



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

January 9, 2014

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

ATTN: Ms. Lori Beckwith
NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permit 14 and Section 401 Water Quality Certification** for the proposed Interchange Improvement at US 19/23/74 and NC 209 in Lake Junaluska, Haywood County, Federal Aid Project No. STP-21(11); Division 14; TIP No. R-4047; \$570.00 debit WBS No. 34599.1.1.

Dear Sir:

The North Carolina Department of Transportation (NCDOT) proposes interchange improvements at US 19/23/74 and NC 209. The project improvements extend from west of SR 1801 (Liner Cove road) to north of SR 1523 (Old Clyde Road) in Lake Junaluska, Haywood County. There will be 308 linear feet of permanent impacts and 0.03 acre of temporary impacts to jurisdictional streams. In addition there will be 0.01 acre of impacts to wetlands from mechanized clearing. There will be <0.01 acre of temporary impacts to a jurisdictional stream from a utility water line that will open cut a UT to Richland Creek near Permit Site 3.

Please see enclosed copies of the Pre-Construction Notification (PCN), EEP acceptance letter, NCWRC Letter and Correspondence, Stormwater Management Plan, Permit Drawings, Roadway Plansheets, Utility Permit Drawings and Preliminary Jurisdictional Determination Form. A FONSI was completed in June 2009 and distributed shortly thereafter. Additional copies are available upon request.

Email correspondence from the North Carolina Wildlife Resources Commission (NCWRC) dated May 8, 2013 lists no moratoria for this project. By copy of this letter and the NCWRC attachments, NCDOT hereby requests additional NCWRC review. NCDOT requests that NCWRC forward their comments to the Corps of Engineers and the NCDOT within 30 calendar days of receipt of this application.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

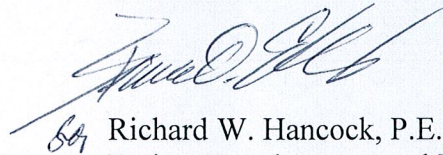
TELEPHONE: 919-707-6000
FAX: 919-212-5785
WEBSITE: NCDOT.GOV

LOCATION:
CENTURY CENTER, BUILDING B
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610

This project calls for a letting date of April 15, 2014 and a review date of February 25, 2014.

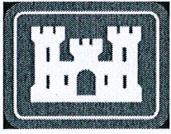
A copy of this permit application and its distribution list will be posted on the NCDOT Website at: <http://connect.ncdot.gov/resources/Environmental>. If you have any questions or need additional information, please call Jeff Hemphill at (919) 707-6126.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard W. Hancock", with a stylized flourish extending from the end.

Richard W. Hancock, P.E., Manager
Project Development and Environmental Analysis Unit

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:	☒ 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:	Interchange Improvements at US 19/23/74 & NC 209
2b. County:	Haywood
2c. Nearest municipality / town:	Lake Junaluska
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no:	R-4047

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) 707-6126
3g. Fax no.:	(919) 212-5785
3h. Email address:	jhemphill@ncdot.gov

4. Applicant Information (if different from owner)	
4a. Applicant is:	☐ Agent ☐ 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:	
5. Agent/Consultant Information (if applicable)	
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. Project Information and Prior Project History	
1. Property Identification	
1a. Property identification no. (tax PIN or parcel ID):	<i>not applicable</i>
1b. Site coordinates (in decimal degrees):	Latitude: 35.5231 (DD.DDDDDD) Longitude: - 82.9585 (-DD.DDDDDD)
1c. Property size:	51 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Richland Creek
2b. Water Quality Classification of nearest receiving water:	C
2c. River basin:	French Broad
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: Commercial properties interspersed with residential property and small wood lots.	
3b. List the total estimated acreage of all existing wetlands on the property: 0.02	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 2,881	
3d. Explain the purpose of the proposed project: To reduce congestion and improve access to homes, businesses and public facilities.	
3e. Describe the overall project in detail, including the type of equipment to be used: Improvements include road widening, realignment of railroad, new railroad bridge, retaining walls ramp and loop realignment at US 19/23/74 intersection with NC 209. 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:	☐ 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): Kris Dramby	Agency/Consultant Company: NCDOT Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. Site visit: April 19, 2011 – No PJD sheet received	
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.	
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	Mechanized clearing	PEM1	☐ Yes ☒ No	☒ Corps ☐ DWQ	0.01	
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 5 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ		
2g. Total wetland impacts					0.01	
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 2 ☐ P ☒ T	Base Ditch Construction	UT3 to Richland Creek	☒ PER ☐ INT	☒ Corps ☐ DWQ	15	45
Site 3 ☒ P ☐ T	Culvert Extension	UT3 to Richland Creek	☒ PER ☐ INT	☒ Corps ☐ DWQ	15	112
Site 3 ☐ P ☒ T	Dewatering	UT3 to Richland Creek	☒ PER ☐ INT	☒ Corps ☐ DWQ	15	46
Site 4 ☒ P ☐ T	48" RCP	UT2 to Richland Creek	☒ PER ☐ INT	☒ Corps ☐ DWQ	5	14
Site 5 ☐ P ☒ T	Channel Relocation	UT3 to Richland Creek	☒ PER ☐ INT	☒ Corps ☐ DWQ	15	182
Utility Site 1 ☐ P ☒ T	Water Line	UT3 to Richland Creek	☒ PER ☐ INT	☒ Corps ☐ DWQ	15	10
3h. Total stream and tributary impacts					308 Perm 101 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 ☐ P ☐ T				
O2 ☐ P ☐ T				
O3 ☐ P ☐ T				
O4 ☐ P ☐ T				
4f. Total open water impacts				

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	Excavat ed	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.

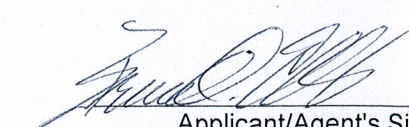
6a. Project is in which protected basin?			☐ Neuse ☐ Tar-Pamlico ☐ Other: ☒ Catawba ☐ Randleman		
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)
B1 ☐ P ☐ T			☐ Yes ☐ No		
B2 ☐ P ☐ T			☐ Yes ☐ No		
B3 ☐ P ☐ T			☐ Yes ☐ No		
6h. Total buffer impacts					
6i. Comments: Project is not on the main stem of the Catawba					

D. Impact Justification and Mitigation		
1. Avoidance and Minimization		
1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project. The project limits were shortened on SR 1801 (Liner Cove Road) to avoid impacting a jurisdictional stream. The new culvert at Permit Site 3 will have alternating sills.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. A steepened fill slope (1.5 to 1) will be utilized at Sta. 24+00.00 (plansheet 5) that avoids impacts to a jurisdictional stream. Areas where pavement has been removed will be restored to natural vegetation.		
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 If no, explain:	
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:	308 linear feet	
4c. If using stream mitigation, stream temperature:	☐ warm ☒ cool ☐ cold	
4d. Buffer mitigation requested (DWQ only):	square feet	
4e. Riparian wetland mitigation requested:	acres	
4f. Non-riparian wetland mitigation requested:	0.01 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?				☐ 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			3 (2 for Catawba)	
Zone 2			1.5	
	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 not, explain why. Comments: If required from 1a, see attached buffer permit drawings.	☐ 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 permit drawings.	
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 ☐ HWQ ☐ ORW ☐ Session Law 2006-246 ☐ Other:
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No N/A
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	☐ Yes ☐ No N/A
5b. Have all of the 401 Unit submittal requirements been met?	☐ Yes ☐ No N/A

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 interchange improvement, 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? Surveys for small whorled pogonia were conducted in August 2005 and June 2012 – no specimens were found — 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: NCDOT Hydraulics Unit coordination with FEMA		
8c. What source(s) did you use to make the floodplain determination? FEMA Maps		
<u>Richard W. Hancock, P.E.</u> Applicant/Agent's Printed Name	 Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	1/27/14 Date



January 7, 2014

Mr. Richard W. Hancock, P.E.
Project Development and Environmental Analysis Unit
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Mr. Hancock:

Subject: EEP Mitigation Acceptance Letter:

R-4047, NC 209 from US 19 / 23 / 74 to SR 1523 (Broad Street), Haywood County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream and riparian wetland mitigation for the subject project. Based on the information received on January 3, 2014, the impacts are located in CU 06010106 of the French Broad River basin in the Southern Mountains (SM) Eco-Region, and are as follows:

French Broad 06010106 SM	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	308.0	0	0.01	0	0	0	0

Currently, EEP does not have available cool stream mitigation credits in this cataloging unit (French Broad 06010106) and proposes to utilize cold stream mitigation credits located in the CU. EEP commits to implementing sufficient compensatory stream and riparian wetland mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies in accordance with the N.C. Department of Environment and Natural Resources' Ecosystem Enhancement Program In-Lieu Fee Instrument dated July 28, 2010. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-707-8420.

Sincerely,

James B. Stanfill
EEP Asset Management Supervisor

cc: Ms. Lori Beckwith, USACE – Asheville Regulatory Field Office
Ms. Amy Chapman, Division of Water Resources, 401/Wetlands Unit
File: R-4047

Restoring... Enhancing... Protecting Our State





⊠ North Carolina Wildlife Resources Commission ⊠

MEMORANDUM

TO: Melba McGee, Environmental Coordinator
Office of Legislative and Intergovernmental Affairs
North Carolina Department of Environment and Natural Resources

FROM: Dave McHenry, Habitat Conservation Biologist 

DATE: April 23, 2008

SUBJECT: Comments on NC 209 Improvements from SR 1801 to near SR 1523, NCDOT, TIP
Project R-4047, Haywood County.

OLIA No. 08-0300

Biologists with the North Carolina Wildlife Resources Commission (Commission) reviewed the Environmental Assessment (EA) for North Carolina Department of Transportation's proposed improvements to a portion of NC 209 in Haywood County. We are familiar with the project area and its habitat values. Our comments are provided under provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and the North Carolina Environmental Policy Act (G.S. 113A-1 et seq., as amended; 1 NCAC-25).

The Commission has no major concerns with direct effects of the project on fish and wildlife resources provided effective erosion controls are used during construction. The project area is in the Richland Creek watershed which drains to the Pigeon River where there are ongoing efforts to restore native fishes that were extirpated, or presumed extirpated, by historic water quality degradation. Therefore, it is important that this project not contribute to water quality declines in the watershed, most notably as a result of sedimentation.

Regarding secondary and cumulative impacts of the project, the EA concludes, in part, that these should be minor because the project area is small and already well-developed. However, if the project improves access to the region along NC 209 north of the project area, it may induce growth. It appears that this part of NC 209 is or already has been assessed under TIP project R-2117, so secondary and cumulative impacts there already have been or will be evaluated and mitigated as necessary.

The Commission appreciates the opportunity to provide comments regarding effects of the project on fish and wildlife resources. If you need to discuss these comments please call me at (828) 452-0422 extension 24.

cc:

Marla Chambers - North Carolina Wildlife Resources Commission

Hemphill, Jeffrey L

From: Chambers, Marla J
Sent: Wednesday, May 08, 2013 1:20 PM
To: Dagnino, Carla S
Cc: Hemphill, Jeffrey L
Subject: RE: R-4047, Haywood County
Attachments: NCDOT_NC 209 improvements EA_Haywood_TIP R 4047_ OLIA 08 0300.doc

We do not have trout concerns for this project. Please see the most recent comments (on EA) that Dave McHenry submitted, attached.

Let me know if you have additional questions,
Marla

Marla J. Chambers
Western NCDOT Permit Coordinator
North Carolina Wildlife Resources Commission
12275 Swift Road
Oakboro, NC 28129
Office & Fax: 704-485-8291
Work cell: 704-984-1070
marla.chambers@ncwildlife.org
ncwildlife.org



Get [NC Wildlife Update](#) -- news including season dates, bag limits, legislative updates and more -- delivered to your Inbox from the N.C. Wildlife Resources Commission.

Email correspondence to and from this sender is subject to the N.C. Public Records Law and may be disclosed to third parties.

From: Dagnino, Carla S
Sent: Friday, May 03, 2013 1:53 PM
To: Chambers, Marla J
Cc: Hemphill, Jeffrey L
Subject: RE: R-4047, Haywood County

Marla,
This project is located on NC209 from US 19-23-74 to SR 1523 (Broad St).
I have attached a couple of maps.
Please let me know if you need anything else.
Thanks.
Carla

From: Chambers, Marla J
Sent: Friday, May 03, 2013 10:59 AM
To: Dagnino, Carla S
Cc: Hemphill, Jeffrey L
Subject: RE: R-4047, Haywood County

Could you send me a location map or tell me what portion of NC 209 is involved?

Thanks!

Marla J. Chambers
Western NCDOT Permit Coordinator
North Carolina Wildlife Resources Commission
12275 Swift Road
Oakboro, NC 28129
Office & Fax: 704-485-8291
Work cell: 704-984-1070
marla.chambers@ncwildlife.org
ncwildlife.org



Get [NC Wildlife Update](#) -- news including season dates, bag limits, legislative updates and more -- delivered to your Inbox from the N.C. Wildlife Resources Commission.

Email correspondence to and from this sender is subject to the N.C. Public Records Law and may be disclosed to third parties.

From: Dagnino, Carla S
Sent: Tuesday, April 30, 2013 11:04 AM
To: Chambers, Marla J
Cc: Hemphill, Jeffrey L
Subject: FW: R-4047, Haywood County

Hi Marla,
Have you had a chance to take a look at this one?
Thanks.
Carla

From: Dagnino, Carla S
Sent: Monday, March 11, 2013 10:33 AM
To: marla.chambers@ncwildlife.org
Cc: Hemphill, Jeffrey L
Subject: R-4047, Haywood County

Hi Marla
We have an old letter from NCWRC for this project (dated May 25, 2000), Richland Creek and its tributaries. No mention was made for a trout moratorium on this project. Will you please confirm this, so that we can update our files?
Thanks.
Carla

Email correspondence to and from this sender is subject to the N.C. Public Records Law and may be disclosed to third parties.

STORMWATER MANAGEMENT PLAN

Project: 34599.1.1

TIP No.: R-4047

County: Haywood

Date: 05/24/13

Hydraulics Project Manager: Stephen Morgan, P.E.

ROADWAY DESCRIPTION

The project R-4047 consists of improvements to NC 209 from west of SR 1801 (Liner Cove Rd.) to North of SR 1523 (Old Clyde Rd.). Improvements include road widening, realignment of railroad, new railroad bridge, ramp and loop realignment at US 19/23/74 intersection and retaining walls. The total project length is 0.77 miles.

ENVIRONMENTAL DESCRIPTION

The surrounding area is a mix of retail, commercial, and residential development. The project is located within the French Broad River Basin. Un-named Tributary to Richland Creek is classified as Class C waters. Richland Creek from Lake Junaluska dam to Pigeon River is included on the 303(d) list for impaired biological integrity. There are no ORW or HQW waters present.

BEST MANAGEMENT PRACTICES

The primary goal of Best Management Practices (BMP's) is an effort to reduce sedimentation and erosion and to prevent degradation of the state's surface waters by the location, construction, and operation of the highway system. BMP measures used on the project are non-structural and are listed as follows:

- As much as possible, stormwater is being directed away from surface waters. Proposed ditches have been lined with rip rap to reduce erosion concerns.
- Where the roadway has been relocated, the abandoned right of way will be maintained by DOT and hard surfaces will be removed.
- In areas where pavement has been removed from existing roadway elements, the areas will be returned to natural vegetation.

HYDRAULIC STRUCTURES

There is one new culvert (1@ 12'x 6' RCBC with alternating sills) proposed on -Y4- for stream UT3 to Richland Creek.

12/17/2013

qtnnguyen

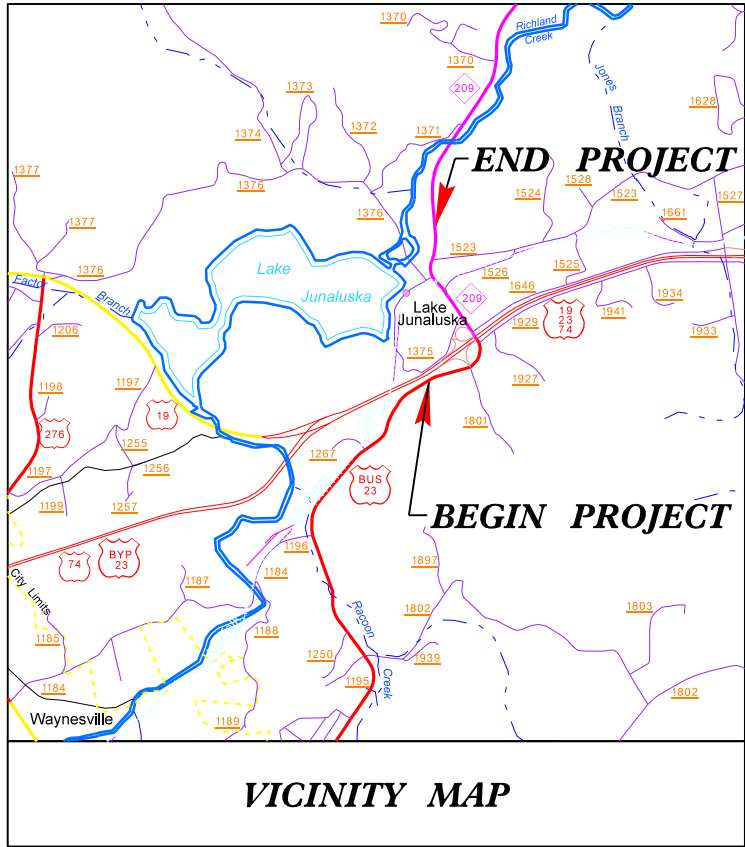
R:\Hydraulics\PERMITS_Environmental\Drawings\r4047_hyd_tsh.dgn

\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DATE\$\$\$\$\$

CONTRACT:

TIP PROJECT: R-4047

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

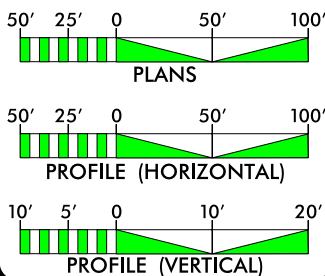


12/17/2013
qtnnguyen
R:\Hydraulics\PERMITS_Environmental\Drawings\r4047_hyd_tsh.dgn

WETLAND AND SURFACE WATER IMPACTS PERMIT

NOTES: (1) CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
(2) THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

GRAPHIC SCALES



DESIGN DATA

ADT 2014 = 25,500
ADT 2035 = 29,000
DHV = 10 %
D = 60 %
T = 5 % *
V = 35 MPH
FUNC. CLASS. = COLLECTOR
* TTST 2 % DUAL 3 %
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-4047 = 0.777 MI.
TOTAL LENGTH OF TIP PROJECT R-4047 = 0.777 MI.

Prepared In the Office of: DIVISION OF HIGHWAYS

1000 Birch Ridge Dr.
Raleigh, NC 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 12, 2011

LETTING DATE:
APRIL 15, 2014

REKHA PATEL, P.E.
PROJECT ENGINEER

MICHAEL W. LITTLE, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE:

ROADWAY DESIGN
ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SIGNATURE:

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

HAYWOOD COUNTY

PERMIT DRAWING
SHEET 1 OF 8

LOCATION: NC 209 FROM US 23 BUS. TO NORTH OF SR 1523 (OLD CLYDE RD.)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, RAILROAD REALGNMENT,
RETAINING WALLS, CULVERT, SIGNALS, AND RAILROAD STRUCTURE

END CONSTRUCTION
-Y4- PT STA. 28+99.42

END CONSTRUCTION
-Y6- POT STA. 12+25.00

BEGIN CONSTRUCTION
-Y2L- POT STA. 14+14.00

BEGIN CONSTRUCTION
-RPC- TS STA. 10+00.00

BEGIN TIP PROJECT R-4047
-L- POT STA. 13+00.00

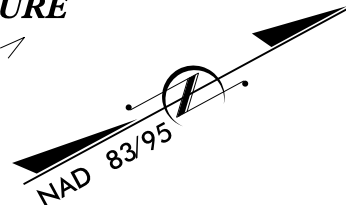
END CONSTRUCTION
-Y1- POT STA. 16+00.00

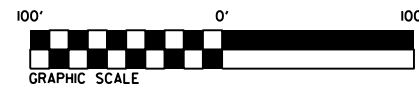
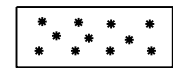
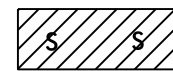
END CONSTRUCTION
-Y3- POT STA. 16+75.00

END CONSTRUCTION
-Y2- POC STA. 11+95.00

END CONSTRUCTION
-Y8- POT STA. 16+15.00

END TIP PROJECT R-4047
-L- POT STA. 54+00.00





DAVID J. SUTTON
DB 463 PG 2365

PERMIT DRAWING
SHEET 3 OF 8

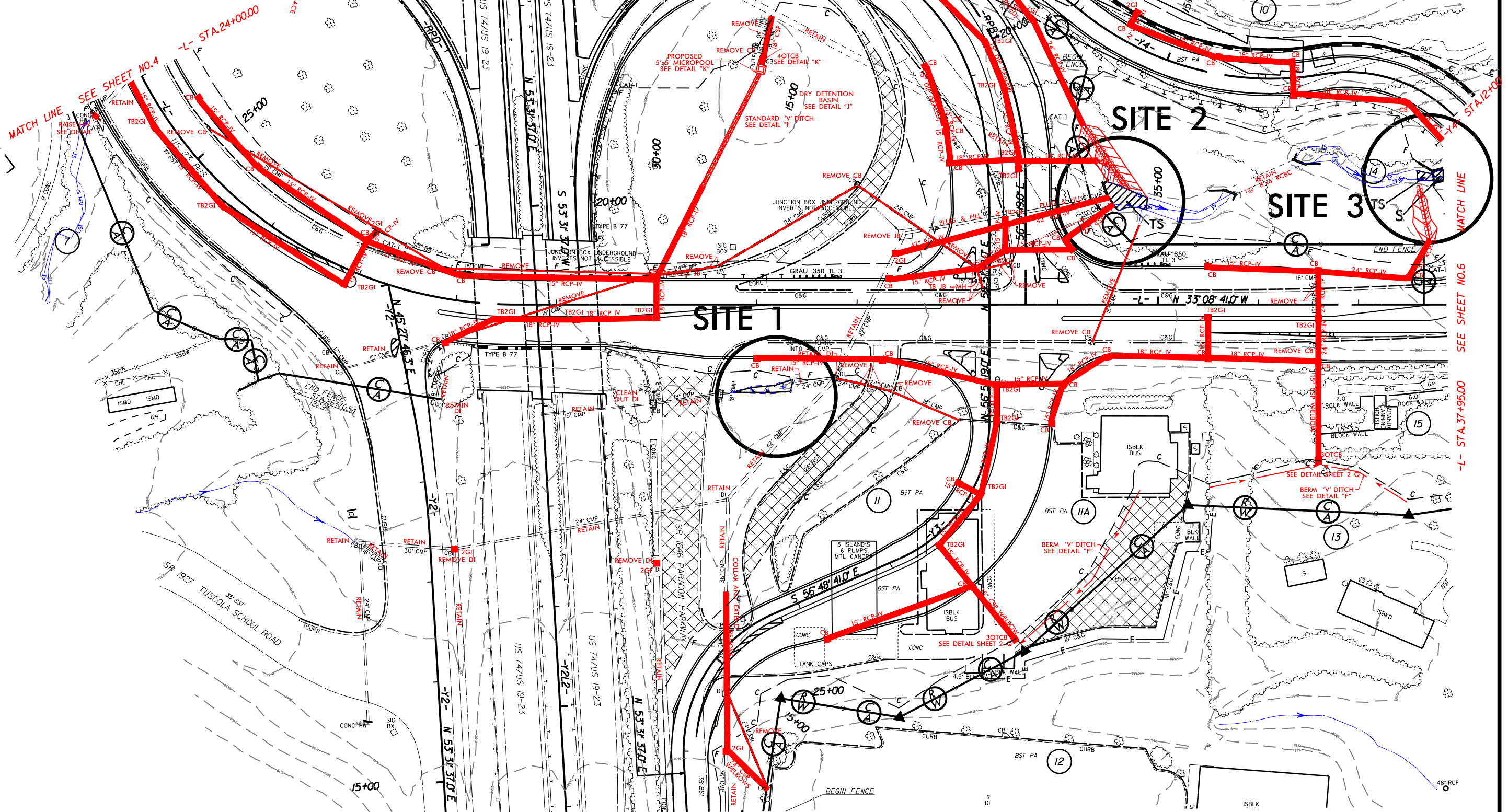
PROJECT REFERENCE NO.	SHEET NO.
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R-4047	5
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RW SHEET NO.

