



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE  
GOVERNOR

EUGENE A. CONTI  
SECRETARY

October 25, 2011

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

ATTENTION: Ronnie Smith  
NCDOT Coordinator

Dear Sir:

**Subject: Application for Section 404 Nationwide Permit 14 and Section 401 Water Quality Certification** for the proposed widening and extension of SR 1596 (Glensford Rd.) between US 401 Business (Raeford Rd.) and SR 1400 (Cliffdale Rd.), Cumberland County. TIP No. U-4422; Federal Aid Project No. STP-1592(2); Debit \$240.00 from WBS 35024.1.1.

Please find enclosed the PCN form, preliminary jurisdictional determination, permit drawings, and half-size plan sheets for the above referenced project. An Environmental Assessment (EA) and a Finding of No Significant Impact (FONSI) were completed for this project in October 2007 and 2008, respectively. Both were distributed shortly after being completed; additional copies will be made available upon request.

The North Carolina Department of Transportation (NCDOT) proposes to widen SR 1596 (Glensford Rd.) from Belford Rd. to SR 1400 (Cliffdale Rd.) and then extend it from Belford Rd. to US 401 Business (Raeford Rd.) in the city of Fayetteville. The proposed project will convert the existing two-lane facility to a four-lane, median divided facility with curb and gutter. There will be 93 linear feet of permanent impacts to surface waters resulting from the extension of a pipe on this project.

The let date for this project is June 19, 2012 with a review date of May 1, 2012; however, the let date may advance as additional funds become available.

### **Regulatory approvals**

Section 404 Permit: The NCDOT requests that a Nationwide Permit 14 authorize these activities (72 CFR; 11092-11198, March 12, 2007).

**MAILING ADDRESS:**  
NC DEPARTMENT OF TRANSPORTATION  
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS  
1548 MAIL SERVICE CENTER  
RALEIGH NC 27699-1548

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

WEBSITE: [WWW.NCDOT.ORG](http://WWW.NCDOT.ORG)

**LOCATION:**  
Century Center Building B  
1020 Birch Ridge Dr.  
Raleigh, NC 27610

Section 401 Water Quality Certification: We anticipate 401 General Certification number 3820 will apply to this project. All general conditions of the Water Quality Certifications will be met. NCDOT is providing five copies of this application to the NCDWQ for their approval. Authorization to debit the \$240 Permit Application Fee from WBS Element 35024.1.1 is hereby given.

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

Thank you for your time and assistance with this project. Please contact Amy James at [aejames@ncdot.gov](mailto:aejames@ncdot.gov) or (919) 707-6129 if you have any questions or need additional information.

Sincerely,



*fej* Gregory J. Thorpe, Ph.D., Branch Manager  
Project Development and Environmental Analysis Branch

cc: NCDOT Permit Application Standard Distribution List.



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:	<input checked="" type="checkbox"/> Section 404 Permit <input type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1d. Type(s) of approval sought from the DWQ (check all that apply):	
<input checked="" type="checkbox"/> 401 Water Quality Certification – Regular <input type="checkbox"/> Non-404 Jurisdictional General Permit <input type="checkbox"/> 401 Water Quality Certification – Express <input type="checkbox"/> 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: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	For the record only for Corps Permit: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

#### 2. Project Information

2a. Name of project:	Widen and extend SR 1596 (Glensford Dr.) between US 401 Business (Raeford Rd.) and SR 1400 (Cliffdale Rd.)
2b. County:	Cumberland
2c. Nearest municipality / town:	Fayetteville
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no.:	U-4422

#### 3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation
3b. Deed Book and Page No.	<i>not applicable</i>
3c. Responsible Party (for LLC if applicable):	<i>not applicable</i>
3d. Street address:	1598 Mail Service Center
3e. City, state, zip:	Raleigh, NC 27699-1598
3f. Telephone no.:	(919) 707-6129
3g. Fax no.:	(919) 212-5785
3h. Email address:	aejames@ncdot.gov

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

<b>B. Project Information and Prior Project History</b>	
<b>1. Property Identification</b>	
1a. Property identification no. (tax PIN or parcel ID):	<i>not applicable</i>
1b. Site coordinates (in decimal degrees):	Latitude: 35.51237 (DD.DDDDDD) Longitude: - 78.961573 (-DD.DDDDDD)
1c. Property size :	14.5 acres
<b>2. Surface Waters</b>	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Beaver Creek
2b. Water Quality Classification of nearest receiving water:	C
2c. River basin:	Cape Fear
<b>3. Project Description</b>	
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: The project is located in a densely developed urban area, with both residential and commercial development.	
3b. List the total estimated acreage of all existing wetlands on the property: 0.0	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 540	
3d. Explain the purpose of the proposed project: The purpose of the proposed action is to improve capacity on SR 1596 (Glensford Rd.) and to create a direct link between NC 59 and the commercial district on Glensford Rd.(see EA and FONSI)	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves widening the existing roadway to a four-lane median divided facility, as well as extending Glensford Rd. from Belford Rd. to US 401 Business (Raeford Rd.) on new location. Standard road building equipment, such as trucks, dozers, and cranes will be used.	
<b>4. Jurisdictional Determinations</b>	
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:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	<input checked="" type="checkbox"/> Preliminary <input type="checkbox"/> Final
4c. If yes, who delineated the jurisdictional areas? Name (if known): NCDOT (Amy James)	Agency/Consultant Company: Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. September 20, 2010	
<b>5. Project History</b>	
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
5b. If yes, explain in detail according to "help file" instructions.	
<b>6. Future Project Plans</b>	
6a. Is this a phased project?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 5 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 6 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
<b>2g. Total wetland impacts</b>					X Permanent X Temporary

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 <input checked="" type="checkbox"/> P <input checked="" type="checkbox"/> T	Pipe Extension	UT to Beaver Creek	<input type="checkbox"/> PER <input checked="" type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	2	93 Perm; 10 Temp
Site 2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 5 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 6 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
<b>3h. Total stream and tributary impacts</b>						93 Perm 10 Temp

3i. Comments:

**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 <input type="checkbox"/> P <input type="checkbox"/> T				
O2 <input type="checkbox"/> P <input type="checkbox"/> T				
O3 <input type="checkbox"/> P <input type="checkbox"/> T				
O4 <input type="checkbox"/> P <input type="checkbox"/> T				
<b>4f. Total open water impacts</b>				X Permanent X 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								
<b>5f. Total</b>								

5g. Comments:

5h. Is a dam high hazard permit required?	<input type="checkbox"/> Yes <input type="checkbox"/> 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?		<input type="checkbox"/> Neuse <input type="checkbox"/> Catawba		<input type="checkbox"/> Tar-Pamlico <input type="checkbox"/> Randleman		<input type="checkbox"/> 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 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No				
B2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No				
B3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No				
<b>6h. Total buffer impacts</b>							
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.  
Alignment of stream and use of grassed swales designed to minimize flow velocity, thereby reducing erosion and bank failure.

1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques.  
NCDOT Best Management Practices for Sedimentation and Erosion Control will be followed; able to maintain existing traffic through staged construction, therefore, no onsite detour.

**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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If no, explain: The section of stream being impacted was ruled 'unimportant' by the USACE in a site visit on 9/16/2010. Therefore, mitigation is not required.
2b. If yes, mitigation is required by (check all that apply):	<input type="checkbox"/> DWQ <input type="checkbox"/> Corps
2c. If yes, which mitigation option will be used for this project?	<input type="checkbox"/> Mitigation bank <input type="checkbox"/> Payment to in-lieu fee program <input type="checkbox"/> 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.	<input type="checkbox"/> Yes
4b. Stream mitigation requested:	linear feet
4c. If using stream mitigation, stream temperature:	<input type="checkbox"/> warm <input type="checkbox"/> cool <input type="checkbox"/> cold
4d. Buffer mitigation requested (DWQ only):	square feet
4e. Riparian wetland mitigation requested:	acres
4f. Non-riparian wetland mitigation requested:	acres
4g. Coastal (tidal) wetland mitigation requested:	acres
4h. Comments:	

**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.

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?				<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> 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			3 (2 for Catawba)		
Zone 2			1.5		
			<b>6f. Total buffer mitigation required:</b>		
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:					

<b>E. Stormwater Management and Diffuse Flow Plan (required by DWQ)</b>	
<b>1. Diffuse Flow Plan</b>	
1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1b. If yes, then is a diffuse flow plan included? If not, explain why. Comments:	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>2. Stormwater Management Plan</b>	
2a. What is the overall percent imperviousness of this project?	N/A
2b. Does this project require a Stormwater Management Plan?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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 permit drawings.	
2e. Who will be responsible for the review of the Stormwater Management Plan?	<input type="checkbox"/> Certified Local Government <input type="checkbox"/> DWQ Stormwater Program <input checked="" type="checkbox"/> DWQ 401 Unit
<b>3. Certified Local Government Stormwater Review</b>	
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):	<input type="checkbox"/> Phase II <input type="checkbox"/> NSW <input type="checkbox"/> USMP <input type="checkbox"/> Water Supply Watershed <input type="checkbox"/> Other:
3c. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>4. DWQ Stormwater Program Review</b>	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	<input type="checkbox"/> Coastal counties <input type="checkbox"/> HQW <input type="checkbox"/> ORW <input type="checkbox"/> Session Law 2006-246 <input type="checkbox"/> Other:
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>5. DWQ 401 Unit Stormwater Review</b>	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A
5b. Have all of the 401 Unit submittal requirements been met?	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A

<b>F. Supplementary Information</b>	
<b>1. Environmental Documentation (DWQ Requirement)</b>	
1a. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>2. Violations (DWQ Requirement)</b>	
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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2b. Is this an after-the-fact permit application?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2c. If you answered "yes" to one or both of the above questions, provide an explanation of the violation(s):	
<b>3. Cumulative Impacts (DWQ Requirement)</b>	
3a. Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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.  As per the Environmental Assessment (October 2007), the Glensford Rd. area has a limited amount of land left for development, and as such, any induced development has little potential to further degrade water quality or affect natural resources. And although there is some potential for growth related to the proposed project, much of this development is currently underway or unrelated to this project (ie, plans for a proposed WalMart along US 401 Business near the proposed Glensford Rd. extension). Therefore, a detailed indirect or cumulative effects analysis will not be necessary.	
<b>4. Sewage Disposal (DWQ Requirement)</b>	
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?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
5c. If yes, indicate the USFWS Field Office you have contacted.	<input type="checkbox"/> Raleigh	<input type="checkbox"/> Asheville
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? NCNHP, USFWS, field surveys		

**6. Essential Fish Habitat (Corps Requirement)**

6a. Will this project occur in or near an area designated as essential fish habitat?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
8b. If yes, explain how project meets FEMA requirements: NCDOT Hydraulics Unit coordination with FEMA		
8c. What source(s) did you use to make the floodplain determination? FEMA Maps		

<p><u>Dr. Gregory J. Thorpe, Ph D</u> Applicant/Agent's Printed Name</p>	 Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	<p>10-25-11 Date</p>
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**PRELIMINARY JURISDICTIONAL DETERMINATION FORM**

**BACKGROUND INFORMATION**

- A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD):** 9/20/10
- B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:**  
Amy James  
NCDOT  
1598 Mail Service Center  
Raleigh, NC 27699-1598
- C. DISTRICT OFFICE, FILE NAME, AND NUMBER:** Wilmington, U 4422,  
SAW-2007-3995
- D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:**  
U-4422; improvements to SR 1596 (Glensford Rd.) from US 401 Bus. (Raeford Rd.) to SR 1400 (Cliffdale Rd.) in Fayetteville. An unnamed tributary to Beaver Creek, located at the intersection of Glensford and Cliffdale Rd., is the only jurisdictional resource in the project area.

**(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)**

State: North Carolina County/parish/borough: Cumberland City: Fayetteville  
Center coordinates of site (lat/long in degree decimal format):  
Lat. 35.051465 °N, Long. -78.961616°W.  
Universal Transverse Mercator:  
Name of nearest waterbody: Beaver Creek

Identify (estimate) amount of waters in the review area:

Non-wetland waters: 390 linear feet: width (ft) and/or acres.  
Cowardin Class: Riverine  
Stream Flow: Perennial and intermittent  
Wetlands: acres.  
Cowardin Class:

Name of any water bodies on the site that have been identified as Section 10 waters:

Tidal:  
Non-Tidal:

**E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

- Office (Desk) Determination. Date:  
 Field Determination. Date(s): 9-16-10

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable. This preliminary JD finds that there "*may be*" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

**SUPPORTING DATA. Data reviewed for preliminary JD (check all that apply**

- checked items should be included in case file and, where checked and requested, appropriately reference sources below):

Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:

Data sheets prepared/submitted by or on behalf of the applicant/consultant.

Office concurs with data sheets/delineation report.

Office does not concur with data sheets/delineation report.

Data sheets prepared by the Corps:

Corps navigable waters' study:

U.S. Geological Survey Hydrologic Atlas:

USGS NHD data.

USGS 8 and 12 digit HUC maps.

U.S. Geological Survey map(s). Cite scale & quad name:

USDA Natural Resources Conservation Service Soil Survey. Citation: Cumberland County 1984.

National wetlands inventory map(s). Cite name:

State/Local wetland inventory map(s):

FEMA/FIRM maps:

100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)

Photographs:  Aerial (Name & Date):

or  Other (Name & Date):

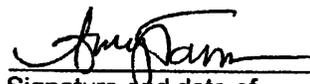
Previous determination(s). File no. and date of response letter:

Other information (please specify): *NCDWA Stream ID Form*

**IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.**

 9-20-10

Signature and date of  
Regulatory Project Manager  
(REQUIRED)

 9/20/10

Signature and date of  
person requesting preliminary JD  
(REQUIRED, unless obtaining  
the signature is impracticable)

**SAMPLE**

<b>Site ID</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Cowardin Class</b>	<b>Estimated amount of aquatic resource in review area</b>	<b>Class of aquatic resource</b>
SA	35.059404	-78.963203	RUB1/2	390 linear feet	Intermittent to perennial



North Carolina Department of Transportation  
 Highway Stormwater Program  
 STORMWATER MANAGEMENT PLAN  
 FOR LINEAR ROADWAY PROJECTS



(Version 1.2; Released September 2011)

General Project Information

Project No.:	U-4422 (35024.1.1)	Project Type:	Roadway Widening	Date:	9/12/2011
NCDOT Contact:	Galen Call	Contractor / Designer:			
Address:	1590 Mail Service Center Raleigh, NC 27699	Address:			
Phone:	(919)707-6711	Phone:			
Email:	gcall@ncdot.gov	Email:			
City/Town:	Fayetteville	County(ies):	Cumberland		
River Basin(s):	Cape Fear	CAMA County?	No		
Primary Receiving Water:	UT to Beaver Crk	NCDWQ Stream Index No.:	18-31-24-5		
NCDWQ Surface Water Classification for Primary Receiving Water:	Primary:				
Other Stream Classification:	Supplemental:				
303(d) Impairments:	None				
Buffer Rules in Effect	N/A				

Project Description

Project Length (lin. Miles or feet):	1.39 miles	Surrounding Land Use:	Urban Residential/Commercial
Project Built-Upon Area (ac.):	24.20	Proposed Project	Existing Site
Typical Cross Section Description:	4 lane with median and sidewalk 13' outside lanes and 11' inside lanes; 5' sidewalk; 12' grassed median	16.10	ac.
Average Daily Traffic (veh/hr/day):	Design/Future:	2 lane with sidewalk 17' lanes; 4' sidewalk	
General Project Narrative:	- Grassed base swale Sta 62+80 -L- RT to promote sheet flow and infiltration	Existing:	

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4422	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
35024.1.1	STP-1529(2)	PE	
35024.2.3	STP-1596(3)	ROW & UTILITIES	



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# CUMBERLAND COUNTY

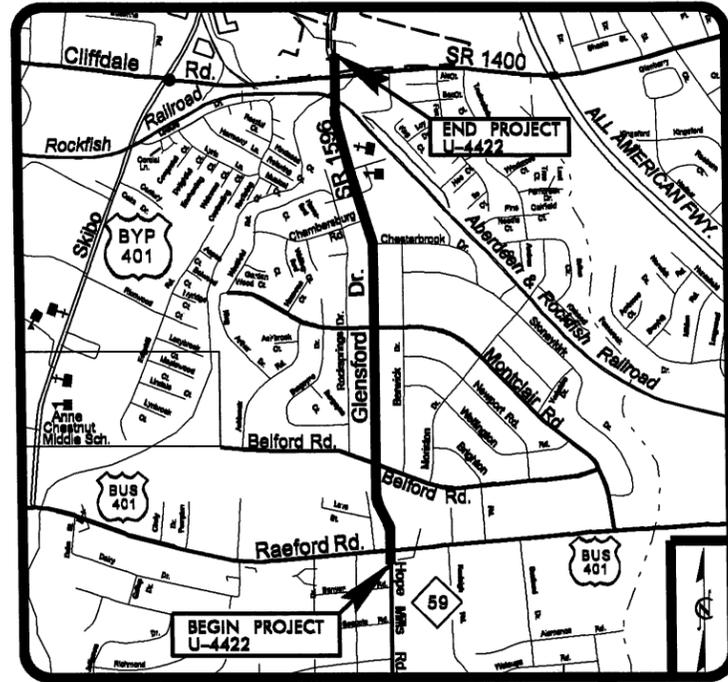
LOCATION: GLENSFORD DRIVE (SR 1596) FROM RAEFORD ROAD (US 401) TO CLIFFDALE ROAD (SR 1400)

