STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

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SECRETARY

January 21, 2008

US Army Corps of Engineers
Raleigh Regulatory Field Office
3331 Heritage Trade Dr., Suite 105
Wake Forest, NC 27587

Attention: Eric Alsmeyer
NCDOT Coordinator, Division 5

Subject: **Application for Section 404 Individual Permit, Individual Section 401 Water Quality Certification, Individual Isolated Wetlands Permit and Neuse Buffer Authorization and** for Rolesville Bypass, US 401 from SR 2044 (Ligon Mill Road) to SR 1700 (Fox Park Road), Wake and Franklin Counties, Federal Aid No. STP-401(4), State Project No. 81403001, WBS 34506.1.1, Division 5, TIP R-2814 A, B, C and D.

$540.00 Debit WBS Element 34506.1.1.

Dear Sir:

The North Carolina Department of Transportation (NCDOT) proposes to construct a 18.5 mile long, widening and new location roadway (Rolesville Bypass) in Wake and Franklin Counties. It is proposed as a four lane, median divided facility. This application package consists of the cover letter, ENG Form 4345, Hydraulic Design (Concurrence Point 4B and 4C) meeting minutes for Section A, copy of the agreement letter for Cascine Plantation and State Historic Preservation Office concurrence letters, permit drawings and roadway plan sheets.

Purpose and Need

The main purpose of the proposed Rolesville Bypass is to alleviate the existing and future capacity deficiencies along US 401. The proposed improvements will alleviate traffic congestion and provide an acceptable level of service through the design year 2025 and will also improve safety along US 401.

Summary of Impacts

The project lies in the Piedmont Physiographic Province in the Neuse (HUC 03020201) and Tar-Pamlico River Basins (HUC 03020101). R-2814A and B lie in the Neuse River Basin. R-2814C lies both the Neuse River Basin and Tar-Pamlico River Basin. R-2814D lies entirely in the Tar-

Pamlico River Basin. Permanent impacts on jurisdictional areas of the proposed project are summarized in Table 1 below and in more detail in Tables 4-5 for wetlands and Tables 6-7 for surface waters. Impacts for Section A are for final design, Section B is preliminary design with permit drawings and Sections C and D are preliminary with roadway drawings.

Table 1. Summary of Jurisdictional Permanent Impacts

Section	HUC	Riparian Wetlands (ac)*	Non-riparian Wetlands (ac)*	Streams (ft)	Ponds (ac)	Isolated Wetlands (ac)
R-2814A	03020201	<0.15	0	1032	0.01	0
R-2814B	03020201	2.47	0.19	2674	10.07	1.58
R-2814C	03020201	2.11	0.50	282	0	<0.01
Total for HUC 03020201		**<4.73**	**0.69**	**3988**	**10.08**	**<1.59**
R-2814C	03020101	0.23	0	395	0	0
R-2814D	03020101	0.43	0	653	0	0
Total for HUC 03020101		**0.66**	**0**	**1048**	**0**	**0**

*Includes fill, excavation, and mechanized clearing

Summary of Mitigation

The project has been designed to avoid and minimize impacts to jurisdictional areas throughout the NEPA and design processes. However, project impacts will still require mitigation. Compensatory mitigation requirements for the proposed Rolesville Bypass are summarized in Table 2 below. Due to the status of Sections C and D being currently unfunded, NCDOT is only proposing mitigation for Sections A and B. Mitigation requirements for Sections A and B are 2.62 acres of riparian wetlands, 1.77 acres of non-riparian wetlands and 3141 linear feet of streams. Mitigation will be debited from Jefferys Warehouse Mitigation Site and Mark's Creek Mitigation Site.

Table 2. Summary of Jurisdictional Impacts Requiring Mitigation

Section	HUC	Riparian Wetlands (ac)	Non-riparian Wetlands (ac)	Streams (ft)	Isolated Wetlands (ac)
R-2814A	03020201	0.15	0	725	0
R-2814B	03020201	2.47	0.19	2416	1.58
R-2814C	03020201	2.11	0.50	282	0.01
Total for HUC 03020201		**4.73**	**0.69**	**3423**	**1.59**
R-2814C	03020101	0.23	0	395	0
R-2814D	03020101	0.43	0	653	0
Total for HUC 03020101		**0.66**	**0**	**1048**	**0**

PROJECT SCHEDULE

For construction purposes, the Rolesville Bypass has been broken down into four sections. Table 3 reflects the project breakdown and section termini.

Permit drawings for the proposed Rolesville Bypass have been prepared based on final design for R-2814A and preliminary design for R-2814B, R-2814C and R-2814D. NCDOT will apply for any relevant permit modifications for Sections B, C, and D when final design is complete and prior to construction. Currently, Sections C and D are not funded for construction. At the time of this application, there is no information available to when Sections C and D will be complete. An approximate date may be 2020.

Table 3. Description of Project Sections for Construction Purposes

Section	Project Termini	Let Date
R-2814A	Widen US 401 from SR 2044 to SR 2226	10/20/09
R-2814B	New Location from SR 2226 to NC 96	4/19/11
R-2814C	Widen US 401 from NC 96 to SR 1103	Post year
R-2814D	Widen US 401 from SR 1103 to SR 1700	Post year

NEPA DOCUMENT STATUS

The Environmental Assessment (EA) was approved on October 11, 2001 and the Finding of No Significant Impact (FONSI) was approved on October 31, 2006. A Right-of-Way consultation for Section B was completed December 19, 2008. After approval, the documents were circulated to the appropriate agencies. Additional copies will be provided upon request.

INDEPENDENT UTILITIES

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

(1) The project connects logical termini and is of sufficient length to address environmental matters on a broad scope;

(2) The project is usable and a reasonable expenditure, even if no additional transportation improvements are made in the area;

(3) The project does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

RESOURCE STATUS

Original wetland and stream delineations were completed between October 1999 and January 2001. Streams and wetlands were reevaluated in 2004 and 2005. A Jurisdictional Determination was issued by the U.S. Army Corps of Engineers on January 19, 2006. This expires on January 19, 2011. Neuse and Tar-Pamlico buffer determinations were completed during site visits with Division of Water Quality personnel on October 26, 2004, January 26 and March 30, 2005.

These determinations were stated in a letter from DWQ dated July 27, 2005. These determinations expire July 27, 2010.

IMPACTS TO WATERS OF THE UNITED STATES

Wetlands

Permanent riparian wetland impacts total 5.46 acres and non-riparian impacts total 0.69 acres for the entire project. Tables 4-5 list permanent impacts (fill, excavation, and mechanized clearing) and temporary impacts (Section A only). Impacts are based upon final design for R-2814A and preliminary design for R-2814B, C, and D.

Table 4. R-2814A Wetland Impacts (Final) and Descriptions (HUC 03020201)

Permit Site No.	Wetland Reference No*.	Riparian or Non-riparian	Permanent Impacts (Acres)	Tempory Impacts (Acres)
1	R	Riparian	0.01	0.01
2	S	Riparian	<0.01	0
3	T	Riparian	0.03	0
4	U	Riparian	0.01	0
6	AP	Riparian	0.08	0
Total			**<0.15**	**0.01**

*refers to Figure 4 in FONSI

Table 5. R-2814B Wetland Impacts (Preliminary) and Descriptions (HUC 03020201)

Permit Site No.	Wetland Reference No.*	Riparian or Non-Riparian	Permanent Impacts (Acres)
2	V	Riparian	0.20
3	AA	Riparian	0.26
4	X	Riparian	0.26
7	D	Riparian	0.89
13	Y	Non-riparian	0.19
14	F	Riparian	0.48
15	FA	Non-riparian	1.58
17	AB	Riparian	0.38
Total			**4.24**

*refers to Figure 4 in FONSI

R-2814C Wetland Impacts (Preliminary)

Total riparian wetland impacts for HUC 03030201 are 2.11 acres. Total non-riparian impacts for HUC 03030201 are 0.50 acres. Total riparian wetland impacts for HUC 03020101 are 0.23 acres. These impact numbers come from Table 2 in the FONSI.

R-2814D Wetland Impacts (Preliminary)

Total riparian wetland impacts for HUC 03030101 are 0.43 acres. These impact numbers come from Table 2 in the FONSI.

Surface Waters

Permanent stream impacts for R-2814A, B, C and D are 5,036 linear feet and pond impacts are 10.08 acres. Tables 6 and 7 list the site number, reference number, stream name, amount of permanent impacts, amount of mitigation required, pond impacts, DWQ classification, and DWQ index number. The stream reference numbers correspond to the Table 2 in the FONSI. Impacts are based upon final design for R-2814A, preliminary design with permit drawings for R-2814B and preliminary roadway plans with impacts coming from Table 2 in the FONSI for Sections C and D.

There are no streams listed on the Final 2006 List of impaired waters [Section 303(d)] within the project area. The only 303(d) stream listed within 1.0 mile of the project area is Toms Creek. It is listed due to impaired biological integrity. This stream does not drain to any streams in the project area. Two unnamed tributaries (UTs) of Toms Creek are located in the project area. No Outstanding Resource Waters (ORW) occur within 1.0 mi of the project area. Cedar Fork Creek and Perry Creek are classified at WS II, HQW waters and are located in Section B.

Table 6. R-2814A Surface Water Impacts (Final)

Permit Site No. (Reference No.*)	Stream Name or Watershed (if Pond)	Intermittent/ Perennial	Permanent Stream Impacts (feet)	Impacts Requiring Mitigation (feet)	Ponds (ac)	DWQ Class	DWQ Index number
HUC 03020201							
1 (Stream 1a)	UT Neuse River	Intermittent	75	69	0	C NSW	27-(20.7)
3 (Stream 2)	UT Neuse River	Intermittent	160	0	0	C NSW	27-(20.7)
4 (Stream 3)	UT Neuse River	Perennial	392	376	0	C NSW	27-(20.7)
5 (Stream 4)	UT Neuse River	Intermittent	111	0	0	C NSW	27-(20.7)
6 (Stream5)	UT Toms Creek	Intermittent	95	95	0.01	C NSW	27-24
7 (Stream 6)	UT Toms Creek	Perennial	199	185	0	C NSW	27-24
Total			**1032**	**725**	**0.01**		

*refers to Figure 4 in FONSI

The Jurisdictional Determination (JD) did not require mitigation for the stream at Site 5. Since the receipt of the JD, the US Army Corps of Engineers has stated that Stream 2 (Site 3) on the north side of US 401 was no longer considered jurisdictional but was jurisdictional on the south side of US 401 and no mitigation was required, per an email dated 10/1/07. Bank stabilization occurs at the outlet of streams at Sites 1, 3, 4 and 7. The rip rap will be contained along the bank and will not incur a loss of Waters of the US, therefore no mitigation is proposed.

Table 7. R-2814B Surface Water Impacts (Preliminary)

Permit Site No. (Reference No.)	Stream Name	Intermittent/ Perennial	Permanent Stream Impacts (feet)	Impacts Requiring Mitigation (feet)	Pond Impacts (acres)	DWQ Class	DWQ Index number
HUC 03020201							
1 (Stream7)	UT to Harris Creek	Intermittent	281	281	0	C NSW	27-26
4 (Stream 8A)	UT to Harris Creek	Perennial	115	115	0	C NSW	27-26
5	UT to Harris Creek	n/a	n/a	n/a	1.53	C NSW	27-26
6 (Stream 9)	UT to Harris Creek		22	22	0	C NSW	27-26
7 (Stream10 and 10A)	UT to Harris Creek	Perennial	495	495	0	C NSW	27-26
8 (Stream 20)	Harris Creek	Perennial	518	518	0	C NSW	27-26
9 (Stream 23 and 23A)	UT to Harris Creek	Perennial/ Intermittent	626	626	1.25	C NSW	27-26
11 (n/a)	Cedar Fork Creek	Perennial	22	22	7.29	WS-II NSW HQW	27-57-3
12 (Stream 23C)	UT to Cedar Fork Creek	Intermittent	258	0	0	WS-II NSW HQW	27-57-3
16 (Stream 25)	Perry Creek	Perennial	337	337	0	WS-II NSW HQW	27-57-2
Total			**2674**	**2416**	**10.07**		

R-2814C Stream Impacts (Preliminary)

Total stream impacts for HUC 03030201 are 282 linear feet. Total stream impacts for HUC 03020101 are 395 linear feet. These impact numbers come from Table 2 in the FONSI. (Correction to Table 2 in FONSI, Streams 27 and 28 are non-jurisdictional and impact numbers from Table 2 not included in this permit application).

R-2814D Stream Impacts (Preliminary)

Total stream impacts for HUC 03020101 are 653 linear feet. These impact numbers come from Table 2 in the FONSI. (Correction to Table 2 in FONSI, Stream 39A is non-jurisdictional and impact numbers from Table 2 not included in this permit application).

BUFFER IMPACTS

This project impacts buffers in both the Neuse River Basin and the Tar-Pamlico River Basin. R-2814A, B and part of C are in the Neuse River Basin and part of Section C and all of Section D are in the Tar-Pamlico River Basin. Only Section A has final design. Section B has preliminary impacts with permit drawings while Sections C and D do not have permit drawings, only preliminary roadway plans, and impacts were derived from Table 2 in the FONSI. Wetlands are present within the impacted buffer areas. The wetland impacts within the mitigable buffer areas have been subtracted out. Buffer impacts in these areas will not be mitigated, only the wetland impacts. This will apply to Sections A and B only.

Table 8. R-2814A Neuse Riparian Buffer Impacts (Final)

	Impacts Other Than Road Crossings	Road Crossing	Road Crossing
Zone 1 Impact (sq. ft)	0	60,919	6809
Zone 2 Impact (sq. ft)	1389	29,758	6357
Mitigation requirements (exempt, allowable or allowable with mitigation)	Allowable with mitigation	Allowable with mitigation	Allowable(impacts less than 150 linear feet or one-third of an acre).

Table 9. R-2814A Total Neuse Riparian Buffer Impacts Requiring Mitigation (Final)

	Zone 1 (sq. ft.)	Zone 2 (sq. ft.)
Buffer Impacts requiring mitigation	60,919	31,147
Minus wetlands in buffers	-174	0
Total Buffer impacts requiring mitigation	**60,745**	**31,147**

Table 10. R-2814B Neuse Riparian Buffer Impacts (Preliminary)

	Impacts Other Than Road Crossings	Road Crossing	Road Crossing
Zone 1 Impact (sq. ft)	3169	237,163	506
Zone 2 Impact (sq. ft)	5693	136,497	0
Mitigation requirements (exempt, allowable or allowable with mitigation)	Allowable with mitigation	Allowable with mitigation	Allowable (impacts less than 150 linear feet or one-third of an acre).

Table 11. R-2814B Total Neuse Riparian Buffer Impacts Requiring Mitigation (Preliminary)

	Zone 1 (sq. ft.)	Zone 2 (sq. ft.)
Buffer Impacts requiring mitigation	240,332	142,190
Minus buffers in wetlands	-50,381	-17,843
Total Buffer impacts requiring mitigation	**189,951**	**124,347**

Total Zone 1 buffer impacts requiring mitigation are 251,696 and Zone 2 impacts requiring mitigation are 155,494 for Sections A and B. DWQ has agreed to let NCDOT acquire the necessary buffer mitigation for Sections C and D when funding is released for these sections and before applying for the permit modification. Mitigation for Neuse riparian buffer impacts will be debited from the Wiggins Mill Mitigation Site.

The Wiggins Mill Mitigation Site is located in Wilson County, south of the Wiggins Mill Reservoir and southwest of the city of Wilson. The site was originally constructed as mitigation for U-3472 and R-1030 and encompasses approximately 89 acres. The site was completed in March of 2001 and has successfully met all hydrologic and vegetative monitoring criteria.

To offset unavoidable Neuse Buffer impacts associated with T.I.P. R-2814A and B, the Wiggins Mill Mitigation Site will be debited 985,329 square feet of Neuse Buffer mitigation. This debit is reflected in the debit ledger below.

Table 12. Wiggins Mill Mitigation Site

Site name	Site TIP	HUC	River Basin	Division	County
Wiggins Mill	**R-1023WM**	**3020203**	**Neuse**	**4**	**Wilson**

Mitigation Type	Notes	As Built Quantity	Available	Debit	Debit	Debit
				R-1023	U-3472	R-1023AB&B
Riverine Wetland Restoration		84	12.9	70.6	0.44	
Riverine Wetland Enhancement		5	5			
Buffer (S.F.)		1,194,664	2,425		206,910	
Stream Restoration		7,020	247	2,380	1,109	2,284

Table 12 cont. Wiggins Mill Mitigation Site

Debit	Debit	Debit
U-3823A	R-1030AA	R-2814A and B
0.06		
		985,329
	1,000	

PROTECTED SPECIES

Plants and animals with Federal classification of Endangered (E) or Threatened (T) are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. As of January 31, 2008, the U.S. Fish and Wildlife Service (USFWS) website lists three federally protected species for Wake County and three federally protected species for Franklin County (Table 7). The bald eagle was previously listed for Wake County although, became officially delisted on August 8, 2007. There is no habitat for bald eagle.

Table 13. Federally Protected Species for Wake and Franklin Counties

Scientific Name	Common Name	County	Status	Habitat Present	Biological Conclusion
Alasmidonta heterodon	Dwarf wedgemussel	Franklin/Wake	E**	Yes	MANLTAA*
Elliptio steinstansana	Tar River spinymussel	Franklin	E	Yes	MANLTAA
Picoides borealis	Red-cockaded woodpecker	Wake	E	No	No Effect
Rhus michauxii	Michaux's sumac	Franklin/Wake	E	Yes	No Effect

*May Affect, Not Likely To Adversely Affect ** E=Endangered

Surveys for the red-cockaded woodpecker and Michaux's sumac were conducted in October 1999, January 2001, August and September 2004 and September 2008 (this date only for Michaux's sumac). No populations of any of these protected species were observed during the surveys. Biological Conclusions of No Effect have been rendered for these species. There is some habitat for the Tar River spinymussel and dwarf wedgemussel. No specimens were found during surveys. These species were rendered Biological Conclusions of May Affect-Not Likely to Adversely Affect. The USFWS issued concurrence with the Biological Conclusions for all species in a letter dated December 8, 2008 and is found in the Appendix of the FONSI. Section 7 consultation will need to be reinitiated for Sections C and D before construction. The following conservation measures are required by the USFWS for the dwarf wedgemussel.

- Clearing of riparian areas will be minimized to the fullest extent practical to reduce direct effects of the species.
- The use of HQW erosion control standards or other erosion control standards approved by the USFWS throughout the construction process in all areas within the project right-of-way that are located in the Little River, Crooked Creek and Cedar Creek watersheds.
- As project design information becomes available for Section C and D, NCDOT will provide written notice of this information to the USFWS (Raleigh Field Office) and the NCWRC non-game and protected species program.
- NCDOT will schedule meetings and/or field meetings to discuss these design plans in order to develop specific methods to avoid/minimize direct effects to the Little River, Crooked Creek and Cedar Creek.
- NCDOT will conduct an interim mussel survey/instream habitat evaluation at the Crooked Creek and Little River survey locations (Section C) and at the Cedar Creek survey location (Section D) after Let Dates have been established for each of these sections.
- The final pre-construction mussel surveys/instream habitat evaluations will be conducted in the project footprint and immediately downstream for Crooked Creek and Little River (Section C) and Cedar Creek (Section D) before these sections are let for construction.
- NCDOT will implement Best Management Practices (BMPs) that meet or exceed the current practices and regulations that mandate environmental protection
- The North Carolina Sedimentation and Pollution Control Act of 1973 requires 15 working days or 30 calendar days to stabilize erodible areas once grading has been completed. The NCDOT will strictly adhere to these guidelines.

CULTURAL RESOURCES

Archaeology

Archaeological surveys were conducted for this project. As currently designed, the proposed widening for US 401 and Rolesville Bypass will have no effect upon significant archaeological resources and the North Carolina Department of Cultural Resources (NCDCR) does not recommend any additional archaeological investigation. Enclosed is the concurrence letter from NCDCR dated August 6, 2008.

Historic Architecture

During the historic architecture investigation, it was determined that seven properties were eligible for the National Register. In the EA, it states six of the properties were either no effect or no adverse effect. The Casine Plantation had an adverse effect due to temporary construction easements on the property. Since the EA, it has been determined that there would be no adverse effect to the Casine Plantation because NCDOT would not be acquiring any right-of-way or easements for the historic property and will provide access to the property. Enclosed is the Concurrence form for the no adverse effect call, dated April 13, 2008, and a letter from NCDOT dated March 7, 2006, to the Tar River Land Conservancy stating NCDOT will provide access to the site.

FEMA COMPLIANCE

Wake and Franklin Counties are currently participating in the National Flood Insurance Program, administered by the Federal Emergency Management Agency (FEMA). There are no streams with FEMA designated flood hazard zones on project R-2814A. Project R-2814B crosses the FEMA designated flood hazard zones of Cedar Fork Creek (Basin 10, Stream 15) and Perry Creek (Basin 10, stream 19). Project R-2814C crosses the FEMA designated flood hazard zones of The Little River, Crooked Creek Tributary 3 and Crooked Creek. Project R-2814D crosses the FEMA designated flood hazard zone of Cedar Creek. The NCDOT Hydraulics Unit will coordinate with FEMA and local authorities during the final design stage of the R-2814B, R-2814C AND R-2814D projects to ensure compliance with applicable floodplain ordinances.

UTILITY IMPACTS

There will be no impacts to jurisdictional sites on Section A of this project. Any utilities that require relocation shall be relocated aerially or by directional bore. Utility impacts for Sections B, C and D will be evaluated during the permit modification process.

ICE STUDY

An Indirect and Cumulative Effects (ICE) study for this project was completed within the FONSI. Copies of the FONSI are available upon request.

WILD AND SCENIC RIVERS

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

ESSENTIAL FISH HABITAT

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

MITIGATION OPTIONS

The USACE has adopted, through the Council on Environmental Quality (CEQ), a wetland mitigation policy that embraces the concept of "no net loss of wetlands" and sequencing. The purpose of this policy is to restore and maintain the chemical, biological, and physical integrity of the waters of the United States. CEQ has defined mitigation of wetland and surface water impacts to include: avoiding impacts, minimizing impacts, rectifying impacts, reducing impacts over time, and compensating for impacts (40 CFR 1508.20). For this project, mitigation will be required for impacts associated with streams and wetlands.

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

Avoidance and Minimization

Impacts to many jurisdictional streams and wetlands could not be avoided. Minimization efforts have taken place continually through the planning process. NCDOT studied widening scenarios to the east and west of existing US 401 and along with the agencies developed a design which varies from east to west side widening in order to minimize impacts to jurisdictional resources.

R-2814A Minimization Measures

- NCDOT's Best Management Practices (BMPs) for the Protection of Surface Waters will be enforced.
- Preformed scour holes are located near Sites 6 and 7
- Design Standards in Sensitive Watersheds will be implemented
- 2:1 slopes were used at Sites 1, 3 and 5. 2:1 slopes were not practical at Sites 6 and 7 due to safety reasons
- Stream impacts are lower than stated in the FONSI (FONSI states 851 feet of impact)
- On site drainage on Permit Drawing Sheet 10 of 15 will be treated by a dry detention pond and level spreader

Compensatory Mitigation

Compensatory mitigation requirements for the proposed Rolesville Bypass are summarized in Table 13 below. Due to the status of Sections C and D being currently unfunded, NCDOT is only proposing mitigation for Sections A and B. Mitigation requirements for Sections A and B are 2.62 acres of riparian wetlands, 1.77 acres of non-riparian wetlands and 3141 linear feet of streams. Mitigation will be debited from Jefferys Warehouse Mitigation Site and Mark's Creek Mitigation Site.

Streams not requiring mitigation were determined to be intermittent and the USACE determined these streams do not provide significant aquatic uses.

Table 14. Jurisdictional Impacts Requiring Mitigation

Section	HUC	Riparian Wetlands (ac)	Non-riparian Wetlands (ac)	Streams (ft)	Isolated Wetlands (ac)
R-2814A	03020201	0.15	0	725	0
R-2814B	03020201	2.47	0.19	2416	1.58
R-2814C	03020201	2.11	0.50	282	<0.01
Total for HUC 03020201		**4.73**	**0.69**	**3423**	**<1.59**
R-2814C	03020101	0.23	0	395	0
R-2814D	03020101	0.43	0	653	0
Total for HUC 03020101		**0.66**	**0**	**1048**	**0**

The Jeffreys Warehouse Mitigation Site was originally constructed as on-site mitigation for R-1030 US 117 from south of NC 581 in Goldsboro to the US 264 Bypass in Wilson. There are two parcels associated with this mitigation site. The west parcel (approximately 50.2 acres) is bounded on the northwest by the Little River and on the southeast by the US 117 right-of-way.

The east parcel (approximately 37.5 acres) is bounded on the northwest by the US 117 right-of-way, on the northeast by a Wayne County Board of Education school bus maintenance shop, and on the east and southeast by private property. The site was constructed in 2006 and has undergone two year of hydrologic and vegetative monitoring.

To offset unavoidable riverine wetland impacts associated with T.I.P. R-2814A and B, the Jeffereys Warehouse Mitigation site will be deducted 2.62 acres of riverine wetland restoration. To offset unavoidable non-riverine wetland impacts associated with T.I.P R-2814A and B, the Jeffreys Warehouse Mitigation Site will be debited 1.77 acres of non-riverine wetland restoration. These debits are reflected in the debit ledger below.

Table 15. Jefferey's Warehouse Mitigation Site

Site name	Site TIP	HUC	River Basin	Division	County
Jefferey's Warehouse (JALO)	**R-1030AA**	**3020201**	**Neuse**	**4**	**Wayne**

Mitigation Type	As Built Quantity	Available	Debit	Debit
			B-3528	**B-4300**
Stream Restoration	3,731	3,193	452(226@2:1)	
Riverine Wetland Restoration	3.66	0.12		
Non-Riverine Wetland Restoration	23.02	18.49		
Riverine Wetland Preservation	12.36	12.36		
Neuse Buffer Restoration	689,607	335,959	75,577	40,075

Debit	Debit	Debit	Debit	Debit	Debit
R-2719A	**B-4592**	**B-4304**	**U-3344A**	**U-4011**	**R-2814A and B**
			25	61	
		0.92			2.62
2.76					1.77
172,387	16,398	3,653	45,558		

The marks Creek Mitigation Site is located approximately two miles southeast of Knightdale off of Knightdale-Eagle Rock Road in Wake County. The site was originally constructed as on-site mitigation for R-2547 the Knightdale Bypass. The site consists of stream restoration, wetland restoration, wetland enhancement, and wetland preservation. It was constructed in 2002, planted in 2003, and has undergone five years of hydrologic and vegetative monitoring.

To offset unavoidable stream impacts associated with T.I.P. R-2814A and B, the Marks Creek Mitigation Site will be debited 3,141 L.F. of stream restoration. This debit is reflected in the debit ledger below.

Table 16. Marks Creek Mitigation Site

Site name	Site TIP	HUC	River Basin	Division	County
Marks Creek	R-2547WM	3020201	Neuse	5	Wake

Mitigation Type	Notes	As Built Quantity	Available	Debit	Debit	Debit
				R-2000F&G	R-2547/R-2641	R-2814A and B
Stream Restoration		3,247	106			3,141
Buffer (S.F.)		324,700	324,700			
Riverine Wetland Restoration		12.66	8.26		4.4	
Riverine Wetland Enhancement		13	2.1	10.9		
Riverine Wetland Preservation		11	11			

REGULATORY APPROVALS

Application is hereby made for a Department of the Army Section 404 Individual Permit as required for the above-described activities for the proposed TIP project R-2814 (Sections A, B, C and D). The NCDOT understands that permit modifications will be required for R-2635B, C and D after final design is complete and prior to construction. We are also hereby requesting an Individual Section 401 Water Quality Certification, an Isolated Wetlands Permit and a Neuse Riparian Buffer Authorization from the Division of Water Quality. In compliance with Section 143-215.3D(e) of the NCAC, we will provide $540 to act as payment for processing the Section 401 permit. We are providing five copies of this application to the North Carolina Department of Environment and Natural Resources, Division of Water Quality, for their review.

A copy of this application will be posted on the NCDOT website at http://www.ncdot.org/doh/preconstruct/pe/permits.html. If you have any questions or need additional information, please call Rachelle Beauregard at 431-6764.

Sincerely,

E. L. Lusk

for Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA

cc:
w/attachment

Mr. Brian Wrenn, NCDWQ (5 Copies)
Ms. Kathy Matthews, USEPA
Mr. J. Wally Bowman, PE., Division Engineer
Mr. Chris Murray, DEO

W/o attachment (see website for attachments)

Dr. David Chang, P.E., Hydraulics
Mr. Mark Staley, Roadside Environmental
Mr. Greg Perfetti, P.E., Structure Design
Mr. Victor Barbour, P.E., Project Services Unit
Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. Scott McLendon, USACE, Wilmington
Mr. Gary Jordan, USFWS
Mr. Travis Wilson, NCWRC
Ms. Anne Deaton, NCDMF
Ms. Leilani Paugh, NEU
Ms. Beverly Robinson, PDEA Project Planning Engineer
Mr. Drew Joyner, PE, Human Environment Unit Head
Mr. Clarence W. Coleman, P.E., FHWA

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT (33 CFR 325)	OMB APPROVAL NO. 0710-003 Expires December 31, 2004

Public reporting burden for this collection of information is estimated to average 10 hours per response, although the majority of applications should require 5 hours or less. This includes 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 this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Service Directorate of Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302; and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003), Washington, DC 20503. 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

Authority: Rivers and Harbors Act, Section 10, 33 USC 403: Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research and Sanctuaries Act, 33 USC 1413, Section 103. 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. 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 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 COMPLETED

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME North Carolina Department of Transportation	8. AUTHORIZED AGENT'S NAME AND TITLE (an agent is not required)
6. APPLICANT'S ADDRESS 1598 Mail Service Center Raleigh, NC 27699-1548	9. AGENT'S ADDRESS
7. APPLICANT'S PHONE NOs. W/AREA CODE a. Residence b. Business (919) 733-3141	10. AGENT'S PHONE NOs. W/AREA CODE a. Residence b. Business

11. **STATEMENT OF AUTHORIZATION**

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.

APPLICANT'S SIGNATURE DATE

NAME, LOCATION, AND DESCRIPTION OR PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)

NCDOT TIP No. R-2814, Wake and Franklin Counties, NC

13. NAME OF WATERBODY, IF KNOWN (if applicable) UTs to Neuse River, UTs to Toms Creek, UTs to Harris Creek, Cedar Fork Creek, UT to Cedar Fork Creek, Perry Creek and UTs to Perry Creek, Little River and UTs to Little River, Crooked Creek Cedar Creek, Wolfpen Branch and their tributaries.

14. PROJECT STREET ADDRESS (if applicable)

15. LOCATION OF PROJECT

Wake and Franklin — NC
COUNTY — STATE

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions) Section, Township, Range, Lat/Lon, and/or Accessors's Parcel Number, for example.

17. DIRECTIONS TO THE SITE US 401 on north side of Raleigh to Louisburg.

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

The North Carolina Department of Transportation (NCDOT) proposes to construct a 18.5-mile long, widening and new location roadway (Rolesville Bypass) in Wake and Franklin Counties, North Carolina. It is proposed at a four lane, median divided facility.

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

The main purpose of the proposed Rolesville Bypass is to alleviate the existing and future capacity deficiencies along US 401. The proposed improvements will alleviate traffic congestion and provide an acceptable level of service through the design year 2025 and will also improve safety along US 401.

USE BLOCKS 20-22 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

Needed in order to provide wider roadway, construction access, and construction culverts and a bridge.

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

See attached permit drawings.

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

5.39 acres of riparian wetlands, 0.69 acres of non-riparian wetlands, 5036 feet of linear stream

23. Is Any Portion of the Work Already Complete? Yes ___ No _X_ IF YES, DESCRIBE THE COMPLETED WORK

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

See Attached List

25. List of Other Certifications 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

26. Application is hereby made for a permit or permits to authorize the work described in this application. I certify that the 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. Lusk 1-21-09

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.

+

Subject: Draft Minutes of the Interagency Meeting on April 20, 2005 for R-2814A, US 401 Wake County Hydraulic Review

Team Members:

Eric Alsmyer	USACE	Present
Nikki Thomson	NCDWQ	Present
Christina Breen	NCDWQ	Present
Travis Wilson	NCWRC	Present
Gary Jordon	USFWS	Absent
Chris Militscher	EPA	Present
Mark Hussey	DOT Roadway Design	Present
Rachele Beauregard	DOT PDEA ONE	Present
Tracy Parrot	Division 5	Present

Participants:

Steve Bondor	ARCADIS – Hydraulics Consultant
Marshall Clawson	DOT-Hydraulics
Chris Murray	DOT-Division 5
Ben Upshaw	DOT-Division 5
Beverly Robinson	DOT- PDEA
Anne Gamber	DOT-Hydraulics

Meeting began at 1:45

The 4B meeting was held on Dec. 14, 2004.

Steve Bondor began the meeting by reviewing the design.

The project consists of the widening of US 401 from a 2 lane roadway with shoulders to a 4 lane section with a grass median. There is some curb and gutter at the beginning of the project to tie to the existing. There are 4 streams and 5 wetlands, but no major crossings.

Beverly Robinson noted that the FONZI is being developed with an expected completion date of June 2005.

The project was reviewed sheet by sheet.

Sheet 4:

- Rachelle Beauregard had just returned from a field visit and noted that the stream section parallel to the roadway has been resurveyed and needs to be applied to the design. The buffers in the area need to be confirmed.

R-2814A April 20, 2004 Meeting

Sheet 5:
- The drainage on the left side of the sheet is maintaining the same drainage pattern. It is conveyed in a rip rap ditch into an existing draw. The slope is too great for swale criteria.
- A note will be added to state that no rip rap is to be placed in the bed of jurisdictional stream. **This comment is applicable to all jurisdictional streams.**

Sheet 6:
- The off-site drainage is keep in a separate system and conveyed in the 1200mm RCP. The on-site drainage will be treated in a detention pond and level spreader.
- Additional surveys will be needed to portray the existing topography of the subdivision.
- In areas where the wetlands are within the buffer zones, the wetlands area will be subtracted from the buffer area for mitigation purposes.

Sheet 7 through Sheet 9:
No comments

Sheet 10:
- The drainage left of station 32+00 dumps into a low area.

Sheet 11:
- **All** Preformed Scour Holes must be adequately place to keep out of the buffer and to allow for construction outside the buffer.
- Rock fill will need to be shown in the pond at the fill slope.
- Additional surveys will be needed to locate the outlet of the pond. The pond water surface will need to be lower to lay the pipe. A BMP will need to be installed at the outlet of the pump.

Sheet 12:
- The feature in the Sediment Basin will be evaluated to determine if it is jurisdictional. If it is the sediment basin will need to be eliminated.

Sheet 13 through Sheet 15:
No comments

Sheet 16:
- The stream segment will be investigated to determine if it is jurisdictional and if buffers apply.

The meeting ended at 2:30

Subject: Draft Minutes from Interagency 4C Permit Review Meeting on April 16, 2008 for R-2814A, Wake County

Team Members:

Eric Alsmeyer - USACE	(present)
Rob Riding -NCDWQ	(present)
Travis Wilson -NCWRC	(present)
Gary Jordan – USFWS	(absent)
Chris Militscher-EPA	(present)
Kathy Matthews – EPA	(absent)
Rachelle Beauregard – NEU	(present)
Greg Price - NEU	(present)
Donnie Brew - FHWA	(present)

Participants:

Dan Duffield, NCDOT Hydraulics
Len Hill, Arcadis
Mark Staley, NCDOT REU
James Goodnight, NCDOT Roadway Design (absent)

General Comments:

General Introduction was initiated by Dan Duffield. Introductions were made by all in attendance. Dan started the review.

Chris Militscher noted that Kathy Matthews with EPA would be the new contact for 4B & 4C meger project meetings

- This is the Widening of US 401 – R-2814A Wake County from north of SR 2044 (Ligon Mill Rd) to south of SR 2226 (Jonesville Rd)

WETLANDS and STREAMS will be reviewed first and Buffer afterwards

Sheet 4 Site 1 - Wetlands and Streams

- Rachelle - Surface Water Impacts missing at the outlet of the pipe, note the JD call does not start at the outlet but down downstream (D/S) of the pipe
- Also need to add note: no rip rap to be place in the JD stream, only along the banks
- Rachelle - Missing impacts to wetland (RE:12+80 –L- Right) – this will be a total take

Sheet 5 Site 2

- Roadway or Locations and Surveys need to check the stream going across the road, it also does not match up with the cross pipe

- Rachelle – Possible wetland missing, wetland "T" just downstream of Site 2

- Rachelle – JD Stream at the inlet also, not shown impacted, the JD stream starts at or just inside the existing right of way.

Sheet 6 Site 3

- Missing impacts to JD stream (RE:Sta 19+15 –L- Lt and Rt) this needs to be a new site and not added to Site 3

Sheet 11 Sites 4

- Chris – mentioned that the line shown going into the PSH needs to be clearly labeled and shown as a roadside ditch.
- Rachelle – missing wetland at the inlet
- The pond was over permitted, the actual surface water impact need only be shown inside the water surface. Also, the rest of the pond needs to be noted as "Temporary Surface Water Impacts"

Sheet 11 Site 5

- Eric - noted that the cross pipe need to tie to the stream, something is in not shown correctly, he also noted that this need fix prior to the Final Field Inspection
- Eric – also noted that rip rap was missing at the outlet or the pipe might be shown wrong. There are usually impacts that go past the pipe and there are none.

BUFFER Drawings

- **General** – buffers shown on plan sheet 5 (RE: Station 16+00 –L- Rt) need removed as this is not a JD stream for buffers per Rob and Rachelle

Sheet 6 Site 1 Buffer Drawings

- General – need to show buffer continuing from impacted areas until they leave the plan sheet and they need labeled BZ1 and BZ2
- There might be buffer impact within the Right of Way for the dry detention pond, you should know as soon as the buffer lines are placed on the plans

- General – need to include more buffer impacts – The Hydraulics unit with get up with the division and make sure that the buffer impacts are accounted for, either to the right of way or method III

- Missing buffered stream (RE: Sta 19+10 +/- Lt and Rt) Per Rob – this need to be a separate site from site one, this is a separate stream.

  Correction to the minutes
    - *"The Hydraulics Unit checked this site (RE:Sta 19+10 +/-) and it does not show up on either the soils or the USGS Quad" – no buffers were shown on the buffer drawings. The drawings were correct. It is still JD for stream impacts*

Sheet 11 Site 2

- Rachelle – Buffers need to come off the stream and no the wetland. Also the "wetland in buffers" need to be calculated or not added to the buffer impacts

- Need to show the buffer lines extended

- Again, method III or to the Right of way

- Rachelle and Rob – Pond impacts, need to show the buffers but only permit the impacted buffers within the TDE and not on the outside of the TDE

Sheet 11 Site 3

- Need to show the buffer lines extending at both the inlet and outlet of the cross pipe

- Again, method III or to the Right of way

Sheet 12 Site 3

- Need to show the buffers extending as they are impacting the PSH and the impacts in the PSH need permitted

Meeting Adjourned

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

March 7, 2006

Mr. Derek Halberg
Director of Land Protection
Tar River Land Conservancy
123 North Main Street
Louisburg, NC 27549

Dear Mr. Halberg:

Thank you for sharing information on the Cascine Plantation and the Perry Grist Mill. I can certainly appreciate the value in restoring and preserving this historic area.

As I understand, 300 feet of land on each side of the Tar River will become a conservation easement on the Bennett H. Perry, Jr. property. Also the property including the mill and homes will be acquired from Mr. Perry. During our meeting, you had asked us to recommend an access point to the mill. We were also asked to determine the approximate right of way limits needed for the future widening of US 401 in the vicinity of Cedar Creek in order to set the limits of the conservation easement and the proposed mill property adjacent to US 401.

This project (R-2814D) is unfunded in the current Transportation Improvement Program; therefore, we have not begun final design plans. However, from our preliminary designs, we have determined we will need approximately 93 meters (305') of right of way from the centerline of existing US 401 on the west side. No additional right of way or easements are anticipated on the east side of the highway where the mill is located.

Access from US 401 to the mill can be achieved anywhere between Bennett Perry Rd. and approximately 195 meters (640') south of the existing bridge over Cedar Creek. For safety and mobility reasons, only one median crossover will be allowed in this area. Therefore, if a crossover is proposed at Bennett Perry Rd., a right-in/right-out access only will be allowed at the access to the mill.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN UNIT
1582 MAIL SERVICE CENTER
RALEIGH NC 27699-1582

TELEPHONE: 919-250-4016
FAX: 919-250-4036

WEBSITE: WWW.DOH.DOT.STATE.NC.US

LOCATION:
CENTURY CENTER COMPLEX
BUILDING A
1000 BIRCH RIDGE DRIVE
RALEIGH NC

Attached is a preliminary design of the widening of US 401 in the vicinity of Cedar Creek showing the proposed right of way required. I have also shown a potential access point to the mill. Along with this correspondence, I will email the microstation file that includes this design. If you have any questions feel free to call me at (919) 250-4016.

Sincerely,

Jimmy Goodnight

Jimmy Goodnight, PE
Roadway Project Engineer

JG/

Attachment

cc: Jay Bennett, PE, State Roadway Design Engineer
Beverly Robinson, PDEA Branch
Mary Pope Furr, Human Environment Unit; Historic Architecture
Rachelle Beauregard, Natural Environment Unit
Renee Gledhill-Earley, State Historic Preservation Office

Federal Aid #**STP-401(4)** *TIP* # **R-2814** *County*: **Wake/Franklin**

CONCURRENCE FORM FOR ASSESSMENT OF EFFECTS

Project Description: Widen US 401 from SR 2044 (Ligon Mill Rd) to SR 1700 (fox Park Rd)

On 4/13/2006, representatives of the

- [x] North Carolina Department of Transportation (NCDOT)
- [x] Federal Highway Administration (FHWA)
- [x] North Carolina State Historic Preservation Office (HPO)
- [ ] Other

Reviewed the subject project and agreed

- [ ] There are no effects on the National Register-listed property/properties located within the project's area of potential effect and listed on the reverse.
- [ ] There are no effects on the National Register-eligible property/properties located within the project's area of potential effect and listed on the reverse.
- [x] There is an effect on the National Register-listed property/properties located within the project's area of potential effect. The property/properties and the effect(s) are listed on the reverse.
- [ ] There is an effect on the National Register-eligible property/properties located within the project's area of potential effect. The property/properties and effect(s) are listed on the reverse.

Signed:

Mary Pope Furr 4/13/2006
Representative, NCDOT Date

4.13.06
FHWA, for the Division Administrator, or other Federal Agency Date

4-13-06
Representative, HPO Date

Renee Gledhill-Earley 4-13-06
State Historic Preservation Officer Date

Federal Aid #**STP-401(4)** *TIP #* **R-2814** *County*: **Wake/Franklin**

Properties within the area of potential effect for which there is no effect. Indicate if property is National Register-listed (NR) or determined eligible (DE).

Properties within the area of potential effect for which there is an effect. Indicate property status (NR or DE) and describe the effect.

Cascine Plantation (NR) - no adverse effect

Reason(s) why the effect is not adverse (if applicable).

NCDOT is not acquiring ROW or easements from the historic property and will coordinate with the Land Conservancy on access to mill site

Initialed: NCDOT MPJ FHWA RHA HPO SDM

North Carolina Department of Cultural Resources
State Historic Preservation Office
Peter B. Sandbeck, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary

Office of Archives and History
Division of Historical Resources
David Brook, Director

August 6, 2008

MEMORANDUM

TO: Matt Wilkerson
Office of Human Environment
NCDOT Division of Highways

FROM: Peter Sandbeck RSR for Peter Sandbeck

SUBJECT: Archaeological Survey and Site Evaluations, US 401 Widening and Rolesville Bypass, R-2814, Division 5, Wake and Franklin Counties, ER 95-9214

Thank you for your letter of January 23, 2007, transmitting the survey and testing report by Michael Scholl, Bill Hall and Loretta Lautzenheiser of Coastal Carolina Research, Inc. for the above project. We apologize for the delay in our response.

For purposes of compliance with Section 106 of the National Historic Preservation Act, we concur that the following properties are not eligible for listing in the National Register of Historic Places:

31FK78**, 31WA1618**, 31WA1619**, 31WA1620, 31WA1621** and 31WA1622

None of these sites retain sufficient integrity or intact deposits to yield information important to history or prehistory.

Archaeological sites 31WA1417**, 31FK88** and 31FK91** are located outside of the area of potential effect (APE) and will not be affected by the proposed project. Portions of sites 31FK84** and 31FK90&90** are located within the APE; however the affected areas of these sites do not contain any important information.

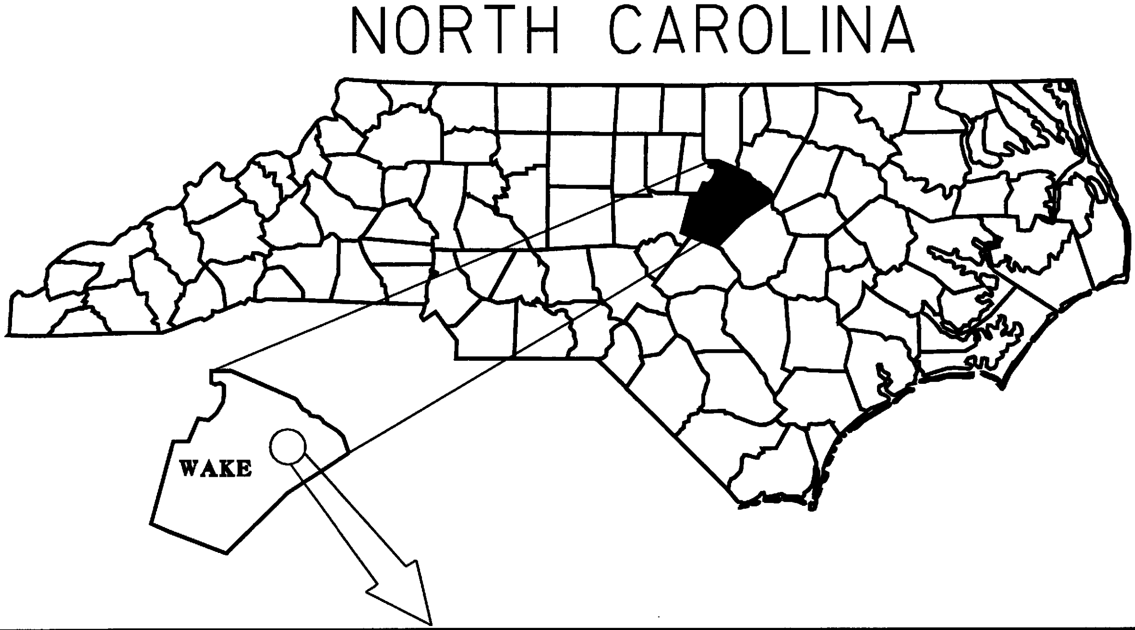
As currently designed, the proposed widening of US 401 and construction of the Rolesville Bypass will have no effect upon significant archaeological resources and we do not recommend any additional archaeological investigation.

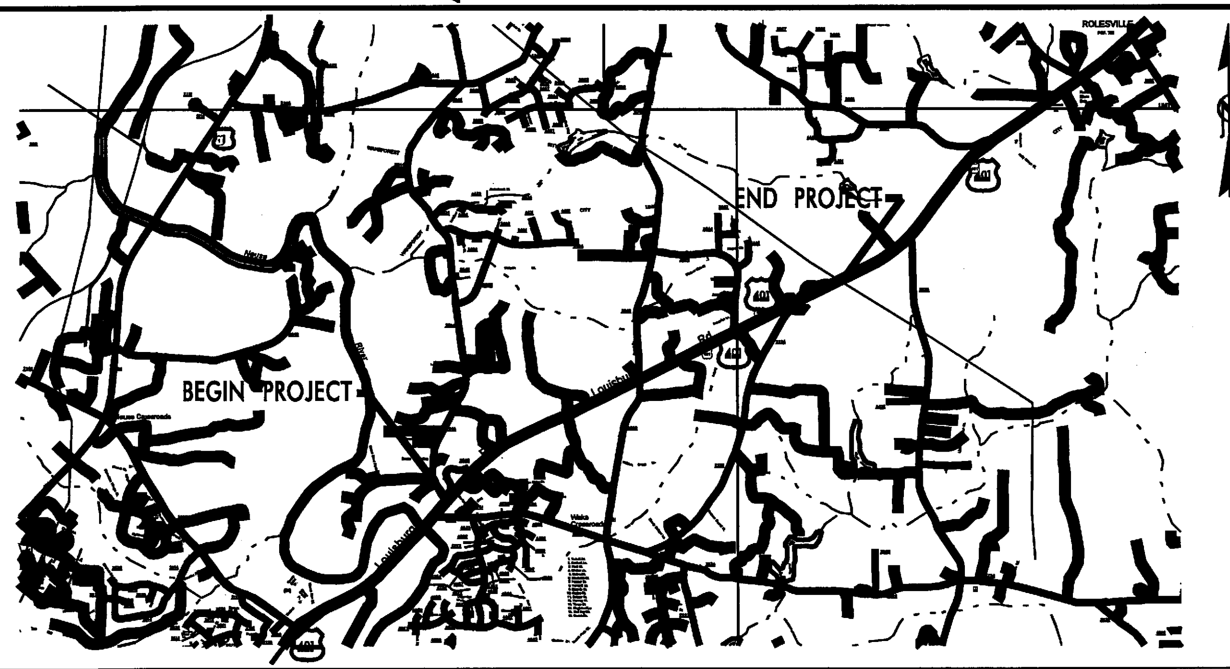
The report meets our office's guidelines and those of the Secretary of the Interior. In the future, please ensure that your contractors include site location maps with the archaeological site forms submitted to our office.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/807-6579. In all future communication concerning this project, please cite the above-referenced tracking number.

cc: Loretta Lautzenheiser, Coastal Carolina Research, Inc.
Paul Mohler, NCDOT





WETLAND VICINITY MAP

NCDOT
DIVISION OF HIGHWAYS
WAKE COUNTY
PROJECT: 34506.1.1 (R-2814A)
US 401
LOUISBURG ROAD FROM
SR 2044 TO SR 2226

SHEET 1 **OF** 15 **11/20/08**

PROPERTY OWNER

NAME AND ADDRESS

OWNER'S NAME	ADDRESS
WAKE HIGH MEADOWS HOMEOWNERS ASSOCIATION	4948 WINDY HILL DRIVE RALEIGH, NC 27609
ALDRED LEE PERRY	4105 LOUISBURY ROAD WAKE FOREST, NC 27587
BRIGHTON COMMUNITY ASSOCIATION	1100 NAVAHO DRIVE, SUITE GL3 RALEIGH, NC 27609
VBBSS GROUP, LLC	4960 ROYAL ADELAIDE WAY RALEIGH, NC 27604
PERRY FARM, LLC	404 EMERSON DRIVE RALEIGH, NC 27609
HT FORESTVILLE, LLC	135 SOUTH MAIN STREET, SUITE 105 GREENVILLE, SC 29601

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
WAKE COUNTY
PROJECT: 34506.1.1 (R-2814A)
US 401
LOUISBURG ROAD FROM
SR 2044 TO SR 2226
SHEET 2 OF 15 04/07/08

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Fill In Wetlands (ha)	Temp. Fill In Wetlands (ha)	Excavation In Wetlands (ha)	Mechanized Clearing (Method III) (ha)	Hand Clearing in Wetlands (ha)	Fill In SW (Natural) (ha)	Fill In SW (Pond) (ha)	Temp. Fill In SW (m)	Existing Channel Impacted (m)	Natural Stream Design (m)
1	-L- 12+35 RT	450 mm RCP	0.004	0.029				0.007			23	
2	-L- 12+80 RT	1.0 m Lateral Base Ditch	0.018		0.003	0.017						
3	-L- 15+90 RT to -L- 16+05 RT	900 mm RCP	0.010					0.182		7.140	49	
4	-L-19+10 LT	1200 mm RCP	0.002					0.018		9.900	119	
5	-L- 19+10	900 mm RCP						0.005			37	
6	-L-32+60 to -L- 33+90	900 mm RCP outfall pipe and Pond *	0.033					0.004	0.004	9.500	29	
7	-L-35+80 to -L- 36+50	1050 mm RCP						0.016		4.000	61	
TOTALS:			0.068	0.029	0.003	0.017		0.234	0.004	30.540	317.510	0.000

* Temporarly Draining Pond to install rock fill

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

WAKE COUNTY
PROJECT 34506.1.1 R-2814A

 11/20/2008

Form Revised 3/22/01

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation In Wetlands (ac)	Mechanized Clearing (Method III) (ac)	Hand Clearing in Wetlands (ac)	Fill In SW (Natural) (ac)	Fill In SW (Pond) (ac)	Temp. Fill In SW (ft)	Existing Channel Impacted (ft)	Natural Stream Design (ft)
1	-L- 12+35 RT	18" RCP	0.01	0.01				0.02			69	
1	-L- 12+35 RT	Stream Bank Stablization									6	
2	-L- 12+80 RT	3 ft Lateral Base Ditch	<0.01		0.01	<0.01						
3	-L- 15+90 RT to	36" RCP	0.03					0.04			148	
	-L- 16+05 RT											
3	-L- 15+90 RT to	Stream Bank Stablization									12	
	-L- 16+05 RT											
4	-L-19+10 LT	48" RCP	0.01					0.05		32	376	
4	-L 19+10 LT	Stream Bank Stablization									16	
5	-L- 19+10	Pavement						0.01			111	
6	-L-32+60	36" mm RCP outfall pipe	0.08					0.01	0.01	31	95	
	to -L- 33+90	and Pond										
7	-L-35+80	42" RCP						0.04		13	185	
	to -L- 36+50											
7	-L-35+80	Stream Bank Stablization									14	
	to -L- 36+50											
TOTALS:			<0.13	0.01	0.01	<0.01	0.00	0.16	0.01	76	1032	

Form Revised 3/22/01

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

WAKE COUNTY
PROJECT 34506.1.1 R-2814A

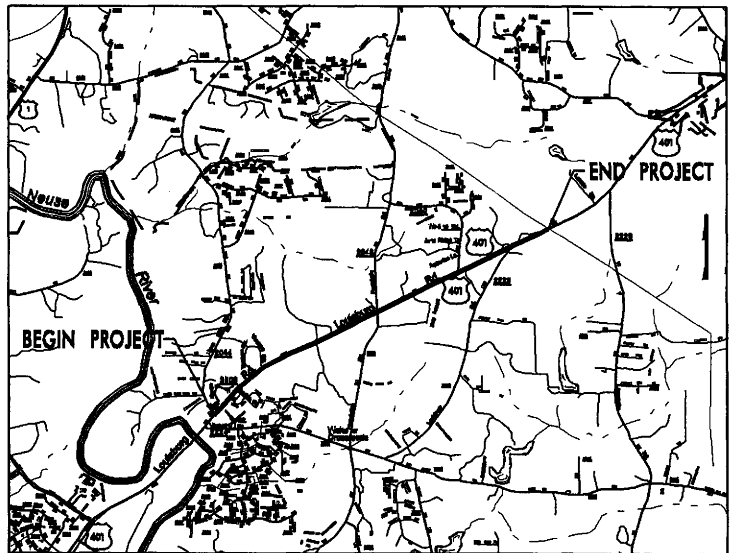
Sheet 4 of 15 11/20/2008

TIP: R-2814A

CONTRACT:

19-NOV-2008 14:39
r:\hydraulics\permit drawings 10.20.08\streams and wetlands\r-2814a_prmtsh_wet.dgn

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAKE COUNTY

LOCATION: *US 401 FROM SR 2044 (LIGON MILL ROAD) TO SOUTH OF SR 2226 (JONESVILLE ROAD)*

TYPE OF WORK: *GRADING, DRAINAGE AND PAVING*

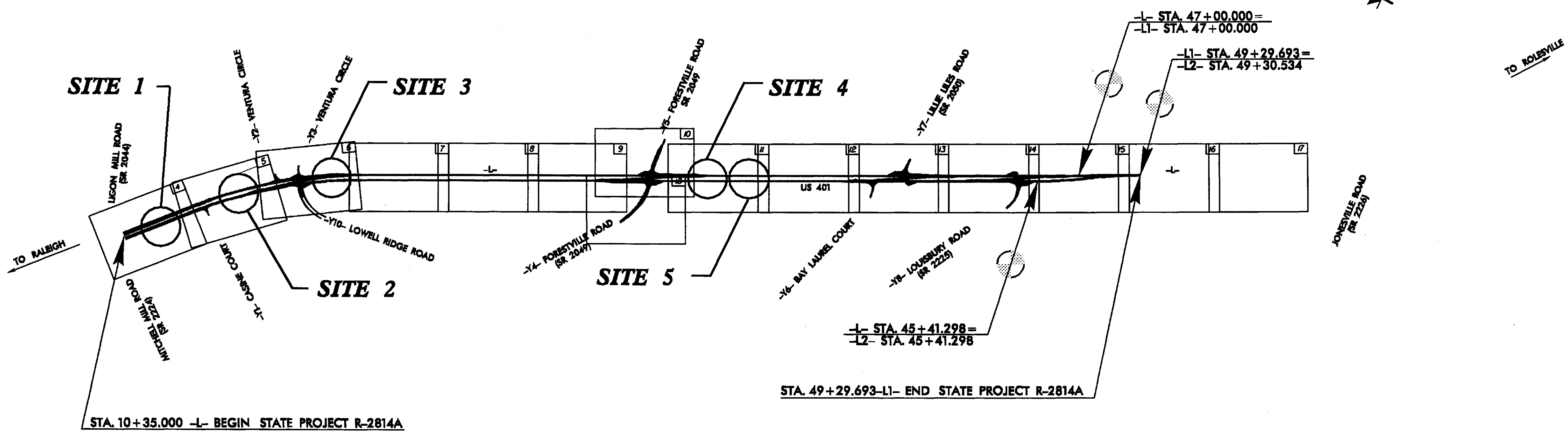
METRIC

ALL DIMENSIONS IN THESE PLANS ARE IN METERS AND/OR MILLIMETERS UNLESS OTHERWISE SHOWN

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2814A	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34506.1.1	STP-401(4)	P.E.	

Permit Drawing
Sheet 5 of 15

R-2814A: STREAM & WETLAND SITE MAP



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

NOTE: THIS IS A PARTIALLY CONTROLLED ACCESS PROJECT WITH ACCESS POINTS SHOWN ON THE PLANS

NOTE: THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

GRAPHIC SCALES

PLANS (5 0 10)

PROFILE (HORIZONTAL) (5 0 10)

PROFILE (VERTICAL) (1 0 2)

DESIGN DATA

ADT 2005 = 16,200
ADT 2030 = 28,100
DHV = 13 %
D = 55 %
T = 7 % *
V = 100 km/h

* TTST 2 % DUAL 5 %

PROJECT LENGTH

LENGTH ROADWAY F. A. PROJECT STP-401(4) = 3.895km

TOTAL LENGTH TIP PROJECT R-2814A = 3.895km

Prepared in the Office of:

ARCADIS
B & M of North Carolina, Inc.
WWW.ARCADIS-US.COM

for the North Carolina Department of Transportation

1995 STANDARD SPECIFICATIONS | *DOT CONTACT*

RIGHT OF WAY DATE:
July 21, 2006

LETTING DATE:
March 17, 2009

J. S. GOODNIGHT, P.E.
PROJECT ENGINEER

MARK HUSSEY
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

P.E.
STATE HIGHWAY DESIGN ENGINEER

REVISIONS

R/W REVISION - 05/09/08 - PER SUBMITTAL OF MARCH 19, 2008 - ELIMINATED THE RIGHT OF WAY AND ADDED A TEMPORARY CONSTRUCTION EASEMENT ON PARCELS 3 AND 4. PARCEL 2 CHANGED TO PARCEL 1.

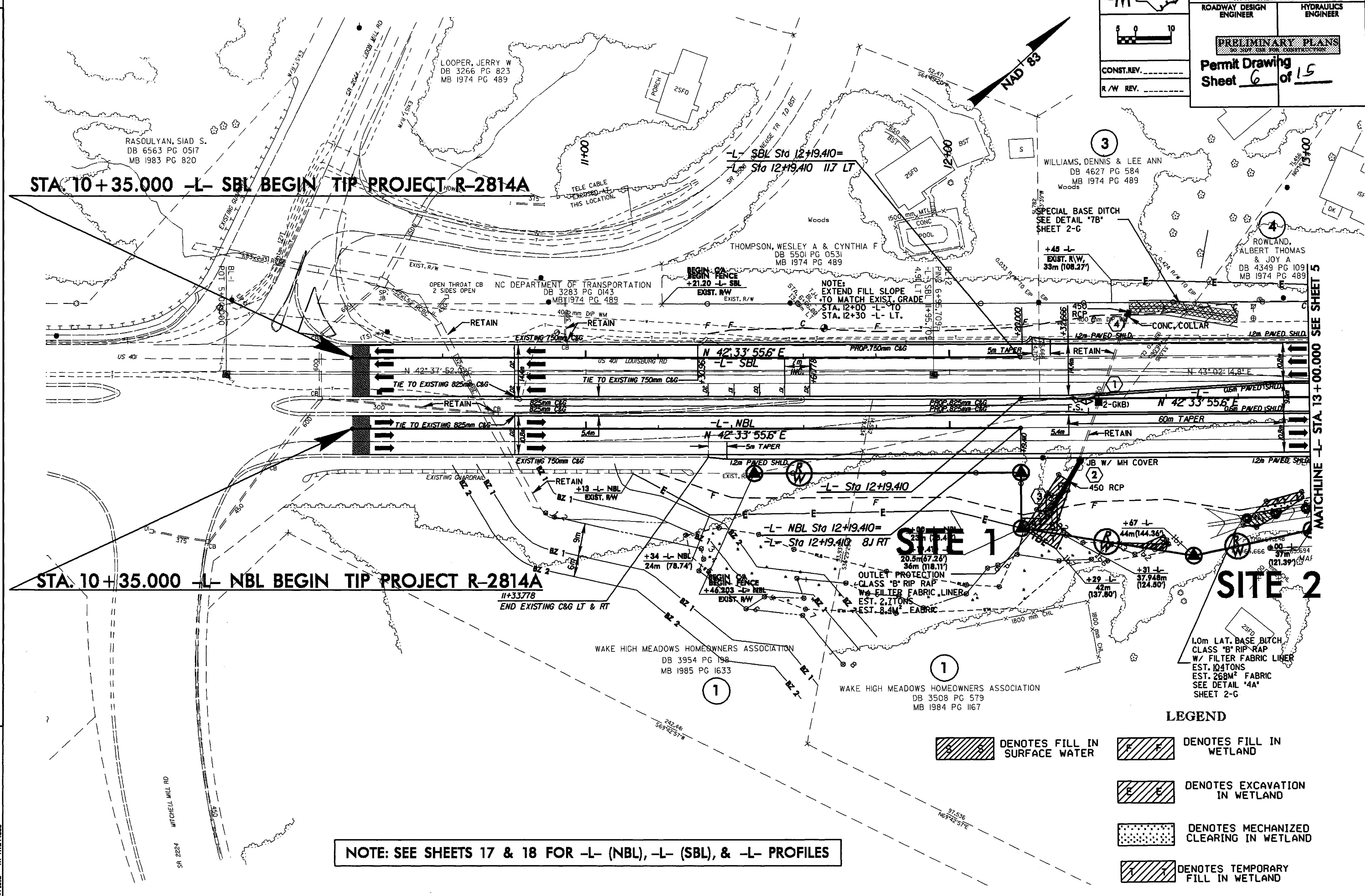
PROJECT REFERENCE NO.	SHEET NO.
R-2814A	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

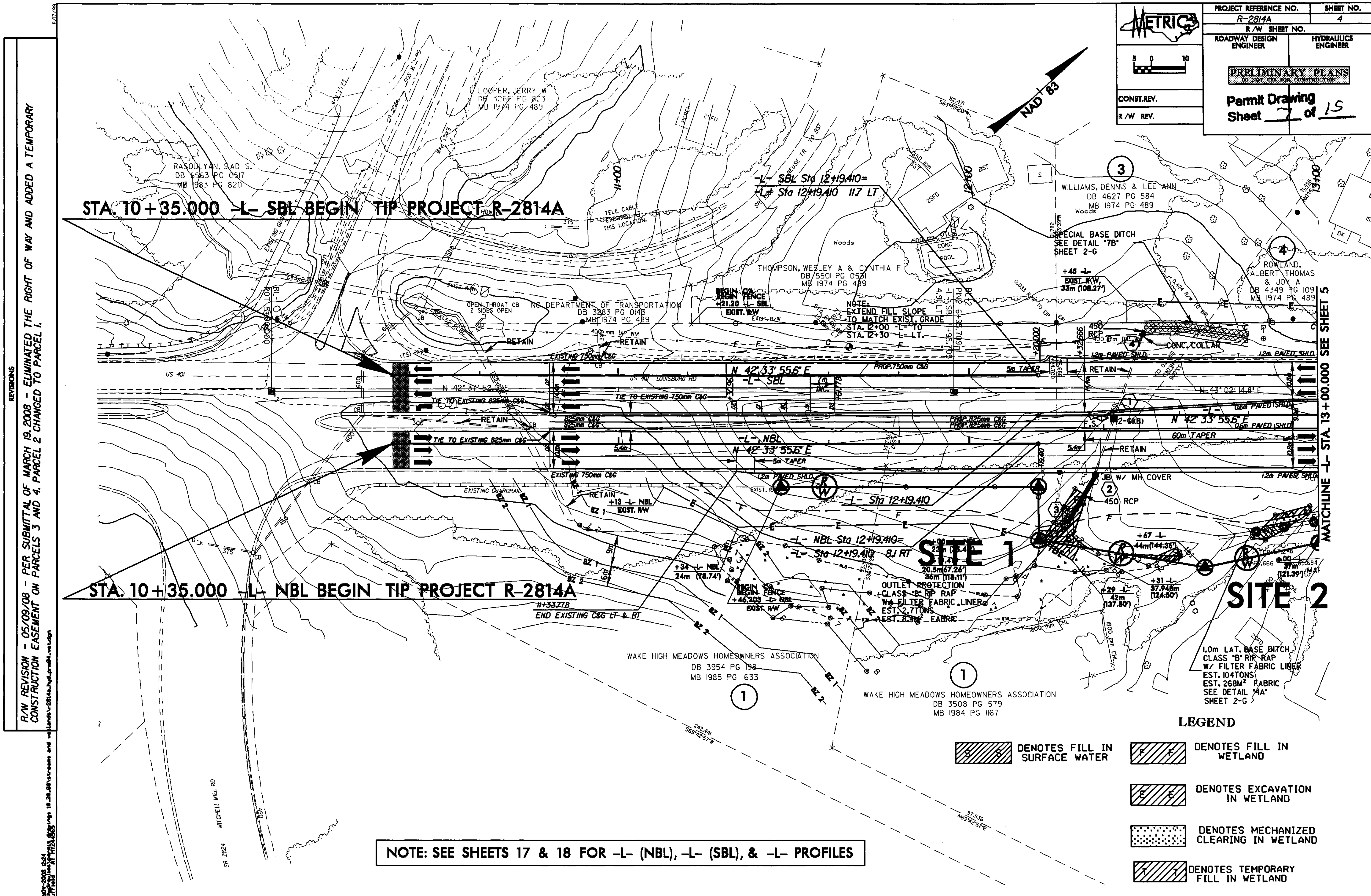
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 6 of 15

CONST.REV. ______
R/W REV. ______



NOTE: SEE SHEETS 17 & 18 FOR -L- (NBL), -L- (SBL), & -L- PROFILES


PROJECT REFERENCE NO. R-2814A
SHEET NO. 4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
METRIC
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION
CONST. REV.
R/W REV.
Permit Drawing Sheet 7 of 15
NAD 83
REVISIONS
R/W REVISION - 05/09/08 - PER SUBMITTAL OF MARCH 19, 2008 - ELIMINATED THE RIGHT OF WAY AND ADDED A TEMPORARY CONSTRUCTION EASEMENT ON PARCELS 3 AND 4. PARCEL 2 CHANGED TO PARCEL 1.
STA. 10+35.000 -L- SBL BEGIN TIP PROJECT R-2814A
STA. 10+35.000 -L- NBL BEGIN TIP PROJECT R-2814A
LOOPER, JERRY W DB 3266 PG 823 MB 1974 PG 489
RASOULYAN, SIAD S. DB 6563 PG 0517 MB 1983 PG 820
NC DEPARTMENT OF TRANSPORTATION DB 3283 PG 0143 MB 1974 PG 489
THOMPSON, WESLEY A & CYNTHIA F DB 5501 PG 0531 MB 1974 PG 489
WILLIAMS, DENNIS & LEE ANN DB 4627 PG 584 MB 1974 PG 489
ROWLAND, ALBERT THOMAS & JOY A DB 4349 PG 109 MB 1974 PG 489
WAKE HIGH MEADOWS HOMEOWNERS ASSOCIATION DB 3954 PG 198 MB 1985 PG 1633
WAKE HIGH MEADOWS HOMEOWNERS ASSOCIATION DB 3508 PG 579 MB 1984 PG 1167
-L- SBL Sta 12+19.410= -L- Sta 12+19.410 11.7 LT
-L- NBL Sta 12+19.410= -L- Sta 12+19.410 8.1 RT
-L- Sta 12+19.410
N 42°33' 55.6" E
-L- SBL
-L- NBL
US 401 LOUISBURG RD
NOTE: EXTEND FILL SLOPE TO MATCH EXIST. GRADE STA. 12+00 -L- TO STA. 12+30 -L- LT.
SPECIAL BASE DITCH SEE DETAIL "7B" SHEET 2-G
OUTLET PROTECTION CLASS "B" RIP RAP W/ FILTER FABRIC LINER EST. 2.7 TONS EST. 8.4 m² FABRIC
1.0m LAT. BASE DITCH CLASS "B" RIP RAP W/ FILTER FABRIC LINER EST. 104 TONS EST. 268 M² FABRIC SEE DETAIL "4A" SHEET 2-G
TIE TO EXISTING 825mm C&G
TIE TO EXISTING 750mm C&G
END EXISTING C&G LT & RT
CONC. COLLAR
450 RCP
JB W/ MH COVER
SITE 1
SITE 2
MATCHLINE -L- STA. 13+00.000 SEE SHEET 5
MITCHELL MILL RD
SR 2224
NOTE: SEE SHEETS 17 & 18 FOR -L- (NBL), -L- (SBL), & -L- PROFILES
LEGEND
DENOTES FILL IN SURFACE WATER
DENOTES FILL IN WETLAND
DENOTES EXCAVATION IN WETLAND
DENOTES MECHANIZED CLEARING IN WETLAND
DENOTES TEMPORARY FILL IN WETLAND

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

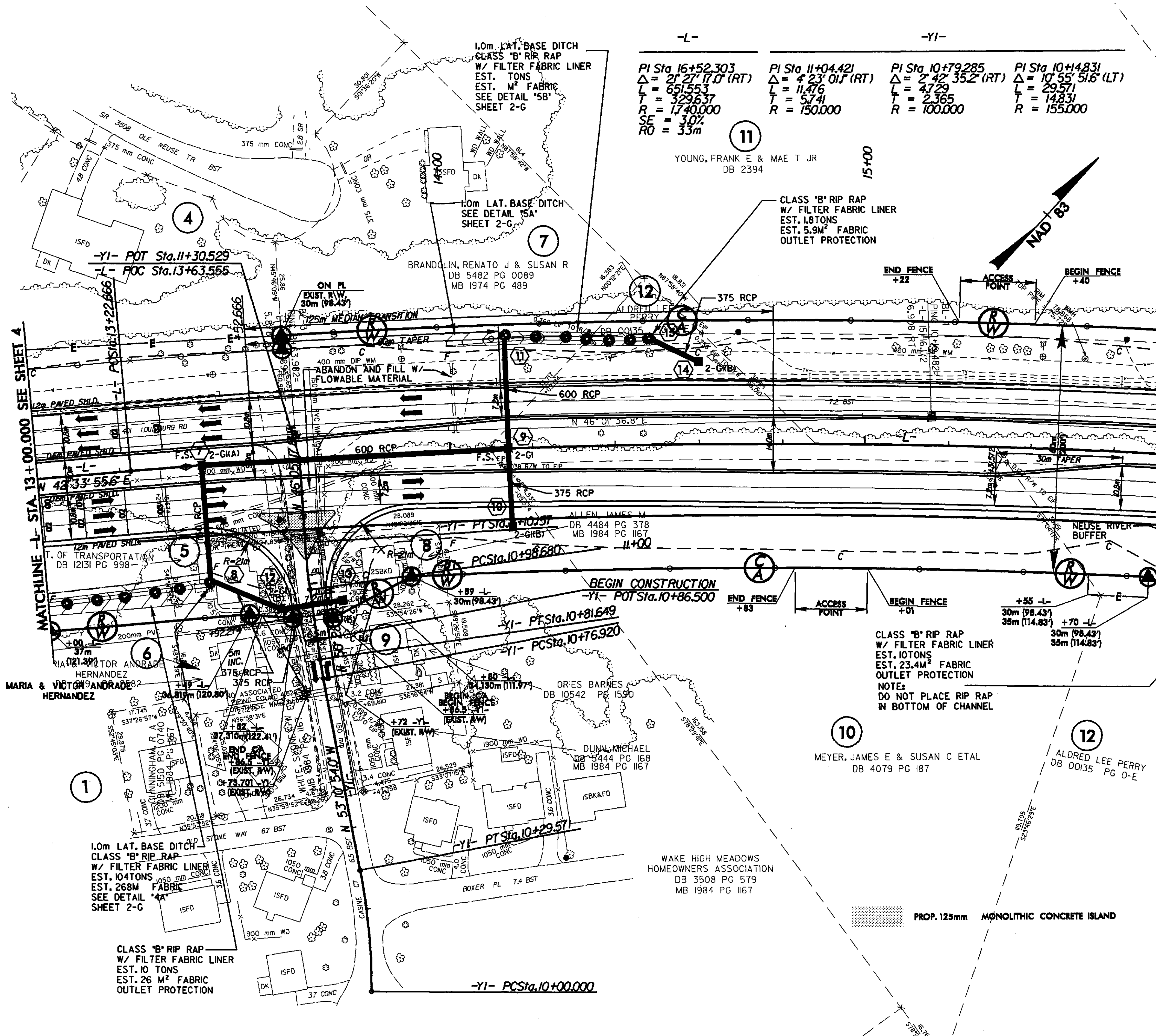
METRIC

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONST. REV.

R/W REV.

Permit Drawing
Sheet 8 of 15



LEGEND

TS — DENOTES TEMPORARY FILL IN SURFACE WATER

S — DENOTES FILL IN SURFACE WATER

F — DENOTES FILL IN WETLAND

NOTE: SEE SHEET 2 FOR DETAIL OF LEFT-TURN OFFSET LANE

NOTE: SEE SHEET 18 FOR -L- PROFILE
SEE SHEET 24 FOR -Y1- PROFILE

REVISIONS

R/W REVISION - 05/09/08 - PER SUBMITTAL OF MARCH 19, 2008 - ELIMINATED THE RIGHT OF WAY AND ADDED A TEMPORARY CONSTRUCTION EASEMENT ON PARCEL 4, PARCEL 2 CHANGED TO PARCEL 1. REDUCED THE RIGHT OF WAY ON PARCEL 7 AND 12.

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

CONST. REV.

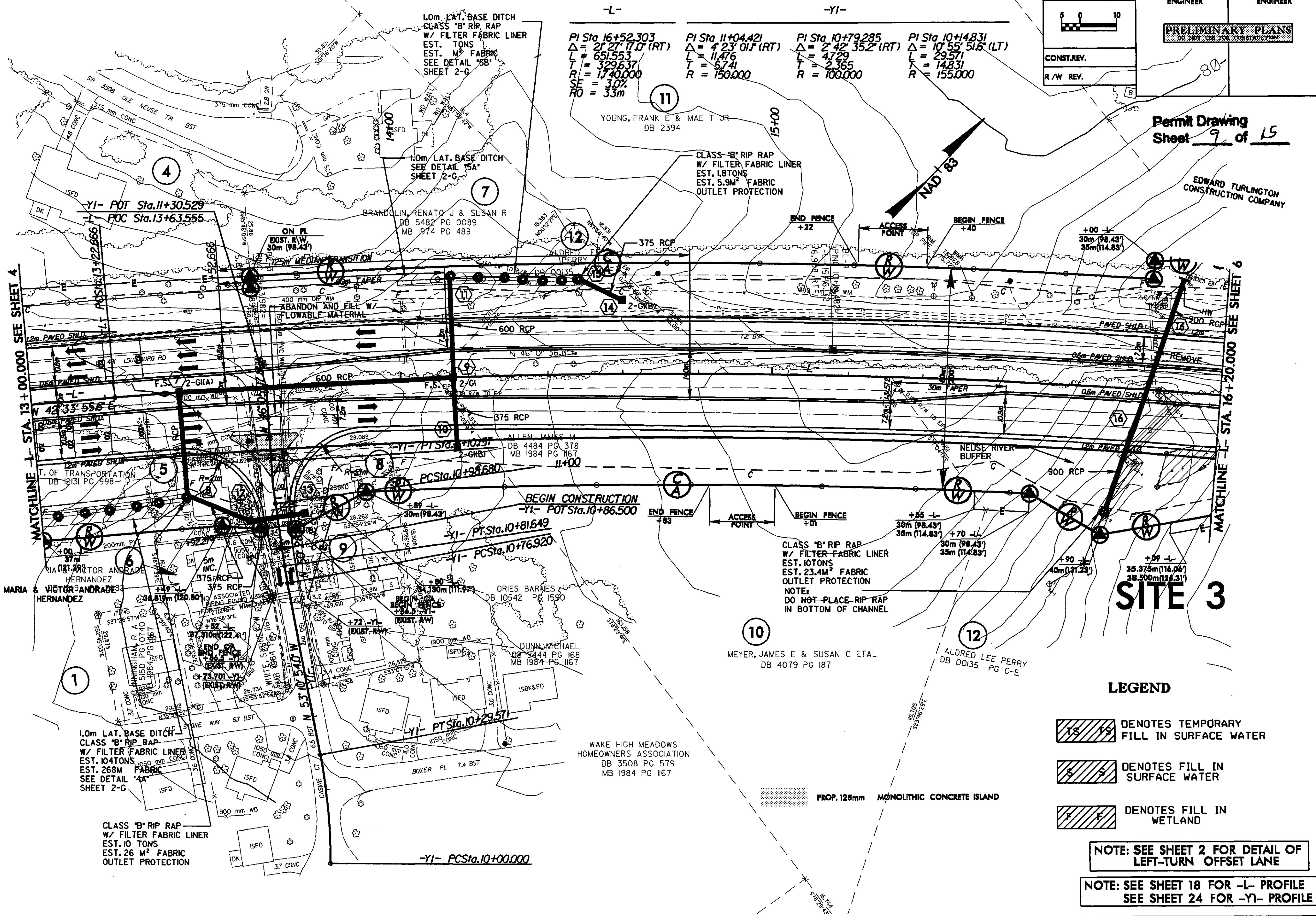
R/W REV.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 9 of 15

REVISIONS

R/W REVISION - 05/09/08 - PER SUBMITTAL OF MARCH 19, 2008 - ELIMINATED THE RIGHT OF WAY AND ADDED A TEMPORARY CONSTRUCTION EASEMENT ON PARCEL 4. PARCEL 2 CHANGED TO PARCEL 1. REDUCED THE RIGHT OF WAY ON PARCEL 7 AND 12.



LEGEND

TS	DENOTES TEMPORARY FILL IN SURFACE WATER
S	DENOTES FILL IN SURFACE WATER
F	DENOTES FILL IN WETLAND

NOTE: SEE SHEET 2 FOR DETAIL OF LEFT-TURN OFFSET LANE

NOTE: SEE SHEET 18 FOR -L- PROFILE
SEE SHEET 24 FOR -Y1- PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONST. REV.

R/W REV.

Permit Drawing
Sheet 10 of 15

-L-
PI Sta 16+52.303
Δ = 21° 27' 17.0" (RT)
L = 651.553
T = 329.637
R = 1740.000
SE = 3.0%
RO = 33m

-Y2-
PI Sta 10+64.019
Δ = 34° 50' 28.7" (LT)
L = 51.779
T = 26.718
R = 85.150

-Y3-
PI Sta 10+13.436
Δ = 19° 04' 01.6" (LT)
L = 26.623
T = 13.436
R = 80.000

-Y10-
PI Sta 11+09.797
Δ = 61° 49' 44.9" (LT)
L = 164.027
T = 91.023
R = 152.000

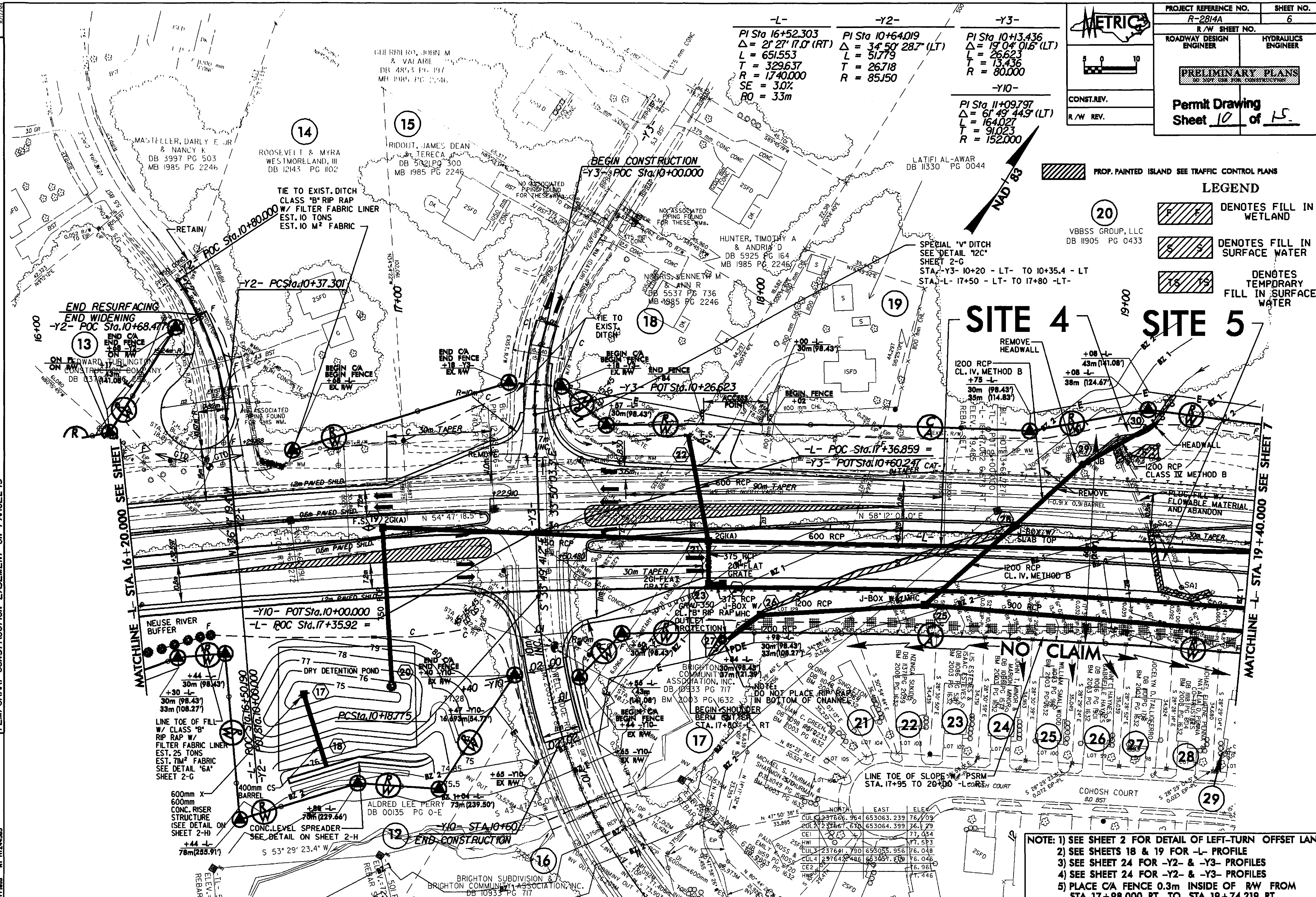
PROP. PAINTED ISLAND SEE TRAFFIC CONTROL PLANS

LEGEND

DENOTES FILL IN WETLAND

DENOTES FILL IN SURFACE WATER

DENOTES TEMPORARY FILL IN SURFACE WATER

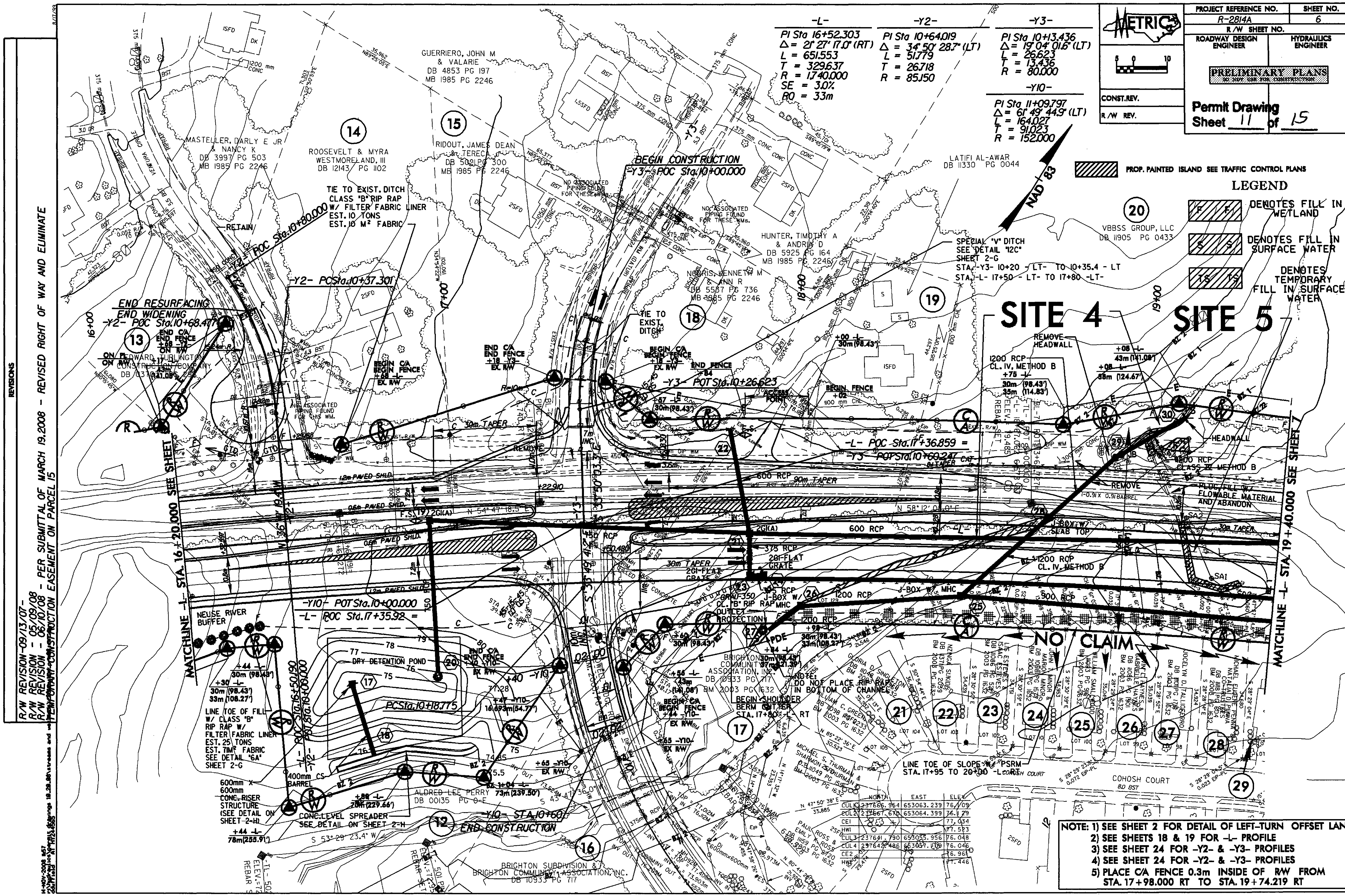


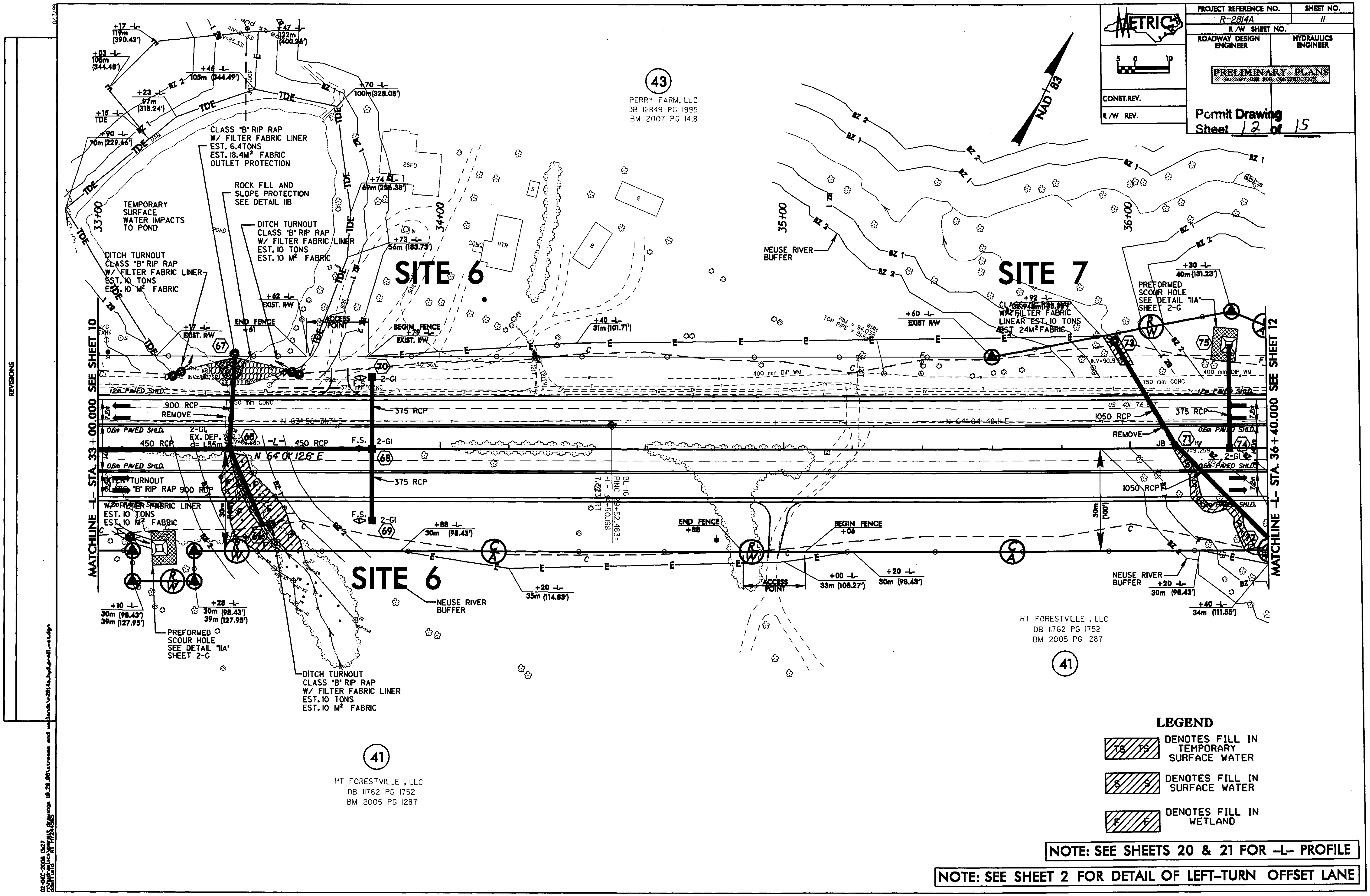
	NORTH	EAST	ELEV
CUL1	237666.964	653063.239	76.109
CUL2	237667.610	653064.399	76.129
CEI			77.034
HWI			77.523
CUL3	237641.790	653055.956	76.048
CUL4	237642.486	653057.170	76.046
CE2			76.961
HW2			77.446

NOTE: 1) SEE SHEET 2 FOR DETAIL OF LEFT-TURN OFFSET LANE
2) SEE SHEETS 18 & 19 FOR -L- PROFILE
3) SEE SHEET 24 FOR -Y2- & -Y3- PROFILES
4) SEE SHEET 24 FOR -Y2- & -Y3- PROFILES
5) PLACE C/A FENCE 0.3m INSIDE OF R/W FROM STA. 17+98.000 RT TO STA. 19+74.219 RT

REVISIONS

R/W REVISION-09/13/07-
R/W REVISION - 05/09/08 - PER SUBMITTAL OF MARCH 19, 2008 - REVISED RIGHT OF WAY AND ELIMINATE
R/W REVISION - 06/10/08 - TEMPORARY CONSTRUCTION EASEMENT ON PARCEL 15


PROJECT REFERENCE NO. R-2814A
SHEET NO. 6
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
METRIC
CONST.REV.
R/W REV.
Permit Drawing Sheet 11 of 15
-L-
PI Sta 16+52.303
Δ = 21° 27' 17.0" (RT)
L = 651.553
T = 329.637
R = 1,740.000
SE = 3.0%
RO = 33m
-Y2-
PI Sta 10+64.019
Δ = 34° 50' 28.7" (LT)
L = 51.779
T = 26.718
R = 85.150
-Y3-
PI Sta 10+13.436
Δ = 19° 04' 01.6" (LT)
L = 26.623
T = 13.436
R = 80.000
-Y10-
PI Sta 11+09.797
Δ = 61° 49' 44.9" (LT)
L = 164.027
T = 91.023
R = 152.000
NAD 83
PROP. PAINTED ISLAND SEE TRAFFIC CONTROL PLANS
LEGEND
DENOTES FILL IN WETLAND
DENOTES FILL IN SURFACE WATER
DENOTES TEMPORARY FILL IN SURFACE WATER
SITE 4
SITE 5
NO CLAIM
BEGIN CONSTRUCTION -Y3- POC Sta.10+00.000
END RESURFACING END WIDENING -Y2- POC Sta.10+68.417
-Y2- PCSta.10+37.301
-Y2- POC Sta.10+80.000
-Y10- STA.10+60 END CONSTRUCTION
-L- POC Sta.17+36.859 = -Y3- POTSta.10+60.247
-Y10- POTSta.10+00.000 -L- POC Sta.17+35.92 =
MATCHLINE -L- STA. 16+20.000 SEE SHEET
MATCHLINE -L- STA. 19+40.000 SEE SHEET 7
TIE TO EXIST. DITCH CLASS "B" RIP RAP W/ FILTER FABRIC LINER EST. 10 TONS EST. 10 M² FABRIC
SPECIAL "V" DITCH SEE DETAIL "12C" SHEET 2-G STA. -Y3- 10+20 - LT- TO 10+35.4 - LT STA. -L- 17+50 - LT- TO 17+80 -LT-
DRY DETENTION POND
LINE TOE OF FILL W/ CLASS "B" RIP RAP W/ FILTER FABRIC LINER EST. 25 TONS EST. 71M² FABRIC SEE DETAIL "6A" SHEET 2-G
600mm X 600mm CONC. RISER STRUCTURE (SEE DETAIL ON SHEET 2-H)
CONC.LEVEL SPREADER SEE DETAIL ON SHEET 2-H
DO NOT PLACE RIP RAP IN BOTTOM OF CHANNEL
LINE TOE OF SLOPE W/ PSRM STA. 17+95 TO 20+00 -L-
NEUSE RIVER BUFFER
GUERRIERO, JOHN M & VALARIE DB 4853 PG 197 MB 1985 PG 2246
MASTELLER, DARLY E JR & NANCY K DB 3997 PG 503 MB 1985 PG 2246
ROOSEVELT & MYRA WESTMORELAND, III DB 12143 PG 1102
RIDOUT, JAMES DEAN & TERECA J DB 5021 PG 300 MB 1985 PG 2246
LATIFI AL-AWAR DB 11330 PG 0044
VBBSS GROUP, LLC DB 11905 PG 0433
HUNTER, TIMOTHY A & ANDRIA D DB 5925 PG 164 MB 1985 PG 2246
NORRIS, KENNETH M & ANN R DB 5557 PG 736 MB 1985 PG 2246
ALDRED LEE PERRY DB 00135 PG 0-E
BRIGHTON SUBDIVISION & BRIGHTON COMMUNITY ASSOCIATION, INC. DB 10933 PG 717
COHOSH COURT
NOTE: 1) SEE SHEET 2 FOR DETAIL OF LEFT-TURN OFFSET LANE
2) SEE SHEETS 18 & 19 FOR -L- PROFILE
3) SEE SHEET 24 FOR -Y2- & -Y3- PROFILES
4) SEE SHEET 24 FOR -Y2- & -Y3- PROFILES
5) PLACE C/A FENCE 0.3m INSIDE OF R/W FROM STA. 17+98.000 RT TO STA. 19+74.219 RT
REVISIONS
R/W REVISION-09/13/07-
R/W REVISION - 05/09/08
R/W REVISION - 06/10/08 - PER SUBMITTAL OF MARCH 19,2008 - REVISED RIGHT OF WAY AND ELIMINATE
TEMPORARY CONSTRUCTION EASEMENT ON PARCEL 15



PROJECT REFERENCE NO. R-2814A
SHEET NO. 11
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
METRIC
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION
CONST. REV.
R/W REV.
Permit Drawing Sheet 12 of 15
NAD 83
REVISIONS
43
PERRY FARM, LLC
DB 12849 PG 1995
BM 2007 PG 1418
SITE 6
SITE 7
CLASS "B" RIP RAP
W/ FILTER FABRIC LINER
EST. 6.4TONS
EST. 18.4M² FABRIC
OUTLET PROTECTION
ROCK FILL AND
SLOPE PROTECTION
SEE DETAIL IIB
DITCH TURNOUT
CLASS "B" RIP RAP
W/ FILTER FABRIC LINER
EST. 10 TONS
EST. 10 M² FABRIC
TEMPORARY
SURFACE
WATER IMPACTS
TO POND
NEUSE RIVER BUFFER
PREFORMED
SCOUR HOLE
SEE DETAIL "IIA"
SHEET 2-G
CLASS "B" RIP RAP
W/ FILTER FABRIC
LINEAR EST. 10 TONS
EST 24M² FABRIC
MATCHLINE -L- STA. 33+00.000 SEE SHEET 10
MATCHLINE -L- STA. 36+40.000 SEE SHEET 12
N 64° 01' 12.6" E
450 RCP
375 RCP
900 RCP
1050 RCP
END FENCE
BEGIN FENCE
ACCESS POINT
41
HT FORESTVILLE, LLC
DB 11762 PG 1752
BM 2005 PG 1287
LEGEND
DENOTES FILL IN TEMPORARY SURFACE WATER
DENOTES FILL IN SURFACE WATER
DENOTES FILL IN WETLAND
NOTE: SEE SHEETS 20 & 21 FOR -L- PROFILE
NOTE: SEE SHEET 2 FOR DETAIL OF LEFT-TURN OFFSET LANE

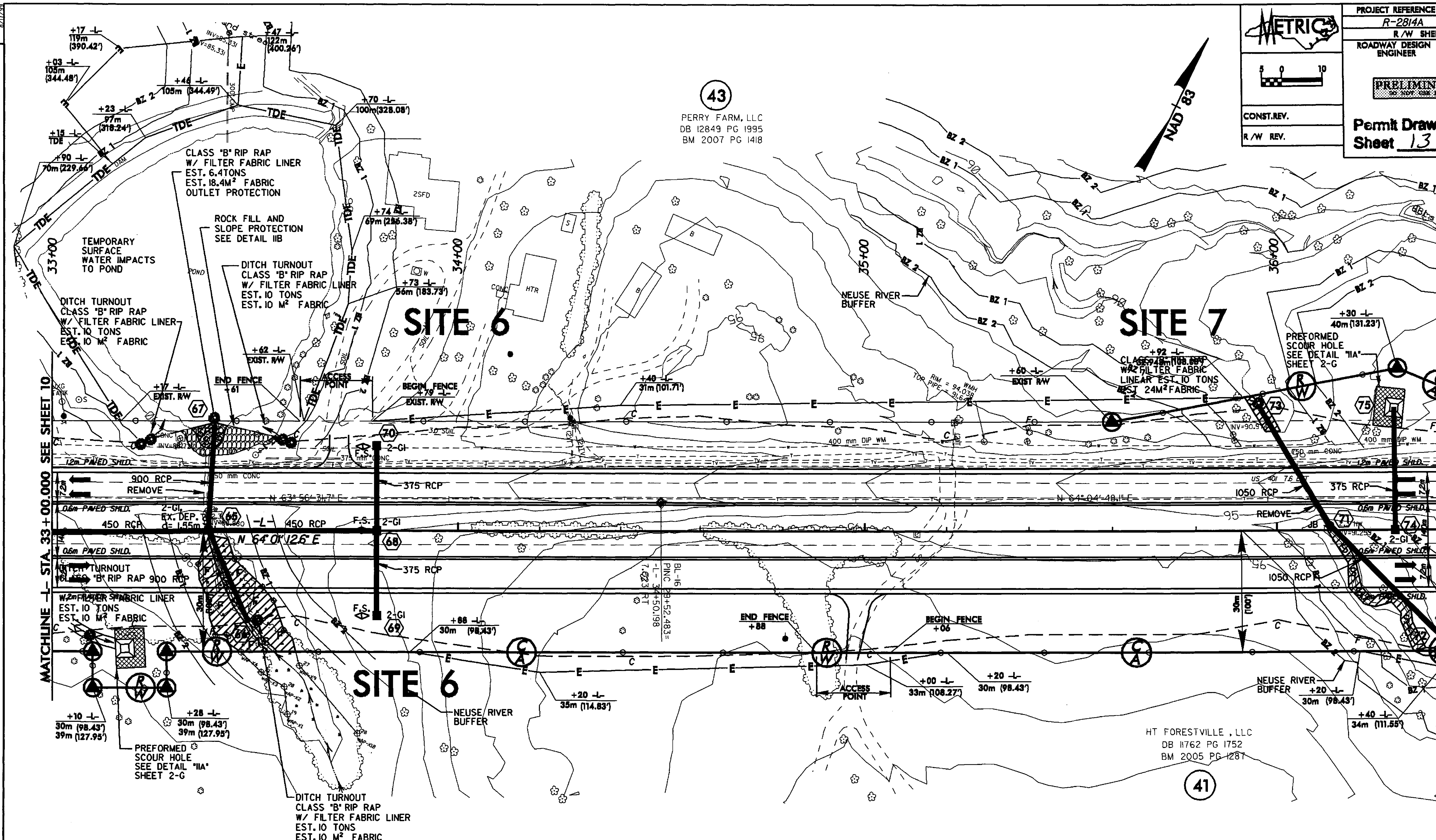
PROJECT REFERENCE NO.	SHEET NO.
R-2814A	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONST. REV.
R/W REV.

Permit Drawing
Sheet 13 of 15



LEGEND

DENOTES FILL IN TEMPORARY SURFACE WATER

DENOTES FILL IN SURFACE WATER

DENOTES FILL IN WETLAND

NOTE: SEE SHEETS 20 & 21 FOR -L- PROFILE

NOTE: SEE SHEET 2 FOR DETAIL OF LEFT-TURN OFFSET LANE

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

CONST.REV.

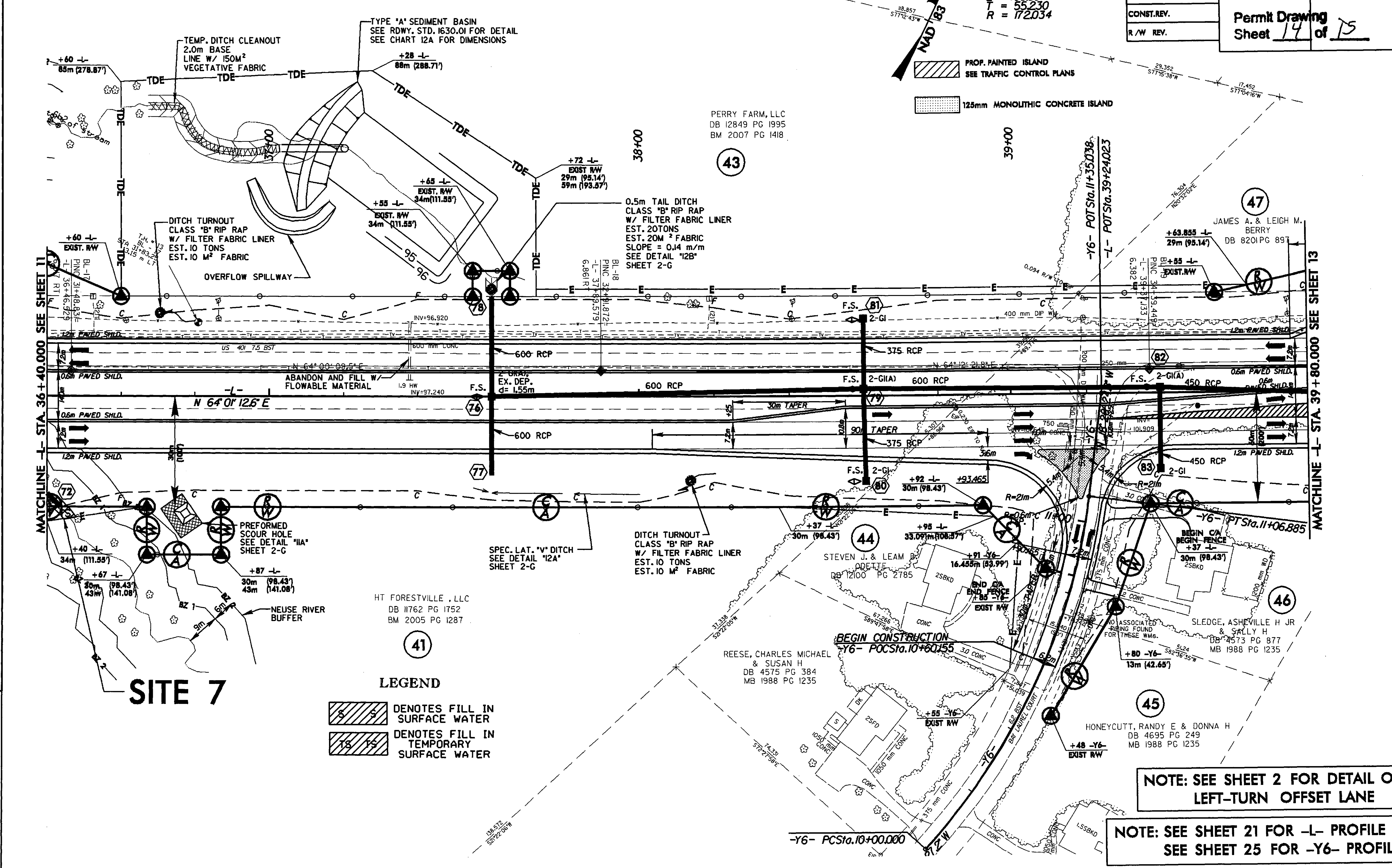
R/W REV.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 14 of 15

CHART 12A

BASIN #	APPROX. STA.	P	H	T	D*	E	F	B (min)	X (min)	Y (min)	X1 (min)	Y1 (min)	SURFACE AREA (min)	STORAGE VOLUME (min)
		mm	m	m	m	m	m	m	m	m	m	m	M^2	M^3
1	37+00 LT.	900	0.3	2.0	2.7	2.0	.46	2.4	2.1	0.6	1.8	0.6	880	482



LEGEND

DENOTES FILL IN SURFACE WATER

DENOTES FILL IN TEMPORARY SURFACE WATER

NOTE: SEE SHEET 2 FOR DETAIL OF LEFT-TURN OFFSET LANE

NOTE: SEE SHEET 21 FOR -L- PROFILE
SEE SHEET 25 FOR -Y6- PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

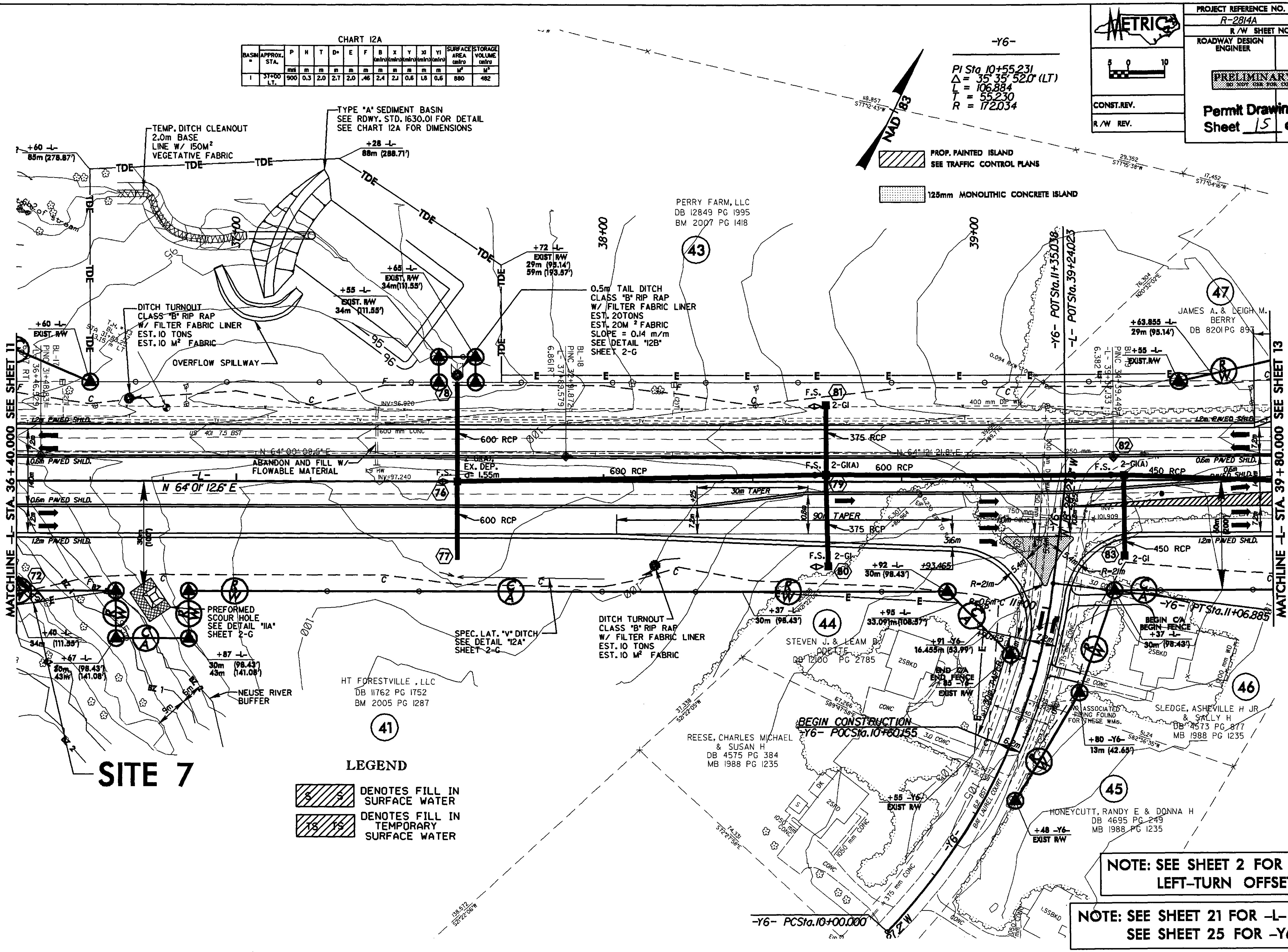
CONST. REV.

R/W REV.

Permit Drawing
Sheet 15 of 25

CHART 12A

BASIN #	APPROX. STA.	P	H	T	D*	E	F	B (min)	X (min)	Y (min)	X1 (min)	Y1 (min)	SURFACE AREA (min)	STORAGE VOLUME (min)
		mm	m	m	m	m	m	m	m	m	m	m	M²	M³
1	37+00 LT.	900	0.3	2.0	2.7	2.0	.46	2.4	2.1	0.6	1.8	0.6	880	482



PROP. PAINTED ISLAND
SEE TRAFFIC CONTROL PLANS

125mm MONOLITHIC CONCRETE ISLAND

LEGEND

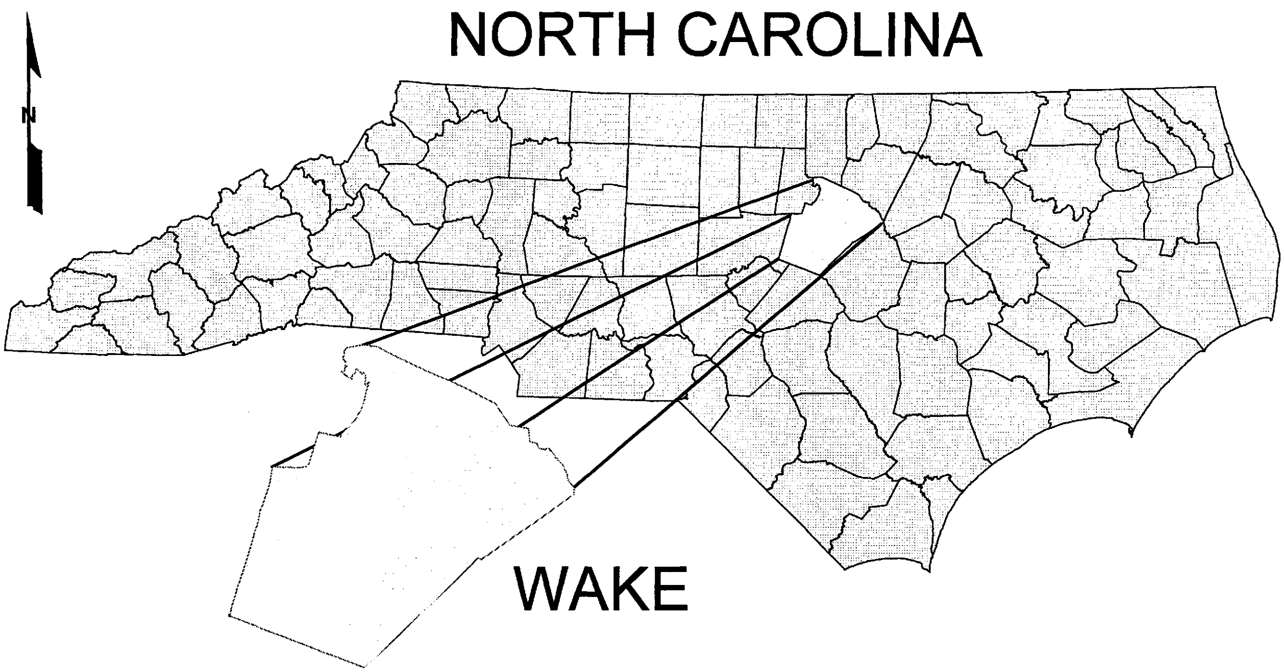
DENOTES FILL IN SURFACE WATER

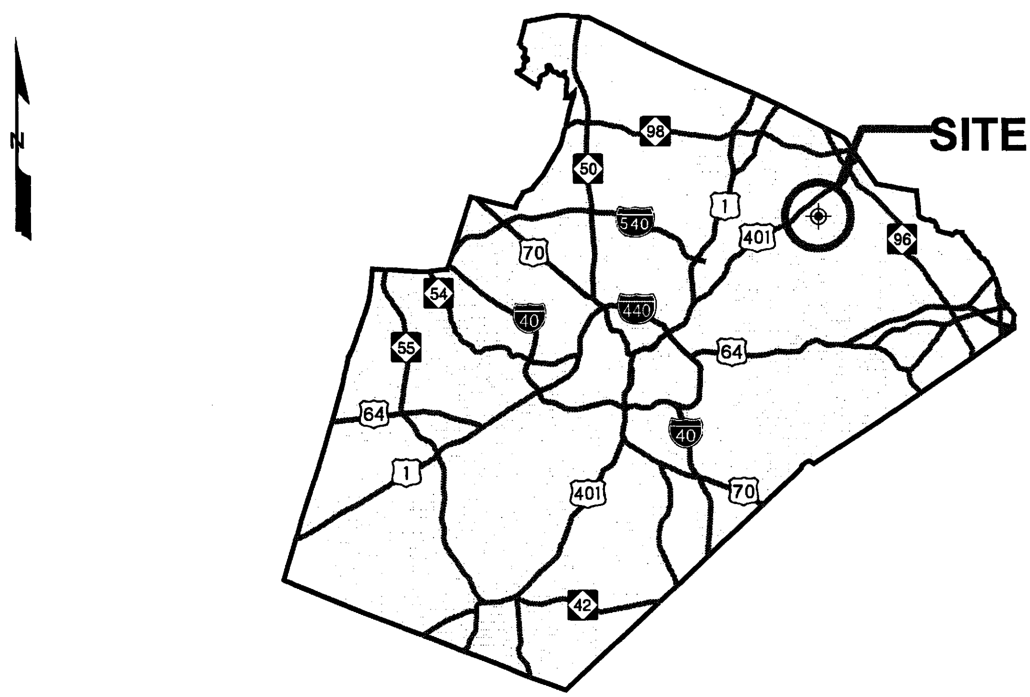
DENOTES FILL IN TEMPORARY SURFACE WATER

NOTE: SEE SHEET 2 FOR DETAIL OF LEFT-TURN OFFSET LANE

NOTE: SEE SHEET 21 FOR -L- PROFILE
SEE SHEET 25 FOR -Y6- PROFILE

REVISIONS

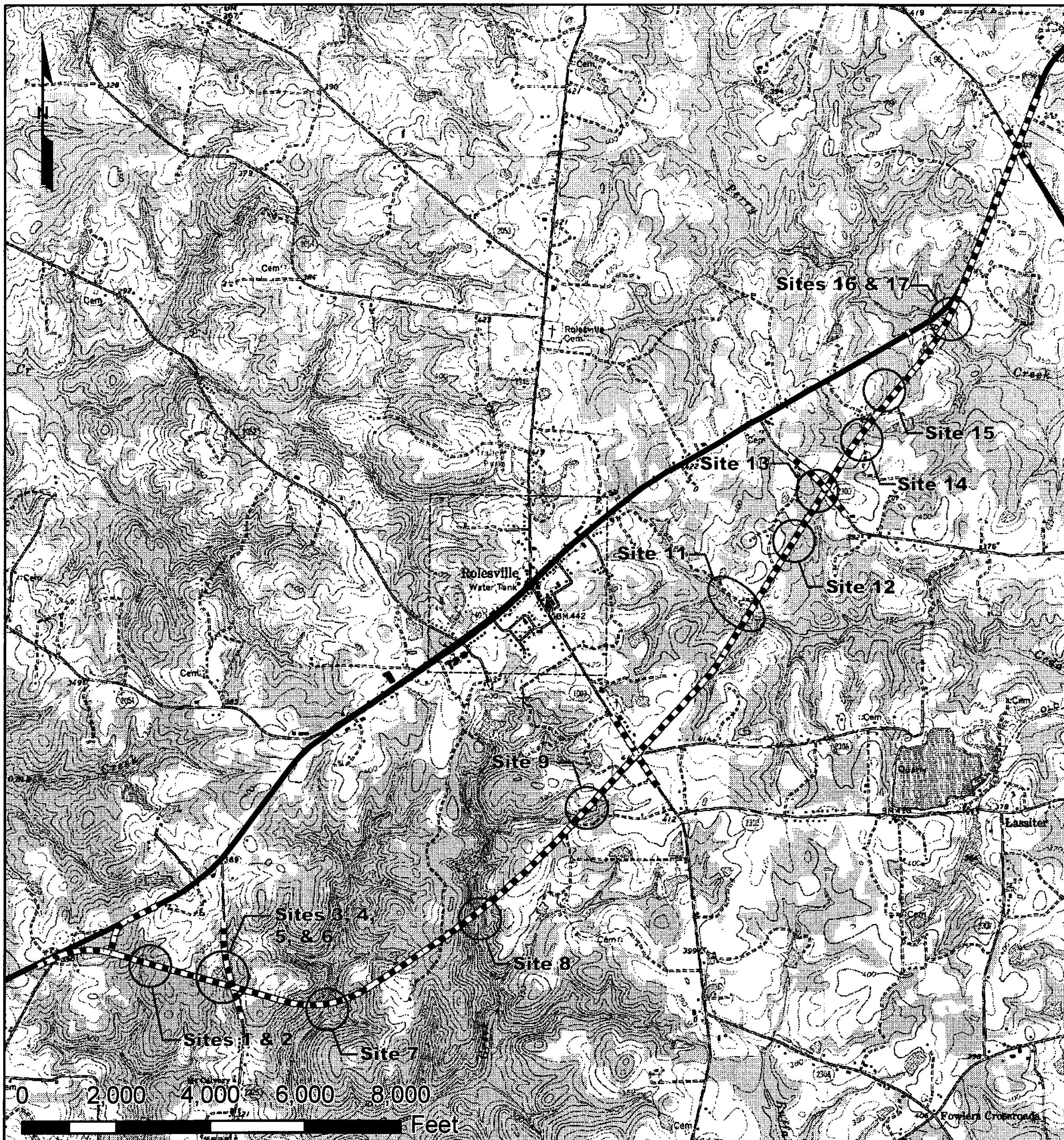




STREAM AND WETLAND VICINITY MAP

NCDOT
DIVISION OF HIGHWAYS
WAKE COUNTY
PROJECT: 34506.1.1 (R-2814B)
US 401 ROLESVILLE BYPASS
FROM SR 2225, LOUISBURY ROAD
TO NC 96, ZEBULON ROAD

Permit Drawing
Sheet 1 of 37 SEPTEMBER 2008



1 inch equals 3,000 feet

STREAM AND WETLAND LOCATION MAP

NCDOT

DIVISION OF HIGHWAYS
WAKE COUNTY
PROJECT: 34506.1.1 (R-2814B)
US 401 ROLESVILLE BYPASS
FROM SR 2225, LOUISBURY ROAD
TO NC 96, ZEBULON ROAD

Permit Drawing
Sheet 2 of 37 SEPTEMBER 2008

Source: USGS 7.5 Minute Quadrangle, Rolesville, NC

PROP. NO.	PROPERTY OWNER NAME	PROP. OWNER ADDRESS
7	Neuse Baptist Church	8700 Capital Blvd., Raleigh, NC 27587
8	Alexander Family investments, LLC	906 Washington St., Cary, NC 27511
9	Scarboro , E. Walter and Claire P.	9412 Louisburg Rd., Wake Forest, NC 27587
12	Bobby L. Murray Heirs (J Brent King Exec.)	PO Box 40639, Raleigh, NC 27629
13	Spencer, Pulley Heirs	9412 Louisburg Rd., Wake Forest, NC 27587
14	Scarboro , E. Walter and Claire P.	9412 Louisburg Rd., Wake Forest, NC 27587
20	Shearon, Cameron E.& Beverly W.	4325 Galax Dr., Raleigh, NC 27612
21	Mitchell F. Rabil Family Irrevocable Trust	3321 Gondola Dr., Lexington KY, 40513
22	Shearon, Kathleen W.	733 Rolesville Rd., Rolesville, NC 27571
33	R.S. Wall Heirs	1608 Falls Ct., Raleigh, NC 27615
34	Scarboro Family Limited Partnership	PO Box 84, Rolesville, NC 27571
35	Wall, Joe	7317 Pulley Town Rd., Wake Forest, NC 27587
36	Wall, Joe	7318 Pulley Town Rd., Wake Forest, NC 27587
37	Wall, Joe	7318 Pulley Town Rd., Wake Forest, NC 27587
38	Bobie Joe Wall & Vickie D. Wall	7309 Pulley Town Rd. Wake Forest, NC 27587
39	The SBJ Growth, L.P	PO Box 19067, Raleigh, NC
49	Bartholomew, Robert G. & Joyce C.	No Known Address
50	Bartholomew, Richard C. & Shirley B.	PO BOX 6, Rolesville, NC 27571
51	Bartholomew, Michael	PO BOX 573, Rolesville, NC 27571
52	Bartholomew, Richard C & Shirley B.	PO BOX 6, Rolesville, NC 27571
55	Stell, Meith & Mary Sue Et. Al.	1132 Louisburg Rd., Wake Forest, NC 27587
57	Frazier, Violet Pearce	1316 Louisburg Rd., Wake Forest, NC 27587
999	Wall, Alice W.	405 N. Main St., Rolesville, NC 27571

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

WAKE COUNTY
PROJECT: 34506.1.1 (R-2814B)

Permit Drawing
Sheet 3 **of** 37 9/26/2008

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	37+73 TO 38+57 -L-							0.03		281		
2	40+25 TO 41+69 -L-		0.17			0.03						
3	51+54 TO 53+12 -L-		0.21			0.05						
4	53+97 TO 56+13 -L-		0.24			0.02		0.01		115		
5	53+12 TO 56+20 -L- [1]							1.53				
6	17+00 TO 17+23 -Y2- [2]							0.00		22		
7	76+24 TO 79+31 -L-		0.64		0.10	0.15		0.17		495		
8	114+76 TO 116+43 -L-							0.08		518		
9	114+08 TO 150+88 -L- [3]							1.31		626		
11	197+68 TO 203+32 -L- [4]							7.30		22		
12	218+29 TO 219+70 -L-							0.02		258		
13	229+79 TO 231+71 -L-		0.19									
14	244+70 TO 247+51 -L-		0.34			0.14						
15	251+56 TO 258+44 [5]		1.58									
16	274+83 TO 275+99 -L-							0.11		337		
17	276+25 TO 279+06 -L-		0.38									
TOTALS:			3.75		0.10	0.39		10.56		2674		

1 Entire area is impact in surface water (pond)
2 Impact = 88.6 square feet (0.00 acres)
3 Imact in surface water (pond) is 1.25 acres
4 Imact in surface water (pond) is 7.29 acres
5 Isolated wetland

ATN Revised 3/12/08

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

WAKE COUNTY
PROJECT: 34506.1.1 (R-2814B)

Permit Drawing
Sheet 4 of 37

9/26/2008

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Wetland Impact Summary

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2814B	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
34506.1.1	STP-401(4)	PE

TIP PROJECT: R-2814B

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

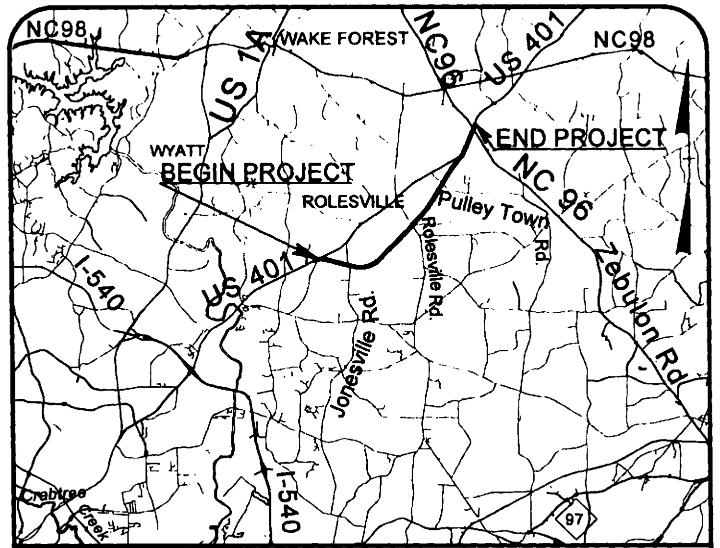
WAKE COUNTY

LOCATION: US 401 ROLESVILLE BYPASS FROM SR 2225, LOUISBURY ROAD TO NC 96, ZEBULON ROAD

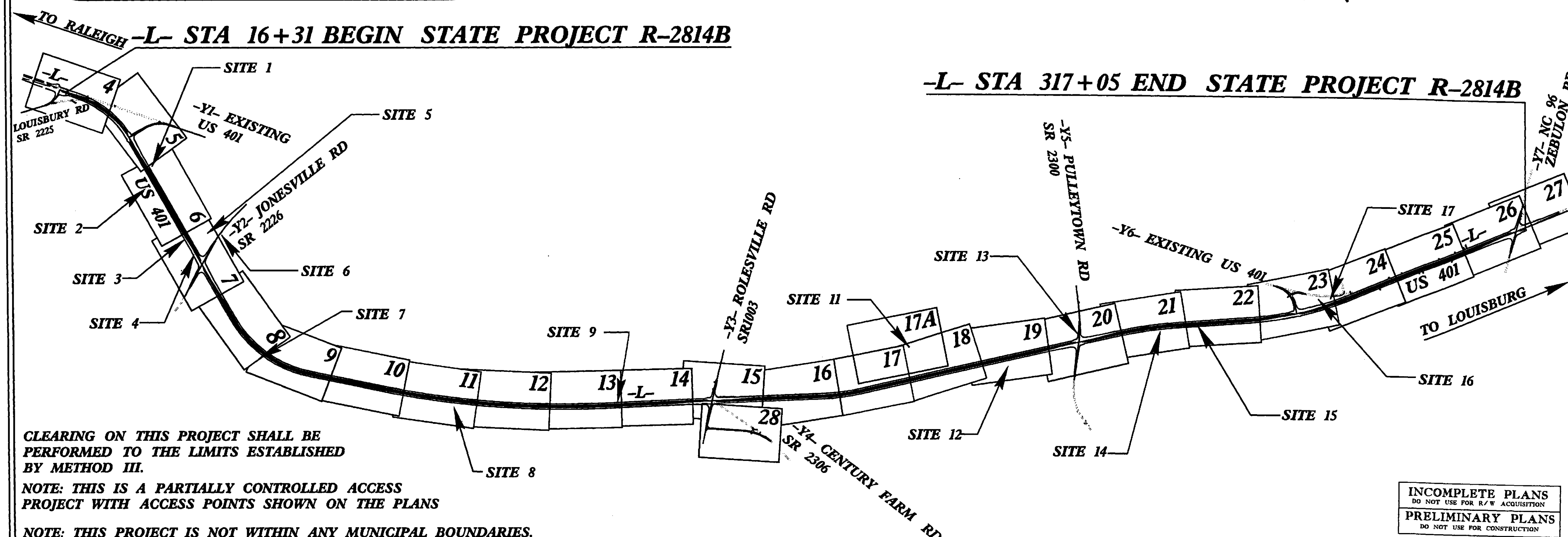
TYPE OF WORK: PRELIMINARY WETLAND AND STREAM PERMIT DRAWINGS

Permit Drawing
Sheet 5 of 37

See Sheet 1 A For Index of Sheets



VICINITY MAP



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

NOTE: THIS IS A PARTIALLY CONTROLLED ACCESS PROJECT WITH ACCESS POINTS SHOWN ON THE PLANS

NOTE: THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

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

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

5 0 5 10
PROFILE (VERTICAL)

DESIGN DATA

ADT 2030 = 24600
ADT =
DHV = 55 %
D = 13 %
T = 7 % *
V = 60 MPH
* TTST 2 DUAL 5

PROJECT LENGTH

LENGTH ROADWAY F.A. PROJECT STP-401(4) = 5.696 MILES
TOTAL LENGTH TIP PROJECT R-2814B = 5.696 MILES

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 17, 2009

LETTING DATE:
APRIL 19, 2011

JS GOODNIGHT
PROJECT ENGINEER

TD GOINS
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14493 ENGINEER JAMES STAFFORD GOODNIGHT, JR.

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

STATE HIGHWAY DESIGN ENGINEER P.E.