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
----------------------------	------------------------

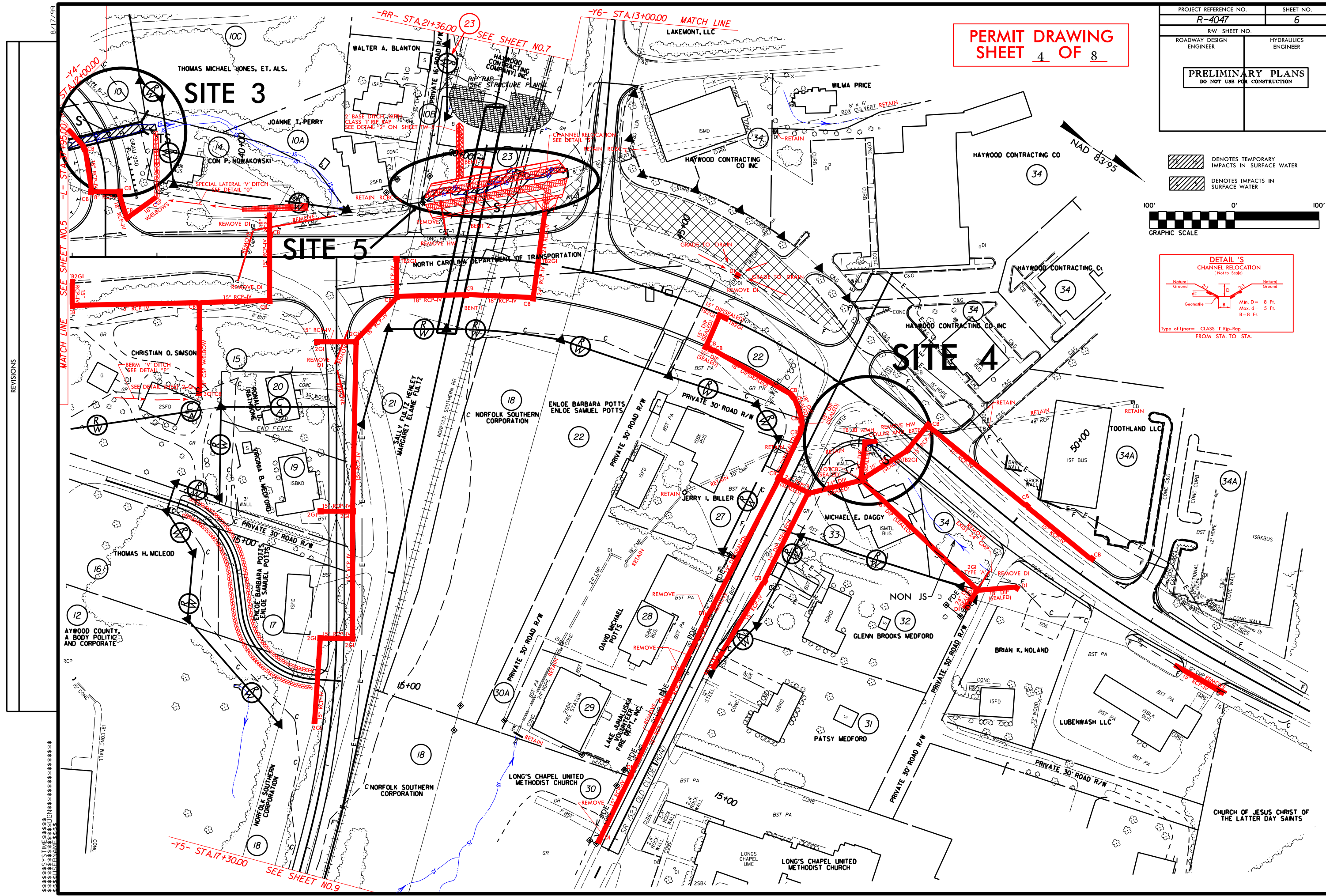
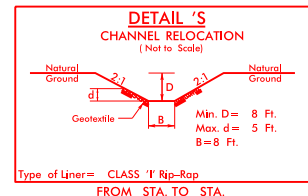
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



SEE SHEET NO.6

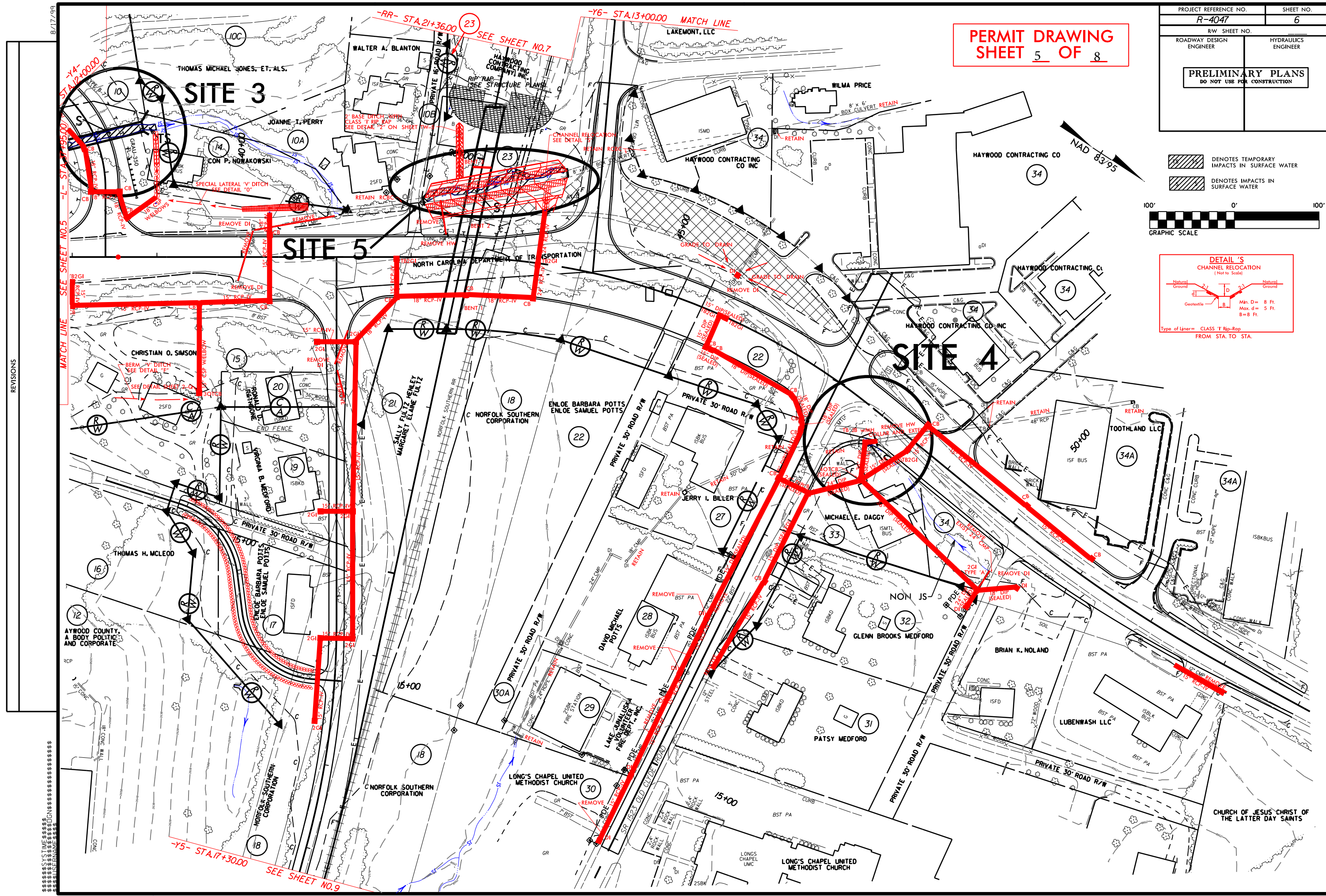
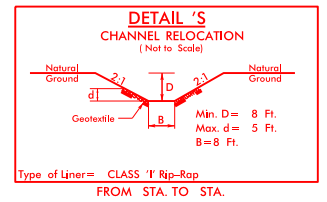
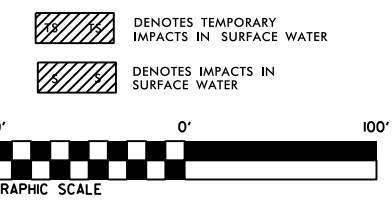
2. / h11
-L- STA.37+95.00

NAD 83/95



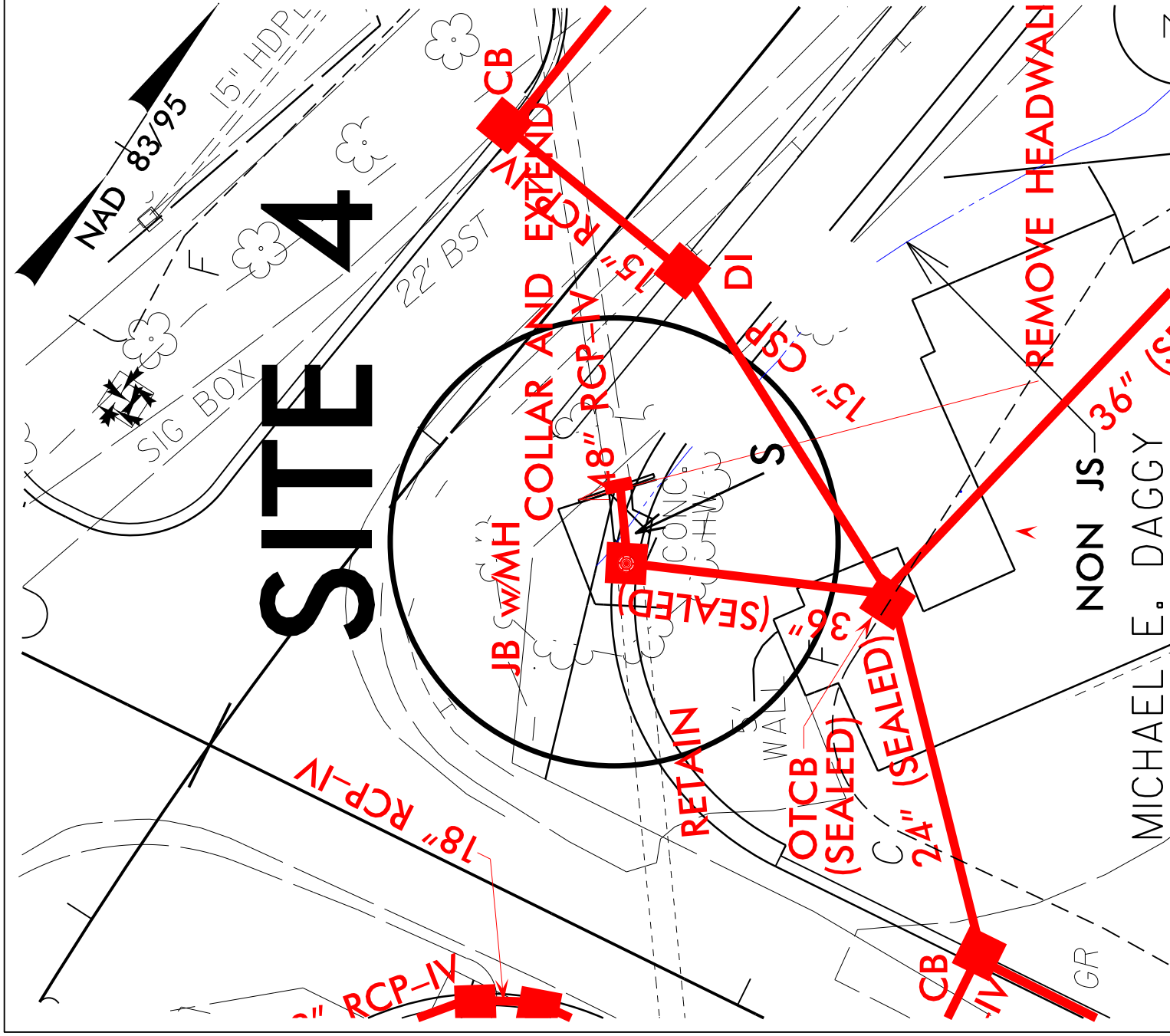
PROJECT REFERENCE NO.	SHEET NO.
R-4047	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS	
DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING
SHEET 5 OF 8



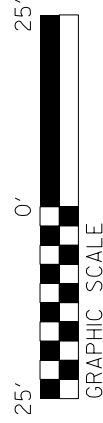
REVISIONS

SYSTEMS TIME DESIGN

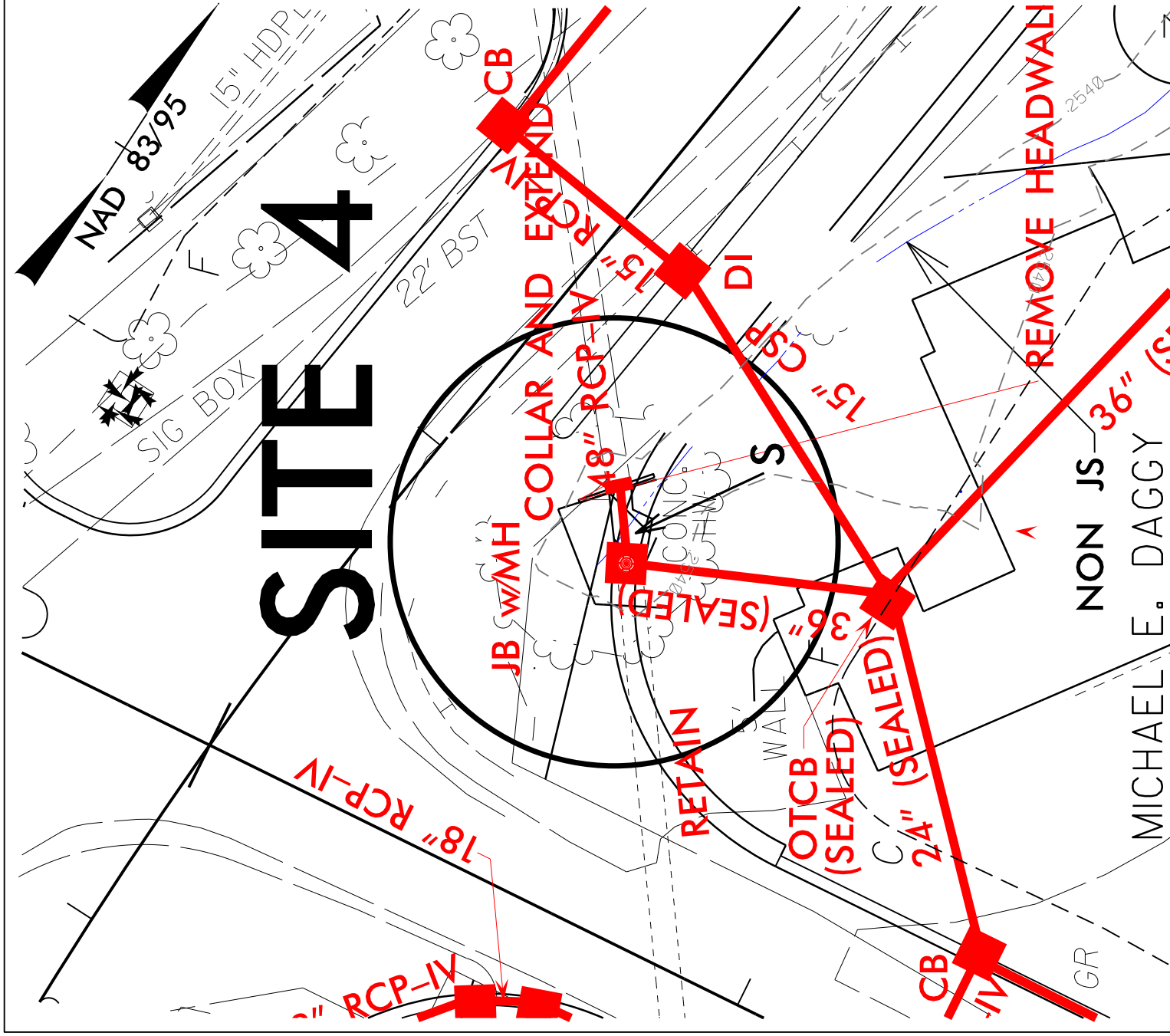


IMPACT ENLARGEMENT

 DENOTES IMPACTS IN
SURFACE WATER

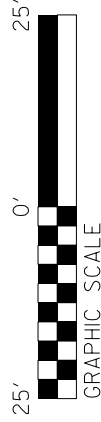


NCDOT
DIVISION OF HIGHWAYS
HAYWOOD COUNTRY
PROJECT: 34599.1.1 (R-4047)
NC 209 WEST SR 1801
(LINER COVE RD.)
TO NORTH SR 1523
(OLD CLYDE RD.)



IMPACT ENLARGEMENT

 DENOTES IMPACTS IN
SURFACE WATER



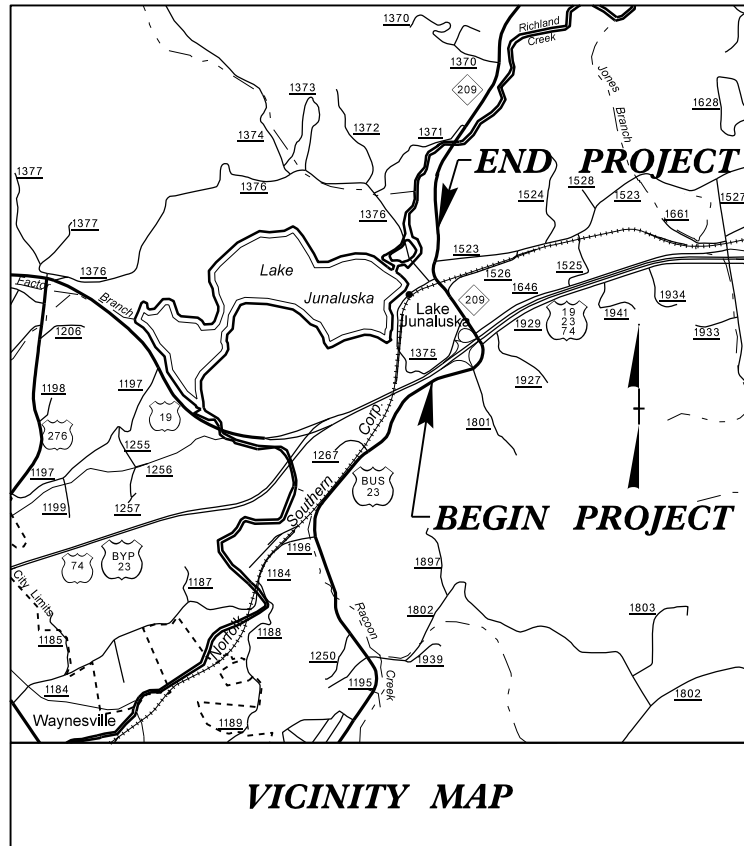
NCDOT
DIVISION OF HIGHWAYS
HAYWOOD COUNTRY
PROJECT: 34599.1.1 (R-4047)
NC 209 WEST SR 1801
(LINER COVE RD.)
TO NORTH SR 1523
(OLD CLYDE RD.)

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	31+15 -L- (rt)	CLEARING				0.01						
2	21+50 -RPB- (LT)	BASE DITCH							0.02		45	
		TEMP CONST.										
3	11+41.87 -Y4-	12' x 6' RCBC						0.02	0.01	112	46	
4	48+12 -L- (RT)	48" RCP						<0.01		14		
5	42+16 To 43+64 -L- (LT)	Channel Relocation						0.03		182		
TOTALS:						0.01		0.05	0.03	308	91	

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

HAYWOOD COUNTY
WBS - 34599.1.1 (R-4047)

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



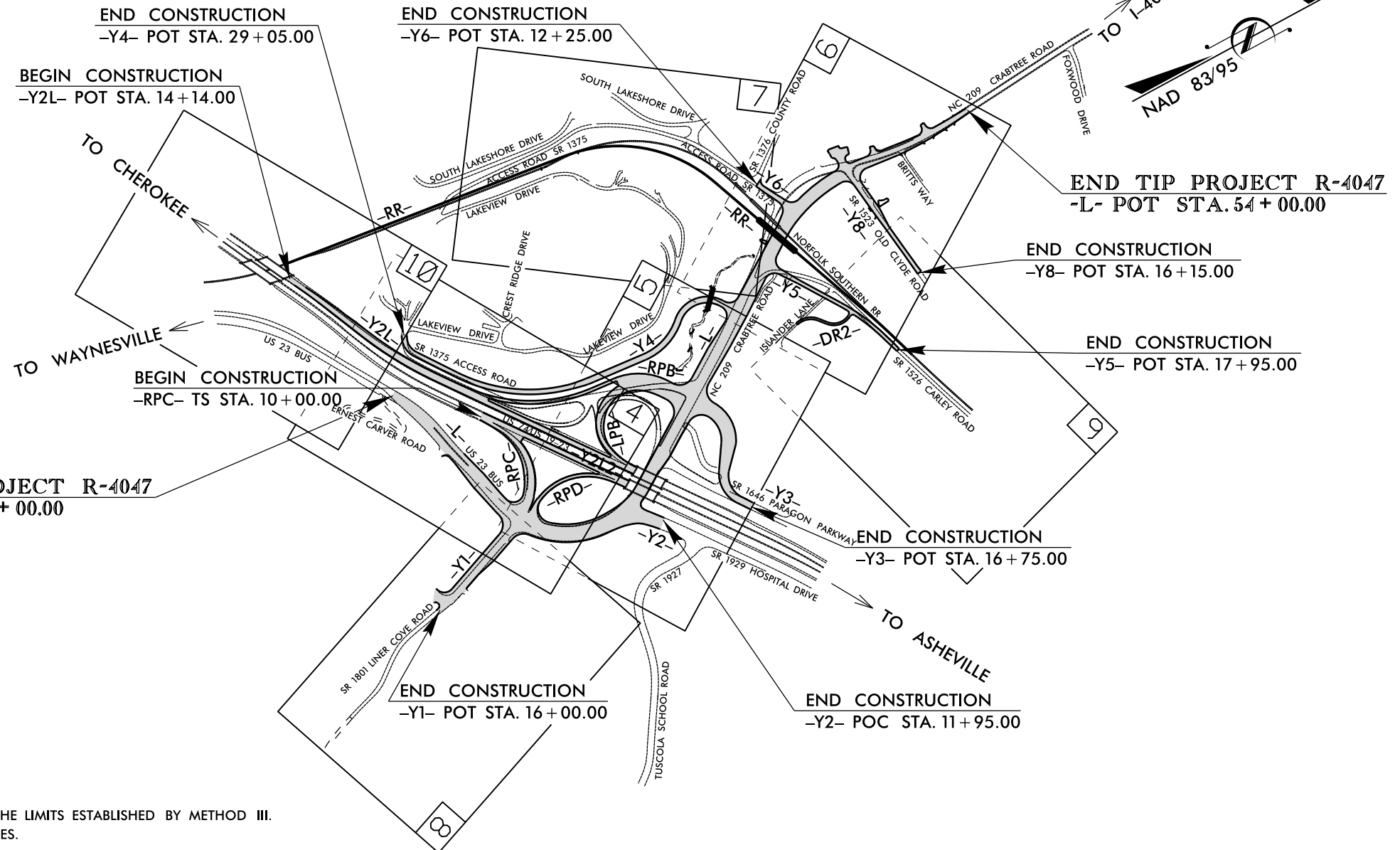
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HAYWOOD COUNTY

LOCATION: NC 209 FROM US 23 BUS. TO NORTH OF SR 1523 (OLD CLYDE RD.)