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND SIGNALS

TIP PROJECT: U-4422

CONTRACT: C202825

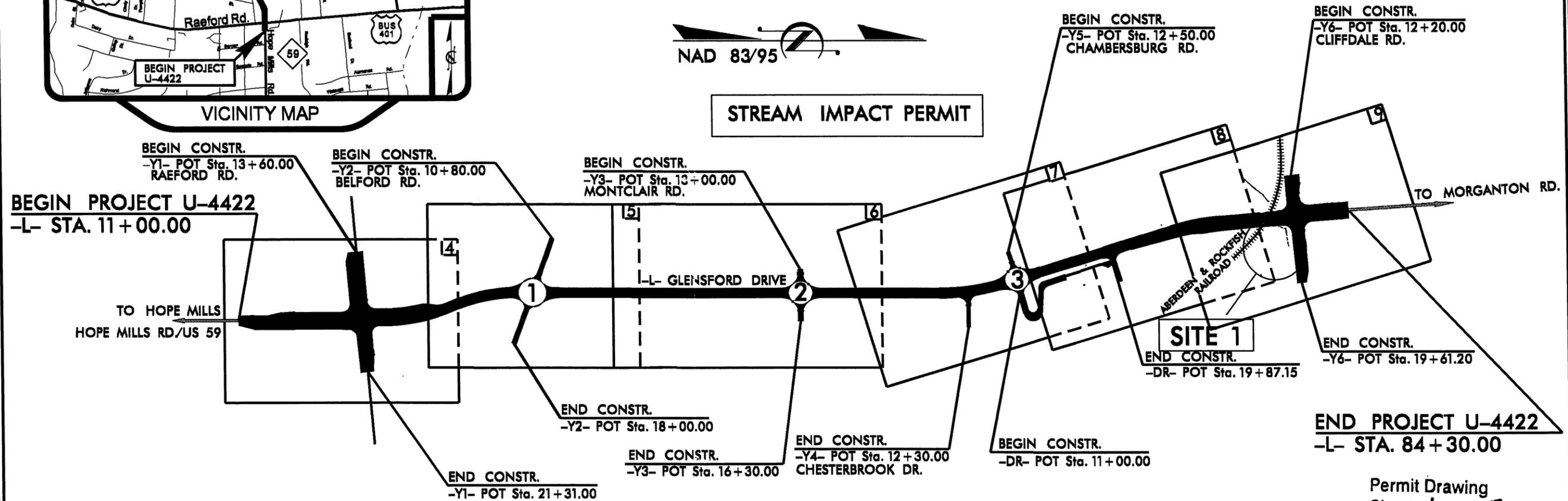
See Sheet 1-A For Index of Sheets  
See Sheet 1-B For Conventional Symbols



VICINITY MAP



STREAM IMPACT PERMIT

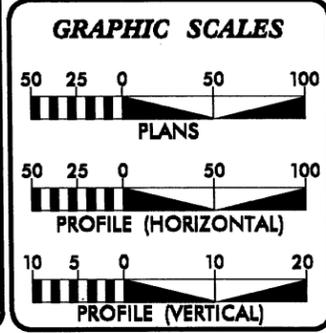


CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II FOR EXISTING LOCATION AND METHOD III FOR NEW LOCATION.

THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF FAYETTEVILLE

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

Permit Drawing  
Sheet 1 of 7



**DESIGN DATA**

ADT 2012	= 22,100
ADT 2035	= 33,000
DHV	= 10 %
D	= 60 %
T	= 3 % *
V	= 40 MPH
* DUAL 2% TTST 1%	
FUNC CLASS	= COLLECTOR
SUB-REGIONAL TIER	

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT U-4422	= 1.388 MILES
TOTAL LENGTH TIP PROJECT U-4422	= 1.388 MILES

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
MARCH 25, 2009

LETTING DATE:  
JUNE 19, 2012

REKHA PATEL, PE  
PROJECT ENGINEER

BRIAN P. ROBINSON  
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.

\$\$\$\$\$SYTIME\$\$\$\$\$  
\$\$\$\$\$DCN\$\$\$\$\$  
\$\$\$\$\$USERNAME\$\$\$\$\$

PROJECT REFERENCE NO.	SHEET NO.
U-4422	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

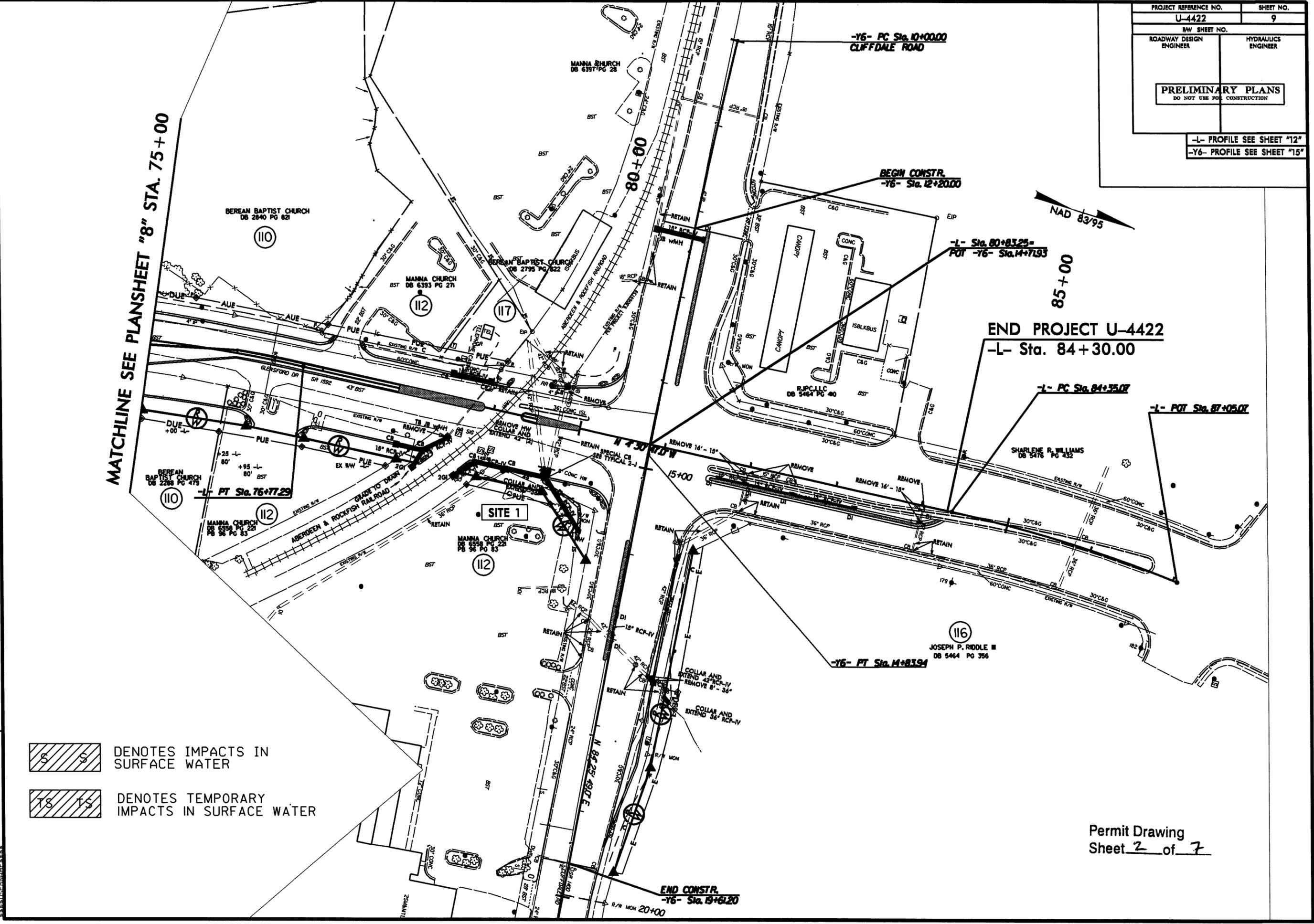
-L- PROFILE SEE SHEET "12"  
-Y6- PROFILE SEE SHEET "15"

MATCHLINE SEE PLANSHEET "8" STA. 75+00

 DENOTES IMPACTS IN SURFACE WATER

 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

Permit Drawing  
Sheet 2 of 7

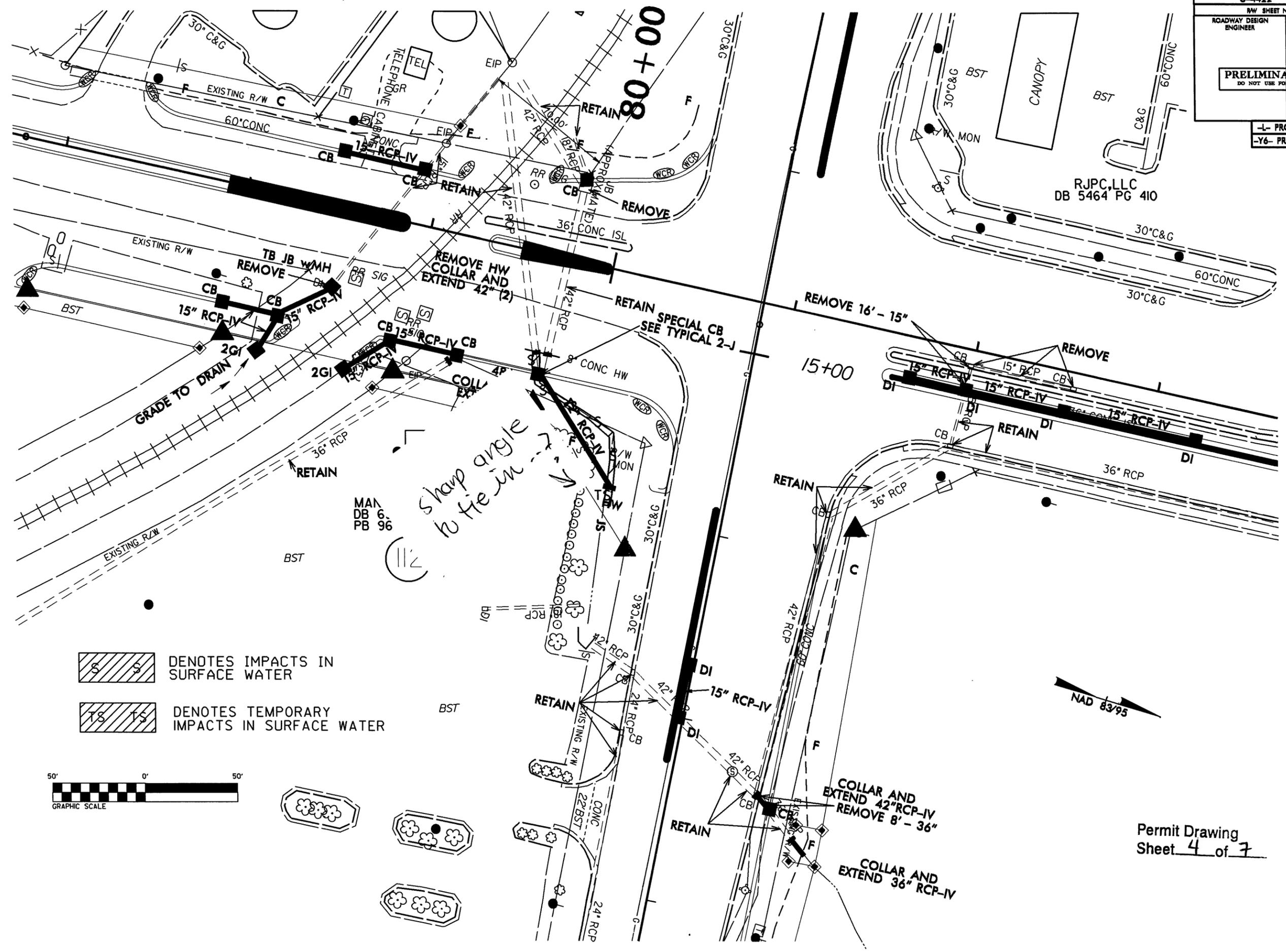


7/25/11 -- PERMIT COMPLETE

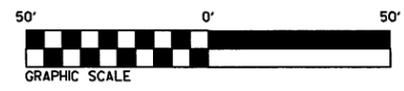
8/17/99  
SYSTEM: 11/11/11  
DESIGN: 11/11/11  
CHECK: 11/11/11  
DATE: 11/11/11  
USER: 11/11/11



PROJECT REFERENCE NO. U-4422	SHEET NO. 9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	
-L- PROFILE SEE SHEET "12"	
-Y6- PROFILE SEE SHEET "15"	



 DENOTES IMPACTS IN SURFACE WATER  
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER



*sharp angle to tie in*



Permit Drawing Sheet 4 of 7

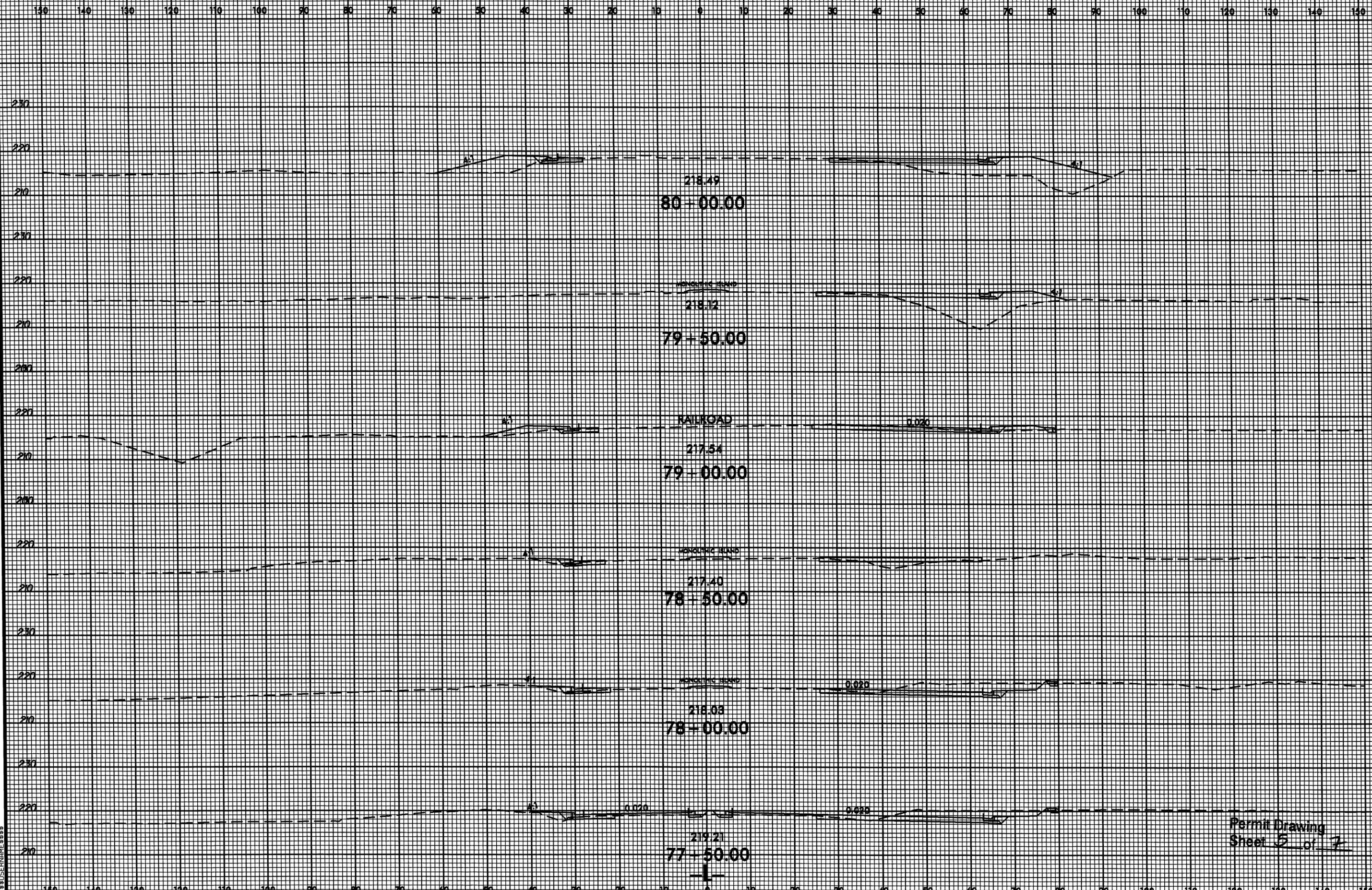
REVISIONS  
 7/25/11 -- PERMIT COMPLETE

SYSTEMS DESIGN  
 USER NAME

8/23/99



PROJ. REFERENCE NO. U-4422 SHEET NO. X-24



\*\*\*\*\*  
SYTIME  
\*\*\*\*\*

Permit Drawing  
Sheet 5 of 7



# PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
112	MANNA CHURCH	5117 CLIFFDALE ROAD FAYETTEVILLE, NC 28305

Permit Drawing  
Sheet 7 of 7

**NCDOT**

**DIVISION OF HIGHWAYS**

**CUMBERLAND COUNTY**

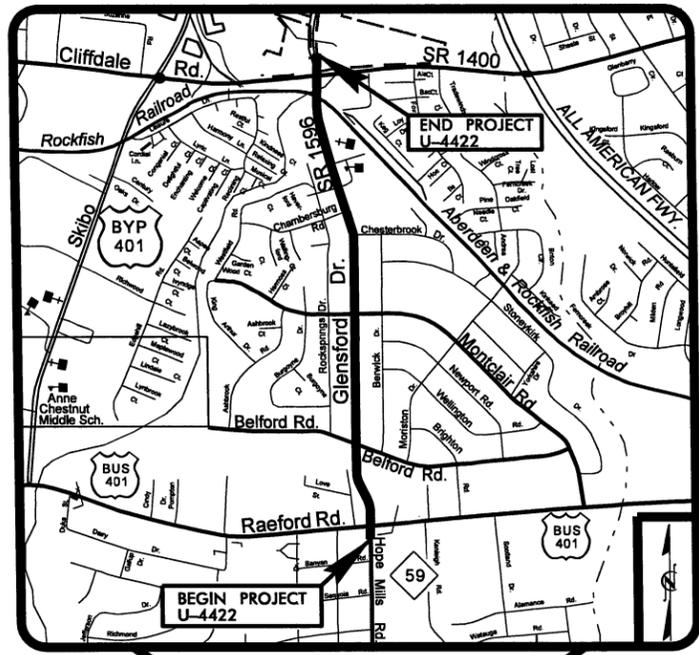
**PROJECT: 35024 (U-4422)**

**GLENSFORD DR (SR 1956)  
WIDENING FROM US 401  
TO CLIFFDALE RD (SR1400)**

29-SEP-2011 10:33  
 C:\pwork\pco\4422\_rdy\_tsh.dgn  
 \$\$\$USERNAME\$\$\$

**TIP PROJECT: U-4422**  
  
**CONTRACT: C202825**

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



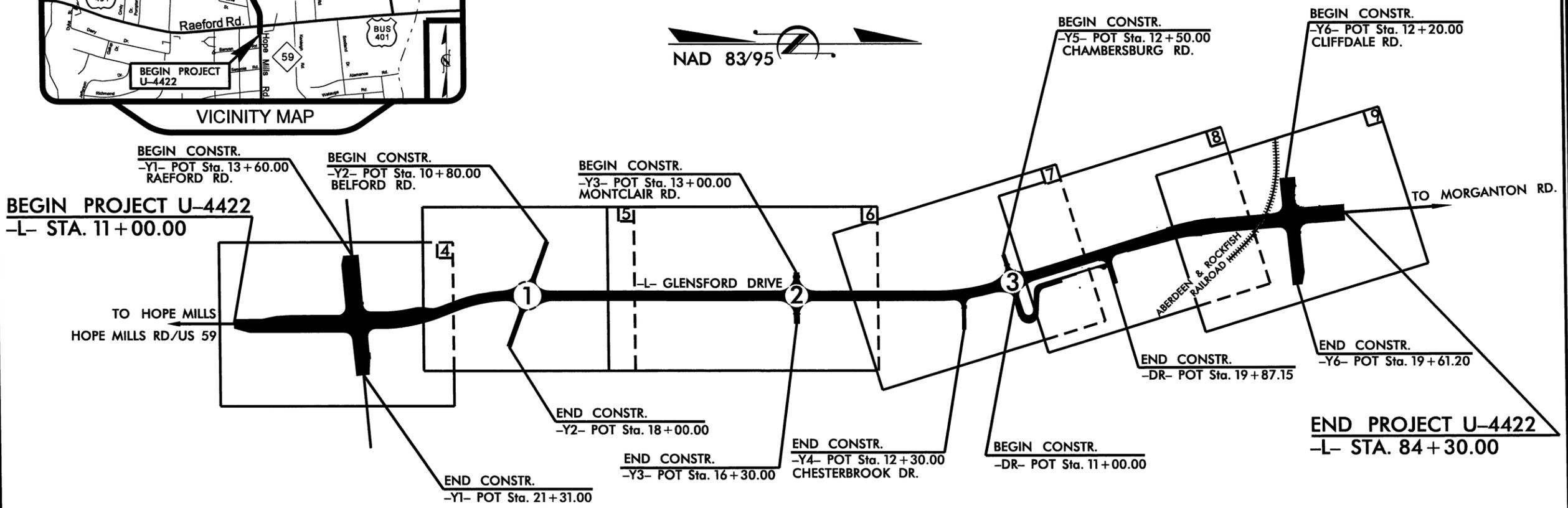
VICINITY MAP

STATE OF NORTH CAROLINA  
 DIVISION OF HIGHWAYS  
**CUMBERLAND COUNTY**

**LOCATION: GLENSFORD DRIVE (SR 1596) FROM RAEFORD ROAD (US 401) TO CLIFFDALE ROAD (SR 1400)**

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

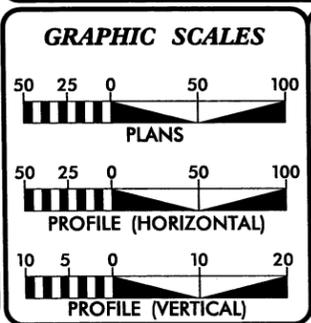
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4422	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
35024.1.1	STP-1529(2)	PE	
35024.2.3	STP-1596(3)	ROW & UTILITIES	



**CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II FOR EXISTING LOCATION AND METHOD III FOR NEW LOCATION.**

**THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF FAYETTEVILLE**

**PRELIMINARY PLANS**  
 DO NOT USE FOR CONSTRUCTION



**DESIGN DATA**

ADT 2012 =	22,100
ADT 2035 =	33,000
DHV =	10 %
D =	60 %
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V =	40 MPH
* DUAL 2% TTST 1%	
FUNC CLASS =	URBAN COLLECTOR
SUB-REGIONAL TIER	

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT U-4422 =	1.388 MILES
TOTAL LENGTH TIP PROJECT U-4422 =	1.388 MILES

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

2006 STANDARD SPECIFICATIONS	
<b>RIGHT OF WAY DATE:</b> MARCH 25, 2009	<b>REKHA PATEL, PE</b> PROJECT ENGINEER
<b>LETTING DATE:</b> JUNE 19, 2012	<b>BRIAN P. ROBINSON</b> PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER	
SIGNATURE: _____	P.E.
<b>ROADWAY DESIGN ENGINEER</b>	
SIGNATURE: _____	P.E.

DIVISION OF HIGHWAYS  
 STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER

04/16/11

Note: Not to Scale

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

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# CONVENTIONAL PLAN SHEET SYMBOLS

## BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	⊙
Property Corner	⊗
Property Monument	⊠
Parcel/Sequence Number	Ⓜ
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	-----
Proposed Wetland Boundary	-----
Existing Endangered Animal Boundary	-----
Existing Endangered Plant Boundary	-----
Known Soil Contamination: Boundary or Site	⊗ ☠
Potential Soil Contamination: Boundary or Site	⊗ ☠

## BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or UG Tank Cap	○
Sign	⊙
Well	⊖
Small Mine	⊗
Foundation	⊠
Area Outline	⊠
Cemetery	⊠
Building	⊠
School	⊠
Church	⊠
Dam	⊠

## HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	⊠
Jurisdictional Stream	JS
Buffer Zone 1	BZ 1
Buffer Zone 2	BZ 2
Flow Arrow	←
Disappearing Stream	→
Spring	⊙
Wetland	⊗
Proposed Lateral, Tail, Head Ditch	-----
False Sump	⊠

## RAILROADS:

Standard Gauge	-----
RR Signal Milepost	⊙
Switch	⊠
RR Abandoned	-----
RR Dismantled	-----

## RIGHT OF WAY:

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

## ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	C
Proposed Slope Stakes Fill	F
Proposed Curb Ramp	CR
Curb Cut Future Ramp	CCFR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	⊠

## VEGETATION:

Single Tree	⊙
Single Shrub	⊙
Hedge	-----
Woods Line	-----

Orchard	⊙
Vineyard	⊙

## EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	CONC
Bridge Wing Wall, Head Wall and End Wall	CONC HW
MINOR:	
Head and End Wall	CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	⊙
Storm Sewer	-----

## UTILITIES:

POWER:	
Existing Power Pole	⊙
Proposed Power Pole	⊙
Existing Joint Use Pole	⊙
Proposed Joint Use Pole	⊙
Power Manhole	⊙
Power Line Tower	⊠
Power Transformer	⊠
UG Power Cable Hand Hole	⊙
H-Frame Pole	⊙
Recorded UG Power Line	-----
Designated UG Power Line (S.U.E.*)	-----

## TELEPHONE:

Existing Telephone Pole	⊙
Proposed Telephone Pole	⊙
Telephone Manhole	⊙
Telephone Booth	⊠
Telephone Pedestal	⊠
Telephone Cell Tower	⊙
UG Telephone Cable Hand Hole	⊙
Recorded UG Telephone Cable	-----
Designated UG Telephone Cable (S.U.E.*)	-----
Recorded UG Telephone Conduit	-----
Designated UG Telephone Conduit (S.U.E.*)	-----
Recorded UG Fiber Optics Cable	-----
Designated UG Fiber Optics Cable (S.U.E.*)	-----

## WATER:

Water Manhole	⊙
Water Meter	⊙
Water Valve	⊙
Water Hydrant	⊙
Recorded UG Water Line	-----
Designated UG Water Line (S.U.E.*)	-----
Above Ground Water Line	A/G Water

## TV:

TV Satellite Dish	⊙
TV Pedestal	⊠
TV Tower	⊙
UG TV Cable Hand Hole	⊙
Recorded UG TV Cable	-----
Designated UG TV Cable (S.U.E.*)	-----
Recorded UG Fiber Optic Cable	-----
Designated UG Fiber Optic Cable (S.U.E.*)	-----

## GAS:

Gas Valve	⊙
Gas Meter	⊙
Recorded UG Gas Line	-----
Designated UG Gas Line (S.U.E.*)	-----
Above Ground Gas Line	A/G Gas

## SANITARY SEWER:

Sanitary Sewer Manhole	⊙
Sanitary Sewer Cleanout	⊙
UG Sanitary Sewer Line	SS
Above Ground Sanitary Sewer	A/G Sanitary Sewer
Recorded SS Forced Main Line	FSS
Designated SS Forced Main Line (S.U.E.*)	FSS

## MISCELLANEOUS:

Utility Pole	⊙
Utility Pole with Base	⊠
Utility Located Object	⊙
Utility Traffic Signal Box	⊠
Utility Unknown UG Line	UGL
UG Tank; Water, Gas, Oil	⊠
Underground Storage Tank, Approx. Loc.	UST
A/G Tank; Water, Gas, Oil	⊠
Geoenvironmental Boring	⊙
UG Test Hole (S.U.E.*)	⊙
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

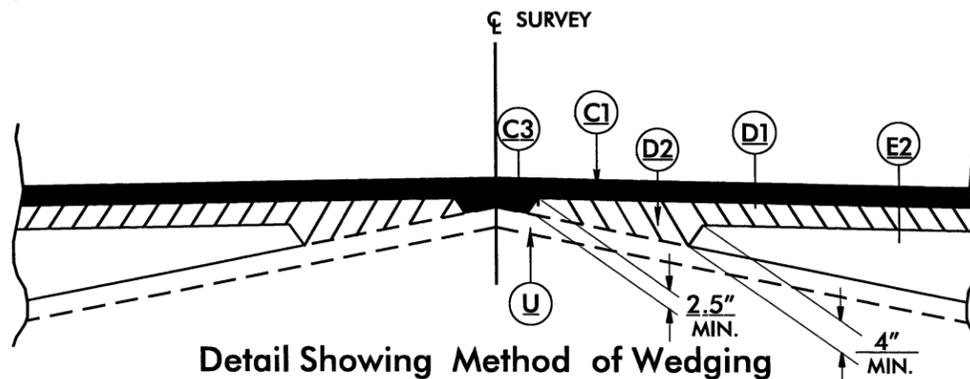
6/2/99

# P R E . P A V E M E N T S C H E D U L E

PROJECT REFERENCE NO. <u>U-4422</u>	SHEET NO. <u>2</u>
ROADWAY DESIGN ENGINEER	PAYEMENT DESIGN ENGINEER
<b>PRELIMINARY PLANS</b> <small>DO NOT USE FOR CONSTRUCTION</small>	

<b>C1</b>	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	<b>R2</b>	2' VALLEY CURB AND GUTTER.
<b>C2</b>	PROP. APPROX. 3 " ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS	<b>R3</b>	1'-6" CONCRETE CURB AND GUTTER.
<b>C3</b>	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.	<b>R4</b>	2'-9" CONCRETE CURB AND GUTTER.
<b>D1</b>	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	<b>R5</b>	5" MONOLITHIC CONCRETE ISLAND
<b>D2</b>	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2¼" IN DEPTH OR GREATER THAN 4" IN DEPTH.	<b>R6</b>	10' CONCRETE APRON
<b>D3</b>	PROP. APPROX. 2 ½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	<b>R7</b>	4" CONCRETE COVER
<b>E1</b>	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	<b>S</b>	4" CONCRETE SIDEWALK.
<b>E2</b>	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2¼" IN DEPTH OR GREATER THAN 4" IN DEPTH.	<b>I</b>	EARTH MATERIAL.
<b>J</b>	PROP. 8" AGGREGATE BASE COURSE.	<b>U</b>	EXISTING PAVEMENT.
<b>R1</b>	2'-6" CONCRETE CURB AND GUTTER.	<b>W</b>	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

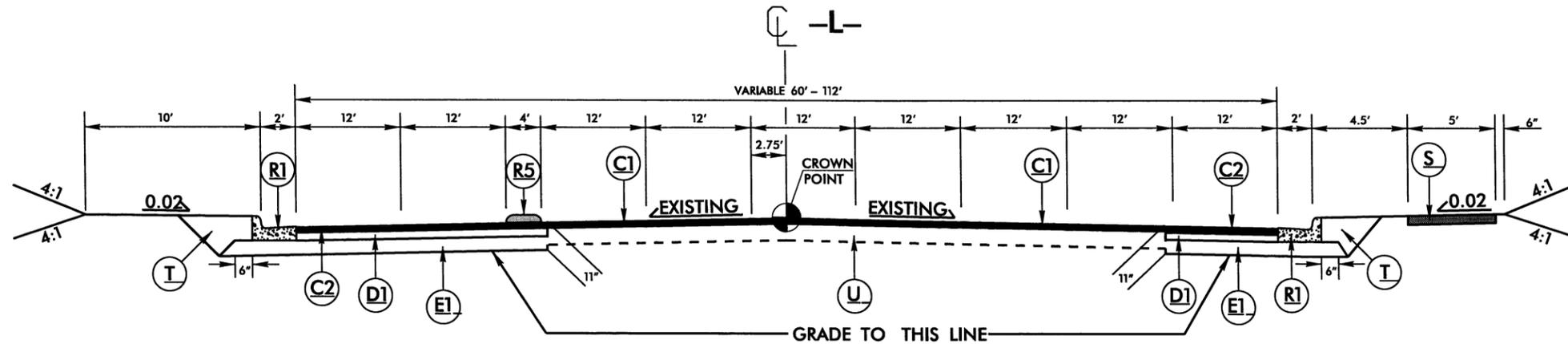
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



29-SEP-2011 10:33 AM C:\p008\BHN\p008\U4422.rdy typ.dgn

6/2/99

PROJECT REFERENCE NO. <b>U-4422</b>	SHEET NO. <b>2-A</b>
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

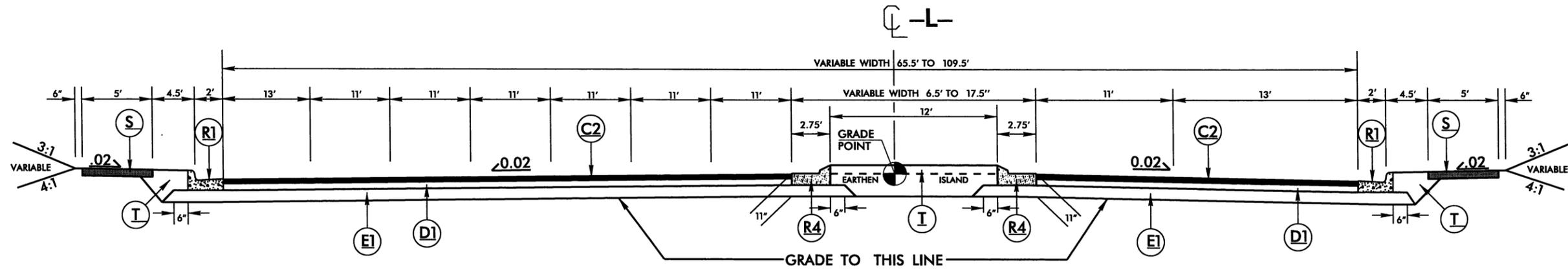


### TYPICAL SECTION NO. 1

-L- STA 11+00.00 TO 19+00.00

#### PAVEMENT SCHEDULE

C1	1½" TYPE S9.5B
C2	3" TYPE S9.5B
D1	4" TYPE I19.0B
E1	4" TYPE B25.0B
R1	2'-6" CONCRETE CURB AND GUTTER.
R4	2'-9" CONCRETE CURB AND GUTTER.
R5	5" MONOLITHIC CONCRETE ISLAND
S	4" CONCRETE SIDEWALK.
I	EARTH MATERIAL.
U	EXISTING PAVEMENT.