CONTRACT:

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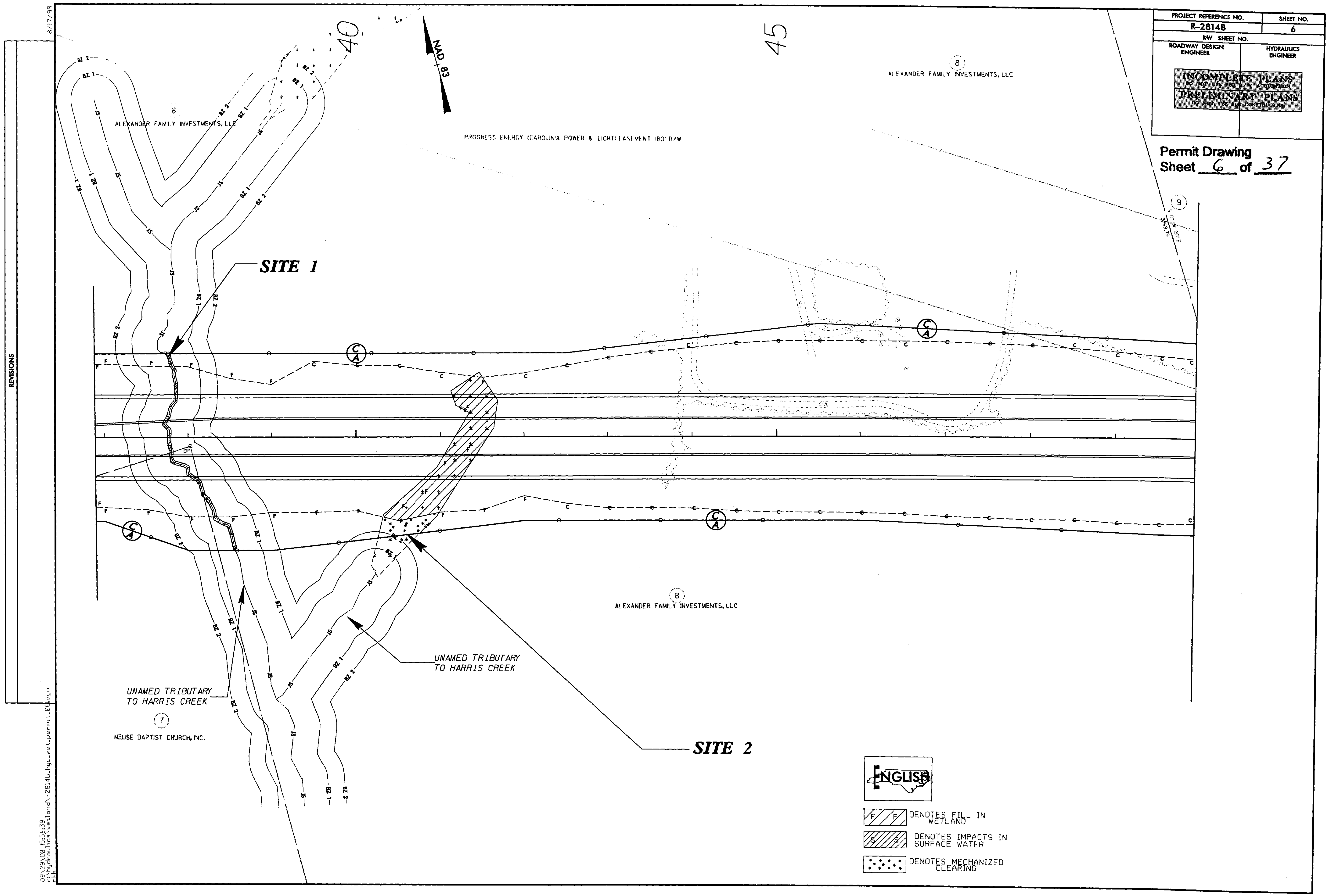

PROJECT REFERENCE NO.
R-2814B
SHEET NO.
6
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Permit Drawing
Sheet 6 of 37
REVISIONS
NAD 83
ALEXANDER FAMILY INVESTMENTS, LLC
PROGRESS ENERGY (CAROLINA POWER & LIGHT) EASEMENT 180' R/W
SITE 1
SITE 2
UNAMED TRIBUTARY
TO HARRIS CREEK
NEUSE BAPTIST CHURCH, INC.
ENGLISH
DENOTES FILL IN WETLAND
DENOTES IMPACTS IN SURFACE WATER
DENOTES MECHANIZED CLEARING
8/17/99
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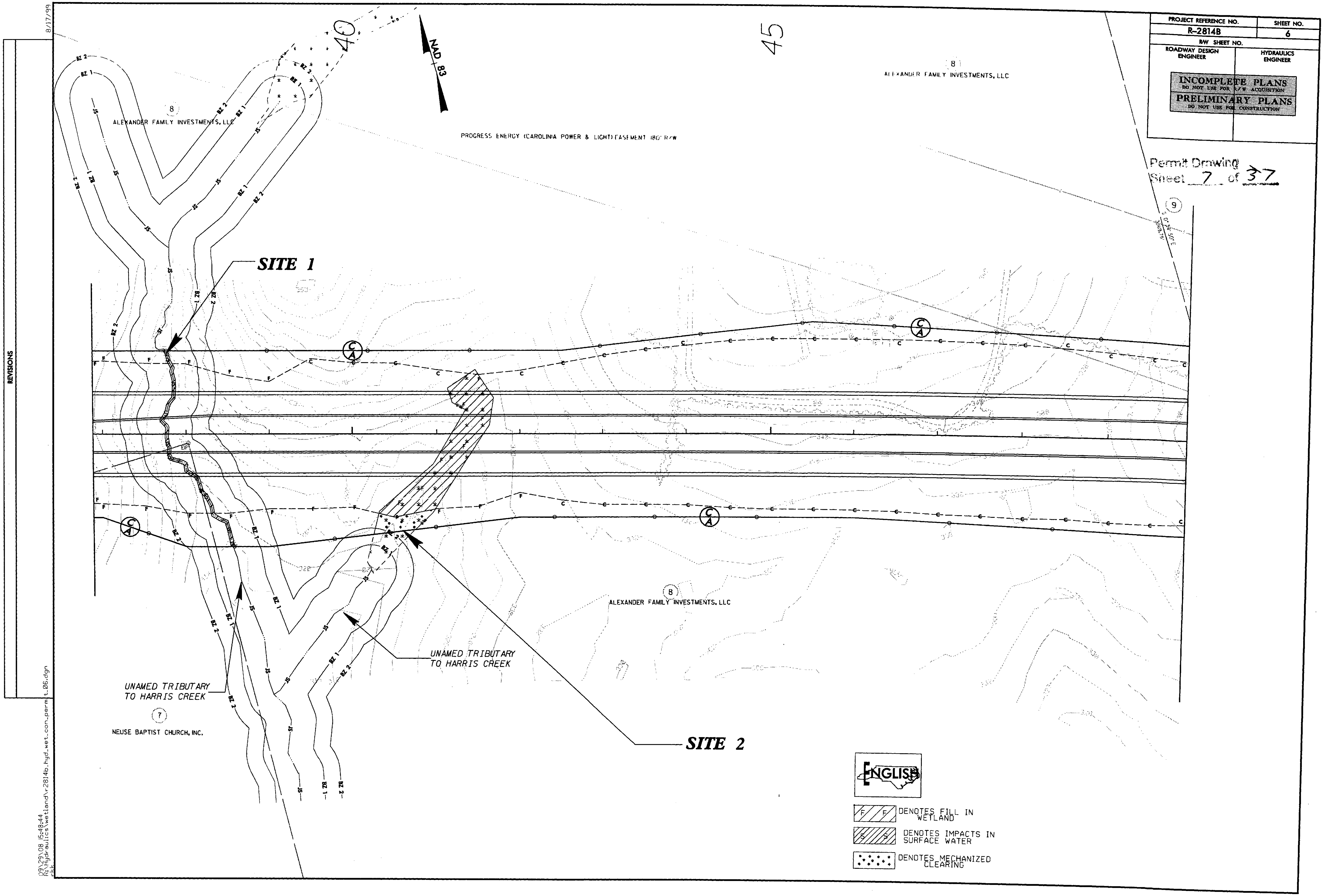

PROJECT REFERENCE NO.
R-2814B
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6
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Permit Drawing
Sheet 7 of 37
45
40
NAD 83
ALEXANDER FAMILY INVESTMENTS, LLC
PROGRESS ENERGY (CAROLINA POWER & LIGHT) EASEMENT 180' R/W
SITE 1
SITE 2
UNAMED TRIBUTARY TO HARRIS CREEK
UNAMED TRIBUTARY TO HARRIS CREEK
NEUSE BAPTIST CHURCH, INC.
REVISIONS
ENGLISH
DENOTES FILL IN WETLAND
DENOTES IMPACTS IN SURFACE WATER
DENOTES MECHANIZED CLEARING
8/17/99
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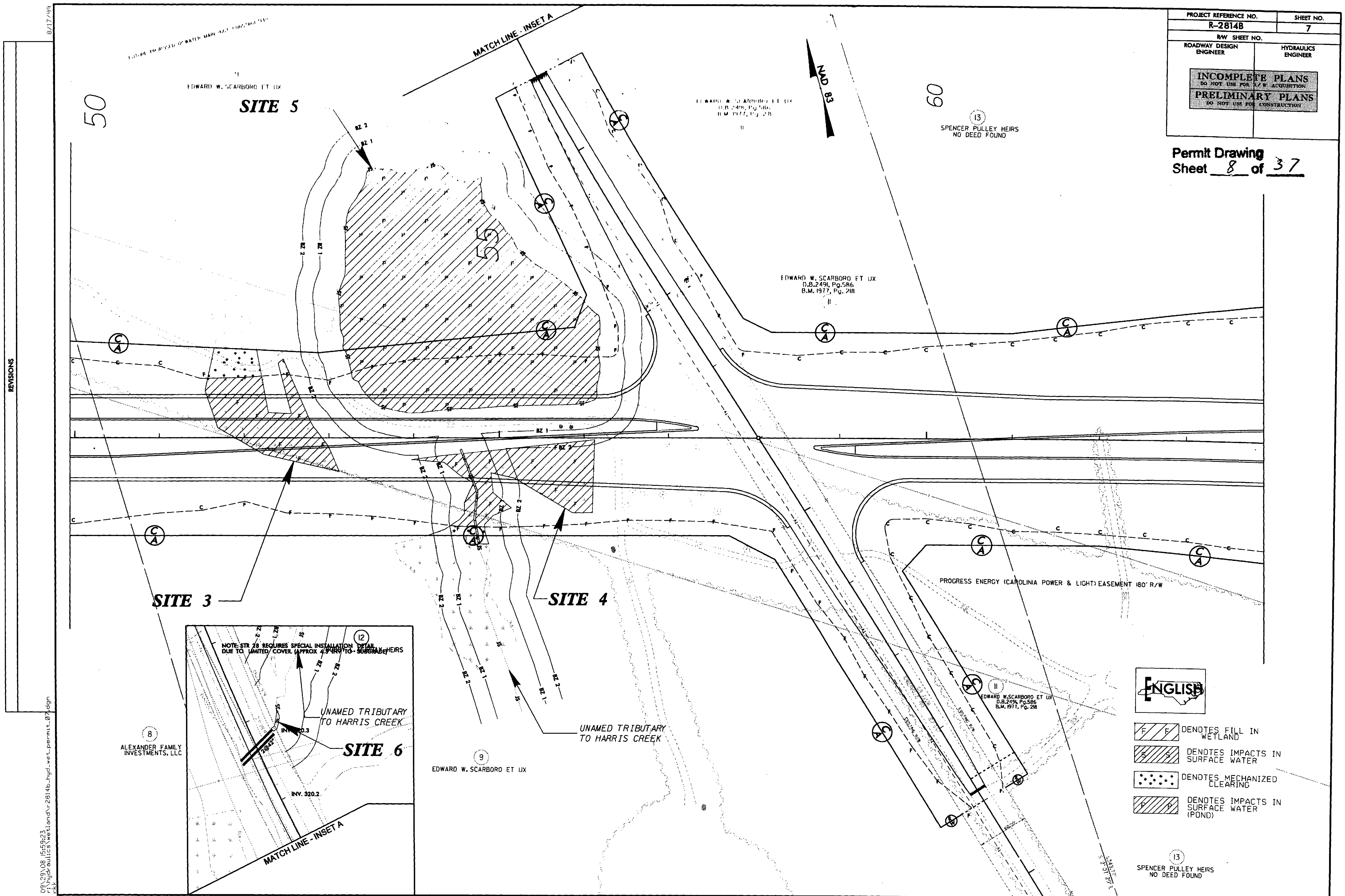

PROJECT REFERENCE NO.
R-2814B
SHEET NO.
7
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Permit Drawing
Sheet 8 of 37
MATCH LINE - INSET A
NAD 83
SITE 5
SITE 3
SITE 4
SITE 6
EDWARD W. SCARBORO ET UX
EDWARD W. SCARBORO ET UX
D.B.2491, Pg.586
B.M. 1977, Pg. 218
SPENCER PULLEY HEIRS
NO DEED FOUND
PROGRESS ENERGY (CAROLINIA POWER & LIGHT) EASEMENT 180' R/W
UNAMED TRIBUTARY
TO HARRIS CREEK
ALEXANDER FAMILY
INVESTMENTS, LLC
NOTE: STR 28 REQUIRES SPECIAL INSTALLATION DETAIL DUE TO LIMITED COVER. (APPROX 4.5' INV TO SUBGRADE)
INV. 320.2
ENGLISH
DENOTES FILL IN WETLAND
DENOTES IMPACTS IN SURFACE WATER
DENOTES MECHANIZED CLEARING
DENOTES IMPACTS IN SURFACE WATER (POND)
8/17/99
REVISIONS
50
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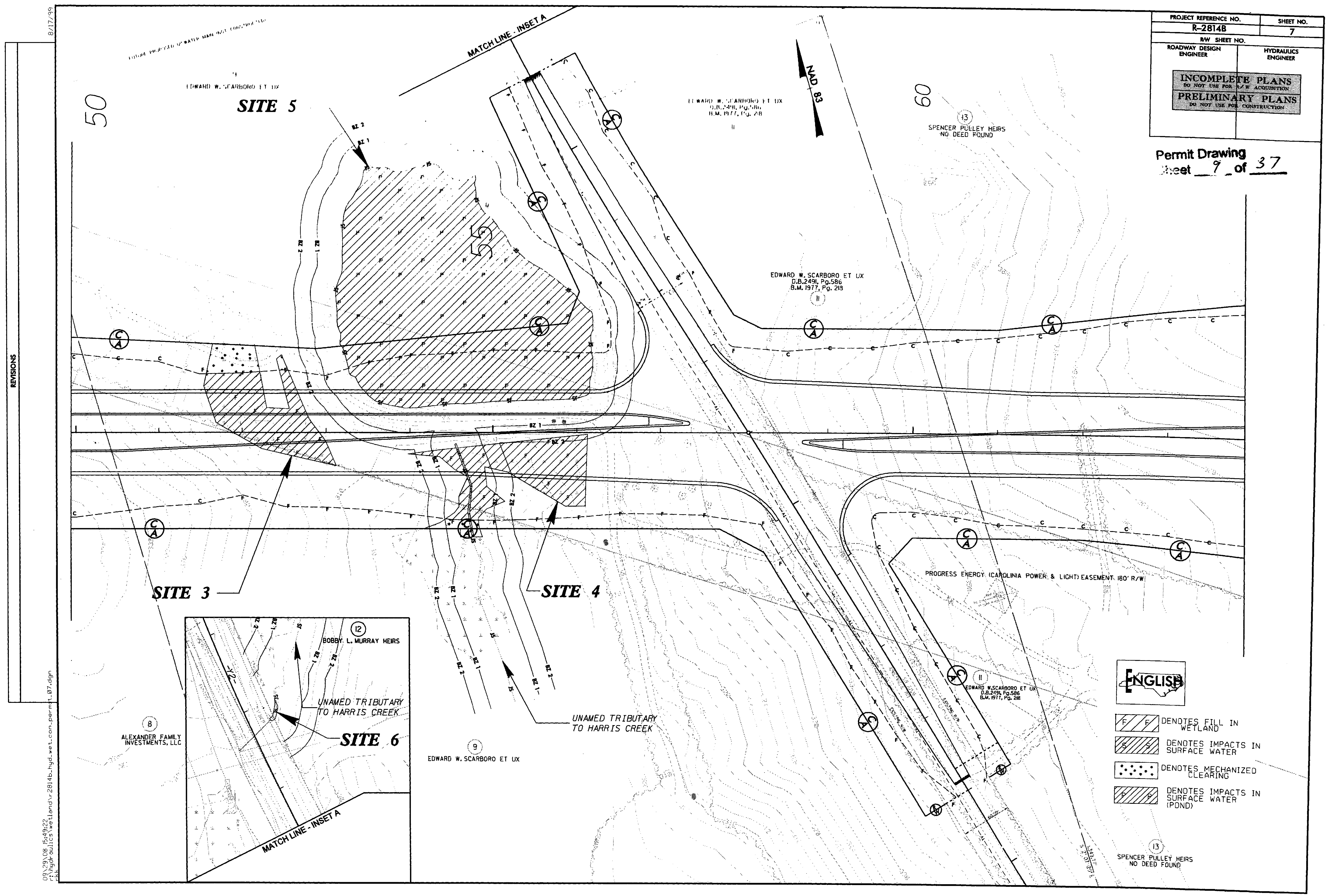
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R/W SHEET NO.
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HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Permit Drawing
Sheet 9 of 37
SITE 5
SITE 3
SITE 4
SITE 6
MATCH LINE - INSET A
NAD 83
EDWARD W. SCARBORO ET UX
D.B.2491, Pg.586
B.M. 1977, Pg. 218
SPENCER PULLEY HEIRS
NO DEED FOUND
PROGRESS ENERGY (CAROLINIA POWER & LIGHT) EASEMENT 180' R/W
BOBBY L. MURRAY HEIRS
UNAMED TRIBUTARY TO HARRIS CREEK
ALEXANDER FAMILY INVESTMENTS, LLC
ENGLISH
DENOTES FILL IN WETLAND
DENOTES IMPACTS IN SURFACE WATER
DENOTES MECHANIZED CLEARING
DENOTES IMPACTS IN SURFACE WATER (POND)
REVISIONS
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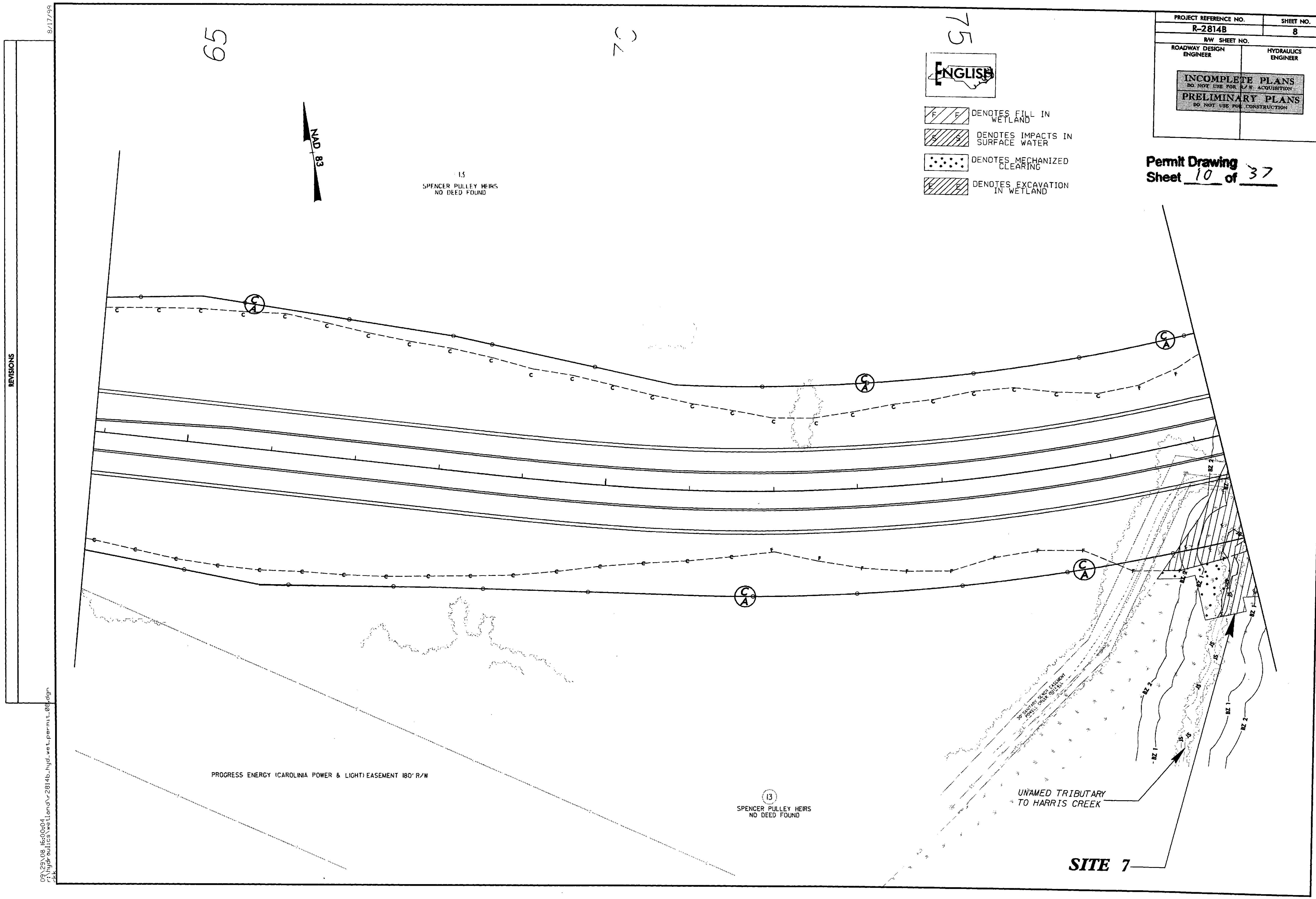
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R/W SHEET NO.
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HYDRAULICS ENGINEER
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DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Permit Drawing
Sheet 10 of 37
ENGLISH
DENOTES FILL IN WETLAND
DENOTES IMPACTS IN SURFACE WATER
DENOTES MECHANIZED CLEARING
DENOTES EXCAVATION IN WETLAND
NAD 83
65
75
13
SPENCER PULLEY HEIRS
NO DEED FOUND
REVISIONS
8/17/99
PROGRESS ENERGY (CAROLINIA POWER & LIGHT) EASEMENT 180' R/W
UNAMED TRIBUTARY
TO HARRIS CREEK
SITE 7
BZ 1
BZ 2
JS
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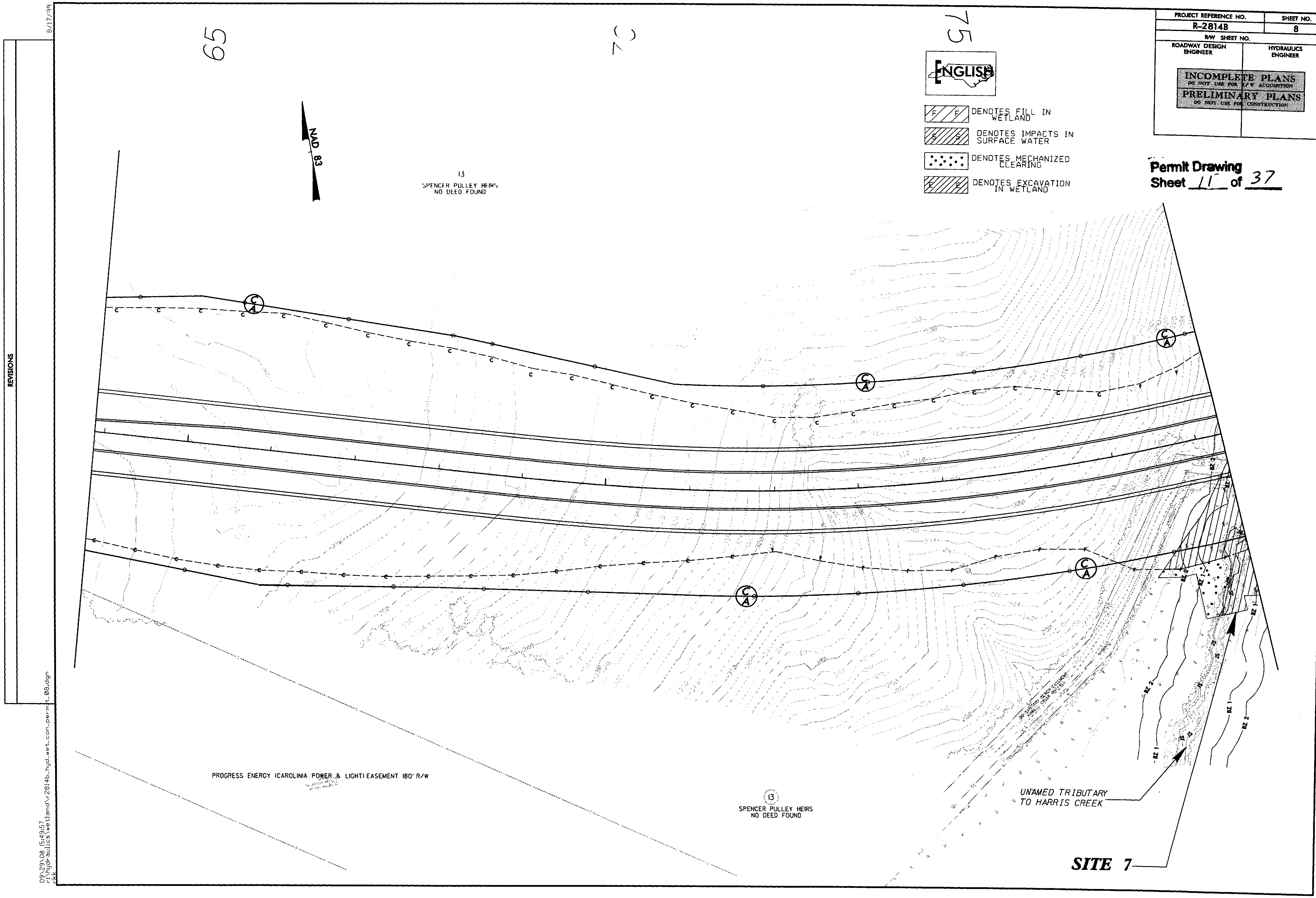

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DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
ENGLISH
DENOTES FILL IN WETLAND
DENOTES IMPACTS IN SURFACE WATER
DENOTES MECHANIZED CLEARING
DENOTES EXCAVATION IN WETLAND
Permit Drawing
Sheet 11 of 37
NAD 83
65
75
13
SPENCER PULLEY HEIRS
NO DEED FOUND
PROGRESS ENERGY (CAROLINIA POWER & LIGHT) EASEMENT 180' R/W
13
SPENCER PULLEY HEIRS
NO DEED FOUND
UNAMED TRIBUTARY
TO HARRIS CREEK
SITE 7
REVISIONS
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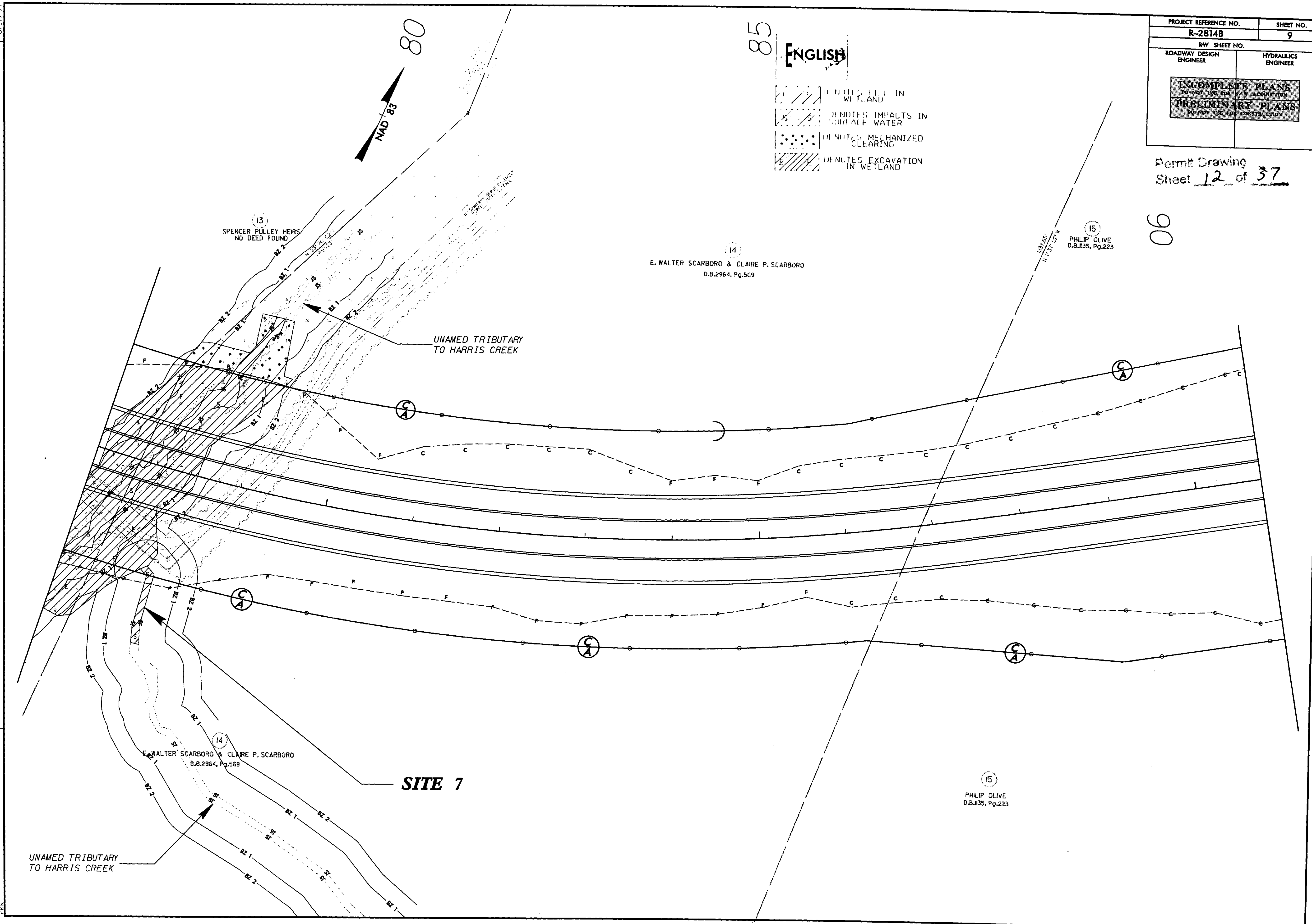

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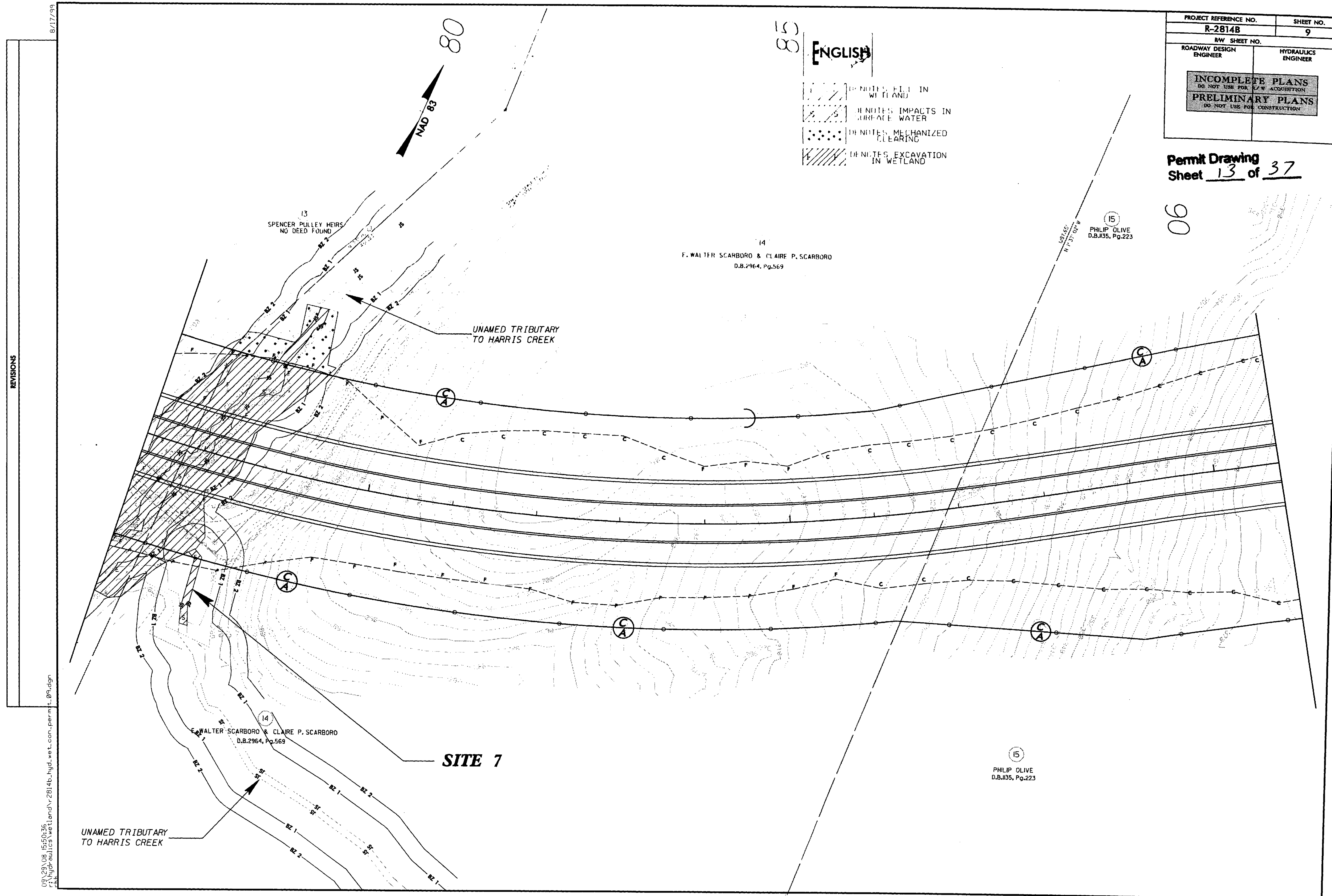
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R/W SHEET NO.
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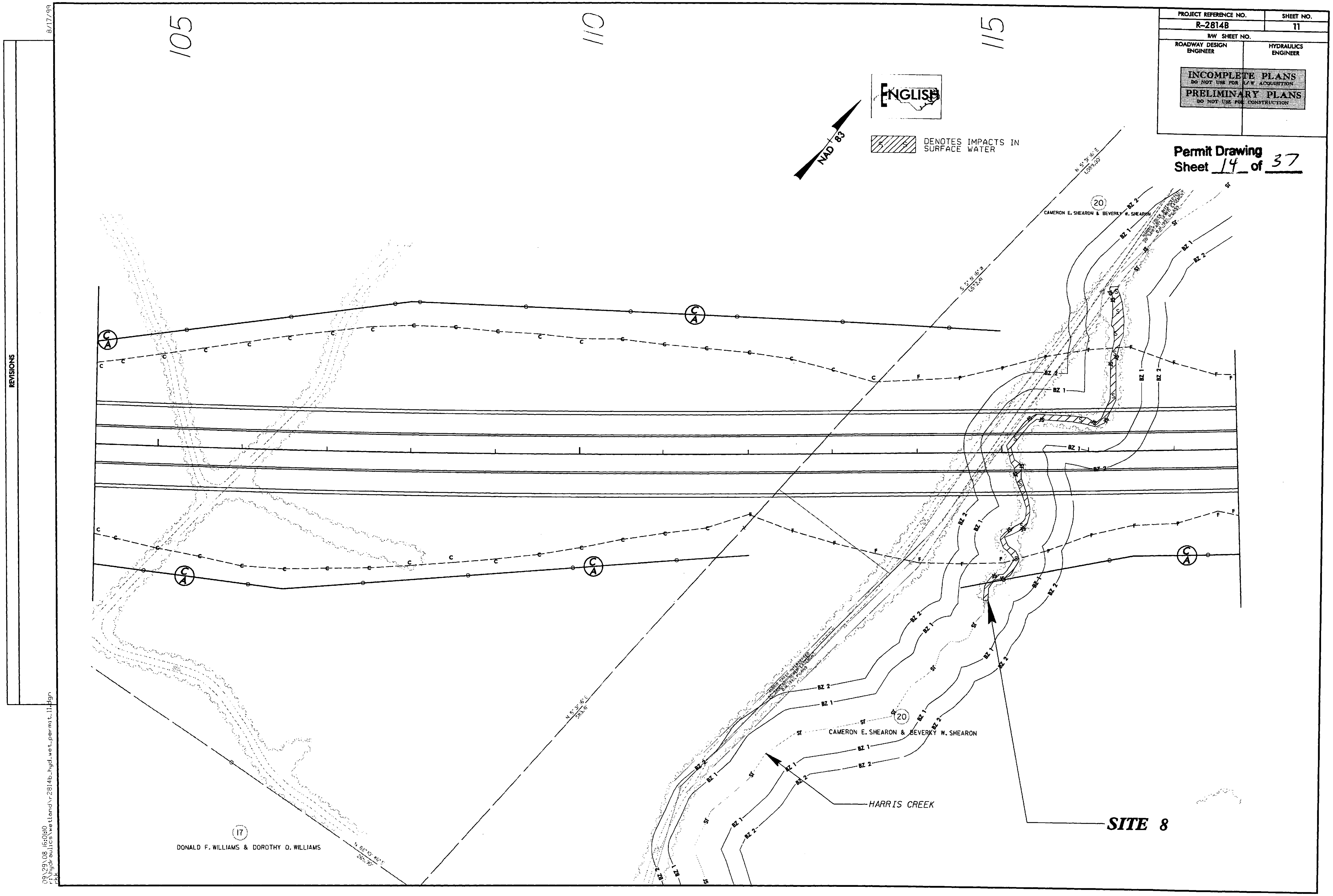
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Permit Drawing
Sheet 13 of 37
ENGLISH
DENOTES FILL IN WETLAND
DENOTES IMPACTS IN SURFACE WATER
DENOTES MECHANIZED CLEARING
DENOTES EXCAVATION IN WETLAND
NAD 83
80
90
13
SPENCER PULLEY HEIRS
NO DEED FOUND
14
F. WALTER SCARBORO & CLAIRE P. SCARBORO
D.B.2964, Pg.569
15
PHILIP OLIVE
D.B.1135, Pg.223
UNAMED TRIBUTARY
TO HARRIS CREEK
SITE 7
REVISIONS
8/17/99



PROJECT REFERENCE NO.
R-2814B
SHEET NO.
11
R/W SHEET NO.
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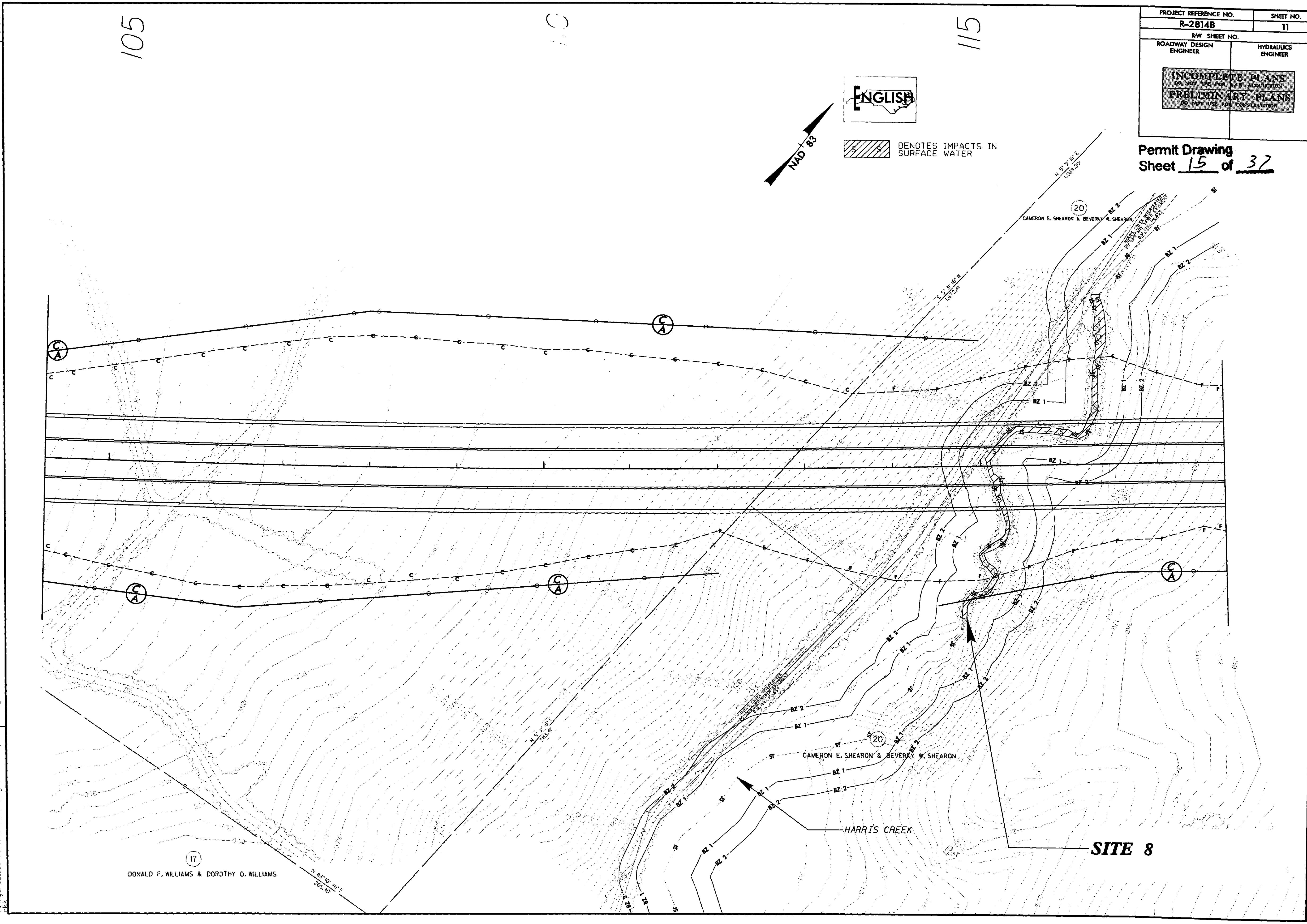
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Permit Drawing
Sheet 14 of 37
ENGLISH
NAD 83
DENOTES IMPACTS IN SURFACE WATER
105
110
115
REVISIONS
8/17/99
CAMERON E. SHEARON & BEVERLY W. SHEARON
DONALD F. WILLIAMS & DOROTHY O. WILLIAMS
HARRIS CREEK
SITE 8

8/17/99

REVISIONS



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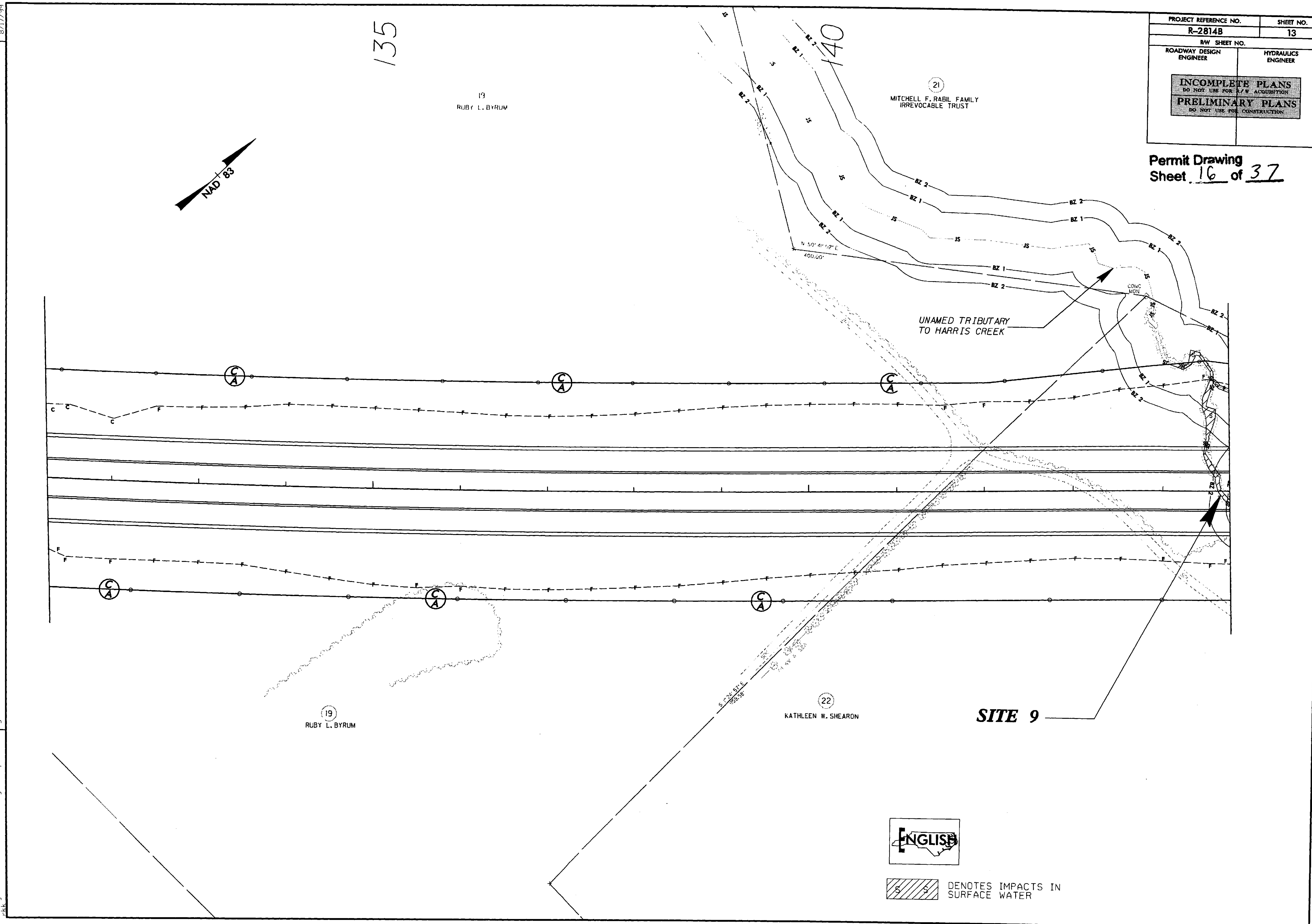
REVISIONS



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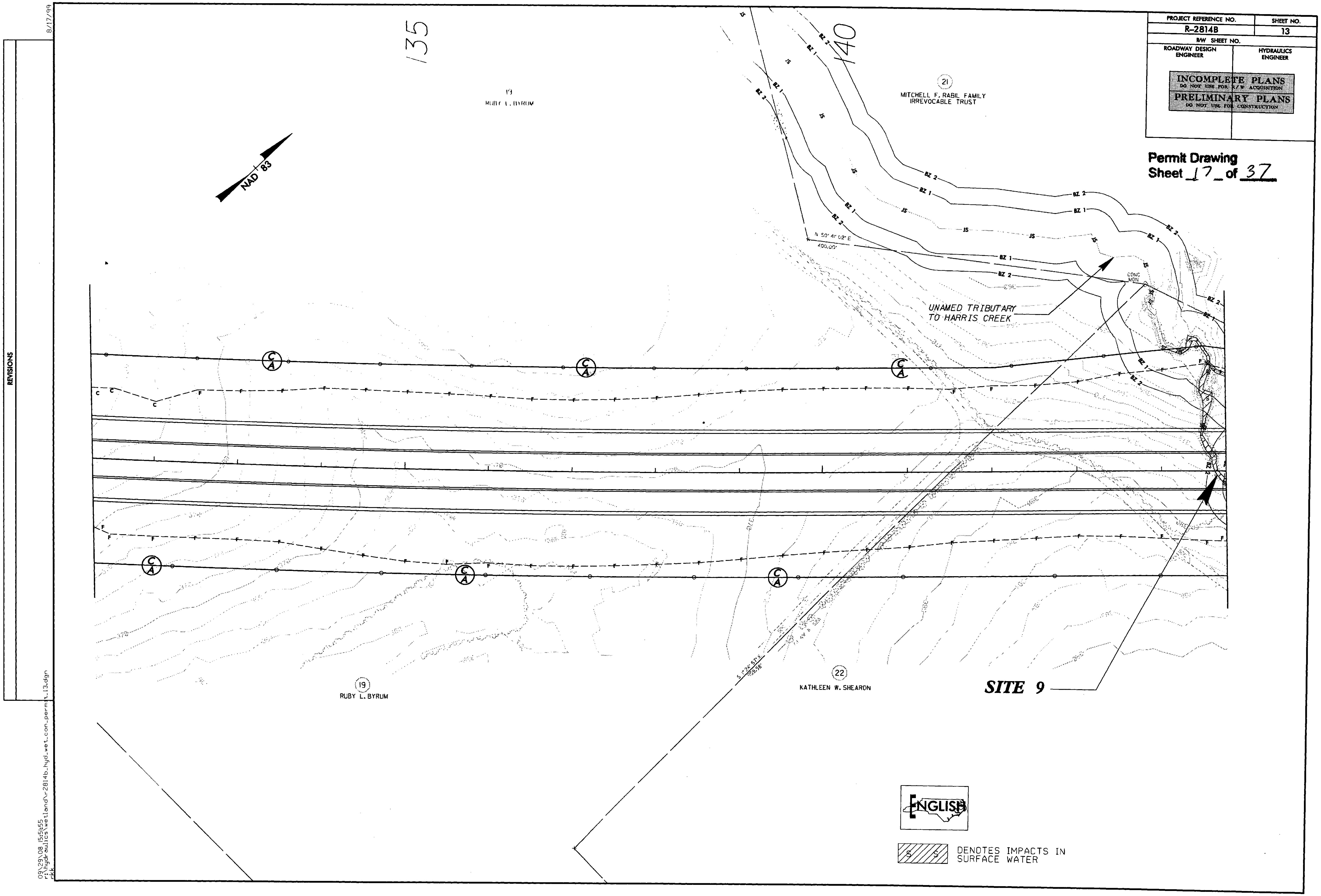

PROJECT REFERENCE NO.
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R/W SHEET NO.
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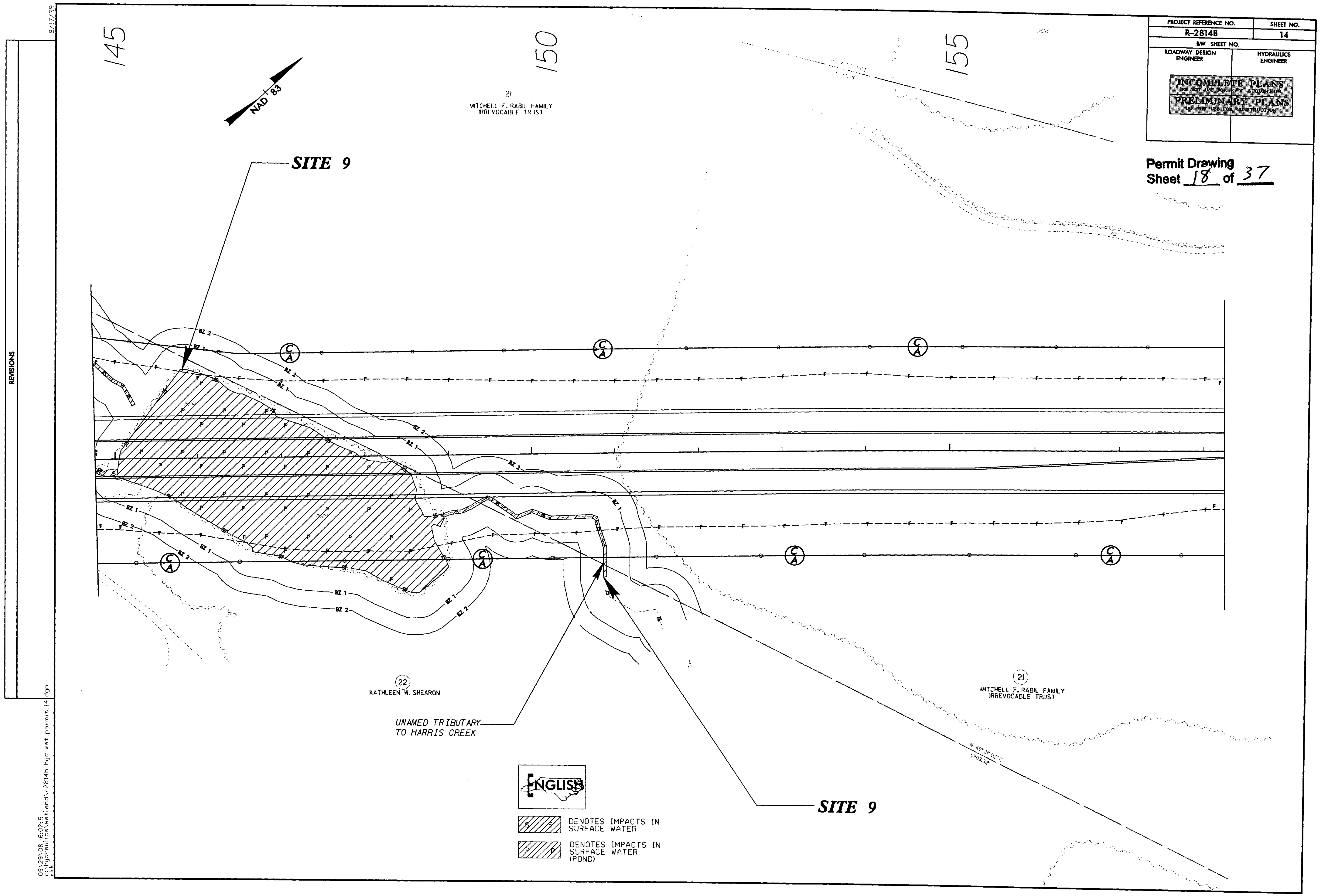
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Permit Drawing
Sheet 17 of 37
135
140
NAD 83
19
RUBY L. BYRUM
21
MITCHELL F. RABIL FAMILY
IRREVOCABLE TRUST
UNAMED TRIBUTARY
TO HARRIS CREEK
CONC MON
22
KATHLEEN W. SHEARON
SITE 9
ENGLISH
DENOTES IMPACTS IN
SURFACE WATER
REVISIONS
8/17/99


PROJECT REFERENCE NO.
R-2814B
SHEET NO.
14
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ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
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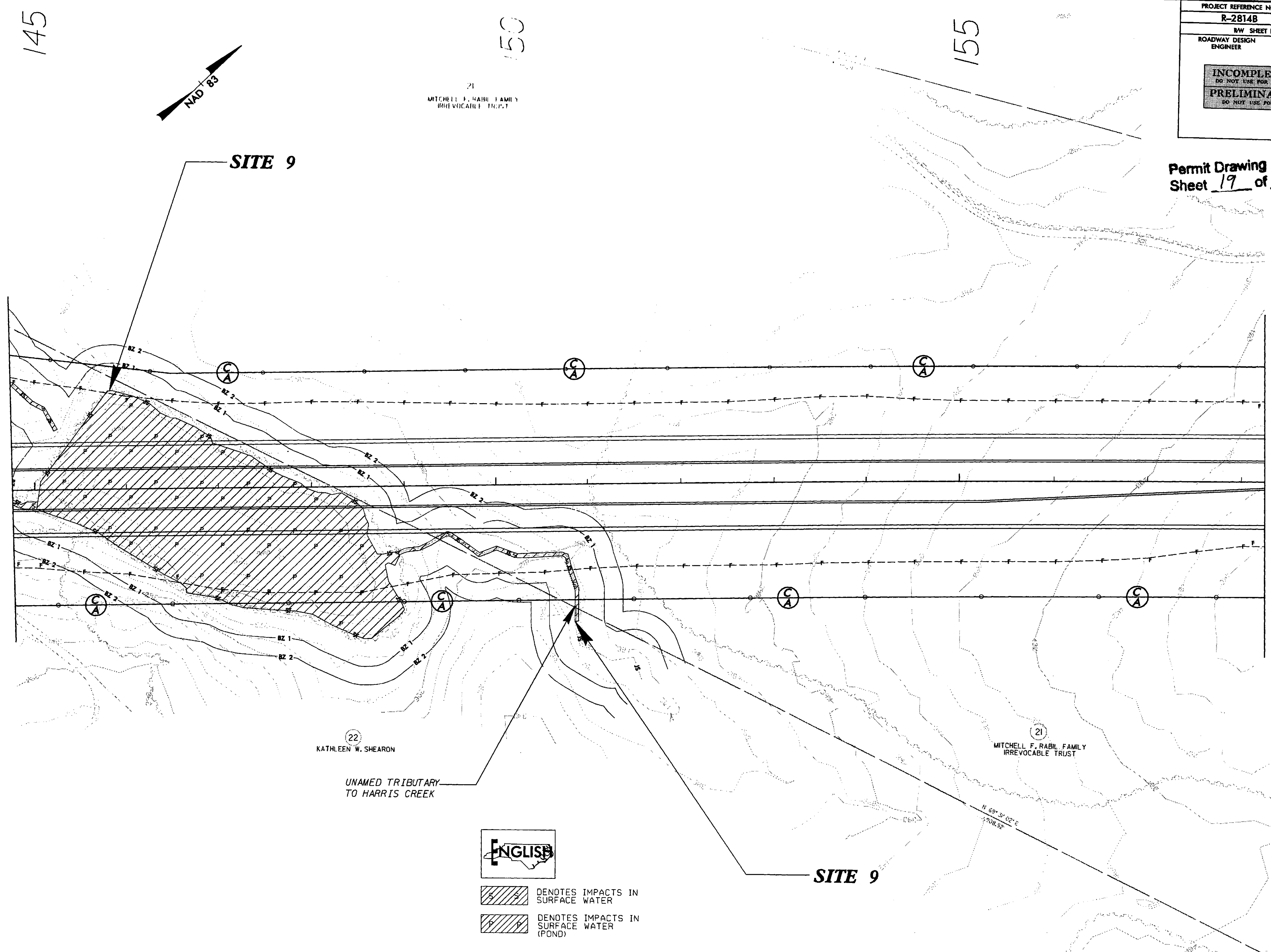
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Permit Drawing
Sheet 18 of 37
145
150
155
NAD 83
21
MITCHELL F. RABIL FAMILY
IRREVOCABLE TRUST
SITE 9
22
KATHLEEN W. SHEARON
UNAMED TRIBUTARY
TO HARRIS CREEK
21
MITCHELL F. RABIL FAMILY
IRREVOCABLE TRUST
SITE 9
ENGLISH
DENOTES IMPACTS IN
SURFACE WATER
DENOTES IMPACTS IN
SURFACE WATER
(POND)
REVISIONS
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2814B	14
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 19 of 37



REVISIONS

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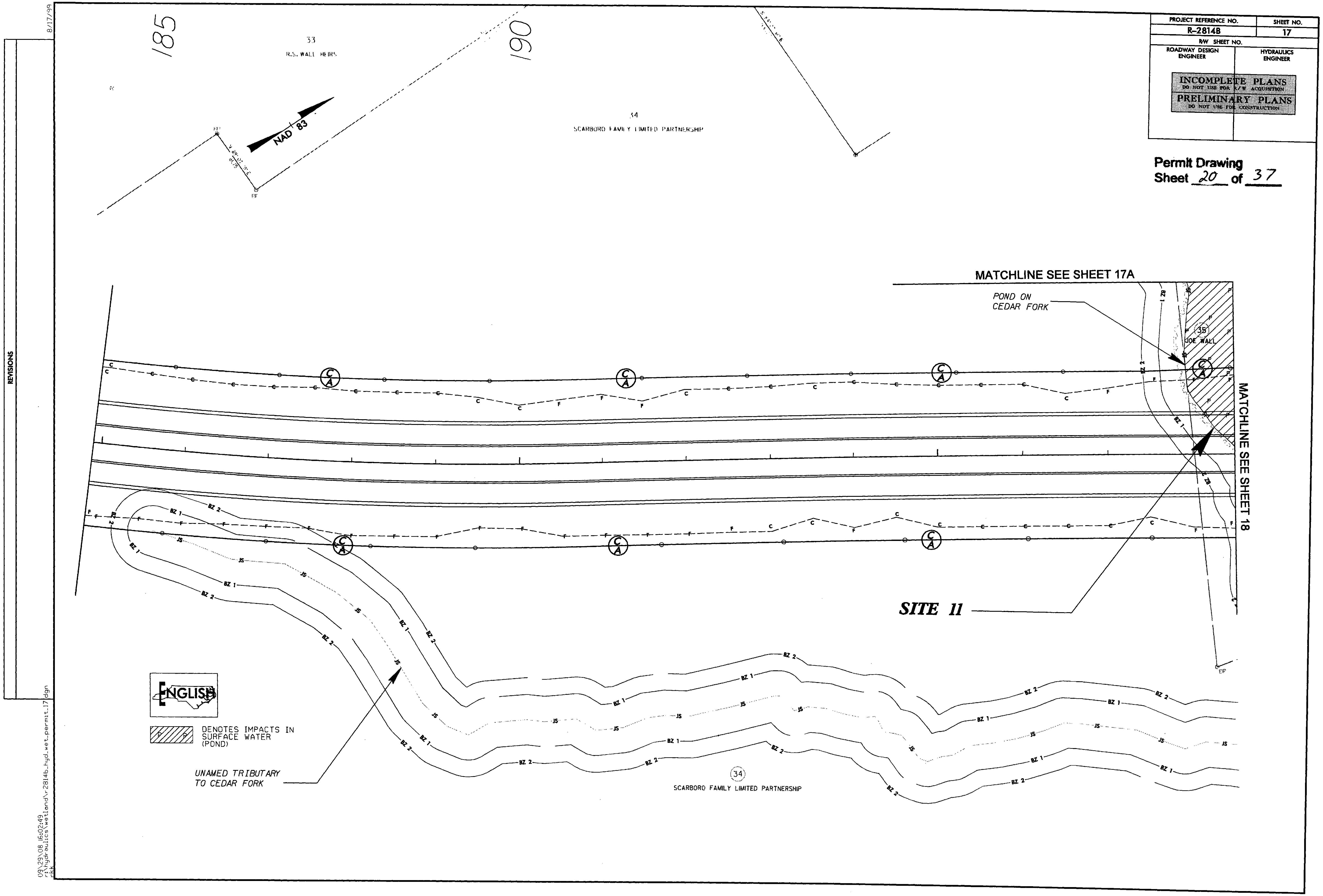

PROJECT REFERENCE NO.
R-2814B
SHEET NO.
17
R/W SHEET NO.
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HYDRAULICS ENGINEER
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DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Permit Drawing
Sheet 20 of 37
REVISIONS
8/17/99
185
190
33
R.S. WALL HEIRS
34
SCARBORO FAMILY LIMITED PARTNERSHIP
NAD 83
MATCHLINE SEE SHEET 17A
POND ON
CEDAR FORK
35
JOE WALL
MATCHLINE SEE SHEET 18
SITE 11
ENGLISH
DENOTES IMPACTS IN
SURFACE WATER
(POND)
UNAMED TRIBUTARY
TO CEDAR FORK
34
SCARBORO FAMILY LIMITED PARTNERSHIP
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PROJECT REFERENCE NO.	SHEET NO.
R-2814B	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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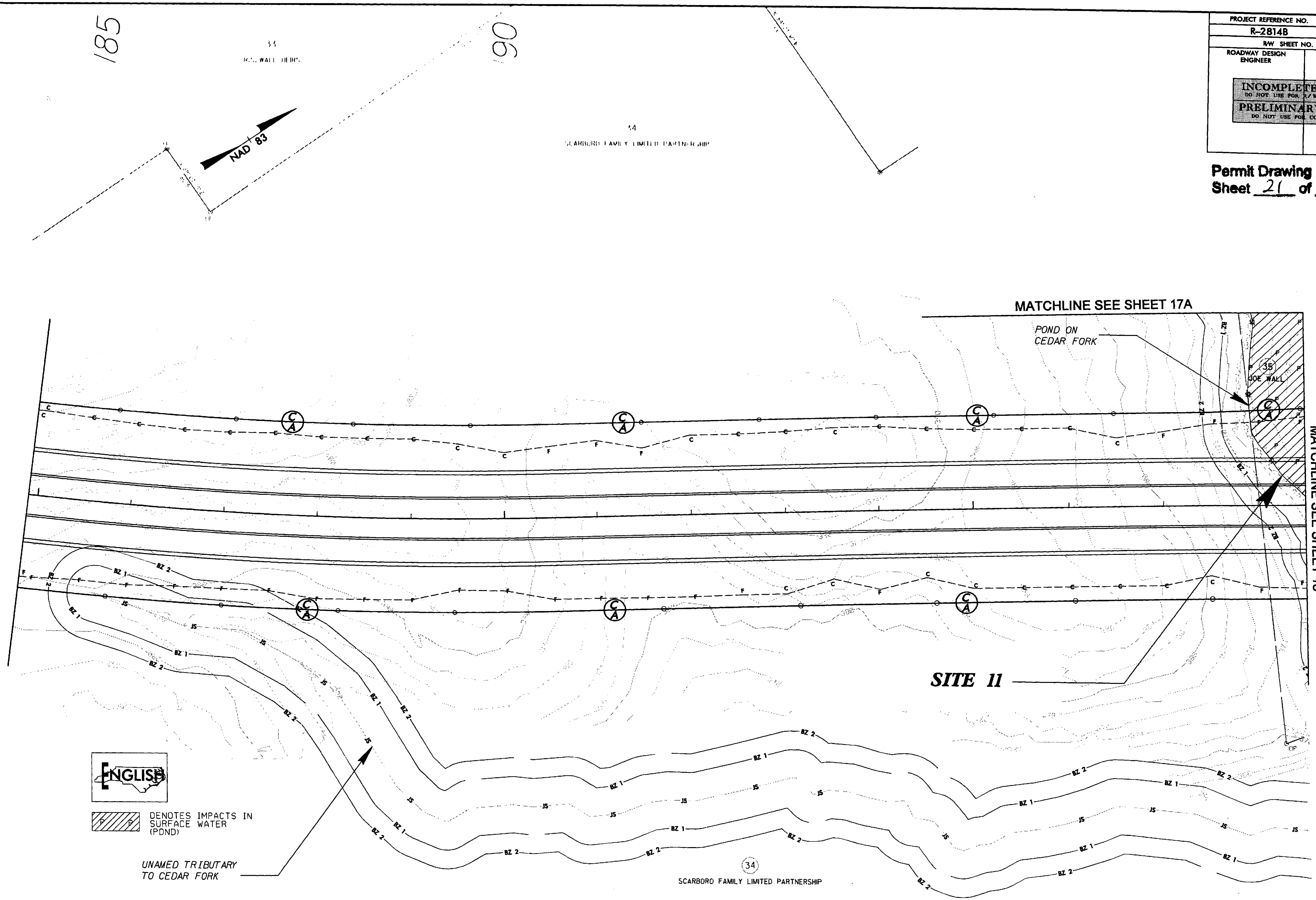
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 21 of 37



REVISIONS

8/17/99

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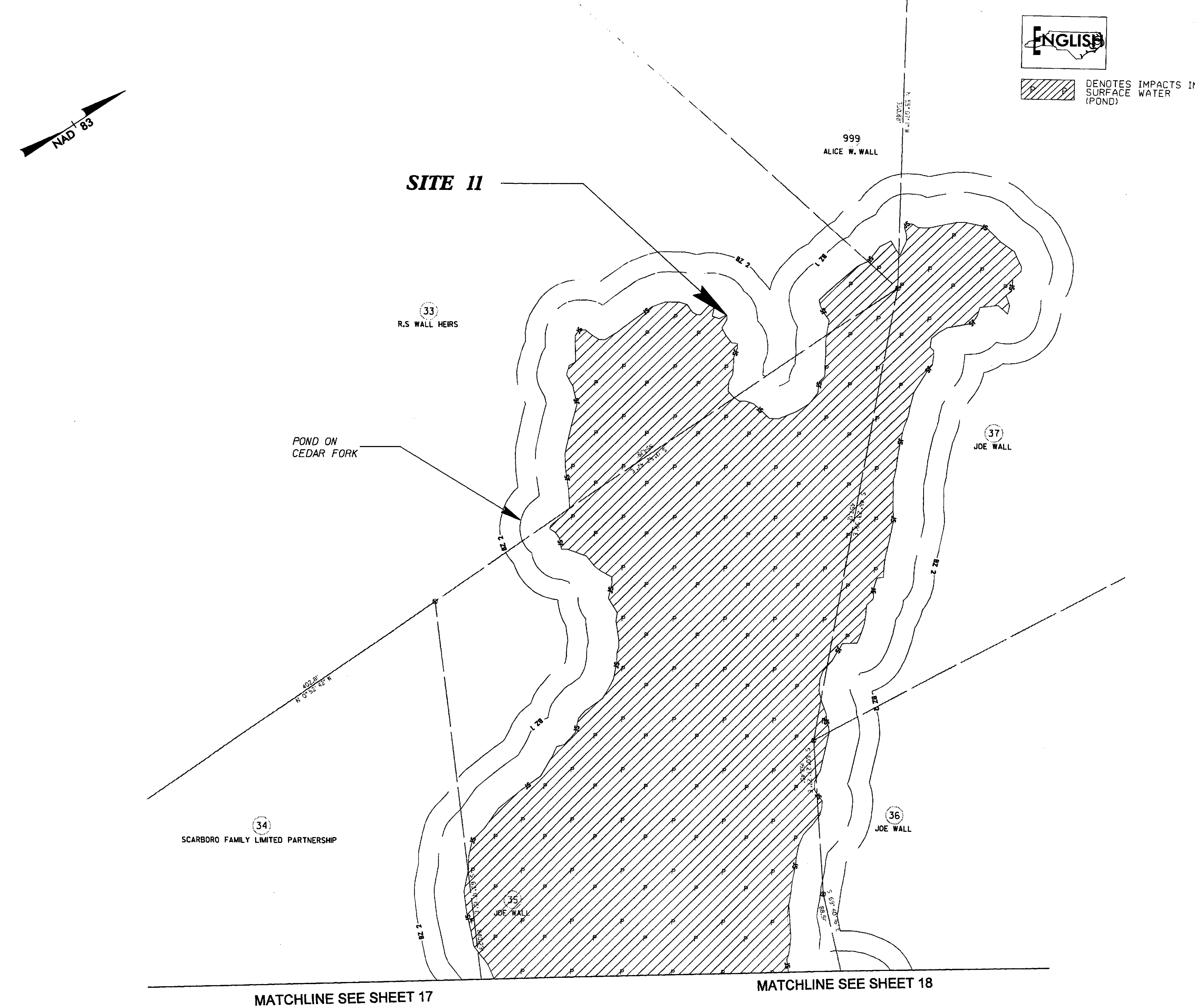
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

Permit Drawing
Sheet 22 of 37



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R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

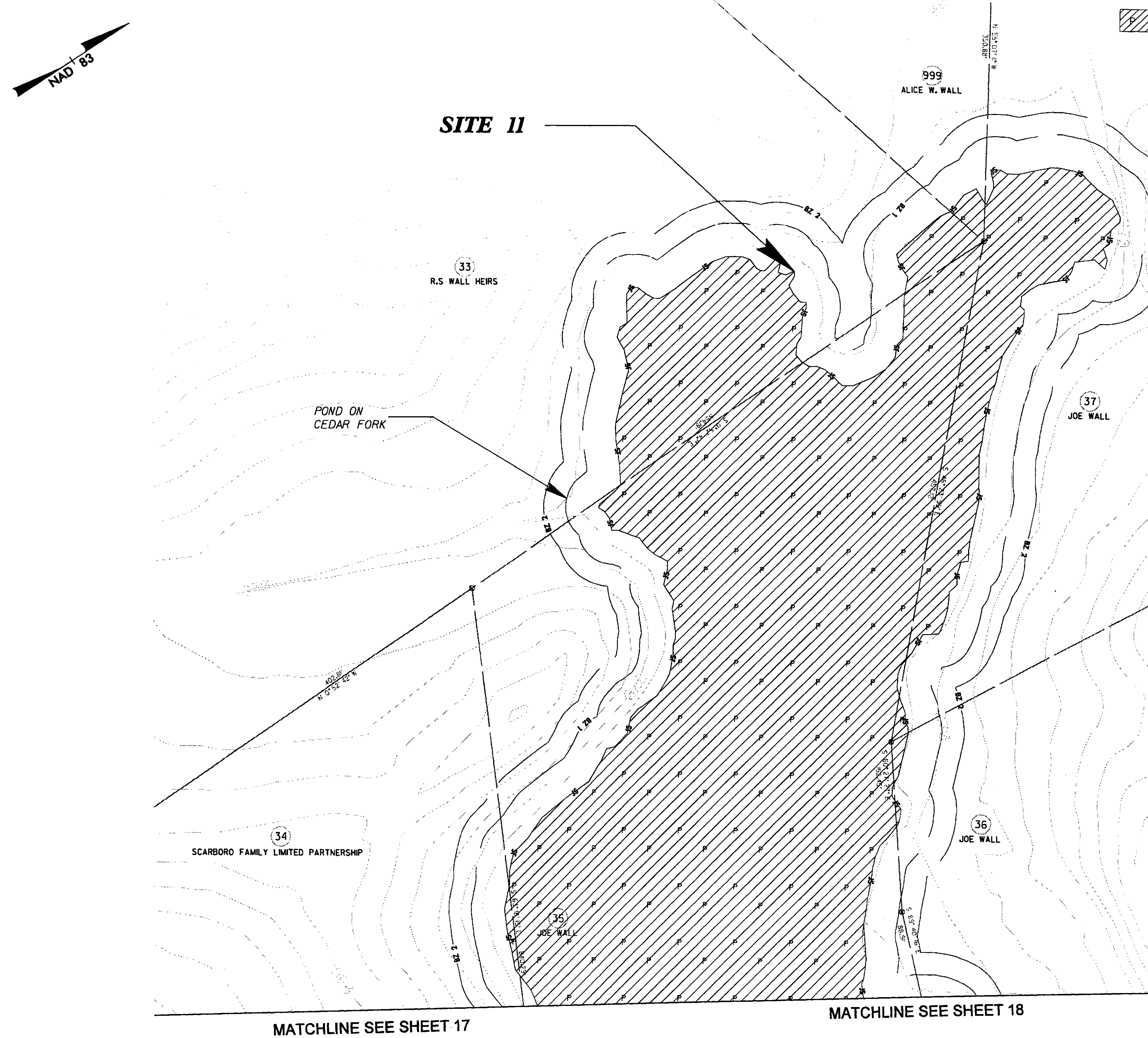
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 23 of 37

ENGLISH

DENOTES IMPACTS IN SURFACE WATER (POND)



REVISIONS

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
R-2814B	18
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

ENGLISH

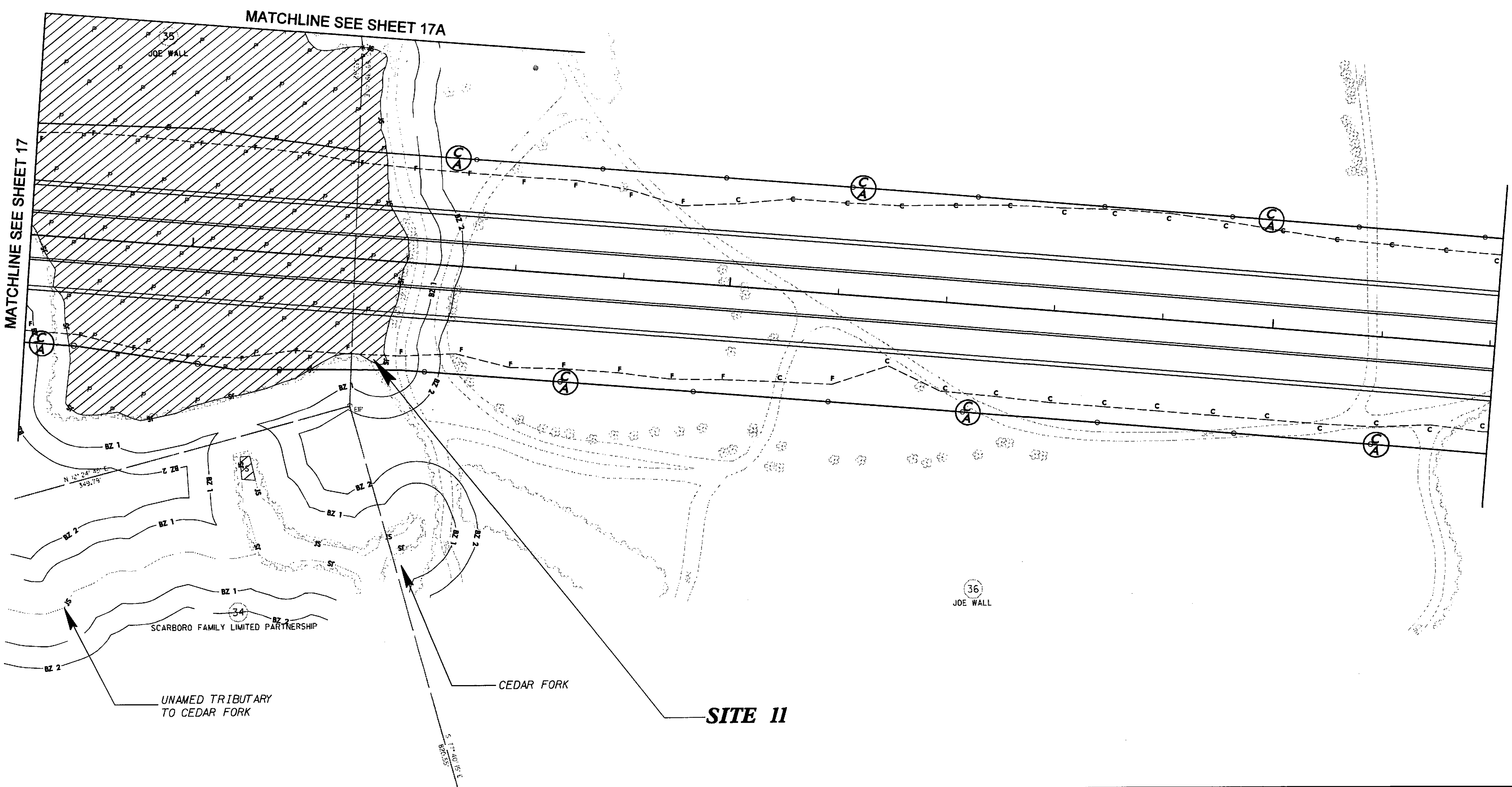
DENOTES IMPACTS IN SURFACE WATER (POND)

DENOTES IMPACTS IN SURFACE WATER

Permit Drawing
Sheet 24 of 37

200 205 210

NAD 83



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rkk

8/17/99

REVISIONS

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

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 25 of 37

ENGLISH

DENOTES IMPACTS IN SURFACE WATER (POND)

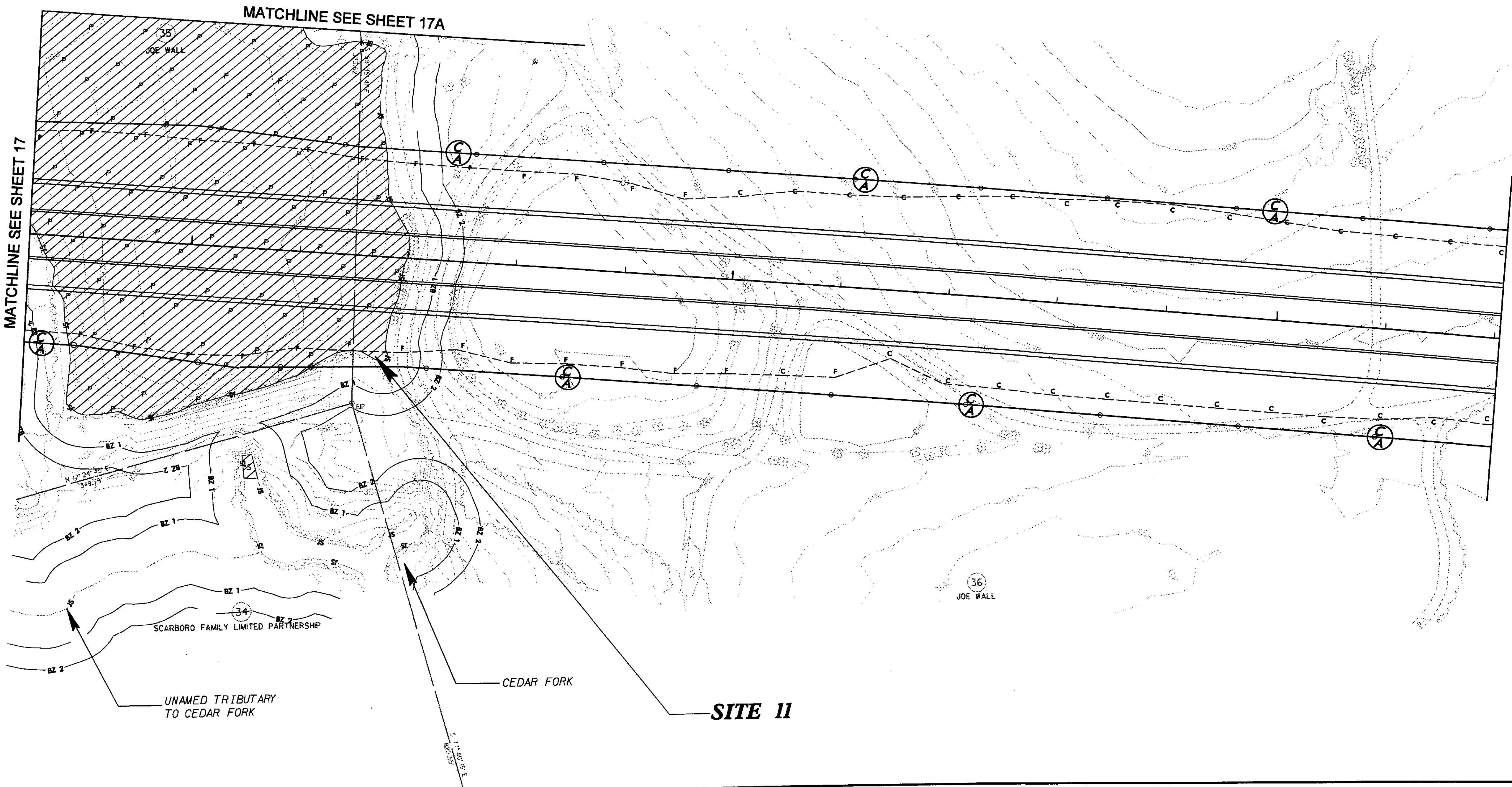
DENOTES IMPACTS IN SURFACE WATER

8/17/99

REVISIONS

200 205 210

NAD 83



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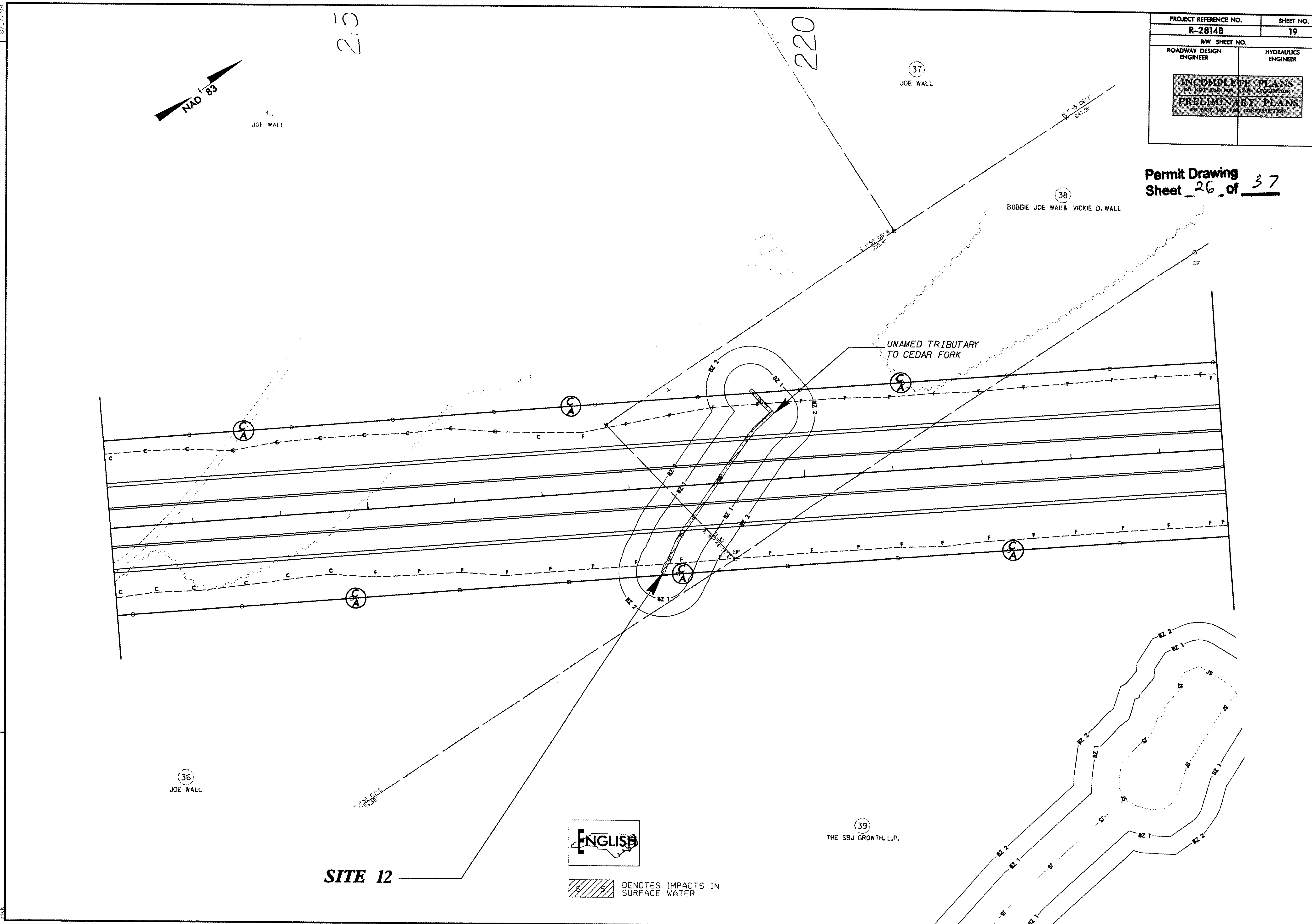
rkk

PROJECT REFERENCE NO.	SHEET NO.
R-2814B	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

Permit Drawing
Sheet 26 of 37



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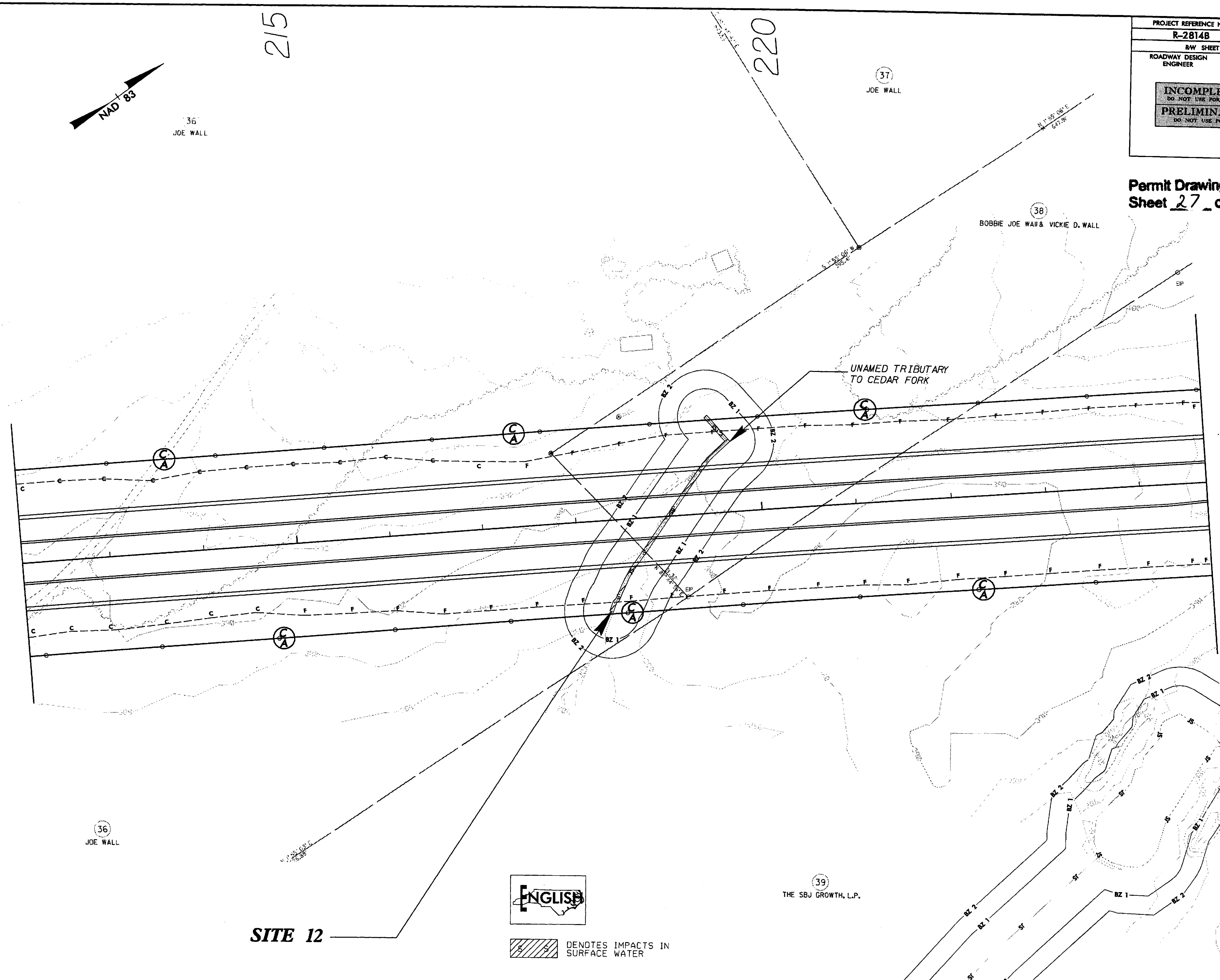
PROJECT REFERENCE NO.	SHEET NO.
R-2814B	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

Permit Drawing
Sheet 27 of 37



DENOTES IMPACTS IN SURFACE WATER

REVISIONS

8/17/99

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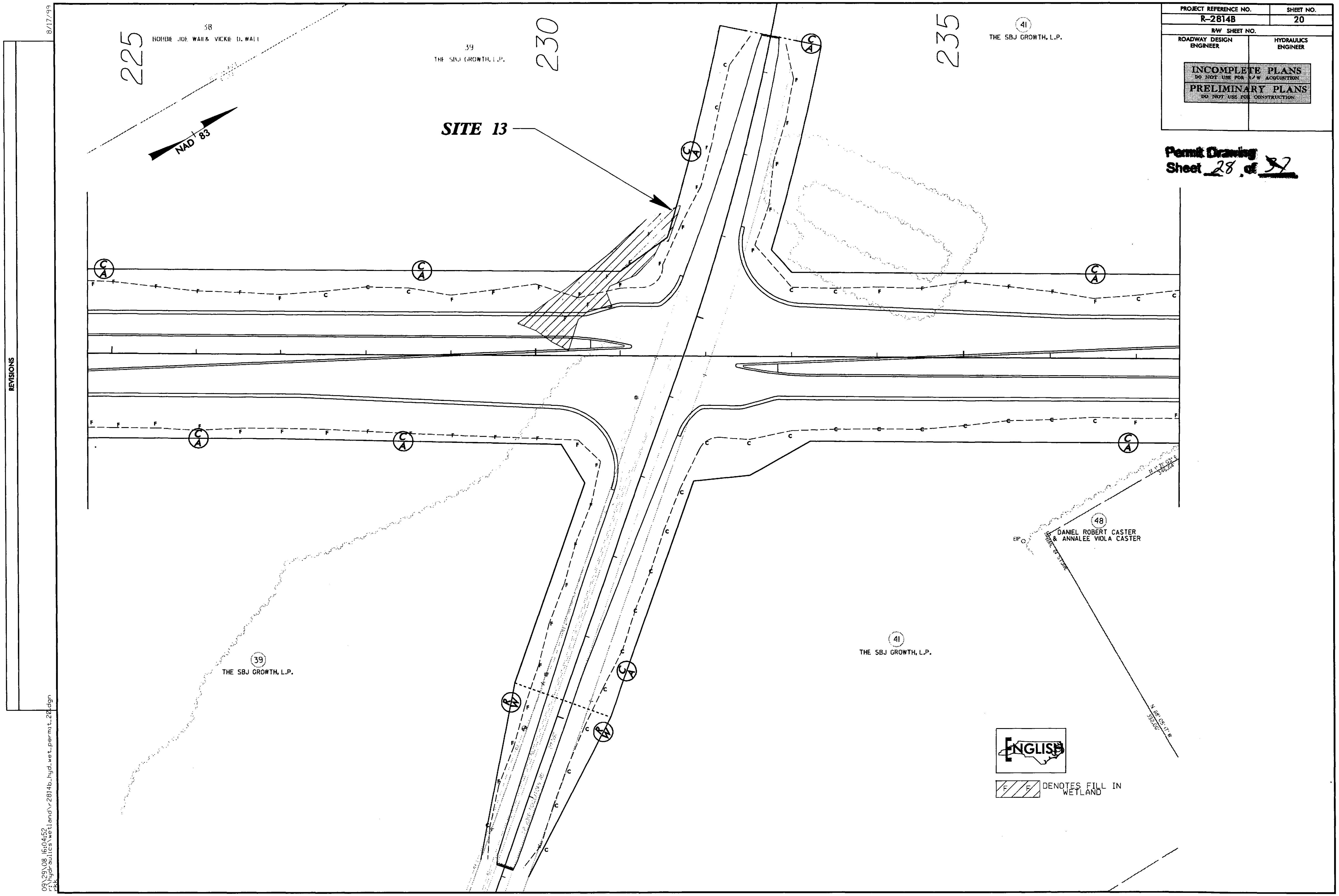

PROJECT REFERENCE NO. R-2814B
SHEET NO. 20
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION
Permit Drawing
Sheet 28 of 37
SITE 13
NAD 83
225
230
235
BOBBIE JOE WALL & VICKIE D. WALL
THE SBJ GROWTH, L.P.
THE SBJ GROWTH, L.P.
DANIEL ROBERT CASTER & ANNALEE VIOLA CASTER
THE SBJ GROWTH, L.P.
THE SBJ GROWTH, L.P.
ENGLISH
DENOTES FILL IN WETLAND
REVISIONS
8/17/99
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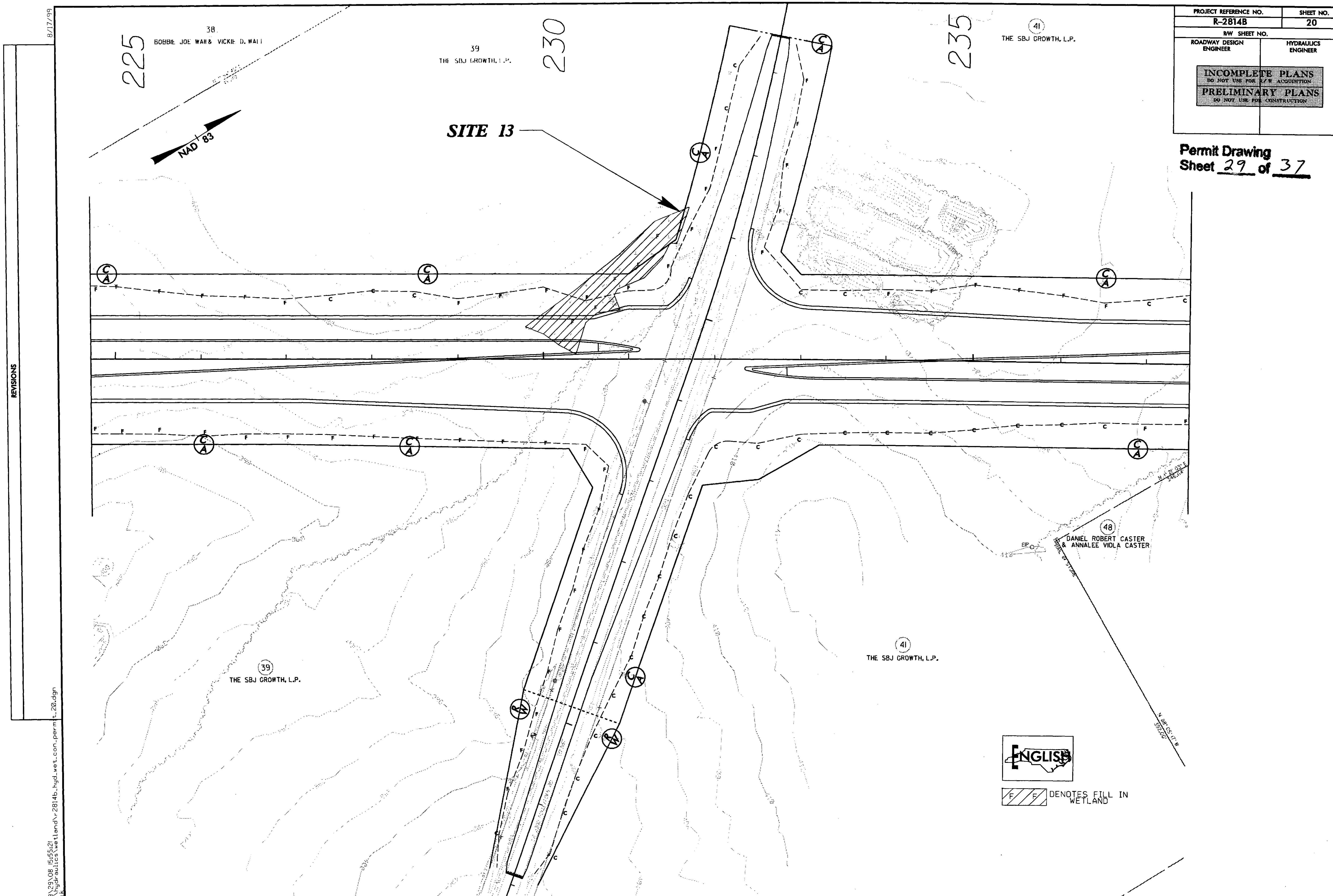
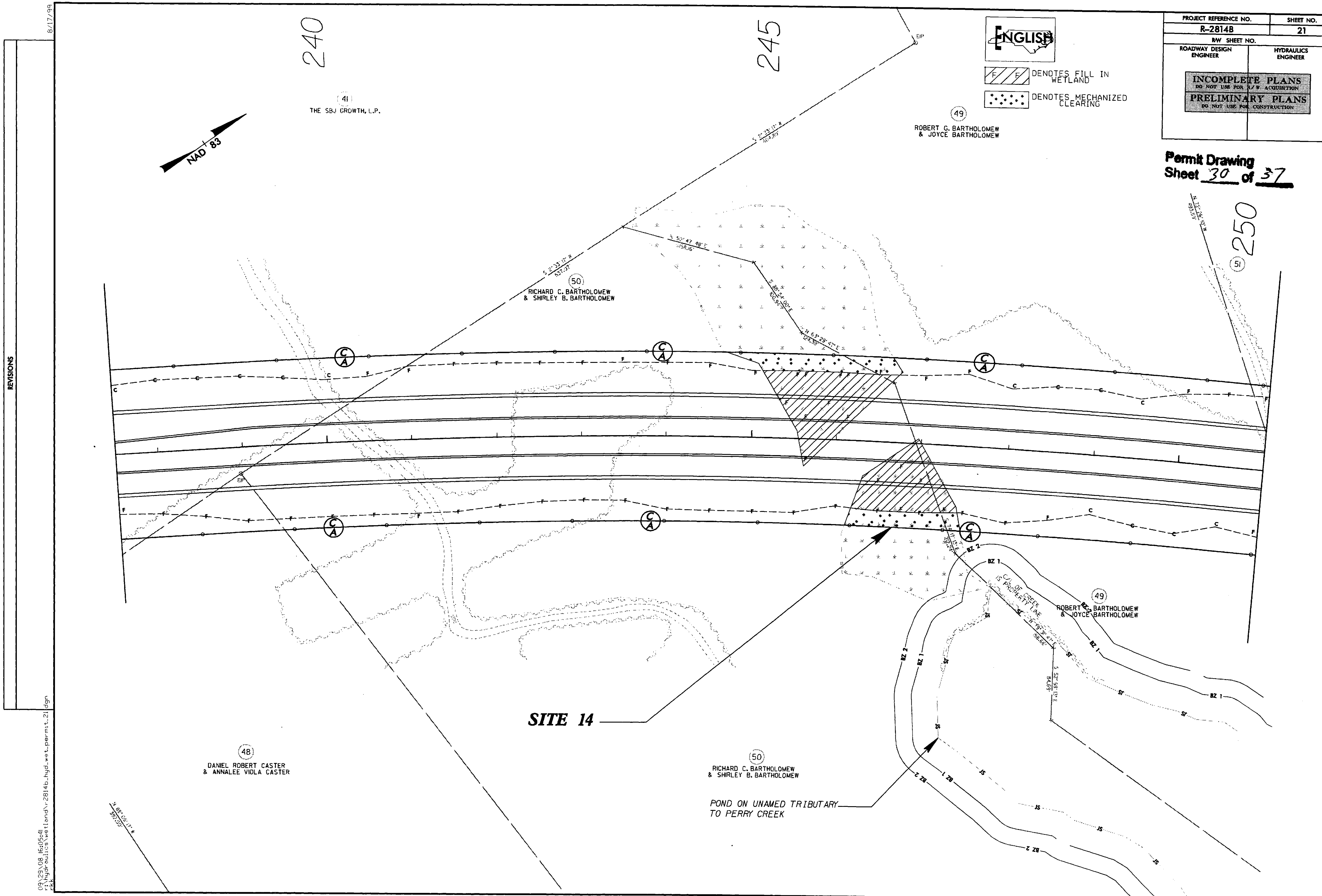
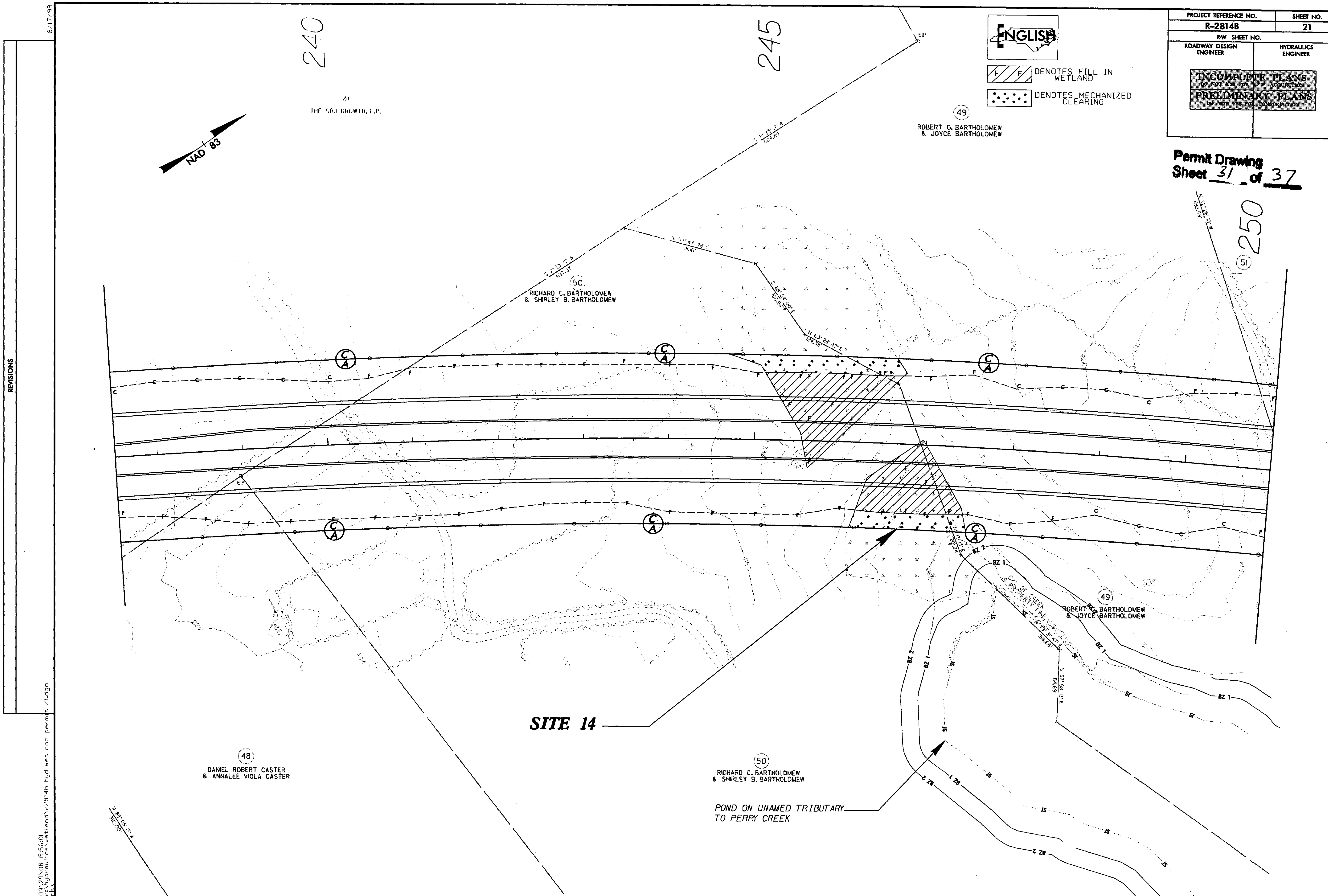


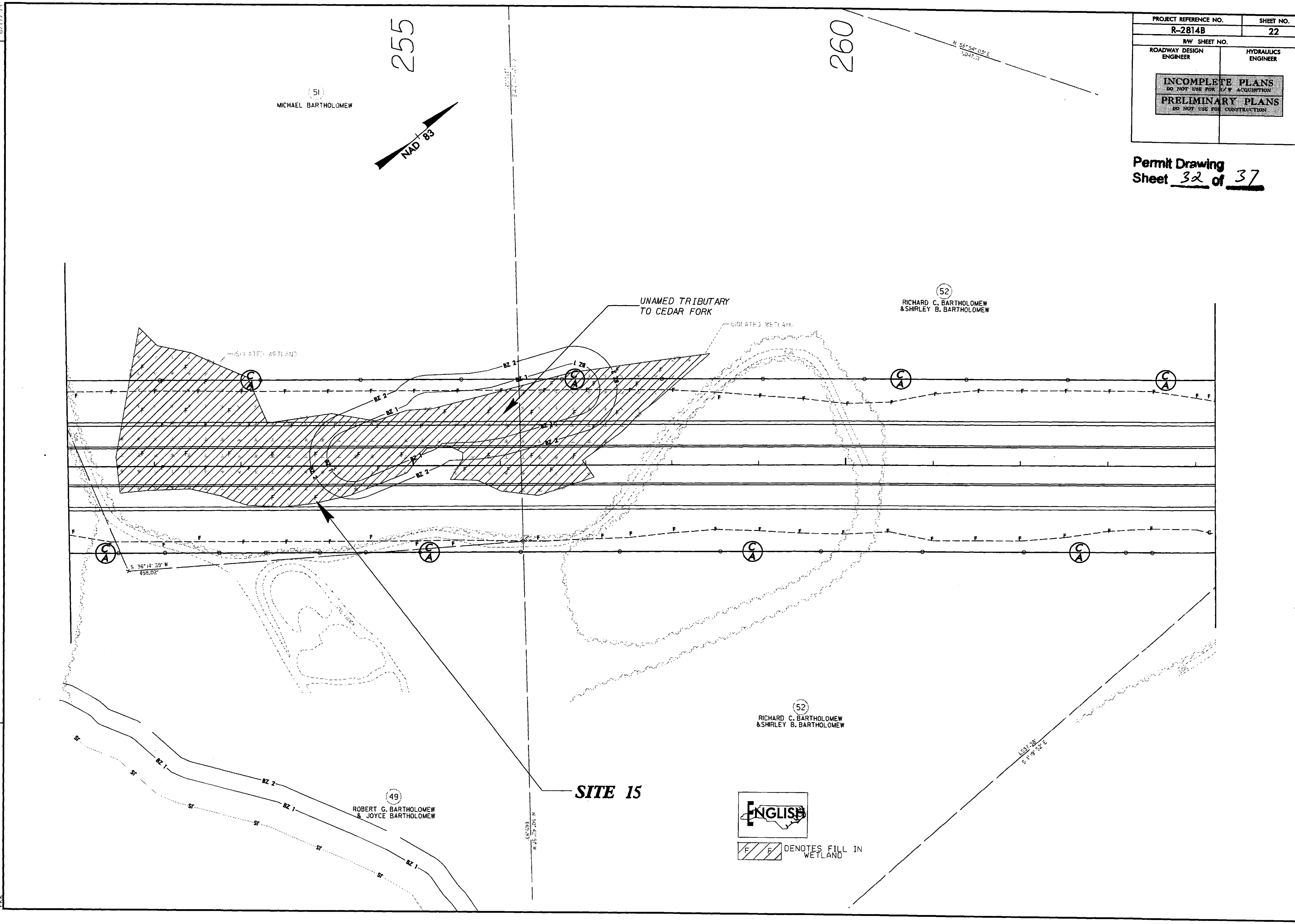
PROJECT REFERENCE NO.
R-2814B
SHEET NO.
20
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Permit Drawing
Sheet 29 of 37
SITE 13
NAD 83
225
230
235
38
BOBBIE JOE WALL & VICKIE D. WALL
39
THE SBJ GROWTH, L.P.
41
THE SBJ GROWTH, L.P.
48
DANIEL ROBERT CASTER
& ANNALEE VIOLA CASTER
DENOTES FILL IN WETLAND
ENGLISH
REVISIONS
8/17/99


PROJECT REFERENCE NO.
R-2814B
SHEET NO.
21
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 30 of 37
ENGLISH
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
NAD 83
240
245
250
41
THE SBJ GROWTH, L.P.
49
ROBERT G. BARTHOLOMEW
& JOYCE BARTHOLOMEW
50
RICHARD C. BARTHOLOMEW
& SHIRLEY B. BARTHOLOMEW
51
48
DANIEL ROBERT CASTER
& ANNALEE VIOLA CASTER
SITE 14
POND ON UNAMED TRIBUTARY
TO PERRY CREEK
C/L OF CREEK
IS PROPERTY LINE
REVISIONS
8/17/99


PROJECT REFERENCE NO.
R-2814B
SHEET NO.
21
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 31 of 37
ENGLISH
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
NAD 83
240
245
250
41
THE SGI GROWTH, L.P.
49
ROBERT C. BARTHOLOMEW
& JOYCE BARTHOLOMEW
50
RICHARD C. BARTHOLOMEW
& SHIRLEY B. BARTHOLOMEW
51
SITE 14
48
DANIEL ROBERT CASTER
& ANNALEE VIOLA CASTER
POND ON UNAMED TRIBUTARY
TO PERRY CREEK
REVISIONS
8/17/99

8/17/99

REVISIONS



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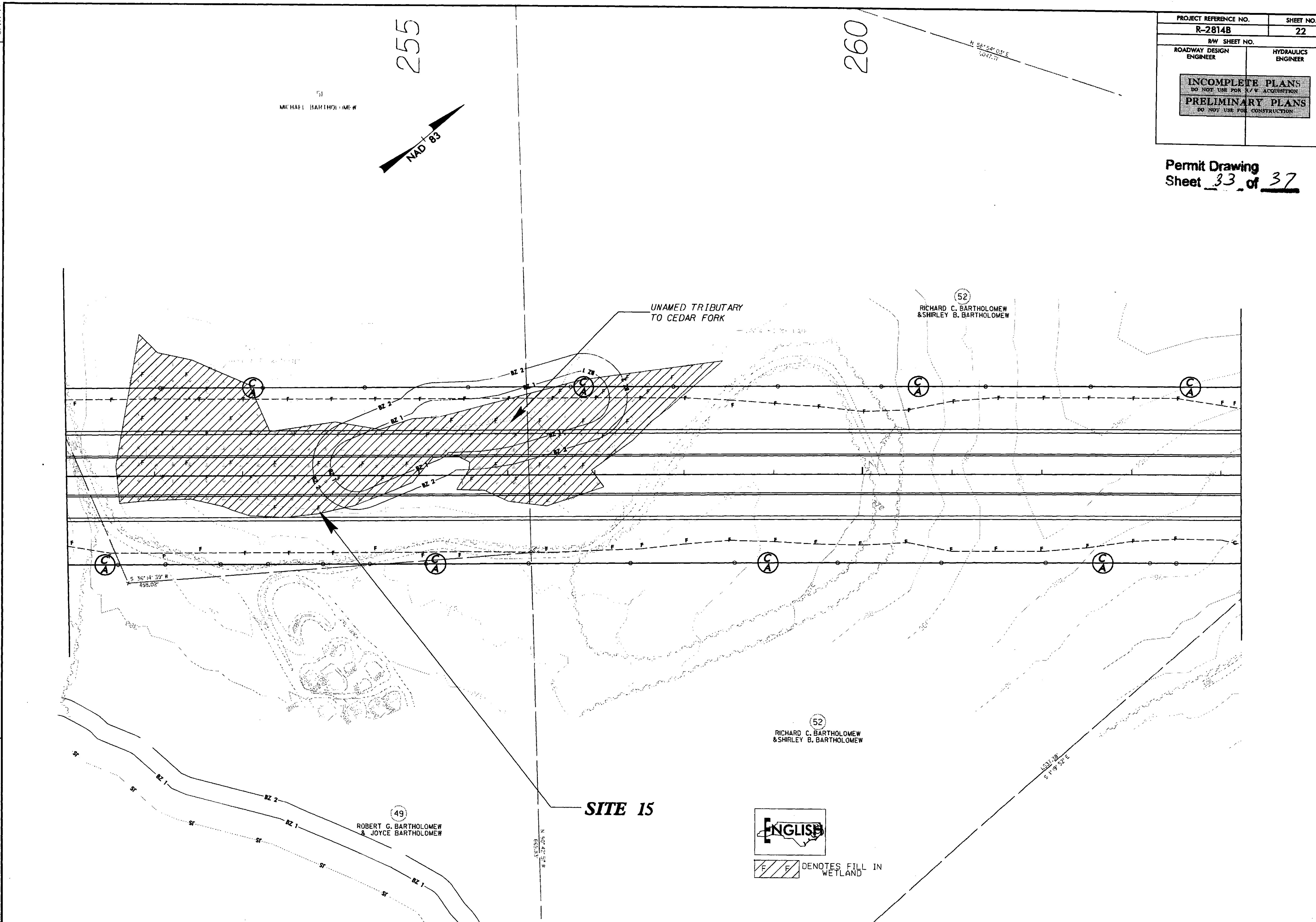
PROJECT REFERENCE NO.	SHEET NO.
R-2814B	22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

Permit Drawing
Sheet 33 of 37



REVISIONS

8/17/99

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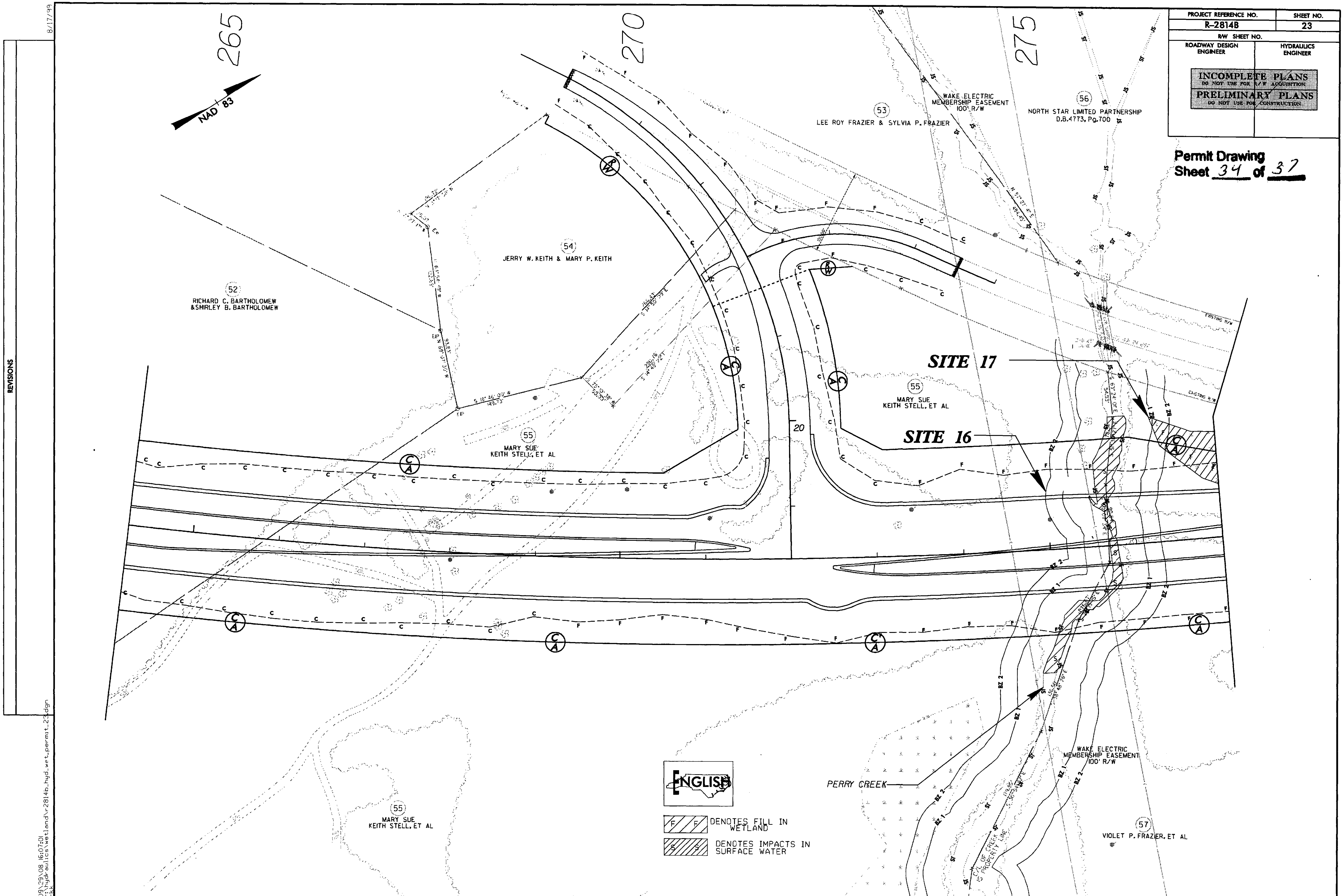

PROJECT REFERENCE NO.
SHEET NO.
R-2814B
23
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Permit Drawing
Sheet 34 of 37
NAD 83
265
270
275
WAKE ELECTRIC MEMBERSHIP EASEMENT 100' R/W
53
LEE ROY FRAZIER & SYLVIA P. FRAZIER
56
NORTH STAR LIMITED PARTNERSHIP D.B.4773, Pg.700
54
JERRY W. KEITH & MARY P. KEITH
52
RICHARD C. BARTHOLOMEW &SHIRLEY B. BARTHOLOMEW
55
MARY SUE KEITH STELL, ET AL
SITE 17
SITE 16
PERRY CREEK
57
VIOLET P. FRAZIER, ET AL
ENGLISH
DENOTES FILL IN WETLAND
DENOTES IMPACTS IN SURFACE WATER
REVISIONS
8/17/99
09\29\08 16:07:01
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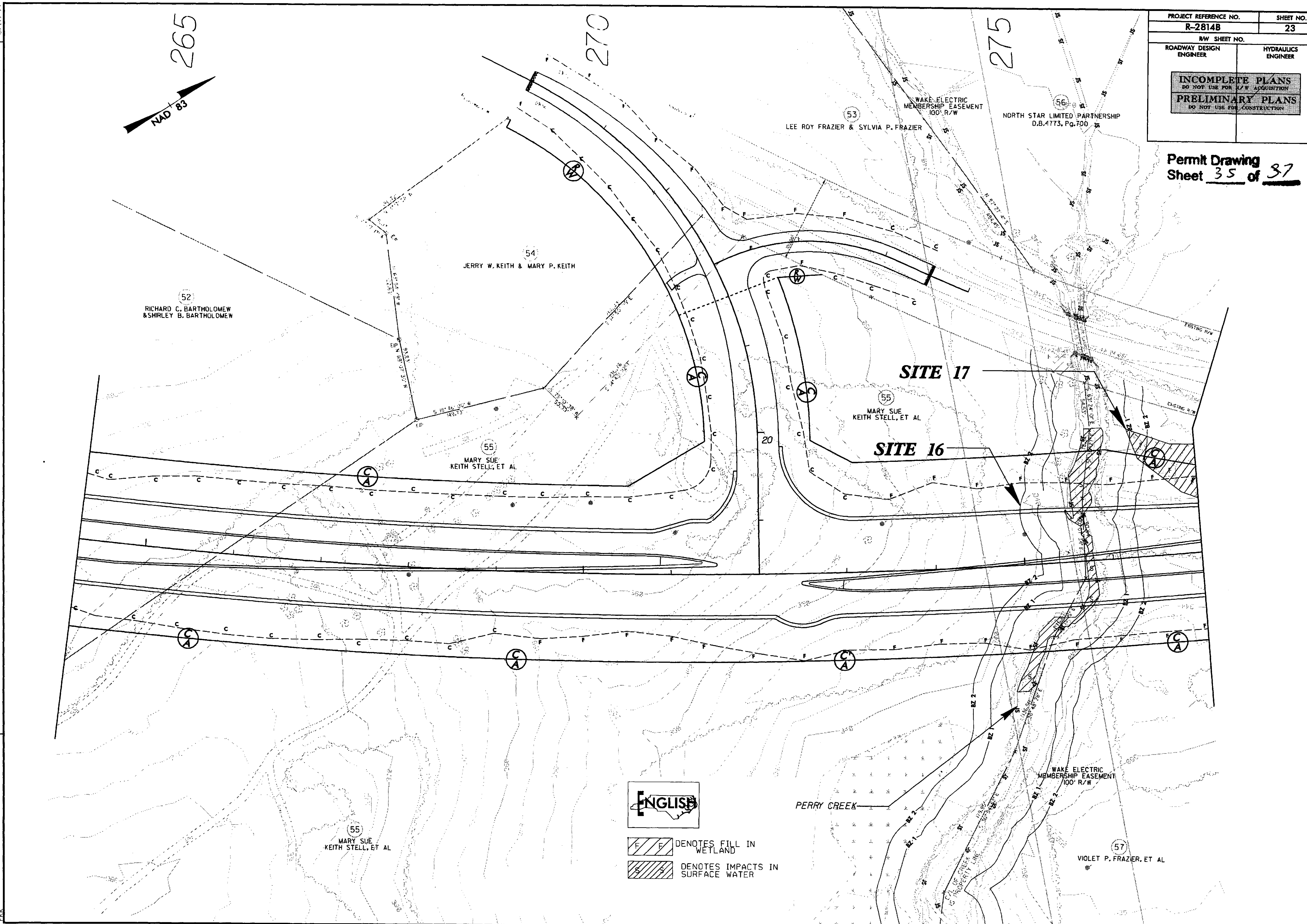
PROJECT REFERENCE NO.	SHEET NO.
R-2814B	23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

Permit Drawing
Sheet 35 of 37



REVISIONS

8/17/99

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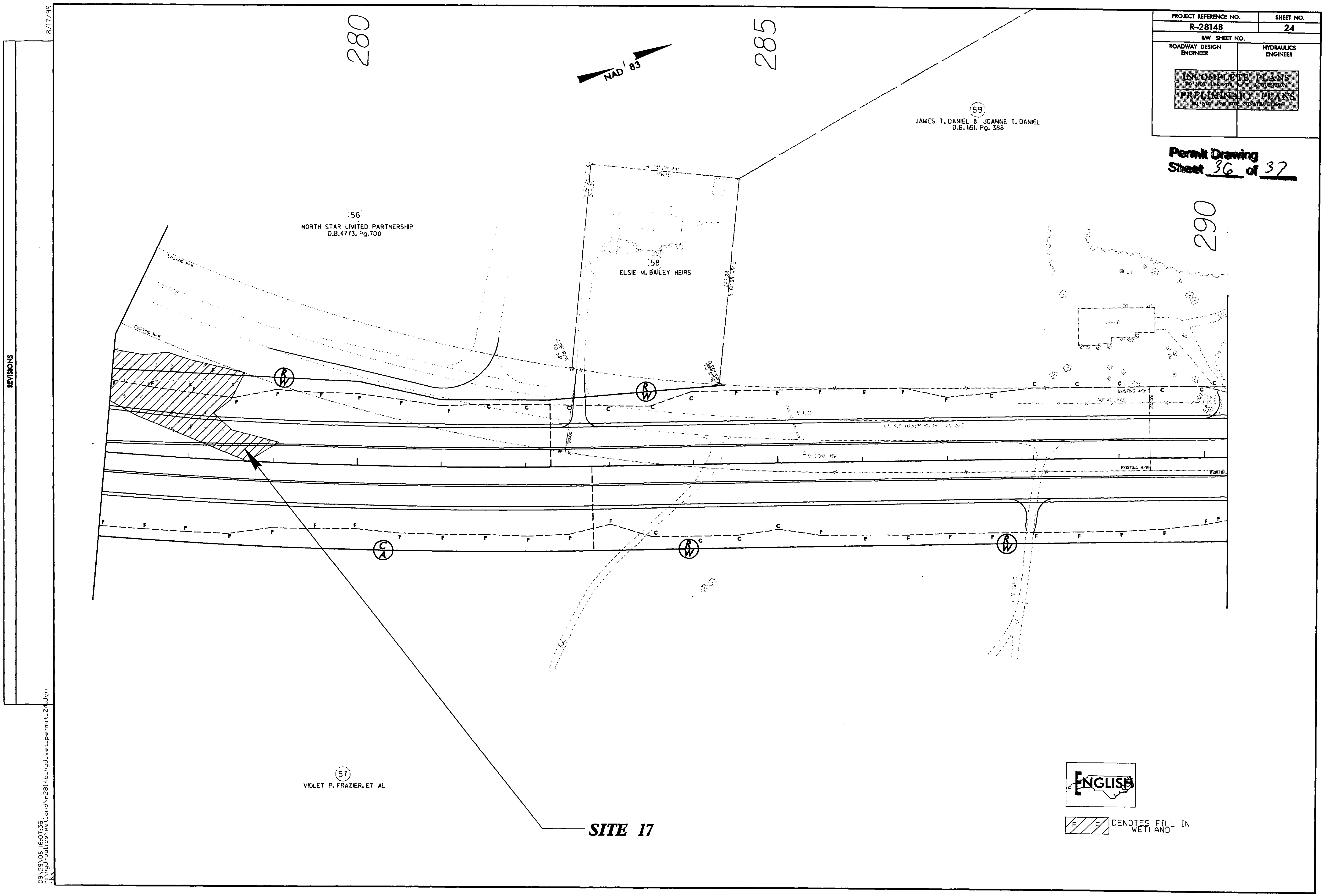
PROJECT REFERENCE NO.
R-2814B
SHEET NO.
24
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Permit Drawing
Sheet 36 of 37
280
285
290
NAD 83
59
JAMES T. DANIEL & JOANNE T. DANIEL
D.B. 1151, Pg. 388
56
NORTH STAR LIMITED PARTNERSHIP
D.B.4773, Pg.700
58
ELSIE M. BAILEY HEIRS
57
VIOLET P. FRAZIER, ET AL
SITE 17
ENGLISH
DENOTES FILL IN WETLAND
REVISIONS
8/17/99
09/29/08 16:07:36
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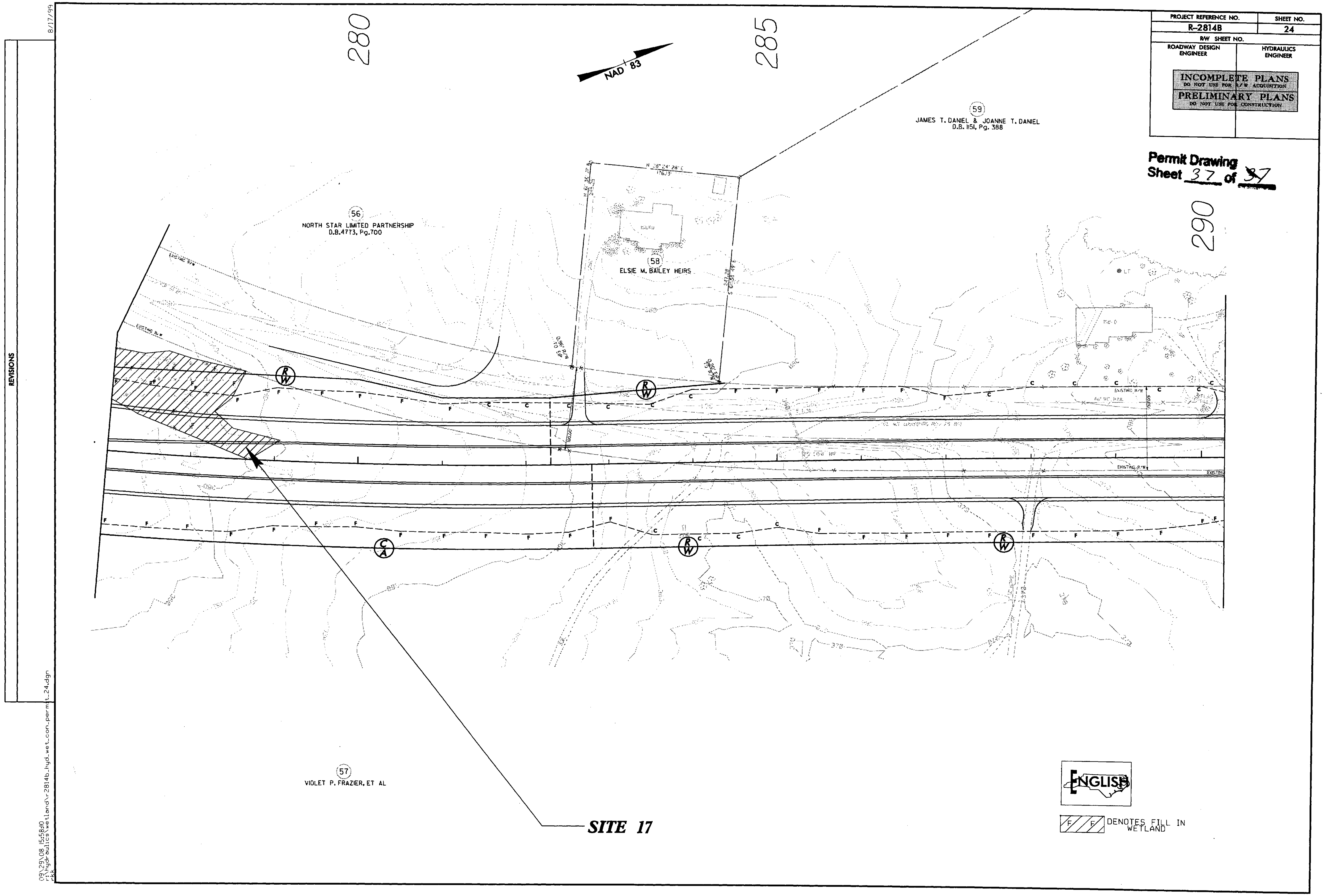
PROJECT REFERENCE NO. R-2814B
SHEET NO. 24
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION
Permit Drawing Sheet 37 of 37
280
285
290
NAD 83
59 JAMES T. DANIEL & JOANNE T. DANIEL D.B. 1151, Pg. 388
56 NORTH STAR LIMITED PARTNERSHIP D.B.4773, Pg.700
58 ELSIE M. BAILEY HEIRS
57 VIOLET P. FRAZIER, ET AL
SITE 17
ENGLISH
DENOTES FILL IN WETLAND
REVISIONS
8/17/99
09\29\08 15:58:10
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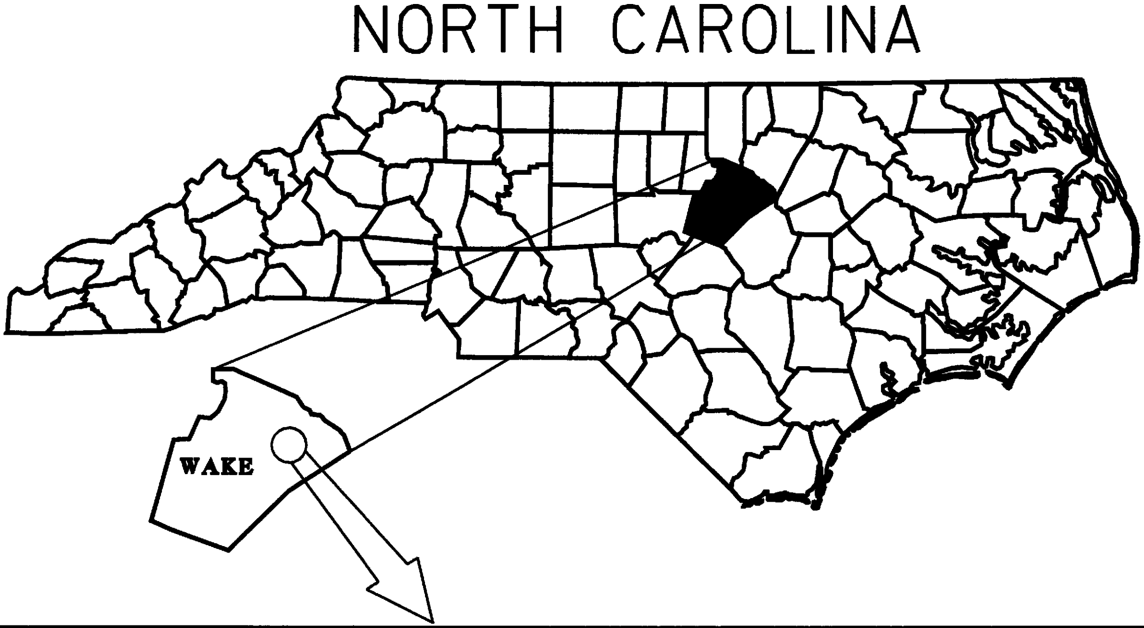
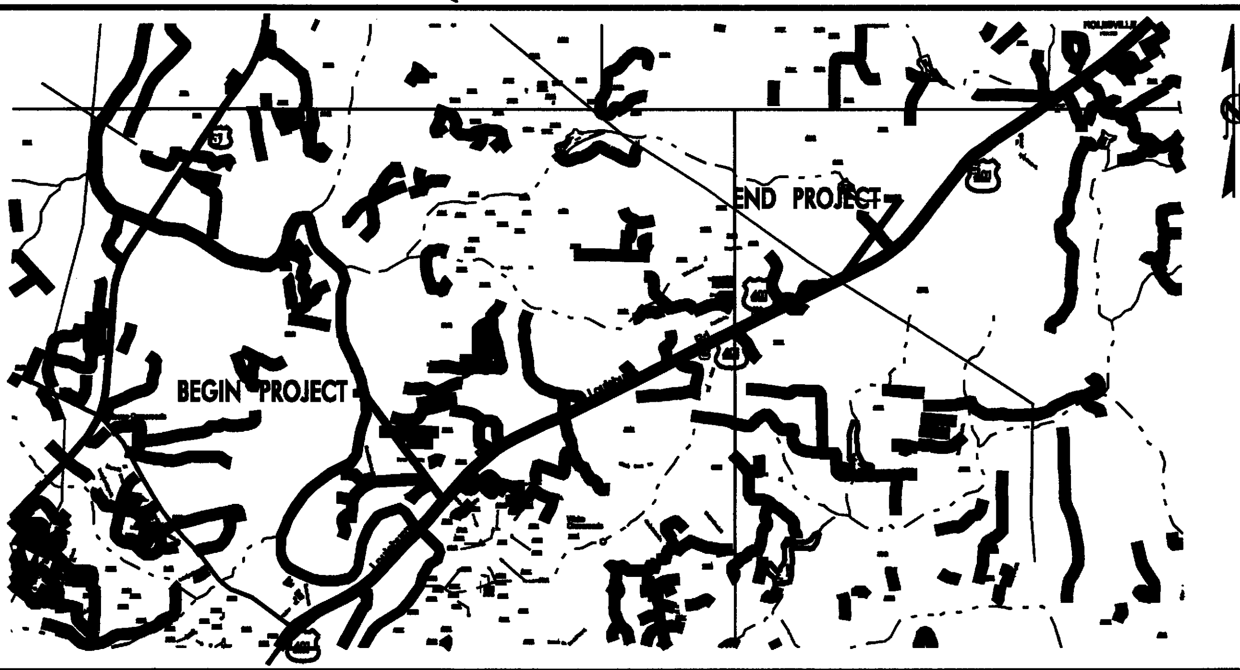




BUFFER VICINITY MAP

NCDOT

DIVISION OF HIGHWAYS
WAKE COUNTY
PROJECT: 34506.1.1 (R-2814A)
US 401
LOUISBURG ROAD FROM
SR 2044 TO SR 2226

SHEET 1 **OF** 9 **11/20/08**

PROPERTY OWNER

NAME AND ADDRESS

OWNER'S NAME	ADDRESS
WAKE HIGH MEADOWS HOMEOWNERS ASSOCIATION	4948 WINDY HILL DRIVE RALEIGH, NC 27609
ALDRED LEE PERRY	4105 LOUISBURY ROAD WAKE FOREST, NC 27587
BRIGHTON COMMUNITY ASSOCIATION	1100 NAVAHO DRIVE, SUITE GL3 RALEIGH, NC 27609
VBBSS GROUP, LLC	4960 ROYAL ADELAIDE WAY RALEIGH, NC 27604
PERRY FARM, LLC	404 EMERSON DRIVE RALEIGH, NC 27609
HT FORESTVILLE, LLC	135 SOUTH MAIN STREET, SUITE 105 GREENVILLE, SC 29601

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
WAKE COUNTY
PROJECT: 34506.1.1 (R-2814A)

US 401
LOUISBURG ROAD FROM
SR 2044 TO SR 2226

SHEET 2 OF 9 04/07/08

BUFFER IMPACTS SUMMARY

			IMPACT								BUFFER REPLACEMENT	
			TYPE		ALLOWABLE			MITIGABLE				
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	ROAD CROSSING	PARALLEL IMPACT	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)
1	Outfall Pipe	-L- Sta 17+70	X					23783	13504	37287		
		to 19+25		X					1389	1389		
2	Roadway Fill	-L- Sta 19+00 Rt	X		6809	6357	13166					
		to 19+45 Rt										
3	Outfall Pipe	-L- Sta 32+60	X					28137	10592	38729		
	and Pond	to 33+90										
4	Cross Pipe	-L- Sta 35+80	X					8999	5662	14660		
		to 36+50										
		(impacts > 150')										
TOTAL:					6809	6357	13166	60919	31146	92065		

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

WAKE COUNTY
PROJECT: 34506.1.1 (R-2814A)

11/17/2008
SHEET 3 OF 9

BUFFER IMPACTS SUMMARY

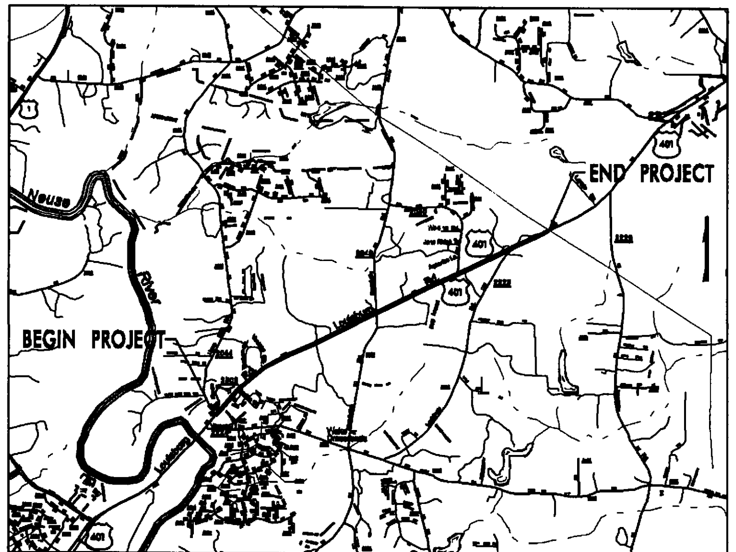
			WETLANDS IN BUFFERS		
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	ZONE 1 (sq. ft)	ZONE 2 (sq ft)	COMMENTS
1	48" RCP	-L- Sta 17+70	174		
		to 19+25			
2	Outfall pipe	-L- Sta 33+40 Rt	2918		
TOTAL:			3092	0.0	

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

WAKE COUNTY
PROJECT: 34506.1.1 (R-2814A)

9/15/2008
SHEET 4 OF 9

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAKE COUNTY

LOCATION: US 401 FROM SR 2044 (LIGON MILL ROAD) TO SOUTH OF SR 2226 (JONESVILLE ROAD)

TYPE OF WORK: GRADING, DRAINAGE AND PAVING

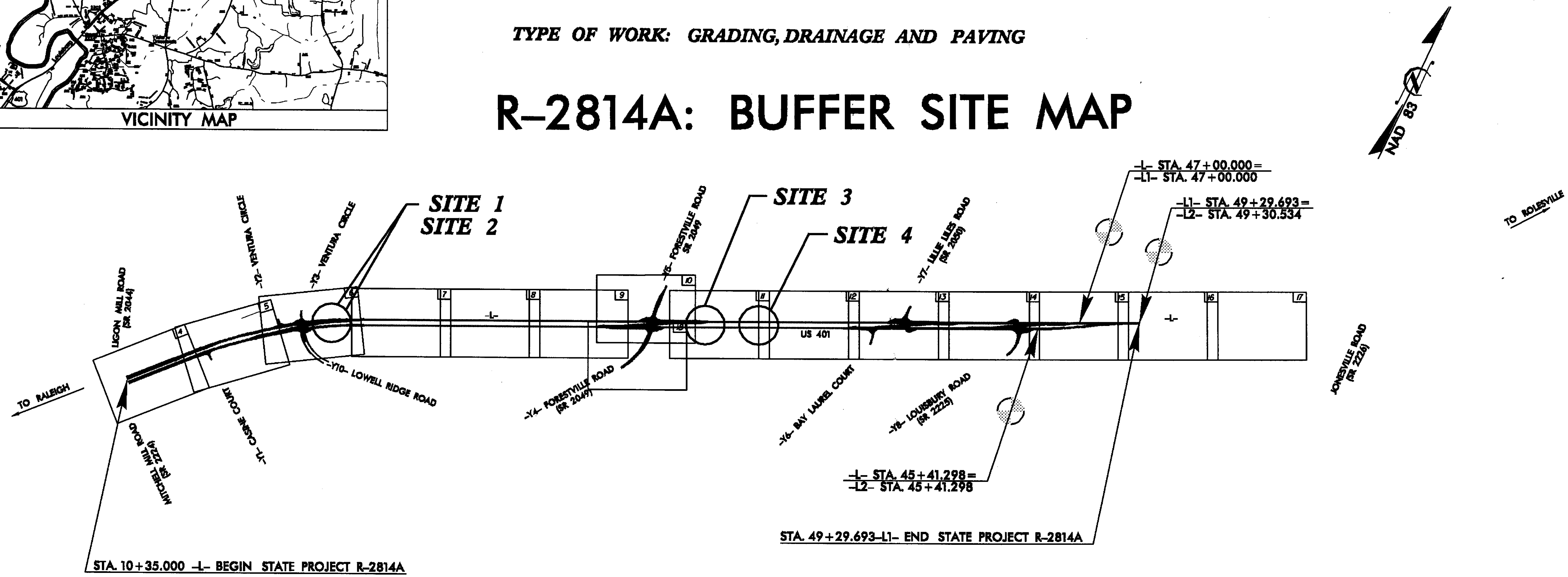
METRIC

ALL DIMENSIONS IN THESE PLANS ARE IN METERS AND/OR MILLIMETERS UNLESS OTHERWISE SHOWN

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2814A	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34506.1.1	STP-401(4)	P.E.	

Buffer Drawing Sheet 5 of 9

R-2814A: BUFFER SITE MAP



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

NOTE: THIS IS A PARTIALLY CONTROLLED ACCESS PROJECT WITH ACCESS POINTS SHOWN ON THE PLANS

NOTE: THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

GRAPHIC SCALES

5 0 10
PLANS

5 0 10
PROFILE (HORIZONTAL)

1 0 2
PROFILE (VERTICAL)

DESIGN DATA

ADT 2005 = 16,200
ADT 2030 = 28,100
DHV = 13 %
D = 55 %
T = 7 % *
V = 100 km/h
* TTST 2 % DUAL 5 %

PROJECT LENGTH

LENGTH ROADWAY F. A. PROJECT STP-401(4) = 3.895km

TOTAL LENGTH TIP PROJECT R-2814A = 3.895km

Prepared In the Office of:

for the North Carolina Department of Transportation

1995 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: July 21, 2006

LETTING DATE: March 17, 2009

DOT CONTACT

J. S. GOODNIGHT, P.E.
PROJECT ENGINEER

MARK HUSSEY
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.

