STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

January 31, 2007

U. S. Army Corps of Engineers
Regulatory Field Office
151 Patton Avenue, Room 208
Asheville, NC 28801-5006

ATTN.: Mr. Steve Lund
NCDOT Coordinator

Subject: **Application for Individual Section 404 and 401 permits for TIP U-2510A** for the proposed widening of NC 16 (Old Providence Road) from the SR 2948 REA Road Extension in Union County to south of I-485 (Charlotte Outer Loop) in Mecklenburg County; NCDOT Division 10. Federal Project No. STP-16(20), Federal Project No. 8.1672807, Debit $475.00 from WBS Element 34813.1.1.

Dear Sir:

The NCDOT proposes to widen NC 16 (Old Providence Road) from the SR 2948 Rea Road Extension in Union County to south of I-485 (Charlotte Outer Loop) in Mecklenburg County. The proposed project will consist of widening the existing two lane facility to a four lane divided, 73.5 feet face to face; curb and gutter section with a 17.5 feet raised median throughout the project. This cross section provides for 12 feet inside travel lanes and 14 feet outside travel lanes in both directions. The wide travel lanes will accommodate bicycle traffic. The total length is approximately 3.6 miles and will require approximately 40 feet of additional right of way. This application package consists of the cover letter, ENG Form 4345, EEP Mitigation Acceptance Letter, Cultural Resources Letters, Merger 4B & 4C interagency meeting minutes, permit (hydraulic) drawings and half size roadway plan sheets.

Purpose and Need: The purpose of the proposed project is to increase the traffic carrying capacity of the existing facility as well as provide standard travel lanes for NC 16. The need to safely provide increased accessibility between Weddington-Union County and Charlotte-Mecklenburg County will be achieved through widening this facility. Each travel lane will be at least 12 feet conforming to NCDOT standard recommendations.

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

TELEPHONE: 919-733-3141
FAX: 919-715-1501

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

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

Project Schedule: The project is currently scheduled to Let on September 18, 2007 with construction to begin shortly thereafter.

Summary of Impacts: Impacts on jurisdictional areas of the proposed project consist of 1.28 acres of permanent (0.91 riverine - 0.37 nonriverine) wetland impacts, 458 linear feet of permanent stream impacts and <0.01 acre of surface water (pond) impact. There are no temporary impacts from this project. No impacts from public utilities are anticipated for this project.

Summary of Mitigation: The project has been designed to avoid and minimize impacts to jurisdictional areas throughout the NEPA and design processes. The project will be built along existing roadway thereby minimizing impacts to natural resources. The North Carolina Ecosystem Enhancement Program will provide compensatory mitigation for jurisdictional impacts to 458 linear feet of streams, 0.37 acre of non-riverine wetlands; 0.91 acre of riverine wetlands. See attached letter.

Utilities:
There are no impacts to jurisdictional resources due to utilities for this project.

NEPA DOCUMENT STATUS

The United States Department of Transportation Federal Highway Administration (FHWA) and the North Carolina Department of Transportation (NCDOT) approve the previous administrative actions of this project including the Environmental Assessment (EA) on October 24, 2002 and the Finding of No Significant Impact (FONSI) on April 27, 1995. Section 129 (Reevaluations) of Part 771 (Environmental Impact and Related Procedures) of Title 23 (Highway) of the Code of Federal Regulations requires that NCDOT consult with FHWA to determine whether the approved environmental documents remain valid. FHWA and NCDOT concluded that a Reevaluation should be conducted due to the elapsed time since the FONSI and need for updated impacts to the human and natural environment. An updated FONSI was signed on November 29, 2005. Copies of the EA and FONSI have been provided to regulatory review agencies involved in the approval process. Additional copies will be provided upon request.

INDEPENDENT UTILITY

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

Water Resources: The project is located in Catawba River Basin, Subbasin 03-08-30. The North Carolina Division of Water Quality (NCDWQ) classifies Sixmile Creek and Flat Branch as "Class **C**" streams and are located in Hydrological Cataloguing Unit (HUC) 03050101. There are no Outstanding Resource Waters (ORW), High Quality Waters (HQW), WS-I, WS-II, or watershed Critical Area (CA), within 1 mile upstream or downstream of the project study area. Six Mile Creek and Flat Branch are not currently identified as 303(d) streams by DWQ.

Wetland delineations: Potential wetland communities were investigated pursuant to the 1987 Corps of Engineers Wetland Delineation Manual. Mr. Steve Lund of the U.S. Army Corps of Engineers verified the wetlands and surface waters on August 23, 2004. Each impact is described in Tables 1 and 2 and in detail below. Site and station numbers correspond with the permit (hydraulic) drawings included in this application.

Table 1. Jurisdictional Stream Information

Site #	Structure	Stream	DWQ Index	Class	Status	Permanent Stream Impacts (linear feet)
Site 2	54" Pipe	UT1 to Sixmile Cr	11-138-3	C	I	162
Site 3	Bridge	Sixmile Cr	11-138-3	C	P	0
Site 4	36" Pipe	UT2 to Sixmile Cr	11-138-3	C	I	115
Site 5	72" Pipe	UT1 to Flat Branch	11-138-3-2	C	I	147
Site 6	66" Pipe	UT2 to Flat Branch	11-138-3-2	C	I	34
Total Permanent Stream Impacts						**458**

I = Intermittent
P = Permanent

Table 2. Wetland Information

Site #	Wetland	Type	Cowardin Classification	Permanent Impacts (Acres)
1	Pond Fringe	Non-Riverine	PSS1A	0.37
3	GC4	Riverine	PFO1A	0.16
4	ND23	Riverine	PFO1A	0.70
5	GE7	Riverine	PFO1A	0.05
Total Permanent Wetland Impacts				1.28

Impacts to Waters of the United States

Site 1 (L 53+20 to 56+48)
Road widening will result in an expanded fill slope that will impact a pond and the fringe wetland between the pond and existing edge of pavement.

Site 2 (L 85+58 to 86+08)
A 54" pipe will be installed on a skew to relocate a portion of UT1 to Sixmile Creek that takes a 45° jog prior to crossing under NC 16. The relocation removes the sharp angle from the stream and allows it to be culverted under the expanded road design. This proposed activity will result in permanent stream impacts.

Site 3 (L 124+36 to 126+81)
A four-barrel box culvert, carrying Sixmile Creek will be replaced with a bridge that spans the creek. The top and sides of the existing culvert will be removed with the bottom slab left in place to minimize disturbance to the stream. This proposed activity will result in no permanent stream impacts; however, the bridge construction will result in permanent wetland impacts from an abutment being placed in a wetland.

Site 4 (L 145+26 to 145+25)
A 36" pipe extension, carrying the UT2 to Sixmile Creek, will be installed resulting in permanent stream impacts. Road widening will also result in permanent wetland impacts due to expanding fill slopes.

Site 5 (L 193+96 to 194+32)
A 3' x 4' box culvert carrying UT1 to Flat Branch will be replaced by a 72" pipe on a slightly different alignment immediately to the south. This proposed activity will result in permanent stream impacts. The expanding fill slope from the road widening will also result in permanent wetland impacts; however, this action will not result in a total take of the wetland which will still receive sheet flow from the north and east.

Site 6 (L 203+57 to 203+68)
An existing 66" pipe, carrying UT2 to Flat Branch, will be extended to accommodate the proposed road widening resulting in permanent stream impacts.

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 December 11, 2006, the U.S. Fish and Wildlife Service (USFWS) lists three federally protected species for Union County (Table 1) and five for Mecklenburg County (Tables 1 and 2). Concurrence for the Carolina Heelsplitter mussel was received from the USFWS in a letter dated October 15, 2004. In March 2006, the Carolina Heelsplitter mussel was found in Sixmile Creek over six miles downstream of the subject project in South Carolina. In April 2006, USFWS stated that concurrence was still valid for this project but requested another survey for Carolina Heelsplitter. On April 18, 2006, another survey for Carolina Heelsplitter was conducted by NCDOT personnel

in Sixmile Creek and found no endangered mussels. Surveys for Michaux's Sumac and Smooth Coneflower were conducted on June 13, 2006 with no specimens found.

Table 1. Federally Protected Species for Mecklenburg/Union County

Common Name	Scientific Name	Habitat	Status	Biological Conclusion
Schweinitz's Sunflower	*Helianthus schweinitzii*	Yes	Endangered	No Effect
Carolina Heelsplitter	*Lasmigona decorata*	Yes	Endangered	May Effect, Not Likely to Adversely Effect
Michaux's Sumac	*Rhus michauxii*	Yes	Endangered	No Effect

Table 2. Additional Federally Protected Species for Mecklenburg County

Common Name	Scientific Name	Habitat	Status	Biological Conclusion
Bald Eagle	*Haliaeetus leucocephalus*	No	Threatened	No Effect
Smooth Coneflower	*Echinacea laevigata*	Yes	Endangered	No Effect

A January 7, 2003 letter from North Carolina Wildlife Resource Commission (NCWRC) requested 'Design Standards for Sensitive Watersheds' for this project because at the time of writing the potential presence of the endangered Carolina heelsplitter mussel had not been resolved. The mussel surveys conducted by NCDOT in August 2004 and April 2006 found no endangered mussels therefore, we believe 'Design Standards for Sensitive Watersheds' for this project is not warranted.

INDIRECT CUMULATIVE IMPACT ANALYSIS

Existing rules for the 401 Water Quality Certification Program (15A NCAC 2H .0506(b)(4)) require that the NCDWQ determine that a project "does not result in cumulative impacts, based on past or reasonably anticipated future impacts, that cause or will cause a violation of downstream water quality standards."

An Indirect and Cumulative Effects Report (ICE) was completed for this project in June 2005 and forwarded to NCDWQ. Project related growth effects to study area natural resources are expected to be moderate. All other projected indirect impacts should be low to negligible. Additional copies of the report are available upon request.

CULTURAL RESOURCES

Archaeology & Historical Structures: Archaeological resource survey work was conducted to determine if significant archaeological resources might be disturbed. In a letter dated October 7, 1999, two recorded archaeological sites were studied and were determined to be not eligible for the National Register by NCDOT archaeologists with concurrence from the State Historical Preservation Officer (SHPO). See attached letter.

In a letter dated August 17, 1998, SHPO stated that the John Walker Matthews House and the Howard Family House in Weddington are eligible for the National Register. The proposed project will have no adverse effects upon these two properties if the road widening takes place on the opposite side of the road. See attached letter.

FEMA COMPLIANCE

Mecklenberg/Union Counties are currently participants in the National Flood Insurance Regular Program. The NC 16 widening project is currently in compliance with FEMA regulations. The replacement of the box culvert on Sixmile Creek with a bridge will increase flood plain area. Therefore, no further studies are required.

WILD AND SCENIC RIVER SYSTEM

The 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).

MITIGATION

The Corps of Engineers 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. Mitigation of wetland and surface water impacts has been defined by the CEQ to include: avoiding impacts, minimizing impacts, rectifying impacts, reducing impacts over time and compensating for impacts (40 CFR 1508.20). Executive Order 11990 (Protection of Wetlands) and Department of Transportation Order 5660.1A (Preservation of the Nations Wetlands), emphasize protection of the functions and values provided by wetlands. These directives require that new construction in wetlands be avoided as much as possible and that all-practicable measures are taken to minimize or mitigate impacts to wetlands.

Avoidance and Minimization: This project has been designed using asymmetrical widening. Using this method, the department has avoided impacting many wetlands and streams and reduced impacts to wetlands to the greatest extent practicable. Other specific examples of avoidance and minimization measures include:

- The removal of a four barrel culvert carrying Sixmile Creek and replacing the structure with a bridge that spans the creek.
- The removal and replacement of all perched culverts. These structures will be buried a minimum of 1 foot to accommodate the passage of aquatic organisms.
- 2:1 slopes in wetlands
- Preformed scour holes and energy dissipation basin
- The project will be built along existing roadway thereby minimizing impacts to natural resources
- Bottom slab from culvert removal in Sixmile Creek left in place to minimize disturbance to the stream

- Design Standards in Sensitive Watersheds will be implemented to minimize erosion/sedimentation loss during construction phase with any temporary or permanent herbaceous vegetation to be planted on all bare soil as soon as possible and within 15 working days of ground disturbing activities to provide long-term erosion control.

Compensatory Mitigation: Based upon the agreements stipulated in the "Memorandum of Agreement Among the North Carolina Department of Environment and Natural Resources, the North Carolina Department of Transportation, and the U.S. Army Corps of Engineers, Wilmington District" (MOA), it is understood that the North Carolina Department of Environment and Natural Resources Ecosystem Enhancement Program (EEP), will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for NCDOT projects. The offsetting mitigation will derive from an inventory of assets already in existence within the same 8-digit cataloguing unit. The Department has avoided and minimized impacts to jurisdictional resources to the greatest extent possible as described above. The remaining, unavoidable impacts will be offset by compensatory mitigation provided by the EEP program. EEP will provide mitigation for 0.91 acre of riverine wetland, 0.37 acre of nonriverine wetland and 458 linear feet of stream impacts. A copy of this acceptance by the EEP is included in this application package.

REGULATORY APPROVALS

Application is hereby made for a Department of the Army for a Section 404 Individual Permit and a Section 401 Water Quality Certification for the above described activities. In compliance with Section 143-215.3D(e) of the NCAC we will provide $475.00 to act as payment for processing the Section 401 permit application previously noted in this application (see Subject line). We are providing five copies of this application to the North Carolina Department of Environment and Natural Resources, Division of Water Quality. NCDOT requests a permit expiration date of five years from date of issue to allow for completion of project construction.

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Mr. Jeffrey Hemphill (919) 715-1458. A copy of this application will also be posted at
www.ncdot.org/doh/preconstruct/pe/neu/permit.html.

Sincerely,

E. L. Luck

for Gregory J. Thorpe, Ph.D., Environmental Management Director
Project Development and Environmental Analysis Branch

W/attachment

Mr. John Hennessy, NCDWQ (5 Copies)
Ms. Marella Buncick, USFWS
Ms. Marla Chambers, NCWRC
Ms. Kathy Matthews, USEPA – Whittier, NC
Mr. Ronald Mikulak, USEPA – Atlanta, GA
Mr. Clarence W. Coleman, P.E., FHWA
Mr. David Chang, P.E., Hydraulics
Mr. Greg Perfetti, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. Barry Moose, P.E., Division Engineer
Mr. Larry Thompson, DEO

W/o attachment

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
Ms. Beth Harmon, EEP
Mr. Todd Jones, NCDOT External Audit Branch
Mr. Carl Goode, PE
Mr. Wayne A. Jacas, PDEA

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT (33 CFR 325)	OMB APPROVAL NO. 071-0003 Expires December 31, 2004

The 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 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

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413. 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 processed 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. APPLICANTS NAME Gregory J. Thorpe, Ph.D., Environmental Management Director Project Development and Environmental Analysis North Carolina Department of Transportation	8. AUTHORIZED AGENTS NAME AND TITLE (an agent is not required) Not applicable
6.APPLICANTS ADDRESS 1598 Mail Service Center Raleigh, North Carolina 27699-1548	9. AGENTS ADDRESS
7. APPLICANTS PHONE NOS. WITH AREA CODE a. Residence b. Business (919) 715-1458	10. AGENTS PHONE NOS. WITH 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 OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE(*see instructions*)
NC 16 Widening, State Project No. 8.1672801, TIP No. U-2510A

13. NAME OF WATERBODY, IF KNOWN (*if applicable*) Sixmile Creek (DWQ# 11-138-3) & Flat Branch (DWQ# 11-138-3-2)	14. PROJECT STREET ADDRESS (*if applicable*) NA
LOCATION OF PROJECT **Mecklenberg/Union** COUNTIES — **NC** STATE	

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (*see instructions*)
Please see attached cover letter

17. DIRECTIONS TO THE SITE
See the attached permit drawings: Sheet 1 of 23

18. Nature of Activity (*Description of project, include all features*)
Transportation Improvement Program (TIP) project U-2510A
Widening of NC16 (Old Providence Road) to a four-lane divided highway for 3.6 miles from south of SR 2948 (Rea Road Extension) to I-485 (Charlotte Outer Loop) These improvements are proposed to increase carrying capacity of the existing facility and safely provide increased accessibility between Weddington-Union County and Charlotte-Mecklenburg County.

19. Project Purpose (*Describe the reason or purpose of the project, see instructions*)
These improvements are proposed to increase carrying capacity of the existing facility and safely provide increased accessibility between Weddington-Union County and Charlotte-Mecklenburg County.

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

20. Reason(s) for Discharge
Widening of existing roadway will impact jurisdictional waters of the US

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards
Discharge materials will consist of earthen fill & riprap. See the attached permit drawings for fill impacts in acres: Sheet 4 of 23

22. Surface Area in Acres of Wetlands or Other Waters Filled (*see instructions*)
See impact summary table in the attached permit drawings: Sheet 4 of 23

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).
Please see affected adjacent landowner table in the attached permit drawings.

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 is 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. Lurk for Gregory J. Thorpe, PhD 1·31·07

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 manor 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 of entry, shall be fines not more than $10,000 or imprisoned not more than five years or both.

Ecosystem Enhancement PROGRAM

June 6, 2006

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

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

U-2510A, NC 16 (Old Providence Road) Widening from NC 84 (Rea Road Extension) to South of I-485 (Charlotte Outer Loop), Mecklenburg and Union Counties

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the wetland and stream mitigation for the subject project. Based on the information supplied by you in a letter dated April 24, 2006, the impacts are located in CU 03050103 of the Catawba River Basin in the Southern Piedmont (SP) Eco-Region, and are as follows:

Riparian Wetland Impacts:	0.9099 acre
Non-Riparian Wetland Impacts:	0.3747 acre
Stream Impacts:	458 feet

If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP. If you have any questions or need additional information, please contact Ms. Beth Harmon at (919) 715-1929.

Sincerely,

James B. Stanfill for

William D. Gilmore, P.E.
EEP Director

cc: Mr. Steve Lund, USACE-Asheville
Mr. John Hennessy, Division of Water Quality, Wetlands/401 Unit
File: U-2510A

North Carolina Department of Cultural Resources
State Historic Preservation Office

James B. Hunt Jr., Governor
Betty Ray McCain, Secretary

Division of Archives and History
Jeffrey J. Crow, Director

October 7, 1999

William D. Gilmore, PE, Manager
Project Development and Environmental Analysis Branch
Division of Highways
Department of Transportation
1548 Mail Service Center
Raleigh, NC 27699-1548

Re: NC 16, from NC 84 to existing four lanes, 8.1672801, U-2510, Mecklenburg and Union Counties, ER 91-8279, ER 00-7319

Dear Mr. Gilmore:

We have received the archaeological report for the above project from NCDOT.

During the course of the survey two archaeological sites were located within the project area. Lee Tippett, NCDOT archaeologist, has recommended that no further archaeological investigation be conducted in connection with this project. We concur with this recommendation since this project will not involve significant archaeological resources.

The following properties were determined not eligible for listing in the National Register of Historic Places:

31MK583**	historic domestic site	lack of research potential
31UN253	prehistoric lithic scatter	lack of research potential

The above comments are made pursuant to Section 106 of the National Historic Preservation Act of 1966, the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106, codified at 36 CFR Part 800, and to Executive Order 11593, "Protection and Enhancement of the Cultural Environment."

Thank you for your cooperation and consideration. If you have questions concerning the above comments, please contact Ms. Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763.

Sincerely,

David Brook

David Brook
Deputy State Historic Preservation Officer

DB:bjs

cc: Claggett/Oliver
Thomas Padgett, NCDOT

RECEIVED

	Location	Mailing Address	Telephone/Fax
ADMINISTRATION	507 N. Blount St., Raleigh NC	4617 Mail Service Center, Raleigh NC 27699-4617	(919)733-4763/733-8653
ARCHAEOLOGY	421 N. Blount St., Raleigh NC	4619 Mail Service Center, Raleigh NC 27699-4619	(919)733-7342/715-2671
RESTORATION	515 N. Blount St., Raleigh NC	4613 Mail Service Center, Raleigh NC 27699-4613	(919)733-6547/715-4801
SURVEY & PLANNING	515 N. Blount St., Raleigh NC	4618 Mail Service Center, Raleigh NC 27699-4618	(919)733-6545/715-4801

Hart | Brewer

North Carolina Department of Cultural Resources

James B. Hunt Jr., Governor
Betty Ray McCain, Secretary

Division of Archives and History
Jeffrey J. Crow, Director

August 17, 1998

MEMORANDUM

TO: William D. Gilmore, P.E., Manager
Planning and Environmental Branch
Division of Highways
Department of Transportation

FROM: David Brook
Deputy State Historic Preservation Officer

SUBJECT: NC 16 from Rea Road extension to Charlotte Outer Loop, Union and Mecklenburg Counties, U-2510A, 98-E-4220-0813

RECEIVED
AUG 20 1998
DIVISION OF HIGHWAYS
PLANNING & ENVIRONMENTAL BRANCH

In our letter of July 27, 1998, to you concerning the above project, we requested an opportunity to meet to discuss what effects the project would have on the National Register-eligible John Walker Matthews House and the Howard Family House. We now realize that an effects determination was made at a June 13, 1996, meeting, and that a concurrence form was signed agreeing that the project's effects on the properties would not be adverse if widening takes place on the opposite side of the road. In addition, the North Carolina Department of Transportation agreed to provide us with an opportunity to review the plans once they are complete and to comment on the access provided for the properties. We apologize for our oversight.

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 919/733-4763.

DB:slw

cc: N. Graf
B. Church
Monroe-Union County Historic Properties Commission

Subject: Draft Minutes of the Interagency Drainage Review Meeting (4B) on November 22, 2004 for U-2510A Mecklenburg and Union Counties.

Team Members:		Participants:
Steve Lund – USACE	PRESENT	Marshall Clawson – NCDOT Hydraulics Unit
* Brian Wrenn – NCDWQ	ABSENT	Dan Duffield – NCDOT Hydraulics Unit
Marla Chambers – NCWRC	PRESENT	Jamie Byrd – Transite Consultant Engineers
Undrea Major – NCDOT PDEA	ABSENT	Roy Girolami – NCDOT Structures Design
Chris Underwood – NCDOT ONE	PRESENT	Larry Thompson – NCDOT/DIV 10
Chris Militscher – USEPA	PRESENT	Joel Howard – NCDOT/DIV 10
Marella Buncick – USFWS	ABSENT	Aldie Whitmore – NCDOT/DIV 10
		Danny Puryear – Project Services Utilities
*Substitute – John Hennessy	PRESENT	Teresa Bruton – Roadway Engineer Coordination

The meeting began 3:15 pm.

Comments via e-mail from Marla Chambers –NCWRC

I'm unable to attend, but I have reviewed the preliminary plan sheets. I don't see very many crossings, but concur with the bridge over Six-Mile Creek, which is 303(d) waters. My main concern is with stormwater treatment and use of curb and gutter. This is a rapidly growing area of our state, with increasing imperviousness. Stormwater treatment needs to be provided along the project to prevent further degradation of water quality. Low Impact Development techniques are recommended. We would also like to encourage NCDOT to consider using non-impervious materials to construct sidewalks.

Marshall (MC) – Brief Project TIP

ALL – Introduction of all

John Henessy (JH) – Has avoidance and minimization been met on this project?

Discussion – About avoidance and minimization and project length, etc.

Teresa Bruton (TB) – Overview of alighnement, typical, project length, logical termini of project.

(JH) – What about the whole project U-2510?

(MC) – The "B" section is built to the north. B came first and now A there are no other projects for U-2510

Chris Militscher (CM) – Where is the county line?

(MC)(JB) – At the culvert at Six Mile Creek

(CM) – Who's the PD&EA Manager?

(MC) - Undrea Major

(CM) – When was the EA complete?

Chris Underwood (CU) – 2002

Sheet 4:

(JB) – Overview

Sheet 5:

(JB) – Overview of drainage

(JH) – Endangered Species?

(CU) – None

Steve Lund (SL) – What's the median width?

(JB) – 17' 6"

Sheet 6:

(JB) – Overview of drainage

(CM) – What's the design speed?

(TB) – Designed for 50 posted for 45

(JH) – Jurisdictional streams?

(JB) – Yes, there are a few JD calls but we haven't gotten to them yet

Sheet 7:

(JB) – Overview of drainage – Impacts to pond and wetland

(JH) – Why shift the road toward the pond?

(JB)- We were told to stay off the Historical Site

(JB)- Continue the overview of drainage and keeping the offsite separate from the roadway drainage

Sheet 8:

(JB) – Overview of drainage

Discussion about realignment of Weddington – Matthews Road

(JH) – How much additional impacts?

(JB) – What surface water and wetland impacts?

(JH) – Yes

(SL) – The amount will decide if its an individual permit or EA

Discussion on safety, traffic, and the church

(CM) – Wants to see all alternates for the Y-line relocation

(CM) – Wants to have a 4A meeting

(JH) – Yes, impacts plus possibly a 4A meeting

(CM) – What would be the typical?

(TB) – 2 lane with 8' shoulders

(CM) – What about funding?

(TB) – It was looked at both ways, with the current project and as a separate project

Discussion about the additional impacts

(JB) – Continue with overview

Sheet 9:

(JB) – Overview of drainage

Sheet 10:

(JB) – Overview of drainage – Treatment of offsite because of an uneconomical remnant left over. Huge sliver adjacent to the R/W. Going to ditch and treat offsite drainage and keep it separate from DOTs drainage. The crossing is JD.

Sheet 11:

(JB) – Overview of drainage

Sheet 12:

(JB) – Overview of drainage. RCBC is existing and we are replacing it with a bridge.

Discussion about removal of RCBC.

(JH) – Would like to see it removed

Sheet 13:

(JB) – Overview of drainage.

Sheet 14

(JB) – Overview of drainage. Wetlands and a JD stream. Offsite is maintained separate from roadway drainage. PSH and energy dissipaters in the wetlands in the wetlands.

(JH) – Rock splash pads are fine as long as you have less than 2 ft/sec on a 10 year event.

(CM) – Whats the total impact on the wetlands?

(MC) – We can get that for you (550'x 60'=33000) / 43,560 = 0.75 ac which is greater than 0.5 ac so the permit will be an IP

Sheet 15

(JB) – Overview of drainage. Drainage to pond on Golf Course.

Sheet 16

(JB) – Overview of drainage.

(CM) – What's the length of this project?

(JB) – 3.6 miles

(JB) – Continue with overview

Sheet 17

(JB) – Overview of drainage and replacement of 3'x 5' RCBC with a 72" pipe

(JH) – Why widen away from the Development? Wiping out the wetland

(TB) – It's a straight tangent.

(JH) – What's the Wetlands quality?

(CU) – None of the wetlands on this project are high quality.

Sheet 18

(JB) – Finish drainage review

Any outstanding questions or concerns about avoidance and minimization?

(CM) – None

(SL) – None

(JH) – Last Wetland

Meeting Adjourned 4:40 pm

Subject: Draft Minutes of the Interagency Drainage Review Meeting (4C) on May 11, 2005 for U-2510A Mecklenburg and Union Counties.

Team Members:		Participants:
Steve Lund – USACE	PRESENT	Marshall Clawson – NCDOT Hydraulics Unit
Brian Wrenn – NCDWQ	PRESENT	Dan Duffield – NCDOT Hydraulics Unit
Marla Chambers – NCWRC	ABSENT	Jamie Byrd – Transite Consultant Engineers
*Undrea Major – NCDOT PDEA	ABSENT	Roy Girolami – NCDOT Structures Design
Chris Underwood – NCDOT ONE	PRESENT	Aldie Whitmore – NCDOT/DIV 10
Chris Militscher – USEPA	PRESENT	Mark Staley – Roadside Environmental
Marella Buncick – USFWS	PRESENT	Polly Lespinasse - NCDWQ
*Substitute -Charles Cox - PDEA	PRESENT	

The meeting began 2:00 pm.

Comments via e-mail from Marla Chambers –NCWRC

Sorry I won't make it to the meeting. I've reviewed the plans and don't see any major concerns. I would still like to see stormwater treatment maximized. It would be nice to have some additional info on the wetland on sheet 14. (how large is the wetland, what quality, etc.) I would also like to encourage the use of floodplain drains (flood overflow pipes) in the road fill in the floodplains that will spread out flood flows, not channel them through a narrow location, which should reduce stream channel impacts up & downstream and reduce flooding. Also I noticed that in the last meeting minutes, there was a request for a 4A meeting & alternatives for the Y-line relocation on sheet 8. What has happened with that?

Marshall (MC) – Brief Project description and TIP

ALL – Introduction of all

Jamie Byrd (JB) – Permit Review so we'll be looking at the permitted sites only

Site 1 – Pond

JB – Overview of impacts

Brian Wrenn (BW) – Is the pond going to be drained?

JB – No

Steve Lund (SL) – Where are the site numbers

JB- Explained that there were some plotting problems, this will be corrected

Discussion about pond and also Weddington Road being realigned. Per the Division the road is currently staying where it is.

Mark Staley (MS) – What about the impacts around the pond? We'll need some room for erosion control.

JB – So, what do you need me to show?

MS – Dots/stars with Cross hatching, basically a double pattern

Discussion about how to show the impacts, weather to show dots, dots w/cross hatching, just show the impact on the summary or what.

Chris Militscher (CM) – Just Note it on the table

SL – Temporary fill?

MS – Yes, basically silt fence and temporary stone

MC – So, the drawings stays the same, just note it on the summary

SL – No, it needs shown on the plan view as well

SITE 2 Surface Water Impacts

JB –Overview of Impacts

SL – New pipe?

JB – Yes

BW – Any Diversion channels?

JB – No

MC – That's only on larger structures

Charles Cox (CC) – Are we raising the grade some?

JB – 4' to 5' at the max (most extreme point) it's general construction

Marella Buncick (MB) – outlets downstream of the pond?