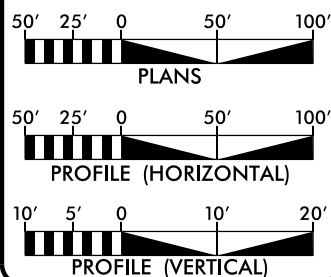
TYPE OF WORK: GRADING, DRAINAGE, PAVING, RAILROAD REALGNMENT,
RETAINING WALLS, CULVERT, SIGNALS, AND RAILROAD STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-4047	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34599.1.1	STP-209(2)	PE	
34599.3.1	STP-209(6)	R/W & UTL.	



NOTES: (1) CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
(2) THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

GRAPHIC SCALES



DESIGN DATA

ADT 2014 = 25,500
ADT 2035 = 29,000
DHV = 10 %
D = 60 %
T = 5 % *
V = 35 MPH
FUNC. CLASS. = COLLECTOR
* TTST 2 % DUAL 3 %
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-4047 = 0.777 MI.
TOTAL LENGTH OF TIP PROJECT R-4047 = 0.777 MI.

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 12, 2011

LETTING DATE:
APRIL 15, 2014

REKHA PATEL, P.E.
PROJECT ENGINEER

MICHAEL W. LITTLE, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN
ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SIGNATURE: _____ P.E.



TIP PROJECT: R-4047

CONTRACT: C203393

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	
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: Area or Site	
Potential Soil Contamination: Area or Site	

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G 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	
Buffer Zone 1	
Buffer Zone 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 RW Marker	
Proposed Control of Access Line with Concrete C/A Marker	
Existing Control of Access	
Proposed Control of Access	
Existing Easement Line	
Proposed Temporary Construction Easement	
Proposed Temporary Drainage Easement	
Proposed Permanent Drainage Easement	
Proposed Permanent Drainage / Utility Easement	
Proposed Permanent Utility Easement	
Proposed Temporary Utility Easement	
Proposed Aerial Utility Easement	
Proposed Permanent Easement with Iron Pin and Cap Marker	

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	
Existing Curb	
Proposed Slope Stakes Cut	
Proposed Slope Stakes Fill	
Proposed Curb Ramp	
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	
Bridge Wing Wall, Head Wall and End Wall	
MINOR:	
Head and End Wall	
Pipe Culvert	
Footbridge	
Drainage Box: Catch Basin, DI or JB	
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	
U/G Power Cable Hand Hole	
H-Frame Pole	
Recorded U/G Power Line	
Designated U/G Power Line (S.U.E.*)	

TELEPHONE:

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

WATER:

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

TV:

TV Satellite Dish	
TV Pedestal	
TV Tower	
U/G TV Cable Hand Hole	
Recorded U/G TV Cable	
Designated U/G TV Cable (S.U.E.*)	
Recorded U/G Fiber Optic Cable	
Designated U/G Fiber Optic Cable (S.U.E.*)	

GAS:

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

SANITARY SEWER:

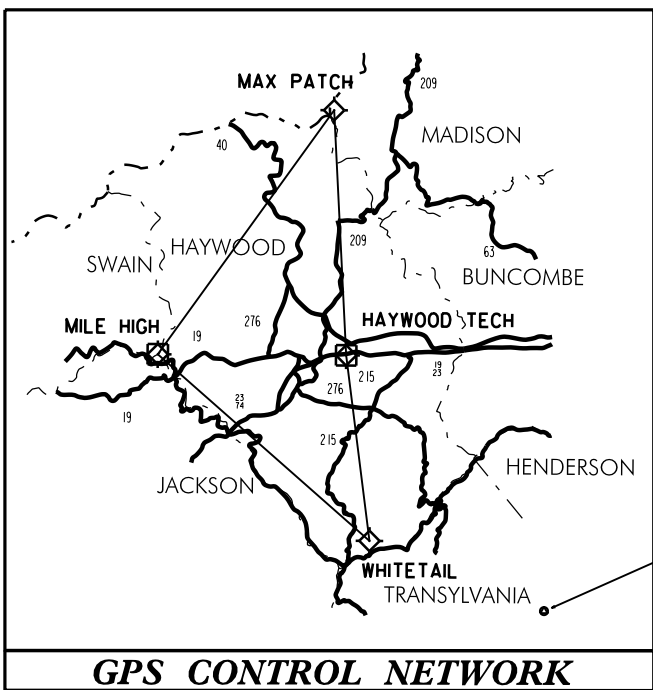
Sanitary Sewer Manhole	
Sanitary Sewer Cleanout	
U/G Sanitary Sewer Line	
Above Ground Sanitary Sewer	
Recorded SS Forced Main Line	
Designated SS Forced Main Line (S.U.E.*)	

MISCELLANEOUS:

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

SURVEY CONTROL SHEET R-4047

6/2/99



GPS CONTROL NETWORK

NCDOT GPS STATION R4047 GPS-100
LOCALIZED PROJECT COORDINATES
N = 667,317.2130
E = 820,034.5390
ELEV. = 2,632.78'

NCDOT GPS STATION R4047 GPS-104
LOCALIZED PROJECT COORDINATES
N = 670,495.8470
E = 821,983.0560
ELEV. = 2,545.87'

NCDOT GPS STATION R4047 GPS-101
LOCALIZED PROJECT COORDINATES
N = 667,652.8200
E = 820,758.9870
ELEV. = 2,649.60'

NCDOT GPS STATION R4047 GPS-105
LOCALIZED PROJECT COORDINATES
N = 670,653.9050
E = 822,888.4120
ELEV. = 2,576.90'

NCDOT GPS STATION R2210-A7
LOCALIZED PROJECT COORDINATES
N = 669,371.9460
E = 823,074.9810
ELEV. = 2,650.31'

NCDOT GPS STATION R2210-A5
LOCALIZED PROJECT COORDINATES
N = 668,066.1250
E = 822,756.8620
ELEV. = 2,626.66'

NOTES:

1. THE SITE CALIBRATION SHOWN IS BASED UPON A NETWORK TIED TO THE HARN (HIGH ACCURACY REFERENCE NETWORK) NAD 83/95 ADJUSTMENT. THIS CALIBRATION WILL ALLOW THE END USER TO WORK WITHIN THE SAME COORDINATE SYSTEM WHEN USING RTK (REAL TIME KINEMATIC) GPS AND A LOCAL BASE STATION. IF ANOTHER SYSTEM SUCH AS VRS (VIRTUAL REFERENCE STATION) IS USED, ADDITIONAL FIELD TIES MAY BE NEEDED TO REDUCE POSSIBLE ERRORS, OR BIASES.
2. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCTHIGHWAY/LOCATION/PROJECT/](http://WWW.NCDOT.ORG/DOH/PRECONSTRUCTHIGHWAY/LOCATION/PROJECT/)

THE FILES TO BE FOUND ARE AS FOLLOWS:

R4047_LS_GPSCALIB.HTML
R4047_LS_WGS84.TXT
R4047_LS_LOCAL.TXT
R4047_LS_CONTROL.TXT

THE WGS84 AND LOCAL FILES ARE COMMA DELIMITED AND CAN BE USED TO REPRODUCE THE SITE CALIBRATION FOR THE END USER'S GPS EQUIPMENT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

- ⊙ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
NETWORK ESTABLISHED FROM EXISTING HARN MONUMENTATION
SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "R2210A5"
WITH NAD 83/95 STATE PLANE GRID COORDINATES OF
NORTHING: 668066.125(±) EASTING: 822756.862(±)
ELEVATION: 2626.66(±)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9997641
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "R2210A5" TO -L- STATION 13+00.00 IS
S 88°14' 41" W 860.91'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTE: GEOID99 (CONUS)
NOTE: DRAWING NOT TO SCALE

NCDOT GPS STATION R4047 GPS-103
LOCALIZED PROJECT COORDINATES
N = 670,650.7720
E = 828,137.0840
ELEV. = 2,629.50'

NCDOT GPS STATION R4047 GPS-102
LOCALIZED PROJECT COORDINATES
N = 670,585.9170
E = 826,615.2480
ELEV. = 2,611.00'

SURVEY CONTROL SHEET R-4047

GPS CALIBRATION REPORT			
PROJECT : R4047SITECALIBRATION090601			
TIP NUMBER	R-4047		
USER NAME	RMCDONALD	DATE & TIME	2:34:58 PM 6/1/2009
COORDINATE SYSTEM	US STATE PLANE 1983(AT GROUND)	ZONE	NORTH CAROLINA 3200
HORIZONTAL DATUM	NAD 1983 (CONUS)	GEOID MODEL	GEOID99 (CONUS)
VERTICAL DATUM	NAVDS8		
COORDINATE UNITS	US SURVEY FEET		
DISTANCE UNITS	US SURVEY FEET		
HEIGHT UNITS	US SURVEY FEET		

LOCAL SITE INFORMATION			
LOCALIZED AROUND	R2210A-5		
LATITUDE	35°31'16.10937°N		
LONGITUDE	82°57'26.75433°W		
SITE SCALE FACTOR	1.0002359560		
HEIGHT	2531.689SFT		

THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION USES A LOCALIZED COORDINATE SYSTEM WHICH IS VERY SIMILAR TO NORTH CAROLINA ZONE 3200 FROM WHICH IT IS DERIVED. PLEASE TAKE CARE IN UTILIZING THESE COORDINATES TO ELIMINATE CONFUSION OF THE TWO SYSTEMS. THIS FILE IS TO AID IN THE USE OF REAL TIME KINEMATIC (RTK) GPS DURING CONSTRUCTION LAYOUT.			

DATUM TRANSFORMATION PARAMETERS			
DATUM TRANSFORMATION COMPUTATION NOT REQUESTED			

UPDATED DEFAULT PROJECTION (TRANSVERSE MERCATOR) DEFINITION			
UPDATED DEFAULT PROJECTION NOT REQUESTED			

HORIZONTAL ADJUSTMENT PARAMETERS			
NORTHING COORDINATE OF ROTATION CENTER	670724.317SFT		
EASTING COORDINATE OF ROTATION CENTER	820102.140SFT		
ROTATION ABOUT THE CENTER POINT	0°00'00"		
TRANSLATION NORTH	-0.003SFT		
TRANSLATION EAST	-0.015SFT		
SCALE FACTOR	1.00000009		

VERTICAL ADJUSTMENT PARAMETERS			
NORTHING COORDINATE OF ORIGIN POINT	667317.210SFT		
EASTING COORDINATE OF ORIGIN POINT	820034.542SFT		
VERTICAL SEPARATION AT ORIGIN	-0.447SFT		
SLOPE NORTH	-0.953PPM		
SLOPE EAST	-2.137PPM		

GEOID MODEL DEFINITION			
GEOID99 (CONUS)			

RESIDUAL DIFFERENCES BETWEEN GPS (WGS84) AND LOCAL COORDINATES			
SUMMARY			
	MAXIMUM ERROR	ROOT MEAN SQUARE ERROR	POINT
HORIZONTAL	0.027SFT	0.004	WHITETAIL WGS84
VERTICAL	0.593SFT	0.093	WHITETAIL WGS84
THREE-DIMENSIONAL	0.594SFT	0.093	WHITETAIL WGS84

POINT RESIDUALS			
WGS84 COORDINATES		CALCULATED POINT FOR DISPLAY ONLY	LOCAL COORDINATES
POINT	GPS100 WGS84	NORTHING	667317.210SFT
LATITUDE	35°31'07.63539°N	EASTING	820034.542SFT
LONGITUDE	82°57'59.29449°W	ELEVATION	2632.996SFT
HEIGHT	2538.548SFT	HORZ ERROR	0.004SFT
		VERT ERROR	0.212SFT
		3D ERROR	0.212SFT
POINT	GPS101 WGS84	NORTHING	667652.817SFT
LATITUDE	35°31'11.23753°N	EASTING	820758.989SFT
LONGITUDE	82°57'50.70106°W	ELEVATION	2649.829SFT
HEIGHT	2555.359SFT	HORZ ERROR	0.004SFT
		VERT ERROR	0.234SFT
		3D ERROR	0.234SFT

POINT	GPS102 WGS84	NORTHING	670585.916SFT	POINT	GPS102 LOCAL
LATITUDE	35°31'42.52525"N	EASTING	826615.247SFT	NORTHING	670585.917SFT
LONGITUDE	82°56'41.33185"W	ELEVATION	2611.226SFT	EASTING	826615.248SFT
HEIGHT	2516.580SFT	HORZ ERROR	0.002SFT	ELEVATION	2610.999SFT
		VERT ERROR	0.227SFT	UTILIZED HORZ AND VERT	
		3D ERROR	0.227SFT	SURVEY QUALITY	
POINT	GPS103 WGS84	NORTHING	670650.770SFT	POINT	GPS103 LOCAL
LATITUDE	35°31'43.76354"N	EASTING	828137.080SFT	NORTHING	670650.772SFT
LONGITUDE	82°56'22.96812"W	ELEVATION	2629.729SFT	EASTING	828137.084SFT
HEIGHT	2535.054SFT	HORZ ERROR	0.004SFT	ELEVATION	2629.503SFT
		VERT ERROR	0.226SFT	UTILIZED HORZ AND VERT	
		3D ERROR	0.226SFT	SURVEY QUALITY	
POINT	GPS104 WGS84	NORTHING	670495.844SFT	POINT	GPS104 LOCAL
LATITUDE	35°31'39.81192"N	EASTING	821983.058SFT	NORTHING	670495.847SFT
LONGITUDE	82°57'37.27860"W	ELEVATION	2546.059SFT	EASTING	821983.056SFT
HEIGHT	2451.508SFT	HORZ ERROR	0.004SFT	ELEVATION	2545.871SFT
		VERT ERROR	0.188SFT	UTILIZED HORZ AND VERT	
		3D ERROR	0.188SFT	SURVEY QUALITY	
POINT	GPS105 WGS84	NORTHING	670653.904SFT	POINT	GPS105 LOCAL
LATITUDE	35°31'41.73061"N	EASTING	822888.411SFT	NORTHING	670653.905SFT
LONGITUDE	82°57'26.41171"W	ELEVATION	2577.108SFT	EASTING	822888.412SFT
HEIGHT	2482.534SFT	HORZ ERROR	0.002SFT	ELEVATION	2576.895SFT
		VERT ERROR	0.213SFT	UTILIZED HORZ AND VERT	
		3D ERROR	0.213SFT	SURVEY QUALITY	
POINT	R2210A1 WGS84	NORTHING	659736.666SFT	POINT	R2210A1 LOCAL
LATITUDE	35°29'51.20893"N	EASTING	816180.613SFT	NORTHING	659736.670SFT
LONGITUDE	82°58'42.19822"W	ELEVATION	2639.001SFT	EASTING	816180.616SFT
HEIGHT	2544.798SFT	HORZ ERROR	0.005SFT	ELEVATION	2638.962SFT
		VERT ERROR	0.039SFT	UTILIZED HORZ AND VERT	
		3D ERROR	0.039SFT	SURVEY QUALITY	
POINT	R2210A5 WGS84	NORTHING	668066.123SFT	POINT	R2210A5 LOCAL
LATITUDE	35°31'16.10937"N	EASTING	822756.861SFT	NORTHING	668066.125SFT
LONGITUDE	82°57'26.75417"W	ELEVATION	2626.870SFT	EASTING	822756.862SFT
HEIGHT	2532.351SFT	HORZ ERROR	0.003SFT	ELEVATION	2626.662SFT
		VERT ERROR	0.208SFT	UTILIZED HORZ AND VERT	
		3D ERROR	0.208SFT	SURVEY QUALITY	
POINT	R2210A7 WGS84	NORTHING	669371.947SFT	POINT	R2210A7 LOCAL
LATITUDE	35°31'29.13735"N	EASTING	823074.980SFT	NORTHING	669371.946SFT
LONGITUDE	82°57'23.53870"W	ELEVATION	2650.523SFT	EASTING	823074.981SFT
HEIGHT	2555.969SFT	HORZ ERROR	0.001SFT	ELEVATION	2650.307SFT
		VERT ERROR	0.216SFT	UTILIZED HORZ AND VERT	
		3D ERROR	0.216SFT	SURVEY QUALITY	
POINT	HAYWOOD TECH WGS	NORTHING	670301.687SFT	POINT	HAYWOOD
LATITUDE	35°31'42.03001"N	EASTING	832518.296SFT	NORTHING	670301.691SFT
LONGITUDE	82°55'29.84359"W	ELEVATION	2691.592SFT	EASTING	832518.309SFT
HEIGHT	2596.845SFT	HORZ ERROR	0.014SFT	ELEVATION	2692.069SFT
		VERT ERROR	0.477SFT	UTILIZED HORZ AND VERT	
		3D ERROR	0.478SFT	SURVEY QUALITY	
POINT	MAX PATCH WGS84	NORTHING	768511.050SFT	POINT	MAX PATCH LOCAL
LATITUDE	35°47'50.19659"N	EASTING	826933.755SFT	NORTHING	768511.040SFT
LONGITUDE	82°57'24.68614"W	ELEVATION	4629.691SFT	EASTING	826933.735SFT
HEIGHT	4532.169SFT	HORZ ERROR	0.022SFT	ELEVATION	4630.119SFT
		VERT ERROR	0.428SFT	UTILIZED HORZ AND VERT	
		3D ERROR	0.429SFT	SURVEY QUALITY	
POINT	MILE HIGH WGS84	NORTHING	670081.561SFT	POINT	MILE HIGH LOCAL
LATITUDE	35°31'09.38682"N	EASTING	757006.758SFT	NORTHING	670081.573SFT
LONGITUDE	83°10'42.37199"W	ELEVATION	5229.729SFT	EASTING	757006.769SFT
HEIGHT	5136.282SFT	HORZ ERROR	0.016SFT	ELEVATION	5229.993SFT
		VERT ERROR	0.264SFT	UTILIZED HORZ AND VERT	
		3D ERROR	0.265SFT	SURVEY QUALITY	
POINT	WHITETAIL WGS84	NORTHING	595990.587SFT	POINT	WHITETAIL LOCAL
LATITUDE	35°19'31.59985"N	EASTING	842439.040SFT	NORTHING	595990.562SFT
LONGITUDE	82°52'54.78327"W	ELEVATION	5810.347SFT	EASTING	842439.031SFT
HEIGHT	5715.914SFT	HORZ ERROR	0.027SFT	ELEVATION	5810.940SFT
		VERT ERROR	0.593SFT	UTILIZED HORZ AND VERT	
		3D ERROR	0.594SFT	SURVEY QUALITY	

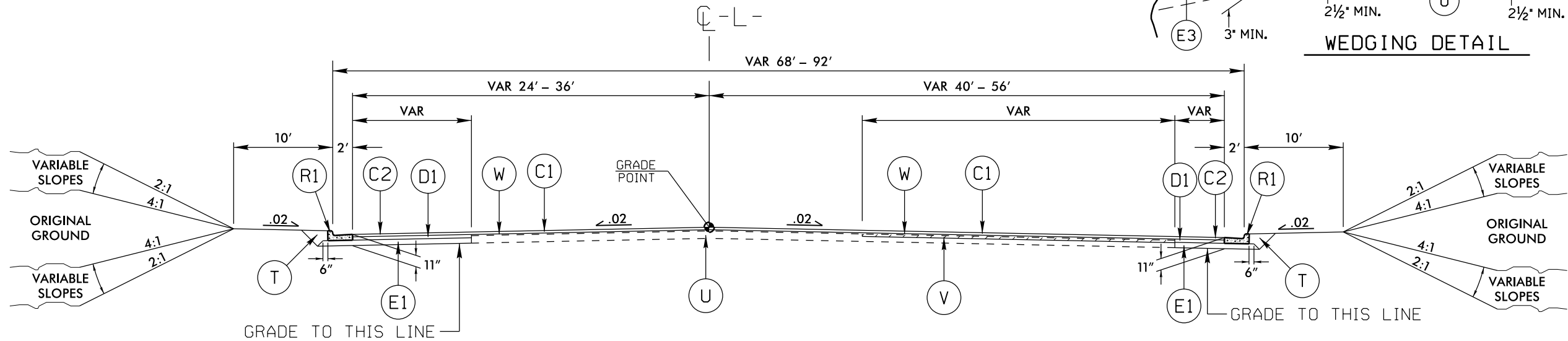
	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
100		GPS-100	667317.2130	820034.5390	2632.78	30-85.53	3239.27 LT
101		GPS-101	667652.8200	820758.9870	2649.59	29-70.43	2449.20 LT
1		BL-1	667661.6090	821254.1190	2684.91	OUTSIDE PROJECT LIMITS	
2		BL-2	667918.3640	821632.9700	2683.67	10-11.74	31.83 LT
3		BL-3	668042.8160	821952.4370	2668.76	13-50.90	25.19 RT
4		BL-4	668142.4200	822293.0730	2644.19	17-14.07	38.02 RT
5		BL-5	668242.0880	822785.8610	2615.99	21-92.24	84.71 RT
6		BL-6	668469.8390	822953.3430	2608.18	24-36.15	58.92 RT
7		BL-7	668753.9930	823011.1260	2605.40	26-88.14	79.95 RT
8		BL-8	669110.8610	823282.4950	2596.94	30-84.87	42.26 RT
9		BL-9	669397.2890	822523.5870	2582.64	34-66.26	17.92 LT
10		BL-10	669886.6400	822229.2400	2559.95	40-36.92	3.18 RT
11		BL-11	670179.1010	821914.4570	2546.83	44-26.86	125.13 LT
104		BL-104	670495.8470	821983.0560	2545.91	47-06.58	1.36 LT
39		BL-39	670989.4480	822045.0240	2551.70	52-01.46	24.59 RT
40		BL-40	671542.3700	822002.9820	2547.74	57-54.49	23.75 RT
BY	POINT	DESC.	NORTH	EAST	ELEVATION	Y1 STATION	OFFSET
155		BL-5	668242.0880	822785.8610	2615.99	10-80.67	29.54 LT
12		BY-12	667997.3020	822878.7530	2633.52	13-42.49	30.19 LT
13		BY-13	667728.2450	822949.1860	2639.63	16-17.62	14.17 LT
41		BY-41	667458.8250	822978.7920	2628.13	OUTSIDE PROJECT LIMITS	
42		BY-42	667287.8010	823146.3490	2622.65	OUTSIDE PROJECT LIMITS	
43		BY-43	666873.9760	823277.5860	2637.39	OUTSIDE PROJECT LIMITS	
BY1	POINT	DESC.	NORTH	EAST	ELEVATION	Y2L2 STATION	OFFSET
177		BL-7	668753.9930	823011.1260	2605.40	21-24.24	221.38 RT
14		BY1-14	668996.5600	823139.7150	2624.55	23-71.84	102.76 RT
15		BY1-15	669363.4740	823641.4760	2675.27	30-00.30	99.69 RT
16		BY1-16	669550.7240	823977.3730	2703.65	33-98.19	96.33 RT
17		BY1-17	669721.0720	824348.7620	2711.22	38-13.22	84.03 RT
18		BY1-18	669886.6400	824900.6520	2692.69	44-02.97	100.91 RT
19		BY1-19	670087.0510	825508.9040	2657.80	50-33.78	102.95 RT
BY2	POINT	DESC.	NORTH	EAST	ELEVATION	Y2L2 STATION	OFFSET
301		GPS-101	667652.8200	820758.9870	2649.59	OUTSIDE PROJECT LIMITS	
20		BY2-20	667860.6370	821181.5460	2648.34	OUTSIDE PROJECT LIMITS	
21		BY2-21	668090.7940	821686.0630	2637.60	OUTSIDE PROJECT LIMITS	
22		BY2-22	668641.3960	822503.8590	2608.08	16-49.40	10.38 RT
23		BY2-23	669471.7650	823615.3910	2679.33	30-36.61	5.82 LT
24		BY2-24	669636.1050	823931.3220	2691.57	33-92.53	0.51 LT
25		BY2-25	669828.9470	824546.0790	2693.96	40-37.99	49.04 RT
26		BY2-26	669979.3360	825001.7330	2680.53	45-18.24	47.78 RT
27		BY2-27	670208.6470	825677.6860	2643.25	52-29.50	47.42 RT
BY3	POINT	DESC.	NORTH	EAST	ELEVATION	Y2L2 STATION	OFFSET
188		BL-8	669110.8610	822782.4950	2596.94	21-52.53	201.50 LT
28		BY3-28	669512.6270	823423.9350	2659.78	29-02.36	144.94 LT
29		BY3-29	669703.9810	823886.0810	2696.05	33-80.45	81.17 LT
30		BY3-30	669861.7150	824304.8560	2700.47	38-22.13	63.04 LT
31		BY3-31	670137.3140	825825.9700	2677.17	45-90.36	94.86 LT
32		BY3-32	670322.3230	825638.6470	2644.28	52-30.20	80.37 LT
BY4	POINT	DESC.	NORTH	EAST	ELEVATION	Y4 STATION	OFFSET
199		BL-9	669397.2890	823523.5870	2582.64	14-78.65	228.18 LT
35		BY4-35	669108.4500	822453.2440	2595.06	16-96.96	145.93 LT
36		BY4-36	668614.2940	822283.2950	2610.01	21-72.26	85.42 LT
33		BY4-33	668234.7350	821771.7020	2632.39	27-84.26	0.46 LT
46		BY4-46	668273.9040	821571.4290	2637.16	OUTSIDE PROJECT LIMITS	
47		BY4-47	668199.5010	821418.6720	2629.92	OUTSIDE PROJECT LIMITS	
48		BY4-48	668316.7810	821337.8520	2624.45	OUTSIDE PROJECT LIMITS	
49		BY4-49	668511.3950	821359.8990	2613.03	OUTSIDE PROJECT LIMITS	
50		BY4-50	668749.4390	821162.0260	2600.57	13-19.70	1280.43 RT
51		BY4-51	669166.9920	821173.9810	2580.23	12-77.91	1884.72 RT
52		BY4-52	669584.4680	821208.8340	2583.78	12-26.06	989.83 RT
53		BY4-53	669902.3570	821460.2640	2570.96	11-73.91	805.57 RT
211		BL-11	670179.1010	821914.4570	2546.78	10-85.53	614.88 RT
BY5	POINT	DESC.	NORTH	EAST	ELEVATION	Y5 STATION	OFFSET
210		BL-10	669886.6400	822229.2400	2559.95	10-03.18	75.08 RT
37		BY5-36	670041.0720	822282.2350	2578.39	11-31.91	25.25 LT
34		BY5-37	670199.5850	822456.4500	2590.55	13-64.53	62.72 LT
57		BY5-54	670441.9260	823182.4030	2591.40	OUTSIDE PROJECT LIMITS	
BY7	POINT	DESC.	NORTH	EAST	ELEVATION	RR STATION	OFFSET
61		BY7-61	667323.6330	820894.6030	2632.35	OUTSIDE PROJECT LIMITS	
62		BY7-62	667714.6090	821063.2790	2622.80	OUTSIDE PROJECT LIMITS	
63		BY7-63	668298.7120	821156.0330	2606.30	41-18.66	25.13 LT
250		BY4-50	668749.4390	821162.0260	2600.57	36-70.82	26.11 RT
64		BY7-64	669202.6960	821235.3990	2590.17	32-11.91	10.82 RT
65		BY7-65	669625.8030	821310.8800	2584.05	27-92.89	44.69 RT
66		BY7-66	669920.3920	821562.9470	2574.75	24-29.94	66.17 RT
67		BY7-67	670127.9140	822111.3950	2569.86	18-55.30	49.13 RT
68		BY7-68	670316.1080	822702.6720	2582.76	12-36.10	13.95 RT
69		BY7-69	670498.3210	823249.9180	2594.38	OUTSIDE PROJECT LIMITS	
BY8	POINT	DESC.	NORTH	EAST	ELEVATION	Y8 STATION	OFFSET
304		BL-104	670495.8470	821983.0560	2545.91	OUTSIDE PROJECT LIMITS	
55		BY8-55	670617.1990	822614.7140	2566.40	OUTSIDE PROJECT LIMITS	
BY9	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
56		BY9-56	670255.6390	821694.0630	2544.43	45-32.48	316.06 RT
57		BY9-57	670126.8130	821787.0370	2547.62	44-22.48	262.75 RT

