavation, and mechanized clearing in wetlands. This includes impacts to 2.46 acres of riparian wetlands and 5.22 acres of non-riparian wetlands. Proposed permanent impacts to streams are 501 linear feet (0.07 acre), which includes two proposed pipes at Sandy Creek (site 8).

Temporary Impacts: There are no proposed temporary impacts to wetlands for R-2303A. Proposed temporary fill in surface waters is 53 feet (<0.01 acre).

Utility Impacts: There will be no impacts to jurisdictional resources as a result of utility relocations for R-2303A.

8.0 Protected Species

The United States Fish and Wildlife Service (USFWS) list 8 federally protected species for Cumberland, Sampson, and Duplin Counties as of the September 22, 2010 listing (Table 7).

Table 7. Federally Protected Species in Cumberland, Sampson, and Duplin Counties

Scientific Name	Common Name	County	Federal Status	Habitat	Biological Conclusion
Alligator mississippiensis	American alligator	C, S, D	T(S/A)	Yes	N/A
Picoides borealis	Red-cockaded woodpecker	C, S, D	E	Yes	No Effect
Mycteria americana	Wood stork	S	E	No	No Effect
Neonympha mitchellii francisci	Saint Francis' satyr butterfly	C	E	No	No Effect
Schwalbea americana	American chaffseed	C	E	No	No Effect
Rhus michauxii	Michaux's sumac	C	E	No	No Effect
Lindera melissifolia	Pondberry	C, S	E	No	No Effect
Lysimachia asperulaefolia	Rough-leaved loosestrife	C	E	No	No Effect

Key: C= Cumberland, S= Sampson, D= Duplin, E= Endangered, T(S/A) = Threatened (Similarity of Appearance),

A review of the North Carolina Natural Heritage Program (NCNHP) database, updated October 2011, indicated one occurrence of a Red-cockaded woodpecker nest site within one mile of the project study area. A record from 1979 documenting a RCW nest site in the Town of Autryville

(EO14156). No new information has been added by NHP regarding this historic element occurrence since our February 2012 NHP search. Nest tree surveys conducted in this area revealed no cavity trees. Since the FEIS, the wood stork has been added to Sampson County. During recent fieldwork no nests or wood storks were observed. A call of no effect was determined after a phone conversation (2/16/2012) with Gary Jordan (USFWS) concerning the lack of nests in Sampson County.

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. Habitat for the bald eagle is not present due to the lack of large water bodies in the study area.

8.2 Moratoria

No in-water construction moratoria have been recommended for R-2303.

9.0 Cultural Resources

Historic Architecture

There were five individual properties identified that were either listed on the National Register of Historic Places (NRHP) or eligible for inclusion in the Register. In addition, one historic district was identified in Stedman that was also determined eligible for the NHRP. The FEIS includes correspondence from the North Carolina State Historic Preservation Office (HPO) concerning the effects of the NC 24 project alternatives on each of these properties. The Preferred Alternative will have a Conditional No Adverse Effect on the Maxwell House, with the stipulation that widening is to the south and landscaping is implemented. None of the other architectural resources will be affected by the selected alternative.

Archaeology

The following summarizes the archaeological resource investigation for the subject project. Detailed information concerning these investigations is on file at the North Carolina Department of Transportation in the following reports:

> Botwick, Brad
> 2003 Archaeological Survey and Evaluation, North Carolina 24- Clinton Bypass, Cumberland, Duplin, and Sampson Counties, North Carolina. New South Associates, Stone Mountain, Georgia.

Potential impacts and recommendations for the three archaeological sites identified in the FEIS as eligible for the National Register of Historic Places are shown in the FEIS. Either one or two of these sites would be affected by the detailed study alternatives. The Preferred Alternative would affect Sites 31SP331 and 31DP226 (as shown in the FEIS), but would not affect Site 31SP334. Site 31SP331 is in the D section and Site 31DP226 is in the F section of R-2303. Updates on these sites will be included in the permit modification requests for each of these sections. R-2303A will have no effect on archaeological resources.

There have been no changes within the historic architectural and archaeological resources since the completion of the FEIS.

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

11.1 Avoidance and Minimization

All jurisdictional features were delineated, field verified and surveyed within the corridor for R-2303. Using these surveyed 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.
- Preformed Scour Holes will be used where practicable.
- Storm water will be treated using grass swales and an infiltration basin.
- NCDOT will implement Best Management Practices for Bridge Demolition and Removal.
- NCDOT will implement Best Management Practices for the Protection of Surface Waters.
- Special Sediment Control Fence will be used were applicable
- Bridge lengths have been designed to avoid impacts to higher quality wetlands, improve hydrology, and wildlife passage.
- Perpendicular stream crossings will be used.
- 3:1 side slopes will be used within the wetlands.
- Bank stabilization will not place rip-rap in stream bottom and will reduce erosion and sedimentation.
- Reduced median width.

- Reduced median width.
- Equalizer pipes at Site 2 will improve connectivity of and maintain sheet flow between adjacent wetlands.

11.3 Compensation

The NCDOT has avoided and minimized impacts to jurisdictional resources to the greatest extent possible as described above. The unavoidable impacts to jurisdictional riparian and non-riparian wetlands and surface waters will be offset by compensatory mitigation from onsite mitigation sites (see attached On-site Mitigation Plan for NC Highway 24 Improvements) or EEP.

Based on the amounts provided in tables 1, 2, and 3, there is a surplus of 0.41 acre of on-site riparian wetland mitigation and surplus of 16 lf of on-site stream mitigation for the B section. Since the numbers for the mitigation are estimates, we will adjust the totals after the completion of the on-site mitigation to if needed.

12.0 Indirect and Cumulative Effects

An ICE analysis was completed for the proposed project in July 2006. The following findings were noted in the NC 24 Indirect and Cumulative Effects Report, or represent subsequent study findings based on additional project investigations.

Sampson, Cumberland, and Duplin Counties, as well as the Towns of Autryville and Roseboro, and the City of Clinton, have all anticipated and planned for the proposed project. The project will service some either planned or existing commercial and industrial developments in Autreyville, Roseboro and Clinton. Industrial and commercial development is planned even in the absence of the NC 24 improvements, but the potential would likely be somewhat less.

A significant portion of the proposed project is widening or improving existing NC 24. New location sections will be Limited Control of Access (Superstreet configuration) or Full Control of Access, thereby limiting any complimentary highway development. The eastern terminus of the project with I-40 is a fully directional interchange which will not allow for any adjacent highway commercial development.

The most recent census data (2010) show Sampson County (which comprises the majority of the study area) has only experienced only 5% population growth from 2000 to 2010 as opposed to the 14% projected in the 2006 report. Cumberland County and Duplin County have seen 5.4% and 19% respectively over the same time period, as compared to the 7% and 14.4% projected in 2006 report.

The ICE concluded that any indirect and cumulative effects attributable to proposed improvements to NC 24 would be low to moderate, primarily due to the rural nature and agrarian economy of the study area. Additionally, limited new access along widen-existing sections, and access control along the new location sections will further limit development potential. No further ICE analysis was deemed necessary.

13.0 Regulatory Approvals

Section 404: Application is hereby made for a USACE Individual 404 Permit as required for the

above-described activities. NCDOT is requesting a phased permit to allow construction activities to commence on Section A of R-2303 per the attached plans. NCDOT will apply for a permit modification when designs are finalized and before construction commences on Sections B through F.

Section 401: We are also requesting a Section 401 Water Quality Certification from the NCDWQ. We are providing five (5) copies of this application to the NCDWQ for their approval.

A copy of this permit application and its distribution list will be posted on the NCDOT website at: http://www.ncdot.org/doh/preconstruct/pe/neu/permit.html

If you have any questions or need additional information, please contact Chris Manley at 919-707-6135 or cdmanley@ncdot.gov.

Sincerely,

E. L. Lupk

fcw Gregory J. Thorpe, Ph.D., Manager
Project Development and Environmental Analysis Unit

cc:

NCDOT Permit Application Standard Distribution List.

U.S. ARMY CORPS OF ENGINEERS

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT

(33 CFR 325)

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

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

PRIVACY ACT STATEMENT

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

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

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

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required)
First - Gregory Middle - J. Last - Thorpe	First - Middle - Last -
Company - NCDOT-PDEA	Company -
E-mail Address -	E-mail Address -
6. APPLICANT'S ADDRESS:	**9. AGENT'S ADDRESS:**
Address- 1598 Mail Service Center	Address-
City - Raleigh State - NC Zip - 27699 Country - USA	City - State - Zip - Country -
7. APPLICANT'S PHONE NOs. w/AREA CODE	**10. AGENTS PHONE NOs. w/AREA CODE**
a. Residence b. Business 919-707-6135 c. Fax	a. Residence b. Business c. Fax

STATEMENT OF AUTHORIZATION

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

_____ _____
SIGNATURE OF APPLICANT DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)
R-2303

13. NAME OF WATERBODY, IF KNOWN (if applicable)	14. PROJECT STREET ADDRESS (if applicable)
South River, Little Coharie Creek, Great Coharie Creek, Six Runs C.	Address NC 24
15. LOCATION OF PROJECT Latitude: °N 35.0024 Longitude: °W -78.6549	City - State- Zip-

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

17. DIRECTIONS TO THE SITE

NC 24 from 2.8 miles east of I-95 to I-40 in Cumberland, Sampson, and Duplin Counties

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

See attached cover letter

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

See attached cover letter

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

20. Reason(s) for Discharge

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

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards

See attached cover letter & permit drawings

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

Acres See attached cover letter & permit drawings

or

Linear Feet

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

See attached cover letter

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

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

a. Address- See attached permit drawings

City - State - Zip -

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-

City - State - Zip -

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

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

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

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

E. L. Lush for Gregory J. Thorpe, PhD Mar 5, 2012

SIGNATURE OF APPLICANT DATE SIGNATURE OF AGENT DATE

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

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

Ecosystem Enhancement PROGRAM

February 28, 2012

Mr. Gregory J. Thorpe, Ph.D.
Manager, Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

R-2303A, NC 24 from West of SR 1006 (Maxwell Road / Clinton Road) to SR 1853 (John Nunnery Road), Cumberland County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream and non-riparian wetland mitigation for the subject project. Based on the information supplied by you on February 23, 2012, the impacts are located in CU 03030006 of the Cape Fear River basin in the Southern Inner Coastal Plain (SICP) Eco-Region, and are as follows:

Cape Fear 03030006 SICP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	434	0	5.22	0	0	0

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

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

Sincerely,

James B. Stanfill for

Michael Ellison
EEP Deputy Director

cc: Mr. Ronnie Smith, USACE – Wilmington Regulatory Field Office
Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit
File: R-2303

Ecosystem Enhancement PROGRAM

February 28, 2012

Mr. Gregory J. Thorpe, Ph.D.
Manager, Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

R-2303B, NC 24 from SR 1853 (John Nunnery Road) to SR 1404 (Dowdy Road), Cumberland and Sampson Counties

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory non-riparian wetland mitigation for the subject project. Based on the information supplied by you on February 23, 2012, the impacts are located in CU 03030006 of the Cape Fear River basin in the Southern Inner Coastal Plain (SICP) Eco-Region, and are as follows:

Cape Fear 03030006 SICP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	0	0	0.57	0	0	0

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

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

Sincerely,

James B. Stanfill for

Michael Ellison
EEP Deputy Director

cc: Mr. Ronnie Smith, USACE – Wilmington Regulatory Field Office
Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit
File: R-2303

Ecosystem Enhancement PROGRAM

February 28, 2012

Mr. Gregory J. Thorpe, Ph.D.
Manager, Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

R-2303C, NC 24 SR 1404 (Dowdy Road) to SR 1303 (Mitchell Loop Road), Sampson County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream and wetland mitigation for the subject project. Based on the information supplied by you on February 23, 2012, the impacts are located in CU 03030006 of the Cape Fear River basin in the Southern Inner Coastal Plain (SICP) Eco-Region, and are as follows:

Cape Fear 03030006 SICP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	2,440	8.42	1.21	0	0	0

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

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

Sincerely,

James B. Stanfill for

Michael Ellison
EEP Deputy Director

cc: Mr. Ronnie Smith, USACE – Wilmington Regulatory Field Office
Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit
File: R-2303

Ecosystem Enhancement PROGRAM

February 28, 2012

Mr. Gregory J. Thorpe, Ph.D.
Manager, Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

R-2303D, NC 24 from SR 1303 (Mitchell Loop Road) to US 421/701 / SR 1296, Sampson County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream and wetland mitigation for the subject project. Based on the information supplied by you on February 23, 2012, the impacts are located in CU 03030006 of the Cape Fear River basin in the Southern Inner Coastal Plain (SICP) Eco-Region, and are as follows:

Cape Fear 03030006 SICP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	1,736	4.86	0.84	0	0	0

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

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

Sincerely,

Michael Ellison
EEP Deputy Director

cc: Mr. Ronnie Smith, USACE – Wilmington Regulatory Field Office
Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit
File: R-2303

Ecosystem Enhancement PROGRAM

February 28, 2012

Mr. Gregory J. Thorpe, Ph.D.
Manager, Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

R-2303E, NC 24 from US 421 / 701 / SR 1296 (Sunset Avenue) to West of SR 1920 (Moltonville Road), Sampson County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream and wetland mitigation for the subject project. Based on the information supplied by you on February 23, 2012, the impacts are located in CU 03030006 of the Cape Fear River basin in the Southern Inner Coastal Plain (SICP) Eco-Region, and are as follows:

Cape Fear 03030006 SICP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	1,336	1.42	0.16	0	0	0

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

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

Sincerely,

James B. Stanfill for

Michael Ellison
EEP Deputy Director

cc: Mr. Ronnie Smith, USACE – Wilmington Regulatory Field Office
Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit
File: R-2303

Ecosystem Enhancement PROGRAM

February 28, 2012

Mr. Gregory J. Thorpe, Ph.D.
Manager, Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

R-2303F, NC 24 from West of SR 1920 (Moltonville Road) in Sampson County to I-40 in Duplin County, Sampson and Duplin Counties

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream and wetland mitigation for the subject project. Based on the information supplied by you on February 23, 2012, the impacts are located in CU 03030006 of the Cape Fear River basin in the Southern Inner Coastal Plain (SICP) Eco-Region, and are as follows:

Cape Fear 03030006 SICP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	3,859	12.00	2.18	0	0	0

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

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

Sincerely,

James B. Stanfill for

Michael Ellison
EEP Deputy Director

cc: Mr. Ronnie Smith, USACE – Wilmington Regulatory Field Office
Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit
File: R-2303

On-site Mitigation Plan for
NC Highway 24 Improvements
Sampson County, North Carolina
T.I.P. Number R-2303
WBS No. 34416
February 17, 2012

1.0 BASELINE INFORMATION

Transportation Improvement Project (TIP) R-2303 involves improvements to existing NC Highway 24 from 2.8 miles eastward of Interstate 95 (I-95) in Cumberland County to Interstate 40 (I-40) in Duplin County. The study area for this project ranges from 400 feet wide for widening sections to 1000 feet wide for bypass areas and is situated within the inner Coastal Plain physiographic province. Topography within the study area is described as nearly level to sloping with the majority of the topographic breaks found near the larger wetland systems. Land use within the project study between towns is mostly rural in nature and includes a mixture of agricultural, residential, silvicultural, and industrial uses.

The project is located within USGS Hydrologic Cataloging Unit 03030006, and NC Division of Water Quality (NCDWQ) sub-basins 03-06-18 and 03-06-19 within the Cape River Basin. Sub-basin 03-06-18 includes the South River and its tributaries as well as Big Swamp and its tributaries while sub-basin 03-06-19 includes Little Coharie Creek, Bearskin Swamp, Moccasin Branch, Great Coharie Creek, Six Runs Creek, and Buckhall Creek along with all their tributaries.

The R-2303 Natural Resources Technical Report (NRTR) dated January 2004 provides further details concerning existing roadway/project study area conditions and jurisdictional resources. The mitigation site selection and mitigation work plan sections of this plan will refer to the identification labels given the affected jurisdictional resources in that document as well as the Final Environmental Impact Statement (FEIS) dated 3-31-2010.

2.0 SITE SELECTION

R-2303B Mitigation Site 1

This site begins on plan sheet 8 south of Station 423+50 Rt. at the existing intersection of Gray Street and Old Stage Road and ends south of Station 439 Rt. on plan sheet 9. It is part of the South River watershed and involves a series of ponds (43 and 45) as well as three jurisdictional wetlands (42, 44 and 46), and one intermittent stream (SR4) that flows out of pond 43. Lynn Haven sand, a hydric soil in Sampson County, is the soil type found within this area.

R-2303B Mitigation Site 2

This site begins on plan sheet 26 at Sta. 680+20 Lt. at the ROW line and ends on plan sheet 27 at Sta. 685+50.38 Lt. at Boren Brick Road. The pond (88) will be drained as part of the construction

of R-2303B. Currently, the pond connects a jurisdictional wetland area upstream to jurisdictional wetlands and a UT to Big Swamp downstream through a series of pipes under Boren Brick Road and existing NC Hwy 24. The existing wetland system above Boren Brick Road, wetland 88A, will be used as the reference wetland system.

R-2303C Mitigation Site 1

This site is located on plan sheet 23 from approximately Sta. 1000 to 1005 Lt. The pond (133) will be drained as part of the construction of R-2303B. The pond is surrounded by Wagram loamy sand soils. It has a headwater wetland system located adjacent to its northeastern corner and outflows into a UT to Little Coharie (LC11) through a 36" pipe under existing NC Hwy 24.

R-2303D Mitigation Site 1

This site is located on plan sheet 18 northwest of approximate Sta. 1290 to 1295 Lt. Wetland 161 located adjacent to NC Hwy24 is a riparian wetland that was bisected by the existing causeway of NC 24. A portion of Wetland 161 has been clear cut. This wetland also includes an excavated pond and sidecast spoil. Soils within this mitigation area are either Johns fine sandy loam or Kalmia sandy loam. Both are non-hydric with hydric inclusions in Sampson County.

R-2303D Mitigation Site 2

This site is located on plan sheet 20 from approximately Sta. 1321+50 Lt. to Sta. 1325+50 Lt. on plan sheet 21. It is bordered on the north and west by wetland 165 and on the east by wetland 167. The soils in this area are mapped as Paxville fine loamy sand, a hydric soil in Sampson County. Wetland 165 is part of a 4600 acre NCEEP high quality wetland mitigation site known as the Great Coharie Tract (GCT). An old abandoned causeway extends into the wetland from NC Hwy 24.

3.0 SITE PROTECTION INSTRUMENT

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

The site is designated on the plan sheets as a mitigation area and will placed on the Natural Environment Section's Mitigation GeoDatabase. This database is provided to all NCDOT personnel as a record of mitigation sites and their attributes, including prohibited activities.

NCDOT is held by virtue of the permit associated with this mitigation site and the associated roadway impacts to protect the site in perpetuity.

4.0 OBJECTIVES

The goal of the proposed onsite mitigation is to mitigation for impacts due to R-2303 by restoring

adjacent wetland and stream systems to their natural conditions through the removal of the degrading factors of ponding, fill, and disturbance. This will be achieved on five individual sites described below on a total of 17.30 acres of wetland and 973 feet of stream.

5.0 MITIGATION WORK PLAN

Each mitigation site will be constructed along with the construction of its associated section of the roadway project. Following the successful completion of site grading and stabilization, a reforestation plan for the stream and wetland restoration areas will include a mix of bare-root tree species at a density of 680 stems per acre as described in the attached reforestation plan.

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

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

R-2303B Mitigation Site 1

NCDOT will drain P43 and P45 in conjunction with the construction of R-2303B. Based on topography, the draining of these two features will result in restoration of a total of 2.25 acres of riparian wetlands. It will also result in the enhancement of 5.41 acres of wetlands (wetlands 42 and 44) and the preservation of 0.23 acres at wetland 46.

The dam at the downstream end of P43 will be graded to match natural topography after the pond is drained. Based on the valley length, this will allow for restoration of 300 ft. of a stream currently impounded within P43. Additionally, NCDOT proposes to tie the stream restoration to the existing stream bed elevation of SR4 and preserve 123 feet of this stream within Wetland 42.

R-2303B Mitigation Site 2

NCDOT will restore 2.19 acres of riparian wetlands at Site 2. The pond associated with this mitigation area, identified as 88 in the NRTR, will be drained as part of the construction of R-2303B. The existing 30" pipe under NC Hwy 24 will be replaced and the invert of the new structure will be adjusted to assist in the wetland restoration within the drained pond 88.

Wetland 88a is a riparian wetland located on the east side of Boren Brick Road. It will be used as a reference for the reforestation plan of wetland restoration within pond 88. Soils within this wetland as well as adjacent to the pond are mapped as Aycock silt loam, a non-hydric soil in Sampson County, as well as Nahunta loam, a non-hydric soil with hydric inclusions.

R-2303C S Mitigation Site 1

The pond associated with this mitigation area, identified as 133 in the NRTR, will be drained as part of the construction of R-2303C. The existing pipe under NC Hwy 24 will be replaced and the invert of the new structure will be adjusted to assist in the wetland and stream restoration within the drained pond 133. This new structure will outfall into LC11, a UT to Little Coharie. LC11 has a C Sw classification and is a Rosgen E type channel. Based on valley length and topography, NCDOT will restore 550 ft. of the stream system within this drained pond area as well as restore 2.5 acres of riparian wetlands.

R-2303D Mitigation Site 1

This site involves removing a portion of pavement along existing NC 24 and grading to match elevations within the adjacent Wetland 161. It also involves backfilling the existing pond with material sidecast to dig the pond. These areas will also be graded to match adjacent wetland elevations. The clear cut portion of Wetland 161 within the ROW will be revegetated. This work will result in the restoration of 1.55 acres and enhancement of 1.3 acres of riparian wetland.

R-2303D Mitigation Site 2

This site involves the removal of an old roadway causeway and grading to match elevations within the adjacent Wetlands 165 and 167. NCDOT will restore 0.87 acres of riparian wetland in this area.

6.0 PERFORMANCE STANDARDS

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

7.0 MONITORING REQUIREMENTS

No specific hydrological monitoring is proposed for the wetland mitigation areas. The target elevation is based on the reference wetland areas and will be verified during construction. Constructing the site at the adjacent wetland elevation will ensure the hydrology in the restored area is similar to the hydrology in the reference area. Photo points will be located within the stream mitigation areas at equal intervals along the channel with upstream and downstream views. Vegetation monitoring will consist of counts of planted stems within 50 x 50 foot plots established within the riparian buffer areas and wetland areas. The entire reach will be visually inspected for channel stability and vegetation survival.

These monitoring activities will be conducted for five year and documented in an annual report distributed to the regulatory agencies.

8.0 OTHER INFORMATION

NONE

9.0 DETERMINATION OF CREDITS

Based on field and meeting discussions with agency representatives and per the NCDOT plans and 401/404 permit application for R-2303; NCDOT proposes the following types of mitigation and ratios for each site.

Roadway Section Site Number	Wetland Restoration Acres (1:1)	Wetland Enhancement Acres (5:1)	Wetland Preservation Acres (10:1)	Stream Restoration Feet (1:1)	Stream Preservation Feet (10:1)
B Site1	2.25	5.41	0.23	300	123
B Site 2	2.19	-	-	-	-
C Site 1	2.5	-	-	550	-
D Site 1	1.55	1.3	-	-	-
D Site 2	0.87	-	-	-	-

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

9.1 CREDIT RELEASE SCHEDULE

NCDOT proposes immediate, full release of the proposed mitigation as on-site mitigation for unavoidable impacts associated with R-2303.

10.0 GEOGRAPHIC SERVICE AREA

The proposed Geographic Service Area (GSA) for the mitigation sites is composed of the 8-digit Hydrologic Cataloging Unit (HUC) 03030006.

11.0 MAINTENANCE PLAN

The mitigation site will be held by NCDOT and placed on the NEU mitigation geodatabase. Once

monitoring is completed and the site is closed out, it will be placed in the NCDOT Stewardship Program for long term maintenance and protection.

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

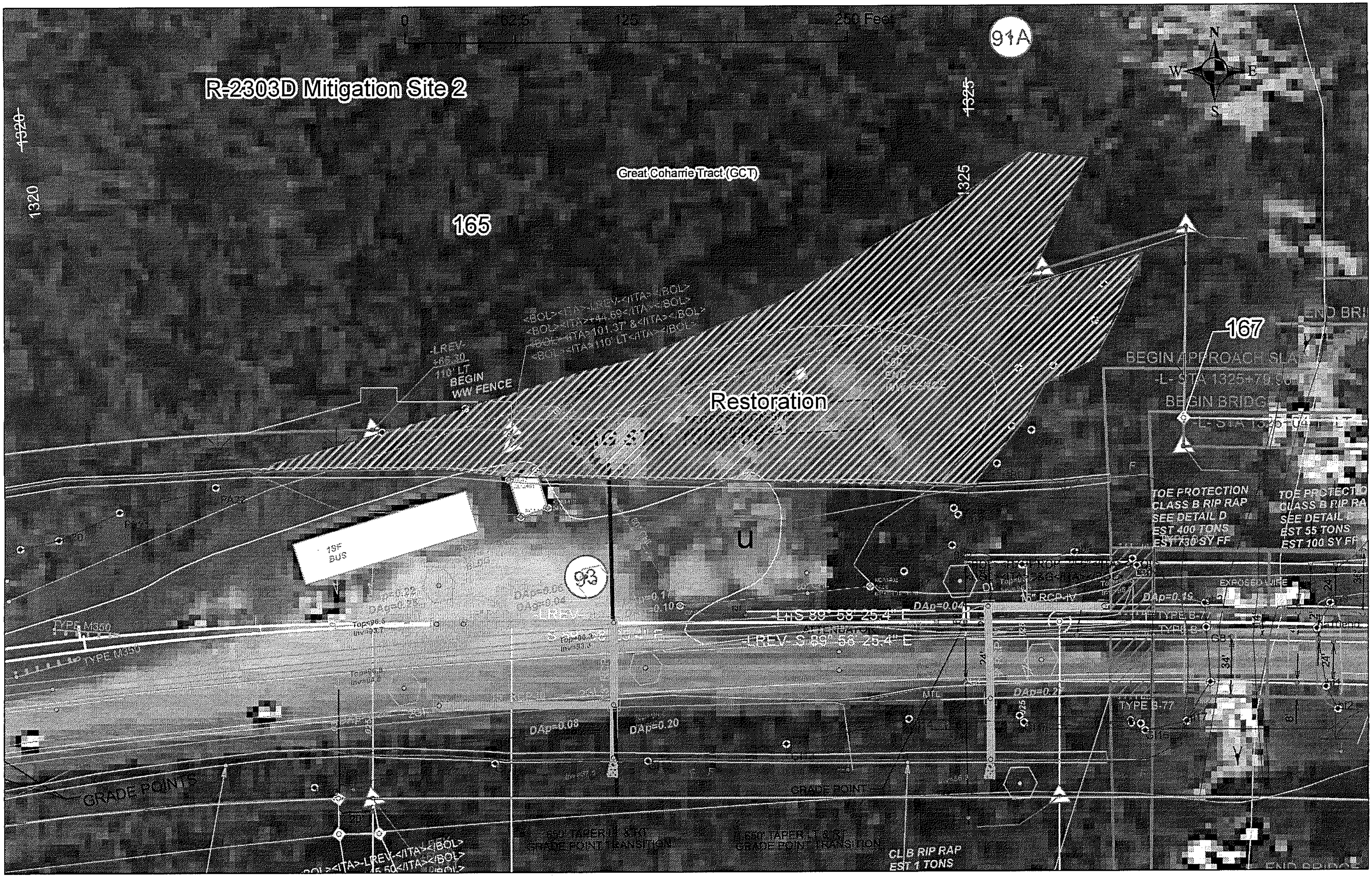
12.0 LONG TERM ADAPTIVE MANAGEMENT PLAN

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

13.0 FINANCIAL ASSURANCES

NCDOT is held by permit conditions associated with R-2303 to preserve the stream enhancement area. NCDOT has established funds for each project and within each Division to monitor the mitigation site and to protect it in perpetuity.

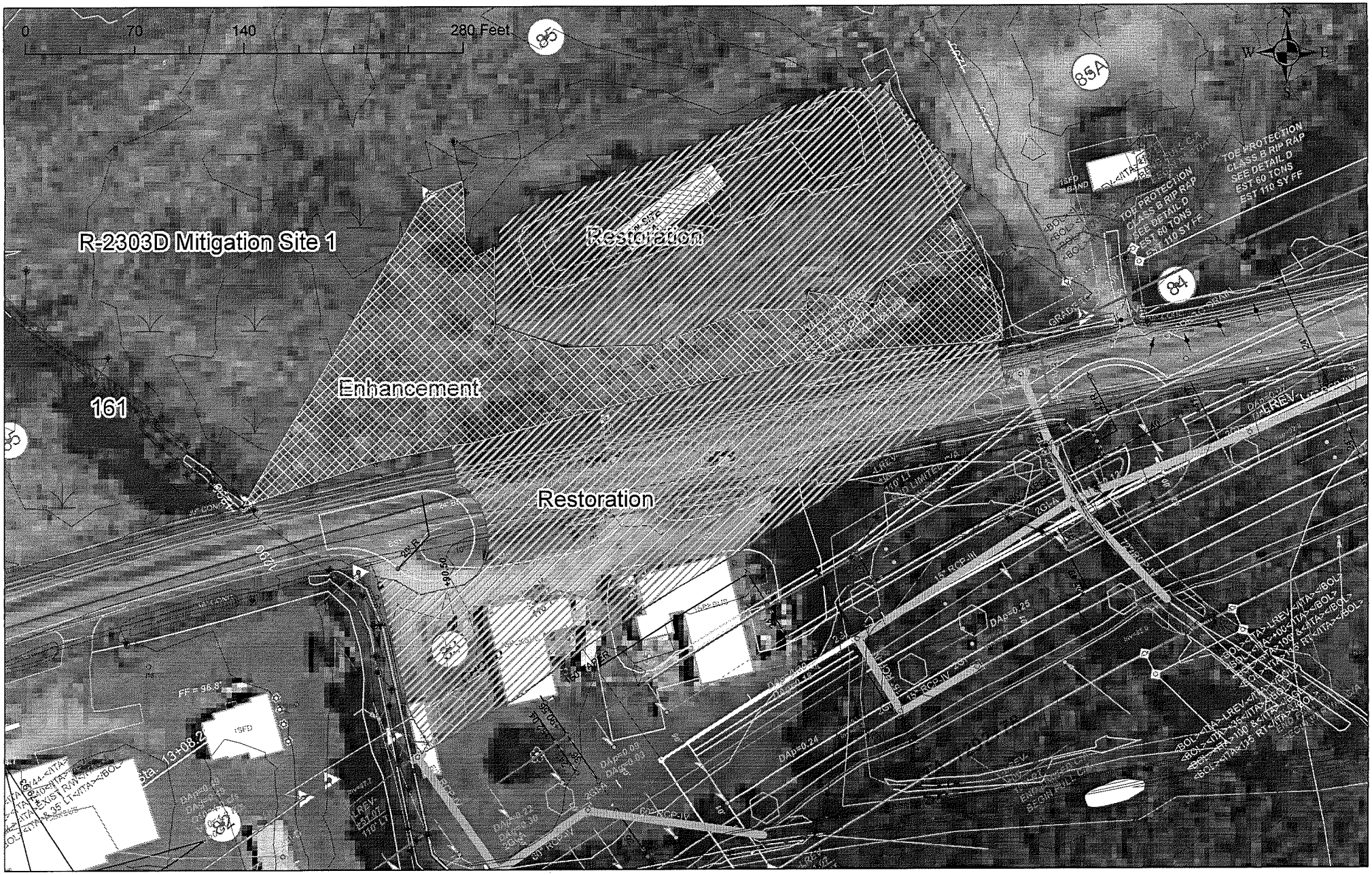

R-2303B Mitigation Site 1
Enhancement
42
SR 4
Restoration
43
Stream Preservation
Stream Restoration
44
Enhancement
45
Restoration
46
Preservation
0
130
260
520 Feet



R-2303D Mitigation Site 2
0
62.5
125
250 Feet
91A
N
W
E
S
1320
1325
Great Coharrie Tract (GCT)
165
167
Restoration
BEGIN
WW FENCE
93
BEGIN BRIDGE
TOE PROTECTION
CLASS B RIP RAP
SEE DETAIL D
EST 400 TONS
EST 730 SY FF
EXPOSED WIRE
TYPE B-77
GRADE POINTS
GRADE POINT
CLB RIP RAP
EST 1 TONS


R-2303B Mitigation Site 2
Restoration
88
88a
Boren Brick Road
0
120
240
480 Feet


R-2303C Mitigation Site 1
133
Stream Restoration
Restoration
0
70
140
280 Feet
N
S
E
W
PI Sta 1003+58.50
D = 2° 27' 14.2" (RT)
D = 0° 34' 22.6"
L = 428.30'
T = 214.18'
R = 10,000.00'
CAT-1


0
70
140
280 Feet
R-2303D Mitigation Site 1
Restoration
Enhancement
Restoration
161
85
85A
84
N
S
E
W

Subject: Draft Minutes from Interagency Hydraulic Design Review Meeting on June 13, 2007 for R-2303A in Cumberland County

Team Members:

Jennifer Frye- USACE	(absent)
Gary Jordan- USFWS	(absent)
Travis Wilson-NCWRC	(present)
Rob Ridings- NCDWQ	(present)
Kathy Matthews-EPA	(present)
Chris Militscher-EPA	(present)
Ron Lucas-FHWA	(absent)
Elizabeth Lusk-NCDOT-NEU	(present)
David Harris- REU	(absent)
John Frye- Structures	(present)
Gary Lovering-Roadway	(present)
Mark Pierce-PDEA	(present)
Tracey Pittman- NCDOT-DIV 6	(absent)

Participants:
Bill Elam, NCDOT Hydraulics
Bill Zerman, NCDOT Hydraulics
Chris Rivenbark, NCDOT NEU
Chris Manley, NCDOT NEU
Marissa Rodman, NCDOT NEU
Ron McCollum, NCDOT Roadway
Dawn Rierson, NCDOT-PDEA
Mark Staley, Roadside Environmental
Jim Rerko, NCDOT- DEO
Lee Puckett, NCDOT- Bridge Const. Engr.

GENERAL NOTES:

Many of the non jurisdictional outfall ditches are higher than the inverts of the pipes. The ditches will be cleaned out if required. Ditch cleanouts will stop short of any wetland areas.

Jennifer Frye and David Wainwright were not on the original agenda. In the future, if the team members are changed, they should be notified by phone or email prior to the meeting.

Proposed ditches will have 3:1 or flatter side slopes and meet grass swale criteria where pratical.

Sheet 4-7:

No comments

Sheet 8-9:

This is the largest impact to wetlands. Equalizer pipes will be spaced approximately every 200 feet to maintain sheet flow in wetland.

Sheet 10:

There is a existing ditch at Station 96+50-L- that has been called a wetland that will require a pipe crossing. The channel is not jurisdictional. The 24" pipe under existing NC 24 will be removed and a channel will be constructed that is similar to the rest of the channel.

Sheet 11-14:

No comments

Sheet 15:

Maxwell property is historic. All impacts to property should be avoided. We will not be able to clean out outfall ditch left of Station 161+50 –L-.

Chris Militscher commented that the slopes stakes at 168+00 –L- Rt. appeared wide. Max responded that the grade had been raised to drain the median. Slope stakes are 3:1 in the area of concern because of wetland impacts.

Sheet 16:

There is an excavated ditch that has been called a wetland at Station 179+00-L- Rt. Impact is estimated at 0.01 acres.

Sheet 17:

Clean out of the non jurisdictional ditch will be required at Station 190+50-L- Lt. The existing ditch is a shallow grass lined channel.

Sheet 18-21:

No comments

Sheet 22:

There is an existing channel at the end of North Street at Station 266+00-L-. The channel appears as a blue line stream on the quad. The channel was not called jurisdictional in the NRTR. Richard Spencer suggested that Jennifer Frye and the NCDOT NEU may need to visit this site.

Sheet 23-24:

No comments

Sheet 25:

There are jurisdictional stream and wetland impacts on Sheet 25 at Station 302+00 –L-. The two 48" pipes under existing NC 24 will be removed and a channel will be constructed that is similar to the rest of the channel

The northwest portion of the Dearl L. Bunce property left of the –L- line will not have access under the current design without further impact to wetlands and the jurisdictional stream. The wetland and stream crosses the Bunce property essentially landlocking a large portion of the property. This portion of NC 24 is limited access so a driveway access to the property is not allowed.

NCDOT is proposing a service road (SR2) to provide access to the northeast portion of the Bunce property. Militscher and Spencer expressed the opinion that NCDOT should include the wetlands and stream impacts that are required to provide access to the property in the project impacts.

NCDOT is exploring three options.

Option 1: Extend Service Road 1 on Sheet 21 to reach Bunce property

Option 2: Extend Service Road 2 to provide access to the northwest section of the Bunce property and include the impacts to the wetlands and stream in the total impacts.

Option 3: Purchase the landlocked property and use the property for wetland enhancement.

Sheet 26:

No comments

Sheet 27:

There is jurisdictional stream that crosses NC 24 through an existing 36" crosspipe at Station 322+00 –L-. This pipe will have to be replaced. Wetlands are also impacted at this site.

Sheet 28-29:

There is jurisdictional stream that crosses NC 24 through an existing 24" crosspipe at Station 348+00 –L-. This pipe may have to be replaced. Wetlands are also impacted at this site.

Subject: Draft Minutes from Interagency Hydraulic Design Review Meeting on March 17, 2011 for R-2303A in Cumberland County

Team Members:

Ronnie Smith- USACE	(present)
Gary Jordan- USFWS	(absent)
Travis Wilson-NCWRC	(absent)*
Mason Herndon- NCDWQ	(present)
Chris Militscher-EPA	(absent)
Ron Lucas-FHWA	(present)
Elizabeth Lusk-NCDOT-NEU	(present)
Mark Pierce-PDEA	(absent)

*Absent but provided comments.

Participants:
Galen Cail, NCDOT Hydraulics
Bill Elam, NCDOT Hydraulics
Gary Lovering, NCDOT Roadway
Rick DeCola, NCDOT Roadway
Chris Rivenbark, NCDOT NEU
Chris Manley, NCDOT NEU
Marissa Rodman, NCDOT NEU Mitigation
Byron Moore, NCDOT NEU Mitigation
Mark Staley, Roadside Environmental
Jim Rerko, NCDOT- DEO
Steven Cummings, NCDOT Utilities

GENERAL NOTES:

Rip rap along streams to be placed on banks only or noted otherwise.

Proposed culverts along streams will be buried 20% of culvert diameter up to 1' or noted otherwise. This is standard practice and is noted in permit conditions.

Other than locations with ditching thru wetlands the side slopes for fill look to be 3:1. However, in final permit will verify side slopes as 3:1 where fill in wetlands.

Pond impacts at several locations call for "Rock Fill". Detail will be provided in final permit.

Anticipate final permit drawings for A section and preliminary drawings for B, C and D sections will be prepared by August 2011. Our understanding is JD on all sections has or will soon expire. NEU will verify status of JD and coordinate with agencies what effort remains to complete delineations/verifications. Updated delineations will need to be provided in order to prepare permit drawings.

Impacts/permits relative to PUE will be provided by Utilities Unit.

Site 2; Sheet 8,9:

Equalizer pipe Sta 75+00 –L- doesn't show up since on plan sheet matchline. Will be relocated to make sure it shows up in final plans/permit.

Site 3; Sheet 10:

Ditching thru wetlands. Two wetlands are total takes and 1 wetland is an existing ditch.

Site 4; Sheet 11:

Ditching thru wetlands. Proposed ditch will be no deeper than existing ditch. Improved scale will be provided in final permit.

Site 9; Sheet 19:

In final permit will make sure outlet rip rap pad is accounted for as fill in wetlands. Improved scale will be provided in final permit.

Site 10; Sheet 25:

There was discussion on whether the upstream parcel was purchased for mitigation due to access. NEU will investigate.

Where the pipe under existing NC 24 is to be removed and roadway excavated with floodplain, the final permit will account on summary as "Natural Stream Design" for mitigation credit. A reforestation plan will need to be provided in final plans for this site.

Show and state outlet rip rap at 2 @ 54" as "BANKS ONLY".

Site 11; Sheet 27:

At wetland approximate Sta 321+80 –L- LT, will account for as "total take". However, was recommended to not show as hatched outside of ditch but include in excavation quantity on summary and note below summary the additional impact outside of ditch.

The JS LT is not shown in correct location in existing driveway. Will be shown correctly in final permit.

Site 12; Sheet 28:

Recommendation made to improve outlet angle of 36" pipe. Will look at relocating proposed 2GI line ahead.

Site 13; Sheet 29:

Review if proposed 30" outlet pipe can be relocated outside of wetland.

Meeting adjourned

Comments Provided:

Site 1 -- missing cross sections for the pond fills from station 69+45 to 72+81

- *Standard practice is to provide one x-section sheet if sites are close together. Ie to verify that max side slopes, in this case 3:1, are being used.*

Site 2 -- missing equalizer pipe near station 75+00, the match line may have cut it off

- *Agreed. Will bring up at 4C and will make sure pipe shows up in final permit package.*

Site 4 -- missing cross section for impacts from station 112+53 to 112+55

- *Another x-section sheet (x-34) would provide better verification relative to site. Will provide another x-section at 4C mtg.*

Site 5 -- cross section missing for impacts from station 131+57 to 133

- *The x-section provided does include section at site. However, we will provide rock fill detail at 4C.*

Site 9 -- does the > 0.01 acres of permanent fill include the rip-rap shown outside of the fill line. -- Can you please provide a zoomed in/larger scale map of the impact area.

- *Rip rap impact is included as Mechanized Clearing and is <0.01 ac. Will provide improved scale drawing in final permit. At 4C meeting can zoom in on drawing with CADD.*

Site 10 -- the impact table says two 48" pipes in the channel and the plans show 2-54" pipes. What is the correct pipe size.

- *Agreed. It is a 2 @ 54" so table will be revised.*

Site 11 -- missing cross section of pipe in relation to the stream bed.-- Why will the wetlands located along the north side of the road be permanently filled beyond the fill slope.

- *Standard is to provide pipe/stream bed profile for culverts with conveyance of 60" pipe or larger. Wetland impact shown as total take but can be discussed at 4C.*

Site 12 -- missing plan view for site 12.-- missing cross-section for site 12--missing cross section for of pipe in relation to stream bed.--permanent rip-rap impacts are not shown in the table.

4C
March 17, 2011
Sheet 2 of 2

- *Agreed. Will provide at 4C. Standard is to provide pipe/stream bed profile for culverts with conveyance of 60" pipe or larger. Agreed, bank stabilization impact should be permanent.*

Site 13 -- missing plans for half of site 13 from station 344+83 to 347+50.-- Is the rip-rap reflected in the permanent fill area?--missing cross section from station 346 to 349.-- Please provide a zoomed in/large scale map for the impact area.

- *Additional site missing will show up for previous Site 12 sheet. Rip rap impacts included in Mechanized Clearing impact. Standard practice is to provide one x-section sheet if sites are close together. Ie to verify that max side slopes, in this case 3:1, are being used. The x-section sheet provided covers portion of Site 13 and is a typical indication for x-section. Will provide improved scale drawing in final permit. At 4C meeting can zoom in on drawing with CADD.*

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR LINEAR ROADWAY PROJECTS

(Version 1.2; Released September 2011)

Project/TIP No.: R-2303A **County(ies):** Cumberland Sampson

General Project Information

Project No.:	R-2303A		**Project Type:**	Roadway Widening	**Date:** 9/27/2011
NCDOT Contact:	Bill Elam		**Contractor / Designer:**		
Address:	1020 Birch Ridge Road Raleigh NC 27610		**Address:**		
Phone:	919-707-6718		**Phone:**		
Email:	belam@ncdot.gov		**Email:**		
City/Town:	Stedman		**County(ies):**	Cumberland	Sampson
River Basin(s):	Cape Fear		**CAMA County?**	No	No
Primary Receiving Water:	South River		**NCDWQ Stream Index No.:**	18-68-12-(0.5)	
NCDWQ Surface Water Classification for Primary Receiving Water		**Primary:**	Class C		
		Supplemental:	Swamp Waters (Sw)		
Other Stream Classification:					
303(d) Impairments:	None				
Buffer Rules in Effect	N/A				

Project Description

Project Length (lin. Miles or feet):	6.807 miles	**Surrounding Land Use:**	Rural Farmland with Flat terrain and Sandy Soils

	Proposed Project	**Existing Site**
Project Built-Upon Area (ac.)	67.50 ac.	16.20 ac.
Typical Cross Section Description:	4 lane divided with 38 ft grass median; 12 ft lanes and 4 ft paved shoulders	Two 12 ft lanes with 2 ft paved shoulders
Average Daily Traffic (veh/hr/day):	Design/Future: 30144	Existing: 19264

General Project Narrative:

This project involves the widening of NC 24. The project is on both existing and new location. There are no major crossing on the project. There are eight sites where streams are impacted for a total of 501 ft. 3 ponds and 5 wetland sites were impacted. Grass swales were used wherever possible. Grass shoulders and the grass median will provide infiltration. The side slopes of the ditches were 4:1 or flatter for most ditches. Most of the project if very flat. 90% of the ditches are flatter than 1%. Many of the existing ditches acted as storage. The new ditches will also be very flat. The average velocity in the ditch will be less than 2.6 fps. Pipes that are in jurisdictional streams are buried 20% or up to one foot. Preformed scours holes were used in three different locations.

References

04/28/09

TIP PROJECT: R-2303A

CONTRACT:

$$$$$$SYSTIME$$$$$$

$$$$$$DGNS$$$$$$

$$$$$$USERNAME$$$$$$

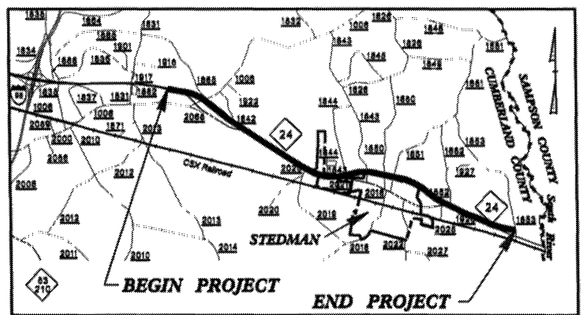
See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2303A	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
34416.1.1	STPNHF-F-8-2(17)	P.E.
34416.2.2		R/W, UTIL.



VICINITY MAP

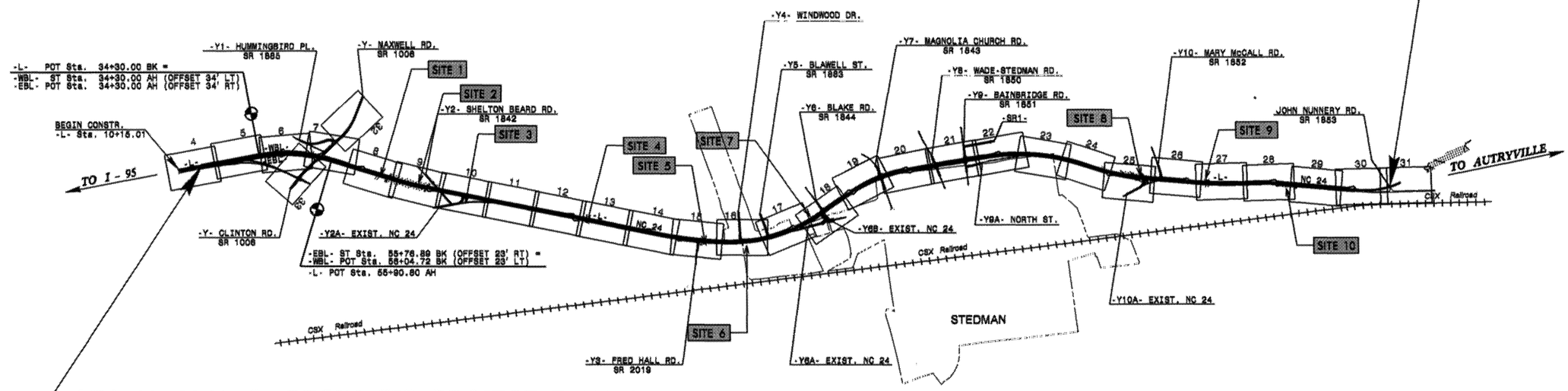
LOCATION: NC 24 FROM WEST OF SR 1006 (MAXWELL RD./ CLINTON RD.) TO SR 1853 (JOHN NUNNERY RD.)

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

Permit Drawing
Sheet 1 of 44

NAD 8395

STA. 376+28.96 –L– END TIP PROJECT R-2303A



STA. 16+90.00 –L– BEGIN TIP PROJECT R-2303A

A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF STEDMAN

THIS IS A LIMITED AND PARTIAL CONTROL OF ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.

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

WETLAND PERMIT /STREAM IMPACT

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

PLANS: 50 25 0 50 100

PROFILE (HORIZONTAL): 50 25 0 50 100

PROFILE (VERTICAL): 10 5 0 10 20

DESIGN DATA

ADT 2011 = 19,264
ADT 2031 = 30,144
DHV = 11 %
D = 65 %
T = 8 % *
V = 60 MPH
FUNC. CLASS = EXPY TYPE II
* TTST 5% DUAL 3%
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2303A	= 6.807 MILES
TOTAL LENGTH TIP PROJECT R-2303A	= 6.807 MILES

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: October 15, 2010

LETTING DATE: October 16, 2012

GARY LOVERING, PE
PROJECT ENGINEER

RICK DECOLA, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

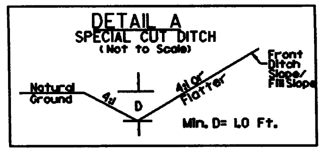
P.E.
STATE HIGHWAY DESIGN ENGINEER

8/17/99

DITCH DETAILS

Permit Drawing
Sheet 2 of 44

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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FROM STA. 53+70 TO STA. 60+00 -L- LT.
FROM STA. 64+50 TO STA. 70+76 -L- LT.
FROM STA. 107+00 TO STA. 112+33 -L- LT.
FROM STA. 112+33 TO STA. 114+00 -L- LT.
FROM STA. 115+00 TO STA. 117+90 -L- LT.
FROM STA. 117+90 TO STA. 120+50 -L- LT.
FROM STA. 121+00 TO STA. 124+50 -L- LT.
FROM STA. 125+50 TO STA. 130+00 -L- LT.
FROM STA. 131+50 TO STA. 133+70 -L- LT.
FROM STA. 134+50 TO STA. 148+00 -L- LT.
FROM STA. 148+00 TO STA. 152+00 -L- LT.
FROM STA. 175+00 TO STA. 178+00 -L- LT.
FROM STA. 179+00 TO STA. 181+00 -L- LT.
FROM STA. 182+50 TO STA. 194+00 -L- LT.
FROM STA. 210+00 TO STA. 215+00 -L- LT.
FROM STA. 223+00 TO STA. 224+05 -L- LT.
FROM STA. 241+50 TO STA. 248+50 -L- LT.
FROM STA. 309+50 TO STA. 310+00 -L- LT.
FROM STA. 311+00 TO STA. 316+00 -L- LT.
FROM STA. 316+50 TO STA. 322+00 -L- LT.
FROM STA. 323+50 TO STA. 330+00 -L- LT.
FROM STA. 330+00 TO STA. 332+50 -L- LT.
FROM STA. 333+50 TO STA. 335+50 -L- LT.
FROM STA. 336+50 TO STA. 340+00 -L- LT.
FROM STA. 351+00 TO STA. 360+50 -L- LT.

FROM STA. 30+00 TO STA. 33+80 -L- RT
FROM STA. 49+00 TO STA. 50+50 -L- RT.
FROM STA. 52+30 TO STA. 55+00 -L- RT.
FROM STA. 90+00 TO STA. 96+80 -L- RT.
FROM STA. 96+92 TO STA. 99+50 -L- RT.
FROM STA. 107+00 TO STA. 112+80 -L- RT.
FROM STA. 112+80 TO STA. 115+00 -L- RT
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FROM STA. 138+00 TO STA. 148+00 -L- RT.
FROM STA. 148+00 TO STA. 154+50 -L- RT.
FROM STA. 155+50 TO STA. 162+00 -L- RT.
FROM STA. 162+50 TO STA. 165+50 -L- RT.
FROM STA. 175+00 TO STA. 186+00 -L- RT.
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FROM STA. 200+00 TO STA. 203+50 -L- RT.
FROM STA. 215+00 TO STA. 224+00 -L- RT.
FROM STA. 225+50 TO STA. 231+00 -L- RT.
FROM STA. 232+00 TO STA. 236+00 -L- RT.
FROM STA. 242+00 TO STA. 248+00 -L- RT.
FROM STA. 250+50 TO STA. 252+00 -L- RT.
FROM STA. 259+00 TO STA. 266+76 -L- RT.
FROM STA. 266+76 TO STA. 276+50 -L- RT.
FROM STA. 289+00 TO STA. 303+00 -L- RT.
FROM STA. 316+00 TO STA. 322+00 -L- RT.
FROM STA. 323+00 TO STA. 326+50 -L- RT.
FROM STA. 327+00 TO STA. 331+00 -L- RT.
FROM STA. 332+22 TO STA. 335+90 -L- RT.
FROM STA. 336+21 TO STA. 337+00 -L- RT.
FROM STA. 343+50 TO STA. 344+27 -L- RT.
FROM STA. 358+00 TO STA. 361+00 -L- RT.
FROM STA. 24+50 TO STA. 25+50 -Y- RT.
FROM STA. 24+22 TO STA. 30+41 -Y- LT.
FROM STA. 33+11 TO STA. 34+50 -Y- LT.
FROM STA. 14+00 TO STA. 17+00 -Y4- RT.
FROM STA. 12+00 TO STA. 13+00 -Y7- RT.
FROM STA. 12+70 TO STA. 13+25 -Y6B- LT.
FROM STA. 12+80 TO STA. 14+40 -Y6B- RT.
FROM STA. 14+86 TO STA. 16+00 -Y7- RT.
FROM STA. 10+00 TO STA. 12+00 -Y8- LT.
FROM STA. 11+00 TO STA. 11+80 -Y8- RT.
FROM STA. 14+00 TO STA. 14+50 -Y8- LT.
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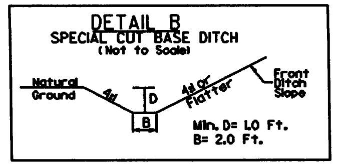
FROM STA. 12+00 TO STA. 13+00 -Y10- RT.



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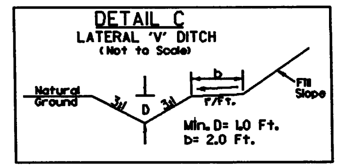

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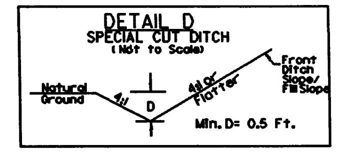
FROM STA. 300+50 TO STA. 301+00 -L- LT.

FROM STA. 236+00 TO STA. 240+50 -L- RT.
FROM STA. 252+00 TO STA. 258+00 -L- RT.
FROM STA. 276+50 TO STA. 284+00 -L- RT.



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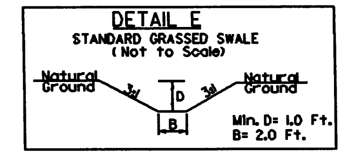

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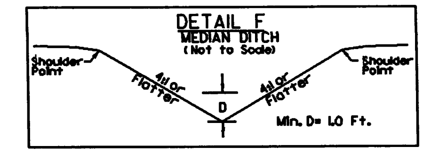
STA. 147+98 -L- LT
STA. 190+39 -L- LT.
STA. 215+02 -L- LT.



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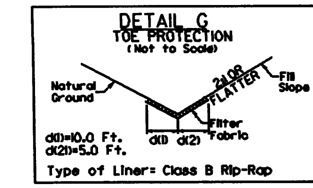
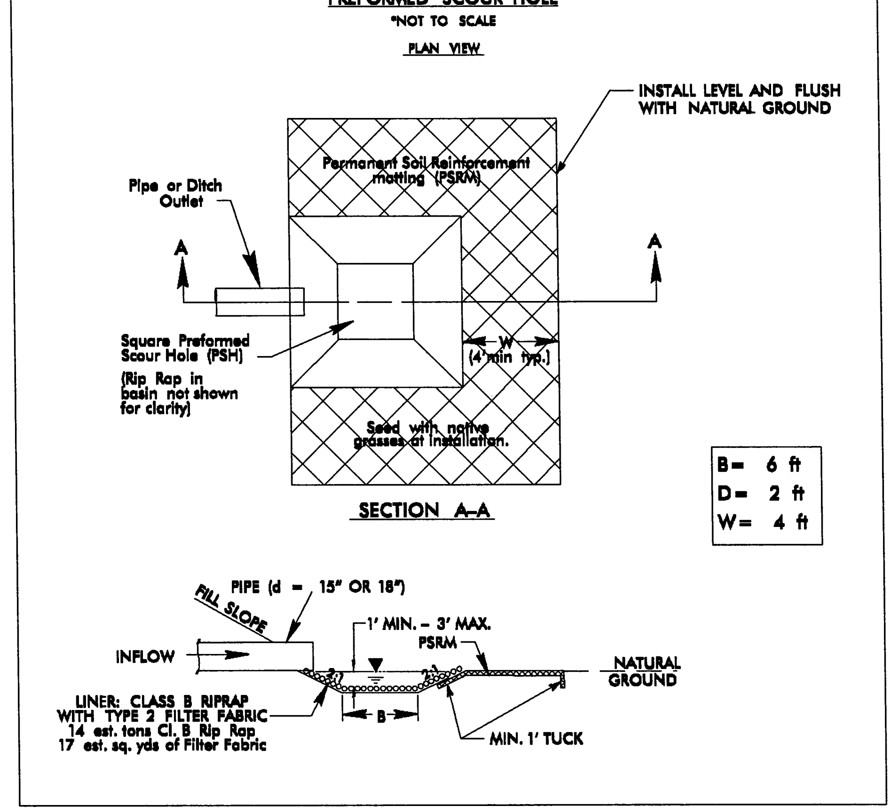
FROM STA. 196+00 TO STA. 199+00 -L- MED.
FROM STA. 211+00 TO STA. 214+00 -L- MED.



FROM STA. 322+68 TO STA. 323+10 -L- RT.

