

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

July 17, 2013

MEMORANDUM TO: Ms. Karen E. Fussell, PE
Division 3 Engineer

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

SUBJECT: Sampson County, NC 24 from SR 1404 to US 421-701/SR
1296; Federal Aid STPHNF-F-8-2(17); WBS Element
34416.1.S1-S2; **TIP R-2303 C & D.**

E. J. Fush

Attached are modifications to the U.S. Army Corps of Engineers Section 404 Individual Permit and the N.C. Division of Water Quality Section 401 Water Quality Certification. These modifications approve construction of Sections C and D. Except as revised by these modifications, all permit conditions in the original R-2303 permits remain valid.

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

cc: Mr. Randy Garris, P.E., Contract Standards and Development Unit
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Jay Bennett, P.E., Roadway Design Unit
Mr. Dewayne Sykes, P.E. Utilities Unit
Mr. Art McMillan, P.E., Hydraulics Unit
Mr. Greg Perfetti, P.E., Structure Design Unit
Mr. Ron Hancock, P.E., State Roadway Construction Engineer
Mr. Mike Robinson, P.E., State Bridge Construction Engineer
Mr. Stoney Mathis, Division 3 Environmental Officer
Mr. Rob Hanson, P.E., PDEA
Ms. Leilani Paugh, NES
Mr. Randy Griffin, P.E., NES
Ms. Beth Harmon, EEP
Mr. Phillip Ayscue, Office of Inspector General
Mr. Clarence Coleman, P.E., FHWA

PROJECT COMMITMENTS

TIP Project No. R-2303
NC 24 from 2.8 Miles East of I-95 in Fayetteville
to I-40 at Warsaw. Cumberland, Sampson, and Duplin Counties
Federal Aid No. STPNHF-F-8-2(17)
WBS Project No. 34416

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

PDEA Unit, Roadway Design Unit, Divisions 3 and 6 Construction

Archaeological Resources (Sites 31SP331, 31DP226). Site 31SP331 is located in Segment D3B south of Bonnetsville (Selected), and Site 31DP226 is located in Segment F5 (Selected). Since the Selected Alternative will have an adverse effect upon these archaeological sites and preservation in place is not possible, NCDOT will develop a Data Recovery Plan (DRP) in consultation with the North Carolina State Historic Preservation Office (HPO). The DRP will be implemented in accordance with the Memorandum of Agreement signed by FHWA and the HPO on August 27, 2010.

This commitment is related to Sections D and F of the project. All of the parcels associated with Site 31SP331 in Section D have been acquired. The Data Recovery Plan for Site 31SP331 is being prepared and will be implemented after approval of the plan by the State Historic Preservation Office. The data recovery field work will be completed prior to the July 2013 Construction Let. It should also be noted that Section F is currently unfunded, and that the Data Recovery Plan for Site 31DP226 will not be prepared and implemented until right of way is acquired for the parcels associated with this resource.

PDEA Unit, Roadway Design Unit, Roadside Environmental Unit, Divisions 3 and 6 Construction

Maxwell House. Widening will be away from house (i.e., to south). NCDOT will develop a landscaping plan along the new road (to be reviewed by the North Carolina State Historic Preservation Office). This site is located near segment A2 (Selected).

This commitment is related to Section A of the project. The NCDOT Roadside Environmental Unit prepared and submitted a Landscaping Plan to the North Carolina State Historic Preservation Office for review and comment. In their August 7, 2012 letter, the Historic Preservation Office stated that either of the options for landscaping in front of the historic Maxwell House provides buffering and meets the commitment made by NCDOT, and, thereby, avoids an adverse effect upon this historic property.

PDEA Unit, Roadside Environmental Unit, Divisions 3 and 6 Construction

Proposed borrow sites designated by the contractor will be investigated and tested for invasive plant species of Japanese knotweed (*Reynoutria japonica*). EPA should be consulted concerning known locations of the Japanese knotweed colonies in the project area.

GeoEnvironmental Section, Divisions 3 and 6 Construction

The GeoEnvironmental Section has removed all known underground fuel tanks from the project limits of R-2303B. Residual concentrations of petroleum-contaminated soil and groundwater may be encountered during construction. A project special provision will be included with the let package to instruct the Contractor in the event contamination is encountered. The areas of known soil contamination will be shown on the plans.

COMMITMENTS FROM PERMITTING

Division 3 Construction

All original conditions in the December 12, 2012 Individual Section 404 permit and September 24, 2012 Individual Section 401 Water Quality Certification as well as subsequent modifications of either, remain valid.

No construction activities that impact any wetlands, streams, or surface waters located in R-2303 Sections E and F shall begin until after the permittee applies for, and receives written modifications from the US Army Corps of Engineers and the from the NC Division of Water Quality.

Pipes and culverts used exclusively to maintain equilibrium in wetlands, where aquatic life passage is not a concern, shall not be buried. These pipes shall be installed at natural ground elevation.

PDEA – Natural Environment Section, Division 3 Construction

The Permittee shall fully implement the compensatory mitigation plan (Section C and D), entitled Mitigation Plan, dated February 22, 2013 for the unavoidable impacts to 5.76 acres of wetlands. Activities prescribed by this plan shall be initiated prior to, or concurrently with, commencement of any construction activities within jurisdictional areas authorized by this permit. The permittee will re-establish, enhance, and preserve 4.92 acres of wetlands and 550 linear feet of stream channel in accordance with the plan, with the following conditions:

- 1) Any changes or modifications to your mitigation plan shall be approved by the Corps.
- 2) All mitigation areas shall be monitored for a minimum of 5 years or until deemed successful by the Corps in accordance with the monitoring requirements included in the mitigation plan.

REMEDIAL MITIGATION PLAN: If the compensatory mitigation fails to meet the performance standards 5 years after completion of the compensatory mitigation objectives, the compensatory mitigation will be deemed unsuccessful. Within 60 days of notification by the Corps that the compensatory mitigation is unsuccessful, the Permittee shall submit to the Corps an alternate compensatory mitigation proposal to fully offset the functional loss that occurred as a result of the project. The alternate compensatory mitigation proposal may be required to include additional mitigation to compensate for the temporal loss of wetland function associated with the unsuccessful compensatory mitigation activities. The Corps reserves the right to fully evaluate, amend, and approve or reject the alternate compensatory mitigation proposal. Within 120 days of Corps approval, the Permittee will complete the alternate compensatory mitigation proposal.

PDEA – Human Environment Section, Division 3 Construction

NCDOT shall abide by all stipulations identified in the Memorandum of Agreement between the Federal Highway Administration and the North Carolina State Historic Preservation Office, concurred by NCDOT and executed August 27, 2010 (copy attached).

Division 3 Construction, Roadside Environmental Unit

At locations where ponds will be drained, proper measures will be taken to drain the pond with limited impact to upstream and downstream channel stability as well as to native aquatic species. Proper measures will be taken to avoid sediment release and/or sediment accumulation downstream as a result of pond draining. If typical pond draining techniques will create significant disturbance to native aquatic species, additional measures such as collection and relocation may be necessary to prevent a significant fish kill. NCDOT shall consult with NC Wildlife Resources staff to determine if there are any sensitive species, and the most appropriate measures to limit impacts to these species. The permittee shall observe any natural channel reestablishment, or utilize natural channel construction techniques, to ensure that the jurisdictional stream channel above and below the drained pond remain stable, and that no additional impacts occur within the natural stream channel as a result of draining the pond.

All channel relocations will be constructed in a dry work area and stabilized before stream flows are diverted. Channel relocations will be completed and stabilized, and must be approved on site by NCDWQ staff, prior to diverting water into the new channel. Whenever possible, channel relocations shall be allowed to stabilize for an entire growing season. Vegetation used for bank stabilization shall be limited to native woody species, and should include establishment of a 30 foot wide wooded and an adjacent 20 foot wide vegetated buffer on both sides of the relocated channel to the maximum extent practical. All stream banks shall be matted with coir fiber matting. Also, rip-rap may be allowed if it is necessary to maintain the physical integrity of the stream, but the applicant must provide written justification and any calculations used to determine the extent of rip-rap coverage requested. Once the stream has been turned into the new channel, it may be necessary to relocate stranded fish to the new channel to prevent fish kills.

For streams being impacted due to site dewatering activities, the site shall be graded to its preconstruction contours and re-vegetated with appropriate native species.

A turbidity curtain will be installed in the stream if driving or drilling activities occur within the stream channel, on the stream bank, or within 5 feet of the top of bank. A turbidity curtain will also be installed in ponds that require the installation of rip rap embankment. This condition can be waived with prior approval from DWQ.

The following commitments apply to R-2303 C

Division 3 Construction

Native material shall be placed inside of the reinforced concrete box culverts at Permit Site 2 (Sta. 1109+25) and Permit Site 12 (Sta. 1224+46) to create a natural streambed within the culvert that matches

the upstream and downstream profile and dimensions. If possible, the material placed inside of the culvert should be the same native material that is excavated from the streambed during the construction of these structures.

PDEA – Natural Environment Section, Division 3 Construction

Due to the possibility that compaction and/or other site alterations might prevent the temporary wetland impact area from re-attaining jurisdictional wetland status; the permittee shall provide an update on the wetland areas temporarily impacted at Site 18 (Sta. 1301+67 to 1321+13). This update shall be conducted a minimum of two growing seasons after completion of the work at Site 18 and shall consist of photographs and a brief report on the progress of the areas in re-attaining wetland jurisdictional status. Upon submission of this update to NCDWQ, the permittee shall schedule an agency field meeting with the NCDWQ to determine if the wetland areas temporarily impacted by this project have re-attained jurisdictional wetland status. If the wetland areas temporarily impacted by this project have not re-attained jurisdictional wetland status, NCDWQ shall determine if compensatory wetland mitigation is required.

In order to compensate for impacts associated with this permit, mitigation shall be provided in accordance with the provisions outlined on the most recent version of the attached Compensatory Mitigation Responsibility Transfer Form. The requirements of this form, including any special conditions listed on this form, are hereby incorporated as special conditions of this permit modification authorization.

**** Note, breakdown of impacts to required mitigation for Section C:**

Section C

- 3.05 acres of riparian wetland restoration equivalents will come from a combination of left over mitigation in section B as well as new riparian restoration, enhancement, and preservation in section C.
- 7.35 acres of riparian impacts (roadway) will be mitigated through EEP at 2:1, resulting in a 14.70 acre debit.
- 1.38 acres of riparian impacts (utility) will be mitigated through EEP at 1:1, resulting in 1.38 acre debit
- 3.69 acres of non-riparian impacts (roadway) will be mitigated through EEP at 2:1, resulting in a 7.38 acre debit.
- 0.16 acre non riparian impact (utility) will be mitigated through EEP at 1:1, resulting in a 0.16 acre debit.
- 0.44 acre non riparian impact (utility) will be mitigated through EEP at 0.5:1, resulting in a 0.22 acre debit.
- 550 linear feet of stream restoration will occur on site in section C.
- 1,261 linear feet of stream impact (roadway) will be mitigated at 2:1 from EEP, resulting in a 2,522 linear feet debit.

The following commitments apply to R-2303 D

PDEA – Natural Environment Section/ Division 3 Construction

The Department will complete the restoration at Site 22 in Section D which will result in the day lighting of 56 linear feet of stream channel. The work should be completed as described on plan sheet 57 and 58 of 75. Additionally, the work is further described in cross section on plan sheet 2 of 75, detail R.

In order to compensate for impacts associated with this permit, mitigation shall be provided in accordance with the provisions outlined on the most recent version of the attached Compensatory Mitigation Responsibility Transfer Form. The requirements of this form, including any special conditions listed on this form, are hereby incorporated as special conditions of this permit modification authorization.

**** Note, breakdown of impacts to required mitigation for Section D:**

Section D

- 2.68 acres of riparian wetland restoration equivalents will come from a combination of restoration and enhancement in section D.
- 3.06 acres of riparian impacts (roadway) will be mitigated through EEP at 2:1, resulting in a 6.12 acre debit.
- 0.52 acre riparian impact (utility) will be mitigated through EEP at 1:1, resulting in a 0.52 acre debit.
- 2.56 acres of non-riparian impacts (roadway) will be mitigated through EEP at 2:1, resulting in a 5.12 acre debit.
- 0.28 acre non riparian impact (utility) will be mitigated through EEP at 0.5:1, resulting in a 0.14 acre debit.
- 1,539 linear feet of stream impacts (roadway) will be mitigated at 2:1 from EEP, resulting in a 3,078 linear feet debit.



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

REPLY TO
ATTENTION OF:

July 8, 2013

Regulatory Division

Action ID No. SAW-1992-03237

Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA
N.C. Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Thorpe:

Reference the Department of the Army (DA) permit issued on December 12, 2012, for the discharge of fill material into waters and wetlands adjacent to various Creeks, and their tributaries in order to construct Section A of TIP# R -2303 (NC 24), Cumberland County, North Carolina. Reference is also made to your permit modification dated January 29, 2013 with revision dated February 25, 2013. Authorization to construct Section B of TIP#R-2303 starting east of Stedman in Cumberland County and ending west of Roseboro in Sampson County, a total of 6.891 miles was issued March 5, 2013. With subsequent revisions and updated information received for Section C and D, which totals 13.3 miles starting in north of Roseboro and terminating near Clinton in Sampson County, the existing permit is currently being modified to include the aforementioned sections.

I have determined that the proposed project modifications described above are not contrary to the public interest and consistent with the 404 (B)(1) and therefore, the DA permit is hereby modified. The following conditions specific to Section C and D have been added:

All original conditions in the December 12, 2012 permit remain valid and are enforceable with Section C and D authorization. The Special Conditions for the permit modification are the following:

1. This permit modification only authorizes work on Section C and D of TIP R-2303. Construction on Sections E-F of TIP R-2303 shall not commence until final design has been completed for those sections, the permittee has minimized impacts to waters and wetlands to the maximum extent practicable, any modifications to the plans, and a compensatory mitigation plan, have been approved by the US Army Corps of Engineers (COE). Approved permit plans for Section C and D are attached.

2. The Permittee shall fully implement the compensatory mitigation plan (Section C and D), entitled Mitigation Plan, dated February 22, 2013 for the unavoidable impacts to 5.76 acres of wetlands. Activities prescribed by this plan shall be initiated prior to, or concurrently with, commencement of any construction activities within jurisdictional areas authorized by this permit. The permittee will re-establish, enhance, and preserve 4.92 acres of wetlands and 550 linear feet of stream channel in accordance with the plan, with the following conditions:
 - 1) Any changes or modifications to your mitigation plan shall be approved by the Corps.
 - 2) All mitigation areas shall be monitored for a minimum of 5 years or until deemed successful by the Corps in accordance with the monitoring requirements included in the mitigation plan.
3. **REMEDIAL MITIGATION PLAN:** If the compensatory mitigation fails to meet the performance standards 5 years after completion of the compensatory mitigation objectives, the compensatory mitigation will be deemed unsuccessful. Within 60 days of notification by the Corps that the compensatory mitigation is unsuccessful, the Permittee shall submit to the Corps an alternate compensatory mitigation proposal to fully offset the functional loss that occurred as a result of the project. The alternate compensatory mitigation proposal may be required to include additional mitigation to compensate for the temporal loss of wetland function associated with the unsuccessful compensatory mitigation activities. The Corps reserves the right to fully evaluate, amend, and approve or reject the alternate compensatory mitigation proposal. Within 120 days of Corps approval, the Permittee will complete the alternate compensatory mitigation proposal.
4. The Department will complete the restoration at site #22 in Section D which will result in the day lighting of 56 linear feet of stream channel. The work should be completed as described on plan sheet 57 and 58 of 75. Additionally, the work is further described in cross section on plan sheet 2 of 75, detail R.
5. In order to compensate for impacts associated with this permit, mitigation shall be provided in accordance with the provisions outlined on the most recent version of the attached Compensatory Mitigation Responsibility Transfer Form. The requirements of this form, including any special conditions listed on this form, are hereby incorporated as special conditions of this permit modification authorization.

** Note, breakdown of impacts to required mitigation for Section C and D:

Section C

- 3.05 acres of riparian wetland restoration equivalents will come from a combination of left over mitigation in section B as well as new riparian restoration, enhancement, and preservation in section C.

- 7.35 acres of riparian impacts (roadway) will be mitigated through EEP at 2:1, resulting in a 14.70 acre debit.
- 1.38 acres of riparian impacts (utility) will be mitigated through EEP at 1:1, resulting in 1.38 acre debit
- 3.69 acres of non-riparian impacts (roadway) will be mitigated through EEP at 2:1, resulting in a 7.38 acre debit.
- 0.16 acre non riparian impact (utility) will be mitigated through EEP at 1:1, resulting in a 0.16 acre debit.
- 0.44 acre non riparian impact (utility) will be mitigated through EEP at 0.5:1, resulting in a 0.22 acre debit.
- 550 linear feet of stream restoration will occur on site in section C.
- 1,261 linear feet of stream impact (roadway) will be mitigated at 2:1 from EEP, resulting in a 2,522 linear feet debit.

Section D

- 2.68 acres of riparian wetland restoration equivalents will come from a combination of restoration and enhancement in section D.
- 3.06 acres of riparian impacts (roadway) will be mitigated through EEP at 2:1, resulting in a 6.12 acre debit.
- 0.52 acre riparian impact (utility) will be mitigated through EEP at 1:1, resulting in a 0.52 acre debit.
- 2.56 acres of non-riparian impacts (roadway) will be mitigated through EEP at 2:1, resulting in a 5.12 acre debit.
- 0.28 acre non riparian impact (utility) will be mitigated through EEP at 0.5:1, resulting in a 0.14 acre debit.
- 1,539 linear feet of stream impacts (roadway) will be mitigated at 2:1 from EEP, resulting in a 3,078 linear feet debit.

This modification approval will be utilized for future compliance of the project. If you have questions, please contact Brad Shaver of the Wilmington Regulatory Field Office, at telephone (910) 251-4611.

Sincerely,



Steven A. Baker
Colonel, U. S. Army
District Commander

Enclosures

Copies Furnished (electronic w/o attachments):

Mr. Mason Herndon, NCDWQ
Mr. Stoney Mathis, NCDOT
Mr. Chris Rivenbark, NCDOT
Mr. Chris Manly, NCDOT
Mr. Chris Militscher, USEPA
Mr. Gary Jordan, USFWS
Mr. Travis Wilson, NCWRC
Ms. Beth Harmon, NCEEP
Mr. Todd Tugwell, USACE

U.S. ARMY CORPS OF ENGINEERS
Wilmington District
Compensatory Mitigation Responsibility Transfer Form

Permittee: North Carolina Department of Transportation
Project Name: R-2303, Sections C and D

Action ID: SAW-1992-03237
County: Sampson

Instructions to Permittee: The Permittee must provide a copy of this form to the Mitigation Sponsor, either an approved Mitigation Bank or the North Carolina Ecosystem Enhancement Program (NCEEP), who will then sign the form to verify the transfer of the mitigation responsibility. Once the Sponsor has signed this form, it is the Permittee's responsibility to ensure that to the U.S. Army Corps of Engineers (USACE) Project Manager identified on page two is in receipt of a signed copy of this form before conducting authorized impacts, unless otherwise specified below. If more than one mitigation Sponsor will be used to provide the mitigation associated with the permit, or if the impacts and/or the mitigation will occur in more than one 8-digit Hydrologic Unit Code (HUC), multiple forms will be attached to the permit, and the separate forms for each Sponsor and/or HUC must be provided to the appropriate mitigation Sponsors.

Instructions to Sponsor: The Sponsor must verify that the mitigation requirements shown below are available at the identified site. By signing below, the Sponsor is accepting full responsibility for the identified mitigation, regardless of whether or not they have received payment from the Permittee. Once the form is signed, the Sponsor must update the appropriate ledger and provide a copy of the signed form to the Permittee and to the USACE Bank/In-Lieu Fee Program Manager. The Sponsor must also comply with all reporting requirements established in their authorizing instrument.

Permitted Impacts and Compensatory Mitigation Requirements:

Permitted Impacts Requiring Mitigation* **8-digit HUC and Basin:** 03030006, Cape Fear River Basin

Stream Impacts (linear feet)			Wetland Impacts (acres)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-riverine	Non-Riparian	Coastal
2800				12.31	7.13	

*If more than one mitigation sponsor will be used for the permit, only include impacts to be mitigated by this sponsor.

Compensatory Mitigation Requirements:

8-digit HUC and Basin: 03030006, Cape Fear River Basin

Stream Mitigation (credits)			Wetland Mitigation (credits)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-riverine	Non-Riparian	Coastal
5600				22.72	13.02	

Mitigation Site Debited: NCEEP

(List the name of the bank to be debited. For umbrella banks, also list the specific site. For NCEEP, list NCEEP. If the NCEEP acceptance letter identifies a specific site, also list the specific site to be debited).

Section to be completed by the Mitigation Sponsor

Statement of Mitigation Liability Acceptance: I, the undersigned, verify that I am authorized to approve mitigation transactions for the Mitigation Sponsor shown below, and I certify that the Sponsor agrees to accept full responsibility for providing the mitigation identified in this document (see the table above), associated with the USACE Permittee and Action ID number shown. I also verify that released credits (and/or advance credits for NCEEP), as approved by the USACE, are currently available at the mitigation site identified above. Further, I understand that if the Sponsor fails to provide the required compensatory mitigation, the USACE Wilmington District Engineer may pursue measures against the Sponsor to ensure compliance associated with the mitigation requirements.

Mitigation Sponsor Name: _____

Name of Sponsor's Authorized Representative: _____

Signature of Sponsor's Authorized Representative

Date of Signature

USACE Wilmington District
Compensatory Mitigation Responsibility Transfer Form, Page 2

Conditions for Transfer of Compensatory Mitigation Credit:

- Once this document has been signed by the Mitigation Sponsor and the USACE is in receipt of the signed form, the Permittee is no longer responsible for providing the mitigation identified in this form, though the Permittee remains responsible for any other mitigation requirements stated in the permit conditions.
- Construction within jurisdictional areas authorized by the permit identified on page one of this form can begin only after the USACE is in receipt of a copy of this document signed by the Sponsor, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein. For authorized impacts conducted by the North Carolina Department of Transportation (NCDOT), construction within jurisdictional areas may proceed upon permit issuance; however, a copy of this form signed by the Sponsor must be provided to the USACE within 30 days of permit issuance. NCDOT remains fully responsible for the mitigation until the USACE has received this form, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein.
- Signed copies of this document must be retained by the Permittee, Mitigation Sponsor, and in the USACE administrative records for both the permit and the Bank/ILF Instrument. It is the Permittee's responsibility to ensure that the USACE Project Manager (address below) is provided with a signed copy of this form.
- If changes are proposed to the type, amount, or location of mitigation after this form has been signed and returned to the USACE, the Sponsor must obtain case-by-case approval from the USACE Project Manager and/or North Carolina Interagency Review Team (NCIRT). If approved, higher mitigation ratios may be applied, as per current District guidance and a new version of this form must be completed and included in the USACE administrative records for both the permit and the Bank/ILF Instrument.

Comments/Additional Conditions:

** Note, breakdown of impacts to required mitigation for Section C and D:

Section C

- 3.05 acres of riparian wetland restoration equivalents will come from a combination of left over mitigation in section B as well as new riparian restoration, enhancement, and preservation in section C.
- 7.35 acres of riparian impacts (roadway) will be mitigated through EEP at 2:1, resulting in a 14.70 acre debit.
- 1.38 acres of riparian impacts (utility) will be mitigated through EEP at 1:1, resulting in 1.38 acre debit
- 3.69 acres of non-riparian impacts (roadway) will be mitigated through EEP at 2:1, resulting in a 7.38 acre debit.
- 0.16 acre non riparian impact (utility) will be mitigated through EEP at 1:1, resulting in a 0.16 acre debit.
- 0.44 acre non riparian impact (utility) will be mitigated through EEP at 0.5:1, resulting in a 0.22 acre debit.
- 550 linear feet of stream restoration will occur on site in section C.
- 1,261 linear feet of stream impact (roadway) will be mitigated at 2:1 from EEP, resulting in a 2,522 linear feet debit.

Section D

- 2.68 acres of riparian wetland restoration equivalents will come from a combination of restoration and enhancement in section C.
- 3.06 acres of riparian impacts (roadway) will be mitigated through EEP at 2:1, resulting in a 6.12 acre debit.
- 0.52 acre riparian impact (utility) will be mitigated through EEP at 1:1, resulting in a 0.52 acre debit.

U.S. ARMY CORPS OF ENGINEERS

Wilmington District

- 2.56 acres of non-riparian impacts (roadway) will be mitigated through EEP at 2:1, resulting in a 5.12 acre debit.
- 0.28 acre non riparian impact (utility) will be mitigated through EEP at 0.5:1, resulting in a 0.14 acre debit.
- 1,539 linear feet of stream impacts (roadway) will be mitigated at 2:1 from EEP, resulting in a 3,078 linear feet debit.

This form is not valid unless signed by the mitigation Sponsor and USACE Project Manager. For questions regarding this form or any of the conditions of the permit authorization, contact the Project Manager at the address below.

USACE Project Manager: Brad Shaver
USACE Field Office: Wilmington Regulatory Field Office
US Army Corps of Engineers
69 Darlington Avenue
Wilmington, NC 28403

Email:



USACE Project Manager Signature

July 8, 2013

Date of Signature

Current Wilmington District mitigation guidance, including information on mitigation ratios, functional assessments, and mitigation bank location and availability, and credit classifications (including stream temperature and wetland groupings) is available at <http://ribits.usace.army.mil>.



North Carolina Department of Environment and Natural Resources

Division of Water Quality

Pat McCrory
Governor

Thomas A. Reeder
Acting Director

John E. Skvarla, III
Secretary

July 12, 2013

Dr. Greg Thorpe, PhD., Manager
Project Development and Environmental Analysis
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina, 27699-1598

Subject: Modification of 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water with ADDITIONAL CONDITIONS for Proposed improvements to NC 24 from SR 1853 (John Nunnery Rd.) in Cumberland County to US 421-701/SR 1296 (Sunset Avenue) in Sampson County, Federal Aid Project No. STPNHF-F-8-2(17), WBS No. 34416. **TIP R-2303C&D.**

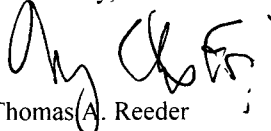
NCDWQ Project No. 20120240v.3

Dear Dr. Thorpe:

Attached hereto is a modification of Certification No. 3942 issued to The North Carolina Department of Transportation (NCDOT) dated September 24, 2012. **This certification replaces the modification issued on June 26, 2013.**

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

Sincerely,



Thomas A. Reeder

Attachments

cc: Brad Shaver, US Army Corps of Engineers, Wilmington Field Office (electronic copy only)
Karen Fussell, PE, Division 3 Engineer
Stoney Mathis, Division 3 Environmental Officer
Chris Militscher, Environmental Protection Agency (electronic copy only)
Gary Jordan, US Fish and Wildlife Service (electronic copy only)
Travis Wilson, NC Wildlife Resources Commission (electronic copy only)
Jason Elliott, NCDOT, Roadside Environmental Unit (electronic copy only)
Jim Stanfill, Ecosystem Enhancement Program
Chris Manley, NCDOT Natural Environment Section (electronic copy only)
Sonia Carrillo, NCDWQ Central Office
File Copy

Transportation and Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1617
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604
Phone: 919-807-6300 \ FAX: 919-807-6492
Internet: www.nowaterquality.org

An Equal Opportunity \ Affirmative Action Employer

One
North Carolina
Naturally

**Modification to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act
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 (NCDWQ) Regulations in 15 NCAC 2H .0500. This certification authorizes the NCDOT to impact an additional 28.88 acres of jurisdictional wetlands, 6.10 acres of waters and 4,333 linear feet of jurisdictional streams in Cumberland and Sampson Counties for the construction of **R-2303C&D** only. The project shall be constructed pursuant to the revised application dated received February 15, 2013 and revisions received electronically on April 12, 2013; May 10, 2013; June 4, 2013 and June 7, 2013. **No impacts to Sections E or F are being authorized with this certification.** The authorized impacts are as described below:

Stream Impacts in the Cape Fear River Basin

Site	Station	Permanent Fill in Intermittent Stream (linear ft)	Temporary Fill in Intermittent Stream (linear ft)	Permanent Fill in Perennial Stream (linear ft)	Temporary Fill in Perennial Stream (linear ft)	Bank Stabilization (linear ft)	Total Stream Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
R-2303A⁽¹⁾								
	Total	0	0	572	27	-	599	278
R-2303B⁽²⁾								
	Total	158	0	193	88	-	439	351
R-2303C								
1	734+14 to 739+72	74	10	0	0	10	94	0
6	804+86 to 807+86	213	20	0	0	10	243	223
7	860+27 to 865+12	0	0	260	42	39	341	299
9	867+38 to 889+49	0	0	255	28	55	338	310
10	905+77 to 907+41	0	0	262	20	80	362	342
11	912+92 to 913+67	0	0	185	0	10	195	195
15	999+64 to 1005+57	0	0	38	10	10	58	0
18	1035+56 to 1037+40	0	0	271	20	10	301	281
19	1064+16 to 1067+95	0	0	90	10	10	110	0
22	1086+79 to 1087+86	26	20	0	0	10	56	0
23	1091+76 to 1092+23	137	10	0	0	10	157	0
	Total	450	60	1,361	130	254	2,255	1,650
R-2303D								
2	1106+68 to 1110+17	0	0	183	60	19	262	202
6	1197+30 to 1197+97	35	11	0	0	0	46	0
7	1199+32 to 1201+65	33	16	0	0	0	49	0
12	1224+08 to 1224+64	0	0	306	60	42	408	348
13	1278+68 to 1281+53	286	10	0	0	21	317	307
14	1289+68 to 1291+91	283	30	0	0	30	343	313
15	1292+13 to 1299+88	0	0	151	20	32	203	183
20	1391+00	129	0	0	0	10	139	0
22	1444+00	0	0	108	5	46	159	177 ⁽³⁾
22	12+22 to 12+69-Y53	0	0	55	20	24	99	
23	17+40-Y52	9	8	0	0	10	27	0
24	52+66-Y52	17	0	0	0	9	26	0
	Total	792	75	803	165	243	2,078	1,530
R-2303E⁽⁴⁾								
	Total	-	-	1,336	155		1,491	-
R-2303F⁽⁴⁾								
	Total	-	-	3,859	294		4,153	-
Project Total								
	Project Total	1,400	135	8,124	859	497	11,015	-

Total Stream Impact for Project: 11,015 linear feet (4,333 linear feet for Sections C & D)

⁽¹⁾Impacts authorized in the original 401 certification dated September 24, 2012 and modification dated March 18, 2013.

⁽²⁾Authorized in the modification dated February 25, 2013. ⁽³⁾56 ft of pipe will be removed and restored to open channel at Site 22-Y53 to offset 56ft of impacts. ⁽⁴⁾Sections E and F stream impacts are projected based on preliminary design and include perennial and intermittent systems.

Wetland Impacts in the Cape Fear River Basin

Site	Station	Wetland Type ⁽¹⁾	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impact (ac)	Impacts Requiring Mitigation (ac)
R-2303A⁽²⁾									
Total			6.73	0	0.04	0.91	0.19	7.87	7.68
R-2303B⁽³⁾									
Total			4.64	0.12	0.30	0.97	4.32	10.35	5.91
R-2303C									
1	734+14 to 739+72	NR	0.87	0	0.20	0.11	0	1.18	1.18
2	741+85 to 744+50	R	0.26	0	0	0.05	0	0.31	0.31
5	769+44 to 777+78	NR	0.95	0	0.16	0.20	0	1.31	1.31
6	804+86 to 807+86	R	0.10	0	0	0.04	0	0.14	0.14
7	860+27 to 865+12	R	2.34	0	0	0.20	0	2.54	2.54
8	881+97 to 882+31	R	<0.01	0	0	<0.01	0	<0.01	<0.01
9	867+38 to 889+49	R	0.64	0	0	0.05	0	0.69	0.69
10	905+77 to 907+41	R	0.25	0	0	0.01	0	0.26	0.26
12	937+08 to 957+49	R	3.56	0	0.16 ⁽⁴⁾	0.68	0.23	4.63	4.24
13	955+51 to 958+83 (RT)	NR	0.32	0	0	0.06	0	0.38	0.38
14	977+98 to 981+52	NR	0.46	0	0.09	0.11	0	0.66	0.66
16	1005+48 to 1007+04	NR	0.05	0	0	0.03	0	0.08	0.08
18	1035+56 to 1037+40	R	0.60	0	0	0.06	0	0.66	0.66
19	1064+16 to 1067+95	R	0.49	0	0	0.09	0	0.58	0.58
20	1075+74 to 1080+69	R	0.82	0	0	0.13	0	0.95	0.95
21	1082+39 to 1083+15	NR	0.04	0	0	0.02	0	0.06	0.06
24	1091+76 to 1092+23	NR	<0.01	0	0	0.01	0	0.01	0.01
R-2303C UTILITIES									
U1	734+78-L-	NR	0	0	0	0	<0.01	<0.01	0
U2	16+33-Y28-	NR	<0.01	0	0	0	0.14	0.14	0
U3	936+39	R	0	0	0	0	0.02	0.02	0
U4	937+54	R	<0.01	0	0	0	0.26	0.26	0
U5	942+21	R	<0.01	0	0	0	0.82	0.82	0
U6	947+07	R	0	0	0	0	0.02	0.02	0
U7	948+32	R	<0.01	0	0	0	0.16	0.16	0
U8	955+66	R	<0.01	0	0	0	0.12	0.12	0
U9	958+17	NR	0	0	0	0	0.04	0.04	0
U10	978+43	NR	0	0	0	0	0.01	0.01	0
U11	979+24	NR	<0.01	0	0	0	0.13	0.13	0
U12	1005+40	NR	0	0	0	0	0.19	0.19	0
U13	1075+13	R	<0.01	0	0	0	0.16	0.16	0
U14	1076+31	R	<0.01	0	0	0	0.28	0.23	0
U15	1091+70	NR	<0.01	0	0	0	0.04	0.04	0
GS1	887+46 to 888+16	R	0	0	0.03 ⁽⁴⁾	0	0	0.03	0
GS2	889+23 to 889+53	R	0	0	0.01 ⁽⁴⁾	0	0	0.01	0
Total*			11.77	0	0.65	1.87	2.61	16.90	14.09

R-2303D									
Site	Station	Wetland Type ⁽¹⁾	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impact (ac)	Impacts Requiring Mitigation (ac)
1	1106+95 to 1110+17	R	0.15	0	0	0.10	0	0.25	0.25
2	1106+68 to 1110+21	R	0.63	0	0	0.10	0	0.73	0.73
3	1163+26 to 1167+43	NR	0.51	0	0	0.09	0	0.60	0.60
4	1169+69 to 1176+07	NR	1.25	0	0	0.12	0	1.37	1.37
5	1169+59 to 1172+52	NR	0.06	0	0.02	0.07	0	0.15	0.15
6	1197+30 to 1197+97	R	0.06	0	0.01	0.03	0	0.10	0.10
7	1199+32 to 1201+65	R	0.06	0	0.01	0.04	0	0.11	0.11
8	1204+71 to 1205+18	R	0.01	0	0	0.01	0	0.02	0.02
10	1222+18 to 1225+09	R	0.32	0	0	0.08	0	0.40	0.40
11	1221+04 to 1225+66	R	0.30	0	0	0.13	0	0.43	0.43
12	1224+08 to 1224+64	R	0	0	0.02	0	0	0.02	0.02
14	1289+68 to 1291+91	R	0.02	0	<0.01	0.03	0	0.05	0.05
15	1292+13 to 1299+88	R	1.30	0	0.01	0.19	0	1.50	1.50
16	1295+68 to 1297+37	R	0.07	0	0.25 ⁽⁴⁾	0.04	0	0.36	0.11
18	1301+67 to 1321+13	R	1.16	0.33	0.01	0.27	2.00	3.77	1.44
19	1321+64 to 1329+01	R	0.41	0	0.01	0.20	0.20	0.82	0.62
19	1324+00 to 1325+65 LT	R	0	0	0.10 ⁽⁴⁾	0	0	0.10	0
21	SRI	NR	0.36	0	0	0.08	0	0.44	0.44
R-2303D UTILITIES									
1	1106+36	R	<0.01	0	0	0	0.07	0.07	0
2	1107+50	R		0	0	0	0.05	0.05	0
3	1169+12	NR	<0.01	0	0	0	0.28	0.28	0
4	1222+17	R	<0.01	0	0	0	0.16	0.16	0
5	1319+83	R	<0.01	0	0	0	0.06	0.06	0
6	1325+14	R	<0.01	0	0	0	0.18	0.18	0
Total*			6.67	0.33	0.44	1.54	3.00	11.98	8.30
R-2303E ⁽⁵⁾									
Total			1.58	0	-	-	-	1.58	-
R-2303F ⁽⁵⁾									
Total			21.80	0	-	-	-	21.80	-
Project Total									
Project Total			53.19	0.45	1.43	5.29	10.07	70.48	-

Total Wetland Impact for Project: 70.48 (28.88 acres for Sections C & D)

⁽¹⁾ Wetland Type R = Riparian; NR=Non-Riparian, ⁽²⁾ Impacts authorized in the original 401 certification dated September 24, 2012 and modification dated March 18, 2013. ⁽³⁾ Authorized in modification dated February 25, 2013. ⁽⁴⁾ Denotes a temporary impact.

⁽⁵⁾ Sections E and F wetland impacts projected based on preliminary design. *totals may not match sum of individual impacts due to rounding

Open Water (Ponds/Tributary) Impacts in the Cape Fear River Basin

Site	Station	Permanent Fill in Open Waters (ac)	Temporary Fill in Open Waters (ac)	Total Fill in Open Waters (ac)
R-2303A ⁽¹⁾				
Total		0.72	0	0.72
R-2303B ⁽²⁾				
Total		1.63	0.02	1.65
R-2303C				
2	741+85 to 744+50	0.01	<0.01	0.01
3	755+00 to 760+34	1.26	0.08	1.34
4	764+28 to 765+07	0.04	0	0.04
5	769+44 to 777+78	0.45	0	0.45

10	905+77 to 907+41	0.03	<0.01	0.03
11	912+92 to 913+67	0.30	0	0.30
15	999+64 to 1005+57	3.22	0	3.22
17	1007+77 to 1010+99	0.34	0	0.34
Total		5.65	0.08	5.73
R-2303D				
16 ⁽³⁾	1292+00 to 1294+59	0.35	0	0.35
17	1303+81 to 1304+67	0.02	0	0.02
Total		0.37	0	0.37

Total Open Water Impact for Sections A through D: 8.47 acres (6.10 acres for Sections C & D)

*Open Water Impacts for Sections E & F have not been projected based on preliminary design. ⁽¹⁾ Impacts authorized in the original 401 certification dated September 24, 2012 and modification dated March 18, 2013. ⁽²⁾ Authorized in modification dated February 25, 2013. ⁽³⁾ Mitigation site.

The application provides adequate assurance that the discharge of fill material into the waters of the Cape Fear 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 modified application dated received February 15, 2013 and revisions received on April 17, 2013; May 10, 2013; June 4, 2013 and June 7, 2013. All the authorized activities and conditions of certification associated with the original Water Quality Certification dated September 24, 2012 and subsequent modifications issued on February 25, 2013 and March 18, 2013 still apply except where superseded by this certification. Should your project change, you are required to notify NCDWQ 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.

