



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

August 31, 2009

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

ATTN: Mr. Steve Lund
NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permit 14 and Section 401 Water Quality Certification** for the proposed intersection realignment of SR 2804 (Reedy Creek Road) and SR 2805 (Harrisburg Road) in Mecklenburg County, State Project No. 9.8109822; Division 10; TIP No. U-4401, \$240.00 Debit Work Order WBS Element 36771.1.2.

Dear Sir:

The North Carolina Department of Transportation (NCDOT) proposes to realign the intersection of SR 2804 (Reedy Creek Road) and SR 2805 (Harrisburg Road). There will be 67 linear feet of permanent stream impacts and 12 linear feet of temporary stream impacts on this project.

Please see enclosed copies of the Pre-Construction Notification (PCN), Jurisdictional Determination (JD), permit drawings, stormwater management plan, design plans and Natural Resources Technical Report (NRTR) for the above-referenced project. The State Minimum Criteria (SMC) was completed in October 2004 and was distributed shortly thereafter. Additional copies are available upon request.

This project calls for a letting date of March 20, 2012 and a review date of January 31, 2012, however the Let date may advance as additional funding becomes available.

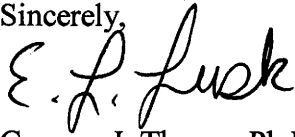
MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

TELEPHONE: 919-715-1334
FAX: 919-715-5501
WEBSITE: WWW.NCDOT.ORG

LOCATION:
4701 ATLANTIC AVENUE
SUITE 116
RALEIGH NC 27604

A copy of this permit application will be posted on the NCDOT Website at: <http://www.ncdot.org/doh/preconstruct/pe/>. If you have any questions or need additional information, please e-mail Erin Cheely at ekcheely@ncdot.gov.

Sincerely,



Gregory J. Thorpe, Ph.D.

Environmental Management Director, PDEA

W/attachment:

Mr. Brian Wrenn, NCDWQ (5 Copies)

Ms. Marella Buncick, USFWS

Ms. Marla Chambers, NCWRC

W/o attachment (see website for attachments):

Dr. David Chang, P.E., Hydraulics

Mr. Greg Perfetti, P.E., Structure Design

Mr. Victor Barbour, P.E., Project Services Unit

Mr. Mark Staley, Roadside Environmental

Mr. Barry Moose, P.E., Division Engineer

Mr. Larry Thompson, DEO

Mr. Jay Bennett, P.E., Roadway Design

Mr. Majed Alghandour, P. E., Programming and TIP

Mr. Art McMillan, P.E., Highway Design

Mr. Scott McLendon, USACE, Wilmington

Ms. Michele James, PDEA Project Planning Engineer



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: | Intersection realignment of SR 2804 (Reedy Creek Rd.) and SR 2805 (Harrisburg Rd.) |
| 2b. County: | Mecklenburg |
| 2c. Nearest municipality / town: | Charlotte |
| 2d. Subdivision name: | <i>not applicable</i> |
| 2e. NCDOT only, T.I.P. or state project no.: | U-4401 |

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) 431-6697 |
| 3g. Fax no.: | (919) 431-2002 |
| 3h. Email address: | ekcheely@ncdot.gov |

| | |
|---|---|
| 4. Applicant Information (if different from owner) | |
| 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: | |
| 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: 35.25489 (DD.DDDDDD) Longitude: - 80.65428 (-DD.DDDDDD) |
| 1c. Property size: | 140 acres |
| 2. Surface Waters | |
| 2a. Name of nearest body of water (stream, river, etc.) to proposed project: | McKee Creek (HUC 03040105) |
| 2b. Water Quality Classification of nearest receiving water: | C |
| 2c. River basin: | Yadkin-Pee Dee |
| 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: The land use in the vicinity is approximately 90% heavily developed or disturbed land (primarily impervious surfaces with maintained roadsides and residential areas) and 10% forest land (mixed hardwood and mixed pine-hardwood forest). | |
| 3b. List the total estimated acreage of all existing wetlands on the property: 0 acres | |
| 3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 185 linear feet | |
| 3d. Explain the purpose of the proposed project: The proposed realignment is needed to reduce the potential for accidents between the I-485 Interchange ramps and the current intersection of SR 2804 with SR 2805 | |
| 3e. Describe the overall project in detail, including the type of equipment to be used: The project involves realigning the intersection of SR 2804 (Reedy Creek Rd.) and SR 2805 (Harrisburg Rd.) further away from the existing I-485 interchange. 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: Preliminary JD issued 1/31/05, expired 1/31/07 | <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): Steven Lund | Agency/Consultant Company: Environmental Services, Inc. Other: |
| 4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. January 31, 2005 | |
| 5. Project History | |
| 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. | |

| | |
|--------------------------------|---|
| 6. Future Project Plans | |
| 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 | |
| 2g. Total wetland impacts | | | | | 0 |

2h. Comments: No wetlands within project area

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 type="checkbox"/> T | Culvert Extension | UT to McKee Creek | <input type="checkbox"/> PER <input checked="" type="checkbox"/> INT | <input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ | 2.5 | 67 |
| Site 1 <input type="checkbox"/> P <input checked="" type="checkbox"/> T | Culvert Extension | UT to McKee Creek | <input type="checkbox"/> PER <input checked="" type="checkbox"/> INT | <input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ | 2.5 | 12 |
| 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 | | |
| 3h. Total stream and tributary impacts | | | | | | 67 Perm. 12 Temp. |

3i. Comments: The intermittent stream's jurisdictional status begins at the southern end of the permanent impacts depicted on Permit Sheet 5 of 7. The stream is ephemeral upstream of that location. The 12 linear feet of temporary impacts are due to temporary disturbance associated with the extension of the existing culvert and channel outlet protection

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 | | | | |
| 4f. Total open water impacts | | | | 0 Permanent 0 Temporary |

4g. Comments: No open water within project area

5. Pond or Lake Construction

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

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

5g. Comments:

| | | | |
|---|------------------------------|-----------------------------|-----------------------|
| 5h. Is a dam high hazard permit required? | <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"/> Tar-Pamlico <input type="checkbox"/> Other: <input type="checkbox"/> Catawba <input type="checkbox"/> 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 <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 | | |
| 6h. Total buffer impacts | | | | | |
| 6i. Comments: | | | | | |

| | | |
|---|--|----------|
| D. Impact Justification and Mitigation | | |
| 1. Avoidance and Minimization | | |
| 1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project. Impacts to UT to McKee Creek could not be avoided as Reedy Creek Road needed to be realigned to the north of the existing road to be further away from the I-485 interchange. In addition, realignment of the road to the north minimized impacts to residential homes. The outlet of the proposed culvert extension end will align closely with the natural stream bed. The UT flows into McKee Creek about 1,500 linear stream feet downstream of the project area. McKee Creek is on the 2006 303d list for impaired biological integrity due to fecal coliform (standard violation) and sedimentation (historic listing decision). The portions of the project that drain into McKee Creek will be subject to Design Standards in Sensitive Watersheds. Grassed swales will be used along the former location of Y3A (Reedy Creek Road) to aid in pollutant removal through vegetative filtration and infiltration. | | |
| 1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. NCDOT's Best Management Practices will be followed. | | |
| 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: No mitigation is proposed as there are minimal permanent stream impacts (67 linear feet) and there are no HQW, ORW or other protected waters in the project area. Impacts for this project will not cause an adverse effect or significant loss of waters of the United States. | |
| 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? 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.

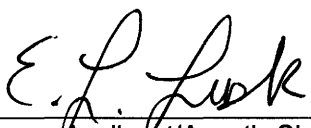
| Zone | 6c. Reason for impact | 6d. Total impact (square feet) | Multiplier | 6e. Required mitigation (square feet) |
|--|--------------------------|--------------------------------------|-------------------|---|
| Zone 1 | | | 3 (2 for Catawba) | |
| Zone 2 | | | 1.5 | |
| 6f. Total buffer mitigation 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).

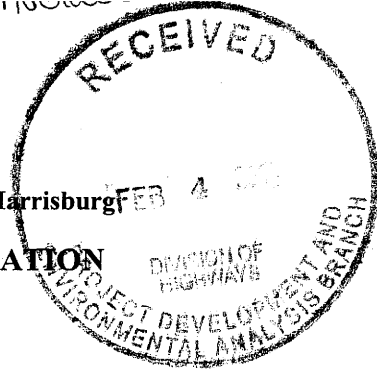
6h. Comments:

| 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? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| 1b. If yes, then is a diffuse flow plan included? If no, explain why. Comments: | <input type="checkbox"/> Yes <input type="checkbox"/> 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? | <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 type="checkbox"/> 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): | <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 |
| 4. DWQ Stormwater Program Review | |
| 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 |
| 5. DWQ 401 Unit Stormwater Review | |
| 5a. Does the Stormwater Management Plan meet the appropriate requirements? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| 5b. Have all of the 401 Unit submittal requirements been met? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

| | |
|--|--|
| F. Supplementary Information | |
| 1. Environmental Documentation (DWQ Requirement) | |
| 1a. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land? | <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 |
| 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)? | <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): | |
| 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? | <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. The new intersection will realign an existing portion Reedy Creek Road and the project area is already fairly heavily developed with residential areas. | |
| 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? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 5b. Have you checked with the USFWS concerning Endangered Species Act impacts? | <input checked="" type="checkbox"/> Yes (Checked the USFWS Website) | <input type="checkbox"/> No |
| 5c. If yes, indicate the USFWS Field Office you have contacted. | <input type="checkbox"/> Raleigh <input checked="" type="checkbox"/> Asheville (Checked the USFWS Website) | |
| 5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? NCDOT field surveys for Michaux's sumac, smooth coneflower and Schweinitz's sunflower were most recently conducted on September 17, 2008. Suitable habitat exists for these species within the project area, but no individuals of any of these species were found ("No Effect"). No habitat exists for the bald eagle or Carolina heelsplitter within the project area. | | |
| 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 coordination with FEMA | | |
| 8c. What source(s) did you use to make the floodplain determination? FEMA Maps | | |
| Dr. Gregory J. Thorpe, Ph D Applicant/Agent's Printed Name |  Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.) | 8-28-09 Date |

U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT



Action Id. 200530446

County: Mecklenburg

U.S.G.S. Quad: Harrisburg

NOTIFICATION OF JURISDICTIONAL DETERMINATION

Property Owner/Agent: Gregory J. Thorpe, Director
Address: Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center, Raleigh, NC 27699-1548
Telephone No.: 919-733-3141

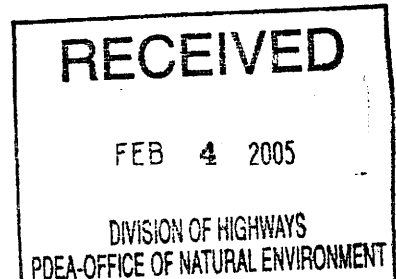
Property description:

Size (acres) 0.5 Nearest Town Charlotte
Nearest Waterway McKee Creek River Basin Rocky
USGS HUC 03040105 Coordinates N 35.256417 W 80.655183

Location description Realignment of SR 2804 (Reedy Creek Road) and SR 2805 (Harrisburg Road), TIP U-4401.

