STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY PERDUE
GOVERNOR

EUGENE CONTI
SECRETARY

May 14, 2009

MEMORANDUM TO: Mr. Richard E. Greene, Jr., PE
Division Four Engineer

FROM: Philip S. Harris, III, P.E., Unit Head
Natural Environment Unit
Project Development and Environmental Analysis Branch

SUBJECT: Nash County, Rocky Mount Northern Outer Loop from SR 1604 (Hunter Hill Rd) to US 301; T.I.P. Number R-2823; WBS No. 34509.1.1; State Project No. 34509.1.1

Attached are the U.S. Army Corps of Engineers Section 404 Individual Permit , N.C. Division of Water Quality Section 401 Individual Water Quality Certification and Riparian Buffer Authorization for the above referenced project. All environmental permits have been received for the construction of this project.

A copy of this permit package will be posted on the NCDOT website at:
http://www.ncdot.gov/doh/preconstruct/pe/neu/permit.html

PSH/gyb

Attachment

Cc: W/attachment
Mr. Randy Garris, P.E. State Contract Officer
Ms. Beth Harmon, EEP
Mr. Chad Coggins, Division Environmental Officer
Mr. Rodger Rochelle, P.E.

Cc: W/o attachment (see website for attachments)
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Jay Bennett, P.E., Roadway Design
Dr. David Chang, P.E., Hydraulics
Mr. Art McMillan, P.E., Highway Design
Mr. Tom Koch, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. John F. Sullivan, FHWA
Mr. Ron Hancock, P.E., State Roadway Construction Engineer
Mr. Mike Robinson, P.E., State Bridge Construction Engineer
Mr. Rob Hanson, P.E., PDEA Eastern Region Unit Head

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

TELEPHONE: 919-733-3141
FAX: 919-715-1501
WEBSITE: WWW.DOH.DOT.STATE.NC.US

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
69 DARLINGTON AVENUE
WILMINGTON, NORTH CAROLINA 28403-1343

REPLY TO
ATTENTION OF:

Stanton

RECEIVED
MAY 13 2009
DIVISION OF HIGHWAYS
PDEA-OFFICE OF NATURAL ENVIRONMENT

May 6, 2009

Regulatory Division

Action ID. SAW 2007-157-164

Gregory J. Thorpe, Ph.D.
Environmental Manager Director
Project Development and Environmental Analysis Branch
N.C. Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

In accordance with your written request of December 17, 2008, and the ensuing administrative record, enclosed are two copies of a permit to construct the Rocky Mount Northern Connector, TIP R-2823, starting from SR 1604 (Hunter Hill Road) and ending at US 301. The proposed project is approximately 4.9 miles in length on new location and involves constructing a four-lane 30-foot raised median divided urban highway facility with partial control of access. At-grade intersections are provided for SR 1604 (Hunter Hill Road), SR 1613 (Woodruff Road), NC 43 (Benvenue Road), SR 1535 (Peele Road), NC 48 (Goldrock Road), relocated SR 1538 (Fenner Road), SR 1545 (Bishop Road), and US 301 (N. Wesleyan Blvd.). The proposed project would permanently impact 6.33 acres of jurisdictional wetlands and 1,939 linear feet of streams. There will be 0.0 acres of temporary impacts to wetlands and 396 linear feet of temporary impacts in surface waters. The project is located in the Tar-Pamlico River Basin and lies within in the Hydrologic Unit 03020101. The project crosses portions of and UTs to Compass Creek, Beech Branch, Hornbeam Branch, and Goose Branch., which flow to the Tar River.

You should acknowledge that you accept the terms and conditions of the enclosed permit by signing and dating each copy in the spaces provided ("Permittee" on page 3). Your signature, as permittee, indicates that, as consideration for the issuance of this permit, you voluntarily accept and agree to comply with all of the terms and conditions of this permit. All pages of both copies of the signed permit with drawings should then be returned to the Wilmington District office for final authorization. A self-addressed envelope is enclosed for your convenience.

This correspondence contains an initial proffered permit for the above described activity. If you object to this decision or the enclosed special conditions you may request that the District Commander reconsider his decision. Enclosed you will find a

Notification of Appeal Process (NAP) fact sheet and request for appeal (RFA) form. If you request to appeal this decision you must submit a completed RFA form to the District Commander, Wilmington District Corps of Engineers at the following address:

Col. Jefferson Ryscavage, District Commander
US Army Corps of Engineers, Wilmington District
69 Darlington Avenue
Wilmington, NC 28403-1343

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete and that it has been received by the District Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by July 8, 2009.

It is not necessary to submit an RFA form to the District Office if you do not object to the decision in contained in this correspondence.

After the permit is authorized in this office, the original copy will be returned to you; the duplicate copy will be permanently retained in this office. If you have questions, please contact William Wescott at the Washington Regulatory Field Office, telephone 252-975-1616 ext. 31.

Sincerely,

Scott McLendon
Assistant Chief, Regulatory Division

Enclosures

DEPARTMENT OF THE ARMY PERMIT

Permittee **North Carolina Department of Transportation, Gregory J. Thorpe, Ph.D.**

Permit No. **SAW 2007-00157-164**

Issuing Office **CESAW-RG-W**

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: **The proposed project is approximately 4.9 miles in length on new location and involves constructing a four-lane 30-foot raised median divided urban highway facility with partial control of access. At-grade intersections are provided for SR 1604 (Hunter Hill Road), SR 1613 (Woodruff Road), NC 43 (Benvenue Road), SR 1535 (Peele Road), NC 48 (Goldrock Road), relocated SR 1538 (Fenner Road), SR 1545 (Bishop Road), and US 301 (N. Wesleyan Blvd.). The proposed project would permanently impact 6.33 acres of jurisdictional wetlands and 1,939 linear feet of streams. There will be 0.0 acres of temporary impacts to wetlands and 396 linear feet of temporary impacts in surface waters.**

Project Location: **The North Carolina Department of Transportation (NCDOT) proposes to construct the Rocky Mount Northern Connector from NCSR 1604 (Hunter Hill Road) to US 301 in Nash County, north of Rocky Mount (T.I.P. no. R-2823). The project is approximately 4.9 miles in length and designed to be a four-lane median divided facility. The project is located in the Tar-Pamlico River Basin and lies within in the Hydrologic Unit 03020101. The project crosses portions of and UTs to Compass Creek, Beech Branch, Hornbeam Branch, and Goose Branch., which flow to the Tar River.**

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on **December 31, 2014** If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit,

Special Conditions:

SEE ATTACHED SPECIAL CONDITIONS

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

( ) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit, Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

Philip S Hall III — 5/14/2009

(PERMITTEE) **North Carolina Department of Transportation** *(DATE)*

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

(DISTRICT ENGINEER) **Jefferson Ryscavage, COLONEL** *(DATE)*

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEREE) *(DATE)*

*U.S. GOVERNMENT PRINTING OFFICE: 1986 - 717-425

NCDENR
North Carolina Department of Environment and Natural Resources
Division of Water Quality
Coleen H. Sullins
Director

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

RECEIVED
FEB 26 2009
U.S. ARMY CORPS OF ENG
Washington Regulatory Fld Ofc

Dr. Greg Thorpe, PhD., Manager
Planning and Environmental Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina, 27699-1548

Subject: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and TAR-PAMLICO BUFFER RULES with ADDITIONAL CONDITIONS for Proposed Rocky Mount Northern Connector in Nash County, State Project No. 34509.1.1, TIP No. R-2823, DWQ Project No. 20081859

Dear Dr. Thorpe:

Attached hereto is a copy of Certification No. 3781 issued to The North Carolina Department of Transportation dated February 23, 2009.

If we can be of further assistance, do not hesitate to contact us.

Sincerely,

Coleen Sullins
Director

Attachments

cc: William Wescott, US Army Corps of Engineers, Washington Field Office
Tyler Stanton, NCDOT NEU
Chad Coggins, Division 4 Environmental Officer
Travis Wilson, NC Wildlife Resources Commission
Ecosystem Enhancement Program
File Copy

401 Oversight/Express Review Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1650
Location: 2321 Crabtree Blvd., Raleigh, North Carolina 27604
Phone: 919-733-1786 \ FAX: 919-733-6893
Internet: http://h2o.enr.state.nc.us/ncwetlands/

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North Carolina Department of Environment and Natural Resources
Division of Water Quality

Beverly Eaves Perdue
Governor

Coleen H. Sullins
Director

Dee Freeman
Secretary

401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and TAR-PAMLICO BUFFER RULES, with ADDITIONAL CONDITIONS

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality (DWQ) Regulations in 15 NCAC 2H .0500 and 15A NCAC 2B.0259. This certification authorizes the NCDOT to impact 6.39 acres of jurisdictional wetlands, 2335 linear feet of jurisdictional streams and 193,710 square feet of protected riparian buffers in Nash County. The project shall be constructed pursuant to the application dated received December 29, 2008. The authorized impacts are as described below:

Wetland Impacts in the Tar-Pamlico River Basin

Site	Permanent Fill (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impact (ac)	Wetland Impacts Requiring Mitigation (ac)
1	0.06	0	0.05	0	0.11	0.11
3	0.07	0	0.02	0	0.09	0.09
5	0.08	0	0.03	0	0.11	0.11
6	0.97	0	0.14	0	1.11	1.11
7	0.85	0	0.17	0.06	1.08	1.02
8	0	0.01	0.02	0	0.03	0.03
9	0.17	0	0.04	0	0.21	0.21
10	0.19	0	0.02	0	0.21	0.21
11	0.64	0	0.09	0	0.73	0.73
12	1.00	0	0.15	0	1.15	1.15
13	0.21	0.02	0.06	0	0.29	0.29
14	0.11	0	0.01	0	0.12	0.12
15	0.01	0	0.01	0	0.02	0.02
16	0.13	0.01	0.01	0	0.15	0.15
17	0.86	0.01	0.11	0	0.98	0.98
Total	**5.35**	**0.05**	**0.93**	**0.06**	**6.39**	**6.33**

Total Wetland Impact for Project: 6.39 acres.

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The application provides adequate assurance that the discharge of fill material into the waters of the Tar-Pamlico River Basin in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your application dated received December 29, 2008. Should your project change, you are required to notify the DWQ and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

Conditions of Certification:

1. Compensatory mitigation for 1388 linear feet of impact to streams is required. We understand that you have chosen to perform compensatory mitigation for impacts to streams through the North Carolina Ecosystem Enhancement Program (EEP), and that the EEP has agreed to implement the mitigation for the project. EEP has indicated in a letter dated December 16, 2008 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the Tri-Party MOA signed on July 22, 2003 and the Dual-Party MOA signed on April 12, 2004.

2. Compensatory mitigation for impacts to 4.4 acres of riparian wetlands and 1.93 acres of non-riparian wetlands is required. We understand that you have chosen to perform compensatory mitigation for impacts to wetlands through the North Carolina Ecosystem Enhancement Program (EEP), and that the EEP has agreed to implement the mitigation for the project. EEP has indicated in a letter dated December 16, 2008 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the Tri-Party MOA signed on July 22, 2003 and the Dual-Party MOA signed on April 12, 2004.

3. Compensatory mitigation for impacts to 57137 square feet of protected riparian buffers in Zone 1 and 42595 square feet of protected riparian buffers in Zone 2 shall be required. We understand that you have chosen to perform compensatory mitigation for impacts to protected buffers through use of the North Carolina Ecosystem Enhancement Program (EEP). Mitigation for unavoidable impacts to Tar-Pamlico Riparian Buffers shall be provided in the Tar-Pamlico River Basin and done in accordance with 15A NCAC 2B.0259. EEP has indicated in a letter dated December 16, 2008 that they will assume responsibility for satisfying the compensatory mitigation requirements for the above-referenced project, in accordance with the Tri-Party MOA signed on July 22, 2003 and the Dual-Party MOA signed on April 12, 2004.

4. Unless otherwise approved in this certification, placement of culverts and other structures in waters, streams, and wetlands shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by DWQ. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NC DWQ for guidance on how to proceed and to determine whether or not a permit modification will be required.

5. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.

6. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed.

7. For all streams being impacted due to site dewatering activties, the site shall be graded to its preconstruction contours and revegetated with appropriate native species.

8. The post-construction removal of any temporary bridge structures must return the project site to its preconstruction contours and elevations. The impacted areas shall be revegetated with appropriate native species.

9. Bridge deck drains should not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to the most current version of *Stormwater Best Management Practices.*

10. No drill slurry or water that has been in contact with uncured concrete shall be allowed to enter surface waters. This water shall be captured, treated, and disposed of properly.

11. All stormwater runoff shall be directed as sheetflow through stream buffers at nonerosive velocities, unless otherwise approved by this certification.

12. All riparian buffers impacted by the placement of temporary fill or clearing activities shall be restored to the preconstruction contours and revegated. Maintained buffers shall be permanently revegetated with non-woody species by the end of the growing season following completion of construction. For the purpose of this condition, maintained buffer areas are defined as areas within the transportation corridor that will be subject to regular DOT maintenance activities including mowing. The area with non-maintained buffers shall be permanently revegetated, with native woody species before the next growing season following completion of construction.

13. Pursuant to NCAC15A 2B.0259(6), sediment and erosion control devices shall not be placed in Zone 1 of any Tar-Pamlico Buffer without prior approval by the NCDWQ. At this time, the NCDWQ has approved no sediment and erosion control devices in Zone 1, outside of the approved project impacts, anywhere on this project. Moreover, sediment and erosion control devices shall be allowed in Zone 2 of the buffers provided that Zone 1 is not compromised and that discharge is released as diffuse flow.

14. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.

15. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers.

16. The dimension, pattern and profile of the stream above and below the crossing shall not be modified. Disturbed floodplains and streams shall be restored to natural geomorphic conditions.

17. The use of rip-rap above the Normal High Water Mark shall be minimized. Any rip-rap placed for stream stabilization shall be placed in stream channels in such a manner that it does not impede aquatic life passage.

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18. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval.

19. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.

20. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream.

21. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials.

22. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification.

23. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.

24. The permittee and its authorized agents shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law. If DWQ determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, DWQ may reevaluate and modify this certification.

25. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification..

26. A copy of this Water Quality Certification shall be maintained on site at the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager.

27. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification.

28. The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.

29. The Permittee shall report any violations of this certification to the Division of Water Quality within 24 hours of discovery.

30. Upon completion of the project (including any impacts at associated borrow or waste site), the NCDOT Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify DWQ when all work included in the 401 Certification has been completed.

31. Native woody riparian vegetation (i.e., trees and shrubs native to your geographic region) must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.

32. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities.

33. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface waters standards:

a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.
b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.

34. Sediment and erosion control measures shall not be placed in wetlands or waters unless otherwise approved by this Certification.

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit.

If this Certification is unacceptable to you have the right to an adjudicatory hearing upon written request within sixty (60) days following receipt of this Certification. This request must be in the form of a written petition conforming to Chapter 150B of the North Carolina General Statutes and filed with the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, N.C. 27699-6714. If modifications are made to an original Certification, you have the right to an adjudicatory hearing on the modifications upon written request within sixty (60) days following receipt of the Certification. Unless such demands are made, this Certification shall be final and binding.

This the 23rd day of February 2009

DIVISION OF WATER QUALITY

Coleen Sullins
Director

WQC No. 3781

SPECIAL CONDITIONS (Action ID. SAW 2007-157-164; NCDOT/TIP R-2823)

COMPLIANCE WITH PLANS

a) All work must be performed in strict compliance with the attached plans, which are a part of this permit. Any modification to the permit plans must be approved by the USACE prior to implementation.

ACTIVITIES NOT AUTHORIZED

b) Except as authorized by this permit or any USACE approved modification to this permit, no excavation, fill, or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, within waters or wetlands, nor shall any activities take place that cause the degradation of waters or wetlands. In addition, except as specified in the plans attached to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, in such a manner as to impair normal flows and circulation patterns within, into, or out of waters or wetlands or to reduce the reach of waters or wetlands.

This permit does not authorize temporary placement or double handling of excavated or fill material within jurisdictional waters, including wetlands, outside the permitted area. Additionally, no construction materials or equipment will be placed or stored within jurisdictional waters, including wetlands.

CONSTRUCTION PLANS

c) The Permittee will ensure that the construction design plans for this project do not deviate from the permit plans attached to this authorization. Written verification shall be provided to Washington Regulatory Field Office that the final construction drawings comply with the attached permit drawings prior to any active construction in waters of the United States, including wetlands. Any deviation in the construction design plans will be brought to the attention of the Corps of Engineers, Washington Regulatory Field Office prior to any active construction in waters or wetlands.

d) Prior to commencing construction within jurisdictional waters of the United States for any portion of the proposed project, the Permittee shall forward the latest version of project construction drawings to the Corps of Engineers, Washington Regulatory Field Office NCDOT Regulatory Project Manager. Half-size drawings will be acceptable.

POLLUTION SPILLS

e) All mechanized equipment will be regularly inspected and maintained to prevent contamination of waters and wetlands from fuels, lubricants, hydraulic fluids, or other toxic materials. No equipment staging or storage of construction material will occur in wetlands. Hydro-seeding equipment will not be discharged or washed out into any

surface waters or wetlands. In the event of a spill of petroleum products or any other hazardous waste, the Permittee shall immediately report it to the N.C. Division of Water Quality at (919) 733-5083 or (800) 662-7956 and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act will be followed.

NOTIFICATION

f) The Permittee shall advise the Corps in writing at least two weeks prior to beginning the work authorized by this permit and again upon completion of the work authorized by this permit.

CLEAN FILL MATERIAL

g) Unless otherwise authorized by this permit, all fill material placed in waters or wetlands shall be generated from an upland source and will be clean and free of any pollutants except in trace quantities. Metal products, organic materials (including debris from land clearing activities), or unsightly debris will not be used.

CONTRACTOR COMPLIANCE

h) The Permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit, and any authorized modifications. A copy of this permit, and any authorized modifications, including all conditions, shall be available at the project site during construction and maintenance of this project.

SEDIMENTATION AND EROSION CONTROL MEASURES

i) The Permittee shall use appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the "North Carolina Sediment and Erosion Control Planning and Design Manual" to assure compliance with the appropriate turbidity water quality standard. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to assure compliance with the appropriate turbidity water quality standards. Additionally, the project must remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4).

Adequate sedimentation and erosion control measures must be implemented prior to any ground disturbing activities to minimize impacts to aquatic resources. These measures must be inspected and maintained regularly, especially following rainfall events. All fill material must be adequately stabilized at the earliest practicable date to prevent sediment from entering into adjacent waters or wetlands.

The Permittee shall remove all sediment and erosion control measures placed in wetlands or waters, and shall restore natural grades in those areas, prior to project completion.

No fill or excavation for the purposes of sedimentation and erosion control shall occur within jurisdictional waters, including wetlands, unless it is included on the plan drawings and specifically authorized by this permit.

REPORTING OF VIOLATIONS

j) The Permittee will report any violation of these conditions or violations of Section 404 of the Clean Water Act to the Corps of Engineers, Washington Regulatory Field Office NCDOT Regulatory Project Manager, within 24 hours of the Permittee's discovery of the violation.

COMPLIANCE WITH SPECIAL CONDITIONS

k) Failure to institute and carry out the details of these special conditions, will result in a directive to cease all ongoing and permitted work within waters and/or wetlands associated with the permitted project, or such other remedies and/or fines as the District Engineer or his authorized representatives may seek.

PRECONSTRUCTION MEETING

l) The Permittee shall schedule a preconstruction meeting between its representatives, the contractor's representatives, and the Corps of Engineers, Washington Regulatory Field Office, NCDOT Regulatory Project Manager, prior to any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all of the terms and conditions contained within this Department of the Army Permit. The Permittee shall provide the Corps of Engineers, Washington Regulatory Field Office, NCDOT Regulatory Project Manager, with a copy of the final plans at least two weeks prior to the preconstruction meeting along with a description of any changes that have been made to the project's design, construction methodology or construction timeframe. The Permittee shall schedule the preconstruction meeting for a time when the Corps of Engineers and North Carolina Division of Water Quality (NCDWQ) Project Managers can attend. The Permittee shall invite the Corps and NCDWQ Project Managers a minimum of thirty (30) days in advance of the scheduled meeting in order to provide those individuals with ample opportunity to schedule and participate in the required meeting.

BORROW AND WASTE

m) To ensure that all borrow and waste activities occur on high ground and do not result in the degradation of adjacent wetlands and streams, except as authorized by this permit, the Permittee shall require its contractors and/or agents to identify all areas to be used to borrow material, or to dispose of dredged, fill, or waste material. The Permittee shall provide the Corps of Engineers with appropriate maps indicating the locations of proposed borrow or waste sites as soon as the Permittee has that information. The

Permittee will coordinate with the Corps of Engineers before approving any borrow or waste sites that are within 400 feet of any streams or wetlands. All jurisdictional wetland boundaries on borrow and waste sites shall be verified by the Corps of Engineers and shown on the approved reclamation plans. The Permittee shall ensure that all such areas comply with Special Condition "b" of this permit, and shall require and maintain documentation of the location and characteristics of all borrow and disposal sites associated with this project. This information will include data regarding soils, vegetation and hydrology sufficient to clearly demonstrate compliance with the Special Condition "b". All information will be available to the Corps of Engineers upon request. NCDOT shall require its contractors to complete and execute reclamation plans for each waste and borrow site and provide written documentation that the reclamation plans have been implemented and all work is completed. This documentation will be provided to the Corps of Engineers within 30 days of the completion of the reclamation work.

MITIGATION

n) Compensatory mitigation for the unavoidable impacts to 4.4 acres of riparian wetlands, 1.93 acres of non-riparian wetlands, and 1,939 linear feet of stream associated with T.I.P. R-2823 shall be provided by the Ecosystem Enhancement Program (EEP). Pursuant to the EEP Memorandum of Agreement (MOA) between the State of North Carolina and the US Army Corps of Engineers signed on July 22, 2003, the EEP will provide 8.8 acres of restoration equivalent riparian wetlands, 3.86 acres of restoration equivalent non-riparian wetlands, and 3,878 linear feet of restoration equivalent warm water stream channel in the Tar-Pamlico River basin (Hydrologic Cataloging Unit 03020101) in accordance with Section X of the MOA. For wetlands, a minimum of 1:1 (impact to mitigation) must be in the form of wetlands restoration. The NCDOT shall, within 30 days of the issue date of this permit, certify that sufficient funds have been provided to EEP to complete the required mitigation, pursuant to Paragraph V. of the MOA.

PROJECT COMMITMENTS
Proposed Rocky Mount Northern Connector
From SR 1604 (Hunter Hill Road) to US 301
Nash County
Federal-Aid Project STP-0431(2)
State Project 8.2320801
WBS Element 34509.1.1
TIP Project R-2823

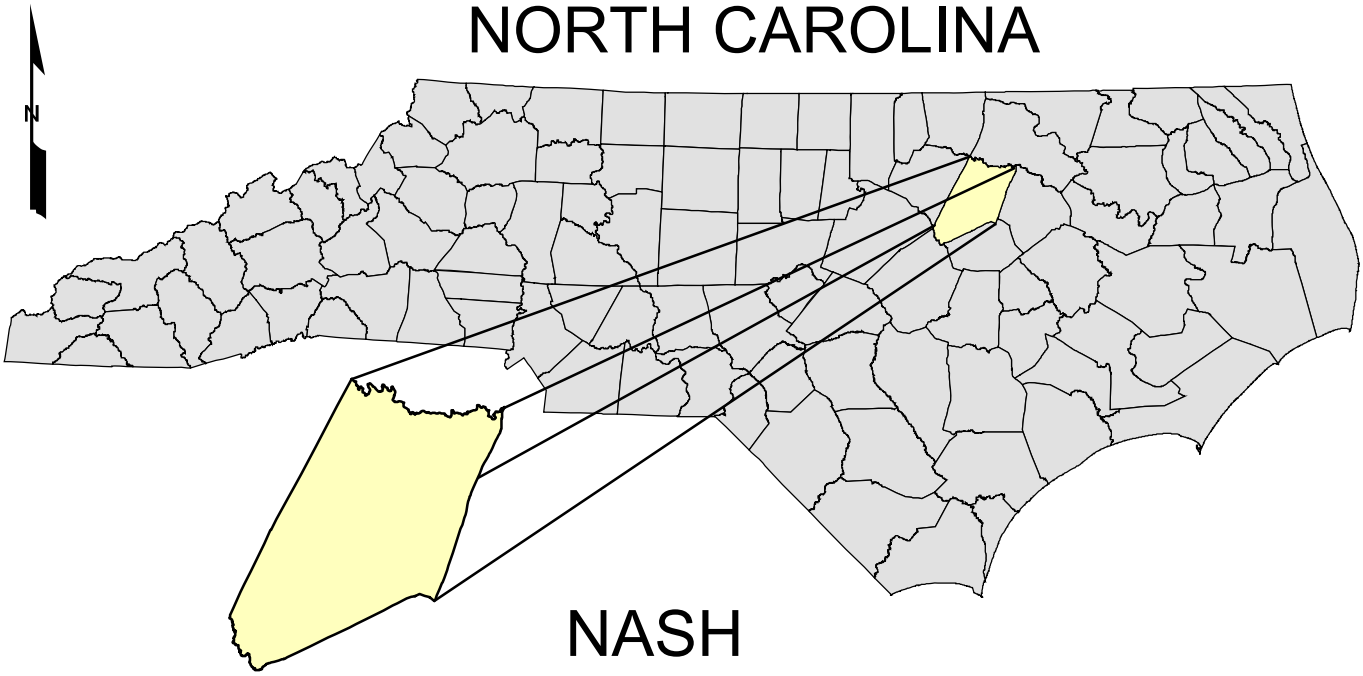
Commitments Developed Through Project Development

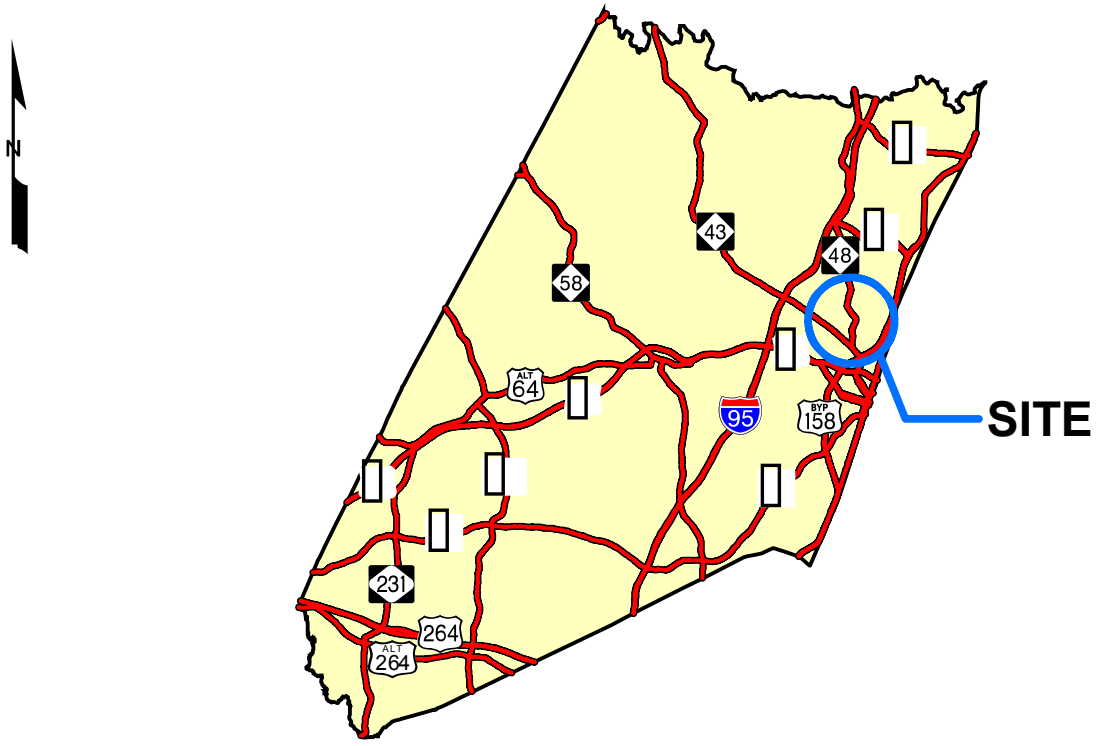
Hydraulics Unit
NCDOT will coordinate with the Federal Emergency Management Agency (FEMA) and local authorities during the design phase of the project for approval of a flood insurance rate map revision and to insure compliance with applicable floodplain ordinances.

PDEA – Office of Human Environment – Archaeology
Archaeological Surveys will be conducted within the preferred corridor prior to the completion of the final environmental document.

Commitments Developed Through Permitting

PDEA
Compensatory mitigation for the unavoidable impacts to 4.4 acres of riparian wetlands, 1.93 acres of non-riparian wetlands, and 1,939 linear feet of stream associated with T.I.P. R-2823 shall be provided by the Ecosystem Enhancement Program (EEP). Pursuant to the EEP Memorandum of Agreement (MOA) between the State of North Carolina and the US Army Corps of Engineers signed on July 22, 2003, the EEP will provide 8.8 acres of restoration equivalent riparian wetlands, 3.86 acres of restoration equivalent non-riparian wetlands, and 3,878 linear feet of restoration equivalent warm water stream channel in the Tar-Pamlico River basin (Hydrologic Cataloging Unit 03020101) in accordance with Section X of the MOA. For wetlands, a minimum of 1:1 (impact to mitigation) must be in the form of wetlands restoration. The NCDOT shall, within 30 days of the issue date of this permit, certify that sufficient funds have been provided to EEP to complete the required mitigation, pursuant to Paragraph V. of the MOA.





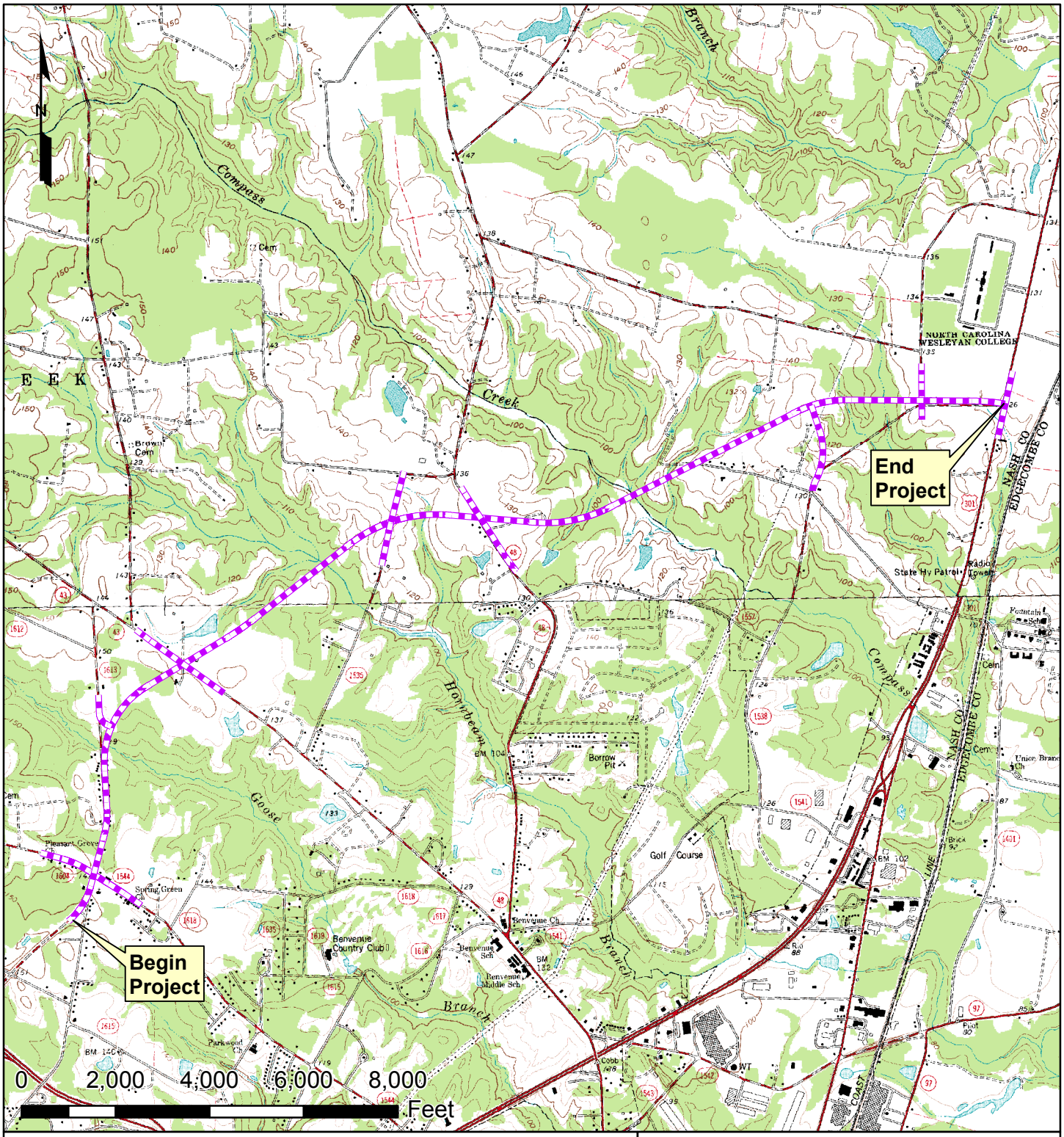
VICINITY MAPS

PERMIT DRAWING SHEET 1 OF 68

NCDOT

DIVISION OF HIGHWAYS
NASH COUNTY
PROJECT: 34509.2.GV1 (R-2823)
ROCKY MOUNT
NORTHERN CONNECTOR

NOVEMBER 2008



1 inch equals 3,000 feet

LOCATION

NCDOT

DIVISION OF HIGHWAYS
NASH COUNTY
PROJECT: 34509.2.GV1 (R-2823)
ROCKY MOUNT
NORTHERN CONNECTOR

PERMIT DRAWING SHEET 2 OF 68

NOVEMBER 2008

Source: USGS 7.5 Minute Quadrangle, Rocky Mount & Drake, NC

T:\BRIDGE_Maps\R_2823

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	-L- 30+28	2 - 48" RCP	0.06			0.05		0.01	0.00 *	95	10	
3	-L- 36+50 LT	N/A	0.07			0.02						
4	-L- 49+02	9' X 9' RCBC						0.04	0.01	158	54	
5	-L- 50+65	N/A	0.08			0.03		0.02		210		
6	-L- 68+00	N/A	0.97			0.14						
7	-L- 111+50	BRIDGE	0.85			0.17	0.06					
8	-L- 113+26	N/A			0.00 *	0.02		0.00 *	0.00 *	24	24	
9	-L- 135+34	72" RCP	0.17			0.04		0.02	0.00 *	210	48	
10	-L- 169+16	78" RCP	0.19			0.02		0.05	0.01	407	53	
11	-L- 175+00	18" RCP	0.64			0.09						
12	-L- 182+00	BRIDGE	1.00			0.15		0.29	0.10	197	19	
13	-L- 189+80	78" RCP	0.21		0.02	0.06		0.01	0.00 *	205	43	
14	-Y5- 11+50	18" RCP	0.11			0.01						
15	-L- 231+00	N/A	0.01			0.01						
16	-L- 231+57	60" RCP	0.13		0.00 *	0.01		0.00 *	0.00 *	74	10	
17	-L- 239+81	8' X 9' RCBC	0.86		0.01	0.11		0.02	0.01	211	85	
18	-L- 260+50	60" RCP						0.01	0.00 *	130	39	
19	-Y8- 23+50	66" RCP						0.00 *	0.00 *	18	11	
TOTALS:			5.35		0.04	0.93	0.06	0.48	0.14	1939	396	

*: < 0.01ac

Permanent Surface Water Impacts for Piers on Site 12: 7sqft

Temporary Surface Water Impacts for Piers on Site 12 outside of roadway construction: 80sqft

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

NASH COUNTY
PROJECT: C201917 (R-2823)

PERMIT DRAWING SHEET 3 OF 68

ATN Revised 3/31/05

R:/z-misc/Hydro/Permit/New_wetland_Summary.xls

BUFFER IMPACTS SUMMARY

		WETLANDS IN BUFFER	
Site	Station	ZONE 1 (ft^2)	ZONE 2 (ft^2)
1	-L- 30+28	3268	687
4 / 5	-L- 49+02	41	574
7	-L- 111+50	8967	7217
9	-L- 135+34	0	96
10	-L- 169+16	1174	1626
12	-L- 182+00	7628	4324
13	-L- 189+80	9708	2521
15	-L- 231+00	25	507
16	-L- 231+57	2114	1300
17	-L- 239+81	14199	6891
		47124	25743

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

NASH COUNTY
PROJECT: C201917 (R-2823)

PERMIT DRAWING SHEET 4 OF 68

PROP. NO.	PROPERTY OWNER NAME	PROP. OWNER ADDRESS
5	Benjamin R. Ricks, et al	16084 NC 43, Whitakers, NC 27891
9	William D. Driver, Jr.	3246 Turkey Foot Rd., Rocky Mount, NC 27804
10	Rebecca D. Paris	3545 Mansfield Dr. , Rocky Mount, NC 27803
13	B.W. Varnell, Heirs	200 College St.Lllington, NC 27850
29	Richard H. Minor	1444 Jeffreys Rd., Rocky Mount, NC 27804
33	Three MR LTD Partnership	2687 Old Bailey Rd., Nashville, NC 27856
34	Aubry D. Woodruff	2233 Boddie Mill Pond Rd., Nashville, NC 27856
35 & 37	Claudette D. Reges, et al	2012 Northern Nash Rd., Rocky Mount, NC 27804
42	Alma W. Griffen, Heirs	111 Muscadine Road. Rocky Mount, NC 27804
43 & 52	E. C. Powell	PO Box 2592, Rocky Mount, NC 27804
44	Stanley L. West	1704 Goldrock Rd., Rocky Mount, NC 27804
50	William H. Overman	2709 Coleberry Trail, Rocky Mount, NC 27804
51	Satpal Singh Rathie	115 York Hill Dr., Cary NC 27513
62	James B. Martin Jr., et al	P.O. Box 280, Brookeville, MD 20833
63 & 65	William Herbert Turner	6316 Settlement Road, Julian, NC 27283
66	Mack B. Pearsall	1 Page Avenue, Ste. 215, Asheville, NC 28801
67 & 68	Walter I. Tharrington	3104 Bishop Road, Rocky Mount, NC 27804
73	NC Wesleyan College	3400 N. Wesleyan Blvd., Rocky Mount, NC 27804
89	Joco Development Co.	P.O. Box 7533, Rocky Mount, NC 27804

WETLAND AND STREAM IMPACTS

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

NASH COUNTY
PROJECT: 34509.2.GV1 (R-2823)

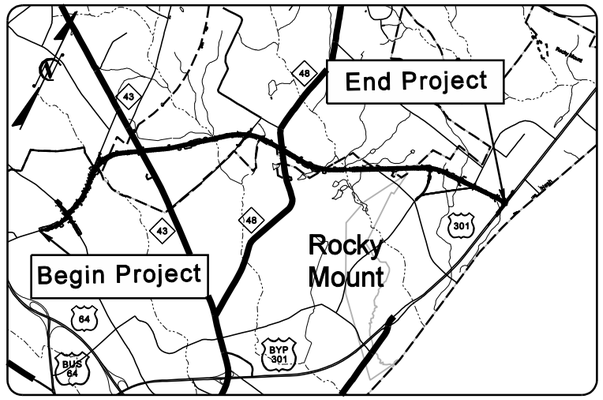
PERMIT DRAWING SHEET 5 OF 68

R:/z-misc/Hydro/Wetprop.xls

T.I.P. PROJECT: R-2823

CONTRACT: C201917

SEE SHEET 1-B FOR CONVENTIONAL PLAN SHEET SYMBOLS



VICINITY MAP

NOTES:
1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
2. THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.
3. A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF ROCKY MOUNT AND DORTCHES.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NASH COUNTY

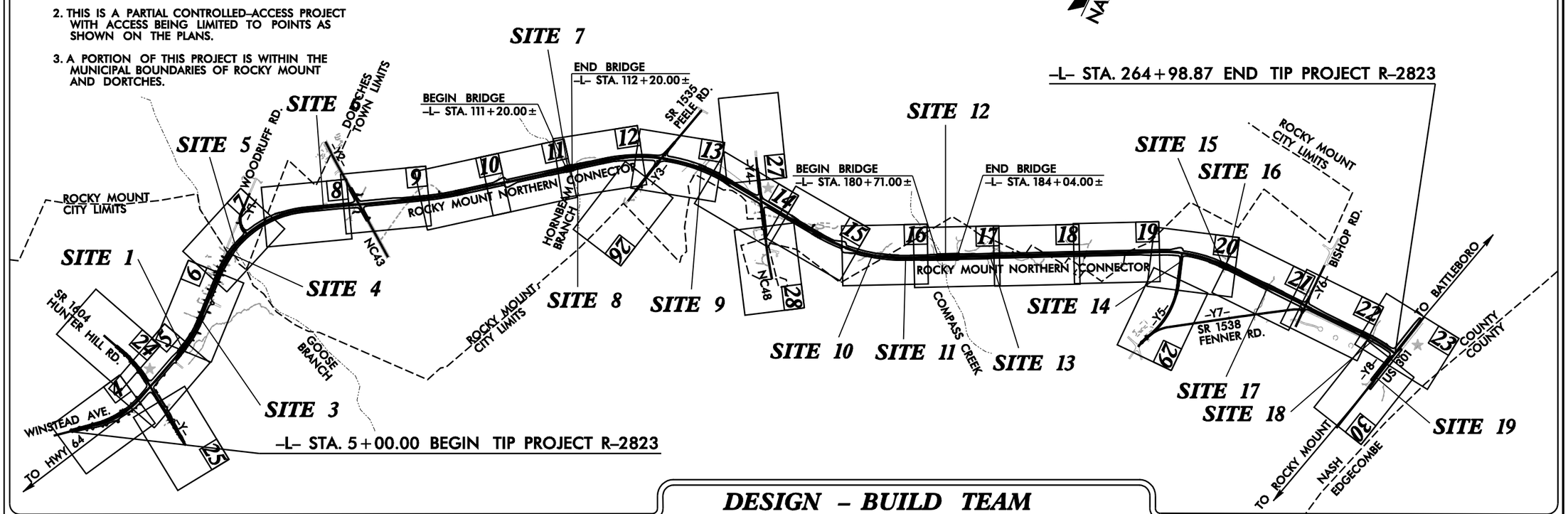
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2823	1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
34509.2.GV1	STP-0431(24)	CONST.	

PERMIT DRAWING
SHEET 6 OF 68

LOCATION: *ROCKY MOUNT NORTHERN CONNECTOR FROM SR 1604 (HUNTER HILL RD.) TO US 301*

TYPE OF WORK: *WETLAND AND STREAM PERMIT DRAWINGS*

NAD 83/95



DESIGN - BUILD TEAM

GRAPHIC SCALES

50 0 50 100 — PLANS

50 0 50 100 — PROFILE (HORIZONTAL)

10 0 10 20 — PROFILE (VERTICAL)

DESIGN DATA

ADT 2009	=	12,500
ADT 2030	=	24,000
DHV	=	10%
D	=	60%
T	=	7%
V	=	60 mph

*(TTST = 3%,DUAL= 4%)

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2823.....	4.842 mi
LENGTH STRUCTURE TIP PROJECT R-2823.....	0.082 mi
TOTAL LENGTH TIP PROJECT R-2823.....	4.924 mi

PLANS PREPARED BY :
RUMMEL, KLEPPER & KAHL, LLP
consulting engineers
900 RIDGEFIELD DRIVE, SUITE 350
RALEIGH, NORTH CAROLINA 27609
FOR
DIVISION OF HIGHWAYS

2006 STANDARD SPECIFICATIONS

LETTING DATE:
MAY 20, 2008

J. T. Peacock, Jr., P.E.
PROJECT ENGINEER

Brandon J. McInnis, P.E.
PROJECT DESIGN ENGINEER

CONTRACTOR :
PLT CONSTRUCTION CO, INC.
PLT CONSTRUCTION CO., INC.
5676 THOMPSON CHAPEL CHURCH ROAD
WILSON, NORTH CAROLINA 27896

HYDRAULICS ENGINEER
SIGNATURE: P.E.
ROADWAY DESIGN ENGINEER
SIGNATURE: P.E.

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR DATE

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ckk

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ENGLISH

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 7 OF 68

F/F DENOTES FILL IN WETLAND
S/S DENOTES IMPACTS IN SURFACE WATER
DENOTES MECHANIZED CLEARING
TS/TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

MATCHLINE -Y- STA. 17+50 SEE SHEET 24

MATCHLINE -L- STA. 17+00 SEE SHEET 4

MATCHLINE -L- STA. 31+00 SEE SHEET 6

MATCHLINE -Y- STA. 27+00 SEE SHEET 25

LP
STA. 17+37.56 -L-

HP
STA. 21+20.43 -L-

LP
STA. 29+80.52 -L-

SITE 1

RIPRAP PAD DATA
-L- 21+80 RT
Q10= 14.93cfs
V10= 0.93ft/s

PREFORMED SCOUR HOLE DATA
-L- 29+55 LT
Q10= 8.41cfs
V10= 0.98ft/s

PER 4B MEETING:
DO NOT BURY #107 1'

5 TONS CL B RIPRAP W/14 SY FIL FAB
INV=128.14

45 TONS CL I RIPRAP W/75 SY FIL FAB
RIPRAP ON BANKS ONLY
INV=126.40

DAVID W. COMBS (1)
DAUGHTRIDGE ENTERPRISES INC (3)
BENJAMIN R. RICKS,et al (5)
SAINT PAUL BAPTIST CHURCH
BARBARA H. BRADSHAW (4)
ISBK BAPTIST CHURCH
WILLIAM D. DRIVER (2)
REBECCA D. PARIS (6)
CHARLES S. BARTHOLOMEW (7)
MORRIS J. HURT (8)
WILLIAM D. DRIVER, JR. (9)
REBECCA D. PARIS (10)

SPECIAL CUT DITCH SEE DETAIL B
LATERAL BASE DITCH SEE DETAIL D
SPECIAL BACK OF CURB CUT DITCH SEE DETAIL J
LATERAL V DITCH SEE DETAIL A
48" WW FENCE
RIP WW FENCE
NO WSSOC. PIPING FOUND FOR WW & WV
INV=141.25
INV=127.38
INV=126.32
INV=124.54
INV=130.41

DETAIL C
PREFORMED SCOUR HOLE
PLAN VIEW
SECTION A-A
B= 4.5Ft.
D= 1.0Ft.
W= 4.0Ft.
d= 0.5Ft.
5/05
-L- STA. 28+80 RT
-L- STA. 29+55 LT

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)
Min. D= 1.0Ft.
D= 2.0Ft.
FROM -L- STA. 25+00 TO STA. 27+26 RT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)
Min. D= 1.0Ft.
FROM -Y- STA. 20+00 TO STA. 21+00 RT

DETAIL J
SPECIAL BACK OF CURB CUT DITCH
(NOT TO SCALE)
D=1.0'
FROM -L- STA. 22+45 TO STA. 26+00 LT
(LINE 25+00 - 26+00 W/PSRM)

DETAIL D
LATERAL BASE DITCH
(Not to Scale)
Min. D= 1.5Ft.
B= 2.0Ft.
b= 2.0Ft.
FROM -L- STA. 17+38 TO STA. 21+00 LT
FROM -L- STA. 26+00 TO STA. 29+50 LT
FROM -Y- STA. 21+00 TO STA. 21+76 RT

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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kkk

8/17/99

CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
2'-6" C&G	-L-	9+20.00	20+90.46	RT
2'-6" C&G	-L-	21+70.52	27+60.04	RT
2'-6" C&G	-L-	14+84.50	21+48.87	LT
2'-6" C&G	-L-	22+25.97	29+48.22	LT
1'-6" MOUNTABLE C&G	-Y-	24+05.00	27+15.00	MED
2'-6" C&G	-Y-	22+97.82	28+05.00	LT

NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

ENGLISH

PROJECT REFERENCE NO.	SHEET NO.
R-2823	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 8 OF 68

F/F DENOTES FILL IN WETLAND
S/S DENOTES IMPACTS IN SURFACE WATER
DENOTES MECHANIZED CLEARING
TS/TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

MATCHLINE -Y- STA. 17+50 SEE SHEET 24

MATCHLINE -L- STA. 17+00 SEE SHEET 4

MATCHLINE -L- STA. 31+00 SEE SHEET 6

MATCHLINE -Y- STA. 27+00 SEE SHEET 25

SITE 1

RIPRAP PAD DATA
-L- 28+80 RT
Q10= 14.93cfs
V10= 0.93ft/s

PREFORMED SCOUR HOLE DATA
-L- 29+55 LT
Q10= 8.41cfs
V10= 0.98ft/s

PER 4B MEETING: DO NOT BURY #107 1'

LP STA. 17+37.56 -L-

HP STA. 21+20.43 -L-

LP STA. 29+80.52 -L-

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MORRIS J. HURT (8)

WILLIAM D. DRIVER, JR. (9)

REBECCA D. PARIS (10)

SR 1613 WINSTEAD AVE. EXT.

SR 1604 HUNTER HILL RD

SPECIAL CUT DITCH SEE DETAIL B

LATERAL BASE DITCH SEE DETAIL D

SPECIAL BACK OF CURB CUT DITCH SEE DETAIL J

48" WW FENCE

LATERAL V DITCH SEE DETAIL A

PSH SEE DETAIL C

PSRM

5 TONS CL B RIPRAP W/14 SY FIL FAB INV=128.14

49 TONS CL I RIPRAP W/75 SY FIL FAB RIPRAP ON BANKS ONLY INV=126.40

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)
Min. D= 1.0Ft.
D= 2.0Ft.
FROM -L- STA. 25+00 TO STA. 27+26 RT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)
Min. D= 1.0Ft.
FROM -Y- STA. 20+00 TO STA. 21+00 RT

DETAIL C
PREFORMED SCOUR HOLE
PLAN VIEW
SECTION A-A
B= 4.5Ft.
D= 1.0Ft.
W= 4.0Ft.
d= 0.5Ft.
5/05
-L- STA. 28+80 RT
-L- STA. 29+55 LT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)
Min. D= 1.5Ft.
B= 2.0Ft.
b= 2.0Ft.
FROM -L- STA. 17+38 TO STA. 21+00 LT
FROM -L- STA. 26+00 TO STA. 29+50 LT
FROM -Y- STA. 21+00 TO STA. 21+76 RT

DETAIL J
SPECIAL BACK OF CURB CUT DITCH
(NOT TO SCALE)
D=1.0'
FROM -L- STA. 22+45 TO STA. 26+00 LT
(LINE 25+00 - 26+00 W/PSRM)

FOR -L- PROFILE SEE SHT. 31
FOR -Y- PROFILE SEE SHTS. 40 & 41

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

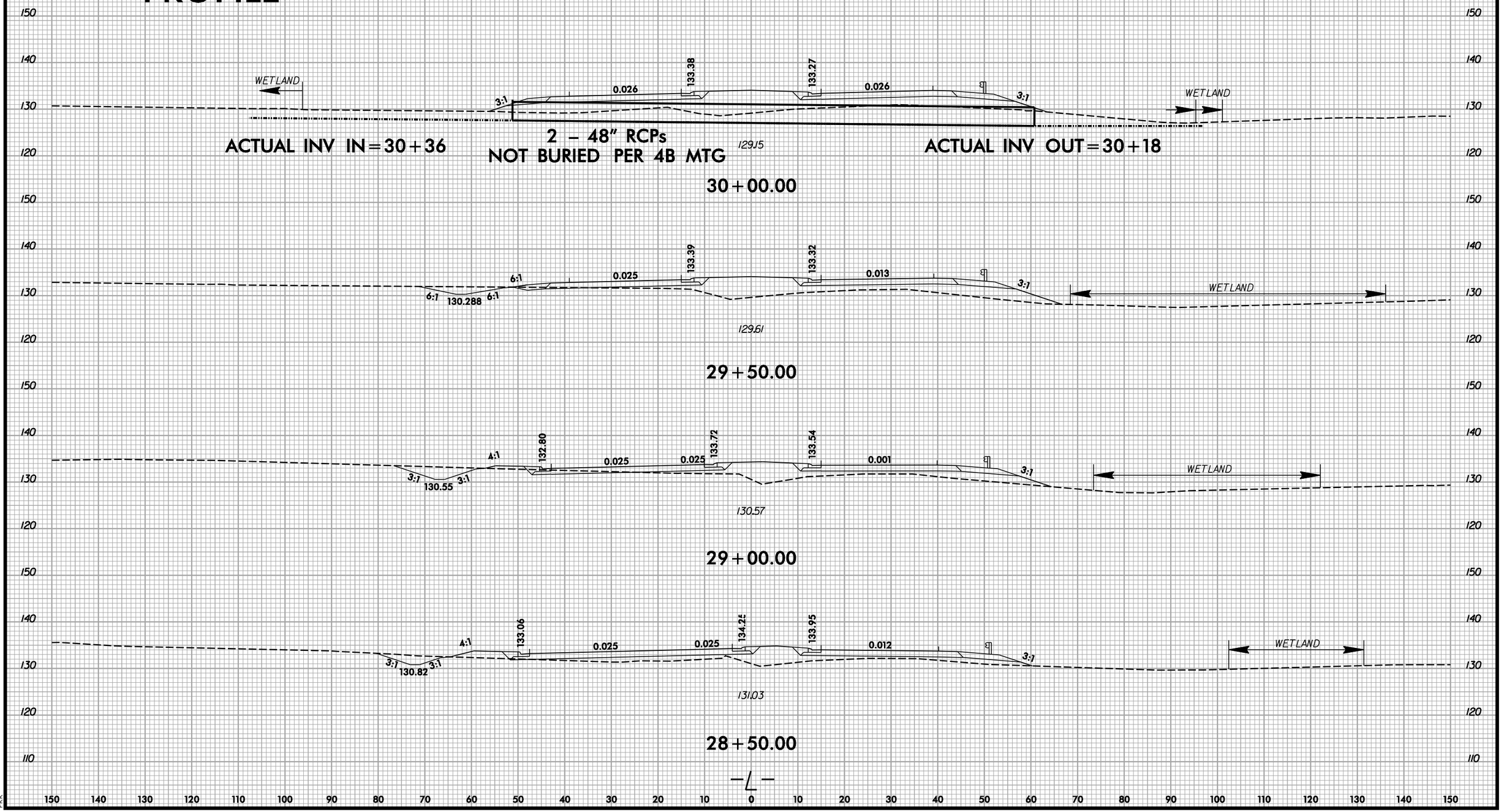
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-12

SITE 1
PERMIT DRAWING
SHEET 9 OF 68

STREAMLINE PROFILE



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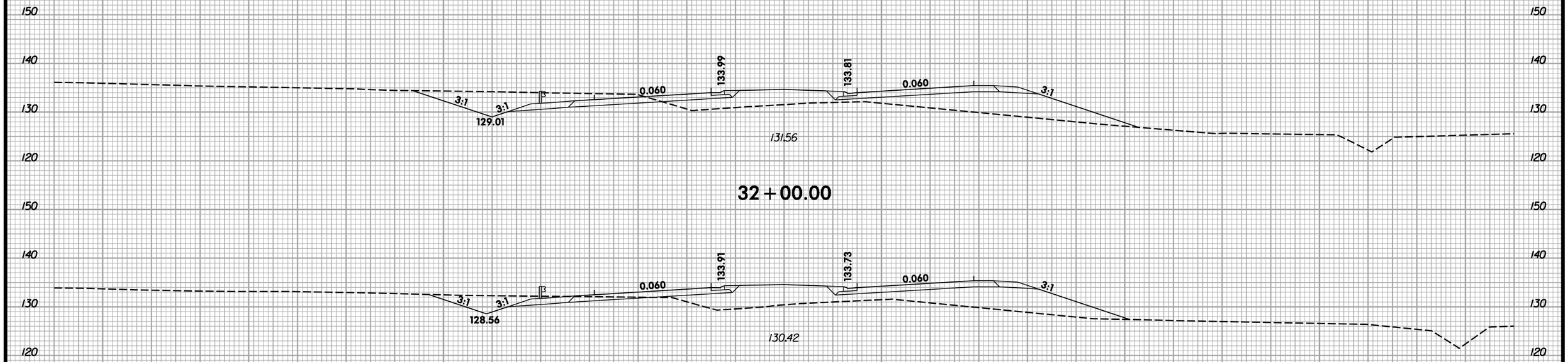
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-13

SITE 1

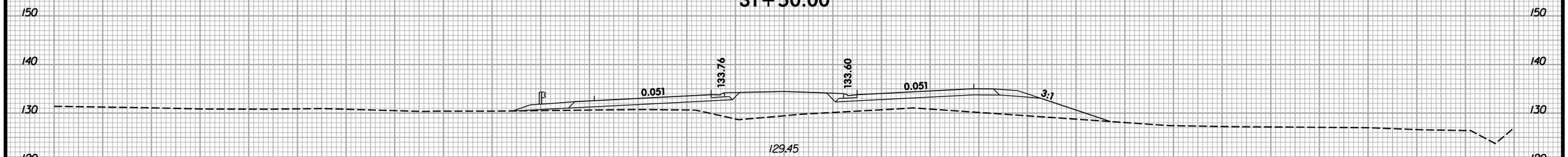
PERMIT DRAWING
SHEET 10 OF 68

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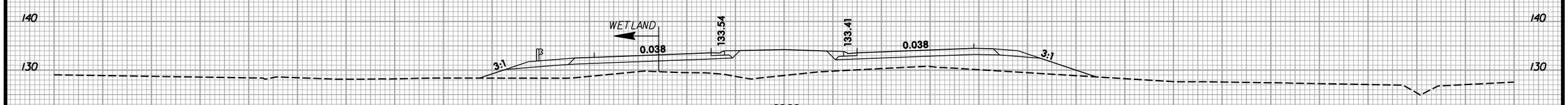


32+00.00

31+50.00



31+00.00



30+50.00

—℄—

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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8/17/99

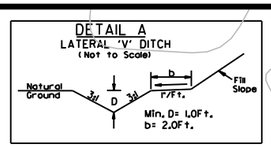
PROJECT REFERENCE NO.	SHEET NO.
R-2823	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 11 OF 68

ENGLISH

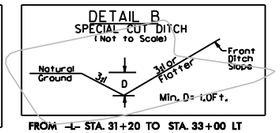
DETAIL A
LATERAL 'V' DITCH
(Not to Scale)



Min. D= 1.0Ft.
b= 2.0Ft.

FROM -L- STA. 44+00 TO STA. 44+50 RT

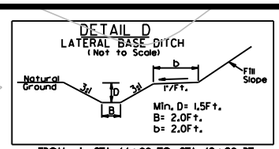
DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



Min. D= 1.0Ft.

FROM -L- STA. 31+20 TO STA. 33+00 LT
FROM -L- STA. 35+00 TO STA. 37+50 LT

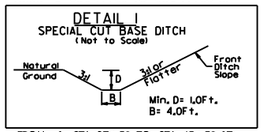
DETAIL D
LATERAL BASE DITCH
(Not to Scale)



Min. D= 1.5Ft.
B= 2.0Ft.
b= 2.0Ft.

FROM -L- STA. 44+00 TO STA. 48+20 RT

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)



Min. D= 1.0Ft.
B= 4.0Ft.

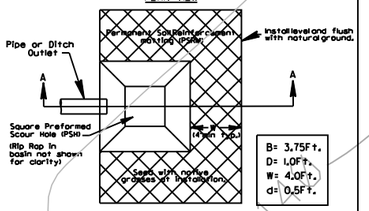
FROM -L- STA. 37+50 TO STA. 45+50 LT

F F DENOTES FILL IN WETLAND

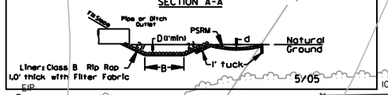
DENOTES MECHANIZED CLEARING

DETAIL H
PREFORMED SCOUR HOLE

PLAN VIEW



SECTION A-A



5/05

-L- STA. 31+20 LT

BENJAMIN R. RICKS, et al (5)
CULTIVATED
B.W. VARNELL, HEIRS (14)
TOBY E. MITCHELL (16)
TALMAGE LEE WELLS (17)
PAMELA B. GARDNER (22)
WADE L. MEDLIN (23)
ANNIE D. BARTHOLOMEW (19)
REBECCA D. PARIS (10)
MIRIAM V. HAYES (11)
DURWOOD LEE SHREVE (12)
B.W. VARNELL, HEIRS (13)
JOHN R. MORRIS (15)
SHARON B. LANDIS (18)
TAREK R. TRAISH (20)
CLYDE M. KEEN (21)
CLYDE M. KEEN (24)

MATCHLINE -L- STA. 31+00 SEE SHEET 5

MATCHLINE -L- STA. 44+50 SEE SHEET 7

PSH SEE DETAIL H
SPECIAL CUT DITCH SEE DETAIL B
SPECIAL CUT BASE DITCH SEE DETAIL I
LATERAL BASE DITCH SEE DETAIL D
48" WW FENCE
PUE
REMOVE
PPES
EXISTING R/W
WOODRUFF RD 23' BST
GOOSE BRANCH DR 24' CMS
TO LP
SITE 3
1 TONS CL B RIPRAP W/5 SY. FIL FAB INV = 124.73
BZ 1
BZ 2

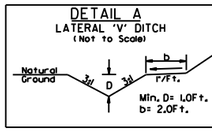
FOR -L- PROFILE SEE SHTS. 31 & 32

CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
2'-6" C&G	-L-	39+04.00	40+60.63	RT
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN				

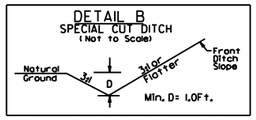
PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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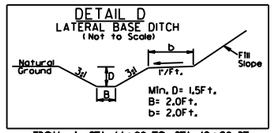
8/17/99



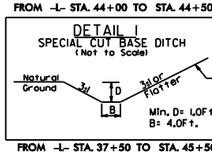
FROM -L- STA. 44+00 TO STA. 44+50 RT



FROM -L- STA. 31+20 TO STA. 33+00 LT
FROM -L- STA. 35+00 TO STA. 37+50 LT



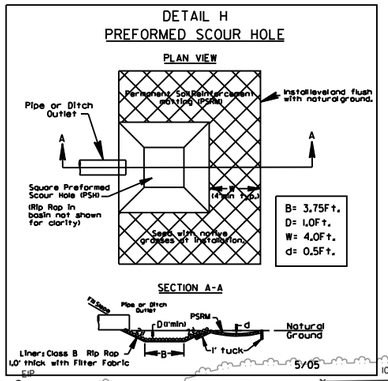
FROM -L- STA. 44+00 TO STA. 48+20 RT



FROM -L- STA. 37+50 TO STA. 45+50 LT

F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING



PROJECT REFERENCE NO.	SHEET NO.
R-2823	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 12 OF 68

ENGLISH

MATCHLINE -L- STA. 31+00 SEE SHEET 5

MATCHLINE -L- STA. 44+50 SEE SHEET 7

-L- STA. 31+20 LT

BENJAMIN R. RICKS, et al (5) CULTIVATED

B.W. VARNELL, HEIRS (14)

TOBY E. MITCHELL (16)

TALMAGE LEE WELLS (17)

PAMELA B. GARDNER (22)

WADE L. MEDLIN (23)

ANNIE D. BARTHOLOMEW (19)

REBECCA D. PARIS (10)

MIRIAM V. HAYES (11)

DURWOOD LEE SHREVE (12)

B.W. VARNELL, HEIRS (13)

JOHN R. MORRIS (15)

SHARON B. LANDIS (18)

TAREK R. TRAISH (20)

CLYDE M. KEEN (21)

CLYDE M. KEEN (24)

WOODRUFF RD 23' BST

GOOSE BRANCH DR 24' C&G

SITE 3

PSH SEE DETAIL H

SPECIAL CUT DITCH SEE DETAIL B

SPECIAL CUT BASE DITCH SEE DETAIL I

48" WW FENCE

1 TONS CL B RIPRAP W/5 SY FIL FAB INV = 124.73

LATERAL BASE DITCH SEE DETAIL D

PUE

REMOVE

PPES

TO LP

FOR -L- PROFILE SEE SHTS. 31 & 32

CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
2'-6" C&G	-L-	39+04.00	40+60.63	RT
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN				

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

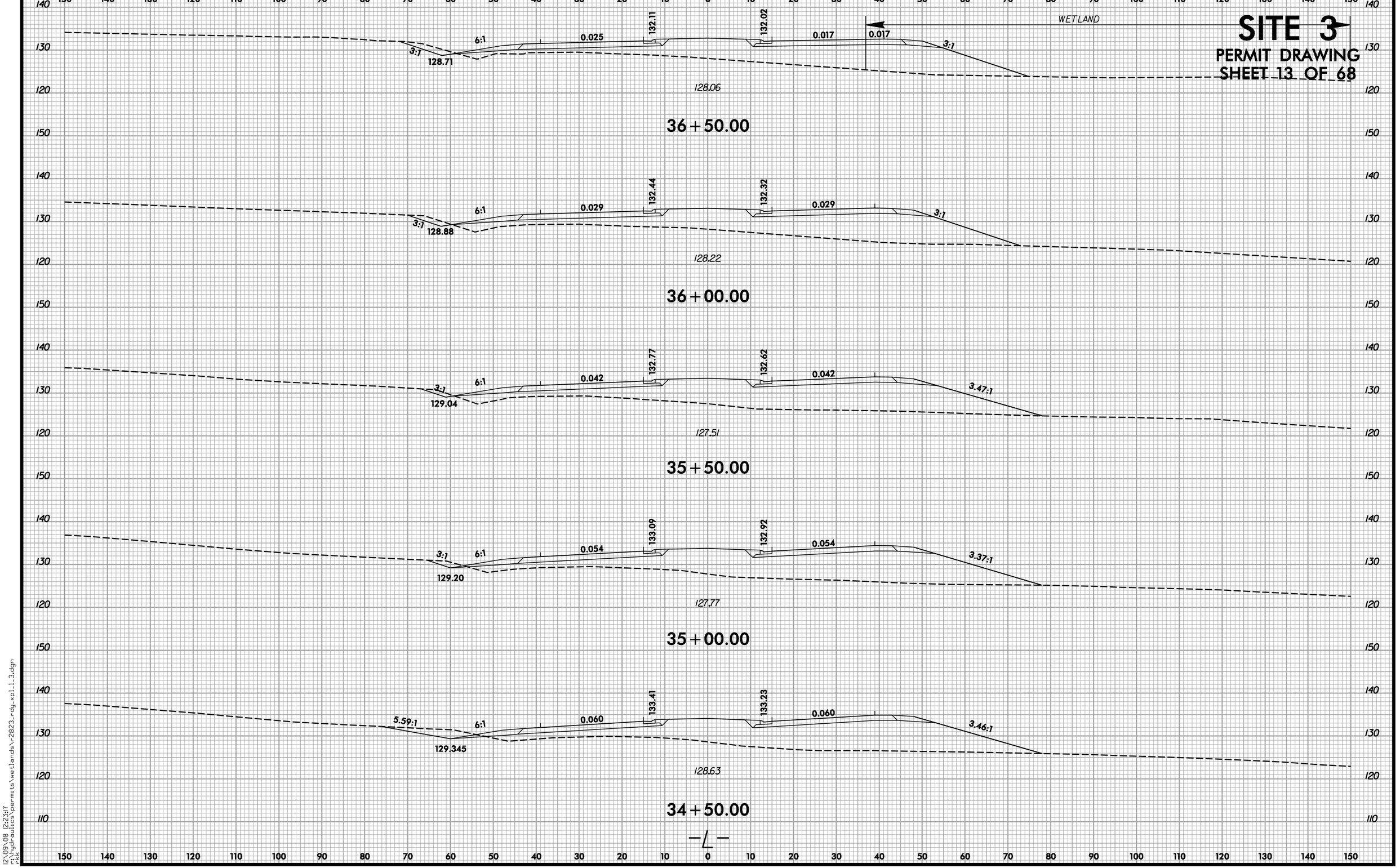
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-15

SITE 3

PERMIT DRAWING
SHEET 13 OF 68



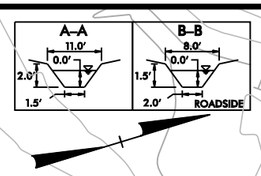
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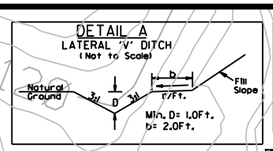
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

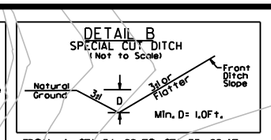
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 14 OF 68

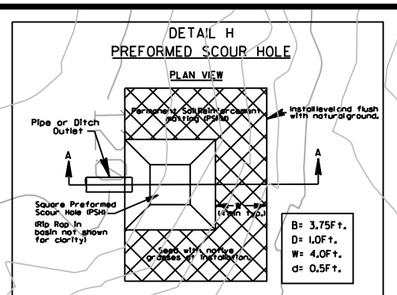




FROM -Y1- STA. 14+00 TO STA. 15+25 RT
FROM -Y1- STA. 14+00 TO STA. 16+00 LT



FROM -L- STA. 54+09 TO STA. 55+00 LT
FROM -L- STA. 12+89 TO STA. 14+00 LT & RT
FROM -Y1- STA. 16+00 TO STA. 17+20 LT



-L- STA. 48+20 RT

GRASS SWALE DATA -L- 41+00 – 48+00 RT	GRASS SWALE DATA -L- 48+25 – 48+85 LT
DA= 2.35ac	DA= 15.58ac
SLOPE= 0.36%	SLOPE= 0.25%
L REQ.= 235'	L REQ.= NA
L PRO.= 270'	L PRO.= NA
Q2= 6.93cfs	Q2= 19.19cfs
V2= 1.44ft/s	V2= 1.64ft/s
D2= 0.98'	D2= 1.00'
Q10= 8.72cfs	Q10= 26.43cfs
V10= 1.68ft/s	V10= 2.01ft/s
D10= 1.02'	D10= 1.09'
GRASS SWALE DATA -L- 48+95 – 49+50 LT	**GRASS SWALE DATA -Y1- 14+00 – 17+20 LT**
DA= 6.09ac	DA= 1.44ac
SLOPE= 0.82%	SLOPE= 0.92%
L REQ.= NA	L REQ.= 144'
L PRO.= NA	L PRO.= 320'
Q2= 8.04cfs	Q2= 3.19cfs
V2= 1.70ft/s	V2= 1.79ft/s
D2= 0.51'	D2= 0.73'
Q10= 11.07cfs	Q10= NA
V10= 1.95ft/s	V10= NA
D10= 0.59'	D10= NA

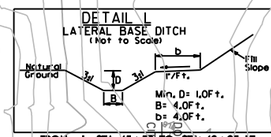
PREFORMED SCOUR HOLE DATA -L- 48+20 RT
Q10= 8.72cfs
V10= 0.99ft/s
RIPRAP PAD DATA -L- 50+75 RT
Q10= 14.32cfs
V10= 0.92ft/s

FROM -L- STA. 44+00 TO STA. 48+20 RT

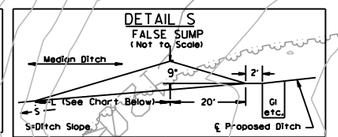
Type of Liner= PSRM

FROM -L- STA. 50+80 TO STA. 52+00 RT

FROM -L- STA. 37+50 TO STA. 45+50 LT



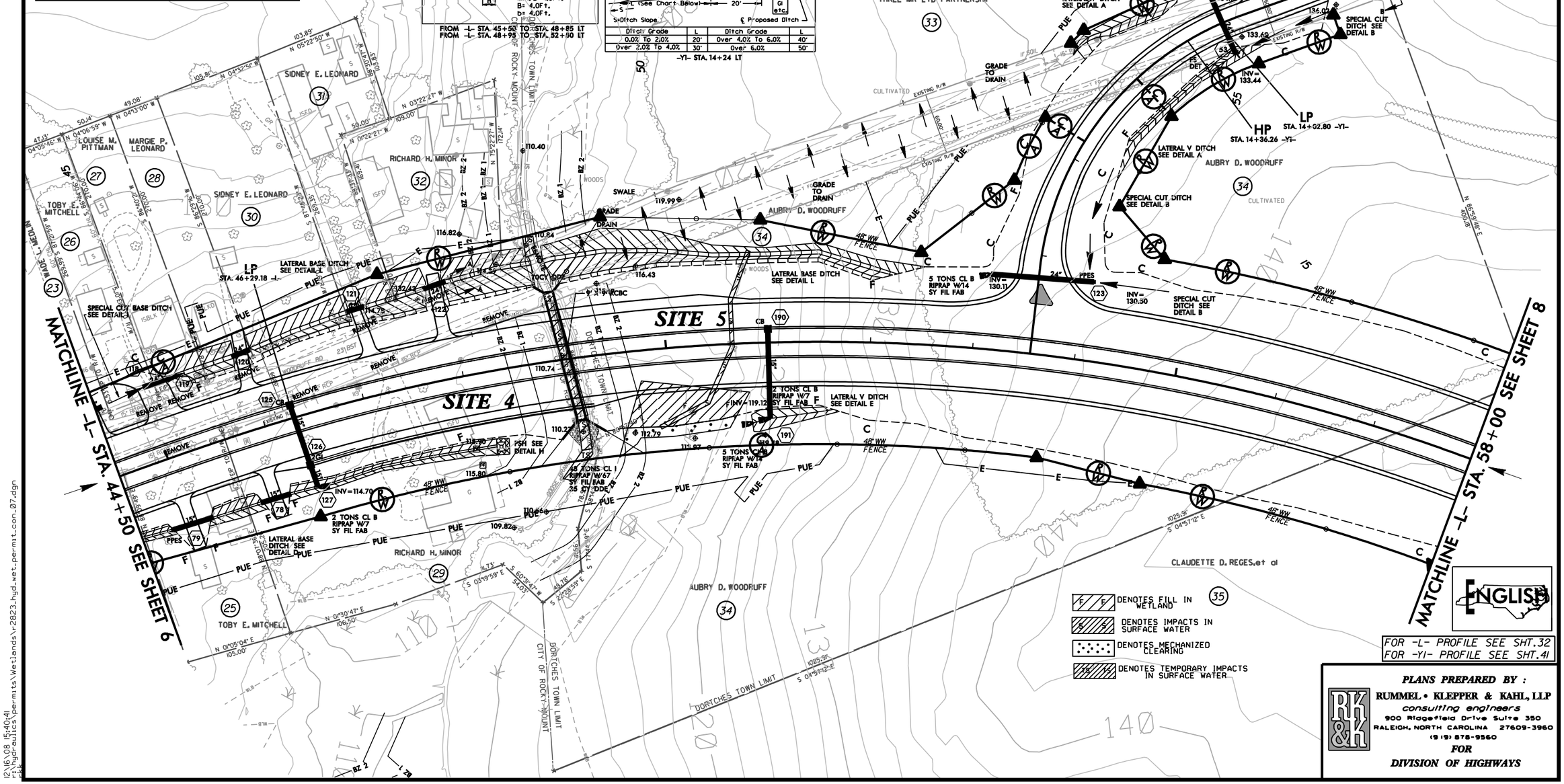
FROM -L- STA. 45+50 TO STA. 48+85 LT
FROM -L- STA. 48+95 TO STA. 52+50 LT



Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

-Y1- STA. 14+24 LT

CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	46+30.02	49+23.75	RT
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN				



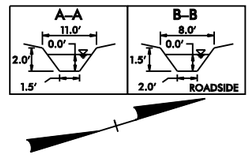
DENOTES FILL IN WETLAND
DENOTES IMPACTS IN SURFACE WATER
DENOTES MECHANIZED CLEARING
DENOTES TEMPORARY IMPACTS IN SURFACE WATER

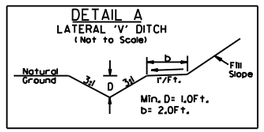
FOR -L- PROFILE SEE SHT.32
FOR -Y1- PROFILE SEE SHT.41

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

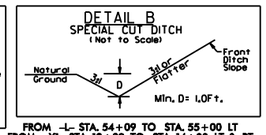
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8/17/99

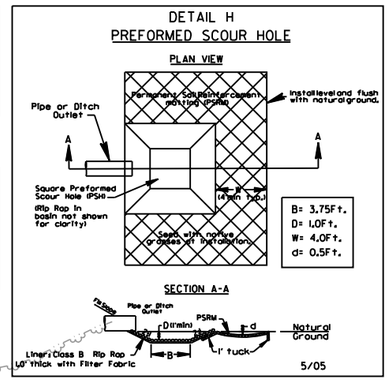




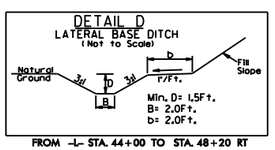
FROM -Y1- STA. 14+00 TO STA. 15+25 RT
FROM -Y1- STA. 14+00 TO STA. 16+00 LT



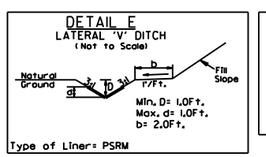
FROM -L- STA. 54+09 TO STA. 55+00 LT
FROM -Y1- STA. 12+89 TO STA. 14+00 LT & RT
FROM -Y1- STA. 16+00 TO STA. 17+20 LT



-L- STA. 48+20 RT

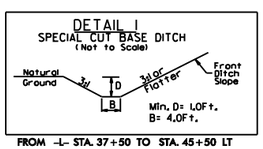


FROM -L- STA. 44+00 TO STA. 48+20 RT



Type of Liner= PSRM

FROM -L- STA. 50+80 TO STA. 52+00 RT



FROM -L- STA. 37+50 TO STA. 45+50 LT

GRASS SWALE DATA -L- 41+00 - 48+00 RT	GRASS SWALE DATA -L- 48+25 - 48+85 LT
DA= 2.35ac SLOPE= 0.30% L REQ.= 235' L PRO.= 270' Q2= 6.93cfs V2= 1.44ft/s D2= 0.98' Q10= 8.72cfs V10= 1.68ft/s D10= 1.02'	DA= 15.58ac SLOPE= 0.25% L REQ.= NA L PRO.= NA Q2= 19.19cfs V2= 1.64ft/s D2= 1.00' Q10= 26.43cfs V10= 2.01ft/s D10= 1.09'
GRASS SWALE DATA -L- 48+95 - 49+50 LT	**GRASS SWALE DATA -Y1- 14+00 - 17+20 LT**
DA= 6.09ac SLOPE= 0.82% L REQ.= NA L PRO.= NA Q2= 8.04cfs V2= 1.70ft/s D2= 0.51' Q10= 11.07cfs V10= 1.95ft/s D10= 0.59'	DA= 1.44ac SLOPE= 0.92% L REQ.= 144' L PRO.= 320' Q2= 3.19cfs V2= 1.79ft/s D2= 0.73' Q10= NA V10= NA D10= NA

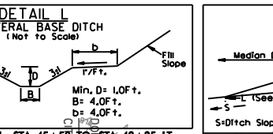
PREFORMED SCOUR HOLE DATA -L- 48+20 RT
Q10= 8.72cfs V10= 0.99ft/s
RIPRAP PAD DATA -L- 50+75 RT
Q10= 14.32cfs V10= 0.92ft/s

PROJECT REFERENCE NO.	SHEET NO.
R-2823	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

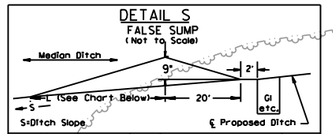
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 15 OF 68

CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	46+30.02	49+23.75	RT
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN				

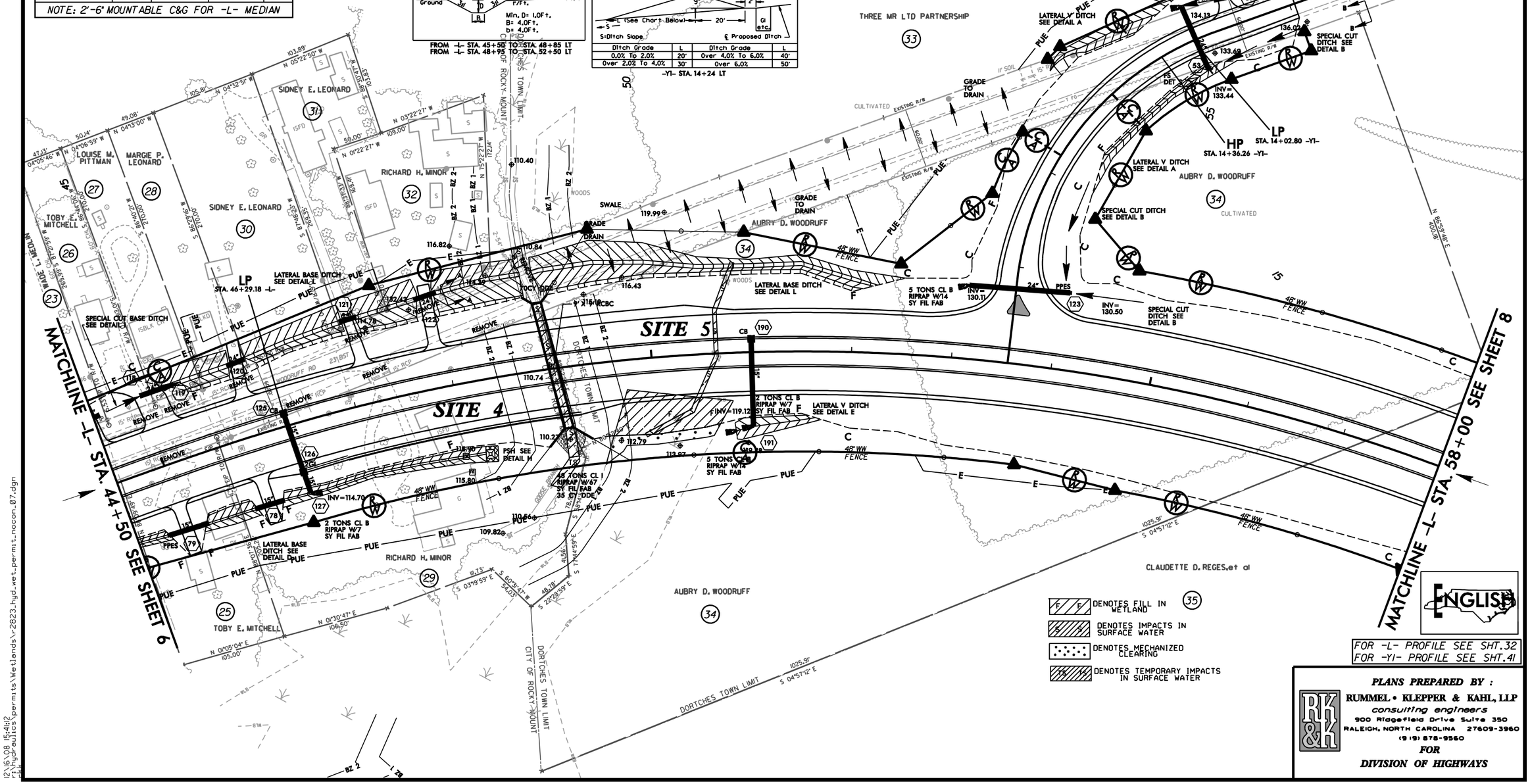


FROM -L- STA. 45+50 TO STA. 48+85 LT
FROM -L- STA. 48+95 TO STA. 52+50 LT



Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

-Y1- STA. 14+24 LT



FOR -L- PROFILE SEE SHT.32
FOR -Y1- PROFILE SEE SHT.41

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FOR
DIVISION OF HIGHWAYS

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PROJECT REFERENCE NO.	SHEET NO.
R-2823	32
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 16 OF 68

-L-

PI = 32+65.00
EL = 134.64'
VC = 430'
K = 374

(+)0.5000%
(-)0.6500%
(+)0.89% LT
(-)0.32% LT
(-)0.75% LT
(-)0.65000%
(-)2.59% LT
(-)0.60% LT
(-)2.13% LT
(-)3.26% RT
(-)2.3500%

PROPOSED GRADE

PI = 41+25.00
EL = 129.05'
VC = 350'
K = 206

EXISTING GROUND

BEG. SP. CUT DITCH
-L- STA.35+00 LT
EL. 129.20

END SP. CUT DITCH
-L- STA.33+00 LT
EL. 129.90

END SP. CUT DITCH
BEG. SP. CUT BASE DITCH
-L- STA.37+50 LT
EL. 128.39

PI -L- STA. 41+00 LT
EL. 125.77

PI -L- STA. 43+00 LT
EL. 120.60

PI -L- STA. 44+00 LT
EL. 120.00

PI -L- STA. 45+50 RT
EL. 114.95

BEG. LAT. BASE DITCH
-L- STA. 44+00 RT
EL. 119.84

END SP. CUT BASE DITCH
BEG. LAT. BASE DITCH
-L- STA.45+50 LT
EL. 116.81

32+00 33+00 34+00 35+00 36+00 37+00 38+00 39+00 40+00 41+00 42+00 43+00 44+00 45+00 46+00

170 160 150 140 130 120 110 100 90 80

RR SPIKE IN BASE OF 8" OAK
-L- STA. 48+90.14 163.45' LT
ELEV.= 114.83'

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE 9'x9' RCBC
STA.49+02 -L-

DRAINAGE AREA	1.0	SQ.MI.
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 700	CFS
DESIGN HW ELEVATION	= 120.4	FT
100 YEAR DISCHARGE	= 900	CFS
100 YEAR HW ELEVATION	= 121.6	FT
OVERTOPPING FREQUENCY	= 50 +	YRS
OVERTOPPING DISCHARGE	= 760	CFS
OVERTOPPING ELEVATION	= 121.1	FT

-Y1- STA.17+96.51=
-L- STA.53+56.26

EXISTING GROUND

PROPOSED GRADE

PI = 45+85.00
EL = 118.24'
VC = 570'
K = 140

END LAT. BASE DITCH
-L- STA. 48+20 RT
EL. 114.14

9'x9' RCBC

PI -L- STA. 51+00 LT
EL. 118.71

(+)11.7192%
(-)0.30% RT
(-)2.13% LT
(-)0.25% LT
(+)0.82% LT
(+)4.97% LT
(+)6.73% LT
(+)5.61% RT
(+)3.66% LT

PI -L- STA. 48+25 LT
EL. 110.95

PI -L- STA. 49+50 LT
EL. 111.25

BEG. SP. CUT DITCH
-L- STA. 54+09 LT
EL. 130.50

END SP. CUT DITCH
-L- STA. 55+00 LT
EL. 133.83

END LAT. BASE DITCH
-L- STA. 52+50 LT
EL. 128.81

END LAT. V DITCH
-L- STA. 52+00 RT
EL. 124.73

BEG. LAT. BASE DITCH
-L- STA. 48+95 LT
EL. 110.80

BEG. LAT. V DITCH
-L- STA. 50+80 RT
EL. 118.00

END LAT. BASE DITCH
-L- STA. 48+85 LT
EL. 110.80

LEFT SIDE DITCH PROFILE
RIGHT SIDE DITCH PROFILE

FOR -L- PLAN SEE SHTS.6 THRU 8

46+00 47+00 48+00 49+00 50+00 51+00 52+00 53+00 54+00 55+00 56+00 57+00 58+00 59+00 60+00

170 160 150 140 130 120 110 100 90 80

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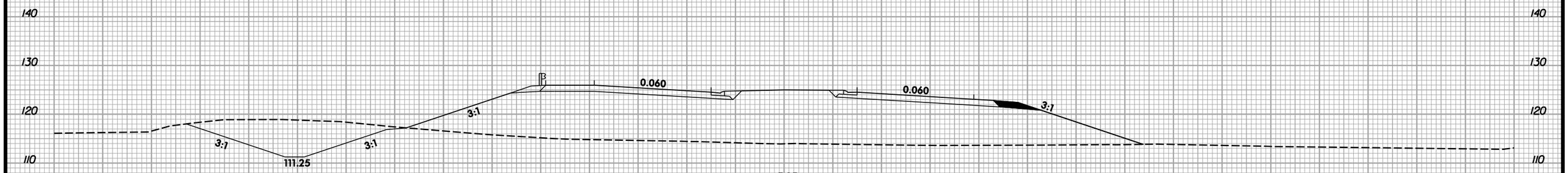
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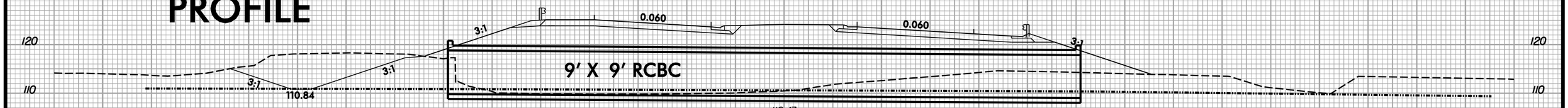
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	R-2823	X-21

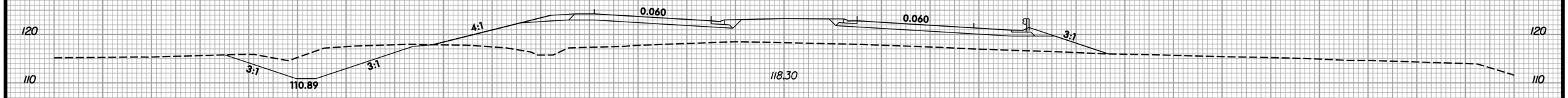
SITES 4 & 5

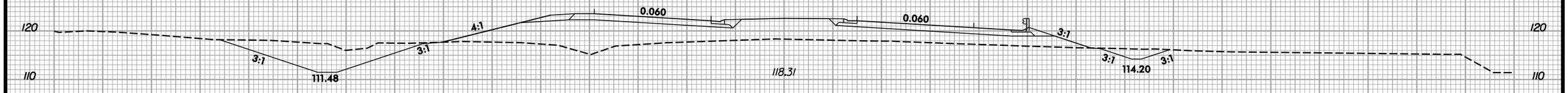
PERMIT DRAWING
SHEET 17 OF 68

STREAMLINE PROFILE









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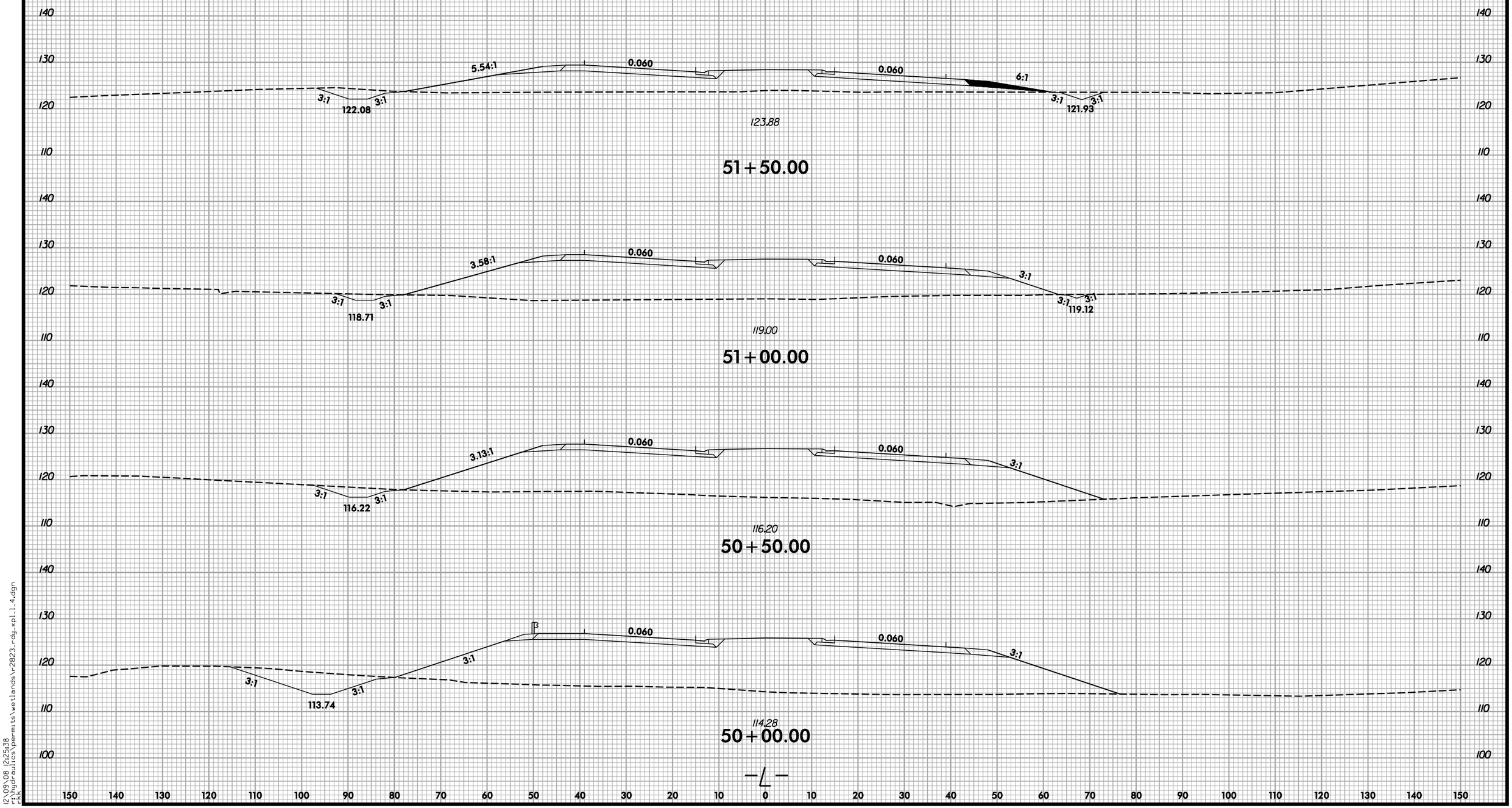
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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-22

SITES 4 & 5

PERMIT DRAWING
SHEET 18 OF 68



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PROJECT REFERENCE NO.	SHEET NO.
R-2823	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 19 OF 68

ENGLISH

F/F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

SITE 6

HP
STA. 65+03.61 -L-

MATCHLINE -L- STA. 58+00 SEE SHEET 7

MATCHLINE -L- STA. 72+00 SEE SHEET 9

CLAUDETTE D. REGES,et al (35)

BETTY G. WOODRUFF (36)

AUBRY D. WOODRUFF (34)

CLAUDETTE D. REGES,et al (37)

BENAN PROPERTIES, LLC

CLAUDETTE D. REGES,et al (38)

MARY F. MUTZABAUGH

CULTIVATED

WOODS

LATERAL V DITCH SEE DETAIL A

48" WW FENCE

PUE

ISFBLS

DOORCHIES TOWN LIMIT

N 72°45'06" W 664.85'

S 09°22'06" E 2612.80'

S 10°33'38" W 472.20'

S 72°41'41" E 105.43'

S 72°50'56" E 241.25'

394.68' S 08°50'12" W

1034.08' S 09°51'12" E

2348.02' S 06°07'41" E

S 72°50'56" E 125.51'

S 72°41'30" E 196.18'

S 17°38'30" W 296.46'

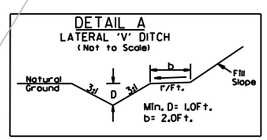
N 72°41'30" W 291.78'

140

CURB & GUTTER LOCATIONS

NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

DETAIL A
LATERAL "V" DITCH
(Not to Scale)



Min. D= 1.0Ft.
b= 2.0Ft.

FROM -L- STA. 60+50 TO STA. 63+00 LT

HISTORIC AREA

FOR -L- PROFILE SEE SHTS.32 & 33

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FOR
DIVISION OF HIGHWAYS

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 20 OF 68

ENGLISH

F/F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

SITE 6

HP
STA. 65+03.61 -L-

MATCHLINE -L- STA. 58+00 SEE SHEET 7

MATCHLINE -L- STA. 72+00 SEE SHEET 9

CLAUDETTE D. REGES,et al (35)

BETTY G. WOODRUFF (36)

AUBRY D. WOODRUFF (34)

CLAUDETTE D. REGES,et al (37)

BENAN PROPERTIES, LLC

CLAUDETTE D. REGES,et al (38)

MARY F. MUTZABAUGH

CULTIVATED

WOODS

LATERAL V DITCH SEE DETAIL A

48" WW FENCE

PUE

ISFBUS

DOORTOWN TOWN LIMIT

N 72°45'06" W 664.82'

S 69°27'06" E 912.26'

S 10°33'38" W 472.20'

S 72°41'47" E 105.43'

S 72°50'25" E 241.25'

S 72°50'56" E 125.51'

S 17°38'20" W 256.46'

N 72°41'30" W 259.78'

S 08°50'12" W 394.68'

N 01°29'32" W 659.98'

S 09°51'12" E 1034.09'

S 06°07'49" E 2348.02'

60

65

70

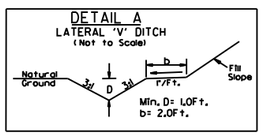
HISTORIC AREA

FOR -L- PROFILE SEE SHTS.32 & 33

CURB & GUTTER LOCATIONS

NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

DETAIL A
LATERAL "V" DITCH
(Not to Scale)



Min. D= 1.0Ft.
b= 2.0Ft.

