STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

February 22, 2010

U. S. Army Corps of Engineers
Regulatory Field Office
3331 Heritage Trade Drive, Suite 105
Wake Forest, NC 27587

ATTN: Mr. Andy Williams
NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permit 14 and Section 401 Water Quality Certification** for the SR 1311 (Cook Rd) Widening & Extension from SR 1909 (Westbrook Ave) to SR 1503 (Manning Ave) on NC 100 in Alamance County. Federal Aid Project Number STP-0701(7), Division 7, T.I.P No. U-3110B.

Debit $240.00 from WBS No. 34901.1.1

Dear Sir,

The North Carolina Department of Transportation (NCDOT) proposes to widen and extend SR 1311 (Cook Rd) from SR 1909 (Westbrook Ave) to SR 1503 (Manning Ave) on NC 100, a distance of approximately 1.3 miles. Please see the enclosed copies of the Pre-Construction Notification (PCN), Stormwater Management Plan, permit drawings, compensatory mitigation debit, EEP Concurrence Letter, and design plans for the above-referenced project.

The Environmental Assessment (EA) was completed for this project in January 1997, the Finding of No Significant Impact (FONSI) was completed in January 1998, a Right-of-Way Consultation was completed in April of 2008. Additional copies are available upon request.

This project calls for a letting date of September 21, 2010 and a review date of August 3, 2010.

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

TELEPHONE: 919-431-2000

FAX: 919-431-2001

WEBSITE: WWW.NCDOT.ORG

LOCATION:
4701 Atlantic Ave.,
Suite 116
Raleigh, NC 27604

A copy of this permit application will be posted on the NCDOT Website at: http://www.ncdot.org/doh/preconstruct/pe/. If you have any questions or need additional information, please call Deanna Riffey at (919) 431-1594.

Sincerely,

E. R. Fuse

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

W/attachment
Mr. Brian Wrenn, NCDWQ (5 Copies)

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. J. M. Mills, P.E., Division 7 Engineer
Mr. Jerry Parker, Division 7 Environmental Officer
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. Karen Reynolds, PDEA Project Planning Engineer
Ms. Beth Harmon, EEP
Mr. Phillip Ayscue, NCDOT External Audit Branch
Ms. LeiLani Paugh, NEU
Mr. Randy Griffin, NEU

Office Use Only:
Corps action ID no. _____
DWQ project no. _____
Form Version 1.3 Dec 10 2008

Pre-Construction Notification (PCN) Form

A. Applicant Information

1. Processing

1a. Type(s) of approval sought from the Corps:	☒ Section 404 Permit	☐ Section 10 Permit
1b. Specify Nationwide Permit (NWP) number: 14	or General Permit (GP) number:	
1c. Has the NWP or GP number been verified by the Corps?	☐ Yes	☒ No

1d. Type(s) of approval sought from the DWQ (check all that apply):

☒ 401 Water Quality Certification – Regular ☐ Non-404 Jurisdictional General Permit

☐ 401 Water Quality Certification – Express ☐ Riparian Buffer Authorization

1e. Is this notification solely for the record because written approval is not required?	For the record only for DWQ 401 Certification: ☐ Yes ☒ No	For the record only for Corps Permit: ☐ Yes ☒ No
1f. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts? If so, attach the acceptance letter from mitigation bank or in-lieu fee program.	☒ Yes	☐ No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	☐ Yes	☒ No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	☐ Yes	☒ No

2. Project Information

2a. Name of project:	Widening and Extension SR 1311 (Cook Rd) from SR 1909 (Westbrook Ave) to SR 1503 (Manning Ave) on NC 100
2b. County:	Alamance
2c. Nearest municipality / town:	Elon
2d. Subdivision name:	*not applicable*
2e. NCDOT only, T.I.P. or state project no:	U-3110B

3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation
3b. Deed Book and Page No.	*not applicable*
3c. Responsible Party (for LLC if applicable):	*not applicable*
3d. Street address:	1598 Mail Service Center
3e. City, state, zip:	Raleigh, NC 27699-1598
3f. Telephone no.:	(919) 431-1594
3g. Fax no.:	(919) 431-2002
3h. Email address:	driffey@ncdot.gov

4. Applicant Information (if different from owner)	
4a. Applicant is:	☐ Agent ☐ Other, specify:
4b. Name:	*not applicable*
4c. Business name (if applicable):	
4d. Street address:	
4e. City, state, zip:	
4f. Telephone no.:	
4g. Fax no.:	
4h. Email address:	
5. Agent/Consultant Information (if applicable)	
5a. Name:	*not applicable*
5b. Business name (if applicable):	
5c. Street address:	
5d. City, state, zip:	
5e. Telephone no.:	
5f. Fax no.:	
5g. Email address:	

B. Project Information and Prior Project History		
1. Property Identification		
1a. Property identification no. (tax PIN or parcel ID):	*not applicable*	
1b. Site coordinates (in decimal degrees):	Latitude: 36.1093 (DD.DDDDDD)	Longitude: - 79.5174 (-DD.DDDDDD)
1c. Property size:	32 acres	
2. Surface Waters		
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	UT to Travis Creek	
2b. Water Quality Classification of nearest receiving water:	C, NSW	
2c. River basin:	Cape Fear	
3. Project Description		
3a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: Rural and Developed land		
3b. List the total estimated acreage of all existing wetlands on the property: 0.10		
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 270		
3d. Explain the purpose of the proposed project: The primary purposes of the proposed action are as follows: To provide a continuous route from US 70 to NC 100.		
3e. Describe the overall project in detail, including the type of equipment to be used: The North Carolina Department of Transportation (NCDOT) proposes to widen and extend Cook Road (SR 1311) from Westbrook Avenue (SR 1909) to NC 100 and then to Manning Avenue (SR 1503), a distance of approximately 1.3 miles. The proposed project will be a four-lane, median divided roadway with curbs and gutters, bicycle provisions, and sidewalks. A two-way ramp will provide access to NC100. Standard road building equipment, such as trucks, dozers, and cranes will be used.		
4. Jurisdictional Determinations		
4a. Have jurisdictional wetland or stream determinations by the Corps or State been requested or obtained for this property / project (including all prior phases) in the past? Comments: Site Visit 11/5/09 – No JD issued.	☒ Yes ☐ No ☐ Unknown	
4b. If the Corps made the jurisdictional determination, what type of determination was made?	☐ Preliminary ☒ Final	
4c. If yes, who delineated the jurisdictional areas? Name (if known): NCDOT Biologists: Deanna Riffey& Sara Easterly	Agency/Consultant Company: RK&K Other:	
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. Andy Williams (USACE) visited the site on November 5, 2009. A jurisdictional determination has not been received by NCDOT.		
5. Project History		
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	☒ Yes ☐ No ☐ Unknown	
5b. If yes, explain in detail according to "help file" instructions. Section B covered under an Individual Permit with Section A. Section B had no impacts at that time. Section A has been built and the permit has expired. Section B was deemed to have independent utility and will be covered under a Nationwide Permit		

6. **Future Project Plans**	
6a. Is this a phased project?	☐ Yes ☒ No
6b. If yes, explain.	

C. Proposed Impacts Inventory

1. Impacts Summary

1a. Which sections were completed below for your project (check all that apply):

☒ Wetlands ☒ Streams - tributaries ☐ Buffers

☐ Open Waters ☐ Pond Construction

2. Wetland Impacts

If there are wetland impacts proposed on the site, then complete this question for each wetland area impacted.

2a. Wetland impact number – Permanent (P) or Temporary (T)	2b. Type of impact	2c. Type of wetland (if known)	2d. Forested	2e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	2f. Area of impact (acres)
Site 1 ☒ P ☐ T	Fill, Mechanized Clearing	Riverine	☐ Yes ☒ No	☒ Corps ☐ DWQ	0.06(P)
Site 2 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 3 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 4 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 1 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
				2g. **Total wetland impacts**	0.06(P)

2h. Comments:

3. Stream Impacts

If there are perennial or intermittent stream impacts (including temporary impacts) proposed on the site, then complete this question for all stream sites impacted.

3a. Stream impact number - Permanent (P) or Temporary (T)	3b. Type of impact	3c. Stream name	3d. Perennial (PER) or intermittent (INT)?	3e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	3f. Average stream width (feet)	3g. Impact length (linear feet)
Site 1 ☒ P ☒ T	Pipe extension and Bank Stabilization	UT to Travis Creek	☒ PER ☐ INT	☒ Corps ☐ DWQ		39 ft(P) 39 ft(T)
Site 2 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 3 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 4 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 5 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 6 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
					3h. **Total stream and tributary impacts**	39 Perm 39 Temp

3i. Comments: Per correspondence with Andy Williams on January 28, 2010, mitigation is not required for bank stabilization.

4. Open Water Impacts

If there are proposed impacts to lakes, ponds, estuaries, tributaries, sounds, the Atlantic Ocean, or any other open water of the U.S. then individually list all open water impacts below.

4a. Open water impact number – Permanent (P) or Temporary (T)	4b. Name of waterbody (if applicable)	4c. Type of impact	4d. Waterbody type	4e. Area of impact (acres)
O1 ☐ P ☐ T				
O2 ☐ P ☐ T				
O3 ☐ P ☐ T				
O4 ☐ P ☐ T				
			4f. Total open water impacts	0 Permanent 0 Temporary

4g. Comments:

5. Pond or Lake Construction

If pond or lake construction proposed, then complete the chart below.

5a. Pond ID number	5b. Proposed use or purpose of pond	5c. Wetland Impacts (acres)			5d. Stream Impacts (feet)			5e. Upland (acres)
		Flooded	Filled	Excavated	Flooded	Filled	Excavated	Flooded
P1								
P2								
	5f. Total							

5g. Comments:

5h. Is a dam high hazard permit required?	☐ Yes ☐ No If yes, permit ID no:
5i. Expected pond surface area (acres):	
5j. Size of pond watershed (acres):	
5k. Method of construction:	

6. Buffer Impacts (for DWQ)

If project will impact a protected riparian buffer, then complete the chart below. If yes, then individually list all buffer impacts below. If any impacts require mitigation, then you **MUST** fill out Section D of this form.

6a. Project is in which protected basin?	☐ Neuse ☐ Catawba	☐ Tar-Pamlico ☐ Randleman	☐ Other:

6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)
B1 ☐ P ☐ T			☐ Yes ☐ No		
B2 ☐ P ☐ T			☐ Yes ☐ No		
B3 ☐ P ☐ T			☐ Yes ☐ No		
			6h. **Total buffer impacts**		

6i. Comments:

D. Impact Justification and Mitigation

1. Avoidance and Minimization

1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project.

A preformed scour hole is being placed at the outlet of a three inlet roadway drainage system near Site 1 to reduce velocities and promote sheet flow. Also, to help reserve the natural integrity of the stream, no rip rap is to be placed in the streambed at the outlet of the 66" RCP extension for Site 1. A 2:1 fill slope will be used at Site 1 to reduce the footprint in the jurisdictional areas (stream and wetland).

1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques.

2:1 slopes are to be used and Best Management Practices for Surface Waters.