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PAVEMENT SCHEDULE			
(FINAL PAVEMENT DESIGN)			
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	E5	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH
C2	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	R1	2'-6" CONCRETE CURB AND GUTTER
C3	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 LESS THAN 1½" IN DEPTH OR GREATER THAN 3" IN DEPTH	R2	SINGLE FACED CONCRETE BARRIER
C4	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS	R3	CONCRETE MEDIAN BARRIER, TYPE T2
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R4	5" MONOLITHIC CONCRETE ISLAND
D2	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 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH	R5	SHOULDER BERM GUTTER
D3	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.	T	EARTH MATERIAL
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	U	EXISTING PAVEMENT
E2	PROP. APPROX. 5½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.	V	MILLED ASPHALT PAVEMENT
E3	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)
E4	PROP. APPROX. 7½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 427.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS	Y	PROPOSED MILLED RUMBLE STRIPS

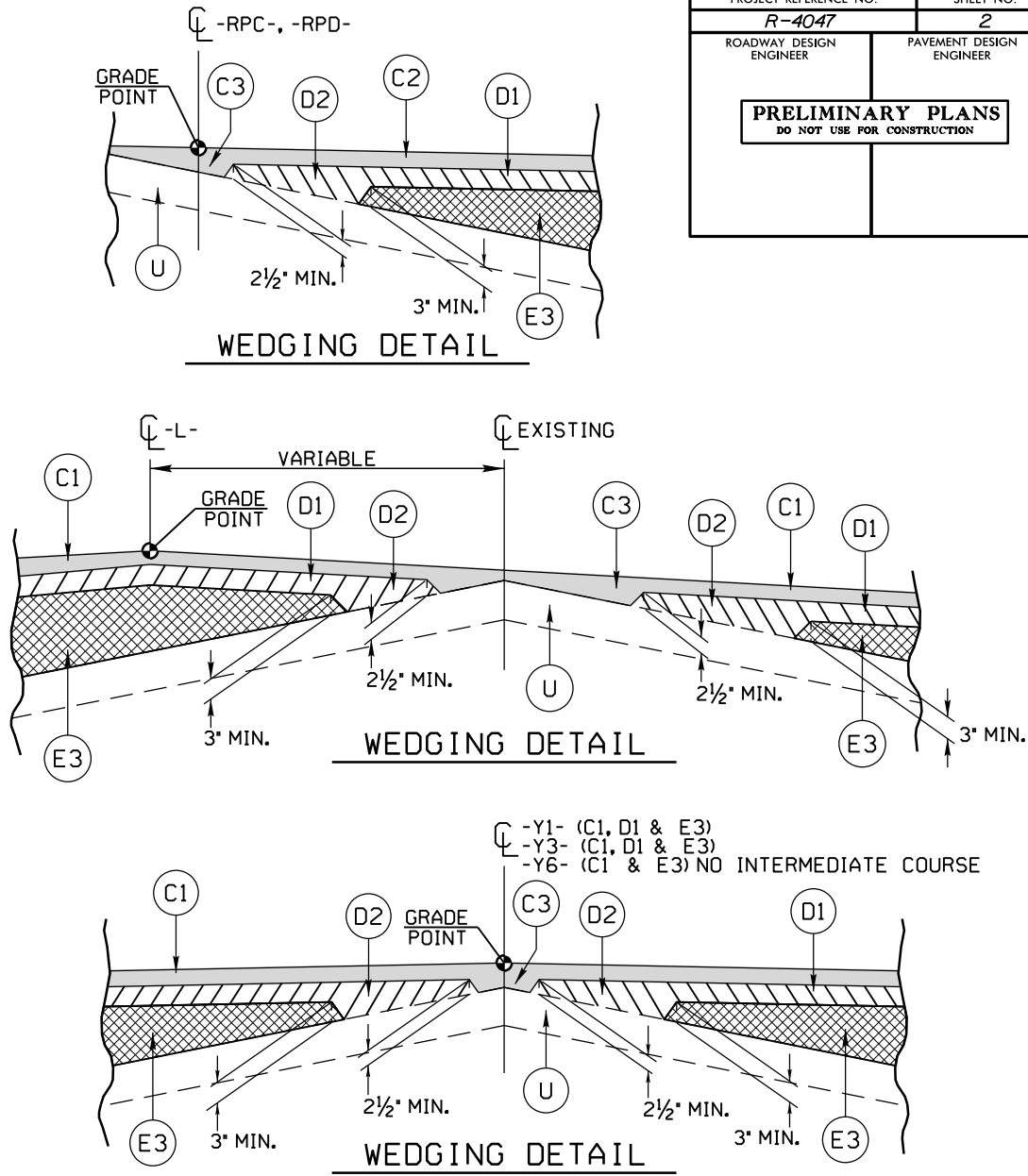
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1 FOR:
-L- STA. 19+00.00 TO -L- STA. 38+00.00

NOTES: RESURFACE WITH 3" S9.5B FROM -L- STA. 13+00.00 TO -L- STA. 16+50.00
TRANSITION FROM EXISTING TO T.S. NO. 1 -L- STA. 16+50.00 TO -L- STA. 19+00.00
MILL 3" AS DIRECTED BY THE ENGINEER -L- STA. 20+00.00 TO -L- STA. 38+00.00

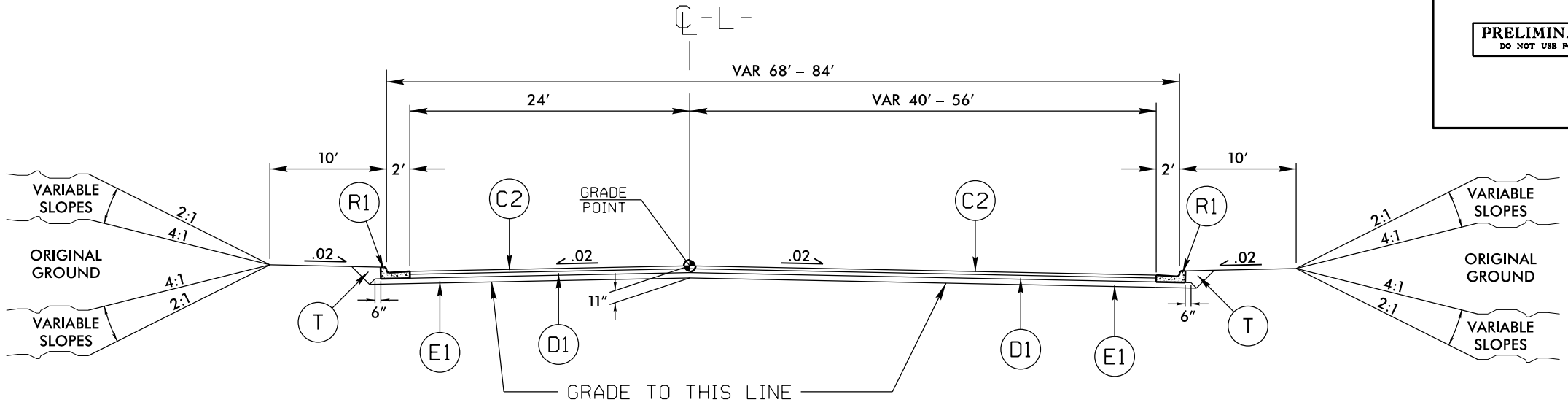


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\$\$\$\$ORANGE\$\$\$\$

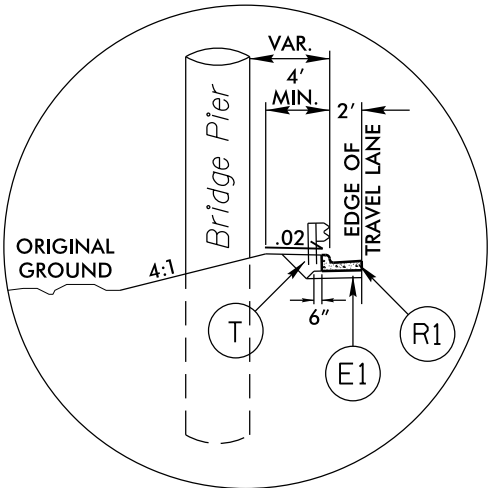
PAVEMENT SCHEDULE	
C2	3" S9.5B
D1	4" I19.0B
E1	4" B25.0B
R1	2'-6" CONC. CURB & GUTTER
T	EARTH MATERIAL

PROJECT REFERENCE NO. R-4047	SHEET NO. 2-A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

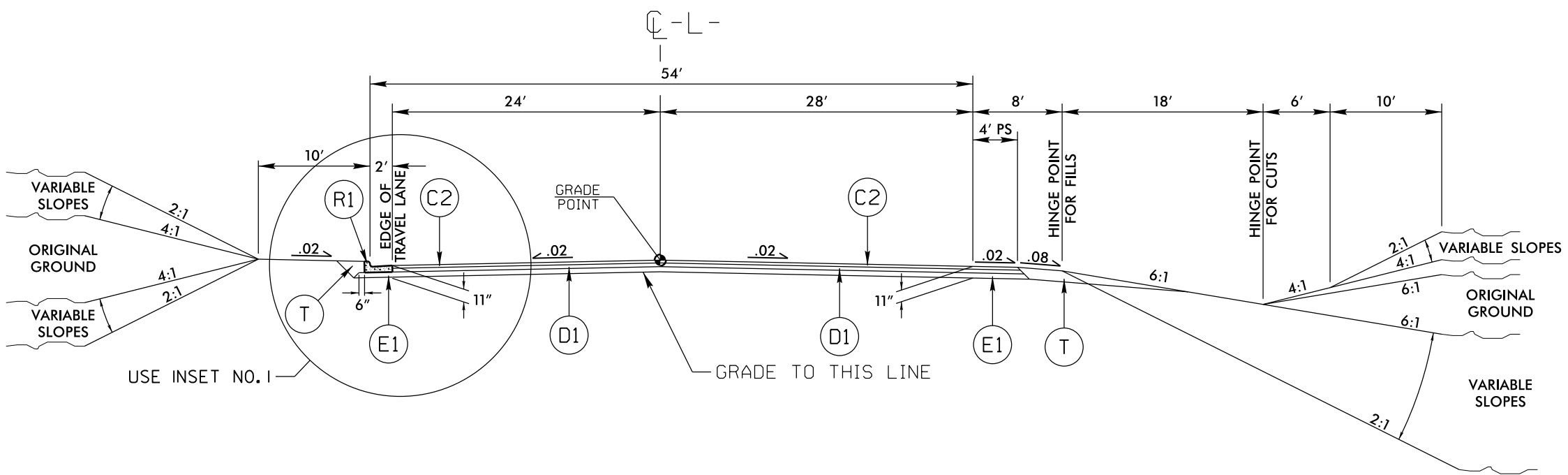


TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2 FOR:
-L- STA. 38+00.00 TO -L- STA. 48+00.00



INSET NO. 1



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3 FOR:
-L- STA. 48+00.00 TO -L- STA. 50+00.00

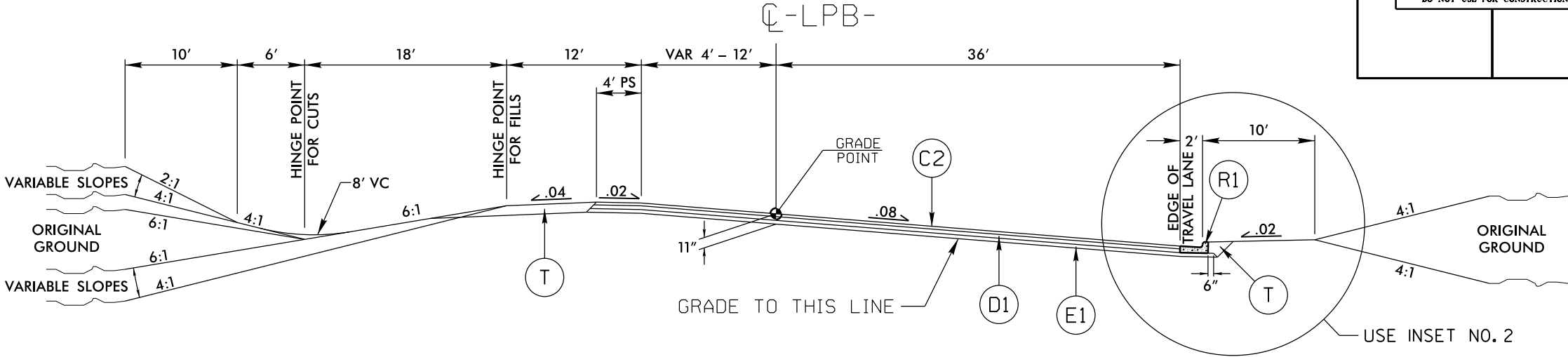
INSET NO. 1
Use with Typical Section No. 3
USE INSET NO. 1 AT THE FOLLOWING LOCATION:
-L- STA. 42+55.00 (LT.) TO -L- STA. 42+80.00 (LT.)

NOTES: TRANSITION FROM T.S. NO. 3 TO EXISTING
-L- STA. 50+00.00 TO -L- STA. 54+00.00
RESURFACE & WIDEN
-L- STA. 52+00.00 TO -L- STA. 54+00.00

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PAVEMENT SCHEDULE	
C2	3" S9.5B
D1	4" I19.0B
E1	4" B25.0B
E3	VAR. DEPTH B25.0B
R1	2'-6" CONC. CURB & GUTTER
R5	SHOULDER BERM GUTTER
T	EARTH MATERIAL



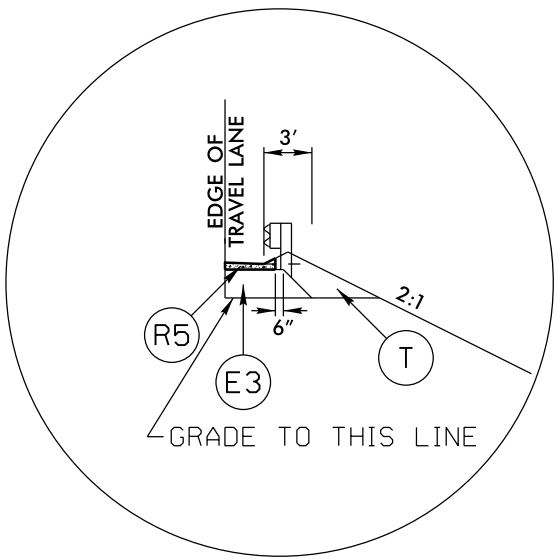
TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4 FOR:

-LPB- STA.13+74.99 TO -LPB- STA.18+93.43

NOTE: TRANSITION FROM EXISTING TO T.S.NO.4

-LPB- STA.10+35.96 TO -LPB- STA.13+74.99



INSET NO. 2

INSET NO. 2

Use with TypicalSection No. 4

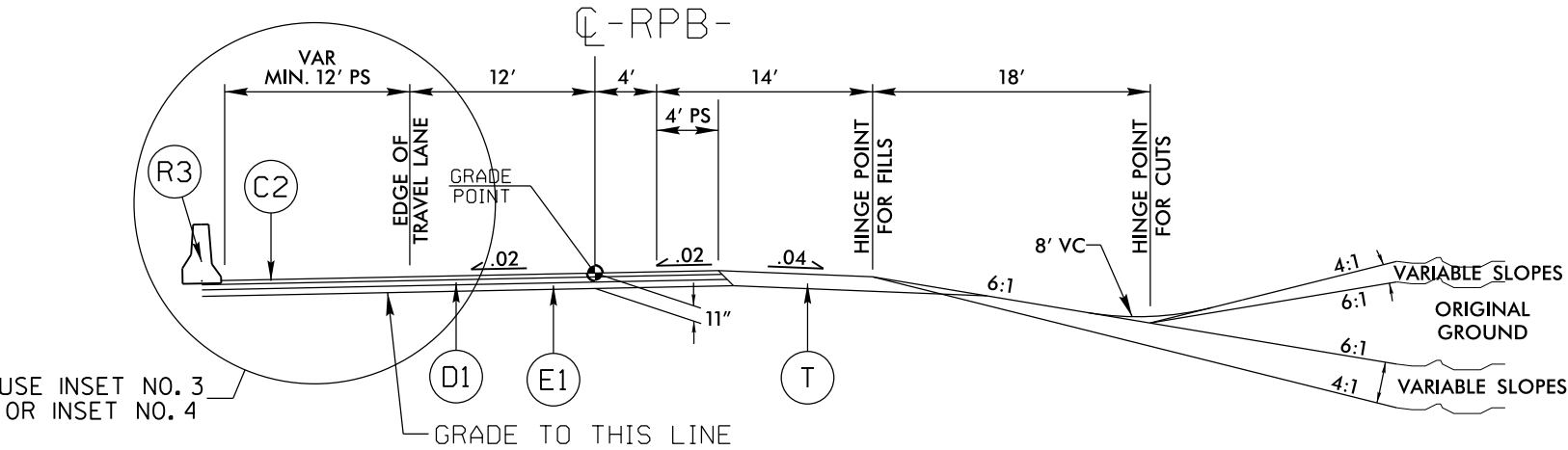
USE INSET NO. 2 AT THE FOLLOWING LOCATION:

-LPB- STA.10+35.96 (RT.) TO -LPB- STA.12+07.00 (RT.)