JB – Yes

SITE 3 Bridge

JB – Overview of culvert removal by the division

BW – Shouldn't the impacts be temporary instead of permanent

JB – It's a culvert removal

BW – Still the impacts are temporary

Discussion about impacts

MC – Chris just needs to subtract out the 40'

BW – Subtract out the impacts and note as restoration

Chris Underwood (CU) – Right

SL – Just note on the summary as "No Channel Loss"

More discussion about how much culvert to remove

Everyone is agreeing to remove the top slab and all of the sides and leave the bottom.slab

BW – No deck drains over the water

JB – Some deck drains are required for safety/spread reasons, but none directly over water

SITE 4 Surface water impacts and wetlands

MS – Same question about temporary fill in the wetlands it needs a special hatching with dots/stars

JB – Overview

JB – Crossing is being taken out separate we are not adding any surface water run off to the stream

JB – Question to Roadside, show this entire length as temporary fill

MS – Yes

SITE 5 Surface water impacts and wetlands

JB – Overview of surface water impacts and small wetlands associated with the culvert replacement

BW – Is this a total take

JB – No we don't know how far the wetlands extend

BW – It looks like a small wetland

MC – Need to get Chris out there to look at it.

SL – Just have Larry Thompson look at it

JB – He need to look at both sites 4 and 5 and make a call as to where the limits extend to

Meeting adjourned at 3:00 pm

Temporary Fill in Wetlands for Erosion & Sediment Control Measures:

The areas permitted for Mechanized or Hand Clearing in Wetlands on this project will include zones for Temporary Fill in Wetlands for Erosion & Sediment Control Measures. The Erosion and Sediment Control Measures that are considered temporary fill includes Special Sediment Control Fence and/or Temporary Rock Silt Check(s) Type A.

Special Sediment Control Fence:

Special Sediment Control Fence shall be placed as shown on the plans or as directed by the Engineer. The Special Sediment Control Fence shall consist of steel posts, ¼ inch hardware cloth, and sediment control stone. The sections of Special Sediment Control Fence shall serve as drainage outlets for Silt Fence and each section shall not exceed 10 ft. (3 m) in length and 2 ft. in width (0.6 m).

Materials:

(A) Posts:

Steel posts shall be at least 5 feet (1.5 m) in length, approximately 1 3/8 inches (35 mm) wide measured parallel to the fence, and have a minimum weight of 1.25 lb/ft (1.86 kg/m) of length. The post shall be equipped with an anchor plate having a minimum area of 14.0 square inches (9000 square millimeters), and shall have a means of retaining wire in the desired position without displacement.

(B) 1/4 inch (6.4mm) Hardware Cloth:

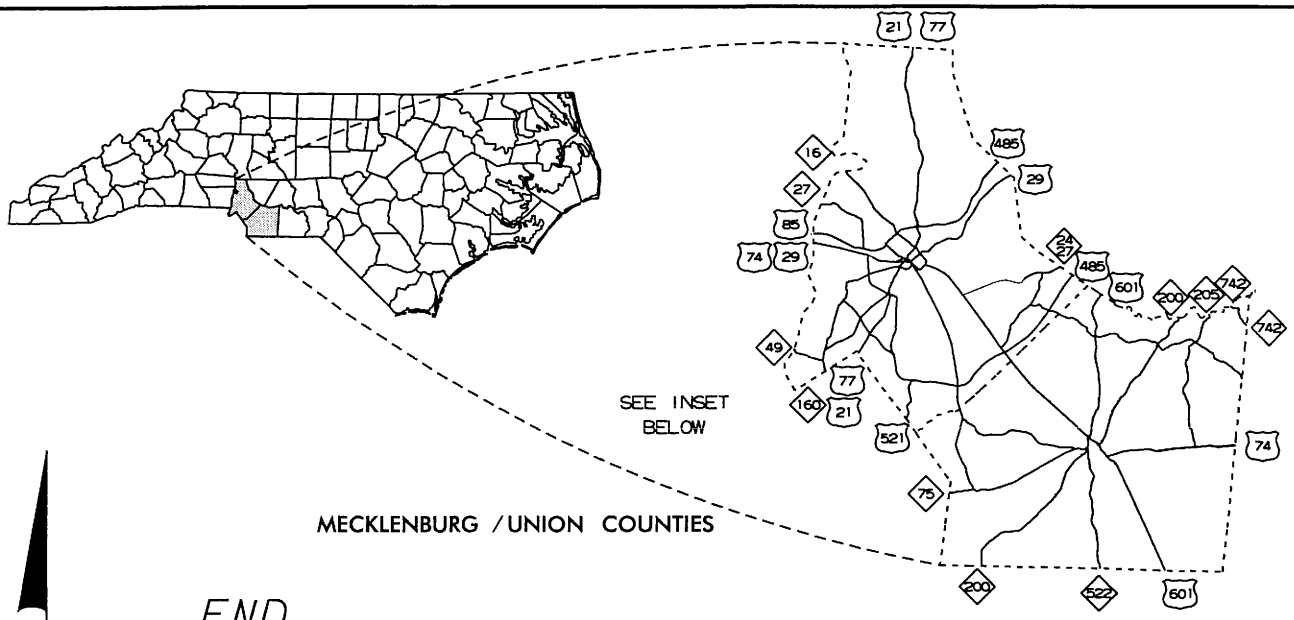
Hardware cloth shall have 1/4 inch (6.4mm) openings constructed from #24 gauge wire. The hardware cloth shall be installed according to Standard Drawing No. 1606.01 with a minimum of 2 ft. (0.6m) of the cloth placed on the ground beneath the Sediment Control Stone.

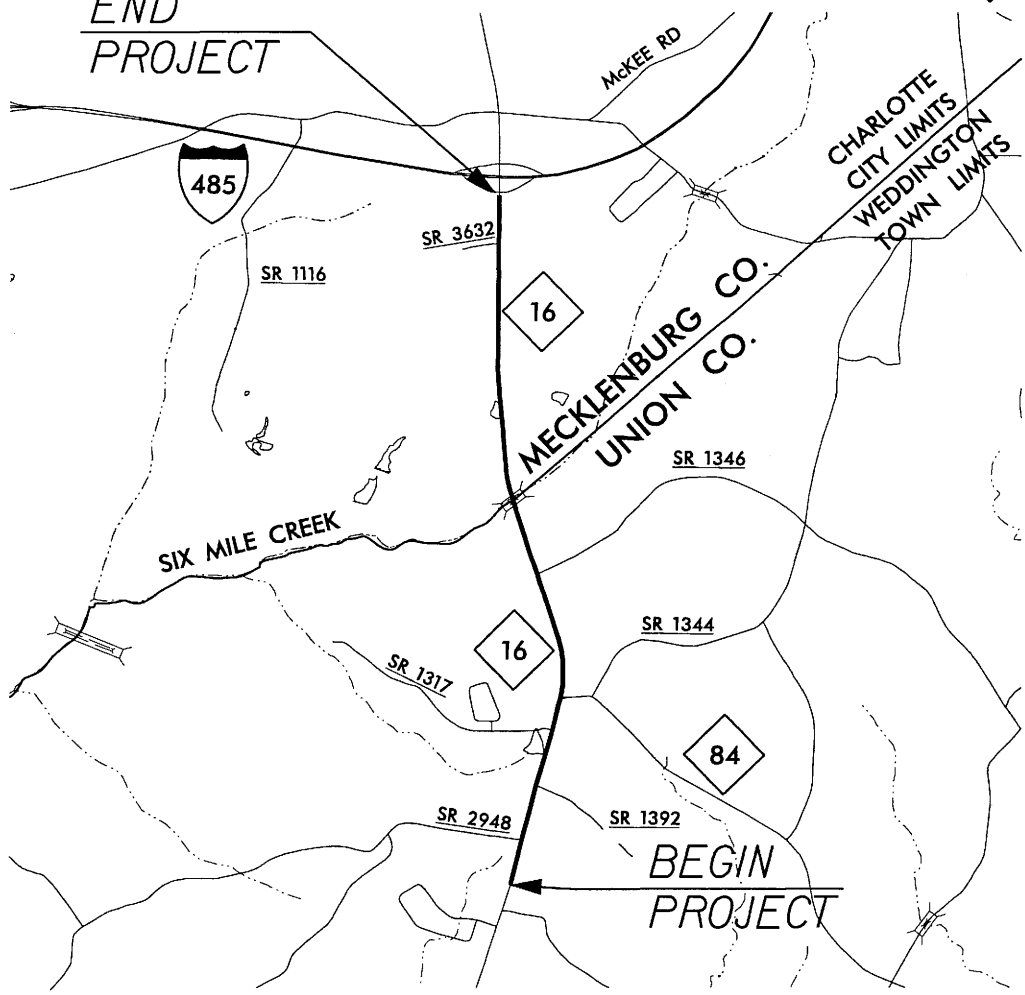
(C) Sediment Control Stone:

Sediment control stone shall meet the requirements of Section 1005 of the 2002 Standard Specifications for Roads and Structures. Install stone according to Standard Drawing No. 1606.01.

Maintenance and Removal:

The Contractor shall maintain the special sediment control fence until the project is accepted or until the fence is removed. The Contractor shall remove and dispose of silt accumulations at the fence when so directed by the Engineer in accordance with Section 1630 of the 2002 Standard Specifications for Roads and Structures. The special sediment





SCALE

.5 0 1 Mile

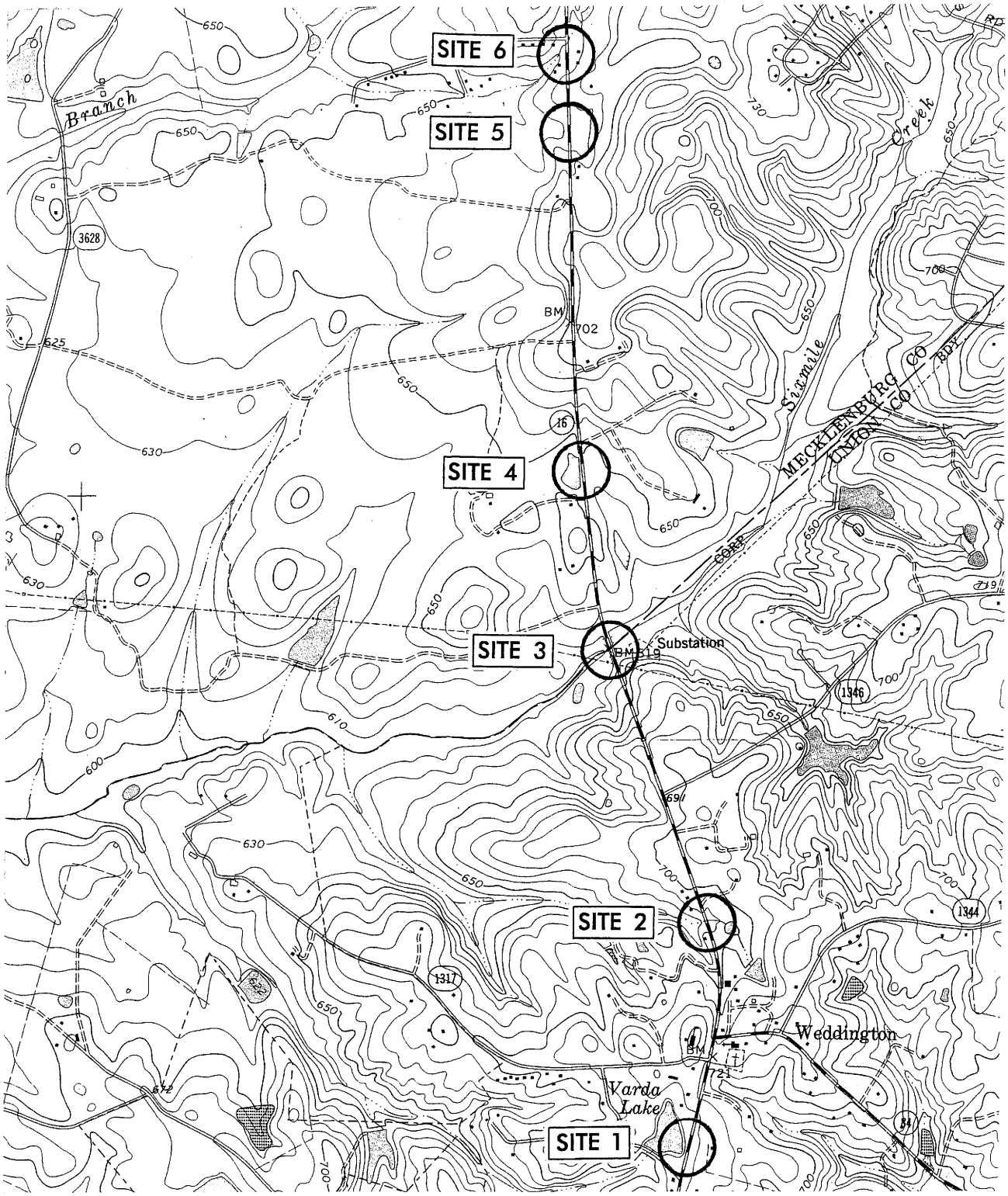
N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

MECKLENGURG / UNION COUNTY

PROJECT: 34813.1.1 (U-2510A)

NC 16 WIDENING

SHEET 1 OF 23 **01 / 25 / 05**



1000 0 2000

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

MECKLENGURG / UNION COUNTY

PROJECT: 34813.1.1 (U-2510A)

NC 16 WIDENING

SHEET 2 OF 23 01 / 25 / 05

REVISED 11 / 7 / 05

Project No. 34813.1.1 (U-2510A)

Property Owner List

Parcel Number	Name	Address
12	Grace S. Varda	127 Bluebird Lane Weddington, NC 28173
13	Harry F. Short	149 Providence Road South Weddington, NC 28173
14	Robin R. Branstrom	314 Eastover Road Charlotte, NC 28207
15	Roderick J. Smith	401 Henderson St. Mt. Olive, NC 28365
27	Fifty-Four Investment, LLC	4517 Randolph Road Charlotte, NC 28211
29	Micheal T. O'Brien	13429 Providence Road Mathews, NC 28105
48	Cy N. Bahakel	P O Box 32488 Charlotte, NC 28232
64	Hargett, LLC	210 Franklin Street Pineville, NC 28134
79	Maggie B. Moore	5117 Allison Lane Charlotte, NC 28277

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DIVISION OF HIGHWAYS

MECKLENGURG / UNION COUNTY

PROJECT: 34813.1.1 (U-2510A)

NC 16 WIDENING

SHEET 3 OF 23 01 / 25 / 05

REVISED 11 / 7 / 05

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS				SURFACE WATER IMPACTS				
			Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation In Wetlands (ac)	Mechanized Clearing (Method III) (ac)	Fill In SW (Natural) (ac)	Fill In SW (Pond) (ac)	Temp. Fill In SW (ac)	Existing Channel Impacted (ft)	Natural Stream Design (ft)
1	-L- 53+20 / 56+48	1 @ 24" RCP	0.3000			0.0700		0.0100			
2	-L- 85+58 / 86+08	1 @ 54" RCP					0.0200			162.0	
3	-L- 124+36 / 126+81		0.0900			0.0700					
	-L- 124+69 / 124+95	BRIDGE									
4	-L- 145+26 / 146+25	1 @ 36" RCP					0.0100			115.0	
	-L- 145+88 / 152+65		0.4600		0.0100	0.2300					
5	-L- 193+96 / 194+32	1 @ 72" RCP					0.0200			147.0	
	-L- 194+47 / 195+20		0.0400			0.0100					
6	-L- 203+57 / 203+68	1 @ 66" RCP								34.0	
TOTALS:			0.8900	-	0.0100	0.3800	0.0500	0.0100	0.0000	458.0	0.0

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
MECKLENBURG / UNION COUNTIES

PROJECT 34813.1.1 (U-2510A)

NC 16 WIDENING

Form Revised 1/21/03

SHEET 4 OF 23

Revised 3/15/06

LEGEND

---WLB--- WETLAND BOUNDARY

WLB WLB WETLAND

F F DENOTES FILL IN WETLAND

S S DENOTES FILL IN SURFACE WATER

P P DENOTES FILL IN SURFACE WATER (POND)

T T DENOTES TEMPORARY FILL IN WETLAND

E E DENOTES EXCAVATION IN WETLAND

TS TS DENOTES TEMPORARY FILL IN SURFACE WATER

DENOTES MECHANIZED CLEARING

—BZ— RIPARIAN BUFFER ZONE

FLOW DIRECTION

TB TOP OF BANK

WE EDGE OF WATER

C PROP. LIMIT OF CUT

F PROP. LIMIT OF FILL

PROP. RIGHT OF WAY

—NG— NATURAL GROUND

PL PROPERTY LINE

—TDE— TEMP. DRAINAGE EASEMENT

—PDE— PERMANENT DRAINAGE EASEMENT

—EAB— EXIST. ENDANGERED ANIMAL BOUNDARY

—EPB— EXIST. ENDANGERED PLANT BOUNDARY

WATER SURFACE

LIVE STAKES

BOULDER

COIR FIBER ROLLS

PROPOSED BRIDGE

PROPOSED BOX CULVERT

PROPOSED PIPE CULVERT

(DASHED LINES DENOTE EXISTNG STRUCTURES)

SINGLE TREE

WOODS LINE

DRAINAGE INLET

ROOTWAD

RIP RAP

5 ADJACENT PROPERTY OWNER OR PARCEL NUMBER IF AVAILABLE

RIP RAP ENERGY DISSIPATOR BASIN

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

MECKLENBURG / UNION COUNTY

PROJECT: 34813.1.1 (U-2510A)

NC 16 WIDENING

SHEET 5 OF 23 **01 / 25 / 05**

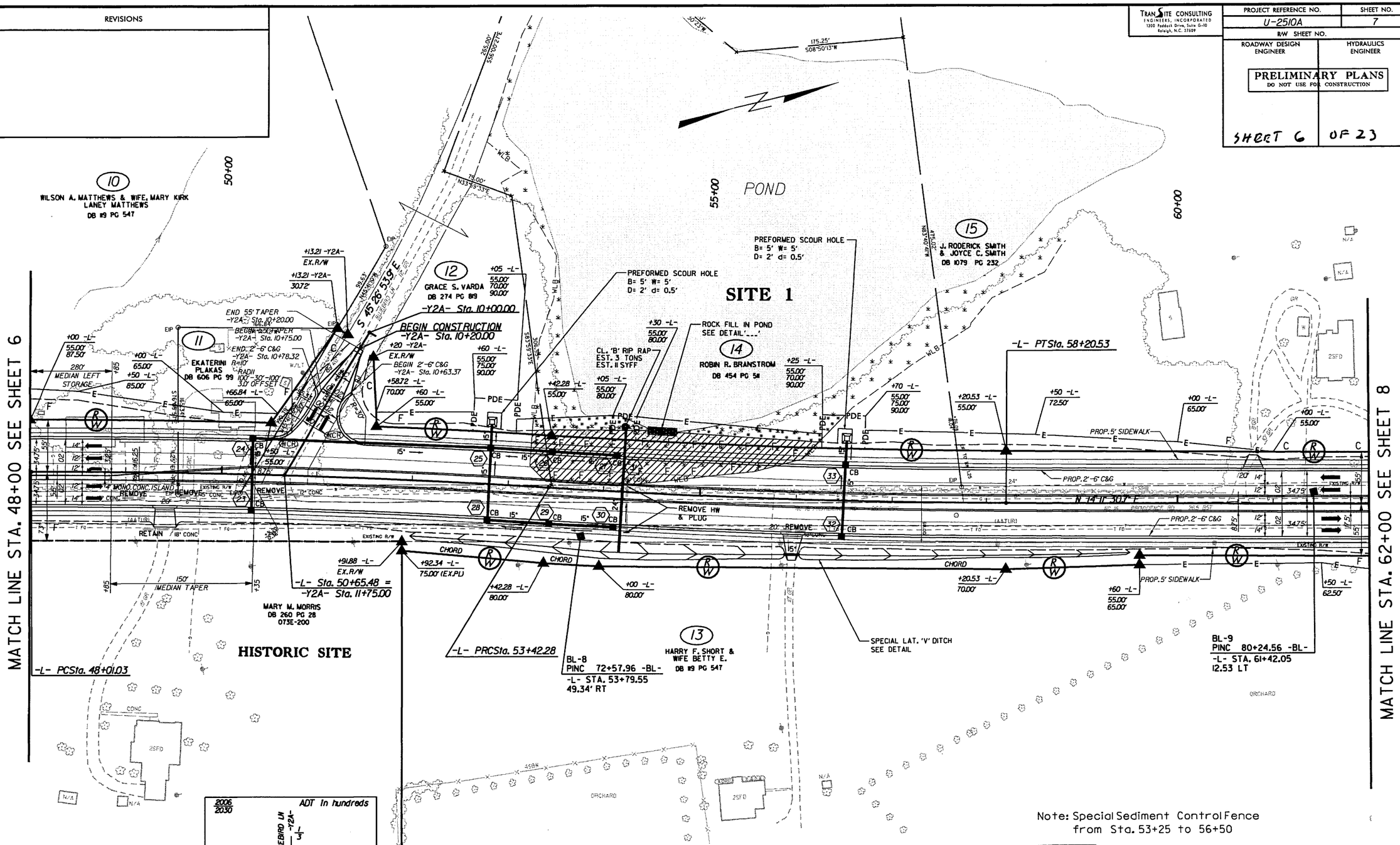
REVISIONS

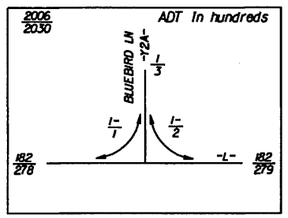
TRANSITE CONSULTING ENGINEERS, INCORPORATED
1300 Paddock Drive, Suite G-10
Raleigh, N.C. 27609

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

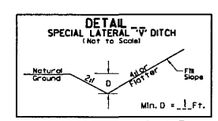
SHEET 6 OF 23



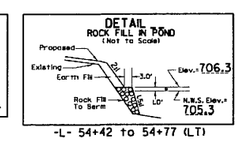


-L-

PI Sta 50+71.76	PI Sta 55+81.48
Δ = 3° 52' 35.2" (RT)	Δ = 3° 25' 30.5" (LT)
D = 0° 42' 58.3"	D = 0° 42' 58.3"
L = 541.26'	L = 478.24'
T = 270.73'	T = 239.19'
R = 8,000.00'	R = 8,000.00'
SE = NC	SE = NC



-L- 52+00 to 59+50 (RT)



-L- 54+42 to 54+77 (LT)

Note: Special Sediment Control Fence from Sta. 53+25 to 56+50

DENOTES FILL IN WETLANDS

DENOTES FILL IN SURFACE WATER (POND)

DENOTES MECHANIZED CLEARING

Rev. 5/26/05

SEE SHEET 23 FOR -L- PROFILE
SEE SHEET 29 FOR -Y2A- PROFILE

103.001.002/Roadway/Proj/u2510a_rdy_psh07

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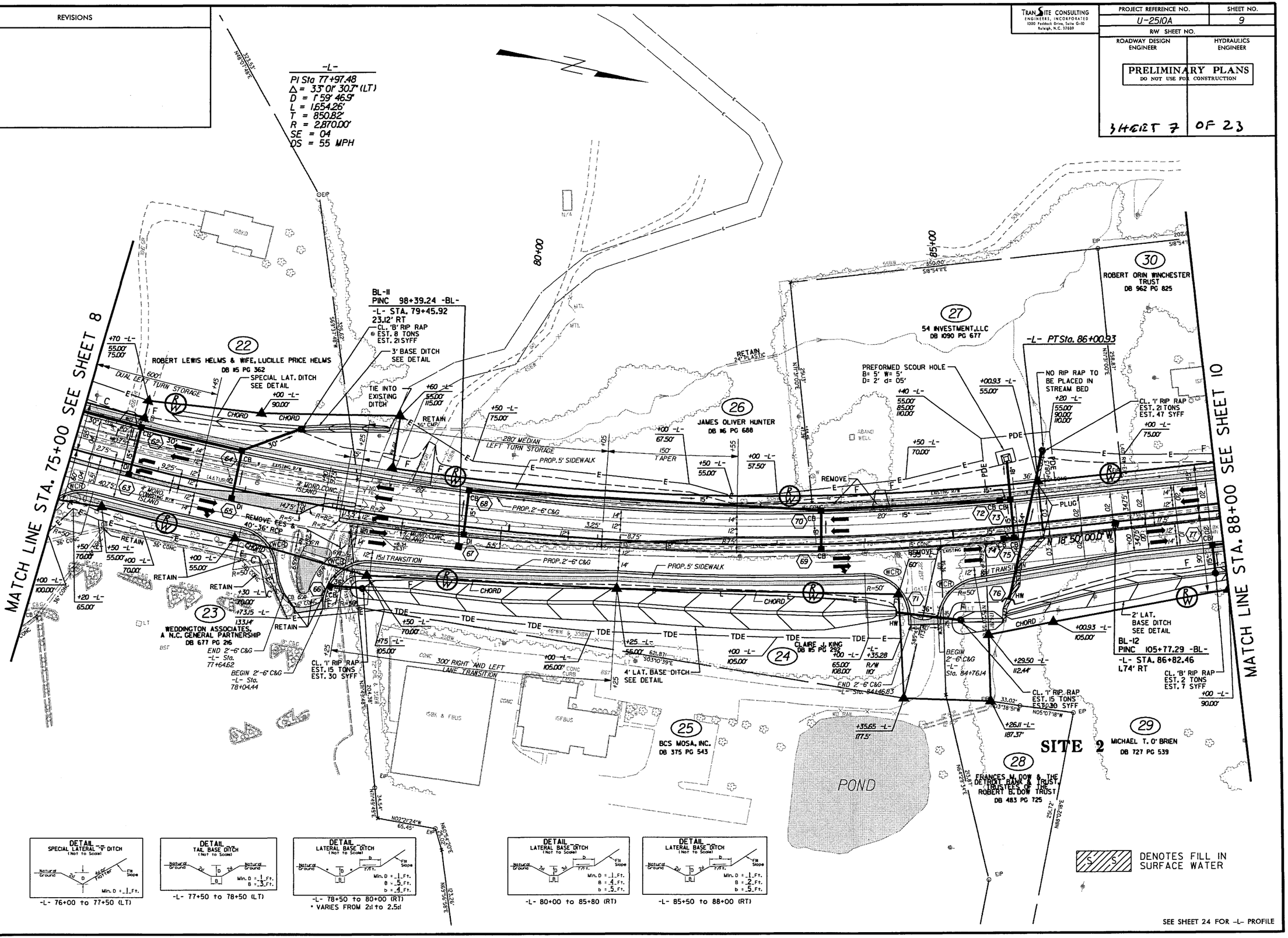
TRANSITE CONSULTING ENGINEERS, INCORPORATED
1200 Paddock Drive, Suite G-10
Raleigh, N.C. 27609

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHEET 7 OF 23



103.001.002/Roadway/Proj/u2510a_rdy_psh09

REVISIONS

TRANSITE CONSULTING ENGINEERS, INCORPORATED
1200 Peddoes Drive, Suite G-10
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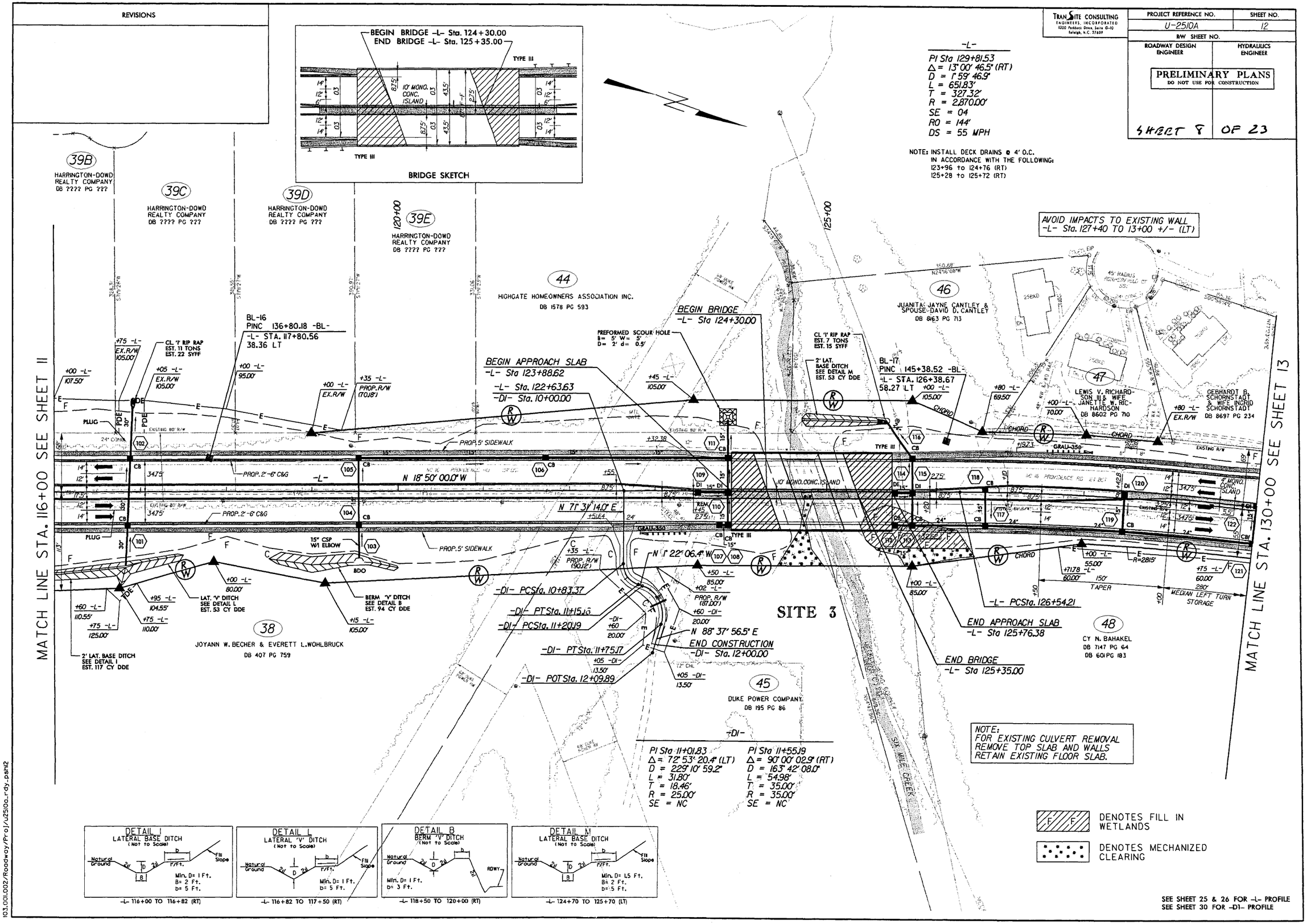
PROJECT REFERENCE NO.	SHEET NO.
U-2510A	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHEET 8 OF 23