2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State

2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State?	☒ Yes ☐ No
2b. If yes, mitigation is required by (check all that apply):	☐ DWQ ☒ Corps
2c. If yes, which mitigation option will be used for this project?	☐ Mitigation bank ☒ Payment to in-lieu fee program ☒ Permittee Responsible Mitigation

3. Complete if Using a Mitigation Bank

3a. Name of Mitigation Bank: not applicable

3b. Credits Purchased (attach receipt and letter)	Type	Quantity

3c. Comments:

4. Complete if Making a Payment to In-lieu Fee Program

4a. Approval letter from in-lieu fee program is attached.	☒ Yes
4b. Stream mitigation requested:	29 linear feet of impacts at 2:1 mitigation = 58 ft requested
4c. If using stream mitigation, stream temperature:	☒ warm ☐ cool ☐ cold
4d. Buffer mitigation requested (DWQ only):	0 square feet
4e. Riparian wetland mitigation requested:	0 acres
4f. Non-riparian wetland mitigation requested:	0 acres
4g. Coastal (tidal) wetland mitigation requested:	0 acres

4h. Comments: Stream mitigation provided by EEP. Wetland mitigation provided by NCDOT.

5. Complete if Using a Permittee Responsible Mitigation Plan

5a. If using a permittee responsible mitigation plan, provide a description of the proposed mitigation plan.

Compensatory Mitigation using Bryan Boulevard Mitigation Sites for 0.06 riverine wetlands at a 1:1 ratio. See Attached.

6. **Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ**				
6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?			☐ Yes ☐ No	
6b. If yes, then identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required.				
Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1				
Zone 2				
	6f. **Total buffer mitigation required:**			
6g. If buffer mitigation is required, discuss what type of mitigation is proposed (e.g., payment to private mitigation bank, permittee responsible riparian buffer restoration, payment into an approved in-lieu fee fund).				
6h. Comments:				

E. Stormwater Management and Diffuse Flow Plan (required by DWQ)	
1. Diffuse Flow Plan	
1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?	☐ Yes ☒ No
1b. If yes, then is a diffuse flow plan included? If no, explain why. Comments: See Permit Plans	☐ Yes ☐ No
2. Stormwater Management Plan	
2a. What is the overall percent imperviousness of this project?	N/A
2b. Does this project require a Stormwater Management Plan?	☒ Yes ☐ No
2c. If this project DOES NOT require a Stormwater Management Plan, explain why:	
2d. If this project DOES require a Stormwater Management Plan, then provide a brief, narrative description of the plan: See attached.	
2e. Who will be responsible for the review of the Stormwater Management Plan?	☐ Certified Local Government ☐ DWQ Stormwater Program ☐ DWQ 401 Unit
3. Certified Local Government Stormwater Review	
3a. In which local government's jurisdiction is this project?	not applicable
3b. Which of the following locally-implemented stormwater management programs apply (check all that apply):	☐ Phase II ☐ NSW ☐ USMP ☐ Water Supply Watershed ☐ Other:
3c. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No
4. DWQ Stormwater Program Review	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	☐ Coastal counties ☐ HQW ☐ ORW ☐ Session Law 2006-246 ☐ Other:
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	☒ Yes ☐ No
5b. Have all of the 401 Unit submittal requirements been met?	☒ Yes ☐ No

F. Supplementary Information		
1. Environmental Documentation (DWQ Requirement)		
1a. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land?	☒ Yes	☐ No
1b. If you answered "yes" to the above, does the project require preparation of an environmental document pursuant to the requirements of the National or State (North Carolina) Environmental Policy Act (NEPA/SEPA)?	☒ Yes	☐ No
1c. If you answered "yes" to the above, has the document review been finalized by the State Clearing House? (If so, attach a copy of the NEPA or SEPA final approval letter.) Comments:	☒ Yes	☐ No
2. Violations (DWQ Requirement)		
2a. Is the site in violation of DWQ Wetland Rules (15A NCAC 2H .0500), Isolated Wetland Rules (15A NCAC 2H .1300), DWQ Surface Water or Wetland Standards, or Riparian Buffer Rules (15A NCAC 2B .0200)?	☐ Yes	☒ No
2b. Is this an after-the-fact permit application?	☐ Yes	☒ No
2c. If you answered "yes" to one or both of the above questions, provide an explanation of the violation(s):		
3. Cumulative Impacts (DWQ Requirement)		
3a. Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality?	☐ Yes ☒ No	
3b. If you answered "yes" to the above, submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent DWQ policy. If you answered "no," provide a short narrative description. Due to the minimal transportation impact resulting from this project, this project will neither influence nearby land uses nor stimulate growth. Therefore, a detailed indirect or cumulative effects study will not be necessary.		
4. Sewage Disposal (DWQ Requirement)		
4a. Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility. not applicable		

5. Endangered Species and Designated Critical Habitat (Corps Requirement)		
5a. Will this project occur in or near an area with federally protected species or habitat?	☐ Yes	☒ No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	☐ Yes	☒ No
5c. If yes, indicate the USFWS Field Office you have contacted.	☐ Raleigh ☐ Asheville	
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? NHP, USFWS website, NCDOT field surveys on April 9, 2008. No federally protected species listed. Field survey for bald eagle -No effect.		
6. Essential Fish Habitat (Corps Requirement)		
6a. Will this project occur in or near an area designated as essential fish habitat?	☐ Yes	☒ No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? NMFS County Index		
7. Historic or Prehistoric Cultural Resources (Corps Requirement)		
7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)?	☐ Yes	☒ No
7b. What data sources did you use to determine whether your site would impact historic or archeological resources? NEPA Documentation		
8. Flood Zone Designation (Corps Requirement)		
8a. Will this project occur in a FEMA-designated 100-year floodplain?	☐ Yes	☒ No
8b. If yes, explain how project meets FEMA requirements:		
8c. What source(s) did you use to make the floodplain determination? FEMA Maps		

Dr. Gregory J. Thorpe, Ph D Applicant/Agent's Printed Name	E. L. Luck Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	2.22.10 Date

Compensatory Mitigation

The Bryan Boulevard Mitigation Sites are located in Guilford County, adjacent to the Bryan Boulevard Extension. Site 1 (Horsepen Creek) is located at the intersection of Bryan Boulevard and Flemming Road; site 2 (Oak Ridge Road) is located near the intersection of Bryan Boulevard and Old Oak Ridge Road. These mitigation sites were originally constructed to offset wetland impacts associated with (T.I.P. U-608) the extension of Bryan Boulevard. The sites have completed there monitoring period and met all prescribed hydrologic and vegetative success criteria.

To offset the 0.058 acres of unavoidable riverine wetland impacts associated with (T.I.P. U-3110B) the widening and extension of Cook Road (SR 1311), the Bryan Boulevard Mitigation Sites have been debited 0.06 acres of riverine wetland restoration. This debit is reflected in the following table.

Site name	Site TIP	HUC	River Basin	Division	County
Bryan Boulevard (Horsepen Creek & Oakridge Road)	U-608	3030002	Cape Fear	7	Guilford

Mitigation Type		As Built Quantity	Available	Debit	Debit
				U-608	U-3110B
Riverine Wetland Enhancement		1.9	0	1.9	
Riverine Wetland Restoration		4.9	3.84	1	0.06
Riverine Wetland Creation		24	0	24	

Ecosystem Enhancement PROGRAM

February 18, 2010

Mr. Andy Williams
U. S. Army Corps of Engineers
Raleigh Regulatory Field Office
3331 Heritage Trade Drive, Suite 105
Wake Forest, North Carolina 27587

Dear Mr. Williams:

Subject: EEP Mitigation Acceptance Letter:

U-3110B, SR 1311 (Cook Road) Widening and Extension from SR 1909 (Westbrook Avenue) to SR 1503, Alamance County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream mitigation for the unavoidable impact associated with the above referenced project. Based on the information supplied by the NCDOT on February 10, 2010, the impacts are located in CU 03030002 of the Cape Fear River Basin in the Central Piedmont (CP) Eco-Region, and the anticipated mitigation credits needed to offset the impacts are as follows:

Cape Fear 03030002 CP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	28	0	0	0	0	0
Mitigation Units (Credits-up to 2:1)	0	0	56	0	0	0	0	0

This mitigation acceptance letter replaces the mitigation acceptance letter issued on February 4, 2010. Mitigation associated with this project will be provided in accordance with Section X of Amendment No. 2 to the Memorandum of Agreement between the N. C. Department of Environment and Natural Resources, the N. C. Department of Transportation, and the U. S. Army Corps of Engineers fully executed on March 8, 2007 (Tri-Party MOA). EEP commits to implement sufficient compensatory stream mitigation in the appropriate cataloging unit in the amount listed in the above table to offset the impacts associated with this project by the end of the MOA year in which this project is permitted. 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 D. Stanfill for

William D. Gilmore, P.E.
EEP Director

cc: Mr. Gregory J. Thorpe, Ph.D., NCDOT-PDEA
Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit
File: U-3110B Revised

Ecosystem Enhancement PROGRAM

February 18, 2010

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

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

U-3110B, SR 1311 (Cook Road) Widening and Extension from SR 1909 (Westbrook Avenue) to SR 1503, Alamance County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream mitigation for the subject project. Based on the information supplied by you on February 10, 2010, the impacts are located in CU 03030002 of the Cape Fear River Basin in the Central Piedmont (CP) Eco-Region, and are as follows:

Cape Fear 03030002 CP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	28	0	0	0	0	0
Mitigation Units (Credits-up to 2:1)	0	0	56	0	0	0	0	0

This mitigation acceptance letter replaces the mitigation acceptance letter issued on February 4, 2010. EEP commits to implementing sufficient compensatory stream mitigation credits to offset the impacts associated with this project by the end of the MOA Year in which this project is permitted, in accordance with Section X of the Amendment No. 2 to the Memorandum of Agreement between the North Carolina Department of Environment and Natural Resources, the North Carolina Department of Transportation, and the U. S. Army Corps of Engineers, fully executed on March 8, 2007. 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. Andy Williams, USACE – Raleigh Regulatory Field Office
Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit
File: U-3110B Revised

STORMWATER MANAGEMENT PLAN

State Project No. 34901.1.1

TIP Project No. U-3110B

Alamance County, NC

SR 1311 (Cook Rd.) Improvements and Connector

From SR 1909 (Westbrook Ave.) to NC 100 (Haggard Ave.)

Prepared by:

TranSite Consulting Engineers, Inc.

3516 Bush Street, Suite 101

Raleigh, NC 27609

PROJECT INVOLVEMENT

The proposed project is 1.392 miles in total length and will be a four lane facility with median curb, curb and gutter, and turn lanes. The improvements are located in Alamance County just West of Elon College and fall within the Elon and Gibsonville City Limits. The project stretches from SR 1909 (Westbrook Ave.) to SR 1503 (Manning Ave.) along SR 1311 (Cook Rd.) and NC 100. The first half of the project will involve widening existing Cook Road from a two lane open ditch section to a four lane facility with curb and gutter. The second half of the project involves widening existing NC 100 with open ditches into a four lane facility with curb and gutter. Approximately 1500 feet of the project will be constructed on new location from Station -L- 45+00 ± to -L- 60+00 ±. There will be two bridges constructed in this area with one spanning the railroad and the other spanning Haggard Ave.