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PAVEMENT SCHEDULE	
C2	3" S9.5B
D1	4" I19.0B
E1	4" B25.0B
R1	2'-6" CONC. CURB & GUTTER
R3	CONC. MED. BARRIER, TYPE T2
T	EARTH MATERIAL



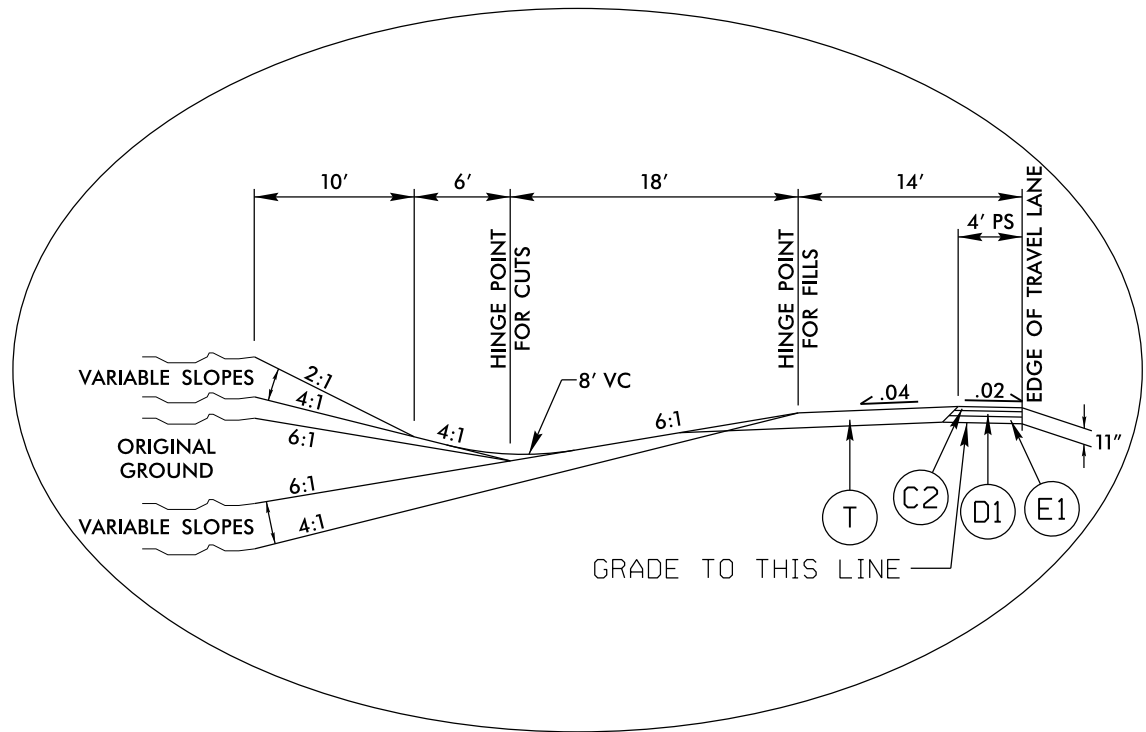
TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5 FOR:

-RPB- STA. 13+07.32 TO -RPB- STA. 22+34.27

NOTE: TIE GORE AREA TO T.S. NO. 21

-RPB- STA. 10+00.00 TO -RPB- STA. 13+07.32



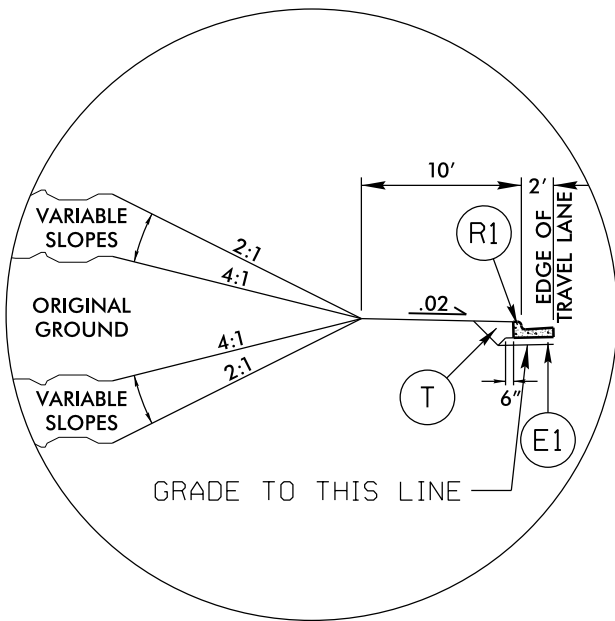
INSET NO. 3

INSET NO. 3

Use with Typical Section No. 5

USE INSET NO. 3 AT THE FOLLOWING LOCATION:

-RPB- STA. 19+75.00 TO -RPB- STA. 20+88.00



INSET NO. 4

INSET NO. 4

Use with Typical Section No. 5

USE INSET NO. 4 AT THE FOLLOWING LOCATION:

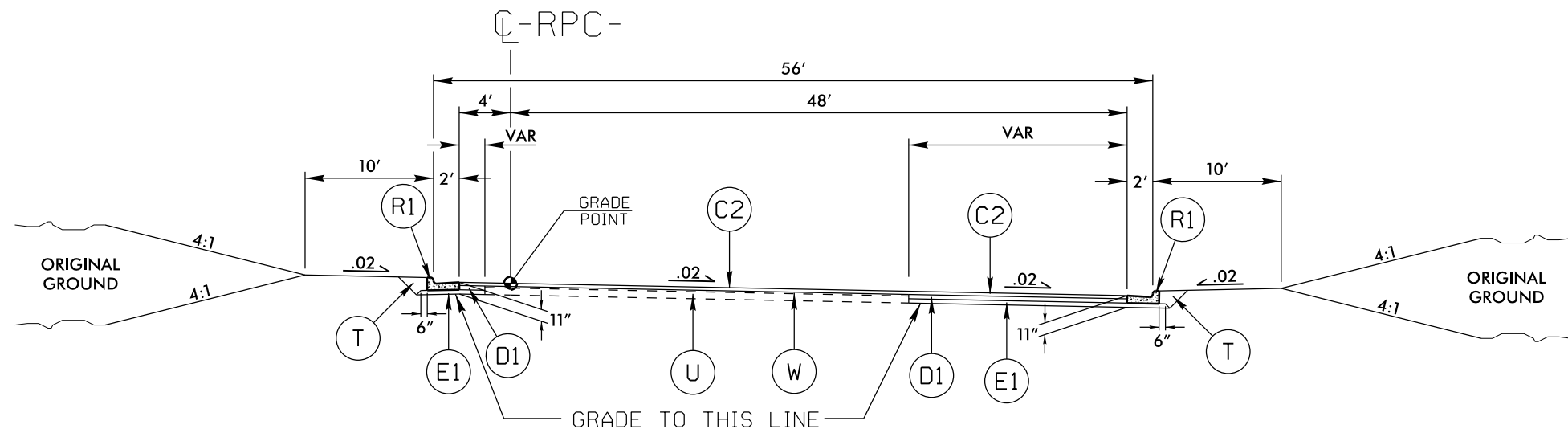
-RPB- STA. 20+88.00 TO -RPB- STA. 22+34.27

PROJECT REFERENCE NO.		SHEET NO.	
R-4047		2-C	
ROADWAY DESIGN ENGINEER		PAVEMENT DESIGN ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

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PROJECT REFERENCE NO.	SHEET NO.
R-4047	2-D
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



TYPICAL SECTION NO. 6

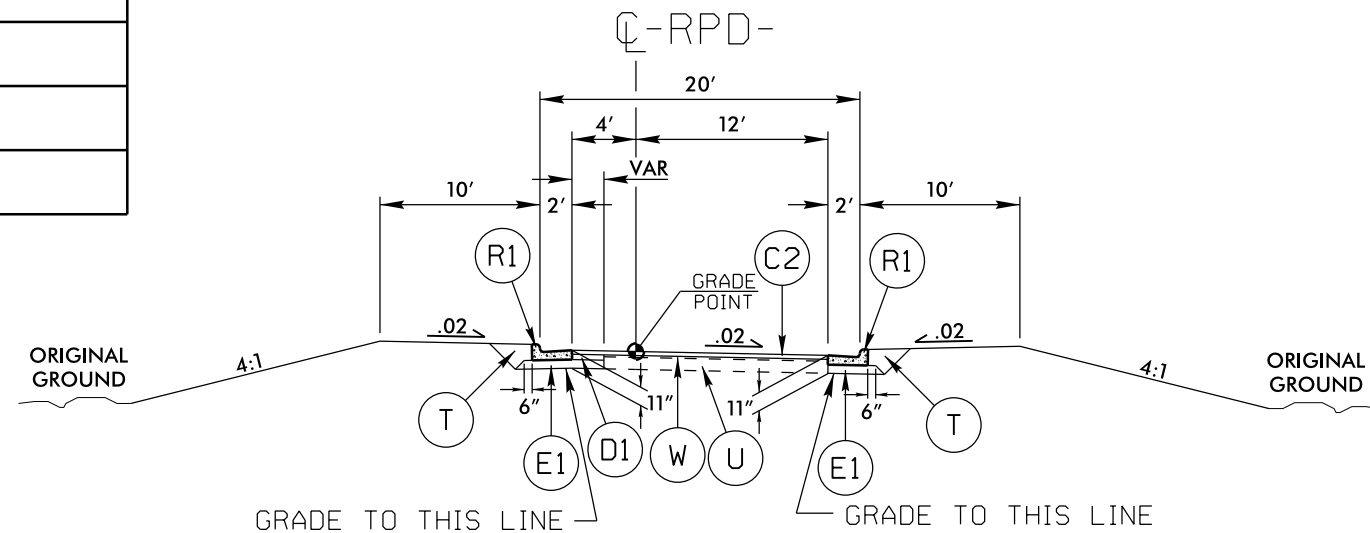
USE TYPICAL SECTION NO. 6 FOR:

-RPC- STA.13+90.00 TO -RPC- STA.16+00.74

NOTE: TRANSITION FROM EXISTING TO T.S.NO.6

-RPC- STA.10+00.00 TO -RPC- STA.13+90.00

PAVEMENT SCHEDULE	
C2	3" S9.5B
D1	4" I19.0B
E1	4" B25.0B
R1	2'-6" CONC. CURB & GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING



TYPICAL SECTION NO. 7

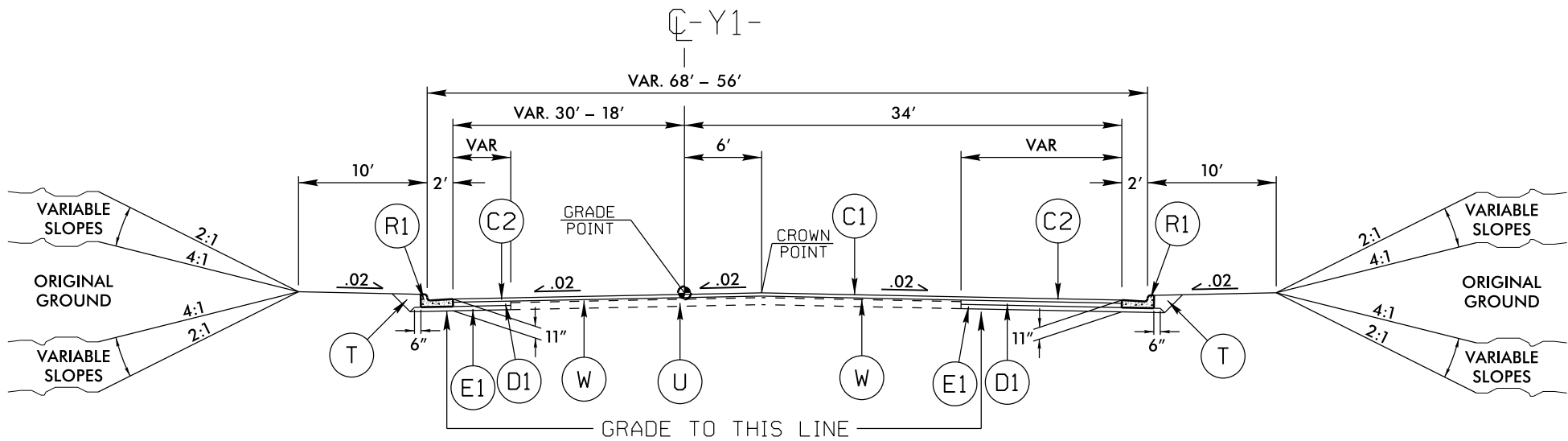
USE TYPICAL SECTION NO. 7 FOR:

-RPD- STA.14+50.00 TO -RPD- STA.15+79.46

NOTES: TRANSITION FROM EXISTING TO T.S.NO.7

-RPD- STA.14+25.00 TO -RPD- STA.14+50.00

RESURFACE -RPD- STA.10+07 +/- TO -RPD- STA.14+25.00



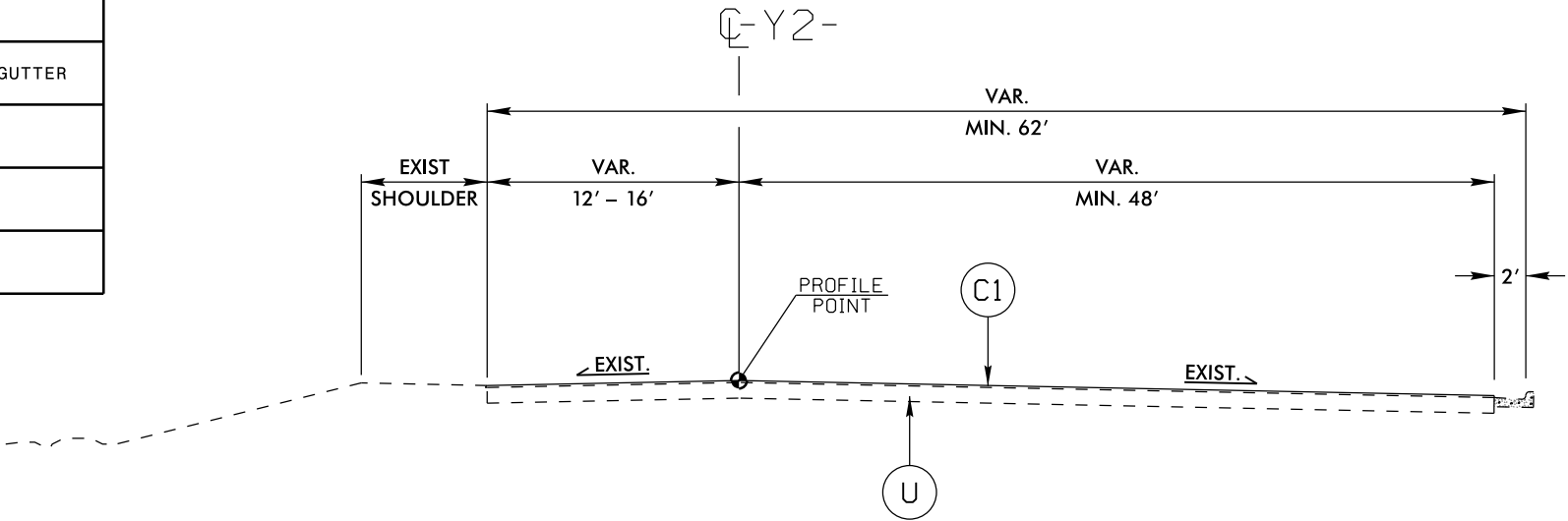
TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8 FOR:

-Y1- STA. 10+52.66 TO -Y1- STA. 14+50.00

NOTE: TRANSITION FROM T.S. NO. 8 TO EXISTING
-Y1- STA. 14+50.00 TO -Y1- STA. 16+00.00

PAVEMENT SCHEDULE	
C1	1½" S9.5B
C2	3" S9.5B
D1	4" I19.0B
E1	4" B25.0B
R1	2'-6" CONC. CURB & GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING



TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9 FOR:

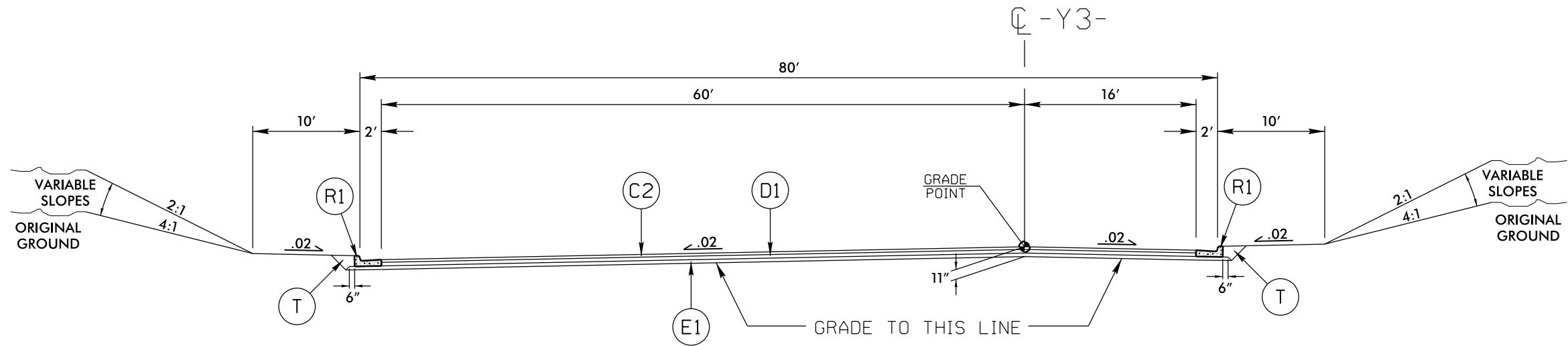
-Y2- STA. 10+45.17 TO -Y2- STA. 11+95.00

NOTE: RESURFACE -Y2-

6/2/99

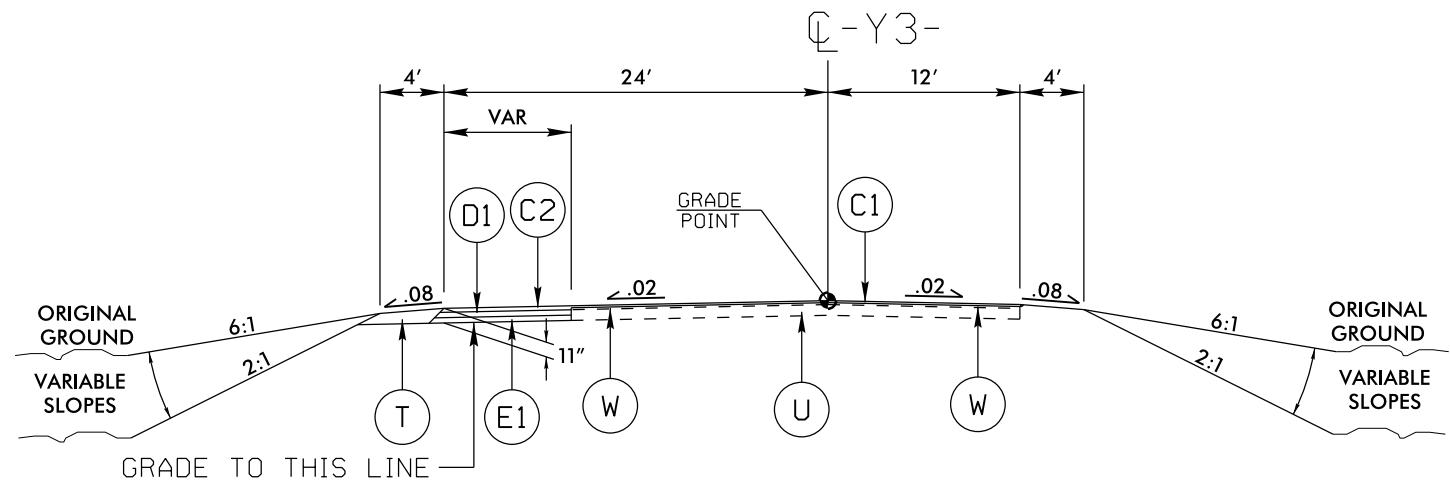
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\$\$\$\$\$ORIGINDEF\$\$\$\$\$

PROJECT REFERENCE NO.		SHEET NO.	
R-4047		2-F	
ROADWAY DESIGN ENGINEER		PAVEMENT DESIGN ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			



TYPICAL SECTION NO. 10

USE TYPICAL SECTION NO. 10 FOR:
-Y3- STA. 10+57.04 TO -Y3- STA. 12+89.66



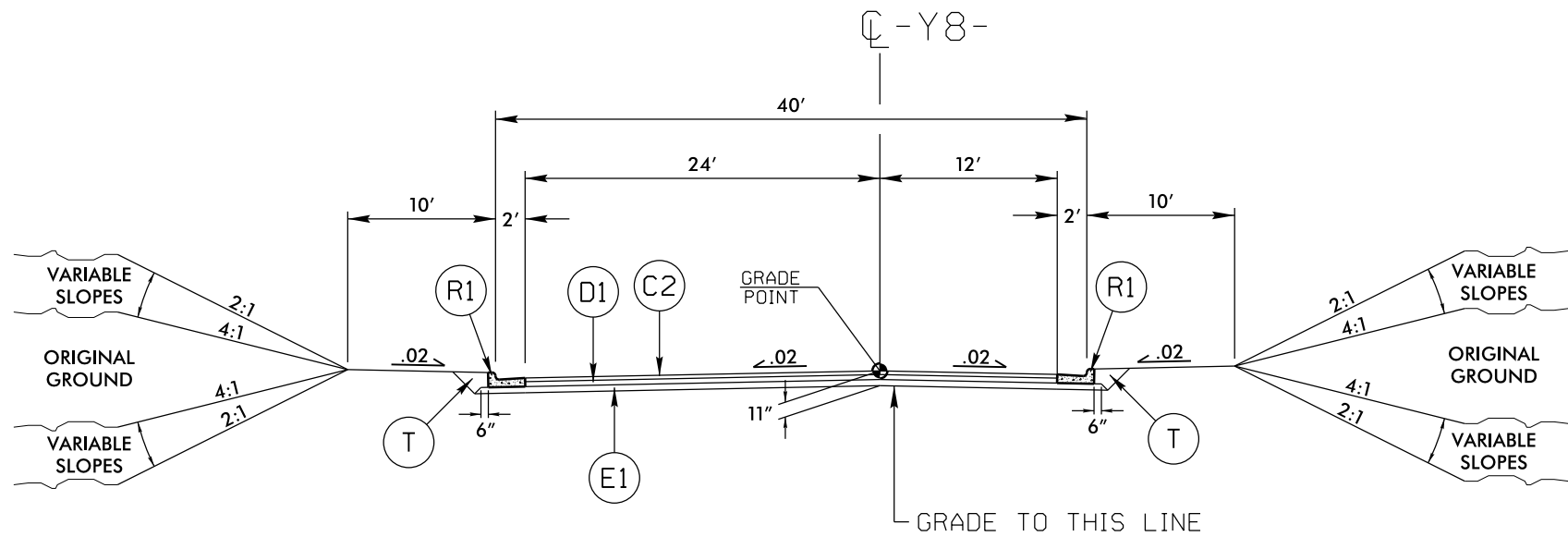
TYPICAL SECTION NO. 11

USE TYPICAL SECTION NO. 11 FOR:
-Y3- STA. 16+09.03 TO -Y3- STA. 16+25.00

PAVEMENT SCHEDULE	
C1	1 1/2" S9.5B
C2	3" S9.5B
D1	4" I19.0B
E1	4" B25.0B
R1	2'-6" CONC. CURB & GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

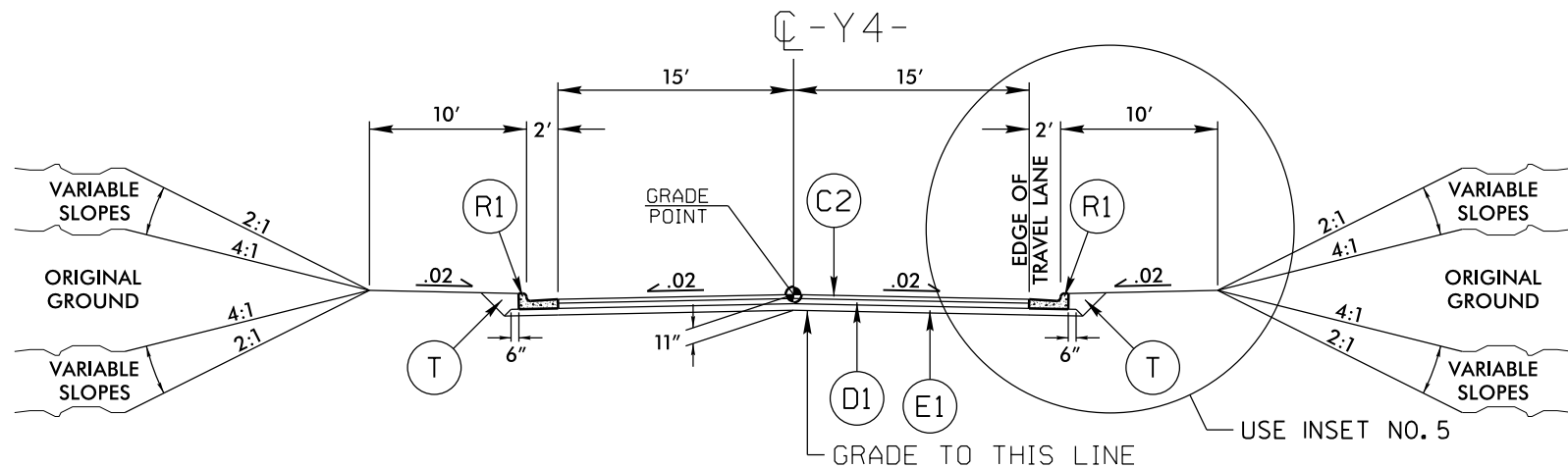
NOTES: TRANSITION FROM T.S. NO. 10 TO T.S. NO. 11
-Y3- STA. 12+89.66 TO -Y3- STA. 16+09.03
TRANSITION FROM T.S. NO. 11 TO EXISTING
-Y3- STA. 16+25.00 TO -Y3- STA. 16+75.00

PROJECT REFERENCE NO. R-4047	SHEET NO. 2-G
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



TYPICAL SECTION NO. 12

PAVEMENT SCHEDULE	
C2	3" S9.5B
D1	4" I19.0B
E1	4" B25.0B
R1	2'-6" CONC. CURB & GUTTER
R2	SINGLE FACED CONC. BARRIER
T	EARTH MATERIAL

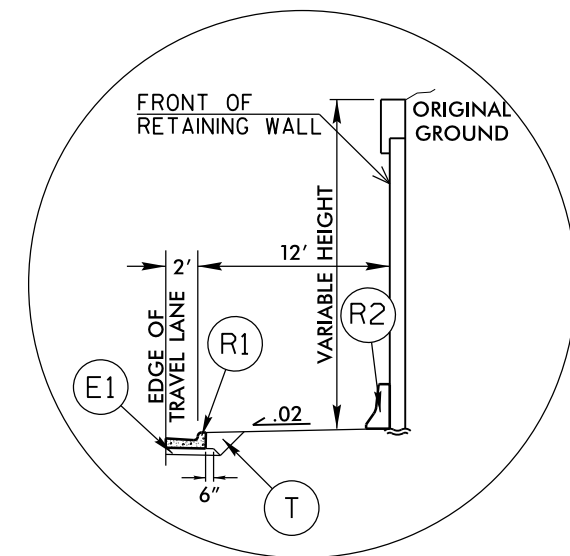


TYPICAL SECTION NO. 13

USE TYPICAL SECTION NO. 12 FOR:

-Y8- STA. 10+40.54 TO -Y8- STA. 12+45.00

NOTES: TRANSITION FROM T.S. NO. 12 TO EXISTING
-Y8- STA. 12+45.00 TO -Y8- STA. 13+45.00
RESURFACE -Y8- STA. 13+45.00 TO
-Y8- STA. 16+15.00 WITH 1 1/2" S9.5B



INSET NO. 5

Use with Typical Section No. 13
Use with Typical Section No. 14 (Sheet 2-H)

USE INSET NO. 5 AT THE FOLLOWING LOCATION:

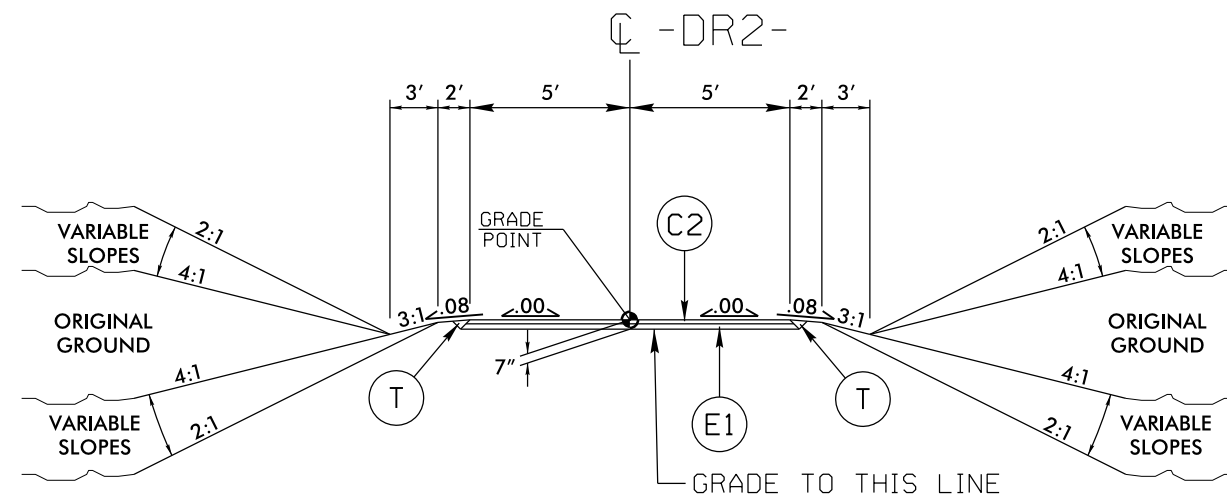
-Y4- STA. 12+00.00 RT. TO -Y4- STA. 18+65.00 RT.