SEE SHEET 25 & 26 FOR -L- PROFILE
SEE SHEET 30 FOR -DI- PROFILE

103.001.002/Roadway/Proj/u2510a_rdy.pshl2

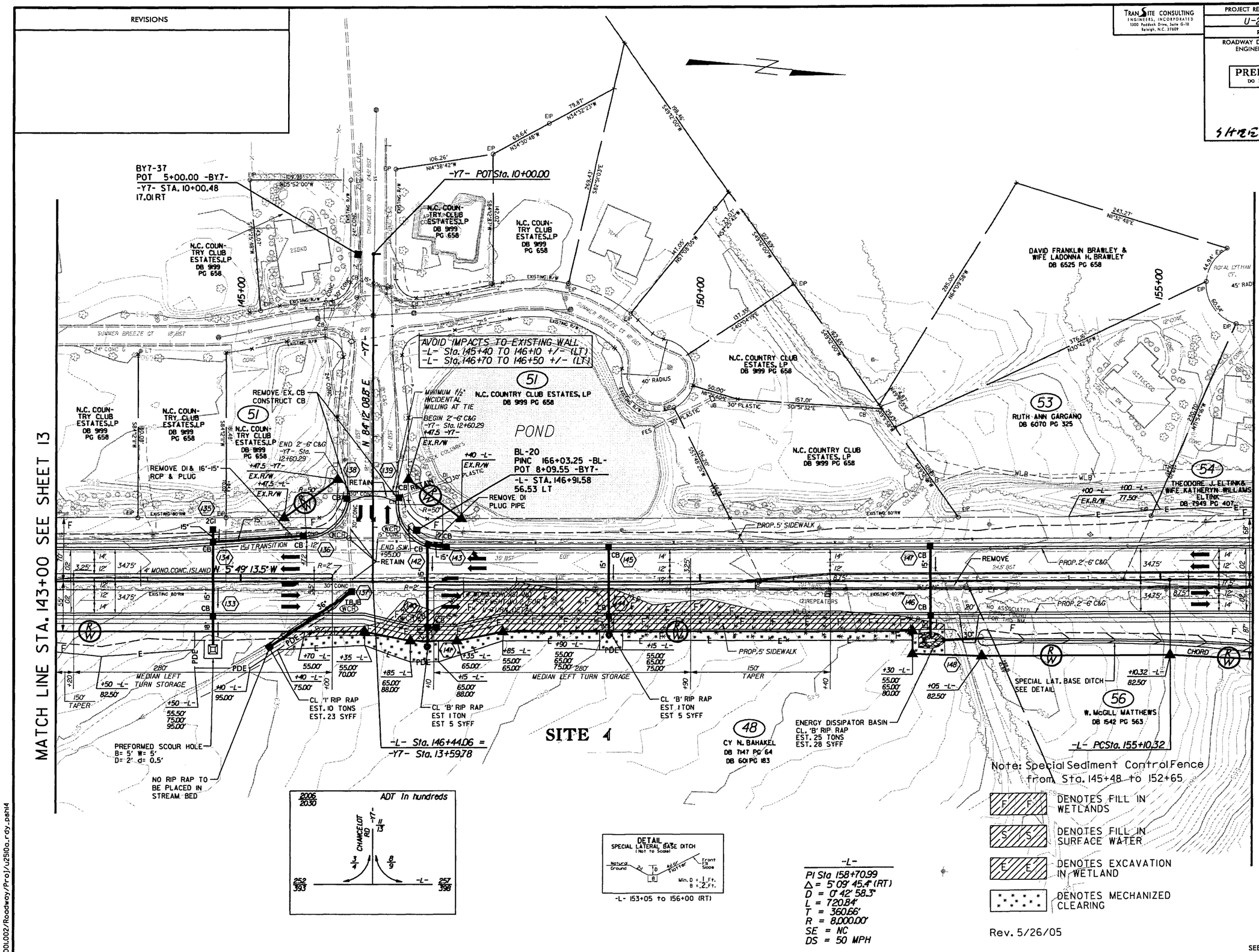
REVISIONS

TRANSITE CONSULTING ENGINEERS, INCORPORATED
1300 Paddock Drive, Suite G-10
Raleigh, N.C. 27609

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHEET 9 OF 23



Rev. 5/26/05

SEE SHEET 26 & 27 FOR -L- PROFILE

103.001.002/Roadway/Proj/u2510a_rdy.pshl4

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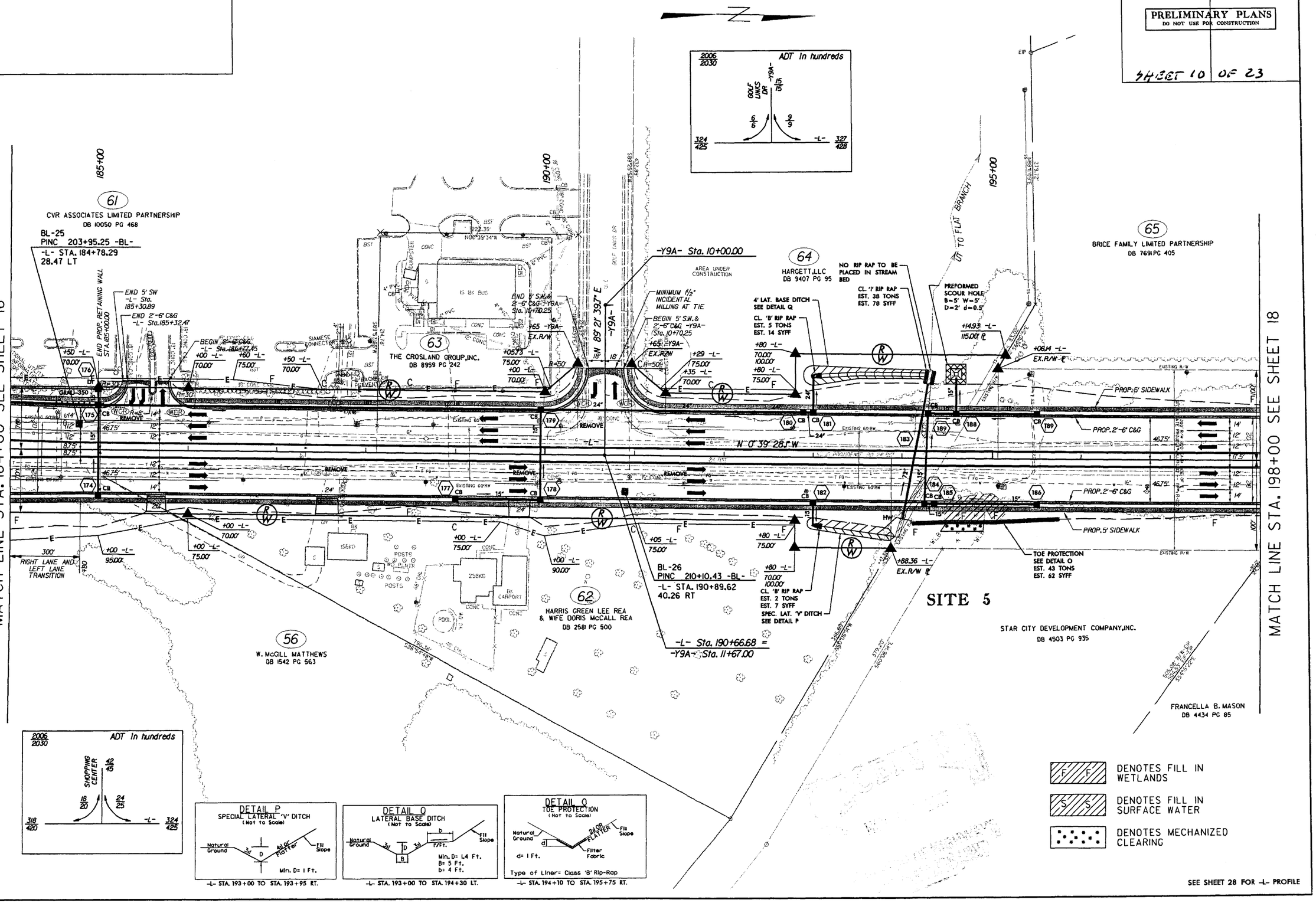
PROJECT REFERENCE NO.	SHEET NO.
U-2510A	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHEET 10 OF 23



SEE SHEET 28 FOR -L- PROFILE

103.001.002/Roadway/Proj/U2510a_rdy_pshi7

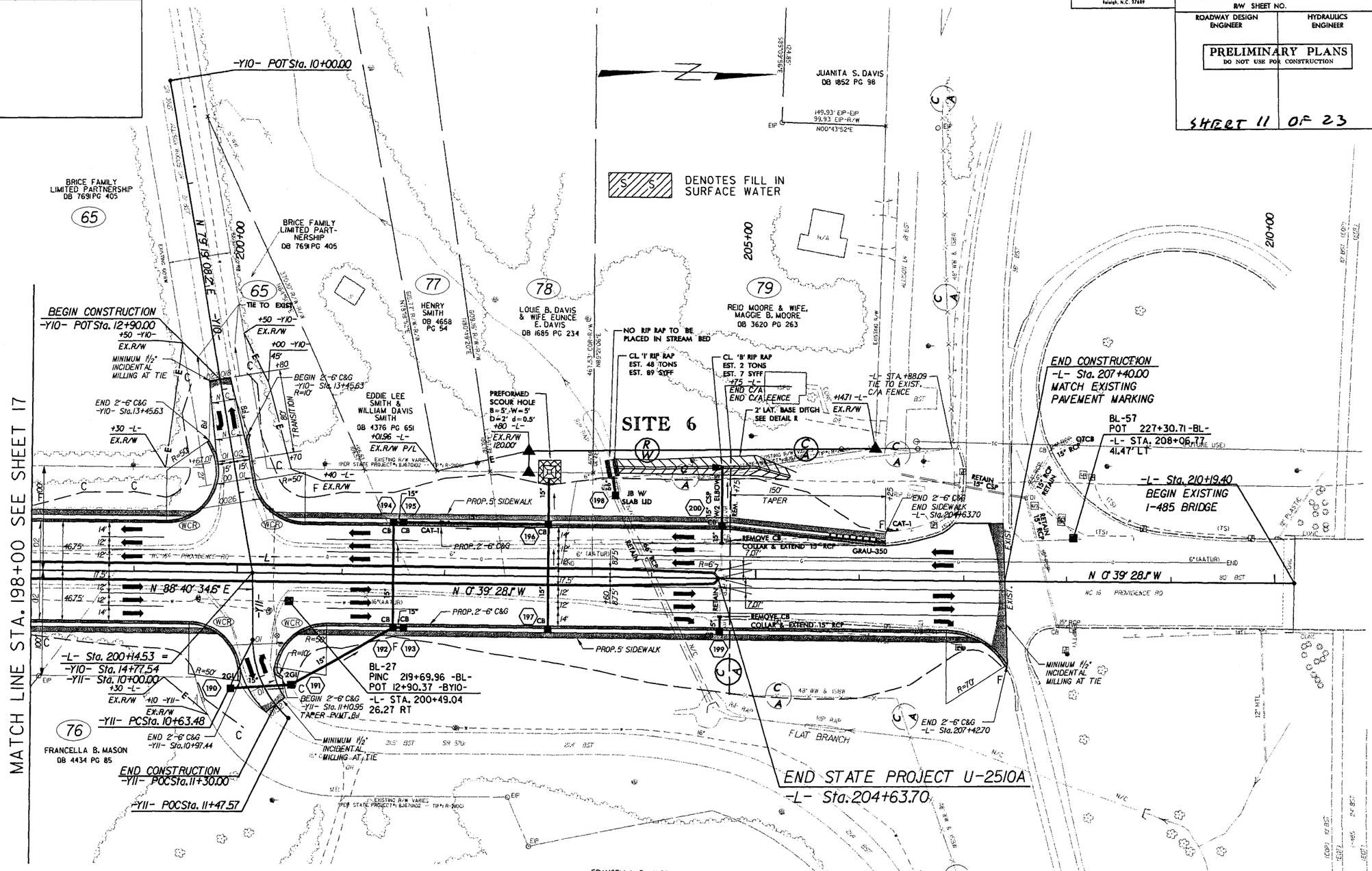
REVISIONS

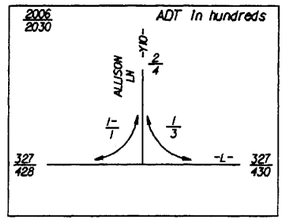
TRANSITE CONSULTING ENGINEERS, INCORPORATED
3300 Peddock Drive, Suite G-10
Raleigh, N.C. 27609

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHEET 11 OF 23





-Y11-

PI Sta 11+08.19
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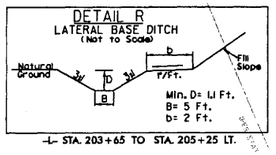
L = 84.09'
T = 44.71'
R = 100.00'
SE = 01
DS = 25 MPH

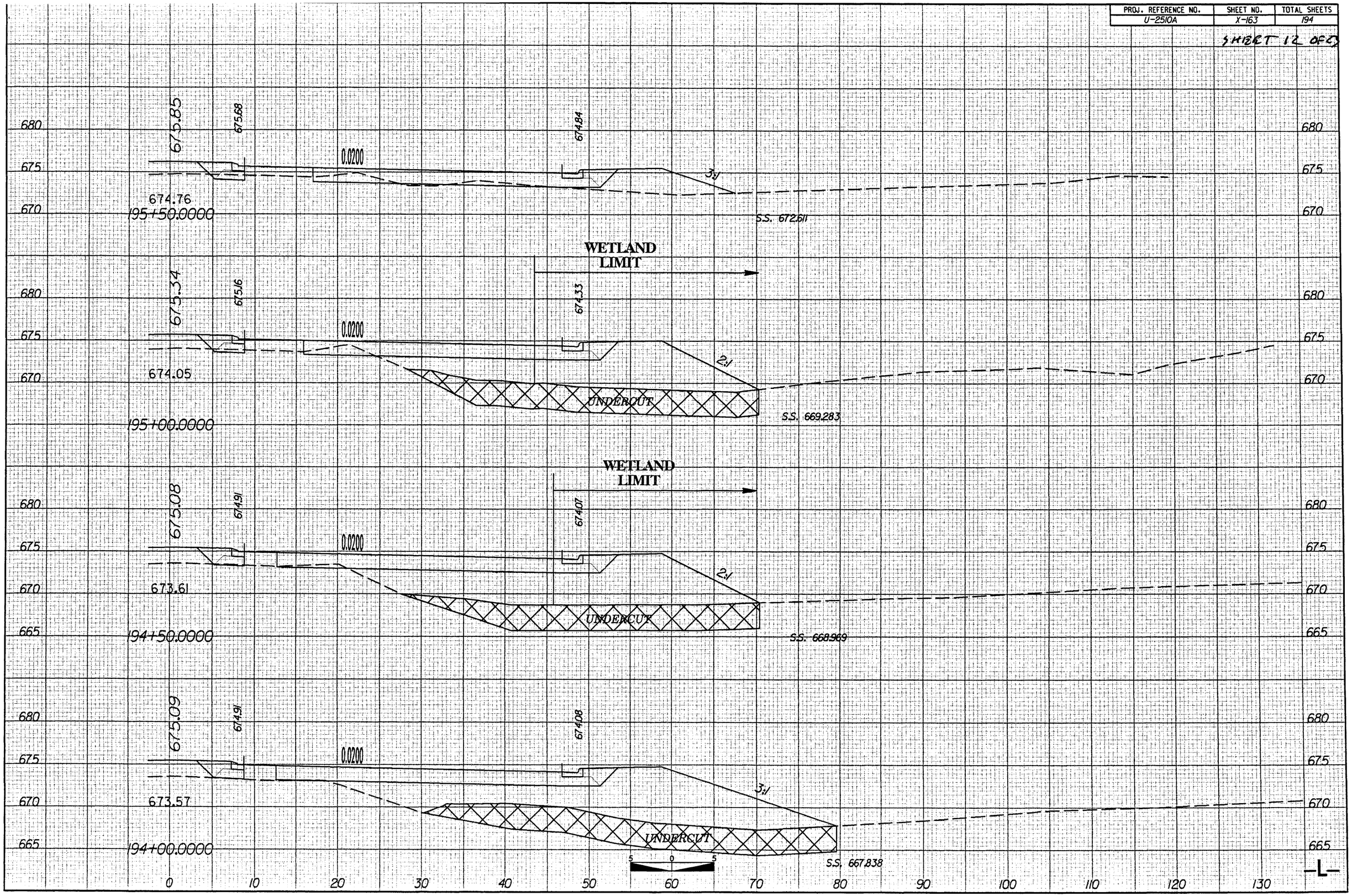


SEE SHEET 28 & 29 FOR -L- PROFILE
SEE SHEET 31 FOR -Y10- PROFILE
SEE SHEET 31 FOR -Y11- PROFILE

103.001.002/Roadway/Proj/u2510a_rdy.pshl8

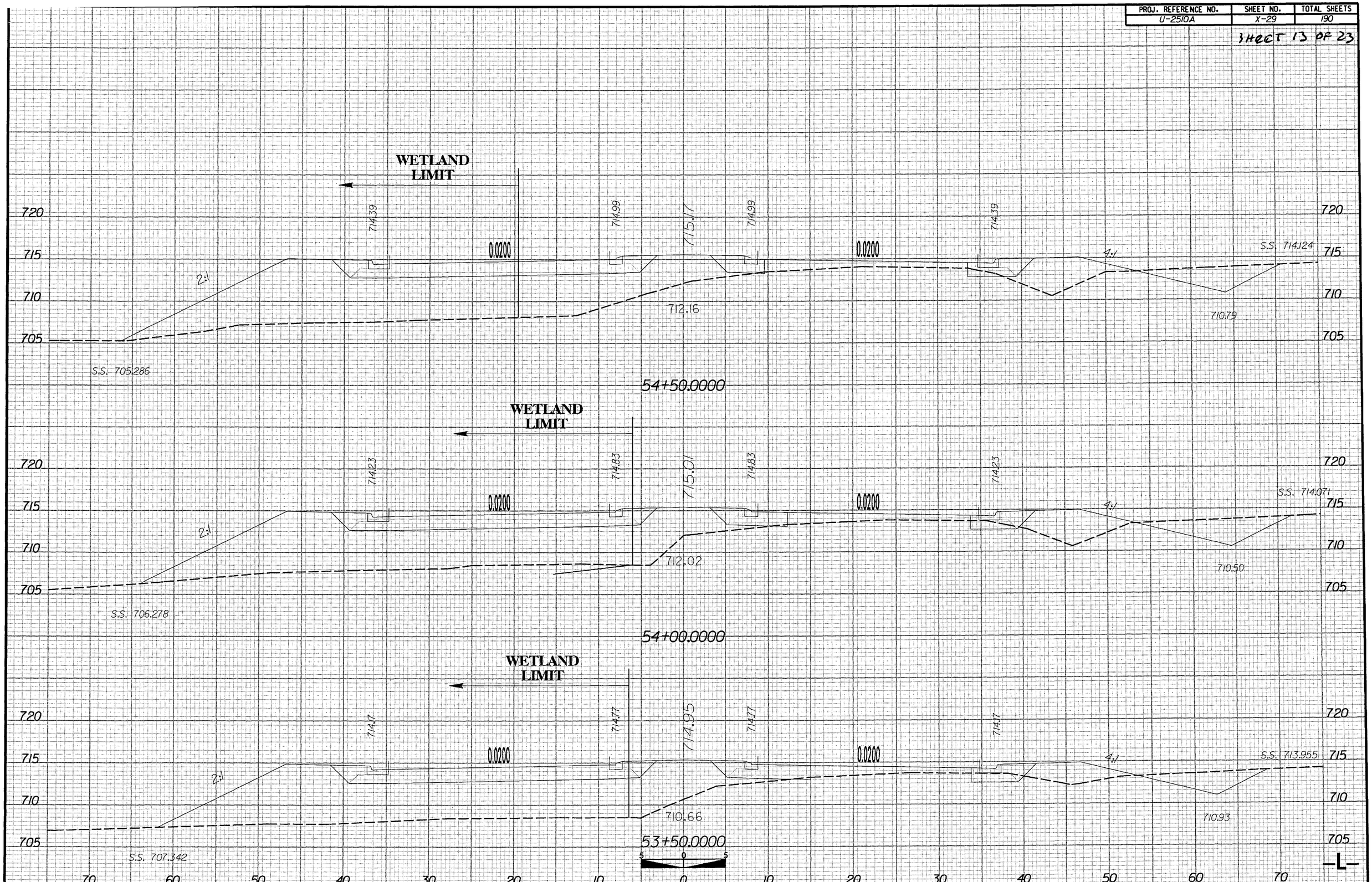
PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
U-2510A	X-163	194

SHEET 12 OF 13



PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
U-2510A	X-29	190

SHEET 13 OF 23



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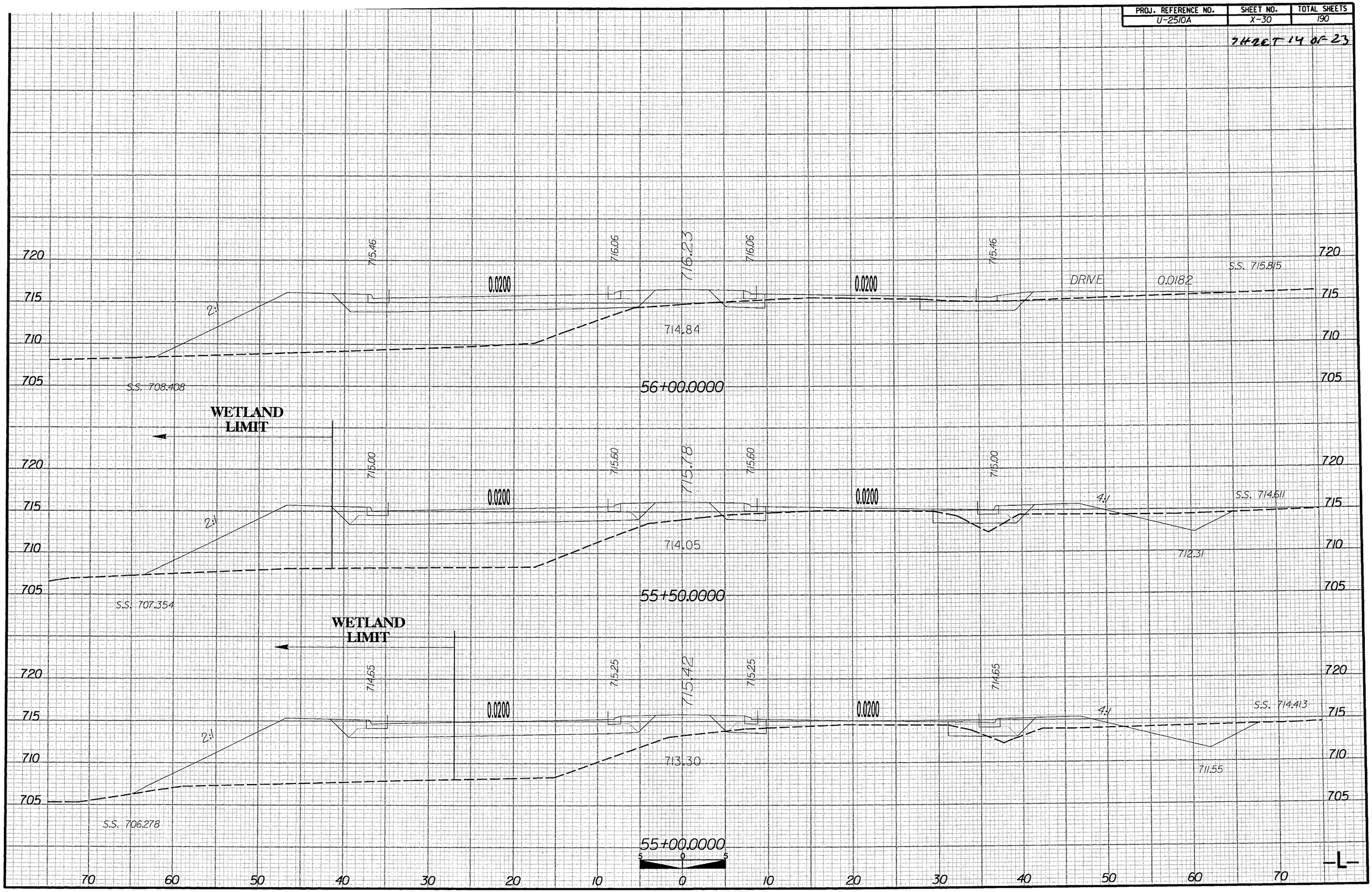
U-2510A	X-30	190

SHEET 14 OF 23



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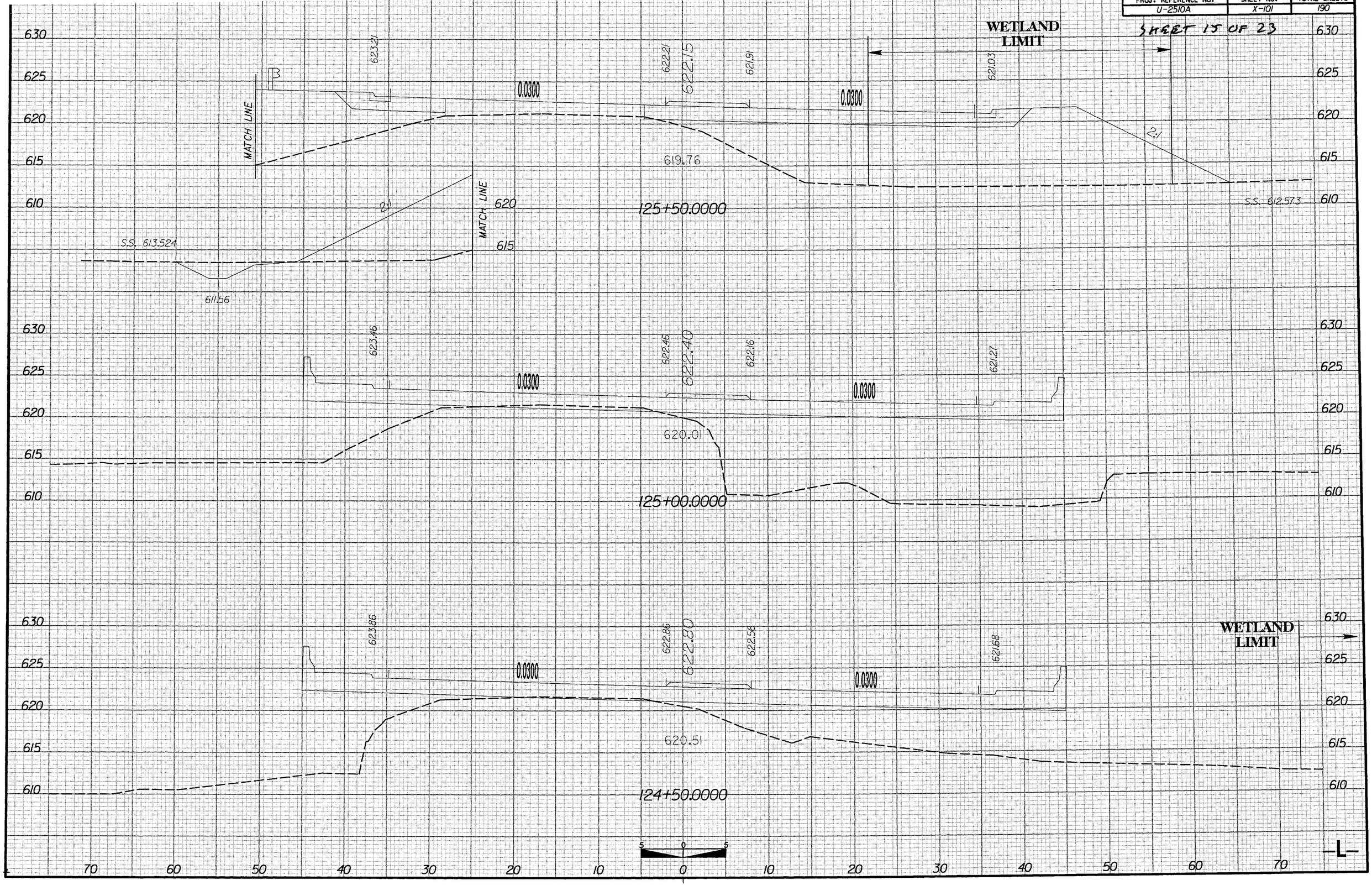
U-2510A	X-101	190