FROM -L- STA. 60+50 TO STA. 63+00 LT

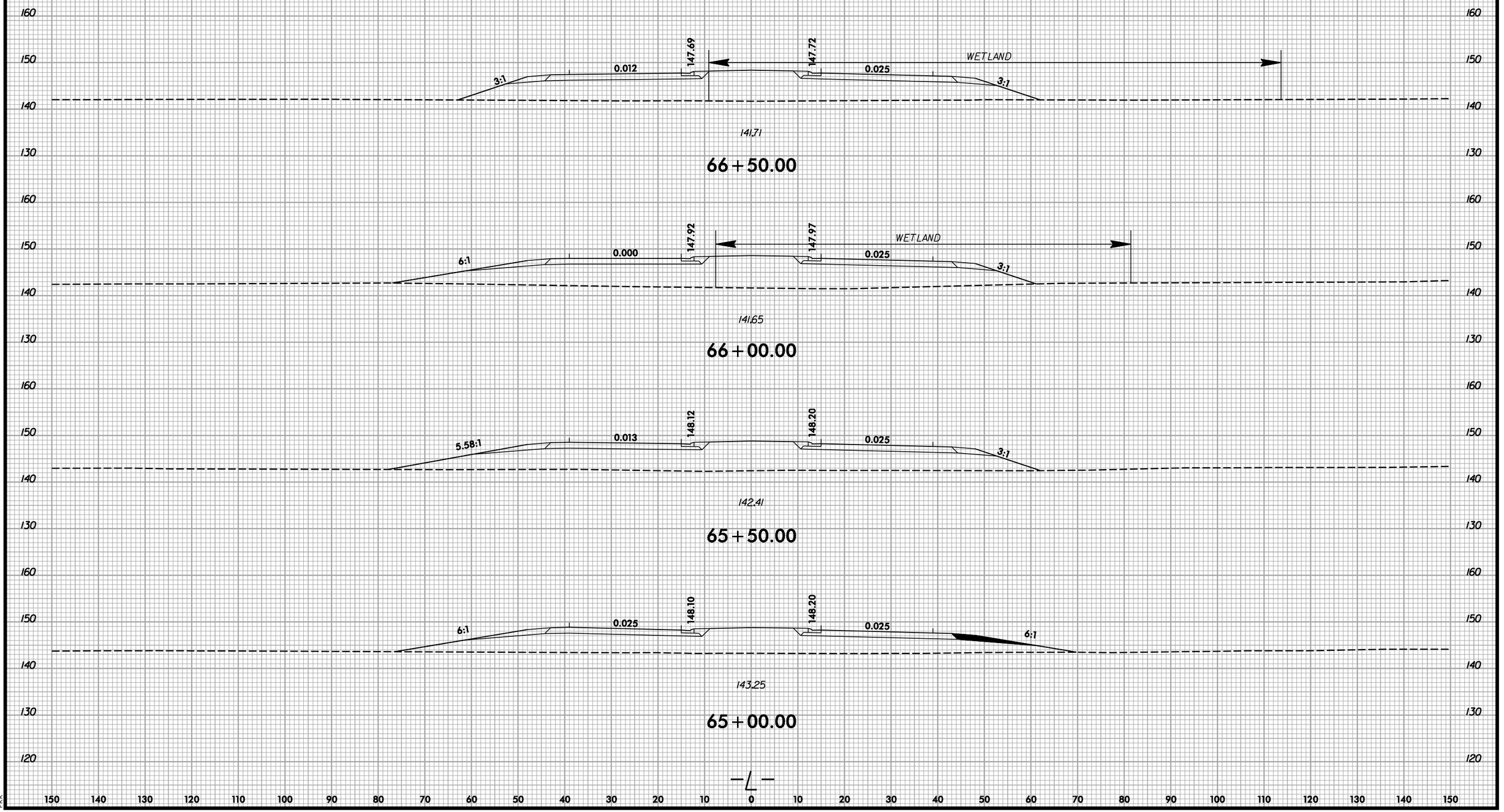
PLANS PREPARED BY :
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RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
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	R-2823	X-30

SITE 6
PERMIT DRAWING
SHEET 21 OF 68



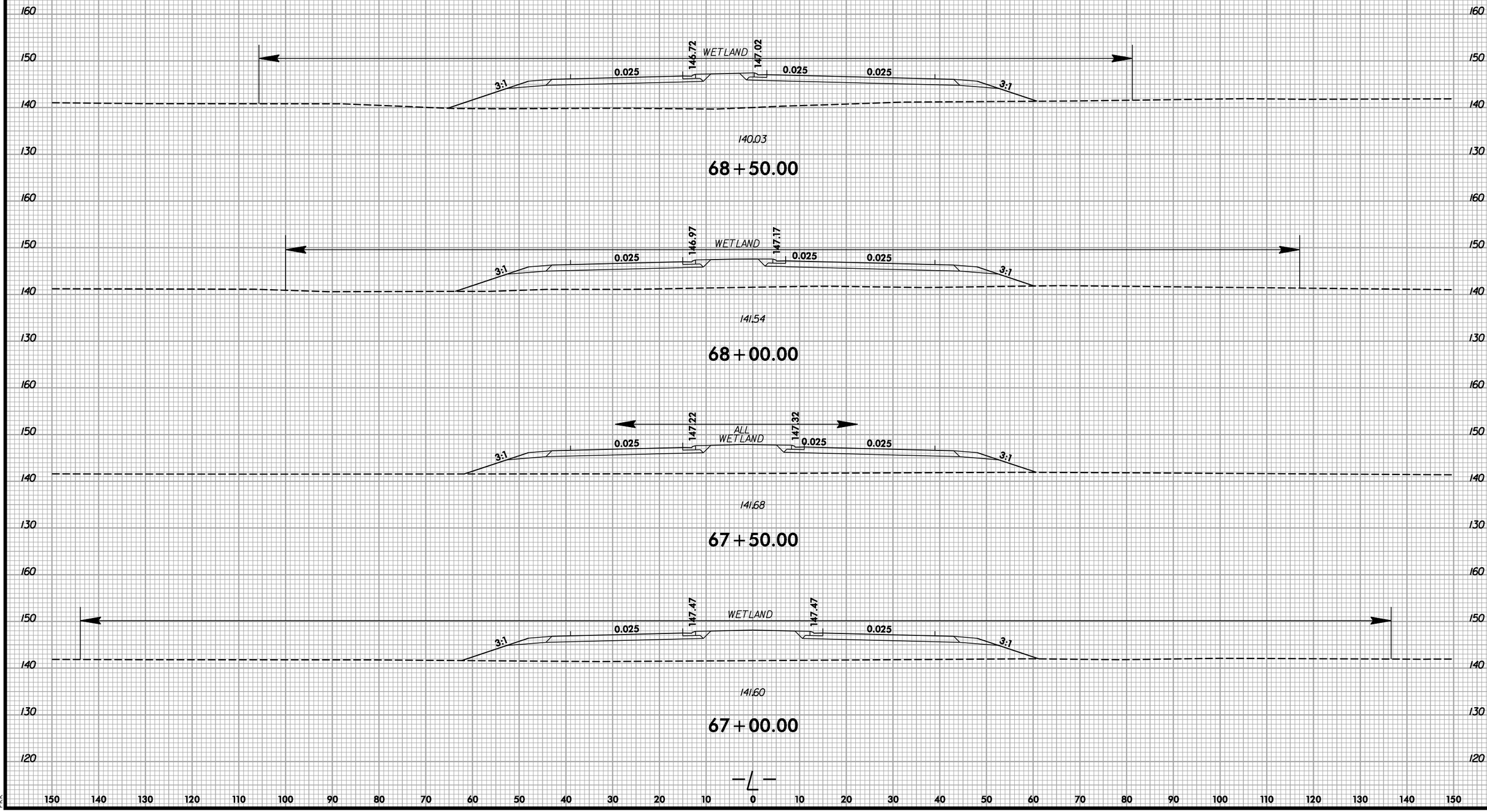
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	R-2823	X-31

SITE 6

PERMIT DRAWING
SHEET 22 OF 68



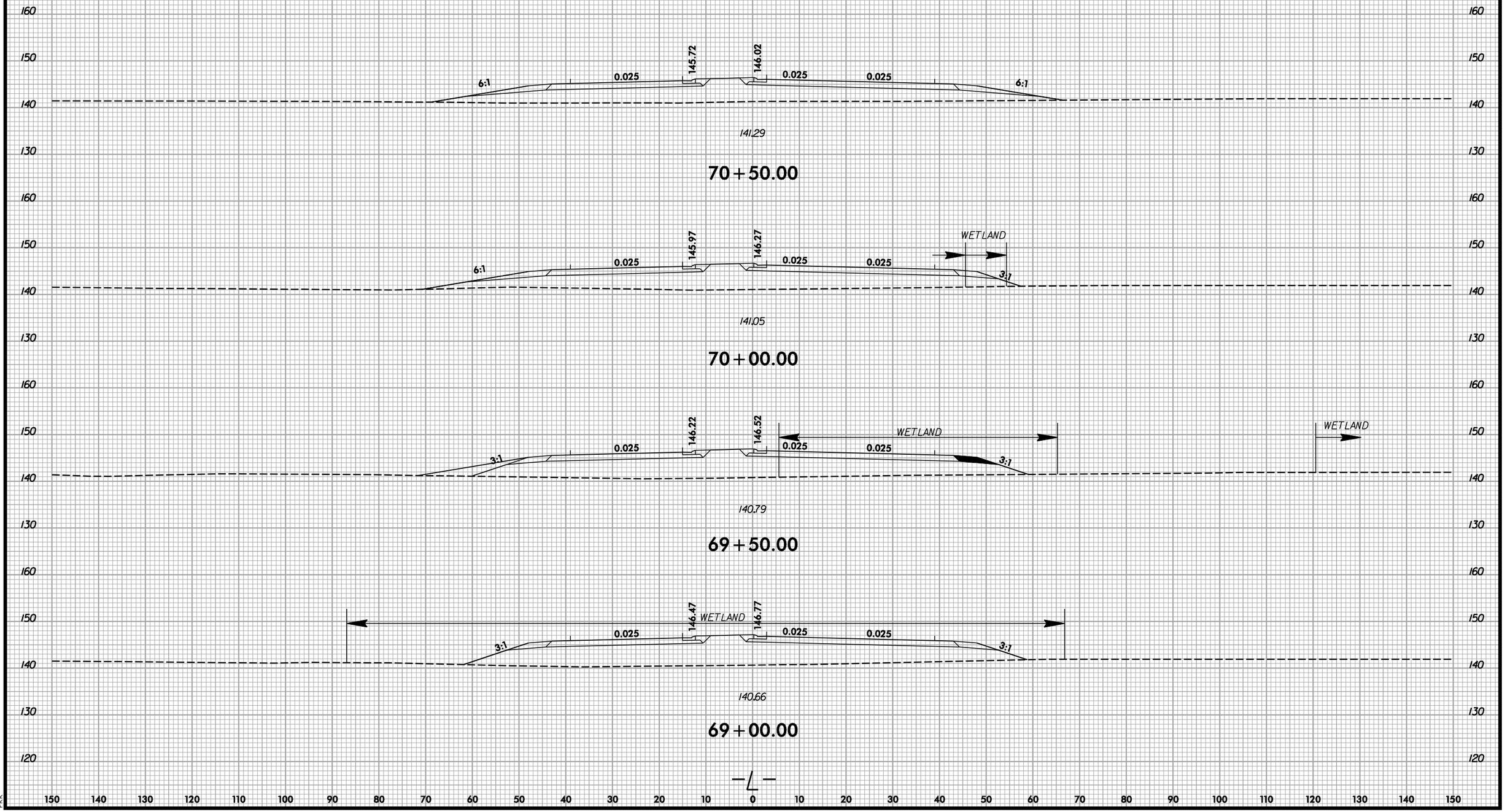
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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-32

SITE 6

PERMIT DRAWING
SHEET 23 OF 68



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PROJECT REFERENCE NO.	SHEET NO.
R-2823	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 24 OF 68

ENGLISH

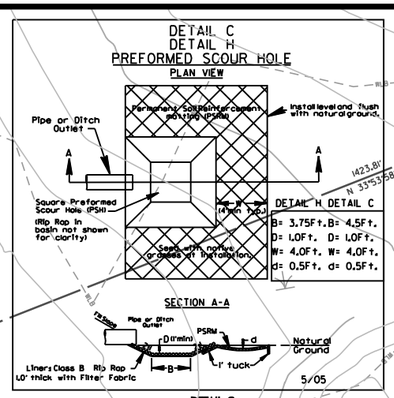
GRASS SWALE DATA
-L- 85+50 - 111+00 RT
DA= 4.54ac
SLOPE= 0.90%
L REQ.= 454'
L PRO.= 1200'
Q2= 7.99cfs
V2= 1.75ft/s
D2= 0.50'
Q10= 11.00cfs
V10= 2.01ft/s
D10= 0.57'

PREFORMED SCOUR HOLE DATA
-L- 111+05 RT
Q10= 11.03cfs
V10= 1.15ft/s

PREFORMED SCOUR HOLE DATA
-L- 114+10 RT
Q10= 3.57cfs
V10= 0.76ft/s

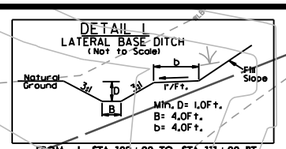
PREFORMED SCOUR HOLE DATA
-L- 114+45 RT
Q10= 13.66cfs
V10= 1.22ft/s

DETAIL C
DETAIL H
PREFORMED SCOUR HOLE

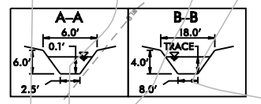


DETAIL C
-L- STA. 111+05 RT
-L- STA. 114+45 RT
DETAIL H
-L- STA. 114+10 RT

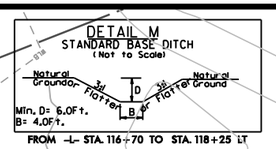
DETAIL I
LATERAL BASE DITCH
(Not to Scale)



FROM -L- STA. 109+00 TO STA. 111+00 RT



DETAIL M
STANDARD BASE DITCH
(Not to Scale)



FROM -L- STA. 116+70 TO STA. 118+25 LT

F/F DENOTES FILL IN WETLAND
E/E DENOTES EXCAVATION IN WETLAND
S/S DENOTES IMPACTS IN SURFACE WATER
TS/TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
HC/HC DENOTES HAND CLEARING
MC/MC DENOTES MECHANIZED CLEARING

ALMA W. GRIFFEN, HEIRS (42)

LP
STA. 113+98.53 -L-

SITE 7

SITE 8

EXIST. CHANNEL DISSIPATES TO NOTHING. GRADE AWAY FROM -L- TO EXIST. GROUND FOR APPR. 25' TO PREVENT FROM FLOWING AGAINST FILL SLOPE

MATCHLINE -L- STA. 110+50 SEE SHEET 11

MATCHLINE -L- STA. 124+00 SEE SHEET 13

48" WW FENCE

CUT/FILL TRANSITION
2 TONS CL B RIPRAP
W7 SY FIL FAB

STANDARD BASE DITCH
SEE DETAIL M

CULTIVATED

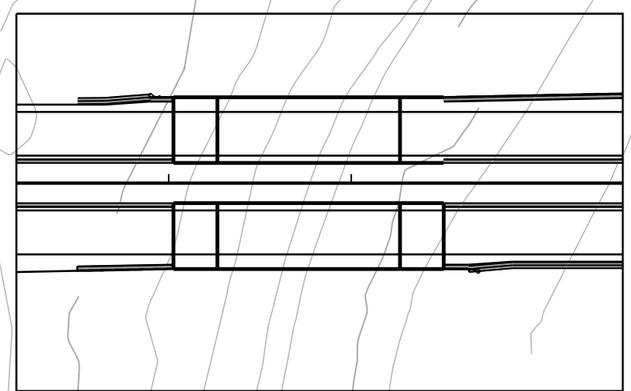
WOODS

102.96
101.60
96.94
97.10
101.45
107.58
99.81
100.25
108.02
105.84
112.59

2GI
PSH SEE DETAIL C
PSH SEE DETAIL H
CPES
INV=104.77
INV=111.73
CB 15"
LATERAL BASE DITCH SEE DETAIL I

ALMA W. GRIFFEN, HEIRS (42)

CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	110+43.00	110+96.00	RT
SBG	-L-	112+44.00	112+57.61	RT
EXP.GUTTER	-L-	112+57.61	114+00.00	RT
EXP.GUTTER	-L-	110+43.00	110+82.50	LT
SBG	-L-	110+82.50	110+96.00	LT
SBG	-L-	112+44.00	114+00.00	LT
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN				



FOR -L- PROFILE SEE SHTS.34 & 35

PLANS PREPARED BY :
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FOR
DIVISION OF HIGHWAYS

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 25 OF 68

ENGLISH

GRASS SWALE DATA
-L- 85+50 - 111+00 RT
DA= 4.54ac
SLOPE= 0.90%
L REQ.= 454'
L PRO.= 1200'
Q2= 7.99cfs
V2= 1.75ft/s
D2= 0.50'
Q10= 11.00cfs
V10= 2.01ft/s
D10= 0.57'

PREFORMED SCOUR HOLE DATA
-L- 111+05 RT
Q10= 11.03cfs
V10= 1.15ft/s

PREFORMED SCOUR HOLE DATA
-L- 114+10 RT
Q10= 3.57cfs
V10= 0.76ft/s

PREFORMED SCOUR HOLE DATA
-L- 114+45 RT
Q10= 13.66cfs
V10= 1.22ft/s

DETAIL C
DETAIL H
PREFORMED SCOUR HOLE

DETAIL C
-L- STA. 111+05 RT
-L- STA. 114+45 RT
DETAIL H
-L- STA. 114+10 RT

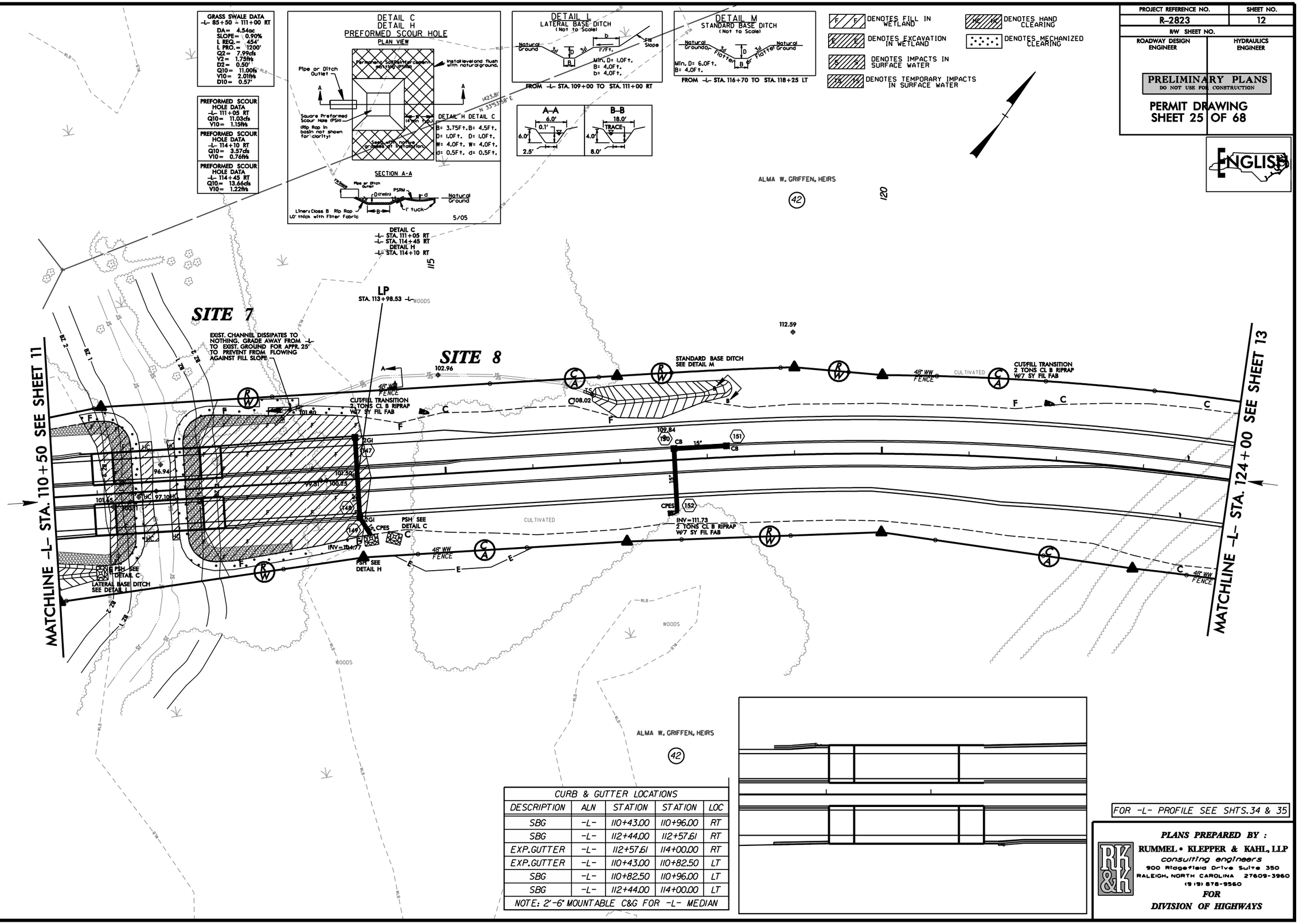
DETAIL L
LATERAL BASE DITCH
(Not to Scale)

FROM -L- STA. 109+00 TO STA. 111+00 RT

DETAIL M
STANDARD BASE DITCH
(Not to Scale)

FROM -L- STA. 116+70 TO STA. 118+25 LT

F/F DENOTES FILL IN WETLAND
E/E DENOTES EXCAVATION IN WETLAND
S/S DENOTES IMPACTS IN SURFACE WATER
TS/TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
HC/HC DENOTES HAND CLEARING
DENOTES MECHANIZED CLEARING



CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	110+43.00	110+96.00	RT
SBG	-L-	112+44.00	112+57.61	RT
EXP.GUTTER	-L-	112+57.61	114+00.00	RT
EXP.GUTTER	-L-	110+43.00	110+82.50	LT
SBG	-L-	110+82.50	110+96.00	LT
SBG	-L-	112+44.00	114+00.00	LT
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN				

FOR -L- PROFILE SEE SHTS.34 & 35

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
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(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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tkk

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	34
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 26 OF 68

-L-

PROPOSED GRADE

(-) 2.75% RT

(-) 0.31% RT

BEG. SP. CUT DITCH
-L- STA. 91+00 RT
EL. 134.89

PI -L- STA. 91+87 RT
EL. 132.50

END SP. CUT DITCH
-L- STA. 93+00 RT
EL. 132.15

PI = 98+90.00
EL = 129.93'
VC = 200'
K = 400

(-) 0.85000%

(-) 1.3500%

EXISTING GROUND

(-) 0.52% LT

BEG. SP. CUT DITCH
-L- STA. 100+00 LT
EL. 124.10

END SP. CUT DITCH
-L- STA. 101+50 LT
EL. 123.32

BRIDGE HYDRAULIC DATA
STA.111+75 -L-

DESIGN DISCHARGE	= 1,300	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 105.3	FT
BASE DISCHARGE	= 1,500	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 105.7	FT
OVERTOPPING DISCHARGE	= 6,100	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 110.9	FT
DATE OF SURVEY	= 06/2008	
W.S. ELEVATION AT DATE OF SURVEY	= 98.5	FT

BM #3
RR SPIKE IN BASE OF 14" POPLAR
-L- STA. 110+35.94 57.16' RT
ELEV.= 107.11'

PROPOSED GRADE

EXISTING GROUND

(-) 3.62% RT

(-) 1.45%

(-) 1.45% RT

END SP. CUT BASE DITCH
BEG. LAT. BASE DITCH
-L- STA. 109+00 RT
EL. 110.73

(-) 8.56% RT

(-) 0.90% RT

PI -L- STA. 109+50 RT
EL. 110.00

BEG. SP. CUT DITCH
-L- STA. 106+00 RT
EL. 117.25

END SP. CUT DITCH
BEG. SP. CUT BASE DITCH
-L- STA. 107+00 RT
EL. 113.63

PI -L- STA. 110+50 RT
EL. 101.45

END LAT. BASE DITCH
-L- STA. 111+00 RT
EL. 101.00

BEGIN BRIDGE
-L- STA.111+20 +/-

END BRIDGE
-L- STA.112+20 +/-

HORNBEAM CREEK

(-) 1.3500%

(+) 2.8500%

PI = 114+50.00
EL = 108.87'
VC = 500'
K = 147

LEFT SIDE DITCH PROFILE
RIGHT SIDE DITCH PROFILE

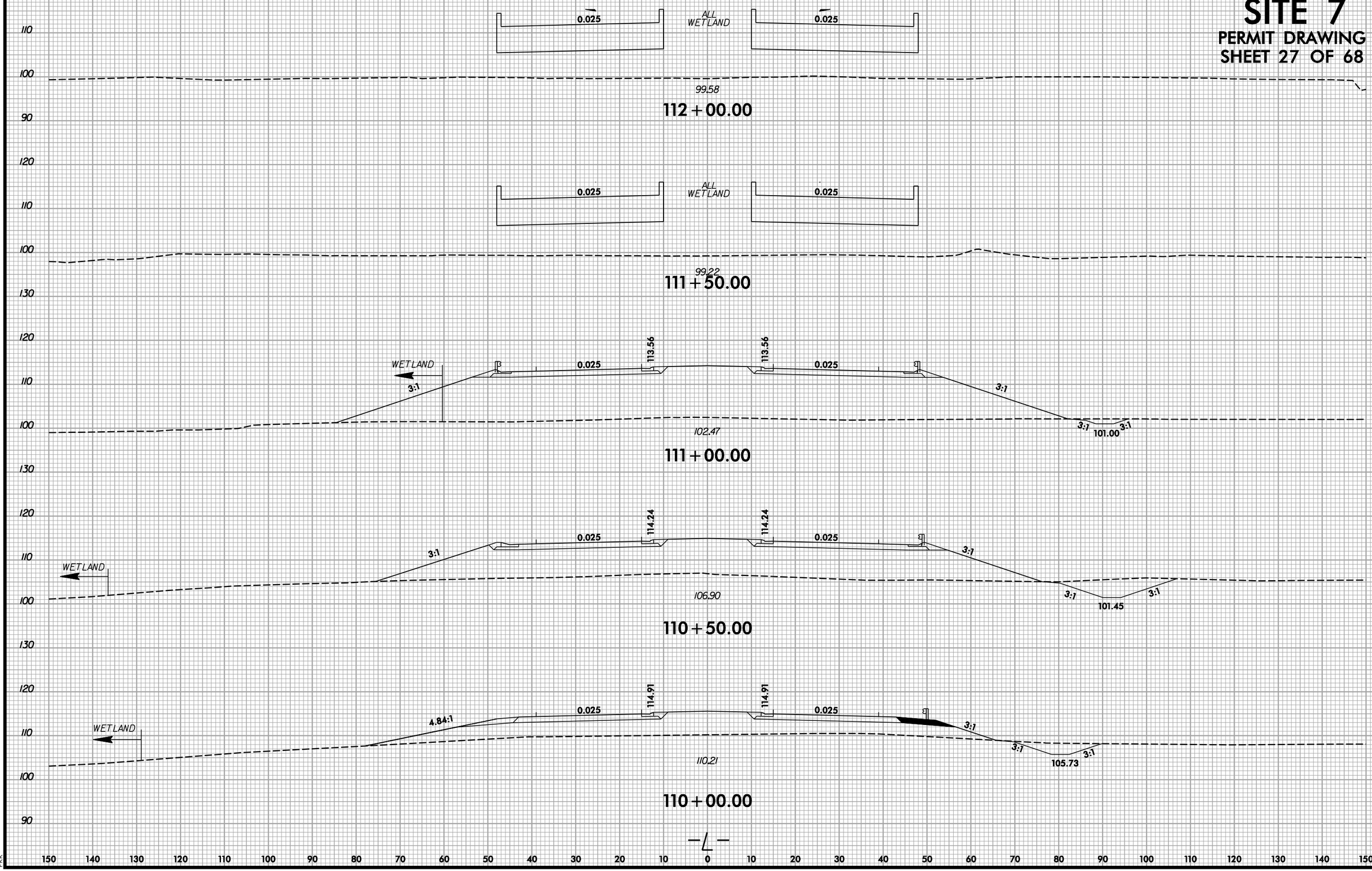
FOR -L- PLAN SEE SHTS.10 THRU 12

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kkirkman

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-51

SITE 7
PERMIT DRAWING
SHEET 27 OF 68



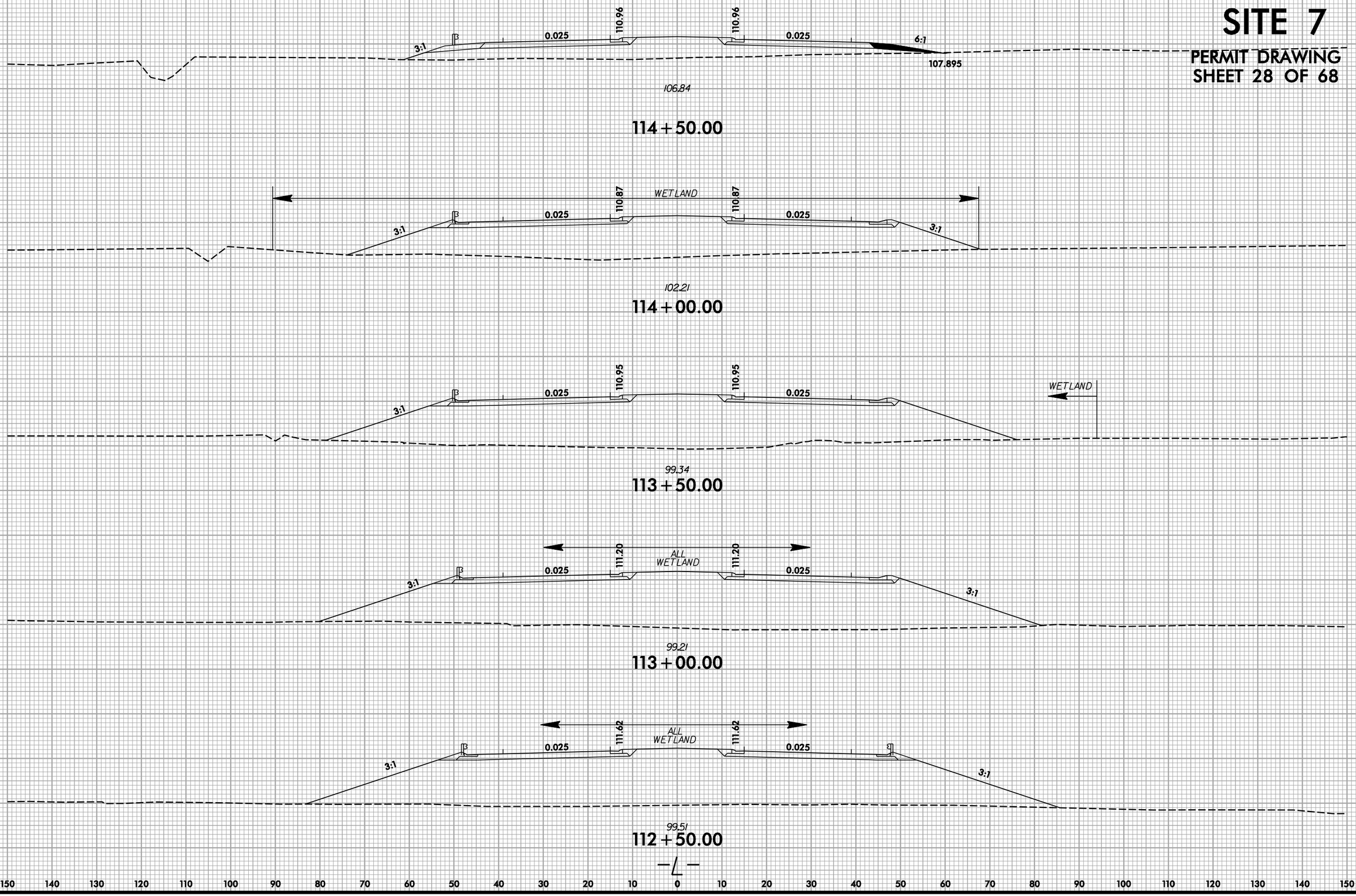
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rkk

8/23/99

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	R-2823	X-52

SITE 7

PERMIT DRAWING
SHEET 28 OF 68



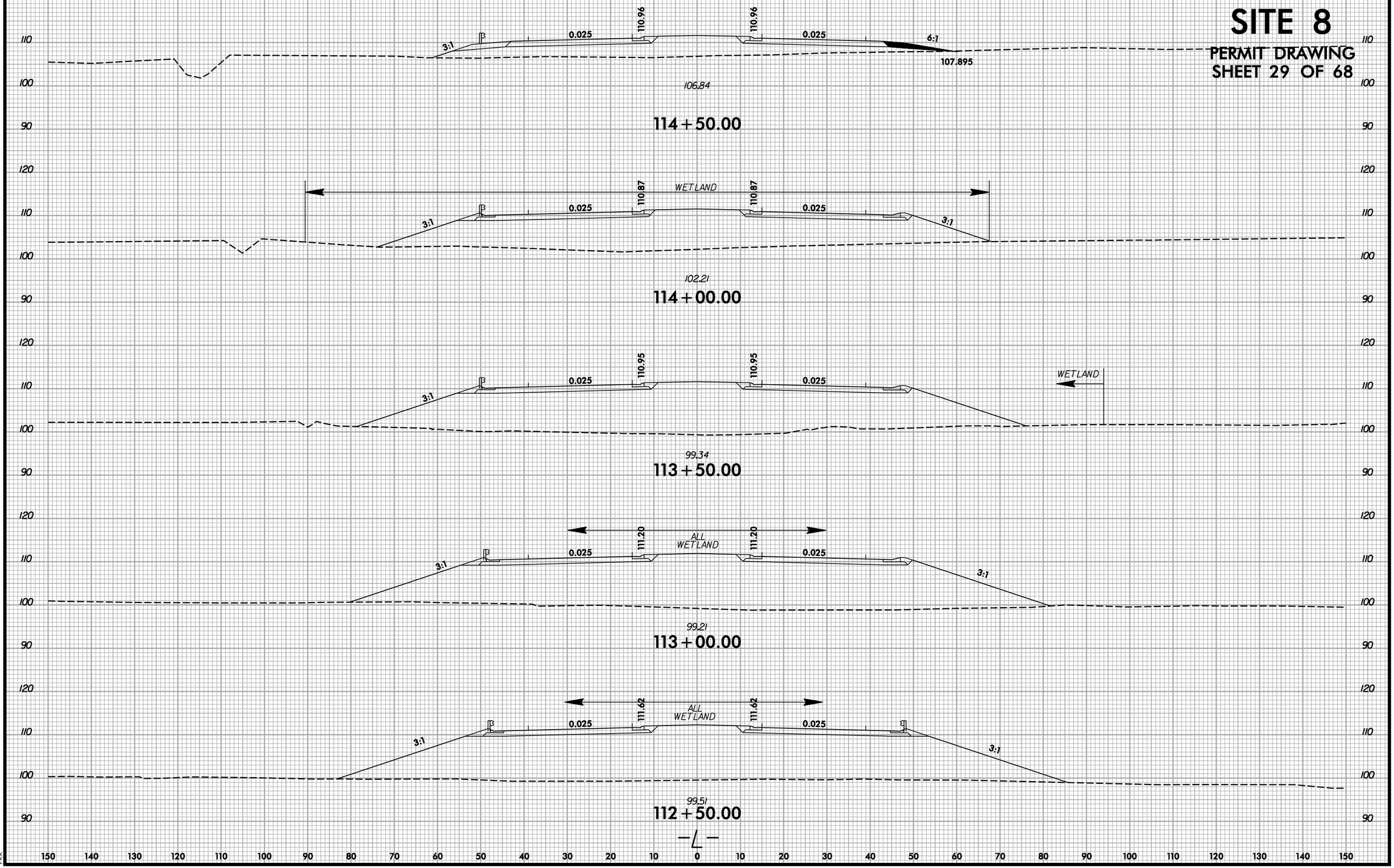
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kk

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-52

SITE 8

PERMIT DRAWING
SHEET 29 OF 68



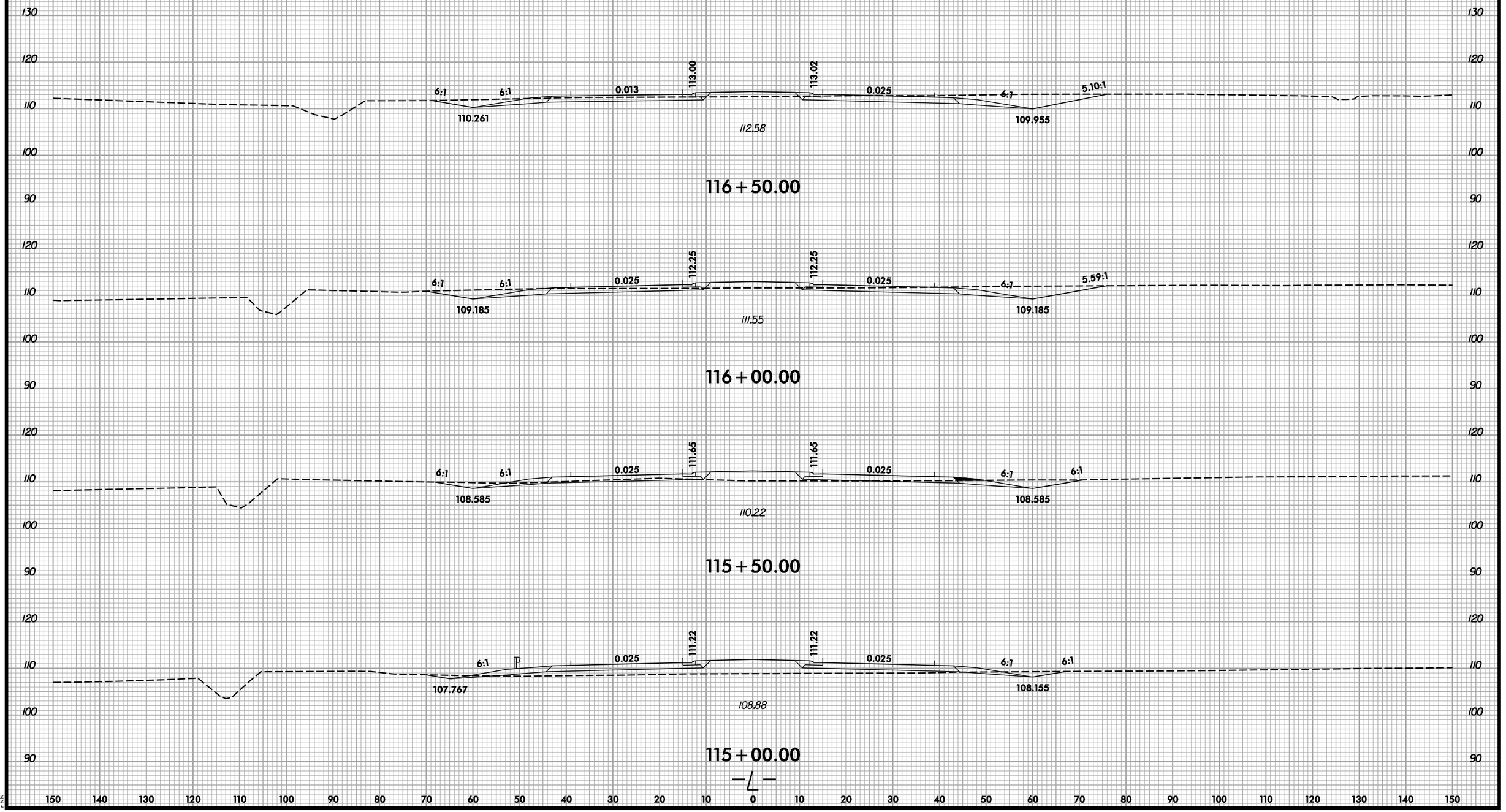
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-53

SITE 8

PERMIT DRAWING
SHEET 30 OF 68



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rkk

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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-54

SITE 8

PERMIT DRAWING
SHEET 31 OF 68

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

130 / 120 / 110 / 100

6:1 — 0.037 — 116.92 — 117.05 — 0.037 — 6:1 — 5.84:1

113.636

116.20

118+50.00

130 / 120 / 110 / 100

3:1 — 3:1 — 6:1 — 0.024 — 115.92 — 116.01 — 0.025 — 6:1 — 6:1

111.11

112.945

114.83

118+00.00

130 / 120 / 110 / 100

3:1 — 4:1 — 0.012 — 114.92 — 114.99 — 0.025 — 6:1 — 6:1

109.61

111.920

114.03

117+50.00

130 / 120 / 110 / 100

3:1 — 4:1 — 0.001 — 113.92 — 113.96 — 0.025 — 6:1 — 6:1

109.61

110.895

113.20

117+00.00

90

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 32 OF 68

ENGLISH

DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER

A–A: 9.0' / 0.0' / 7.0' / 4.0' TRACE WATER
B–B: 10.0' / 0.0' / 7.5' / 4.0' TRACE WATER
C–C: 6.0' / 0.0' / 2.5' / 1.5' / 2.0' ROADSIDE
D–D: 9.0' / 0.0' / 3.5' / 2.0' / 1.0' ROADSIDE
E–E: 6.0' / 0.0' / 2.0' / 3.0' / 2.0' INFALL

MATCHLINE -L- STA. 124+00 SEE SHEET 12

MATCHLINE -L- STA. 138+00 SEE SHEET 14

MATCHLINE -Y3- STA. 26+00 SEE SHEET 26

SITE 9

ALMA W. GRIFFEN, HEIRS (42)

E. C. POWELL (43)

STANLEY L. WEST (44)

HP STA. 127+67.61 -L-

HP STA. 18+50.69 -Y3-

LP STA. 22+00.58 -Y3-

SPECIAL CUT DITCH SEE DETAIL B

SPECIAL CUT DITCH SEE DETAIL S

SPECIAL CUT DITCH SEE DETAIL B

SPECIAL CUT BASE DITCH SEE DETAIL I

45" WW FENCE

CULTIVATED

WOODS

CUT/FILL TRANSITION 2 TONS CL B RIPRAP W/7 SY FIL FAB

3 TONS CL B RIPRAP W/10SY FIL FAB INV=118.68

40 TONS CL I RIPRAP W/75 SY FIL FAB RIPRAP ON BANKS ONLY INV=107.86

BERM BASE DITCH SEE DETAIL G

18" SCCS 2 ELBOWS W/ROD AND LUG 3 TONS CL B RIPRAP W/10 SY FIL FAB INV=109.09

BERM Y DITCH SEE DETAIL K

CITY OF ROCKY MOUNT

GRASS SWALE DATA
-L- 132+71 – 135+50 RT
DA= 0.41ac
SLOPE= 2.20%/1.16%
L REQ.= 41'
L PRO.= 250'
Q2= 0.77cfs/0.47cfs
V2= 2.00ft/s/1.34ft/s
D2= 0.51'/0.49'
Q10= NA
V10= NA
D10= NA

GRASS SWALE DATA
-L- 135+50 – 147+24 RT
DA= 4.16ac
SLOPE= 0.65%
L REQ.= 321'
L PRO.= 524'
Q2= 9.03cfs
V2= 1.69ft/s
D2= 0.56'
Q10= 11.58cfs
V10= 1.82ft/s
D10= 0.64'

GRASS SWALE DATA
-L- 134+75 – 135+50 RT
DA= 5.52ac
SLOPE= 0.30%
L REQ.= NA
L PRO.= NA
Q2= 11.98cfs
V2= 1.40ft/s
D2= 0.80'
Q10= 15.36cfs
V10= 1.50ft/s
D10= 0.91'

CURB & GUTTER LOCATIONS
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

DETAIL S
FALSE SUMP
(Not to Scale)

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

-L- STA. 132+72 RT
-L- STA. 135+28 RT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)
Min. D= 1.0Ft.
FROM -L- STA. 132+00 TO STA. 135+50 RT
FROM -Y3- STA. 17+00 TO STA. 18+00 LT & RT
FROM -Y3- STA. 21+55 TO STA. 23+50 LT

DETAIL G
BERM BASE DITCH
(Not to Scale)
Min. D= 1.0Ft.
B= 4.0Ft.
b= 3.0Ft.
FROM -L- STA. 134+75 TO STA. 135+50 RT

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)
Min. D= 1.0Ft.
B= 4.0Ft.
FROM -L- STA. 135+50 TO STA. 147+24 RT

DETAIL K
BERM Y DITCH
(Not to Scale)
Min. D= 1.0Ft.
b= 2.0Ft.
FROM -L- STA. 135+50 TO STA. 147+24 RT (LINE 135+50 TO 137+50 W/PSRM)

RICKS-BOSEMAN FARM HISTORIC AREA

FOR -L- PROFILE SEE SHT. 35
FOR -Y3- PROFILE SEE SHT. 42
FOR INTERSECTION DETAILS SEE SHT. 2F

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
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(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 33 OF 68

ENGLISH

DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER

A–A: 9.0' / 0.0' / 7.0' / 4.0' TRACE WATER
B–B: 10.0' / 0.0' / 7.5' / 4.0' TRACE WATER
C–C: 6.0 / 0.0' / 2.5' / 1.5' / 2.0' ROADSIDE
D–D: 9.0' / 0.0' / 3.5' / 2.0' / 1.0' ROADSIDE
E–E: 6.0' / 0.0' / 2.0' / 3.0' / 2.0' INFALL

MATCHLINE –L– STA. 124+00 SEE SHEET 12

MATCHLINE –L– STA. 138+00 SEE SHEET 14

MATCHLINE –Y3– STA. 26+00 SEE SHEET 26

SPECIAL CUT DITCH SEE DETAIL B

SPECIAL CUT DITCH SEE DETAIL B

HP STA. 127+67.61 –L–

HP STA. 18+50.69 –Y3–

LP STA. 22+00.58 –Y3–

ALMA W. GRIFFEN, HEIRS (42)

E. C. POWELL (43)

STANLEY L. WEST (44)

CULTIVATED

WOODS

48" WW FENCE

CUT/FILL TRANSITION
2 TONS CL B RIPRAP
W/7 SY FIL FAB

SITE 9

3 TONS CL B RIPRAP
W/10SY FIL FAB
INV=118.68

40 TONS CL I RIPRAP
W/75 SY FIL FAB
RIPRAP ON BANKS ONLY
INV=107.86

SPECIAL CUT BASE DITCH SEE DETAIL I

BERM BASE DITCH SEE DETAIL G

18" BCCS
2 ELBOWS W/ROD AND LUG
3 TONS CL B RIPRAP
W/10 SY FIL FAB
INV=109.09

BERM Y DITCH SEE DETAIL K

CITY OF ROCKY MOUNT

GRASS SWALE DATA
–L– 132+71 – 135+50 RT
DA= 0.41ac
SLOPE= 2.20%/1.16%
L REQ.= 41'
L PRO.= 250'
Q2= 0.77cfs/0.47cfs
V2= 2.00ft/s/1.34ft/s
D2= 0.51'/0.49'
Q10= NA
V10= NA
D10= NA

GRASS SWALE DATA
–L– 135+50 – 147+24 RT
DA= 4.16ac
SLOPE= 0.65%
L REQ.= 321'
L PRO.= 524'
Q2= 9.03cfs
V2= 1.69ft/s
D2= 0.56'
Q10= 11.58cfs
V10= 1.82ft/s
D10= 0.64'

GRASS SWALE DATA
–L– 134+75 – 135+50 RT
DA= 5.52ac
SLOPE= 0.30%
L REQ.= NA
L PRO.= NA
Q2= 11.98cfs
V2= 1.40ft/s
D2= 0.80'
Q10= 15.36cfs
V10= 1.50ft/s
D10= 0.91'

DETAIL S
FALSE SUMP
(Not To Scale)

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

–L– STA. 132+72 RT
–L– STA. 135+28 RT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)
FROM –L– STA. 132+00 TO STA. 135+50 RT
FROM –Y3– STA. 17+00 TO STA. 18+00 LT & RT
FROM –Y3– STA. 21+55 TO STA. 23+50 LT

DETAIL G
BERM BASE DITCH
(Not to Scale)
Min. D= 1.0Ft.
B= 4.0Ft.
b= 3.0Ft.
FROM –L– STA. 134+75 TO STA. 135+50 RT

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)
Min. D= 1.0Ft.
B= 4.0Ft.
FROM –L– STA. 135+50 TO STA. 147+24 RT

DETAIL K
BERM Y DITCH
(Not to Scale)
Min. D= 1.0Ft.
b= 2.0Ft.
FROM –L– STA. 135+50 TO STA. 147+24 RT
(LINE 135+50 TO 137+50 W/PSRM)

CURB & GUTTER LOCATIONS
NOTE: 2'-6" MOUNTABLE C&G FOR –L– MEDIAN

RICKS-BOSEMAN FARM HISTORIC AREA

FOR –L– PROFILE SEE SHT.35
FOR –Y3– PROFILE SEE SHT.42
FOR INTERSECTION DETAILS SEE SHT. 2F

PLANS PREPARED BY :
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RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

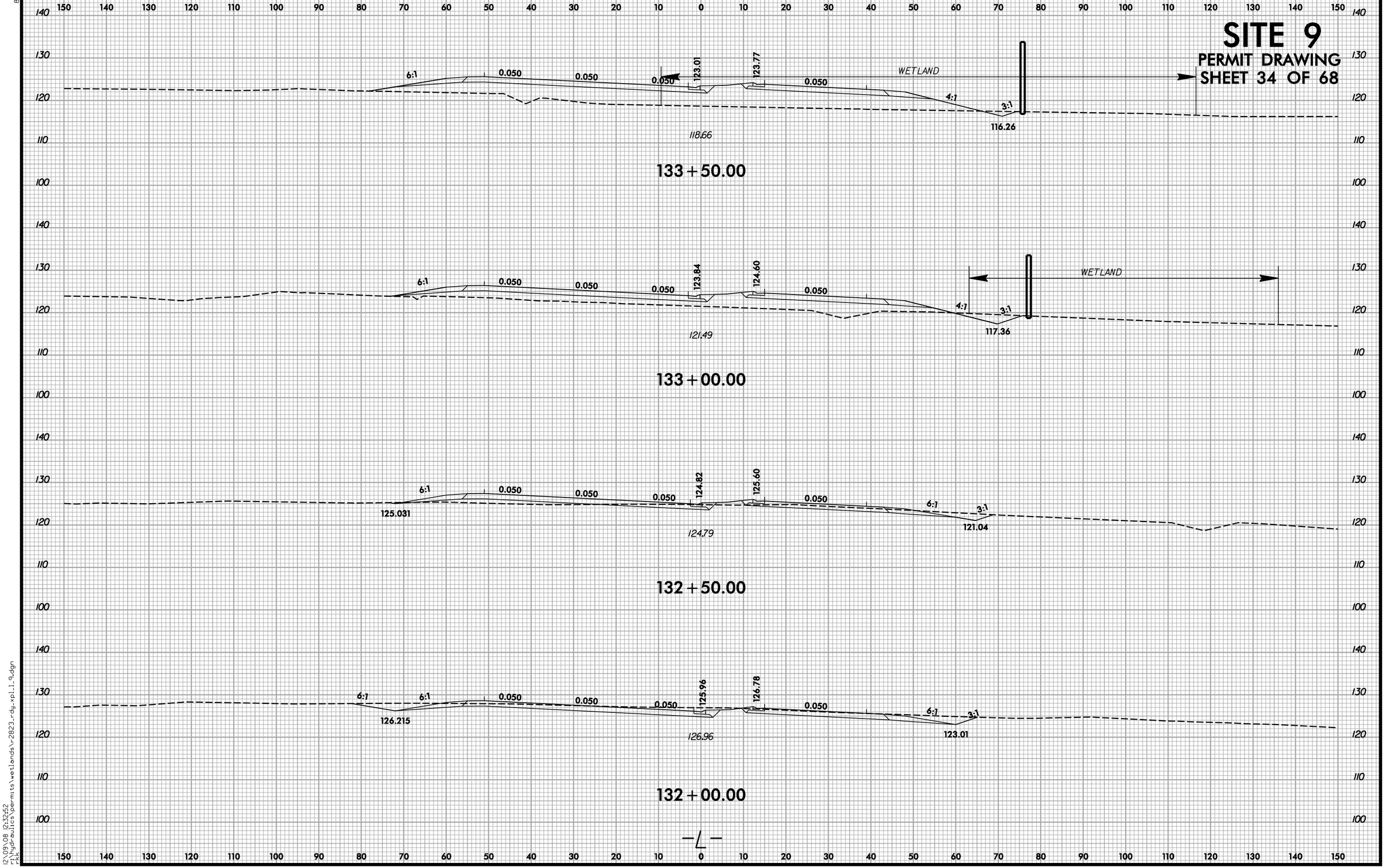
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-62

SITE 9

PERMIT DRAWING
SHEET 34 OF 68



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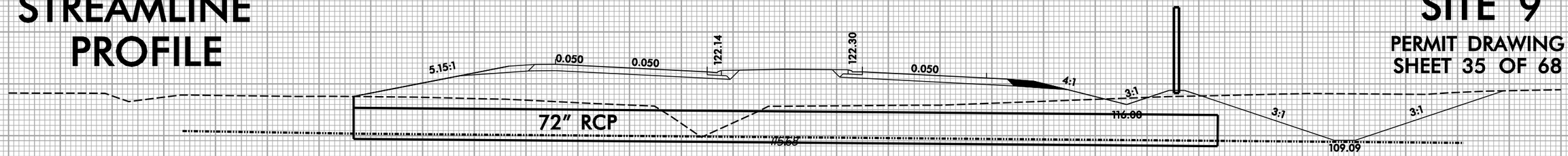
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	R-2823	X-63

STREAMLINE PROFILE

SITE 9

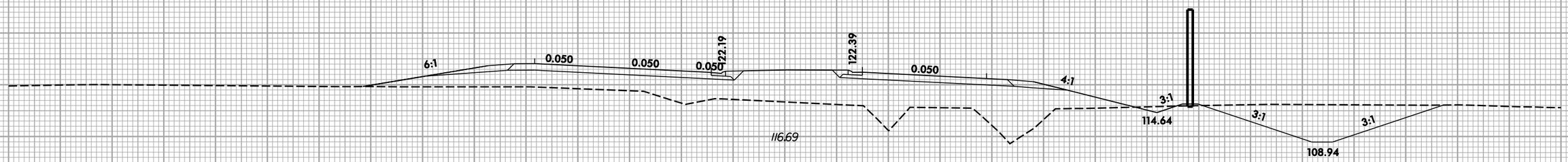
PERMIT DRAWING
SHEET 35 OF 68



ACTUAL INV IN = 135 + 83

135 + 50.00

ACTUAL INV OUT = 134 + 75



135 + 00.00



134 + 50.00



134 + 00.00

—℄—

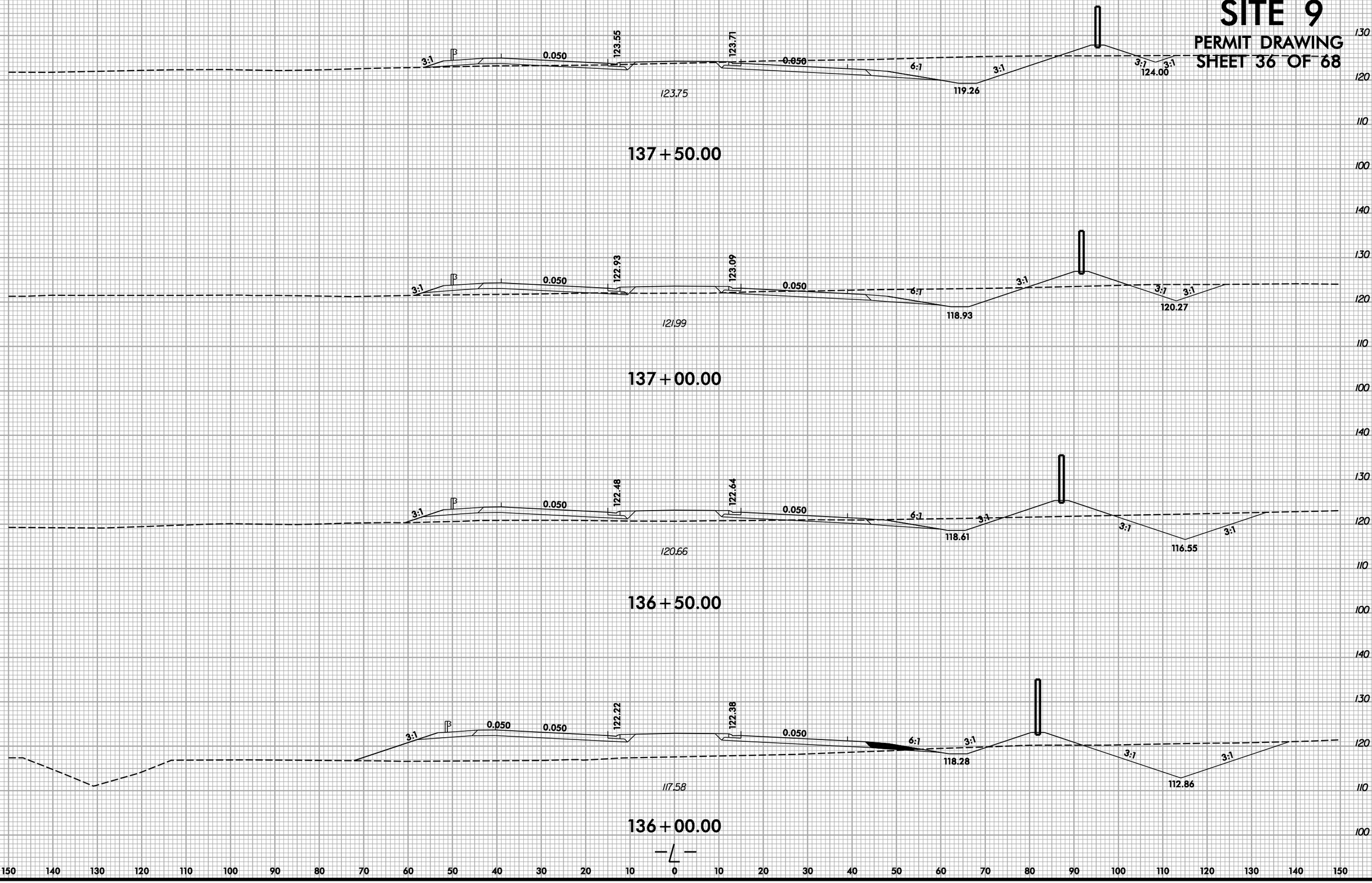
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-64

SITE 9

PERMIT DRAWING
SHEET 36 OF 68



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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 37 OF 68

ENGLISH

F/F DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER

MATCHLINE -L- STA. 165+00 SEE SHEET 15

MATCHLINE -L- STA. 177+00 SEE SHEET 17

WILLIAM H. OVERMAN (50)

CULTIVATED

WOODS

SITE 10

LATERAL BASE DITCH SEE DETAIL L

BDO

INV=94.81

INV=93.81 Sta
48 TONS CL I RIPRAP W/89 SY FIL FAB RIPRAP ON BANKS ONLY

LATERAL V DITCH SEE DETAIL A

INV=97.01 HW=97.9

PSH SEE DETAIL H

CB

INV=99.34 PSH SEE DETAIL H

45" WW FENCE

CITY OF ROCKY MOUNT

SATPAL SINGH RATHIE (51)

SITE 11

NO OUTFALL

1 TON CL B RIPRAP W/5 SY FIL FAB

INV=99.70 CPES

INV=101.80 CPES

LP
STA. 172+87.39 -L-

HP
STA. 176+76.00 -L-

NO OUTFALL

SATPAL SINGH RATHIE (51)

WILLIAM H. OVERMAN (50)

GRASS SWALE DATA -L- 148+00 – 169+30 LT	GRASS SWALE DATA -L- 167+75 – 169+50 RT
DA= 6.34ac	DA= 0.53ac
SLOPE= 0.55%	SLOPE= 1.35%
L REQ.= 634'	L REQ.= NA
L PRO.= 680'	L PRO.= NA
Q2= 14.05cfs	Q2= 1.04cfs
V2= 1.82ft/s	V2= 1.89ft/s
D2= 0.75'	D2= 0.61'
Q10= 18.60cfs	Q10= 1.31cfs
V10= 1.97ft/s	V10= 2.00ft/s
D10= 0.86'	D10= 0.66'

PREFORMED SCOUR HOLE DATA -L- 170+75 RT	PREFORMED SCOUR HOLE DATA -L- 173+10 RT
Q10= 1.22cfs	Q10= 0.40cfs
V10= 0.34ft/s	V10= 0.18ft/s

DETAIL H
PREFORMED SCOUR HOLE

PLAN VIEW

Permanent Soil Reinforcement Matting (typ.)

Pipe or Ditch Outlet

Install level and flush with natural ground.

Square Preformed Scour Hole (PSH)

Rip Rap In basin not shown for clarity)

Seed with native grasses or Bahiagrass

B= 3.75ft.
D= 1.0ft.
W= 4.0ft.
d= 0.5ft.

SECTION A-A

Pipe or Ditch Outlet

Liner: Class B Rip Rap 1.0' thick with Filter Fabric

Dmin

PSRM

d

B

L' tuck

Natural Ground

5/05

-L- STA. 170+75 RT
-L- STA. 172+87 LT
-L- STA. 173+15 RT

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground

3:1

D

3:1

b

F/F

Fill Slope

Min. D= 1.0Ft.
b= 2.0Ft.

FROM -L- STA. 167+75 TO STA. 169+50 RT
FROM -L- STA. 170+80 TO STA. 173+10 RT
FROM -L- STA. 175+50 TO STA. 177+25 RT

DETAIL L
LATERAL BASE DITCH
(Not to Scale)

Natural Ground

3:1

D

3:1

B

b

F/F

Fill Slope

Min. D= 1.0Ft.
B= 4.0Ft.
b= 4.0Ft.

FROM -L- STA. 162+00 TO STA. 169+30 LT

A–A
8.0'
0.2'
3.5'
5.0'
OUTFALL

B–B
4.0'
0.0'
1.0'
3.0'
TURNS INTO SWALE

CURB & GUTTER LOCATIONS

NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

FOR -L- PROFILE SEE SHTS. 36 & 37

PLANS PREPARED BY :
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FOR
DIVISION OF HIGHWAYS

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 38 OF 68

ENGLISH

F/F DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER

MATCHLINE -L- STA. 165+00 SEE SHEET 15

MATCHLINE -L- STA. 177+00 SEE SHEET 17

WILLIAM H. OVERMAN (50)

CULTIVATED

WOODS

SITE 10

SITE 11

NO OUTFALL

SATPAL SINGH RATHIE (51)

CITY OF ROCKY MOUNT

LATERAL BASE DITCH SEE DETAIL L

BDO

INV=93.81
48 TONS CL I RIPRAP W/89 SY FIL FAB
RIPRAP ON BANKS ONLY

INV=94.81

INV=97.01

LATERAL V DITCH SEE DETAIL A

INV=99.84
PSH SEE DETAIL H

1 TON CL B RIPRAP W/5 SY FIL FAB
INV=99.70
CPES

INV=101.80
CPES

PSH SEE DETAIL H

45" WW FENCE

HP
STA. 176+76.00 -L-

LP
STA. 172+87.39 -L-

GRASS SWALE DATA -L- 148+00 - 169+30 LT	GRASS SWALE DATA -L- 167+75 - 169+50 RT
DA= 6.34ac	DA= 0.53ac
SLOPE= 0.55%	SLOPE= 1.35%
L REQ.= 634'	L REQ.= NA
L PRO.= 680'	L PRO.= NA
Q2= 14.05cfs	Q2= 1.04cfs
V2= 1.82ft/s	V2= 1.89ft/s
D2= 0.75'	D2= 0.61'
Q10= 18.60cfs	Q10= 1.31cfs
V10= 1.97ft/s	V10= 2.00ft/s
D10= 0.86'	D10= 0.66'

PREFORMED SCOUR HOLE DATA -L- 170+75 RT	PREFORMED SCOUR HOLE DATA -L- 173+10 RT
Q10= 1.22cfs	Q10= 0.40cfs
V10= 0.34ft/s	V10= 0.18ft/s

DETAIL H
PREFORMED SCOUR HOLE

PLAN VIEW

Pipe or Ditch Outlet
Permanent Soil Reinforcement Matting (typical)
Install level and flush with natural ground.
Square Preformed Scour Hole (PSH)
Rip Rap in basin not shown for clarity)
Seed with normal ground cover for stabilization.
B= 3.75ft.
D= 1.0ft.
W= 4.0ft.
d= 0.5ft.

SECTION A-A

Pipe or Ditch Outlet
Dmin
PSRM
d
Natural Ground
B
"L" tuck
Liner: Class B Rip Rap 1.0' thick with Filter Fabric

5/05

-L- STA. 170+75 RT
-L- STA. 172+87 LT
-L- STA. 173+15 RT

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground
3:1
D
3:1
b
F/Ft.
Fill Slope
Min. D= 1.0Ft.
b= 2.0Ft.

FROM -L- STA. 167+75 TO STA. 169+50 RT
FROM -L- STA. 170+80 TO STA. 173+10 RT
FROM -L- STA. 175+50 TO STA. 177+25 RT

DETAIL L
LATERAL BASE DITCH
(Not to Scale)

Natural Ground
3:1
D
3:1
b
F/Ft.
Fill Slope
B
Min. D= 1.0Ft.
B= 4.0Ft.
b= 4.0Ft.

FROM -L- STA. 162+00 TO STA. 169+30 LT

A–A
8.0'
0.2'
3.5'
5.0' OUTFALL

B–B
4.0'
0.0'
1.0'
3.0' TURNS INTO SWALE

CURB & GUTTER LOCATIONS
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

FOR -L- PROFILE SEE SHTS. 36 & 37

PLANS PREPARED BY :
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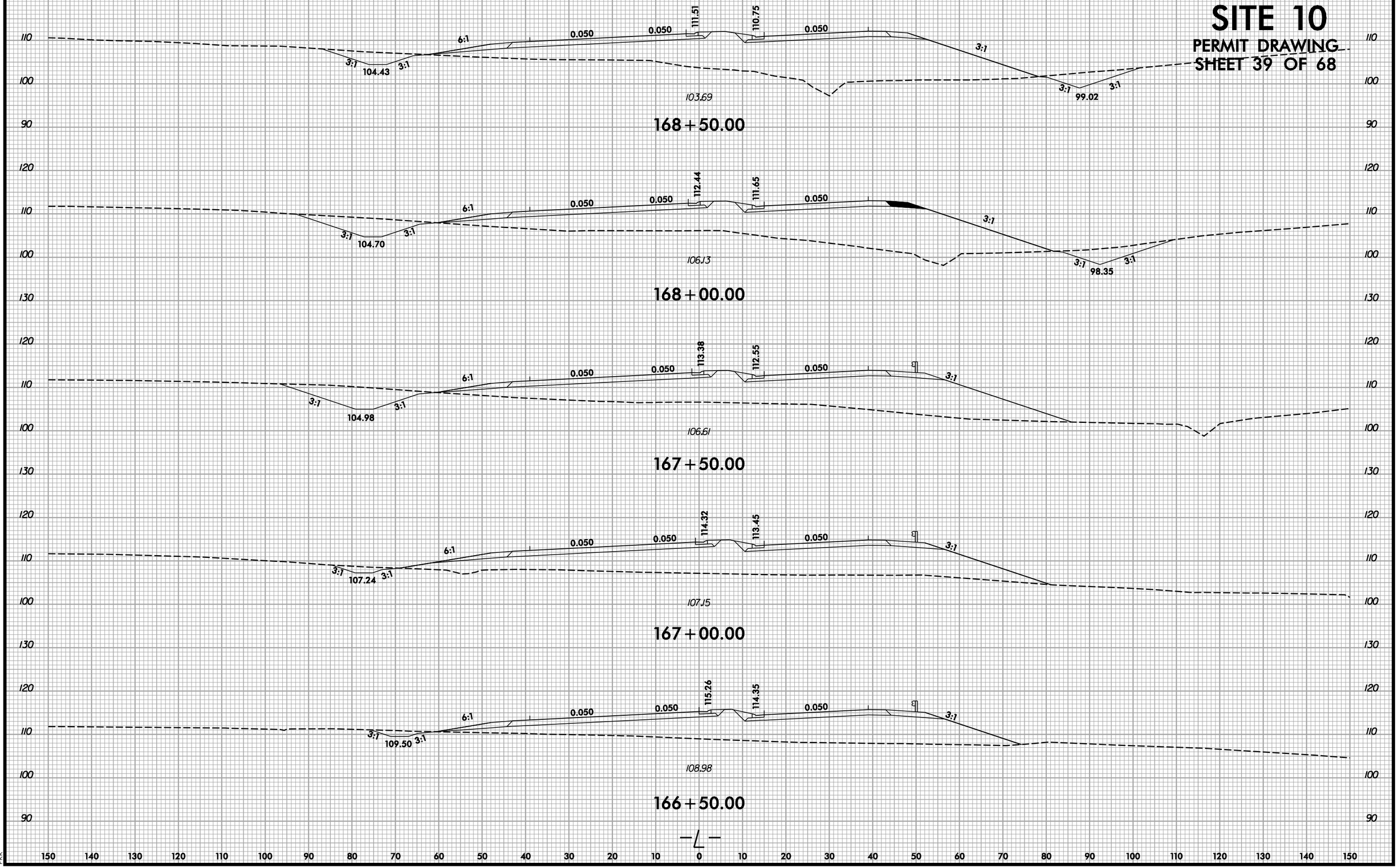
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	R-2823	X-80

SITE 10

PERMIT DRAWING

SHEET 39 OF 68



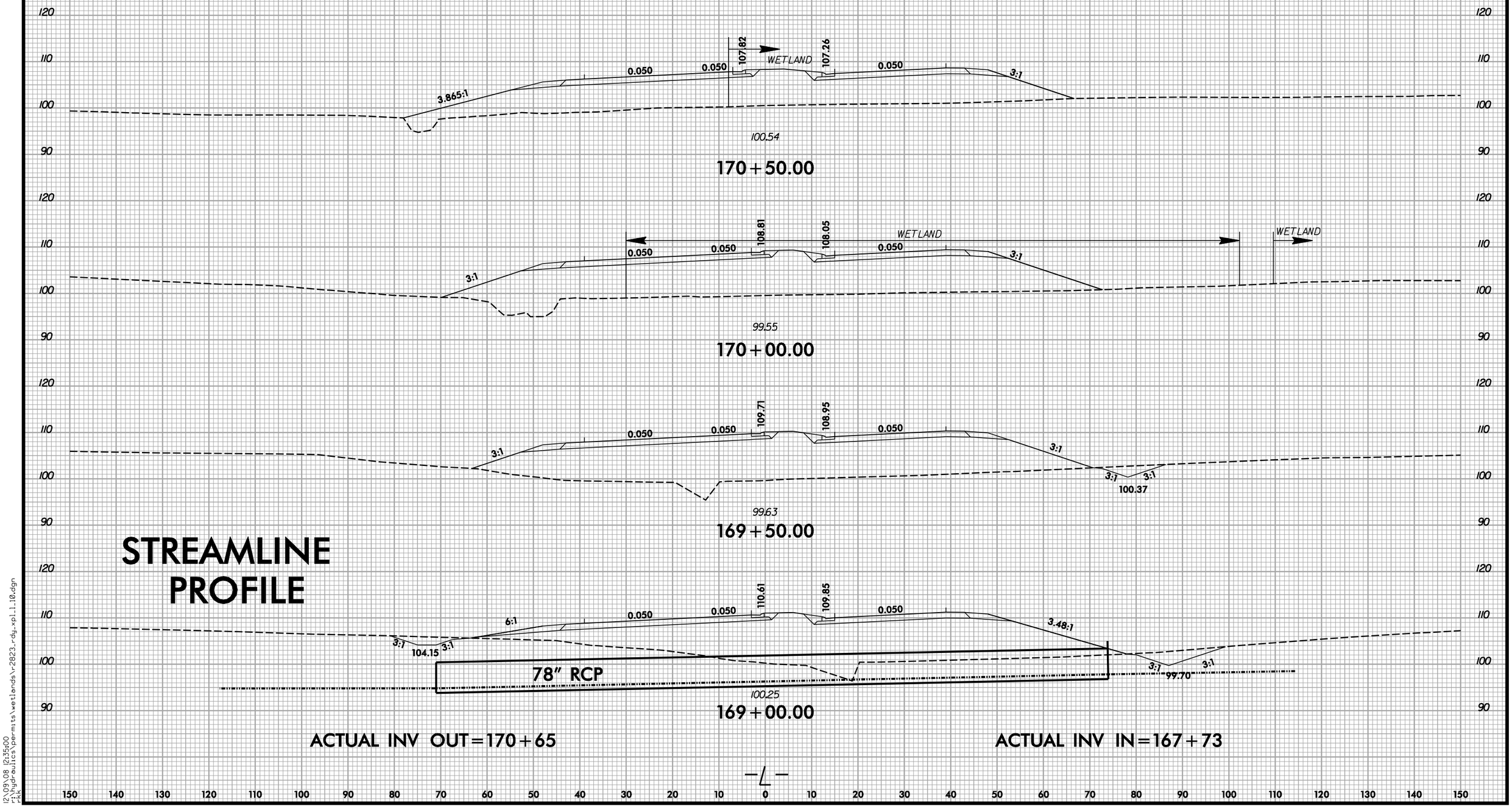
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	R-2823	X-81

SITE 10

PERMIT DRAWING
SHEET 40 OF 68



STREAMLINE PROFILE

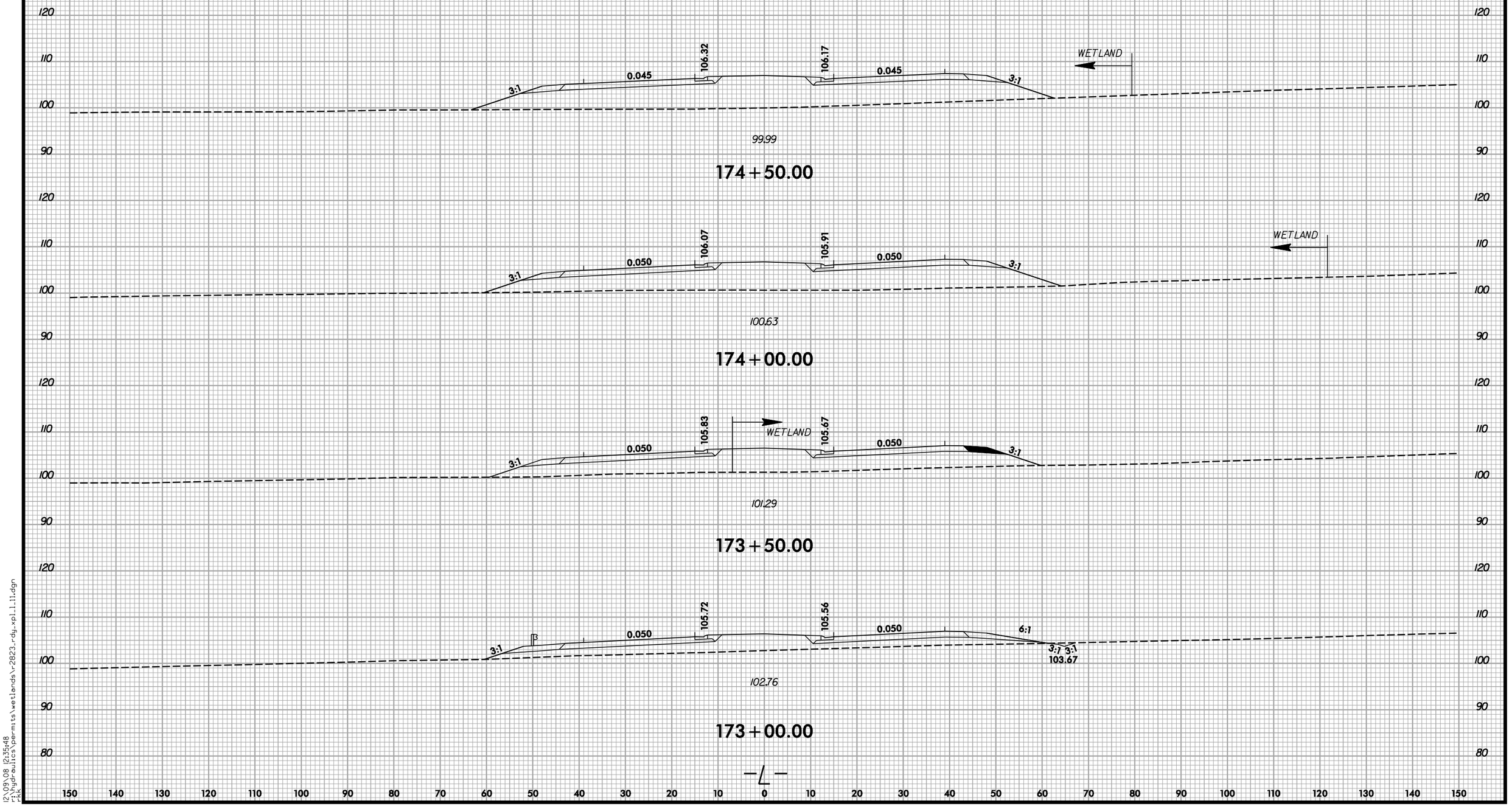
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	R-2823	X-83

SITE 11

PERMIT DRAWING
SHEET 41 OF 68



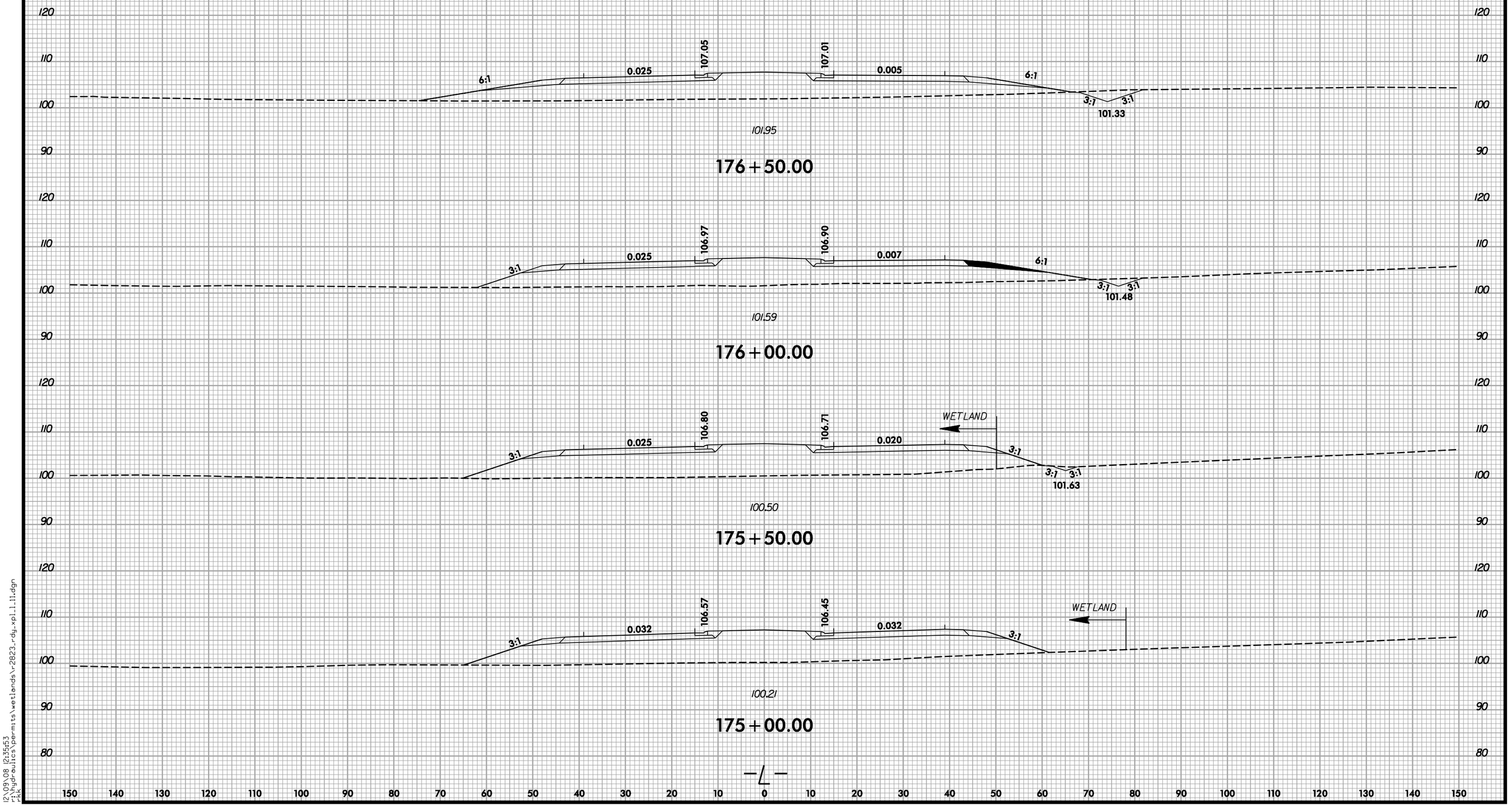
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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-84

SITE 11

PERMIT DRAWING
SHEET 42 OF 68



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CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	178+50.00	180+49.00	RT
SBG	-L-	184+28.00	184+44.50	RT
EXP.GUTTER	-L-	178+50.00	179+49.00	LT
SBG	-L-	179+49.00	180+49.00	LT
SBG	-L-	184+28.00	185+00.00	LT
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN				

F/F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

S/S DENOTES IMPACTS IN SURFACE WATER

F/E DENOTES EXCAVATION IN WETLAND

PROJECT REFERENCE NO.	SHEET NO.
R-2823	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 43 OF 68

ENGLISH

MATCHLINE -L- STA. 177+00 SEE SHEET 16

MATCHLINE -L- STA. 191+00 SEE SHEET 18

SATPAL SINGH RATHIE (51)

E. C. POWELL (52)

CITY OF ROCKY MOUNT

N 68°19'28" E 92.52'

S 85°06'05" E 740.00'

N 60°32'21" E 257.84'

WOODS

FALLOW

10' SOIL

SITE 12

TEMPORARY WORK BRIDGE

TEMPORARY WORK BRIDGE FINGER

TEMPORARY WORK BRIDGE FINGER

INV=94.44
1 TON CL B RIPRAP W/5 SY FIL FAB

2 ELBOWS W/ ROD AND LUG

PSH SEE DETAIL H

LATERAL V DITCH SEE DETAIL A

1 TON CL B RIPRAP W/5 SY FIL FAB
INV=91.57

SITE 13

INV=98.27
2 TON CL B RIPRAP W/7 SY FIL FAB

SPECIAL CUT DITCH SEE DETAIL F

PSRM

2 TON CL B RIPRAP W/7 SY FIL FAB

15" RCCP
2 ELBOWS W/ ROD AND LUG

LATERAL BASE DITCH SEE DETAIL L

LATERAL V DITCH SEE DETAIL N

PSH SEE DETAIL H

INV=96.12

CUT/FILL TRANSITION
5 TONS CL B RIPRAP W/14 SY FIL FAB

48" RCCP
48 TONS CL B RIPRAP W/99 SY FIL FAB
RIPRAP ON BANKS ONLY
INV=94.33

LP
STA. 187+25.00 -L-

A-A
5.0'
0.0'
1.5'
3.0'
INFALL

DETAIL H
PREFORMED SCOUR HOLE

PLAN VIEW

Pipe or Ditch Outlet

Permanent Soil Reinforcement Matting (PSRM)

Install level and flush with natural ground.

Square Preformed Scour Hole (PSH)

RIP Rap in basin not all shown for clarity)

Seed with native grasses wt Pretreatment

B=3.75Ft.
D=1.0Ft.
W=4.0Ft.
d=0.5Ft.

SECTION A-A

Pipe or Ditch Outlet

PSRM

Natural Ground

Liner: Class B Rip Rap 1.0' thick with Filter Fabric

'I' tuck

5/05

-L- STA. 177+30 RT
-L- STA. 189+15 RT
-L- STA. 189+70 RT

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground
3:1
D
b
Fill Slope
1'/Ft.
Min. D= 1.0Ft.
b= 2.0Ft.

FROM -L- STA. 175+50 TO STA. 177+25 RT

DETAIL F
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground
3:1 or flatter
D
Front Ditch Slope
Min. D= 1.5Ft.

FROM -L- STA. 184+48 TO STA. 188+50 RT
FROM -L- STA. 184+98 TO STA. 189+00 LT

DETAIL L
LATERAL BASE DITCH
(Not to Scale)

Natural Ground
3:1
D
3:1
B
Fill Slope
1'/Ft.
Min. D= 1.0Ft.
B= 4.0Ft.
b= 4.0Ft.

FROM -L- STA. 188+50 TO STA. 189+15 RT
FROM -L- STA. 190+28 TO STA. 191+00 LT

DETAIL N
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground
3:1
D
3:1
Fill Slope
1'/Ft.
Min. D= 1.5Ft.
b= 2.0Ft.

FROM -L- STA. 189+00 TO STA. 189+70 LT

PREFORMED SCOUR HOLE DATA	PREFORMED SCOUR HOLE DATA
-L- 177+30 RT	-L- 189+15 RT
Q10= 2.06cfs	Q10= 5.31cfs
V10= 0.41ft/s	V10= 0.85ft/s
PREFORMED SCOUR HOLE DATA	RIPRAP PAD DATA
-L- 189+70 LT	-L- 190+30 RT
Q10= 6.45cfs	Q10= 20.30cfs
V10= 0.90ft/s	V10= 1.10ft/s

GRASS SWALE DATA	GRASS SWALE DATA	GRASS SWALE DATA
-L- 184+48 - 189+15 RT	-L- 184+98 - 189+70 LT	-L- 190+28 - 195+00 LT
DA= 1.32ac	DA= 1.49ac	DA= 3.52ac
SLOPE= 2.10%	SLOPE= 0.22%	SLOPE= 0.87%
L REQ.= 132'	L REQ.= 149'	L REQ.= 352'
L PRO.= 467'	L PRO.= 472'	L PRO.= 422'
Q2= 4.22cfs	Q2= 5.13cfs	Q2= 8.69cfs
V2= 1.84ft/s	V2= 1.77ft/s	V2= 1.85ft/s
D2= 0.29'	D2= 1.39'	D2= 0.51'
Q10= 5.31cfs	Q10= 6.45cfs	Q10= 11.22cfs
V10= 1.98ft/s	V10= 1.87ft/s	V10= 1.99ft/s
D10= 0.32'	D10= 1.52'	D10= 0.59'

FOR -L- PROFILE SEE SHT.37

PLANS PREPARED BY :
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CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	178+50.00	180+49.00	RT
SBG	-L-	184+28.00	184+44.50	RT
EXP.GUTTER	-L-	178+50.00	179+49.00	LT
SBG	-L-	179+49.00	180+49.00	LT
SBG	-L-	184+28.00	185+00.00	LT
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN				

F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

F/S F/S DENOTES TEMPORARY IMPACTS IN SURFACE WATER

S S DENOTES IMPACTS IN SURFACE WATER

F/E F/E DENOTES EXCAVATION IN WETLAND

PROJECT REFERENCE NO.	SHEET NO.
R-2823	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 44 OF 68

ENGLISH

MATCHLINE -L- STA. 177+00 SEE SHEET 16

MATCHLINE -L- STA. 191+00 SEE SHEET 18

SATPAL SINGH RATHIE (51)

E. C. POWELL (52)

CITY OF ROCKY MOUNT

S 80°31'12" E 29.04'

N 68°19'28" E 92.52'

S 85°06'05" E 140.00'

N 80°22'30" W 97.83' (PT)

N 80°22'30" W 307.22'

SITE 12

SITE 13

TEMPORARY WORK BRIDGE

TEMPORARY WORK BRIDGE FINGER

TEMPORARY WORK BRIDGE FINGER

INV=94.44
1 TON CL B RIPRAP W/5 SY FIL FAB

2 ELBOWS W/ ROD AND LUG

PSH SEE DETAIL H

LATERAL V DITCH SEE DETAIL A

1 TON CL B RIPRAP W/5 SY FIL FAB INV=91.57

INV=98.27
2 TON CL B RIPRAP W/7 SY FIL FAB

SPECIAL CUT DITCH SEE DETAIL F

PSRM

2 TON CL B RIPRAP W/7 SY FIL FAB

15" BCCS
2 ELBOWS W/ ROD AND LUG

LATERAL BASE DITCH SEE DETAIL L

LATERAL V DITCH SEE DETAIL N

INV=96.12

CUT/FILL TRANSITION
5 TONS CL B RIPRAP W/14 SY FIL FAB

48" CMP
48 TONS CL B RIPRAP W/89 SY FIL FAB
RIPRAP ON BANKS ONLY
INV=94.33

LP
STA. 187+25.00 -L-

BEAVER DAM

WOODS

FALLOW

10' SOIL

BZ 1

BZ 2

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground — 3:1 — D — 3:1 — Fill Slope

Min. D= 1.0Ft.
b= 2.0Ft.

FROM -L- STA. 175+50 TO STA. 177+25 RT

DETAIL F
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground — 3:1 or flatter — D — Front Ditch Slope

Min. D= 1.5Ft.

FROM -L- STA. 184+48 TO STA. 188+50 RT
FROM -L- STA. 184+98 TO STA. 189+00 LT

DETAIL L
LATERAL BASE DITCH
(Not to Scale)

Natural Ground — 3:1 — D — 3:1 — Fill Slope — B

Min. D= 1.0Ft.
B= 4.0Ft.
b= 4.0Ft.

FROM -L- STA. 188+50 TO STA. 189+15 RT
FROM -L- STA. 190+28 TO STA. 191+00 LT

DETAIL N
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground — 3:1 — D — 3:1 — Fill Slope

Min. D= 1.5Ft.
b= 2.0Ft.

FROM -L- STA. 189+00 TO STA. 189+70 LT

A–A
5.0'
0.0'
1.5'
3.0'
INFALL

DETAIL H
PREFORMED SCOUR HOLE

PLAN VIEW

Pipe or Ditch Outlet

Permanent Soil Reinforcement Matting (PSRM)

Install level and flush with natural ground.

Square Preformed Scour Hole (PSH)

Rip Rap in basin not shown for clarity)

Seed with native grasses wt Pretreatment

B=3.75Ft.
D= 1.0Ft.
W= 4.0Ft.
d= 0.5Ft.