USE TYPICAL SECTION NO. 13 FOR:

-Y4- STA. 10+24.00 TO -Y4- STA. 16+50.00
-Y4- STA. 28+08.60 TO -Y4- STA. 28+50.00

NOTE: TRANSITION FROM T.S. NO. 20 TO EXISTING
-Y4- STA. 28+50.00 TO -Y4- STA. 29+05.00

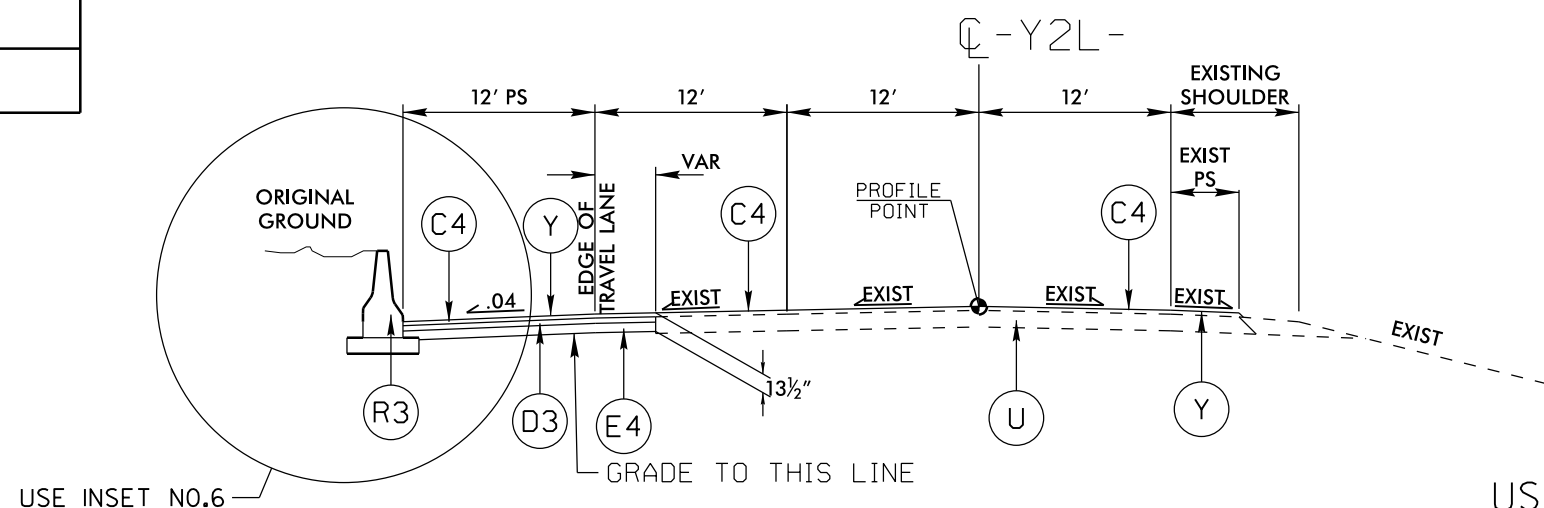
PAVEMENT SCHEDULE	
C2	3" S9.5B
C4	3" S9.5C
D3	3" I19.0C
E1	4" B25.0B
E4	7½" B25.0C
E5	VAR. DEPTH B25.0C
R3	CONC. MED. BARRIER, TYPE T2
R5	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
Y	MILLED RUMBLE STRIPS



TYPICAL SECTION NO. 18

USE TYPICAL SECTION NO. 18 FOR:

-DR2- STA. 10+09.00 TO -DR2- STA. 13+10.00

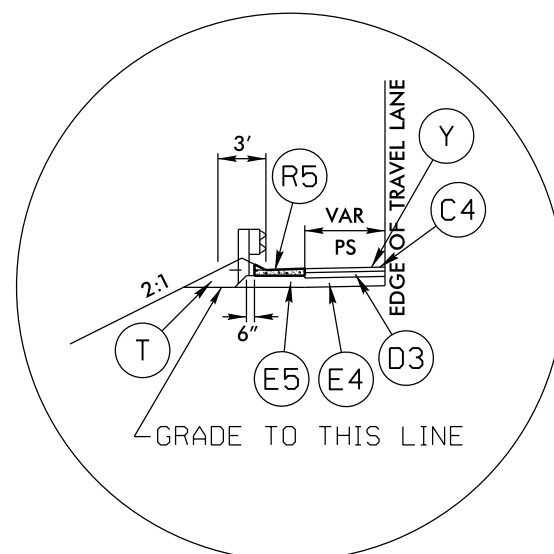


TYPICAL SECTION NO. 19

USE TYPICAL SECTION NO. 19 FOR:

-Y2L- STA. 17+60.00 TO -Y2L- STA. 21+10.00

NOTE: TRANSITION FROM EXISTING TO T.S.NO.19
-Y2L- STA.15+00.00 TO -Y2L- STA.17+60.00



INSET NO. 6

INSET NO. 6

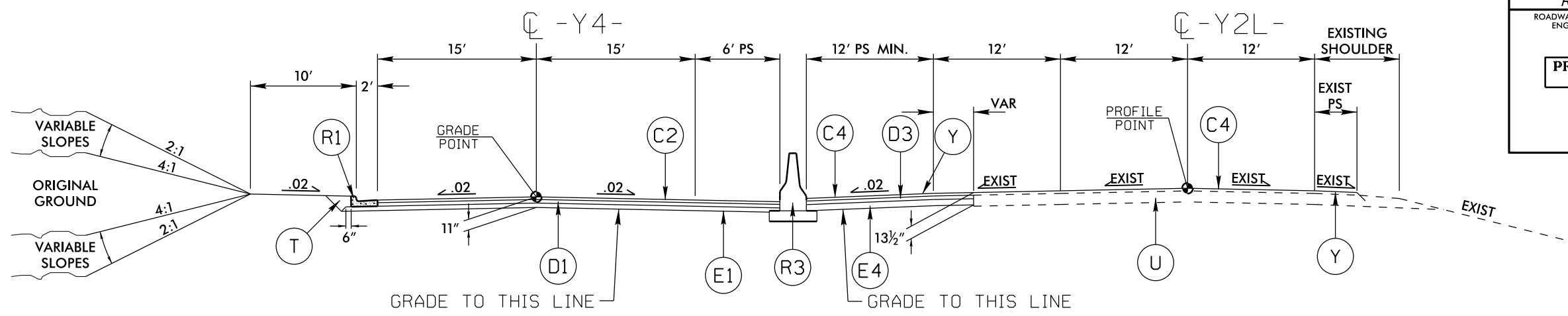
Use with Typical Section No. 19

USE INSET NO. 6 AT THE FOLLOWING LOCATION:

-Y2L- STA. 15+00.00 (LT.) TO -Y2L- STA. 17+25.00 (LT.)

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\$\$\$\$\$ORANGE\$\$\$\$\$



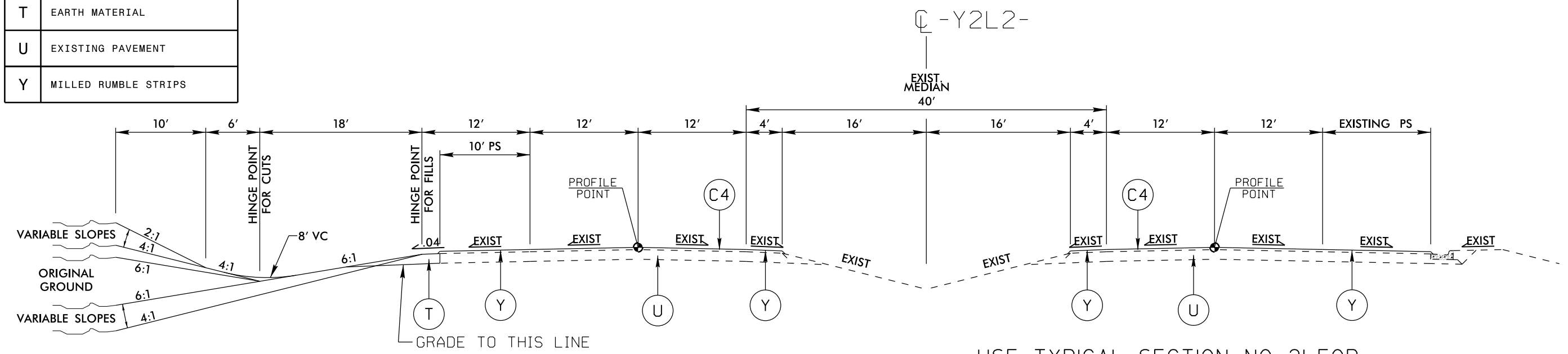
PROJECT REFERENCE NO.		SHEET NO.	
R-4047		2-K	
ROADWAY DESIGN ENGINEER		PAVEMENT DESIGN ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

PAVEMENT SCHEDULE	
C2	3" S9.5B
C4	3" S9.5C
D1	4" I19.0B
D3	3" I19.0C
E1	4" B25.0B
E4	7½" B25.0C
R1	2'-6" CONC. CURB & GUTTER
R3	CONC. MED. BARRIER, TYPE T2
T	EARTH MATERIAL
U	EXISTING PAVEMENT
Y	MILLED RUMBLE STRIPS

TYPICAL SECTION NO. 20

USE TYPICAL SECTION NO. 20 FOR:

- Y2L- STA. 21+10.00 TO -Y2L- STA. 23+24.32
- Y4- STA. 26+03.12 TO -Y4- STA. 28+08.60



TYPICAL SECTION NO. 21

USE TYPICAL SECTION NO. 21 FOR:

- Y2L2- STA. 10+00.00 TO -Y2L2- STA. 20+33 +/-

NOTE: BEGIN RESURFACING FOR RIGHT SIDE
-Y2L2- STA. 12+40.42

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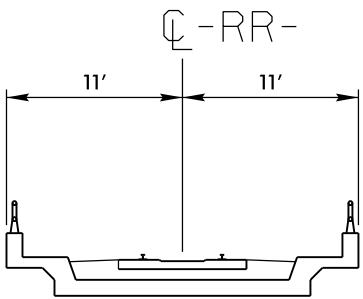
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STRUCTURE TYPICAL SECTIONS

PROJECT REFERENCE NO. R-4047		SHEET NO. 2-L
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

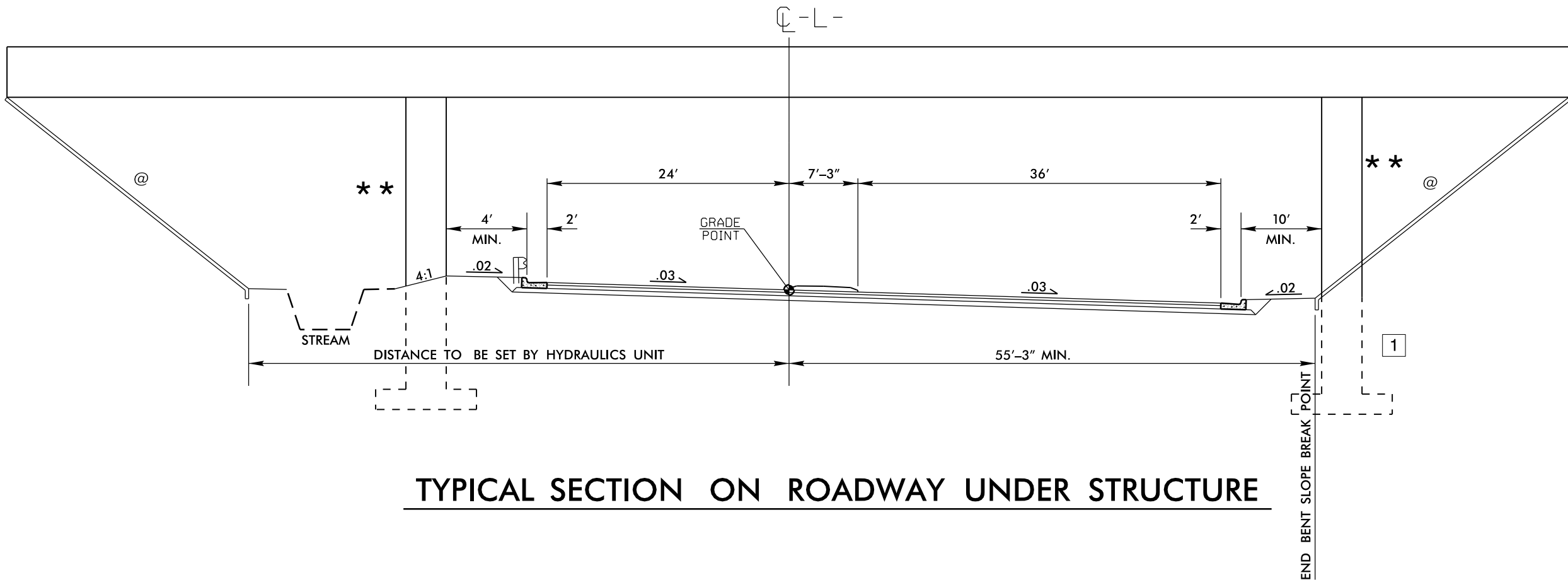
-RR- STRUCTURE *

DESIGN DATA	
MINIMUM VERTICAL CLEARANCE = 15'-6"	
@	SLOPES DETERMINED BY GEOTECHNICAL ENGINEERING UNIT
*	TYPICAL SECTION ON STRUCTURE TO BE DETERMINED BY STRUCTURE DESIGN UNIT
**	STRUCTURE DESIGN UNIT TO DETERMINE IF PIER IS NECESSARY
1	SEE STD. 610.02



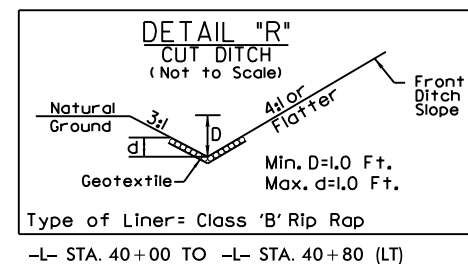
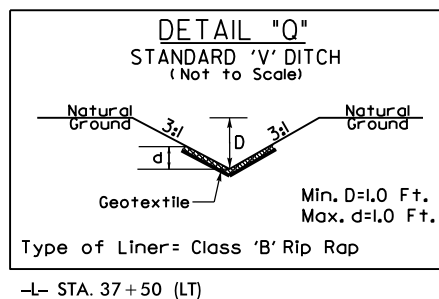
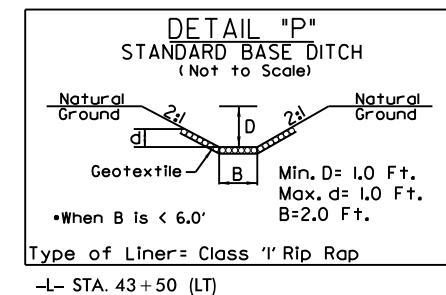
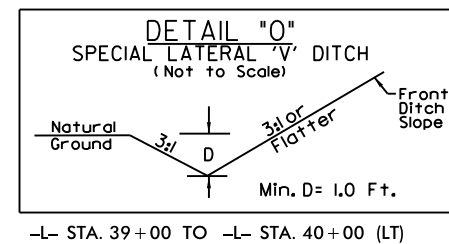
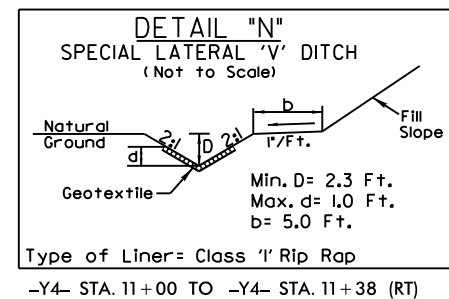
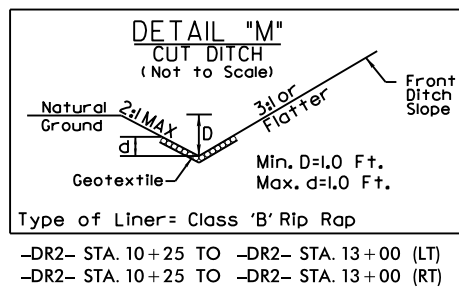
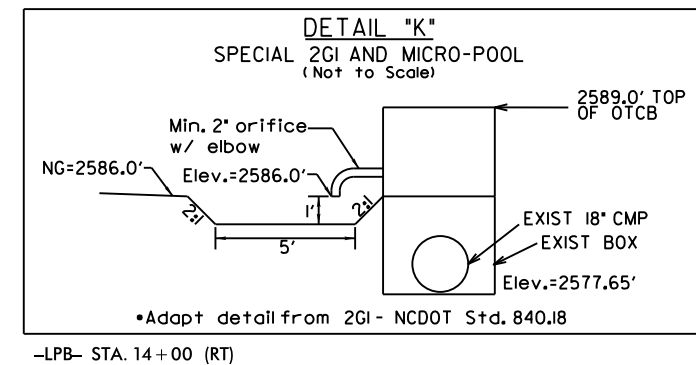
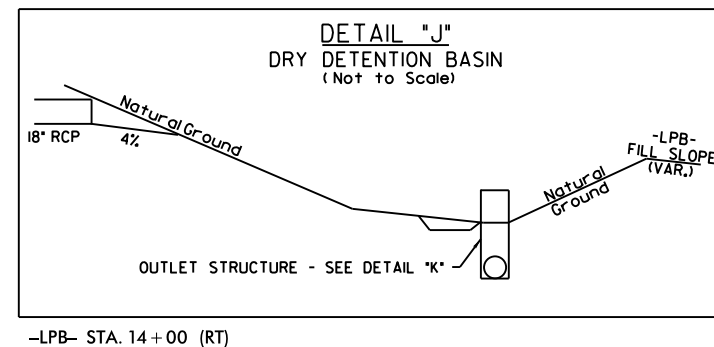
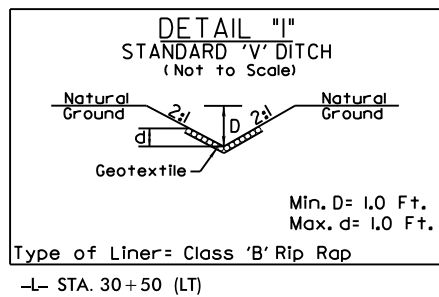
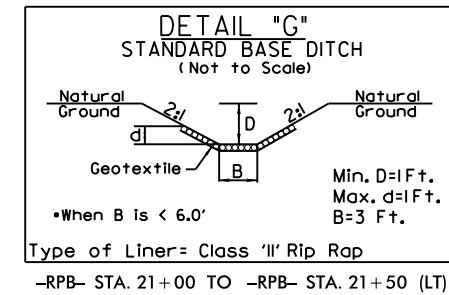
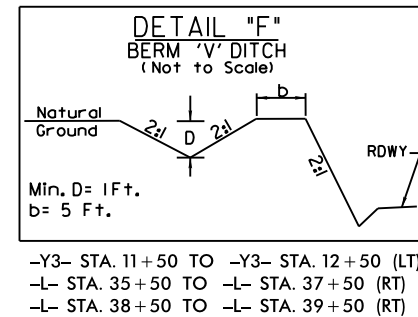
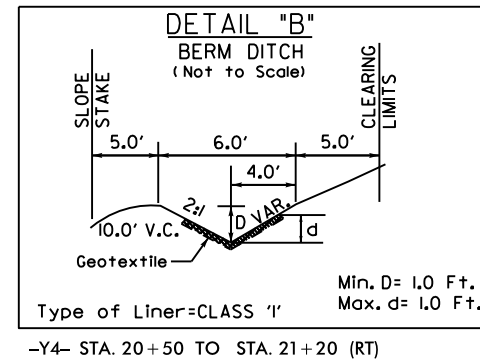
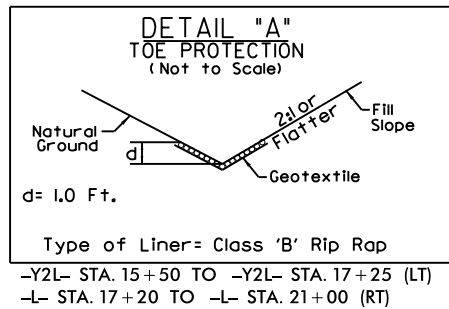
TYPICAL SECTION ON STRUCTURE

-L- DESIGN DATA	
ADT 2013 =	14,380
ADT 2035 =	19,800
D =	65%
DHV =	11%
TTST =	2%
DUAL =	3%
V =	35 mph
FUNCT. CLASS =	COLLECTOR