SHEET 15 OF 23



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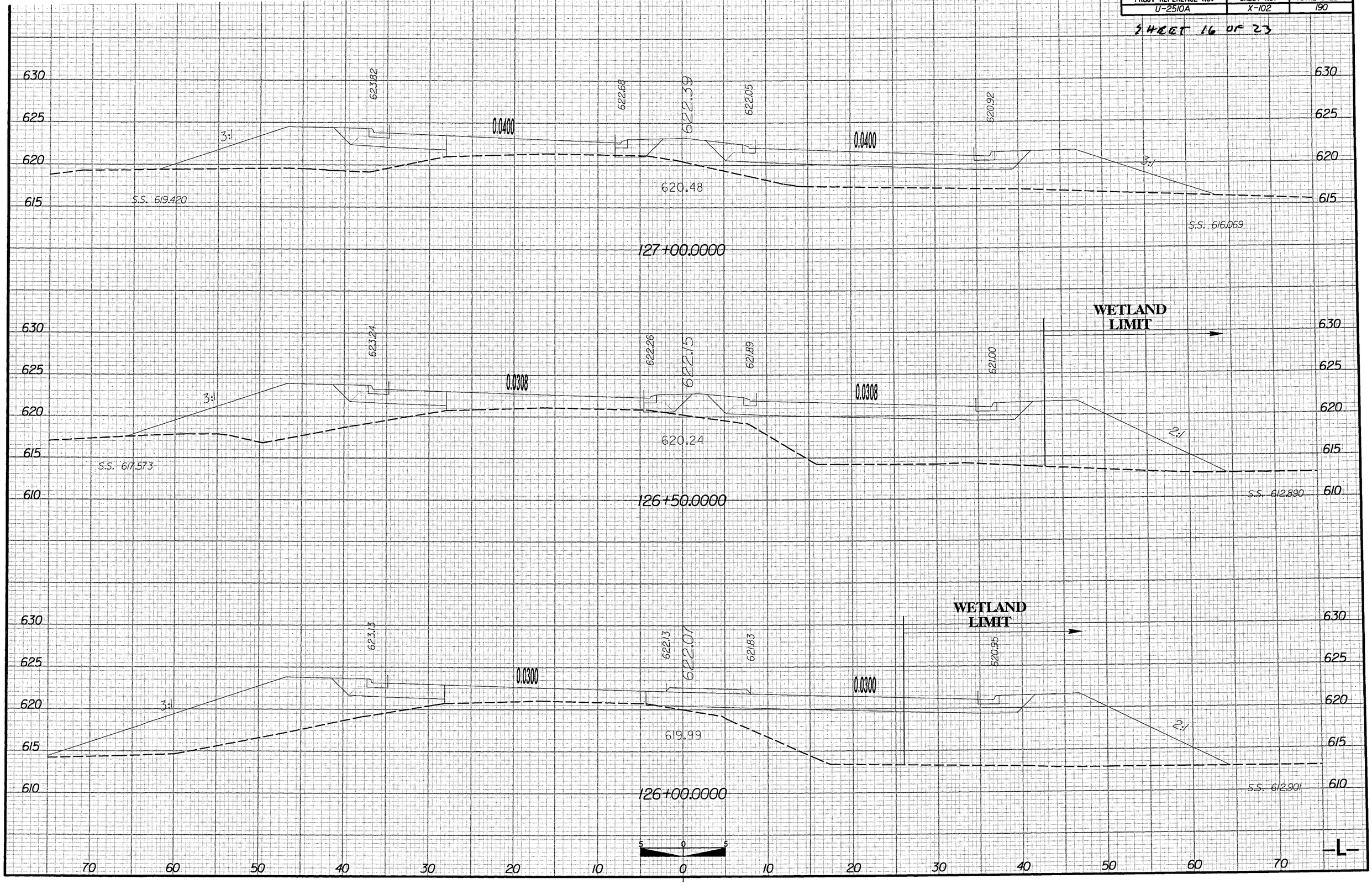
U-2510A	X-102	190

SHEET 16 OF 23



PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
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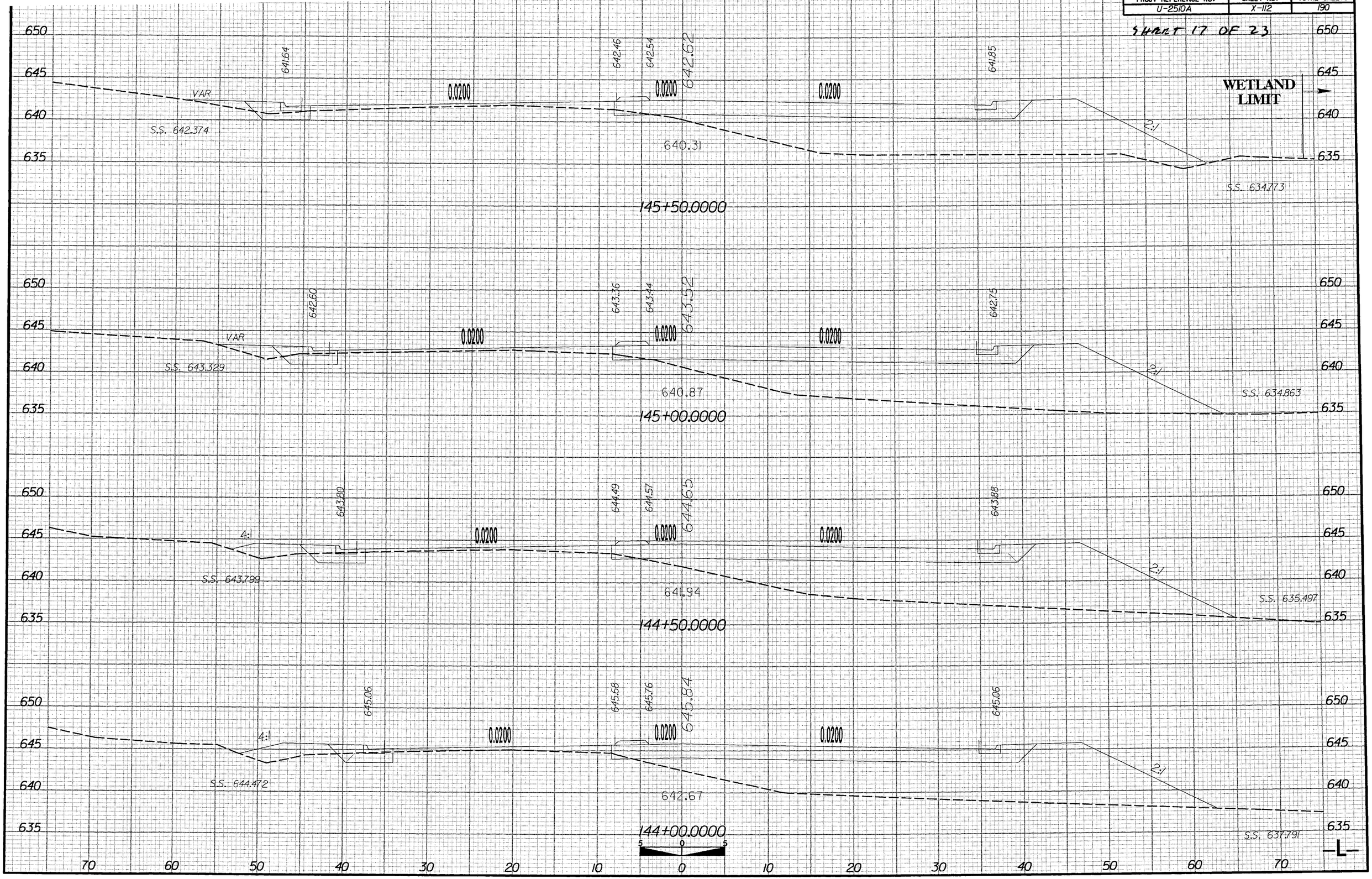
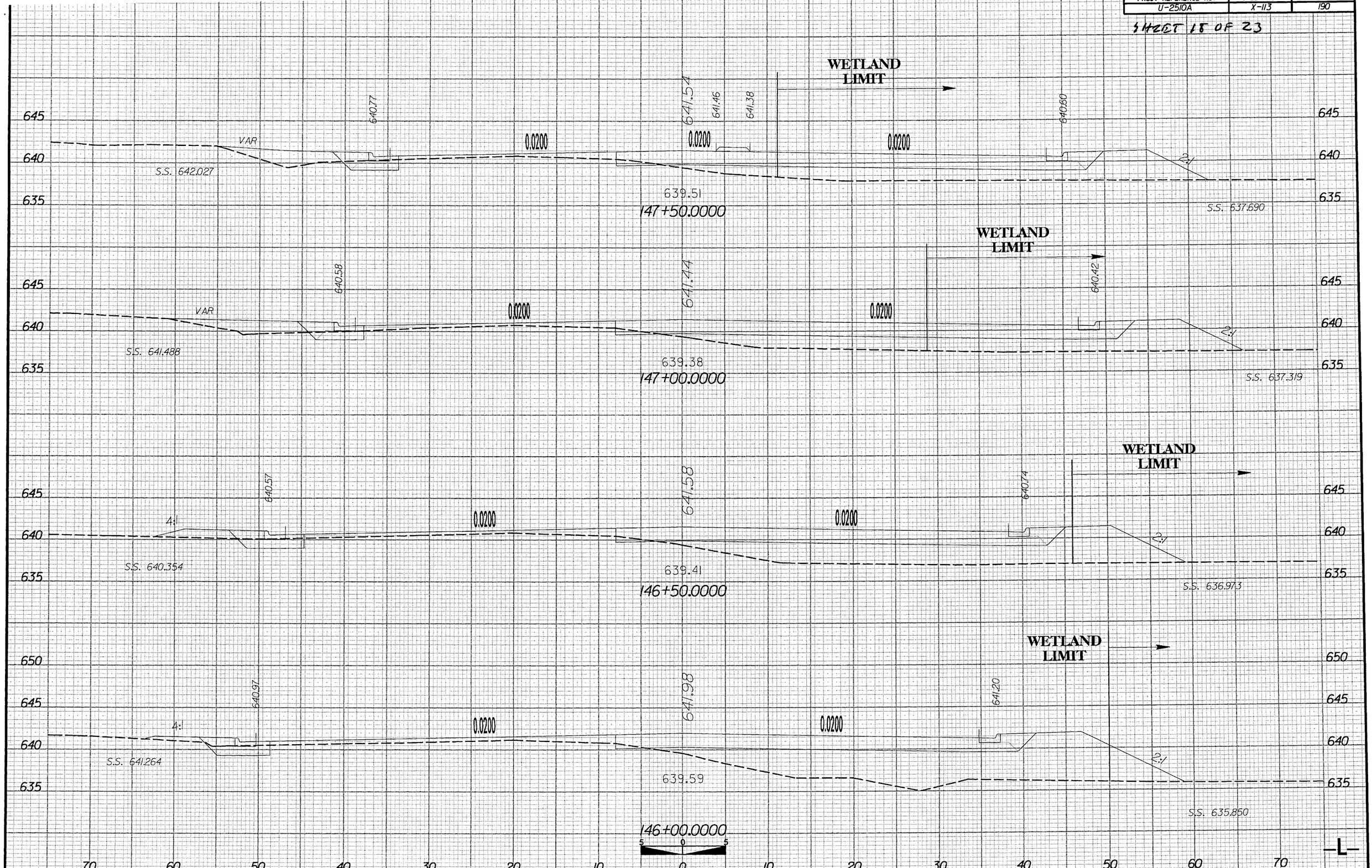
SHEET 17 OF 23



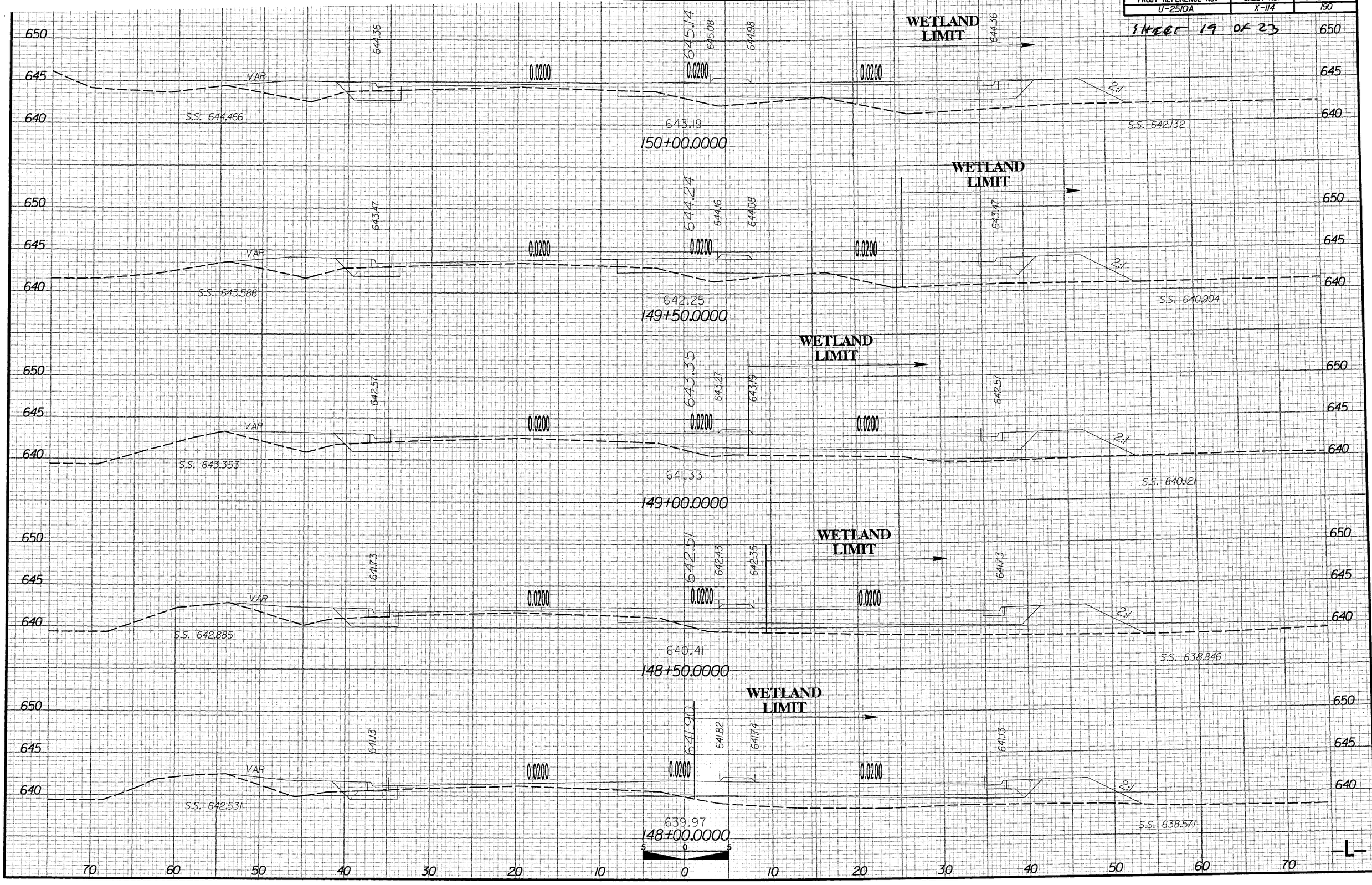
PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
U-2510A	X-113	190

SHEET 18 OF 23



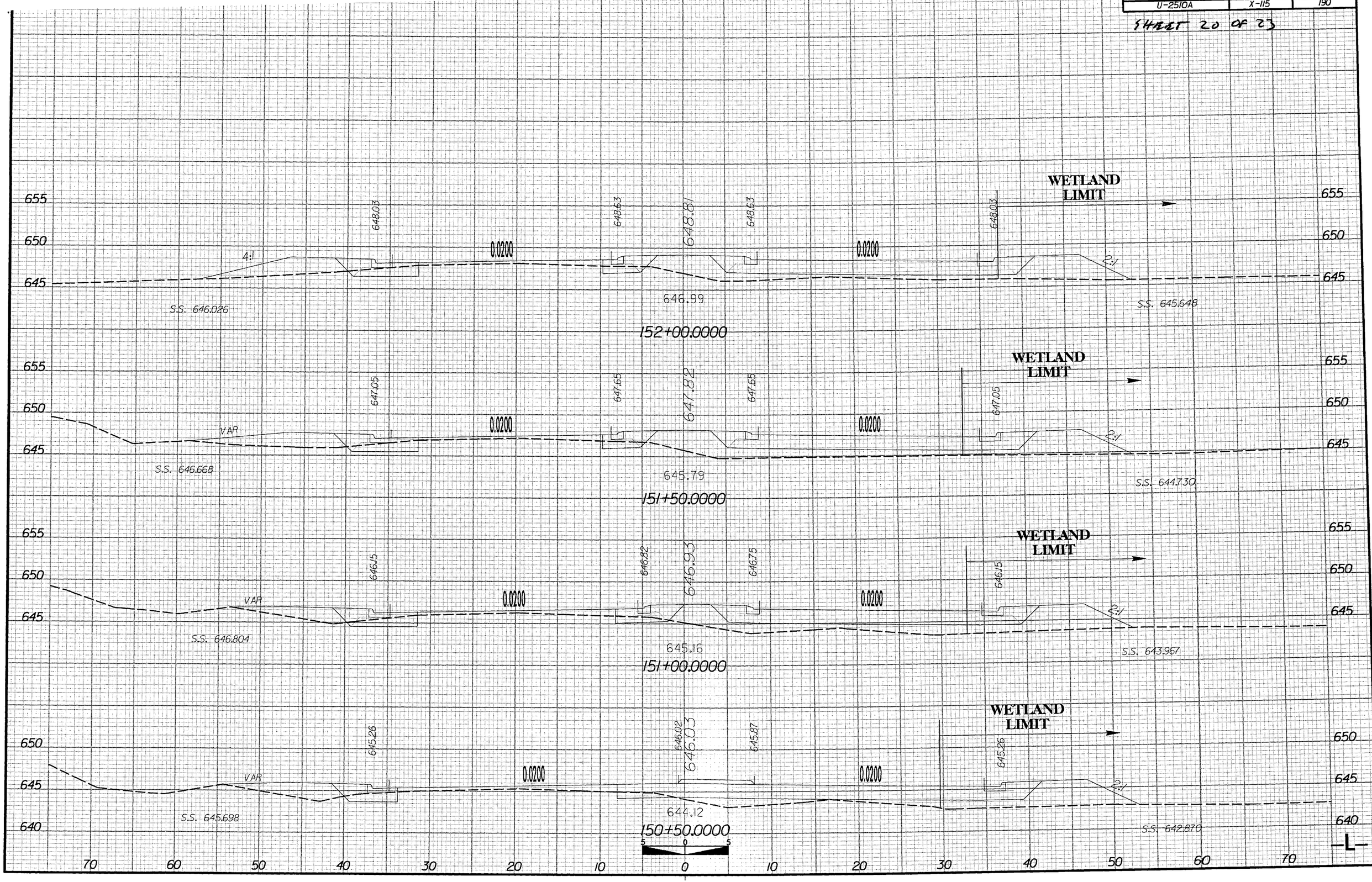
PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
U-2510A	X-114	190

SHEET 19 OF 23



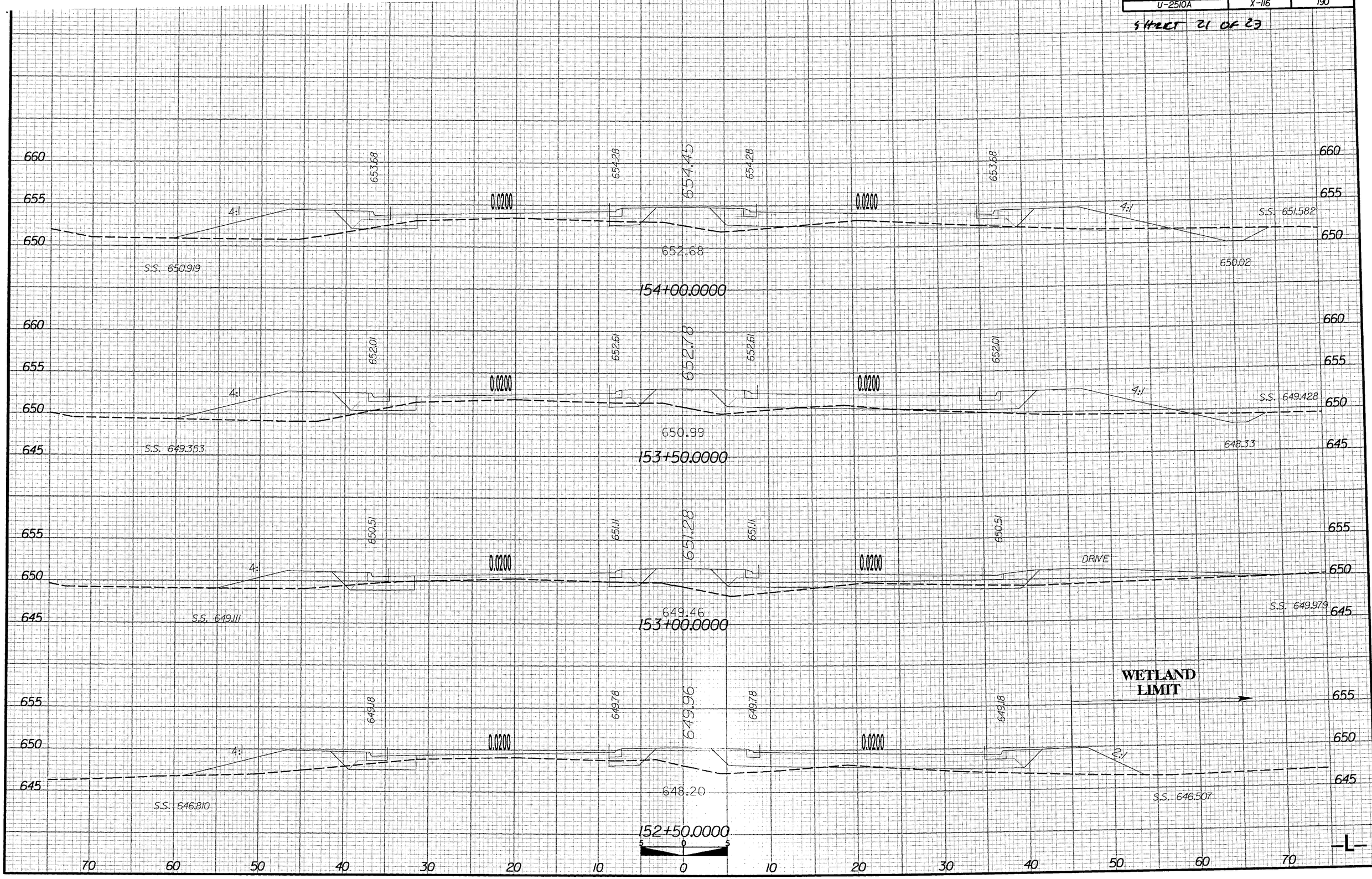
PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
U-2510A	X-115	190

SHEET 20 OF 23



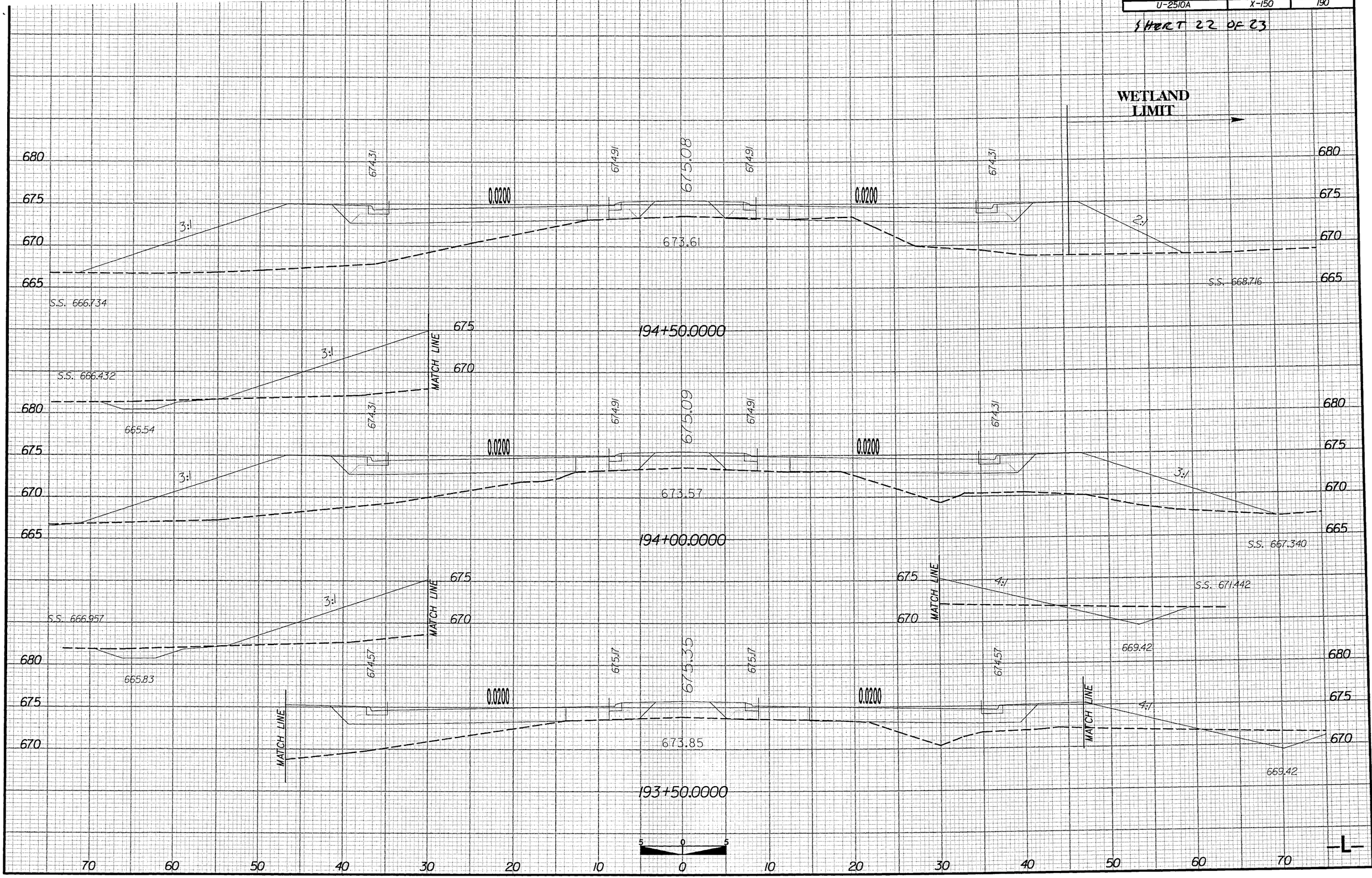
PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
U-2510A	X-116	190

SHEET 21 OF 23



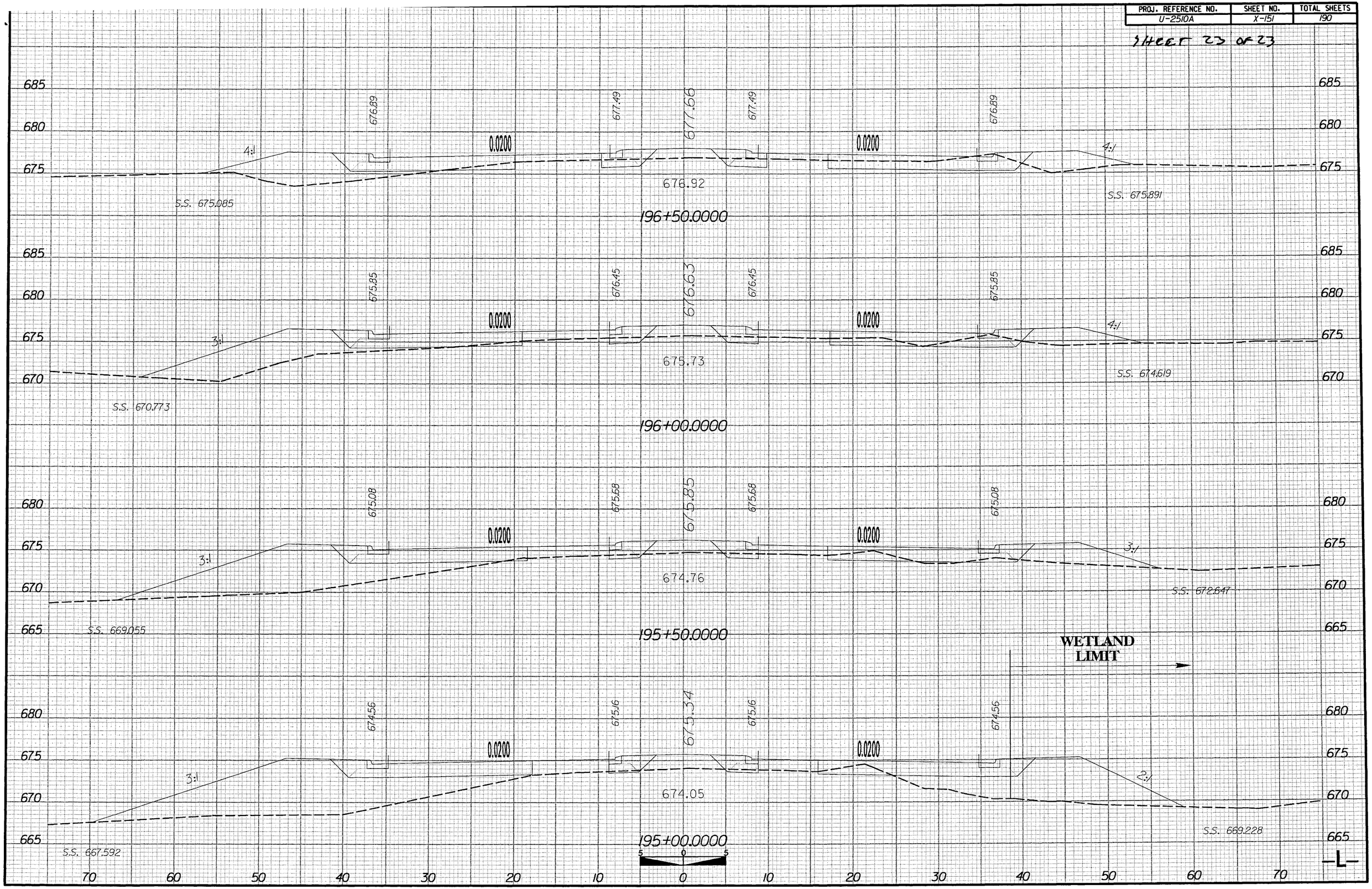
PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
U-2510A	X-150	190

SHEET 22 OF 23

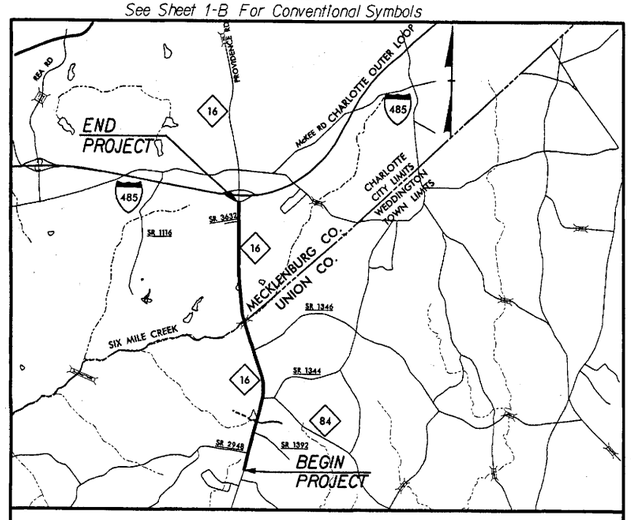


PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
U-2510A	X-151	190

SHEET 23 OF 23



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



VICINITY MAP

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2510A	1	

WBS NO.	F.A. PROJ. NO.	DESCRIPTION
34813.1.1	STP - 16(20)	P.E.
34813.2.3	STP - 16(20)	R/W, UTILITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

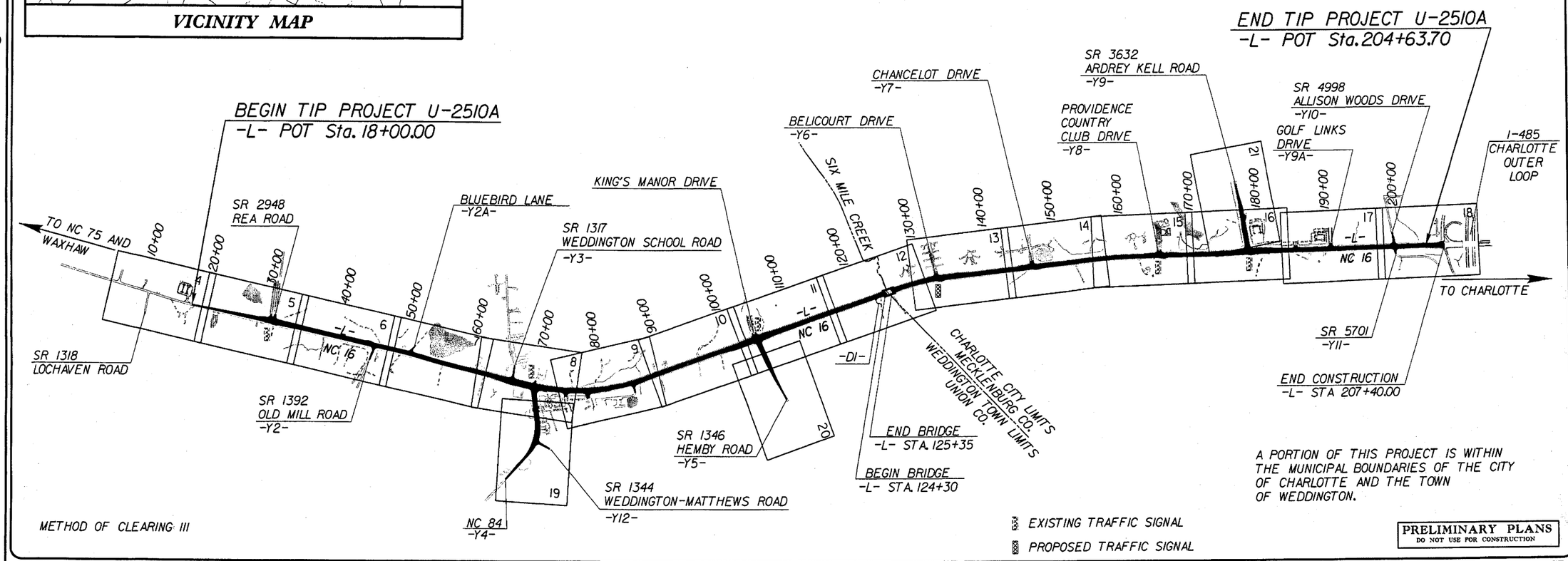
MECKLENBURG AND UNION COUNTIES

R/W PLANS

LOCATION: NC 16 (OLD PROVIDENCE ROAD) FROM SOUTH OF SR 2948 (REA ROAD EXT.) IN UNION COUNTY TO SOUTH OF I-485 (CHARLOTTE OUTER LOOP).