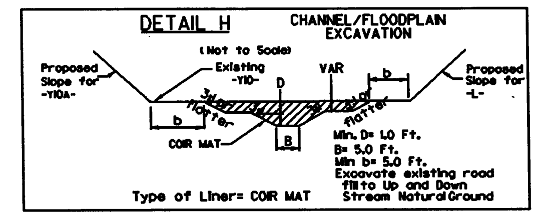
PREFORMED SCOUR HOLE

*NOT TO SCALE



B=	6 ft
D=	2 ft
W=	4 ft

STA. 73+23 -L- LT
STA. 172+00 -L- RT
STA. 24+13 -Y- RT



EST. EXCAVATION = 4000 CU YDS
EST PSRM = 300 SQ YDS
305+12 -L- RT.

$$$$$$SYSTIME$$$$$$
$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$$

8/17/99

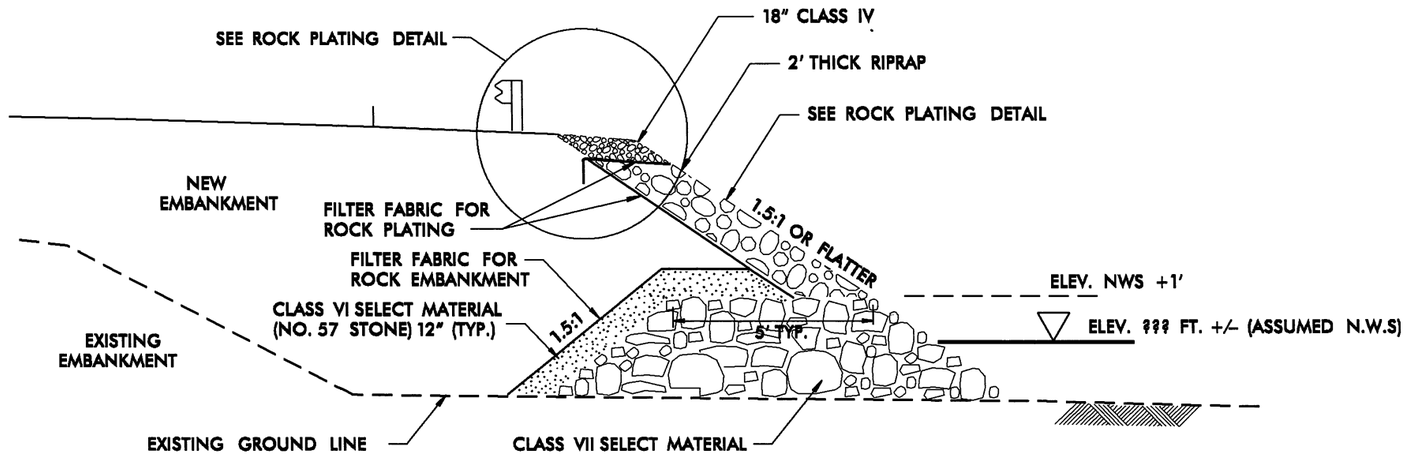
REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R2303A	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 3 of 44



TYPICAL ROCK EMBANKMENT/ROCK PLATING DETAIL

N.T.S

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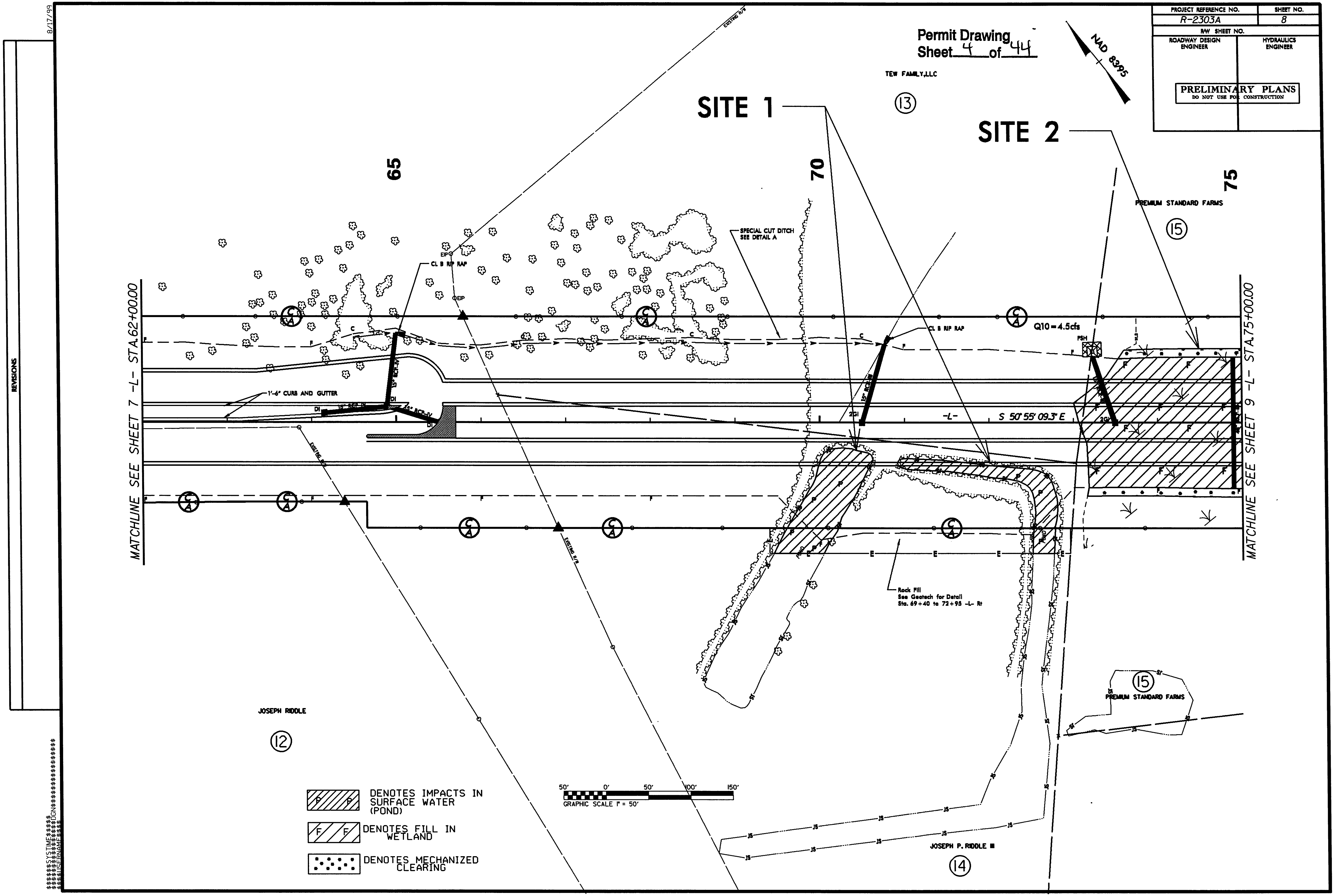
$$$$$$$$FILENAME$$$$



2/6/2012
ameadows
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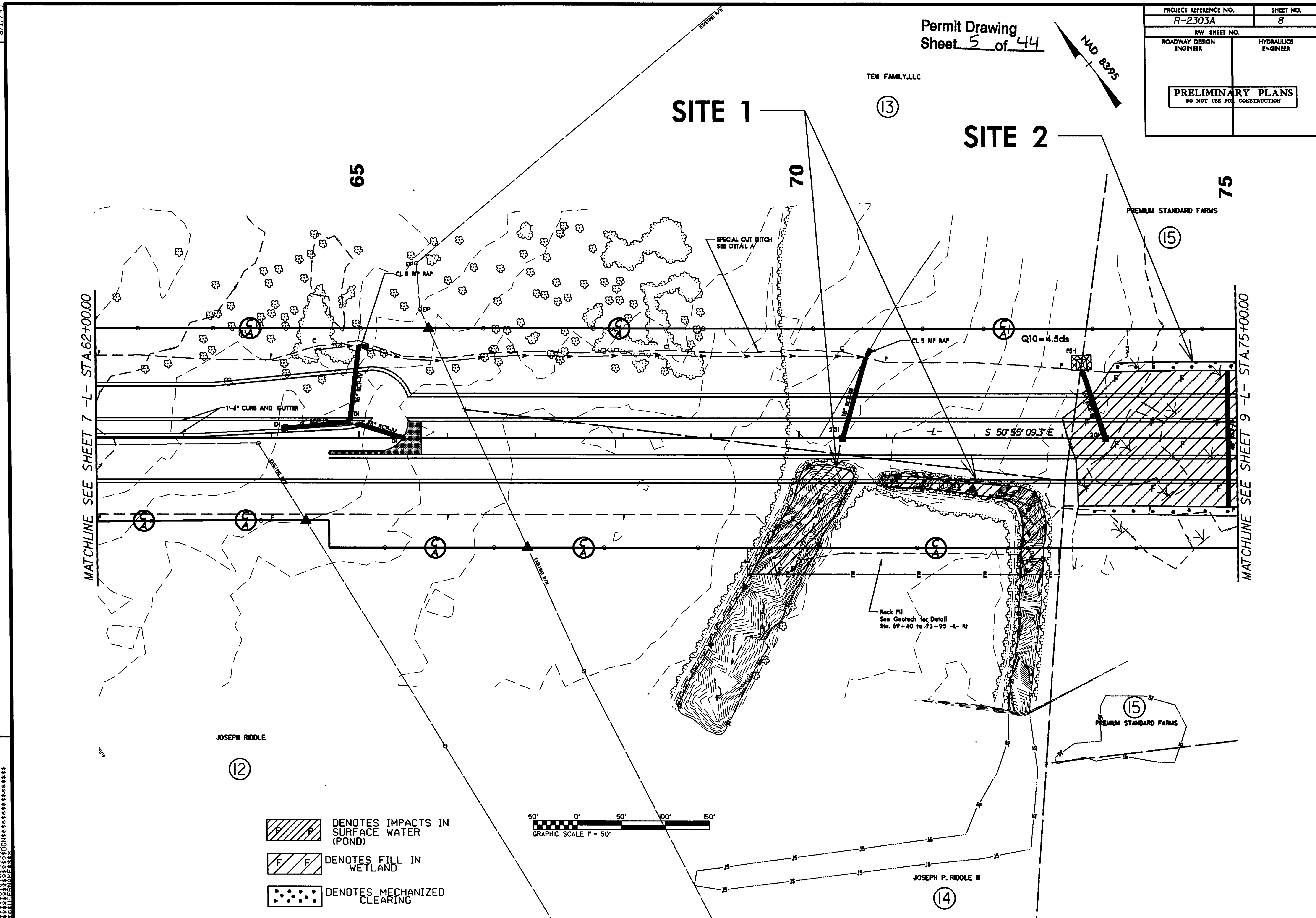

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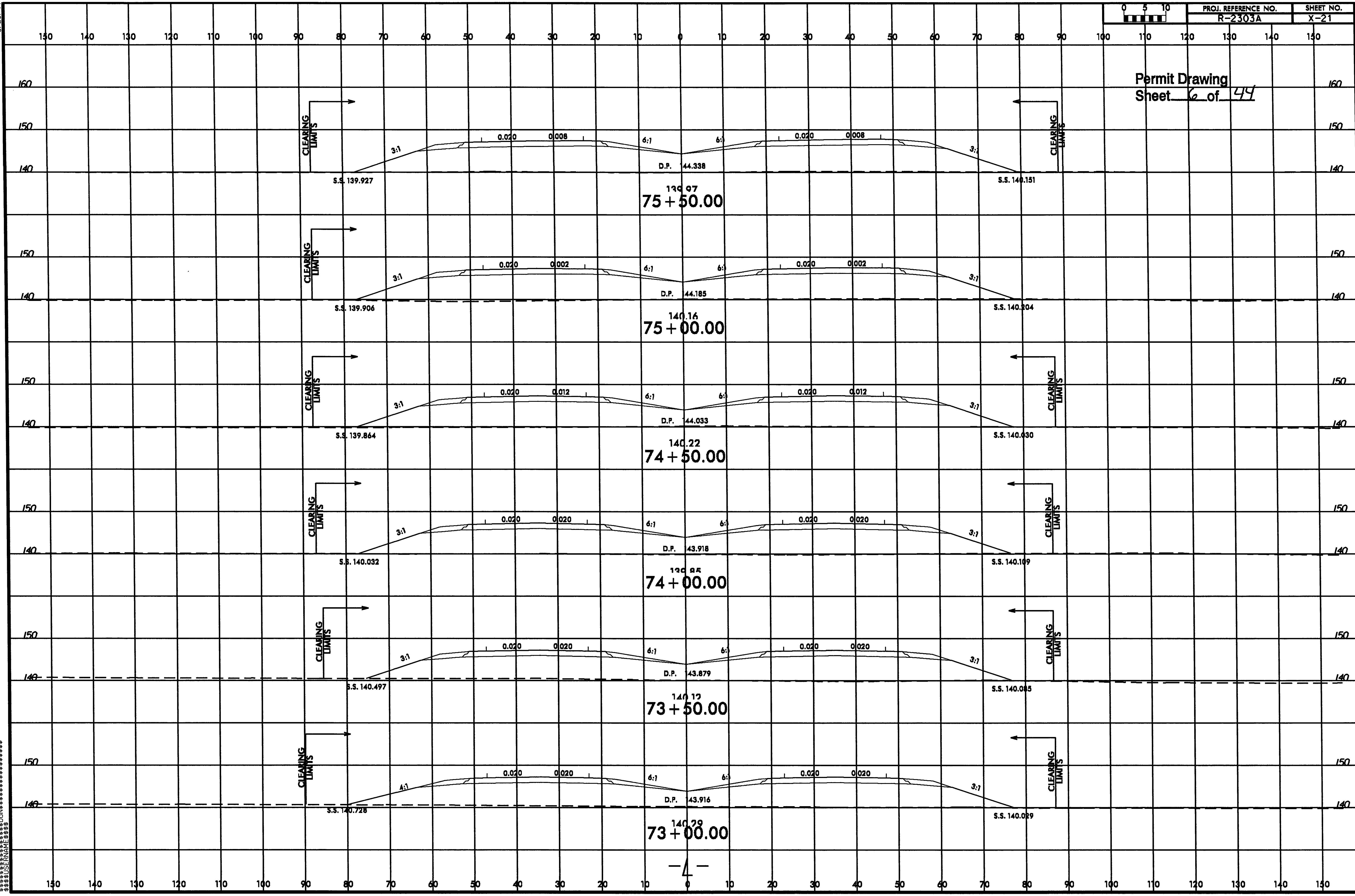
8/23/99



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1/30/2012
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PROJECT REFERENCE NO.	SHEET NO.
R-2303A	9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 7 of 44

SITE 2

PREMIUM STANDARD FARMS
(15)

PREMIUM STANDARD FARMS
(15)

NAD 83/95

18" CONC
SR 1842 SHELTON BEARD RD 22' RCT

POT Sta. 10+00.00

75

80

85

PCSta. 76+07.81
BRG BK = S 50°55'09.3"E

PTSta. 83+95.26

35" CONC

DONALD CULBRETH
(16)

-Y2- S 19°30'22"E

BEGIN CONSTR.
-Y2- STA.12+80.00

(16) DONALD CULBRETH

CL B RIP RAP

END CONSTR.
-Y2- STA.13+60.00

MATCHLINE SEE SHEET 8 -L- STA.75+00.00

MATCHLINE SEE SHEET 10 -L- STA.89+00.00

S 56°33'38"E

10' CHL & 35BW

CELLULAR TELEPHONE TOWER

10' CHL & 35BW

-L- POT Sta.88+53.85 =
-Y2- POT Sta.15+84.67

10' CHL & 35BW

F/F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

50' 0' 50' 100' 150'
GRAPHIC SCALE 1" = 50'

POT Sta.15+83.69

PREMIUM STANDARD FARMS
(15)

DEARL L. BUNCE

DONALD CULBRETH
(16)

EXISTING R/W

-Y2A-

REVISIONS

8/17/99

2/6/2012
ameadows
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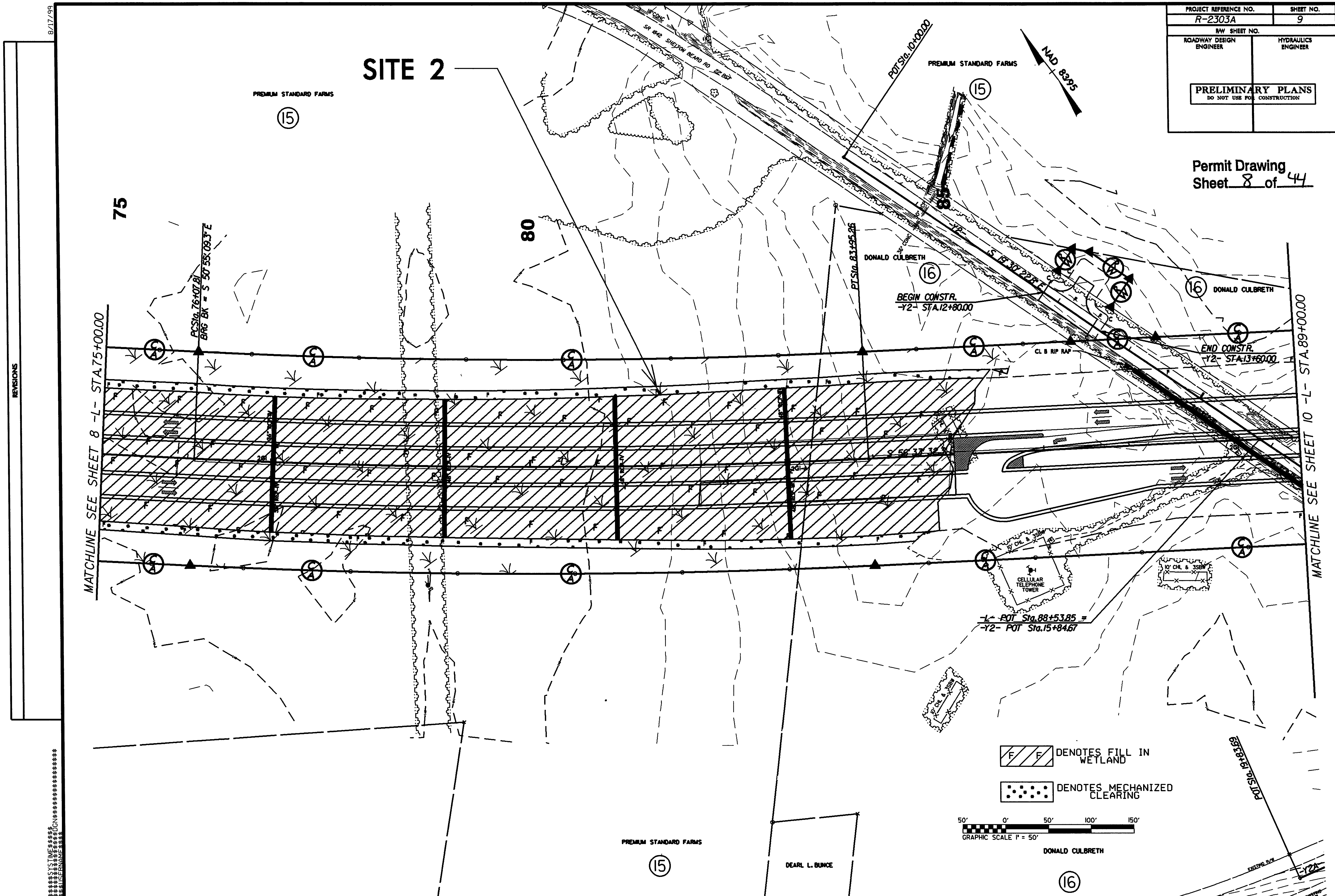

2/6/2012
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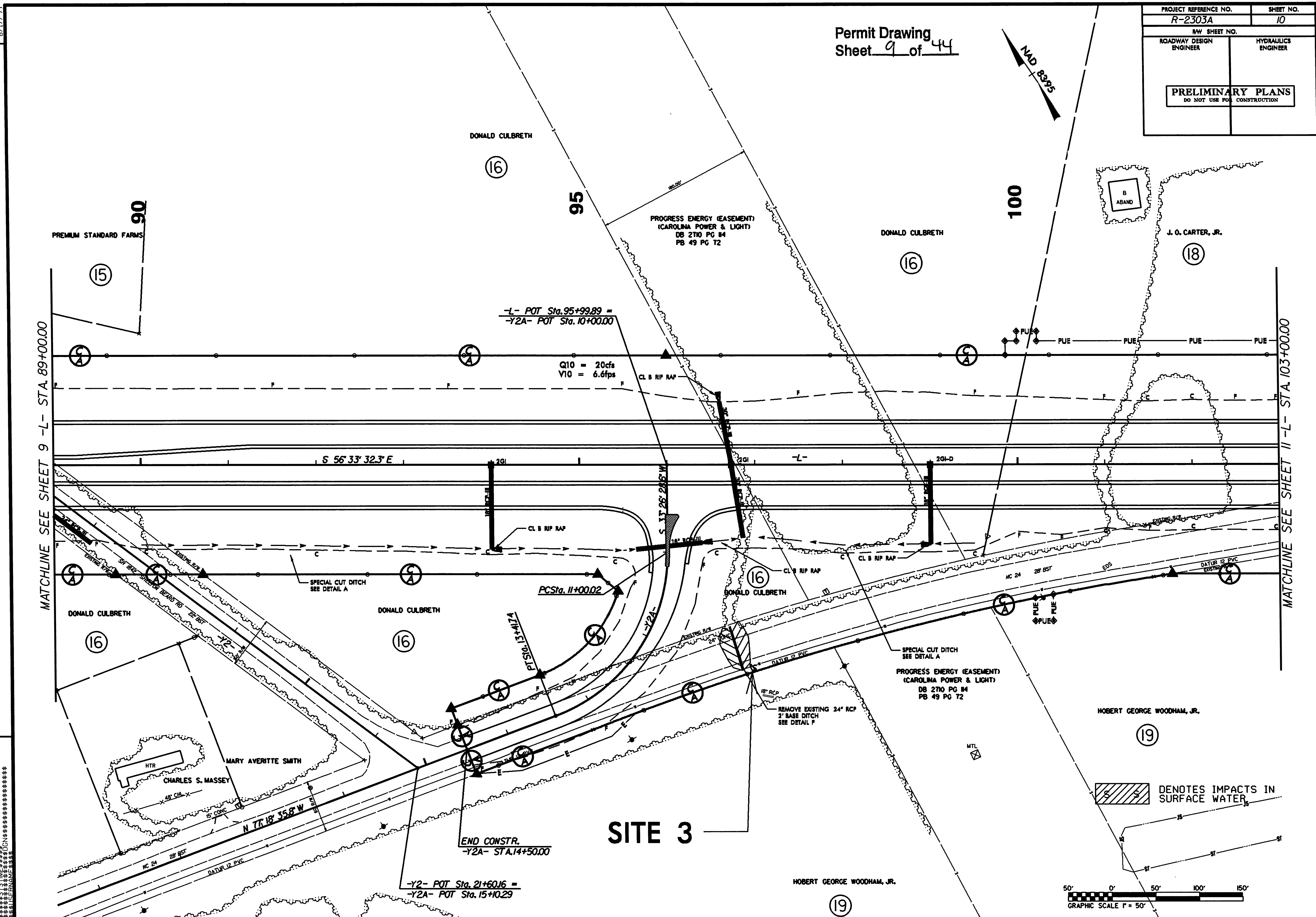
8/17/99

REVISIONS



PROJECT REFERENCE NO. R-2303A
SHEET NO. 10
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Permit Drawing
Sheet 9 of 44
NAD 83/95
DONALD CULBRETH
PREMIUM STANDARD FARMS
PROGRESS ENERGY (EASEMENT)
(CAROLINA POWER & LIGHT)
DB 2710 PG 114
PB 49 PG 72
J. O. CARTER, JR.
-L- POT Sta. 95+99.89 =
-Y2A- POT Sta. 10+00.00
Q10 = 20cfs
V10 = 6.6fps
CL B RIP RAP
S 56° 33' 32.3" E
MATCHLINE SEE SHEET 9 -L- STA. 89+00.00
MATCHLINE SEE SHEET 11 -L- STA. 103+00.00
SPECIAL CUT DITCH
SEE DETAIL A
PC Sta. 11+00.02
PT Sta. 13+41.74
MARY AVERITTE SMITH
CHARLES S. MASSEY
N 77° 18' 35.8" W
END CONSTR.
-Y2A- STA. 14+50.00
-Y2- POT Sta. 21+60.16 =
-Y2A- POT Sta. 15+10.29
SITE 3
REMOVE EXISTING 24" RCP
2' BASE DITCH
SEE DETAIL F
HOBERT GEORGE WOODHAM, JR.
DENOTES IMPACTS IN SURFACE WATER
GRAPHIC SCALE 1" = 50'

2/6/2012
ameadows
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PROJECT REFERENCE NO.	SHEET NO.
R-2303A	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 10 of 44

NAD 83/95

REVISIONS

8/17/99

DONALD CULBRETH (16)

PREMIUM STANDARD FARMS (15)

PROGRESS ENERGY (EASEMENT)
(CAROLINA POWER & LIGHT)
DB 2710 PG 114
PB 49 PG 72

DONALD CULBRETH (16)

J. O. CARTER, JR. (18)

B ABAND

90

95

100

MATCHLINE SEE SHEET 9 -L- STA. 89+00.00

MATCHLINE SEE SHEET 11 -L- STA. 103+00.00

-L- POT Sta. 95+99.89 =
-Y2A- POT Sta. 10+00.00

Q10 = 20cfs
V10 = 6.6fps

CL B RIP RAP

S 56° 33' 32.3" E

S 33° 26' 28.6" W

-L-

-Y2-

-Y2A-

PCSta. 11+00.02

PTSta. 13+41.21

SPECIAL CUT DITCH
SEE DETAIL A

DONALD CULBRETH (16)

DONALD CULBRETH (16)

DONALD CULBRETH (16)

PUE

PROGRESS ENERGY (EASEMENT)
(CAROLINA POWER & LIGHT)
DB 2710 PG 114
PB 49 PG 72

REMOVE EXISTING 24" RCP
2'-BASE DITCH
SEE DETAIL F

HOBERT GEORGE WOODHAM, JR. (19)

HTR

MARY AVERITTE SMITH

CHARLES S. MASSEY

N 71° 18' 35.8" W

END CONSTR.
-Y2A- STA. 14+50.00

-Y2- POT Sta. 21+60.16 =
-Y2A- POT Sta. 15+10.29

HOBERT GEORGE WOODHAM, JR. (19)

MTL

SITE 3

S DENOTES IMPACTS IN SURFACE WATER

50' 0' 50' 100' 150'
GRAPHIC SCALE 1" = 50'

2/6/2012
ameadows
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PROJECT REFERENCE NO.	SHEET NO.
R2303A	10B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 11 of 44

NAD 83/95

PUE
PUI

CL B RIP RAP

F

30" RCP-III

2GI

-L-

2GI-D

18" RCP-III

S 33° 26' 28.6" W

-Y2A-

18" RCP-III

C

CL B RIP RAP

CL B RIP RAP

16
DONALD CULBRETH

NC 24 28' BST EOS

PUE PUE PUE

EXISTING R/W

24" CONC

DATUR 12 PVC

18" RCP

SPECIAL CUT DITCH
SEE DETAIL A

REMOVE EXISTING 24" RCP
2' BASE DITCH
SEE DETAIL F

PROGRESS ENERGY (EASEMENT)
(CAROLINA POWER & LIGHT)
DB 2710 PG 114
PB 49 PG 72

DENOTES IMPACTS IN SURFACE WATER

25' 0' 25' 50' 75'
GRAPHIC SCALE 1" = 50'

HOBERT GEORGE

SITE 3

19

REVISIONS 8/17/99

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$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$$

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ameadows
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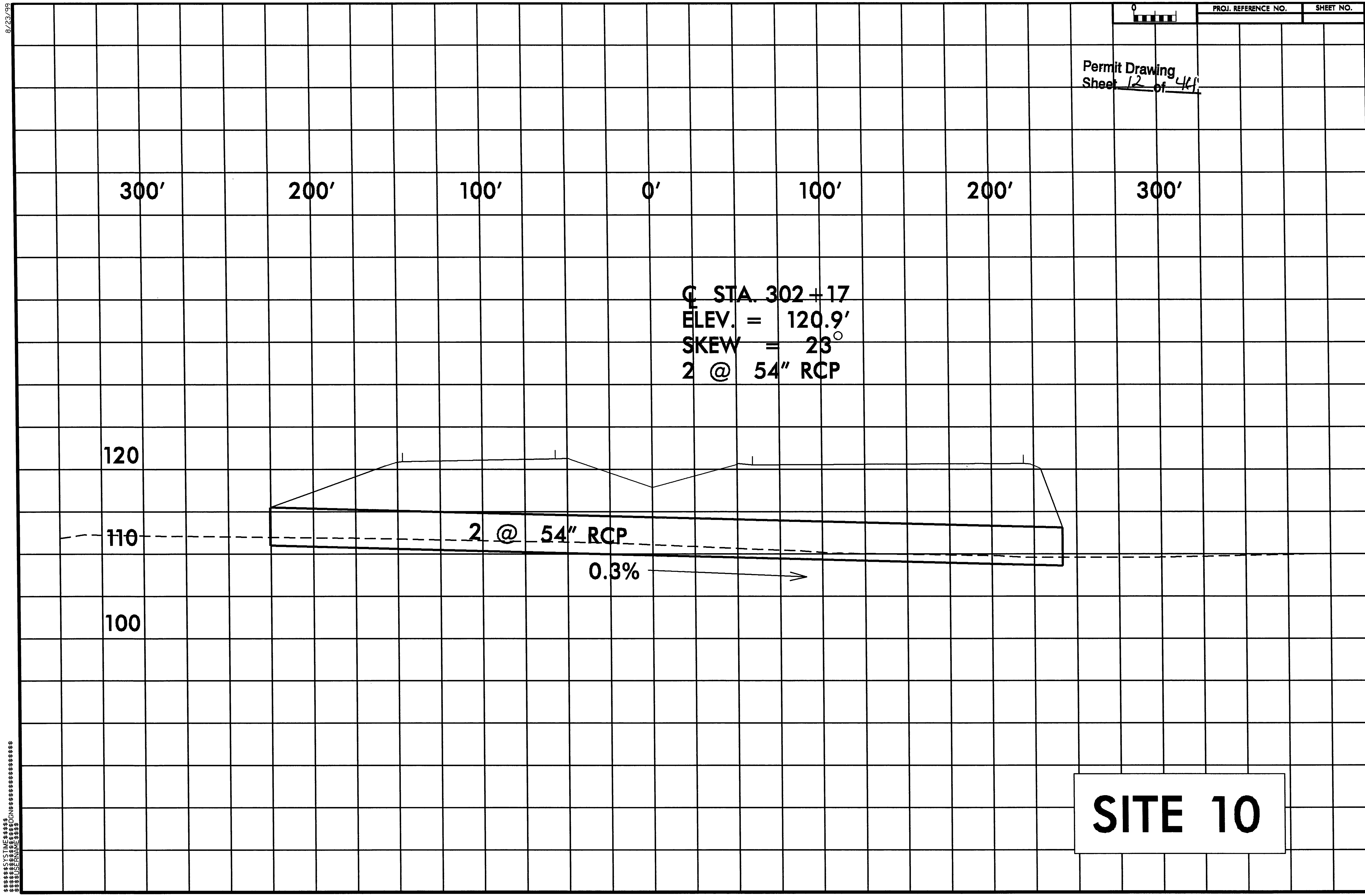
8/23/99



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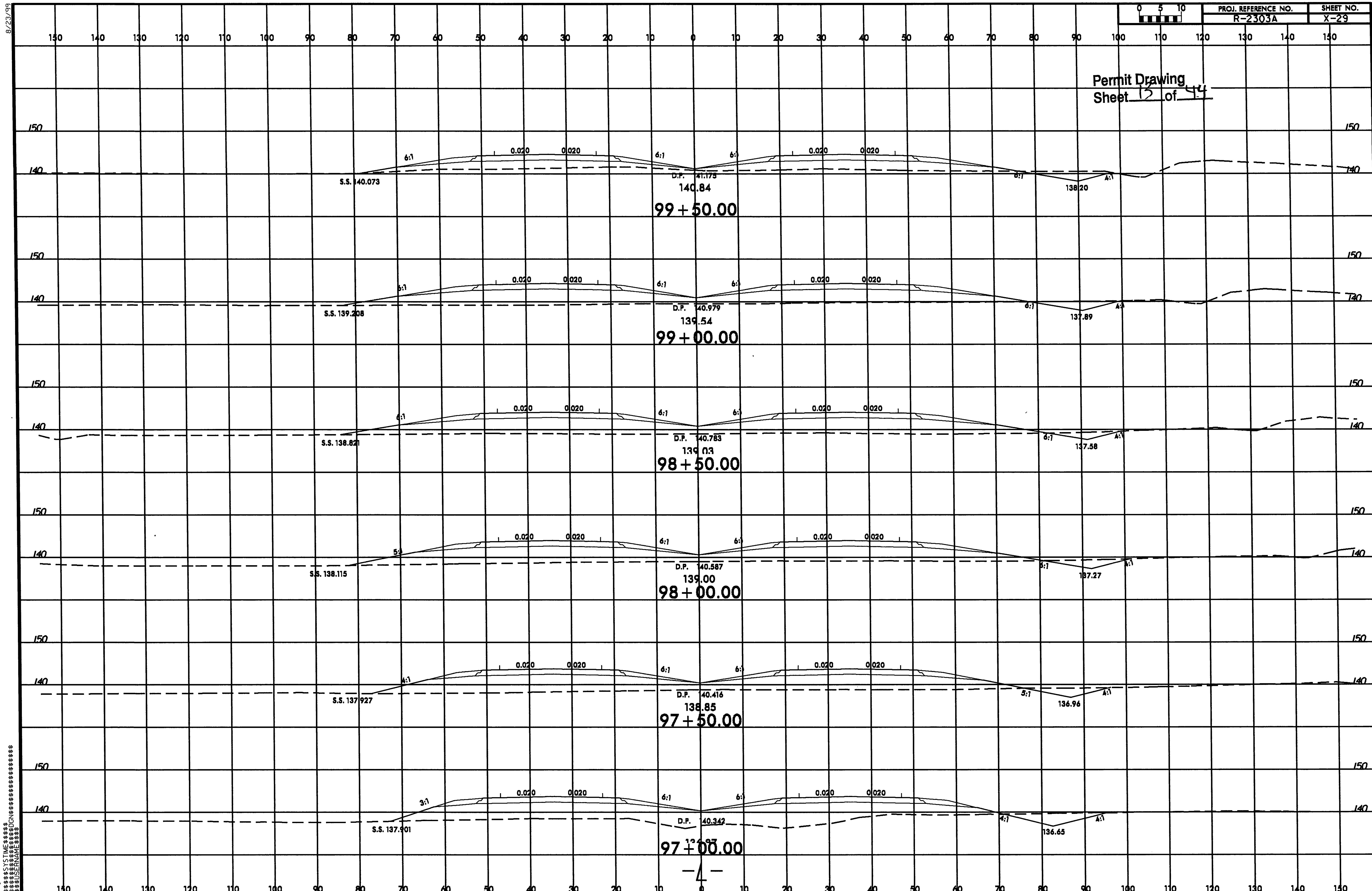

8/23/99

1/30/2012
ameadows
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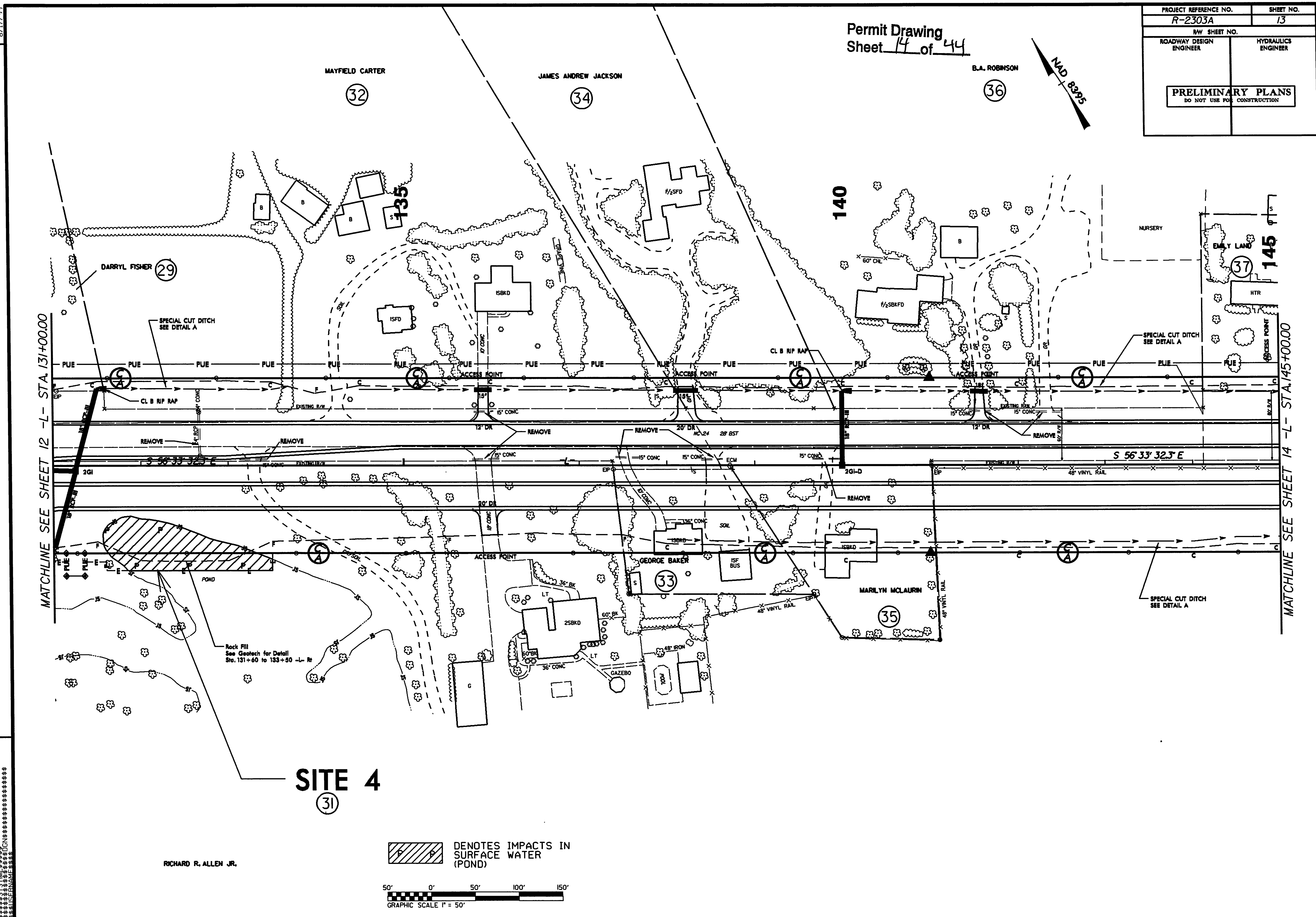

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ameadows
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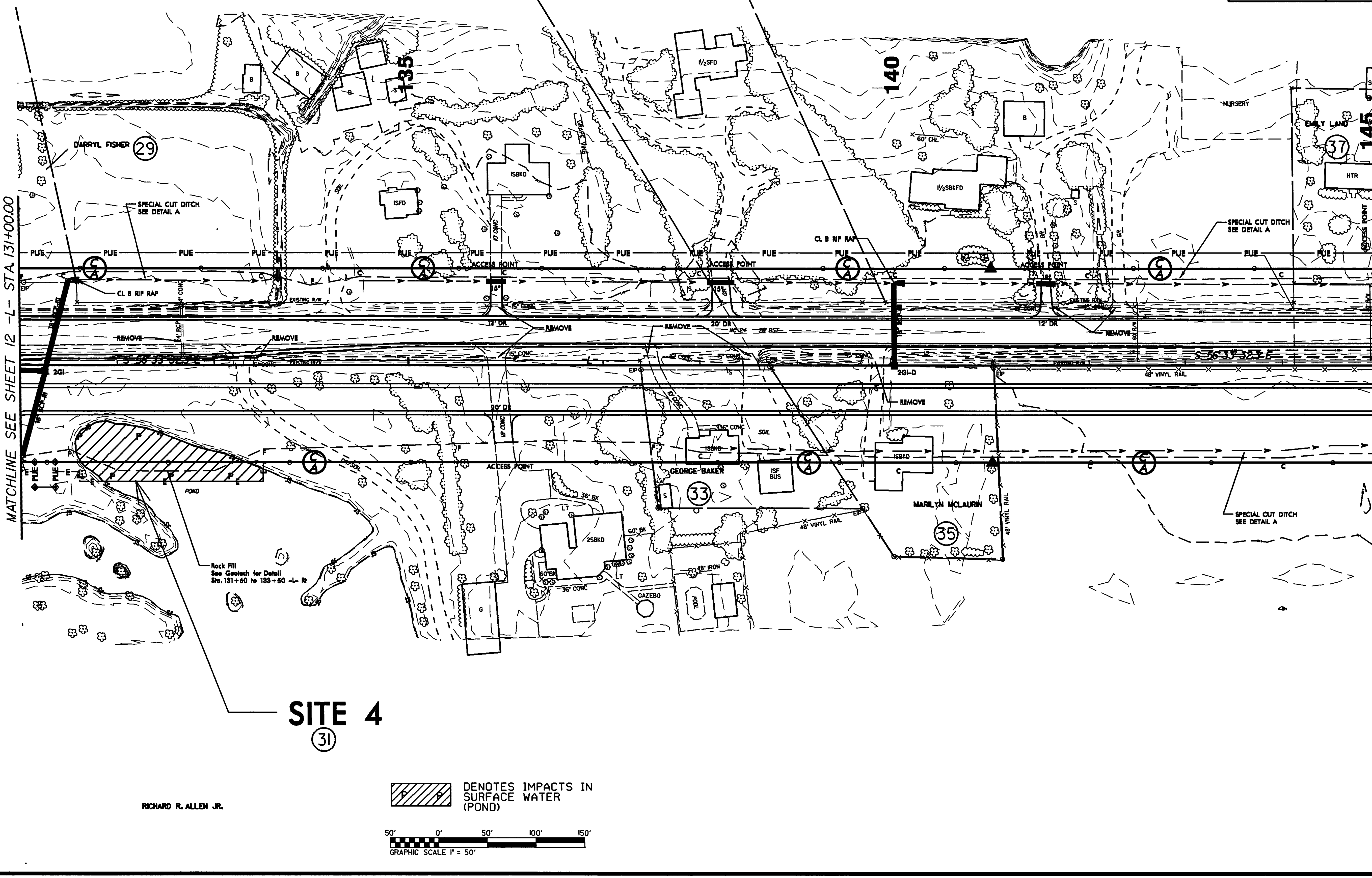
$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 15 of 44



MAYFIELD CARTER
JAMES ANDREW JACKSON
B.A. ROBINSON
NAD 83/95
DARRYL FISHER
EMILY LAND
GEORGE BAKER
MARILYN MCLAURIN
RICHARD R. ALLEN JR.
MATCHLINE SEE SHEET 12 -L- STA 131+00.00
MATCHLINE SEE SHEET 14 -L- STA 145+00.00
SPECIAL CUT DITCH SEE DETAIL A
CL B RIP RAP
Rock Fill See Geotech for Detail Sta. 131+60 to 133+50 -L- Rt
POND
SITE 4
DENOTES IMPACTS IN SURFACE WATER (POND)
GRAPHIC SCALE 1" = 50'

8/17/99

REVISIONS

2/6/2012
ameadows
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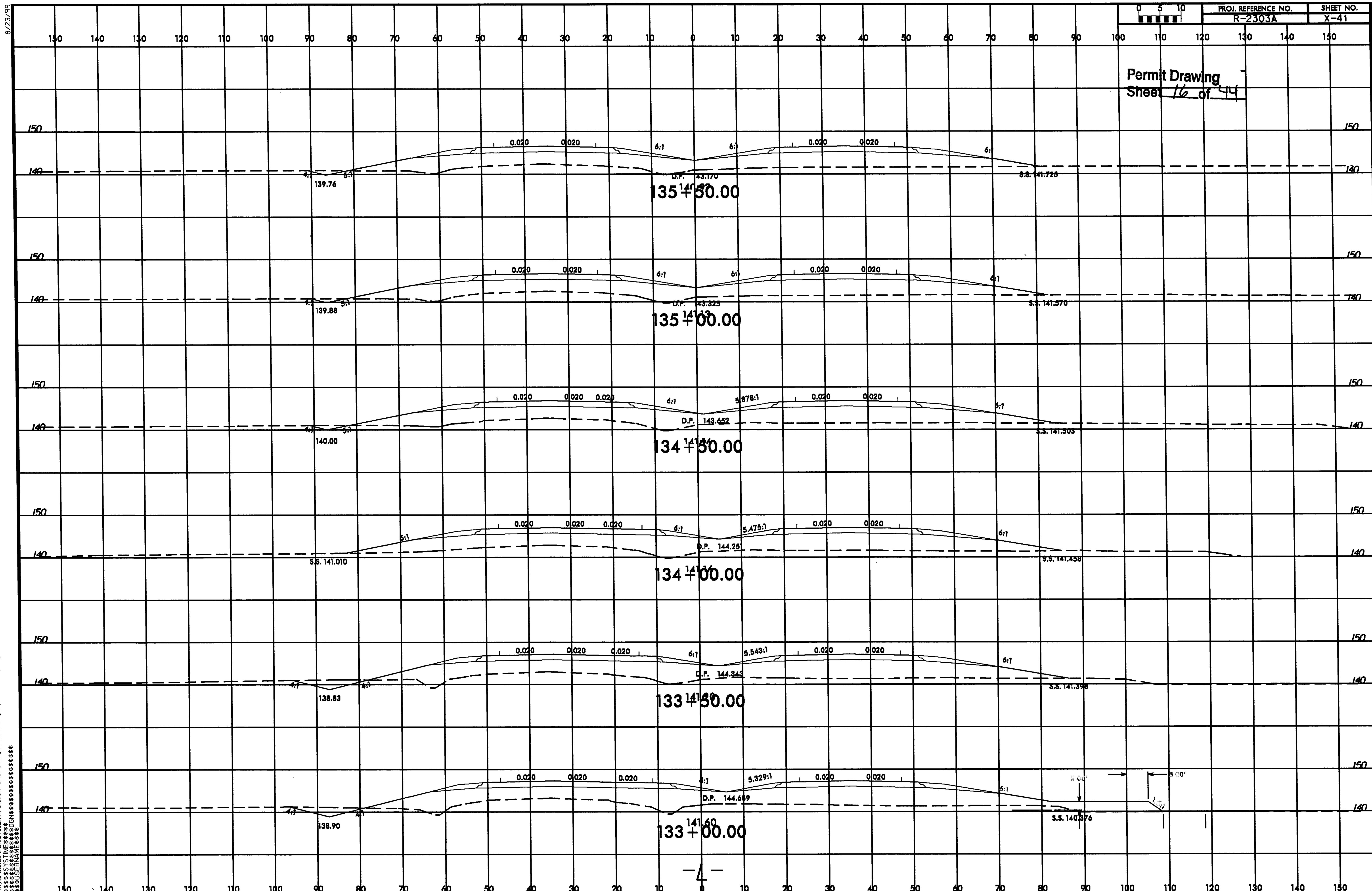
8/23/99



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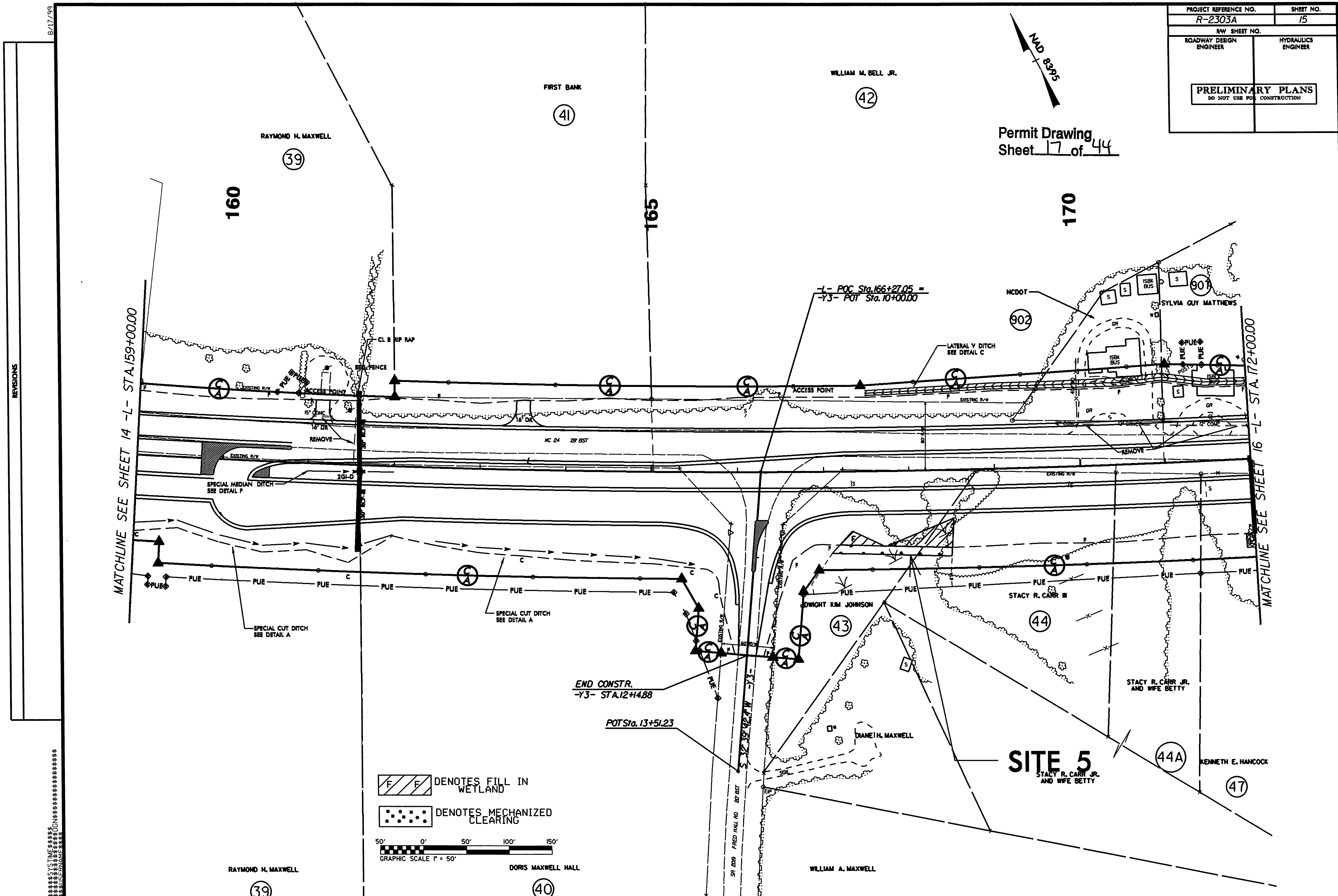

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ameadows
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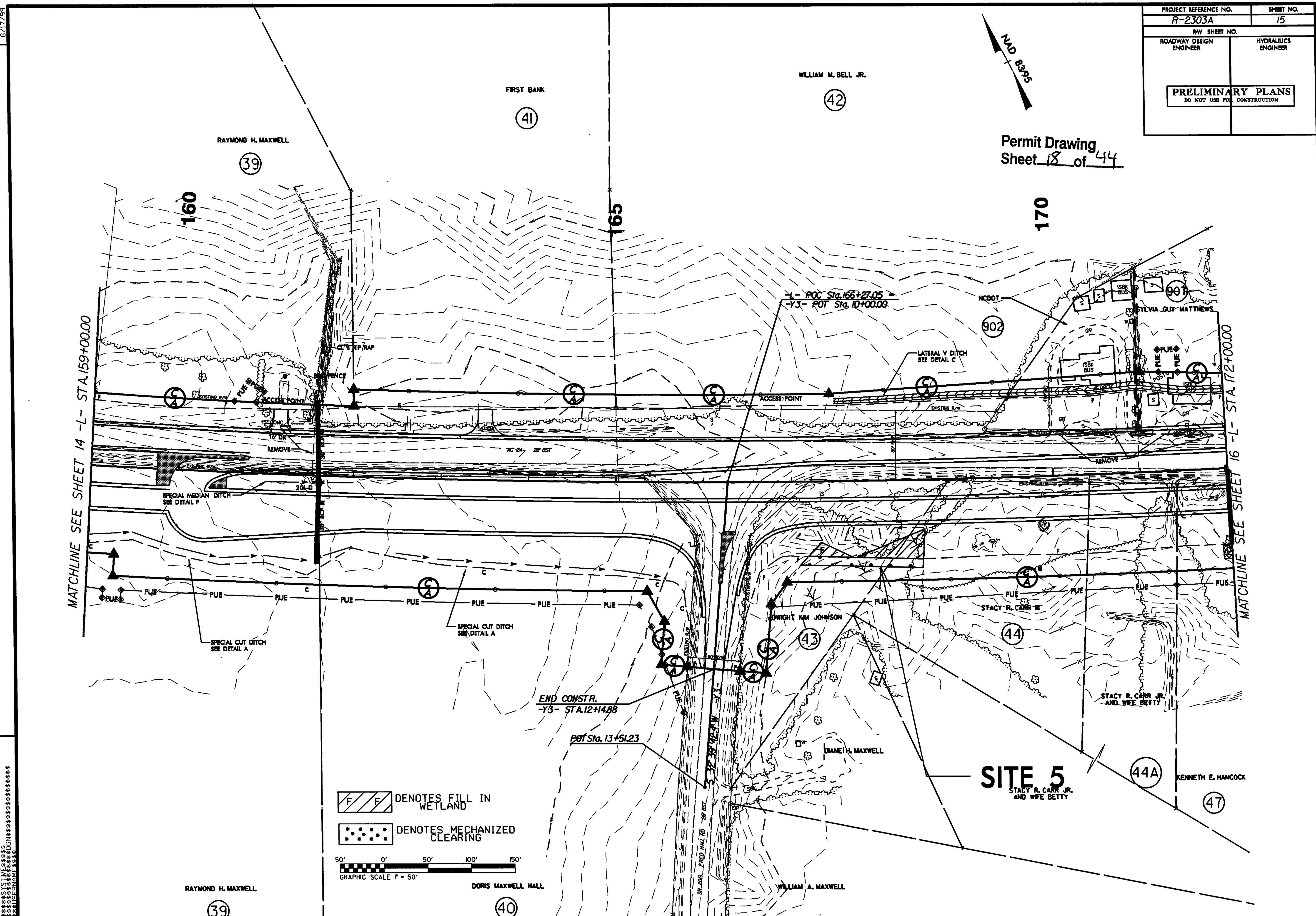
8/17/99

REVISIONS



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$$$$USERNAME$$$$

2/6/2012
ameadows
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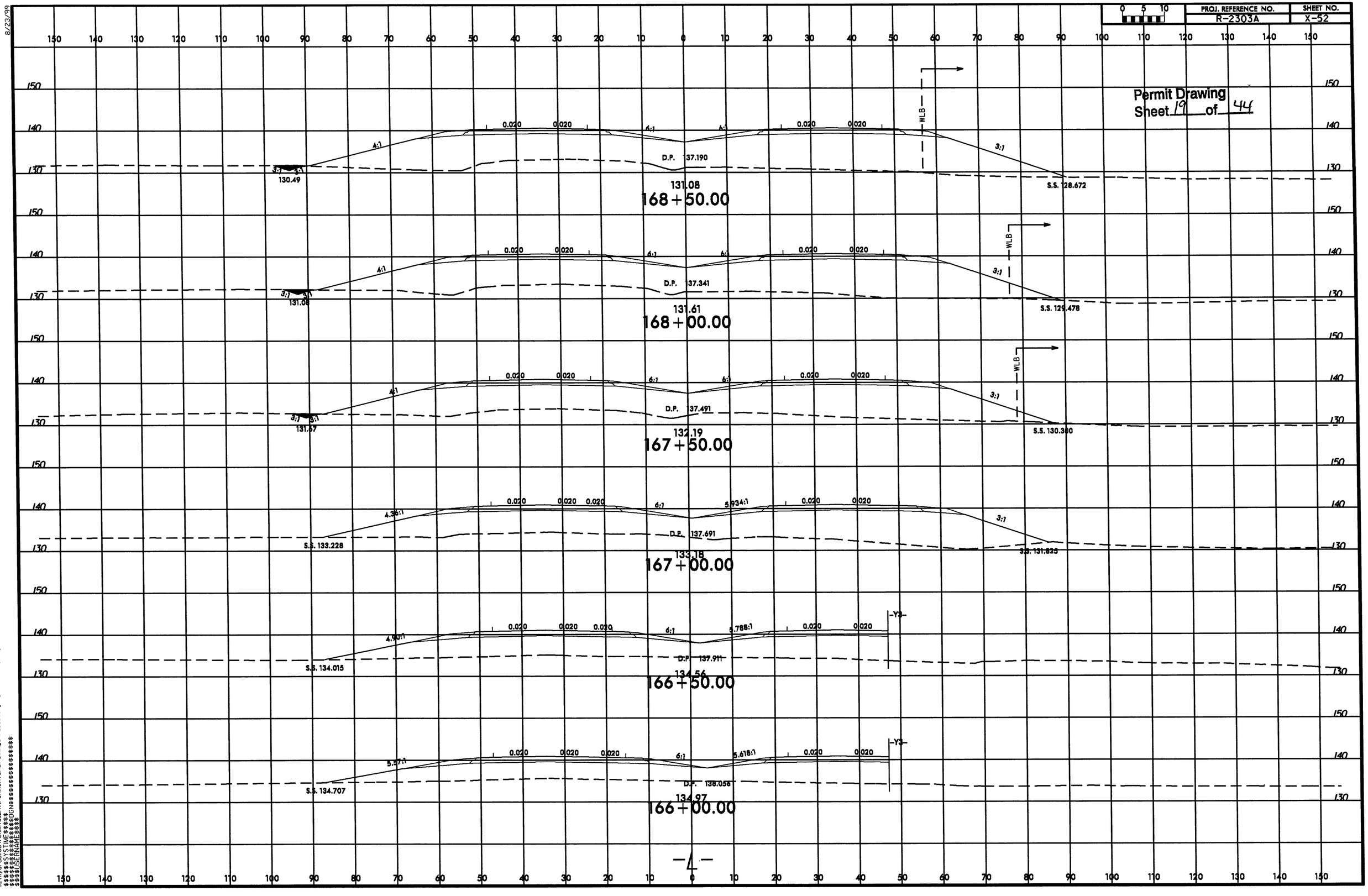
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2303A	X-52

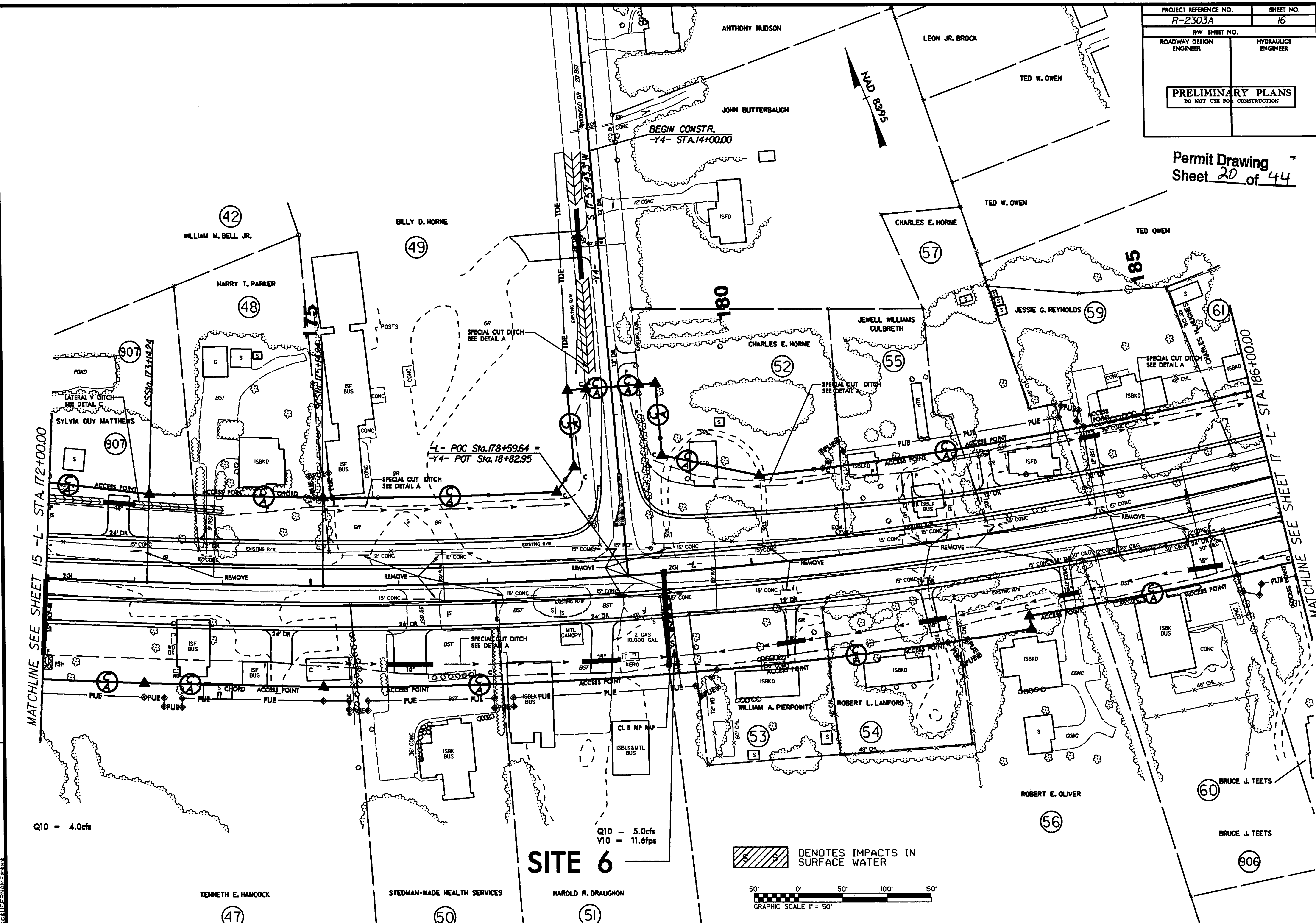
Permit Drawing
Sheet 19 of 44



PROJECT REFERENCE NO.	SHEET NO.
R-2303A	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 20 of 44



ANTHONY HUDSON
LEON JR. BROCK
TED W. OWEN
JOHN BUTTERBAUGH
NAD 83/95
BEGIN CONSTR.
-Y4- STA.14+00.00
TED W. OWEN
TED OWEN
CHARLES E. HORNE
57
185
JESSIE G. REYNOLDS
59
61
CHARLES HUGHES
42
WILLIAM M. BELL JR.
BILLY D. HORNE
49
HARRY T. PARKER
48
175
180
JEWELL WILLIAMS CULBRETH
55
CHARLES E. HORNE
52
907
SYLVIA GUY MATTHEWS
907
-L- POC Sta.178+59.64 =
-Y4- POT Sta. 18+82.95
SPECIAL CUT DITCH SEE DETAIL A
LATERAL V DITCH SEE DETAIL C
ACCESS POINT
REMOVE
EXISTING R/W
PUE
MATCHLINE SEE SHEET 15 -L- STA. 172+00.00
MATCHLINE SEE SHEET 17 -L- STA. 186+00.00
WILLIAM A. PIERPOINT
53
ROBERT L. LANFORD
54
ROBERT E. OLIVER
56
BRUCE J. TEETS
60
BRUCE J. TEETS
906
Q10 = 4.0cfs
Q10 = 5.0cfs
V10 = 11.6fps
SITE 6
DENOTES IMPACTS IN SURFACE WATER
GRAPHIC SCALE 1" = 50'
KENNETH E. HANCOCK
47
STEDMAN-WADE HEALTH SERVICES
50
HAROLD R. DRAUGHON
51

REVISIONS

DECEMBER 29,2010 - R/W REVISIONS - REVISED PUE ON PARCEL 47.

8/17/99

2/6/2012
ameadows
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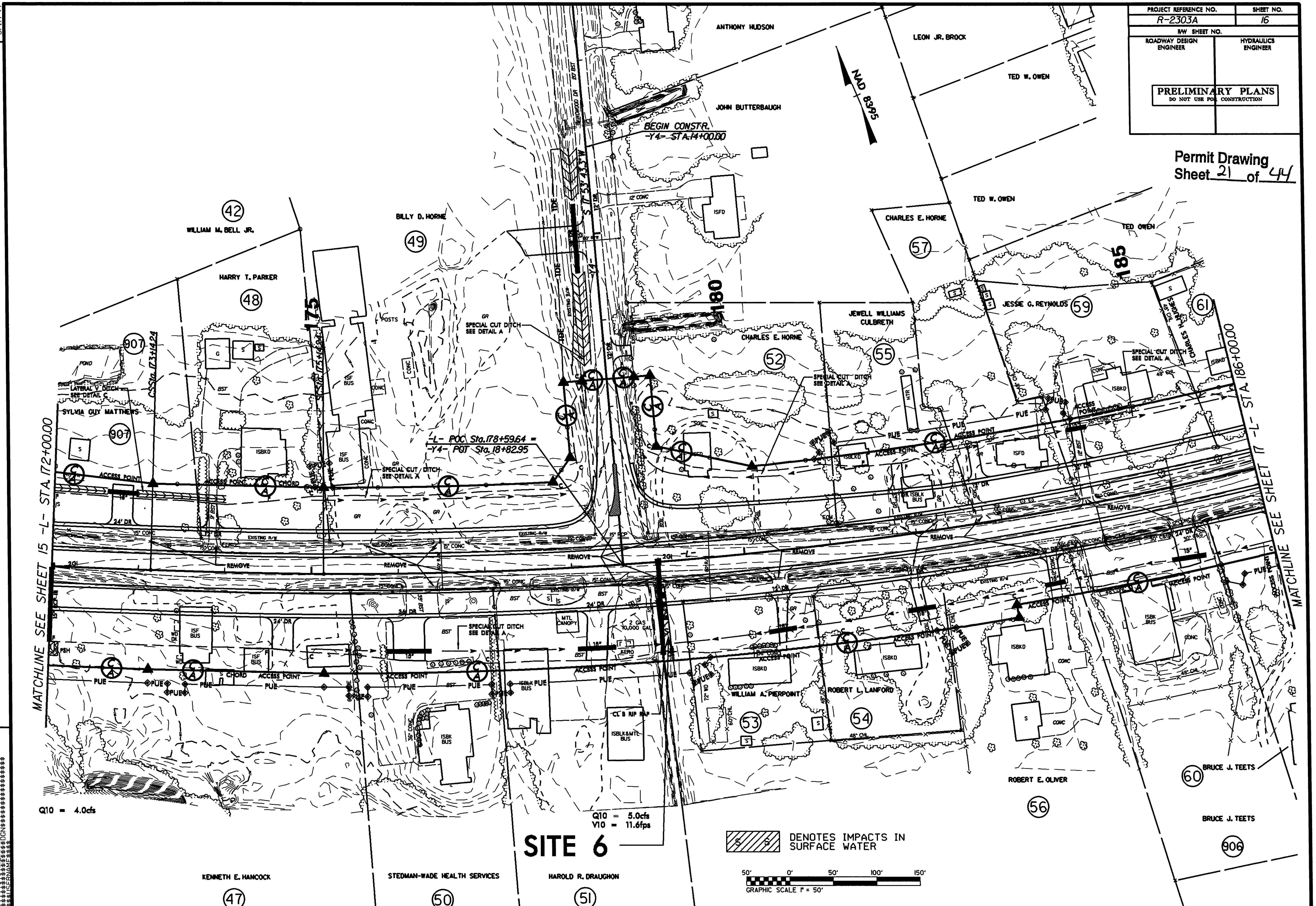
$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$$

8/17/99

REVISIONS

DECEMBER 29,2010 - R/W REVISIONS - REVISED PUE ON PARCEL 47.



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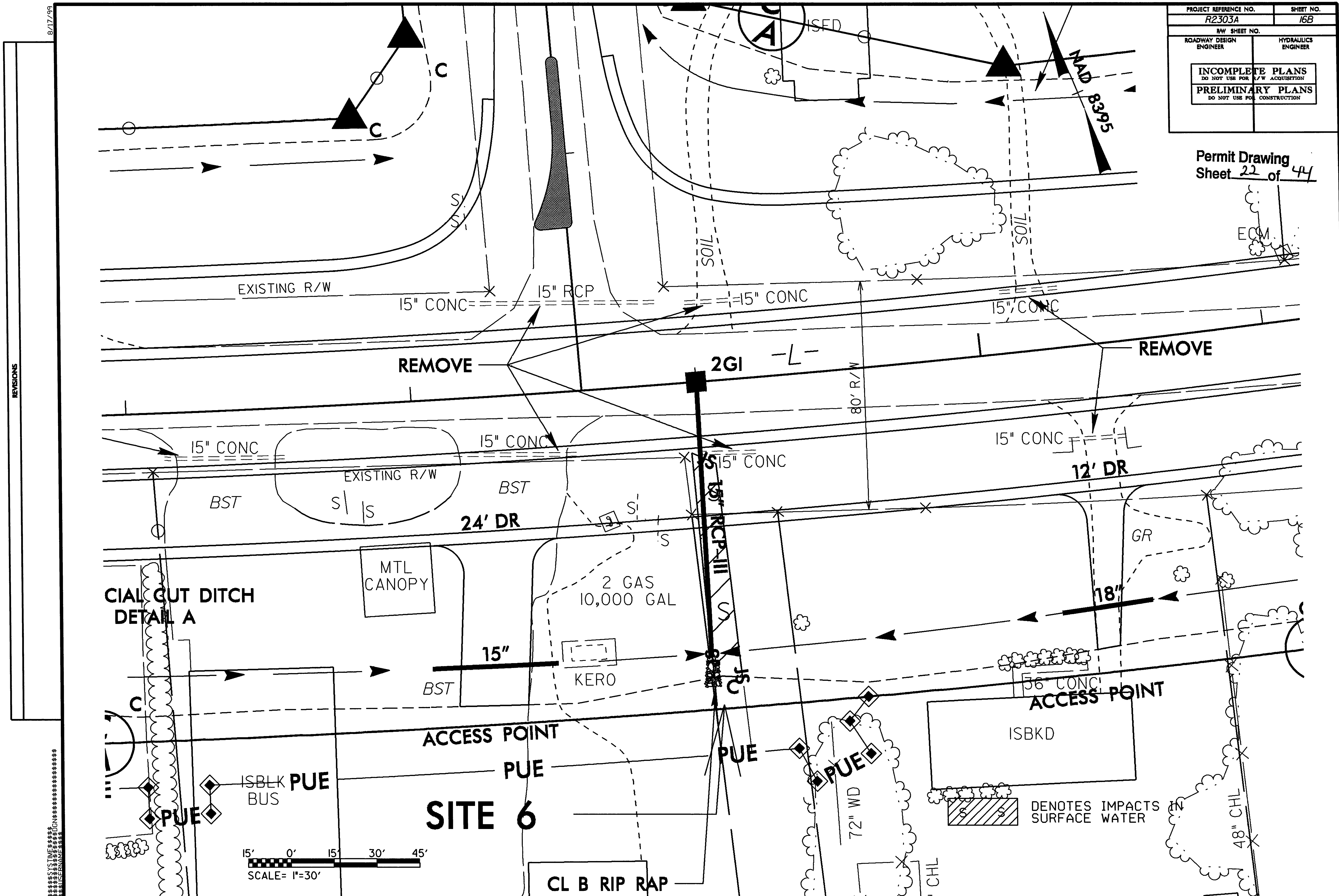

PROJECT REFERENCE NO.
R2303A
SHEET NO.
16B
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Permit Drawing
Sheet 22 of 44
NAD 83/95
EXISTING R/W
15" CONC
15" RCP
REMOVE
2GI
-L-
80' R/W
12' DR
24' DR
BST
GR
MTL CANOPY
2 GAS
10,000 GAL
15" RCP-III
CIAL CUT DITCH
DETAIL A
15"
18"
KERO
36" CONC
ACCESS POINT
ISBKD
PUE
ISBLK
BUS
SITE 6
72" WD
48" CHL
CHL
DENOTES IMPACTS IN SURFACE WATER
SCALE= 1"=30'
CL B RIP RAP
ECM
SOIL
REVISIONS
8/17/99

2/6/2012
ameadows
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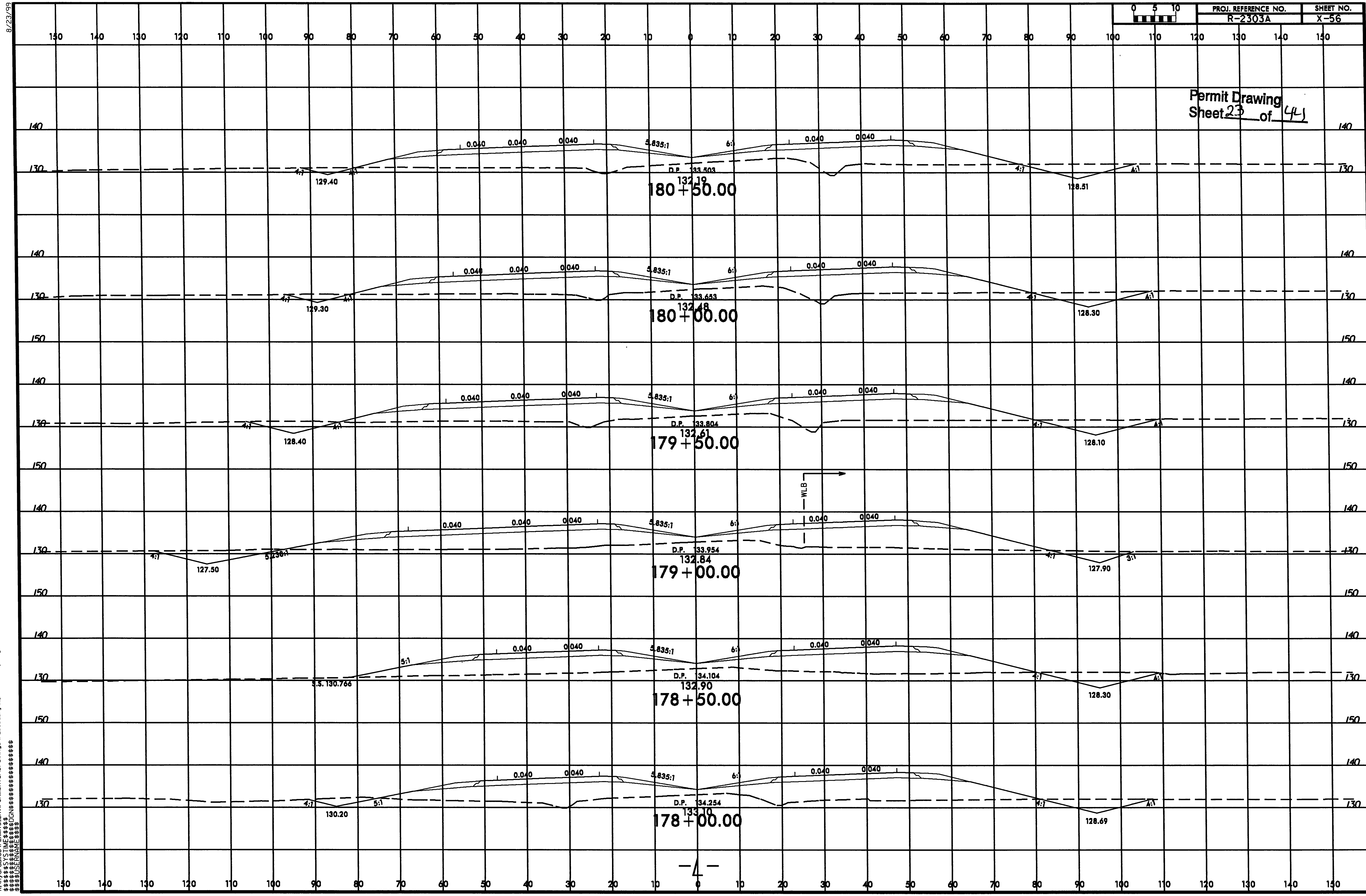

8/23/99
0 5 10
PROJ. REFERENCE NO.
R-2303A
SHEET NO.
X-56
Permit Drawing
Sheet 23 of 41
D.P. 133.503
132.19
180+50.00
129.40
128.51
D.P. 133.653
132.48
180+00.00
129.30
128.30
D.P. 133.804
132.61
179+50.00
128.40
128.10
WLB
D.P. 133.954
132.84
179+00.00
127.50
127.90
D.P. 134.104
132.90
178+50.00
S.S. 130.766
128.30
D.P. 134.254
133.10
178+00.00
130.20
128.69
1/30/2012
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PROJECT REFERENCE NO.	SHEET NO.
R-2303A	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 24 of 44

SITE 7

200 205 210

NAD 83/95

(FORMERLY GERTRUDE P. BUNCE)
DAVID BRIAN BUNCE
77

(FORMERLY GERTRUDE P. BUNCE)
DONALD STEPHEN BUNCE, et al
77A

POT Sta. 10+00.00

BEGIN CONSTR.
-Y6- STA. 11+32.95

-L- POT Sta. 204+83.63 =
-Y6- POT Sta. 13+48.04

CSSta. 202+45.95

ST Sta. 203+45.95

MATCHLINE SEE SHEET 17 -L- STA. 199+00.00

MATCHLINE SEE SHEET 19 -L- STA. 212+00.00

-L- POS Sta. 204+00.00 =
-Y6B- POT Sta. 10+66.00

-Y6B- POC Sta. 12+19.00 =
-Y6A- POT Sta. 18+34.39

PC Sta. 11+67.57
BRG BK = S 12° 42' 33.9" E

S 83°16'54.7" E

BEG. CONSTR.
-Y6A- POS Sta. 16+59.29

PT Sta. 14+13.92

END CONSTR.
-Y6B- POT Sta. 14+74.62
BRG BK =
S 83°16'54.7" E

N 77°13'27.6" E

SPECIAL CUT BASE DITCH SEE DETAIL B

SPECIAL CUT DITCH SEE DETAIL A

SPECIAL MEDIAN DITCH SEE DETAIL F

CL B RIP RAP

BARRY K. PRIBS
79

GERTRUDE P. BUNCE
77

CHARLOTTE M. PERKINS
80

ROGER F. HARP
81

LARRY KIRBY
81A

ROBERT LEE LONG
81B

CYNTHIA JAMES
81C

FIRST BAPTIST CHURCH OF STEDMAN
82

FIRST BAPTIST CHURCH OF STEDMAN CEMETARY
81D

ISBK FIRST BAPTIST CHURCH

ISBK CHURCH

JOHN A. GRILLO
76A

O.K. RENTALS, LLC
76B

KENNETH E. HANCOCK, SR.