ENVIRONMENTAL DESCRIPTION

The project is located within the Haw River Basin and is not part of any water supply or watershed critical areas. There is one major stream crossing on this project which is an unnamed tributary to Haw River. The stream has a drainage area of 127 acres (0.20 sq.mi.) and is being conveyed under NC 100 by an existing 66" RCP. The proposed improvements call to collar and extend the existing 66" RCP downstream with 16 lf of 66" RCP and to construct a junction box with 8 lf of 66" RCP upstream. The beginning portion of the job is developed with residential housing along both sides of the roadway while the latter portion of the project is undeveloped. There are no wetlands being impacted by the proposed roadway improvements.

BEST MANAGEMENT PRACTICES

The widening taking place along Cook Road is through a residential area. Special care was taken in placing inlets (yard DI's) in certain areas to prevent ponding water caused by the roadway improvements and driveways in the yards of the residents. Elsewhere along the project, drainage systems were outleted into proposed ditches, where possible, to carry the stormwater to other proposed drainage systems or to natural drainage

channels and outfalls. Ditches were used in many locations throughout the project to minimize system drainage costs and to provide some treatment for stormwater as it is being conveyed through the grassed lined channels. Appropriate rip rap sizes and quantities were placed at proposed drainage outlets to prevent erosion and scour. Existing drainage patterns were followed to every extent practicable to eliminate and/or minimize diversions created by the roadway improvements.

A Preformed Scour Hole was placed to the right of Station -L- 79+50 at the outlet of a three inlet roadway drainage system. Preformed Scour Holes (PSH's) are used at pipe outlets to reduce velocities and promote sheet flow. PSH's are a square symmetrically shaped excavated hole filled with rip rap and filter fabric along with a slightly excavated apron surrounding the hole. A PSH was chosen for this location because it is in close proximity of the only stream within this project.

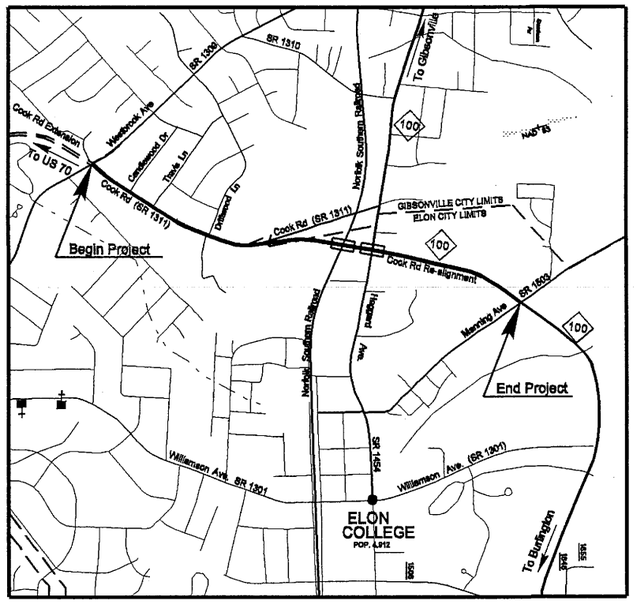
To help preserve the natural integrity of the stream, no rip rap is to be placed in the streambed at the outlet of the 66" RCP extension. An outlet channel detail defining proper rip rap placement has been added to the plans for clarity.

09/28/99

TIP PROJECT: U-3110B

CONTRACT: 0.0000000

See Sheet 1-A For Index of Sheets



VICINITY MAP

THIS PROJECT IS WITHIN MUNICIPAL BOUNDARIES OF GIBSONVILLE AND ELON.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ALAMANCE COUNTY

LOCATION: SR 1311 (COOK RD.) WIDENING AND EXTENSION FROM SR 1909 (WESTBROOK AVE.) TO NC 100

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURES

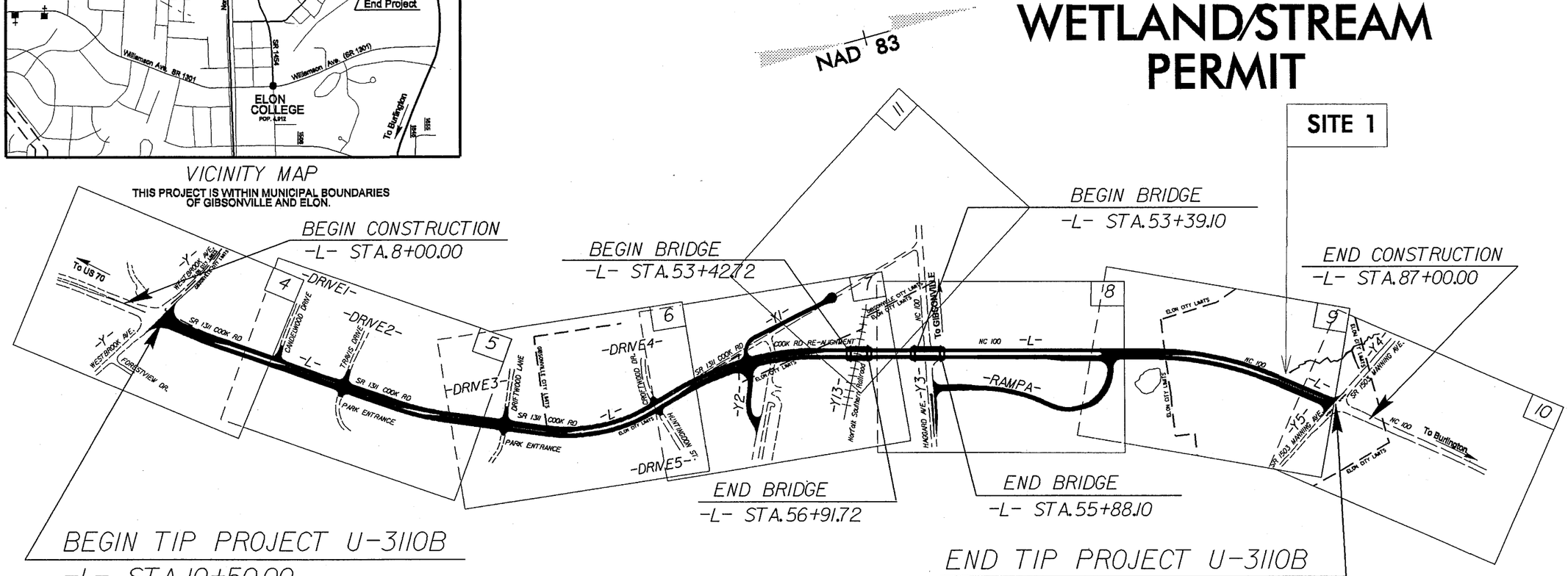
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3110B	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34901.1.1	STP-0701(7)	P.E.
34901.2.4	STP-1311(5)	R/W, UTIL.

Permit Drawing Sheet 1 of 7

WETLAND/STREAM PERMIT

SITE 1



CLEARING LIMITS ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHODS II & III

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

PLANS: 50 25 0 50 100

PROFILE (HORIZONTAL): 50 25 0 50 100

PROFILE (VERTICAL): 10 5 0 10 20

DESIGN DATA

ADT 2006 = 8,000
ADT 2030 = 16,200
DHV = 12 %
D = 65 %
T = 7 % *
V = 50 MPH
* TTST 2% DUAL 5%
FUNC CLASS = URBAN COLLECTOR

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT U-3110B = 1.319 MILES
LENGTH OF STRUCTURES TIP PROJECT U-3110B = 0.073 MILES
TOTAL LENGTH OF TIP PROJECT U-3110B = 1.392 MILES

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: AUGUST 18, 2008

LETTING DATE: AUGUST 17, 2010

G.E. BREW
PROJECT ENGINEER

D. WILLIAMS
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

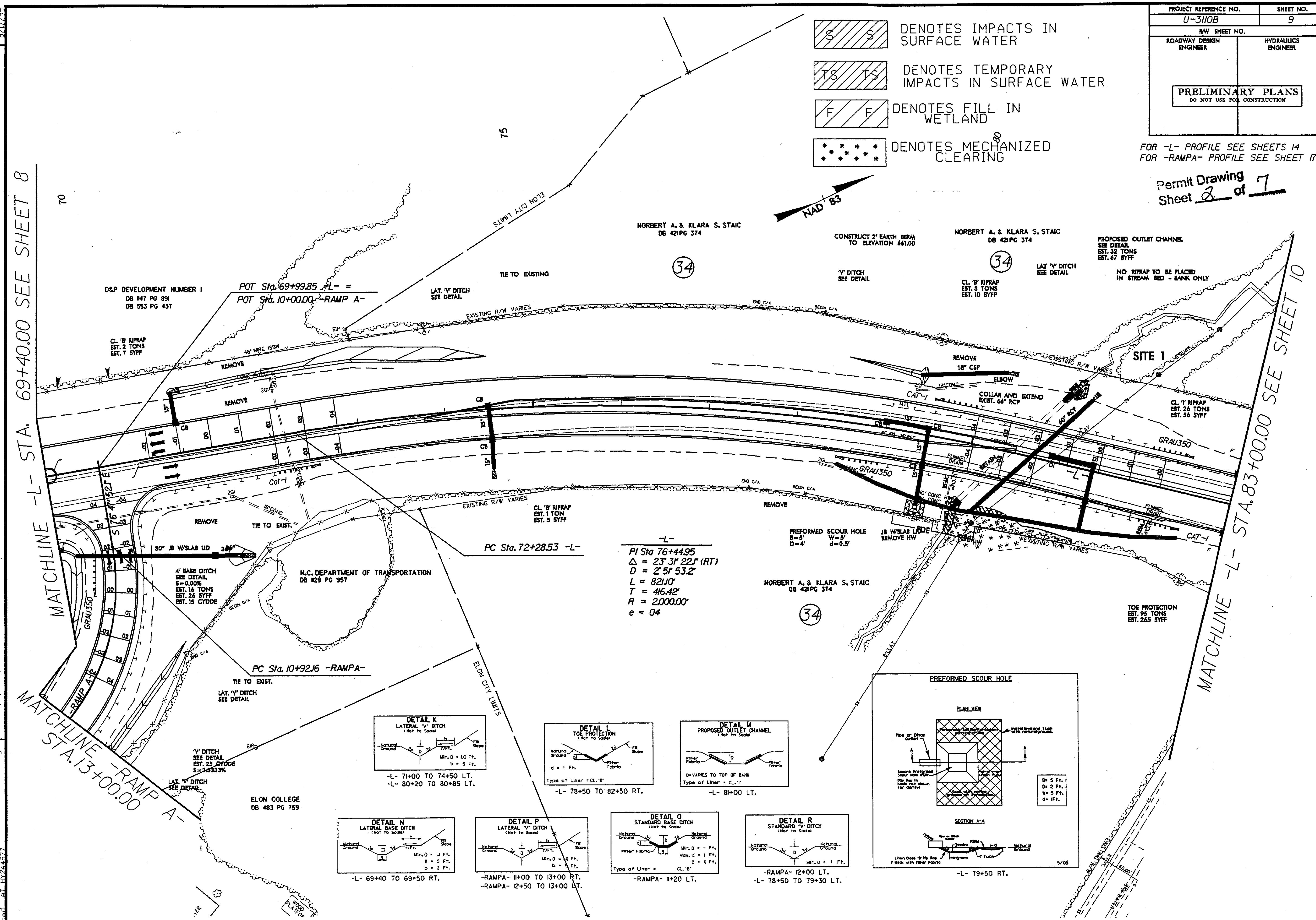
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