TYPE OF WORK: GRADING, DRAINAGE, PAVING, WIDENING, RESURFACING, STRUCTURE, RETAINING WALLS, CURB & GUTTER, SIDEWALK AND SIGNALS

NAD 83



METHOD OF CLEARING III

EXISTING TRAFFIC SIGNAL

PROPOSED TRAFFIC SIGNAL

A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF CHARLOTTE AND THE TOWN OF WEDDINGTON.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

TIP PROJECT: U-2510A

CONTRACT:

103.001.002/roadway/proj/U2510A_rdy_tsh.dgn

GRAPHIC SCALES

50 25 0 50 100 — PLANS

50 25 0 50 100 — PROFILE (HORIZONTAL)

10 5 0 10 20 — PROFILE (VERTICAL)

DESIGN DATA

ADT 2006 = 32,780
ADT 2030 = 43,000
DHV = 10 %
D = 60 %
*T = 5 %
V = 50 MPH
* (TTST 2% + DUAL 3%)
FUNC CLASS = URBAN ARTERIAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-2510A	=	3.515 MILES
LENGTH STRUCTURE TIP PROJECT U-2510A	=	0.020 MILES
TOTAL LENGTH OF TIP PROJECT U-2510A	=	3.535 MILES

Prepared In the Office of:
TRANSITE CONSULTING
ENGINEERS, INCORPORATED
1300 Paddock Drive, Suite G-10
Raleigh, N.C. 27609

2002 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: MARCH 18, 2005

LETTING DATE: SEPTEMBER 19, 2006

NCDOT CONTACT:

RICHARD L. BOLLINGER, JR P.E. — PROJECT ENGINEER

CLINTON J. MORGAN, P.E. — PROJECT DESIGN ENGINEER

TERESA M. BRUTON, P.E. — DESIGN SERVICES - PROJECT ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE DESIGN ENGINEER P.E.

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR DATE

TRANSITE CONSULTING ENGINEERS, INCORPORATED 1300 Paddock Drive, Suite G-10 Raleigh, N.C. 27609	PROJECT REFERENCE NO.	SHEET NO.
	U-2510A	1-B

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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
Exist. Guardrail
Prop. Guardrail
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 — CA
Prop. Control of Access Line — CA
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
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
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 TS
Water Line — W W
Sanitary Sewer — SS SS
Sanitary Sewer Force Main — FSS FSS
Gas Line — G G
Storm Sewer — S S
Power Line — P P
Telephone Cable — T T
U/G Telephone Conduit — TC TC
Unknown Utility — ?UTL ?UTL
Television Cable — TV TV
Fiber Optics Cable — FO FO
Exist. Water Meter — 0
Drawn According to U/G Records — DATUR
Abandoned According to U/G Records — AATUR
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

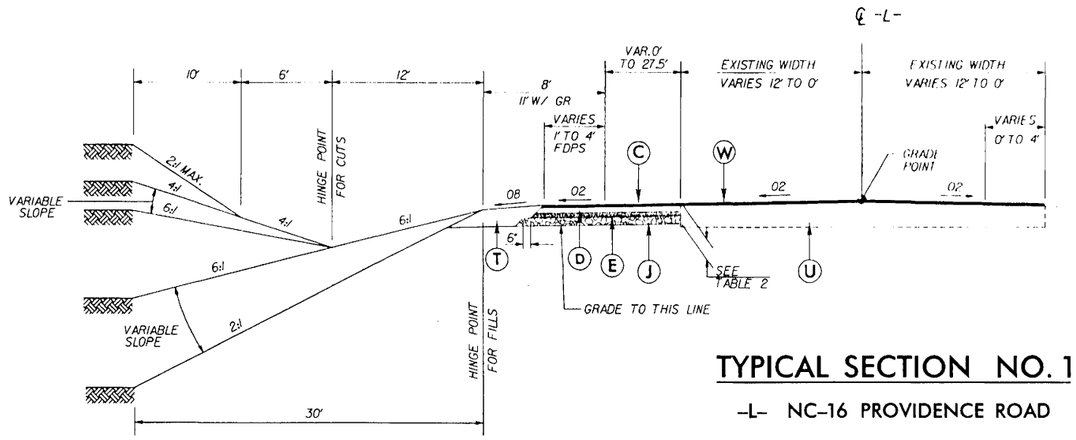
RAILROADS

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

00L002/roadway/proj/u2510a_rdy_sym_pshb.dgn

TRANSITE CONSULTING ENGINEERS, INCORPORATED 1300 Paddock Drive, Suite G-10 Raleigh, N.C. 27609	PROJECT REFERENCE NO.	SHEET NO.
	U-2510A	2-A
	ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

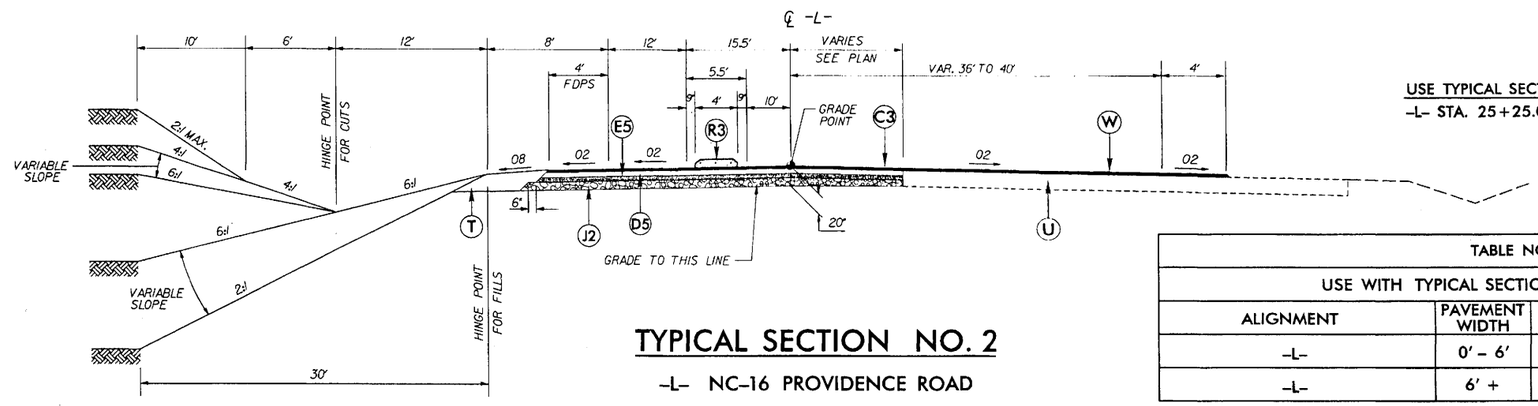


TYPICAL SECTION NO. 1

-L- NC-16 PROVIDENCE ROAD

USE TYPICAL SECTION NO. 1 AT THE FOLLOWING STATIONS
-L- STA. 18+00.00 TO 25+25.00

C3	3" ACSC TYPE S9.5C
D5	4" ACIC TYPE I19.0C
E5	3" ACBC TYPE B25.0C
E6	7 1/2" ACBC TYPE B25.0C
J2	10" ABC
J3	VAR. DEPTH ABC
R1	2'-6" CURB & GUTTER
R2	1'-6" CONCRETE CURB
R3	5" MONO ISLAND (KEYED IN)
S1	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

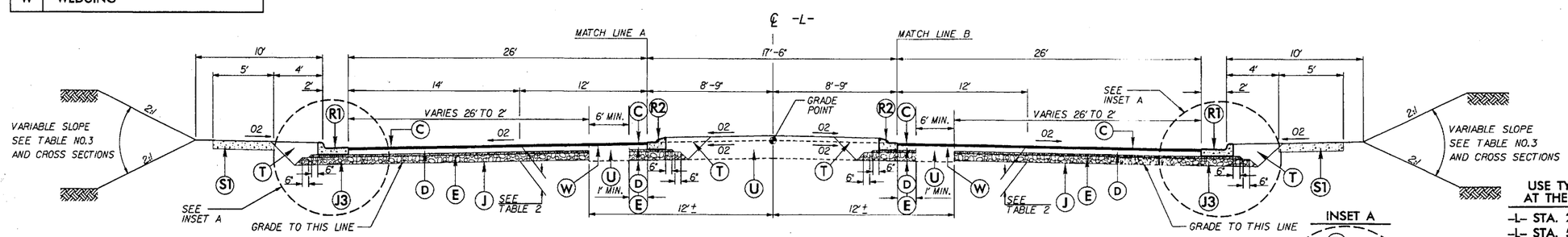


TYPICAL SECTION NO. 2

-L- NC-16 PROVIDENCE ROAD

USE TYPICAL SECTION NO. 2 AT THE FOLLOWING STATIONS
-L- STA. 25+25.00 TO 29+20.00

TABLE NO. 2						
USE WITH TYPICAL SECTION NO. 1 AND NO. 3						
ALIGNMENT	PAVEMENT WIDTH	PAVEMENT DEPTH	C	D	E	J
-L-	0' - 6'	14 1/2"	C3	D5	E6	
-L-	6' +	20"	C3	D5	E5	J2



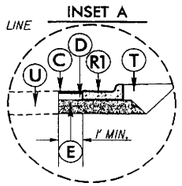
TYPICAL SECTION NO. 3

-L- NC-16 PROVIDENCE ROAD

TABLE NO. 3	
FILL/CUT HEIGHT	SLOPE
0'-5'	4:1
5'-10'	3:1
>10'	2:1

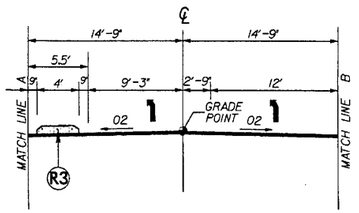
USE TYPICAL SECTION NO. 3 AT THE FOLLOWING STATIONS
-L- STA. 29+20.00 TO 36+75.00
-L- STA. 51+00.00 TO 67+25.00
-L- STA. 69+25.00 TO 106+25.00
-L- STA. 110+75.00 TO 124+30.00 (BEGIN BRIDGE)
-L- STA. 125+35.00 TO 204+63.70 (END BRIDGE)

INSET A



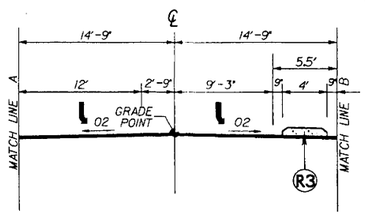
USE INSET 1 WITH TYPICAL SECTION NO. 3 AND NO. 4 AT THE FOLLOWING STATIONS
-L- STA. 25+25.00 TO 29+20.00
-L- STA. 174+75.00 TO 177+75.00

USE INSET 2 WITH TYPICAL SECTION NO. 3 AND NO. 4 AT THE FOLLOWING STATIONS
-L- STA. 70+45.00 TO 75+45.00
-L- STA. 104+61.00 TO 107+36.00



INSET 1 FOR DUAL MEDIAN LEFT TURNS

-L- NC-16 PROVIDENCE ROAD



INSET 2 FOR DUAL MEDIAN LEFT TURNS

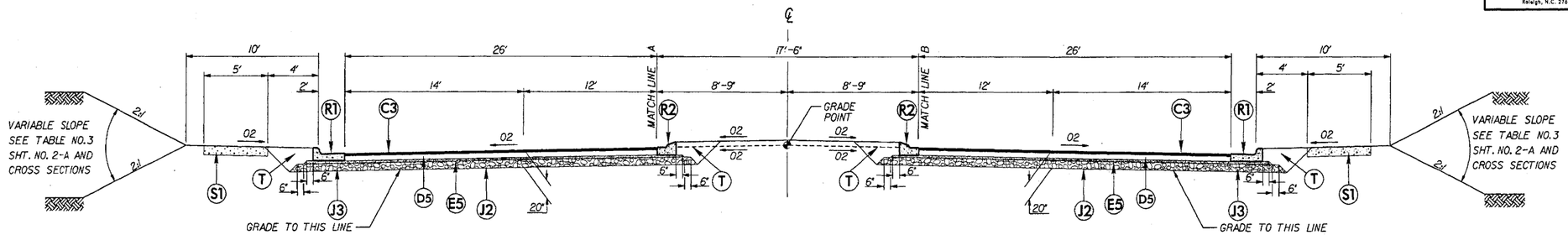
-L- NC-16 PROVIDENCE ROAD

NOTES:
ALL SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE
SEE SHEET 2 FOR WEDGING DETAILS 1 & 2

103.001.002/roadway/proj/U2510A_rdy_typ.dgn

TRANSITE CONSULTING ENGINEERS, INCORPORATED 1300 Paddock Drive, Suite G-10 Raleigh, N.C. 27609	PROJECT REFERENCE NO.	SHEET NO.
	U-2510A	2-B
	ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

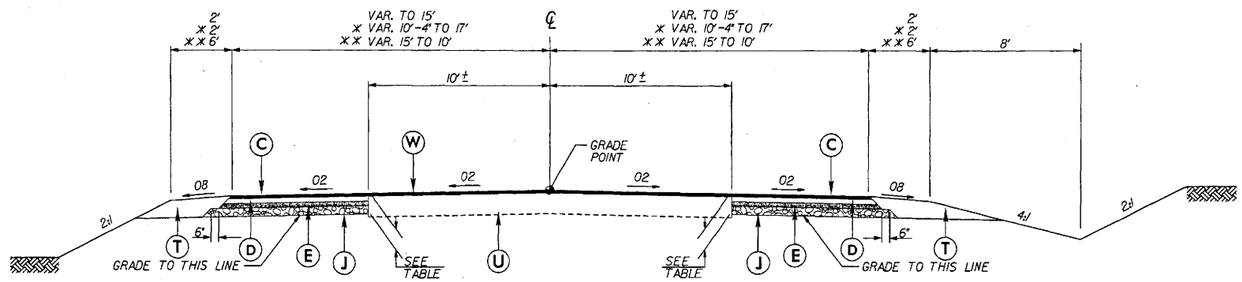


TYPICAL SECTION NO. 4

-L- NC-16 PROVIDENCE ROAD

USE TYPICAL SECTION NO. 4 AT THE FOLLOWING STATIONS

-L- STA. 36+75.00 TO 51+00.00
-L- STA. 67+25.00 TO 69+25.00
-L- STA. 106+25.00 TO 110+75.00



TYPICAL SECTION NO. 5

-Y2- SR 1392 OLD MILL ROAD

-Y10- SR 4998 ALLISON WOODS DRIVE

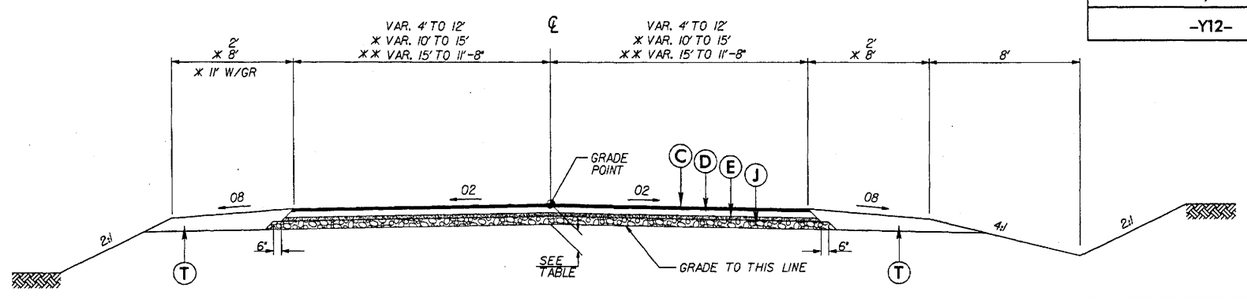
-Y12- SR 1344 WEDDINGTON MATTHEWS ROAD

USE TYPICAL SECTION NO. 5 AT THE FOLLOWING STATIONS

-Y2- STA. 10+35.27 TO 12+35.00
* -Y10- STA. 12+74.00 TO 14+42.25
** -Y12- STA. 10+32.68 TO 11+75.00

USE WITH TYPICAL SECTION NO. 5							
ALIGNMENT	PAVEMENT WIDTH	PAVEMENT DEPTH	TRENCH CUT	C	D	E	J
-Y2-, -Y10-	0' - 6'	14 1/2"	NO	C3	D5	E6	
-Y2-, -Y10-	6' +	20"	NO	C3	D5	E5	J2
-Y12-		11 1/4"	YES	C1	D3	E2	

C1	3" ACSC TYPE S9.5B
C3	3" ACSC TYPE S9.5C
D3	4" ACIC TYPE I19.0B
D5	4" ACIC TYPE I19.0C
E2	4 1/4" ACBC TYPE B25.0B
E5	3" ACBC TYPE B25.0C
E6	7 1/2" ACBC TYPE B25.0C
J2	10" ABC
J3	VAR. DEPTH ABC
R1	2'-6" CURB & GUTTER
R2	1'-6" CONCRETE CURB
S1	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING



TYPICAL SECTION NO. 6

-Y2A- BLUEBIRD LANE

-Y3- SR 1317 WEDDINGTON SCHOOL ROAD

-Y11- SR 5701

USE TYPICAL SECTION NO. 6 AT THE FOLLOWING STATIONS

-Y2A- STA. 10+20.00 TO 11+35.33
* -Y3- STA. 10+00.00 TO 12+08.69
** -Y11- STA. 10+34.75 TO 11+10.00

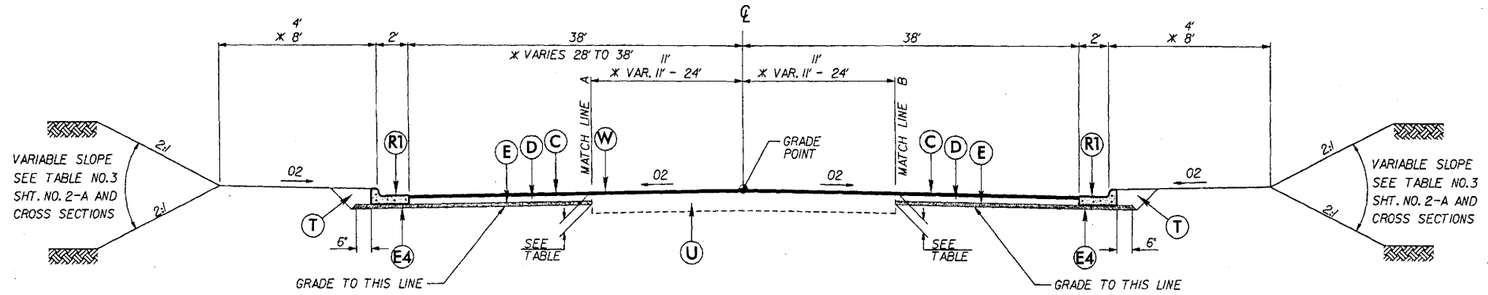
USE WITH TYPICAL SECTION NO. 6					
ALIGNMENT	PAVEMENT DEPTH	C	D	E	J
-Y2A-	20"	C3	D5	E5	J2
-Y3-	20"	C3	D5	E5	J2
-Y11-	20"	C3	D5	E5	J2

NOTES:
ALL SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE
SEE SHEET 2 FOR WEDGING DETAILS 1 & 2

03.001.002/roadway/proj/U2510A_rdy_typ.dgn

TRANSITE CONSULTING ENGINEERS, INCORPORATED 1300 Paddock Drive, Suite G-10 Raleigh, N.C. 27609	PROJECT REFERENCE NO.	SHEET NO.
	U-2510A	2-C
	ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

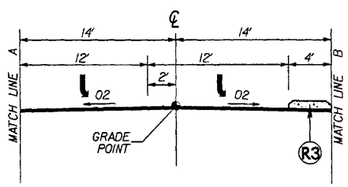


TYPICAL SECTION NO. 7

-Y4- NC 84 WEDDINGTON ROAD
-Y9- SR 3632 ARDREY KELL ROAD

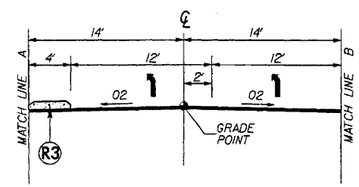
USE TYPICAL SECTION NO. 7 AT THE FOLLOWING STATIONS

-Y4- STA. 10+70.66 TO 15+50.00 LT. & RT.
-Y4- STA. 15+50.00 TO 17+80.00 LT.
-Y9- STA. 14+62.29 TO 20+03.31 LT.
x -Y9- STA. 17+25.00 TO 20+03.31 RT.



INSET 4 FOR DUAL LEFT TURNS

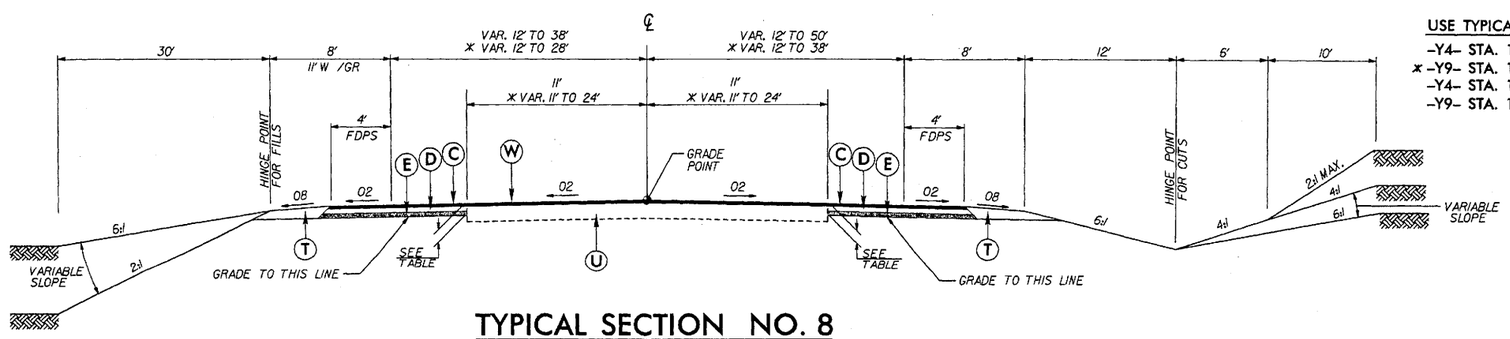
-Y4- NC-84 WEDDINGTON ROAD



INSET 5 FOR DUAL LEFT TURNS

-Y9- SR 3632 ARDREY KELL ROAD

USE WITH TYPICAL SECTION NO. 7 AND NO. 8				
ALIGNMENT	PAVEMENT DEPTH	C	D	E
-Y4-	11 1/4"	C1	D3	E2
-Y9-	11 1/4"	C1	D3	E2



TYPICAL SECTION NO. 8

-Y4- NC 84 WEDDINGTON ROAD
-Y9- SR 3632 ARDREY KELL ROAD

USE TYPICAL SECTION NO. 8 AT THE FOLLOWING STATIONS

-Y4- STA. 15+50.00 TO 25+50.00 RT.
x -Y9- STA. 10+50.00 TO 17+25.00 RT.
-Y4- STA. 17+80.00 TO 25+50.00 LT.
-Y9- STA. 10+50.00 TO 14+62.29 LT.