ISBK APT

ISBK APT

JANICE B. JOHNSON

ROBERT SR. JOHNSON

ROBERT SR. JOHNSON

CEDAR CREEK MEDICAL SERVICES

ISBK BUS

2SBKD

ISBKD

DENOTES IMPACTS IN SURFACE WATER (POND)

50' 0' 50' 100' 150'
GRAPHIC SCALE 1" = 50'

KENNETH E. HANCOCK

REVISIONS

RIGHT OF WAY REVISION - JANUARY 18, 2011 - ADD PARCEL NOS. 76A AND 76B.

8/17/99

2/6/2012
ameadows
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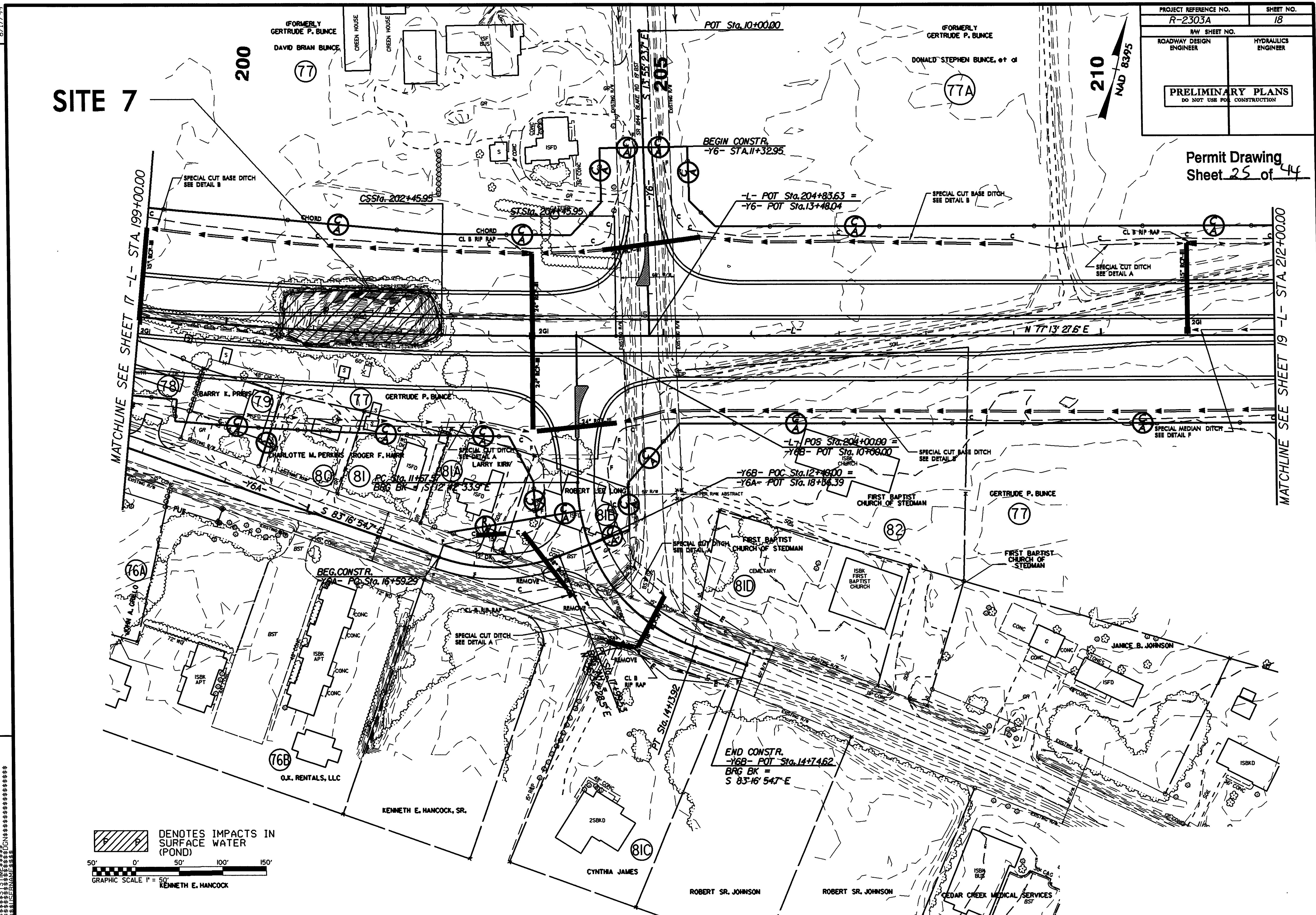
8/17/99

REVISIONS

RIGHT OF WAY REVISION - JANUARY 18, 2011 - ADD PARCEL NOS. 76A AND 76B.



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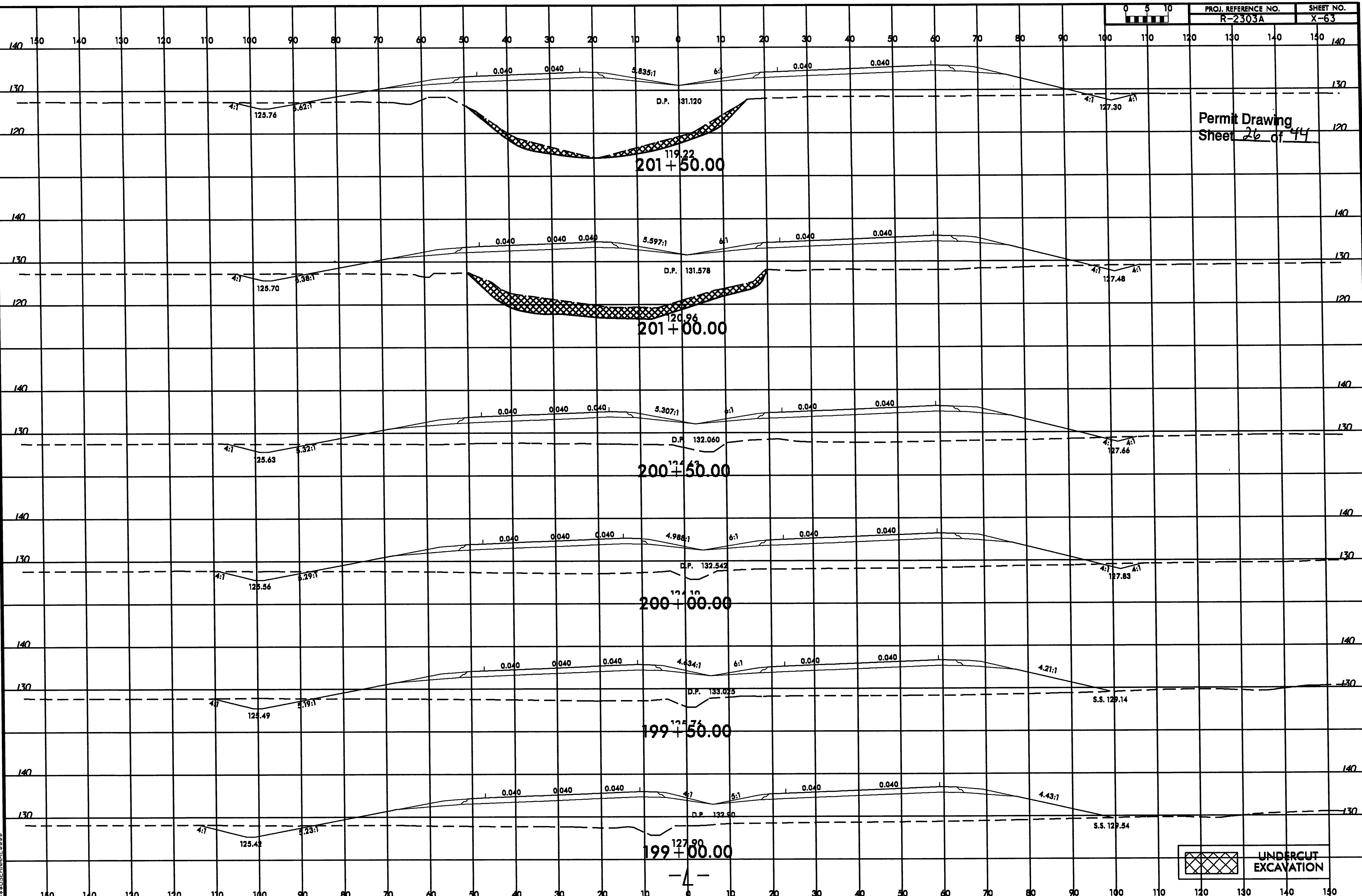
PROJ. REFERENCE NO.	SHEET NO.
R-2303A	X-63

Permit Drawing
Sheet 26 of 44



-4-

8/23/99

1/30/2012
ameadows
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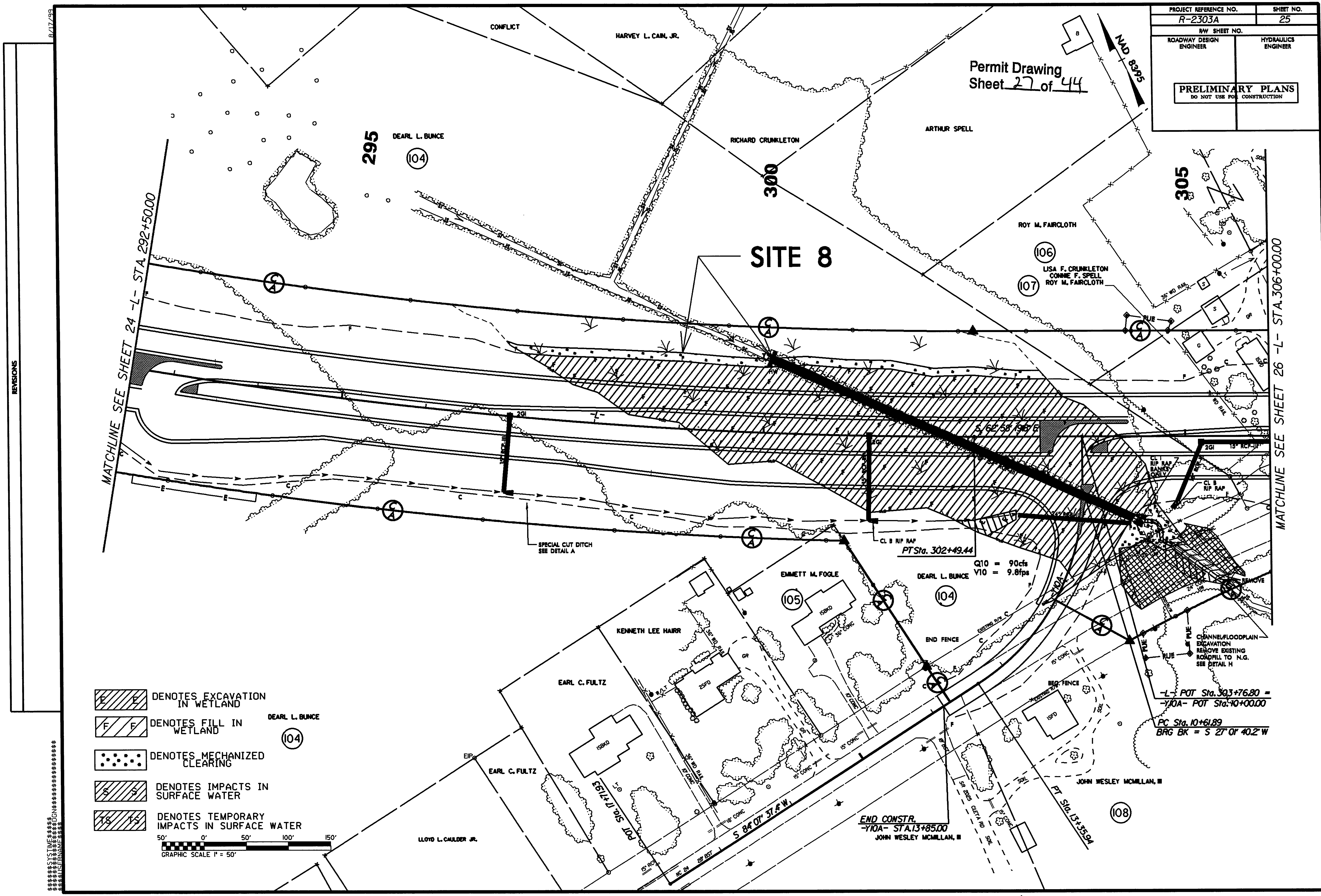
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SHEET NO. 25
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Permit Drawing
Sheet 27 of 44
NAD 83/95
SITE 8
CONFLICT
HARVEY L. CAIN, JR.
RICHARD CRUNKLETON
ARTHUR SPELL
DEARL L. BUNCE
104
295
300
305
ROY M. FAIRCLOTH
106
LISA F. CRUNKLETON
CONNIE F. SPELL
ROY M. FAIRCLOTH
107
MATCHLINE SEE SHEET 24 -L- STA. 292+50.00
MATCHLINE SEE SHEET 26 -L- STA. 306+00.00
S 62° 58' 19.6" E
SPECIAL CUT DITCH
SEE DETAIL A
CL B RIP RAP
PT Sta. 302+49.44
Q10 = 90cfs
V10 = 9.8fps
CL I RIP RAP BANKS ONLY
CL B RIP RAP
2GI
15" RCP-III
EMMETT M. FOGLE
105
KENNETH LEE HAIRR
EARL C. FULTZ
EARL C. FULTZ
LLOYD L. CAULDER JR.
END FENCE
BEG. FENCE
REMOVE
CHANNEL/FLOODPLAIN EXCAVATION
REMOVE EXISTING ROADFILL TO N.G.
SEE DETAIL H
-L- POT Sta. 303+76.80 =
-Y10A- POT Sta. 10+00.00
PC Sta. 10+61.89
BRG BK = S 27° 01' 40.2" W
POT Sta. 17+71.93
S 84° 07' 37.4" W
END CONSTR.
-Y10A- STA. 13+85.00
JOHN WESLEY MCMILLAN, III
PT Sta. 13+35.94
SR 2025 CLETA RD
JOHN WESLEY MCMILLAN, III
108
DENOTES EXCAVATION IN WETLAND
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
GRAPHIC SCALE 1" = 50'
REVISIONS
8/17/99
2/6/2012
ameadows
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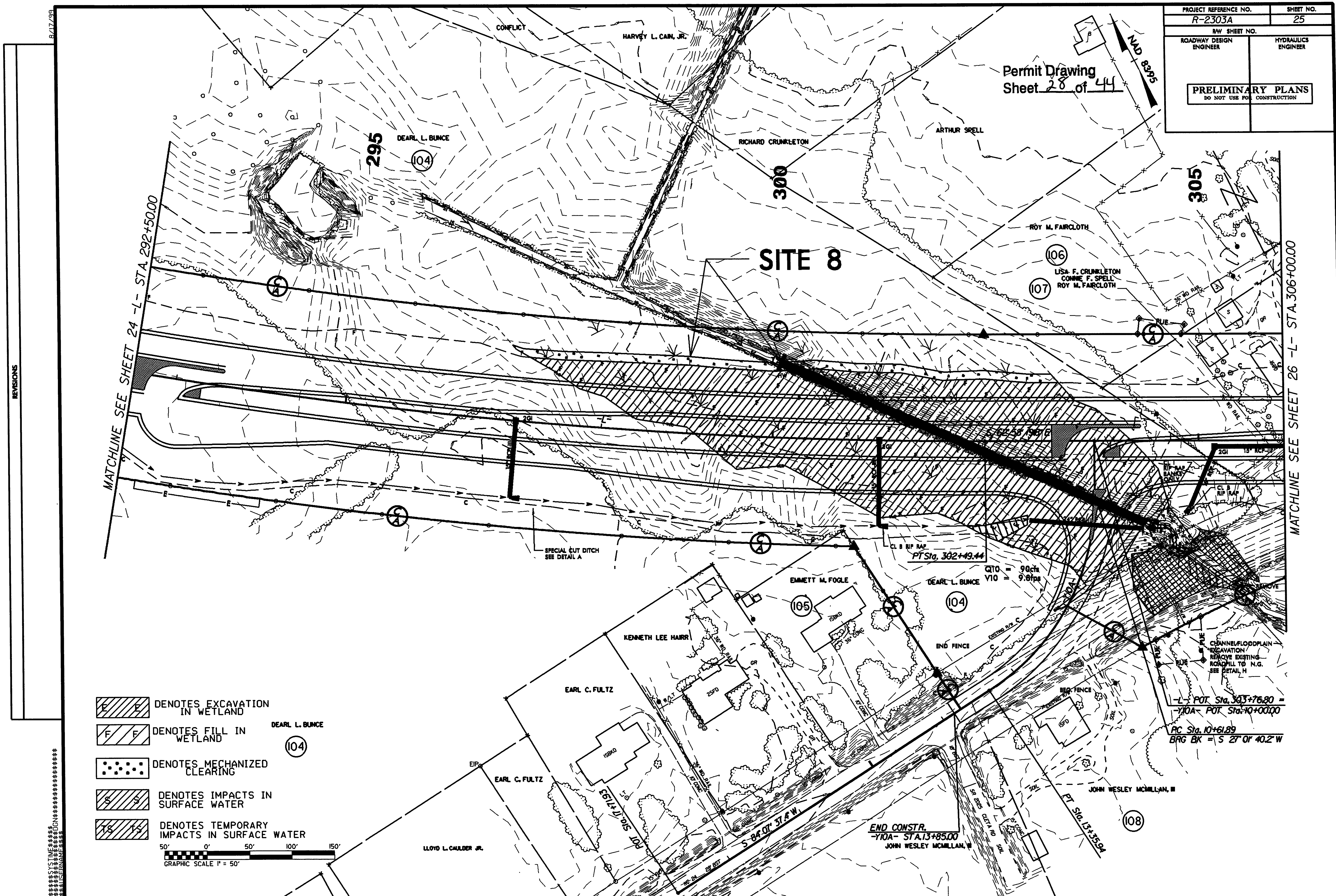

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ameadows
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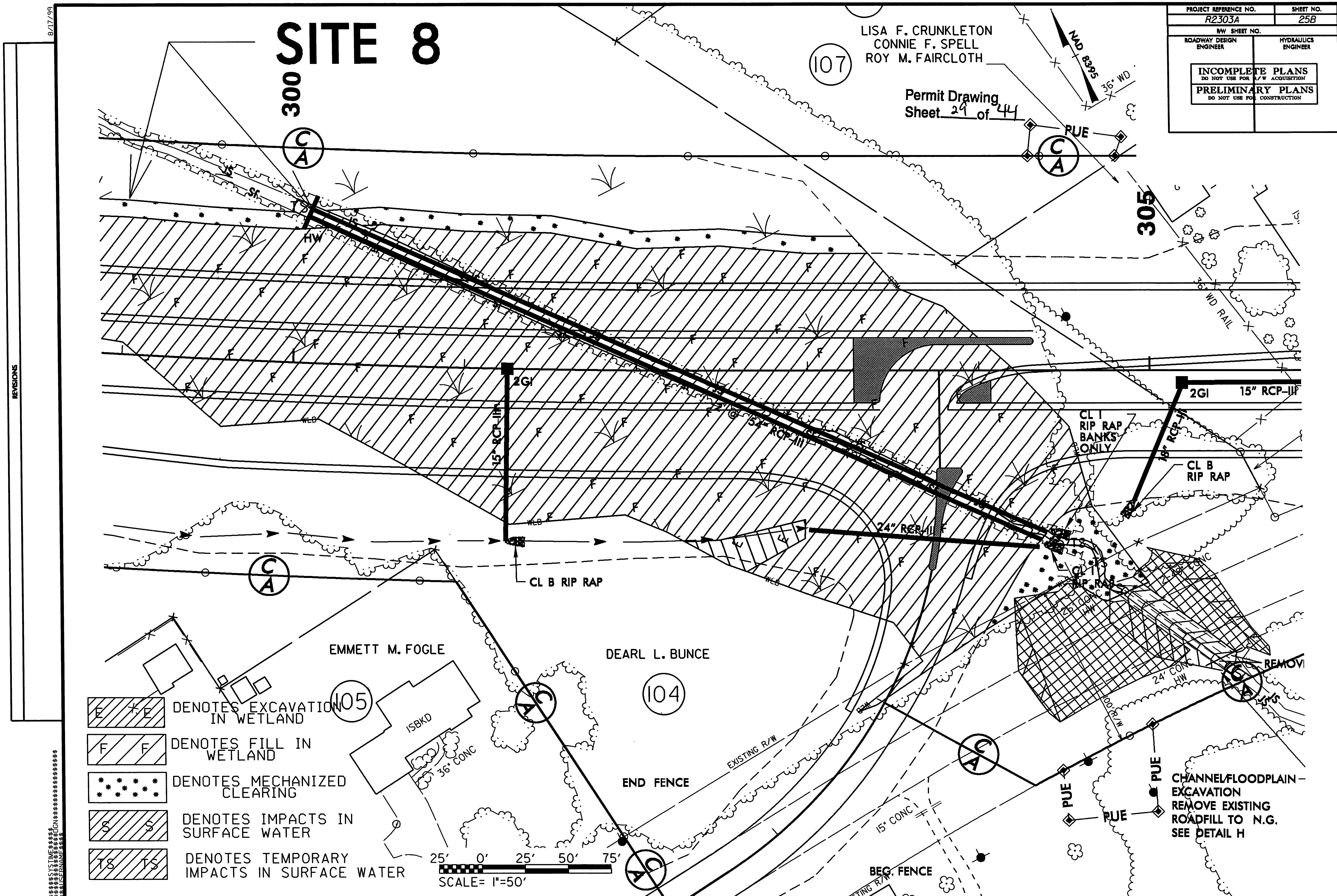

SITE 8
PROJECT REFERENCE NO.
R2303A
SHEET NO.
25B
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Permit Drawing
Sheet 29 of 44
LISA F. CRUNKLETON
CONNIE F. SPELL
ROY M. FAIRCLOTH
107
NAD 83/95
36" WD
PUE
300
305
HW
2GI
15" RCP-III
54" RCP-III
24" RCP-III
18" RCP-III
CL B RIP RAP
CL I RIP RAP BANKS ONLY
CL I RIP RAP
36" WD RAIL
26' CONC HW
24' CONC HW
EMMETT M. FOGLE
105
DEARL L. BUNCE
104
ISBKD
36" CONC
15" CONC
EXISTING R/W
END FENCE
BEG. FENCE
REMOVE
CHANNEL/FLOODPLAIN EXCAVATION
REMOVE EXISTING ROADFILL TO N.G.
SEE DETAIL H
DENOTES EXCAVATION IN WETLAND
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
25' 0' 25' 50' 75'
SCALE= 1"=50'
REVISIONS
8/17/99

2/6/2012
ameadows
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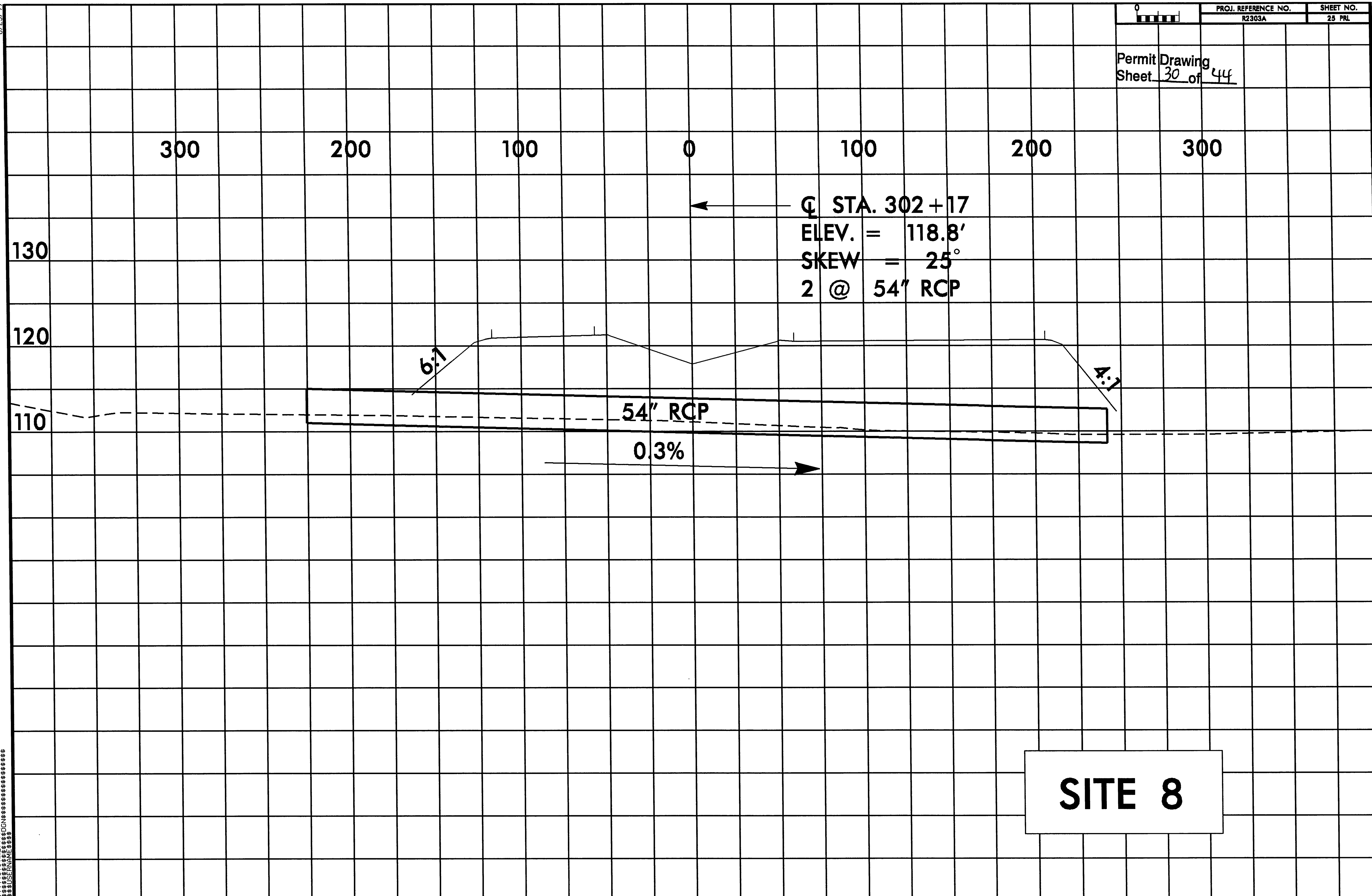

8/23/99

2/6/2012
ameadows
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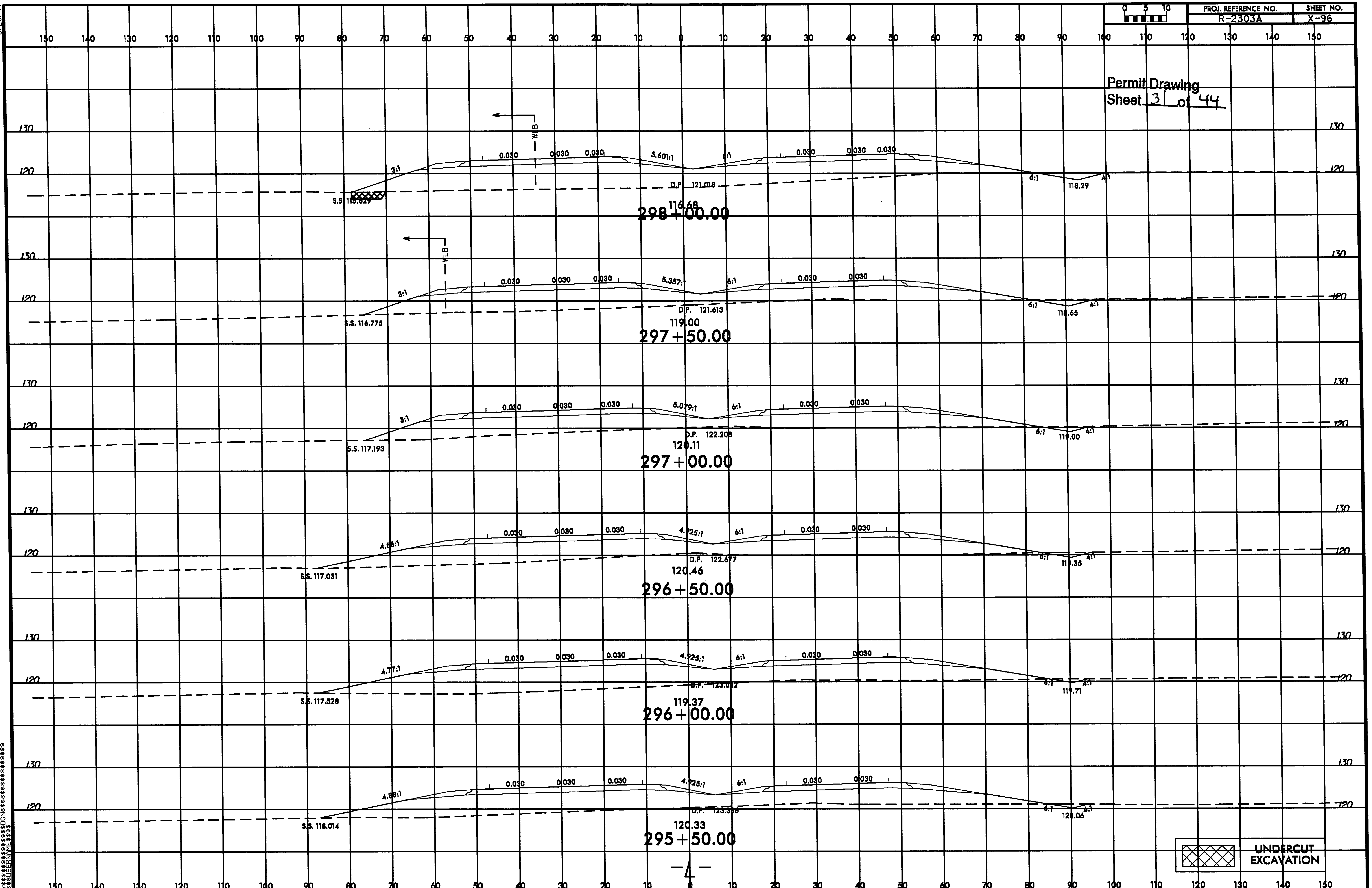
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

8/23/99



1/30/2012
ameadows
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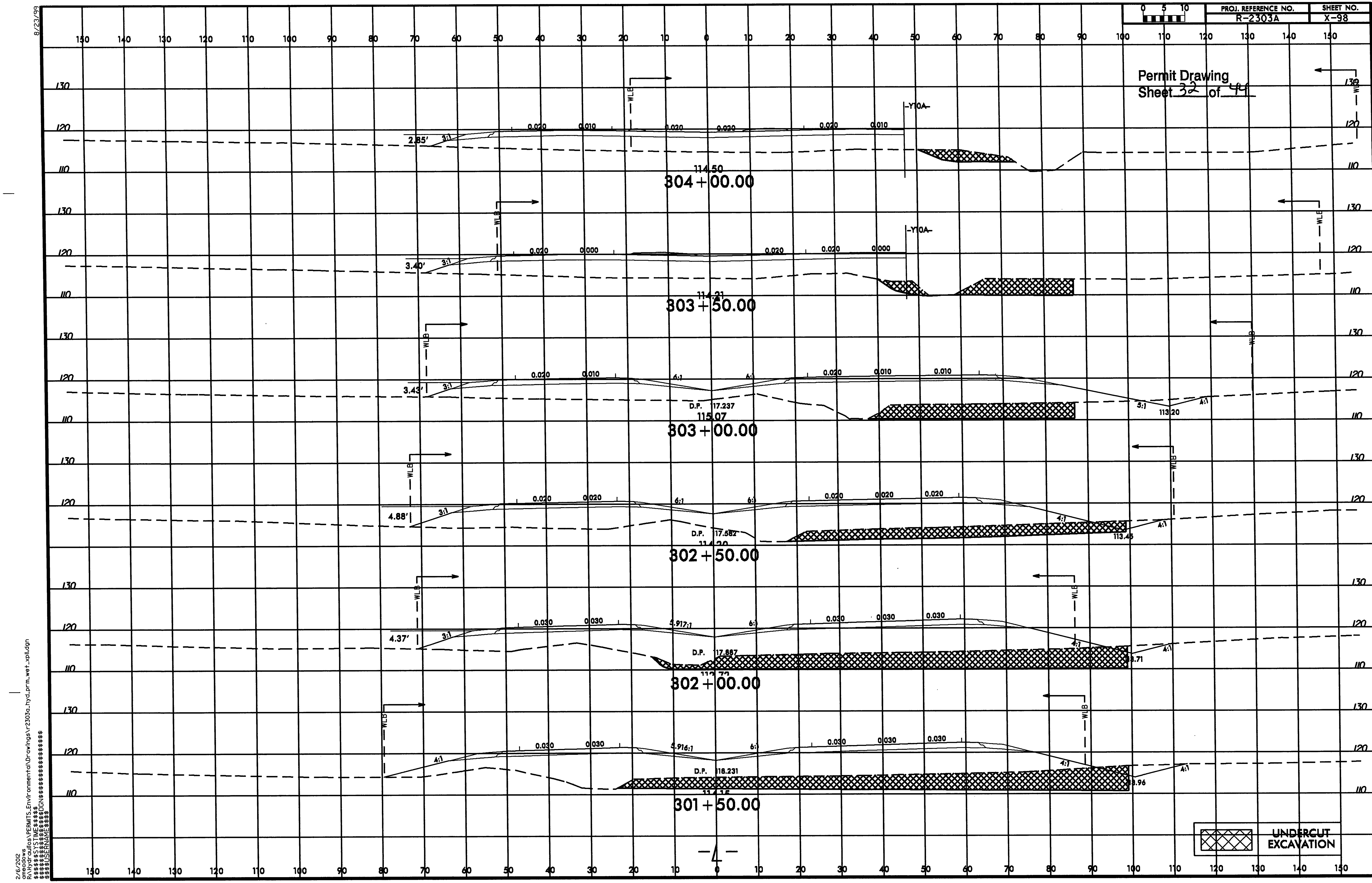
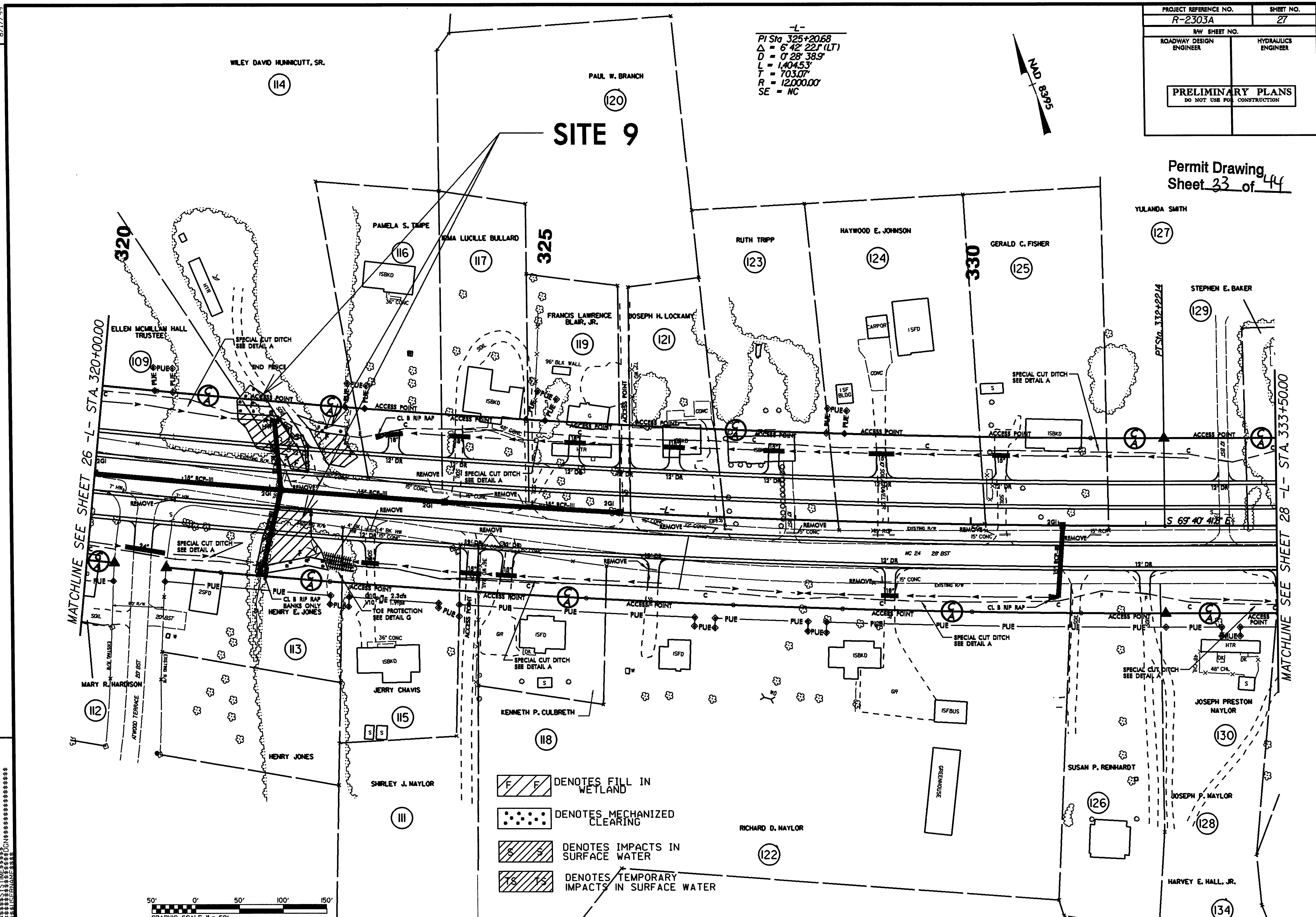


PROJ. REFERENCE NO.
R-2303A
SHEET NO.
X-98
Permit Drawing
Sheet 32 of 44
304+00.00
303+50.00
303+00.00
302+50.00
302+00.00
301+50.00
UNDERCUT EXCAVATION
-4-



8/17/99

REVISIONS

RIGHT OF WAY REVISION - JANUARY 18, 2011 - ADDED PARCEL NO. 111.

$$$$$$SYSTIME$$$$$ $$$$$$$$$DGN$$$$$$$$$$$$$$$$ $$$$USERNAME$$$$

2/6/2012
ameadows
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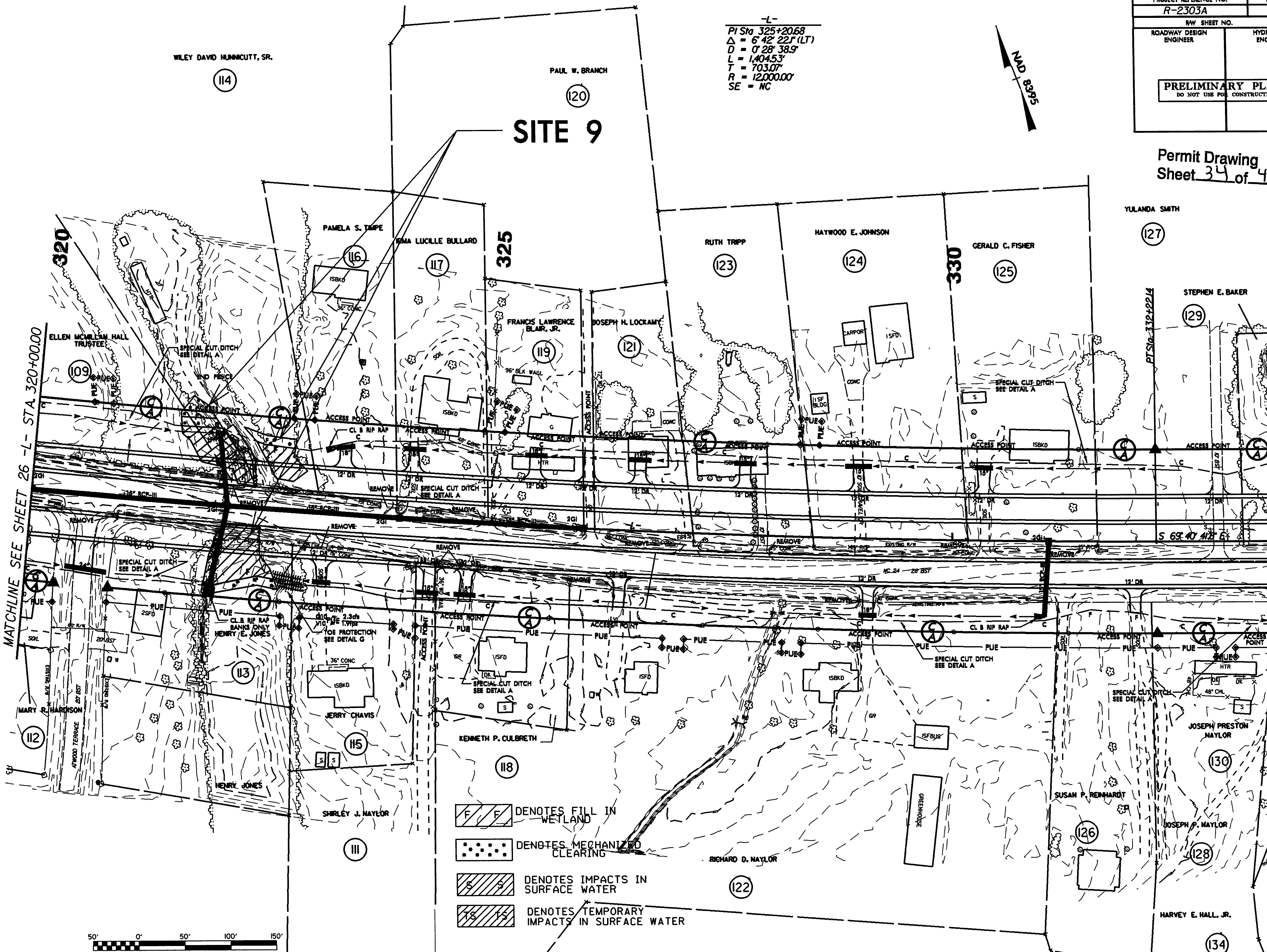
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 34 of 44

-L-
PI Sta 325+20.68
Δ = 6° 42' 22.1" (LT)
D = 0° 28' 38.9"
L = 1,404.53'
T = 703.07'
R = 12,000.00'
SE = NC

SITE 9



NAD 83/95
WILEY DAVID HUNNICUTT, SR. 114
PAUL W. BRANCH 120
PAMELA S. TIMPE 116
IRMA LUCILLE BULLARD 117
FRANCIS LAWRENCE BLAIR, JR. 119
JOSEPH H. LOCKAMY 121
RUTH TRIPP 123
HAYWOOD E. JOHNSON 124
GERALD C. FISHER 125
YULANDA SMITH 127
STEPHEN E. BAKER 129
ELLEN MCMILLAN HALL TRUSTEE 109
MARY R. HARDISON 112
HENRY E. JONES 113
JERRY CHAVIS 115
HENRY JONES
SHIRLEY J. NAYLOR 111
KENNETH P. CULBRETH 118
RICHARD D. NAYLOR 122
SUSAN P. REINHARDT 126
JOSEPH P. NAYLOR 128
JOSEPH PRESTON NAYLOR 130
HARVEY E. HALL, JR. 134
MATCHLINE SEE SHEET 26 -L- STA. 320+00.00
MATCHLINE SEE SHEET 28 -L- STA. 333+50.00
320
325
330
PI Sta 332+22.14
S 69° 40' 41.2" E
SPECIAL CUT DITCH SEE DETAIL A
CL B RIP RAP
CL B RIP RAP BANKS ONLY
TOE PROTECTION SEE DETAIL G
ACCESS POINT
REMOVE
PUE
ATWOOD TERRACE
GREENHOUSE
CARPORT

DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

50' 0' 50' 100' 150'
GRAPHIC SCALE 1" = 50'

REVISIONS
RIGHT OF WAY REVISION - JANUARY 18, 2011 - ADDED PARCEL NO. 111.

8/17/99

2/6/2012
R:\Hydraulics\PERMITS_Environmental\Drawings\r2303a_hyd_PRM_wet_psh27.dgn

PROJECT REFERENCE NO.	SHEET NO.
R2303A	27B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 35 of 44

SITE 9

109

PUE

END FENCE

ACCESS POINT

CA

NAD 83/95

CL B RIP RAP

18"

12' DR

SOIL

HW

36" RCP-III

EXISTING R/W

15" RCP-III

15" CONC

REMOVE

2GI

7' HW

24"

SPECIAL CUT DITCH
SEE DETAIL A

4' BK HW

F — DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

S — DENOTES IMPACTS IN SURFACE WATER

TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PUE
2SFD

CL B RIP RAP
BANKS ONLY

HENRY E. JONES

TOE PROTECTION
SEE DETAIL G

15' 0' 15' 30' 45'
SCALE= 1"=30'

REVISIONS

8/17/99

2/6/2012
ameadows
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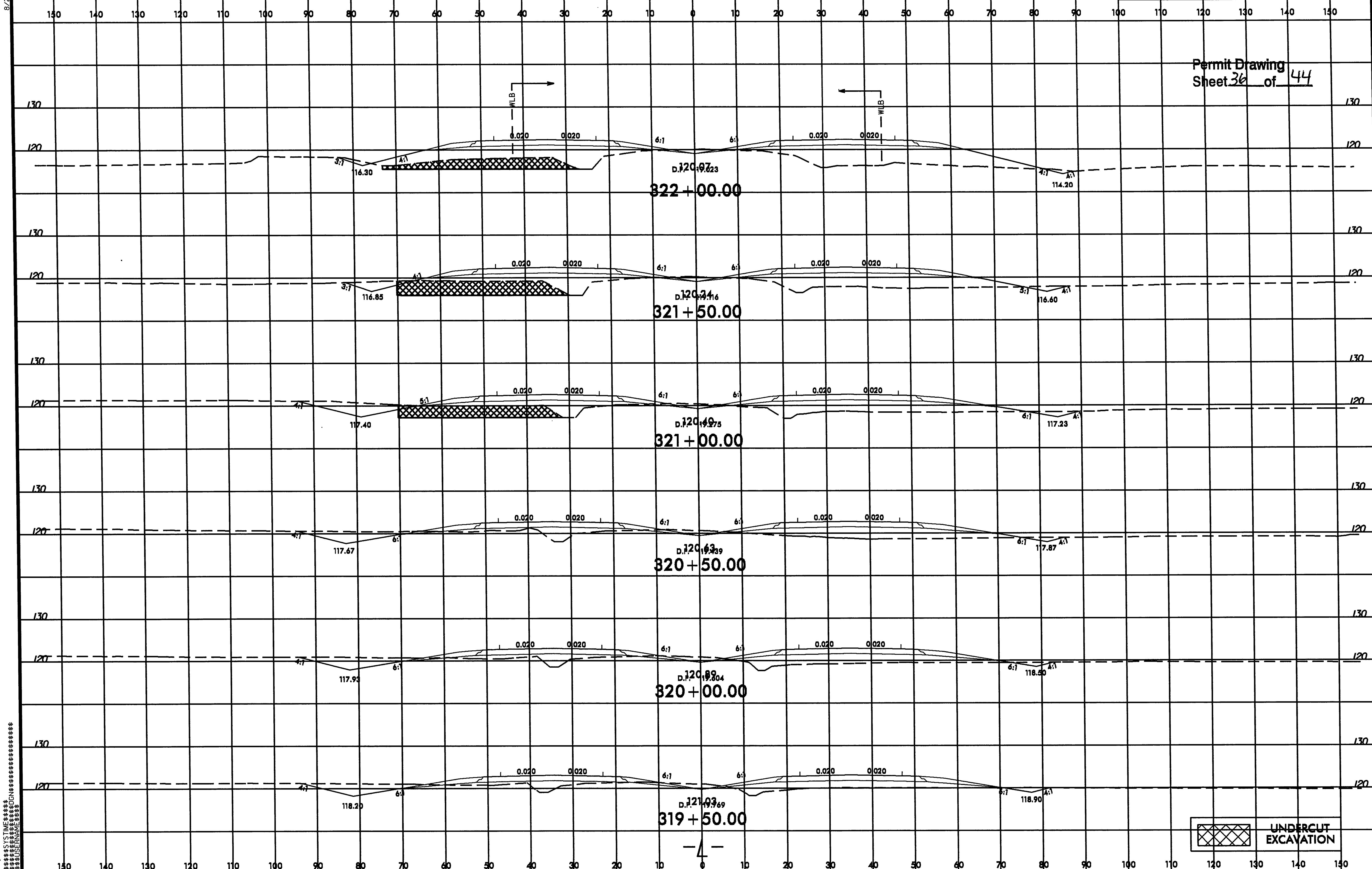
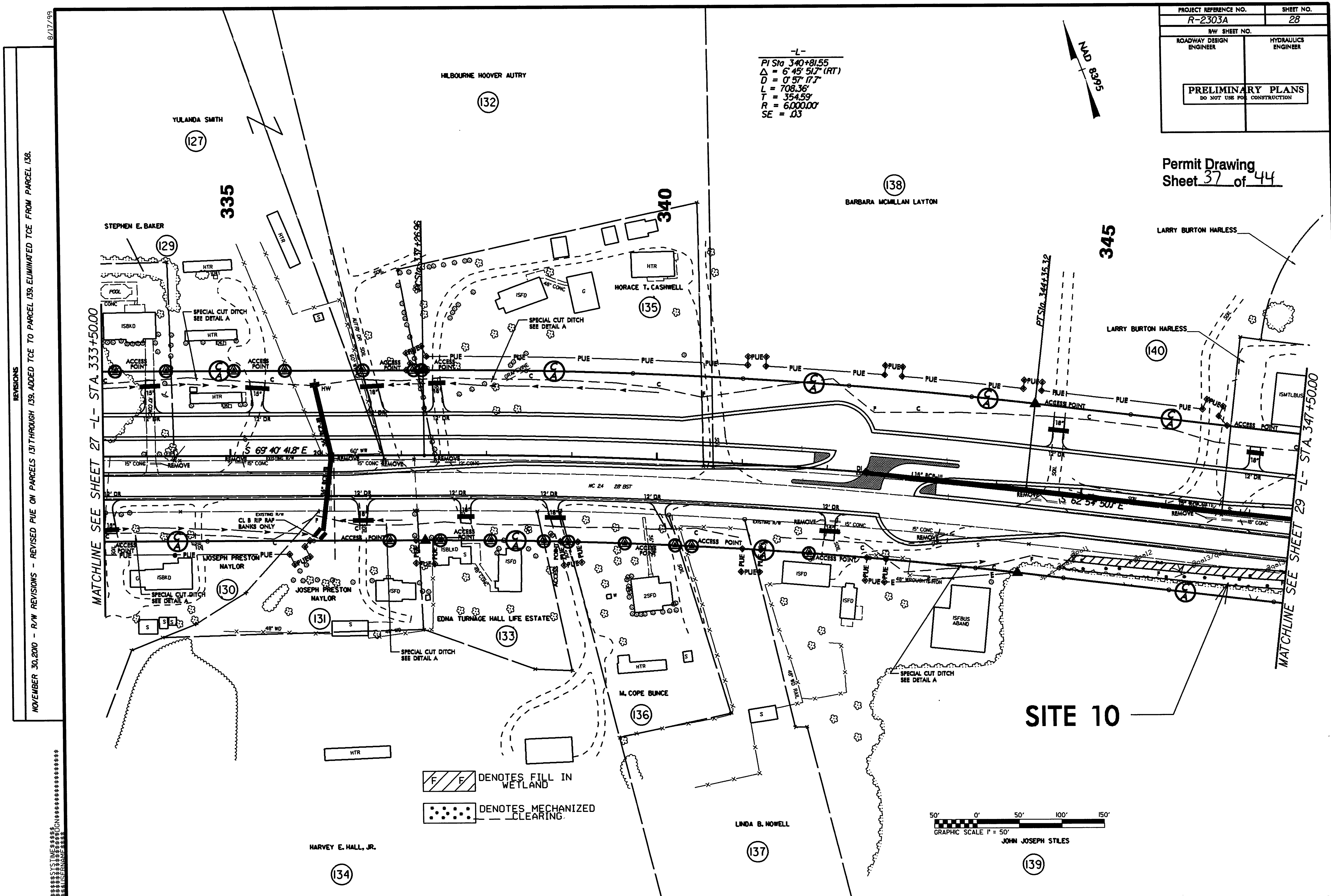
PROJ. REFERENCE NO.	SHEET NO.
R-2303A	X-104

Permit Drawing
Sheet 36 of 44

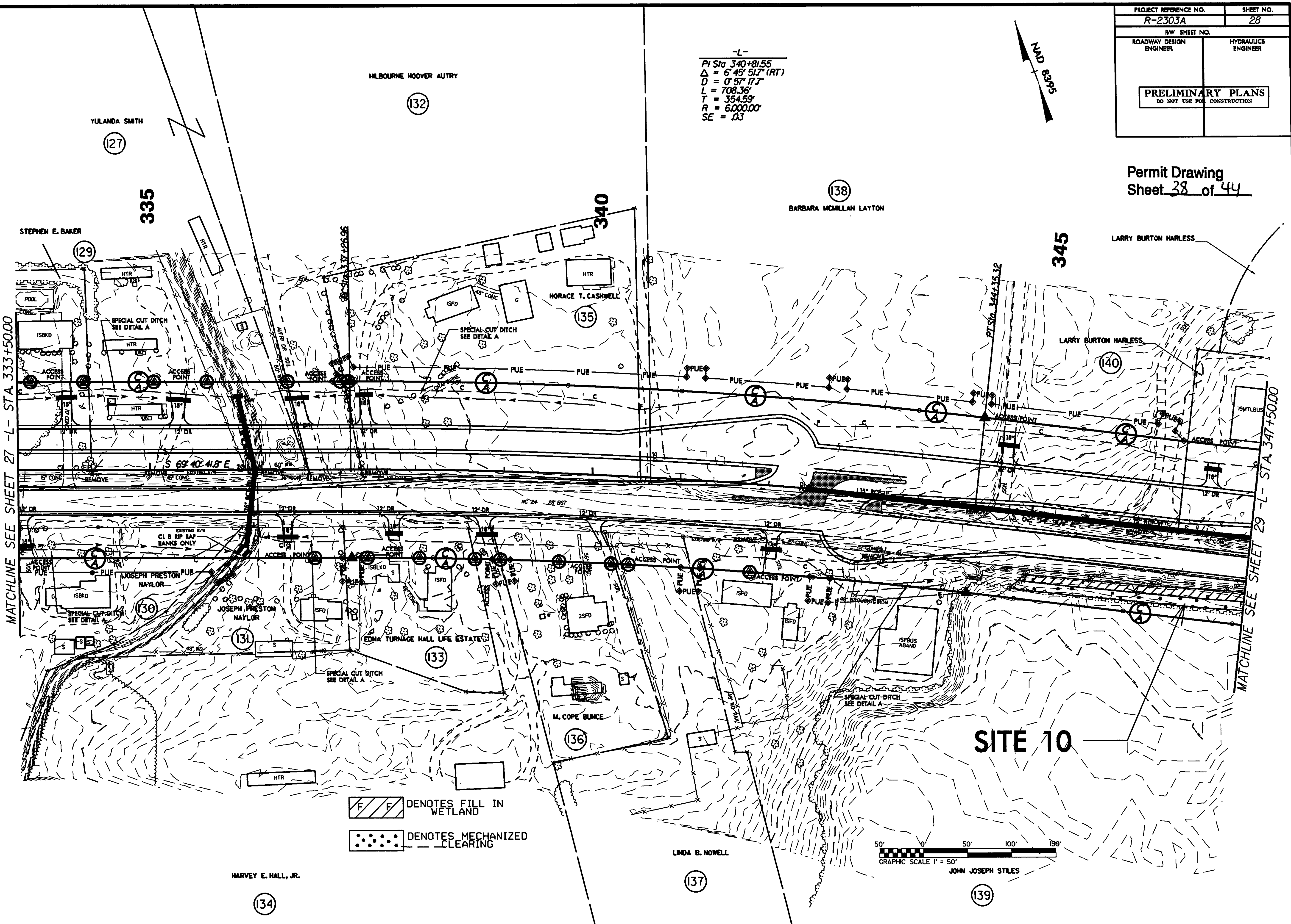



PROJECT REFERENCE NO. R-2303A
SHEET NO. 28
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Permit Drawing Sheet 37 of 44
REVISIONS
NOVEMBER 30,2010 - R/W REVISIONS - REVISED PUE ON PARCELS 131 THROUGH 139, ADDED TCE TO PARCEL 139, ELIMINATED TCE FROM PARCEL 138.
8/17/99
-L-
PI Sta 340+81.55
Δ = 6° 45' 51.7" (RT)
D = 0° 57' 17.7"
L = 708.36'
T = 354.59'
R = 6,000.00'
SE = .03
NAD 83
HILBOURNE HOOVER AUTRY
YULANDA SMITH
STEPHEN E. BAKER
BARBARA MCMILLAN LAYTON
HORACE T. CASHWELL
LARRY BURTON HARLESS
JOSEPH PRESTON NAYLOR
EDNA TURNAGE HALL LIFE ESTATE
M. COPE BUNCE
LINDA B. NOWELL
HARVEY E. HALL, JR.
JOHN JOSEPH STILES
MATCHLINE SEE SHEET 27 -L- STA. 333+50.00
MATCHLINE SEE SHEET 29 -L- STA. 347+50.00
S 69° 40' 41.8" E
SPECIAL CUT DITCH SEE DETAIL A
CL B RIP RAP BANKS ONLY
SITE 10
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
GRAPHIC SCALE 1" = 50'
2/13/2012
R:\Hydraulics\PERMITS_Environmental\Drawings\r2303a_hyd_PRM_wet_psh28.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	28
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 38 of 44



REVISIONS

NOVEMBER 30,2010 - R/W REVISIONS - REVISED PUE ON PARCELS 131THROUGH 139, ADDED TCE TO PARCEL 139, ELIMINATED TCE FROM PARCEL 138.