### TYPICAL SECTION NO. 2

-L- STA 20+80.00 TO 30+22.08

NOTE: FOR ASPHALT PAVEMENT REMOVAL SEE SUMMARY SHEET "3-K"

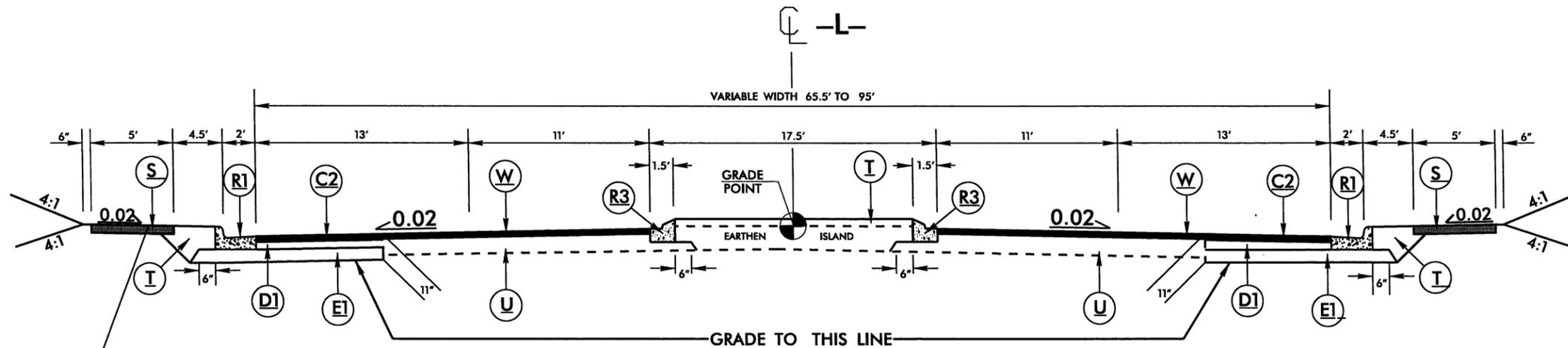
29-SEP-2011 10:33  
C:\PROJECTS\PROJ\4422-rdy-tp.dgn

6/2/99

PROJECT REFERENCE NO. U-4422	SHEET NO. 2-B
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

PAVEMENT SCHEDULE

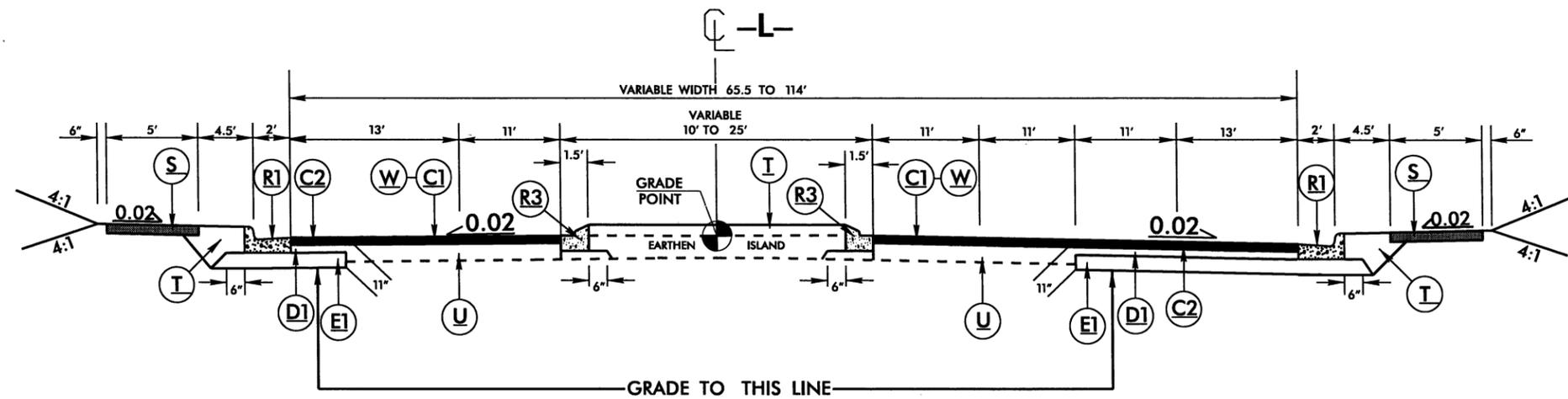
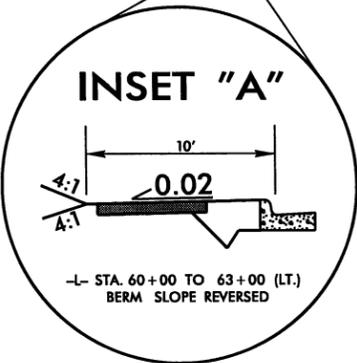
C1	1 1/2" TYPE S9.5B
C2	3" TYPE S9.5B
D1	4" TYPE I19.0B
E1	4" TYPE B25.0B
R1	2'-6" CONCRETE CURB AND GUTTER.
R3	1'-6" CONCRETE CURB AND GUTTER.
S	4" CONCRETE SIDEWALK.
I	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING



**TYPICAL SECTION NO. 3**

- L- STA 32+02.08 TO 47+64.98
- L- STA 49+14.98 TO 61+59.69
- L- STA 63+09.69 TO 70+00.00

NOTE: FOR ASPHALT PAVEMENT REMOVAL SEE SUMMARY SHEET "3-K"



**TYPICAL SECTION NO. 4**

- L- STA 70+00.00 TO 80+00.00

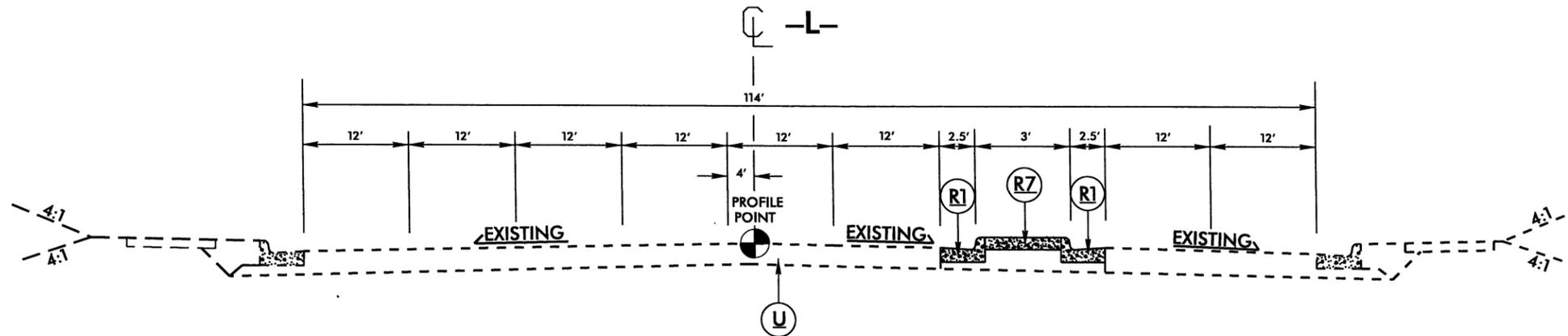
NOTE: FOR ASPHALT PAVEMENT REMOVAL SEE SUMMARY SHEET "3-K"

29-SEP-2011 10:33  
C:\p000\proj\4422.rdj -typ.dgn

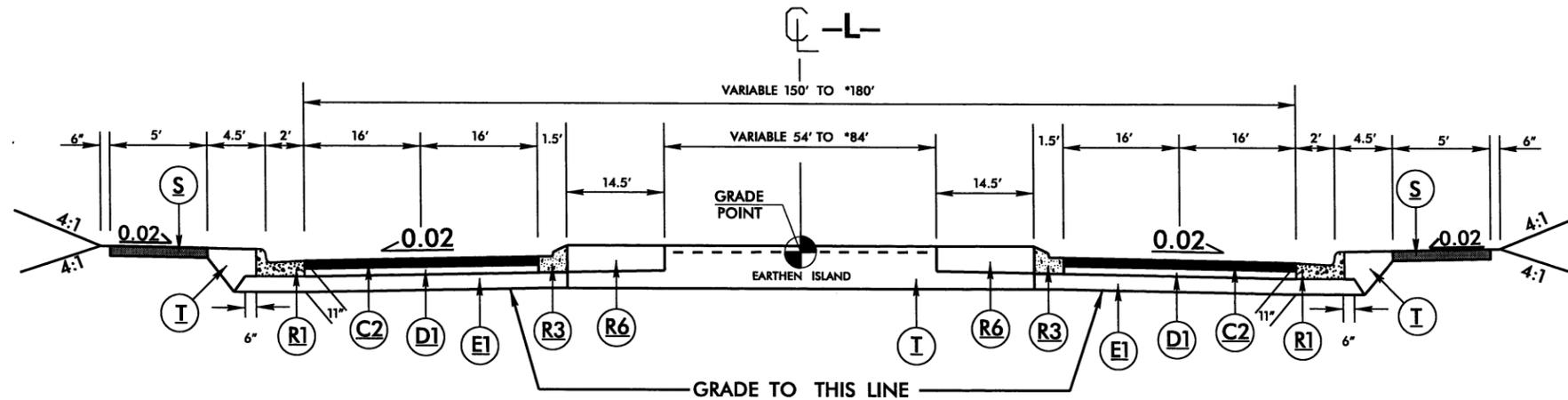
6/2/09

29-SEP-2011 10:33  
 C:\CORPORATE\PROJECTS\4422-rdy-typ.dgn  
 \*\*\*\$USER\$\*\*\*

PROJECT REFERENCE NO. U-4422	SHEET NO. 2-C
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	
PAVEMENT SCHEDULE	
C2	3" TYPE 89.5B
D1	4" TYPE I19.0B
E1	4" TYPE B25.0B
R1	2'-6" CONCRETE CURB AND GUTTER.
R3	1'-6" CONCRETE CURB AND GUTTER.
R5	5" MONOLITHIC CONCRETE ISLAND
R6	10' CONCRETE APRON
R7	4" CONCRETE COVER
S	4" CONCRETE SIDEWALK.
I	EARTH MATERIAL.
U	EXISTING PAVEMENT.

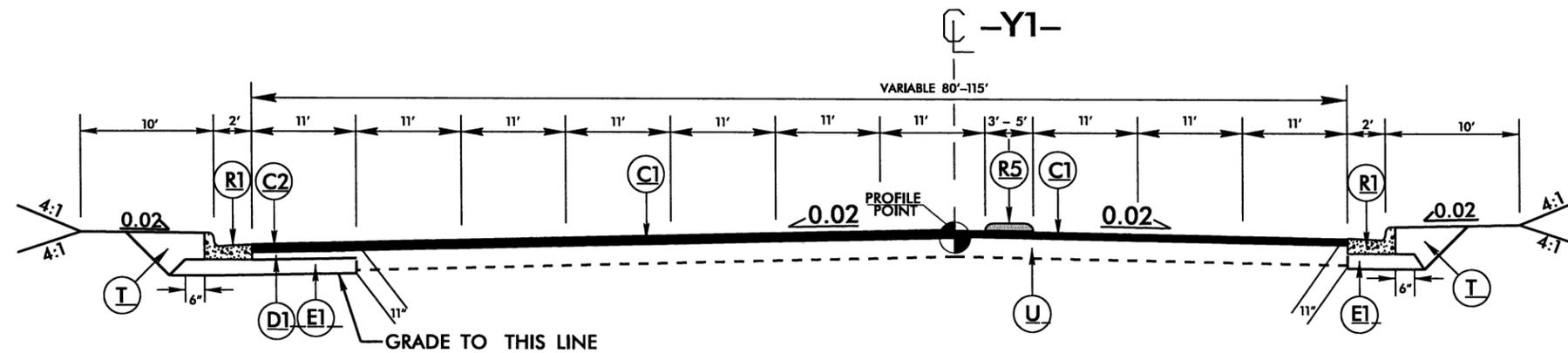


**TYPICAL SECTION NO. 5**  
 -L- STA 81+75.00 TO 84+30.00



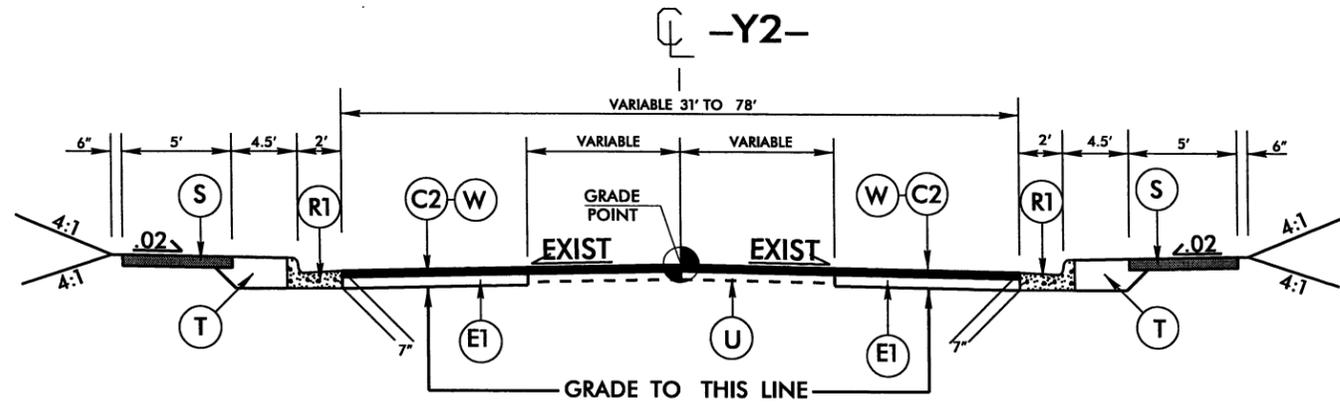
**TYPICAL SECTION NO. 6 WITH ROUNDABOUTS "1, 2 & 3"**

\* -ROUNDABOUT "1"- STA 30+22.08 TO 32+02.08  
 -ROUNDABOUT "2"- STA 47+64.98 TO 49+14.98  
 -ROUNDABOUT "3"- STA 61+59.69 TO 63+09.69  
 NOTE: FOR ASPHALT PAVEMENT REMOVAL SEE SUMMARY SHEET "3-K"