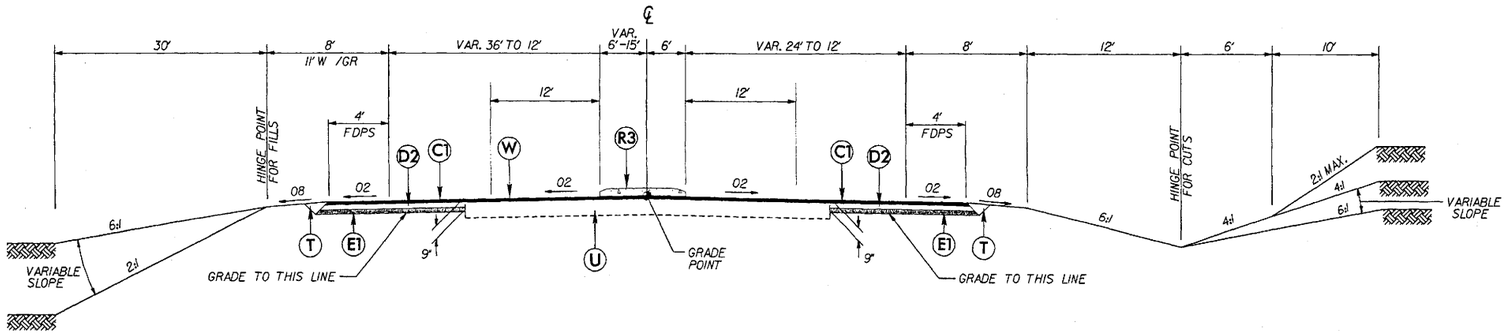
C1	3" ACSC TYPE S9.5B
D3	4" ACIC TYPE I19.0B
E2	4 1/4" ACBC TYPE B25.0B
E4	VAR. DEPTH B25.0B
R1	2'-6" CURB & GUTTER
R3	5" MONO ISLAND (KEYED IN)
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

NOTES:
ALL SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE
SEE SHEET 2 FOR WEDGING DETAILS 1 & 2

:001.002/roadway/proj/U2510A_rdy_typ.dgn

TRANSITE CONSULTING ENGINEERS, INCORPORATED 1300 Paddock Drive, Suite G-10 Raleigh, N.C. 27609	PROJECT REFERENCE NO.	SHEET NO.
	U-2510A	2-D
	ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

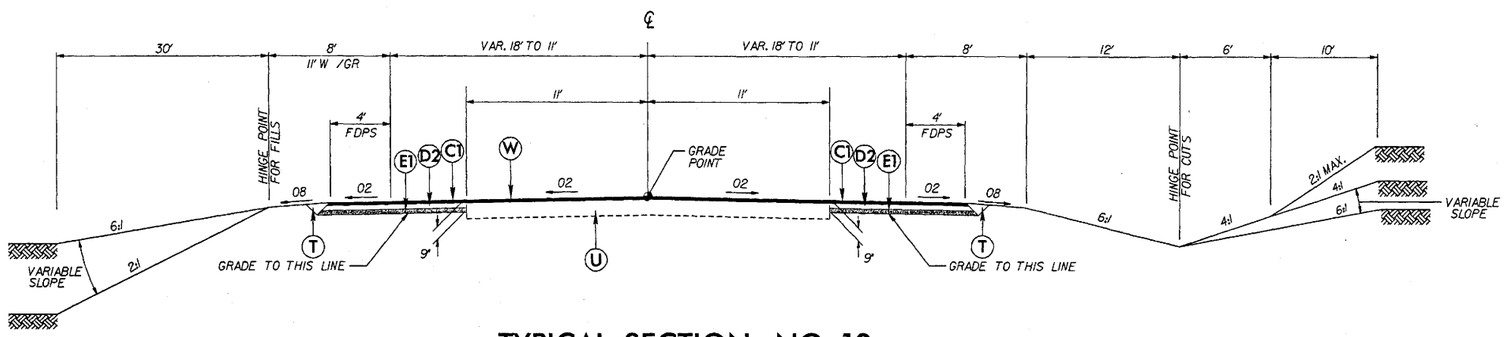
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



TYPICAL SECTION NO. 9

-Y5- SR 1346 HEMBY ROAD

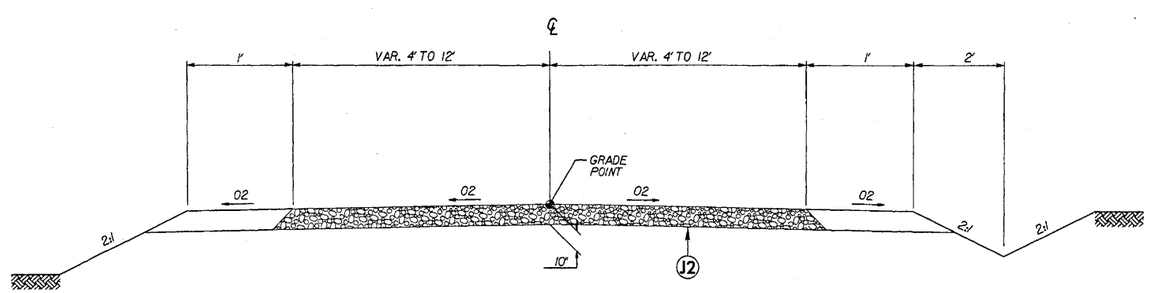
USE TYPICAL SECTION NO. 9 AT THE FOLLOWING STATIONS
-Y5- STA. 10+55.02 TO 17+20.00



TYPICAL SECTION NO. 10

-Y5- SR 1346 HEMBY ROAD

USE TYPICAL SECTION NO. 10 AT THE FOLLOWING STATIONS
-Y5- STA. 17+20.00 TO 20+00.00



TYPICAL SECTION NO. 11

-D1- DRIVEWAY

USE TYPICAL SECTION NO. 11 AT THE FOLLOWING STATIONS
-D1- STA. 10+45.75 TO 12+00.00

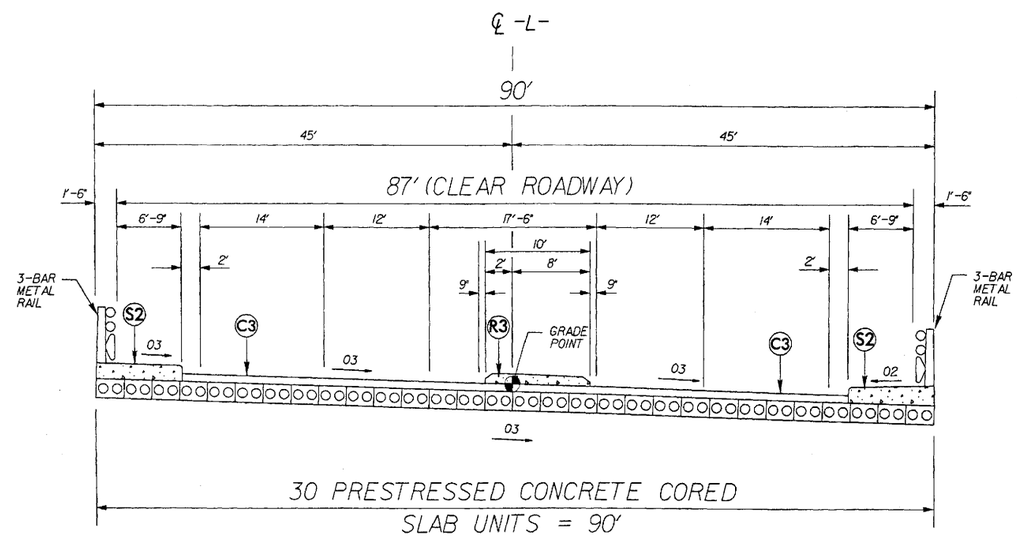
C1	3" ACSC TYPE S9.5B
D2	3" ACIC TYPE I19.0B
E1	3" ACBC TYPE B25.0B
J2	10" ABC
R3	5" MONO ISLAND (KEYED IN)
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

NOTES:
ALL SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE
SEE SHEET 2 FOR WEDGING DETAILS 1 & 2

3.001.002/roadway/proj/U2510A_rdy_typ.dgn

TRANSITE CONSULTING ENGINEERS, INCORPORATED 1300 Paddock Drive, Suite G-10 Raleigh, N.C. 27609	PROJECT REFERENCE NO.	SHEET NO.
	U-2510A	2-E
	ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



USE TYPICAL SECTION NO. 12 AT THE FOLLOWING STATIONS
-L- STA. 124+30.00 TO 125+35.00

TYPICAL SECTION NO. 12

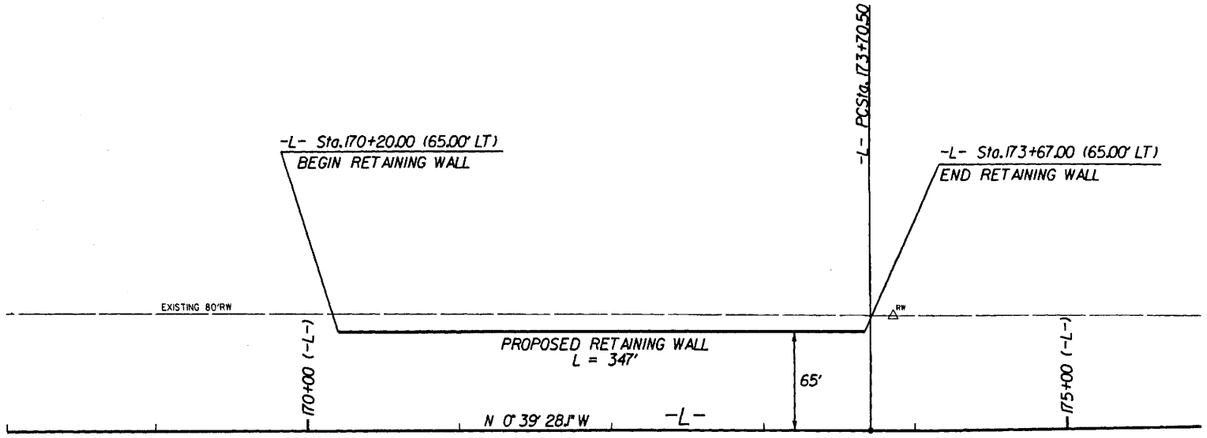
-L- NC-16 PROVIDENCE ROAD

C3	3" ACSC TYPE S9.5C
R3	5" MONO ISLAND
S2	6" CONC. SIDEWALK

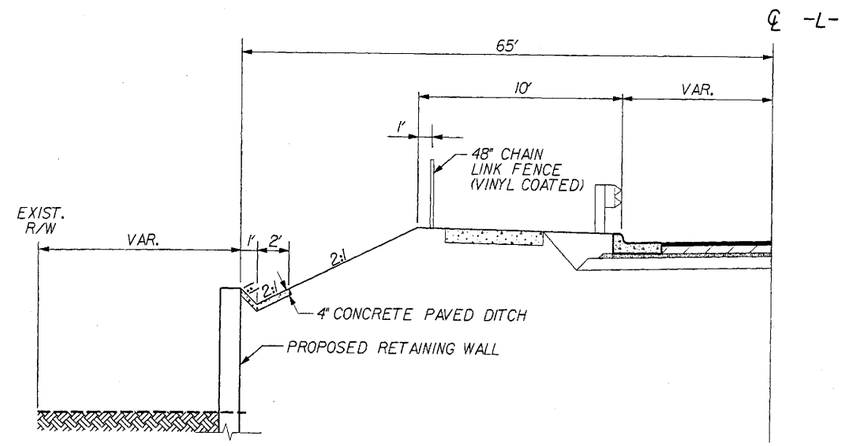
00L002/roadway/proj/U2510A_rdy_typ.dgn

TRANSITE CONSULTING ENGINEERS, INCORPORATED 1200 Paddock Drive, Suite G-10 Raleigh, N.C. 27609	PROJECT REFERENCE NO.	SHEET NO.
	U-2510A	2-F
	R/W SHEET NO.	
	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

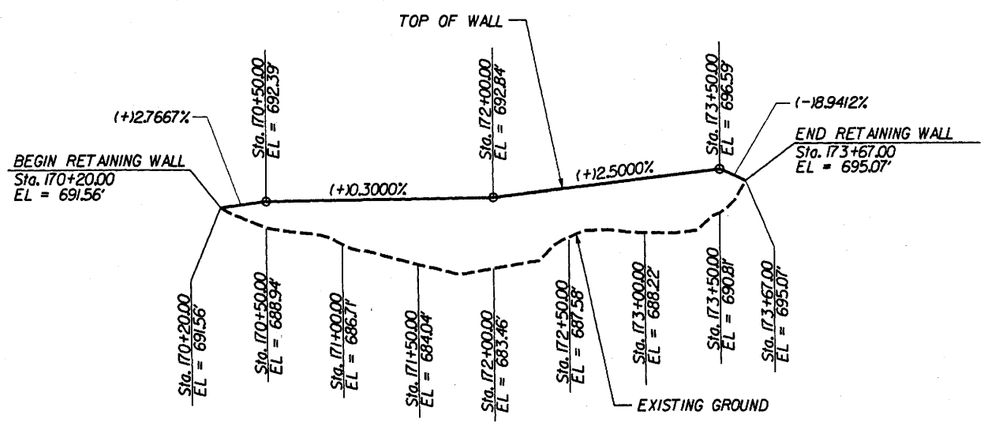


PLAN



SECTION THROUGH RETAINING WALL

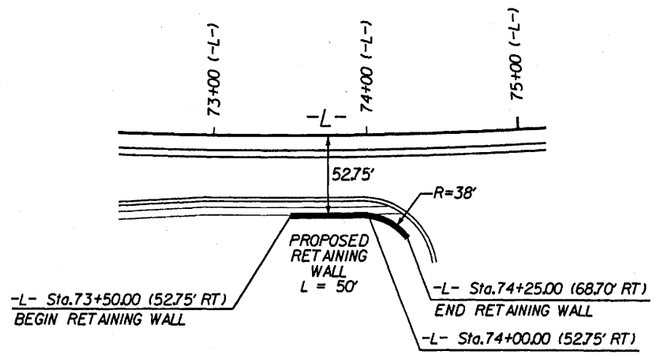
NOT TO SCALE



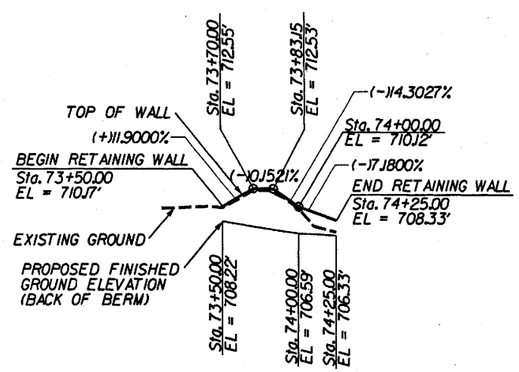
ELEVATION

TRANSITE CONSULTING ENGINEERS, INCORPORATED 1300 Paddock Drive, Suite G-10 Raleigh, N.C. 27609	PROJECT REFERENCE NO.	SHEET NO.
	U-2510A	2-G
	R/W SHEET NO.	
	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

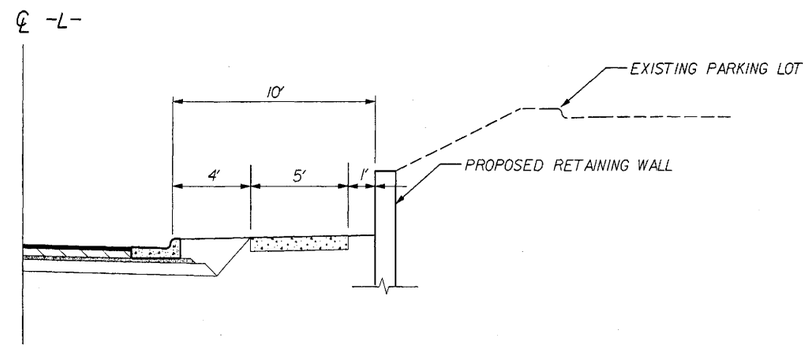
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



PLAN



ELEVATION



SECTION THROUGH RETAINING WALL

NOT TO SCALE

PROJ. REFERENCE NO.	SHEET NO.
U-2510A	3-A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

RIGHT OF WAY PARCEL INDEX

PARCEL NUMBER	SHEET NUMBER	PROPERTY OWNER NAME
1	4	MARGARET HOWARD HEMBY
2	4,5	LAURA HEMBY HEFFNER
3	5	KENNETH HOWARD HEMBY
4	5	WILBERT E. LOVE, & WIFE BETTY JEAN LOVE
5	5,6	MARGARET HOWARD HEMBY
6	5,6	PROVIDENCE ROAD MARVIN-WEDDINGTON ROAD JOINT VENTURE
7	6	LAURA HEMBY HEFFNER & HUSBAND RONALD EUGENE HEFFNER
8	6	AFT ENTERPRISES, INC.
9	6	HARRY ROBERT HUNTER, JR. & LESLIE ANNE HUNTER
10	6,7	WILSON A. MATTHEWS & WIFE, MARY KIRK LANEY MATTHEWS
11	7	EKATERINI PLAKAS
12	7	GRACE S. VARDA
13	7,8	HARRY F. SHORT & WIFE, BETTY E.
14	7	ROBIN R. BRANSTROM
15	7,8	J. RODERICK SMITH & JOYCE C. SMITH
16	8	RUBY MARLENE B. LeGRAND
18	8,19	WEDDINGTON UNITED METHODIST CHURCH
19	8	TRUSTEES OF THE WEDDINGTON UNITED METHODIST CHURCH
20	8,19	JERRY A. PRESSLEY & WIFE, ROBBIE FAYE PRESSLEY
21	8,19	LR & FR, LLC
22	8,9	ROBERT LEWIS HELMS & WIFE, LUCILLE PRICE HELMS
23	9,19	WEDDINGTON ASSOCIATES, A N.C. GENERAL PARTNERSHIP
24	9	CLAIRE J. KING
25	9	BCS MOSA, INC.
26	9	JAMES OLIVER HUNTER
27	9	54 INVESTMENT, LLC
28	9	FRANCIS M. DOW & THE DETROIT BANK & TRUST TRUSTEES OF THE ROBERT B. DOW TRUST
29	9,10	MICHAEL T. O'BRIEN

PARCEL NUMBER	SHEET NUMBER	PROPERTY OWNER NAME
30	9,10	ROBERT ORIN WINCHESTER TRUST
31	10	TOMMY L. THOMPSON, SR. & WIFE, DOROTHY THOMPSON
32	10	FELICIA THOMAS
33	10	W.E. MOORE & WIFE MARY ELLE MOORE
34	10,11	PROVIDENCE ROAD JOINT VENTURE
35	10	DONALD M. PATTERSON
36	10,11,20	NANCY DELANEY ANDERSON, JEAN HUNTER DELANEY, & ANN MCCLURE DELANEY
37	11	UNION-MECKLENBURG ON PROVIDENCE ROAD JOINT VENTURE
38	11,12,20	JOYANN W. BECHER & EVERETTE L. WOHLBRUCK
39A	11	HARRINGTON-DOWD REALTY COMPANY
39B	11,12	HARRINGTON-DOWD REALTY COMPANY
39C	12	HARRINGTON-DOWD REALTY COMPANY
39D	12	HARRINGTON-DOWD REALTY COMPANY
39E	12	HARRINGTON-DOWD REALTY COMPANY
44	12	HIGHGATE HOMEOWNERS ASSOCIATION, INC.
45	12	DUKE POWER COMPANY
46	12	JUANITA JANE CANTLEY & SPOUSE, DAVID D. CANTLEY
47	12	LEWIS V. RICHARDSON III & WIFE, & WIFE JANETTE W. RICHARDSON
48	12,13,14	CY N. BAHAKEL
49	13	GEORGE BARRY MORROW & WIFE, PAMELA P. MORROW
50	13	DAMITA ADAMS & ANTONIO SINCLAIRE
51	14	N.C. COUNTY CLUB ESTATES, LP
53	14	RUTH ANNE GARGANO
54	14,15	THEODORE J. ELTINK & WIFE, KATHERINE WILLIAMS ELTINK
55	15	MARK G. GILREATH & WIFE, HOPE C. GILREATH
56	14,15,16,17	W. McGILL MATTHEWS
57	15	PROVIDENCE COUNTRY CLUB HOMEOWNERS ASSOCIATION, INC
58	15,16	ABRAHAM LUSKI & ISAAC LUSKI

PARCEL NUMBER	SHEET NUMBER	PROPERTY OWNER NAME
59	15,16,21	PROVIDENCE COUNTRY CLUB
60	16,21	PETRO PROPERTIES, LLC
61	16,17,21	CVR ASSOCIATES LIMITED PARTNERSHIP
62	17	HARRIS GREEN LEE REA & WIFE, DORIS McCALL REA
63	17	THE CROSLAND GROUP, INC
64	17	HARGETT, LLC
65	17,18	BRICE FAMILY LIMITED PARTNERSHIP
66	19	WEDDINGTON ASSOCIATES
67	19	CLAIRE J. KING
68	19	GEORGE F. PINSAK & WIFE, CAROL H. PINSAK
69	19	TOWN OF WEDDINGTON, A N.C.MUNICIPAL CORP.
70	19	WEDDINGTON METHODIST CHURCH
71	19	GERTRUDE P. REID
72	19	UNKNOWN
73	19	UNKNOWN
74	20	GEORGE MUNDORF & WIFE, FRANCES F. MUNDORF
75	21	UNKNOWN

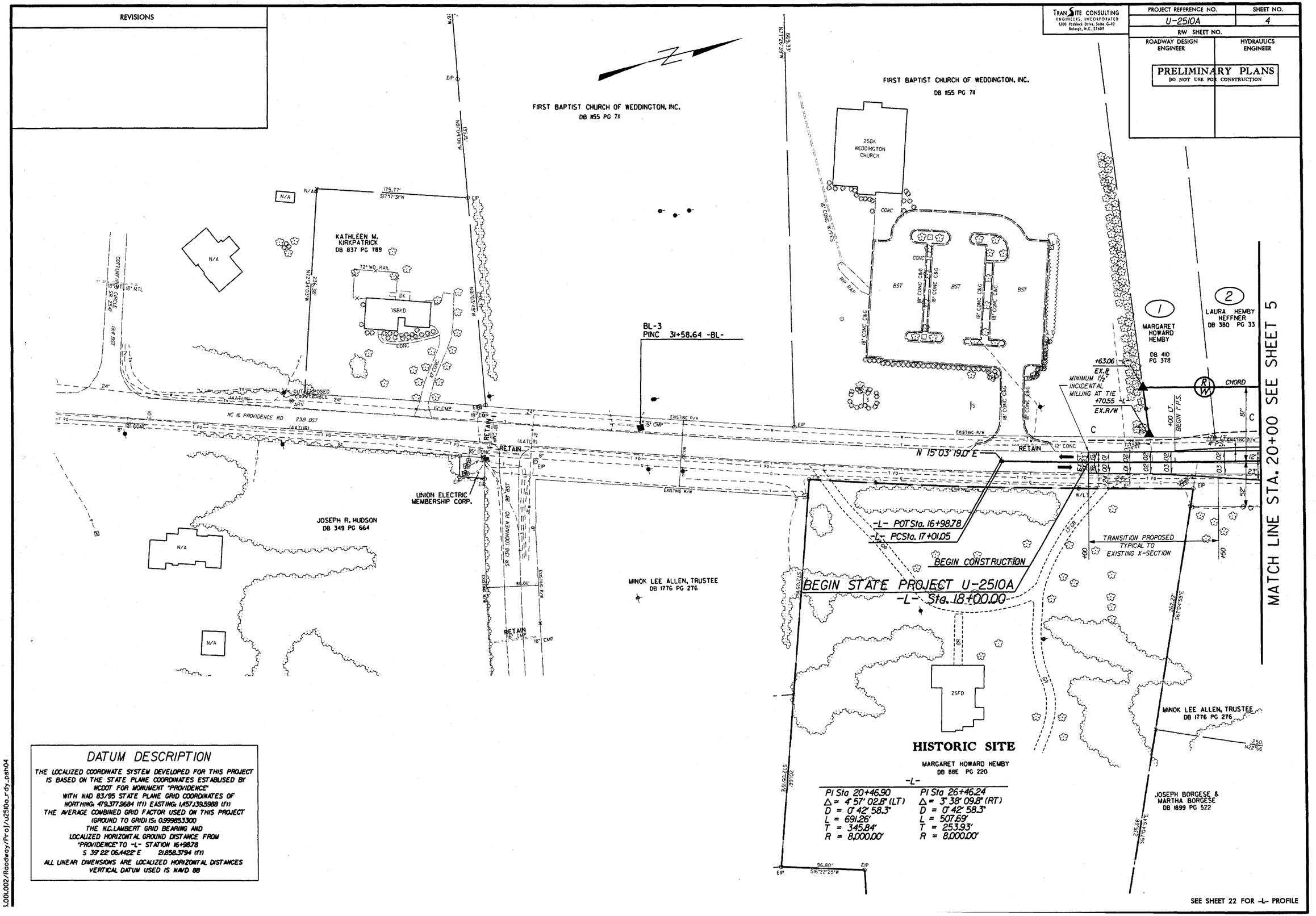
103.001.002/RightOfWay/row-datasheet-sum.dgn

REVISIONS

TRANSITE CONSULTING ENGINEERS, INCORPORATED
1200 Paddock Drive, Suite G-10
Raleigh, N.C. 27609

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "PROVIDENCE"
WITH NAD 83/95 STATE PLANE GRID COORDINATES OF
NORTHING: 479,377.9684 (ft) EASTING: 1,457,139.5988 (ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999853300
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "PROVIDENCE" TO -L- STATION 16+98.78
S 39° 22' 06.4422" E 21,858.3794 (ft)
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

SEE SHEET 22 FOR -L- PROFILE

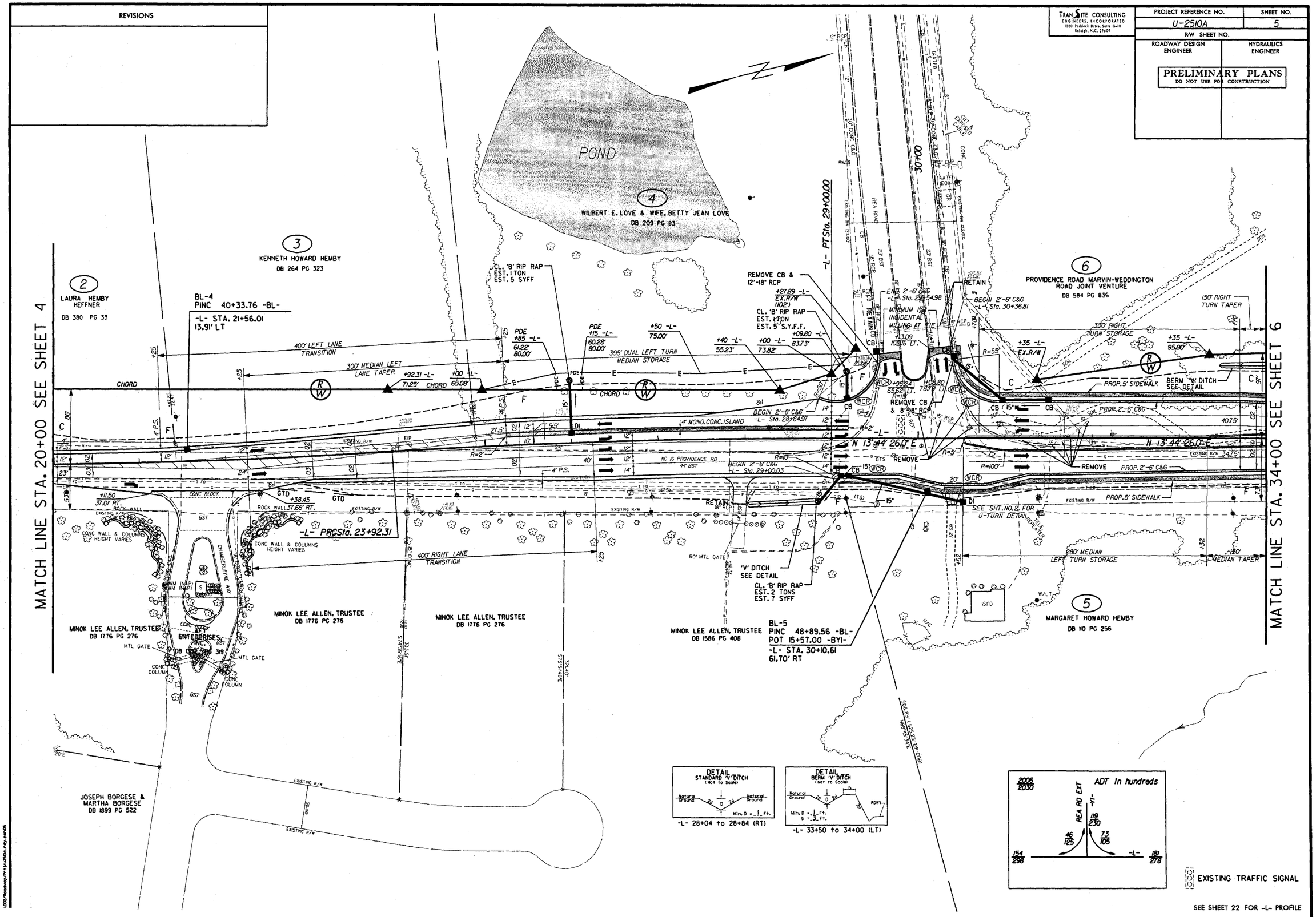
1.001.002/Roadway/Proj/u2510a_rdy_psh04

REVISIONS

TRANSITE CONSULTING ENGINEERS, INCORPORATED
1300 Paddock Drive, Suite G-10
Raleigh, N.C. 27609

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



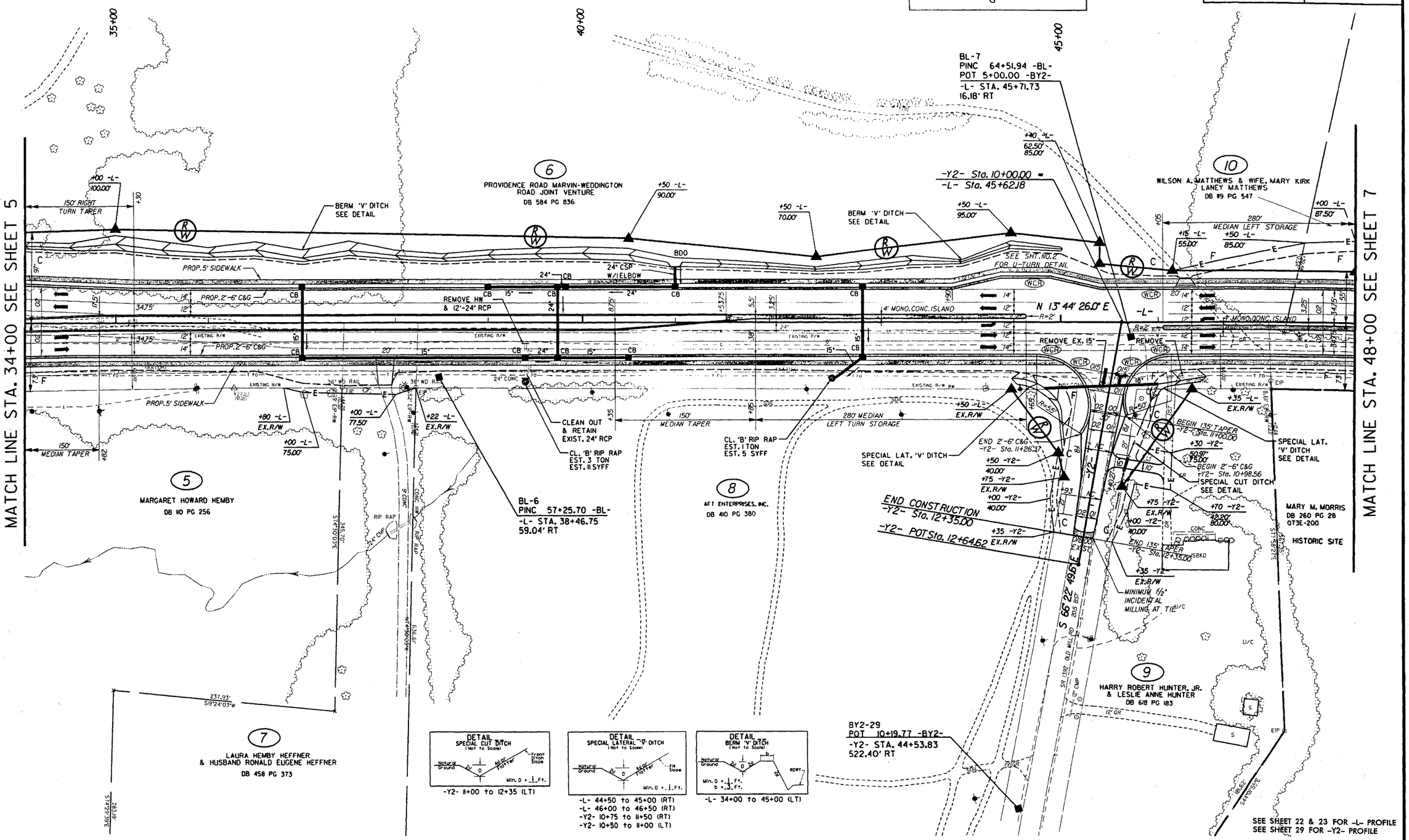
SEE SHEET 22 FOR -L- PROFILE

REVISIONS

TRANSITE CONSULTING ENGINEERS, INCORPORATED
1200 Paddock Drive, Suite G-10
Raleigh, N.C. 27609