Indicate Which of the Following Apply:

- Based on preliminary information, there may be surface waters on the above described property. We strongly suggest you have this property inspected to determine the extent of Department of the Army (DA) jurisdiction. To be considered final, a jurisdictional determination must be verified by the Corps. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331).
- There are Navigable Waters of the United States within the above described property subject to the permit requirements of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- There are wetlands on the above described property subject to the permit requirements of Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
 - We strongly suggest you have the wetlands on your property delineated. Due to the size of your property and/or our present workload, the Corps may not be able to accomplish this wetland delineation in a timely manner. For a more timely delineation, you may wish to obtain a consultant. To be considered final, any delineation must be verified by the Corps.
 - The wetland on your property have been delineated and the delineation has been verified by the Corps. We strongly suggest you have this delineation surveyed. Upon completion, this survey should be reviewed and verified by the Corps. Once verified, this survey will provide an accurate depiction of all areas subject to CWA jurisdiction on your property which, provided there is no change in the law or our published regulations, may be relied upon for a period not to exceed five years.
 - The wetlands have been delineated and surveyed and are accurately depicted on the plat signed by the Corps Regulatory Official identified below on _____. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- There are no waters of the U.S., to include wetlands, present on the above described property which are subject to the permit requirements of Section 404 of the Clean Water Act (33 USC 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- The property is located in one of the 20 Coastal Counties subject to regulation under the Coastal Area Management Act (CAMA). You should contact the Division of Coastal Management in Washington, NC, at (252) 946-6481 to determine their requirements.



Action ID: _____

200530446

Placement of dredged or fill material within waters of the US and/or wetlands without a Department of the Army permit may constitute a violation of Section 301 of the Clean Water Act (33 USC § 1311). If you have any questions regarding this determination and/or the Corps regulatory program, please contact Steven Lund at 828-271-7980.

Basis For Determination: _____.

Remarks: Consultant's report of June 11, 2004 identifies S1, an unnamed, intermittent tributary to McKee Creek in the project area.

Corps Regulatory Official: Steven W. Lund

Date January 31, 2005

Expiration Date January 31, 2007

Corps Regulatory Official (Initial): SWL

FOR OFFICE USE ONLY:

- A plat or sketch of the property and the wetland data form must be attached to the file copy of this form.
- A copy of the "Notification Of Administrative Appeal Options And Process And Request For Appeal" form must be transmitted with the property owner/agent copy of this form.
- If the property contains isolated wetlands/waters, please indicate in "Remarks" section and attach the "Isolated Determination Information Sheet" to the file copy of this form.

Copy Furnished: Ms. Gail Tyner, Environmental Services, Inc., 524 New Hope Road, Raleigh, NC 27610

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

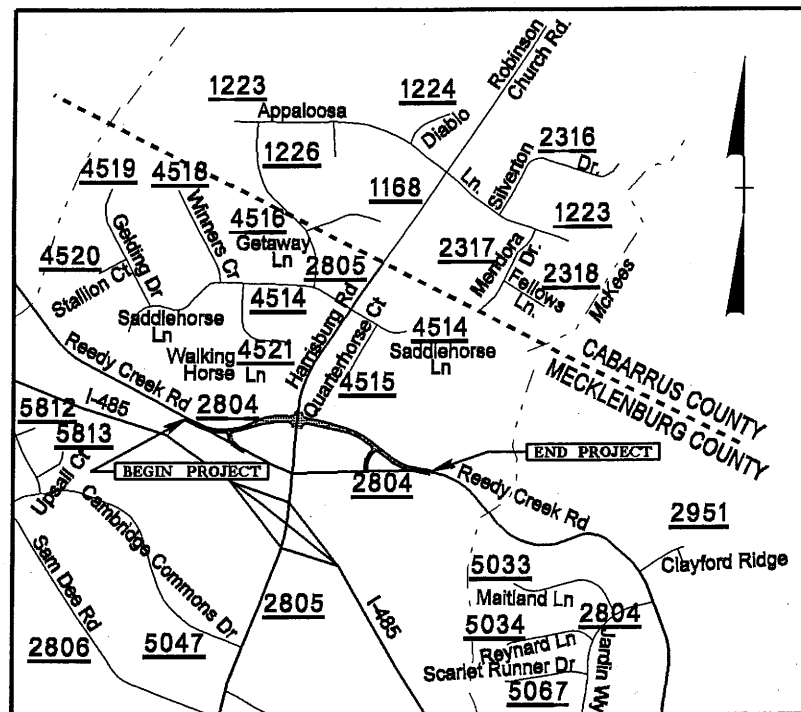
| | | | |
|-----------------|-----------------------------|-------------|--------------|
| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
| N.C. | U-4401 | 1 | |
| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION | |
| 36774.1.2 | | P.E. | |
| 36774.2.1 | | RW, UTIL. | |
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MECKLENBURG COUNTY

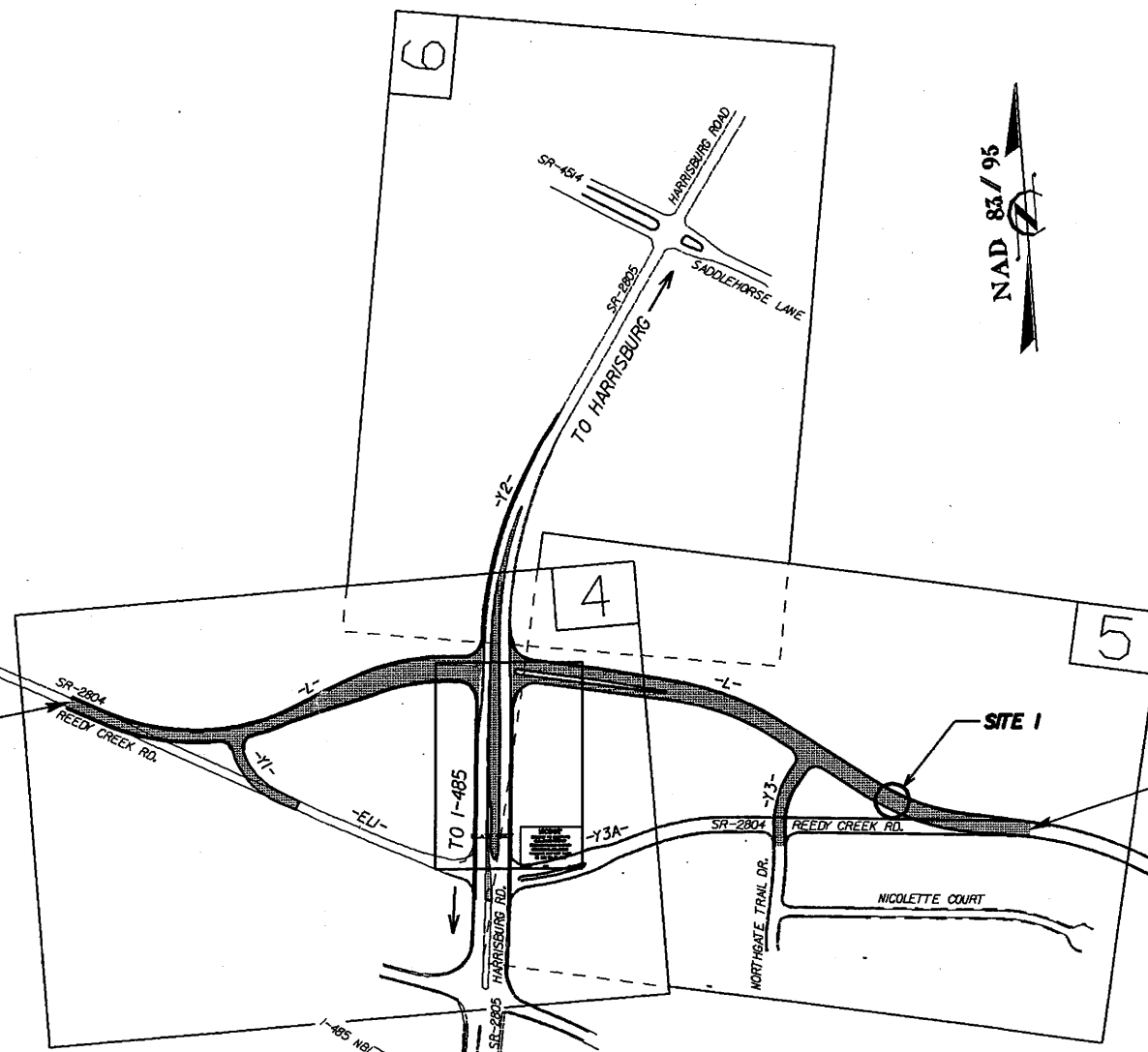
LOCATION: SR 2804 (REEDY CREEK RD.) AND
SR 2805 (HARRISBURG RD.); INTERSECTION
REALIGNMENT

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND SIGNAL
WETLAND/SURFACE WATER IMPACTS

CONTRACT: TIP PROJECT: U-4401



VICINITY MAP



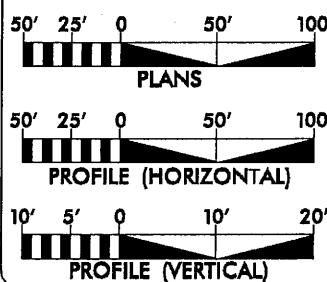
BEGIN TIP PROJECT U-4401
-L- STA. 10+00.00

END TIP PROJECT U-4401
-L- STA. 34+39.97

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

Permit Drawing
Sheet 1 of 7

GRAPHIC SCALES



DESIGN DATA

ADT 2007 = 12,500
ADT 2030 = 21,400
DHV = 12 %
D = 55 %
T = 3 % *
V = 40 MPH
FUNC. CLASS. = LOCAL
* TTST 1% DUAL 2%

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-4401 = 0.462 MI.
TOTAL LENGTH OF TIP PROJECT U-4401 = 0.462 MI.