TYPICAL SECTION ON ROADWAY UNDER STRUCTURE

DRAINAGE DETAILS



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SSS\ENGINEER\SSS

REVISIONS

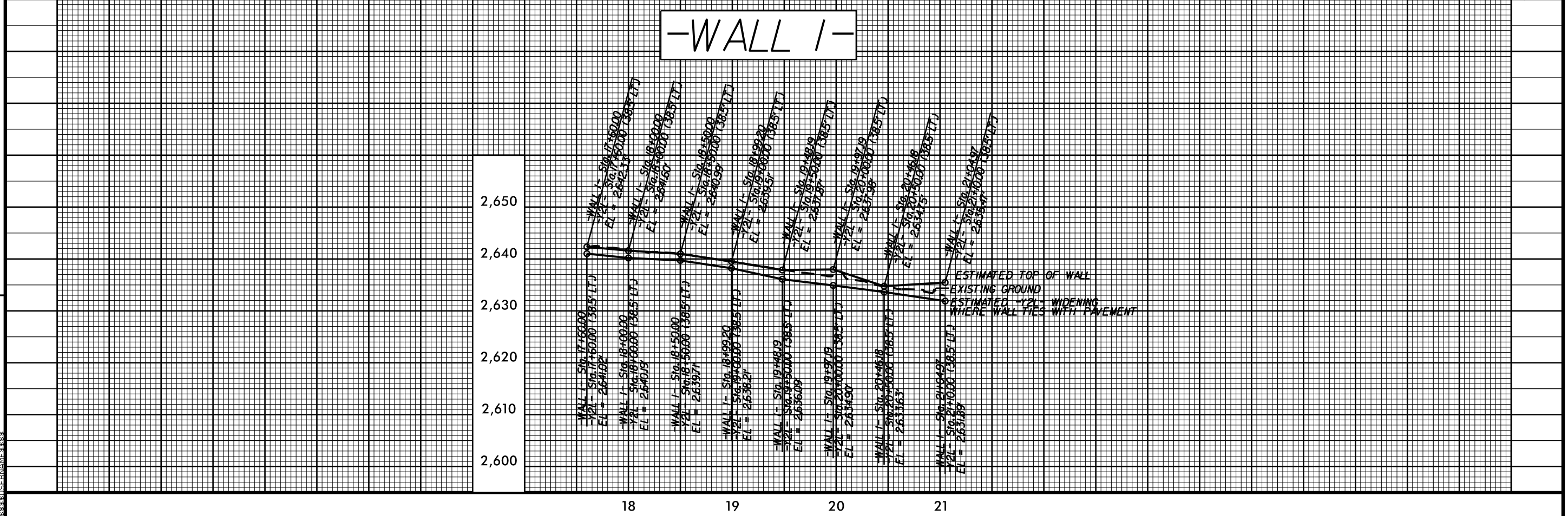
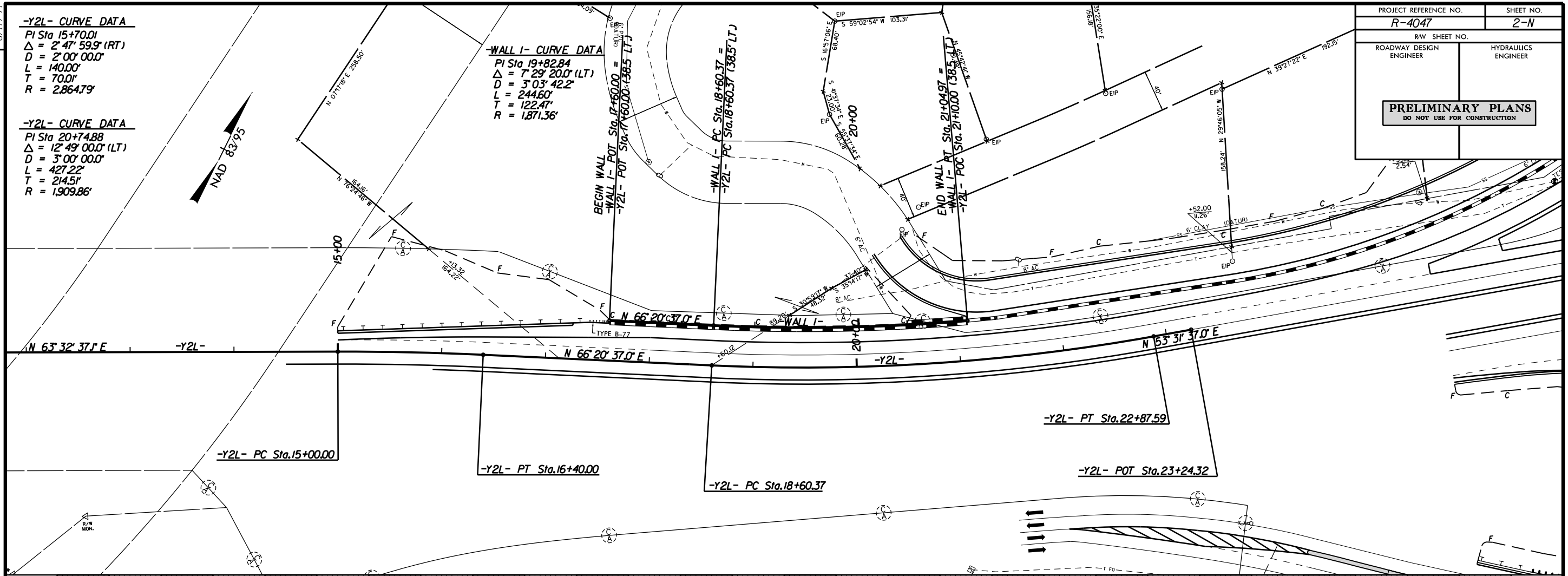
8/17/99

-Y2L- CURVE DATA
PI Sta 15+70.01
 $\Delta = 2^\circ 47' 59.9''$ (RT)
D = 2' 00' 00.0"
L = 140.00'
T = 70.0'
R = 2,864.79'

-Y2L- CURVE DATA
PI Sta 20+74.88
 $\Delta = 12^\circ 49' 00.0''$ (LT)
D = 3' 00' 00.0"
L = 427.22'
T = 214.51'
R = 1,909.86'

-WALL I- CURVE DATA
PI Sta 19+82.84
 $\Delta = 7^\circ 29' 20.0''$ (LT)
D = 3' 03' 42.2"
L = 244.60'
T = 122.47'
R = 1,871.36'

PROJECT REFERENCE NO. R-4047	SHEET NO. 2-N
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



-L- CURVE DATA

PI Sta 14+43.63 Δ = 17° 08' 25.3" (RT) D = 6' 13" 40" L = 275.22' T = 138.65' R = 920.00' S.E. = EXISTING	PI Sta 26+50.89 Δ = 109° 14' 18.3" (LT) D = 15' 38" 30.7" L = 800.76' T = 59.42' R = 420.00' S.E. = .04 RUNOFF = 200'
---	--

-RPB- CURVE DATA

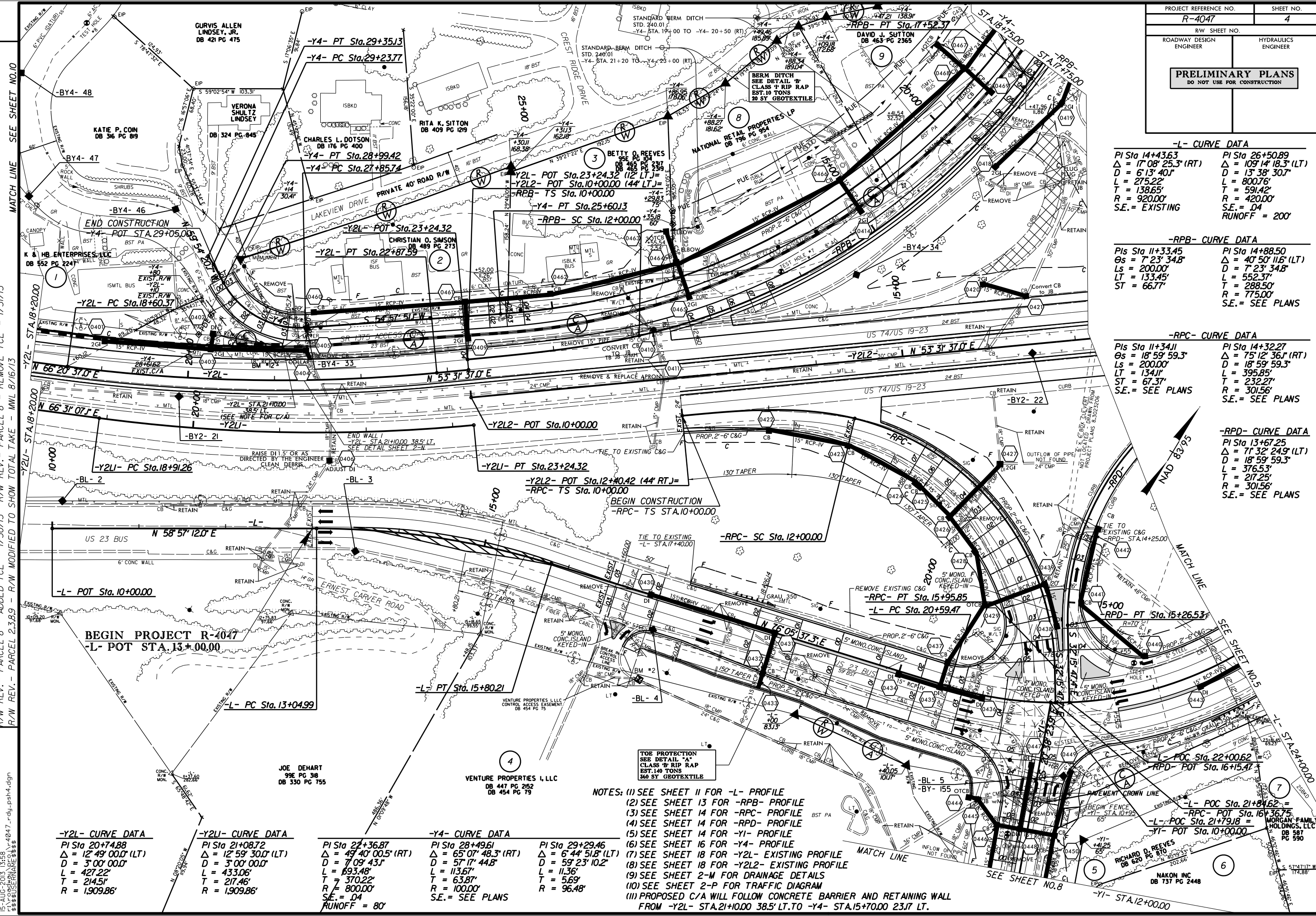
PIs Sta 11+34.45 Os = 7° 23' 34.8" Ls = 200.00' LT = 133.45' ST = 66.77'	PI Sta 14+88.50 Δ = 40° 50' 11.6" (LT) D = 7° 23' 34.8" L = 552.37' T = 288.50' R = 775.00' S.E. = SEE PLANS
--	--

-RPC- CURVE DATA

PIs Sta 11+34.11 Os = 18° 59' 59.3" Ls = 200.00' LT = 134.11' ST = 67.37'	PI Sta 14+32.27 Δ = 75° 12' 36.1" (RT) D = 18° 59' 59.3" L = 395.85' T = 232.27' R = 301.56' S.E. = SEE PLANS
---	---

-RPD- CURVE DATA

PI Sta 13+67.25 Δ = 71° 32' 24.9" (LT) D = 18° 59' 59.3" L = 376.53' T = 217.25' R = 301.56' S.E. = SEE PLANS



R/W REV. - ADDED PUE TO PARCELS 8 & 9 6/15/11 MML
 R/W REV. - PARCEL 3 - CHANGED DEED BOOK AND PAGE - PARCEL 5 - CHANGED DEED BOOK AND PAGE
 R/W REV. - PARCEL 6 - CHANGED NAME 12/7/11 MML
 R/W REV. - PARCEL 8 - ADDED TCE - 1/30/13 R/W REV. - PARCEL 8 - REMOVE TCE - 1/31/13
 R/W REV. - PARCEL 2.389 - R/W MODIFIED TO SHOW TOTAL TAKE - MML 8/16/13

-Y2L- CURVE DATA

PI Sta 20+74.88 Δ = 12° 49' 00.0" (LT) D = 3' 00' 00.0" L = 427.22' T = 214.51' R = 1,909.86'
--

-Y2LI- CURVE DATA

PI Sta 21+08.72 Δ = 12° 59' 30.0" (LT) D = 3' 00' 00.0" L = 433.06' T = 217.46' R = 1,909.86'
--

-Y4- CURVE DATA

PI Sta 22+36.87 Δ = 49° 40' 00.5" (RT) D = 7° 09' 43.1" L = 693.48' T = 370.22' R = 800.00' S.E. = .04 RUNOFF = 80'	PI Sta 28+49.61 Δ = 65° 07' 48.3" (RT) D = 57° 17' 44.8" L = 113.67' T = 63.87' R = 100.00' S.E. = SEE PLANS	PI Sta 29+29.46 Δ = 6° 44' 51.8" (LT) D = 59° 23' 10.2" L = 11.36' T = 5.69' R = 96.48'
--	--	--

NOTES:

- (1) SEE SHEET 11 FOR -L- PROFILE
- (2) SEE SHEET 13 FOR -RPB- PROFILE
- (3) SEE SHEET 14 FOR -RPC- PROFILE
- (4) SEE SHEET 14 FOR -RPD- PROFILE
- (5) SEE SHEET 14 FOR -YI- PROFILE
- (6) SEE SHEET 16 FOR -Y4- PROFILE
- (7) SEE SHEET 18 FOR -Y2L- EXISTING PROFILE
- (8) SEE SHEET 18 FOR -Y2L2- EXISTING PROFILE
- (9) SEE SHEET 2-M FOR DRAINAGE DETAILS
- (10) SEE SHEET 2-P FOR TRAFFIC DIAGRAM
- (11) PROPOSED C/A WILL FOLLOW CONCRETE BARRIER AND RETAINING WALL FROM -Y2L- STA. 21+10.00 38.5' LT. TO -Y4- STA. 15+70.00 23.7' LT.

-L- CURVE DATA
 PI Sta 26+50.89
 $\Delta = 109^{\circ} 14' 18.3" (LT)$
 $D = 13^{\circ} 38' 30.7"$
 $L = 800.76'$
 $T = 591.42'$
 $R = 420.00'$
 $S.E. = .04$
 $RUNOFF = 200'$

-Y2- CURVE DATA
 PI Sta 11+88.83
 $\Delta = 8^{\circ} 03' 50.7''$ (R)
 $D = 6^{\circ} 00' 00.0''$
 $L = 134.40'$
 $T = 67.31'$
 $R = 954.93'$

-RPD- CURVE DATA	
PIs Sta 11+00.33	PI Sta 13+67.25
θs = 14° 14' 59.4"	Δ = 71° 32' 24.9" (LT)
Ls = 150.00'	L = 18° 59' 59.3"
LT = 100.33'	L = 376.53'
ST = 50.30'	T = 217.25'
	R = 301.56'

-LPB- CURVE DATA		
Pis Sta 11+60.12	Pi Sta 16+17.79	Pis Sta 17+33.23
Os = 28° 38' 52.4"	Δ = 126° 01' 57.2" (RT)	Os = 28° 38' 52.4"
Ls = 200.00'	D = 28° 38' 52.4"	Ls = 200.00'
LT = 135.12'	L = 439.94'	LT = 135.12'
ST = 68.30'	T = 392.80'	ST = 68.30'
	R = 200.00'	
	S.E. = SEE PLANS	

-RPB- CURVE DATA
 PI Sta 20+17.26
 $\Delta = 51^{\circ} 33' 28.4''$ (RT)
 $D = 19^{\circ} 05' 54.9''$
 $L = 269.96'$
 $T = 144.89'$
 $R = 300.00'$
 S.E. = SEE PLANS

PI Sta 12+59.94
 $\Delta = 99^{\circ} 46' 33.9''$ (LT)
 $D = 38^{\circ} 11' 49.9''$
 $L = 261.21'$
 $T = 178.06'$
 $R = 150.00'$
 S.E. = SEE PLANS

-Y3- CURVE DATA	
PI Sta 12+14.03	PI Sta 15+31.03
$\Delta = 66^{\circ} 20' 00.0''$ (RT)	$\Delta = 69^{\circ} 39' 42.0''$ (LT)
$D = 38' 11'' 49.9''$	$D = 38' 11'' 49.9''$
$L = 173.66'$	$L = 182.37'$
$T = 98.03'$	$T = 104.37'$
$R = 150.00'$	$R = 150.00'$
S.E. = SEE PLANS	S.E. = SEE PLANS

-Y4- CURVE DATA	
PI Sta 14+77.35	PI Sta 22+36.87
$\Delta = 48^\circ 13' 05.5''$ (RT)	$\Delta = 49^\circ 40' 00.5''$ (RT)
D = 19' 05" 54.9"	D = 7' 09" 43.1"
L = 252.47'	L = 693.48'
T = 134.25'	T = 370.22'
R = 300.00'	R = 800.00'
S.E. = .04	
RUNOFF = 80'	

VE DATA

PI Sta 13+67.25
Δ = 71° 32' 24.9" (LT)
D = 18° 59' 59.3"
L = 3765.3'
T = 217.25'
R = 301.56'

HAYWARD CONSOLIDATED
SCHOOL SYSTEM BOARD
OF EDUCATION

DB 202 PG 7L DB 205 PG 246
DB 202 PG 743 DB 485 PG 140
DB 205 PG 162

-Y2- PT Sta 12+55.92

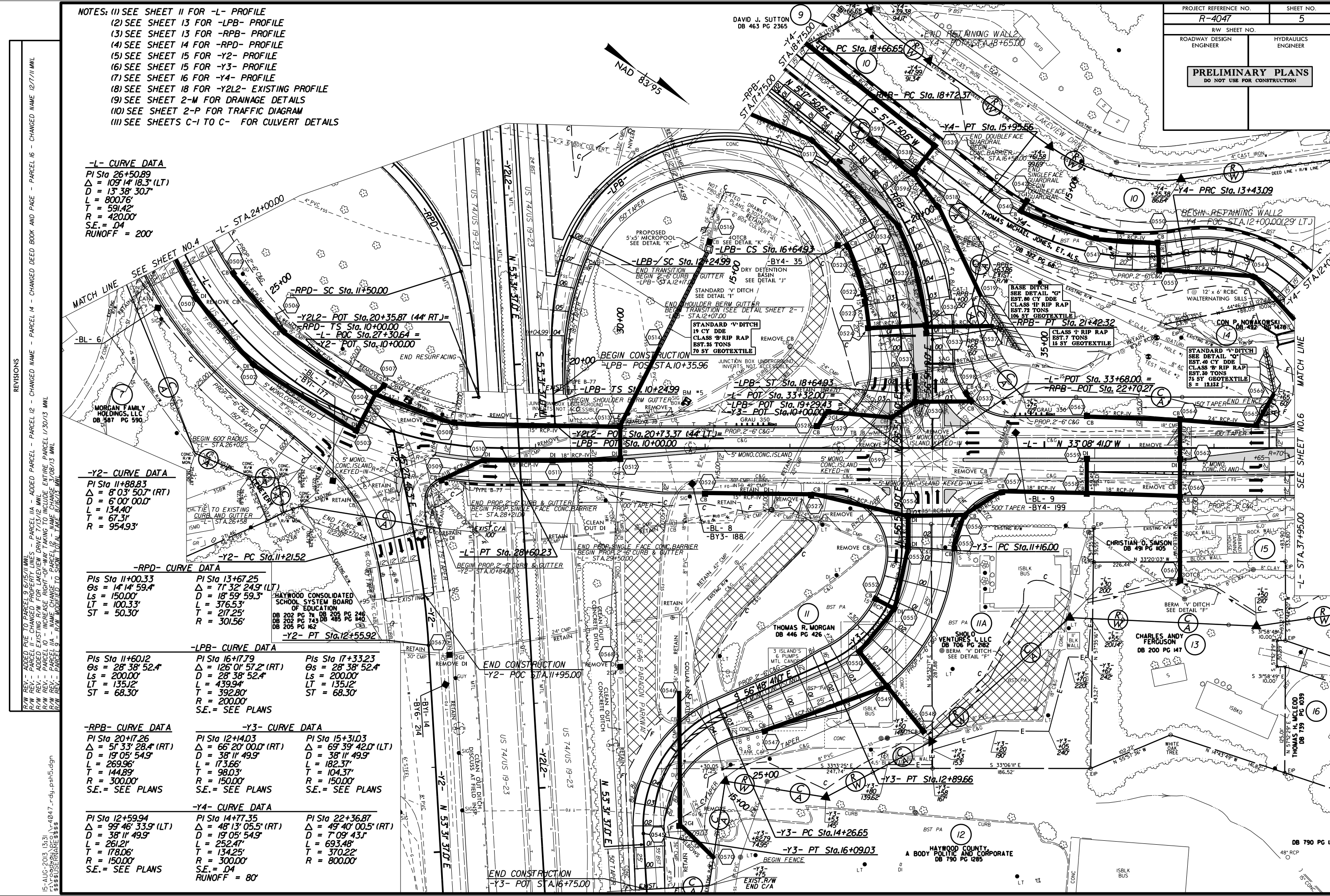
-LPB- CURVE DATA

PI Sta 16+17.79	Pls Sta 17+33.23
$\Delta = 126^{\circ} 01' 57.2" (RT)$	$\Theta_s = 28^{\circ} 38' 52.4"$
$D = 28^{\circ} 38' 52.4"$	$L_s = 200.00'$
$L = 439.94'$	$LT = 135.12'$
$T = 392.80'$	$ST = 68.30'$
$R = 200.00'$	
S.E. = SEE PLANS	

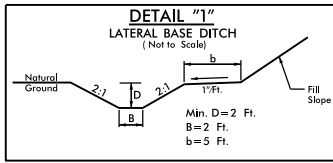
-Y3- CURVE DATA	
PI Sta 12+14.03	PI Sta 15+31.03
$\Delta = 66^{\circ} 20' 00.0''$ (RT)	$\Delta = 69^{\circ} 39' 42.0''$ (LT)
$D = 38' 11'' 49.9''$	$D = 38' 11'' 49.9''$
$L = 173.66'$	$L = 182.37'$
$T = 98.03'$	$T = 104.37'$
$R = 150.00'$	$R = 150.00'$
S.E. = SEE PLANS	S.E. = SEE PLANS

-Y4- CURVE DATA	
PI Sta 14+77.35	PI Sta 22+36.87
$\Delta = 48^\circ 13' 05.5''$ (RT)	$\Delta = 49^\circ 40' 00.5''$ (RT)
D = 19' 05" 54.9"	D = 7' 09" 43.1"
L = 252.47'	L = 693.48'
T = 134.25'	T = 370.22'
R = 300.00'	R = 800.00'
S.E. = .04	
RUNOFF = 80'	

PROJECT REFERENCE NO.	SHEET NO.
<i>R-4047</i>	<i>5</i>
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



-RR- CURVE DATA		
Pis Sta 30+50.20	PI Sta 27+07.95	Pis Sta 23+09.26
Os = 3° 43' 01"	Δ = 54° 18' 53.6" (LT)	Os = 3° 43' 01"
Ls = 93.00'	D = 8° 00' 00.0"	Ls = 93.00'
LT = 62.01'	L = 678.94'	LT = 62.01'
ST = 31.01'	T = 367.70'	ST = 31.01'
	R = 716.78'	