10-NOV-2009 09:48
r:\hydraulics\permits_environmental\drawings\u-3110b_prm_tsh.dgn
gcoll AT HY24577

PROJECT REFERENCE NO.	SHEET NO.
U-3110B	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



8/17/99

REVISIONS

12-NOV-2009 07:08
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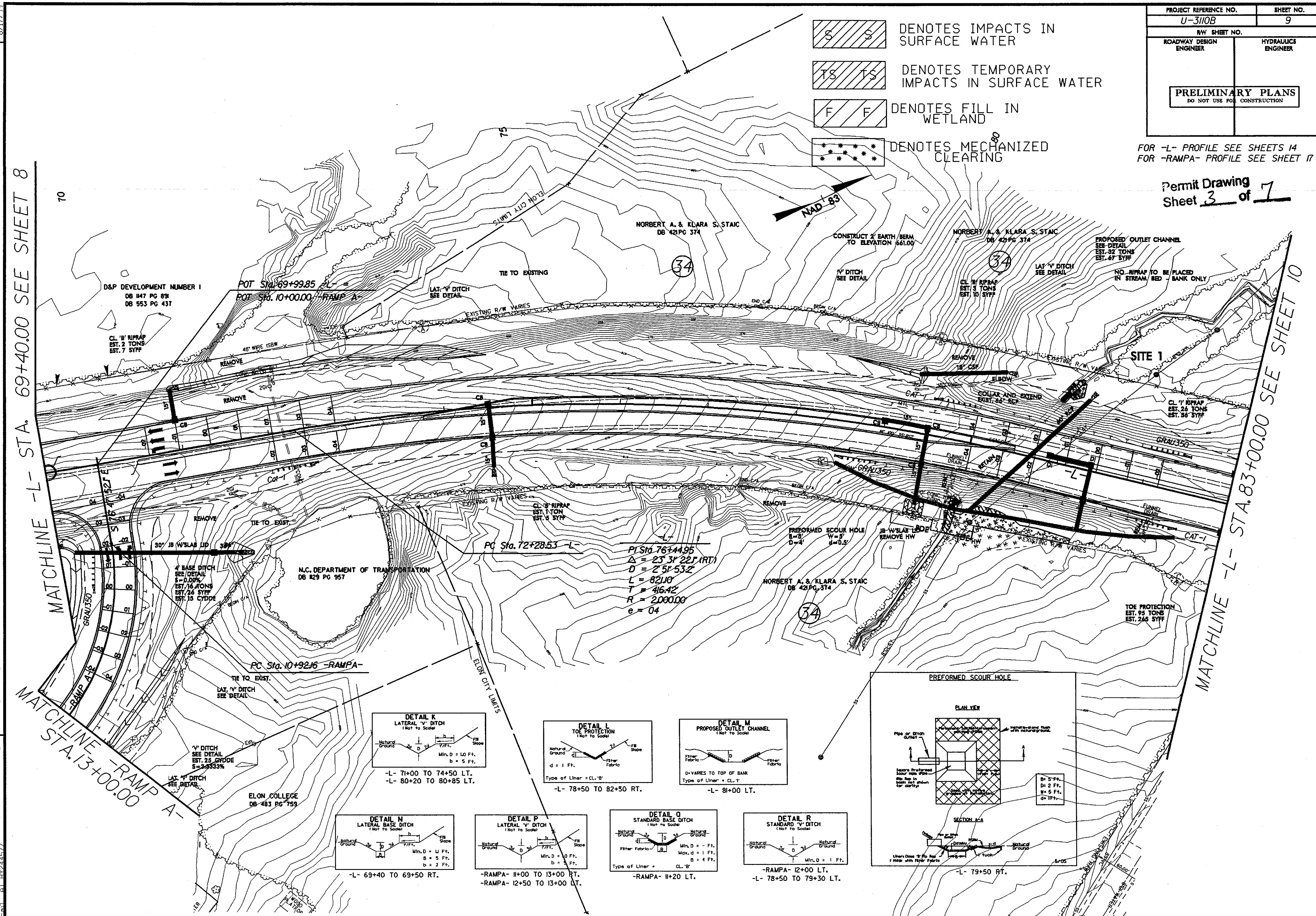

REVISIONS

8/17/99

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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-3110B	
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Permit Drawing
Sheet 4 of 7

NAD 83

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

NORBERT A. & KLARA S. STAIC
DB 421PG 374

34

CONSTRUCT 2' EARTH BERM TO ELEVATION 661.00

'V' DITCH SEE DETAIL

NORBERT A. & KLARA S. STAIC
DB 421PG 374

34

CL. 'B' RIPRAP
EST. 3 TONS
EST. 10 SYFF

LAT 'V' DITCH SEE DETAIL

PROPOSED OUTLET CHANNEL
SEE DETAIL
EST. 32 TONS
EST. 67 SYFF

50' 0' 50'
GRAPHIC SCALE

NO RIPRAP TO BE PLACED IN STREAM BED – BANK ONLY

END C/A
BEGIN C/A
80
EXISTING R/W VARIES
SITE 1
8"CLAY
SS
CL. 'I' RIPRAP
EST. 26 TONS
EST. 56 SYFF

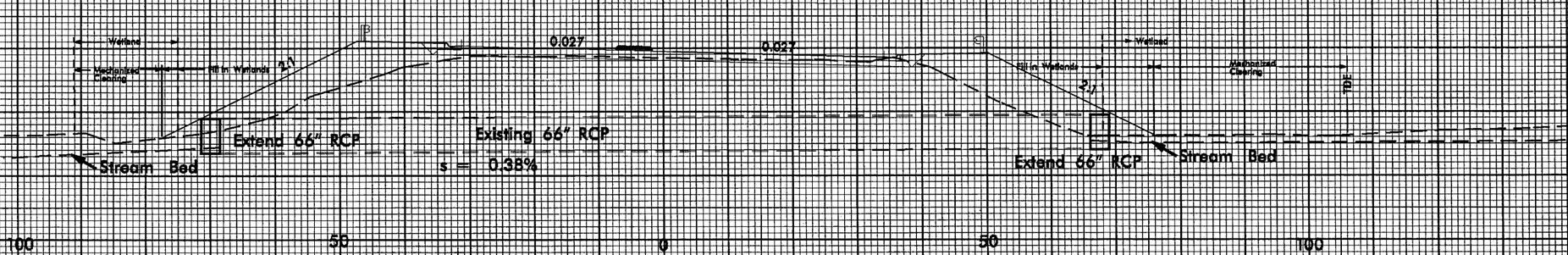
REMOVE
18" CSP
ELBOW
2GI
18"CONC
CAT-1
COLLAR AND EXTEND EXIST. 66" RCP
MTL
15"
CB
CB
NC 100 35' BST
04
03
02
01
00
60" RCP
66"CONC
18"CLAY
GRAU350
15"
CB
15"
CB
FUNNEL DRAIN
RETAIN
04
03
02
DI
DI
01
02
2GI
CONC
GRAU350
REM.
24"CMP
10' CONC HW
W/ CONC WI
END C/A
BEGIN C/A
REMOVE
FUNNEL DRAIN
REM.
24"CMP
PREFORMED SCOUR HOLE
B=5' W=5'
D=4' d=0.5'
JB W/SLAB LID
REMOVE HW
HW
EXISTING R/W VARIES
SS
TOE PROTECTION
EST. 95 TONS
EST. 265 SYFF
NORBERT A. & KLARA S. STAIC
DB 421PG 374
34

12-NOV-2009 07:09
\permits_env\rmgmtel\drawings\u-3110b_hyd_prm.dgn

8/23/99

0	PROJ. REFERENCE NO.	SHEET NO.

Permit Drawing
Sheet 5 of 11



PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
34	Norbert A. & Klara Staic	P.O. Box 621 Burlington NC 27216

NCDOT

DIVISION OF HIGHWAYS

ALAMANCE COUNTY

PROJECT: 34901.1.1 (U-3110B)

COOK ROAD (SR 1311) WIDENING AND EXTENSION

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	80+44 -L-	Extend 66" RCP	0.008			0.050		<0.01	0.01	28	39	
1	"	Bank Stabilization							<0.01	11		
TOTALS:			0.008			0.050				39	39	

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

ALAMANCE COUNTY
WBS 34901.1.1 (U-3110B)

SHEET 7 of 7 REV 11/12/2009

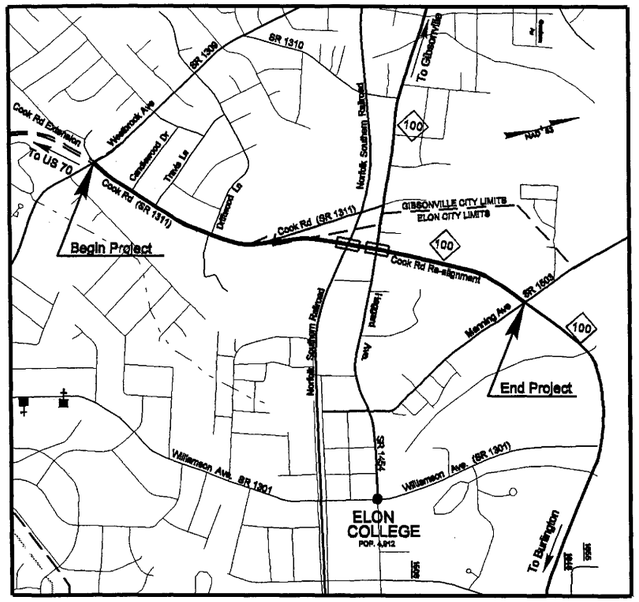
ATN Revised 3/31/05

09/08/99

TIP PROJECT: U-3110B

CONTRACT: 0.000000

See Sheet 1-A For Index of Sheets



VICINITY MAP

THIS PROJECT IS WITHIN MUNICIPAL BOUNDARIES OF GIBSONVILLE AND ELON.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ALAMANCE COUNTY