8/17/99

2/13/2012
gcall
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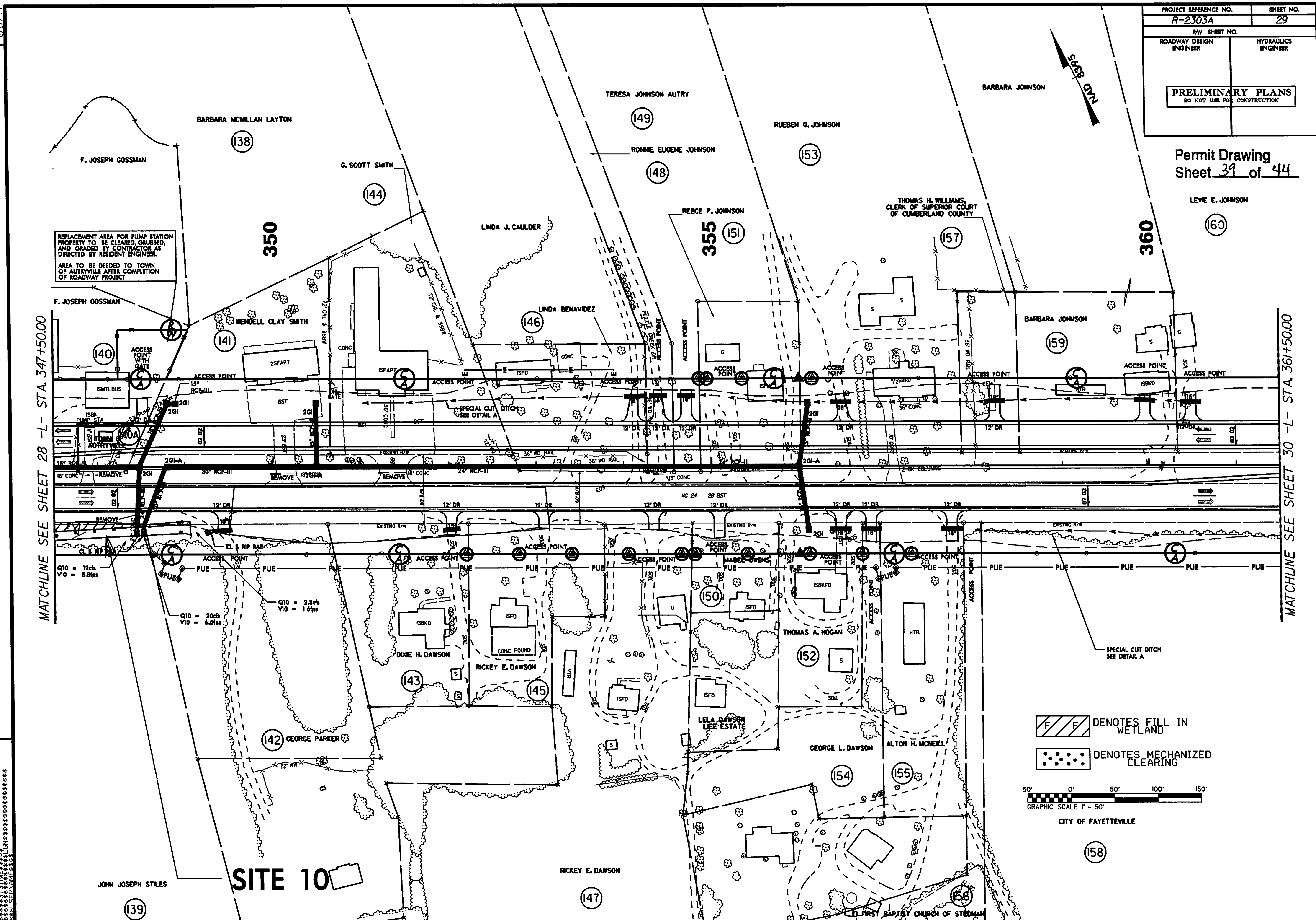
$$$$$$SYSTIME$$$$
$$$$$USERNAME$$$$DGN$$$$$$$$$$$$$$$$

8/17/99

REVISIONS

NOVEMBER 30,2010 - R/W REVISIONS - REVISED PUE ON PARCEL 142, ELIMINATED PUE FROM PARCEL 139.



$$$$$$SYSTIME$$$$
$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$

2/13/2012
gcall
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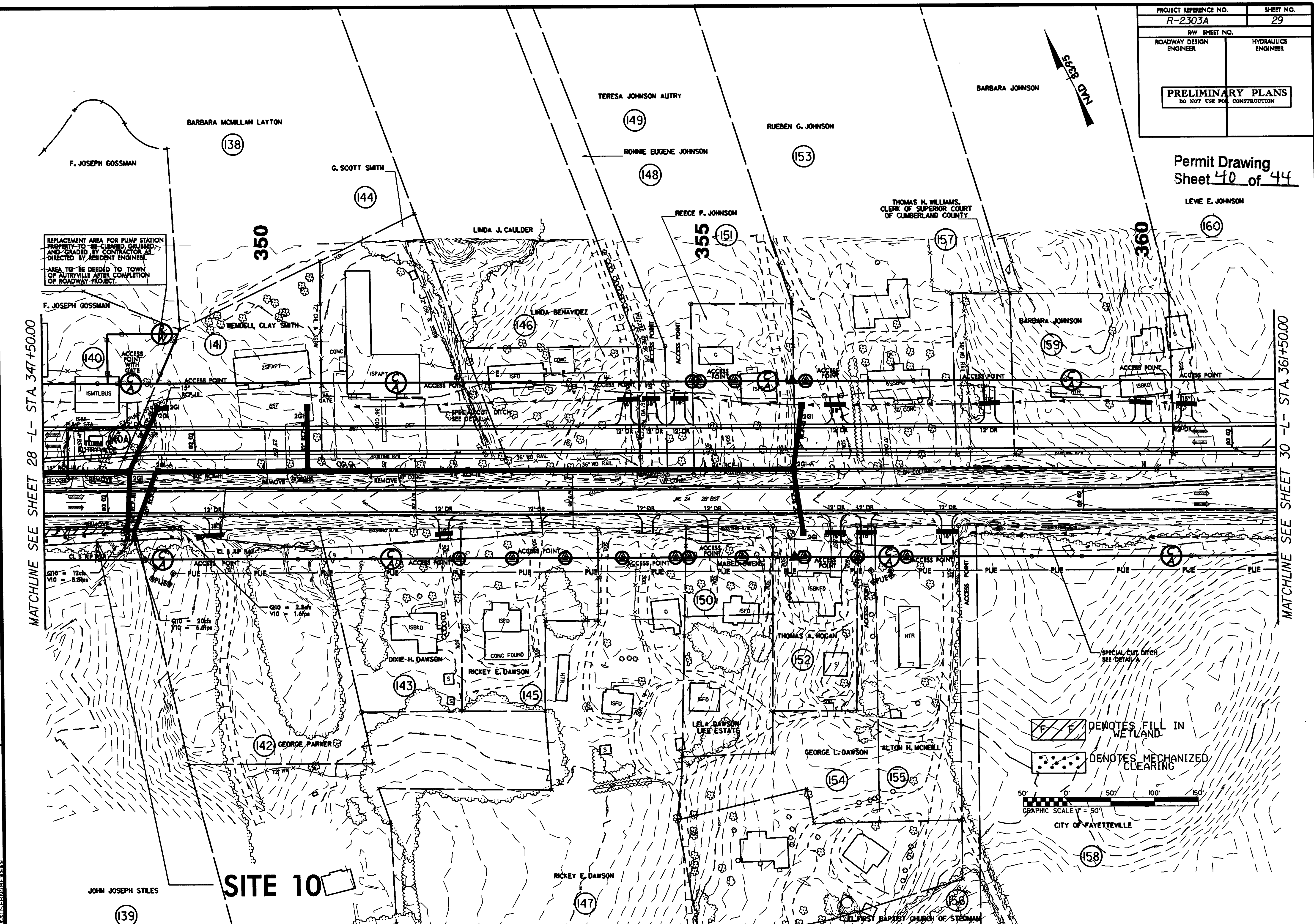
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	29
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 40 of 44

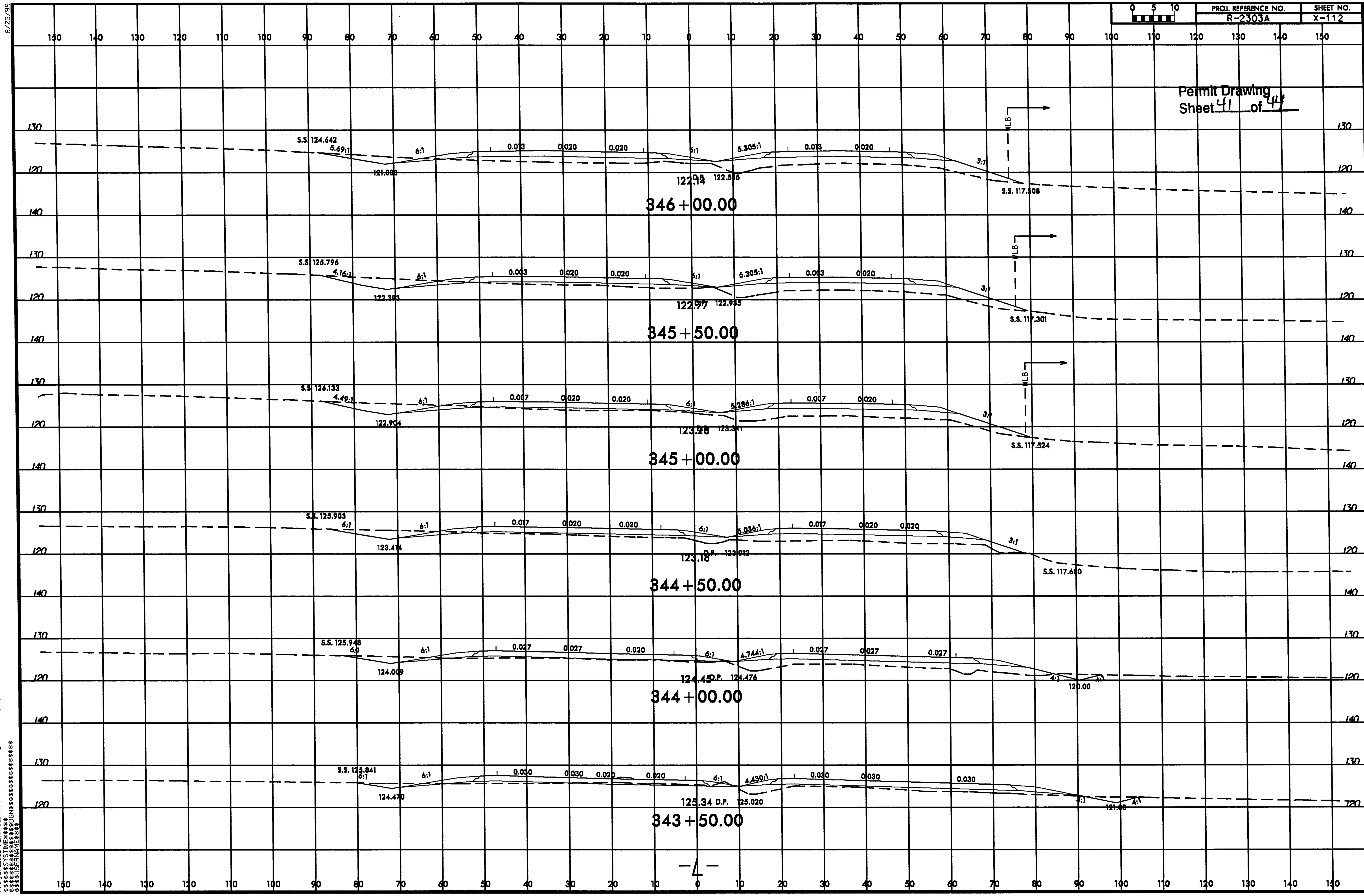


NAD 83/95
BARBARA JOHNSON
TERESA JOHNSON AUTRY
BARBARA MCMILLAN LAYTON
RUEBEN G. JOHNSON
RONNIE EUGENE JOHNSON
F. JOSEPH GOSSMAN
G. SCOTT SMITH
LEVIE E. JOHNSON
REECE P. JOHNSON
THOMAS H. WILLIAMS, CLERK OF SUPERIOR COURT OF CUMBERLAND COUNTY
LINDA J. CAULDER
REPLACEMENT AREA FOR PUMP STATION PROPERTY TO BE CLEARED, GRUBBED, AND GRADED BY CONTRACTOR AS DIRECTED BY RESIDENT ENGINEER.
AREA TO BE DEEDED TO TOWN OF AUTRYVILLE AFTER COMPLETION OF ROADWAY PROJECT.
350
355
360
LINDA BENAVIDEZ
WENDELL CLAY SMITH
BARBARA JOHNSON
MATCHLINE SEE SHEET 28 -L- STA. 347+50.00
MATCHLINE SEE SHEET 30 -L- STA. 361+50.00
SPECIAL CUT DITCH SEE DETAIL A
ACCESS POINT
PUE
MABEL OWENS
DIXIE H. DAWSON
RICKEY E. DAWSON
THOMAS A. HOGAN
LELA DAWSON LEE ESTATE
GEORGE PARKER
GEORGE L. DAWSON
ALTON H. MCNEILL
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
GRAPHIC SCALE 1" = 50'
CITY OF FAYETTEVILLE
SITE 10
JOHN JOSEPH STILES
RICKEY E. DAWSON
FIRST BAPTIST CHURCH OF STEDMAN

REVISIONS
NOVEMBER 30,2010 - R/W REVISIONS - REVISED PUE ON PARCEL 142, ELIMINATED PUE FROM PARCEL 139.

8/17/99

2/13/2012
gcall
R:\Hydraulics\PERMITS_Environmental\Drawings\r2303a_hyd_PRM_wet_psh29.dgn


PROJ. REFERENCE NO.
R-2303A
SHEET NO.
X-112
Permit Drawing
Sheet 41 of 44
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S.S. 124.642
121.883
122.14
D.P. 122.545
S.S. 117.508
345+50.00
S.S. 125.796
122.393
122.77
122.935
S.S. 117.301
345+00.00
S.S. 126.133
122.904
123.28
123.341
S.S. 117.524
344+50.00
S.S. 125.903
123.414
123.18
D.P. 123.912
S.S. 117.680
344+00.00
S.S. 125.948
124.009
124.45
D.P. 124.476
120.00
343+50.00
S.S. 125.841
124.470
125.34 D.P. 125.020
121.00
WLB
-4-

PROJECT REFERENCE NO.	SHEET NO.
R2303A	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 42 of 44

REVISIONS

8/17/99

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
14	JOSEPH P. RIDDLE, III	P.O. BOX 53729 FAYETTEVILLE, NC 28305
15	PREMIUM STANDARD FARMS	623 SOUTHEAST Blvd. CLINTON, NC 28328
16	DONALD CULBRETH	427 HILLSBORO St. STEDMAN, NC 28391
	PROGESS ENERGY (EASEMENT) (CAROLINA POWER & LIGHT)	P.O. BOX 1551 CPB–4C4 RALEIGH, NC 27602
20	CANDACE JO CARTER	4160 PLEASANT VIEW DR. FAYETTEVILLE, NC 28301
31	RICHARD R. ALLEN, Jr.	6044 CLINTON RD. STEDMAN, NC 28391
43	DWIGHT KIM JOHNSON	3102 AUDUBON PLACE WILSON, NC 27896
44	STACY R. CARR, III	211 OLD STAGE RD. AUTRYVILLE, NC 28318
56	ROBERT E. OLIVER	6644 CLINTON RD. STEDMAN, NC 28391

NCDOT
DIVISION OF HIGHWAYS
CUMBERLAND COUNTY
PROJECT: 34416.1.1 (R-2303A)
STEDMAN
NC 24 FROM SR 1006
TO SR 1853

SHEET OF 2/16/11

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
86	DOUGLAS BRYANT	P.O. BOX 513 STEDMAN, NC 28391
104	DEARL L. BUNCE	414 GLENWOOD DR. LEXINGTON, NC 27292
113	HENRY E. JONES	8321 CLINTON RD. STEDMAN, NC 28391
114	WILEY DAVID HUNNICUTT, Sr.	8321 CLINTON RD. STEDMAN, NC 28391
139	JOHN JOSEPH STILES	102 COHARIE DR. CLINTON, NC 28328

NCDOT
DIVISION OF HIGHWAYS
CUMBERLAND COUNTY
PROJECT: 34416.1.1 (R-2303A)
STEDMAN
NC 24 FROM SR 1006
TO SR 1853

SHEET OF 2/16/11

$$$$$$SYSTIME$$$$$
$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$$

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	69+45 to 70+63-L-RT.	Fill						0.16				
	70+93 to 72+81-L-RT	Fill						0.11				
2	73+00 to 85+00-L-	Fill	4.44			0.53						
3	96+93 -L- RT	Fill						<0.01				
4	131+57 to 133+50-L- RT	Fill						0.18				
5	167+09 to 168+51-L- RT	Fill	0.04			0.03						
6	178+97 to 179+07-L- RT	Fill						0.02				
7	200+65 to 202+44-L-	Fill						0.24				
8	* 296+63 to 304+66-L-	Fill	2.03		0.02	0.20						
	300+06 to 304+40-L-	2 @ 54" RCP						0.07		467.00		67.00
	304+40 to 304+51-L- LT	Bank Stablization						<0.01	<0.01	34.00	53.00	
Page Totals:			6.51		0.02	0.76		0.78	<0.01	501	53	67

Site 1, 4 and 7 are Pond surface water impacts.

*Site 8 Wetland sta. 296+63 -L- impact shown as a total take due to ditch.
Additional impact outside of ditch is 0.02acres.

Permit Drawing
Sheet 43 of 44

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY
WBS - 34416.1.1 (R-2303A)

SHEET 2/9/2012

ATN Revised 3/31/05

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
9	321+92 to 322+64-L- RT	Fill	0.07		<0.01	0.02						
	*321+58 to 322+98-L-LT	Fill	0.07		0.02	0.03						
	322+10 -L- RT	36" RCP						0.01				
	322+10-L- RT	Bank Stablization						<0.01				
10	344+83 to 349+06-L- RT	Fill	0.08			0.10						
Page Totals:			0.22		0.02	0.15		0.01				
TOTALS:			6.73		0.04	0.91		0.79	<0.01	501	53	67

* Site 9 Wetland sta. 321+80 -L-LT. impact shown as total take due to ditch. Additional impact outside of ditch is 0.01acres.

Permit Drawing
Sheet 44 of 44

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY
WBS - 34416.1.1 (R-2303A)

SHEET 2/9/2012

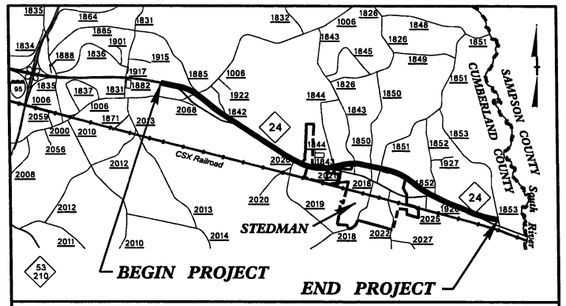
ATN Revised 3/31/05

09/08/99

TIP PROJECT: R-2303A

CONTRACT:

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



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2303A	1	

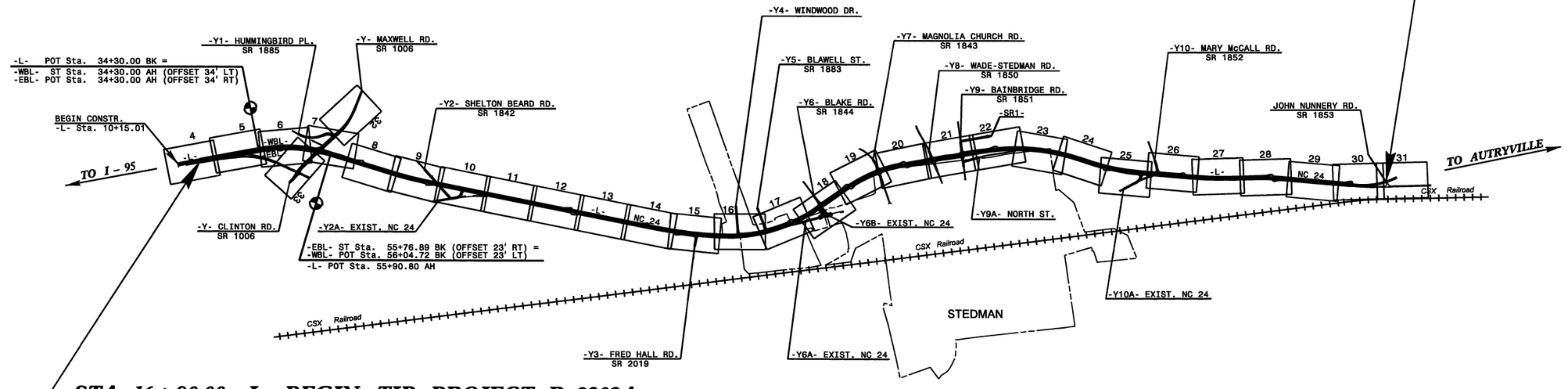
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34416.1.1	STPNHF-F-8-2(17)	P.E.
34416.2.2		R/W, UTIL.

LOCATION: NC 24 FROM WEST OF SR 1006 (MAXWELL RD./ CLINTON RD.) TO SR 1853 (JOHN NUNNERY RD.)

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

NAD 8395

STA. 376+28.96 –L– END TIP PROJECT R-2303A



STA. 16+90.00 –L– BEGIN TIP PROJECT R-2303A

A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF STEDMAN

THIS IS A LIMITED AND PARTIAL CONTROL OF ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.

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

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2011 = 19,264
ADT 2031 = 30,144
DHV = 11 %
D ≐ 65 %
T = 8 % *
V = 60 MPH
FUNC. CLASS = EXPY TYPE II
* TTST 5% DUAL 3%
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2303A	= 6.807 MILES
TOTAL LENGTH TIP PROJECT R-2303A	= 6.807 MILES

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
October 15, 2010

LETTING DATE:
October 16, 2012

GARY LOVERING, PE
PROJECT ENGINEER

RICK DECOLA, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER

SIGNATURE: *P.E.*

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER *P.E.*

22-SEP-2011 5:28
f:\roadway\proj\r2303a_rdy_tsh.dgn
$$$$USERNAME$$$$

01/20/11

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	1-B

Note: Not to Scale

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — IP
- Property Corner
- Property Monument — CM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB

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

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed 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
- 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.

8/17/99

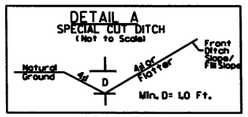
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	2-U
R/W SHEET NO.	

HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DITCH DETAILS

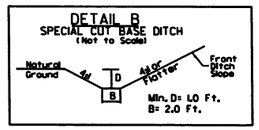
DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 21+50 TO STA. 28+40 -L- LT.
FROM STA. 53+70 TO STA. 60+00 -L- LT.
FROM STA. 64+50 TO STA. 70+76 -L- LT.
FROM STA. 107+00 TO STA. 112+33 -L- LT.
FROM STA. 112+33 TO STA. 114+00 -L- LT.
FROM STA. 115+00 TO STA. 117+90 -L- LT.
FROM STA. 117+90 TO STA. 120+50 -L- LT.
FROM STA. 121+00 TO STA. 124+50 -L- LT.
FROM STA. 125+50 TO STA. 130+00 -L- LT.
FROM STA. 131+50 TO STA. 133+70 -L- LT.
FROM STA. 134+50 TO STA. 148+00 -L- LT.
FROM STA. 148+00 TO STA. 152+00 -L- LT.
FROM STA. 175+00 TO STA. 178+00 -L- LT.
FROM STA. 179+00 TO STA. 181+00 -L- LT.
FROM STA. 182+50 TO STA. 194+00 -L- LT.
FROM STA. 210+00 TO STA. 215+00 -L- LT.
FROM STA. 223+00 TO STA. 224+05 -L- LT.
FROM STA. 241+50 TO STA. 248+50 -L- LT.
FROM STA. 301+00 TO STA. 305+00 -L- LT.
FROM STA. 309+50 TO STA. 310+00 -L- LT.
FROM STA. 311+00 TO STA. 316+00 -L- LT.
FROM STA. 316+50 TO STA. 322+00 -L- LT.
FROM STA. 323+50 TO STA. 330+00 -L- LT.
FROM STA. 330+00 TO STA. 332+50 -L- LT.
FROM STA. 333+50 TO STA. 335+50 -L- LT.
FROM STA. 336+50 TO STA. 340+00 -L- LT.
FROM STA. 351+00 TO STA. 360+50 -L- LT.

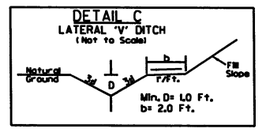
FROM STA. 30+00 TO STA. 33+80 -L- RT
FROM STA. 49+00 TO STA. 50+50 -L- RT.
FROM STA. 52+30 TO STA. 55+00 -L- RT.
FROM STA. 90+00 TO STA. 96+80 -L- RT.
FROM STA. 96+92 TO STA. 99+50 -L- RT.
FROM STA. 107+00 TO STA. 112+80 -L- RT.
FROM STA. 112+80 TO STA. 115+00 -L- RT
FROM STA. 115+50 TO STA. 124+50 -L- RT.
FROM STA. 129+00 TO STA. 131+00 -L- RT.
FROM STA. 138+00 TO STA. 148+00 -L- RT.
FROM STA. 148+00 TO STA. 154+50 -L- RT.
FROM STA. 155+50 TO STA. 162+00 -L- RT.
FROM STA. 162+50 TO STA. 165+50 -L- RT.
FROM STA. 175+00 TO STA. 186+00 -L- RT.
FROM STA. 187+00 TO STA. 195+00 -L- RT.
FROM STA. 200+00 TO STA. 203+50 -L- RT.
FROM STA. 215+00 TO STA. 224+00 -L- RT.
FROM STA. 225+50 TO STA. 231+00 -L- RT.
FROM STA. 232+00 TO STA. 236+00 -L- RT.
FROM STA. 242+00 TO STA. 248+00 -L- RT.
FROM STA. 250+50 TO STA. 252+00 -L- RT.
FROM STA. 259+00 TO STA. 267+00 -L- RT.
FROM STA. 267+00 TO STA. 276+50 -L- RT.
FROM STA. 289+00 TO STA. 303+00 -L- RT.
FROM STA. 316+00 TO STA. 322+00 -L- RT.
FROM STA. 323+00 TO STA. 326+50 -L- RT.
FROM STA. 327+00 TO STA. 331+00 -L- RT.
FROM STA. 332+22 TO STA. 335+90 -L- RT.
FROM STA. 336+21 TO STA. 337+00 -L- RT.
FROM STA. 343+50 TO STA. 344+27 -L- RT.
FROM STA. 358+00 TO STA. 361+00 -L- RT.
FROM STA. 24+50 TO STA. 25+50 -Y- RT.
FROM STA. 24+22 TO STA. 30+41 -Y- LT.
FROM STA. 33+11 TO STA. 34+50 -Y- LT.
FROM STA. 14+00 TO STA. 17+00 -Y4- RT.
FROM STA. 12+00 TO STA. 13+00 -Y7- RT.
FROM STA. 14+86 TO STA. 16+00 -Y7- RT.
FROM STA. 10+00 TO STA. 12+00 -Y8- LT.
FROM STA. 10+50 TO STA. 11+80 -Y8- RT.
FROM STA. 14+00 TO STA. 14+50 -Y8- LT.
FROM STA. 14+00 TO STA. 14+50 -Y8- RT.
FROM STA. 12+00 TO STA. 13+00 -Y10- RT.
FROM STA. 11+00 TO STA. 13+50 -DET5- RT.

DETAIL B
SPECIAL CUT BASE DITCH
(Not to Scale)



FROM STA. 195+50 TO STA. 209+00 -L- LT.
FROM STA. 203+50 TO STA. 214+50 -L- RT.

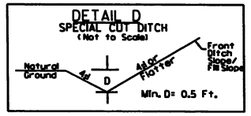
DETAIL C
LATERAL 'V' DITCH
(Not to Scale)



FROM STA. 167+50 TO STA. 174+00 -L- LT.
FROM STA. 300+50 TO STA. 301+00 -L- LT.

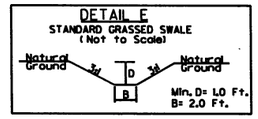
FROM STA. 236+00 TO STA. 240+50 -L- RT.
FROM STA. 252+00 TO STA. 258+00 -L- RT.
FROM STA. 276+50 TO STA. 284+00 -L- RT.

DETAIL D
SPECIAL CUT DITCH
(Not to Scale)



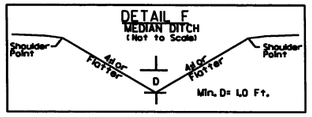
FROM STA. 365+50 TO STA. 367+00 -L- RT.

DETAIL E
STANDARD GRASSED SWALE
(Not to Scale)



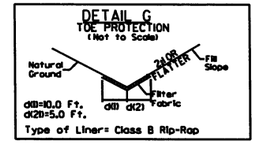
STA. 124+46 -L- LT.
STA. 147+98 -L- LT
STA. 190+39 -L- LT.
STA. 215+02 -L- LT.

DETAIL F
MEDIAN DITCH
(Not to Scale)



FROM STA. 161+00 TO STA. 162+00 -L- MED.
FROM STA. 196+00 TO STA. 199+00 -L- MED.
FROM STA. 211+00 TO STA. 214+00 -L- MED.

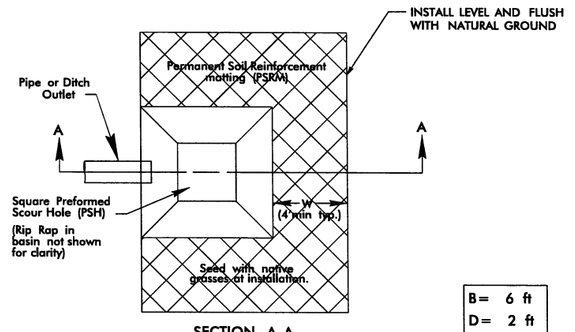
DETAIL G
TOE PROTECTION
(Not to Scale)



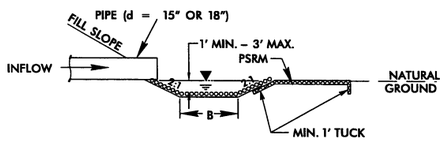
FROM STA. 322+68 TO STA. 323+10 -L- RT.

PREFORMED SCOUR HOLE
*NOT TO SCALE

PLAN VIEW



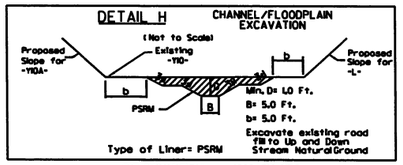
SECTION A-A



B=	6 ft
D=	2 ft
W=	4 ft

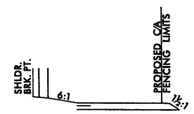
Sta. 73+23 -L- LT
Sta. 172+00 -L- RT
Sta. 24+13 -Y- RT

DETAIL H CHANNEL/FLOODPLAIN EXCAVATION
(Not to Scale)



EST. EXCAVATION = 4000 CU YDS
EST PSRM = 300 SQ YDS

305+12 -L- RT.



DETOUR 7

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	2-T
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83/95

PCSta. 318+17.61

PAMELA S. TIMPE DB 4026 PG 232 PB 83 PG 192

IRMA LUCILLE BULLARD DB 1097 PG 21

FRANCIS LAWRENCE BLAIR, JR. DB 3586 PG 54

JOSEPH H. LOCKAMY DB 8012 PG 466

ELLEN MCMILLAN HALL TRUSTEE DB 7413 PG 595 DB 4012 PG 323

MARY R. HARDISON DB 5626 PG 602 PB 73 PG 14

HENRY E. JONES DB 5548 PG 216 PB 80 PG 26

THOMAS M. THIGPEN

JERRY CHAVIS

BEG CONSTR. -DET7- PC Sta. 10+50.00
PC Sta. 10+00.00

PRC Sta. 17+25.59

END CONSTR. -DET7- PT Sta. 18+95.47

-DET7-

PI Sta 13+62.91
Δ = 3°27'15.7" (LT)
D = 0°28'33.9"
L = 725.59'
T = 362.91'
R = 12,035.00'
SE = SEE PLANS

PI Sta 18+10.53
Δ = 1°12'59.9" (RT)
D = 0°42'58.3"
L = 169.88'
T = 84.94'
R = 8,000.00'
SE = SEE PLANS

-DET7-

BEGIN GRADE
-DET7- STA. 16+50.00 ←
-L- STA. 318+07.85
(OFFSET 35' RT)
EL. 125.14'

END GRADE
-DET7- STA. 16+49.15
EL. 121.46'

PI = 11+26.00
EL = 122.52'
VC = 160'
K = 269

PI = 13+65.00
EL = 118.81'
VC = 250'
K = 96

PI = 15+65.00
EL = 120.95'
VC = 150'
K = 356

(-) 0.8300%
(+) 5.4467%
(-) 5.4467%
(+) 11.0710%
(-) 10.0650%

WIDEN USING EXIST. GRADE AND SUPER ELEVATION
-DET7- STA. 16+49.15 TO -DET7- STA. 16+95.47

REVISIONS

8/17/99

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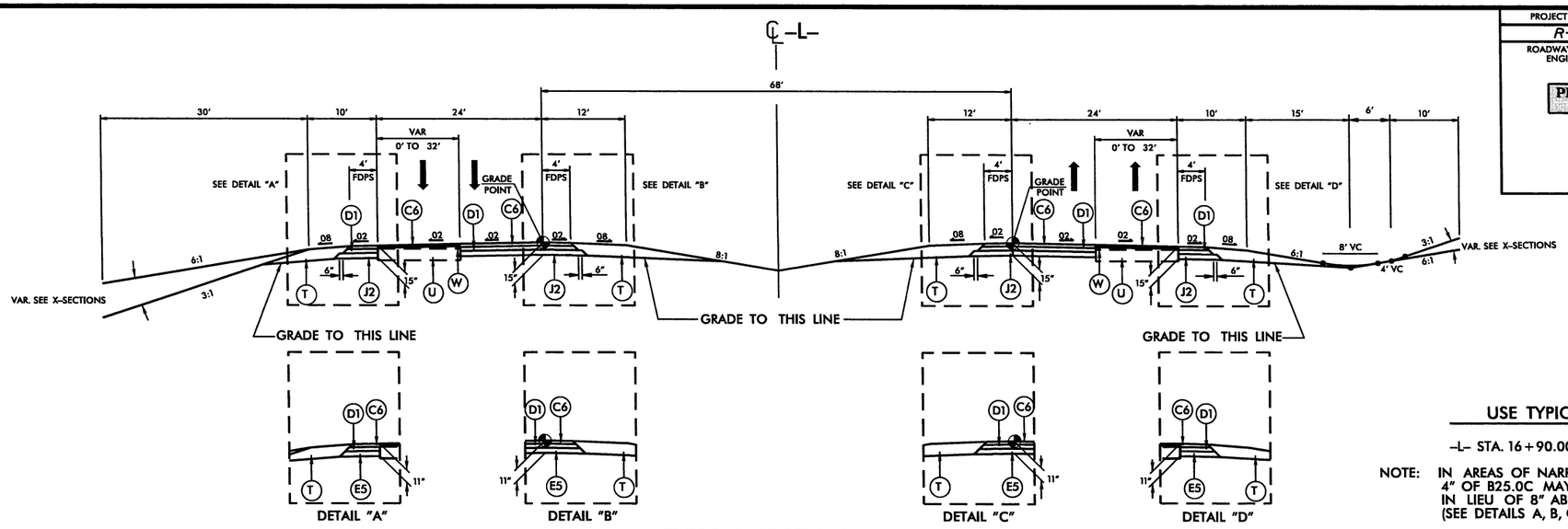
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	2-A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	1.25" SF9.5A
C2	2.5" SF9.5A
C3	VAR. SF9.5A
C4	3.0" S9.5B
C5	VAR. S9.5B
C6	3.0" S9.5C
C7	VAR. S9.5C
D1	4.0" I19.0C
D2	VAR. I19.0C
E1	4.0" B25.0B
E2	4.5" B25.0B
E3	5.0" B25.0B
E4	VAR. B25.0B
E5	4.0" B25.0C
E6	VAR. B25.0C
J1	6.0" ABC
J2	8.0" ABC
P	PRIME COAT
R	1'-6" CURB AND GUTTER
U	EXIST. PAVEMENT
T	EARTH MATERIAL
W	WEDGING
Y	6" CONC. SEE SPEC. DET.

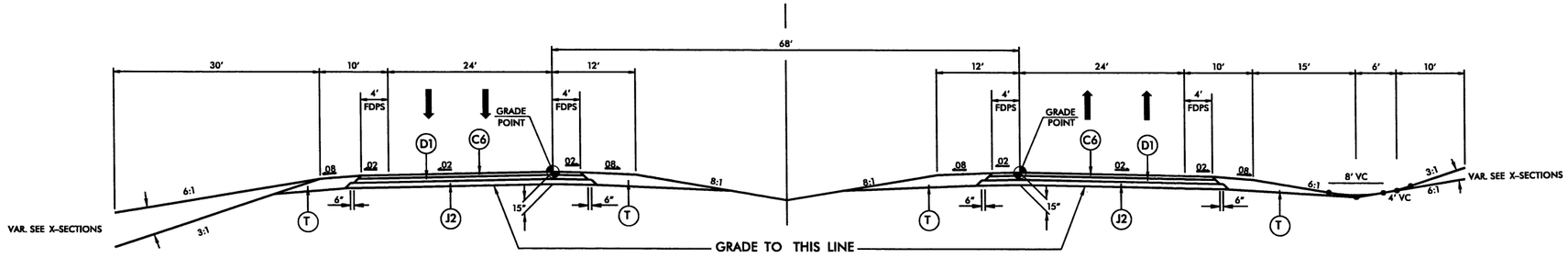


TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

-L- STA. 16+90.00 TO -L- STA. 25+50.00

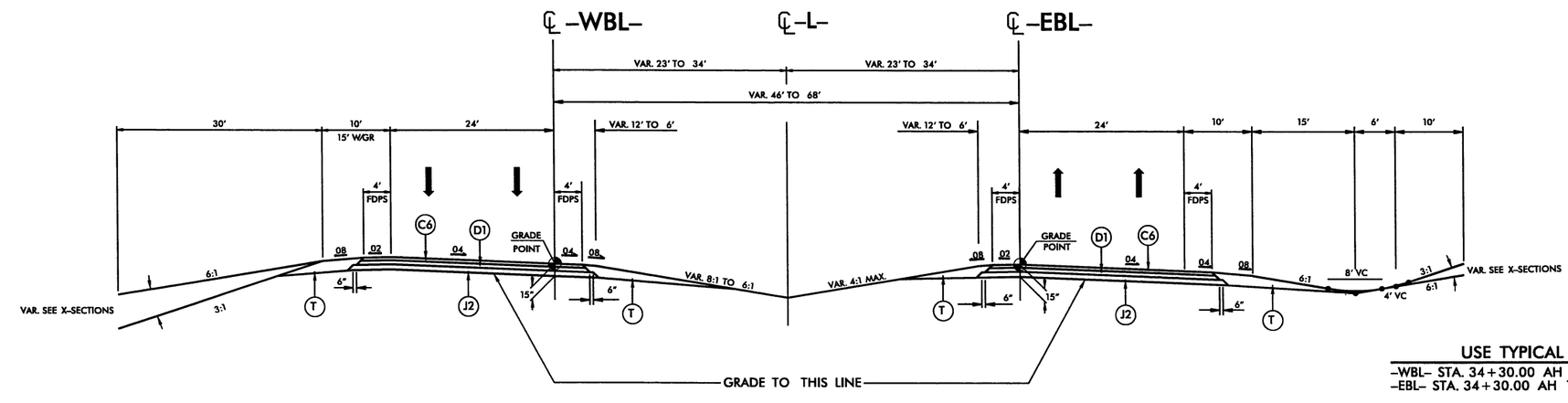
NOTE: IN AREAS OF NARROW WIDENING (6' OR LESS) 4" OF B25.0C MAY BE USED IN LIEU OF 8" ABC. (SEE DETAILS A, B, C, & D)



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

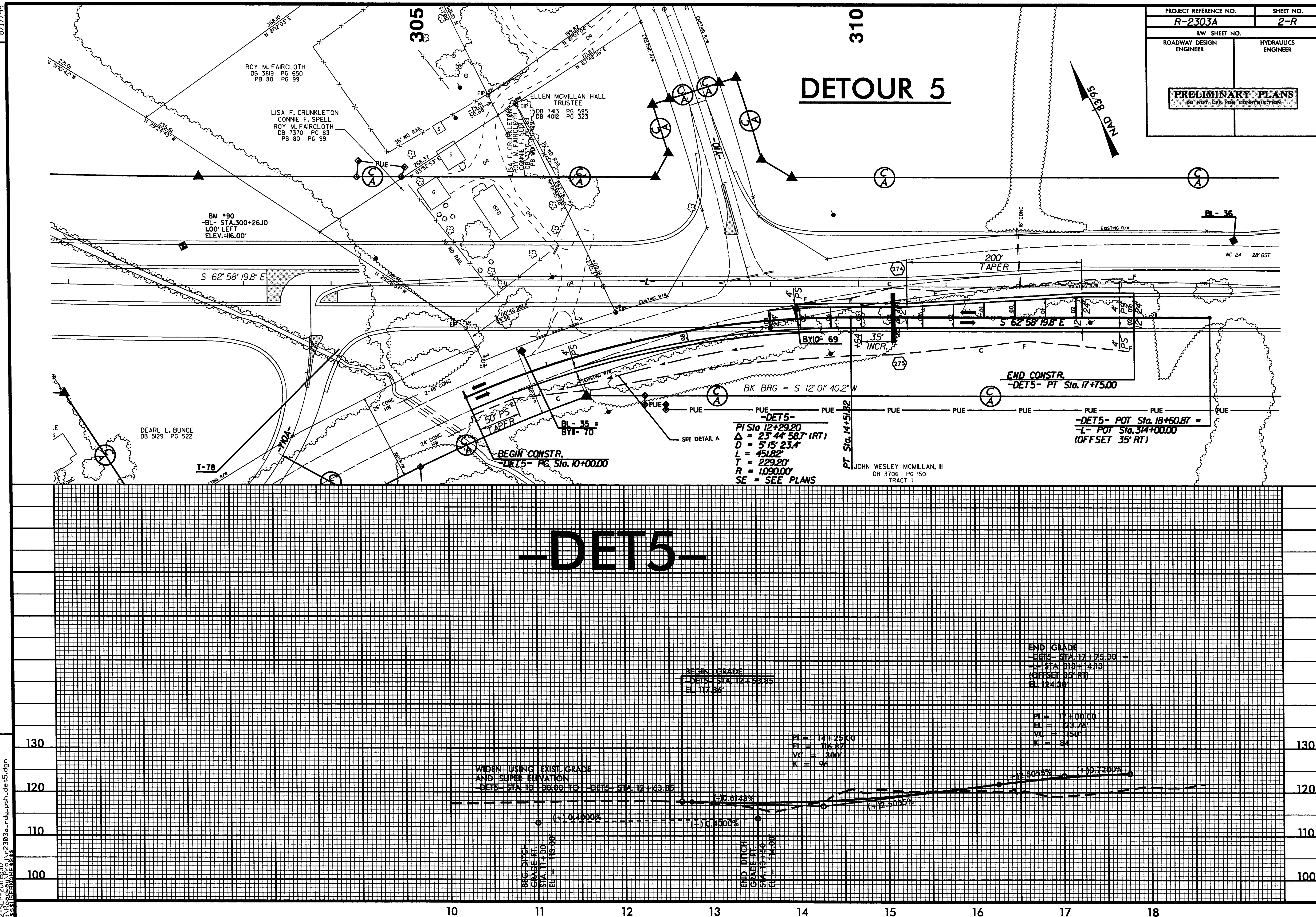
-L- STA. 25+50.00 TO -L- STA. 34+30.00 BK



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3

-WBL- STA. 34+30.00 AH TO -WBL- STA. 56+04.72 BK
-EBL- STA. 34+30.00 AH TO -EBL- STA. 55+76.89 BK



PROJECT REFERENCE NO.
R-2303A
SHEET NO.
2-R
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
DETOUR 5
305
310
NAD 83/95
8/17/99
REVISIONS
ROY M. FAIRCLOTH
DB 3819 PG 650
PB 80 PG 99
LISA F. CRUNKLETON
CONNIE F. SPELL
ROY M. FAIRCLOTH
DB 7370 PG 83
PB 80 PG 99
ELLEN MCMILLAN HALL
TRUSTEE
DB 7413 PG 595
DB 4012 PG 323
BM #90
-BL- STA.300+26.10
1.00' LEFT
ELEV.=116.00'
S 62° 58' 19.8" E
200' TAPER
BL- 36
BK BRG = S 12° 01' 40.2" W
END CONSTR.
-DET5- PT Sta. 17+75.00
-DET5- POT Sta. 18+60.87 =
-L- POT Sta. 314+00.00
(OFFSET 35' RT)
BY10- 69
35' INCR.
50' PS TAPER
BL- 35 =
BYII- 70
BEGIN CONSTR.
-DET5- PC Sta. 10+00.00
SEE DETAIL A
-DET5-
PI Sta 12+29.20
Δ = 23° 44' 58.7" (RT)
D = 5° 15' 23.4"
L = 451.82'
T = 229.20'
R = 1,090.00'
SE = SEE PLANS
PT Sta. 14+51.82
JOHN WESLEY MCMILLAN, III
DB 3706 PG 150
TRACT 1
DEARL L. BUNCE
DB 5129 PG 522
T-78
-DET5-
BEGIN GRADE
-DET5- STA 12+63.85
EL 117.86'
END GRADE
-DET5- STA 17+75.00 =
-L- STA 313+14.13
(OFFSET 35' RT)
EL 124.30
PI = 14+25.00
EL = 116.87'
VC = 300'
K = 96
PI = 17+00.00
EL = 123.74'
VC = 150'
K = 84
WIDEN USING EXIST. GRADE
AND SUPER ELEVATION
-DET5- STA 10+00.00 TO -DET5- STA 12+63.85
(+) 2.5055%
(+) 0.7700%
(-) 0.6143%
(+) 2.5055%
(-) 0.4000%
(+) 0.4000%
BEG DITCH GRADE RT.
STA. 11+00
EL = 113.00'
END DITCH GRADE RT.
STA. 13+50
EL = 114.00'
130
120
110
100
10
11
12
13
14
15
16
17
18
22-SEP-2011 15:30
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8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	2-S
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DETOUR 6

100 105 110

NAD 83/95

B ABAND

J. O. CARTER, JR.
DB 2933 PG 75

PUE PUE PUE PUE PUE PUE PUE PUE PUE PUE PUE PUE PUE PUE PUE PUE PUE PUE PUE PUE PUE PUE PUE PUE PUE PUE

-L- S 56° 33' 32.3" E -L-

EXISTING R/W

18"CONC 15"CONC 18"CONC 15"CONC

25' SHLDR.

4' PS

-DET6- NC 24 28' BST

S 66° 05' 02.2" E

S 56° 33' 32.3" E

ECM

EXISTING R/W

NC 24 28' BST

50' PS TAPER

GRADE TO DRAIN

POT Sta. 10+00.00

BEGIN CONSTR.
-DET6- PC Sta. 10+18.32

-DET6-
PI Sta 12+44.93
Δ = 9° 31' 29.9" (RT)
D = 2° 06' 23.3"
L = 452.18'
T = 226.61'
R = 2720.00'
SE = SEE PLANS

PT Sta. 14+70.49

END CONSTR.
-DET6- POT Sta. 17+50.00

-DET6- POT Sta. 18+62.61 =
-L- POT Sta. 111+50.00
(OFFSET 35' RT)

20'CONC

-DET6-

BEGIN GRADE
-DET6- STA. 13+12.19
EL. 144.22'

WIDEN USING EXIST. GRADE AND SUPER ELEVATION
-DET6- STA. 10+18.32 TO -DET6- STA. 13+12.19

PI = 14+90.00
EL = 143.51'
VC = 210'
K = 96

-10.2280%
-7.8436%
-7.9334%
-10.2000%
-10.1598%
-10.1598%

PI = 16+75.00
EL = 146.83'
VC = 150'
K = 94

END GRADE
-DET6- STA. L/T 50.00 =
-L- STA. 110+37.38
(OFFSET 95' RT)
EL. 145.98'

BEG. DITCH GRADE RT.
STA. 14+12
EL. = 141.89

END DITCH GRADE RT.
STA. 17+56
EL. = 141.35

150 140 130 120 110

10 11 12 13 14 15 16 17 18

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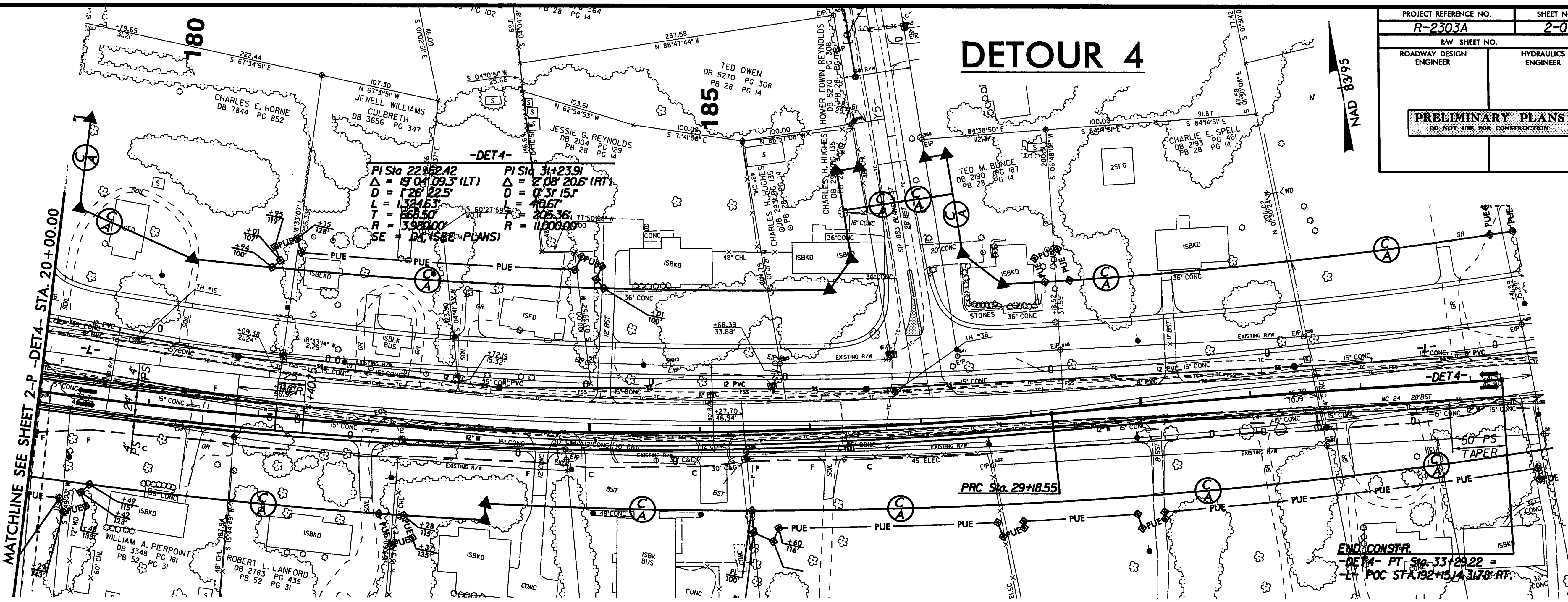
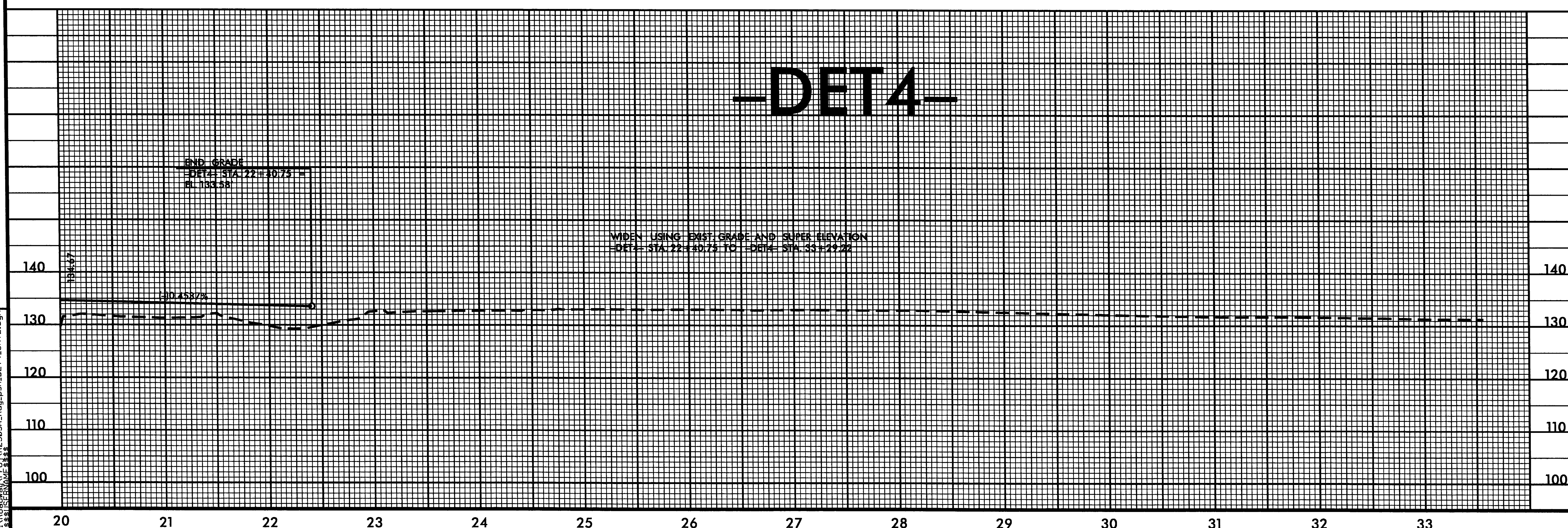
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	2-0
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DETOUR 4



NAD 83/95
-DET4-
PI Sta 22+62.42
Δ = 18°04' 09.3" (LT)
D = 1°26' 22.5"
L = 1,324.63'
T = 663.50'
R = 3,980.00'
SE = (SEE PLANS)
PI Sta 31+23.91
Δ = 2°08' 20.6" (RT)
D = 0°31' 15.1"
L = 40.67'
T = 205.36'
R = 11,000.00'
MATCHLINE SEE SHEET 2-P -DET4- STA. 20+00.00
CHARLES E. HORNE DB 7844 PG 852
JEWELL WILLIAMS CULBRETH DB 3656 PG 347
JESSIE G. REYNOLDS DB 2104 PG 129 PB 28 PG 14
TED OWEN DB 5270 PG 308 PB 28 PG 14
HOMER EDWIN REYNOLDS
CHARLES H. HUGHES
TED M. BUNCE DB 2190 PG 187 PB 28 PG 14
CHARLIE E. SPELL DB 2193 PG 461 PB 28 PG 14
WILLIAM A. PIERPOINT DB 3348 PG 181 PB 52 PG 31
ROBERT L. LANFORD DB 2783 PG 435 PB 52 PG 31
PRC Sta. 29+18.55
50' PS TAPER
END CONST R.
-DET4- PT Sta. 33+29.22 =
-L- POC STA.192+15.14 31.78' RT.
180
185



REVISIONS

8/17/99

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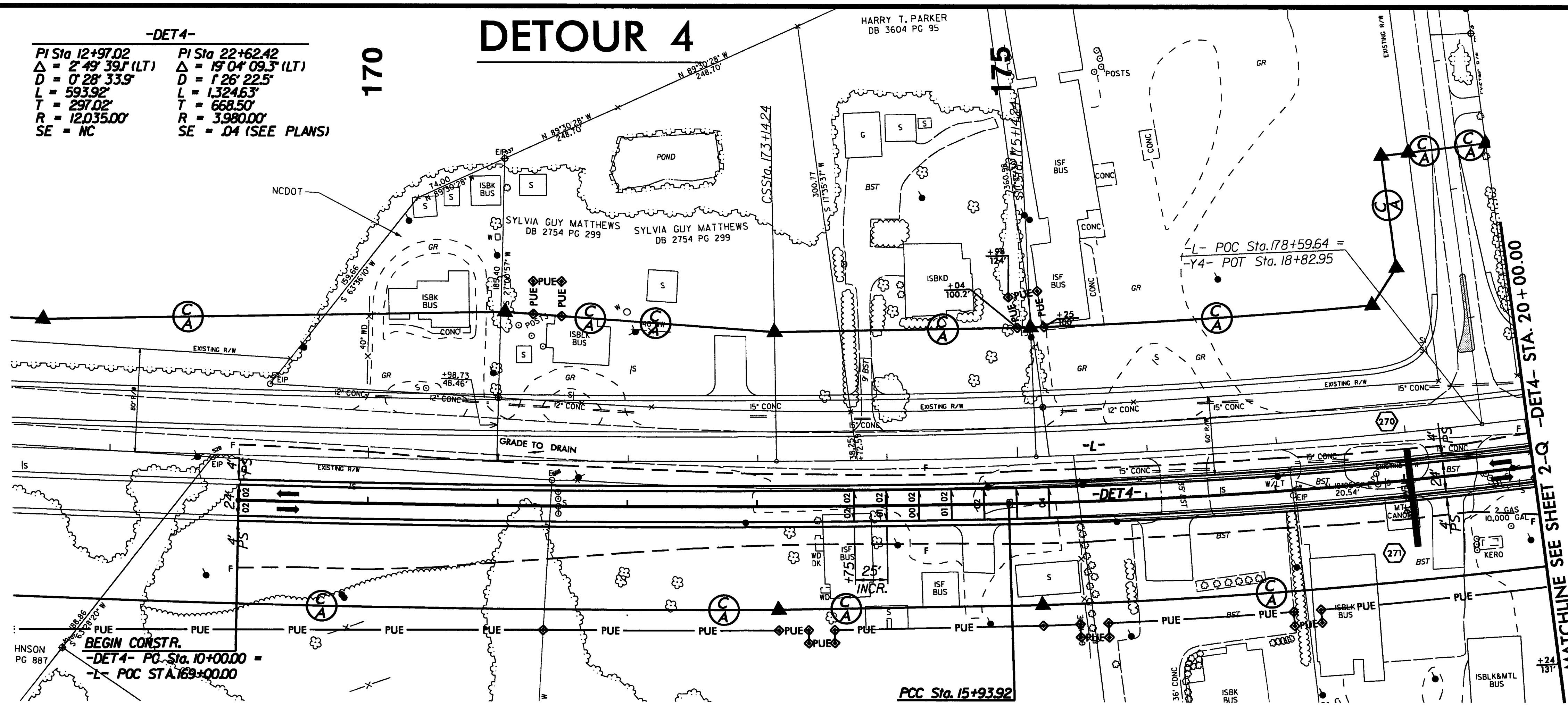
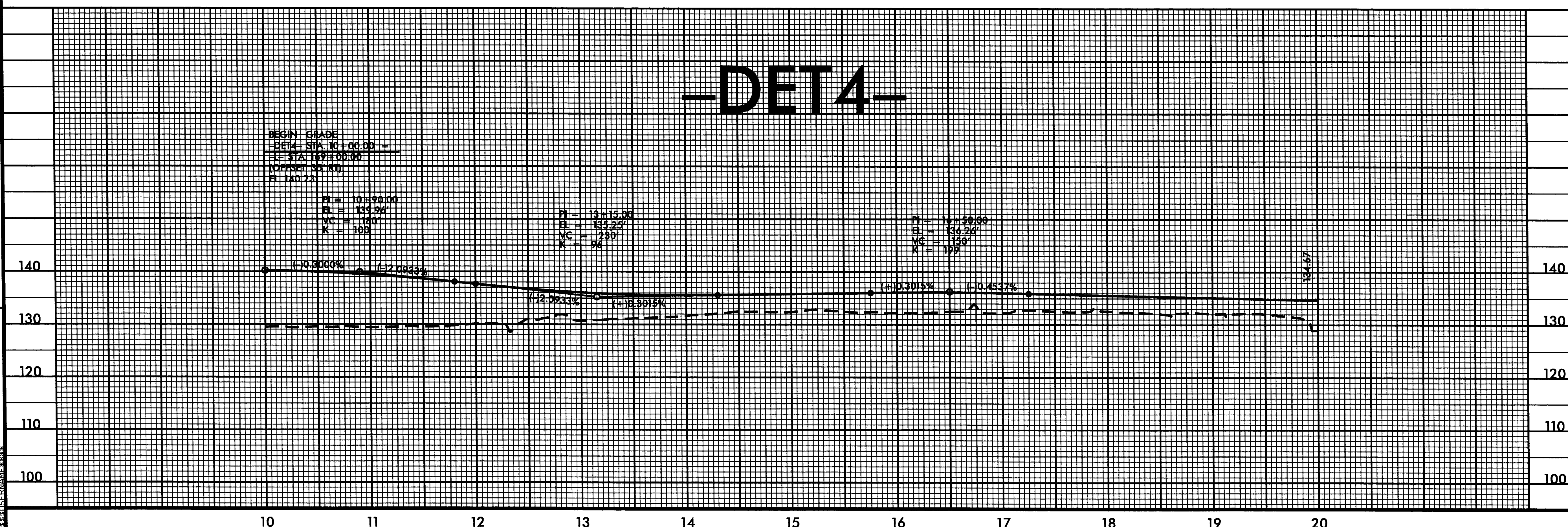
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	2-P
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DETOUR 4

-DET4-	
PI Sta 12+97.02	PI Sta 22+62.42
Δ = 2° 49' 39.1" (LT)	Δ = 19° 04' 09.3" (LT)
D = 0° 28' 33.9"	D = 1° 26' 22.5"
L = 593.92'	L = 1,324.63'
T = 297.02'	T = 668.50'
R = 12,035.00'	R = 3,980.00'
SE = NC	SE = .04 (SEE PLANS)





REVISIONS

8/17/99

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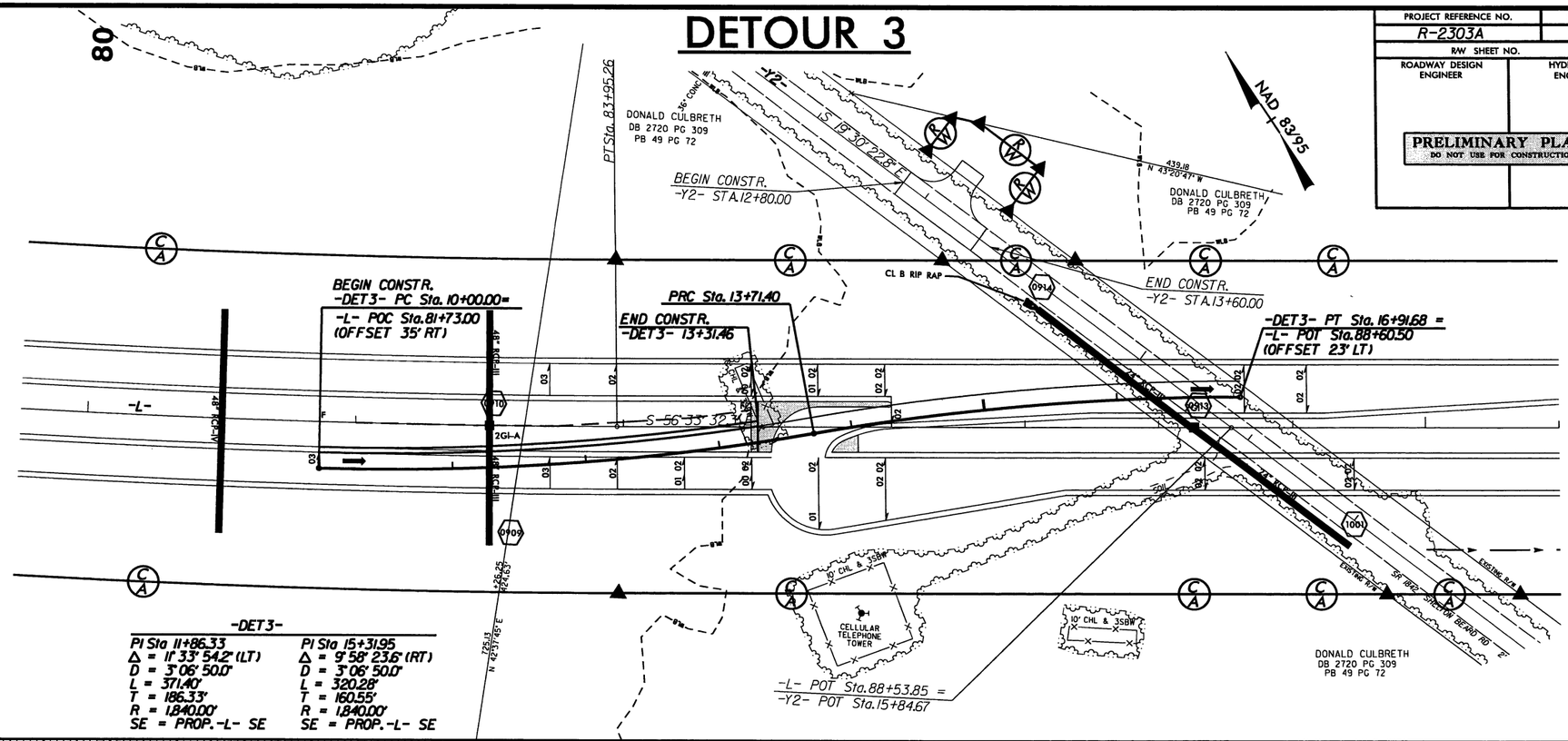
8/17/99

REVISIONS

DETOUR 3

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	2-0
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



-DET3-

WIDEN USING PROPOSED ℄ GRADE AND SUPER ELEVATION
-DET3- STA. 10+00.00 TO -DET3- STA. 13+31.46

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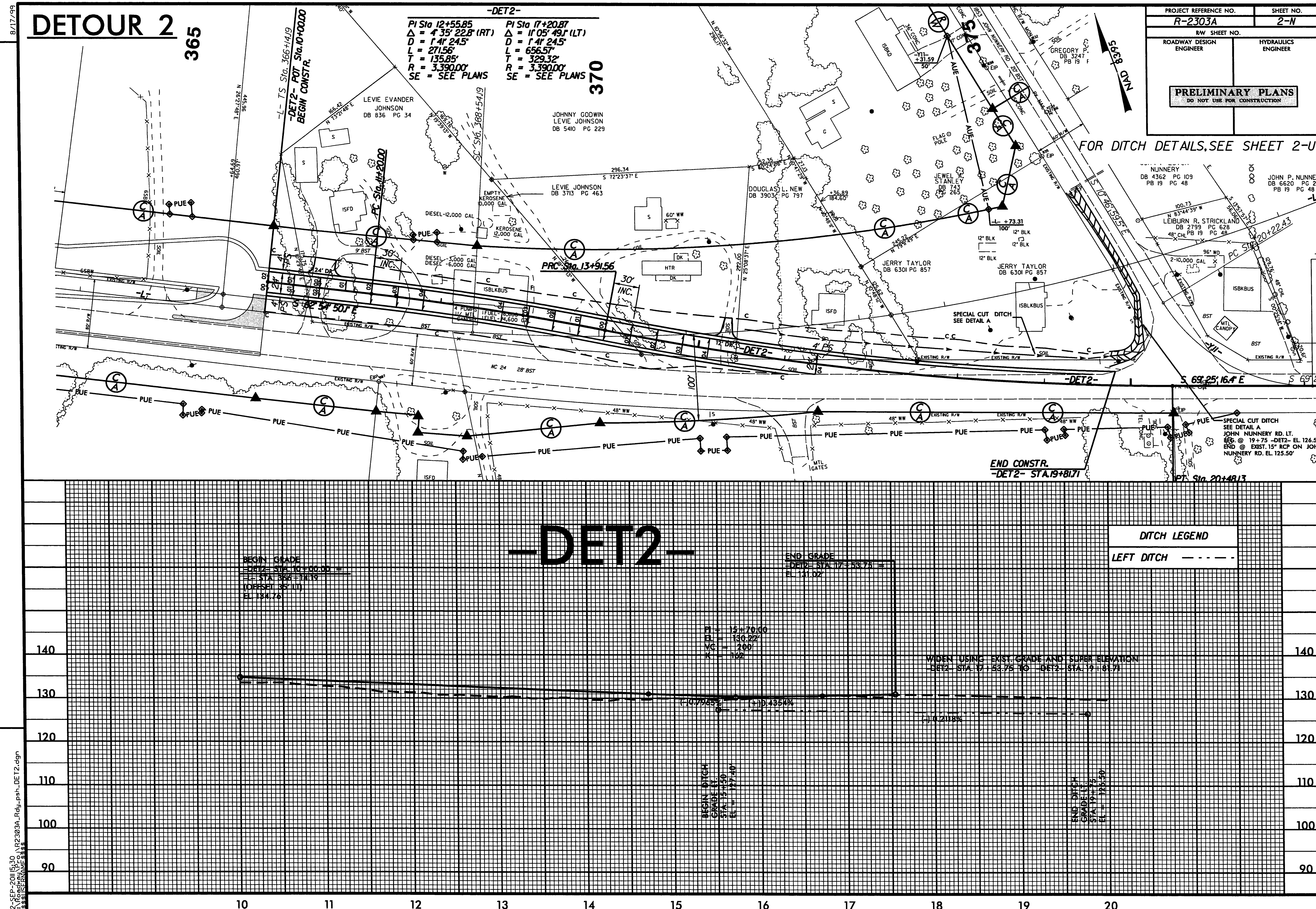
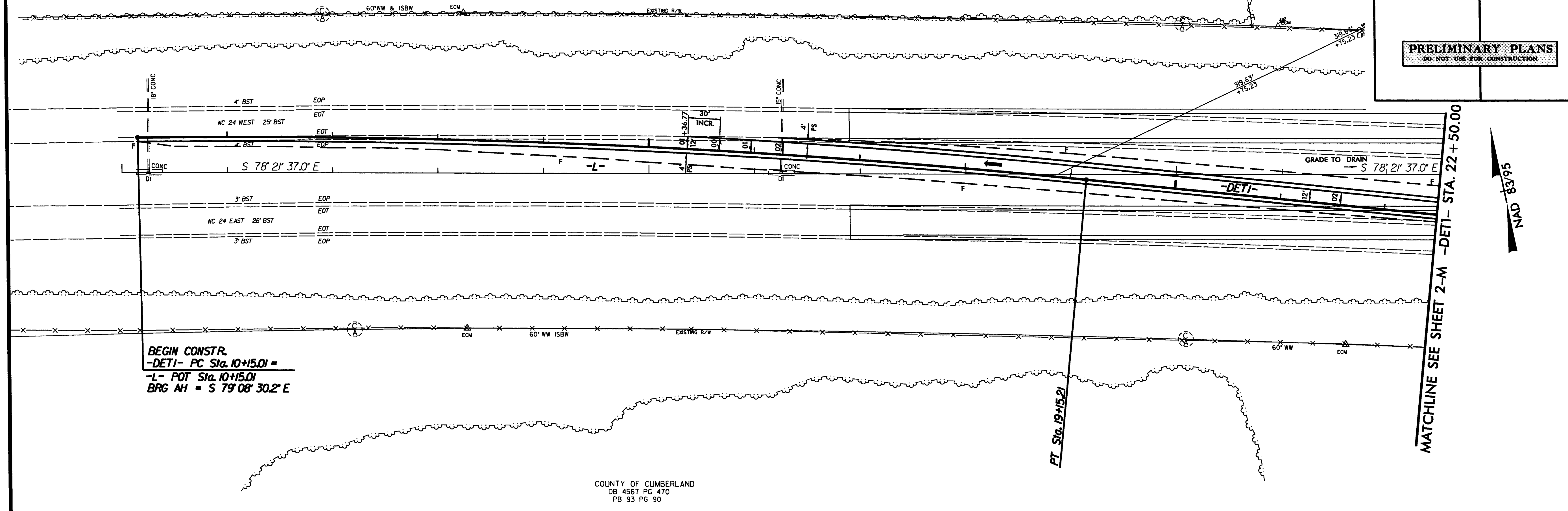


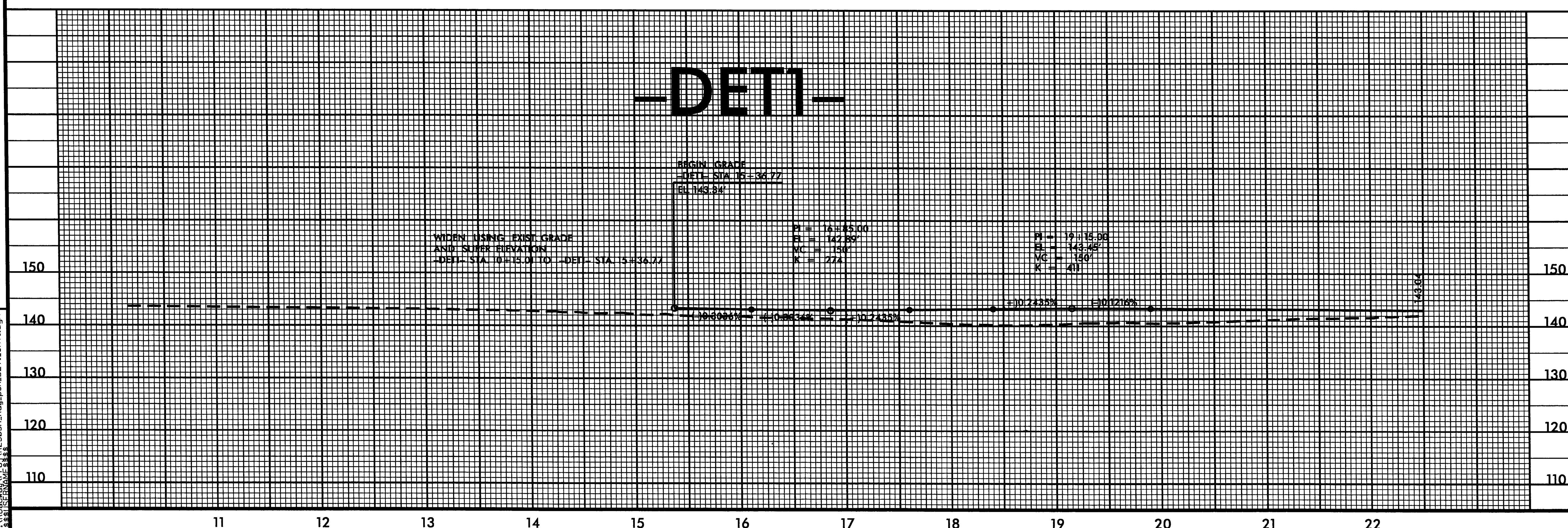
DETOUR 2
PROJECT REFERENCE NO. R-2303A
SHEET NO. 2-N
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
-DET2-
PI Sta 12+55.85
Δ = 4° 35' 22.8" (RT)
D = 1° 41' 24.5"
L = 271.56'
T = 135.85'
R = 3,390.00'
SE = SEE PLANS
PI Sta 17+20.87
Δ = 11° 05' 49.1" (LT)
D = 1° 41' 24.5"
L = 656.57'
T = 329.32'
R = 3,390.00'
SE = SEE PLANS
FOR DITCH DETAILS, SEE SHEET 2-U
NAD 83/95
-L- TS Sta. 366+14.19
-DET2- POT Sta. 10+00.00
BEGIN CONSTR.
LEVIE EVANDER JOHNSON DB 836 PG 34
JOHNNY GODWIN LEVIE JOHNSON DB 5410 PG 229
LEVIE JOHNSON DB 3713 PG 463
DOUGLAS L. NEW DB 3903 PG 797
JERRY TAYLOR DB 6301 PG 857
GREGORY P. DB 3247 PB 19
JEWEL H. STANLEY DB 743 PG 265
LEIBURN R. STRICKLAND DB 2799 PG 628 PB 19 PG 48
JOHN P. NUNNERY DB 6620 PG 218 PB 19 PG 48
SPECIAL CUT DITCH SEE DETAIL A
SPECIAL CUT DITCH SEE DETAIL A JOHN NUNNERY RD. LT. BEG. @ 19+75 -DET2- EL. 126.50' END @ EXIST. 15" RCP ON JOHN NUNNERY RD. EL. 125.50'
END CONSTR. -DET2- STA. 19+81.71
NC 24 28' BST
-DET2-
BEGIN GRADE -DET2- STA. 10+00.00 = -L- STA. 366+14.19 (OFFSET 35' LT) EL. 134.76
END GRADE -DET2- STA. 17+53.75 = EL. 131.02
PI = 15+70.00 EL = 130.22' VC = 200' K = 162
WIDEN USING EXIST. GRADE AND SUPER ELEVATION -DET2- STA. 17+53.75 TO -DET2- STA. 19+81.71
(-)0.7965%
(+)0.4354%
(-)0.2118%
BEGIN DITCH GRADE LT. STA. 15+50 EL = 127.40
END DITCH GRADE LT. STA. 19+75 EL = 125.50
DITCH LEGEND
LEFT DITCH
140
130
120
110
100
90
10
11
12
13
14
15
16
17
18
19
20
REVISIONS
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	2-L
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DETOUR 1





8/17/99

REVISIONS

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DETOUR 1

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	2-W
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS

COUNTY OF CUMBERLAND
DB 4567 PG 469
PB 93 PG 90

BEG. FENCE
TIE TO EXIST. FENCE

EXISTING R/W

60" WW & ISBW

15" CONC

NC 24 WEST 25' BST
GRADE TO DRAIN

CONC DI

-L-

S 78° 21' 37.0" E

NAD 83/95

MATCHLINE SEE SHEET 2-L -DET1- STA. 22+50.00

NC 24 WEST 25' BST
30' INCR.