TIP: R-2814A

CONTRACT:

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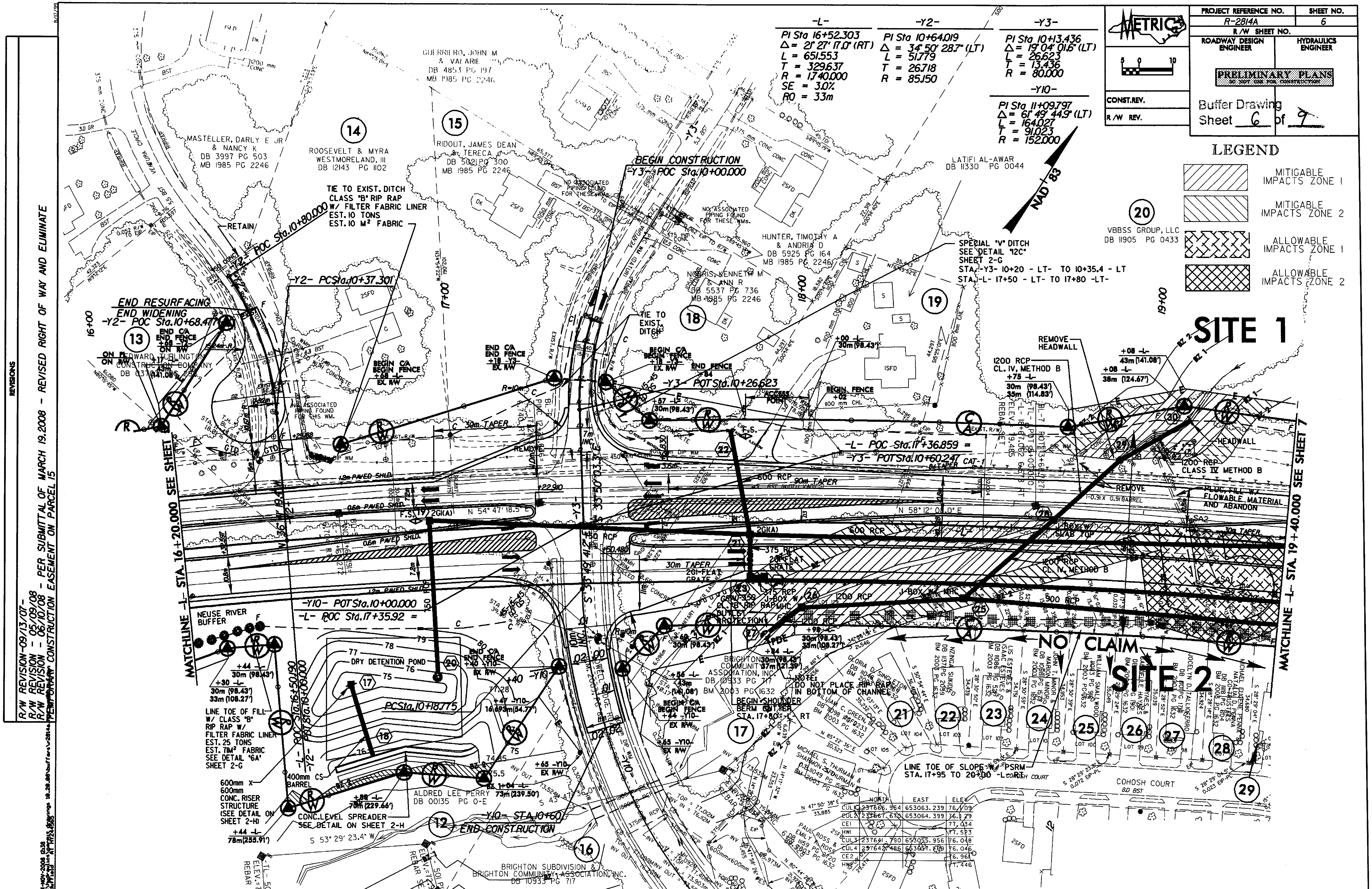
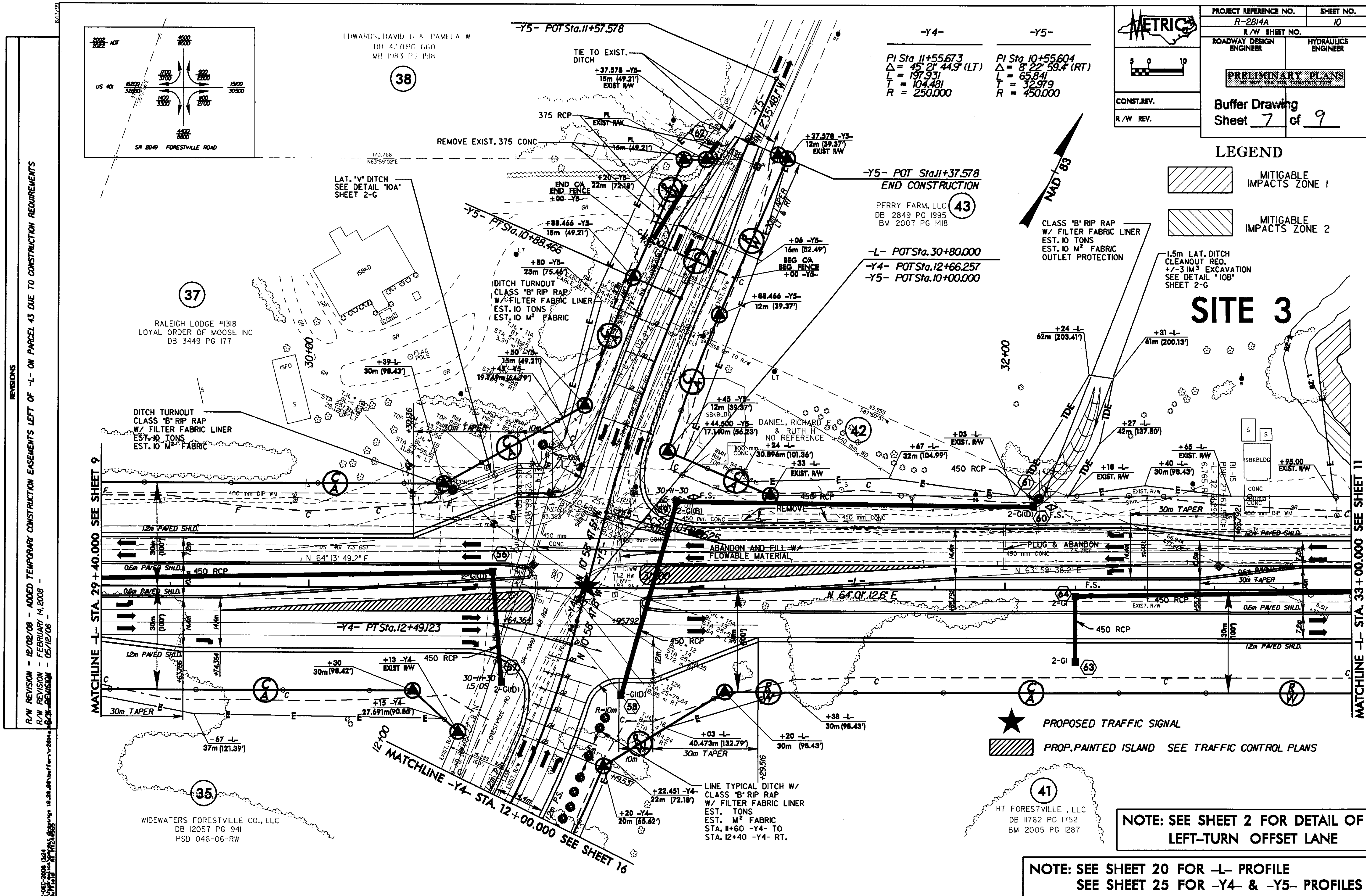
09/09/99



PROJECT REFERENCE NO. R-2814A
SHEET NO. 6
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
METRIC
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
CONST. REV.
R/W REV.
Buffer Drawing
Sheet 6 of 9
LEGEND
MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2
ALLOWABLE IMPACTS ZONE 1
ALLOWABLE IMPACTS ZONE 2
-L-
PI Sta 16+52.303
Δ = 21° 27' 17.0" (RT)
L = 651.553
T = 329.637
R = 1740.000
SE = 3.0%
RO = 33m
-Y2-
PI Sta 10+64.019
Δ = 34° 50' 28.7" (LT)
L = 51.779
T = 26.718
R = 85.150
-Y3-
PI Sta 10+13.436
Δ = 19° 04' 01.6" (LT)
L = 26.623
T = 13.436
R = 80.000
-Y10-
PI Sta 11+09.797
Δ = 61° 49' 44.9" (LT)
L = 164.027
T = 91.023
R = 152.000
NAD 83
SITE 1
SITE 2
NO CLAIM
MATCHLINE -L- STA. 16+20.000 SEE SHEET 5
MATCHLINE -L- STA. 19+40.000 SEE SHEET 7
BEGIN CONSTRUCTION -Y3- POC Sta.10+00.000
END RESURFACING
END WIDENING
-Y2- POC Sta.10+68.477
-Y2- PCSta.10+37.301
-Y3- POTSta.10+26.623
-L- POC Sta.17+36.859 = -Y3- POTSta.10+60.241
-Y10- POTSta.10+00.000
-L- POC Sta.17+35.92 =
-Y10- STA.10+60 END CONSTRUCTION
PCSta.10+18.775
NEUSE RIVER BUFFER
DRY DETENTION POND
TIE TO EXIST. DITCH CLASS 'B' RIP RAP W/ FILTER FABRIC LINER EST. 10 TONS EST. 10 M² FABRIC
SPECIAL "V" DITCH SEE DETAIL "12C" SHEET 2-G STA. -Y3- 10+20 - LT- TO 10+35.4 - LT STA. -L- 17+50 - LT- TO 17+80 -LT-
LINE TOE OF FILL W/ CLASS "B" RIP RAP W/ FILTER FABRIC LINER EST. 25 TONS EST. 71M² FABRIC SEE DETAIL "6A" SHEET 2-G
600mm x 600mm CONC. RISER STRUCTURE (SEE DETAIL ON SHEET 2-H)
CONC. LEVEL SPREADER SEE DETAIL ON SHEET 2-H
DO NOT PLACE RIP RAP IN BOTTOM OF CHANNEL
BEGIN SHOULDER BERM GUTTER STA. 17+80 -L- RT
LINE TOE OF SLOPE W/ PSRM STA. 17+95 TO 20+00 -L- RT
1200 RCP CLASS IV METHOD B
PLUG, FILL W/ FLOWABLE MATERIAL AND ABANDON
REMOVE HEADWALL
MASTELLER, DARLY E JR & NANCY K DB 3997 PG 503 MB 1985 PG 2246
ROOSEVELT & MYRA WESTMORELAND, III DB 12143 PG 1102
RIDOUT, JAMES DEAN & TERECA DB 5021 PG 300 MB 1985 PG 2246
GUERRIERO, JOHN M & VALARIE DB 4853 PG 197 MB 1985 PG 2246
HUNTER, TIMOTHY A & ANDRIA D DB 5925 PG 164 MB 1985 PG 2246
NORRIS, KENNETH M & ANN R DB 5537 PG 736 MB 1985 PG 2246
LATIFI AL-AWAR DB 11330 PG 0044
VBBSS GROUP, LLC DB 11905 PG 0433
EDWARD TURLINGTON CONSTRUCTION COMPANY
ALDRED LEE PERRY DB 00135 PG 0-E
BRIGHTON COMMUNITY ASSOCIATION, INC. DB 10933 PG 717 BM 2003 PG 1632
BRIGHTON SUBDIVISION & BRIGHTON COMMUNITY ASSOCIATION, INC. DB 10933 PG 717
COHOSH COURT
REVISIONS
R/W REVISION-09/13/07-
R/W REVISION - 05/09/08 - PER SUBMITTAL OF MARCH 19, 2008 - REVISED RIGHT OF WAY AND ELIMINATE
R/W REVISION - 06/10/08 - TEMPORARY CONSTRUCTION EASEMENT ON PARCEL 15


PROJECT REFERENCE NO. R-2814A
SHEET NO. 10
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Buffer Drawing
Sheet 7 of 9
CONST.REV.
R/W REV.
METRIC
LEGEND
MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2
SITE 3
NAD 83
-Y4-
PI Sta 11+55.673
Δ = 45° 21' 44.9" (LT)
L = 197.931
T = 104.481
R = 250.000
-Y5-
PI Sta 10+55.604
Δ = 8° 22' 59.4" (RT)
L = 65.841
T = 32.979
R = 450.000
-Y5- POT Sta.11+57.578
-Y5- POT Sta.11+37.578
END CONSTRUCTION
-L- POT Sta.30+80.000
-Y4- POT Sta.12+66.257
-Y5- POT Sta.10+00.000
-Y5- PT Sta.10+88.466
-Y4- PT Sta.12+49.123
EDWARDS, DAVID G & PAMELA W
DB 4271 PG 660
MB 1983 PG 1518
38
PERRY FARM, LLC
DB 12849 PG 1995
BM 2007 PG 1418
43
RALEIGH LODGE #1318
LOYAL ORDER OF MOOSE INC
DB 3449 PG 177
37
DANIEL, RICHARD E & RUTH H
NO REFERENCE
42
WIDEWATERS FORESTVILLE CO., LLC
DB 12057 PG 941
PSD 046-06-RW
35
HT FORESTVILLE, LLC
DB 11762 PG 1752
BM 2005 PG 1287
41
US 401
SR 2049 FORESTVILLE ROAD
TIE TO EXIST. DITCH
375 RCP
REMOVE EXIST. 375 CONC
LAT. "V" DITCH
SEE DETAIL "10A"
SHEET 2-G
DITCH TURNOUT
CLASS "B" RIP RAP
W/ FILTER FABRIC LINER
EST. 10 TONS
EST. 10 M² FABRIC
CLASS "B" RIP RAP
W/ FILTER FABRIC LINER
EST. 10 TONS
EST. 10 M² FABRIC
OUTLET PROTECTION
1.5m LAT. DITCH
CLEANOUT REQ.
+/-3 IM³ EXCAVATION
SEE DETAIL "10B"
SHEET 2-G
ABANDON AND FILL W/
FLOWABLE MATERIAL
PLUG & ABANDON
REMOVE
450 RCP
N 64° 13' 49.2" E
N 63° 58' 38.2" E
N 64° 01' 12.6" E
30m TAPER
1.2m PAVED SHLD.
0.6m PAVED SHLD.
LINE TYPICAL DITCH W/
CLASS "B" RIP RAP
W/ FILTER FABRIC LINER
EST. TONS
EST. M² FABRIC
STA. 11+60 -Y4- TO
STA. 12+40 -Y4- RT.
MATCHLINE -L- STA. 29+40.000 SEE SHEET 9
MATCHLINE -L- STA. 33+00.000 SEE SHEET 11
MATCHLINE -Y4- STA. 12+00.000 SEE SHEET 16
PROPOSED TRAFFIC SIGNAL
PROP. PAINTED ISLAND SEE TRAFFIC CONTROL PLANS
NOTE: SEE SHEET 2 FOR DETAIL OF LEFT-TURN OFFSET LANE
NOTE: SEE SHEET 20 FOR -L- PROFILE
SEE SHEET 25 FOR -Y4- & -Y5- PROFILES
REVISIONS
R/W REVISION - 12/02/08 - ADDED TEMPORARY CONSTRUCTION EASEMENTS LEFT OF -L- ON PARCEL 43 DUE TO CONSTRUCTION REQUIREMENTS
R/W REVISION - FEBRUARY 14, 2008 -
R/W REVISION - 05/12/06 -

REVISIONS

R/W REVISION - 12/02/08 - ADDED TEMPORARY CONSTRUCTION EASEMENTS LEFT OF -L- ON PARCEL 43 DUE TO CONSTRUCTION REQUIREMENTS

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

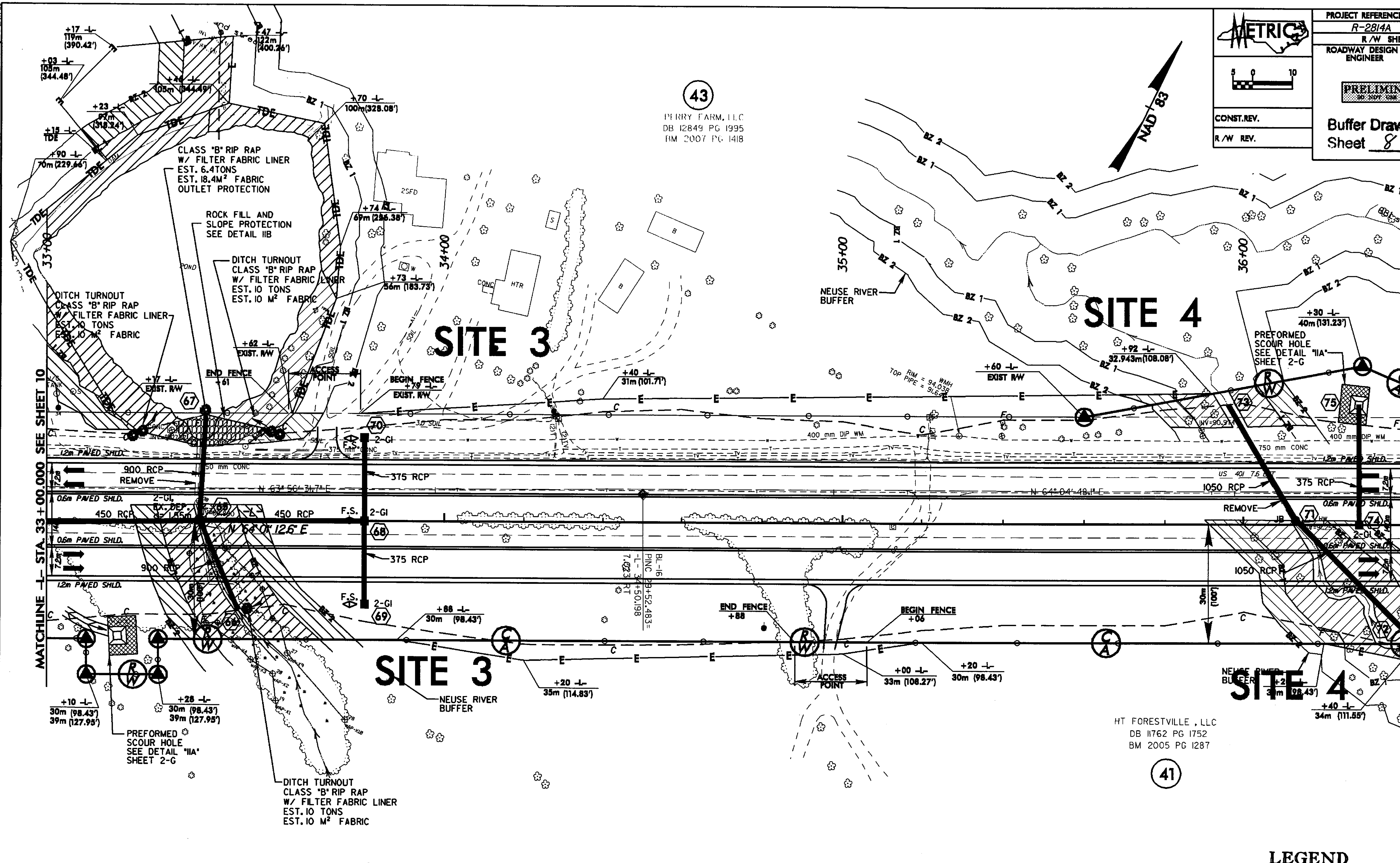
METRIC

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONST.REV.

R/W REV.

Buffer Drawing
Sheet 8 of 9



LEGEND

MITIGABLE IMPACTS ZONE 1

MITIGABLE IMPACTS ZONE 2

NOTE: SEE SHEETS 20 & 21 FOR -L- PROFILE

NOTE: SEE SHEET 2 FOR DETAIL OF LEFT-TURN OFFSET LANE

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

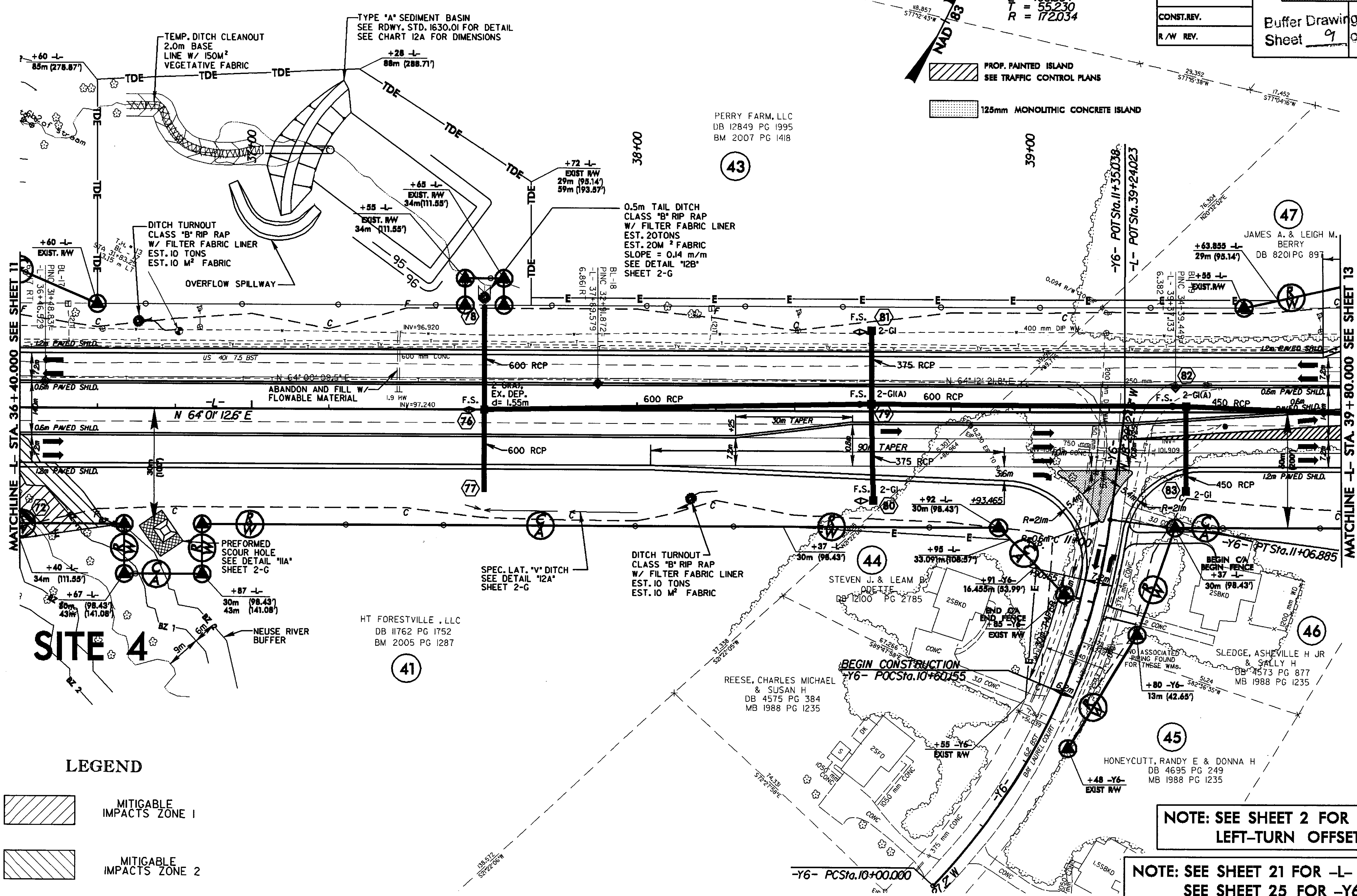
CONST. REV.

R/W REV.

Buffer Drawing Sheet 9 of 9

CHART 12A

BASIN #	APPROX. STA.	P	H	T	D*	E	F	B (min)	X (min)	Y (min)	X1 (min)	Y1 (min)	SURFACE AREA (min)	STORAGE VOLUME (min)
		mm	m	m	m	m	m	m	m	m	m	m	M²	M³
1	37+00 LT.	900	0.3	2.0	2.7	2.0	.46	2.4	2.1	0.6	1.8	0.6	880	482



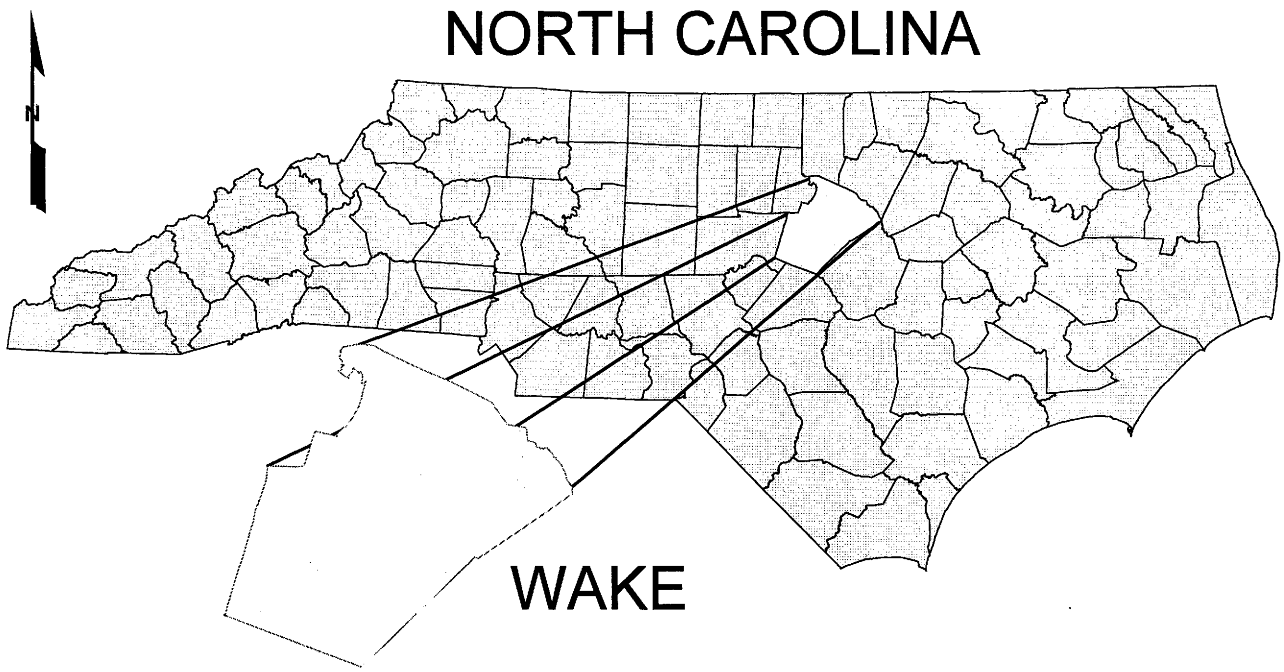
LEGEND

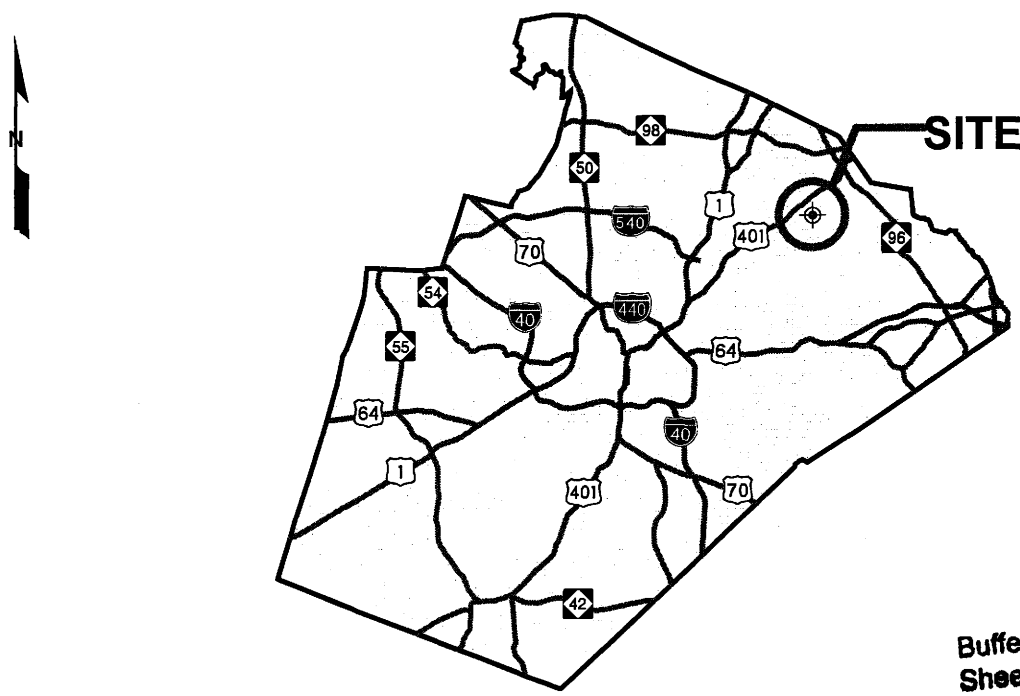
MITIGABLE IMPACTS ZONE 1

MITIGABLE IMPACTS ZONE 2

NOTE: SEE SHEET 2 FOR DETAIL OF LEFT-TURN OFFSET LANE

NOTE: SEE SHEET 21 FOR -L- PROFILE
SEE SHEET 25 FOR -Y6- PROFILE



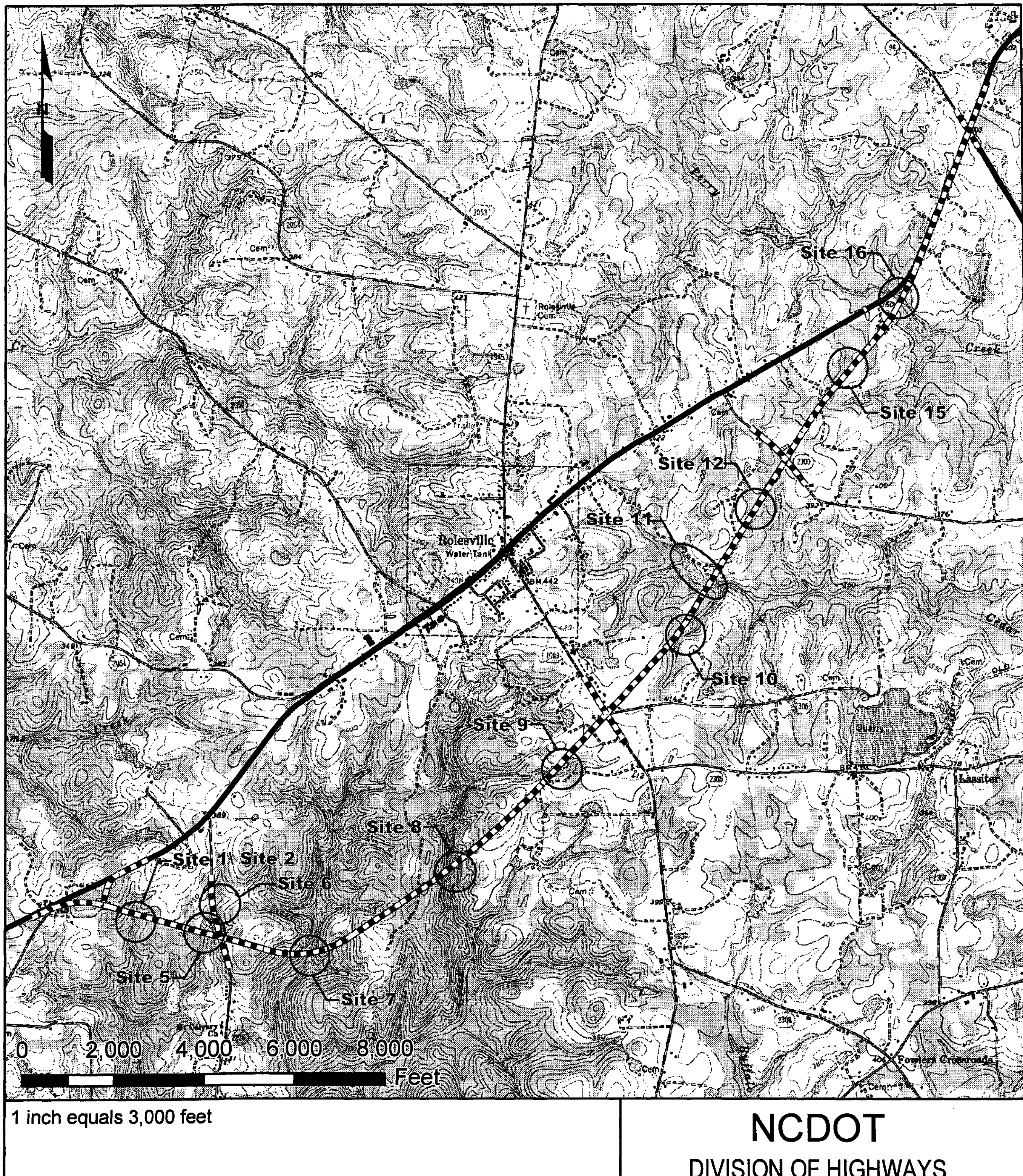


Buffer Drawing
Sheet 1 of 18

BUFFER VICINITY MAP

NCDOT
DIVISION OF HIGHWAYS
WAKE COUNTY
PROJECT: 34506.1.1 (R-2814B)
US 401 ROLESVILLE BYPASS
FROM SR 2225, LOUISBURY ROAD
TO NC 96, ZEBULON ROAD

SEPTEMBER 2008



1 inch equals 3,000 feet

BUFFER LOCATION MAP

NCDOT

DIVISION OF HIGHWAYS
WAKE COUNTY
PROJECT: 34506.1.1 (R-2814B)
US 401 ROLESVILLE BYPASS
FROM SR 2225, LOUISBURY ROAD
TO NC 96, ZEBULON ROAD

Buffer Drawing
Sheet 2 of 18 SEPTEMBER 2008

Source: USGS 7.5 Minute Quadrangle, Rolesville, NC

PROP. NO.	PROPERTY OWNER NAME	PROP. OWNER ADDRESS
7	Neuse Baptist Church	8700 Capital Blvd., Raleigh, NC 27587
8	Alexander Family investments, LLC	906 Washington St., Cary, NC 27511
9	Scarboro , E. Walter and Claire P.	9412 Louisburg Rd., Wake Forest, NC 27587
12	Bobby L. Murray Heirs (J Brent King Exec.)	PO Box 40639, Raleigh, NC 27629
13	Spencer, Pulley Heirs	9412 Louisburg Rd., Wake Forest, NC 27587
14	Scarboro , E. Walter and Claire P.	9412 Louisburg Rd., Wake Forest, NC 27587
20	Shearon, Cameron E.& Beverly W.	4325 Galax Dr., Raleigh, NC 27612
21	Mitchell F. Rabil Family Irrevocable Trust	3321 Gondola Dr., Lexington KY, 40513
22	Shearon, Kathleen W.	733 Rolesville Rd., Rolesville, NC 27571
34	Scarboro Family Limited Partnership	PO Box 84, Rolesville, NC 27571
35	Wall, Joe	7317 Pulley Town Rd., Wake Forest, NC 27587
36	Wall, Joe	7318 Pulley Town Rd., Wake Forest, NC 27587
38	Bobie Joe Wall & Vickie D. Wall	7309 Pulley Town Rd. Wake Forest, NC 27587
39	The SBJ Growth, L.P	PO Box 19067, Raleigh, NC
51	Bartholomew, Michael	PO BOX 573, Rolesville, NC 27571
52	Bartholomew, Richard C & Shirley B.	PO BOX 6, Rolesville, NC 27571
55	Stell, Meith & Mary Sue Et. Al.	1132 Louisburg Rd., Wake Forest, NC 27587
57	Frazier, Violet Pearce	1316 Louisburg Rd., Wake Forest, NC 27587

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

WAKE COUNTY
PROJECT: 34506.1.1 (R-2814B)

Buffer Drawing
Sheet 3 **of** 1? 9/26/2008

BUFFER IMPACTS SUMMARY

			IMPACT									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE				
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)
1		37+15 TO 39+08 -L-	X						16659	10795	27454		
2		39+89 TO 40+44-L			X				0	308	308		
5		52+63 TO 56+69-L	X						24014	6146	30160		
6		17+00 TO 17+30 -Y2-	X			506	0	506					
7		75+51 TO 79+35 -L-	X						33763	16966	50729		
8		114+29 TO 116+90 -L-	X						28103	15151	43254		
9		143+52 TO 151+36 -L-	X						54775	31813	86588		
10		185+21 TO 187+85 -L-			X				3169	5385	8554		
11		197+18 TO 203+82 -L-	X						23441	13334	36776		
12		217+81 TO 220+18 -L-	X						18124	15041	33165		
15		253+80 TO 257+37 -L-	X						19154	15890	35044		
16		274+49 TO 276+44 -L-	X						19130	11361	30491		
TOTAL:						506	0	506	240332	142190	382523		

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

WAKE COUNTY
PROJECT: 34506.1.1 (R-2814B)

9/26/2008
SHEET 4 OF 18

BUFFER IN WETLAND IMPACTS SUMMARY

		BUFFER IN WETLANDS	
Site	Station	ZONE 1 (ft^2)	ZONE 2 (ft^2)
2	39+89 TO 40+44-L	0	78
5	52+63 TO 56+69-L	4830	1192
7	75+51 TO 79+35 -L-	28915	8416
15 [1]	253+80 TO 257+37 -L-	16637	8113
16	274+49 TO 276+44 -L-	0	45
		50381	17843

[1] Buffer located in isolated wetland

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

WAKE COUNTY
PROJECT: 34506.1.1 (R-2814B)

9/26/2008
SHEET 5 OF 18

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2814B	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
34506.1.1	STP-401(4)	PE

Buffer Drawing
Sheet 6 of 18

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAKE COUNTY

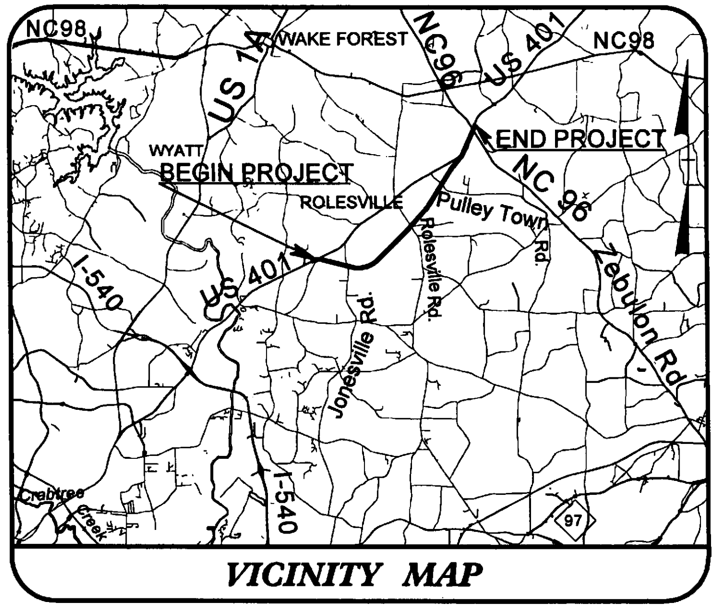
LOCATION: US 401 ROLESVILLE BYPASS FROM SR 2225, LOUISBURY ROAD TO NC 96, ZEBULON ROAD

TYPE OF WORK: PRELIMINARY BUFFER PERMIT DRAWINGS

TIP PROJECT: R-2814B

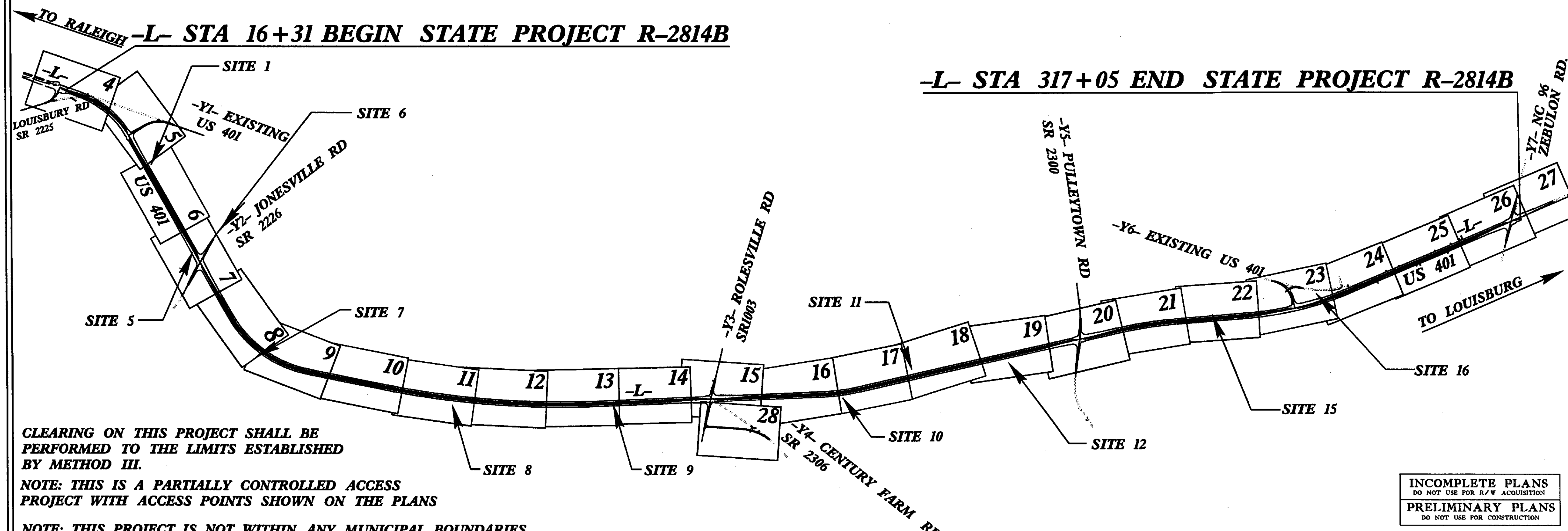
CONTRACT:

See Sheet 1-A For Index of Sheets



VICINITY MAP

NAD 83



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

NOTE: THIS IS A PARTIALLY CONTROLLED ACCESS PROJECT WITH ACCESS POINTS SHOWN ON THE PLANS

NOTE: THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

5 0 5 10
PROFILE (VERTICAL)

DESIGN DATA

ADT 2030 = 24600
ADT =
DHV = 55 %
D = 13 %
T = 7 % *
V = 60 MPH

* TTST 2 DUAL 5

PROJECT LENGTH

LENGTH ROADWAY F.A. PROJECT STP-401(4) = 5.696 MILES
TOTAL LENGTH TIP PROJECT R-2814B = 5.696 MILES

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 17, 2009

LETTING DATE:
APRIL 19, 2011

JS GOODNIGHT
PROJECT ENGINEER

TD GOINS
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 14493 JAMES STAFFORD GOODNIGHT, JR.

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

STATE HIGHWAY DESIGN ENGINEER P.E.

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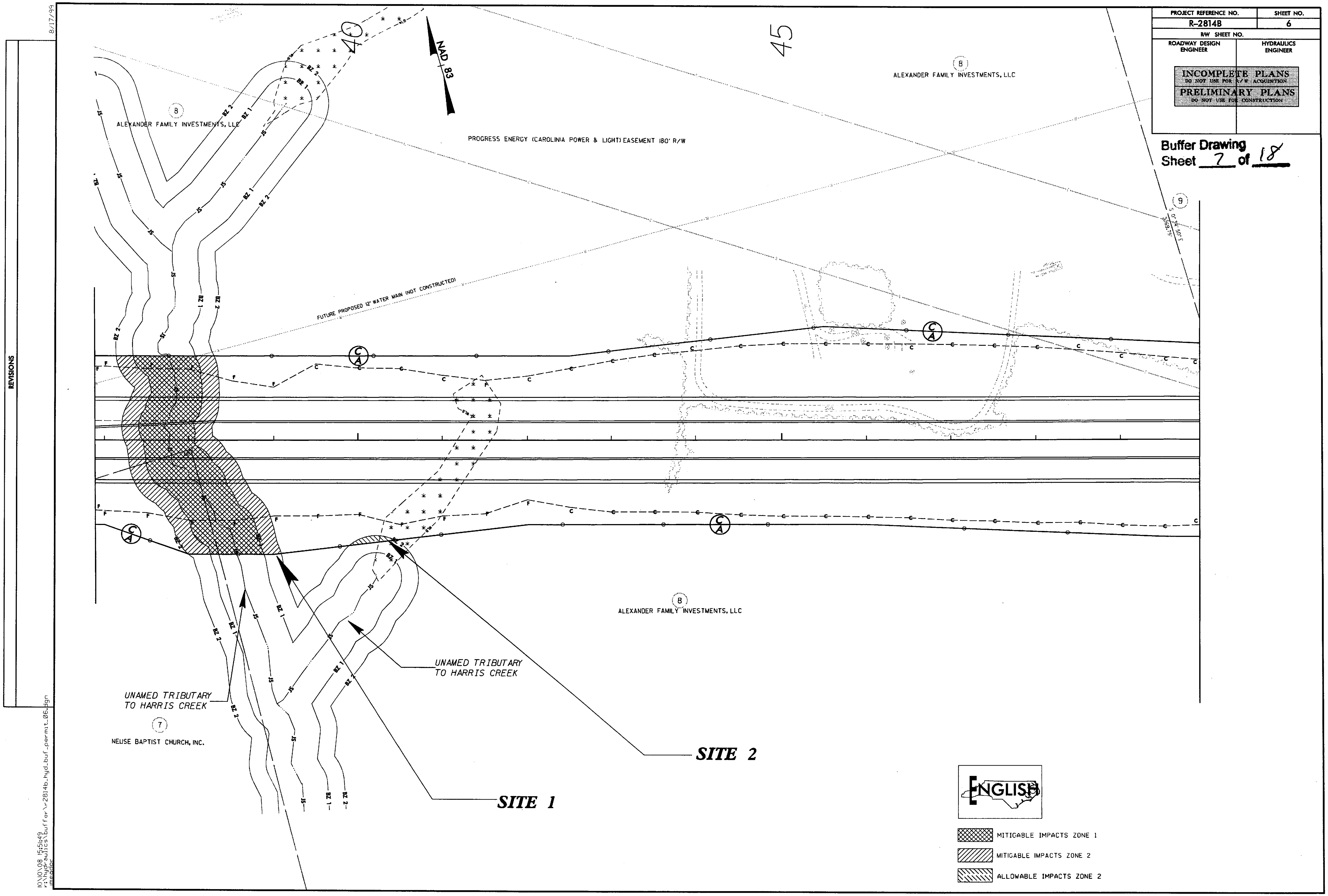
rkk



PROJECT REFERENCE NO.
R-2814B
SHEET NO.
6
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Buffer Drawing
Sheet 7 of 18
8/17/99
REVISIONS
NAD 83
40
45
ALEXANDER FAMILY INVESTMENTS, LLC
PROGRESS ENERGY (CAROLINA POWER & LIGHT) EASEMENT 180' R/W
FUTURE PROPOSED 12" WATER MAIN (NOT CONSTRUCTED)
UNAMED TRIBUTARY TO HARRIS CREEK
NEUSE BAPTIST CHURCH, INC.
SITE 1
SITE 2
ENGLISH
MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2
ALLOWABLE IMPACTS ZONE 2
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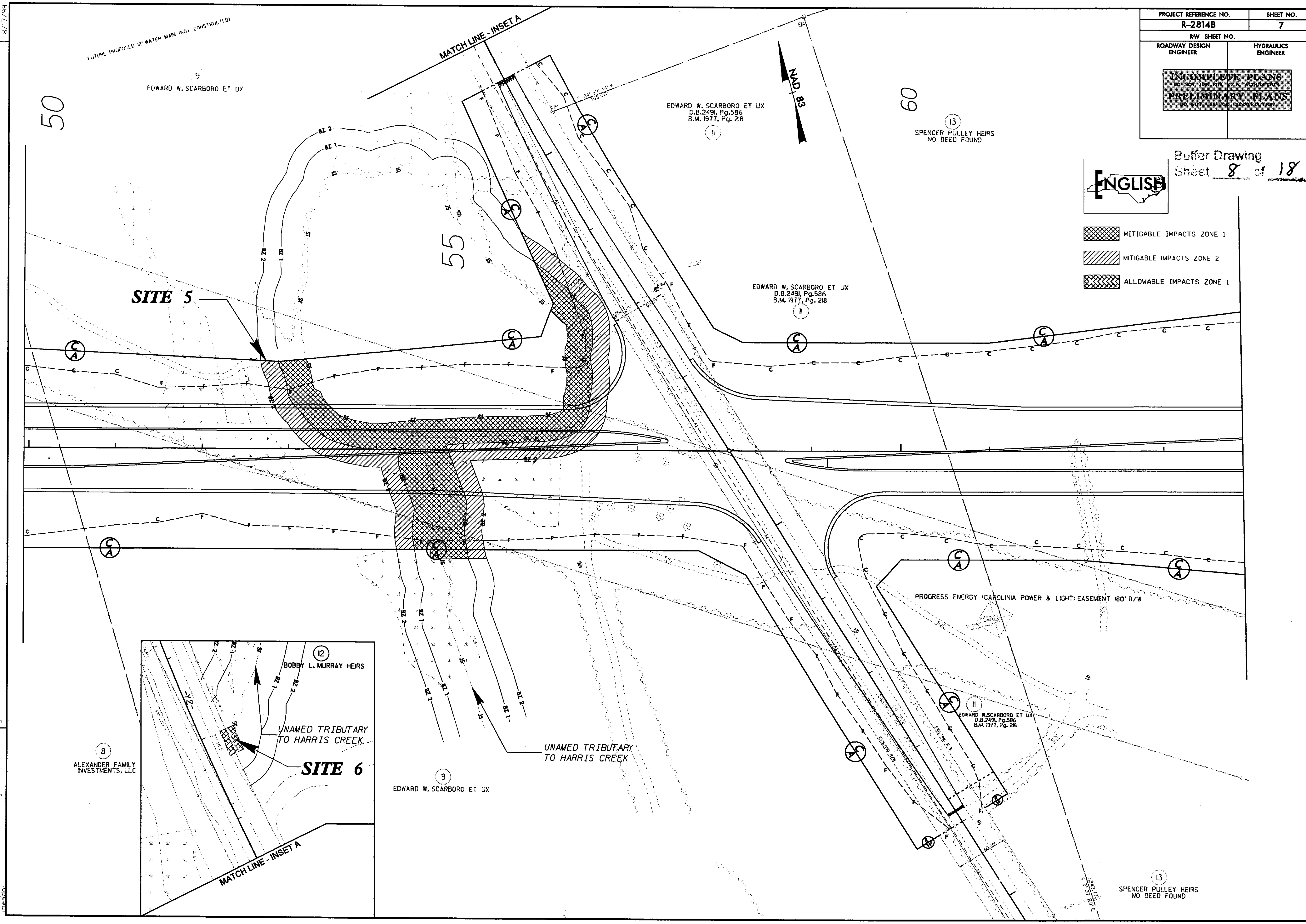

8/17/99

REVISIONS

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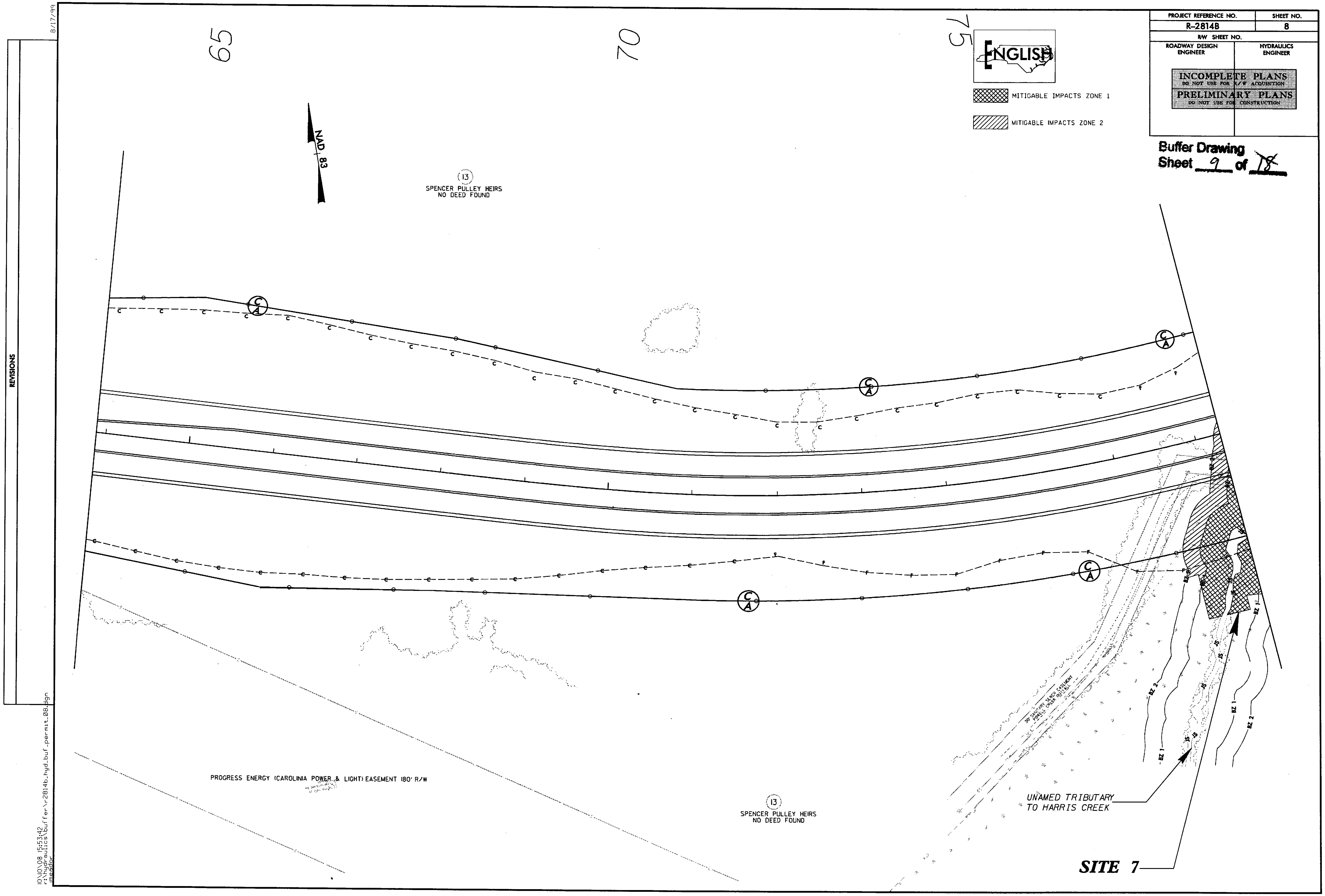
PROJECT REFERENCE NO.
R-2814B
SHEET NO.
8
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Buffer Drawing
Sheet 9 of 18
ENGLISH
MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2
65
70
75
NAD 83
13
SPENCER PULLEY HEIRS
NO DEED FOUND
REVISIONS
PROGRESS ENERGY (CAROLINIA POWER & LIGHT) EASEMENT 180' R/W
UNAMED TRIBUTARY
TO HARRIS CREEK
SITE 7
8/17/99
10\10\08 15:53:42
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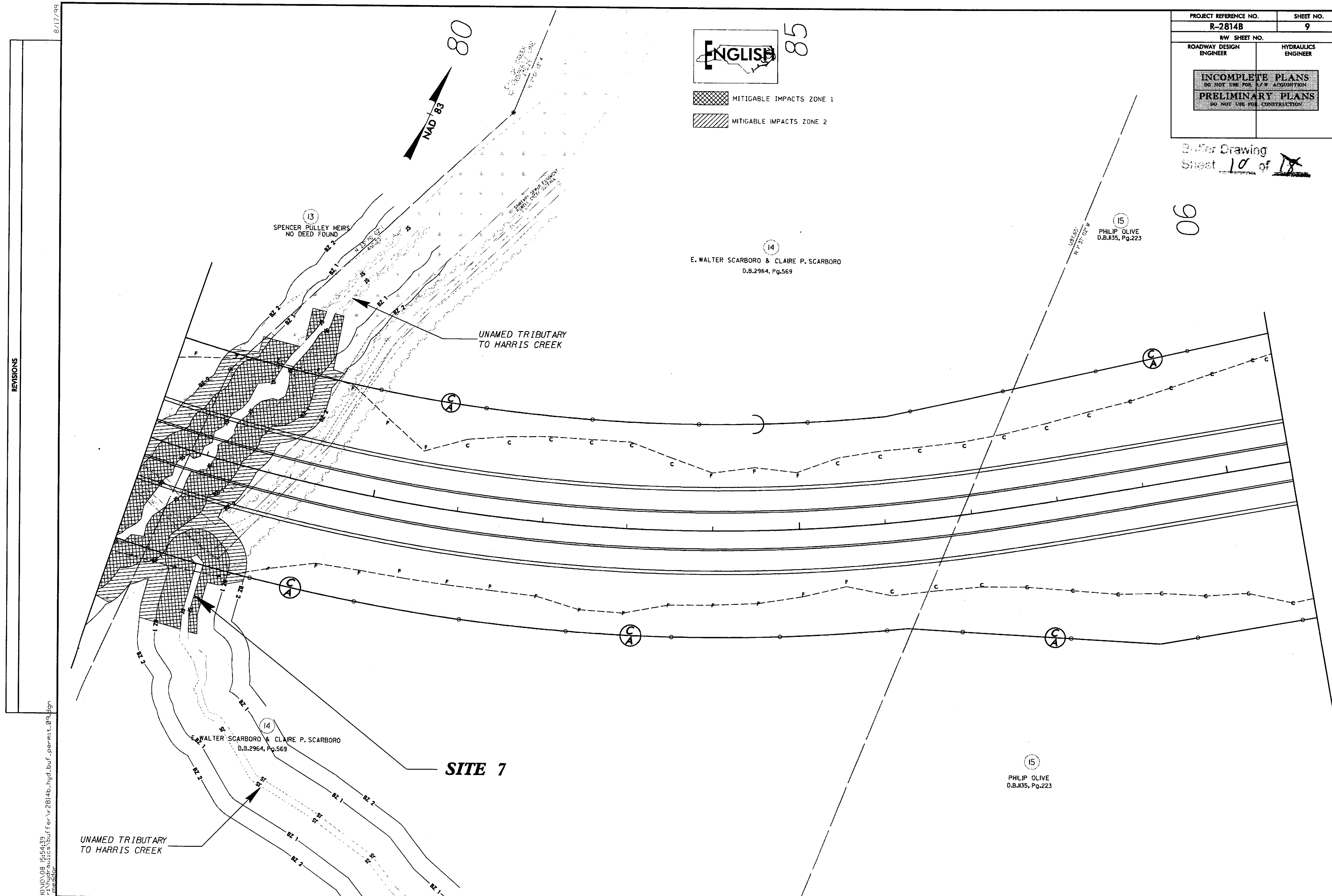
8/17/99



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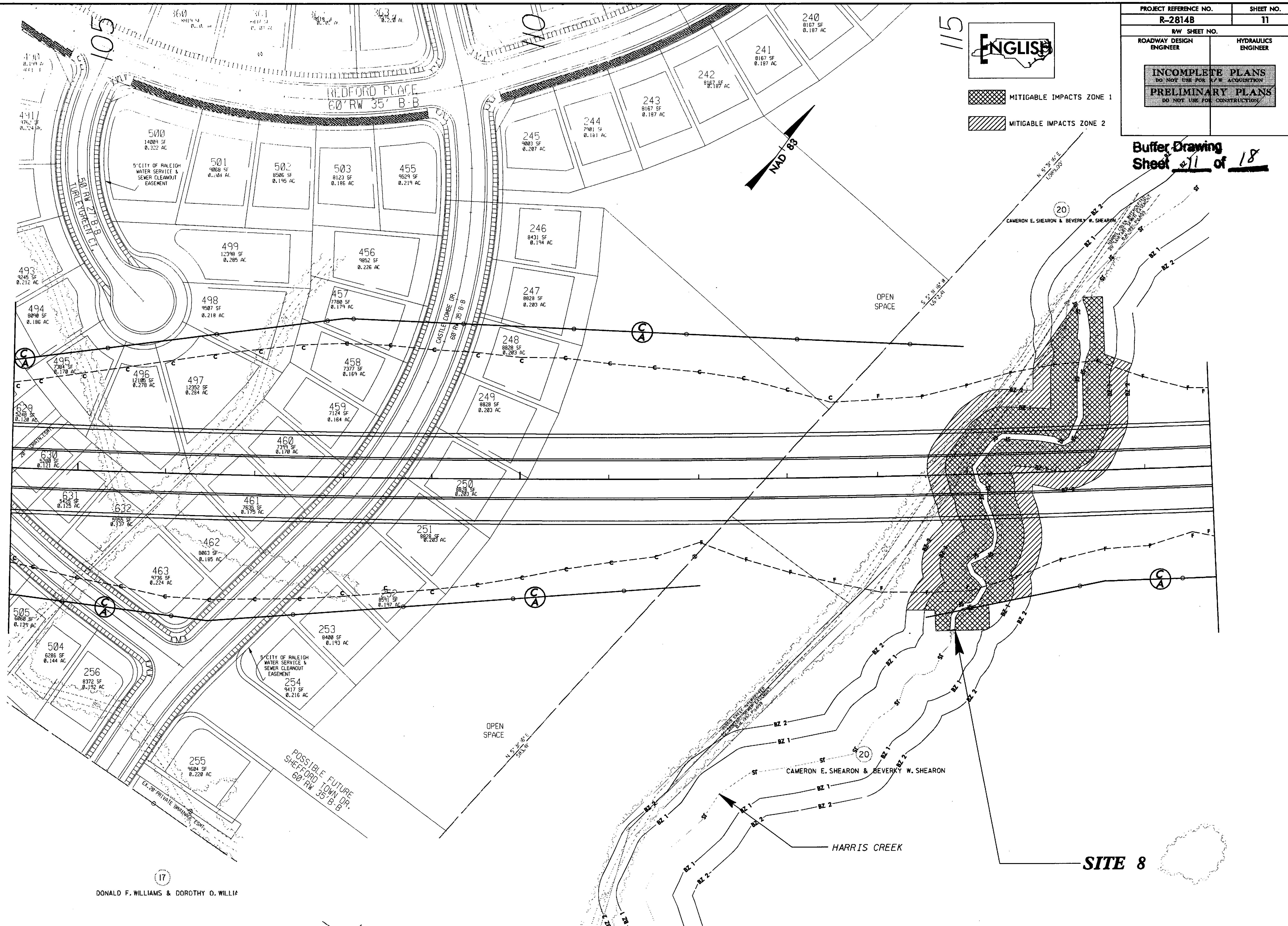
PROJECT REFERENCE NO.	SHEET NO.
R-2814B	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

Buffer Drawing Sheet BZ 11 of 18



REVISIONS

8/17/99

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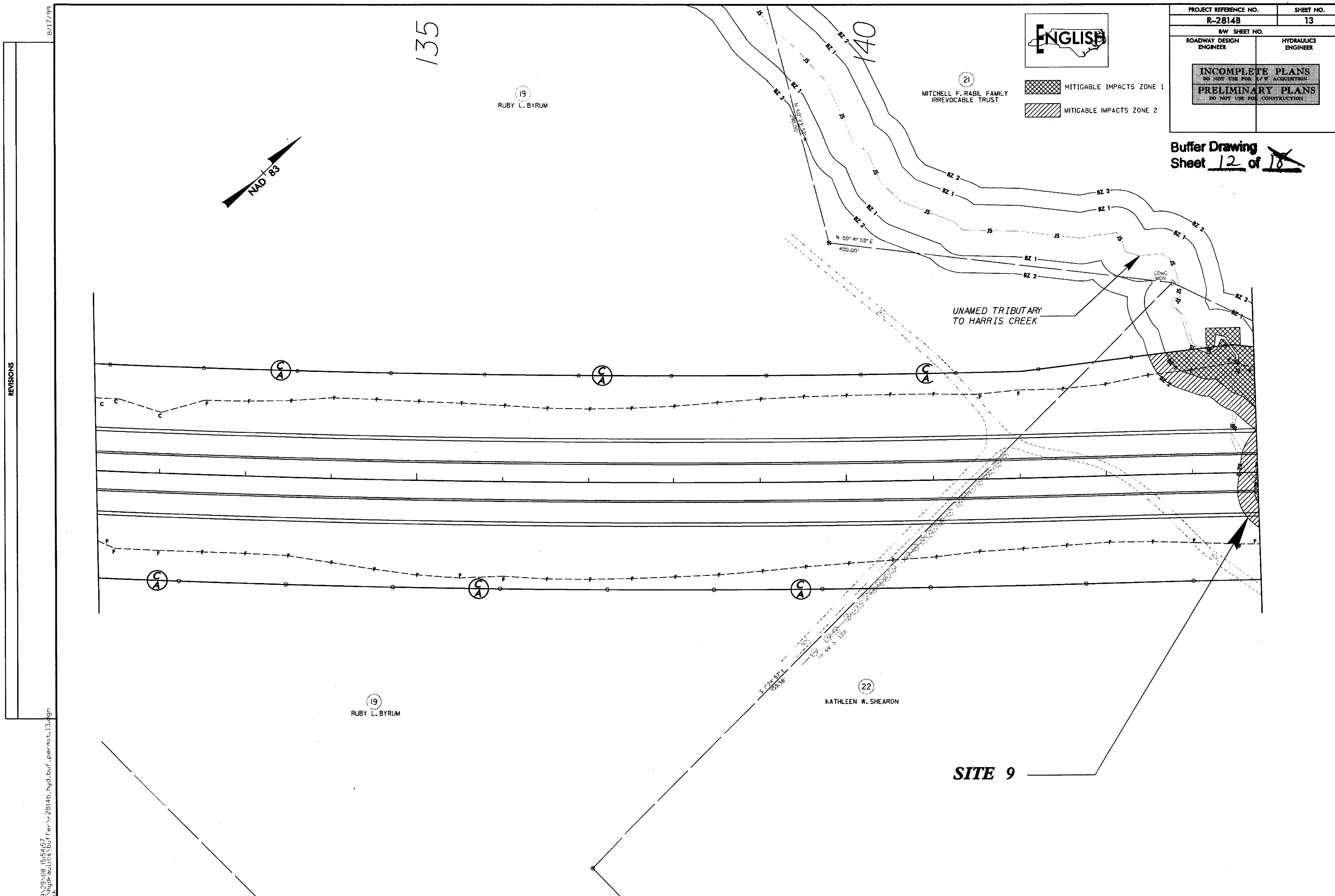
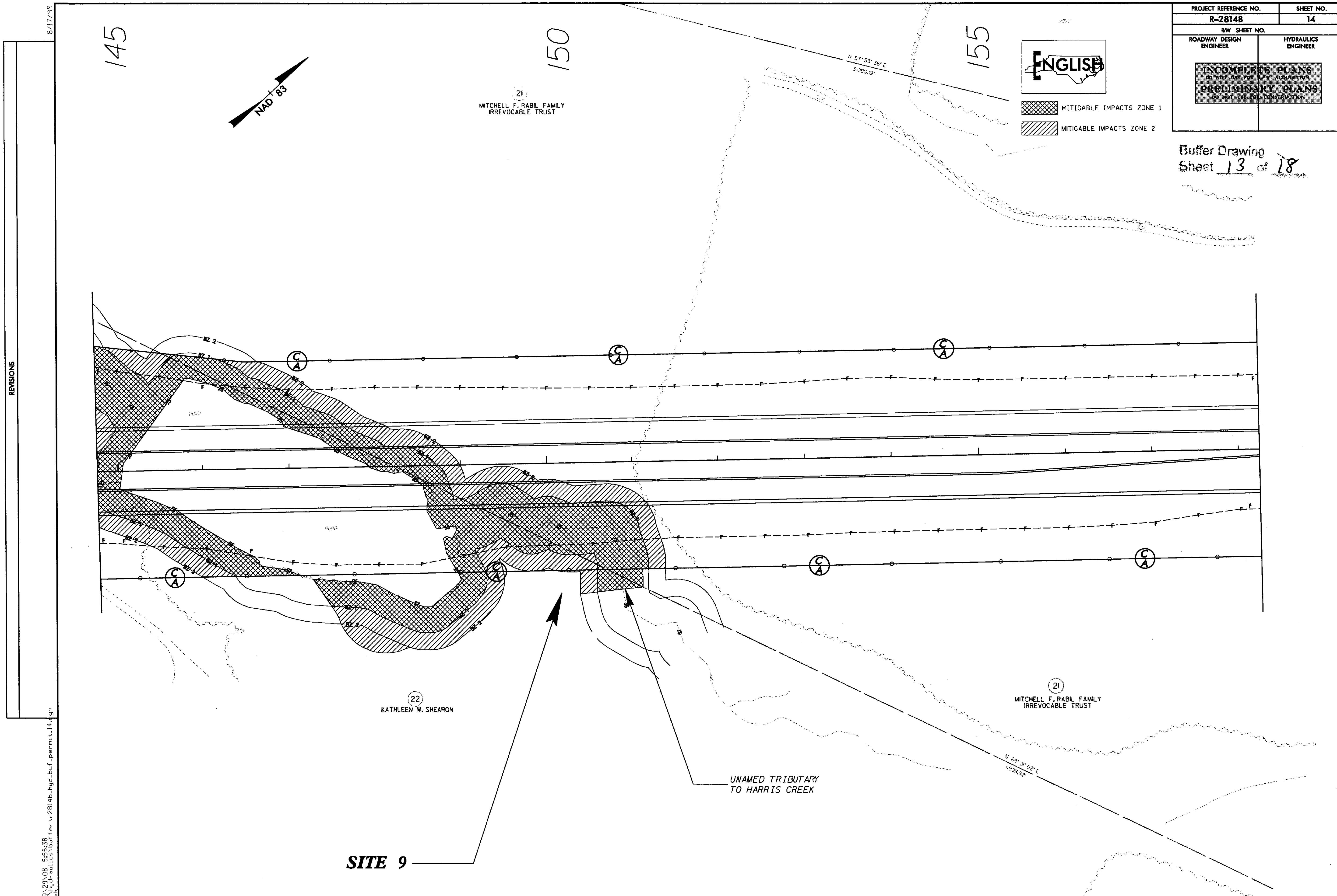

PROJECT REFERENCE NO.
R-2814B
SHEET NO.
13
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Buffer Drawing
Sheet 12 of 18
ENGLISH
MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2
135
140
19
RUBY L. BYRUM
21
MITCHELL F. RABIL FAMILY IRREVOCABLE TRUST
NAD 83
UNAMED TRIBUTARY TO HARRIS CREEK
CONC MON
22
KATHLEEN W. SHEARON
19
RUBY L. BYRUM
SITE 9
REVISIONS
8/17/99


PROJECT REFERENCE NO.
R-2814B
SHEET NO.
14
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
ENGLISH
MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2
Buffer Drawing
Sheet 13 of 18
145
150
155
NAD 83
21
MITCHELL F. RABIL FAMILY
IRREVOCABLE TRUST
22
KATHLEEN W. SHEARON
UNAMED TRIBUTARY
TO HARRIS CREEK
SITE 9
REVISIONS
8/17/99
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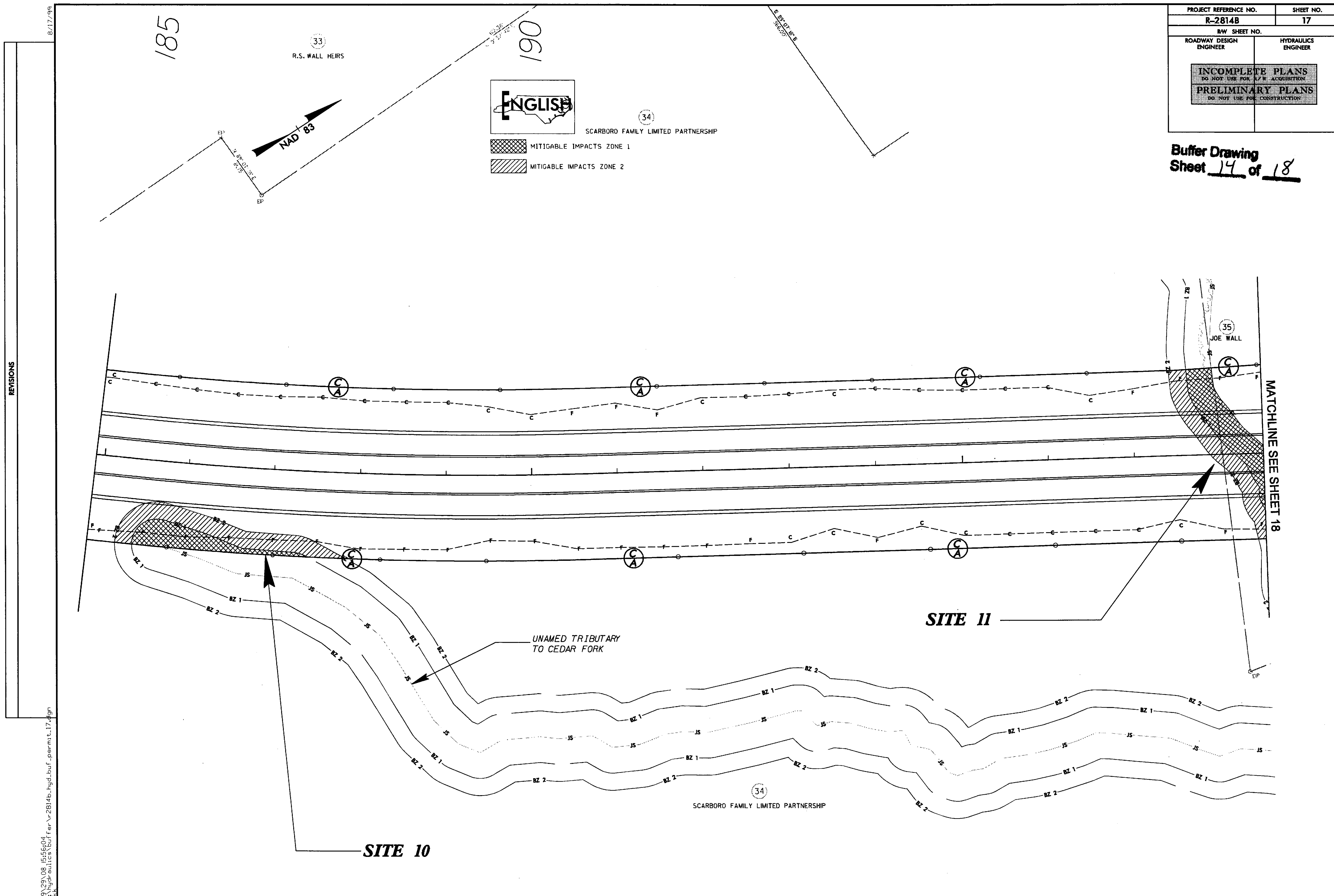

PROJECT REFERENCE NO.
R-2814B
SHEET NO.
17
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Buffer Drawing
Sheet 14 of 18
ENGLISH
MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2
NAD 83
185
190
33
R.S. WALL HEIRS
34
SCARBORO FAMILY LIMITED PARTNERSHIP
35
JOE WALL
MATCHLINE SEE SHEET 18
SITE 11
SITE 10
UNAMED TRIBUTARY
TO CEDAR FORK
REVISIONS
8/17/99
09/29/08 15:56:04
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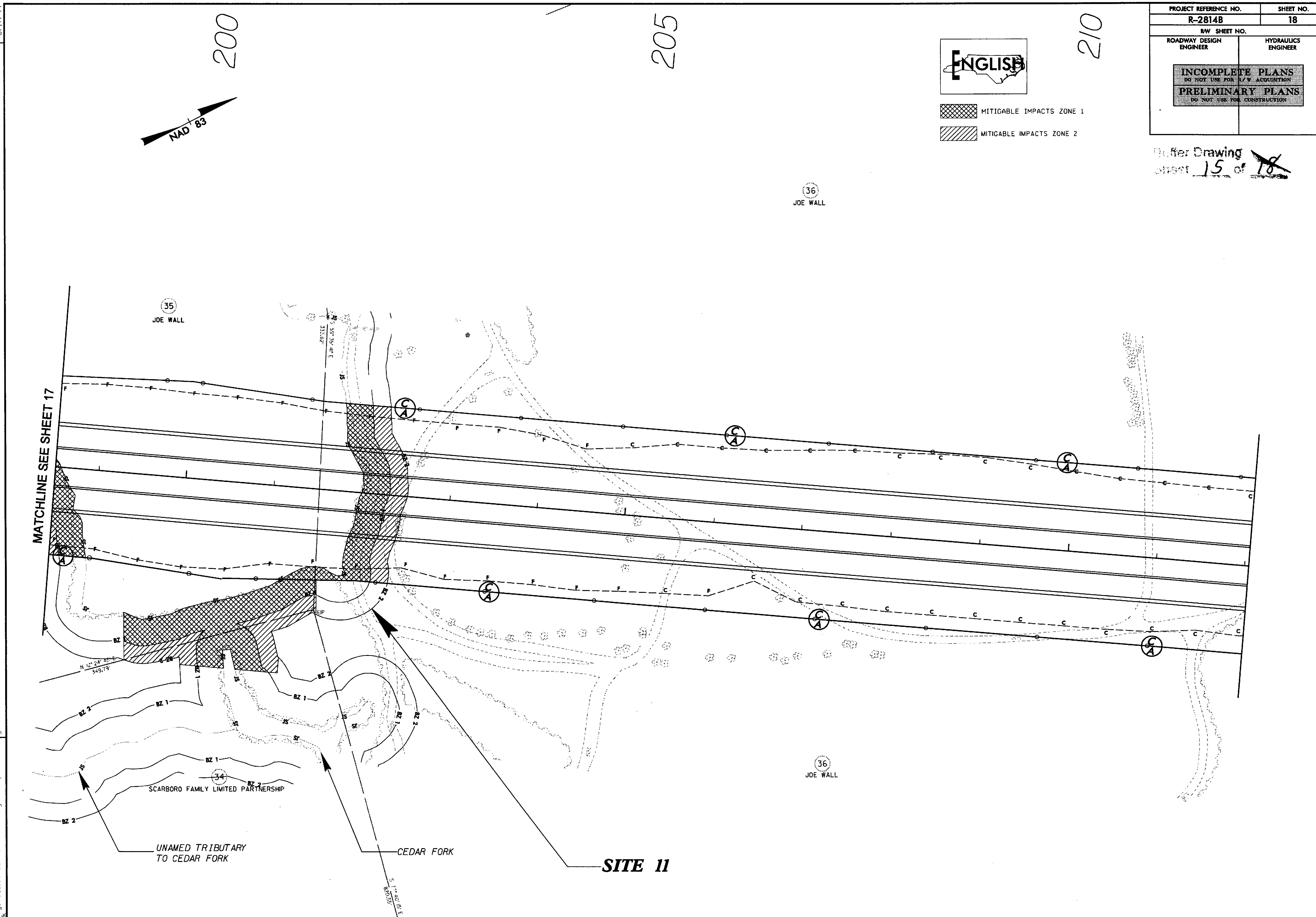
PROJECT REFERENCE NO.	SHEET NO.
R-2814B	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Buffer Drawing
Sheet 15 of 18



8/17/99

REVISIONS

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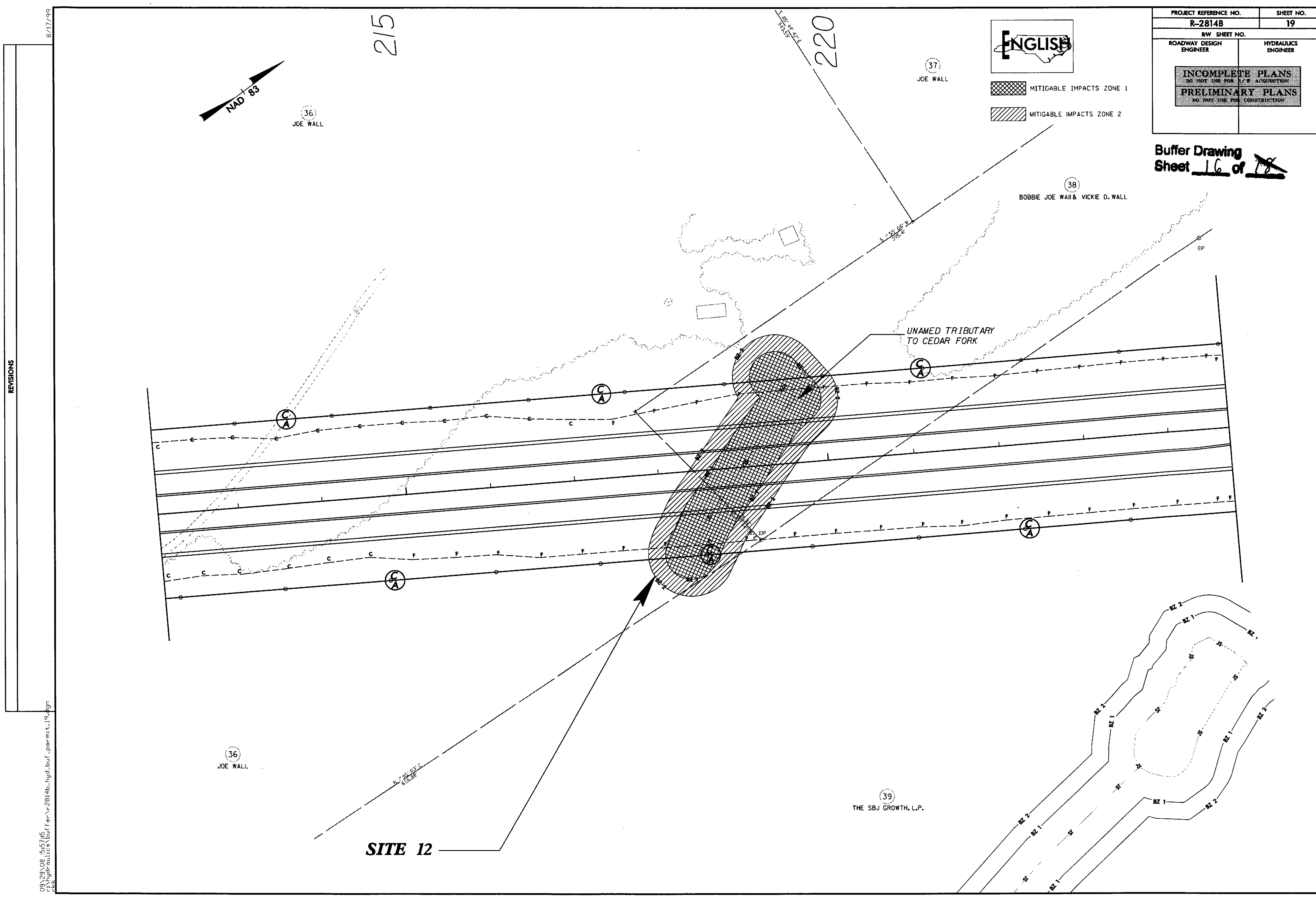


PROJECT REFERENCE NO.
SHEET NO.
R-2814B
19
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Buffer Drawing
Sheet 16 of 18
ENGLISH
MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2
NAD 83
215
220
36
JOE WALL
37
JOE WALL
38
BOBBIE JOE WALL & VICKIE D. WALL
39
THE SBJ GROWTH, L.P.
UNAMED TRIBUTARY
TO CEDAR FORK
SITE 12
REVISIONS
8/17/99

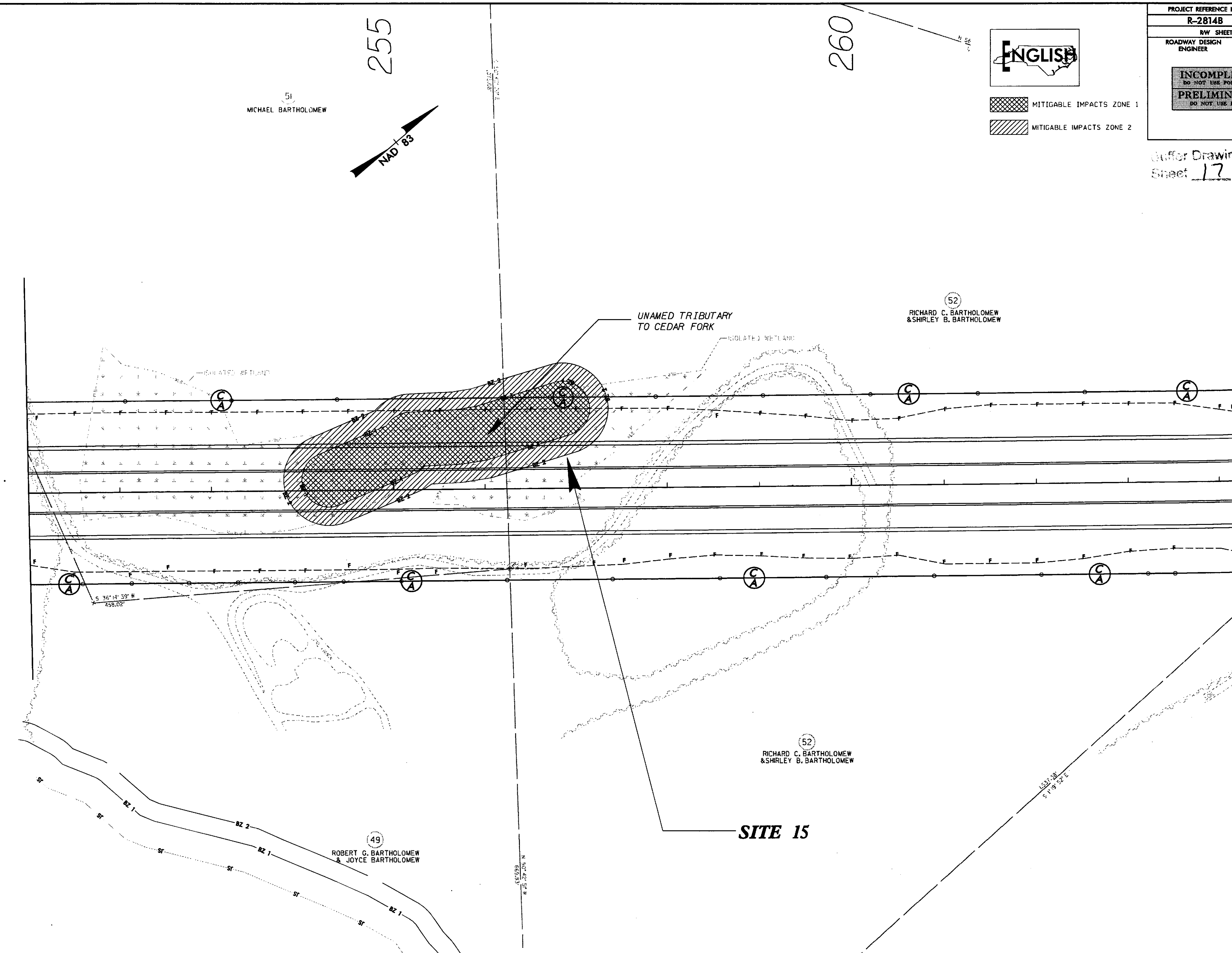
PROJECT REFERENCE NO.	SHEET NO.
R-2814B	22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

Buffer Drawing
Sheet 17 of 18

ENGLISH

MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2



REVISIONS

8/17/99

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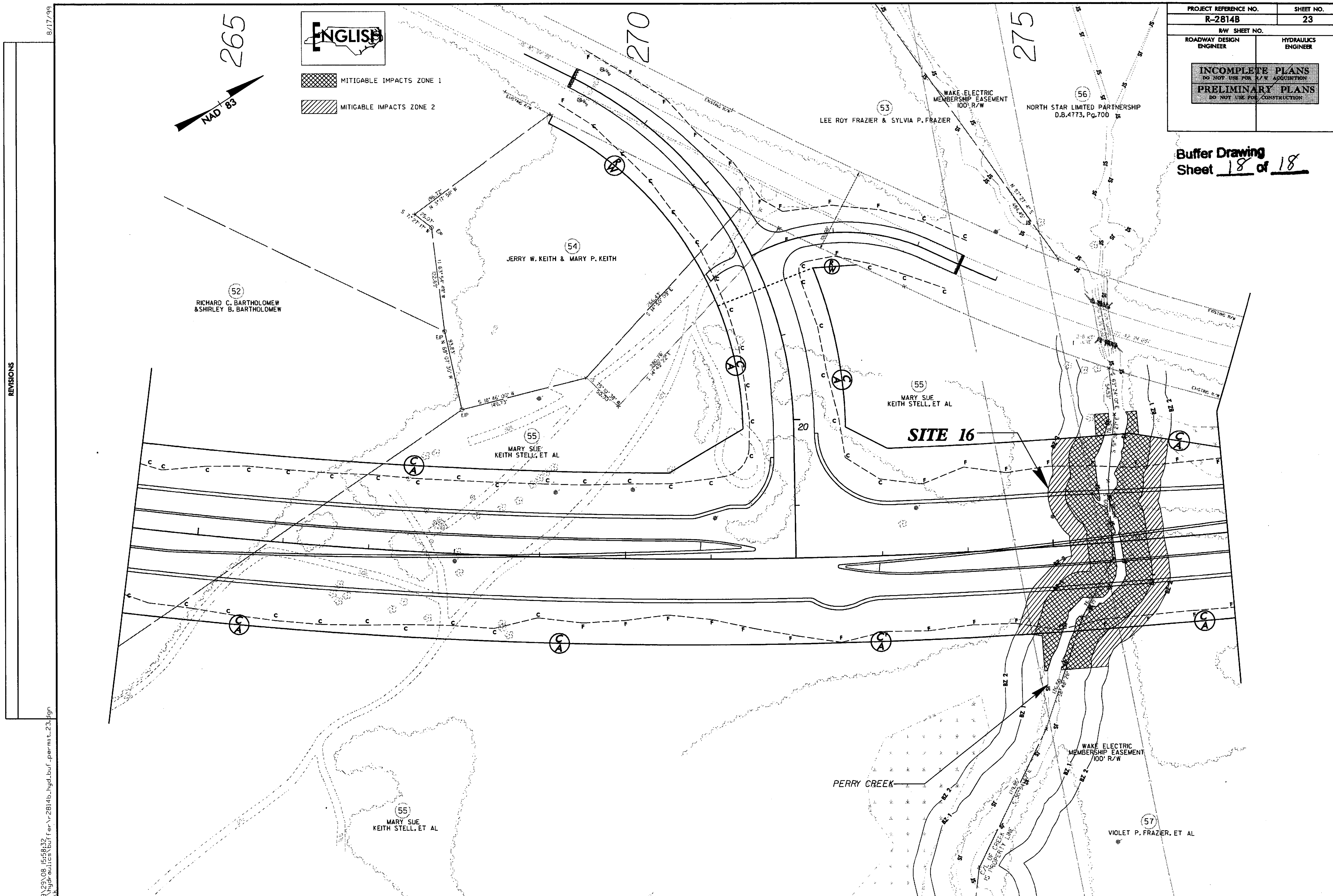
PROJECT REFERENCE NO.
R-2814B
SHEET NO.
23
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Buffer Drawing
Sheet 18 of 18
ENGLISH
MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2
NAD 83
265
270
275
WAKE ELECTRIC MEMBERSHIP EASEMENT 100' R/W
LEE ROY FRAZIER & SYLVIA P. FRAZIER
NORTH STAR LIMITED PARTNERSHIP
D.B.4773, Pg.700
JERRY W. KEITH & MARY P. KEITH
RICHARD C. BARTHOLOMEW &SHIRLEY B. BARTHOLOMEW
MARY SUE KEITH STELL, ET AL
SITE 16
PERRY CREEK
VIOLET P. FRAZIER, ET AL
REVISIONS
8/17/99
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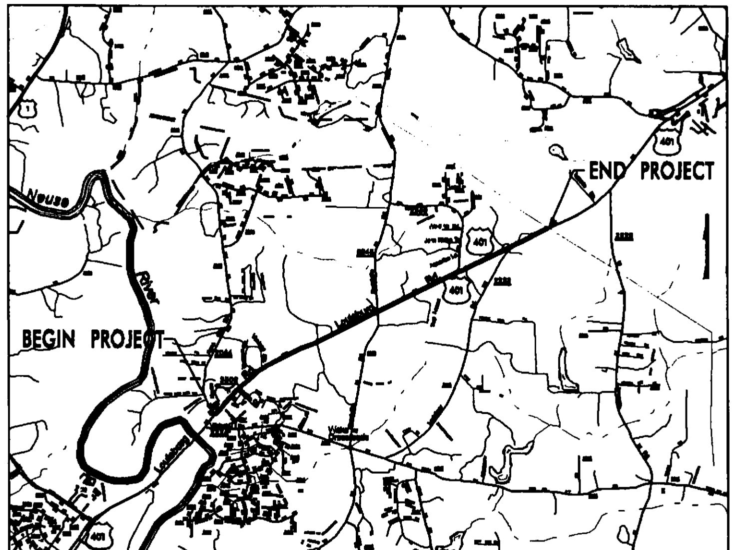
TIP: R-2814A

CONTRACT:

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAKE COUNTY

LOCATION: US 401 FROM SR 2044 (LIGON MILL ROAD) TO SOUTH OF SR 2226 (JONESVILLE ROAD)

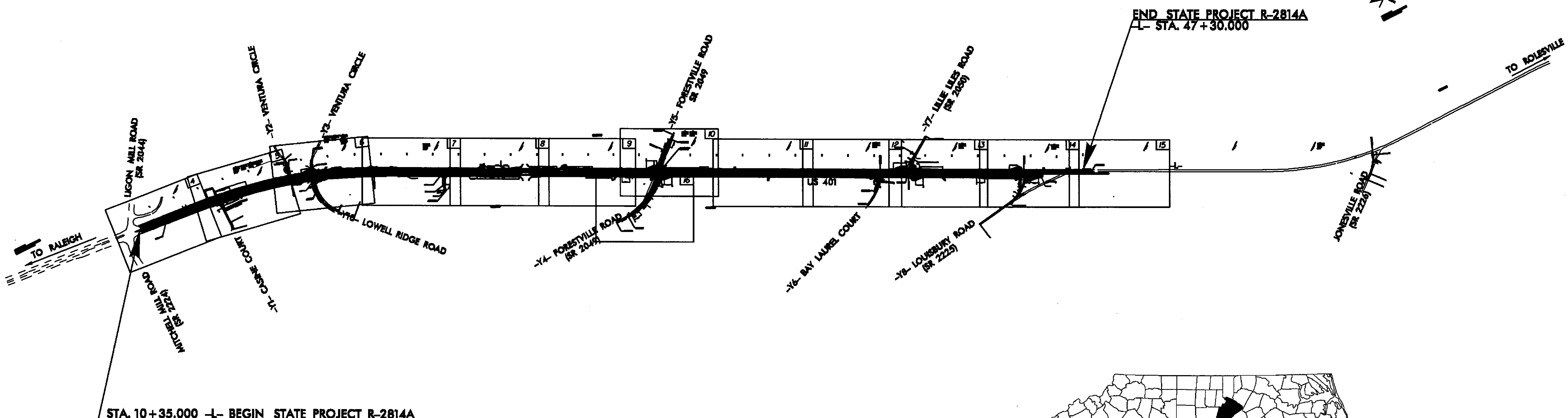
TYPE OF WORK: GRADING, DRAINAGE, PAVING AND SIGNALS

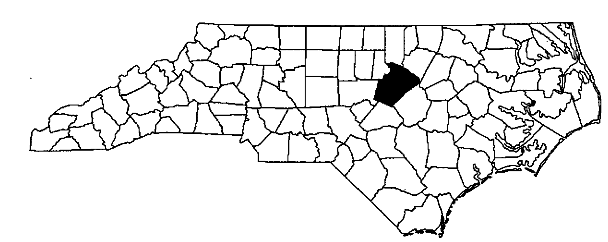
METRIC

ALL DIMENSIONS IN THESE PLANS ARE IN METERS AND/OR MILLIMETERS UNLESS OTHERWISE SHOWN

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2814A	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
34506.1.1	STP-401(4)	P.E.
34506.2.5	STP-401(144)	R/W & UTIL





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

NOTE: THIS IS A PARTIALLY CONTROLLED ACCESS PROJECT WITH ACCESS POINTS SHOWN ON THE PLANS

NOTE: THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

5 0 10
PLANS

5 0 10
PROFILE (HORIZONTAL)

1 0 2
PROFILE (VERTICAL)

DESIGN DATA

ADT 2009 = 18,100
ADT 2030 = 28,100
DHV = 12 %
D = 60 %
T = 8 % *
V = 100 km/h

* TTST 3 % DUAL 5 %

PROJECT LENGTH

LENGTH ROADWAY F. A. PROJECT STP-401(4) = 3.895km

TOTAL LENGTH TIP PROJECT R-2814A = 3.895km

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
December 21, 2006

LETTING DATE:
March 17, 2009

J. S. GOODNIGHT, P.E.
PROJECT ENGINEER

MARK HUSSEY
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

STATE HIGHWAY DESIGN ENGINEER P.E.

20-NOV-2008 11:35

PROJ. REFERENCE NO.	SHEET NO.
R-2814A	1-B

METRIC

*S.U.E = SUBSURFACE UTILITY ENGINEER

CONVENTIONAL SYMBOLS

ROADS & RELATED ITEMS

- Edge of Pavement
- Curb
- Prop. Slope Stakes Cut — C
- Prop. Slope Stakes Fill — F
- Prop. Woven Wire Fence
- Prop. Chain Link Fence
- Prop. Barbed Wire Fence
- Prop. Wheelchair Ramp — WCR
- Curb Cut For Future Wheelchair Ramp — CCFR
- Exist. Guardrail
- Prop. Guardrail
- Exist. Cable Guiderail
- Prop. Cable Guiderail
- Equality Symbol
- Pavement Removal

RIGHT OF WAY

- Baseline Control Point
- Existing Right of Way Marker
- Exist. Right of Way Line w/Marker
- Prop. Right of Way Line with Proposed R/W marker (Iron Pin & Cap)
- Prop. Right of Way Line with Proposed (Concrete or Granite) R/w Marker
- Exist. Control of Access Line — C A
- Prop. Control of Access Line — C A
- Exist. Easement Line — E
- Prop. Temp. Construction Easement Line — E
- Prop. Temp. Drainage Easement Line — TDE
- Prop. Perm. Drainage Easement Line — PDE

HYDROLOGY

- Stream or Body of Water
- Jurisdictional Stream — JS
- Hydro, Pool or Reservoir
- River Basin Buffer
- Flow Arrow
- Disappearing Stream
- Spring
- Swamp Marsh
- Shoreline
- Falls, Rapids
- Prop Lateral, Tail, Head Ditches — FLOW

STRUCTURES

MAJOR

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

MINOR

- Head & End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Boxes — CB
- Paved Ditch Gutter

UTILITIES

- Exist. Pole
- Exist. Power Pole
- Prop. Power Pole
- Exist. Telephone Pole
- Prop. Telephone Pole
- Exist. Joint Use Pole
- Prop. Joint Use Pole
- Telephone Pedestal — T
- Cable TV Pedestal — C
- Hydrant
- Satellite Dish
- Exist. Water Valve
- Sewer Clean Out
- Power Manhole — P
- Telephone Booth
- Water Manhole — W
- Light Pole
- H-Frame Pole
- Power Line Tower
- Pole with Base
- Gas Valve
- Gas Meter
- Telephone Manhole — T
- Power Transformer
- Sanitary Sewer Manhole
- Storm Sewer Manhole — S
- Tank; Water, Gas, Oil
- Water Tank With Legs
- Traffic Signal Junction Box — S
- Fiber Optic Splice Box — F
- Television or Radio Tower
- Utility Power Line Connects to Traffic Signal Lines Cut Into the Pavement — TS
- Recorded Water Line — W
- Designated Water Line (S.U.E.*) — W
- Sanitary Sewer — SS
- Recorded Sanitary Sewer Force Main — FSS
- Designated Sanitary Sewer Force Main(S.U.E.*) — FSS
- Recorded Gas Line — G
- Designated Gas Line (S.U.E.*) — G
- Storm Sewer — S
- Recorded Power Line — P
- Designated Power Line (S.U.E.*) — P
- Recorded Telephone Cable — T
- Designated Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Unknown Utility (S.U.E.*) — ?UTL
- Recorded Television Cable — TV
- Designated Television Cable (S.U.E.*) — TV
- Recorded Fiber Optics Cable — FO
- Designated Fiber Optics Cable (S.U.E.*) — FO
- Exist. Water Meter
- U/G Test Hole (S.U.E.*)
- Abandoned According to U/G Record — ATTUR
- End of Information — E.O.I.

BOUNDARIES & PROPERTIES

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Property Line Symbol — PL
- Exist. Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Property Number — 123
- Parcel Number — 6
- Fence Line — WW & ISBW
- Existing Wetland Boundaries — WLB
- Proposed Wetland Boundaries — WLB
- Existing Endangered Animal Boundaries — EAB
- Existing Endangered Plant Boundaries — EPB

BUILDINGS & OTHER CULTURE

- Buildings
- Foundations
- Area Outline
- Gate
- Gas Pump Vent or U/G Tank Cap
- Church
- School
- Park
- Cemetery
- Dam
- Sign — S
- Well — W
- Small Mine
- Swimming Pool

TOPOGRAPHY

- Loose Surface
- Hard Surface
- Change in Road Surface
- Curb
- Right of Way Symbol — R/W
- Guard Post — GP
- Paved Walk
- Bridge
- Box Culvert or Tunnel
- Ferry
- Culvert
- Footbridge
- Trail, Footpath
- Light House

VEGETATION

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

RAILROADS

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

revised 2/25/97

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cs\permit drawings 10_20_08\buffers\r2814a_prmtsh_buf.dgn
ddufffield AT HY24456S

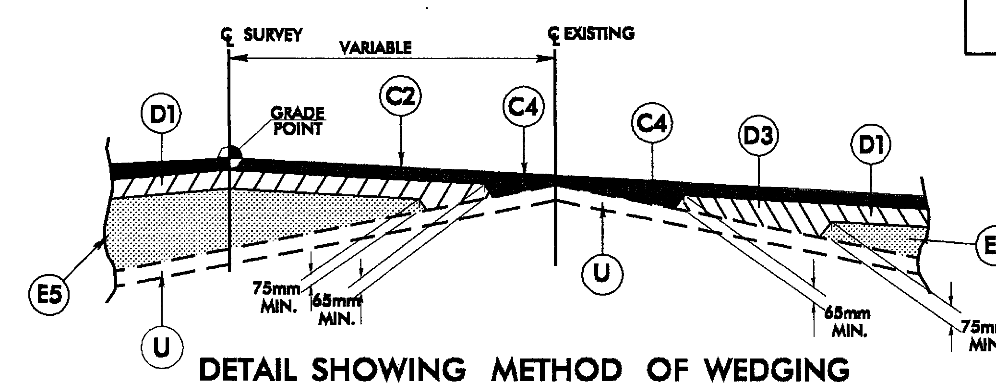
PROJECT REFERENCE NO.	SHEET NO.
R-2814A	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

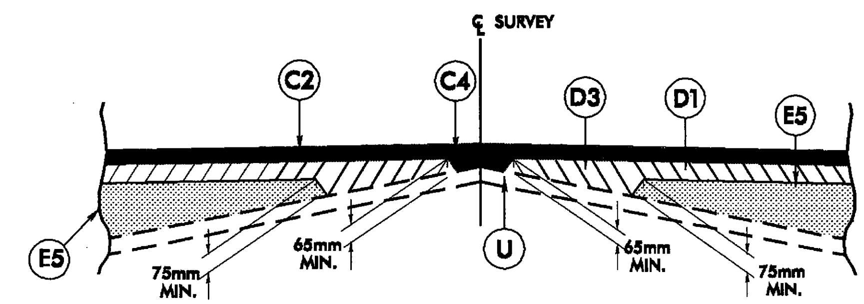
PAVEMENT SCHEDULE

C1	PROP. APPROX. 40 mm ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 96 kg PER SQ. METER.
C2	PROP. APPROX. 80 mm ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 96 kg PER SQ. METER IN EACH OF TWO LAYERS.
C3	PROP. APPROX. 80 mm ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 96 kg PER SQ. METER IN EACH OF TWO LAYERS.
C4	PROP. VAR. DEPTH ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 2.4 kg PER SQ. METER PER 1 mm DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 40 mm OR GREATER THAN 50 mm IN DEPTH.
C5	PROP. VAR. DEPTH ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 2.4 kg PER SQ. METER PER 1 mm DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 40 mm OR GREATER THAN 50 mm IN DEPTH.
D1	PROP. APPROX. 65 mm ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 159.25 kg PER SQ. METER.
D2	PROP. APPROX. 65 mm ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 159.25 kg PER SQ. METER.
D3	PROP. VAR. DEPTH ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 2.45 kg PER SQ. METER PER 1 mm DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 65 mm OR GREATER THAN 110 mm IN DEPTH.
D4	PROP. VAR. DEPTH ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 2.45 kg PER SQ. METER PER 1 mm DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 65 mm OR GREATER THAN 110 mm IN DEPTH.
E1	PROP. APPROX. 110 mm ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 269.5 kg PER SQ. METER.
E2	PROP. APPROX. 220 mm ASPHALT CONC. SURFACE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 269.5 kg PER SQ. METER IN EACH OF TWO LAYERS.
E3	PROP. APPROX. 100 mm ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 245 kg PER SQ. METER.
E4	PROP. APPROX. 130 mm ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 318.5 kg PER SQ. METER.
E5	PROP. VAR. DEPTH ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 2.45 kg PER SQ. METER PER 1 mm DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 75 mm IN DEPTH OR GREATER THAN 140 mm IN DEPTH.
E6	PROP. VAR. DEPTH ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 2.45 kg PER SQ. METER PER 1 mm DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 75 mm IN DEPTH OR GREATER THAN 140 mm IN DEPTH.
J1	PROP. 250 mm AGGREGATE BASE COURSE.
R1	EXISTING 750 mm CONCRETE CURB AND GUTTER.
R2	EXISTING 825 mm CONCRETE CURB AND GUTTER.
R3	PROPOSED 750 mm CONCRETE CURB AND GUTTER.
R4	PROPOSED 825 mm CONCRETE CURB AND GUTTER.
R5	PROPOSED EXPRESSWAY GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT. (SEE STANDARD WEDGING DETAILS.)

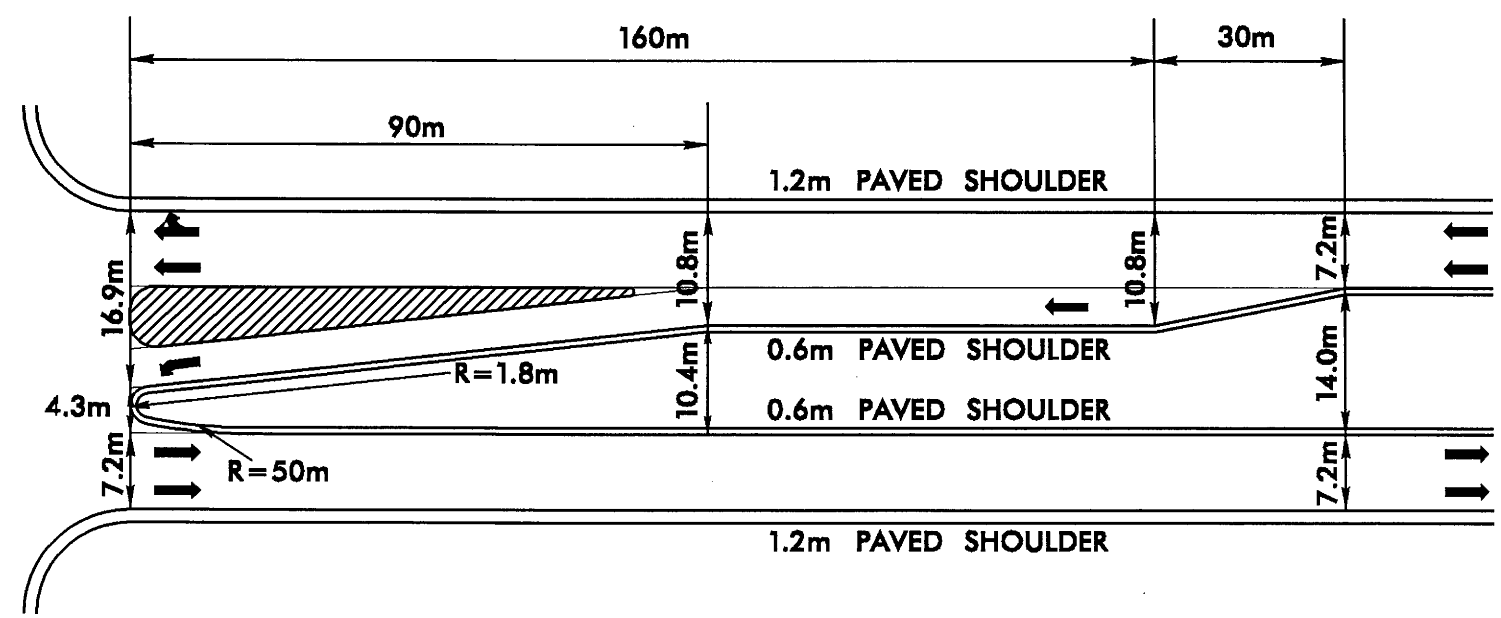
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



DETAIL SHOWING METHOD OF WEDGING



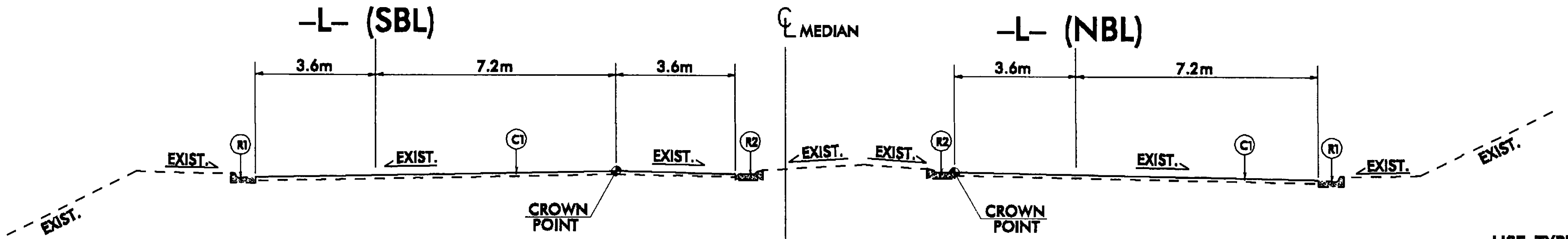
DETAIL SHOWING METHOD OF WEDGING



DETAIL OF LEFT-TURN LANE OFFSET

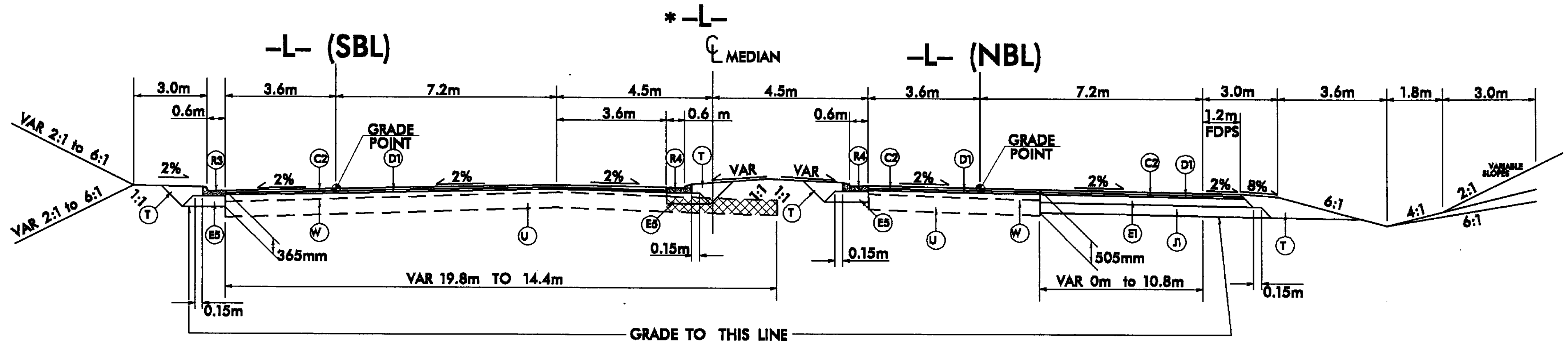
PROJECT REFERENCE NO.	SHEET NO.
R-2814A	2-A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



USE TYPICAL SECTION NO. 1
-L- STA. 10+35.000 TO -L- STA. 10+80.000

TYPICAL SECTION NO. 2



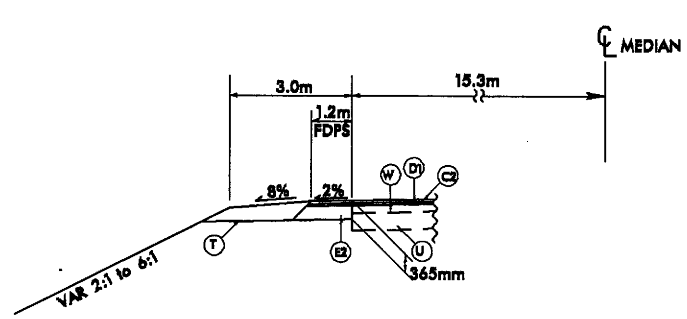
USE TYPICAL SECTION NO. 2
-LNBL- AND -LSBL- STA. 10+80.000 TO -L- STA. 12+19.410
* -L- STA. 12+19.410 TO -L- STA. 12+92.666

EXIST. PAV'T TO BE REMOVED

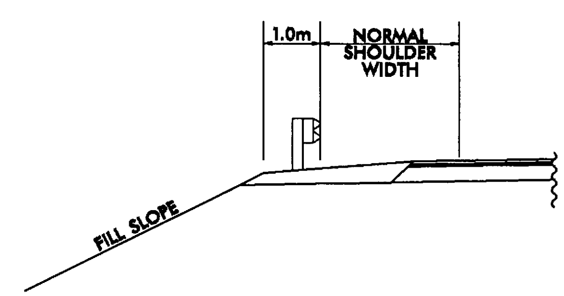
SEE PLANS FOR AUXILIARY LANES & TAPER

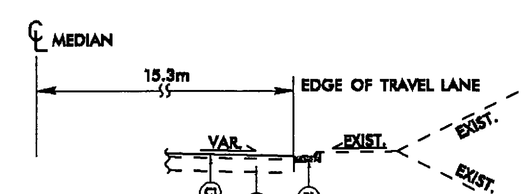
C1	40 mm S9.5C
C2	80 mm S9.5C
C3	80 mm S9.5B
C4	VAR. DEPTH S9.5C
C5	VAR. DEPTH S9.5B
D1	65 mm I19.0C
D2	65 mm I19.0B
D3	VAR. DEPTH I19.0C
D4	VAR. DEPTH I19.0B
E1	110 mm B25.0C
E2	220 mm B25.0C
E3	100 mm B25.0B
E4	130 mm B25.0B
E5	VAR. DEPTH B25.0C
E6	VAR. DEPTH B25.0B
J1	PROP. 250 mm ABC
R1	EXIST. 750 mm C & G
R2	EXIST. 825 mm C & G
R3	PROP. 750 mm C & G
R4	PROP. 825 mm C & G
R5	EXPRESSWAY GUTTER
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

USE IN CONJUNCTION WITH TYPICAL SECTION NO. 2
-L- STA. 12+22.749 TO -L- STA. 12+92.666 LT



DETAIL SHOWING ADDITIONAL WIDENING AT GUARDRAIL LOCATIONS



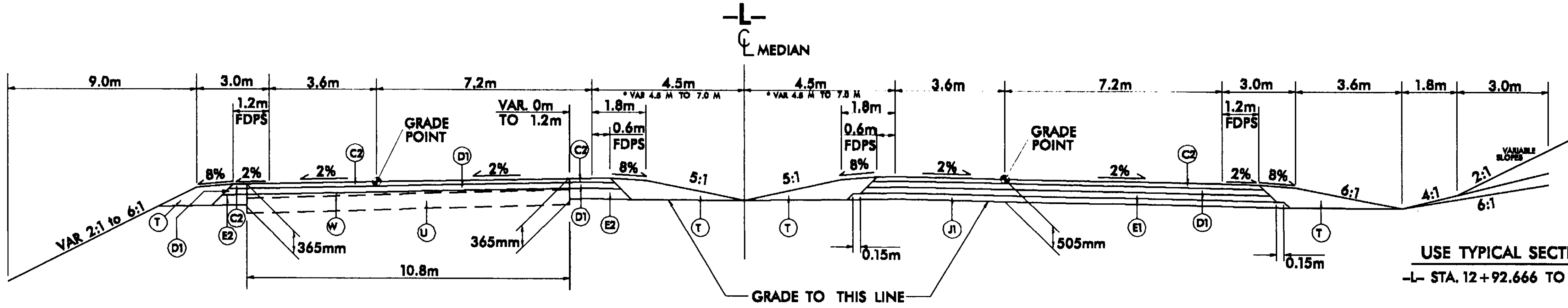


USE IN CONJUNCTION WITH TYPICAL SECTION NO. 2
-L- STA. 10+80.000 TO -L- STA. 11+33.778 LT & RT

20-NOV-2008
ddufield

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	2-B
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

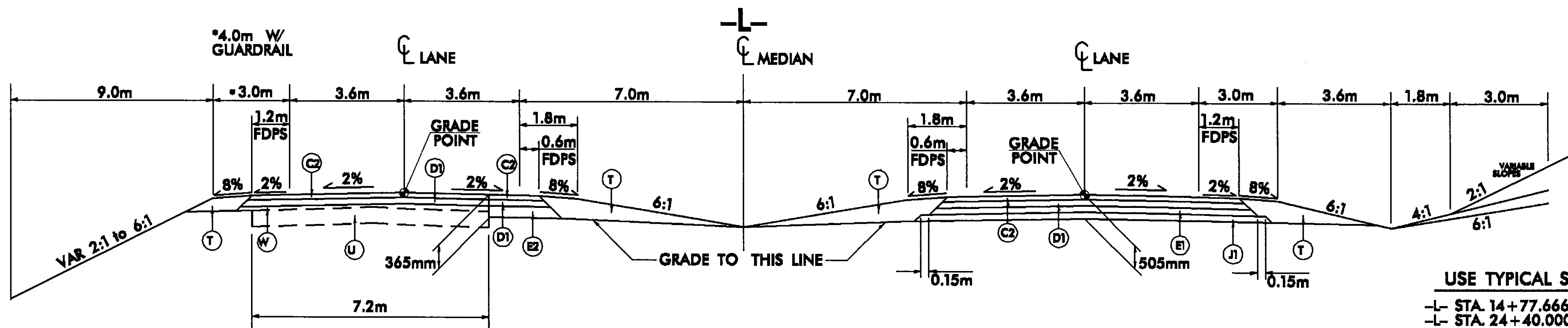
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



TYPICAL SECTION NO. 3

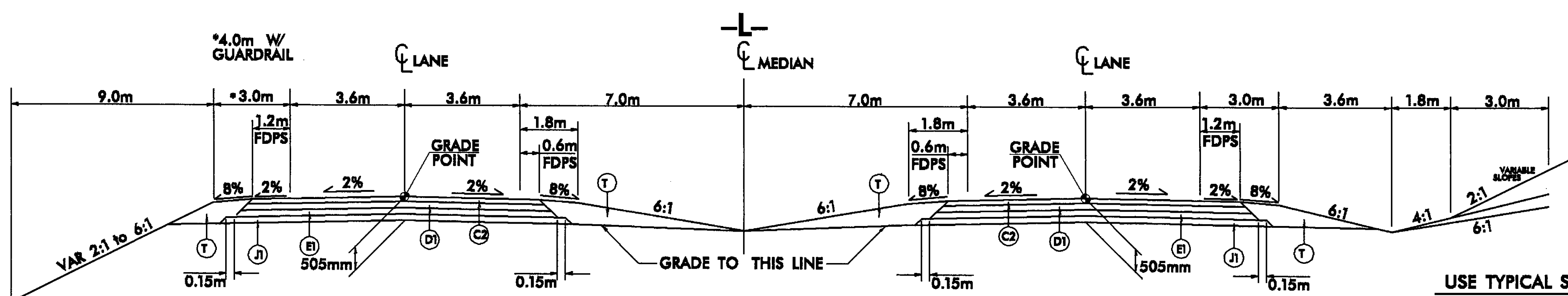
USE TYPICAL SECTION NO. 3
-L- STA. 12+92.666 TO -L- STA. 13+52.666

* MEDIAN TRANSITION
-L- STA. 13+52.666 TO -L- STA. 14+77.666



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4
-L- STA. 14+77.666 TO -L- STA. 17+00.000
-L- STA. 24+40.000 TO -L- STA. 47+00.000

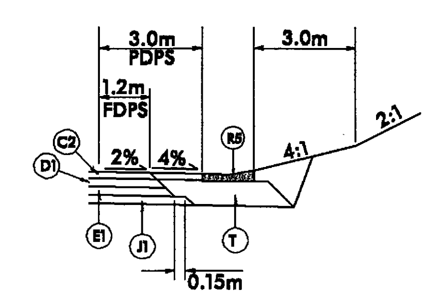


TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5
-L- STA. 17+00.000 TO -L- STA. 24+40.000

C1	40 mm S9.5C
C2	60 mm S9.5C
C3	60 mm S9.5B
C4	VAR. DEPTH S9.5C
C5	VAR. DEPTH S9.5B
D1	65 mm I19.0C
D2	65 mm I19.0B
D3	VAR. DEPTH I19.0C
D4	VAR. DEPTH I19.0B
E1	110 mm B25.0C
E2	220 mm B25.0C
E3	100 mm B25.0B
E4	130 mm B25.0B
E5	VAR. DEPTH B25.0C
E6	VAR. DEPTH B25.0B
J1	PROP. 250 mm ABC
R1	EXIST. 750 mm C & G
R2	EXIST. 825 mm C & G
R3	PROP. 750 mm C & G
R4	PROP. 825 mm C & G
R5	EXPRESSWAY GUTTER
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

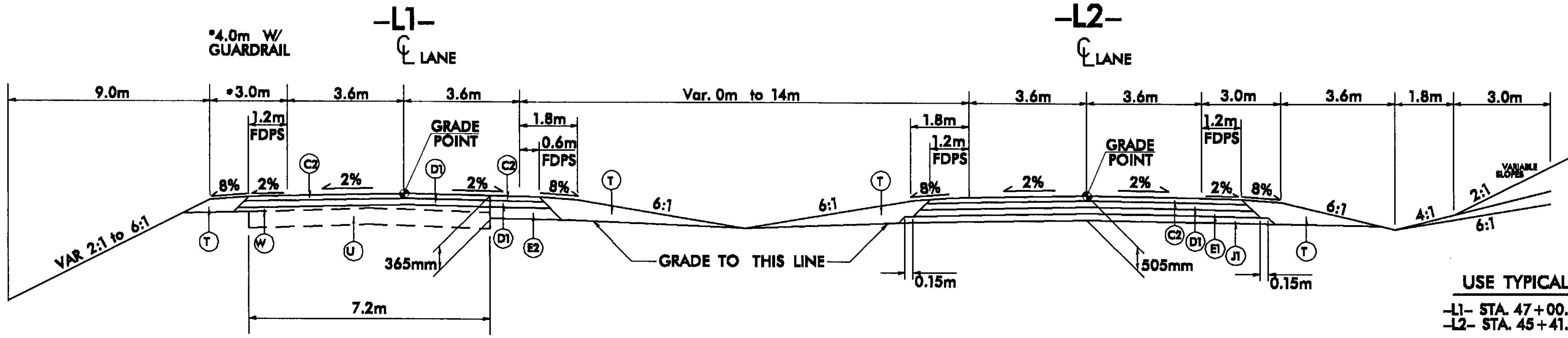
USE IN CONJUNCTION WITH TYPICAL SECTION NO. 5
-L- STA. 21+00.00 TO -L- STA. 23+40.00 RT



20-NOV-2008

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	2-C
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

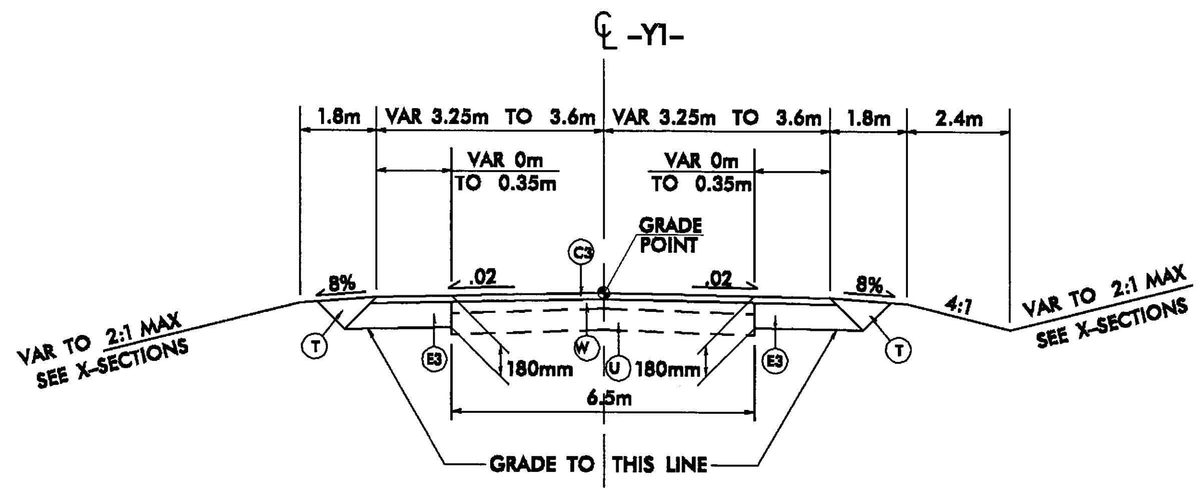
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6

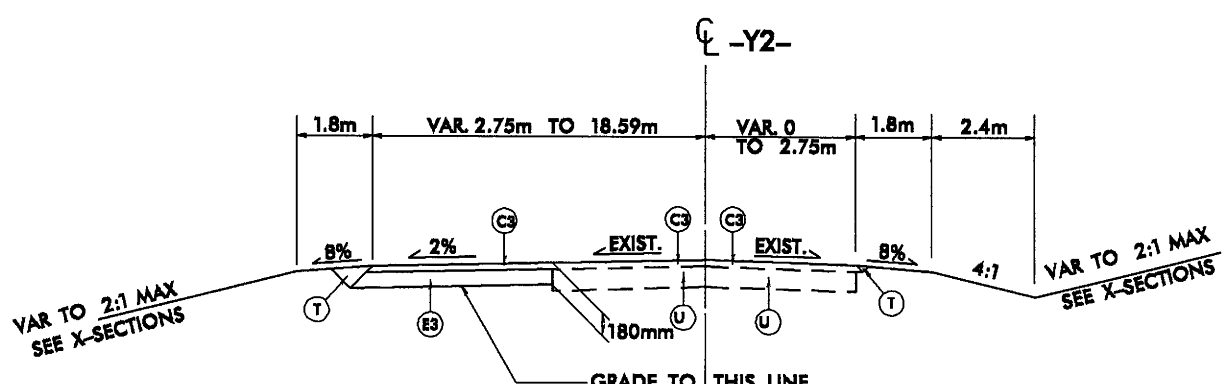
-L1- STA. 47+00.000 TO -L- STA. 49+29.693
-L2- STA. 45+41.298 TO -L- STA. 49+30.534



TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 7

-Y1- STA. 10+86.500 TO -Y1- STA. 10+95.001



TYPICAL SECTION NO. 8

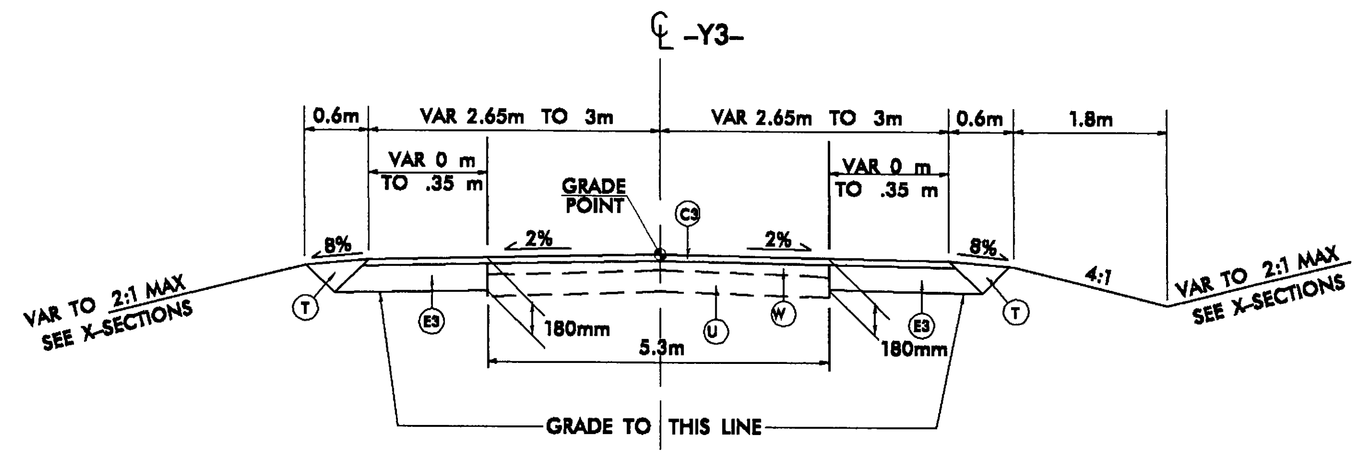
USE TYPICAL SECTION NO. 8

-Y2- STA. 10+29.188 TO -Y2- STA. 10+68.477

C1	40 mm S9.5C
C2	80 mm S9.5C
C3	80 mm S9.5B
C4	VAR. DEPTH S9.5C
C5	VAR. DEPTH S9.5B
D1	65 mm I19.0C
D2	65 mm I19.0B
D3	VAR. DEPTH I19.0C
D4	VAR. DEPTH I19.0B
E1	110 mm B25.0C
E2	220 mm B25.0C
E3	100 mm B25.0B
E4	130 mm B25.0B
E5	VAR. DEPTH B25.0C
E6	VAR. DEPTH B25.0B
J1	PROP. 250 mm ABC
R1	EXIST. 750 mm C & G
R2	EXIST. 825 mm C & G
R3	PROP. 750 mm C & G
R4	PROP. 825 mm C & G
R5	EXPRESSWAY GUTTER
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

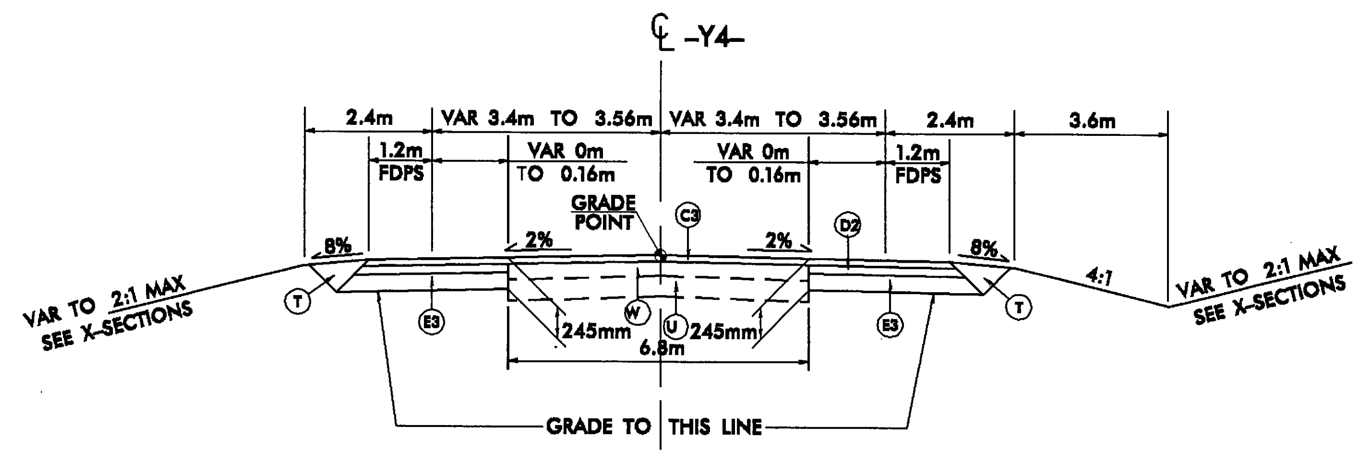
PROJECT REFERENCE NO.	SHEET NO.
R-2814A	2-D
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



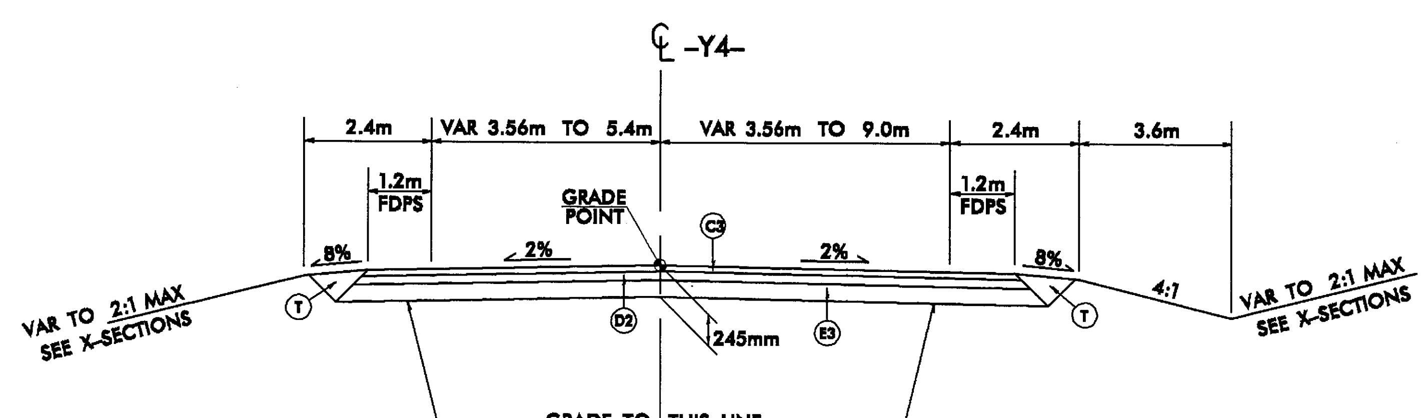
TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9
-Y3- STA. 10+00.000 TO -Y3- STA. 10+11.419



TYPICAL SECTION NO. 10

USE TYPICAL SECTION NO. 10
-Y4- STA. 10+51.192 TO -Y4- STA. 10+62.500



TYPICAL SECTION NO. 11

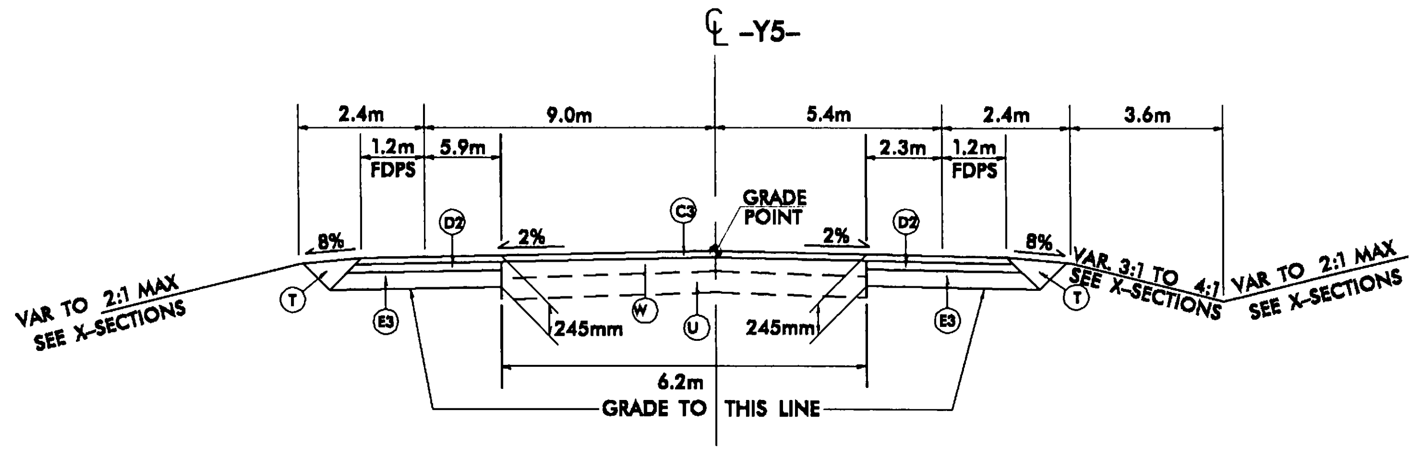
USE TYPICAL SECTION NO. 11
-Y4- STA. 10+62.500 TO -Y4- STA. 12+20.081

C1	40 mm S9.5C
C2	80 mm S9.5C
C3	80 mm S9.5B
C4	VAR. DEPTH S9.5C
C5	VAR. DEPTH S9.5B
D1	65 mm I19.0C
D2	65 mm I19.0B
D3	VAR. DEPTH I19.0C
D4	VAR. DEPTH I19.0B
E1	110 mm B25.0C
E2	220 mm B25.0C
E3	100 mm B25.0B
E4	130 mm B25.0B
E5	VAR. DEPTH B25.0C
E6	VAR. DEPTH B25.0B
J1	PROP. 250 mm ABC
R1	EXIST. 750 mm C & G
R2	EXIST. 825 mm C & G
R3	PROP. 750 mm C & G
R4	PROP. 825 mm C & G
R5	EXPRESSWAY GUTTER
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	2-E
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

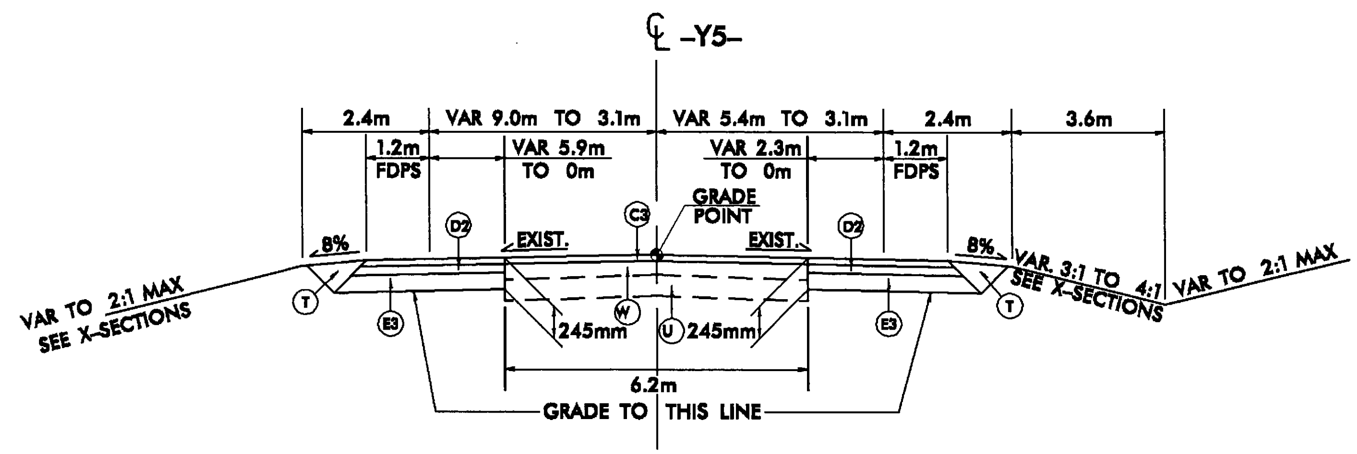
METRIC

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



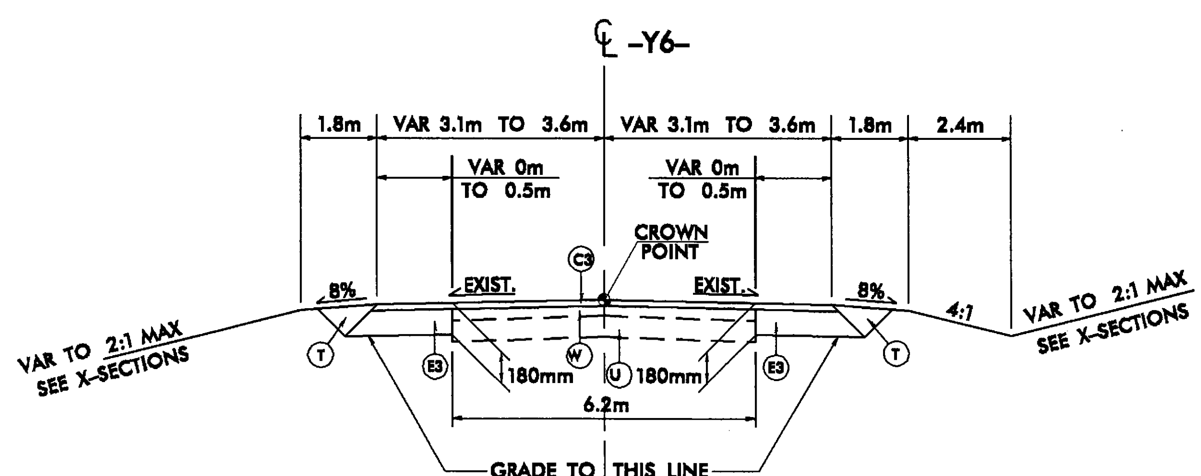
TYPICAL SECTION NO. 12

USE TYPICAL SECTION NO. 12
-Y5- STA. 10+44.681 TO -Y5- STA. 11+07.578



TYPICAL SECTION NO. 13

USE TYPICAL SECTION NO. 13
-Y5- STA. 11+07.578 TO -Y5- STA. 11+37.578



TYPICAL SECTION NO. 14

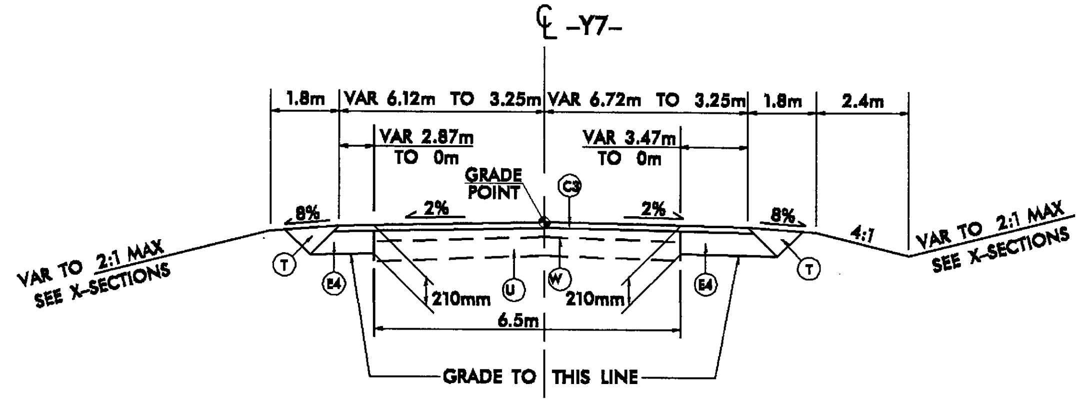
USE TYPICAL SECTION NO. 14
-Y6- STA. 10+60.155 TO -Y6- STA. 10+90.155

C1	40 mm S9.5C
C2	80 mm S9.5C
C3	80 mm S9.5B
C4	VAR. DEPTH S9.5C
C5	VAR. DEPTH S9.5B
D1	65 mm I19.0C
D2	65 mm I19.0B
D3	VAR. DEPTH I19.0C
D4	VAR. DEPTH I19.0B
E1	110 mm B25.0C
E2	220 mm B25.0C
E3	100 mm B25.0B
E4	130 mm B25.0B
E5	VAR. DEPTH B25.0C
E6	VAR. DEPTH B25.0B
J1	PROP. 250 mm ABC
R1	EXIST. 750 mm C & G
R2	EXIST. 825 mm C & G
R3	PROP. 750 mm C & G
R4	PROP. 825 mm C & G
R5	EXPRESSWAY GUTTER
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

METRIC

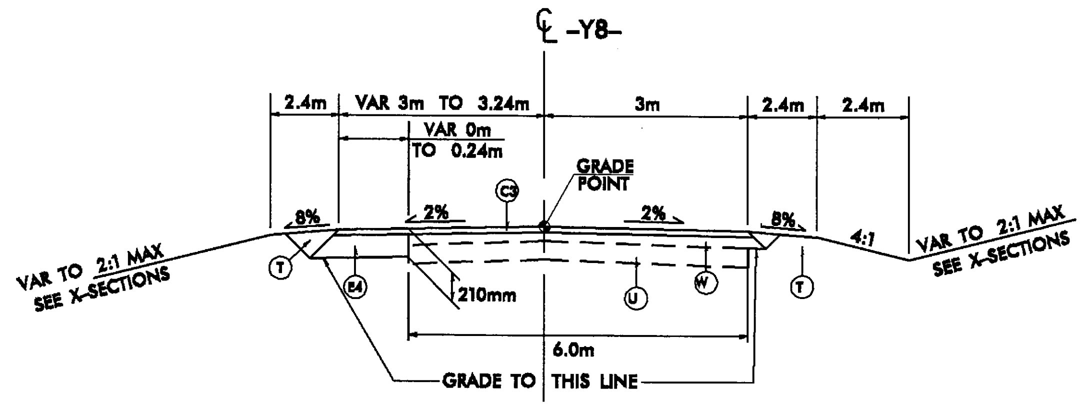
PROJECT REFERENCE NO.	SHEET NO.
R-2814A	2-F
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



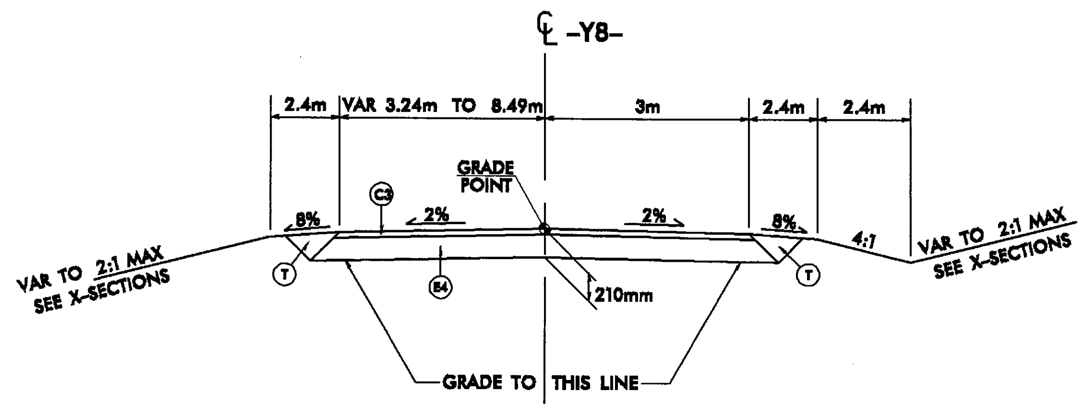
TYPICAL SECTION NO. 15

USE TYPICAL SECTION NO. 15
-Y7- STA. 10+44.681 TO -Y7- STA. 10+80.000



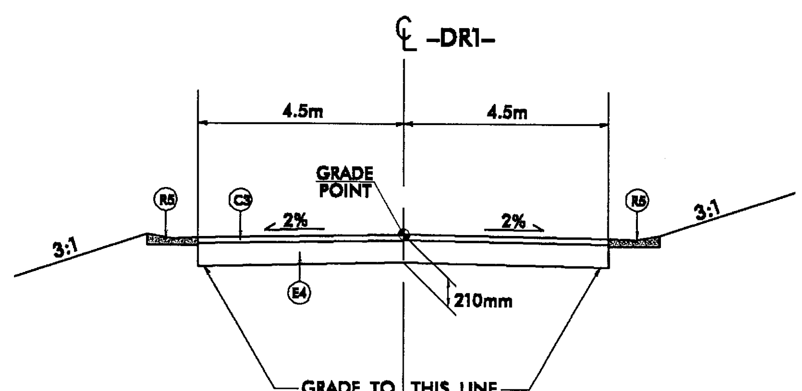
TYPICAL SECTION NO. 16

USE TYPICAL SECTION NO. 16
-Y8- STA. 11+42.410 TO -Y8- STA. 11+78.280



TYPICAL SECTION NO. 17

USE TYPICAL SECTION NO. 17
-Y8- STA. 11+78.280 TO -Y8- STA. 12+22.328



TYPICAL SECTION NO. 18

USE TYPICAL SECTION NO. 18
-DR1- STA. 10+14.20 TO -DR1- STA. 10+72.99

C1	40 mm S9.5C
C2	80 mm S9.5C
C3	80 mm S9.5B
C4	VAR. DEPTH S9.5C
C5	VAR. DEPTH S9.5B
D1	65 mm I19.0C
D2	65 mm I19.0B
D3	VAR. DEPTH I19.0C
D4	VAR. DEPTH I19.0B
E1	110 mm B25.0C
E2	220 mm B25.0C
E3	100 mm B25.0B
E4	130 mm B25.0B
E5	VAR. DEPTH B25.0C
E6	VAR. DEPTH B25.0B
J1	PROP. 250 mm ABC
R1	EXIST. 750 mm C & G
R2	EXIST. 825 mm C & G
R3	PROP. 750 mm C & G
R4	PROP. 825 mm C & G
R5	EXPRESSWAY GUTTER
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

REVISIONS

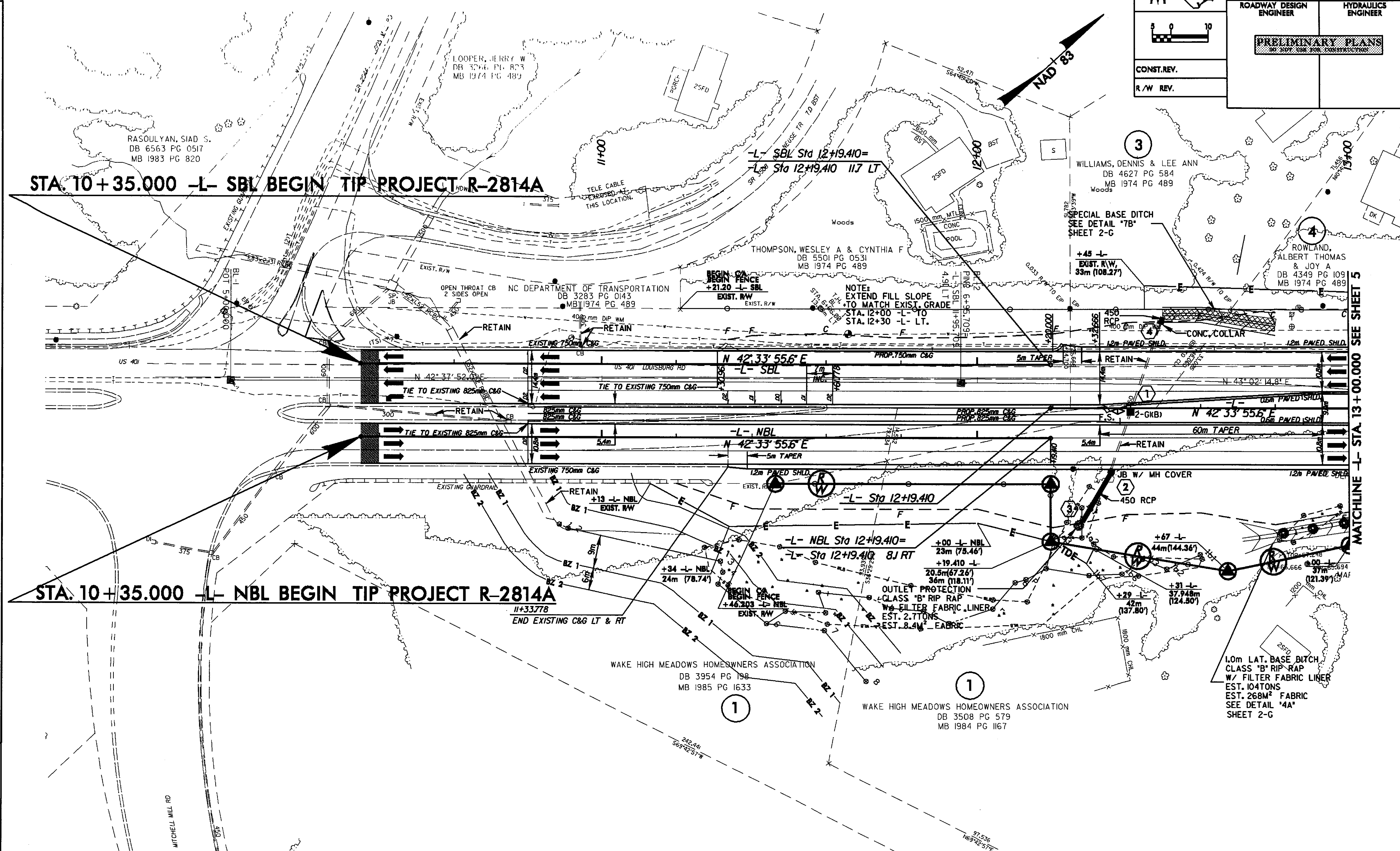
R/W REVISION - 05/09/08 - PER SUBMITTAL OF MARCH 19, 2008 - ELIMINATED THE RIGHT OF WAY AND ADDED A TEMPORARY CONSTRUCTION EASEMENT ON PARCELS 3 AND 4. PARCEL 2 CHANGED TO PARCEL 1.