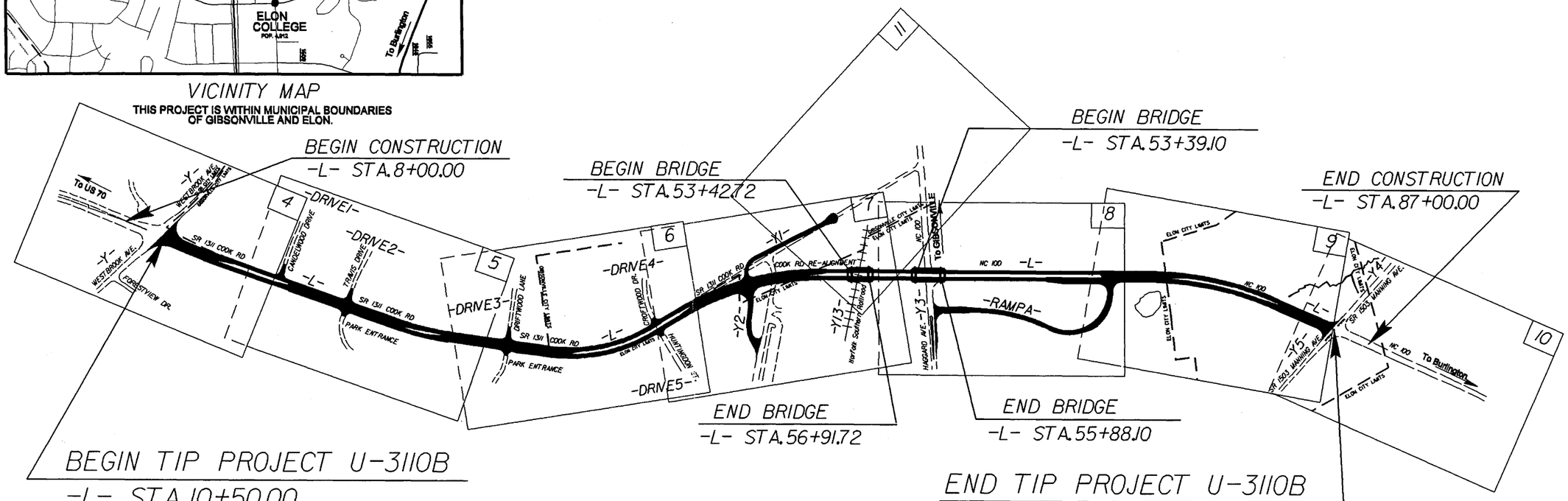
LOCATION: SR 1311 (COOK RD.) WIDENING AND EXTENSION FROM SR 1909 (WESTBROOK AVE.) TO NC 100

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3110B	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
34901.1.1	STP-0701(7)	P.E.
34901.2.4	STP-1311(5)	R/W, UTIL.

NAD 83



END BRIDGE
-L- STA. 56+91.72

END BRIDGE
-L- STA. 55+88.10

BEGIN TIP PROJECT U-3110B
-L- STA. 10+50.00

END TIP PROJECT U-3110B
-L- STA. 84+00.00

CLEARING LIMITS ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHODS II & III

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

PLANS 50 25 0 50 100

PROFILE (HORIZONTAL) 50 25 0 50 100

PROFILE (VERTICAL) 10 5 0 10 20

DESIGN DATA

ADT 2006 = 8,000
ADT 2030 = 16,200
DHV = 12 %
D = 65 %
T = 7 % *
V = 50 MPH
* TTST 2% DUAL 5%
FUNC CLASS = URBAN COLLECTOR

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT U-3110B = 1.319 MILES
LENGTH OF STRUCTURES TIP PROJECT U-3110B = 0.073 MILES
TOTAL LENGTH OF TIP PROJECT U-3110B = 1.392 MILES

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: AUGUST 18, 2008

LETTING DATE: AUGUST 17, 2010

G.E. BREW
PROJECT ENGINEER

D. WILLIAMS
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.

05-FEB-2010 11:30
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$$$$USERNAME$$$$

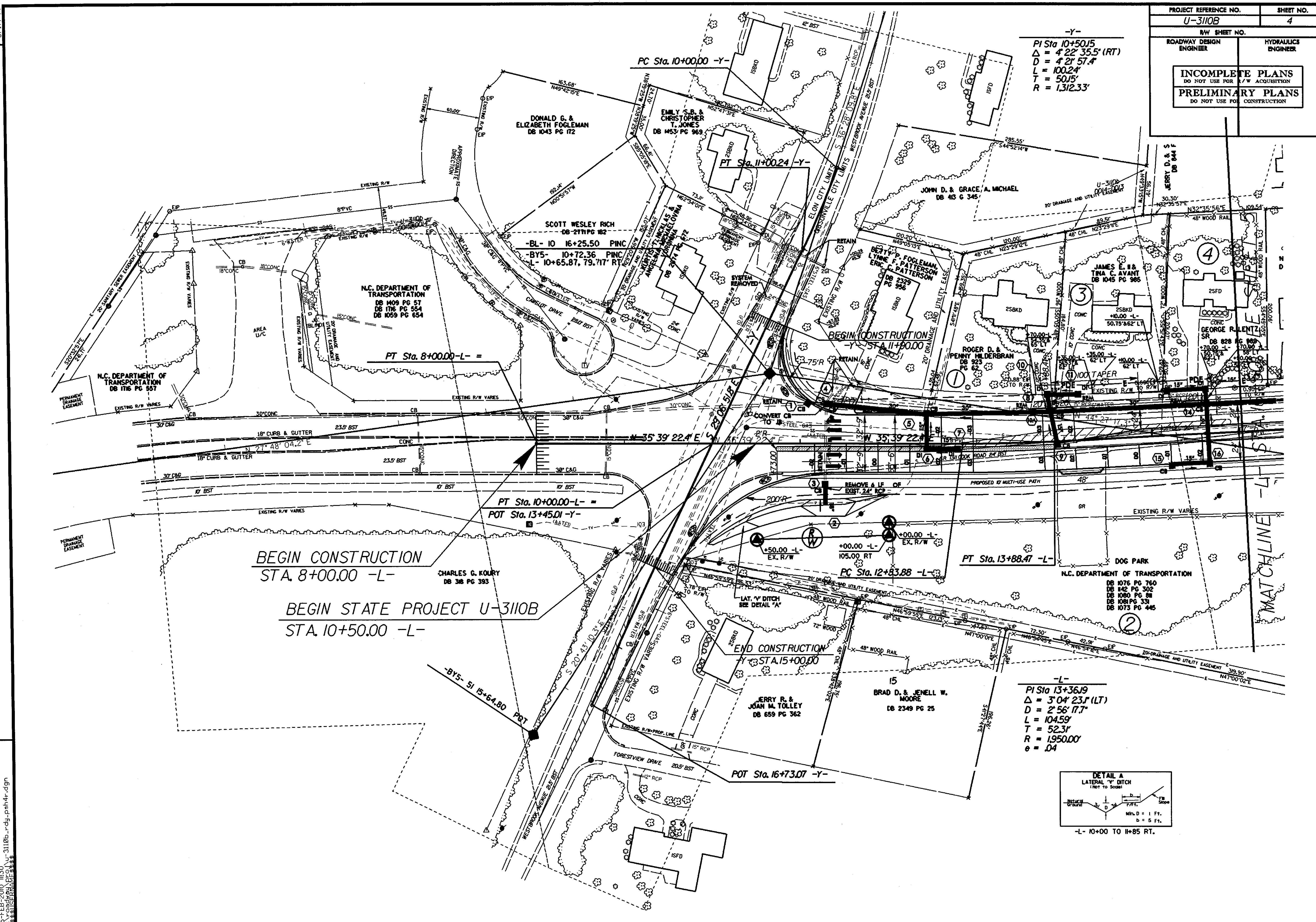
PROJECT REFERENCE NO.	SHEET NO.
U-3110B	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS



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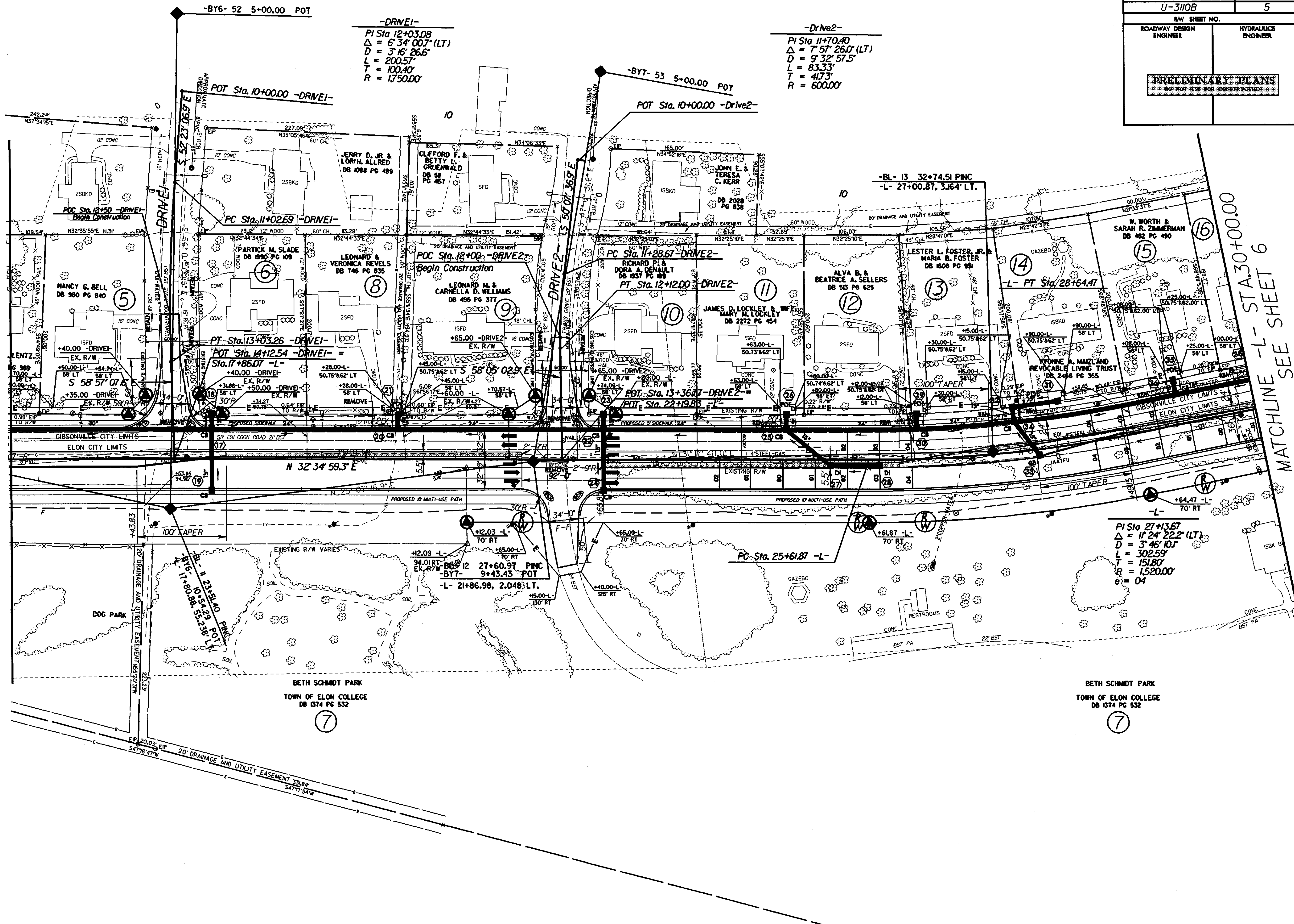
PROJECT REFERENCE NO.	SHEET NO.
U-3110B	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