S 72° 41' 40.2" E -DET1-

END CONSTR.
-DET1- STA 27+65.26

-DET1- POT Sta. 27+78.21 =
-L- POT Sta. 27+72.70

COUNTY OF CUMBERLAND
DB 4567 PG 470
PB 95 PG 114

EOP
EOT

CONC ISL

48"CHL

ISRKD

DEBORAH WELVIN DUBOSE

-DET1-

END GRADE
-DET1- STA 24+24.71
EL 147.63'

VIDEN USING EXIST. GRADE
AND SUPER ELEVATION
-DET1- STA 24+24.71 TO -DET1- STA 27+65.26

150
140
130
120
110
100
90

23 24 25 26 27

22-SEP-2011 15:30
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$$$$LICENSE$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	2-K

RW SHEET NO.

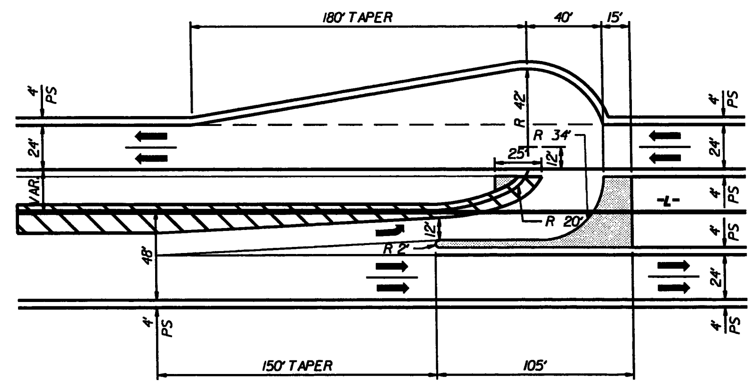
ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

5" MONOLITHIC CONCRETE ISLAND (KEYED-IN)

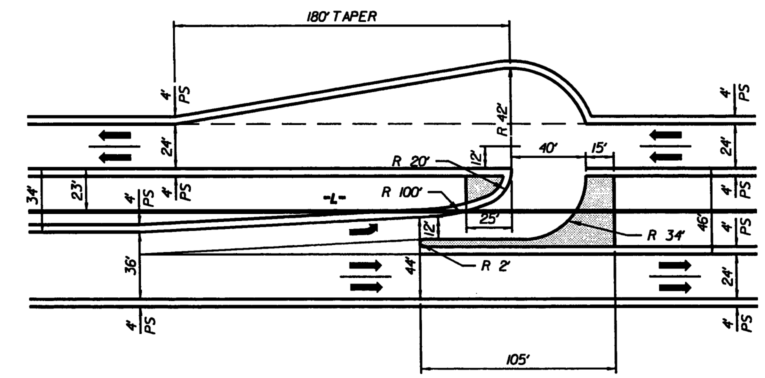
PAINT STRIPING

NOTE: ALL DIMENSIONS ARE TYPICAL UNLESS OTHERWISE SHOWN IN THE PLANS.



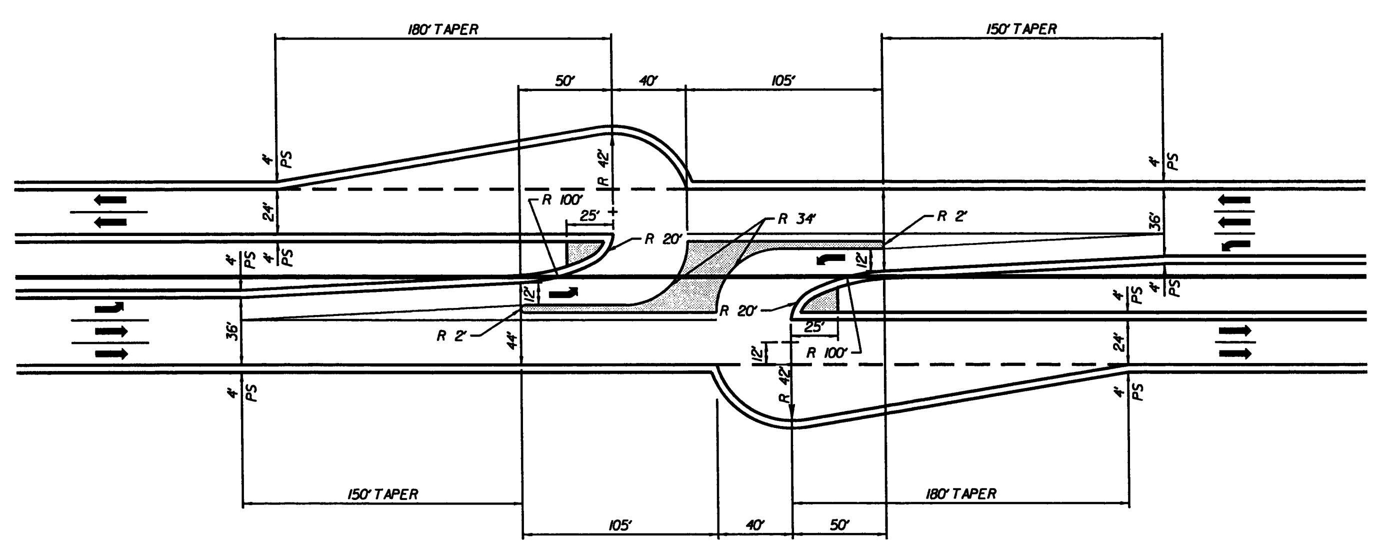
INTERSECTION DETAIL NO. 5

-WBL- STA. 40+70.00
-L- STA. 65+30.00
-L- STA. 260+00.00



INTERSECTION DETAIL NO. 6

-L- STA. 85+50.00
-L- STA. 151+35.00
-L- STA. 160+25.00
-L- STA. 293+00.00
-L- STA. 316+30.00
-L- STA. 365+64.19



INTERSECTION DETAIL NO. 7

-L- STA. 128+35.00
-L- STA. 194+85.00
-L- STA. 214+36.13
-L- STA. 232+45.00
-L- STA. 342+14.25

REVISIONS

8/17/99

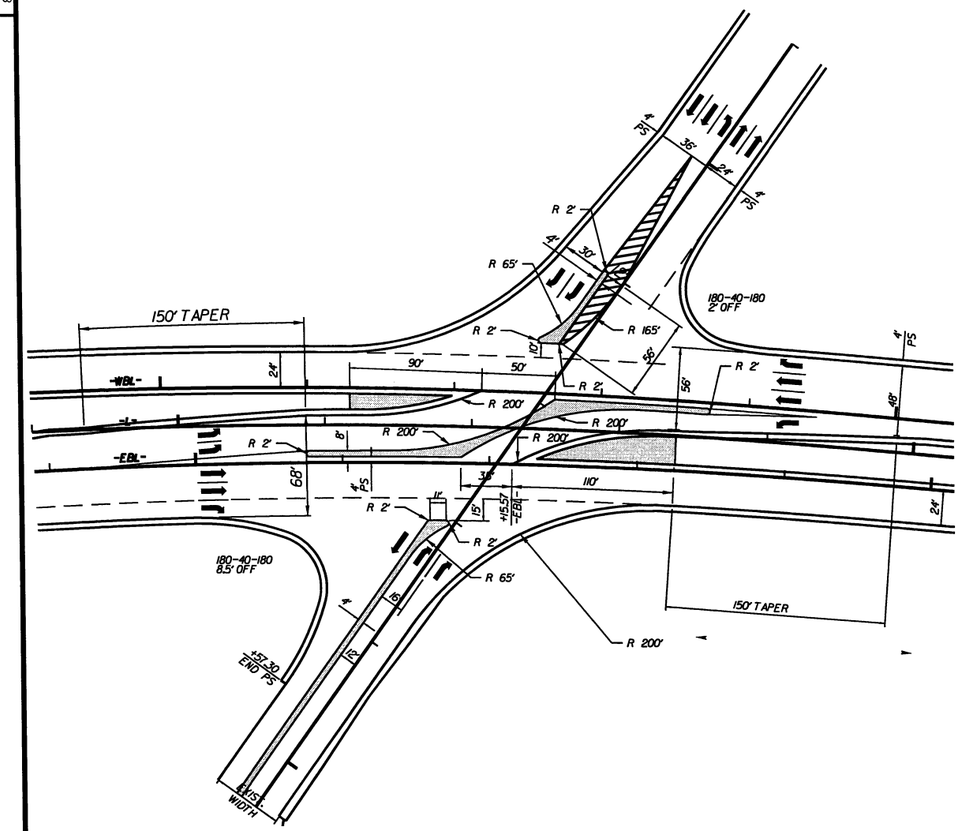
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	2-J
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

5" MONOLITHIC CONCRETE ISLAND (KEYED-IN)

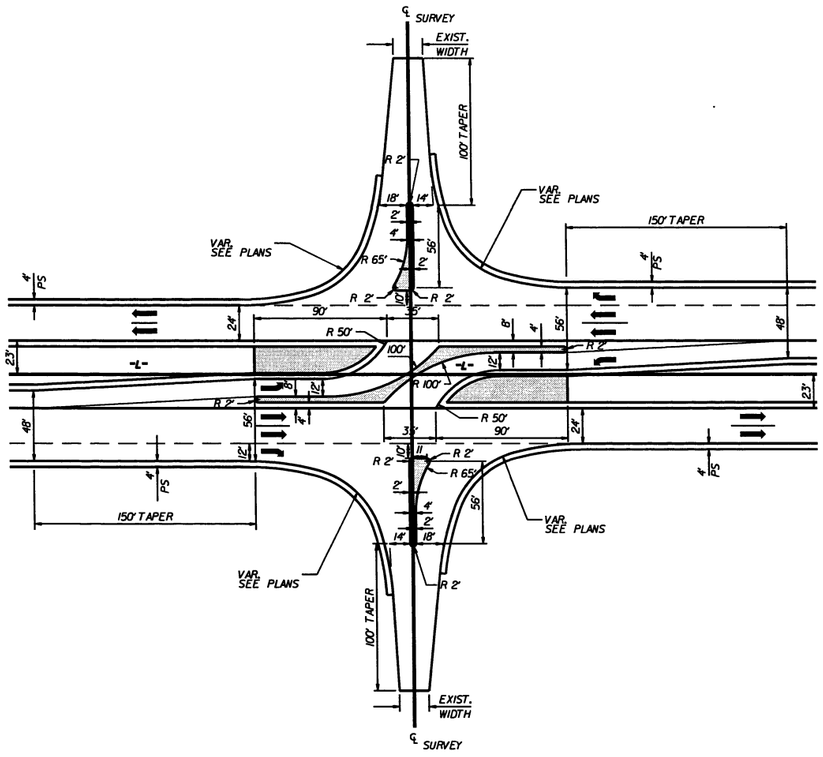
NOTE: ALL DIMENSIONS ARE TYPICAL UNLESS OTHERWISE SHOWN IN THE PLANS.

REVISIONS 8/17/99



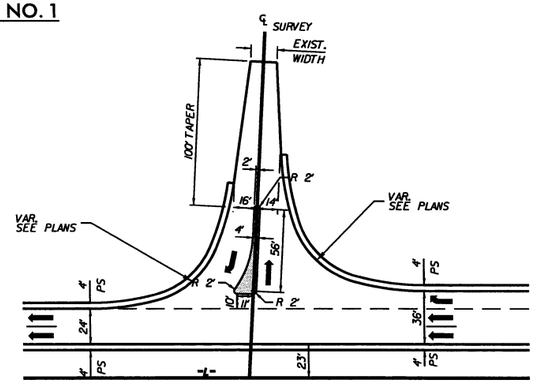
INTERSECTION DETAIL NO. 1

–Y–



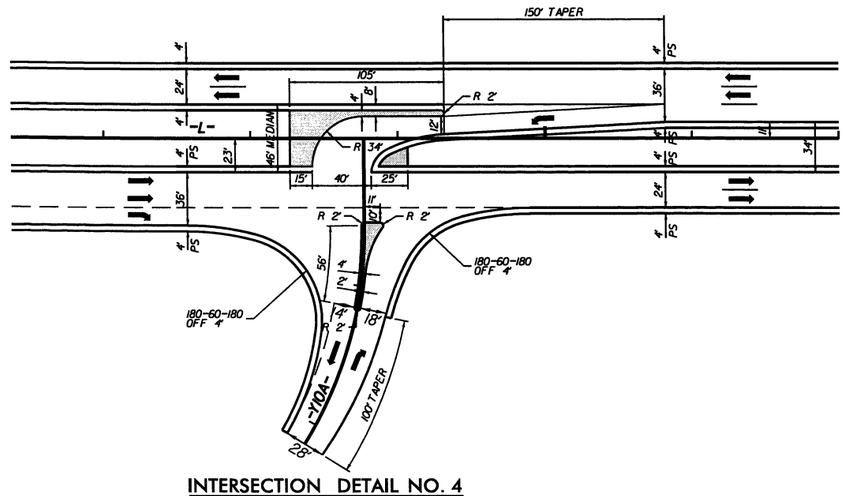
INTERSECTION DETAIL NO. 3

–Y7–
–Y8–



INTERSECTION DETAIL NO. 2

–Y2A–
–Y3–
–Y4–
–Y5–
–Y6–
–Y6B–
–Y9–
–Y10–



INTERSECTION DETAIL NO. 4

–Y10A–

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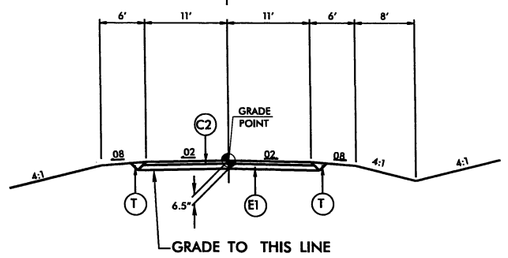
6/2/99

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	2-H
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

℄ –SR1–



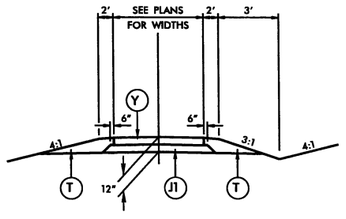
TYPICAL SECTION NO. 23

USE TYPICAL SECTION NO. 23

–SR1– STA. 10+09.12 TO –SR1– STA. 18+32.83

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	1.25" SF9.5A
C2	2.5" SF9.5A
C3	VAR. SF9.5A
C4	3.0" S9.5B
C5	VAR. S9.5B
C6	3.0" S9.5C
C7	VAR. S9.5C
D1	4.0" I19.0C
D2	VAR. I19.0C
E1	4.0" B25.0B
E2	4.5" B25.0B
E3	5.0" B25.0B
E4	VAR. B25.0B
E5	4.0" B25.0C
E6	VAR. B25.0C
J1	6.0" ABC
J2	8.0" ABC
P	PRIME COAT
R	1'-6" CURB AND GUTTER
U	EXIST. PAVEMENT
T	EARTH MATERIAL
W	WEDGING
Y	6" CONC. SEE SPEC. DET.

℄ DRIVEWAYS

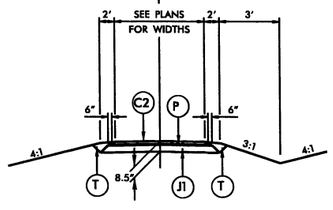


TYPICAL SECTION NO. 24

USE TYPICAL SECTION NO. 24

CONCRETE DRIVEWAYS

℄ DRIVEWAYS

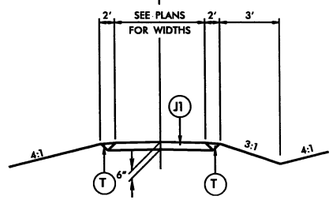


TYPICAL SECTION NO. 25

USE TYPICAL SECTION NO. 25

ASPHALT DRIVEWAYS

℄ DRIVEWAYS



TYPICAL SECTION NO. 26

USE TYPICAL SECTION NO. 26

GRAVEL DRIVEWAYS

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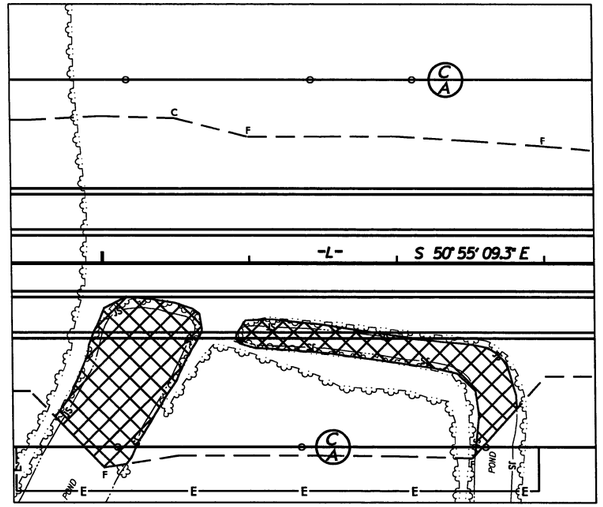
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	2-1
R/W SHEET NO.	

UNDERCUT DETAILS

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

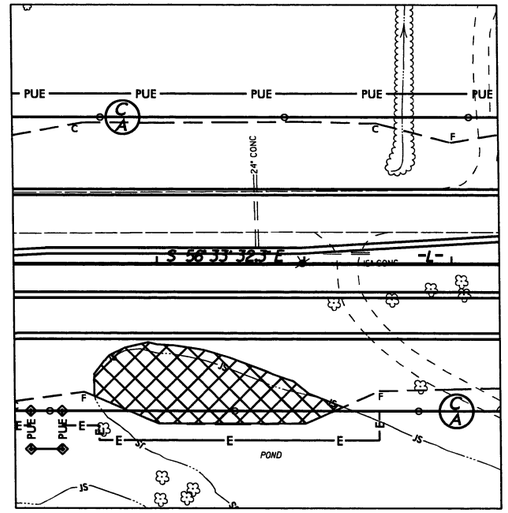
UNDERCUT AREA

UNDERCUT SHOULD BE MADE TO A DEPTH OF 3 FOOT BELOW SUBGRADE OR TO COMPETENT MATERIAL, WHICHEVER IS LESS.



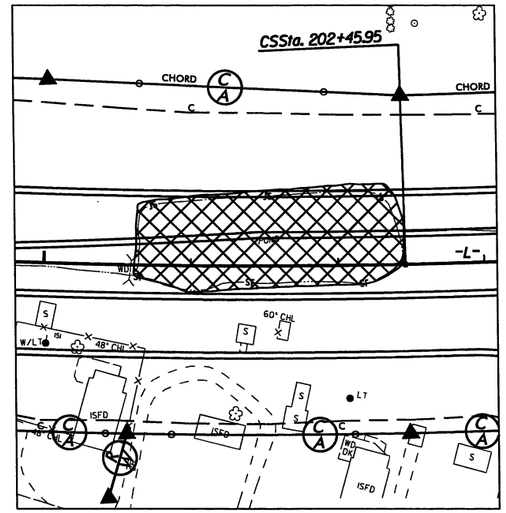
DETAIL NO. 1

-L- STA. 69+75 TO -L- STA. 70+70
-L- STA. 70+90 TO -L- STA. 72+80



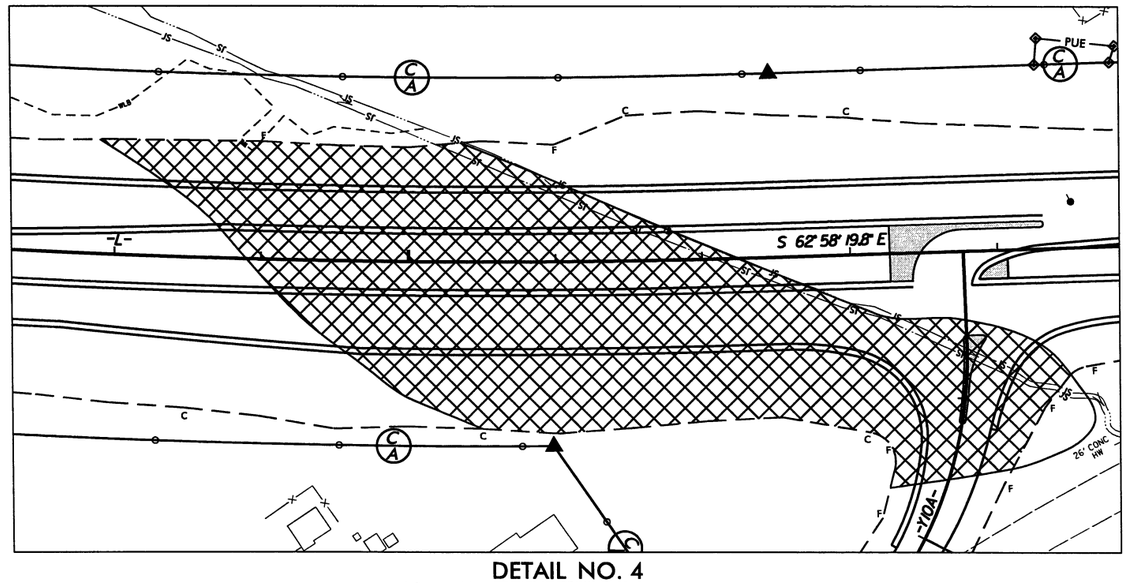
DETAIL NO. 2

-L- STA. 131+55 TO -L- STA. 133+00



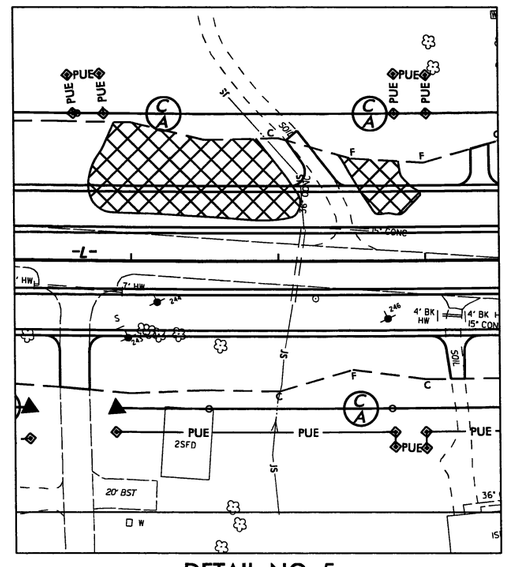
DETAIL NO. 3

-L- STA. 200+60 TO -L- STA. 202+40



DETAIL NO. 4

-L- STA. 297+90 TO -L- STA. 303+00
-Y10A- STA. 10+45 TO -Y10A- STA. 11+80



DETAIL NO. 5

-L- STA. 320+70 TO -L- STA. 322+15
-L- STA. 322+40 TO -L- STA. 323+00

REVISIONS

8/17/99

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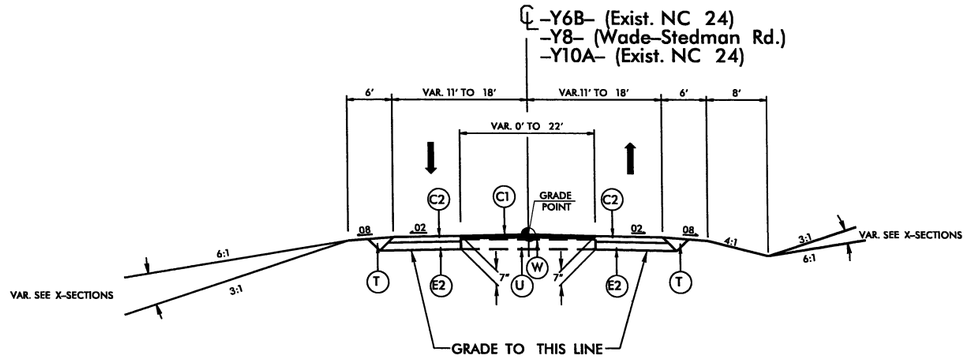
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	2-F
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

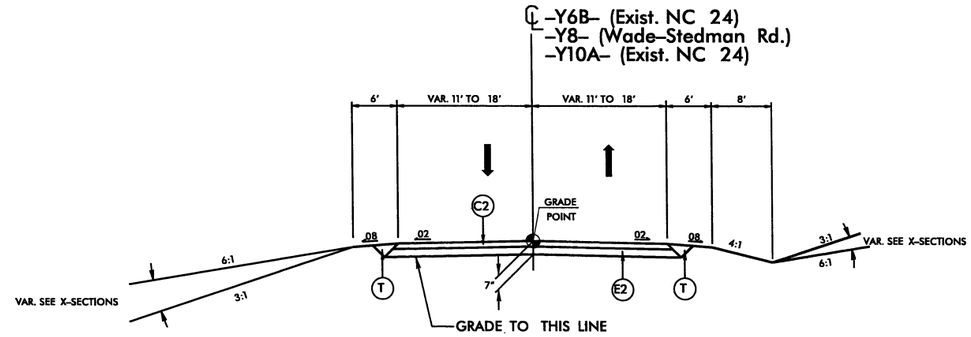
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



TYPICAL SECTION NO. 17

USE TYPICAL SECTION NO. 17

–Y6B– STA. 13+50.00 TO –Y6B– STA. 14+74.62
–Y8– STA. 10+67.96 TO –Y8– STA. 11+50.00
–Y8– STA. 14+00.00 TO –Y8– STA. 15+00.79
–Y10A– STA. 12+19.60 TO –Y10A– STA. 13+85.00

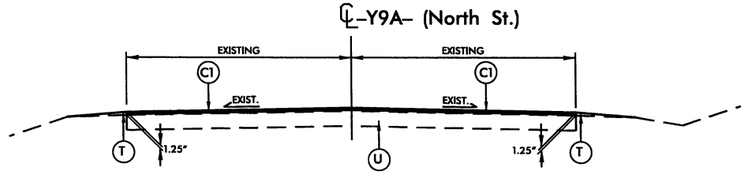


TYPICAL SECTION NO. 18

USE TYPICAL SECTION NO. 18

–Y6B– STA. 10+47.00 TO –Y6B– STA. 13+50.00
–Y8– STA. 11+50.00 TO –Y8– STA. 12+36.24
–Y8– STA. 13+32.50 TO –Y8– STA. 14+00.00
–Y10A– STA. 10+47.00 TO –Y10A– STA. 12+19.60

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	1.25" SF9.5A
C2	2.5" SF9.5A
C3	VAR. SF9.5A
C4	3.0" S9.5B
C5	VAR. S9.5B
C6	3.0" S9.5C
C7	VAR. S9.5C
D1	4.0" I19.0C
D2	VAR. I19.0C
E1	4.0" B25.0B
E2	4.5" B25.0B
E3	5.0" B25.0B
E4	VAR. B25.0B
E5	4.0" B25.0C
E6	VAR. B25.0C
J1	6.0" ABC
J2	8.0" ABC
P	PRIME COAT
R	1'-6" CURB AND GUTTER
U	EXIST. PAVEMENT
T	EARTH MATERIAL
W	WEDGING
Y	6" CONC. SEE SPEC. DET.



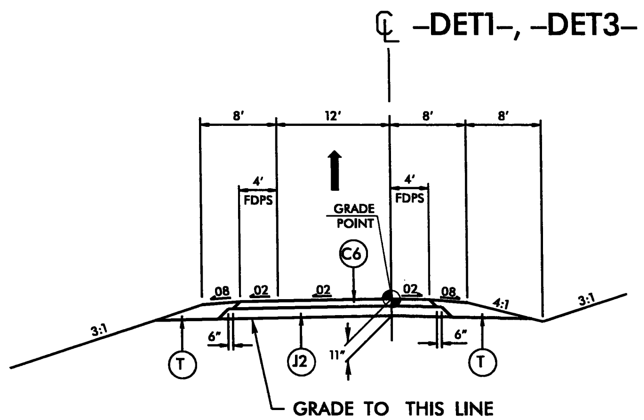
TYPICAL SECTION NO. 19

USE TYPICAL SECTION NO. 19

–Y9A– STA. 10+09.58 TO –Y9A STA. 10+53.85

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	2-G
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

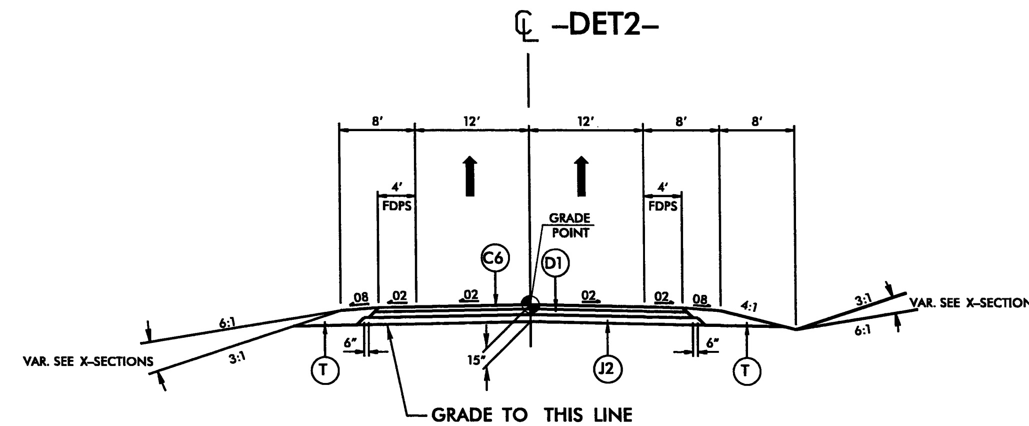
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



TYPICAL SECTION NO. 20

USE TYPICAL SECTION NO. 20

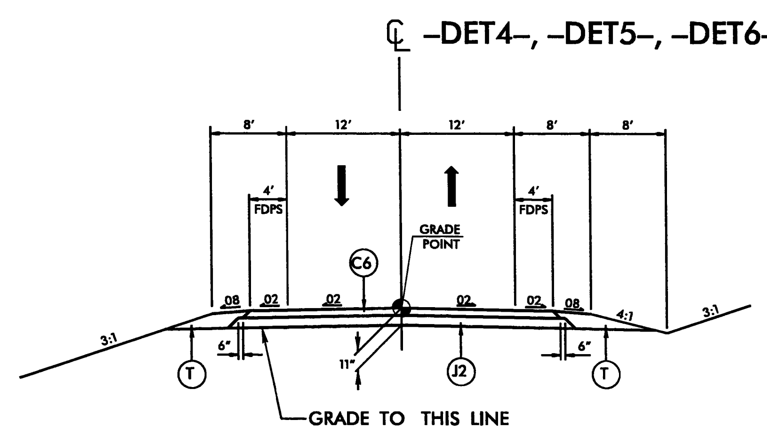
-DET1- STA. 10+15.01 TO -DET1- STA. 27+65.26
-DET3- STA. 10+00.00 TO -DET3- STA. 13+31.46



TYPICAL SECTION NO. 21

USE TYPICAL SECTION NO. 21

-DET2- STA. 10+00.00 TO -DET2- STA. 19+81.71



TYPICAL SECTION NO. 22

USE TYPICAL SECTION NO. 22

-DET4- STA. 10+00.00 TO -DET4- STA. 33+29.22
-DET5- STA. 10+00.00 TO -DET5- STA. 17+75.00
-DET6- STA. 10+18.32 TO -DET6- STA. 17+50.00
-DET7- STA. 10+50.00 TO -DET7- STA. 18+95.47

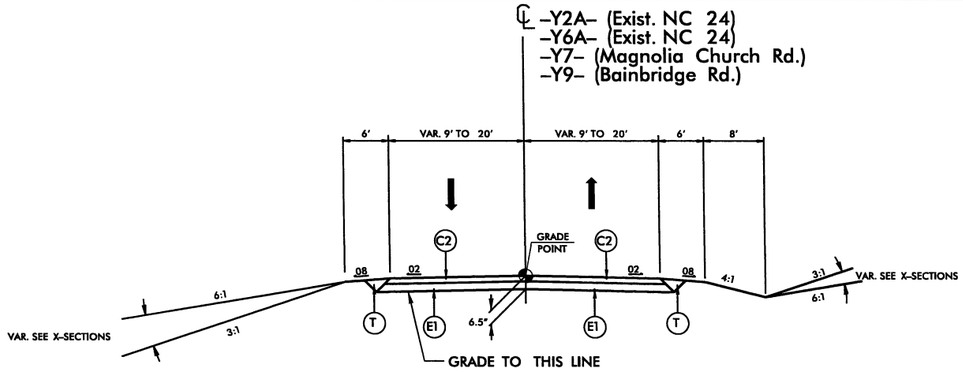
PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	1.25" SF9.5A
C2	2.5" SF9.5A
C3	VAR. SF9.5A
C4	3.0" S9.5B
C5	VAR. S9.5B
C6	3.0" S9.5C
C7	VAR. S9.5C
D1	4.0" I19.0C
D2	VAR. I19.0C
E1	4.0" B25.0B
E2	4.5" B25.0B
E3	5.0" B25.0B
E4	VAR. B25.0B
E5	4.0" B25.0C
E6	VAR. B25.0C
J1	6.0" ABC
J2	8.0" ABC
P	PRIME COAT
R	1'-6" CURB AND GUTTER
U	EXIST. PAVEMENT
T	EARTH MATERIAL
W	WEDGING
Y	6" CONC. SEE SPEC. DET.

22-SEP-2011 15:29

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	2-E
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

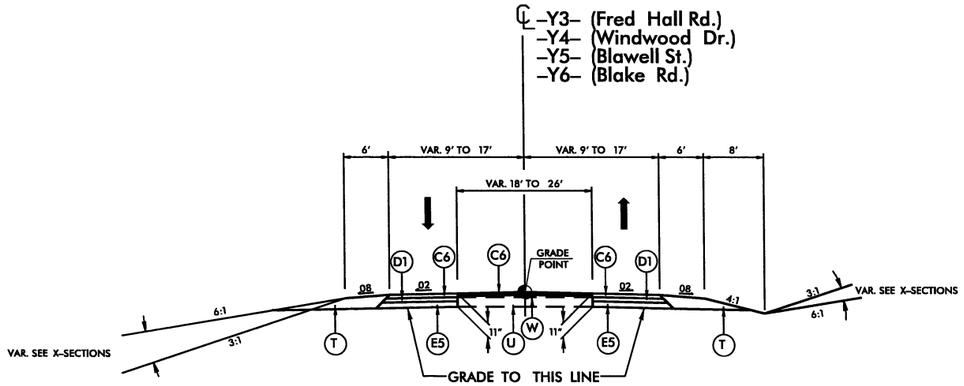
PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	1.25" SF9.5A
C2	2.5" SF9.5A
C3	VAR. SF9.5A
C4	3.0" S9.5B
C5	VAR. S9.5B
C6	3.0" S9.5C
C7	VAR. S9.5C
D1	4.0" I19.0C
D2	VAR. I19.0C
E1	4.0" B25.0B
E2	4.5" B25.0B
E3	5.0" B25.0B
E4	VAR. B25.0B
E5	4.0" B25.0C
E6	VAR. B25.0C
J1	6.0" ABC
J2	8.0" ABC
P	PRIME COAT
R	1'-6" CURB AND GUTTER
U	EXIST. PAVEMENT
T	EARTH MATERIAL
W	WEDGING
Y	6" CONC. SEE SPEC. DET.



TYPICAL SECTION NO. 14

USE TYPICAL SECTION NO. 14

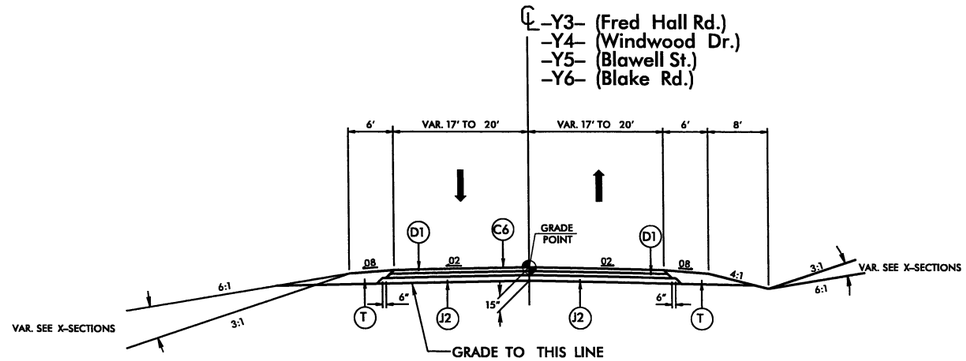
–Y2A– STA. 10+47.00 TO –Y2A– STA. 13+50.00
–Y6A– STA. 16+59.29 TO –Y6A– STA. 18+18.39
–Y7– STA. 11+38.34 TO –Y7– STA. 13+36.32
–Y7– STA. 14+30.32 TO –Y7– STA. 15+36.62
–Y9– STA. 13+27.82 TO –Y9– STA. 14+37.73
–Y9– STA. 15+31.87 TO –Y9– STA. 16+10.28



TYPICAL SECTION NO. 15

USE TYPICAL SECTION NO. 15

–Y3– STA. 11+50.00 TO –Y3– STA. 12+14.88
–Y4– STA. 16+67.91 TO –Y4– STA. 17+00.00
–Y5– STA. 15+23.71 TO –Y5– STA. 16+00.00
–Y6– STA. 11+32.95 TO –Y6– STA. 12+00.00



TYPICAL SECTION NO. 16

USE TYPICAL SECTION NO. 16

–Y3– STA. 10+47.17 TO –Y3– STA. 11+50.00
–Y4– STA. 17+00.00 TO –Y4– STA. 18+35.95
–Y5– STA. 16+00.00 TO –Y5– STA. 16+92.28
–Y6– STA. 12+00.00 TO –Y6– STA. 13+01.03

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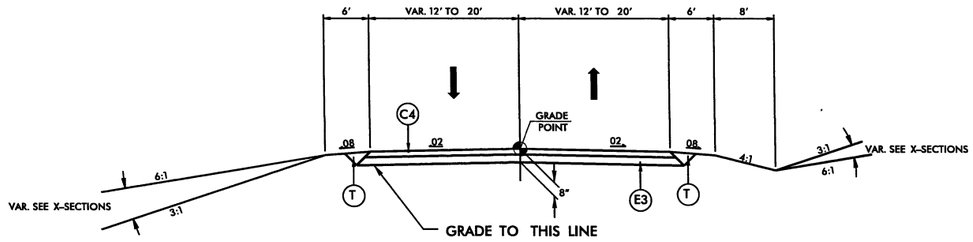
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	2-D
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

℄ –Y1– (Hummingbird Pl.)



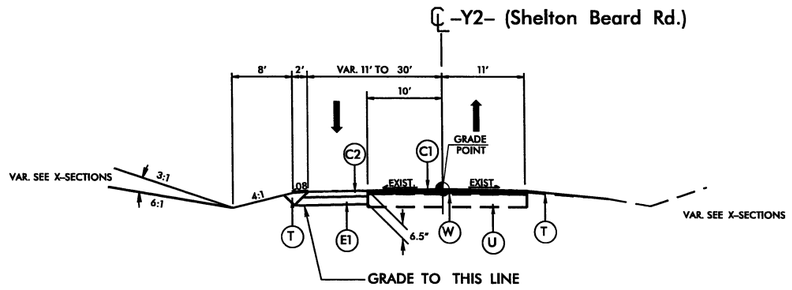
TYPICAL SECTION NO. 11

USE TYPICAL SECTION NO. 11

–Y1– STA. 10+36.02 TO –Y1– STA. 18+63.32

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	1.25" SF9.5A
C2	2.5" SF9.5A
C3	VAR. SF9.5A
C4	3.0" S9.5B
C5	VAR. S9.5B
C6	3.0" S9.5C
C7	VAR. S9.5C
D1	4.0" I19.0C
D2	VAR. I19.0C
E1	4.0" B25.0B
E2	4.5" B25.0B
E3	5.0" B25.0B
E4	VAR. B25.0B
E5	4.0" B25.0C
E6	VAR. B25.0C
J1	6.0" ABC
J2	8.0" ABC
P	PRIME COAT
R	1'-6" CURB AND GUTTER
U	EXIST. PAVEMENT
T	EARTH MATERIAL
W	WEDGING
Y	6" CONC. SEE SPEC. DET.

℄ –Y2– (Shelton Beard Rd.)

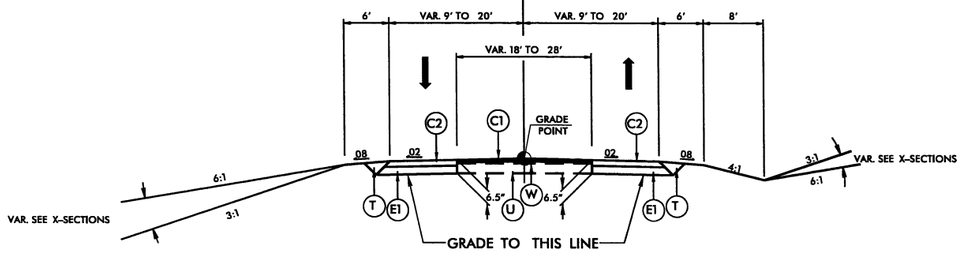


TYPICAL SECTION NO. 12

USE TYPICAL SECTION NO. 12

–Y2– STA. 12+80.00 TO –Y2– STA. 13+60.00

℄ –Y2A– (Exist. NC 24)
–Y6A– (Exist. NC 24)
–Y7– (Magnolia Church Rd.)
–Y9– (Bainbridge Rd.)
–Y10– (Mary McCall Rd.)



TYPICAL SECTION NO. 13

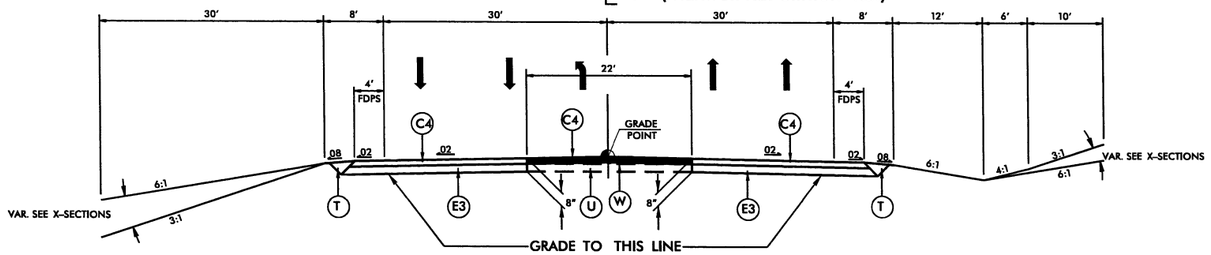
USE TYPICAL SECTION NO. 13

–Y2A– STA. 13+50.00 TO –Y2A– STA. 14+50.00
–Y6A– STA. 16+59.29 TO –Y6A– STA. 17+25.00
–Y7– STA. 10+80.00 TO –Y7– STA. 11+38.34
–Y7– STA. 15+36.62 TO –Y7– STA. 15+98.32
–Y9– STA. 12+69.93 TO –Y9– STA. 13+27.82
–Y9– STA. 16+10.28 TO –Y9– STA. 17+34.63
–Y10– STA. 12+04.10 TO –Y10– STA. 13+73.66

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	2-C
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

℄ -Y- (Maxwell Rd/Clinton Rd.)

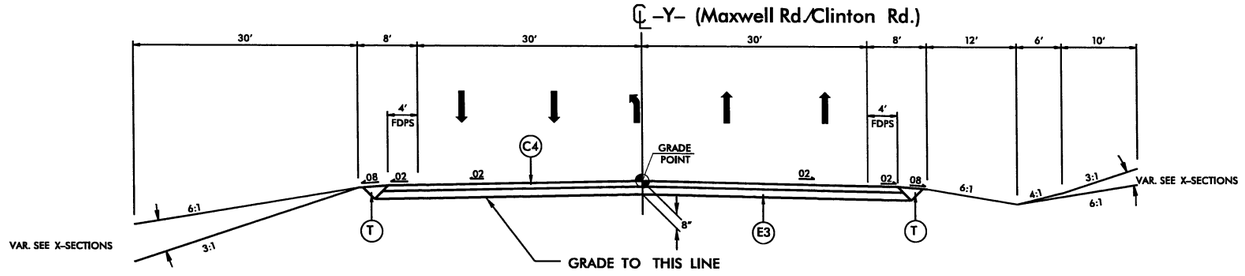


TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 7

-Y- STA. 17+86.10 TO -Y- STA. 27+50.00
-Y- STA. 33+50.00 TO -Y- STA. 35+00.00

℄ -Y- (Maxwell Rd/Clinton Rd.)



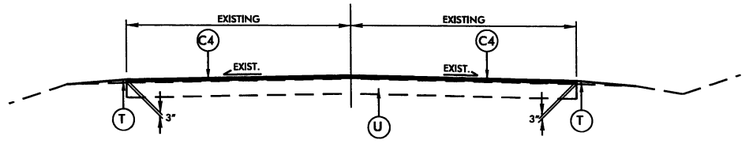
TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8

-Y- STA. 27+50.00 TO -Y- STA. 31+63.57
-Y- STA. 32+80.31 TO -Y- STA. 33+50.00

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	1.25" SF9.5A
C2	2.5" SF9.5A
C3	VAR. SF9.5A
C4	3.0" S9.5B
C5	VAR. S9.5B
C6	3.0" S9.5C
C7	VAR. S9.5C
D1	4.0" I19.0C
D2	VAR. I19.0C
E1	4.0" B25.0B
E2	4.5" B25.0B
E3	5.0" B25.0B
E4	VAR. B25.0B
E5	4.0" B25.0C
E6	VAR. B25.0C
J1	6.0" ABC
J2	8.0" ABC
P	PRIME COAT
R	1'-6" CURB AND GUTTER
U	EXIST. PAVEMENT
T	EARTH MATERIAL
W	WEDGING
Y	6" CONC. SEE SPEC. DET.

℄ -Y- (Clinton Rd.)

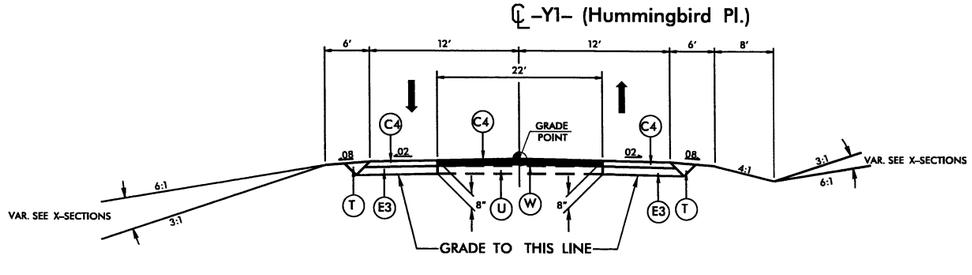


TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9

-Y- STA. 35+00.00 TO -Y- STA. 45+06.65

℄ -Y1- (Hummingbird Pl.)



TYPICAL SECTION NO. 10

USE TYPICAL SECTION NO. 10

-Y1- STA.18+63.32 TO -Y1- STA. 21+22.13

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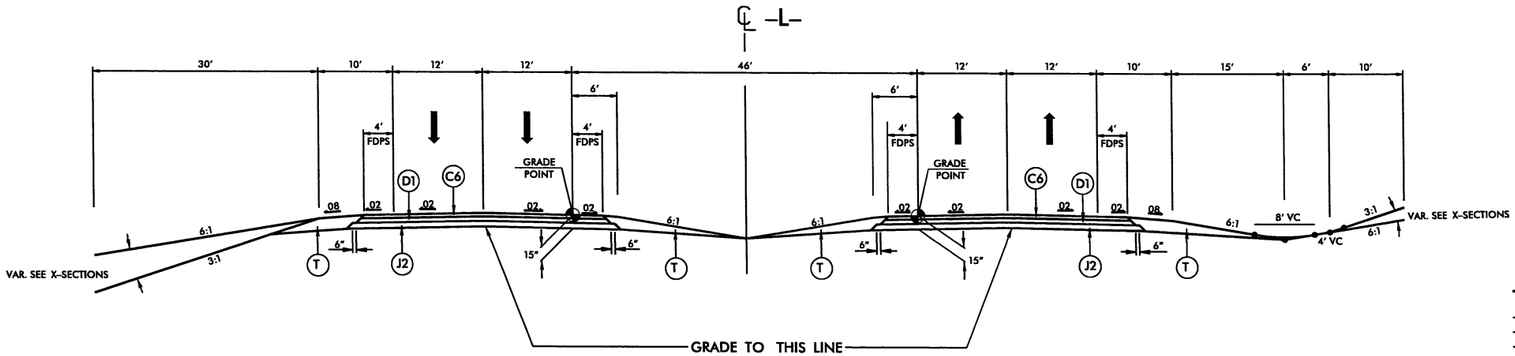
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	2-B
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

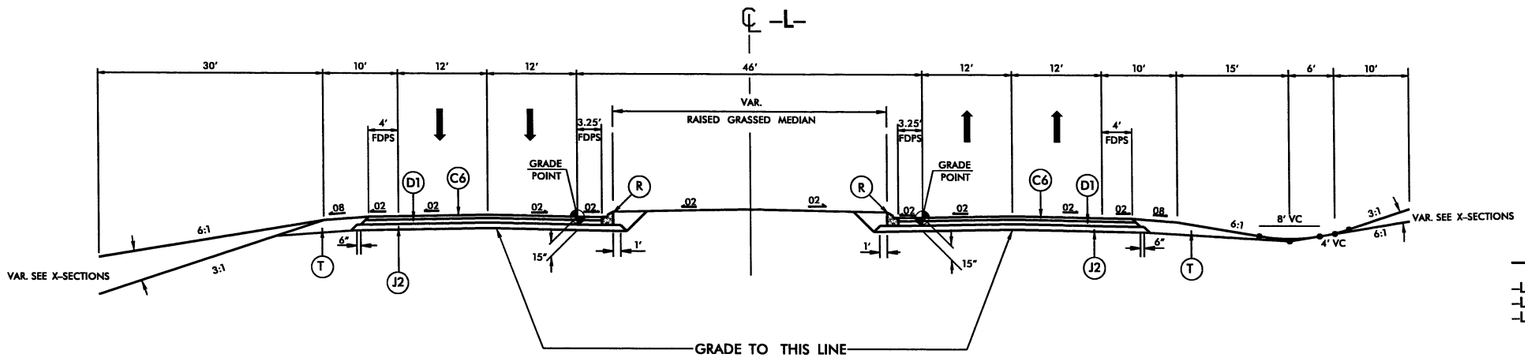
PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	1.25" SF9.5A
C2	2.5" SF9.5A
C3	VAR. SF9.5A
C4	3.0" S9.5B
C5	VAR. S9.5B
C6	3.0" S9.5C
C7	VAR. S9.5C
D1	4.0" I19.0C
D2	VAR. I19.0C
E1	4.0" B25.0B
E2	4.5" B25.0B
E3	5.0" B25.0B
E4	VAR. B25.0B
E5	4.0" B25.0C
E6	VAR. B25.0C
J1	6.0" ABC
J2	8.0" ABC
P	PRIME COAT
R	1'-6" CURB AND GUTTER
U	EXIST. PAVEMENT
T	EARTH MATERIAL
W	WEDGING
Y	6" CONC. SEE SPEC. DET.



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4

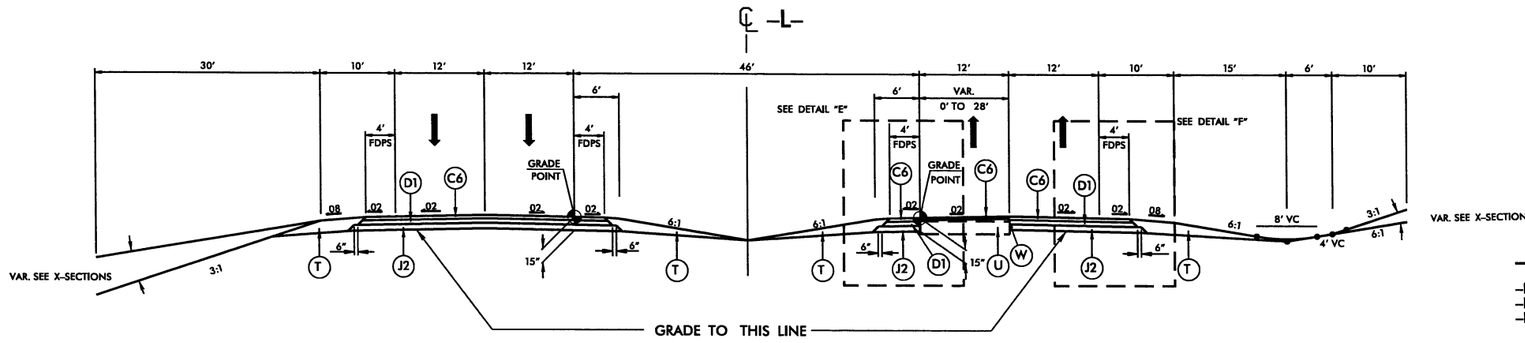
–L– STA. 55+90.80 AH TO –L– STA. 59+05.00
–L– STA. 65+06.24 TO –L– STA. 225+69.37
–L– STA. 240+06.28 TO –L– STA. 256+25.00
–L– STA. 259+76.29 TO –L– STA. 313+50.00
–L– STA. 318+50.00 TO –L– STA. 338+50.00
–L– STA. 343+00.00 TO –L– STA. 349+50.00

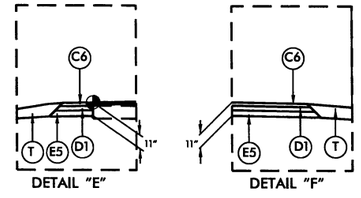


TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5

–L– STA. 59+05.00 TO –L– STA. 65+06.24
–L– STA. 225+69.37 TO –L– STA. 240+06.28
–L– STA. 256+25.00 TO –L– STA. 259+76.29





TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6

–L– STA. 313+50.00 TO –L– STA. 318+50.00
–L– STA. 338+50.00 TO –L– STA. 343+00.00
–L– STA. 349+50.00 TO –L– STA. 366+14.19

NOTE: IN AREAS OF NARROW WIDENING (6' OR LESS) 4" OF B25.0C MAY BE USED IN LIEU OF 8" ABC. (SEE DETAILS E & F)

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PAVEMENT SCHEDULE

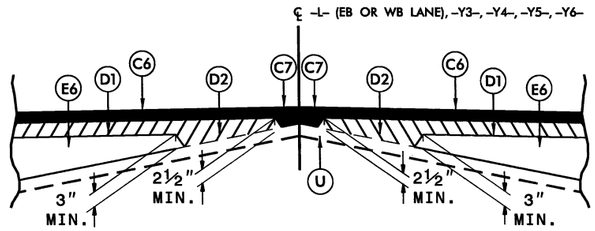
(FINAL PAVEMENT DESIGN)

C1	PROP. APPROX. 1 1/4 " ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.50 LBS. PER SQ. YD.	E4	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
C2	PROP. APPROX. 2 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.50 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	E5	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
C3	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 1½" IN DEPTH.	E6	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
C4	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.	J1	PROP. 6" AGGREGATE BASE COURSE.
C5	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.	J2	PROP. 8" AGGREGATE BASE COURSE.
C6	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.	P	PRIME COAT AT A RATE OF .35 GAL. PER SQ. YD.
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.	R	1'-6" CONCRETE CURB AND GUTTER.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	U	EXISTING PAVEMENT.
D2	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 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.	T	EARTH MATERIAL.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	W	VARIABLE DEPTH ASPHALT PAVEMENT (See Detail Showing Method of Wedging)
E2	PROP. APPROX. 4 1/2" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.	Y	6" JOINTED CONCRETE REINFORCED W/ MESH SEE SHEET 2-0 FOR SPECIAL DETAIL
E3	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.		