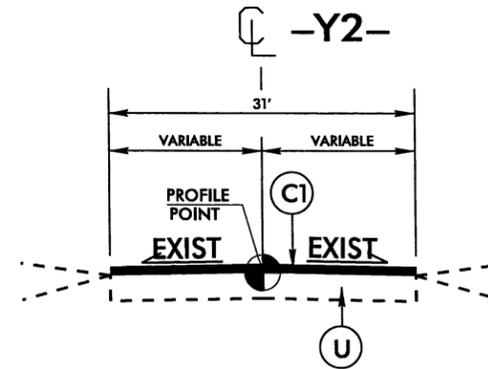


**TYPICAL SECTION NO. 7**  
 -Y1- STA 13+52.00 TO 21+31.00

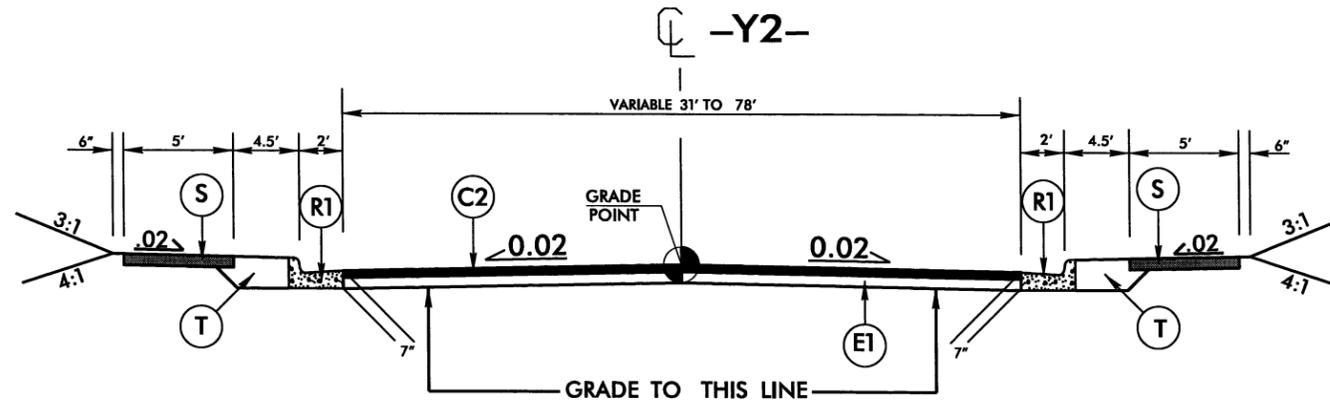
6/2/99



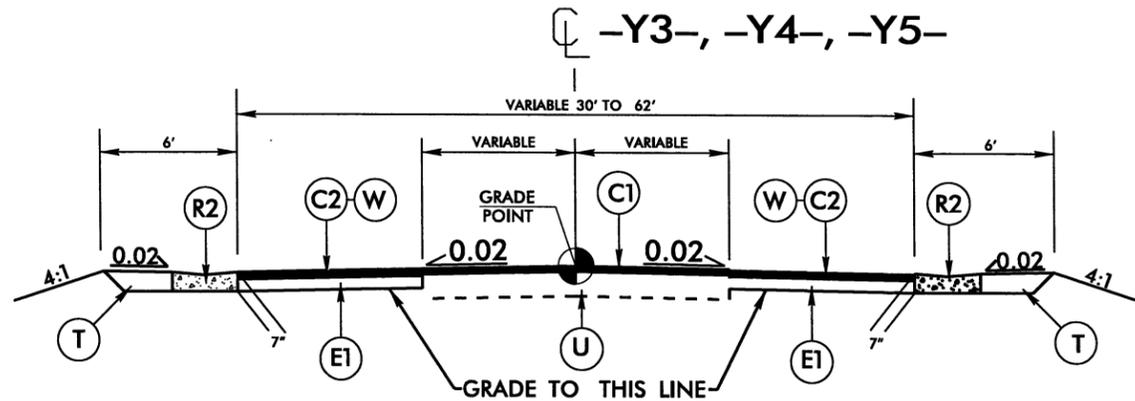
**TYPICAL SECTION NO. 8**  
-Y2- STA 12+00.00 TO 13+50.00



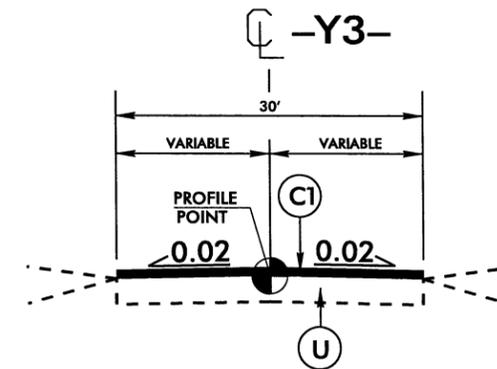
**USE WITH TYPICAL SECTION NO. 8**  
-Y2- STA 10+80.00 TO 12+00.00



**TYPICAL SECTION NO. 9**  
-Y2- STA 15+40.00 TO 18+00.00



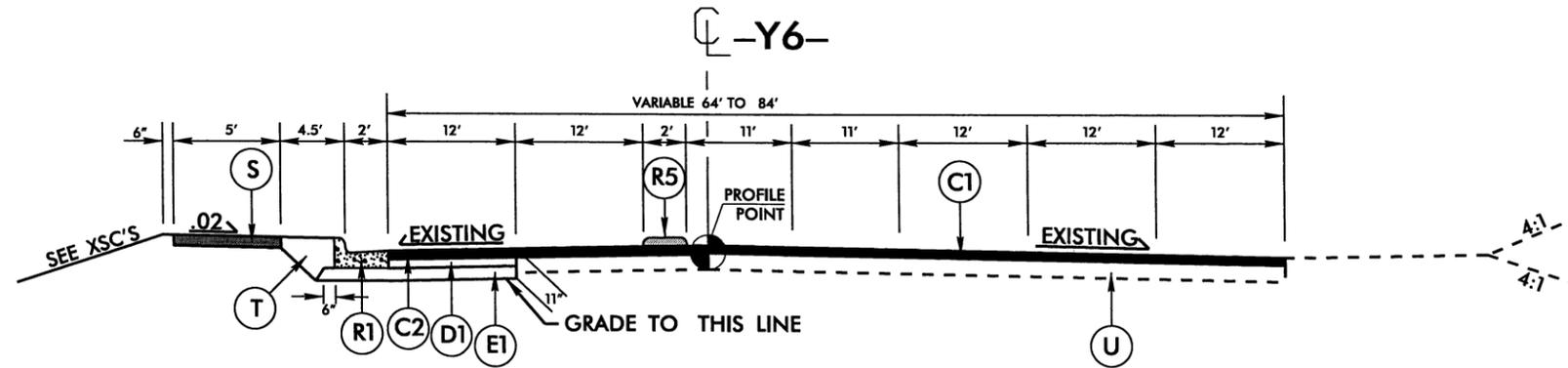
**TYPICAL SECTION NO. 10**  
-Y3- STA 13+00.00 TO 13+50.00  
-Y3- STA 15+50.00 TO 16+00.00  
-Y4- STA 11+00.00 TO 12+30.00  
-Y5- STA 12+50.00 TO 13+58.57



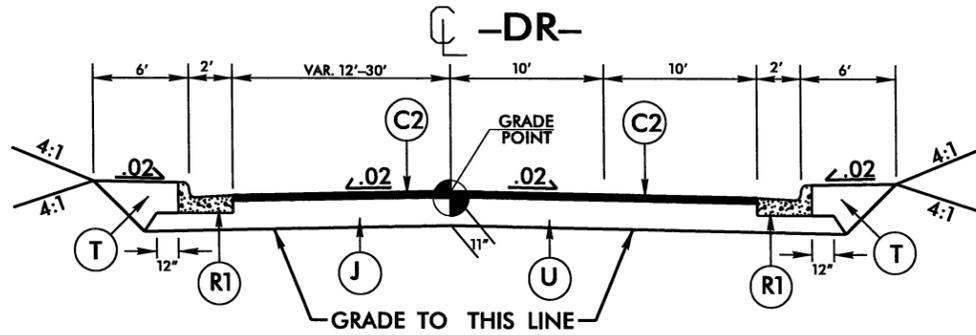
**USE WITH TYPICAL SECTION NO. 10**  
-Y3- STA 11+45.00 TO 13+00.00  
-Y3- STA 16+00.00 TO 16+80.00

PROJECT REFERENCE NO. U-4422	SHEET NO. 2-D
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	
PAVEMENT SCHEDULE	
C1	1 1/2" TYPE 89.5B
C2	3" TYPE 89.5B
E1	4" TYPE B25.0B
R1	2'-6" CONCRETE CURB AND GUTTER.
R2	2' VALLEY GUTTER
R5	5" MONOLITHIC CONCRETE ISLAND
S	4" CONCRETE SIDEWALK.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING

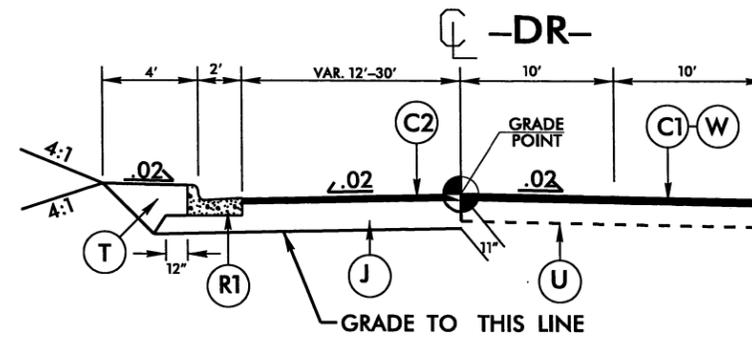
28 SEP 2011 10:33  
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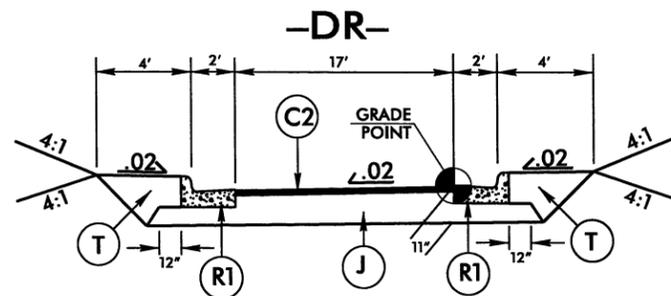
**TYPICAL SECTION NO. 11**  
 -Y6- STA 12+20.00 TO 19+61.20



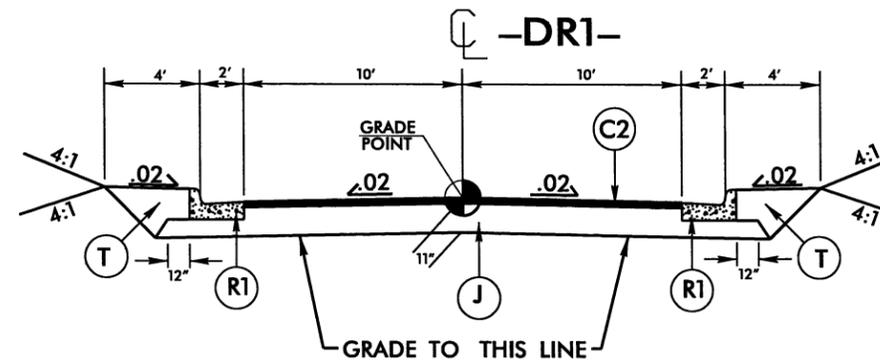
**TYPICAL SECTION NO. 12**  
 -DR- STA 10+75.00 TO 15+36.76



**TYPICAL SECTION NO. 13**  
 -DR- STA 15+36.76 TO 16+73.00



**TYPICAL SECTION NO. 14**  
 -DR- STA 16+73.00 TO 19+87.15



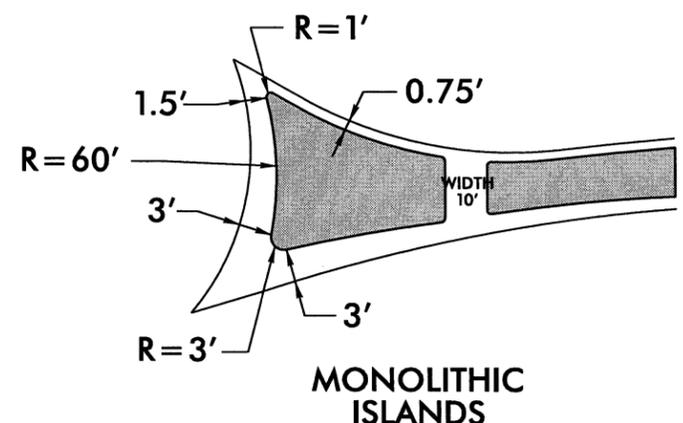
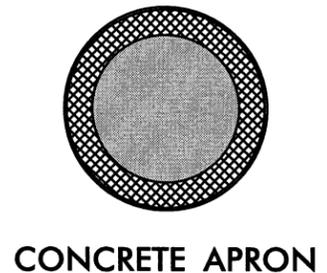
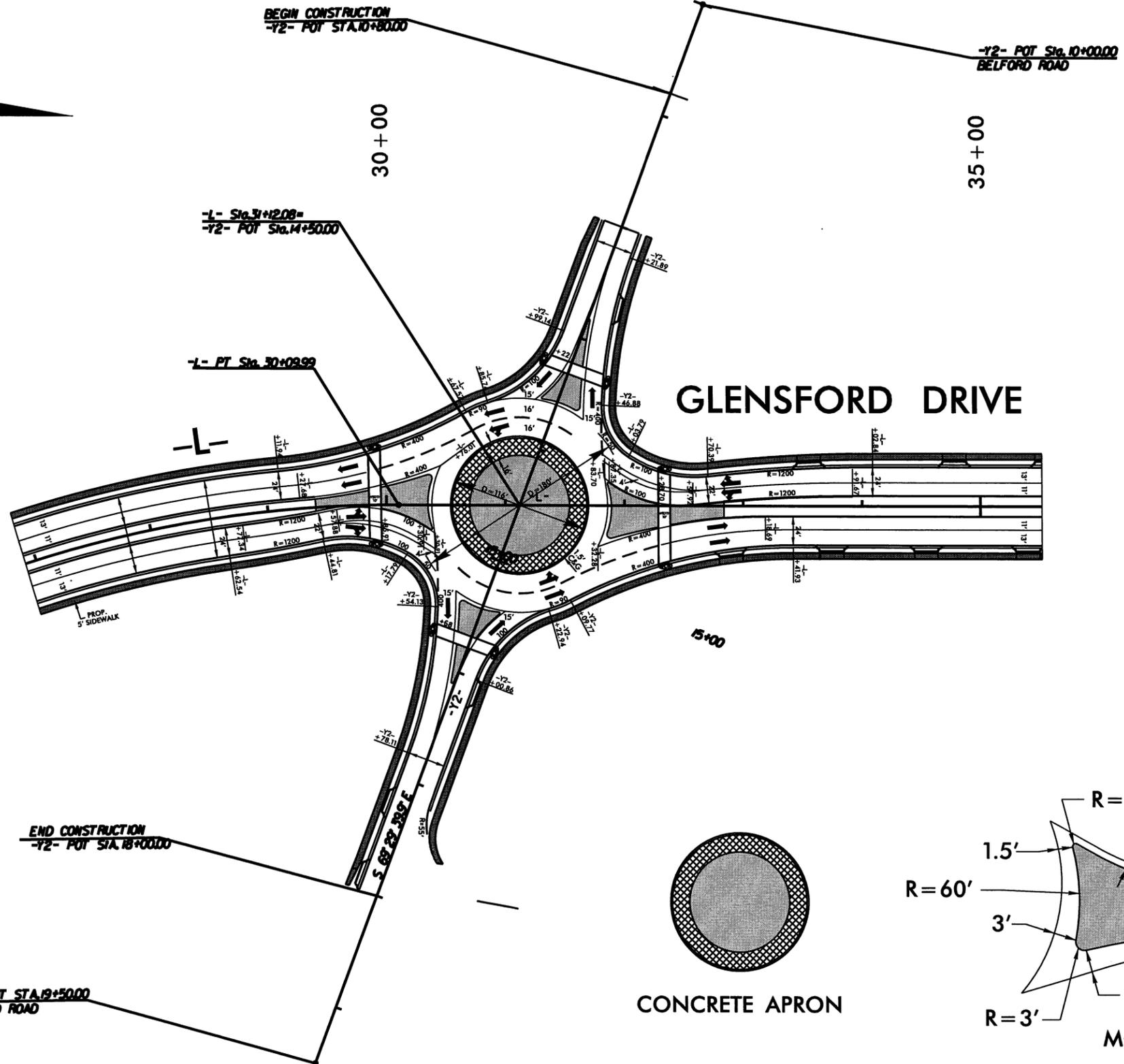
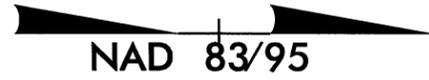
**TYPICAL SECTION NO. 15**  
 -DR1- STA 10+00.00 TO 11+18.79

PROJECT REFERENCE NO. U-4422	SHEET NO. 2-E
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	
PAVEMENT SCHEDULE	
C1	1½" TYPE S9.5B
C2	3" TYPE S9.5B
D1	4" TYPE I19.0B
E1	4" TYPE B25.0B
J	PROP. 8" AGGREGATE BASE COURSE.
R1	2'-6" CONCRETE CURB AND GUTTER.
R5	5" MONOLITHIC CONCRETE ISLAND
S	4" CONCRETE SIDEWALK.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING

8/17/99

# ROUNDAABOUT #1

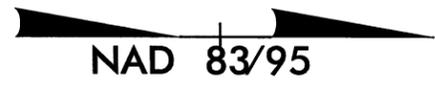
PROJECT REFERENCE NO. U-4422	SHEET NO. 2-F
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	