8/17/99

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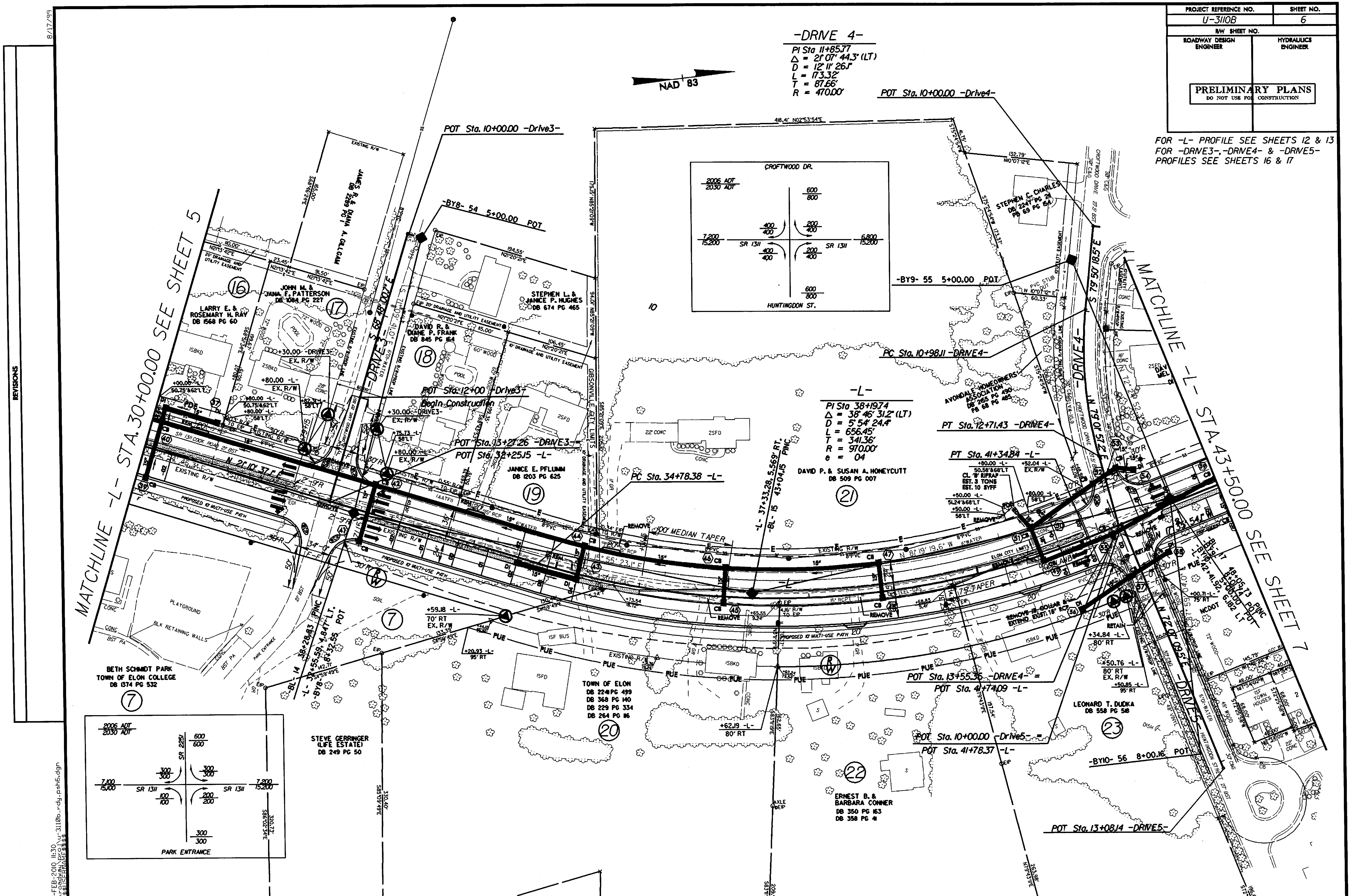
PROJECT REFERENCE NO.
U-3110B
SHEET NO.
6
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
FOR -L- PROFILE SEE SHEETS 12 & 13
FOR -DRIVE3-,-DRIVE4- & -DRIVE5- PROFILES SEE SHEETS 16 & 17
8/17/99
REVISIONS
NAD 83
-DRIVE 4-
PI Sta 11+85.77
Δ = 21° 07' 44.3" (LT)
D = 12° 11' 26.1"
L = 173.32'
T = 87.66'
R = 470.00'
-L-
PI Sta 38+19.74
Δ = 38° 46' 31.2" (LT)
D = 5° 54' 24.4"
L = 656.45'
T = 341.36'
R = 970.00'
e = .04
MATCHLINE -L- STA. 30+00.00 SEE SHEET 5
MATCHLINE -L- STA. 43+50.00 SEE SHEET 7
POT Sta. 10+00.00 -Drive3-
POT Sta. 12+00 -Drive3-
Begin Construction
POT Sta. 13+27.26 -DRIVE3- =
POT Sta. 32+25.15 -L-
PC Sta. 34+78.38 -L-
POT Sta. 10+00.00 -Drive4-
PC Sta. 10+98.11 -DRIVE4-
PT Sta. 12+71.43 -DRIVE4-
PT Sta. 41+34.84 -L-
POT Sta. 13+55.35 -DRIVE4- =
POT Sta. 41+74.09 -L-
POT Sta. 10+00.00 -Drive5- =
POT Sta. 41+78.37 -L-
POT Sta. 13+08.14 -DRIVE5-
-BY8- 54 5+00.00 POT
-BY9- 55 5+00.00 POT
-BY10- 56 8+00.16 POT
-L- 37+33.28, 5.569' RT.
-BL- 15 43+04.15 PINC
-L- 38+28.83
-BL- 14
-BY8- 8+32.55 POT
100' MEDIAN TAPER
75' TAPER
SR 1311 COOK ROAD 2" BST
N 21° 10' 37.1" E
N 15° 55' 23.1" E
N 8° 19' 19.6" W
N 17° 33' 54.1" W
S 68° 48' 00.2" E
S 79° 50' 18.5" E
N 79° 01' 57.2" E
N 72° 07' 09.5" E
EXISTING R/W
PROPOSED 10' MULTI-USE PATH
ELON CITY LIMITS
GIBSONVILLE CITY LIMITS
CROFTWOOD DRIVE
HUNTINGDON STREET 27' BST
LARRY E. & ROSEMARY H. RAY
DB 1568 PG 60
JOHN M. & JANA F. PATTERSON
DB 1084 PG 227
JAMES R. & DIANA A. GILGAM
DB 2289 PG 1
DAVID R. & DIANE P. FRANK
DB 845 PG 164
STEPHEN L. & JANICE P. HUGHES
DB 674 PG 465
JANICE E. PFLUMM
DB 1203 PG 625
DAVID P. & SUSAN A. HONEYCUTT
DB 509 PG 007
STEPHEN C. CHARLES
DB 2247 PG 211
PB 69 PG 154
AVONDALE HOMEOWNERS' ASSOCIATION
DB 2155 PG 490
PB 68 PG 485
BETH SCHMIDT PARK
TOWN OF ELON COLLEGE
DB 1374 PG 532
STEVE GERRINGER (LIFE ESTATE)
DB 249 PG 50
TOWN OF ELON
DB 2241 PG 499
DB 368 PG 140
DB 229 PG 334
DB 264 PG 116
ERNEST B. & BARBARA CONNER
DB 350 PG 163
DB 358 PG 41
LEONARD T. DUDKA
DB 558 PG 518
CROFTWOOD DR.
2006 ADT
2030 ADT
SR 1311
HUNTINGDON ST.
SR 2251
PARK ENTRANCE
PLAYGROUND
BLK RETAINING WALLS
CL 'B' RIPRAP
EST. 3 TONS
EST. 10 SYFF
REMOVE 18" COLLAR & EXTEND EXIST. 18" RCP
05-FEB-2010 11:30
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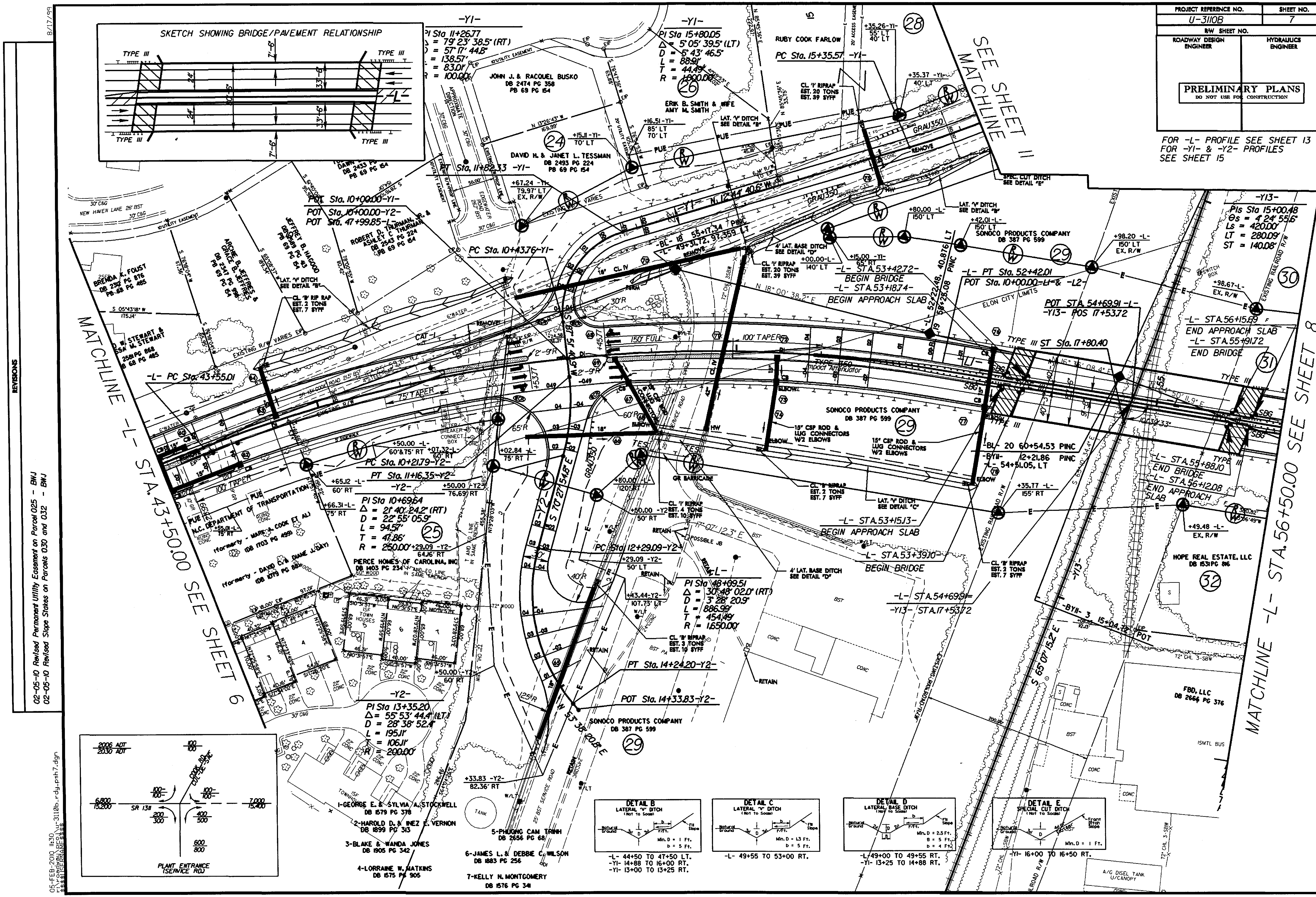
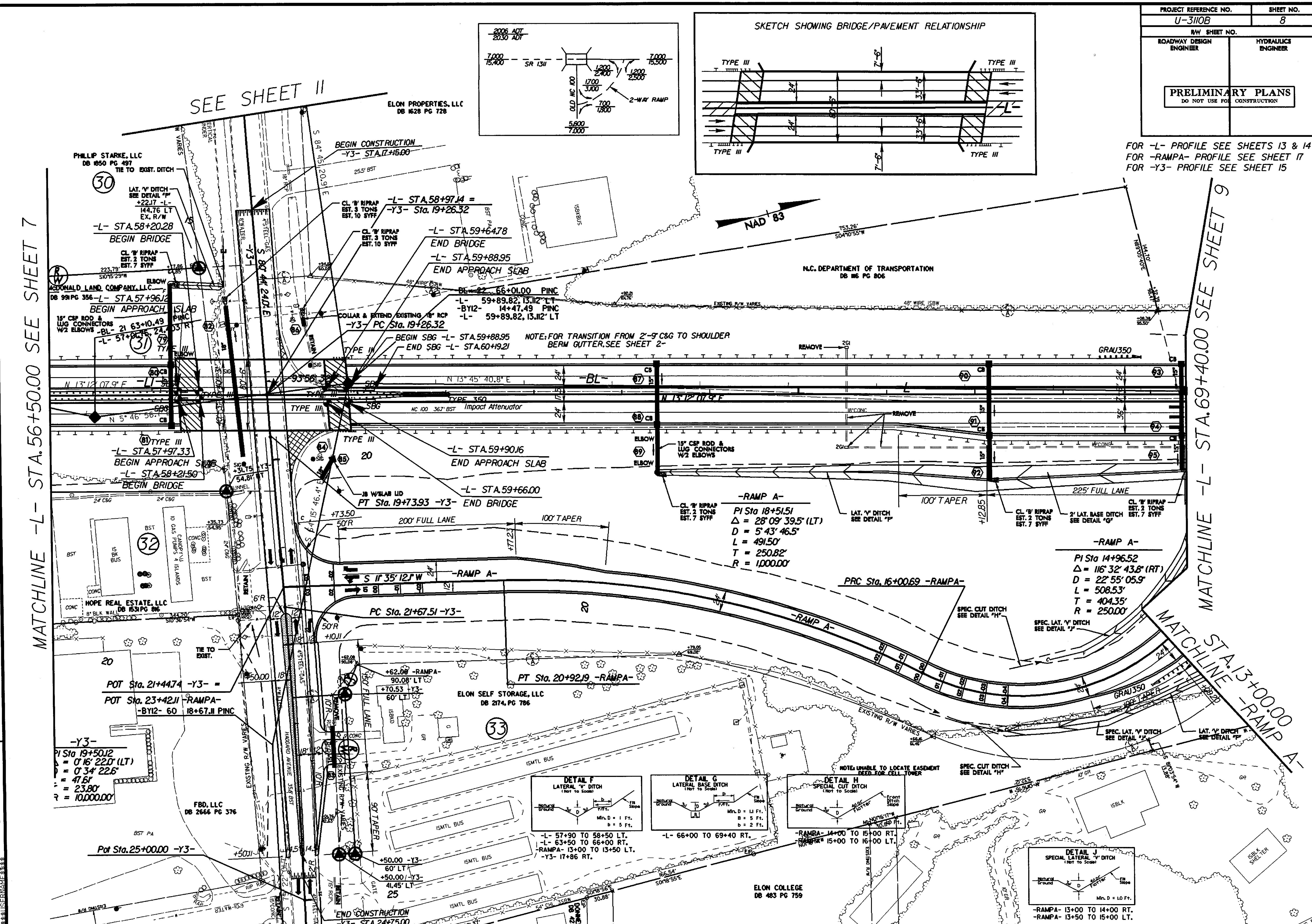