Condition(s) of Certification:

Project Specific Conditions

1. This modification is applicable only to the additional proposed activities associated with the construction of Sections C and D. All of the authorized activities and conditions of certification associated with the original Water Quality Certification dated September 24, 2012 and subsequent modifications issued on February 25, 2013 and March 18, 2013 still apply except where superseded by this certification.
2. The NCDOT Division Environmental Officer or Environmental Assistant will conduct a pre-construction meeting with all appropriate staff to ensure that the project supervisor and essential staff understand the potential issues with stream and pipe alignment at the permitted site. NCDWQ staff shall be invited to the pre-construction meeting.
3. The project must be constructed in accordance with the Stormwater Management Plan submitted in the revised application dated received April 17, 2013.
4. Native material shall be placed inside of the reinforced concrete box culverts at Permit Site 2 (Sta. 1109+25) and Permit Site 12 (Sta. 1224+46) to create a natural streambed within the culvert that matches the upstream and downstream profile and dimensions. If possible, the material placed inside of the culvert should be the same native material that is excavated from the streambed during the construction of these structures.
5. Due to the possibility that compaction and/or other site alterations might prevent the temporary wetland impact area from re-attaining jurisdictional wetland status; the permittee shall provide an update on the

wetland areas temporarily impacted at Site 18 (Sta. 1301+67 to 1321+13). This update shall be conducted a minimum of two growing seasons after completion of the work at Site 18 and shall consist of photographs and a brief report on the progress of the areas in re-attaining wetland jurisdictional status. Upon submission of this update to NCDWQ, the permittee shall schedule an agency field meeting with the NCDWQ to determine if the wetland areas temporarily impacted by this project have re-attained jurisdictional wetland status. If the wetland areas temporarily impacted by this project have not re-attained jurisdictional wetland status, NCDWQ shall determine if compensatory wetland mitigation is required.

6. A turbidity curtain will be installed in the stream if driving or drilling activities occur within the stream channel, on the stream bank, or within 5 feet of the top of bank. A turbidity curtain will also be installed in ponds that require the installation of rip rap embankment. This condition can be waived with prior approval from DWQ.

R-2303C Compensatory Mitigation

7. Compensatory mitigation for 1,650 linear feet of impact to streams is required for the construction of R-2303C. Mitigation will be provided through a combination of both onsite and offsite mitigation. Mitigation will be credited as detailed below:
 - a. The NCDOT will provide compensatory mitigation for impacts to 550 linear feet of stream by performing onsite stream restoration at R-2303C Mitigation Site 1 at the required 1:1 ratio. The onsite stream restoration shall be constructed in accordance with the mitigation plan dated February 22, 2013 submitted in your application.
 - b. Proper measures will be taken to drain the pond at this site with limited impact to upstream and downstream channel stability as well as to native aquatic species. Proper measures will be taken to avoid sediment release and/or sediment accumulation downstream as a result of pond draining. If typical pond draining techniques will create significant disturbance to native aquatic species, additional measures such as collection and relocation may be necessary to prevent a significant fish kill. NCDOT shall consult with NC Wildlife Resources staff to determine if there are any sensitive species, and the most appropriate measures to limit impacts to these species. The permittee shall observe any natural channel re-establishment, or utilize natural channel construction techniques, to ensure that the jurisdictional stream channel above and below the drained pond remain stable, and that no additional impacts occur within the natural stream channel as a result of draining the pond.
 - c. All on-site mitigation sites shall be protected in perpetuity by a conservation easement or through NCDOT fee simple acquisition and recorded in the NCDOT Natural Environment Unit mitigation geodatabase. Please be reminded that as-builts for the stream restoration shall be submitted to the North Carolina Division of Water Quality 401 Wetlands Unit with the as-builts for the rest of the project. If the parameters of this condition are not met, then the permittee shall supply additional stream mitigation for the 550 linear feet of restoration.
 - d. The permittee shall visually monitor the vegetative plantings to assess and ensure complete stabilization of the mitigation stream segments. Riparian area success shall be determined by conducting stem counts to ensure a tree survival rate of 320 stems/acre. The monitoring shall be conducted annually for a minimum of 3 years after final planting. Photo documentation shall be utilized to document the success of the riparian vegetation and submitted to NCDWQ in a final report within sixty (60) days after completing monitoring. After 3 years the NCDOT shall contact NCDWQ to schedule a site visit to "close out" the mitigation site.
 - e. We understand that you have chosen to perform compensatory mitigation for the remaining 1,100 linear feet of 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 June 25, 2013 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the EEP Mitigation Banking Instrument signed July 28, 2010.

8. Compensatory mitigation for 14.09 acres of wetlands (10.40 acres of riparian wetlands and 3.69 acres of non-riparian wetlands) is required for the construction of R-2303C. Mitigation will be provided through a combination of both onsite and offsite mitigation. Mitigation will be credited as detailed below:
- The NCDOT will provide compensatory mitigation for impacts to 2.50 acres of riparian wetlands by performing onsite riparian wetland restoration at R-2303C Mitigation Site 1 at the required 1:1 ratio. The onsite wetland restoration shall be constructed in accordance with the mitigation plan dated February 22, 2013 submitted in your application.
 - All on-site mitigation sites shall be protected in perpetuity by a conservation easement or through NCDOT fee simple acquisition and recorded in the NCDOT Natural Environment Unit mitigation geodatabase.
 - Vegetation success shall be measured by survivability over a 5-year monitoring period. Survivability will be based on 320 stems/acre after three (3) years and 260 stems after five (5) years. A survey of vegetation during the growing season shall be conducted annually over the five-year monitoring period and submitted to the NC Division of Water Quality. If the surviving vegetation densities are below the required thresholds after the five-year monitoring period, the site may still be declared successful at the discretion of and with written approval from the NC Division of Water Quality.
 - Compensatory mitigation for 0.55 acres of riparian wetland impacts will be provided from the surplus of mitigation credits to be provided at R-2303B Mitigation Sites 1 and 2.
 - We understand that you have chosen to perform compensatory mitigation for the remaining 7.39 acres of impacts to riparian wetlands and the 3.69 acres of impacts to non riparian 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 June 25, 2013 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the EEP Mitigation Banking Instrument signed July 28, 2010.

Based on the above information, stream and wetland mitigation for R-2303C can be summarized as follows:

Mitigation Source	Stream Type	Mitigation Credits Required	Debit Ratio	Debits required (linear feet)
On Site Restoration	Warm	550 lf	1:1	550 lf
EEP	Warm	1,100 lf	1:1	1,100 lf
STREAM TOTAL:		1,650 lf		1,650 lf

Mitigation Source	Wetland Type	Mitigation Credits Required	Debit Ratio	Credits or Debits (acres) Required
On Site Restoration	Riparian	2.5	1:1	2.5 (acres)
On Site Restoration	Riparian	0.55	1:1	0.55 (acres)
EEP	Riparian	7.35	2:1	14.56 (credits)
EEP	Non Riparian	3.69	2:1	6.84 (credits)

R-2303D Compensatory Mitigation

9. We understand that you have chosen to perform compensatory mitigation for the 1,530 linear feet of impacts to streams associated with the construction of R-2303D 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 June 25, 2013 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the EEP Mitigation Banking Instrument signed July 28, 2010.

10. Compensatory mitigation for 8.30 acres of wetlands (5.74 acres of riparian wetlands and 2.56 acres of non-riparian wetlands) is required for the construction of R-2303D. Mitigation will be provided through a combination of both onsite and offsite mitigation. Mitigation will be credited as detailed below:

- a. The NCDOT will provide compensatory mitigation for impacts to 2.68 acres (2.42 acres of restoration and 0.26 acre of enhancement onsite at R-2303D Mitigation Site 1 and R-2303D Mitigation Site 2. The onsite wetland restoration shall be constructed in accordance with the mitigation plan dated February 22, 2013 submitted in your application.
- b. All on-site mitigation sites shall be protected in perpetuity by a conservation easement or through NCDOT fee simple acquisition and recorded in the NCDOT Natural Environment Unit mitigation geodatabase.
- c. Vegetation success shall be measured by survivability over a 5-year monitoring period. Survivability will be based on 320 stems/acre after three (3) years and 260 stems after five (5) years. A survey of vegetation during the growing season shall be conducted annually over the five-year monitoring period and submitted to the NC Division of Water Quality. If the surviving vegetation densities are below the required thresholds after the five-year monitoring period, the site may still be declared successful at the discretion of and with written approval from the NC Division of Water Quality.
- d. We understand that you have chosen to perform compensatory mitigation for the remaining 3.06 acres of impacts to riparian wetlands and the 2.56 acres of impacts to non riparian 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 June 25, 2013 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the EEP Mitigation Banking Instrument signed July 28, 2010.

Based on the above information, wetland mitigation for R-2303D can be summarized as follows:

Mitigation Source	Wetland Type	Mitigation Credits Required	Debit Ratio	Credits or Debits (acres) Required
On Site Restoration	Riparian	2.42	1:1	2.68 (acres)
On Site Enhancement	Riparian	0.26	5:1	1.30 (acres)
EEP	Riparian	3.06	2:1	6.18 (credits)
EEP	Non Riparian	2.56	2:1	5.12 (credits)

11. Success of the mitigation site shall be determined by NCDWQ during an on-site visit at or near the end of the monitoring period.
12. When final design plans are completed for R-2303 Section(s) E and F, a modification to the 401 Water Quality Certification shall be submitted with five copies and fees to the NC Division of Water Quality. Final designs shall reflect all appropriate avoidance, minimization, and mitigation for impacts to wetlands, streams, and other surface waters, and buffers. No construction activities that impact any wetlands, streams, surface waters, or buffers located in R-2303 Section(s) E through F shall begin until after the permittee applies for, and receives a written modification of the 401 Water Quality Certification and the from the NC Division of Water Quality.

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 you wish to contest any statement in the attached Certification you must file a petition for an administrative hearing. You may obtain the petition form from the office of Administrative hearings. You must file the petition with the office of Administrative Hearings within sixty (60) days of receipt of this notice. A petition is considered filed when it is received in the office of Administrative Hearings during normal office hours. The Office of

Administrative Hearings accepts filings Monday through Friday between the hours of 8:00am and 5:00pm, except for official state holidays. The original and one (1) copy of the petition must be filed with the Office of Administrative Hearings.

The petition may be faxed-provided the original and one copy of the document is received by the Office of Administrative Hearings within five (5) business days following the faxed transmission.
The mailing address for the Office of Administrative Hearings is:

Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
Telephone: (919)-431-3000, Facsimile: (919)-431-3100

A copy of the petition must also be served on DENR as follows:

Mr. Lacy Presnell, General Counsel
Department of Environment and Natural Resources
1601 Mail Service Center
Raleigh, NC 27699-1601

This the 12th day of July 2013

DIVISION OF WATER QUALITY

A handwritten signature in black ink, appearing to read 'Thomas A. Reeder', is written over the printed name.

Thomas A. Reeder

WQC No. 3942

NCDWQ Project No.: _____

County: _____

Applicant: _____

Project Name: _____

Date of Issuance of 401 Water Quality Certification: _____

Certificate of Completion

Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401 Transportation Permitting Unit, North Carolina Division of Water Quality, 1650 Mail Service Center, Raleigh, NC, 27699-1650. This form may be returned to NCDWQ by the applicant, the applicant's authorized agent, or the project engineer. It is not necessary to send certificates from all of these.

Applicant's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: _____ Date: _____

Agent's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: _____ Date: _____

Engineer's Certification

_____ Partial _____ Final

I, _____, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project, for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature _____ Registration No. _____

Date _____

Mitigation Plan

NC Highway 24 Improvements Sampson County, North Carolina T.I.P. Number R-2303 WBS No. 34416 February 22, 2013

Transportation Improvement Project (TIP) R-2303 involves improvements to existing NC Highway 24 from 2.8 miles eastward of Interstate 95 (I-95) in Cumberland County to Interstate 40 (I-40) in Duplin County. The project is located within USGS Hydrologic Cataloging Unit (HUC) 03030006, and NC Division of Water Quality (NCDWQ) sub-basins 03-06-18 and 03-06-19 within the Cape Fear River Basin. NCDOT proposes to mitigate for permanent impacts to jurisdictional areas requiring mitigation through the following sources: NCDOT Umbrella Mitigation Banking Instrument (UMBI), onsite mitigation, and the Ecosystem Enhancement Program (EEP).

NCDOT UMBI SITE – PRIVATEER FARM (ONE ID #026-005)

The Privateer Farm stream and wetlands restoration site is located in USGS HUC 03030005 and NCDWQ Cape Fear River sub-basins 15 and 16 along Little Alligator Swamp and Harrison Creek. It is located in the Southeastern Plains Level III Ecoregion (Southeastern Floodplains and Low terraces Level IV Ecoregion) and includes portions of Cumberland and Bladen counties, approximately 6 miles from the southern boundary of CU 03030004. The Site has been closed out for monitoring and was incorporated into NCDOT's UMBI.

The NCDOT debit ledger below (as of July 24, 2012) includes the debit of 7.38 acres of riparian wetland restoration to mitigate for 2.46 acres of riparian impact for R-2303A at a 3:1 ratio.

Site Name	River Basin	HUC	Mitigation Type	Transfer from EEP	Available	TIP Debit	TIP Debit	TIP Debit
Privateer Site	Cape Fear	3030005				U-2519**	U-2519 MOD**	R-2303A**
**Out of service area ratios: 1.5:1 ratio for stream impacts 3:1 for wetland impacts			Warm Stream Restoration	25,676	7,157	18,519		
			Riverine Wetland Restoration	185.58	32.22	145.29	0.69	7.38

ON-SITE MITIGATION

1.0 BASELINE INFORMATION

TIP R-2303 involves improvements to existing NC Highway 24 from 2.8 miles eastward of Interstate 95 (I-95) in Cumberland County to Interstate 40 (I-40) in Duplin County. The study corridor for this project ranges from 400 feet wide for widening sections to 1000 feet wide for bypass areas and is situated within the inner Coastal Plain physiographic province. Topography within the study area is described as nearly level to sloping with the majority of the topographic breaks found near the larger wetland systems. Land use within the project study area between towns is mostly rural in nature and includes a mixture of agricultural, residential, silvicultural, and industrial uses.

The project is located within USGS Hydrologic Cataloging Unit 03030006, and NC Division of Water Quality (NCDWQ) sub-basins 03-06-18 and 03-06-19 within the Cape Fear River Basin. Sub-basin 03-06-18 includes the South River and its tributaries as well as Big Swamp and its tributaries while sub-basin 03-06-19 includes Little Coharie Creek, Bearskin Swamp, Moccasin Branch, Great Coharie Creek, Six Runs Creek, and Buckhall Creek along with all their tributaries.

The R-2303 Natural Resources Technical Report (NRTR) dated January 2004 provides further details concerning existing roadway/project study area conditions and jurisdictional resources. The mitigation site selection and mitigation work plan sections of this plan will refer to the identification labels given the affected jurisdictional resources in that document as well as the Final Environmental Impact Statement (FEIS) dated 3-31-2010.

2.0 SITE SELECTION

R-2303B Mitigation Site 1 (ONE ID #082-007)

This site begins on plan sheet 8 south of Station 423+50 Rt. at the existing intersection of Gray Street and Old Stage Road and ends south of Station 439 Rt. on plan sheet 9. It is part of the South River watershed and involves a series of ponds (43 and 45) as well as three jurisdictional wetlands (42, 44 and 46), and one intermittent stream (SR4) that flows out of pond 43. Lynn Haven sand, a hydric soil in Sampson County, is the soil type found within this area.

R-2303B Mitigation Site 2 (ONE ID #082-008)

This site begins on plan sheet 26 at Sta. 680+20 Lt. at the ROW line and ends on plan sheet 27 at Sta. 685+50.38 Lt. at Boren Brick Road. The pond (88) will be drained as part of the construction of R-2303B. Currently, the pond connects a jurisdictional wetland area upstream to jurisdictional wetlands and a UT to Big Swamp downstream through a series of pipes under Boren Brick Road and existing NC Hwy 24. The existing wetland system above Boren Brick Road, wetland 88A, will

be used as the reference wetland system.

R-2303C Mitigation Site 1 (ONE ID #082-009)

This site is located on plan sheet 23 from approximately Sta. 1000 to 1005 Lt. The pond (133) will be drained as part of the construction of R-2303B. The pond is surrounded by Wagram loamy sand soils. It has a headwater wetland system located adjacent to its northeastern corner and outflows into a UT to Little Coharie (LC11) through a 36" pipe under existing NC Hwy 24.

R-2303D Mitigation Site 1 (ONE ID #082-010)

This site is located on plan sheet 18 northwest of approximate Sta. 1290 to 1295 Lt. Wetland 161 located adjacent to NC Hwy 24 is a riparian wetland that is bisected by the existing causeway of NC 24. A portion of Wetland 161 has been clear cut. This wetland also includes an excavated pond and side cast spoil. Soils within this mitigation area are either Johns fine sandy loam or Kalmia sandy loam. Both are non-hydric with hydric inclusions in Sampson County.

R-2303D Mitigation Site 2 (ONE ID #082-011)

This site is located on plan sheet 20 from approximately Sta. 1321+50 Lt. to Sta. 1325+50 Lt. on plan sheet 21. It is bordered on the north and west by wetland 165 and on the east by wetland 167. The soils in this area are mapped as Paxville fine loamy sand, a hydric soil in Sampson County. Wetland 165 is part of a 4600 acre NCEEP high quality wetland mitigation site known as the Great Coharie Tract (GCT). An old abandoned causeway extends into the wetland from NC Hwy 24.

3.0 SITE PROTECTION INSTRUMENT

The mitigation areas are presently located within or will be located within the NCDOT Right-of-Way for the project. They will be managed to prohibit all use inconsistent with its use as mitigation property, including any activity that would materially alter the biological integrity or functional and educational value of the site, consistent with the mitigation plan.

The site is designated on the plan sheets as a mitigation area and will be placed on the Natural Environment Section's Mitigation GeoDatabase. This database is provided to all NCDOT personnel as a record of mitigation sites and their attributes, including prohibited activities. NCDOT is held by virtue of the permit associated with this mitigation site and the associated roadway impacts to protect the site in perpetuity.

4.0 OBJECTIVES

The goal of the proposed onsite mitigation is to mitigate for impacts due to R-2303 by restoring adjacent wetland and stream systems to their natural conditions through the removal of the degrading factors of ponding, fill, and disturbance. This will be achieved on seven individual sites

described below for a total of 15.89 acres of wetland and 900 feet of stream.

5.0 MITIGATION WORK PLAN

Each mitigation site will be constructed along with the construction of its associated section of the roadway project. Following the successful completion of site grading and stabilization, each site will be replanted with appropriate native tree species. Wetland restoration areas will be planted with a mix of bare-root tree species at a density of 680 stems per acre. The stream restoration areas will be stabilized by planting a mix of live stakes on three foot centers and matting with coir fiber on the banks as necessary. Reforestation plans for each can be found in Appendix B.

Native wetland seed and mulch will be applied on all disturbed areas within the mitigation sites for stabilization purposes according to guidance and standard procedures of NCDOT's Roadside Environmental Unit. An as-built report will be submitted within 60 days of completion of the project.

The Natural Environment Section shall be contacted to provide construction assistance to ensure that each mitigation area is constructed appropriately.

R-2303B Mitigation Site 1

NCDOT will drain P43 and P45 in conjunction with the construction of R-2303B. Based on topography and soils, the draining of these two features will result in restoration of a total of 1.84 acres of riparian wetlands. It will also result in the enhancement of 5.41 acres of wetlands (wetlands 42 and 44) and the preservation of 0.23 acres at wetland 46.

R-2303B Mitigation Site 2

NCDOT will restore 2.19 acres of riparian wetlands at Site 2. The pond associated with this mitigation area, identified as 88 in the NRTR, will be drained as part of the construction of R-2303B. The existing 30" pipe under NC Hwy 24 will be replaced and the invert of the new structure will be adjusted to assist in the wetland restoration within the drained pond 88.

Wetland 88a is a riparian wetland located on the east side of Boren Brick Road. It will be used as a reference for the reforestation plan of wetland restoration within pond 88. Soils within this wetland as well as adjacent to the pond are mapped as Aycock silt loam, a non-hydric soil in Sampson County, as well as Nahunta loam, a non-hydric soil with hydric inclusions.

R-2303C Mitigation Site 1

The pond associated with this mitigation area, identified as 133 in the NRTR, will be drained as part of the construction of R-2303C. The existing pipe under NC Hwy 24 will be replaced and the invert of the new structure will be adjusted to assist in the wetland and stream restoration within the drained pond 133. This new structure will outfall into LC11, a UT to Little Coharie. LC11 has a C Sw classification and is a Rosgen E type channel. Based on valley length and topography, NCDOT will restore 550 ft. of the stream system within this drained pond area as well as restore 2.5 acres of riparian wetlands.

R-2303D Mitigation Site 1

This site involves removing a portion of pavement and causeway along existing NC 24 and grading to match elevations within the adjacent Wetland 161. It also involves backfilling the existing pond with material side cast to match the existing, adjacent wetland elevation. The clear cut portion of Wetland 161 within the ROW will be revegetated. This work will result in the restoration of 1.55 acres and enhancement of 1.3 acres of riparian wetland.

R-2303D Mitigation Site 2

This site involves the removal of an old roadway causeway and grading to match elevations within the adjacent Wetlands 165 and 167. NCDOT will restore 0.87 acres of riparian wetland in this area.

6.0 PERFORMANCE STANDARDS

The hydrologic success criteria requires that the site demonstrate saturation or inundation within 12 inches of the soil surface for a consecutive 12.5% of the growing season during years of normal rainfall. Groundwater monitoring gauge will be installed in existing, adjacent reference wetlands where practical and feasible for comparison to groundwater gauges throughout the restoration and enhancement (B site 1) areas.

Success for vegetation monitoring within the riparian buffer and wetland areas are based on the survival of at least 260 stems of five year old trees at year five. Assessment of channel stability will be based on the survival of riparian vegetation and lack of significant bank erosion, channel widening or down-cutting.

7.0 MONITORING REQUIREMENTS

Groundwater gauges will be installed within the wetland enhancement (on B Site 1) and restoration areas as for hydrologic monitoring. Gauges will be placed within the enhancement areas pre-construction to collect baseline data for comparison, analysis, and determination of enhancement area boundaries. Number and placement of gauges will be site specific and determined based on contour intervals.

The following components of Level 1 stream restoration monitoring will be performed each year of the 5-year monitoring period: reference photos, visual inspection of channel stability, and plant survival. Specific problem areas and proposed/required remedial action will be identified.

Vegetation monitoring will consist of counts of planted stems within 50 x 50 foot plots established within the restoration and enhancement (D site 1) areas. Plot locations will be randomly selected.

These monitoring activities will be conducted for five years and documented in an annual report distributed to the regulatory agencies.

8.0 OTHER INFORMATION

N/A

9.0 DETERMINATION OF CREDITS

Based on field and meeting discussions with agency representatives and per the NCDOT plans and 401/404 permit application for R-2303; NCDOT proposes the following types of mitigation and ratios for each site.

Roadway Section Site Number	Wetland Restoration Acres (1:1)	Wetland Enhancement Acres (5:1)	Wetland Preservation Acres (10:1)	Stream Restoration Feet (1:1)	Stream Preservation Feet (10:1)
B Site1	1.84	5.41	0.23		
B Site 2	2.19	-	-	-	-
C Site 1	2.5	-	-	550	-
D Site 1	1.55	1.3	-	-	-
D Site 2	0.87	-	-	-	-

An as-built report will be submitted within 60 days of completion of the each mitigation site to verify actual mitigation areas constructed and planted. The success of the mitigation areas and determination of final credits will be based upon successful completion and closeout of the monitoring period.

9.1 CREDIT RELEASE SCHEDULE

NCDOT proposes immediate, full release of the proposed mitigation as on-site mitigation for unavoidable impacts associated with R-2303.

10.0 GEOGRAPHIC SERVICE AREA

The proposed Geographic Service Area (GSA) for the mitigation sites is composed of the 8-digit Hydrologic Cataloging Unit (HUC) 03030006.

11.0 MAINTENANCE PLAN

The mitigation site will be held by NCDOT and placed on the NES mitigation geodatabase. Once monitoring is completed and the site is closed out, it will be placed in the NCDOT Stewardship Program for long term maintenance and protection.

If an appropriate third party recipient is identified in the future, then the transfer of the property will include a conservation easement or other measure to protect the natural features and mitigation value of the site in perpetuity.

12.0 LONG TERM ADAPTIVE MANAGEMENT PLAN

The sites will be managed by the NCDOT according to the mitigation plan. Beaver management will be instituted during the monitoring period if necessary. Encroachments into the mitigation areas will be investigated and appropriate measures taken to minimize any negative effects. In the event that unforeseen issues arise that affect the management of the site, any remediation will be addressed by NCDOT in coordination with the Interagency Review Team.

13.0 FINANCIAL ASSURANCES

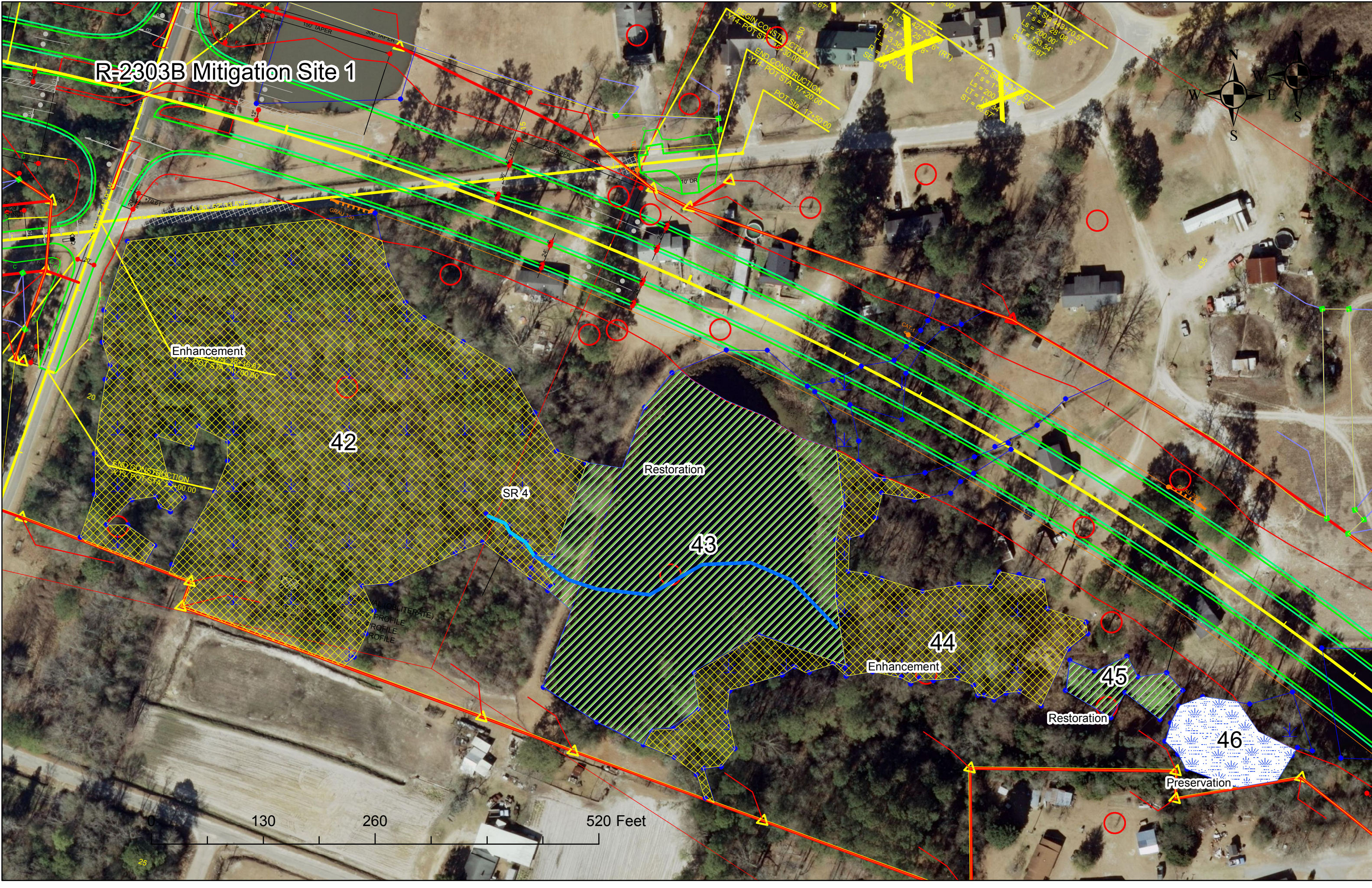
NCDOT is held by permit conditions associated with R-2303 to preserve the mitigation areas. NCDOT has established funds for each project and within each Division to monitor mitigation sites and to protect them in perpetuity.

ECOSYSTEM ENHANCEMENT PROGRAM

Mitigation Total for Sections A-F*

Cape Fear 03030006 SICP	Stream			Wetland			Buffer (sq. ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	9186**	31.68	15.11	0	0	0

*See Appendix A for individual EEP Mitigation Acceptance Letters



R-2303B Mitigation Site 1

Enhancement

42

Restoration

43

SR4

44

Enhancement

45

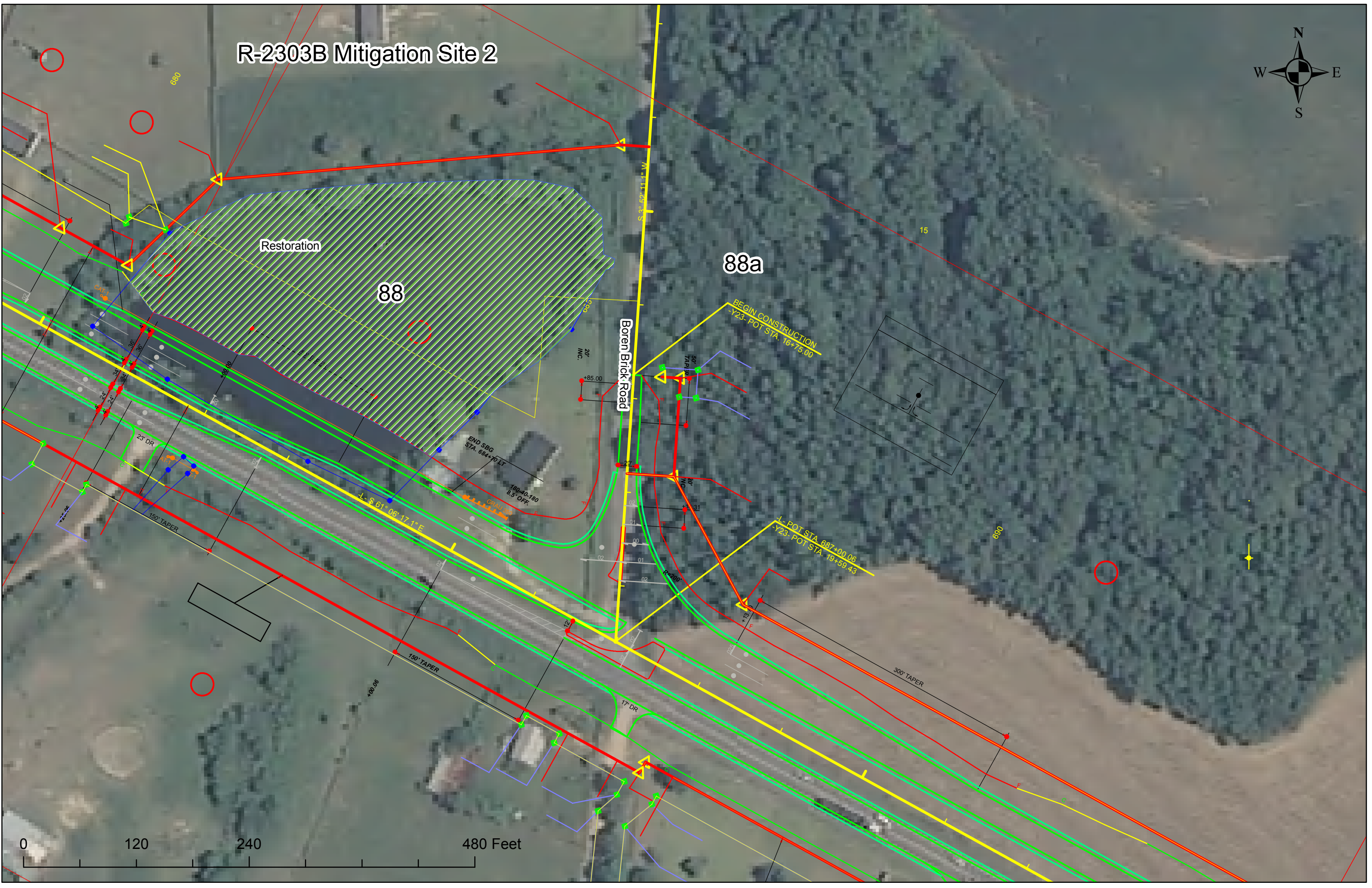
Restoration

46

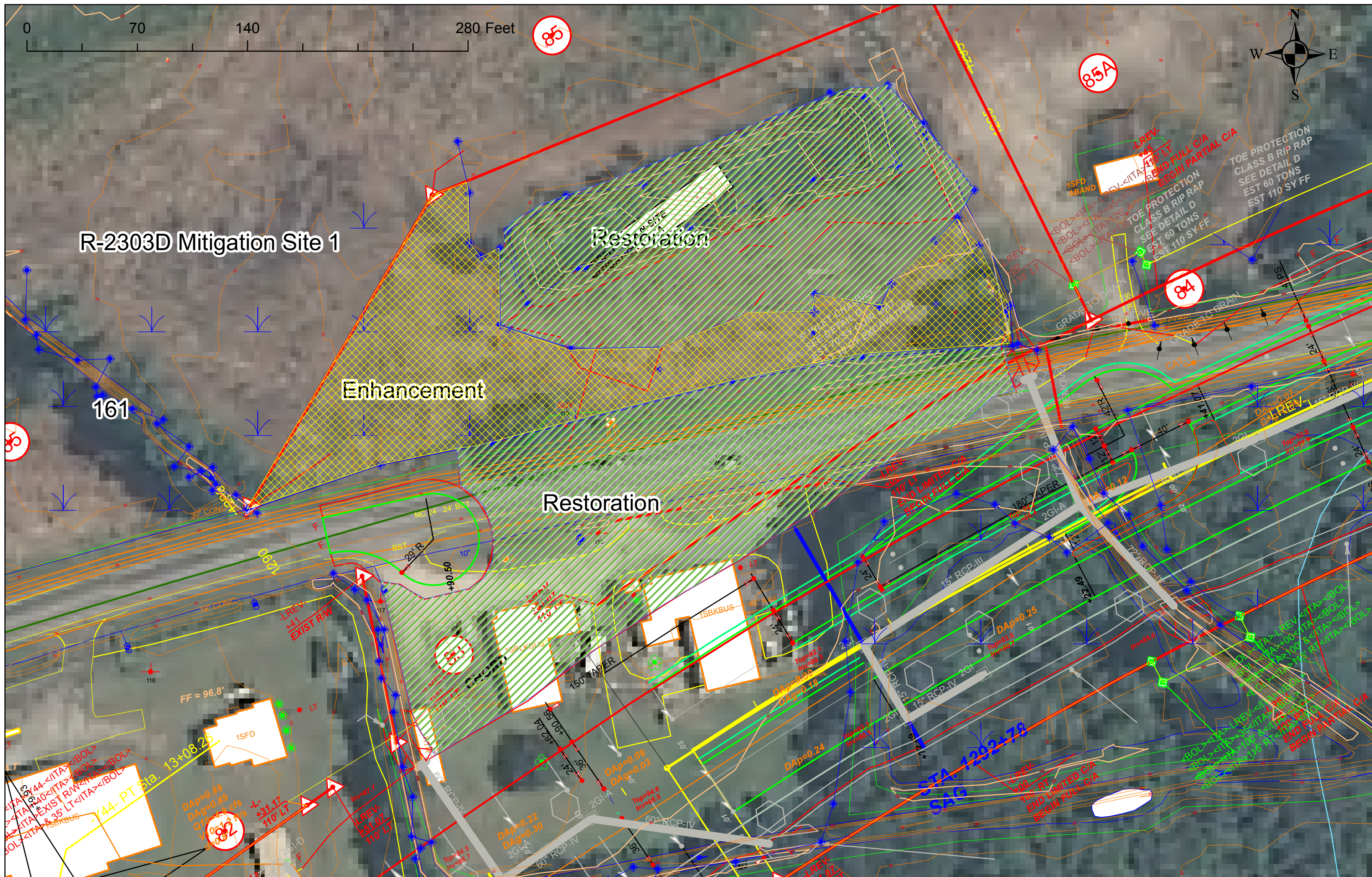
Preservation

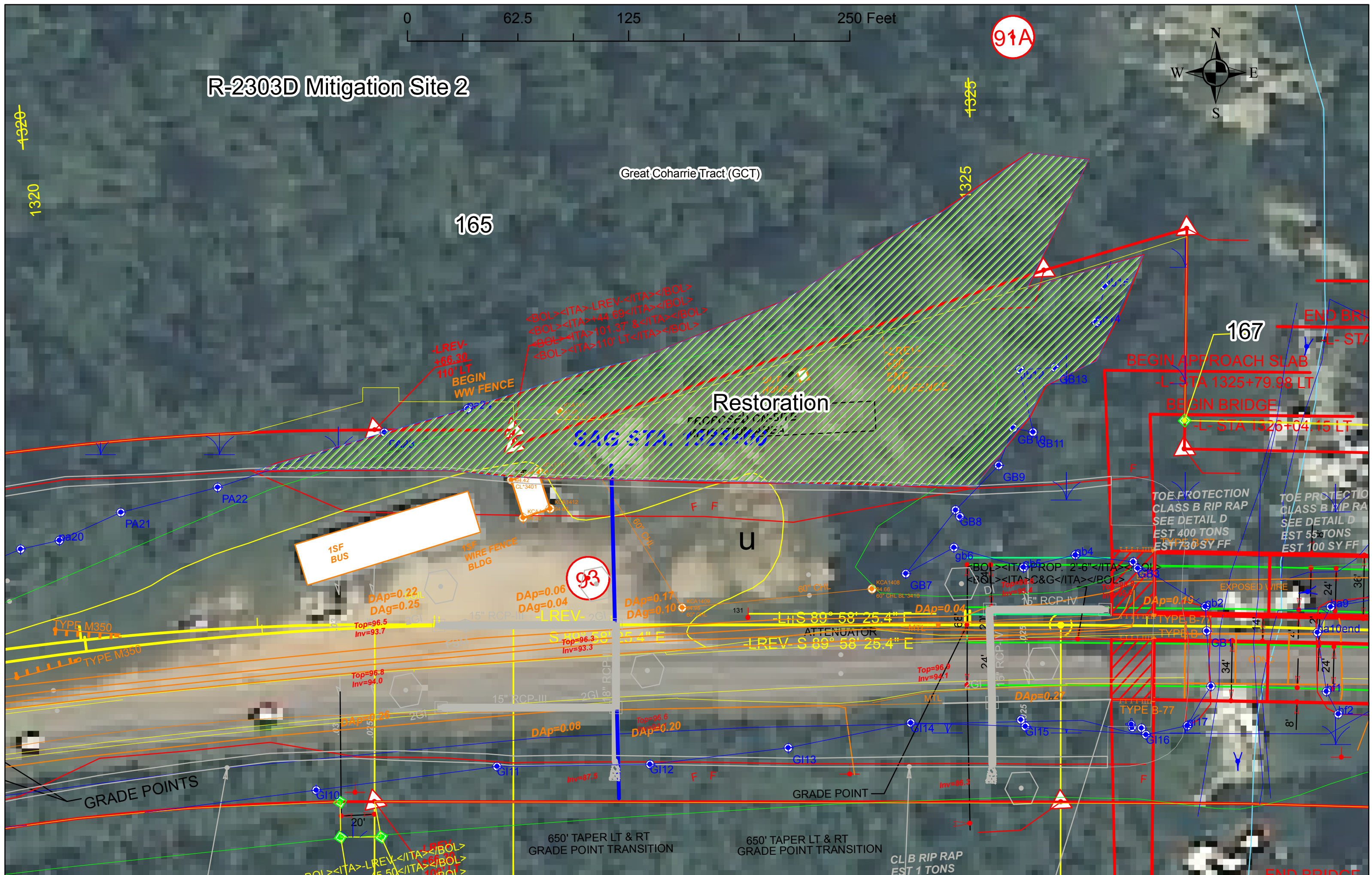
0 130 260 520 Feet

R-2303B Mitigation Site 2









Memorandum of Agreement
Between the Federal Highway Administration
and
State Historic Preservation Officer
for
NC 24 Widening from East of Fayetteville to Warsaw,
Cumberland, Sampson and Duplin counties, North Carolina
TIP Project R-2303
Federal Aid Project F-8-2(17)

Whereas, the Federal Highway Administration (FHWA) has determined that the widening of NC 24 from east of Fayetteville to Warsaw in Cumberland, Sampson and Duplin Counties (the Undertaking) will have an adverse effect upon archaeological sites 31SP331 and 31DP226/226**, properties determined eligible for listing on the National Register of Historic Places; and

Whereas, FHWA has consulted with the North Carolina State Historic Preservation Office (HPO) pursuant to 36CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f); and

Whereas, in accordance with 36 CFR Part 800, FHWA acknowledges and accepts the advice and conditions outlined in the Advisory Council on Historic Preservation's (Council) "Recommended Approach for Consultation on the Recovery of Significant Information from Archaeological Sites," published in the Federal Register (DF Doc. 99-12055) on May 17, 1999; and

Whereas, the North Carolina Department of Transportation (NCDOT) has participated in the consultation and been invited to concur in the Memorandum of Agreement (MOA) as a consulting party in the development of this MOA; and

Whereas, the signatories and concurring parties agree that the recovery of significant information from the archaeological sites listed above may be done in accordance with the published guidance; and

Whereas, the signatories and concurring parties agree that it is in the public interest to expend funds for the recovery of significant information from these archaeological sites to mitigate the adverse effects of the project;

Now, therefore, the FHWA and HPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take in to account the effect of the undertaking on the historic properties.