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONST. REV.
R/W REV.



NOTE: SEE SHEETS 17 & 18 FOR -L- (NBL), -L- (SBL), & -L- PROFILES

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

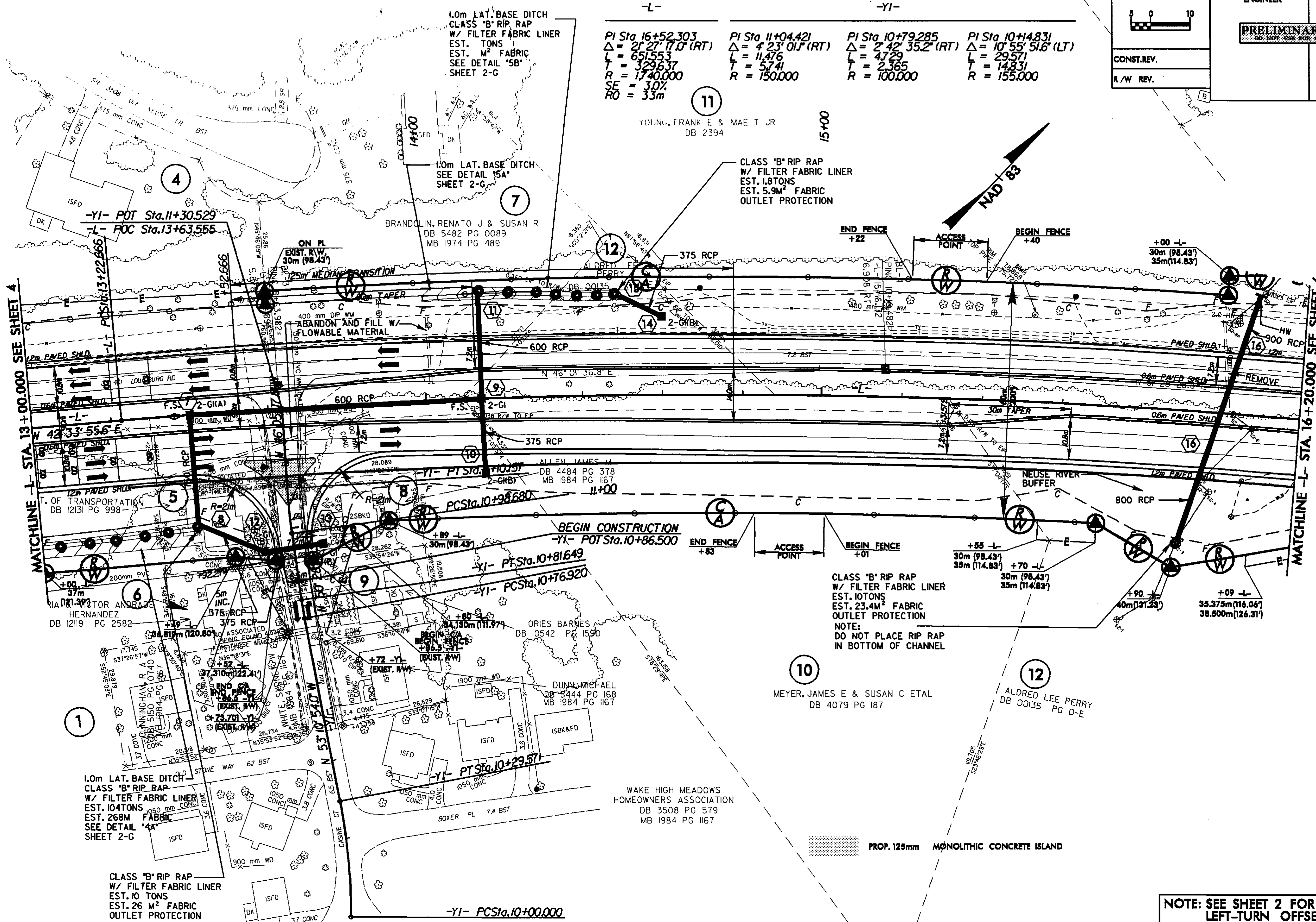
CONST. REV.

R/W REV.

REVISIONS

R/W REVISION - 05/09/08 - PER SUBMITTAL OF MARCH 19, 2008 - ELIMINATED THE RIGHT OF WAY AND ADDED A TEMPORARY CONSTRUCTION EASEMENT ON PARCEL 4. PARCEL 2 CHANGED TO PARCEL 1. REDUCED THE RIGHT OF WAY ON PARCEL 7 AND 12.

-L-	-Y1-		
PI Sta 16+52.303	PI Sta 11+04.421	PI Sta 10+79.285	PI Sta 10+14.831
Δ = 21° 27' 17.0" (RT)	Δ = 4° 23' 01.F (RT)	Δ = 2° 42' 35.2" (RT)	Δ = 10° 55' 51.6" (LT)
L = 651.553	L = 11.476	L = 4.729	L = 29.571
T = 329.637	T = 5.741	T = 2.365	T = 14.831
R = 1,740.000	R = 150.000	R = 100.000	R = 155.000
SE = 3.0%			
RO = 33m			



NOTE: SEE SHEET 2 FOR DETAIL OF LEFT-TURN OFFSET LANE

NOTE: SEE SHEET 18 FOR -L- PROFILE
SEE SHEET 24 FOR -Y1- PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONST. REV.

R/W REV.

METRIC

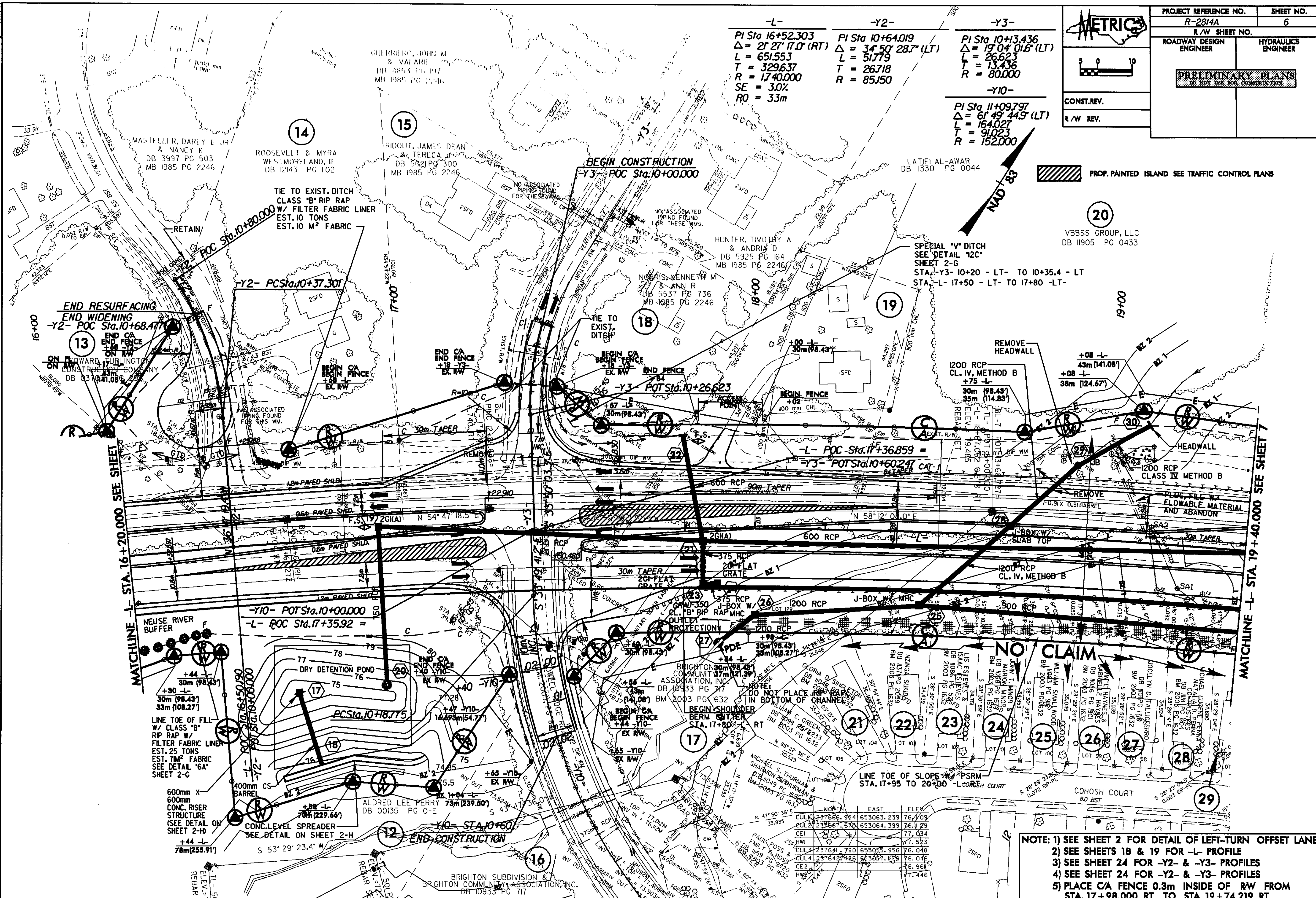
-L-
PI Sta 16+52.303
Δ = 21° 27' 17.0" (RT)
L = 651.553
T = 329.637
R = 1740.000
SE = 3.0%
RO = 33m

-Y2-
PI Sta 10+64.019
Δ = 34° 50' 28.7" (LT)
L = 51.779
T = 26.718
R = 85.150

-Y3-
PI Sta 10+13.436
Δ = 19° 04' 01.6" (LT)
L = 26.623
T = 13.436
R = 80.000

-Y10-
PI Sta 11+09.797
Δ = 61° 49' 44.9" (LT)
L = 164.027
T = 91.023
R = 152.000

PROP. PAINTED ISLAND SEE TRAFFIC CONTROL PLANS



	NORTH	EAST	ELEV
CUL1	237666.954	653063.239	76.109
CUL2	237667.670	653064.399	76.129
CE1			77.034
HW1			77.523
CUL3	237641.790	653055.956	76.048
CUL4	237642.486	653057.109	76.046
CE2			76.961
HW2			77.446

NOTE:
1) SEE SHEET 2 FOR DETAIL OF LEFT-TURN OFFSET LANE
2) SEE SHEETS 18 & 19 FOR -L- PROFILE
3) SEE SHEET 24 FOR -Y2- & -Y3- PROFILES
4) SEE SHEET 24 FOR -Y2- & -Y3- PROFILES
5) PLACE C/A FENCE 0.3m INSIDE OF R/W FROM STA. 17+98.000 RT TO STA. 19+74.219 RT

REVISIONS

R/W REVISION - 09/13/07 -
R/W REVISION - 05/09/08 - PER SUBMITTAL OF MARCH 19, 2008 - REVISED RIGHT OF WAY AND ELIMINATE
R/W REVISION - 06/10/08 - TEMPORARY CONSTRUCTION EASEMENT ON PARCEL 15

REVISIONS

R/W REVISION - 05/09/08 - PER SUBMITTAL OF APRIL 9, 2008 - PARCEL 32 CHANGED TO PARCEL 20, DRIVEWAY AND TEMPORARY CONSTRUCTION EASEMENT MODIFIED ON PARCEL 36.

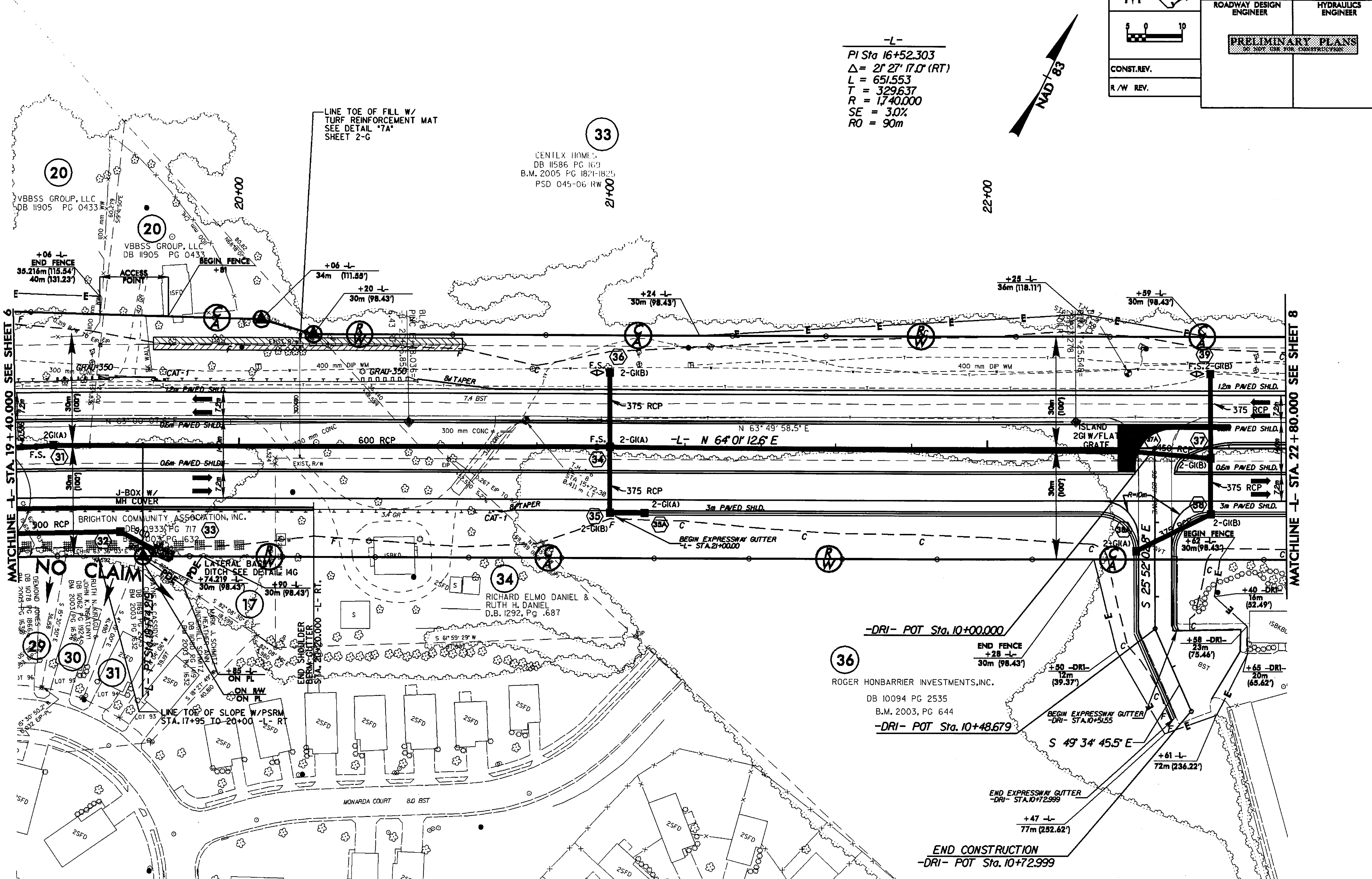
R/W REVISION-09/13/07-

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

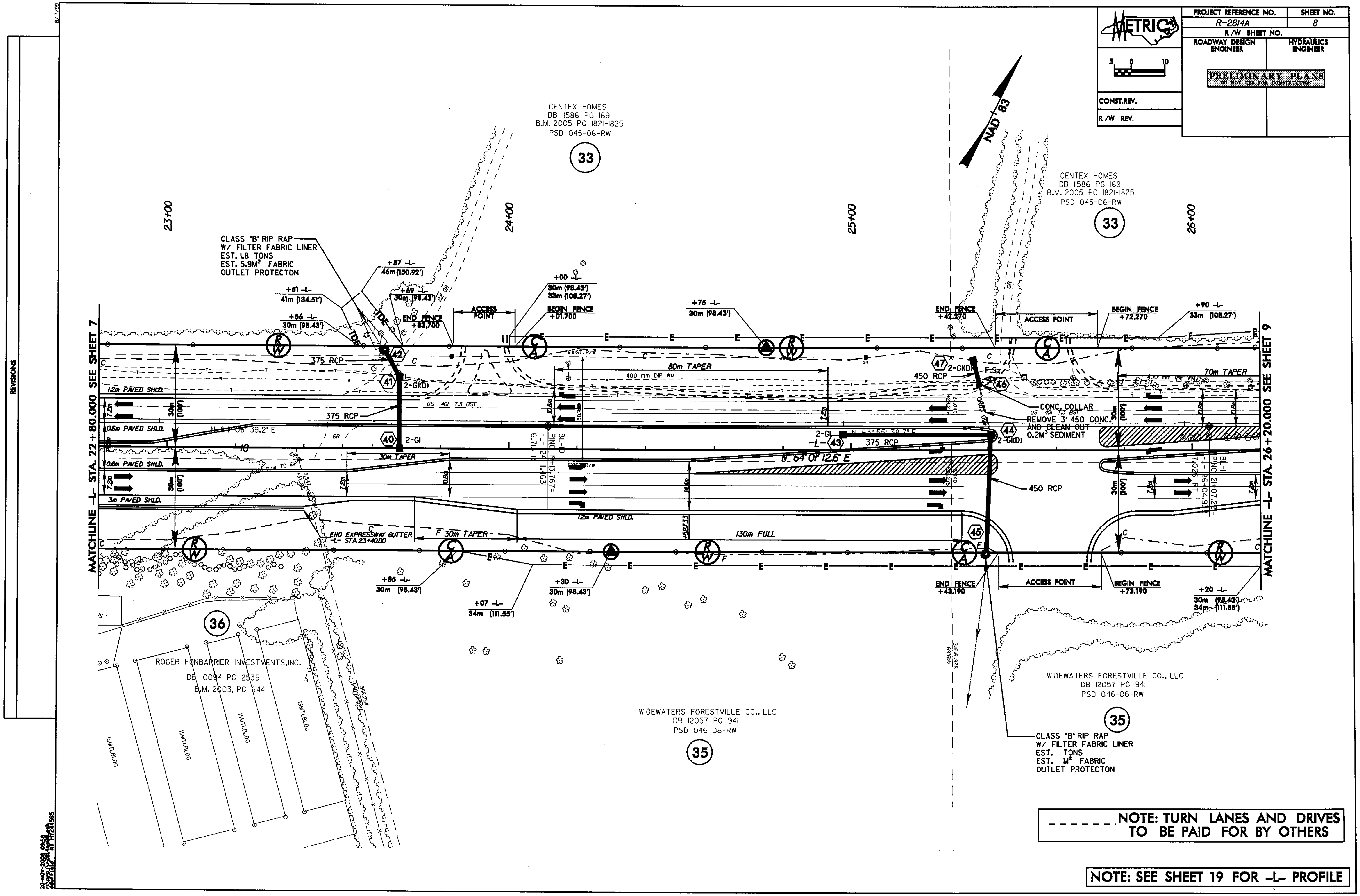
METRIC

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONST. REV.
R/W REV.



NOTE: 1) SEE SHEET 19 FOR -L- PROFILE
2) PLACE C/A FENCE 0.3m INSIDE OF R/W FROM STA. 17+98.000 RT TO STA. 19+74.219 RT


PROJECT REFERENCE NO.
R-2814A
SHEET NO.
8
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
CONST. REV.
R/W REV.
METRIC
NAD 83
REVISIONS
CENTEX HOMES
DB 11586 PG 169
B.M. 2005 PG 1821-1825
PSD 045-06-RW
33
23+00
24+00
25+00
26+00
CLASS "B" RIP RAP
W/ FILTER FABRIC LINER
EST. 1.8 TONS
EST. 5.9M² FABRIC
OUTLET PROTECTON
+57 -L-
46m (150.92')
+51 -L-
41m (134.51')
+69 -L-
30m (98.43')
+56 -L-
30m (98.43')
END FENCE
+83.700
ACCESS POINT
+00 -L-
30m (98.43')
33m (108.27')
BEGIN FENCE
+01.700
+75 -L-
30m (98.43')
END FENCE
+42.270
ACCESS POINT
BEGIN FENCE
+72.270
+90 -L-
33m (108.27')
MATCHLINE -L- STA. 22+80.000 SEE SHEET 7
MATCHLINE -L- STA. 26+20.000 SEE SHEET 9
375 RCP
42
41
2-GI(D)
1.2m PAVED SHLD.
80m TAPER
400 mm DIP WM
US 401 7.3 BST
375 RCP
40
2-GI
0.6m PAVED SHLD.
N 64°06' 39.2" E
30m TAPER
BL-D
PINC 19+13.767=
-L- 24+11.463
6.71 RT
0.6m PAVED SHLD.
3m PAVED SHLD.
N 64°01' 12.6" E
2-GI
-L-
43
375 RCP
47
2-GI(D)
450 RCP
46
44
2-GI(D)
CONC. COLLAR
REMOVE 3' 450 CONC.
AND CLEAN OUT
0.2M³ SEDIMENT
70m TAPER
450 RCP
BL-1
PINC 21+07.128=
-L- 26+04.919
7.026 RT
1.2m PAVED SHLD.
END EXPRESSWAY GUTTER
-L- STA. 23+40.00
30m TAPER
130m FULL
45
+85 -L-
30m (98.43')
+07 -L-
34m (111.55')
+30 -L-
30m (98.43')
END FENCE
+43.190
ACCESS POINT
BEGIN FENCE
+73.190
+20 -L-
30m (98.43')
34m (111.55')
36
ROGER HONBARRIER INVESTMENTS, INC.
DB 10094 PG 2535
B.M. 2003, PG 644
1SMTLBLDG
WIDEWATERS FORESTVILLE CO., LLC
DB 12057 PG 941
PSD 046-06-RW
35
WIDEWATERS FORESTVILLE CO., LLC
DB 12057 PG 941
PSD 046-06-RW
35
CLASS "B" RIP RAP
W/ FILTER FABRIC LINER
EST. TONS
EST. M² FABRIC
OUTLET PROTECTON
NOTE: TURN LANES AND DRIVES TO BE PAID FOR BY OTHERS
NOTE: SEE SHEET 19 FOR -L- PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

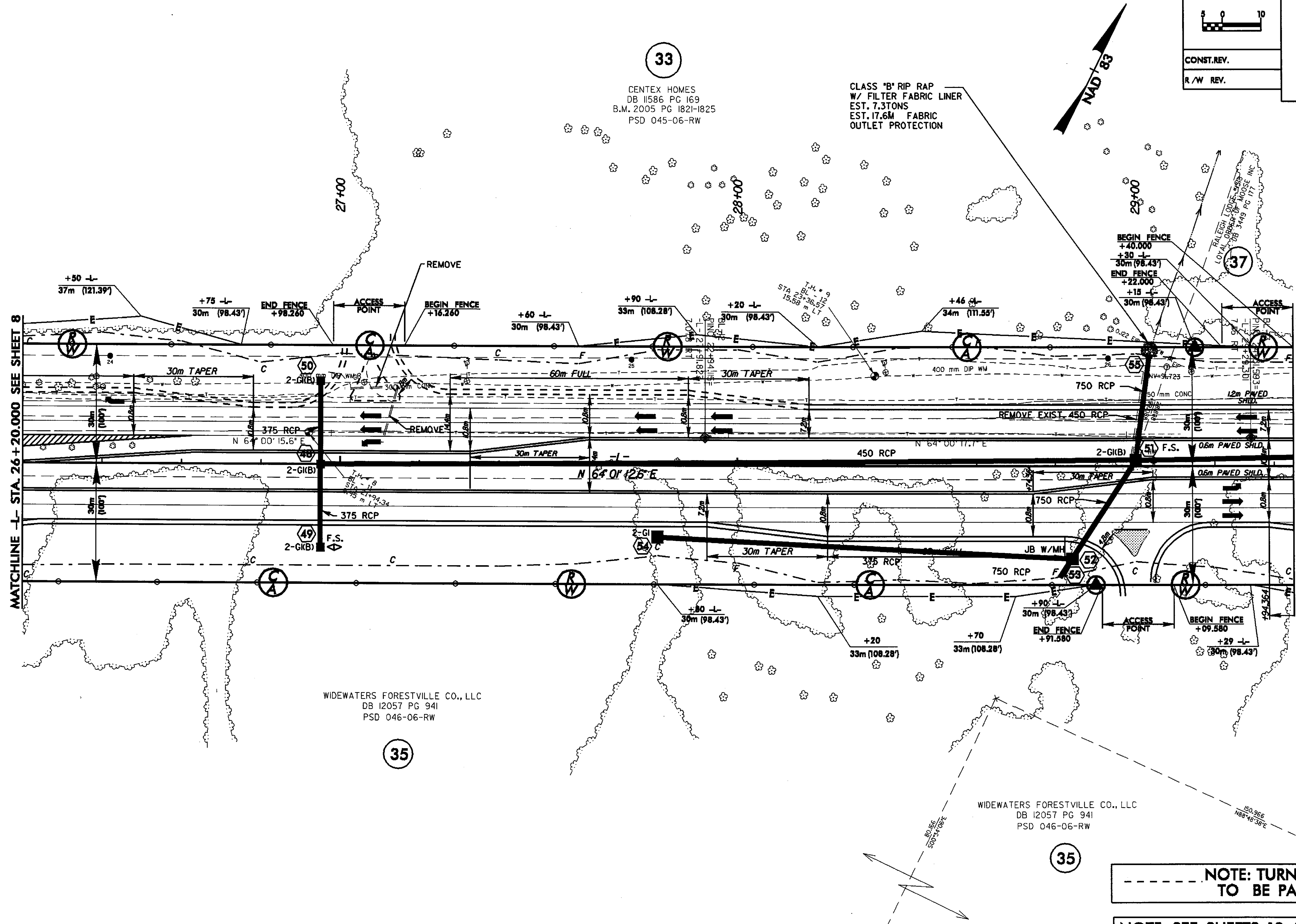
CONST.REV.

R/W REV.

REVISIONS

R/W REVISION - 05/09/08 - PER SUBMITTAL OF JANUARY 28, 2008 - ACCESS POINT ADDED AND MONUMENT MOVED ON PARCEL 37.

R/W REVISION - 05/12/06 -



NOTE: TURN LANES AND DRIVES TO BE PAID FOR BY OTHERS

NOTE: SEE SHEETS 19 & 20 FOR -L- PROFILE

NOTE: SEE SHEET 2 FOR DETAIL OF LEFT-TURN OFFSET LANE

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

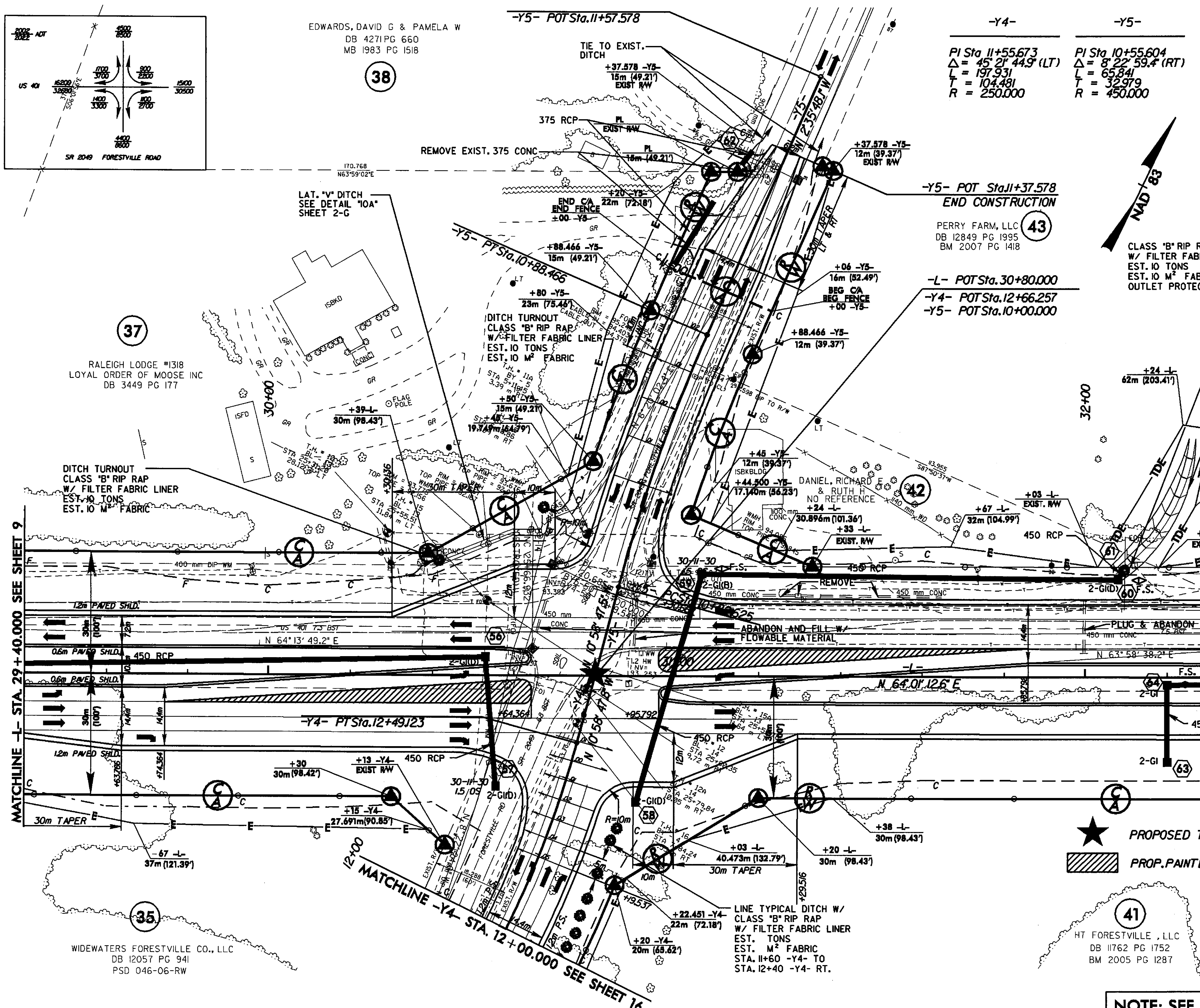
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONST. REV.

R/W REV.

-Y4-
PI Sta 11+55.673
Δ = 45° 21' 44.9" (LT)
L = 197.931
T = 104.481
R = 250.000

-Y5-
PI Sta 10+55.604
Δ = 8° 22' 59.4" (RT)
L = 65.841
T = 32.979
R = 450.000



★ PROPOSED TRAFFIC SIGNAL

PROP. PAINTED ISLAND SEE TRAFFIC CONTROL PLANS

NOTE: SEE SHEET 2 FOR DETAIL OF LEFT-TURN OFFSET LANE

NOTE: SEE SHEET 20 FOR -L- PROFILE
SEE SHEET 25 FOR -Y4- & -Y5- PROFILES

REVISIONS

R/W REVISION - 12/02/08 - ADDED TEMPORARY CONSTRUCTION EASEMENTS LEFT OF -L- ON PARCEL 43 DUE TO CONSTRUCTION REQUIREMENTS
R/W REVISION - FEBRUARY 14, 2008 -
R/W REVISION - 05/12/06 -

REVISIONS

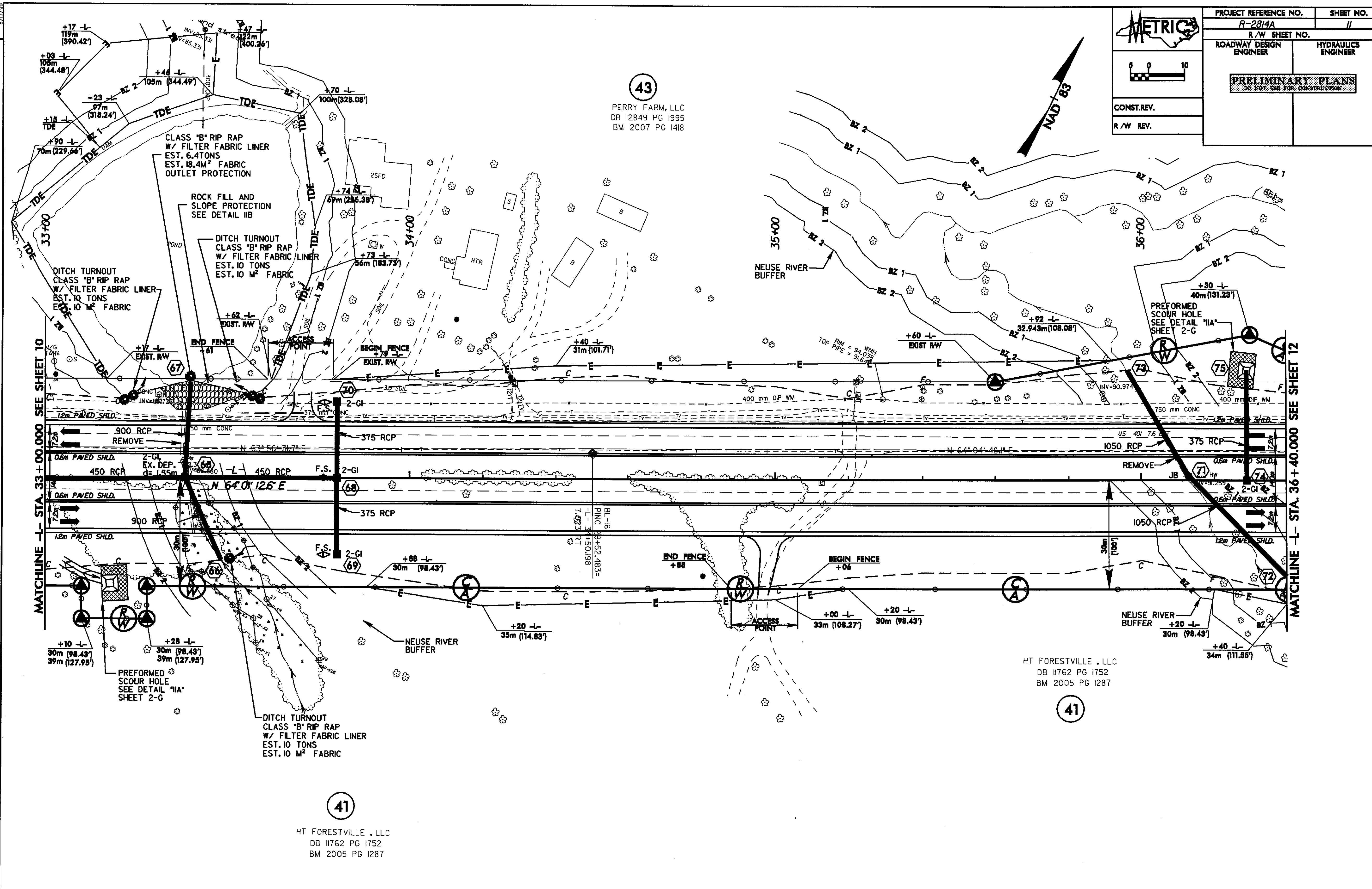
R/W REVISION - 12/02/08 - ADDED TEMPORARY CONSTRUCTION EASEMENTS LEFT OF -L- ON PARCEL 43 DUE TO CONSTRUCTION REQUIREMENTS

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONST. REV.

R/W REV.



NOTE: SEE SHEETS 20 & 21 FOR -L- PROFILE

NOTE: SEE SHEET 2 FOR DETAIL OF LEFT-TURN OFFSET LANE

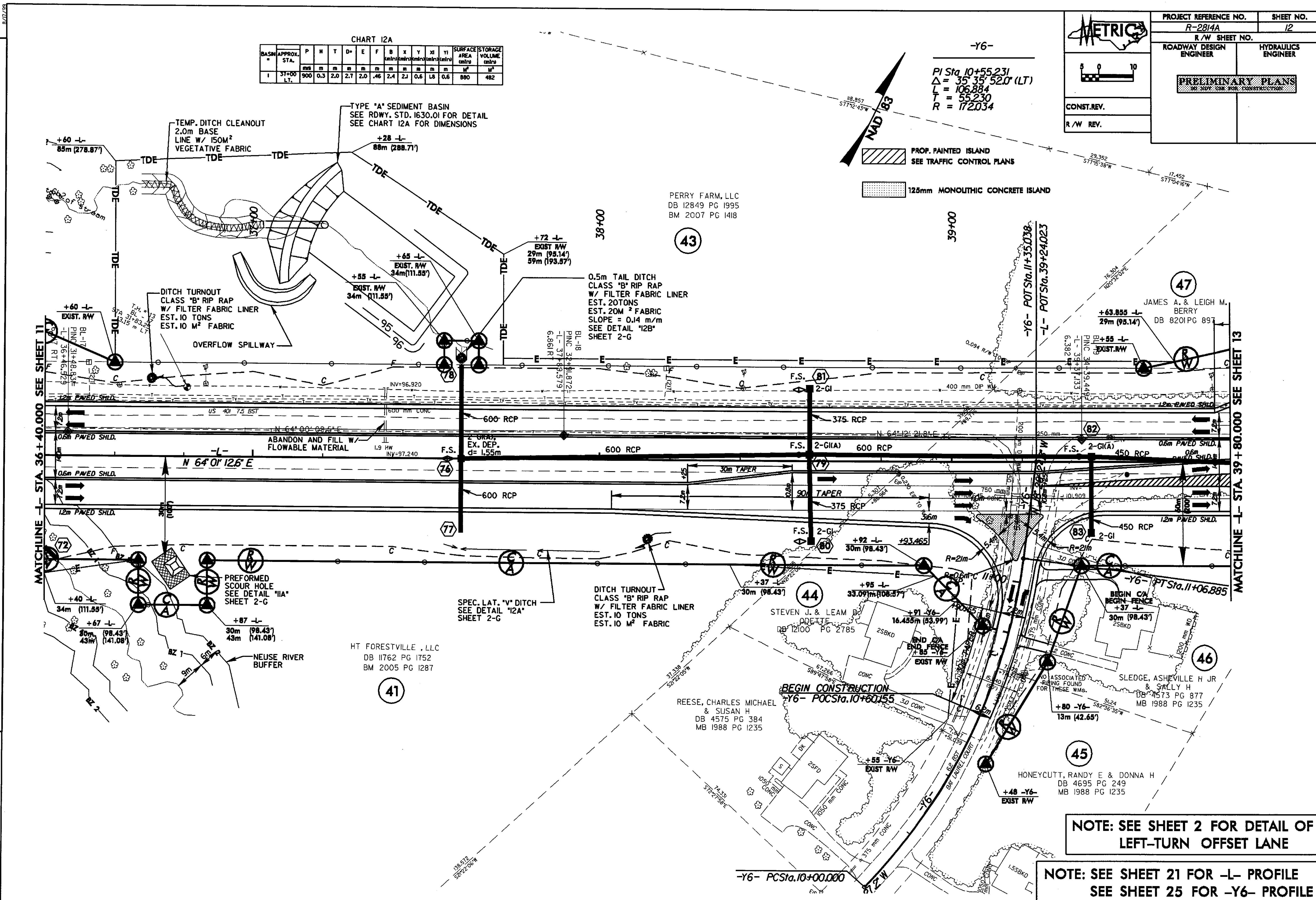
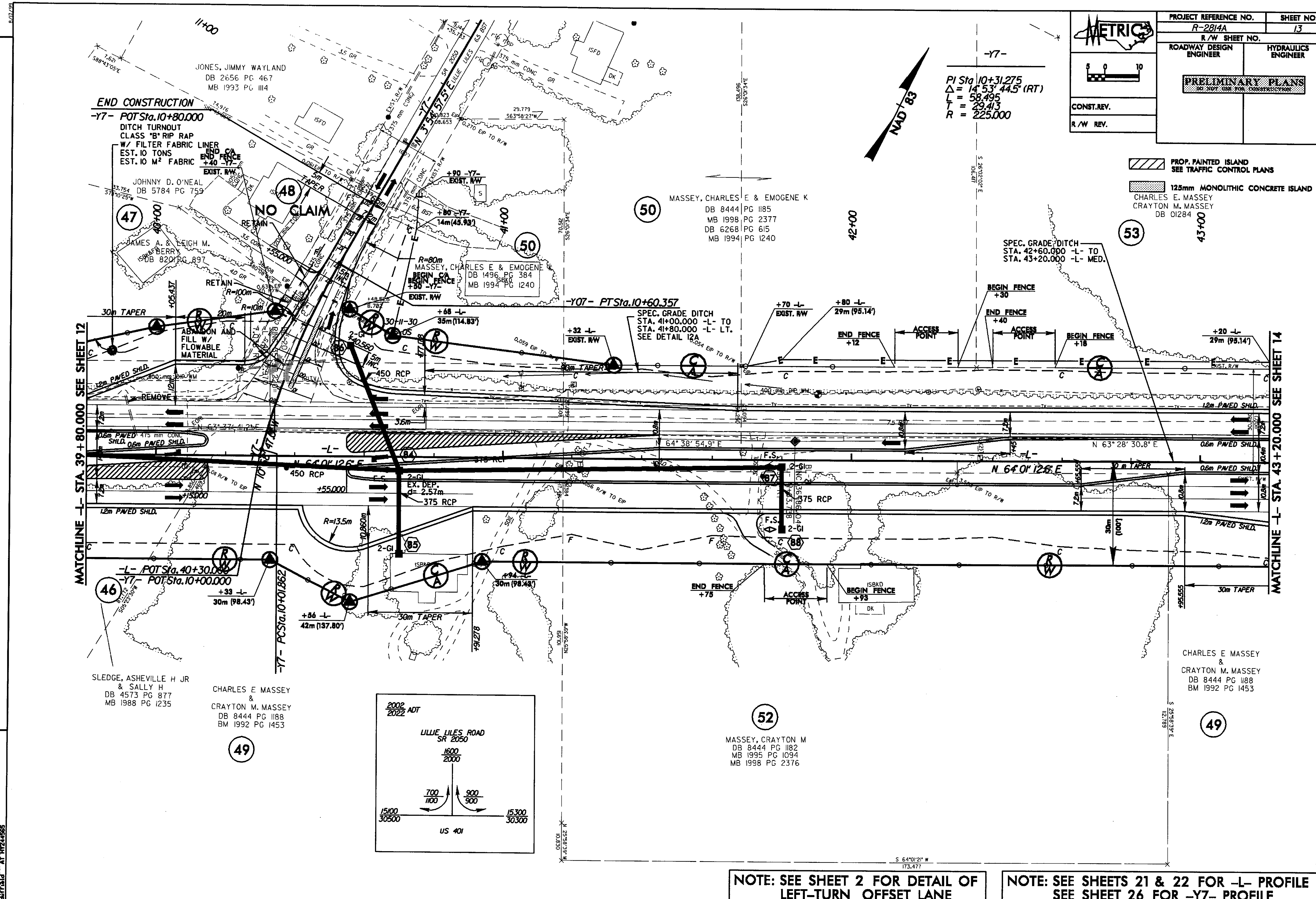


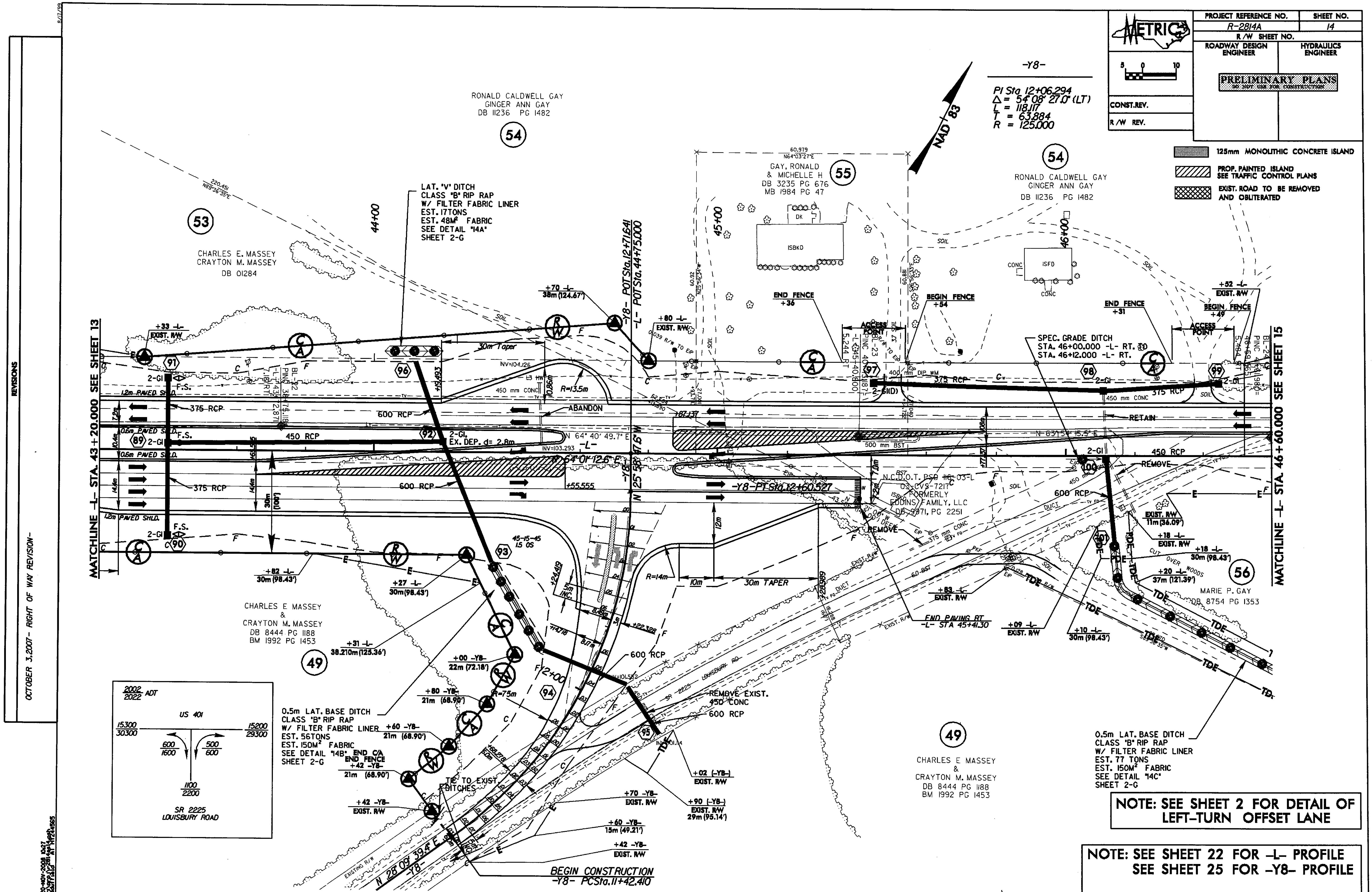
CHART 12A

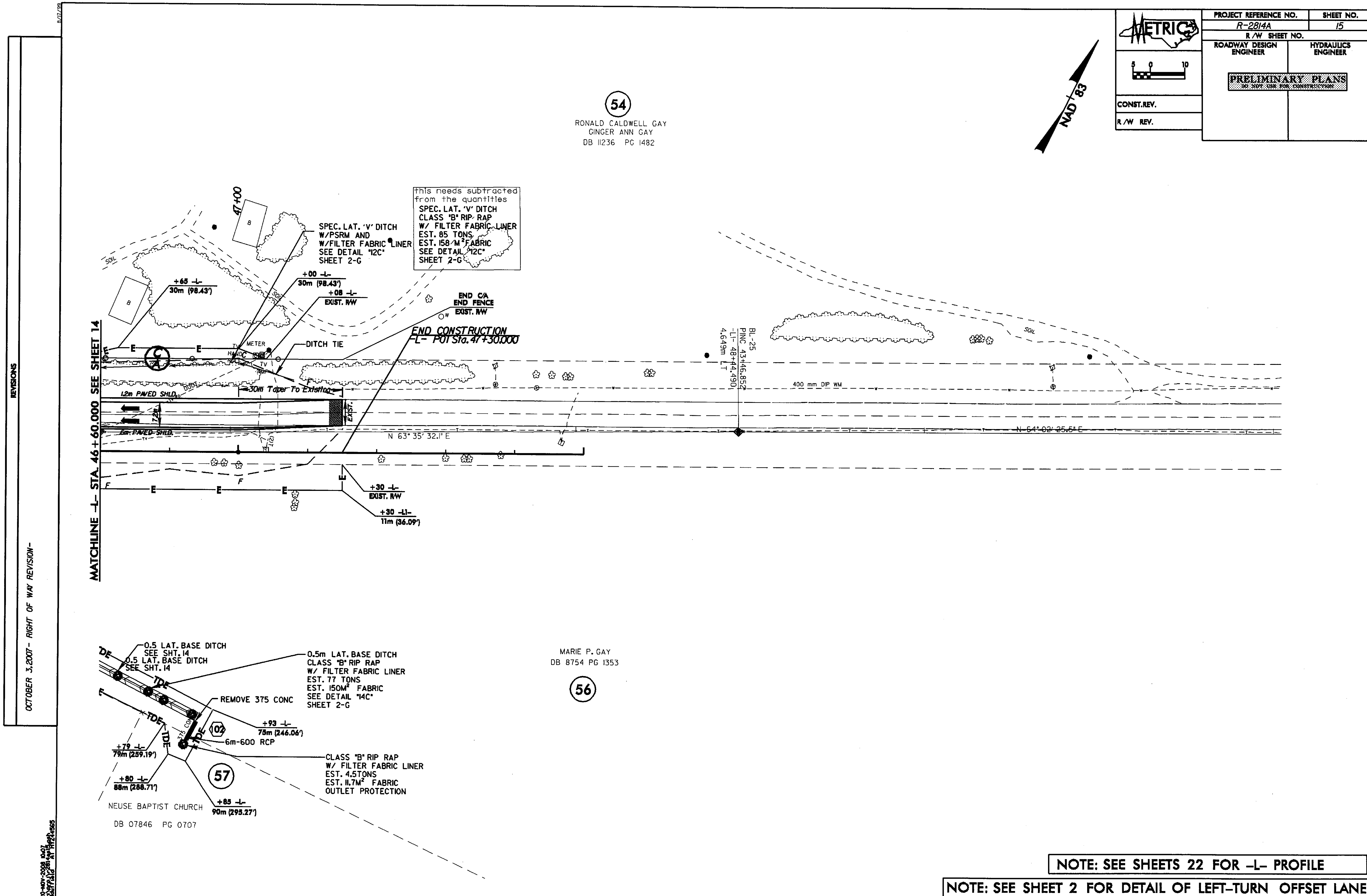
BASIN #	APPROX. STA.	P	H	T	D*	E	F	B (min)	X (min)	Y (min)	XI (min)	YI (min)	SURFACE AREA (min)	STORAGE VOLUME (min)
		mm	m	m	m	m	m	m	m	m	m	m	M²	M³
1	37+00 LT.	900	0.3	2.0	2.7	2.0	.46	2.4	2.1	0.6	1.8	0.6	880	482



REVISIONS

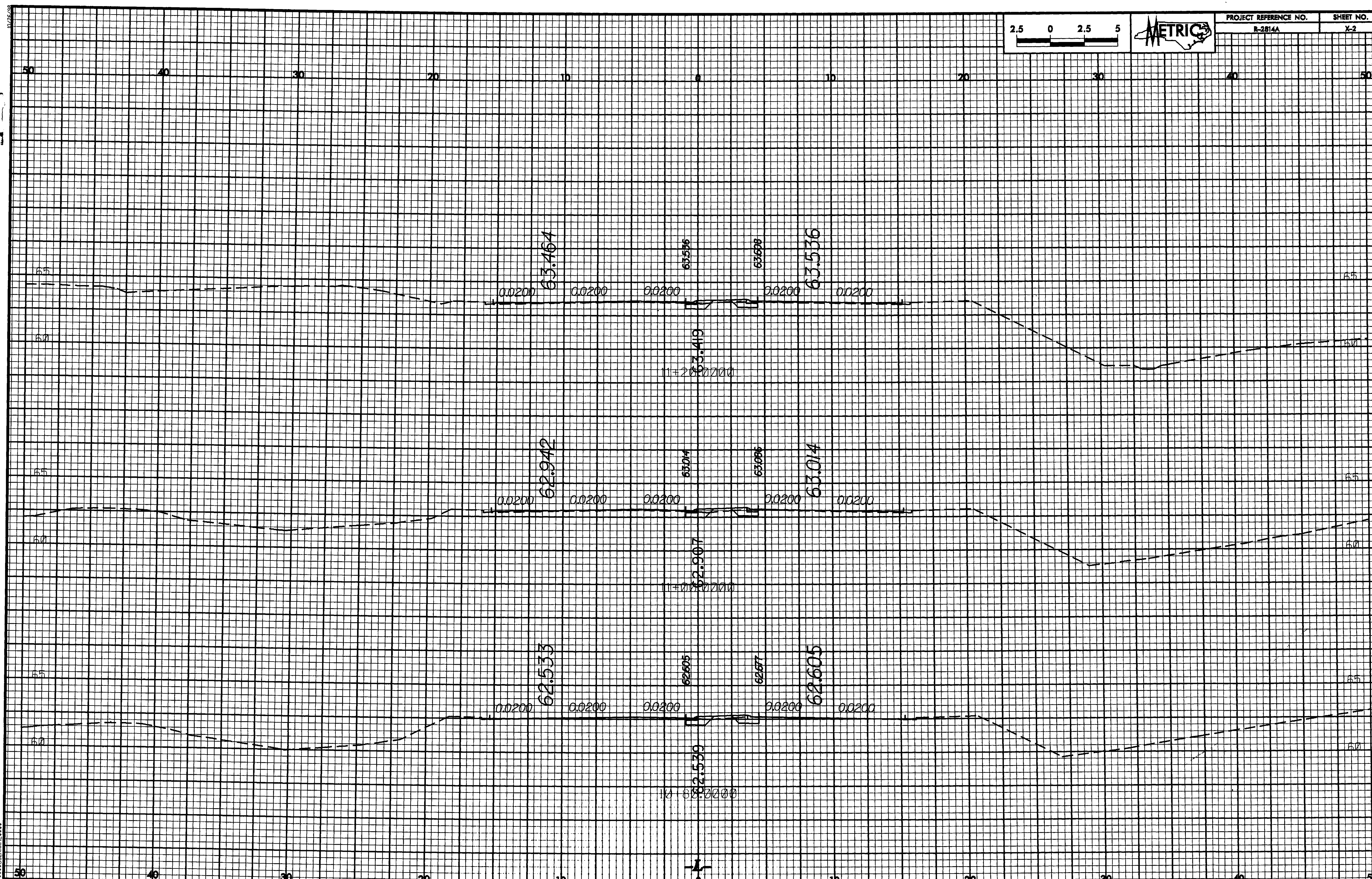
RIGHT OF WAY REVISION - MAY 30, 2007 MRH
RIGHT OF WAY REVISION - FEBRUARY 14, 2008 BCF
RIGHT OF WAY REVISIONS - FEBRUARY 26, 2008 - BCF


METRIC
PROJECT REFERENCE NO. R-2814A
SHEET NO. 14
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
CONST.REV.
R/W REV.
REVISIONS
OCTOBER 3, 2007- RIGHT OF WAY REVISION-
125mm MONOLITHIC CONCRETE ISLAND
PROP. PAINTED ISLAND SEE TRAFFIC CONTROL PLANS
EXIST. ROAD TO BE REMOVED AND OBLITERATED
-Y8-
PI Sta 12+06.294
Δ = 54°08' 27.0" (LT)
L = 118.117
T = 63.884
R = 125.000
NAD 83
RONALD CALDWELL GAY
GINGER ANN GAY
DB 11236 PG 1482
GAY, RONALD & MICHELLE H
DB 3235 PG 676
MB 1984 PG 47
CHARLES E. MASSEY
CRAYTON M. MASSEY
DB 01284
CHARLES E MASSEY & CRAYTON M. MASSEY
DB 8444 PG 1188
BM 1992 PG 1453
MARIE P. GAY
DB 8754 PG 1353
N.C.D.O.T. PSD 116-03-L
OS-CVS-7217
FORMERLY EDINS FAMILY, LLC
DB 9871, PG 2251
LAT. "V" DITCH
CLASS "B" RIP RAP
W/ FILTER FABRIC LINER
EST. 17TONS
EST. 48M² FABRIC
SEE DETAIL "14A"
SHEET 2-G
0.5m LAT. BASE DITCH
CLASS "B" RIP RAP
W/ FILTER FABRIC LINER
EST. 56TONS
EST. 150M² FABRIC
SEE DETAIL "14B"
SHEET 2-G
0.5m LAT. BASE DITCH
CLASS "B" RIP RAP
W/ FILTER FABRIC LINER
EST. 77 TONS
EST. 150M² FABRIC
SEE DETAIL "14C"
SHEET 2-G
SPEC. GRADE DITCH
STA. 46+00.000 -L- RT. TO
STA. 46+12.000 -L- RT.
-Y8- POT Sta. 12+71.641
-L- POT Sta. 44+75.000
-Y8- PI Sta. 12+60.527
MATCHLINE -L- STA. 43+20.000 SEE SHEET 13
MATCHLINE -L- STA. 46+60.000 SEE SHEET 15
END PAVING RT -L- STA 45+41.30
BEGIN CONSTRUCTION -Y8- PC Sta. 11+42.410
TIE TO EXIST. DITCHES
REMOVE EXIST. 450 CONC
600 RCP
375 RCP
450 RCP
ABANDON
RETAIN
REMOVE
30m Taper
30m TAPER
END FENCE
BEGIN FENCE
ACCESS POINT
2002 ADT
2022
US 401
15300 / 30300
15200 / 29300
600 / 1600
500 / 600
1100 / 2200
SR 2225 LOUISBURY ROAD
NOTE: SEE SHEET 2 FOR DETAIL OF LEFT-TURN OFFSET LANE
NOTE: SEE SHEET 22 FOR -L- PROFILE
SEE SHEET 25 FOR -Y8- PROFILE

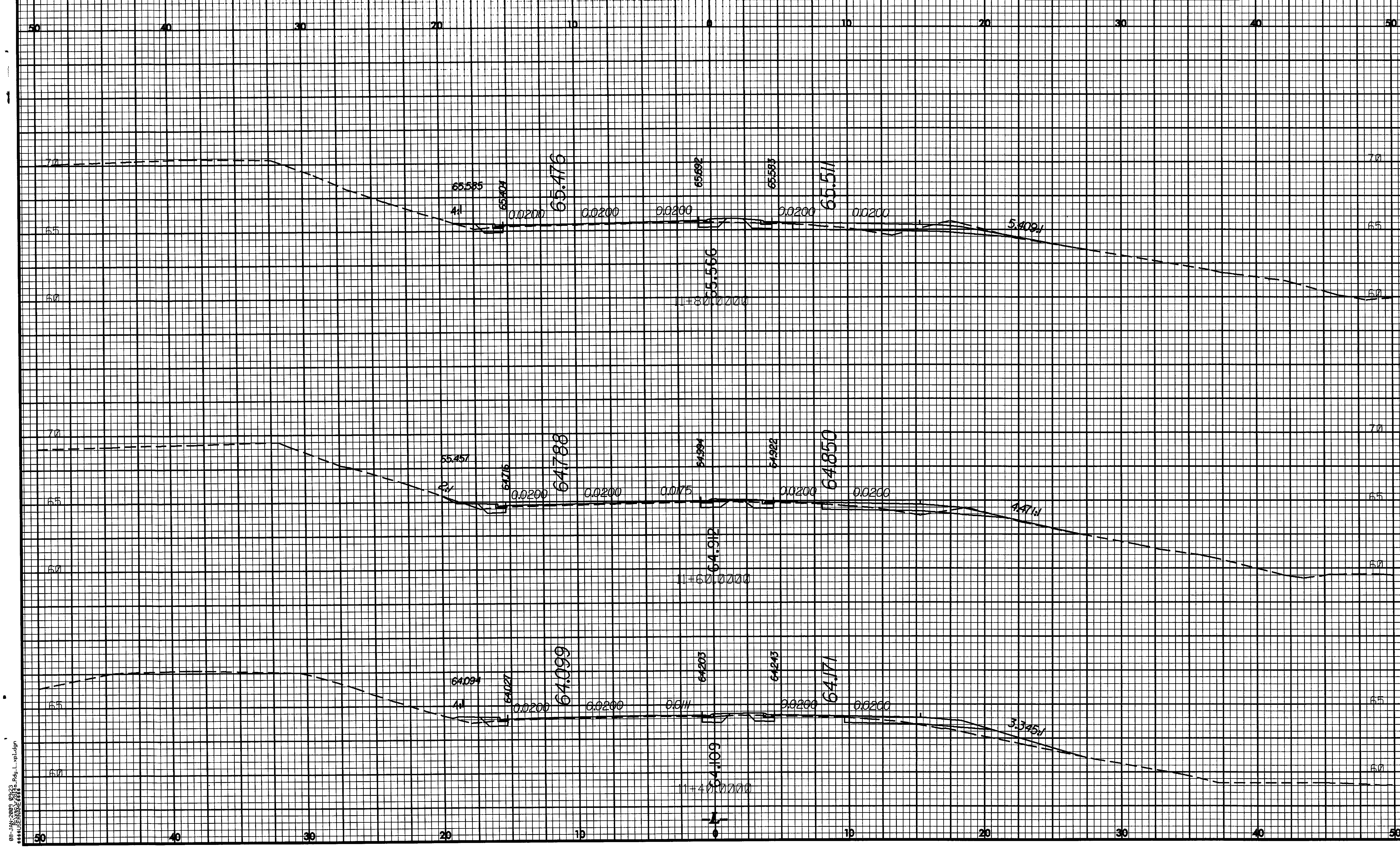

PROJECT REFERENCE NO.
R-2814A
SHEET NO.
15
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
METRIC
CONST.REV.
R/W REV.
NAD 83
REVISIONS
OCTOBER 3,2007- RIGHT OF WAY REVISION-
54
RONALD CALDWELL GAY
GINGER ANN GAY
DB 11236 PG 1482
this needs subtracted
from the quantities
SPEC. LAT. 'V' DITCH
CLASS 'B' RIP RAP
W/ FILTER FABRIC LINER
EST. 85 TONS
EST. 158/M² FABRIC
SEE DETAIL "12C"
SHEET 2-G
SPEC. LAT. 'V' DITCH
W/PSRM AND
W/FILTER FABRIC LINER
SEE DETAIL "12C"
SHEET 2-G
47+00
+65 -L-
30m (98.43')
+00 -L-
30m (98.43')
+08 -L-
EXIST. R/W
END C/A
END FENCE
EXIST. R/W
END CONSTRUCTION
-L- POT Sta. 47+30.000
DITCH TIE
METER
30m Taper To Existing
1.2m PAVED SHLD.
6m PAVED SHLD.
N 63° 35' 32.1" E
N 64° 02' 25.5" E
BL-25
PINC 43+46.852
-L1- 48+44.490
4.649m LT
400 mm DIP WM
SOIL
+30 -L-
EXIST. R/W
+30 -L1-
11m (36.09')
MATCHLINE -L- STA. 46+60.000 SEE SHEET 14
0.5 LAT. BASE DITCH
SEE SHT. 14
0.5 LAT. BASE DITCH
SEE SHT. 14
0.5m LAT. BASE DITCH
CLASS 'B' RIP RAP
W/ FILTER FABRIC LINER
EST. 77 TONS
EST. 150M² FABRIC
SEE DETAIL "14C"
SHEET 2-G
REMOVE 375 CONC
102
+93 -L-
75m (246.06')
6m-600 RCP
CLASS 'B' RIP RAP
W/ FILTER FABRIC LINER
EST. 4.5TONS
EST. 11.7M² FABRIC
OUTLET PROTECTION
+79 -L-
79m (259.19')
+80 -L-
88m (288.71')
+85 -L-
90m (295.27')
57
NEUSE BAPTIST CHURCH
DB 07846 PG 0707
MARIE P. GAY
DB 8754 PG 1353
56
NOTE: SEE SHEETS 22 FOR -L- PROFILE
NOTE: SEE SHEET 2 FOR DETAIL OF LEFT-TURN OFFSET LANE

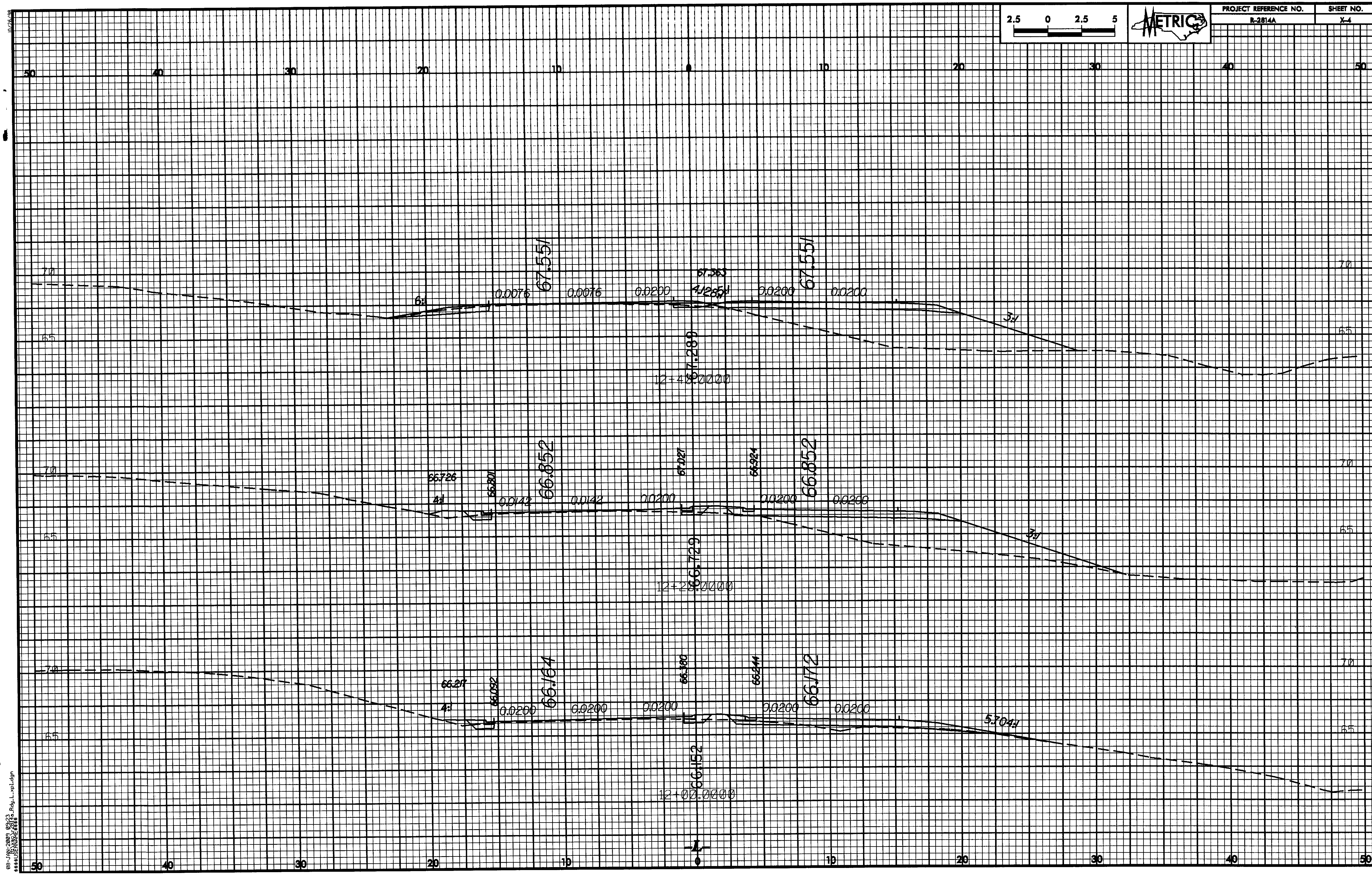
PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-2

METRIC

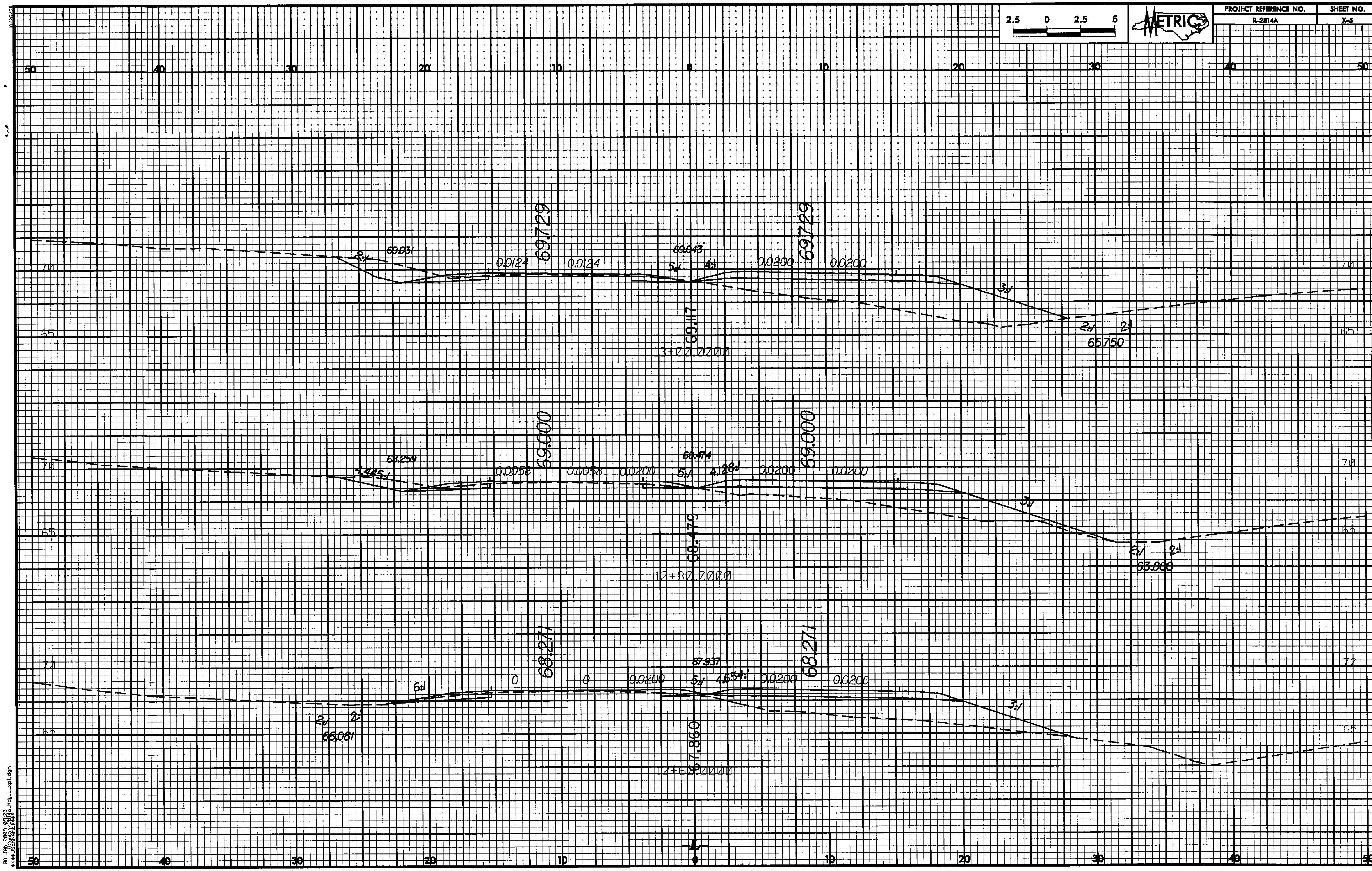


PROJECT REFERENCE NO. R-2814A
SHEET NO. X-3

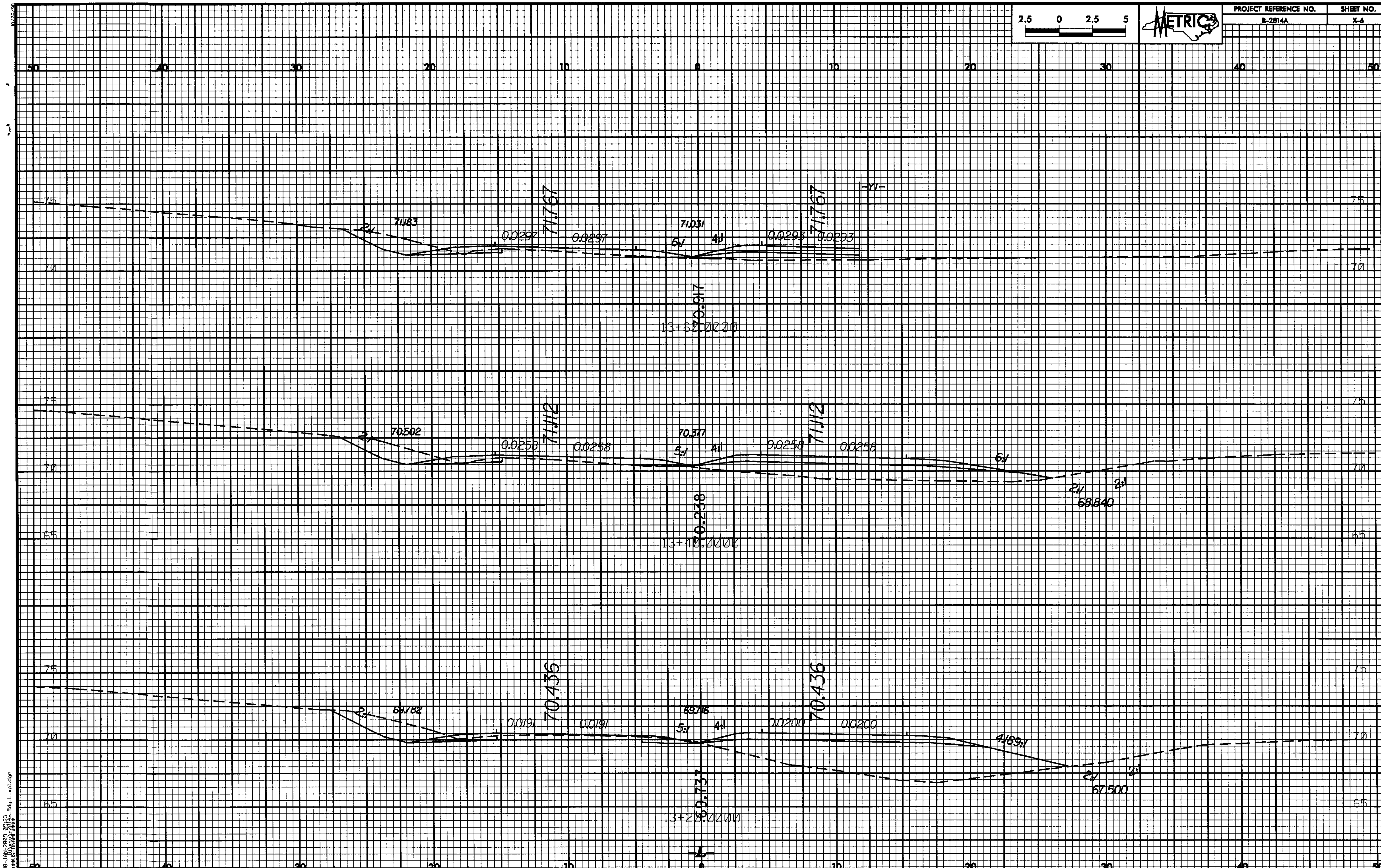



PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-4
METRIC
2.5 0 2.5 5
67.551
67.563
0.0076
0.0200
6:1
3:1
12+40.0000
67.289
66.852
66.726
66.801
67.027
66.924
0.0142
0.0200
4:1
3:1
12+20.0000
66.729
66.164
66.217
66.092
66.380
66.244
66.172
0.0200
4:1
5.704:1
12+00.0000
66.152
70
65
50
40
30
20
10
0

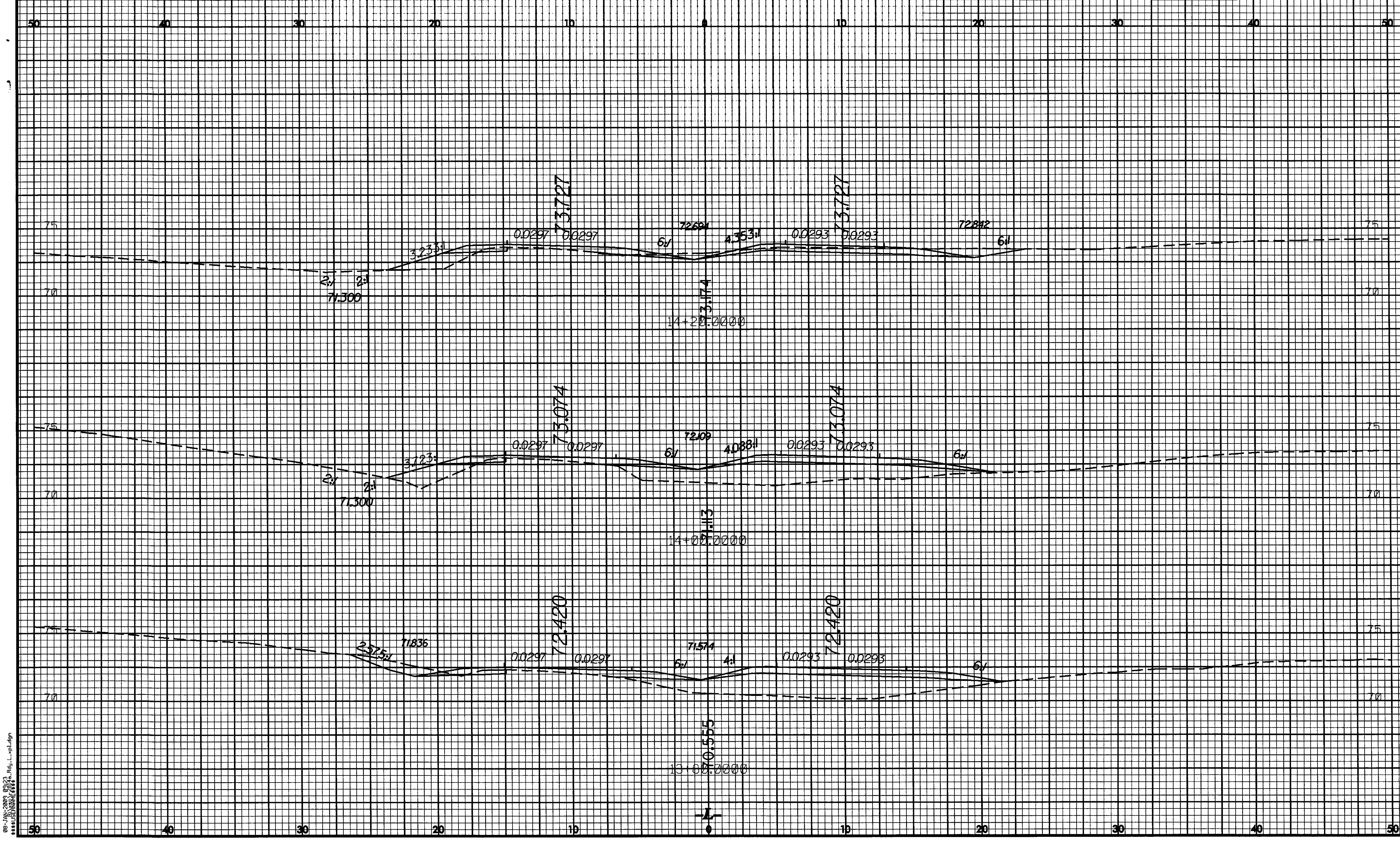
PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-5



PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-6



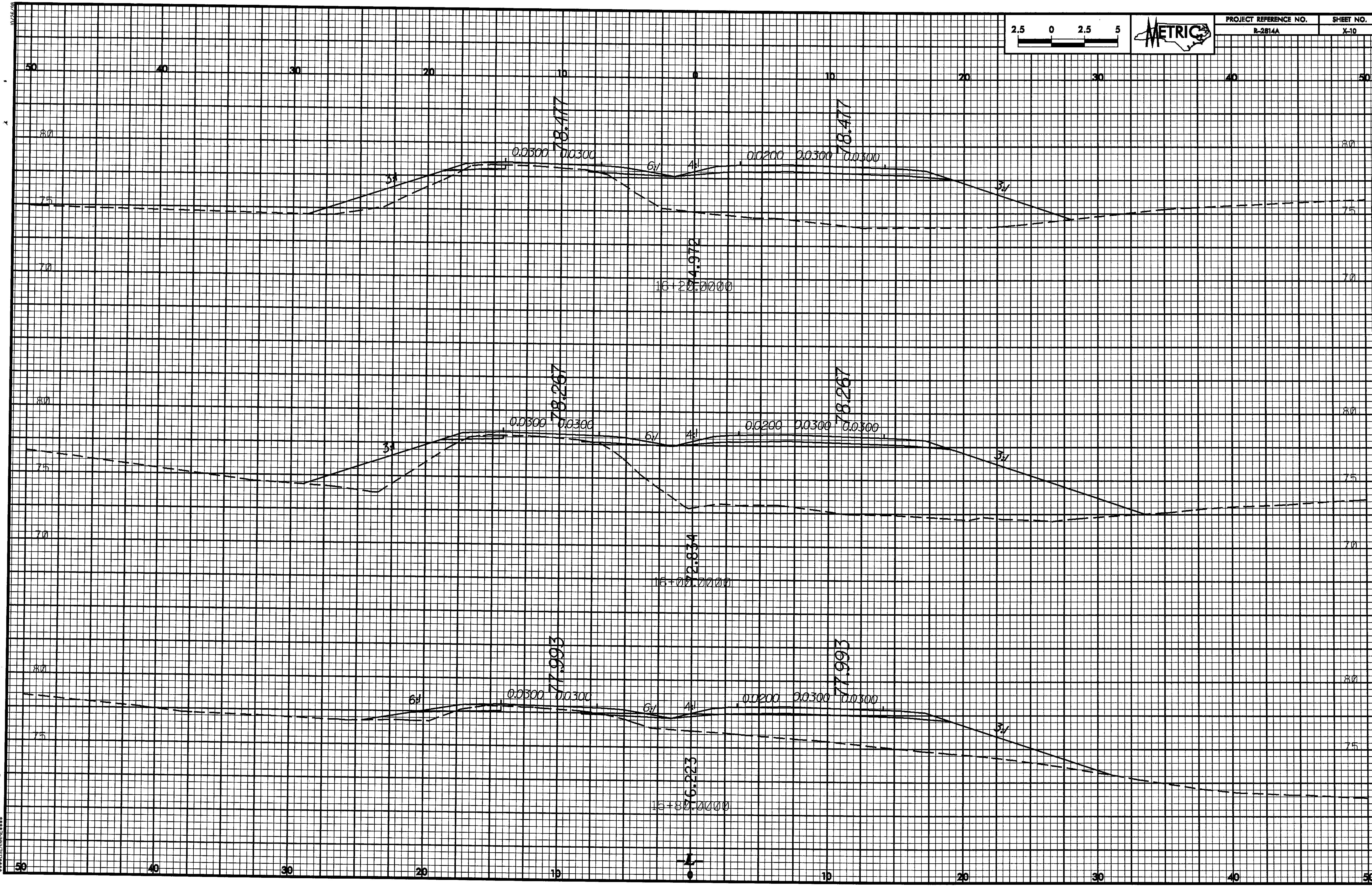
PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-7



PROJECT REFERENCE NO. R-2814A
SHEET NO. X-8

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-9

METRIC



PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-10
METRIC
2.5 0 2.5 5
78.477
0.0300
0.0300
6:1
4:1
0.0200
0.0300
0.0300
3:1
74.972
16+20.0000
78.267
72.834
16+40.0000
77.993
76.223
16+80.0000

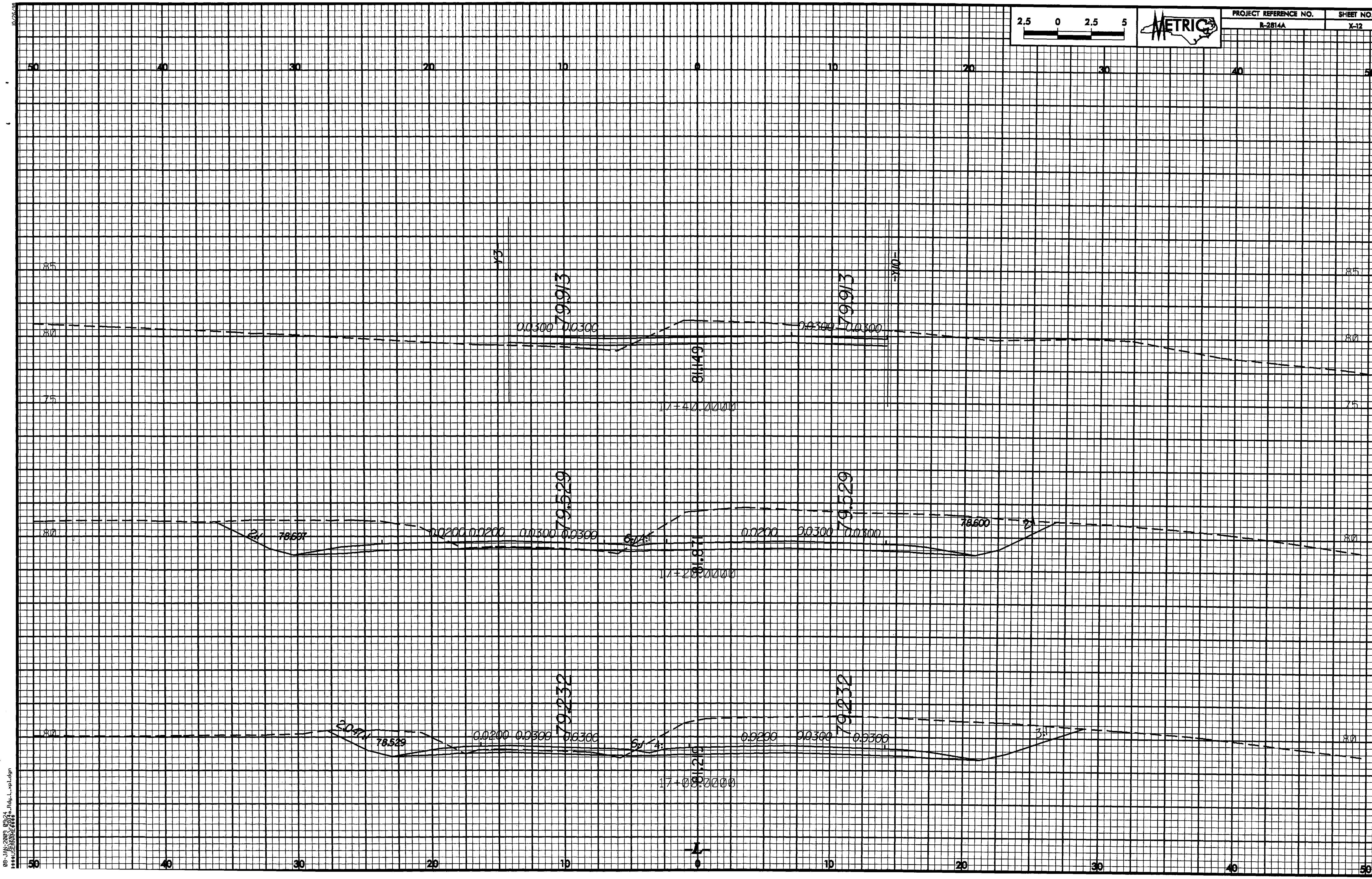
PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-11

METRIC

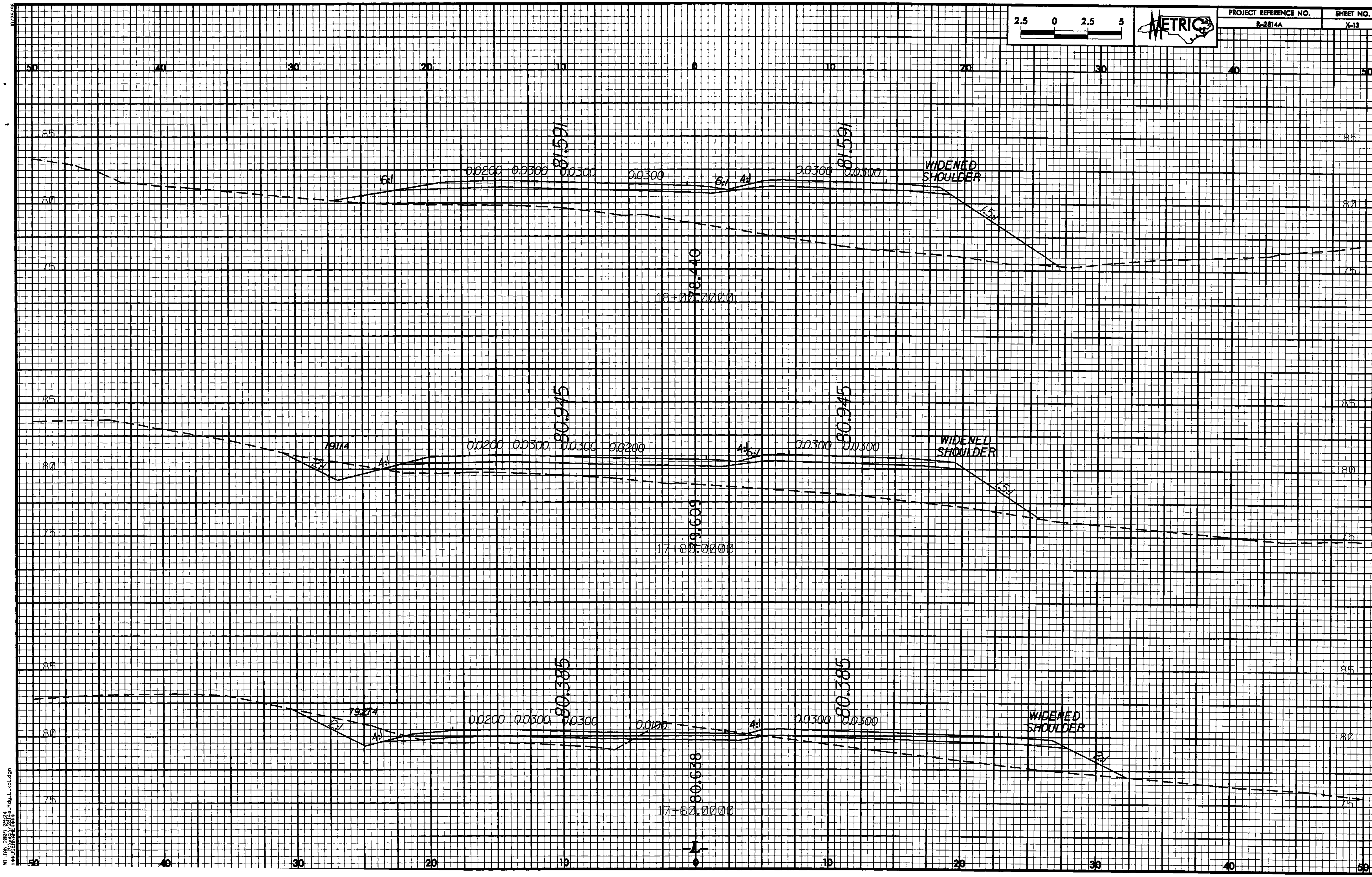
PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-12

METRIC

2.5 0 2.5 5

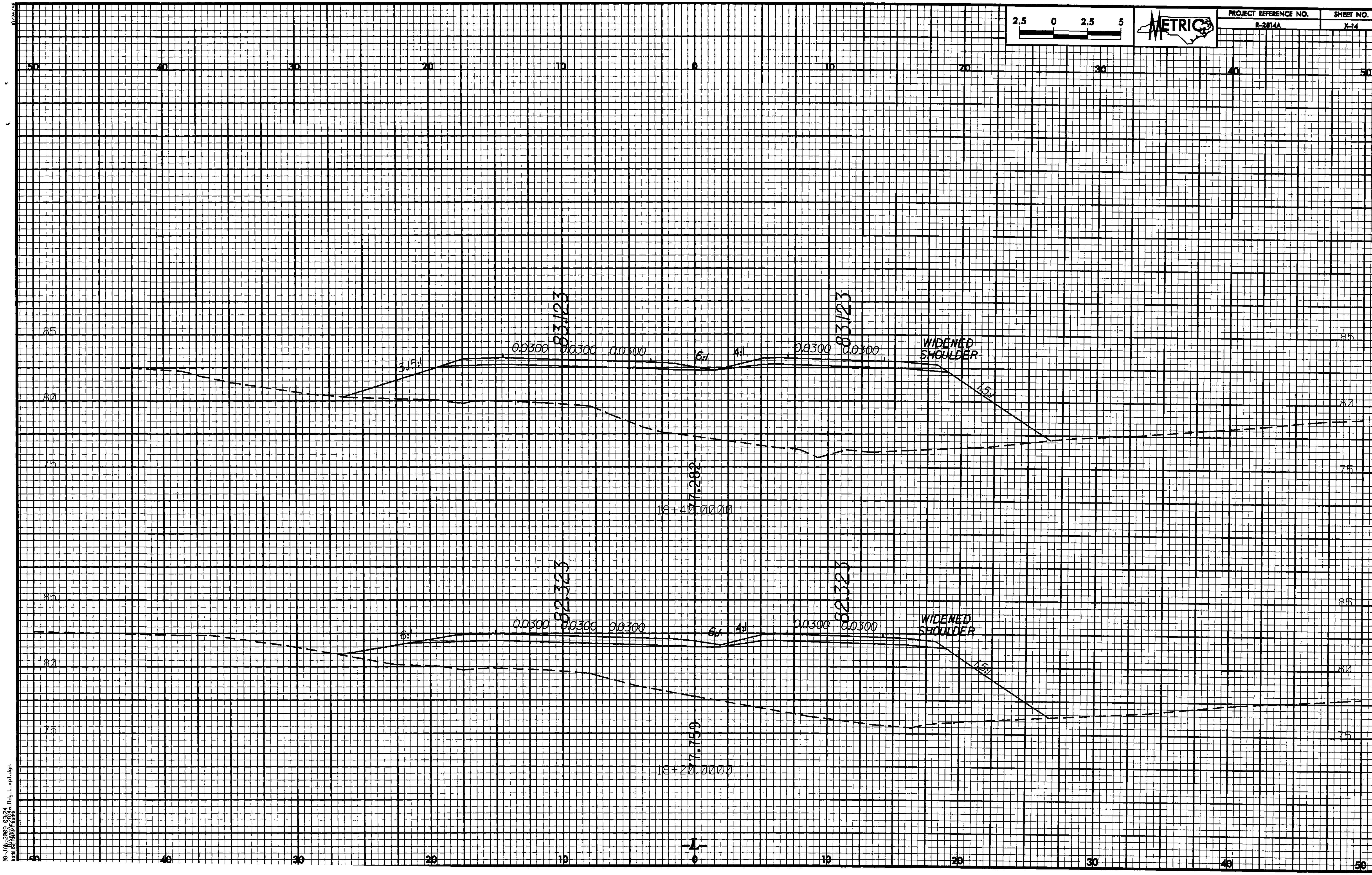


08-JAN-2009 09:24



METRIC
PROJECT REFERENCE NO. R-2814A
SHEET NO. X-13
2.5 0 2.5 5
WIDENED SHOULDER
81.591
18+00.0000
78.440
80.945
79.174
17+80.0000
79.609
80.385
79.274
17+60.0000
80.638
0.0200 0.0300 0.0300 0.0300
6:1 4:1 1.5:1 2:1

PROJECT REFERENCE NO. R-2814A | SHEET NO. X-14



08-JAN-2009 09:24
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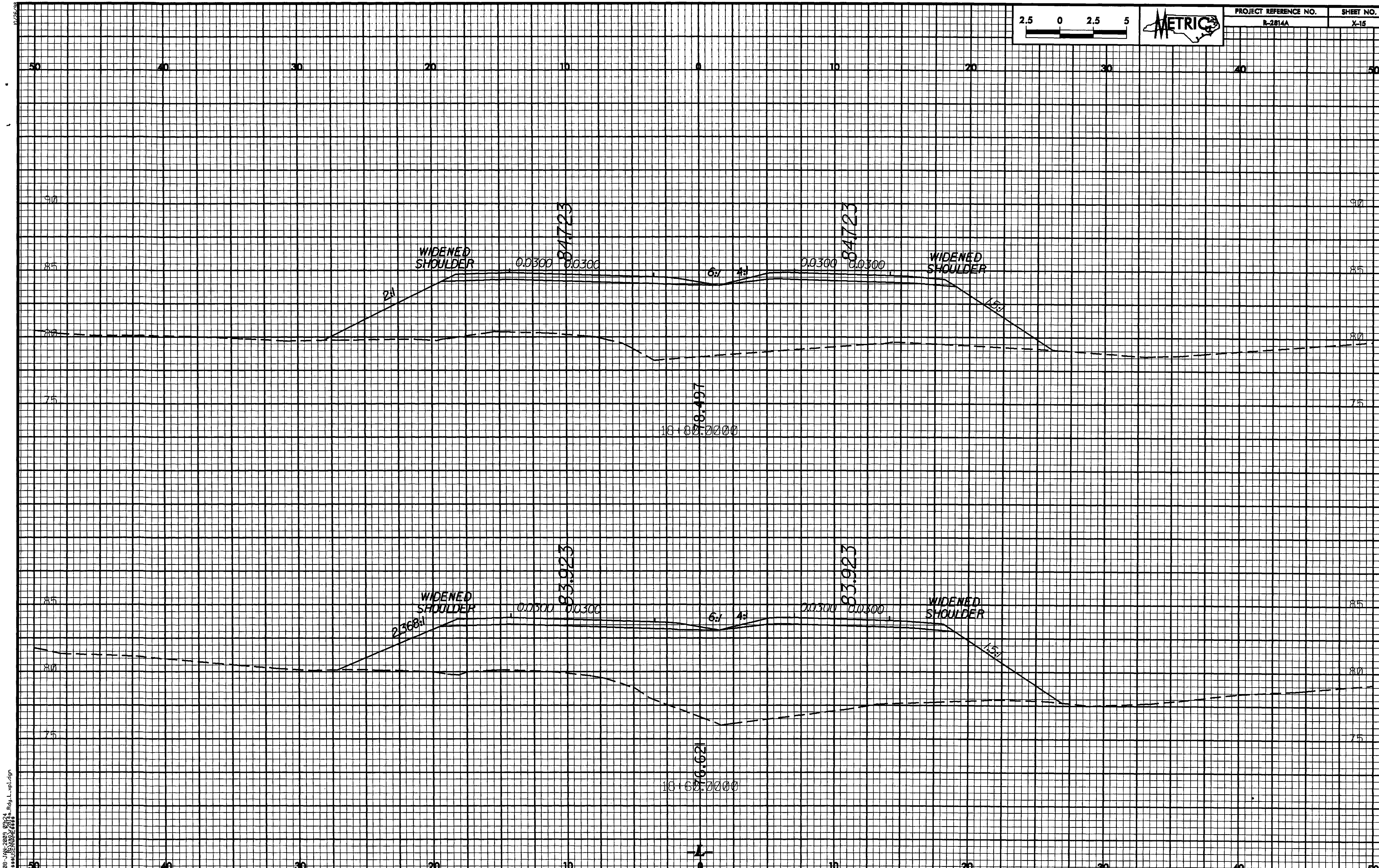
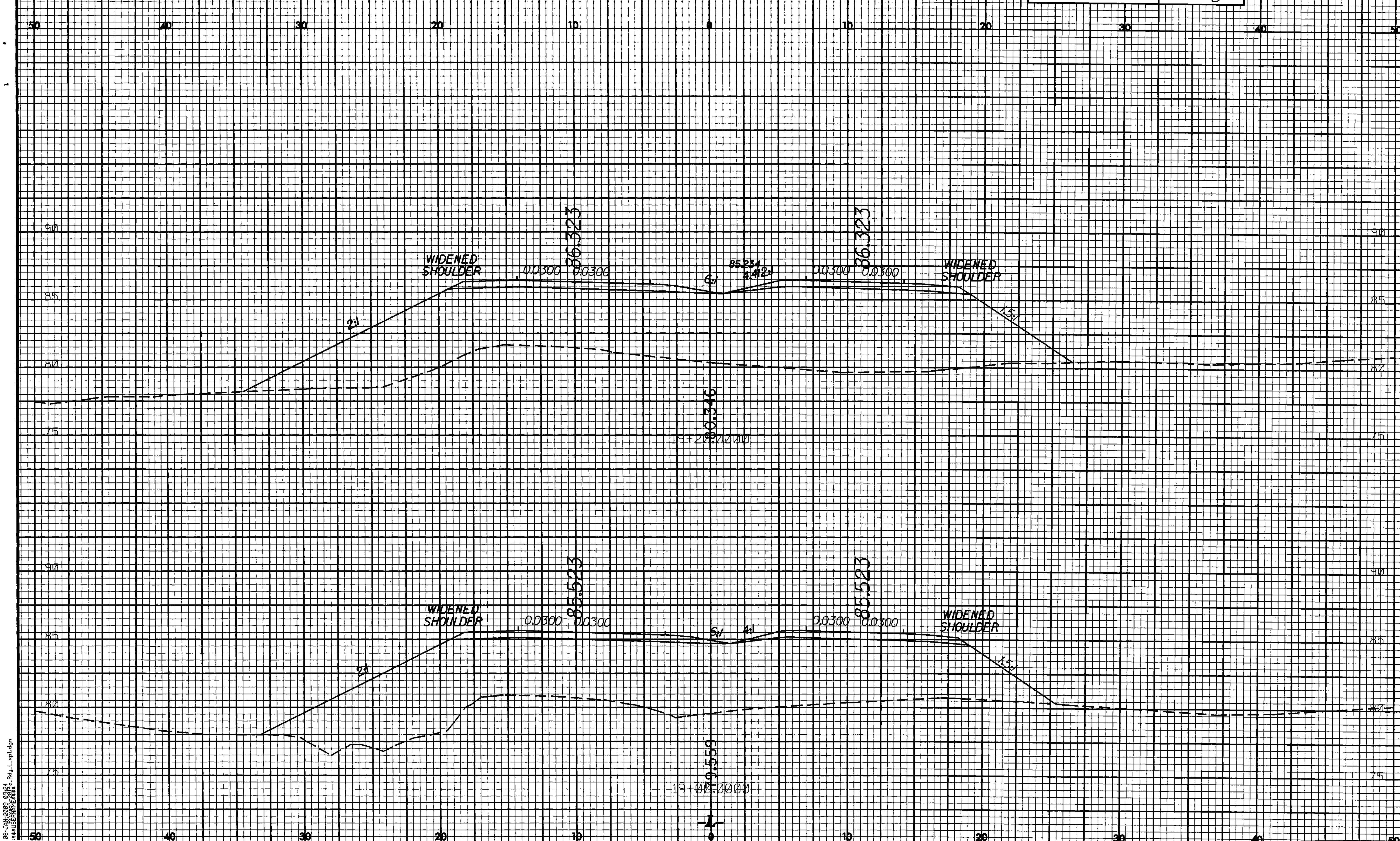

PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-15
METRIC
2.5 0 2.5 5
WIDENED SHOULDER
0.0300
0.0300
84.723
6:1
4:1
2:1
1.5:1
78.497
18+80.0000
83.923
2.368:1
76.621
18+60.0000
-L-

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-16

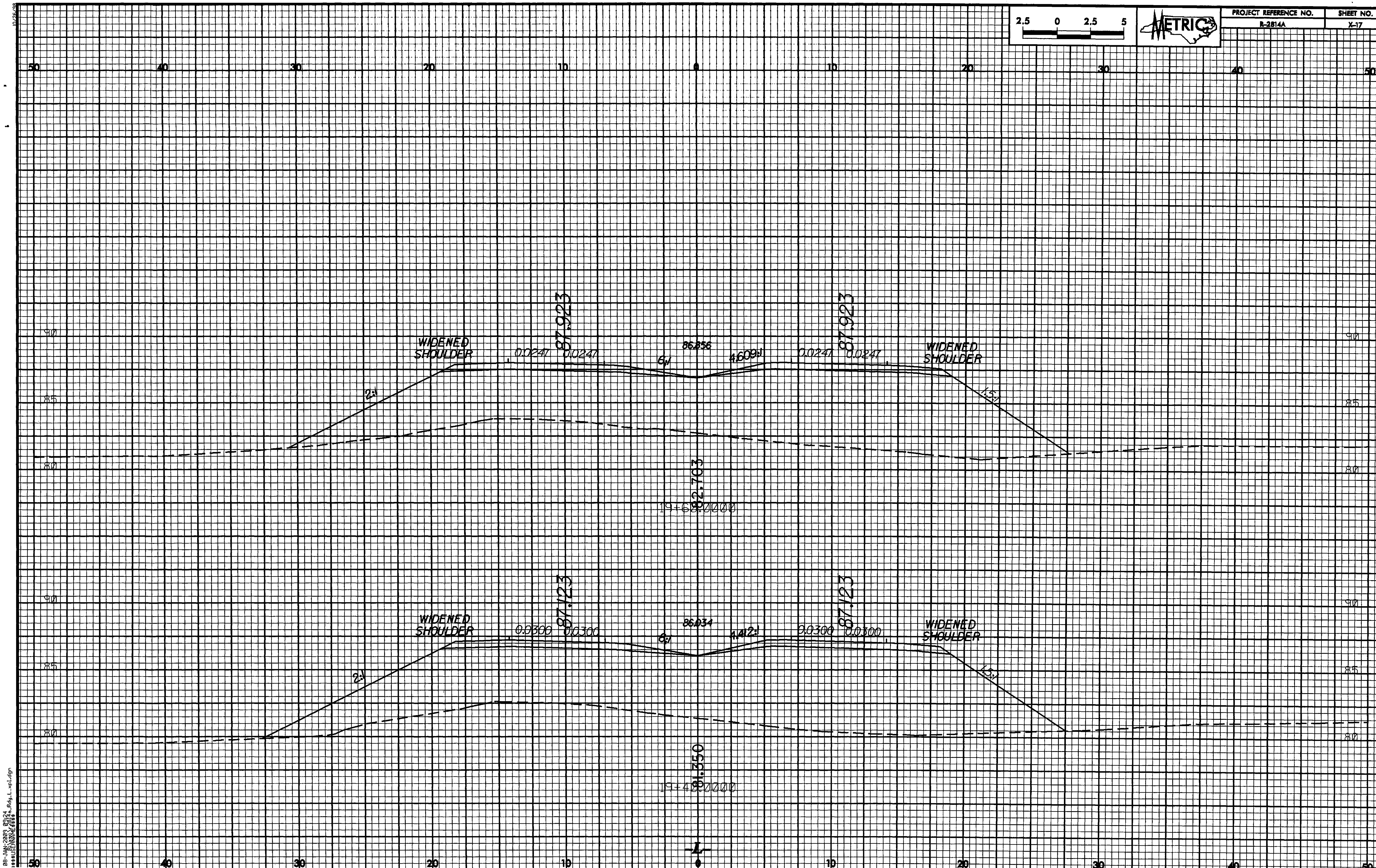
METRIC

2.5 0 2.5 5

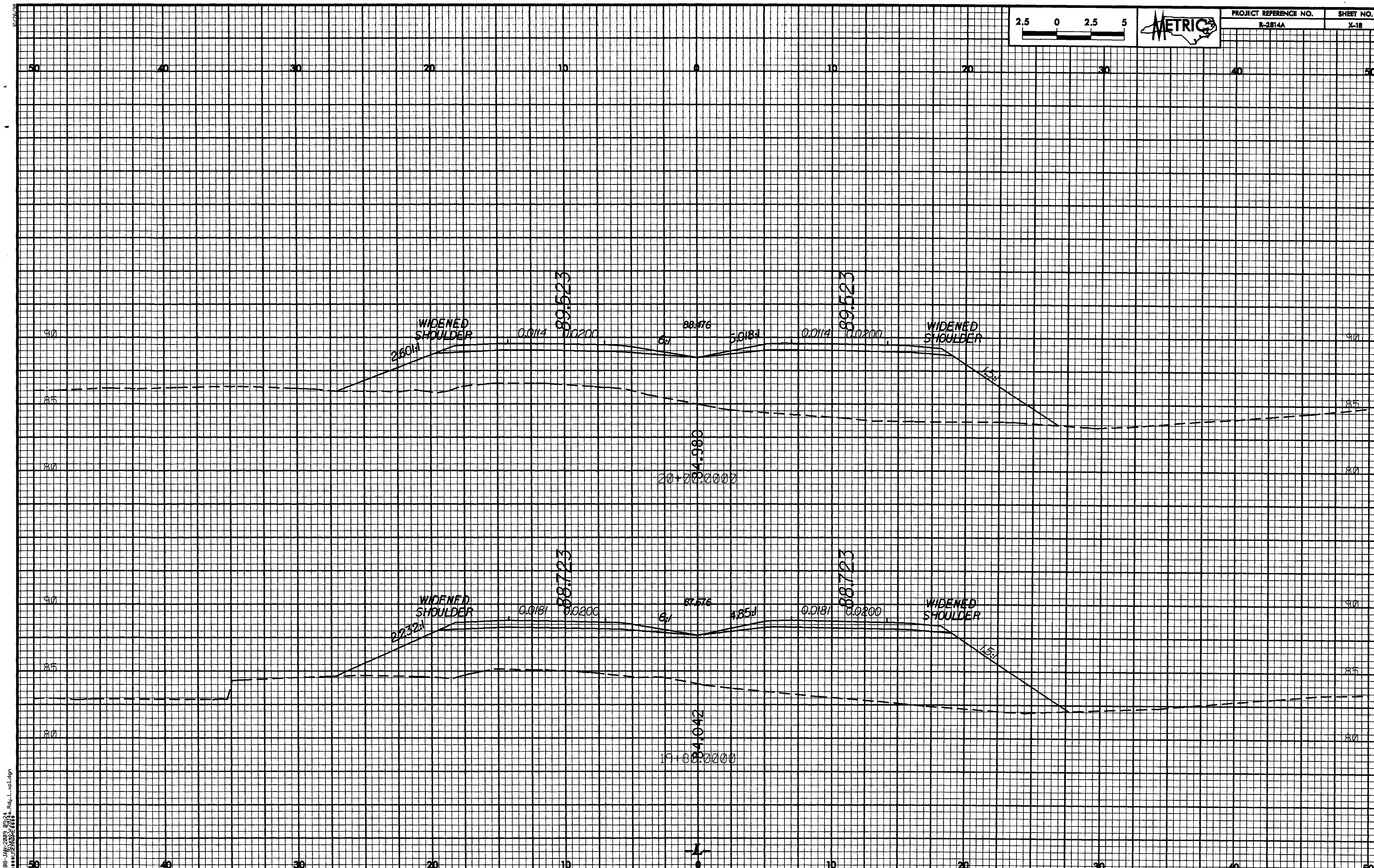


PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-17

METRIC



PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-18



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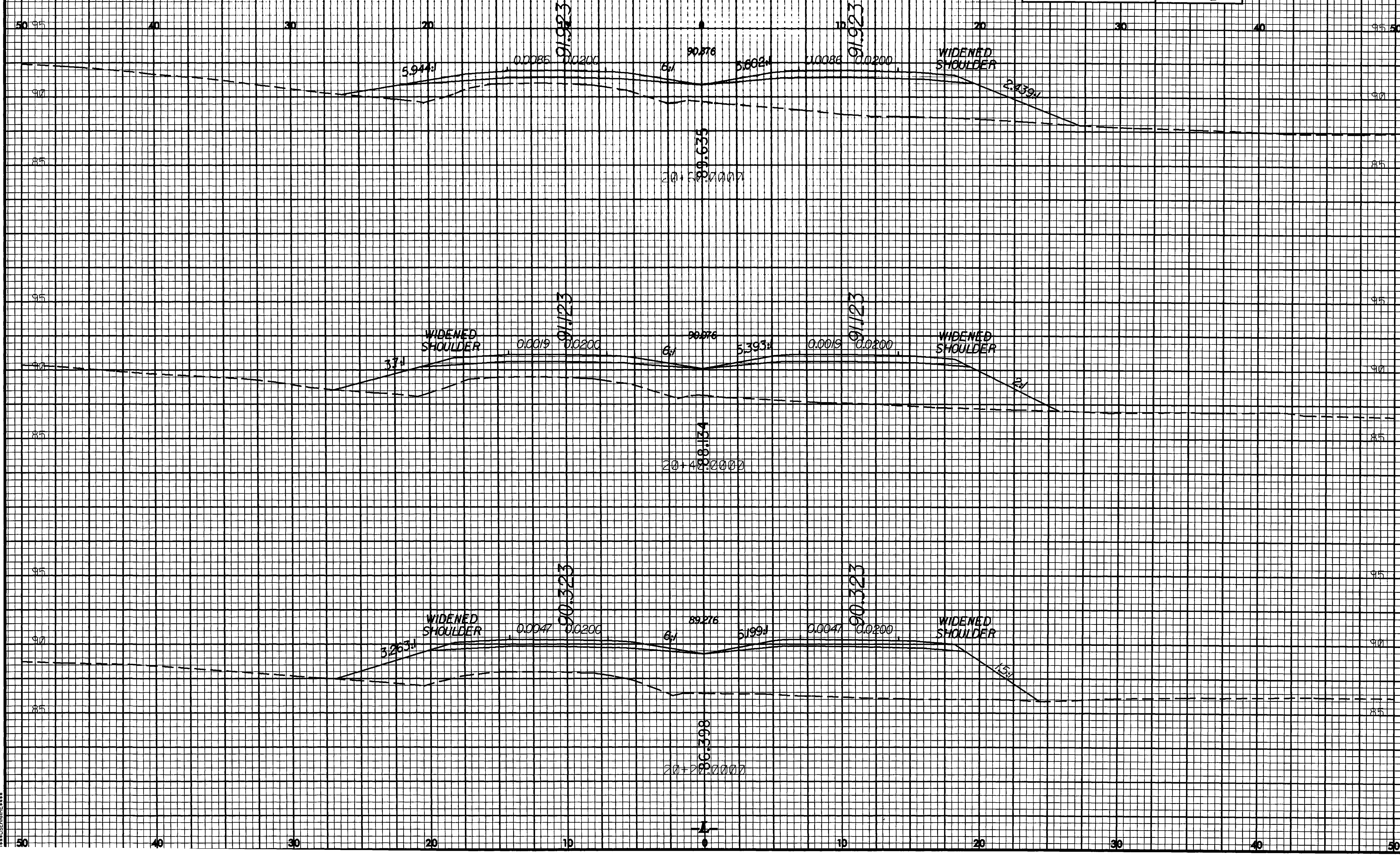
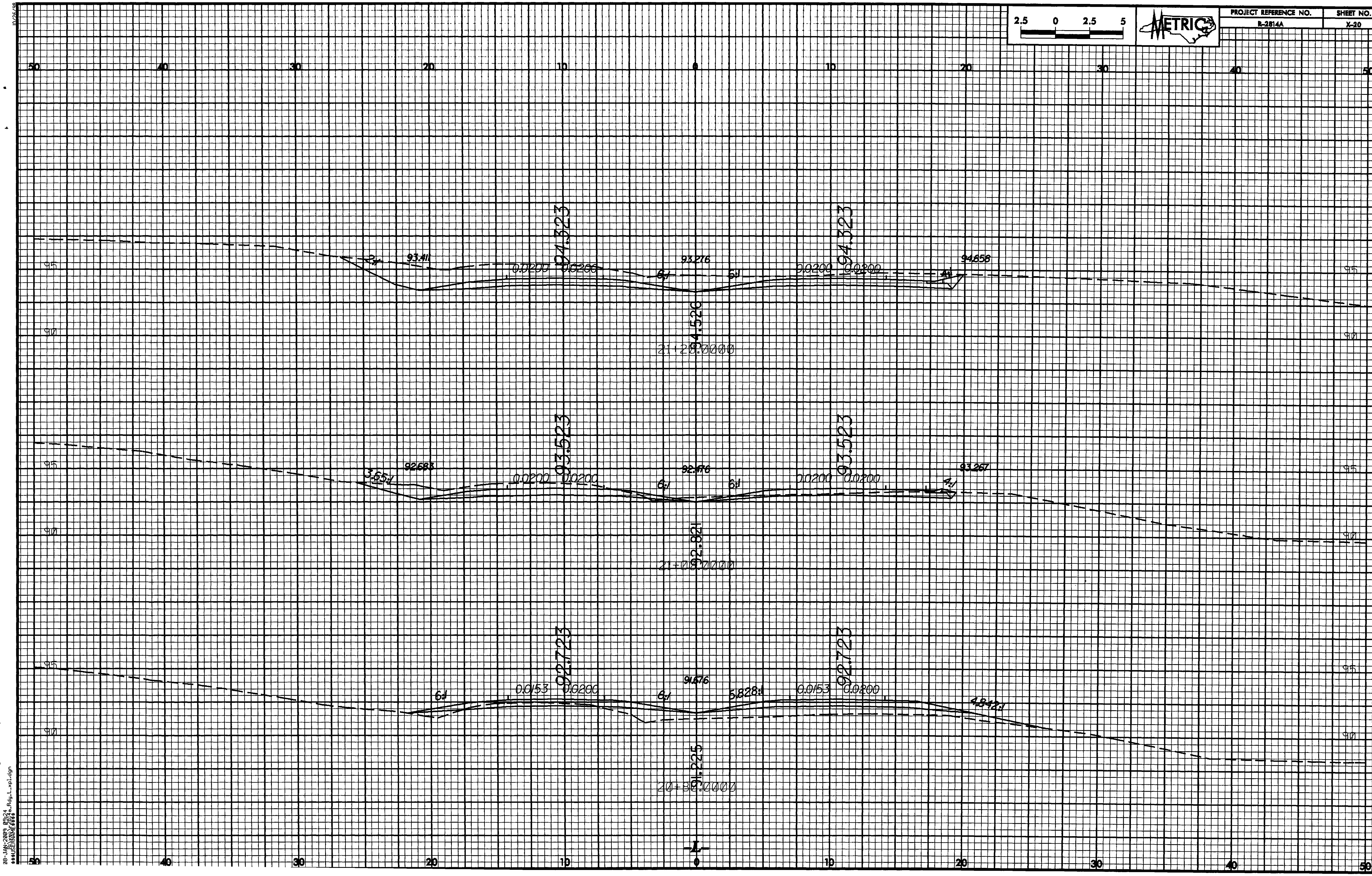
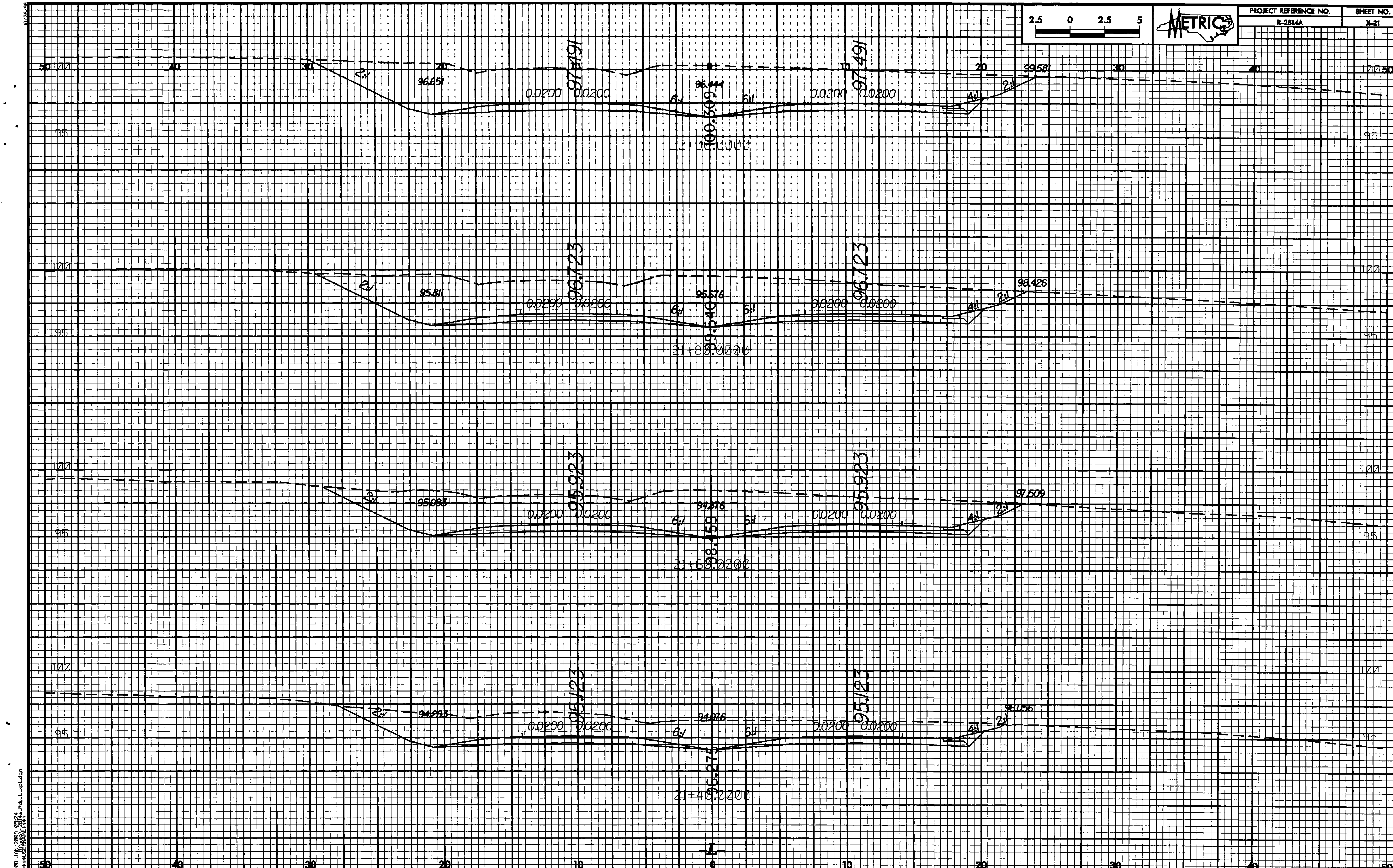
PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-19

METRIC



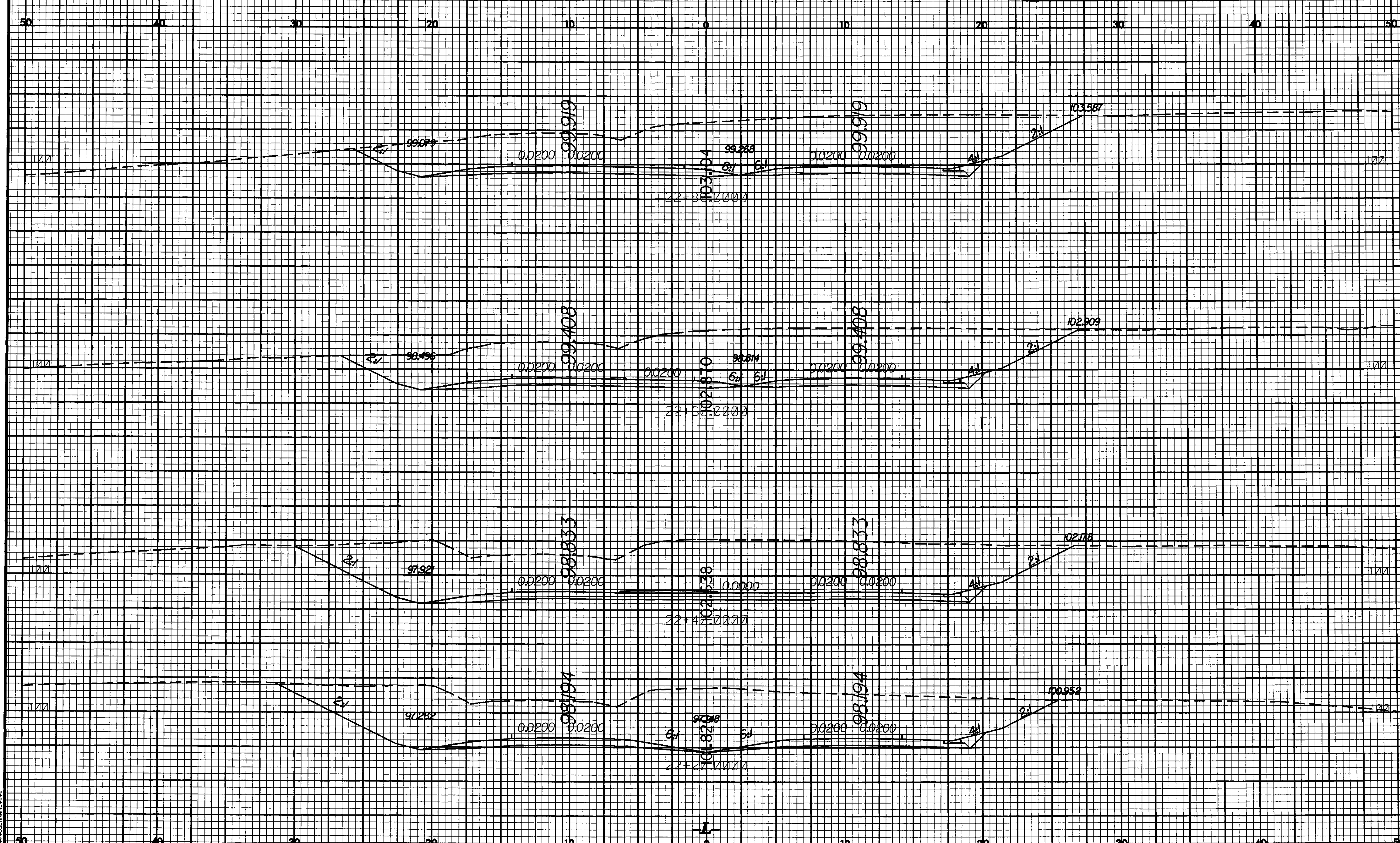

PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-20
METRIC
2.5 0 2.5 5
94.323
93.411
93.276
94.658
0.0200
5:1
6:1
4:1
2:1
94.526
21+28.0000
93.523
92.683
92.476
93.267
3.65:1
92.821
21+08.0000
92.723
91.676
0.0153
5.828:1
4.842:1
91.225
20+88.0000
-L-
95
90
50
40
30
20
10
0

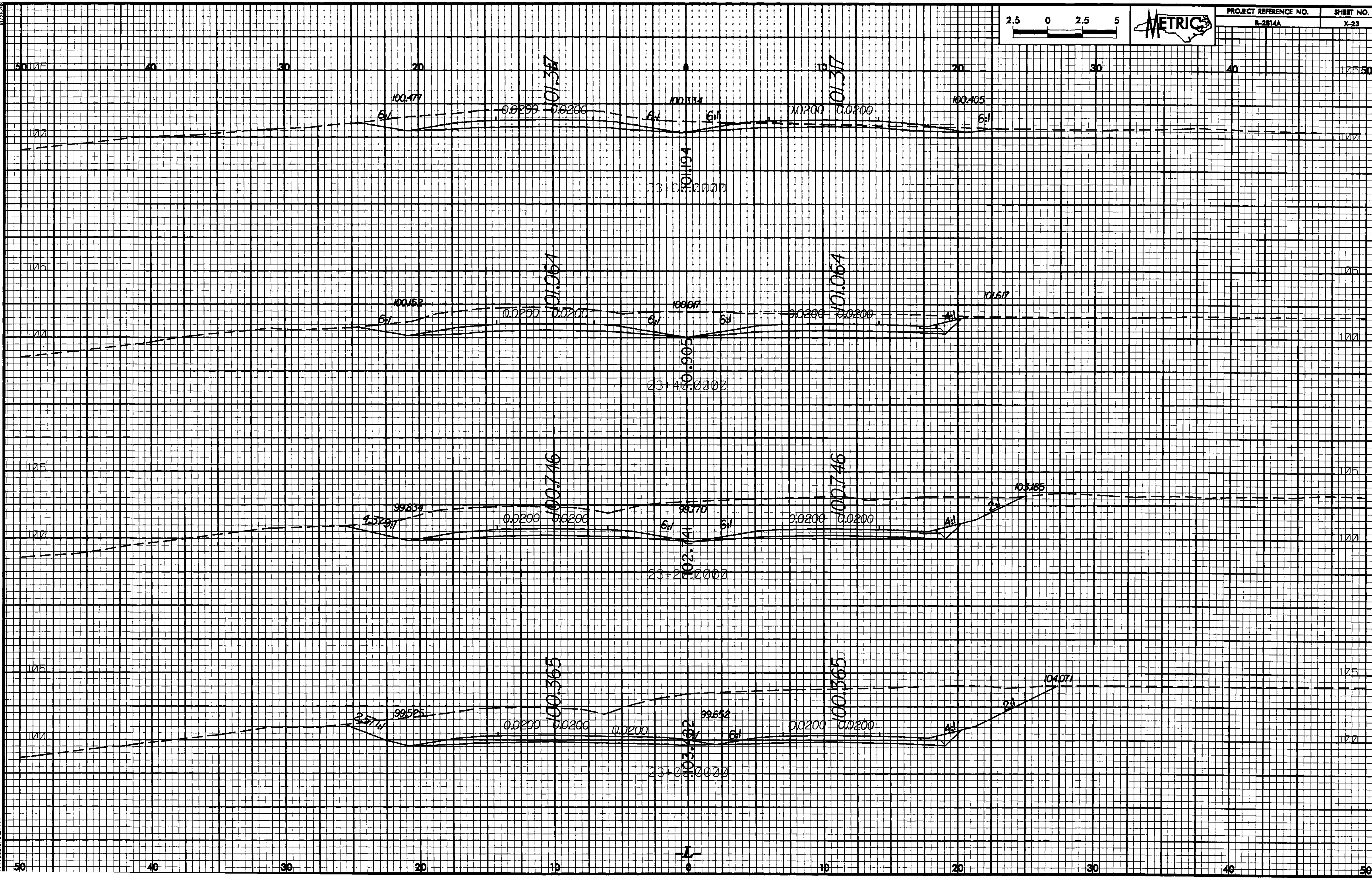


PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-21
METRIC
2.5 0 2.5 5
97.491
100.309
96.651
96.444
99.58
0.0200
6:1
2:1
4:1
96.723
99.540
95.811
95.576
98.426
21+80.0000
95.923
98.459
95.083
94.876
97.509
21+60.0000
95.123
96.275
94.293
94.076
96.056
21+40.0000
100
95
50
40
30
20
10
0

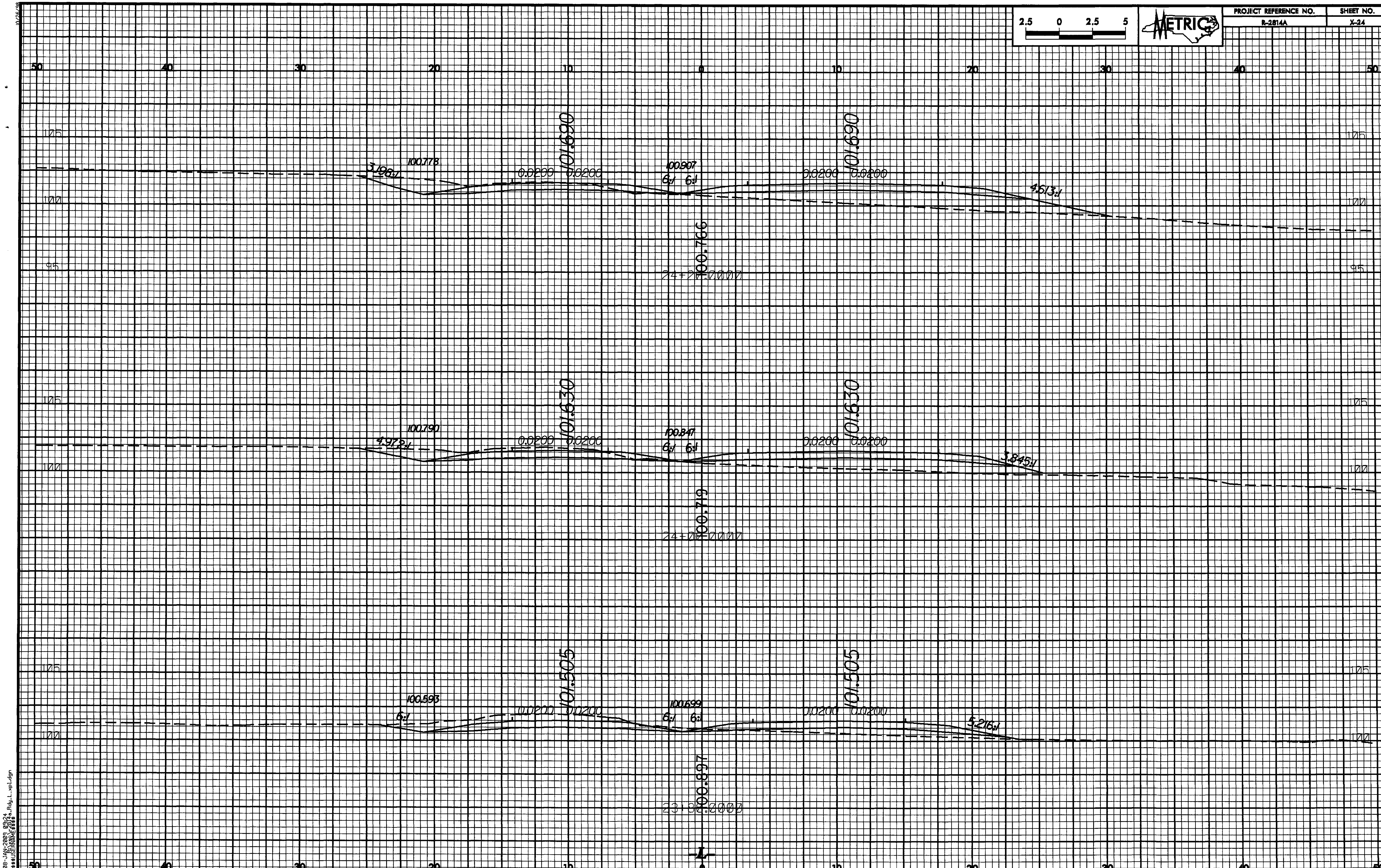
PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-22