PROJECT REFERENCE NO. U-3110B
SHEET NO. 7
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
FOR -L- PROFILE SEE SHEET 13
FOR -Y1- & -Y2- PROFILES
SEE SHEET 15
REVISIONS
02-05-10 Revised Permanent Utility Easement on Parcel 025 - BWJ
02-05-10 Revised Slope Stakes on Parcels 030 and 032 - BWJ
8/17/99
05-FEB-2010 11:30
r:\roadway\proj\u-3110b_rdy_psh7.dgn
SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP
TYPE III
7'-6"
24'
33'-6"
101'-6"
-L-
MATCHLINE -L- STA. 43+50.00 SEE SHEET 6
MATCHLINE -L- STA. 56+50.00 SEE SHEET 8
SEE SHEET 11 MATCHLINE
-Y1-
PI Sta 11+26.77
Δ = 79° 23' 38.5" (RT)
D = 57° 17' 44.8"
L = 138.57'
T = 83.01'
R = 100.00'
-Y1-
PI Sta 15+80.05
Δ = 5° 05' 39.5" (LT)
D = 5° 43' 46.5"
L = 88.91'
T = 44.49'
R = 1000.00'
PC Sta. 15+35.57 -Y1-
RUBY COOK FARLOW
JOHN J. & RACQUEL BUSKO
DB 2474 PG 358
PB 69 PG 154
ERIK B. SMITH & WIFE
AMY M. SMITH
DAVID H. & JANET L. TESSMAN
DB 2493 PG 224
PB 69 PG 154
PT Sta. 11+82.33 -Y1-
POT Sta. 10+00.00 -Y1-
POT Sta. 10+00.00 -Y2-
POT Sta. 47+99.85 -L-
ROBERT D. THURMAN, JR. & ASHLEY C. THURMAN
DB 2543 PG 224
PB 69 PG 154
JEFFREY B. HAGOOD
DB 2589 PG 43
PB 69 PG 154
ARCHIE B. JEFFRIES & GRACE B. JEFFRIES
DB 2347 PG 996
PB 69 PG 154
BRENDA K. FOUST
DB 2312 PG 876
PB 68 PG 485
NEW HAVEN LANE 26' BST
PC Sta. 10+43.76 -Y1-
-L- PC Sta. 43+55.01
-BL- 18 55+17.34 PINC
-L- 49+31.72, 97.359 LT
N 12° 44' 40.6" W
N 18° 00' 38.2" E
-L- STA. 53+42.72-
BEGIN BRIDGE
-L- STA. 53+18.74-
BEGIN APPROACH SLAB
-L- PT Sta. 52+42.01
POT Sta. 10+00.00 -L1- & -L2-
ELON CITY LIMITS
POT STA. 54+69.91 -L-
-Y13- POS 17+53.72
SONOCO PRODUCTS COMPANY
DB 387 PG 599
-Y13-
PIs Sta 15+00.48
θs = 4° 24' 55.6"
Ls = 420.00'
LT = 280.09'
ST = 140.08'
-L- STA. 56+15.69
END APPROACH SLAB
-L- STA. 55+91.72
END BRIDGE
TYPE III ST Sta. 17+80.40
-BL- 20 60+54.53 PINC
-BY11- 12+21.86 PINC
-L- 54+51.05, LT
-L- STA. 55+88.10
END BRIDGE
-L- STA. 56+12.08
END APPROACH SLAB
HOPE REAL ESTATE, LLC
DB 1531 PG 816
FBD, LLC
DB 2666 PG 376
-L- STA. 53+15.13-
BEGIN APPROACH SLAB
-L- STA. 53+39.10-
BEGIN BRIDGE
-L- STA. 54+69.91=
-Y13- STA. 17+53.72
PI Sta 48+09.51
Δ = 30° 48' 02.0" (RT)
D = 3° 28' 20.9"
L = 886.99'
T = 454.49'
R = 1,650.00'
PC Sta. 10+21.79 -Y2-
PT Sta. 11+16.35 -Y2-
-Y2-
PI Sta 10+69.64
Δ = 21° 40' 24.2" (RT)
D = 22° 55' 05.9"
L = 94.57'
T = 47.86'
R = 250.00'
N.C. DEPARTMENT OF TRANSPORTATION
(formerly - MARY A. COOK ET AL) (DB 1703 PG 499)
(formerly - DAVID C. & DIANE J. DAY) (DB 1079 PG 88)
PIERCE HOMES OF CAROLINA, INC
DB 1403 PG 234
PC Sta. 12+29.09 -Y2-
PT Sta. 14+24.20 -Y2-
POT Sta. 14+33.83 -Y2-
S 70° 27' 54.8" E
N 53° 38' 20.8" E
S 65° 07' 15.2" E
-Y2-
PI Sta 13+35.20
Δ = 55° 53' 44.4" (LT)
D = 28° 38' 52.4"
L = 195.11'
T = 106.11'
R = 200.00'
1-GEORGE E. & SYLVIA A. STOCKWELL DB 1579 PG 378
2-HAROLD D. & INEZ E. VERNON DB 1899 PG 313
3-BLAKE & WANDA JONES DB 1905 PG 342
4-LORRAINE W. WATKINS DB 1575 PG 905
5-PHUONG CAM TRINH DB 2656 PG 68
6-JAMES L. & DEBBIE C. WILSON DB 1883 PG 256
7-KELLY N. MONTGOMERY DB 1576 PG 341
2006 ADT
2030 ADT
SR 1311
COOK RD. CUL-DE-SAC
PLANT ENTRANCE (SERVICE RD.)
DETAIL B
LATERAL 'V' DITCH (Not to Scale)
Min. D = 1 Ft. b = 5 Ft.
-L- 44+50 TO 47+50 LT.
-Y1- 14+88 TO 16+00 RT.
-Y1- 13+00 TO 13+25 RT.
DETAIL C
LATERAL 'V' DITCH (Not to Scale)
Min. D = 1.3 Ft. b = 5 Ft.
-L- 49+55 TO 53+00 RT.
DETAIL D
LATERAL BASE DITCH (Not to Scale)
Min. D = 2.5 Ft. B = 5 Ft. b = 4 Ft.
-L- 49+00 TO 49+55 RT.
-Y1- 13+25 TO 14+88 RT.
DETAIL E
SPECIAL CUT DITCH (Not to Scale)
Min. D = 1 Ft.
-Y1- 16+00 TO 16+50 RT.