SECTION A-A

Pipe or Ditch Outlet

PSRM

D (min)

d

Natural Ground

B

'I' tuck

Liner: Class B Rip Rap 1.0' thick with Filter Fabric

5/05

-L- STA. 177+30 RT
-L- STA. 189+15 RT
-L- STA. 189+70 RT

PREFORMED SCOUR HOLE DATA	PREFORMED SCOUR HOLE DATA
-L- 177+30 RT	-L- 189+15 RT
Q10= 2.06cfs	Q10= 5.31cfs
V10= 0.41ft/s	V10= 0.85ft/s
PREFORMED SCOUR HOLE DATA	RIPRAP PAD DATA
-L- 189+70 LT	-L- 190+30 RT
Q10= 6.45cfs	Q10= 20.30cfs
V10= 0.90ft/s	V10= 1.10ft/s

GRASS SWALE DATA -L- 184+48 - 189+15 RT	GRASS SWALE DATA -L- 184+98 - 189+70 LT	GRASS SWALE DATA -L- 190+28 - 195+00 LT
DA= 1.32ac	DA= 1.49ac	DA= 3.52ac
SLOPE= 2.10%	SLOPE= 0.22%	SLOPE= 0.87%
L REQ.= 132'	L REQ.= 149'	L REQ.= 352'
L PRO.= 467'	L PRO.= 472'	L PRO.= 422'
Q2= 4.22cfs	Q2= 5.13cfs	Q2= 8.69cfs
V2= 1.84ft/s	V2= 1.77ft/s	V2= 1.85ft/s
D2= 0.29'	D2= 1.39'	D2= 0.51'
Q10= 5.31cfs	Q10= 6.45cfs	Q10= 11.22cfs
V10= 1.98ft/s	V10= 1.87ft/s	V10= 1.99ft/s
D10= 0.32'	D10= 1.52'	D10= 0.59'

FOR -L- PROFILE SEE SHT.37

PLANS PREPARED BY :
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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	37
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 45 OF 68

-L-

BRIDGE HYDRAULIC DATA
STA.182+37.5 -L-

DESIGN DISCHARGE	= 2,000	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 94.3	FT
BASE DISCHARGE	= 2,300	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 94.7	FT
OVERTOPPING DISCHARGE	= 18,750	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 103.7	FT
DATE OF SURVEY	= 06/2008	
W.S.ELEVATION AT DATE OF SURVEY	= 91.9	FT

COMPASS CREEK

BM #6
RR SPIKE IN BASE OF 24" OAK
-L- STA. 185+19.26 218.25' LT
ELEV.= 99.96'

PI = 176+76.00
EL = 107.47'
VC = 300'
K = 300

PROPOSED GRADE
BEGIN BRIDGE
-L- STA.180+71.00 +/-
END BRIDGE
-L- STA.184+04.00 +/-
EXISTING GROUND

(+)1.03%RT
(-)1.17% RT
(+)0.5000%
(+)0.5000%
(-)0.5000%
(-)0.30% RT
18" RCP

END LAT. V DITCH
-L- STA. 173+10 RT
EL. 103.55

PI -L- STA. 172+50 RT
EL. 104.25

BEG. LAT. V DITCH
-L- STA. 175+50 RT
EL. 101.63

END LAT. V DITCH
-L- STA. 177+25 RT
EL. 101.10

TEMPORARY WORK BRIDGE & FINGERS
- MAX. 30' BRIDGE WIDTH
- PIER / SPAN PLACEMENT TO BE DETERMINED BY CONTRACTOR
- LOW CHORD 4' ABOVE NWS=89.7'
- EDGE OF BRIDGE FINGERS PLACED A MINIMUM OF 10' FROM PROPOSED PIERS

NWS 89.7

BEG. SP. CUT 'V' DITCH
-L- STA. 184+48 RT
EL. 98.53

BEG. SP. CUT 'V' DITCH
-L- STA. 184+98 LT; EL. 98.27

(-)1.03% RT
(-)0.22% LT

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE 78" RCP
STA.189+80 -L-

DRAINAGE AREA	= 97	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 220	CFS
DESIGN HW ELEVATION	= 103.7	FT
100 YEAR DISCHARGE	= 250	CFS
100 YEAR HW ELEVATION	= 104.4	FT
OVERTOPPING FREQUENCY	= NA	YRS
OVERTOPPING DISCHARGE	= NA	CFS
OVERTOPPING ELEVATION	= NA	FT

PI = 187+50.00
EL = 102.10'
VC = 300'
K = 250

PROPOSED GRADE
EXISTING GROUND

(-)0.5000%
(+)0.7000%
(-)0.35% RT
(-)0.22% LT
(-)0.22% LT
(-)2.08% RT
78" PIPE
(+)0.86% LT
(+)0.70% LT
(+)8.12% LT
(+)0.70% LT

END SP. CUT 'V' DITCH
BEG. LAT. 'V' DITCH
-L- STA. 188+50 RT
EL. 97.12

END LAT. BASE DITCH
-L- STA. 189+15 RT
EL. 95.77

END SP. CUT 'V' DITCH
BEG. LAT. 'V' DITCH
-L- STA. 189+00 LT
EL. 97.39

END LAT. 'V' DITCH
-L- STA. 189+70 LT.
EL. 97.23

BEG. LAT. BASE DITCH
-L- STA. 190+28 LT.
EL. 97.12

END LAT. BASE DITCH
BEG. SP. CUT BASE DITCH
-L- STA. 191+00 LT.
EL. 97.74

PI -L- STA. 193+00 LT
EL. 99.14

PI -L- STA. 193+50 LT
EL. 103.20

END SP. CUT BASE DITCH
-L- STA. 195+00 LT
EL. 104.25

LEFT SIDE DITCH PROFILE
RIGHT SIDE DITCH PROFILE

FOR -L- PLAN SEE SHTS.16 THRU 18

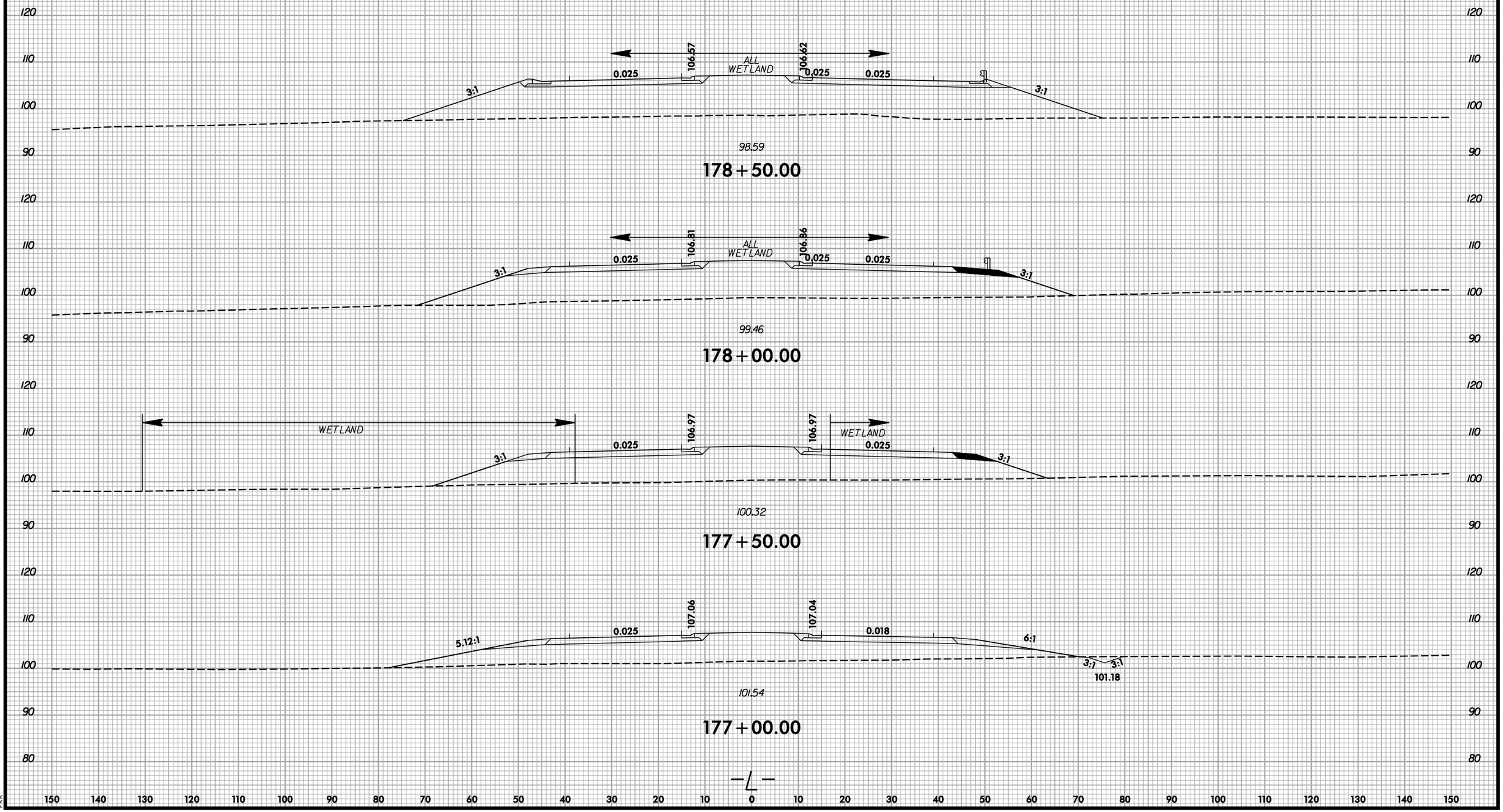
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-85

SITE 12

PERMIT DRAWING
SHEET 46 OF 68



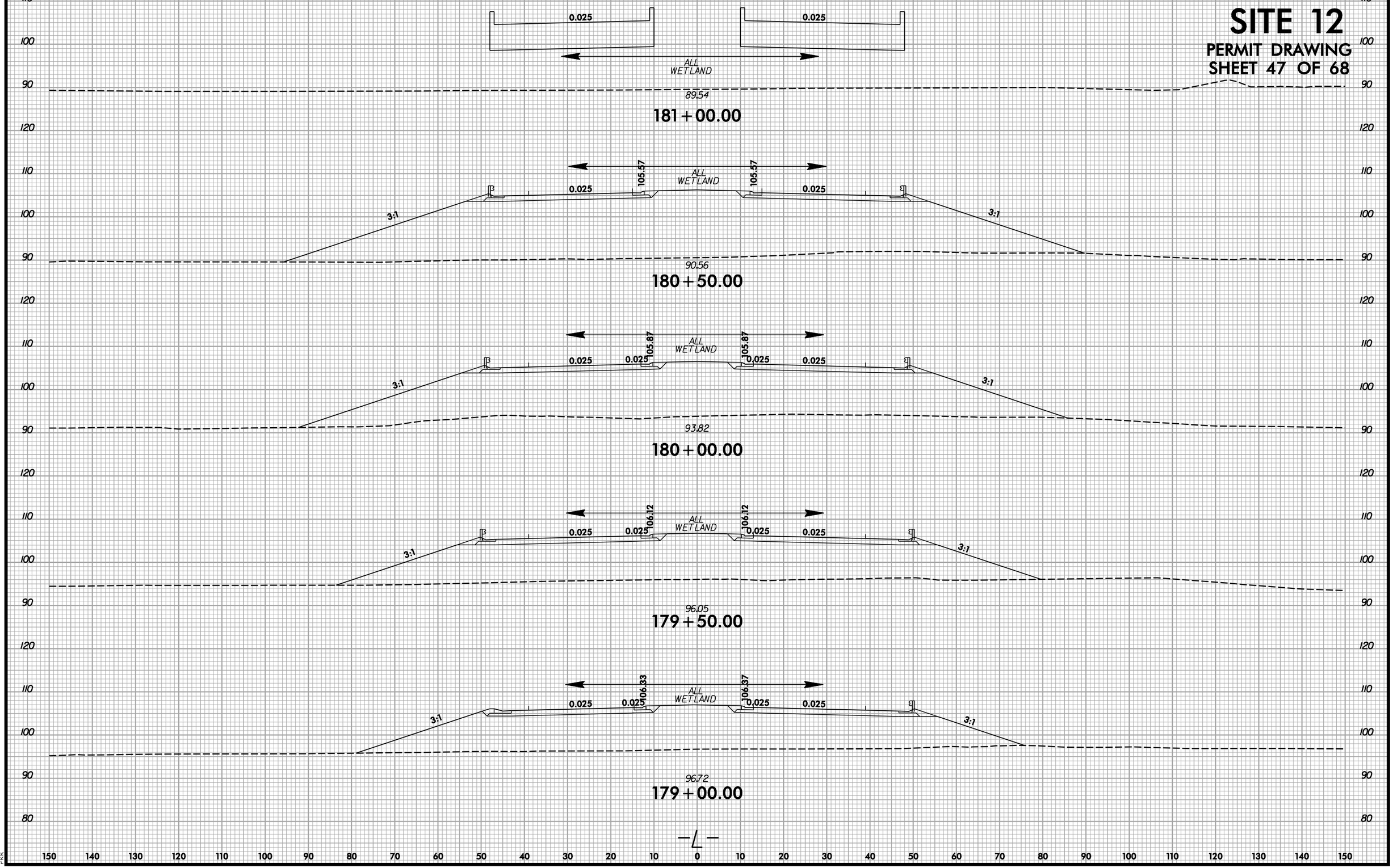
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-86

SITE 12

PERMIT DRAWING
SHEET 47 OF 68



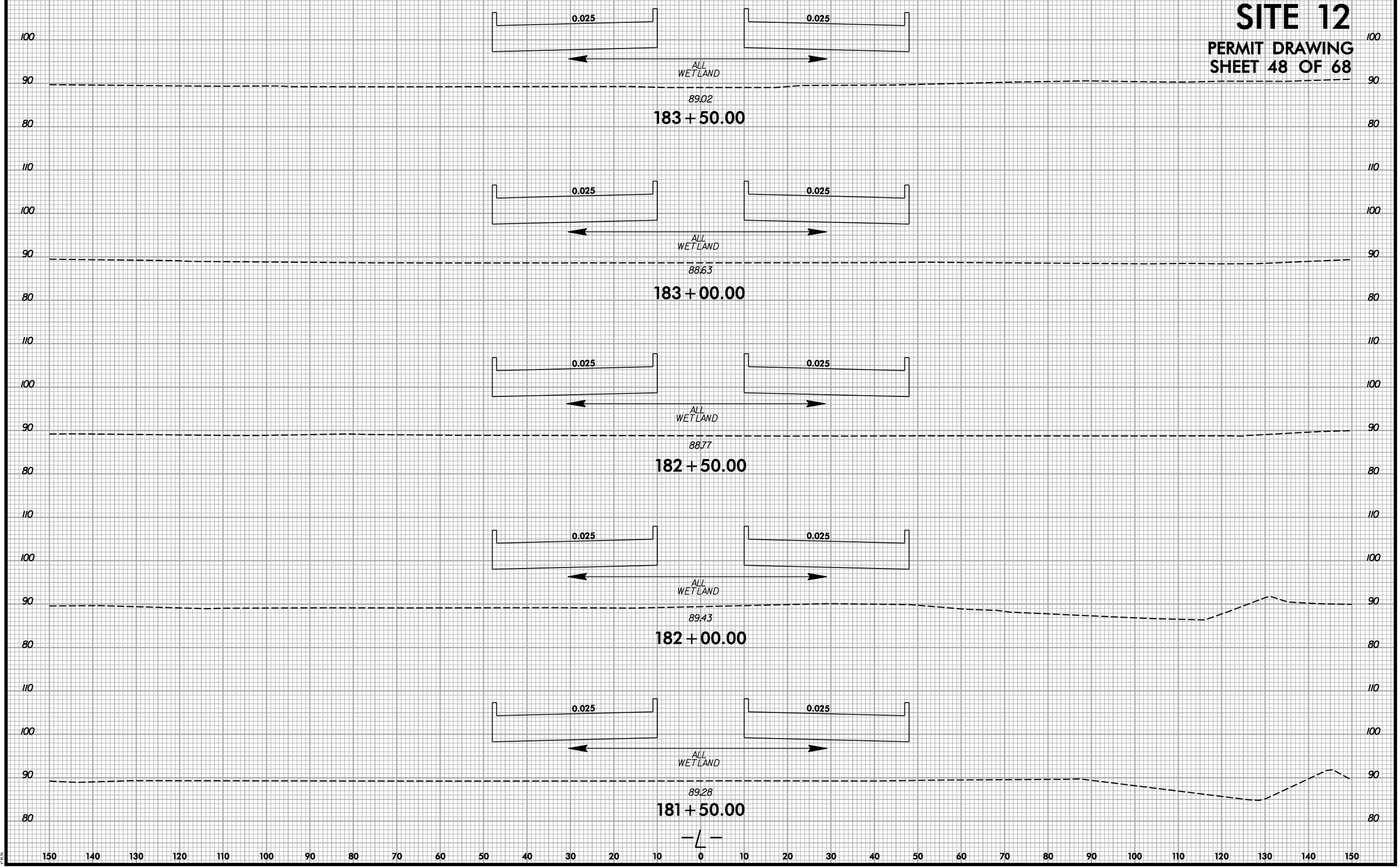
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-87

SITE 12

PERMIT DRAWING
SHEET 48 OF 68



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rkk

8/23/99

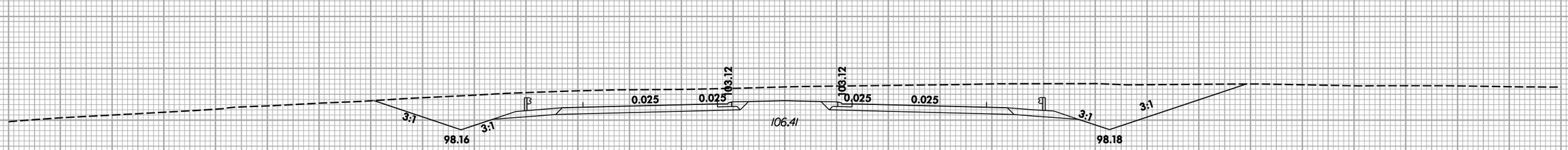
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	R-2823	X-88

SITE 12

PERMIT DRAWING
SHEET 49 OF 68

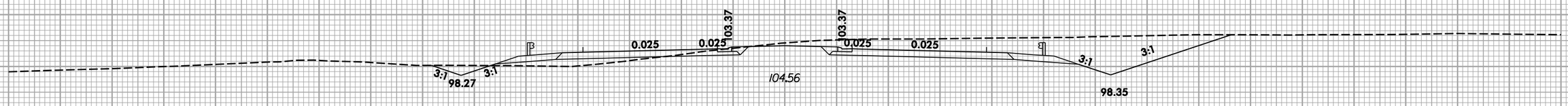
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120 110 100 90



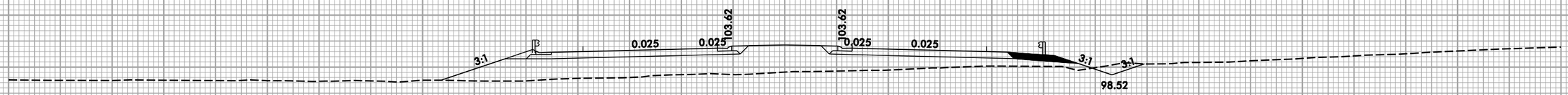
185+50.00

120 110 100 90



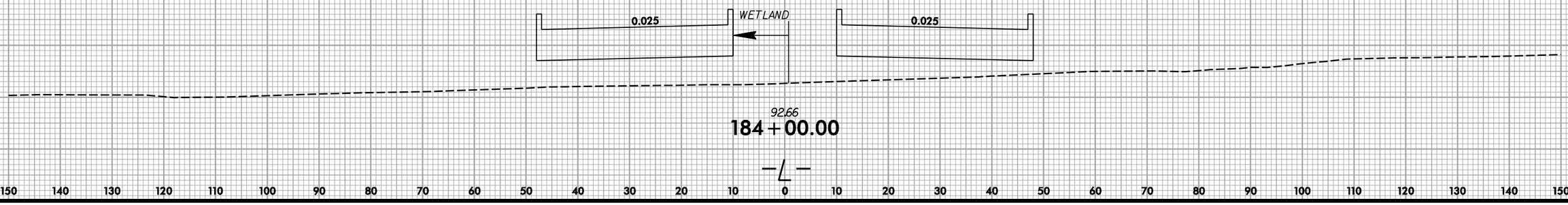
185+00.00

120 110 100 90



184+50.00

80 110 100 90



184+00.00

80

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

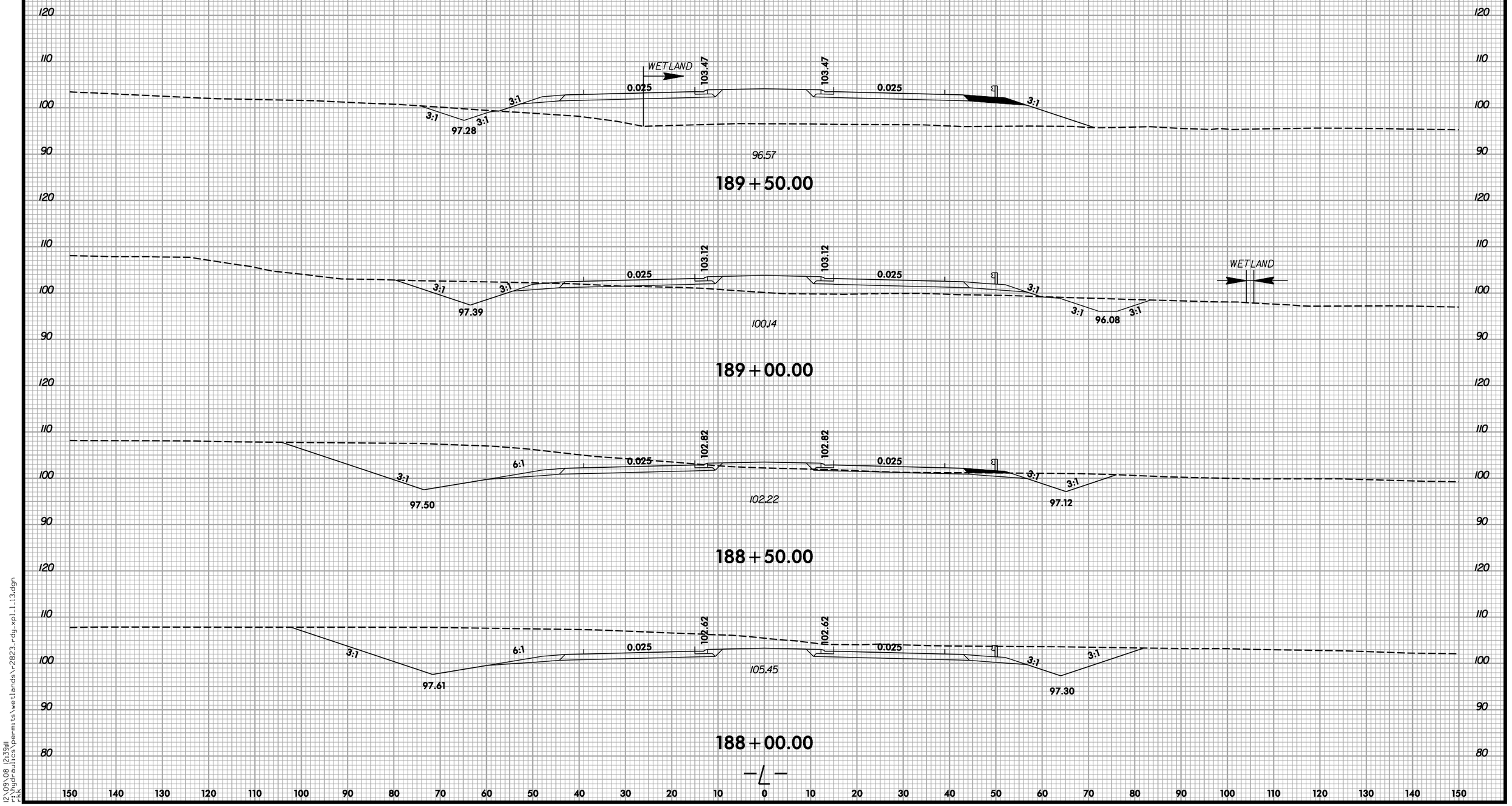
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8/23/99

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	R-2823	X-90

SITE 13

PERMIT DRAWING
SHEET 50 OF 68



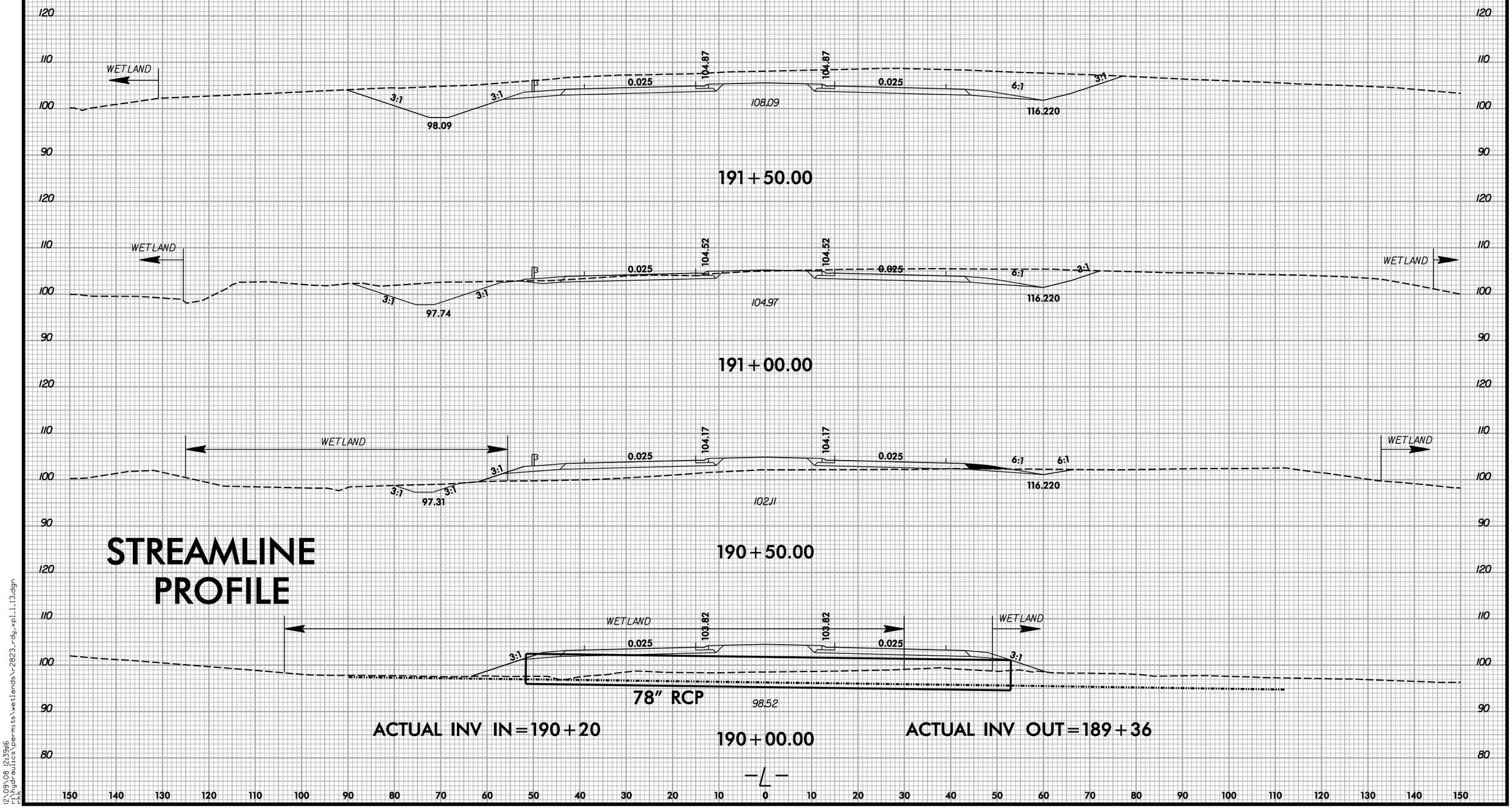
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8/23/99

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	R-2823	X-91

SITE 13

PERMIT DRAWING
SHEET 51 OF 68

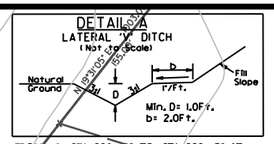


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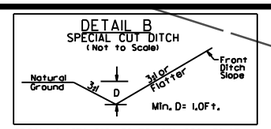
8/17/99

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)



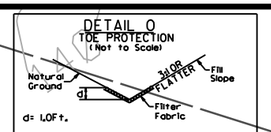
FROM -L- STA. 220+50 TO STA. 223+50 LT
FROM -Y5- STA. 11+00 TO STA. 12+00 RT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



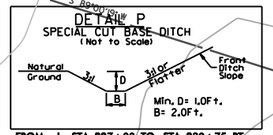
FROM -L- STA. 218+50 TO STA. 220+50 LT

DETAIL Q
TOE PROTECTION
(Not to Scale)



Type of Liner= Class B Rip-Rap
FROM -L- STA. 228+50 TO STA. 232+00 LT

DETAIL P
SPECIAL CUT BASE DITCH
(Not to Scale)

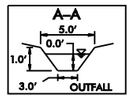


FROM -L- STA. 227+00 TO STA. 230+75 RT

GRASS SWALE DATA
-L- 227+00 - 230+75 RT
DA= 2.08ac
SLOPE= 0.30%
L REQ.= 208'
L PRO.= 250'
Q2= 6.65cfs
V2= 1.42ft/s
D2= 0.96'
Q10= 8.36cfs
V10= 1.66ft/s
D10= 1.00'

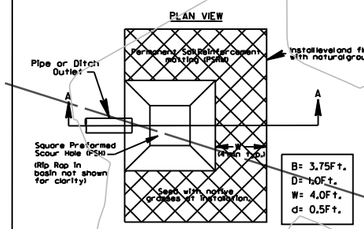
PREFORMED SCOUR HOLE DATA
-L- 230+80 RT
Q10= 4.30cfs
V10= 0.80ft/s

A-A

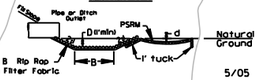


DETAIL H
PREFORMED SCOUR HOLE

PLAN VIEW



SECTION A-A



5/05

-Y5- STA. 11+50 LT

F F DENOTES FILL IN WETLAND
E E DENOTES EXCAVATION IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PROJECT REFERENCE NO.	SHEET NO.
R-2823	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 52 OF 68

ENGLISH

MATCHLINE -L- STA. 219+00 SEE SHEET 19

MATCHLINE -L- STA. 232+00 SEE SHEET 21

MATCHLINE -Y5- STA. 16+00 SEE SHEET 29

WILLIAM HERBERT TURNER (63)
LATERAL V DITCH SEE DETAIL A
45' WW FENCE
HP STA. 222+57.88 -L-
INV=134.98 C
2 TON CL B RIPRAP W/7 SY FIL FAB
SPECIAL CUT DITCH SEE DETAIL B
CPES
CB 200
S 89°00'19" W 1571.99'
CULTIVATED
JAMES B. MARTIN, JR. ET AL (62)
INV= 131.66 18"
PSH (SEE DETAIL H)
INV= 132.58
LATERAL V DITCH SEE DETAIL A
WOODS
W. W. EATMON HEIRS (61)
S 88°20'07" W 165.50'
N 88°58'23" E 101.30'
N 88°58'23" E 102.70'
CAROLYN EATMON PARKER
S 5°52'23" W 240.00'
W. W. EATMON HEIRS (64)
N 88°58'23" E 138.37'
W. W. EATMON HEIRS
S 38°25'37" W 400.31'
116.30'
SPECIAL CUT BASE DITCH SEE DETAIL P
TOE PROTECTION SEE DETAIL Q
WILLIAM HERBERT TURNER (65)
S 89°00'19" W 1730.38'
SITE 15
NO DEFINED CHANNEL
INV=119.50
INV= 123.37
207 CB
209
208
INV= 118.80
210
BDO 199
INV= 122.13
INV= 118.04
2 TON CL B RIPRAP W/7 SY FIL FAB INV=122.43
SITE 16
26 TONS CL I RIPRAP W/50 SY FIL FAB RIPRAP ON BANKS ONLY INV=117.04
117.33
WLB
BZ 1
BZ 2
230
225
220
130
125
120

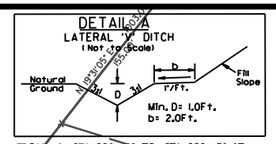
CURB & GUTTER LOCATIONS
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

FOR -L- PROFILE SEE SHTS.38 & 39
FOR -Y5- PROFILE SEE SHT.43

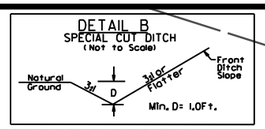
PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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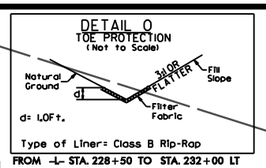
8/17/99



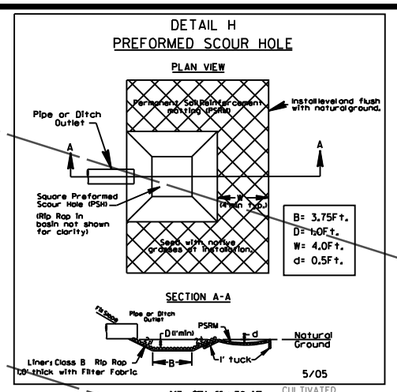
FROM -L- STA. 220+50 TO STA. 223+50 LT
FROM -Y5- STA. 11+00 TO STA. 12+00 RT



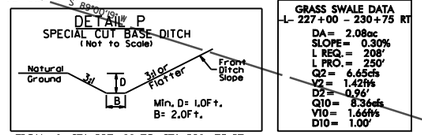
FROM -L- STA. 218+50 TO STA. 220+50 LT



Type of Liner= Class B Rip-Rap
FROM -L- STA. 228+50 TO STA. 232+00 LT



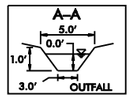
-Y5- STA. 11+50 LT



FROM -L- STA. 227+00 TO STA. 230+75 RT

GRASS SWALE DATA
-L- 227+00 - 230+75 RT
DA= 2.08ac
SLOPE= 0.30%
L REQ.= 208'
L PRO.= 250'
Q2= 6.65cfs
V2= 1.42ft/s
D2= 0.96'
Q10= 8.36cfs
V10= 1.66ft/s
D10= 1.00'

PREFORMED SCOUR HOLE DATA
-L- 230+80 RT
Q10= 4.30cfs
V10= 0.80ft/s



F/F DENOTES FILL IN WETLAND
E/E DENOTES EXCAVATION IN WETLAND
M/M DENOTES MECHANIZED CLEARING
I/I DENOTES IMPACTS IN SURFACE WATER
T/I DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PROJECT REFERENCE NO.	SHEET NO.
R-2823	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 53 OF 68

ENGLISH

WILLIAM HERBERT TURNER
220
63
LATERAL V DITCH SEE DETAIL A
45" WW FENCE
HP STA. 222+57.88 -L-
INV=134.98
2 TON CL B RIPRAP W/7 SY FIL FAB
SPECIAL CUT DITCH SEE DETAIL B
207
CPES
CB
200
S 89°00'19" W 1571.99'
MATCHLINE -L- STA. 219+00 SEE SHEET 19
CULTIVATED
JAMES B. MARTIN, JR. ET AL
62
LATERAL V DITCH SEE DETAIL A
202
INV= 132.58
INV= 131.66
18"
PSH (SEE DETAIL H)
WOODS
SITE 14
W. W. EATMON HEIRS
61
S 88°20'07" W 165.50'
N 88°58'23" E 101.30'
N 88°58'23" E 102.70'
CAROLYN EATMON PARKER
S 5°52'23" W 240.40'
18.30'
W. W. EATMON HEIRS
64
MATCHLINE -Y5- STA. 16+00 SEE SHEET 29
225
WILLIAM HERBERT TURNER
65
TOE PROTECTION SEE DETAIL Q
S 89°00'19" W 1620.38'
WLB
230
S 89°00'19" W 1730.38'
BZ 1
BZ 2
61M
WOODS
SITE 15
NO DEFINED CHANNEL
123.37
INV=119.50
HW
209
208
CB
119.80
SPECIAL CUT BASE DITCH SEE DETAIL P
207
CB
210
WILLIAM HERBERT TURNER
63
45" WW FENCE
BDO
199
INV= 122.13
INV= 118.04
2 TON CL B RIPRAP W/7 SY FIL FAB INV=122.43
CULTIVATED
SITE 16
117.33
26 TONS CL I RIPRAP W/50 SY FIL FAB RIPRAP ON BANKS ONLY INV=117.04
MATCHLINE -L- STA. 232+00 SEE SHEET 21
WOODS
S 89°00'19" W 1571.99'
JAMES B. MARTIN, JR. ET AL
62
15
W. W. EATMON HEIRS
64
N 88°58'23" E 738.37'
S 38°25'37" W 400.33'

CURB & GUTTER LOCATIONS
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

FOR -L- PROFILE SEE SHTS. 38 & 39
FOR -Y5- PROFILE SEE SHT. 43

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

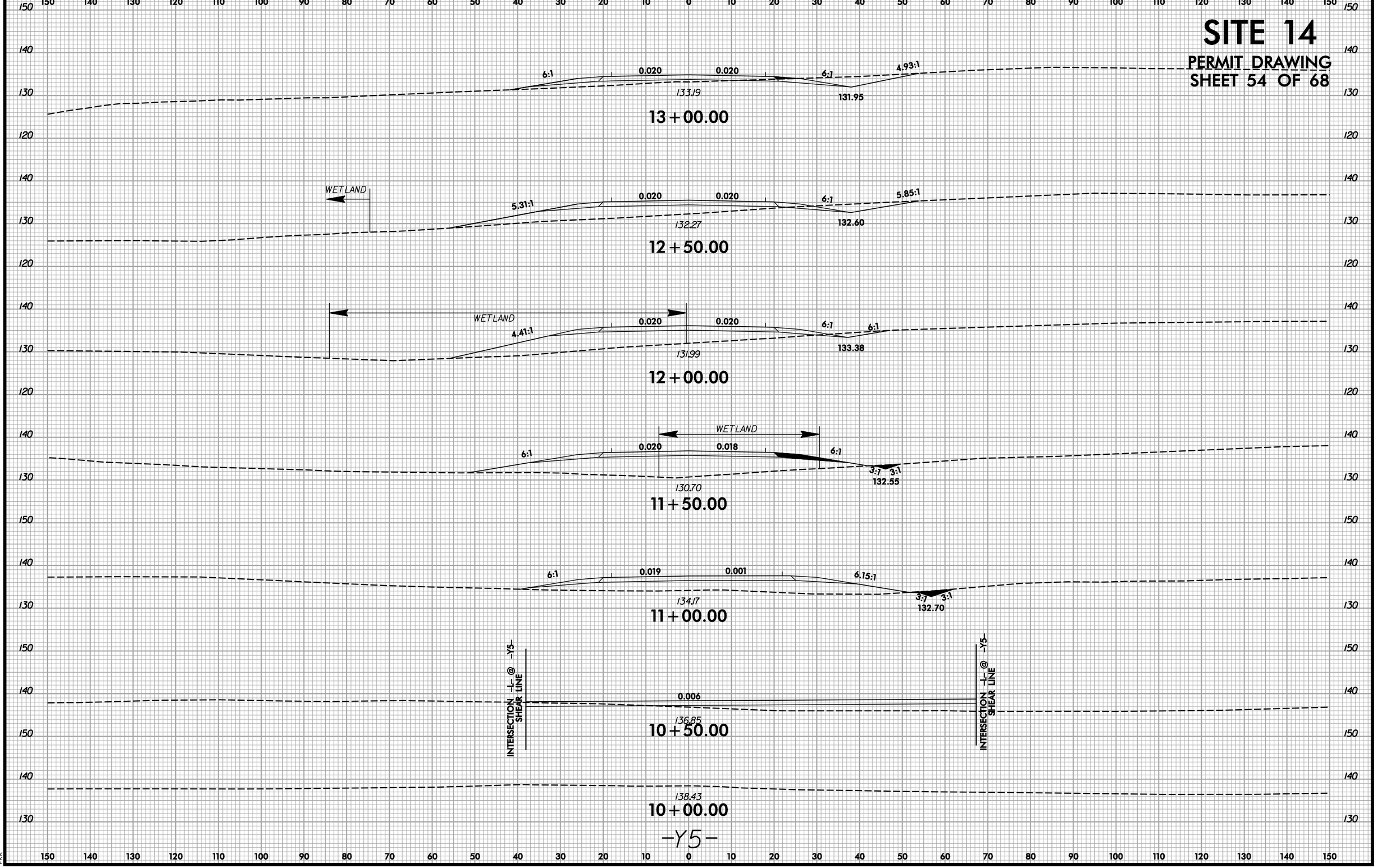
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-149

SITE 14

PERMIT DRAWING
SHEET 54 OF 68



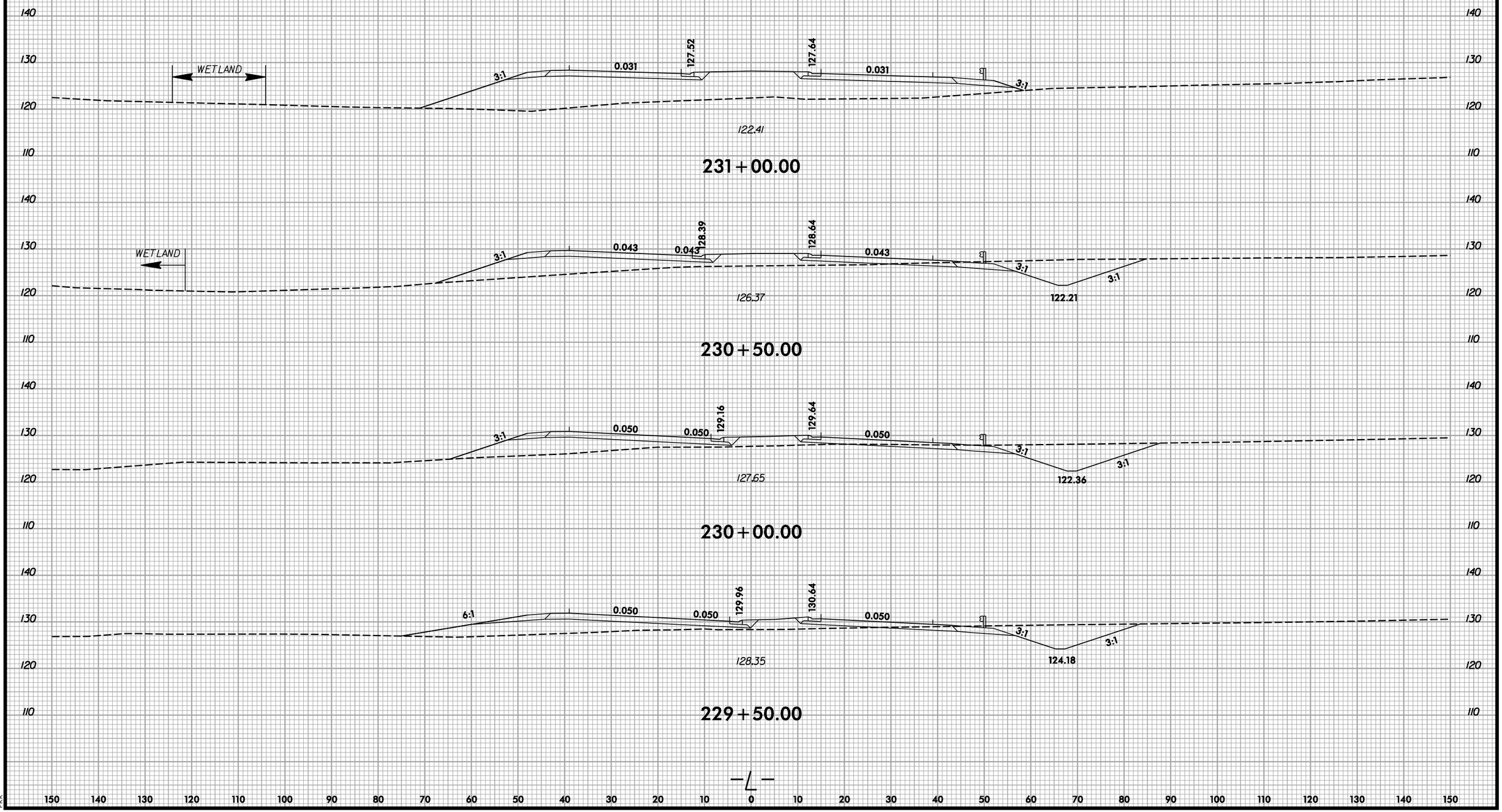
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-111

SITES 15 & 16

PERMIT DRAWING
SHEET 55 OF 68



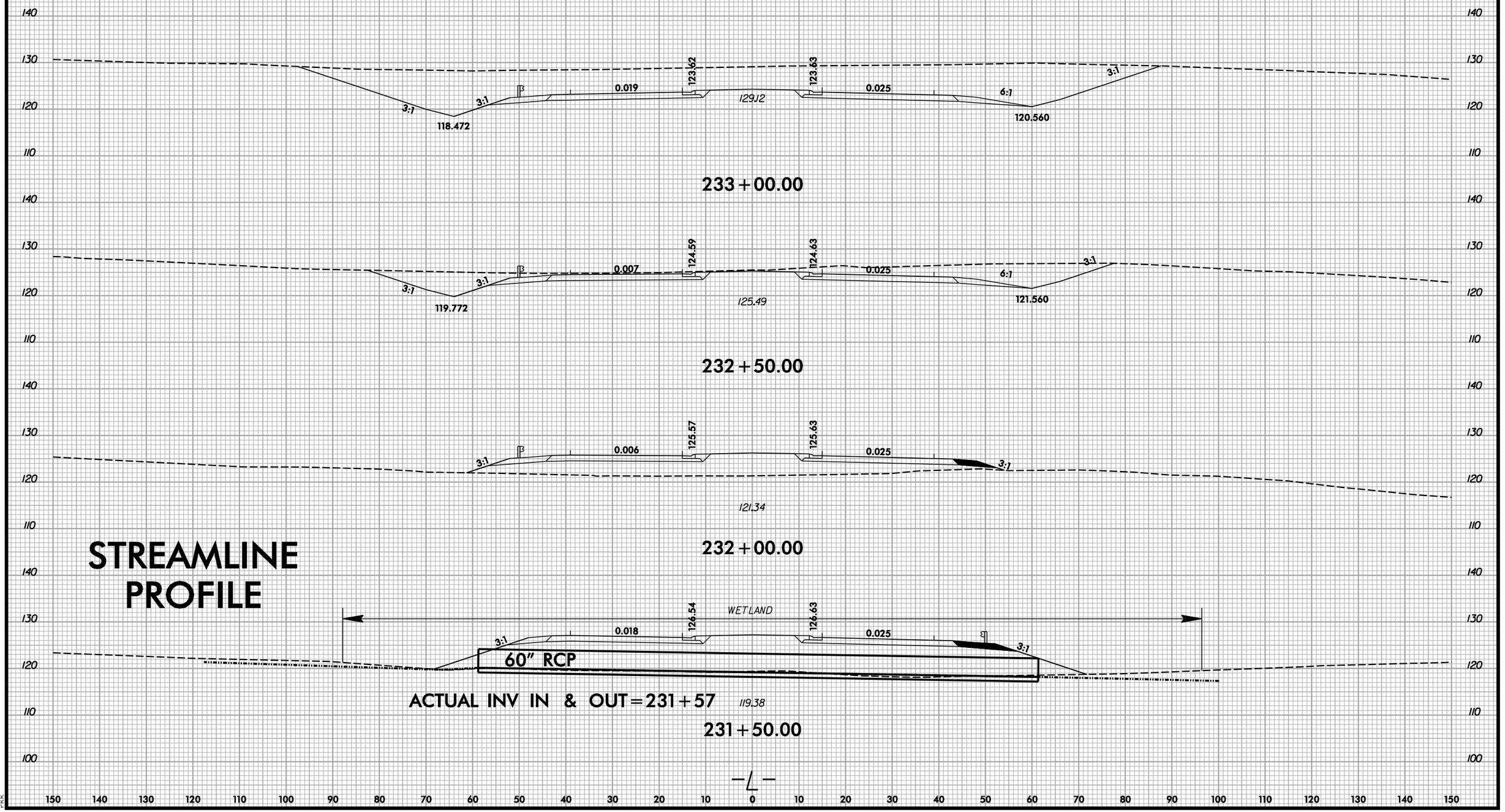
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-112

SITES 15 & 16

PERMIT DRAWING
SHEET 56 OF 68



STREAMLINE PROFILE

12\09\08 12:41:9
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rkk

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

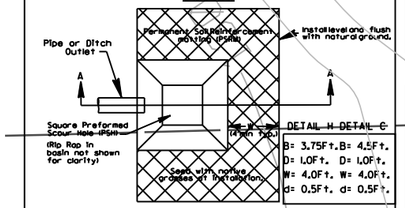
PERMIT DRAWING SHEET 57 OF 68

ENGLISH

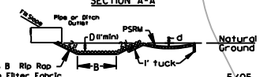
F/F DENOTES FILL IN WETLAND
E/E DENOTES EXCAVATION IN WETLAND
DENOTES MECHANIZED CLEARING
S/S DENOTES IMPACTS IN SURFACE WATER
TS/TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DETAIL C
DETAIL H
PREFORMED SCOUR HOLE

PLAN VIEW



SECTION A-A



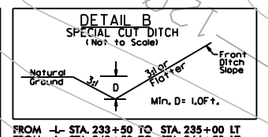
Liner: Class B Rip Rap 10" thick with Filter Fabric

B= 3.75Ft. B= 4.5Ft.
D= 1.0Ft. D= 1.0Ft.
W= 4.0Ft. W= 4.0Ft.
d= 0.5Ft. d= 0.5Ft.

5/05

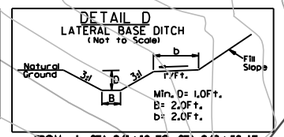
DETAIL C
-L- STA. 241+05 LT
DETAIL H
-L- STA. 238+25 RT
-L- STA. 239+20 LT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



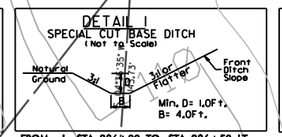
FROM -L- STA. 233+50 TO STA. 235+00 LT
FROM -L- STA. 243+50 TO STA. 244+50 LT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)



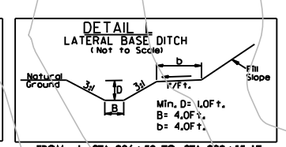
FROM -L- STA. 241+10 TO STA. 243+50 LT

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)



FROM -L- STA. 236+00 TO STA. 236+50 LT

DETAIL J
LATERAL BASE DITCH
(Not to Scale)



FROM -L- STA. 236+50 TO STA. 239+15 LT

GRASS SWALE DATA
-L- 232+50 - 239+15 LT
DA= 1.73ac
SLOPE= 1.65%
L REQ.= 173'
L PRO.= 365'
Q2= 5.53cfs
V2= 1.85ft/s
D2= 0.36'
Q10= 6.95cfs
V10= 1.99ft/s
D10= 0.40'

PREFORMED SCOUR HOLE DATA
-L- 238+25 RT
Q10= 1.48cfs
V10= 0.37ft/s

PREFORMED SCOUR HOLE DATA
-L- 241+05 LT
Q10= 13.19cfs
V10= 1.21ft/s

PREFORMED SCOUR HOLE DATA
-L- 239+20 LT
Q10= 6.95cfs
V10= 0.92ft/s

MATCHLINE -L- STA. 232+00 SEE SHEET 20

MATCHLINE -L- STA. 245+00 SEE SHEET 22

SITE 17

WILLIAM HERBERT TURNER (65)
MACK B. PEARSALL (66)
WALTER I. THARRINGTON (67, 68, 69, 70, 71, 72)
WILLIAM HERBERT TURNER (63)
MACK B. PEARSALL (66)
RICKY ALLEN DEW JR.
JOHN I. & BATHILDA WILLIAMS
THOMAS L. WILLIAMS
SYNTHIA LEE STEELE
SUSAN A. STEGMETER

48" WW FENCE
SPECIAL CUT DITCH SEE DETAIL B
SPECIAL CUT BASE DITCH SEE DETAIL I
LATERAL BASE DITCH SEE DETAIL L
LATERAL BASE DITCH SEE DETAIL D
SPECIAL CUT DITCH SEE DETAIL B
INV=108.66 2 TONS CL B RIPRAP W/7 SY FIL FAB
8' X 9' RCBC
25' CY DDE
PSH SEE DETAIL C
2 ELBOWS W/ ROD AND LUG
PSH SEE DETAIL H
INV=110.90
CUTFILL TRANSITION 2 TONS CL B RIPRAP W/7 SY FIL FAB
42 TONS CL I RIPRAP W/60 SY FIL FAB 25 CY DDE
LP STA. 237+20.00 -L-
WOODS
CHURCH RD 22' ASPH
FINNEMAN DR 22' E

EXISTING PAVEMENT REMOVAL

FOR -L- PROFILE SEE SHT.39

CURB & GUTTER LOCATIONS

DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	238+23.00	239+88.00	RT
EXP.GUTTER	-L-	239+88.00	241+00.00	RT
EXP.GUTTER	-L-	238+73.00	239+46.40	LT
SBG	-L-	239+46.40	241+00.00	LT

NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

PAVEMENT REMOVAL TO BE PERFORMED ALONG -Y7- FROM STA.14+77+/- (FENNER RD.& INSTRUMENT DR. INTERSECTION) TO STA.39+92+/- (FENNER RD.& BISHOP RD.INTERSECTION)

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

12/09/08 12:41:45
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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

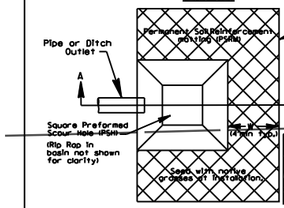
PERMIT DRAWING SHEET 58 OF 68

ENGLISH

F F DENOTES FILL IN WETLAND
E E DENOTES EXCAVATION IN WETLAND
DENOTES MECHANIZED CLEARING
S S DENOTES IMPACTS IN SURFACE WATER
TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DETAIL C
DETAIL H
PREFORMED SCOUR HOLE

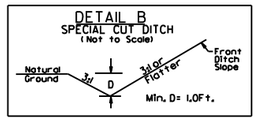
PLAN VIEW



SECTION A-A

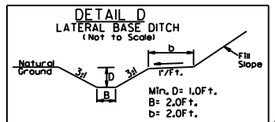
DETAIL C
-L- STA. 241+05 LT
DETAIL H
-L-L- STA. 238+25 RT
-L- STA. 239+20 LT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



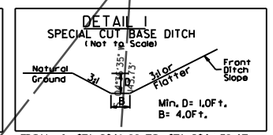
FROM -L- STA. 233+50 TO STA. 235+00 LT
FROM -L- STA. 243+50 TO STA. 244+50 LT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)



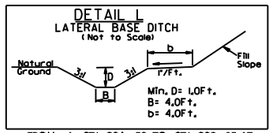
FROM -L- STA. 241+10 TO STA. 243+50 LT

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)



FROM -L- STA. 236+00 TO STA. 236+50 LT

DETAIL L
LATERAL BASE DITCH
(Not to Scale)



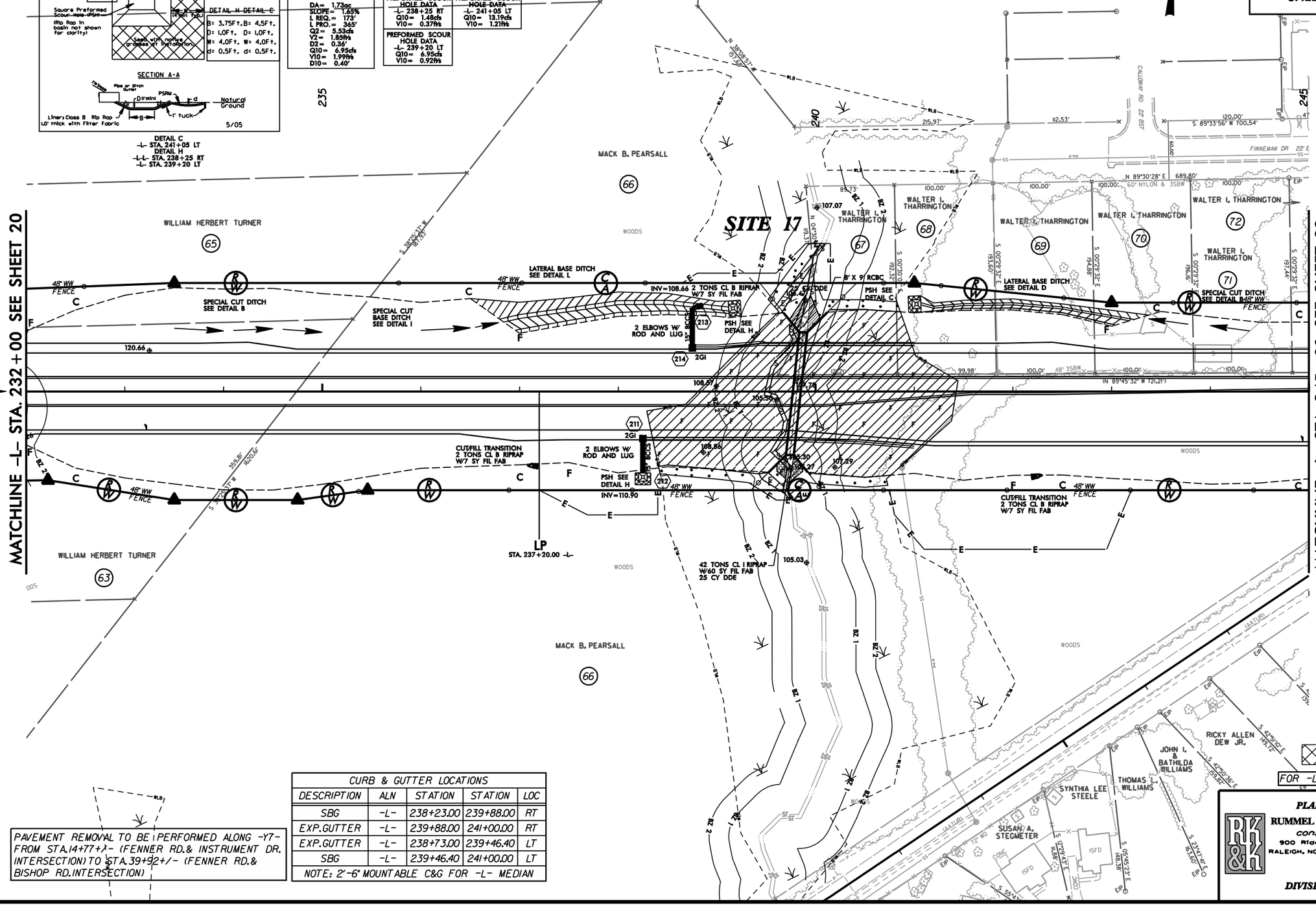
FROM -L- STA. 236+50 TO STA. 239+15 LT

GRASS SWALE DATA -L- 232+50 - 239+15 LT	
DA=	1.73ac
SLOPE=	1.65%
L REQ.=	173'
L PRO.=	365'
Q2=	5.53cfs
V2=	1.85ft/s
D2=	0.36'
Q10=	6.95cfs
V10=	1.99ft/s
D10=	0.40'

PREFORMED SCOUR HOLE DATA -L- 238+25 RT	
Q10=	1.48cfs
V10=	0.37ft/s

PREFORMED SCOUR HOLE DATA -L- 239+20 LT	
Q10=	6.95cfs
V10=	0.92ft/s

PREFORMED SCOUR HOLE DATA -L- 241+05 LT	
Q10=	13.19cfs
V10=	1.21ft/s



PAVEMENT REMOVAL TO BE PERFORMED ALONG -Y7- FROM STA.14+77+/- (FENNER RD.& INSTRUMENT DR. INTERSECTION) TO STA.39+92+/- (FENNER RD.& BISHOP RD.INTERSECTION)

CURB & GUTTER LOCATIONS

DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	238+23.00	239+88.00	RT
EXP.GUTTER	-L-	239+88.00	241+00.00	RT
EXP.GUTTER	-L-	238+73.00	239+46.40	LT
SBG	-L-	239+46.40	241+00.00	LT

NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

PLANS PREPARED BY :
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FOR
DIVISION OF HIGHWAYS

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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	39
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 59 OF 68

-L-

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE 60" RCP
STA. 231+57 -L-

DRAINAGE AREA	= 31	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 80	CFS
DESIGN HW ELEVATION	= 124.5	FT
100 YEAR DISCHARGE	= 90	CFS
100 YEAR HW ELEVATION	= 124.9	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 130	CFS
OVERTOPPING ELEVATION	= 126.5	FT

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE 8'x9' RCBC
STA. 239+81 -L-

DRAINAGE AREA	= 356	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 600	CFS
DESIGN HW ELEVATION	= 116.1	FT
100 YEAR DISCHARGE	= 700	CFS
100 YEAR HW ELEVATION	= 117.6	FT
OVERTOPPING FREQUENCY	= 100+	YRS
OVERTOPPING DISCHARGE	= 935	CFS
OVERTOPPING ELEVATION	= 118.5	FT

BM #7
RR SPIKE IN BASE OF 48" OAK
-L- STA. 230+89.38 244.47' RT
ELEV. = 130.71'

PROPOSED GRADE
EXISTING GROUND

PI = 236+00.00
EL = 117.66'
VC = 400'
K = 160

PI = 241+90.00
EL = 120.61'
VC = 250'
K = 200

(-) 1.80% RT
(-) 7.03% RT
(-) 0.30% RT
(-) 0.30% LT
(-) 12.0000%
(+) 10.5000%
(-) 4.26% LT
(-) 1.65% LT
(+) 10.5000%
(+) 11.7500%
(+) 4.02% LT

60" PIPE

END SP. CUT DITCH
-L- STA. 230+75 RT
EL. 122.13

PI -L- STA. 229+75 RT
EL. 122.43

PI -L- STA. 229+00 RT
EL. 127.70

BEG. SP. CUT DITCH
-L- STA. 233+50 LT
EL. 117.32

END SP. CUT DITCH
-L- STA. 235+00 LT
EL. 116.87

BEG. SP. CUT BASE DITCH
-L- STA. 236+00 LT
EL. 115.81

END SP. CUT BASE DITCH
BEG. LAT. BASE DITCH
-L- STA. 236+50 LT
EL. 113.68

PI -L- STA. 237+00 LT.
EL. 111.55

END LAT. BASE DITCH
-L- STA. 239+15 LT
EL. 108.00

8'x9' RCBC

BEG. LAT. BASE DITCH
-L- STA. 241+10 LT
EL. 108.39

228+00 229+00 230+00 231+00 232+00 233+00 234+00 235+00 236+00 237+00 238+00 239+00 240+00 241+00 242+00

170 160 150 140 130 120 110 100 90 80

PI = 249+21.91
EL = 133.42'
VC = 650'
K = 277

PROPOSED GRADE
EXISTING GROUND

(+) 11.7500%
(-) 10.6000%
(+) 11.7500%
(+) 4.02% LT
(+) 4.02% LT
(+) 0.33% RT

-Y6- STA. 17+85.33=
-L- STA. 247+13.23

END LAT. BASE DITCH
BEG. SP. CUT DITCH
-L- STA. 243+50 LT
EL. 118.04

END SP. CUT DITCH
-L- STA. 244+50 LT
EL. 122.06

BEG. SP. CUT DITCH
-L- STA. 245+50 RT
EL. 123.51

END SP. CUT DITCH
-L- STA. 246+50 RT
EL. 123.84

LEFT SIDE DITCH PROFILE
RIGHT SIDE DITCH PROFILE

FOR -L- PLAN SEE SHTS. 20 THRU 22

242+00 243+00 244+00 245+00 246+00 247+00 248+00 249+00 250+00 251+00 252+00 253+00 254+00 255+00 256+00

170 160 150 140 130 120 110 100 90 80

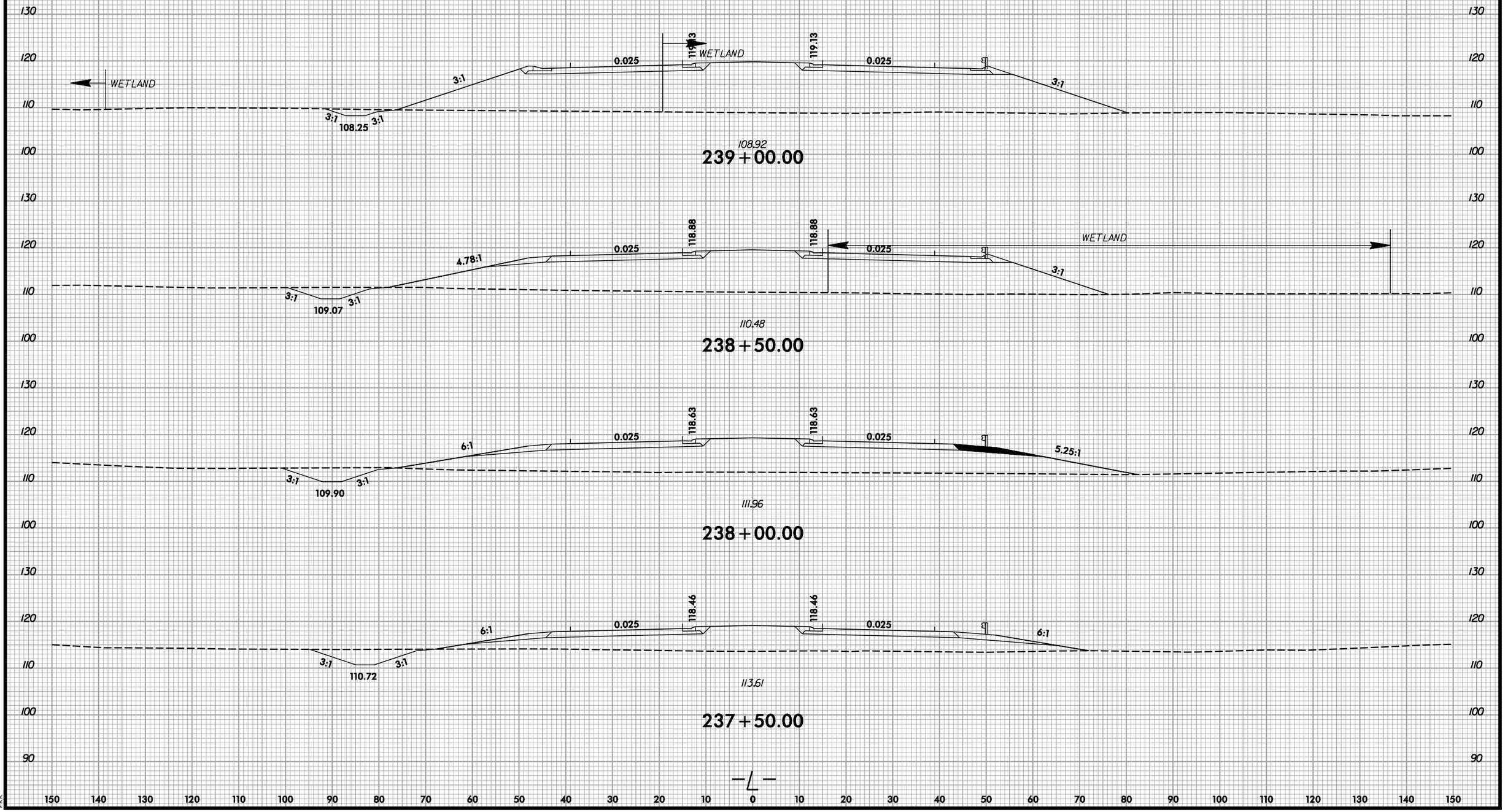
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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-115

SITE 17

PERMIT DRAWING
SHEET 60 OF 68



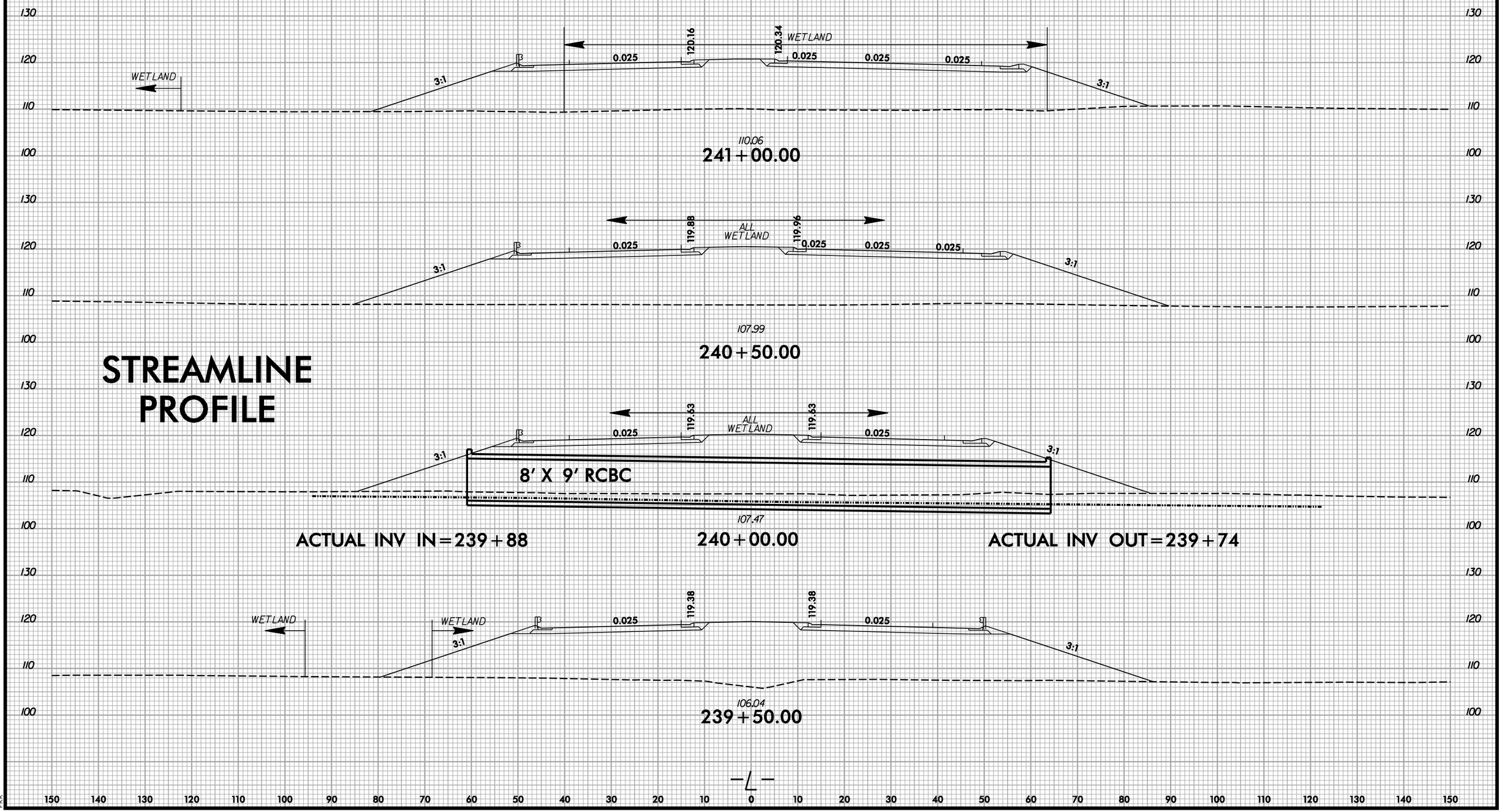
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-116

SITE 17
PERMIT DRAWING
SHEET 61 OF 68

STREAMLINE PROFILE



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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 62 OF 68

ENGLISH

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SITE 18

MATCHLINE -L- STA. 259+00 SEE SHEET 22

MATCHLINE -Y8- STA. 20+00 SEE SHEET 30

LP
STA. 263+00.84 -L-

-Y8- S 12°32'01.8"W

N. C. WESLEYAN COLLEGE

CAROLINA EAGLE DISTRIBUTING

FRANCIS MARION BARNES

THOMAS PEARSALL JR et al TRUST

MACK B. & THOMAS J. PEARSALL

SR 1538 FENNER RD

SPECIAL MEDIAN CUT DITCH SEE DETAIL Q

SPECIAL CUT DITCH SEE DETAIL B

LATERAL BASE DITCH SEE DETAIL L

LATERAL BASE DITCH SEE DETAIL D

SPECIAL CUT BASE DITCH SEE DETAIL I

BERM 'V' DITCH SEE DETAIL K

REMOVE 6'-18" RCP

2 ELBOWS W/ ROD AND LUG

CUT/FILL TRANSITION 2 TONS CL B RIPRAP W/7 SY FIL FAB

2 TONS CL B RIPRAP W/7 SY FIL FAB

3 TONS CL B RIPRAP W/10 SY FIL FAB

JB WMH

RIPRAP

RETAIN

REMOVE

WOODS

ISBKBUS

ISMTLBUS

BST

S 77°24'03" E 430.65'

A-A	B-B	C-C
8.0'	14.0'	8.0'
0.0'	0.0'	0.0'
3.0'	4.5'	2.0'
1.0' ROADSIDE	4.0'	1.0' ROADSIDE

GRASS SWALE DATA -L- 260+02 - 261+00 LT	GRASS SWALE DATA -Y8- 15+00 - 17+39 RT	GRASS SWALE DATA -Y8- 15+00 - 17+00 CL
DA= 0.47ac	DA= 1.22ac	DA= 0.54ac
SLOPE= 3.50%	SLOPE= 1.29%	SLOPE= 1.54%
L REQ.= NA	L REQ.= 122'	L REQ.= 54'
L PRO.= NA	L PRO.= 239'	L PRO.= 200'
Q2= 1.04cfs	Q2= 1.61cfs	Q2= 1.66cfs
V2= 1.87fps	V2= 1.92fps	V2= 1.47fps
D2= 0.21'	D2= 0.64'	D2= 0.44'
Q10= 1.31cfs	Q10= NA	Q10= NA
V10= 2.01fps	V10= NA	V10= NA
D10= 0.24'	D10= NA	D10= NA

DETAIL E
SPECIAL CUT DITCH
(Not to Scale)
Min. D= 1.0Ft.
FROM -L- STA. 261+50 TO STA. 264+00 LT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)
Min. D= 1.0Ft.
B= 2.0Ft.
b= 2.0Ft.
FROM -L- STA. 260+02 TO STA. 261+50 LT

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)
Min. D= 1.0Ft.
B= 4.0Ft.
FROM -Y8- STA. 19+04 TO STA. 24+50 RT
FROM -Y8- STA. 19+50 TO STA. 22+46 LT

DETAIL K
BERM 'V' DITCH
(Not to Scale)
Min. D= 1.0Ft.
b= 2.0Ft.
FROM -L- STA. 256+50 TO STA. 260+00 RT

DETAIL I
LATERAL BASE DITCH
(Not to Scale)
Min. D= 1.0Ft.
B= 4.0Ft.
b= 4.0Ft.
FROM -L- STA. 257+00 TO STA. 259+98 LT

DETAIL Q
MEDIAN DITCH
(Not to Scale)
Min. D= 1.0Ft.
FROM -Y8- STA. 10+50 TO STA. 13+00 CL
FROM -Y8- STA. 14+00 TO STA. 15+00 CL

FOR -L- PROFILE SEE SHTS.40
FOR -Y8- PROFILE SEE SHT.44

CURB & GUTTER LOCATIONS
NOTE: 2'-6" MOUNTABLE C&G FOR -Y8- MEDIAN

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
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RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 63 OF 68

ENGLISH

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SITE 18

MATCHLINE -L- STA. 259+00 SEE SHEET 22

MATCHLINE -Y8- STA. 20+00 SEE SHEET 30

LP
STA. 263+00.84 -L-

-L-

-Y8- S 12°32'01.8"W

SPECIAL MEDIAN CUT DITCH SEE DETAIL Q

SPECIAL MEDIAN CUT DITCH SEE DETAIL Q

LATERAL BASE DITCH SEE DETAIL L

LATERAL BASE DITCH SEE DETAIL D

SPECIAL CUT DITCH SEE DETAIL B

SPECIAL CUT DITCH SEE DETAIL B

BERM 'V' DITCH SEE DETAIL K

SPECIAL CUT BASE DITCH SEE DETAIL I

SPECIAL CUT BASE DITCH SEE DETAIL I

HW 231 INV=117.36

INV=116.28 18" RCCP

197 2 ELBOWS W/ ROD AND LUG

INV=118.00

196

232 JB W/MH

INV=124.20 PPES 222

219 DI

CPES 18" COLLAR 221

RETAIN COLLAR

REMOVE 6'-18" RCP 246

TB 2GI

RETAIN

223 2GI

CPES 220

2 TONS CL B RIPRAP W/7 SY FIL FAB
INV=121.93

INV=122.40
3 TONS CL B RIPRAP W/10 SY FIL FAB

CUT/FILL TRANSITION
2 TONS CL B RIPRAP
W/7 SY FIL FAB

REMOVE 15" RCP

REMOVE 18" RCP

RETAIN

RETAIN

RETAIN

RIPRAP

WOODS

N. C. WESLEYAN COLLEGE

73

MACK B. & THOMAS J. PEARSALL

75

SR 1538 FENNER RD 2' BST

EXISTING R/W

24" RCP

18" RCP W/FES

36" RCP

60" PDE

TDE

PDE

S 12°33'35" E 64.23'

10

15

20

88

BST

ISBKBUS

CAROLINA EAGLE DISTRIBUTING

S 77°24'03" E 430.65'

84" CMC & 35BW

FRANCIS MARION BARNES

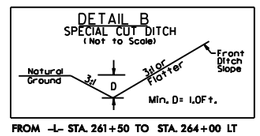
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THOMAS PEARSALL JR et al TRUST

RIPRAP

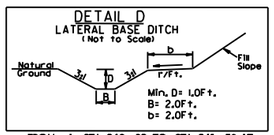
GRASS SWALE DATA -L- 260+02 – 261+00 LT	GRASS SWALE DATA -Y8- 15+00 – 17+39 RT	GRASS SWALE DATA -Y8- 15+00 – 17+00 CL
DA= 0.47ac	DA= 1.22ac	DA= 0.54ac
SLOPE= 3.50%	SLOPE= 1.29%	SLOPE= 1.54%
L REQ.= NA	L REQ.= 122'	L REQ.= 54'
L PRO.= NA	L PRO.= 239'	L PRO.= 200'
Q2= 1.04cfs	Q2= 1.61cfs	Q2= 1.66cfs
V2= 1.87fps	V2= 1.92fps	V2= 1.47fps
D2= 0.21'	D2= 0.64'	D2= 0.44'
Q10= 1.31cfs	Q10= NA	Q10= NA
V10= 2.01fps	V10= NA	V10= NA
D10= 0.24'	D10= NA	D10= NA

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



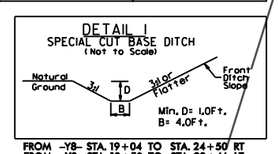
FROM -L- STA. 261+50 TO STA. 264+00 LT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)



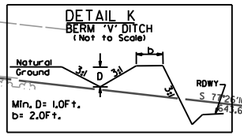
FROM -L- STA. 260+02 TO STA. 261+50 LT

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)



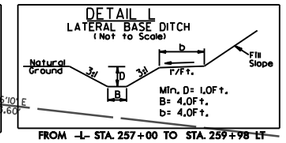
FROM -Y8- STA. 19+04 TO STA. 24+50 RT
FROM -Y8- STA. 19+50 TO STA. 22+46 LT

DETAIL K
BERM 'V' DITCH
(Not to Scale)



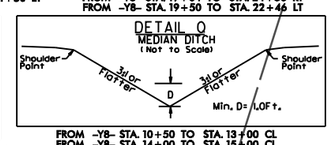
FROM -L- STA. 256+50 TO STA. 260+00 RT

DETAIL L
LATERAL BASE DITCH
(Not to Scale)



FROM -L- STA. 257+00 TO STA. 259+98 LT

DETAIL Q
MEDIAN DITCH
(Not to Scale)



FROM -Y8- STA. 10+50 TO STA. 13+00 CL
FROM -Y8- STA. 14+00 TO STA. 15+00 CL

FOR -L- PROFILE SEE SHTS.40
FOR -Y8- PROFILE SEE SHT.44

CURB & GUTTER LOCATIONS

NOTE: 2'-6" MOUNTABLE C&G FOR -Y8- MEDIAN

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

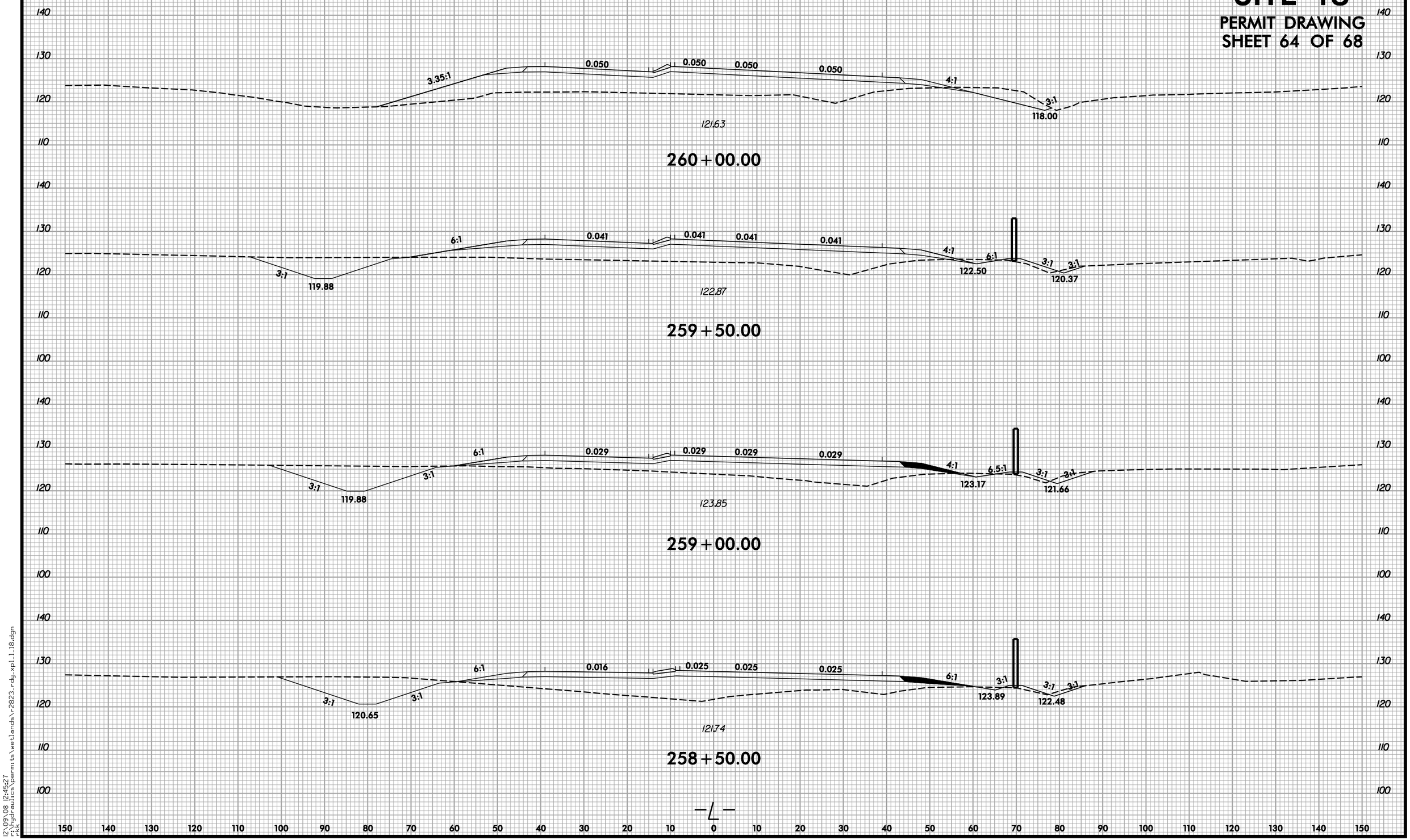
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-126

SITE 18

PERMIT DRAWING
SHEET 64 OF 68



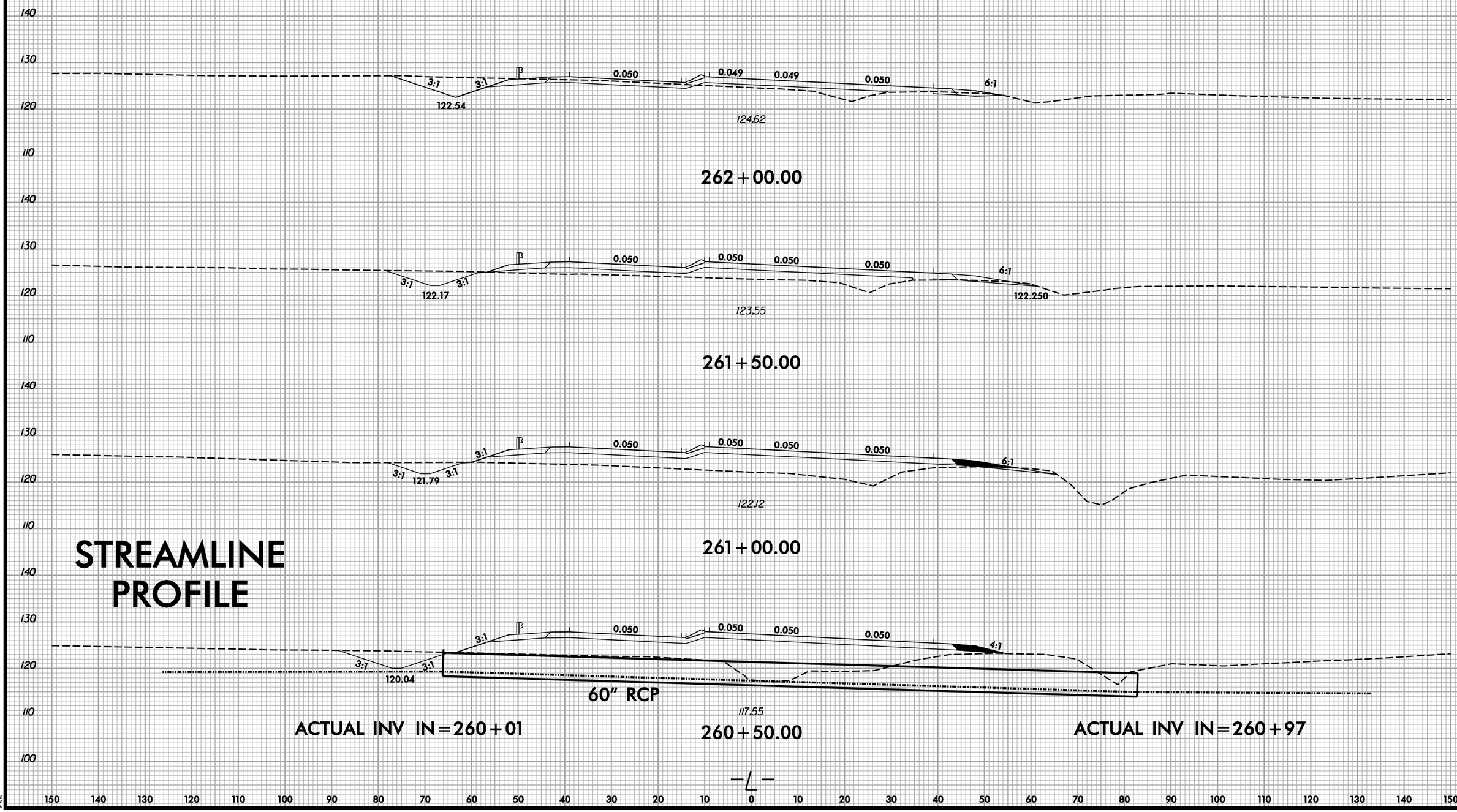
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-127

SITE 18

PERMIT DRAWING
SHEET 65 OF 68



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rkk

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	30
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 66 OF 68

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

ENGLISH

MATCHLINE -Y8- STA. 20+00 SEE SHEET 23

THOMAS PEARSALL JR et al TRUST

WOODS

SITE 19

33 TONS CL I RIPRAP W/62 SY FIL FAB
RIPRAP ON BANKS ONLY

INV=111.44

BDO INV IN =116.06 OUT=112.90
BDO 24" BCCS 2 ELBOWS W/ ROD AND LUG

INV= 111.98 HW

SPECIAL CUT BASE DITCH SEE DETAIL I

3 TONS CL B RIPRAP W/10 SY FIL FAB
INV=116.65

REMOVE 44' 48" RCP AND PLUG OTCB

33 TONS CL I RIPRAP W/62 SY FIL FAB
INV=111.90

SPECIAL CUT DITCH SEE DETAIL B

2 TONS CL B RIPRAP W/7 SY FIL FAB
INV=119.76

SWALE

US 301 NBL 25' BST

US 301 SBL 25' BST

REMOVE JB, 20' 54" RCP, 10' 48" RCP, BOTH 18" RCPS

PLUG

GRADE TO DRAIN

REMOVE DI AND PIPE

SPECIAL CUT BASE DITCH SEE DETAIL I

SPECIAL CUT BASE DITCH SEE DETAIL I

INV=112.90

INV=112.90

26 TONS CL I RIPRAP W/50 SY FIL FAB

REMOVE

BILLBOARD

WOODS

MACK B. & THOMAS J. PEARSALL

ABANDON MOTEL

88 89 90 75

GRASS SWALE DATA -Y8- 15+00 – 22+26 LT	GRASS SWALE DATA -Y8- 19+04 – 21+08 RT	GRASS SWALE DATA -Y8- 22+00 – 24+50 RT	GRASS SWALE DATA -Y8- 23+00 – 25+38 LT	GRASS SWALE DATA -Y8- 25+30 – 26+50 Cl
DA= 4.92ac	DA= 1.94ac	DA= 1.76ac	DA= 1.45ac	DA= 0.84ac
SLOPE= 0.80%	SLOPE= 3.01%	SLOPE= 2.26%	SLOPE= 0.32%	SLOPE= 2.24%
L REQ.= 440'	L REQ.= 72'	L REQ.= 176'	L REQ.= 61'	L REQ.= 84'
L PRO.= 446'	L PRO.= 108'	L PRO.= 250'	L PRO.= 238'	L PRO.= 112'
Q2= 10.15cfs	Q2= 2.56cfs	Q2= 2.72cfs	Q2= 3.92cfs	Q2= 2.48cfs
V2= 1.84ft/s	V2= 1.69ft/s	V2= 1.61ft/s	V2= 1.77ft/s	V2= 1.87ft/s
D2= 0.56'	D2= 0.20'	D2= 0.22'	D2= 1.04'	D2= 0.47'
Q10= 13.68cfs	Q10= NA	Q10= NA	Q10= NA	Q10= NA
V10= 2.01ft/s	V10= NA	V10= NA	V10= NA	V10= NA
D10= 0.65'	D10= NA	D10= NA	D10= NA	D10= NA

CURB & GUTTER LOCATIONS

NOTE: 2'-6" MOUNTABLE C&G FOR -Y8- MEDIAN

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground, 3:1, D, 3:1 or Flatter, Front Ditch Slope

Min. D= 1.0Ft.

FROM -Y8- STA. 23+00 TO STA. 25+38 LT

A–A: 5.0' / 5.0' / 1.0' — CONCRETE LINED MEDIAN

B–B: 14.0' / 0.0' / 3.0' / 1.0' — ROADSIDE

C–C: 7.0' / 0.0' / 2.0' / 3.0'

EXISTING PAVEMENT REMOVAL

FOR -Y8- PROFILE SEE SHT.44

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)

Natural Ground, 3:1, D, 3:1 or Flatter, Front Ditch Slope, B

Min. D= 1.0Ft.
B= 4.0Ft.

FROM -L- STA. 20+00 TO STA. 22+46 LT
FROM -L- STA. 20+00 TO STA. 24+50 RT

DETAIL R
CUT DITCH
(Not to Scale)

Natural Ground, 3:1, 3:1, D, 3:1 or Flatter, Front Ditch Slope, Filter Fabric

Min. D= 1.0Ft.
Max. d= 1.0Ft.