METRIC





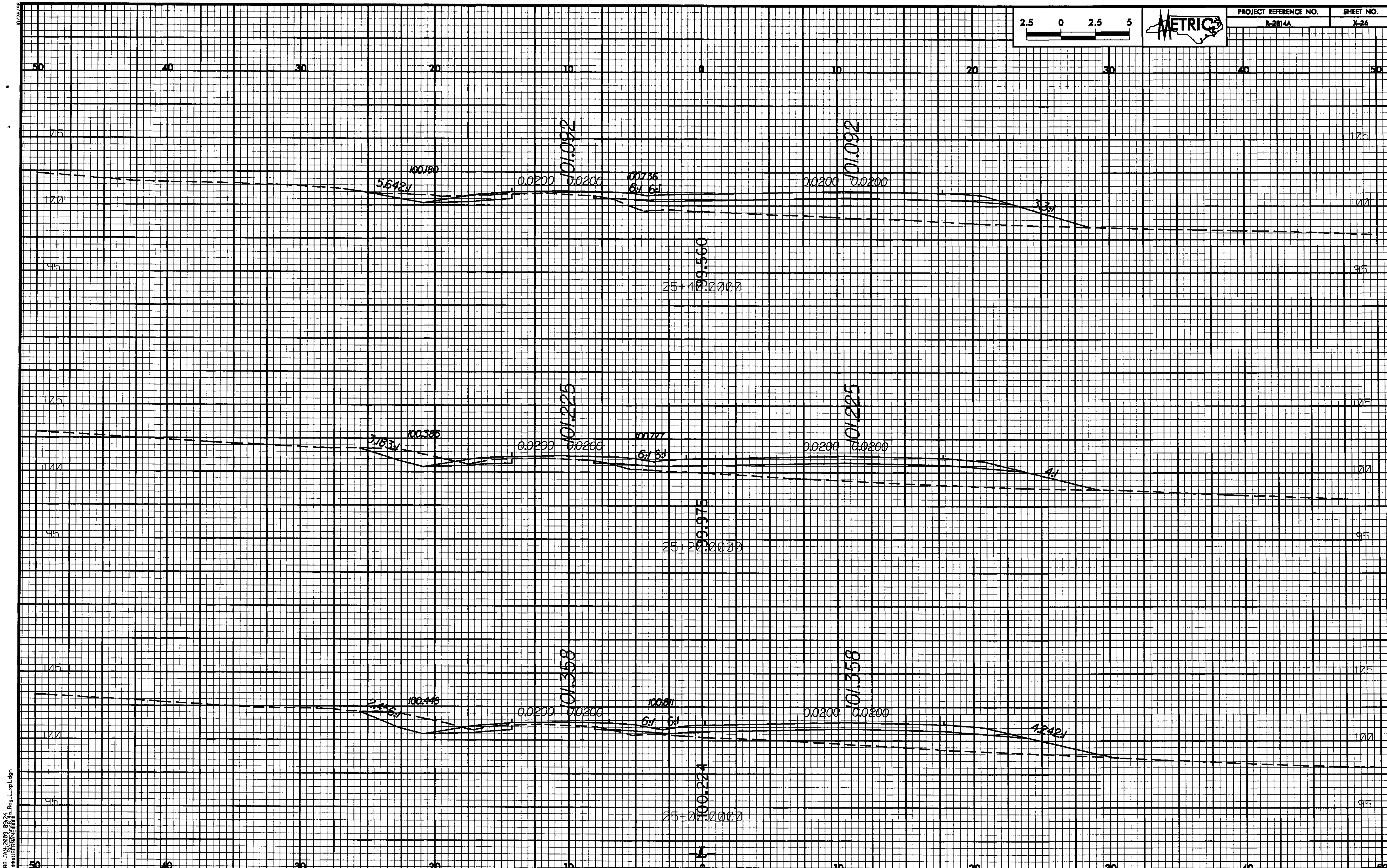
08-JAN-2009 09:24 R2814A_Rdy_L_xpl.dgn $$$$USERNAME$$$$



PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-24
METRIC
2.5 0 2.5 5
101.690
101.690
100.773
100.907
3.196:1
0.0200
0.0200
6:1 6:1
4.613:1
100.766
24+20.0000
101.630
101.630
100.790
100.347
4.973:1
3.845:1
100.719
24+00.0000
101.505
101.505
100.593
100.699
6:1
5.216:1
100.897
23+80.0000
-L-

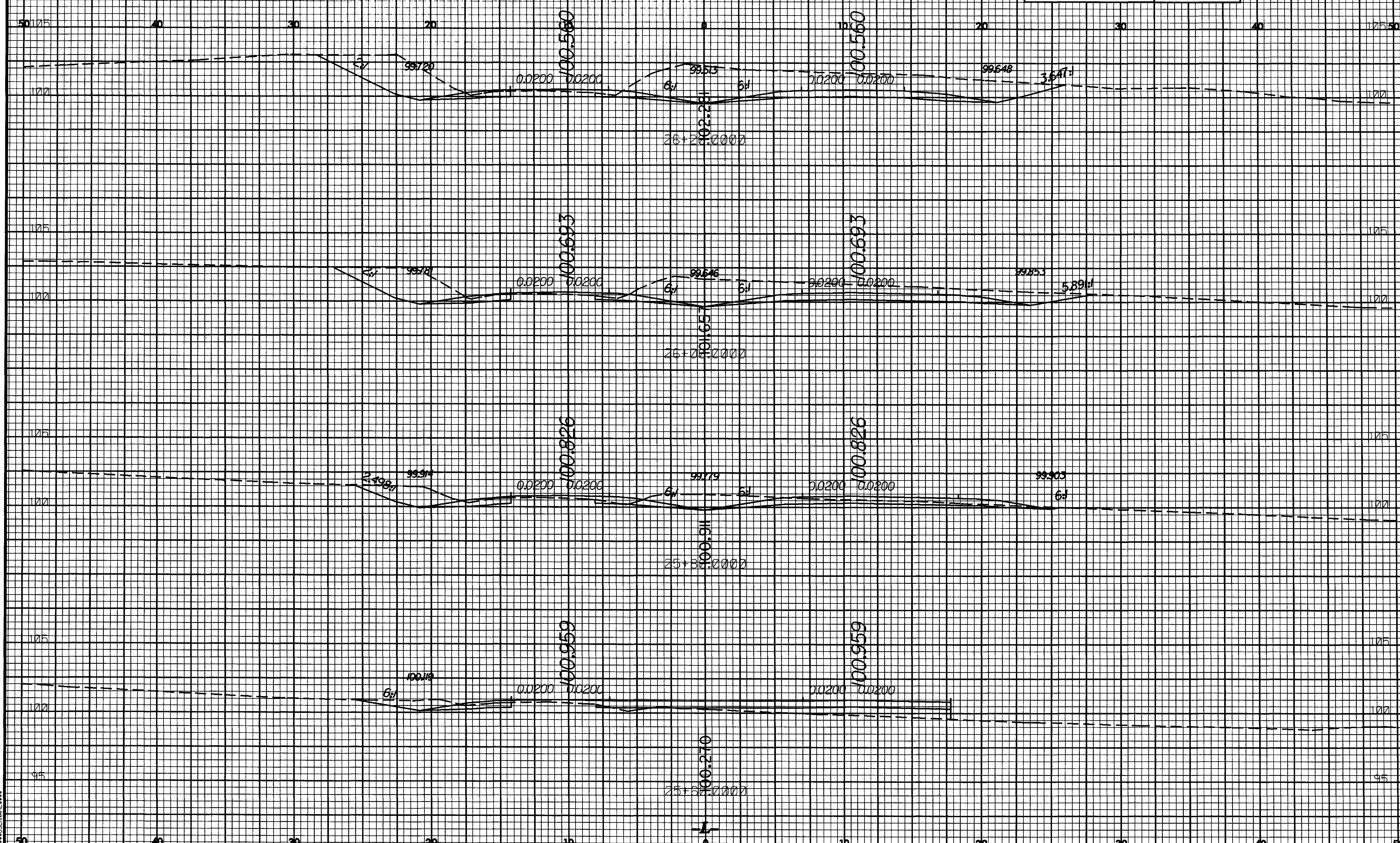
PROJECT REFERENCE NO.	SHEET NO.
R-2514A	X-25

METRIC


PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-26
METRIC
2.5 0 2.5 5
50 40 30 20 10 0 10 20 30 40 50
105
100
95
100.180
5.642:1
0.0200
101.092
0.0200
100.736
6:1
6:1
0.0200
101.092
0.0200
3.3:1
99.560
25+40.0000
100.385
3.183:1
0.0200
101.225
0.0200
100.777
6:1
6:1
0.0200
101.225
0.0200
4:1
99.975
25+20.0000
100.446
2.456:1
0.0200
101.358
0.0200
100.811
6:1
6:1
0.0200
101.358
0.0200
4.242:1
100.224
25+00.0000
10/26/98

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-27

METRIC



08-JAN-2009 09:24
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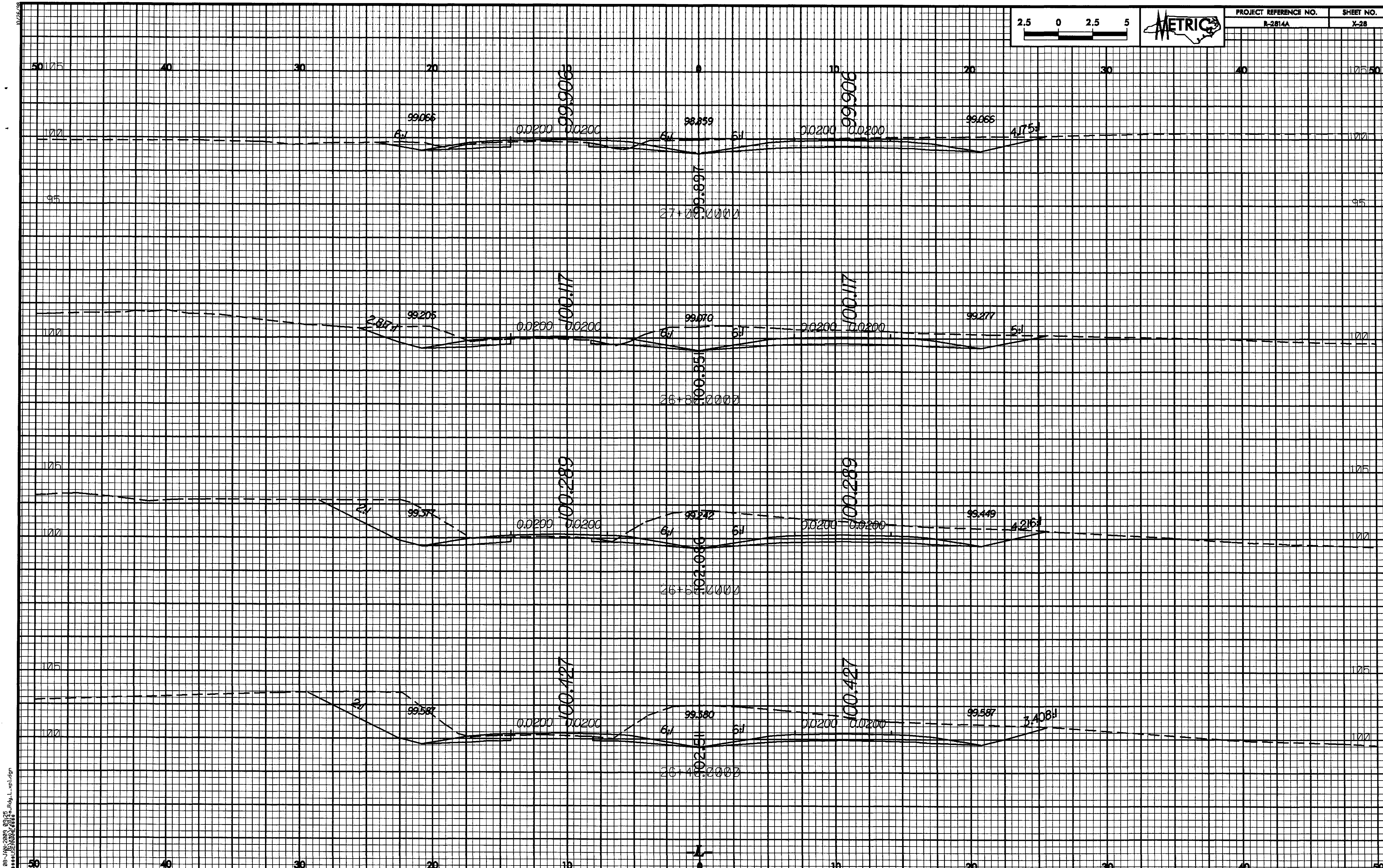
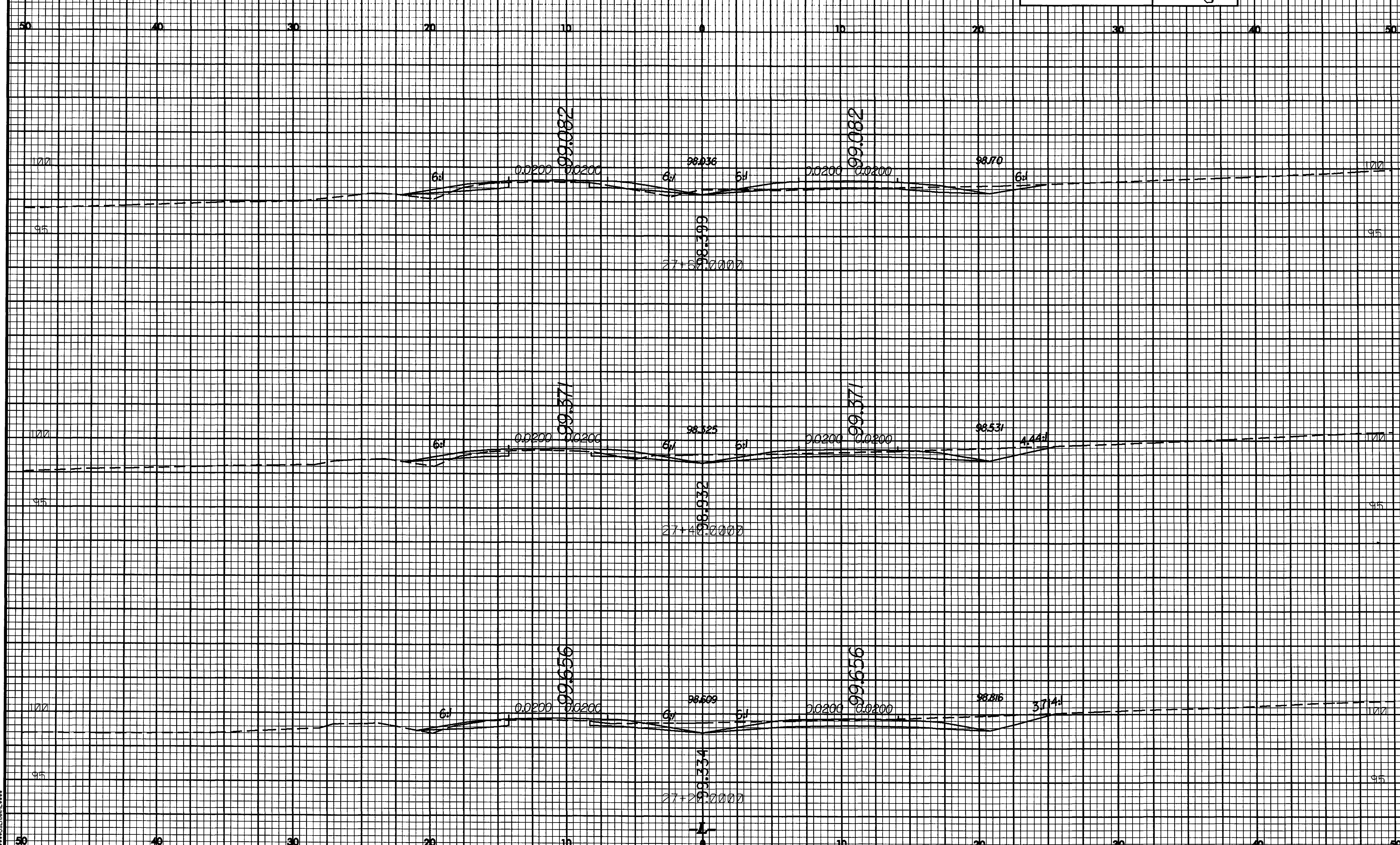

PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-28
2.5 0 2.5 5
METRIC
27+00.0000
99.906
99.066
98.859
99.897
26+80.0000
100.117
99.205
99.070
99.277
100.351
26+60.0000
100.289
99.377
99.242
99.449
102.036
26+40.0000
100.427
99.587
99.380
102.511
0.0200
6:1
-L-

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-29



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08-JAN-2009 09:25
Rdy_L_xpl.dgn
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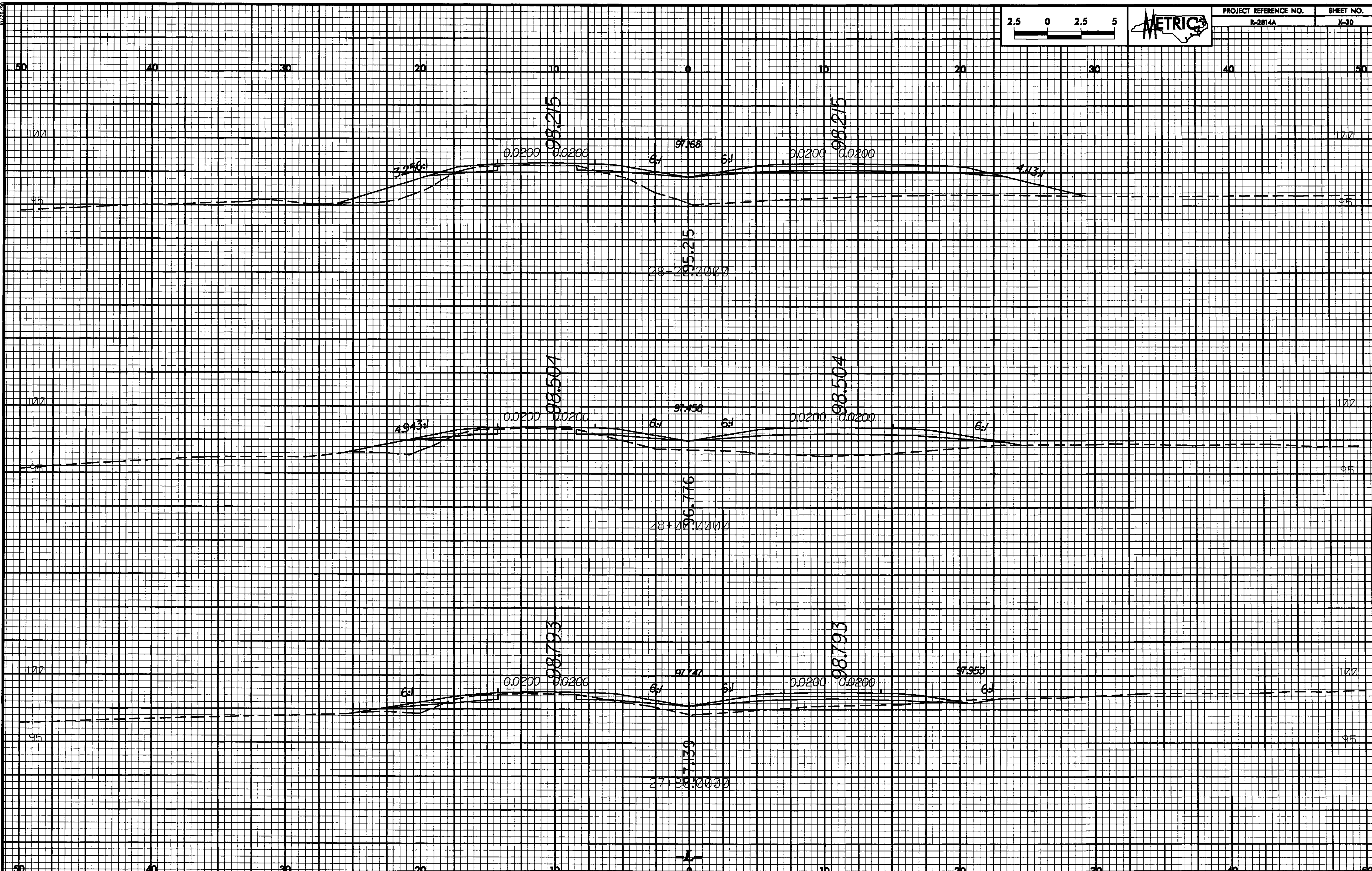
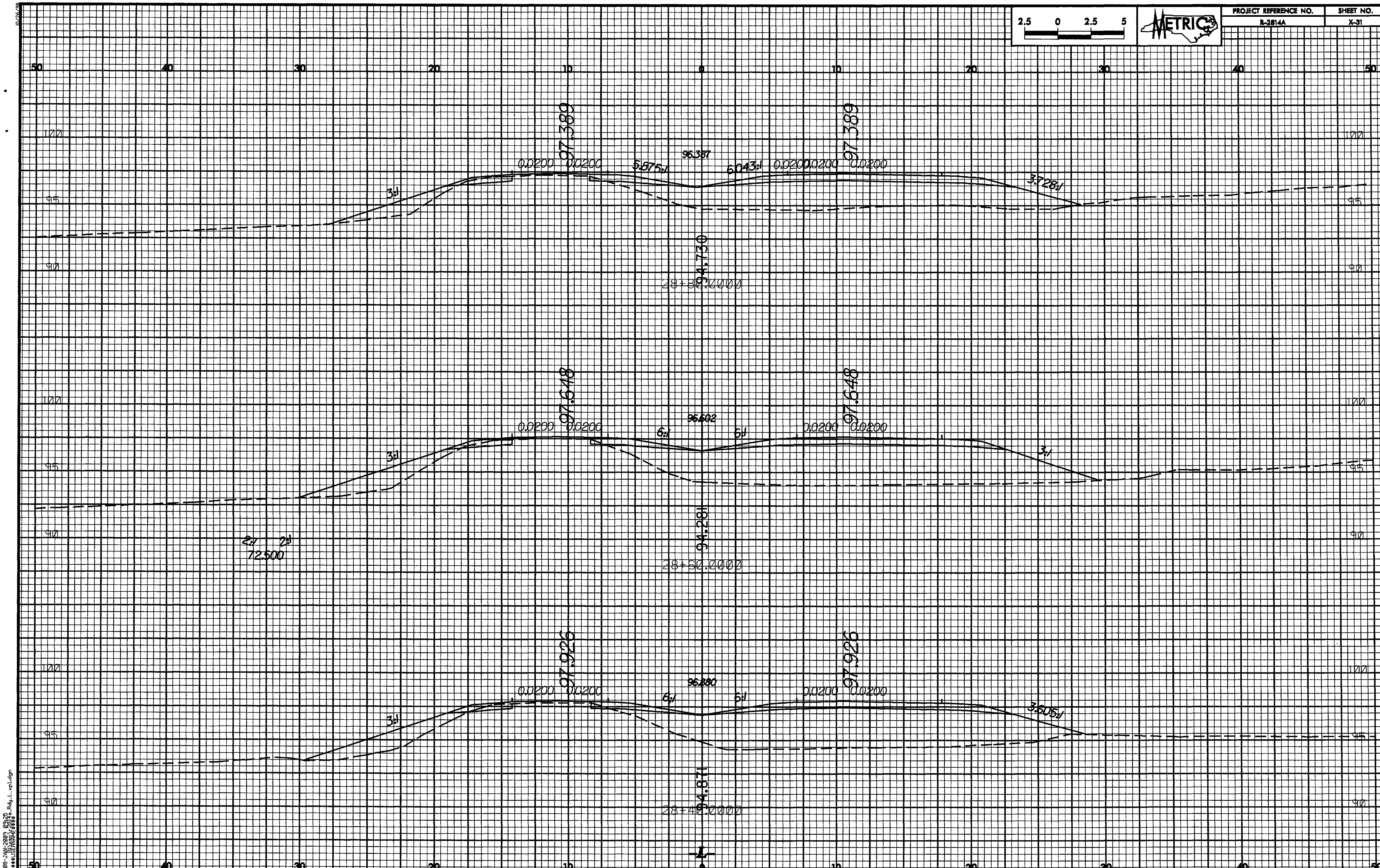
PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-30

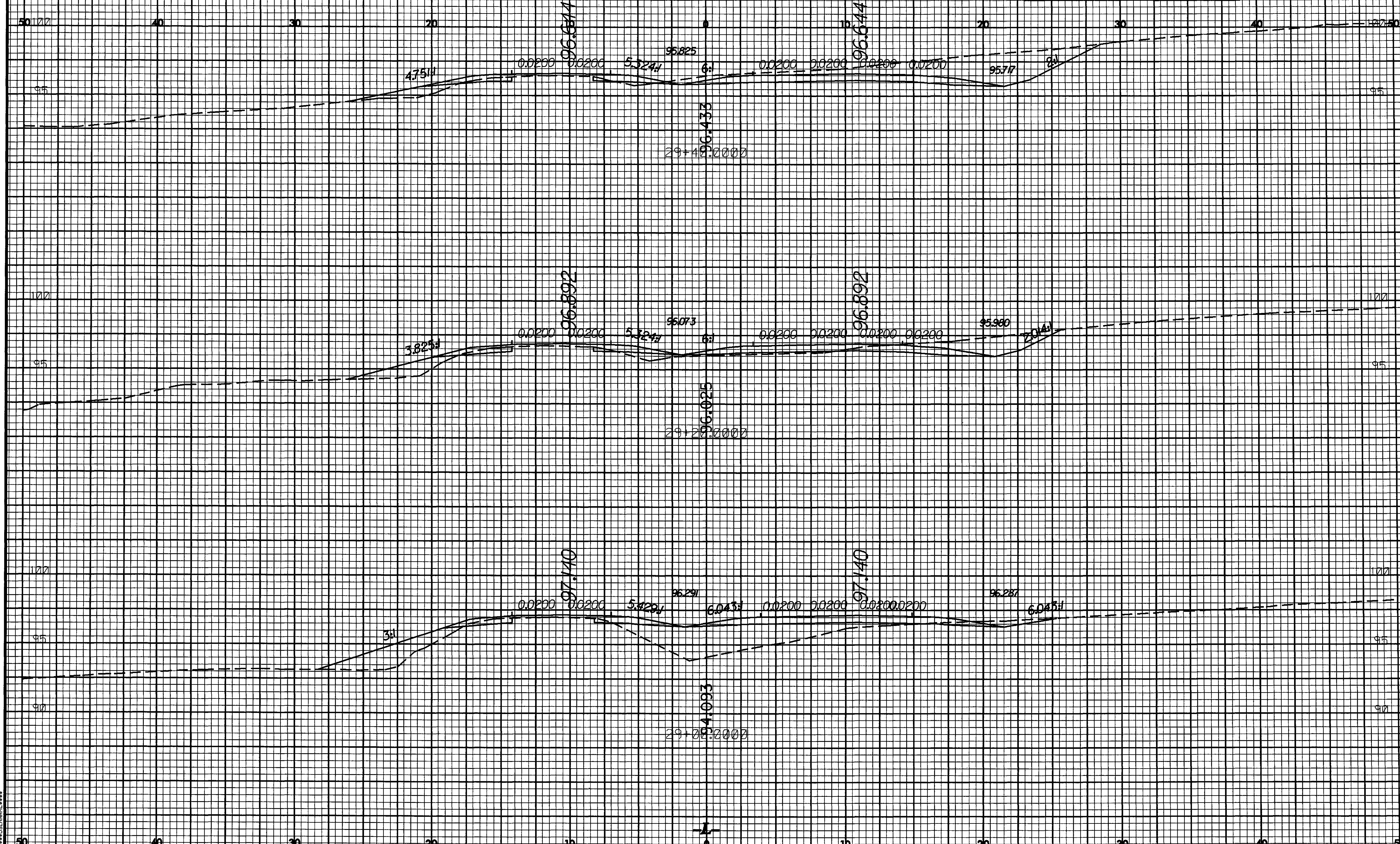


08-JAN-2009 09:25


PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-31
2.5 0 2.5 5
METRIC
97.389
96.387
97.389
0.0200
0.0200
5.875:1
6.043:1
0.0200
0.0200
0.0200
3:1
3.728:1
94.730
28+80.0000
97.648
96.502
97.648
0.0200
0.0200
6:1
6:1
0.0200
0.0200
3:1
3:1
2:1
2:1
72.500
94.281
28+60.0000
97.926
96.380
97.926
0.0200
0.0200
6:1
6:1
0.0200
0.0200
3:1
3.505:1
94.871
28+40.0000
-L-
100
95
90
50
40
30
20
10
0
10
20
30
40
50

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-32

METRIC



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R:\x3c\r2814a_Rdy_L_xpl.dgn
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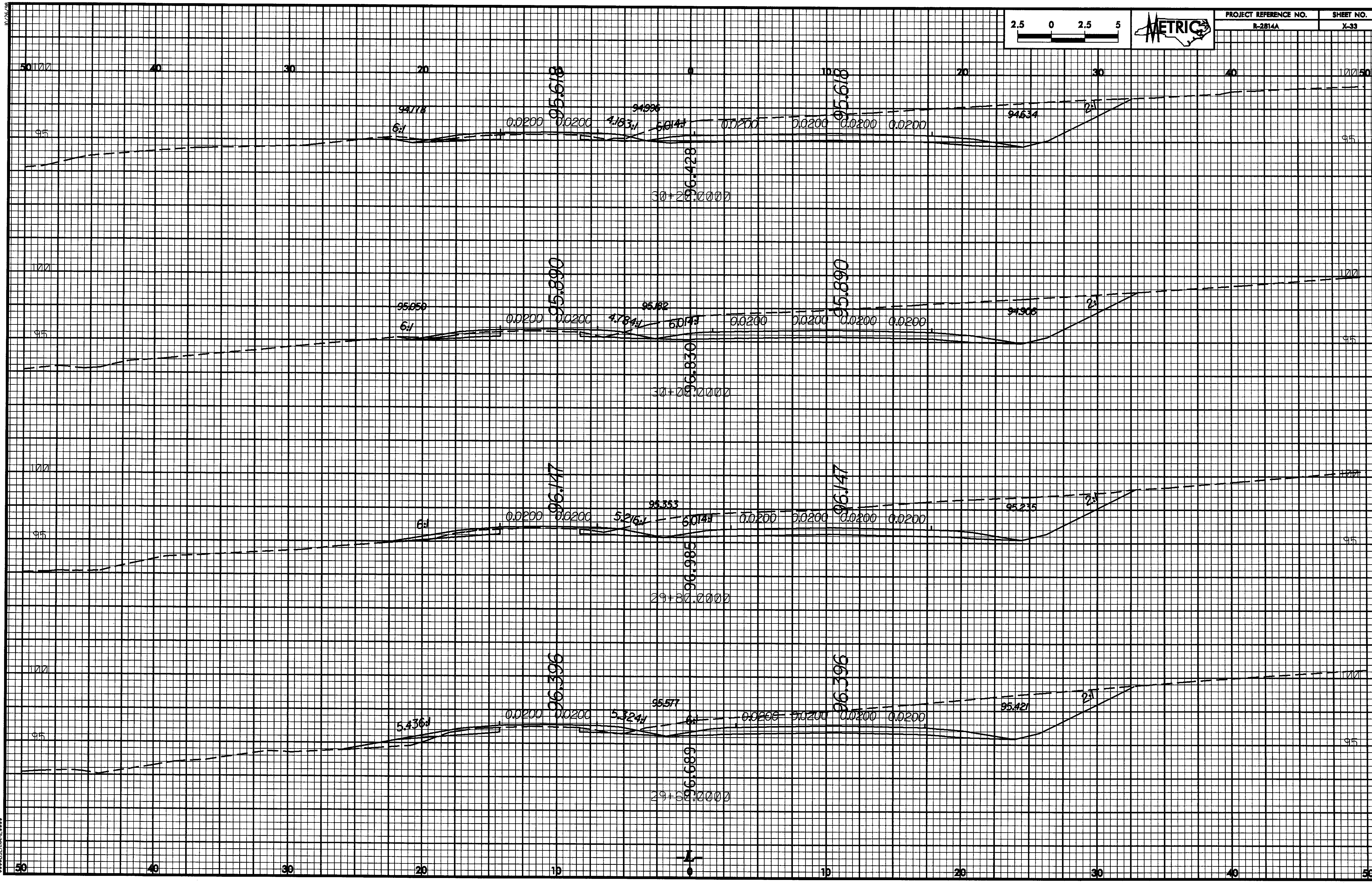
PROJECT REFERENCE NO. R-2814A
SHEET NO. X-33
METRIC
2.5 0 2.5 5
30+20.0000
30+00.0000
29+80.0000
29+60.0000
95.618
96.428
95.890
96.830
96.147
96.985
96.396
96.689
94.778
94.996
94.634
95.050
95.182
94.906
95.353
95.235
95.577
95.421
0.0200
6:1
2:1
4.183:1
6.014:1
4.784:1
5.216:1
5.436:1
5.324:1
-L-
08-JAN-2009 09:25
R2814A_Rdy_L_xpl.dgn
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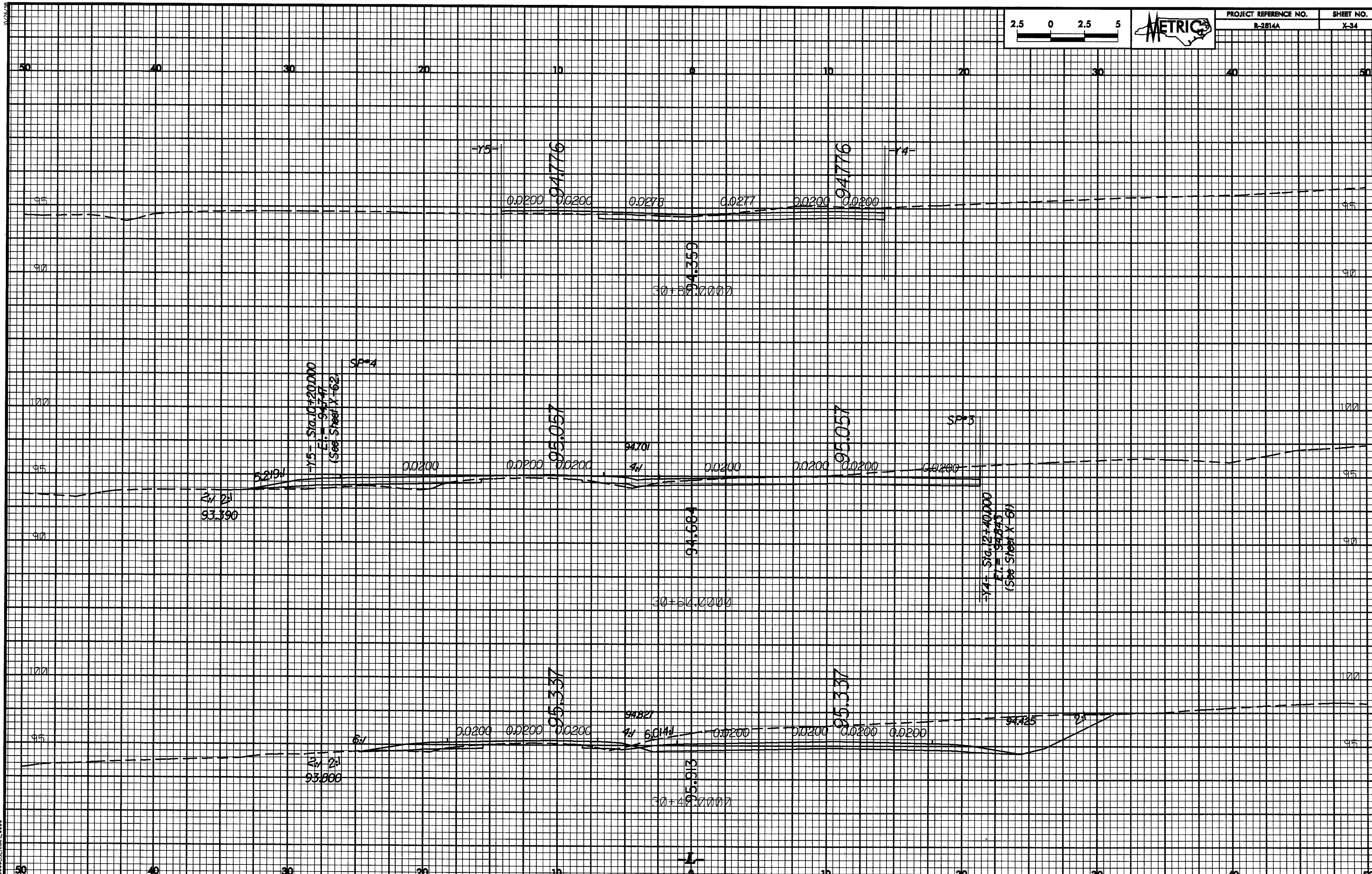
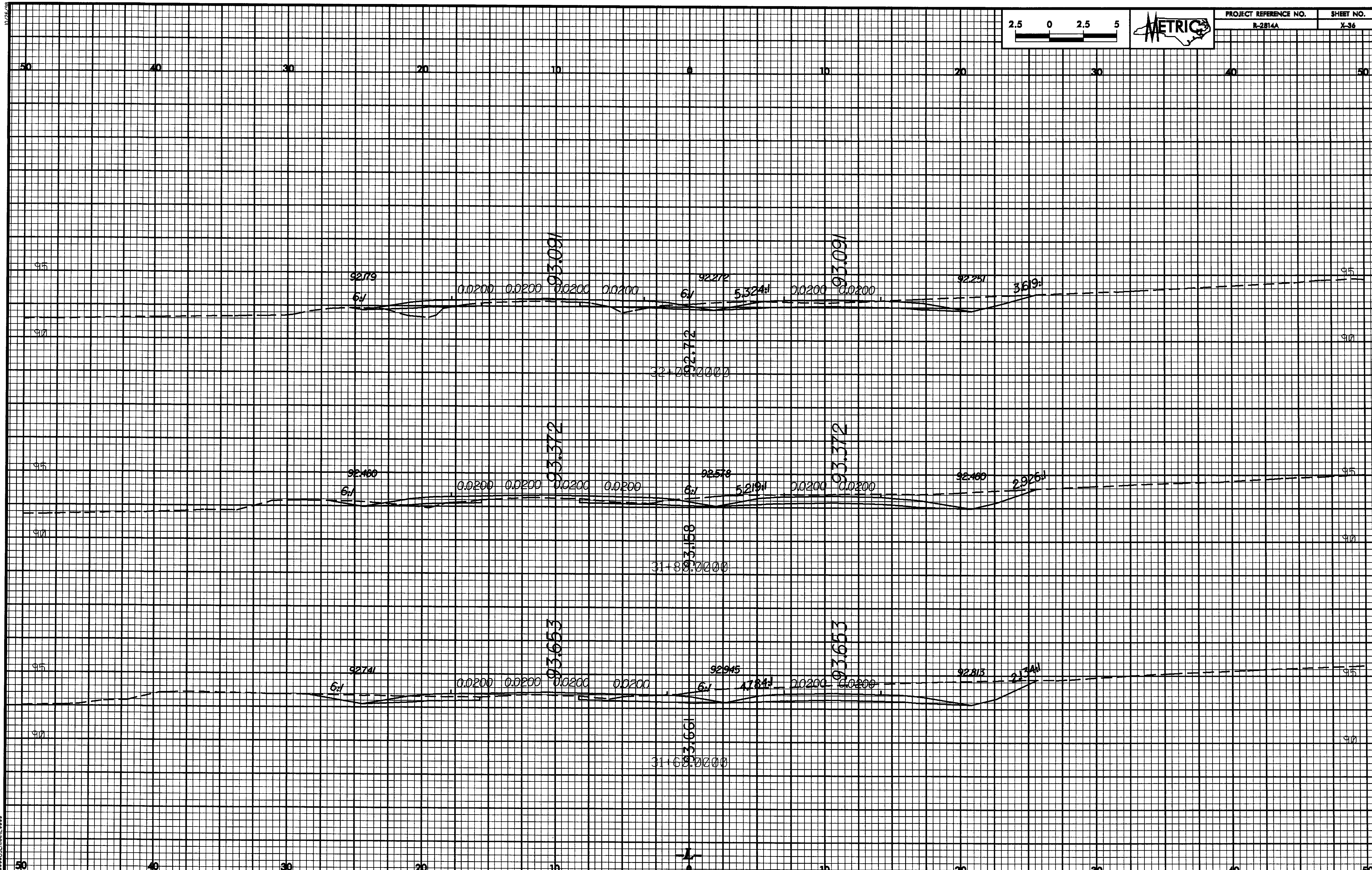
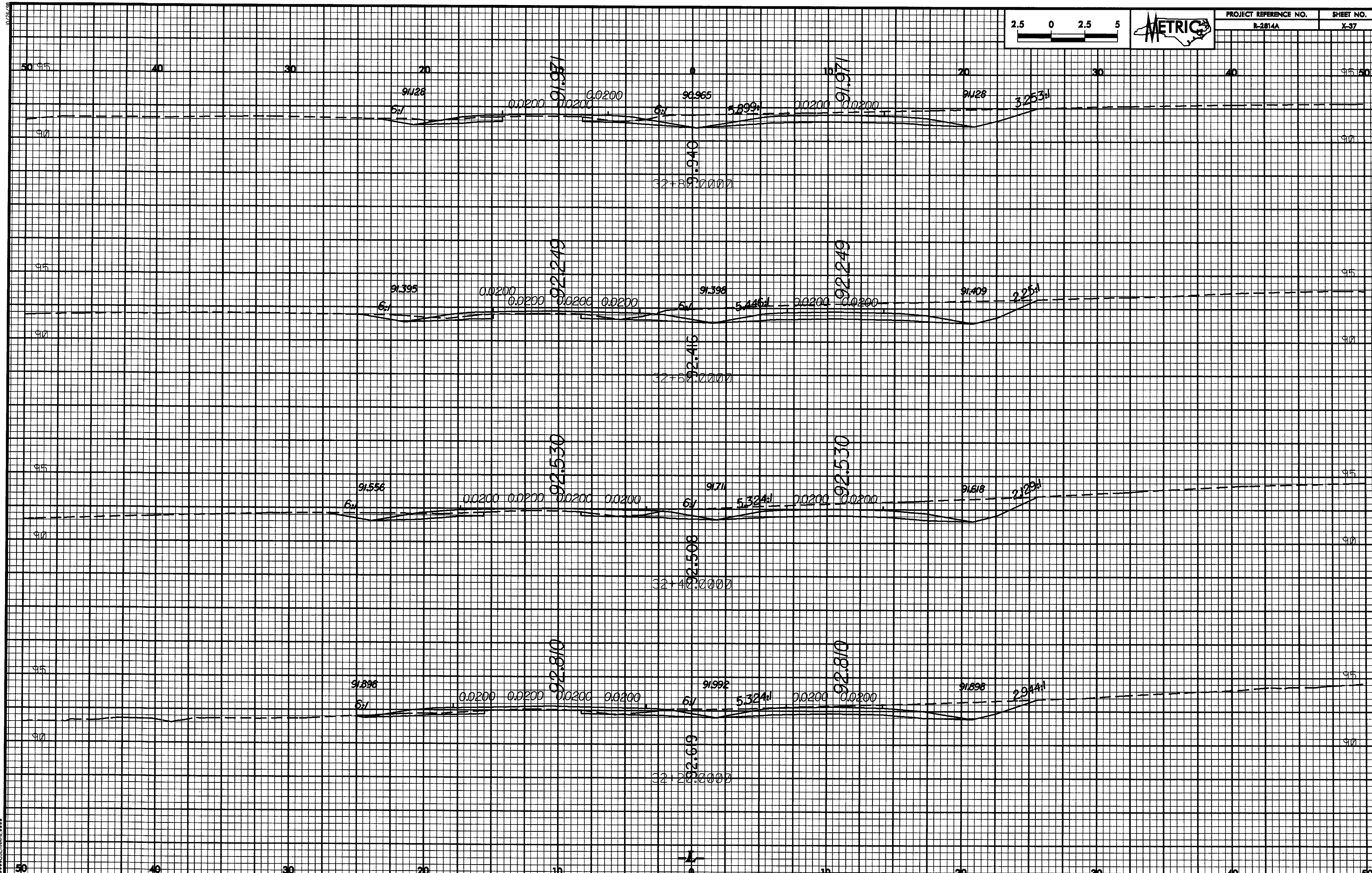


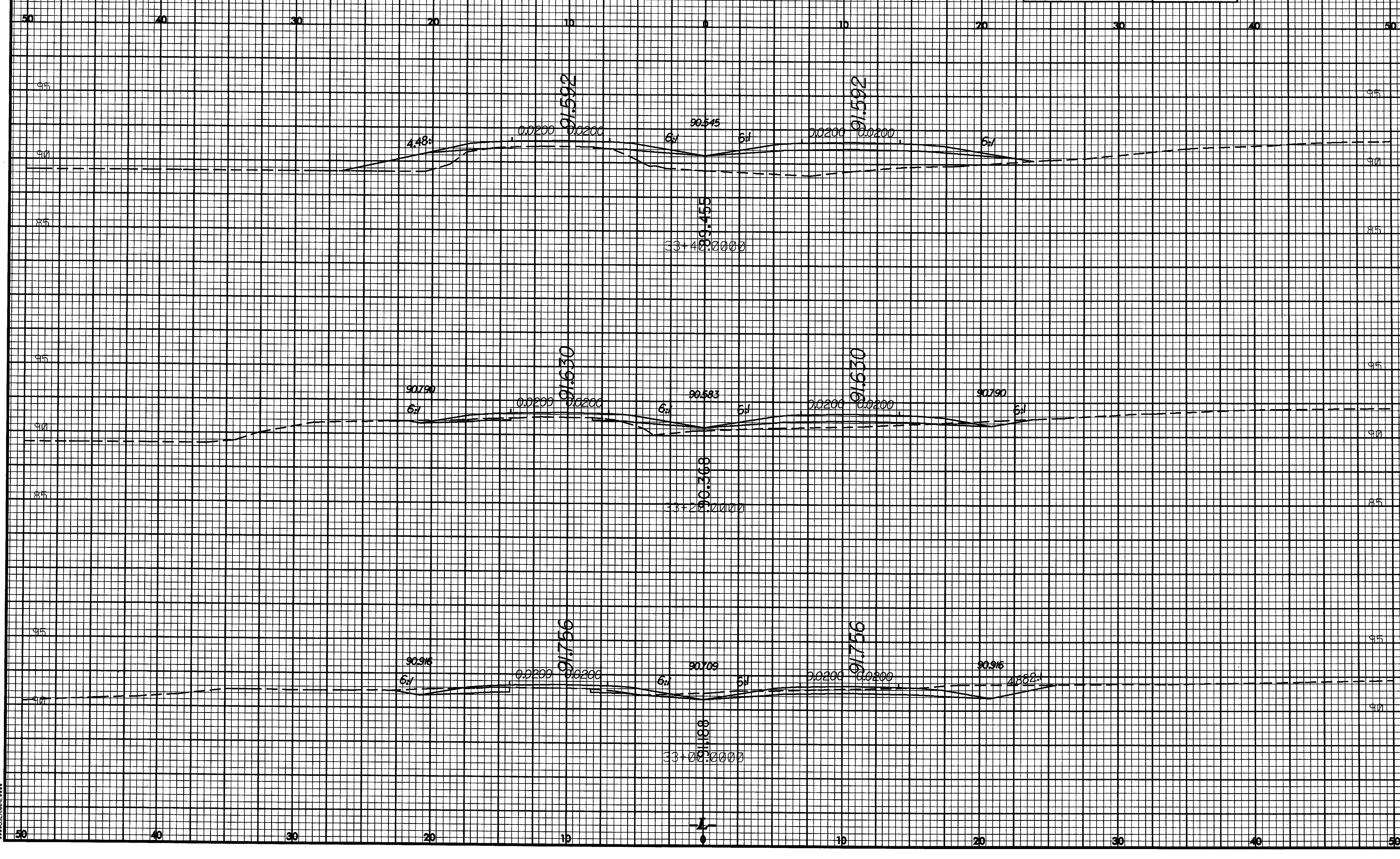
PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-34
2.5 0 2.5 5
METRIC
-Y5-
-Y4-
94.776
94.776
0.0200
0.0200
0.0273
0.0277
0.0200
0.0200
94.359
30+80.0000
SP#4
-Y5- Sta.10+20.000
El. = 94.747
(See Sheet X-62)
95.057
95.057
94.701
4:1
5.219:1
2:1 2:1
93.390
0.0200
0.0200
0.0200
0.0200
0.0200
0.0200
0.0200
SP#3
-Y4- Sta.12+40.000
El. = 94.843
(See Sheet X-61)
94.684
30+60.0000
95.337
95.337
94.827
4:1
6.014:1
6:1
2:1 2:1
93.800
94.425
2:1
0.0200
0.0200
0.0200
0.0200
0.0200
0.0200
0.0200
95.913
30+40.0000
-L-


PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-35
METRIC
2.5 0 2.5 5
50 40 30 20 10 0 10 20 30 40 50
93.934
93.934
93.022
93.311
93.022
6:1
6:1
4.3:1
2:1
0.0200 0.0200 0.0200 0.0200 0.0200 0.0200
94.309
31+40.0000
94.214
94.214
93.302
93.703
93.228
6:1
6:1
4:1
2.154:1
0.0200 0.0200 0.0200 0.0200 0.0200 0.0200 0.0200
94.458
31+20.0000
-Y5- Sta.10+20.000
El = 94.400
(See Sheet X-62)
SP*5
94.495
94.495
94.144
93.349
4.034:1
2.154:1
0.0200 0.0200 0.0200 0.0200 0.0200 0.0200
94.308
31+00.0000
95
90
100

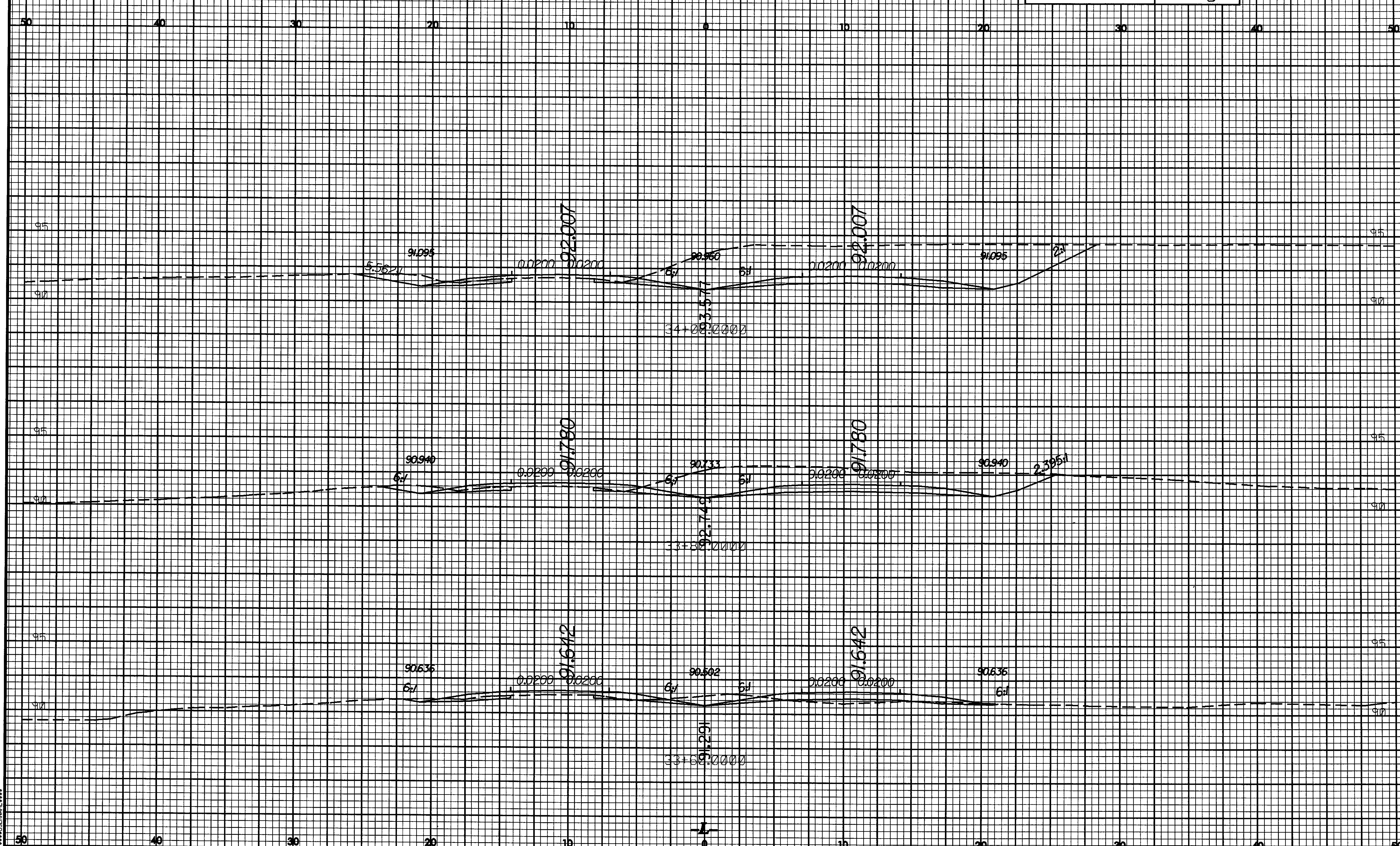

PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-36
METRIC
2.5 0 2.5 5
92.179
6:1
0.0200 0.0200 93.091 0.0200 0.0200
92.272
6:1
5.324:1
0.0200 93.091 0.0200
92.251
3.619:1
92.72
32+08.0000
92.460
6:1
0.0200 0.0200 93.372 0.0200 0.0200
92.578
6:1
5.219:1
0.0200 93.372 0.0200
92.460
2.926:1
93.158
31+88.0000
92.741
6:1
0.0200 0.0200 93.653 0.0200 0.0200
92.945
6:1
4.784:1
0.0200 93.653 0.0200
92.813
93.661
31+68.0000
-L-
08-JAN-2039 09:25
R2814A_Rdy_L_xpl.dgn


PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-37
METRIC
2.5 0 2.5 5
32+80.0000
32+60.0000
32+40.0000
32+20.0000
-L-
91.971
92.249
92.530
92.810
90.940
92.416
92.508
92.69
91.128
90.965
91.395
91.398
91.409
91.556
91.711
91.618
91.898
91.992
91.898
0.0200
6:1
5.899:1
3.253:1
5.446:1
2.25:1
5.324:1
2.129:1
2.944:1

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-38



PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-39



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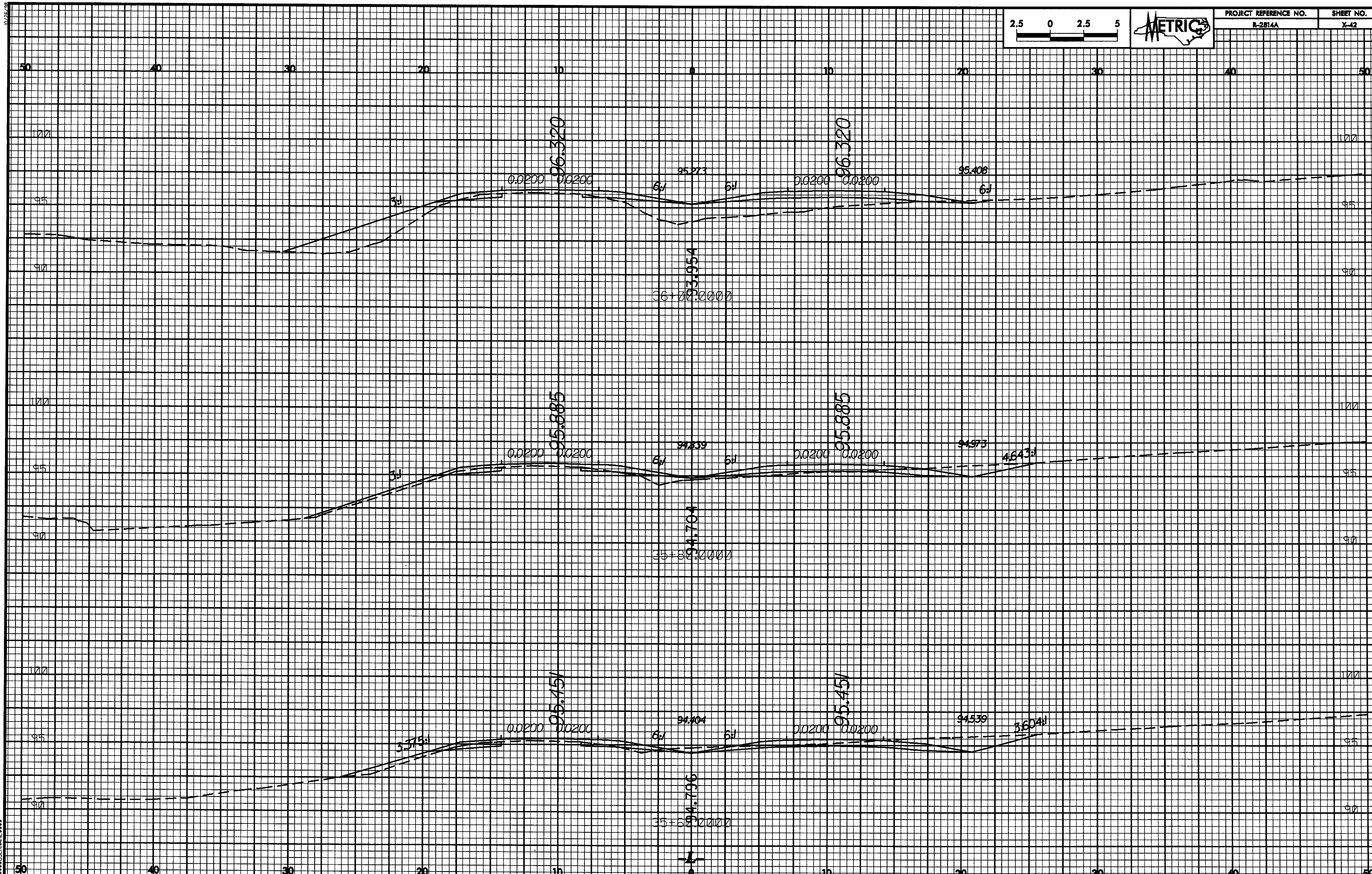
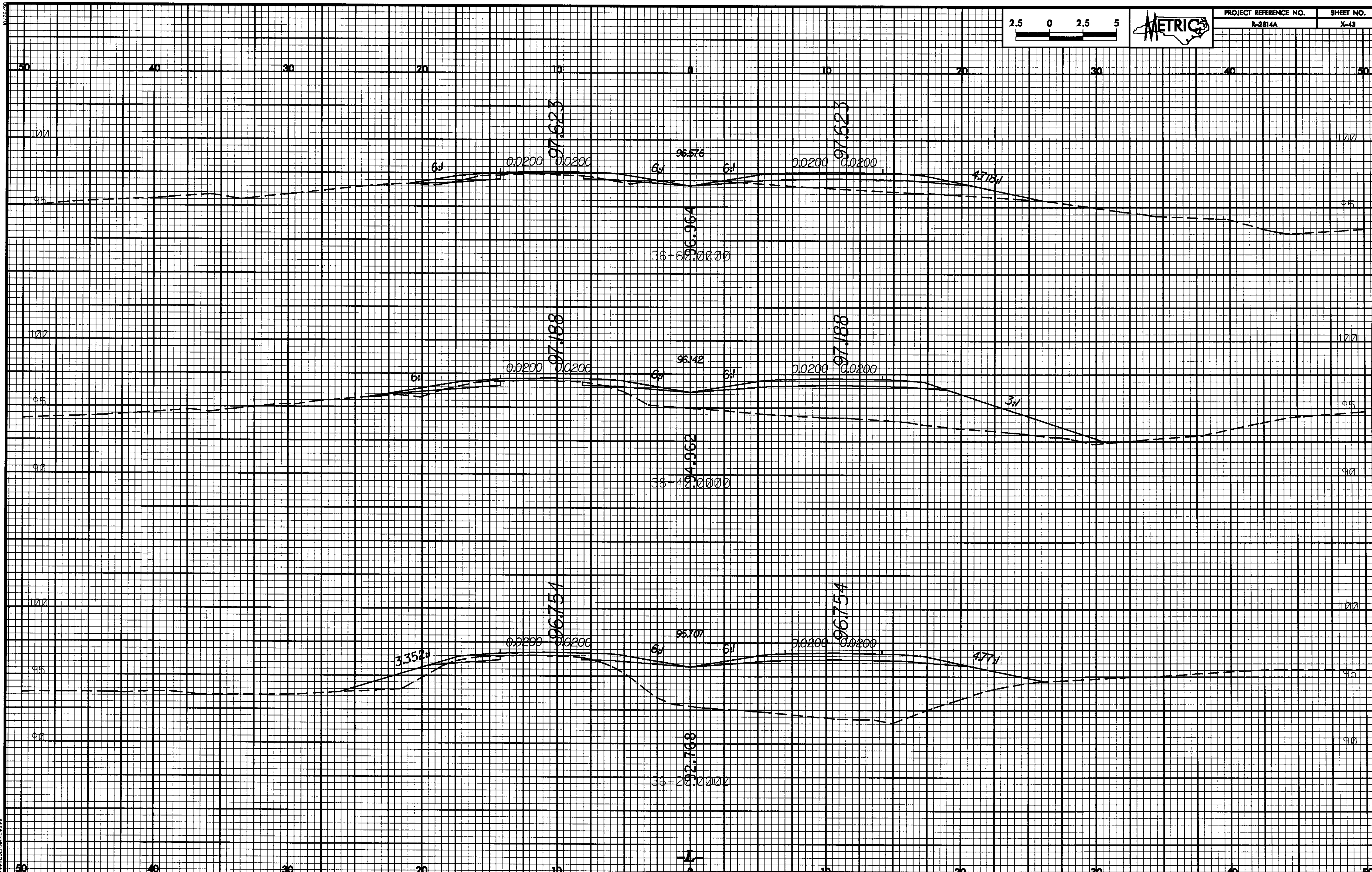
PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-40

PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-41
METRIC
2.5 0 2.5 5
95.017
93.970
94.105
94.797
35+40.0000
94.582
93.670
93.535
94.751
35+20.0000
94.130
93.290
93.084
95.089
35+00.0000
93.661
92.749
92.614
94.870
34+80.0000
0.0200
6:1
2:1

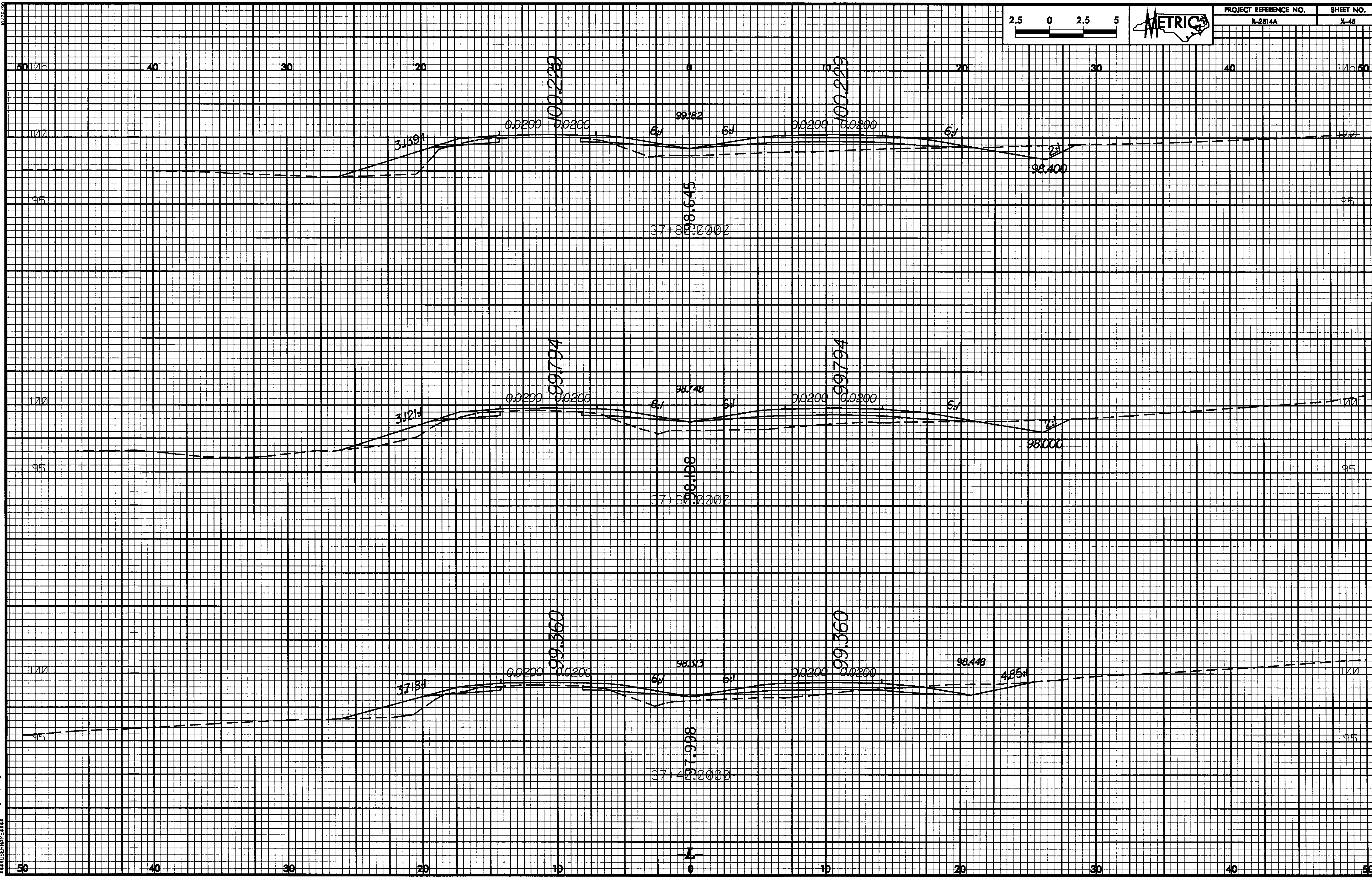


2.5 0 2.5 5
METRIC
PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-42
50 40 30 20 10 0 10 20 30 40 50
100
95
90
96.320
96.320
0.0200 0.0200
0.0200 0.0200
95.273
95.406
6:1
6:1
6:1
3:1
93.954
36+00.0000
95.885
95.885
94.839
94.973
4.643:1
94.704
35+80.0000
95.451
95.451
94.404
94.539
3.375:1
3.604:1
94.796
35+60.0000
-L-

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-43

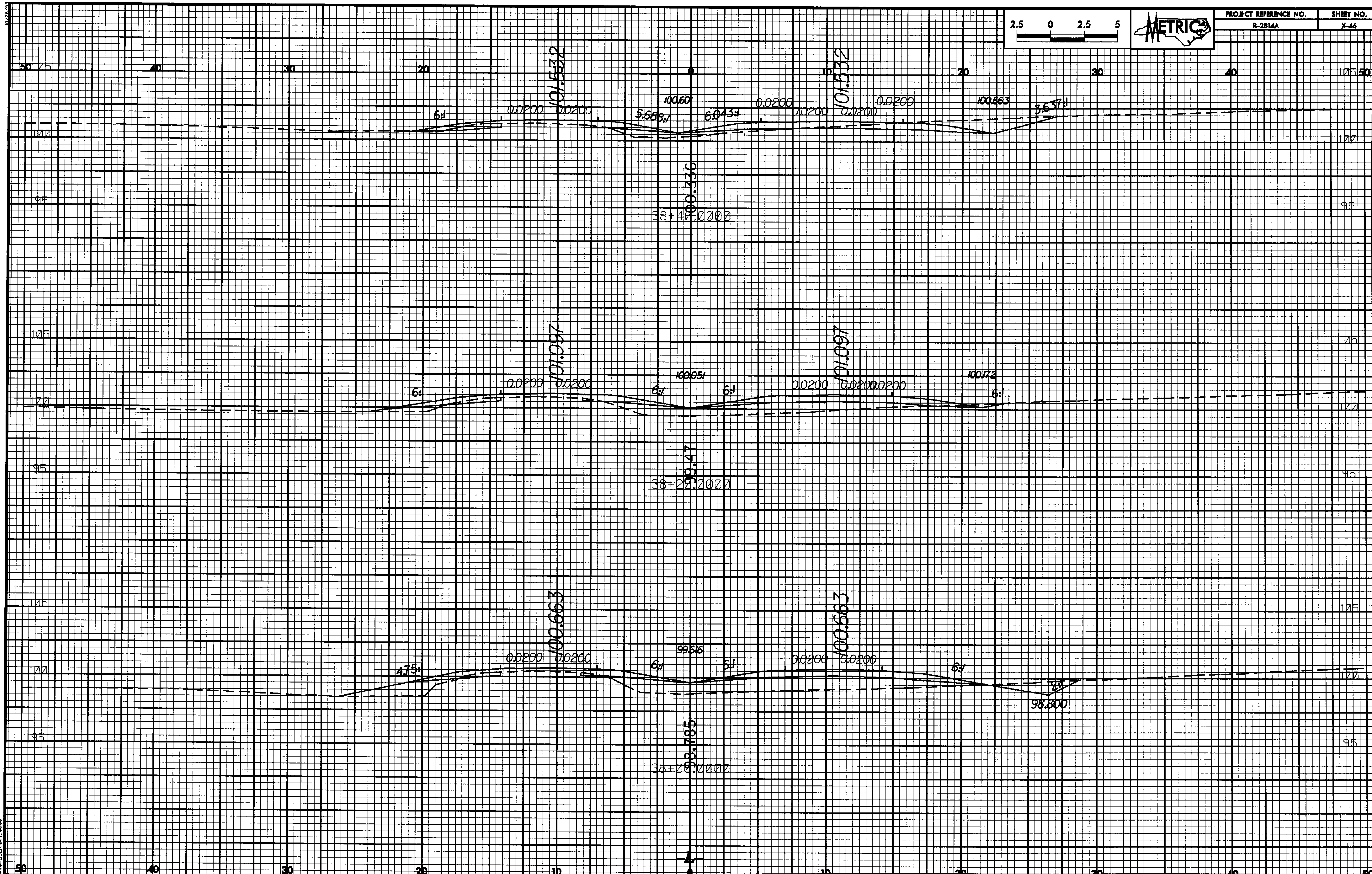


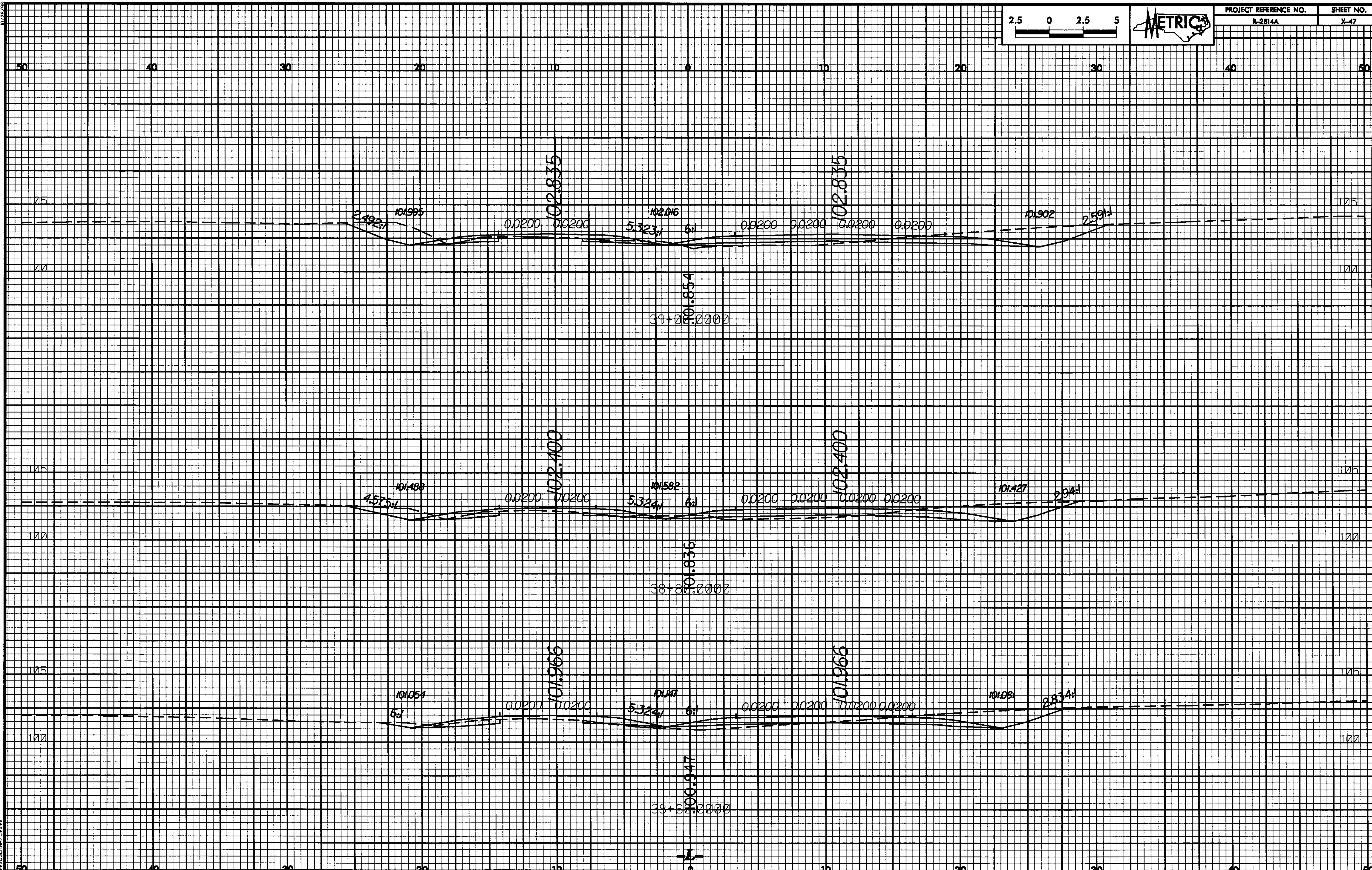
PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-44
2.5 0 2.5 5
METRIC
50 40 30 20 10 0 10 20 30 40 50
100
95
98.014
6:1
0.0200
98.926
0.0200
97.879
6:1
6:1
0.0200
98.926
0.0200
98.014
2.544:1
98.951
37+20.0000
97.579
6:1
0.0200
98.491
0.0200
97.445
6:1
6:1
0.0200
98.491
0.0200
97.651
3.188:1
98.691
37+00.0000
97.217
6:1
0.0200
98.057
0.0200
97.010
6:1
6:1
0.0200
98.057
0.0200
97.145
6:1
98.125
36+80.0000
-L-



PROJECT REFERENCE NO.
SHEET NO.
R-2814A
X-45
2.5 0 2.5 5
METRIC
99.182
100.229
0.0200 0.0200
3.139:1
6:1
2:1
98.400
98.645
37+80.0000
97.794
98.748
3.121:1
98.000
98.108
37+60.0000
99.360
98.313
98.448
3.718:1
4.85:1
97.998
37+40.0000
105
100
95
50 40 30 20 10 0 10 20 30 40 50

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-46





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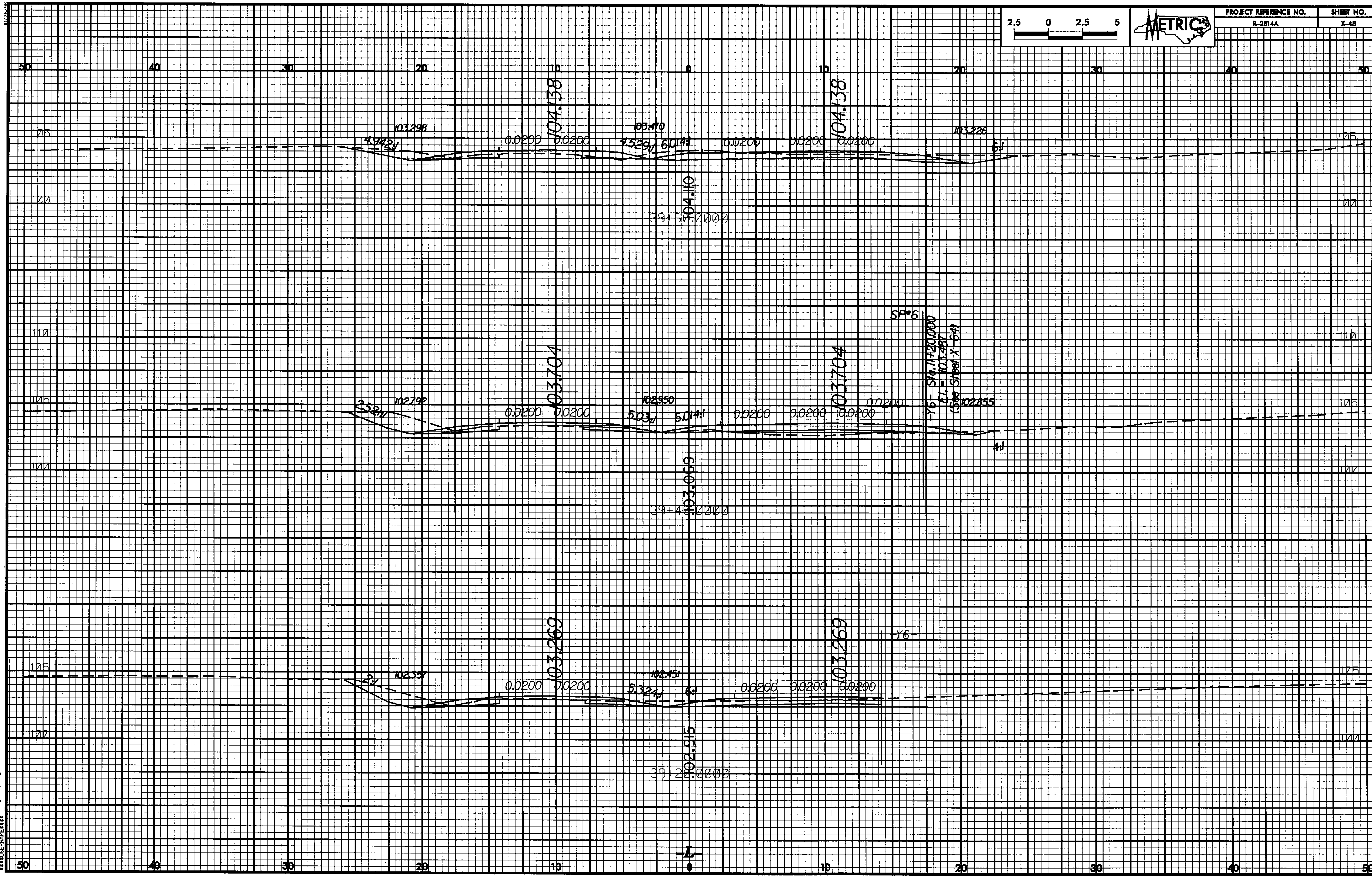
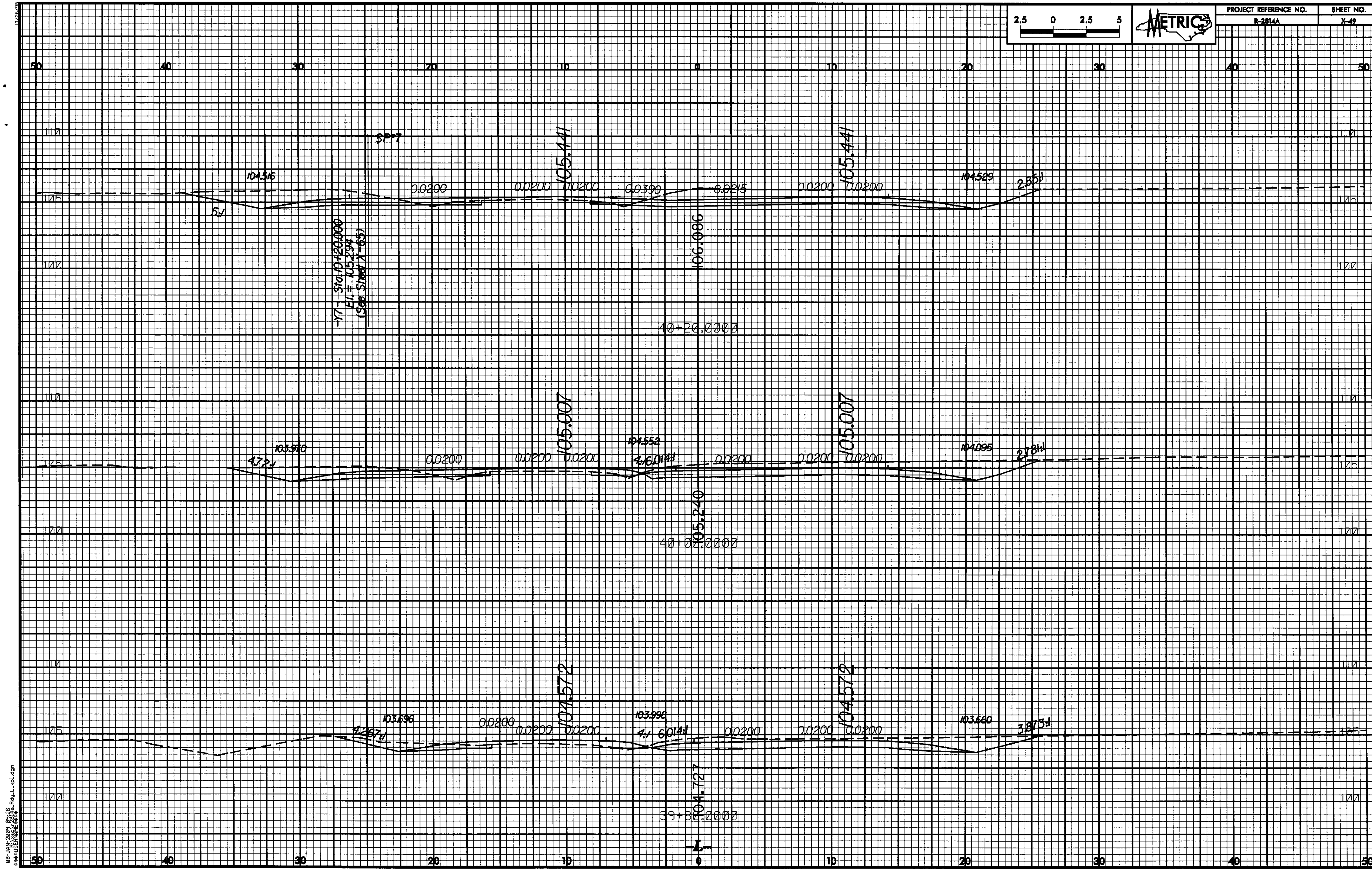
08-JAN-2009 09:26 Rdy_L_xpl.dgn


PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-48
METRIC
2.5 0 2.5 5
50 40 30 20 10 0 10 20 30 40 50
105
100
110
104.138
104.138
103.298
103.410
103.226
4.942:1
4.529:1
6.014:1
6:1
0.0200
104.110
39+60.0000
103.704
103.704
102.792
102.950
102.855
2.524:1
5.031:1
6.014:1
4:1
SP*6
-Y6- Sta. 11+20.000
El. = 103.487
(See Sheet X-64)
103.059
39+40.0000
103.269
103.269
102.357
102.451
2:1
5.324:1
6:1
-Y6-
102.915
39+20.0000
-L-



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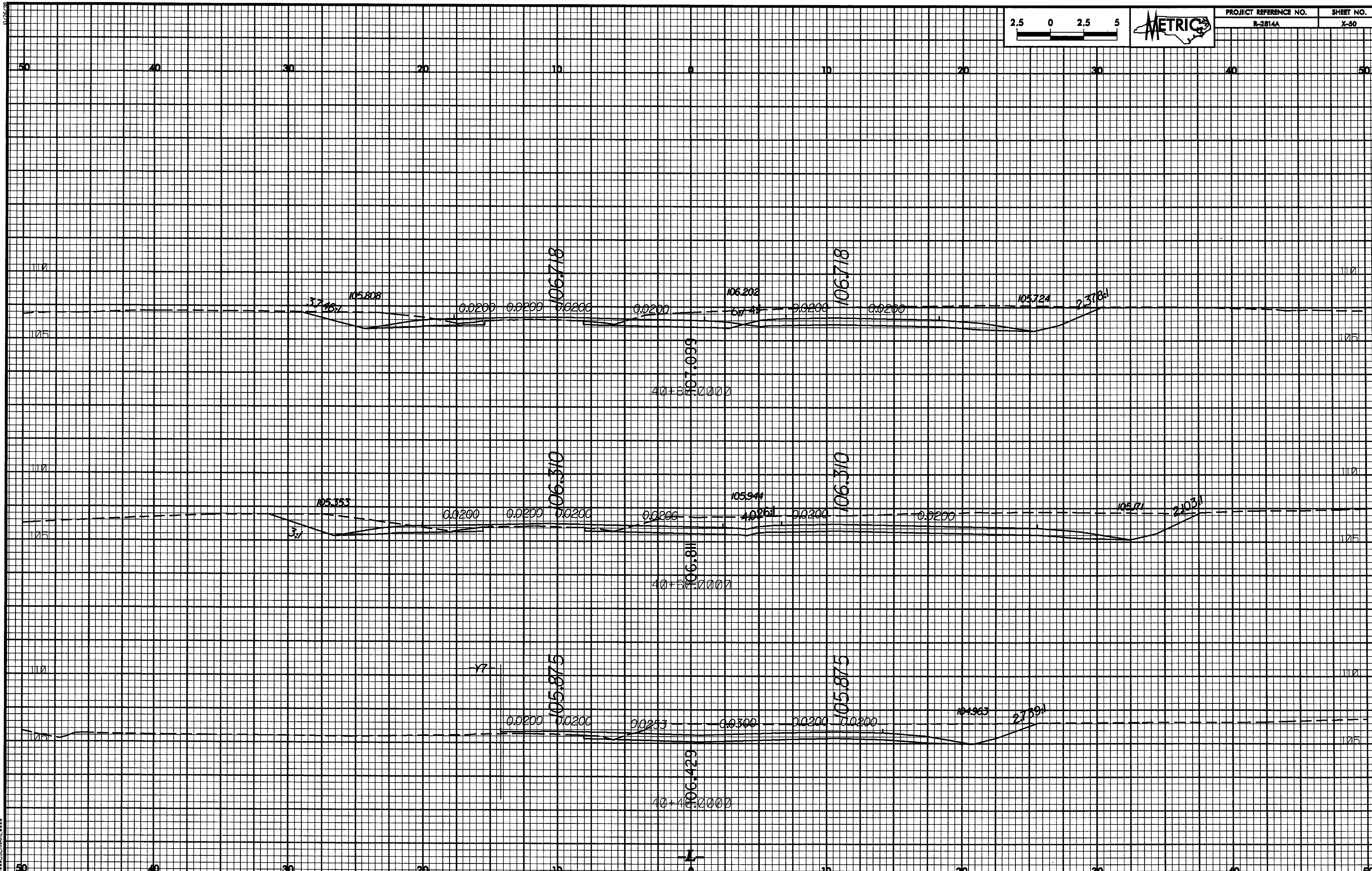
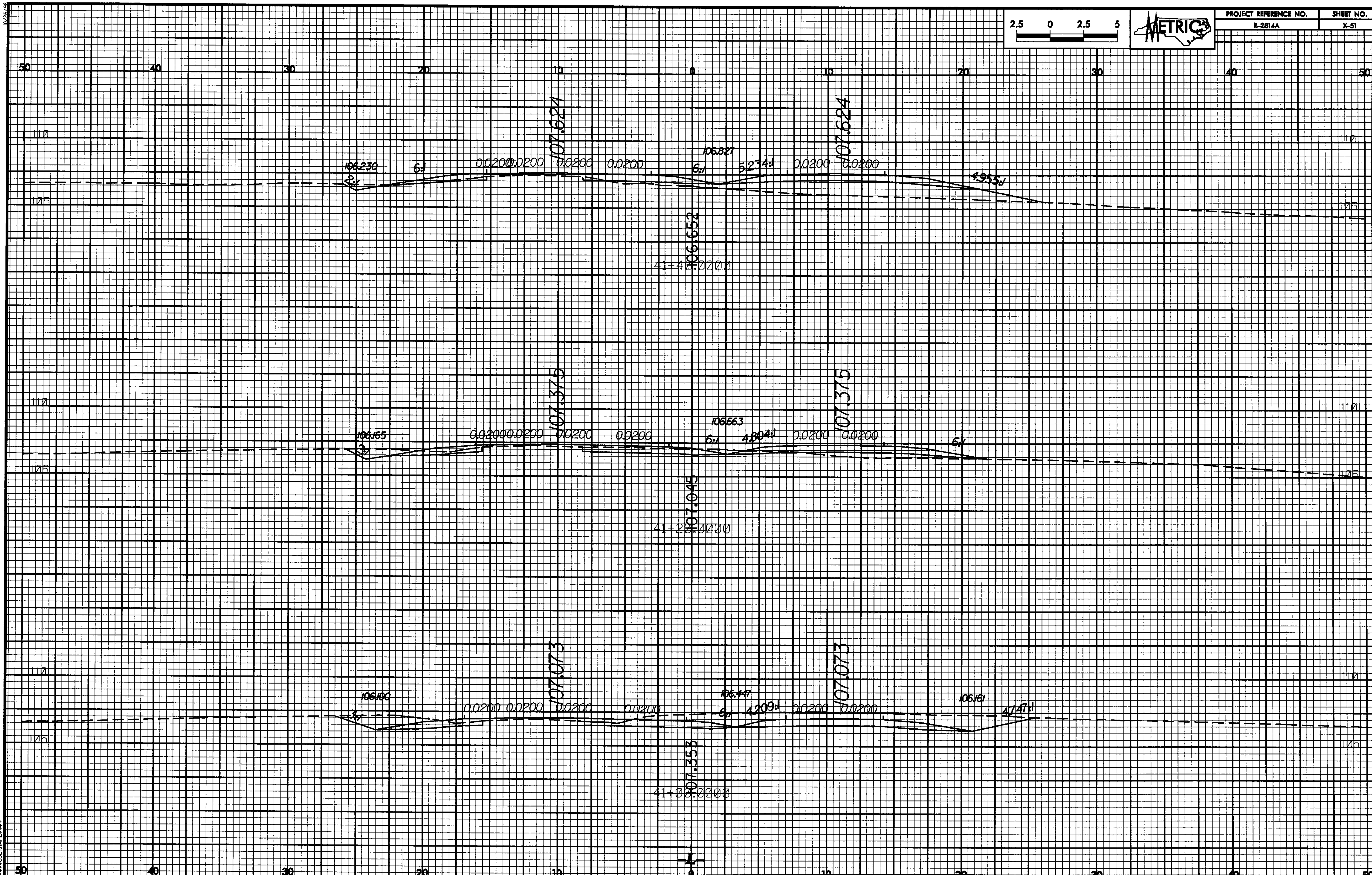
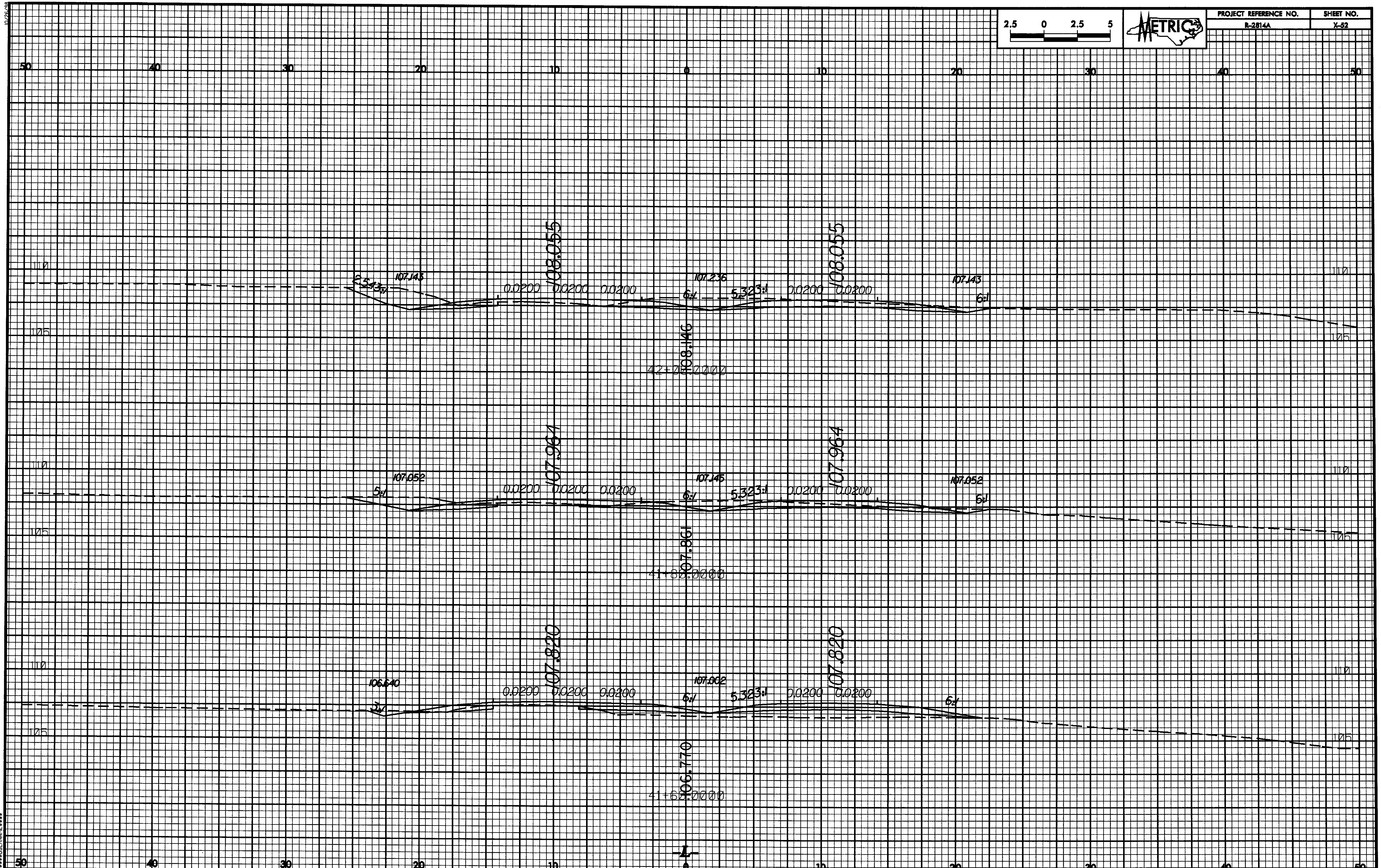
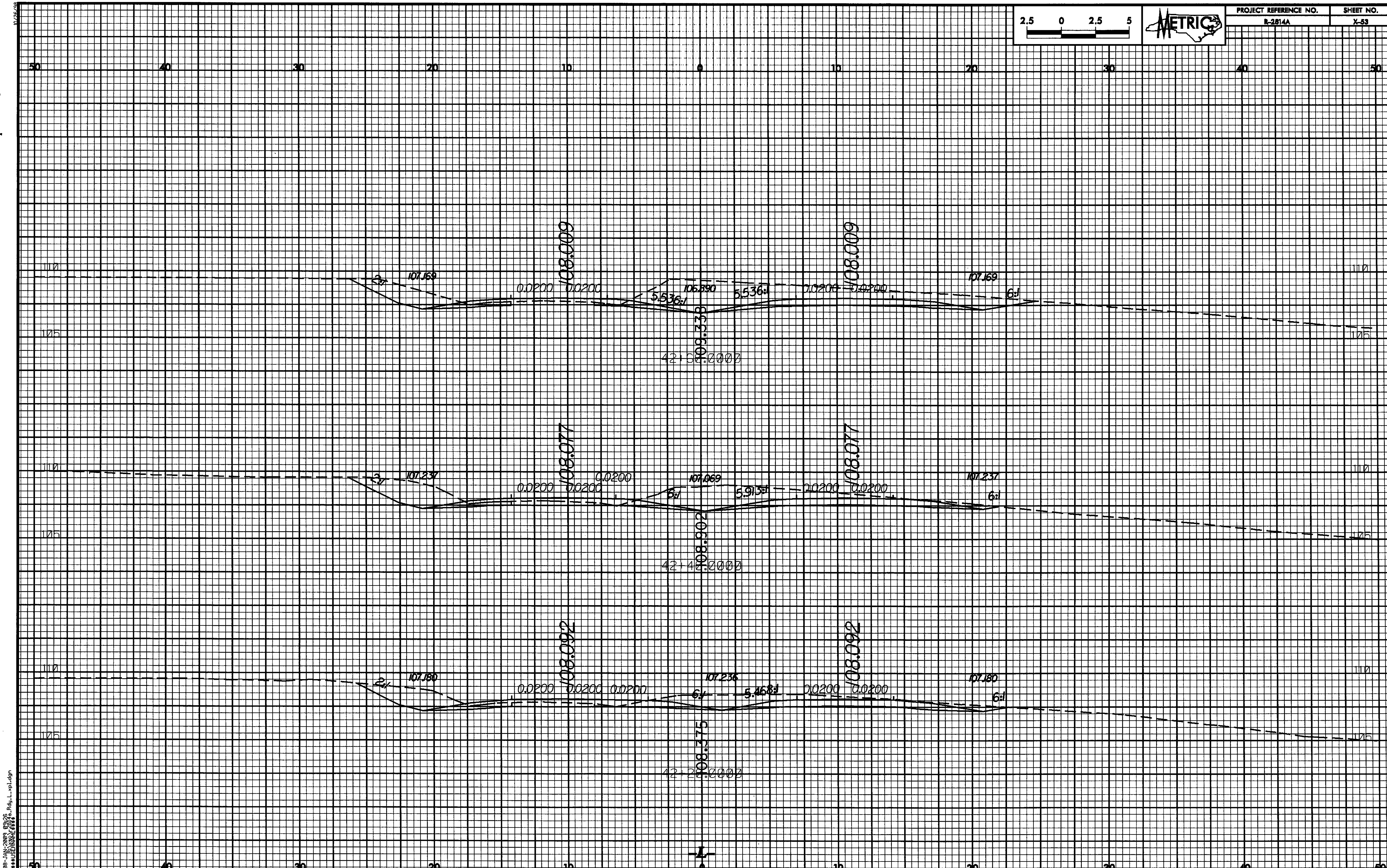
Rdy_L_xpl.dgn


PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-50
METRIC
2.5 0 2.5 5
106.718
106.718
105.808
106.202
105.724
107.099
40+80.0000
106.310
106.310
105.353
105.944
105.171
106.811
40+60.0000
105.875
105.875
104.963
106.429
40+40.0000
-Y7-
-L-



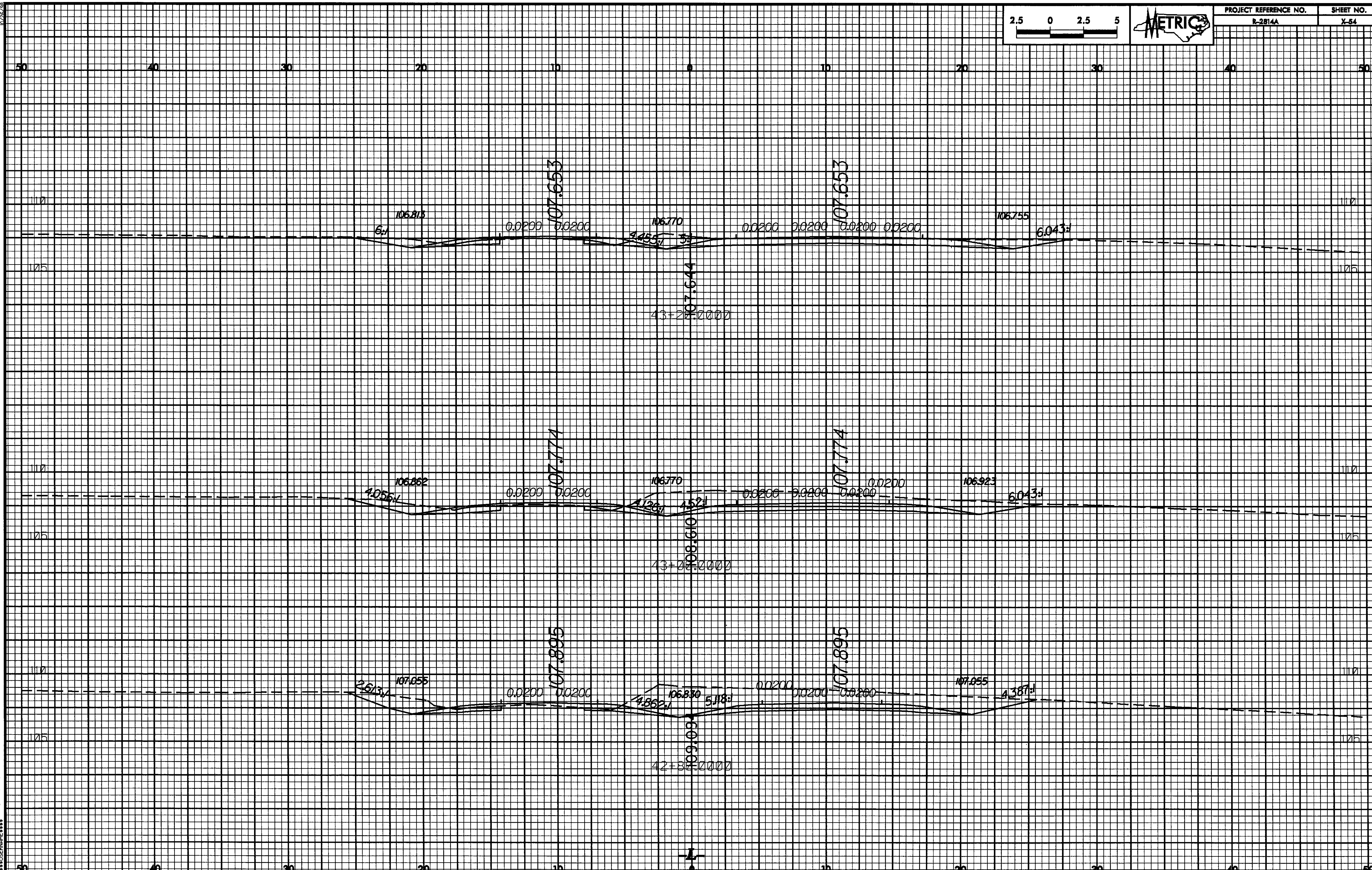
08-JAN-2009 09:26


2.5 0 2.5 5
METRIC
PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-52
108.055
108.055
107.143
107.236
107.143
2.543:1
0.0200
0.0200
0.0200
6:1
5.323:1
0.0200
0.0200
6:1
108.146
42+00.0000
107.964
107.964
107.052
107.145
107.052
5:1
0.0200
0.0200
0.0200
6:1
5.323:1
0.0200
0.0200
5:1
107.861
41+80.0000
107.820
107.820
106.640
107.062
3:1
0.0200
0.0200
0.0200
6:1
5.323:1
0.0200
0.0200
6:1
106.770
41+60.0000
-L-
110
105
50
40
30
20
10
0


2.5 0 2.5 5
METRIC
PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-53
50 40 30 20 10 0 10 20 30 40 50
110
105
108.009
108.009
107.169
107.169
0.0200
0.0200
106.890
5.536:1
5.536:1
0.0200
0.0200
6:1
2:1
109.339
42+60.0000
108.077
108.077
107.237
107.237
0.0200
0.0200
0.0200
107.069
6:1
5.913:1
0.0200
0.0200
6:1
2:1
108.902
42+40.0000
108.092
108.092
107.180
107.180
0.0200
0.0200
0.0200
107.236
6:1
5.468:1
0.0200
0.0200
6:1
2:1
108.775
42+20.0000
-L-

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-54

METRIC



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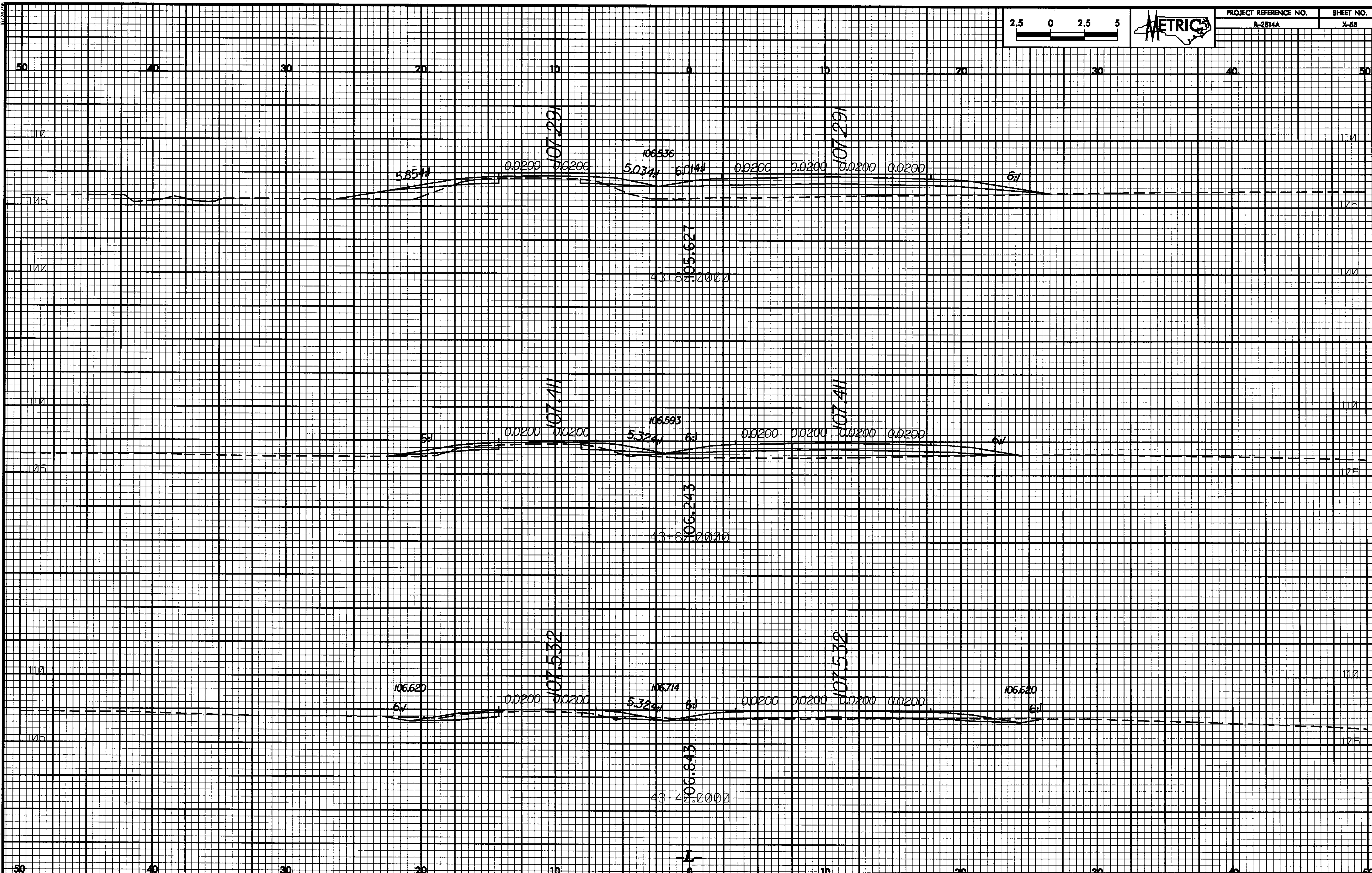
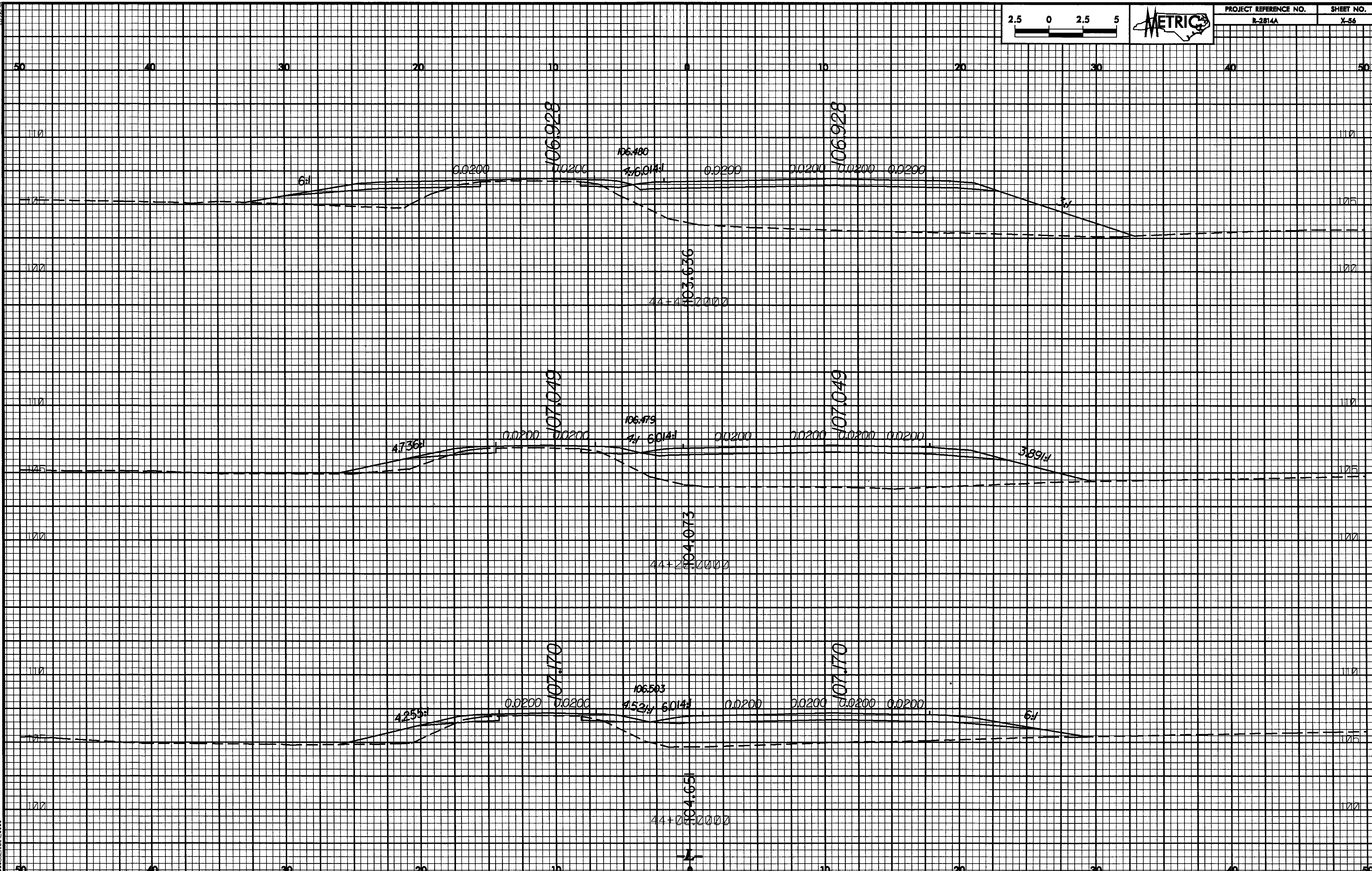
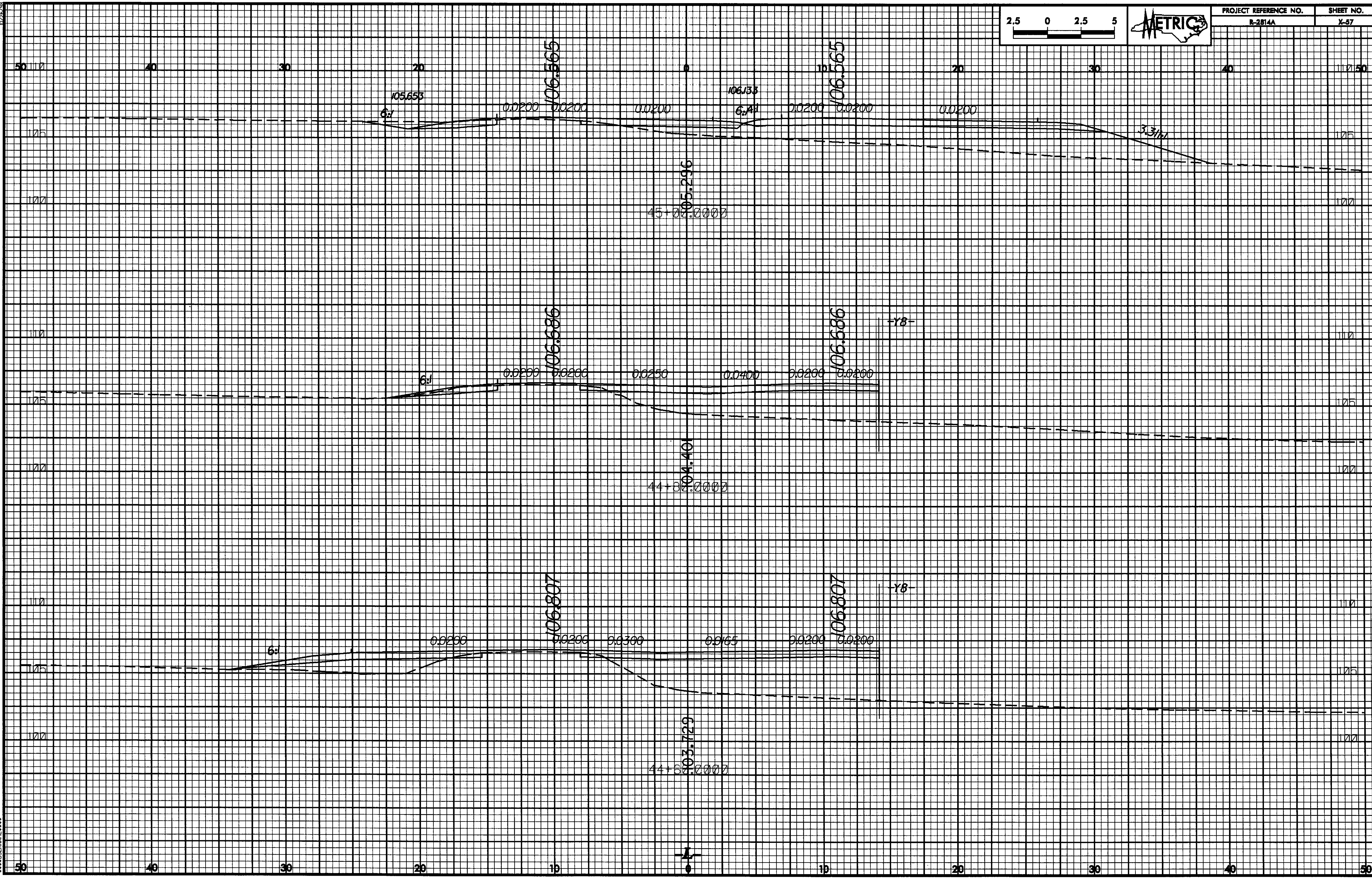
$$$$USERNAME$$$$


PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-55
2.5 0 2.5 5
METRIC
10/26/98
107.291
107.291
106.536
5.854:1
0.0200
0.0200
5.034:1
6.014:1
0.0200
0.0200
0.0200
0.0200
6:1
105.627
43+80.0000
107.411
107.411
106.593
6:1
0.0200
0.0200
5.324:1
6:1
0.0200
0.0200
0.0200
0.0200
6:1
106.243
43+60.0000
107.532
107.532
106.620
106.714
106.620
6:1
0.0200
0.0200
5.324:1
6:1
0.0200
0.0200
0.0200
0.0200
6:1
106.843
43+40.0000
-L-
110
105
100
50
40
30
20
10
0
10
20
30
40
50

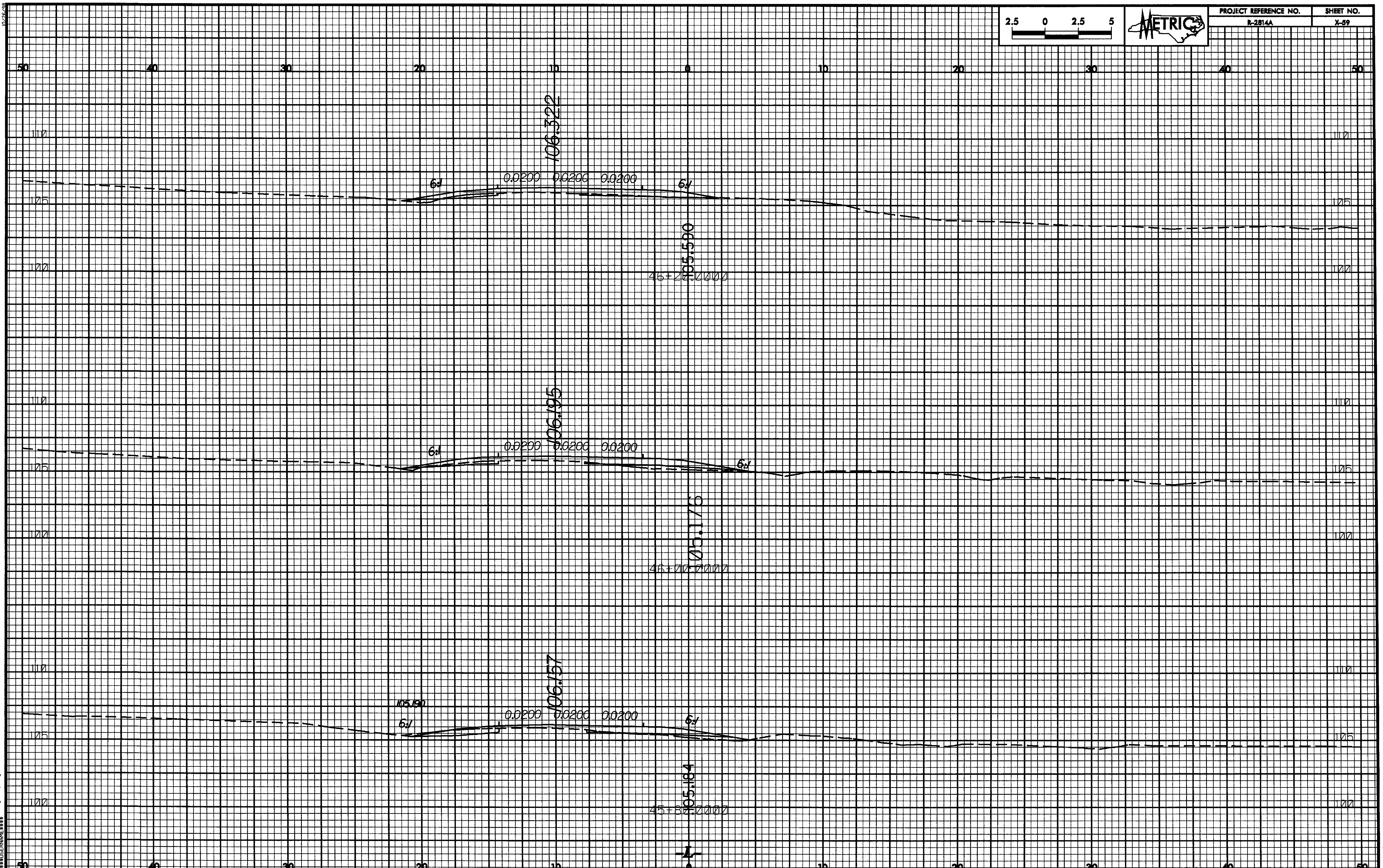
PROJECT REFERENCE NO. R-2814A
SHEET NO. X-56





PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-57
METRIC
2.5 0 2.5 5
105.653
6:1
0.0200
106.565
0.0200
0.0200
106.133
6.4:1
0.0200
106.565
0.0200
0.0200
3.31:1
105.296
45+00.0000
-Y8-
106.686
6:1
0.0200
0.0200
0.0250
0.0400
0.0200
106.686
0.0200
104.401
44+80.0000
-Y8-
106.807
6:1
0.0200
0.0200
0.0300
0.0165
0.0200
106.807
0.0200
103.729
44+60.0000
-L-

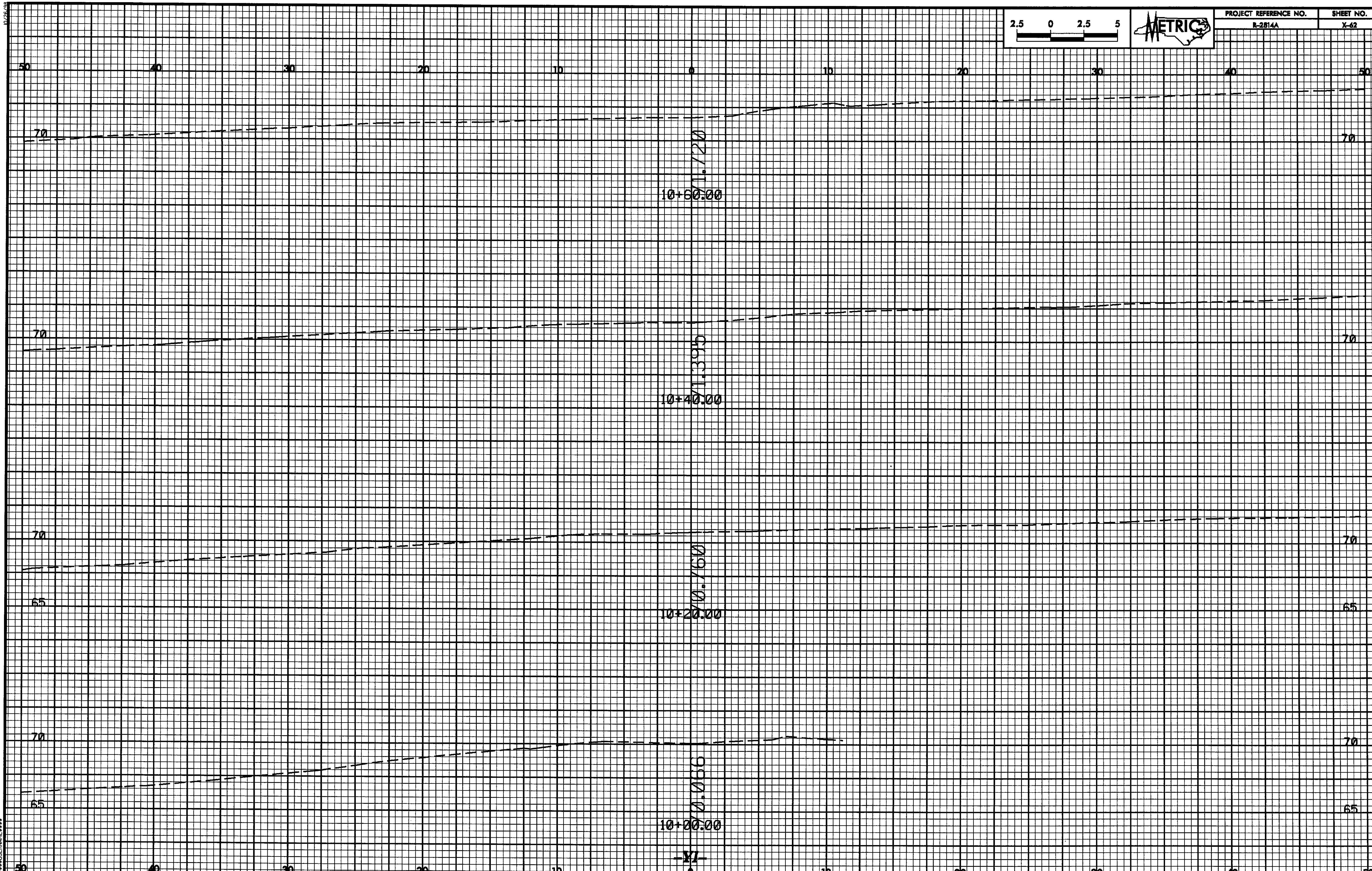

PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-58
METRIC
2.5 0 2.5 5
50 40 30 20 10 0 10 20 30 40 50
110
105
100
105.291
106.207
5.054:1
0.0200 0.0200 0.0200
6:1
6:1
105.687
45+30.0000
106.321
106.324
105.412
105.668
6:1
0.0200 0.0200 0.0200
6:1
4.4:1
0.0200 0.0200
6:1
105.857
45+40.0000
106.441
106.444
105.532
105.890
6:1
0.0200 0.0200 0.0200
6:1
4:
0.0200 0.0200 0.0200
6.117:1
105.788
45+20.0000
-L-
08-JAN-2009 09:26
Rdy_L_xpl.dgn
10/26/98



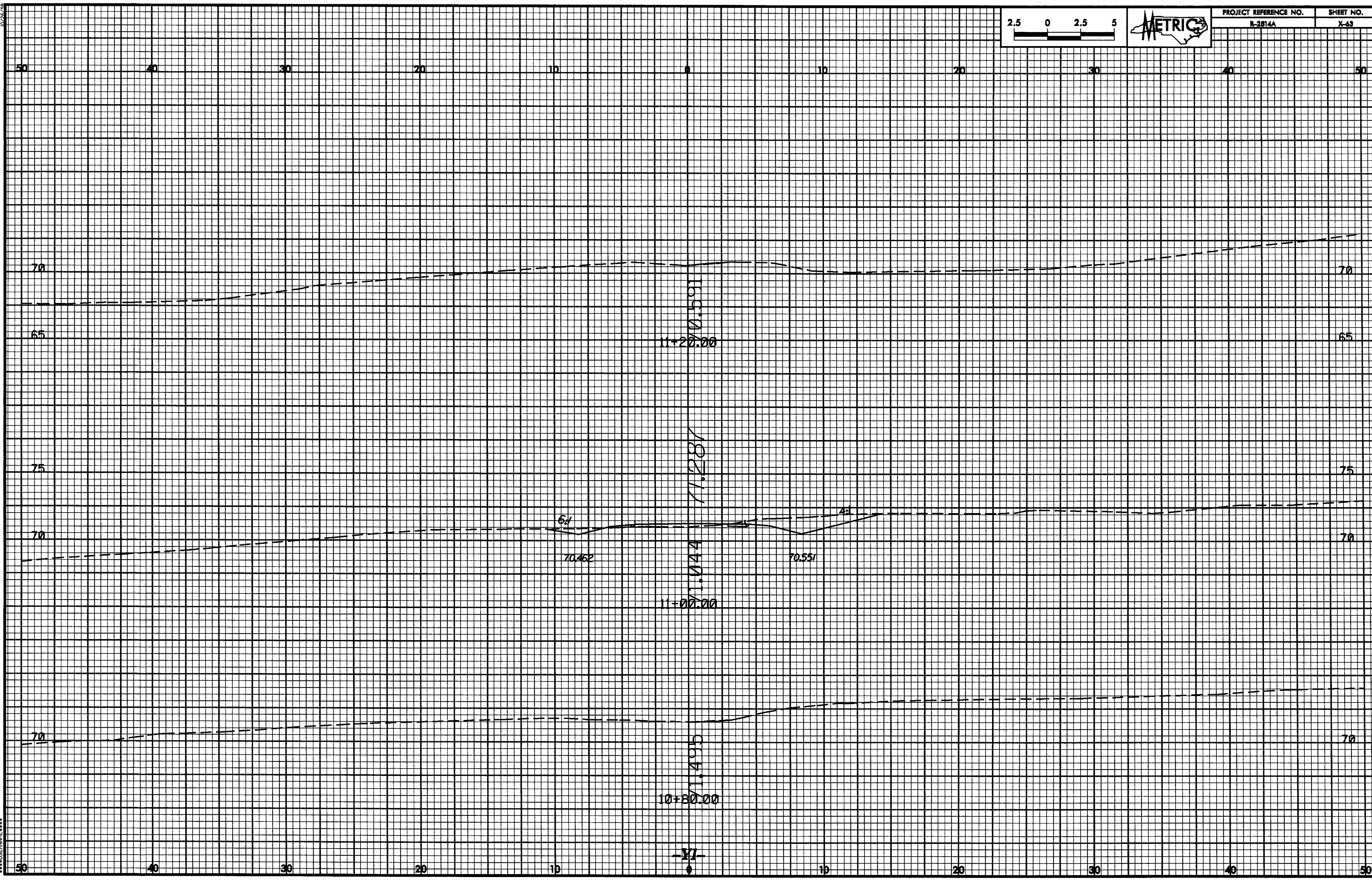
2.5 0 2.5 5
METRIC
PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-59
50 40 30 20 10 0 10 20 30 40 50
110
105
100
106.322
0.0200 0.0200 0.0200
6:1
6:1
105.590
46+20.0000
106.195
105.176
46+00.0000
106.157
105.190
105.184
45+80.0000
-L-

10/26/98
08-JAN-2009 09:26

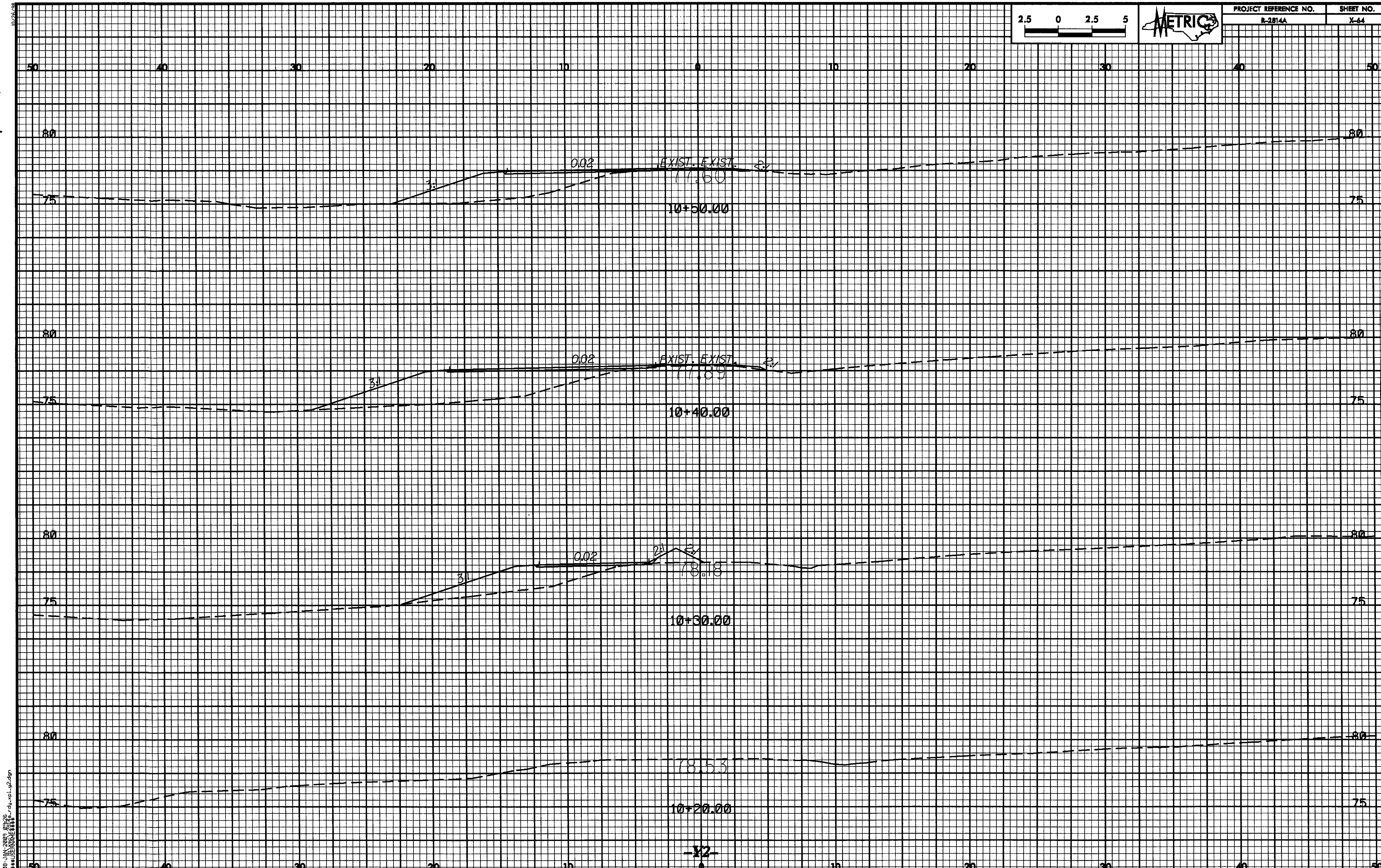
2.5 0 2.5 5
METRIC
PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-61
50 40 30 20 10 0 10 20 30 40 50
47+40.0000
EXIST. EXIST.
105
47+20.0000
110
107.692
0.0200 0.0200
6:1
2:1
4:1
106.000
105.928
47+00.0000
08-JAN-2009 09:26


PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-62
METRIC
2.5 0 2.5 5
10+60.00
71.720
10+40.00
71.395
10+20.00
70.760
10+00.00
70.066
-Y1-
08-JAN-2009 09:25

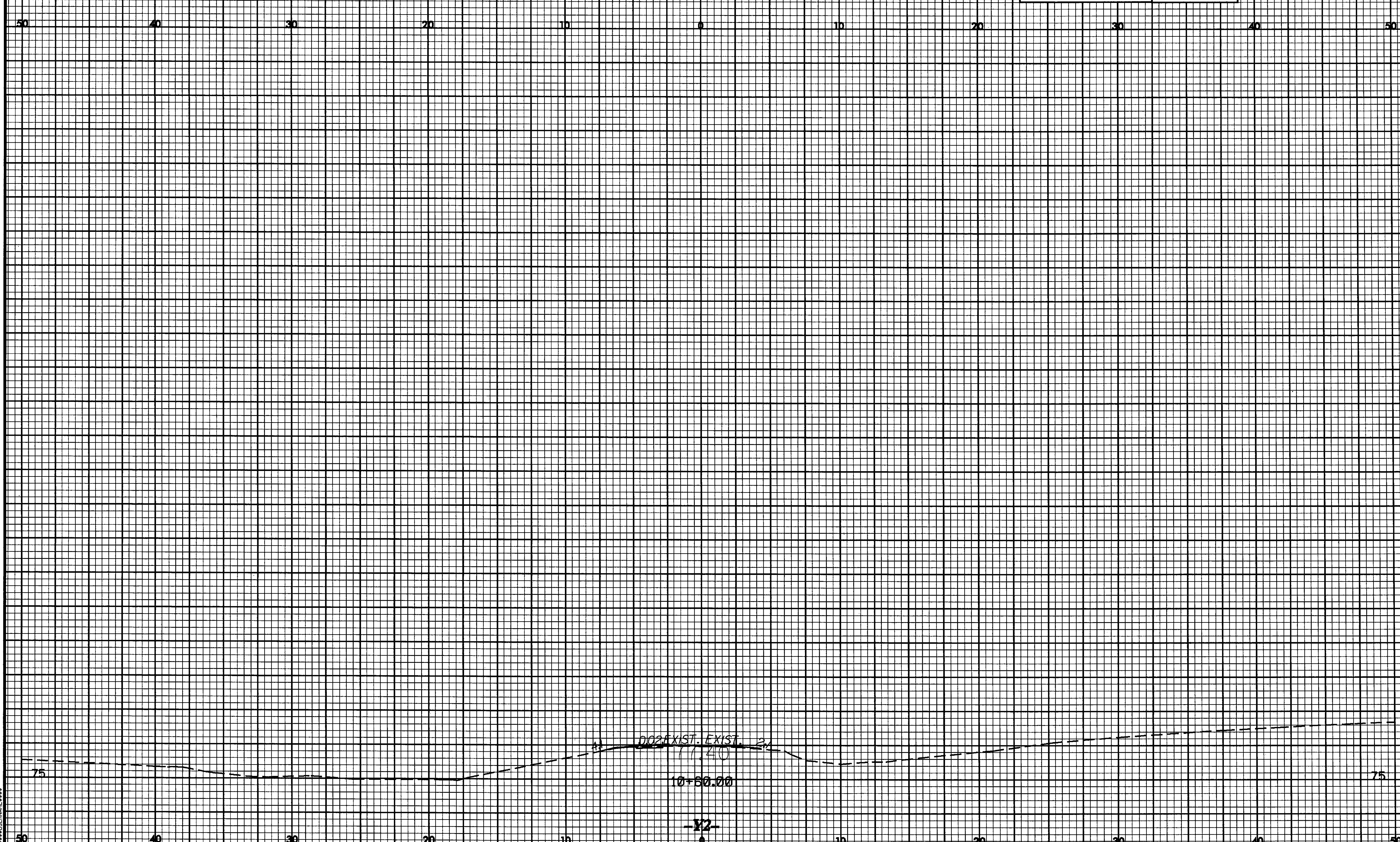
PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-63



PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-64

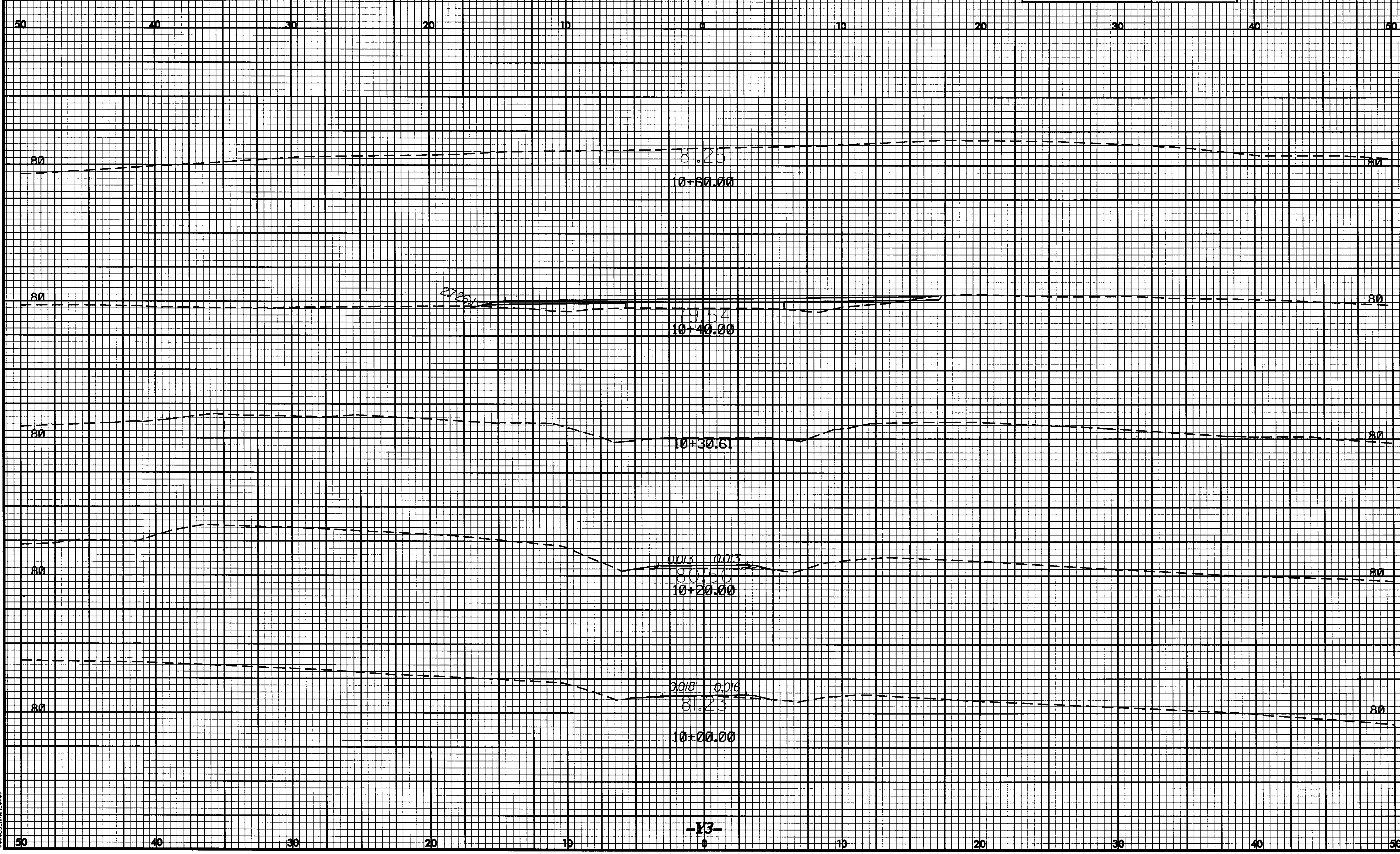


PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-65



PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-66

METRIC



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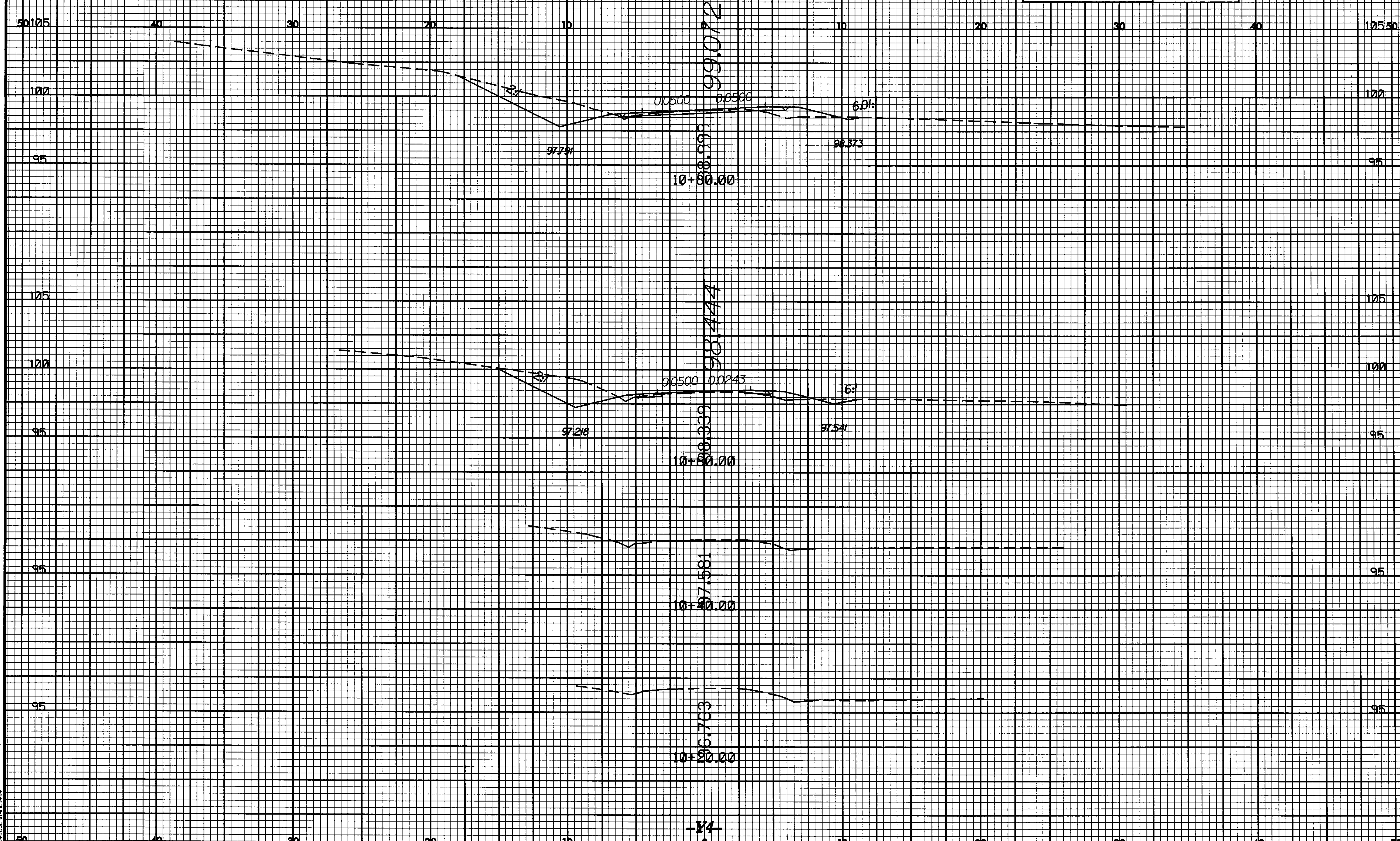
R:\Xsc\R2814a_rdy-xpl-y3.dgn
$$$$USERNAME$$$$

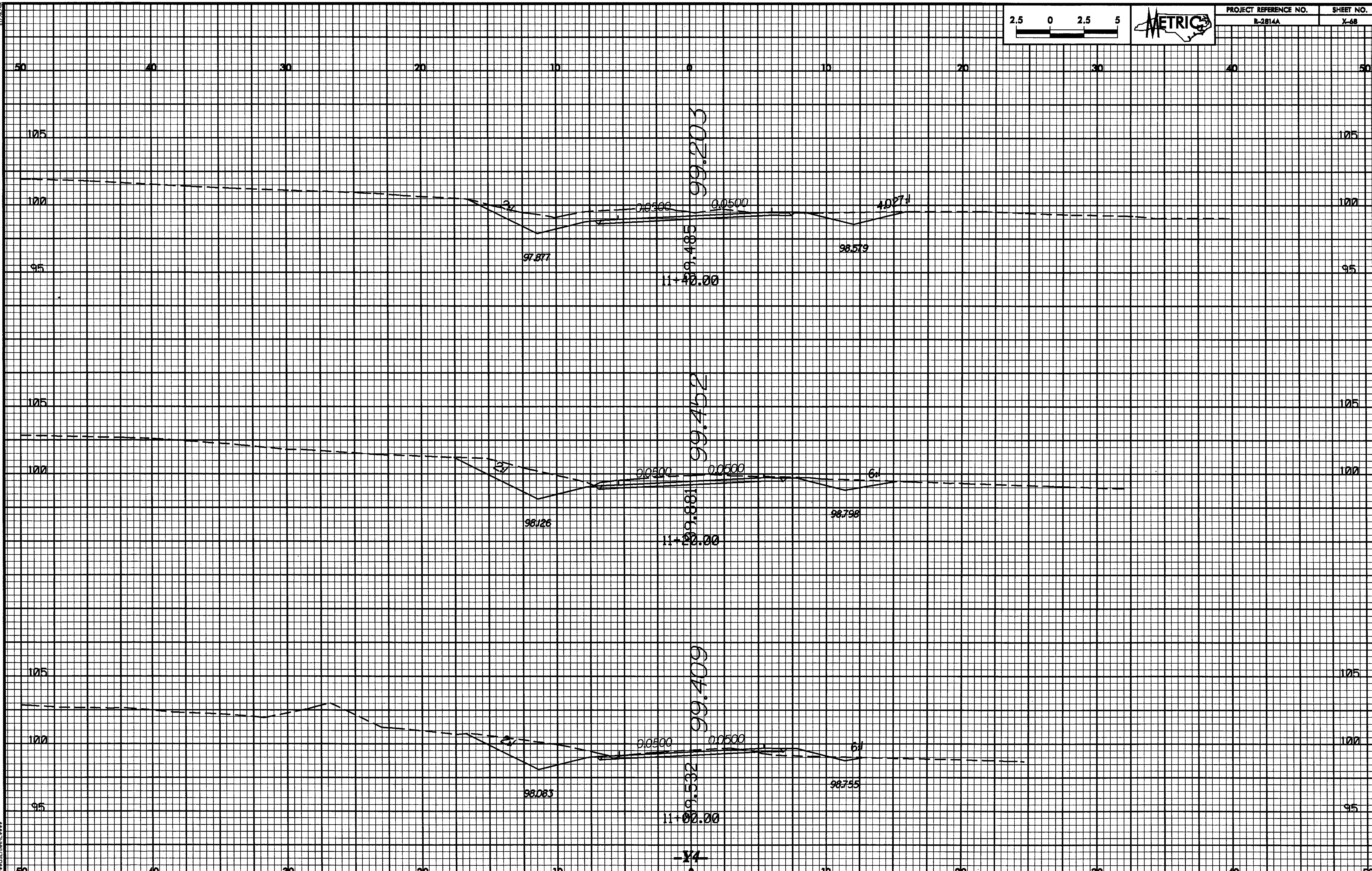
PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-67

2.5 0 2.5 5

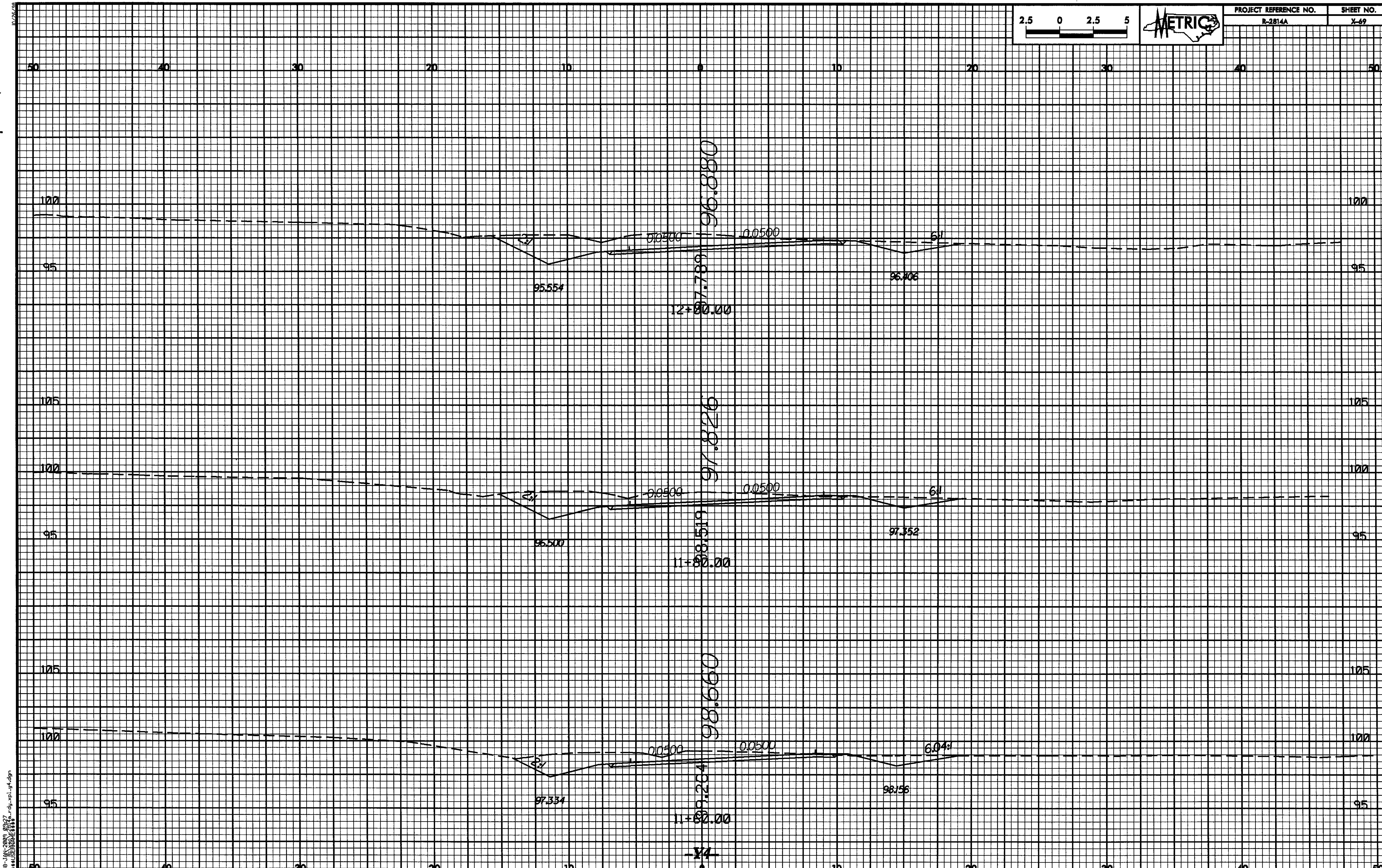
METRIC



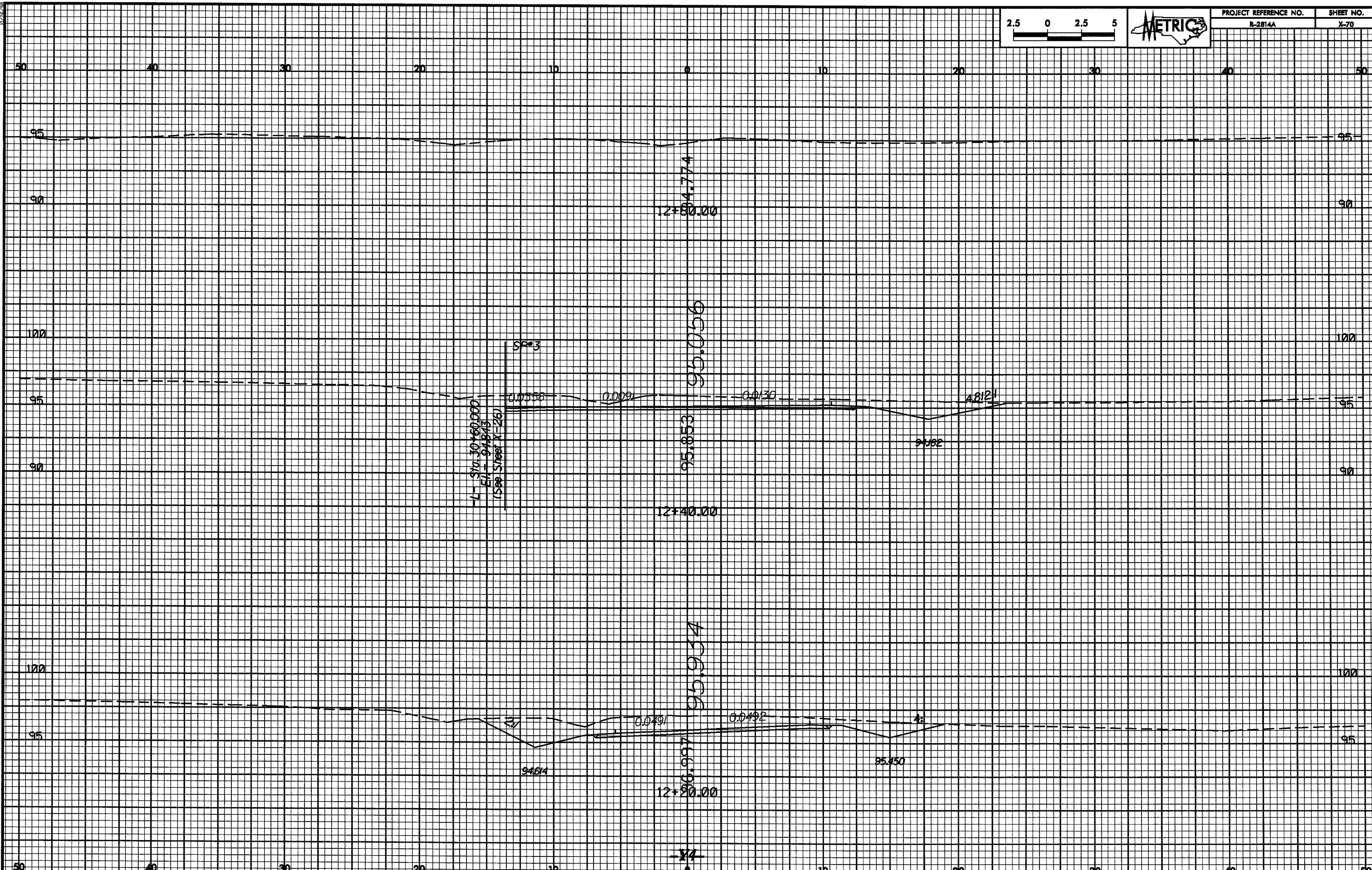
PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-6B



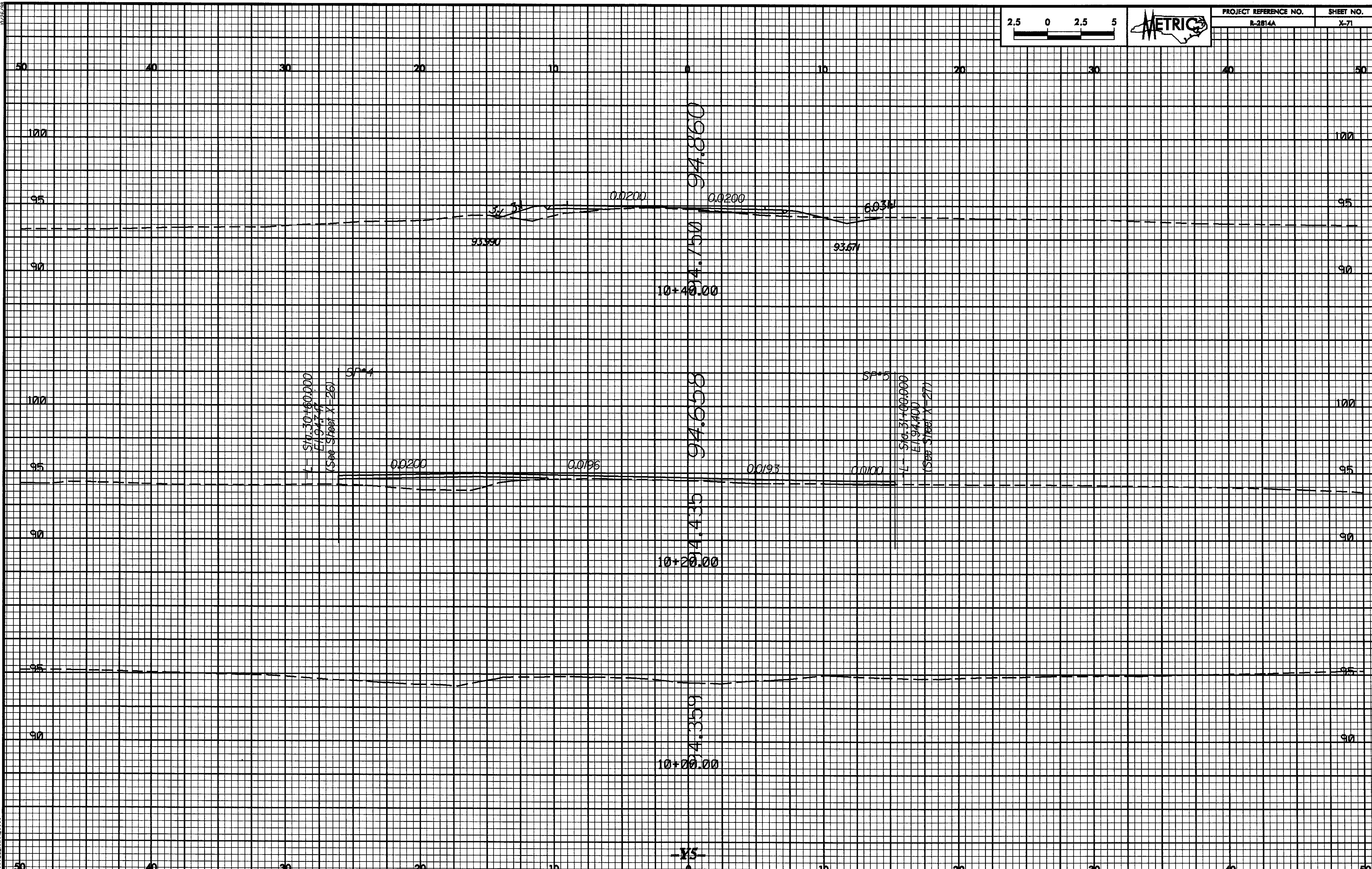
08-JAN-2009 09:27
R:\XSC\R2814a_rdy-xpl_y4.dgn
$$$$USERNAME$$$$



PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-69
METRIC
2.5 0 2.5 5
50 40 30 20 10 0 10 20 30 40 50
96.880
0.0500
0.0500
2:1
6:1
95.554
96.406
97.789
12+00.00
97.826
0.0500
0.0500
2:1
6:1
95.500
97.352
98.519
11+80.00
98.660
0.0500
0.0500
2:1
6.04:1
97.334
98.156
98.264
11+60.00
-Y4-
100
95
105

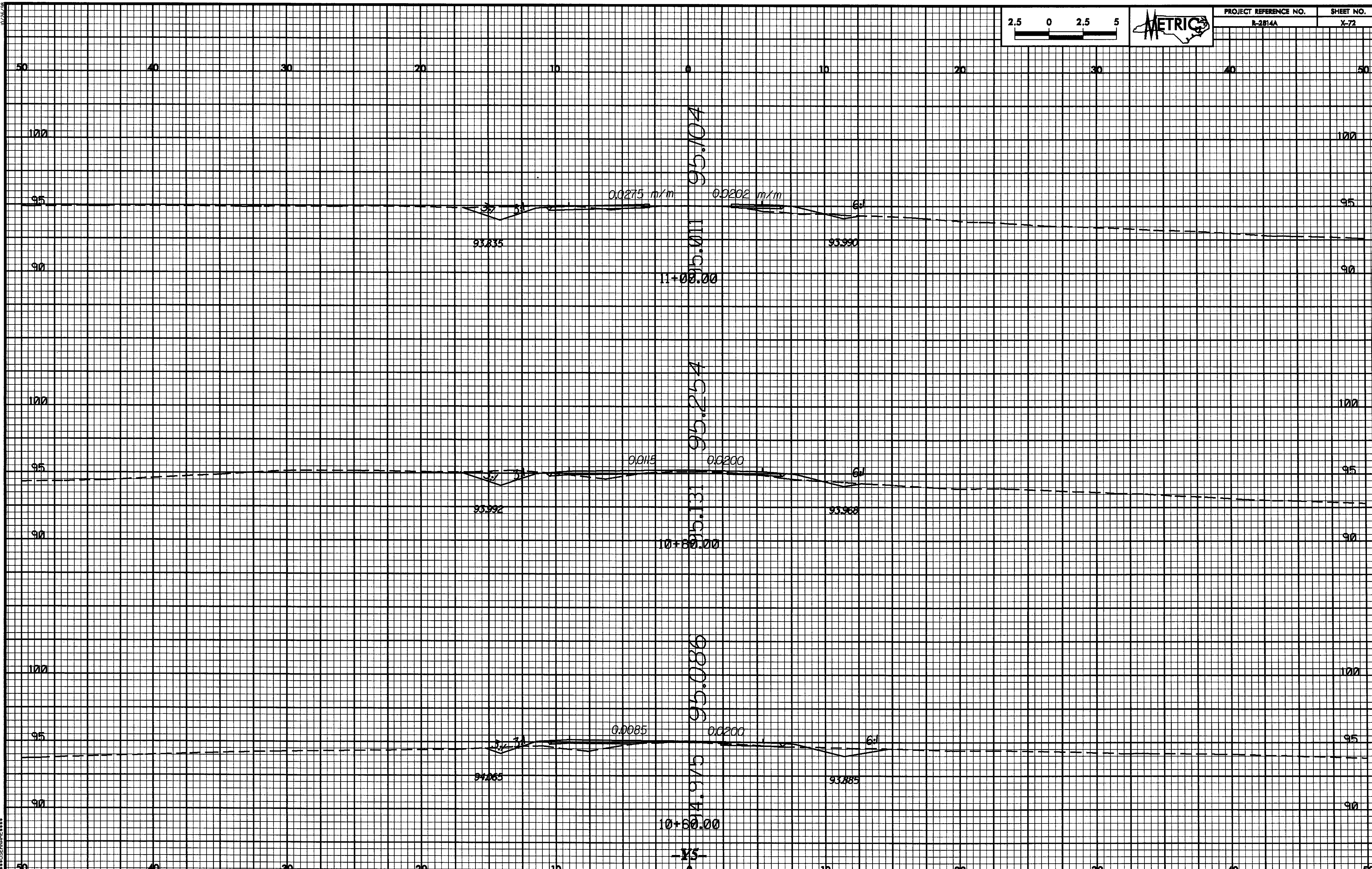

PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-70
2.5 0 2.5 5
METRIC
12+60.00
94.774
95.056
95.853
12+40.00
SP#3
-L- Sta. 30+60.000
El. = 94.843
(See Sheet X-26)
0.0358
0.0091
0.0130
4.81:2
94.182
95.934
96.997
12+20.00
3:1
0.0491
0.0492
4:1
94.614
95.450
-Y4-
50
40
30
20
10
0
10
20
30
40
50
95
90
100

10/26/98

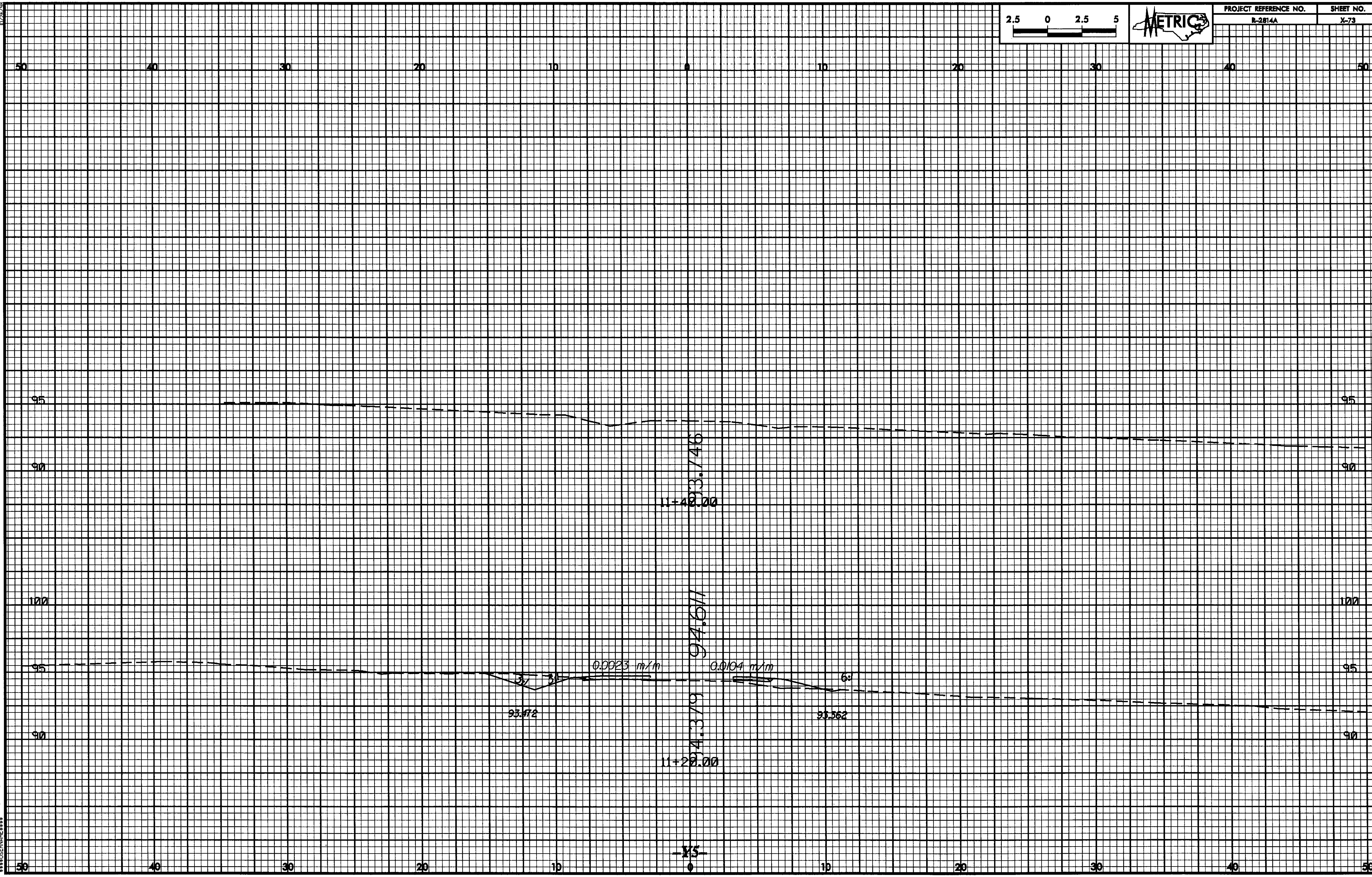


PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-71
METRIC
2.5 0 2.5 5
94.860
0.0200
0.0200
6.034
93.390
93.671
94.750
10+40.00
SP*4
SP*5
-L- Sta. 30+60.000
El 94.47
(See Sheet X-26)
-L- Sta. 31+00.000
El 94.400
(See Sheet X-27)
94.658
0.0200
0.0196
0.0193
0.0100
94.435
10+20.00
94.359
10+00.00
-Y5-
50 40 30 20 10 0 10 20 30 40 50
100
95
90

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-72



PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-73



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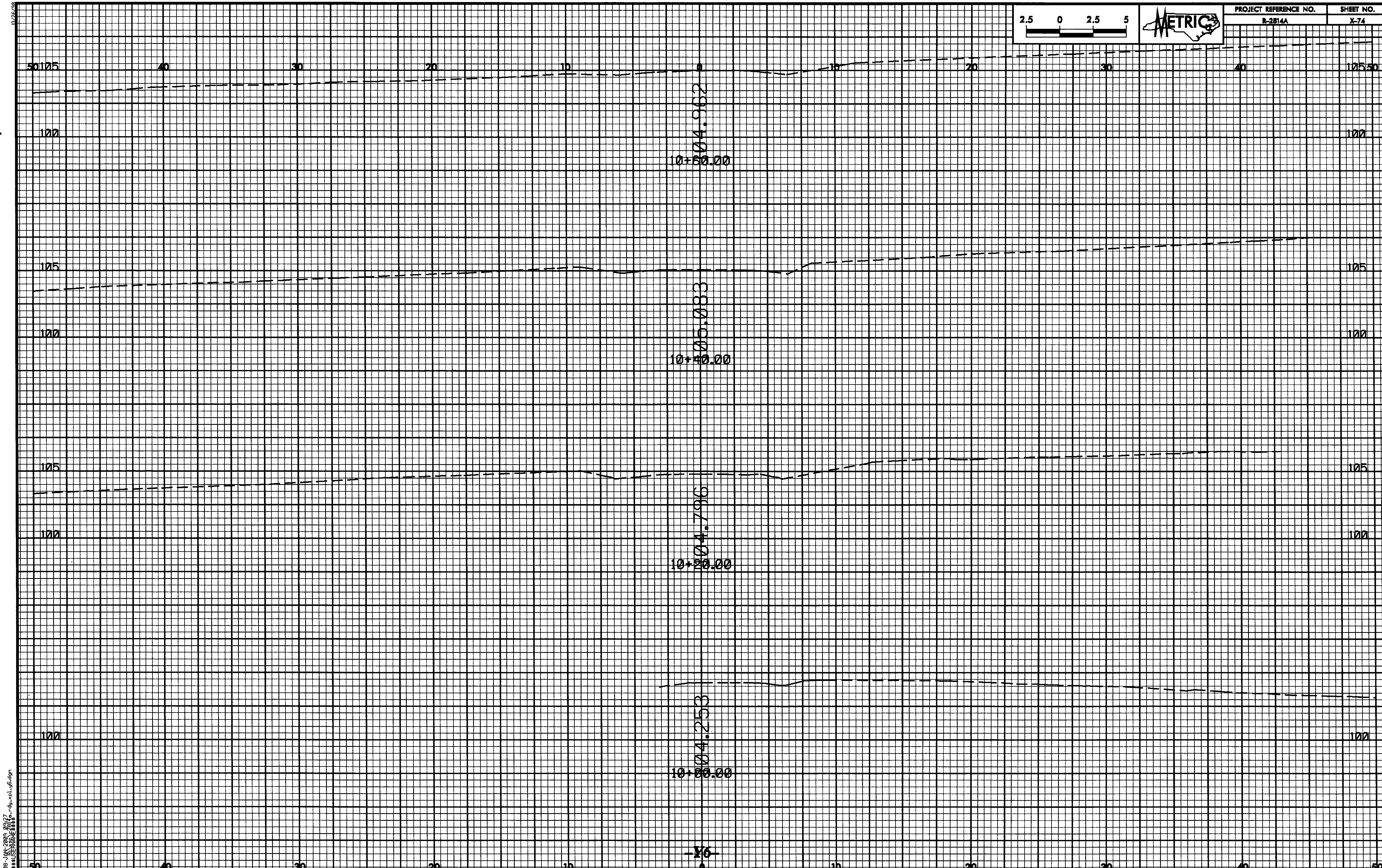
R:\xsc\r2814a_rdy_xpl_y5.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-74



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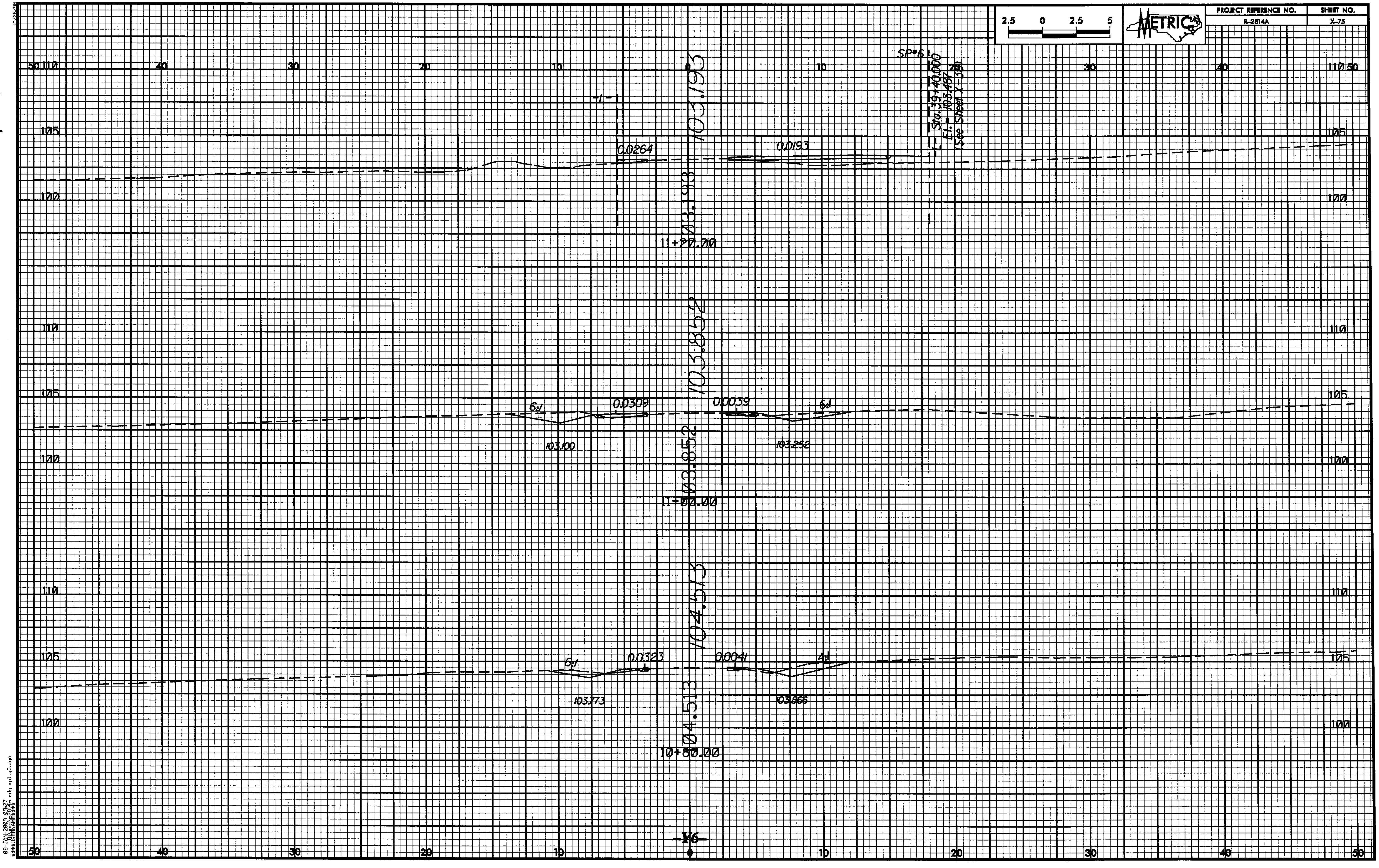
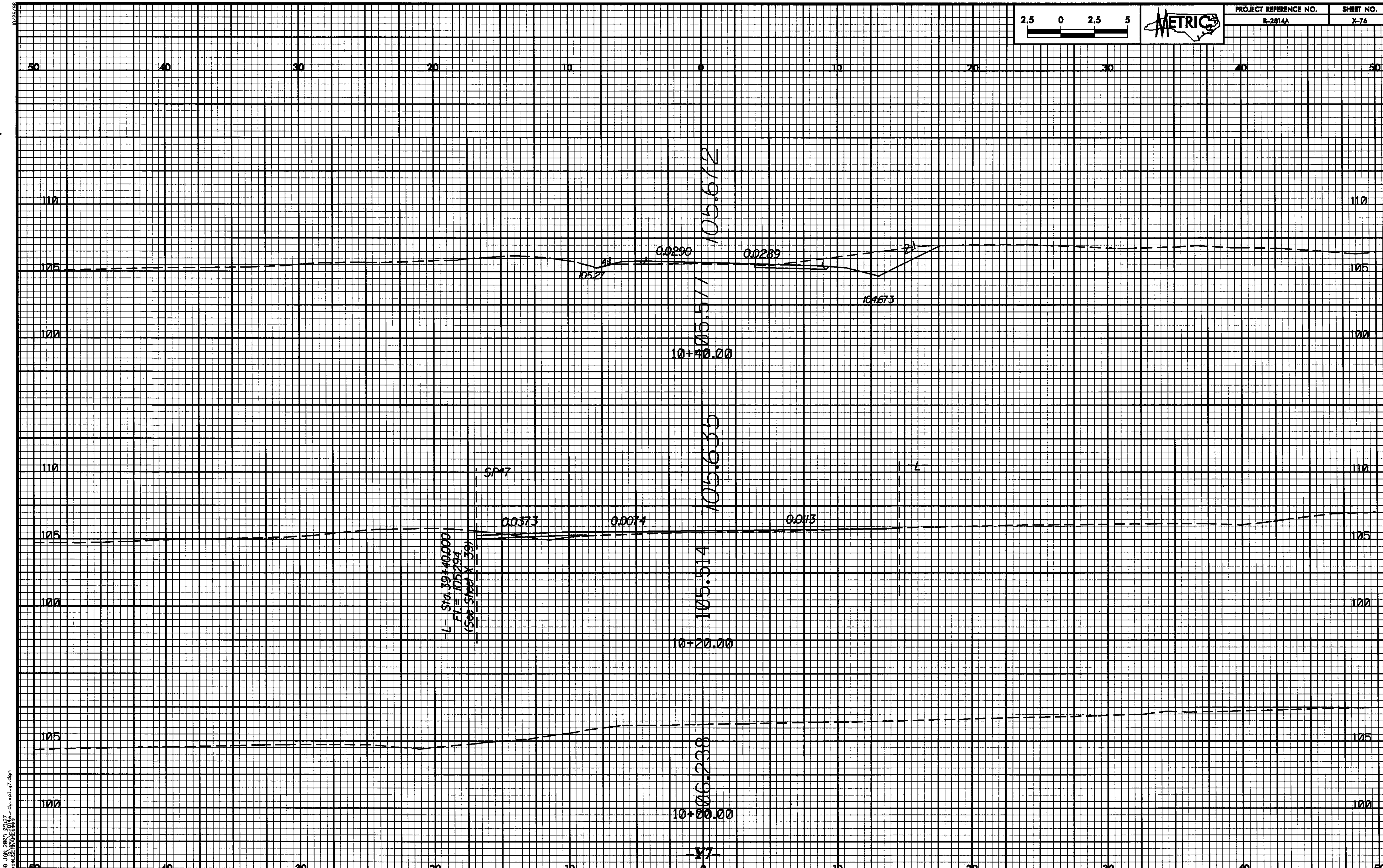
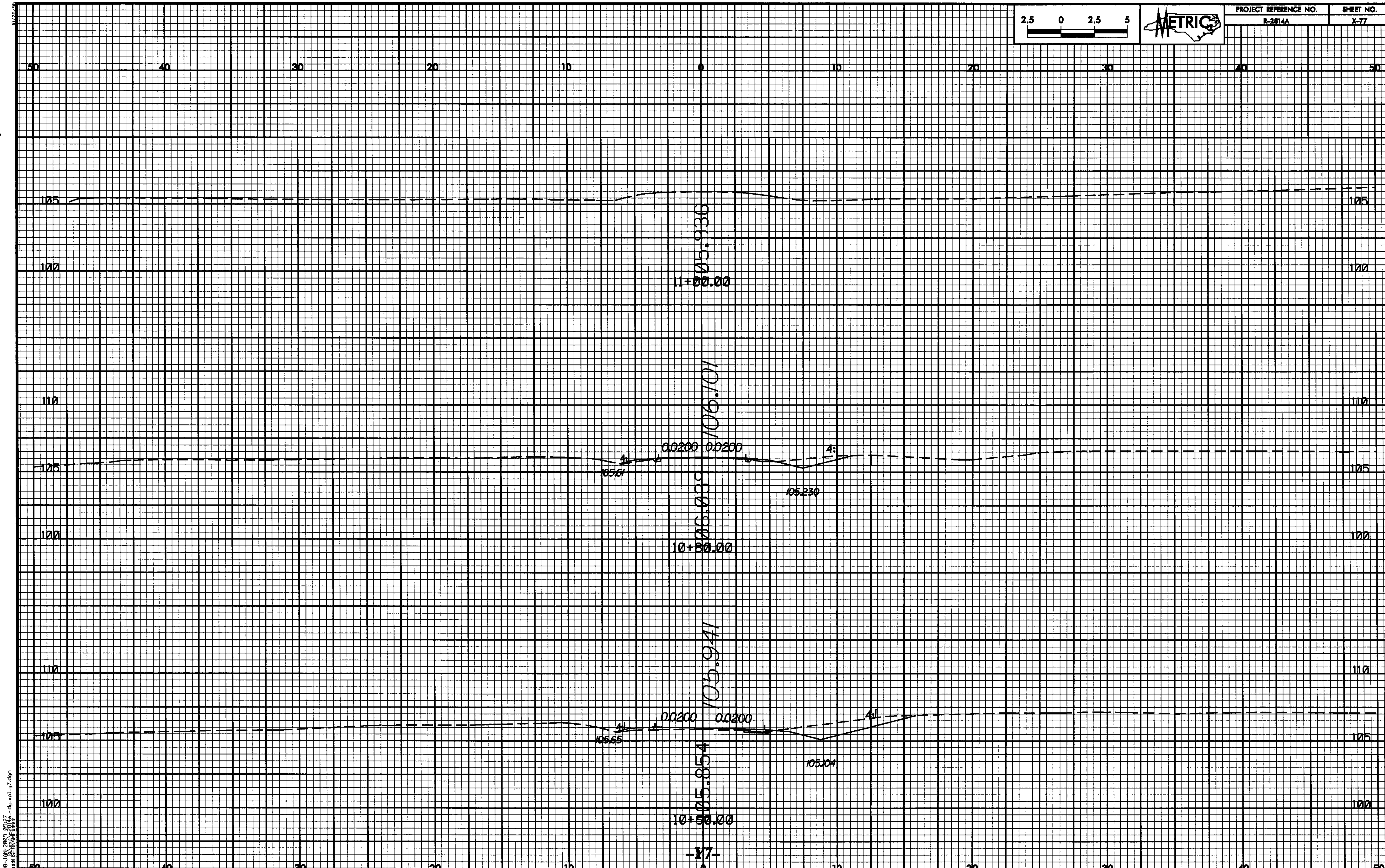
R:\Xsc\R2814a_rdy_xpl_y6.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-75

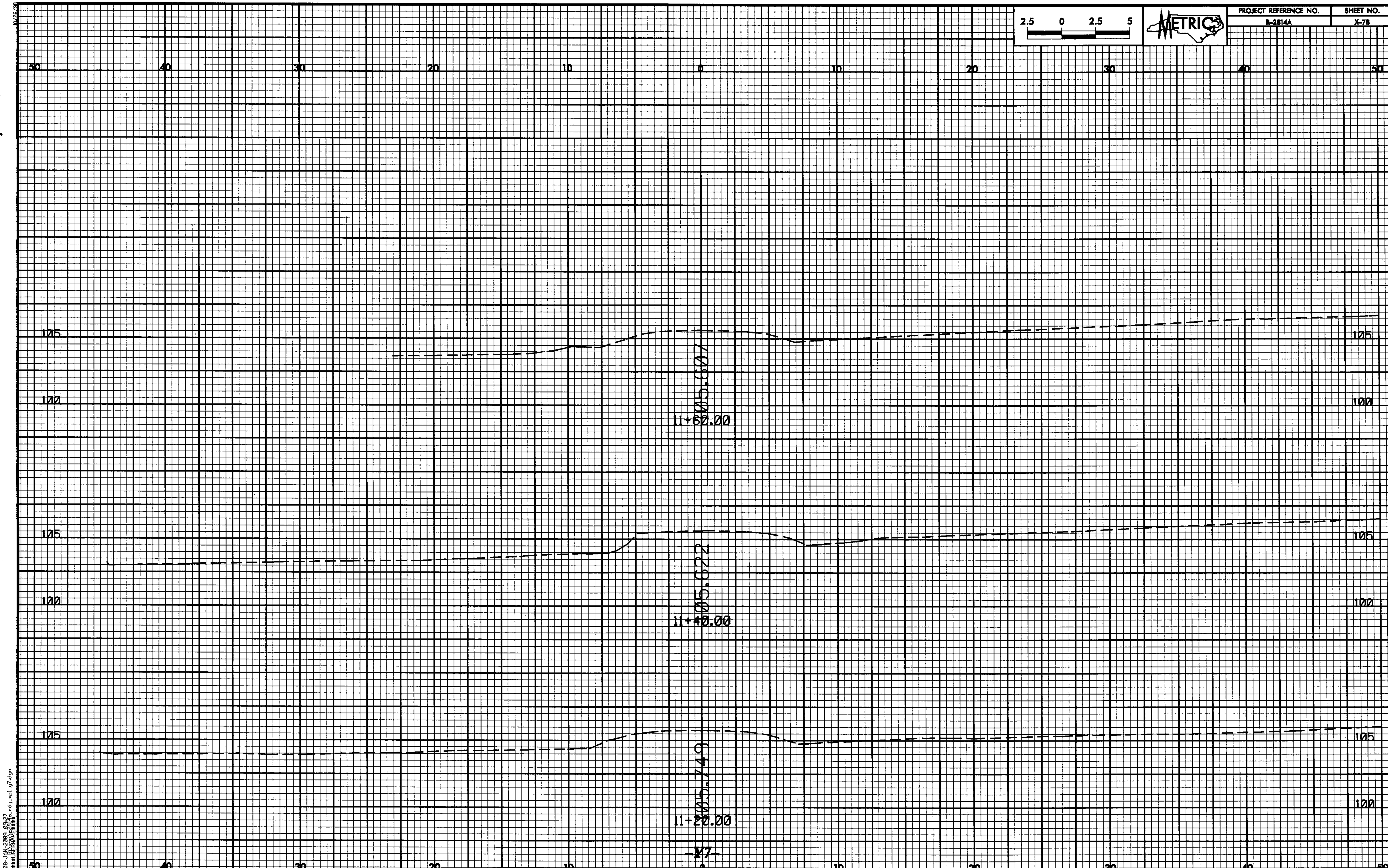


PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-76





PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-77
METRIC
2.5 0 2.5 5
50 40 30 20 10 0 10 20 30 40 50
105
100
11+00.00
105.936
110
105
0.0200 0.0200
4:1
105.61
105.230
100
10+80.00
106.039
106.101
110
105
0.0200 0.0200
4:1
105.65
105.104
100
10+60.00
105.854
105.941
-Y7-



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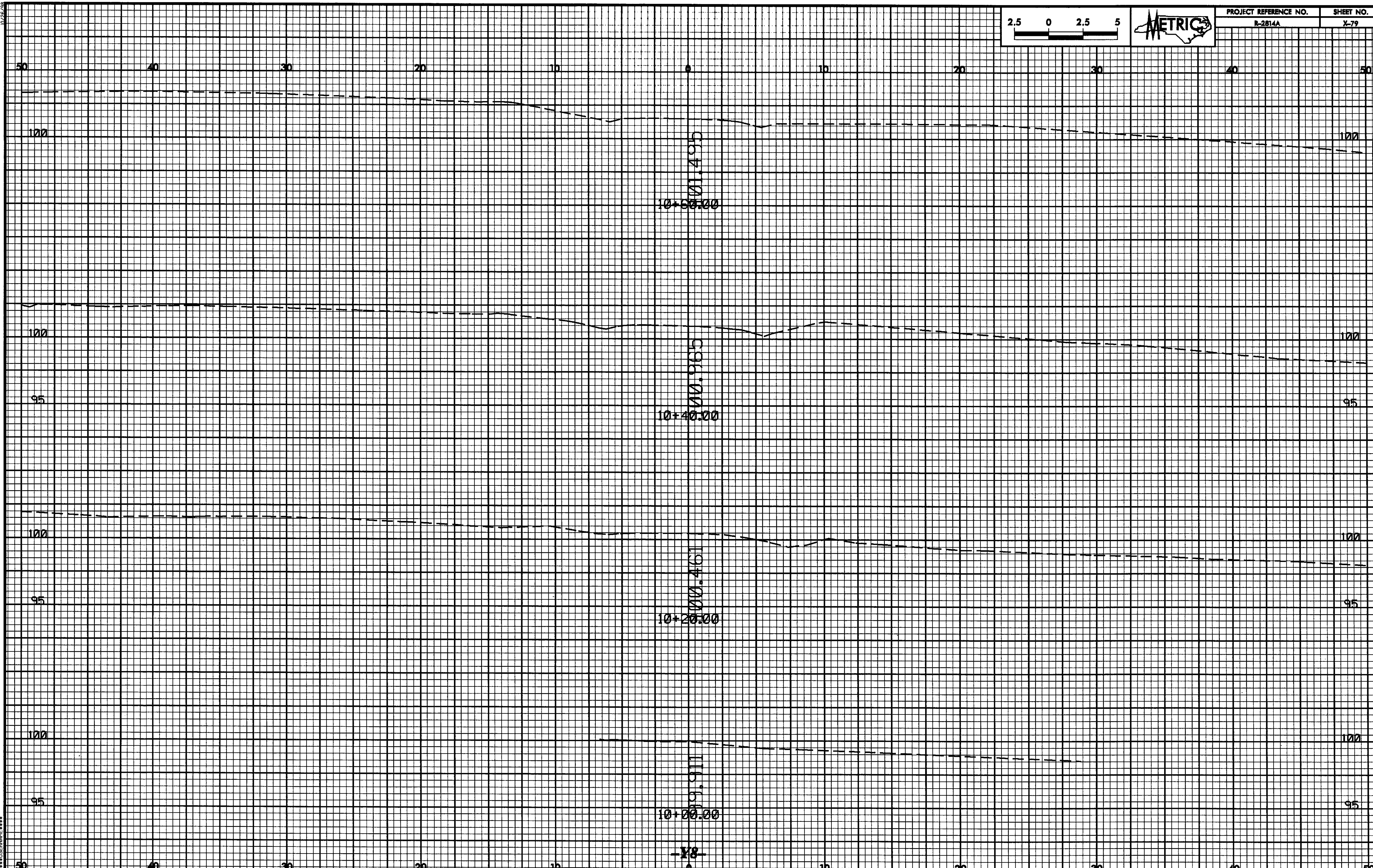
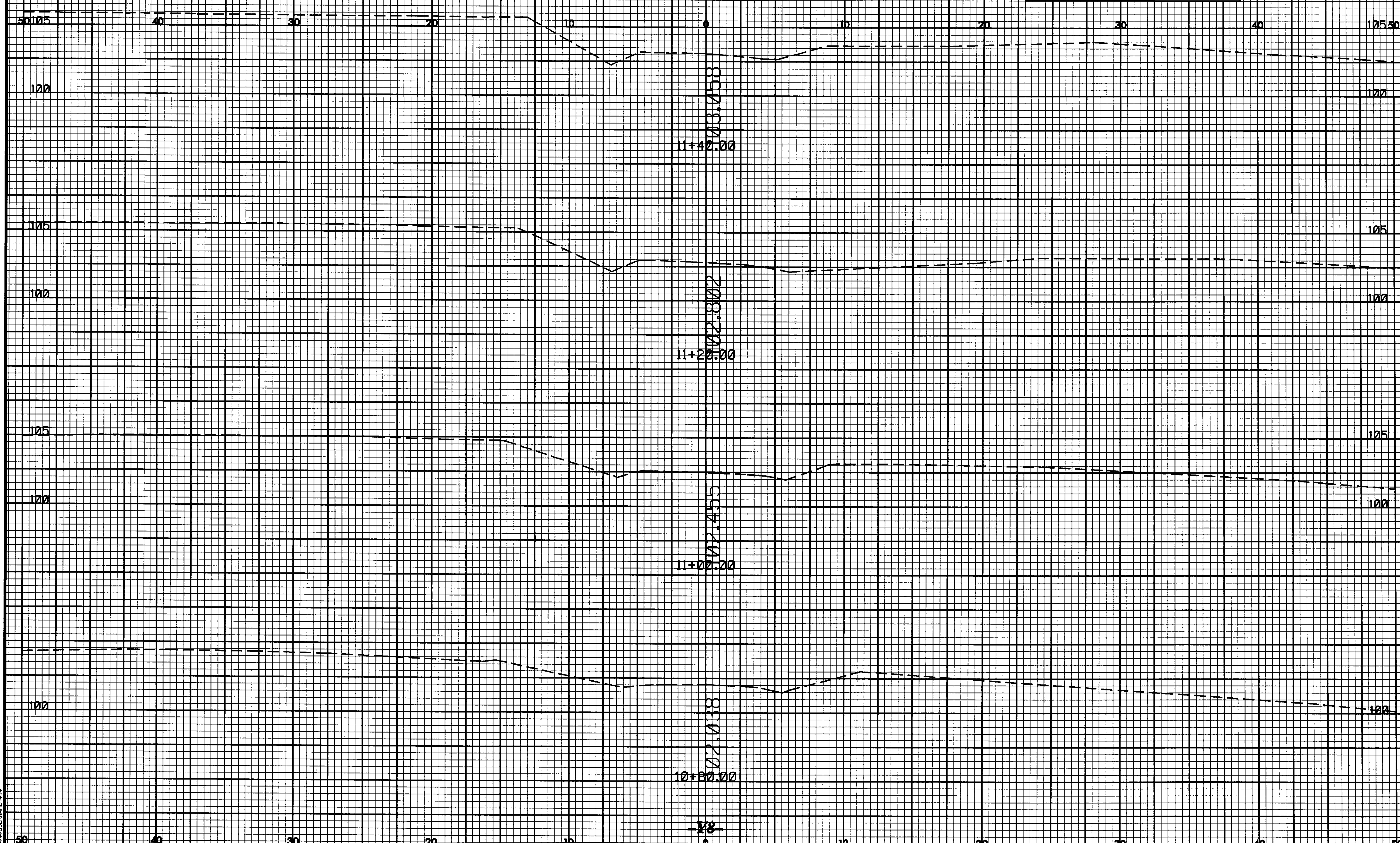
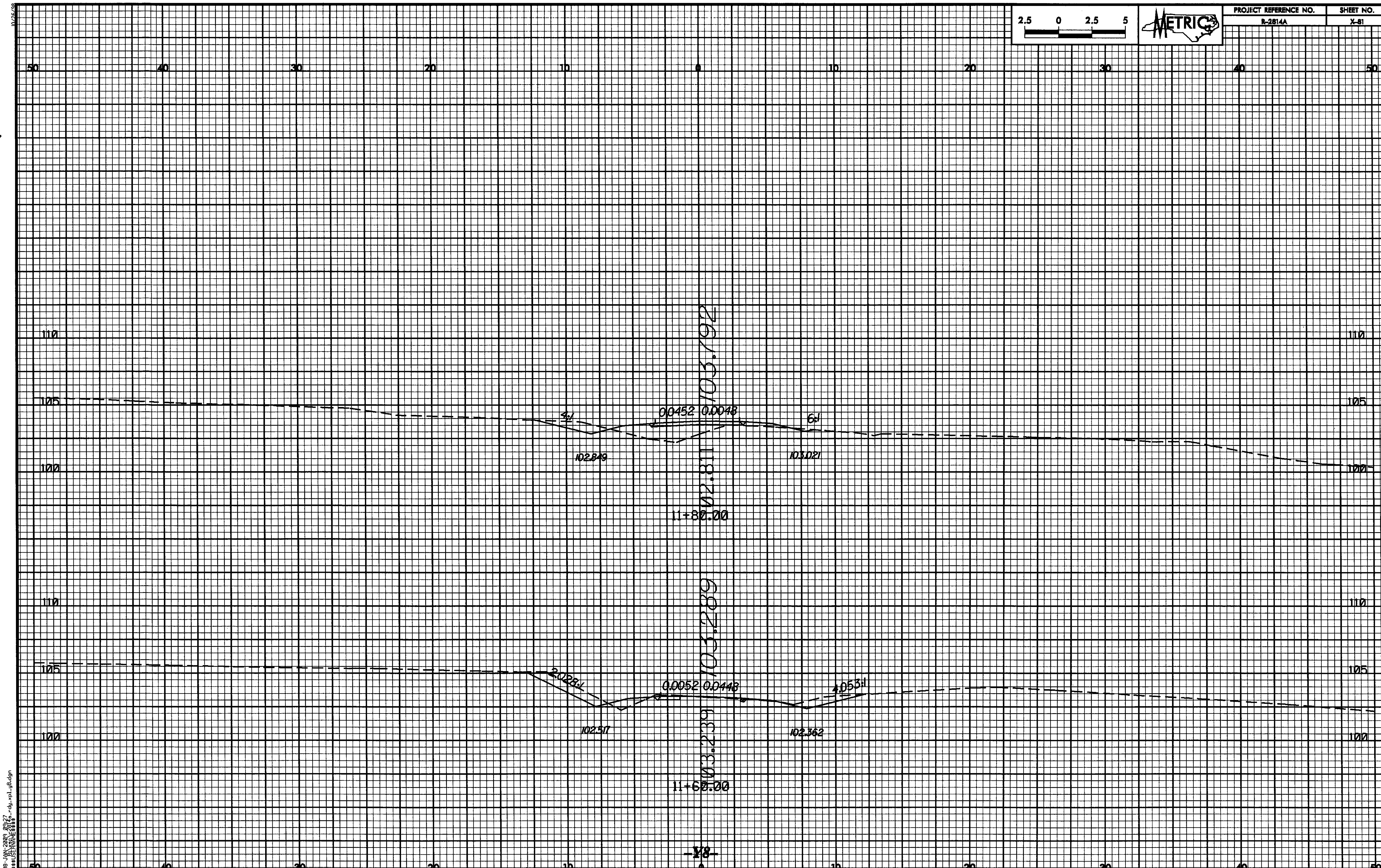
R:\xsc\2814e_rdy_xpl_y7.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-79



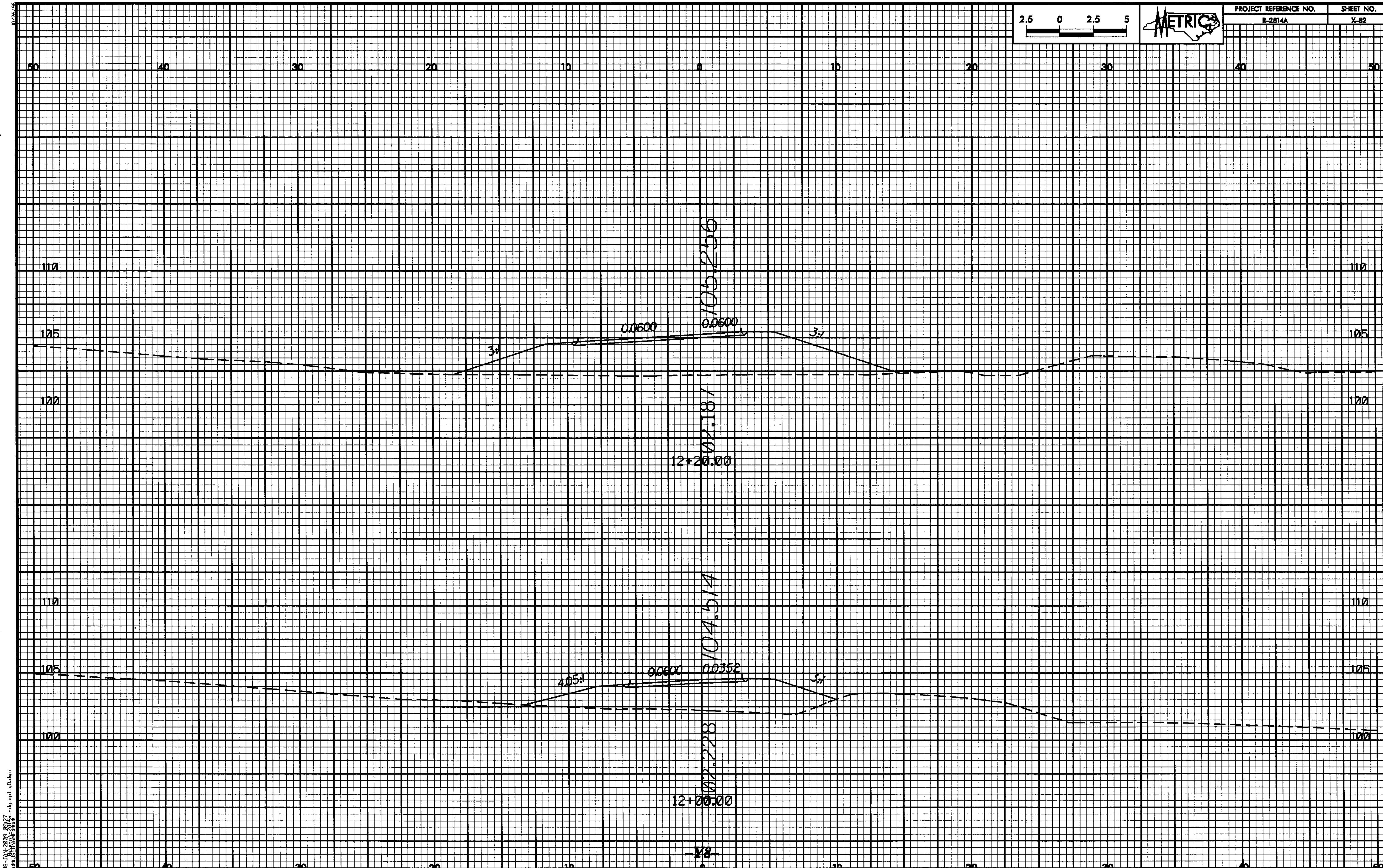
PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-80





2.5 0 2.5 5
METRIC
PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-81
50 40 30 20 10 0 10 20 30 40 50
110
105
100
103.792
102.811
0.0452 0.0048
4:1
6:1
102.849
103.021
11+80.00
103.289
103.239
2.028:1
0.0052 0.0448
4.053:1
102.517
102.362
11+60.00
-Y8-

10/26/98



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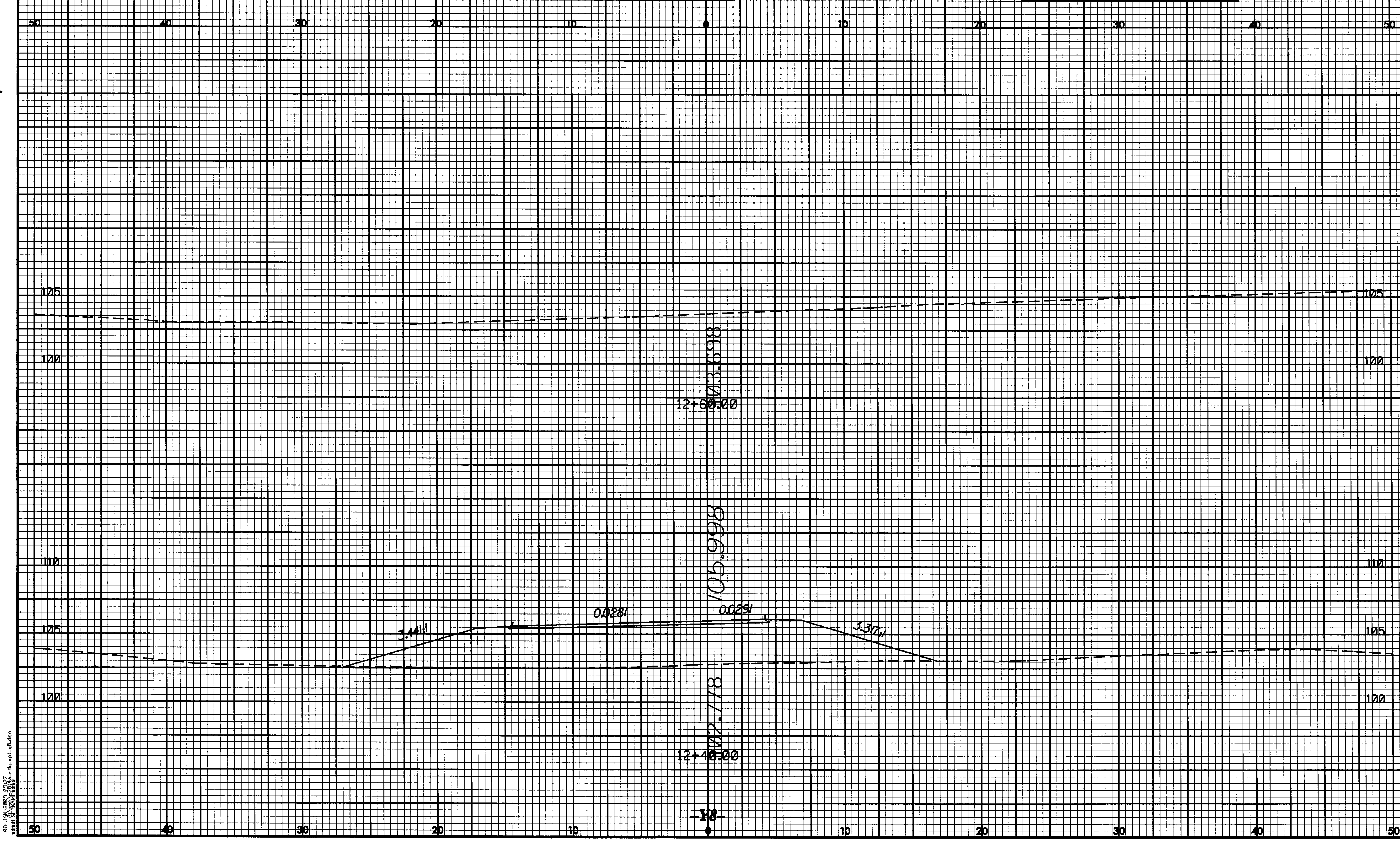
PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-83

2.5 0 2.5 5

METRIC



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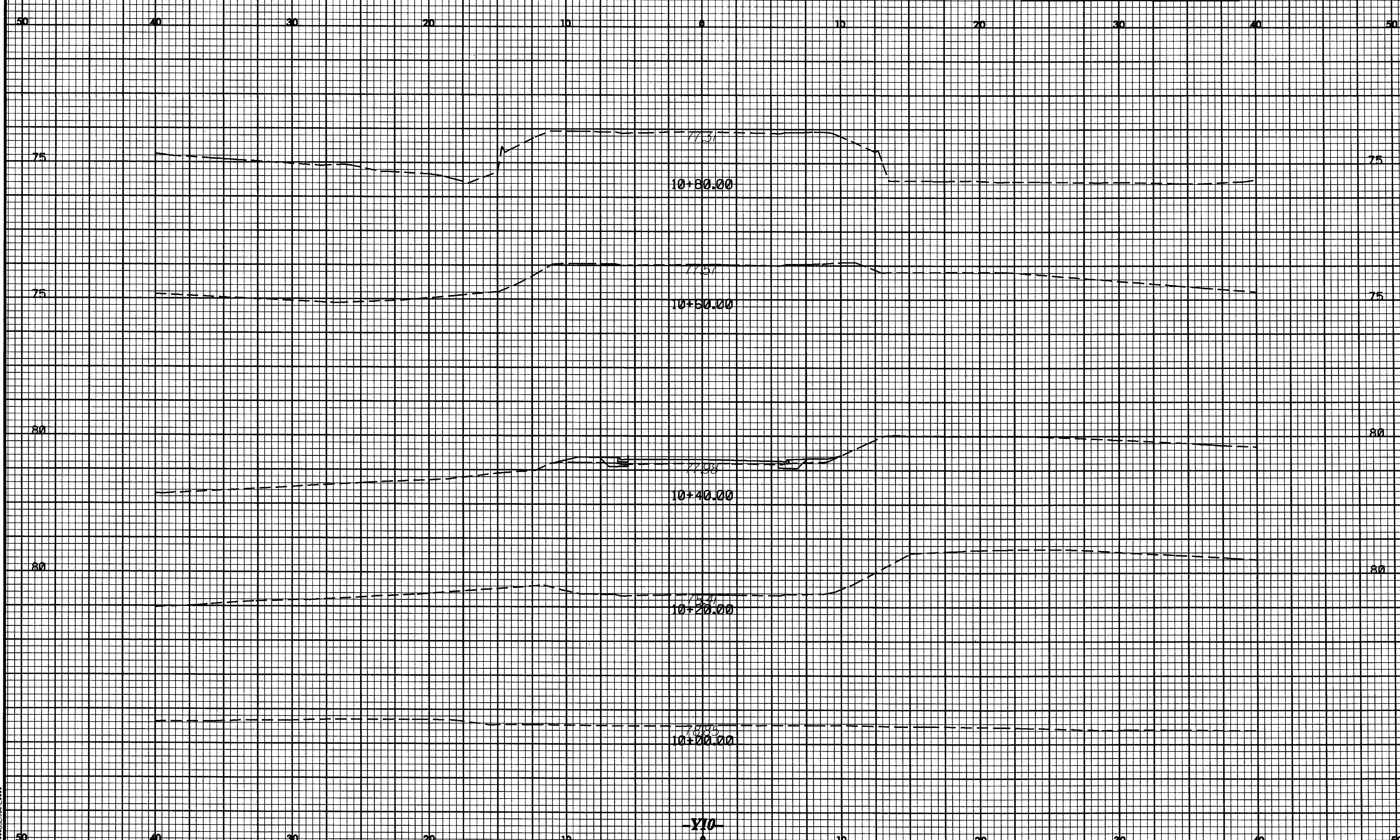
PROJECT REFERENCE NO.	SHEET NO.
R-2814A	X-84

METRIC



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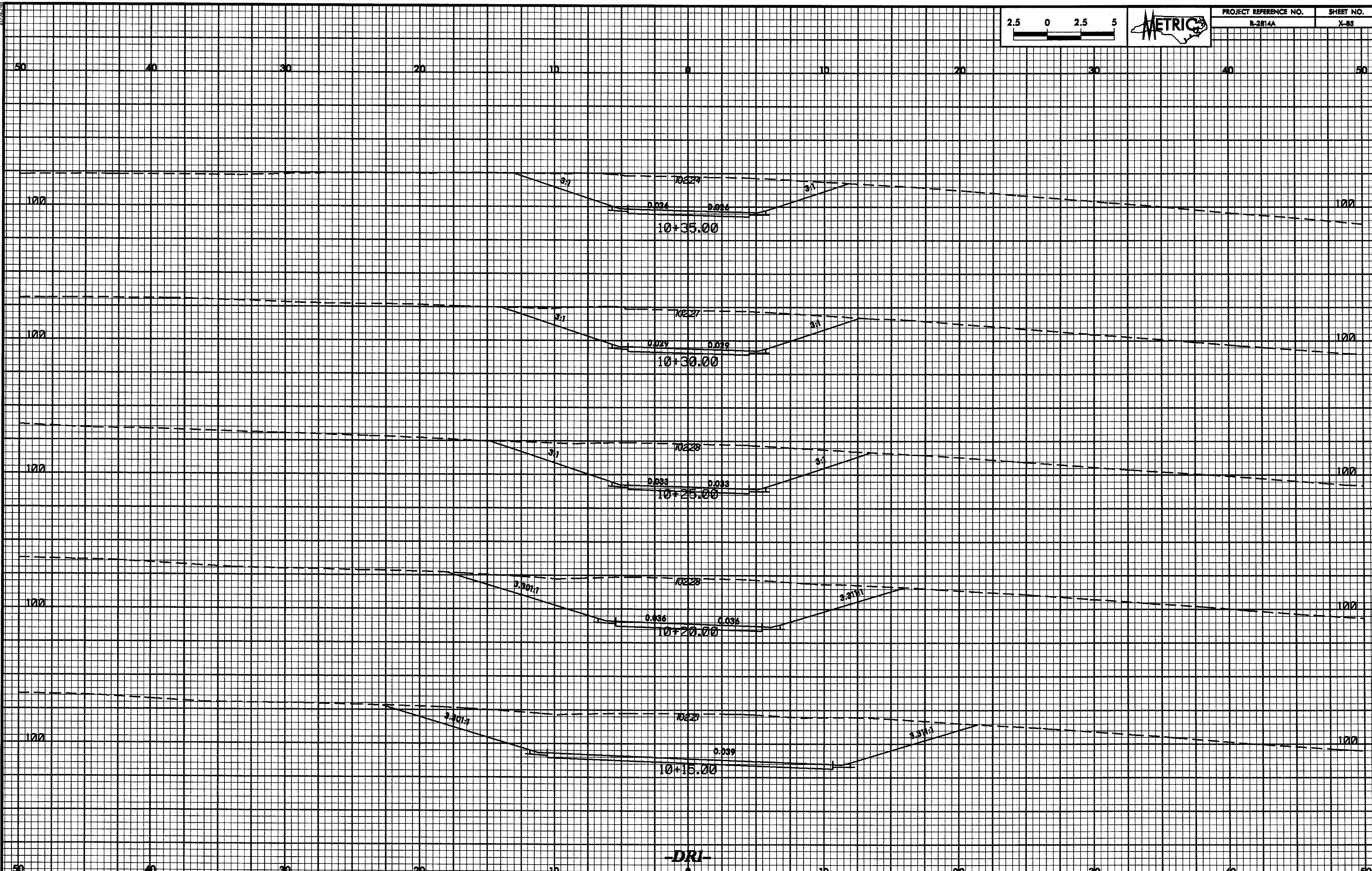
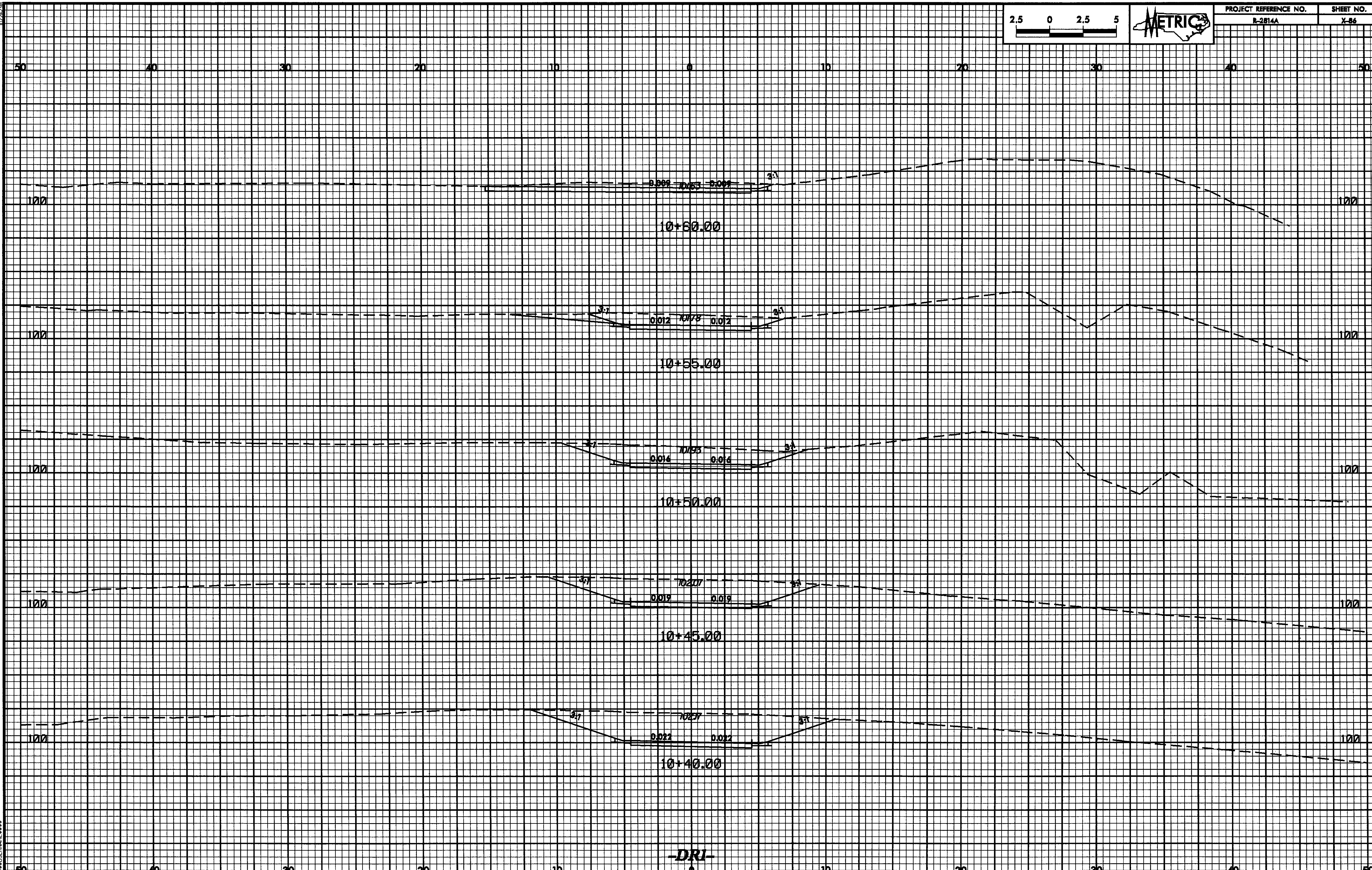
R-2814A	X-85





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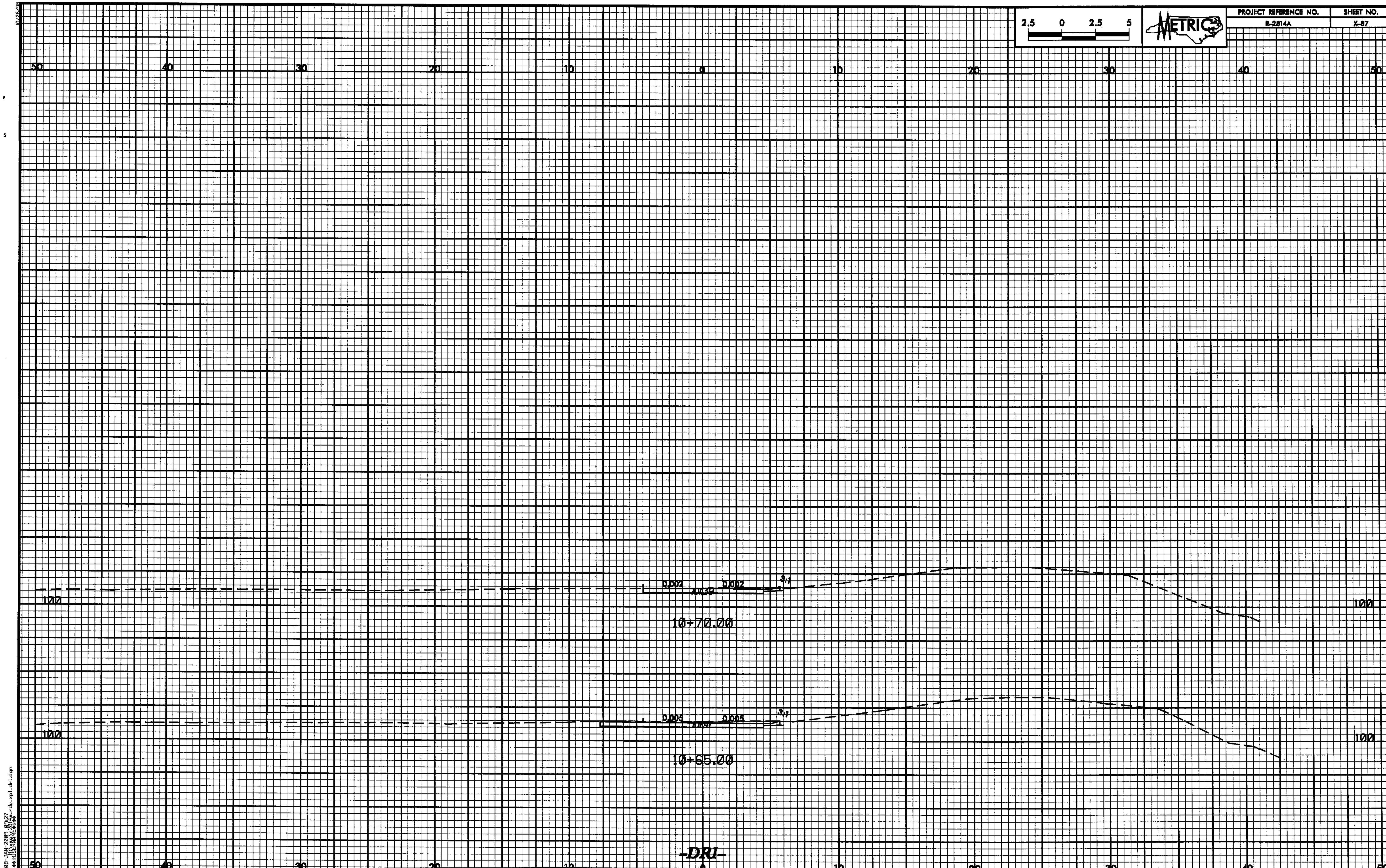
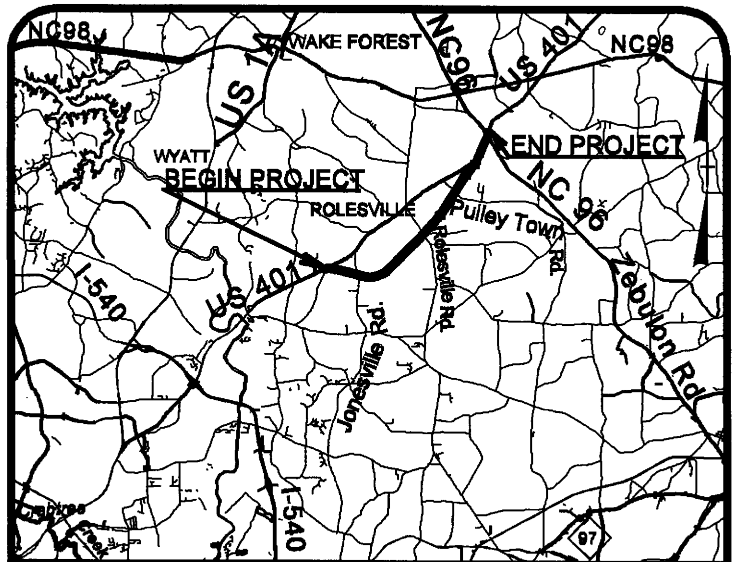

PROJECT REFERENCE NO.
R-2814A
SHEET NO.
X-87
2.5 0 2.5 5
METRIC
50 40 30 20 10 0 10 20 30 40 50
0.002
0.002
3:1
100
100
10+70.00
0.005
0.005
3:1
100
100
10+65.00
-DRI-
50 40 30 20 10 0 10 20 30 40 50

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAKE COUNTY

LOCATION: US 401 ROLESVILLE BYPASS FROM SR 2225, LOUISBURY ROAD TO NC 96, ZEBULON ROAD

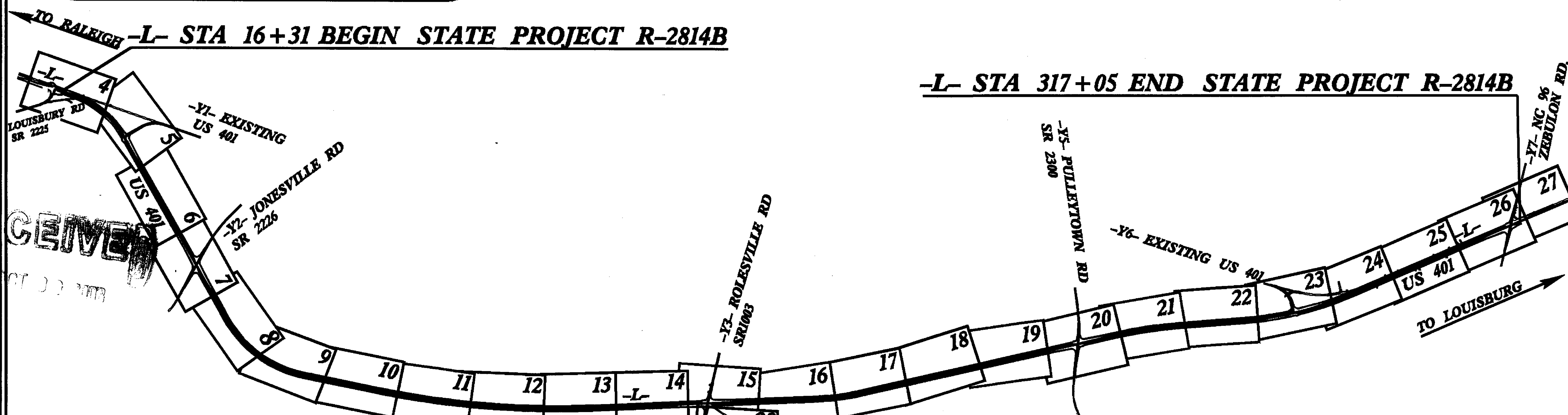
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND SIGNALS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2814B	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
34506.1.1	STP-401(4)	PE

NAD 83

TIP PROJECT: R-2814B



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

NOTE: THIS IS A PARTIALLY CONTROLLED ACCESS PROJECT WITH ACCESS POINTS SHOWN ON THE PLANS

NOTE: THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

RECEIVED

RECEIVED
OCT 10 2008
DIVISION OF HIGHWAYS
PDEA-OFFICE OF NATURAL ENVIRONMENT

Price

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

5 0 5 10
PROFILE (VERTICAL)

DESIGN DATA

ADT 2030 = 24600
ADT =
DHV = 55 %
D = 13 %
T = 7 % *
V = 60 MPH

* TTST 2 DUAL 5

PROJECT LENGTH

LENGTH ROADWAY F.A. PROJECT STP-401(4) = 5.696 MILES
TOTAL LENGTH TIP PROJECT R-2814B = 5.696 MILES

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: APRIL 17, 2009

LETTING DATE: APRIL 19, 2011

JS GOODNIGHT
PROJECT ENGINEER

TD GOINS
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14493 ENGINEER JAMES STAFFORD GOODNIGHT, JR.

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

P.E.
STATE HIGHWAY DESIGN ENGINEER

CONTRACT:

09/08/99

30-SEP-2008 15:58
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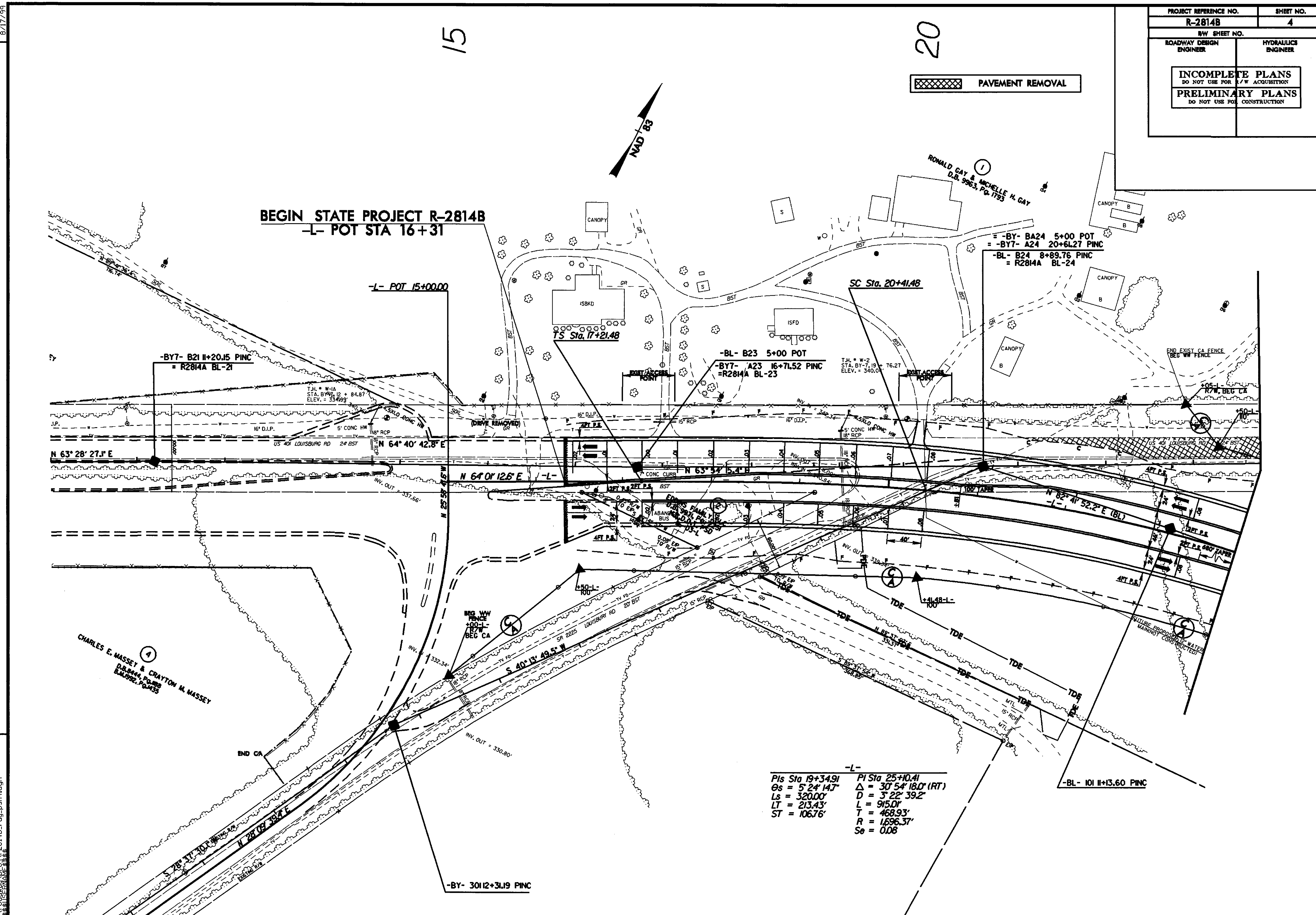
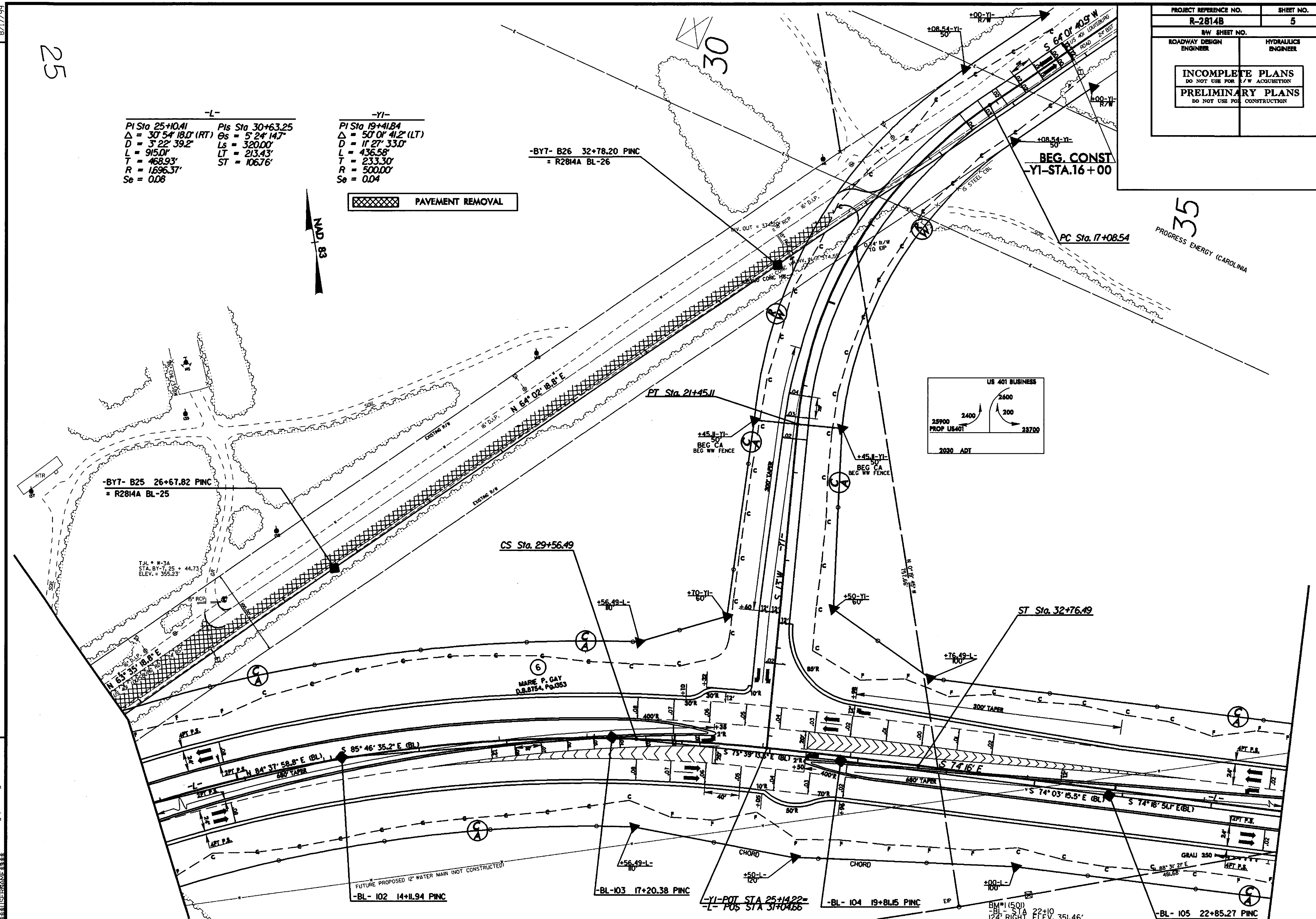
$$$$USERNAME$$$$



REVISIONS
8/17/99
01-OCT-2008 15:46



8/17/99
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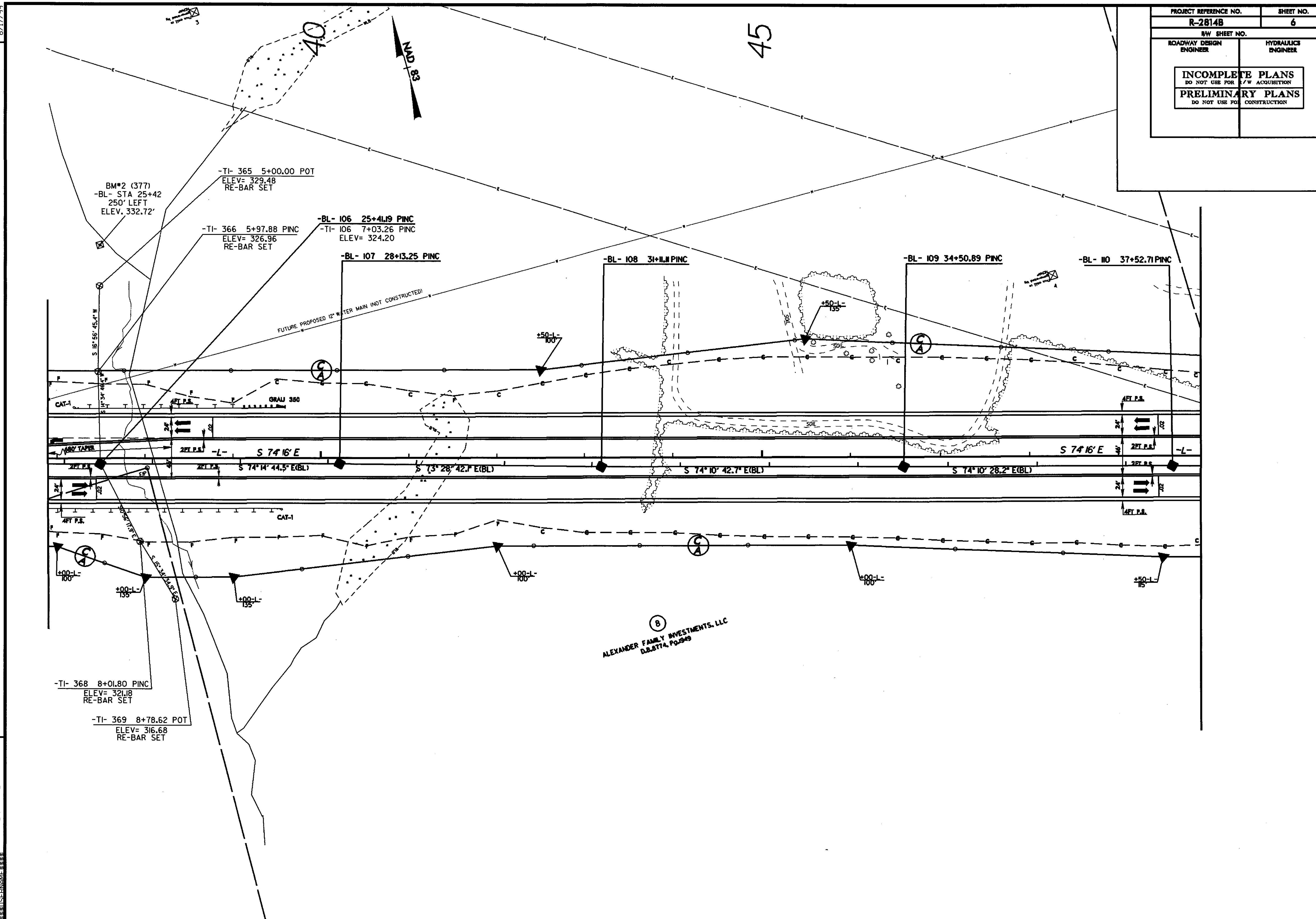
PROJECT REFERENCE NO.	SHEET NO.
R-2814B	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

8/17/99

01-OCT-2008 15:53
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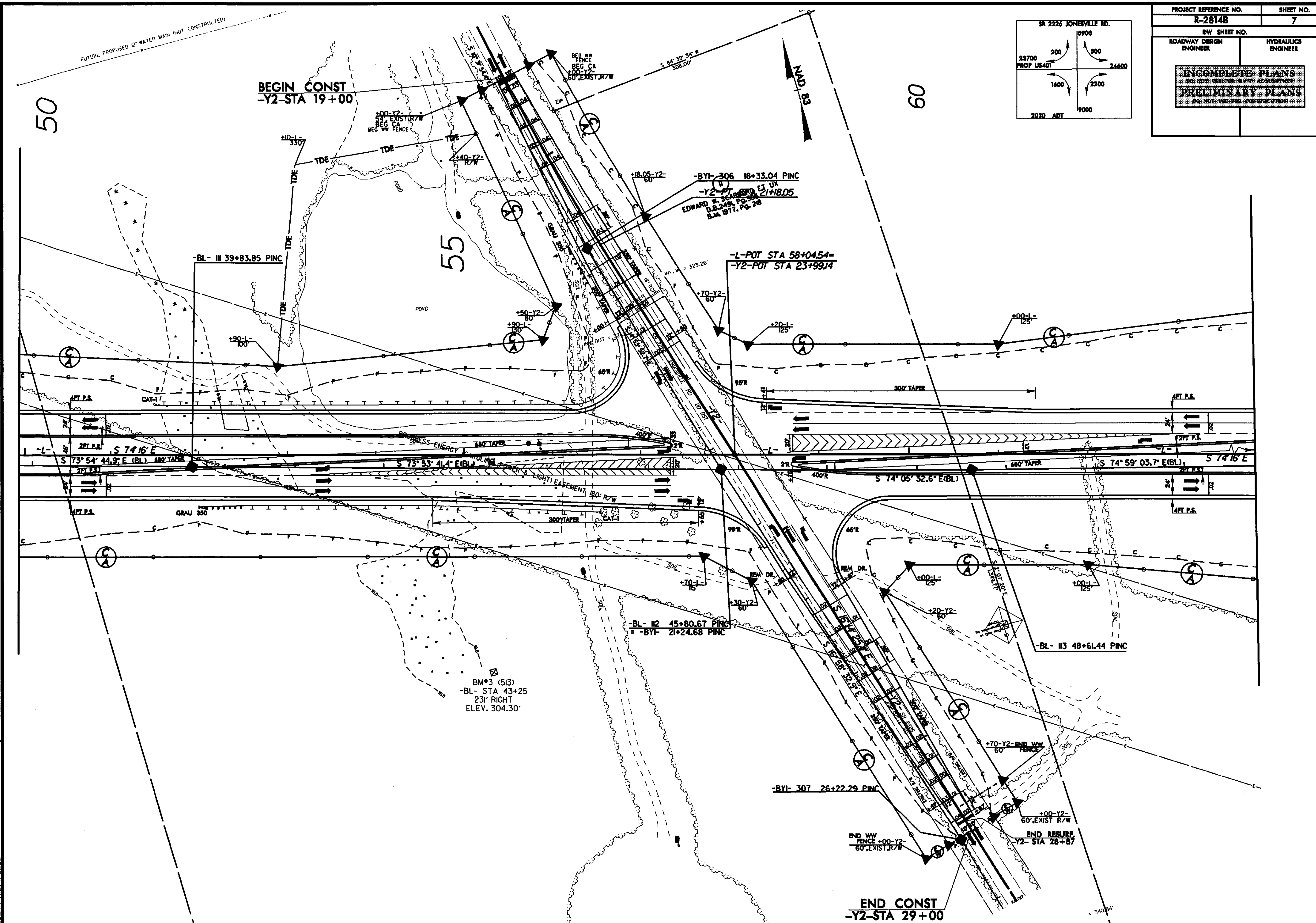
PROJECT REFERENCE NO.	SHEET NO.
R-2814B	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



8/17/99

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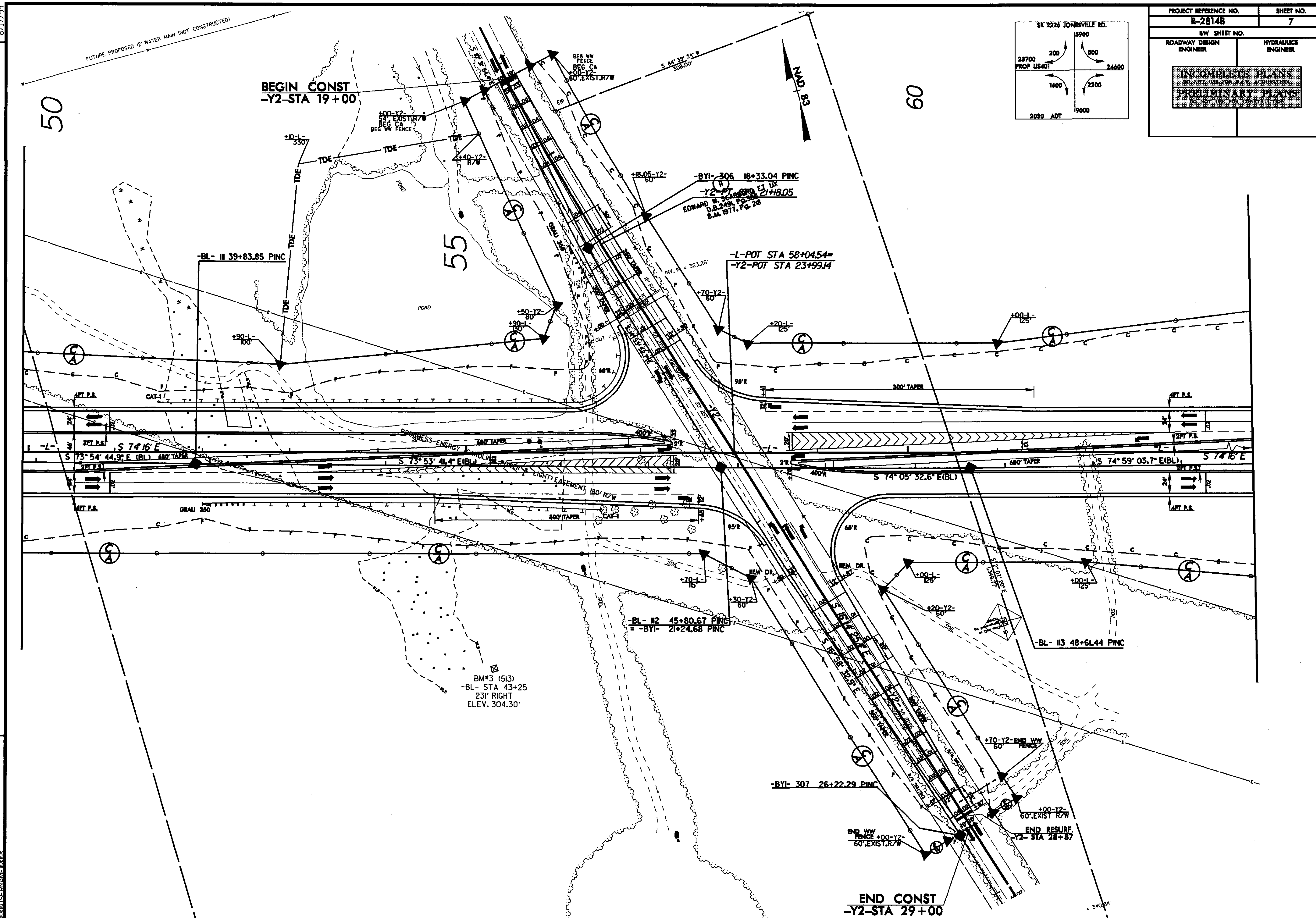
8/17/99

REVISIONS



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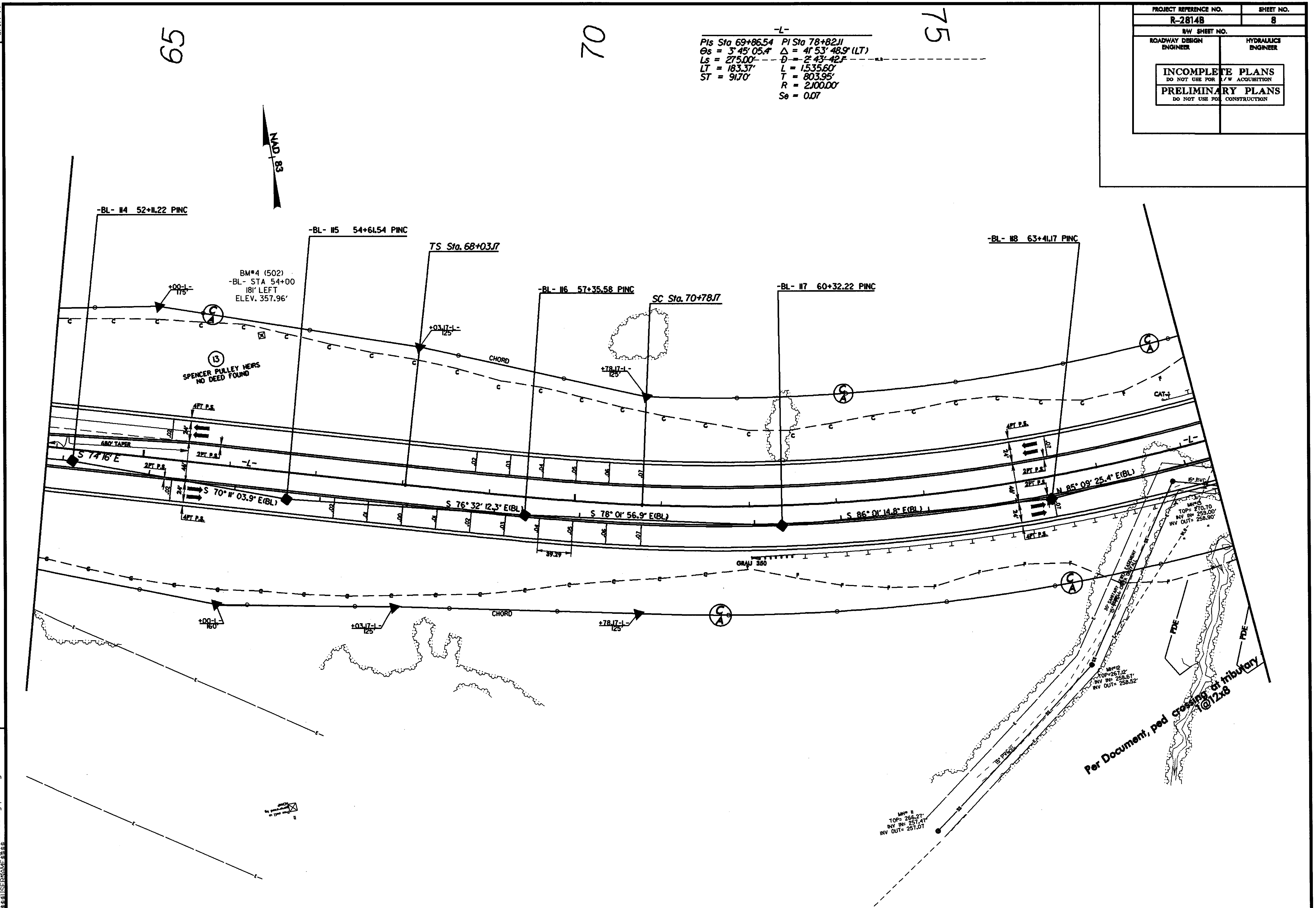
8/17/99

REVISIONS



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PROJECT REFERENCE NO.	SHEET NO.
R-2814B	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

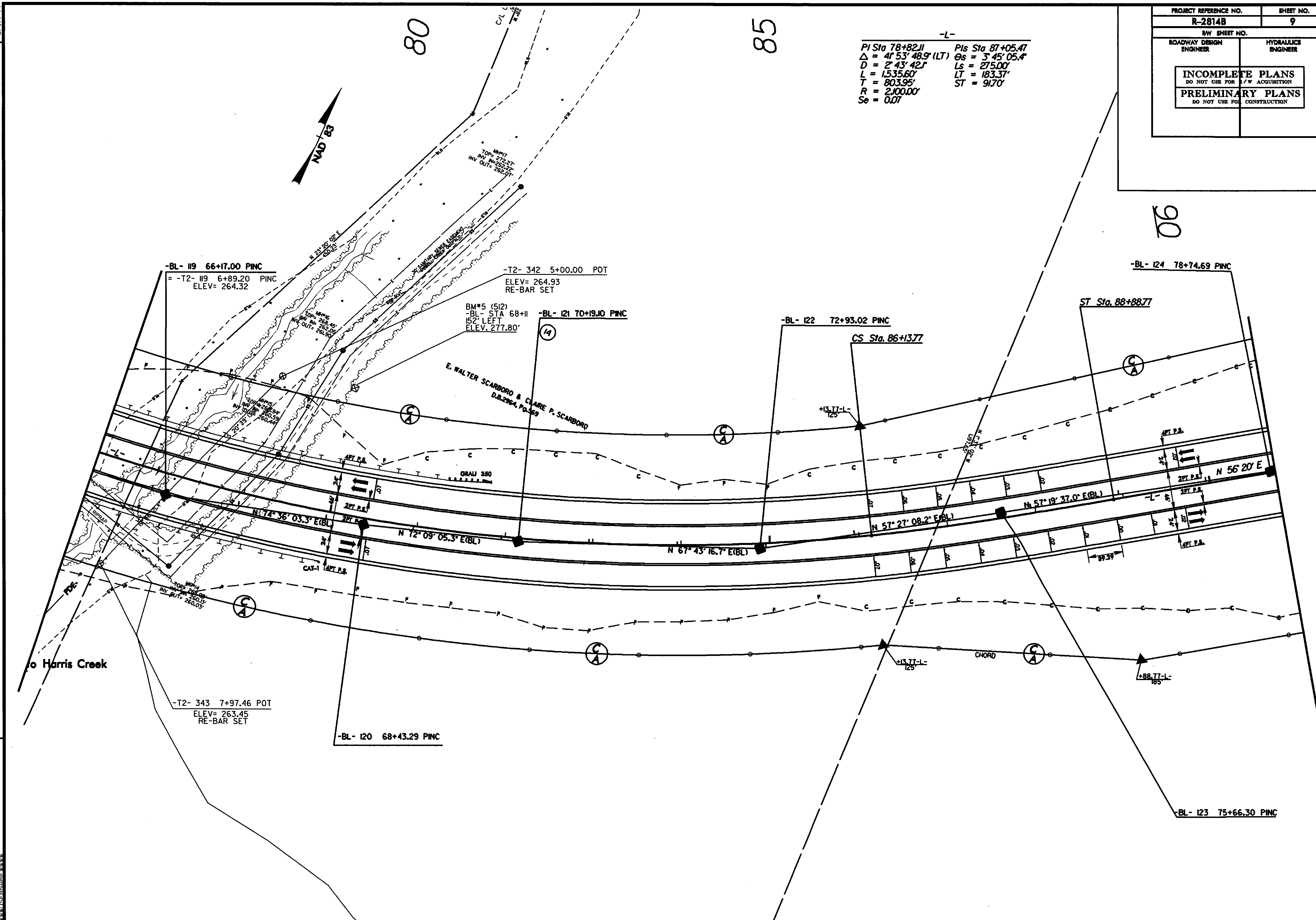
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L-

PI Sta 78+82.11
Δ = 41° 53' 48.9" (LT)
D = 2° 43' 42.1"
L = 1,535.60'
T = 803.95'
R = 2,100.00'
Se = 0.07

PIs Sta 87+05.47
Θs = 3° 45' 05.4"
Ls = 275.00'
LT = 183.37'
ST = 91.70'



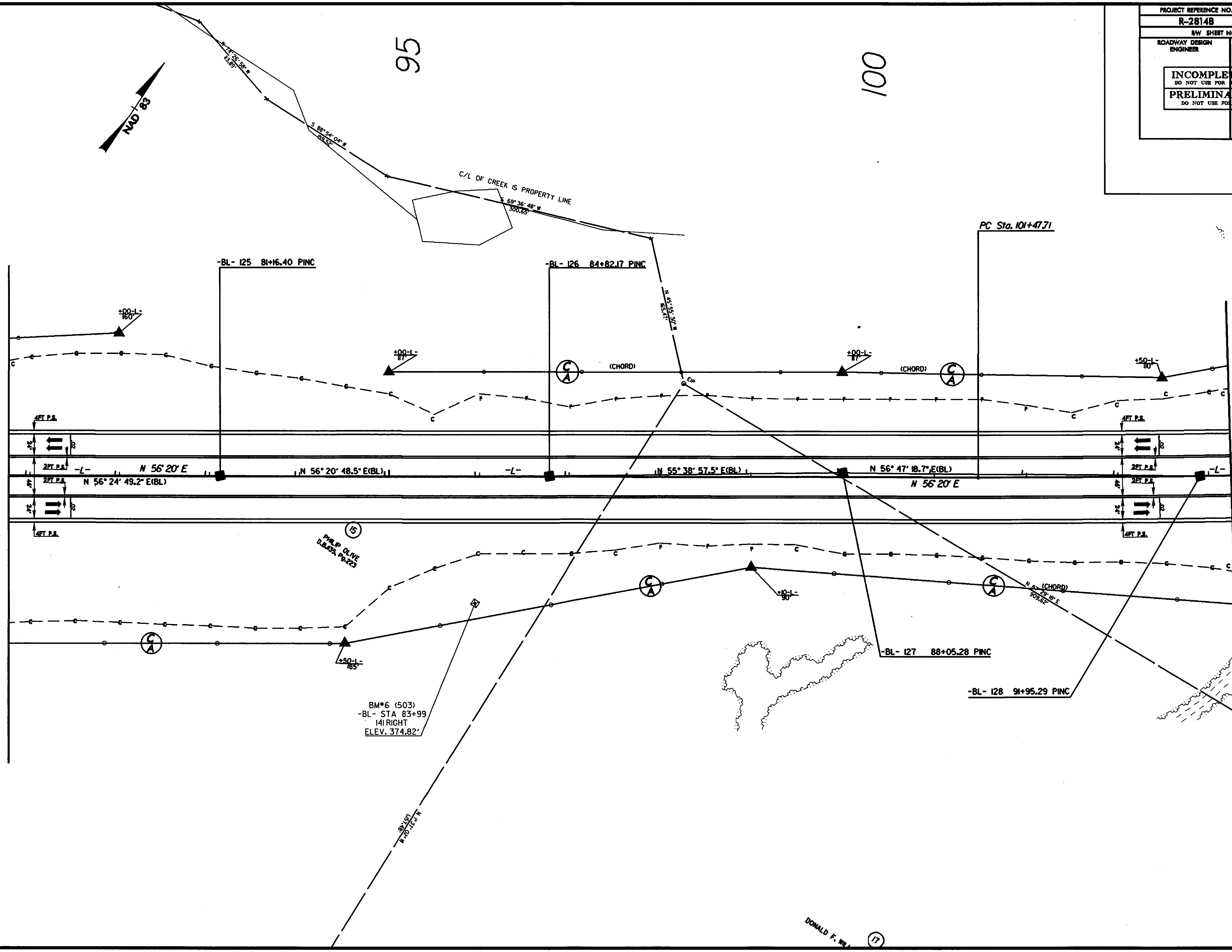
8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2814B	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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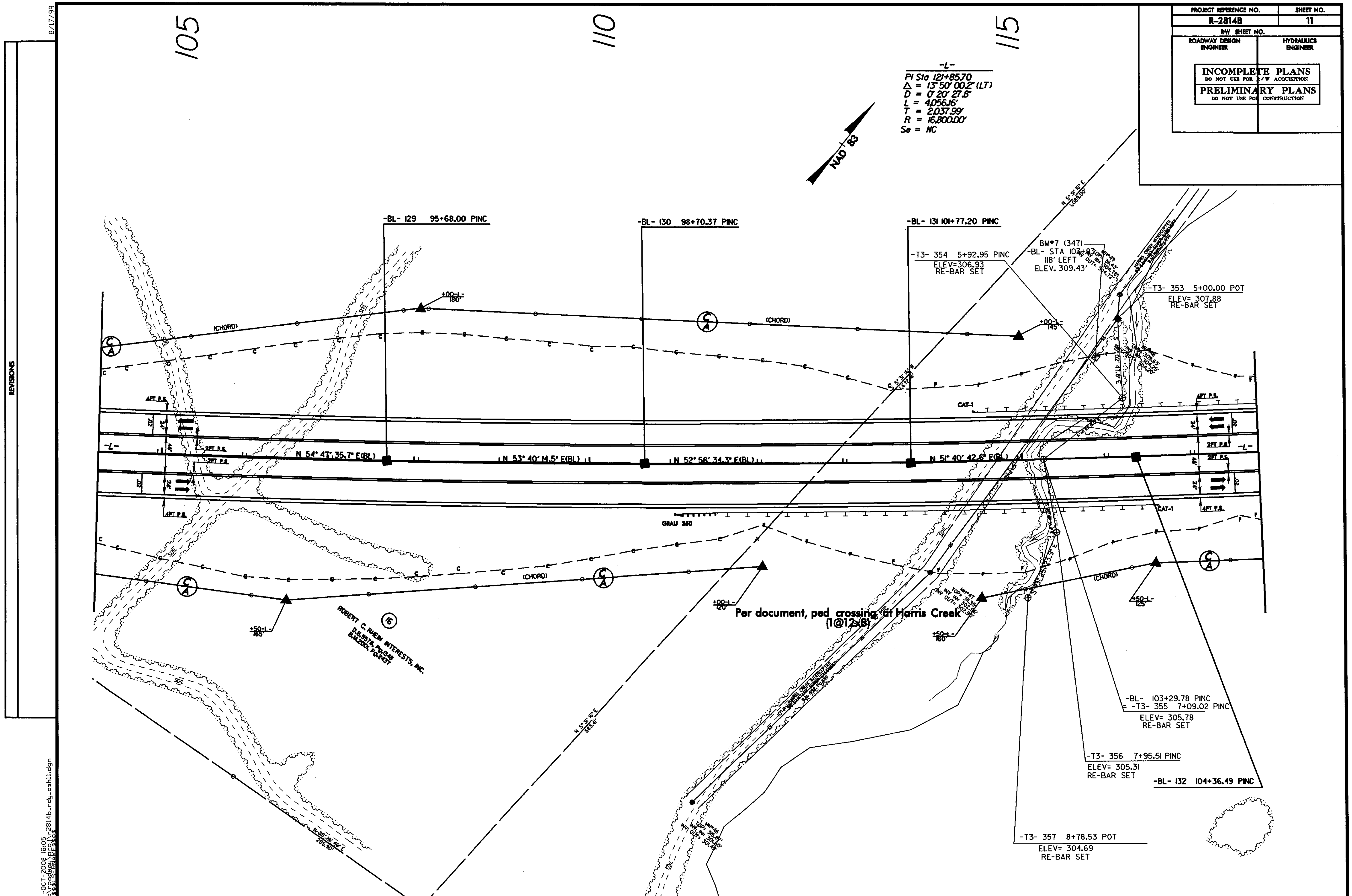
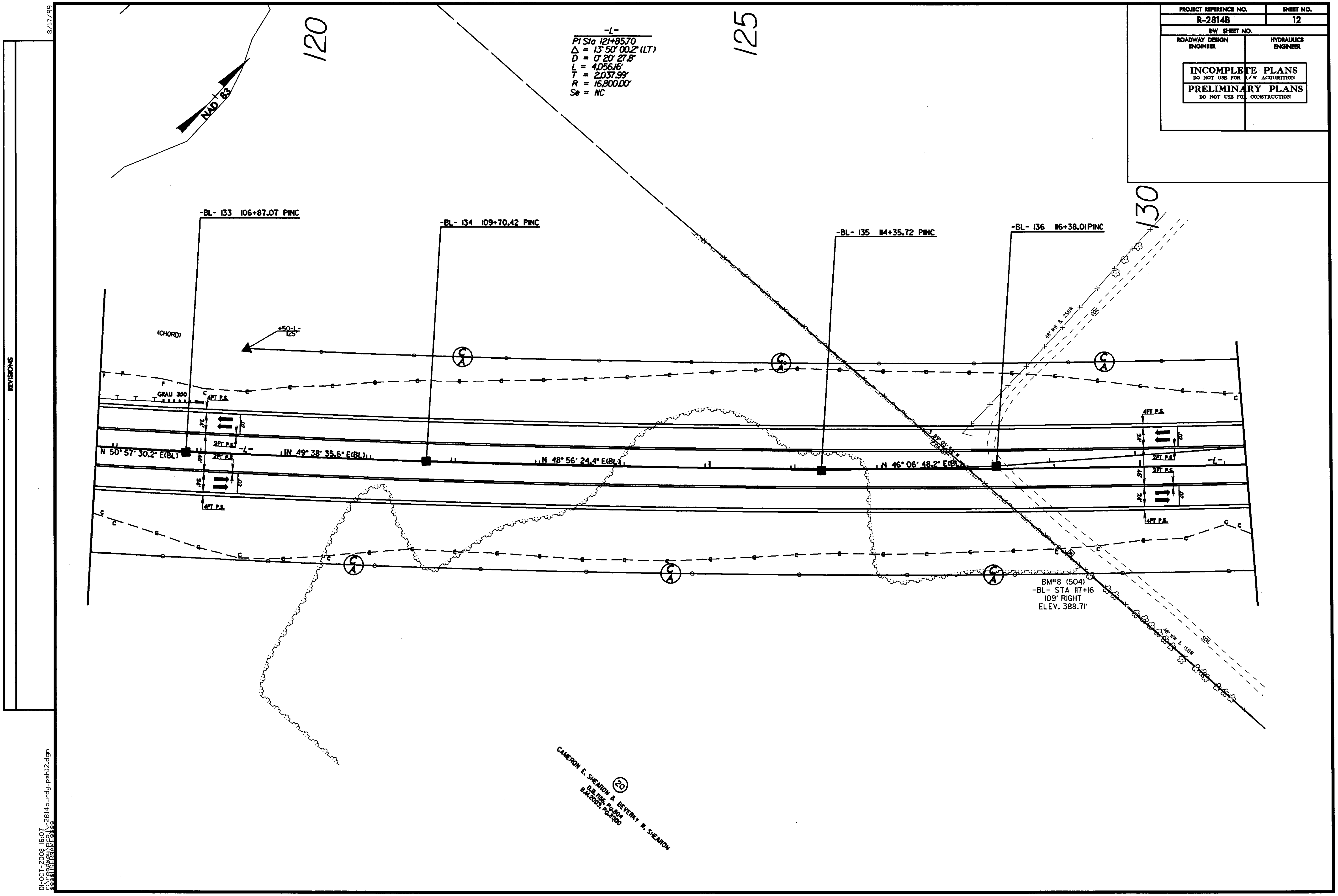
PROJECT REFERENCE NO.	SHEET NO.
R-2814B	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

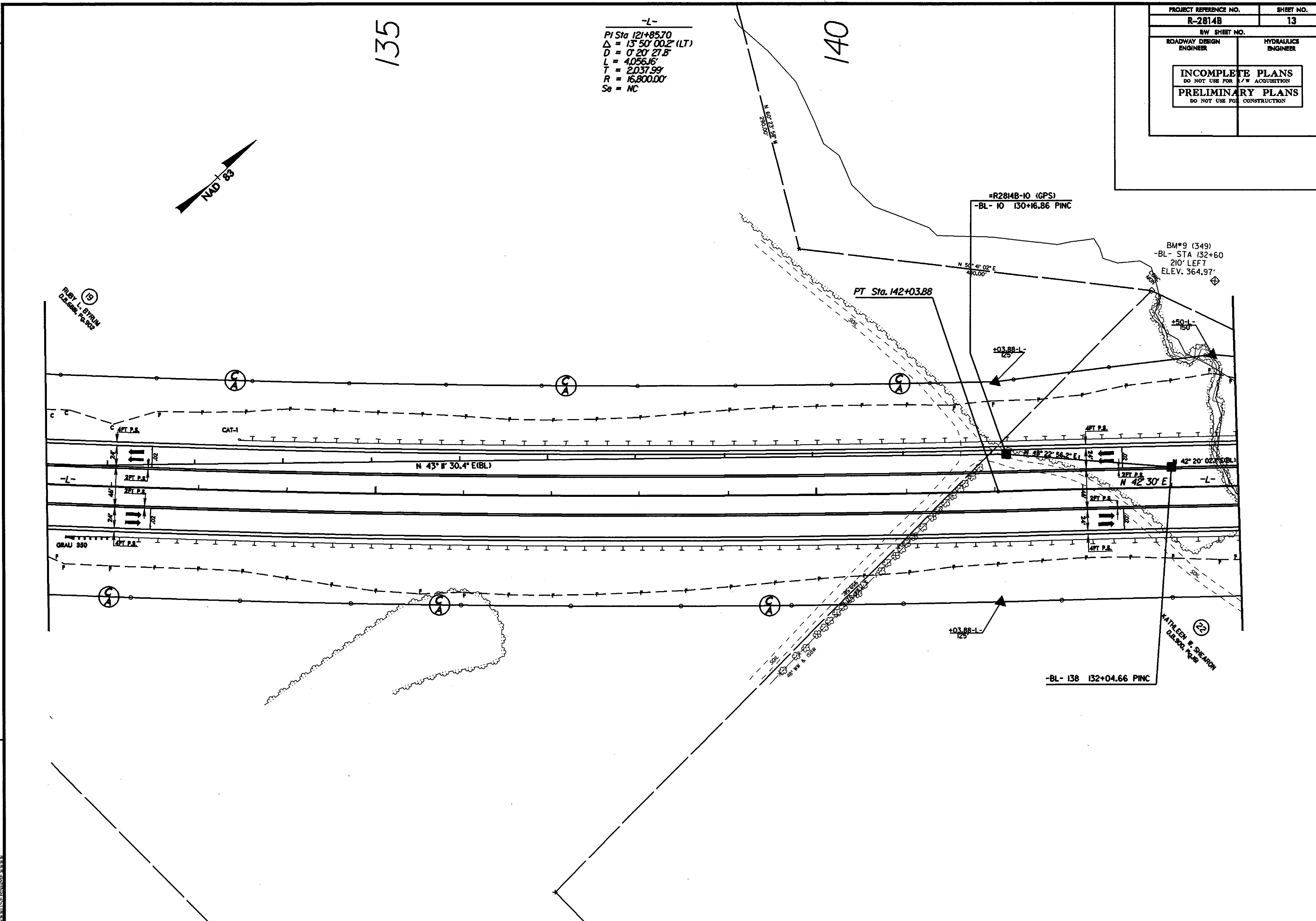



PROJECT REFERENCE NO.
SHEET NO.
R-2814B
12
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
REVISIONS
8/17/99
NAD 83
120
125
130
-L-
PI Sta 121+85.70
Δ = 13° 50' 00.2" (LT)
D = 0° 20' 27.8"
L = 4,056.16'
T = 2,037.99'
R = 16,800.00'
Se = NC
-BL- 133 106+87.07 PINC
-BL- 134 109+70.42 PINC
-BL- 135 114+35.72 PINC
-BL- 136 116+38.01 PINC
(CHORD)
+50-L-
125'
GRAU 350
4FT P.S.
2FT P.S.
N 50° 57' 30.2" E(BL)
N 49° 38' 35.6" E(BL)
N 48° 56' 24.4" E(BL)
N 46° 06' 48.2" E(BL)
-L-
BM#8 (504)
-BL- STA 117+16
109' RIGHT
ELEV. 388.71'
CAMERON E. SHEARON & BEVERLY W. SHEARON
D.B.1105 PG.804
B.M.2005 PG.2100
01-OCT-2008 16:07
r2814b_rdy_psh12.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2814B	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

8/17/99

01-OCT-2008 16:10
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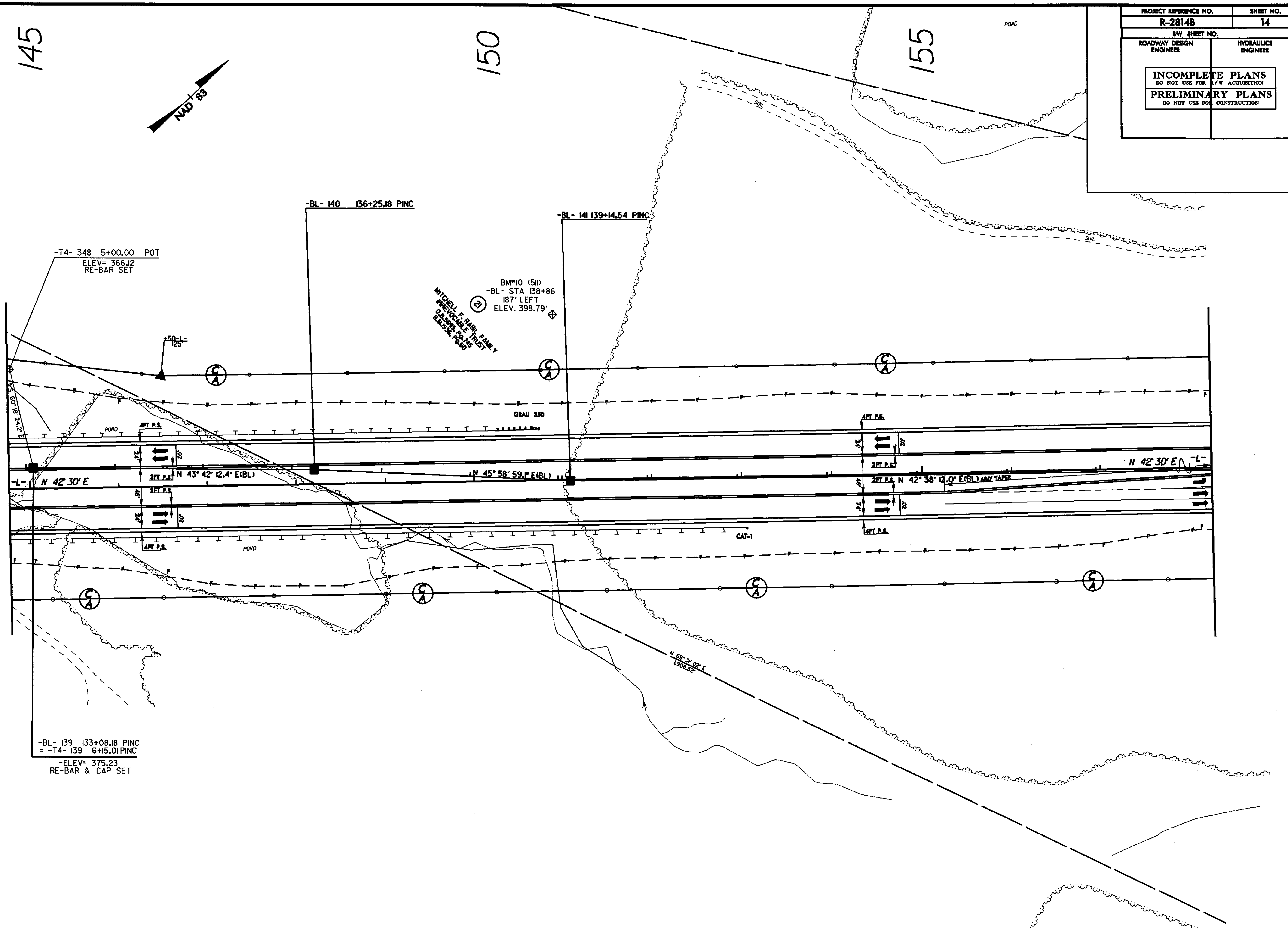
8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2814B	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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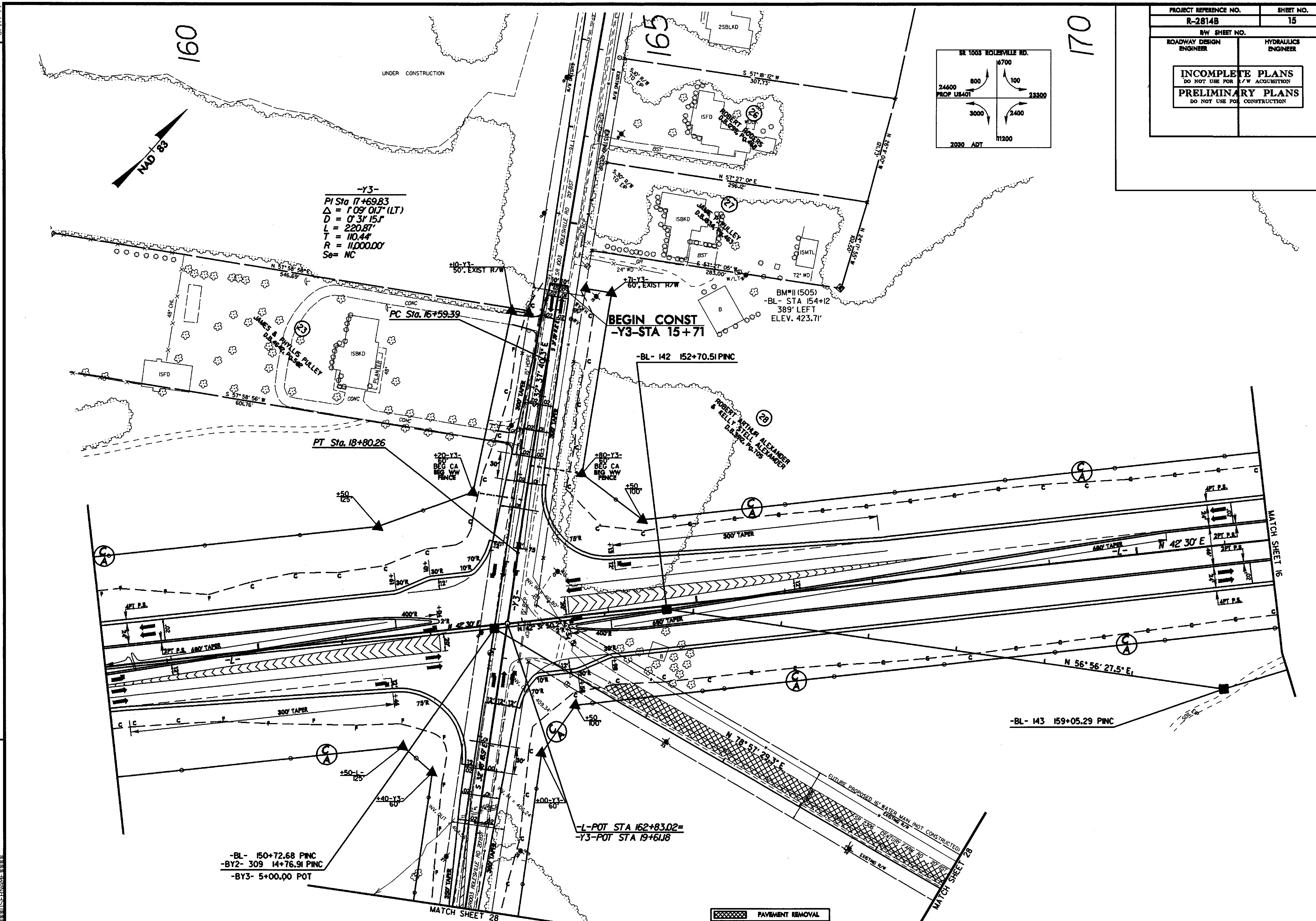