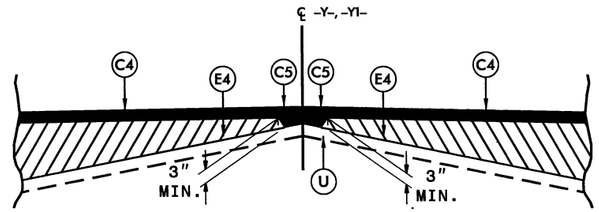
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

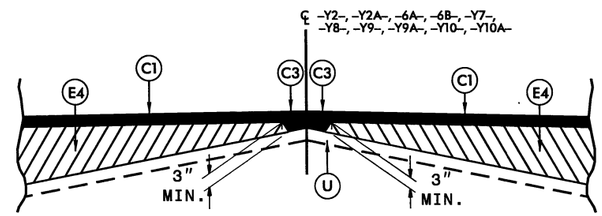
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



Detail Showing Method of Wedging



Detail Showing Method of Wedging



Detail Showing Method of Wedging

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PROJECT REFERENCE NO.	SHEET NO.
R-2303A	1-D
Location and Surveys	

SURVEY CONTROL SHEET R-2303A

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	R-2303A BL-1	469794.3380	2070531.3000	141.40	10+02.35	11.29 RT
2	R-2303A BL-2	469525.7370	2071761.2970	140.85	22+61.24	26.21 RT
3	R-2303A BL-3	469144.6710	2072904.0780	144.02	34+57.42	168.87 RT
4	R-2303A BL-4	468644.3360	2073512.7170	140.09	42+41.53	482.60 RT
5	R-2303A BL-5	468703.9030	2074134.0300	141.86	48+22.13	158.01 RT
6	R-2303A BL-6	468283.3430	2075158.1080	144.25	59+10.07	111.75 LT
7	R-2303A BL-7	467496.0410	2075917.8920	141.47	69+96.18	20.42 RT
8	R-2303A BL-8	467134.7380	2076401.1800	140.10	75+99.11	3.79 LT
9	R-2303A BL-9	466685.1410	2077008.4120	137.33	83+55.25	2.72 LT
10	R-2303A BL-10	466247.2270	2077621.8930	138.04	91+08.51	24.53 RT
11	R-2303A BL-11	465849.0180	2078267.5690	138.68	98+66.74	1.00 RT
12	R-2303A BL-12	465424.4290	2078914.6070	144.43	106+40.65	1.27 LT
13	R-2303A BL-13	464719.9070	2080078.0230	143.08	119+99.71	54.52 LT
104	R2303A-GPS4	464152.3680	2080938.0130	142.08	130+30.09	54.85 LT
14	R-2303A BL-14	463563.3300	2081827.5530	140.81	140+96.98	53.53 LT
15	R-2303A BL-15	462931.5170	2082785.9050	139.09	152+44.86	54.44 LT
16	R-2303A BL-16	462410.6120	2083613.0310	136.16	162+25.94	50.04 LT
17	R-2303A BL-17	461885.4540	2084595.3130	131.62	173+43.66	28.55 LT
18	R-2303A BL-18	461568.2370	2085429.9430	131.06	182+40.53	4.02 LT
19	R-2303A BL-19	461479.7670	2085902.4060	131.36	187+21.86	4.22 LT
20	R-2303A BL-20	461373.3090	2086880.3450	129.72	196+96.32	77.19 RT
21	R-2303A BL-21	461896.3430	2087586.8610	128.33	204+92.25	323.96 LT
22	R-2303A BL-22	461920.2590	2088640.6430	129.87	215+22.31	115.99 LT
23	R-2303A BL-23	462021.4270	2089420.8450	130.01	222+85.80	137.09 LT
24	R-2303A BL-24	462013.7690	2090033.6490	124.39	228+75.62	170.51 LT
25	R-2303A BL-25	461967.3300	2090577.3680	124.13	234+04.68	228.86 LT
26	R-2303A BL-26	461866.3780	2091190.8200	124.29	240+25.59	260.20 LT
27	R-2303A BL-27	461689.2880	2091914.9270	127.34	247+70.78	240.58 LT
28	R-2303A BL-28	461408.2030	2092680.9240	122.73	255+78.12	128.34 LT
29	R-2303A BL-29	461191.7090	2093360.7680	122.19	262+77.97	106.88 LT
30	R-2303A BL-30	460895.4050	2094057.5380	121.54	270+22.51	104.27 LT
31	R-2303A BL-31	460494.6420	2094712.9010	121.30	277+79.03	84.94 LT
32	R-2303A BL-32	460089.3470	2095329.3450	122.41	285+54.74	72.24 LT
33	R-2303A BL-33	459535.4830	2095972.4240	122.72	293+61.17	106.29 LT
34	R-2303A BL-34	459268.1290	2096436.1160	114.99	299+06.81	133.75 LT
35	R-2303A BL-35	458755.3170	2096962.3970	118.00	306+16.47	74.33 RT
36	R-2303A BL-36	458500.0030	2097743.6690	123.32	314+28.43	53.26 LT
37	R-2303A BL-37	457901.1100	2098821.2150	120.59	326+59.72	20.14 RT
38	R-2303A BL-38	457392.7270	2100166.6600	127.02	340+97.79	4.98 RT
39	R-2303A BL-39	456939.3800	2101048.7640	123.99	350+90.03	16.44 RT
40	R-2303A BL-40	456448.6830	2102009.6930	134.18	361+68.99	15.78 RT
41	R-2303A BL-41	456051.2730	2102797.5190	131.05	370+47.78	33.58 RT
42	R-2303A BL-42	455856.2440	2103316.8040	128.79	375+81.60	110.92 RT
43	R-2303A BL-43	455554.9790	2104122.4590	120.05	383+25.38	444.86 RT

BY

POINT	DESC.	NORTH	EAST	ELEVATION	Y STATION	OFFSET
94	R-2303A BY-94	469769.2700	2076417.4140	144.33	OUTSIDE PROJECT LIMITS	
93	R-2303A BY-93	469312.7010	2075969.9720	144.52	16+37.79	17.96 LT
92	R-2303A BY-92	468952.4090	2075477.6050	144.59	22+44.69	17.78 LT
45	R-2303A BY-45	468682.9340	2074815.6834	143.20	29+57.63	29.37 LT
46	R-2303A BY-46	468592.1030	2074406.2670	143.94	33+72.79	29.90 RT
47	R-2303A BY-47	468328.7282	2073761.0997	145.09	40+63.43	42.87 RT

BY1

POINT	DESC.	NORTH	EAST	ELEVATION	Y1 STATION	OFFSET
44	R-2303A BY1-44	468682.9340	2074815.6834	143.20	13+94.09	322.56 LT
48	R-2303A BY1-48	469147.2155	2074350.0286	140.53	18+96.15	0.61 LT

BY2

POINT	DESC.	NORTH	EAST	ELEVATION	Y2 STATION	OFFSET
49	R-2303A BY2-49	467133.3435	2077180.8711	137.89	OUTSIDE PROJECT LIMITS	
50	R-2303A BY2-50	466369.2935	2077450.8883	137.78	16+30.53	13.44 LT
51	R-2303A BY2-51	465914.0212	2077620.1200	139.62	21+16.18	20.94 LT

BY3

POINT	DESC.	NORTH	EAST	ELEVATION	Y3 STATION	OFFSET
52	R-2303A BY3-52	462226.3341	2083957.7132	135.06	OUTSIDE PROJECT LIMITS	
53	R-2303A BY3-53	461862.9165	2083723.9082	133.24	OUTSIDE PROJECT LIMITS	

BY4

POINT	DESC.	NORTH	EAST	ELEVATION	Y4 STATION	OFFSET
105	R2303A-GPS5	462307.2800	2085237.9980	126.92	12+22.30	29.47 RT
106	R2303A-GPS6	461736.7070	2085049.9440	131.38	18+23.06	33.10 RT
54	NOT SET	461715.3395	2085042.9015	UNKNOWN	18+45.55	33.24 RT

BY5

POINT	DESC.	NORTH	EAST	ELEVATION	Y5 STATION	OFFSET
56	R-2303A BY5-56	462032.1148	2085875.3621	127.29	11+86.48	15.42 RT
55	R-2303A BY5-55	461479.7670	2085902.4060	131.36	17+38.08	24.08 LT

BY6

POINT	DESC.	NORTH	EAST	ELEVATION	Y6 STATION	OFFSET
58	R-2303A BY6-58	462495.9577	2087436.8894	127.85	OUTSIDE PROJECT LIMITS	
59	R-2303A BY6-59	461896.3430	2087586.8610	128.33	10+24.32	15.10 LT
60	R-2303A BY6-60	461285.2785	2087751.2851	128.35	13+75.98(-Y6B-)	37.11 LT

BY7

POINT	DESC.	NORTH	EAST	ELEVATION	Y7 STATION	OFFSET
61	R-2303A BY7-61	462369.3333	2089563.4858	130.91	OUTSIDE PROJECT LIMITS	
62	R-2303A BY7-62	462018.9512	2089618.9515	127.83	12+45.59	13.43 LT
63	R-2303A BY7-63	461284.0365	2089554.4489	128.20	OUTSIDE PROJECT LIMITS	

BY8

POINT	DESC.	NORTH	EAST	ELEVATION	Y8 STATION	OFFSET
107	R2303A-GPS7	462195.6270	2091205.9090	124.00	OUTSIDE PROJECT LIMITS	
64	R-2303A BY8-64	461866.3780	2091190.8200	124.29	10+11.55	28.85 RT
108	R-2303A-GPS8	461063.1390	2091236.9390	125.27	OUTSIDE PROJECT LIMITS	

BY9

POINT	DESC.	NORTH	EAST	ELEVATION	Y9 STATION	OFFSET
65	R-2303A BY9-65	462190.2599	2092318.7770	123.05	OUTSIDE PROJECT LIMITS	
66	R-2303A BY9-66	461601.2005	2092154.9776	124.44	12+78.44	12.85 LT
67	R-2303A BY9-67	460928.6952	2091970.6392	123.61	OUTSIDE PROJECT LIMITS	

BY10

POINT	DESC.	NORTH	EAST	ELEVATION	Y10 STATION	OFFSET
68	R-2303A BY10-68	459301.7928	2097322.1235	121.07	OUTSIDE PROJECT LIMITS	
69	R-2303A BY10-69	458657.1434	2097262.8125	117.89	OUTSIDE PROJECT LIMITS	

BY11

POINT	DESC.	NORTH	EAST	ELEVATION	Y10A STATION	OFFSET
70	R-2303A BY11-70	458755.3170	2096962.3970	118.00	10+68.54	239.82 LT
71	R-2303A BY11-71	458718.4094	2096276.1280	119.51	15+97.03	18.50 RT
96	R-2303A BY11-96	458650.9340	2095611.8930	120.88	OUTSIDE PROJECT LIMITS	
97	R-2303A BY11-97	458621.3530	2095099.6750	121.55	OUTSIDE PROJECT LIMITS	

BY12

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
112	R-2303A-GPS12	456893.7370	2103214.5600	131.26	372+37.14	894.56 LT
72	R-2303A BY12-72	455856.2440	2103316.8040	128.79	375+81.60	110.92 RT

80 ELEVATION = 139.80
N 469908 E 2070597
L STATION 10+44 113 LEFT
R/R SPIKE IN BASE OF 16 INCH PINE

81 ELEVATION = 140.30
N 469136 E 2072969
L STATION 35+23 164 RIGHT
R/R SPIKE IN BASE OF 15 INCH PINE

82 ELEVATION = 147.78
N 468292 E 2074869
L STATION 56+80 64 RIGHT
R/R SPIKE IN BASE OF 12 INCH TWIN OAK

83 ELEVATION = 138.99
N 466453 E 2077439
L STATION 88+42 46 LEFT
R/R SPIKE IN BASE OF 12 INCH PINE

84 ELEVATION = 144.40
N 464705 E 2080150
L STATION 120+68 81 LEFT
R/R SPIKE IN BASE OF 36 INCH PECAN

85 ELEVATION = 135.47
N 462115 E 2083975
L STATION 166+85 36 RIGHT
R/R SPIKE IN BASE OF 24 INCH OAK

86 ELEVATION = 131.00
N 461410 E 2086812
L STATION 196+31 36 RIGHT
R/R SPIKE IN BASE OF 13 INCH PINE

87 ELEVATION = 129.48
N 462201 E 2089627
L STATION 224+78 320 LEFT
R/R SPIKE IN BASE OF 12 INCH PINE

88 ELEVATION = 124.64
N 461981 E 2091264
L STATION 240+73 388 LEFT
R/R SPIKE IN BASE OF 18 INCH PINE

89 ELEVATION = 123.53
N 460292 E 2094650
L STATION 278+40 118 RIGHT
R/R SPIKE IN BASE OF 15 INCH OAK

90 ELEVATION = 116.00
N 459037 E 2096673
L STATION 302+31 45 LEFT
R/R SPIKE IN BASE OF 18 INCH OAK

91 ELEVATION = 134.19
N 456624 E 2101698
L STATION 358+12 2 RIGHT
R/R SPIKE IN BASE OF 10 INCH PINE

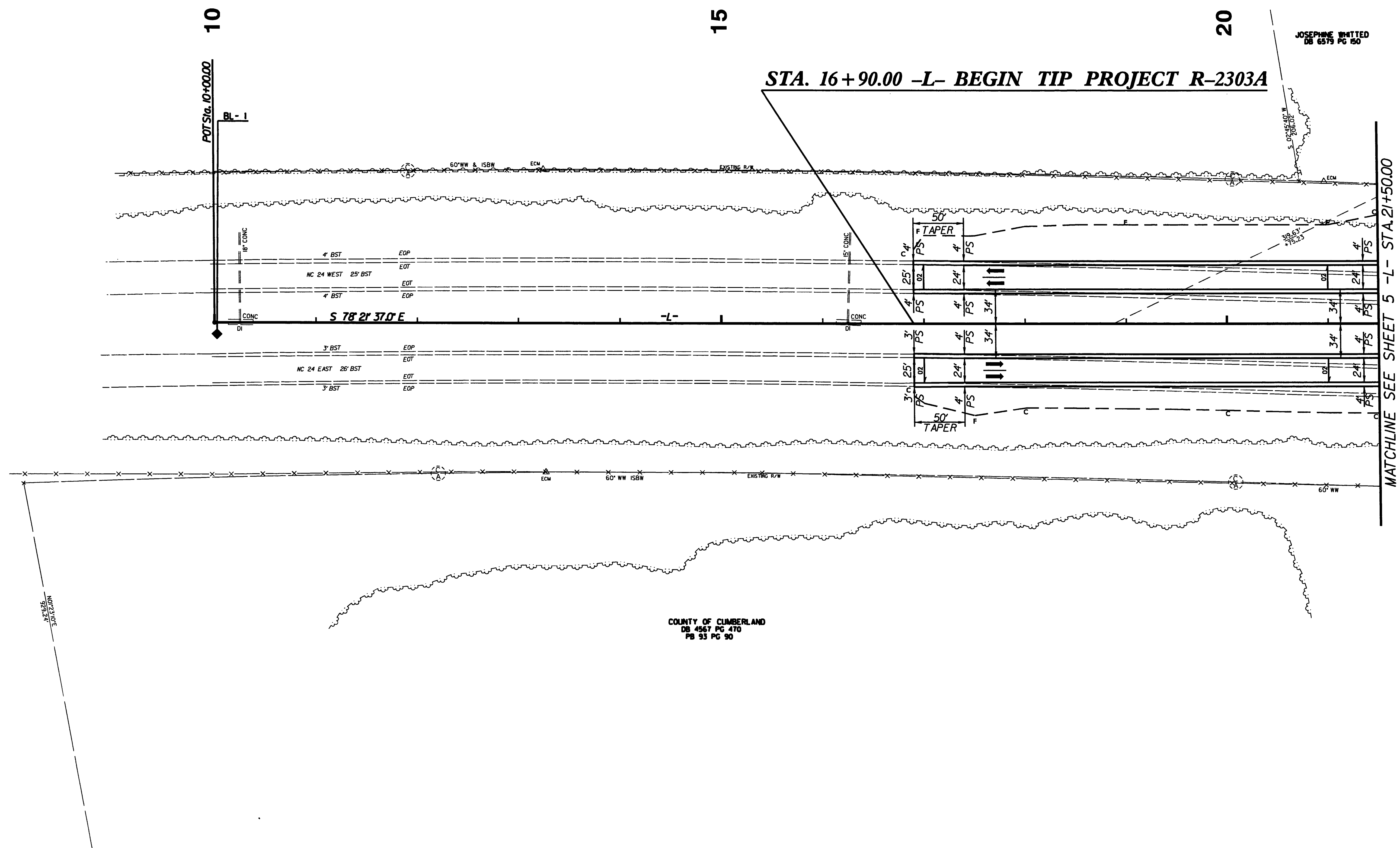
22-SEP-2011 5:29
r:\roadway\dgn\r2303a_ls_id_070827.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83/95

FOR -L- PROFILE SEE SHEET 34



REVISIONS

8/17/99

22-SEP-2011 15:30
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$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83/95

8/17/99

REVISIONS

-WBL-

PIs Sta 35+63.34	PI Sta 45+01.28	PIs Sta 54+12.42
Θs = 1° 25' 56.6"	Δ = 24° 34' 34.5" (RT)	Θs = 1° 25' 56.6"
Ls = 200.00'	D = 1° 25' 56.6"	Ls = 200.00'
LT = 133.34'	L = 1,715.75'	LT = 133.34'
ST = 66.67'	T = 871.27'	ST = 66.67'
	R = 4,000.00'	
	SE = .04	

-L-

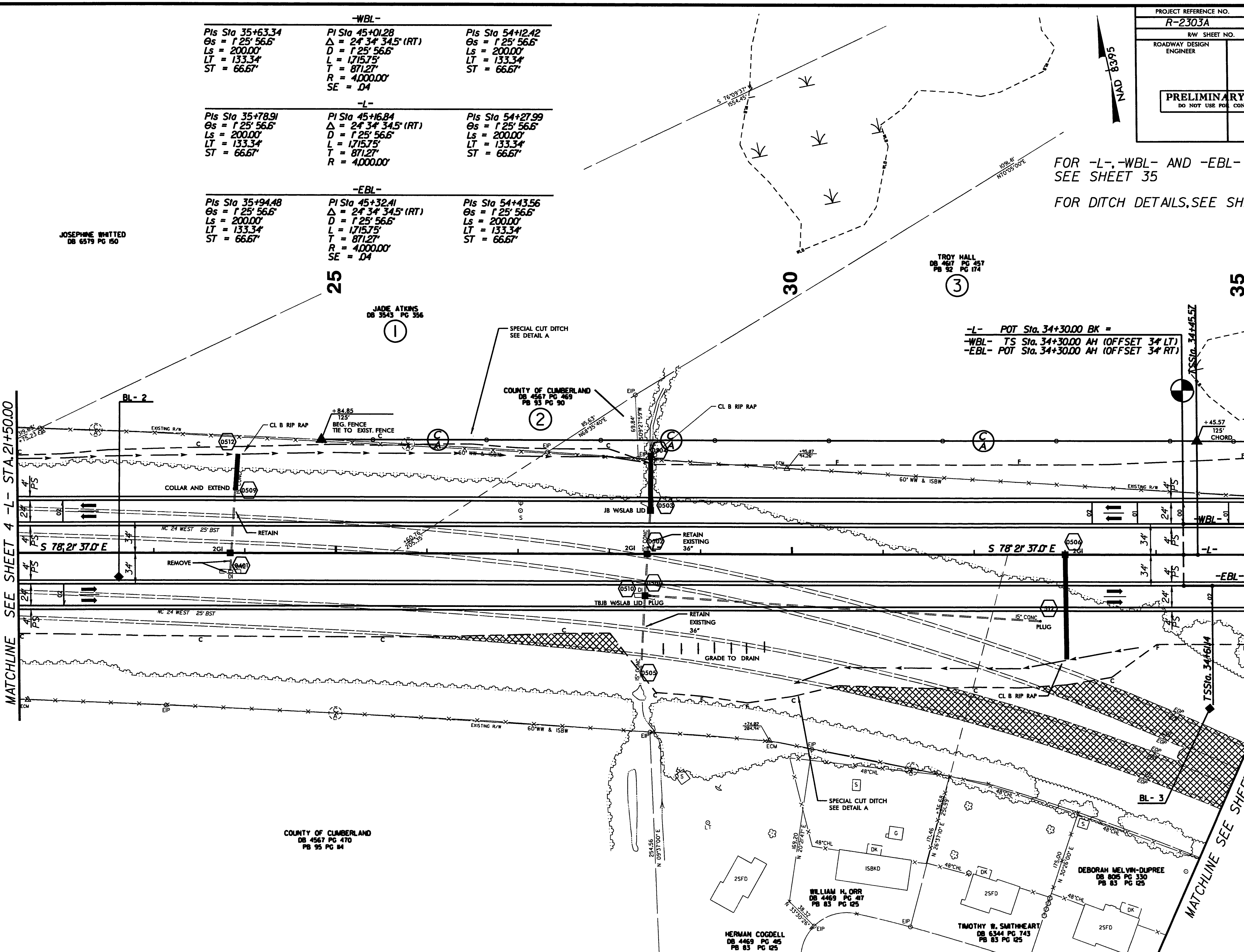
PIs Sta 35+78.91	PI Sta 45+16.84	PIs Sta 54+27.99
Θs = 1° 25' 56.6"	Δ = 24° 34' 34.5" (RT)	Θs = 1° 25' 56.6"
Ls = 200.00'	D = 1° 25' 56.6"	Ls = 200.00'
LT = 133.34'	L = 1,715.75'	LT = 133.34'
ST = 66.67'	T = 871.27'	ST = 66.67'
	R = 4,000.00'	

-EBL-

PIs Sta 35+94.48	PI Sta 45+32.41	PIs Sta 54+43.56
Θs = 1° 25' 56.6"	Δ = 24° 34' 34.5" (RT)	Θs = 1° 25' 56.6"
Ls = 200.00'	D = 1° 25' 56.6"	Ls = 200.00'
LT = 133.34'	L = 1,715.75'	LT = 133.34'
ST = 66.67'	T = 871.27'	ST = 66.67'
	R = 4,000.00'	
	SE = .04	

FOR -L-, -WBL- AND -EBL- PROFILES, SEE SHEET 35

FOR DITCH DETAILS, SEE SHEET 2-U


JOSEPHINE WHITTED
DB 6579 PG 150
JADIE ATKINS
DB 3543 PG 356
TROY HALL
DB 4617 PG 457
PB 92 PG 174
COUNTY OF CUMBERLAND
DB 4567 PG 469
PB 93 PG 90
COUNTY OF CUMBERLAND
DB 4567 PG 470
PB 95 PG 114
WILLIAM H. ORR
DB 4469 PG 417
PB 83 PG 125
TIMOTHY W. SMITHHEART
DB 6344 PG 743
PB 83 PG 125
HERMAN COGDELL
DB 4469 PG 415
PB 83 PG 125
DEBORAH MELVIN-DUPREE
DB 8015 PG 330
PB 83 PG 125
25
30
35
MATCHLINE SEE SHEET 4 -L- STA. 21+50.00
MATCHLINE SEE SHEET 6 -L- STA. 35+00.00
MATCHLINE SEE SHEET 6
-L- POT Sta. 34+30.00 BK =
-WBL- TS Sta. 34+30.00 AH (OFFSET 34' LT)
-EBL- POT Sta. 34+30.00 AH (OFFSET 34' RT)
TSSta. 34+45.57
TSSta. 34+61.14
S 78° 21' 37.0" E
SPECIAL CUT DITCH SEE DETAIL A
CL B RIP RAP
BEG. FENCE TIE TO EXIST. FENCE
COLLAR AND EXTEND
RETAIN
REMOVE
JB W/SLAB LID
TBJB W/SLAB LID
PLUG
RETAIN EXISTING 36"
GRADE TO DRAIN
NC 24 WEST 25' BST
EXISTING R/W
60' WW & ISBW
BL-2
BL-3
-WBL-
-L-
-EBL-
+45.57 125' CHORD
+84.85 125'
2GI
ISBKD
2SFD

22-SEP-2011 15:30
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8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-WBL-

PIs Sta 35+63.34	PI Sta 45+01.28	PIs Sta 54+12.42
Θs = 1° 25' 56.6"	Δ = 24° 34' 34.5" (RT)	Θs = 1° 25' 56.6"
Ls = 200.00'	D = 1° 25' 56.6"	Ls = 200.00'
LT = 133.34'	L = 1715.75'	LT = 133.34'
ST = 66.67'	T = 871.27'	ST = 66.67'
	R = 4,000.00'	
	SE = .04	

-L-

PIs Sta 35+78.91	PI Sta 45+16.84	PIs Sta 54+27.99
Θs = 1° 25' 56.6"	Δ = 24° 34' 34.5" (RT)	Θs = 1° 25' 56.6"
Ls = 200.00'	D = 1° 25' 56.6"	Ls = 200.00'
LT = 133.34'	L = 1715.75'	LT = 133.34'
ST = 66.67'	T = 871.27'	ST = 66.67'
	R = 4,000.00'	

-EBL-

PIs Sta 35+94.48	PI Sta 45+32.41	PIs Sta 54+43.56
Θs = 1° 25' 56.6"	Δ = 24° 34' 34.5" (RT)	Θs = 1° 25' 56.6"
Ls = 200.00'	D = 1° 25' 56.6"	Ls = 200.00'
LT = 133.34'	L = 1,715.75'	LT = 133.34'
ST = 66.67'	T = 871.27'	ST = 66.67'
	R = 4,000.00'	
	SE = .04	

-Y1-

PI Sta 17+61.47
Δ = 46° 20' 06.0" (RT)
D = 7° 50' 55.5"
L = 590.35'
T = 312.39'
R = 730.00'
SE = SEE PLANS

NAD 83/95

35 40 45

SCSta. 36+30.00 SCSta. 36+35.57

+45.57 125'

CHORD

CL B RIP RAP

CAT-1

-WBL-

-L-

-EBL-

-Y1-

4' PS 24' 4' PS

01 02 03 04

EOM

EXISTING R/W

GRAU-350

150' TAPER

200' TAPER

100' TAPER

50' INC.

R 42' -WBL- +76.24

-EBL- +42.86

-EBL- +00.57

SCSta. 36+61.14

MATCHLINE SEE SHEET 5 -L- STA. 35+00.00

MATCHLINE SEE SHEET 7 -L- STA. 48+50.00

MATCHLINE SEE SHEET 33

MATCHLINE SEE SHEET 33

MATCHLINE SEE SHEET 33

-Y1- STA. 18+30.00

POT Sta. 21+22.13 END CONSTR.

PT Sta. 20+39.43 N 42° 30' 05.6" W BRG. HWY

TROY HALL
DB 4617 PG 457
PB 92 PG 174
③

TROY HALL
DB 4617 PG 457
PB 92 PG 143
④

PEOPLES BAPTIST
DB 8003 PG 886
PB 87 PG 27 EST
⑤

PEOPLES BAPTIST
DB 8003 PG 886
PB 87 PG 27

BOBBY A. HARGROVE
DB 5047 PG 842
PB 87 PG 27
⑥

OSCAR WRIGHT
DB 4686 PG 610
PB 94 PG 85

WILLIAM A. JONES, JR.
DB 4643 PG 885
PB 73 PG 39
⑦

ROBERT MALLOY
DB 7106 PG 367
PB 110 PG 24
⑧

LEON TURNER
DB 5569 PG 863
PB 87 PG 27

JADE ATKINS
DB 4652 PG 134
PB 87 PG 27

LENNON FAMILY LIMITED
DB 5085 PG 561
PB 78 PG 65
⑨

CHARLES WILLIAMS
DB 4684 PG 276
PB 83 PG 125

ROBERT D. SPARKS
DB 7633 PG 787
PB 83 PG 125

ISAIAH MCNEILL
DB 4507 PG 782
PB 83 PG 125

BEG. FENCE TIE TO EXIST. FENCE AND EXIST. C/A

END FENCE TIE TO EXIST. FENCE

EXIST. R/W 125'

EXISTING R/W PER PROJECT # 8.1350007

BL- 5

PEUE

REMOVE

ISFD

25FD

HTR

SOIL

DK

EIP

ECM

PAINT STRIPING

FOR -EBL- AND -WBL- PROFILES, SEE SHEET 36
FOR -Y1- PROFILE SEE SHEET 50
FOR INTERSECTION DETAIL SEE SHEET 2-K

22-SEP-2011 15:30
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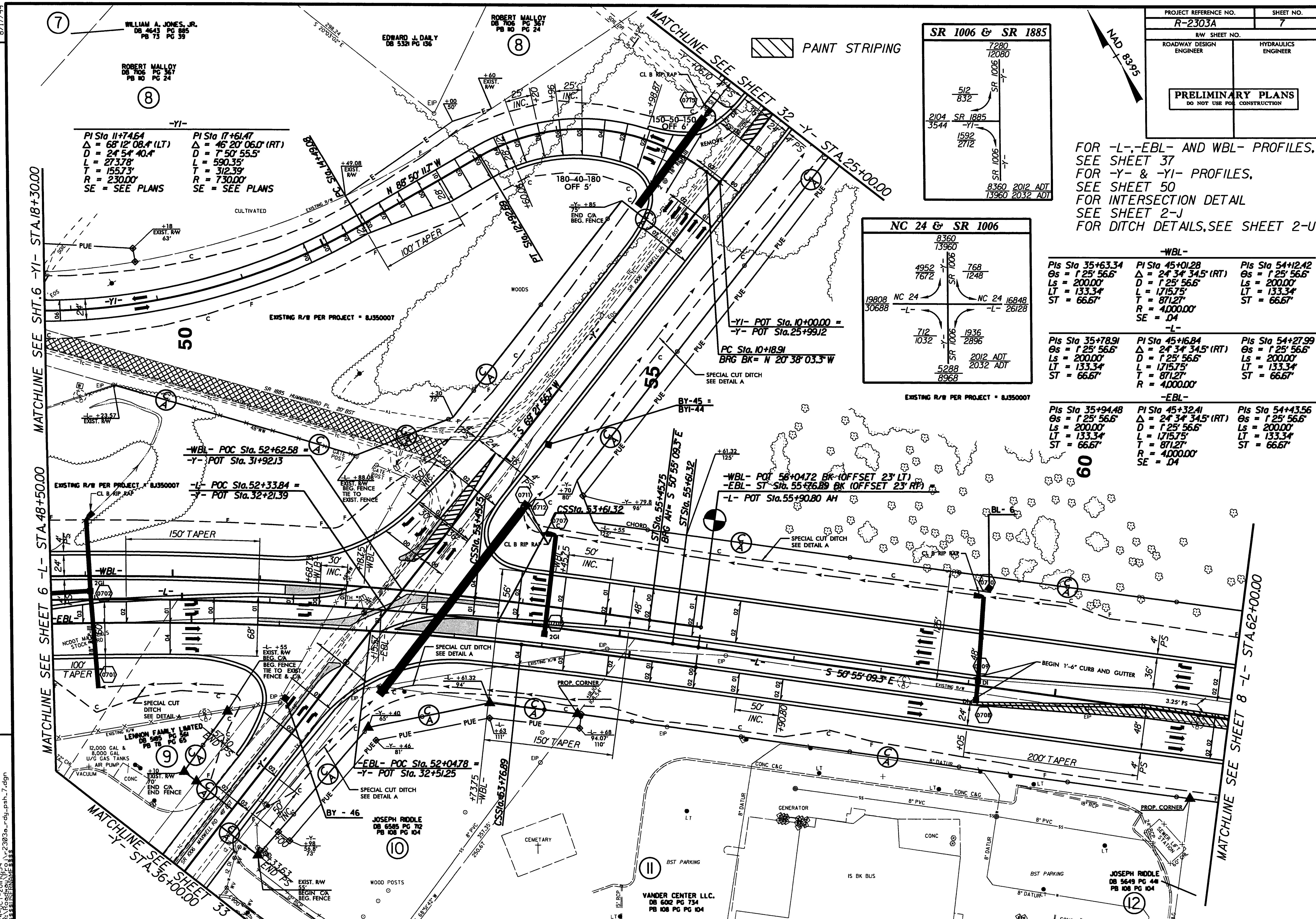
$$$$USER:[jmcfee]



MATCHLINE SEE SHEET 32 -Y- STA.25+00.00
MATCHLINE SEE SHT.6 -Y1- STA.18+30.00
MATCHLINE SEE SHEET 6 -L- STA.48+50.00
MATCHLINE SEE SHEET 8 -L- STA.62+00.00
MATCHLINE SEE SHEET 33 -Y- STA.36+00.00
PAINT STRIPING
NAD 83/95
WILLIAM A. JONES, JR. DB 4643 PG 885 PB 73 PG 39
ROBERT MALLOY DB 7106 PG 367 PB 110 PG 24
EDWARD J. DAILY DB 5321 PG 136
LENNON FAMILY LIMITED DB 585 PG 561 PB 78 PG 65
JOSEPH RIDDLE DB 6585 PG 712 PB 108 PG 104
VANDER CENTER LLC. DB 6012 PG 734 PB 108 PG 104
JOSEPH RIDDLE DB 5649 PG 441 PB 108 PG 104
EXISTING R/W PER PROJECT 8J350007
-Y1- POT Sta. 10+00.00 = -Y- POT Sta.25+99.12
PC Sta. 10+18.91 BRG BK= N 20°38' 03.3" W
-WBL- POC Sta. 52+62.58 = -Y- POT Sta. 31+92.13
-L- POC Sta.52+33.84 = -Y- POT Sta.32+21.39
-EBL- POC Sta. 52+04.78 = -Y- POT Sta. 32+51.25
-WBL- POT 56+04.72 BK (OFFSET 23' LT)
-EBL- ST Sta. 55+76.89 BK (OFFSET 23' RT) =
-L- POT Sta.55+90.80 AH
CSSta. 53+61.32
S 50°55'09.3" E
N 88°50'11.7" W
S 63°21'56.7" W
SPECIAL CUT DITCH SEE DETAIL A
BEGIN 1'-6" CURB AND GUTTER
CEMETARY
CULTIVATED
WOODS

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	7

R/W SHEET NO.

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L-,-EBL- AND WBL- PROFILES, SEE SHEET 37
FOR -Y- & -Y1- PROFILES, SEE SHEET 50
FOR INTERSECTION DETAIL SEE SHEET 2-J
FOR DITCH DETAILS, SEE SHEET 2-U

SR 1006 & SR 1885

7280/12080; 512/832; 2104/3544 SR 1885 -Y1-; 1592/2712; SR 1006 -Y-; 8360/13960 2012 ADT/2032 ADT

NC 24 & SR 1006

8360/13960; 4952/7672; 768/1248; 19808/30688 NC 24 -L-; NC 24 -L- 16848/26128; 712/1032; 1936/2896; 5288/8968 2012 ADT/2032 ADT

-Y1-

PI Sta 11+74.64	PI Sta 17+61.47
Δ = 68° 12' 08.4" (LT)	Δ = 46° 20' 06.0" (RT)
D = 24° 54' 40.4"	D = 7° 50' 55.5"
L = 273.78'	L = 590.35'
T = 155.73'	T = 312.39'
R = 230.00'	R = 730.00'
SE = SEE PLANS	SE = SEE PLANS

-WBL-

PIs Sta 35+63.34	PI Sta 45+01.28	PIs Sta 54+12.42
θs = 1° 25' 56.6"	Δ = 24° 34' 34.5" (RT)	θs = 1° 25' 56.6"
Ls = 200.00'	D = 1° 25' 56.6"	Ls = 200.00'
LT = 133.34'	L = 1,715.75'	LT = 133.34'
ST = 66.67'	T = 871.27'	ST = 66.67'
	R = 4,000.00'	
	SE = .04	

-L-

PIs Sta 35+78.91	PI Sta 45+16.84	PIs Sta 54+27.99
θs = 1° 25' 56.6"	Δ = 24° 34' 34.5" (RT)	θs = 1° 25' 56.6"
Ls = 200.00'	D = 1° 25' 56.6"	Ls = 200.00'
LT = 133.34'	L = 1,715.75'	LT = 133.34'
ST = 66.67'	T = 871.27'	ST = 66.67'
	R = 4,000.00'	

-EBL-

PIs Sta 35+94.48	PI Sta 45+32.41	PIs Sta 54+43.56
θs = 1° 25' 56.6"	Δ = 24° 34' 34.5" (RT)	θs = 1° 25' 56.6"
Ls = 200.00'	D = 1° 25' 56.6"	Ls = 200.00'
LT = 133.34'	L = 1,715.75'	LT = 133.34'
ST = 66.67'	T = 871.27'	ST = 66.67'
	R = 4,000.00'	
	SE = .04	

EXISTING R/W PER PROJECT = 8J350007

REVISIONS

OCTOBER 24,2011 - R/W REVISION - ADDED PUE TO EXISTING NCDOT R/W PER PROJECT 8J350007

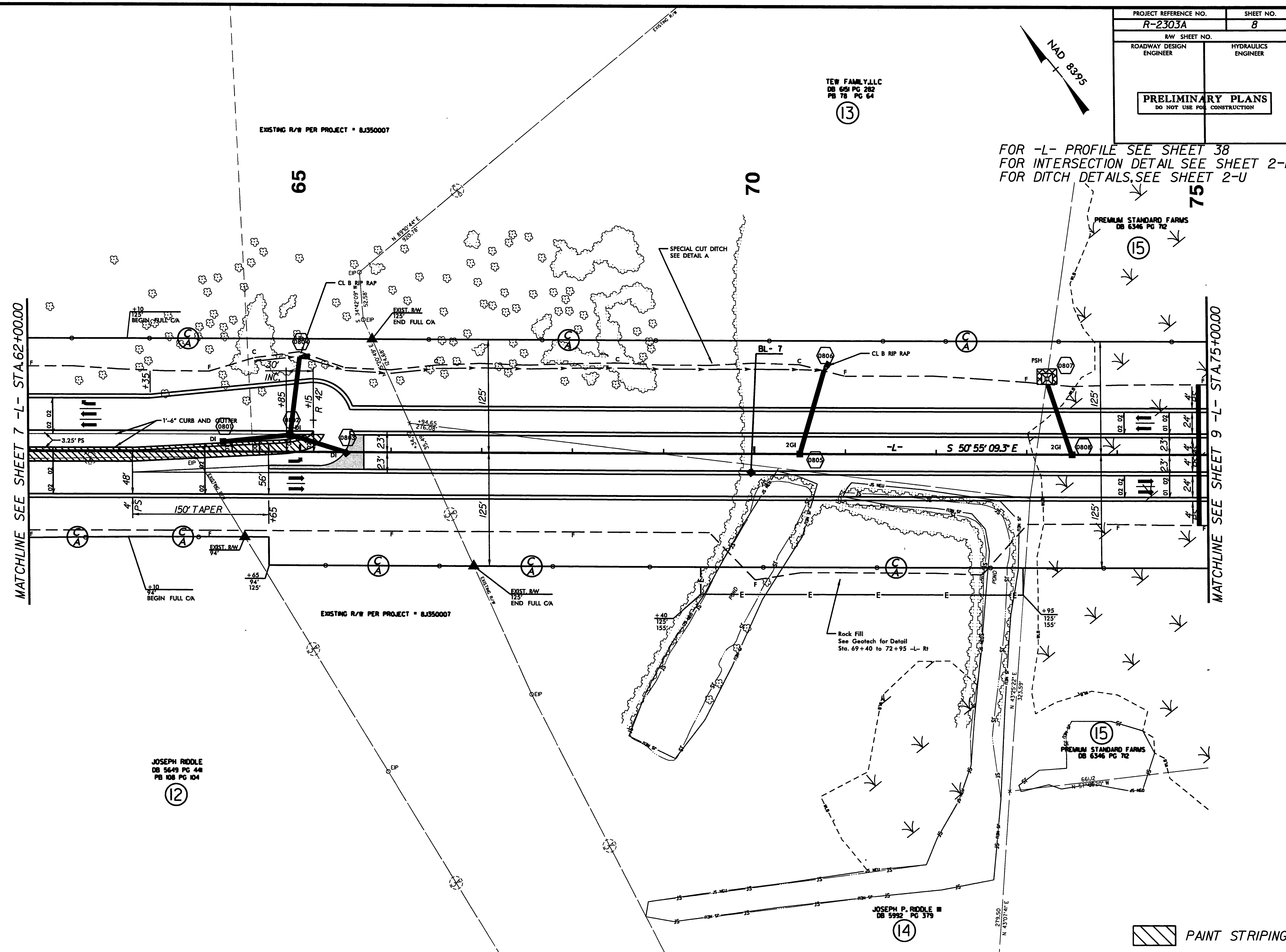
8/17/99

24-OCT-2011 10:34

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L- PROFILE SEE SHEET 38
FOR INTERSECTION DETAIL SEE SHEET 2-K
FOR DITCH DETAILS SEE SHEET 2-U



NAD 83/95
TEW FAMILY,LLC
DB 6151 PG 282
PB 78 PG 64
13
EXISTING R/W PER PROJECT # 8J350007
65
70
75
PREMIUM STANDARD FARMS
DB 6346 PG 712
15
SPECIAL CUT DITCH
SEE DETAIL A
CL B RIP RAP
EXIST. R/W
125'
END FULL C/A
+10
125'
BEGIN FULL C/A
BL- 7
PSH
1'-6" CURB AND GUTTER
3.25' PS
30'
INC.
R 42'
+85
+15
+94.65
276.08'
-L-
S 50°55'09.3" E
2GI
150' TAPER
+65
94'
125'
+10
94'
BEGIN FULL C/A
MATCHLINE SEE SHEET 7 -L- STA.62+00.00
MATCHLINE SEE SHEET 9 -L- STA.75+00.00
EXISTING R/W PER PROJECT # 8J350007
+40
125'
155'
POND
Rock Fill
See Geotech for Detail
Sta. 69+40 to 72+95 -L- Rt
+95
125'
155'
N 43°25'22" E
323.59'
JOSEPH RIDDLE
DB 5649 PG 441
PB 108 PG 104
12
JOSEPH P. RIDDLE III
DB 5992 PG 379
14
N 43°07'41" E
279.50
PAINT STRIPING

REVISIONS

8/17/99

22-SEP-2011 15:31
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$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS

FOR -L- PROFILE SEE SHEET 38
FOR INTERSECTION DETAIL SEE SHEET 2-K

BY2 - 49

POT Sta. 10+00.00

NAD 83'95

SR 1842 SHELTON BEARD RD 22' BST

PREMIUM STANDARD FARMS
DB 6346 PG 712
15

DONALD CULBRETH
DB 2720 PG 309
PB 49 PG 72
16

-L-
PI Sta 80+01.85
Δ = 5° 38' 23.0" (LT)
D = 0° 42' 58.3"
L = 787.45'
T = 394.05'
R = 8,000.00'
SE = .03 (SEE PLANS)

PC Sta. 76+07.81
BRG BK = S 50° 55' 09.5" E

PT Sta. 83+95.26

-Y2- STA.12+80.00
BEGIN CONSTR.

-Y2- STA.13+60.00
END CONSTR.

-Y2- +80
EXIST. R/W
PL
70'

-Y2- +55
EXIST. R/W
70'

EXIST. R/W
125'

+85
125'
BEGIN FULL C/A

+55
125'
END FULL C/A

+95.26
125'

+07.81
125'

CL B RIP RAP

150' TAPER

FENCE AROUND ANCHOR (TYP)

50' INC.

125'

36" RCP-IV

2GI

2GI-A

-L-

S 56° 33' 32" E

BL- 8

BL- 9

BY2- 50

R 42'

CELLULAR TELEPHONE TOWER

10' CHL & 358'W

-L- POT Sta. 88+53.85 =
-Y2- POT Sta. 15+84.67

MATCHLINE SEE SHEET 8 -L- STA. 75+00.00

MATCHLINE SEE SHEET 10 -L- STA. 89+00.00

66.12
N 57° 44' 20" W

300.00
N 45° 12' 40" E

100.00
S 59° 22' 15" E

725.11
N 42° 37' 45" E

149.95
N 42° 37' 45" E

151.84
S 42° 37' 45" W

439.18
N 43° 20' 47" W

54.32
N 43° 20' 48" W

PREMIUM STANDARD FARMS
DB 6346 PG 712
15

DEARL L. BUNCE
DB 5218 PG 705

DONALD CULBRETH
DB 2720 PG 309
PB 49 PG 72
16

22-SEP-2011 15:31
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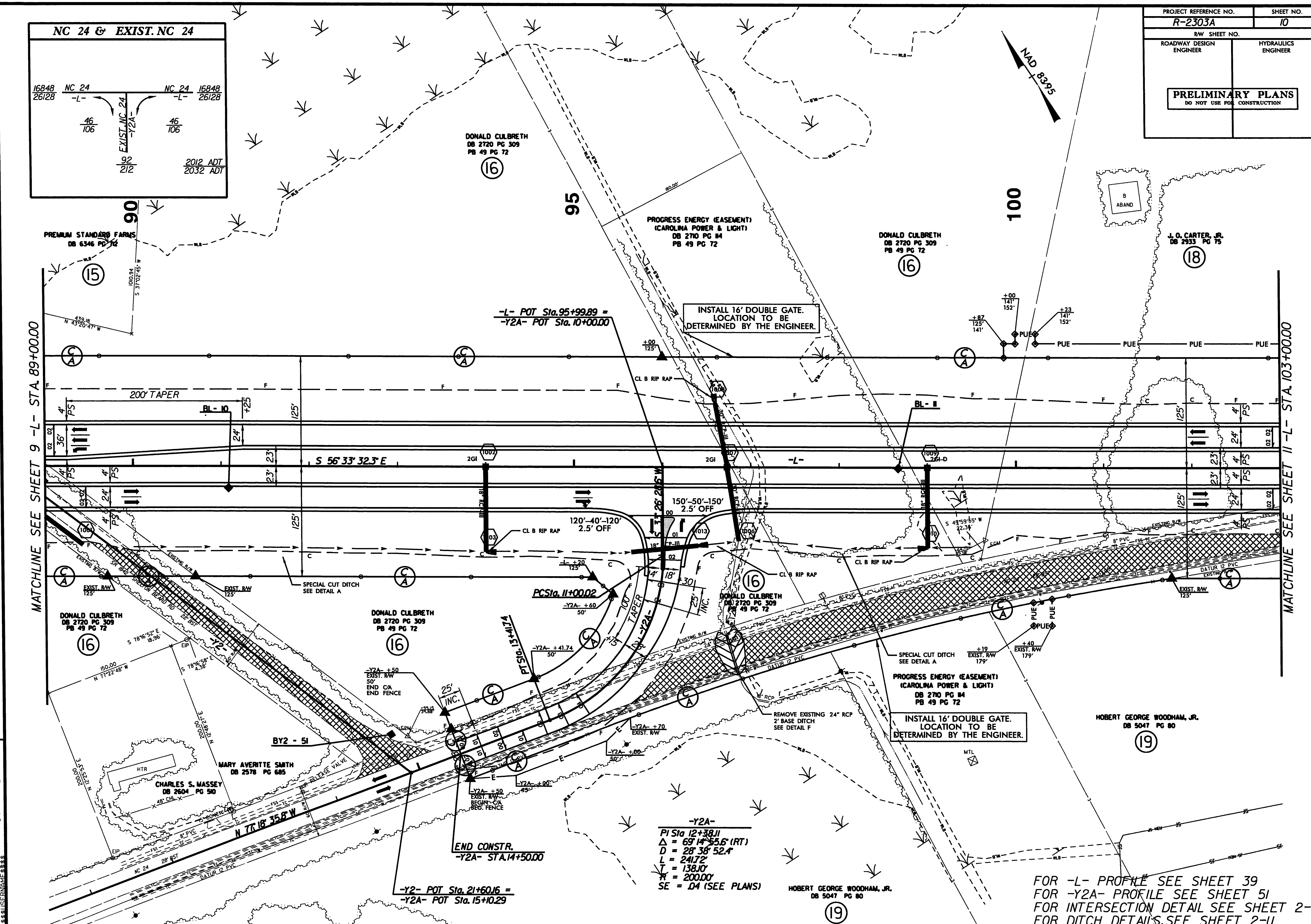
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



NC 24 & EXIST. NC 24
16848 / 26128 NC 24 -L-
NC 24 -L- 16848 / 26128
EXIST. NC 24 -Y2A-
46 / 106
46 / 106
92 / 212
2012 ADT / 2032 ADT
NAD 83/95
DONALD CULBRETH DB 2720 PG 309 PB 49 PG 72
PREMIUM STANDARD FARMS DB 6346 PG 712
PROGRESS ENERGY (EASEMENT) (CAROLINA POWER & LIGHT) DB 2710 PG 114 PB 49 PG 72
J. O. CARTER, JR. DB 2933 PG 75
-L- POT Sta. 95+99.89 = -Y2A- POT Sta. 10+00.00
INSTALL 16' DOUBLE GATE. LOCATION TO BE DETERMINED BY THE ENGINEER.
200' TAPER
BL-10
BL-11
S 56° 33' 32.3" E
-L-
120'-40'-120' 2.5' OFF
150'-50'-150' 2.5' OFF
CL B RIP RAP
SPECIAL CUT DITCH SEE DETAIL A
PC Sta. 11+00.02
PT Sta. 13+41.74
MATCHLINE SEE SHEET 9 -L- STA. 89+00.00
MATCHLINE SEE SHEET 11 -L- STA. 103+00.00
MARY AVERITTE SMITH DB 2578 PG 685
CHARLES S. MASSEY DB 2604 PG 510
BY2 - 51
N 77° 18' 35.8" W
END CONSTR. -Y2A- STA. 14+50.00
-Y2- POT Sta. 21+60.16 = -Y2A- POT Sta. 15+10.29
REMOVE EXISTING 24" RCP 2' BASE DITCH SEE DETAIL F
HOBERT GEORGE WOODHAM, JR. DB 5047 PG 80
-Y2A-
PI Sta 12+38.11
Δ = 69° 14' 55.6" (RT)
D = 28° 38' 52.4"
L = 241.72'
T = 138.10'
R = 200.00'
SE = .04 (SEE PLANS)

FOR -L- PROFILE SEE SHEET 39
FOR -Y2A- PROFILE SEE SHEET 51
FOR INTERSECTION DETAIL SEE SHEET 2-J
FOR DITCH DETAILS, SEE SHEET 2-U

REVISIONS

8/17/99

22-SEP-2011 15:31
r2303a_rdy_psh_10.dgn

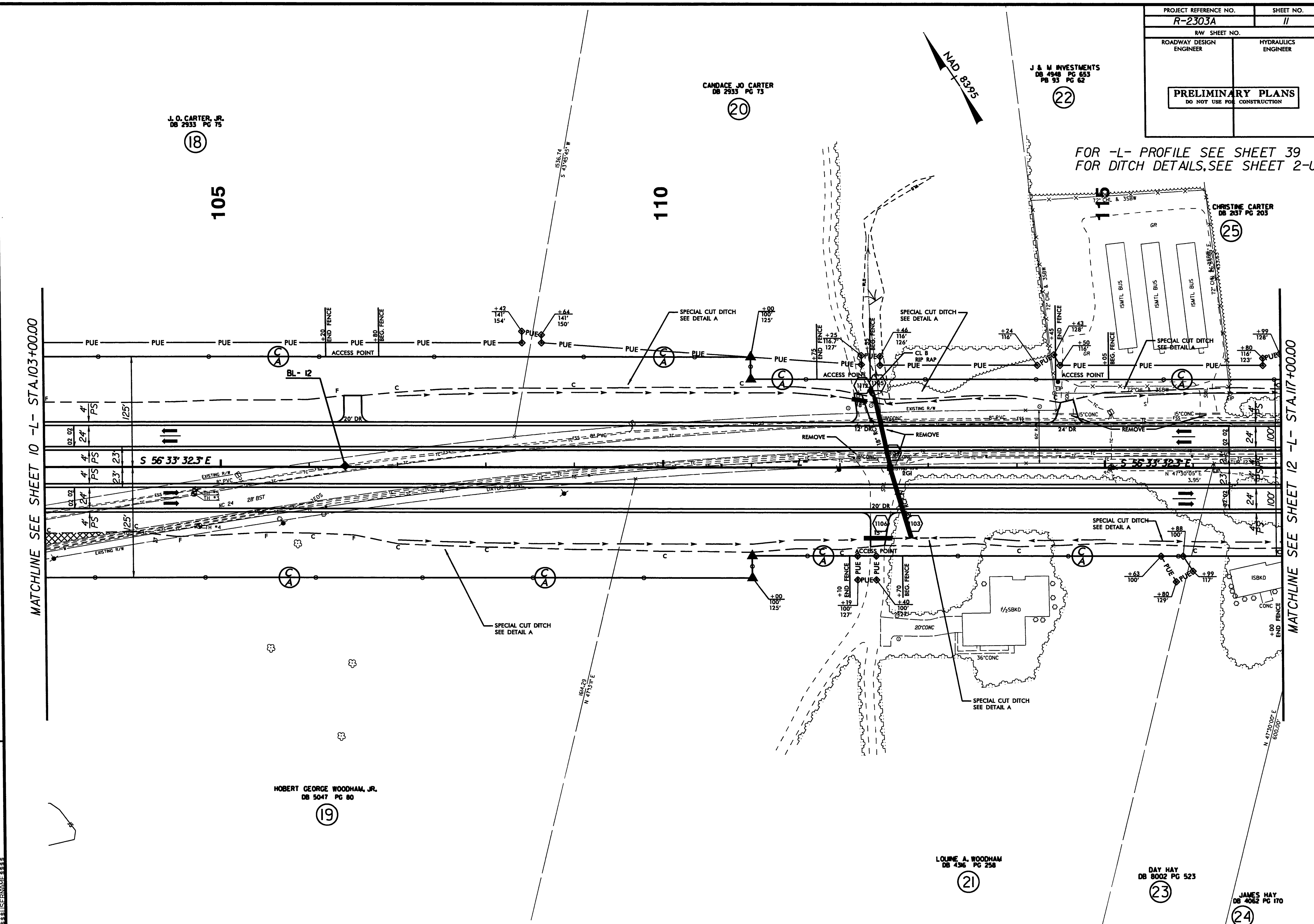
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

RIGHT OF WAY REVISION - APRIL 8, 2011 - ADDED A CONTROL OF ACCESS BREAK AND DRIVEWAY TO PARCEL NO.18.

8/17/99



FOR -L- PROFILE SEE SHEET 39
FOR DITCH DETAILS,SEE SHEET 2-U
NAD 83/95
J. O. CARTER, JR.
DB 2933 PG 75
18
CANDACE JO CARTER
DB 2933 PG 73
20
J & M INVESTMENTS
DB 4948 PG 653
PB 93 PG 62
22
CHRISTINE CARTER
DB 2137 PG 203
25
HOBERT GEORGE WOODHAM, JR.
DB 5047 PG 80
19
LOUINE A. WOODHAM
DB 4316 PG 258
21
DAY HAY
DB 8002 PG 523
23
JAMES HAY
DB 4062 PG 170
24
105
110
115
MATCHLINE SEE SHEET 10 -L- STA.103+00.00
MATCHLINE SEE SHEET 12 -L- STA.117+00.00
S 56° 33' 32.3" E
BL- 12
SPECIAL CUT DITCH
SEE DETAIL A
ACCESS POINT
PUE
REMOVE
CL B
RIP RAP
EXISTING R/W
END FENCE
BEG. FENCE
ISMTL BUS
ISBKD
1½SBKD
20'CONC
36'CONC
20' DR
24' DR
12' DR
28' BST
NC 24
1536.74
S 43°45'45" W
1614.29
N 47°13'11" E
N 47°30'00" E
600.00'
N 47°30'05" E
3.95'

22-SEP-2011 15:31
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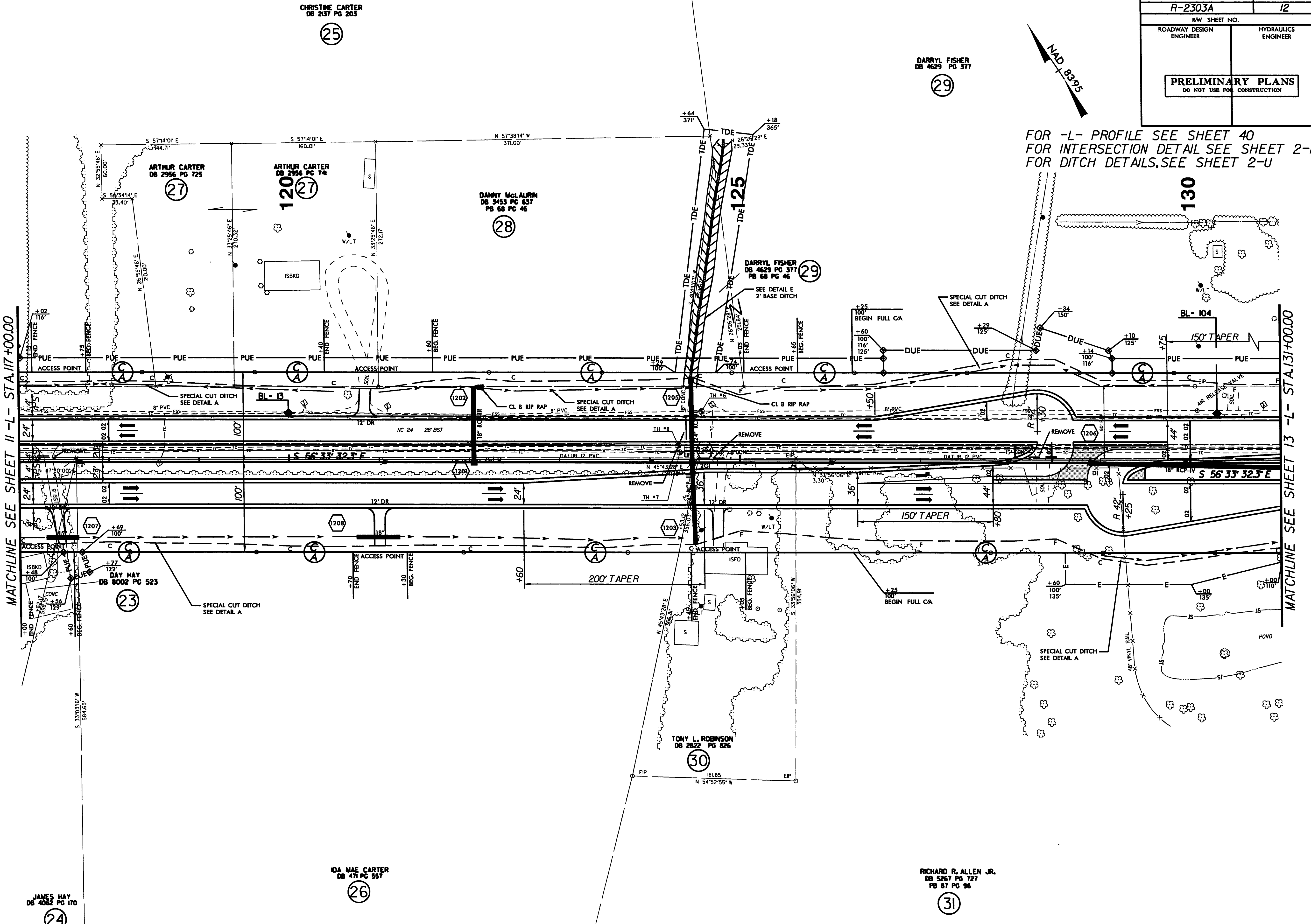
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L- PROFILE SEE SHEET 40
FOR INTERSECTION DETAIL SEE SHEET 2-K
FOR DITCH DETAILS,SEE SHEET 2-U



NAD 83/95
CHRISTINE CARTER
DB 2137 PG 203
25
ARTHUR CARTER
DB 2956 PG 725
27
ARTHUR CARTER
DB 2956 PG 741
27
DANNY McLAURIN
DB 3453 PG 637
PB 68 PG 46
28
DARRYL FISHER
DB 4629 PG 377
29
DARRYL FISHER
DB 4629 PG 377
PB 68 PG 46
29
DAY HAY
DB 8002 PG 523
23
TONY L. ROBINSON
DB 2822 PG 826
30
IDA MAE CARTER
DB 471 PG 557
26
JAMES HAY
DB 4062 PG 170
24
RICHARD R. ALLEN JR.
DB 5267 PG 727
PB 87 PG 96
31
MATCHLINE SEE SHEET 11 -L- STA.117+00.00
MATCHLINE SEE SHEET 13 -L- STA.131+00.00
120
125
130
S 56°33' 32.3" E
SPECIAL CUT DITCH
SEE DETAIL A
SEE DETAIL E
2' BASE DITCH
CL B RIP RAP
200' TAPER
150' TAPER
BEGIN FULL C/A
ACCESS POINT
REMOVE
POND

REVISIONS
02/07/12 R/W REVISION (KEM) - ADDED AN ACCESS BREAK AT / NEAR CENTER OF PROPERTY ON PARCEL 026.