Type of Liner= Class B Rip-Rap

FROM -Y8- STA. 22+46 TO STA. 23+00 LT

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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rikk

8/17/99

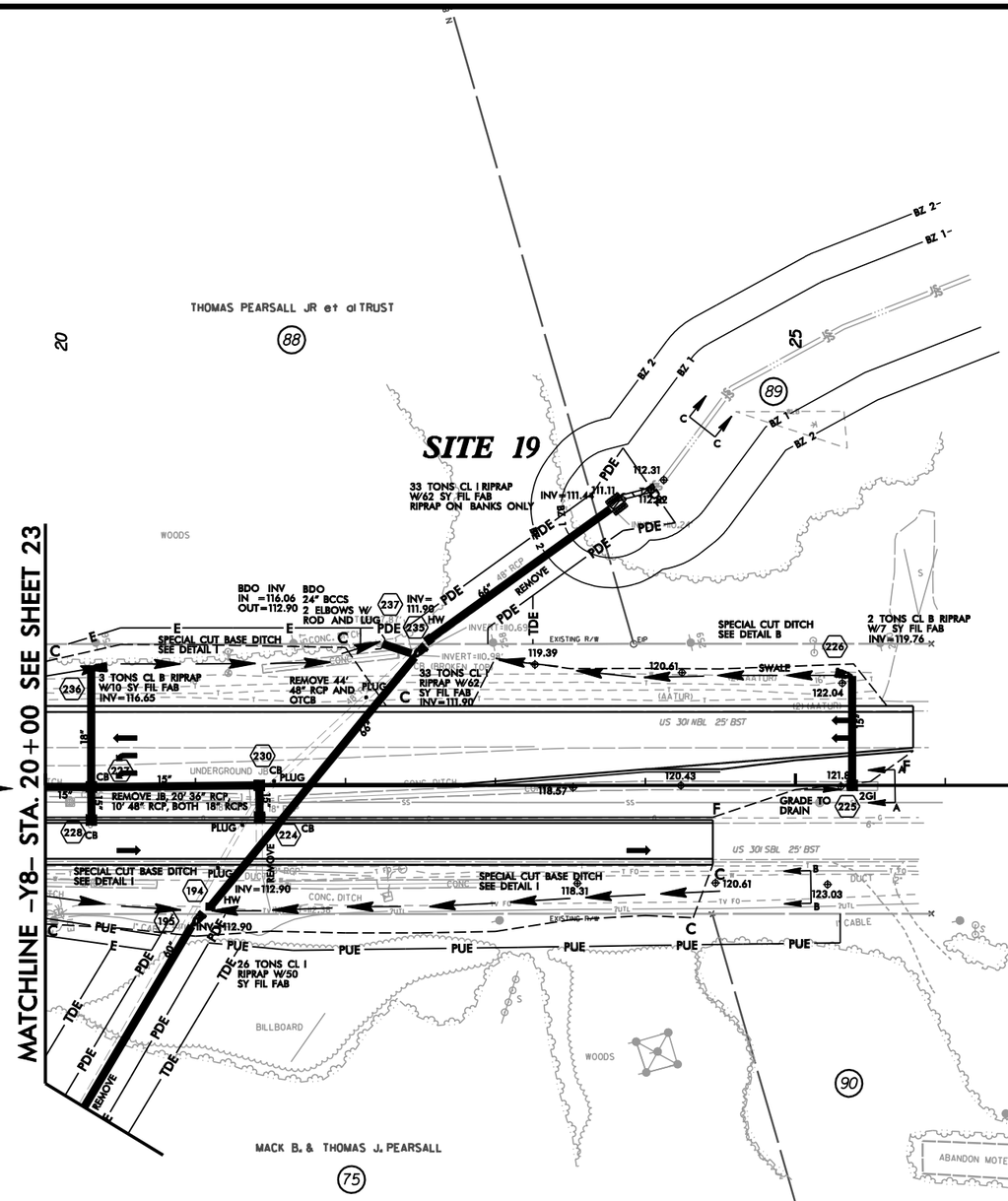
PROJECT REFERENCE NO.	SHEET NO.
R-2823	30
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 67 OF 68

ENGLISH

DENOTES TEMPORARY IMPACTS IN SURFACE WATER



GRASS SWALE DATA -Y8- 15+00 – 22+26 LT	GRASS SWALE DATA -Y8- 19+04 – 21+08 RT	GRASS SWALE DATA -Y8- 22+00 – 24+50 RT	GRASS SWALE DATA -Y8- 23+00 – 25+38 LT	GRASS SWALE DATA -Y8- 25+30 – 26+50 CL
DA= 4.92ac	DA= 1.94ac	DA= 1.76ac	DA= 1.45ac	DA= 0.84ac
SLOPE= 0.80%	SLOPE= 3.01%	SLOPE= 2.26%	SLOPE= 0.32%	SLOPE= 2.24%
L REQ.= 440'	L REQ.= 72'	L REQ.= 176'	L REQ.= 61'	L REQ.= 84'
L PRO.= 446'	L PRO.= 108'	L PRO.= 250'	L PRO.= 238'	L PRO.= 112'
Q2= 10.15cfs	Q2= 2.56cfs	Q2= 2.72cfs	Q2= 3.92cfs	Q2= 2.48cfs
V2= 1.84ft/s	V2= 1.69ft/s	V2= 1.61ft/s	V2= 1.77ft/s	V2= 1.87ft/s
D2= 0.56'	D2= 0.20'	D2= 0.22'	D2= 1.04'	D2= 0.47'
Q10= 13.68cfs	Q10= NA	Q10= NA	Q10= NA	Q10= NA
V10= 2.01ft/s	V10= NA	V10= NA	V10= NA	V10= NA
D10= 0.65'	D10= NA	D10= NA	D10= NA	D10= NA

CURB & GUTTER LOCATIONS
NOTE: 2'-6" MOUNTABLE C&G FOR -Y8- MEDIAN

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground
3:1
D
3:1 or Flatter
Front Ditch Slope
Min. D= 1.0Ft.
FROM -Y8- STA. 23+00 TO STA. 25+38 LT

A–A
5.0'
5.0'
1.0'
CONCRETE LINED MEDIAN

B–B
14.0'
0.0'
3.0'
1.0'
ROADSIDE

C–C
7.0'
0.0'
2.0'
3.0'

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground
3:1
D
3:1 or Flatter
Front Ditch Slope
B
Min. D= 1.0Ft.
B= 4.0Ft.
FROM -L- STA. 20+00 TO STA. 22+46 LT
FROM -L- STA. 20+00 TO STA. 24+50 RT

DETAIL R
CUT DITCH
(Not to Scale)
Natural Ground
3:1
D
3:1 or Flatter
Front Ditch Slope
Filter Fabric
Min. D= 1.0Ft.
Max. d= 1.0Ft.
Type of Liner= Class B Rip-Rap
FROM -Y8- STA. 22+46 TO STA. 23+00 LT

EXISTING PAVEMENT REMOVAL

FOR -Y8- PROFILE SEE SHT.44

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

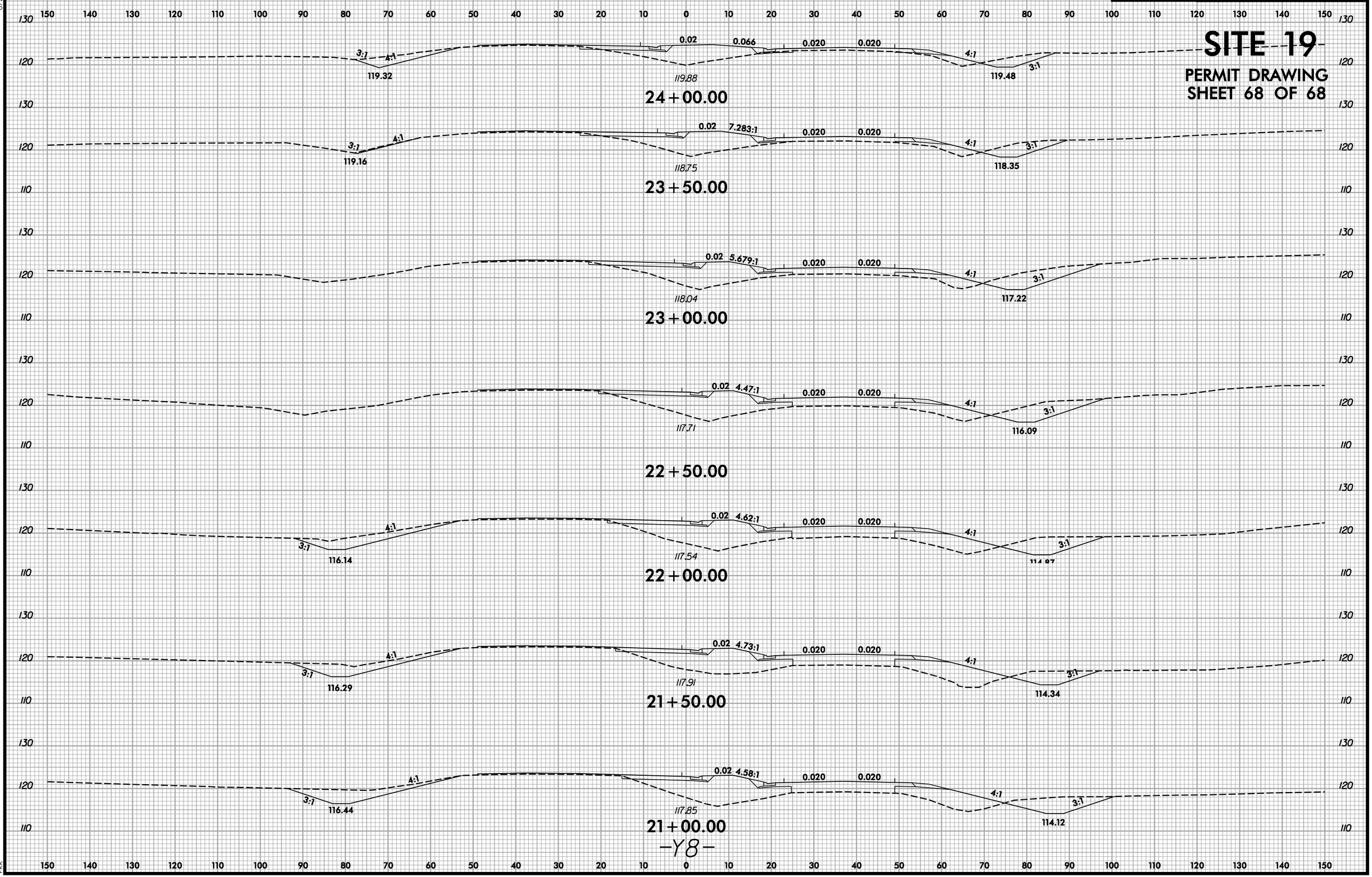
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8/23/99

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	R-2823	X-160

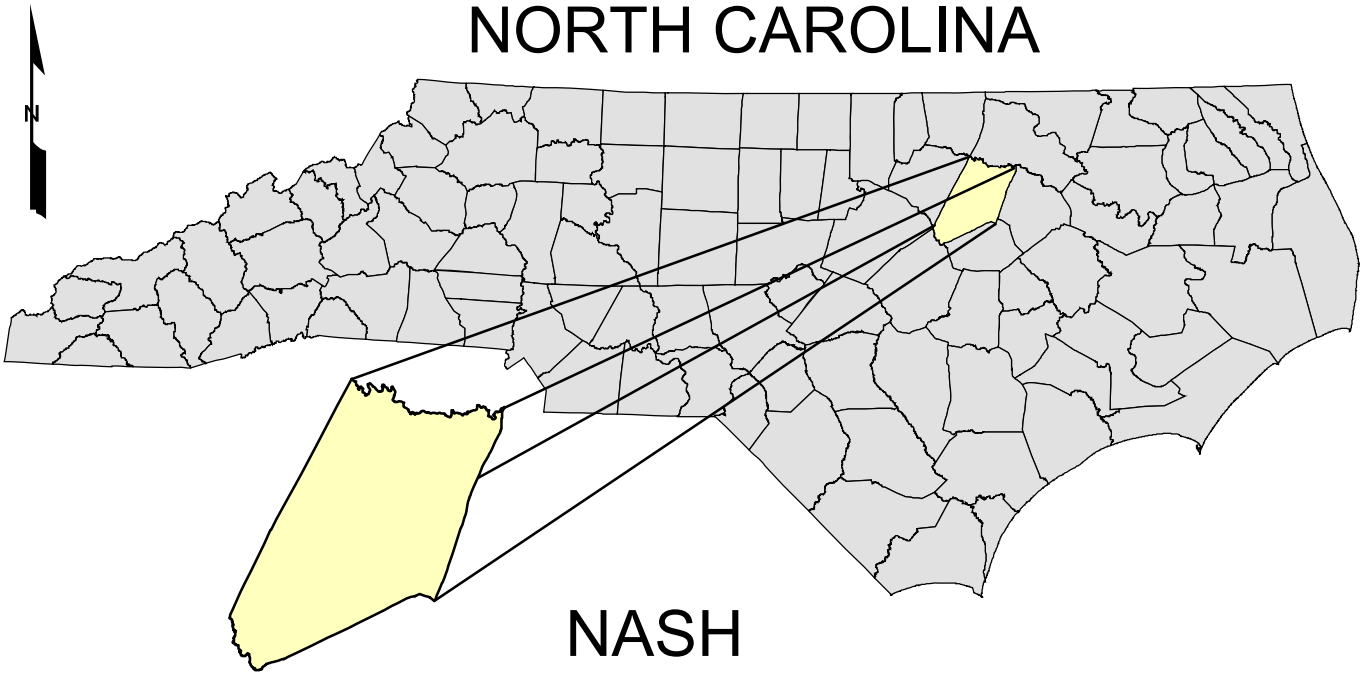
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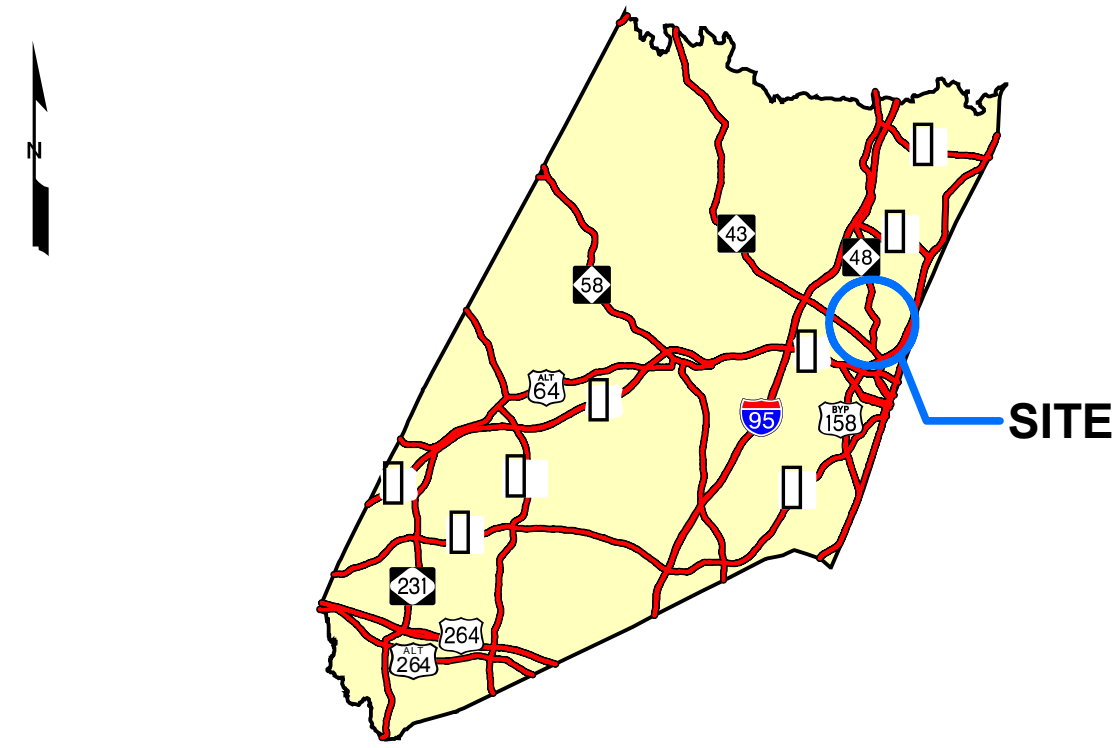
PERMIT DRAWING
SHEET 68 OF 68



-Y8-

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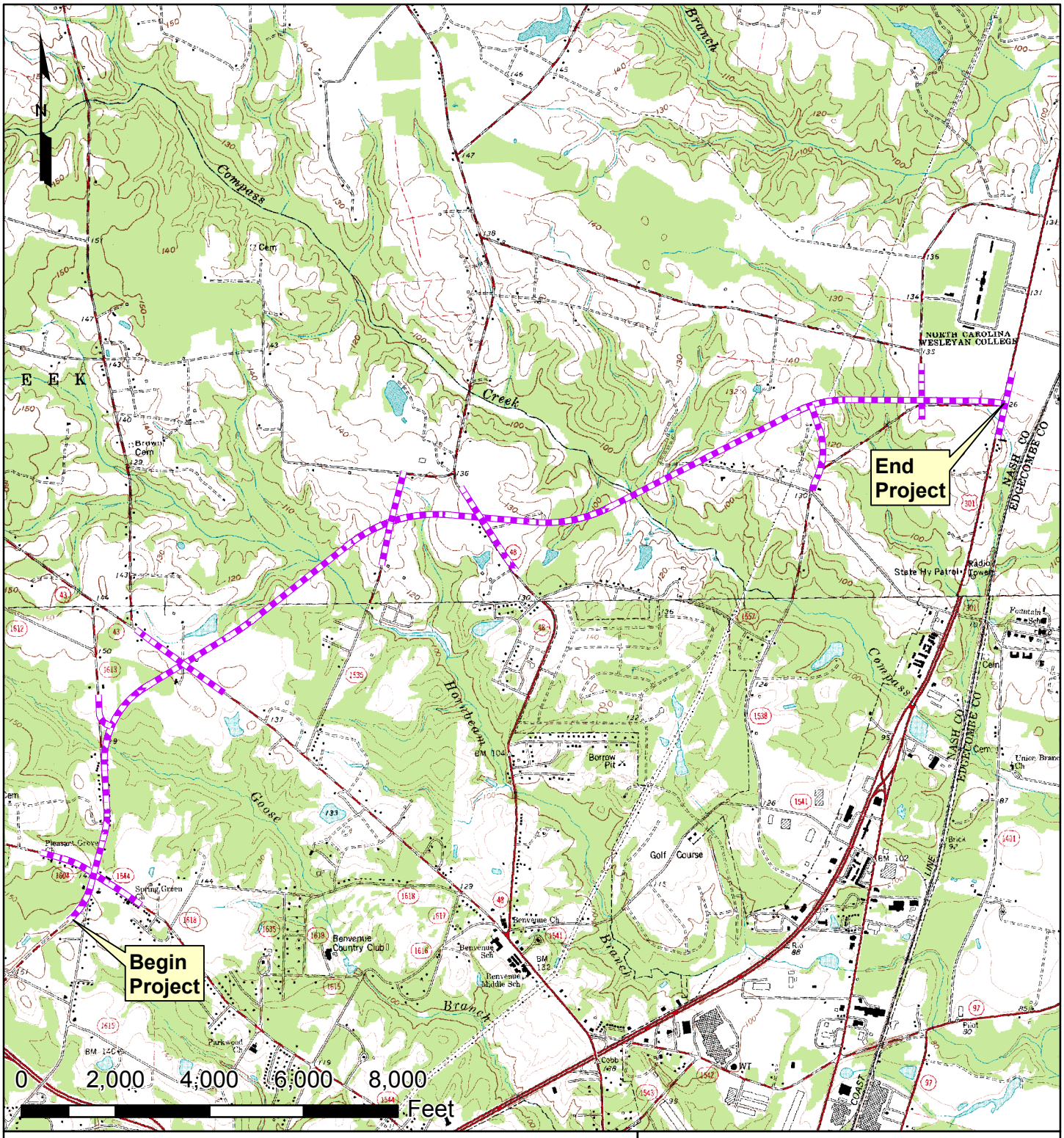
VICINITY MAPS

BUFFER DRAWING SHEET 1 OF 56

NCDOT

DIVISION OF HIGHWAYS
NASH COUNTY
PROJECT: 34509.2.GV1 (R-2823)
ROCKY MOUNT
NORTHERN CONNECTOR

NOVEMBER 2008



1 inch equals 3,000 feet

LOCATION

NCDOT

DIVISION OF HIGHWAYS
NASH COUNTY
PROJECT: 34509.2.GV1 (R-2823)
ROCKY MOUNT
NORTHERN CONNECTOR

BUFFER DRAWING SHEET 2 OF 56

NOVEMBER 2008

Source: USGS 7.5 Minute Quadrangle, Rocky Mount & Drake, NC

T:\BRIDGE_Maps\R_2823

BUFFER IMPACTS SUMMARY

			IMPACT									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE				
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)
1	2 - 48" RCP	-L- 30+28	X			7865	3903	11768					
2	ROADWAY	-L- 32+50 RT			X				87	1830	1917		
4	9' X 9' RCBC	-L- 49+02	X						10527	6437	16964		
7	BRIDGE	-L- 111+50	X						0	5186	5186		
				X		8967	2235	11202					
9	72" RCP	-L- 135+34	X						14535	9434	23969		
10	78" RCP	-L- 169+16	X						24431	15186	39617		
12	BRIDGE	-L- 182+00	X						8584	7394	15978		
				X		2629	0	2629					
13	78" RCP	-L- 189+80	X						15653	10114	25767		
15	ROADWAY	-L- 231+00	X			180	1530	1710					
16	60" RCP	-L- 231+57	X			6616	5773	12389					
17	8' X 9' RCBC	-L- 239+81	X						14429	8028	22457		
19	66" RCP	-Y8- 23+50 RT	X			1776	411	2187					
TOTAL:						28033	13852	41885	88246	63609	151855		

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

NASH COUNTY
PROJECT: C201917 (R-2823)

BUFFER DRAWING SHEET 3 OF 56

BUFFER IMPACTS SUMMARY

		WETLANDS IN BUFFER	
Site	Station	ZONE 1 (ft^2)	ZONE 2 (ft^2)
1	-L- 30+28	3268	687
4 / 5	-L- 49+02	41	574
7	-L- 111+50	8967	7217
9	-L- 135+34	0	96
10	-L- 169+16	1174	1626
12	-L- 182+00	7628	4324
13	-L- 189+80	9708	2521
15	-L- 231+00	25	507
16	-L- 231+57	2114	1300
17	-L- 239+81	14199	6891
		47124	25743

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

NASH COUNTY
PROJECT: C201917 (R-2823)

BUFFER DRAWING SHEET 4 OF 68

PROP. NO.	PROPERTY OWNER NAME	PROP. OWNER ADDRESS
5	Benjamin R. Ricks, et al	16084 NC 43, Whitakers, NC 27891
9	William D. Driver, Jr.	3246 Turkey Foot Rd., Rocky Mount, NC 27804
10	Rebecca D. Paris	3545 Mansfield Dr., Rocky Mount, NC 27803
11	Miriam V. Hayes	1801 Woodruff Rd., Rocky Mount, NC 27804
12	Durwood Lee Shreve	1881 Woodruff Rd., Rocky Mount, NC 27804
29 and 32	Richard H. Minor	1444 Jeffreys Rd., Rocky Mount, NC 27804
33	Three MR LTD Partnership	2687 Old Bailey Rd., Nashville, NC 27856
34	Aubry D. Woodruff	2233 Boddie Mill Pond Rd., Nashville NC 27856
42	Alma W. Griffen, Heirs	111 Muscadine Road, Rocky Mount, NC 27804
43 and 52	E. C. Powell	PO Box 2592, Rocky Mount, NC 27804
44	Stanley L. West	1704 Goldrock Rd., Rocky Mount, NC 27804
50	William H. Overman	2709 Coleberry Trail, Rocky Mount, NC 27804
51	Satpal Singh Rathie	115 York Hill Dr., Cary, NC 27513
63 & 65	William Herbert Turner	6316 Settlement Road, Julian, NC 27283
66	Mack B. Pearsall	1 Page Avenue, Ste. 215, Asheville, NC 28801
67	Walter I. Tharrington	3104 Bishop Road, Rocky Mount, NC 27804
73	NC Wesleyan College	3400 N. Wesleyan Blvd., Rocky Mount, NC 27804
88	Thomas Pearsall, Jr. et al Trust	1 Page Avenue, Ste. 215, Asheville, NC 28801
89	Joco Development Co.	P.O. Box 7533, Rocky Mount, NC 27804

BUFFER IMPACTS

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

NASH COUNTY
PROJECT: 34509.2.GV1 (R-2823)

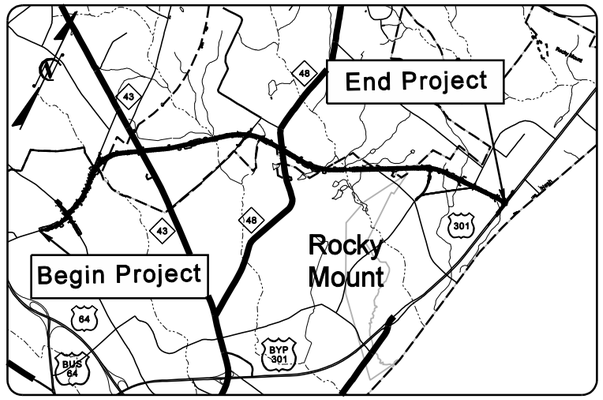
BUFFER DRAWING SHEET 5 OF 56

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T.I.P. PROJECT: R-2823

CONTRACT: C201917

SEE SHEET 1-B FOR CONVENTIONAL PLAN SHEET SYMBOLS



VICINITY MAP

NOTES:
1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
2. THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.
3. A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF ROCKY MOUNT AND DORTCHES.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

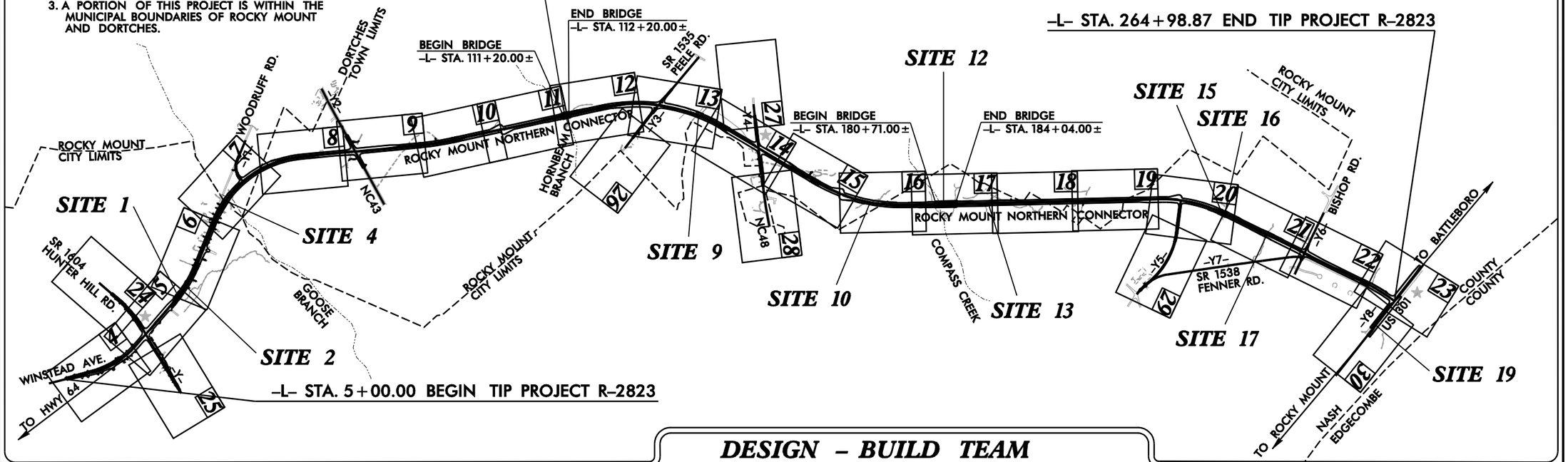
NASH COUNTY

LOCATION: *ROCKY MOUNT NORTHERN CONNECTOR FROM SR 1604 (HUNTER HILL RD.) TO US 301*

TYPE OF WORK: *BUFFER PERMIT DRAWINGS*

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2823	1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
34509.2.GV1	STP-0431(24)	CONST.	

BUFFER DRAWING
SHEET 6 OF 56



DESIGN - BUILD TEAM

GRAPHIC SCALES

PLANS: 50 0 50 100
PROFILE (HORIZONTAL): 50 0 50 100
PROFILE (VERTICAL): 10 0 10 20

DESIGN DATA

ADT 2009	=	12,500
ADT 2030	=	24,000
DHV	=	10%
D	=	60%
T	=	7%
V	=	60 mph

*(TTST = 3%,DUAL= 4%)

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2823.....	4.842 mi
LENGTH STRUCTURE TIP PROJECT R-2823.....	0.082 mi
TOTAL LENGTH TIP PROJECT R-2823.....	4.924 mi

PLANS PREPARED BY :
RUMMEL, KLEPPER & KAHL, LLP
consulting engineers
900 RIDGEFIELD DRIVE, SUITE 350
RALEIGH, NORTH CAROLINA 27609
FOR
DIVISION OF HIGHWAYS

2006 STANDARD SPECIFICATIONS

LETTING DATE:
MAY 20, 2008

J. T. Peacock, Jr., P.E.
PROJECT ENGINEER

Brandon J. McInnis, P.E.
PROJECT DESIGN ENGINEER

CONTRACTOR :
PLT CONSTRUCTION CO., INC.
PLT CONSTRUCTION CO., INC.
5676 THOMPSON CHAPEL CHURCH ROAD
WILSON, NORTH CAROLINA 27896

HYDRAULICS ENGINEER
SIGNATURE: ***P.E.***
ROADWAY DESIGN ENGINEER
SIGNATURE: ***P.E.***

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR ***DATE***

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ckk

8/17/99

CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
2'-6" C&G	-L-	9+20.00	20+90.46	RT
2'-6" C&G	-L-	21+70.52	27+60.04	RT
2'-6" C&G	-L-	14+84.50	21+48.87	LT
2'-6" C&G	-L-	22+25.97	29+48.22	LT
1'-6" MOUNTABLE C&G	-Y-	24+05.00	27+15.00	MED
2'-6" C&G	-Y-	22+97.82	28+05.00	LT

NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

ENGLISH

ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

PROJECT REFERENCE NO.	SHEET NO.
R-2823	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 7 OF 56

MATCHLINE -Y- STA. 17+50 SEE SHEET 24

MATCHLINE -L- STA. 17+00 SEE SHEET 4

MATCHLINE -L- STA. 31+00 SEE SHEET 6

MATCHLINE -Y- STA. 27+00 SEE SHEET 25

DAUGHTRIDGE ENTERPRISES INC

DAVID W. COMBS

BENJAMIN R. RICKS, et al

SAINT PAUL BAPTIST CHURCH

ISBK BAPTIST CHURCH

BARBARA H. BRADSHAW

WILLIAM D. DRIVER

REBECCA D. PARIS

MORRIS J. HURT

CHARLES S. BARTHOLOMEW

WILLIAM D. DRIVER, JR.

HP STA. 21+20.43 -L-

LP STA. 17+37.56 -L-

LP STA. 29+80.52 -L-

SITE 1

480' LEFT TURN LANES

SR 1613 WINSTEAD AVE. EXT.

SR 1604 HUNTER HILL RD

RIPRAP PAD DATA
-L- 21+80 RT
Q10= 14.93cfs
V10= 0.93ft/s

PREFORMED SCOUR HOLE DATA
-L- 29+55 LT
Q10= 8.41cfs
V10= 0.98ft/s

PER 4B MEETING:
DO NOT BURY #107 1'

SPECIAL CUT DITCH SEE DETAIL B

SPECIAL BACK OF CURB CUT DITCH SEE DETAIL J

LATERAL BASE DITCH SEE DETAIL D

48" WW FENCE

PSH SEE DETAIL C

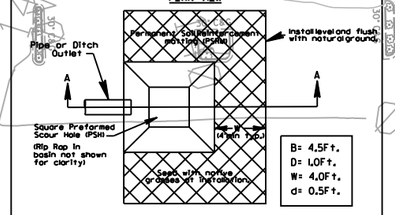
INV=142.38

INV=141.25

5 TONS CL B RIPRAP W/14 SY FIL FAB INV=128.14

45 TONS CL I RIPRAP W/75 SY FIL FAB RIPRAP ON BANKS ONLY INV=126.40

DETAIL C
PREFORMED SCOUR HOLE



5/05

-L- STA. 28+80 RT
-L- STA. 29+55 LT

A-A
11.0'
0.0'
2.5'
5.0'
4:00:40:1 E

DETAIL A
LATERAL "V" DITCH
(Not to Scale)
Natural Ground
3:1
D
3:1
b
Fill Slope
1'/Ft.
Min. D= 1.0Ft.
D= 2.0Ft.

FROM -L- STA. 25+00 TO STA. 27+26 RT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground
3:1
D
3:1 or Flatter
Front Ditch Slope
Min. D= 1.0Ft.

FROM -Y- STA. 20+00 TO STA. 21+00 RT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)
Natural Ground
3:1
D
3:1
B
b
Fill Slope
1'/Ft.
Min. D= 1.5Ft.
B= 2.0Ft.
b= 2.0Ft.

FROM -L- STA. 17+38 TO STA. 21+00 LT
FROM -L- STA. 26+00 TO STA. 29+50 LT
FROM -Y- STA. 21+00 TO STA. 21+76 RT

DETAIL J
SPECIAL BACK OF CURB CUT DITCH
(NOT TO SCALE)
D=1.0'
NATURAL GROUND
3:1
3:1

FROM -L- STA. 22+45 TO STA. 26+00 LT
(LINE 25+00 - 26+00 W/PSRM)

FOR -L- PROFILE SEE SHT. 31
FOR -Y- PROFILE SEE SHTS. 40 & 41

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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8/17/99

CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
2'-6" C&G	-L-	9+20.00	20+90.46	RT
2'-6" C&G	-L-	21+70.52	27+60.04	RT
2'-6" C&G	-L-	14+84.50	21+48.87	LT
2'-6" C&G	-L-	22+25.97	29+48.22	LT
1'-6" MOUNTABLE C&G	-Y-	24+05.00	27+15.00	MED
2'-6" C&G	-Y-	22+97.82	28+05.00	LT

NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

ENGLISH

ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

PROJECT REFERENCE NO.	SHEET NO.
R-2823	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 8 OF 56

MATCHLINE -Y- STA. 17+50 SEE SHEET 24

MATCHLINE -L- STA. 17+00 SEE SHEET 4

MATCHLINE -L- STA. 31+00 SEE SHEET 6

MATCHLINE -Y- STA. 27+00 SEE SHEET 25

SITE 1

RIPRAP PAD DATA
-L- 28+80 RT
Q10= 14.93cfs
V10= 0.93ft/s

PREFORMED SCOUR HOLE DATA
-L- 29+55 LT
Q10= 8.41cfs
V10= 0.98ft/s

PER 4B MEETING: DO NOT BURY #107 1'

LP
STA. 17+37.56 -L-

HP
STA. 21+20.43 -L-

LP
STA. 29+80.52 -L-

PSRM

PSH SEE DETAIL C

SPECIAL CUT DITCH SEE DETAIL B

SPECIAL BACK OF CURB CUT DITCH SEE DETAIL J

LATERAL BASE DITCH SEE DETAIL D

LATERAL 'V' DITCH SEE DETAIL A

480' LEFT TURN LANES

5 TONS CL B RIPRAP W/14 SY FIL FAB INV=128.14

40 TONS CL I RIPRAP W/75 SY FIL FAB RIPRAP ON BANKS ONLY INV=126.40

DAUGHTRIDGE ENTERPRISES INC

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SAINT PAUL BAPTIST CHURCH

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REBECCA D. PARIS

MORRIS J. HURT

WILLIAM D. DRIVER, JR.

CHARLES S. BARTHOLOMEW

SR 1613 WINSTEAD AVE. EXT

SR 1604 HUNTER HILL RD

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)
FROM -L- STA. 25+00 TO STA. 27+26 RT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)
FROM -Y- STA. 20+00 TO STA. 21+00 RT

DETAIL C
PREFORMED SCOUR HOLE
PLAN VIEW
SECTION A-A
B= 4.5Ft.
D= 1.0Ft.
W= 4.0Ft.
d= 0.5Ft.
5/05
-L- STA. 28+80 RT
-L- STA. 29+55 LT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)
FROM -L- STA. 17+38 TO STA. 21+00 LT
FROM -L- STA. 26+00 TO STA. 29+50 LT
FROM -Y- STA. 21+00 TO STA. 21+76 RT

DETAIL J
SPECIAL BACK OF CURB CUT DITCH
(NOT TO SCALE)
FROM -L- STA. 22+45 TO STA. 26+00 LT
(LINE 25+00 - 26+00 W/PSRM)

FOR -L- PROFILE SEE SHT. 31
FOR -Y- PROFILE SEE SHTS. 40 & 41

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
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FOR
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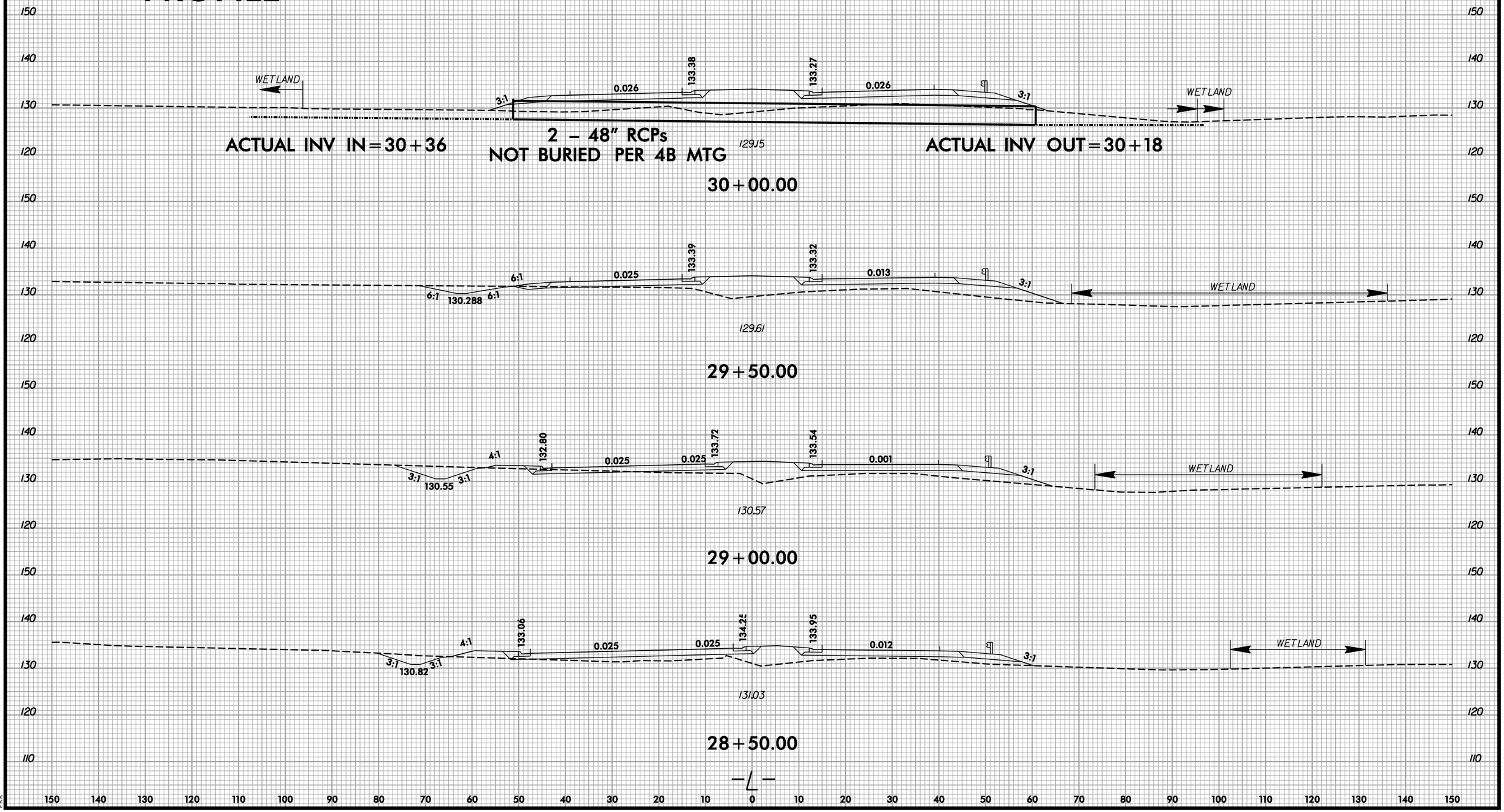
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	R-2823	X-12

SITE 1
BUFFER DRAWING
SHEET 9 OF 56

STREAMLINE PROFILE



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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-13

SITE 1

BUFFER DRAWING
SHEET 10 OF 56

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150
140
130
120

3:1
3:1
129.01
0.060
133.99
133.81
0.060
3:1
131.56

32+00.00

150
140
130
120

3:1
3:1
128.56
0.060
133.91
133.73
0.060
3:1
130.42

31+50.00

150
140
130
120

0.051
133.76
133.60
0.051
3:1
129.45

31+00.00

150
140
130
120

WETLAND
3:1
0.038
133.54
133.41
0.038
3:1
128.92

30+50.00

110

—℄—

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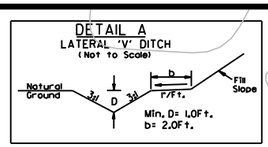
PROJECT REFERENCE NO.	SHEET NO.
R-2823	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 11 OF 56

ENGLISH

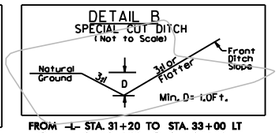
DETAIL A
LATERAL 'V' DITCH
(Not to Scale)



Min. D= 1.0Ft.
b= 2.0Ft.

FROM -L- STA. 44+00 TO STA. 44+50 RT

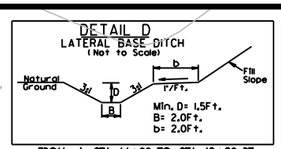
DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



Min. D= 1.0Ft.

FROM -L- STA. 31+20 TO STA. 33+00 LT
FROM -L- STA. 35+00 TO STA. 37+50 LT

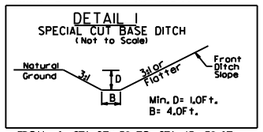
DETAIL D
LATERAL BASE DITCH
(Not to Scale)



Min. D= 1.5Ft.
B= 2.0Ft.
b= 2.0Ft.

FROM -L- STA. 44+00 TO STA. 48+20 RT

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)



Min. D= 1.0Ft.
B= 4.0Ft.

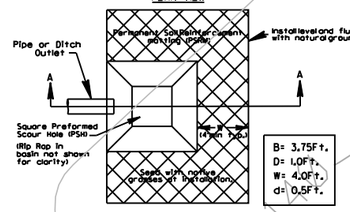
FROM -L- STA. 37+50 TO STA. 45+50 LT

MITIGABLE IMPACTS ZONE 1

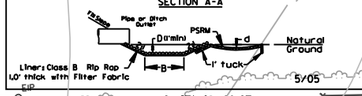
MITIGABLE IMPACTS ZONE 2

DETAIL H
PREFORMED SCOUR HOLE

PLAN VIEW



SECTION A-A



5/05

-L- STA. 31+20 LT

MATCHLINE -L- STA. 31+00 SEE SHEET 5

MATCHLINE -L- STA. 44+50 SEE SHEET 7

SITE 2

BENJAMIN R. RICKS, et al (5)

TOBY E. MITCHELL (16)

TALMAGE LEE WELLS (17)

B.W. VARNELL, HEIRS (14)

PAMELA B. GARDNER (22)

WADE L. MEDLIN (23)

ANNIE D. BARTHOLOMEW (19)

REBECCA D. PARIS (10)

MIRIAM V. HAYES (11)

DURWOOD LEE SHREVE (12)

B.W. VARNELL, HEIRS (13)

JOHN R. MORRIS (15)

SHARON B. LANDIS (18)

TAREK R. TRAISH (20)

CLYDE M. KEEN (21)

CLYDE M. KEEN (24)

WOODRUFF RD 23' BST

GOOSE BRANCH DR BST

SPECIAL CUT DITCH SEE DETAIL B

SPECIAL CUT BASE DITCH SEE DETAIL I

LATERAL BASE DITCH SEE DETAIL D

PSH SEE DETAIL H

48" WW FENCE

1 TONS CL B RIPRAP W/5 SY FIL FAB INV = 124.73

PPES

REMOVE

EXISTING R/W

FOR -L- PROFILE SEE SHTS. 31 & 32

CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
2'-6" C&G	-L-	39+04.00	40+60.63	RT
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN				

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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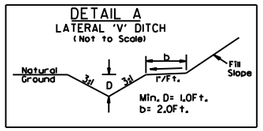
PROJECT REFERENCE NO.	SHEET NO.
R-2823	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 12 OF 56

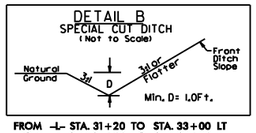
ENGLISH

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)



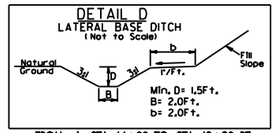
FROM -L- STA. 44+00 TO STA. 44+50 RT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



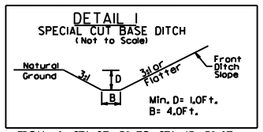
FROM -L- STA. 31+20 TO STA. 33+00 LT
FROM -L- STA. 35+00 TO STA. 37+50 LT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)



FROM -L- STA. 44+00 TO STA. 48+20 RT

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)

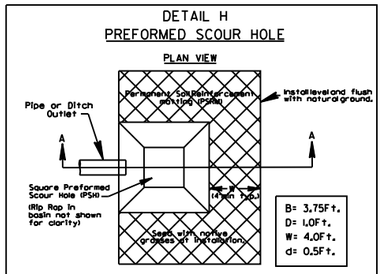


FROM -L- STA. 37+50 TO STA. 45+50 LT

MITIGABLE IMPACTS ZONE 1

MITIGABLE IMPACTS ZONE 2

DETAIL H
PREFORMED SCOUR HOLE



5/05

-L- STA. 31+20 LT

BENJAMIN R. RICKS, et al (5) CULTIVATED

B.W. VARNELL, HEIRS (14)

TOBY E. MITCHELL (16)

TALMAGE LEE WELLS (17)

PAMELA B. GARDNER (22)

WADE L. MEDLIN (23)

ANNIE D. BARTHOLOMEW (19)

MATCHLINE -L- STA. 31+00 SEE SHEET 5

MATCHLINE -L- STA. 44+50 SEE SHEET 7

SITE 2

REBECCA D. PARIS (10)

MIRIAM V. HAYES (11)

DURWOOD LEE SHREVE (12)

B.W. VARNELL, HEIRS (13)

JOHN R. MORRIS (15)

SHARON B. LANDIS (18)

TAREK R. TRAISH (20)

CLYDE M. KEEN (21)

CLYDE M. KEEN (24)

SPECIAL CUT DITCH SEE DETAIL B

SPECIAL CUT BASE DITCH SEE DETAIL I

PSH SEE DETAIL H

48" WW FENCE

1 TONS CL B RIPRAP W/5 SY FIL FAB INV= 124.73

LATERAL BASE DITCH SEE DETAIL D

WOODRUFF RD 23' BST

GOOSE BRANCH DR 22' CMS

TO LP -L- STA. 41+40

FOR -L- PROFILE SEE SHTS. 31 & 32

CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
2'-6" C&G	-L-	39+04.00	40+60.63	RT
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN				

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
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RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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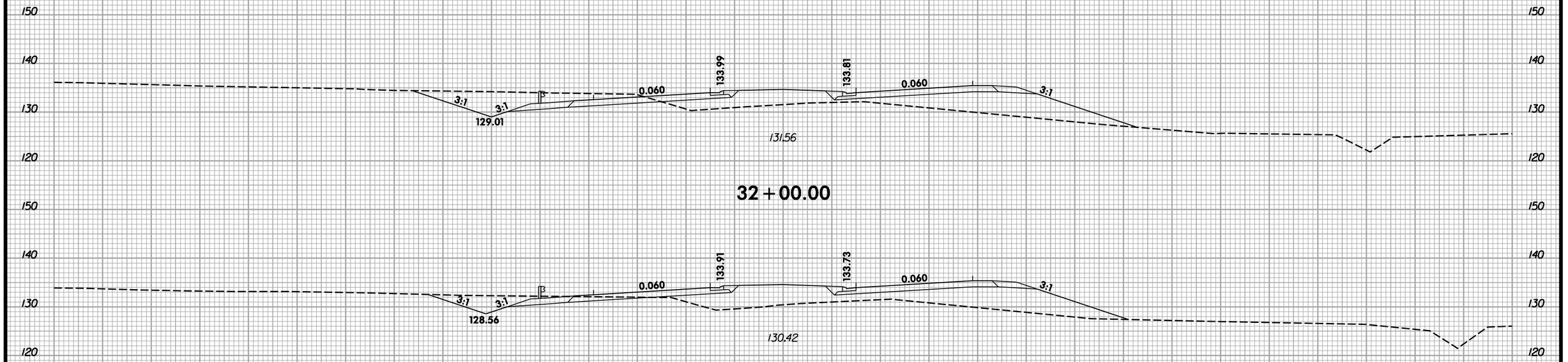
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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-13

SITE 2

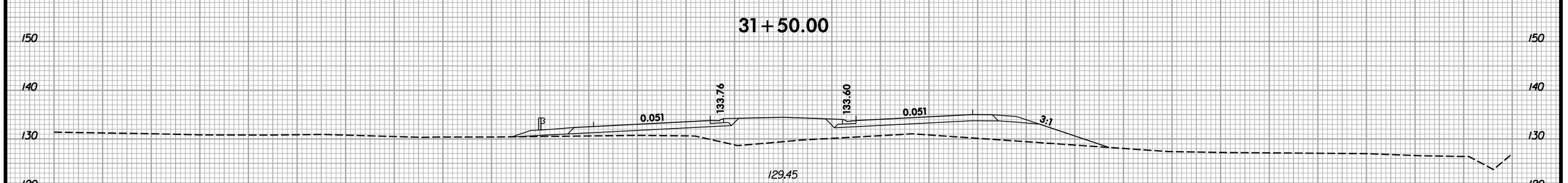
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SHEET 13 OF 56

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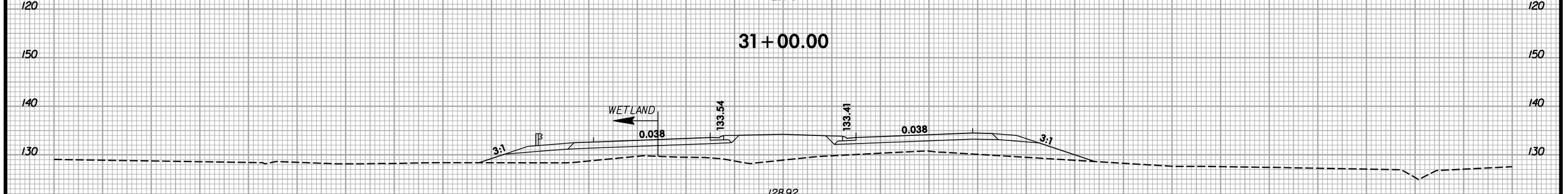


32+00.00

31+50.00



31+00.00



30+50.00

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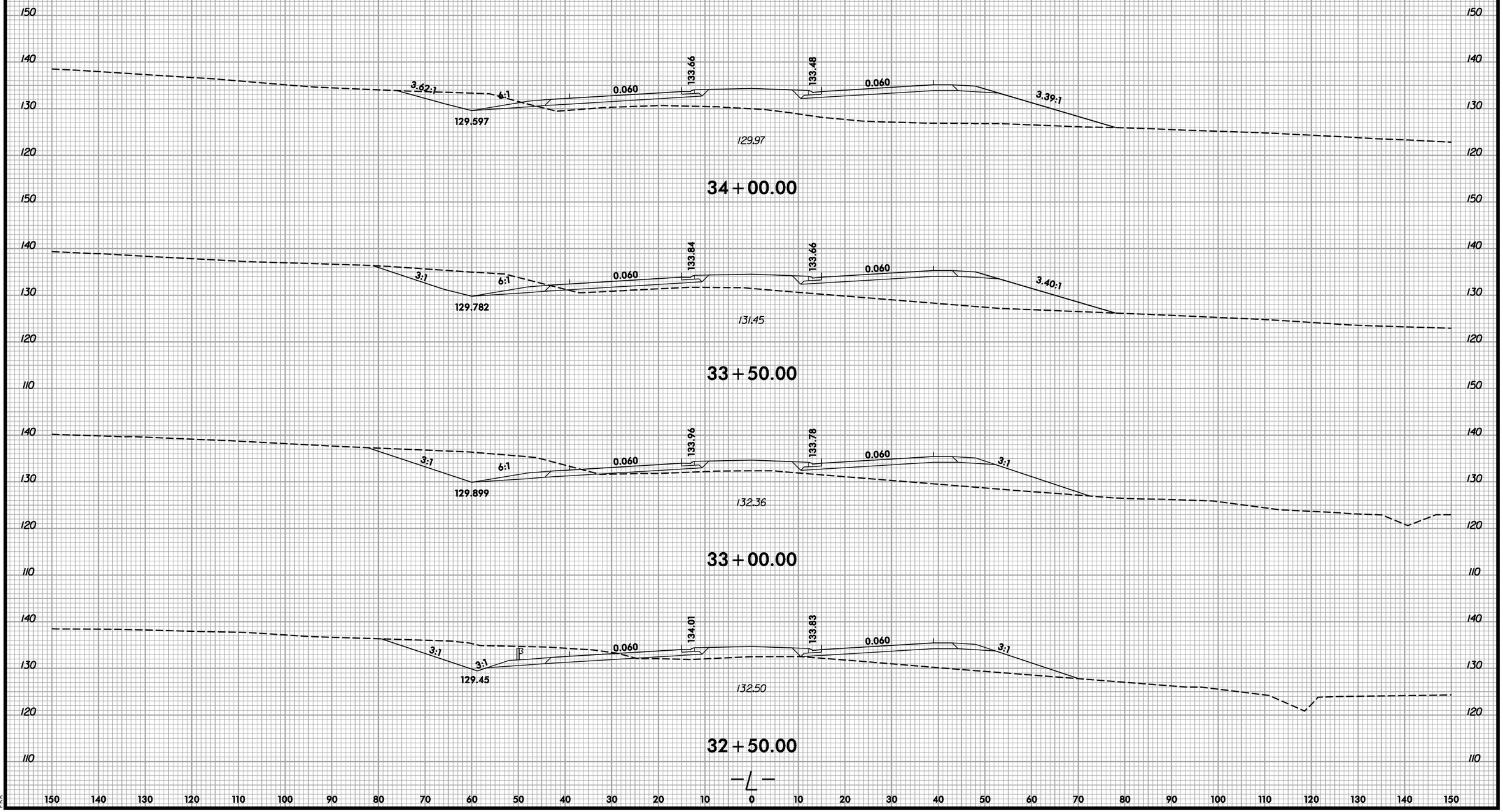
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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-14

SITE 2

BUFFER DRAWING
SHEET 14 OF 56

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PROJECT REFERENCE NO.	SHEET NO.
R-2823	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 15 OF 56

A–A
11.0', 0.0', 2.0', 1.5'

B–B
8.0', 0.0', 1.5', 2.0', ROADSIDE

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)
Natural Ground, 3H, D, 3H, 1'/Ft., Fill Slope
Min. D= 1.0Ft.
b= 2.0Ft.
FROM -Y1- STA. 14+00 TO STA. 15+25 RT
FROM -Y1- STA. 14+00 TO STA. 16+00 LT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 3H, D, 3H or Flatter, Front Ditch Slope
Min. D= 1.0Ft.
FROM -L- STA. 54+09 TO STA. 55+00 LT
FROM -Y1- STA. 12+89 TO STA. 14+00 LT & RT
FROM -Y1- STA. 16+00 TO STA. 17+20 LT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)
Natural Ground, 3H, D, 3H, 1'/Ft., Fill Slope, B
Min. D= 1.5Ft.
B= 2.0Ft.
b= 2.0Ft.
FROM -L- STA. 44+00 TO STA. 48+20 RT

DETAIL E
LATERAL 'V' DITCH
(Not to Scale)
Natural Ground, 3H, D, 3H, 1'/Ft., Fill Slope
Min. D= 1.0Ft.
Max. d= 1.0Ft.
b= 2.0Ft.
Type of Liner= PSRM
FROM -L- STA. 50+80 TO STA. 52+00 RT

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground, 3H, D, B, 3H or Flatter, Front Ditch Slope
Min. D= 1.0Ft.
B= 4.0Ft.
FROM -L- STA. 37+50 TO STA. 45+50 LT

DETAIL H
PREFORMED SCOUR HOLE
PLAN VIEW
Pipe or Ditch Outlet
Remove all Soil Within Limits of Preformed Scour Hole (PSH)
Install level and flush with natural ground.
Square Preformed Scour Hole (PSH)
Rip Rap in basin not shown for clarity
Seed, with mixture appropriate for application.
Rip Rap Type B, d= 1.0Ft. (min typ.)
B= 3.75Ft.
D= 1.0Ft.
W= 4.0Ft.
d= 0.5Ft.
SECTION A-A
Pipe or Ditch Outlet
PSRM
D (min)
d
B
Natural Ground
Liner: Class B Rip Rap 1.0' thick with Filter Fabric
5/05
-L- STA. 48+20 RT

GRASS SWALE DATA -L- 41+00 – 48+00 RT	GRASS SWALE DATA -L- 48+25 – 48+85 LT
DA= 2.35ac	DA= 15.58ac
SLOPE= 0.36%	SLOPE= 0.25%
L REQ.= 235'	L REQ.= NA
L PRO.= 270'	L PRO.= NA
Q2= 6.93cfs	Q2= 19.19cfs
V2= 1.44ft/s	V2= 1.64ft/s
D2= 0.98'	D2= 1.00'
Q10= 8.72cfs	Q10= 26.43cfs
V10= 1.68ft/s	V10= 2.01ft/s
D10= 1.02'	D10= 1.09'
GRASS SWALE DATA -L- 48+95 – 49+50 LT	**GRASS SWALE DATA -Y1- 14+00 – 17+20 LT**
DA= 6.09ac	DA= 1.44ac
SLOPE= 0.82%	SLOPE= 0.92%
L REQ.= NA	L REQ.= 144'
L PRO.= NA	L PRO.= 320'
Q2= 8.04cfs	Q2= 3.19cfs
V2= 1.70ft/s	V2= 1.79ft/s
D2= 0.51'	D2= 0.73'
Q10= 11.07cfs	Q10= NA
V10= 1.95ft/s	V10= NA
D10= 0.59'	D10= NA

PREFORMED SCOUR HOLE DATA
-L- 48+20 RT
Q10= 8.72cfs
V10= 0.99ft/s

RIPRAP PAD DATA
-L- 50+75 RT
Q10= 14.32cfs
V10= 0.92ft/s

CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	46+30.02	49+23.75	RT
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN				

DETAIL L
LATERAL BASE DITCH
(Not to Scale)
Natural Ground, 3H, D, B, 3H, 1'/Ft., Fill Slope
Min. D= 1.0Ft.
B= 4.0Ft.
b= 4.0Ft.
FROM -L- STA. 45+50 TO STA. 48+85 LT
FROM -L- STA. 48+95 TO STA. 52+50 LT

DETAIL S
FALSE SUMP
(Not to Scale)
Median Ditch, 9', 2', 20', -L- (See Chart Below), S, Ditch Slope, ℄ Proposed Ditch, 6' etc.

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

-Y1- STA. 14+24 LT

THREE MR LTD PARTNERSHIP (33)
SIDNEY E. LEONARD (31)
LOUISE M. PITTMAN (27)
MARGIE P. LEONARD (28)
SIDNEY E. LEONARD (30)
TOBY E. MITCHELL (26)
RICHARD H. MINOR (32)
AUBRY D. WOODRUFF (34)
TOBY E. MITCHELL (25)
RICHARD H. MINOR (29)
AUBRY D. WOODRUFF (34)
CLAUDETTE D. REGES, et al (35)
AUBRY D. WOODRUFF (34)

CORP. OF ROCKY MOUNT
DORTCHES TOWN LIMIT
CITY OF ROCKY MOUNT
DORTCHES TOWN LIMIT

SITE 4

MATCHLINE -L- STA. 44+50 SEE SHEET 6
MATCHLINE -L- STA. 58+00 SEE SHEET 8

LP STA. 46+29.18 -L-
LP STA. 14+02.80 -Y1-
HP STA. 14+36.26 -Y1-
HP 450'

LATERAL BASE DITCH SEE DETAIL L
LATERAL V DITCH SEE DETAIL A
LATERAL V DITCH SEE DETAIL E
SPECIAL CUT BASE DITCH SEE DETAIL I
SPECIAL CUT DITCH SEE DETAIL B
SPECIAL CUT DITCH SEE DETAIL B

5 TONS CL B RIPRAP W/14 SY FIL FAB
INV= 132.94
INV= 133.44
INV= 130.11
INV= 130.50
2 TONS CL B RIPRAP W/7 SY FIL FAB
INV= 114.70
INV= 119.12
48" CMP CL I RIPRAP W/7 SY FIL FAB 35 SY DDE
24" RCBC
24" RCP
PPES
PSH, SEE DETAIL H
CB 190
CB 191
CB 125
CB 126
CB 127

48" WW FENCE
REMOVE
SWALE
GRADE TO DRAIN
WOODRUFF RD (SR 1231)
EXISTING R/R
CULTIVATED
WOODS
TOCY SIDE
PUE
ISFD
ISBK

MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2

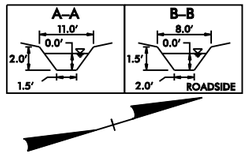
FOR -L- PROFILE SEE SHT.32
FOR -Y1- PROFILE SEE SHT.41

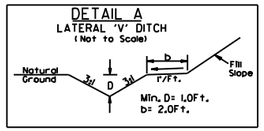
ENGLISH

PLANS PREPARED BY :
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FOR
DIVISION OF HIGHWAYS

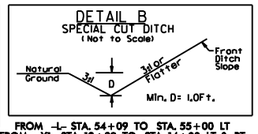
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8/17/99

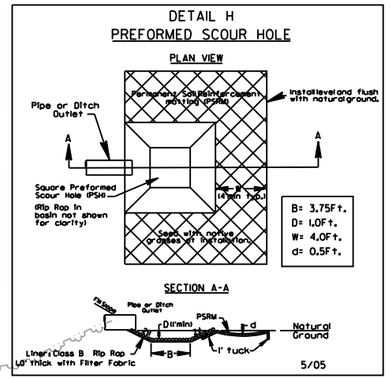




FROM -Y1- STA. 14+00 TO STA. 15+25 RT
FROM -Y1- STA. 14+00 TO STA. 16+00 LT



FROM -L- STA. 54+09 TO STA. 55+00 LT
FROM -L- STA. 12+89 TO STA. 14+00 LT & RT
FROM -Y1- STA. 16+00 TO STA. 17+20 LT



-L- STA. 48+20 RT

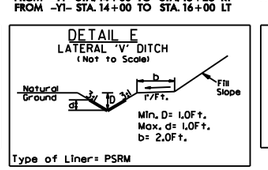
GRASS SWALE DATA -L- 41+00 – 48+00 RT	GRASS SWALE DATA -L- 48+25 – 48+85 LT
DA= 2.35ac SLOPE= 0.30% L REQ.= 235' L PRO.= 270' Q2= 6.93cfs V2= 1.44ft/s D2= 0.98' Q10= 8.72cfs V10= 1.68ft/s D10= 1.02'	DA= 15.58ac SLOPE= 0.25% L REQ.= NA L PRO.= NA Q2= 19.19cfs V2= 1.64ft/s D2= 1.00' Q10= 26.43fs V10= 2.01ft/s D10= 1.09'
GRASS SWALE DATA -L- 48+95 – 49+50 LT	**GRASS SWALE DATA -Y1- 14+00 – 17+20 LT**
DA= 6.09ac SLOPE= 0.82% L REQ.= NA L PRO.= NA Q2= 8.04cfs V2= 1.70ft/s D2= 0.51' Q10= 11.07cfs V10= 1.95ft/s D10= 0.59'	DA= 1.44ac SLOPE= 0.92% L REQ.= 144' L PRO.= 320' Q2= 3.19cfs V2= 1.79ft/s D2= 0.73' Q10= NA V10= NA D10= NA

PREFORMED SCOUR HOLE DATA -L- 48+20 RT
Q10= 8.72cfs V10= 0.99ft/s
RIPRAP PAD DATA -L- 50+75 RT
Q10= 14.32cfs V10= 0.92ft/s

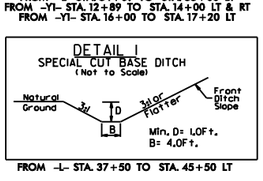
PROJECT REFERENCE NO.	SHEET NO.
R-2823	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING SHEET 16 OF 56



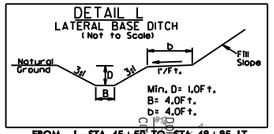
FROM -L- STA. 44+00 TO STA. 48+20 RT



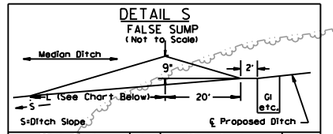
FROM -L- STA. 50+80 TO STA. 52+00 RT

FROM -L- STA. 37+50 TO STA. 45+50 LT

CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	46+30.02	49+23.75	RT
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN				

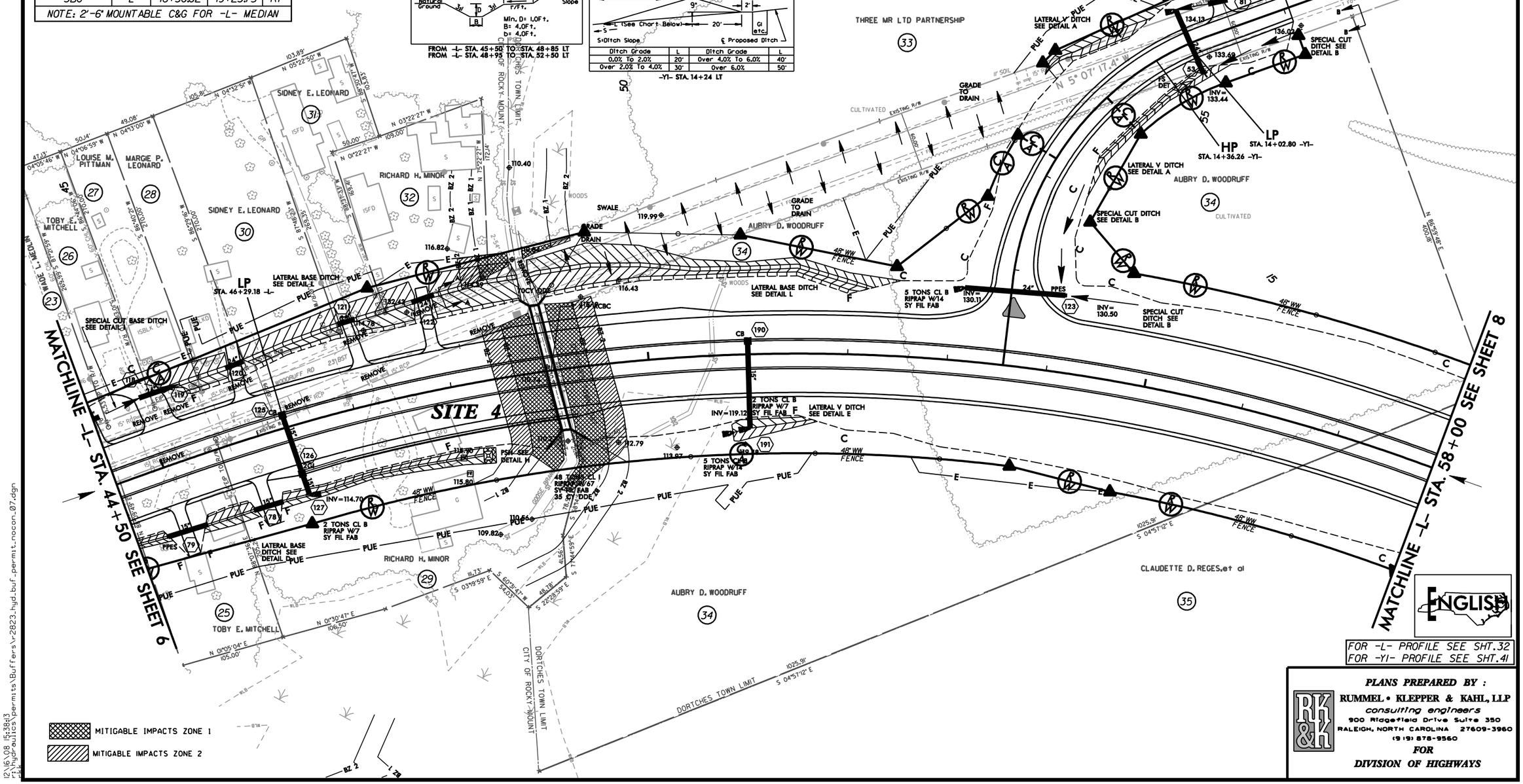


FROM -L- STA. 45+50 TO STA. 48+85 LT
FROM -L- STA. 48+95 TO STA. 52+50 LT



Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

-Y1- STA. 14+24 LT



FOR -L- PROFILE SEE SHT.32
FOR -Y1- PROFILE SEE SHT.41

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FOR
DIVISION OF HIGHWAYS

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PROJECT REFERENCE NO.	SHEET NO.
R-2823	32
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 17 OF 56

-L-

PI = 32+65.00
EL = 134.64'
VC = 430'
K = 374

(+)0.5000%
(-)0.6500%
(+)0.89% LT
(-)0.32% LT
(-)0.75% LT
(-)0.6500%
(-)12.3500%
(-)2.59% LT
(-)0.60% LT
(-)2.13% LT
(-)3.26% RT
(-)2.3500%

PROPOSED GRADE
EXISTING GROUND

PI = 41+25.00
EL = 129.05'
VC = 350'
K = 206

BEG. SP. CUT DITCH
-L- STA.35+00 LT
EL. 129.20

END SP. CUT DITCH
-L- STA.33+00 LT
EL. 129.90

END SP. CUT DITCH
BEG. SP. CUT BASE DITCH
-L- STA.37+50 LT
EL. 128.39

PI -L- STA. 41+00 LT
EL. 125.77

PI -L- STA. 43+00 LT
EL. 120.60

PI -L- STA. 44+00 LT
EL. 120.00

PI -L- STA. 45+50 RT
EL. 114.95

BEG. LAT. BASE DITCH
-L- STA. 44+00 RT
EL. 119.84

END SP. CUT BASE DITCH
BEG. LAT. BASE DITCH
-L- STA.45+50 LT
EL. 116.81

32+00 33+00 34+00 35+00 36+00 37+00 38+00 39+00 40+00 41+00 42+00 43+00 44+00 45+00 46+00

170 160 150 140 130 120 110 100 90 80

RR SPIKE IN BASE OF 8" OAK
-L- STA. 48+90.14 163.45' LT
ELEV.= 114.83'

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE 9'x9' RCBC
STA.49+02 -L-

DRAINAGE AREA	1.0	SQ.MI.
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 700	CFS
DESIGN HW ELEVATION	= 120.4	FT
100 YEAR DISCHARGE	= 900	CFS
100 YEAR HW ELEVATION	= 121.6	FT
OVERTOPPING FREQUENCY	= 50 +	YRS
OVERTOPPING DISCHARGE	= 760	CFS
OVERTOPPING ELEVATION	= 121.1	FT

-Y1- STA.17+96.51=
-L- STA.53+56.26

EXISTING GROUND

PI -L- STA. 51+00 LT
EL. 118.71

PI = 45+85.00
EL = 118.24'
VC = 570'
K = 140

END LAT. BASE DITCH
-L- STA. 48+20 RT
EL. 114.14

9'x9' RCBC

(+)3.66% LT

PROPOSED GRADE

(+)11.7192%
(-)0.30% RT
(-)2.13% LT
(-)0.25% LT
(+)0.82% LT
(+)4.97% LT
(+)6.73% LT
(+)5.61% RT

BEG. SP. CUT DITCH
-L- STA. 54+09 LT
EL. 130.50

END SP. CUT DITCH
-L- STA. 55+00 LT
EL. 133.83

END LAT. BASE DITCH
-L- STA. 52+50 LT
EL. 128.81

PI -L- STA. 49+50 LT
EL. 111.25

PI -L- STA. 48+25 LT
EL. 110.95

END LAT. V DITCH
-L- STA. 52+00 RT
EL. 124.73

BEG. LAT. BASE DITCH
-L- STA. 48+95 LT
EL. 110.80

BEG. LAT. V DITCH
-L- STA. 50+80 RT
EL. 118.00

END LAT. BASE DITCH
-L- STA. 48+85 LT
EL. 110.80

LEFT SIDE DITCH PROFILE
RIGHT SIDE DITCH PROFILE

FOR -L- PLAN SEE SHTS.6 THRU 8

46+00 47+00 48+00 49+00 50+00 51+00 52+00 53+00 54+00 55+00 56+00 57+00 58+00 59+00 60+00

170 160 150 140 130 120 110 100 90 80

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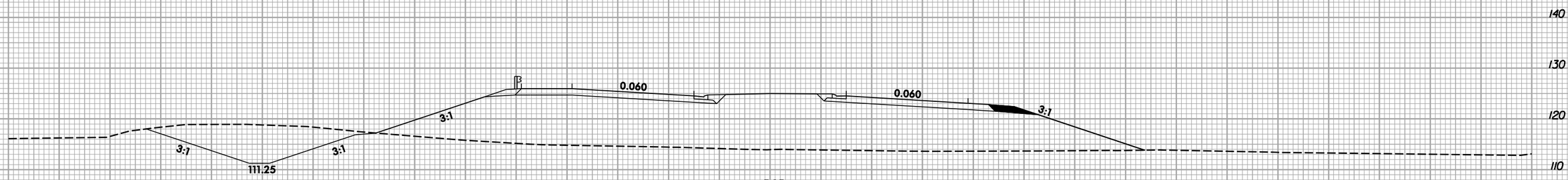
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	R-2823	X-21

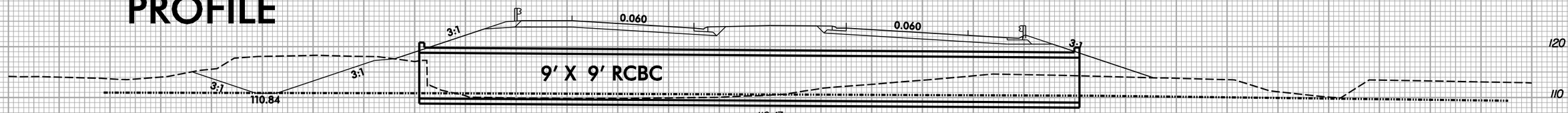
SITES 4 & 5

BUFFER DRAWING
SHEET 18 OF 56

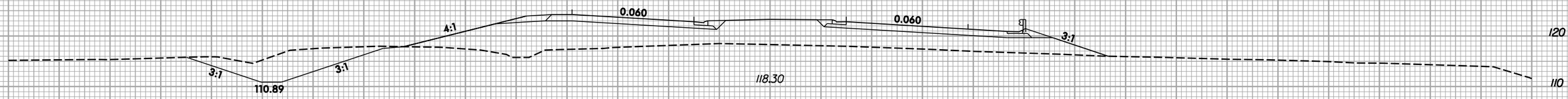
STREAMLINE PROFILE



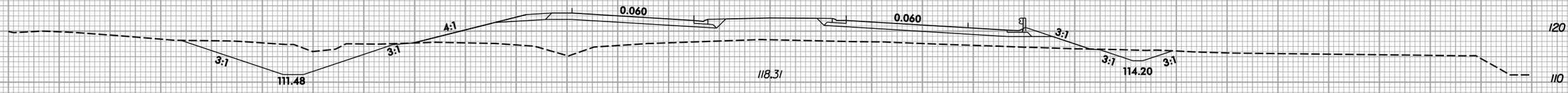
113.93
49+50.00



110.47
ACTUAL INV IN=48+94
49+00.00
ACTUAL INV OUT=49+09



118.30
48+50.00



118.31
48+00.00

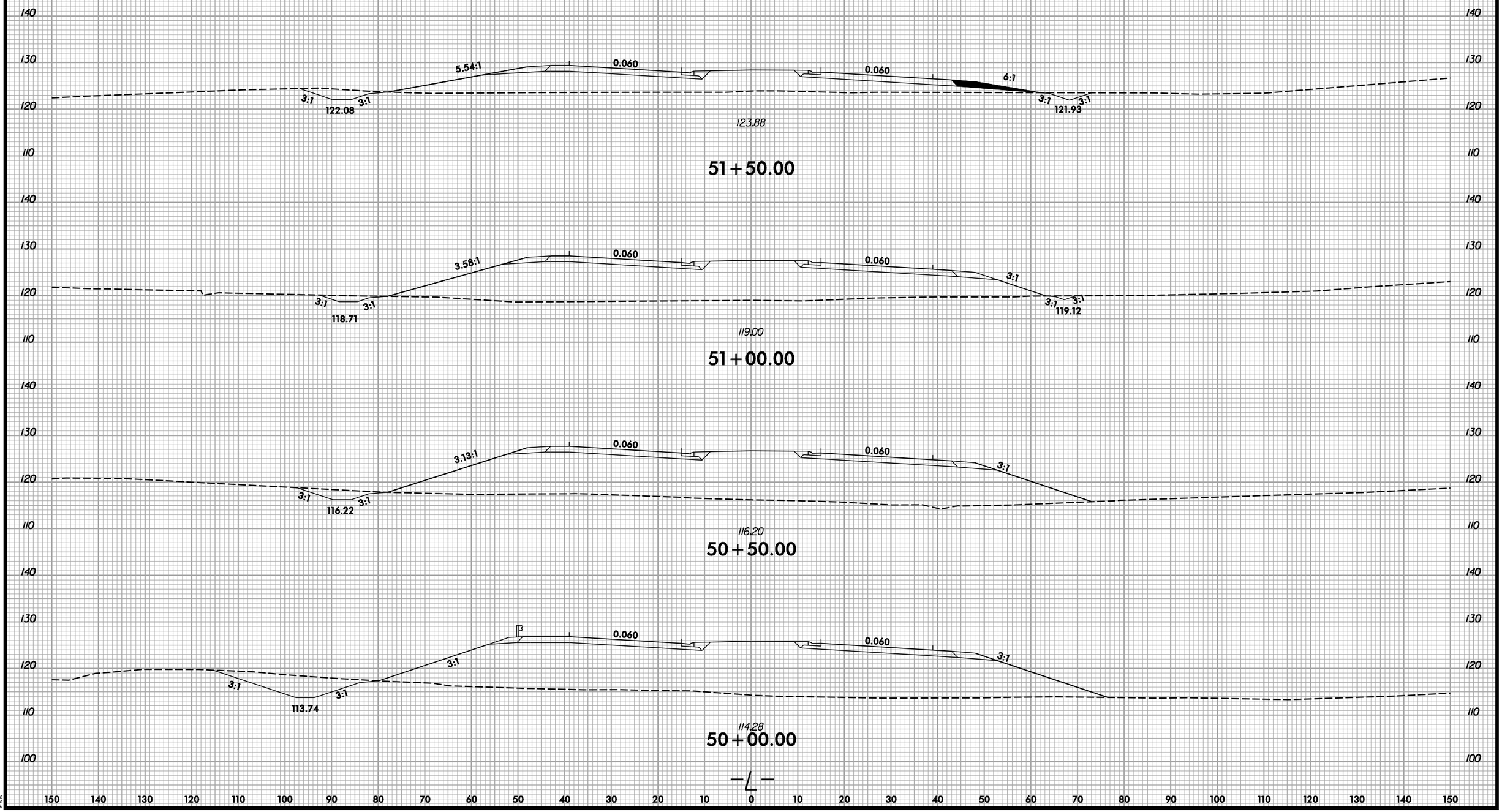
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	R-2823	X-22

SITES 4 & 5

BUFFER DRAWING
SHEET 19 OF 56



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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 20 OF 56

ENGLISH

MITIGABLE IMPACTS ZONE 2
ALLOWABLE IMPACTS ZONE 1
ALLOWABLE IMPACTS ZONE 2

GRASS SWALE DATA
-L- 85+50 - 111+00 RT
DA= 4.54ac
SLOPE= 0.90%
L REQ.= 454'
L PRO.= 1200'
Q2= 7.99cfs
V2= 1.75ft/s
D2= 0.50'
Q10= 11.00cfs
V10= 2.01ft/s
D10= 0.57'

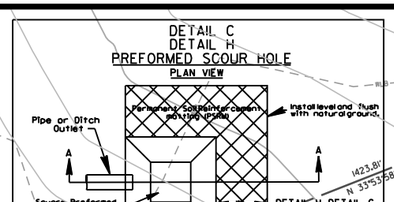
PREFORMED SCOUR HOLE DATA
-L- 111+05 RT
Q10= 11.03cfs
V10= 1.15ft/s

PREFORMED SCOUR HOLE DATA
-L- 114+10 RT
Q10= 3.57cfs
V10= 0.76ft/s

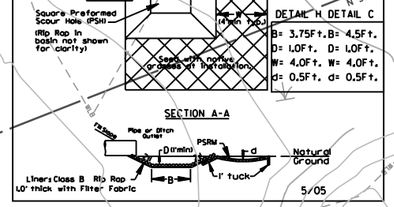
PREFORMED SCOUR HOLE DATA
-L- 114+45 RT
Q10= 13.66cfs
V10= 1.22ft/s

DETAIL C
DETAIL H
PREFORMED SCOUR HOLE

PLAN VIEW



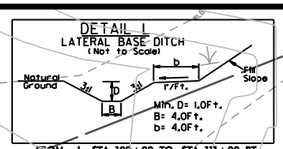
SECTION A-A



5/05

DETAIL C
-L- STA. 111+05 RT
-L- STA. 114+45 RT
DETAIL H
-L- STA. 114+10 RT

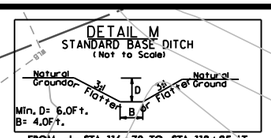
DETAIL I
LATERAL BASE DITCH
(Not to Scale)



Min. D= 1.0Ft.
B= 4.0Ft.
b= 4.0Ft.

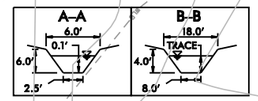
FROM -L- STA. 109+00 TO STA. 111+00 RT

DETAIL M
STANDARD BASE DITCH
(Not to Scale)



Min. D= 6.0Ft.
B= 4.0Ft.

FROM -L- STA. 116+70 TO STA. 118+25 LT



ALMA W. GRIFFEN, HEIRS
42
120
115

LP
STA. 113+98.53 -L-

WOODS

SITE 7

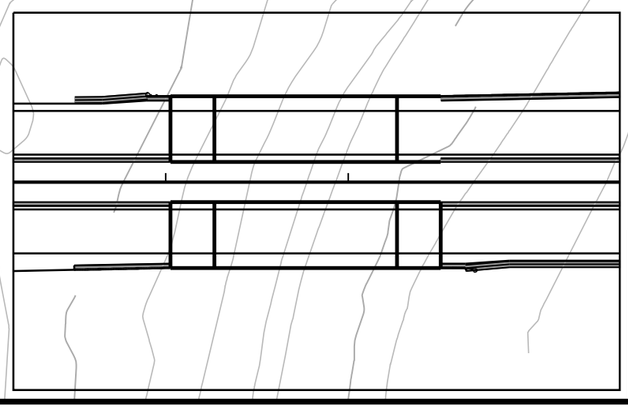
EXIST. CHANNEL DISSIPATES TO NOTHING. GRADE AWAY FROM -L- TO EXIST. GROUND FOR APPR. 25' TO PREVENT FROM FLOWING AGAINST FILL SLOPE

MATCHLINE -L- STA. 110+50 SEE SHEET 11

MATCHLINE -L- STA. 124+00 SEE SHEET 13

102.96
101.30
108.02
112.59
105.84
96.94
97.10
101.50
99.31
100.25
104.77

48" WW FENCE
CUT/FILL TRANSITION
2 TONS CL B RIPRAP
W/7 SY FIL FAB
STANDARD BASE DITCH
SEE DETAIL M
CULTIVATED
CB 15"
2GI
PSH SEE DETAIL C
PSH SEE DETAIL H
CPES
INV=104.77
INV=111.73
LATERAL BASE DITCH
SEE DETAIL I
147
148
149
150
151
152



CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	110+43.00	110+96.00	RT
SBG	-L-	112+44.00	112+57.61	RT
EXP.GUTTER	-L-	112+57.61	114+00.00	RT
EXP.GUTTER	-L-	110+43.00	110+82.50	LT
SBG	-L-	110+82.50	110+96.00	LT
SBG	-L-	112+44.00	114+00.00	LT
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN				

FOR -L- PROFILE SEE SHTS.34 & 35

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 21 OF 56

ENGLISH

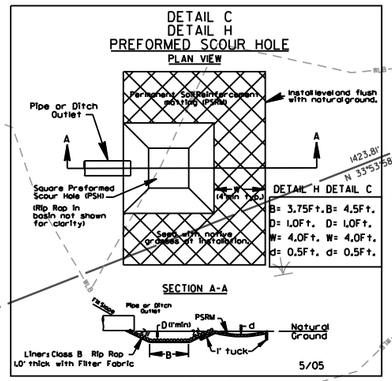
GRASS SWALE DATA
-L- 85+50 - 111+00 RT
DA= 4.54ac
SLOPE= 0.90%
L REQ.= 454'
L PRO.= 1200'
Q2= 7.99cfs
V2= 1.75ft/s
D2= 0.50'
Q10= 11.00cfs
V10= 2.01ft/s
D10= 0.57'

PREFORMED SCOUR HOLE DATA
-L- 111+05 RT
Q10= 11.03cfs
V10= 1.15ft/s

PREFORMED SCOUR HOLE DATA
-L- 114+10 RT
Q10= 3.57cfs
V10= 0.76ft/s

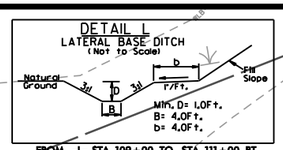
PREFORMED SCOUR HOLE DATA
-L- 114+45 RT
Q10= 13.66cfs
V10= 1.22ft/s

DETAIL C
DETAIL H
PREFORMED SCOUR HOLE



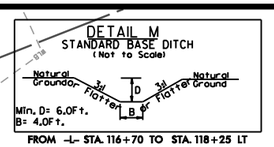
DETAIL C
-L- STA. 111+05 RT
-L- STA. 114+45 RT
DETAIL H
-L- STA. 114+10 RT

DETAIL L
LATERAL BASE DITCH
(Not to Scale)

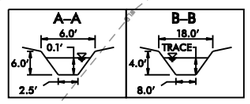


FROM -L- STA. 109+00 TO STA. 111+00 RT

DETAIL M
STANDARD BASE DITCH
(Not to Scale)



FROM -L- STA. 116+70 TO STA. 118+25 LT



MITIGABLE IMPACTS ZONE 2
ALLOWABLE IMPACTS ZONE 1
ALLOWABLE IMPACTS ZONE 2

ALMA W. GRIFFEN, HEIRS
42
120
115

LP
STA. 113+98.53 -L-

SITE 7

EXIST. CHANNEL DISSIPATES TO NOTHING. GRADE AWAY FROM -L- TO EXIST. GROUND FOR APPR. 25' TO PREVENT FLOW FROM FLOWING AGAINST FILL SLOPE

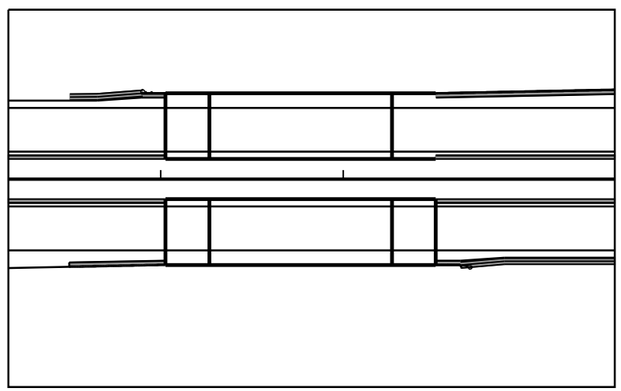
MATCHLINE -L- STA. 110+50 SEE SHEET 11

MATCHLINE -L- STA. 124+00 SEE SHEET 13

102.96
101.30
108.02
112.59
109.84
96.94
97.10
101.50
99.31
100.25
101.44
INV=104.77
INV=111.73

46" WW FENCE
CUT/FILL TRANSITION
2 TONS CL B RIPRAP
W/7 SY FIL FAB
STANDARD BASE DITCH
SEE DETAIL M
CULTIVATED
2GI
CB 15"
CPES
PSH SEE DETAIL C
PSH SEE DETAIL H
LATERAL BASE DITCH
SEE DETAIL L
WOODS
147
148
149
150
151
152

CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	110+43.00	110+96.00	RT
SBG	-L-	112+44.00	112+57.61	RT
EXP.GUTTER	-L-	112+57.61	114+00.00	RT
EXP.GUTTER	-L-	110+43.00	110+82.50	LT
SBG	-L-	110+82.50	110+96.00	LT
SBG	-L-	112+44.00	114+00.00	LT
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN				



FOR -L- PROFILE SEE SHTS. 34 & 35

PLANS PREPARED BY :
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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	34
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 22 OF 56

-L-

PROPOSED GRADE

(-) 2.75% RT

(-) 0.31% RT

BEG. SP. CUT DITCH
-L- STA. 91+00 RT
EL. 134.89

PI -L- STA. 91+87 RT
EL. 132.50

END SP. CUT DITCH
-L- STA. 93+00 RT
EL. 132.15

PI = 98+90.00
EL = 129.93'
VC = 200'
K = 400

(-) 0.85000%

(-) 1.3500%

EXISTING GROUND

(-) 0.52% LT

BEG. SP. CUT DITCH
-L- STA. 100+00 LT
EL. 124.10

END SP. CUT DITCH
-L- STA. 101+50 LT
EL. 123.32

BRIDGE HYDRAULIC DATA
STA.111+75 -L-

DESIGN DISCHARGE	= 1,300	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 105.3	FT
BASE DISCHARGE	= 1,500	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 105.7	FT
OVERTOPPING DISCHARGE	= 6,100	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 110.9	FT
DATE OF SURVEY	= 06/2008	
W.S. ELEVATION AT DATE OF SURVEY	= 98.5	FT

BM #3
RR SPIKE IN BASE OF 14" POPLAR
-L- STA. 110+35.94 57.16' RT
ELEV.= 107.11'

PROPOSED GRADE

EXISTING GROUND

(-) 3.62% RT

(-) 1.45%

(-) 1.45% RT

END SP. CUT BASE DITCH
BEG. LAT. BASE DITCH
-L- STA. 109+00 RT
EL. 110.73

(-) 8.56% RT

(-) 0.90% RT

BEG. SP. CUT DITCH
-L- STA. 106+00 RT
EL. 117.25

END SP. CUT DITCH
BEG. SP. CUT BASE DITCH
-L- STA. 107+00 RT
EL. 113.63

PI -L- STA. 109+50 RT
EL. 110.00

PI -L- STA. 110+50 RT
EL. 101.45

END LAT. BASE DITCH
-L- STA. 111+00 RT
EL. 101.00

BEGIN BRIDGE
-L- STA.111+20 +/-

END BRIDGE
-L- STA.112+20 +/-

HORNBEAM CREEK

(-) 1.3500%

(+) 2.0500%

PI = 114+50.00
EL = 108.87'
VC = 500'
K = 147

LEFT SIDE DITCH PROFILE
RIGHT SIDE DITCH PROFILE

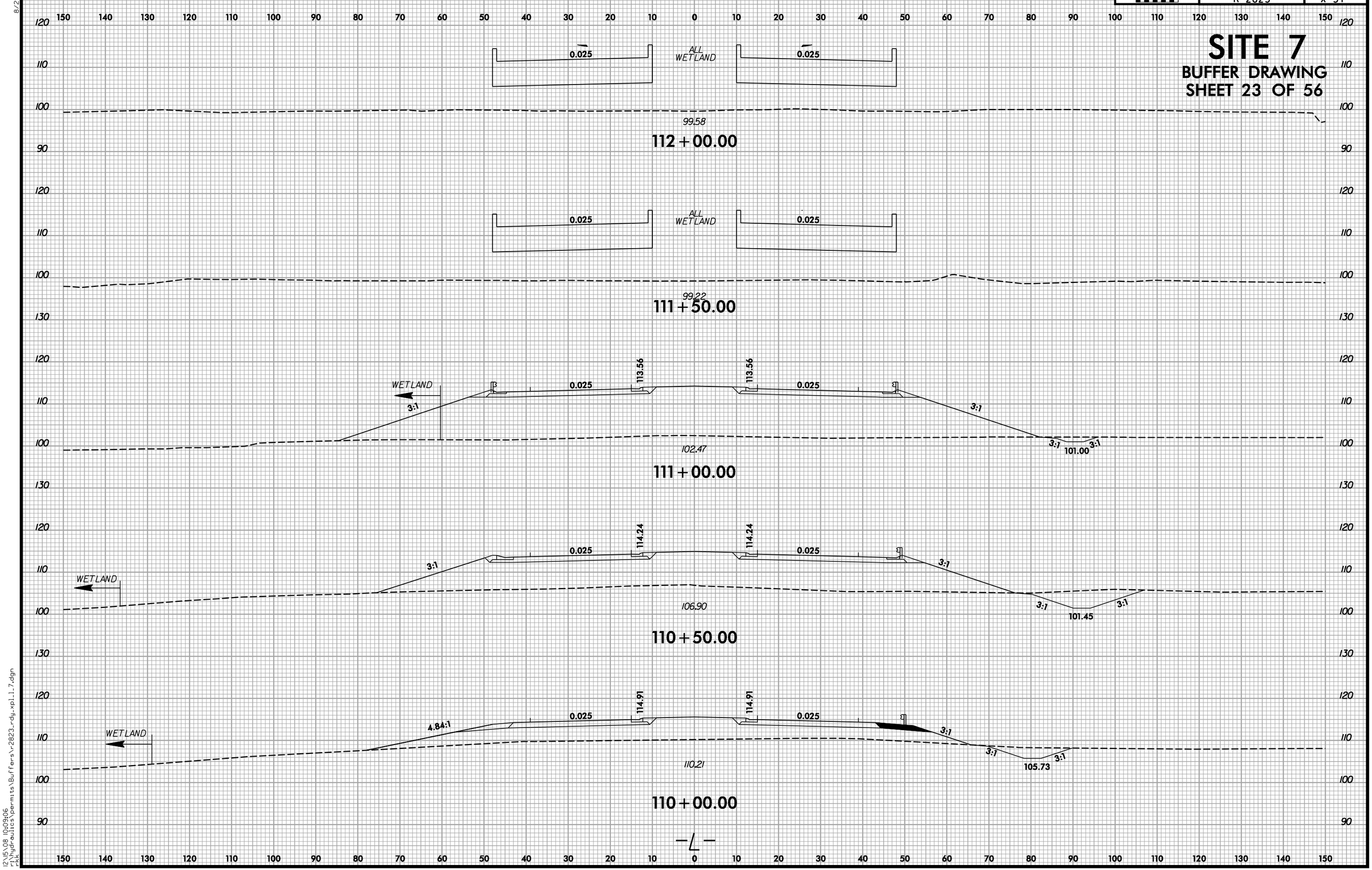
FOR -L- PLAN SEE SHTS.10 THRU 12

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	R-2823	X-51

SITE 7
BUFFER DRAWING
SHEET 23 OF 56



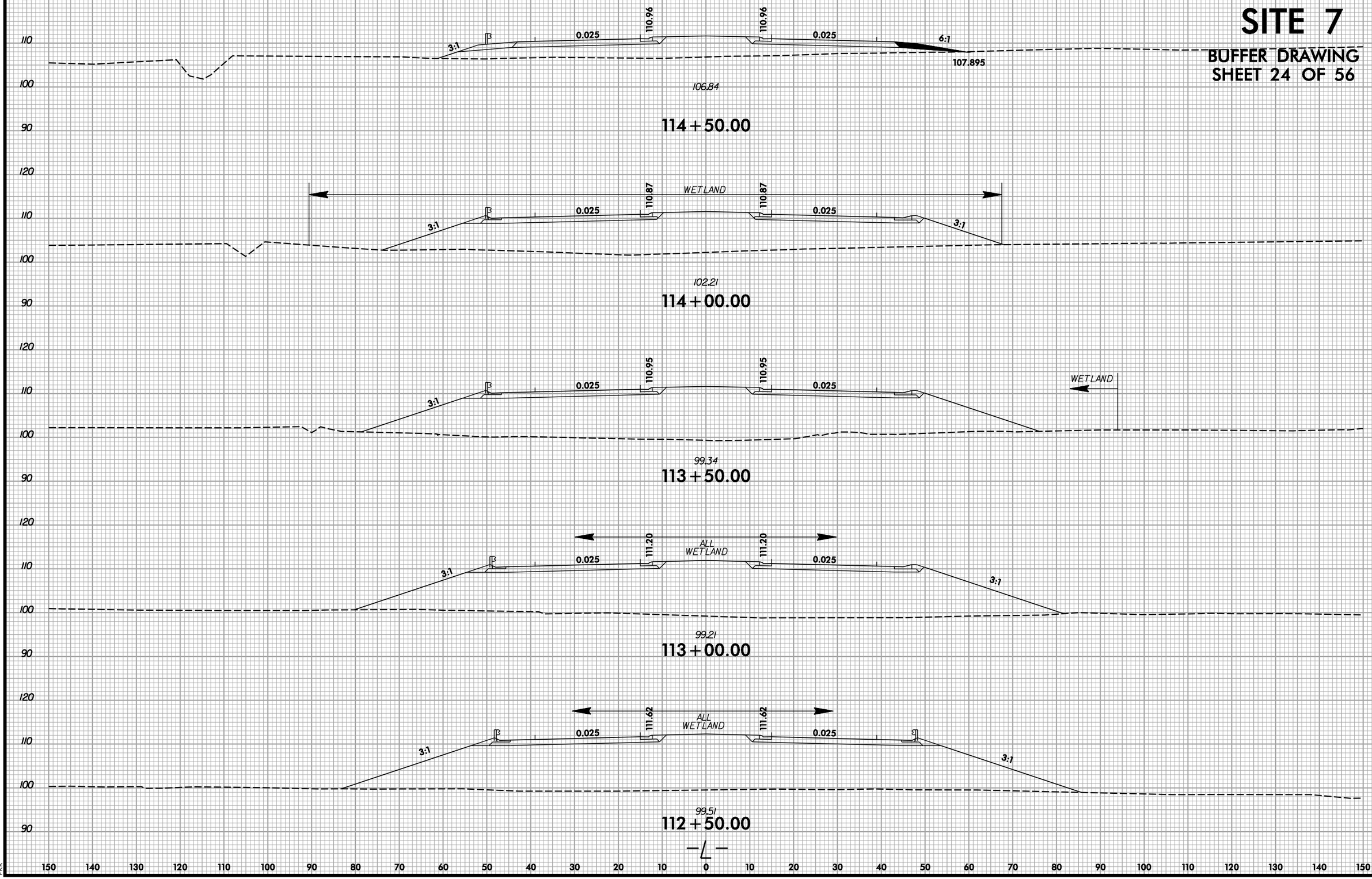
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-52

SITE 7

BUFFER DRAWING
SHEET 24 OF 56



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PROJECT REFERENCE NO.	SHEET NO.
R-2823	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 25 OF 56

ENGLISH

MITIGABLE IMPACTS ZONE 1

MITIGABLE IMPACTS ZONE 2

A–A: 9.0' / 0.0' / 7.0' / 4.0' TRACE WATER

B–B: 10.0' / 0.0' / 7.5' / 4.0' TRACE WATER

C–C: 6.0 / 0.0' / 2.5' / 1.5' / 2.0' ROADSIDE

D–D: 9.0' / 0.0' / 3.5' / 2.0' / 1.0' ROADSIDE

E–E: 6.0' / 0.0' / 2.0' / 3.0' / 2.0' INFALL

MATCHLINE –L– STA. 124+00 SEE SHEET 12

MATCHLINE –L– STA. 138+00 SEE SHEET 14

MATCHLINE –Y3– STA. 26+00 SEE SHEET 26

SPECIAL CUT DITCH SEE DETAIL B

SPECIAL CUT DITCH SEE DETAIL S

HP STA. 18+50.69 –Y3–

HP STA. 127+67.61 –L–

LP STA. 22+00.58 –Y3–

ALMA W. GRIFFEN, HEIRS (42)

E. C. POWELL (43)

STANLEY L. WEST (44)

48" WW FENCE

CULTIVATED

WOODS

CUT/FILL TRANSITION 2 TONS CL B RIPRAP W/7 SY FIL FAB

SITE 9

T8 2GI

2GI

FS DET S

3 TONS CL B RIPRAP W/10SY FIL FAB INV=118.68

40 TONS CL I RIPRAP W/75 SY FIL FAB RIPRAP ON BANKS ONLY INV=107.86

SPECIAL CUT BASE DITCH SEE DETAIL I

BERM BASE DITCH SEE DETAIL G

18" SCCS 2 ELBOWS W/ROD AND LUG. 3 TONS CL B RIPRAP W/10 SY FIL FAB INV=109.09

BERM V DITCH SEE DETAIL K

CITY OF ROCKY MOUNT

DEERE ROCKY MOUNT

GRASS SWALE DATA
–L– 132+71 – 135+50 RT
DA= 0.41ac
SLOPE= 2.20%/1.16%
L REQ.= 41'
L PRO.= 250'
Q2= 0.77cfs/0.47cfs
V2= 2.00ft/s/1.34ft/s
D2= 0.51'/0.49'
Q10= NA
V10= NA
D10= NA

GRASS SWALE DATA
–L– 135+50 – 147+24 RT
DA= 4.16ac
SLOPE= 0.65%
L REQ.= 321'
L PRO.= 524'
Q2= 9.03cfs
V2= 1.69ft/s
D2= 0.56'
Q10= 11.58cfs
V10= 1.82ft/s
D10= 0.64'

GRASS SWALE DATA
–L– 134+75 – 135+50 RT
DA= 5.52ac
SLOPE= 0.30%
L REQ.= NA
L PRO.= NA
Q2= 11.98cfs
V2= 1.40ft/s
D2= 0.80'
Q10= 15.36cfs
V10= 1.50ft/s
D10= 0.91'

CURB & GUTTER LOCATIONS
NOTE: 2'-6" MOUNTABLE C&G FOR –L– MEDIAN

DETAIL S
FALSE SUMP
(Not To Scale)

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

–L– STA. 132+72 RT
–L– STA. 135+28 RT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)
Min. D= 1.0Ft.
FROM –L– STA. 132+00 TO STA. 135+50 RT
FROM –Y3– STA. 17+00 TO STA. 18+00 LT &
FROM –Y3– STA. 21+55 TO STA. 23+50 LT

DETAIL G
BERM BASE DITCH
(Not to Scale)
Min. D= 1.0Ft.
B= 4.0Ft.
b= 3.0Ft.
FROM –L– STA. 134+75 TO STA. 135+50 RT

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)
Min. D= 1.0Ft.
B= 4.0Ft.
FROM –L– STA. 135+50 TO STA. 147+24 RT

DETAIL K
BERM "V" DITCH
(Not to Scale)
Min. D= 1.0Ft.
b= 2.0Ft.
FROM –L– STA. 135+50 TO STA. 147+24 RT
(LINE 135+50 TO 137+30 W/PSRM)

RICKS-BOSEMAN FARM HISTORIC AREA

FOR –L– PROFILE SEE SHT. 35
FOR –Y3– PROFILE SEE SHT. 42
FOR INTERSECTION DETAILS SEE SHT. 2F

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
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RALEIGH, NORTH CAROLINA 27609-3960
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FOR
DIVISION OF HIGHWAYS

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PROJECT REFERENCE NO.	SHEET NO.
R-2823	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 26 OF 56

ENGLISH

MITIGABLE IMPACTS ZONE 1

MITIGABLE IMPACTS ZONE 2

A–A	B–B	C–C	D–D	E–E
9.0' / 0.0'	10.0' / 0.0'	6.0 / 0.0'	9.0' / 0.0'	6.0' / 0.0'
7.0'	7.5'	2.5'	3.5'	2.0'
4.0' TRACE WATER	4.0' TRACE WATER	2.0' ROADSIDE	1.0' ROADSIDE	2.0' INFALL
		1.5'	2.0'	3.0'

MATCHLINE –L– STA. 124+00 SEE SHEET 12

MATCHLINE –Y3– STA. 26+00 SEE SHEET 26

MATCHLINE –L– STA. 138+00 SEE SHEET 14

ALMA W. GRIFFEN, HEIRS (42)

E. C. POWELL (43)

STANLEY L. WEST (44)

HP STA. 127+67.61 –L–

HP STA. 18+50.69 –Y3–

LP STA. 22+00.58 –Y3–

LP STA. 135+52.07 –L–

SITE 9

CULTIVATED

WOODS

48" WW FENCE

SPECIAL CUT DITCH SEE DETAIL B

SPECIAL CUT BASE DITCH SEE DETAIL I

BERM BASE DITCH SEE DETAIL G

BERM V DITCH SEE DETAIL K

CUT/FILL TRANSITION 2 TONS CL B RIPRAP W/7 SY FIL FAB

3 TONS CL B RIPRAP W/10SY FIL FAB INV=118.68

40 TONS CL I RIPRAP W/75 SY FIL FAB RIPRAP ON BANKS ONLY INV=107.86

19" RCCP 2 ELBOWS W/ROD AND LUG 3 TONS CL B RIPRAP W/10 SY FIL FAB INV=109.09

TB 2GI (153) 118.60

FS DET S 119.45

2GI (30)

SR 1735 (FERRELL RD) 20 FT

CITY OF ROCKY MOUNT

GRASS SWALE DATA –L– 132+71 – 135+50 RT
DA= 0.41ac
SLOPE= 2.20%/1.16%
L REQ.= 41'
L PRO.= 250'
Q2= 0.77cfs/0.47cfs
V2= 2.00ft/s/1.34ft/s
D2= 0.51'/0.49'
Q10= NA
V10= NA
D10= NA

GRASS SWALE DATA –L– 135+50 – 147+24 RT
DA= 4.16ac
SLOPE= 0.65%
L REQ.= 321'
L PRO.= 524'
Q2= 9.03cfs
V2= 1.69ft/s
D2= 0.56'
Q10= 11.58cfs
V10= 1.82ft/s
D10= 0.64'

GRASS SWALE DATA –L– 134+75 – 135+50 RT
DA= 5.52ac
SLOPE= 0.30%
L REQ.= NA
L PRO.= NA
Q2= 11.98cfs
V2= 1.40ft/s
D2= 0.80'
Q10= 15.36cfs
V10= 1.50ft/s
D10= 0.91'

CURB & GUTTER LOCATIONS

NOTE: 2'-6" MOUNTABLE C&G FOR –L– MEDIAN

DETAIL S
FALSE SUMP
(Not To Scale)

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

–L– STA. 132+72 RT
–L– STA. 135+28 RT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)

FROM –L– STA. 132+00 TO STA. 135+50 RT
FROM –Y3– STA. 17+00 TO STA. 18+00 LT & RT
FROM –Y3– STA. 21+55 TO STA. 23+50 LT

DETAIL G
BERM BASE DITCH
(Not to Scale)

FROM –L– STA. 134+75 TO STA. 135+50 RT

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)

FROM –L– STA. 135+50 TO STA. 147+24 RT

DETAIL K
BERM "V" DITCH
(Not To Scale)

FROM –L– STA. 135+50 TO STA. 147+24 RT
(LINE 135+50 TO 137+50 W/PSRM)

RICKS-BOSEMAN FARM HISTORIC AREA

FOR –L– PROFILE SEE SHT. 35
FOR –Y3– PROFILE SEE SHT. 42
FOR INTERSECTION DETAILS SEE SHT. 2F

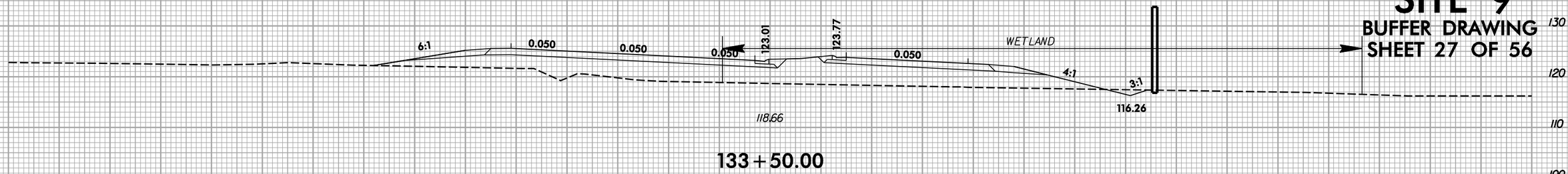
PLANS PREPARED BY :
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consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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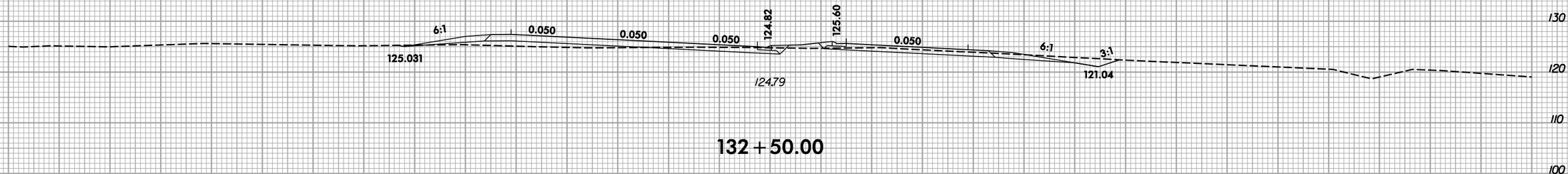
SITE 9
BUFFER DRAWING
SHEET 27 OF 56



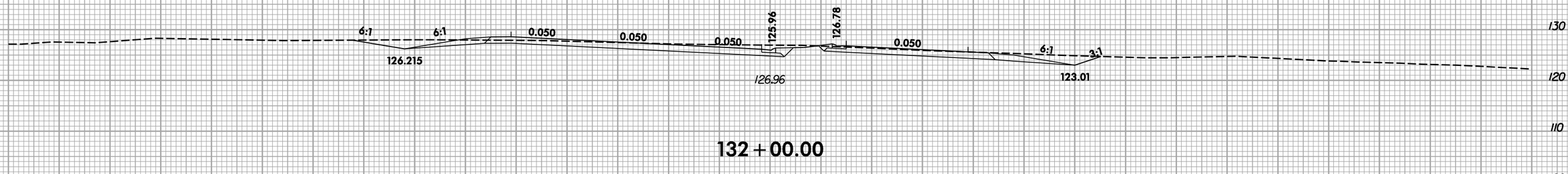
133+50.00



133+00.00



132+50.00



132+00.00

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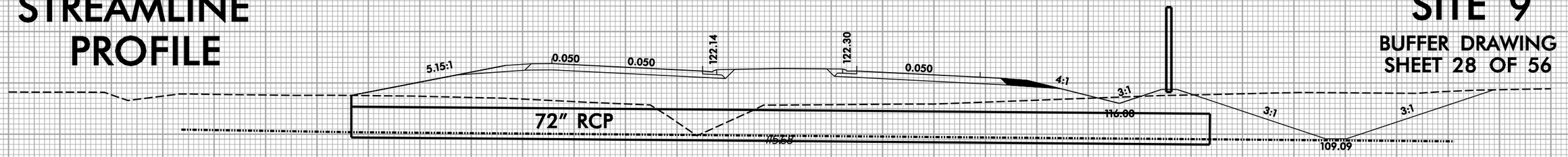
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	R-2823	X-63

STREAMLINE PROFILE

SITE 9

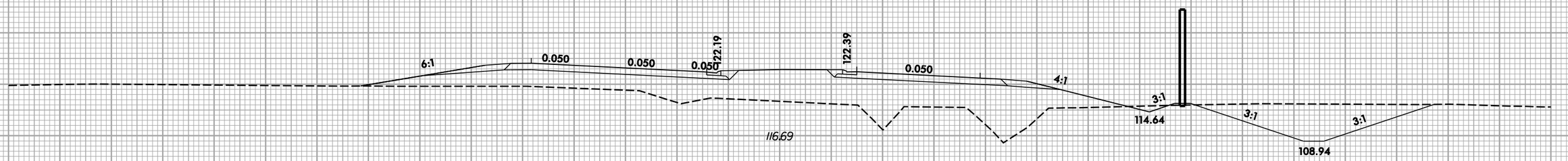
BUFFER DRAWING
SHEET 28 OF 56



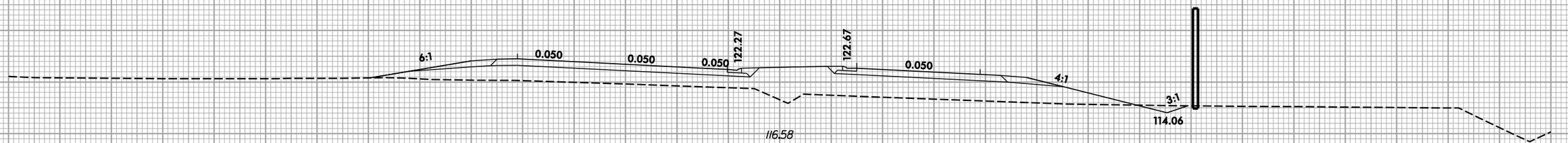
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135+50.00

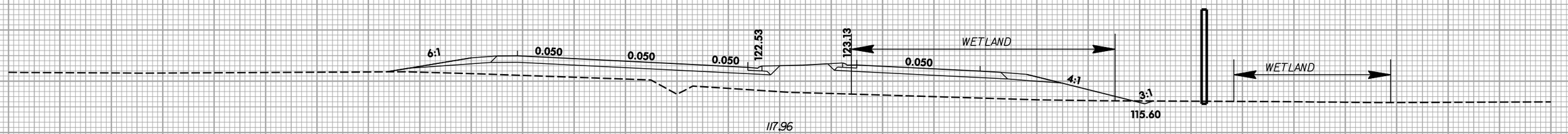
ACTUAL INV OUT=134+75



135+00.00



134+50.00



134+00.00

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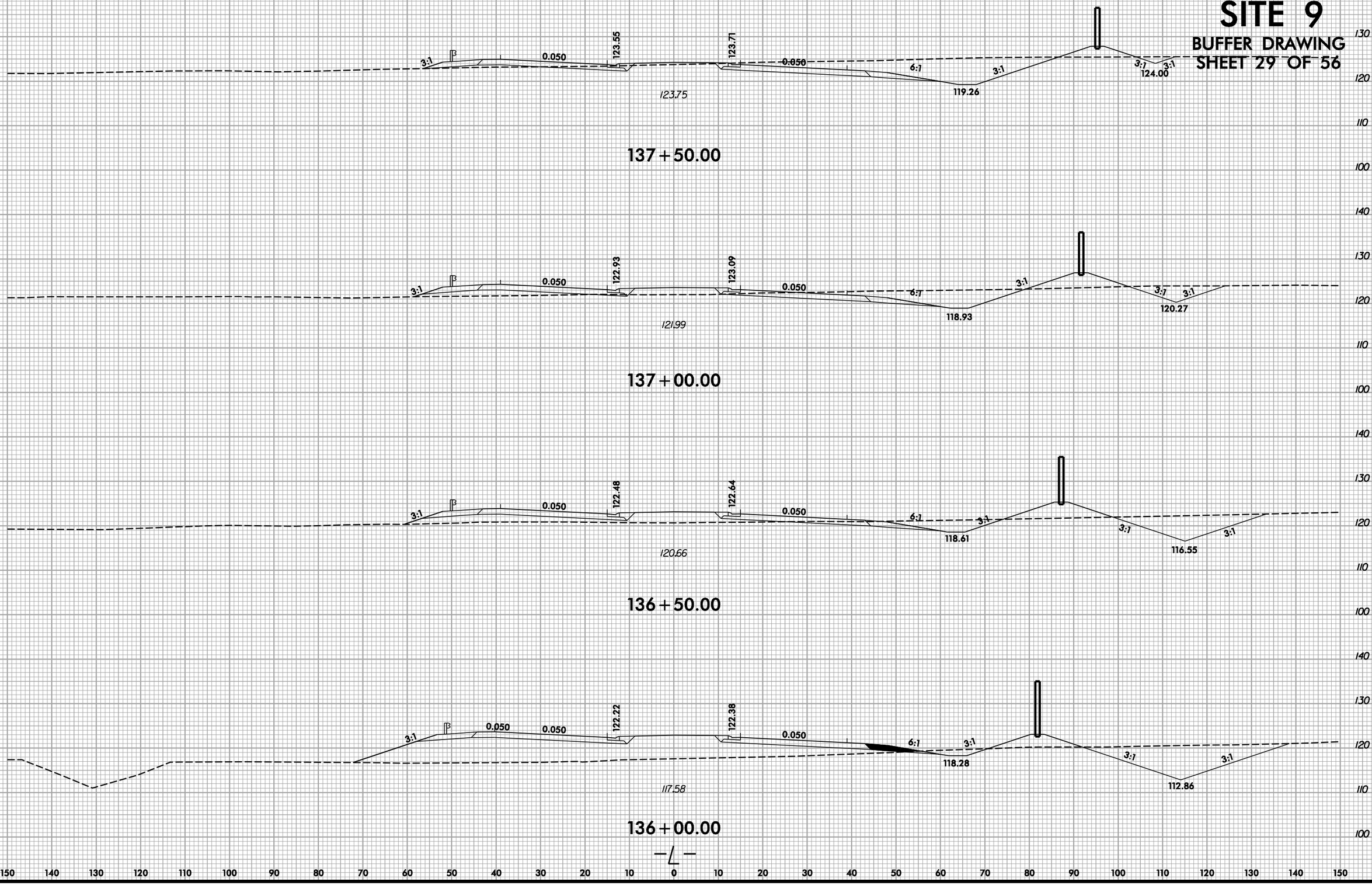
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	R-2823	X-64

SITE 9

BUFFER DRAWING

SHEET 29 OF 56



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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 30 OF 56

ENGLISH

MITIGABLE IMPACTS ZONE 1

MITIGABLE IMPACTS ZONE 2

MATCHLINE -L- STA. 165+00 SEE SHEET 15

MATCHLINE -L- STA. 177+00 SEE SHEET 17

WILLIAM H. OVERMAN (50)

SATPAL SINGH RATHIE (51)

CITY OF ROCKY MOUNT

CULTIVATED

WOODS

SITE 10

45° WW FENCE

LATERAL BASE DITCH SEE DETAIL L

INV=101.20

BDO

INV=93.81
48 TONS CL I RIPRAP W/89 SY FIL FAB RIPRAP ON BANKS ONLY

INV=100.84
PSH SEE DETAIL H

1 TON CL B RIPRAP W/5 SY FIL FAB
INV=99.70
CPES

NO OUTFALL

PSH SEE DETAIL H

CB

INV=101.80
CPES

LATERAL V DITCH SEE DETAIL A

LATERAL V DITCH SEE DETAIL A

HP
STA. 176+76.00 -L-

LP
STA. 172+87.39 -L-

NO OUTFALL

SATPAL SINGH RATHIE

WILLIAM H. OVERMAN

GRASS SWALE DATA -L- 148+00 - 169+30 LT	GRASS SWALE DATA -L- 167+75 - 169+50 RT
DA= 6.34ac	DA= 0.53ac
SLOPE= 0.55%	SLOPE= 1.35%
L REQ.= 634'	L REQ.= NA
L PRO.= 680'	L PRO.= NA
Q2= 14.05cfs	Q2= 1.04cfs
V2= 1.82ft/s	V2= 1.89ft/s
D2= 0.75'	D2= 0.61'
Q10= 18.60cfs	Q10= 1.31cfs
V10= 1.97ft/s	V10= 2.00ft/s
D10= 0.86'	D10= 0.66'

PREFORMED SCOUR HOLE DATA -L- 170+75 RT	PREFORMED SCOUR HOLE DATA -L- 173+10 RT
Q10= 1.22cfs	Q10= 0.40cfs
V10= 0.34ft/s	V10= 0.18ft/s

DETAIL H
PREFORMED SCOUR HOLE

PLAN VIEW

Permanent Soil Reinforcement Matting (PSRM)

Install level and flush with natural ground.