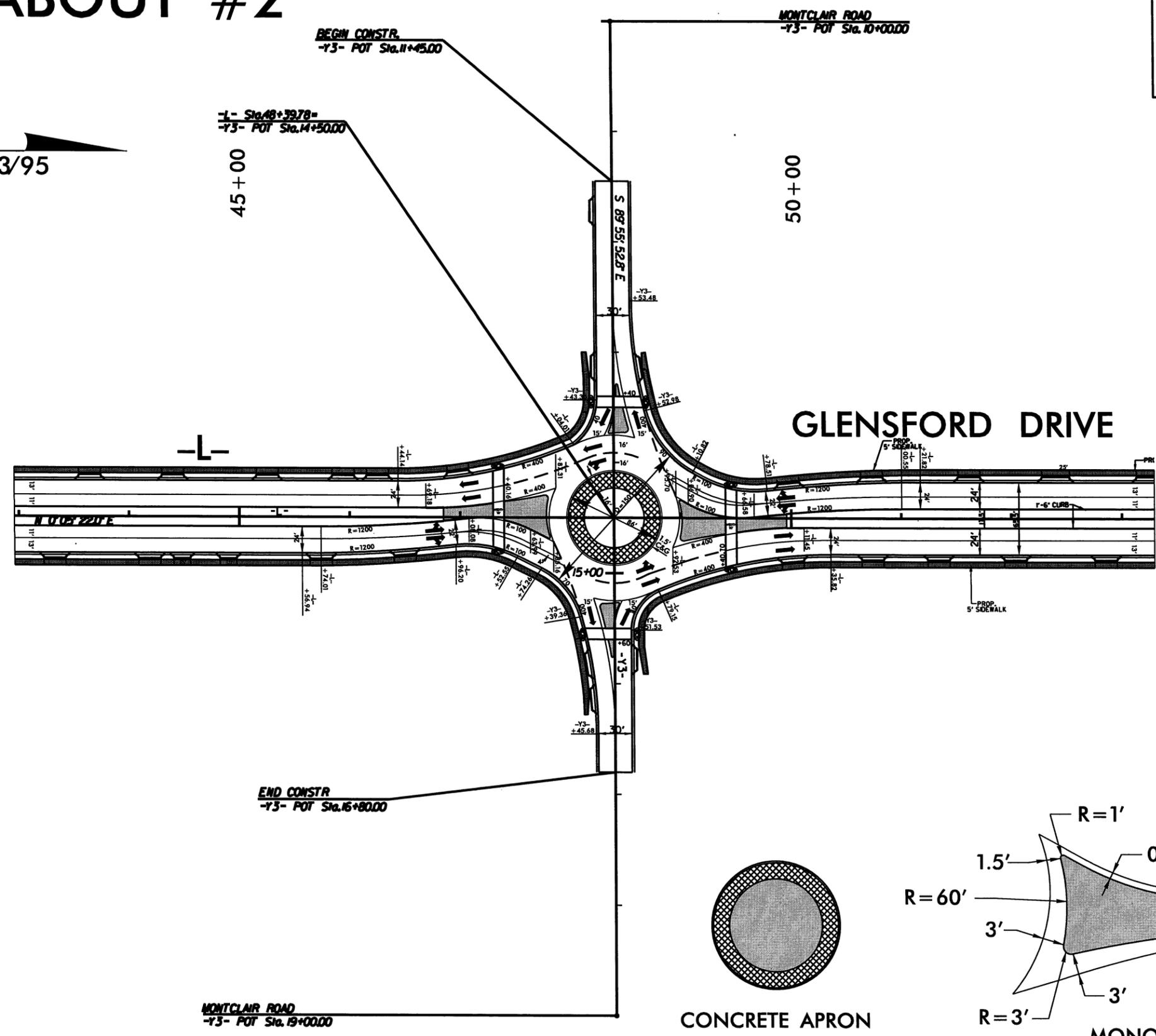
REVISIONS

29-SEP-2011 10:33  
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# ROUNDBABOUT #2

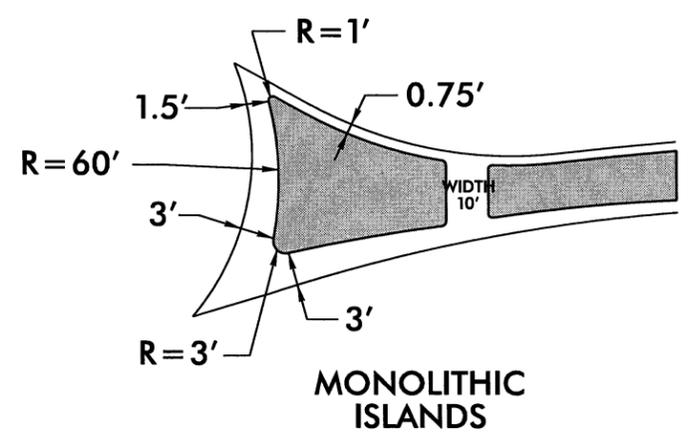


PROJECT REFERENCE NO. U-4422	SHEET NO. 2-6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	



REVISIONS

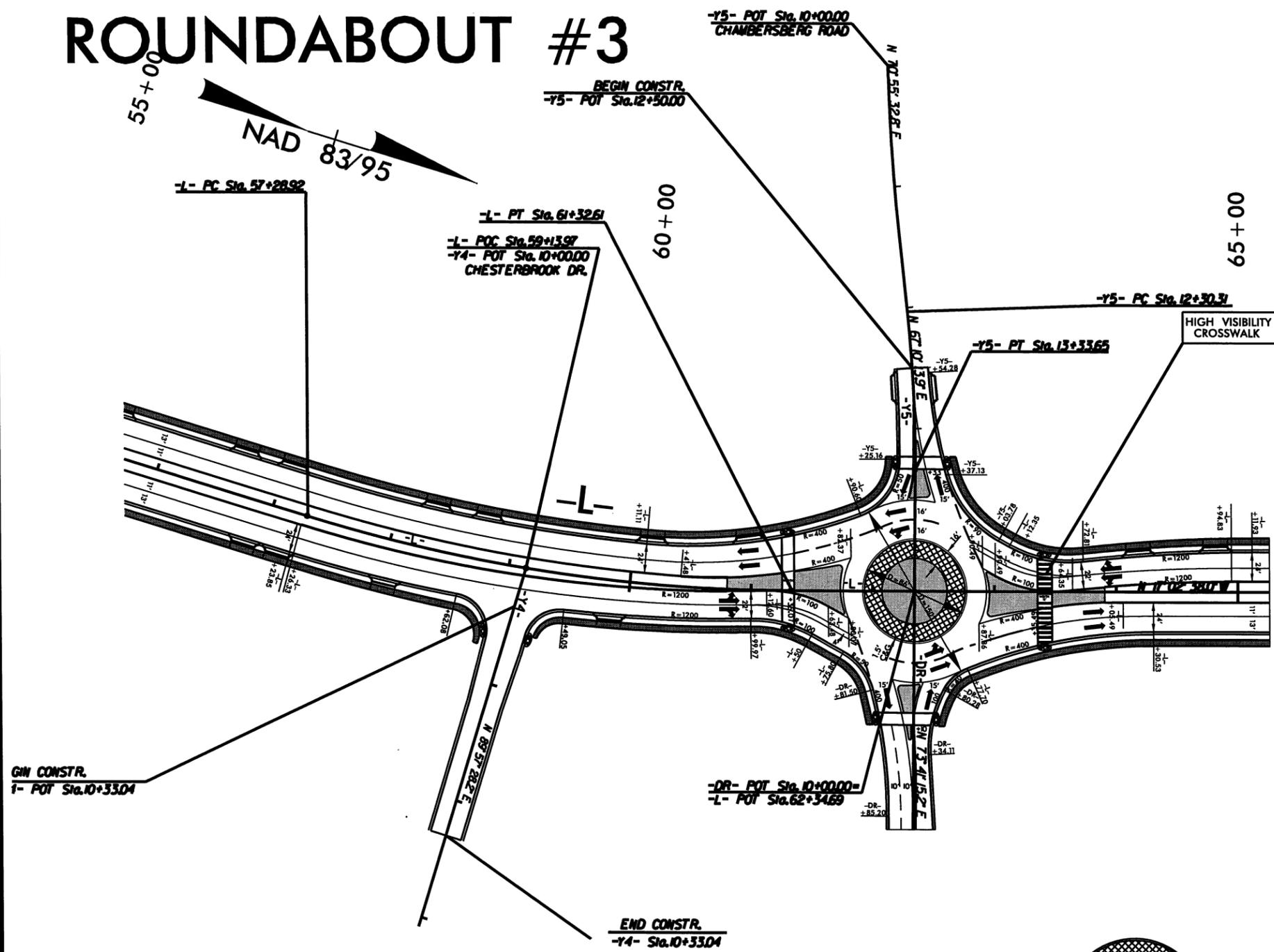
8/17/99  
29-SEP-2011 10:13  
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R:\ROSEMARY\PROJECTS\rdabout\_2.dgn



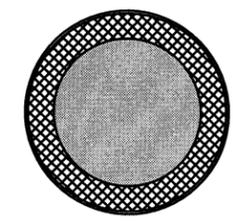
8/17/99

PROJECT REFERENCE NO. U-4422	SHEET NO. 2-H
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

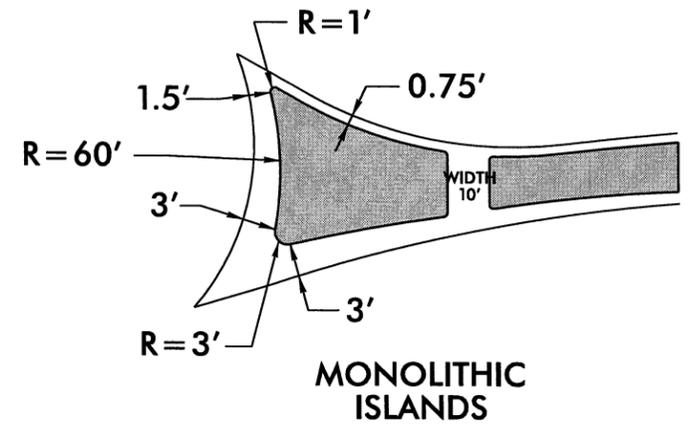
# ROUNDAABOUT #3



## GLENSFORD DRIVE



CONCRETE APRON

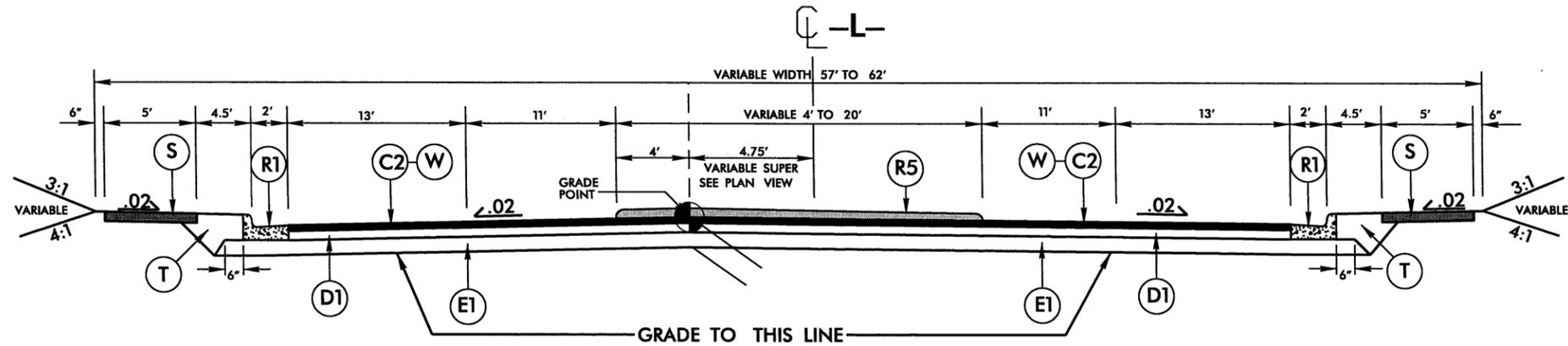


MONOLITHIC ISLANDS

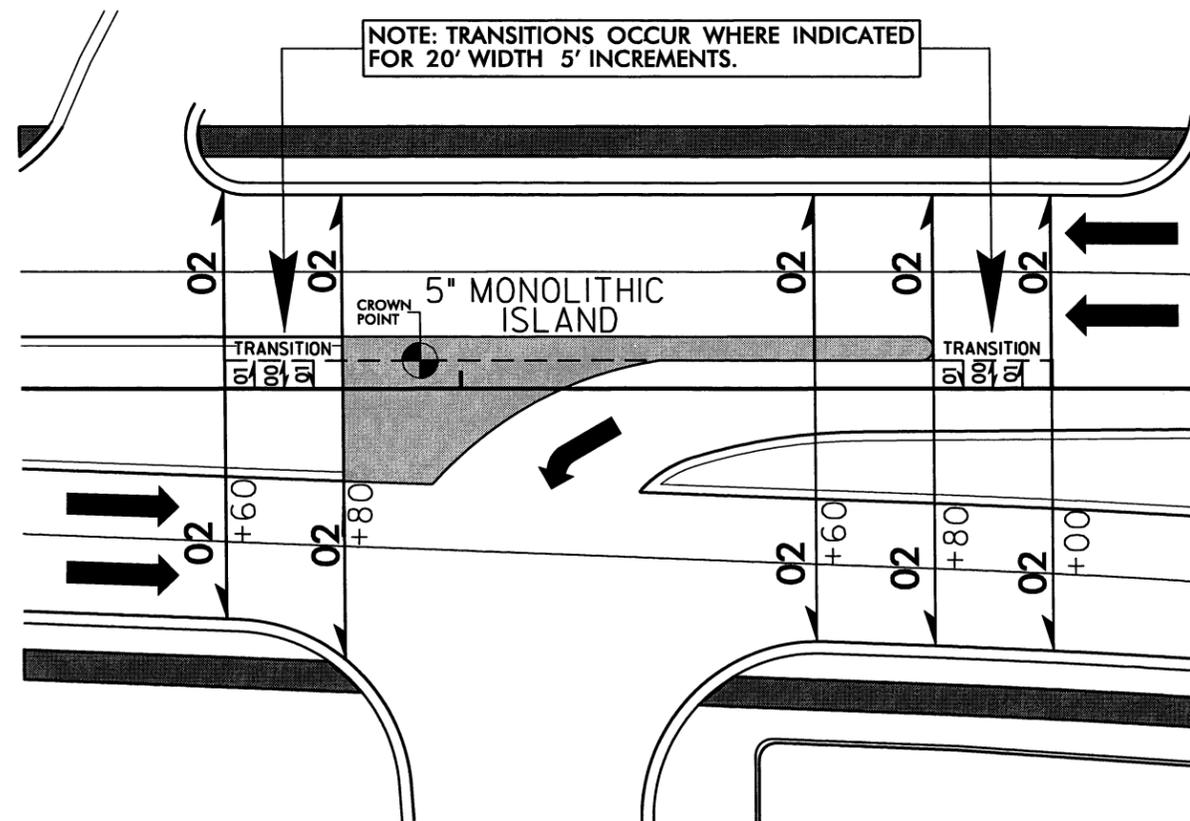
REVISIONS

29-SEP-2011 10:33  
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6/2/99



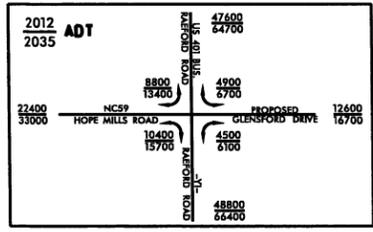
**TYPICAL SECTION NO. 16**  
 -L- STA 71+60.00 TO 73+00.00



**PLAN VIEW**  
 USE WITH TYPICAL SECTION NO. 16

PROJECT REFERENCE NO. U-4422	SHEET NO. 2-1
ROADWAY DESIGN ENGINEER	
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	
PAVEMENT SCHEDULE	
C2	3" TYPE 89.5B
D1	4" TYPE 119.0B
E1	4" TYPE B25.0B
R1	2'-6" CONCRETE CURB AND GUTTER.
R5	5" MONOLITHIC CONCRETE ISLAND
S	4" CONCRETE SIDEWALK.
T	EARTH MATERIAL.
W	WEDGING

29-SEP-2011 10:33  
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-L-  
 PI Sta 23+26.08  
 $\Delta = 20' 41'' 15.9'' (LT)$   
 $D = 5' 43'' 46.5''$   
 $L = 361.07'$   
 $T = 182.52'$   
 $R = 1,000.00'$   
 $SE = 0.03$   
 $INC = 25'$

NAD 83/95

PROJECT REFERENCE NO.	U-4422	SHEET NO.	4
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION			

-L- PROFILE SEE SHEET "10"  
 -YI- PROFILE SEE SHEET "13"

**BEGIN PROJECT U-4422**  
 -L- POT Sta. 11+00.00

**BEGIN CONSTR.**  
 -YI- POT Sta. 13+52.00

-BY- 14 POT 5+00.00=  
 -YI- Sta. 15+36.71 (61.30' RT.)