8/17/99
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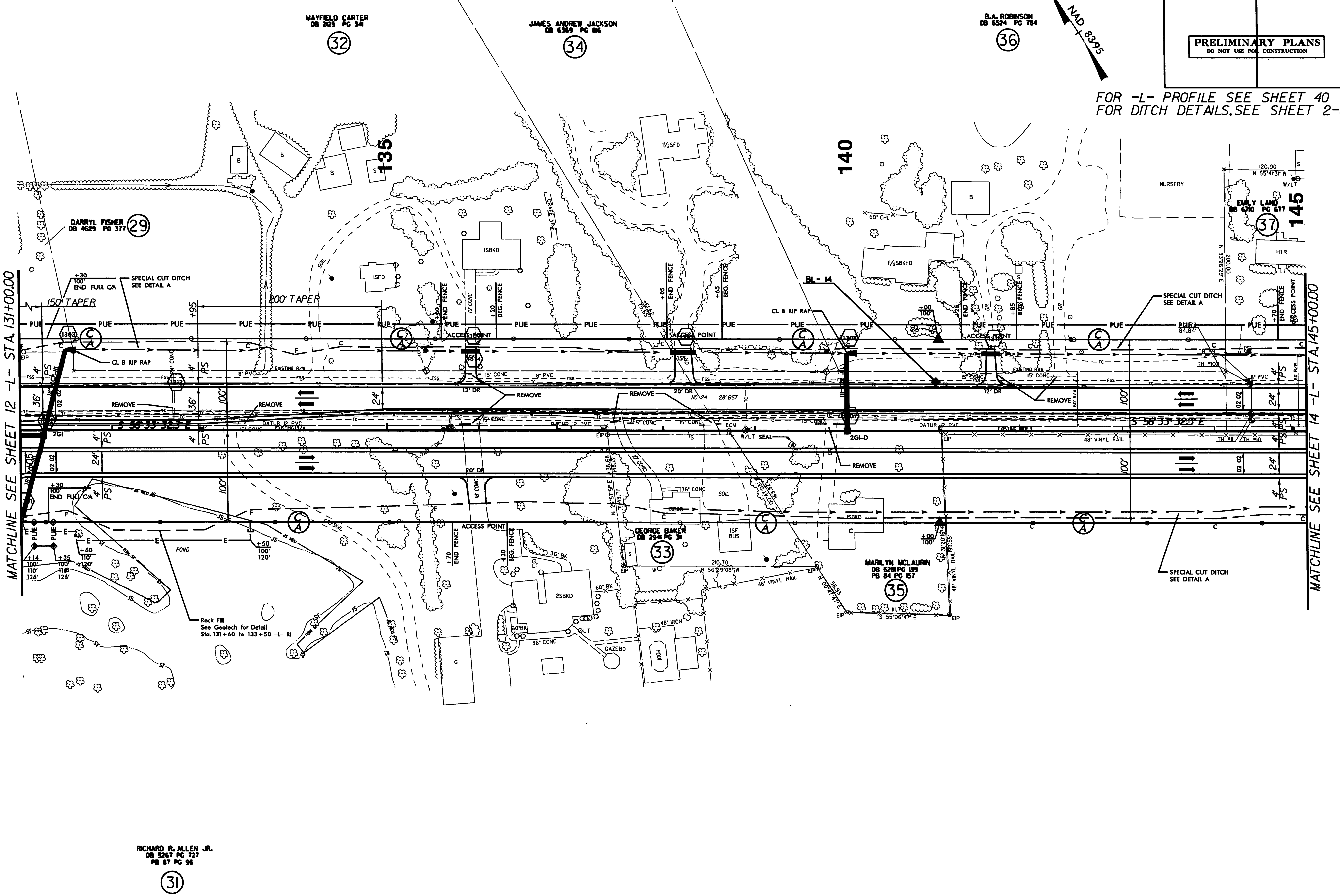
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L- PROFILE SEE SHEET 40
FOR DITCH DETAILS, SEE SHEET 2-U



MAYFIELD CARTER
DB 2125 PG 341
32
JAMES ANDREW JACKSON
DB 6369 PG 816
34
B.A. ROBINSON
DB 6524 PG 784
36
NAD 83/95
DARRYL FISHER
DB 4629 PG 377
29
EMILY LAND
DB 6710 PG 677
37
135
140
145
NURSERY
MATCHLINE SEE SHEET 12 -L- STA. 131+00.00
MATCHLINE SEE SHEET 14 -L- STA. 145+00.00
SPECIAL CUT DITCH
SEE DETAIL A
150' TAPER
200' TAPER
END FULL C/A
CL B RIP RAP
BL-14
ACCESS POINT
REMOVE
S 58°33'32.3" E
GEORGE BAKER
DB 2541 PG 311
33
MARILYN MCLAURIN
DB 5281 PG 139
PB 84 PG 157
35
Rock Fill
See Geotech for Detail
Sta. 131+60 to 133+50 -L- Rt
POND
GAZEBO
POOL
RICHARD R. ALLEN JR.
DB 5267 PG 727
PB 87 PG 96
31

REVISIONS

8/17/99

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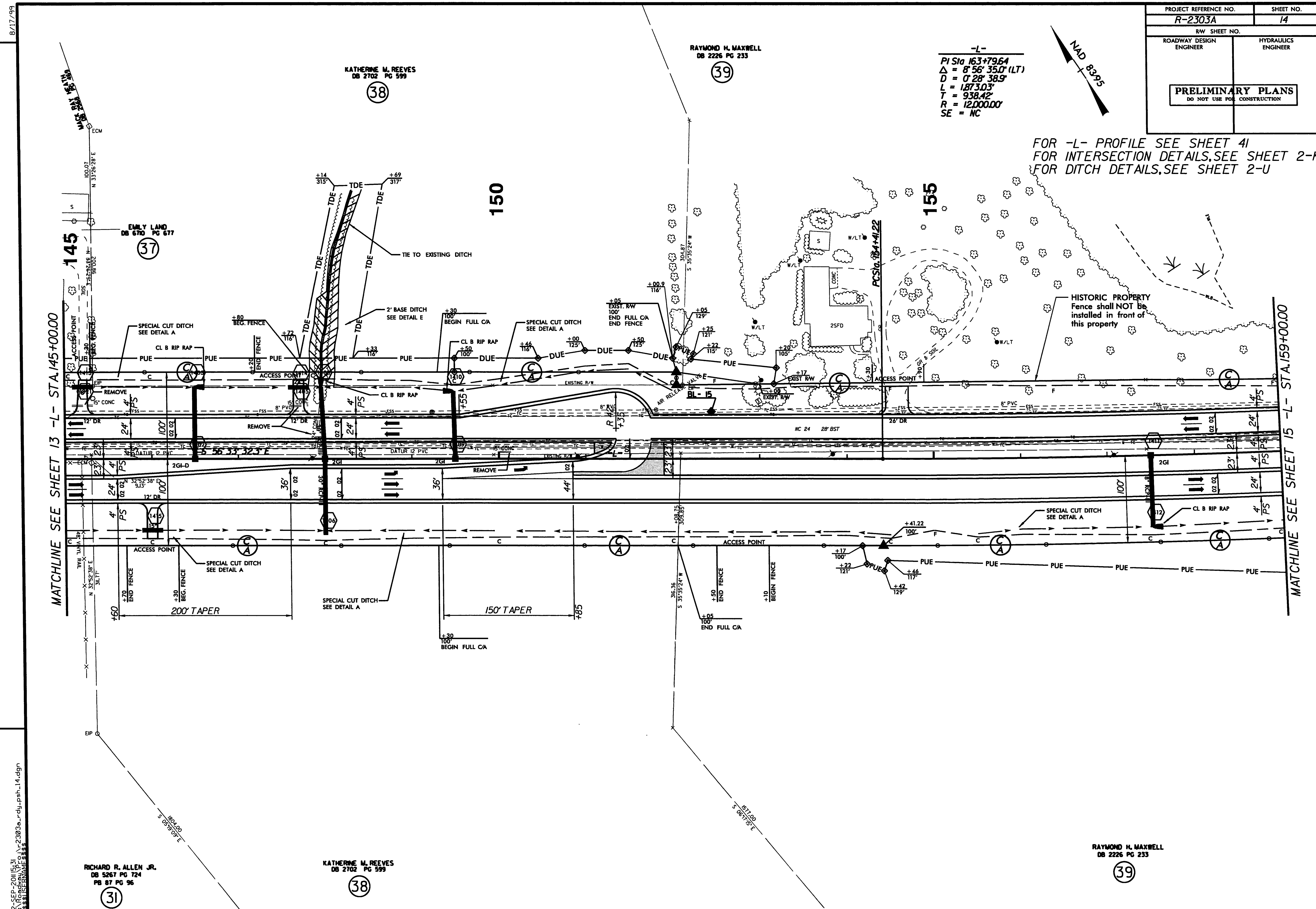
PROJECT REFERENCE NO.
R-2303A
SHEET NO.
14
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
-L-
PI Sta 163+79.64
Δ = 8°56' 35.0" (LT)
D = 0°28' 38.9"
L = 1,873.03'
T = 938.42'
R = 12,000.00'
SE = NC
NAD 83/95
FOR -L- PROFILE SEE SHEET 41
FOR INTERSECTION DETAILS, SEE SHEET 2-K
FOR DITCH DETAILS, SEE SHEET 2-U
KATHERINE M. REEVES
DB 2702 PG 599
38
RAYMOND H. MAXWELL
DB 2226 PG 233
39
EMILY LAND
DB 6710 PG 677
37
RICHARD R. ALLEN JR.
DB 5267 PG 724
PB 87 PG 96
31
MATCHLINE SEE SHEET 13 -L- STA.145+00.00
MATCHLINE SEE SHEET 15 -L- STA.159+00.00
145
150
155
PCSta. 154+41.22
HISTORIC PROPERTY
Fence shall NOT be installed in front of this property
TIE TO EXISTING DITCH
2' BASE DITCH SEE DETAIL E
SPECIAL CUT DITCH SEE DETAIL A
CL B RIP RAP
BEGIN FULL C/A
END FULL C/A
END FENCE
BEG. FENCE
ACCESS POINT
REMOVE
AIR RELEASE VALVE
BL-15
NC 24 28' BST
200' TAPER
150' TAPER
8/17/99
REVISIONS
22-SEP-2011 15:31
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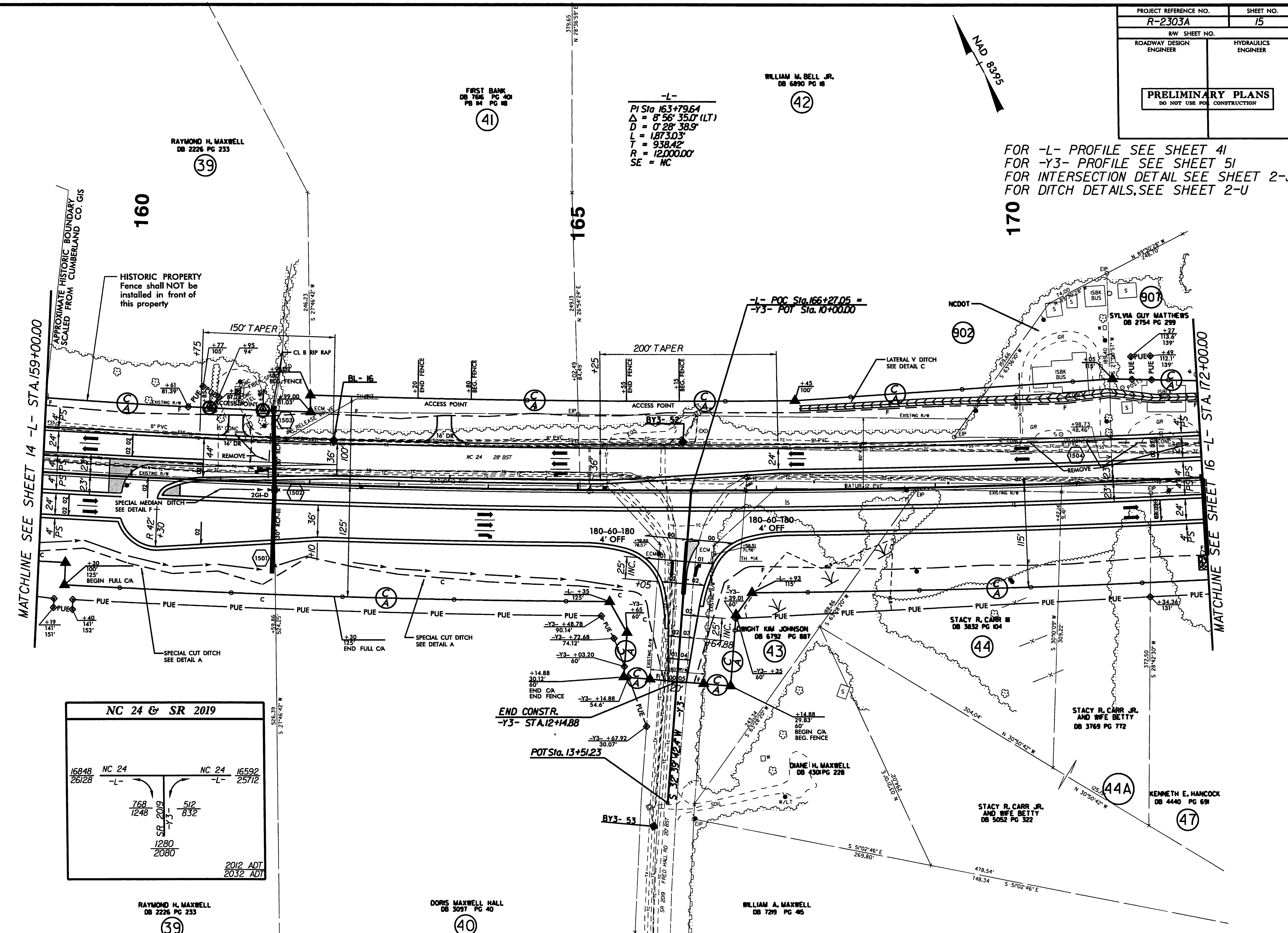
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L- PROFILE SEE SHEET 41
FOR -Y3- PROFILE SEE SHEET 51
FOR INTERSECTION DETAIL SEE SHEET 2-J
FOR DITCH DETAILS, SEE SHEET 2-U



NAD 83/95
-L-
PI Sta 163+79.64
Δ = 8° 56' 35.0" (LT)
D = 0° 28' 38.9"
L = 1,873.03'
T = 938.42'
R = 12,000.00'
SE = NC
FIRST BANK
DB 7616 PG 401
PB 114 PG 18
WILLIAM M. BELL JR.
DB 6890 PG 18
RAYMOND H. MAXWELL
DB 2226 PG 233
160
165
170
APPROXIMATE HISTORIC BOUNDARY SCALED FROM CUMBERLAND CO. GIS
HISTORIC PROPERTY
Fence shall NOT be installed in front of this property
150' TAPER
200' TAPER
CL B RIP RAP
BL- 16
ACCESS POINT
-L- POC Sta.166+27.05 =
-Y3- POT Sta. 10+00.00
BY3- 52
NCDOT
SYLVIA GUY MATTHEWS
DB 2754 PG 299
LATERAL V DITCH
SEE DETAIL C
MATCHLINE SEE SHEET 14 -L- STA.159+00.00
MATCHLINE SEE SHEET 16 -L- STA.172+00.00
NC 24 28' BST
SPECIAL MEDIAN DITCH
SEE DETAIL F
+30
100'
125'
BEGIN FULL C/A
SPECIAL CUT DITCH
SEE DETAIL A
+30
125'
END FULL C/A
180-60-180
4' OFF
END CONSTR.
-Y3- STA.12+14.88
POT Sta. 13+51.23
BY3- 53
+14.88
30.12'
60'
END C/A
END FENCE
+14.88
29.83'
60'
BEGIN C/A
BEG. FENCE
DWIGHT KIM JOHNSON
DB 6792 PG 887
STACY R. CARR III
DB 3832 PG 104
STACY R. CARR JR.
AND WIFE BETTY
DB 3769 PG 772
DIANE H. MAXWELL
DB 4301 PG 228
STACY R. CARR JR.
AND WIFE BETTY
DB 5052 PG 322
KENNETH E. HANCOCK
DB 4440 PG 691
RAYMOND H. MAXWELL
DB 2226 PG 233
DORIS MAXWELL HALL
DB 3097 PG 40
WILLIAM A. MAXWELL
DB 7219 PG 45
SR 2019 FRED HALL RD

NC 24 & SR 2019

16848
26128
NC 24
-L-
NC 24
-L-
16592
25712
768
1248
512
832
SR 2019
-Y3-
1280
2080
2012 ADT
2032 ADT

REVISIONS

02/07/12 R/W REVISIONS (KEM) - ADDED AN ACCESS BREAK AT / NEAR CENTER OF PROPERTY ON PARCEL 041. SPLIT PARCEL 044 INTO TWO PARCELS: 044 (STACY R.CARR,III) AND 044A (STACY R.CARR,JR.AND WIFE BETTY)

8/17/99

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8/17/99

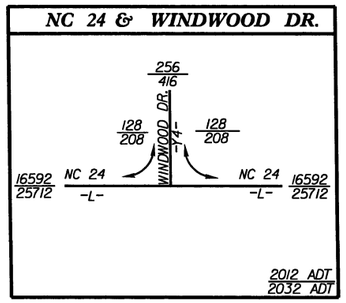
REVISIONS

DECEMBER 29,2010 - R/W REVISIONS - REVISED PUE ON PARCEL 47.

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NC 24 & WINDWOOD DR.



FOR -L- PROFILE SEE SHEET 42
FOR -Y4- PROFILE SEE SHEET 51
FOR INTERSECTION DETAIL SEE SHEET 2-J
FOR DITCH DETAILS, SEE SHEET 2-U

MATCHLINE SEE SHEET 15 -L- STA. 172+00.00

MATCHLINE SEE SHEET 17 -L- STA. 186+00.00

NAD 83/95

BEGIN CONSTR. -Y4- STA. 14+00.00

-L- POC Sta. 178+59.64 = -Y4- POT Sta. 18+82.95

BL- 17

BL- 18

SYLVIA GUY MATTHEWS DB 2754 PG 299 (907)

WILLIAM M. BELL JR. DB 6890 PG 18 (42)

HARRY T. PARKER DB 3604 PG 95 (48)

BILLY D. HORNE DB 5964 PG 35 (49)

ANTHONY HUDSON DB 4193 PG 543, PB 46 PG 60

JOHN BUTTERBAUGH DB 5076 PG 135

CHARLES E. HORNE DB 7844 PG 852 (52)

JEWELL WILLIAMS CULBRETH DB 3656 PG 347 (55)

CHARLES E. HORNE DB 6959 PG 102 (57)

LEON JR. BROCK DB 2049 PG 199, PB 28 PG 14

TED W. OWEN DB 4558 PG 695, PB 28 PG 14

TED W. OWEN DB 5148 PG 364, PB 28 PG 14

TED OWEN DB 5270 PG 308, PB 28 PG 14

JESSE G. REYNOLDS DB 2014 PG 129, PB 28 PG 14 (59)

WILLIAM A. PIERPOINT DB 3348 PG 181, PB 58 PG 31 (53)

ROBERT L. LANFORD DB 2783 PG 435, PB 52 PG 31 (54)

ROBERT E. OLIVER DB 5190 PG 390, PB 52 PG 31 (56)

BRUCE J. TEETS DB 4541 PG 492 (60)

BRUCE J. TEETS DB 4541 PG 490, PB 90 PG 145 (906)

KENNETH E. HANCOCK DB 4440 PG 691 (47)

STEDMAN-WADE HEALTH SERVICES DB 2844 PG 145 (50)

HAROLD R. DRAUGHON DB 2722 PG 243 (51)

-L-

PI Sta 163+79.64	PIs Sta 174+29.21	PI Sta 189+22.37	PIs Sta 203+12.62
Δ = 8° 56' 35.0" (LT)	Θs = 0° 28' 38.8"	Δ = 34° 17' 09.5" (LT)	Θs = 1° 15' 18.4"
D = 0° 28' 38.9"	Θs = 1° 15' 18.5"	D = 1° 15' 18.4"	Ls = 200.00'
L = 1,873.03'	Ls = 200.00'	L = 2,731.71'	LT = 133.34'
T = 938.42'	LT = 114.97'	T = 1,408.13'	ST = 66.67'
R = 12,000.00'	ST = 85.05'	R = 4,565.00'	
SE = NC		SE = .04 (SEE PLANS)	

REVISIONS

02/07/12 R/W REVISION (KEM) - SHIFTED ACCESS BREAK AND REVISED EXISTING AND PROPOSED DRIVEWAYS ON PARCEL NO. 064 TO ALLOW ACCESS TO SINGLE CAR GARAGE AND THE BUILDING IN THE REAR OF THE HOUSE.

RIGHT OF WAY REVISION - JANUARY 18,2011 - ADDED PARCEL NO.76A.

8/17/99

08-FEB-2012 08:17
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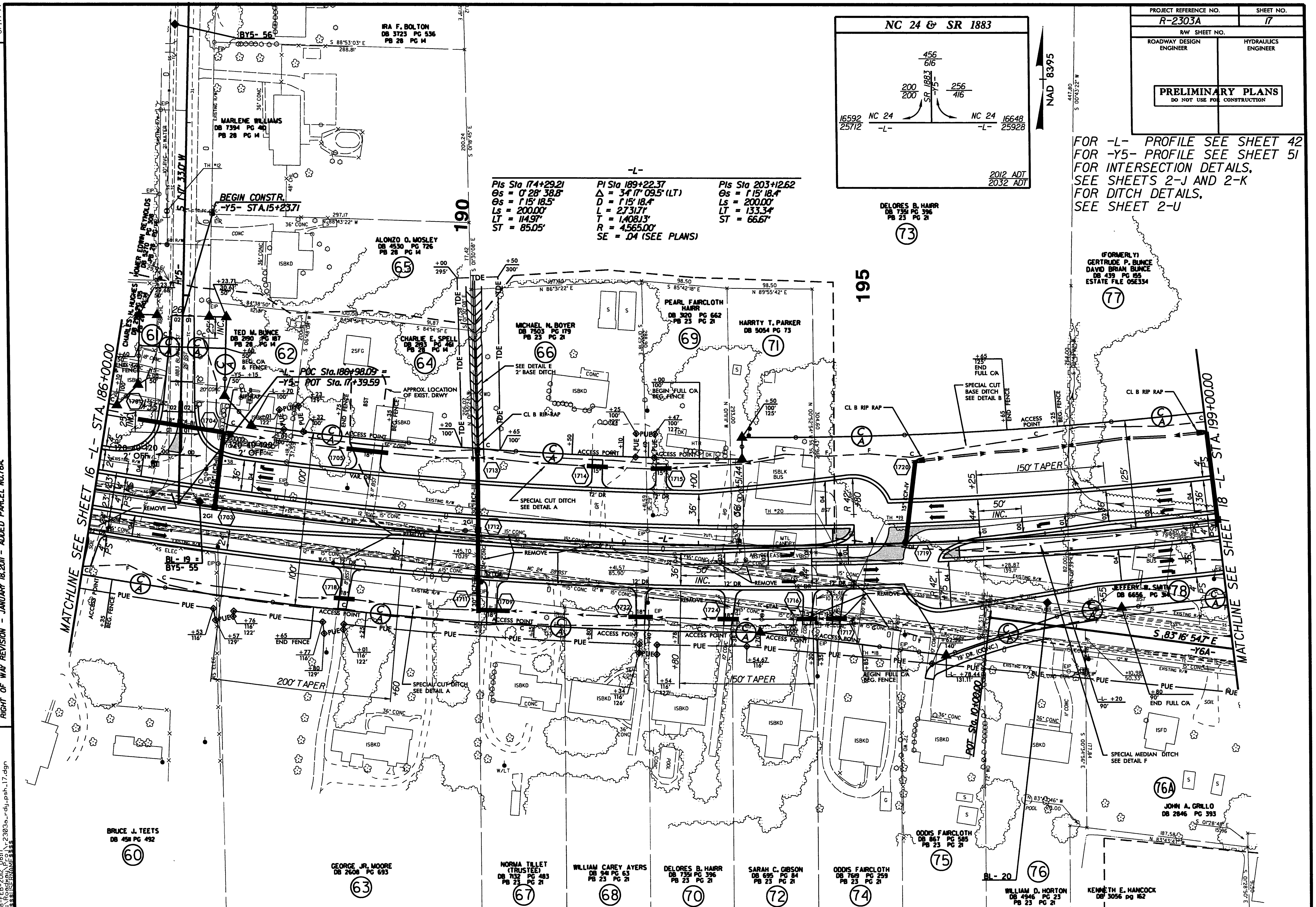


REVISIONS

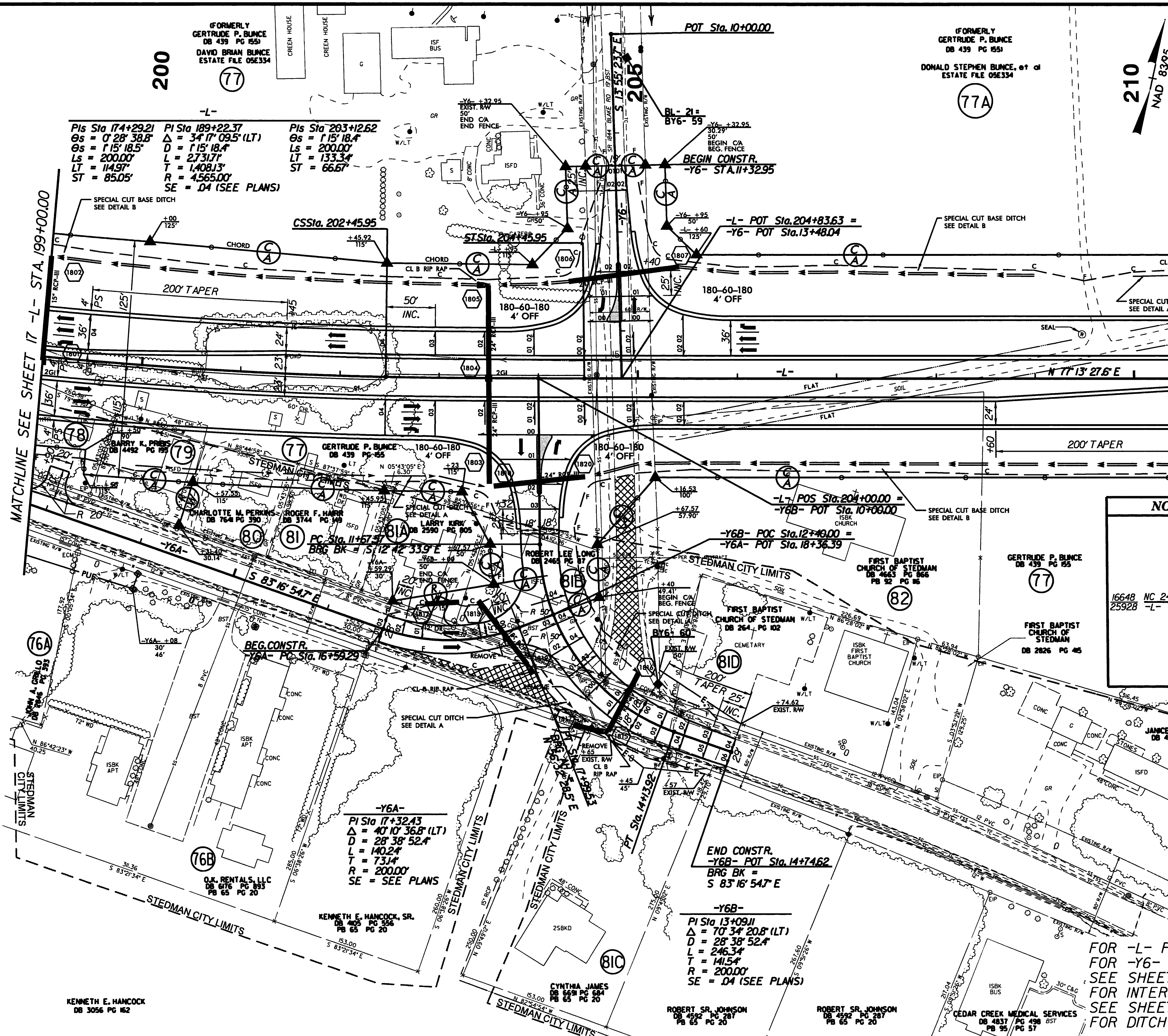
02/07/12 R/W REVISION (KEM) - SPLIT PARCEL 077 INTO TWO PARCELS: 077 WEST OF -Y6- (DAVID BRIAN BUNCE PER ESTATE FILE 05E334) AND 077A EAST OF -Y6- (DONALD STEPHEN BUNCE, et al PER ESTATE FILE 05E334) AND KEPT PREVIOUS DEED AS A REFERENCE.

RIGHT OF WAY REVISION - APRIL 8, 2011 - ADDED A DRIVEWAY TO PARCEL NO. 81A AND A NEW DRAINAGE SYSTEM TO -Y6B-.

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



-L-
PIs Sta 174+29.21
Θs = 0° 28' 38.8"
Θs = 1° 15' 18.5"
Ls = 200.00'
LT = 114.97'
ST = 85.05'
PI Sta 189+22.37
Δ = 34° 17' 09.5" (LT)
D = 1° 15' 18.4"
L = 2,731.71'
T = 1,408.13'
R = 4,565.00'
SE = .04 (SEE PLANS)
PIs Sta 203+12.62
Θs = 1° 15' 18.4"
Ls = 200.00'
LT = 133.34'
ST = 66.67'
(FORMERLY GERTRUDE P. BUNCE DB 439 PG 155)
DAVID BRIAN BUNCE ESTATE FILE 05E334
(FORMERLY GERTRUDE P. BUNCE DB 439 PG 155)
DONALD STEPHEN BUNCE, et al ESTATE FILE 05E334
POT Sta. 10+00.00
BEGIN CONSTR. -Y6- STA. 11+32.95
-L- POT Sta. 204+83.63 = -Y6- POT Sta. 13+48.04
CS Sta. 202+45.95
ST Sta. 204+45.95
200' TAPER
MATCHLINE SEE SHEET 17 -L- STA. 199+00.00
MATCHLINE SEE SHEET 19 -L- STA. 212+00.00
N 77° 13' 27.6" E
-L- POS Sta. 204+00.00 = -Y6B- POT Sta. 10+00.00
-Y6B- POC Sta. 12+40.00 = -Y6A- POT Sta. 18+36.39
BEG. CONSTR. -Y6A- PC Sta. 16+59.29
PC Sta. 11+67.31
BRG BK = S 12° 42' 33.9" E
S 83° 16' 54.7" E
PT Sta. 14+13.92
END CONSTR. -Y6B- POT Sta. 14+74.62
BRG BK = S 83° 16' 54.7" E
-Y6A-
PI Sta 17+32.43
Δ = 40° 10' 36.8" (LT)
D = 28° 38' 52.4"
L = 140.24'
T = 73.14'
R = 200.00'
SE = SEE PLANS
-Y6B-
PI Sta 13+09.11
Δ = 70° 34' 20.8" (LT)
D = 28° 38' 52.4"
L = 246.34'
T = 141.54'
R = 200.00'
SE = .04 (SEE PLANS)
STEDMAN CITY LIMITS
GERTRUDE P. BUNCE DB 439 PG 155
BARRY K. PRIES DB 4492 PG 195
CHARLOTTE M. PERKINS DB 7641 PG 390
ROGER F. HAIRR DB 3744 PG 149
LARRY KIRK DB 2590 PG 805
ROBERT LEE LONG DB 2465 PG 87
FIRST BAPTIST CHURCH OF STEDMAN DB 4663 PG 866 PB 52 PG 86
FIRST BAPTIST CHURCH OF STEDMAN DB 264 PG 102
FIRST BAPTIST CHURCH OF STEDMAN DB 2826 PG 45
JANICE B. JOHNSON DB 4663 PG 869
O.K. RENTALS, LLC DB 6176 PG 893 PB 65 PG 20
KENNETH E. HANCOCK, SR. DB 4105 PG 556 PB 65 PG 20
KENNETH E. HANCOCK DB 3056 PG 162
CYNTHIA JAMES DB 6691 PG 684 PB 65 PG 20
ROBERT SR. JOHNSON DB 4592 PG 287 PB 65 PG 20
CEDAR CREEK MEDICAL SERVICES DB 4837 PG 498 PB 95 PG 57
SPECIAL CUT BASE DITCH SEE DETAIL B
SPECIAL CUT DITCH SEE DETAIL A
SPECIAL MEDIAN DITCH SEE DETAIL F
CEMETERY
NC 24 & SR 1844
2012 ADT
2032 ADT

FOR -L- PROFILE SEE SHEET 43
FOR -Y6- ,-Y6A-,& -Y6B- PROFILES SEE SHEET 52
FOR INTERSECTION DETAIL, SEE SHEET 2-J
FOR DITCH DETAILS, SEE SHEET 2-U

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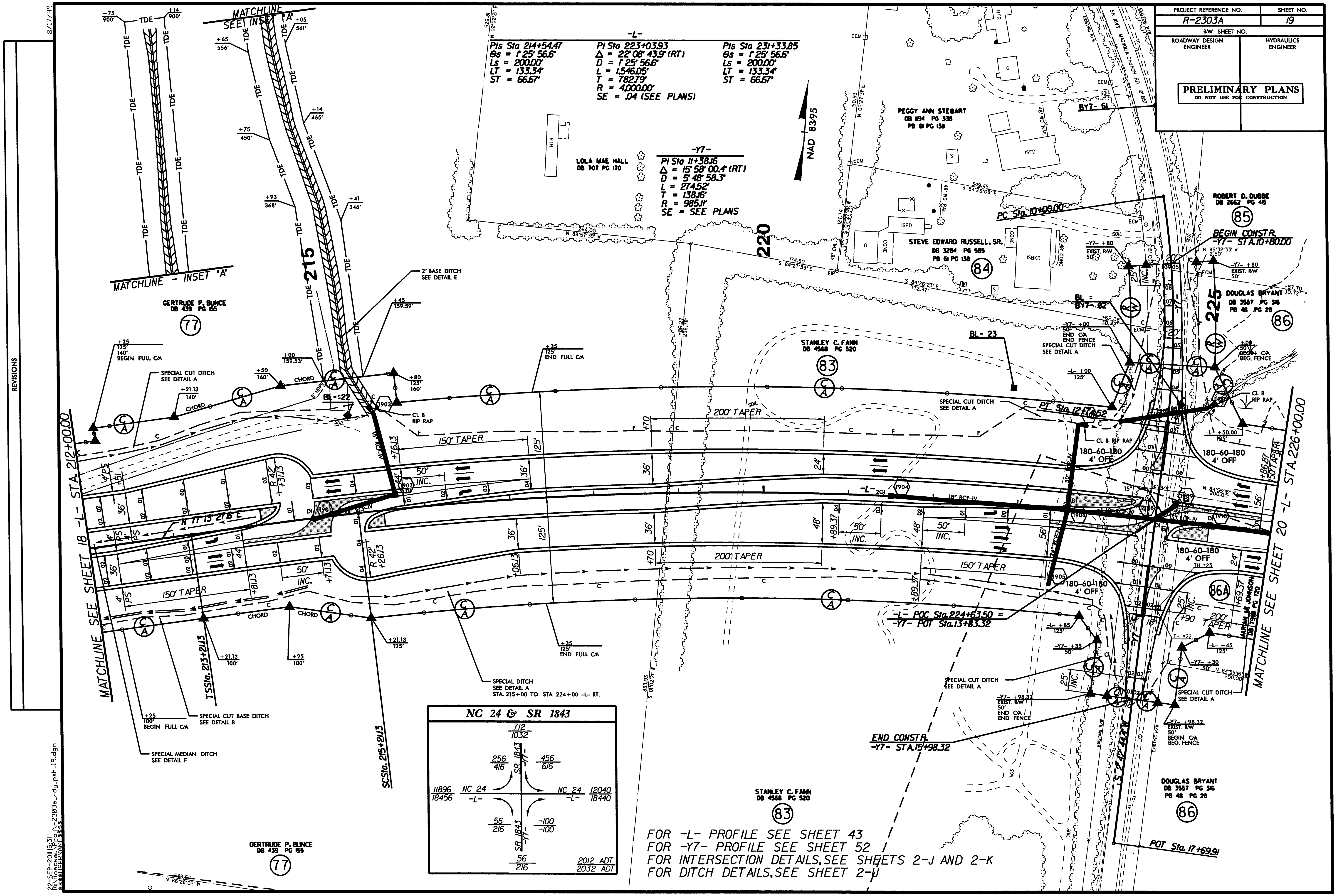

PROJECT REFERENCE NO. R-2303A
SHEET NO. 19
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
-L-
PIs Sta 214+54.47
Θs = 1° 25' 56.6"
Ls = 200.00'
LT = 133.34'
ST = 66.67'
PI Sta 223+03.93
Δ = 22° 08' 43.9" (RT)
D = 1° 25' 56.6"
L = 1,546.05'
T = 782.79'
R = 4,000.00'
SE = .04 (SEE PLANS)
PIs Sta 231+33.85
Θs = 1° 25' 56.6"
Ls = 200.00'
LT = 133.34'
ST = 66.67'
-Y7-
PI Sta 11+38.16
Δ = 15° 58' 00.4" (RT)
D = 5° 48' 58.3"
L = 274.52'
T = 138.16'
R = 985.11'
SE = SEE PLANS
MATCHLINE SEE INSET "A"
MATCHLINE - INSET "A"
LOLA MAE HALL DB 707 PG 170
PEGGY ANN STEWART DB 1194 PG 338 PB 61 PG 138
STEVE EDWARD RUSSELL, SR. DB 3284 PG 585 PB 61 PG 138
ROBERT D. DUBBE DB 2662 PG 415
DOUGLAS BRYANT DB 3557 PG 316 PB 48 PG 28
GERTRUDE P. BUNCE DB 439 PG 155
STANLEY C. FANN DB 4568 PG 520
MARIAN W. JOHNSON
NAD 83/95
PC Sta. 10+00.00
BEGIN CONSTR. -Y7- STA.10+80.00
PT Sta. 12+77.52
-L- POC Sta.224+63.50 = -Y7- POT Sta.13+83.32
END CONSTR. -Y7- STA.15+98.32
POT Sta. 17+69.91
MATCHLINE SEE SHEET 18 -L- STA. 212+00.00
MATCHLINE SEE SHEET 20 -L- STA.226+00.00
TS Sta. 213+21.13
SCS Sta. 215+21.13
150' TAPER
200' TAPER
50' INC.
BEGIN FULL C/A
END FULL C/A
SPECIAL CUT DITCH SEE DETAIL A
SPECIAL CUT BASE DITCH SEE DETAIL B
SPECIAL MEDIAN DITCH SEE DETAIL F
SPECIAL DITCH SEE DETAIL A STA. 215+00 TO STA 224+00 -L- RT.
2' BASE DITCH SEE DETAIL E
CL B RIP RAP
180-60-180 4' OFF
N 17° 13' 27.6" E
NC 24 & SR 1843
712 / 1032
256 / 416
456 / 616
11896 / 18456
12040 / 18440
56 / 216
-100 / -100
56 / 216
2012 ADT
2032 ADT
FOR -L- PROFILE SEE SHEET 43
FOR -Y7- PROFILE SEE SHEET 52
FOR INTERSECTION DETAILS, SEE SHEETS 2-J AND 2-K
FOR DITCH DETAILS, SEE SHEET 2-U
REVISIONS
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	20

R/W SHEET NO.

ROADWAY DESIGN ENGINEER

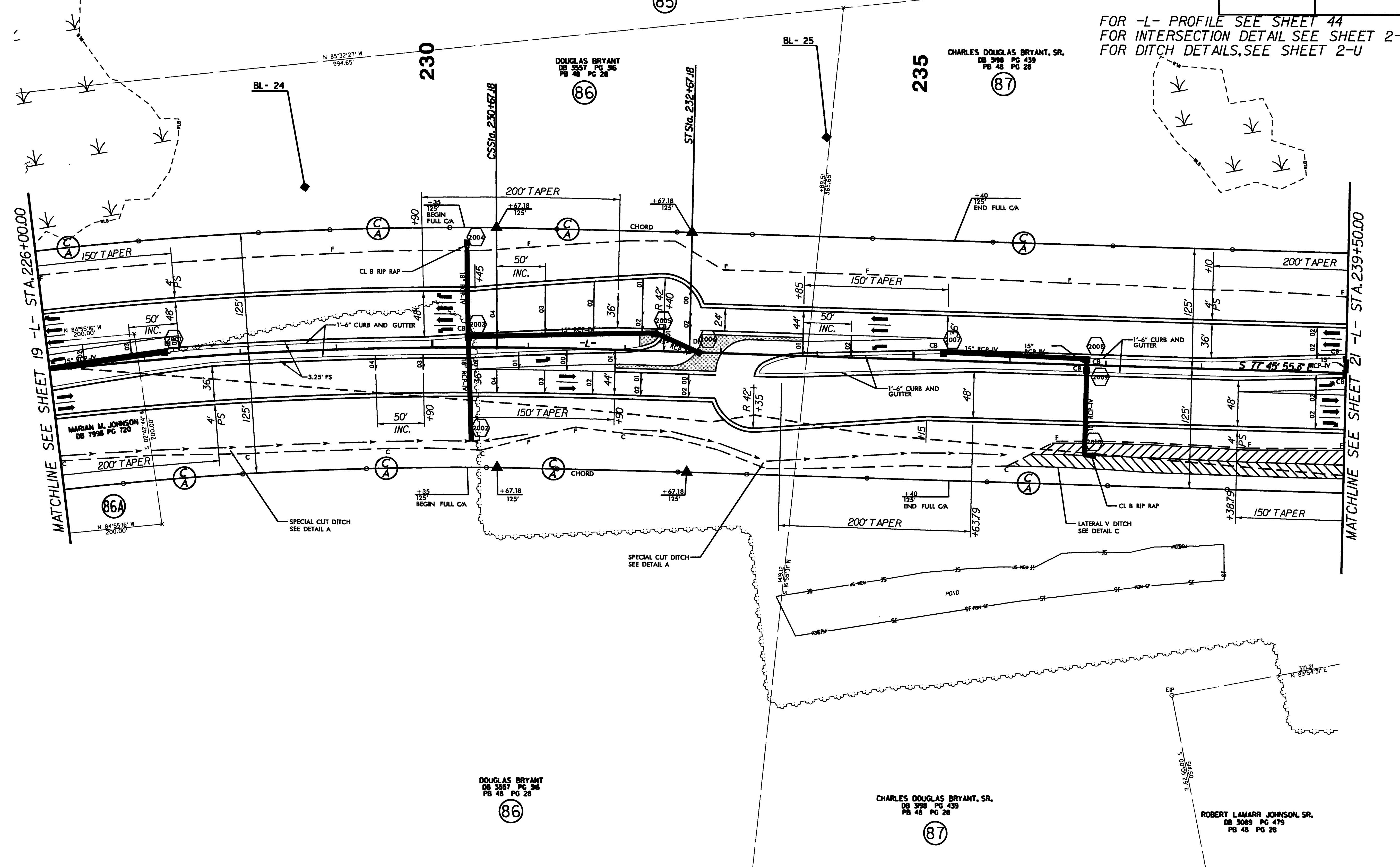
HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L- PROFILE SEE SHEET 44
FOR INTERSECTION DETAIL SEE SHEET 2-K
FOR DITCH DETAILS, SEE SHEET 2-U

-L-

PIs Sta 214+54.47	PI Sta 223+03.93	PIs Sta 231+33.85
θs = 1° 25' 56.6"	Δ = 22° 08' 43.9" (RT)	θs = 1° 25' 56.6"
Ls = 200.00'	D = 1° 25' 56.6"	Ls = 200.00'
LT = 133.34'	L = 1,546.05'	LT = 133.34'
ST = 66.67'	T = 782.79'	ST = 66.67'
	R = 4,000.00'	
	SE = .04 (SEE PLANS)	



ROBERT D. DUBBE
DB 2662 PG 415
85
DOUGLAS BRYANT
DB 3557 PG 316
PB 48 PG 28
86
CHARLES DOUGLAS BRYANT, SR.
DB 3198 PG 439
PB 48 PG 28
87
MARIAN M. JOHNSON
DB 1998 PG 720
86A
ROBERT LAMARR JOHNSON, SR.
DB 3089 PG 479
PB 48 PG 28
230
235
BL- 24
BL- 25
NAD 83/95
CS Sta. 230+67.18
ST Sta. 232+67.18
MATCHLINE SEE SHEET 19 -L- STA. 226+00.00
MATCHLINE SEE SHEET 21 -L- STA. 239+50.00
200' TAPER
150' TAPER
50' INC.
+35 125' BEGIN FULL C/A
+67.18 125'
+40 125' END FULL C/A
CL B RIP RAP
1'-6" CURB AND GUTTER
3.25' PS
4' PS
SPECIAL CUT DITCH SEE DETAIL A
LATERAL V DITCH SEE DETAIL C
15" RCP-IV
CHORD
POND
S 77° 45' 55.3" E
N 85°32'27" W 994.65'
N 85°32'27" W 559.74
N 84°55'16" W 200.00'

22-SEP-2011 15:31
8/17/99
REVISIONS

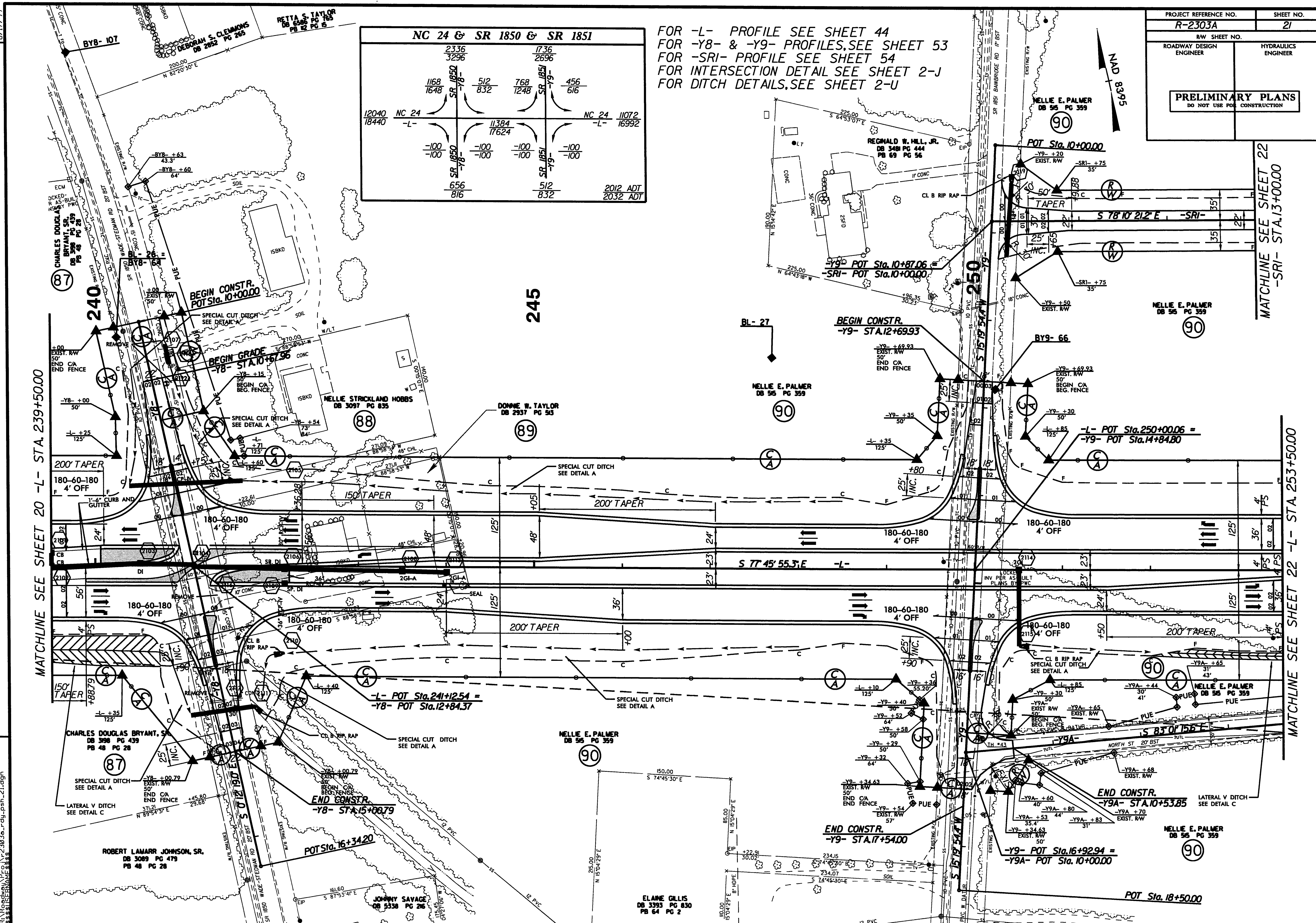
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	21

R/W SHEET NO.

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L- PROFILE SEE SHEET 44
FOR -Y8- & -Y9- PROFILES, SEE SHEET 53
FOR -SRI- PROFILE SEE SHEET 54
FOR INTERSECTION DETAIL SEE SHEET 2-J
FOR DITCH DETAILS, SEE SHEET 2-U



NC 24 & SR 1850 & SR 1851
2012 ADT
2032 ADT
NAD 83/95
MATCHLINE SEE SHEET 20 -L- STA. 239+50.00
MATCHLINE SEE SHEET 22 -L- STA. 253+50.00
MATCHLINE SEE SHEET 22 -SRI- STA. 13+00.00
BEGIN CONSTR. POT Sta. 10+00.00
BEGIN GRADE -Y8- STA. 10+67.96
-L- POT Sta. 241+12.54 = -Y8- POT Sta. 12+84.37
END CONSTR. -Y8- STA. 15+00.79
POT Sta. 16+34.20
BEGIN CONSTR. -Y9- STA. 12+69.93
-Y9- POT Sta. 10+87.06 = -SRI- POT Sta. 10+00.00
-L- POT Sta. 250+00.06 = -Y9- POT Sta. 14+84.80
END CONSTR. -Y9- STA. 17+54.00
END CONSTR. -Y9A- STA. 10+53.85
-Y9- POT Sta. 16+92.94 = -Y9A- POT Sta. 10+00.00
POT Sta. 18+50.00
S 77° 45' 55.3" E -L-
S 78° 10' 21.2" E -SRI-
CHARLES DOUGLAS BRYANT, SR. DB 3198 PG 439 PB 48 PG 28
NELLIE STRICKLAND HOBBS DB 3097 PG 835
DONNIE W. TAYLOR DB 2937 PG 513
NELLIE E. PALMER DB 515 PG 359
REGINALD W. HILL, JR. DB 3481 PG 444 PB 69 PG 56
ROBERT LAMARR JOHNSON, SR. DB 3089 PG 479 PB 48 PG 28
JOHNNY SAVAGE DB 5338 PG 216
ELAINE GILLIS DB 3393 PG 830 PB 64 PG 2
DEBORAH S. CLEMMONS DB 2852 PG 265
RETTA S. TAYLOR DB 6586 PG 765 PB 112 PG 15
SPECIAL CUT DITCH SEE DETAIL A
LATERAL V DITCH SEE DETAIL C
CL B RIP RAP
200' TAPER
150' TAPER
180-60-180 4' OFF

REVISIONS

RIGHT OF WAY REVISION - APRIL 8,2011 - REVISED R/W MONUMENT STATION FROM +35 TO +30 AT -Y9- STA.16+30,50' LEFT.

8/17/99

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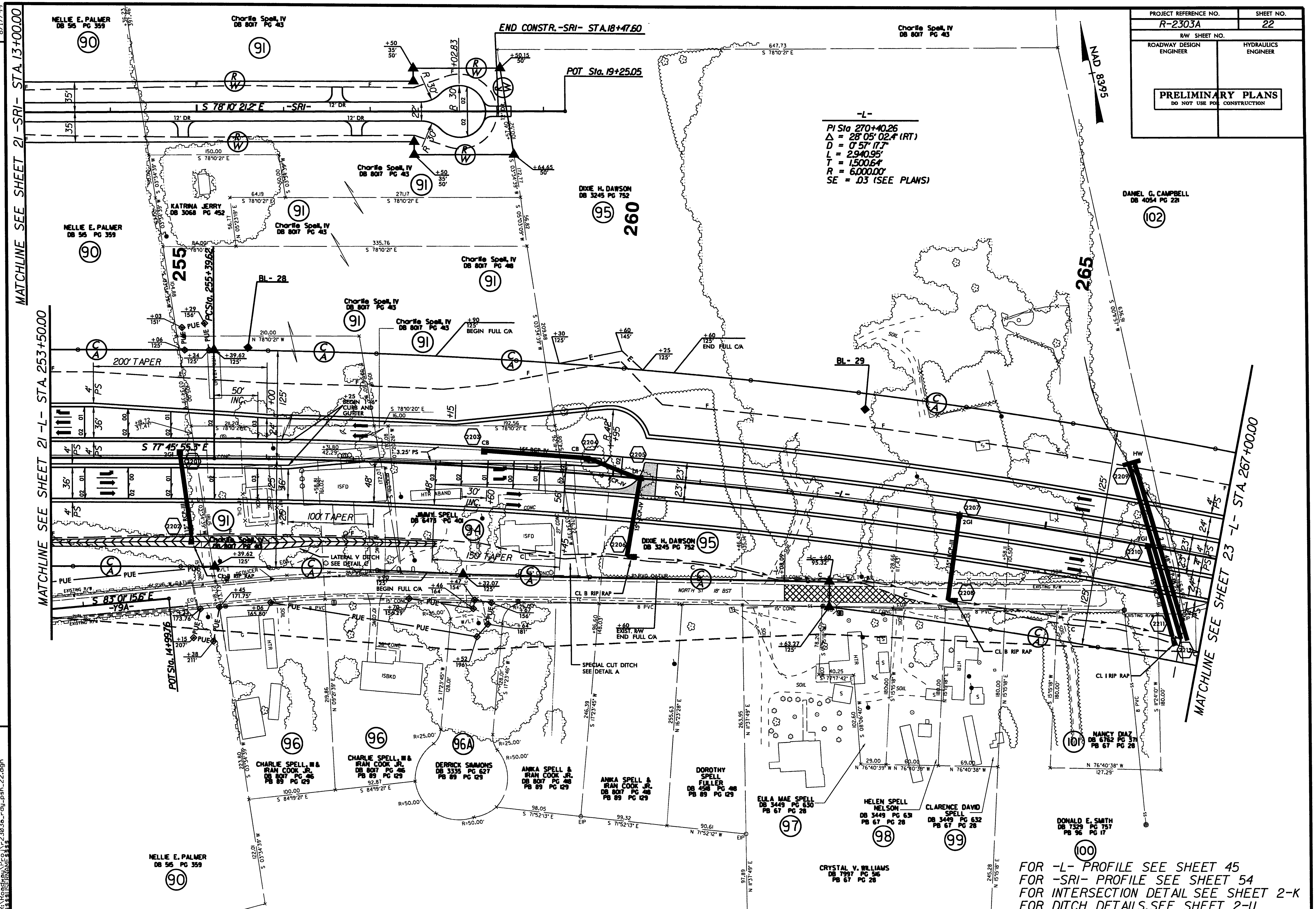
REVISIONS

02/07/12 R/W REVISION (KEM) - COMBINED PARCELS 091,092,AND 093 ALL AS PARCEL 091 AND CHANGED NAME TO CHARLIE SPELL,IV.

DECEMBER 29,2010 - R/W REVISIONS - ADDED PARCEL NO.96 TO PROPERTY OWNERS CHARLIE SPELL,III & IRAN COOK,JR. CHANGED EXISTING R/W TO PROPERTY OWNER DERRICK SIMMONS AND ADDED PARCEL NO.96A. REVISED PUE ON PARCELS 96 & 96A.

8/17/99



PROJECT REFERENCE NO. R-2303A
SHEET NO. 22
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
NAD 83/95
MATCHLINE SEE SHEET 21 -SRI- STA.13+00.00
MATCHLINE SEE SHEET 21 -L- STA.253+50.00
MATCHLINE SEE SHEET 23 -L- STA.267+00.00
END CONSTR. -SRI- STA.18+47.60
POT Sta. 19+25.05
POT Sta. 14+99.76
PC Sta. 255+39.62
-L-
PI Sta 270+40.26
Δ = 28° 05' 02.4" (RT)
D = 0° 57' 17.7"
L = 2,940.95'
T = 1,500.64'
R = 6,000.00'
SE = .03 (SEE PLANS)
S 78°10' 21.2" E -SRI-
S 77°45' 55.3" E
S 83°01' 15.6" E -Y9A-
BL-28
BL-29
200' TAPER
100' TAPER
150' TAPER
BEGIN FULL C/A
END FULL C/A
SPECIAL CUT DITCH SEE DETAIL A
LATERAL V DITCH SEE DETAIL C
NELLIE E. PALMER DB 515 PG 359
Charlie Spell, IV DB 8017 PG 413
KATRINA JERRY DB 3068 PG 452
DIXIE H. DAWSON DB 3245 PG 752
DANIEL G. CAMPBELL DB 4054 PG 221
JIMMY L. SPELL DB 6473 PG 401
CHARLIE SPELL, III & IRAN COOK JR. DB 8017 PG 416 PB 89 PG 129
DERRICK SIMMONS DB 3335 PG 627 PB 89 PG 129
ANIKA SPELL & IRAN COOK JR. DB 8017 PG 418 PB 89 PG 129
DOROTHY SPELL FULLER DB 4518 PG 418 PB 89 PG 129
EULA MAE SPELL DB 3449 PG 630 PB 67 PG 28
HELEN SPELL NELSON DB 3449 PG 631 PB 67 PG 28
CLARENCE DAVID SPELL DB 3449 PG 632 PB 67 PG 28
NANCY DIAZ DB 6762 PG 371 PB 67 PG 28
DONALD E. SMITH DB 7329 PG 757 PB 96 PG 17
CRYSTAL V. WILLIAMS DB 7997 PG 516 PB 67 PG 28
FOR -L- PROFILE SEE SHEET 45
FOR -SRI- PROFILE SEE SHEET 54
FOR INTERSECTION DETAIL SEE SHEET 2-K
FOR DITCH DETAILS, SEE SHEET 2-U

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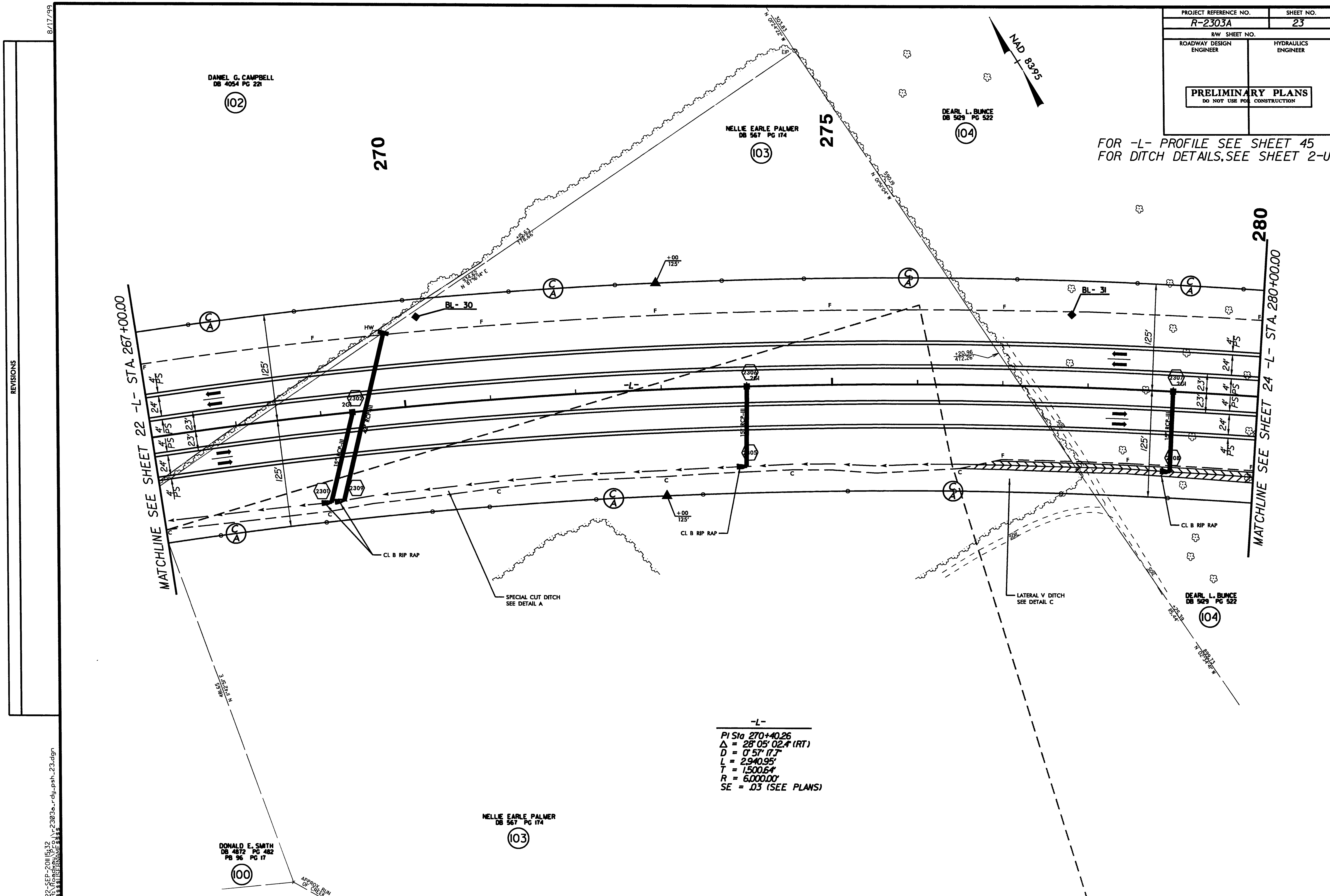
PROJECT REFERENCE NO.
R-2303A
SHEET NO.
23
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
FOR -L- PROFILE SEE SHEET 45
FOR DITCH DETAILS, SEE SHEET 2-U
NAD 83/95
DANIEL G. CAMPBELL
DB 4054 PG 221
102
NELLIE EARLE PALMER
DB 567 PG 174
103
DEARL L. BUNCE
DB 529 PG 522
104
270
275
280
MATCHLINE SEE SHEET 22 -L- STA. 267+00.00
MATCHLINE SEE SHEET 24 -L- STA. 280+00.00
BL- 30
BL- 31
-L-
CL B RIP RAP
SPECIAL CUT DITCH
SEE DETAIL A
LATERAL V DITCH
SEE DETAIL C
DONALD E. SMITH
DB 4872 PG 482
PB 96 PG 17
100
APPROX. RUN OF CREEK
-L-
PI Sta 270+40.26
Δ = 28° 05' 02.4" (RT)
D = 0° 57' 17.7"
L = 2,940.95'
T = 1,500.64'
R = 6,000.00'
SE = .03 (SEE PLANS)
8/17/99
REVISIONS
22-SEP-2011 15:32
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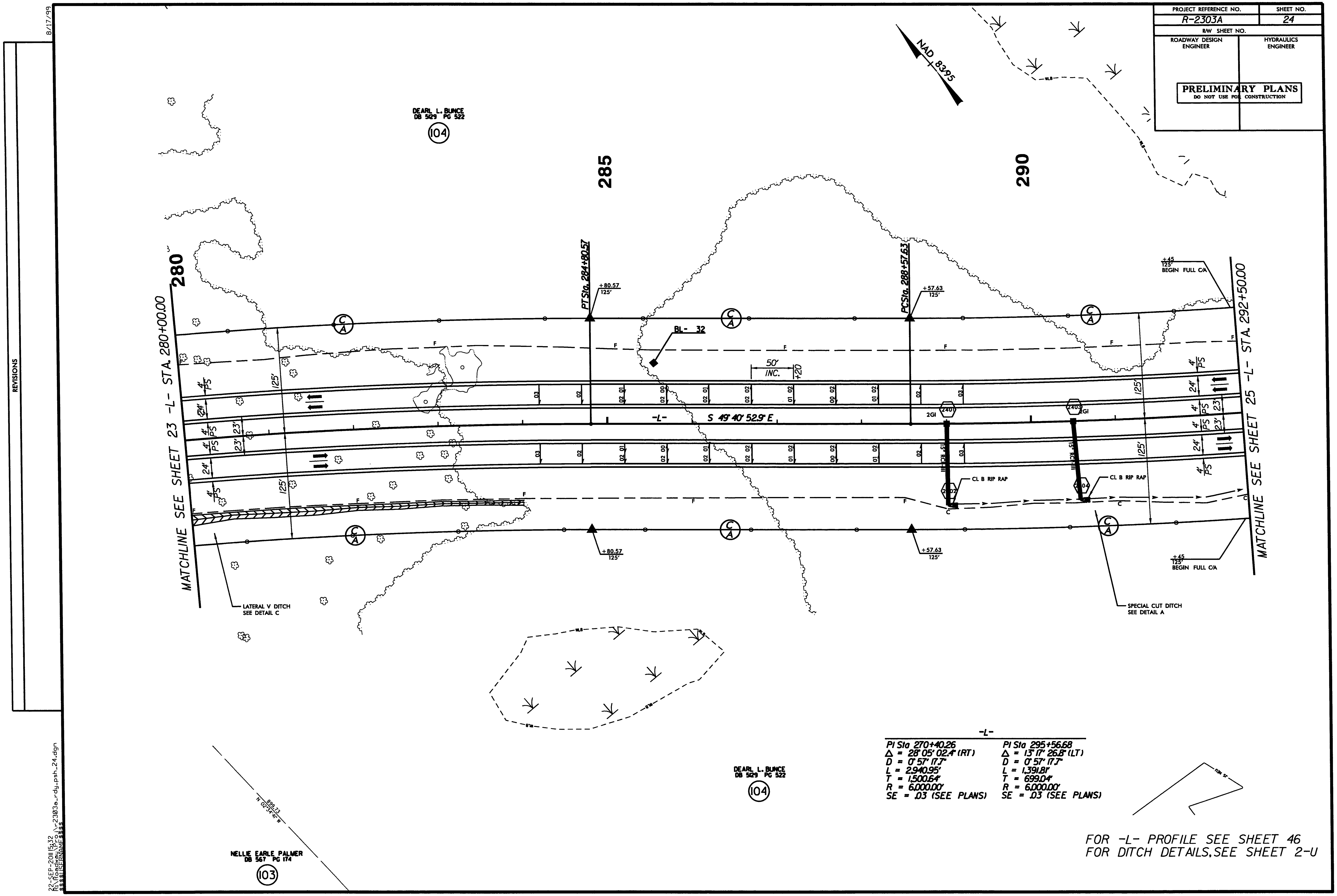

PROJECT REFERENCE NO.
R-2303A
SHEET NO.
24
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
8/17/99
REVISIONS
NAD 83/95
DEARL L. BUNCE
DB 5129 PG 522
104
285
290
280
MATCHLINE SEE SHEET 23 -L- STA. 280+00.00
MATCHLINE SEE SHEET 25 -L- STA. 292+50.00
PT Sta. 284+80.57
PC Sta. 288+57.63
+80.57
125'
+57.63
125'
+45
125'
BEGIN FULL C/A
BL- 32
50'
INC.
+20
-L-
S 49° 40' 52.9" E
2GI
2401
2403
2402
2404
15" RCP
CL B RIP RAP
LATERAL V DITCH
SEE DETAIL C
SPECIAL CUT DITCH
SEE DETAIL A
NELLIE EARLE PALMER
DB 567 PG 174
103
-L-
PI Sta 270+40.26
Δ = 28° 05' 02.4" (RT)
D = 0° 57' 17.7"
L = 2,940.95'
T = 1,500.64'
R = 6,000.00'
SE = .03 (SEE PLANS)
PI Sta 295+56.68
Δ = 13° 17' 26.8" (LT)
D = 0° 57' 17.7"
L = 1,391.81'
T = 699.04'
R = 6,000.00'
SE = .03 (SEE PLANS)
FOR -L- PROFILE SEE SHEET 46
FOR DITCH DETAILS, SEE SHEET 2-U

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	25
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 8395

REVISIONS

8/17/99

MATCHLINE SEE SHEET 24 -L- STA. 292+50.00

MATCHLINE SEE SHEET 26 -L- STA. 306+00.00

CONFLICT

HARVEY L. CARL, JR.
DB 4498 PG 86

DEARL L. BUNCE
DB 529 PG 522
104

RICHARD CRUNKLETON
DB 389 PG 648
PB 80 PG 99

ARTHUR SPELL
DB 389 PG 654
PB 80 PG 99

ROY M. FAIRCLOTH
DB 389 PG 650
PB 80 PG 99
106

LISA F. CRUNKLETON
CONNIE F. SPELL
ROY M. FAIRCLOTH
DB 7370 PG 83
PB 80 PG 99
107

295

300

305

BL- 33

BL- 34

150' TAPER

200' TAPER

LATERAL V DITCH
SEE DETAIL C

SPECIAL CUT DITCH
SEE DETAIL A

END FULL C/A

HW

-L-
PI Sta 295+56.68
Δ = 13° 17' 26.8" (LT)
D = 0° 57' 17.7"
L = 1,391.81'
T = 699.04'
R = 6,000.00'
SE = .03 (SEE PLANS)

NC 24 & EXIST. NC 24

	NC 24 -L-	NC 24 -L-	
11072 / 16992	-100 / -100	3440 / 5840	14368 / 22848
	EXIST. NC 24 -Y10A-		
	3440 / 5840		2012 ADT / 2032 ADT

DEARL L. BUNCE
DB 529 PG 522
104

EARL C. FULTZ
DB 425 PG 788

EARL C. FULTZ
DB 425 PG 748

KENNETH LEE HARR
DB 4632 PG 578

EMMETT M. FOGLE
DB 2772 PG 196
105

DEARL L. BUNCE
DB 529 PG 522
104

LLOYD L. CAULDER JR.
DB 3509 PG 323

JOHN WESLEY MCMILLAN, III
DB 3706 PG 150
TRACT 1
108

JOHN WESLEY MCMILLAN, III
DB 914 PG 177
TRACT 2

PT Sta. 302+49.44

PT Sta. 11+71.93

PT Sta. 13+35.94

END CONSTR.
-Y10A- STA. 13+85.00

BYII- 71

S 84° 07' 37.4" W

S 62° 58' 19.8" E

-Y10A-
PI Sta 12+11.51
Δ = 57° 05' 57.2" (RT)
D = 20° 50' 05.4"
L = 274.06'
T = 149.62'
R = 275.00'
SE = SEE PLANS

-L- POT Sta. 303+76.80 =
-Y10A- POT Sta. 10+00.00

PC Sta. 10+61.89
BRG BK = S 27° 01' 40.2" W

-Y10A- PI Sta. 10+89 EXIST. R/W
-Y10A- +58 EXIST. R/W
CHANNEL/FLOODPLAIN EXCAVATION
REMOVE EXISTING ROADFILL TO N.G.
SEE DETAIL H
-Y10A- +87

-Y10A- +00 EXIST. R/W BEGIN C/A

-Y10A- +06

-Y10A- PI EXIST. R/W
END C/A
END FENCE

EXISTING R/W

BEG. FENCE

REMOVE

FOR -L- PROFILE SEE SHEET 46
FOR -Y10A- PROFILE SEE SHEET 53
FOR INTERSECTION DETAILS,
SEE SHEETS 2-J AND 2-K
FOR DITCH DETAILS, SEE SHEET 2-U

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PROJECT REFERENCE NO.	SHEET NO.
R-2303A	26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83/95

FOR -L- PROFILE SEE SHEET 47
FOR -Y10- PROFILE SEE SHEET 53
FOR INTERSECTION DETAILS, SEE SHEETS 2-J AND 2-K
FOR DITCH DETAIL, SEE SHEET 2-U

NC 24 & SR 1852

768/1248 — 456/616 — SR 1852 -Y10- — 312/632

11072/16992 NC 24 -L- — NC 24 -L- 14368/22848

2012 ADT
2032 ADT

-SR2-
PI Sta 14+05.42
Δ = 35° 54' 36.7" (LT)
D = 21° 13' 14.4"
L = 169.22'
T = 87.49'
R = 270.00'
SE = SEE PLANS

-Y10-
PI Sta 11+44.32
Δ = 8° 52' 58.7" (RT)
D = 3° 05' 01.4"
L = 288.06'
T = 144.32'
R = 1,858.00'
SE = SEE PLANS

-L-
PI Sta 325+20.68
Δ = 6° 42' 22.1" (LT)
D = 0° 28' 38.9"
L = 1,404.53'
T = 703.07'
R = 12,000.00'
SE = NC

PC Sta. 10+00.00

END CONSTR. -Y10- STA. 12+04.10

PT Sta. 12+88.06

PC Sta. 318+17.61

-L- POT Sta. 308+78.03 = -Y10- POT Sta. 14+22.32
BK BRG = S 12° 01' 40.2" W

BL -L- = BYII- 70
EXIST. R/W CORNER

MATCHLINE SEE SHEET 25 -L- STA. 306+00.00

MATCHLINE SEE SHEET 27 -L- STA. 320+00.00

310 — 315 — 320

BYIO- 68

BYIO- 69

GALILEE HOLINESS CHURCH
DB 3074 PG 332
PB 99 PG 4

ROY M. FAIRCLOTH
DB 241 PG 476
PB 80 PG 99

ELLEN MCMILLAN HALL TRUSTEE
DB 741 PG 325
DB 402 PG 323
(109)

ELLEN MCMILLAN HALL TRUSTEE
DB 402 PG 323
DB 743 PG 595
(109)

WILEY DAVID HUNNICUTT, SR.
DB 856 PG 197
(114)

JOHN WESLEY MCMILLAN, III
DB 3706 PG 150
TRACT 1
(108)

MARY R. HARDISON
DB 6426 PG 502
PB 73 PG 34
(112)

THOMAS M. THIGPEN
DB 6428 PG 595
PB 73 PG 14

JOHNNIE OWENS JR
DB 6597 PG 437
PB 81 PG 169
(905)

JERRY W. MCCALL
DB 6024 PG 356
PB 83 PG 77
(110)

SPECIAL CUT DITCH SEE DETAIL A

200' TAPER

150' TAPER

CL B RIP RAP

180-40-180 4' OFF

180-60-180 4' OFF

BL- 36

NC 24 28' BST

ACCESS POINT

END FENCE

REVISIONS

DECEMBER 29,2010 - R/W REVISIONS - REVISED PUE ON PARCEL 108.