Pipe or Ditch Outlet

Square Preformed Scour Hole (PSH)

(Rip Rap In basin not shown for clarity)

Seed with native grasses of Installation

B= 3.75Ft.
D= 1.0Ft.
W= 4.0Ft.
d= 0.5Ft.

SECTION A-A

Pipe or Ditch Outlet

PSRM

Liners Class B Rip Rap 1.0' thick with Filter Fabric

5/05

-L- STA. 170+75 RT
-L- STA. 172+87 LT
-L- STA. 173+15 RT

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground

Fill Slope

F/F

Min. D= 1.0Ft.
b= 2.0Ft.

FROM -L- STA. 167+75 TO STA. 169+50 RT
FROM -L- STA. 170+80 TO STA. 173+10 RT
FROM -L- STA. 175+50 TO STA. 177+25 RT

DETAIL L
LATERAL BASE DITCH
(Not to Scale)

Natural Ground

Fill Slope

F/F

Min. D= 1.0Ft.
B= 4.0Ft.
b= 4.0Ft.

FROM -L- STA. 162+00 TO STA. 169+30 LT

A-A
8.0'
0.2'
3.5'
5.0'
OUTFALL

B-B
4.0'
0.0'
1.0'
3.0'
TURNS INTO SWALE

CURB & GUTTER LOCATIONS

NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

FOR -L- PROFILE SEE SHTS. 36 & 37

PLANS PREPARED BY :
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consulting engineers
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FOR
DIVISION OF HIGHWAYS

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 31 OF 56

ENGLISH

MITIGABLE IMPACTS ZONE 1

MITIGABLE IMPACTS ZONE 2

MATCHLINE -L- STA. 165+00 SEE SHEET 15

MATCHLINE -L- STA. 177+00 SEE SHEET 17

WILLIAM H. OVERMAN (50)

SATPAL SINGH RATHIE (51)

CULTIVATED

WOODS

CITY OF ROCKY MOUNT

SITE 10

LATERAL BASE DITCH SEE DETAIL L

INV=93.81
48 TONS CL I RIPRAP W/B9 SY FIL FAB RIPRAP ON BANKS ONLY

INV=94.34
PSH SEE DETAIL H

1 TON CL B RIPRAP W/5 SY FIL FAB
INV=99.70
CPES

PSH SEE DETAIL H

INV=101.80
CPES

LATERAL V DITCH SEE DETAIL A

NO OUTFALL

48" WW FENCE

HP
STA. 176+76.00 -L-

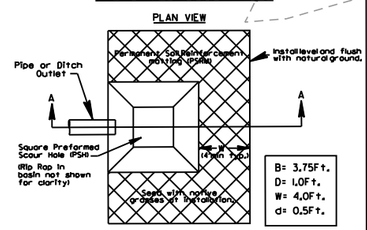
LP
STA. 172+87.39 -L-

GRASS SWALE DATA -L- 148+00 - 169+30 LT	GRASS SWALE DATA -L- 167+75 - 169+50 RT
DA= 6.34ac	DA= 0.53ac
SLOPE= 0.55%	SLOPE= 1.35%
L REQ.= 634'	L REQ.= NA
L PRO.= 680'	L PRO.= NA
Q2= 14.05cfs	Q2= 1.04cfs
V2= 1.82ft/s	V2= 1.89ft/s
D2= 0.75'	D2= 0.61'
Q10= 18.60cfs	Q10= 1.51cfs
V10= 1.97ft/s	V10= 2.00ft/s
D10= 0.86'	D10= 0.66'

PREFORMED SCOUR HOLE DATA -L- 170+75 RT	PREFORMED SCOUR HOLE DATA -L- 173+10 RT
Q10= 1.22cfs	Q10= 0.40cfs
V10= 0.34ft/s	V10= 0.18ft/s

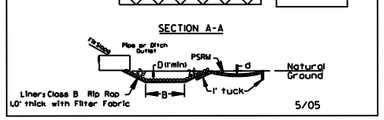
DETAIL H
PREFORMED SCOUR HOLE

PLAN VIEW



B= 3.75ft.
D= 1.0ft.
W= 4.0ft.
d= 0.5ft.

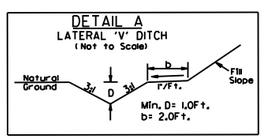
SECTION A-A



5/05

-L- STA. 170+75 RT
-L- STA. 172+87 LT
-L- STA. 173+15 RT

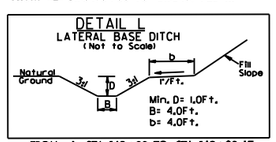
DETAIL A
LATERAL 'V' DITCH
(Not to Scale)



Min. D= 1.0Ft.
b= 2.0Ft.

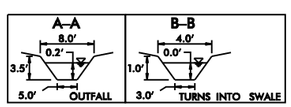
FROM -L- STA. 167+75 TO STA. 169+50 RT
FROM -L- STA. 170+80 TO STA. 173+10 RT
FROM -L- STA. 175+50 TO STA. 177+25 RT

DETAIL L
LATERAL BASE DITCH
(Not to Scale)



Min. D= 1.0Ft.
B= 4.0Ft.
b= 4.0Ft.

FROM -L- STA. 162+00 TO STA. 169+30 LT



CURB & GUTTER LOCATIONS

NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

FOR -L- PROFILE SEE SHTS. 36 & 37

PLANS PREPARED BY :
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(919) 878-9560
FOR
DIVISION OF HIGHWAYS

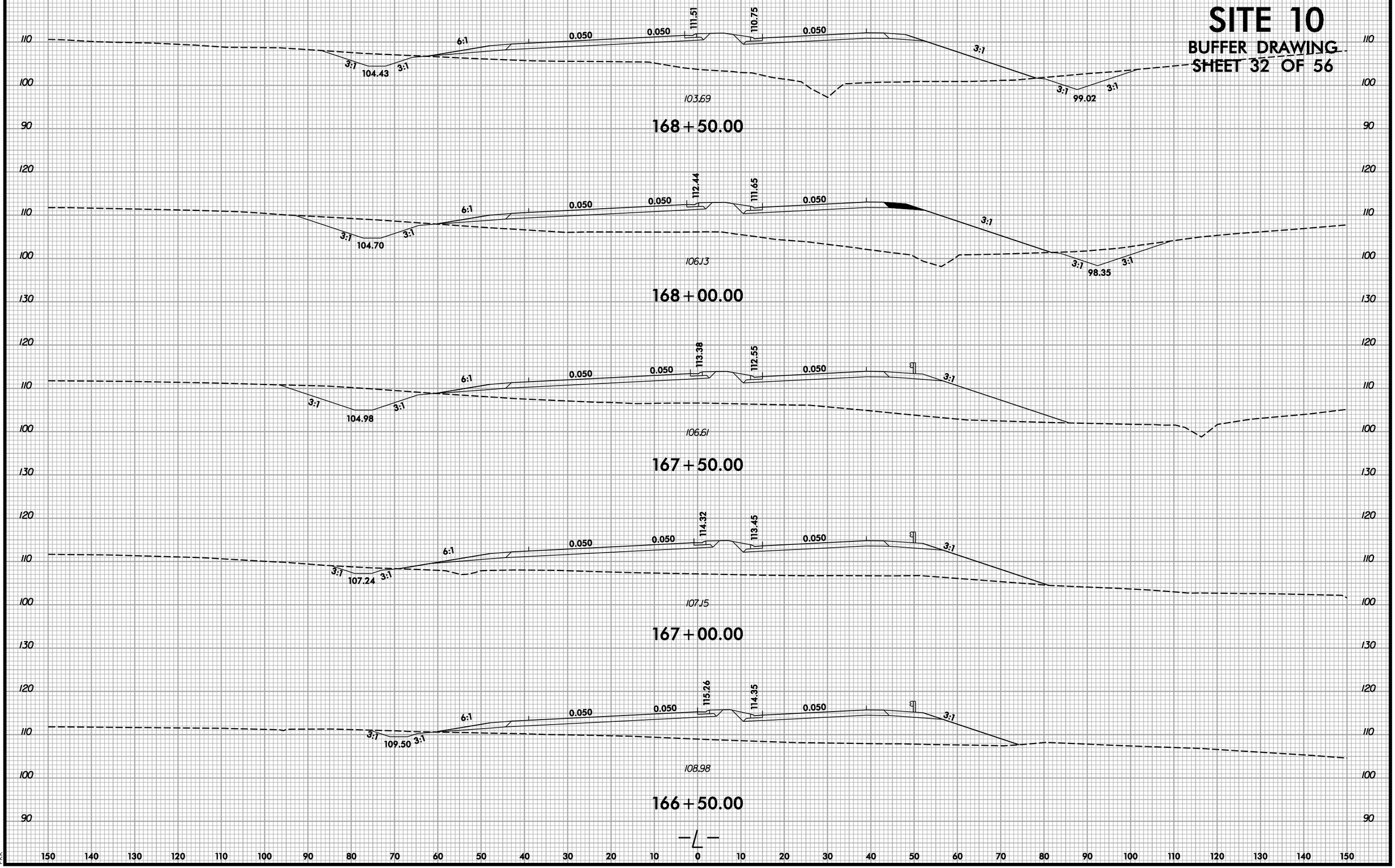
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-80

SITE 10

BUFFER DRAWING
SHEET 32 OF 56



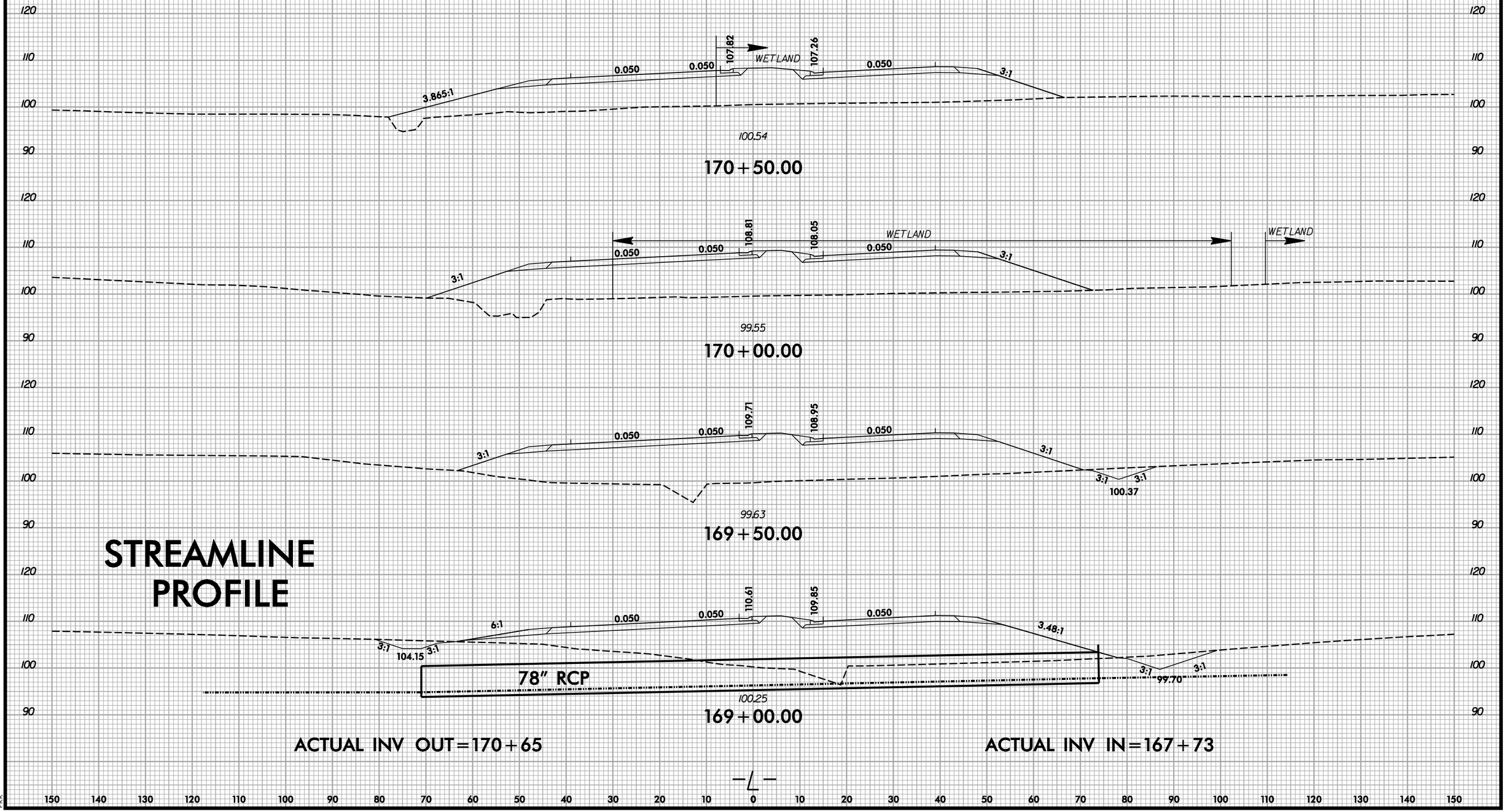
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-81

SITE 10

BUFFER DRAWING
SHEET 33 OF 56



STREAMLINE PROFILE

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CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	178+50.00	180+49.00	RT
SBG	-L-	184+28.00	184+44.50	RT
EXP.GUTTER	-L-	178+50.00	179+49.00	LT
SBG	-L-	179+49.00	180+49.00	LT
SBG	-L-	184+28.00	185+00.00	LT

NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2
ALLOWABLE IMPACTS ZONE 1

PROJECT REFERENCE NO.	SHEET NO.
R-2823	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 34 OF 56

ENGLISH

MATCHLINE -L- STA. 177+00 SEE SHEET 16

MATCHLINE -L- STA. 191+00 SEE SHEET 18

SATPAL SINGH RATHIE (51)

E. C. POWELL (52)

CITY OF ROCKY MOUNT

N 68°19'28" E 92.52'

S 85°06'05" E 740.00'

SITE 12

SITE 13

TEMPORARY WORK BRIDGE

TEMPORARY WORK BRIDGE FINGER

TEMPORARY WORK BRIDGE FINGER

INV=94.44
1 TON CL B RIPRAP W/5 SY FIL FAB

2 ELBOWS W/ ROD AND LUG

PSH SEE DETAIL H

LATERAL V DITCH SEE DETAIL A

1 TON CL B RIPRAP W/5 SY FIL FAB INV=91.57

INV=98.27
2 TON CL B RIPRAP W/7 SY FIL FAB

SPECIAL CUT DITCH SEE DETAIL F

15" RCCS
2 ELBOWS W/ ROD AND LUG

PSRM

2 TON CL B RIPRAP W/7 SY FIL FAB

SPECIAL CUT DITCH SEE DETAIL F

LATERAL BASE DITCH SEE DETAIL L

LATERAL V DITCH SEE DETAIL N

CUT/FILL TRANSITION
5 TONS CL B RIPRAP W/14 SY FIL FAB

48" RCCP
40 TONS CL B RIPRAP W/99 SY FIL FAB
RIPRAP ON BANKS ONLY
INV=94.33

LP
STA. 187+25.00 -L-

WOODS

FALLOW

10" SOIL

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)

Min. D= 1.0Ft.
b= 2.0Ft.

FROM -L- STA. 175+50 TO STA. 177+25 RT

DETAIL F
SPECIAL CUT DITCH
(Not to Scale)

Min. D= 1.5Ft.

FROM -L- STA. 184+48 TO STA. 188+50 RT
FROM -L- STA. 184+98 TO STA. 189+00 LT

DETAIL L
LATERAL BASE DITCH
(Not to Scale)

Min. D= 1.0Ft.
B= 4.0Ft.
b= 4.0Ft.

FROM -L- STA. 188+50 TO STA. 189+15 RT
FROM -L- STA. 189+28 TO STA. 191+00 LT

DETAIL N
LATERAL 'V' DITCH
(Not to Scale)

Min. D= 1.5Ft.
b= 2.0Ft.

FROM -L- STA. 189+00 TO STA. 189+70 LT

A-A
5.0'
0.0'
1.5'
3.0'
INFALL

DETAIL H
PREFORMED SCOUR HOLE

PLAN VIEW

Permanent Soil Reinforcement Matting (PSRM)

Install level and flush with natural ground.

Pipe or Ditch Outlet

Square Preformed Scour Hole (PSH)

(Rip Rap in basin not shown for clarity)

Seed with native grasses wt Prefabrication

B=3.75Ft.
D=1.0Ft.
W=4.0Ft.
d=0.5Ft.

SECTION A-A

Pipe or Ditch Outlet

PSRM

Natural Ground

Liner: Class B Rip Rap 1.0' thick with Filter Fabric

'I' tuck

5/05

-L- STA. 177+30 RT
-L- STA. 189+15 RT
-L- STA. 189+70 RT

PREFORMED SCOUR HOLE DATA	PREFORMED SCOUR HOLE DATA
-L- 177+30 RT	-L- 189+15 RT
Q10= 2.06cfs	Q10= 5.31cfs
V10= 0.41ft/s	V10= 0.85ft/s
PREFORMED SCOUR HOLE DATA	RIPRAP PAD DATA
-L- 189+70 LT	-L- 190+30 RT
Q10= 6.45cfs	Q10= 20.30cfs
V10= 0.90ft/s	V10= 1.10ft/s

GRASS SWALE DATA -L- 184+48 - 189+15 RT	GRASS SWALE DATA -L- 184+98 - 189+70 LT	GRASS SWALE DATA -L- 190+28 - 195+00 LT
DA= 1.32ac	DA= 1.49ac	DA= 3.52ac
SLOPE= 2.10%	SLOPE= 0.22%	SLOPE= 0.87%
L REQ.= 132'	L REQ.= 149'	L REQ.= 352'
L PRO.= 467'	L PRO.= 472'	L PRO.= 422'
Q2= 4.22cfs	Q2= 5.13cfs	Q2= 8.69cfs
V2= 1.84ft/s	V2= 1.77ft/s	V2= 1.85ft/s
D2= 0.29'	D2= 1.39'	D2= 0.51'
Q10= 5.31cfs	Q10= 6.45cfs	Q10= 11.22cfs
V10= 1.98ft/s	V10= 1.87ft/s	V10= 1.99ft/s
D10= 0.32'	D10= 1.52'	D10= 0.59'

FOR -L- PROFILE SEE SHT.37

PLANS PREPARED BY :
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FOR
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8/17/99

CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	178+50.00	180+49.00	RT
SBG	-L-	184+28.00	184+44.50	RT
EXP.GUTTER	-L-	178+50.00	179+49.00	LT
SBG	-L-	179+49.00	180+49.00	LT
SBG	-L-	184+28.00	185+00.00	LT
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN				

MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2
ALLOWABLE IMPACTS ZONE 1

PROJECT REFERENCE NO.	SHEET NO.
R-2823	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 35 OF 56

ENGLISH

MATCHLINE -L- STA. 177+00 SEE SHEET 16

MATCHLINE -L- STA. 191+00 SEE SHEET 18

SATPAL SINGH RATHIE (51)

E. C. POWELL (52)

CITY OF ROCKY MOUNT

N 68°19'28" E 92.52'

S 85°06'05" E 140.00'

SITE 12

SITE 13

TEMPORARY WORK BRIDGE

TEMPORARY WORK BRIDGE FINGER

TEMPORARY WORK BRIDGE FINGER

INV=94.44
1 TON CL B RIPRAP W/5 SY FIL FAB

2 ELBOWS W/ ROD AND LUG

PSH SEE DETAIL H

LATERAL V DITCH SEE DETAIL A

1 TON CL B RIPRAP W/5 SY FIL FAB INV=91.57

INV=98.27
2 TON CL B RIPRAP W/7 SY FIL FAB

SPECIAL CUT DITCH SEE DETAIL F

PSRM

2GI

2 TON CL B RIPRAP W/7 SY FIL FAB

SPECIAL CUT DITCH SEE DETAIL F

LATERAL BASE DITCH SEE DETAIL L

LATERAL V DITCH SEE DETAIL N

CUT/FILL TRANSITION
5 TONS CL B RIPRAP W/14 SY FIL FAB

48 TONS CL B RIPRAP W/89 SY FIL FAB
RIPRAP ON BANKS ONLY
INV=94.33

LP
STA. 187+25.00 -L-

BEAVER DAM

WOODS

FALLOW

10' SOIL

BZ 1

BZ 2

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground, 3:1, D, 3:1, b, F/Ft., Fill Slope

Min. D= 1.0Ft.
b= 2.0Ft.

FROM -L- STA. 175+50 TO STA. 177+25 RT

DETAIL F
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground, 3:1, D, 3:1 or Flatter, Front Ditch Slope

Min. D= 1.5Ft.

FROM -L- STA. 184+48 TO STA. 188+50 RT
FROM -L- STA. 184+98 TO STA. 189+00 LT

DETAIL L
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 3:1, D, 3:1, b, F/Ft., Fill Slope, B

Min. D= 1.0Ft.
B= 4.0Ft.
b= 4.0Ft.

FROM -L- STA. 188+50 TO STA. 189+15 RT
FROM -L- STA. 190+28 TO STA. 191+00 LT

DETAIL N
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground, 3:1, D, 3:1, b, F/Ft., Fill Slope

Min. D= 1.5Ft.
b= 2.0Ft.

FROM -L- STA. 189+00 TO STA. 189+70 LT

A-A
5.0'
0.0'
1.5'
3.0'
INFALL

DETAIL H
PREFORMED SCOUR HOLE

PLAN VIEW

Permanent Soil Reinforcement Matting (PSRM)

Install level and flush with natural ground.

Pipe or Ditch Outlet

Square Preformed Scour Hole (PSH)
(Rip Rap in basin not shown for clarity)

Seed, mulch, fertilize and protect with temporary erosion control measures.

B= 3.75Ft.
D= 1.0Ft.
W= 4.0Ft.
d= 0.5Ft.

SECTION A-A

Pipe or Ditch Outlet, PSRM, D(min), d, Natural Ground, B, 1' tuck

Liner: Class B Rip Rap 1.0' thick with Filter Fabric

5/05

-L- STA. 177+30 RT
-L- STA. 189+15 RT
-L- STA. 189+70 RT

PREFORMED SCOUR HOLE DATA -L- 177+30 RT	PREFORMED SCOUR HOLE DATA -L- 189+15 RT
Q10= 2.06cfs	Q10= 5.31cfs
V10= 0.41ft/s	V10= 0.85ft/s
PREFORMED SCOUR HOLE DATA -L- 189+70 LT	RIPRAP PAD DATA -L- 190+30 RT
Q10= 6.45cfs	Q10= 20.30cfs
V10= 0.90ft/s	V10= 1.10ft/s

GRASS SWALE DATA -L- 184+48 - 189+15 RT	GRASS SWALE DATA -L- 184+98 - 189+70 LT	GRASS SWALE DATA -L- 190+28 - 195+00 LT
DA= 1.32ac	DA= 1.49ac	DA= 3.52ac
SLOPE= 2.10%	SLOPE= 0.22%	SLOPE= 0.87%
L REQ.= 132'	L REQ.= 149'	L REQ.= 352'
L PRO.= 467'	L PRO.= 472'	L PRO.= 422'
Q2= 4.22cfs	Q2= 5.13cfs	Q2= 8.69cfs
V2= 1.84ft/s	V2= 1.77ft/s	V2= 1.85ft/s
D2= 0.29'	D2= 1.39'	D2= 0.51'
Q10= 5.31cfs	Q10= 6.45cfs	Q10= 11.22cfs
V10= 1.98ft/s	V10= 1.87ft/s	V10= 1.99ft/s
D10= 0.32'	D10= 1.52'	D10= 0.59'

FOR -L- PROFILE SEE SHT.37

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
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(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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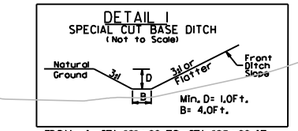
PROJECT REFERENCE NO.	SHEET NO.
R-2823	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 36 OF 56

ENGLISH

DETAIL 1
SPECIAL CUT BASE DITCH
(Not to Scale)



FROM -L- STA. 191+00 TO STA. 195+00 LT

MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2

MATCHLINE -L- STA. 191+00 SEE SHEET 17

MATCHLINE -L- STA. 205+00 SEE SHEET 19

REALTEC INCORPORATED (53)

E. C. POWELL (52)

IRVINE BANKS JR. (54)

JAMES A. DAUGHTRIDGE (55)

JEFFERY S. TAYLOR (56)

REALTEC INCORPORATED (57)

MARGIE KING LEWIS

GEORGE CRUSENBERRY (58)

CITY OF ROCKY MOUNT

SITE 13

60' ACCESS BREAK

BEGIN FENCE

END FENCE +50.00

SPECIAL CUT BASE DITCH SEE DETAIL 1

GRAU 350

18" RCP

48" WW FENCE

BZ 1

BZ 2

WOODS

N 62°55'03.8" E -L-

N 89°09'04" E 604.74'

S 09°14'30" W 50.04'

S 80°45'33" E 20.00'

S 09°31'08" W 27.13'

S 80°45'33" E 100.90'

S 80°40'09" W 224.98'

S 09°25' W 467.17'

N 80°43'55" W 330.10'

S 09°31'08" W 419.38'

N 09°31'08" E 199.16'

N 09°09'48" E 207.42'

S 09°38'21" W 40.06'

S 80°37'33" E 214.81'

S 80°37'48" E 100.10'

N 09°02'51" E 188.13'

S 80°37'33" E 101.38'

S 46°22'08" W 28.31'

FOR -L- PROFILE SEE SHTS.37 & 38

CURB & GUTTER LOCATIONS

NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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8/17/99

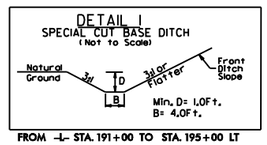
PROJECT REFERENCE NO.	SHEET NO.
R-2823	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 37 OF 56

ENGLISH

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)



FROM -L- STA. 191+00 TO STA. 195+00 LT

MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2

MATCHLINE -L- STA. 191+00 SEE SHEET 17

MATCHLINE -L- STA. 205+00 SEE SHEET 19

REALTEC INCORPORATED (53)
E. C. POWELL (52)
IRVINE BANKS JR. (54)
JAMES A. DAUGHTRIDGE (55)
JEFFERY S. TAYLOR (56)
REALTEC INCORPORATED (57)
MARGIE KING LEWIS
GEORGE CRUSENBERRY (58)

CITY OF ROCKY MOUNT

SITE 13

SPECIAL CUT BASE DITCH SEE DETAIL I

60' ACCESS BREAK

BEGIN FENCE +50.00 END FENCE

48" WW FENCE

GRAU 350

15" RCP

12" RCP

25" BST

27" BST

WOODS

POND

ISFD

ISBKD

PUMP HOUSE

LP TANK

HTR

SOIL

N 62°55'03.8" E

N 89°09'04" E 604.74'

S 80°45'33" E 100.00'

S 09°14'27" W 108.90'

S 80°45'33" E 27.13'

S 09°14'30" W 50.04'

S 80°45'33" E 20.00'

N 80°40'09" W 224.98'

S 80°37'33" E 214.81'

S 80°57'48" E 100.0'

S 46°22'08" W 28.31'

FOR -L- PROFILE SEE SHTS.37 & 38

CURB & GUTTER LOCATIONS

NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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tsk

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	37
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 38 OF 56

-L-

BRIDGE HYDRAULIC DATA
STA.182+37.5 -L-

DESIGN DISCHARGE	= 2,000	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 94.3	FT
BASE DISCHARGE	= 2,300	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 94.7	FT
OVERTOPPING DISCHARGE	= 18,750	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 103.7	FT
DATE OF SURVEY	= 06/2008	
W.S.ELEVATION AT DATE OF SURVEY	= 91.9	FT

COMPASS CREEK

BM #6
RR SPIKE IN BASE OF 24" OAK
-L- STA. 185+19.26 218.25' LT
ELEV.= 99.96'

PI = 176+76.00
EL = 107.47'
VC = 300'
K = 300

PROPOSED GRADE
BEGIN BRIDGE
-L- STA.180+71.00 +/-
END BRIDGE
-L- STA.184+04.00 +/-
EXISTING GROUND

(+)1.03%RT
(-)1.17% RT
(+)0.5000%
(+)0.5000%
(-)0.5000%
(-)0.30% RT
18" RCP
(-)0.35% RT
(-)0.22% LT

END LAT. V DITCH
-L- STA. 173+10 RT
EL. 103.55

PI -L- STA. 172+50 RT
EL. 104.25

BEG. LAT. V DITCH
-L- STA. 175+50 RT
EL. 101.63

END LAT. V DITCH
-L- STA. 177+25 RT
EL. 101.10

TEMPORARY WORK BRIDGE & FINGERS
- MAX. 30' BRIDGE WIDTH
- PIER / SPAN PLACEMENT TO BE DETERMINED BY CONTRACTOR
- LOW CHORD 4' ABOVE NWS=89.7'
- EDGE OF BRIDGE FINGERS PLACED A MINIMUM OF 10' FROM PROPOSED PIERS

ONWS 89.7

BEG. SP. CUT 'V' DITCH
-L- STA. 184+48 RT
EL. 98.53

BEG. SP. CUT 'V' DITCH
-L- STA. 184+98 LT; EL. 98.27

(-)0.35% RT
(-)0.22% LT

172+00 173+00 174+00 175+00 176+00 177+00 178+00 179+00 180+00 181+00 182+00 183+00 184+00 185+00 186+00

150 140 130 120 110 100 90 80 70 60

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE 78" RCP
STA.189+80 -L-

DRAINAGE AREA	= 97	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 220	CFS
DESIGN HW ELEVATION	= 103.7	FT
100 YEAR DISCHARGE	= 250	CFS
100 YEAR HW ELEVATION	= 104.4	FT
OVERTOPPING FREQUENCY	= NA	YRS
OVERTOPPING DISCHARGE	= NA	CFS
OVERTOPPING ELEVATION	= NA	FT

PI = 187+50.00
EL = 102.10'
VC = 300'
K = 250

PROPOSED GRADE
EXISTING GROUND

(-)0.5000%
(+)0.7000%
(-)0.35% RT
(-)2.08% RT
(-)0.22% LT
(-)0.22% LT
78" PIPE
(+)0.86% LT
(+)0.70% LT
(+)8.12% LT
(+)0.70% LT

END SP. CUT 'V' DITCH
BEG. LAT. 'V' DITCH
-L- STA. 188+50 RT
EL. 97.12

END LAT. BASE DITCH
-L- STA. 189+15 RT
EL. 95.77

END SP. CUT 'V' DITCH
BEG. LAT. 'V' DITCH
-L- STA. 189+00 LT
EL. 97.39

END LAT. 'V' DITCH
-L- STA. 189+70 LT.
EL. 97.23

BEG. LAT. BASE DITCH
-L- STA. 190+28 LT.
EL. 97.12

END LAT. BASE DITCH
BEG. SP. CUT BASE DITCH
-L- STA. 191+00 LT.
EL. 97.74

PI -L- STA. 193+00 LT
EL. 99.14

PI -L- STA. 193+50 LT
EL. 103.20

END SP. CUT BASE DITCH
-L- STA. 195+00 LT
EL. 104.25

LEFT SIDE DITCH PROFILE
RIGHT SIDE DITCH PROFILE

FOR -L- PLAN SEE SHTS.16 THRU 18

186+00 187+00 188+00 189+00 190+00 191+00 192+00 193+00 194+00 195+00 196+00 197+00 198+00 199+00 200+00

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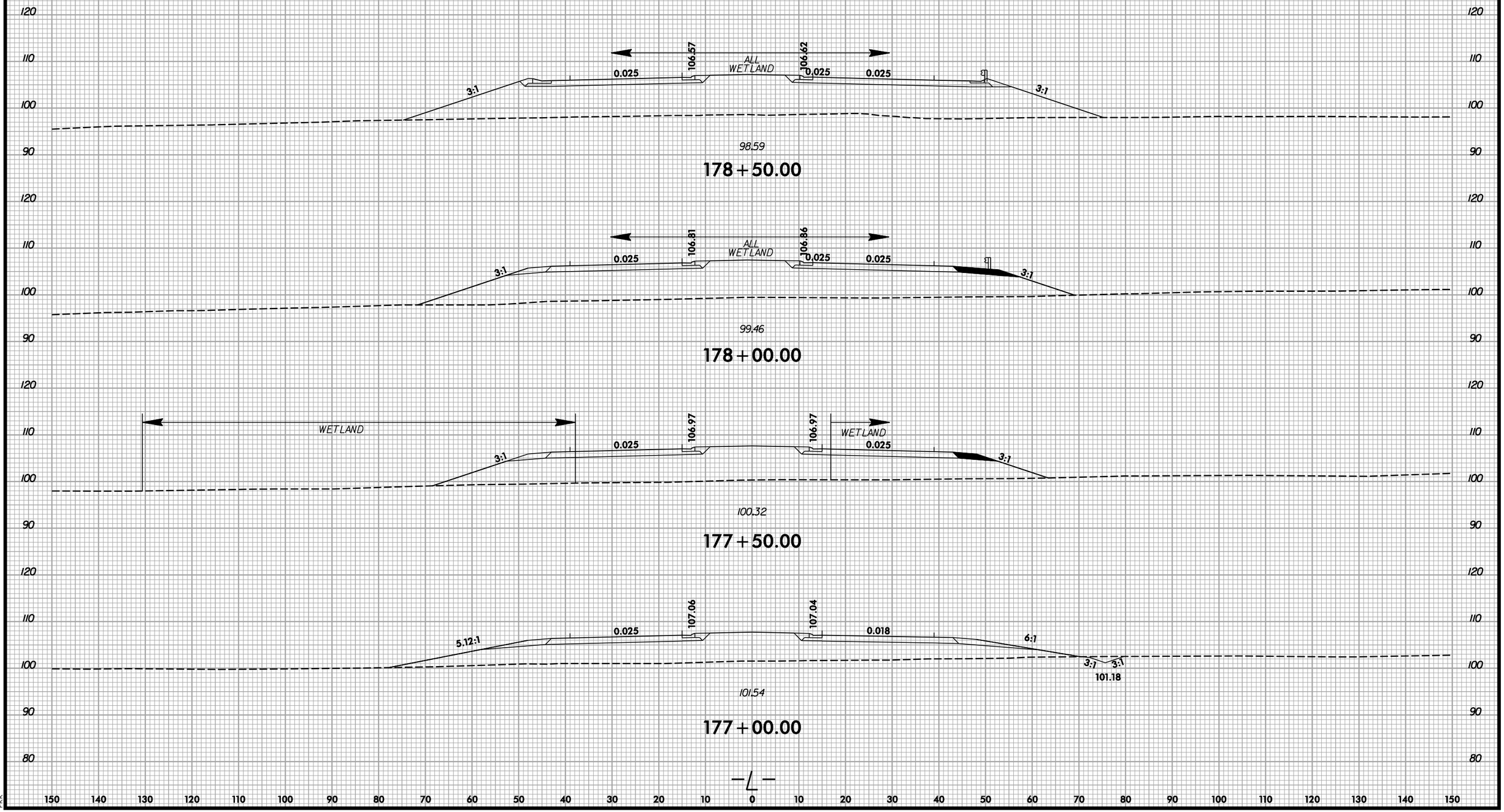
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8/23/99

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	R-2823	X-85

SITE 12

BUFFER DRAWING
SHEET 39 OF 56



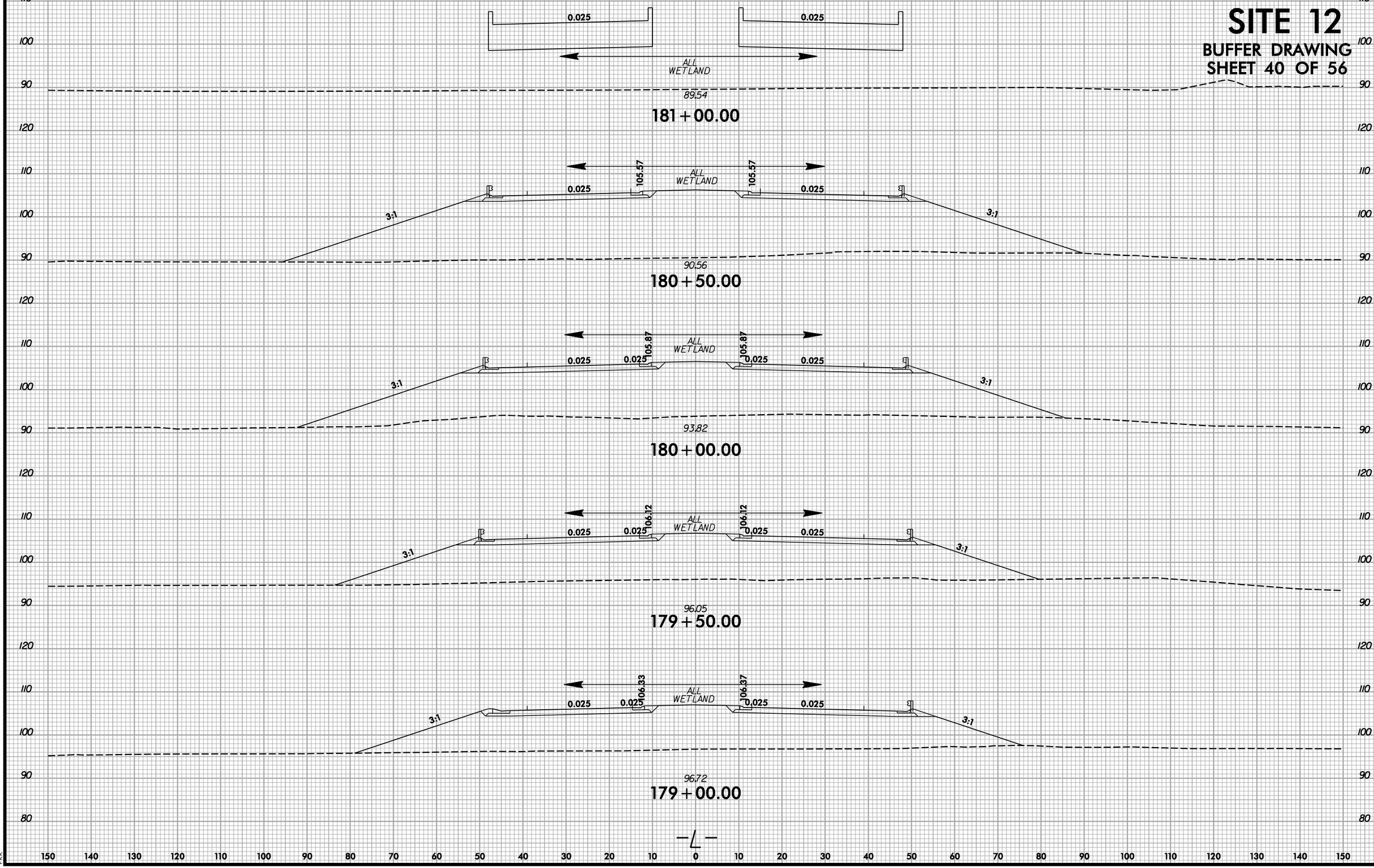
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-86

SITE 12

BUFFER DRAWING
SHEET 40 OF 56



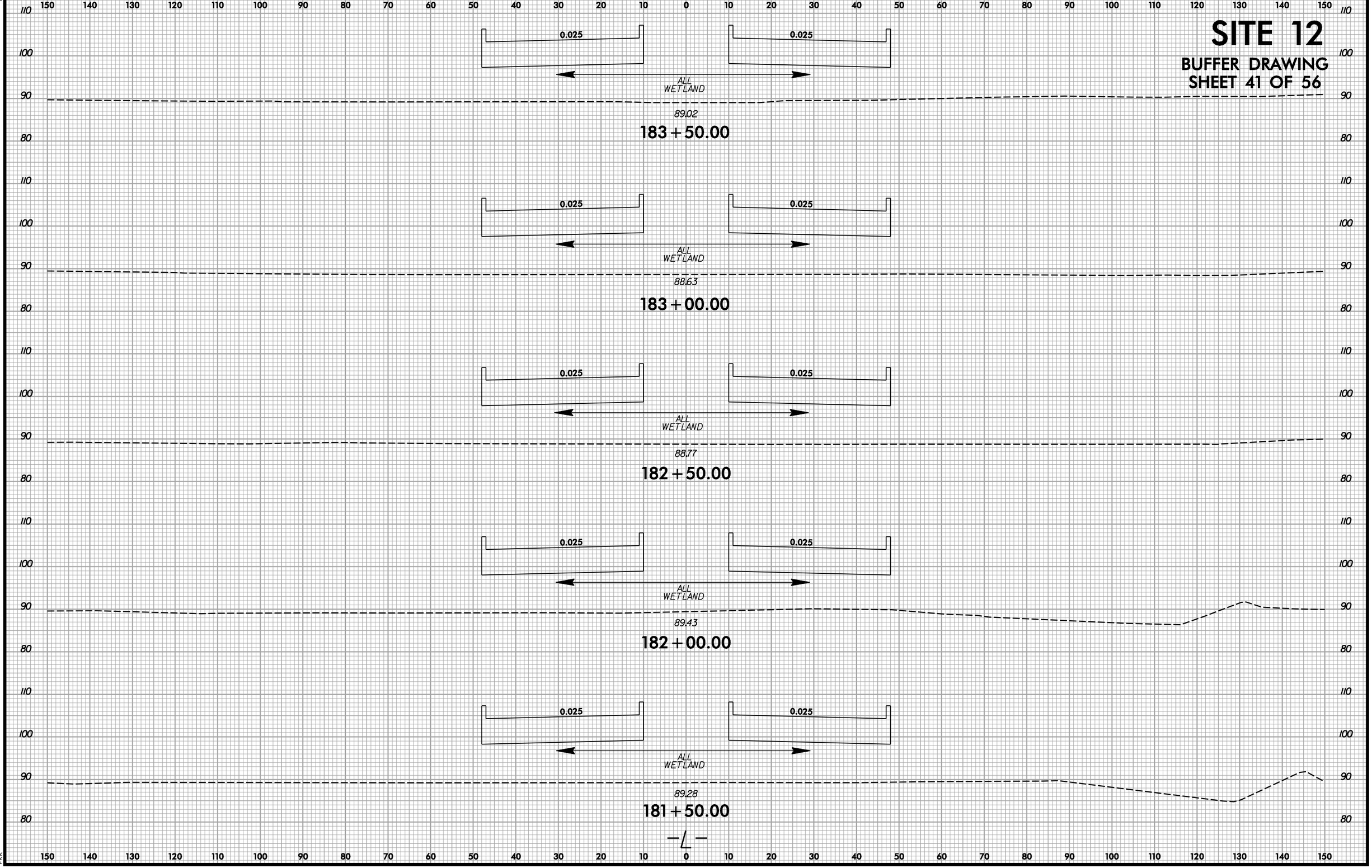
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-87

SITE 12

BUFFER DRAWING
SHEET 41 OF 56



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8/23/99

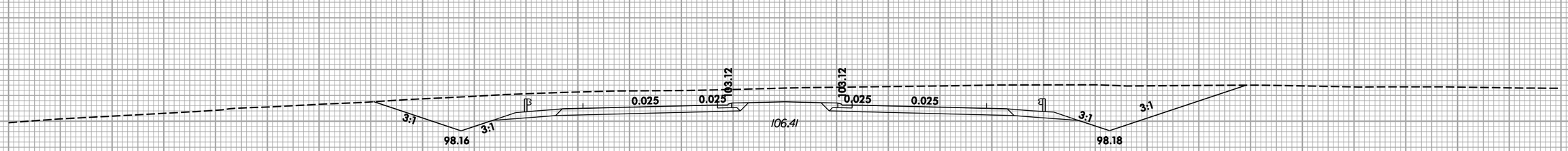
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	R-2823	X-88

SITE 12

BUFFER DRAWING
SHEET 42 OF 56

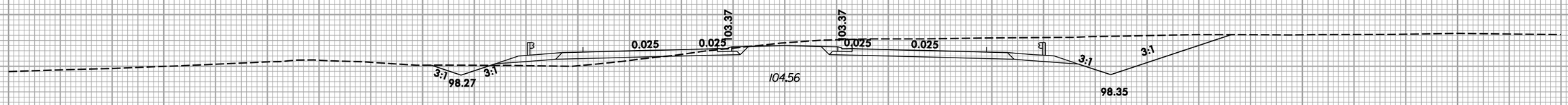
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120 110 100 90



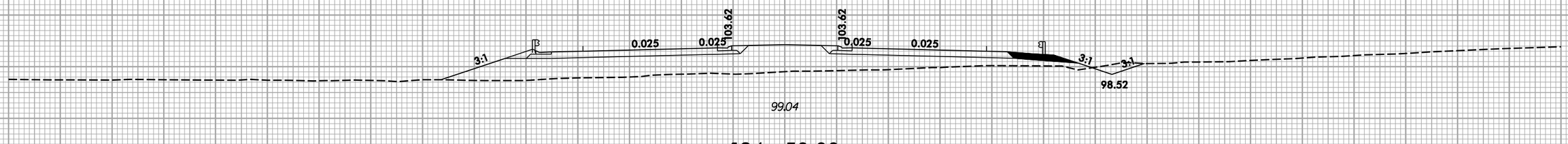
185+50.00

120 110 100 90



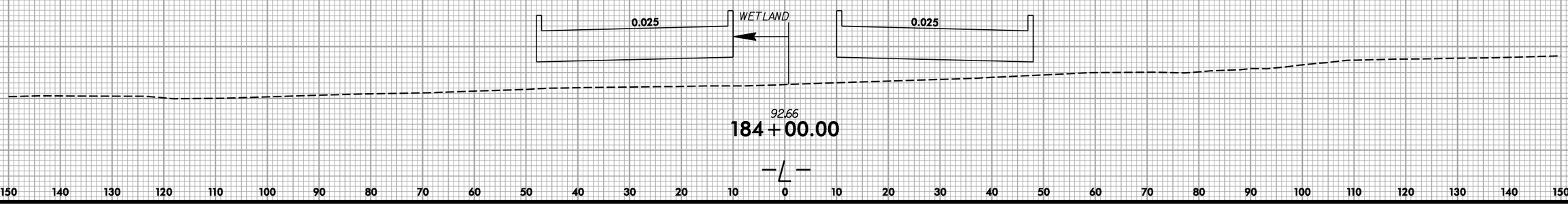
185+00.00

120 110 100 90



184+50.00

80 110 100 90



184+00.00

80

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

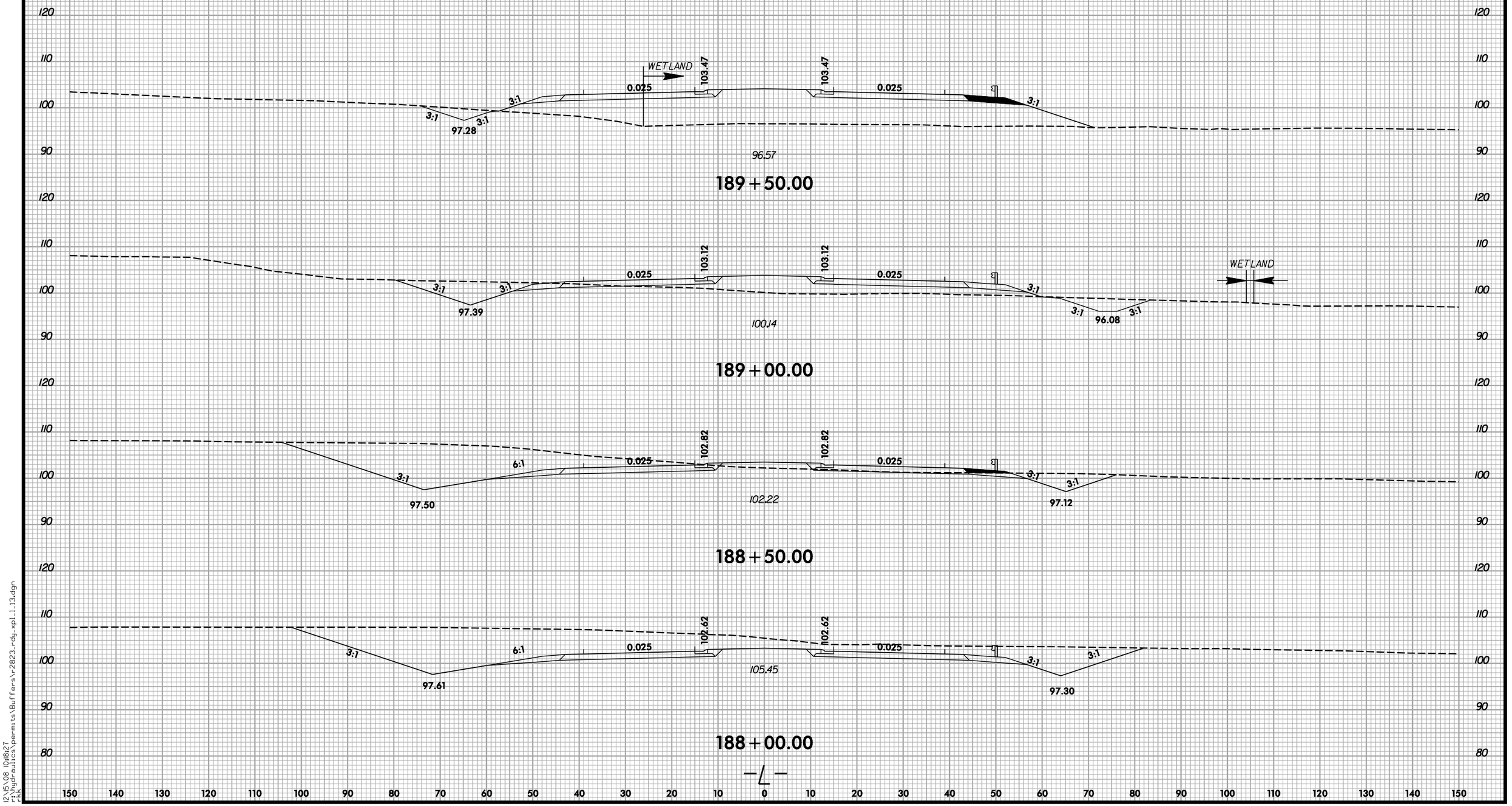
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-90

SITE 13

BUFFER DRAWING
SHEET 43 OF 56



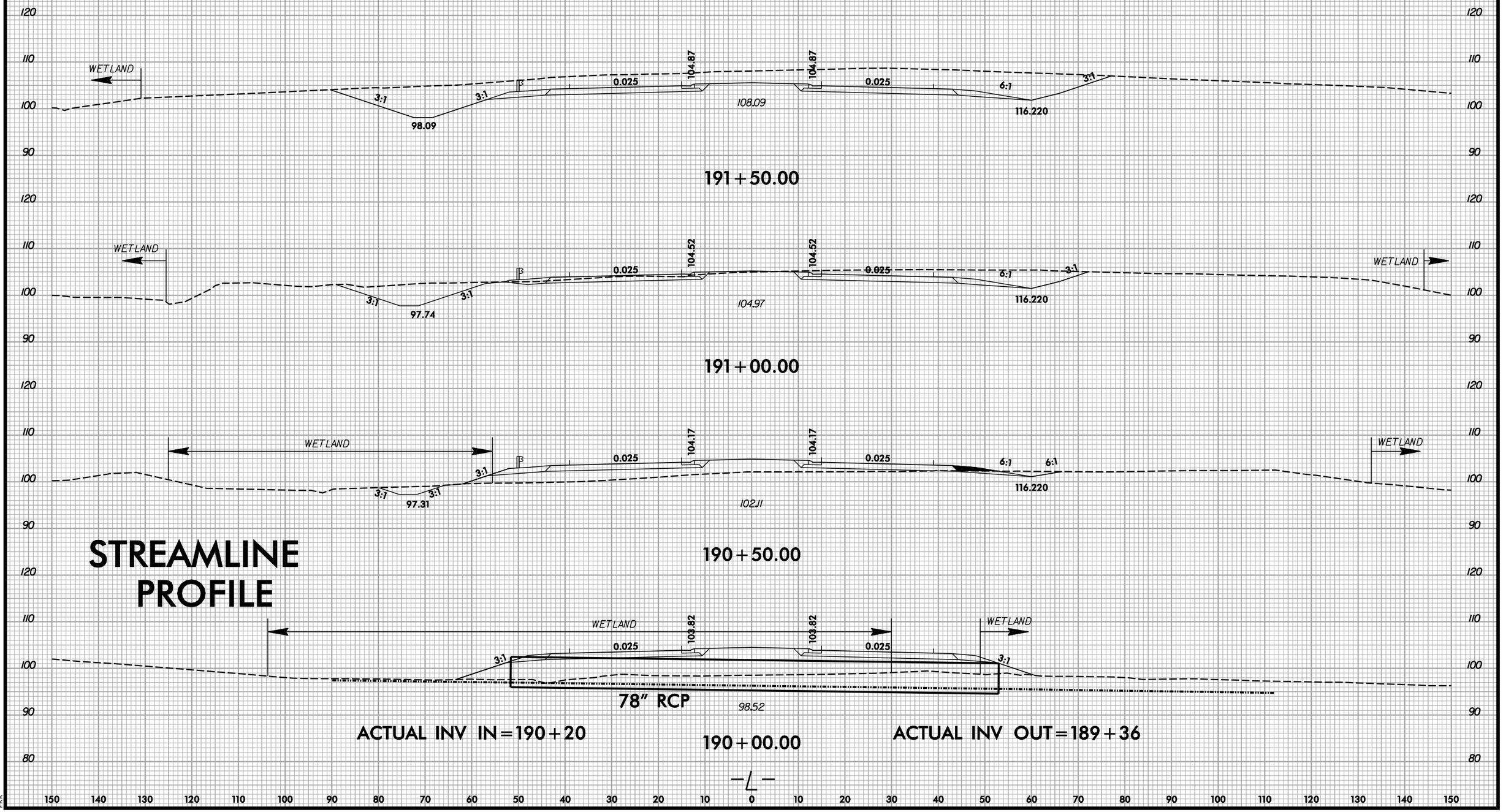
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-91

SITE 13

BUFFER DRAWING
SHEET 44 OF 56

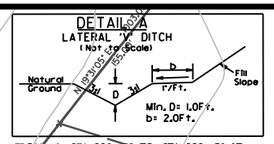


STREAMLINE PROFILE

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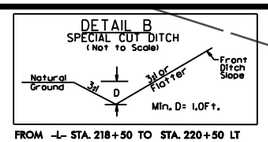
8/17/99

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)



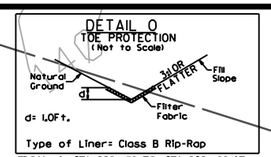
FROM -L- STA. 220+50 TO STA. 223+50 LT
FROM -Y5- STA. 11+00 TO STA. 12+00 RT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



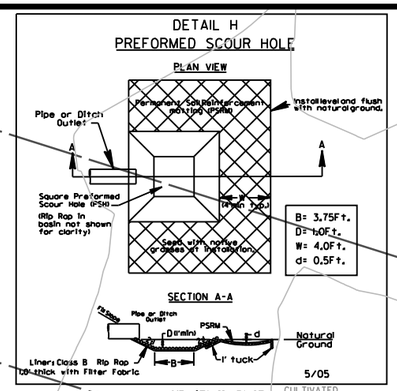
FROM -L- STA. 218+50 TO STA. 220+50 LT

DETAIL O
TOE PROTECTION
(Not to Scale)



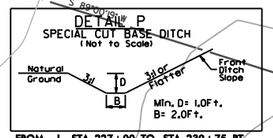
Type of Liner= Class B Rip-Rap
FROM -L- STA. 228+50 TO STA. 232+00 LT

DETAIL H
PREFORMED SCOUR HOLE



-Y5- STA. 11+50 LT

DETAIL P
SPECIAL CUT BASE DITCH
(Not to Scale)

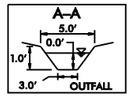


FROM -L- STA. 227+00 TO STA. 230+75 RT

GRASS SWALE DATA
-L- 227+00 - 230+75 RT
DA= 2.08ac
SLOPE= 0.30%
L REQ.= 208'
L PRO.= 250'
Q2= 6.65cfs
V2= 1.42ft/s
D2= 0.96'
Q10= 8.36cfs
V10= 1.66ft/s
D10= 1.00'

PREFORMED SCOUR HOLE DATA
-L- 230+80 RT
Q10= 4.30cfs
V10= 0.80ft/s

A-A



ALLOWABLE IMPACTS ZONE 1
ALLOWABLE IMPACTS ZONE 2

ENGLISH

PROJECT REFERENCE NO.	SHEET NO.
R-2823	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 45 OF 56

MATCHLINE -L- STA. 219+00 SEE SHEET 19

MATCHLINE -L- STA. 232+00 SEE SHEET 21

MATCHLINE -Y5- STA. 16+00 SEE SHEET 29

WILLIAM HERBERT TURNER (63)
JAMES B. MARTIN, JR. ET AL (62)
W. W. EATMON HEIRS (61)
CAROLYN EATMON PARKER
W. W. EATMON HEIRS (64)
WILLIAM HERBERT TURNER (65)

LATERAL V DITCH SEE DETAIL A
HP STA. 222+57.88 -L-
INV=134.98 C
2 TON CL B RIPRAP W/7 SY FIL FAB
SPECIAL CUT DITCH F SEE DETAIL B
CPES
48" WW FENCE
S 89°00'19" W 1571.99'
INV= 131.66 18"
INV= 132.56
PSH SEE DETAIL H
LATERAL V DITCH SEE DETAIL A
S 18°00'07" W 165.50'
N 88°58'23" E 107.30'
N 88°58'23" E 102.10'
S 6°32'23" W 240.00'
N 88°58'23" E 738.37'
S 38°35'37" W 400.93'
SPECIAL CUT BASE DITCH SEE DETAIL P
TOE PROTECTION SEE DETAIL O
S 89°00'19" W 1730.38'
SITE 15
NO DEFINED CHANNEL
INV= 119.50
2 TON CL B RIPRAP W/7 SY FIL FAB INV=122.43
INV= 122.13
26 TONS CL I RIPRAP W/50 SY FIL FAB RIPRAP ON RANKS ONLY INV=117.04
SITE 16
S 89°00'19" W 1571.99'
WOODS
CULTIVATED
WLB
BZ 1
BZ 2

CURB & GUTTER LOCATIONS
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

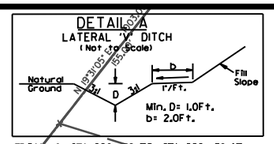
FOR -L- PROFILE SEE SHTS.38 & 39
FOR -Y5- PROFILE SEE SHT.43

PLANS PREPARED BY :
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consulting engineers
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RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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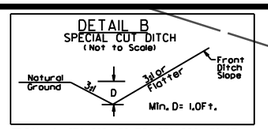
8/17/99

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)



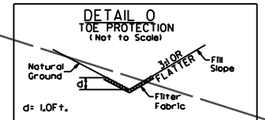
FROM -L- STA. 220+50 TO STA. 223+50 LT
FROM -Y5- STA. 11+00 TO STA. 12+00 RT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



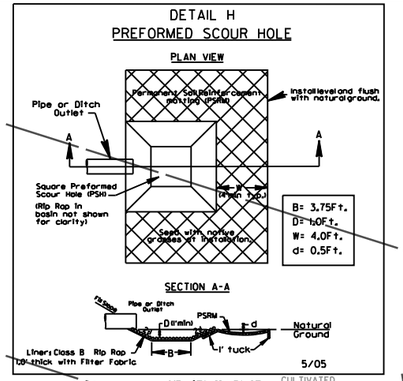
FROM -L- STA. 218+50 TO STA. 220+50 LT

DETAIL C
TOE PROTECTION
(Not to Scale)



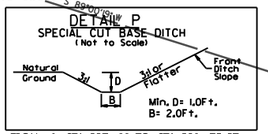
Type of Liner= Class B Rip-Rap
FROM -L- STA. 228+50 TO STA. 232+00 LT

DETAIL H
PREFORMED SCOUR HOLE



-Y5- STA. 11+50 LT

DETAIL P
SPECIAL CUT BASE DITCH
(Not to Scale)

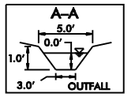


FROM -L- STA. 227+00 TO STA. 230+75 RT

GRASS SWALE DATA
-L- 227+00 - 230+75 RT
DA= 2.08ac
SLOPE= 0.30%
L REQ.= 208'
L PRO.= 250'
Q2= 6.65cfs
V2= 1.42ft/s
D2= 0.96'
Q10= 8.36cfs
V10= 1.66ft/s
D10= 1.00'

PREFORMED SCOUR HOLE DATA
-L- 230+80 RT
Q10= 4.30cfs
V10= 0.80ft/s

A-A



ALLOWABLE IMPACTS ZONE 1
ALLOWABLE IMPACTS ZONE 2

ENGLISH

PROJECT REFERENCE NO.	SHEET NO.
R-2823	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 46 OF 56

WILLIAM HERBERT TURNER
63
LATERAL V DITCH SEE DETAIL A
48" WW FENCE
HP
STA. 222+57.88 -L-
INV=134.98
2 TON CL B RIPRAP W/7 SY FIL FAB
SPECIAL CUT DITCH SEE DETAIL B
CPES
207
CB
200
S 89°00'19" W 1571.99'
CULTIVATED
JAMES B. MARTIN, JR. ET AL
62
LATERAL V DITCH SEE DETAIL A
202
INV= 132.56
INV= 131.66
18"
PSH SEE DETAIL H
WOODS
W. W. EATMON HEIRS
61
S 18°20'07" W 165.50'
N 88°58'23" E 107.30'
N 88°58'23" E 102.70'
CAROLYN EATMON PARKER
S 65°52'23" W 240.00'
W. W. EATMON HEIRS
64
18.30'
N 88°58'23" E 138.37'
W. W. EATMON HEIRS
64
MATCHLINE -Y5- STA. 16+00 SEE SHEET 29
MATCHLINE -L- STA. 219+00 SEE SHEET 19
220
225
230
WILLIAM HERBERT TURNER
65
TOE PROTECTION SEE DETAIL C
S 89°00'19" W 1620.38'
S 89°00'19" W 1730.38'
BZ 1
BZ 2
61M
WOODS
SITE 15
NO DEFINED CHANNEL
123.37
INV= 119.50
209
HW
SPECIAL CUT BASE DITCH SEE DETAIL P
207
CB
210
WILLIAM HERBERT TURNER
63
48" WW FENCE
BDO
199
INV= 122.13
2 TON CL B RIPRAP W/7 SY FIL FAB INV=122.43
CULTIVATED
WOODS
SITE 16
117.33
26 TONS CL I RIPRAP W/50 SY FIL FAB RIPRAP ON BANKS ONLY INV=117.04
JAMES B. MARTIN, JR. ET AL
62
15
S 38°25'37" W 400.33'
MATCHLINE -L- STA. 232+00 SEE SHEET 21

CURB & GUTTER LOCATIONS
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

FOR -L- PROFILE SEE SHTS.38 & 39
FOR -Y5- PROFILE SEE SHT.43

PLANS PREPARED BY :
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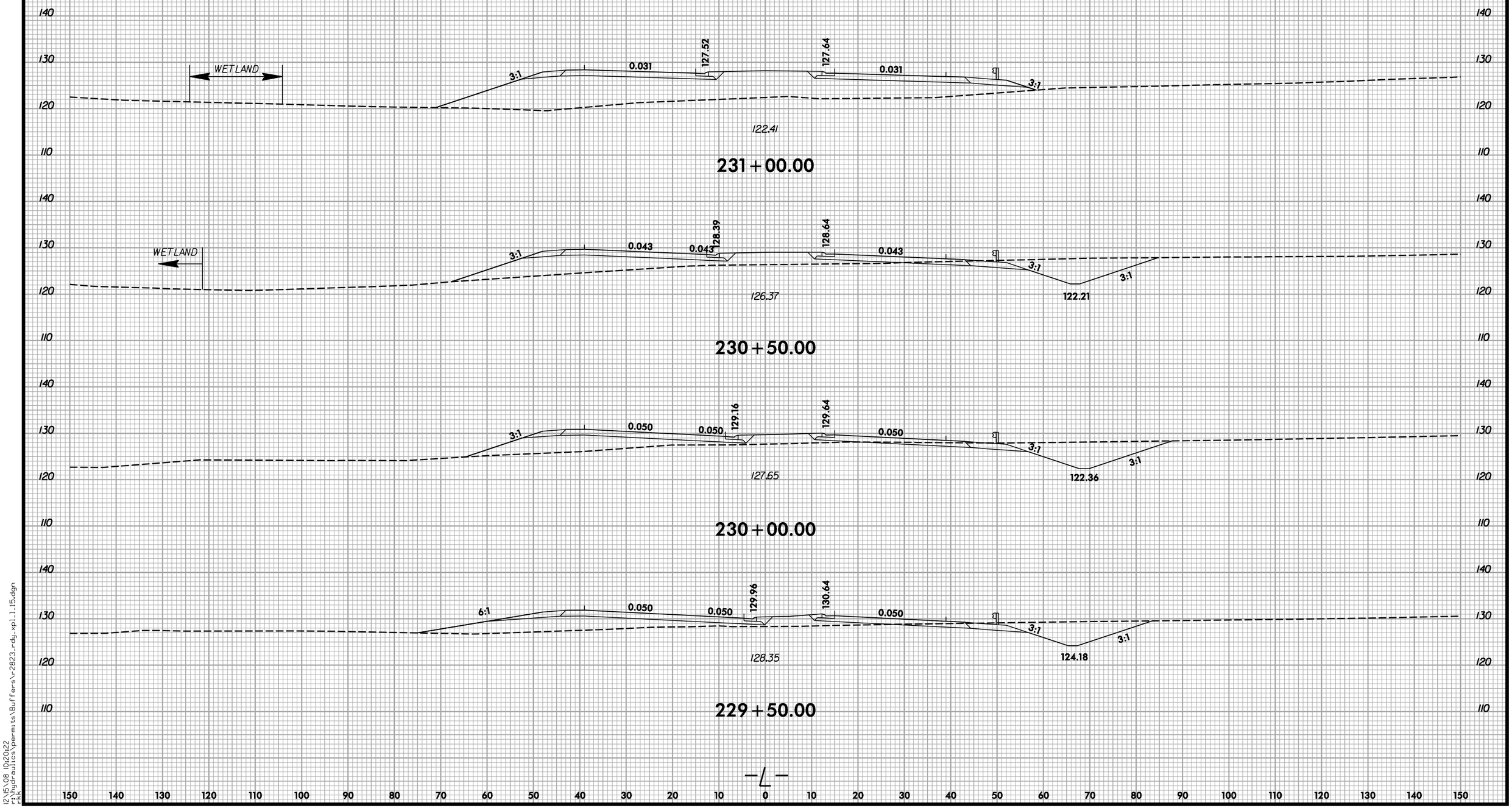
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	R-2823	X-111

SITES 15 & 16

BUFFER DRAWING
SHEET 47 OF 56

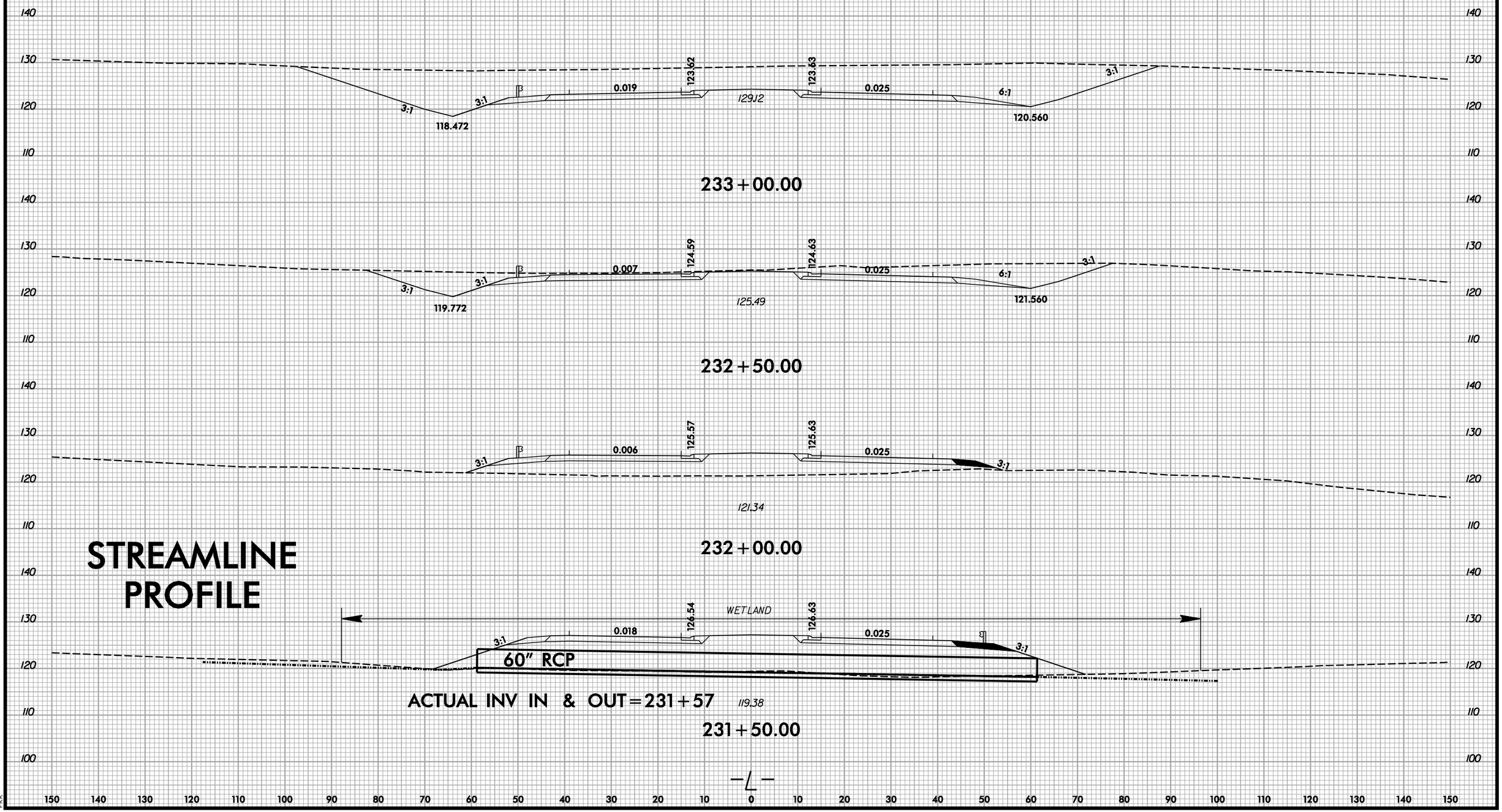


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	R-2823	X-112

SITES 15 & 16

BUFFER DRAWING
SHEET 48 OF 56



STREAMLINE PROFILE

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

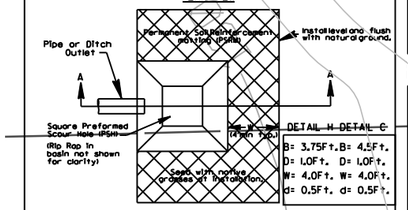
BUFFER DRAWING SHEET 49 OF 56

ENGLISH

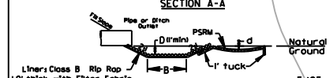
MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2

DETAIL C
DETAIL H
PREFORMED SCOUR HOLE

PLAN VIEW



SECTION A-A



5/05

DETAIL C
-L- STA. 241+05 LT
DETAIL H
-L- STA. 238+25 RT
-L- STA. 239+20 LT

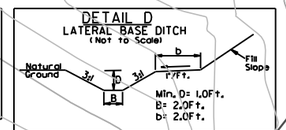
DETAIL C DETAIL H	
B=	3.75Ft.
D=	1.0Ft.
W=	4.0Ft.
d=	0.5Ft.

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



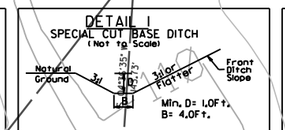
FROM -L- STA. 233+50 TO STA. 235+00 LT
FROM -L- STA. 243+50 TO STA. 244+50 LT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)



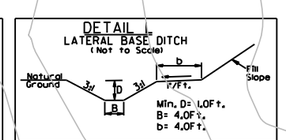
FROM -L- STA. 241+10 TO STA. 243+50 LT

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)



FROM -L- STA. 236+00 TO STA. 236+50 LT

DETAIL L
LATERAL BASE DITCH
(Not to Scale)



FROM -L- STA. 236+50 TO STA. 239+15 LT

GRASS SWALE DATA -L- 232+50 - 239+15 LT	
DA=	1.73ac
SLOPE=	1.65%
L REQ.=	173'
L PRO.=	365'
Q2=	5.53cfs
V2=	1.85fps
D2=	0.36'
Q10=	6.95cfs
V10=	1.99fps
D10=	0.40'

PREFORMED SCOUR HOLE DATA -L- 238+25 RT	
Q10=	1.48cfs
V10=	0.37fps

PREFORMED SCOUR HOLE DATA -L- 239+20 LT	
Q10=	6.95cfs
V10=	0.92fps

PREFORMED SCOUR HOLE DATA -L- 241+05 LT	
Q10=	13.19cfs
V10=	1.21fps

MATCHLINE -L- STA. 232+00 SEE SHEET 20

MATCHLINE -L- STA. 245+00 SEE SHEET 22

SITE 16

SITE 17

WILLIAM HERBERT TURNER (65)

WILLIAM HERBERT TURNER (63)

MACK B. PEARSALL (66)

WALTER I. THARRINGTON (67, 68, 69, 70, 71, 72)

SPECIAL CUT DITCH SEE DETAIL B

SPECIAL CUT BASE DITCH SEE DETAIL I

LATERAL BASE DITCH SEE DETAIL L

LATERAL BASE DITCH SEE DETAIL D

SPECIAL CUT DITCH SEE DETAIL B

48" WW FENCE

INV=108.66 2 TONS CL B RIPRAP W/7 SY FIL FAB

2 ELBOWS W/ ROD AND LUG

8' X 9' RCBC

PSH SEE DETAIL C

PSH SEE DETAIL H

INV=110.90

CUT/FILL TRANSITION 2 TONS CL B RIPRAP W/7 SY FIL FAB

42 TONS CL I RIPRAP W/60 SY FIL FAB 25 CY DDE

LP
STA. 237+20.00 -L-

FENNEMAN DR 22' E

CHALMER RD 22' ASPH

WOODS

EXISTING PAVEMENT REMOVAL

FOR -L- PROFILE SEE SHT.39

CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	238+23.00	239+88.00	RT
EXP.GUTTER	-L-	239+88.00	241+00.00	RT
EXP.GUTTER	-L-	238+73.00	239+46.40	LT
SBG	-L-	239+46.40	241+00.00	LT

NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

PAVEMENT REMOVAL TO BE PERFORMED ALONG -Y7- FROM STA.14+77+/- (FENNER RD.& INSTRUMENT DR. INTERSECTION) TO STA.39+92+/- (FENNER RD.& BISHOP RD.INTERSECTION)

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PROJECT REFERENCE NO.	SHEET NO.
R-2823	21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING SHEET 50 OF 56

ENGLISH

MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2

DETAIL C
DETAIL H
PREFORMED SCOUR HOLE

PLAN VIEW

SECTION A-A

DETAIL C
-L- STA. 241+05 LT
DETAIL H
-L- STA. 238+25 RT
-L- STA. 239+20 LT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)

FROM -L- STA. 233+50 TO STA. 235+00 LT
FROM -L- STA. 243+50 TO STA. 244+50 LT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)

FROM -L- STA. 241+10 TO STA. 243+50 LT

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)

FROM -L- STA. 236+00 TO STA. 236+50 LT

DETAIL L
LATERAL BASE DITCH
(Not to Scale)

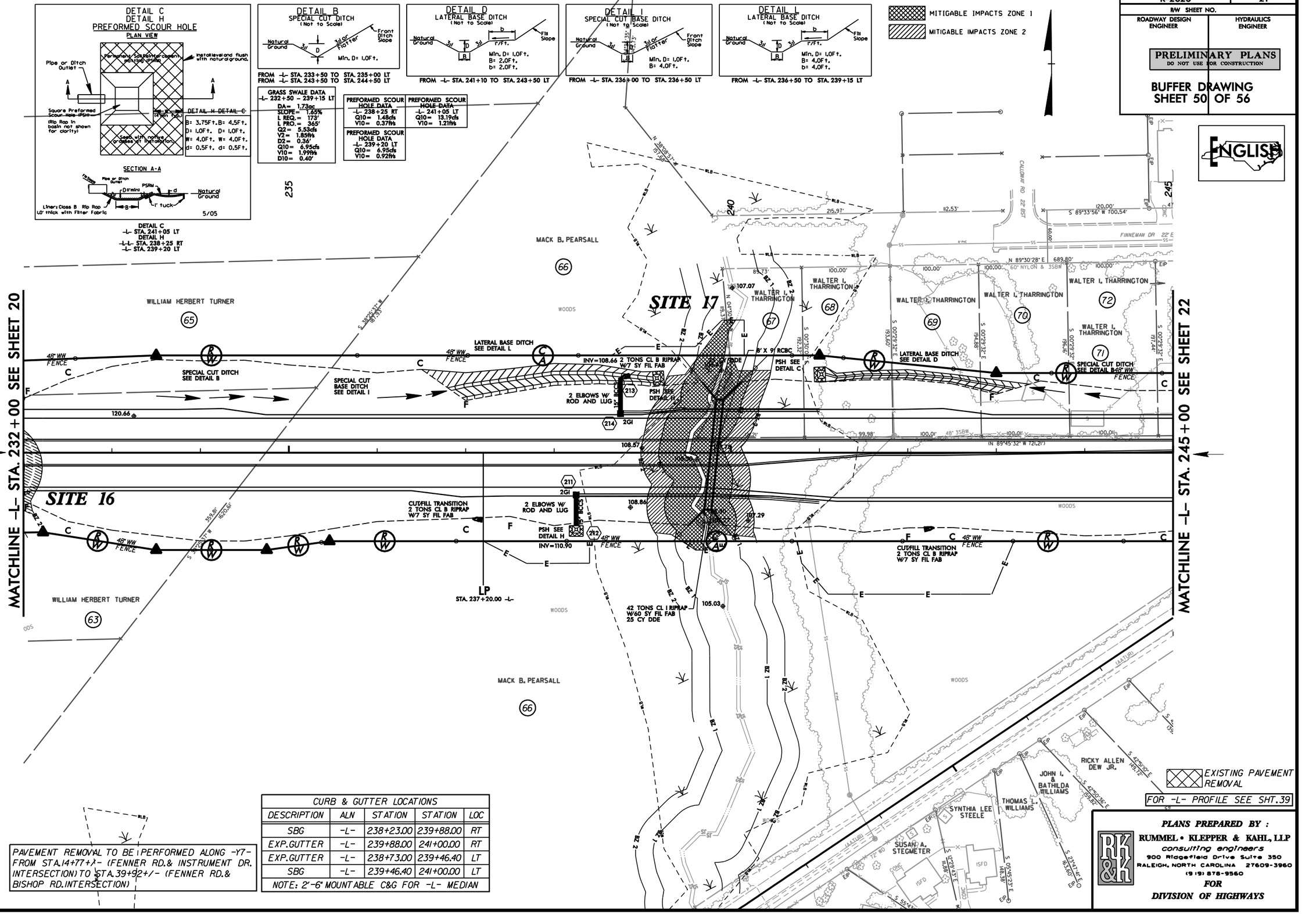
FROM -L- STA. 236+50 TO STA. 239+15 LT

GRASS SWALE DATA
-L- 232+50 - 239+15 LT
DA= 1.73ac
SLOPE= 1.65%
L REQ.= 173'
L PRO.= 365'
Q2= 5.53cfs
V2= 1.85ft/s
D2= 0.36'
Q10= 6.95cfs
V10= 1.99ft/s
D10= 0.40'

PREFORMED SCOUR HOLE DATA
-L- 238+25 RT
Q10= 1.48cfs
V10= 0.37ft/s

PREFORMED SCOUR HOLE DATA
-L- 241+05 LT
Q10= 13.19cfs
V10= 1.21ft/s

PREFORMED SCOUR HOLE DATA
-L- 239+20 LT
Q10= 6.95cfs
V10= 0.92ft/s



PAVEMENT REMOVAL TO BE PERFORMED ALONG -Y7- FROM STA.14+77+/- (FENNER RD.& INSTRUMENT DR. INTERSECTION) TO STA.39+92+/- (FENNER RD.& BISHOP RD.INTERSECTION)

CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	238+23.00	239+88.00	RT
EXP.GUTTER	-L-	239+88.00	241+00.00	RT
EXP.GUTTER	-L-	238+73.00	239+46.40	LT
SBG	-L-	239+46.40	241+00.00	LT
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN				

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PROJECT REFERENCE NO.	SHEET NO.
R-2823	39
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 51 OF 56

-L-

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE 60" RCP
STA. 231+57 -L-

DRAINAGE AREA	= 31	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 80	CFS
DESIGN HW ELEVATION	= 124.5	FT
100 YEAR DISCHARGE	= 90	CFS
100 YEAR HW ELEVATION	= 124.9	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 130	CFS
OVERTOPPING ELEVATION	= 126.5	FT

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE 8'x9' RCBC
STA. 239+81 -L-

DRAINAGE AREA	= 356	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 600	CFS
DESIGN HW ELEVATION	= 116.1	FT
100 YEAR DISCHARGE	= 700	CFS
100 YEAR HW ELEVATION	= 117.6	FT
OVERTOPPING FREQUENCY	= 100+	YRS
OVERTOPPING DISCHARGE	= 935	CFS
OVERTOPPING ELEVATION	= 118.5	FT

BM #7
RR SPIKE IN BASE OF 48" OAK
-L- STA. 230+89.38 244.47' RT
ELEV. = 130.71'

PROPOSED GRADE
EXISTING GROUND

PI = 236+00.00
EL = 117.66'
VC = 400'
K = 160

PI = 241+90.00
EL = 120.61'
VC = 250'
K = 200

(-) 1.80% RT
(-) 7.03% RT
(-) 0.30% RT
(-) 0.30% LT
(-) 12.0000%
(+) 10.5000%
(-) 4.26% LT
(-) 1.65% LT
(+) 10.5000%
(+) 11.7500%
(+) 4.02% LT

60" PIPE

END SP. CUT DITCH
-L- STA. 230+75 RT
EL. 122.13

PI -L- STA. 229+75 RT
EL. 122.43

PI -L- STA. 229+00 RT
EL. 127.70

BEG. SP. CUT DITCH
-L- STA. 233+50 LT
EL. 117.32

END SP. CUT DITCH
-L- STA. 235+00 LT
EL. 116.87

BEG. SP. CUT BASE DITCH
-L- STA. 236+00 LT
EL. 115.81

END SP. CUT BASE DITCH
BEG. LAT. BASE DITCH
-L- STA. 236+50 LT
EL. 113.68

PI -L- STA. 237+00 LT.
EL. 111.55

END LAT. BASE DITCH
-L- STA. 239+15 LT
EL. 108.00

8'x9' RCBC

BEG. LAT. BASE DITCH
-L- STA. 241+10 LT
EL. 108.39

228+00 229+00 230+00 231+00 232+00 233+00 234+00 235+00 236+00 237+00 238+00 239+00 240+00 241+00 242+00

170 160 150 140 130 120 110 100 90 80

PI = 249+21.91
EL = 133.42'
VC = 650'
K = 277

PROPOSED GRADE
EXISTING GROUND

(+) 11.7500%
(-) 10.6000%
(+) 11.7500%
(+) 4.02% LT
(+) 4.02% LT
(+) 0.33% RT

-Y6- STA. 17+85.33=
-L- STA. 247+13.23

END LAT. BASE DITCH
BEG. SP. CUT DITCH
-L- STA. 243+50 LT
EL. 118.04

END SP. CUT DITCH
-L- STA. 244+50 LT
EL. 122.06

BEG. SP. CUT DITCH
-L- STA. 245+50 RT
EL. 123.51

END SP. CUT DITCH
-L- STA. 246+50 RT
EL. 123.84

LEFT SIDE DITCH PROFILE
RIGHT SIDE DITCH PROFILE

FOR -L- PLAN SEE SHTS. 20 THRU 22

242+00 243+00 244+00 245+00 246+00 247+00 248+00 249+00 250+00 251+00 252+00 253+00 254+00 255+00 256+00

170 160 150 140 130 120 110 100 90 80

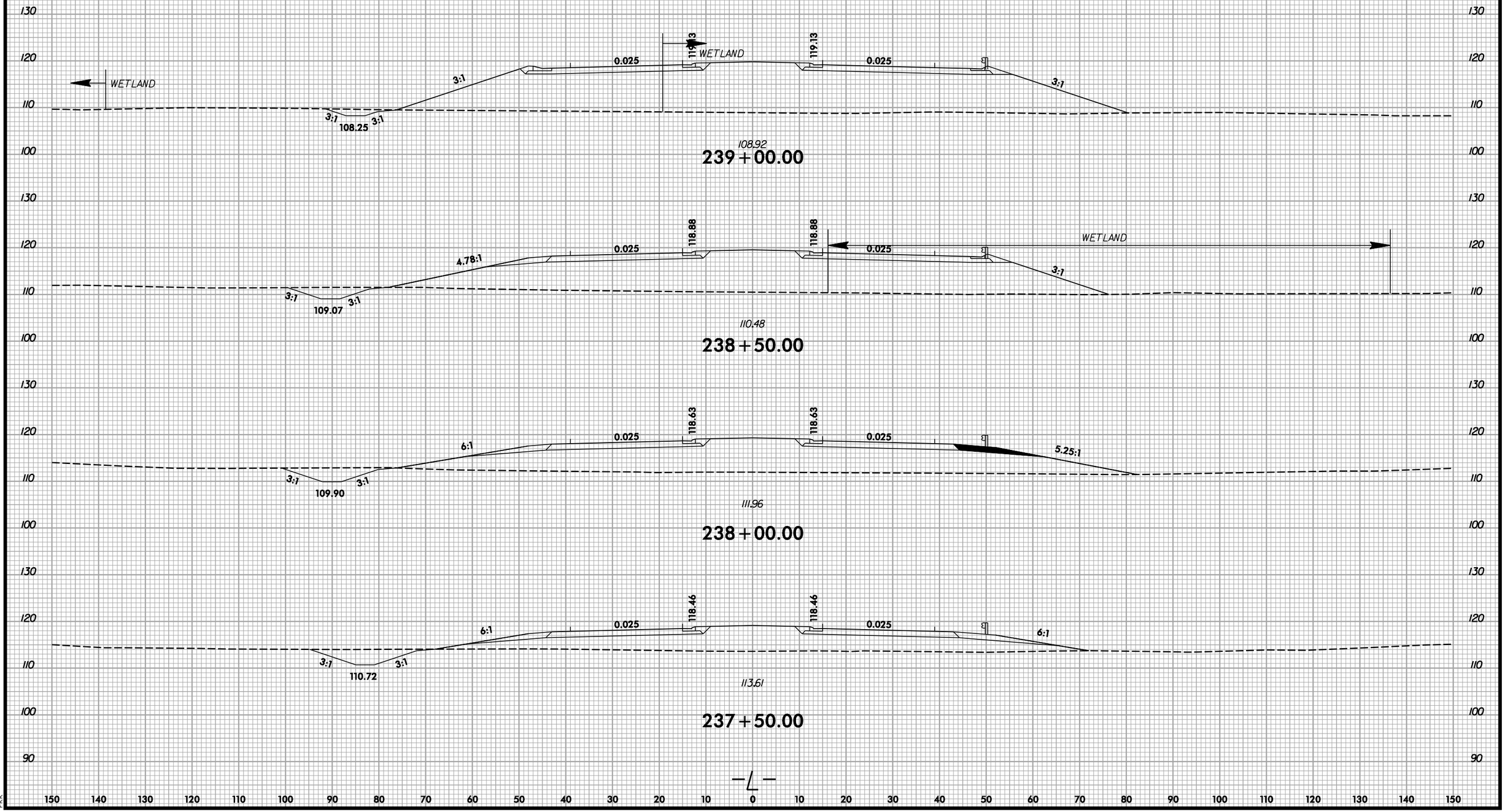
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	R-2823	X-115