Stipulations:

FHwA will ensure that the following measures are carried out:

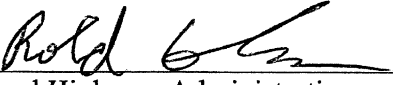
- I. The NCDOT will develop separate Data Recovery Plans (DRP) for sites 31SP331 and 31DP226/226**, the sites that will be affected by the subject Undertaking, in consultation with the HPO.
- II. The NCDOT will ensure that the DRP will be implemented after Right of Way is acquired or once Right of Entry is secured from the property owners and prior to construction activities within the site locations as shown in the DRP.
- III. Upon completion of each Data Recovery effort, the NCDOT will prepare and forward a Management Summary to HPO detailing the results of the Data Recovery field investigations. The Management Summaries will contain sufficient information to demonstrate that the field investigation portions of the DRP have been implemented.
- IV. Upon receipt of each Management Summary HPO will respond within ten (10) days to the recommendations contained within the document.
- V. Upon acceptance of the recommendations contained in each Management Summary HPO will issue the NCDOT documentation that the Data Recovery field investigations have been completed.
- VI. The analyses and reports detailing sites 31SP331 and 31SP226/226** will be completed by the NCDOT or their consultants within twelve (12) months after completion of the fieldwork.
- VII. If historic properties are discovered or unanticipated effects on historic properties are found after FHwA approves the Undertaking and construction has commenced, FHwA will consult with HPO and the property owner(s) in accordance with 36 CFR 800.13(b). Inadvertent or accidental discovery of human remains will be handled in accordance with North Carolina General Statutes 65 and 70.
- VIII. Any Signatory may terminate this MOA by providing notice to the other party(ies) provided that the party(ies) will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. Termination of this MOA will require compliance with 36 CFR 800. This MOA may be terminated by the execution of a subsequent MOA that explicitly terminates or supersedes its terms.

Other Terms and Conditions

This agreement shall be null and void if its terms are not carried out within five (5) years from the date of its execution, unless the signatories agree in writing to an extension for carrying out its terms.

Execution of this MOA by the FHwA and HPO, its subsequent acceptance by the Council, and implementation of its terms are evidence that the FHwA has afforded the Council an opportunity to comment on the Undertaking, and that the FHwA has taken into account the effects of the Undertaking on historic properties.

AGREE:

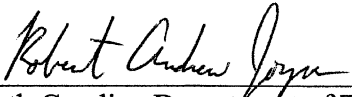

Federal Highway Administration

Date: 8-27-10


Deputy State Historic Preservation Officer

Date: 8-25-10

CONCUR:


North Carolina Department of Transportation

Date: 8/13/10

09/08/99

See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SAMPSON COUNTY

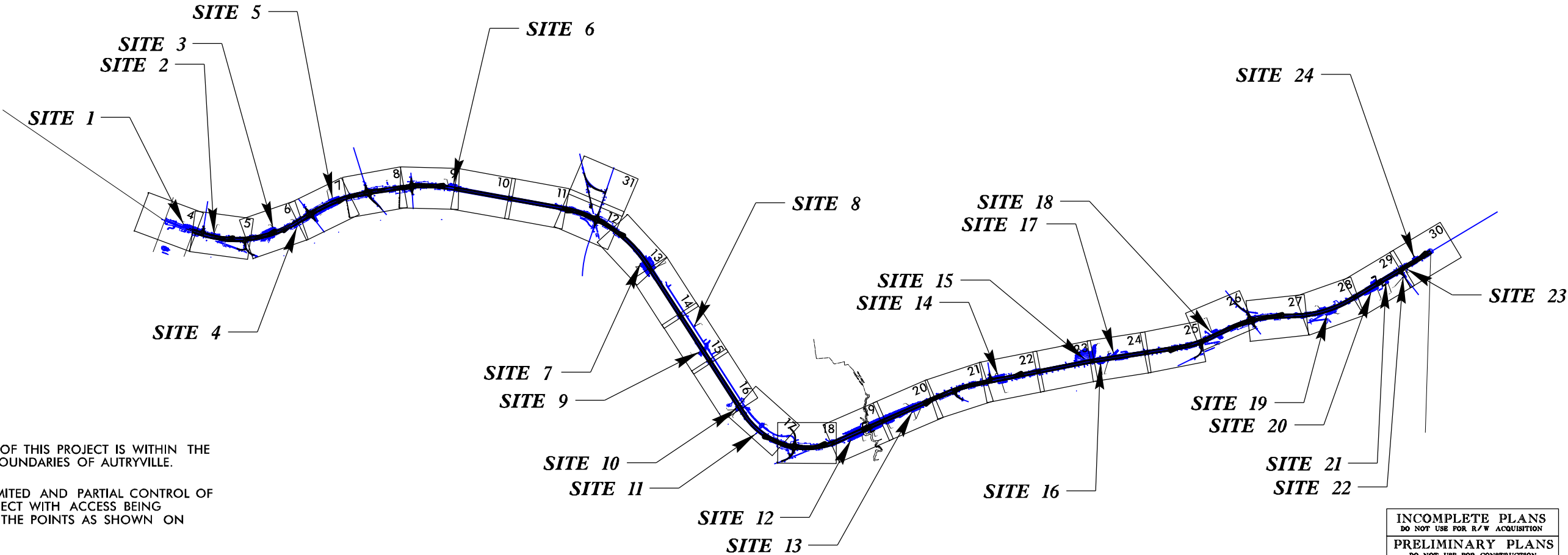
LOCATION: NC 24 FROM SR 1404 (DOWDY ROAD) TO SR 1303
(MITCHELLS LOOP ROAD)

WETLAND /STREAM PERMIT DRAWINGS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2302C	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
34416.1.1	STPNHF-F-8-2(1	PE	

Permit Drawing Sheet 1 of 80

TIP PROJECT: R-2303C



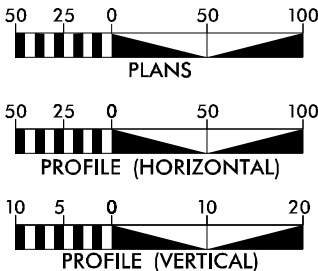
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF AUTRYVILLE.

THIS IS A LIMITED AND PARTIAL CONTROL OF ACCESS PROJECT WITH ACCESS BEING LIMITED TO THE POINTS AS SHOWN ON THE PLANS.

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD _____.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



DESIGN DATA

ADT 2010 = 10760
ADT 2030 = 17800
DHV = 11 %
D = 55 %
T = 9 % *
V = 60 MPH
* TTST 6 DUAL 3

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R- 2303C =
LENGTH STRUCTURES TIP PROJECT R- 2303C =
TOTAL LENGTH TIP PROJECT R- 2303C =

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 17, 2009

LETTING DATE:
APRIL 19, 2011

BRENDA MOORE, PE
PROJECT ENGINEER

THAD DUNCAN, PE
PROJECT DESIGN ENGINEER

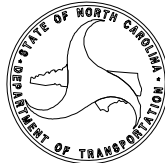
HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN
ENGINEER

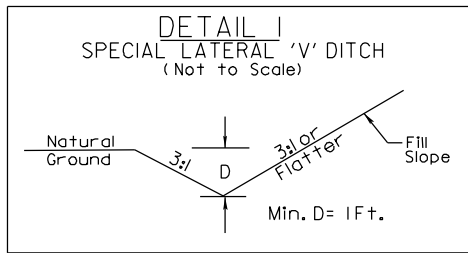
SIGNATURE: _____ P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

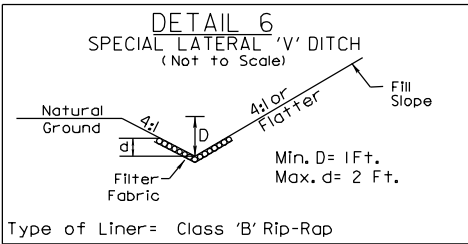


STATE HIGHWAY DESIGN ENGINEER P.E.

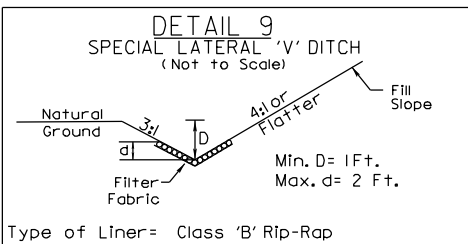
8/3/2012 K:\RAL-Roadway\01056078 (R-2303C)\Hydraulics\PERMITS_Environmental\Drawings\R2303c_prm.tsh.dgn



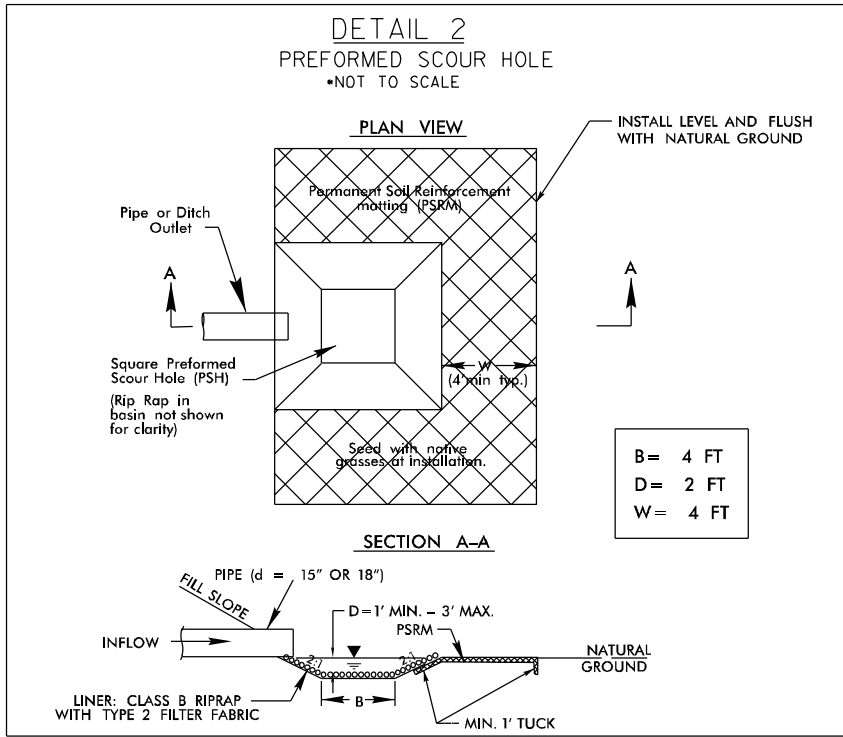
FROM STA. 730+10 TO STA. 732+36 -L- (RT)
FROM STA. 730+10 TO STA. 734+72 -L- (LT)
FROM STA. 734+78 TO STA. 741+00 -L- (RT)
FROM STA. 737+85 -L- (LT) TO STA. 17+66 -Y25- (RT)
FROM STA. 741+55 TO STA. 748+46.50 -L- (RT)
FROM STA. 746+50 TO STA. 749+50 -L- (LT)
FROM STA. 11+00 TO STA. 16+00 -Y26- (LT)
FROM STA. 15+00 -Y26- (RT) TO STA. 14+50 -Y27- (LT)
FROM STA. 11+98 TO STA. 15+87 -Y27- (RT)
FROM STA. 16+00 -Y26- (LT) TO STA. 752+00 -L- (RT)
FROM STA. 770+00 TO STA. 774+00 -L- (LT)
FROM STA. 777+80 TO STA. 778+50 -L- (LT)
FROM STA. 780+48 TO STA. 782+45 -L- (LT)
FROM STA. 786+03 TO STA. 790+44 -L- (RT)
FROM STA. 788+00 TO STA. 790+02 -L- (LT)
FROM STA. 790+02 TO STA. 792+02.31 -L- (LT)
FROM STA. 790+45 TO STA. 795+89.82 -L- (RT)
FROM STA. 797+00 TO STA. 798+00 -L- (RT)
FROM STA. 803+50 TO STA. 804+75 -L- (RT)
FROM STA. 804+86 TO STA. 810+00 -L- (RT)
FROM STA. 818+00 TO STA. 820+50 -L- (RT)
FROM STA. 820+50 TO STA. 823+00 -L- (RT)
FROM STA. 828+00 TO STA. 833+50 -L- (LT)
FROM STA. 830+00 TO STA. 835+55 -L- (RT)
FROM STA. 841+80 TO STA. 844+00 -L- (RT)
FROM STA. 846+50 TO STA. 849+16.97 -L- (RT)
FROM STA. 849+16.97 TO STA. 851+02.41 -L- (RT)
FROM STA. 853+50 TO STA. 856+50 -L- (RT)
FROM STA. 867+00 TO STA. 868+50 -L- (RT)
FROM STA. 873+50 TO STA. 876+50 -L- (RT)
FROM STA. 876+50 TO STA. 878+00 -L- (RT)
FROM STA. 879+50 TO STA. 884+08 -L- (RT)
FROM STA. 910+00 TO STA. 913+55 -L- (RT)
FROM STA. 916+00 TO STA. 923+00 -L- (RT)
FROM STA. 55+76 TO STA. 57+50 -Y33A- (LT)
FROM STA. 924+50 TO STA. 928+00 -L- (RT)
FROM STA. 933+44 TO STA. 937+00 -L- (LT)
FROM STA. 958+50 TO STA. 967+00 -L- (LT)
FROM STA. 968+55 TO STA. 976+50 -L- (LT)
FROM STA. 978+50 TO STA. 981+00 -L- (LT)
FROM STA. 1015+50 TO STA. 1016+90 -L- (LT)
FROM STA. 1016+90 TO STA. 1028+40 -L- (LT)
FROM STA. 1041+00 TO STA. 1045+50 -L- (LT)
FROM STA. 1047+00 TO STA. 1060+00 -L- (LT)
FROM STA. 1047+00 TO STA. 1062+50 -L- (RT)
FROM STA. 1066+50 TO STA. 1068+00 -L- (LT)



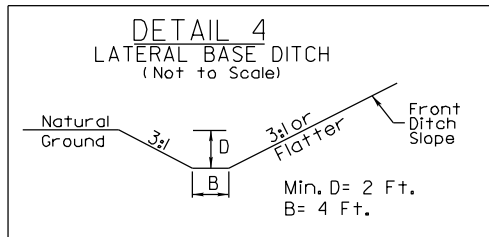
FROM STA. 16+40 TO 16+85 -Y25- (LT)



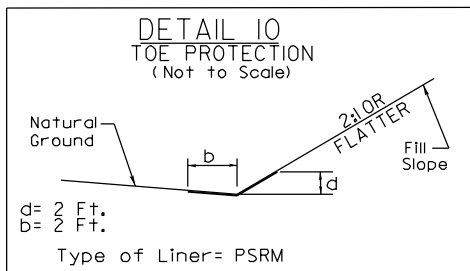
FROM STA. 856+50 TO STA. 858+00 -L- (RT)
FROM STA. 913+70 TO STA. 916+00 -L- (RT)
FROM STA. 1066+00 TO STA. 1066+50 -L- (LT)



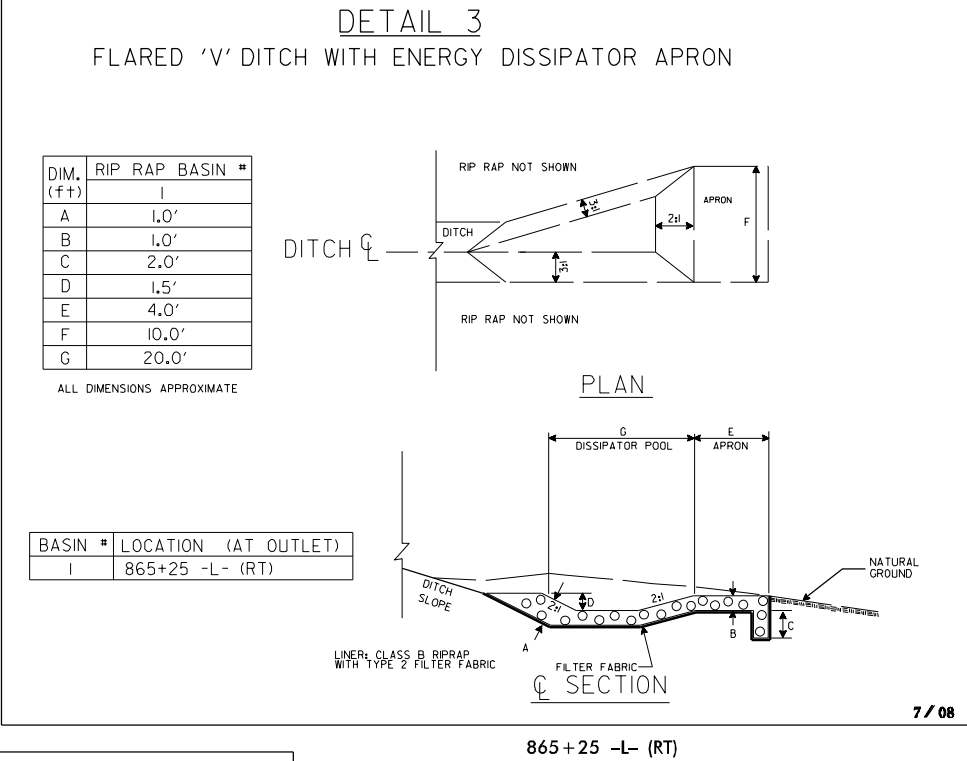
STA. 734+72 -L- (LT) STA. 852+00 -L- (LT)
STA. 753+75 -L- (LT) STA. 865+00 -L- (LT)
STA. 761+50 -L- (LT) STA. 886+50 -L- (RT)
STA. 763+50 -L- (RT) STA. 947+75 -L- (RT)
STA. 767+00 -L- (RT) STA. 951+00 -L- (RT)
STA. 808+27 -L- (LT) STA. 954+73 -L- (RT)
STA. 811+50 -L- (LT) STA. 1033+00 -L- (LT)
STA. 847+32 -L- (LT) STA. 1039+53 -L- (LT)
STA. 849+17 -L- (LT) STA. 52+65 -Y33A- (LT)
STA. 54+94 -Y33A- (LT)



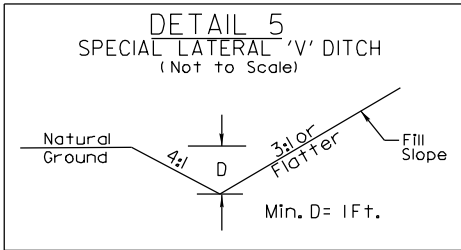
FROM STA. 735+12 TO STA. 737+85 -L- (LT)



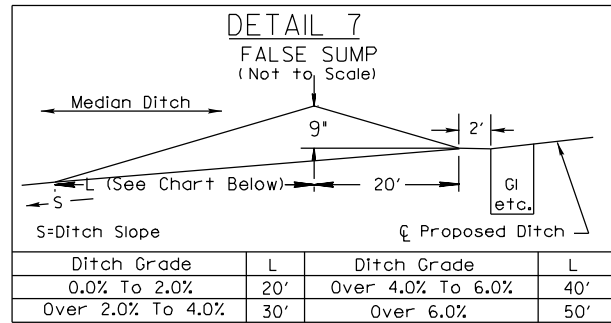
FROM STA. 746+00 TO STA. 746+15 -L- (LT)
FROM STA. 29+45 TO STA. 33+00 -Y33A- (LT)
FROM STA. 958+00 TO STA. 958+50 -L- (LT)
FROM STA. 981+20 TO STA. 982+23 -L- (LT)
FROM STA. 1009+00 TO STA. 1009+50 -L- (LT)
FROM STA. 1010+00 TO STA. 1010+50 -L- (LT)
FROM STA. 1051+00 TO STA. 1054+15 -L- (LT)
FROM STA. 1059+56 TO STA. 1059+60 -L- (LT)
FROM STA. 11+56 TO STA. 11+87 -Y38- (RT)
FROM STA. 1089+65 TO STA. 1090+35 -L- (RT)



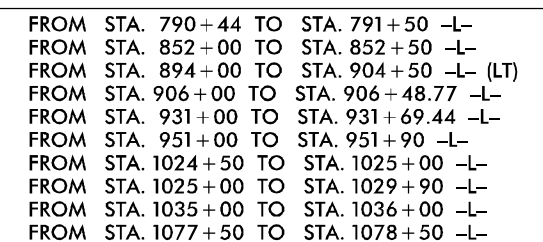
865+25 -L- (RT)



FROM STA. 740+60 TO STA. 742+00 -L- (LT)
FROM STA. 16+40 TO STA. 16+85 -Y25- (RT)
FROM STA. 16+85 TO STA. 17+75 -Y25- (LT)
FROM STA. 17+10 TO STA. 17+66 -Y25- (RT)
FROM STA. 12+00 TO STA. 12+85 -Y28- (LT)
FROM STA. 12+85 TO STA. 14+10 -Y28- (LT)
FROM STA. 16+15 TO STA. 17+50 -Y28- (LT)
FROM STA. 22+98 TO STA. 24+04.19 -Y29- (RT)
FROM STA. 23+54.50 TO STA. 24+50 -Y29- (LT)
FROM STA. 24+04 TO STA. 27+50 -Y29- (RT)
FROM STA. 26+50 TO STA. 27+50 -Y29- (LT)
FROM STA. 14+50 TO STA. 15+65 -Y30- (RT)
FROM STA. 11+00 TO STA. 12+06.81 -Y30- (LT)
FROM STA. 14+30 TO STA. 15+50 -Y30- (LT)
FROM STA. 16+32 TO STA. 20+50 -Y31- (LT)
FROM STA. 25+50 TO STA. 27+50 -Y31- (LT)
FROM STA. 20+50 TO STA. 22+29.23 -Y32- (RT)
FROM STA. 20+50 TO STA. 22+29.23 -Y32- (LT)
FROM STA. 10+45 TO STA. 12+50 -Y32A- (RT)
FROM STA. 784+04.6 TO STA. 784+80.22 -L- (RT)
FROM STA. 875+00 TO STA. 876+50 -L- (LT)
FROM STA. 876+50 TO STA. 877+50 -L- (LT)
FROM STA. 907+00 TO STA. 908+50 -L- (LT)
FROM STA. 908+50 TO STA. 911+00 -L- (LT)
FROM STA. 911+00 TO STA. 913+58 -L- (LT)
FROM STA. 913+58 TO STA. 915+00 -L- (LT)
FROM STA. 11+65 TO STA. 13+80 -Y34- (RT)
FROM STA. 11+24 TO STA. 13+80 -Y34- (LT)
FROM STA. 12+25 TO STA. 14+00 -Y35- (RT)
FROM STA. 12+25 TO STA. 13+86 -Y35- (LT)
FROM STA. 12+00 TO STA. 13+00 -Y36- (RT)
FROM STA. 13+00 TO STA. 16+15 -Y36- (LT)
FROM STA. 14+50 TO STA. 16+15 -Y36- (RT)
FROM STA. 10+20 TO STA. 10+94.65 -Y36A- (LT)
FROM STA. 9+82 TO STA. 10+97 -Y36B- (LT)
FROM STA. 10+25 TO STA. 10+97 -Y36B- (RT)
FROM STA. 1044+32 TO STA. 1045+50 -L- (RT)
FROM STA. 12+60 TO STA. 16+00 -Y37- (RT)
FROM STA. 12+60 TO STA. 17+35 -Y37- (LT)
FROM STA. 21+14.03 TO STA. 22+50 -Y37- (RT)
FROM STA. 21+33.97 TO STA. 23+00 -Y37- (LT)
FROM STA. 1094+50 TO STA. 1096+00 -L- (LT)



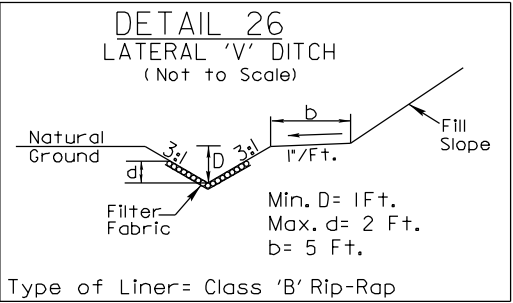
FROM STA. 741+64 TO STA. 742+04 -L-
FROM STA. 744+58 TO STA. 744+98 -L-
FROM STA. 753+33 TO STA. 753+73 -L-
FROM STA. 774+02 TO STA. 774+42 -L-
FROM STA. 807+08 TO STA. 807+48 -L-
FROM STA. 811+08 TO STA. 811+48 -L-
FROM STA. 817+58 TO STA. 817+98 -L-
FROM STA. 820+38 TO STA. 820+78 -L-
FROM STA. 831+52 TO STA. 831+92 -L-
FROM STA. 841+77 TO STA. 842+17 -L-
FROM STA. 849+19 TO STA. 849+59 -L-
FROM STA. 858+02 TO STA. 858+42 -L-
FROM STA. 861+02 TO STA. 861+42 -L-
FROM STA. 865+02 TO STA. 865+42 -L-
FROM STA. 867+77 TO STA. 868+17 -L-
FROM STA. 873+02 TO STA. 873+42 -L-
FROM STA. 876+52 TO STA. 876+92 -L-
FROM STA. 880+02 TO STA. 880+42 -L-
FROM STA. 882+67 TO STA. 883+07 -L-
FROM STA. 883+35 TO STA. 883+75 -L-
FROM STA. 886+52 TO STA. 886+92 -L-
FROM STA. 888+02 TO STA. 888+42 -L-
FROM STA. 889+27 TO STA. 889+67 -L-
FROM STA. 893+02 TO STA. 893+42 -L-
FROM STA. 900+02 TO STA. 900+42 -L-
FROM STA. 904+52 TO STA. 904+92 -L-
FROM STA. 908+08 TO STA. 908+48 -L-
FROM STA. 913+18 TO STA. 913+58 -L-
FROM STA. 917+48 TO STA. 917+88 -L-
FROM STA. 926+06 TO STA. 926+46 -L-
FROM STA. 927+52 TO STA. 928+02 -L-
FROM STA. 929+52 TO STA. 929+92 -L-
FROM STA. 937+02 TO STA. 937+42 -L-
FROM STA. 941+35 TO STA. 941+75 -L-
FROM STA. 947+77 TO STA. 948+17 -L-
FROM STA. 955+58 TO STA. 955+98 -L-
FROM STA. 958+48 TO STA. 958+88 -L-
FROM STA. 961+02 TO STA. 961+42 -L-
FROM STA. 969+58 TO STA. 969+98 -L-
FROM STA. 980+98 TO STA. 981+48 -L-
FROM STA. 984+50 TO STA. 985+00 -L-
FROM STA. 997+02 TO STA. 997+52 -L-
FROM STA. 999+02 TO STA. 999+52 -L-
FROM STA. 1001+70 TO STA. 1002+10 -L-
FROM STA. 1004+08 TO STA. 1004+48 -L-
FROM STA. 1008+34 TO STA. 1008+74 -L-
FROM STA. 1011+08 TO STA. 1011+48 -L-
FROM STA. 1015+96 TO STA. 1016+36 -L-
FROM STA. 1026+58 TO STA. 1026+98 -L-
FROM STA. 1042+02 TO STA. 1042+42 -L-
FROM STA. 1061+02 TO STA. 1066+42 -L-
FROM STA. 1065+60 TO STA. 1066+00 -L-
FROM STA. 1067+02 TO STA. 1067+42 -L-
FROM STA. 1072+52 TO STA. 1073+02 -L-
FROM STA. 1075+52 TO STA. 1075+92 -L-
FROM STA. 1081+68 TO STA. 1082+08 -L-
FROM STA. 1087+58 TO STA. 1087+98 -L-
FROM STA. 1088+98 TO STA. 1089+48 -L-
FROM STA. 1089+98 TO STA. 1090+48 -L-
FROM STA. 1092+48 TO STA. 1092+98 -L-



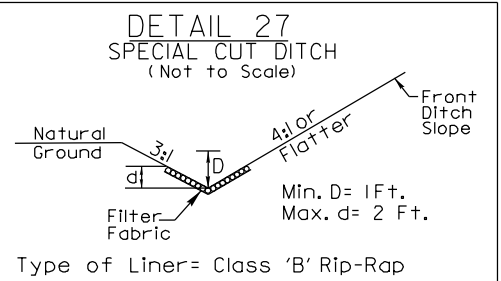
6/2/99

PROJECT REFERENCE NO.	SHEET NO.
R-2303C	2-H
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	

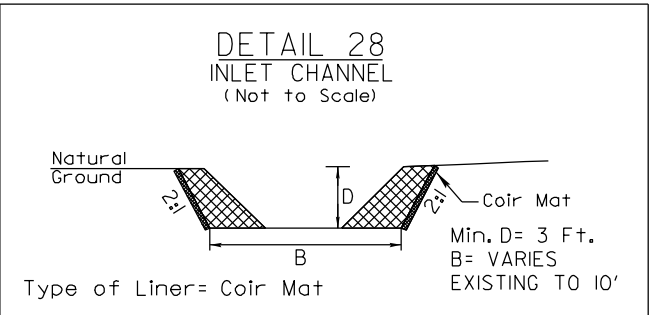
Permit Drawing Sheet 4 of 80



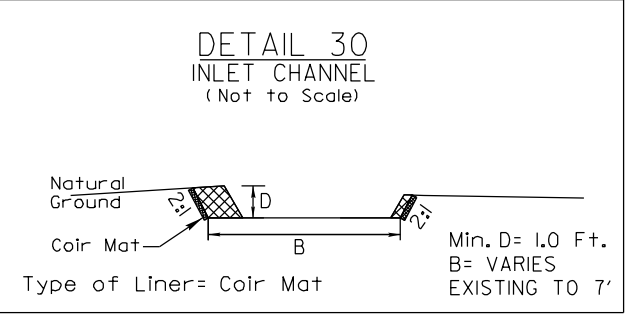
FROM STA. 865+25 TO STA. 867+00 -L- (RT)
FROM STA. 1062+50 TO STA. 1065+00 -L- (RT)



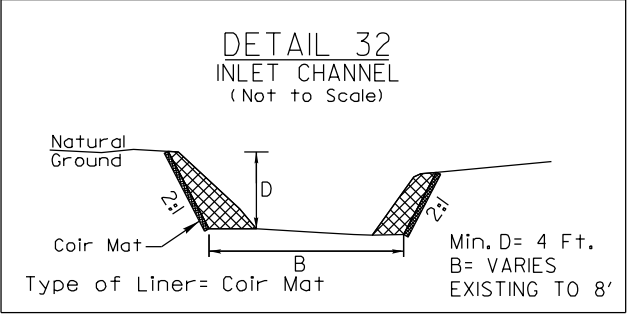
FROM STA. 928+00 TO STA. 929+50 -L- (RT)



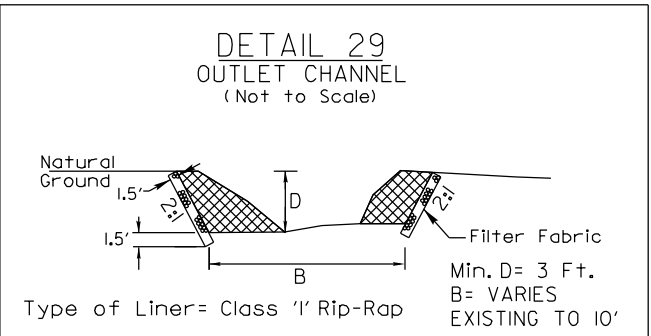
STA. 863+15 -L- (RT)



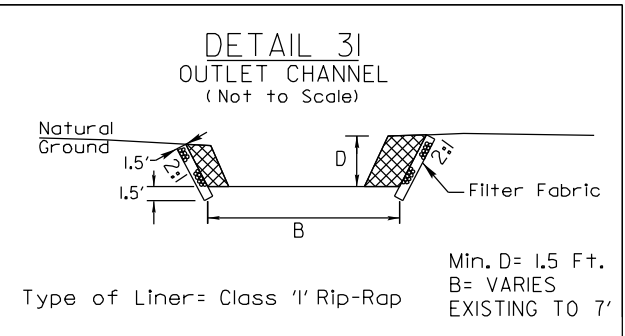
STA. 888+67 -L- (RT)



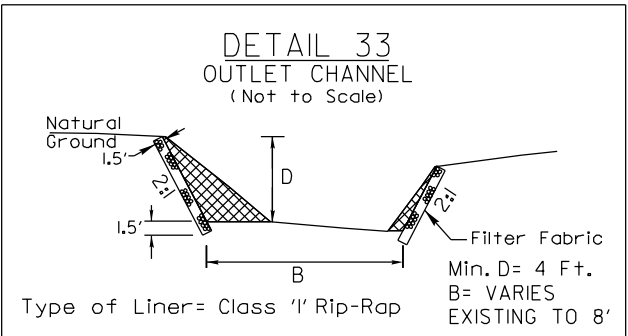
STA. 906+61 -L- (RT)



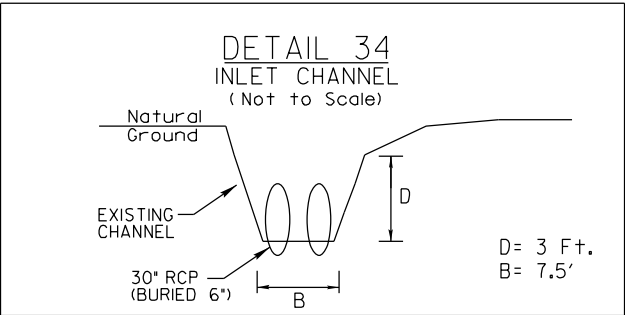
STA. 863+15 -L- (LT)



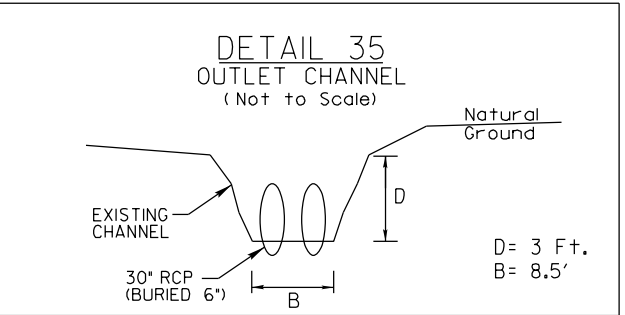
STA. 888+67 -L- (LT)



STA. 906+61 -L- (LT)



STA. 11+97 -Y38- (LT)



STA. 11+97 -Y38- (RT)