REVISIONS

8/17/99

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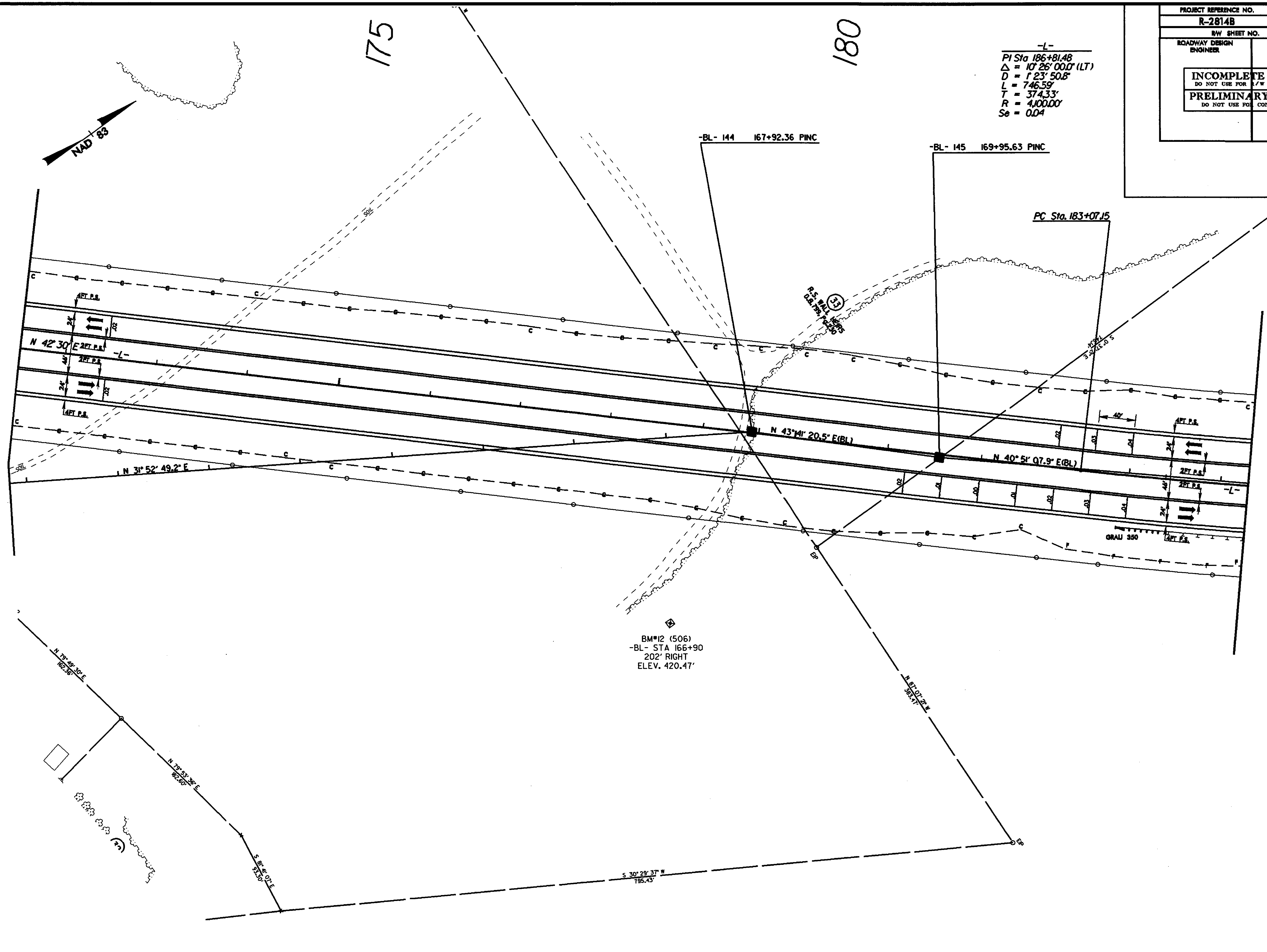
8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2814B	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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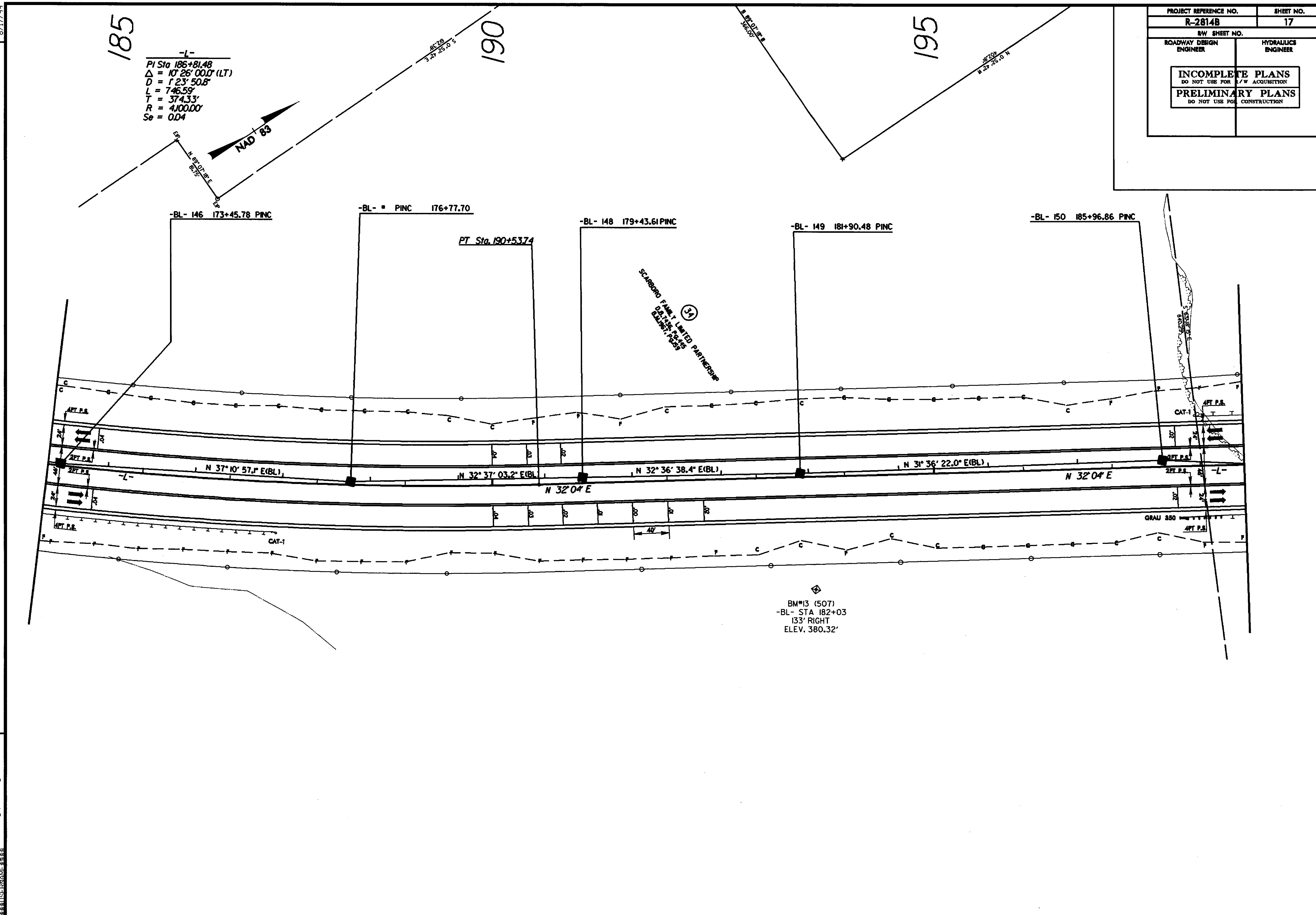

REVISIONS

8/17/99

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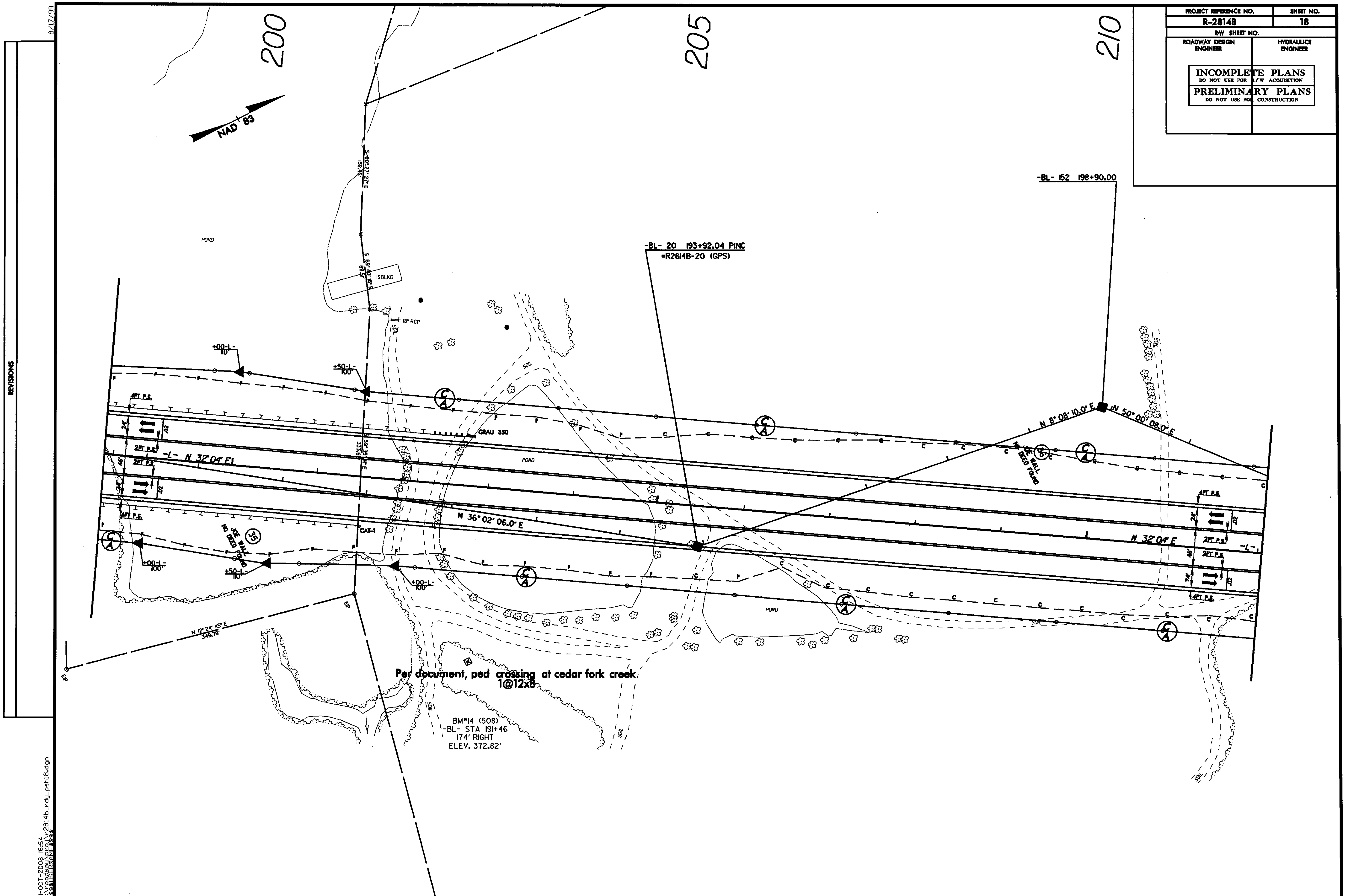
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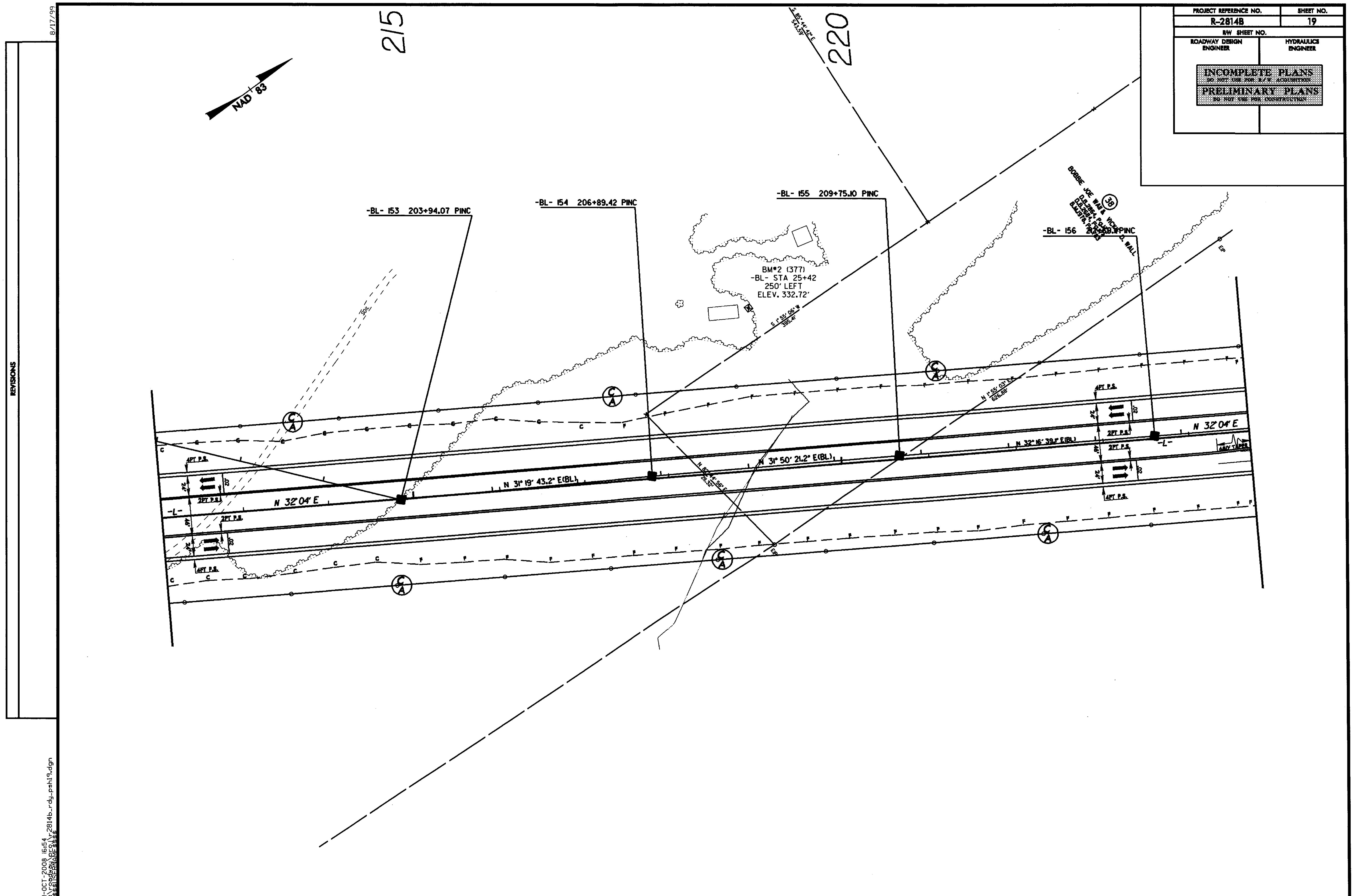
SHEET NO.
R-2814B
18
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
200
205
210
NAD 83
POND
-BL- 152 198+90.00
-BL- 20 193+92.04 PINC
=R2814B-20 (GPS)
18" RCP
GRAU 350
-L- N 32°04' E
N 36° 02' 06.0" E
N 8° 08' 10.0" E
N 50° 00' 08.0" E
N 32°04' E
N 12° 24' 45" E
349.19'
CAT-1
NO DEED FOUND
JOE WALL
35
4FT P.S.
2FT P.S.
24'
46'
.02
SOIL
Per document, ped crossing at cedar fork creek
1@12x8
BM#14 (508)
-BL- STA 191+46
174' RIGHT
ELEV. 372.82'
REVISIONS
8/17/99
01-OCT-2008 16:54

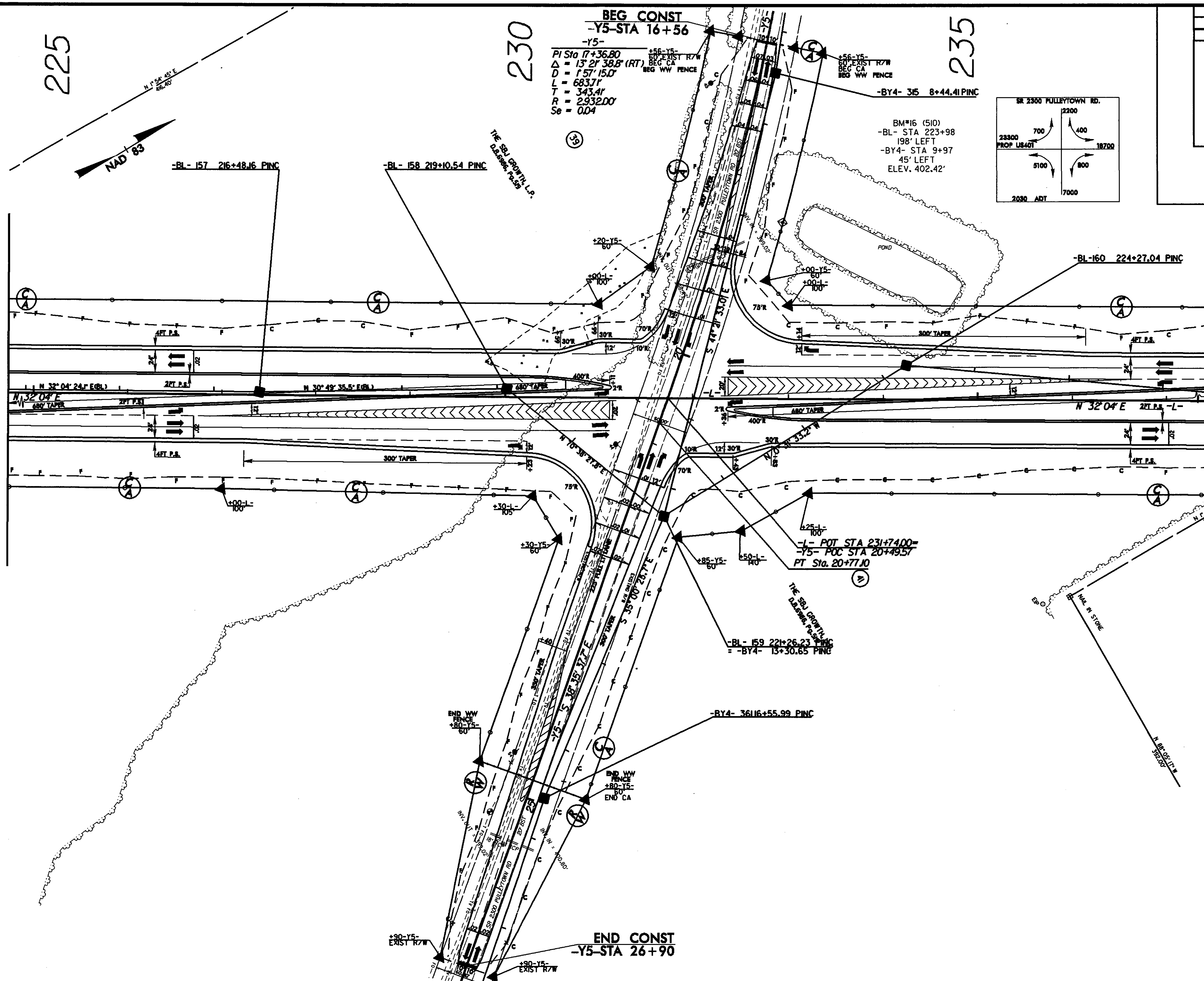


PROJECT REFERENCE NO.
SHEET NO.
R-2814B
19
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
NAD 83
215
220
-BL- 153 203+94.07 PINC
-BL- 154 206+89.42 PINC
-BL- 155 209+75.10 PINC
-BL- 156
BM#2 (377)
-BL- STA 25+42
250' LEFT
ELEV. 332.72'
BOBBIE JOE WALL & VICKIE D. WALL
38
N 31° 19' 43.2" E(BL)
N 31° 50' 21.2" E(BL)
N 32° 16' 39.9" E(BL)
N 32°04' E
-L-
4PT P.S.
2PT P.S.
REVISIONS
8/17/99
01-OCT-2008 16:54

PROJECT REFERENCE NO.	SHEET NO.
R-2814B	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

8/17/99

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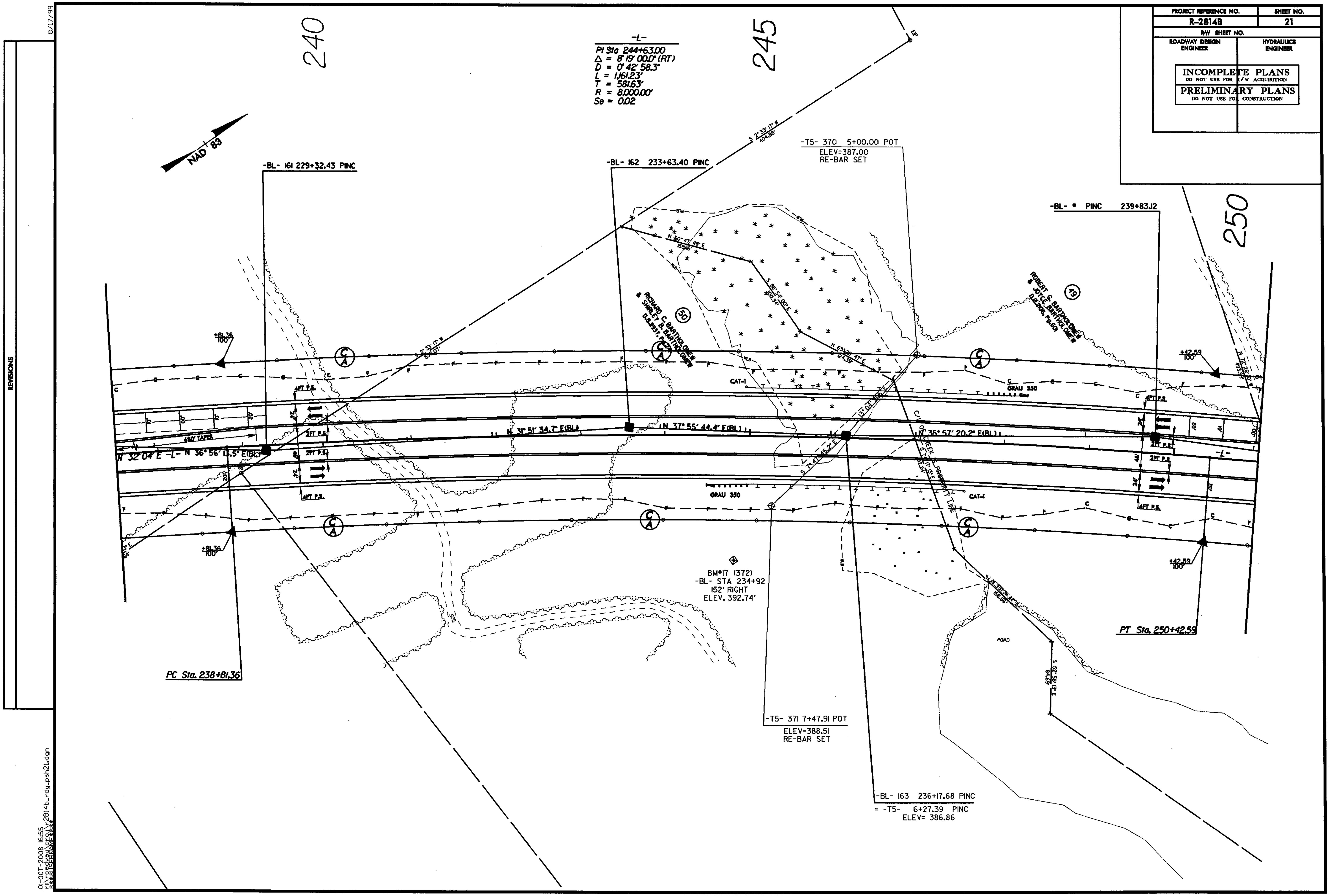
PROJECT REFERENCE NO.
R-2814B
SHEET NO.
21
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
REVISIONS
8/17/99
240
245
250
-L-
PI Sta 244+63.00
Δ = 8° 19' 00.0" (RT)
D = 0° 42' 58.3"
L = 1,161.23'
T = 581.63'
R = 8,000.00'
Se = 0.02
NAD 83
-BL- 161 229+32.43 PINC
-BL- 162 233+63.40 PINC
-T5- 370 5+00.00 POT
ELEV=387.00
RE-BAR SET
-BL- * PINC 239+83.12
RICHARD C. BARTHOLOMEW & SHIRLEY B. BARTHOLOMEW
50
ROBERT G. BARTHOLOMEW & JOYCE BARTHOLOMEW
49
N 31° 51' 34.7" E(BL)
N 37° 55' 44.4" E(BL)
N 35° 57' 20.2" E(BL)
N 32° 04' E -L- N 36° 56' 13.5" E(BL)
680' TAPER
4FT P.S.
2FT P.S.
GRAU 350
CAT-1
+81.36 / 100'
+42.59 / 100'
BM#17 (372)
-BL- STA 234+92
152' RIGHT
ELEV. 392.74'
PC Sta. 238+81.36
PT Sta. 250+42.59
POND
-T5- 371 7+47.91 POT
ELEV=388.51
RE-BAR SET
-BL- 163 236+17.68 PINC
= -T5- 6+27.39 PINC
ELEV= 386.86
01-OCT-2008 16:55
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PROJECT REFERENCE NO.	SHEET NO.
R-2814B	22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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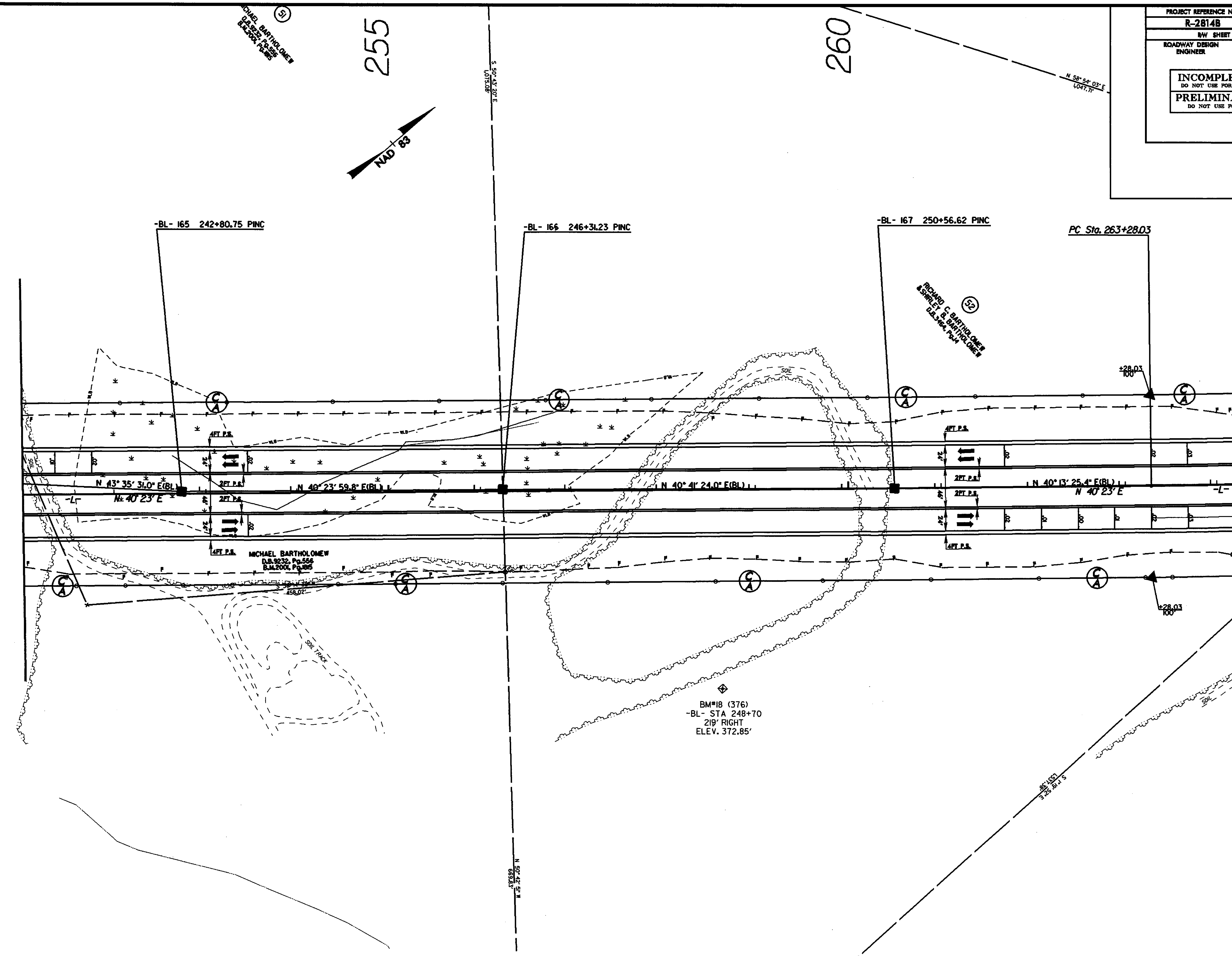
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

8/17/99

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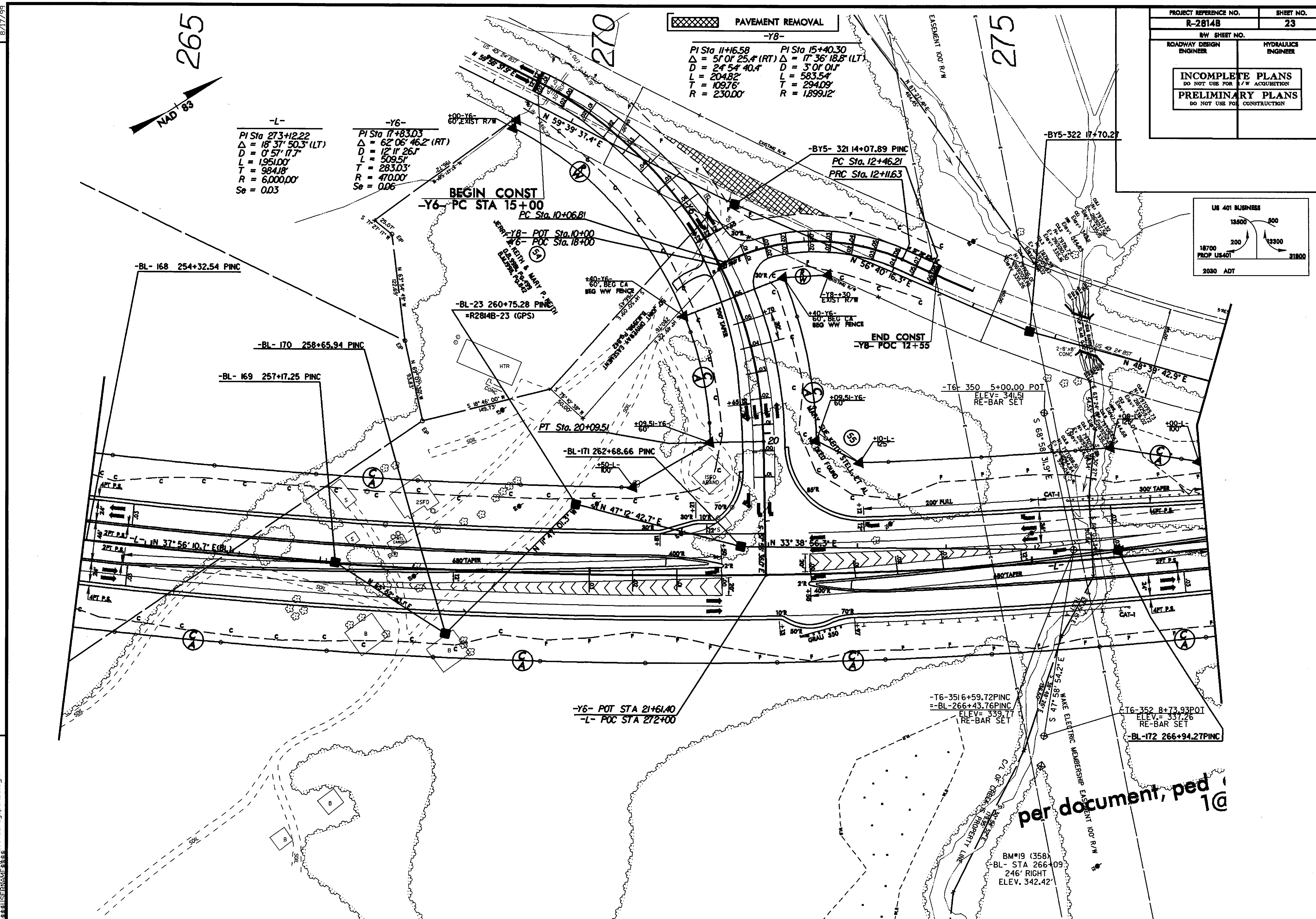
$$$$USERNAME$$$$

8/17/99

REVISIONS



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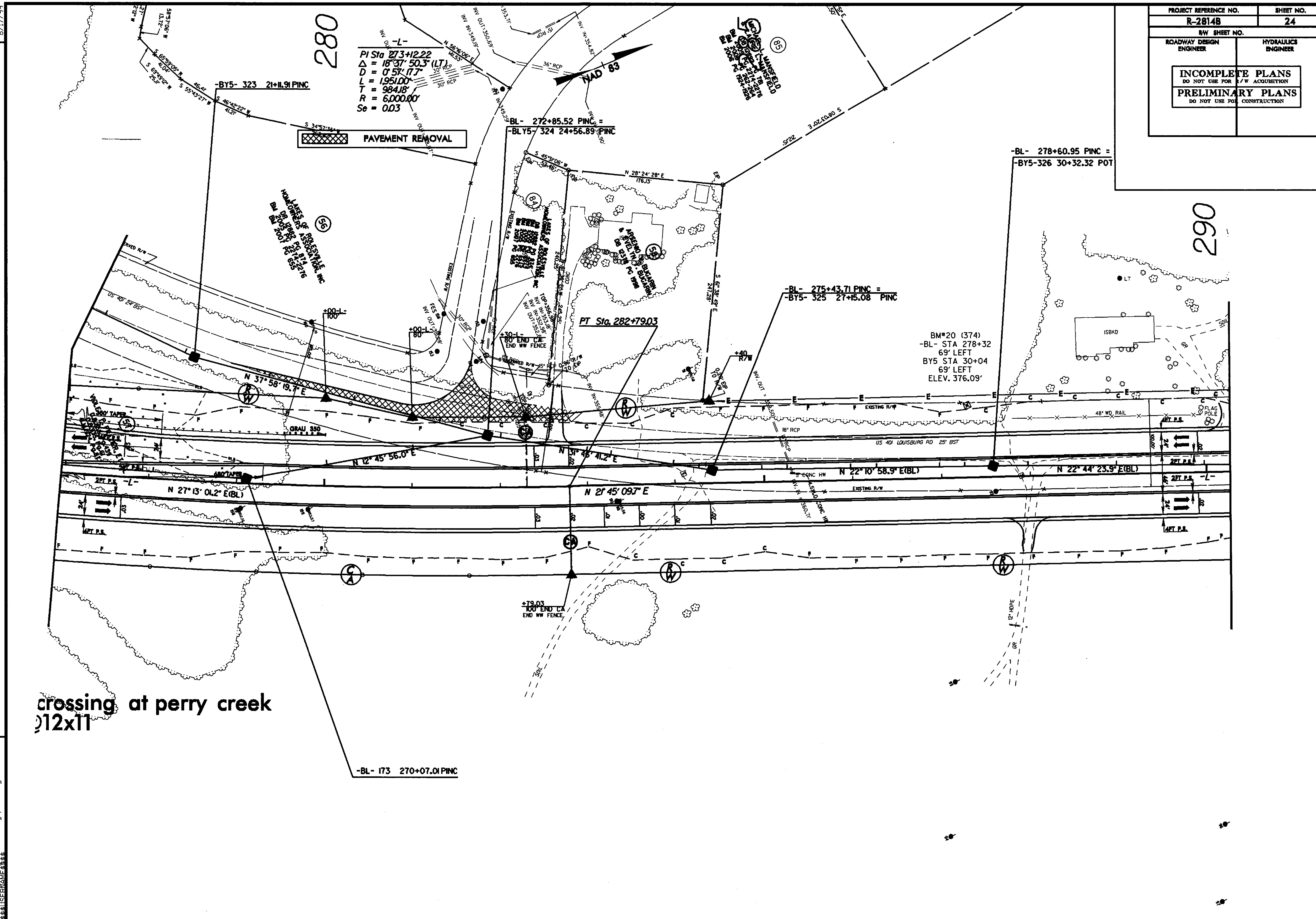
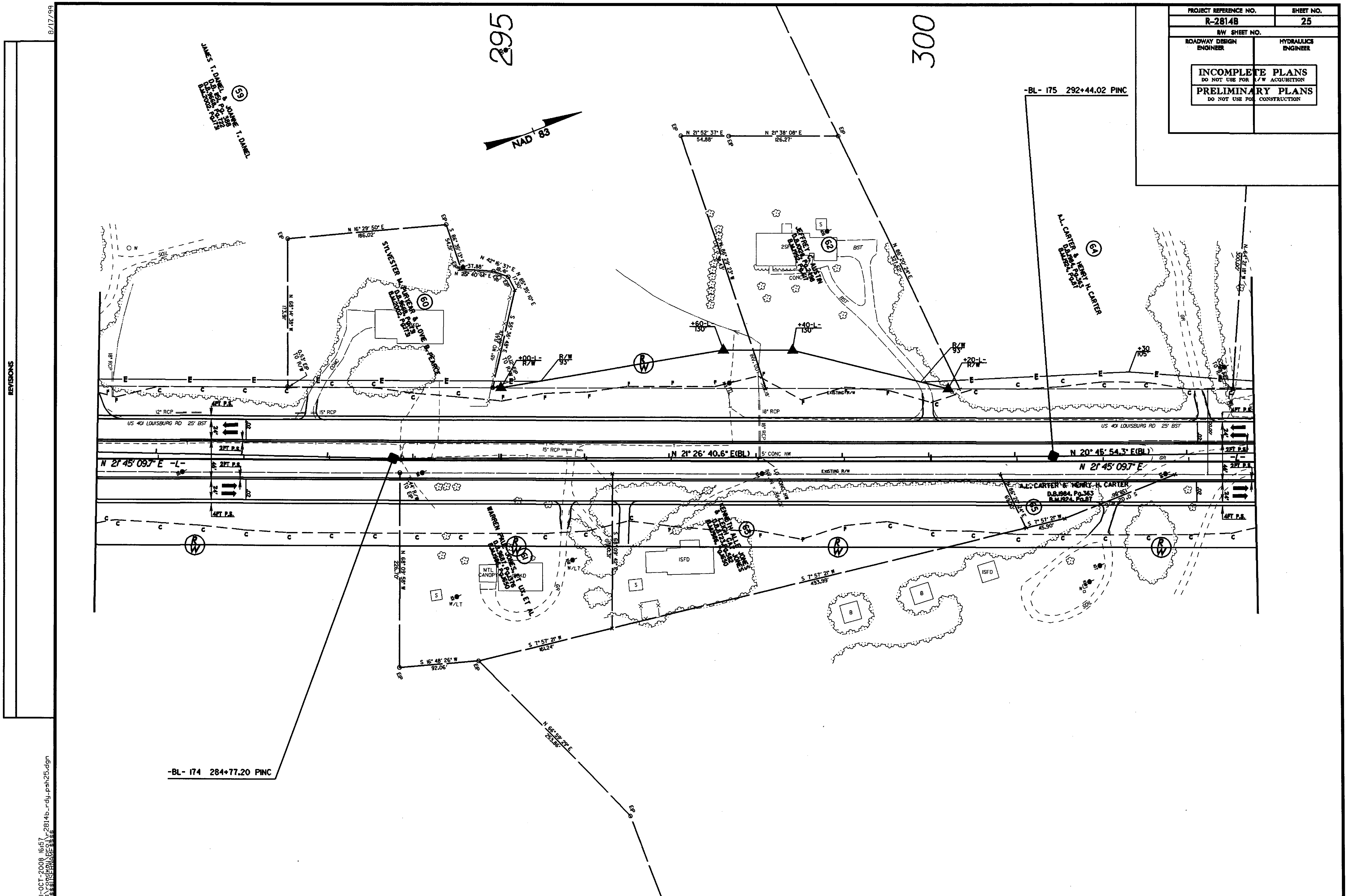

PROJECT REFERENCE NO. R-2814B
SHEET NO. 24
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION
280
290
NAD 83
PI Sta 273+12.22
Δ = 18° 37' 50.3" (LT)
D = 0° 57' 17.7"
L = 1,951.00'
T = 984.18'
R = 6,000.00'
Se = 0.03
-BY5- 323 21+11.91 PINC
PAVEMENT REMOVAL
-BL- 272+85.52 PINC =
-BLY5- 324 24+56.89 PINC
-BL- 278+60.95 PINC =
-BY5-326 30+32.32 POT
-BL- 275+43.71 PINC =
-BY5- 325 27+15.08 PINC
PT Sta. 282+79.03
BM#20 (374)
-BL- STA 278+32
69' LEFT
BY5 STA 30+04
69' LEFT
ELEV. 376.09'
N 37° 58' 19.7" E
N 12° 45' 56.0" E
N 31° 45' 41.2" E
N 27° 13' 01.2" E(BL)
N 21° 45' 09.7" E
N 22° 10' 58.9" E(BL)
N 22° 44' 23.9" E(BL)
US 401 LOUISBURG RD 25' BST
48" WD. RAIL
EXISTING R/W
+79.03
100' END CA
END WW FENCE
-BL- 173 270+07.01 PINC
crossing at perry creek
@12x11



PROJECT REFERENCE NO.
SHEET NO.
R-2814B
25
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
295
300
NAD 83
-BL- 175 292+44.02 PINC
-BL- 174 284+77.20 PINC
JAMES T. DANIEL & JOANNE T. DANIEL
SYLVESTER McGREGOR & LOVE B. PEARCE
JEFFREY S. AUSTIN
A.L. CARTER & HENRY H. CARTER
A.L. CARTER & HENRY H. CARTER
D.B.1984, Pg.363
B.M.1924, Pg.87
WARREN PAUL JONES, ET UX, ET AL
US 401 LOUISBURG RD 25' BST
N 21° 45' 09.7" E -L-
N 21° 26' 40.6" E(BL)
N 20° 45' 54.3" E(BL)
N 21° 45' 09.7" E
N 16° 29' 50" E
166.02'
N 21° 52' 37" E
54.88'
N 21° 38' 08" E
126.27'
S 16° 48' 26" W
92.06'
S 7° 57' 21" W
161.24'
S 7° 57' 21" W
493.99'
S 7° 57' 21" W
45.90'
+60 -L-
130'
+40 -L-
130'
+00 -L- R/W
+20 -L- R/W
+30
105'
R/W
93'
EXISTING R/W
12" RCP
15" RCP
18" RCP
4FT P.S.
2FT P.S.
5' CONC HW
ISFD
MTL CANOPY
BST
REVISIONS
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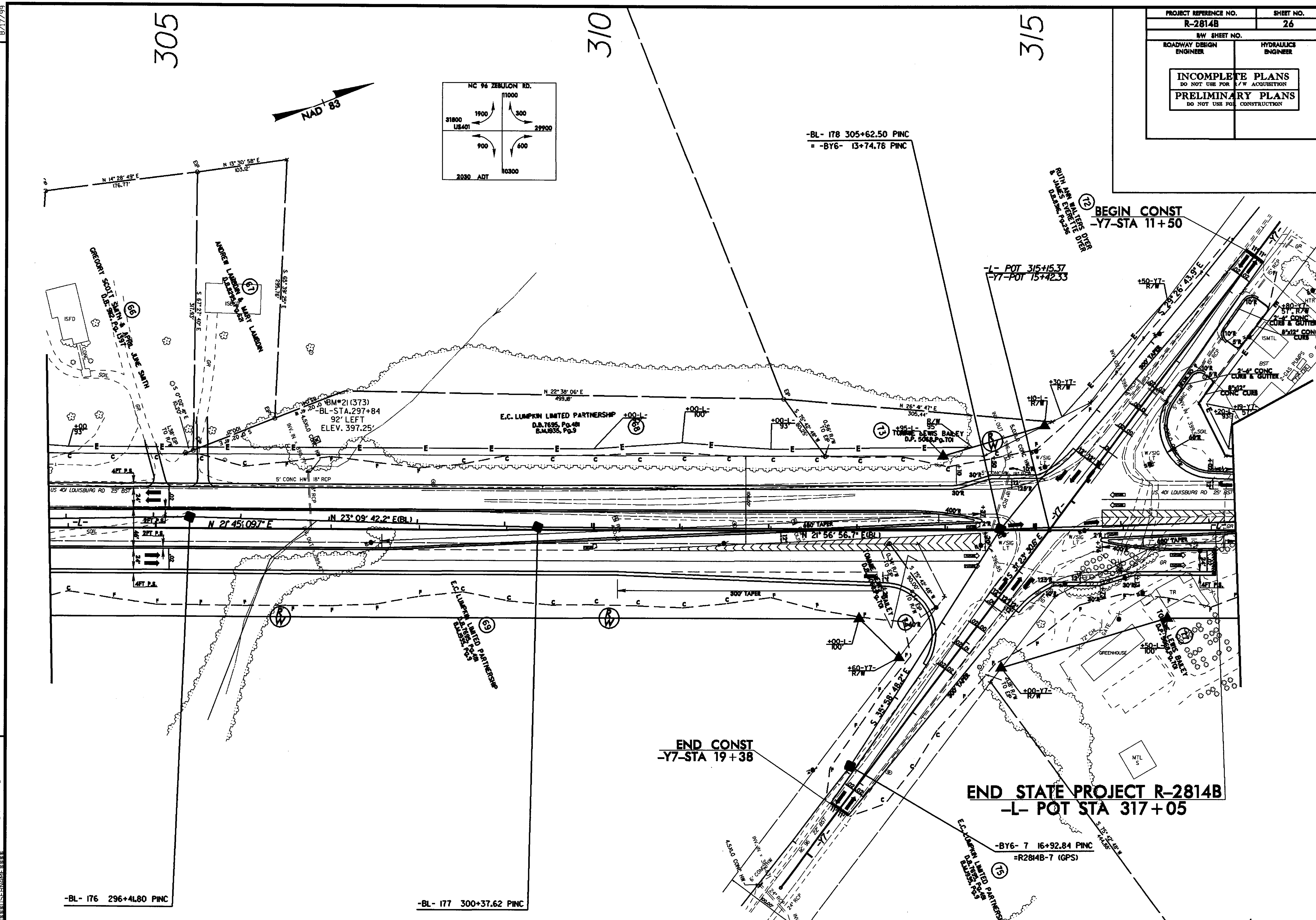
8/17/99

REVISIONS



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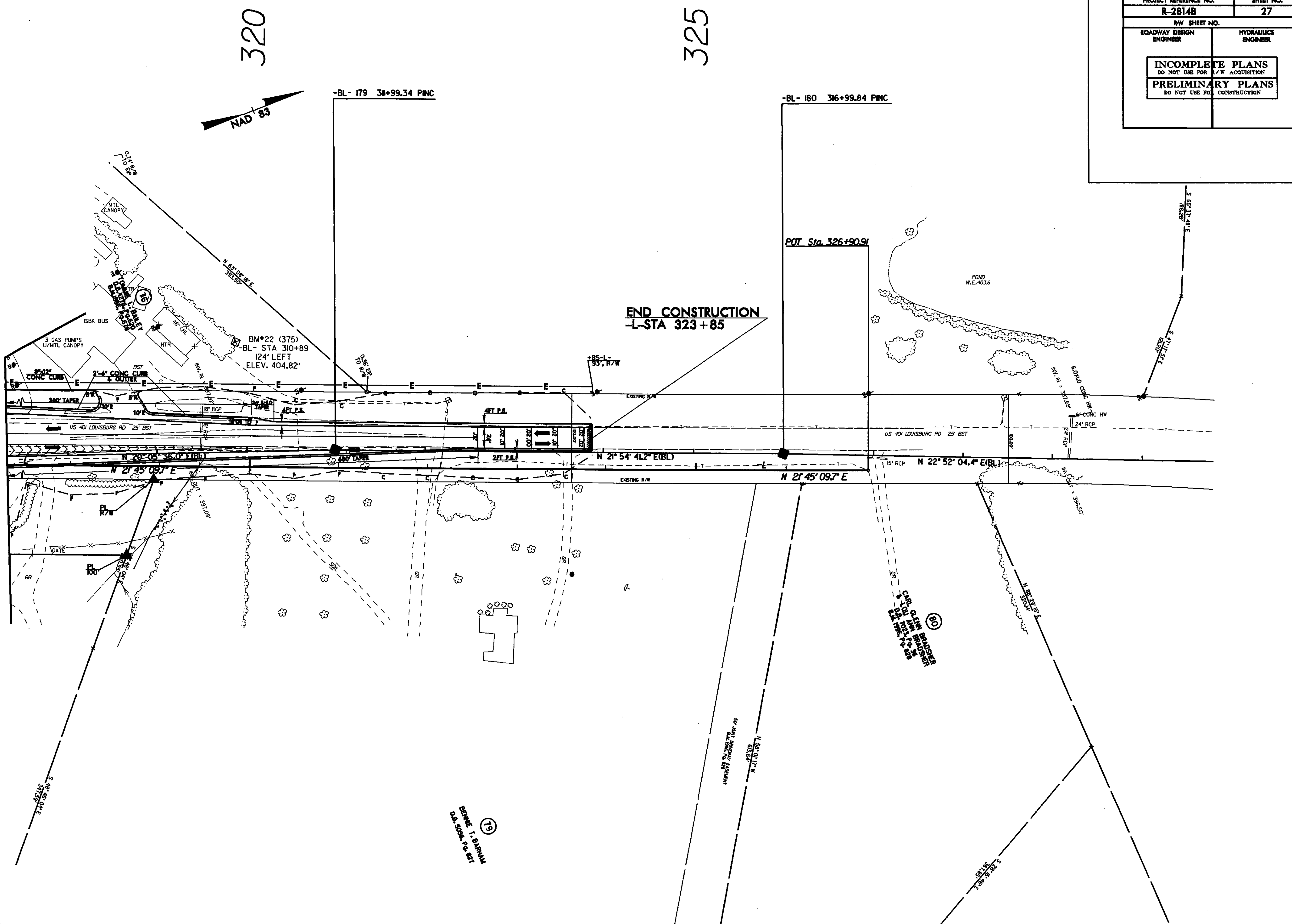
PROJECT REFERENCE NO.	SHEET NO.
R-2814B	27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

8/17/99

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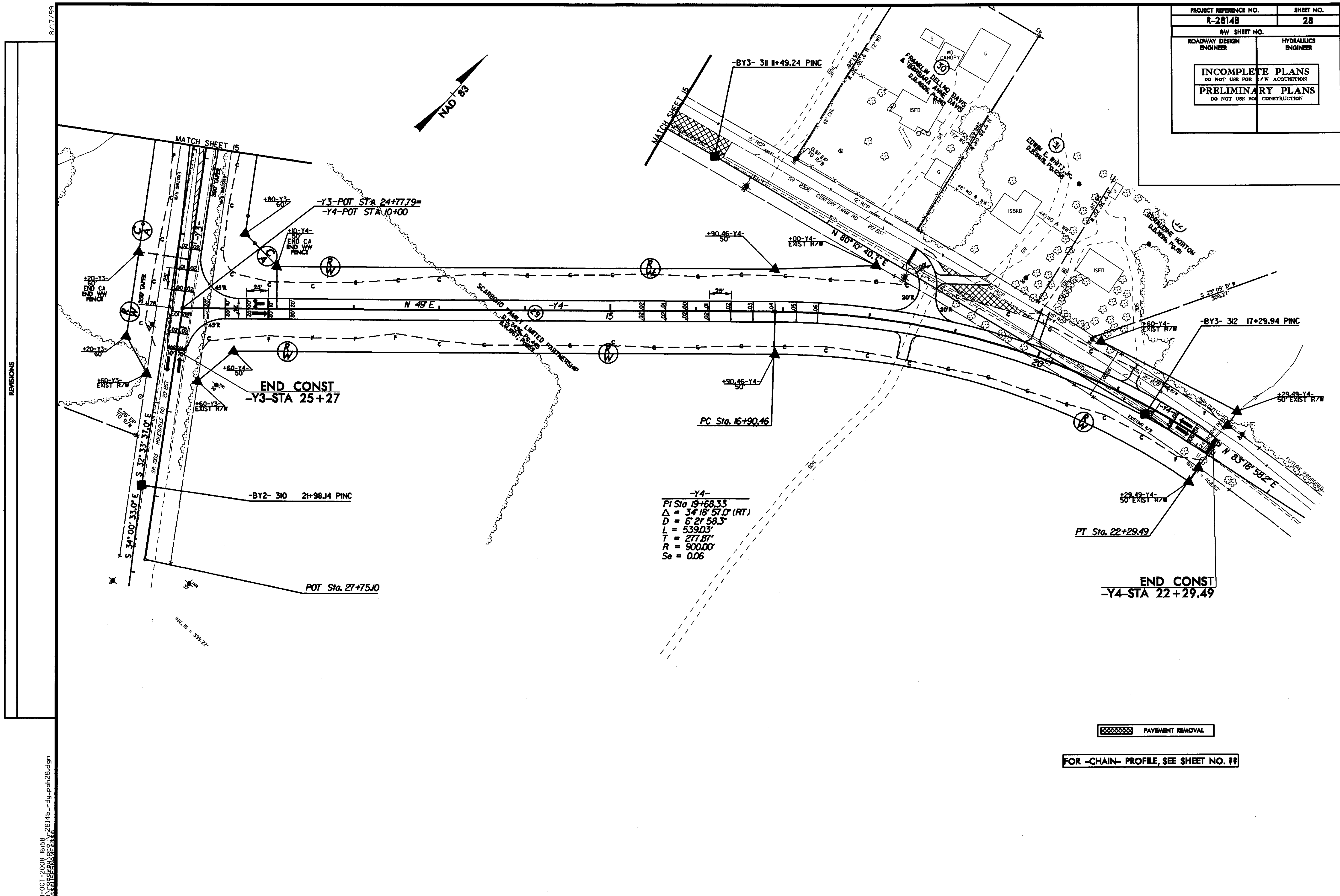

PROJECT REFERENCE NO.
SHEET NO.
R-2814B
28
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
8/17/99
REVISIONS
NAD 83
MATCH SHEET 15
-BY3- 311 11+49.24 PINC
-Y3-POT STA 24+77.79=
-Y4-POT STA 10+00
N 49° E
-Y4-
N 80° 10' 40.7" E
N 83° 18' 58.2" E
END CONST
-Y3-STA 25+27
-BY2- 310 21+98.14 PINC
POT Sta. 27+75.10
PC Sta. 16+90.46
-Y4-
PI Sta 19+68.33
Δ = 34° 18' 57.0" (RT)
D = 6° 21' 58.3"
L = 539.03'
T = 277.87'
R = 900.00'
Se = 0.06
-BY3- 312 17+29.94 PINC
PT Sta. 22+29.49
END CONST
-Y4-STA 22+29.49
SCARBORO FAMILY LIMITED PARTNERSHIP
FRANKLIN DELLNO DAVIS & BARBARA ANNE DAVIS
EDWIN E. WHITT JR.
SR 2306 CENTURY FARM RD
SR 1003 ROLESVILLE RD
PAVEMENT REMOVAL
FOR -CHAIN- PROFILE, SEE SHEET NO. ??
01-OCT-2008 16:58

See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAKE–FRANKLIN COUNTIES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2814C	1	

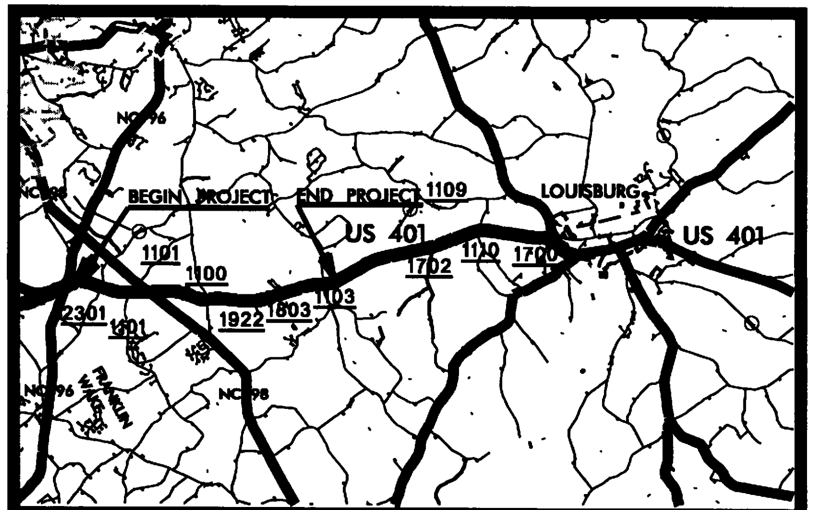
STATE PROJ.NO.	F.A.PROJ.NO.	DESCRIPTION

METRIC

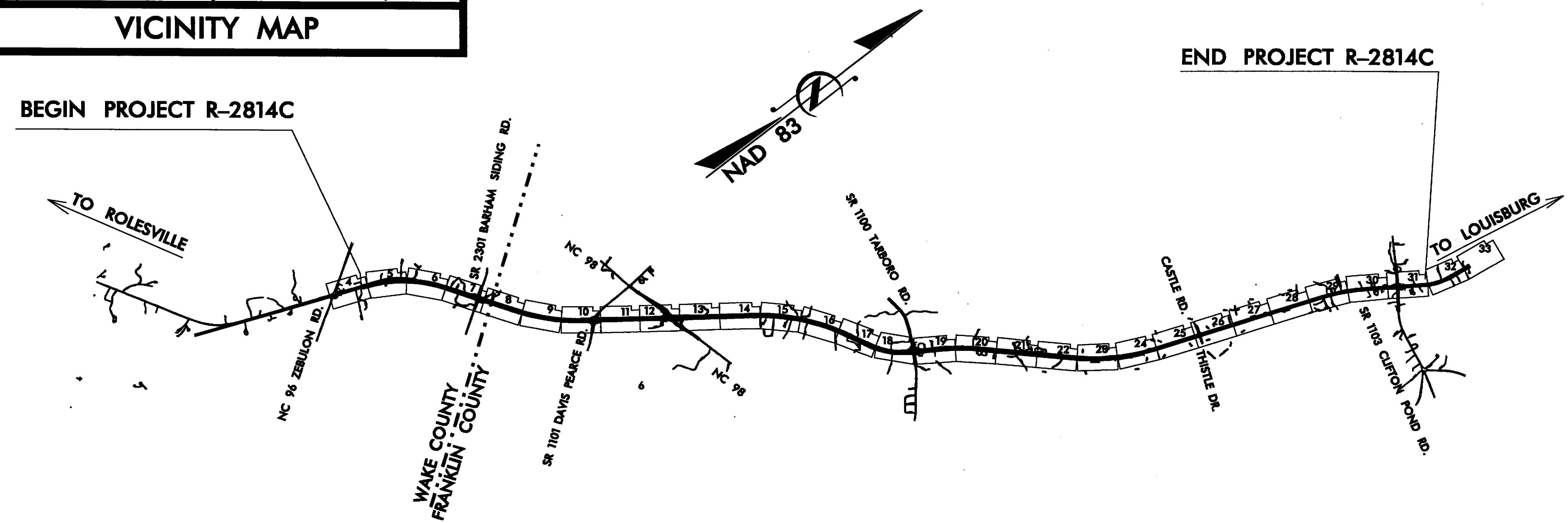
ALL DIMENSIONS IN THESE PLANS ARE IN METERS

LOCATION: US 401 FROM NC 96 TO SR 1103

TYPE OF WORK: GRADING, PAVING, DRAINAGE, STRUCTURES, SIGNAL



VICINITY MAP



THIS IS A PARTIAL CONTROLLED ACCESS PROJECT

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

GRAPHIC SCALES

5 0 10

PLANS

DESIGN DATA

ADT 2002 = 12100
ADT 2025 = 25900
DHV = 12 %
D = 60 %
T = 8 % *
V = 100 km/h

* TTST 3 % DUAL 5 %

PROJECT LENGTH

LENGTH ROADWAY FA PROJECT = 9.700KM

TOTAL LENGTH STATE PROJECT R-2814C = 9.700 KM

Prepared In the Office of:

DIVISION OF HIGHWAYS

1000 Birch Ridge Dr., Raleigh, NC 27610

1995 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
POST YEAR

LETTING DATE:
POST YEAR

JIMMY GOODNIGHT
PROJECT ENGINEER

TIM GOINS
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

CONTRACT:

TIP PROJECT: R-2814C

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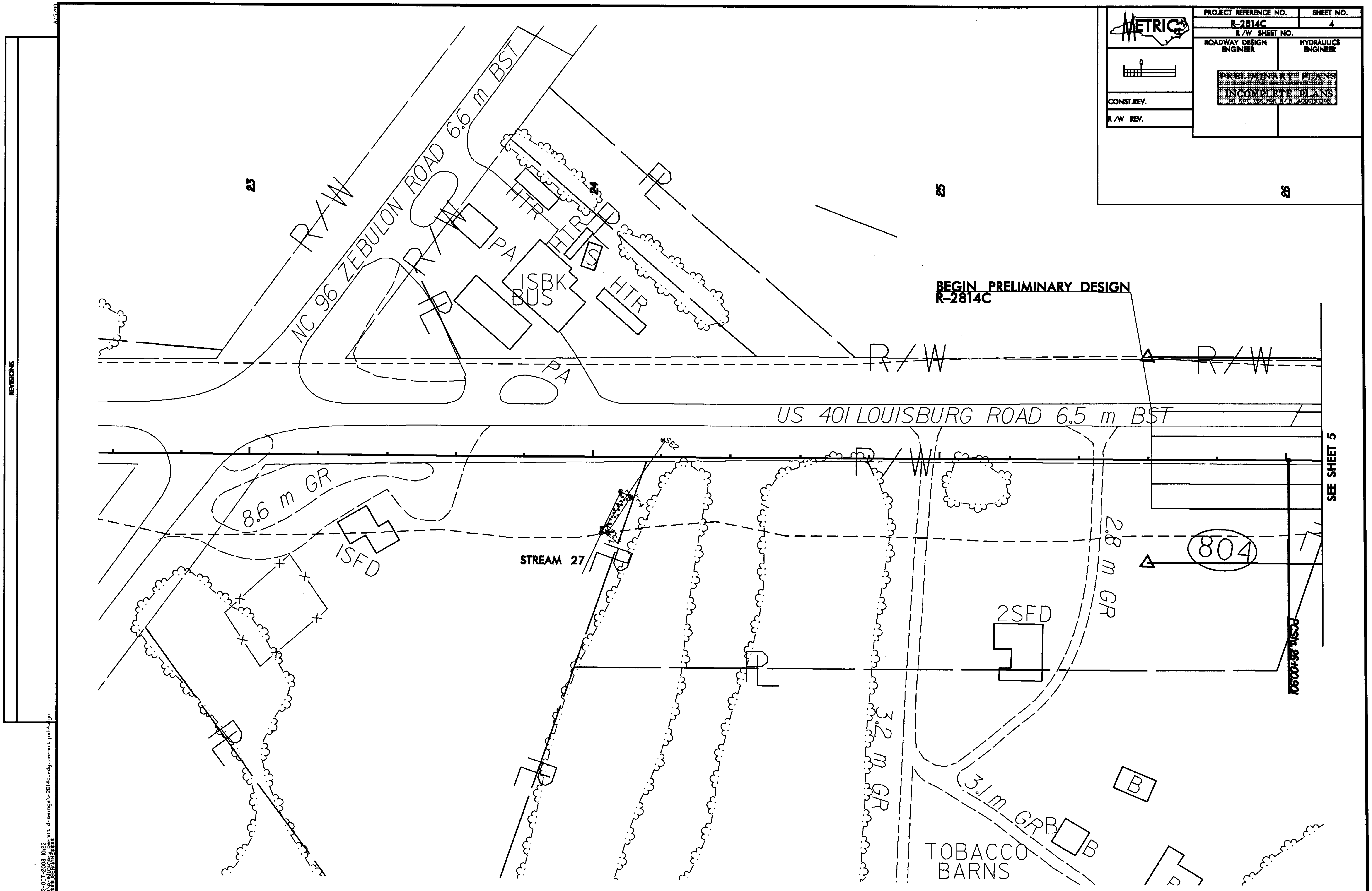
9/28/99


METRIC
PROJECT REFERENCE NO.
R-2814C
SHEET NO.
4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
REVISIONS
NC 96 ZEBULON ROAD 6.6 m BST
US 401 LOUISBURG ROAD 6.5 m BST
BEGIN PRELIMINARY DESIGN
R-2814C
R/W
PA
HTR
ISBK
BUS
S
8.6 m GR
ISFD
STREAM 27
2SFD
2.8 m GR
3.2 m GR
3.1 m GR
B
TOBACCO
BARNS
804
SEE SHEET 5
23
24
25
26
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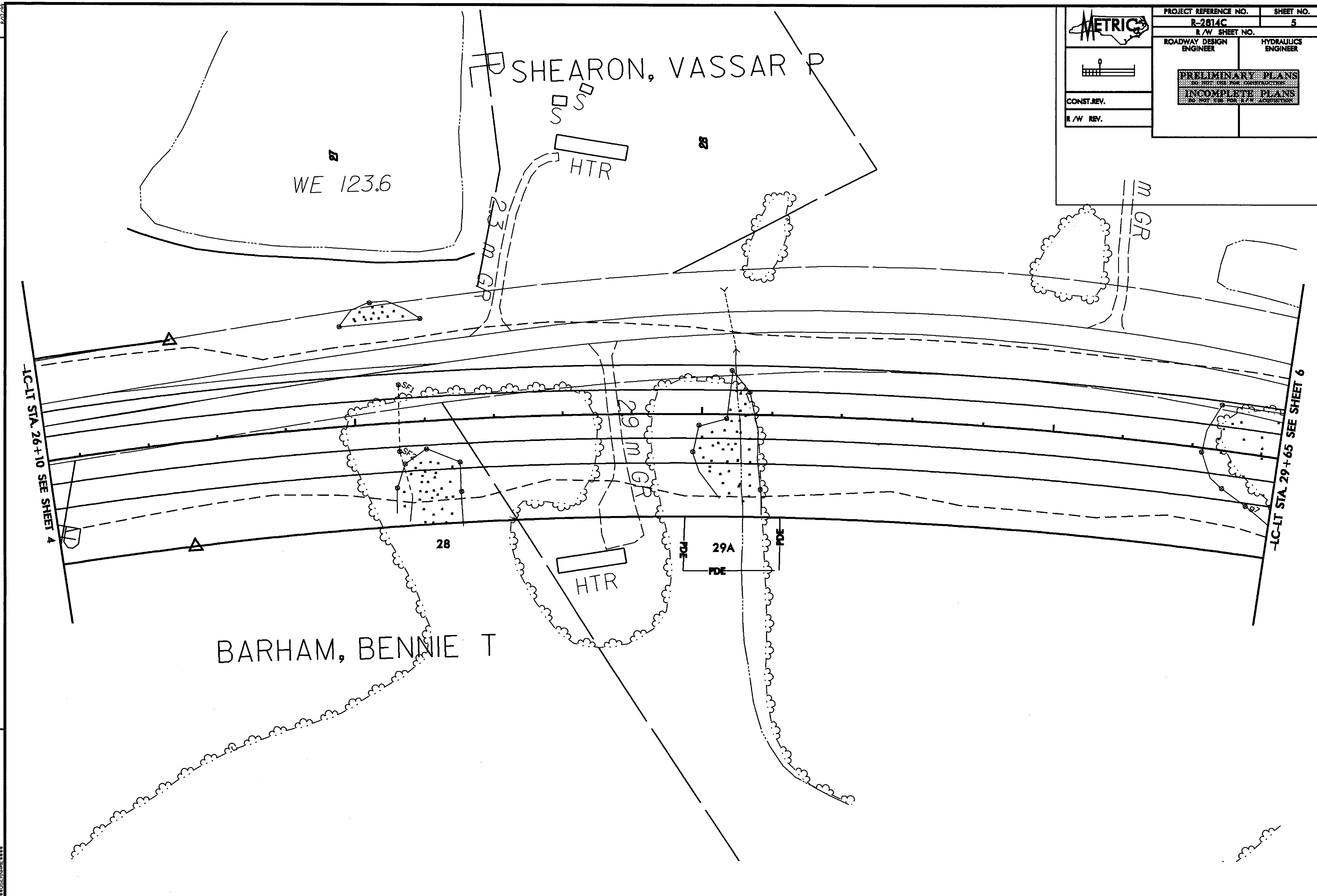
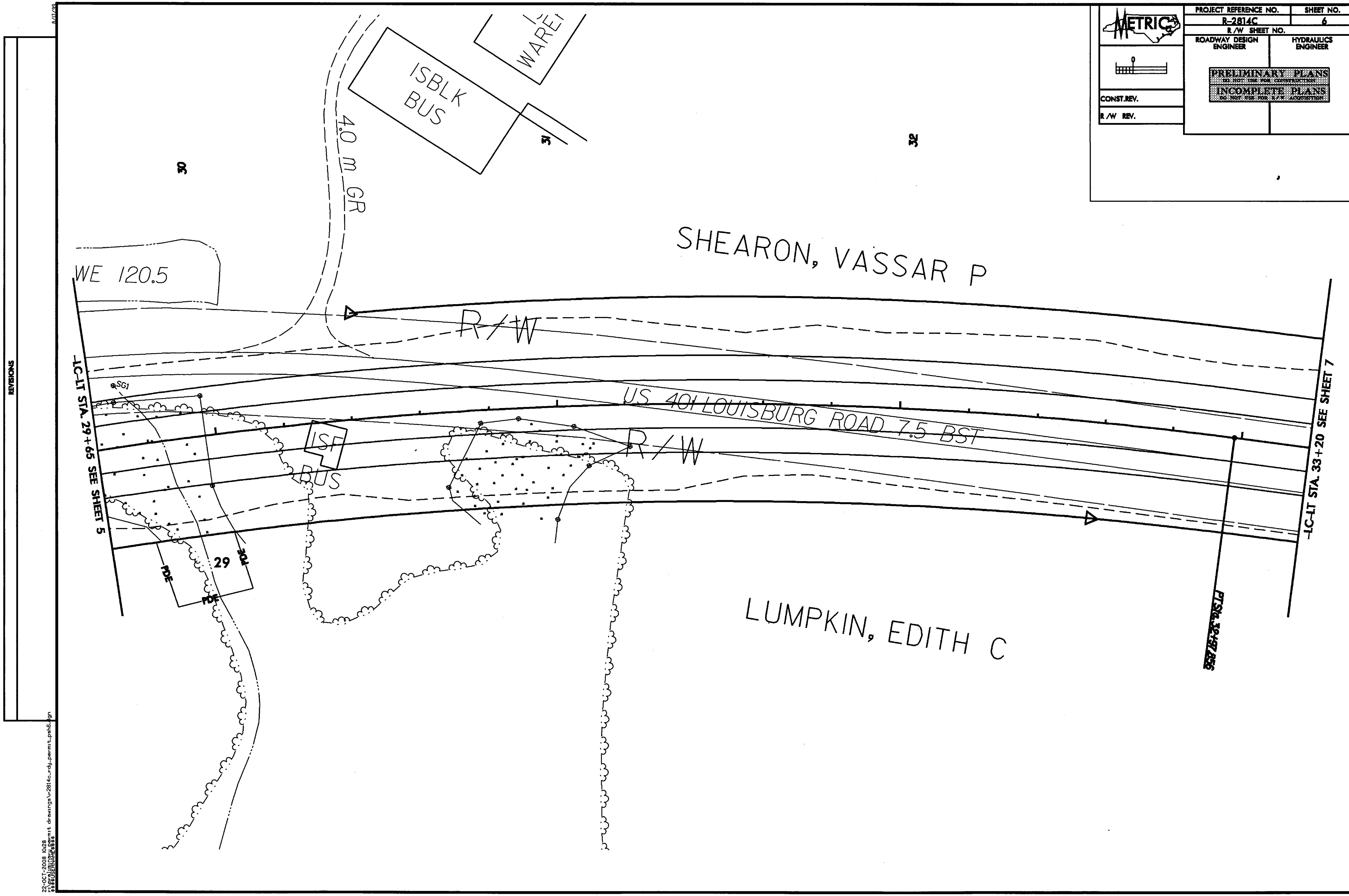


METRIC
PROJECT REFERENCE NO.
R-2814C
SHEET NO.
5
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
SHEARON, VASSAR P
S
S
S
HTR
27
28
WE 123.6
23 m GR
m GR
-LC-LT STA. 26+10 SEE SHEET 4
-LC-LT STA. 29+65 SEE SHEET 6
SF1
SF1
29 m GR
28
PDE
29A
PDE
PDE
HTR
BARHAM, BENNIE T

REVISIONS



METRIC
PROJECT REFERENCE NO.
R-2814C
SHEET NO.
6
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
REVISIONS
ISBLK BUS
4.0 m GR
WE 120.5
30
31
32
SHEARON, VASSAR P
R/W
US 401 LOUISBURG ROAD 7.5 BST
R/W
ISF BUS
SG1
-LC-LT STA. 29+65 SEE SHEET 5
-LC-LT STA. 33+20 SEE SHEET 7
PDE
29
PDE
PDE
LUMPKIN, EDITH C

PROJECT REFERENCE NO.	SHEET NO.
R-2814C	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

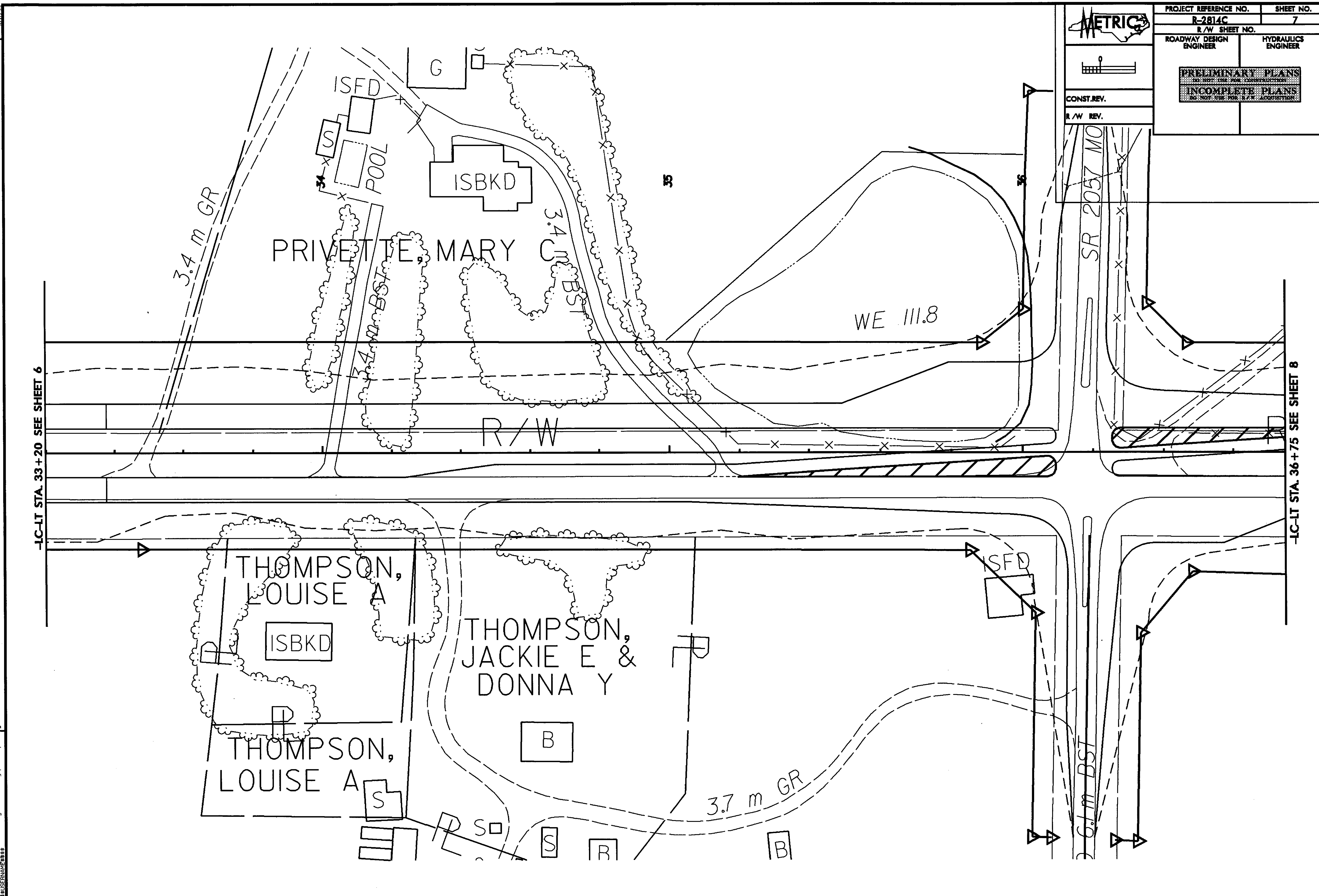
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

CONST.REV.

R/W REV.

REVISIONS



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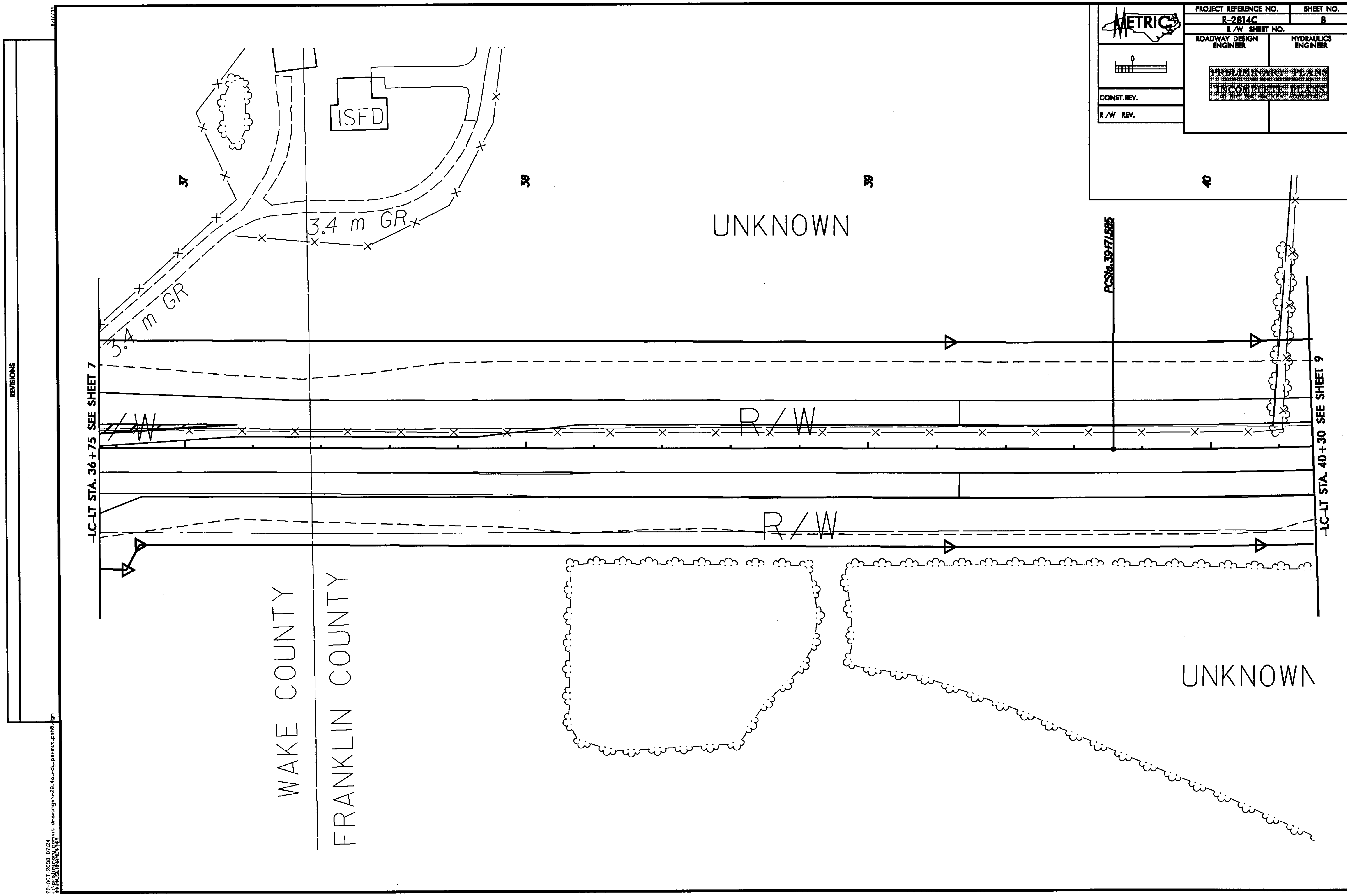
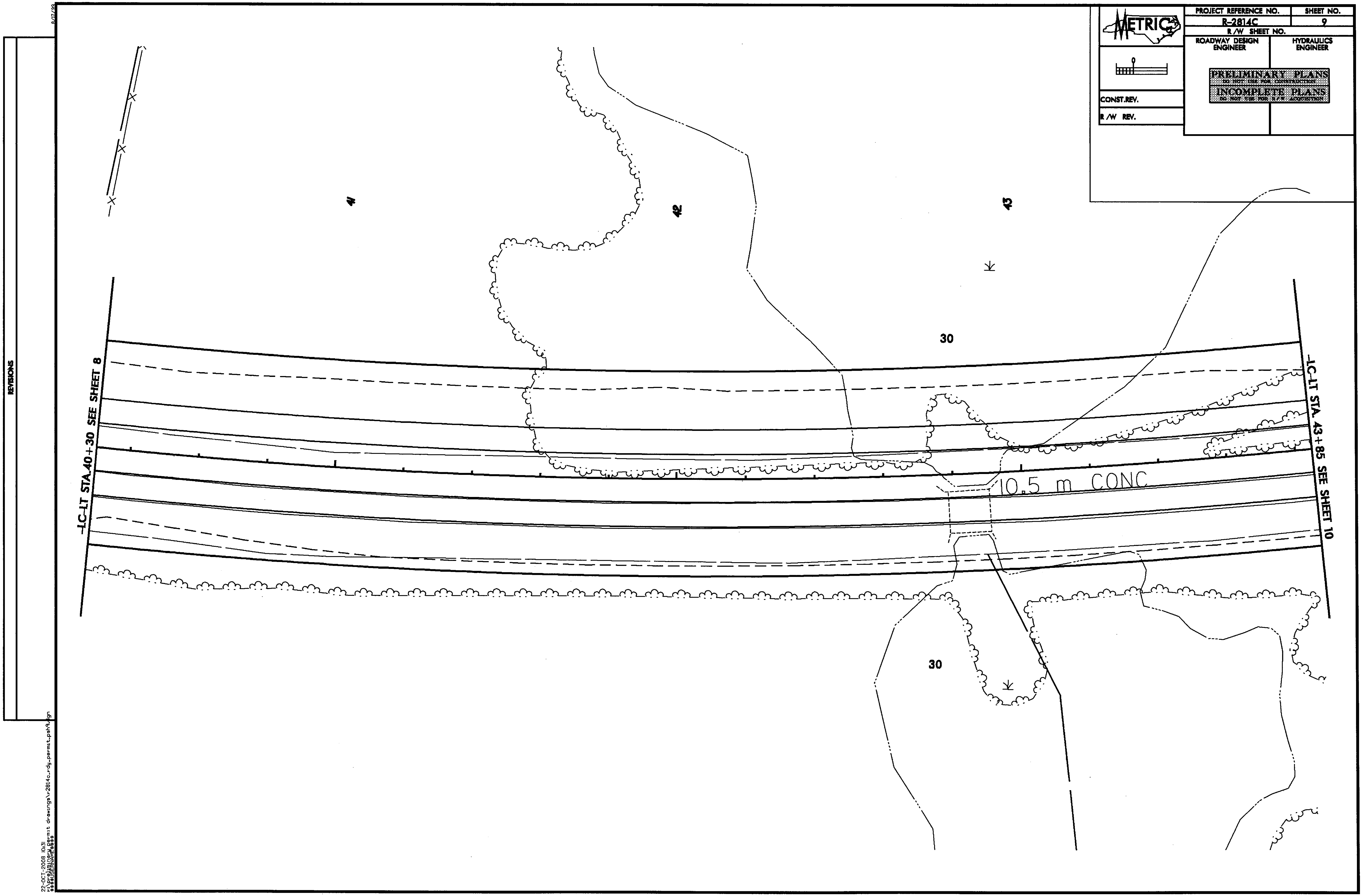
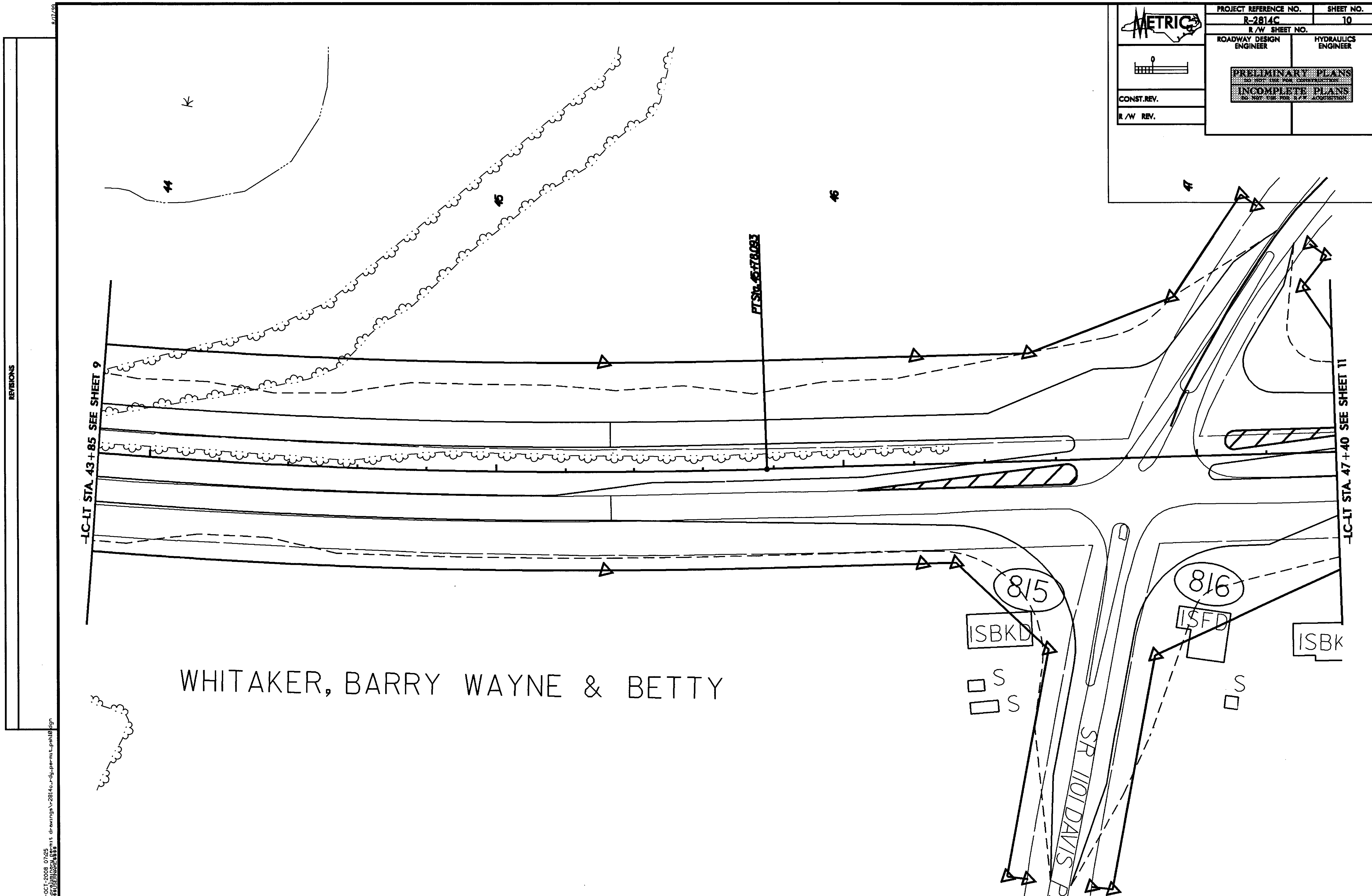
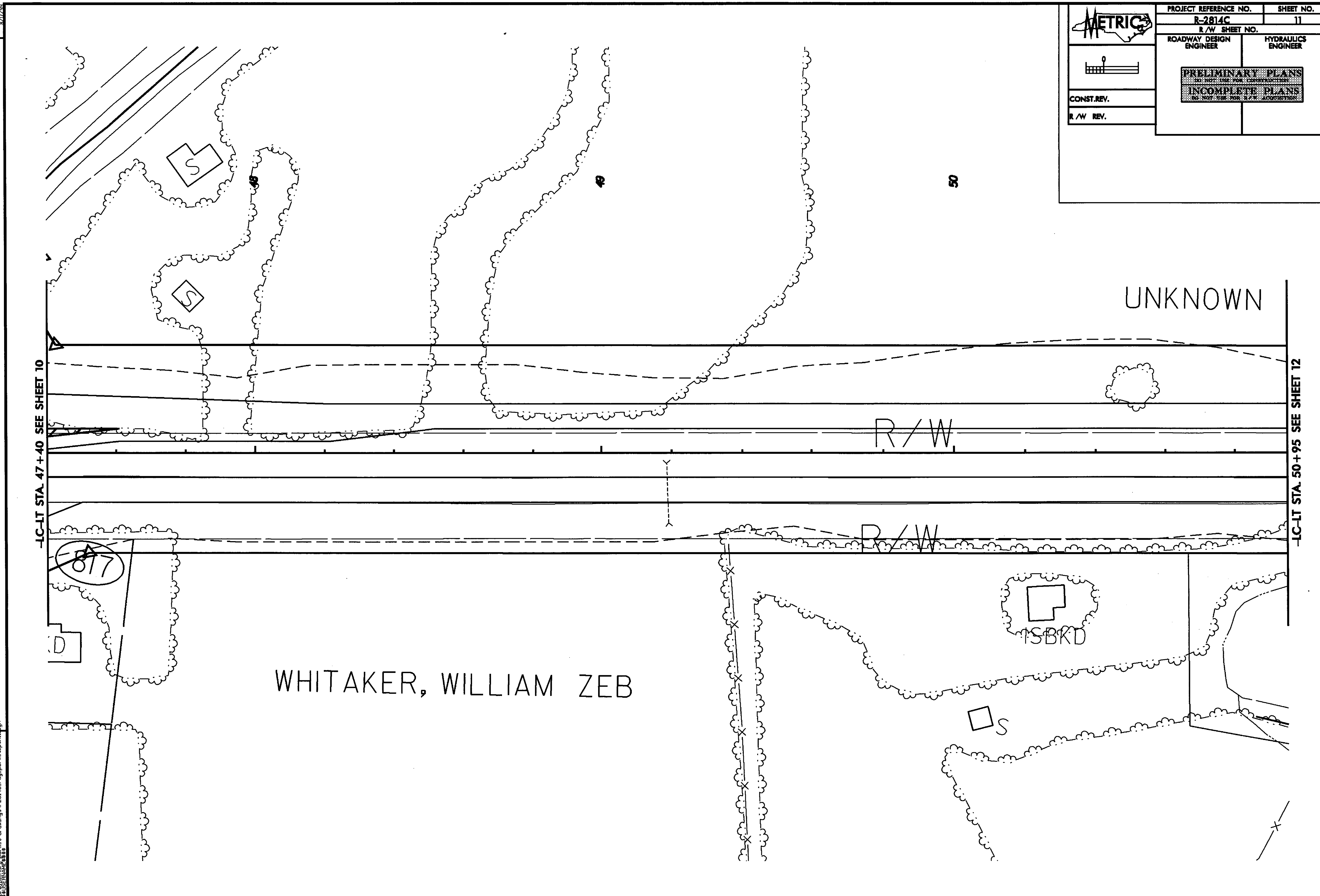


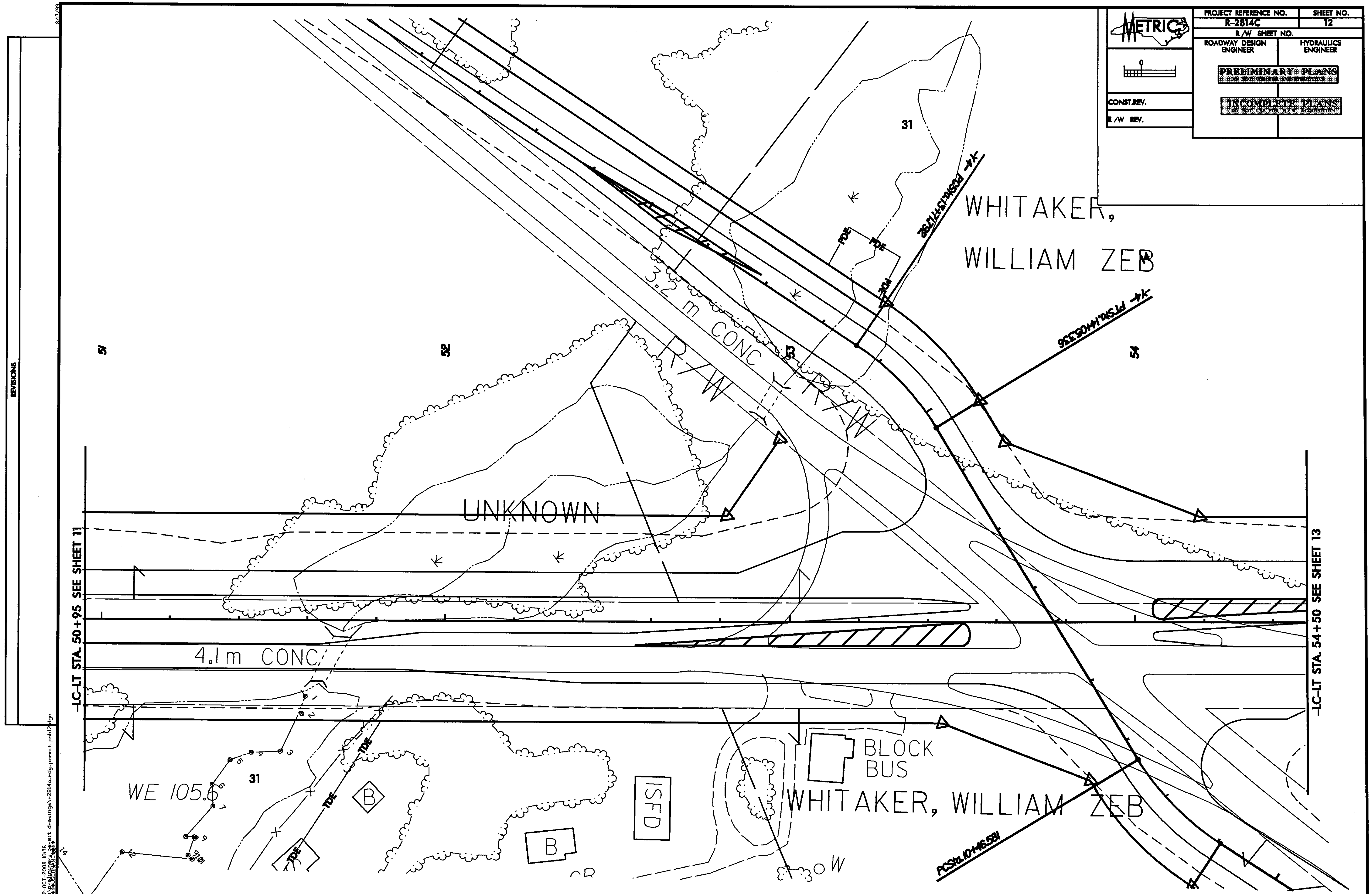
METRIC
PROJECT REFERENCE NO.
R-2814C
SHEET NO.
8
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
INCOMPLETE PLANS
CONST. REV.
R/W REV.
ISFD
3.4 m GR
3.4 m GR
37
38
39
40
UNKNOWN
PCSta. 39+71.585
R/W
R/W
-LC-LT STA. 36+75 SEE SHEET 7
-LC-LT STA. 40+30 SEE SHEET 9
WAKE COUNTY
FRANKLIN COUNTY
UNKNOWN
REVISIONS



METRIC
PROJECT REFERENCE NO.
R-2814C
SHEET NO.
9
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
REVISIONS
41
42
43
30
-LC-LT STA.40+30 SEE SHEET 8
-LC-LT STA. 43+85 SEE SHEET 10
10.5 m CONC
30


METRIC
PROJECT REFERENCE NO.
R-2814C
SHEET NO.
10
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
REVISIONS
44
45
46
47
PT Sta. 45+78.093
-LC-LT STA. 43+85 SEE SHEET 9
-LC-LT STA. 47+40 SEE SHEET 11
815
816
ISBKD
ISFD
ISBK
S
S
S
WHITAKER, BARRY WAYNE & BETTY
SR 1101 DAVIS P


PROJECT REFERENCE NO.
R-2814C
SHEET NO.
11
R/W SHEET NO.
METRIC
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
REVISIONS
48
49
50
S
S
UNKNOWN
-LC-LT STA. 47+40 SEE SHEET 10
-LC-LT STA. 50+95 SEE SHEET 12
R/W
R/W
817
D
1SBKD
S
WHITAKER, WILLIAM ZEB



METRIC
PROJECT REFERENCE NO.
R-2814C
SHEET NO.
12
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
INCOMPLETE PLANS
CONST.REV.
R/W REV.
REVISIONS
WHITAKER, WILLIAM ZEB
UNKNOWN
3.2 m CONC
R/W
4.1m CONC
BLOCK BUS
WHITAKER, WILLIAM ZEB
ISFD
WE 105.6
-LC-LT STA. 50+95 SEE SHEET 11
-LC-LT STA. 54+50 SEE SHEET 13
-Y4- POSta.13+17.58
-Y4- PTSta.14+05.336
PCSta.10+46.581
PDE
TDE
51
52
53
54
31
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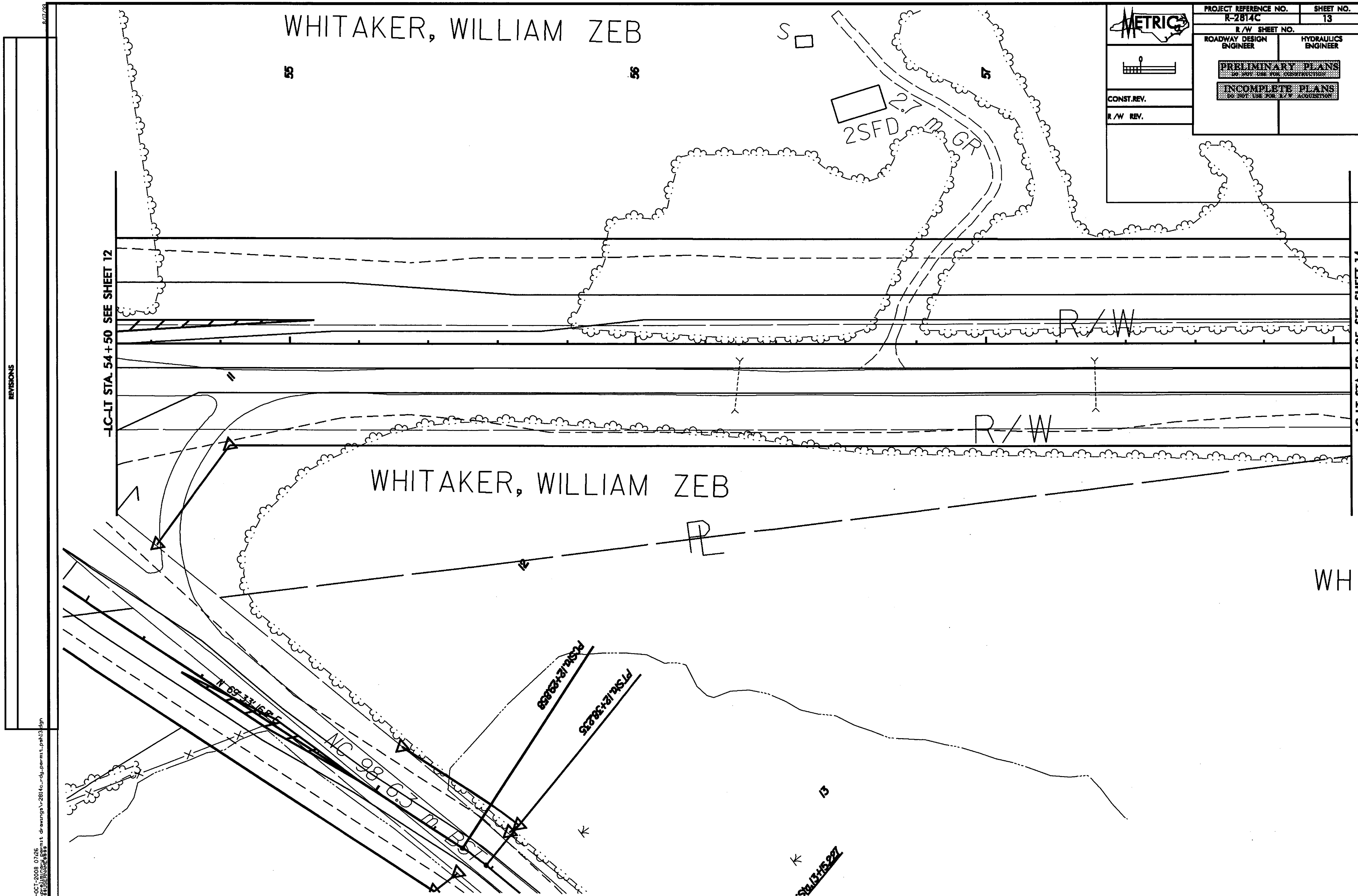

PROJECT REFERENCE NO.
R-2814C
SHEET NO.
13
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
METRIC
CONST.REV.
R/W REV.
REVISIONS
WHITAKER, WILLIAM ZEB
S
55
56
57
2SFD
2.7 m GR
-LC-LT STA. 54+50 SEE SHEET 12
-LC-LT STA. 58+05 SEE SHEET 14
R/W
R/W
WHITAKER, WILLIAM ZEB
PL
12
WH
N 69°33'16.8"E
NC 98 6.3 m BST
PC Sta. 12+29.858
PT Sta. 12+38.235
13
Sta. 13+15.227
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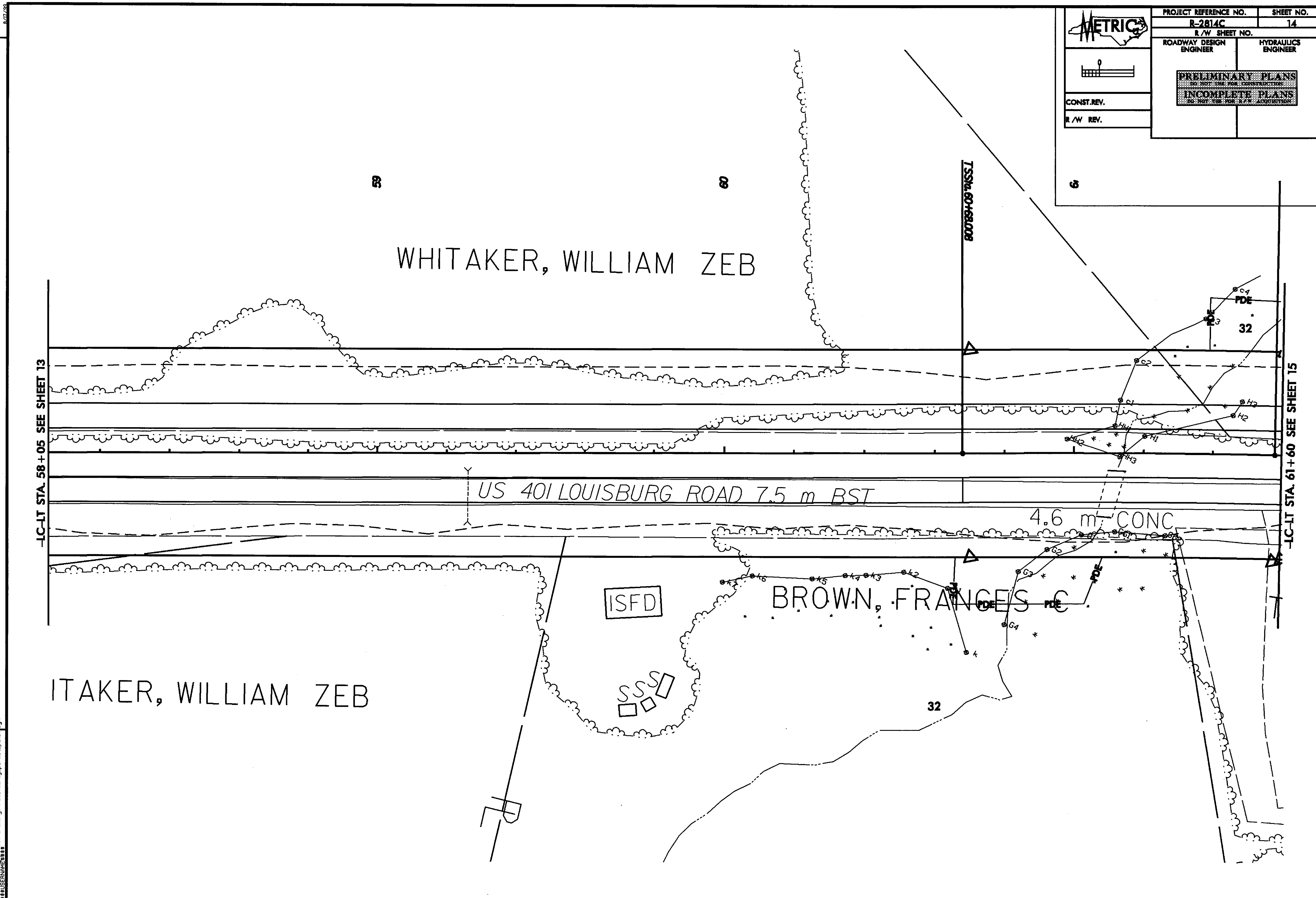
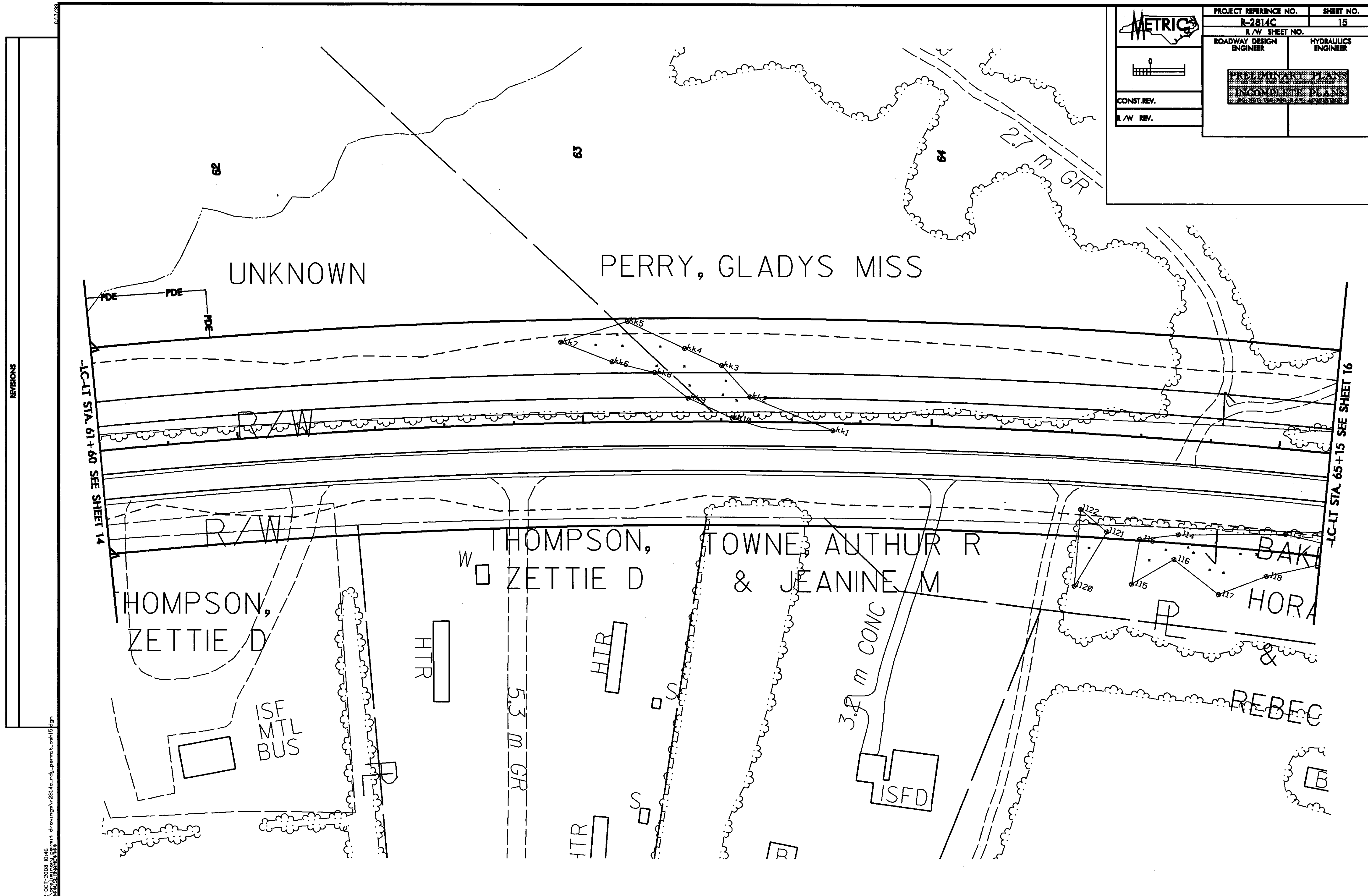

METRIC
PROJECT REFERENCE NO.
SHEET NO.
R-2814C
14
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
REVISIONS
59
60
61
TSSta. 60+69.008
WHITAKER, WILLIAM ZEB
-LC-LT STA. 58+05 SEE SHEET 13
-LC-LT STA. 61+60 SEE SHEET 15
US 401 LOUISBURG ROAD 7.5 m BST
4.6 m CONC
PDE
32
BROWN, FRANCES C
ISFD
ITAKER, WILLIAM ZEB
32


METRIC
PROJECT REFERENCE NO.
R-2814C
SHEET NO.
15
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
REVISIONS
62
63
64
2.7 m GR
UNKNOWN
PERRY, GLADYS MISS
PDE
PDE
PDE
-LC-LT STA. 61+60 SEE SHEET 14
-LC-LT STA. 65+15 SEE SHEET 16
R/W
R/W
THOMPSON, ZETTIE D
TOWNE, AUTHUR R & JEANINE M
THOMPSON, ZETTIE D
BAK
HORA
&
REBEC
W
HTR
HTR
HTR
S
S
5.3 m GR
3.4 m CONC
ISF MTL BUS
ISFD
22-OCT-2008 10:46

PROJECT REFERENCE NO.	SHEET NO.
R-2814C	16
R/W SHEET NO.	

METRIC

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

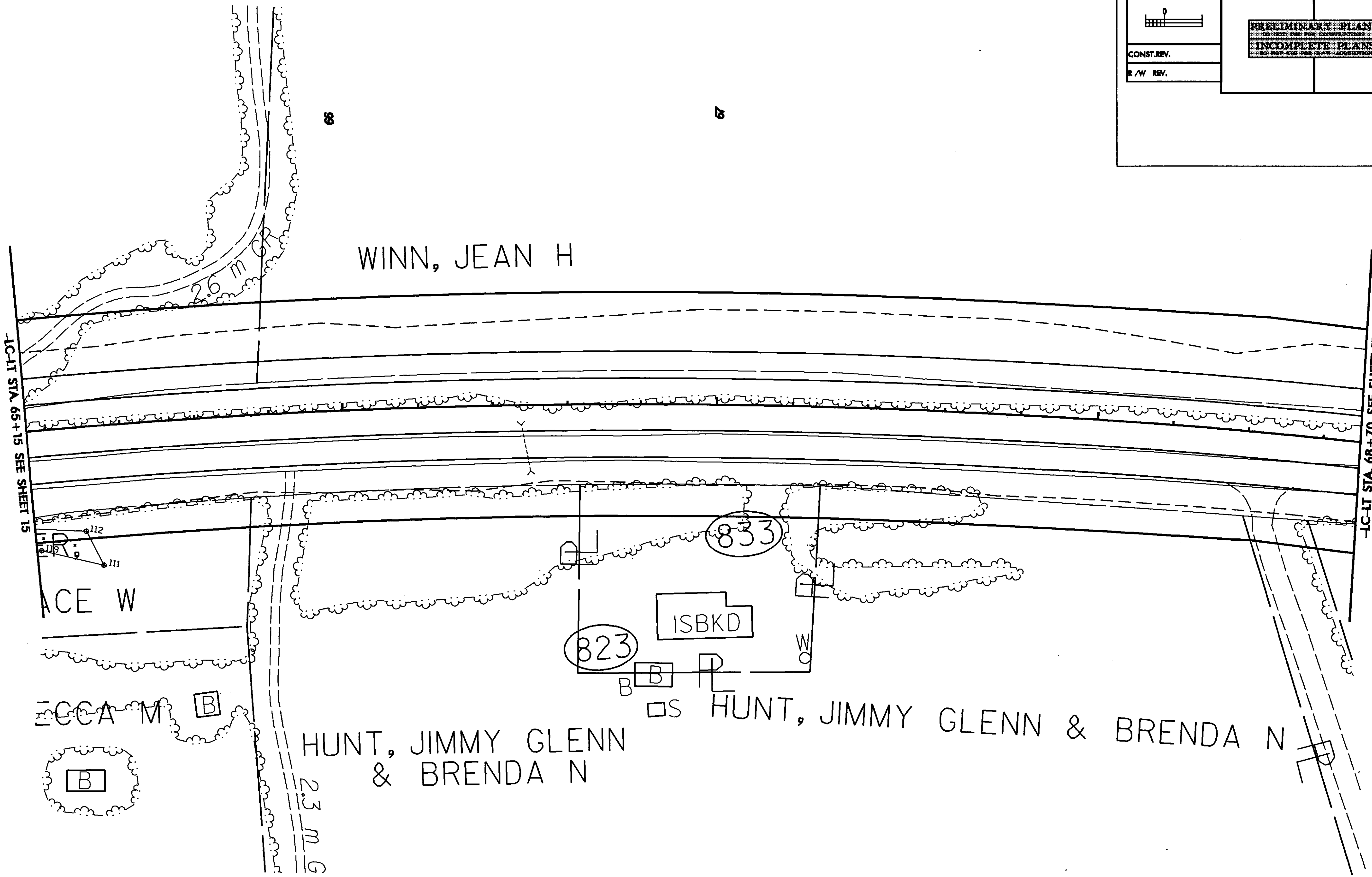
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

CONST.REV.

R/W REV.

REVISIONS



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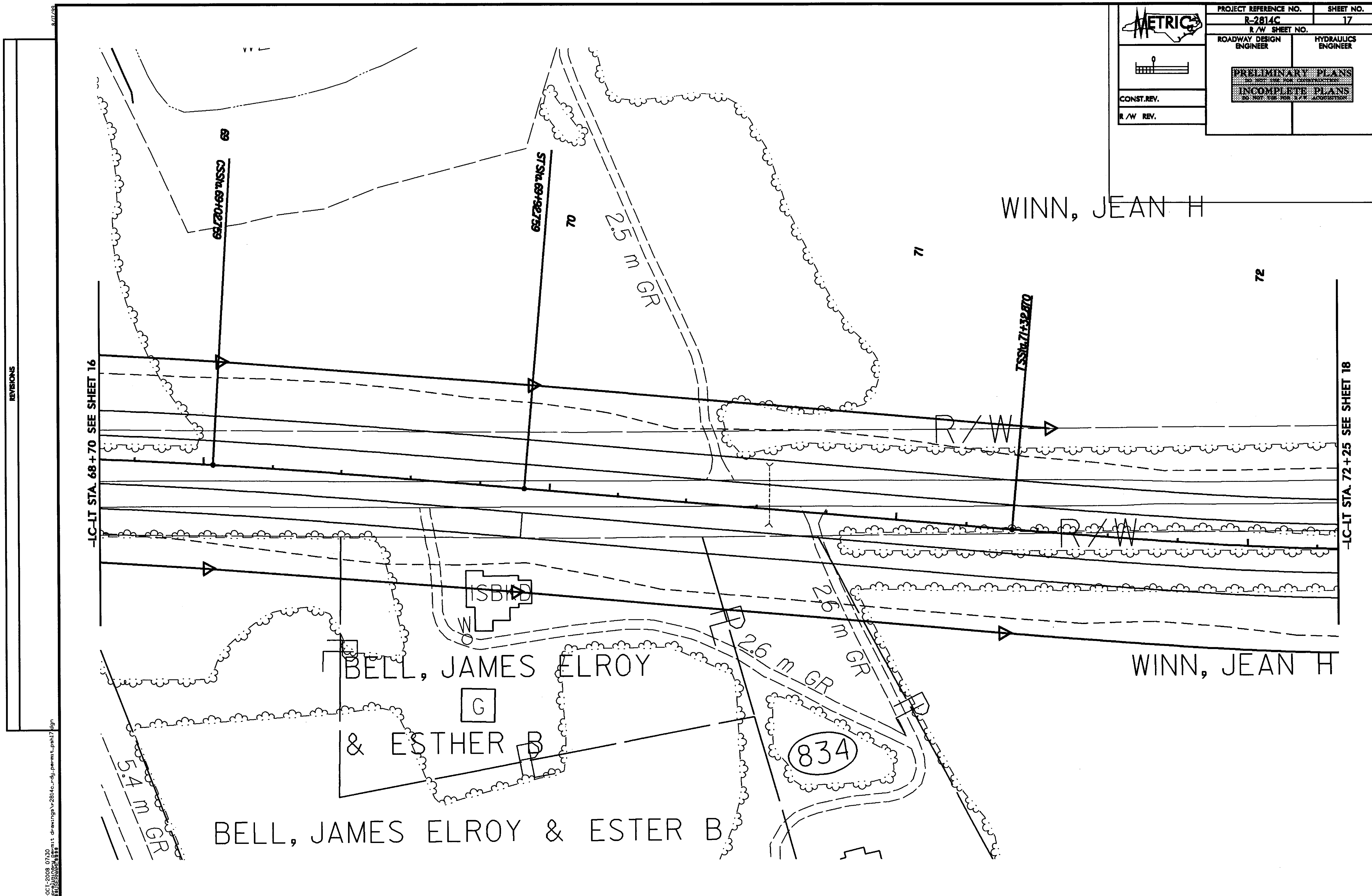
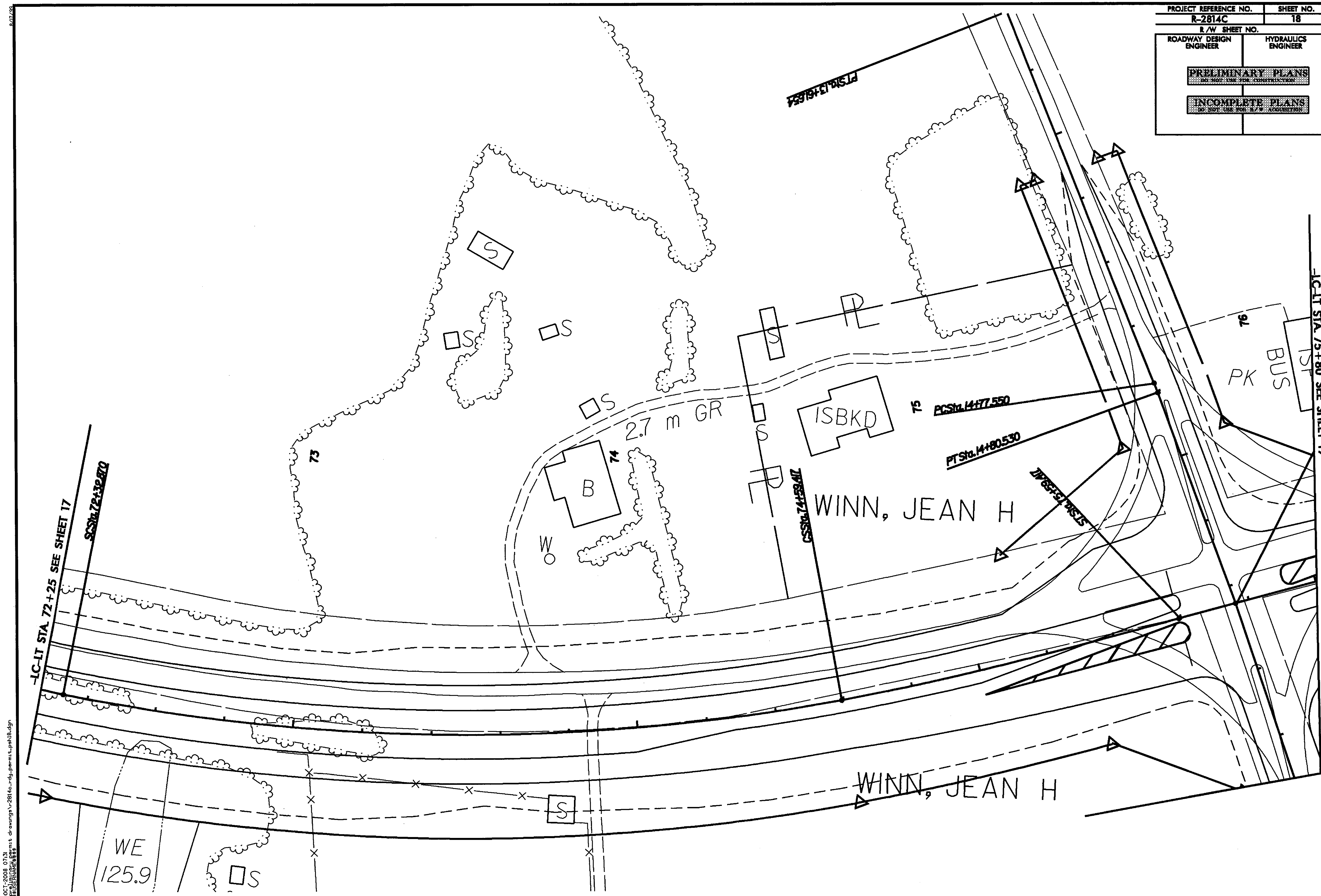
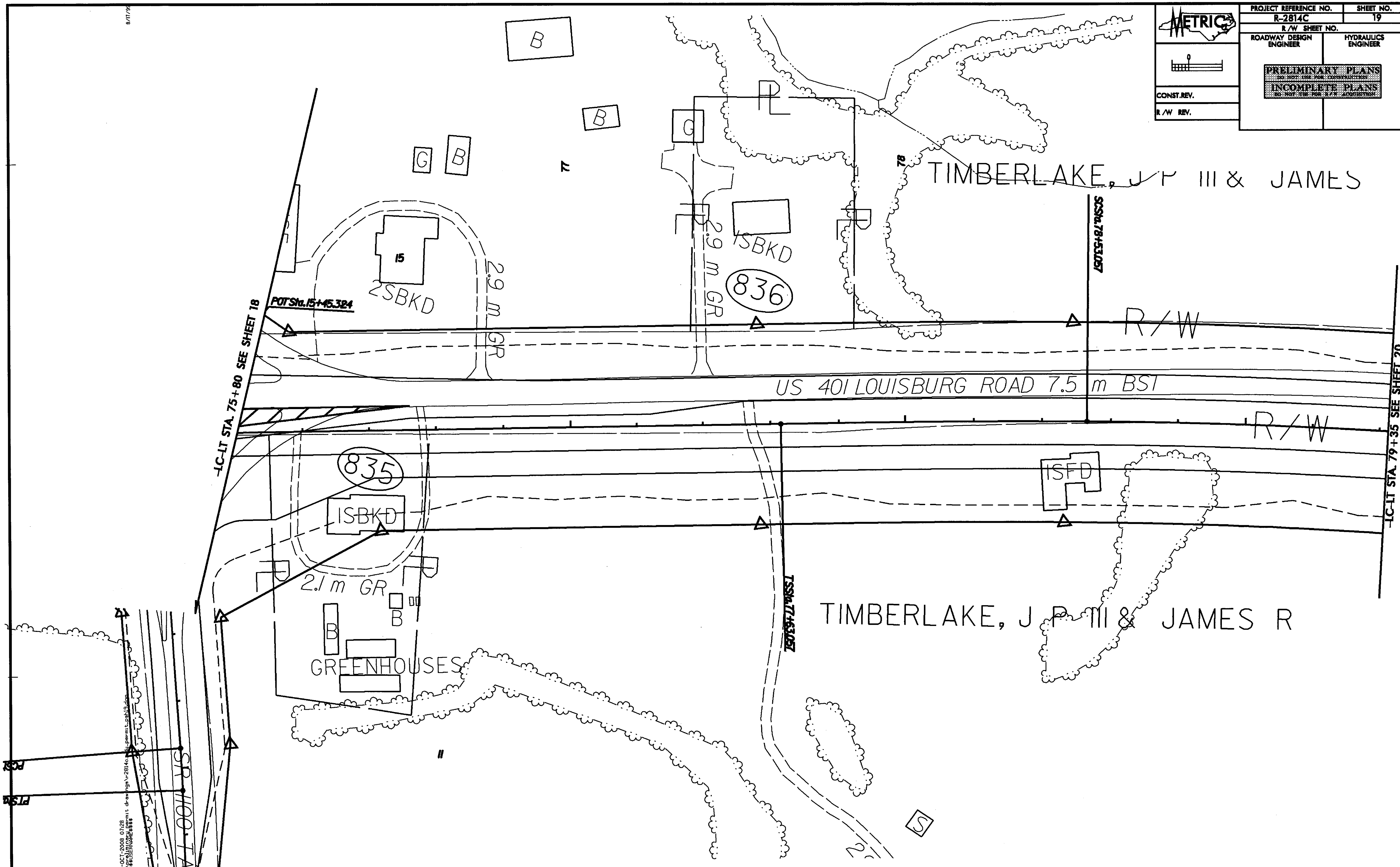
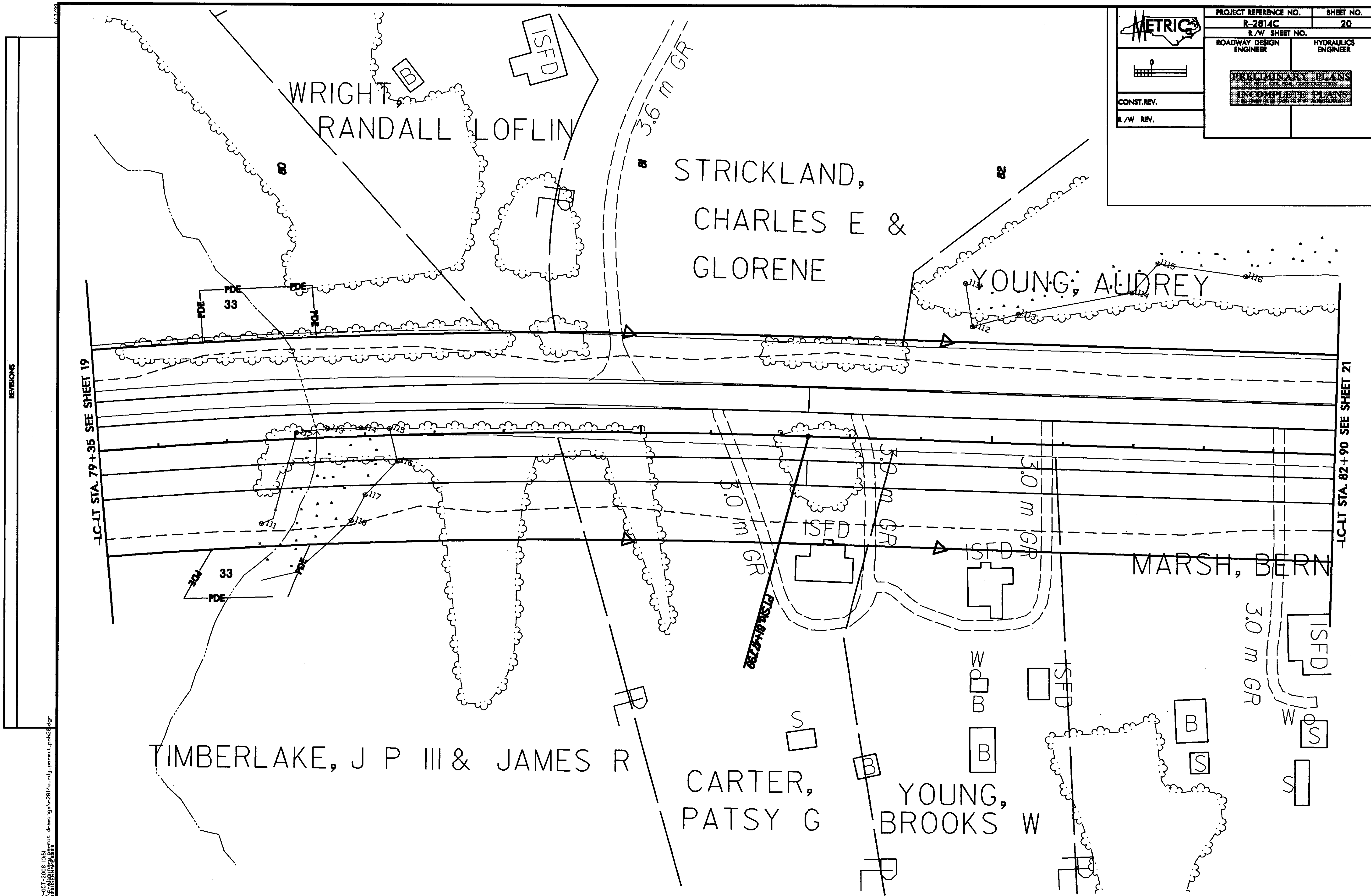

METRIC
PROJECT REFERENCE NO.
R-2814C
SHEET NO.
17
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
INCOMPLETE PLANS
CONST. REV.
R/W REV.
REVISIONS
WINN, JEAN H
2.5 m GR
R/W
-LC-LT STA. 68+70 SEE SHEET 16
-LC-LT STA. 72+25 SEE SHEET 18
2.6 m GR
2.6 m GR
BELL, JAMES ELROY
G
& ESTHER B
WINN, JEAN H
834
5.4 m GR
BELL, JAMES ELROY & ESTER B



PROJECT REFERENCE NO.
R-2814C
SHEET NO.
18
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
INCOMPLETE PLANS
PT Sta. 13+61.654
-LC-LT STA. 72+25 SEE SHEET 17
SC Sta. 72+32.870
CS Sta. 74+59.417
ST Sta. 75+59.417
PC Sta. 14+77.550
PT Sta. 14+80.530
-LC-LT STA. 75+80 SEE SHEET 19
73
74
75
76
S
B
W
ISBKD
2.7 m GR
WINN, JEAN H
PK
BUS
ISF
WE
125.9
WINN, JEAN H



METRIC
PROJECT REFERENCE NO.
R-2814C
SHEET NO.
19
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
TIMBERLAKE, J P III & JAMES
SCS Sta. 78+53.057
R/W
US 401 LOUISBURG ROAD 7.5 m BST
-LC-LT STA. 79+35 SEE SHEET 20
-LC-LT STA. 75+80 SEE SHEET 18
POT Sta. 15+45.324
2SBKD
15
2.9 m GR
836
1SBKD
835
1SFD
TS Sta. 77+63.057
TIMBERLAKE, J P III & JAMES R
GREENHOUSES
2.1 m GR
SR 1100
PCSt
PTSta