Prepared in the Office of:
DIVISION OF HIGHWAYS

1000 Birch Ridge Dr.
Raleigh, NC 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NOT AUTHORIZED

TENTATIVE LET DATE:
JANUARY 19, 2010

ROGER D. THOMAS, 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

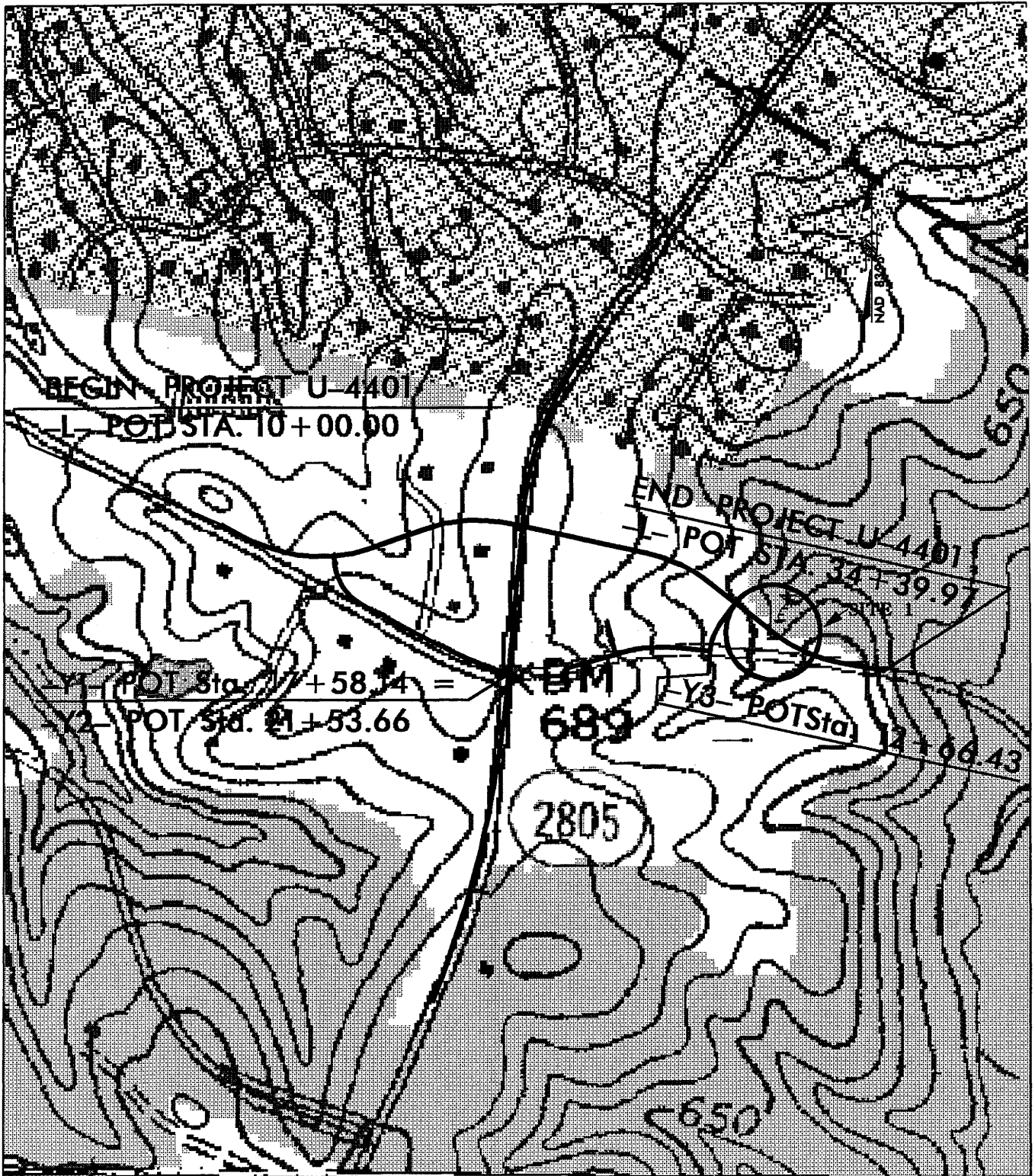
SIGNATURE: _____ P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA



STATE HIGHWAY DESIGN ENGINEER

27-MAY-2009 16:04
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PLAN VIEW

1" = 2400 FT.

Permit Drawing
 Sheet 2 of 7

NCDOT

DIVISION OF HIGHWAYS
 MECKLENBURG COUNTY
 PROJECT: 36774.1.1 (U-4401)
 SR 2804 (REEDY CREEK RD.)
 and SR 2805 (HARRISBURG RD.)
 INTERSECTION REALIGNMENT
 SURFACE WATER IMPACTS

PROPERTY OWNERS
NAMES AND ADDRESSES
WETLAND/SURFACE WATER IMPACTS

| PARCEL NO. | NAMES | ADDRESSES |
|------------|-----------------|---|
| 6 | JAY M. BONAKDAR | 10724 OLD WAYSIDE RD CHARLOTTE, NC 28277 |

Permit Drawing
Sheet 3 of 7

NCDOT
DIVISION OF HIGHWAYS
MECKLENBURG COUNTY
PROJECT: 36774.1.1 (U-4401)
SR 2804 (REEDY CREEK RD.)
and SR 2805 (HARRISBURG RD.)
INTERSECTION REALIGNMENT

SHEET OF 05 / 26 / 09

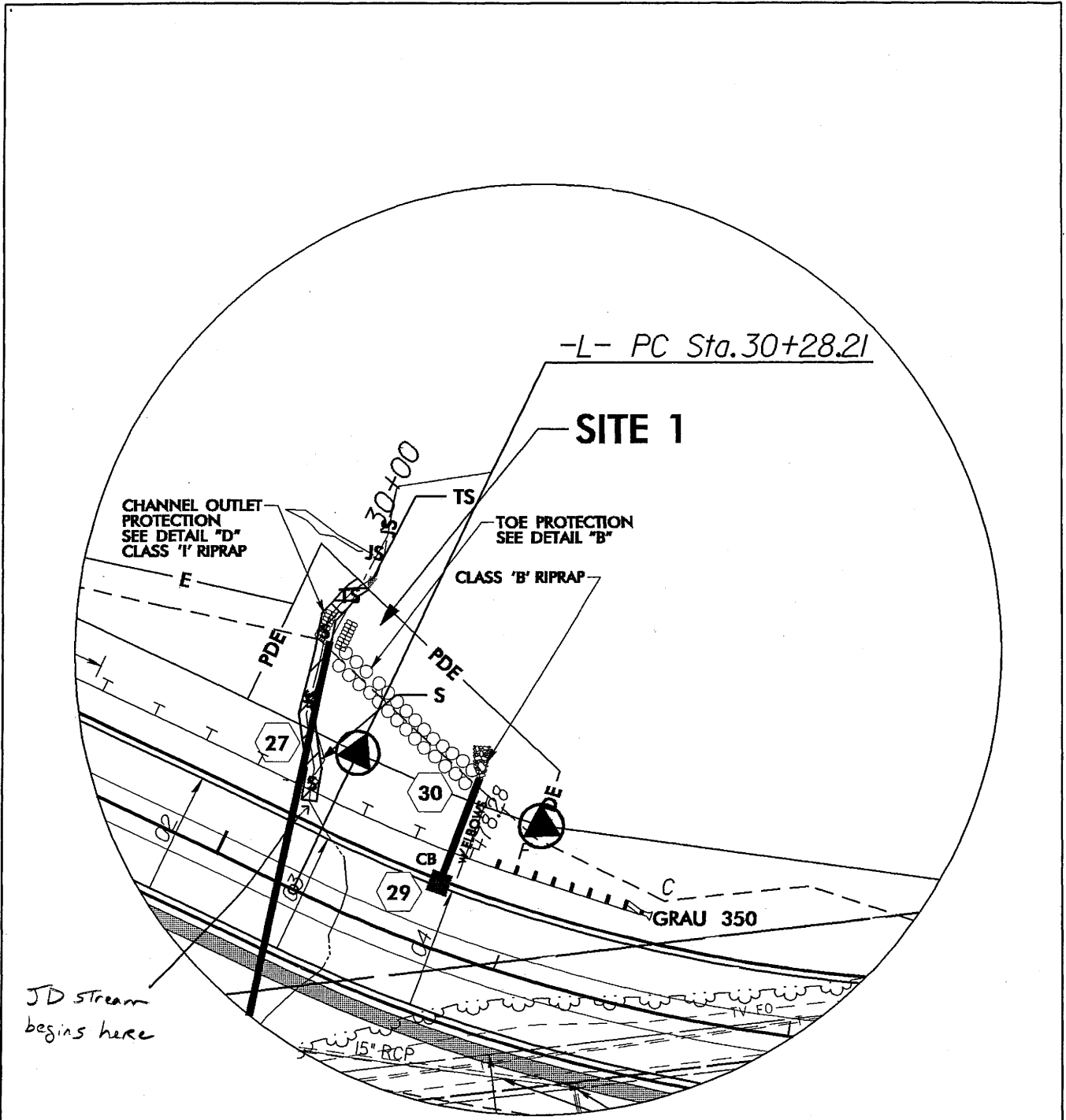
WETLAND PERMIT IMPACT SUMMARY

| 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- Sta. 30+00- 30+23 Lt. | 36" CSP | | | | | | | 0.01 | <0.01 | 67 | 12 | |
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| TOTALS: | | | | | | | | | 0.01 | 0.00 | 67 | 12 | |