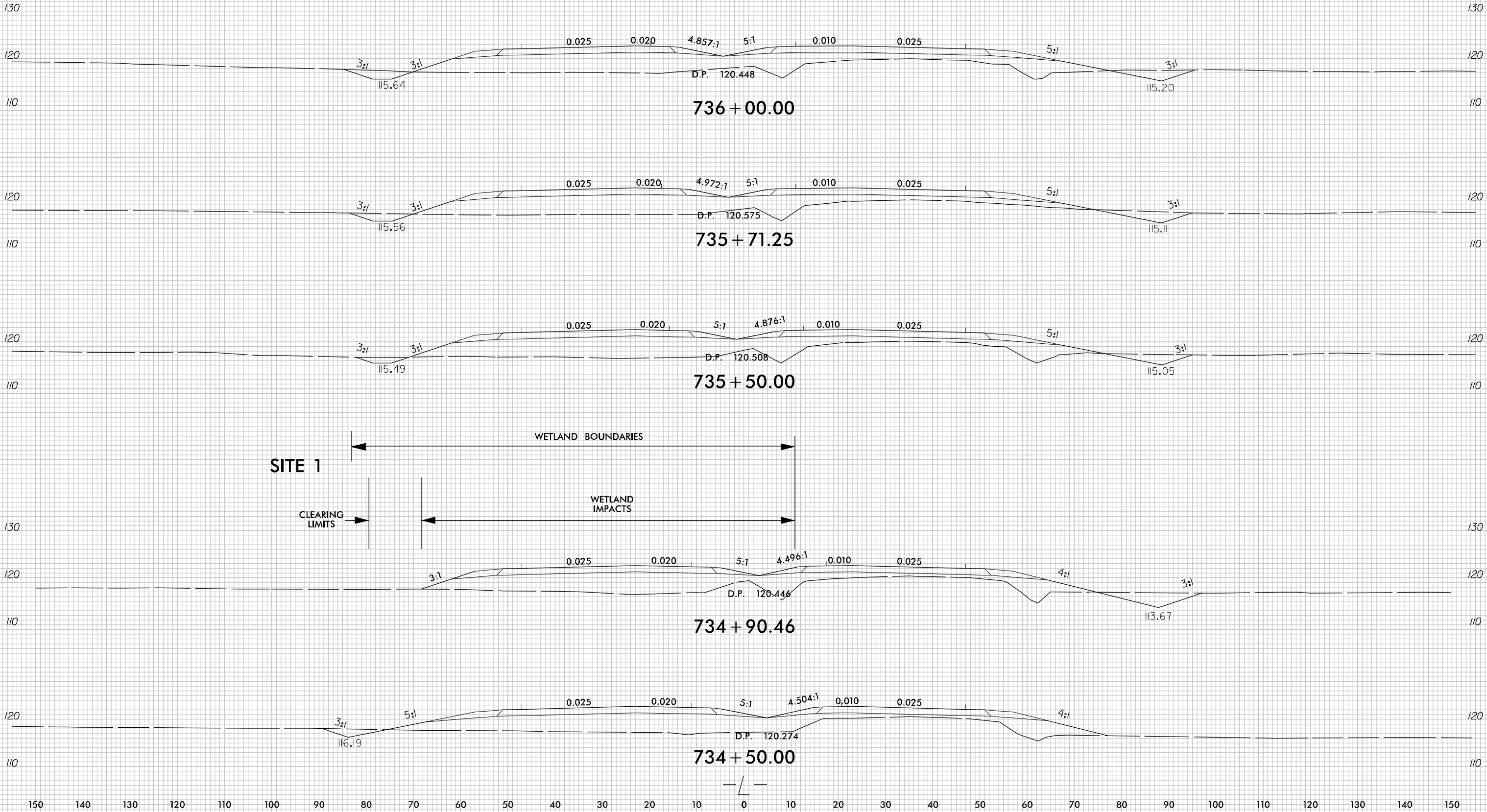
6/2/99

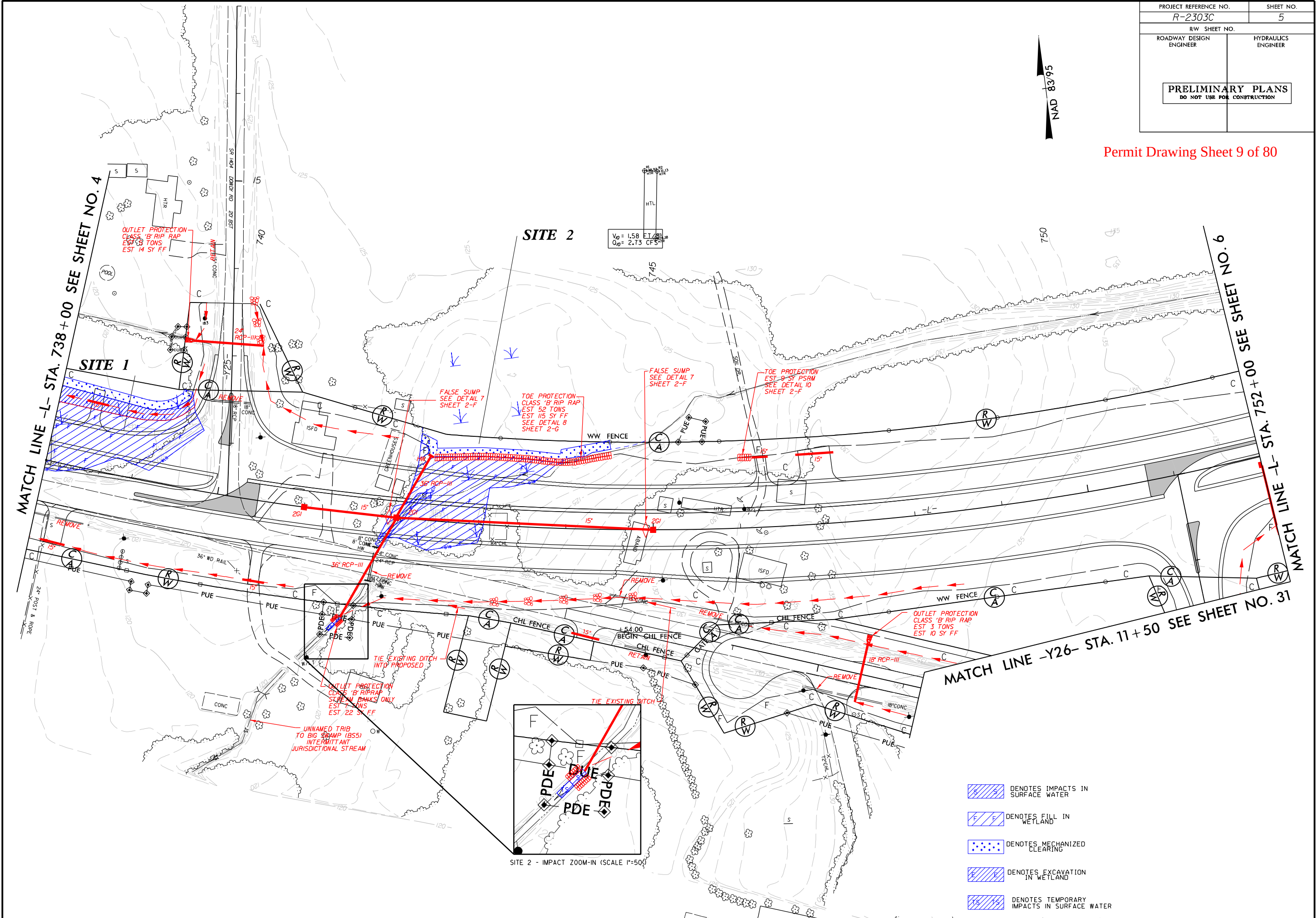


8/23/99

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

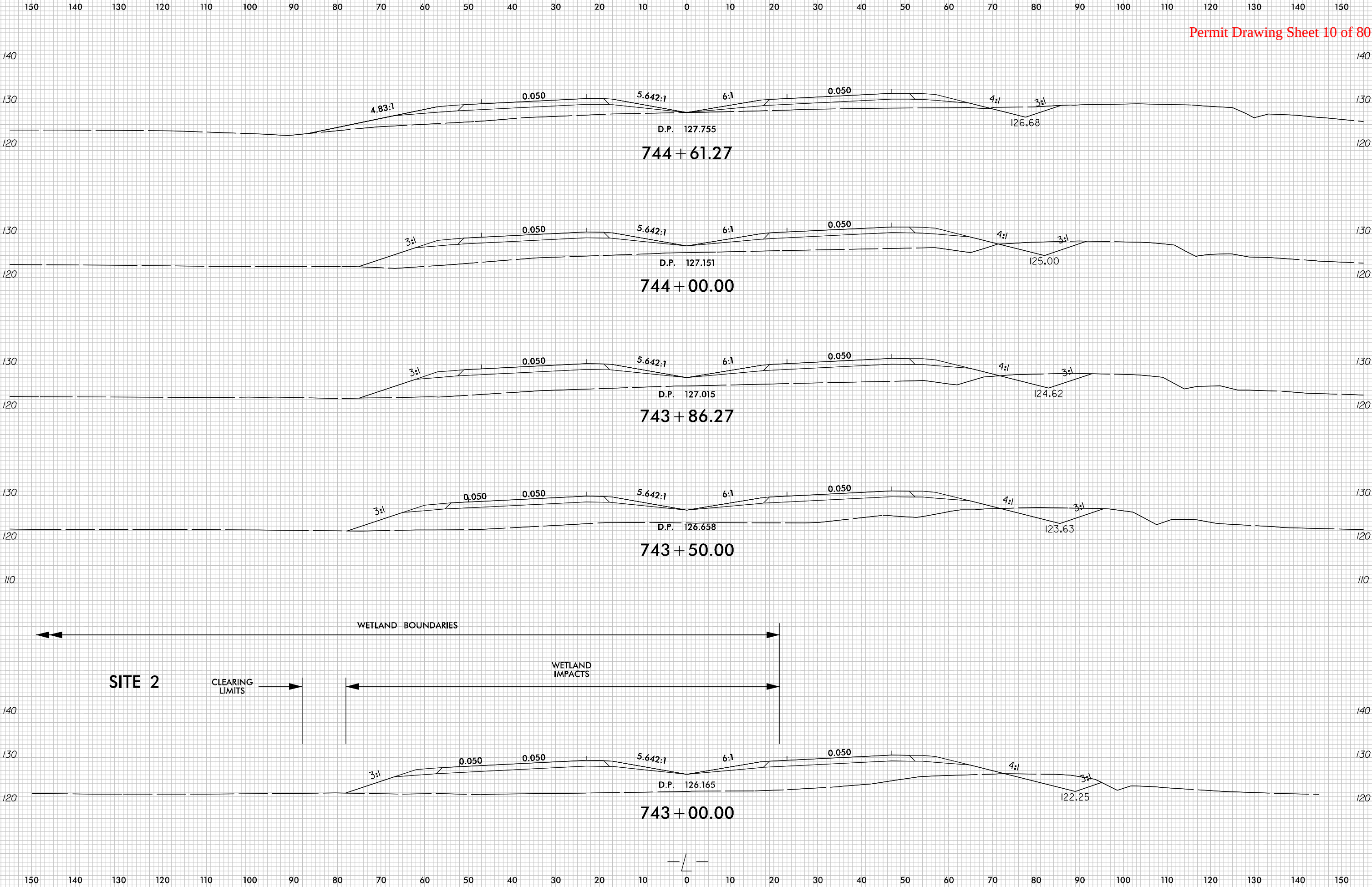
Permit Drawing Sheet 7 of 80





8/23/99

Permit Drawing Sheet 10 of 80

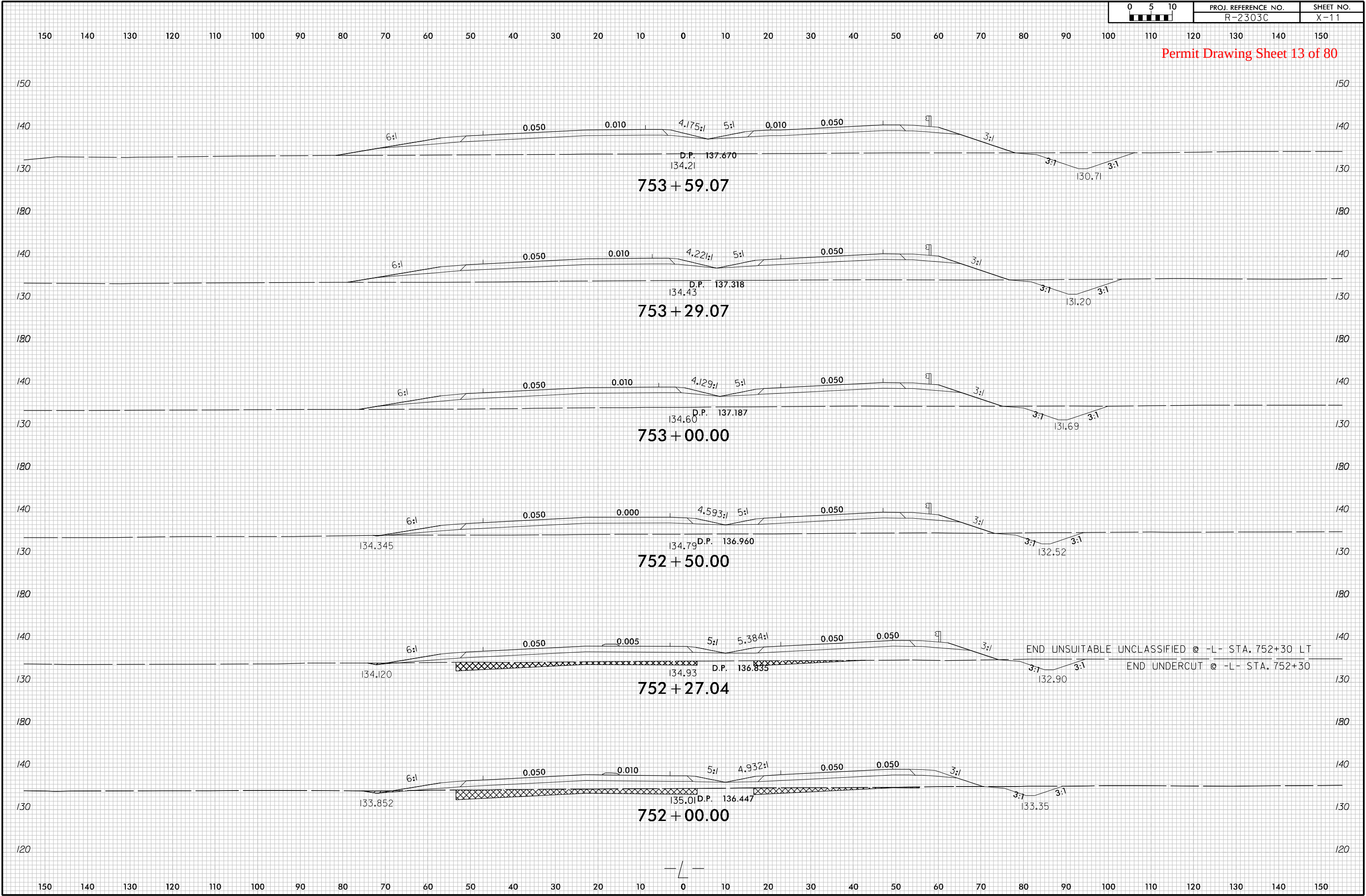






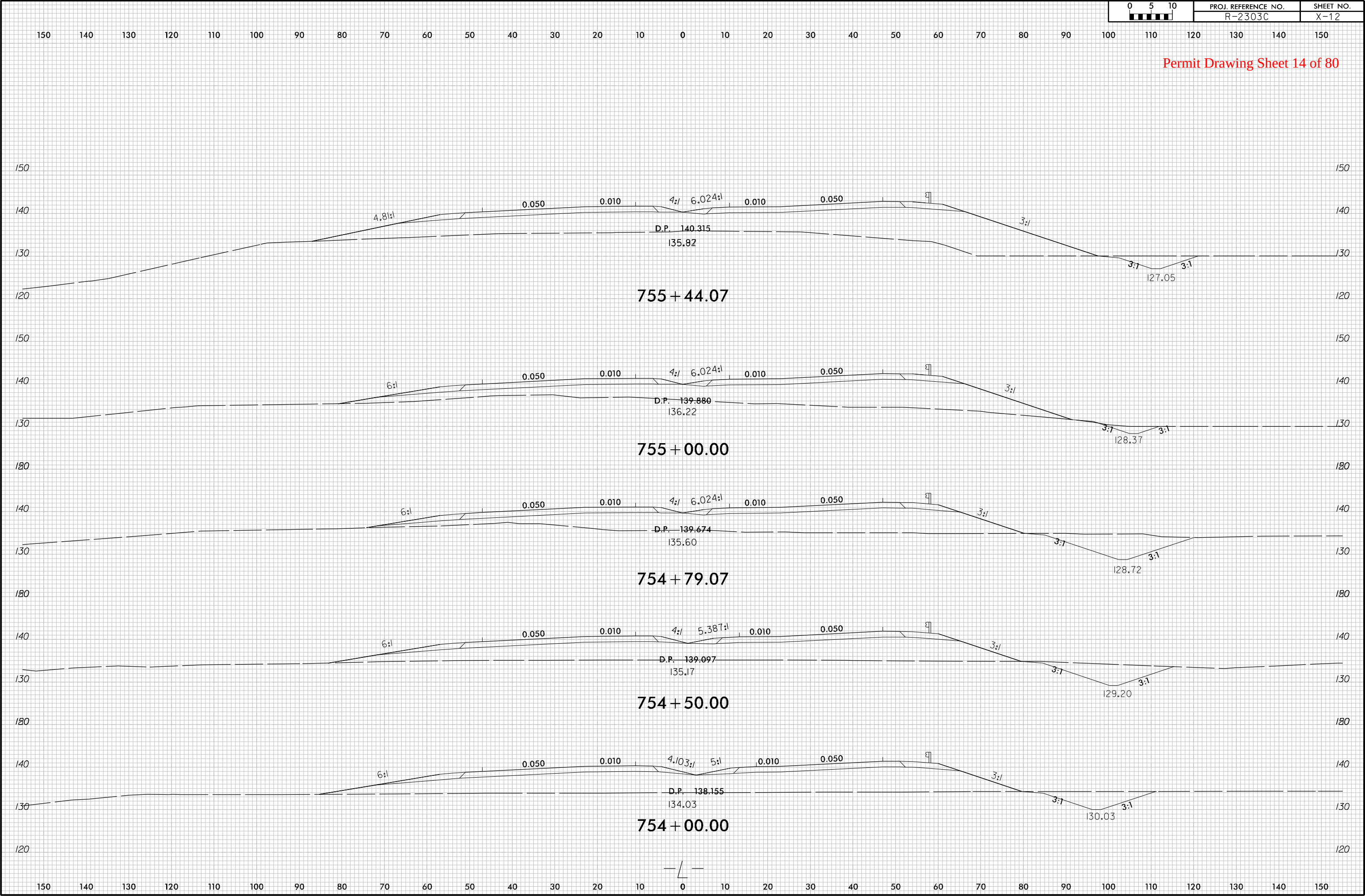
8/23/99

Permit Drawing Sheet 13 of 80



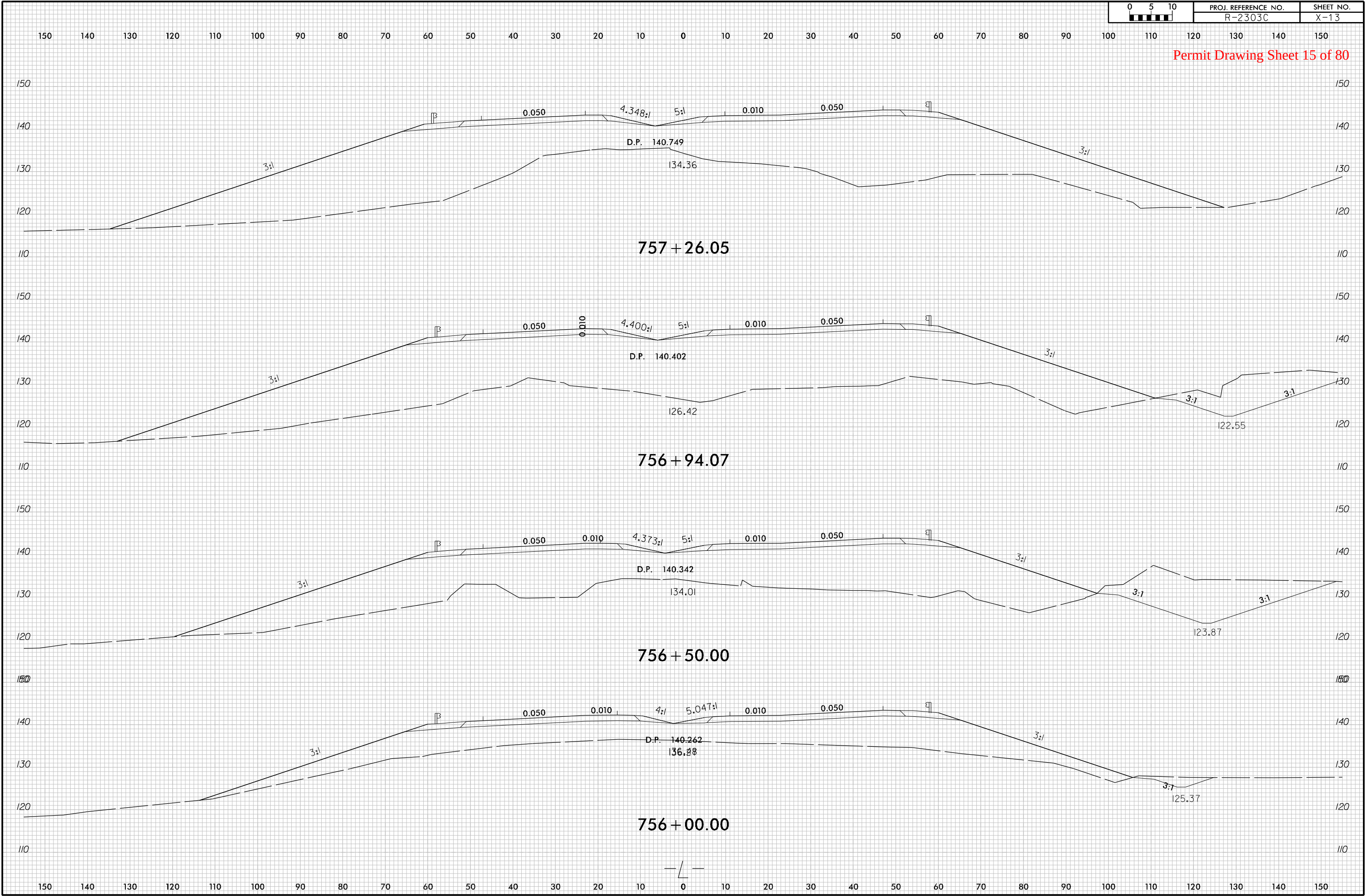
8/23/99

Permit Drawing Sheet 14 of 80

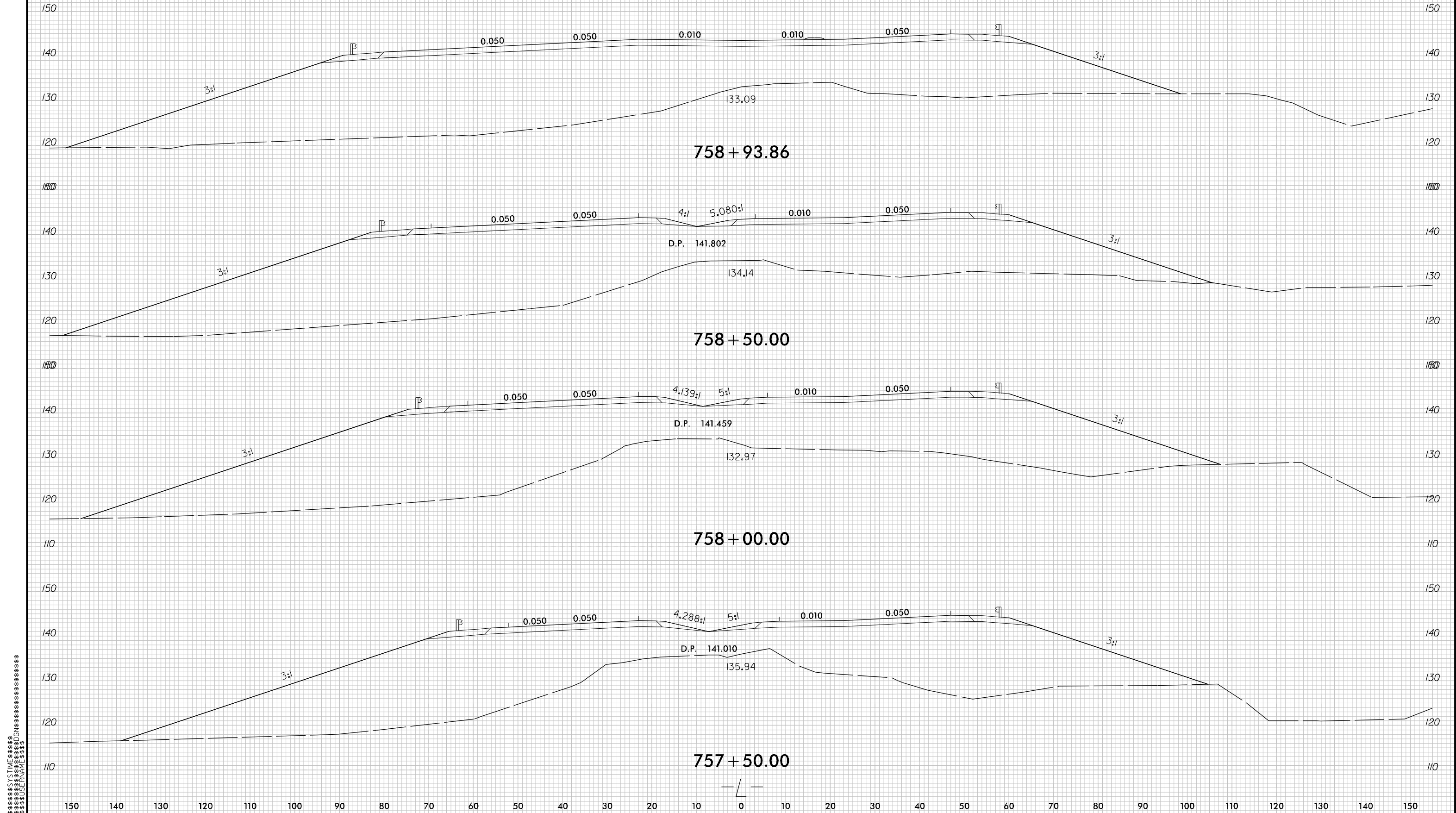


8/23/99

Permit Drawing Sheet 15 of 80



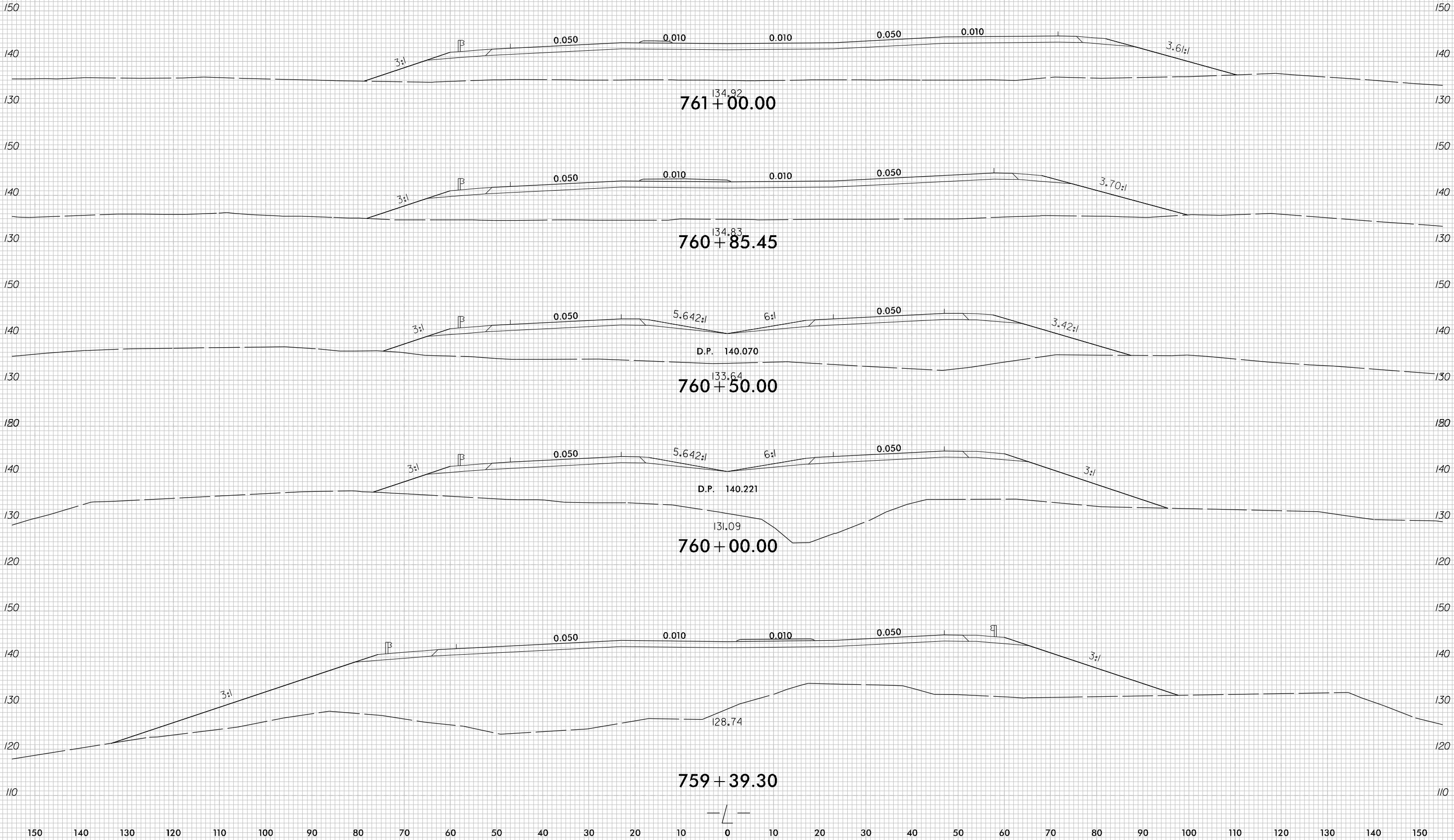
Permit Drawing Sheet 16 of 80



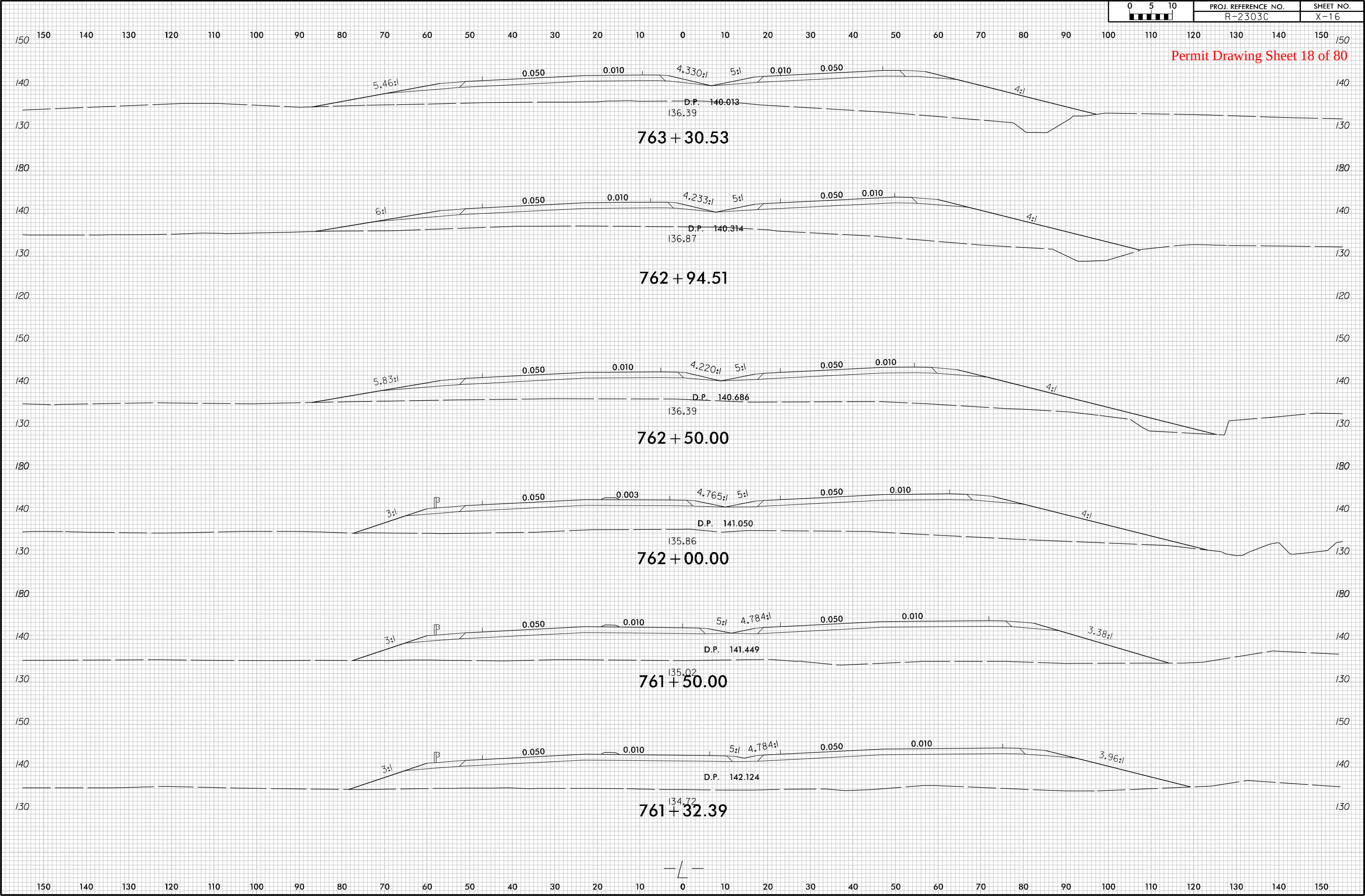
8/23/99

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

Permit Drawing Sheet 17 of 80

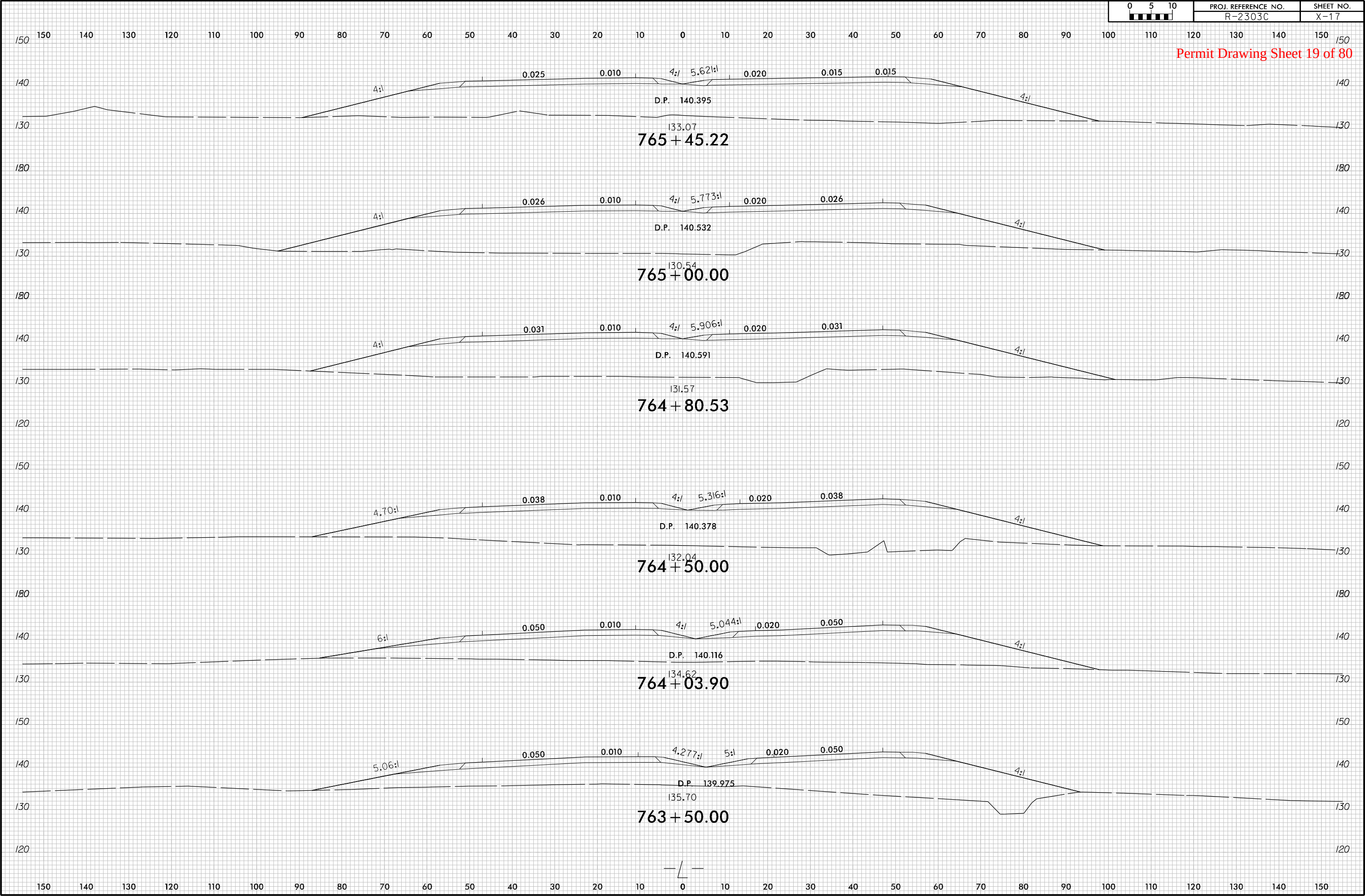


8/23/99

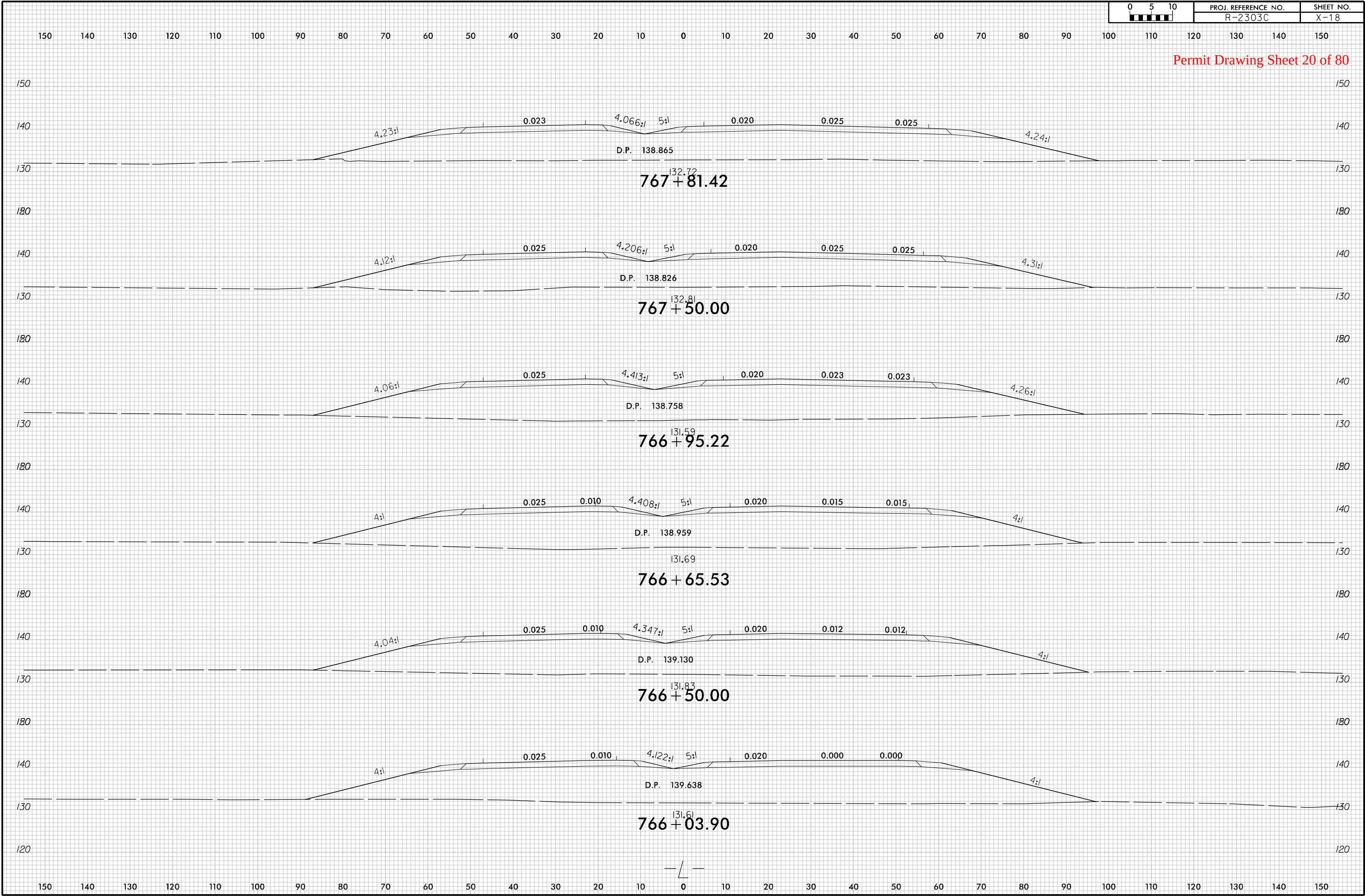


Permit Drawing Sheet 18 of 80

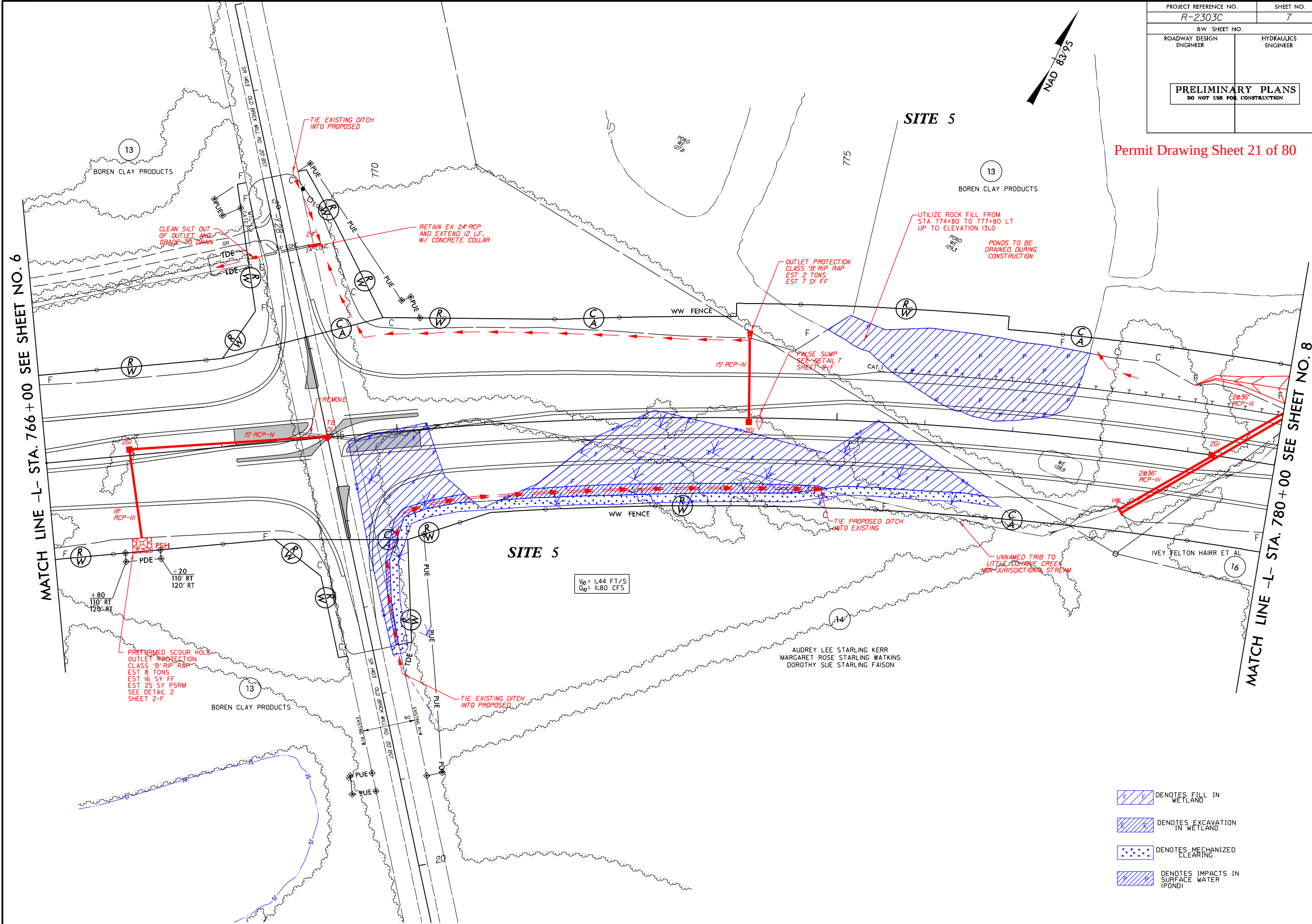
8/23/99

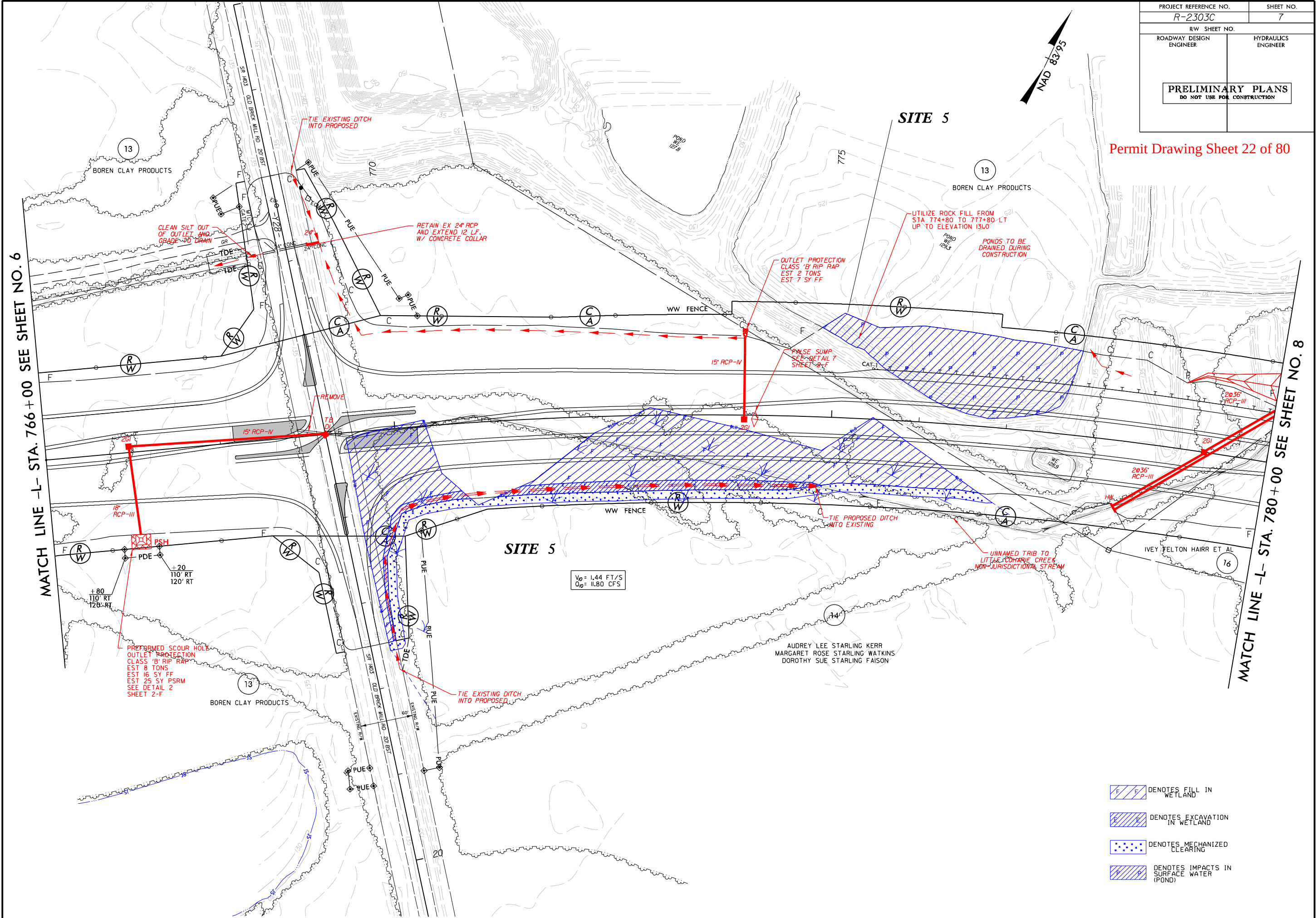


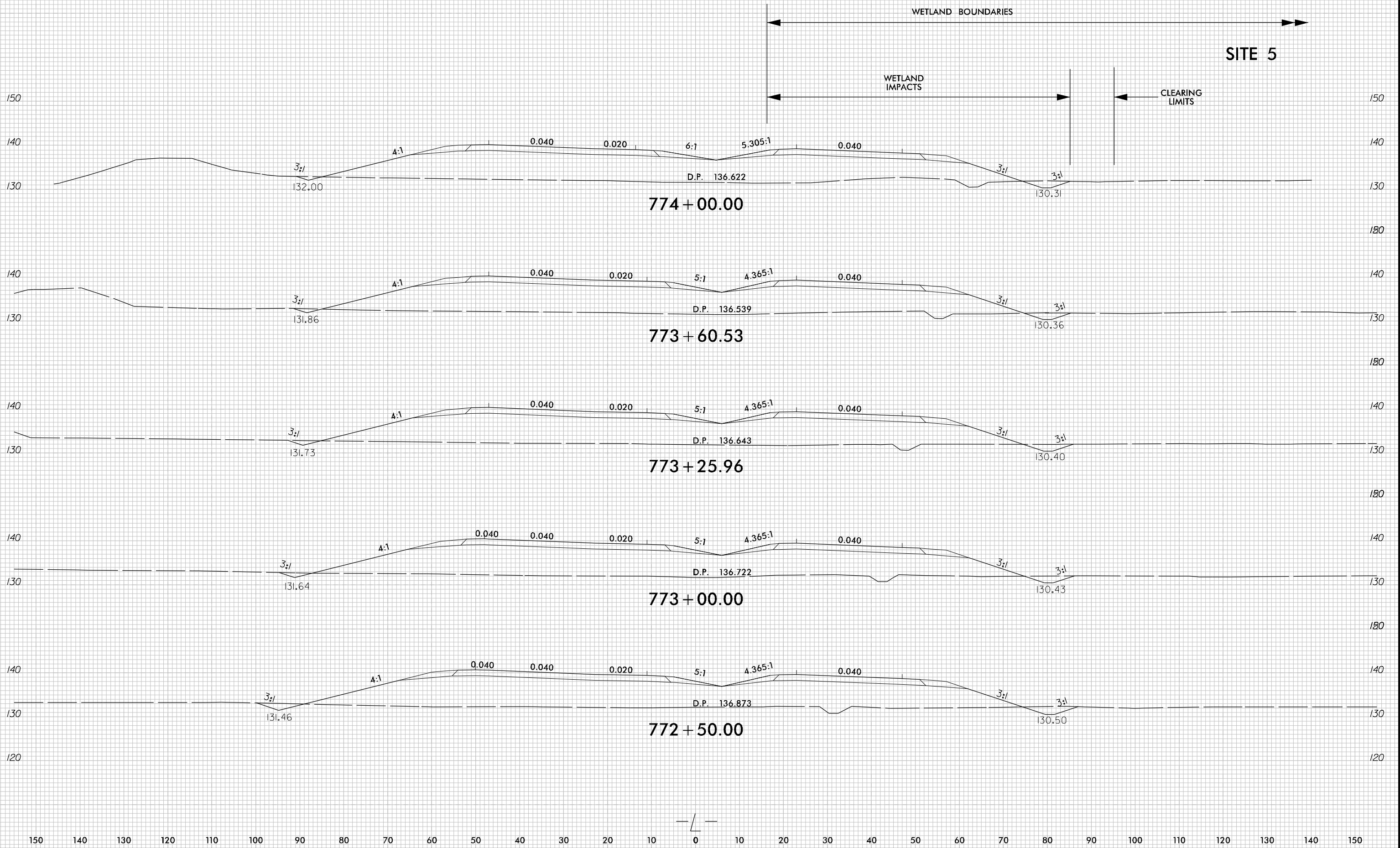
8/23/99



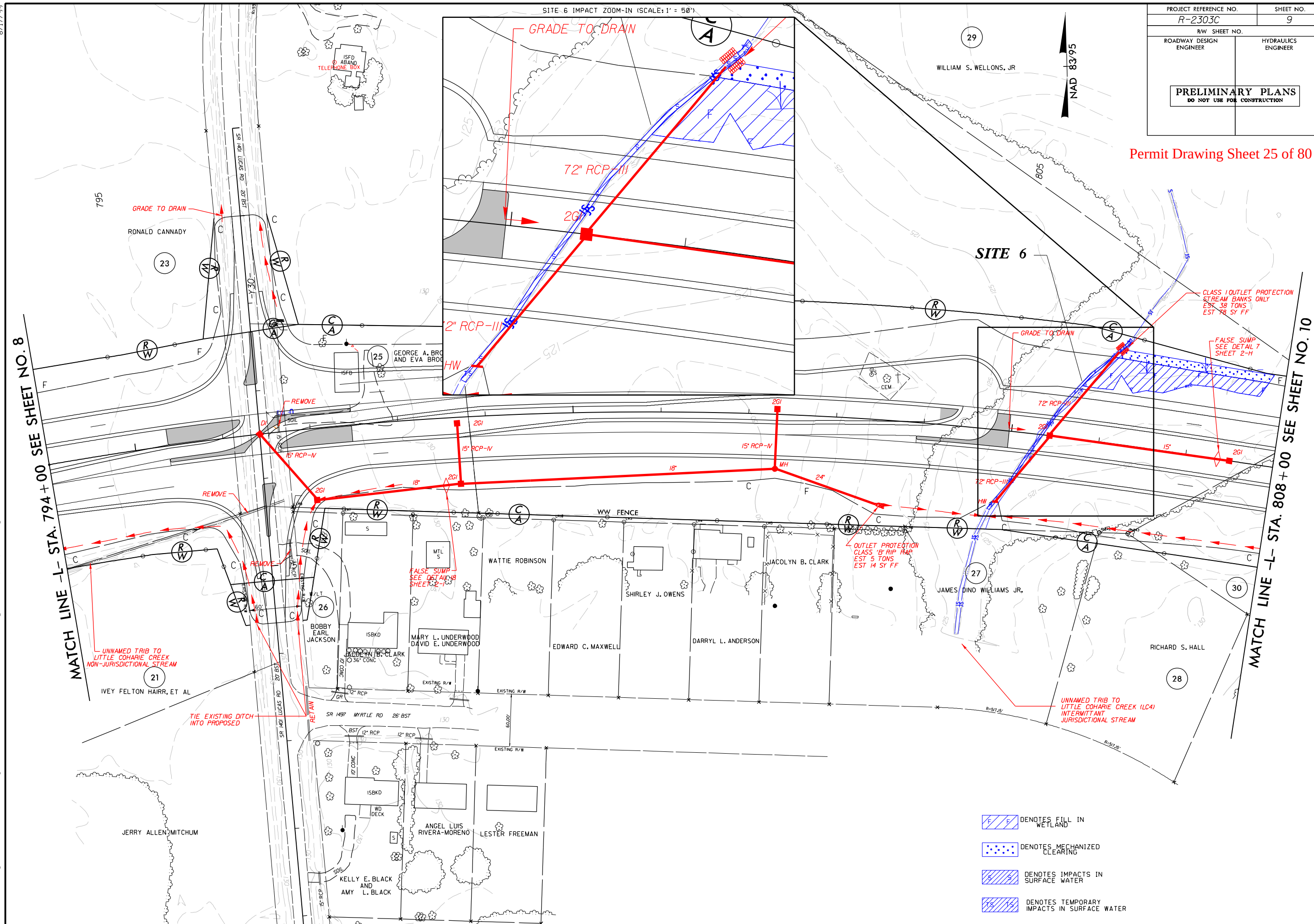
Permit Drawing Sheet 20 of 80

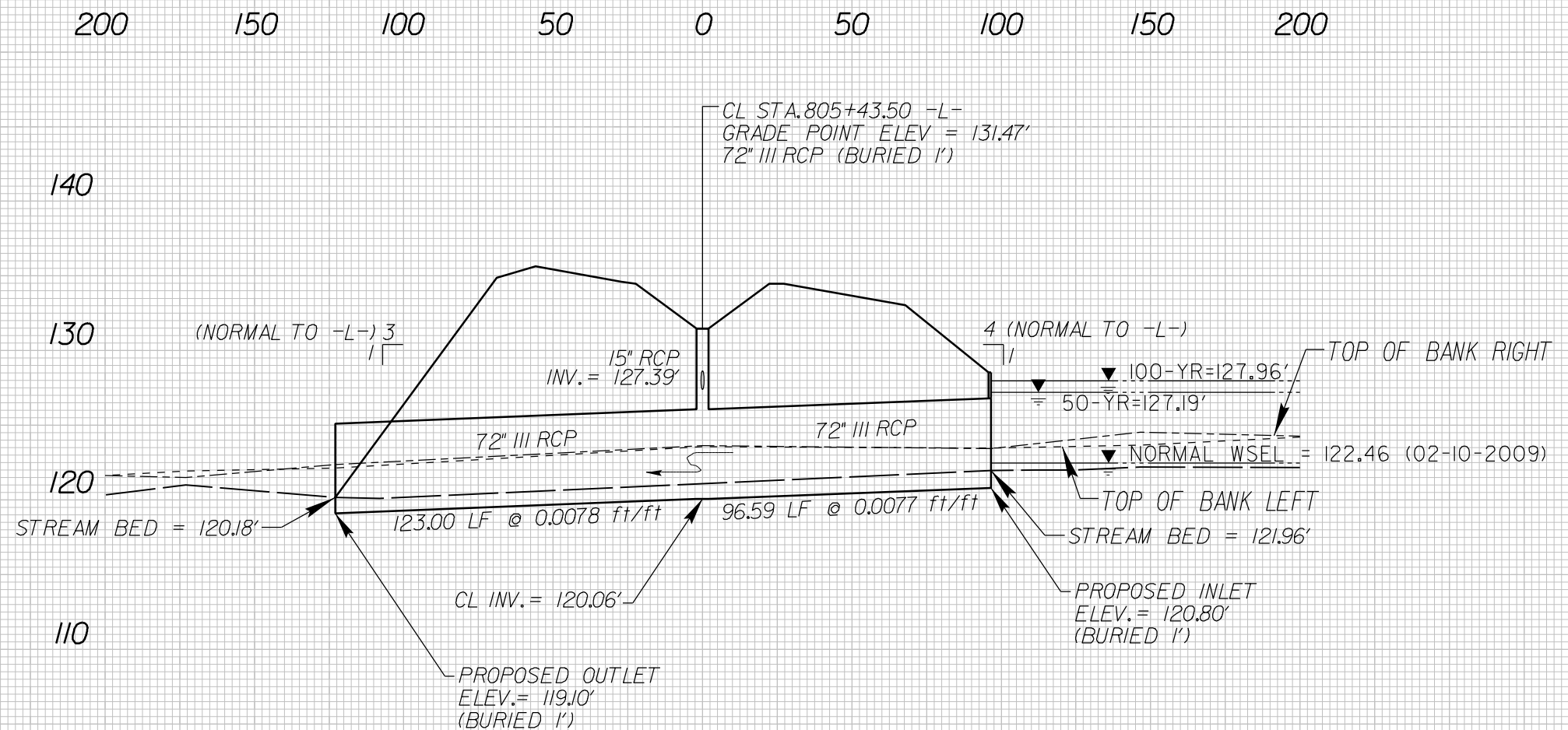






Permit Drawing Sheet 25 of 80





SITE 6

72" CLASS III RCP AT STATION -L- 0805+43.50



Permit Drawing Sheet 28 of 80

MATCH LINE -L- STA. 864 + 00 SEE SHEET NO. 14

MATCH LINE -L- STA. 850+00 SEE SHEET NO. 12

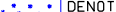
SITE 7

SITE 7 - IMPACT ZOOM-IN (SCALE: 1" = 50')

 DENOTES FILL IN
WETLAND

 DENOTES MECHANIZED
CLEARING

 DENOTES IMPACTS IN
SURFACE WATER

 DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

PREFORMED SCOUR HOLE
OUTLET PROTECTION
CLASS 'B' RIP RAP
EST 8 TONS
EST 16 SY FF
EST 25 SY PSRM
SEE DETAIL 2
SHEET 2-F

TOE PROTECTION -
CLASS 'B' RIP RAP
EST 42 TONS
EST 93 SY FF
SEE DETAIL 8
SHEET 2-G

FALSE SUMP
SEE DETAIL 7
SHEET 2-F

UTILIZE ROCK FILL FROM
STA 860+45 TO 864+45 L
UP TO ELEVATION 100.0

UNNAMED TRIB TO
LITTLE COHARIE CREEK (LC7)
PERENNIAL
JURISDICTIONAL STREAM

OUTLET CHANNEL
IMPROVEMENTS
SEE DETAIL 29
SHEET 2-H

FALSE SUMP
SEE DETAIL
SHEET 2-F

18" CSP W/ ELBOW
AND W/ ROD & L
CONNECTORS

FALSE SUMP
SEE DETAIL 24
SHEET 2-G

TOE PROTECTION—
CLASS 'B' RIP RAP
EST 20 TONS
EST 44 SY FF
SEE DETAIL 8
SHEET 2 OF 2

INLET CHANNEL
IMPROVEMENTS
EST 60 SY COIR FIBER MA
SEE DETAIL 28
SHEET 2-H

UTILIZE ROCK FILL FROM
STA 861+75 TO 864+15 R
UP TO ELEVATION 100.0

41

BELLE L. PARKER

40

S.M.P. FARMS

855

40

S.M.P. FARMS

030

396

NAD 83/95

Permit Drawing Sheet 29 of 80

UNNAMED TRIB TO
LITTLE COHARIE CREEK (LC7) -
PERENNIAL