SITE 17

BUFFER DRAWING
SHEET 52 OF 56



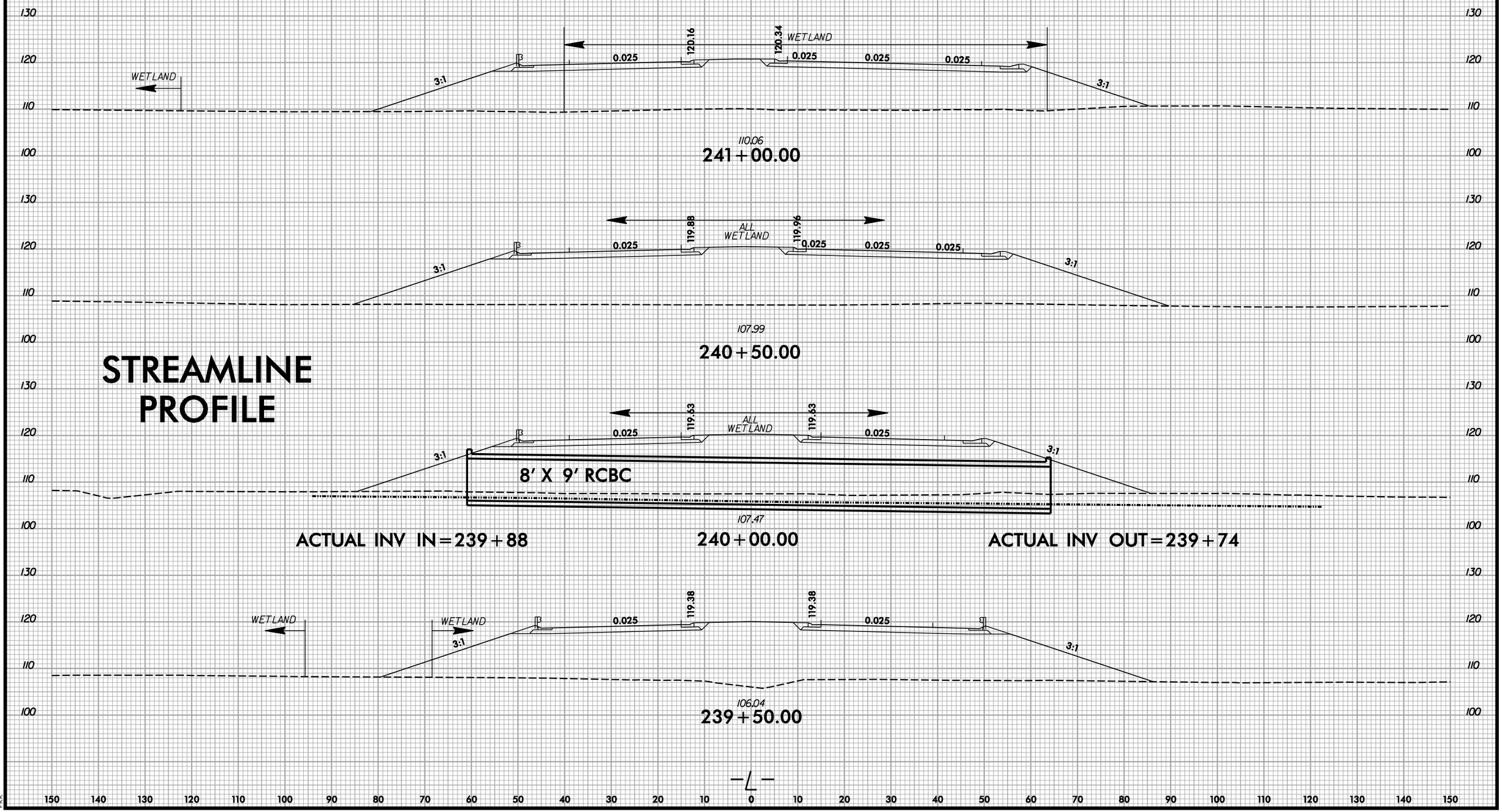
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	R-2823	X-116

SITE 17
BUFFER DRAWING
SHEET 53 OF 56

STREAMLINE PROFILE



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PROJECT REFERENCE NO.	SHEET NO.
R-2823	30
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 54 OF 56

ALLOWABLE IMPACTS ZONE 1
ALLOWABLE IMPACTS ZONE 2

ENGLISH

MATCHLINE -Y8- STA. 20+00 SEE SHEET 23

THOMAS PEARSALL JR et al TRUST

SITE 19

33 TONS CL I RIPRAP W/62 SY FIL FAB
RIPRAP ON BANKS ONLY

BDO INV IN =116.06 OUT=112.90
BDO 24" BCCS 2 ELBOWS W/ ROD AND LUG
INV= 111.98 HW

SPECIAL CUT BASE DITCH SEE DETAIL I

3 TONS CL B RIPRAP W/10 SY FIL FAB INV=116.65

REMOVE 44' 48" RCP AND PLUG OTCB

33 TONS CL I RIPRAP W/62 SY FIL FAB INV=111.90

SPECIAL CUT DITCH SEE DETAIL B

2 TONS CL B RIPRAP W/7 SY FIL FAB INV=119.76

REMOVE JB, 20' 54" RCP, 10' 48" RCP, BOTH 18" RCPS

PLUG

GRADE TO DRAIN

REMOVE DI AND PIPE

SPECIAL CUT BASE DITCH SEE DETAIL I

SPECIAL CUT BASE DITCH SEE DETAIL I

INV=112.90

26 TONS CL I RIPRAP W/50 SY FIL FAB

REMOVE

BILLBOARD

MACK B. & THOMAS J. PEARSALL

ABANDON MOTEL

WOODS

US 301 NBL 25' BST

US 301 SBL 25' BST

GRASS SWALE DATA -Y8- 15+00 – 22+26 LT	GRASS SWALE DATA -Y8- 19+04 – 21+08 RT	GRASS SWALE DATA -Y8- 22+00 – 24+50 RT	GRASS SWALE DATA -Y8- 23+00 – 25+38 LT	GRASS SWALE DATA -Y8- 25+30 – 26+50 Cl
DA= 4.92ac	DA= 1.94ac	DA= 1.76ac	DA= 1.45ac	DA= 0.84ac
SLOPE= 0.80%	SLOPE= 3.01%	SLOPE= 2.26%	SLOPE= 0.32%	SLOPE= 2.24%
L REQ.= 440'	L REQ.= 72'	L REQ.= 176'	L REQ.= 61'	L REQ.= 84'
L PRO.= 446'	L PRO.= 108'	L PRO.= 250'	L PRO.= 238'	L PRO.= 112'
Q2= 10.15cfs	Q2= 2.56cfs	Q2= 2.72cfs	Q2= 3.92cfs	Q2= 2.48cfs
V2= 1.84ft/s	V2= 1.69ft/s	V2= 1.61ft/s	V2= 1.77ft/s	V2= 1.87ft/s
D2= 0.56'	D2= 0.20'	D2= 0.22'	D2= 1.04'	D2= 0.47'
Q10= 13.68cfs	Q10= NA	Q10= NA	Q10= NA	Q10= NA
V10= 2.01ft/s	V10= NA	V10= NA	V10= NA	V10= NA
D10= 0.65'	D10= NA	D10= NA	D10= NA	D10= NA

CURB & GUTTER LOCATIONS
NOTE: 2'-6" MOUNTABLE C&G FOR -Y8- MEDIAN

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)
FROM -Y8- STA. 23+00 TO STA. 25+38 LT

A–A
CONCRETE LINED MEDIAN

B–B
ROADSIDE

C–C

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)
FROM -L- STA. 20+00 TO STA. 22+46 LT
FROM -L- STA. 20+00 TO STA. 24+50 RT

DETAIL R
CUT DITCH
(Not to Scale)
Filter Fabric
Type of Liner= Class B Rip-Rap
FROM -Y8- STA. 22+46 TO STA. 23+00 LT

EXISTING PAVEMENT REMOVAL

FOR -Y8- PROFILE SEE SHT.44

PLANS PREPARED BY :
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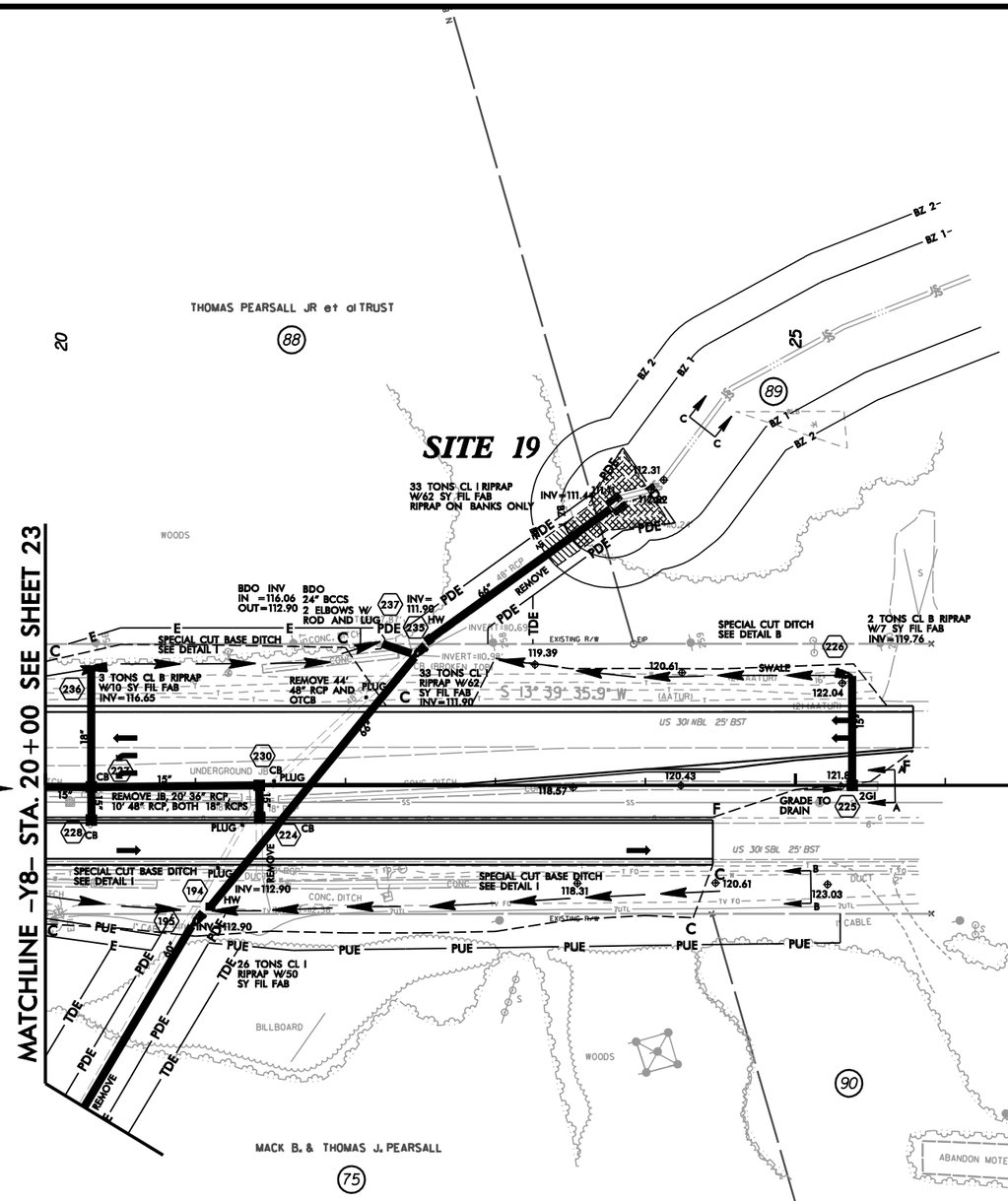
ALLOWABLE IMPACTS ZONE 1
ALLOWABLE IMPACTS ZONE 2

ENGLISH

PROJECT REFERENCE NO.	SHEET NO.
R-2823	30
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

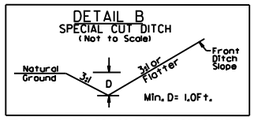
BUFFER DRAWING
SHEET 55 OF 56



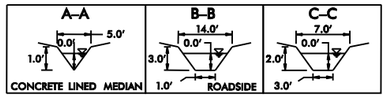
GRASS SWALE DATA -Y8- 15+00 – 22+26 LT	GRASS SWALE DATA -Y8- 19+04 – 21+08 RT	GRASS SWALE DATA -Y8- 22+00 – 24+50 RT	GRASS SWALE DATA -Y8- 23+00 – 25+38 LT	GRASS SWALE DATA -Y8- 25+30 – 26+50 CL
DA= 4.92ac	DA= 1.94ac	DA= 1.76ac	DA= 1.45ac	DA= 0.84ac
SLOPE= 0.80%	SLOPE= 3.01%	SLOPE= 2.26%	SLOPE= 0.32%	SLOPE= 2.24%
L REQ.= 440'	L REQ.= 72'	L REQ.= 176'	L REQ.= 61'	L REQ.= 84'
L PRO.= 446'	L PRO.= 108'	L PRO.= 250'	L PRO.= 238'	L PRO.= 112'
Q2= 10.15cfs	Q2= 2.56cfs	Q2= 2.72cfs	Q2= 3.92cfs	Q2= 2.48cfs
V2= 1.84ft/s	V2= 1.69ft/s	V2= 1.61ft/s	V2= 1.77ft/s	V2= 1.87ft/s
D2= 0.56'	D2= 0.20'	D2= 0.22'	D2= 1.04'	D2= 0.47'
Q10= 13.68cfs	Q10= NA	Q10= NA	Q10= NA	Q10= NA
V10= 2.01ft/s	V10= NA	V10= NA	V10= NA	V10= NA
D10= 0.65'	D10= NA	D10= NA	D10= NA	D10= NA

CURB & GUTTER LOCATIONS
NOTE: 2'-6" MOUNTABLE C&G FOR -Y8- MEDIAN

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



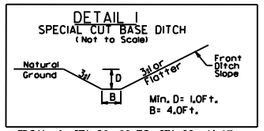
FROM -Y8- STA. 23+00 TO STA. 25+38 LT



EXISTING PAVEMENT REMOVAL

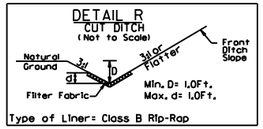
FOR -Y8- PROFILE SEE SHT.44

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)



FROM -L- STA. 20+00 TO STA. 22+46 LT
FROM -L- STA. 20+00 TO STA. 24+50 RT

DETAIL R
CUT DITCH
(Not to Scale)



Type of Liner= Class B Rip-Rap

FROM -Y8- STA. 22+46 TO STA. 23+00 LT

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

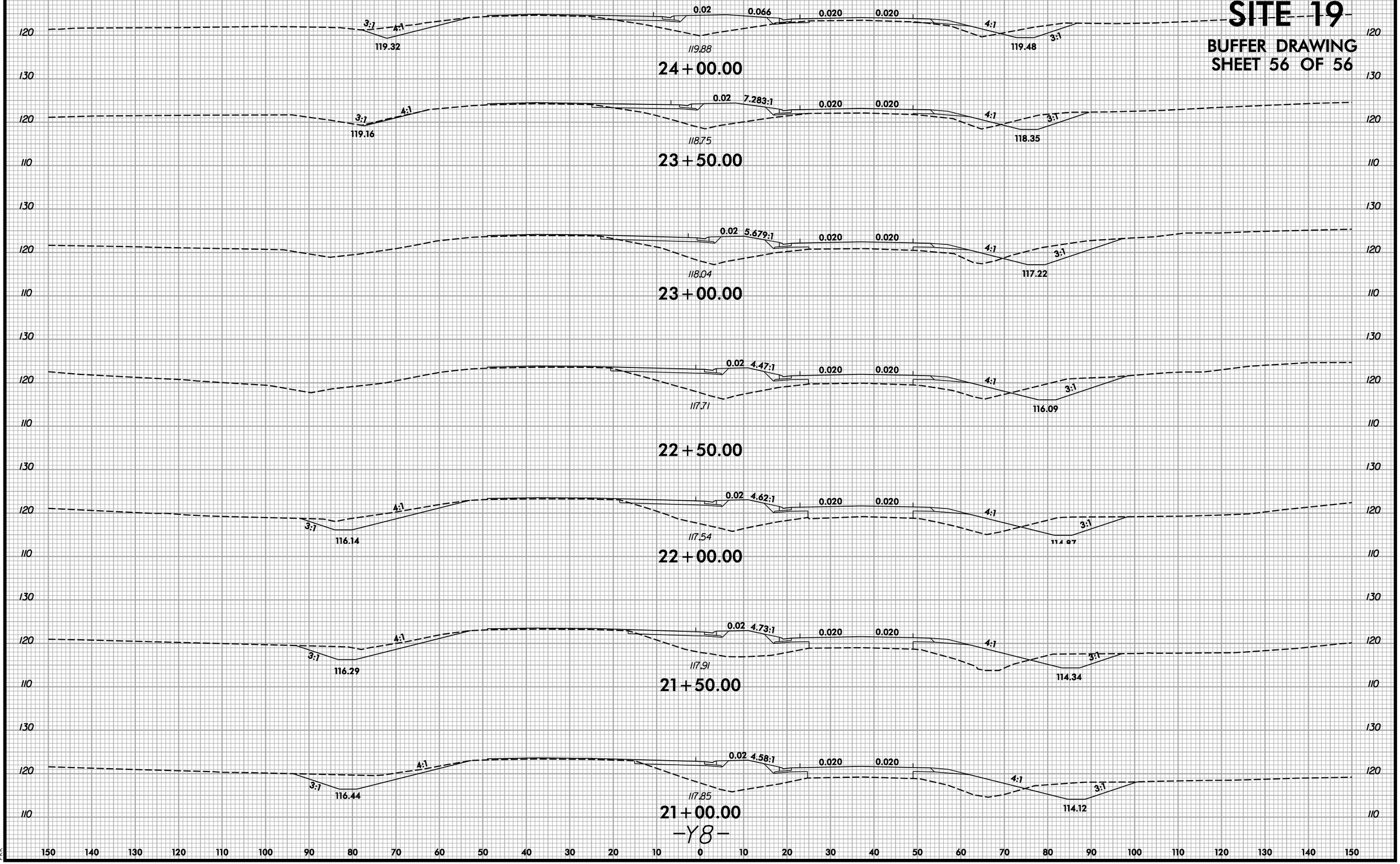
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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2823	X-160

SITE 19

BUFFER DRAWING
SHEET 56 OF 56



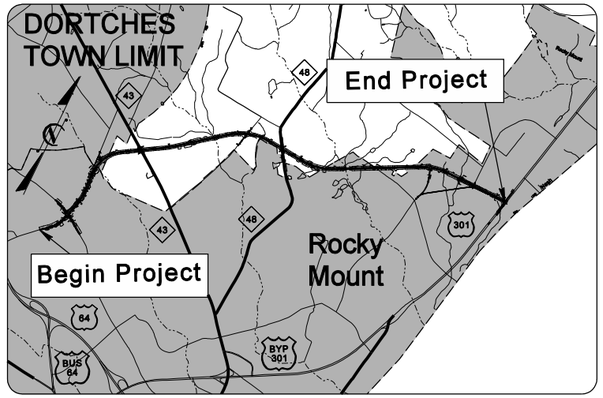
-Y8-

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rkk

T.I.P. PROJECT: R-2823

CONTRACT: C201917

SEE SHEET 1-B FOR CONVENTIONAL PLAN SHEET SYMBOLS



VICINITY MAP

NOTES:
1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
2. THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.
3. A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF ROCKY MOUNT AND DORTCHES.

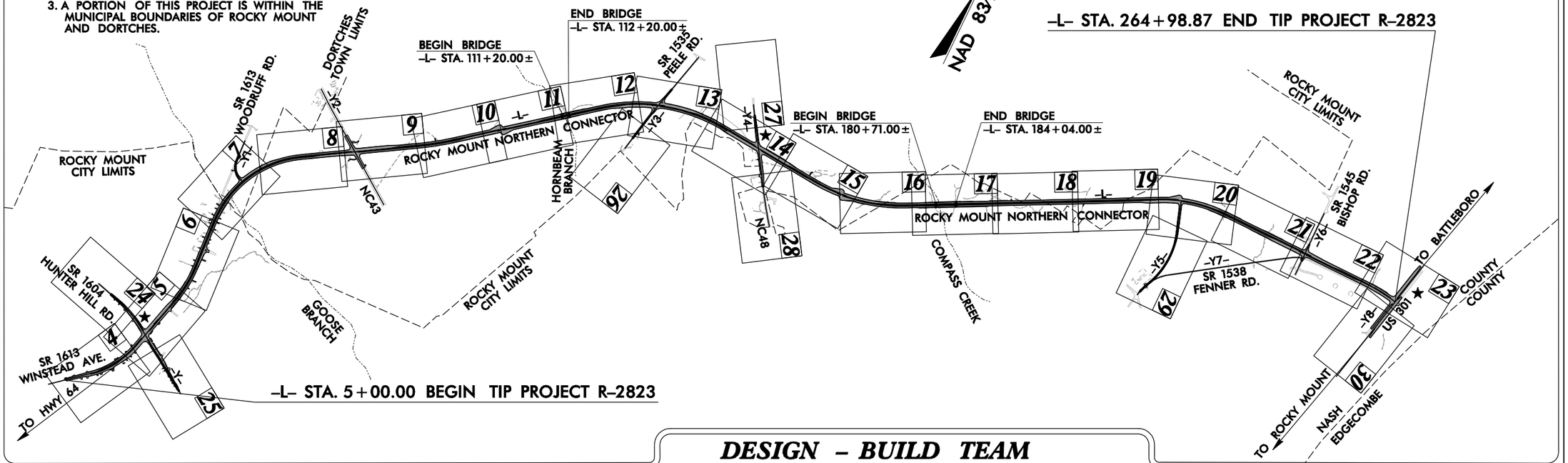
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NASH COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2823	1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
34509.2.GV1	STP-0431(24)	CONST.	

LOCATION: *ROCKY MOUNT NORTHERN CONNECTOR FROM SR 1604 (HUNTER HILL RD.) TO US 301*

TYPE OF WORK: *PAVING, GRADING, DRAINAGE, UTILITIES, STRUCTURES, CULVERTS, SOUND BARRIER WALLS, SIGNING, & SIGNALS*



DESIGN - BUILD TEAM

GRAPHIC SCALES

PLANS: 50 0 50 100

PROFILE (HORIZONTAL): 50 0 50 100

PROFILE (VERTICAL): 10 0 10 20

DESIGN DATA

ADT 2009	=	12,500
ADT 2030	=	24,000
DHV	=	10%
D	=	60%
T	=	7%
V	=	60 mph

*(TTST = 3%,DUAL= 4%)

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2823.....	4.842 mi
LENGTH STRUCTURE TIP PROJECT R-2823.....	0.082 mi
TOTAL LENGTH TIP PROJECT R-2823.....	4.924 mi

PLANS PREPARED BY :
RUMMEL, KLEPPER & KAHL, LLP
consulting engineers
900 RIDGEFIELD DRIVE, SUITE 350
RALEIGH, NORTH CAROLINA 27609
FOR
DIVISION OF HIGHWAYS

2006 STANDARD SPECIFICATIONS

LETTING DATE:
MAY 20, 2008

J. T. Peacock, Jr., P.E.
PROJECT ENGINEER

Brandon J. McInnis, P.E.
PROJECT DESIGN ENGINEER

CONTRACTOR :
PLT CONSTRUCTION CO., INC.
PLT CONSTRUCTION CO., INC.
5676 THOMPSON CHAPEL CHURCH ROAD
WILSON, NORTH CAROLINA 27896

HYDRAULICS ENGINEER
SIGNATURE: *P.E.*
ROADWAY DESIGN ENGINEER
SIGNATURE: *P.E.*

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR *DATE*

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beauchaine

Note: Not to Scale

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

PROJECT REFERENCE NO.	SHEET NO.
R-2823	1B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin (EIP)
- Property Corner
- Property Monument (ECM)
- Parcel/Sequence Number (123)
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary (WLB)
- Proposed Wetland Boundary (WLB)
- Existing High Quality Wetland Boundary (HQ WLB)
- Existing Endangered Animal Boundary (EAB)
- Existing Endangered Plant Boundary (EPB)

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign (S)
- Well (W)
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- River Basin Buffer (RBB)
- Flow Arrow
- Disappearing Stream
- Spring
- Swamp Marsh
- Proposed Lateral, Tail, Head Ditch (FLOW)
- False Sump

RAILROADS:

- Standard Guage (CSX TRANSPORTATION)
- RR Signal Milepost (MILEPOST 35)
- Switch (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 (RW)
- Proposed Right of Way Line with Iron Pin and Cap Marker (RW)
- Proposed Right of Way Line with Concrete or Granite Marker (RW)
- Existing Control of Access (CA)
- Proposed Control of Access (CA)
- Existing Easement Line (E)
- Proposed Temporary Construction Easement (E)
- Proposed Temporary Drainage Easement (TDE)
- Proposed Permanent Drainage Easement (PDE)
- Proposed Permanent Utility Easement (PUE)

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut (C)
- Proposed Slope Stakes Fill (F)
- Proposed Wheel Chair Ramp (WCR)
- Curb Cut for Future Wheel Chair Ramp (CCFR)
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equaility Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert (CONC)
- Bridge Wing Wall, Head Wall and End Wall (CONC WW)

MINOR:

- Head and End Wall (CONC HW)
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB (CB)
- Paved Ditch Gutter
- Storm Sewer Manhole (S)
- Storm Sewer (S)

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole (P)
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole (HH)
- H-Frame Pole
- Recorded U/G Power Line (P)
- Designated U/G Power Line (S.U.E.*) (P)

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box (S)
- Utility Unknown U/G Line (?UTL)
- U/G Tank; Water, Gas, Oil
- A/G Tank; Water, Gas, Oil
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records (AATUR)
- End of Information (E.O.I.)
- Proposed Signal

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PROJ. REFERENCE NO.	SHEET NO.
R-2823	1-C

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CENTERLINE COORDINATE LIST

Point #	Chain	Station	Northing (Y)	Easting (X)
1	L	2+00.00	813755.9305	2342496.9530
2	L	2+50.00	813788.2051	2342535.1413
3	L	3+00.00	813820.4798	2342573.3297
4	L	3+50.00	813852.7544	2342611.5180
5	L	4+00.00	813885.0290	2342649.7063
6	L	4+50.00	813917.3037	2342687.8946
7	L	5+00.00	813949.5783	2342726.0830
8	L	5+50.00	813981.8529	2342764.2713
9	L	6+00.00	814014.1276	2342802.4596
10	L	6+50.00	814046.4022	2342840.6479
11	L	7+00.00	814078.6768	2342878.8363
12	L	7+50.00	814110.9515	2342917.0246
13	L	8+00.00	814143.2261	2342955.2129
14	L	8+50.00	814175.5007	2342993.4012
15	L	9+00.00	814207.7754	2343031.5895
16	L	9+50.00	814240.0500	2343069.7779
17	L	10+00.00	814272.3246	2343107.9662
18	L	10+50.00	814305.2381	2343145.6021
19	L	11+00.00	814339.4041	2343182.1049
20	L	11+50.00	814374.7835	2343217.4327
21	L	12+00.00	814411.3361	2343251.5454
22	L	12+50.00	814449.0200	2343284.4040
23	L	13+00.00	814487.7923	2343315.9709
24	L	13+50.00	814527.6087	2343346.2102
25	L	14+00.00	814568.4237	2343375.0874
26	L	14+50.00	814610.1909	2343402.5695
27	L	15+00.00	814652.8626	2343428.6251
28	L	15+50.00	814696.3899	2343453.2244
29	L	16+00.00	814740.7234	2343476.3396
30	L	16+50.00	814785.8123	2343497.9440
31	L	17+00.00	814831.6052	2343518.0132
32	L	17+50.00	814878.0499	2343536.5241
33	L	18+00.00	814925.0933	2343553.4557
34	L	18+50.00	814972.6818	2343568.7886
35	L	19+00.00	815020.7610	2343582.5054
36	L	19+50.00	815069.0802	2343595.3605
37	L	20+00.00	815117.3996	2343608.2150
38	L	20+50.00	815165.7190	2343621.0694
39	L	21+00.00	815214.0384	2343633.9238
40	L	21+50.00	815262.3578	2343646.7783
41	L	22+00.00	815310.6772	2343659.6327
42	L	22+50.00	815358.9966	2343672.4871
43	L	23+00.00	815407.3160	2343685.3415
44	L	23+50.00	815455.6354	2343698.1960
45	L	24+00.00	815503.9547	2343711.0504
46	L	24+50.00	815552.2741	2343723.9048
47	L	25+00.00	815600.5935	2343736.7592
48	L	25+50.00	815648.9129	2343749.6137
49	L	26+00.00	815697.2323	2343762.4681
50	L	26+50.00	815745.5517	2343775.3225
51	L	27+00.00	815793.8711	2343788.1770
52	L	27+50.00	815842.1905	2343801.0314
53	L	28+00.00	815890.5099	2343813.8858
54	L	28+50.00	815938.8293	2343826.7402
55	L	29+00.00	815987.1487	2343839.5946
56	L	29+50.00	816035.4833	2343852.3916
57	L	30+00.00	816083.8957	2343864.8904
58	L	30+50.00	816132.4530	2343876.8130
59	L	31+00.00	816181.2122	2343887.8787
60	L	31+50.00	816230.2156	2343897.8047
61	L	32+00.00	816279.4699	2343906.3986
62	L	32+50.00	816328.9417	2343913.6364
63	L	33+00.00	816378.5936	2343919.5124
64	L	33+50.00	816428.3882	2343924.0224
65	L	34+00.00	816478.2879	2343927.1628
66	L	34+50.00	816528.2551	2343928.9314
67	L	35+00.00	816578.2520	2343929.3315
68	L	35+50.00	816628.2440	2343928.4979
69	L	36+00.00	816678.2115	2343926.7096
70	L	36+50.00	816728.1509	2343924.2531
71	L	37+00.00	816778.0702	2343921.4145
72	L	37+50.00	816827.9831	2343918.4658
73	L	38+00.00	816877.8960	2343915.5152
74	L	38+50.00	816927.8089	2343912.5646
75	L	39+00.00	816977.7217	2343909.6140
76	L	39+50.00	817027.6346	2343906.6634
77	L	40+00.00	817077.5475	2343903.7129
78	L	40+50.00	817127.4603	2343900.7623
79	L	41+00.00	817177.3732	2343897.8117
80	L	41+50.00	817227.2861	2343894.8611
81	L	42+00.00	817277.1989	2343891.9105
82	L	42+50.00	817327.1118	2343888.9599

Point #	Chain	Station	Northing (Y)	Easting (X)
83	L	43+00.00	817377.0246	2343886.0094
84	L	43+50.00	817426.9375	2343883.0588
85	L	44+00.00	817476.8504	2343880.1090
86	L	44+50.00	817526.7687	2343877.2519
87	L	45+00.00	817576.7060	2343874.7537
88	L	45+50.00	817626.6711	2343872.9004
89	L	46+00.00	817676.6617	2343871.9784
90	L	46+50.00	817726.6593	2343872.2697
91	L	47+00.00	817776.6303	2343873.9267
92	L	47+50.00	817826.5369	2343876.9556
93	L	48+00.00	817876.3415	2343881.3543
94	L	48+50.00	817926.0064	2343887.1194
95	L	49+00.00	817975.4942	2343894.2466
96	L	49+50.00	818024.7676	2343902.7305
97	L	50+00.00	818073.7894	2343912.5647
98	L	50+50.00	818122.5225	2343923.7418
99	L	51+00.00	818170.9302	2343936.2533
100	L	51+50.00	818218.9759	2343950.0898
101	L	52+00.00	818266.6235	2343965.2408
102	L	52+50.00	818313.8369	2343981.6949
103	L	53+00.00	818360.5804	2343999.4398
104	L	53+50.00	818406.8190	2344018.4620
105	L	54+00.00	818452.5175	2344038.7471
106	L	54+50.00	818497.6416	2344060.2798
107	L	55+00.00	818542.1572	2344083.0440
108	L	55+50.00	818586.0306	2344107.0223
109	L	56+00.00	818629.2289	2344132.1968
110	L	56+50.00	818671.7193	2344158.5484
111	L	57+00.00	818713.4699	2344186.0572
112	L	57+50.00	818754.4490	2344214.7025
113	L	58+00.00	818794.6258	2344244.4626
114	L	58+50.00	818833.9700	2344275.3151
115	L	59+00.00	818872.4519	2344307.2368
116	L	59+50.00	818910.0423	2344340.2034
117	L	60+00.00	818946.7130	2344374.1902
118	L	60+50.00	818982.4363	2344409.1715
119	L	61+00.00	819017.1852	2344445.1208
120	L	61+50.00	819050.9335	2344482.0111
121	L	62+00.00	819083.6558	2344519.8145
122	L	62+50.00	819115.3272	2344558.5025
123	L	63+00.00	819145.9240	2344598.0459
124	L	63+50.00	819175.4230	2344638.4149
125	L	64+00.00	819203.8206	2344679.5663
126	L	64+50.00	819231.2643	2344721.3605
127	L	65+00.00	819257.9812	2344763.6235
128	L	65+50.00	819284.2075	2344806.1931
129	L	66+00.00	819310.1845	2344848.9153
130	L	66+50.00	819336.1180	2344891.6641
131	L	67+00.00	819362.0515	2344934.4128
132	L	67+50.00	819387.9851	2344977.1615
133	L	68+00.00	819413.9186	2345019.9102
134	L	68+50.00	819439.8521	2345062.6589
135	L	69+00.00	819465.7856	2345105.4077
136	L	69+50.00	819491.7191	2345148.1564
137	L	70+00.00	819517.6526	2345190.9051
138	L	70+50.00	819543.5861	2345233.6538
139	L	71+00.00	819569.5196	2345276.4025
140	L	71+50.00	819595.4531	2345319.1513
141	L	72+00.00	819621.3866	2345361.9000
142	L	72+50.00	819647.3202	2345404.6487
143	L	73+00.00	819673.2537	2345447.3974
144	L	73+50.00	819699.1872	2345490.1461
145	L	74+00.00	819725.1207	2345532.8949
146	L	74+50.00	819751.0542	2345575.6436
147	L	75+00.00	819776.9877	2345618.3923
148	L	75+50.00	819802.9212	2345661.1410
149	L	76+00.00	819828.8547	2345703.8897
150	L	76+50.00	819854.7882	2345746.6385
151	L	77+00.00	819880.7217	2345789.3872
152	L	77+50.00	819906.6553	2345832.1359
153	L	78+00.00	819932.5888	2345874.8846
154	L	78+50.00	819958.5223	2345917.6333
155	L	79+00.00	819984.4558	2345960.3821
156	L	79+50.00	820010.3893	2346003.1308
157	L	80+00.00	820036.3228	2346045.8795
158	L	80+50.00	820062.2563	2346088.6282
159	L	81+00.00	820088.1898	2346131.3769
160	L	81+50.00	820114.1233	2346174.1257
161	L	82+00.00	820140.0568	2346216.8744
162	L	82+50.00	820165.9904	2346259.6231
163	L	83+00.00	820191.9239	2346302.3718
164	L	83+50.00	820217.8574	2346345.1205

Point #	Chain	Station	Northing (Y)	Easting (X)
165	L	84+00.00	820243.7909	2346387.8693
166	L	84+50.00	820269.7244	2346430.6180
167	L	85+00.00	820295.6600	2346473.3654
168	L	85+50.00	820321.6707	2346516.0672
169	L	86+00.00	820347.9148	2346558.6258
170	L	86+50.00	820374.5253	2346600.9562
171	L	87+00.00	820401.5251	2346643.0394
172	L	87+50.00	820428.9120	2346684.8716
173	L	88+00.00	820456.6837	2346726.4495
174	L	88+50.00	820484.8377	2346767.7694
175	L	89+00.00	820513.3717	2346808.8278
176	L	89+50.00	820542.2833	2346849.6212
177	L	90+00.00	820571.5699	2346890.1462
178	L	90+50.00	820601.2291	2346930.3993
179	L	91+00.00	820631.2584	2346970.3771
180	L	91+50.00	820661.6529	2347010.0780
181	L	92+00.00	820692.3392	2347049.5539
182	L	92+50.00	820723.1687	2347088.9181
183	L	93+00.00	820754.0194	2347128.2657
184	L	93+50.00	820784.8701	2347167.6133
185	L	94+00.00	820815.7209	2347206.9608
186	L	94+50.00	820846.5716	2347246.3084
187	L	95+00.00	820877.4224	2347285.6560
188	L	95+50.00	820908.2731	2347325.0036
189	L	96+00.00	820939.1239	2347364.3511
190	L	96+50.00	820969.9746	2347403.6987
191	L	97+00.00	821000.8254	2347443.0463
192	L	97+50.00	821031.6761	2347482.3939
193	L	98+00.00	821062.5268	2347521.7414
194	L	98+50.00	821093.3776	2347561.0890
195	L	99+00.00	821124.2283	2347600.4366
196	L	99+50.00	821155.0791	2347639.7842
197	L	100+00.00	821185.9298	2347679.1317
198	L	100+50.00	821216.7806	2347718.4793
199	L	101+00.00	821247.6313	2347757.8269
200	L	101+50.00	821278.4821	2347797.1744
201	L	102+00.00	821309.3328	2347836.5220
202	L	102+50.00	821340.1836	2347875.8696
203	L	103+00.00	821371.0343	2347915.2172
204	L	103+50.00	821401.8850	2347954.5647
205	L	104+00.00	821432.7358	2347993.9123
206	L	104+50.00	821463.5865	2348033.2599
207	L	105+00.00	821494.4373	2348072.6075
208	L	105+50.00	821525.2880	2348111.9550
209	L	106+00.00	821556.1388	2348151.3026
210	L	106+50.00	821586.9895	2348190.6502
211	L	107+00.00	821617.8403	2348229.9978
212	L	107+50.00	821648.6910	2348269.3453
213	L	108+00.00	821679.5417	2348308.6929
214	L	108+50.00	821710.3925	2348348.0405
215	L	109+00.00	821741.2432	2348387.3881
216	L	109+50.00	821772.0940	2348426.7356
217	L	110+00.00	821802.9447	2348466.0832
218	L	110+50.00	821833.7955	2348505.4308
219	L	111+00.00	821864.6462	2348544.7783
220	L	111+50.00	821895.4970	2348584.1259
221	L	112+00.00	821926.3477	2348623.4735
222	L	112+50.00	821957.1984	2348662.8211
223	L	113+00.00	821988.0492	2348702.1686
224	L	113+50.00	822018.8999	2348741.5162
225	L	114+00.00	822049.7507	2348780.8638
226	L	114+50.00	822080.6014	2348820.2114
227	L	115+00.00	822111.4522	2348859.5589
228	L	115+50.00	822142.3029	2348898.9065
229	L	116+00.00	822173.1537	2348938.2541
230	L	116+50.00	822204.0044	2348977.6017
231	L	117+00.00	822234.8551	2349016.9492
232	L	117+50.00	822265.6820	2349056.3155
233	L	118+00.00	822296.3501	2349095.8055
234	L	118+50.00	822326.6916	2349135.5468
235	L	119+00.00	822356.5351	2349175.6631
236	L	119+50.00	822385.7296	2349216.2541
237	L	120+00.00	822414.2342	2349257.3324
238	L	120+50.00	822442.0409	2349298.8863
239	L	121+00.00	822469.1417	2349340.9040
240	L	121+50.00	822495.5290	2349383.3734
241	L	122+00.00	822521.1951	2349426.2825
242	L	122+50.00	822546.1328	2349469.6190
243	L	123+00.00	822570.3350	2349513.3705
244	L	123+50.00	822593.7946	2349557.5246
245	L	124+00.00	822616.5052	2349602.0687
246	L	124+50.00	822638.4600	2349646.9900

Point #	Chain	Station	Northing (Y)	Easting (X)
247	L	125+00.00	822659.6530	2349692.2757
248	L	125+50.00	822680.0780	2349737.9130
249	L	126+00.00	822699.7293	2349783.8887
250	L	126+50.00	822718.6012	2349830.1898
251	L	127+00.00	822736.6882	2349876.8031
252	L	127+50.00	822753.9854	2349923.7153
253	L	128+00.00	822770.4877	2349970.9129
254	L	128+50.00	822786.1904	2350018.3825
255	L	129+00.00	822801.0891	2350066.1106
256	L	129+50.00	822815.1795	2350114.0835
257	L	130+00.00	822828.4575	2350162.2876
258	L	130+50.00	822840.9195	2350210.7091
259	L	131+00.00	822852.5617	2350259.3342
260	L	131+50.00	822863.3810	2350308.1490
261	L	132+00.00	822873.3742	2350357.1395
262	L	132+50.00	822882.5385	2350406.2919
263	L	133+00.00	822890.8712	2350455.5921
264	L	133+50.00	822898.3700	2350505.0260
265	L	134+00.00	822905.0327	2350554.5795
266	L	134+50.00	822910.8575	2350604.2384
267	L	135+00.00	822915.8426	2350653.9887
268	L	135+50.00	822919.9867	2350703.8161
269	L	136+00.00	822923.2886	2350753.7063
270	L	136+50.00	822925.7473	2350803.6452
271	L	137+00.00	822927.3621	2350853.6186
272	L	137+50.00	822928.1326	2350903.6120
273	L	138+00.00	822928.0585	2350953.6114
274	L	138+50.00	822927.1399	2351003.6023
275	L	139+00.00	822925.3771	2351053.5707
276	L	139+50.00	822922.7770	2351103.5025
277	L	140+00.00	822919.4573	2351153.3918
278	L	140+50.00	822915.6262	2351203.2447
279	L	141+00.00	822911.4947	2351253.0737
280	L	141+50.00	822907.2666	2351302.8946
281	L			

Point #	Chain	Station	Northing (Y)	Easting (X)

8/17/99

REVISIONS

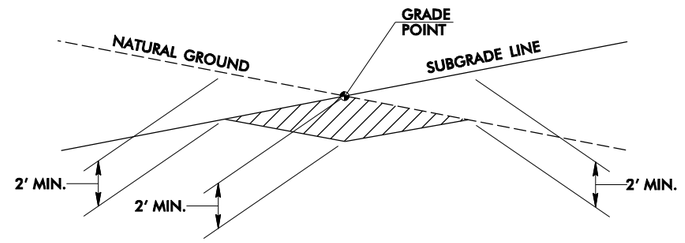
PROJECT REFERENCE NO.	SHEET NO.
R-2823	2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PAVEMENT SCHEDULE

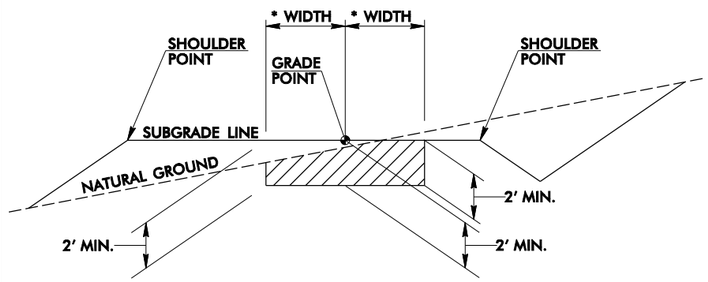
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	E6	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	E7	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.
C3	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.	J1	PROP. 8" AGGREGATE BASE COURSE.
C4	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	J2	PROP. 10" AGGREGATE BASE COURSE.
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	P1	PRIME COAT AT THE RATE OF .35 GAL. PER SQ. YD.
D2	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R1	2'-6" CONCRETE CURB AND GUTTER.
D3	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.	R2	2'-6" MOUNTABLE CONCRETE CURB AND GUTTER.
D4	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R3	1'-6" MOUNTABLE CONCRETE CURB AND GUTTER.
D5	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, 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.	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. 4½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.	W1	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL No. 1)
E3	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.	W2	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL No. 2)
E4	PROP. APPROX. 5½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.		
E5	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.		

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



PROFILE VIEW

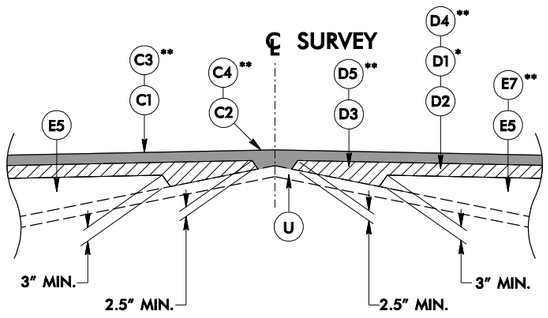
DEPTH AND LOCATION AS NEEDED



CROSS-SECTION VIEW

* WIDTH AS NEEDED

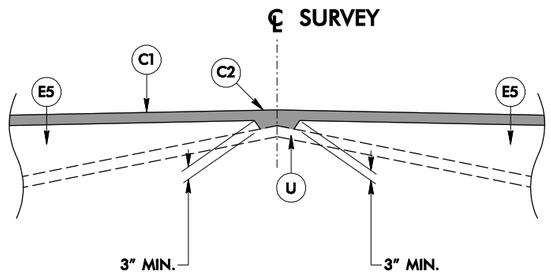
DETAIL OF GRADE POINT UNDERCUT



Detail Showing Method Of Wedging 1

* USE WITH -Y4-

** USE WITH -Y8-

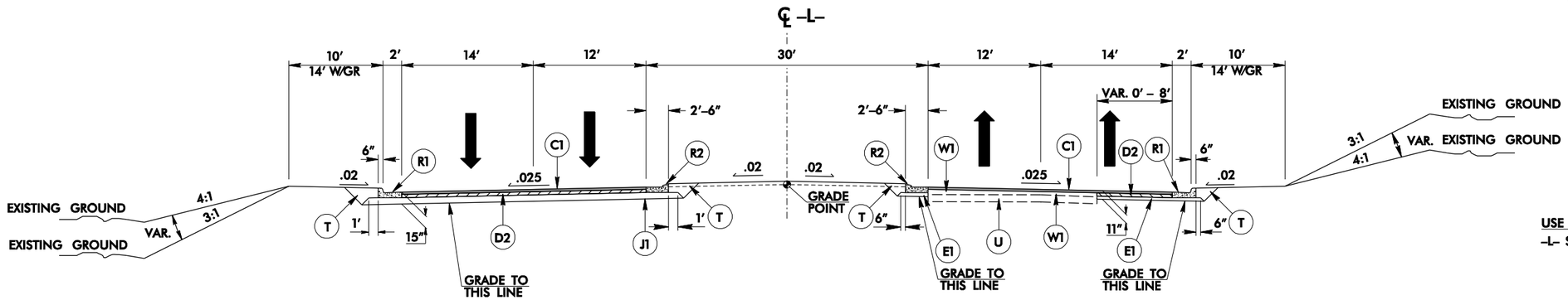


Detail Showing Method Of Wedging 2

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PROJECT REFERENCE NO.	SHEET NO.
R-2823	2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

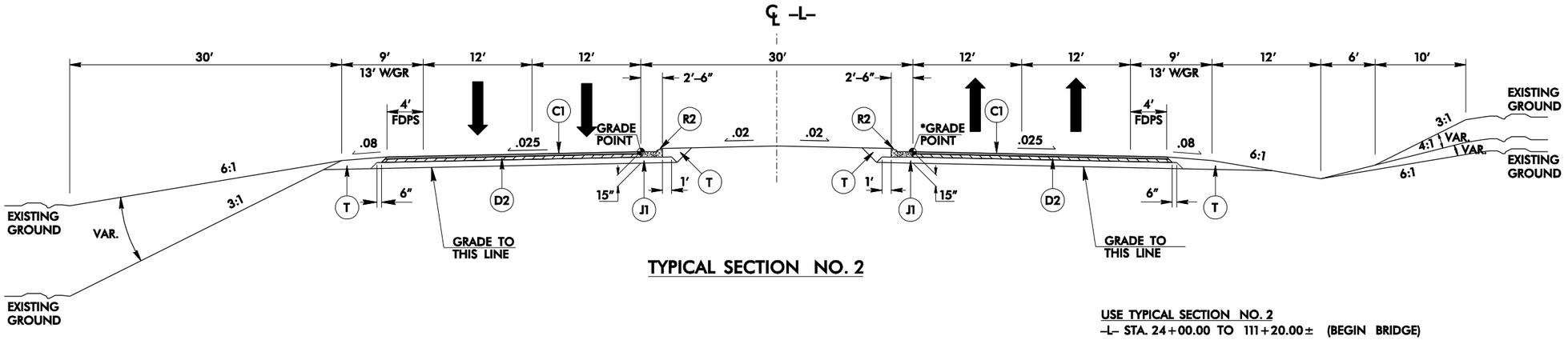


NOTE: SEE PLANS FOR LOCATION OF CONCRETE ISLANDS, AUXILLARY LANES, AND TAPERS.

USE TYPICAL SECTION NO. 1
–L– STA. 15+70.00 TO 24+00.00

TYPICAL SECTION NO. 1

TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 1 FROM –L– STA. 5+20.00 TO 15+70.00



TYPICAL SECTION NO. 2

PAVEMENT SCHEDULE	
C1	3″ S9.5B
D2	4″ I19.0B
E1	4″ B25.0B
J1	8″ ABC
R1	2′-6″ CURB & GUTTER
R2	2′-6″ MOUNTABLE CURB & GUTTER
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W1	WEDGING

USE TYPICAL SECTION NO. 2
–L– STA. 24+00.00 TO 111+20.00± (BEGIN BRIDGE)
–L– STA. 112+20.00± (END BRIDGE) TO 180+73.00± (BEGIN BRIDGE)
–L– STA. 184+04.00± (END BRIDGE) TO 264+49.56
* USE PROFILE –L_WB– FROM –L– STA. 218+75.00 TO 227+25.00

REVISIONS

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8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2823	2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

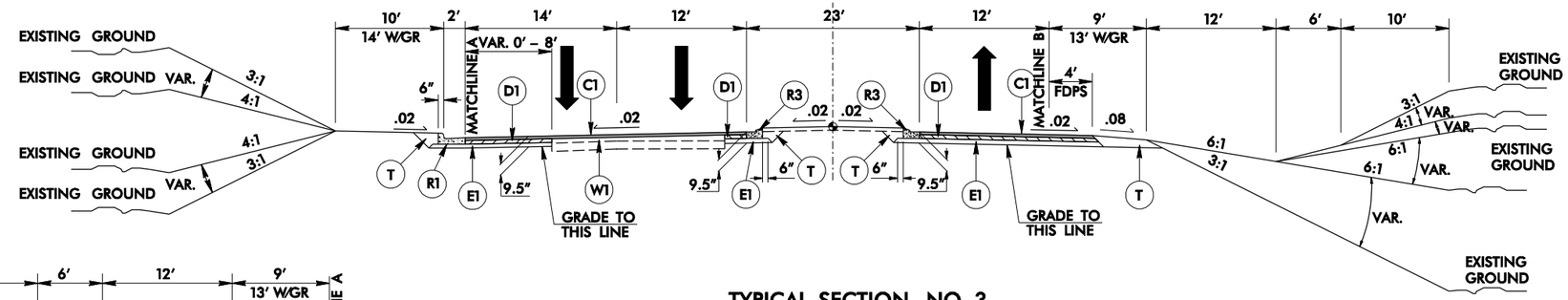
NOTE: SEE PLANS FOR LOCATION OF CONCRETE ISLANDS, AUXILLARY LANES, AND TAPERS.

TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 3 FROM
–Y– STA. 12+85.00 TO 21+45.00

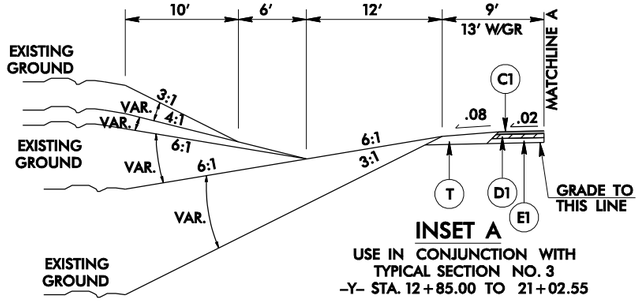
USE TYPICAL SECTION NO. 3
–Y– STA. 21+45.00 TO 28+05.00

TRANSITION FROM TYPICAL SECTION NO. 3 TO EXISTING FROM
–Y– STA. 28+05.00 TO 33+80.00

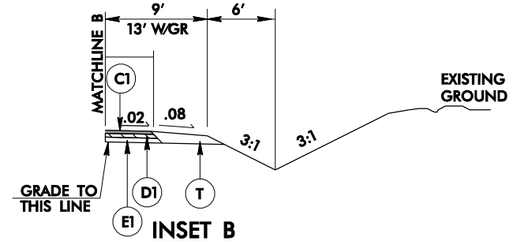
℄ –Y– HUNTER HILL RD.



TYPICAL SECTION NO. 3

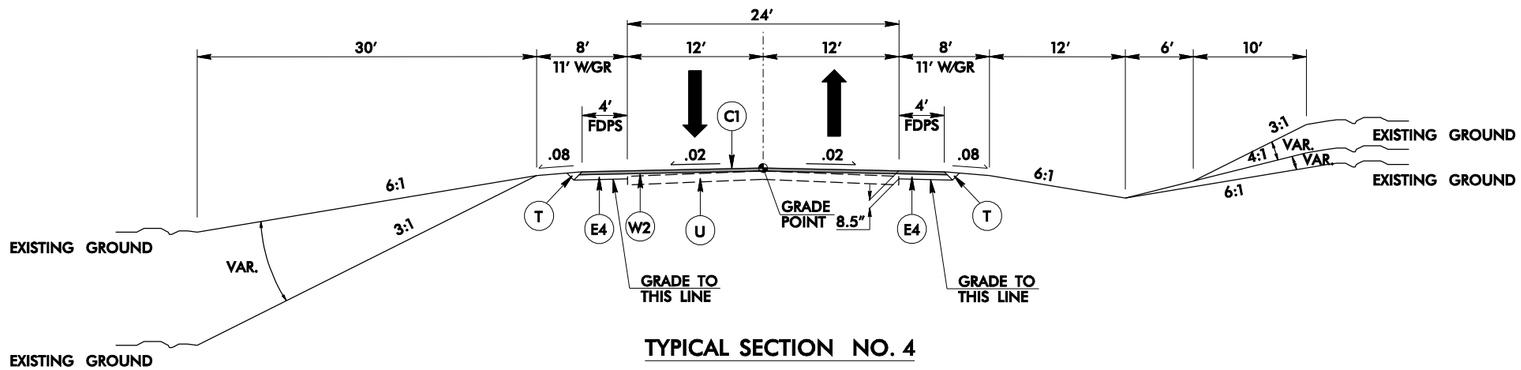


INSET A
USE IN CONJUNCTION WITH TYPICAL SECTION NO. 3
–Y– STA. 12+85.00 TO 21+02.55



INSET B
USE IN CONJUNCTION WITH TYPICAL SECTION NO. 3
–Y– STA. 30+00.00 TO 33+00.00 RT

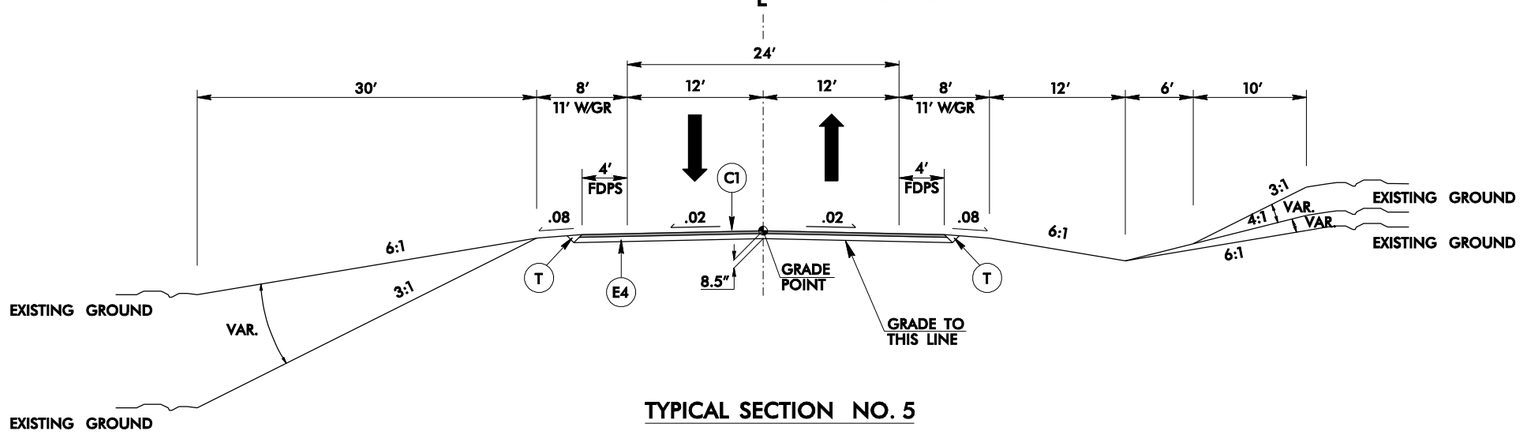
℄ –Y1– WOODRUFF RD.



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4
–Y1– STA. 12+95.00 TO 14+95.00

℄ –Y1– WOODRUFF RD.



TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5
–Y1– STA. 14+95.00 TO 17+81.51

PAVEMENT SCHEDULE	
C1	3″ S9.5B
D1	2.5″ I19.0B
E1	4″ B25.0B
E4	5½″ B25.0B
R1	2′-6″ CURB & GUTTER
R3	1′-6″ MOUNTABLE CURB & GUTTER
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W1	WEDGING
W2	WEDGING

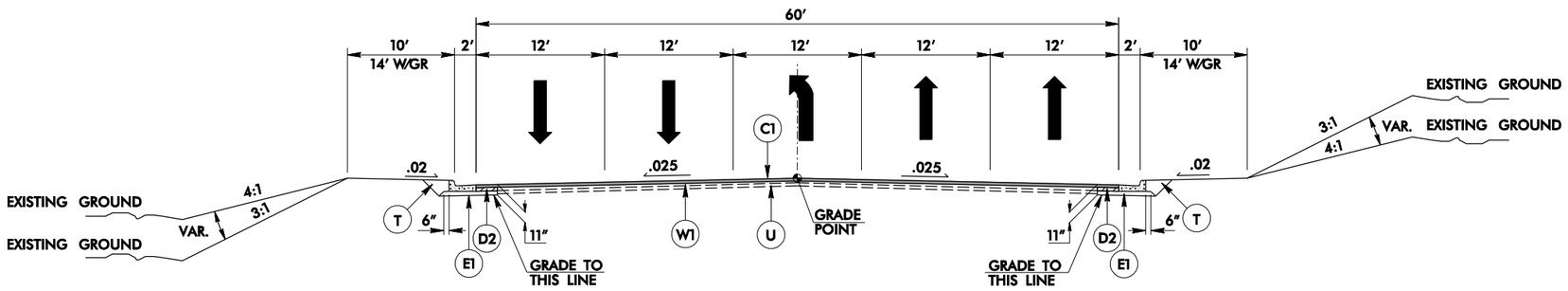
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PROJECT REFERENCE NO.	SHEET NO.
R–2823	2C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NOTE: SEE PLANS FOR LOCATION OF AUXILLARY LANES AND TAPERS.

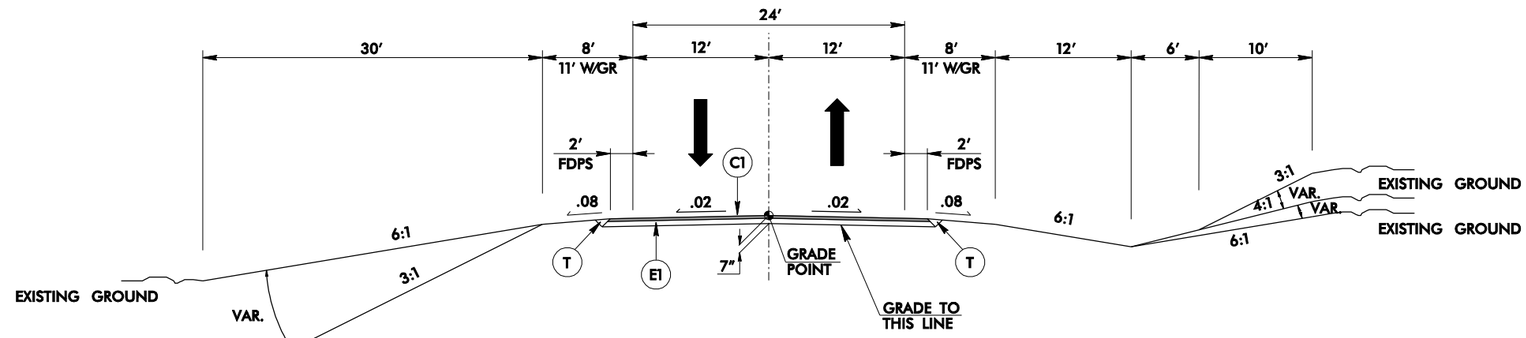
℄ –Y2– NC 43



TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6
–Y2– STA. 21+00.00 TO 24+00.00
MILL 1.5″ AND RESURFACE 1.5″ S9.5B
–Y2– STA. 19+30.00 TO 21+00.00
–Y2– STA. 24+00.00 TO 25+75.00

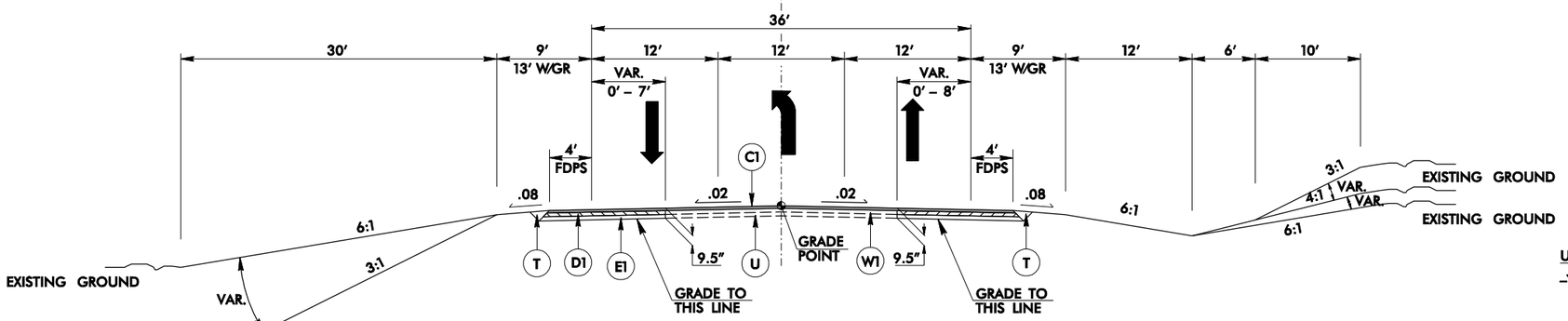
℄ –Y3– PEELE RD.



TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 7
–Y3– STA. 17+33.00 TO 28+40.00

℄ –Y4– NC 48



TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8
–Y4– STA. 11+90.00 TO 22+00.00

PAVEMENT SCHEDULE	
C1	3″ S9.5B
D1	2½″ I19.0B
D2	4″ I19.0B
E1	4″ B25.0B
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W1	WEDGING

REVISIONS

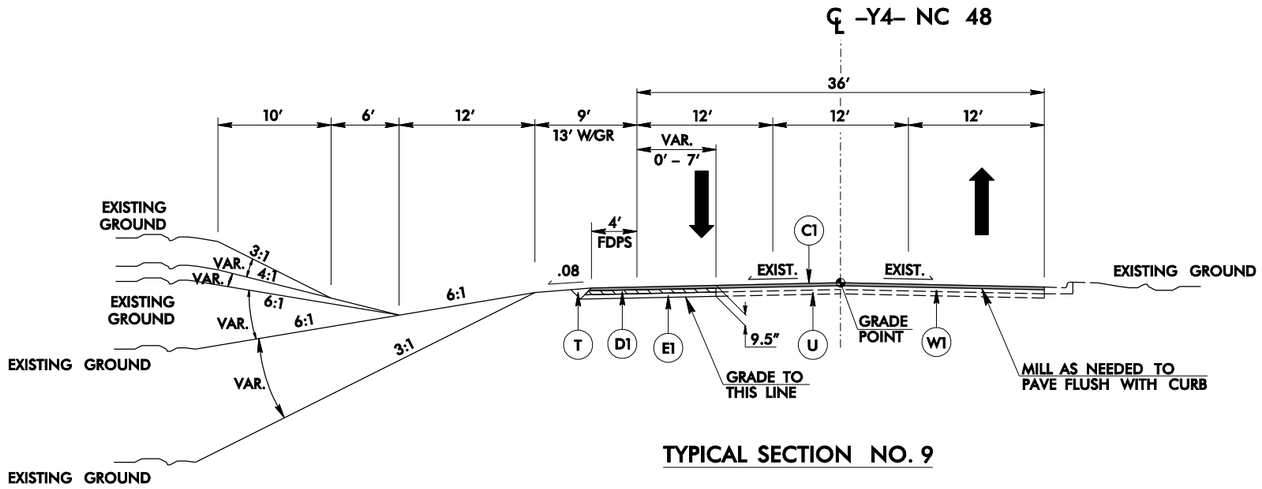
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jbeauchaine

PROJECT REFERENCE NO.	SHEET NO.
R-2823	2D
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

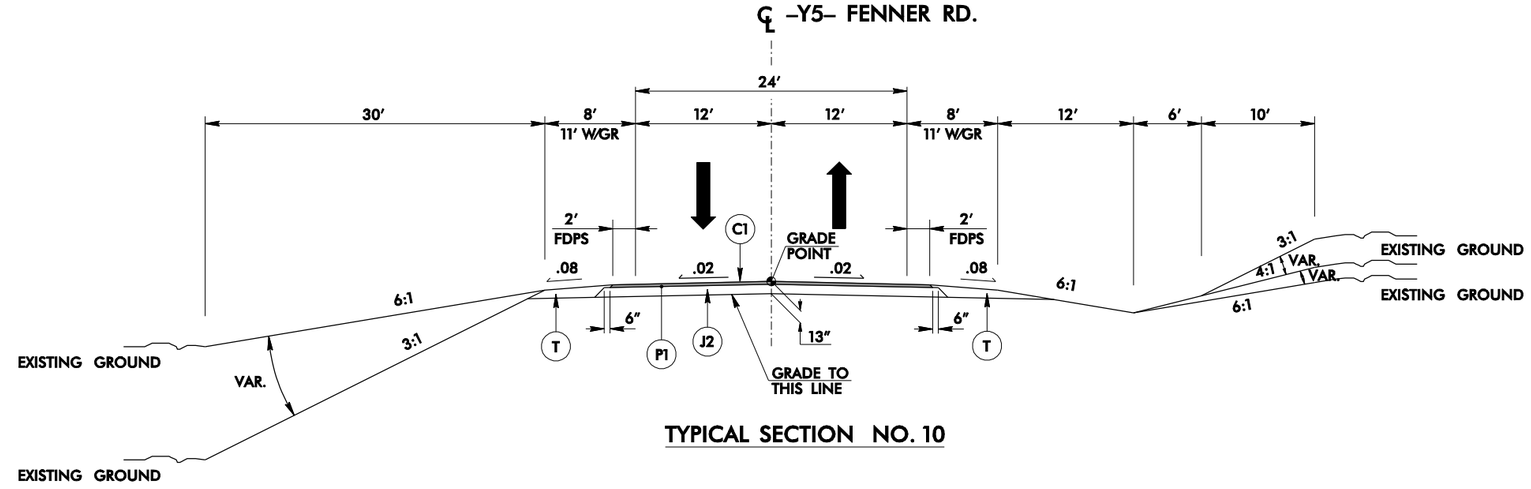
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NOTE: SEE PLANS FOR LOCATION OF AUXILLARY LANES AND TAPERS.



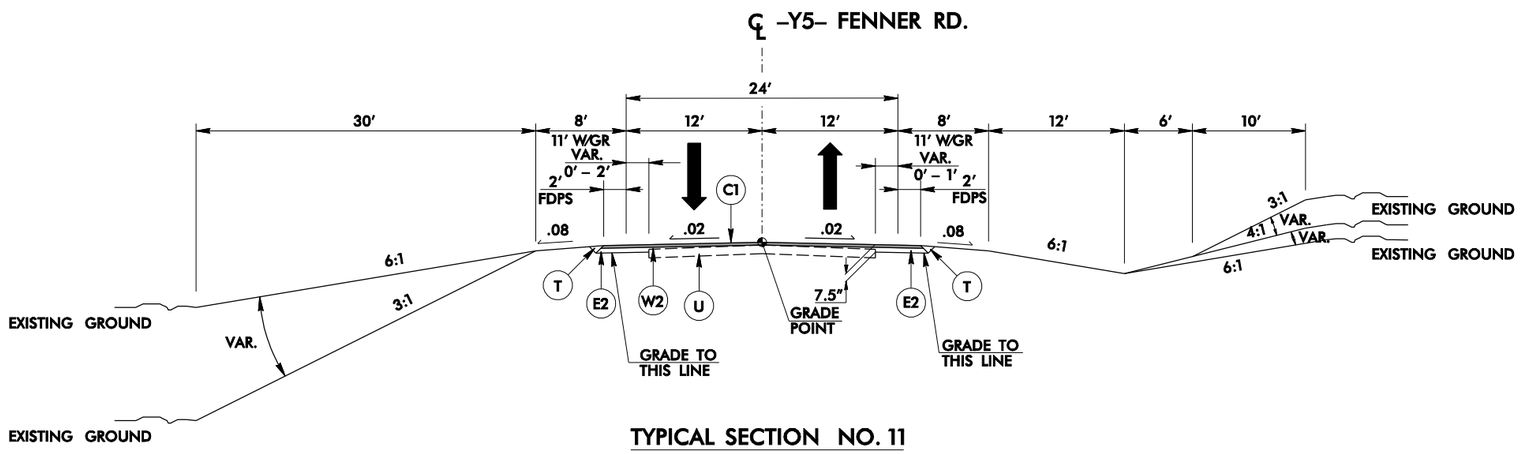
TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9
–Y4– STA. 22+00.00 TO 24+50.00



TYPICAL SECTION NO. 10

USE TYPICAL SECTION NO. 10
–Y5– STA. 10+39.00 TO 24+65.00



TYPICAL SECTION NO. 11

USE TYPICAL SECTION NO. 11
–Y5– STA. 24+65.00 TO 28+15.00

PAVEMENT SCHEDULE	
C1	3″ S9.5B
D1	2½″ I19.0B
E1	4″ B25.0B
E2	4½″ B25.0B
J2	10″ ABC
P1	PRIME COAT
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W1	WEDGING
W2	WEDGING

REVISIONS

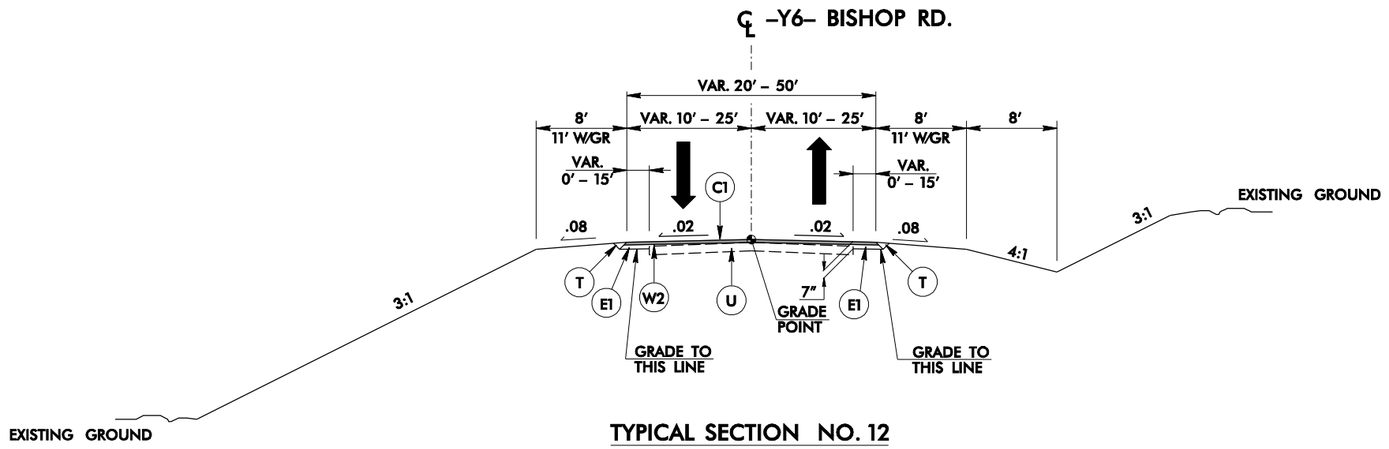
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PROJECT REFERENCE NO.	SHEET NO.
R-2823	2E
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

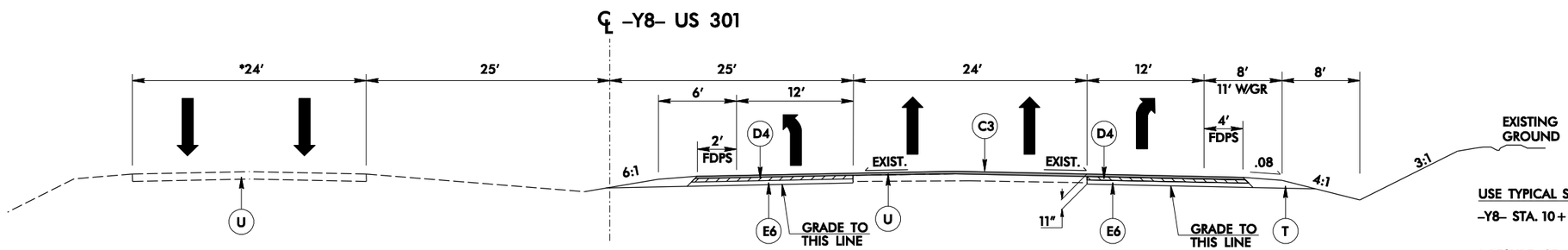
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NOTE: SEE PLANS FOR LOCATION OF AUXILLARY LANES AND TAPERS.



TYPICAL SECTION NO. 12

USE TYPICAL SECTION NO. 12
–Y6– STA. 16+00.00 TO 19+25.00

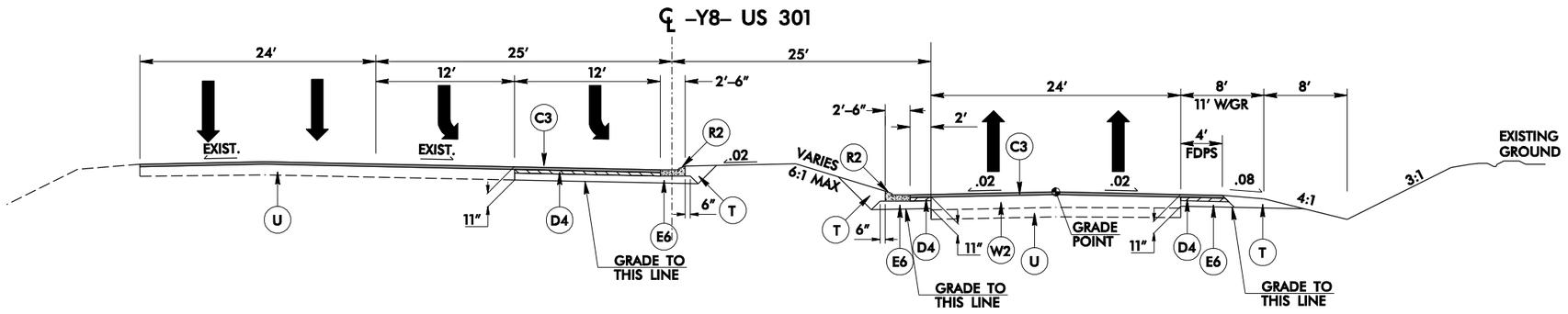


USE TYPICAL SECTION NO. 13
–Y8– STA. 10+51.50 TO 18+30.00

* RESURFACE NB LANES WITH 3″ S9.5C FROM –Y8– STA. 16+79.96 TO 18+30.00

TYPICAL SECTION NO. 13

PAVEMENT SCHEDULE	
C1	3″ S9.5B
C3	3″ S9.5C
E1	4″ B25.0B
D4	4″ I19.0C
E6	4″ B25.0C
R3	2′-6″ MOUNTABLE CURB & GUTTER
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W2	WEDGING



TYPICAL SECTION NO. 14

USE TYPICAL SECTION NO. 14
–Y8– STA. 18+30.00 TO 25+75.57

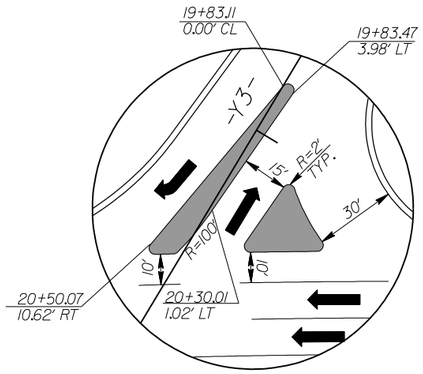
REVISIONS
8/17/99

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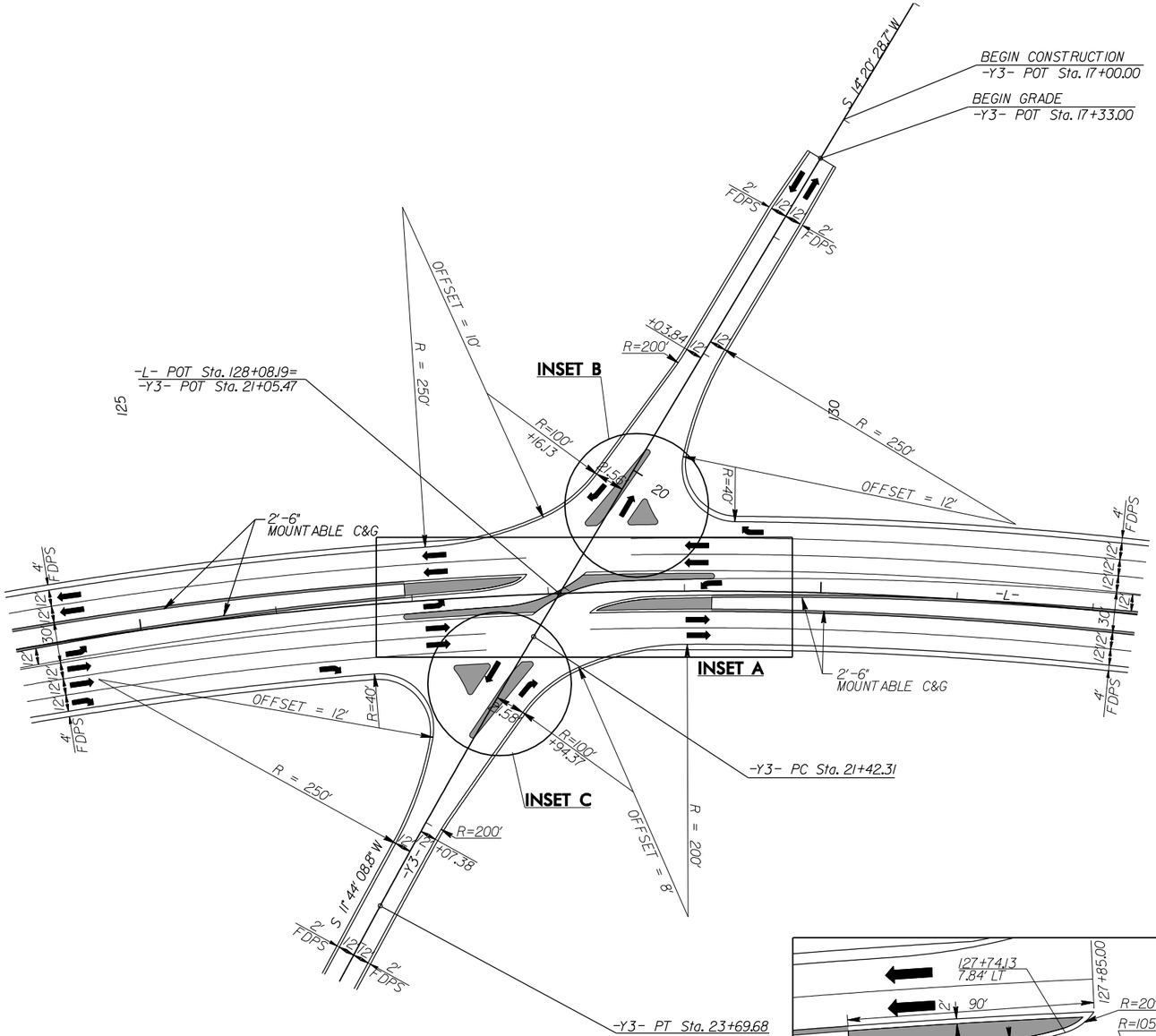
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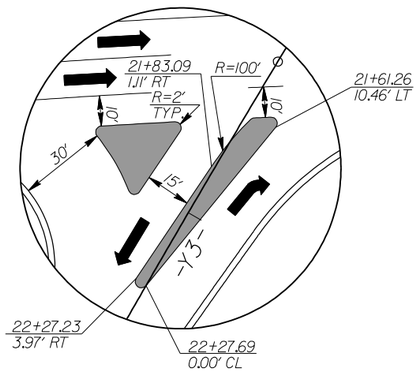
PROJECT REFERENCE NO.	SHEET NO.
R-2823	2F
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

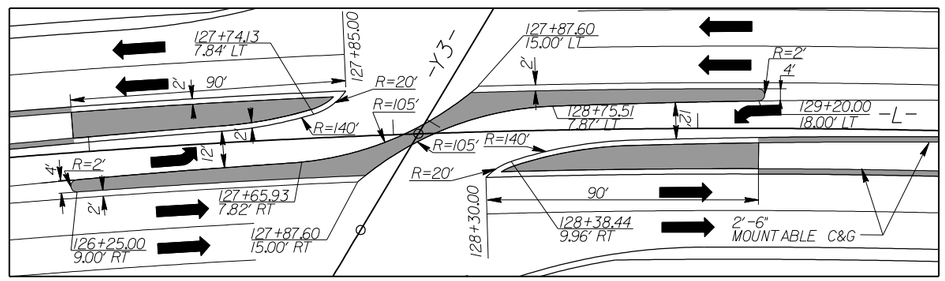


INSET B
NTS





INSET C
NTS



INSET A
NTS

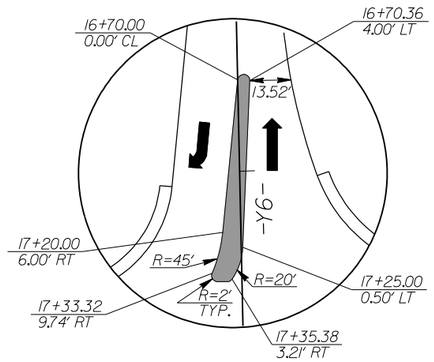
PLANS PREPARED BY :
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consulting engineers
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(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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Revisions

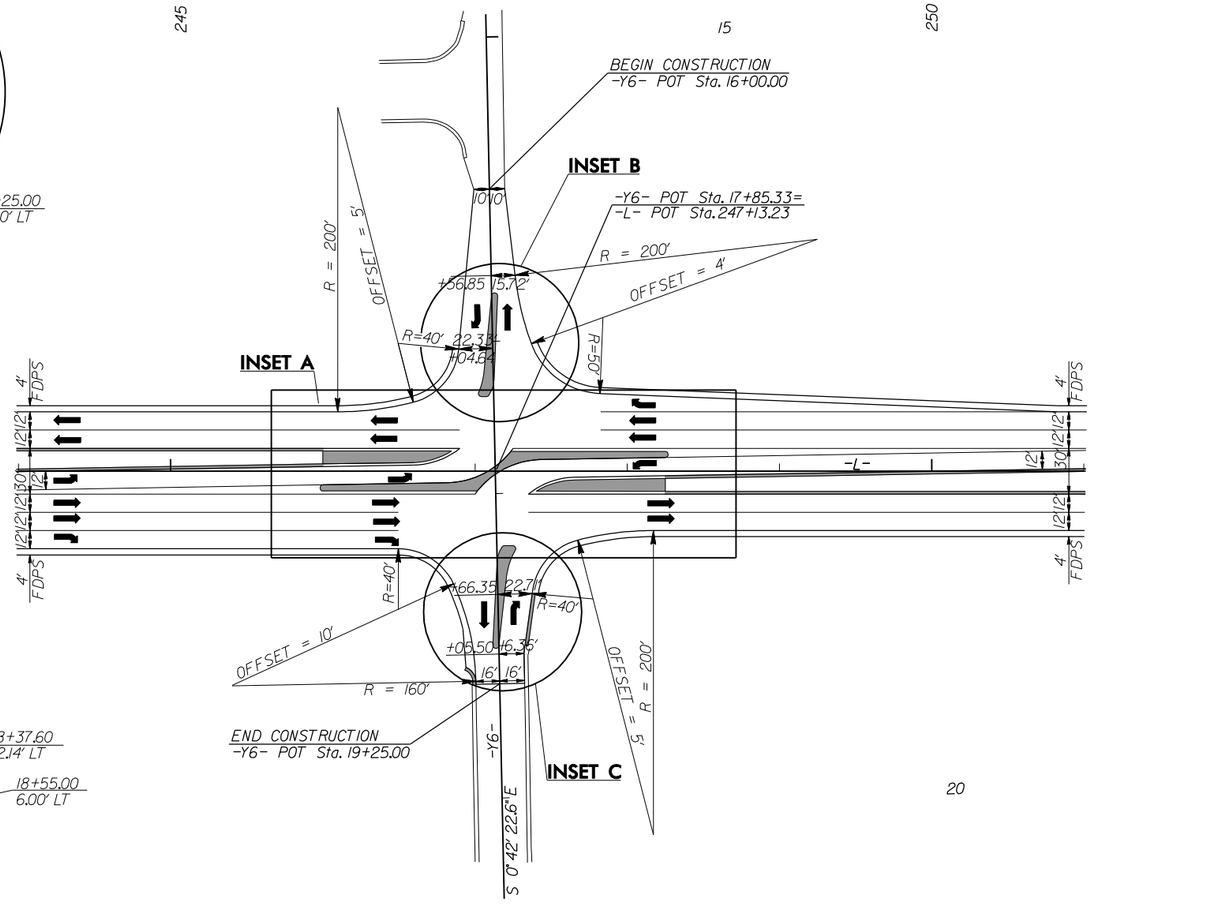
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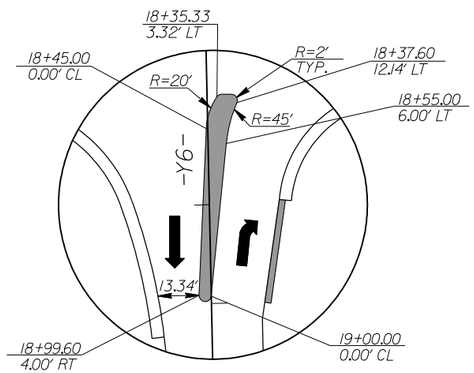
PROJECT REFERENCE NO.	SHEET NO.
R-2823	2G
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

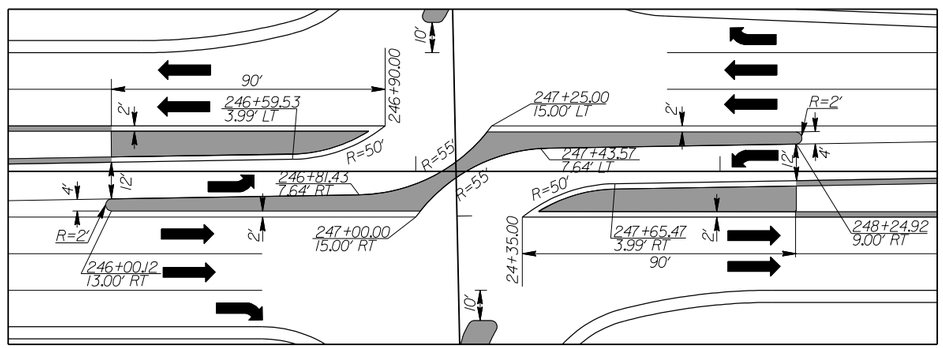


INSET B
NTS





INSET C
NTS



INSET A
NTS

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jeauclaire

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-4763B	2-H
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

TEMPORARY DETOUR ON -L-

-DET1-

PI Sta 10+60.02
Δ = 3° 50' 04.7" (LT)
D = 3° 11' 43.9"
L = 120.00'
T = 60.02'
R = 1,793.00'

PI Sta 12+73.48
Δ = 10° 37' 41.8" (LT)
D = 3° 28' 20.9"
L = 306.07'
T = 153.48'
R = 1,650.00'

TO BE CONSTRUCTED PRIOR TO -DET1-

-DET1- PC Sta. 10+00.00 =
-L- SC Sta. 31+36.18 (27.0' LT)

-DET1- PCC Sta. 11+20.00

-DET1- PT Sta. 14+26.07 =
-L- POC Sta. 35+68.56 (29.54' LT)

BENJAMIN R. RICKS, et al
DB 2222 PG 374
(5)

B.W. VARNELL, HEIRS
DB 843 PG 187
(14)

(16) TOBY E. MITCHELL
DB 1585 PG 1064

(17) TALMAGE LEE WELLS
DB 1039 PG 414

ANNIE D. BART
DB 1573 PG
DB 1699 PG

WILLIAM D. DRIVER, JR.
DB 2240 PG 192
(9)

(10)

PER 48 MEETING: DO NOT BURY #107 1'

SPECIAL CUT DITCH SEE DETAIL B

PSH SEE DETAIL H

PSRM

GRAD 350

8:1

CULTIVATED

WOODS

WOODRUFF RD 23' BST

EXISTING R/W

48" WW FENCE

TONS CL B RIPRAP W/5 SY FIL FAB

REMOVE RCP

N 3° 22' 59.1" W

BEGIN GRADE
-DET1- STA. 10+00.00=
-L- STA. 31+36.18
EL. 133.06'

PI = 10+50.00
EL = 133.21'
VC = 100'
K = 61

(+)0.3000%

(-)1.3359%

END GRADE
-DET1- STA. 12+23.03
EL. 130.89

-DET1-

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8/17/99

TEMPORARY CROSSOVERS ON -Y8- (US 301)

PROJECT REFERENCE NO.	SHEET NO.
R-2823	2-I
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

10+00 15+00 20+00

-Y8- POT Sta.10+00.00

-CR2- PC Sta. 10+00.00 =
-Y8- POT Sta.13+12.85 (24.83' LT)

-CR1- PT Sta. 14+03.60 =
-Y8- POT Sta.16+73.13 (24.84' LT)

-Y8- S 12° 32' 01.8" W

-CR1- PC Sta. 10+00.00 =
-Y8- POT Sta.12+75.96 (37' RT)

-CR1- PRC Sta. 12+01.29 | -CR2- PRC Sta. 12+02.61

-CR2- PT Sta. 14+03.90 =
-Y8- POT Sta.17+10.34 (37' RT)

TB 2GI

-CR1-	
PI Sta 11+01.46	PI Sta 13+03.27
△ = 17° 44' 35.1" (LT)	△ = 17° 49' 58.5" (RT)
D = 8° 48' 53.0"	D = 8° 48' 53.0"
L = 201.29'	L = 202.31'
T = 101.46'	T = 101.98'
R = 650.00'	R = 650.00'

-CR2-	
PI Sta 11+02.13	PI Sta 13+04.07
△ = 17° 51' 35.3" (RT)	△ = 17° 44' 33.3" (LT)
D = 8° 48' 53.0"	D = 8° 48' 53.0"
L = 202.61'	L = 201.28'
T = 102.13'	T = 101.45'
R = 650.00'	R = 650.00'

TEMP. PAVEMENT FOR MEDIAN CROSSOVERS

25+00 30+00

-CR4- PC Sta. 10+00.00 =
-Y8- POT Sta.29+28.74 (37.21' LT)

-CR3- PRC Sta. 12+02.82

-CR3- PT Sta. 14+05.71 =
-Y8- POT Sta.33+28.14 (37.65' LT)

S 12° 32' 01.8" W

-Y8- POT Sta. 34+79.91

-CR3- PC Sta. 10+00.00 =
-Y8- POT Sta.29+29.02 (25.40' RT)

-CR4- PRC Sta. 12+03.79

-CR4- PT Sta. 14+07.86 =
-Y8- POT Sta.33+29.84 (26.89' RT)

-CR3-	
PI Sta 11+02.24	PI Sta 13+05.09
△ = 17° 52' 41.2" (LT)	△ = 17° 53' 01.6" (RT)
D = 8° 48' 53.0"	D = 8° 48' 53.0"
L = 202.82'	L = 202.89'
T = 102.24'	T = 102.27'
R = 650.00'	R = 650.00'

-CR4-	
PI Sta 11+02.74	PI Sta 13+06.67
△ = 17° 57' 48.5" (RT)	△ = 17° 59' 18.0" (LT)
D = 8° 48' 53.0"	D = 8° 48' 53.0"
L = 203.79'	L = 204.07'
T = 102.74'	T = 102.88'
R = 650.00'	R = 650.00'

TEMP. PAVEMENT FOR MEDIAN CROSSOVERS

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FOR
DIVISION OF HIGHWAYS

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PROJECT REFERENCE NO.	SHEET NO.
R-2823	2-J

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

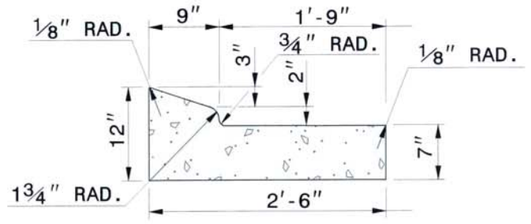
ENGLISH DETAIL DRAWING FOR

2'-6" CONCRETE CURB & GUTTER

SHEET 1 OF 2

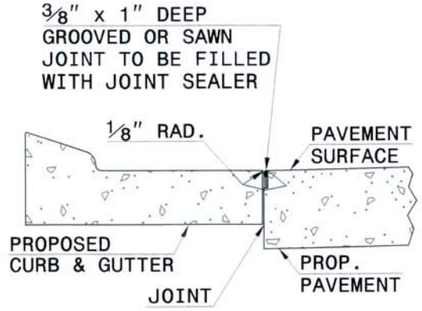
846D01

GENERAL NOTES:
- -PLACE CONTRACTION JOINTS AT 10' INTERVALS, EXCEPT THAT A 15' SPACING MAY BE USED WHEN A MACHINE IS USED OR WHEN SATISFACTORY SUPPORT FOR THE FACE FORM CAN BE OBTAINED WITHOUT THE USE OF TEMPLATES AT 10' INTERVALS.
- -JOINT SPACING MAY BE ALTERED IF REQUIRED BY THE ENGINEER.
- -CONTRACTION JOINTS MAY BE INSTALLED WITH THE USE OF TEMPLATES OR FORMED BY OTHER APPROVED METHODS. MAKE NON-TEMPLATE FORMED JOINTS A MIN. OF 1½" DEEP.
- -FILL ALL CONSTRUCTION JOINTS WITH JOINT FILLER AND SEALER.
- -SPACE EXPANSION JOINTS AT 90' INTERVALS AND ADJACENT TO ALL RIGID OBJECTS.