8/17/99

REVISIONS

02-05-10 - Removed TCE on Parcel 032 as requested.- BWJ
02-05-10 - Revised Property Owner Name on Parcel 033 as requested.- BWJ
02-05-10 - Removed Permanent Drainage Easement,Revised Slope Stakes and Moved Drainage Ditch on Parcel 030.- BWJ



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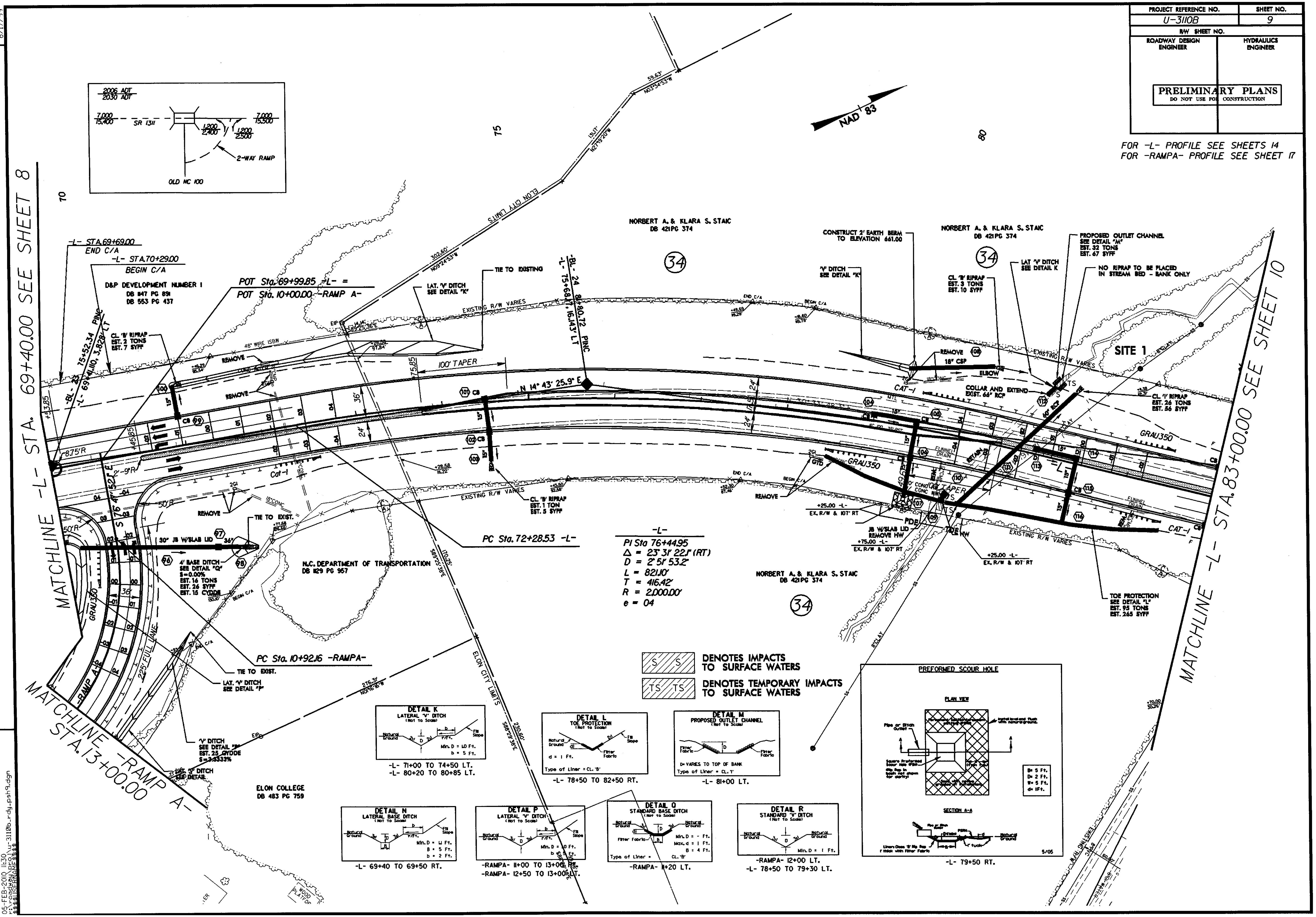
8/17/99

REVISIONS



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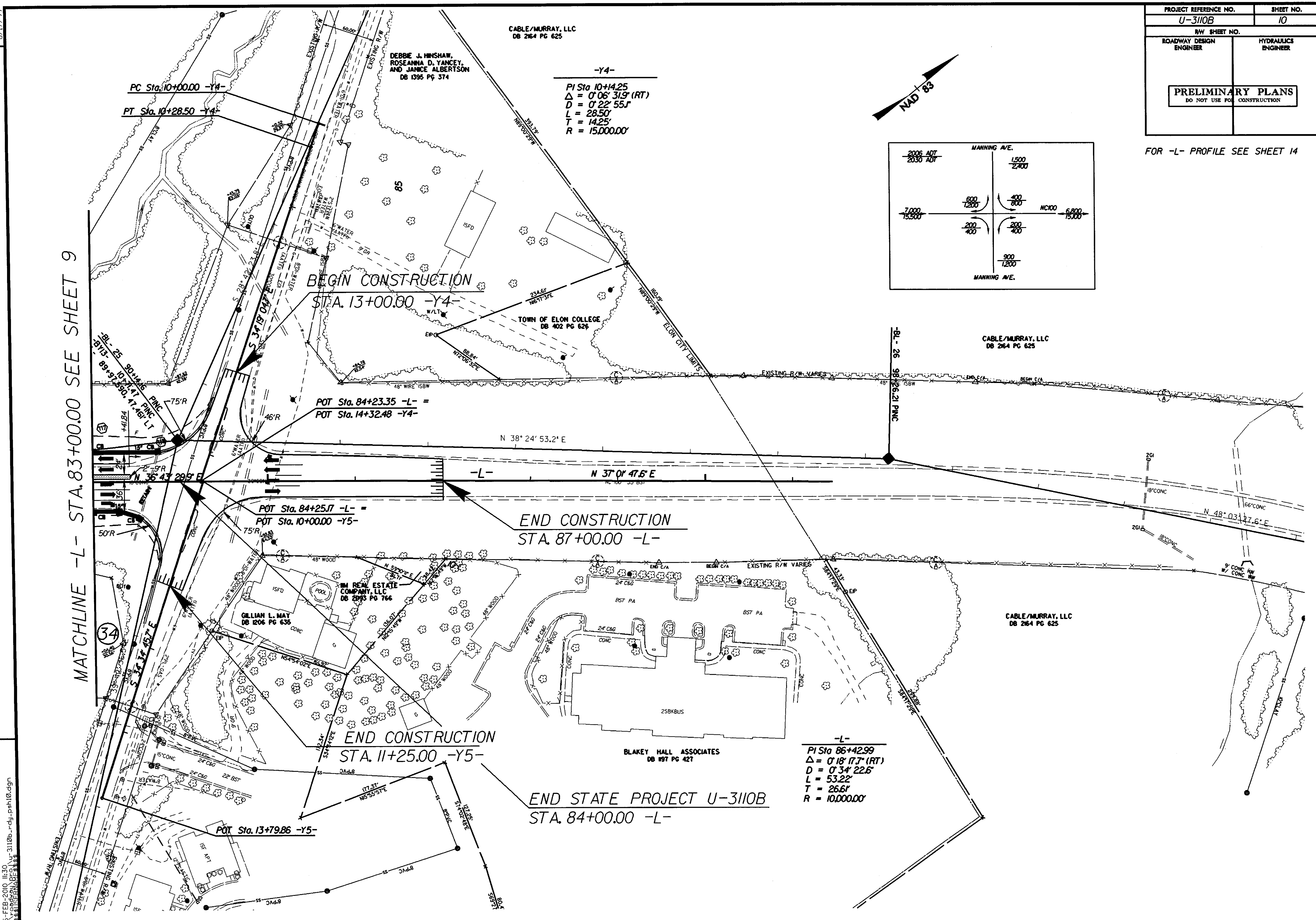
8/17/99

REVISIONS



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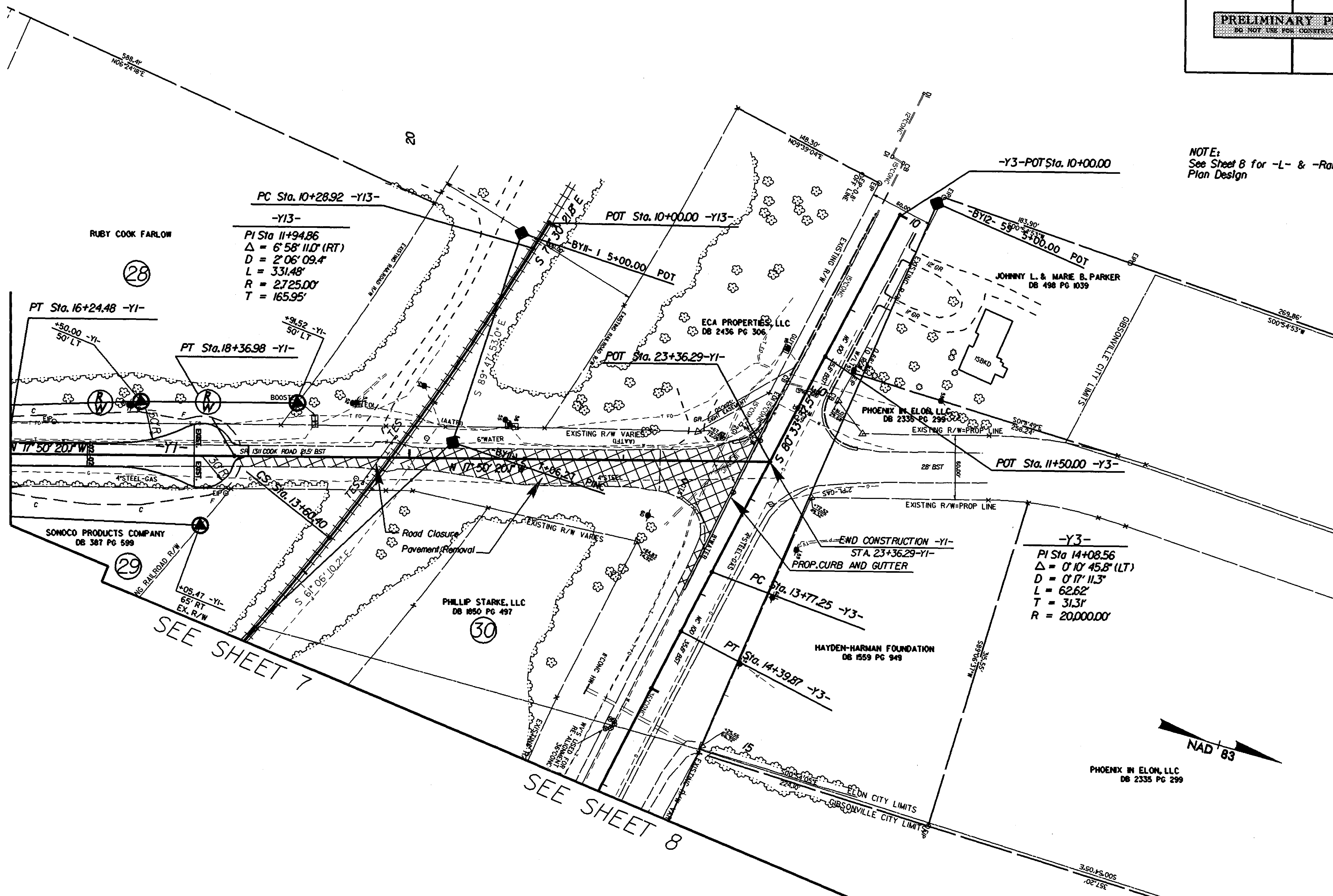
PROJECT REFERENCE NO.	SHEET NO.
U-3110B	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS

NOTE:
See Sheet 8 for -L- & -RampA- Plan Design



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