JURISDICTIONAL STREAM

UTILIZE ROCK FILL FROM
STA 860+45 TO 864+45 LT
UP TO ELEVATION 100.0 —

OUTLET CHANNEL
IMPROVEMENTS
SEE DETAIL 29
SHEET 2-H

PREFORMED SCOUR HOLE
OUTLET PROTECTION
CLASS 'B' RIP RAP
EST 8 TONS
EST 16 SY FF
EST 25 SY PSRM
SEE DETAIL 2
SHEET 2-F

TOE PROTECTION
CLASS 'B' RIP RAP
EST 42 TONS
EST 93 SY FF
SEE DETAIL 8
SHEET 2-G

FALSE SUMP -
SEE DETAIL 7
SHEET 2-F

FALSE SUMP
SEE DETAIL
SHEET 2-F

18" CSP W/ ELBOWS 2GI
AND W/ ROD & LUG
CONNECTORS

FALSE SUMP CLASS 'B' RIR
SEE DETAIL 24 EST 20 TOM
SHEET 2-G EST 44 SY
SEE DETAIL

INLET CHANNEL
IMPROVEMENTS
EST 60 SY COIR FIBER MAT
SEE DETAIL 28
SHEET 2-H

UTILIZE ROCK FILL FROM
STA 861+75 TO 864+15 RT
UP TO ELEVATION 100.0

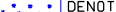
SITE 7

SITE 7 - IMPACT ZOOM-IN (SCALE: 1" = 50')

 DENOTES FILL IN
WETLAND

 DENOTES MECHANIZED
CLEARING

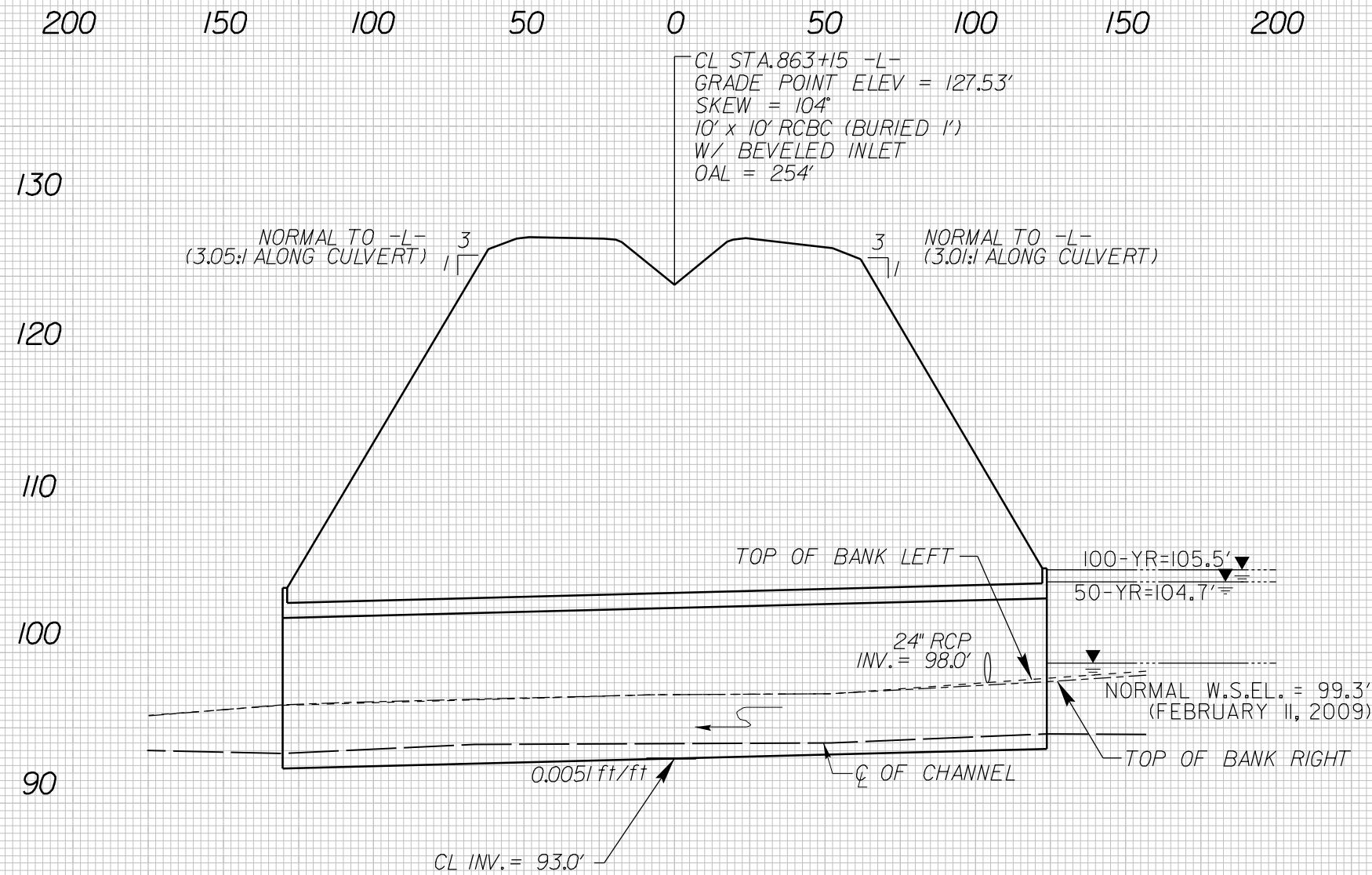
 DENOTES IMPACTS IN
SURFACE WATER

 DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

MATCH LINE -L- STA. 864+00 SEE SHEET NO. 14

8/17/99

3/26/2013
K:\RAL_Roadway\011056078 (R-2303C)\Hydraulics\PERMITS-Environmental\Drawings\2303c-prm_psh_13.dgn



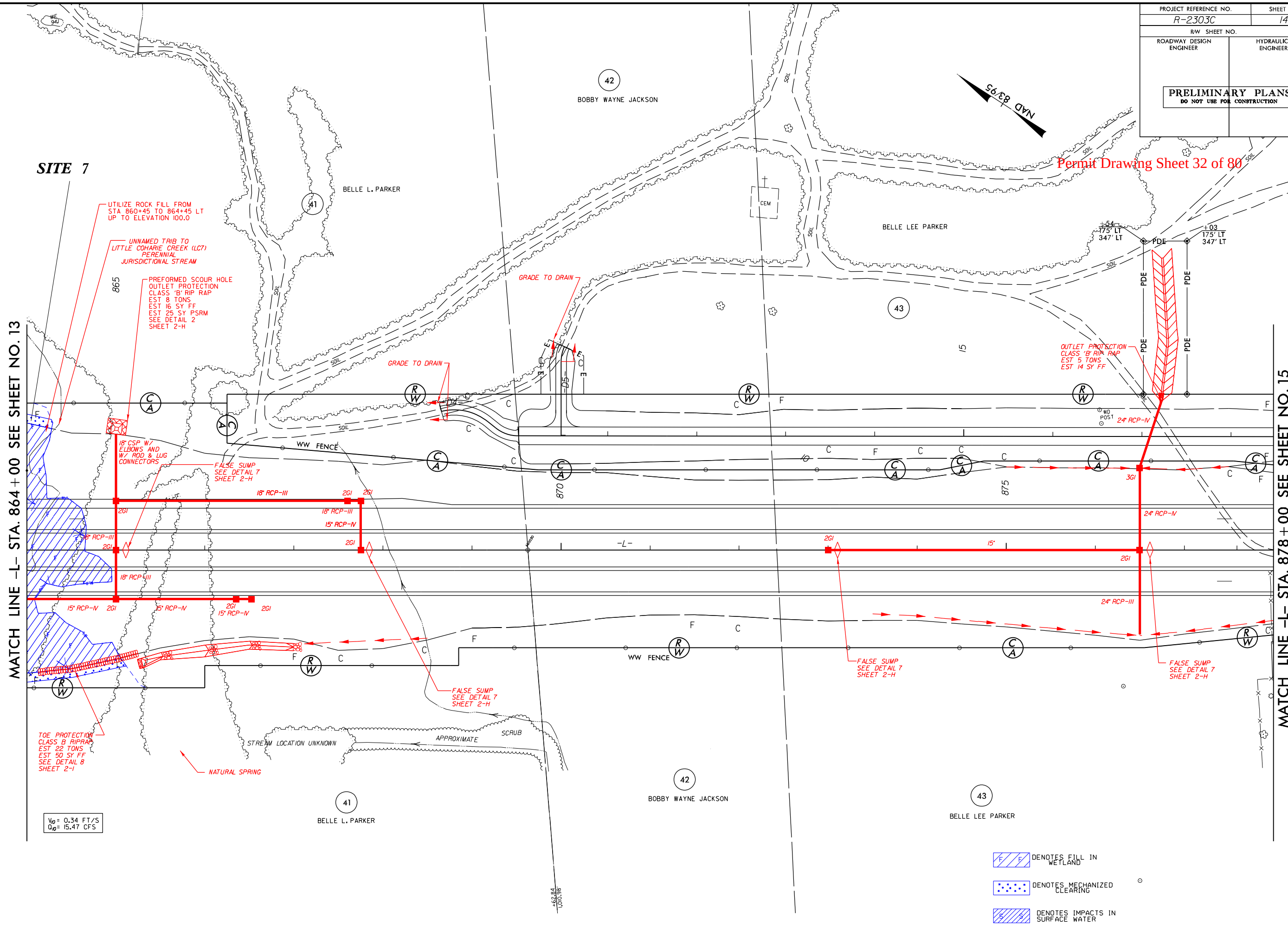
SITE 7

10' x 10' RCBC AT STATION -L- 0863+15

8/17/99

PROJECT REFERENCE NO.		SHEET NO.	
R-2303C		14	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

Permit Drawing Sheet 32 of 80



I:\24\2013\Roadway\011056078 (R-2303C)\Hydraulics\PERMITS\Environmental\Drawings\R-2303c_prm_psh_14.dgn

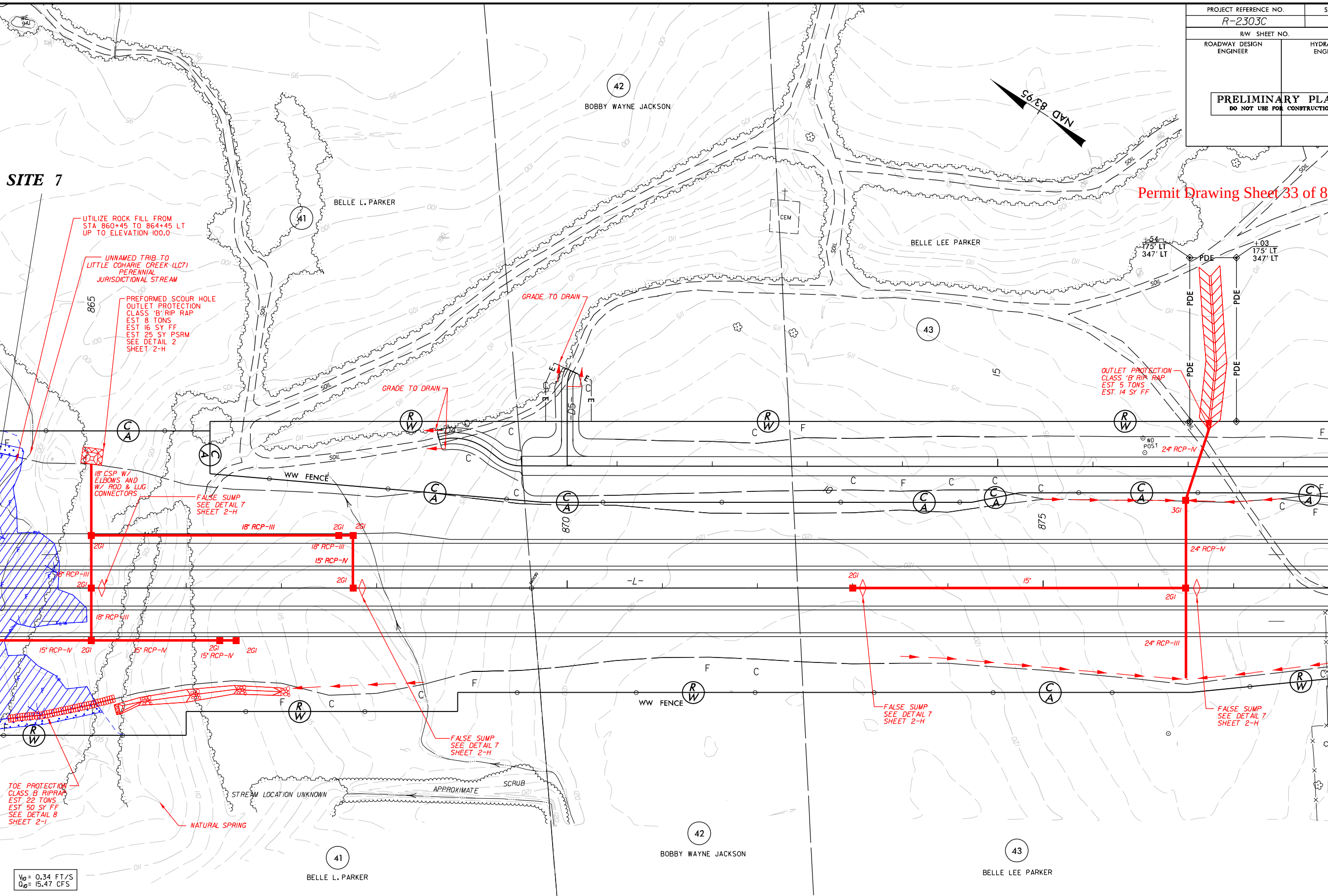
8/17/99

PROJECT REFERENCE NO.		SHEET NO.
R-2303C		14
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

Permit Drawing Sheet 33 of 80

MATCH LINE -L- STA. 864+00 SEE SHEET NO.13

MATCH LINE -L- STA. 878+00 SEE SHEET NO.15



$V_0 = 0.34 \text{ FT/S}$
 $Q_0 = 15.47 \text{ CFS}$

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

I:\24\2013\Roadway\011056078 (R-2303C)\Hydraulics\PERMITS\Drawings\2303c_prm_psh_14.dgn

8/17/99

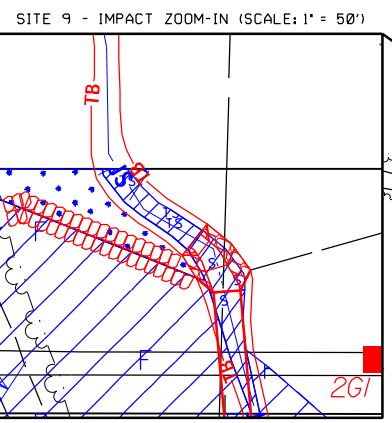
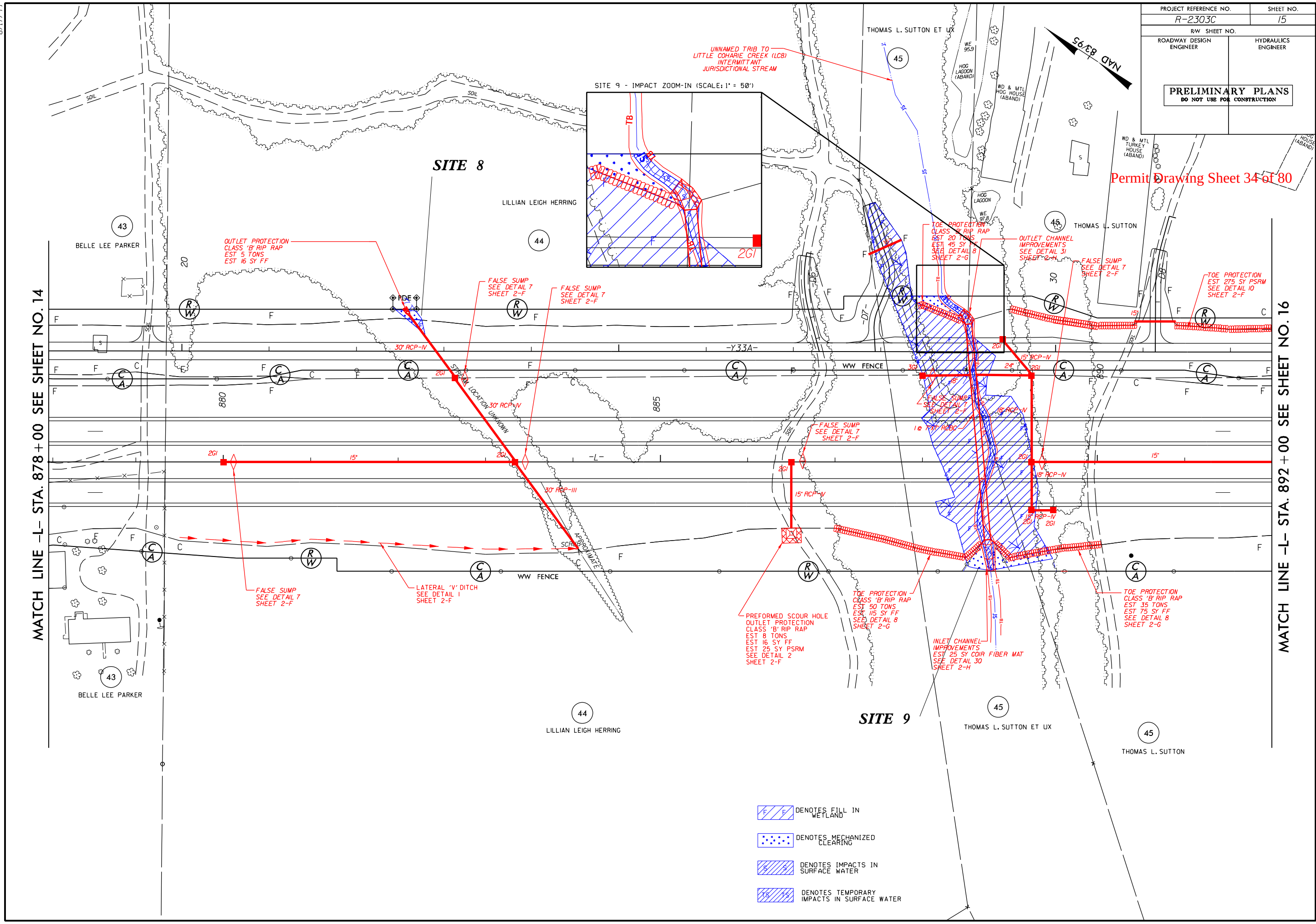
3/26/2013
Z:\Roadway\011056078 (R-2303C)\Hydraulics\PERMITS\Environmental\Drawings\2303c_perm_psh_15.dgn

MATCH LINE -L- STA. 878+00 SEE SHEET NO.14

MATCH LINE -L- STA. 892+00 SEE SHEET NO.16

PROJECT REFERENCE NO. <i>R-2303C</i>		SHEET NO. <i>15</i>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

Permit Drawing Sheet 34 of 80



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

8/17/99

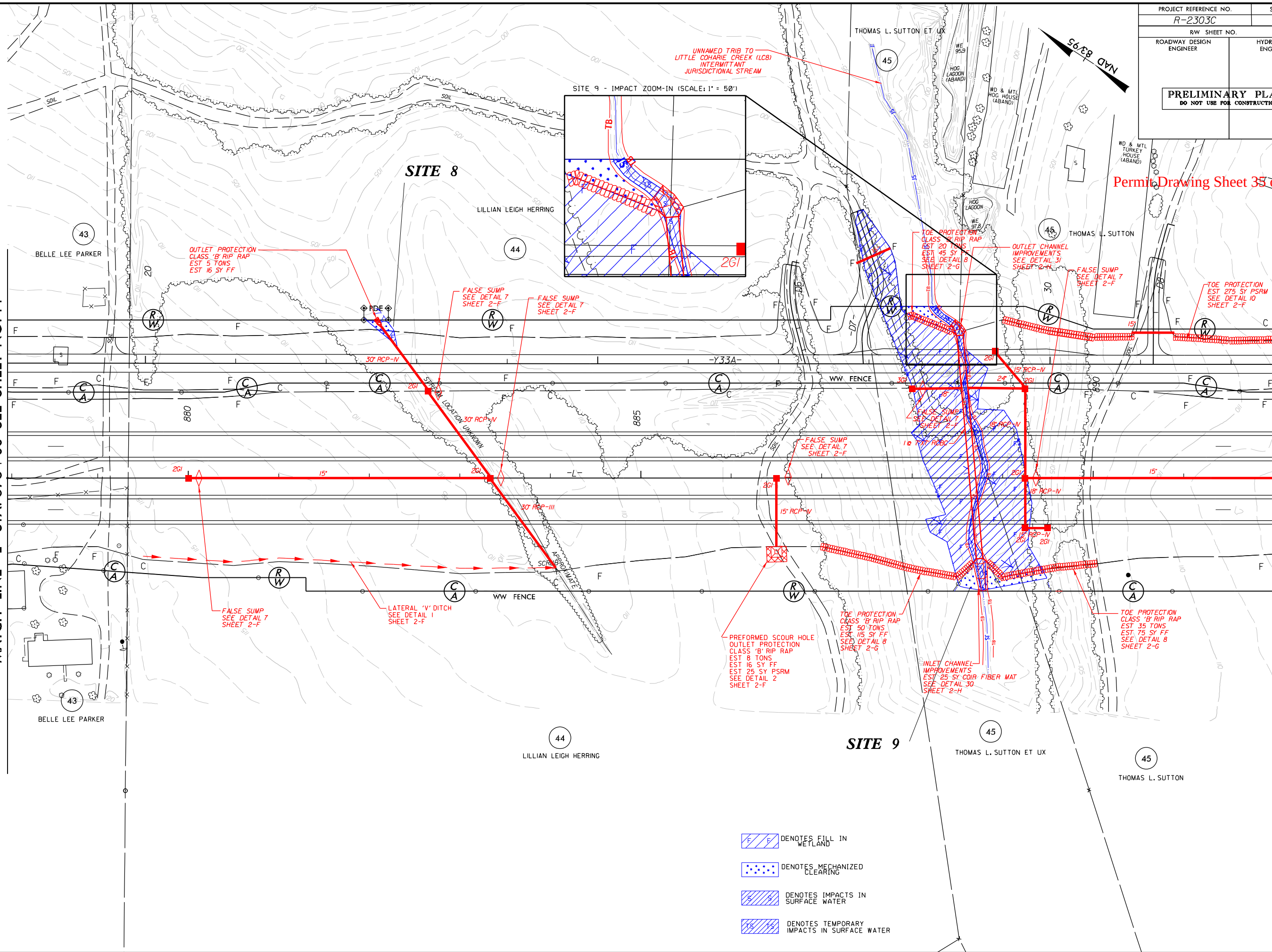
Z:\626\2013\Roadway\011056078 (R-2303C)\Hydraulics\PERMITS\Environmental\Drawings\R-2303c_perm_psh_15.dgn