METRIC
PROJECT REFERENCE NO.
R-2814C
SHEET NO.
20
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
INCOMPLETE PLANS
CONST.REV.
R/W REV.
REVISIONS
WRIGHT, RANDALL LOFLIN
STRICKLAND, CHARLES E & GLORENE
YOUNG, AUDREY
MARSH, BERN
TIMBERLAKE, J P III & JAMES R
CARTER, PATSY G
YOUNG, BROOKS W
3.6 m GR
3.0 m GR
ISFD
PDE
33
80
81
82
-LC-LT STA. 79+35 SEE SHEET 19
-LC-LT STA. 82+90 SEE SHEET 21
B
S
W
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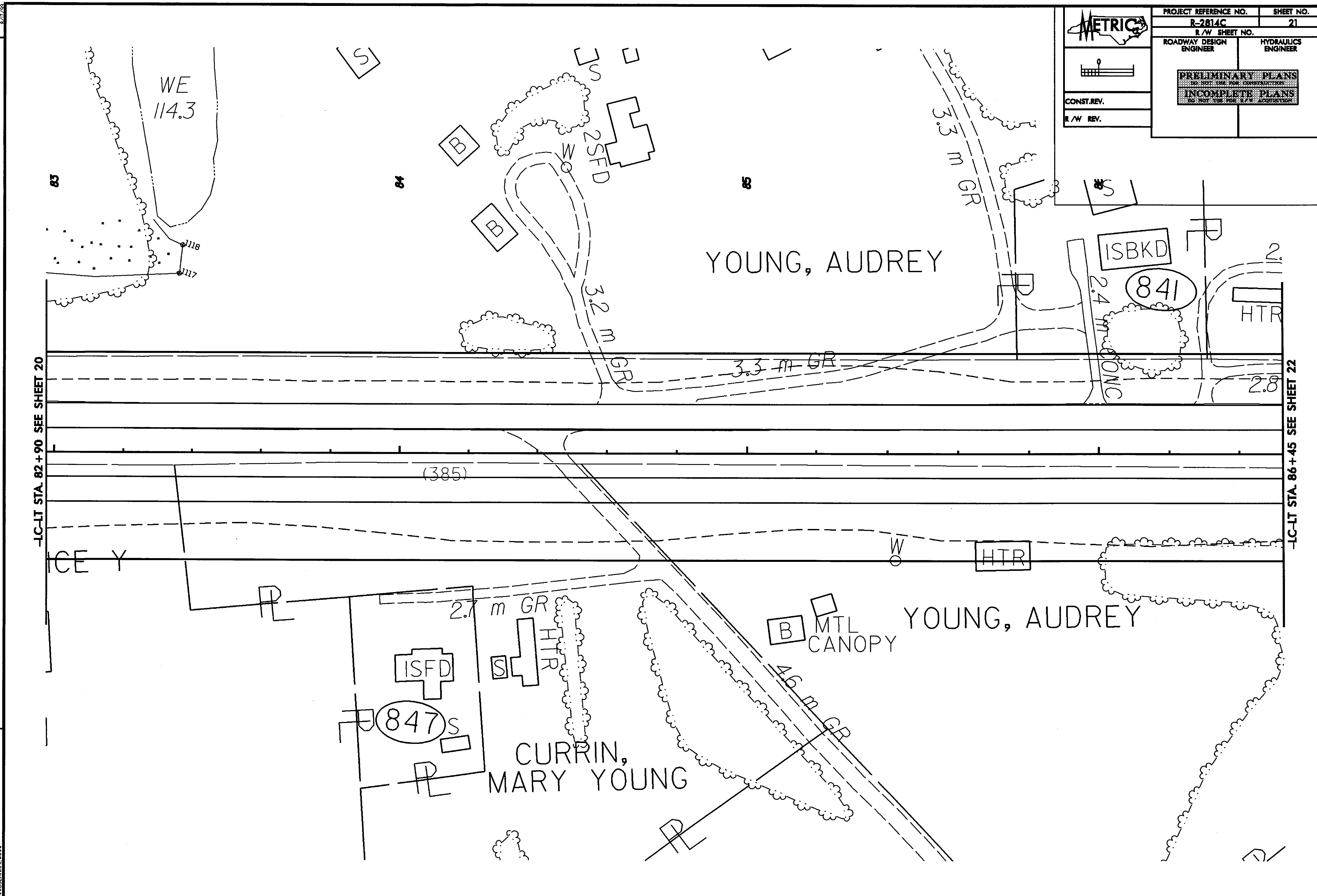
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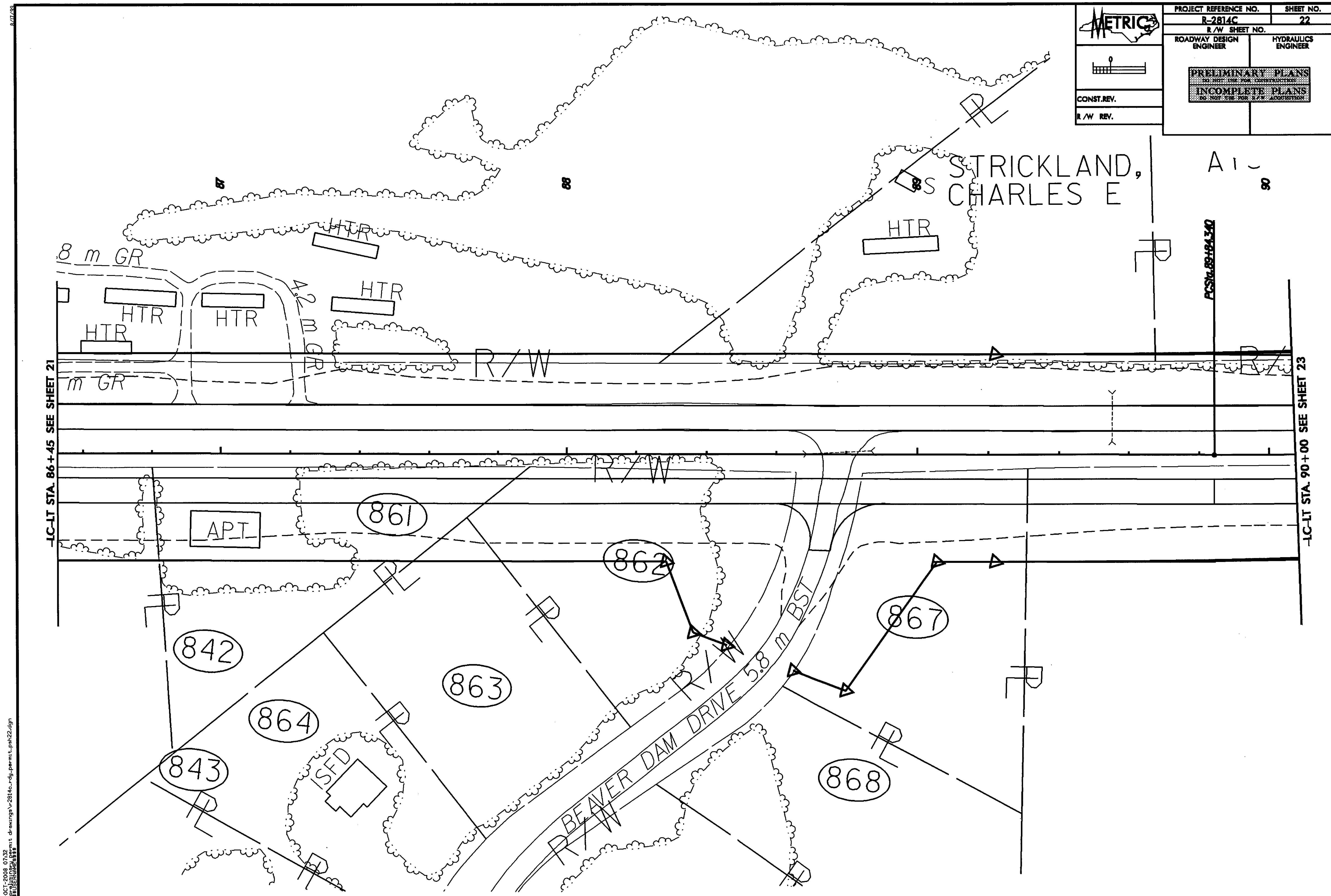
PROJECT REFERENCE NO.
SHEET NO.
R-2814C
21
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
INCOMPLETE PLANS
CONST.REV.
R/W REV.
REVISIONS
83
84
85
WE
114.3
2SFD
3.3 m GR
3.2 m GR
YOUNG, AUDREY
ISBKD
841
2.4 m CONC
HTR
2.8
(385)
-LC-LT STA. 82+90 SEE SHEET 20
-LC-LT STA. 86+45 SEE SHEET 22
ICE Y
HTR
2.7 m GR
HTR
MTL
CANOPY
YOUNG, AUDREY
ISFD
847
46 m GR
CURRIN,
MARY YOUNG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R-2814C
SHEET NO.
22
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
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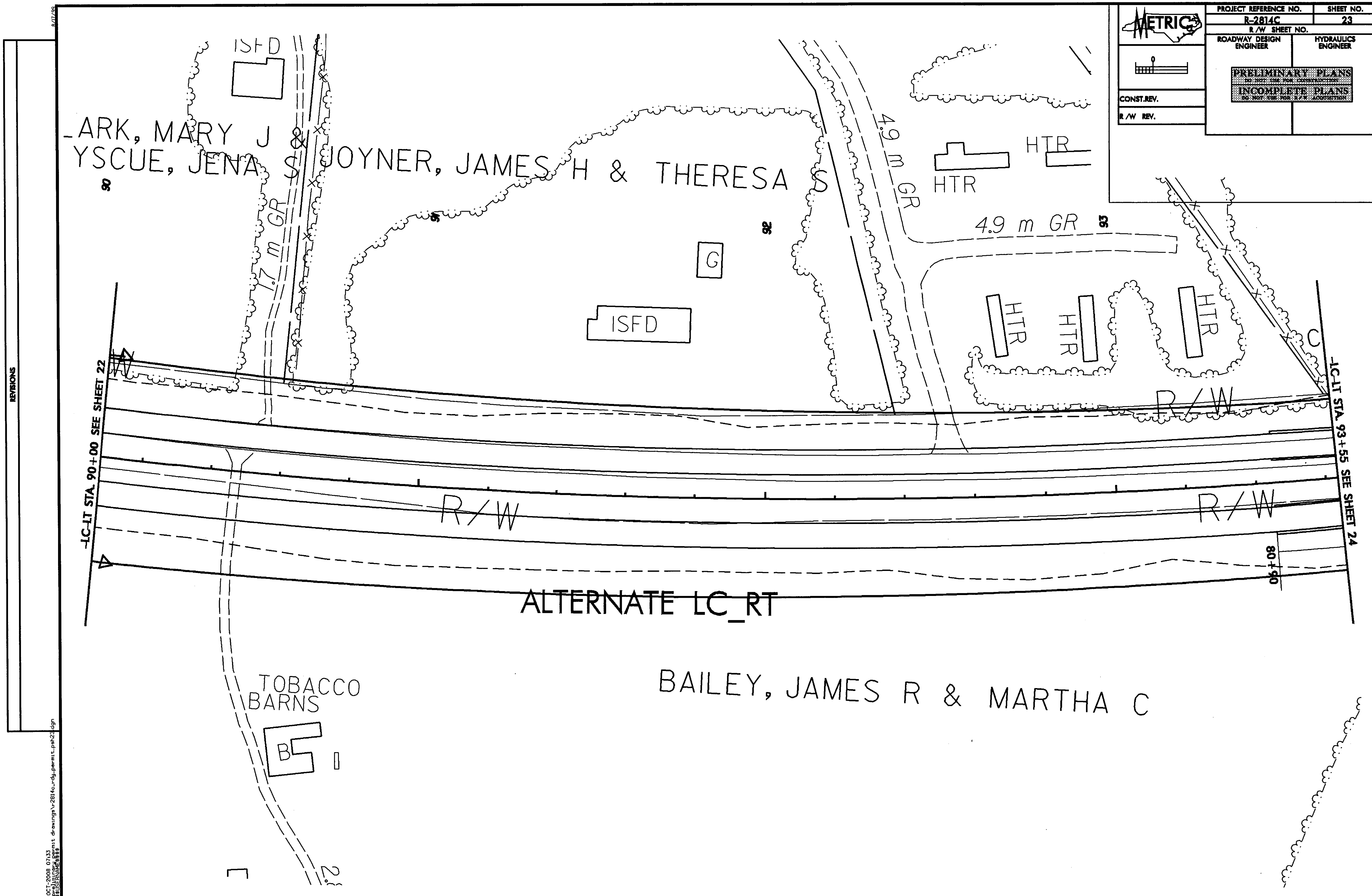
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
STRICKLAND,
CHARLES E
HTR
8 m GR
4.2 m GR
m GR
R/W
APT
861
862
863
864
842
843
867
868
SFD
BEAVER DAM DRIVE 5.8 m BST
POC Sta. 89+84.340
-LC-LT STA. 86+45 SEE SHEET 21
-LC-LT STA. 90+00 SEE SHEET 23
87
88
89
90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PROJECT REFERENCE NO.
R-2814C
SHEET NO.
23
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
REVISIONS
ISFD
-ARK, MARY J &
YSCUE, JENA S
JOYNER, JAMES H & THERESA S
1.7 m GR
4.9 m GR
4.9 m GR
HTR
HTR
HTR
HTR
HTR
G
ISFD
90
91
92
93
C
R/W
R/W
R/W
-LC-LT STA. 90+00 SEE SHEET 22
-LC-LT STA. 93+55 SEE SHEET 24
80+90
ALTERNATE LC_RT
TOBACCO BARNS
B
BAILEY, JAMES R & MARTHA C
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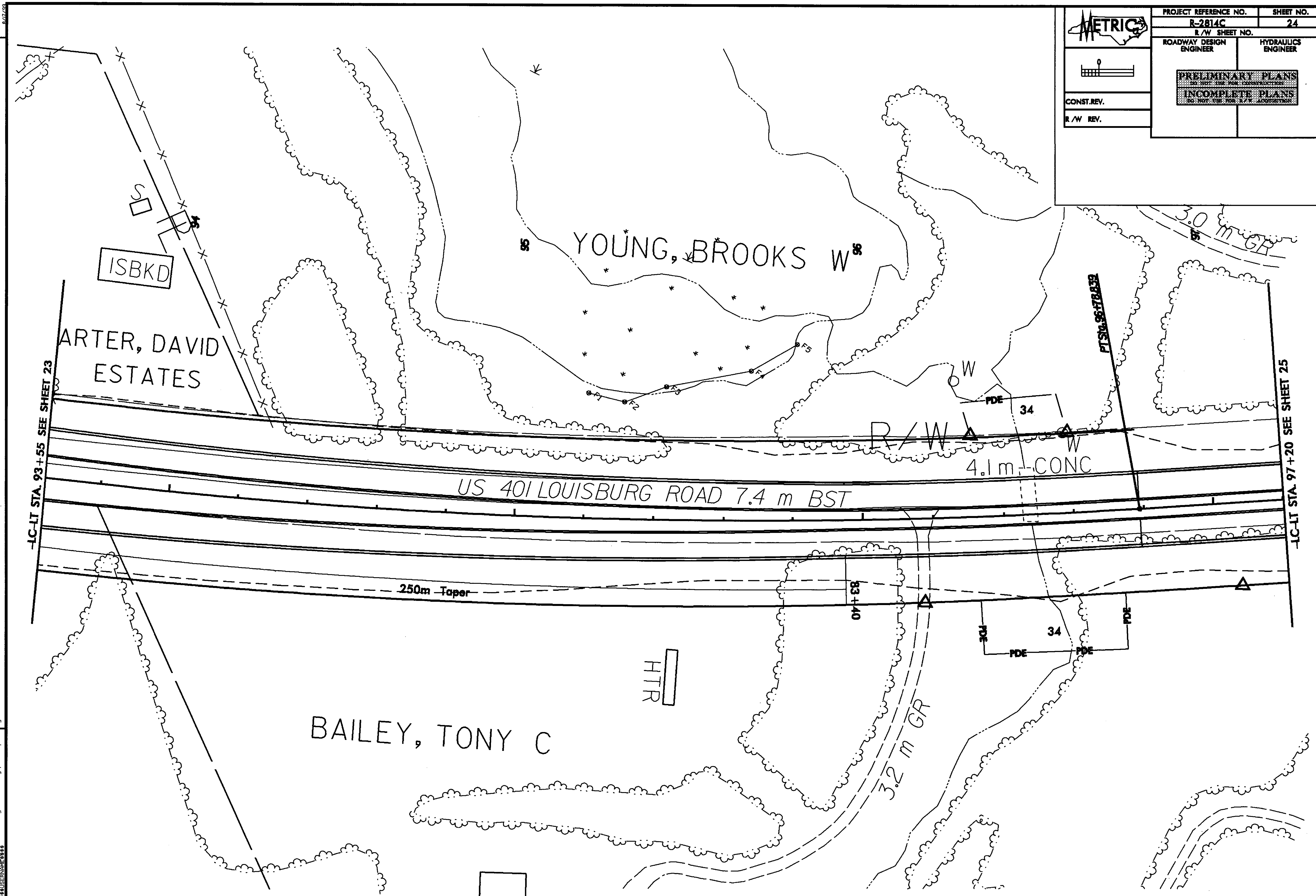
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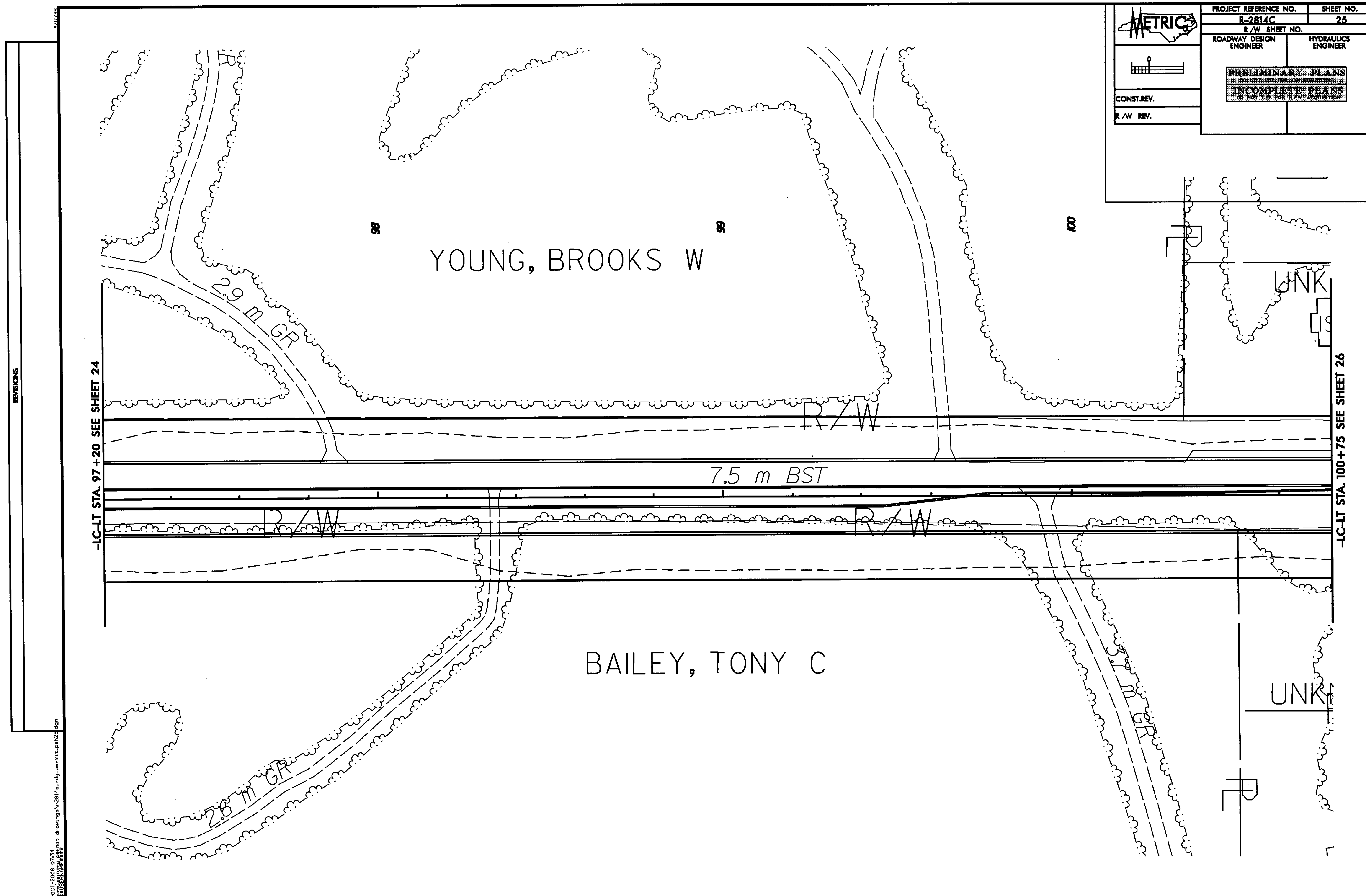
PROJECT REFERENCE NO.
R-2814C
SHEET NO.
24
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
INCOMPLETE PLANS
CONST.REV.
R/W REV.
REVISIONS
YOUNG, BROOKS W
ARTER, DAVID ESTATES
ISBKD
BAILEY, TONY C
HTR
US 401 LOUISBURG ROAD 7.4 m BST
-LC-LT STA. 93+55 SEE SHEET 23
-LC-LT STA. 97+20 SEE SHEET 25
PT Sta. 96+78.839
R/W
4.1 m CONC
3.0 m GR
3.2 m GR
250m Taper
93+40
PDE
34
95
96
W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PROJECT REFERENCE NO.
R-2814C
SHEET NO.
25
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
REVISIONS
98
99
100
YOUNG, BROOKS W
2.9 m GR
R/W
7.5 m BST
R/W
R/W
UNK
BAILEY, TONY C
UNK
3.7 m GR
2.8 m GR
-LC-LT STA. 97+20 SEE SHEET 24
-LC-LT STA. 100+75 SEE SHEET 26
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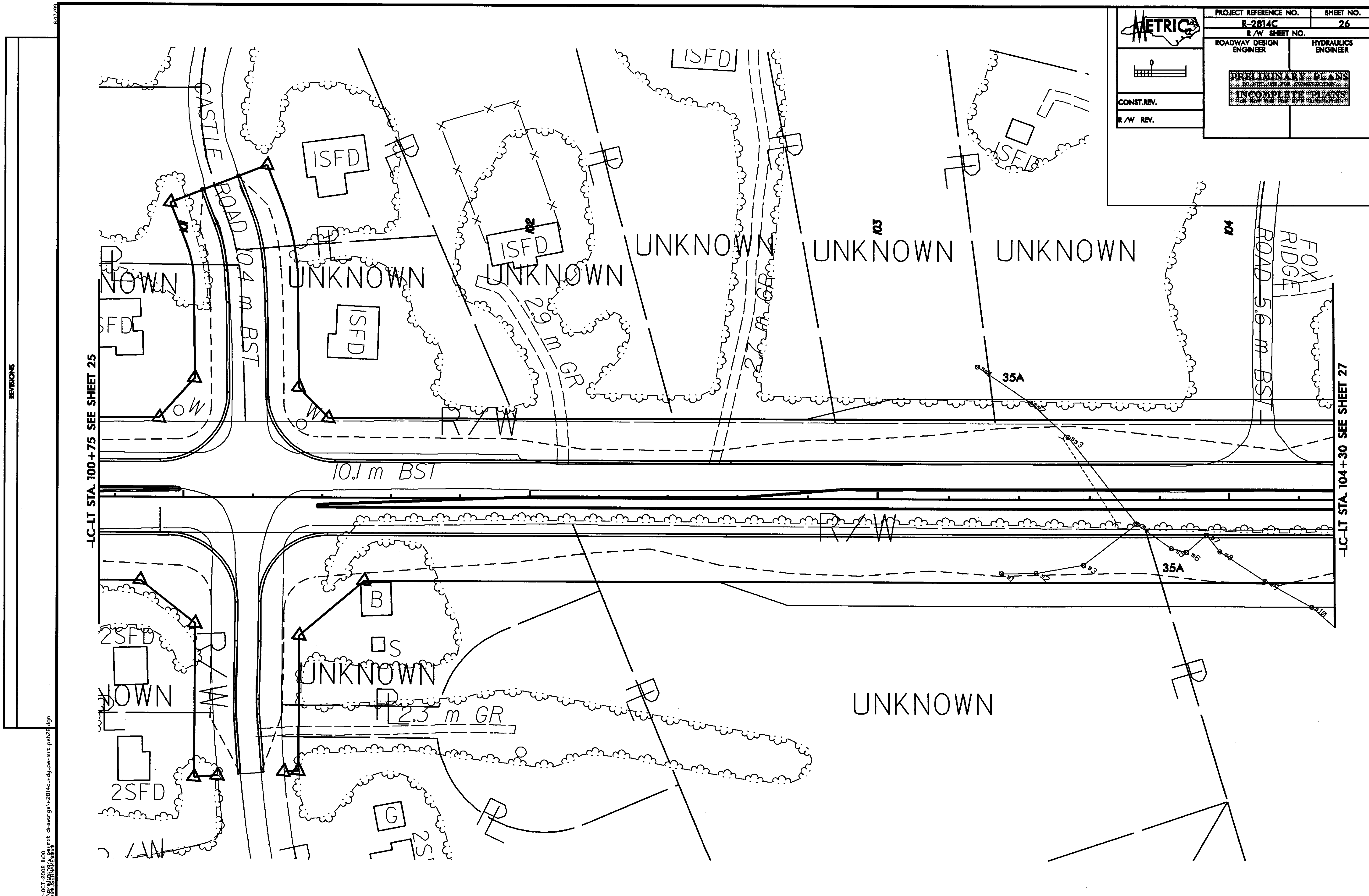
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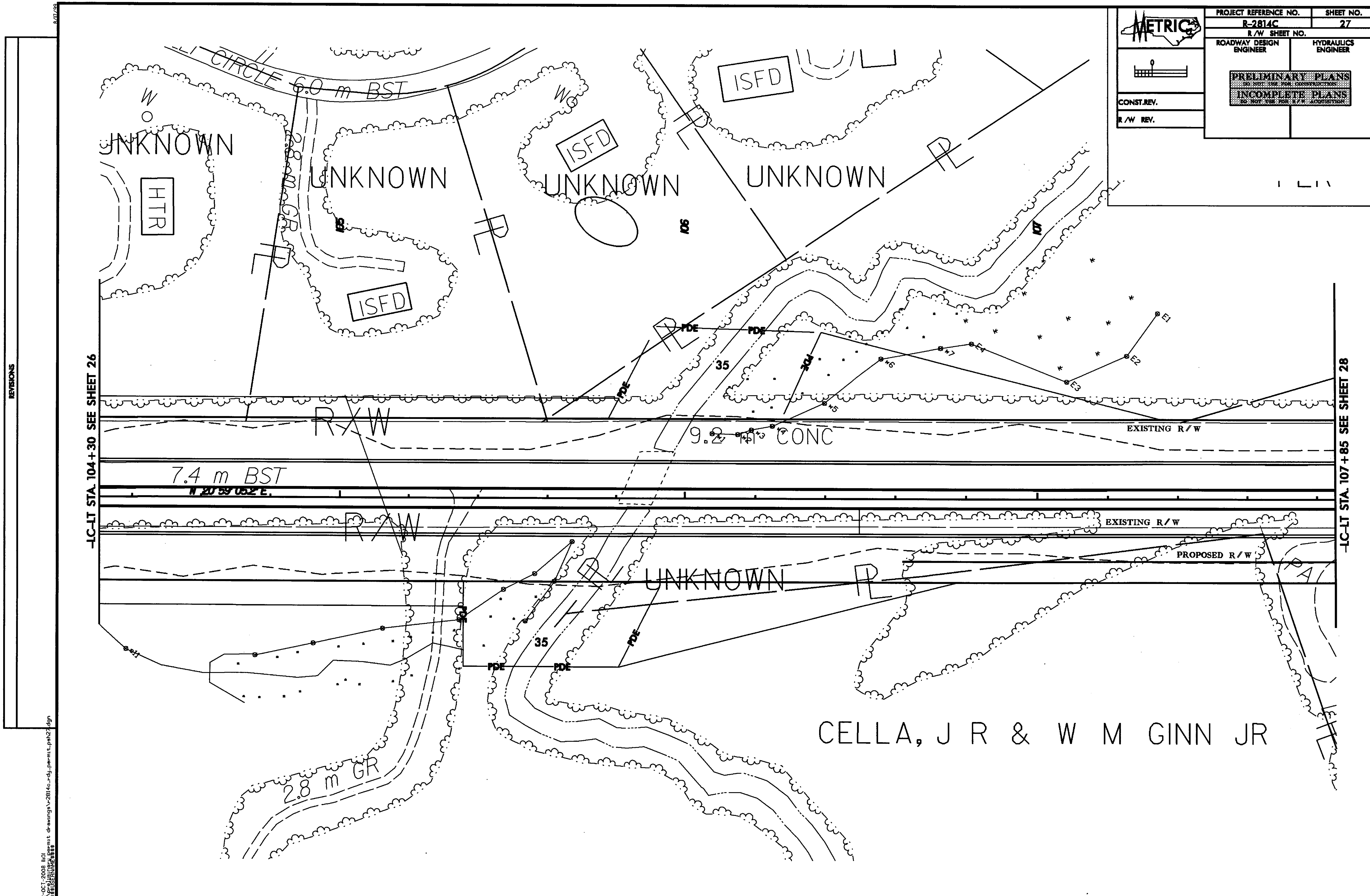
PROJECT REFERENCE NO.
R-2814C
SHEET NO.
26
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
REVISIONS
-LC-LT STA. 100+75 SEE SHEET 25
-LC-LT STA. 104+30 SEE SHEET 27
CASTLE ROAD 10.4 m BST
FOX RIDGE ROAD 5.6 m BST
10.1 m BST
2.9 m GR
2.7 m GR
2.3 m GR
UNKNOWN
ISFD
2SFD
R/W
35A
101
102
103
104
B
S
G
W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PROJECT REFERENCE NO.
R-2814C
SHEET NO.
27
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST. REV.
R/W REV.
REVISIONS
CIRCLE 6.0 m BST
UNKNOWN
UNKNOWN
UNKNOWN
UNKNOWN
ISFD
ISFD
ISFD
HTR
2.8 m GR
R/W
9.2 m CONC
7.4 m BST
N 20°59'05.2" E
EXISTING R/W
EXISTING R/W
PROPOSED R/W
R/W
UNKNOWN
PDE
35
CELLA, J R & W M GINN JR
2.8 m GR
-LC-LT STA. 104+30 SEE SHEET 26
-LC-LT STA. 107+85 SEE SHEET 28
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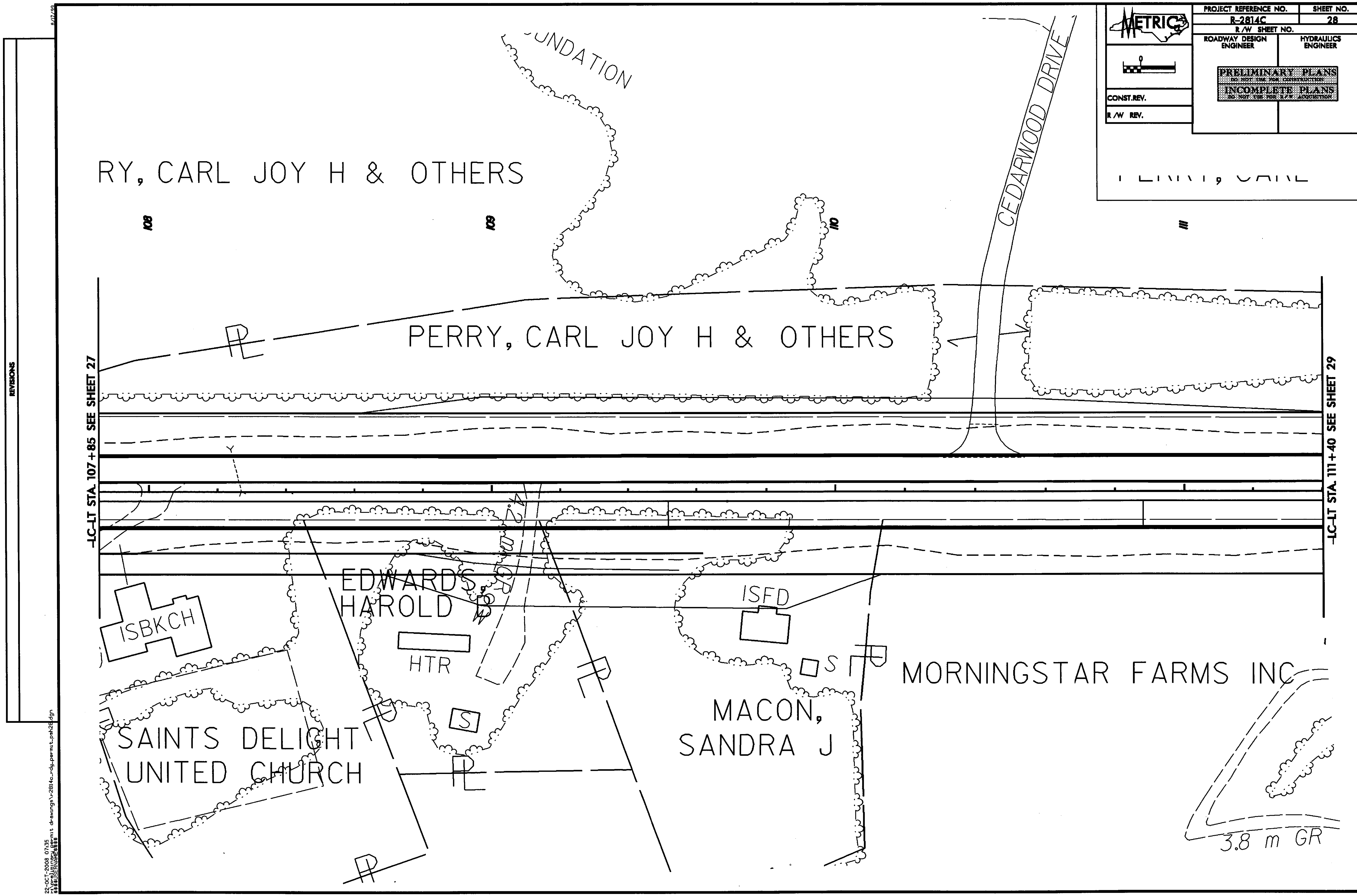
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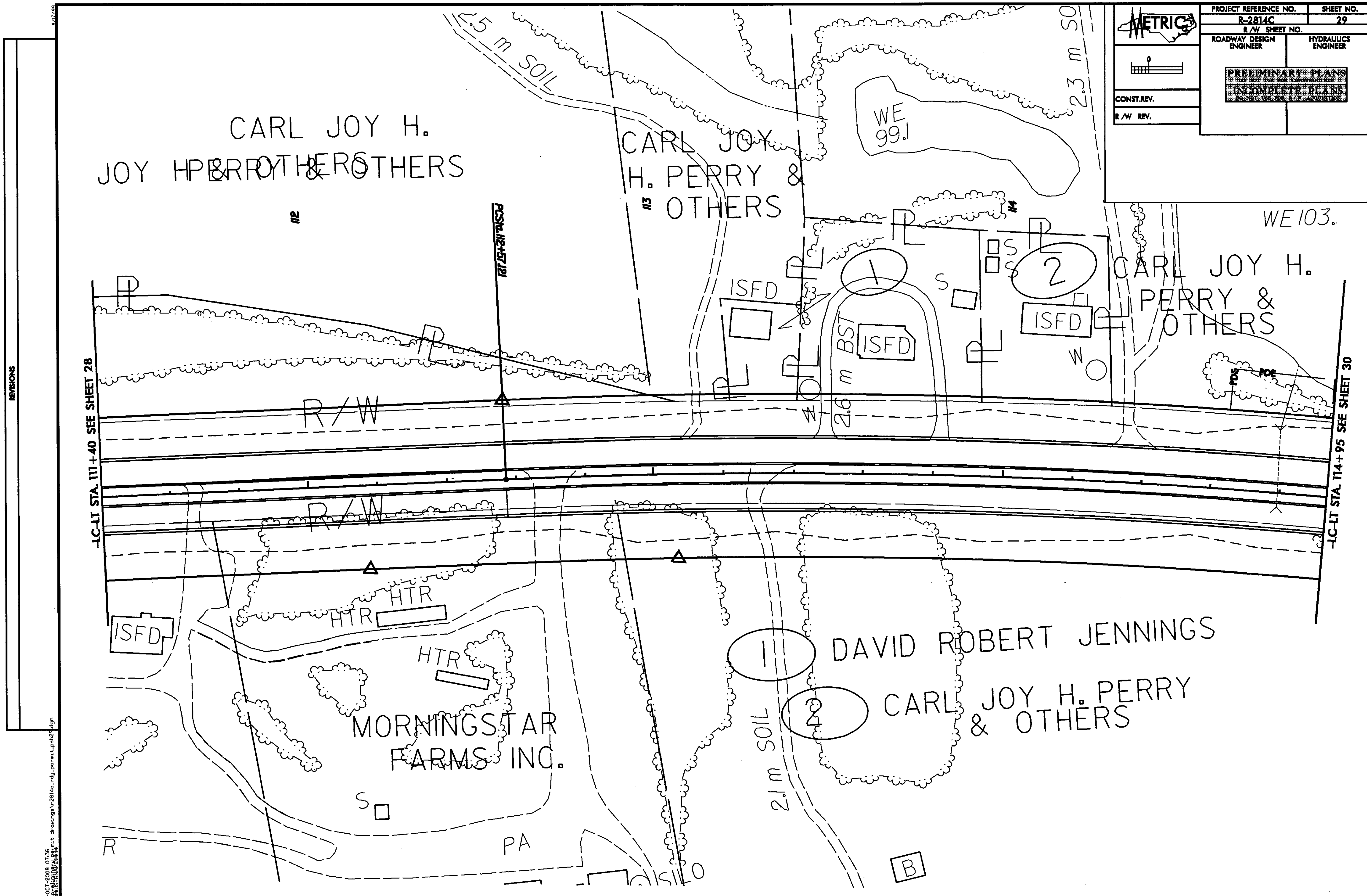
PROJECT REFERENCE NO.
R-2814C
SHEET NO.
28
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
REVISIONS
RY, CARL JOY H & OTHERS
PERRY, CARL JOY H & OTHERS
CEDARWOOD DRIVE
-LC-LT STA. 107+85 SEE SHEET 27
-LC-LT STA. 111+40 SEE SHEET 29
EDWARDS, HAROLD B
ISBKCH
HTR
ISFD
MORNINGSTAR FARMS INC
MACON, SANDRA J
SAINTS DELIGHT UNITED CHURCH
3.8 m GR
108
109
110
111



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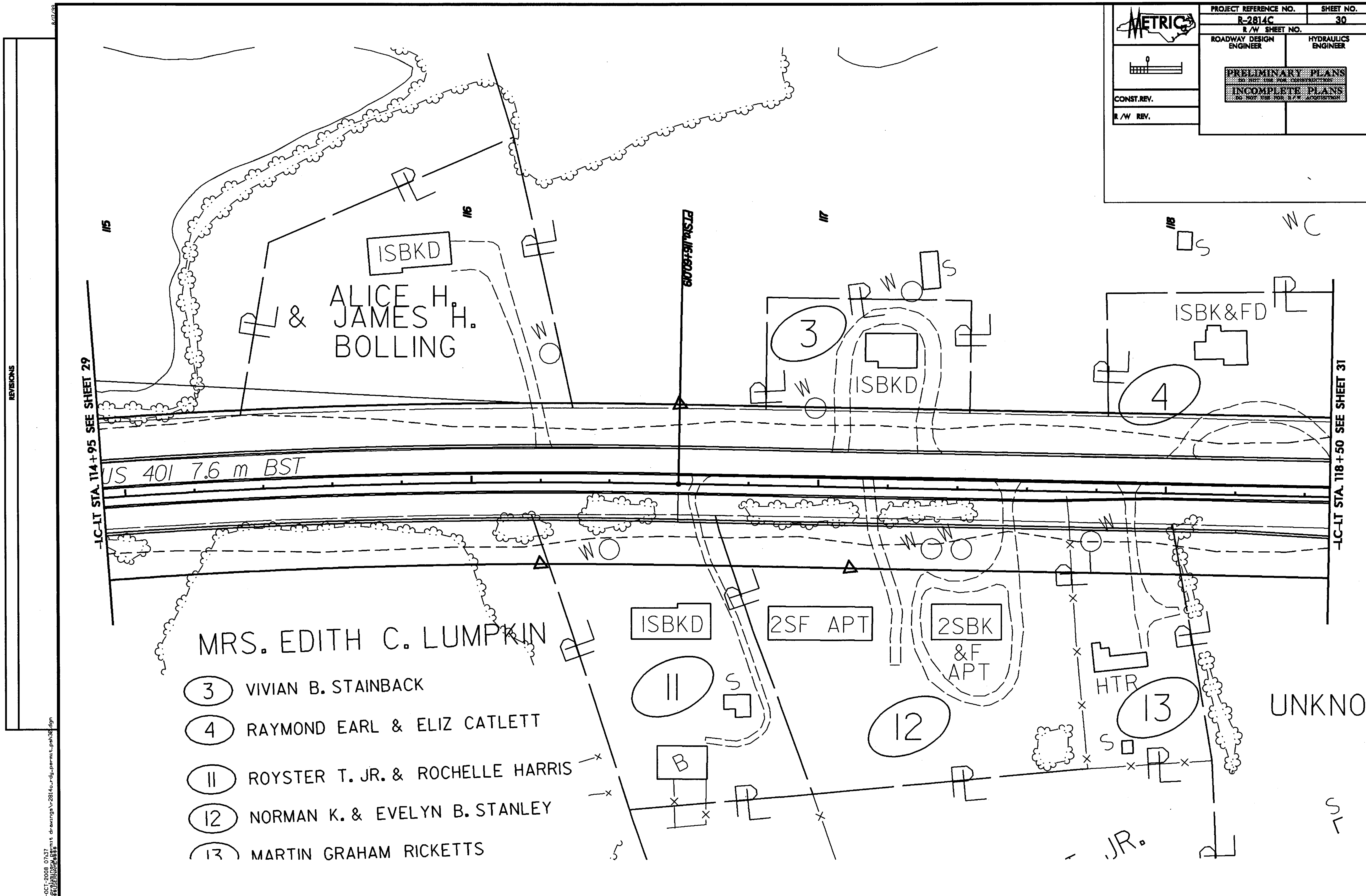

PROJECT REFERENCE NO.
SHEET NO.
R-2814C
30
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
INCOMPLETE PLANS
CONST. REV.
R/W REV.
METRIC
REVISIONS
ALICE H. & JAMES H. BOLLING
ISBKD
ISBK&FD
2SF APT
2SBK &F APT
HTR
US 401 7.6 m BST
-LC-LT STA. 114+95 SEE SHEET 29
-LC-LT STA. 118+50 SEE SHEET 31
MRS. EDITH C. LUMPKIN
UNKNO
JR.
3 VIVIAN B. STAINBACK
4 RAYMOND EARL & ELIZ CATLETT
11 ROYSTER T. JR. & ROCHELLE HARRIS
12 NORMAN K. & EVELYN B. STANLEY
13 MARTIN GRAHAM RICKETTS
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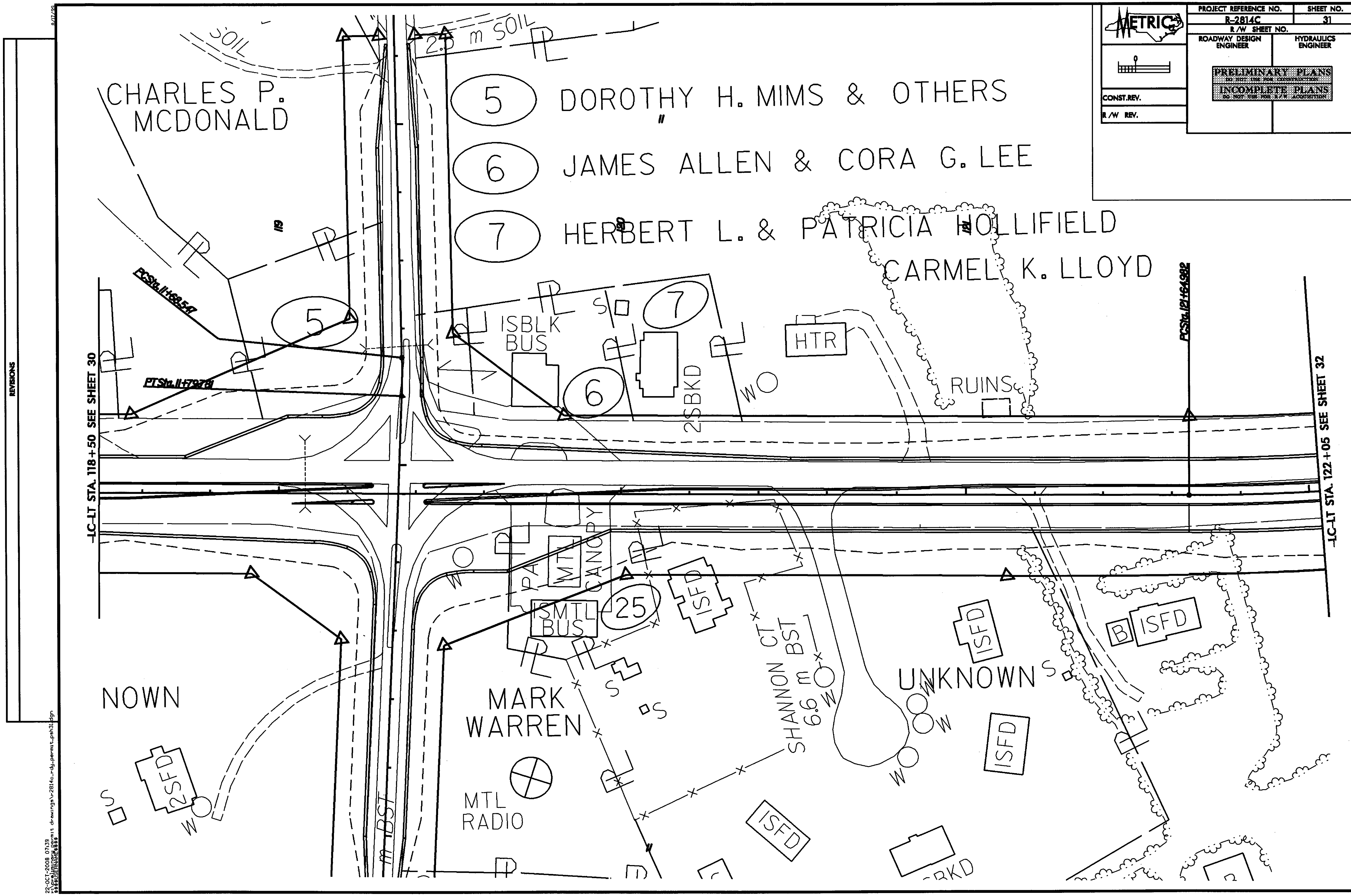
PROJECT REFERENCE NO. R-2814C
SHEET NO. 31
R/W SHEET NO.
METRIC
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
REVISIONS
5 DOROTHY H. MIMS & OTHERS
6 JAMES ALLEN & CORA G. LEE
7 HERBERT L. & PATRICIA HOLLIFIELD
CARMEL K. LLOYD
CHARLES P. MCDONALD
2.5 m SOIL
SOIL
PCSta.11+685.47
PTSta.11+797.81
PCSta.121+64.982
-LC-LT STA. 118+50 SEE SHEET 30
-LC-LT STA. 122+05 SEE SHEET 32
ISBLK BUS
2SBKD
HTR
RUINS
CANOPY
MTL
ISMTL BUS
25
ISFD
B
SHANNON CT 6.6 m BST
UNKNOWN
NOWN
MARK WARREN
MTL RADIO
2SFD
m BST
SBKD
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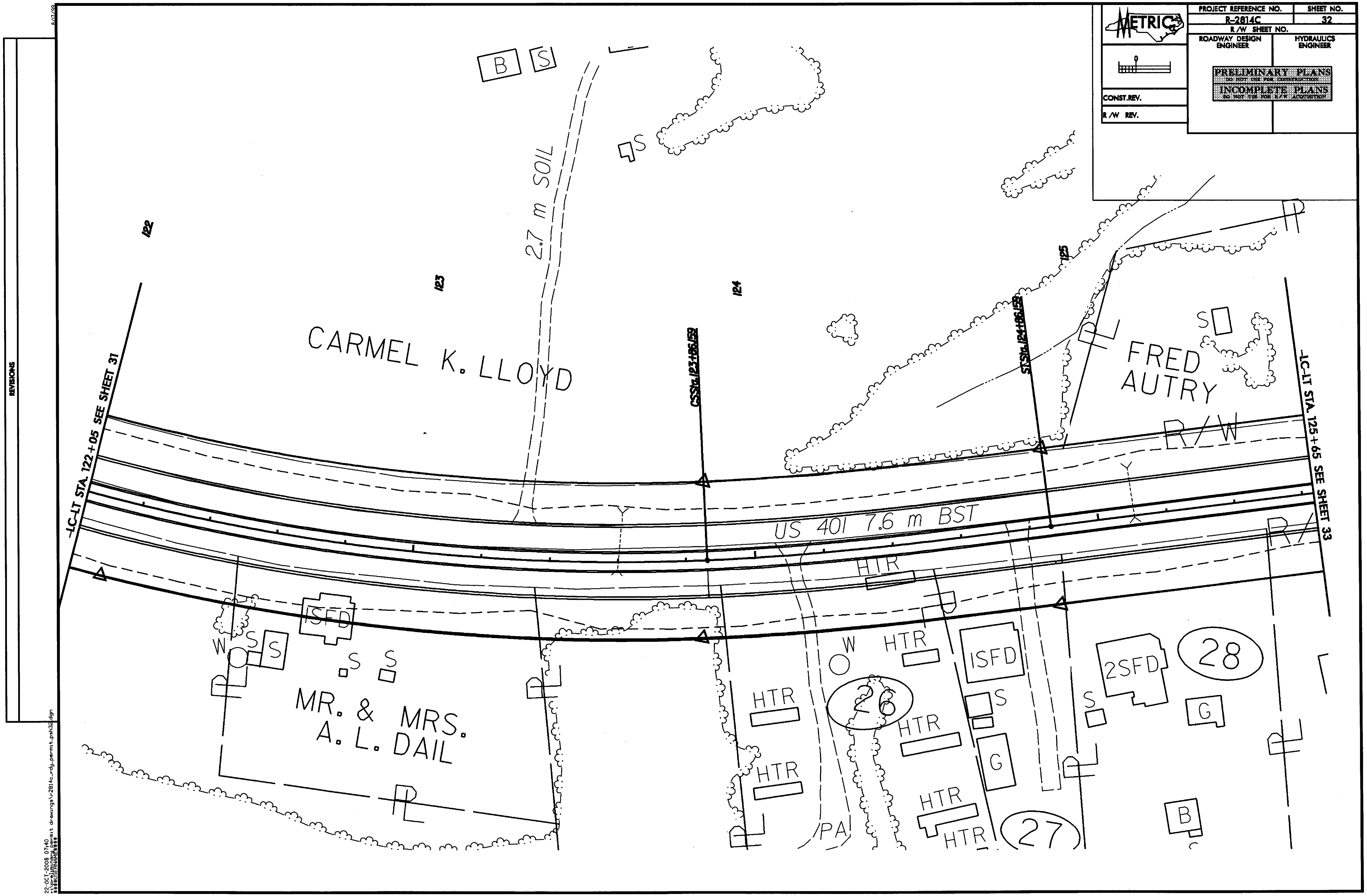
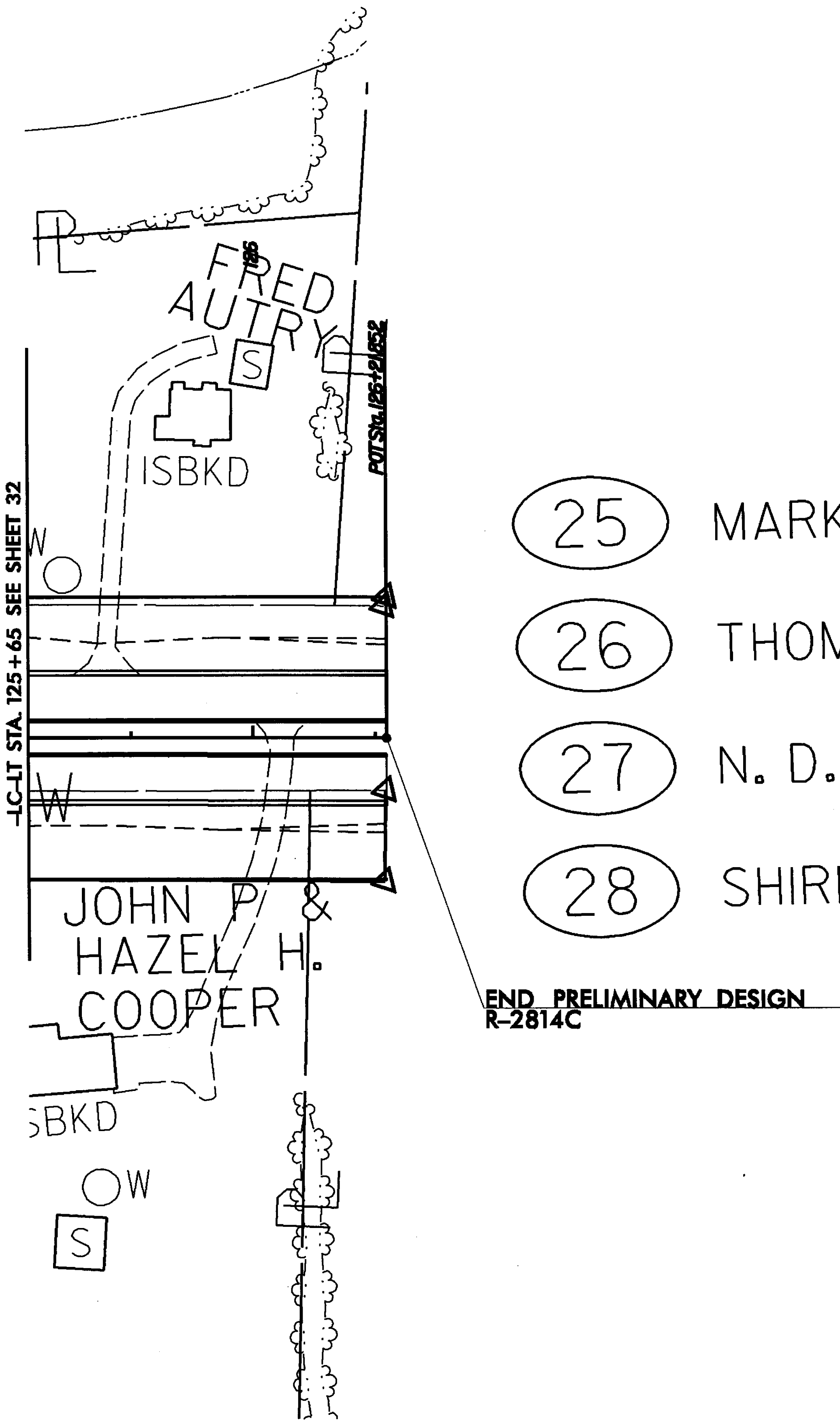

PROJECT REFERENCE NO.
R-2814C
SHEET NO.
32
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
METRIC
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
REVISIONS
CARMEL K. LLOYD
2.7 m SOIL
FRED AUTRY
MR. & MRS. A. L. DAIL
US 401 7.6 m BST
-LC-LT STA. 122+05 SEE SHEET 31
-LC-LT STA. 125+65 SEE SHEET 33
CSSta.123+86.159
STSta.124+86.159
122
123
124
125
R/W
ISFD
2SFD
HTR
28
26
27
22-OCT-2008 07:40

METRIC	PROJECT REFERENCE NO.	SHEET NO.
	R-2814C	33
	R/W SHEET NO.	
	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
CONST.REV.	PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
R/W REV.	INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	

REVISIONS



25 MARK WARREN

26 THOMAS B. JR. & SHIRLEY MARSHALL

27 N. D. CARROLL JR.

28 SHIRLEY G. MARSHALL

See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2814D	1	

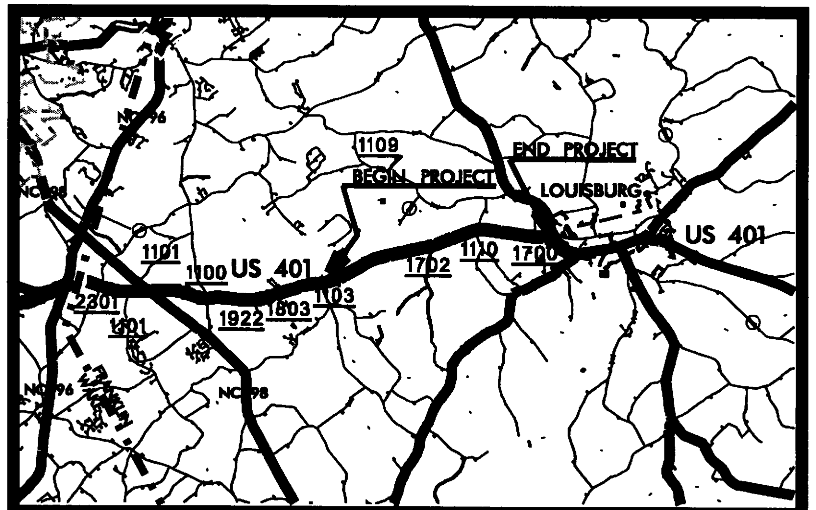
METRIC

ALL DIMENSIONS IN THESE PLANS ARE IN METERS

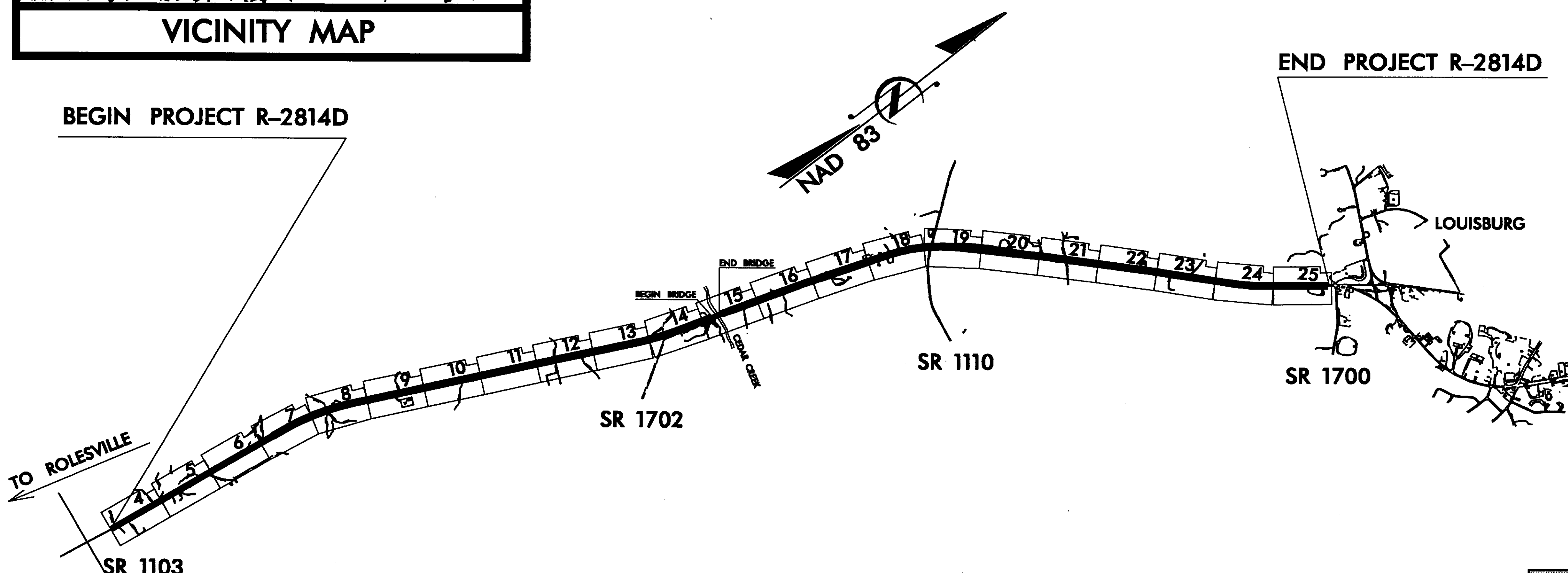
WAKE–FRANKLIN COUNTIES

LOCATION: US 401 FROM SR 1103 TO SR 1700

TYPE OF WORK: GRADING, PAVING, DRAINAGE, STRUCTURES, SIGNAL



VICINITY MAP



THIS IS A PARTIAL CONTROLLED ACCESS PROJECT

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

TIP PROJECT: R-2814D

CONTRACT:

GRAPHIC SCALES

5 0 10

PLANS

DESIGN DATA

ADT 2002 = 10400
ADT 2025 = 24000
DHV = 12 %
D = 60 %
T = 8 % *
V = 100 km/h

* TTST 3 % DUAL 5 %

PROJECT LENGTH

LENGTH ROADWAY FA PROJECT = 7.76KM
LENGTH STRUCTURE FA PROJECT = 0.039KM
TOTAL LENGTH STATE PROJECT R-2814D = 7.8KM

Prepared in the Office of:

DIVISION OF HIGHWAYS

1000 Birch Ridge Dr., Raleigh, NC 27610

1995 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: POST YEAR

LETTING DATE: POST YEAR

JIMMY GOODNIGHT
PROJECT ENGINEER

TIM GOINS
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

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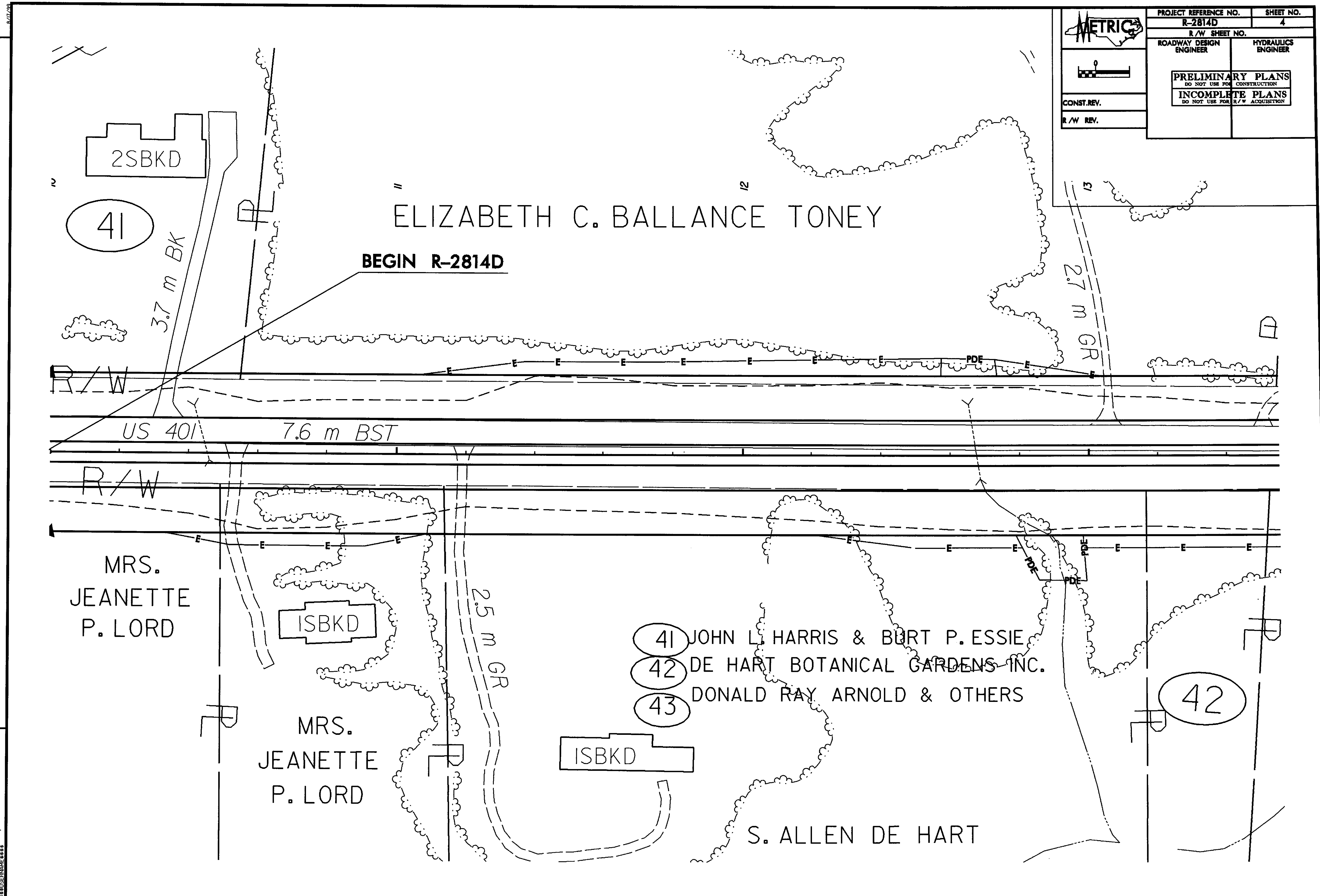
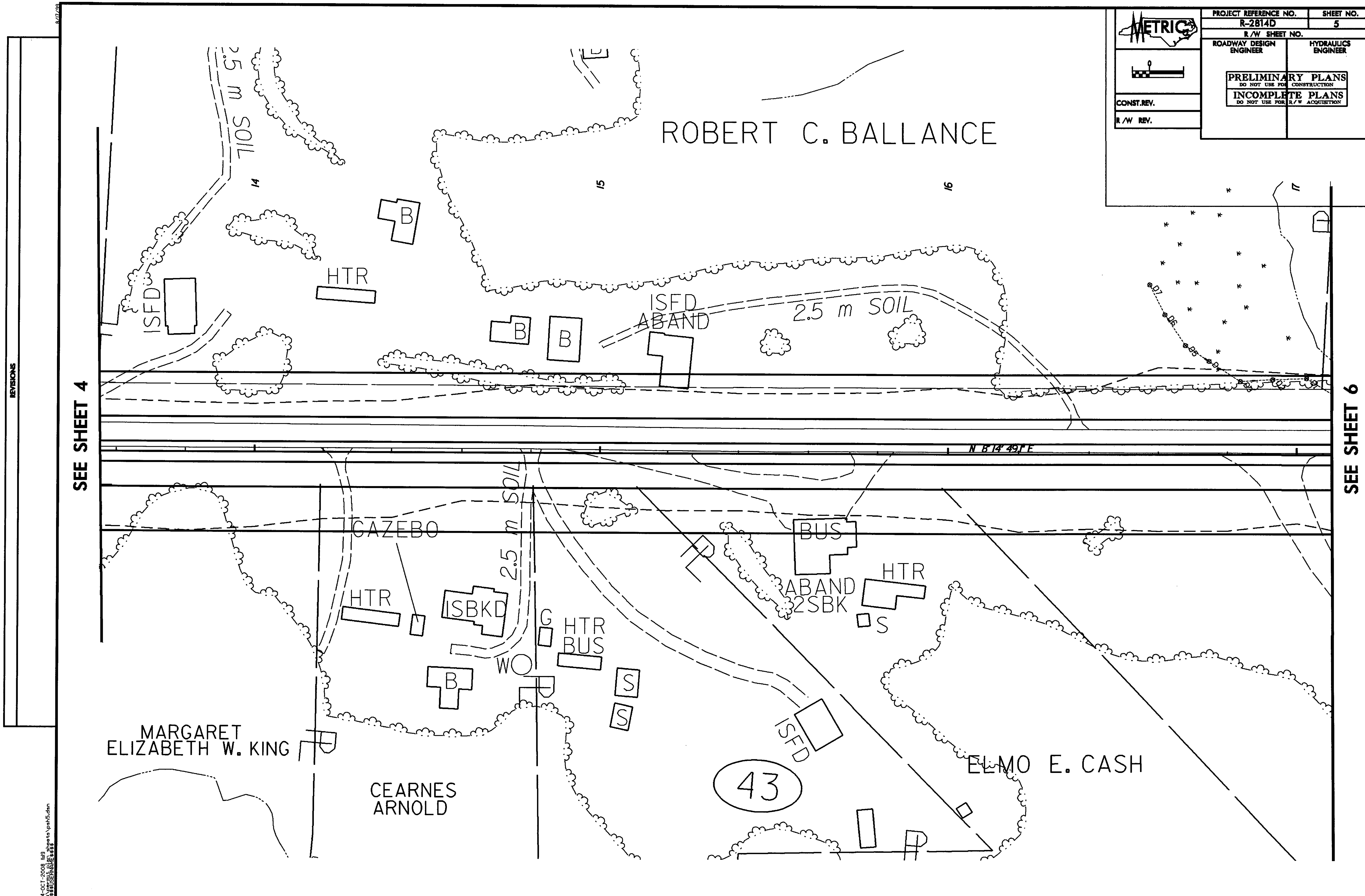


METRIC
PROJECT REFERENCE NO.
R-2814D
SHEET NO.
4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST. REV.
R/W REV.
REVISIONS
2SBKD
41
ELIZABETH C. BALLANCE TONEY
BEGIN R-2814D
3.7 m BK
2.7 m GR
R/W
US 401
7.6 m BST
PDE
MRS. JEANETTE P. LORD
1SBKD
2.5 m GR
41 JOHN L. HARRIS & BURT P. ESSIE
42 DE HART BOTANICAL GARDENS INC.
43 DONALD RAY ARNOLD & OTHERS
42
MRS. JEANETTE P. LORD
1SBKD
S. ALLEN DE HART



PROJECT REFERENCE NO.
R-2814D
SHEET NO.
5
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
METRIC
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
REVISIONS
SEE SHEET 4
SEE SHEET 6
ROBERT C. BALLANCE
2.5 m SOIL
ISFD
HTR
B
ISFD
ABAND
2.5 m SOIL
N 8°14' 49.1" E
GAZEBO
HTR
ISBKD
2.5 m SOIL
G
HTR
BUS
WO
B
S
S
BUS
ABAND
2SBK
HTR
S
ISFD
43
MARGARET
ELIZABETH W. KING
CEARNES
ARNOLD
ELMO E. CASH

PROJECT REFERENCE NO.	SHEET NO.
R-2814D	6
R/W SHEET NO.	

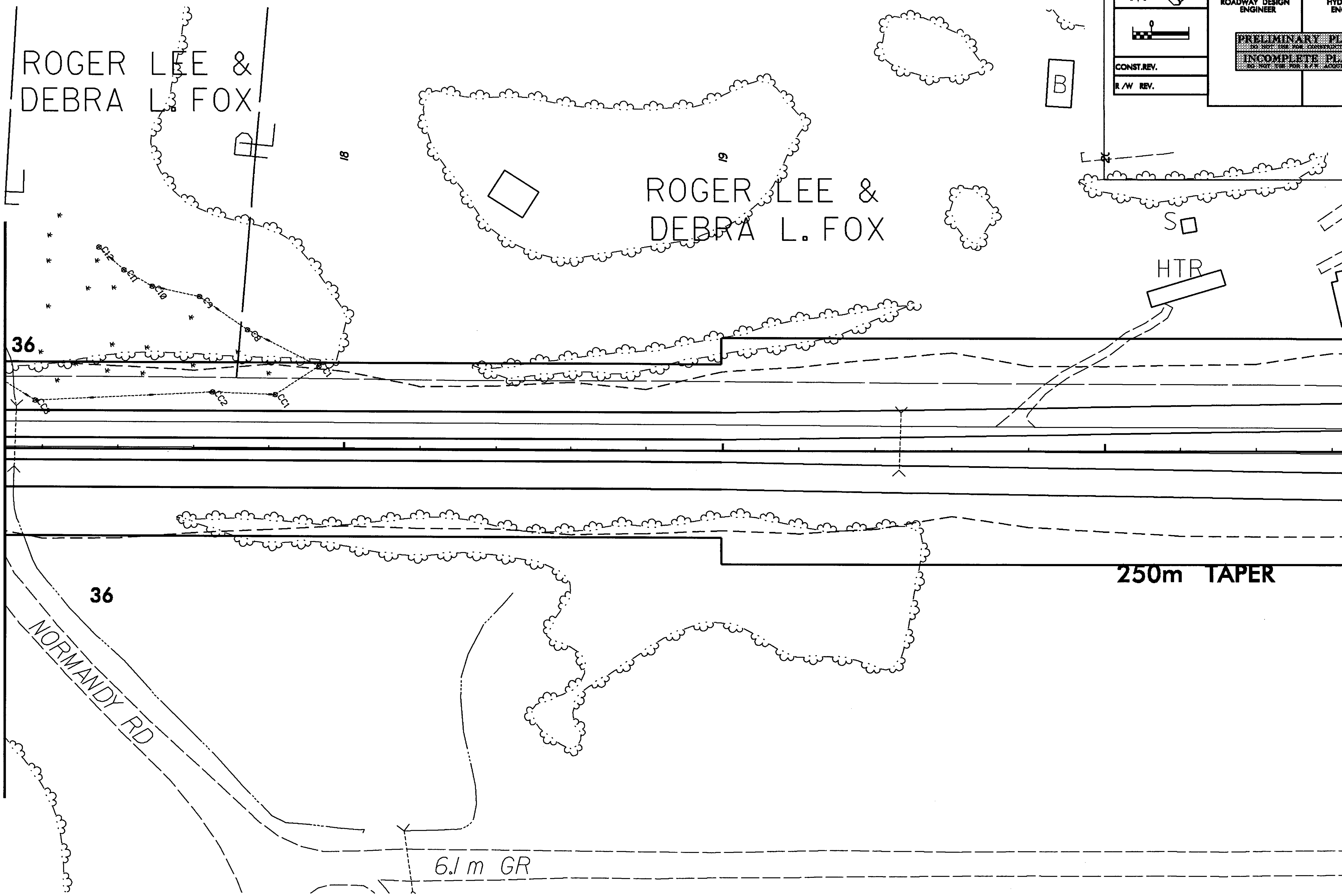
METRIC

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

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

CONST.REV.
R/W REV.

REVISIONS



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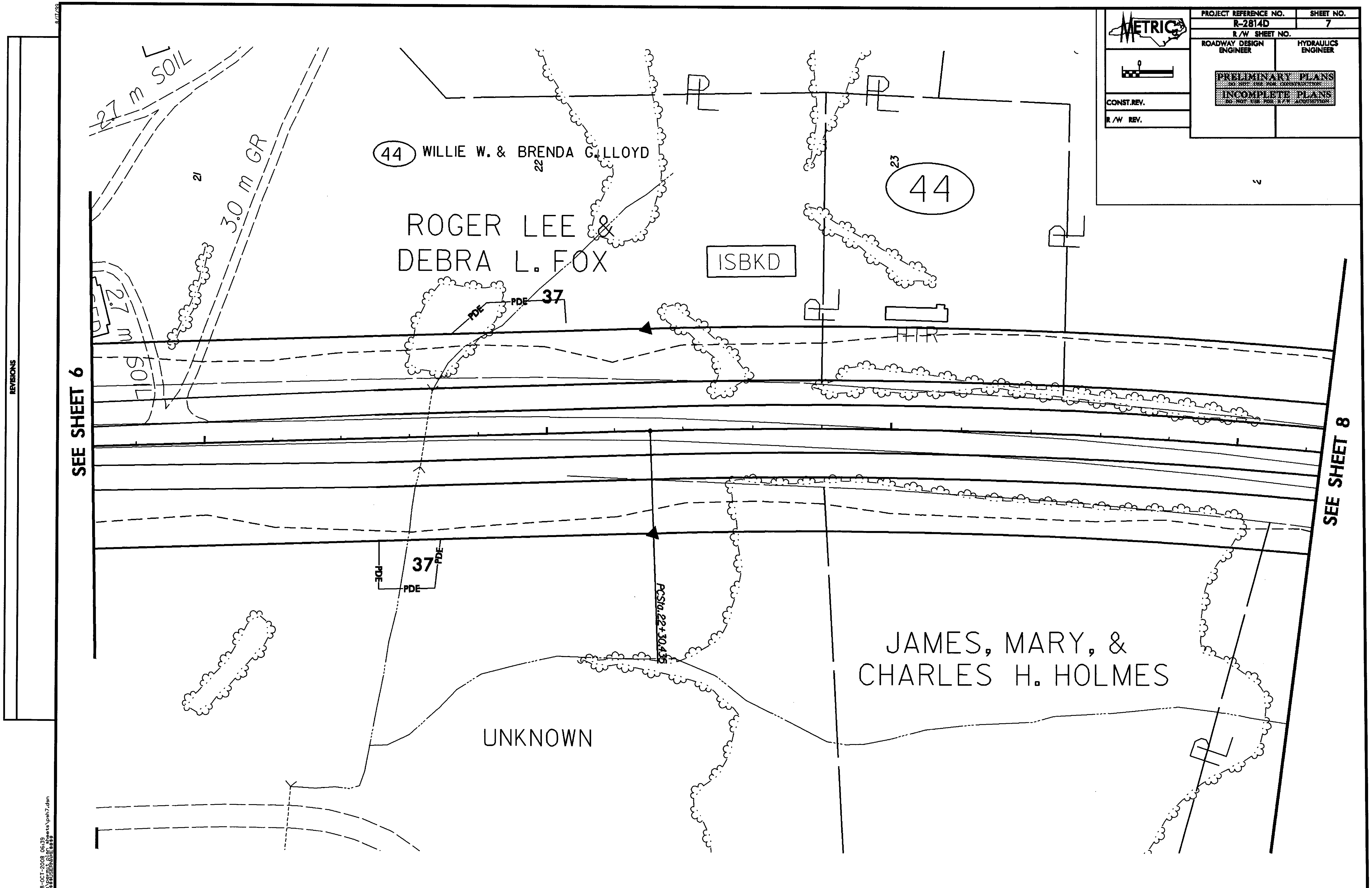

PROJECT REFERENCE NO.
SHEET NO.
R-2814D
7
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
METRIC
CONST.REV.
R/W REV.
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
REVISIONS
SEE SHEET 6
SEE SHEET 8
2.7 m SOIL
3.0 m GR
44
WILLIE W. & BRENDA G. LLOYD
ROGER LEE &
DEBRA L. FOX
ISBKD
PDE
37
HTR
JAMES, MARY, &
CHARLES H. HOLMES
UNKNOWN
PCSta. 22+30.436
28-OCT-2008 06:39

PROJECT REFERENCE NO.	SHEET NO.
R-2814D	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

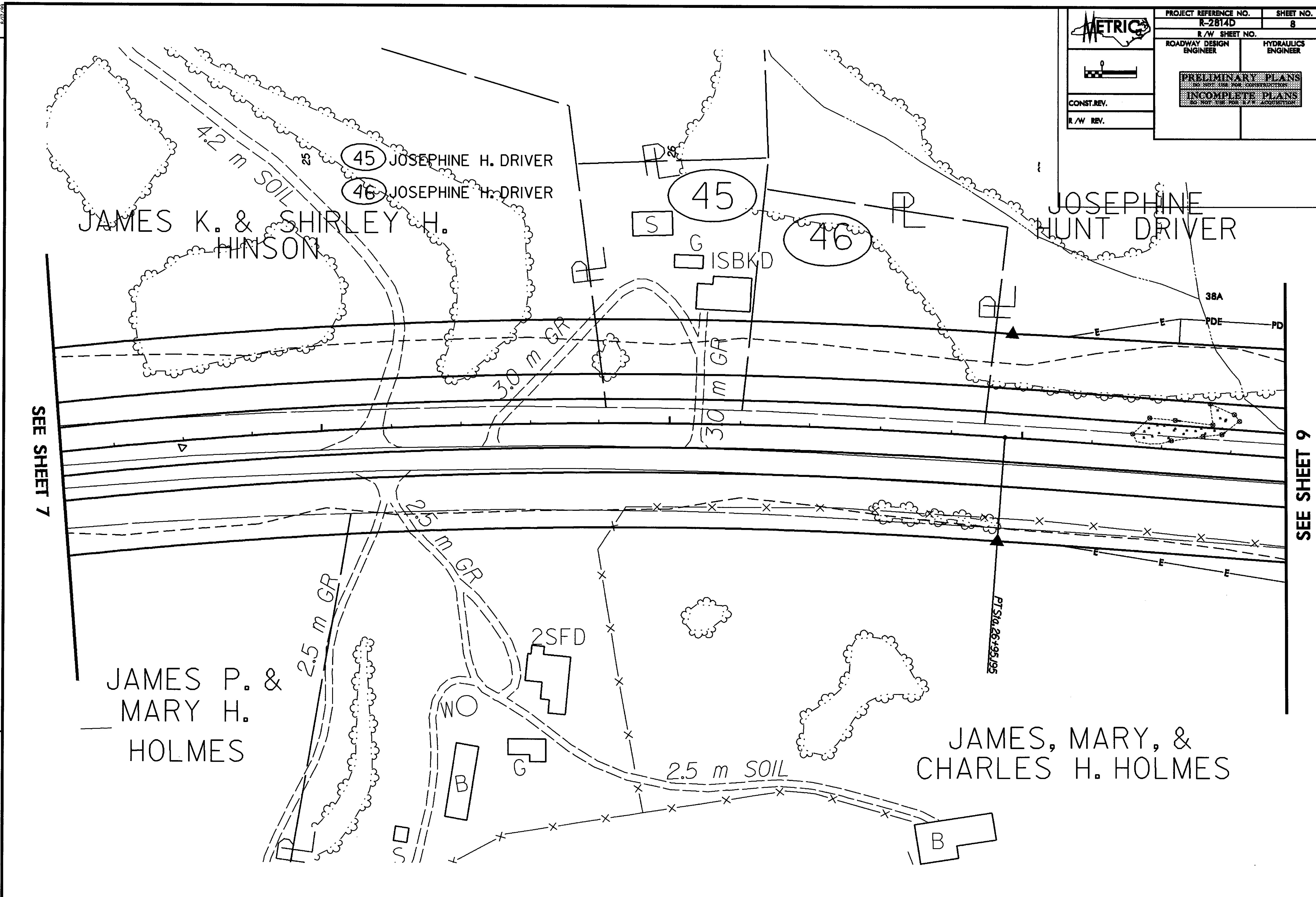
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

CONST. REV.

R/W REV.

REVISIONS



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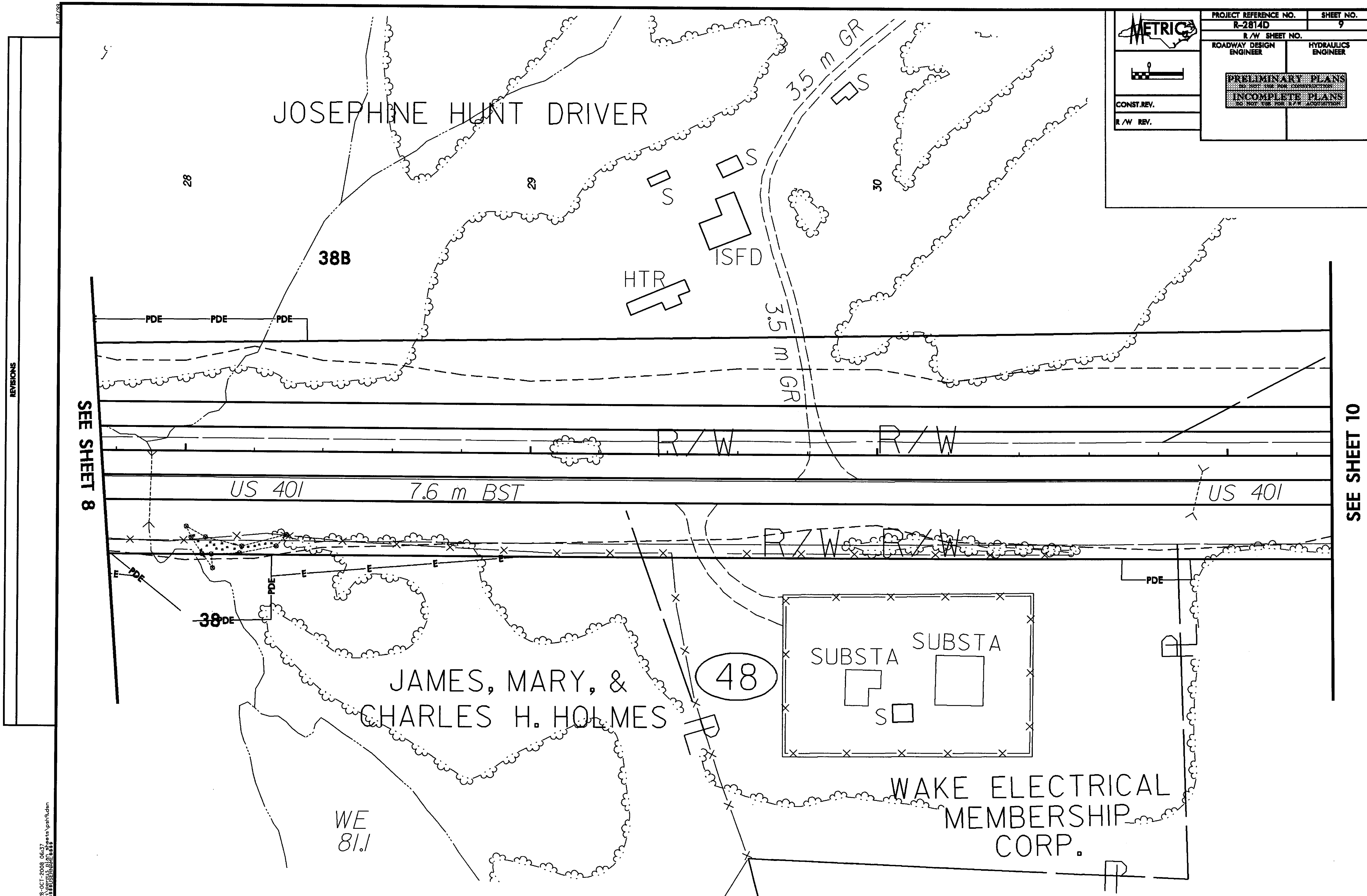
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PROJECT REFERENCE NO.
R-2814D
SHEET NO.
9
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST. REV.
R/W REV.
REVISIONS
JOSEPHINE HUNT DRIVER
28
29
30
38B
S
S
S
ISFD
HTR
3.5 m GR
3.5 m GR
PDE
PDE
PDE
SEE SHEET 8
SEE SHEET 10
R/W
R/W
US 401
7.6 m BST
US 401
R/W
R/W
E
PDE
PDE
E
E
E
E
PDE
38
PDE
48
SUBSTA
SUBSTA
S
JAMES, MARY, &
CHARLES H. HOLMES
WAKE ELECTRICAL
MEMBERSHIP
CORP.
WE
81.1
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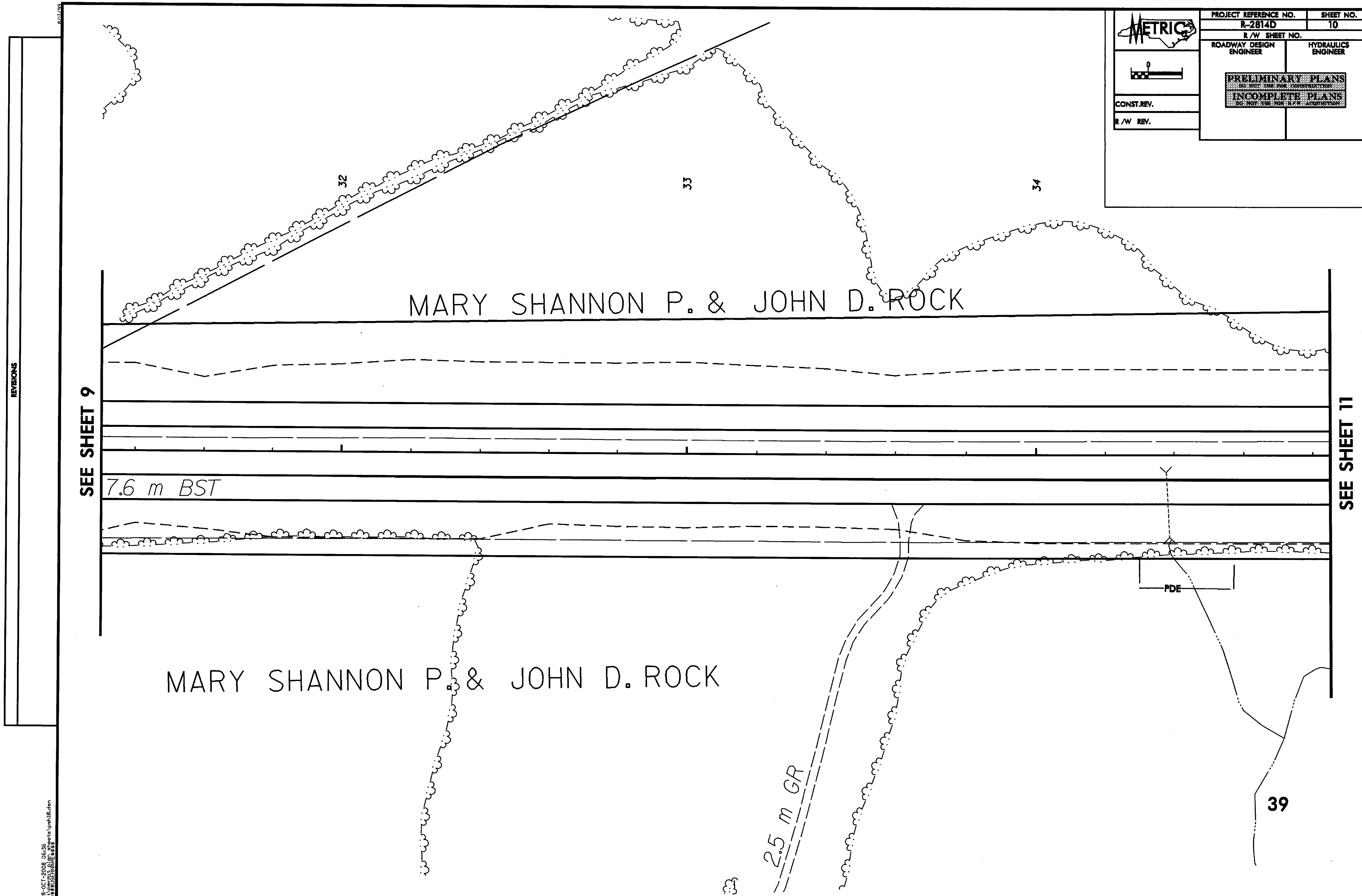


METRIC
PROJECT REFERENCE NO.
R-2814D
SHEET NO.
10
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
REVISIONS
32
33
34
SEE SHEET 9
SEE SHEET 11
MARY SHANNON P. & JOHN D. ROCK
7.6 m BST
PDE
MARY SHANNON P. & JOHN D. ROCK
2.5 m GR
39

PROJECT REFERENCE NO.	SHEET NO.
R-2814D	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

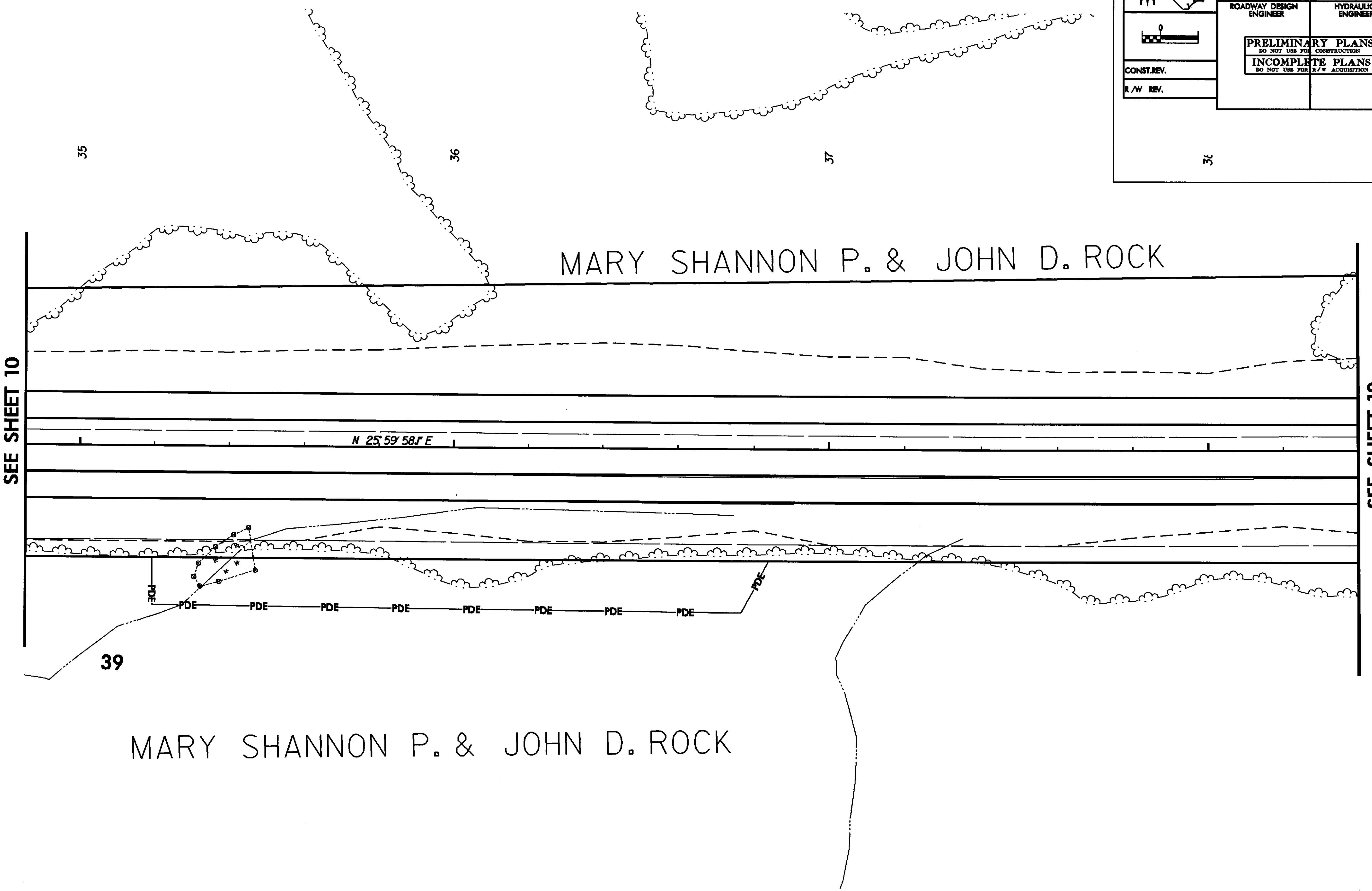
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

CONST.REV.

R/W REV.

REVISIONS



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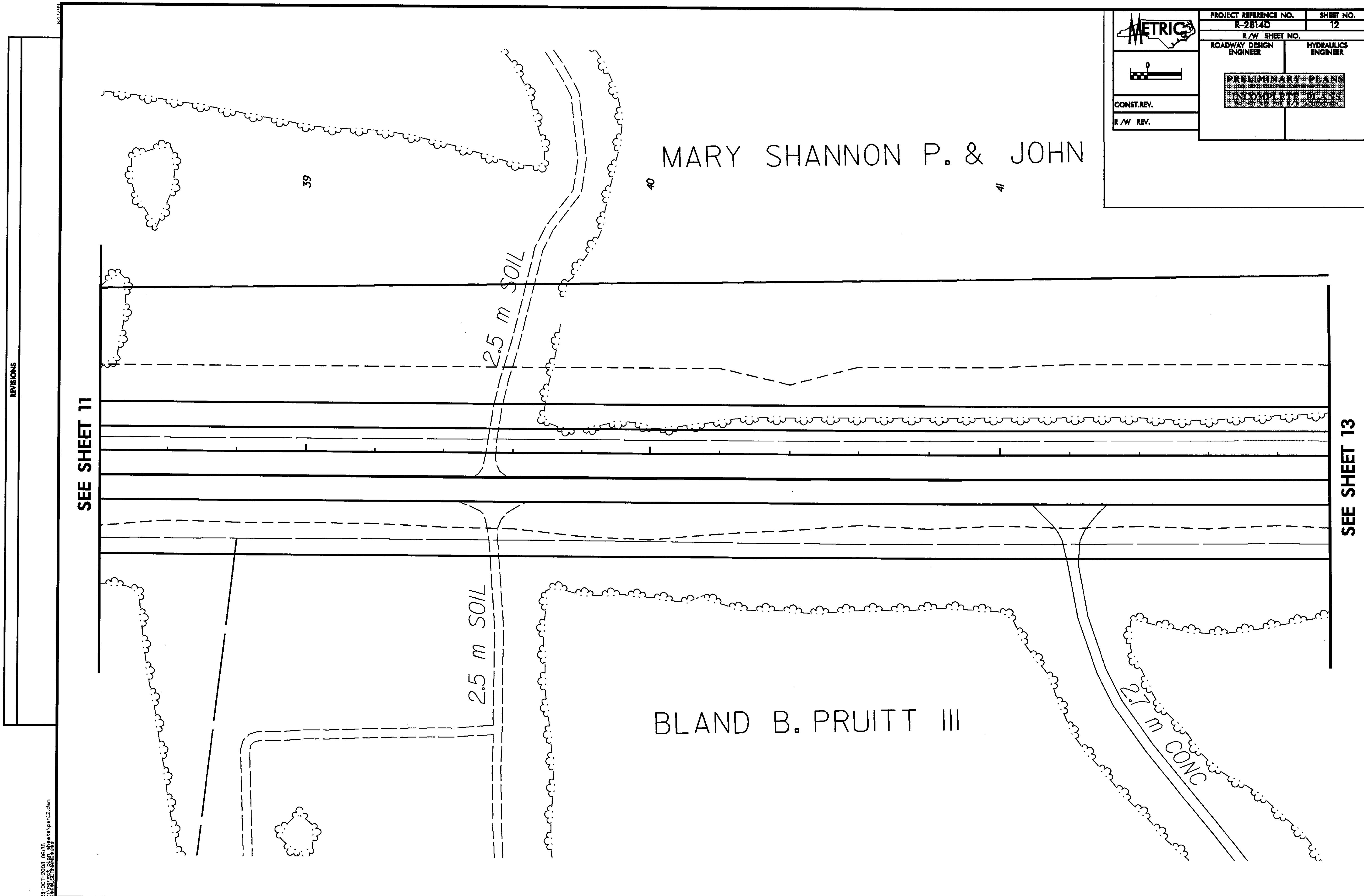
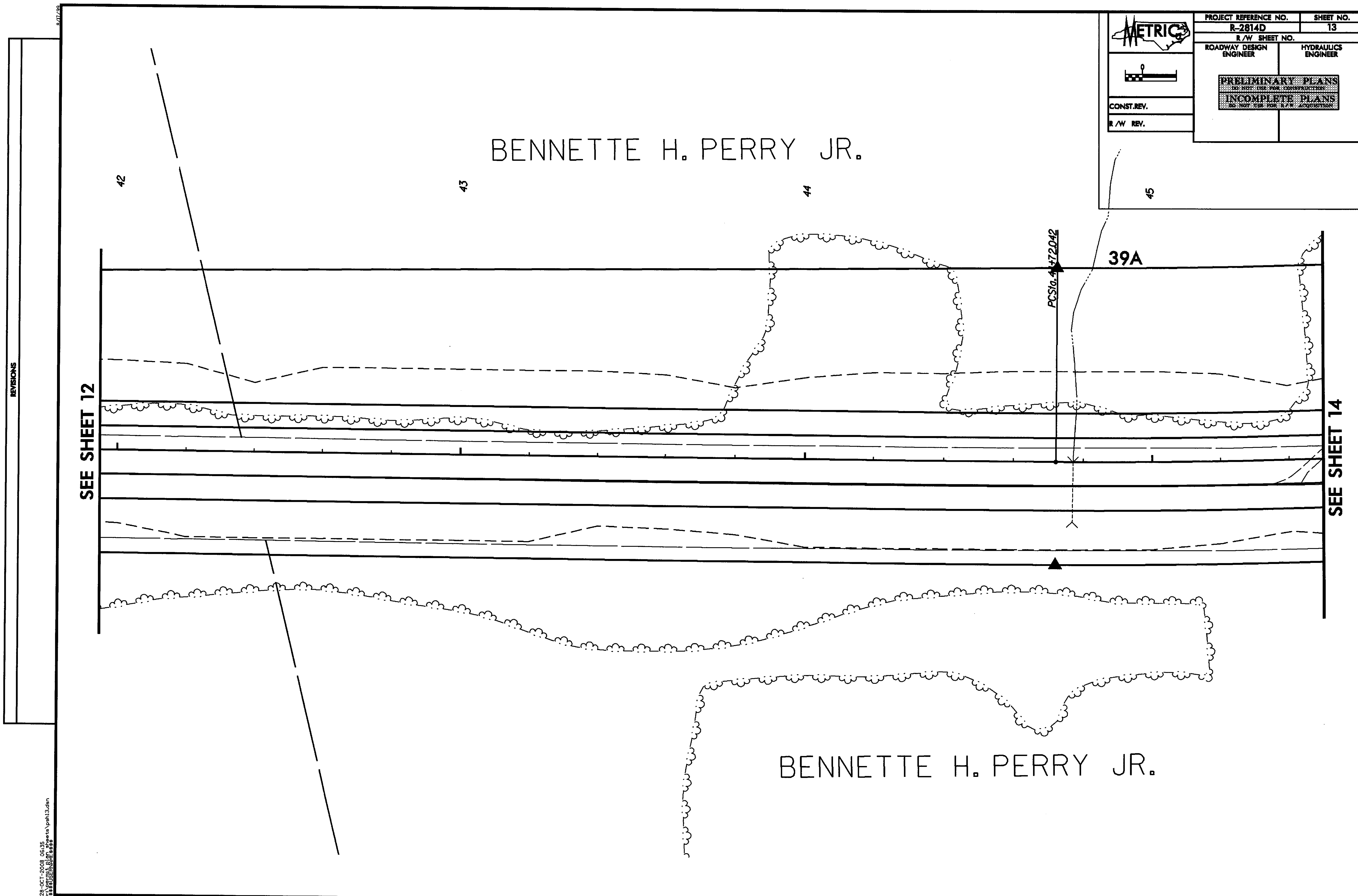

METRIC
PROJECT REFERENCE NO.
R-2814D
SHEET NO.
12
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
REVISIONS
MARY SHANNON P. & JOHN
39
40
41
2.5 m SOIL
SEE SHEET 11
SEE SHEET 13
2.5 m SOIL
2.7 m CONC
BLAND B. PRUITT III


PROJECT REFERENCE NO.
R-2814D
SHEET NO.
13
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
METRIC
CONST.REV.
R/W REV.
REVISIONS
BENNETTE H. PERRY JR.
42
43
44
45
39A
SEE SHEET 12
SEE SHEET 14
BENNETTE H. PERRY JR.

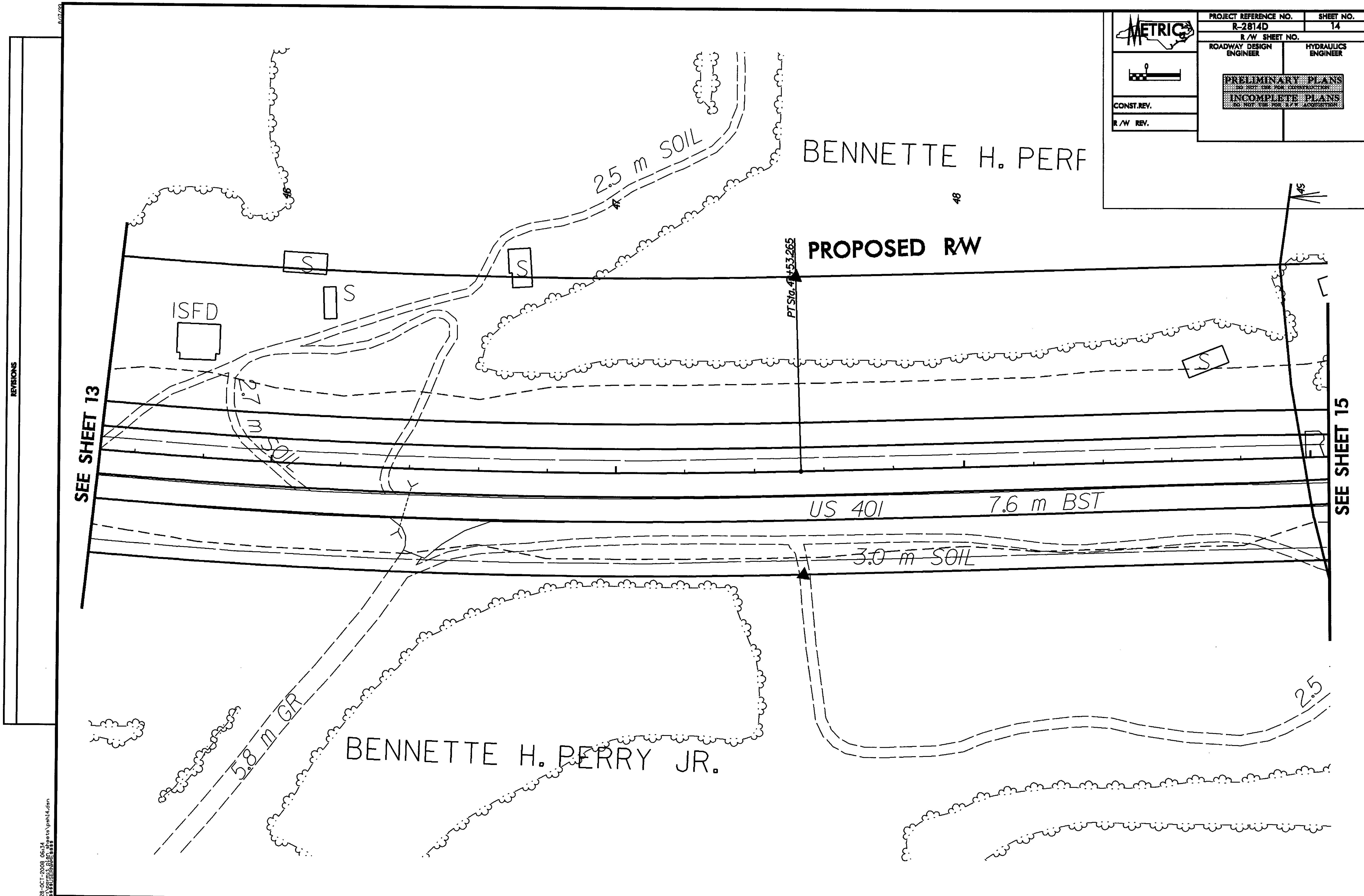
PROJECT REFERENCE NO.	SHEET NO.
R-2814D	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

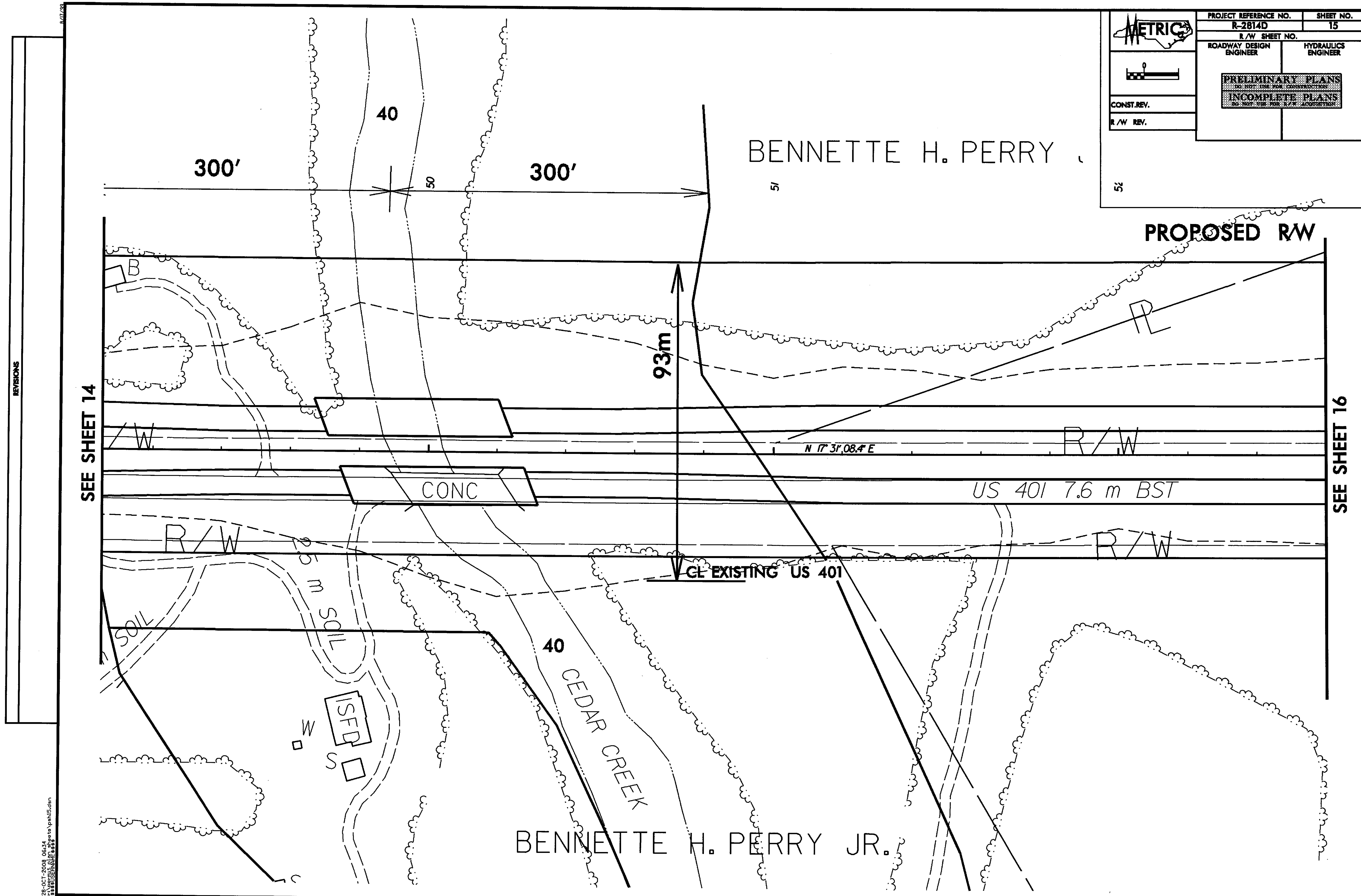
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

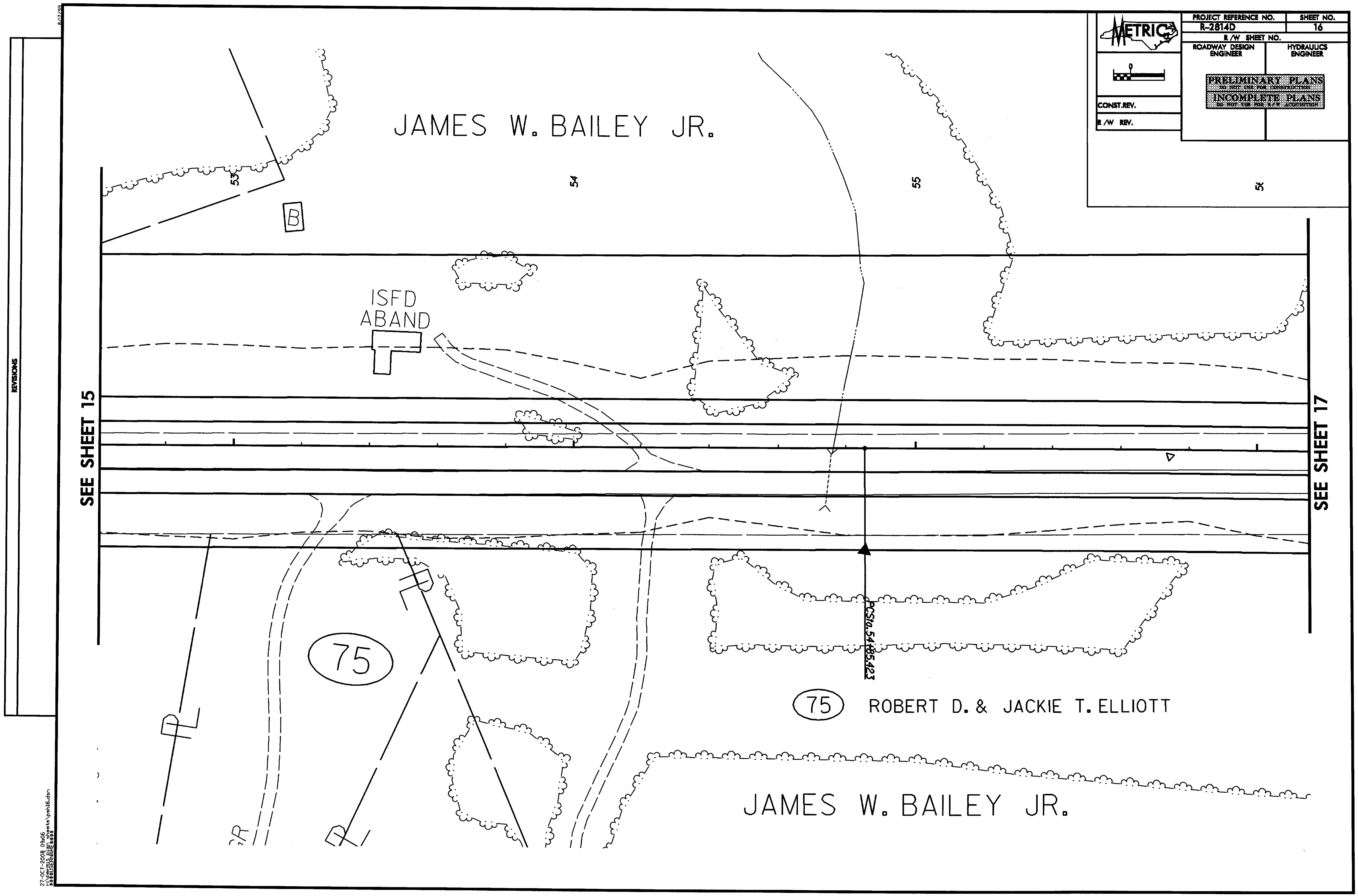
CONST.REV.

R/W REV.





METRIC
PROJECT REFERENCE NO.
R-2814D
SHEET NO.
15
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
INCOMPLETE PLANS
CONST.REV.
R/W REV.
REVISIONS
BENNETTE H. PERRY
300'
300'
40
50
PROPOSED R/W
93m
SEE SHEET 14
SEE SHEET 16
R/W
N 17° 31' 08.4" E
CONC
US 401 7.6 m BST
CL EXISTING US 401
2.5 m SOIL
SOIL
40
CEDAR CREEK
ISFD
W
S
B
BENNETTE H. PERRY JR.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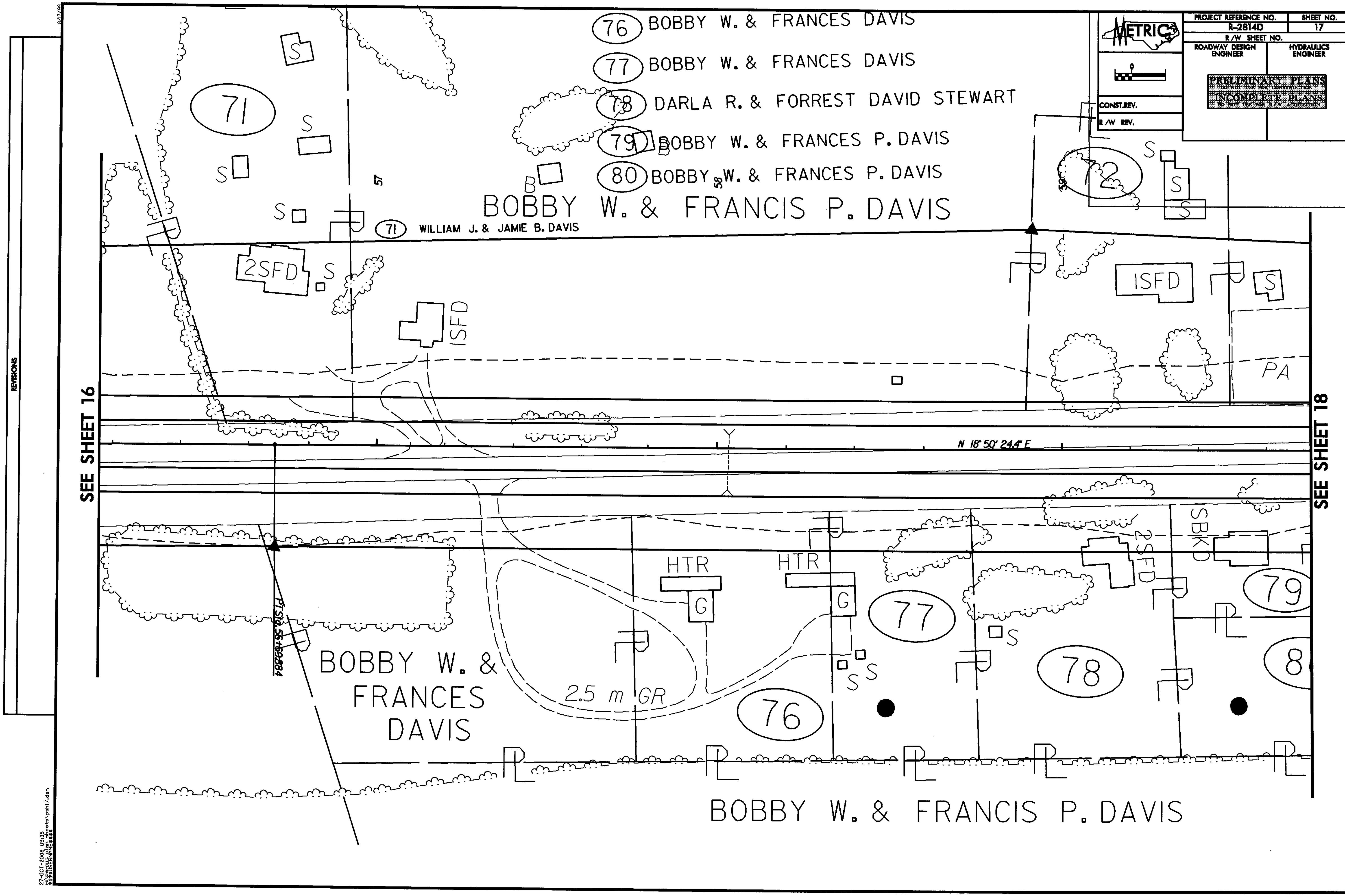
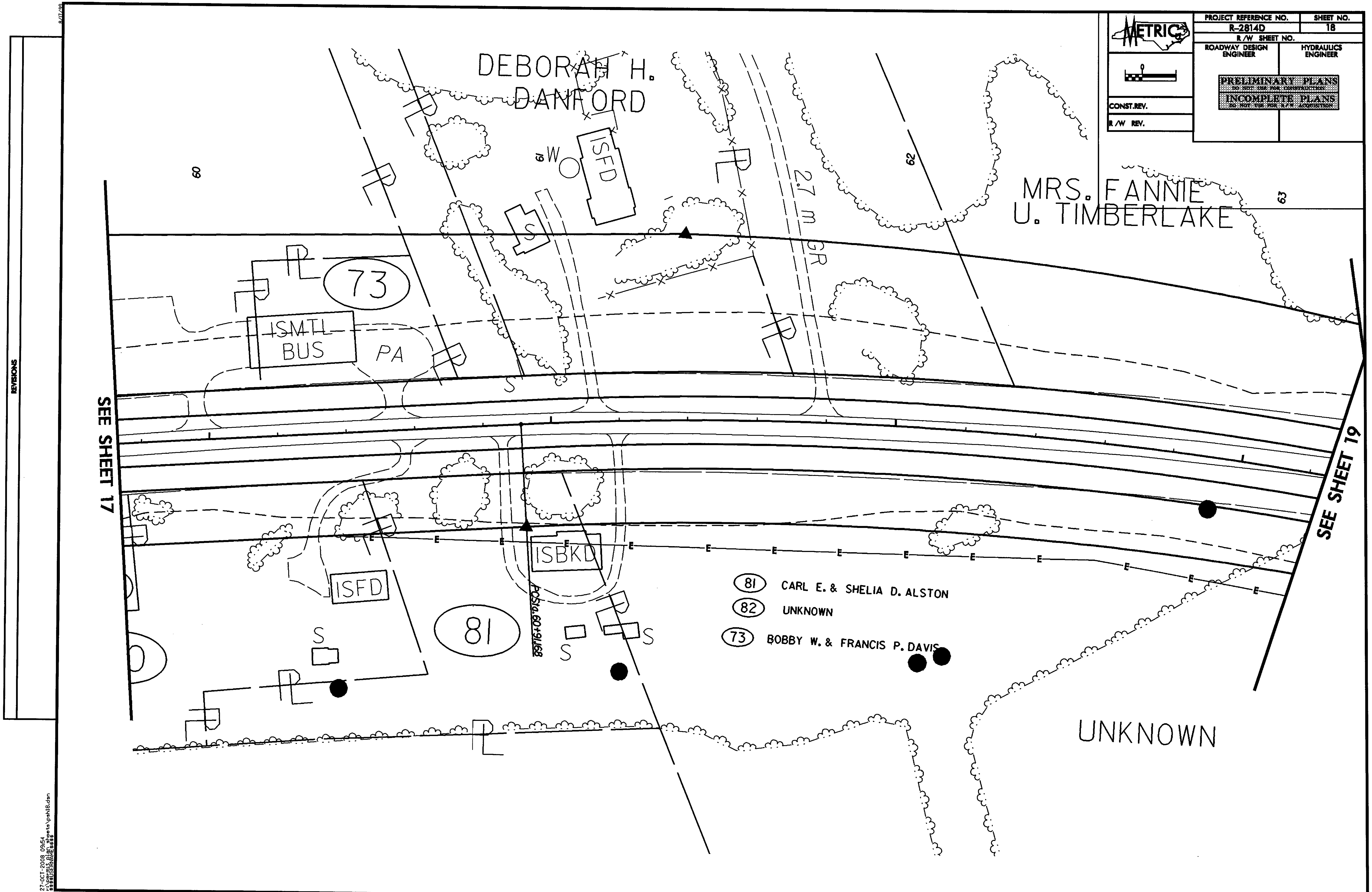
PROJECT REFERENCE NO.
R-2814D
SHEET NO.
16
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
REVISIONS
JAMES W. BAILEY JR.
53
54
55
B
ISFD
ABAND
SEE SHEET 15
SEE SHEET 17
75
PCSta.54+85.423
75
ROBERT D. & JACKIE T. ELLIOTT
JAMES W. BAILEY JR.


PROJECT REFERENCE NO. R-2814D
SHEET NO. 17
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION
METRIC
CONST. REV.
R/W REV.
REVISIONS
76 BOBBY W. & FRANCES DAVIS
77 BOBBY W. & FRANCES DAVIS
78 DARLA R. & FORREST DAVID STEWART
79 BOBBY W. & FRANCES P. DAVIS
80 BOBBY W. & FRANCES P. DAVIS
BOBBY W. & FRANCIS P. DAVIS
71 WILLIAM J. & JAMIE B. DAVIS
SEE SHEET 16
SEE SHEET 18
N 18° 50' 24.4" E
2.5 m GR
BOBBY W. & FRANCES DAVIS
BOBBY W. & FRANCIS P. DAVIS
27-OCT-2008 09:35



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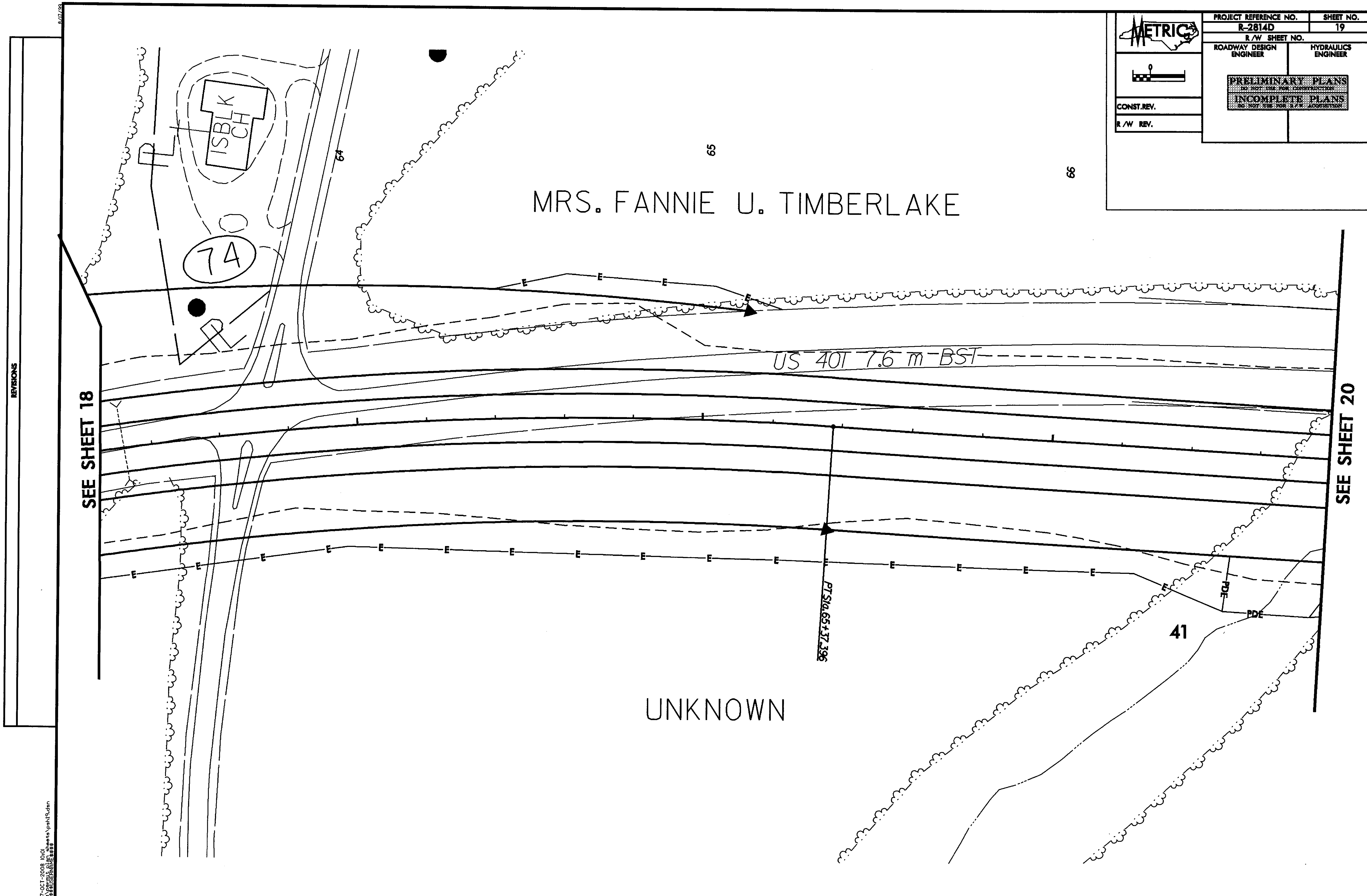
$$$$USERNAME$$$$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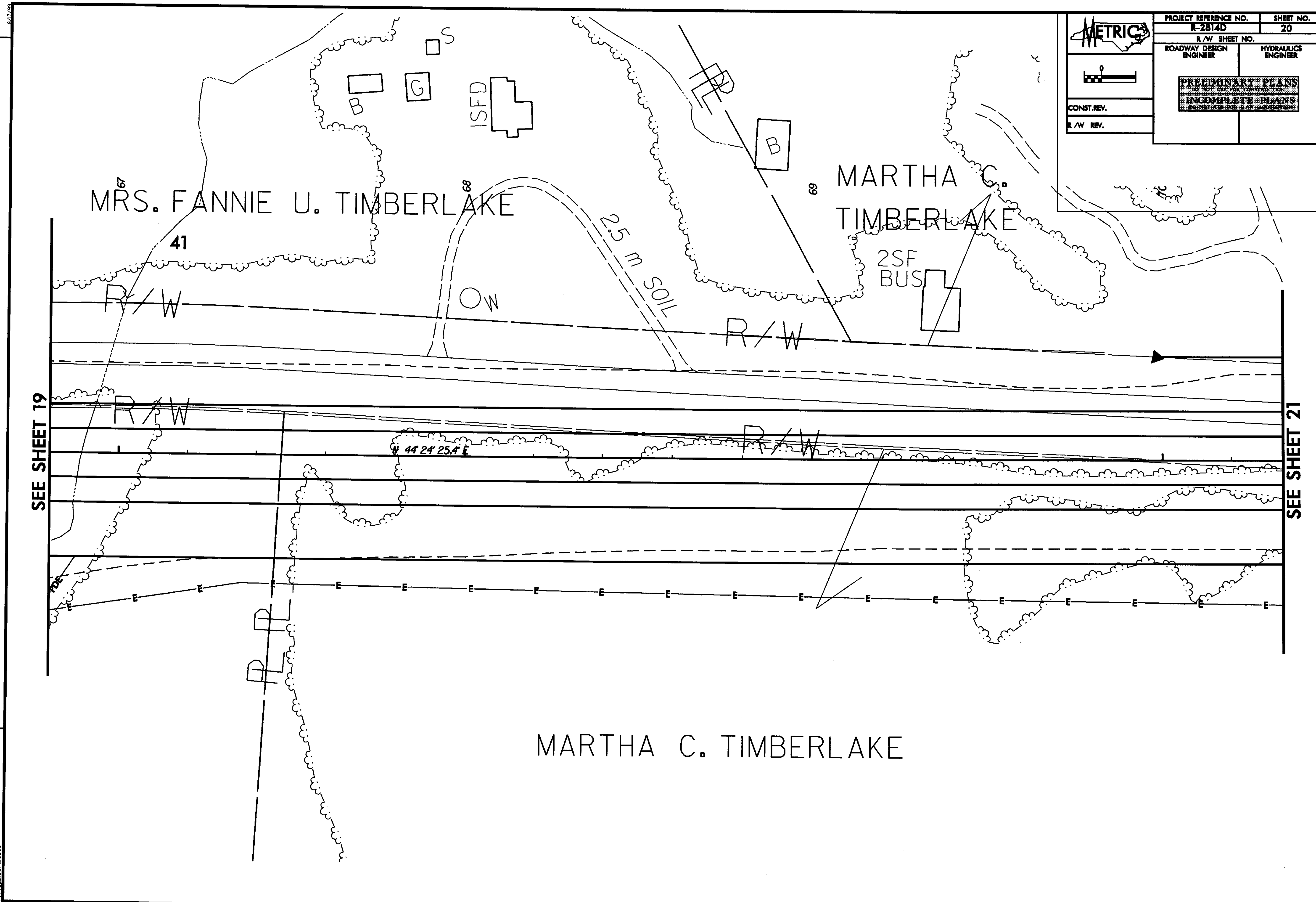
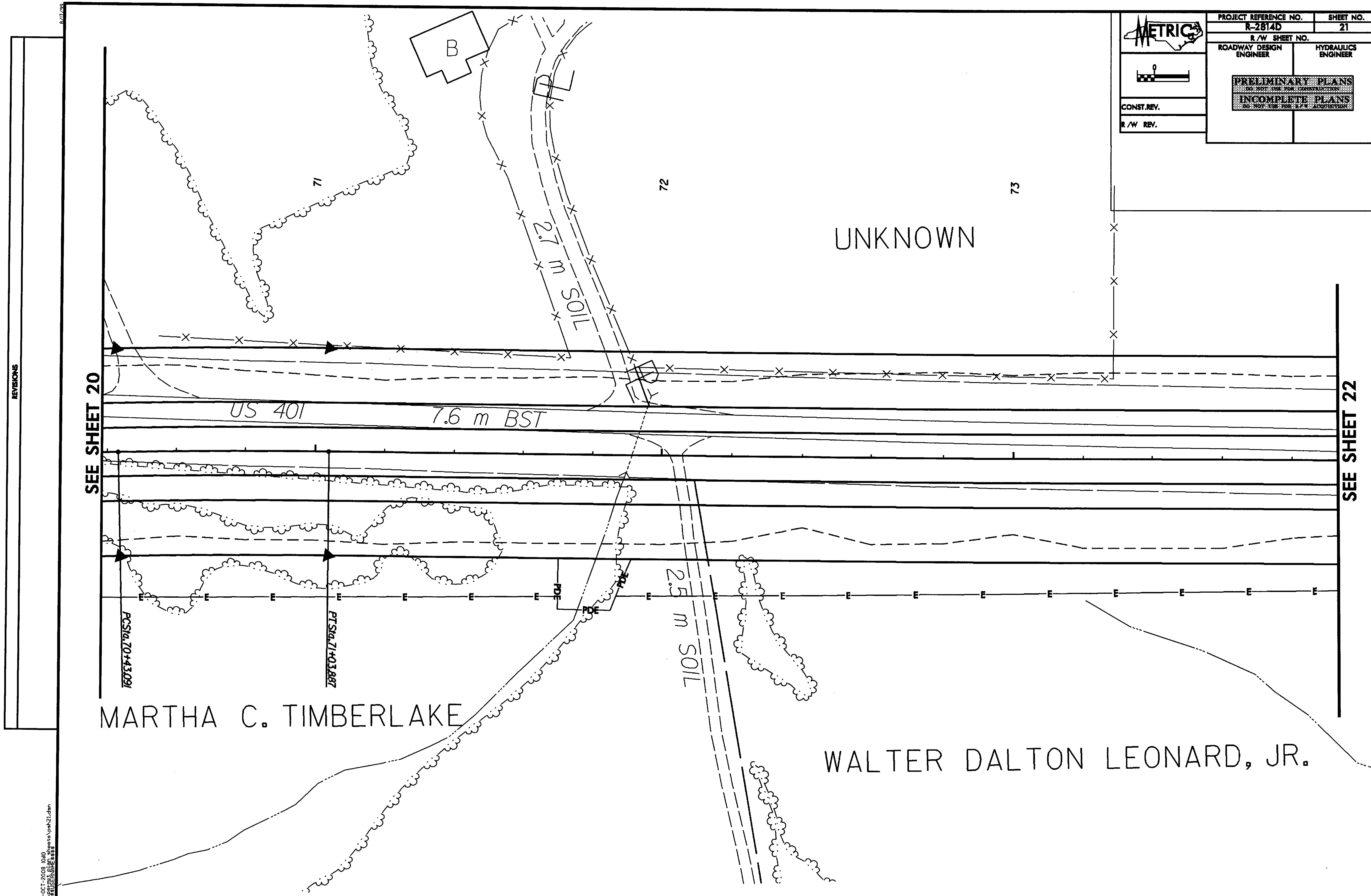
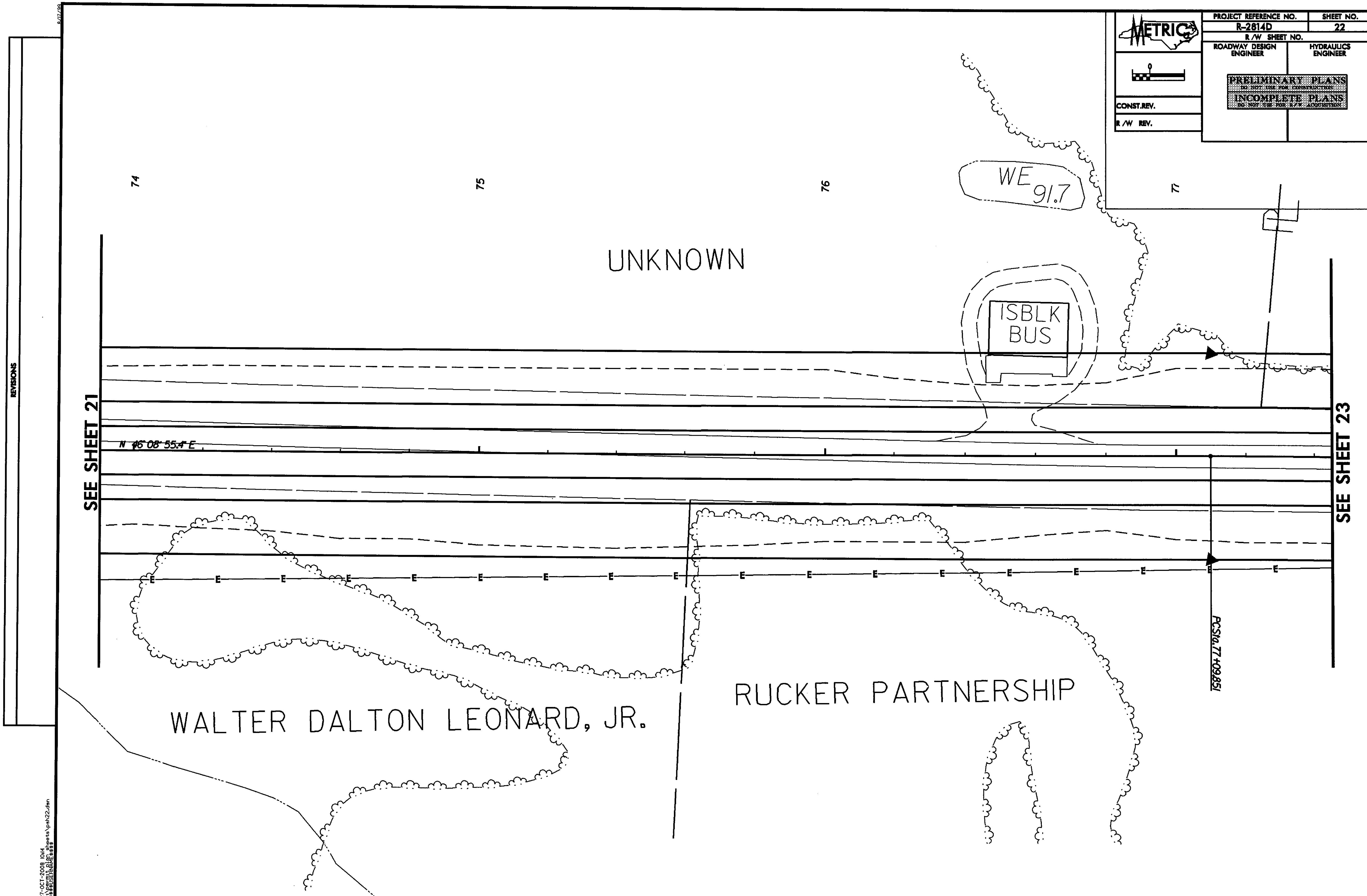
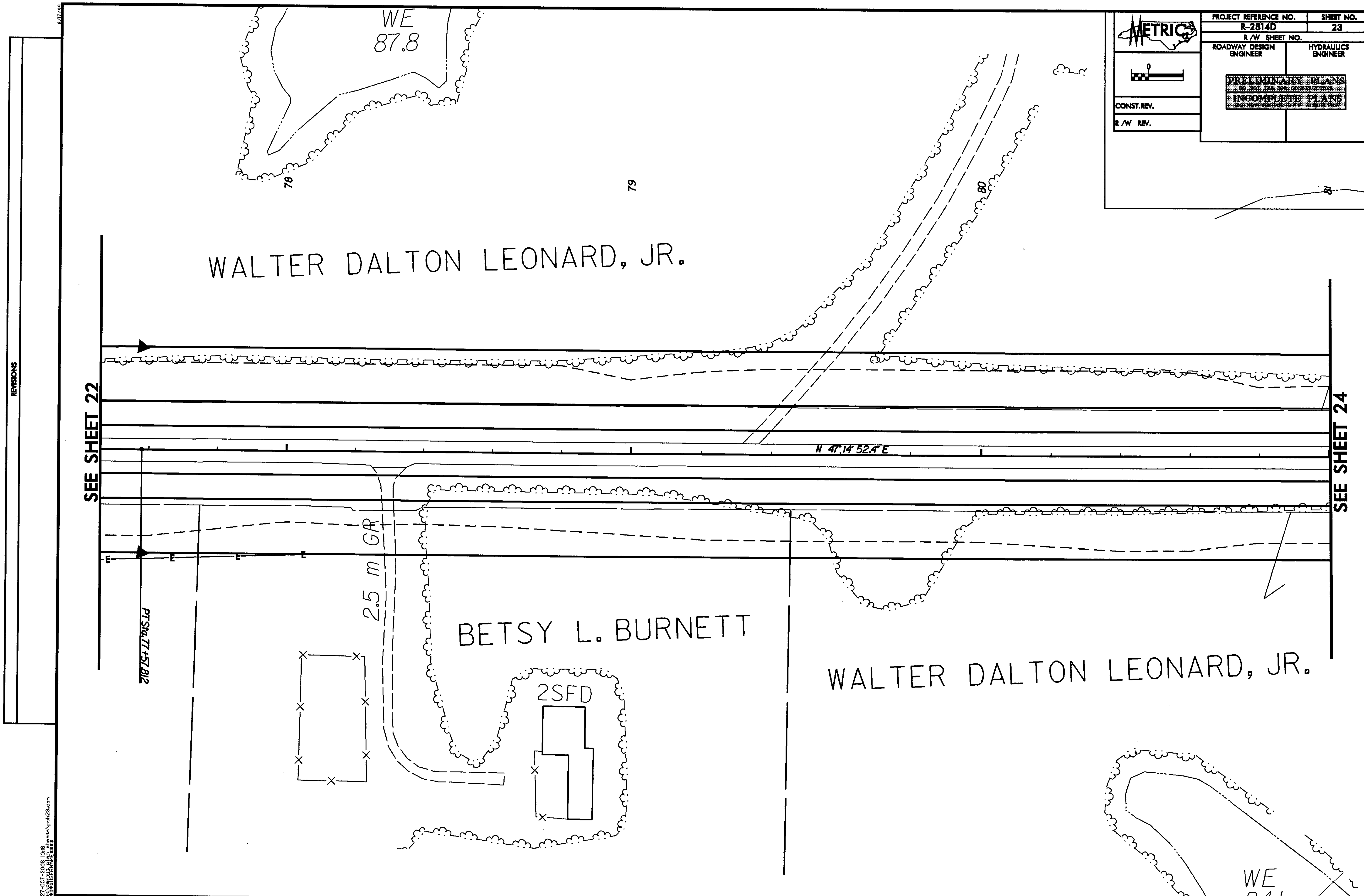
PROJECT REFERENCE NO.
SHEET NO.
R-2814D
19
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
REVISIONS
MRS. FANNIE U. TIMBERLAKE
ISBLK CH
74
64
65
66
US 401 7.6 m BST
SEE SHEET 18
SEE SHEET 20
PT Sta. 65+37.396
PDE
41
UNKNOWN
27-OCT-2008 10:01

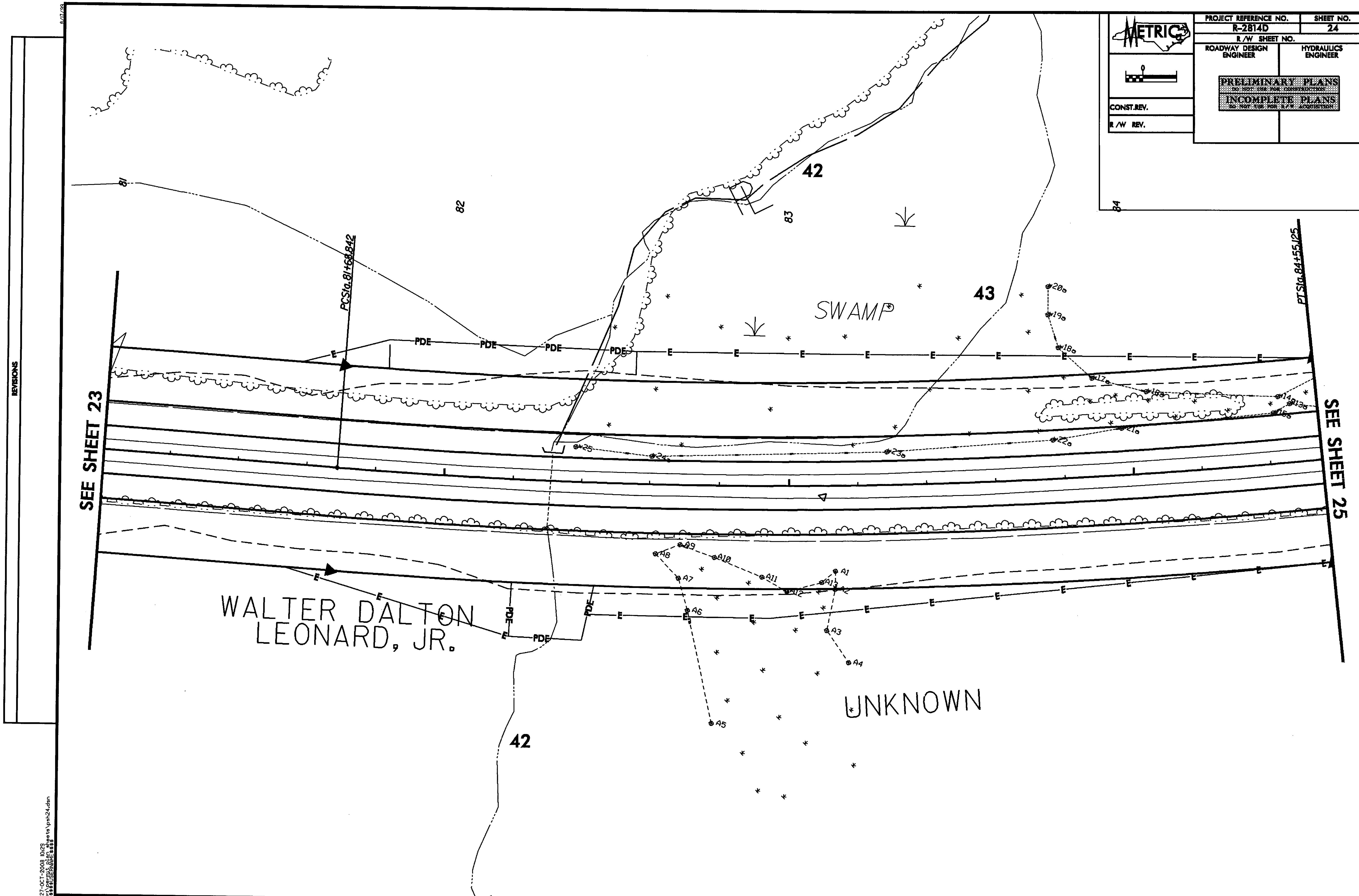

METRIC
PROJECT REFERENCE NO.
R-2814D
SHEET NO.
20
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
REVISIONS
MRS. FANNIE U. TIMBERLAKE
41
MARTHA C. TIMBERLAKE
2SF BUS
ISFD
2.5 m SOIL
R/W
N 44° 24' 25.4" E
SEE SHEET 19
SEE SHEET 21
MARTHA C. TIMBERLAKE

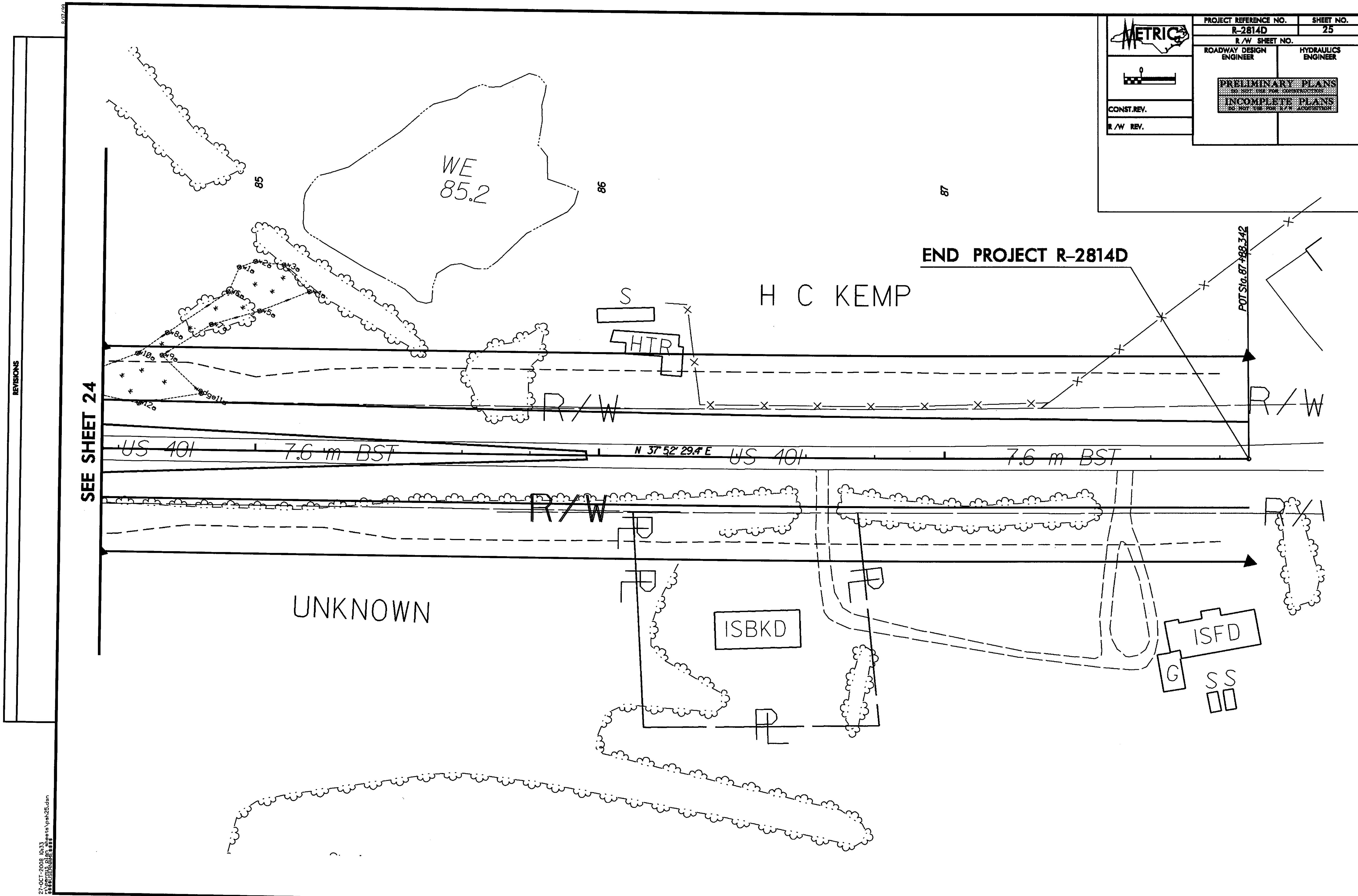

METRIC
PROJECT REFERENCE NO.
R-2814D
SHEET NO.
21
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
REVISIONS
B
71
72
73
UNKNOWN
2.7 m SOIL
US 401
7.6 m BST
SEE SHEET 20
SEE SHEET 22
PDE
PDE
PDE
2.5 m SOIL
PCSta.70+43.091
PTSta.71+03.887
MARTHA C. TIMBERLAKE
WALTER DALTON LEONARD, JR.


PROJECT REFERENCE NO.
R-2814D
SHEET NO.
22
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
METRIC
CONST.REV.
R/W REV.
REVISIONS
74
75
76
77
WE 91.7
UNKNOWN
ISBLK BUS
SEE SHEET 21
SEE SHEET 23
N 46° 08' 55.4" E
PCS ta. 77+09.851
WALTER DALTON LEONARD, JR.
RUCKER PARTNERSHIP
27-OCT-2008 10:14



PROJECT REFERENCE NO.
R-2814D
SHEET NO.
23
R/W SHEET NO.
METRIC
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
REVISIONS
WE
87.8
78
79
80
81
WALTER DALTON LEONARD, JR.
SEE SHEET 22
SEE SHEET 24
N 47°14' 52.4" E
PT Sta. 77+57.812
2.5 m GR
BETSY L. BURNETT
2SFD
WALTER DALTON LEONARD, JR.
WE


PROJECT REFERENCE NO.
R-2814D
SHEET NO.
24
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CONST.REV.
R/W REV.
METRIC
REVISIONS
SEE SHEET 23
SEE SHEET 25
PC Sta. 81+68.842
PT Sta. 84+55.125
SWAMP
42
43
42
WALTER DALTON
LEONARD, JR.
UNKNOWN
PDE
E
27-OCT-2008 10:29



METRIC
PROJECT REFERENCE NO.
R-2814D
SHEET NO.
25
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
INCOMPLETE PLANS
CONST. REV.
R/W REV.
REVISIONS
SEE SHEET 24
WE 85.2
85
86
87
END PROJECT R-2814D
POT Sta. 87+88.342
H C KEMP
S
HTR
R/W
US 401
7.6 m BST
N 37° 52' 29.4" E
UNKNOWN
ISBKD
ISFD
G
S S
27-OCT-2008 10:33