Permit Drawing
Sheet 4 of 7

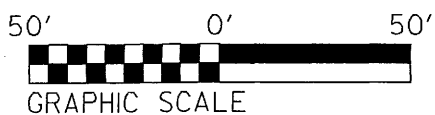
NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

MECKLENBURG COUNTY
WBS - 36774.1.1 (U-4401)



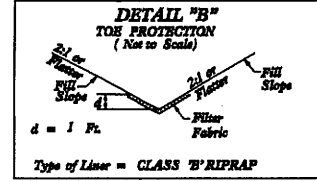
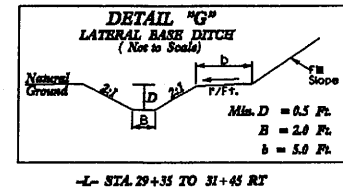
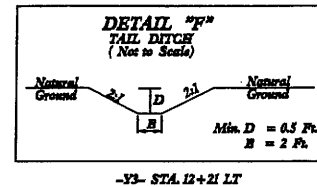
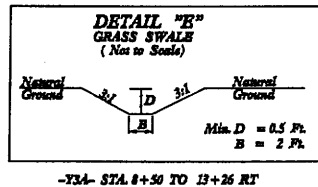
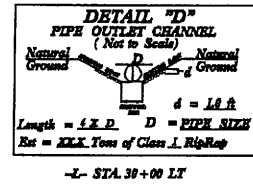
Permit Drawing
 Sheet 5 of 7

PLAN VIEW
 ENLARGEMENT, SITE 1



NCDOT
 DIVISION OF HIGHWAYS
 MECKLENBURG COUNTY
 PROJECT: 36774.1.1 (U-4401)
 SR 2804 (REEDY CREEK RD.)
 and SR 2805 (HARRISBURG RD.)
 INTERSECTION REALIGNMENT
 WETLAND/SURFACE WATER IMPACTS
 SHEET OF 05/26/09

| | |
|-----------------------------|---------------------|
| PROJECT REFERENCE NO. | SHEET NO. |
| U-4401 | 5 |
| RW SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
| PRELIMINARY PLANS | |
| DO NOT USE FOR CONSTRUCTION | |

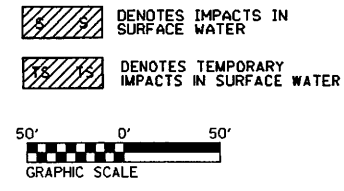


-L- CURVE DATA
 PI Sta 26+35.16
 $\Delta = 25^\circ 30' 23.0"$ (RT)
 $D = 10^\circ 25' 02.7"$
 $L = 244.8'$
 $T = 124.48'$
 $R = 550.00'$
 SE = SEE PLANS

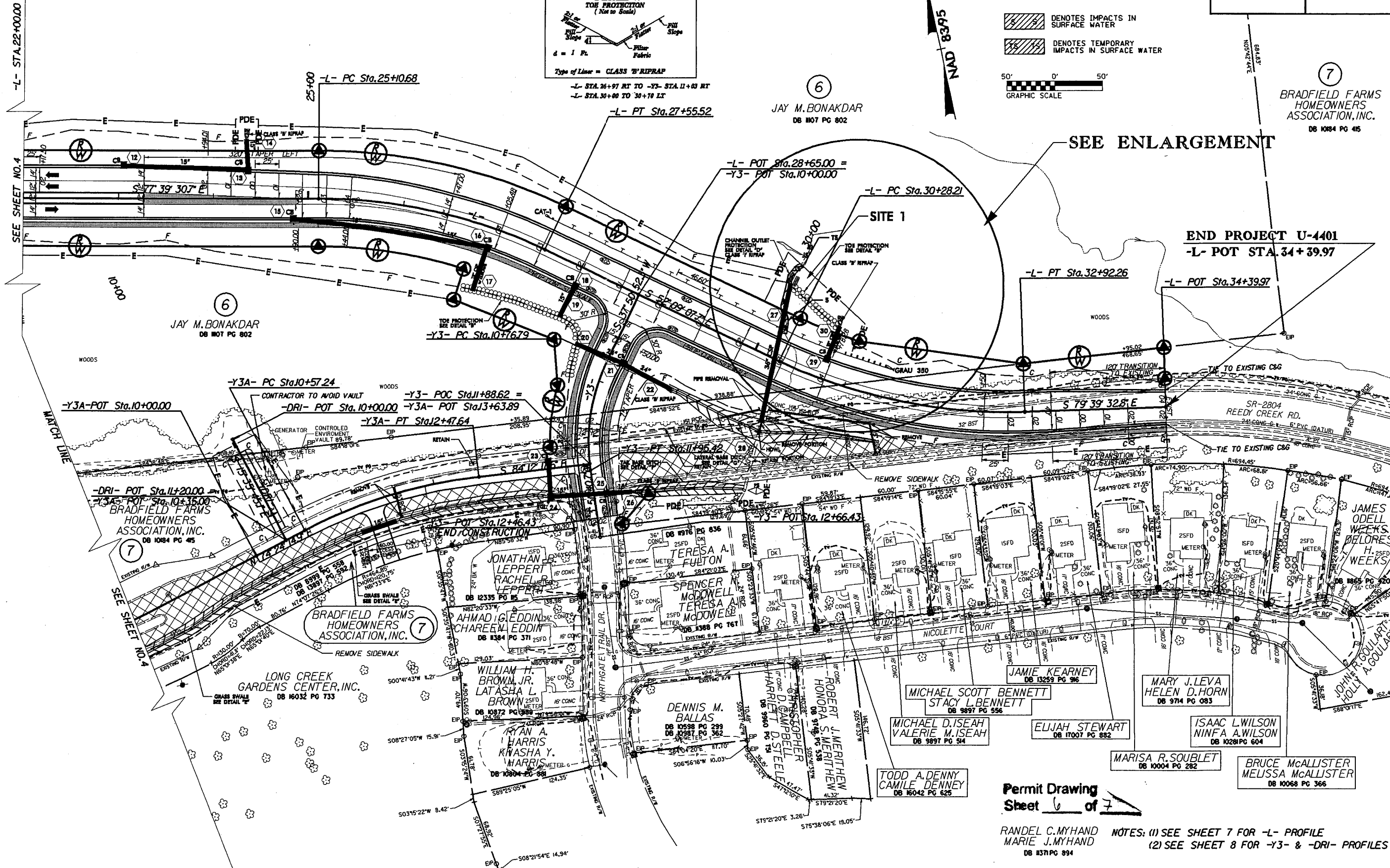
-L- CURVE DATA
 PI Sta 31+62.83
 $\Delta = 27^\circ 30' 25.1"$ (LT)
 $D = 10^\circ 25' 02.7"$
 $L = 264.05'$
 $T = 134.62'$
 $R = 550.00'$
 SE = SEE PLANS

-Y3- CURVE DATA
 PI Sta 11+37.91
 $\Delta = 33^\circ 59' 11.7"$ (LT)
 $D = 28^\circ 38' 52.4"$
 $L = 118.64'$
 $T = 61.12'$
 $R = 200.00'$
 SE = SEE PLANS

-Y3A- CURVE DATA
 PI Sta 11+53.56
 $\Delta = 21^\circ 23' 27.6"$ (RT)
 $D = 11^\circ 14' 04.1"$
 $L = 190.4'$
 $T = 96.32'$
 $R = 510.00'$
 SE = EXISTING



BRADFIELD FARMS HOMEOWNERS ASSOCIATION, INC.
 DB 1084 PG 45



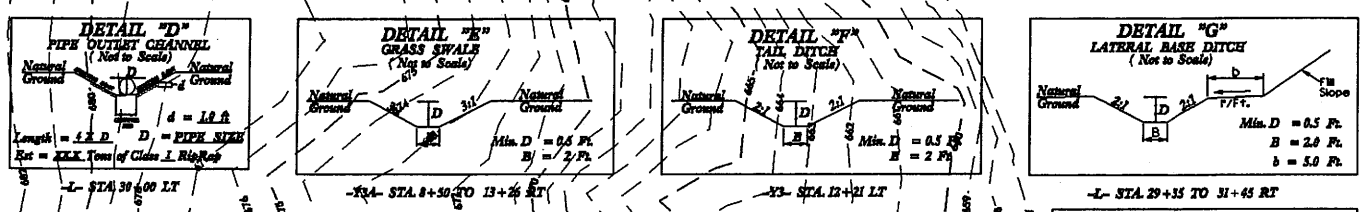
REVISIONS
 R/W REV. - PARCEL 7 - REDUCE PDE TO AVOID SIGN - MNL - 5/30/08

Permit Drawing
 Sheet 6 of 7

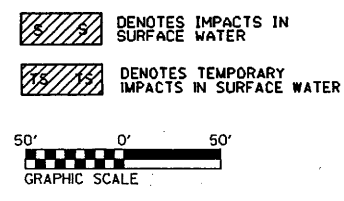
NOTES: (1) SEE SHEET 7 FOR -L- PROFILE
 (2) SEE SHEET 8 FOR -Y3- & -DRI- PROFILES

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| | |
|---|---------------------|
| PROJECT REFERENCE NO. U-4401 | SHEET NO. 5 |
| R/W SHEET NO. ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
| PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION | |

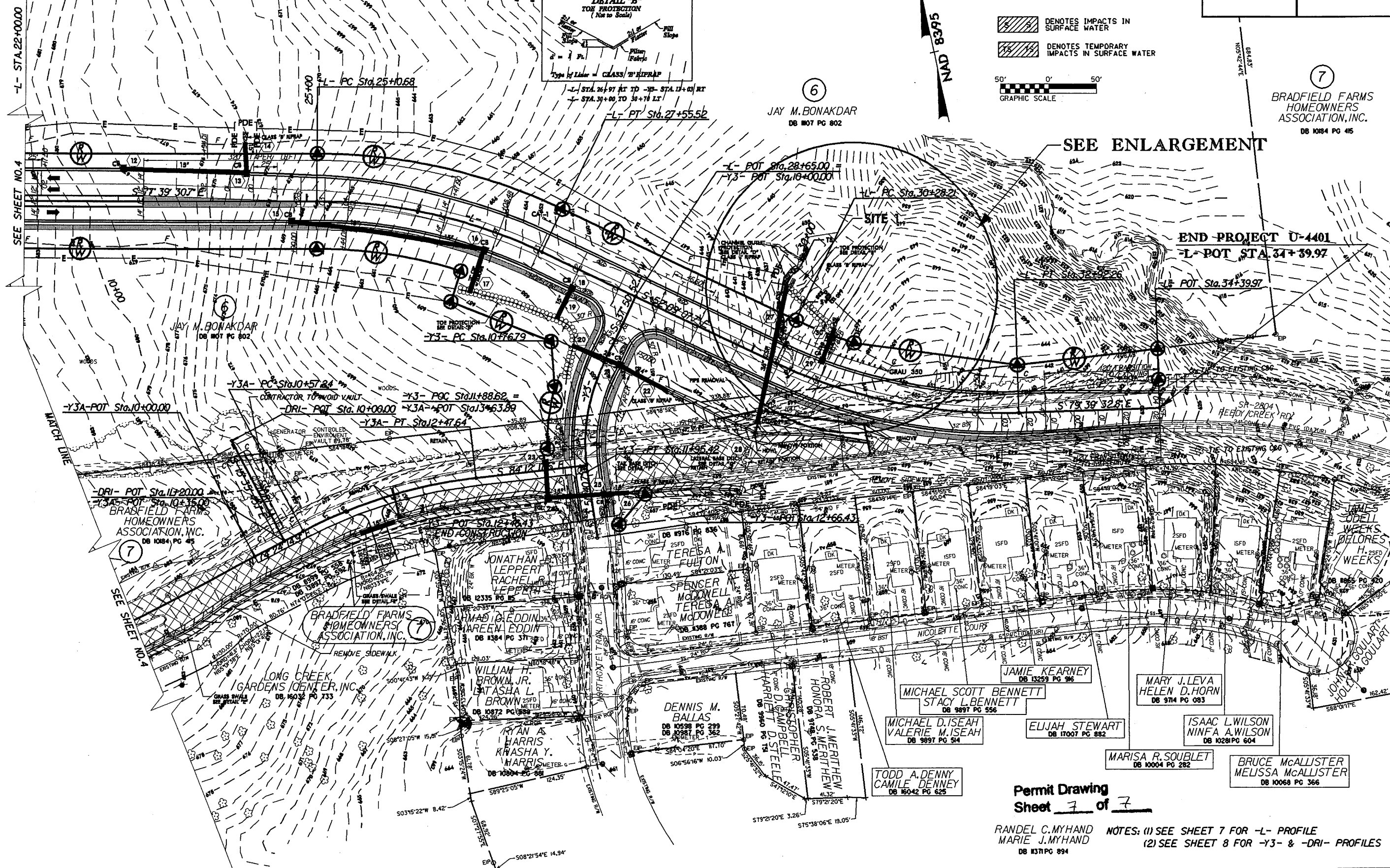


| | | | |
|--|--|---|--|
| -L- CURVE DATA PI Sta 26+35.16 $\Delta = 25^{\circ} 30' 23.0" (RT)$ $D = 10' 25" 02.7"$ $L = 244.84'$ $T = 124.48'$ $R = 550.00'$ SE = SEE PLANS | -L- CURVE DATA PI Sta 31+62.83 $\Delta = 27^{\circ} 30' 25.1" (LT)$ $D = 10' 25" 02.7"$ $L = 264.05'$ $T = 134.62'$ $R = 550.00'$ SE = SEE PLANS | -Y3- CURVE DATA PI Sta 11+37.91 $\Delta = 33^{\circ} 59' 11.7" (LT)$ $D = 28' 38" 52.4"$ $L = 118.64'$ $T = 61.12'$ $R = 2000.00'$ SE = SEE PLANS | -Y3A- CURVE DATA PI Sta 11+53.56 $\Delta = 21^{\circ} 23' 27.6" (RT)$ $D = 11' 14" 04.1"$ $L = 190.41'$ $T = 96.32'$ $R = 510.00'$ SE = EXISTING |
|--|--|---|--|



NAD 83 995

⑦
BRADFIELD FARMS
HOMEOWNERS
ASSOCIATION, INC.
DB 1084 PG 415



REVISIONS
R/W REV. - PARCEL 7 - REDUCE PDE TO AVOID SIGN - MWL - 5/30/08

Permit Drawing
Sheet 7 of 7

NOTES: (1) SEE SHEET 7 FOR -L- PROFILE
(2) SEE SHEET 8 FOR -Y3- & -DRI- PROFILES

27 MAY 2009 16:05
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mtd

STORMWATER MANAGEMENT PLAN

U-4401, WBS No.: 367741.1

Date:07/07/09

Mecklenburg County

Hydraulics Project Manager: Andrew Nottingham, PE

ROADWAY DESCRIPTION

The project involves realignment of SR 2804 (Reedy Creek Road) & SR 2805 (Harrisburg Road). The project's purpose is to realign the existing intersection away from the new I-485 interchange, which will reduce the accident potential conflict with the interchange and the intersection. Curb and gutter is used along the relocated portion of Reedy Creek Road that is currently a curb and gutter roadway. The remainder of the project is a shoulder section with grass slopes and ditches.

ENVIRONMENTAL DESCRIPTION AND IMPACTS

The project is located in the Yadkin River Basin. A small jurisdictional stream is the only impacted feature in this realignment. The stream drains to McKee Creek, which is classified as class C and is on the 2006 303d list for impaired biological integrity due to sedimentation. Stream impacts are due to the realignment of the intersection and will consist of removing a portion of the existing pipe and installing a 36" CSP on new location.

BEST MANAGEMENT PRACTICES

Best Management Practices (BMPs) and measures will be used on the project to reduce storm water impacts to the receiving streams due to erosion and runoff. Grassed swales were used along -Y3A- to aid in pollutant removal through vegetative filtration and infiltration. Drainage systems were designed to outlet away from surface waters to allow time for infiltration in ditches or natural areas. Rip rap is used in ditches and at pipe outlets where warranted to prevent erosion and sedimentation.

Grass swale locations:

- -Y3A- Station 8+50 to -Y3A- Station 13+26 Rt. (length = 416 feet.)

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

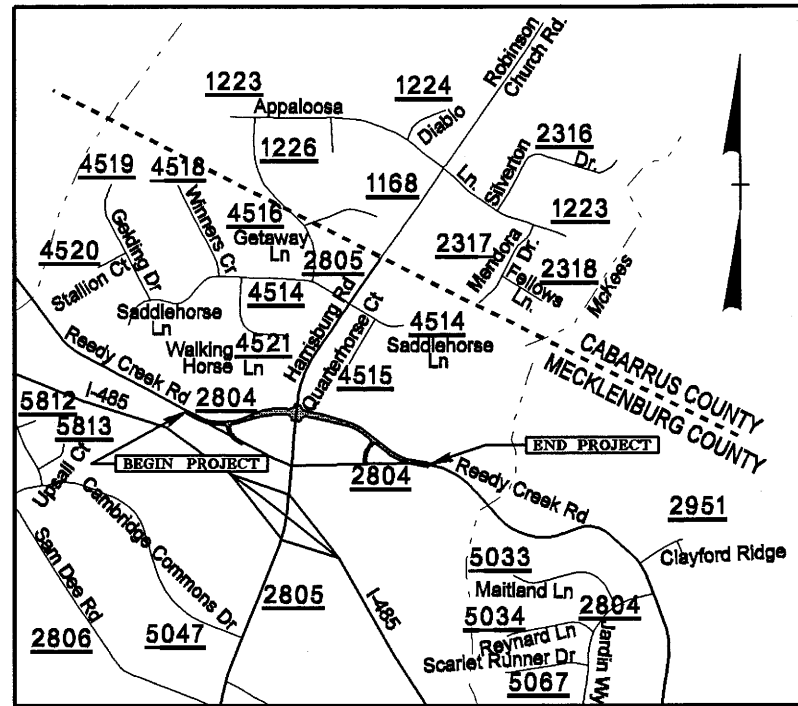
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MECKLENBURG COUNTY

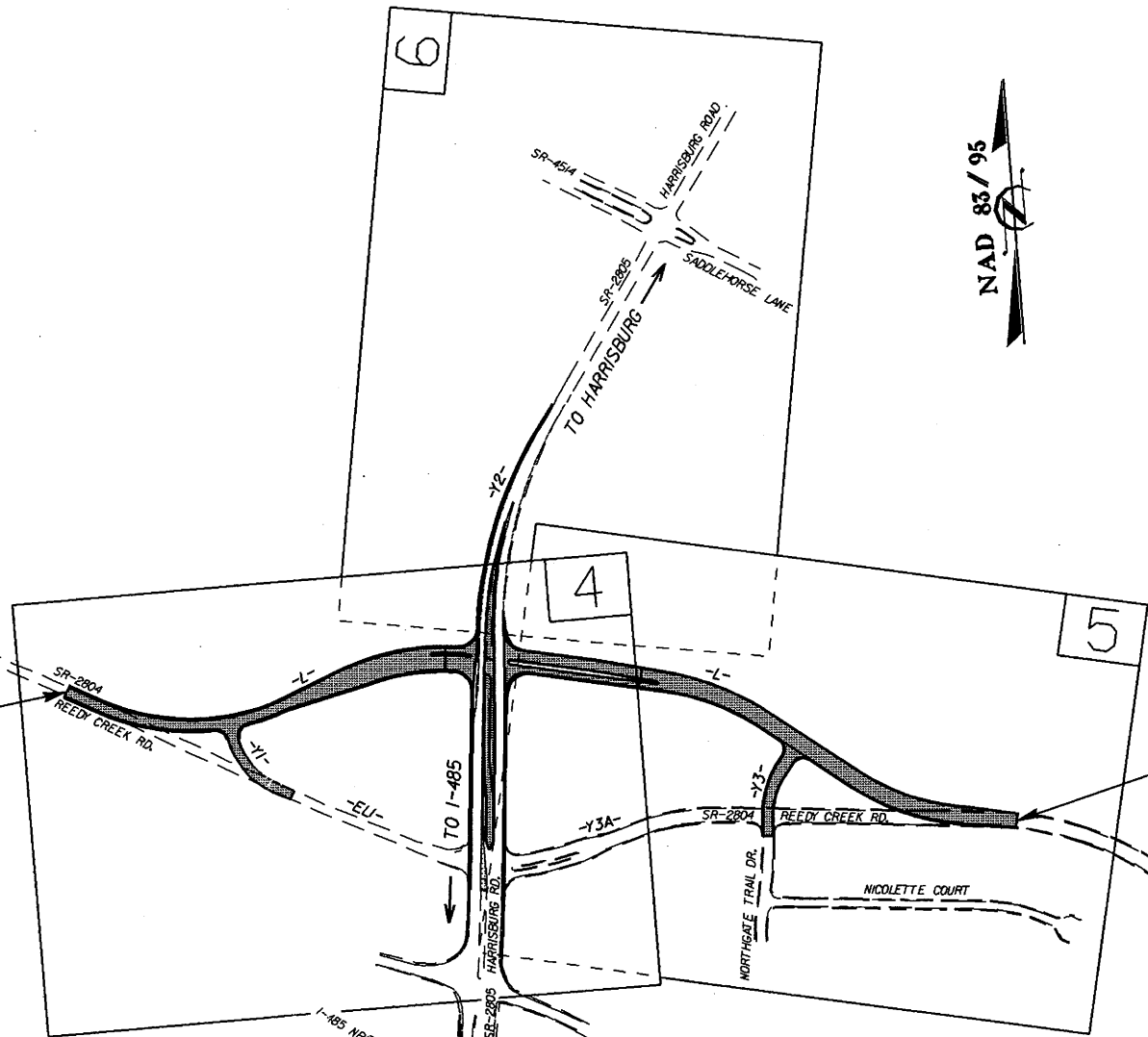
**LOCATION: SR 2804 (REEDY CREEK RD.) AND
SR 2805 (HARRISBURG RD.); INTERSECTION
REALIGNMENT
TYPE OF WORK: GRADING, PAVING, DRAINAGE AND SIGNAL**

| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|-----------------|-----------------------------|-------------|--------------|
| N.C. | U-4401 | 1 | |
| STATE PROJ. NO. | P.A. PROJ. NO. | DESCRIPTION | |
| 36774.1.2 | | P.E. | |
| 36774.2.1 | | RW, UTIL. | |
| | | | |
| | | | |
| | | | |

TIP PROJECT: U-4401



VICINITY MAP

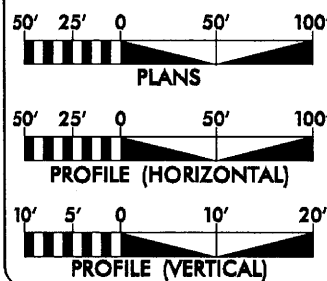


BEGIN TIP PROJECT U-4401
-L- STA. 10+00.00

END TIP PROJECT U-4401
-L- STA. 34+39.97

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

GRAPHIC SCALES



DESIGN DATA

ADT 2007 = 12,500
ADT 2030 = 21,400
DHV = 12 %
D = 55 %
T = 3 % *
V = 40 MPH
FUNC. CLASS. = LOCAL
* TTST 1% DUAL 2%

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-4401 = 0.462 MI.
TOTAL LENGTH OF TIP PROJECT U-4401 = 0.462 MI.

Prepared in the Office of:
DIVISION OF HIGHWAYS

1000 Birch Ridge Dr.
Raleigh, NC 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JULY 18, 2007

TENTATIVE LET DATE:
JANUARY 19, 2010

ROGER D. THOMAS, P.E.
PROJECT ENGINEER

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

HYDRAULICS ENGINEER

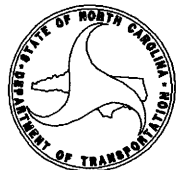
SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SIGNATURE: _____ P.E.

**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

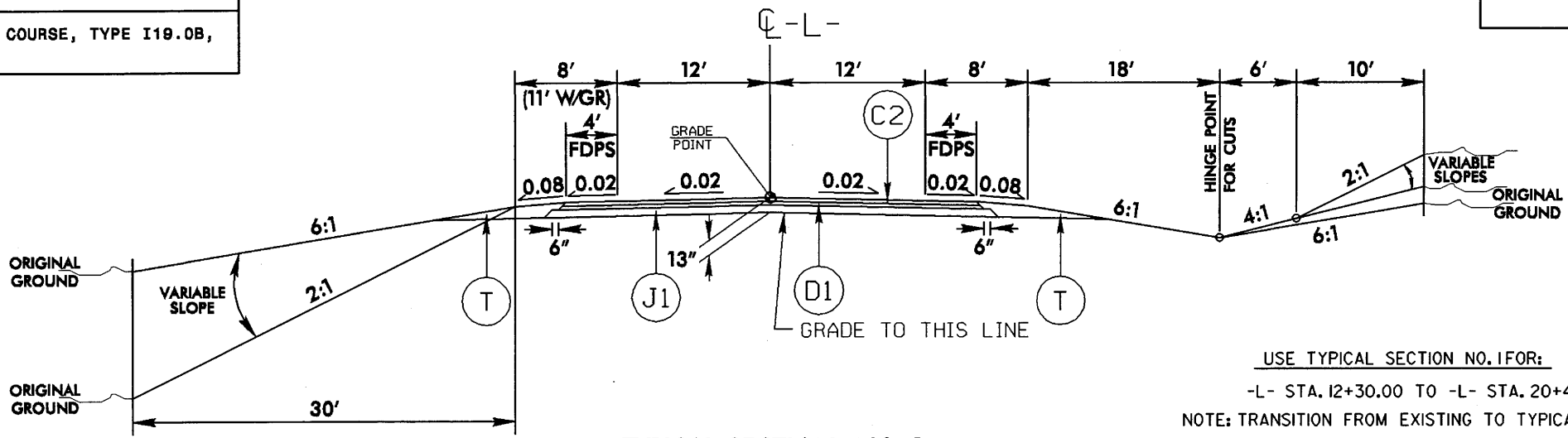


STATE HIGHWAY DESIGN ENGINEER P.E.

CONTRACT:

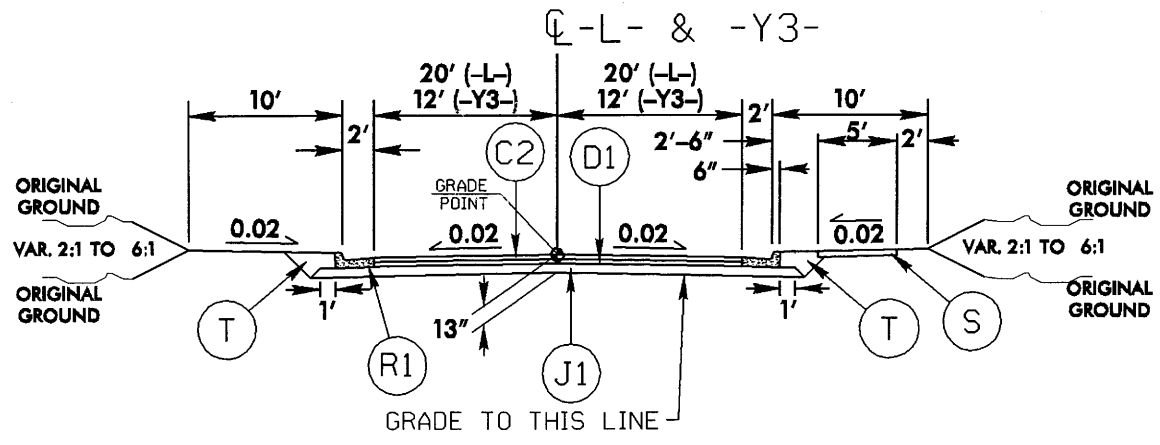
| PAVEMENT SCHEDULE | |
|-------------------|--|
| C1 | PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD. |
| C2 | PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD IN EACH OF TWO LAYERS. |
| D1 | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YARD. |
| J1 | PROP. 6" AGGREGATE BASE COURSE |
| J2 | PROP. 8" AGGREGATE BASE COURSE |
| R1 | 2'-6" CONCRETE CURB AND GUTTER |
| R2 | 5" MONOLITHIC CONCRETE ISLAND (KEYED IN) |
| S | CONCRETE SIDEWALK |
| T | EARTH MATERIAL |
| U | EXISTING PAVEMENT |

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



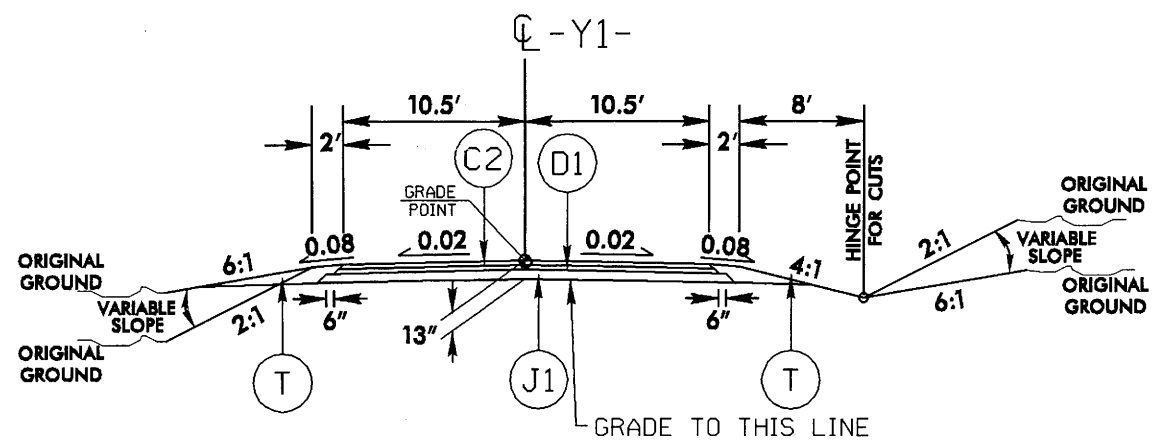
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1 FOR:
 -L- STA. 12+30.00 TO -L- STA. 20+41.24
 NOTE: TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 1
 -L- STA. 10+00.00 TO -L- STA. 12+30.00



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2 FOR:
 -L- STA. 21+09.50 TO -L- STA. 31+65.00
 -Y3- STA. 10+20.00 TO -Y3- STA. 12+00.00
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 -Y3- STA. 12+00.00 TO -Y3- STA. 12+46.43