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



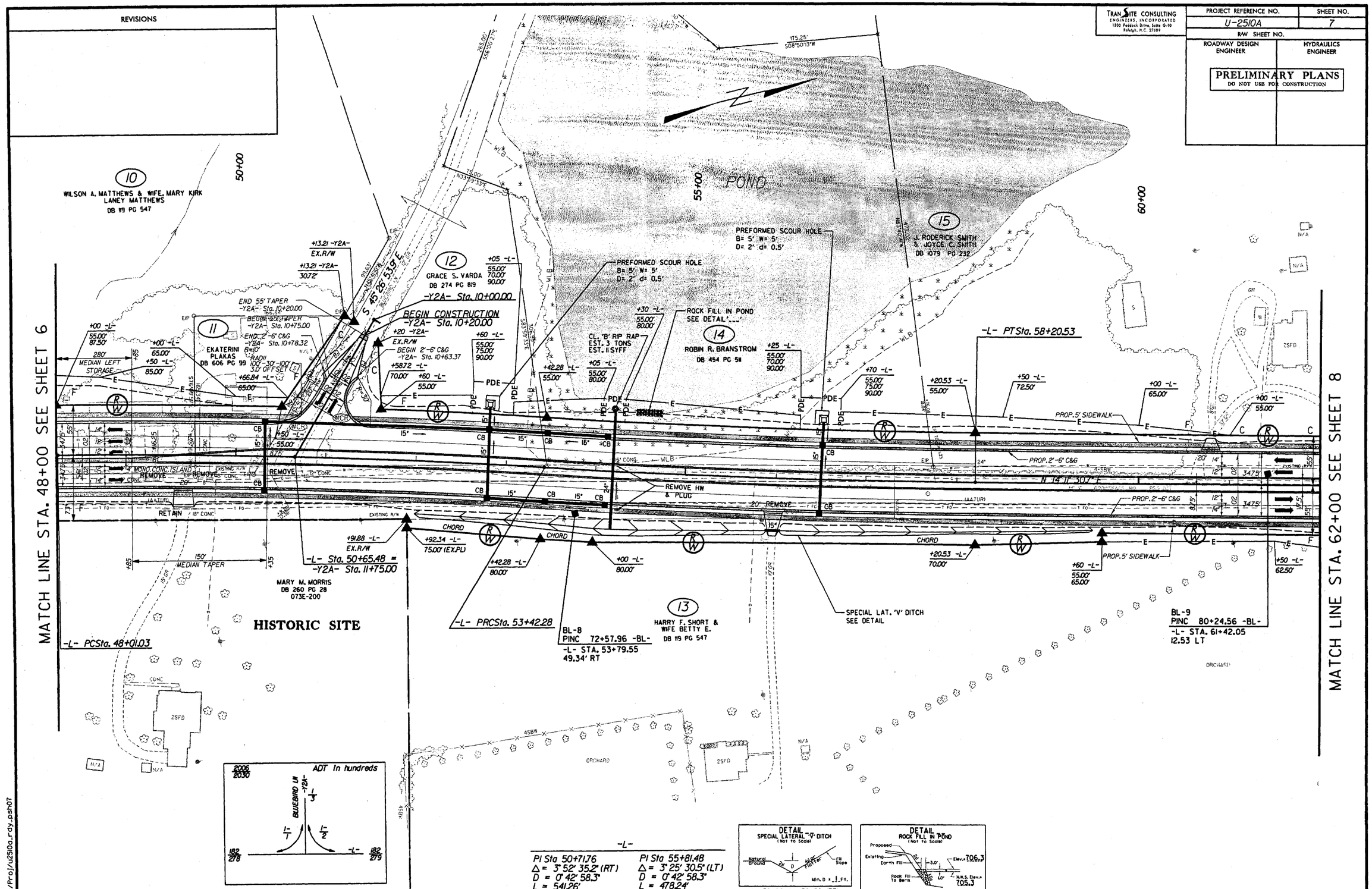
001.002//Roadway/Proj/u2510a_rdy_psh06

REVISIONS

TRANSITE CONSULTING ENGINEERS, INCORPORATED
1300 Paddock Drive, Suite G-10
Raleigh, N.C. 27609

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



SEE SHEET 23 FOR -L- PROFILE
SEE SHEET 29 FOR -Y2A- PROFILE

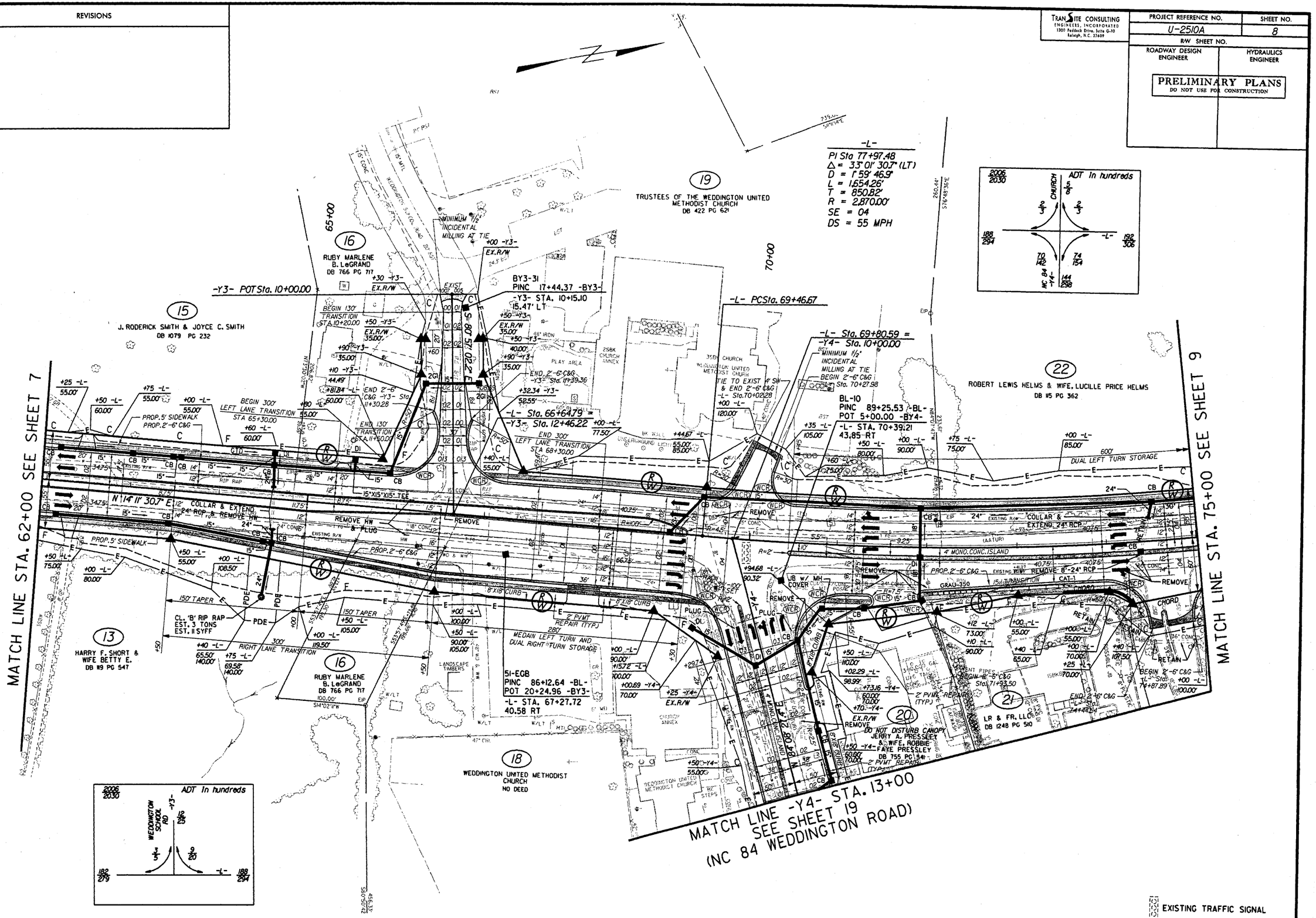
L002/Roadway/Proj/u2510a_rdy_psh07

REVISIONS

TRANSITE CONSULTING ENGINEERS, INCORPORATED
1300 Paddock Drive, Suite G-10
Raleigh, N.C. 27609

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

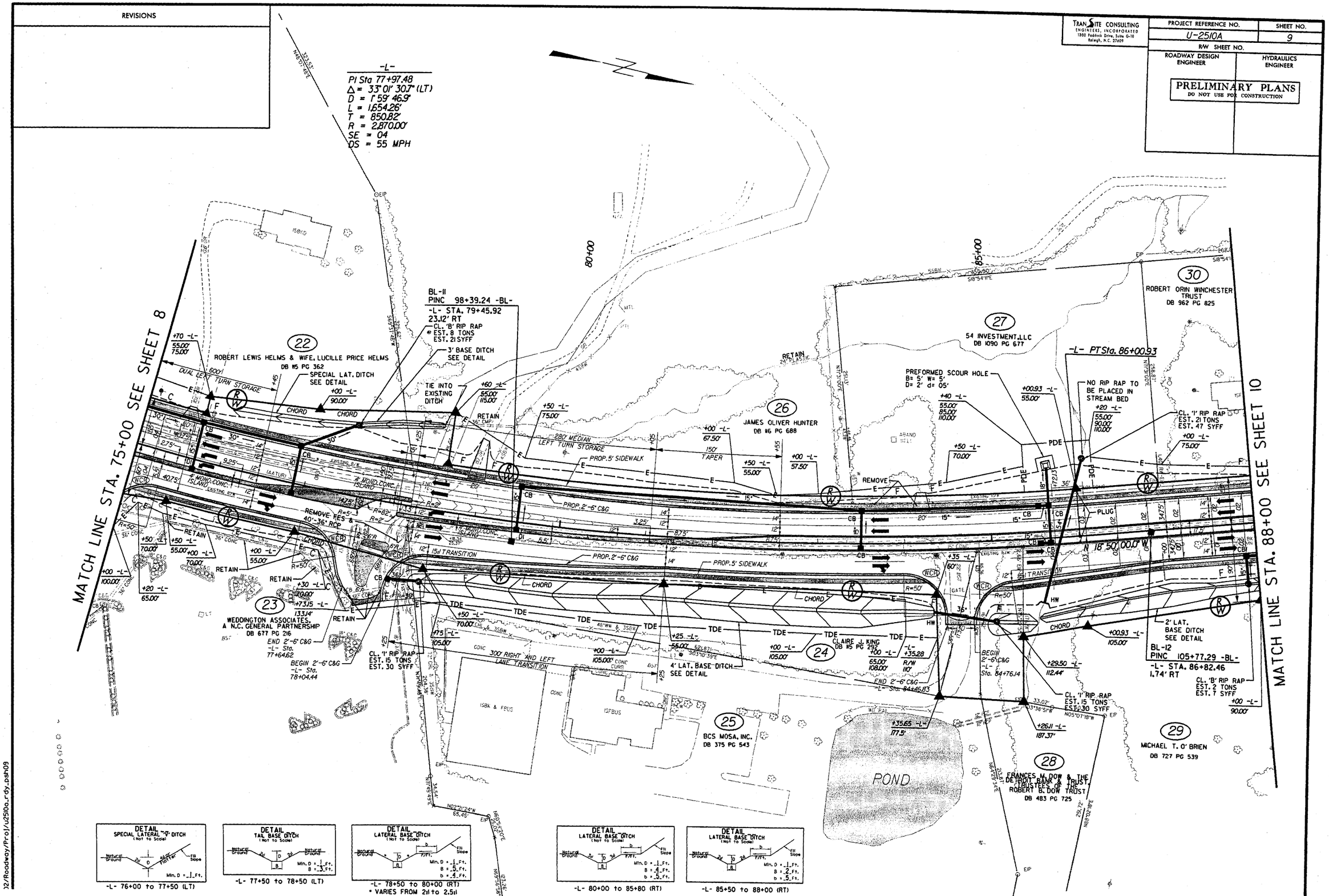


REVISIONS

TRANSITE CONSULTING ENGINEERS, INCORPORATED
1300 Paddock Drive, Suite G-10
Raleigh, N.C. 27609

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



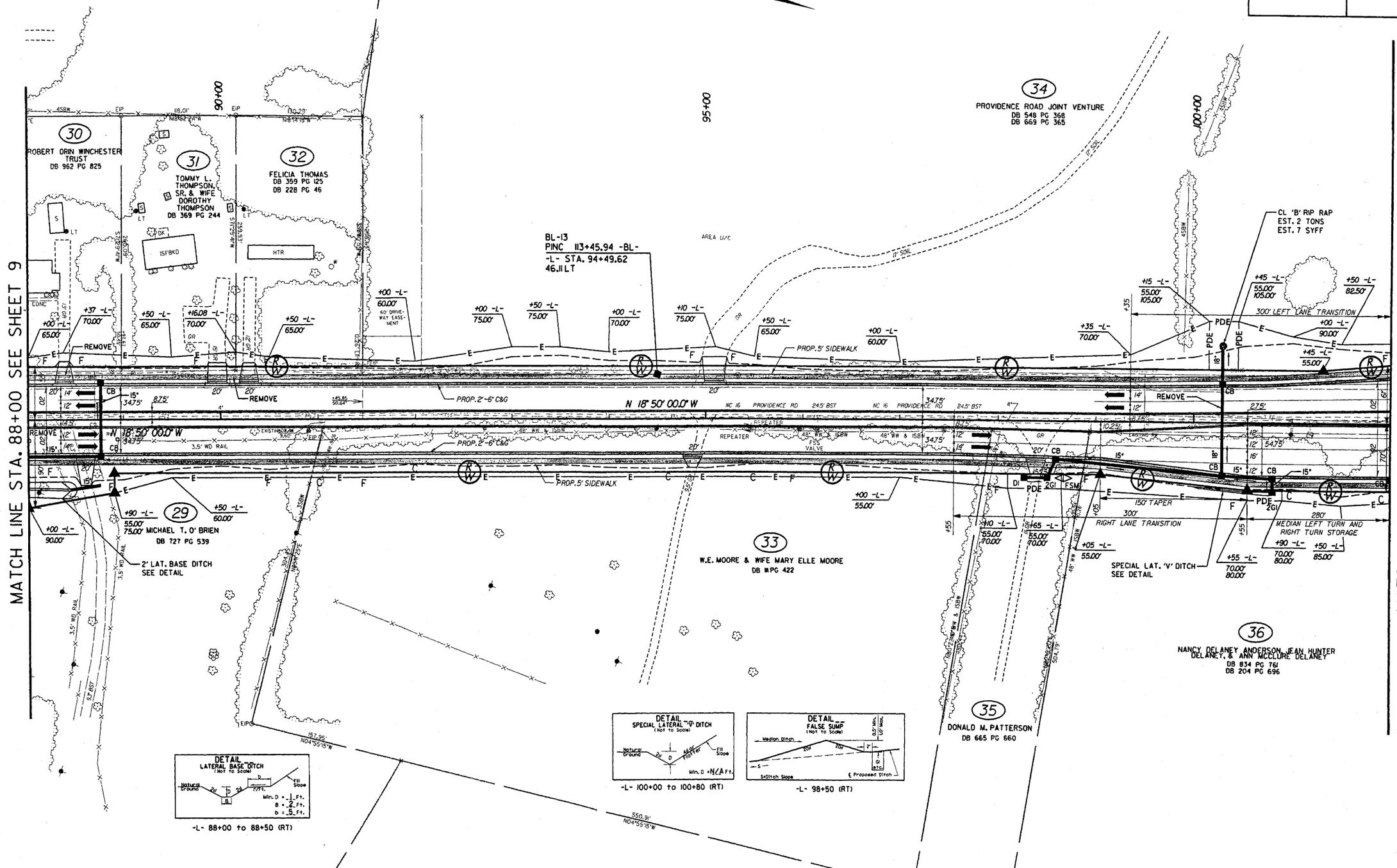
02/Roadway/Proj/u2510a_rdy.psh09

REVISIONS

TRANSITE CONSULTING ENGINEERS, INCORPORATED
1300 Paddock Drive, Suite G-10
Raleigh, N.C. 27609

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



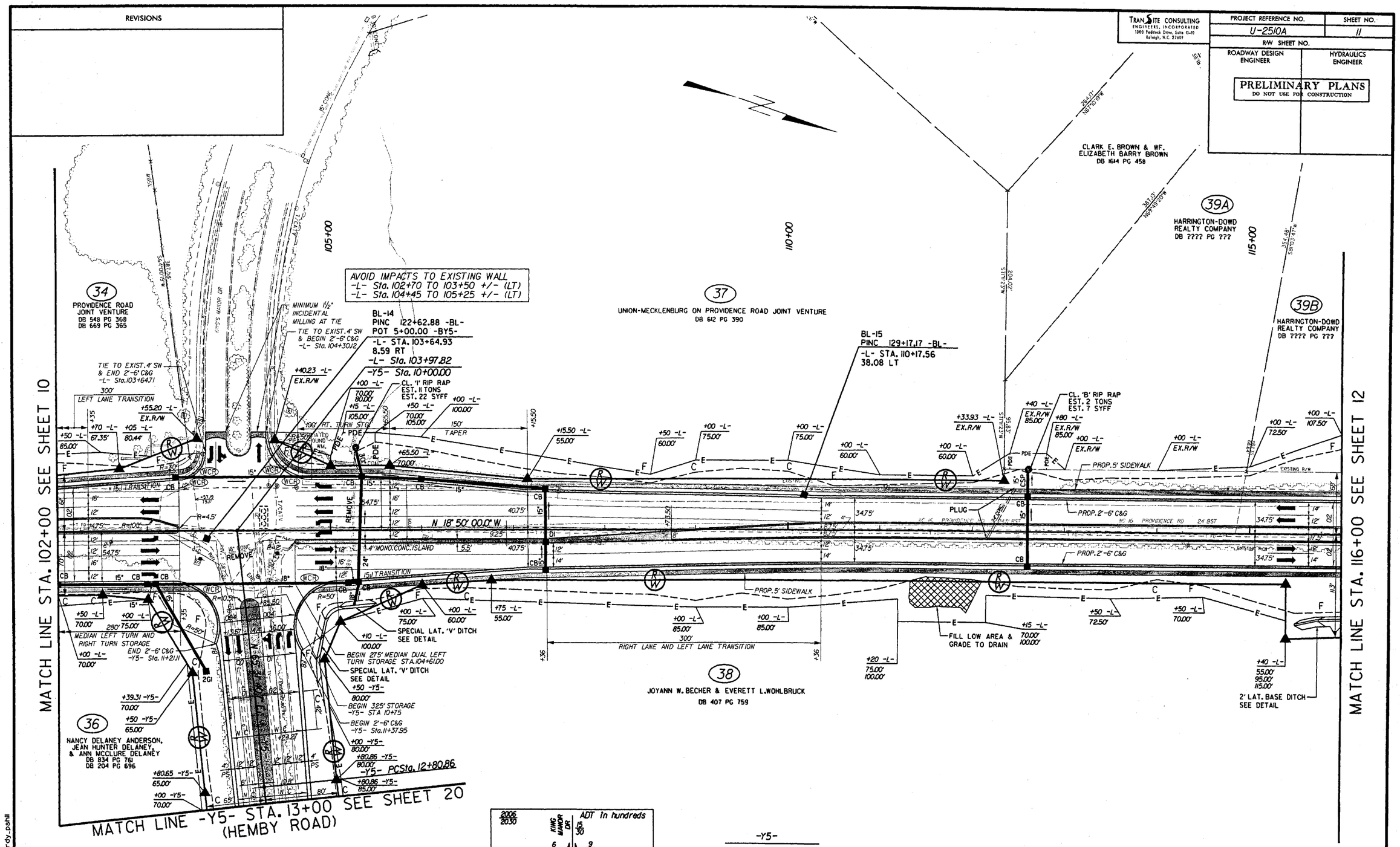
D02/Roadway/Proj/U2510a_rdy_psh10

REVISIONS

TRANSITE CONSULTING ENGINEERS, INCORPORATED
3200 Poddock Drive, Suite G-15
Raleigh, N.C. 27609

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



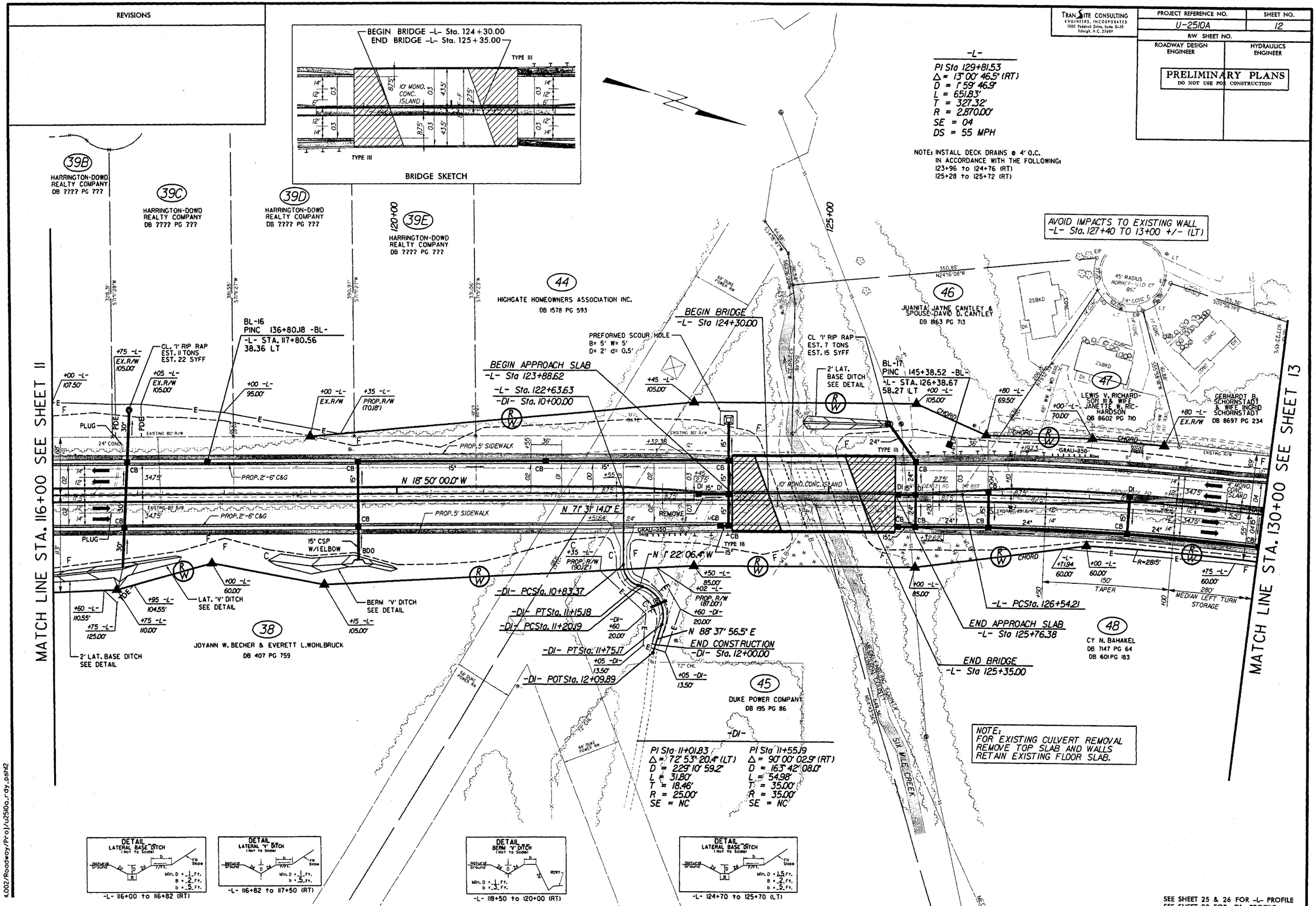
002/Roadway/Proj/u2510a_rdy.pshll

REVISIONS

TRANSITE CONSULTING ENGINEERS, INCORPORATED
1300 Paddock Drive, Suite G-10
Raleigh, N.C. 27609

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



SEE SHEET 25 & 26 FOR -L- PROFILE

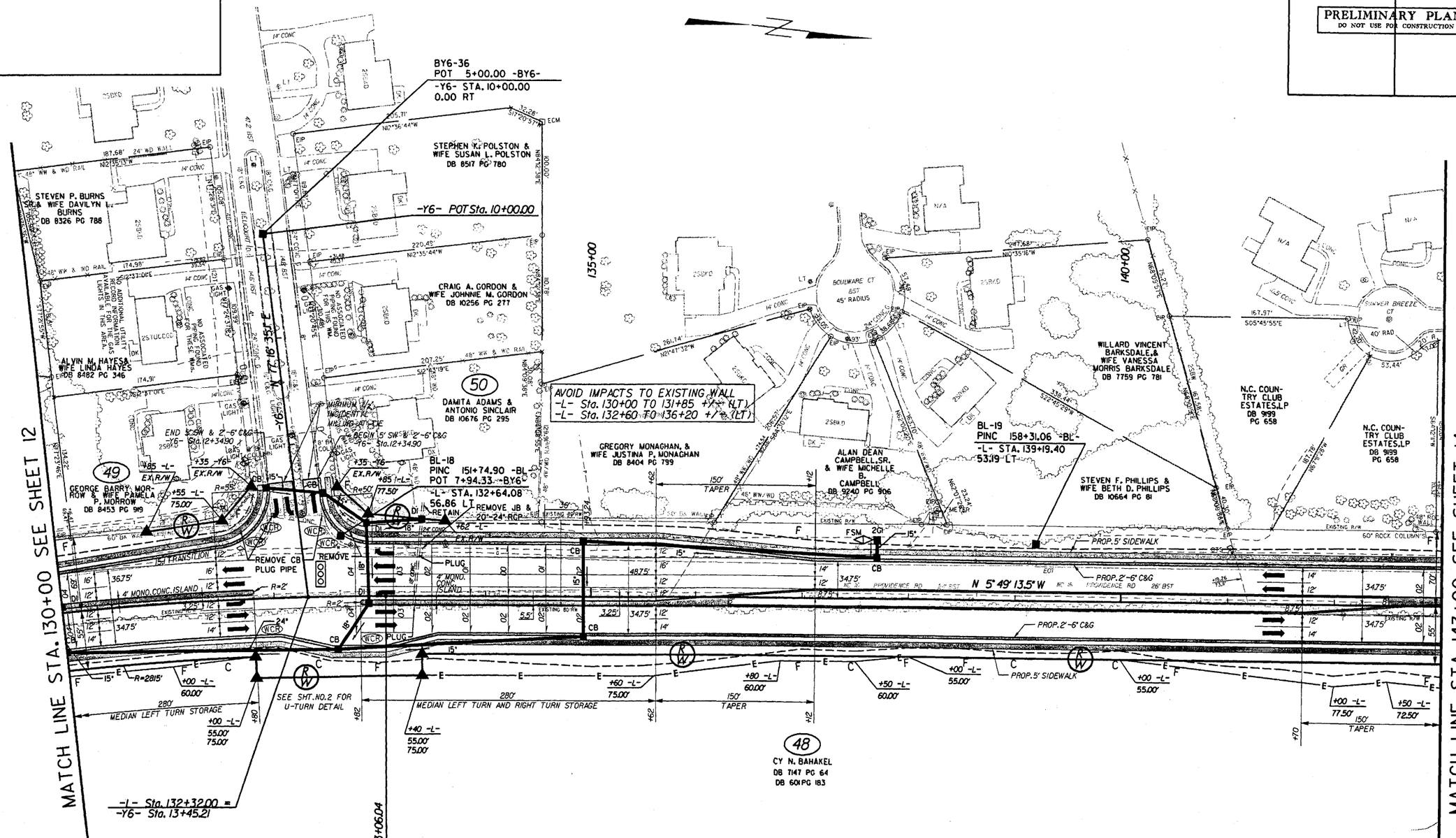
4.002/Roadway/Proj/u2510a_rdy.pshl2

REVISIONS

TRANSITE CONSULTING ENGINEERS, INCORPORATED
1200 Peddock Drive, Suite G-10
Raleigh, N.C. 27609

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

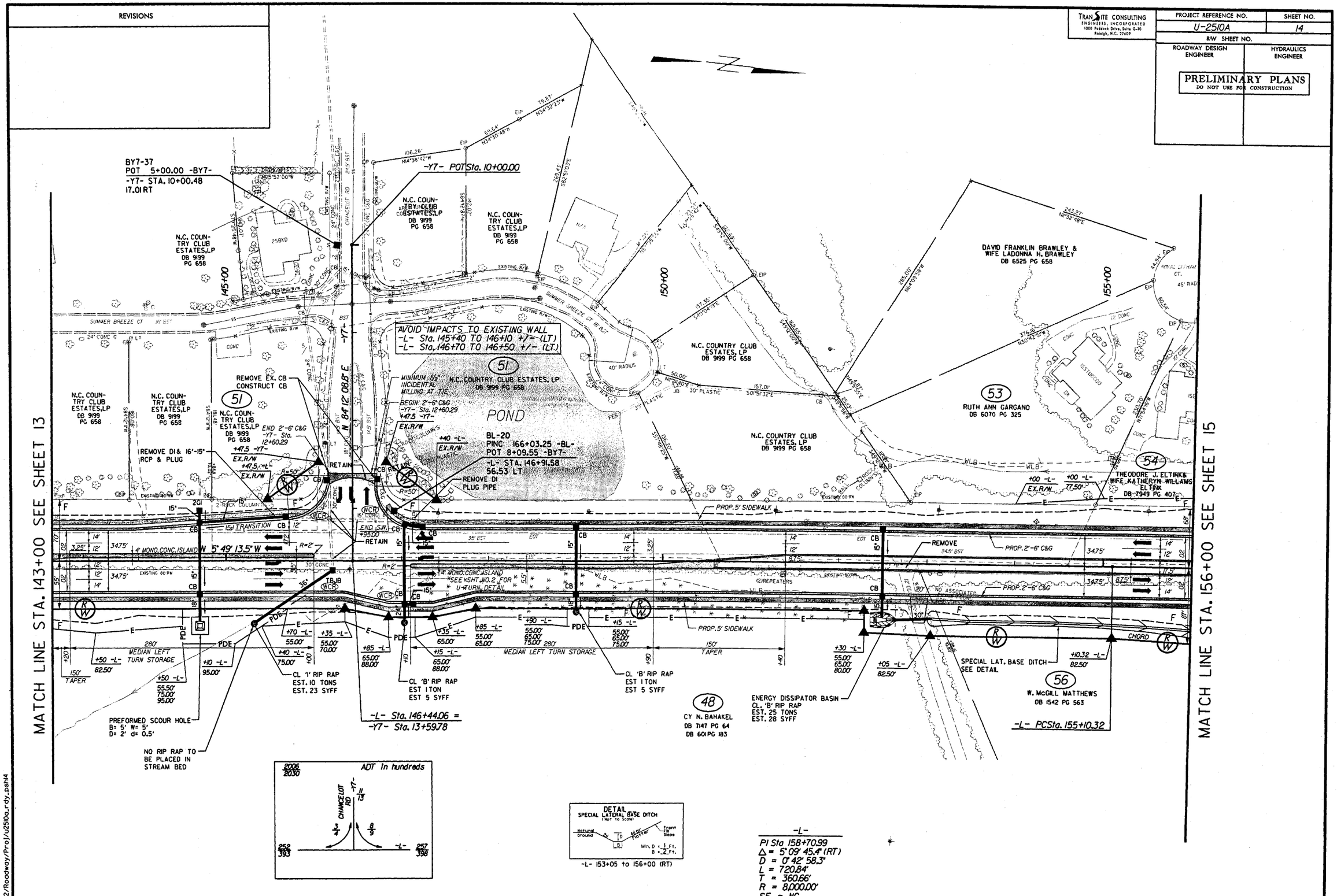


REVISIONS

TRANSITE CONSULTING ENGINEERS, INCORPORATED
1300 Paddock Drive, Suite G-10
Raleigh, N.C. 27609