MATCH LINE -L- STA. 878+00 SEE SHEET NO.14

MATCH LINE -L- STA. 892+00 SEE SHEET NO.16

PROJECT REFERENCE NO. <i>R-2303C</i>		SHEET NO. <i>15</i>
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

Permit Drawing Sheet 35 of 80

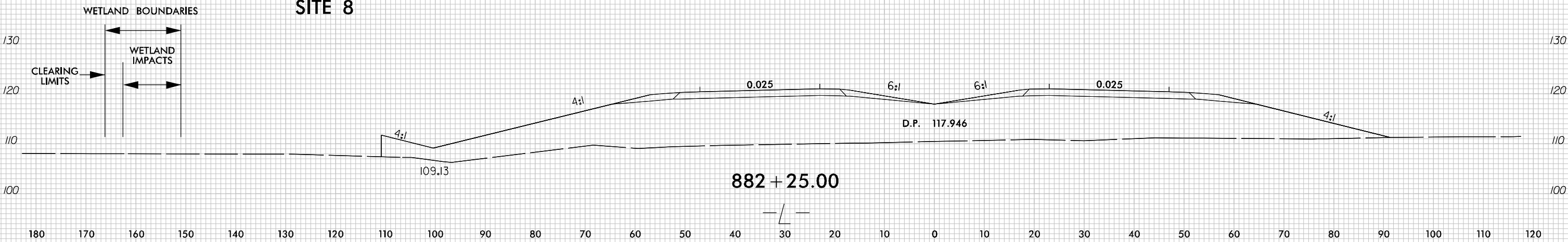
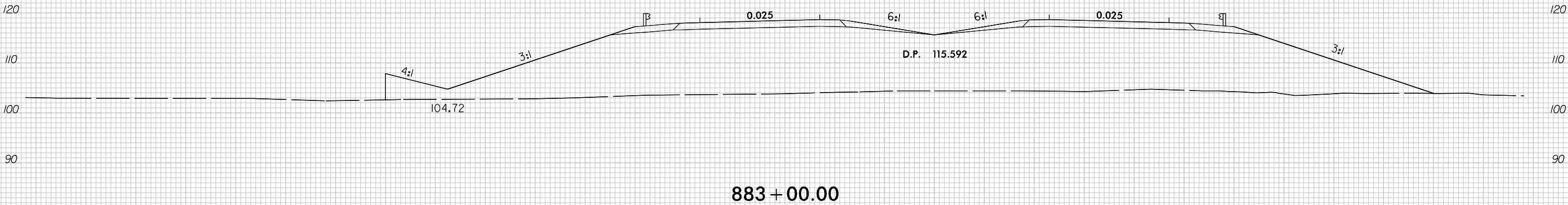
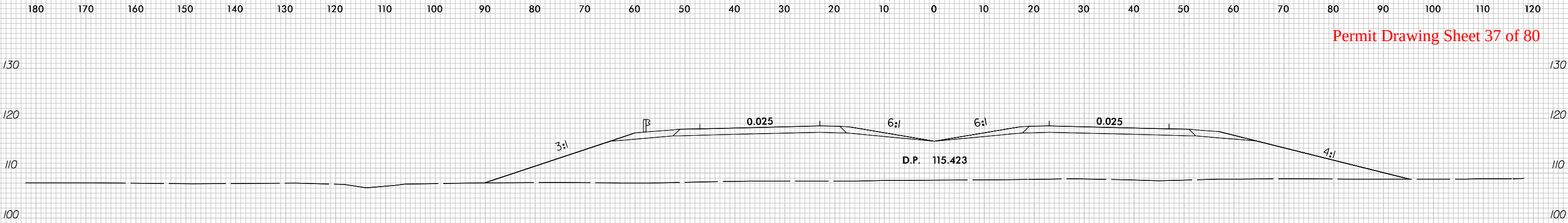


- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

8/23/99

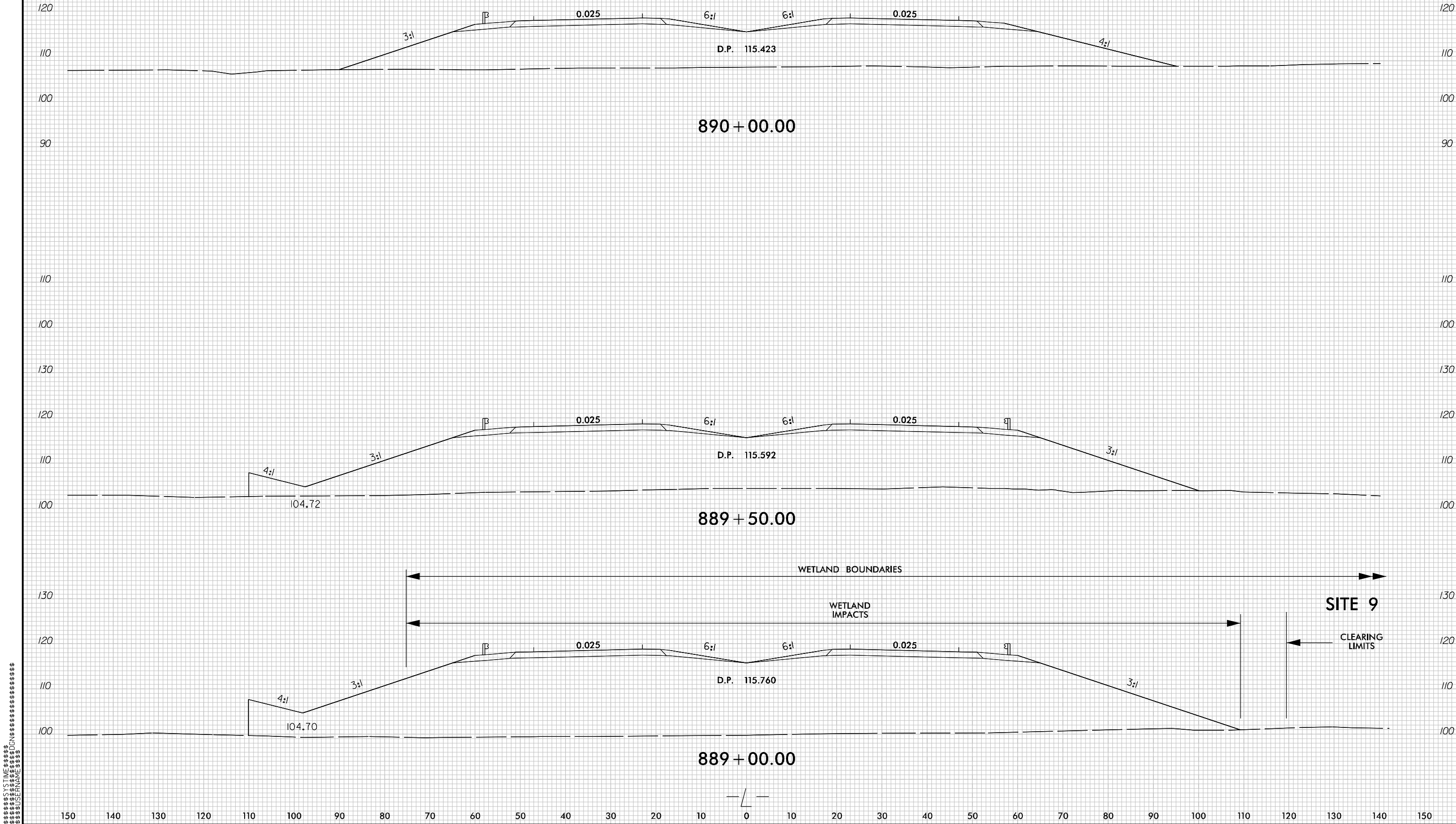
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2303C	X-60

Permit Drawing Sheet 37 of 80

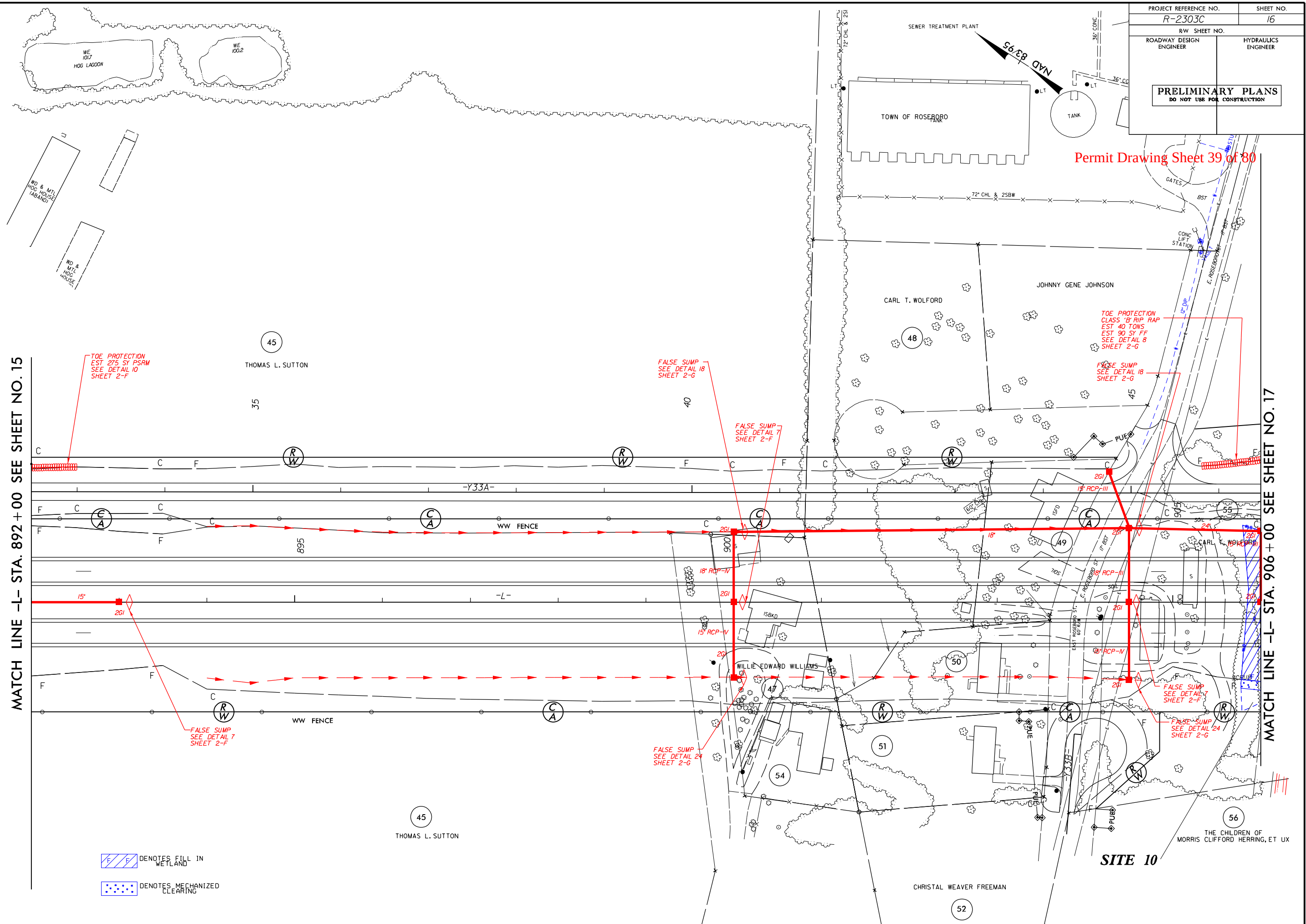


8/23/99

Permit Drawing Sheet 38 of 80



Permit Drawing Sheet 39 of 80



MATCH LINE -L- STA. 892+00 SEE SHEET NO. 15

MATCH LINE -L- STA. 906+00 SEE SHEET NO. 17

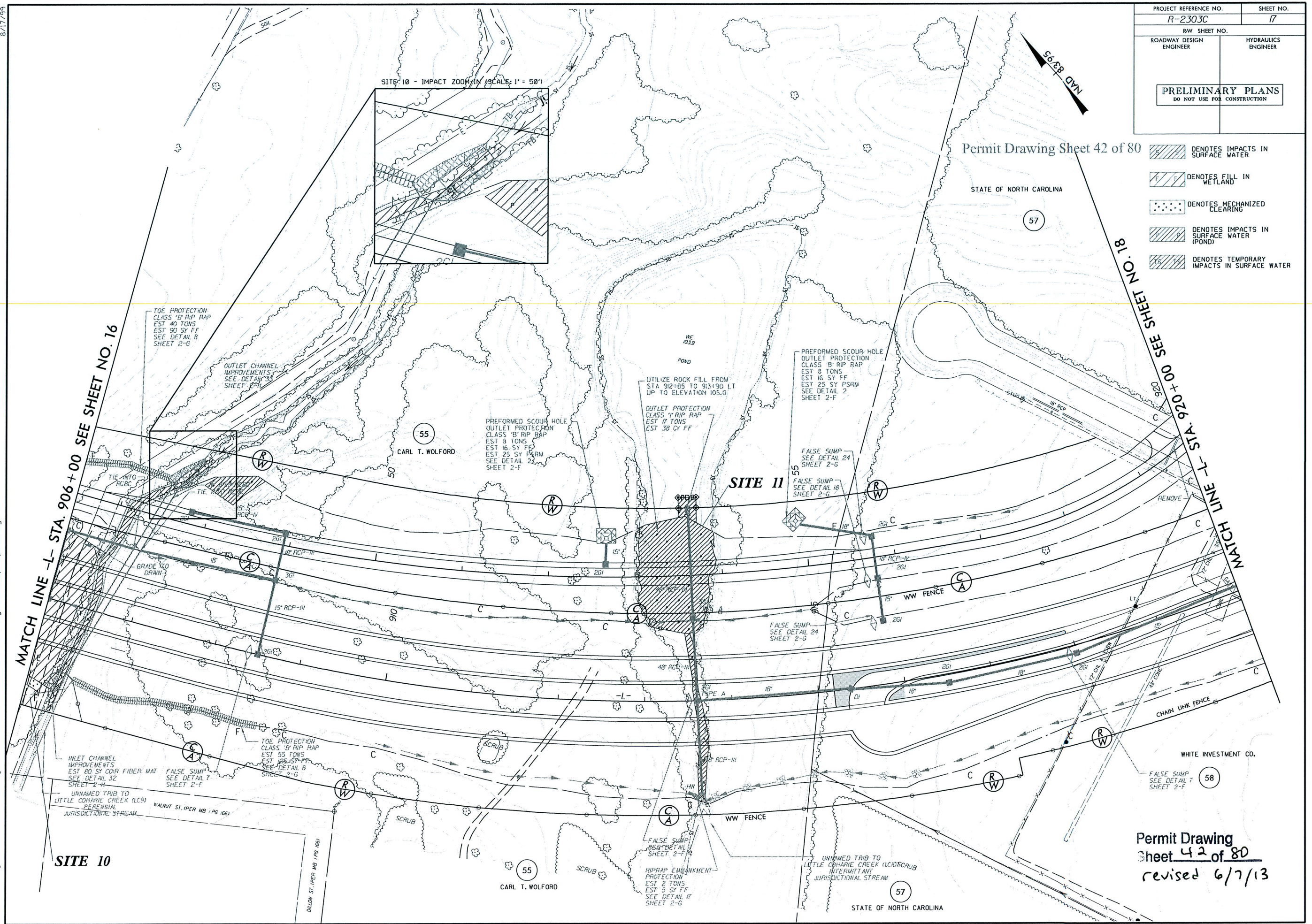
SITE 10

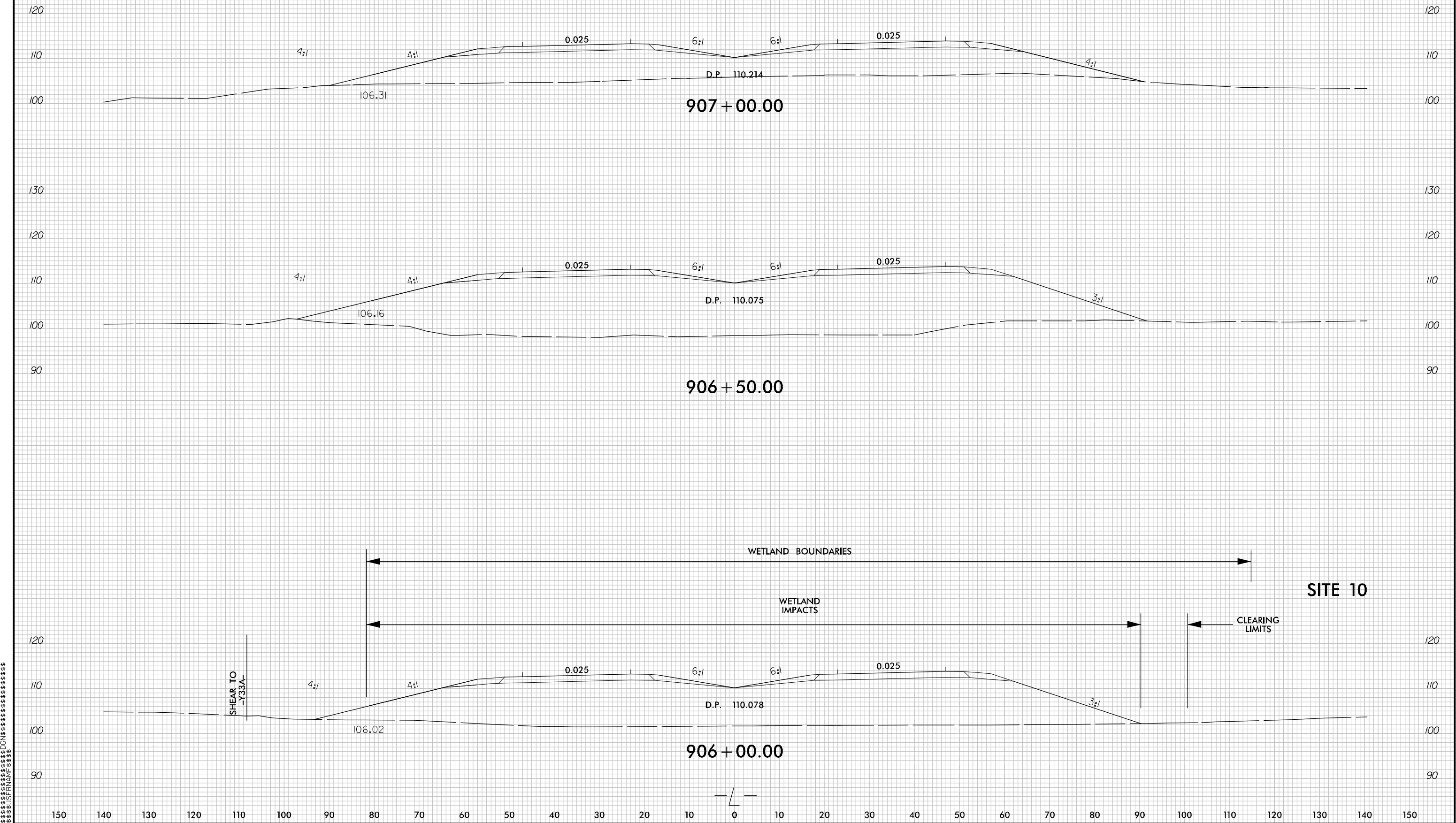
 DENOTES FILL IN
WETLAND

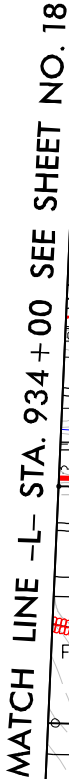
 DENOTES MECHANIZED
CLEARING

6/5/2013
K:\RAL_Roadway\011056078 (R-2303C)\Hydraulics\PERMITS.Environmental\Drawings\r2303c.prm.psh.17.dgn

PROJECT REFERENCE NO.	SHEET NO.
<i>R-2303C</i>	<i>17</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	







MATCH LINE -L- STA. 948+00 SEE SHEET NO. 20

940+00

941+00

942+00

943+00

944+00

945+00

PROJ. REFERENCE NO.

R-2303c

SHEET NO.

Permit Drawing Sheet 47 of 80

CL LOWPOINT
APPROX. STA = 953+65
APPROX. ELEV. = 97.02

CL STA 943+12.5 -L-
EAST BOUND LANE (-EBL-)
1 @ 90', 1 @ 105', 1 @ 100', OAL = 295'
63" MODIFIED BULB TEE
W/ SPILL THROUGH SLOPES
CL ELEV = 100.77'
90° SKEW

EXISTING BRIDGE
AND ROADWAY

LOWSTEEL @ LOWSIDE
OF 2.5% SUPERELEVATION

(-)0.3654%

50-YR=90.6'

100-YR=91.4'

NATURAL GROUND
@ CL OF BRIDGE

2' (TYP)
2:1 (TYP)
NORMAL TO
END BENT

CLASS II
RIP RAP
(TYP.)

3.5' (TYP)
NATURAL GROUND
DOWNSTREAM

NORMAL W.S. EL. = 85.4'
@ EXISTING BRIDGE
(DECEMBER 15, 2008)

100-YR THEORETICAL
SCOUR

500-YR THEORETICAL
SCOUR

SITE 12

EAST BOUND LANE BRIDGE AT STATION -L- 0943+12.50

K:\RAL_Roadway\01056078 (R-2303c)\Hydraulics\PERMITS_Environment\Drawings\Profiles\0943+00_L\Title_coharie_eb_bridgedgn

8/3/2012

Permit Drawing Sheet 48 of 80

940+00

941+00

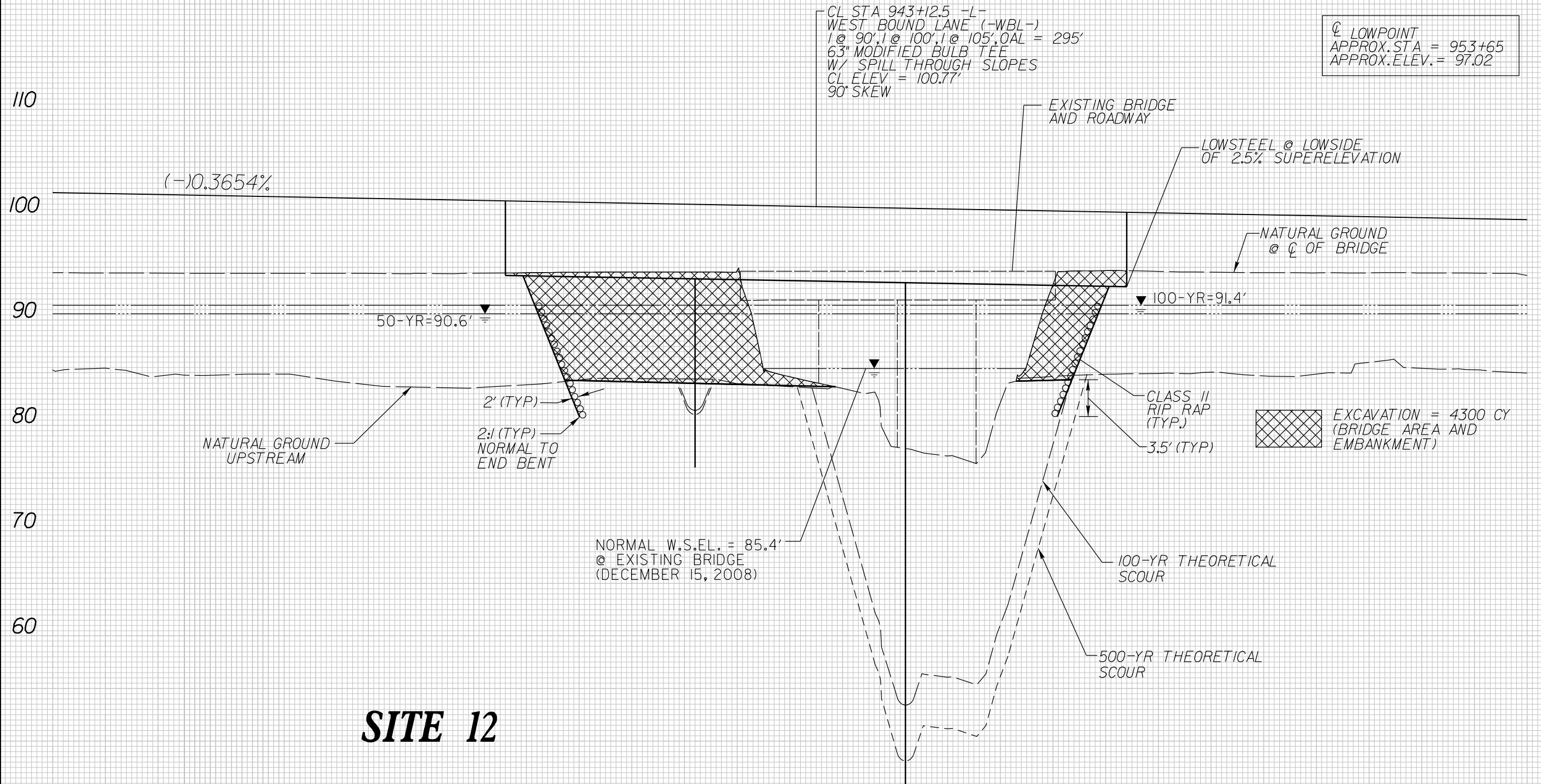
942+00

943+00

944+00

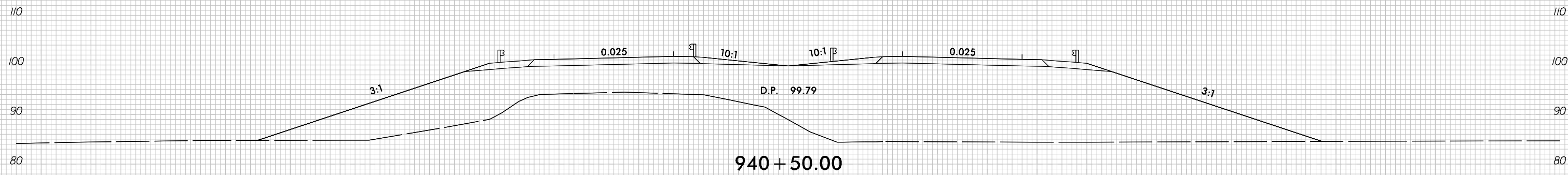
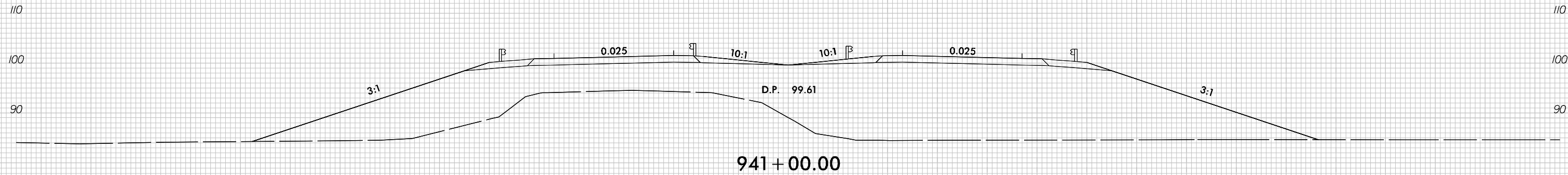
945+00

946+00



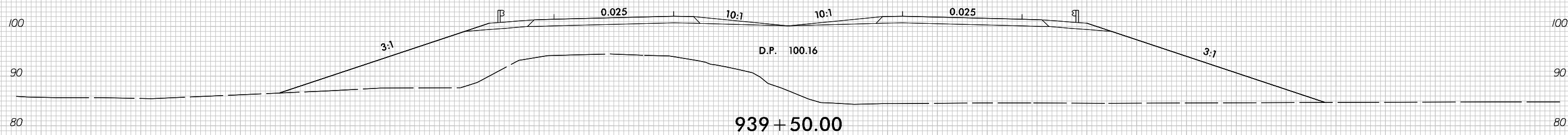
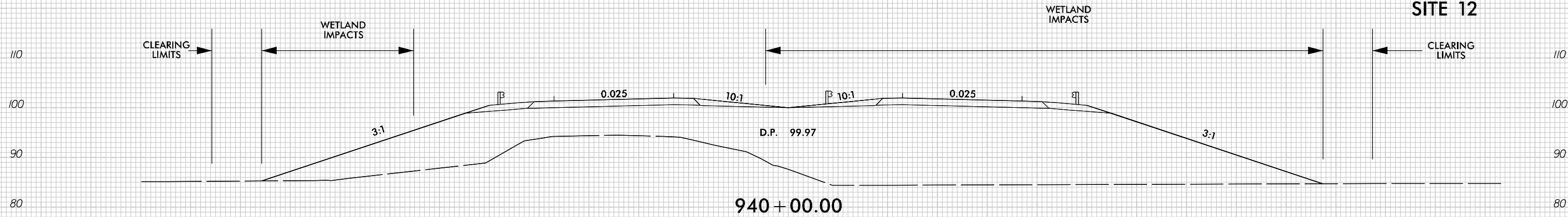
WEST BOUND LANE BRIDGE AT STATION -L- 0943+12.50

Permit Drawing Sheet 49 of 80



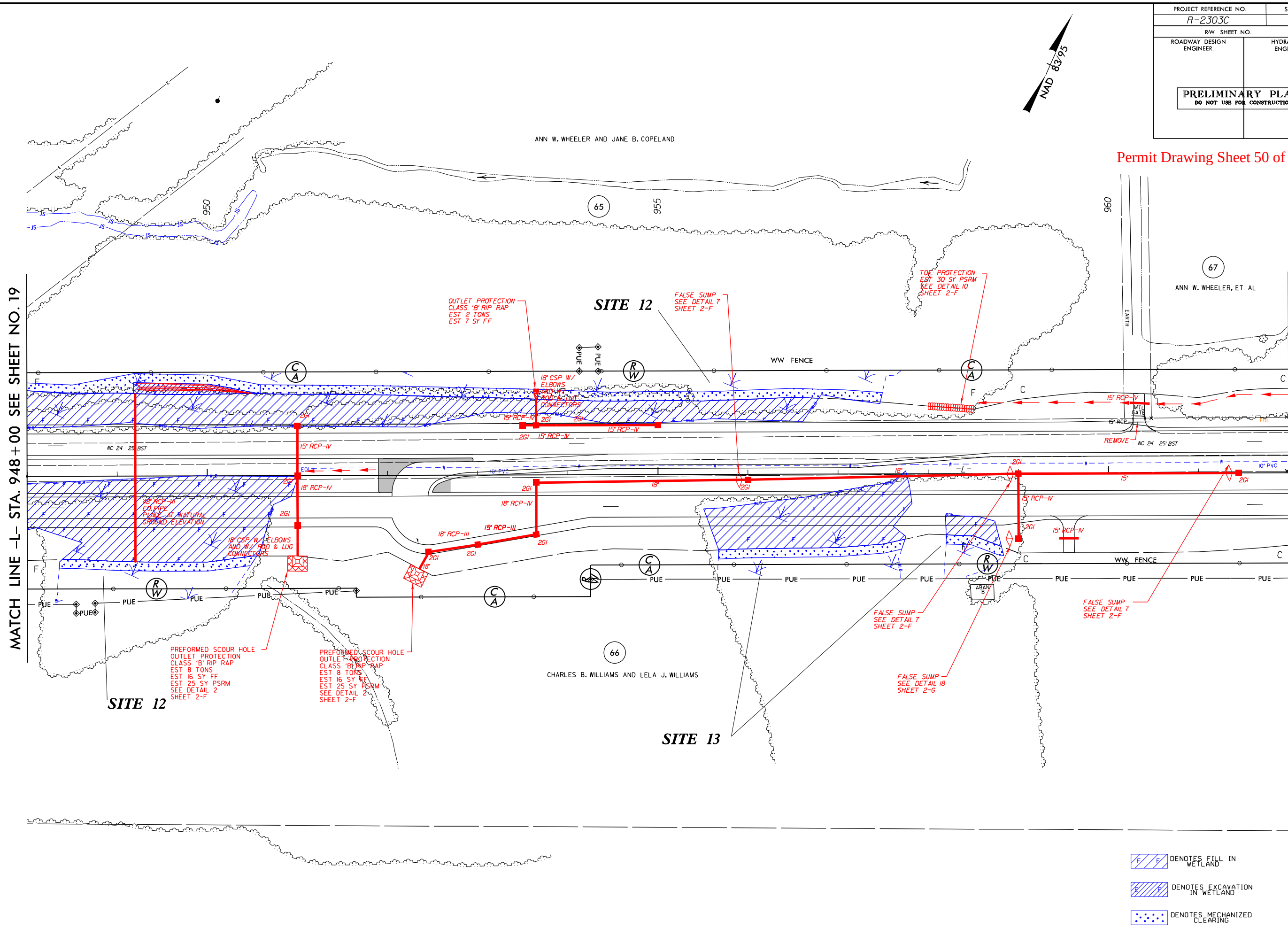
WETLAND BOUNDARIES

SITE 12



8/17/99
3/26/2013
Z:\Roadway\011056078 (R-2303C)\Hydraulics\PERMITS\Environmental\Drawings\R-2303c_perm_psh_20.dgn

PROJECT REFERENCE NO.		SHEET NO.
R-2303C		20
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
PRELIMINARY PLANS		
DO NOT USE FOR CONSTRUCTION		

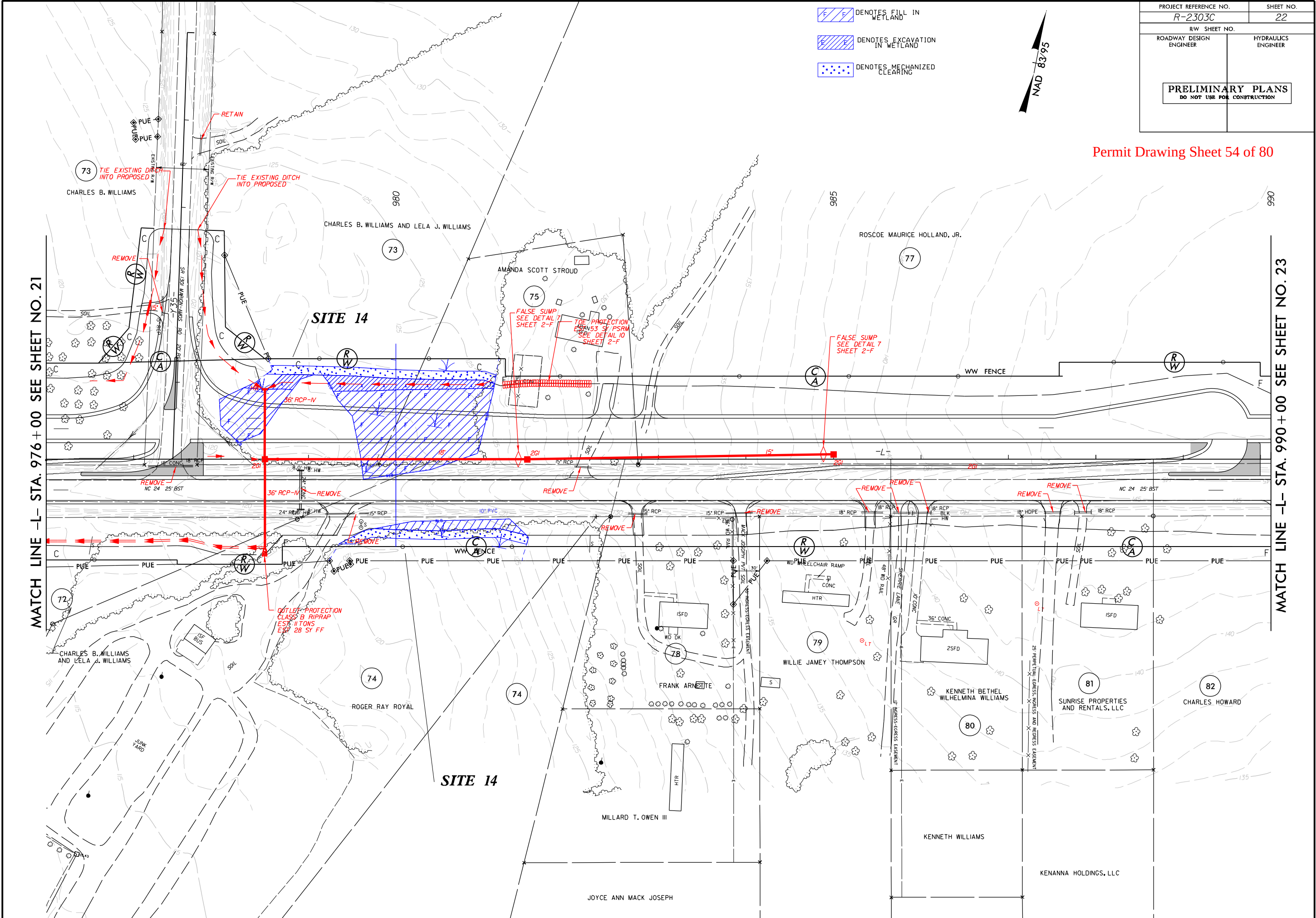


- DENOTES FILL IN WETLAND
- DENOTES EXCAVATION IN WETLAND
- DENOTES MECHANIZED CLEARING



8/17/99

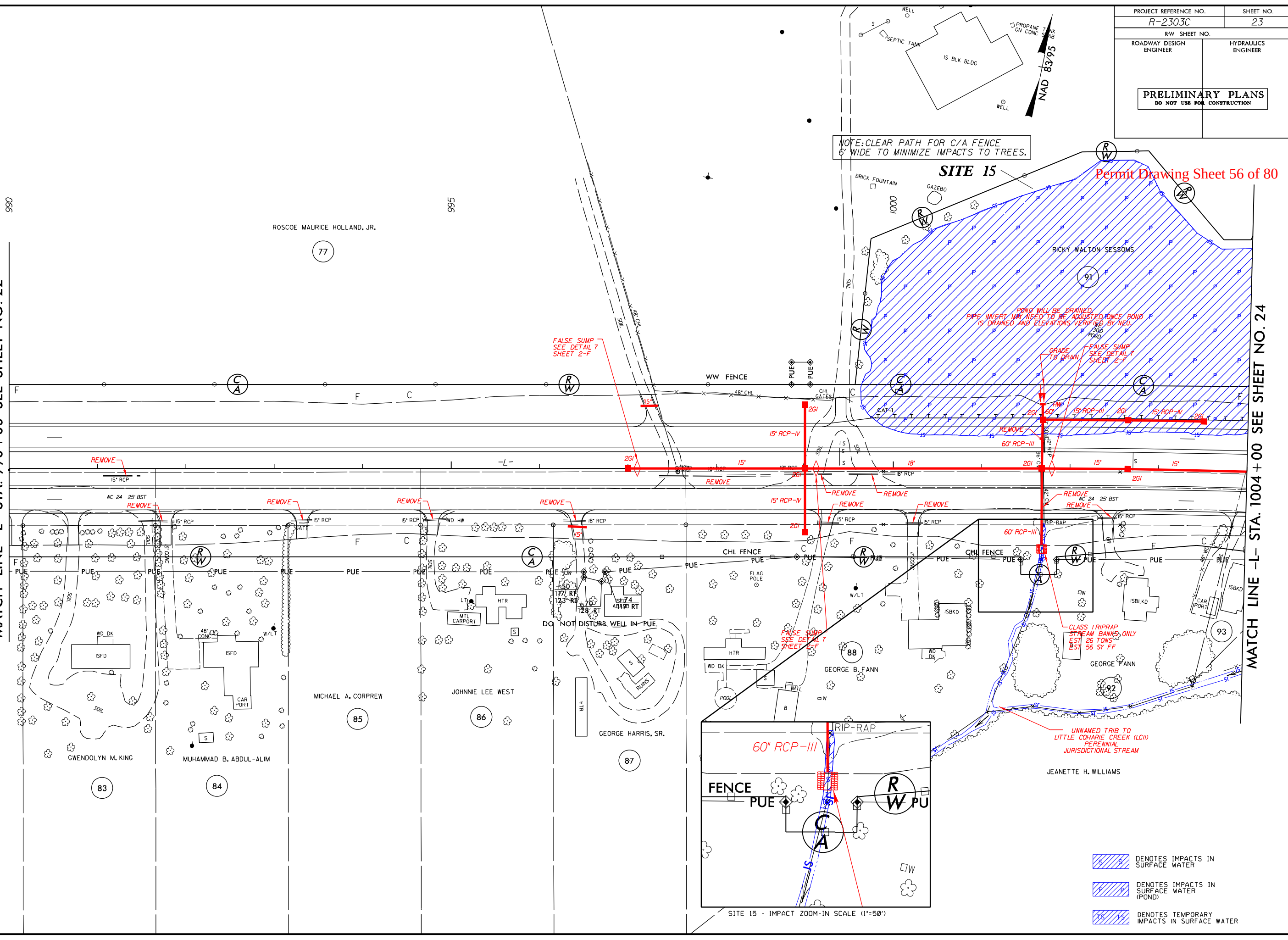
3/19/2013
R:\RAL_Roadway\011056078 (R-2303C)\Hydraulics\PERMITS\Drawings\2303c-prm-psn-22.dgn



8/17/99

3/19/2013
K:\RAL_Roadway\01056078 (R-2303C)\Hydraulics\PERMITS\Drawings\R-2303c-prm_psh_23.dgn

MATCH LINE -L- STA. 990+00 SEE SHEET NO. 22



NOTE: CLEAR PATH FOR C/A FENCE
6' WIDE TO MINIMIZE IMPACTS TO TREES.