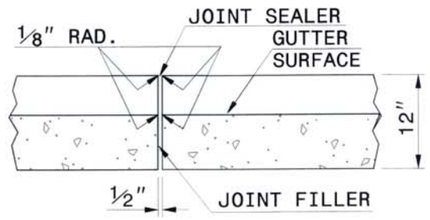


2'-6" CURB AND GUTTER

SECTION VIEW OF CURB AND GUTTER



LONGITUDINAL JOINT



TRANSVERSE EXPANSION JOINT IN CURB AND GUTTER

SECTION VIEW OF JOINTS

STATE OF
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DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR

2'-6" CONCRETE CURB & GUTTER

SHEET 1 OF 2

846D01

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER JOEL S. HOWERTON
1/3/08

PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: STD. 846.01 DATE:
MODIFIED BY: K.A. KEMPF DATE: 10-19-07
CHECKED BY: DATE:
FILE SPEC.: /usr/details/stand/c&g2'-6".dgn

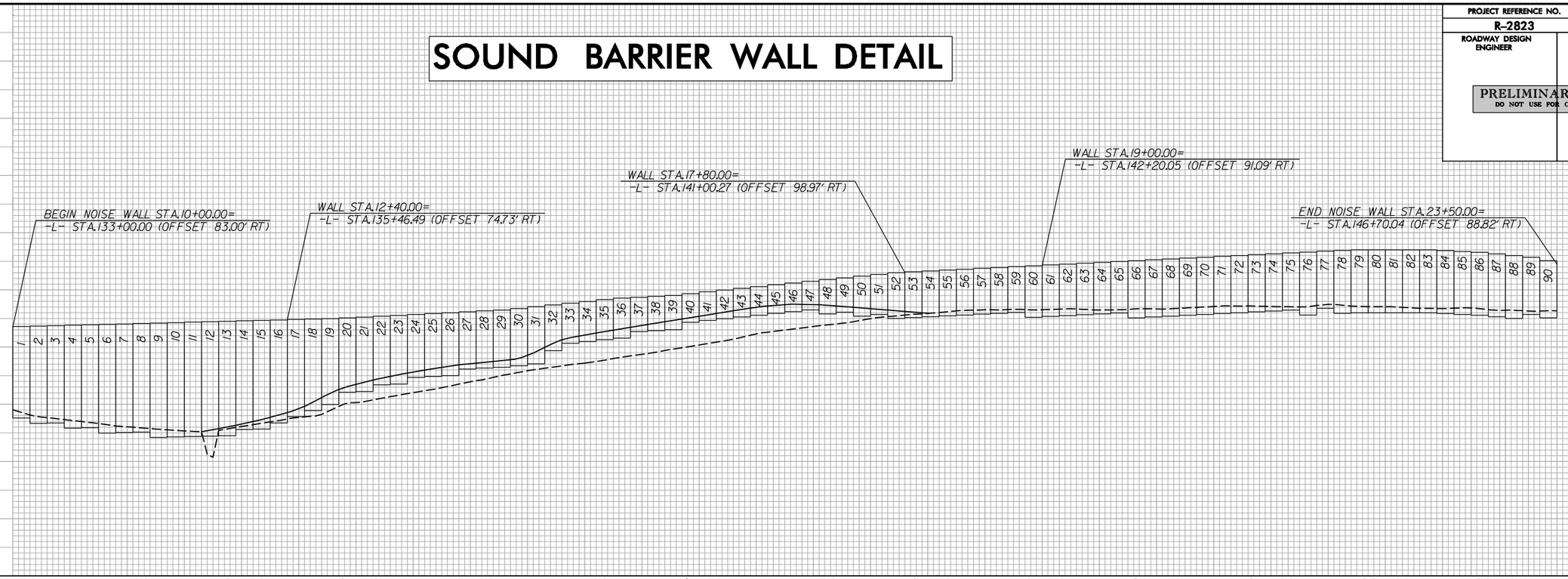
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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	2-K
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOUND BARRIER WALL DETAIL



PANEL SEG.NO.	MIN. ELEV.	PANELS 3'	4'	5'	6'
1	133.58		1		2
2	133.65			1	2
3	133.73			1	2
4	133.81				3
5	133.89				3
6	133.96	1	1		2
7	134.04	1	1		2
8	134.12	1	1		2
9	134.19		2		2
10	134.27		2		2
11	134.35		2		2
12	134.43		2		2
13	134.50		2		2
14	134.58	1	1		2
15	134.66	1	1		2
16	134.73				3
17	134.81			1	2
18	134.89		1		2
19	134.89	1			2
20	135.08	1		2	
21	135.23	1		2	

PANEL SEG.NO.	MIN. ELEV.	PANELS 3'	4'	5'	6'
22	135.38				2
23	135.54				2
24	135.69			1	1
25	135.85			1	1
26	136.00		1		1
27	136.15			2	
28	136.31			2	
29	136.46			2	
30	136.73			2	
31	137.04			2	
32	137.35	1		1	
33	137.66	1	1		
34	137.97	1	1		
35	138.28	1	1		
36	138.55	1	1		
37	138.70				1
38	138.86				1
39	139.02				1
40	139.33			1	
41	139.64			1	
42	139.96			1	

PANEL SEG.NO.	MIN. ELEV.	PANELS 3'	4'	5'	6'
43	140.26			1	
44	140.57			1	
45	140.88			1	
46	141.18			1	
47	141.49			1	
48	141.79				1
49	142.10				1
50	142.40	1	1		
51	142.70	1	1		
52	143.00		2		
53	143.15		2		
54	143.30		2		
55	143.45		2		
56	143.60		2		
57	143.75		2		
58	143.90		2		
59	144.05		2		
60	144.20	1			1
61	144.35	1			1
62	144.50	1			1
63	144.65	1			1

PANEL SEG.NO.	MIN. ELEV.	PANELS 3'	4'	5'	6'
64	144.80	1			1
65	144.95	1			1
66	145.10		1		1
67	145.25		1		1
68	145.40		1		1
69	145.55		1		1
70	145.70		1		1
71	145.85		1		1
72	146.00		1		1
73	146.15		1		1
74	146.30		1		1
75	146.45		1		1
76	146.60			1	1
77	146.75		1		1
78	146.90			1	1
79	147.00			1	1
80	147.00			1	1
81	147.00			1	1
82	147.00			1	1
83	147.00			1	1
84	146.85			1	1

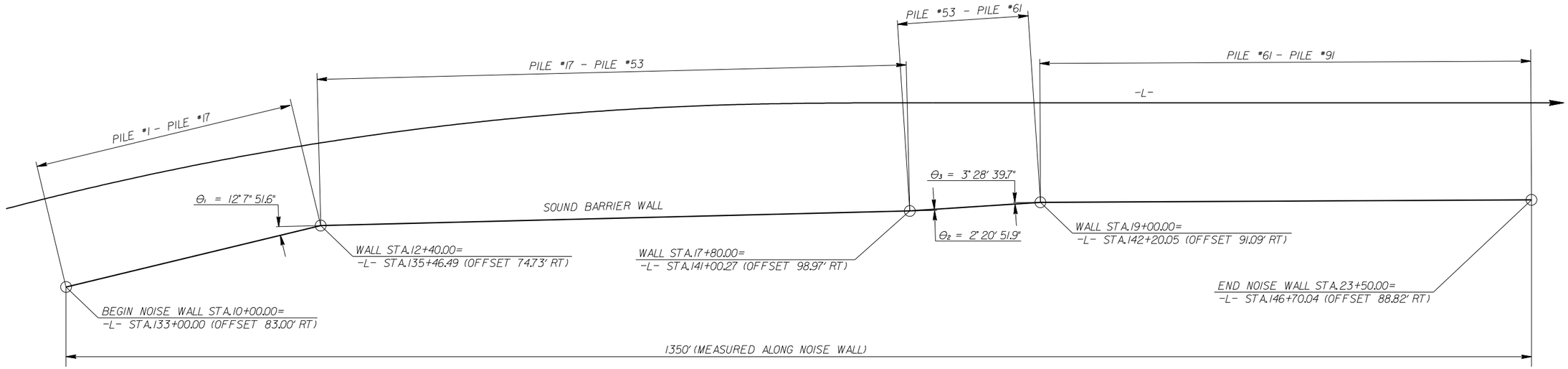
PANEL SEG.NO.	MIN. ELEV.	PANELS 3'	4'	5'	6'
85	146.70			1	1
86	146.55			1	1
87	146.30			1	1
88	146.00			1	1
89	145.70		1		1
90	145.10		1		1
TOTAL		21	53	40	84

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	2-L
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



LOCATION SKETCH

PLANS PREPARED BY :
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RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
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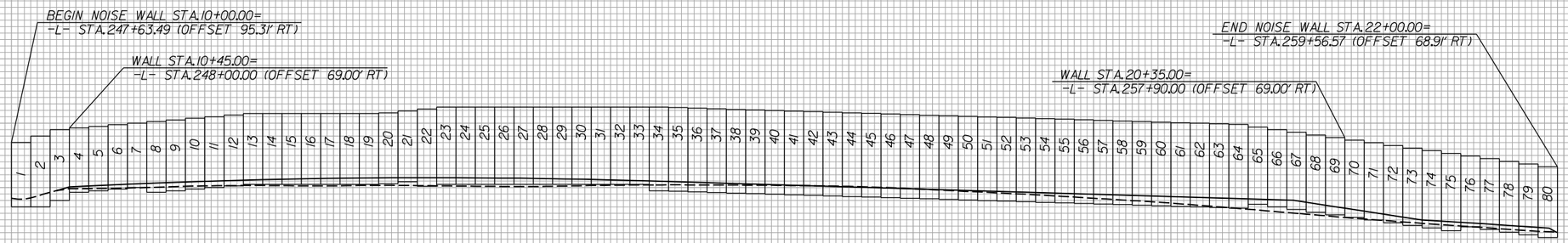
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beauchaine

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	2-O
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOUND BARRIER WALL DETAIL



180 170 160 150 140 130 120 110 100 90

160 150 140 130 120 110 100

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00

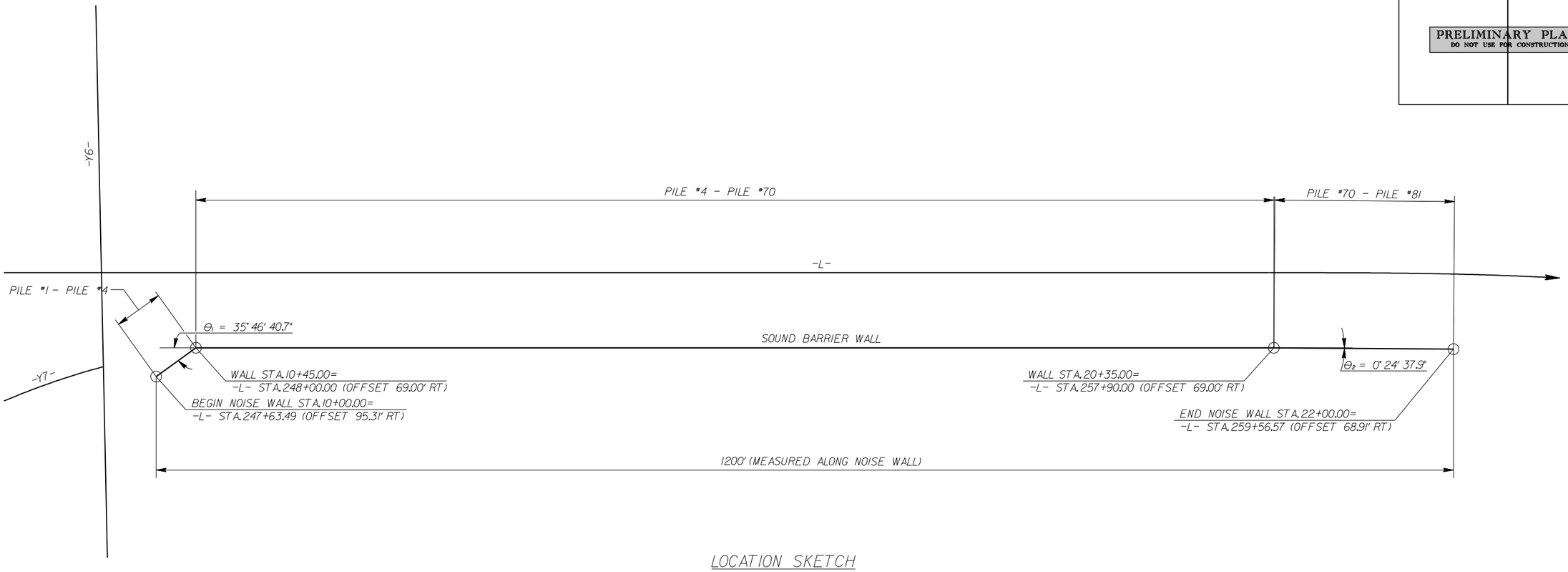
PANEL SEG.NO.	MIN. ELEV.	PANELS 3'	4'	5'	6'	PANEL SEG.NO.	MIN. ELEV.	PANELS 3'	4'	5'	6'	PANEL SEG.NO.	MIN. ELEV.	PANELS 3'	4'	5'	6'	PANEL SEG.NO.	MIN. ELEV.	PANELS 3'	4'	5'	6'
1	137.00		1		1	22	142.20				2	43	141.69	1	1		1	64	139.80	1	1		1
2	138.00			1	1	23	142.50				2	44	141.60	1	1		1	65	139.39				2
3	139.00			1	1	24	142.50				2	45	141.51	1	1		1	66	138.98				2
4	139.25		1		1	25	142.50				2	46	141.42	1	1		1	67	138.58				2
5	139.50		1		1	26	142.50				2	47	141.33	1	1		1	68	138.17				2
6	139.75		1		1	27	142.50				2	48	141.24	1	1		1	69	137.76				2
7	140.00		1		1	28	142.50				2	49	141.15	1	1		1	70	137.35				2
8	140.25			1	1	29	142.50				2	50	141.06	1	1		1	71	136.94				2
9	140.50			1	1	30	142.50				2	51	140.97	1	1		1	72	136.53				2
10	140.75			1	1	31	142.50				2	52	140.88	1	1		1	73	136.12				2
11	141.00			1	1	32	142.50				2	53	140.79	1	1		1	74	135.71				2
12	141.25			1	1	33	142.50				2	54	140.70	1	1		1	75	135.30				2
13	141.50			1	1	34	142.50	1	1		1	55	140.61	1	1		1	76	134.89			1	1
14	141.50			1	1	35	142.41	1	1		1	56	140.52	1	1		1	77	134.48			1	1
15	141.50			1	1	36	142.32	1	1		1	57	140.43	1	1		1	78	134.06			1	1
16	141.50			1	1	37	142.23	1	1		1	58	140.34	1	1		1	79	133.65			1	1
17	141.50			1	1	38	142.14	1	1		1	59	140.25	1	1		1	80	133.24			1	1
18	141.50			1	1	39	142.05	1	1		1	60	140.16	1	1		1						
19	141.50			1	1	40	141.96	1	1		1	61	140.07	1	1		1	TOTAL		31	36	21	103
20	141.60			1	1	41	141.87	1	1		1	62	139.98	1	1		1						
21	141.90			1	1	42	141.78	1	1		1	63	139.89	1	1		1						

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	2-P
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



LOCATION SKETCH

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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COMPUTED BY:	MAL	DATE:	10/23/08
CHECKED BY:	BJM	DATE:	11/5/08

PROJECT REFERENCE NO.	SHEET NO.
R-2823	3-A

WS10820

STATE OF NORTH CAROLINA DIVISON HIGHWAY

RIGHT OF WAY AREA DATA SHEET

PARCEL NO.	PROPERTY OWNERS NAME	TOTAL AREA	AREA TAKEN	AREA REMAINING RIGHT	AREA REMAINING LEFT	CONSTR. EASEMENT	PERMANENT DRAINAGE EASEMENT	TEMPORARY DRAINAGE EASEMENT	PERMANENT UTILITY EASEMENT
1	DAVID W. COMBS	28,178 SF	1,352 SF		26,826 SF	1,309 SF			
2	WILLIAM D. DRIVER		0.36 AC						0.19 AC
3	DAUGHTRIDGE ENTERPRISES INC	3.64 AC	0.56 AC		3.08 AC	13 SF			0.47 AC
4	BARBARA H. BRADSHAW	10,097 SF	5,516 SF	4,581 SF					1,218 SF
5	BENJAMIN R. RICKS, et al		2.77 AC			1,950 SF			0.87 AC
6	REBECCA D. PARIS	35,346 SF	1,880 SF		33,466 SF	1,273 SF			
7	CHARLES S. BARTHOLOMEW	4.71 AC	0.31 AC		4.40 AC	2,592 SF			
8	MORRIS J. HURT		0.20 AC			0.11 AC			
9	WILLIAM D, DRIVER, JR	42,266 SF	5,886 SF	36,380 SF					1,125 SF
10	REBECCA D. PARIS	1.01 AC	0.21 AC	0.80 AC					
11	MIRIAN V. HAYES	21,656 SF	6,326 SF	15,330 SF					
12	DURWOOD LEE SHREVE	1.59 AC	0.58 AC	1.01 AC		1,898 SF			0.12 AC
13	B. W. VARNELL, HEIRS	21,384 SF	8,959 SF	12,425 SF					3,601 SF
14	B. W. VARNELL, HERS	19,819 SF	1,870 SF		17,949 SF				
15	JOHN R. MORRIS	43,049 SF	17,924 SF	25,125 SF					7,252 SF
16	TOBY E. MITCHELL	20,417 SF	1,907 SF	18,510 SF					
17	TALMAGE LEE WELLS	1.53 AC	0.14 AC		1.39 AC	326 SF			375 SF
18	SHARON B. LANDIS	20,085 SF	8,523 SF	11,562 SF					3,484 SF
19	ANNIE D. BARTHOULMEW	33,483 SF	4,853 SF		28,630 SF	1,651 SF			
20	TAREK R. TRAISH	22,135 SF	9,082 SF	13,053 SF					3,707 SF
21	CLYDE M. KEEN	31,522 SF	13,711 SF	17,811 SF					5519
22	PAMELA B. GARDNER	27,070 SF	2,391 SF		24,679 SF	923 SF			208 SF
23	WADE L. MEDLIN	27,169 SF	2,384 SF		24,785 SF	891 SF			167 SF
24	CLYDE M. KEEN	11,548 SF	5,316 SF	6,232 SF					3,401 SF
25	TOBY E. MITCHELL	21,015 SF	10,266 SF	10,749 SF					3,061 SF
26	TOBY E. MITCHELL	13,125 SF	1,290 SF		11,835 SF	409 SF			
27	LOUISE M. PITTMAN	13,577 SF	1,361 SF		12,216 SF	363 SF			
28	MARGIE P. LEONARD	13,369 SF	1,401 SF		11,968 SF	17 SF			948 SF
29	RICHARD H. MINOR	1.73 AC	0.99 AC	0.74 AC					0.30 SF
30	SIDNEY E. LEONARD	27,725 SF	2,931 SF		24,794 SF				1,490 SF
31	SIDNEY E. LEONARD	19,123 SF	1,498 SF		17,625 SF				770 SF
32	RIHARD H. MINOR	22,425 SF	2,337 SF		20,088 SF	834 SF			
33	THREE MR LTD PARTNERSHIP		0.10 SF			14 SF			3,241 SF
34	AUBRY D. WOODRUFF		4.41 AC		1.96 AC	0.14 AC			0.34 AC
35	CLAUDETTE D. REGES, et al		3.95 AC		9.85 AC				
36	BETTY G. WOODRUFF		317 SF						
37	CLAUDETTE D. REGES, et al		1.83 AC		0.86 AC				
38	CLAUDETTE D. REGES, et al	3.33 AC	1.29 AC	0.32 AC	1.72 AC	1,210 SF			1,937 SF
39	CLAUDETTE D. REGES, et al		4,185 SF			2,187 SF			3,337 SF
40	FALLS ROAD BAPTIST CHURCH		2.54 AC	2.39 AC		0.20 AC	1,537 SF		
41	CLAUDETTE D. REGES, et al		12.51 AC		24.34 AC	0.35 AC			
42	ALMA W. GRIFFEN, HEIRS		8.89 AC		25.20 AC	0.20 AC			991 SF
43	E. C. POWELL		3.78 AC		2.60 AC	1,302 SF			0.70 AC
44	STANLEY L. WEST	7.40 AC	5.43 AC	0.74 AC	1.23 AC				
45	WINDY OAKS FARM, LLC		0.53 AC			1,930 SF			975 SF
46	WINDY OAKS FARM, LLC		0.12 AC			3,513 SF			68 SF

PARCEL NO.	PROPERTY OWNERS NAME	TOTAL AREA	AREA TAKEN	AREA REMAINING RIGHT	AREA REMAINING LEFT	CONSTR. EASEMENT	PERMANENT DRAINAGE EASEMENT	TEMPORARY DRAINAGE EASEMENT	PERMANENT UTILITY EASEMENT
47	OPRHA GENE WATSON, et al	19,704 SF	2,022 SF	17,682 SF					
48	GREGORY K. WATSON	29,167 SF	2,413 SF	26,754 SF		473 SF			
49	ROBERT D. TREADAWAY	15,047 SF	2,998 SF	12,049 SF		589 SF			769 SF
50	WILLIAM H. OVERMAN	137.61 AC	11.97 AC	16.85 AC	108.79 AC	0.37 AC			0.40 AC
51	SATPAL SINGH RATHIE		4.52 AC		4.85 AC	408 SF			
52	E. C. POWELL	39.84 AC	6.81 AC	23.85 AC	9.18 AC	0.13 AC			
53	REAL TEC INCORPORATIED		5.31 AC	2.00 AC		0.11 AC			
54	IRVINE BANKS JR.	23,603 SF	13,986 SF		9,617 SF				
55	JAMES A DAUGHTRIDGE	19,994 SF	19,011 SF		983 SF				
56	JEFFERY S. TAYLOR	21,749 SF	18,020 SF	3,729 SF					
57	REAL TEC INCORPORATIED	1.05 AC	0.26 AC	0.79 AC					
58	GEORGE CRUSENBERRY	42,405 SF	1,348 SF	41,057 SF					
59	CAROLYN EATMON PARKER	1.44 AC	0.70 AC	0.74 AC	5 SF	5 SF			
60	REAL TEC INCORPORATIED		0.43 AC			0.10 AC			
61	W.W. EATMON HEIRS	5.39 AC	1.30 AC	4.09 AC					
62	JAMES B. MARTIN, JR. et al	8.72 AC	2.58 AC	5.93 AC	0.21 AC	600 SF			
63	WILLIAM HERBERT TURNER	10.32 AC	5.98 AC	2.06 AC	2.28 AC	0.12 AC			
64	W.W. EATMON HEIRS	3.31 AC	0.52 AC	0.92 AC	1.87AC	40 SF			
65	WILLIAM HERBERT TURNER	5.70 AC	0.61 AC		5.09 AC				
66	MACK B. PEARSALL		4.35 AC	19.85 AC		0.43 AC			
67	WALTER I. THARRINGTON	17,527 SF	9,009 SF		8,518 SF	719 SF			
68	WALTER I. THARRINGTON	19,283 SF	8,913 SF		10,370 SF				
69	WALTER I. THARRINGTON	19,413 SF	7,884 SF		11,529 SF				
70	WALTER I. THARRINGTON	19,544 SF	7,176 SF		12,368 SF				
71	WALTER I. THARRINGTON	19,675 SF	7,116 SF		12,559 SF				
72	WALTER I. THARRINGTON	39,784 SF	15,863 SF		23,921 SF				
73	N. C. WESLEYAN COLLEGE		4.85 AC			0.12 AC			
74	RONNIE R. & LISA TEDDER	11,463 SF	NO CLAIM						
75	MACK B. & THOMAS J. REARSALL	6.19 AC	0.16 AC	6.03 AC		3098 SF	943 SF	0.51 AC	0.20 AC
76	E. HARRISON PEEBLES, III	19,772 SF	567 SF	19,205 SF		752 SF			
77	HARVIN HUNT & SHERELL MACKIN	17,584 SF	1,433 SF	16,151 SF		1,367 SF			
78	ELIXABETH MARIE HARPER	22,058 SF	3,593 SF	18,465 SF		1,462 SF			
78A			1,670 SF			300 SF			113 SF
79	JOY HOPE HOLINESS	21,456 SF	884 SF	20,572 SF					1,603 SF
80	BRASWELL APARTMENTS LLC	13,450 SF	307 SF	13,143 SF					1,124 SF
81	ELSIE LEE WYCHE	12,643 SF	277 SF	12,366 SF					1,125 SF
82	KATRINA S. & NATHAN C. ALSTON	8,382 SF	175 SF	8,207 SF		375 SF			
83	E.C. POWELL	4,133 SF	1,277 SF	2,856 SF					
84	PAUL C. BEST	3.64 AC	1,049 SF	3.62 AC		543 SF			
85	PAUL C. BEST	2.29 AC	0.46 AC	1.74 AC	4,039 SF	975 SF	744 SF		
86	MICHAEL W. TUNER & WIFE, JO ANN J. TURNER	4.52 AC	1.42 AC	1.60 AC	1.50 AC	0.18 AC			
87	E. T. PRESS		0.13 AC			766 SF			
88	THOMAS PEARSALL JR et al TRUST	6.74 AC				1,911 SF	910 SF	0.11 AC	
89								986 SF	
90									1,779 SF

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS U4019-10" WITH NAD 83/95 STATE PLANE GRID COORDINATES OF NORTHING: 815621.351(ft) EASTING: 2343015.324(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99995099
LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS U4019-10" TO -L- STATION 5+00.00 IS S 9° 49' 57.0" W 1.696.61'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD88

JHH JR. LLC
DB 1754 PG 381

WILLIAM B. THIGPEN
DB 1476 PG 235

PATTON JENKINS FAMILY
DB 1848 PG 245

SOUTHERN INVESTORS OF WILSON
DB 1238 PG 870

CHARLES S. COGGINS
DB 1396 PG 160

R.B.D. INVESTMENTS INC.
DB 1944 PG 276

NORTH WINSTEAD DEVELOPMENT CO.
DB 1610 PG 889

CCLP LLC
DB 1729 PG 621

BENVENUE ESTATES, LLC
DB 2138 PG 742

BROADUS C. COBB
DB 1673 PG 352

ATKINSON WINSTEAD, LLC
DB 1840 PG 691

NASH CO. ABC BOARD
DB 1495 PG 639

SALLIE BET JONES, HEIRS
DB PG UNKNOWN

FREDERICK HAYNES
DB 1479 PG 561

EUGINIA MAE KEARNEY
DB 2017 PG 468

CT&T
DB 1570 PG 907

N 49° 47' 50.6" E

BEGIN GRADE
-L- POT STA.5+20.00

BEGIN CONSTRUCTION
-L- POT STA.5+00.00

-L- PC Sta. 10+00.00

450' UNIFORM TRANSITION

600' TAPER

100' TAPER

150' TAPER

50' TAPER

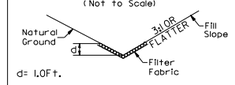
50' TYP.

TIE TO EXIST. C & G

MATCHLINE -L- STA. 17+00 SEE SHEET 5

-L-
PI Sta 14+65.22
Δ = 34° 54' 00.0" (LT)
D = 3° 52' 16.8"
L = 901.50'
T = 465.22'
R = 1,480.00'
Se= 0.04
Runoff = 200'

DETAIL O
TOE PROTECTION
(Not to Scale)



d= 1.0Ft.
Type of Liner= Class B Rip-Rap
FROM -L- STA. 15+75, L=14'

CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
2'-6" C&G	-L-	9+20.00	20+90.46	RT
2'-6" C&G	-L-	14+84.50	21+48.87	LT
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN				

FOR -L- PROFILE SEE SHT.31

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

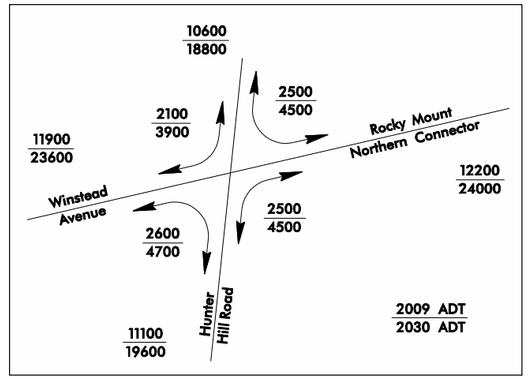
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CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
2'-6" C&G	-L-	9+20.00	20+90.46	RT
2'-6" C&G	-L-	21+70.52	27+60.04	RT
2'-6" C&G	-L-	14+84.50	21+48.87	LT
2'-6" C&G	-L-	22+25.97	29+48.22	LT
1'-6" MOUNTABLE C&G	-Y-	24+05.00	27+15.00	MED
2'-6" C&G	-Y-	22+97.82	28+05.00	LT
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN				

PROJECT REFERENCE NO.	SHEET NO.
R-2823	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



MATCHLINE -Y- STA. 17+50 SEE SHEET 24

MATCHLINE -L- STA. 17+00 SEE SHEET 4

MATCHLINE -L- STA. 31+00 SEE SHEET 6

MATCHLINE -Y- STA. 27+00 SEE SHEET 25

-L- PI Sta 14+65.22, Δ = 34° 54' 00.0" (LT), D = 3° 52' 16.8", L = 901.50', T = 465.22', R = 1,480.00', Se= 0.04, Runoff = 200'

-L- PIs Sta 30+56.21, Θs = 3° 46' 39.9", Ls = 240.00', LT = 160.04', ST = 80.03'

-Y- PI Sta 17+97.01, Δ = 18° 42' 42.0" (RT), D = 2° 51' 53.2", L = 653.16', T = 329.51', R = 2,000.00', Se= 0.05, Runoff = 150'

-Y- PI Sta 24+09.95, Δ = 2° 47' 55.1" (LT), D = 0° 42' 58.3", L = 390.77', T = 195.42', R = 8,000.00', Se= NC

-Y- PI Sta 28+00.81, Δ = 2° 48' 00.0" (RT), D = 0° 42' 58.3", L = 390.95', T = 195.52', R = 8,000.00', Se= NC

-L- PT Sta. 19+01.50

-Y- PT Sta. 21+20.66

-Y- PRC Sta. 26+05.30

-L- TS Sta. 28+96.18

-BL- # 101 POT 5+00.00= -L- STA. 23+08.12 (8.19' LT.)

-Y- PC Sta. 22+14.53

-Y- POC Sta. 22+25.87 = -L- POT Sta. 21+58.22

-BY-63 PINC 12+68.04 = U4019-BL-110 = -Y- STA. 22+62.76 (59.39' LT)

DAVID W. COMBS DB 1588 PG 709 (1)

DAUGHTRIDGE ENTERPRISES INC DB 1448 PG 224, DB 1218 PG 683 (3)

BENJAMIN R. RICKS,et al DB 2222 PG 374 (5)

SAINT PAUL BAPTIST CHURCH DB PG UNKNOWN (4)

BARBARA H. BRADSHAW DB 1131 PG 252

WILLIAM D. DRIVER DB 886 PG 646 (2)

REBECCA D. PARIS DB 2240 PG 189 (6)

CHARLES S. BARTHOLOMEW DB 1405 PG 779 (7)

MORRIS J. HURT DB 1151 PG 741, DB 1248 PG 828, DB 1458 PG 816 (8)

WILLIAM D. DRIVER,JR. DB 2240 PG 192 (9)

REBECCA D. PARIS DB 2240 PG 189 (10)

+75.00 66.43' LT; +80.00 80' LT; +93.13 90' LT; +85.00 70' LT DO NOT DISTURB SIGN; +90.72 76.26' LT; +95.80 105' LT; -Y- +45.00 100' RT; -L- +85.00 80' LT; -Y- +70.00 60' RT; +55.00 65' LT; -Y- +35.00 60' LT BEGIN FENCE; -Y- +41.72 70' LT; -L- +11.22 120' LT; -L- +35.00 90' LT; +85.00 120' LT; +96.18 90' LT; +38.96 BEGIN FENCE; +33.05 END FENCE; +41.12 END FENCE; -L- +93.38 87.08' RT; -Y- +75.88 70' RT; -Y- +80.00 55' RT; BEGIN 801.50' CURVE ON EP +07.20.11.50' RT; +05.30 55' RT; +05.30 70' RT; +07.20; +75.00 50' LT R=5' TYP.; +20.00 48' LT R=5' TYP.; +60.00 55', 50', 48' LT; +70.00 70' LT +00.00 80' LT; +35.00 65' RT 62' RT; +25.00 62' RT; -L- +35.00 65' RT; +05.00 57.26' RT; +65.00 62' RT; -Y- +20.00 65' LT; -Y- +18.43 55' LT; +85.00 65' LT +00.00 55' LT; +10.00 RETAIN EXIST C&G; +20.00 55' LT; +25.00 56' LT 55' LT; +35.00 56' LT; +70.00 50' LT R=5' TYP.; +70.00 53' LT; +90.00 75', 56.80' RT; +50.00 75' LT; +95.00 160', 85' RT; +10.00 160', 85' RT; +75.00 85.04' LT; +96.18 85' RT; +80.00 95' LT; +65.00 86.55' LT; +60.00 95' LT

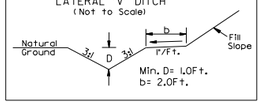
TIE TO EXIST C&G; RETAIN EXIST C&G; AREA OF KNOWN GROUND WATER CONTAMINATION; 60' ACCESS BREAK; 48" WW FENCE; LATERAL BASE DITCH SEE DETAIL D; SPECIAL BACK OF CURB CUT DITCH SEE DETAIL J; SPECIAL CUT DITCH SEE DETAIL B; LATERAL V DITCH SEE DETAIL A; PSH SEE DETAIL C; 40 TONS CL I RIPRAP W/75 SY FIL FAB RIPRAP ON BANKS ONLY; 5 TONS CL B RIPRAP W/14 SY FIL FAB; PER 4B MEETING: DO NOT BURY #107 1'; 275' UNIFORM TRANSITION; 400' RIGHT TURN LANE; 500' LEFT TURN LANE; 530' RIGHT TURN LANE; 480' LEFT TURN LANES; 200' TAPER; 150' TAPER; 150' TAPER; OFFSET = 5'; R = 250'; R=50'; R=9'; R=20'; R=13'; R=2'; 50' TYP. EXISTING R/W WIDTH VARIABLE; 40' TYP.; 40' APER; 30' APER; 35' APER; 44'; 60'; 20'; 22'; 24'; 18'; 16'; 8:1; 4:1; 3:1; 2:1; 1:1; 6"TCP; 67"CP; 15" RCP; 18" RCP; 24" RCP; 30" RCP; 36" RCP; 42" RCP; 48" RCP; 54" RCP; 60" RCP; 72" RCP; 84" RCP; 96" VINYL; 30" C&G; 6" CONC; 4" DPS; 8" DPS; 12" DPS; 18" DPS; 24" DPS; 30" DPS; 36" DPS; 42" DPS; 48" DPS; 54" DPS; 60" DPS; 72" DPS; 84" DPS; 96" DPS; 108" DPS; 120" DPS; 132" DPS; 144" DPS; 156" DPS; 168" DPS; 180" DPS; 192" DPS; 204" DPS; 216" DPS; 228" DPS; 240" DPS; 252" DPS; 264" DPS; 276" DPS; 288" DPS;

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

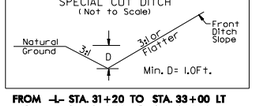
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)



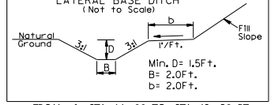
FROM -L- STA. 44+00 TO STA. 44+50 RT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



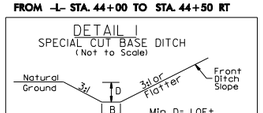
FROM -L- STA. 31+20 TO STA. 33+00 LT
FROM -L- STA. 35+00 TO STA. 37+50 LT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)



FROM -L- STA. 44+00 TO STA. 48+20 RT

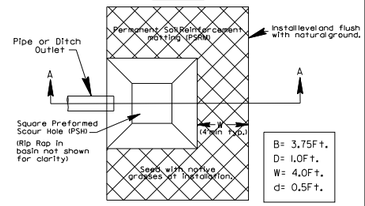
DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)



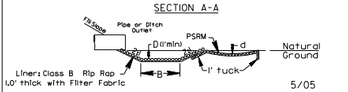
FROM -L- STA. 37+50 TO STA. 45+50 LT

DETAIL H
PREFORMED SCOUR HOLE

PLAN VIEW



SECTION A-A



5/05

-L- STA. 31+20 LT

-L- SC Sta. 31+36.18
-BL- # 102 PINC 13+37.96 =
-L- STA. 31+42.66 (37.41' RT.)
-L- CS Sta. 34+76.85
-L- ST Sta. 37+16.85
-BL- #103 PINC 22+03.25 =
-L- STA. 40+03.07 (46.25 LT.)
-L- TS Sta. 43+87.21

BENJAMIN R. RICKS, et al
DB 2222 PG 374 (5)

B.W. VARNELL, HEIRS
DB 843 PG 187 (14)

TOBY E. MITCHELL
DB 1585 PG 1064 (16)

TALMAGE LEE WELLS
DB 1039 PG 414 (17)

PAMELA B. GARDNER
DB 1130 PG 141 (22)

WADE L. MEDLIN
DB 1022 PG 491 (23)

ANNIE D. BARTHOLOMEW
DB 1573 PG 820
DB 1699 PG 657 (19)

REBECCA D. PARIS
DB 2240 PG 189 (10)

MIRIAM V. HAYES
DB 1335 PG 22 (11)

DURWOOD LEE SHREVE
DB 1003 PG 666 (12)

B.W. VARNELL, HEIRS
DB 843 PG 187 (13)

JOHN R. MORRIS
DB 2129 PG 47 (15)

SHARON B. LANDIS
DB 1252 PG 845 (18)

TAREK R. TRAISH
DB 1801 PG 673 (20)

CLYDE M. KEEN
DB 1088 PG 857 (21)

CLYDE M. KEEN
DB 1072 PG 220 (24)

MATCHLINE -L- STA. 31+00 SEE SHEET 5

MATCHLINE -L- STA. 44+50 SEE SHEET 7

-L-

PIs Sta 30+56.21	PI Sta 33+07.01	PIs Sta 35+56.89	PIs Sta 45+47.25
θs = 3° 46' 39.9"	Δ = 10° 43' 29.9" (LT)	θs = 3° 46' 39.9"	θs = 3° 46' 39.9"
Ls = 240.00'	D = 3° 08' 53.2"	Ls = 240.00'	Ls = 240.00'
LT = 160.04'	L = 340.68'	LT = 160.04'	LT = 160.04'
ST = 80.03'	T = 170.84'	ST = 80.03'	ST = 80.03'
	R = 1,820.00'		
	Se= 0.06		
	Runoff = 240'		

CURB & GUTTER LOCATIONS

DESCRIPTION	ALN	STATION	STATION	LOC
2'-6" C&G	-L-	39+04.00	40+60.63	RT

NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

FOR -L- PROFILE SEE SHTS. 31 & 32

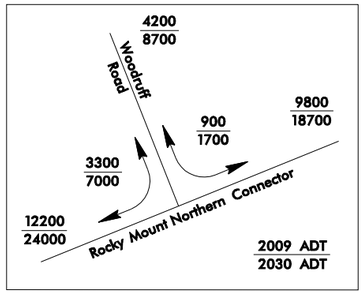
PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
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RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

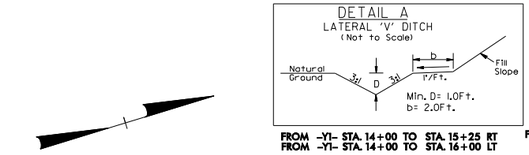
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bequchaine

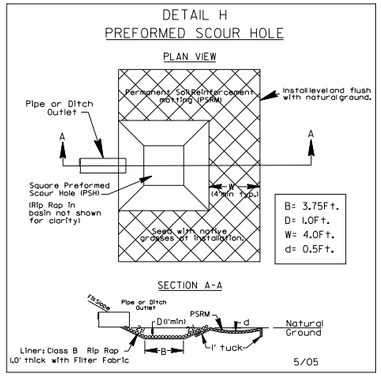
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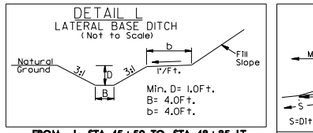
PROJECT REFERENCE NO.	SHEET NO.
R-2823	7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

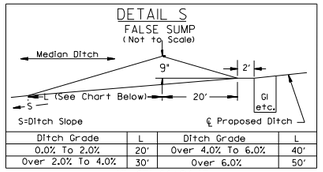
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION











Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

-Y1- STA. 14+24 LT

CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	46+30.02	49+23.75	RT
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN				

-BL- #104 PINC 30+86.60 =
-L- STA. 48+76.39 (59.97 LT.)

SPAN CULVERT WITH GUARDRAIL
SEE STANDARD 862.01

SIDNEY E. LEONARD DB 778 PG 317 (31)
LOUISE M. PITTMAN DB 1303 PG 444 (27)
MARGIE P. LEONARD DB 1620 PG 575 (28)
SIDNEY E. LEONARD UNKNOWN (30)
TOBY E. MITCHELL DB 1352 PG 625 (26)
RICHARD H. MINOR DB 1463 PG 495 (32)
THREE MR LTD PARTNERSHIP DB 1829 PG 797 (33)
AUBRY D. WOODRUFF DB 925 PG 512 (34)
CLAUDETTE D. REGES, et al DB 994 PG 846 DB 1484 PG 185 (35)
RICHARD H. MINOR DB 1435 PG 14 (29)
TOBY E. MITCHELL DB 1445 PG 225 (25)

BM#1 STA. 48+90.76 -L- 63.45 LT ELEV.=114.83

+04.76 BEGIN FENCE
+86.68 END FENCE
+32.63 BEGIN FENCE
+40.00 115' LT
+47.54 130' LT
+48.89 115.27' LT
+85.00 130' LT
+70.00 124.27' LT
+50.00 133.98' LT
+95.89 120' LT
+92.00 156.90' LT
+75.00 135', 105' LT
+95.00 125' LT
+62.00 135', 100', 93.34' LT
+27.21 100' RT
+60.00 125' RT
-L- SC Sta. 46+27.21
-Y1- +27.95 100' RT
-L- +45.00 90' LT
-L- +15.00 94.93' LT
+00.00 90' RT
+40.00 85' RT
+05.00 70' RT
+19.42 70' RT
+41.07 85' RT
+80.37 45' RT
END FENCE
-Y1- +40.00 45' RT
+15.00 49.18' RT
+79.62 50' RT
+95.00 50', 30.32' RT
+95.00 50', 29.68' LT
+79.62 50' LT
+00.00 50' LT
BEGIN FENCE
-Y1- +25.00 60' LT
-Y1- PC Sta. 13+79.62
-Y1- PT Sta. 17+13.07
-L- +70.00 110' LT
-Y1- POT Sta. 17+96.51=
-L- POC Sta. 53+56.26
-Y1- POT Sta. 12+95.00
BEGIN CONSTRUCTION
+70.00 100' RT
+80.00 115' RT
+75.00 100' RT
+65.00 100' RT
+50.00 120' RT
+75.00 130' RT
+60.00 145' RT
+70.00 155' RT
+95.00 128' RT
+85.00 110' RT
+35.00 115' RT
+00.00 110' RT

-BL- BEARING N 04°32'51" W
-L- BEARING N 04°52'50" W
-L- BEARING N 03°22'27" W
-Y1- BEARING N 5°07'17" W
-L- BEARING S 2°45'13.8" E
-L- BEARING S 66°28'18.2" E
-L- BEARING N 86°59'48" E
-L- BEARING S 04°57'12" E
-L- BEARING S 03°19'59" E
-L- BEARING S 22°28'59" E
-L- BEARING N 01°30'47" E
-L- BEARING N 01°05'04" E

9' X 9' RCBC
GRAU 350
2 TONS CL B RIPRAP W/7 SY FIL FAB
48 TONS CL I RIPRAP W/67 SY FIL FAB 35 CY DDE
5 TONS CL B RIPRAP W/14 SY FIL FAB
PSH SEE DETAIL H
LATERAL BASE DITCH SEE DETAIL D
LATERAL BASE DITCH SEE DETAIL L
LATERAL V DITCH SEE DETAIL E
LATERAL V DITCH SEE DETAIL A
SPECIAL CUT BASE DITCH SEE DETAIL I
SPECIAL CUT DITCH SEE DETAIL B
REMOVE
PUE
60' ACCESS BREAK
48" WW FENCE
530' RIGHT TURN LANE
100' UNIFORM TRANSITION
OFFSET=6'
R=40'
R=2' (TYP.)
R = 200'
MATCHLINE -L- STA. 44+50 SEE SHEET 6
MATCHLINE -L- STA. 58+00 SEE SHEET 8
DORTCHES TOWN LIMIT
CITY OF ROCKY MOUNT
WOODRUFF RD
CULTIVATED
WOODS

FOR -L- PROFILE SEE SHT. 32
FOR -Y1- PROFILE SEE SHT. 41

-L-

PIs Sta 45+47.25
Θs = 3° 46' 39.9"
Ls = 240.00'
LT = 160.04'
ST = 80.03'

PI Sta 55+66.27
△ = 54° 35' 04.2" (RT)
D = 3° 08' 53.2"
L = 1,733.88'
T = 939.06'
R = 1,820.00'
Se= 0.06
Runoff = 240'

-Y1-

PI Sta 15+65.93
△ = 63° 41' 04.3" (LT)
D = 19° 05' 54.9"
L = 333.45'
T = 186.31'
R = 300.00'
Se= 0.04
Runoff = 80'

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
900 Ridgefield Drive Suite 350
RALEIGH, NORTH CAROLINA 27609-3960
(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

MATCHLINE -L- STA. 58+00 SEE SHEET 7

MATCHLINE -L- STA. 72+00 SEE SHEET 9

-BL- #106 PINC 47+57.07 =
-L- STA. 60+32.78 (320.45 LT.)

-BL- #107 PINC 56+33.88 =
-L- STA. 66+43.44 (293.71 RT.)

N 87° 55' 58.7" E

S 82° 32' 27.3" E

N 01° 25' 32" W 659.98'

S 08° 51' 12" E 1034.09'

S 10° 33' 38" W 472.20'

S 72° 47' 14" E 105.43'

S 72° 45' 06" E 592.26'

N 72° 45' 06" W 664.82'

S 72° 50' 35" E 241.25'

S 72° 50' 56" E 125.51'

S 08° 50' 02" W 394.68'

N 72° 46' 30" W 294.18'

S 72° 46' 30" E 294.18'

S 17° 58' 10" W 294.46'

23° 48' 02" S 08° 07' 41" E 2348.02'

BETTY G. WOODRUFF
DB UNKNOWN
(36)

AUBRY D. WOODRUFF
DB 925 PG 512
(34)

CLAUDETTE D. REGES, et al
DB 994 PG 846
DB 1484 PG 185
(35)

CLAUDETTE D. REGES, et al
DB 994 PG 846
DB 1484 PG 185
(37)

BENAN PROPERTIES, LLC
DB 1900 PG 162

CLAUDETTE D. REGES, et al
DB 1701 PG 5
(38)

MARY F. MUTZABAUGH
DB 1110 PG 751

DOORCHIES TOWN LIMIT

CULTIVATED

WOODS

POND

60' ACCESS BREAK

BEGIN FENCE +00.00

END FENCE +00.00

LATERAL 'V' DITCH SEE DETAIL A

+00.00 110' LT

+50.00 90' LT

+61.09 90' LT

+01.09 90' LT

+00.00 90' RT

+61.09 90' RT

+01.09 90' RT

+00.00 110' RT

+99.05 160' RT PUE

48" WW FENCE

150' TAPER

530' RIGHT TURN LANE

530' LEFT TURN LANE

300' RIGHT TURN TAPER

40' TYP.

4' FDPS

-L- CS Sta. 63+61.09

-L- ST Sta. 66+01.09

-L-

PI Sta 55+66.27
Δ = 54° 35' 04.2" (RT)
D = 3° 08' 53.2"
L = 1,733.88'
T = 939.06'
R = 1,820.00'
Se= 0.06
Runoff = 240'

PIs Sta 64+41.12
Θs = 3° 46' 39.9"
Ls = 240.00'
LT = 160.04'
ST = 80.03'

CURB & GUTTER LOCATIONS

NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground
3:1
D
3:1
b
1'/Ft.
Fill Slope
Min. D= 1.0Ft.
b= 2.0Ft.

FROM -L- STA. 60+50 TO STA. 63+00 LT

HISTORIC AREA

FOR -L- PROFILE SEE SHTS. 32 & 33

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
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900 Ridgefield Drive Suite 350
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(919) 878-9560
FOR
DIVISION OF HIGHWAYS

12\16\08 11:24:20
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Revisions

PROJECT REFERENCE NO.	SHEET NO.
R-2823	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

MATCHLINE -L- STA. 72+00 SEE SHEET 8

MATCHLINE -L- STA. 86+00 SEE SHEET 10

BEGIN CONSTRUCTION
-Y2- POT Sta. 19+30.00

BEGIN GRADE
-Y2- POT Sta. 21+00.00

-Y2- +90.00
80', 45.85' LT

-Y2- +35.00
80',45.85' LT

EXCAVATE EXIST. GROUND BETWEEN EXIST. AND PROP. INVERTS TO 135.08 TO ALLOW DRAINAGE TO REACH WETLAND

8 TONS CL B RIPRAP W/21 SY FIL FAB +50.00 45.86' LT

-GPS R-2823-2 PINC 81+01.96=
-BYI- POT 13+88.84 =
-L- STA. 74+00.07 (22.15 RT.)

-L- POT Sta. 74+28.62=
-Y2- POT Sta. 22+51.68

-BL- #108 PINC 90+72.87 =
-L- STA. 83+68.38 (48.76 LT.)

-L- SC Sta. 85+98.74

-L- TS Sta. 84+78.74

-Y2- +00.00
46.46' RT
END FENCE

-L- +70.00
90' LT

-Y2- +00.00
45.87' LT
BEGIN FENCE

+00.00
155' LT

+20.00
170' LT

-Y2- +65.00
98.63' LT

-L- +30.00
95' LT

+45.00
170' LT

+00.00
150' LT

+50.00
95' LT

+90.00
100' LT

+55.00
100' LT

+85.00
95' LT

+25.00
95' LT

+78.74
95' LT

+00.00
95' LT

+98.74
90' LT

530' RIGHT TURN LANE

530' LEFT TURN LANE

300' RIGHT TURN TAPER

150' TAPER

-L- +60.00
90' RT

-L- +25.00
100' RT

-L- +65.00
149.20' RT

-Y2- +40
65' RT
END FENCE
+68.86
110' RT

+60.00
65' RT

+80.00
65' RT

+00
65',46.38' RT

-Y2- +30.00
266.90' RT

-L- +00.00
90' RT

-Y2- +60.00
45.97' LT
BEGIN FENCE

+15.00
45.99' LT

+30.00
70' LT

+60.00
70' LT

+80.00
46.00' LT

END GRADE
-Y2- POT Sta. 24+00.00

END CONSTRUCTION
-Y2- POT Sta. 25+75.00

+75.00
90' RT

+20.00
105' RT

+60.00
105' RT

+80.00
90' RT

+78.74
90' RT

+98.74
90' RT

-L-
PIs Sta 85+58.74
Θs = 0° 38' 03.4"
Ls = 120.00'
LT = 80.00'
ST = 40.00'

PI Sta 88+63.19
Δ = 5° 35' 12.6" (LT)
D = 1° 03' 25.6"
L = 528.50'
T = 264.46'
R = 5,420.00'
Se= 0.03
Runoff = 120'

FALLS ROAD BAPTIST CHURCH
DB 1232 PG 911
(40)

CLAUDETTE D. REGES, et al
DB 1701 PG 5
(38)

CLAUDETTE REGES, et al
DB 1297 PG 825
(41)

CLAUDETTE D. REGES, et al
DB 994 PG 846
DB 1484 PG 185
(39)

MARY F. MUTZABAUGH
DB 1110 PG 751

CULTIVATED

48" WW FENCE

EXISTING R/W

CURB & GUTTER LOCATIONS

DESCRIPTION	ALN	STATION	STATION	LOC
2'-6" C&G	-Y2-	20+20.35	21+39.50	LT
2'-6" C&G	-Y2-	21+00.00	21+30.20	RT
2'-6" C&G	-Y2-	23+72.75	24+00.00	LT
2'-6" C&G	-Y2-	23+76.00	24+00.00	RT
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN				

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)
Natural Ground, 3:1, D, 3:1, b, F/T/Ft., Fill Slope
Min. D= 1.0Ft.
b= 2.0Ft.
FROM -L- STA. 82+00 TO STA. 83+70 LT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 3:1, D, 3:1 or Flatter, Front Ditch Slope
Min. D= 1.0Ft.
FROM -L- STA. 79+50 TO STA. 82+00 LT
FROM -L- STA. 83+70 TO STA. 85+50 RT

DETAIL F
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 3:1, D, 3:1 or Flatter, Front Ditch Slope
Min. D= 1.5Ft.
FROM -L- STA. 79+50 TO STA. 83+70 RT

HISTORIC AREA

FOR -L- PROFILE SEE SHT. 33
FOR -Y2- PROFILE SEE SHT. 42

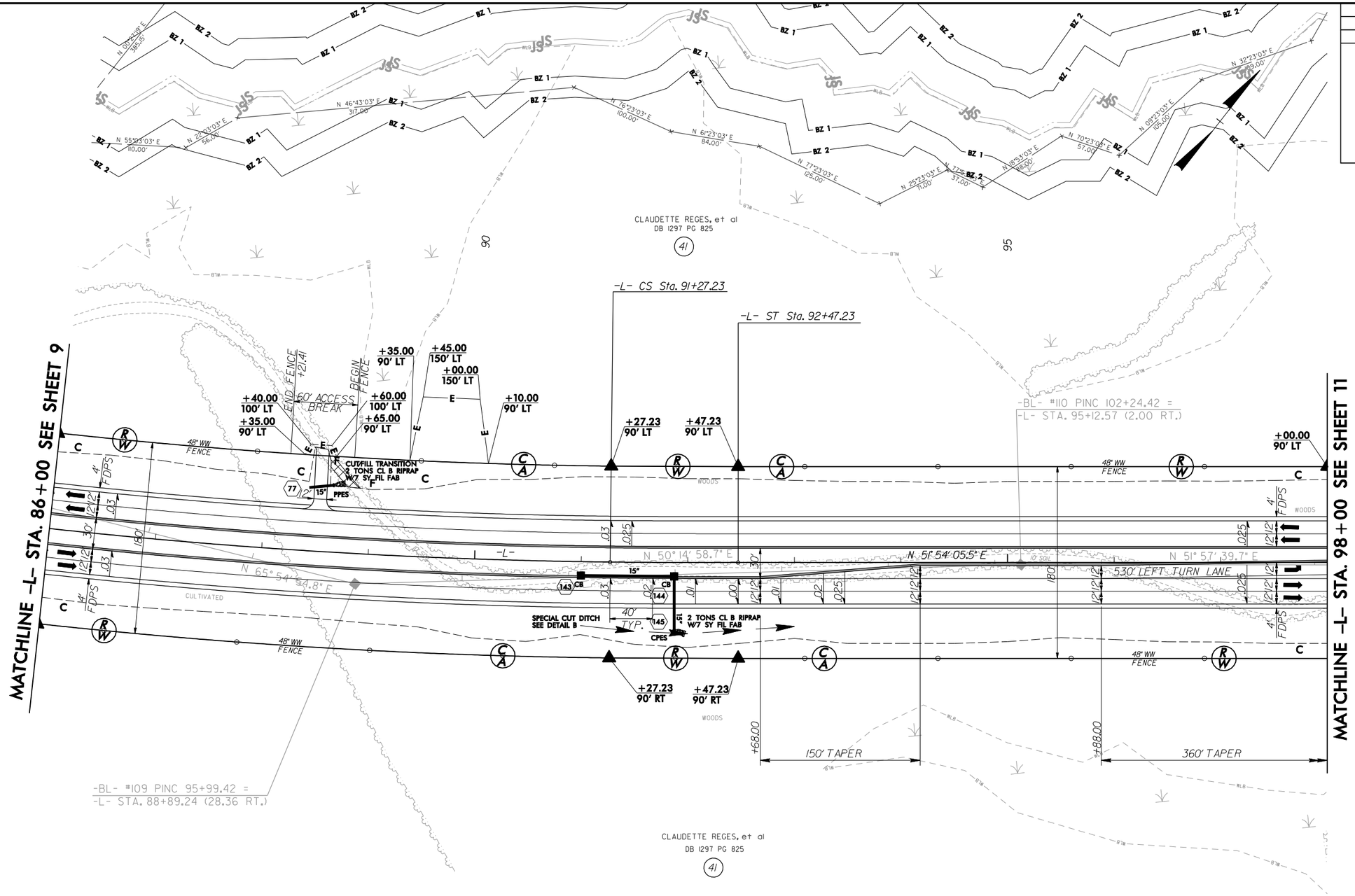
PLANS PREPARED BY :
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(919) 878-9560
FOR
DIVISION OF HIGHWAYS

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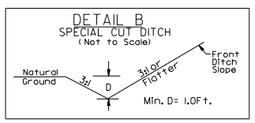
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PROJECT REFERENCE NO.	SHEET NO.
R-2823	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



FROM -L- STA. 91+00 TO STA. 93+00 RT

-L-

PI Sta 88+63.19	PIs Sta 91+67.23
△ = 5° 35' 12.6" (LT)	Θs = 0° 38' 03.4"
D = 1° 03' 25.6"	Ls = 120.00'
L = 528.50'	LT = 80.00'
T = 264.46'	ST = 40.00'
R = 5,420.00'	
Se= 0.03	
Runoff = 120'	

CURB & GUTTER LOCATIONS

NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

FOR -L- PROFILE SEE SHTS. 33 & 34

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

MATCHLINE -L- STA. 98+00 SEE SHEET 10

MATCHLINE -L- STA. 110+50 SEE SHEET 12

-BL- #111 PINC 105+89.51 =
-L- STA. 98+77.66 (2.38 RT.)

-BL- #112 PINC 112+46.56 =
-L- STA. 105+34.71 (1.89 RT.)

-BL- #113 PINC 115+56.62 =
-L- STA. 108+44.77 (1.94 RT.)

CLAUDETTE REGES, et al
DB 1297 PG 825
41

ALMA W. GRIFFEN, HEIRS
DB 2296 PG 328
42

+00.00 90' LT
+50.00 145' LT
+30.00 90' LT
+65.00 105' LT
+25.00 105' LT
+45.00 90' LT
+40.00 90' LT
360' TAPER
180' TAPER
150' TAPER
530' LEFT TURN LANE
-L- N 51° 54' 05.5" E
N 51° 54' 39.2" E
N 51° 51' 33.0" E
48" WW FENCE
CUT/FILL TRANSITION
2 TONS CL B RIPRAP
W/7 SY FIL FAB
SPECIAL CUT DITCH
SEE DETAIL B
SPECIAL CUT
BASE DITCH
SEE DETAIL I
LATERAL BASE DITCH
SEE DETAIL L
GRAU 350
WOODS
+00.00 90' RT
+30.00 90' RT
+00.00 140' RT
+00.00 120', 90' RT
+30.00 120', 90' RT
+00.00 100' RT
+90.00 100' RT
+75.00 115' RT
+30.00 120' RT
+50.00 100' RT
+50.00 120' RT
BM#3
-L- STA.110+35.94
57.16' RT.
ELEV.=107.71'

CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	110+43.00	110+96.00	RT
EXP.GUTTER	-L-	110+43.00	110+82.50	LT
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN				

FOR -L- PROFILE SEE SHT.34

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 3:1, D, 3:1 or Flatter, Front Ditch Slope
Min. D= 1.0Ft.
FROM -L- STA. 100+00 TO STA. 101+50 LT
FROM -L- STA. 106+00 TO STA. 107+00 RT

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground, 3:1, D, B, 3:1 or Flatter, Front Ditch Slope
Min. D= 1.0Ft.
B= 4.0Ft.
FROM -L- STA. 107+00 TO STA. 109+00 RT

DETAIL L
LATERAL BASE DITCH
(Not to Scale)
Natural Ground, 3:1, D, B, 3:1, b, 1'/Ft., Fill Slope
Min. D= 1.0Ft.
B= 4.0Ft.
b= 4.0Ft.
FROM -L- STA. 109+00 TO STA. 111+00 RT

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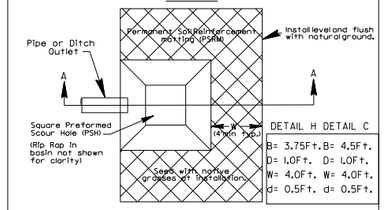
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PROJECT REFERENCE NO.	SHEET NO.
R-2823	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

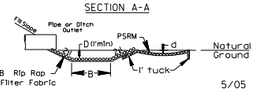
DETAIL C
DETAIL H
PREFORMED SCOUR HOLE

PLAN VIEW



DETAIL H DETAIL C
B= 3.75Ft. B= 4.5Ft.
D= 1.0Ft. D= 1.0Ft.
W= 4.0Ft. W= 4.0Ft.
d= 0.5Ft. d= 0.5Ft.

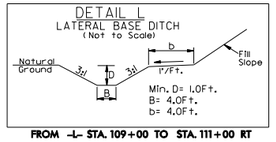
SECTION A-A



5/05

DETAIL C
-L- STA. 111+05 RT
-L- STA. 114+45 RT
DETAIL H
-L- STA. 114+10 RT

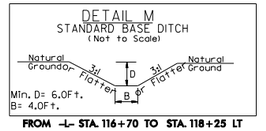
DETAIL L
LATERAL BASE DITCH
(Not to Scale)



Min. D= 1.0Ft.
B= 4.0Ft.
b= 4.0Ft.

FROM -L- STA. 109+00 TO STA. 111+00 RT

DETAIL M
STANDARD BASE DITCH
(Not to Scale)



Min. D= 6.0Ft.
B= 4.0Ft.

FROM -L- STA. 116+70 TO STA. 118+25 LT

ALMA W. GRIFFEN, HEIRS
DB 2296 PG 328
(42)

-BL- #115 PINC 121+75.01 =
-L- STA. 114+63.06 (6.40 LT.)

-BL- #114 PINC 117+80.28 =
-L- STA. 110+68.43 (2.29 RT.)

WOODS

EXIST. CHANNEL DISSIPATES TO NOTHING. GRADE AWAY FROM -L- TO EXIST. GROUND FOR APPR. 25' TO PREVENT FROM FLOWING AGAINST FILL SLOPE

+10.00
100' LT

+20.00
BEGIN FENCE

+20.00
END FENCE

48" WW FENCE

CUT/FILL TRANSITION
2 TONS CL B RIPRAP
W/7 SY FIL FAB

GRAU 350

2GI (147)

B-77 CAT-1 B-77

B-77 B-77

B-77 CAT-1 B-77

PSH SEE DETAIL C

LATERAL BASE DITCH SEE DETAIL L

+20.00
END FENCE

+20.00
BEGIN FENCE

+50.00
120' RT

HORNBEAM BRANCH

+00.00
90' RT

PSH SEE DETAIL H

+35.00
90' RT

+70.00
110' RT

+45.00
110' RT

+95.00
90' RT

+02.38
90' RT

+02.38
100' LT

STANDARD BASE DITCH
SEE DETAIL M

+00.00
90' LT

48" WW FENCE

CULTIVATED

CUT/FILL TRANSITION
2 TONS CL B RIPRAP
W/7 SY FIL FAB

360' TAPER

150' TAPER

4' FDPS

530' LEFT TURN LANE

530' RIGHT TURN LANE

40' TYP.

N 60° 22' 39.3" E

+99.27

+00.00
90' RT

150' TAPER RIGHT

+00.00
115' RT

2 TONS CL B RIPRAP
W/7 SY FIL FAB

CULTIVATED

150 CB 15" CB 151

CPES 152

PSH SEE DETAIL C

N 51° 54' 05.5" E

-L-

-L- TS Sta. 117+02.38

-L- SC Sta. 119+02.38

-BL- #116 PINC 130+70.56 =
-L- STA. 123+66.02 (72.86 RT.)

MATCHLINE -L- STA. 110+50 SEE SHEET 11

MATCHLINE -L- STA. 124+00 SEE SHEET 13

-L-

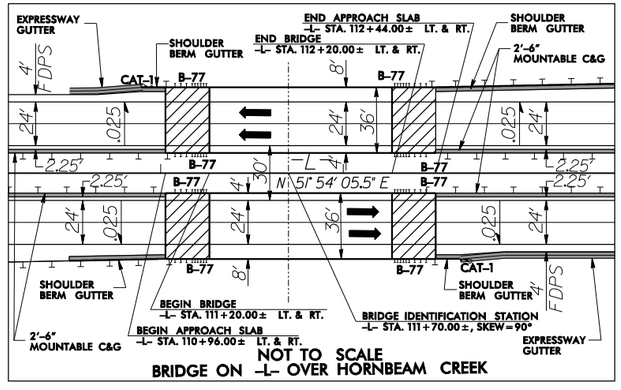
PIs Sta 118+35.72	PI Sta 129+52.93
Θs = 1° 56' 08.4"	Δ = 39° 04' 51.9" (RT)
Ls = 200.00'	D = 1° 56' 08.4"
LT = 133.34'	L = 2,019.00'
ST = 66.67'	T = 1,050.55'
	R = 2,960.00'
	Se= 0.05
	Runoff = 200'

ALMA W. GRIFFEN, HEIRS
DB 2296 PG 328
(42)

CURB & GUTTER LOCATIONS

DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	110+43.00	110+96.00	RT
SBG	-L-	112+44.00	112+57.61	RT
EXP.GUTTER	-L-	112+57.61	114+00.00	RT
EXP.GUTTER	-L-	110+43.00	110+82.50	LT
SBG	-L-	110+82.50	110+96.00	LT
SBG	-L-	112+44.00	114+00.00	LT

NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN



NOT TO SCALE
BRIDGE ON -L- OVER HORNBEAM CREEK

FOR -L- PROFILE SEE SHTS. 34 & 35

PLANS PREPARED BY :
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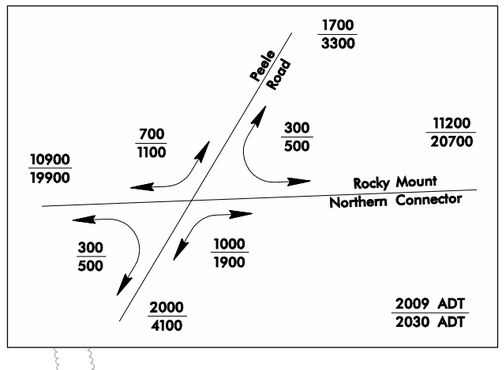
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DIVISION OF HIGHWAYS

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



MATCHLINE -L- STA. 124+00 SEE SHEET 12

MATCHLINE -L- STA. 138+00 SEE SHEET 14

MATCHLINE -Y3- STA. 26+00 SEE SHEET 26

BEGIN CONSTRUCTION
-Y3- POT Sta. 17+00.00

BEGIN GRADE
-Y3- POT Sta. 17+33.00

-L- POT Sta. 128+08.19=
-Y3- POT Sta. 21+05.47

-Y3- PC Sta. 21+42.31

-Y3- PT Sta. 23+69.68

-BL- #117 PINC 137+88.68 =
-BY2- PINC 12+17.32 =
-Y3- STA. 17+91.08 (131.68 LT.)

-BL- #118 PINC 144+09.56 =
-L- STA. 135+45.56 (36.64 LT.)

-BY2- # 202 PINC 20+08.52 =
-Y3- STA. 25+83.66 (24.78 LT.)

WINDY OAKS FARM, LLC
DB 1438 PG 109

E. C. POWELL
DB 1642 PG 167
(43)

ALMA W. GRIFFEN, HEIRS
DB 2296 PG 328
(42)

STANLEY L. WEST
DB 2195 PG 915
(44)

CITY OF ROCKY MOUNT

+10.00
70', 28.93' RT

+95.00
70', 28.92' RT

+33.00
50',28.95' RT

+70.00
80', 31.07' LT

+33.00
50',31.04' LT

-Y3- +00.00
50' RT
END FENCE

+40.00
62.01' RT

-Y3- +80.00
50' LT
BEGIN FENCE

-Y3- +97.97
80' LT

-L- +00.00
100' LT

-L- +50.00
90' LT

-L- +40.00
90' RT

-Y3- +55.98
125' LT

-Y3- +55.00
165' LT

-Y3- +75.00
165' LT

-Y3- +75.43
110' LT

-Y3- +20.00
75' LT

-L- +80.00
115' RT

-Y3- +63.06
60' RT

-Y3- +69.68
50' RT
END FENCE

+69.68
50' LT
BEGIN FENCE

+86.10
BEGIN FENCE

-L- +00.00
100' LT

-L- +00.00
90' LT

+78.72
END FENCE

+35.00
90' RT

+00.00
90' RT

+60.00
115' RT

+80.00
106.92' RT

+50.00
END FENCE

+58.05
136.55' RT

+51.70
149.03' RT

+60.00
130' RT

530' RIGHT TURN LANE

530' LEFT TURN LANE

360' TAPER

150' TAPER

40' TYP.

CULTIVATED

48" WW FENCE

CUT/FILL TRANSITION
2 TONS CL B RIPRAP
W/7 SY FIL FAB

SPECIAL CUT DITCH
SEE DETAIL B

SPECIAL CUT BASE DITCH
SEE DETAIL I

3 TONS CL B RIPRAP
W/10SY FIL FAB

40 TONS CL I RIPRAP
W/75 SY FIL FAB
RIPRAP ON BANKS ONLY

BERM BASE DITCH
SEE DETAIL G

BERM V DITCH
SEE DETAIL K

18" BCCS
2 ELBOWS W/ROD
AND LUG
3 TONS CL B RIPRAP
W/10 SY FIL FAB

PROP. SOUND BARRIER WALL

WOODS

CL OF BRANCH IS PROPERTY LINE

CL OF DITCH IS PROPERTY LINE

DETAIL S
FALSE SUMP
(Not to Scale)

Median Ditch
9"
2"
L (See Chart Below)
20'
GI etc.
S=Ditch Slope
℄ Proposed Ditch

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

-L- STA. 132+72 RT
-L- STA. 135+28 RT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground
3:1
D
3:1 or Flatter
Front Ditch Slope
Min. D= 1.0Ft.

FROM -L- STA. 132+00 TO STA. 135+50 RT
FROM -Y3- STA. 17+00 TO STA. 18+00 LT & RT
FROM -Y3- STA. 21+55 TO STA. 23+50 LT

DETAIL G
BERM BASE DITCH
(Not to Scale)

Natural Ground
3:1
D
B
3:1
3:1
RDWY
Min. D= 1.0Ft.
B= 4.0Ft.
b= 3.0Ft.

FROM -L- STA. 134+75 TO STA. 135+50 RT

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)

Natural Ground
3:1
D
3:1 or Flatter
Front Ditch Slope
B
Min. D= 1.0Ft.
B= 4.0Ft.

FROM -L- STA. 135+50 TO STA. 147+24 RT

DETAIL K
BERM "V" DITCH
(Not to Scale)

Natural Ground
3:1
D
3:1
b
3:1
RDWY
Min. D= 1.0Ft.
b= 2.0Ft.

FROM -L- STA. 135+50 TO STA. 147+24 RT
(LINE 135+50 TO 137+50 W/FSRM)

CURB & GUTTER LOCATIONS

NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

-L-
PI Sta 129+52.93
△ = 39° 04' 51.9" (RT)
D = 1° 56' 08.4"
L = 2,019.00'
T = 1,050.55'
R = 2,960.00'
Se= 0.05
Runoff = 200'

-Y3-
PI Sta 22+56.02
△ = 2° 36' 19.9" (LT)
D = 1° 08' 45.3"
L = 227.38'
T = 113.71'
R = 5,000.00'
Se = NC

RICKS-BOSEMAN FARM
HISTORIC AREA

FOR -L- PROFILE SEE SHT. 35
FOR -Y3- PROFILE SEE SHT. 42
FOR INTERSECTION DETAILS
SEE SHT. 2F

PLANS PREPARED BY :
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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

MATCHLINE -L- STA. 13+40 SEE SHEET 27

MATCHLINE -L- STA. 138+00 SEE SHEET 13

MATCHLINE -L- STA. 152+00 SEE SHEET 15

MATCHLINE -Y4- STA. 23+00 SEE SHEET 28

-Y4- PT Sta. 13+78.71

-BL- #120 PINC 155+81.66 =
-BY3- PINC 11+14.79 =
-Y4- STA. 16+68.36 (27.33 LT.)

-Y4- POT Sta. 17+73.93=
-L- POT Sta.147+29.80

-L- CS Sta.139+21.38

-L- ST Sta. 141+21.38

-BL- #119 PINC 148+66.72 =
-L- STA. 139+92.58 (71.54 RT.)

GPS-R-2823-3 PINC 159+11.73 =
-BY3- PINC 14+44.86 =
-Y4- STA. 19+98.40 (23.30 LT.)

WINDY OAKS FARM
DB 1438 PG 109
(46)

WINDY OAKS FARM, LLC
DB 1438 PG 109
(45)

STANLEY L. WEST
DB 2195 PG 915
(44)

WILLIAM H. OVERMAN
DB 2007 PG 418
PB 1PG 120
(50)

ORPHA GENE WATSON, et al
DB 1918 PG 240
(47)

GREGORY K. WATSON
DB 2031 PG 910
(48)

ROBERT D. TREADAWAY
DB 1532 PG 903
(49)

DAVID J. DUKE
DB 1204 PG 250

CITY OF ROCKY MOUNT

+78.71 50' LT
+50.00 50' LT
+54.29 65' LT
+60.00 85' LT
+00.00 50' LT BEGIN FENCE

+78.71 60' RT
+78.71 50' RT

+50.00 115', 60', 50' RT
+65.00 115', 60', 50' RT

+00.00 50' RT END FENCE
-Y4- +50.00 50' RT
-Y4- +54.83 60' RT
-L- +25.00 90' LT
SPECIAL CUT DITCH SEE DETAIL B TIE TO EXIST.

-Y4- +40.00 50' LT
-Y4- +89.13 85' LT
SPECIAL CUT DITCH SEE DETAIL B

-L- +75.00 110' LT
SPECIAL CUT DITCH SEE DETAIL B

+21.38 90' LT
+21.38 90' LT
100.00' END FENCE
60' ACCESS BREAK
BEGIN FENCE
48" WW FENCE

3 TONS CL B RIPRAP W/10 SY FIL FAB

PLUG
RETAIN

-L- +65.00 95' RT
-Y4- +02.50 95' LT
-Y4- +10.00 70' LT BEGIN FENCE

-L- +00.00 110' RT
SPECIAL CUT DITCH SEE DETAIL B

-Y4- +10.00 50' RT END FENCE

+25.00 BEGIN FENCE

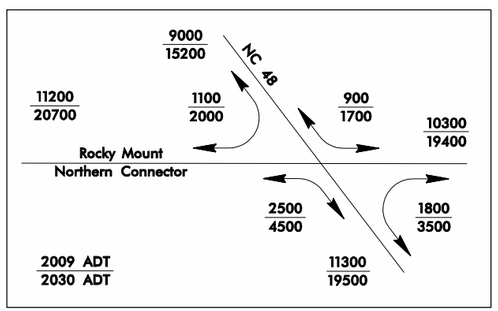
+75.00 50' RT
+85.00 60' RT
+20.00 70' LT
+50.00 55' RT
+60.00 50' RT
+84.94 50' RT
+20.00 121.19' RT
+31.87 120.13' RT

+20.55 130' RT
+82.94 106.40' RT
+01.83 99.25' RT
+62.81 100.60' RT
+37.92 102.26' RT
+85.85 103.32' RT
+10.69 110.00' RT

530' RIGHT TURN LANE
530' LEFT TURN LANE
S 85° 08' 45.8" E -L-
N 80° 53' 01.2" E
150' TAPER
PROP. SOUND BARRIER WALL
400' RIGHT TURN LANE -Y4-
400' LEFT TURN LANE -Y4-
175' LEFT TURN LANE
300' UNIFORM TRANSITION
BERM V DITCH SEE DETAIL K
SPECIAL CUT BASE DITCH SEE DETAIL I
SPECIAL CUT DITCH SEE DETAIL B
RETAIN EXIST. C&G
RICKS-BOSEMAN FARM HISTORIC AREA

FOR -L- PROFILE SEE SHTS.35 & 36
FOR -Y4- PROFILE SEE SHT.43

CURB & GUTTER LOCATIONS
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN



-L-
PI Sta 129+52.93
△ = 39° 04' 51.9" (RT)
D = 1° 56' 08.4"
L = 2,019.00'
T = 1,050.55'
R = 2,960.00'
Se= 0.05
Runoff = 200'

PIs Sta 139+88.05
Θs = 1° 56' 08.4"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

-Y4-
PI Sta 12+67.60
△ = 1° 03' 39.5" (LT)
D = 0° 28' 38.9"
L = 222.21'
T = 111.11'
R = 12,000.00'
Se= NC

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground, 3:1, D, 3:1 or Flatter, Front Ditch Slope, B
Min. D= 1.0Ft.
B= 4.0Ft.
FROM -L- STA. 135+50 TO STA. 147+24 RT

DETAIL K
BERM 'V' DITCH
(Not to Scale)
Natural Ground, 3:1, D, 3:1, b, RDWY
Min. D= 1.0Ft.
b= 2.0Ft.
FROM -L- STA. 135+50 TO STA. 147+24 RT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 3:1, D, 3:1 or Flatter, Front Ditch Slope
Min. D= 1.0Ft.

FROM -L- STA. 144+31 TO STA. 146+09 LT
FROM -L- STA. 147+33 TO STA. 148+00 LT
FROM -L- STA. 148+68 TO STA. 150+00 RT
FROM -Y4- STA. 16+00 TO STA. 17+15 LT
FROM -Y4- STA. 18+30 TO STA. 20+00 RT
FROM -Y4- STA. 19+16 TO STA. 22+00 LT
FROM -Y4- STA. 21+50 TO STA. 22+00 RT

PLANS PREPARED BY :
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FOR
DIVISION OF HIGHWAYS

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PROJECT REFERENCE NO.	SHEET NO.
R-2823	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

WILLIAM H. OVERMAN
DB 2007 PG 418
PB 1 PG 120
(50)

155 160 165

MATCHLINE -L- STA. 152+00 SEE SHEET 14

-BL- #121 PINC 165+67.22 =
-L- STA. 155+14.36 (17.99 LT.)

-L- SC Sta. 159+79.19

-L- TS Sta. 157+79.19

+50.00 110' LT

+25.00 130' LT
+15.00 101.95' LT

END FENCE +12.00

60' ACCESS BREAK

BEGIN FENCE

+50.00 140' LT

+79.19 100' LT

+95.00 110' LT

+55.00 115' LT

+00.00 107.25' LT

+45.00 140' LT

+00.00 110' LT

+30.00 100' LT

+88.00

180' TAPER

LATERAL BASE DITCH SEE DETAIL L

2 TONS CL B RIPRAP W/7 SY FIL FAB

48" WW FENCE

4' FDPS

150' TAPER

+65.40

SPECIAL CUT BASE DITCH SEE DETAIL I

76

15" RCP

1:2 FFES

S 85°08' 45.8" E

530' LEFT TURN LANE

40' TYP.

+58.00

CB

239

238

157

+68.00

R=100'

R=50'

R=20'

R=2'

+70.00

N 78° 43' 18.6" E

S 76° 09' 00.3" E

N 72° 56' 36.0" E

+39.19

CUT/FILL TRANSITION
2 TONS CL B RIPRAP
W/7 SY FIL FAB

+79.19 95' RT

+79.19 90' RT

+38.00

150' TAPER

CULTIVATED

+58.00

360' TAPER

+18.00

+45.00 90' RT

+95.00 135' RT

+55.00 135' RT

180' TAPER

360' TAPER

-BL- #122 PINC 171+47.01 =
-L- STA. 160+81.68 (80.34 RT.)

MATCHLINE -L- STA. 165+00 SEE SHEET 16

WILLIAM H. OVERMAN
DB 2007 PG 418
PB 1 PG 120
(50)

-L-

PIs Sta 159+12.54	PI Sta 167+18.99
Θs = 1° 56' 08.4"	Δ = 28° 03' 53.7" (LT)
Ls = 200.00'	D = 1° 56' 08.4"
LT = 133.34'	L = 1,449.88'
ST = 66.67'	T = 739.79'
	R = 2,960.00'
	Se= 0.05
	Runoff = 200'

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)

Natural Ground, 3:1, D, B, 3:1 or flatter, Front Ditch Slope

Min. D= 1.0Ft.
B= 4.0Ft.

FROM -L- STA. 156+50 TO STA. 162+00 LT

DETAIL L
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 3:1, D, B, 3:1, b, 1'/Ft., Fill Slope

Min. D= 1.0Ft.
B= 4.0Ft.
b= 4.0Ft.

FROM -L- STA. 162+00 TO STA. 169+30 LT

CURB & GUTTER LOCATIONS

NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

EIP

CITY OF ROCKY MOUNT

CITY OF ROCKY MOUNT

S 78°45'20" E
974.75'

RICKS-BOSEMAN FARM
HISTORIC AREA

FOR -L- PROFILE SEE SHT.36

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

MATCHLINE -L- STA. 165+00 SEE SHEET 15

MATCHLINE -L- STA. 177+00 SEE SHEET 17

WILLIAM H. OVERMAN
DB 2007 PG 418
PB 1PG 120
(50)

SATPAL SINGH RATHIE
DB 2161PG 731
PB 33 PG 58
(51)

CITY OF ROCKY MOUNT

-BL- #123 PINC 179+95.14 =
-L- STA. 169+18.08 (66.89 LT.)

-BL- #124 PINC 184+81.74 =
-L- STA. 174+09.01 (13.64 LT.)

BM#5
-L- STA. 170+18.63
192.25' LT.
ELEV.=104.62'

-L- CS Sta. 174+29.08

-L- ST Sta. 176+29.08

+00.00 110' LT
+00.00 110' LT
+35.00 135' LT
+50.00 110' LT
+40.00 135' LT
+75.00 108.29' LT
+00.00 90' LT
+29.08 90' LT
+45.00 END FENCE
+29.08 90' LT
+25.00 115' RT
+20.00 150' RT
+75.00 145' RT
+00.00 118.28' RT
+71.47 END FENCE
+74.88 BEGIN FENCE
+00.00 125' RT
+50.00
+00.00 110' RT
+30.00 90' RT
+80.00 100' RT
+10.00 90' RT
+50.00
+29.08 90' RT
+29.08 95' RT

N 72° 56' 36.0" E
N 76° 51' 11.1" E
N 64° 29' 26.6" E
N 62° 55' 03.8" E
N 34° 04' 40" E 706.00'
N 34° 04' 16" E 749.89'

530' LEFT TURN LANE
180' TAPER
360' TAPER
150' TAPER
40' TYP.
40' TYP.
60' ACCESS BREAK
BEGIN FENCE
END FENCE

48" WW FENCE
4' PDPS
CULTIVATED
WOODS
WLB
BTW
JS

BDO
CAT-1
AT-1
HW
CB
CPES
GRAU 350
PSH SEE DETAIL H
LATERAL BASE DITCH SEE DETAIL L
LATERAL V DITCH SEE DETAIL A
48 TONS CL I RIPRAP W/89 SY FIL FAB RIPRAP ON BANKS ONLY
1 TON CL B RIPRAP W/5 SY FIL FAB
24"
15"
18"
8:1
BZ 1
BZ 2

-L-

PI Sta 167+18.99	PIs Sta 174+95.75
Δ = 28° 03' 53.7" (LT)	Θs = 1° 56' 08.4"
D = 1° 56' 08.4"	Ls = 200.00'
L = 1,449.88'	LT = 133.34'
T = 739.79'	ST = 66.67'
R = 2,960.00'	
Se= 0.05	
Runoff = 200'	

DETAIL H
PREFORMED SCOUR HOLE

PLAN VIEW

Pipe or Ditch Outlet
Permanent Soil Reinforcement Matting (PSRM)
Install level and flush with natural ground.
Square Preformed Scour Hole (PSH)
(Rip Rap in basin not shown for clarity)
Seed with native grasses at installation.
B= 3.75Ft.
D= 1.0Ft.
W= 4.0Ft.
d= 0.5Ft.

SECTION A-A

Pipe or Ditch Outlet
PSRM
D (1'min)
d
Natural Ground
1' tuck
B
Liner: Class B Rip Rap 1.0' thick with Filter Fabric

5/05

-L- STA. 170+75 RT
-L- STA. 172+87 LT
-L- STA. 173+15 RT

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground
3:1
D
3:1
b
1'/Ft.
Fill Slope
Min. D= 1.0Ft.
b= 2.0Ft.

FROM -L- STA. 167+75 TO STA. 169+50 RT
FROM -L- STA. 170+80 TO STA. 173+10 RT
FROM -L- STA. 175+50 TO STA. 177+25 RT

DETAIL L
LATERAL BASE DITCH
(Not to Scale)

Natural Ground
3:1
D
3:1
b
1'/Ft.
Fill Slope
B
Min. D= 1.0Ft.
B= 4.0Ft.
b= 4.0Ft.

FROM -L- STA. 162+00 TO STA. 169+30 LT

FOR -L- PROFILE SEE SHTS. 36 & 37

CURB & GUTTER LOCATIONS
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

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FOR
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PROJECT REFERENCE NO.	SHEET NO.
R-2823	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	178+50.00	180+49.00	RT
SBG	-L-	184+28.00	184+44.50	RT
EXP.GUTTER	-L-	178+50.00	179+49.00	LT
SBG	-L-	179+49.00	180+49.00	LT
SBG	-L-	184+28.00	185+00.00	LT
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN				

MATCHLINE -L- STA. 177+00 SEE SHEET 16

MATCHLINE -L- STA. 191+00 SEE SHEET 18

-BL- #125 PINC 189+68.34 =
-L- STA. 178+96.01 (3.27 LT.)

-BL- #126 PINC 194+86.11 =
-L- STA. 184+10.52 (61.26 LT.)

-BL- #127 PINC 196+52.94 =
-L- STA. 185+69.43 (112.08 LT.)

-BL- #128 PINC 199+02.18 =
-L- STA. 188+08.47 (41.51LT.)

-BL- #129 PINC 201+46.51 =
-L- STA. 190+50.59 (8.76 LT.)

SATPAL SINGH RATHIE
DB 2161PG 731
PB 33 PG 58
51

E. C. POWELL
DB 1666 PG 822
52

CITY OF ROCKY MOUNT

S 80°31'12" E 29.14'

N 68°19'28" E 92.52'

S 85°06'05" E 140.00'

N 64° 29' 26.6" E

N 56° 29' 10.8" E

N 62° 55' 03.8" E

N 70° 32' 21.2" E

BM#6
-L- STA. 185+19.26
28.25'LT.
ELEV.=99.36'

COMPASS CREEK

WOODS

FALLOW

BEAVER DAM

48" WW FENCE

10' SOIL

+50.00
90' LT

+00.00
110' LT

+71.00
END FENCE

+04.00
BEGIN FENCE

+17.39
END FENCE

+15.00
100' LT

+75.00
115' LT

+20.00
100' LT

+20.02
BEGIN FENCE

+55.00
110' LT

+20.00
95' RT

+00.00
105' RT

+80.00
105' RT

+00.00
105' RT

+30.00
125' RT

1 TON CL B RIPRAP W/5 SY FIL FAB

2 TON CL B RIPRAP W/7 SY FIL FAB

48 TONS CL B RIPRAP W/89 SY FIL FAB
RIPRAP ON BANKS ONLY

2 ELBOWS W/ ROD AND LUG

157 BCCS

2 ELBOWS W/ ROD AND LUG

SPECIAL CUT DITCH SEE DETAIL F

LATERAL V DITCH SEE DETAIL A

LATERAL V DITCH SEE DETAIL N

LATERAL BASE DITCH SEE DETAIL L

PSH SEE DETAIL H

CUT/FILL TRANSITION

CAT-1

PSRM

GRAU 350

2GI

B-77

168 169 170 171 172 173 174 175 176 177

20' TYP.

4' FDPS

14' FDPS

.025

.02

12:1

8:1

2.25'

30'

36'

24'

-L-

-BL-

-RL-

BZ 1

BZ 2

JS

ST

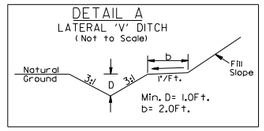
SS

W

S 50°32'25" W 300.18'

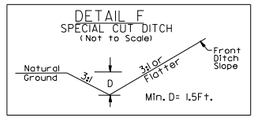
N 50°32'25" W 230.11'

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)



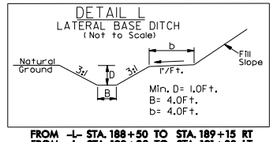
FROM -L- STA. 175+50 TO STA. 177+25 RT

DETAIL F
SPECIAL CUT DITCH
(Not to Scale)



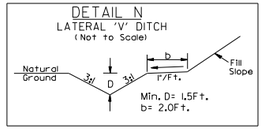
FROM -L- STA. 184+48 TO STA. 188+50 RT
FROM -L- STA. 184+98 TO STA. 189+00 LT

DETAIL L
LATERAL BASE DITCH
(Not to Scale)



FROM -L- STA. 188+50 TO STA. 189+15 RT
FROM -L- STA. 190+28 TO STA. 191+00 LT

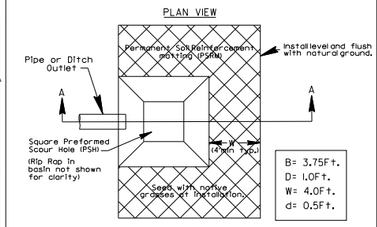
DETAIL N
LATERAL 'V' DITCH
(Not to Scale)



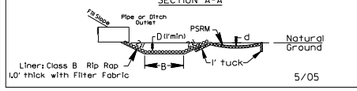
FROM -L- STA. 189+00 TO STA. 189+70 LT

DETAIL H
PREFORMED SCOUR HOLE

PLAN VIEW

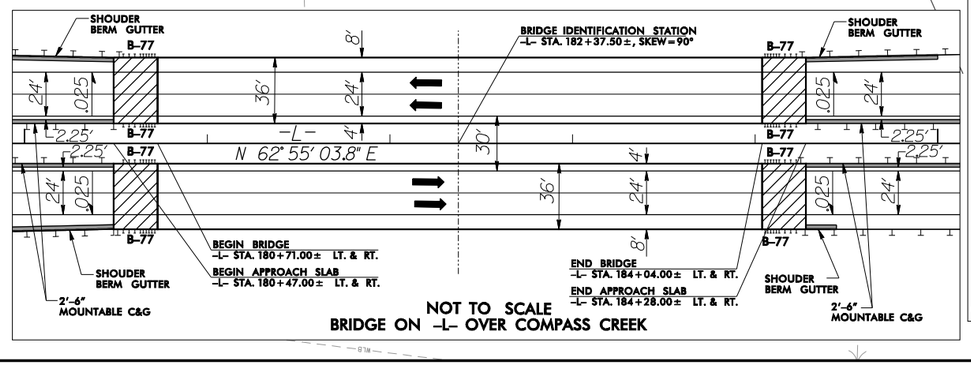


SECTION A-A



5/05

-L- STA. 177+30 RT
-L- STA. 189+15 RT
-L- STA. 189+70 RT



NOT TO SCALE
BRIDGE ON -L- OVER COMPASS CREEK

FOR -L- PROFILE SEE SHT.37

PLANS PREPARED BY :
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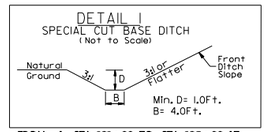
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PROJECT REFERENCE NO.	SHEET NO.
R-2823	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)



FROM -L- STA. 191+00 TO STA. 195+00 LT

MATCHLINE -L- STA. 191+00 SEE SHEET 17

MATCHLINE -L- STA. 205+00 SEE SHEET 19

-BL- #130 PINC 203+59.36 =
-L- STA. 192+61.97 (33.73 LT.)

-BL- #132 PINC 216+70.57 =
-L- STA. 204+33.58 (17.41 LT.)

-BL- #131 PINC 206+95.88 =
-L- STA. 195+80.50 (74.83 RT.)

GPS R-2823-5 PINC 211+44.45 =
-L- STA. 199+88.00 (262.35 RT.)

REALTEC INCORPORATED
DB 2182 PG 153
PB 33 PG 110
(53)

E. C. POWELL
DB 1666 PG 822
(52)

IRVINE BANKS JR.
DB 1761 PG 857
MB 1464 PG 688
(54)

JAMES A. DAUGHTRIDGE
DB 909 PG 575
MB 1464 PG 688
(55)

JEFFERY S. TAYLOR
DB 1464 PG 688
MB 1464 PG 688
(56)

E. C. POWELL
DB 1175 PG 7

REALTEC INCORPORATED
DB 2182 PG 153
PB 33 PG 110
(57)

MARGIE KING LEWIS
DB 569 PG 404

GEORGE CRUSENBERRY
DB 688 PG 121
PB 33 PG 110
(58)

GEORGE CRUSENBERRY
DB 1793 PG 209
PB 33 PG 110

+40.00 90' LT
+00.00 100' LT
+50.00 END FENCE
BEGIN FENCE 60' ACCESS BREAK
SPECIAL CUT BASE DITCH SEE DETAIL I
GRAU 350
15" PPES
(182)
+25.00 155' LT
+80.00 90' LT
+35.00 90' LT
+85.00 105' RT
+60.00 125' RT
+65.00 105' RT
+97.16 99.60' RT
+30.00 105' RT

N 62°55'03.8" E
N 81°44'15.9" E
N 87°37'39.5" E
N 30°47'43.1" E
S 56°10'50.3" E
N 89°09'04" E 604.74'

48" WW FENCE
CITY OF ROCKY MOUNT
WOODS
ISFD
ISBKD
HTR
POND
LP TANK
PUMP HOUSE
SOIL
48" SPLITRAIL FENCE
15" RCP
12" RCP
21" BST
25" BST
4' FDPS
105'
90'
98.00'

FOR -L- PROFILE SEE SHTS.37 & 38

CURB & GUTTER LOCATIONS
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

PLANS PREPARED BY :
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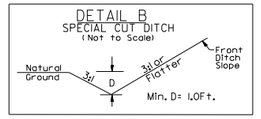
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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



FROM -L- STA. 218+50 TO STA. 220+50 LT

MATCHLINE -L- STA. 205+00 SEE SHEET 18

MATCHLINE -L- STA. 219+00 SEE SHEET 20

205 210 215

REALTEC INCORPORATED
DB 2182 PG 153
PB 33 PG 110
53

REALTEC INCORPORATED
DB 2182 PG 153
PB 33 PG 110
60

WILLIAM HERBERT TURNER
DB 1017 PG 53
63

JAMES B. MARTIN, JR. ET AL
DB 1002 PG 286
MB 19 PG 161
62

CITY OF ROCKY MOUNT

CAROLYN EATMON PARKER
DB 1117 PG 320
PB 33 PG 110
59

REALTEC INCORPORATED
DB 2182 PG 153
PB 33 PG 110
53

CAROLYN EATMON PARKER
DB 1117 PG 320
PB 33 PG 110

JOHN ALLEN CRUSENBERRY
DB 1630 PG 124
PB 33 PG 110

GEORGE CRUSENBERRY
DB 1668 PG 28
PB 33 PG 110

W. W. EATMON HEIRS
DB 1002 PG 286
MB 19 PG 161
61

DAVID W. WILSON
DB 2203 PG 733

CITY OF ROCKY MOUNT

+00.00 90' LT
+10.00 90' LT
+50.00 135' LT
+40.00 125' LT
+70.00 90' LT
+30.00 105' RT
+20.00 90' RT
+50.00 90' RT
+00.00 105' RT
+25.00

-BL- #133 PINC 226+15.60 = -L- STA. 213+76.79 (41.09 RT.)

CUT/FILL TRANSITION
2 TONS CL B RIPRAP
W/7 SY FIL FAB

SPECIAL CUT DITCH
SEE DETAIL B

48" WW FENCE

4' FDPS

PPES 12" 75 24"

END FENCE
60' ACCESS BREAK
BEGIN FENCE

FALLOW

CULTIVATED

WOODS

150' TAPER

530' LEFT TURN LANE
530' RIGHT TURN LANE

40' TYP.

N 66° 27' 59.3" E
N 62° 55' 03.8" E
-L-

S 89°26'04" W 738.81'
S 89°26'33" W 260.00'
S 40°58'47" W 260.00'
S 40°58'47" W 207.47'
S 40°58'47" W 46.89'
S 89°00'19" W 669.43'
N 89°00'19" E 417.37'
S 15°32'22" W 206.38'
S 80°37'33" E 473.47'
S 80°37'33" E 103.81'
122.94'
100.00'
N 09°22'27" E 160.29'
S 18°07'55" W 233.59'
231.65'
N 64°20'39" W 263.35'
S 43°16'19" W 197.24'
S 62°29'11" E 209.80'
S 27°33'02" W 180.11'
S 27°58'54" W 125.44'
N 17°12'34" W 219.75'
106.52'
N 01°55'27" E 224.22'

CURB & GUTTER LOCATIONS
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

FOR -L- PROFILE SEE SHT.38

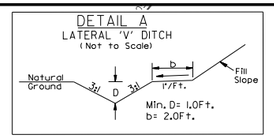
PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
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FOR
DIVISION OF HIGHWAYS

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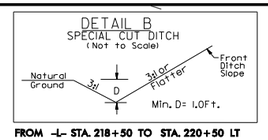
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PROJECT REFERENCE NO.	SHEET NO.
R-2823	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

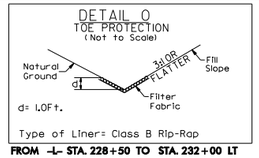
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



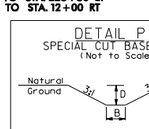
FROM -L- STA. 220+50 TO STA. 223+50 LT
FROM -Y5- STA. 11+00 TO STA. 12+00 RT



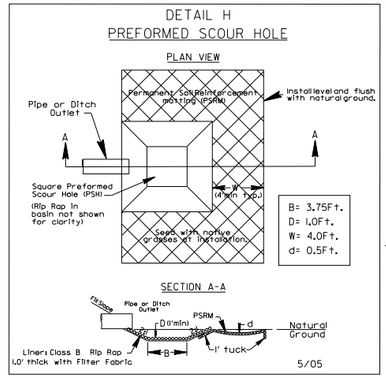
FROM -L- STA. 218+50 TO STA. 220+50 LT



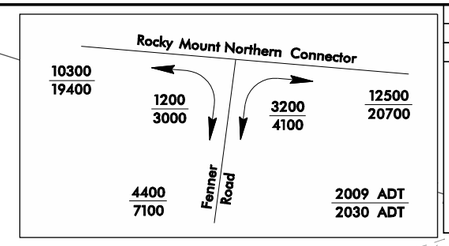
FROM -L- STA. 228+50 TO STA. 232+00 LT



FROM -L- STA. 227+00 TO STA. 230+75 RT



-Y5- STA. 11+50 LT



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-BL- #134 PINC 236+01.84 =
-L- STA. 223+61.29 (17.52 LT.)