-BL- 2 PINC 23+38.63 =  
 -BY- 15 PINC 7+27.41 =  
 -L- 20+35.73 (63.51' RT.)

-L- POT Sta. 20+00.00=  
 -YI- POT Sta. 18+00.00

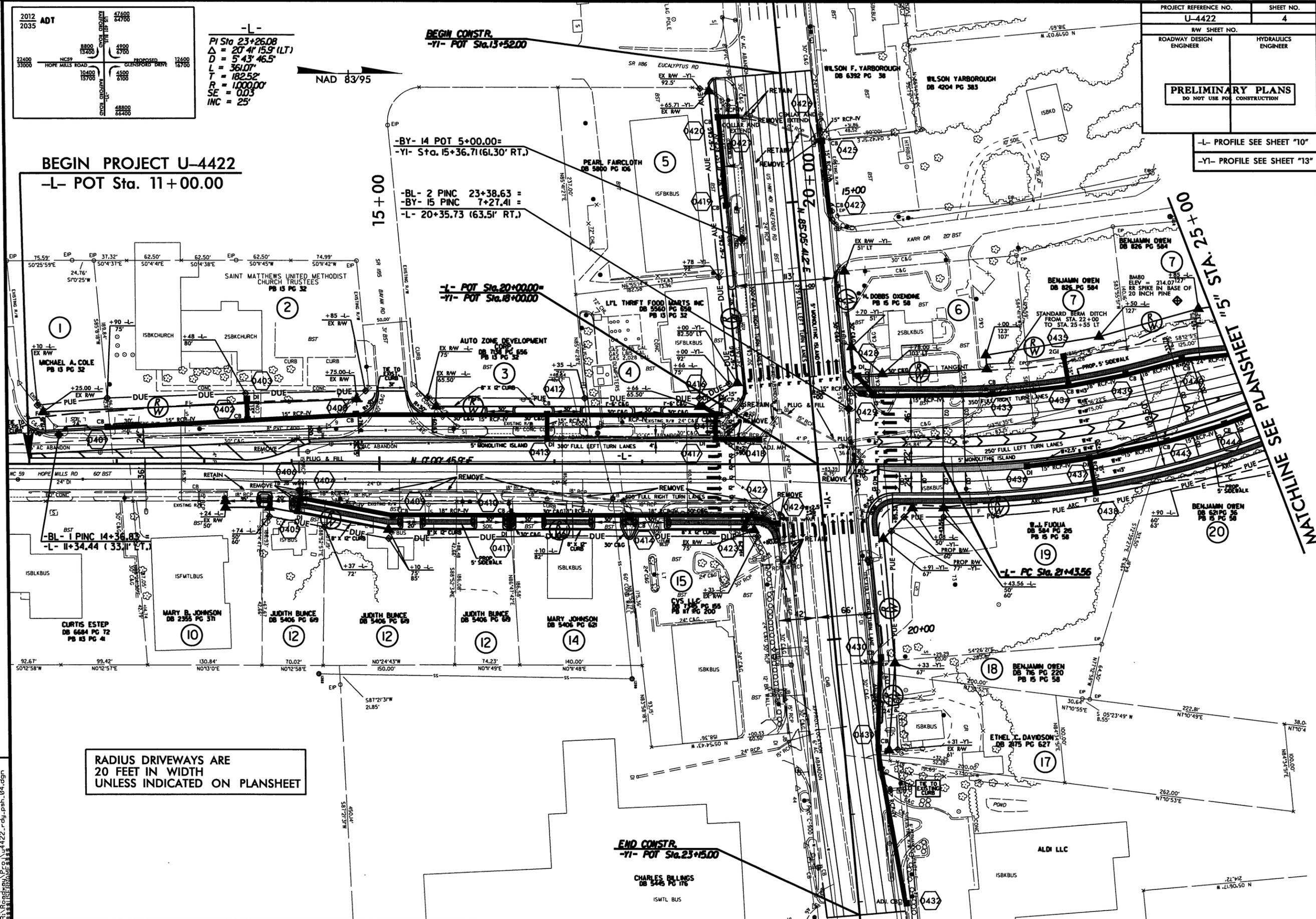
**END CONSTR.**  
 -YI- POT Sta. 23+15.00

**RADIUS DRIVEWAYS ARE  
 20 FEET IN WIDTH  
 UNLESS INDICATED ON PLANSHEET**

ROW Revision: Added PUE on the West side of Glenford Drive. By: WFW 10-08-2009  
 ROW REVISION: CHANGED PUE TO DUE ON PARCELS 2,4,12,14, AND 15  
 ROW REVISION: CHANGED PROPERTY OWNER NAMES ON PARCELS 1,2,3,10, & 17. CHANGED PUE TO AUE ON PARCEL 5. ELIMINATED PARCEL 16. ADJUSTED DRIVE ON PARCEL 17. WFW 9-29-11

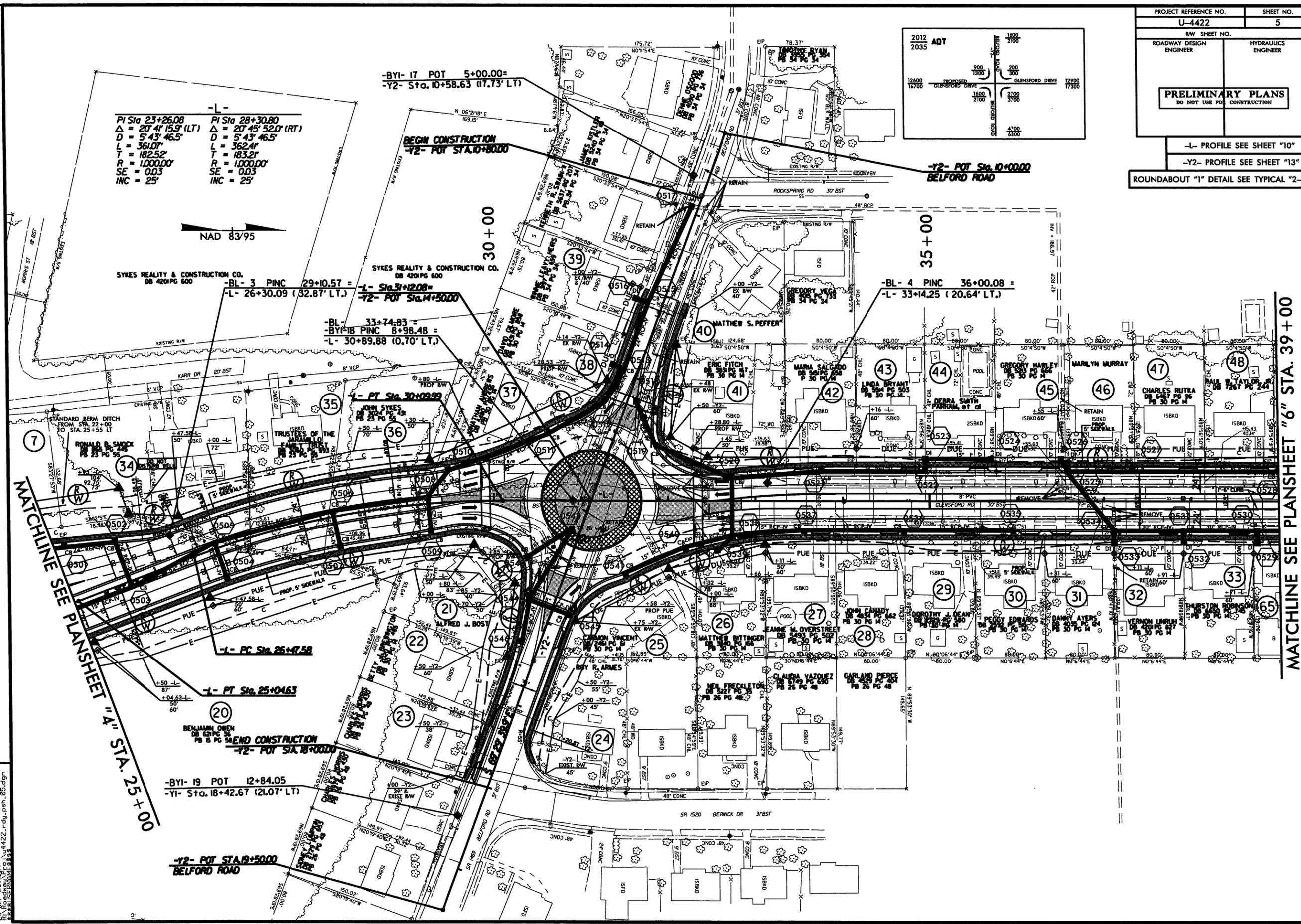
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 4422.rdw, psh, 04.dgn

MATCHLINE SEE PLANSHEET "5" STA. 25+00.00

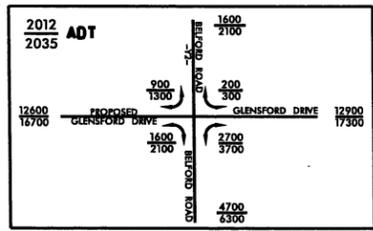
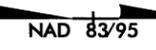


ROW Revision: Added PUE on the West side of Glemsford Road. By WPW 10-08-2009  
 ROW REVISION: CHANGED PROPERTY OWNER NAMES ON PARCELS 24 AND 40 CHANGED PUE TO DUE ON PARCELS 26,31,32,38,39,43,44,45 AND 65 NRW 6-16-2010  
 ROW REVISION: CHANGED PROPERTY OWNER NAMES ON PARCELS 21,22,24,27,29,34,35,39,44,46, & 48. REVISED PROPOSED ROW ON PARCELS 21.  
 REVISED PROPOSED ROW & PUE ON PARCEL 25. REVISED PROPOSED ROW & DUE ON PARCEL 26. ADDED 'DO NOT DISTURB WELL' ON PARCEL 34. ADDED DRIVE TURNOUT ON PARCEL 36.  
 REVISED PROPOSED TEMP. CONST. EASEMENT ON PARCEL 40 AND 41. WPW 9-29-11

29 SEP 2011 10:14  
 R:\PROJECTS\4422\_rdy\_psh\_05.dgn  
 1:1 SCALE



-L-  
 PI Sta 23+26.08 Δ = 20'41" 15.9' (LT)  
 D = 5'43" 46.5'  
 L = 361.07'  
 T = 182.52'  
 R = 1,000.00'  
 SE = 0.03  
 INC = 25'  
 PI Sta 28+30.80 Δ = 20'45" 52.0' (RT)  
 D = 5'43" 46.5'  
 L = 362.41'  
 T = 183.21'  
 R = 1,000.00'  
 SE = 0.03  
 INC = 25'



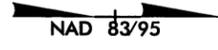
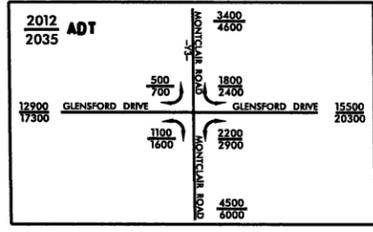
PROJECT REFERENCE NO.	U-4422	SHEET NO.	5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER		
<b>PRELIMINARY PLANS</b>			
DO NOT USE FOR CONSTRUCTION			
-L- PROFILE SEE SHEET "10"			
-Y2- PROFILE SEE SHEET "13"			
ROUNDBOUT "1" DETAIL SEE TYPICAL "2-F"			

MATCHLINE SEE PLANSHEET "A" STA. 25+00

MATCHLINE SEE PLANSHEET "6" STA. 39+00

PROJECT REFERENCE NO.	SHEET NO.
U-4422	6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b>	
DO NOT USE FOR CONSTRUCTION	

-L- PROFILE SEE SHEET "11"  
 -Y3- PROFILE SEE SHEET "14"  
 ROUNDABOUT "2" DETAIL SEE TYPICAL "2-G"



**BEGIN CONSTR.**  
 -Y3- POT Sta. 11+45.00

**MONTCLAIR ROAD**  
 -Y3- POT Sta. 10+00.00

-BY2- 20 POT 5+00.00=  
 -Y2- Sta. 11+33.60 (32.39' RT)

-L- Sta. 48+39.78=  
 -Y3- POT Sta. 14+50.00

-BL- 6 PINC 50+93.37 =  
 -BY2- 21 PINC 8+48.04 =  
 U4422-6 =  
 -L- 48+06.32 ( 25.37' RT.)

U4422-5  
 -BL- 5 PINC 43+46.53 =  
 -L- 40+59.49 ( 21.90' RT.)

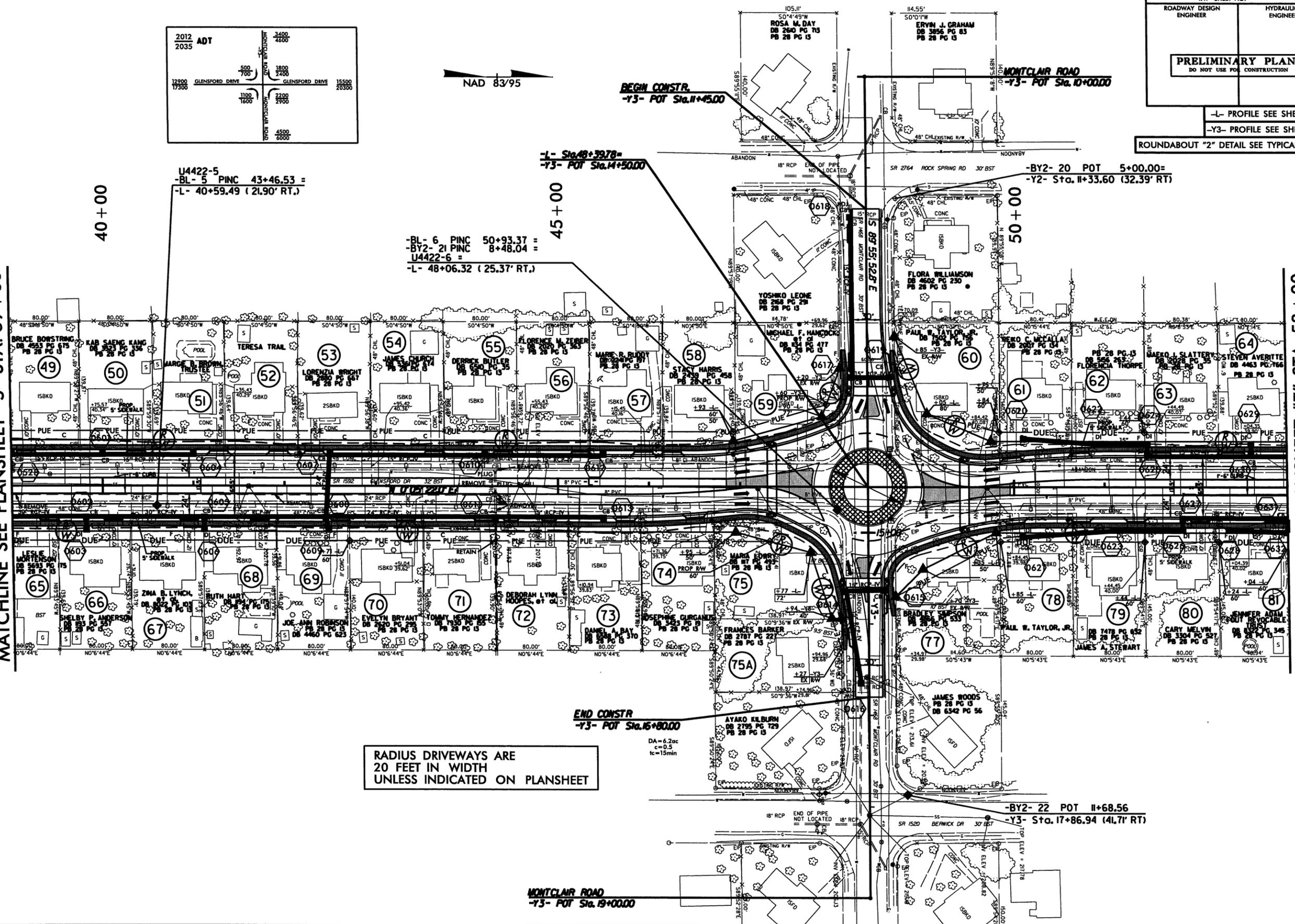
40+00

45+00

50+00

MATCHLINE SEE PLANSHEET "5" STA. 39+00

MATCHLINE SEE PLANSHEET "7" STA. 53+00



**RADIUS DRIVEWAYS ARE  
 20 FEET IN WIDTH  
 UNLESS INDICATED ON PLANSHEET**

**END CONSTR**  
 -Y3- POT Sta. 15+80.00

DA = 6.2oc  
 c = 0.5  
 r = 15min

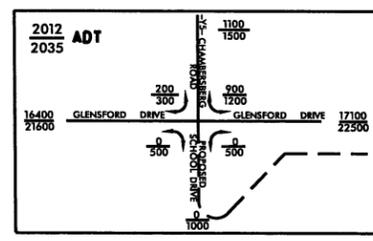
-BY2- 22 POT 11+68.56  
 -Y3- Sta. 17+86.94 (41.71' RT)