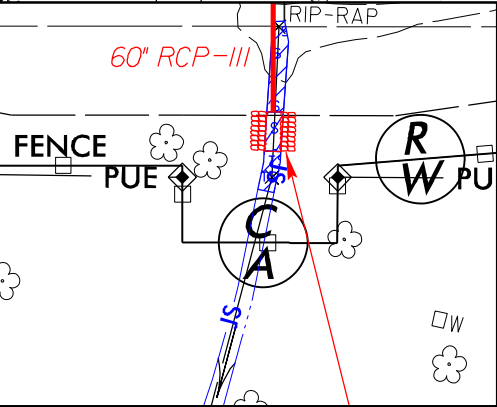
SITE 15

Permit Drawing Sheet 56 of 80

MATCH LINE -L- STA. 1004+00 SEE SHEET NO. 24

PROJECT REFERENCE NO. <i>R-2303C</i>		SHEET NO. <i>23</i>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES IMPACTS IN SURFACE WATER (POND)
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

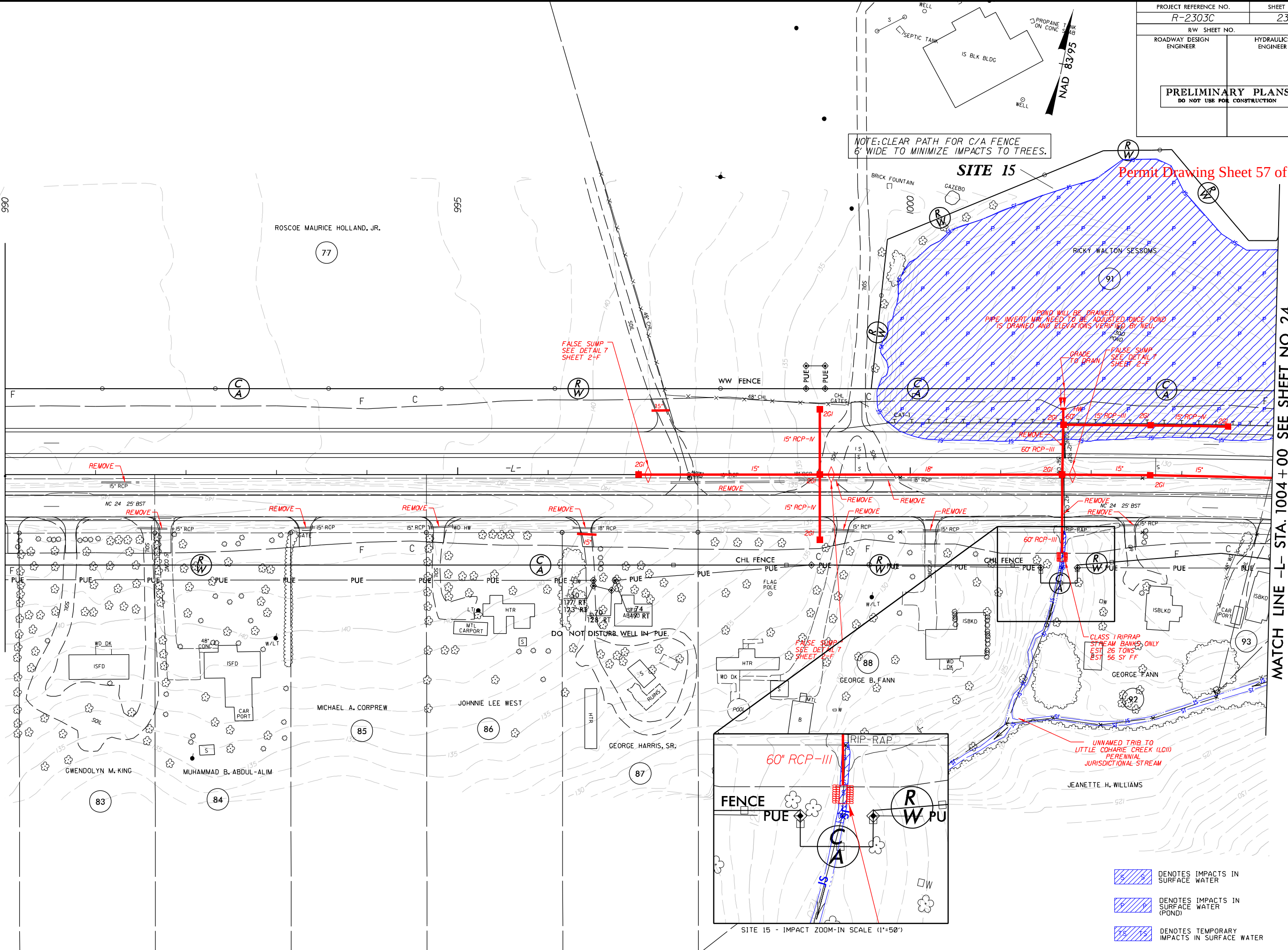


SITE 15 - IMPACT ZOOM-IN SCALE (1"=50')

PROJECT REFERENCE NO.		SHEET NO.	
R-2303C		23	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

MATCH LINE -L- STA. 990+00 SEE SHEET NO. 22

MATCH LINE -L- STA. 1004+00 SEE SHEET NO. 24



NOTE: CLEAR PATH FOR C/A FENCE 6' WIDE TO MINIMIZE IMPACTS TO TREES.

SITE 15

Permit Drawing Sheet 57 of 80

60" RCP-III

FENCE

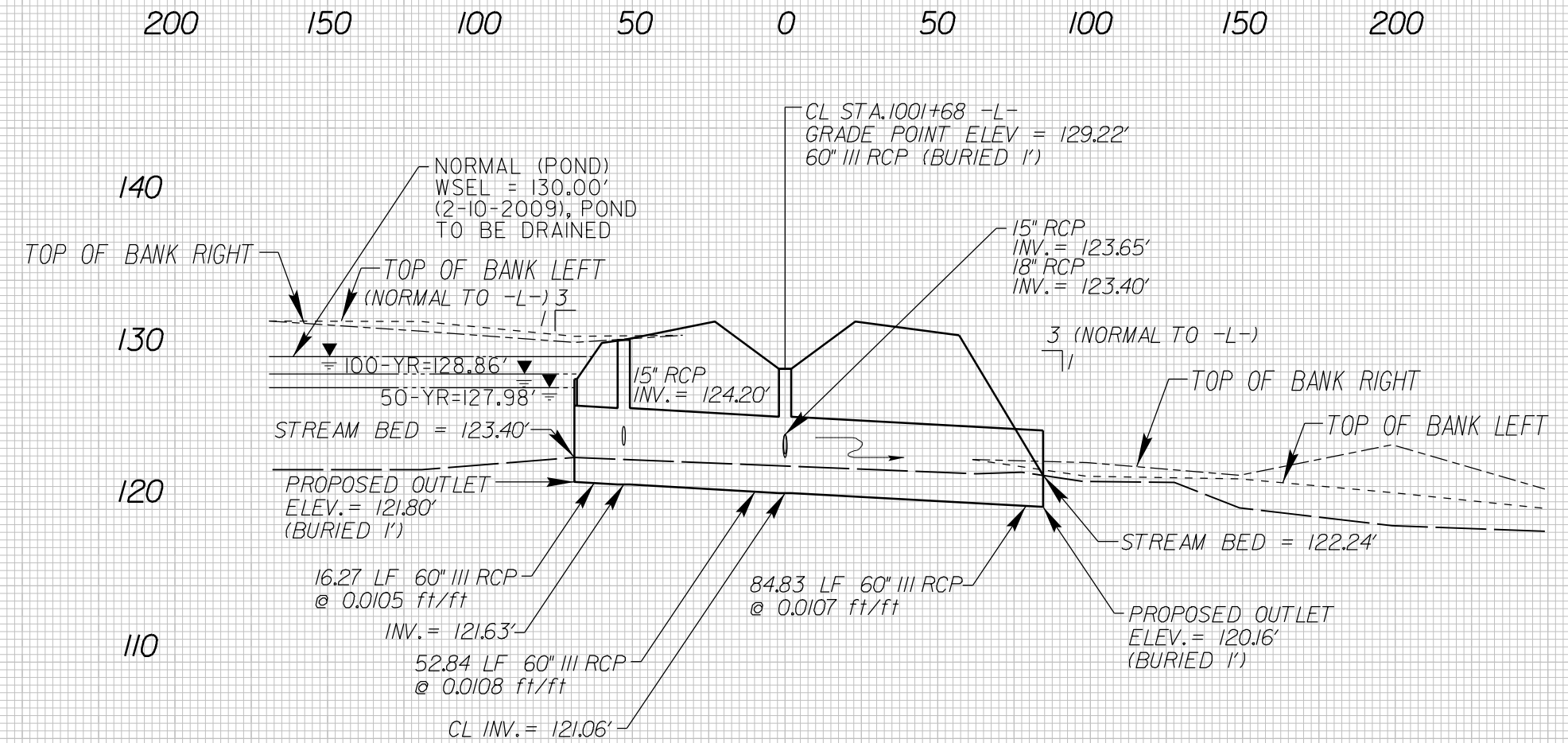
PUE

R W

PU

SITE 15 - IMPACT ZOOM-IN SCALE (1"=50')

- S S DENOTES IMPACTS IN SURFACE WATER
- P P DENOTES IMPACTS IN SURFACE WATER (POND)
- TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER



SITE 15

60" CLASS III RCP AT STATION -L- 1001+68



MATCH LINE -L- STA. 1018+00 SEE SHEET NO. 25

 DENOTES FILL IN WETLAND

 DENOTES MECHANIZED CLEARING

 DENOTES IMPACTS IN SURFACE WATER (POND)

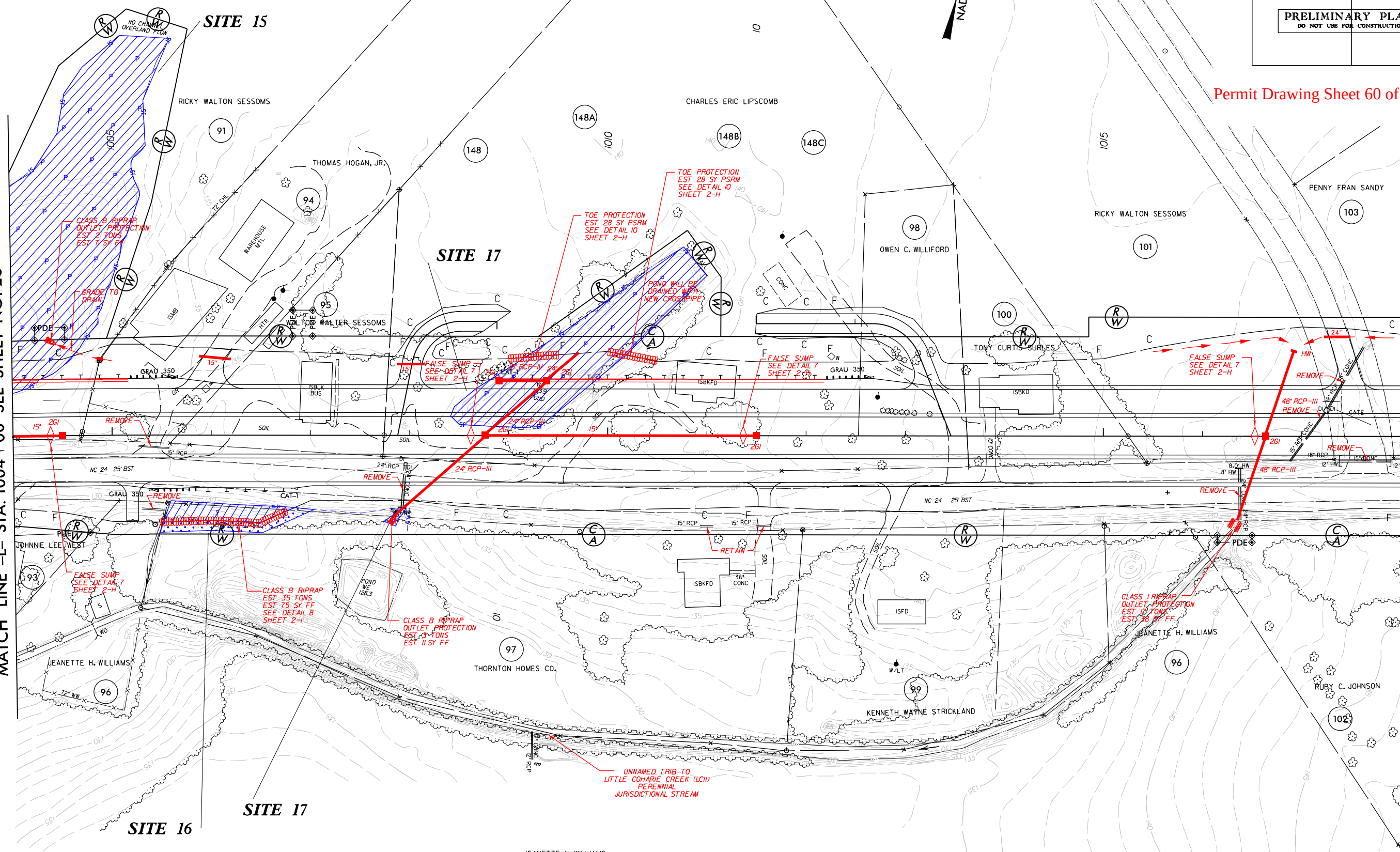
8/17/99

PROJECT REFERENCE NO.		SHEET NO.
R-2303C		24
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

Permit Drawing Sheet 60 of 80

MATCH LINE -L- STA. 1004+00 SEE SHEET NO. 23

MATCH LINE -L- STA. 1018+00 SEE SHEET NO. 25

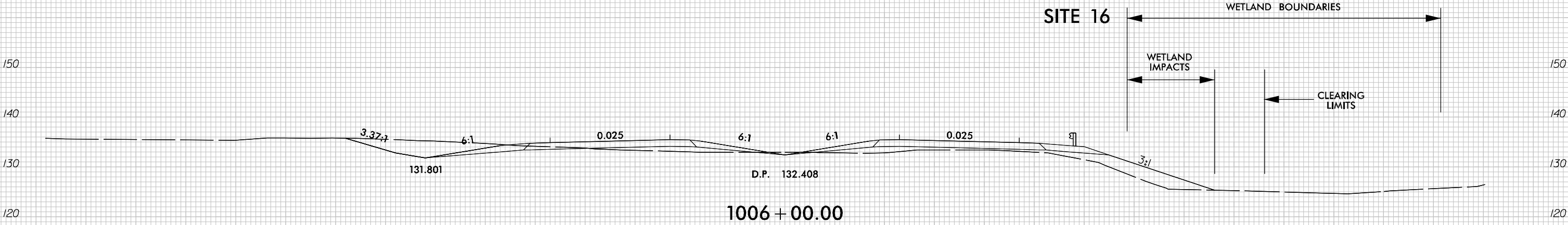
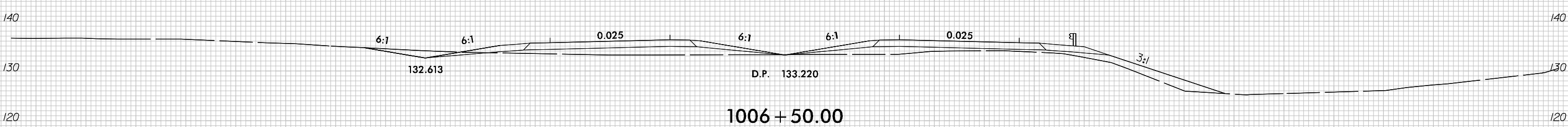
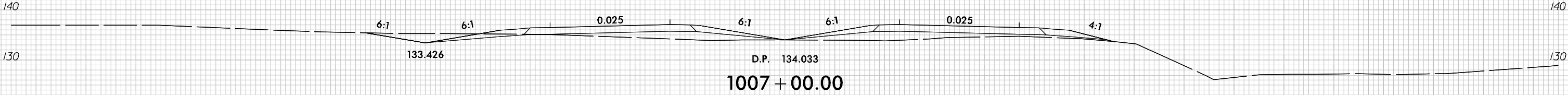
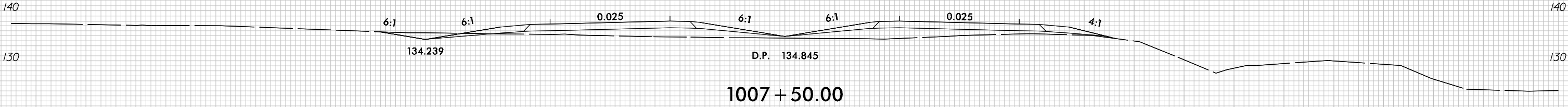
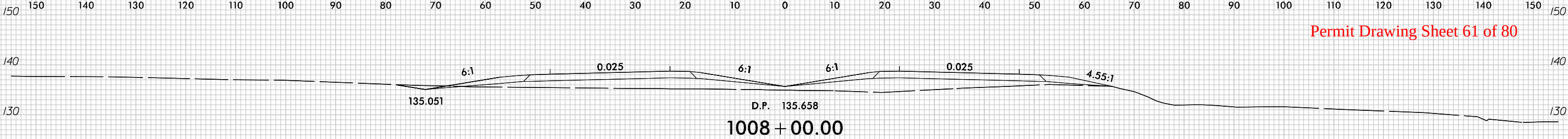


- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS IN SURFACE WATER (POND)

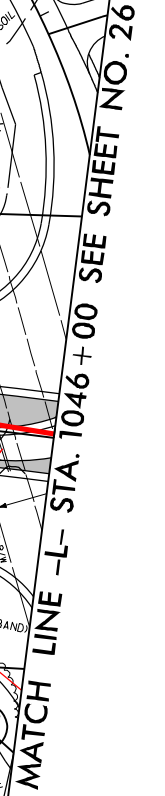
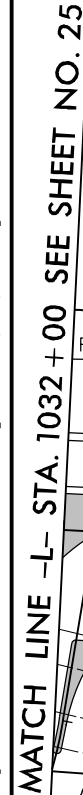
8/3/2018 Roadway\011056078 (R-2303C)\Hydraulics\PERMITS\Environmental\Drawings\R-2303c.prm.psh.24.dgn

8/23/99

Permit Drawing Sheet 61 of 80



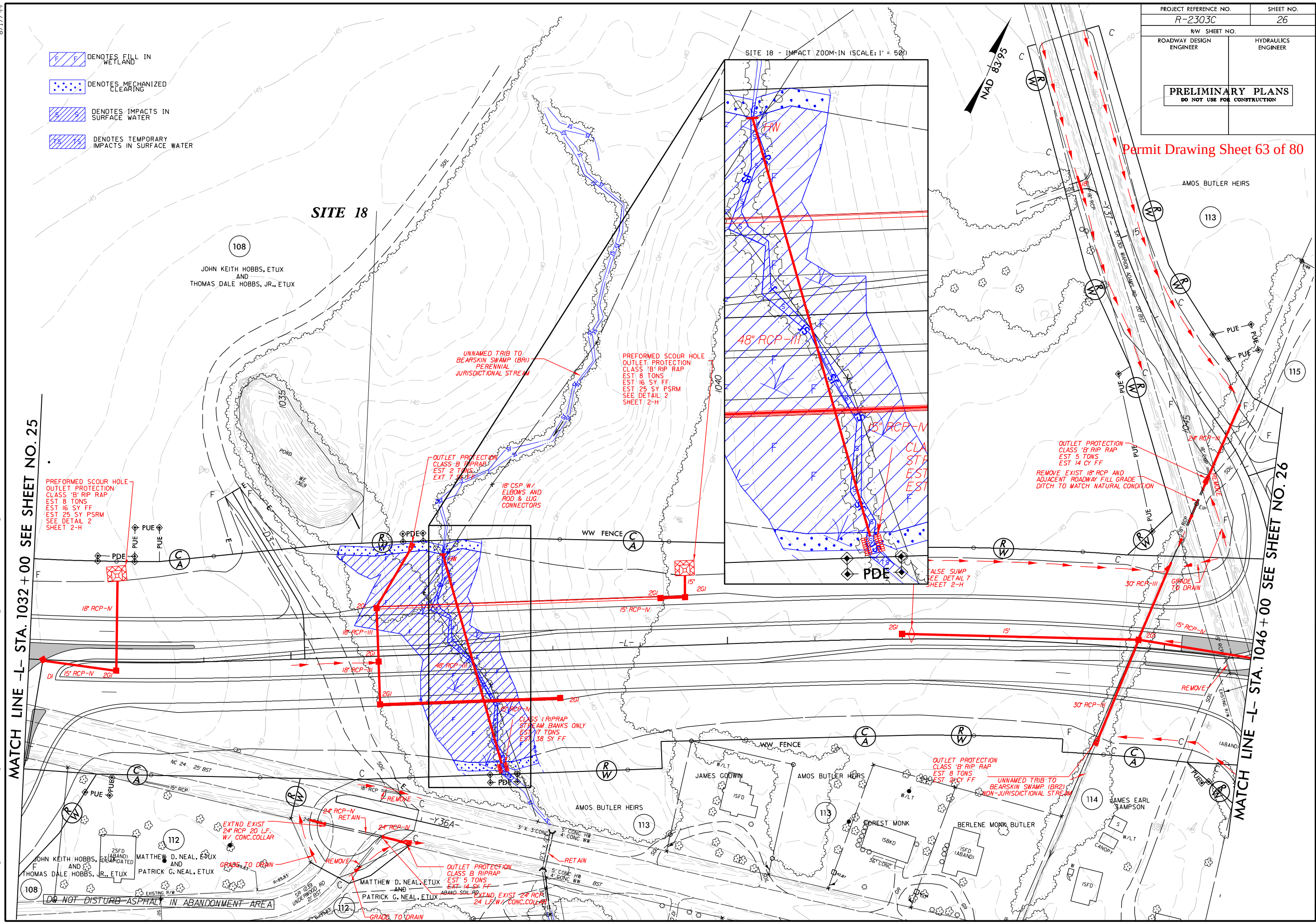
SYSTEMS
DESIGN
LIMITS



8/17/99

PROJECT REFERENCE NO.		SHEET NO.
R-2303C		26
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

Permit Drawing Sheet 63 of 80



8/17/2018 Roadway\011056078 (R-2303C)\Hydraulics\PERMITS\Environmental\Drawings\R-2303c-prm-psh-26.dgn

8/23/99

Permit Drawing Sheet 64 of 80

SITE 18

WETLAND BOUNDARIES

CLEARING LIMITS

WETLAND IMPACTS

WETLAND IMPACTS

CLEARING LIMITS

D.P. 152.025

1037 + 00.00

D.P. 151.842

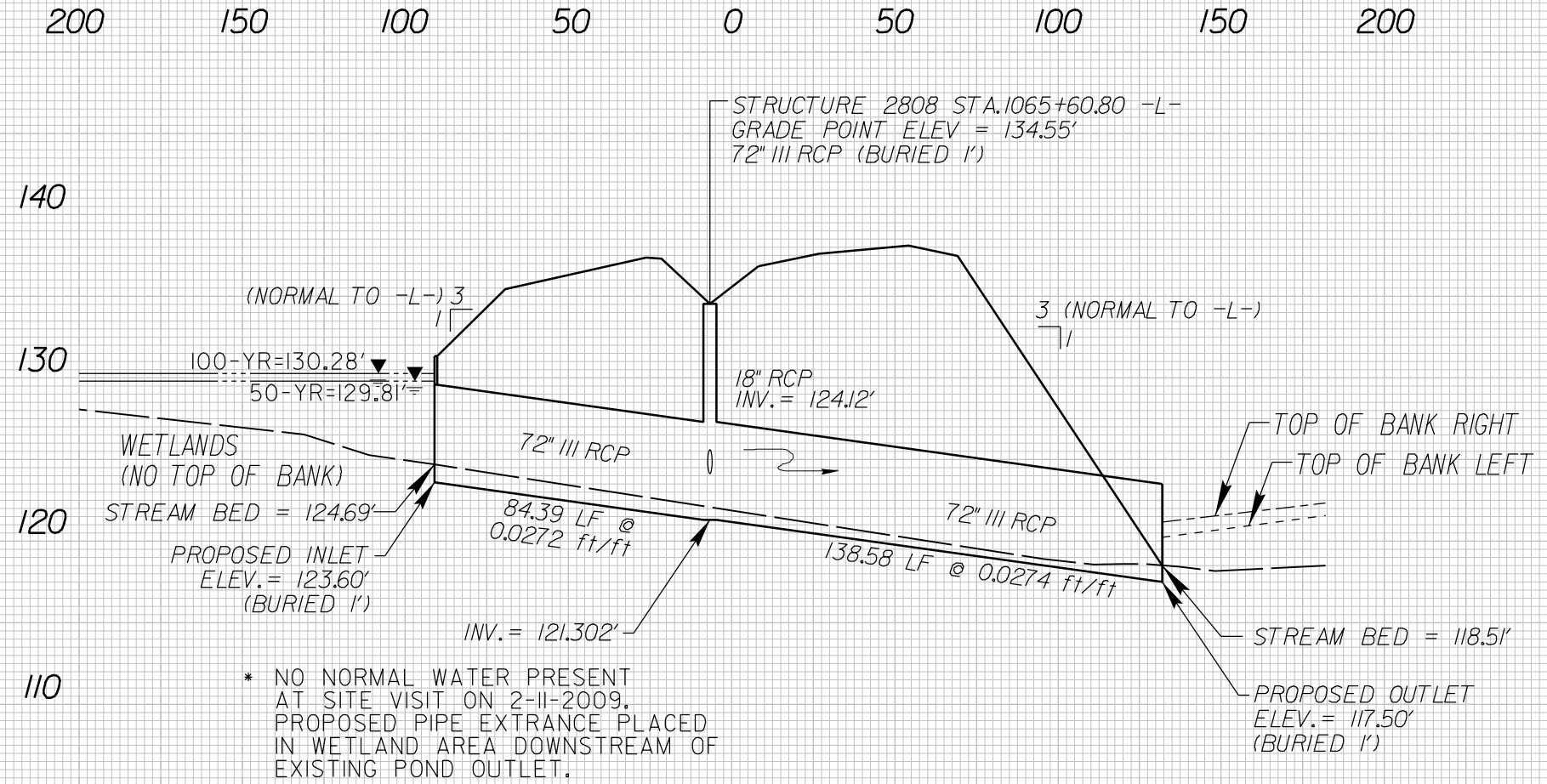
1036 + 56.00

D.P. 151.400

1036 + 00.00

SYTIME\$\$\$\$
C:\MSOFT\DWG\1036.DWG
\$\$\$\$SYTIME\$\$\$\$



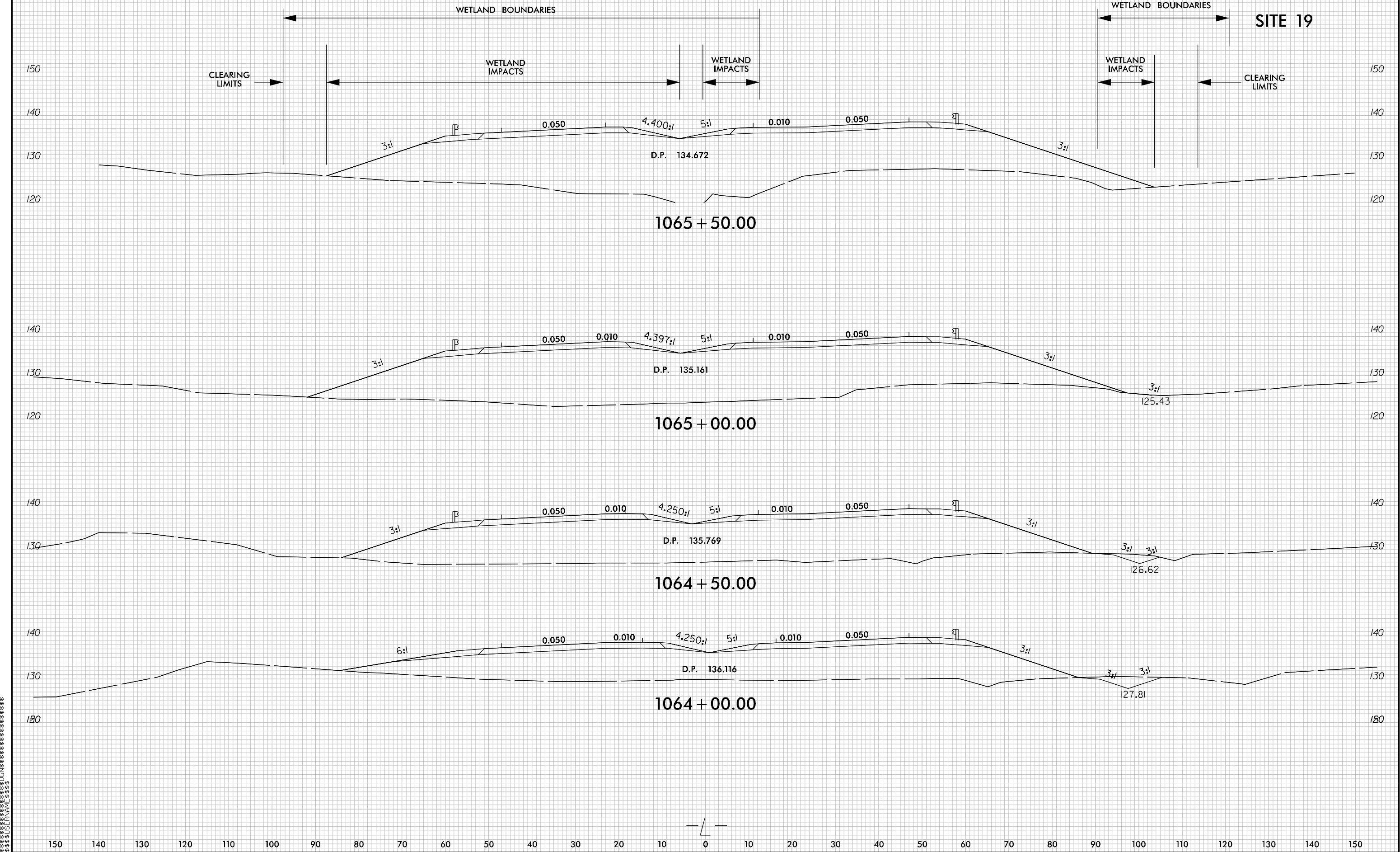


SITE 19

72" CLASS III RCP AT STATION -L- 1065+60.80

8/23/99

SITE 19



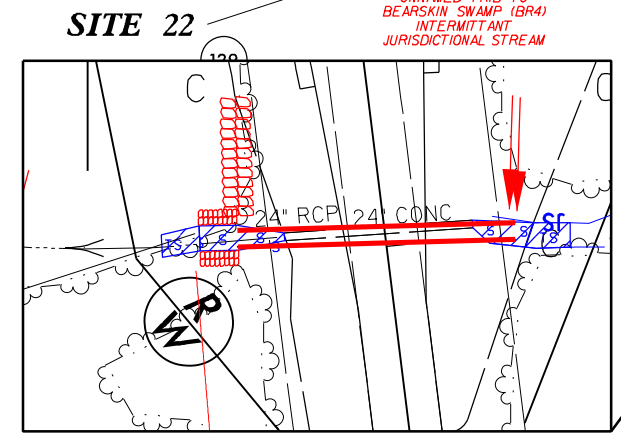
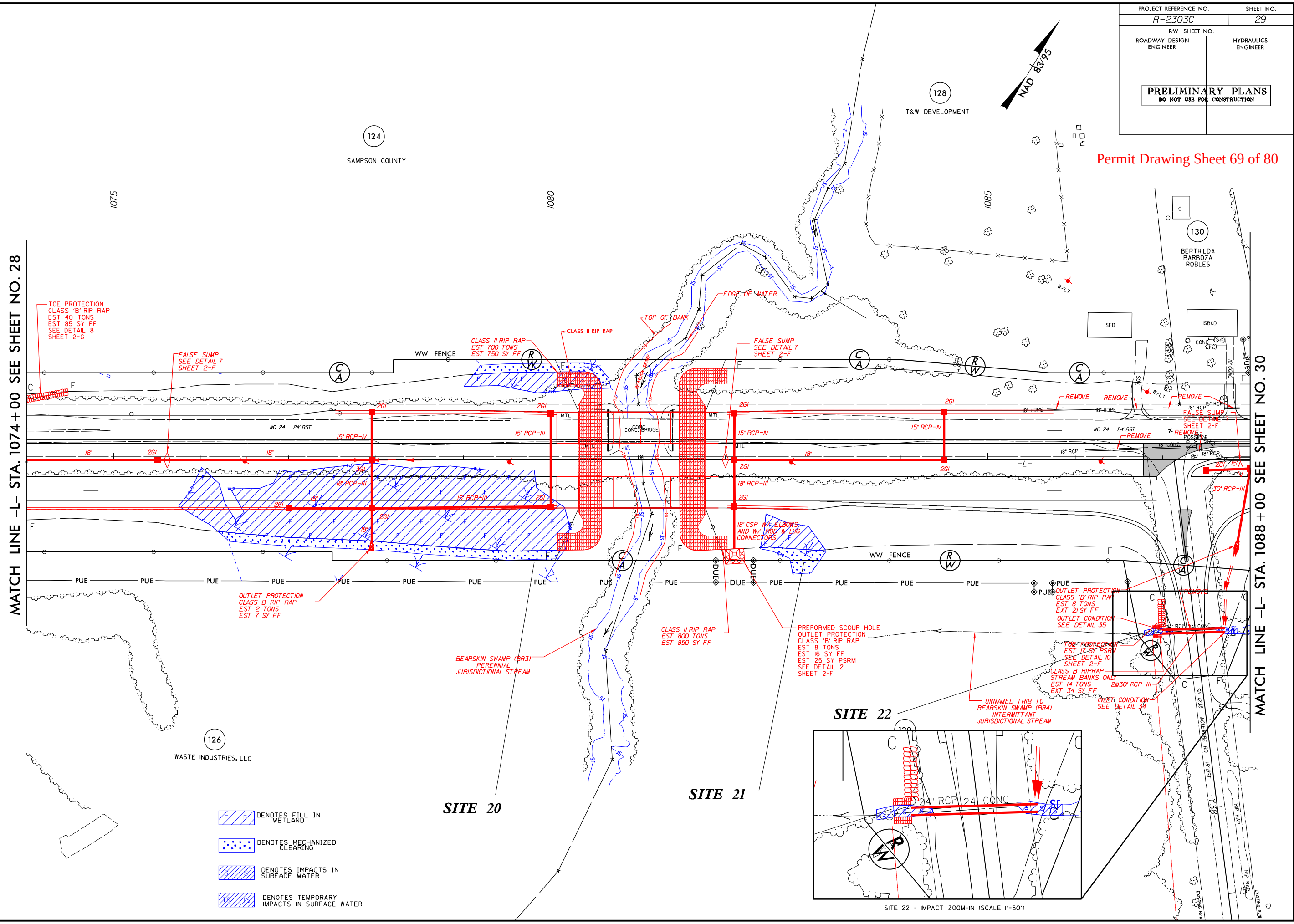
8/17/99

PROJECT REFERENCE NO.		SHEET NO.
R-2303C		29
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

Permit Drawing Sheet 69 of 80

MATCH LINE -L- STA. 1074 + 00 SEE SHEET NO. 28

MATCH LINE -L- STA. 1088 + 00 SEE SHEET NO. 30



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

3/26/2013 Z:\Roadway\011056078 (R-2303C)\Hydraulics\PERMITS\Drawings\2303c.prm.psh_29.dgn

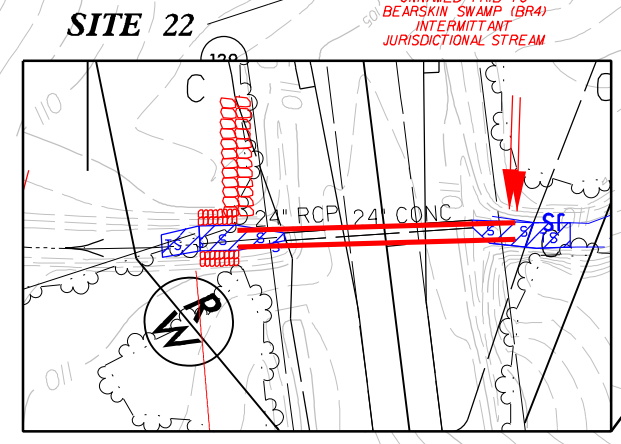
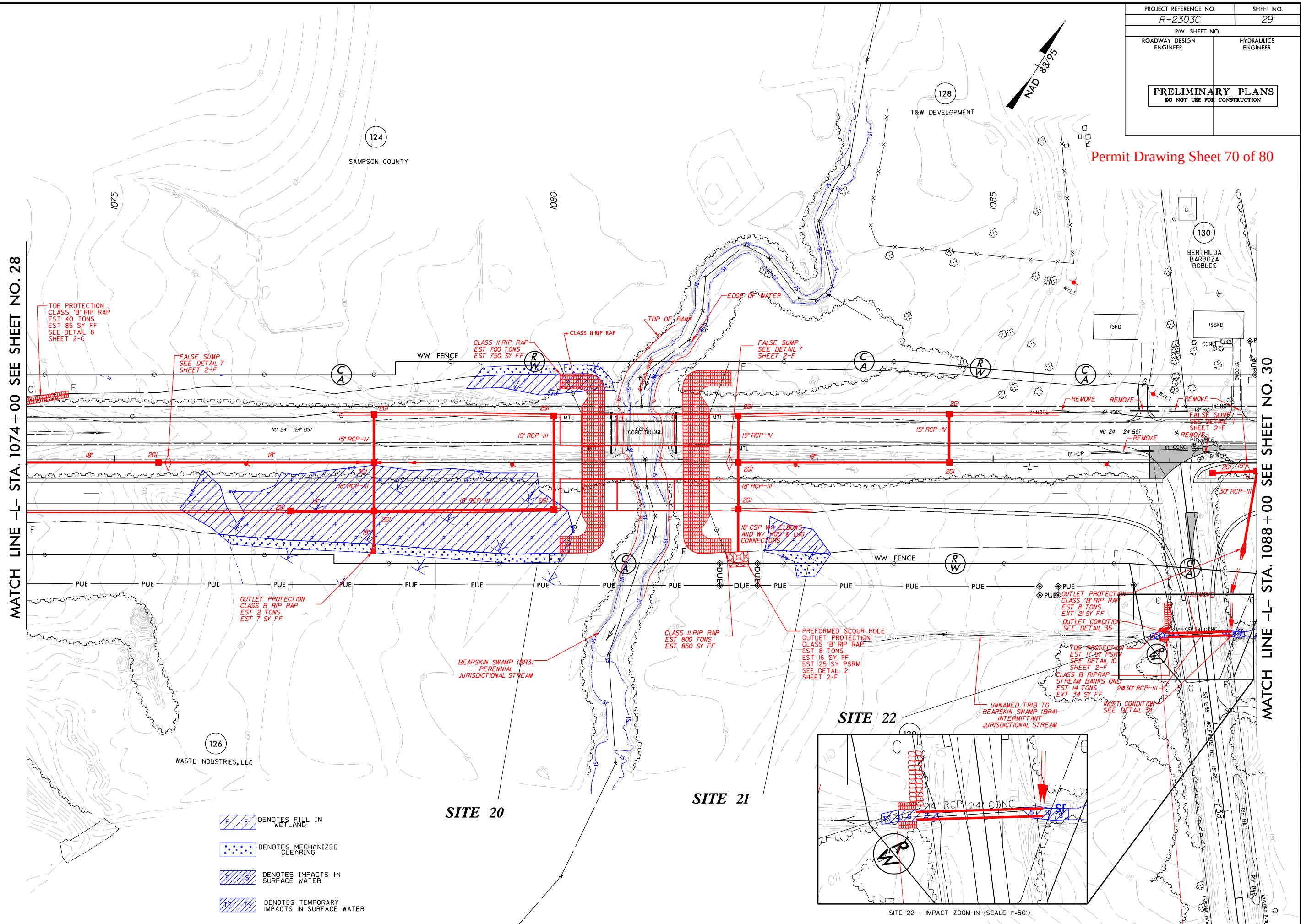
8/17/99

PROJECT REFERENCE NO.		SHEET NO.
R-2303C		29
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

Permit Drawing Sheet 70 of 80

MATCH LINE -L- STA. 1074 + 00 SEE SHEET NO. 28

MATCH LINE -L- STA. 1088 + 00 SEE SHEET NO. 30



3/26/2013 Z:\Roadway\011056078 (R-2303C)\Hydraulics\PERMITS\Environmental\Drawings\R-2303c_psh_29.dgn

1078+00

1079+00

1080+00

1081+00

1082+00

1083+00

PROJ. REFERENCE NO.
R-2303c

SHEET NO.