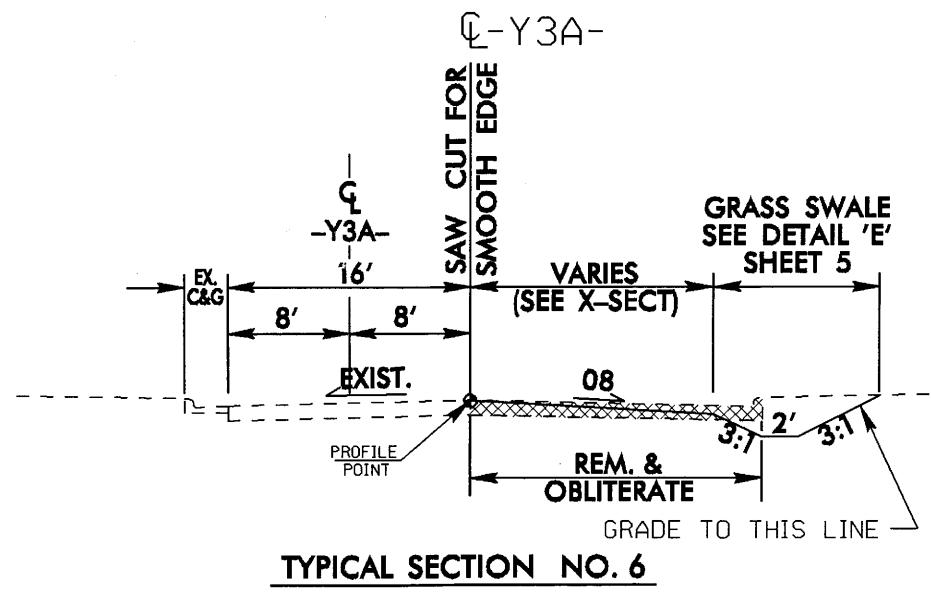
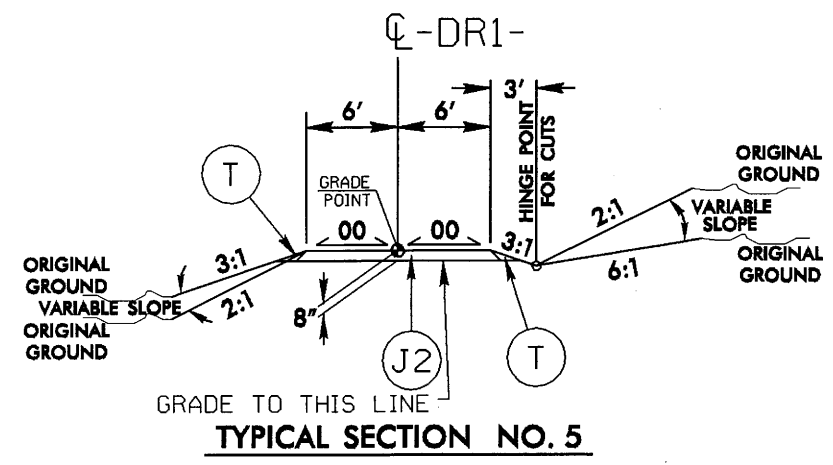
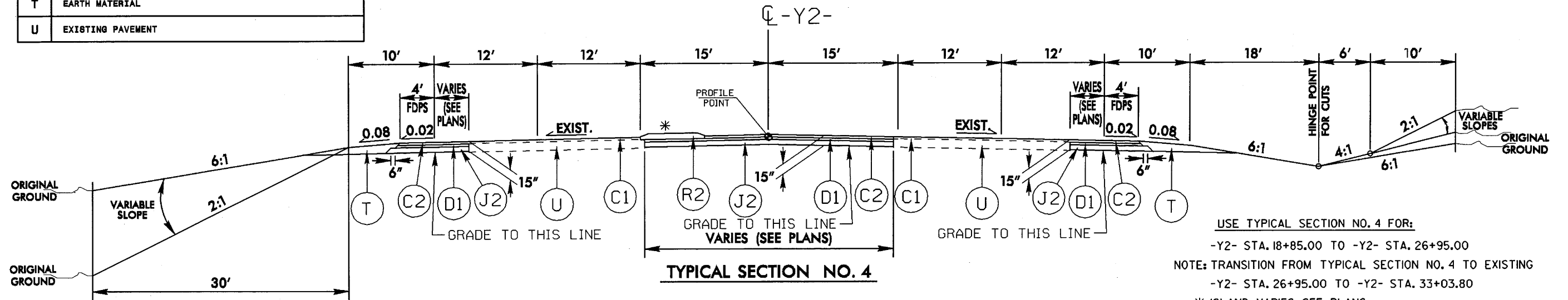


TYPICAL SECTION NO. 3

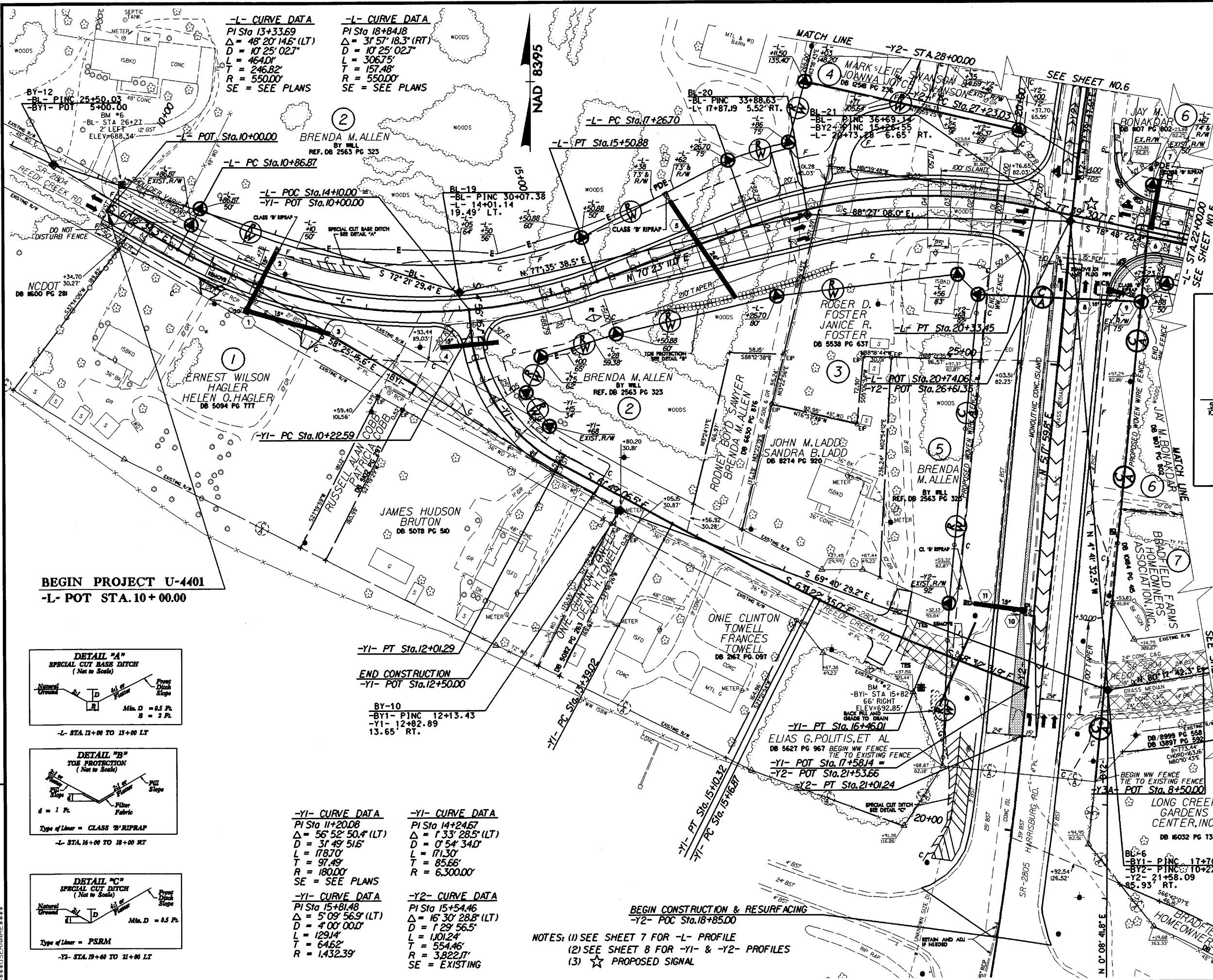
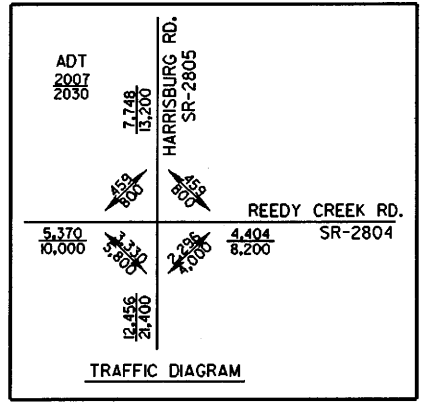
USE TYPICAL SECTION NO. 3 FOR:
 -Y1- STA. 10+12.00 TO -Y1- STA. 11+30.00
 NOTE: TRANSITION FROM TYPICAL SECTION NO. 3 TO EXISTING
 -Y1- STA. 11+30.00 TO -Y1- STA. 12+50.00

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| PAVEMENT SCHEDULE | |
|-------------------|--|
| C1 | 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 99.5B |
| C2 | 3" ASPHALT CONCRETE SURFACE COURSE, TYPE 99.5B |
| D1 | 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B |
| J2 | PROP. 8" AGGREGATE BASE COURSE |
| R2 | 5" MONOLITHIC CONCRETE ISLAND (KEYED IN) |
| T | EARTH MATERIAL |
| U | EXISTING PAVEMENT |