22-SEP-2011 15:32
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PROJECT REFERENCE NO.	SHEET NO.
R-2303A	27
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L- PROFILE SEE SHEET 47
FOR DITCH DETAILS, SEE SHEET 2-U

-L-
PI Sta 325+20.68
Δ = 6°42'22.2" (LT)
D = 0°28'38.9"
L = 1,404.53'
T = 703.07'
R = 12,000.00'
SE = NC

NAD 83 95

REVISIONS

8/17/99

MATCHLINE SEE SHEET 26 -L- STA. 320+00.00

MATCHLINE SEE SHEET 28 -L- STA. 333+50.00

PTSta. 332+22.14

WILEY DAVID HUNNICUTT, SR. DB 858 PG 197 (114)

PAUL W. BRANCH DB 839 PG 446 (120)

PAMELA S. TIMPE DB 4026 PG 232 PB 83 PG 92 (116)

IRMA LUCILLE BULLARD DB 1097 PG 21 (117)

FRANCIS LAWRENCE BLAIR, JR. DB 3586 PG 54 (119)

JOSEPH H. LOCKAMY DB 8082 PG 466 (121)

RUTH TRIPP DB 7286 PG 65 (123)

HAYWOOD E. JOHNSON DB 7855 PG 746 PB 121 PG 60 (124)

GERALD C. FISHER DB 2901 PG 67 (125)

YULANDA SMITH DB 5023 PG 434 (127)

STEPHEN E. BAKER DB 3273 PG 406 (129)

ELLEN MCMILLAN HALL TRUSTEE DB 743 PG 599 DB 4052 PG 323 (109)

MARY R. HARDISON DB 6226 PG 502 PB 73 PG 94 (112)

HENRY E. JONES DB 5548 PG 216 PB 80 PG 26 (113)

HENRY JONES DB 7272 PG 158 PB 80 PG 26

JERRY CHAVIS DB 6806 PG 64 PB 67 PG 88 (115)

KENNETH P. CULBRETH DB 3681 PG 38 PB 67 PG 88 (118)

SHIRLEY J. NAYLOR DB 3446 PG 704 PB 67 PG 88 (111)

RICHARD D. NAYLOR DB 3446 PG 701 PB 67 PG 88 (122)

SUSAN P. REINHARDT DB 4654 PG 883 PB 93 PG 151 (126)

JOSEPH P. NAYLOR DB 3446 PG 711 PB 93 PG 151 (128)

JOSEPH PRESTON NAYLOR DB 2363 PG 540 (130)

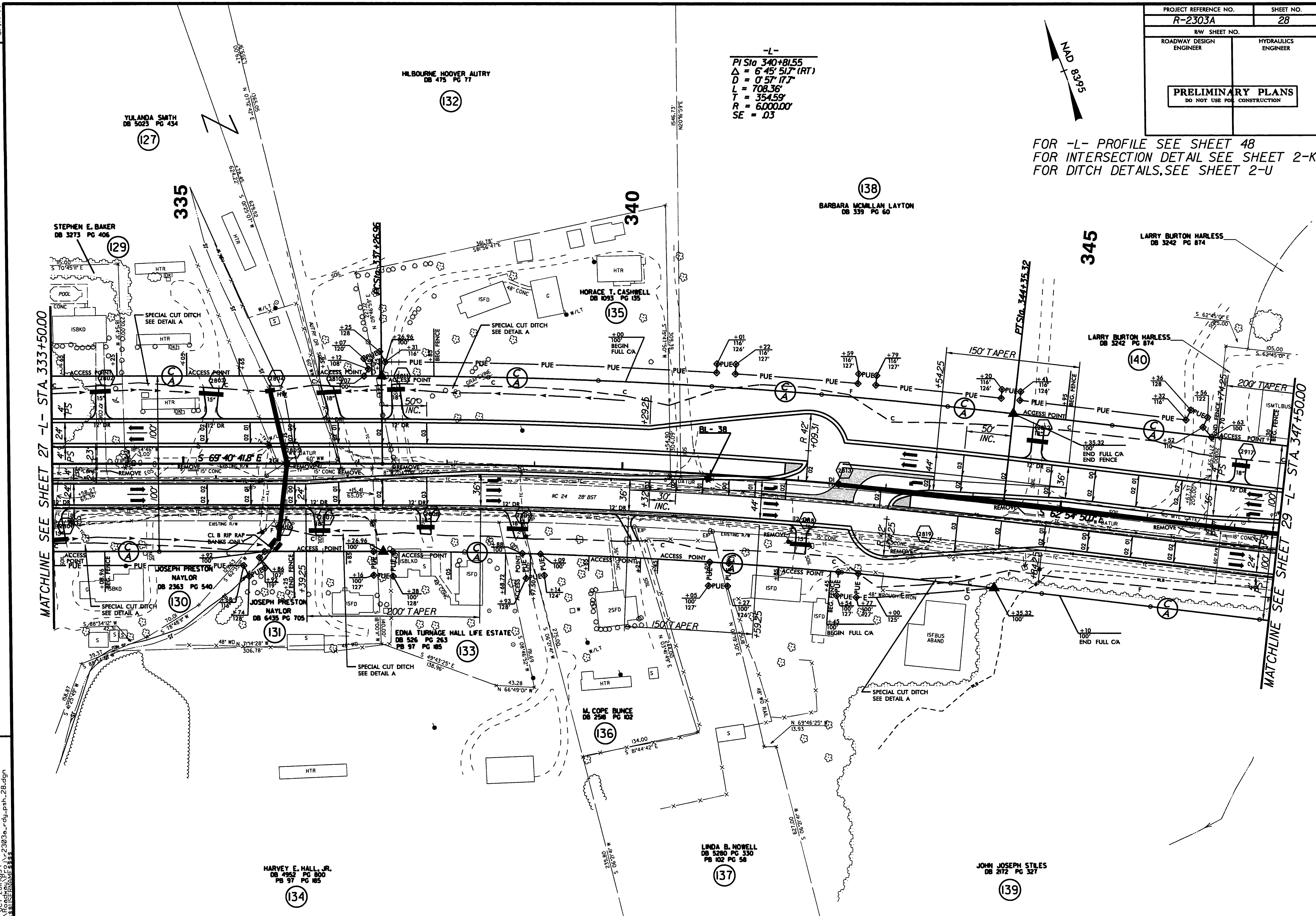
HARVEY E. HALL, JR. DB 4952 PG 800 PB 97 PG 185 (134)

22-SEP-2011 15:32
R:\Roadway\Proj\r2303a_rdy_psh_27.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	28
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L- PROFILE SEE SHEET 48
FOR INTERSECTION DETAIL SEE SHEET 2-K
FOR DITCH DETAILS, SEE SHEET 2-U



REVISIONS
OCTOBER 24,2011 - R/W REVISION - ADDED PUE ON PARCELS 138 & 139, REVISED TCE ON PARCEL 139 AND DELETED PUE ON PARCEL 129.
8/17/99
24-OCT-2011 10:34
R:\Roadway\Proj\r2303a_rdy_psh_28.dgn
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PROJECT REFERENCE NO.	SHEET NO.
R-2303A	29
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

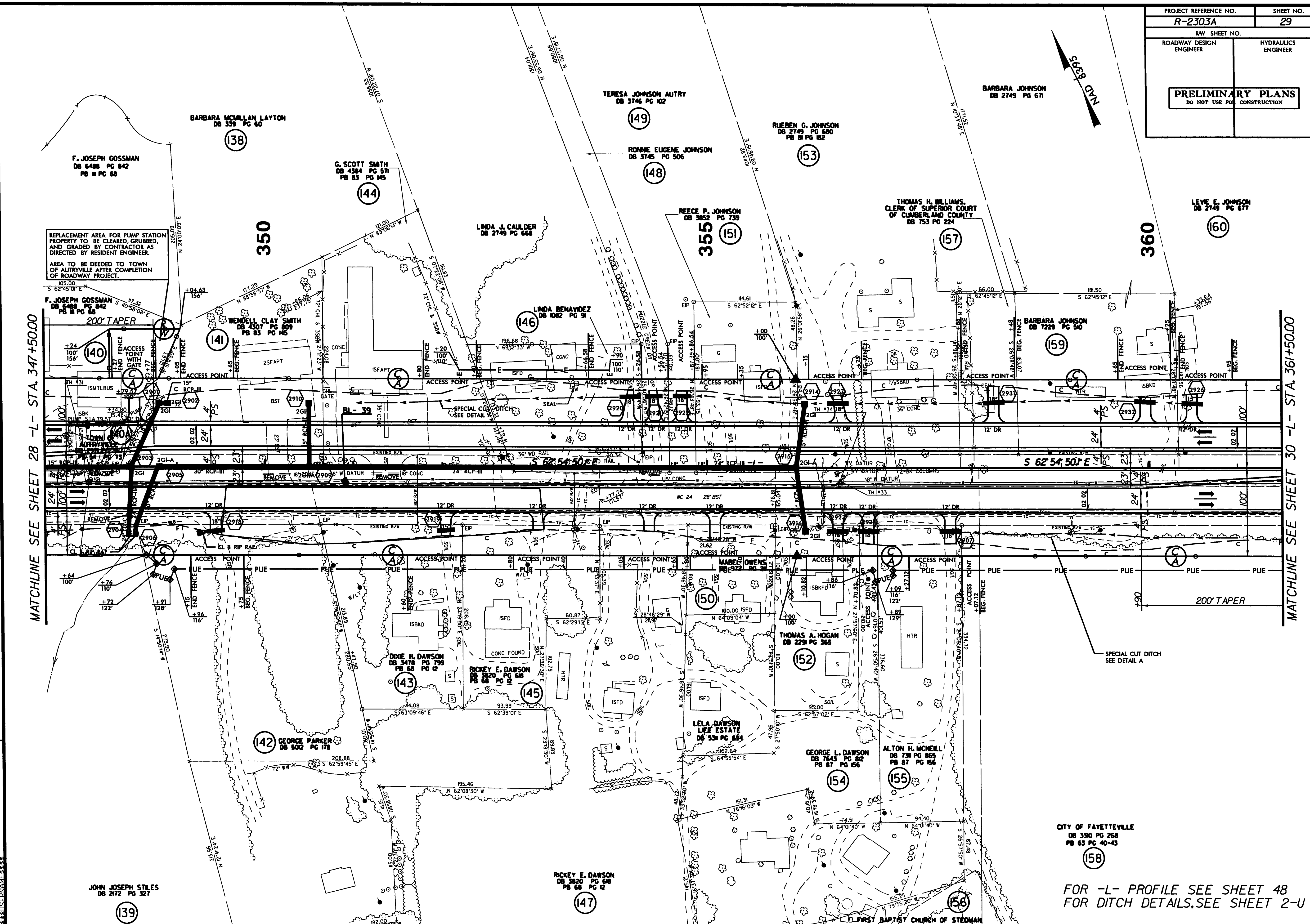
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

02/07/12 R/W REVISIONS (KEM) - ADDED A DRIVEWAY INTO CEMETERY. CHANGED NAME OF CEMETERY TO THOMAS H. WILLIAMS, CLERK OF SUPERIOR COURT OF CUMBERLAND COUNTY DB 753 PG 224 ON PARCEL 157. SHIFT DRIVE TO EAST SIDE OF PROPERTY AND INSTALLED ACCESS BREAK FROM STA.359+65 TO STA.360+25 LT. OF -L- ON PARCEL 159. CHANGED NAME OF ADJOINING PROPERTY IN REAR FROM WILLIE A. JOHNSON TO BARBARA JOHNSON AND ADDED A TIE BAR BETWEEN PROPERTIES. CONVERTED AREA SHOWN AS PUE FOR THE REPLACEMENT AREA FOR THE PUMP STATION TO RIGHT OF WAY ON PARCEL 140.

OCTOBER 24, 2011 - R/W REVISION - ADDED NOTE REGARDING DEEDING PARCEL 140 TO THE TOWN OF AUTRYVILLE AFTER COMPLETION OF ROADWAY PROJECT.

8/17/99



MATCHLINE SEE SHEET 28 -L- STA. 347+50.00
MATCHLINE SEE SHEET 30 -L- STA. 361+50.00
NAD 83/95
REPLACEMENT AREA FOR PUMP STATION PROPERTY TO BE CLEARED, GRUBBED, AND GRADED BY CONTRACTOR AS DIRECTED BY RESIDENT ENGINEER.
AREA TO BE DEEDED TO TOWN OF AUTRYVILLE AFTER COMPLETION OF ROADWAY PROJECT.
F. JOSEPH GOSSMAN DB 6488 PG 842 PB 111 PG 68
BARBARA MCMILLAN LAYTON DB 339 PG 60
G. SCOTT SMITH DB 4584 PG 571 PB 83 PG 145
LINDA J. CAULDER DB 2749 PG 668
TERESA JOHNSON AUTRY DB 3746 PG 102
RONNIE EUGENE JOHNSON DB 3745 PG 506
RUEBEN G. JOHNSON DB 2749 PG 680 PB 81 PG 182
REECE P. JOHNSON DB 3852 PG 739
BARBARA JOHNSON DB 2749 PG 671
THOMAS H. WILLIAMS, CLERK OF SUPERIOR COURT OF CUMBERLAND COUNTY DB 753 PG 224
LEVIE E. JOHNSON DB 2749 PG 677
WENDELL CLAY SMITH DB 4307 PG 809 PB 83 PG 145
LINDA BENAVIDEZ DB 1062 PG 91
BARBARA JOHNSON DB 7229 PG 510
TOWN OF AUTRYVILLE
MABEL OWENS
THOMAS A. HOGAN DB 2291 PG 365
DIXIE H. DAWSON DB 3478 PG 799 PB 68 PG 12
RICKEY E. DAWSON DB 3820 PG 68 PB 68 PG 12
GEORGE PARKER DB 5012 PG 178
LELA DAWSON LEE ESTATE DB 531 PG 694
GEORGE L. DAWSON DB 7643 PG 812 PB 87 PG 156
ALTON H. MCNEILL DB 7311 PG 865 PB 87 PG 156
CITY OF FAYETTEVILLE DB 3310 PG 268 PB 63 PG 40-43
JOHN JOSEPH STILES DB 2172 PG 327
RICKEY E. DAWSON DB 3820 PG 68 PB 68 PG 12
FIRST BAPTIST CHURCH OF STEDMAN
SPECIAL CUT DITCH SEE DETAIL A
200' TAPER
S 62°54'50" E
NC 24
350
355
360

FOR -L- PROFILE SEE SHEET 48
FOR DITCH DETAILS, SEE SHEET 2-U

08-FEB-2012 08:17
r2303a_rdy_psh_29.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	30
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

8/17/99

02/07/12 - R/W REVISION (KEW) - COMBINED PARCELS 162 AND 163 INTO ONE PARCEL 163 AND SHOWED A TIE BAR BETWEEN THE PROPERTIES.

DECEMBER 29,2010 - R/W REVISIONS - REVISED PUE ON PARCEL 158. ADDED PUE TO PARCELS 161 & 163.

-L-

PIs Sta 367+74.22	PI Sta 374+26.38	PIs Sta 380+55.82
θs = 2° 59' 21.6"	Δ = 27° 56' 26.1" (LT)	θs = 2° 59' 21.6"
Ls = 240.00'	D = 2° 29' 28.0"	Ls = 240.00'
LT = 160.02'	L = 1121.61'	LT = 160.02'
ST = 80.02'	T = 572.19'	ST = 80.02'
	R = 2,300.00'	

FOR -L- PROFILE, SEE SHEET 49
FOR -DET2- PROFILE, SEE SHEET 2-N
FOR INTERSECTION DETAIL, SEE SHEET 2-K
FOR DITCH DETAILS, SEE SHEET 2-U

NAD 83/95

GEORGIA JOHNSON
DB 4689 PG 165
PB 65 PG 3

SUSAN M. JIMENEZ
DB 3798 PG 629
PB 65 PG 3

LEVIE E. JOHNSON
DB 2749 PG 677
160

VIRGINIA JOHNSON MAVROPOULOS
DB 2749 PG 674
PB 65 PG 3
161

LEVIE E. JOHNSON
DB 836 PG 34
DB 2749 PG 677
163

365

370

DALE E. AUTRY
DB 2409 PG 649

JEWEL A. STANLEY
DB 743 PG 265
167

JOHNNY GODWIN
LEVIE JOHNSON
DB 540 PG 229

LEVIE JOHNSON
DB 3715 PG 463
165

DOUGLAS L. NEW
DB 3903, PG 797
166

JERRY TAYLOR
DB 6501 PG 857
168

LEVIE E. JOHNSON
DB 3012 PG 845
164

CITY OF FAYETTEVILLE
DB 330 PG 268
PB 63 PG 40-43
158

-L- TS Sta. 366+14.19

SC Sta. 368+54.19

MATCHLINE SEE SHEET 29 -L- STA. 361+50.00

MATCHLINE SEE SHEET 31 -L- STA. 374+00.00

END CONSTR.
-L- POS Sta. 367+00.00

S 62° 54' 50" E.

BL - 40

BL - 41

NC 24 28' BST

ACCESS POINT

SPECIAL CUT DITCH
SEE DETAIL D

200' TAPER

150' TAPER

ISBLKBUS

4 PUMPS U/ MT CANOPY

1FUEL- 6,600 GAL
1FUEL- 4,600 GAL

DIESEL -5,000 GAL
DIESEL -6,000 GAL

KEROSENE 12,000 GAL

EMPTY KEROSENE 10,000 GAL

DIESEL 12,000 GAL

08-FEB-2012 08:17
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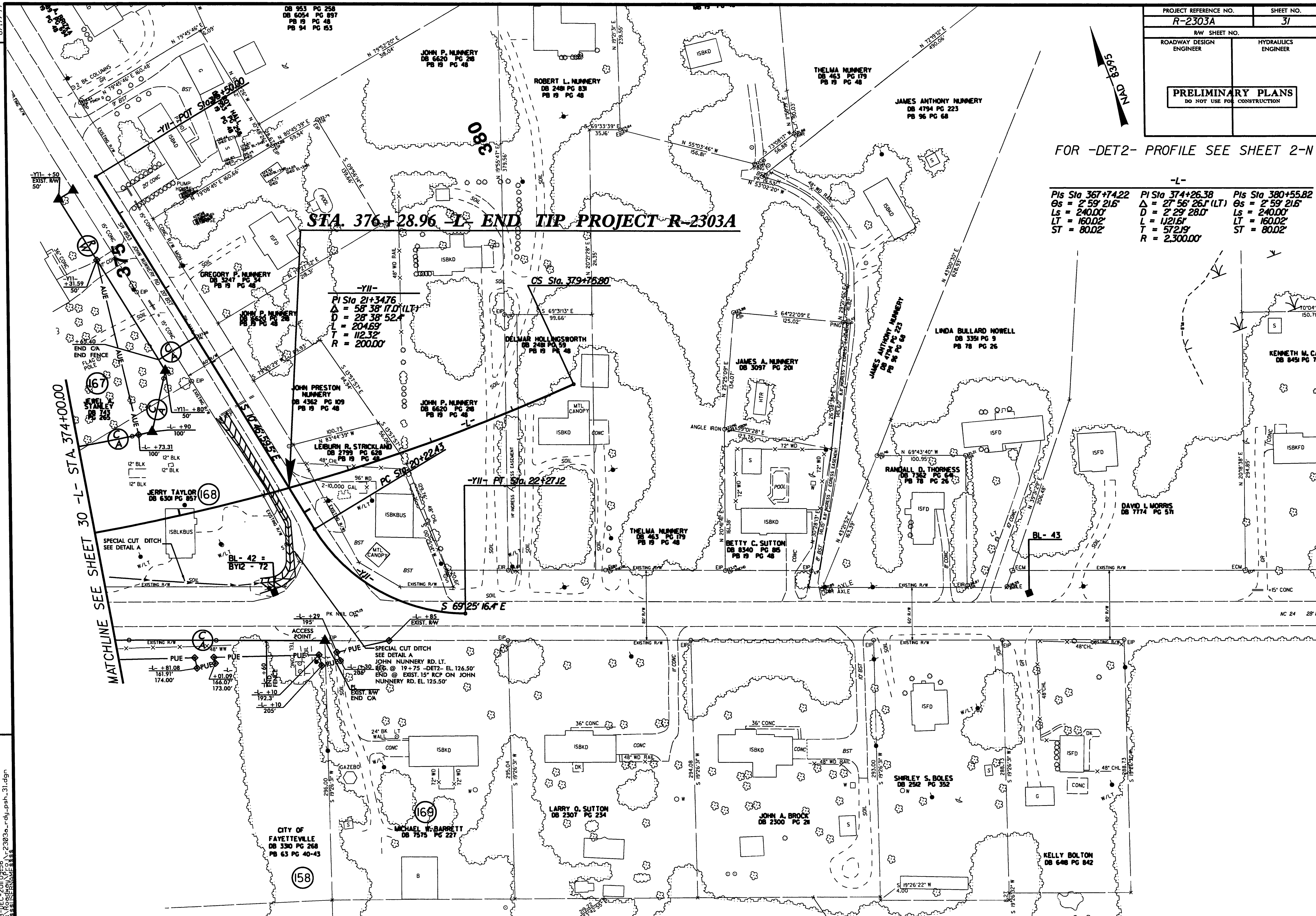
$$$$USERNAME$$$$


PROJECT REFERENCE NO. R-2303A
SHEET NO. 31
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
NAD 83/95
FOR -DET2- PROFILE SEE SHEET 2-N
-L-
PIs Sta 367+74.22
Θs = 2° 59' 21.6"
Ls = 240.00'
LT = 160.02'
ST = 80.02'
PI Sta 374+26.38
Δ = 27° 56' 26.1" (LT)
D = 2° 29' 28.0"
L = 1,121.61'
T = 572.19'
R = 2,300.00'
PIs Sta 380+55.82
Θs = 2° 59' 21.6"
Ls = 240.00'
LT = 160.02'
ST = 80.02'
STA. 376+28.96 -L- END TIP PROJECT R-2303A
-Y11-
PI Sta 21+34.76
Δ = 58° 38' 17.0" (LT)
D = 28° 38' 52.4"
L = 204.69'
T = 112.32'
R = 200.00'
CS Sta. 379+76.80
PC Sta. 20+22.43
-Y11- PT Sta. 22+27.12
S 69° 25' 16.4" E
MATCHLINE SEE SHEET 30 -L- STA. 374+00.00
JOHN P. NUNNERY DB 6620 PG 218 PB 19 PG 48
ROBERT L. NUNNERY DB 2481 PG 831 PB 19 PG 48
THELMA NUNNERY DB 463 PG 179 PB 19 PG 48
JAMES ANTHONY NUNNERY DB 4794 PG 223 PB 96 PG 68
GREGORY P. NUNNERY DB 3247 PG 34 PB 19 PG 48
DELMAR HOLLINGSWORTH DB 2481 PG 59 PB 19 PG 48
JOHN PRESTON NUNNERY DB 4362 PG 109 PB 19 PG 48
LEIBURN R. STRICKLAND DB 2799 PG 628 PB 19 PG 48
JAMES A. NUNNERY DB 3097 PG 201
LINDA BULLARD NOWELL DB 3351 PG 9 PB 78 PG 26
RANDALL D. THORNESS DB 7362 PG 64 PB 78 PG 26
BETTY C. SUTTON DB 8340 PG 85 PB 19 PG 48
DAVID L. MORRIS DB 7774 PG 571
JERRY TAYLOR DB 6301 PG 857
JEWEL STANLEY DB 743 PG 265
SPECIAL CUT DITCH SEE DETAIL A
BL- 42 = BY12 - 72
BL- 43
SPECIAL CUT DITCH SEE DETAIL A JOHN NUNNERY RD. LT. BEG. @ 19+75 -DET2- EL. 126.50' END @ EXIST. 15" RCP ON JOHN NUNNERY RD. EL. 125.50'
NC 24
CITY OF FAYETTEVILLE DB 3310 PG 268 PB 63 PG 40-43
MICHAEL W. BARRETT DB 7575 PG 227
LARRY O. SUTTON DB 2307 PG 234
JOHN A. BROCK DB 2300 PG 211
SHIRLEY S. BOLES DB 2512 PG 352
KELLY BOLTON DB 6418 PG 842
KENNETH M. CA DB 8451 PG 72

REVISIONS

RIGHT OF WAY REVISION - JANUARY 27, 2011 - REVISED PUE ON PARCEL 158, ADDED AUE ON PARCELS 167 & 168.
RIGHT OF WAY REVISION - DECEMBER 21, 2011 - ENDED C/A & FENCE AT -Y11- STA.17+65.40.

8/17/99

28-DEC-2011 09:56
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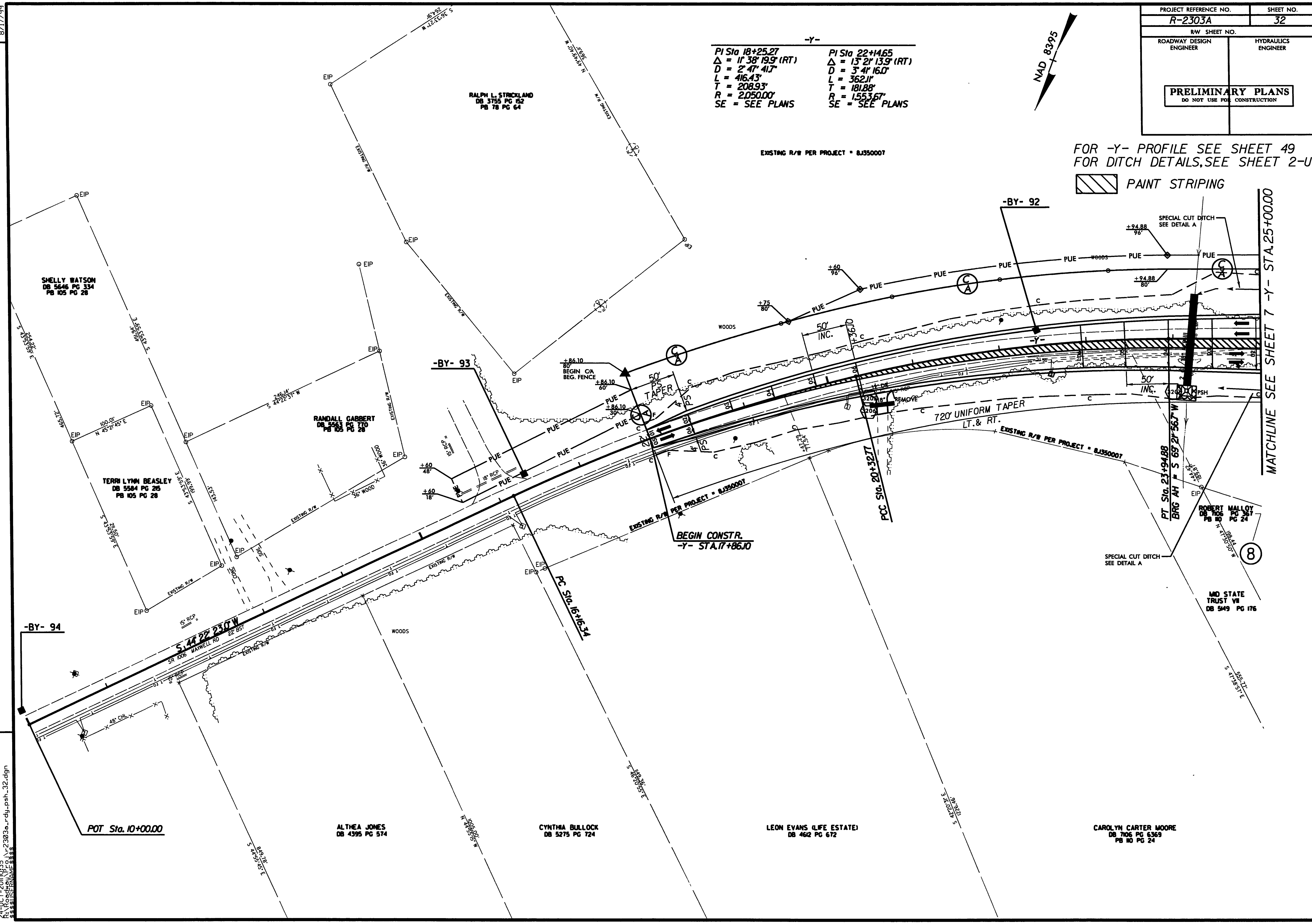
REVISIONS

OCTOBER 24, 2011 - R/W REVISION - ADDED PUE TO EXISTING NCDOT R/W PER PROJECT 8J350007.



PROJECT REFERENCE NO. R-2303A
SHEET NO. 32
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
NAD 83/95
-Y-
PI Sta 18+25.27
Δ = 11° 38' 19.9" (RT)
D = 2° 47' 41.7"
L = 416.43'
T = 208.93'
R = 2,050.00'
SE = SEE PLANS
PI Sta 22+14.65
Δ = 13° 21' 13.9" (RT)
D = 3° 41' 16.0"
L = 362.11'
T = 181.88'
R = 1,553.67'
SE = SEE PLANS
EXISTING R/W PER PROJECT = 8J350007
FOR -Y- PROFILE SEE SHEET 49
FOR DITCH DETAILS, SEE SHEET 2-U
PAINT STRIPING
MATCHLINE SEE SHEET 7 -Y- STA.25+00.00
RALPH L. STRICKLAND
DB 3755 PG 152
PB 78 PG 64
SHELLY WATSON
DB 5646 PG 334
PB 105 PG 28
RANDALL GABBERT
DB 5563 PG 770
PB 105 PG 28
TERRI LYNN BEASLEY
DB 5584 PG 215
PB 105 PG 28
-BY- 92
-BY- 93
-BY- 94
BEGIN CONSTR.
-Y- STA.17+86.10
PC Sta. 16+16.34
PCC Sta. 20+32.77
PT Sta. 23+94.88
BRG AH = S 69° 21' 56.7" W
720' UNIFORM TAPER
LT.& RT.
S 44° 22' 23.0" W
SR 1006 MAXWELL RD
POT Sta. 10+00.00
SPECIAL CUT DITCH
SEE DETAIL A
ROBERT MALLOY
DB 7106 PG 367
PB 110 PG 24
MID STATE
TRUST VII
DB 5149 PG 176
ALTHEA JONES
DB 4395 PG 574
CYNTHIA BULLOCK
DB 5275 PG 724
LEON EVANS (LIFE ESTATE)
DB 4612 PG 672
CAROLYN CARTER MOORE
DB 7106 PG 6369
PB 110 PG 24
WOODS

8/17/99

24-OCT-2011 10:35
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PROJECT REFERENCE NO.	SHEET NO.
R-2303A	33
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PAINT STRIPING

NAD 83/95

REVISIONS

8/17/99

VANDER CENTER LLC.
DB 6012 PG 734
PB 108 PG PG 104

JOSEPH RIDDLE
DB 6585 PG 712
PB 108 PG 104

JOSEPH RIDDLE
DB 6585 PG 712
PB 108 PG 104

PETRS D. BUMBLIS
DB 6694 PG 746
PB 83 PG 132

RICHARD ZWALM
DB 7120 PG 684
PB 83 PG 132

HAROLD J. KIDD
DB 430 PG 284
PB 83 PG 132
PB 78 PG 65

JAMES TEW
DB 7197 PG 385
PB 83 PG 125

SYLVIA COMER
DB 5398 PG 692
PB 83 PG 125

MILTON MOSLEY
DB 6729 PG 240
PB 83 PG 125

WOOLSEY BRITTINGHAM
DB 4605 PG 485
PB 83 PG 125

LENNON FAMILY LIMITED
DB 5485 PG 561
PB 78 PG 65

PETER PAVLIKIANOIS
DB 3754 PG 520
PB 78 PG 65

-Y-
PI Sta 37+50.34
θs = 1° 38' 47.5"
Ls = 100.00'
LT = 66.67'
ST = 33.34'

-Y-
PI Sta 39+06.00
Δ = 8° 02' 34.5" (LT)
D = 3° 17' 34.3"
L = 244.25'
T = 122.33'
R = 1740.00'
SE = EXIST.

-Y-
PIs Sta 40+61.26
θs = 1° 38' 47.5"
Ls = 100.00'
LT = 66.67'
ST = 33.34'

-Y-
PI Sta 43+30.97
Δ = 9° 02' 46.5" (RT)
D = 2° 34' 09.5"
L = 352.09'
T = 176.41'
R = 2230.00'
SE = EXIST.

TS Sta. 36+83.67
BRG BK = S 69° 21' 56.7" W

SC Sta. 37+83.67

CS Sta. 40+27.93

ST Sta. 41+27.93

PC Sta. 41+54.56
BRG AH = S 58° 01' 40.8" W

PT Sta. 45+06.65
END CONST.

RESURFACE EXISTING PAVEMENT WITH 3" S9.5B
-Y- STA. 35+00.00 TO 45+06.65

200' TAPER

100' TAPER

352.09' TAPER

MATCHLINE SEE SHEET 7
-Y- STA. 36+00.00

MATCHLINE SEE SHEET 6

MATCHLINE SEE SHEET 6

MATCHLINE SEE SHEET 6

SR 1006 CLINTON RD 24' BST

EXISTING R/W

60'WW & ISBW

MTL CANOPY
12 GAS PUMPS

BST PARKING

MTL CAR WASH

CAR WASH DRAIN

CONC POLES

GREASE TRAPS

IS BLK BUS

AIR COND.

ROW CONC POSTS

HIGHWAY BEAUTIFICATION AREA

HTR BUS

ISBKD

MORUS DR 30' BST

BL- 4

BY- 47

TH #2

183.41
N 64°45'45" E

183.52
N 64°21'33" E

174.06
N 48°52'08" E

217.41
N 78°35'37" W

324.12
S 08°01'18" W

22-SEP-2011 15:32
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$$USER$$

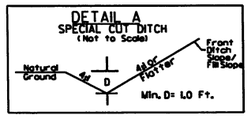
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	2-U
R/W SHEET NO.	

HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DITCH DETAILS

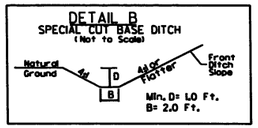
DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 21+50 TO STA. 28+40 -L- LT.
FROM STA. 53+70 TO STA. 60+00 -L- LT.
FROM STA. 64+50 TO STA. 70+76 -L- LT.
FROM STA. 107+00 TO STA. 112+33 -L- LT.
FROM STA. 112+33 TO STA. 114+00 -L- LT.
FROM STA. 115+00 TO STA. 117+90 -L- LT.
FROM STA. 117+90 TO STA. 120+50 -L- LT.
FROM STA. 121+00 TO STA. 124+50 -L- LT.
FROM STA. 125+50 TO STA. 130+00 -L- LT.
FROM STA. 131+50 TO STA. 133+70 -L- LT.
FROM STA. 134+50 TO STA. 148+00 -L- LT.
FROM STA. 148+00 TO STA. 152+00 -L- LT.
FROM STA. 175+00 TO STA. 178+00 -L- LT.
FROM STA. 179+00 TO STA. 181+00 -L- LT.
FROM STA. 182+50 TO STA. 194+00 -L- LT.
FROM STA. 210+00 TO STA. 215+00 -L- LT.
FROM STA. 223+00 TO STA. 224+05 -L- LT.
FROM STA. 241+50 TO STA. 248+50 -L- LT.
FROM STA. 301+00 TO STA. 305+00 -L- LT.
FROM STA. 309+50 TO STA. 310+00 -L- LT.
FROM STA. 311+00 TO STA. 316+00 -L- LT.
FROM STA. 316+50 TO STA. 322+00 -L- LT.
FROM STA. 323+50 TO STA. 330+00 -L- LT.
FROM STA. 330+00 TO STA. 332+50 -L- LT.
FROM STA. 333+50 TO STA. 335+50 -L- LT.
FROM STA. 336+50 TO STA. 340+00 -L- LT.
FROM STA. 351+00 TO STA. 360+50 -L- LT.

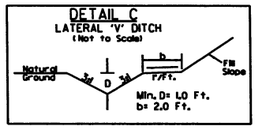
FROM STA. 30+00 TO STA. 33+80 -L- RT
FROM STA. 49+00 TO STA. 50+50 -L- RT.
FROM STA. 52+30 TO STA. 55+00 -L- RT.
FROM STA. 90+00 TO STA. 96+80 -L- RT.
FROM STA. 96+92 TO STA. 99+50 -L- RT.
FROM STA. 107+00 TO STA. 112+80 -L- RT.
FROM STA. 112+80 TO STA. 115+00 -L- RT
FROM STA. 115+50 TO STA. 124+50 -L- RT.
FROM STA. 129+00 TO STA. 131+00 -L- RT.
FROM STA. 138+00 TO STA. 148+00 -L- RT.
FROM STA. 148+00 TO STA. 154+50 -L- RT.
FROM STA. 155+50 TO STA. 162+00 -L- RT.
FROM STA. 162+50 TO STA. 165+50 -L- RT.
FROM STA. 175+00 TO STA. 186+00 -L- RT.
FROM STA. 187+00 TO STA. 195+00 -L- RT.
FROM STA. 200+00 TO STA. 203+50 -L- RT.
FROM STA. 215+00 TO STA. 224+00 -L- RT.
FROM STA. 225+50 TO STA. 231+00 -L- RT.
FROM STA. 232+00 TO STA. 236+00 -L- RT.
FROM STA. 242+00 TO STA. 248+00 -L- RT.
FROM STA. 250+50 TO STA. 252+00 -L- RT.
FROM STA. 259+00 TO STA. 267+00 -L- RT.
FROM STA. 267+00 TO STA. 276+50 -L- RT.
FROM STA. 289+00 TO STA. 303+00 -L- RT.
FROM STA. 316+00 TO STA. 322+00 -L- RT.
FROM STA. 323+00 TO STA. 326+50 -L- RT.
FROM STA. 327+00 TO STA. 331+00 -L- RT.
FROM STA. 332+22 TO STA. 335+90 -L- RT.
FROM STA. 336+21 TO STA. 337+00 -L- RT.
FROM STA. 343+50 TO STA. 344+27 -L- RT.
FROM STA. 358+00 TO STA. 361+00 -L- RT.
FROM STA. 24+50 TO STA. 25+50 -Y- RT.
FROM STA. 24+22 TO STA. 30+41 -Y- LT.
FROM STA. 33+11 TO STA. 34+50 -Y- LT.
FROM STA. 14+00 TO STA. 17+00 -Y4- RT.
FROM STA. 12+00 TO STA. 13+00 -Y7- RT.
FROM STA. 14+86 TO STA. 16+00 -Y7- RT.
FROM STA. 10+00 TO STA. 12+00 -Y8- LT.
FROM STA. 10+50 TO STA. 11+80 -Y8- RT.
FROM STA. 14+00 TO STA. 14+50 -Y8- LT.
FROM STA. 14+00 TO STA. 14+50 -Y8- RT.
FROM STA. 12+00 TO STA. 13+00 -Y10- RT.
FROM STA. 11+00 TO STA. 13+50 -DET5- RT.

DETAIL B
SPECIAL CUT BASE DITCH
(Not to Scale)



FROM STA. 195+50 TO STA. 209+00 -L- LT.
FROM STA. 203+50 TO STA. 214+50 -L- RT.

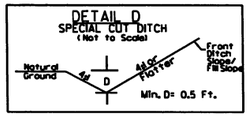
DETAIL C
LATERAL 'V' DITCH
(Not to Scale)



FROM STA. 167+50 TO STA. 174+00 -L- LT.
FROM STA. 300+50 TO STA. 301+00 -L- LT.

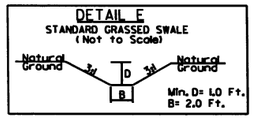
FROM STA. 236+00 TO STA. 240+50 -L- RT.
FROM STA. 252+00 TO STA. 258+00 -L- RT.
FROM STA. 276+50 TO STA. 284+00 -L- RT.

DETAIL D
SPECIAL CUT DITCH
(Not to Scale)



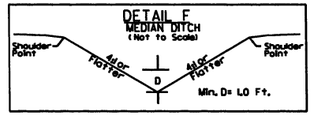
FROM STA. 365+50 TO STA. 367+00 -L- RT.

DETAIL E
STANDARD GRASSED SWALE
(Not to Scale)



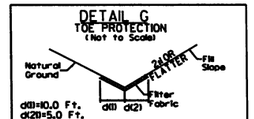
STA. 124+46 -L- LT.
STA. 147+98 -L- LT
STA. 190+39 -L- LT.
STA. 215+02 -L- LT.

DETAIL F
MEDIAN DITCH
(Not to Scale)



FROM STA. 161+00 TO STA. 162+00 -L- MED.
FROM STA. 196+00 TO STA. 199+00 -L- MED.
FROM STA. 211+00 TO STA. 214+00 -L- MED.

DETAIL G
TOE PROTECTION
(Not to Scale)

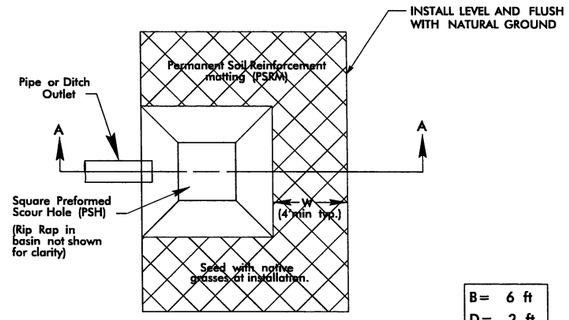


Type of Liner= Class B Rip-Rap

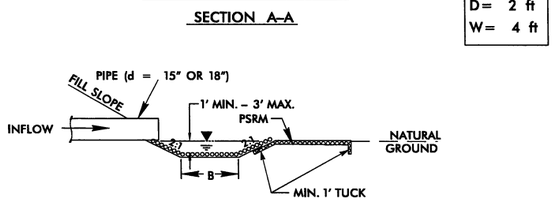
FROM STA. 322+68 TO STA. 323+10 -L- RT.

PREFORMED SCOUR HOLE
*NOT TO SCALE

PLAN VIEW



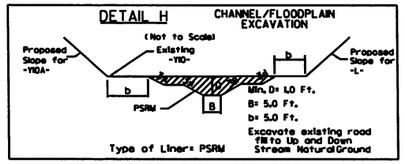
SECTION A-A



B=	6 ft
D=	2 ft
W=	4 ft

Sta. 73+23 -L- LT
Sta. 172+00 -L- RT
Sta. 24+13 -Y- RT

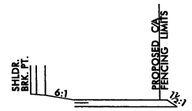
DETAIL H CHANNEL/FLOODPLAIN EXCAVATION
(Not to Scale)



Type of Liner= PSRM

EST. EXCAVATION = 4000 CU YDS
EST PSRM = 300 SQ YDS

305+12 -L- RT.

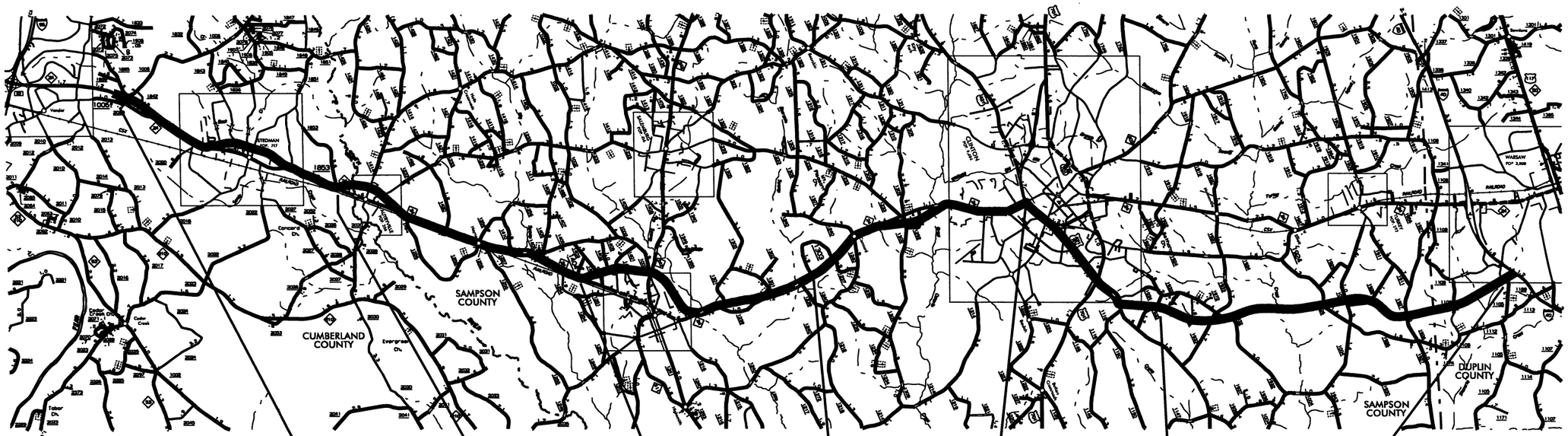


R-2303 CUMBERLAND–SAMPSON–DUPLIN COUNTIES

NC 24

PROJECT BREAKDOWN MAP

PROJECT SCHEDULES AND COSTS ARE ACCURATE AS OF DATE SHOWN.



I.D. NO. / D.S.R. NO.	R-2303 A	R-2303 B	R-2303 C	R-2303 D	R-2303 E	R-2303 F
STATE PROJECT NO. (P.E.)	8T280802	8T280802	8T280802	8T280802	8T280802	8T280802
PROJECT ENGINEER	LOVERING	MOORE	MOORE	MOORE	MOORE	MOORE
PROJECT DESCRIPTION	0.9 MILES WEST OF SR 1006 TO SR 1853	SR 1853 TO SR 1404	SR 1404 TO SR 1303	SR 1303 TO US 421/US 701/ SR 1296	US 421/US 701/SR 1296 TO EAST OF SR 1935	EAST OF SR 1935 TO I-40
COUNTY / DIVISION	CUMBERLAND / DIV. 6	CUMB.-SAMPSON / DIV. 6-3	SAMPSON / DIV. 3	SAMPSON / DIV. 3	SAMPSON / DIV. 3	SAMPSON-DUPLIN / DIV. 3
LENGTH	6.8 MILES	6.9 MILES	7.0 MILES	6.5 MILES	4.8 MILES	9.8 MILES
TYPE OF CONTRACT				TURNKEY	TURNKEY	TURNKEY
REMARKS						
BEGIN R/W ACQUISITION (T.I.P.)						
BEGIN R/W ACQUISITION (PRODUCTION)	FY-11	FY-11	FY-11	FY-11	PY	PY
PROPOSED LETTING (T.I.P.)						
PROPOSED LETTING (PRODUCTION)	FY-13	FY-13	FY-13	FY-13	PY	PY
EST. COMP. DATE (T.I.P.)						
ESTIMATED R/W. COST	$ 14,100,000	$ 11,200,000	$ 11,400,000	$ 17,800,000	$ 7,250,000	$ 13,900,000
ESTIMATED CONSTRUCTION COST	$ 31,800,000	$ 50,100,000	$ 46,900,000	$ 49,800,000	$ 26,400,000	$ 105,000,000

R-2303

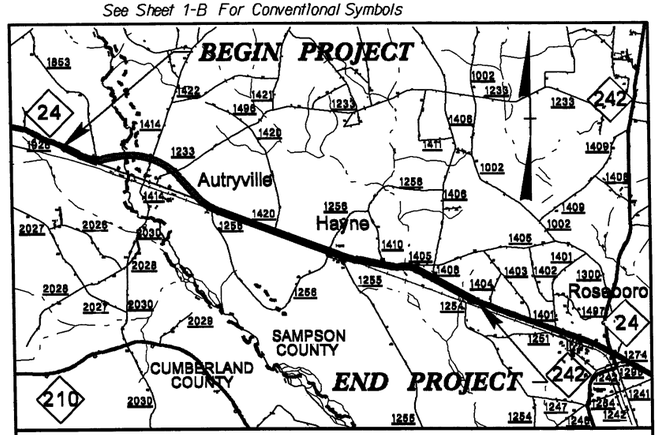
UPDATED - 09/22/11

09/08/99

TIP PROJECT: R-2303B

CONTRACT:

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



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CUMBERLAND & SAMPSON COUNTIES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2303B	1	

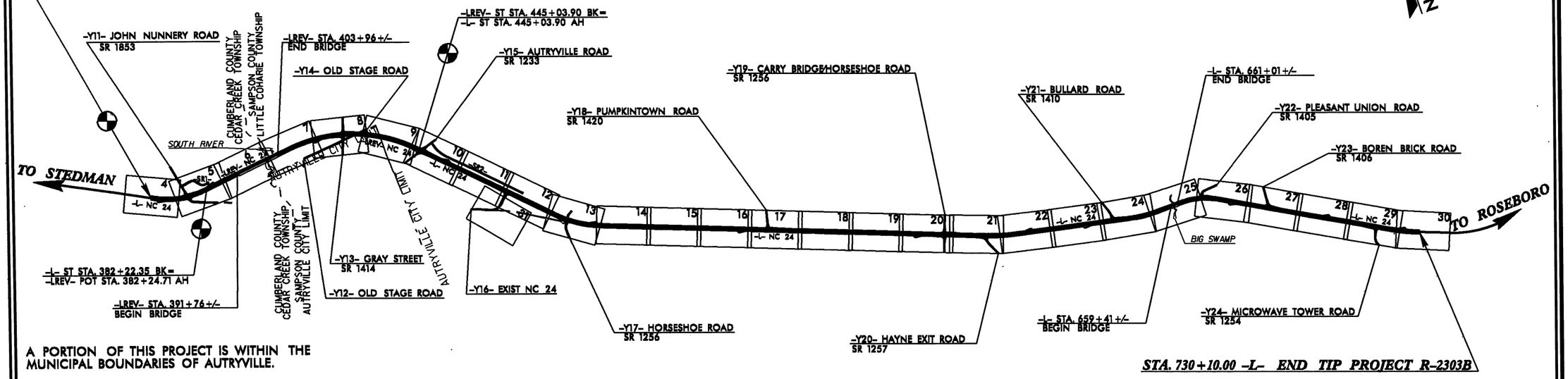
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34416.1.1	STPNHF-F-8-2(17)	P.E.
34416.2.3		R/W

LOCATION: NC 24 FROM WEST OF SR 1853 (JOHN NUNNERY ROAD) TO WEST OF SR 1404 (DOWDY ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURES

NAD 83/93

STA. 366+14.19 BK –L– END TIP PROJECT R-2303A
STA. 366+20.75 AH –L– BEGIN TIP PROJECT R-2303B



A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF AUTRYVILLE.

THIS IS A LIMITED AND PARTIAL CONTROL OF ACCESS PROJECT WITH ACCESS BEING LIMITED TO THE POINTS AS SHOWN ON THE PLANS.

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

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

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

DESIGN DATA

ADT 2010 = 13520
ADT 2030 = 22000
DHV = 11 %
D = 65 %
T = 9 % *
V = 60 MPH
* TTST 6% DUAL 3%
FUNC. CLASS – ARTERIAL
TIER–STATEWIDE

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2303B = 6.628 MILES
LENGTH STRUCTURES TIP PROJECT R-2303B = 0.263 MILES
TOTAL LENGTH TIP PROJECT R-2303B = 6.891 MILES

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: MARCH 29, 2011

LETTING DATE: MARCH 19, 2013

GARY LOVERING, PE
PROJECT ENGINEER

KEVIN E. MOORE, 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

23-NOV-2011 08:43
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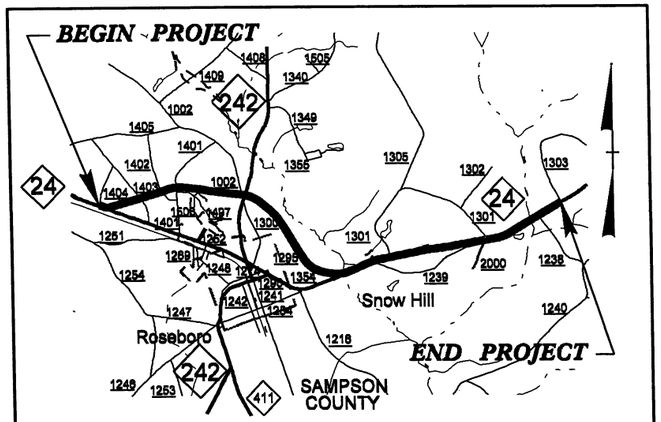
$$$$USERNAME$$$$

09/08/99

TIP PROJECT: R-2303C

CONTRACT:

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



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SAMPSON COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2303C	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34416.1.1	STPNHF-F-8-2(17)	PE
34416.2.4		ROW & UTL.

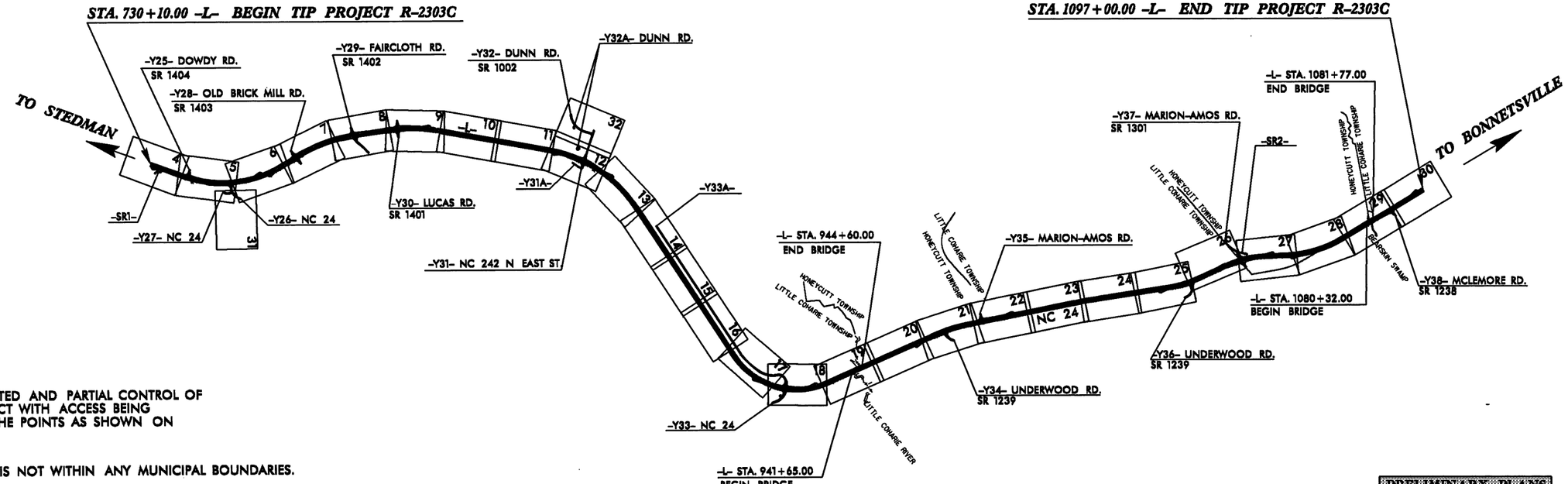
LOCATION: NC 24 FROM SR 1404 (DOWDY ROAD) TO SR 1303 (MITCHELL LOOP ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURES

NAD 83/95

STA. 730+10.00 -L- BEGIN TIP PROJECT R-2303C

STA. 1097+00.00 -L- END TIP PROJECT R-2303C



THIS IS A LIMITED AND PARTIAL CONTROL OF ACCESS PROJECT WITH ACCESS BEING LIMITED TO THE POINTS AS SHOWN ON THE PLANS.

THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

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

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

PLANS: 50 25 0 50 100

PROFILE (HORIZONTAL): 50 25 0 50 100

PROFILE (VERTICAL): 10 5 0 10 20

DESIGN DATA

ADT 2013 = 13,296
ADT 2033 = 19,536
DHV = 11 %
D = 55 %
T = 8 % *
V = 60 MPH
FUNC CLASS = ARTERIAL
* (TTST 5% + DUAL 3%)
CLASS = STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2303C = 6.866 MILES
LENGTH STRUCTURES TIP PROJECT R-2303C = 0.083 MILES
TOTAL LENGTH TIP PROJECT R-2303C = 6.949 MILES

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: MAY 27, 2011

LETTING DATE: MAY 21, 2013

GREG BREW, PE
PROJECT ENGINEER

WAYNE BEST
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER P.E.

23-NOV-2011 08:55
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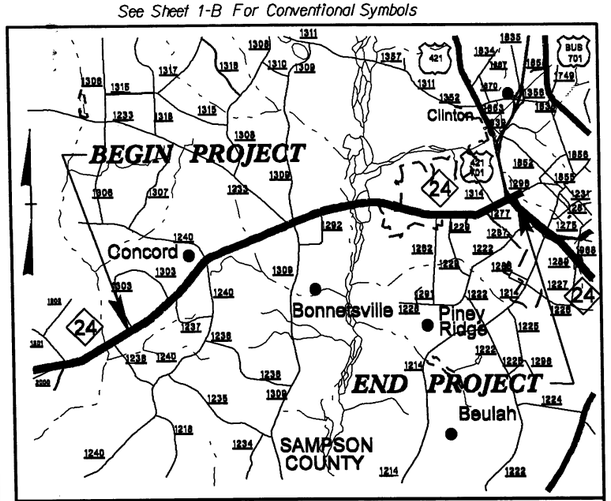
$$$$USERNAME$$$$

09/08/99

TIP PROJECT: R-2303D

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



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SAMPSON COUNTY

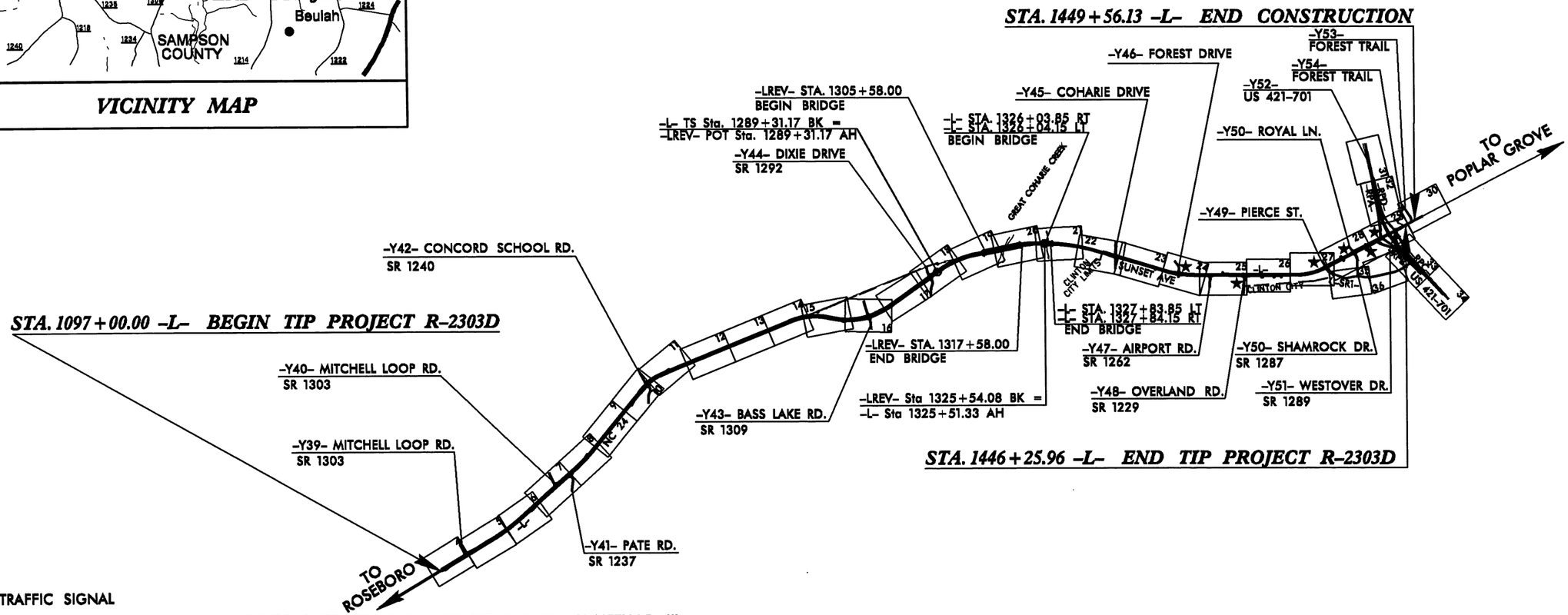
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2303D	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34416.1.1		PE
34416.2.5		R / W, UTIL.

LOCATION: NC 24 FROM SR 1303 (MITCHELL LOOP ROAD) TO US 421-701 / SR 1296 (SUNSET AVENUE)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, RESURFACING, CURB & GUTTER, SIGNALS, AND STRUCTURES

NAD 83/95



★ TRAFFIC SIGNAL

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
PORTIONS OF THIS PROJECT ARE WITHIN THE TOWN LIMITS OF BELVOIR & LITTLE COHAIRE AND CITY LIMITS OF CLINTON.
THIS IS A LIMITED AND PARTIAL CONTROL OF ACCESS PROJECT WITH ACCESS BEING LIMITED TO THE POINTS AS SHOWN ON THE PLANS.

PRELIMINARY PLANS
NOT TO BE USED FOR CONSTRUCTION

CONTRACT:

GRAPHIC SCALES

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

DESIGN DATA

ADT 2013 = 40480
ADT 2033 = 59680
DHV = 11 %
D = 55 %
T = 8 % *
V (SHOULDER) = 60 MPH
V (CURB & GUTTER) = 50 MPH
* (TTST 5% + DUAL 3%)
FUNC. CLASS = ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2303D = 6.35 MILES
LENGTH STRUCTURES TIP PROJECT R-2303D = 0.26 MILES
TOTAL LENGTH TIP PROJECT R-2303D = 6.61 MILES

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JUNE 30, 2011

LETTING DATE: JUNE 18, 2013

GREG BREW, PE
PROJECT ENGINEER

WAYNE BEST
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER P.E.

23-NOV-2011 08:57
R:\Roadway\Projects\r2303d_rdy_tsh.dgn
$$$$USERNAME$$$$

R-2303E SHT. 9 OF 11

DESIGN PUBLIC MEETING MAP

PROJECT 34416.1.1 (R-2303)
F. A. PROJECT STPNHF-F-8-2(17)
CUMBERLAND, SAMPSON, & DUPLIN COUNTIES

NC 24 FROM WEST OF SR 1006 (CLINTON RD) IN CUMBERLAND COUNTY TO I-40 NEAR WARSAW IN DUPLIN COUNTY

FALL 2008 ROLL 9 OF 11 R-2303E

* 2.7 MILE BREAK BETWEEN SUNSET AVE. INTERCHANGE AND US 701 INTERCHANGE

REFER TO ROLL 8

TO CLINTON

BEGIN CONSTRUCTION PROJECT R-2303E

STUDIED CORRIDOR

TO GARLAND

BEGIN PROJECT R-2303E

TO HARRELLS

NC 24 & SR 1935 (CECIL ODIE RD.)

SR 1935

NC 24

MATCHLINE TO ROLL 10 END PROJECT R-2303E BEGIN PROJECT R-2303F

LEGEND

(ENGLISH)

PRELIMINARY PLANS

NC 24 & SR 1934 (BYRD YANCEY BASS RD.)/NC 421 (TAYLOR'S BRIDGE RD.)

NOTE:
All new location sections following the existing alignment will be designed with Partial Control of Access.

Partial Control of Access is defined as one access point per parcel. For properties with large road frontages (for example, 2000 feet or more), an additional access point may be considered. For properties that have access only on via a side road, access to NC 24 may be eliminated.

NOTE:
All new location sections will be designed with Limited Control of Access.

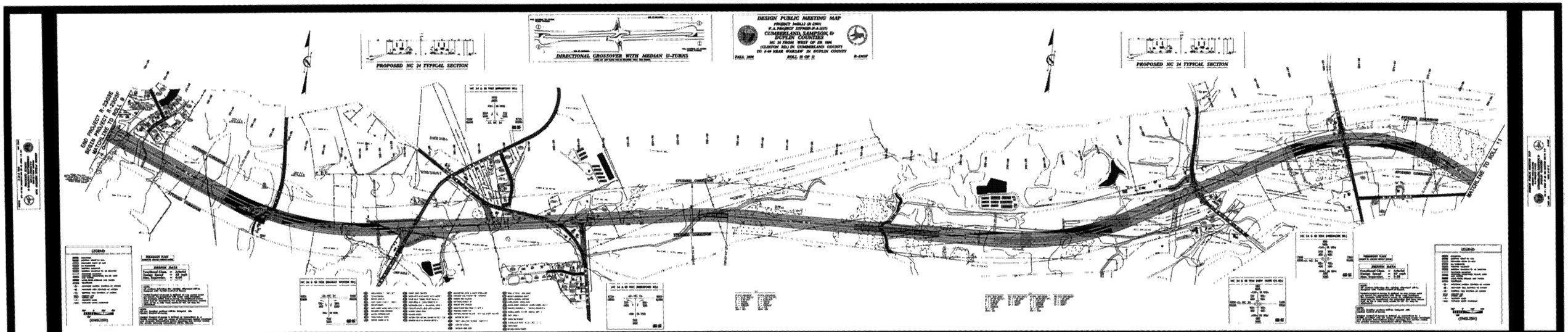
Limited Control of Access is defined as connections to a facility provided only via ramps at interchanges (major crossings) and at-grade intersections (minor crossings and service roads). No private driveway connections will be allowed.

PROPOSED NC 24 TYPICAL SECTION

DIRECTIONAL CROSSOVER WITH MEDIAN U-TURNS

NOTE: NO LEFT TURNS WILL BE PERMITTED FROM SIDE STREETS.

R-2303E SHT. 10 OF 11



R-2303F SHT. 11 OF 11