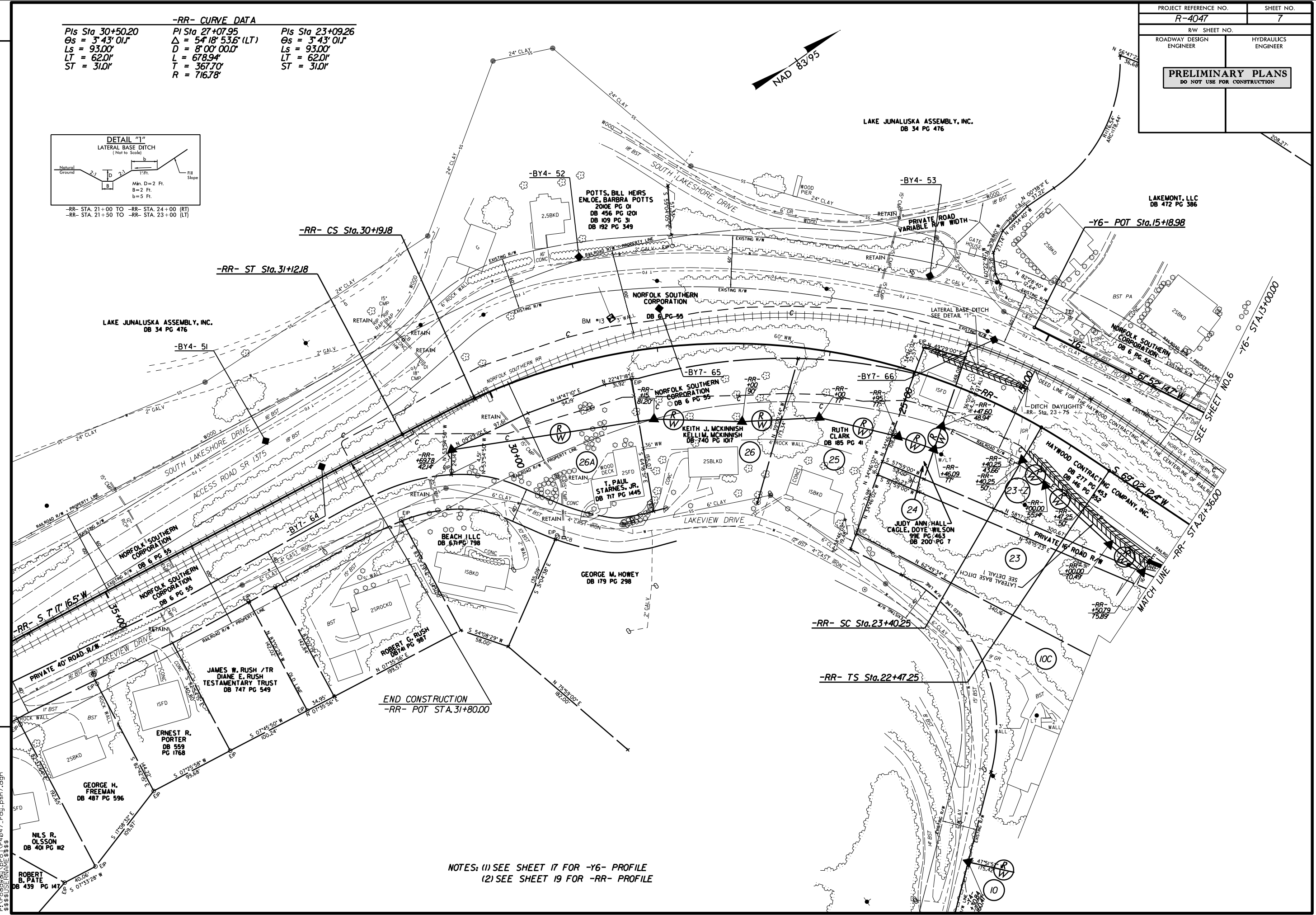


-RR- STA. 21+00 TO -RR- STA. 24+00 (RT)
-RR- STA. 21+50 TO -RR- STA. 23+00 (LT)

PROJECT REFERENCE NO.	SHEET NO.
R-4047	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

REVISIONS

R/W REV.- PARCEL 24 - CHANGED NAME 12/7/11 M/L R/W REV.- PROPERTY LINE UPDATES TO PARCEL 23 - 5/09/12 M/L
R/W REV.- ADDED EXISTING R/W FOR LAKEVIEW DRIVE / ADDED PARCEL 10C - 6/06/12 M/L R/W REV.- PROPOSED R/W ADDED ON NEW PARCEL 26A - 8/08/13 M/L
R/W REV.- PARCEL 23-Z - ADDED EXISTING R/W FOR RR DRAINAGE - 9/16/13 M/L

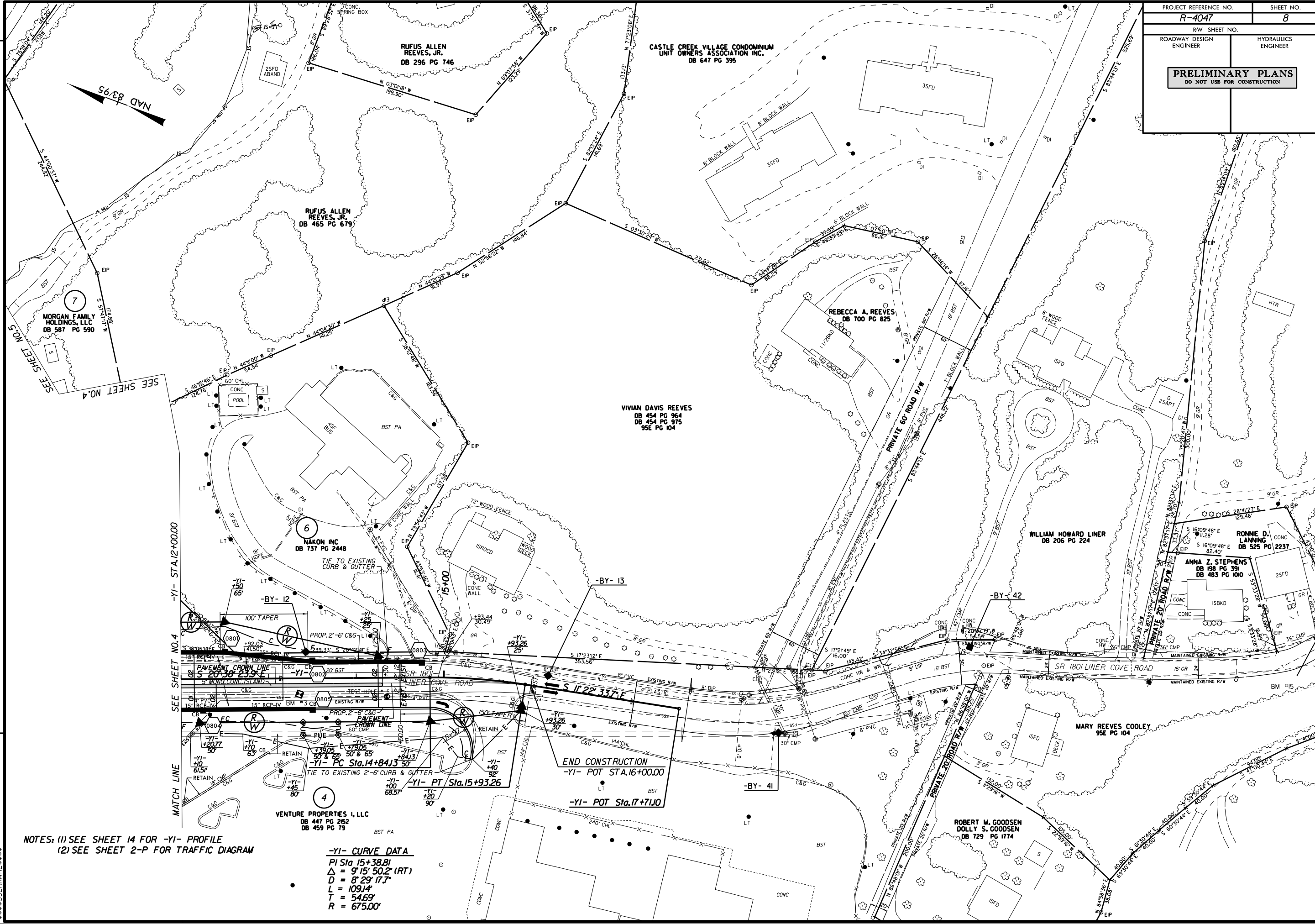


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\$\$\$\$\$USER\$NAME\$\$\$\$\$

REVISIONS

R/W REV. - PARCEL 6 - CHANGED NAME 12/7/11 MWL

09-AUG-2013 14:11 N:\4047_rdy_psh8.dgn
\$\$\$\$\$USER\$NAME\$\$\$\$\$



NOTES: (1) SEE SHEET 14 FOR -YI- PROFILE
(2) SEE SHEET 2-P FOR TRAFFIC DIAGRAM

-YI- CURVE DATA
PI Sta 15+38.81
 $\Delta = 91^\circ 50' 22''$ (RT)
D = 8' 29' 17.7"
L = 109.14'
T = 54.69'
R = 675.00'

VENTURE PROPERTIES I, LLC
DB 447 PG 252
DB 459 PG 79

MATCH LINE
SEE SHEET NO. 4
-YI- STA.12+00.00

SEE SHEET NO. 4

MORGAN FAMILY HOLDINGS, LLC
DB 587 PG 590

NAKON INC
DB 737 PG 2448

RUFUS ALLEN REEVES, JR.
DB 296 PG 746

RUFUS ALLEN REEVES, JR.
DB 465 PG 679

CASTLE CREEK VILLAGE CONDOMINIUM
UNIT OWNERS ASSOCIATION INC.
DB 647 PG 395

VIVIAN DAVIS REEVES
DB 454 PG 964
DB 454 PG 975
95E PG 104

REBECCA A. REEVES
DB 700 PG 825

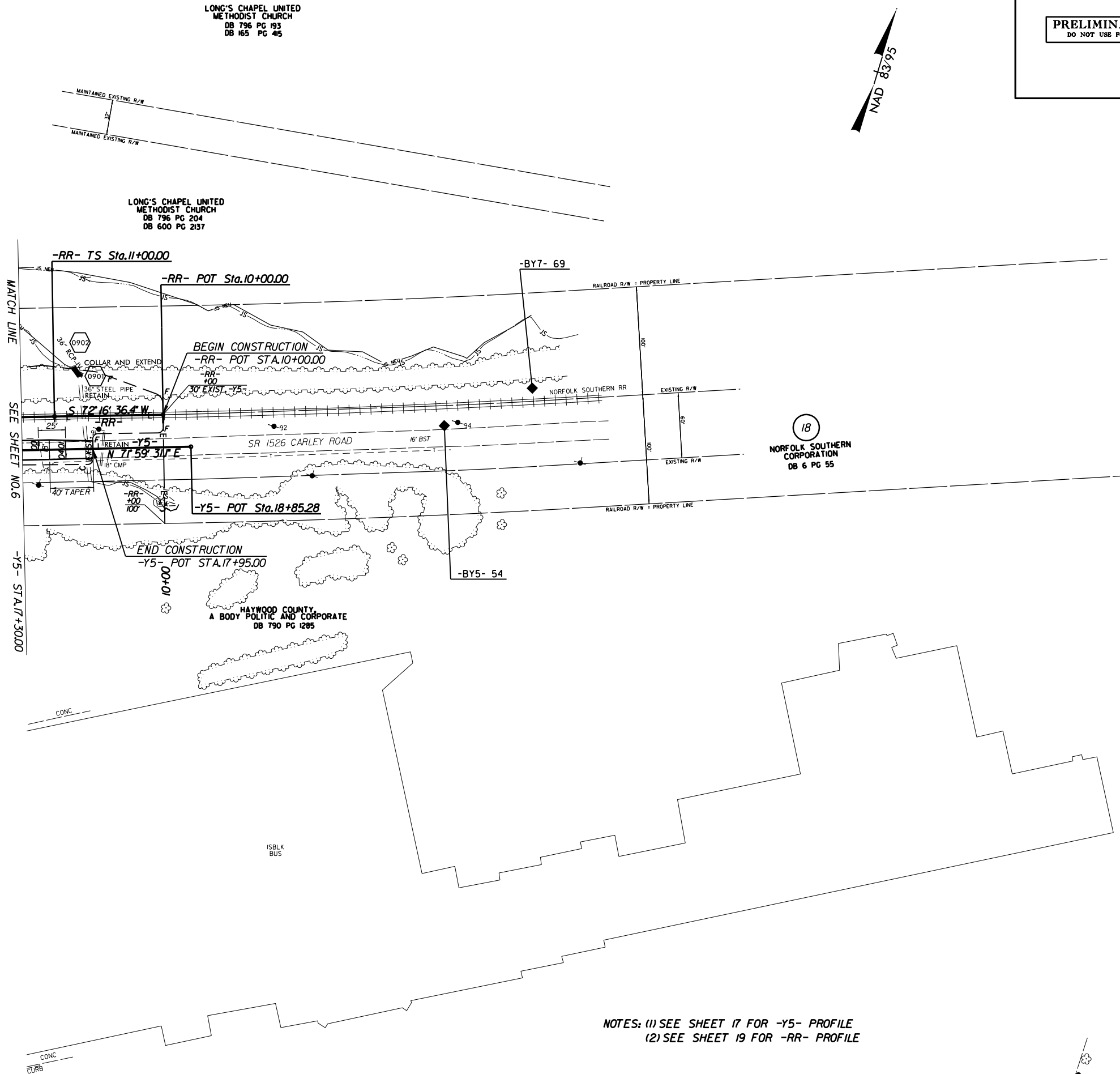
WILLIAM HOWARD LINER
DB 206 PG 224

RONNIE D. LANNING
DB 525 PG 2237

ANNA Z. STEPHENS
DB 198 PG 391
DB 483 PG 1010

MARY REEVES COOLEY
95E PG 104

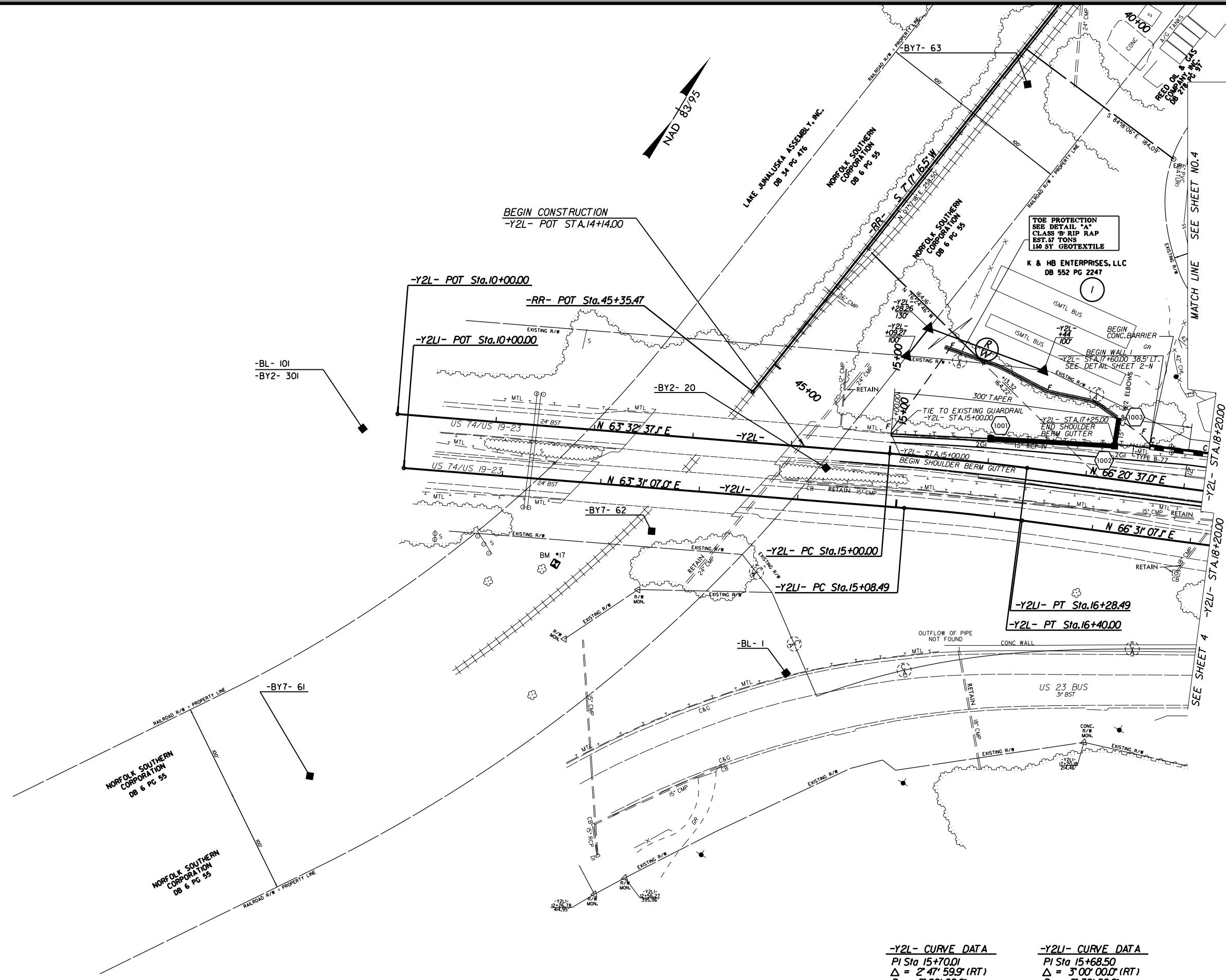
ROBERT M. GOODSEN
DOLLY S. GOODSEN
DB 729 PG 1774



NOTES: (1) SEE SHEET 17 FOR -Y5- PROFILE
(2) SEE SHEET 19 FOR -RR- PROFILE

REVISIONS

REVISIONS



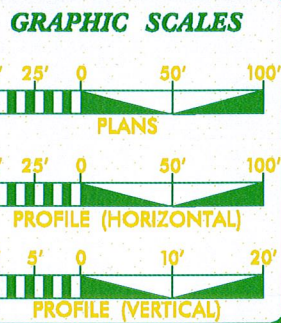
NOTES: (1) SEE SHEET 18 FOR -Y2L- EXISTING PROFILE
(2) SEE SHEET 2-M FOR DRAINAGE DETAILS

-Y2L- CURVE DATA	-Y2LI- CURVE DATA
PI Sta 15+70.01	PI Sta 15+68.50
$\Delta = 2^{\circ} 47' 59.9''$ (RT)	$\Delta = 3^{\circ} 00' 00.0''$ (RT)
D = 2' 00' 00.0"	D = 2' 30' 00.0"
L = 140.00'	L = 120.00'
T = 70.01'	T = 60.01'
R = 2,864.79'	R = 2,291.83'

09-AUG-2013 14:41
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11-DEC-2013 14:45
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CONTRACT: C203393



DESIGN DATA
 ADT 2014 = 25,500
 ADT 2034 = 28,650
 K = 10 %
 D = 60 %
 T = 5 % *
 V = 35 MPH
 FUNC. CLASS. = COLLECTOR
 * TTST 2 % DUAL 3 %
 STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-4047 = 0.777 MI.

TOTAL LENGTH OF TIP PROJECT R-4047 = 0.777 MI.

Prepared In The Office of: DIVISION OF HIGHWAYS 1000 Birch Ridge Dr. Raleigh, NC 27610	
2012 STANDARD SPECIFICATIONS	_____ REKHA PATEL, P.E. PROJECT ENGINEER
RIGHT OF WAY DATE: _____ APRIL 12, 2011	_____ MICHAEL W. LITTLE, PROJECT DESIGN ENGINEER
LETTING DATE: _____ APRIL 15, 2014	

HYDRAULICS ENGINEER

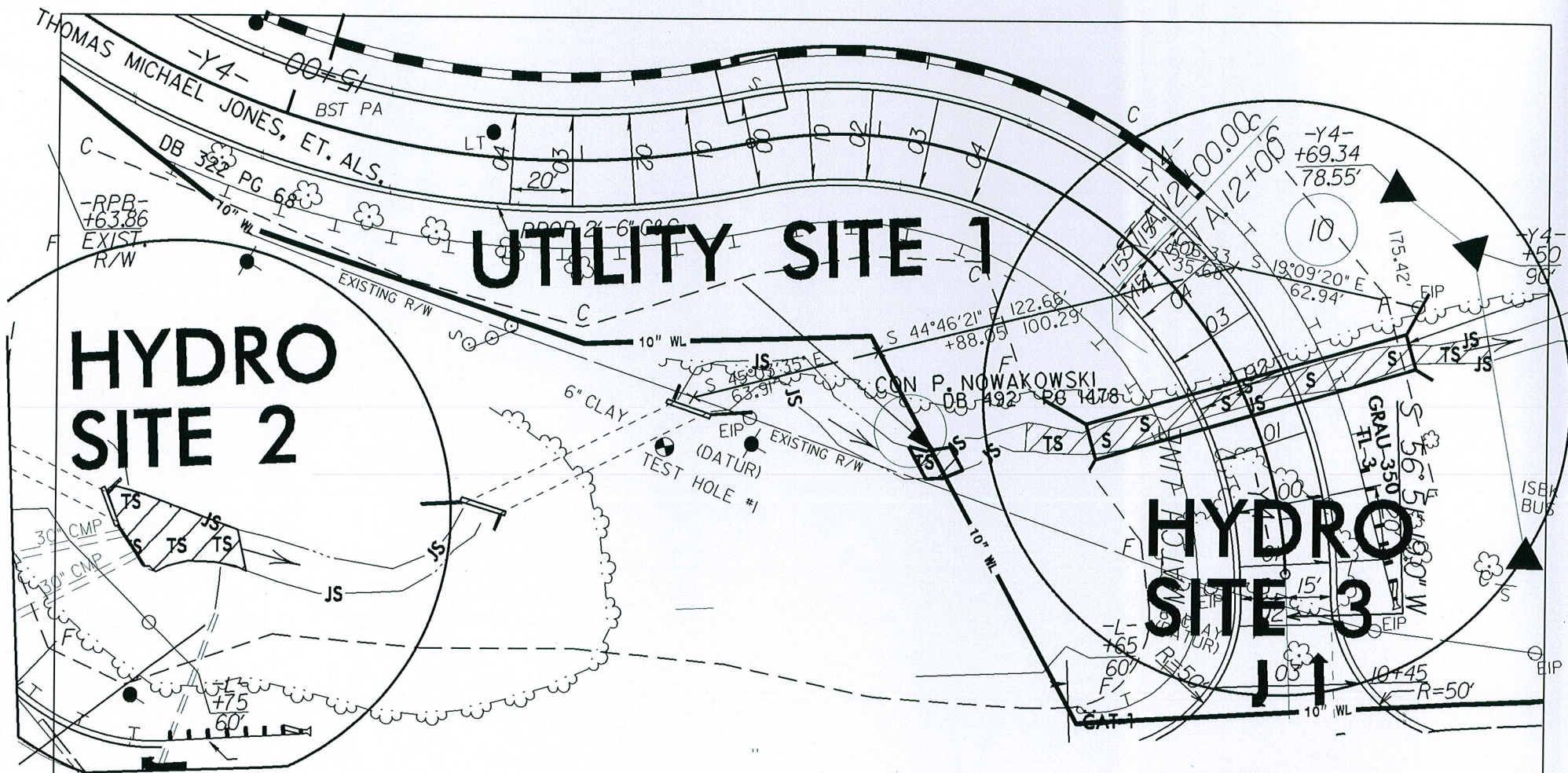
SIGNATURE: F.B.

**ROADWAY DESIGN
ENGINEER**

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SIGNATURE: F.B.





PLAN VIEW

NCDOT
DIVISION OF HIGHWAYS
HAYWOOD COUNTY
PROJECT: 34599 (R-4047)

JUNALUSKA DISTRICT
NC 209 FROM US 19-23-74 TO SR 1523

SHEET 3 OF 4 10/16/01

WETLAND PERMIT IMPACT SUMMARY												
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	-L-37+22 LT	10" WATER LINE							<0.01		10'	
2												
3												
4												
5												
6												
7												
TOTALS:									<0.01		10'	

Note :

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
HAYWOOD COUNTY
TIP PROJECT (R-4047)

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD):

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:
Jeff Hemphill NES, NCDOT, 1598 Mail Service Center, Raleigh, NC
27699-1598

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: CESAW-RG-

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

TIP: R-4047 Description: The North Carolina Department of Transportation (NCDOT) proposes interchange improvements including road widening, realignment of railroad, new railroad bridge, retaining walls ramp and loop realignment at US 19/23/74 and NC 209.

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

State: NC County/parish/borough: Haywood City: Lake Junaluska

Center coordinates of site (lat/long in degree decimal format):

Lat. 35.5231°N, Long. -82.9585° W

Universal Transverse Mercator:

Name of nearest waterbody: Richland Creek

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

Non-wetland waters: 2,881 linear feet: width (ft) and/or acres.

Cowardin Class: Riverine

Stream Flow: Perennial

Wetlands: 0.02 acres.

Cowardin Class: Forested

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

Tidal: N/A

Non-Tidal: N/A

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

☐ Office (Desk) Determination Date:

☒ Field Determination Date(s): April 19, 2011

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:

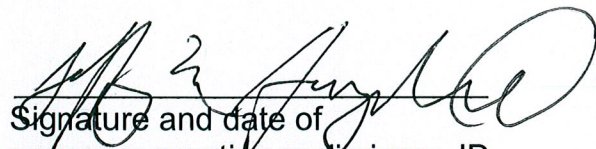
SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply

- 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: 1:24000;
- ☐ USDA Natural Resources Conservation Service Soil Survey Citation:
- ☐ 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):

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.

Signature and date of
Regulatory Project Manager
(REQUIRED)



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