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



-L-
PI Sta 158+70.99
Δ = 5° 09' 45.4" (RT)
D = 0° 42' 58.3"
L = 720.84'
T = 360.66'
R = 8,000.00'
SE = NC
DS = 50 MPH

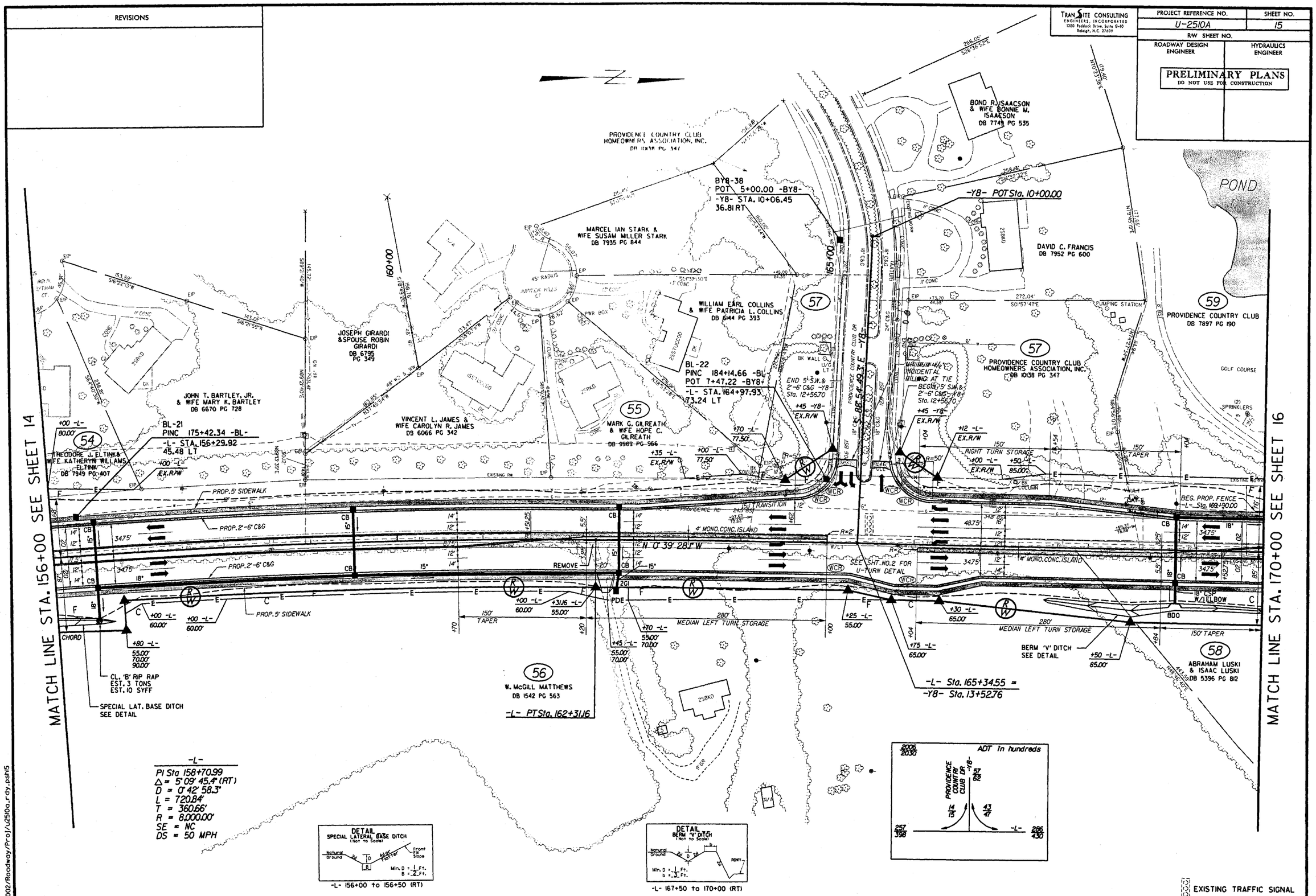
1.002/Roadway/Proj/u2510a_rdy_psh14

REVISIONS

TRANSITE CONSULTING
ENGINEERS, INCORPORATED
1300 Baddeck Drive, Suite G-10
Raleigh, N.C. 27609

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



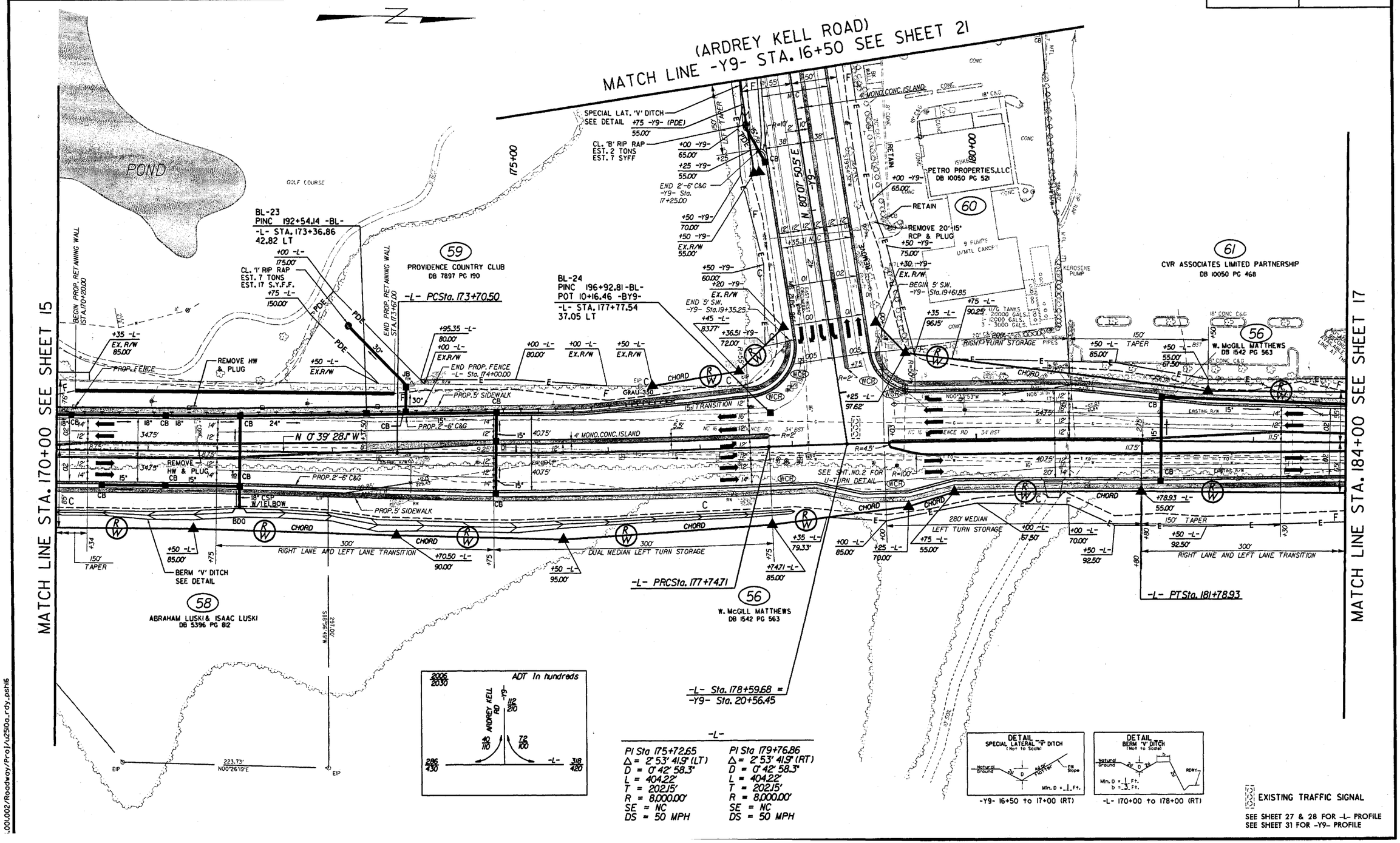
002/Roadway/Proj/u2510a_rdy.pshl5

REVISIONS

TRANSITE CONSULTING ENGINEERS, INCORPORATED
1300 Paddock Drive, Suite G-10
Raleigh, N.C. 27609

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



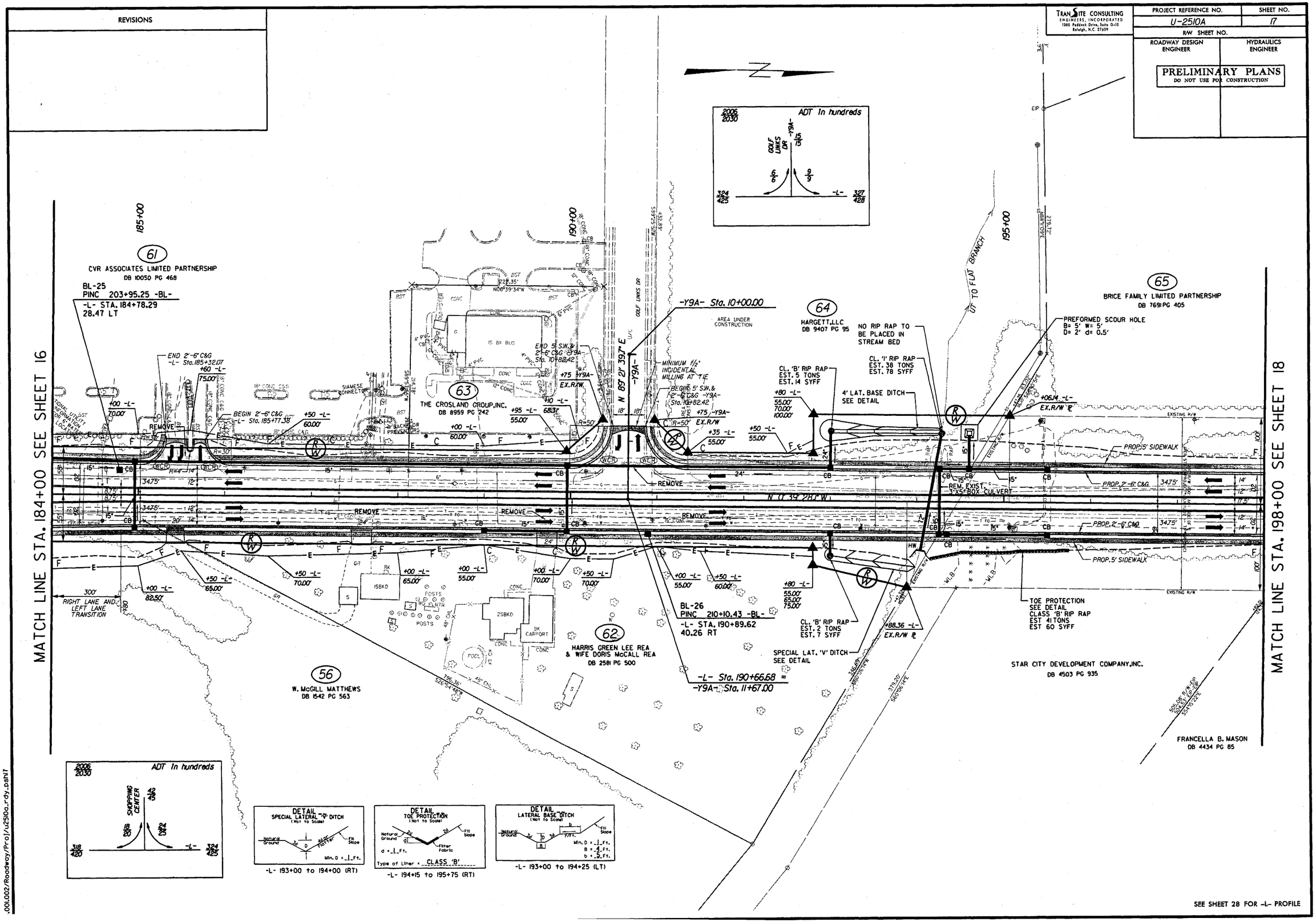
...001.002/Roadway/Proj/u2510a_rdy_psh16

REVISIONS

TRANSITE CONSULTING ENGINEERS, INCORPORATED
1300 Paddock Drive, Suite G-10
Raleigh, N.C. 27609

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



SEE SHEET 28 FOR -L- PROFILE

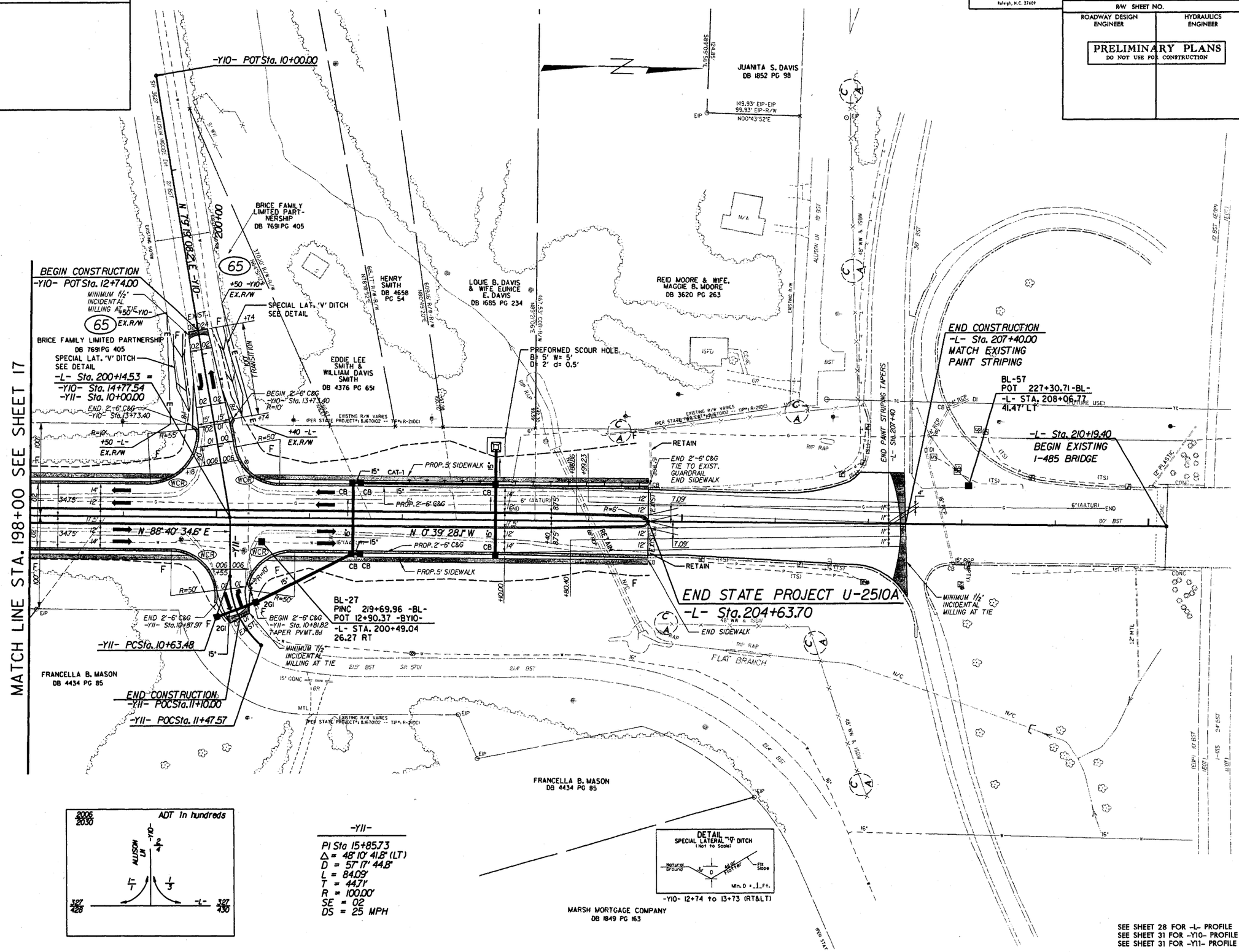
.001.002/Roadway/Proj/u2510a_rdy.pshi7

REVISIONS

TRANSITE CONSULTING ENGINEERS, INCORPORATED
1300 Paddock Drive, Suite G-10
Raleigh, N.C. 27609

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



SEE SHEET 28 FOR -L- PROFILE
SEE SHEET 31 FOR -Y10- PROFILE
SEE SHEET 31 FOR -Y11- PROFILE

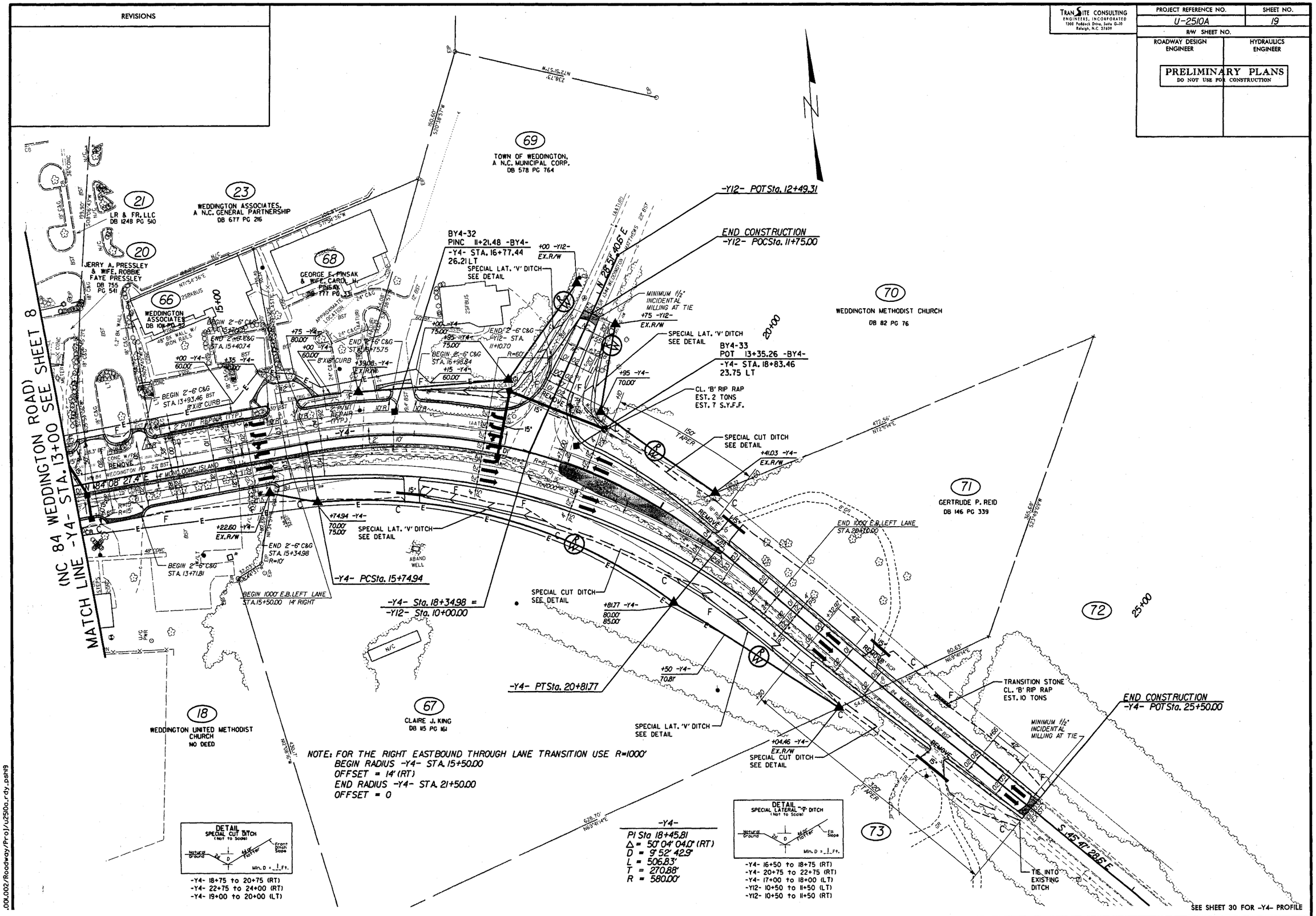
3.001.002/Roadway/Proj/u2510a_rdy_psh18

REVISIONS

TRANSITE CONSULTING ENGINEERS, INCORPORATED
1300 Pedcor Drive, Suite G-30
Raleigh, N.C. 27609

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



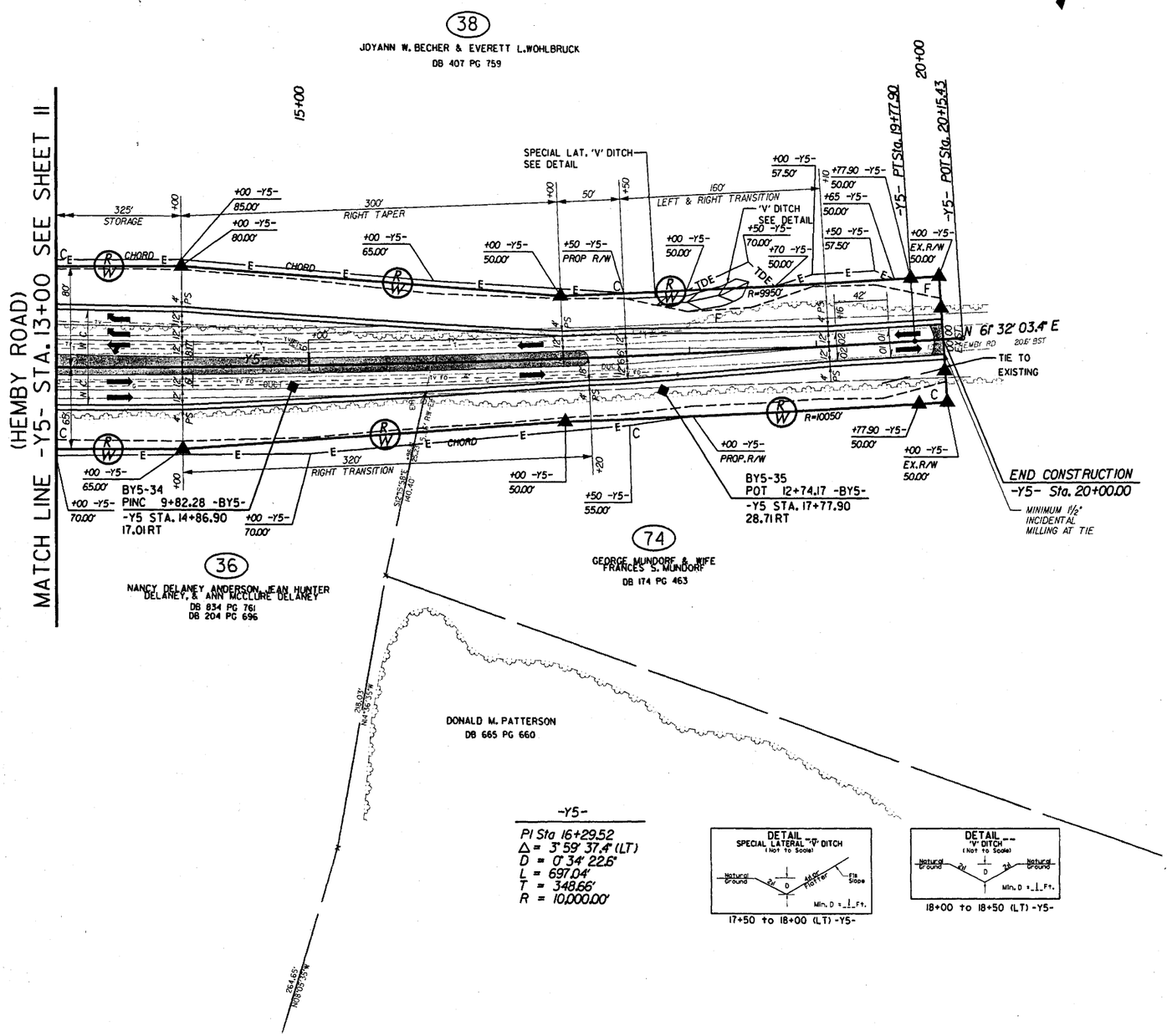
.001.002/Roadway/Proj/u2510a_rdy_psh19

REVISIONS

TRANSITE CONSULTING ENGINEERS, INCORPORATED
1300 Pedcoke Drive, Suite G-10
Raleigh, N.C. 27609

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



SEE SHEET 30 FOR -Y5- PROFILE

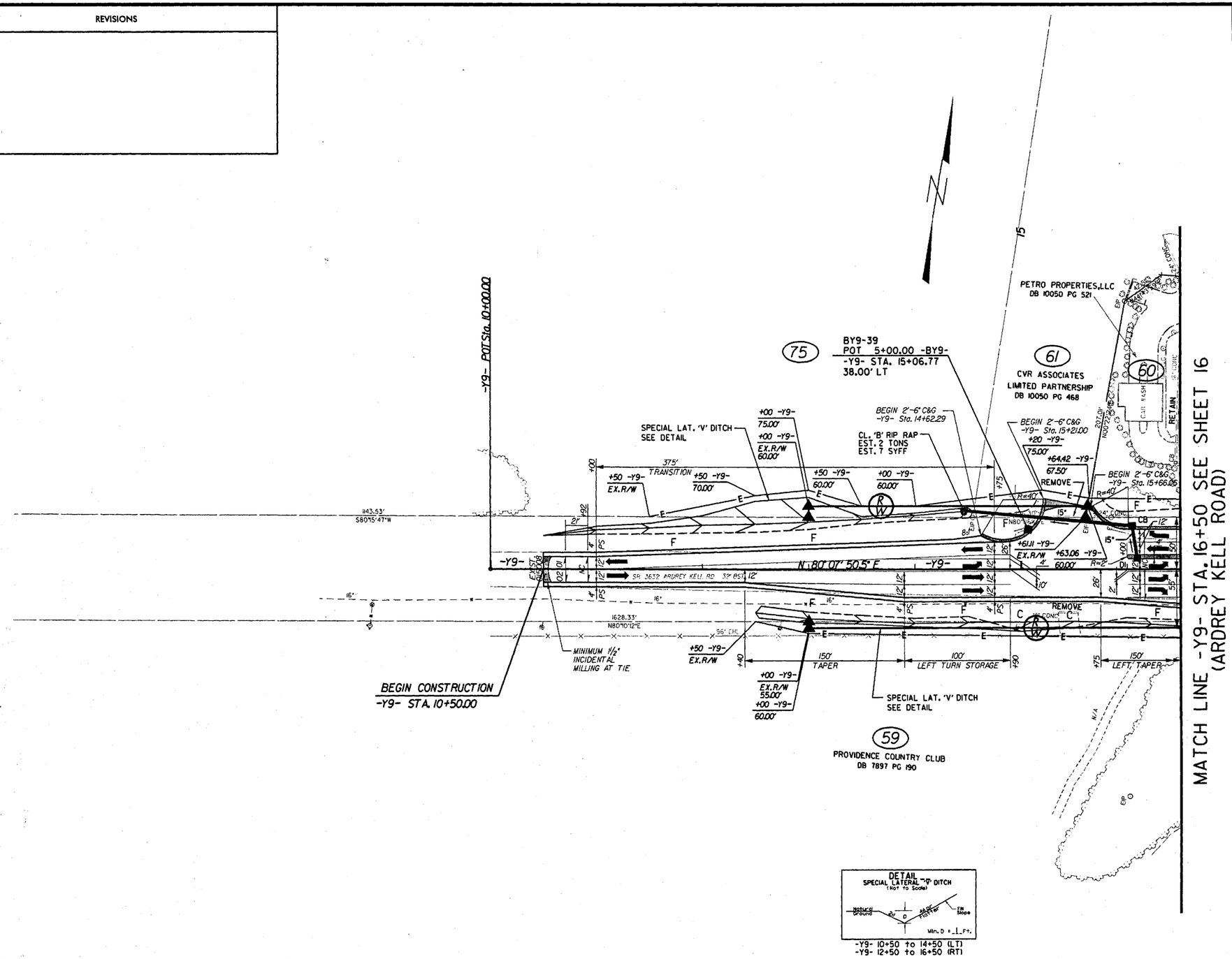
3.001.002/Roadway/Proj/u2510a_r-dy_psh20

REVISIONS

TRANSITE CONSULTING ENGINEERS, INCORPORATED
1300 Paddock Drive, Suite G-10
Raleigh, N.C. 27609

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



-Y9- 10+50 to 14+50 (LT)
-Y9- 12+50 to 16+50 (RT)

002/Roadway/Proj/u2510a_rdy.psh21

SEE SHEET 21 FOR -Y9- PROFILE