-BL- #135 PINC 242+22.63 =
-L- STA. 229+81.59 (2.84 RT.)

MATCHLINE -L- STA. 219+00 SEE SHEET 19

MATCHLINE -L- STA. 232+00 SEE SHEET 21

MATCHLINE -Y5- STA. 16+00 SEE SHEET 29

-L- TS Sta. 219+05.52

-L- SC Sta. 221+05.52

-L- CS Sta. 230+22.01

-Y5- PC Sta. 15+43.31

-L- POC STA. 223+50.00=
-Y5- POT Sta. 10+00.00

WILLIAM HERBERT TURNER
DB 1017 PG 53
(63)

WILLIAM HERBERT TURNER
DB 1017 PG 55
(65)

JAMES B. MARTIN, JR. ET AL
DB 1002 PG 286
MB 19 PG 161
(62)

W. W. EATMON HEIRS
DB 1002 PG 286
MB 19 PG 161
(61)

CAROLYN EATMON PARKER
DB 1008 PG 13
MB 19 PG 161
(64)

W. W. EATMON HEIRS
DB 1002 PG 286
MB 19 PG 161
(64)

W. W. EATMON HEIRS
DB 1002 PG 286
MB 19 PG 161
(64)

WILLIAM HERBERT TURNER
DB 1017 PG 53
(63)

JAMES B. MARTIN, JR. ET AL
DB 1002 PG 286
MB 19 PG 161
(62)

60' ACCESS BREAK
END FENCE +60.00
BEGIN FENCE +60.00

+05.52
90' LT

+80.00
150' LT

+25.00
150' LT

+00.00
90' LT

+00.00
90' LT

+05.52
105' RT

-L- +00.00
105' RT

-L- +00.00
90' RT

-Y5- +80.00
60' RT
END FENCE

-Y5- +69.84
70' LT

-Y5- +80.00
60' LT
BEGIN FENCE

+50.00
70' LT

+00.00
60' LT

+00.00
60' RT

+00.00
60' LT

+43.31
50' RT

+43.31
50' LT

+86.02

+30.00
90' RT

+22.01
90' LT

+15.00
125' RT

+00.00
90' RT

+53.45
END FENCE
+60.09
BEGIN FENCE

+00.00
90' LT
TOE PROTECTION
SEE DETAIL O

+22.01
100' LT

LATERAL V DITCH SEE DETAIL A

SPECIAL CUT DITCH SEE DETAIL B

SPECIAL CUT BASE DITCH SEE DETAIL P

PSH SEE DETAIL H

2 TON CL B RIPRAP W/7 SY FIL FAB

26 TONS CL I RIPRAP W/50 SY FIL FAB
RIPRAP ON BANKS ONLY

48" WW FENCE

180' TAPER

530' LEFT TURN LANE

530' RIGHT TURN LANE

150' TAPER LEFT

335' LEFT TURN LANE

150' TAPER

360' UNIFORM TRANSITION

40' TYP.

266.67' TYP.

OFFSET = 8'

OFFSET = 12'

R = 160'

R=40'

R=50'

R=5'

-L-
N. 81° 10' 51.6" E

Pls Sta 220+38.86
Θs = 2° 28' 10.7"
Ls = 200.00'
LT = 133.35'
ST = 66.68'

-L-
Pl Sta 225+69.82
Δ = 22° 38' 02.9" (RT)
D = 2° 28' 10.7"
L = 916.49'
T = 464.30'
R = 2,320.00'
Se= 0.05
Runoff = 200'

Pls Sta 230+88.69
Θs = 2° 28' 10.7"
Ls = 200.00'
LT = 133.35'
ST = 66.68'

-Y5-
Pl Sta 21+06.24
Δ = 43° 48' 32.8" (RT)
D = 4° 05' 33.2"
L = 1,070.46'
T = 562.93'
R = 1,400.00'
Se= 0.06
Runoff = 160'

BM#7
-L- STA. 230+89.38
244.47' RT.
ELEV.=130.71'

CULTIVATED

WOODS

CURB & GUTTER LOCATIONS
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

FOR -L- PROFILE SEE SHTS. 38 & 39
FOR -Y5- PROFILE SEE SHT. 43

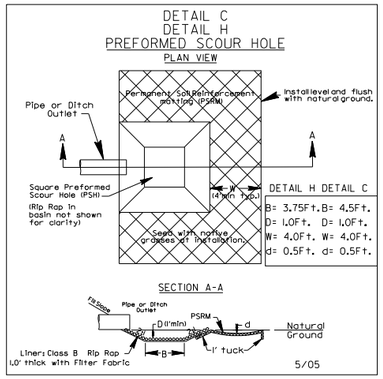
PLANS PREPARED BY :
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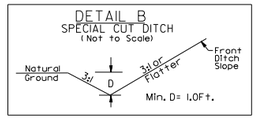
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PROJECT REFERENCE NO.	SHEET NO.
R-2823	21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

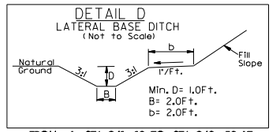
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



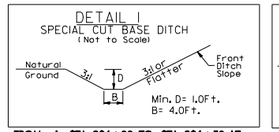
DETAIL C
-L- STA. 241+05 LT
DETAIL H
-L-L- STA. 238+25 RT
-L- STA. 239+20 LT



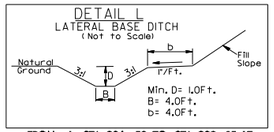
FROM -L- STA. 233+50 TO STA. 235+00 LT
FROM -L- STA. 243+50 TO STA. 244+50 LT



FROM -L- STA. 241+10 TO STA. 243+50 LT



FROM -L- STA. 236+00 TO STA. 236+50 LT



FROM -L- STA. 236+50 TO STA. 239+15 LT

MATCHLINE -L- STA. 232+00 SEE SHEET 20

MATCHLINE -L- STA. 245+00 SEE SHEET 22

-BL- #136 PINC 245+04.97 =
-L- STA. 232+64.16 (7.97 RT.)

-BL- #137 PINC 247+29.43 =
-L- STA. 234+88.62 (7.31 RT.)

WILLIAM HERBERT TURNER
DB 1017 PG 55
65

MACK B. PEARSALL
DB 1209 PG 982
PB 19 PG 161
66

WALTER I. THARRINGTON
DB 1686 PG 1063
67 68 69 70 71 72

WILLIAM HERBERT TURNER
DB 1017 PG 53
63

MACK B. PEARSALL
DB 1209 PG 982
PB 19 PG 161
66

JANICE S. TUCWELL
DB 1514 PG 282
MB 23 PG 181

RICKY ALLEN DEW JR.
DB 2275 PG 624
MB 23 PG 181

JOHN I. & BATHILDA WILLIAMS
DB 1621 PG 525
MB 23 PG 181

THOMAS L. WILLIAMS
DB 1953 PG 416
MB 23 PG 181

SYNTHIA LEE STEELE
DB 1994 PG 1065
MB 23 PG 181

SUSAN A. STEGMETER
DB 1876 PG 649
MB 23 PG 181

+50.00 110' LT
SPECIAL CUT DITCH SEE DETAIL B

+90.00 END FENCE
60' ACCESS BREAK
+90.00 BEGIN FENCE

LATERAL BASE DITCH SEE DETAIL L

SPECIAL CUT BASE DITCH SEE DETAIL I

+80.00 120' LT
+65.00 110' LT
+15.00 150', 110' LT
+90.00 150' LT
+60.00 120' LT
+67.73 END FENCE

2 TONS CL B RIPRAP W/7 SY FIL FAB
25 CY DDE
PSH SEE DETAIL C
8' X 9' RCBC
2 ELBOWS W/ ROD AND LUG
PSH SEE DETAIL H CAT-1
2GI

+111.88 BEGIN FENCE

+00.00 110.00' RT
+00.00 90' LT
LATERAL BASE DITCH SEE DETAIL D
SPECIAL CUT DITCH SEE DETAIL B

SPAN CULVERT WITH GUARDRAIL
SEE STANDARD 862.01

150' TAPER
360' TAPER
530' LEFT TURN LANE
530' RIGHT TURN LANE
150' TAPER RIGHT

GRAU 350
8:1
40' TYP.
48" WW FENCE
4' FDPS
.025
12'12'
30'

S 89° 39' 39.6" E
S 89° 30' 31.9" E
-L-
S 82° 13' 43.6" E
N 73° 24' 49.0" E
N 89°45'32" W 721.21'
N 89°30'28" E 689.80'
S 89°33'56" W 100.54'
N 56° 39' 45.0" E

CUT/FILL TRANSITION GRAU 350
2 TONS CL B RIPRAP
W/7 SY FIL FAB

42 TONS CL I RIPRAP
W/60 SY FIL FAB
25 CY DDE

+22.01 90' RT
-L- ST Sta. 232+22.01
+50.00 110' RT
+75.00 110' RT
+46.00 100' RT
+20.00 100' RT
+25.00 125' RT
+40.00 125', 100' RT
+45.00 100' RT
+52.52 END FENCE
+60.00 110' RT
+90.00 110', 100' RT
+75.00 100' RT
+80.00 125' RT
+10.00 160' RT
+91.95 BEGIN FENCE
+20.00 100' RT
+95.00 160' RT

-BL- #138 PINC 250+26.90 =
-L- STA. 237+83.69 (45.07 RT.)

-BL- #140 PINC 256+51.01 =
-L- STA. 243+86.02 (29.61 RT.)

-BL- #139 PINC 253+48.81 =
-L- STA. 240+97.15 (118.36 RT.)

-Y7- PT Sta. 33+29.74

-BY7- #211 PINC 27+67.21=
-Y7- STA. 31+94.04 (23.10' LT)

BM#8
-Y7- STA. 31+60.93
88.04'LT
ELEV.=107.85'

-L-
PIs Sta 220+38.86
Θs = 2° 28' 10.7"
Ls = 200.00'
LT = 133.35'
ST = 66.68'

-Y7-
PI Sta 29+81.28
Δ = 0° 47' 55.0" (RT)
D = 0° 06' 52.5"
L = 696.92'
T = 348.47'
R = 50,000.00'

CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	238+23.00	239+88.00	RT
EXP.GUTTER	-L-	239+88.00	241+00.00	RT
EXP.GUTTER	-L-	238+73.00	239+46.40	LT
SBG	-L-	239+46.40	241+00.00	LT
NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN				

PAVEMENT REMOVAL TO BE PERFORMED ALONG -Y7- FROM STA.14+77+/- (FENNER RD.& INSTRUMENT DR. INTERSECTION) TO STA.39+92+/- (FENNER RD.& BISHOP RD.INTERSECTION)

EXISTING PAVEMENT REMOVAL

FOR -L- PROFILE SEE SHT.39

PLANS PREPARED BY :
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FOR
DIVISION OF HIGHWAYS

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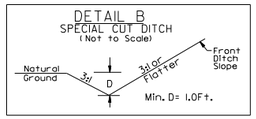
PROJECT REFERENCE NO.	SHEET NO.
R-2823	22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y6- PC Sta. 12+31.98

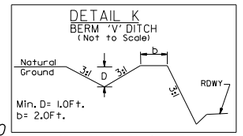
-Y6- PT Sta. 14+17.00

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



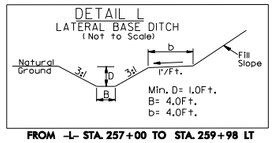
FROM -L- STA. 245+50 TO STA. 246+50 RT
FROM -L- STA. 257+50 TO STA. 259+00 RT
FROM -Y6- STA. 16+00 TO STA. 16+50 LT
FROM -Y6- STA. 16+25 TO STA. 17+24 RT

DETAIL K
BERM 'V' DITCH
(Not to Scale)

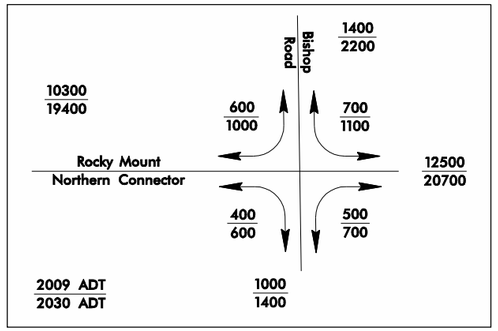


FROM -L- STA. 256+50 TO STA. 259+00 RT

DETAIL L
LATERAL BASE DITCH
(Not to Scale)



FROM -L- STA. 257+00 TO STA. 259+98 LT



-Y7-
PI Sta 39+28.90
△ = 18° 55' 50.7" (RT)
D = 8° 33' 05.8"
L = 221.37'
T = 111.70'
R = 670.00'

-Y6-
PI Sta 13+24.49
△ = 1° 03' 36.2" (LT)
D = 0° 34' 22.6"
L = 185.01'
T = 92.51'
R = 10,000.00'

-L-
PIs Sta 259+18.88
Θs = 1° 46' 45.7"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

MATCHLINE -L- STA. 245+00 SEE SHEET 21

MATCHLINE -L- STA. 259+00 SEE SHEET 23

BEGIN CONSTRUCTION
-Y6- POT Sta. 16+00.00

+00.00
40', 28.78' RT

-Y6- +50.00
40' RT
END FENCE
-L- +40.00
90' LT

+00.00
40', 31.22' LT

-Y6- +50.00
40' LT
BEGIN FENCE
-Y6- POT Sta. 17+85.33=
-L- POT Sta. 247+13.23
-L- +85.00
90' LT

-BL- #141 PINC 260+21.39 =
-BY6- POT 14+22.76=
-BY7- POT 36+70.55 =
-L- STA. 247+56.33 (36.85 RT.)

-L- TS Sta. 257+85.54

+85.00
90' LT

+35.00
105' LT

+40.00
90' LT

+00.00
110' LT
LATERAL BASE DITCH
SEE DETAIL L

360' TAPER

300' RIGHT-TURN TAPER

150' TAPER LEFT

530' LEFT TURN LANE

530' RIGHT TURN LANE

200' TAPER

S 89° 30' 31.9" E -L-

S 85° 31' 57.1" E

PROPOSED SOUND BARRIER WALL

REMOVE 37' 18" RCP

3 TONS CL B RIPRAP W/10 SY FIL FAB

SPECIAL CUT DITCH SEE DETAIL B

2 TONS CL B RIPRAP W/7 SY FIL FAB

REMOVE 77' 18" RCP

REMOVE 48' 18" RCP

+88.11
100.00' RT
END FENCE

BERM V DITCH SEE DETAIL K

-Y6- PC Sta. 38+17.20

END CONSTRUCTION
-Y6- POT Sta. 19+25.00

-Y6- POT Sta. 21+95.31

-Y6- POT STA.18+71.63=
-Y7- PT Sta. 40+38.57

-BL- #142 PINC 268+65.03 =
-L- STA. 255+97.94 (95.35 RT.)

FOR -L- PROFILE SEE SHTS.39 & 40
FOR -Y6- PROFILE SEE SHT.44
FOR INTERSECTION DETAILS SEE SHT.2G

EXISTING PAVEMENT REMOVAL

PAVEMENT REMOVAL TO BE PERFORMED ALONG -Y7- FROM STA.14+77+/- (FENNER RD.& INSTRUMENT DR. INTERSECTION) TO STA.39+92+/- (FENNER RD.& BISHOP RD.INTERSECTION)

CURB & GUTTER LOCATIONS

DESCRIPTION	ALN	STATION	STATION	LOC
2'-6" C&G	-Y6-	19+13.83	19+25.00	RT
2'-6" C&G	-Y6-	18+66.35	19+00.29	LT

NOTE: 2'-6" MOUNTABLE C&G FOR -L- MEDIAN

PLANS PREPARED BY :
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FOR
DIVISION OF HIGHWAYS

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PROJECT REFERENCE NO.	SHEET NO.
R-2823	23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

29700 / 45900	
12500 / 20700	7200 / 12300
Rocky Mount Northern Connector	US 301
	5300 / 8400
2009 ADT / 2030 ADT	27800 / 42000

-L-

PIs Sta 259+18.88
Θs = 1° 46' 45.7"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

PI Sta 262+42.75
△ = 9° 08' 02.7" (RT)
D = 1° 46' 45.7"
L = 513.33'
T = 257.21'
R = 3,220.00'
Se= 0.05
Runoff = 200'

N. C. WESLEYAN COLLEGE
DB 669 PG 212
DB 714 PG 375
DB 688 PG 175
DB 669 PG 190
DB 706 PG 354
(73)

MATCHLINE -L- STA. 259+00 SEE SHEET 22

MATCHLINE -Y8- STA. 20+00 SEE SHEET 30

+50.00
85', 76.26'

SPECIAL MEDIAN CUT DITCH SEE DETAIL Q

-Y8- POT Sta. 10+00.00
10

BEGIN CONSTRUCTION
-Y8- POT Sta. 10+51.50

150' TAPER

12' LT

4 FDPS

2 FDPS

3

270.00'

530' LEFT TURN LANE

535' LEFT TURN LANES

SPECIAL MEDIAN CUT DITCH SEE DETAIL Q

+85.00
85' RT

CPES

18" COLLAR (221)

RETAIN

REMOVE 6'-18" RCP (246)

TB 2GI

RETAIN

18" RCP W/FES

RETAIN

S 54° 19' 34" W

S 77°24'03" E
430.65'

CAROLINA EAGLE DISTRIBUTING
DB 1545 PG 410

FRANCIS MARION BARNES
DB 1282 PG 6

THOMAS PEARSALL JR et al TRUST
DB 2123 PG 660
(88)

15

20

WOODS

ISBKBUS

BST

30" C&G

CONC

36" BR WALL

84" CML & SSW

24" RCP

18" RCP

+98.29
END FENCE
LATERAL BASE DITCH SEE DETAIL L

+03.87
BEGIN FENCE
+10.00
120' LT

+00.00
115' LT
+95.00
90' LT
LATERAL BASE DITCH SEE DETAIL D

+65.00
90' LT

SPECIAL CUT DITCH SEE DETAIL B

48" WW FENCE

GRAU 350

231 HW

CAT-1

40' TYP.

8:1

+30.00

+20.00

222 PPES

R=50'

R=100'

R=200'

R=5'

R=10'

R=150'

219 DI

15" REMOVE

18" REMOVE

-Y8- +05.00
85' RT
END FENCE

-Y8- +02.85
91' RT

-L- +50.00
90' LT

-Y8- +02.16

-Y8- +62.16
95' RT

-Y8- +70.00
85.84' RT
END FENCE +80.00
85.83' RT

+85.00
71.73' RT

+65.00
73.71' RT

CUT/FILL TRANSITION
2 TONS CL B RIPRAP W/7 SY FIL FAB

-L- +30.00
80' RT

3 TONS CL B RIPRAP W/10 SY FIL FAB

SPECIAL CUT BASE DITCH SEE DETAIL I

SPECIAL CUT BASE DITCH SEE DETAIL I

223 2GI

24'

24.88'

S 12° 32' 01.8" W

-Y8-

-BL- #143 POT 278+52.13 =
-BY8- PINC 12+98.74=
-Y8- STA. 17+76.93 (81.69' LT)

BEGIN RESURFACING
-Y8- Sta. 16+79.96

END CONSTRUCTION
-L- PT Sta. 264+98.87=
-Y8- POT STA.18+16.53

BEGIN SB GRADE
-Y8- Sta.18+30.00

RIPRAP

28'

197 2 ELBOWS W/ ROD AND LUG

196 18" BCCS

232 JB w/MH

15" BCCS

220 2 TONS CL B RIPRAP W/7 SY FIL FAB

SPECIAL CUT DITCH SEE DETAIL B

BERM V DITCH SEE DETAIL K

2 ELBOWS W/ ROD AND LUG

+60.00
82.08' RT

+55.00
100' RT

+70.00
95' RT

-L- SC Sta. 259+85.54

+42.51
87.57' RT

PROPOSED SOUND BARRIER WALL

MACK B. & THOMAS J. PEARSALL
DB 1209 PG 982
(75)

+95.00
95' RT

+27.00
77.13' RT

-L- +00.00
88.54' RT
BEGIN FENCE

BM#3
-L- STA.262+73.10
84.18'RT.
ELEV.=125.25'

TDE PDE 60" R-RCP

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 3:1, D, 3:1 or Flatter, Front Ditch Slope
Min. D= 1.0Ft.
FROM -L- STA. 261+50 TO STA. 264+00 LT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)
Natural Ground, 3:1, D, B, b, 1':Ft., Fill Slope
Min. D= 1.0Ft.
B= 2.0Ft.
b= 2.0Ft.
FROM -L- STA. 260+02 TO STA. 261+50 LT

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground, 3:1, D, B, 3:1 or Flatter, Front Ditch Slope
Min. D= 1.0Ft.
B= 4.0Ft.
FROM -L- STA. 19+04 TO STA. 24+50 RT
FROM -Y8- STA. 19+50 TO STA. 22+46 LT

DETAIL K
BERM 'V' DITCH
(Not to Scale)
Natural Ground, 3:1, D, b, RDWY, 5%
Min. D= 1.0Ft.
b= 2.0Ft.
FROM -L- STA. 256+50 TO STA. 260+00 RT

DETAIL L
LATERAL BASE DITCH
(Not to Scale)
Natural Ground, 3:1, D, B, b, 1':Ft., Fill Slope
Min. D= 1.0Ft.
B= 4.0Ft.
b= 4.0Ft.
FROM -L- STA. 257+00 TO STA. 259+98 LT

DETAIL Q
MEDIAN DITCH
(Not to Scale)
Shoulder Point, 3:1 or Flatter, D, 3:1 or Flatter, Shoulder Point
Min. D= 1.0Ft.
FROM -L- STA. 10+50 TO STA. 13+00 CL
FROM -Y8- STA. 14+00 TO STA. 15+00 CL

FOR -L- PROFILE SEE SHTS.40
FOR -Y8- PROFILE SEE SHT.44

CURB & GUTTER LOCATIONS
NOTE: 2'-6" MOUNTABLE C&G FOR -Y8- MEDIAN

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FOR
DIVISION OF HIGHWAYS

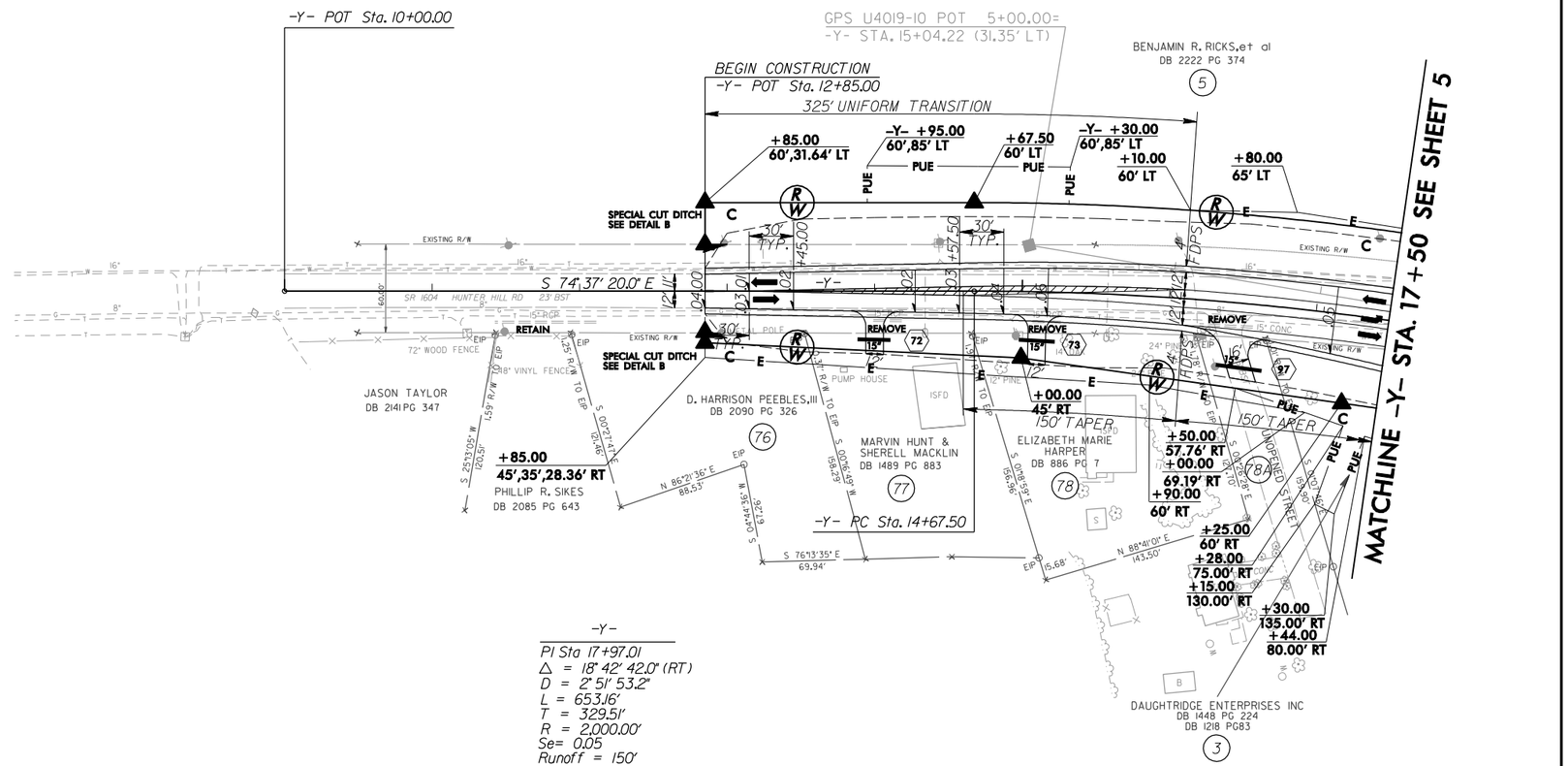
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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	24
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

10 15

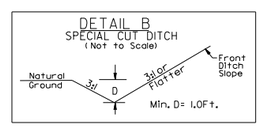


-Y-

PI Sta 17+97.01
△ = 18° 42' 42.0" (RT)
D = 2° 51' 53.2"
L = 653.16'
T = 329.51'
R = 2,000.00'
Se= 0.05
Runoff = 150'

FOR -Y- PROFILE SEE SHT.40

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



FROM -Y- STA. 12+85 TO STA. 13+00 LT & RT

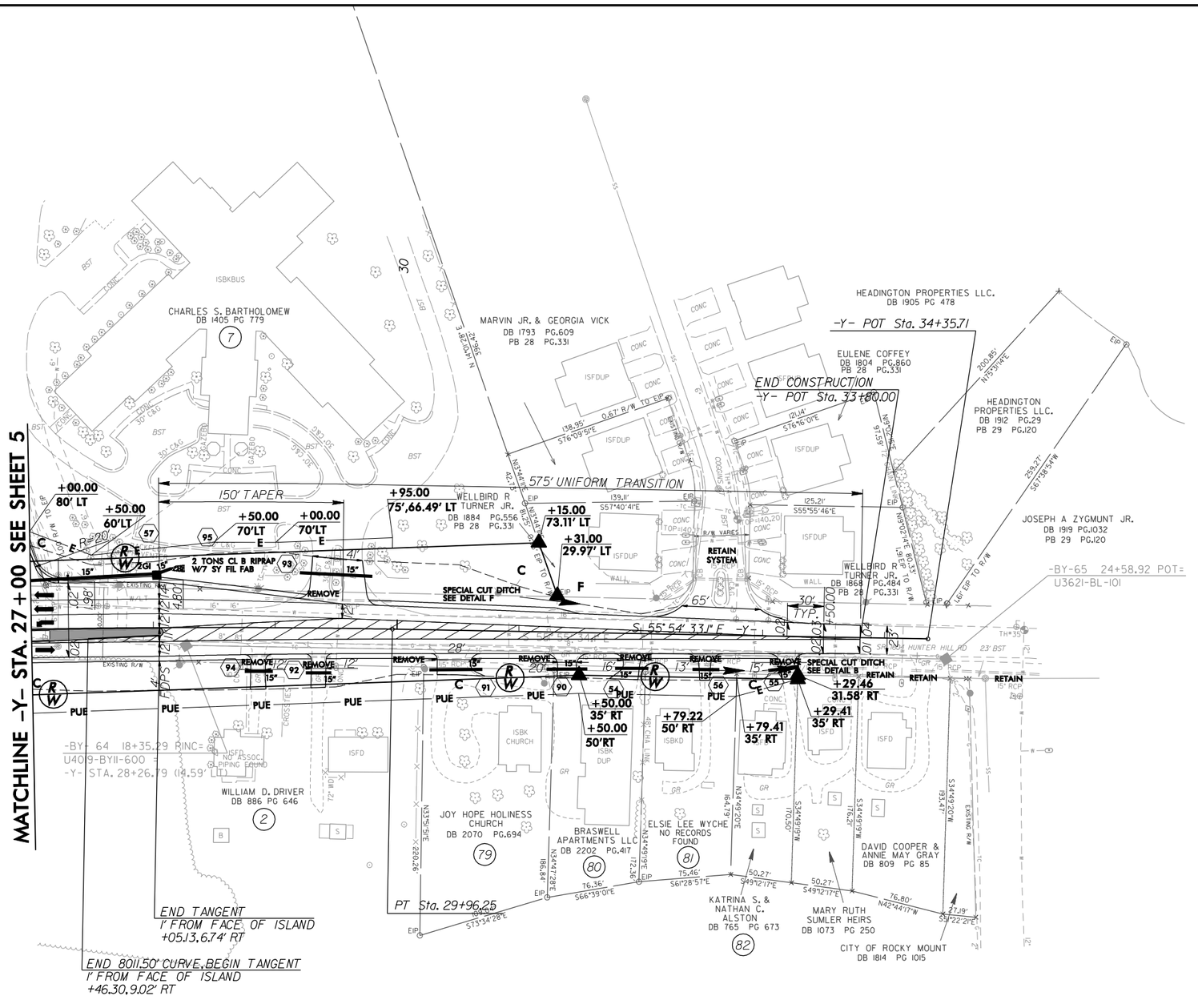
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PROJECT REFERENCE NO.	SHEET NO.
R-2823	25
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

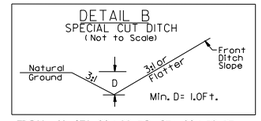


-Y-
PI Sta 28+00.81
Δ = 2° 48' 00.0" (RT)
D = 0° 42' 58.3"
L = 390.95'
T = 195.52'
R = 8,000.00'
Se= NC

CURB & GUTTER LOCATIONS

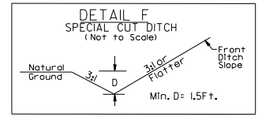
DESCRIPTION	ALN	STATION	STATION	LOC
1'-6" MOUNTABLE C&G	-Y-	24+05.00	27+15.00	MED
2'-6" C&G	-Y-	22+97.82	28+05.00	LT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



FROM -Y- STA. 33+00 TO STA. 33+50 RT

DETAIL F
SPECIAL CUT DITCH
(Not to Scale)



FROM -Y- STA. 31+00 TO STA. 31+50 LT

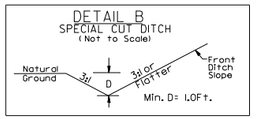
FOR -Y- PROFILE SEE SHT.41

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DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



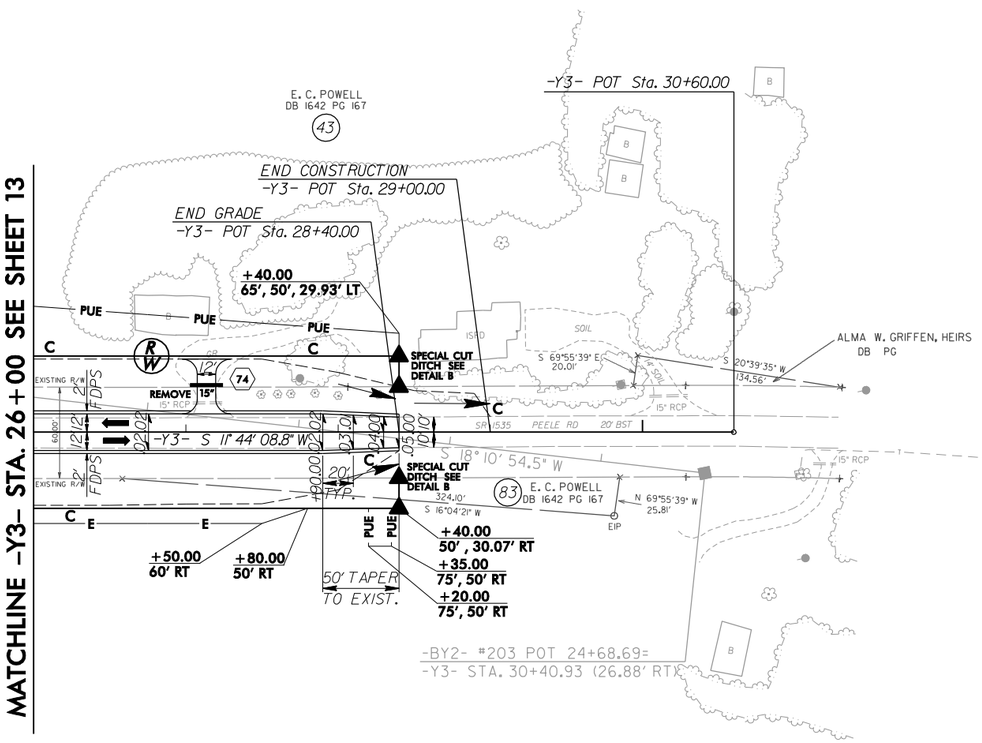
FROM -Y3- STA. 28+00 TO STA. 28+40 RT
FROM -Y3- STA. 28+00 TO STA. 29+00 LT

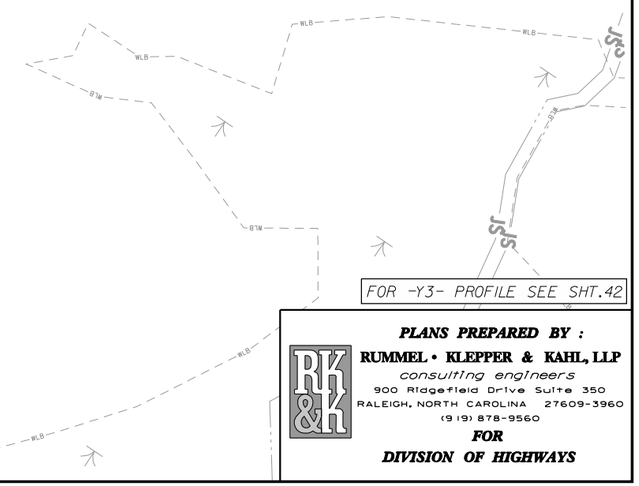
PROJECT REFERENCE NO.	SHEET NO.
R-2823	26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

30

MATCHLINE -Y3- STA. 26+00 SEE SHEET 13





FOR -Y3- PROFILE SEE SHT.42

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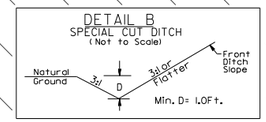
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PROJECT REFERENCE NO.	SHEET NO.
R-2823	27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



FROM -Y4- STA. 11+44 TO STA. 12+00 LT
FROM -Y4- STA. 11+50 TO STA. 12+50 RT

-Y4- POT Sta. 10+00.00

-BY3- #204 POT 5+00.00 =
-Y4- STA. 10+53.01 (30.47' LT)

WINDY OAKS FARM
DB 1438 PG 109
46

-Y4- PC Sta. 11+56.49

BEGIN CONSTRUCTION
-Y4- POC Sta. 11+44.00

BEGIN GRADE
-Y4- POC Sta. 11+90.00

+90.00
50',29.94' LT

+50.00
65' LT

300' UNIFORM TRANSITION

S 31° 53' 31.0" E

S 31° 29' 35.2" E

-Y4-

SPECIAL CUT DITCH
SEE DETAIL B

SPECIAL CUT DITCH
SEE DETAIL B

+90.00
50',30.07' RT

13+10.00
50' RT

EXISTING R/W

(AATUR)

CULTIVATED

WOODS

WINDY OAKS FARM, LLC
DB 1438 PG 109
45

MATCHLINE -Y4- STA. 13+40 SEE SHEET 14

-Y4-
PI Sta 12+67.60
△ = 1° 03' 39.5" (LT)
D = 0° 28' 38.9"
L = 222.21'
T = 111.11'
R = 12,000.00'
Se = NC

RICKS-BOSEMAN FARM
HISTORIC AREA

FOR -Y4- PROFILE SEE SHT.43

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PROJECT REFERENCE NO.	SHEET NO.
R-2823	28
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

MATCHLINE -Y4- STA. 23+00 SEE SHEET 14

-Y4-
PI Sta 28+38.21
Δ = 5°19' 54.7" (LT)
D = 0° 49' 27.8"
L = 646.76'
T = 323.61'
R = 6,950.00'

PT Sta. 31+61.36

+50.00
75', 40', 29.96' LT

150' TAPER

PUE
PUE
RETAIN
REMOVE
COLLAR AND EXTEND 18" RCP 4.0'
WARP CURB TO DRAIN TO CB
CB
RETAIN
RETAIN
RETAIN EXIST. C&G
END CONSTRUCTION
-Y4- POT Sta. 24+50.00
-Y4- PC Sta. 25+14.60
GPS R-2823-4 POT 21+60.26 = -Y4- STA. 27+14.63 (29.83' LT)

WILLIAM H. OVERMAN
DB 2007 PG 418
PB 1 PG 120

LLOYD B. LEE, JR.
DB 1138 PG 751

JOHN C. FLETCHER
DB 1123 PG 373

VIOLET H. LANIER
DB 1850 PG 208
DB 29 PG 212

LUCILLE ALSTON
DB 1988 PG 244
PB 29 PG 244

WILLIS BOICE WALKER
DB 1888 PG 1034
PB 29 PG 244

NORTHRIDGE PROPERTIES
DB 1764 PG 515
PB 29 PG 243

NORTHRIDGE PROPERTIES LLC
DB 1764 PG 515
PB 29 PG 244

BRYAN H. WHITFORD
DB 1304 PG 59

CITY OF ROCKY MOUNT

SPRUILL-EASLEY HOUSE HISTORIC AREA

FOR -Y4- PROFILE SEE SHT.43

CURB & GUTTER LOCATIONS

DESCRIPTION	ALN	STATION	STATION	LOC
2'-6" C&G	-Y4-	23+00.00	24+50.00	LT

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PROJECT REFERENCE NO.	SHEET NO.
R-2823	29
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

MATCHLINE -Y5- STA. 16+00 SEE SHEET 20

-Y7-
PI Sta 11+41.22
△ = 12° 07' 19.3" (RT)
D = 4° 18' 28.6"
L = 281.39'
T = 141.22'
R = 1,330.00'

PI Sta 14+74.74
△ = 30° 15' 53.9" (RT)
D = 8° 00' 48.2"
L = 377.68'
T = 193.36'
R = 715.00'

-Y5-
PI Sta 21+06.24
△ = 43° 48' 32.8" (RT)
D = 4° 05' 33.2"
L = 1,070.46'
T = 562.93'
R = 1,400.00'
Se= 0.06
Runoff = 160'

PI Sta 27+51.59
△ = 11° 49' 55.9" (LT)
D = 4° 18' 28.6"
L = 274.66'
T = 137.82'
R = 1,330.00'
Se= Exist.

-Y7- PT Sta. 16+59.07

-BY7- #209 PINC 11+09.46 =
-Y5- STA. 23+53.77 (52.94 LT.)

-Y7- PCC Sta. 12+81.39

-Y5- PT Sta. 28+88.43=
-Y7- PC Sta.10+00.00

END CONSTRUCTION
-Y5- POC Sta. 28+15.00

-Y5- PRC Sta. 26+13.77

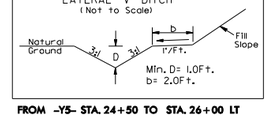
-BY7- #208 POT 5+00

PAVEMENT REMOVAL TO BE PERFORMED ALONG -Y7- FROM STA.14+77+/- (FENNER RD.& INSTRUMENT DR. INTERSECTION) TO STA.39+92+/- (FENNER RD.& BISHOP RD.INTERSECTION)

EXISTING PAVEMENT REMOVAL

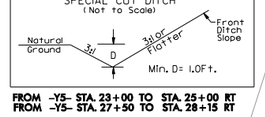
FOR -Y5- PROFILE SEE SHTS.43 & 44

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)



FROM -Y5- STA. 24+50 TO STA. 26+00 LT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



FROM -Y5- STA. 23+00 TO STA. 25+00 RT
FROM -Y5- STA. 27+50 TO STA. 28+15 RT

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PROJECT REFERENCE NO.	SHEET NO.
R-2823	30
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

MATCHLINE -Y8- STA. 20+00 SEE SHEET 23

THOMAS PEARSALL JR. et al TRUST
DB 2123 PG 660
88

20 25 30

89

BY8- #214 POT 20+57.60=
-Y8- STA. 25+35.64 (66.78' LT)

-Y8- POT Sta. 26+78.24

+65.00
195' LT

+85.00
225' LT

+20.00
175' LT

+85.00
170' LT

+25.00
126.67', 94.33' LT

+95.00
94.31', 105' LT

33 TONS CL I RIPRAP
W/62 SY FIL FAB
RIPRAP ON BANKS ONLY

+10.00
105', 94.28' LT

+40.00
105' LT

+15.00
94.19' LT

+50.00
105' LT

BDO
24" BCCS
2 ELBOWS W/
ROD AND LUG

SPECIAL CUT BASE DITCH
SEE DETAIL I

SPECIAL CUT DITCH
SEE DETAIL B

2 TONS CL B RIPRAP
W/7 SY FIL FAB

300' TAPER

3 TONS CL B RIPRAP
W/10 SY FIL FAB

REMOVE 44'
48" RCP AND
OTCB

33 TONS CL I
RIPRAP W/62
SY FIL FAB

S 13° 39' 35.9" W

400' LEFT TURN LANES

50'
TAPER

REMOVE JB, 20' 36" RCP,
10' 48" RCP, BOTH 18" RCPS

GRADE TO
DRAIN

REMOVE DI
AND PIPE

-Y8-

END CONSTRUCTION
-Y8- POT Sta. 25+57.57

SPECIAL CUT BASE DITCH
SEE DETAIL I

SPECIAL CUT BASE DITCH
SEE DETAIL I

+26 TONS CL I
RIPRAP W/50
SY FIL FAB

+65.00
110' RT

+30.00
106.89' RT

+30.00
105.00', 85.58' RT

+20.00
85.77' RT

+08.80
105' RT

+85.00
85.78' RT

+76.54
100' RT

+70.59
110' RT

+45.00
106.46' RT

BILLBOARD

WOODS

END GRADE
-Y8- POT Sta. 24+55.00

MACK B. & THOMAS J. PEARSALL
DB 1209 PG 982
75

90

ABANDON MOTEL

3,413,298 N
200,000

CURB & GUTTER LOCATIONS
NOTE: 2'-6" MOUNTABLE C&G FOR -Y8- MEDIAN

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground, 3:1, D, 3:1 or Flatter, Front Ditch Slope
Min. D= 1.0Ft.

FROM -Y8- STA. 23+00 TO STA. 25+38 LT

DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)

Natural Ground, 3:1, D, B, 3:1 or Flatter, Front Ditch Slope
Min. D= 1.0Ft.
B= 4.0Ft.

FROM -L- STA. 20+00 TO STA. 22+46 LT
FROM -L- STA. 20+00 TO STA. 24+50 RT

DETAIL R
CUT DITCH
(Not to Scale)

Natural Ground, 3:1, D, 3:1 or Flatter, Front Ditch Slope
Filter Fabric
Min. D= 1.0Ft.
Max. d= 1.0Ft.
Type of Liner= Class B Rip-Rap

FROM -Y8- STA. 22+46 TO STA. 23+00 LT

EXISTING PAVEMENT REMOVAL

FOR -Y8- PROFILE SEE SHT. 44

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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	31
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L-

BEGIN GRADE
-L- STA. 5+20.00
EL. 145.42'

PI = 10+70.00
EL = 147.07'
VC = 500'
K = 710

(+)0.3000%

(−)0.4041%

PROPOSED GRADE

PI = 17+80.00
EL = 144.20'
VC = 200'
K = 142

(−)0.4041%

(+) 0.35% LT

EXISTING GROUND

BEG. LAT. BASE DITCH
-L- STA. 17+38 LT
EL. 141.25

-L- STA. 24+00 EL. 143.64' LB = 143.27' LA
GRADE POINT SHIFTS
FROM ℄ TO 15' OFFSET

-Y- STA. 22+25.87 =
-L- STA. 21+58.22

PI = 22+00.00
EL = 148.40'
VC = 390'
K = 115

PI = 17+80.00
EL = 144.20'
VC = 200'
K = 142

(+)1.0000%

(−)2.3786%

(+)1.0000%

(+) 0.35% LT

(−) 2.05% LT

END LAT. BASE DITCH
-L- STA. 21+00 LT
EL. 142.50

BEG. SP. BACK OF CURB DITCH
-L- STA. 22+45 LT
EL. 144.78

PI -L- STA. 25+00 LT
EL. 139.55

END SP. BACK OF CURB DITCH
BEG. LAT. BASE DITCH
-L- STA. 26+00 LT
EL. 136.28

(−) 3.27% LT

(−) 2.10% RT

(−) 3.28% LT

BEG. LAT. V DITCH
-L- STA. 25+00 RT
EL. 138.00

END LAT. 'V' DITCH
-L- STA. 27+26 RT
EL. 133.25

PI -L- STA. 27+50 LT
EL. 131.36

EXISTING GROUND

PI = 28+50.00
EL = 132.56'
VC = 400'
K = 139

PROPOSED GRADE

(−)2.37.86%

(+)0.5000%

(−) 0.54% LT

48" PIPE

END LAT. BASE DITCH
-L- STA. 29+50 LT
EL. 130.28

BEG. SP. CUT DITCH
-L- STA. 31+20 LT
EL. 128.29

(+) 0.89% LT

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE (2)-48" RCP
STA. 30+28 -L-

DRAINAGE AREA	= 59	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 140	CFS
DESIGN HW ELEVATION	= 131.5	FT
100 YEAR DISCHARGE	= 160	CFS
100 YEAR HW ELEVATION	= 132	FT
OVERTOPPING FREQUENCY	= 500 +	YRS
OVERTOPPING DISCHARGE	= 180	CFS
OVERTOPPING ELEVATION	= 132.4	FT

LEFT SIDE DITCH PROFILE
RIGHT SIDE DITCH PROFILE

FOR -L- PLAN SEE SHTS. 4 THRU 6

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brauchle

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	32
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L-

PI = 32+65.00
EL = 134.64'
VC = 430'
K = 374

(+)0.5000%
(-)0.6500%
(+) 0.89% LT
(-)0.32% LT

BEG. SP. CUT DITCH
-L- STA.35+00 LT
EL. 129.20

END SP. CUT DITCH
-L- STA.33+00 LT
EL. 129.90

END SP. CUT DITCH
BEG. SP. CUT BASE DITCH
-L- STA.37+50 LT
EL. 128.39

PROPOSED GRADE

(-) 0.75% LT

PI = 41+25.00
EL = 129.05'
VC = 350'
K = 206

(-)0.6500%
(-)12.3500%
(-) 2.59% LT

PI -L- STA. 41+00 LT
EL. 125.77

PI -L- STA. 43+00 LT
EL. 120.60

EXISTING GROUND

(-)0.6060% LT
(-) 2.13% LT
(-) 3.26% RT
(-)12.3500%

PI -L- STA. 44+00 LT
EL. 120.00

PI -L- STA. 45+50 RT
EL. 114.95

BEG. LAT. BASE DITCH
-L- STA. 44+00 RT
EL. 119.84

END SP. CUT BASE DITCH
BEG. LAT. BASE DITCH
-L- STA.45+50 LT
EL. 116.81

32+00 33+00 34+00 35+00 36+00 37+00 38+00 39+00 40+00 41+00 42+00 43+00 44+00 45+00 46+00

170 160 150 140 130 120 110 100 90 80

RR SPIKE IN BASE OF 8" OAK
-L- STA. 48+90.14 163.45' LT
ELEV. = 114.83'

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE 9'x9' RCBC
STA.49+02 -L-

DRAINAGE AREA	1.0	SQ.MI.
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 700	CFS
DESIGN HW ELEVATION	= 120.4	FT
100 YEAR DISCHARGE	= 900	CFS
100 YEAR HW ELEVATION	= 121.6	FT
OVERTOPPING FREQUENCY	= 50 +	YRS
OVERTOPPING DISCHARGE	= 760	CFS
OVERTOPPING ELEVATION	= 121.1	FT

-Y1- STA.17+96.51=
-L- STA.53+56.26

EXISTING GROUND

PI -L- STA. 51+00 LT
EL. 118.71

PI = 45+85.00
EL = 118.24'
VC = 570'
K = 140

END LAT. BASE DITCH
-L- STA. 48+20 RT
EL. 114.14

9'x9' RCBC

(+)11.7192%
(-) 0.30% RT
(-) 2.13% LT
(-) 0.25% LT
(+) 0.82% LT
(+) 4.97% LT
(+) 6.73% LT
(+) 5.61% RT
(+) 3.66% LT

PROPOSED GRADE

BEG. SP. CUT DITCH
-L- STA. 54+09 LT
EL. 130.50

END SP. CUT DITCH
-L- STA. 55+00 LT
EL. 133.83

END LAT. BASE DITCH
-L- STA. 52+50 LT
EL. 128.81

PI -L- STA. 49+50 LT
EL. 111.25

PI -L- STA. 48+25 LT
EL. 110.95

END LAT. V DITCH
-L- STA. 52+00 RT
EL. 124.73

BEG. LAT. BASE DITCH
-L- STA. 48+95 LT
EL. 110.80

BEG. LAT. V DITCH
-L- STA. 50+80 RT
EL. 118.00

END LAT. BASE DITCH
-L- STA. 48+85 LT
EL. 110.80

LEFT SIDE DITCH PROFILE
RIGHT SIDE DITCH PROFILE

FOR -L- PLAN SEE SHTS.6 THRU 8

46+00 47+00 48+00 49+00 50+00 51+00 52+00 53+00 54+00 55+00 56+00 57+00 58+00 59+00 60+00

170 160 150 140 130 120 110 100 90 80

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Beauchamp

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PROJECT REFERENCE NO.	SHEET NO.
R-2823	33
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L-



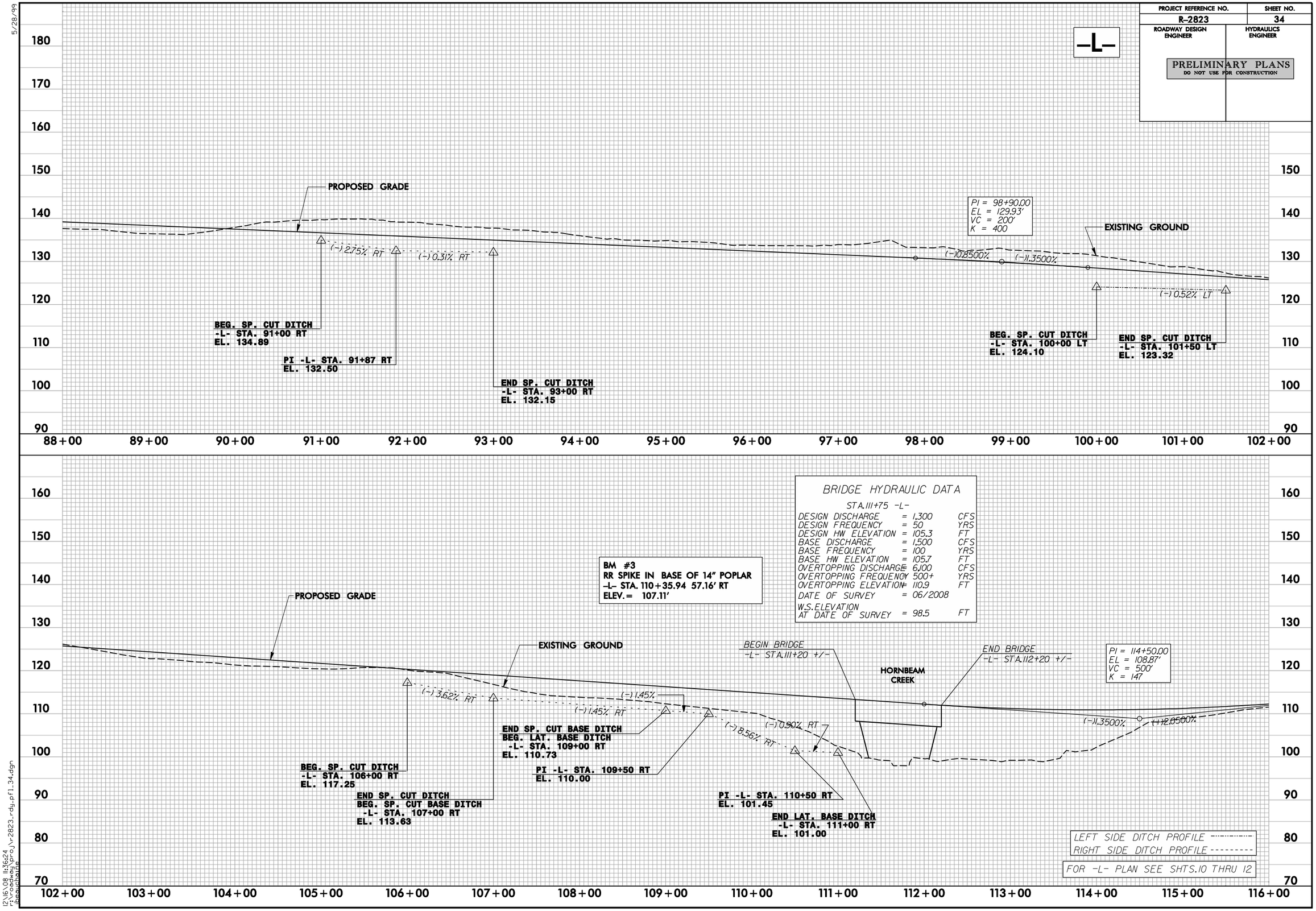
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PROJECT REFERENCE NO.	SHEET NO.
R-2823	34
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L-



BRIDGE HYDRAULIC DATA

STA.111+75 -L-

DESIGN DISCHARGE	= 1,300	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 105.3	FT
BASE DISCHARGE	= 1,500	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 105.7	FT
OVERTOPPING DISCHARGE	= 6,100	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 110.9	FT
DATE OF SURVEY	= 06/2008	
W.S. ELEVATION AT DATE OF SURVEY	= 98.5	FT

BM #3
RR SPIKE IN BASE OF 14" POPLAR
-L- STA. 110+35.94 57.16' RT
ELEV.= 107.11'

LEFT SIDE DITCH PROFILE
RIGHT SIDE DITCH PROFILE

FOR -L- PLAN SEE SHTS.10 THRU 12

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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	35
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L-

PI = 128+10.00
EL = 136.75'
VC = 7.80'
K = 170

PROPOSED GRADE

(+)2.0500%

(-)2.5500%

-Y3- STA.121+05.47=
-L- STA.128+08.19

EXISTING GROUND

(+) 1.99% LT

END STANDARD BASE DITCH
-L- STA. 118+25 LT
EL. 111.11

BEG. STANDARD BASE DITCH
-L- STA. 116+70 LT
EL. 108.02

116+00 117+00 118+00 119+00 120+00 121+00 122+00 123+00 124+00 125+00 126+00 127+00 128+00 129+00 130+00

PIPE HYDRAULIC DATA

DRAINAGE STRUCTURE 72" RCP
STA.135+35 -L-

DRAINAGE AREA	= 80	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 170	CFS
DESIGN HW ELEVATION	= 116.2	FT
100 YEAR DISCHARGE	= 200	CFS
100 YEAR HW ELEVATION	= 117.1	FT
OVERTOPPING FREQUENCY	= 500 +	YRS
OVERTOPPING DISCHARGE	= 122	CFS
OVERTOPPING ELEVATION	= 309.5	FT

BM #4
RR SPIKE IN BASE OF 14" GUM
-L- STA. 133+17.98 261.59' LT
ELEV.= 125.92'

PI -L- STA. 135+00 RT
EL. 114.64

PI = 135+50.00
EL = 117.88'
VC = 700'
K = 138

PI -L- STA. 134+50 RT
EL. 114.06

EXISTING GROUND

(-) 3.94% RT

(+) 0.30% RT

(-) 12.90% RT

(-)2.5500%

(+) 2.72% RT

END SP. CUT DITCH
BEG. SP. CUT BASE DITCH
-L- STA. 135+50 RT
EL. 116.00

(+)2.5200%

(-) 2.20% RT

(+) 1.16% RT

(+) 0.30% RT

72" PIPE

BEG. BERM BASE DITCH
-L- STA. 134+75 RT
EL. 108.86

END BERM BASE DITCH
BEG. BERM V DITCH
-L- STA. 135+50 RT
EL. 109.09

PROPOSED GRADE

PI -L- STA. 137+50 RT
EL. 124.00

(+) 3.18% RT

(+) 0.65% RT

(+) 7.46% RT

PI -L- STA. 138+00 RT
EL. 120.74

PI -L- STA. 140+00 RT
EL. 131.95

DITCH GRADE FOLLOWS
TYPICAL SECTION ELEVATIONS

PI -L- STA. 142+50 RT
EL. 136.30

PI -L- STA. 142+00 RT
EL. 136.15

PI = 141+50.00
EL = 133.00'
VC = 500'
K = 352

(+) 0.30% RT

(+) 2.10% RT

(+)2.5200%

(+)1.1000%

(-) 0.27% RT

PROPOSED GRADE

LEFT SIDE DITCH PROFILE
RIGHT SIDE DITCH PROFILE

FOR -L- PLAN SEE SHTS.12 THRU 14

130+00 131+00 132+00 133+00 134+00 135+00 136+00 137+00 138+00 139+00 140+00 141+00 142+00 143+00 144+00

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PROJECT REFERENCE NO.	SHEET NO.
R-2823	36
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L-

PI = 147+20.00
EL = 139.27'
VC = 350'
K = 167

-L- STA. 147+13.93 =
-Y4- STA. 147+29.80

(+)11.1000%

(−)11.0000%

(+) 1.02% LT

DITCH GRADE FOLLOWS
TYPICAL SECTION ELEVATIONS

(+) 0.58% LT

(−) 0.29% RT

EXISTING GROUND

PROPOSED GRADE

DITCH GRADE FOLLOWS
TYPICAL SECTION ELEVATIONS

BEG. SP. CUT DITCH
-L- STA. 144+31 LT
EL. 131.93

END SP. CUT DITCH
-L- STA. 146+09 LT
EL. 133.75

END BERM V DITCH
END SP. CUT BASE DITCH
-L- STA. 147+24 RT
EL. 135.00

BEG. SP. CUT DITCH
-L- STA. 147+33 LT
EL. 134.41

END SP. CUT DITCH
-L- STA. 148+00 LT
EL. 134.80

BEG. SP. CUT DITCH
-L- STA. 148+68 RT
EL. 133.75

END SP. CUT BASE DITCH
-L- STA. 150+00 RT
EL. 133.37

BEG. SP. CUT BASE DITCH
-L- STA. 156+50 LT
EL. 126.87

144+00 145+00 146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00 156+00 157+00 158+00

180 170 160 150 140 130 120 110 100 90

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE 78" RCP
STA.169+16 -L-

DRAINAGE AREA	= 88	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 200	CFS
DESIGN HW ELEVATION	= 106.6	FT
100 YEAR DISCHARGE	= 230	CFS
100 YEAR HW ELEVATION	= 108.0	FT
OVERTOPPING FREQUENCY	= 50	YRS
OVERTOPPING DISCHARGE	= 200	CFS
OVERTOPPING ELEVATION	= 106.6	FT

BM #5
RR SPIKE IN BASE OF 12" POPLAR
-L- STA. 170+18.63 192.25' LT
ELEV. = 104.62'

PI = 159+70.00
EL = 126.77'
VC = 500'
K = 625

EXISTING GROUND

(−)11.0000%

(−)11.8000%

DITCH GRADE FOLLOWS
TYPICAL SECTION ELEVATIONS

(−) 5.48% LT

(−) 4.45% LT

(−) 0.65% LT

PROPOSED GRADE

PI = 171+80.00
EL = 104.99'
VC = 380'
K = 165

(−) 4.52% LT

78" PIPE

(−) 0.54% LT

(+) 1.35% RT

(−)11.8000%

L+)0.5000%

(+) 1.03% RT

PI -L- STA. 162+50 LT
EL. 115.90

PI -L- STA. 163+50 LT
EL. 111.45

PI -L- STA. 166+50 LT
EL. 109.50

PI -L- STA. 167+50 LT
EL. 104.98

BEG. LAT. V DITCH
-L- STA. 167+75 RT
EL. 98.01

END LAT. BASE DITCH
-L- STA. 169+30 LT
EL. 104.00

END LAT. V DITCH
-L- STA. 169+50 RT
EL. 100.37

BEG. LAT. V DITCH
-L- STA. 170+80 RT
EL. 102.50

LEFT SIDE DITCH PROFILE -·-·-·-·-·-
RIGHT SIDE DITCH PROFILE ---------

FOR -L- PLAN SEE SHTS.14 THRU 16

158+00 159+00 160+00 161+00 162+00 163+00 164+00 165+00 166+00 167+00 168+00 169+00 170+00 171+00 172+00

160 150 140 130 120 110 100 90 80 70

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PROJECT REFERENCE NO.	SHEET NO.
R-2823	37
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L-

BRIDGE HYDRAULIC DATA
STA.182+37.5 -L-

DESIGN DISCHARGE	= 2,000	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 94.3	FT
BASE DISCHARGE	= 2,300	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 94.7	FT
OVERTOPPING DISCHARGE	= 18,750	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 103.7	FT
DATE OF SURVEY	= 06/2008	
W.S.ELEVATION AT DATE OF SURVEY	= 91.9	FT

COMPASS CREEK

BM #6
RR SPIKE IN BASE OF 24" OAK
-L- STA. 185+19.26 218.25' LT
ELEV.= 99.96'

PI = 176+76.00
EL = 107.47'
VC = 300'
K = 300

PROPOSED GRADE

BEGIN BRIDGE
-L- STA.180+71.00 +/-

END BRIDGE
-L- STA.184+04.00 +/-

EXISTING GROUND

(+) 1.03% RT
(-) 1.17% RT
(+)0.5000%
(+)0.5000%
(-)0.5000%
(-) 0.30% RT
18" RCP

END LAT. V DITCH
-L- STA. 173+10 RT
EL. 103.55

PI -L- STA. 172+50 RT
EL. 104.25

BEG. LAT. V DITCH
-L- STA. 175+50 RT
EL. 101.63

END LAT. V DITCH
-L- STA. 177+25 RT
EL. 101.10

TEMPORARY WORK BRIDGE & FINGERS
- MAX. 30' BRIDGE WIDTH
- PIER / SPAN PLACEMENT TO BE DETERMINED BY CONTRACTOR
- LOW CHORD 4' ABOVE NWS=89.7'
- EDGE OF BRIDGE FINGERS PLACED A MINIMUM OF 10' FROM PROPOSED PIERS

Q_{NWS} ▼ 89.7

BEG. SP. CUT 'V' DITCH
-L- STA. 184+48 RT
EL. 98.53

BEG. SP. CUT 'V' DITCH
-L- STA. 184+98 LT; EL. 98.27

(-) 0.35% RT
(-) 0.22% LT

150 140 130 120 110 100 90 80 70 60

172+00 173+00 174+00 175+00 176+00 177+00 178+00 179+00 180+00 181+00 182+00 183+00 184+00 185+00 186+00

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE 78" RCP
STA.189+80 -L-

DRAINAGE AREA	= 97	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 220	CFS
DESIGN HW ELEVATION	= 103.7	FT
100 YEAR DISCHARGE	= 250	CFS
100 YEAR HW ELEVATION	= 104.4	FT
OVERTOPPING FREQUENCY	= NA	YRS
OVERTOPPING DISCHARGE	= NA	CFS
OVERTOPPING ELEVATION	= NA	FT

PI = 187+50.00
EL = 102.10'
VC = 300'
K = 250

END SP. CUT 'V' DITCH
BEG. LAT. 'V' DITCH
-L- STA. 189+00 LT
EL. 97.39

PROPOSED GRADE

EXISTING GROUND

78" PIPE

(-)0.5000% (+)0.7000%

(-) 0.35% RT

(-) 0.22% LT

(-) 0.22% LT

(-) 2.08% RT

(+) 0.86% LT

(+) 0.70% LT

(+) 8.12% LT

(+) 0.70% LT

END SP. CUT 'V' DITCH
BEG. LAT. 'V' DITCH
-L- STA. 188+50 RT
EL. 97.12

END LAT. BASE DITCH
-L- STA. 189+15 RT
EL. 95.77

BEG. LAT. BASE DITCH
-L- STA. 190+28 LT.
EL. 97.12

END LAT. 'V' DITCH
-L- STA. 189+70 LT.
EL. 97.23

END LAT. BASE DITCH
BEG. SP. CUT BASE DITCH
-L- STA. 191+00 LT.
EL. 97.74

PI -L- STA. 193+50
EL. 103.20

PI -L- STA. 193+00 LT
EL. 99.14

END SP. CUT BASE DITCH
-L- STA. 195+00 LT
EL. 104.25

LEFT SIDE DITCH PROFILE
RIGHT SIDE DITCH PROFILE

FOR -L- PLAN SEE SHTS.16 THRU 18

150 140 130 120 110 100 90 80 70 60

186+00 187+00 188+00 189+00 190+00 191+00 192+00 193+00 194+00 195+00 196+00 197+00 198+00 199+00 200+00

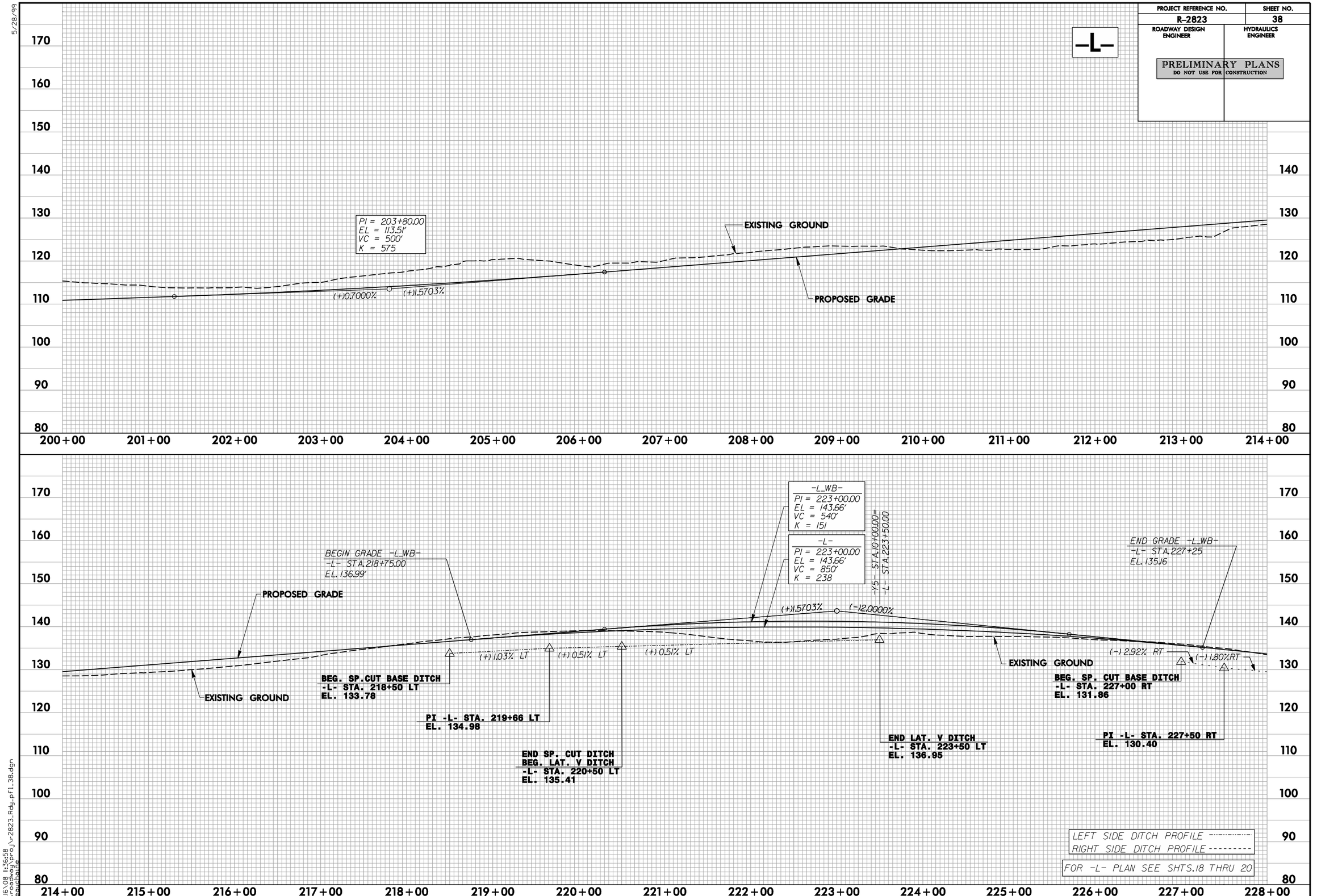
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PROJECT REFERENCE NO.	SHEET NO.
R-2823	38
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L-



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PROJECT REFERENCE NO.	SHEET NO.
R-2823	39
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L-

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE 60" RCP
STA. 231+57 -L-

DRAINAGE AREA	= 31	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 80	CFS
DESIGN HW ELEVATION	= 124.5	FT
100 YEAR DISCHARGE	= 90	CFS
100 YEAR HW ELEVATION	= 124.9	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 130	CFS
OVERTOPPING ELEVATION	= 126.5	FT

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE 8'x9' RCBC
STA. 239+81 -L-

DRAINAGE AREA	= 356	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 600	CFS
DESIGN HW ELEVATION	= 116.1	FT
100 YEAR DISCHARGE	= 700	CFS
100 YEAR HW ELEVATION	= 117.6	FT
OVERTOPPING FREQUENCY	= 100+	YRS
OVERTOPPING DISCHARGE	= 935	CFS
OVERTOPPING ELEVATION	= 118.5	FT

BM #7
RR SPIKE IN BASE OF 48" OAK
-L- STA. 230+89.38 244.47' RT
ELEV. = 130.71'

PROPOSED GRADE

EXISTING GROUND

PI = 236+00.00
EL = 117.66'
VC = 400'
K = 160

PI = 241+90.00
EL = 120.61'
VC = 250'
K = 200

(-) 1.80% RT
(-) 7.03% RT
(-) 0.30% RT
(-) 0.30% LT
(-)12.0000%
(+)0.5000%
(-) 4.26% LT
(-) 1.65% LT
(+)0.5000%
(+)11.7500%
(+) 4.02% LT

60" PIPE

END SP. CUT DITCH
-L- STA. 230+75 RT
EL. 122.13

PI -L- STA. 229+75 RT
EL. 122.43

PI -L- STA. 229+00 RT
EL. 127.70

BEG. SP. CUT DITCH
-L- STA. 233+50 LT
EL. 117.32

END SP. CUT DITCH
-L- STA. 235+00 LT
EL. 116.87

BEG. SP. CUT BASE DITCH
-L- STA. 236+00 LT
EL. 115.81

END SP. CUT BASE DITCH
BEG. LAT. BASE DITCH
-L- STA. 236+50 LT
EL. 113.68

PI -L- STA. 237+00 LT.
EL. 111.55

END LAT. BASE DITCH
-L- STA. 239+15 LT
EL. 108.00

8'x9' RCBC

BEG. LAT. BASE DITCH
-L- STA. 241+10 LT
EL. 108.39

170 160 150 140 130 120 110 100 90 80

228+00 229+00 230+00 231+00 232+00 233+00 234+00 235+00 236+00 237+00 238+00 239+00 240+00 241+00 242+00

PI = 249+21.91
EL = 133.42'
VC = 650'
K = 277

PROPOSED GRADE

EXISTING GROUND

(+)11.7500%
(-)10.6000%
(+)11.7500%
(+) 4.02% LT
(+) 4.02% LT
(+) 0.33% RT

-Y6- STA. 17+85.33 =
-L- STA. 247+13.23

END LAT. BASE DITCH
BEG. SP. CUT DITCH
-L- STA. 243+50 LT
EL. 118.04

END SP. CUT DITCH
-L- STA. 244+50 LT
EL. 122.06

BEG. SP. CUT DITCH
-L- STA. 245+50 RT
EL. 123.51

END SP. CUT DITCH
-L- STA. 246+50 RT
EL. 123.84

LEFT SIDE DITCH PROFILE -·-·-·-·-·-
RIGHT SIDE DITCH PROFILE ---------

FOR -L- PLAN SEE SHTS. 20 THRU 22

170 160 150 140 130 120 110 100 90 80

242+00 243+00 244+00 245+00 246+00 247+00 248+00 249+00 250+00 251+00 252+00 253+00 254+00 255+00 256+00

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(hpaulding)

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	40
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L-

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE 60" RCP
STA. 260+50 -L-

DRAINAGE AREA	= 43	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 100	CFS
DESIGN HW ELEVATION	= 123.1	FT
100 YEAR DISCHARGE	= 120	CFS
100 YEAR HW ELEVATION	= 123.9	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 156	CFS
OVERTOPPING ELEVATION	= 125.8	FT

BM #9
RR SPIKE IN BASE OF 24" PINE
-L- STA. 262+77.10 84.18' RT
ELEV. = 125.25'

END GRADE
-L- STA. 264+49.56 EL. 125.90' =
-Y8- STA. 18+17.87 79.29' RT

PI = 262+70.00
EL = 125.33'
VC = 200'
K = 218

BEG. BERM V DITCH
-L- STA. 256+50 RT
EL. 125.76

BEG. SP. CUT DITCH
-L- STA. 257+50 RT
EL. 125.35

PI -L- STA. 259+50 RT
SP. CUT DITCH EL. 122.50
BERM V DITCH EL. 120.37

PI -L- STA. 259+00 RT
EL. 121.66

END SP. CUT DITCH
END BERM V DITCH
-L- STA. 260+00 RT
EL. 118.00

PROPOSED GRADE

EXISTING GROUND

(-) 6.33% LT
(-) 1.64% RT
(-) 1.55% LT
(-) 1.43% RT
(-) 12.58% RT
(-) 9.00% RT
(-) 4.74% RT
(+) 3.50% LT
(+) 0.75 LT
(-) 10.6000%
(+) 0.31 1%
(+) 0.75% LT

60" PIPE
18" RCP

END LAT. BASE DITCH
-L- STA. 259+98 LT
EL. 118.36

PI -L- STA. 257+58 LT
EL. 122.08

BEG. LAT. BASE DITCH
-L- STA. 260+02 LT
EL. 118.36

BEG. LAT. BASE DITCH
-L- STA. 257+00 LT
EL. 125.75

END LAT. BASE DITCH
BEG. SP. CUT DITCH
-L- STA. 261+50 LT
EL. 122.17

PI -L- STA. 261+00 LT
EL. 121.79

END SP. CUT DITCH
-L- STA. 264+00 LT
EL. 124.04

FOR -L- PLAN SEE SHTS. 22 & 23

170 160 150 140 130 120 110 100 90 80

256+00 257+00 258+00 259+00 260+00 261+00 262+00 263+00 264+00

-Y-

BEGIN GRADE
-Y- STA. 12+85.00
EL. 156.25'

BEG. SP. CUT DITCH
-Y- STA. 12+85 LT
EL. 154.15

END SP. CUT DITCH
-Y- STA. 13+00 LT
EL. 153.66

(-) 1.27% LT
(-) 2.60% RT

EXISTING GROUND

PI = 16+15.00
EL = 151.96'
VC = 160'
K = 320

PI = 17+75.00
EL = 149.08'
VC = 160'
K = 152

(-) 1.3000%
(-) 1.8000%
(-) 1.8000%
(-) 0.7500%

PROPOSED GRADE

PI = 21+00.00
EL = 146.64'
VC = 160'
K = 949

BEGIN GRADE
-Y- STA. 22+69.22 EL. 146.10' =
-L- STA. 21+44.14 (41.0' RT)

END GRADE
-Y- STA. 21+82.46 EL. 145.89' =
-L- STA. 21+72.49 (41.0' LT)

-Y- STA. 22+25.87'
-L- STA. 21+58.22'

.025 .020

PI = 23+45.00
EL = 145.33'
VC = 150'
K = 227

(-) 0.7500%
(-) 10.9186%
(-) 1.0117%
(-) 0.3500%
(-) 0.35% RT
(-) 0.35% RT

BEG. SP. CUT DITCH
-Y- STA. 12+85 RT
EL. 153.56

END SP. CUT DITCH
-Y- STA. 13+00 RT
EL. 153.17

BEG. SP. CUT DITCH
-Y- STA. 20+00 RT
EL. 143.11

END SP. CUT DITCH
BEG. LAT. BASE DITCH
-Y- STA. 21+00 RT
EL. 142.76

END LAT. BASE DITCH
-Y- STA. 21+76 RT
EL. 142.50

LEFT SIDE DITCH PROFILE
RIGHT SIDE DITCH PROFILE

FOR -Y- PLAN SEE SHTS. 5 & 24

160 150 140 130 120 110 100

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00

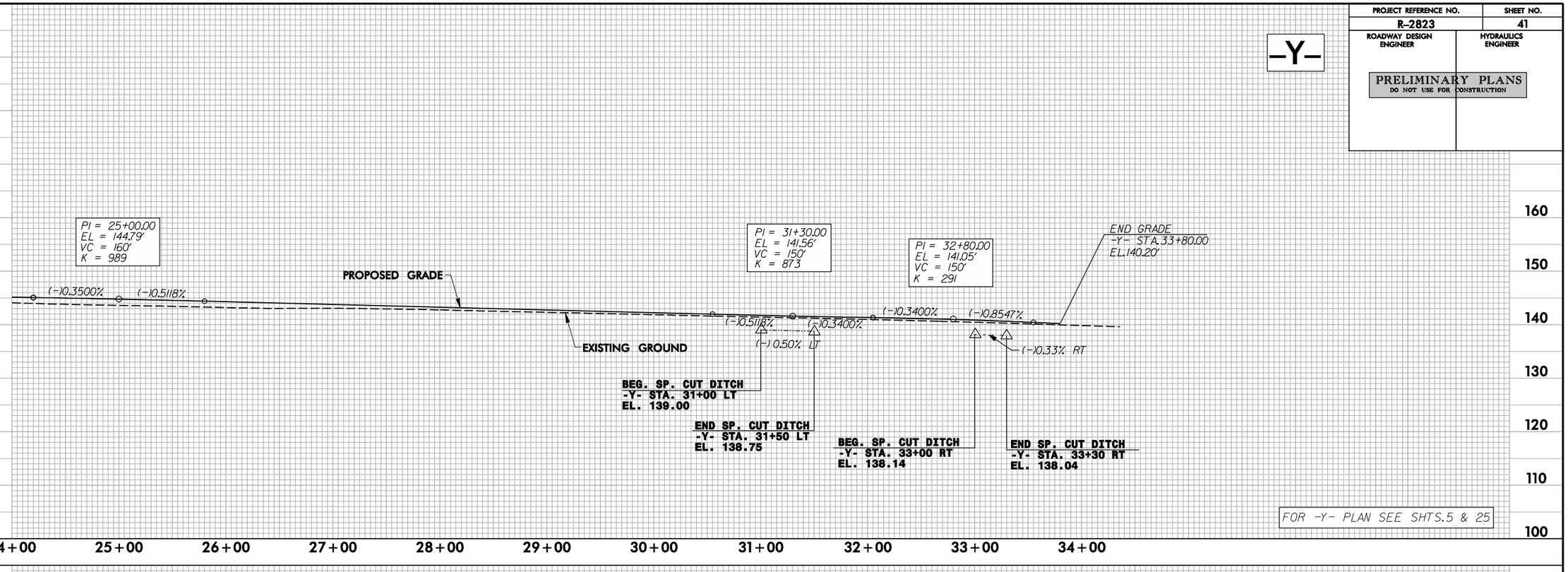
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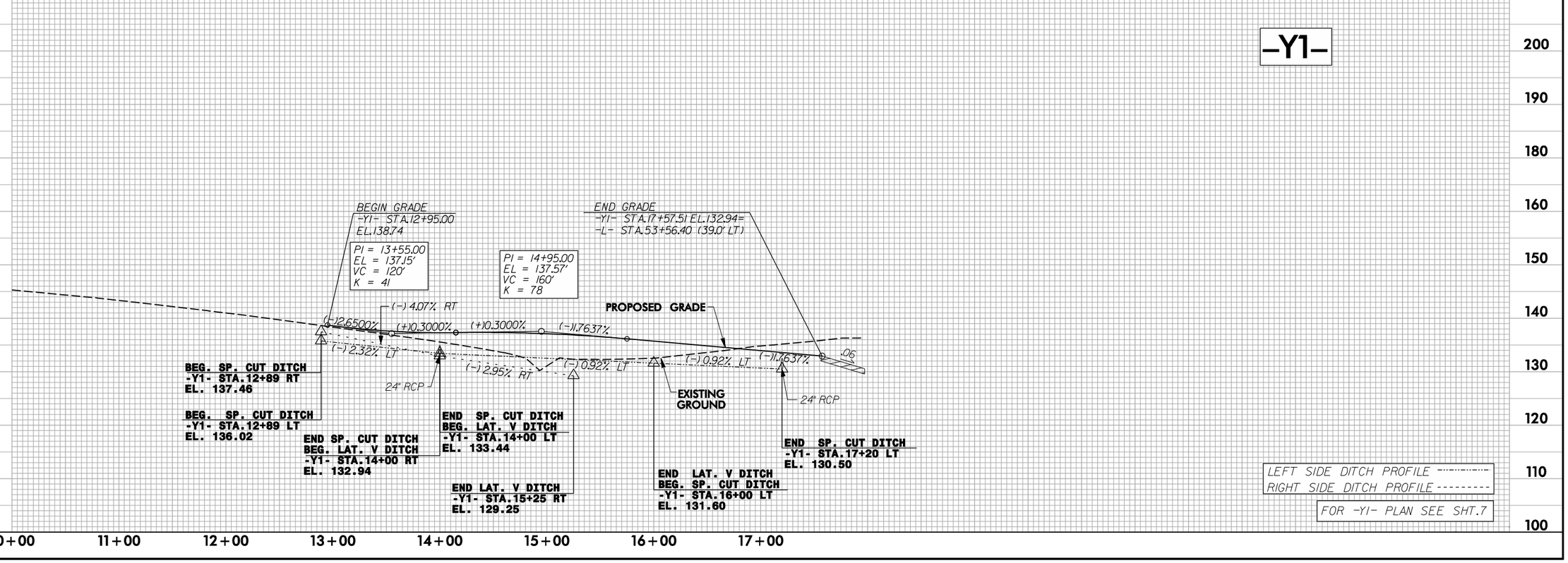
PROJECT REFERENCE NO.	SHEET NO.
R-2823	41
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y-



-Y1-



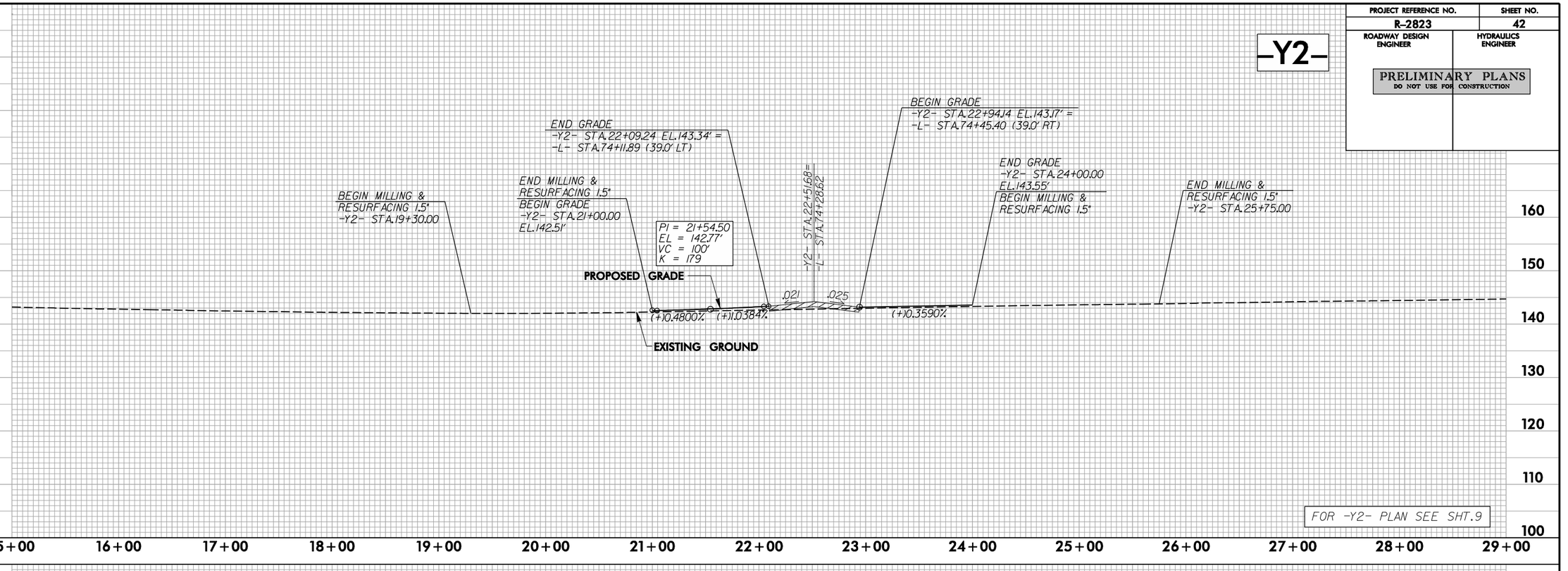
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(hpaulhus)

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	42
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

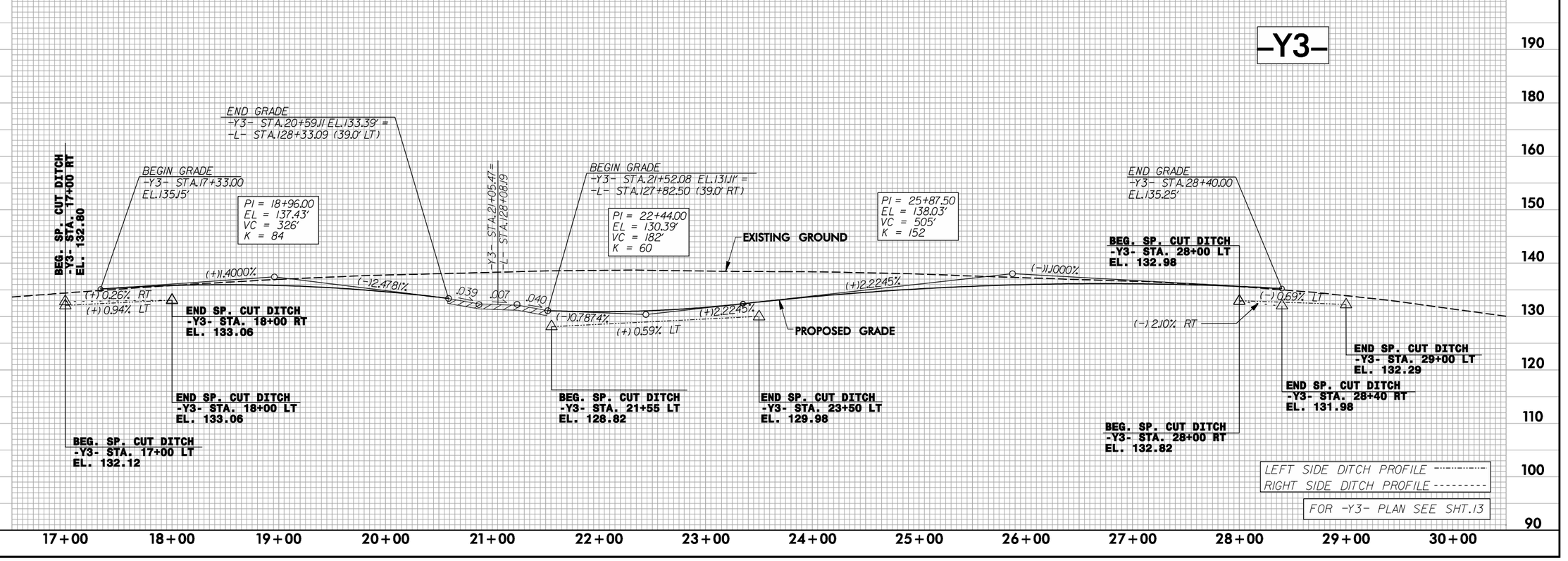
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y2-



FOR -Y2- PLAN SEE SHT.9

-Y3-



FOR -Y3- PLAN SEE SHT.13

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(preliminary)

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
R-2823	43
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y4-

BEG. SP. CUT DITCH
-Y4- STA. 11+44 LT
EL. 132.57

BEGIN GRADE
-Y4- STA.11+90.00
EL.135.21'

END SP. CUT DITCH
-Y4- STA. 12+00 LT
EL. 132.833

PI = 14+40.00
EL = 137.96'
VC = 250'
K = 179

END GRADE
-Y4- STA.17+24.84 EL.137.73' =
-L- STA.146+99.98 (39.0' LT)

PI = 16+40.00
EL = 137.36'
VC = 150'
K = 204

EXISTING GROUND
PROPOSED GRADE

-Y4- STA.17+73.93 =
-L- STA.147+29.80

BEGIN GRADE
-Y4- STA.18+23.03 EL.137.72' =
-L- STA.147+59.63 (39.0' RT)

END GRADE
-Y4- STA.22+00.00
EL.136.94

PI = 20+60.00
EL = 138.97'
VC = 250'
K = 126

(+)11.1000%
(-)0.3000%
(-)0.3000%
(+)0.4361%
(+)10.5275%
(+)0.43% RT
(+)10.5275%
(-)11.4500%
(-) 2.00% RT
(+) 0.46% LT
(+) 1.87% RT
(-) 0.30% LT
(+) 0.30% LT
.020
.02/
18" RCP

END SP. CUT DITCH
-Y4- STA. 12+00 RT
EL. 132.30

BEG. SP. CUT DITCH
-Y4- STA. 11+50 RT
EL. 131.36

BEG. SP. CUT DITCH
-Y4- STA. 16+00 LT
EL. 134.75

END SP. CUT DITCH
-Y4- STA. 17+15 LT
EL. 134.41

BEG. SP. CUT DITCH
-Y4- STA. 18+30 RT
EL. 135.00

BEG. SP. CUT DITCH
-Y4- STA. 19+16 LT
EL. 133.75

END SP. CUT DITCH
-Y4- STA. 20+00 RT
EL. 135.73

BEG. SP. CUT DITCH
-Y4- STA. 21+50 RT
EL. 134.90

END SP. CUT DITCH
-Y4- STA. 22+00 RT
EL. 133.90

END SP. CUT DITCH
-Y4- STA. 22+00 LT
EL. 134.60

FOR -Y4- PLAN SEE SHT.14

-Y5-

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE 36" RCP
STA.16+87 -Y5-

DRAINAGE AREA	= 21	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 40	CFS
DESIGN HW ELEVATION	= 123.8	FT
100 YEAR DISCHARGE	= 60	CFS
100 YEAR HW ELEVATION	= 125.2	FT
OVERTOPPING FREQUENCY	= 500 +	YRS
OVERTOPPING DISCHARGE	= 102	CFS
OVERTOPPING ELEVATION	= 129.8	FT

-L-
223+50.00

BEGIN GRADE
-Y5- STA.10+39.00 EL.138.51' =
-L- STA 223+49.95 (39.0' RT)

PI = 11+30.00
EL = 137.04'
VC = 180'
K = 571

.05

(-)11.6154%
(-)11.3000%
(+) 0.30% RT
(+) 1.68% RT

18" PIPE

END LAT. V DITCH
-Y5- STA. 12+00 RT
EL. 133.38

BEG. LAT. V DITCH
-Y5- STA. 11+00 RT
EL. 132.70

PT -Y5- STA. 11+50 RT
EL. 132.55

PROPOSED GRADE

36" PIPE

EXISTING GROUND

PI = 23+80.00
EL = 120.79'
VC = 420'
K = 115

(-)11.3000%
(-) 0.30% RT

BEG. SP. CUT DITCH
-Y5- STA. 23+00 RT
EL. 119.28

LEFT SIDE DITCH PROFILE
RIGHT SIDE DITCH PROFILE

FOR -Y5- PLAN SEE SHTS.20 & 29

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PROJECT REFERENCE NO.	SHEET NO.
R-2823	44
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y5-

PI = 23+80.00
EL = 120.79'
VC = 420'
K = 115

24" PIPE

(+)12.3500%
(+)4.2674% RT
(+)3.10% LT
(-)0.30% RT
(+)6.04% LT

END LAT. V DITCH
-Y5- STA. 26+00 LT
EL. 123.62

PI -Y5- STA. 25+50 LT
EL. 120.60

END SP. CUT DITCH
-Y5- STA. 25+00 RT
EL. 120.96

BEG. LAT. V DITCH
-Y5- STA. 24+50 LT
EL. 117.50

PI -Y5- STA. 24+50 RT
EL. 118.83

END GRADE
-Y5- STA.28+15.00
EL.128.80'

PI = 27+00.00
EL = 128.31'
VC = 220'
K = 114

(+)0.4261%
(+)1.42% RT

BEG. SP. CUT DITCH
-Y5- STA. 27+50 RT
EL. 126.45

END SP. CUT DITCH
-Y5- STA. 28+15 RT
EL. 127.37

FOR -Y5- PLAN SEE SHT.29

-Y6-

BEG. SP. CUT DITCH
-Y6- STA. 16+00 LT
EL. 128.61

END GRADE
-Y6- STA.17+46.32 EL.128.91'=
-L- STA.247+12.42 (39.0' LT)

BEGIN GRADE
-Y6- STA.16+00.00
EL.130.54'

PI = 16+80.00
EL = 129.98'

-Y6- STA.17+85.33=
-L- STA.247+13.23

END GRADE
-Y6- STA.19+25.00
EL.127.75'

PROPOSED GRADE

(-)0.7000%
(-)1.6134%
.025
.025
(-)1.1723%

24" PIPE
(-) 1.51% RT

(-) 2.80% LT

BEG. SP. CUT DITCH
-Y6- STA. 16+25 RT
EL. 126.95

END SP. CUT DITCH
-Y6- STA. 16+50 LT
EL. 127.21

END SP. CUT DITCH
-Y6- STA. 17+24 RT
EL. 125.46

BEGIN GRADE
-Y6- STA.18+24.34 EL.128.93'=
-L- STA.247+14.05 (39.0' RT.)

EXISTING GROUND

FOR -Y6- PLAN SEE SHT.22

-Y8-

(-) 0.30% CL

END MEDIAN DITCH
-Y8- STA. 13+00 CL
EL. 128.39

BEG. MEDIAN DITCH
-Y8- STA. 10+50 CL
EL. 129.13

-Y8-

(-) 1.83% CL
(-) 0.30% CL
EXISTING GROUND

END MEDIAN DITCH
-Y8- STA. 15+00 CL
EL. 127.30

PI -Y8- STA. 14+77 CL
EL. 127.72

BEG. MEDIAN DITCH
-Y8- STA. 14+00 CL
EL. 127.95

BEGIN GRADE
-Y8- STA.18+30.00
EL.125.84'

PROPOSED SB LANES
PI = 21+10.00
EL = 118.39'
VC = 560'
K = 121
DS = 56 mph

BEG. SP. CUT BASE DITCH
-Y8- STA. 19+04 RT
EL. 122.40

BEG. SP. CUT DITCH
-Y8- STA. 19+50 LT
EL. 121.39

PI -Y8- STA. 20+00 RT
EL. 116.91

PI -Y8- STA. 20+30 LT
EL. 116.65

PI -Y8- STA. 21+08 RT
EL. 113.90

PI -Y8- STA. 22+00 RT
EL. 114.87

(-)5.93% LT
(-)5.72% RT
(-)2.79% RT
(-)2.6600%
66" PIPE
(-) 0.30% LT
(+) 1.05% RT
(+)11.9617%

PROPOSED SB LANES

END SP. CUT DITCH
-Y8- STA. 22+26 LT
EL. 116.06

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE 66" RCP
STA.21+76 -Y8-

DRAINAGE AREA	= 56	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 130	CFS
DESIGN HW ELEVATION	= 118.9	FT
100 YEAR DISCHARGE	= 140	CFS
100 YEAR HW ELEVATION	= 119.7	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 190	CFS
OVERTOPPING ELEVATION	= 121.6	FT

(+) 2.26% RT
(+) 0.30% LT

BEG. SP. CUT DITCH
-Y8- STA. 23+00 LT
EL. 119.00

END SP. CUT DITCH
-Y8- STA. 24+50 RT
EL. 120.61

END SP. CUT DITCH
-Y8- STA. 25+38 LT
EL. 119.76

END GRADE
-Y8- STA.24+55.00
EL.125.16'

LEFT SIDE DITCH PROFILE
RIGHT SIDE DITCH PROFILE

FOR -Y8- PLAN SEE SHTS.23 & 30

5/28/99

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(preuchard)