**MONTCLAIR ROAD**  
 -Y3- POT Sta. 19+00.00

REVISIONS  
 ROW Revision: Added PUE on the West side of GlenSFord Road. By: WFW 10-8-2009  
 ROW Revision: Resized a 20' Driveway to 25' on Parcel #64. By: WFW 10-21-2009  
 ROW Revision: Resized a 20' Driveway to 15' and added a 15' Driveway on Parcel #72. By: WFW 10-27-2009  
 ROW REVISION: CHANGED PUE TO DUE ON PARCELS 61, 62, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81  
 ROW REVISION: CHANGED PROPERTY OWNER NAMES ON PARCELS 51, 52, 55, 57, 59, 60, 61, 63, 65, 67, 71, 75, 79, & 81  
 ROW REVISION: CHANGED PROPERTY OWNER NAMES ON PARCELS 60 & 77. REVISED PROPOSED ROW  
 ROW REVISION: CHANGED PROPERTY OWNER NAMES ON PARCEL 75A. WFW 9-29-11  
 ROW REVISION: ADDED NEW PARCEL NUMBER & TEMP. CONST. EASEMENT ON PARCEL 75A. WFW 9-29-11

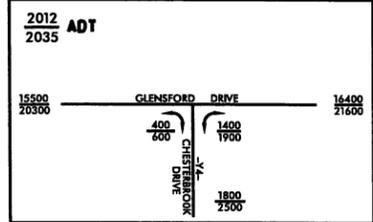
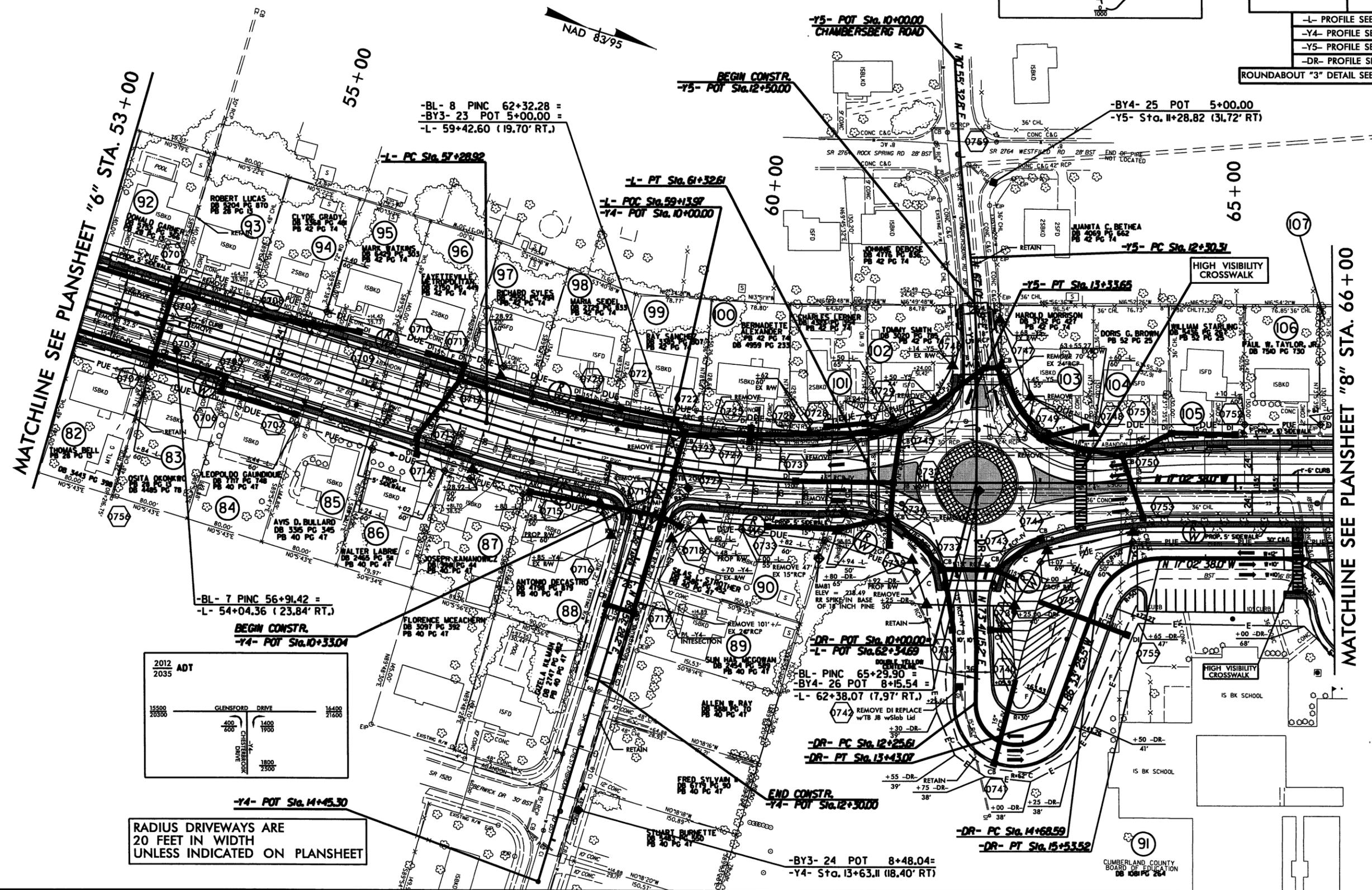
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-L- PROFILE SEE SHEET "11"  
 -Y4- PROFILE SEE SHEET "14"  
 -Y5- PROFILE SEE SHEET "15"  
 -DR- PROFILE SEE SHEET "16"  
 ROUNDABOUT "3" DETAIL SEE TYPICAL "2-H"



-L-	-Y5-	-DR-
PI Sta 59+32.28	PI Sta 10+91.69	PI Sta 14+66.81
Δ = 17° 06' 00" (LT)	Δ = 3° 45' 18.9" (LT)	Δ = 160° 14' 40.6" (LT)
D = 4' 14' 38.9"	D = 4' 00' 00"	D = 136' 25' 06.7"
L = 403.69'	L = 93.88'	L = 117.47'
T = 203.37'	L = 130.34'	T = 241.20'
R = 1,350.00'	T = 65.24'	R = 42.00'
SE = 0.03	R = 1,432.39'	SE = NC
INC = 25'	SE = NC	SE = NC

REVISIONS  
 ROW Revisions: 6-16-10 Changed PUE to DUE on parcels 83,84,86,88,90,95,96,97,98,99,100,101,103,104 and 105. MFR  
 6-16-10 Shifted DUE to avoid dwelling on parcel 90. MFR  
 6-16-10 Changed property owner name on parcel 105. MFR  
 ROW REVISION: 12-28-10 REMOVED PROPOSED ROW -L- STA.63+60 TO -L- STA.66+00 (LT) W/P  
 ROW REVISION: CHANGED PROPERTY OWNER NAMES ON PARCELS 84,85, & 104. ADJUSTED ROW, PUE, & EASEMENT ON PARCELS 91 & 101. REVISED PROPOSED ROW & PUE ON PARCEL 102.  
 ROW REVISION: CHANGED PROPERTY OWNER NAMES ON PARCELS 84,85, & 104. ADJUSTED ROW, PUE, & EASEMENT ON PARCELS 91 & 101. REVISED PROPOSED ROW & PUE ON PARCEL 102. W/P 9-29-11  
 ROW REVISION: REVISED PROPOSED ROW & DUE ON PARCEL 103 AND 104. ADDED DEED BOOK & PAGE ON PARCEL 106. W/P 9-29-11



RADIUS DRIVEWAYS ARE  
 20 FEET IN WIDTH  
 UNLESS INDICATED ON PLANSHEET

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8/17/99

PROJECT REFERENCE NO. U-4422		SHEET NO. 8	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION			

-L- PROFILE SEE SHEET "12"  
 -DR- PROFILE SEE SHEET "16"  
 -DRI- PROFILE SEE SHEET "16"  
 -L- CROSSOVER DETAIL SEE SHEET 2-I

**-DR-**  
 PI Sta 15+17.7  
 $\Delta = 69^{\circ} 30' 47.5" (RT)$   
 $D = 81^{\circ} 51' 04.0"$   
 $L = 84.93'$   
 $T = 48.57'$   
 $R = 70.00'$   
 SE = NC

**-DRI-**  
 PI Sta 10+26.92  
 $\Delta = 48^{\circ} 19' 30.4" (RT)$   
 $D = 95^{\circ} 29' 34.7"$   
 $L = 50.61'$   
 $T = 26.92'$   
 $R = 60.00'$   
 SE = SEE PLANS

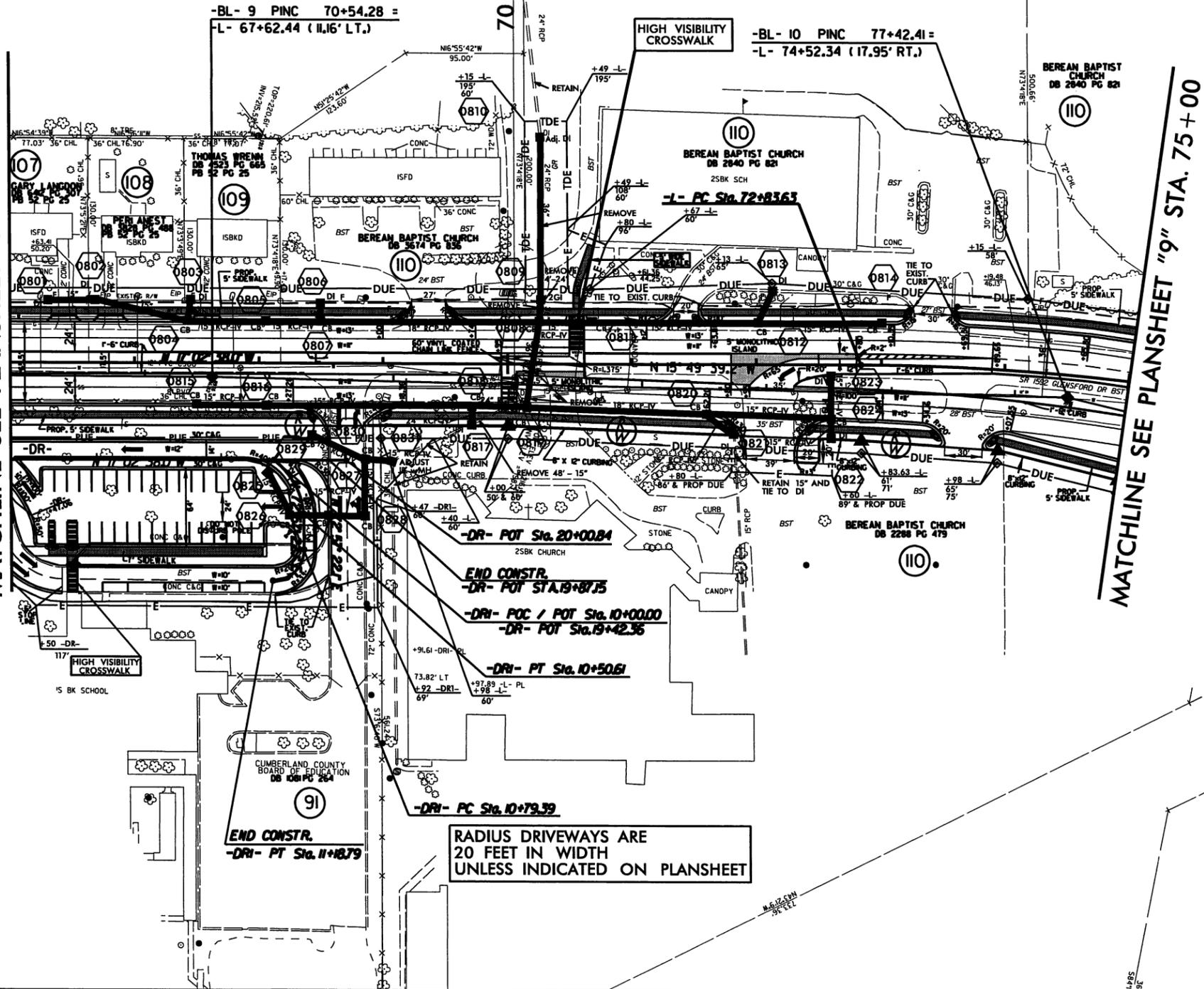
PI Sta 11+04.52  
 $\Delta = 90^{\circ} 17' 44.1" (RT)$   
 $D = 229^{\circ} 10' 59.2"$   
 $L = 39.40'$   
 $T = 25.13'$   
 $R = 25.00'$   
 SE = SEE PLANS

**-L-**  
 PI Sta 74+81.25  
 $\Delta = 12^{\circ} 31' 51.0" (RT)$   
 $D = 3^{\circ} 10' 59.2"$   
 $L = 393.67'$   
 $T = 197.62'$   
 $R = 1.800.00'$



MATCHLINE SEE PLANSHEET "7" STA. 66+00

MATCHLINE SEE PLANSHEET "9" STA. 75+00



**RADIUS DRIVEWAYS ARE 20 FEET IN WIDTH UNLESS INDICATED ON PLANSHEET**

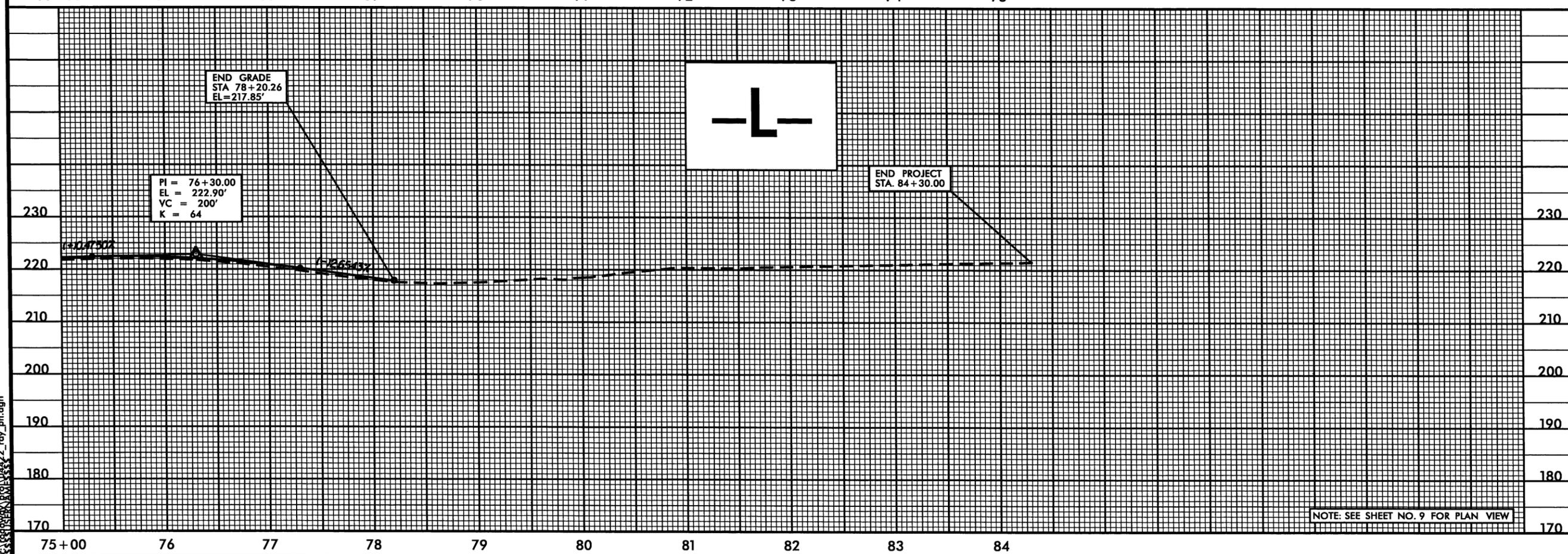
REVISIONS  
 FROM Revision: 10-08-09 Added PUE on the West side of Glenford Road. WPM  
 FROM Revision: 10-08-09 Changed PUE to DUE on parcels 107, 108, 109 and 110. WPM  
 6-16-10 Changed parcels 111 and 113 to parcel number 110. NAW  
 12-28-10 ROW REVISION: REMOVED PROPOSED ROW. ADJUSTED DUE FROM -L- STA. 66+00 TO -L- STA. 75+00 (L.T) WPM

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PROJECT REFERENCE NO. <b>U-4422</b>	SHEET NO. <b>12</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	



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