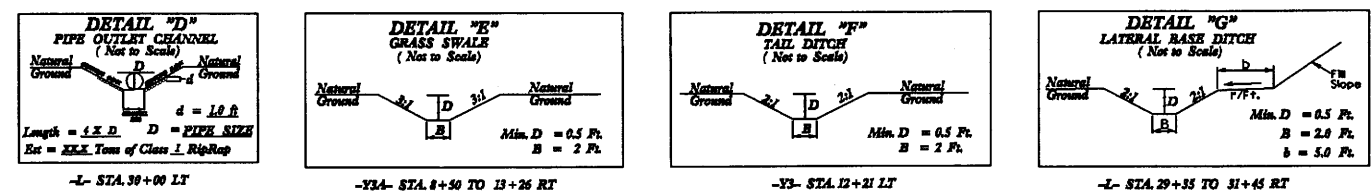


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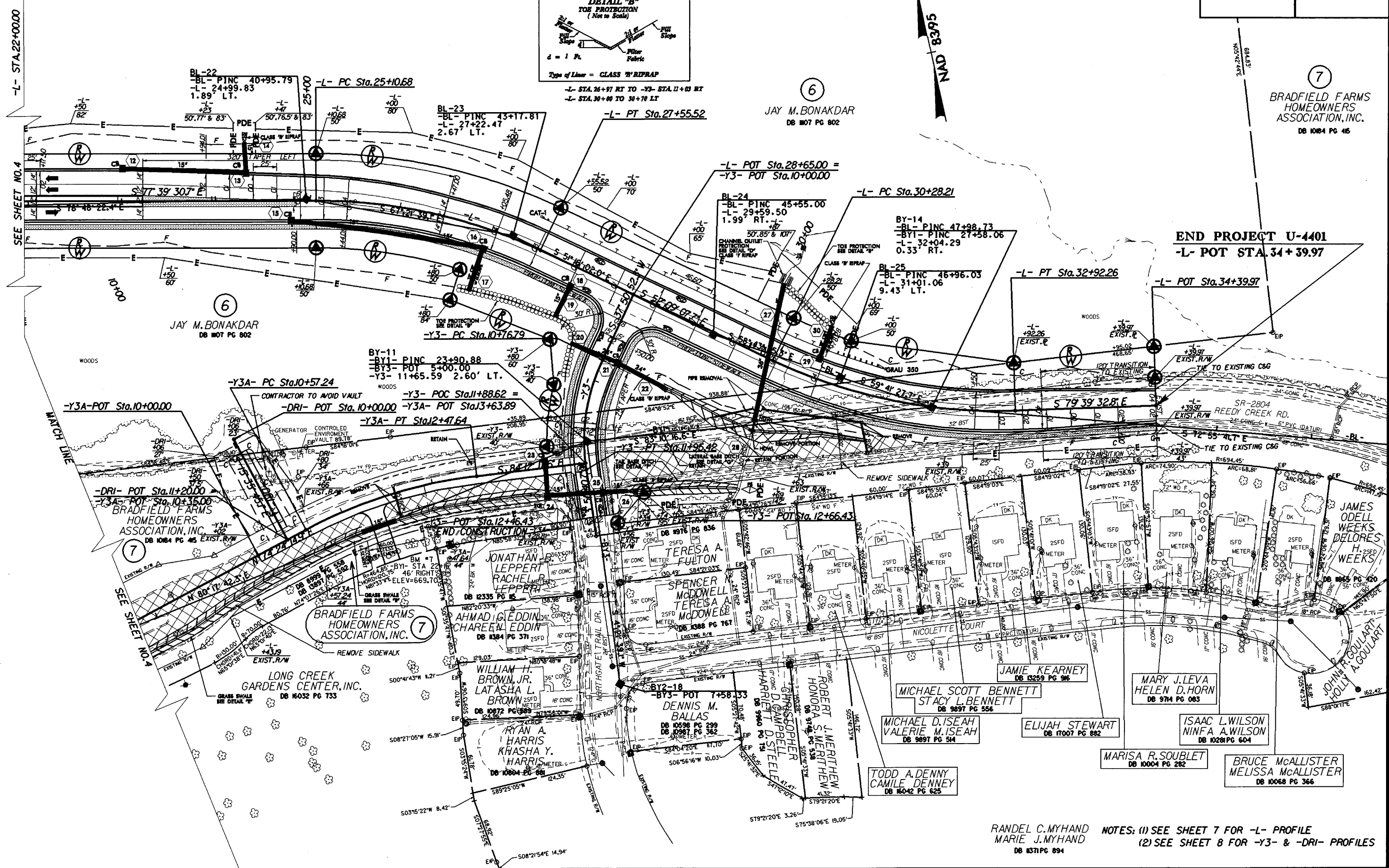


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| | |
|---|---------------------|
| PROJECT REFERENCE NO. | SHEET NO. |
| U-4401 | 5 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
| PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION | |



| -L- CURVE DATA | -L- CURVE DATA | -Y3- CURVE DATA | -Y3A- CURVE DATA |
|---|---|---|---|
| PI Sta 26+35.16 Δ = 25° 30' 23.0" (RT) D = 10' 25' 02.7" L = 244.84' T = 124.48' R = 550.00' SE = SEE PLANS | PI Sta 31+62.83 Δ = 27° 30' 25.1" (LT) D = 10' 25' 02.7" L = 264.05' T = 134.62' R = 550.00' SE = SEE PLANS | PI Sta 11+37.91 Δ = 33° 59' 11.7" (LT) D = 28' 38' 52.4" L = 118.64' T = 61.2' R = 200.00' SE = SEE PLANS | PI Sta 11+53.56 Δ = 21° 23' 27.6" (RT) D = 11' 14' 04.1" L = 190.41' T = 96.32' R = 510.00' SE = EXISTING |



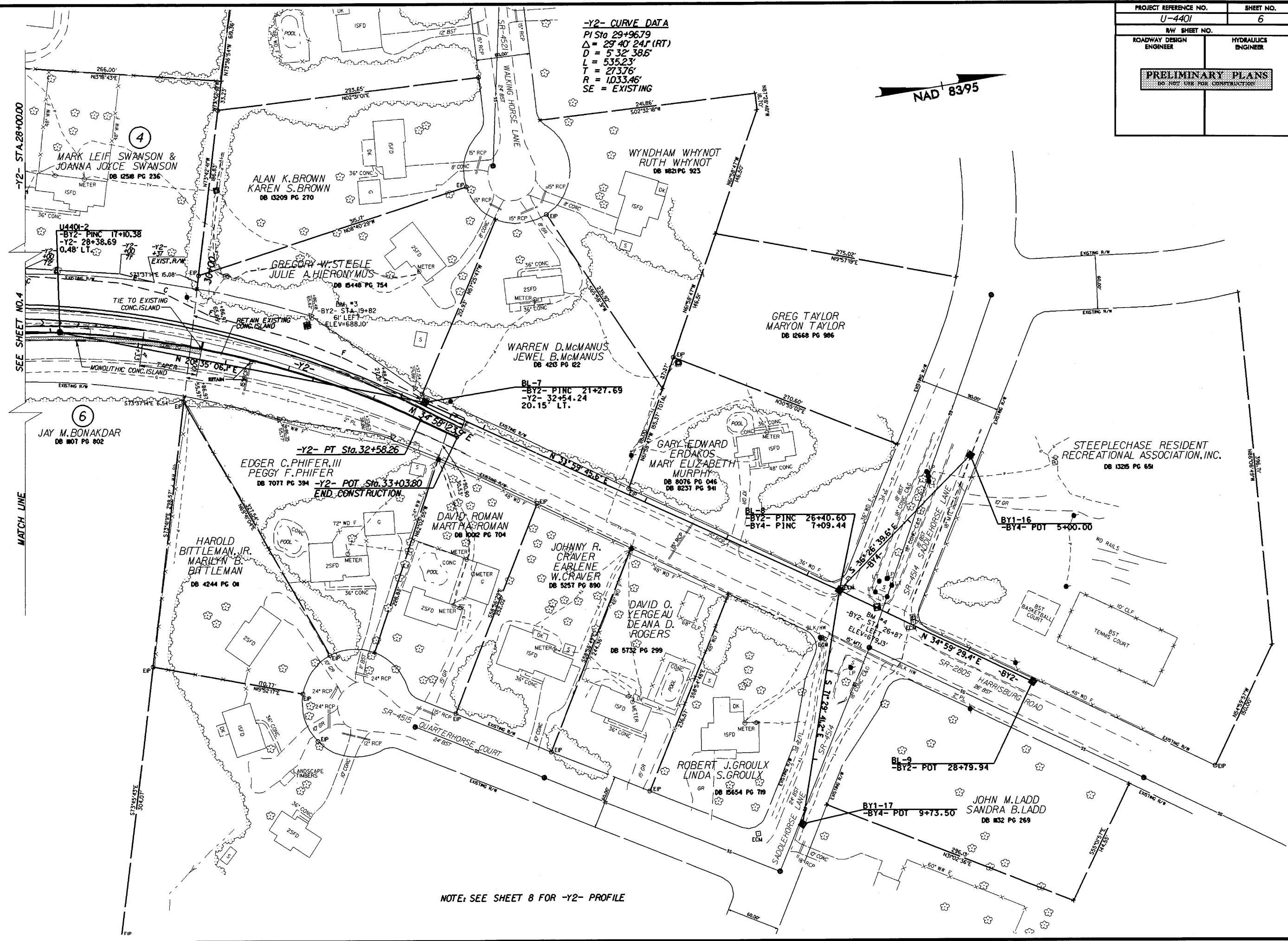
R/W REV. - PARCEL 7 - REDUCE PDE TO AVOID SIGN - MWL - 5/30/08

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NOTES: (1) SEE SHEET 7 FOR -L- PROFILE
(2) SEE SHEET 8 FOR -Y3- & -DRI- PROFILES

| | |
|-----------------------------|---------------------|
| PROJECT REFERENCE NO. | SHEET NO. |
| U-4401 | 6 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
| | |
| PRELIMINARY PLANS | |
| DO NOT USE FOR CONSTRUCTION | |

-Y2- CURVE DATA
 PI Sta 29+96.79
 $\Delta = 29^{\circ} 40' 24"$ (RT)
 $D = 5^{\circ} 32' 38.6"$
 $L = 535.23'$
 $T = 273.76'$
 $R = 1,033.46'$
 SE = EXISTING



SEE SHEET NO. 4

MATCH LINE

NOTE: SEE SHEET 8 FOR -Y2- PROFILE

REVISIONS

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