Permit Drawing Sheet 71 of 80

130

120

110

100

90

80

LOWPOINT
APPROX. STA = 1077+95
APPROX. ELEV. = 109.20

LOWSTEEL @ LOWSIDE
OF 2.5% SUPERELEVATION

CL STA 1081+04.5 -L-
EAST BOUND LANE (-EBL-)
45" PRESTRESSED GIRDER
1 @ 40', 1 @ 65', 1 @ 40'
W/ SPILL THROUGH SLOPES
CL ELEV = 110.57'
90° SKEW

EXISTING BRIDGE
AND ROADWAY

(+)0.5055%

50-YR=99.6'

100-YR=100.4'

2' (TYP)

NATURAL GROUND
@ CL OF BRIDGE

CLASS II
RIP RAP
(TYP.)

NATURAL GROUND
DOWNSTREAM

2:1 (TYP)
NORMAL TO
END BENT

3.5' (TYP)

NORMAL W.S. EL. = 92.4'
@ EXISTING BRIDGE
(DECEMBER 15, 2008)

100-YR THEORETICAL
SCOUR

500-YR THEORETICAL
SCOUR

SITE 20 & 21

EAST BOUND LANE BRIDGE AT STATION -L- 1081+04.50

K:\PAL_Roadway\01056078 (R-2303c)\Hydraulics\PERMITS_Environment\Drawings\Profiles\081+04.5_L_bear skin_eb_bridgedgn

8/3/2012

1078+00

1079+00

1080+00

1081+00

1082+00

1083+00

130

120

110

100

90

80

CL LOWPOINT
APPROX. STA = 1077+95
APPROX. ELEV. = 109.20

CL STA 1081+04.5 -L-
WEST BOUND LANE (-WBL-)
45" PRESTRESSED GIRDER
1 @ 40', 1 @ 65', 1 @ 40'
W/ SPILL THROUGH SLOPES
CL ELEV = 110.57'
90° SKEW

LOWSTEEL @ LOWSIDE
OF 2.5% SUPERELEVATION

EXISTING BRIDGE
AND ROADWAY

NATURAL GROUND
@ CL OF BRIDGE

(+)0.5055%

50-YR=99.6' =
2' (TYP)

100-YR=100.4'

NATURAL GROUND
UPSTREAM

2:1 (TYP)
NORMAL TO
END BENT

CLASS II
RIP RAP
(TYP.)

3.5' (TYP)

NORMAL W.S.EL. = 92.4'
@ EXISTING BRIDGE
(DECEMBER 15, 2008)

EXCAVATION = 1100 CY
(BRIDGE AREA AND
EMBANKMENT)

100-YR THEORETICAL
SCOUR

500-YR THEORETICAL
SCOUR

SITE 20

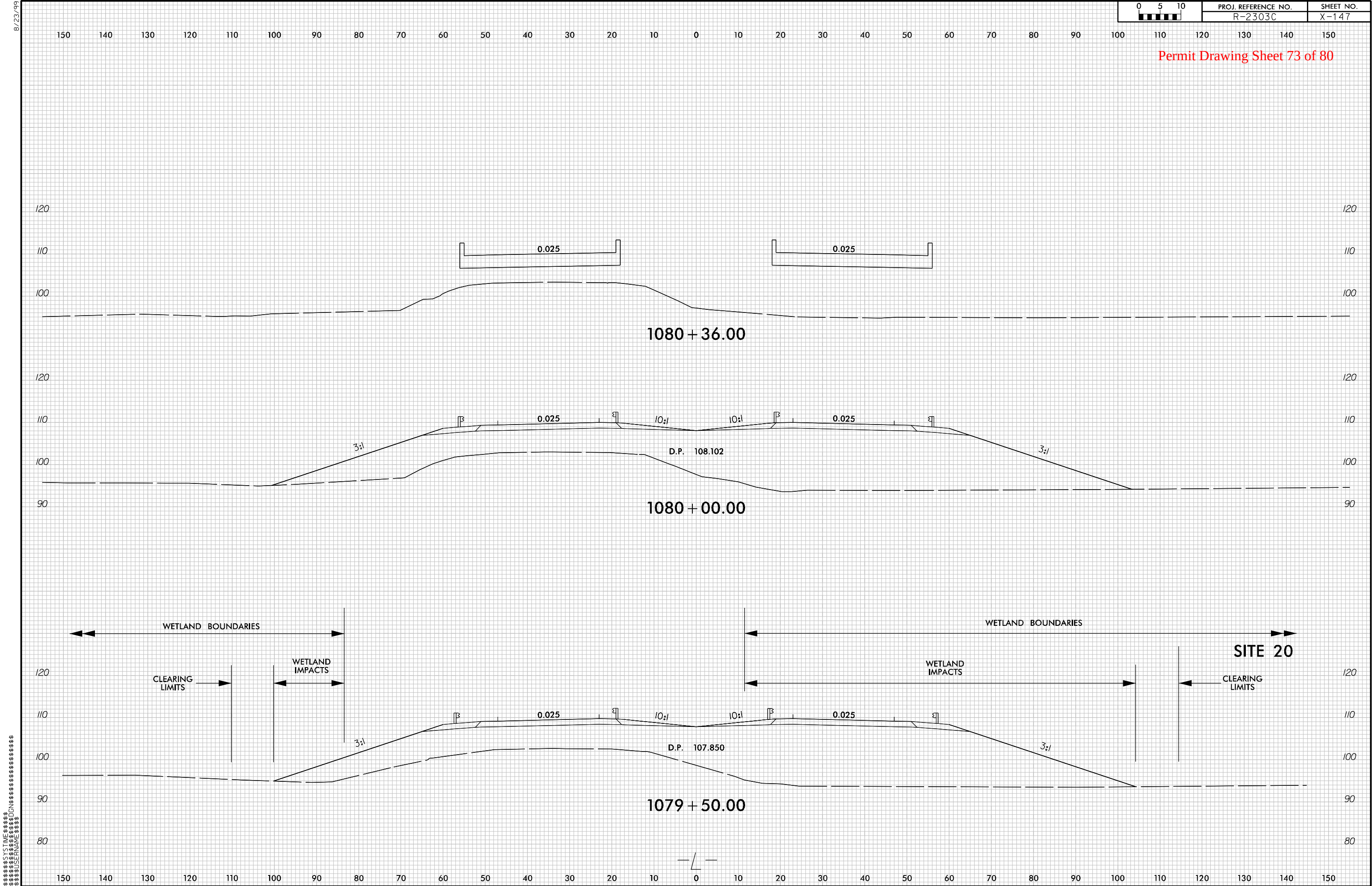
WEST BOUND LANE BRIDGE AT STATION -L- 1081+04.50

K:\RAL_Roadway\01056078 (R-2303c)\Hydraulics\PERMITS_Environmental\Drawings\Profiles\081+04.5 -L bearskin_wb_bridgedgn

8/3/2012

8/23/99

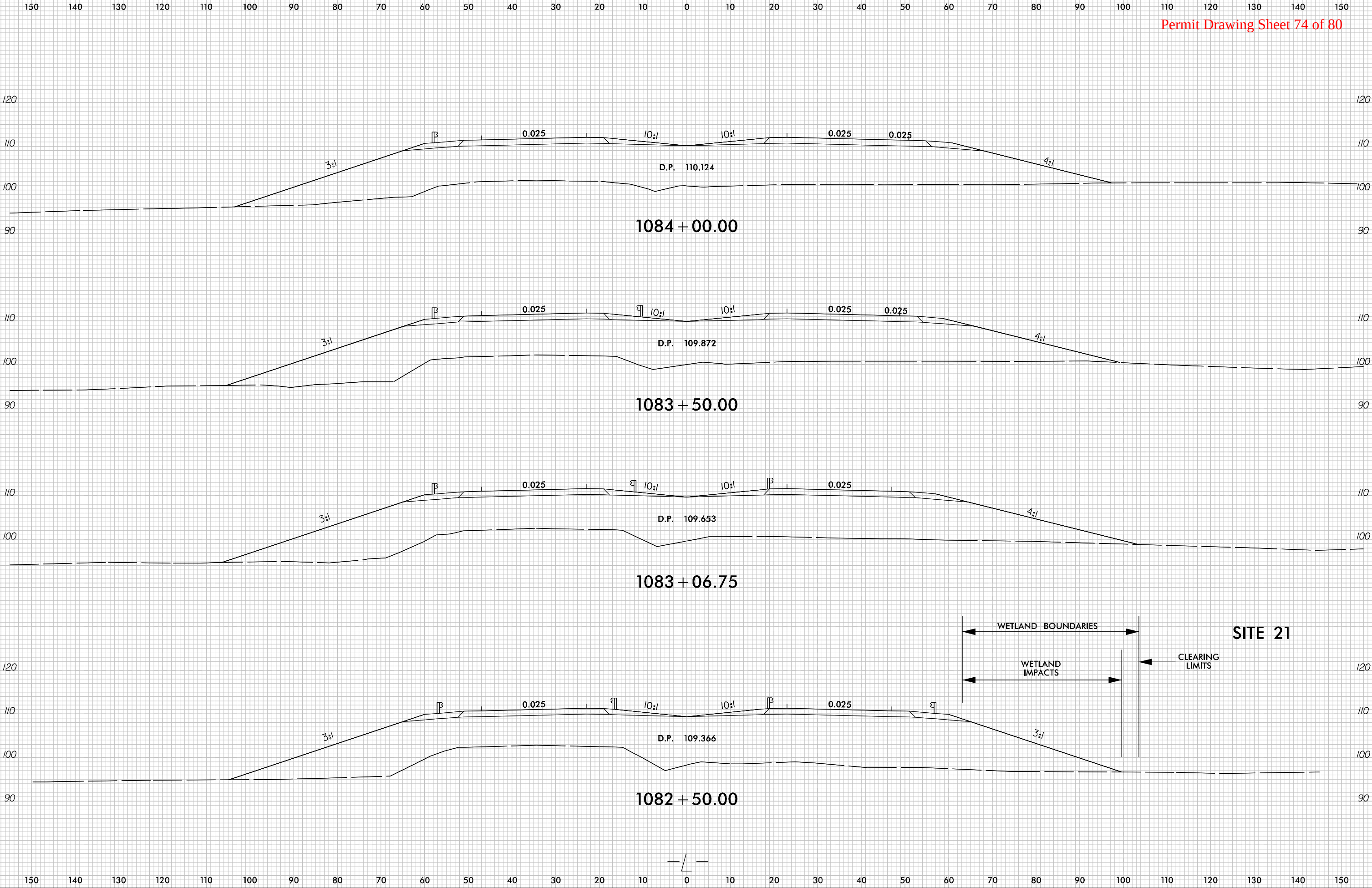
Permit Drawing Sheet 73 of 80



8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2303C	X-149

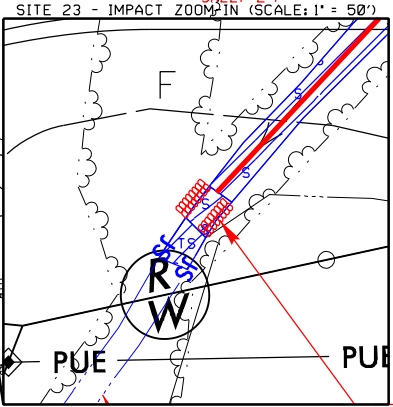
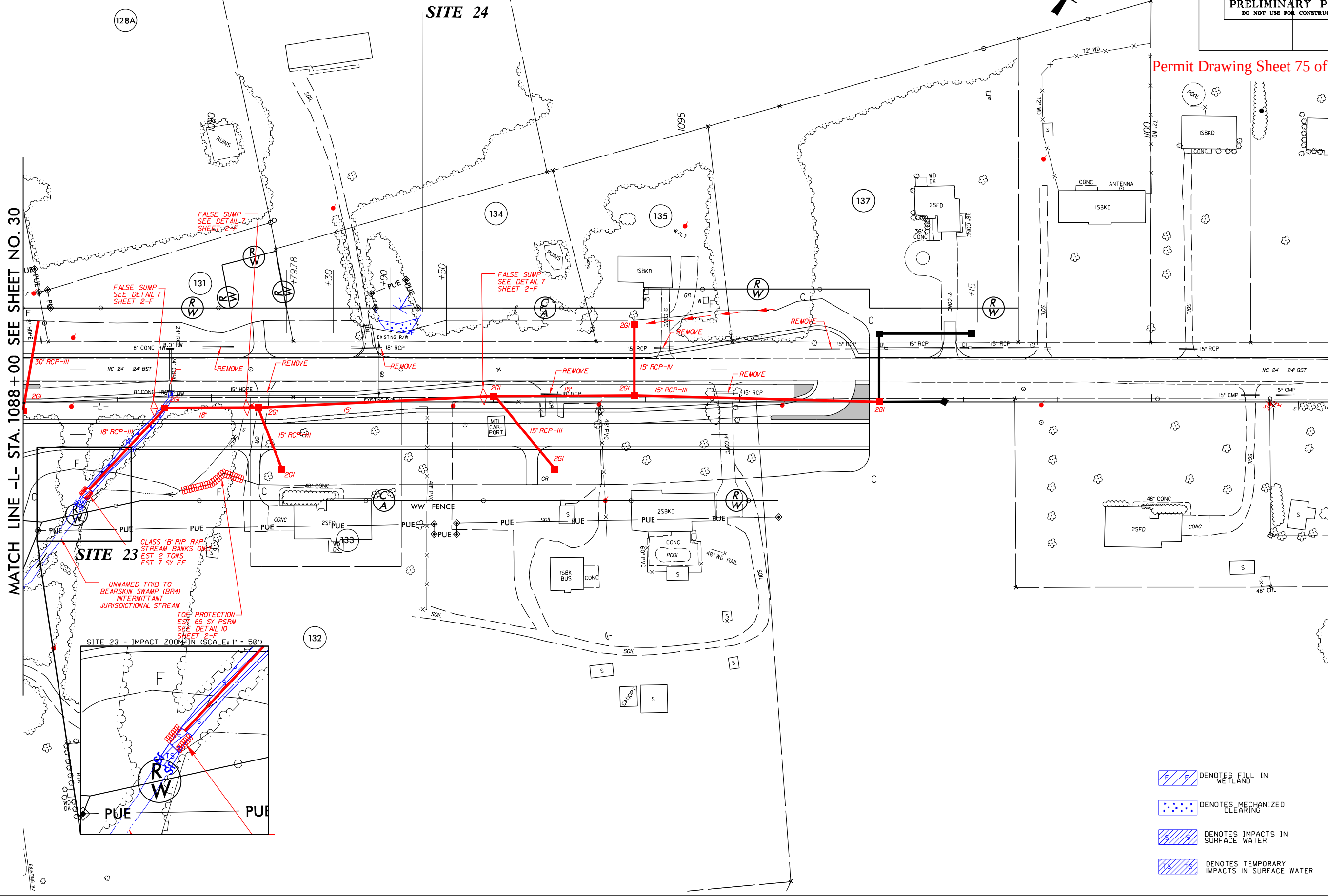
Permit Drawing Sheet 74 of 80



8/17/99

R/W REV. REVISING THE R/W TO TIE TO R-23030. 10/20/11 TFD
3/19/2013
R:\RAL_Roadway\011056078 (R-23030)\Hydraulics\PERMITS_Environmental\Drawings\23030c-prm_psh_30.dgn

MATCH LINE -L- STA. 1088+00 SEE SHEET NO. 30



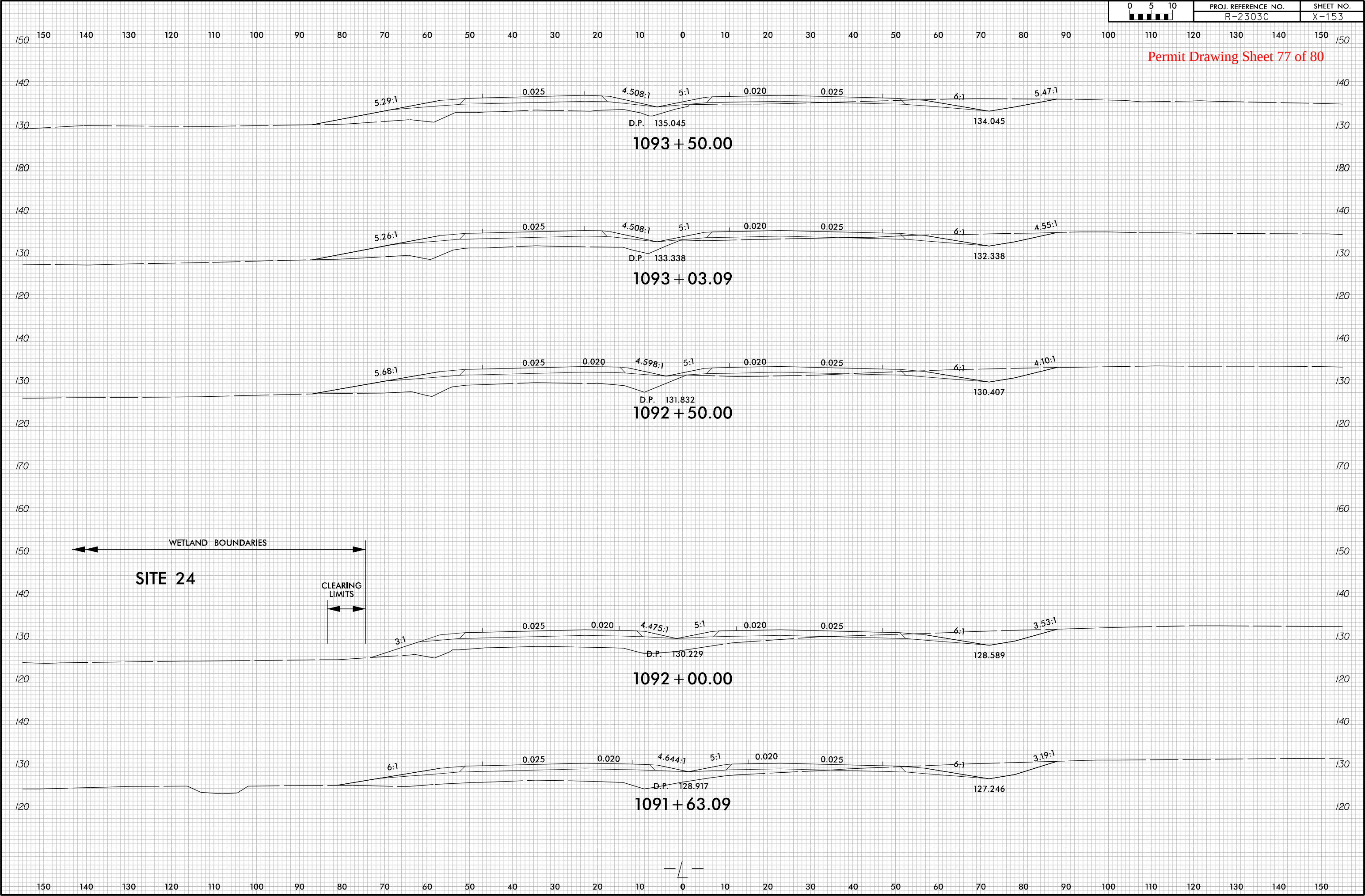
Permit Drawing Sheet 75 of 80

PROJECT REFERENCE NO.		SHEET NO.
R-2303C		30
R/W SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

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

8/23/99

Permit Drawing Sheet 77 of 80



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	734+14 to 739+72	42" RCP/WETLAND	0.83		0.17	0.11		0.01		74.00		
1	734+14 to 739+73	BANK STABILIZATION						<0.01	<0.01	10.00	10.00	
2	741+85 to 744+50	36" RCP/WETLAND	0.26			0.05		0.01				
2	741+85 to 744+50	BANK STABILIZATION						<0.01	<0.01			
3	755+00 to 760+34	POND						1.26	0.08			
4	764+28 to 765+07	30" RCP						0.04				
5	769+44 to 777+78	WETLAND/POND	0.86		0.12	0.19		0.45				
6	804+86 to 807+86	STREAM	0.10			0.04		0.01		213.00		
6	804+86 to 807+86	BANK STABILIZATION						<0.01	<0.01	10.00	20.00	
7	860+27 to 865+12	WETLAND/STREAM	2.34			0.17		0.08		299.00		
8	881+97 to 882+31	WETLAND	<0.01			<0.01						
9	887+38 to 889+49	WETLAND/STREAM	0.64			0.04		0.04		307.00		
SHEET TOTALS			5.04		0.29	0.60		1.90	0.09	913	71	

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)	Permanent Non Mitigable Impacts (ac)	Temporary Non Mitigable Impacts (ac)
10	905+77 to 907+41	WETLAND/STREAM	0.25			0.01		0.04		262.00			0.03	
10	905+77 to 907+41	BANK STABILIZATION						<0.01	<0.01	80.00	20.00		<0.01	
11	912+92 to 913+67	POND						0.26						
11	912+92 to 913+67	48" RCP						0.04		185.00				
11	912+92 to 913+67	BANK STABILIZATION							<0.01		10.00			
12	937+08 to 957+49	WETLAND (BRIDGE)	3.56		0.16*	0.68	0.23							
13	955+51 to 958+83 (RT)	WETLAND	0.32			0.06								
14	977+98 to 981+52	WETLAND	0.46		0.09	0.11								
15	999+64 to 1005+57	POND/STREAM						<0.01		38.00			3.22	
15	999+64 to 1005+57	BANK STABILIZATION						<0.01	<0.01	10.00	10.00			
16	1005+48 to 1007+04	WETLAND	0.05			0.03								
17	1007+77 to 1010+99	POND											0.34	
18	1035+56 to 1037+40	WETLAND/STREAM	0.60			0.06		0.02		271.00				
18	1035+56 to 1037+40	BANK STABILIZATION						<0.01	<0.01	10.00	20.00			
19	1064+16 to 1067+96	48" CMP	0.49			0.09		<0.01		90.00				
19	1064+16 to 1067+96	BANK STABILIZATION						<0.01	<0.01	10.00	10.00			
SHEET TOTALS			5.73		0.09	1.05	0.23	0.38	0.01	956	70		3.59	0.00

Site 12 contains 216 SF of impacts due to bents in stream
 * Excavation of roadway fill around existing bridge is not required for mitigation and is not added into the total area

 *Rounded totals are sum of actual impacts

revised 6/7/13
 Permit Drawing
 Sheet 29 of 80

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)	Permanent Non Mitigable Impacts (ac)	Temporary Non Mitigable Impacts (ac)
20	1075+74 to 1080+69	WETLAND (BRIDGE)	0.82			0.13								
21	1082+39 to 1083+15	WETLAND	0.04			0.02								
22	1086+79 to 1087+86	24" RCP						<0.01		26.00				
22	1086+79 to 1087+86	BANK STABILIZATION						<0.01	<0.01	10.00	20.00			
23	1088+55 to 1089+59	18" RCP						0.02		137.00				
23	1088+55 to 1089+59	BANK STABILIZATION						<0.01	<0.01	10.00	10.00			
24	1091+76 to 1092+23	WETLAND	<0.01			0.01								
SHEET TOTALS			0.87			0.16		0.03	<0.01	183.00	30.00			
PROJECT TOTALS			11.77		0.45	1.87	0.23	1.00	0.02	2055.00	200.00		4.90	0.08

*Rounded totals are sum of actual impacts

revised 6/7/13
Permit Drawing
Sheet 80 of 80

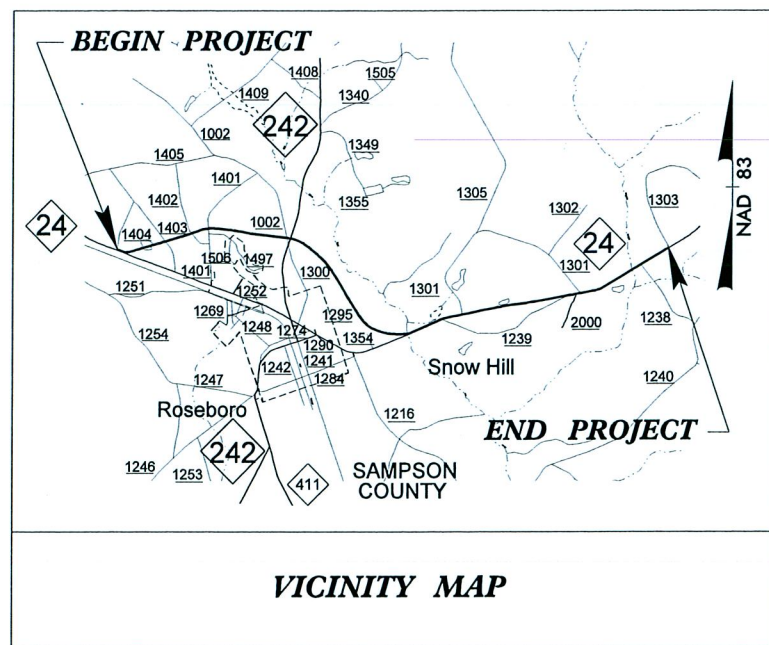
NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SAMPSON COUNTY
STPNHF-F-8-2(1 (R-2303C)

09-APR-2013 15:53
Y:\Projects\NCDOT\Utility On-Call Contract\R-2303C Sampson County\Environmental\R-2303C.rdy-tsh-environmental.dgn
Newsome AT RALEWNEWSOME

TIP PROJECT: R-2303C

CONTRACT:



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

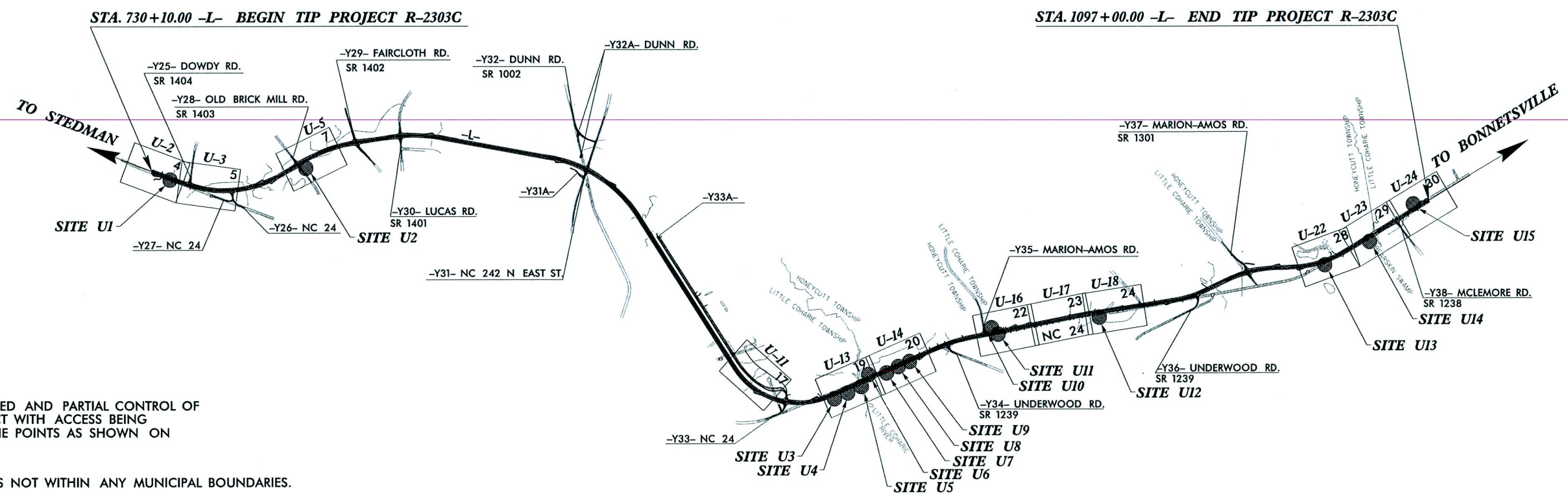
UTILITY WETLAND IMPACT PLAN SAMPSON COUNTY

LOCATION: NC 24 FROM SR 1404 (DOWDY ROAD) TO SR 1303
(MITCHELL LOOP ROAD)

TYPE OF WORK: UTILITY RELOCATION WORK

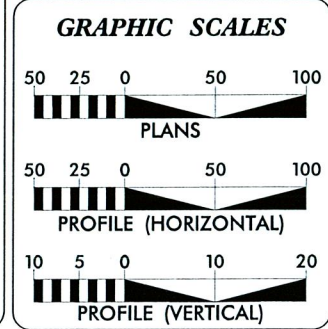
T.I.P. NO.	SHEET NO.
R-2303C	U-1

Utility Permit Drawing
Sheet 1 of 18



THIS IS A LIMITED AND PARTIAL CONTROL OF
ACCESS PROJECT WITH ACCESS BEING
LIMITED TO THE POINTS AS SHOWN ON
THE PLANS.

THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.



- ### UTILITY OWNERS ON PROJECT
- (1) Progress Energy (Power Distribution /Transmission)
 - (2) South River EMC (Power Distribution /Transmission)
 - (3) Century Link (Telecommunications)
 - (4) Star Vision (Cable Television)
 - (5) PNG (Distribution Gas)



PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
UTILITIES ENGINEERING
SECTION**

1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1591
PHONE (919) 250-4128
FAX (919) 250-4119

Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Steve McKee, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
Brandy Creech UTILITIES COORDINATION CONSULTANT

8/17/99

REVISIONS

16-APR-2013 14:31
Y:\Projects\NC001\Utility On-Call Construction\2303C\rdj.psh.U0002.dgn
C:\Users\rdj\OneDrive\Documents\2303C\rdj.psh.U0002.dgn

STA 730+10.00 -L-
BEGIN STATE PROJECT R-2303C

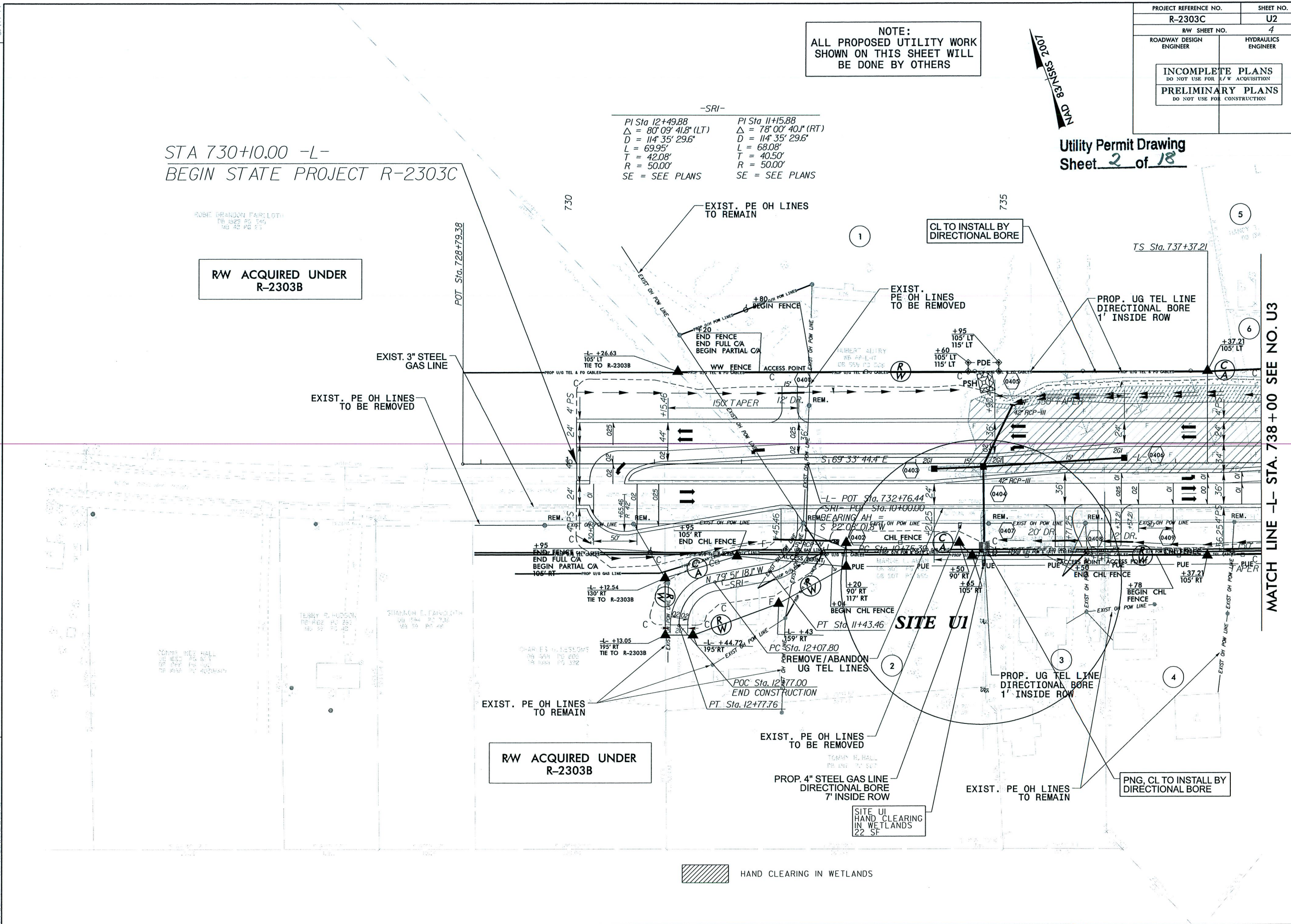
R/W ACQUIRED UNDER
R-2303B

R/W ACQUIRED UNDER
R-2303B

NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS

Utility Permit Drawing
Sheet 2 of 18

PROJECT REFERENCE NO.	SHEET NO.
R-2303C	U2
R/W SHEET NO.	4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

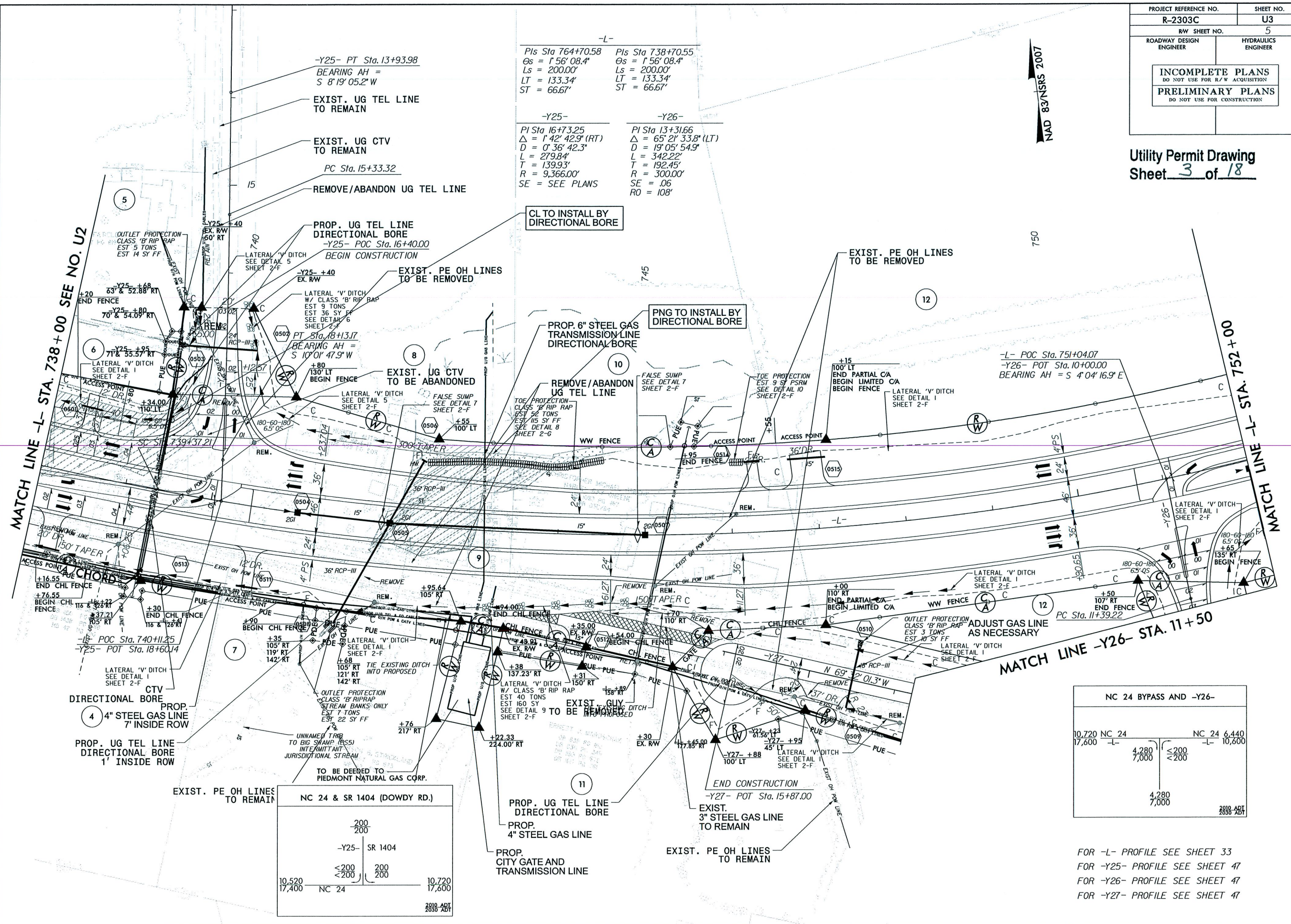


MATCH LINE -L- STA. 738+00 SEE NO. U3

NC 24 BYPASS AND -Y26-

10,720	NC 24		NC 24	6,440
17,600	-L-		-L-	10,600
		4,280		
		7,000		
		≤ 200		
		< 200		
		4,280		
		7,000		

**2010 ADT
2030 ADT**



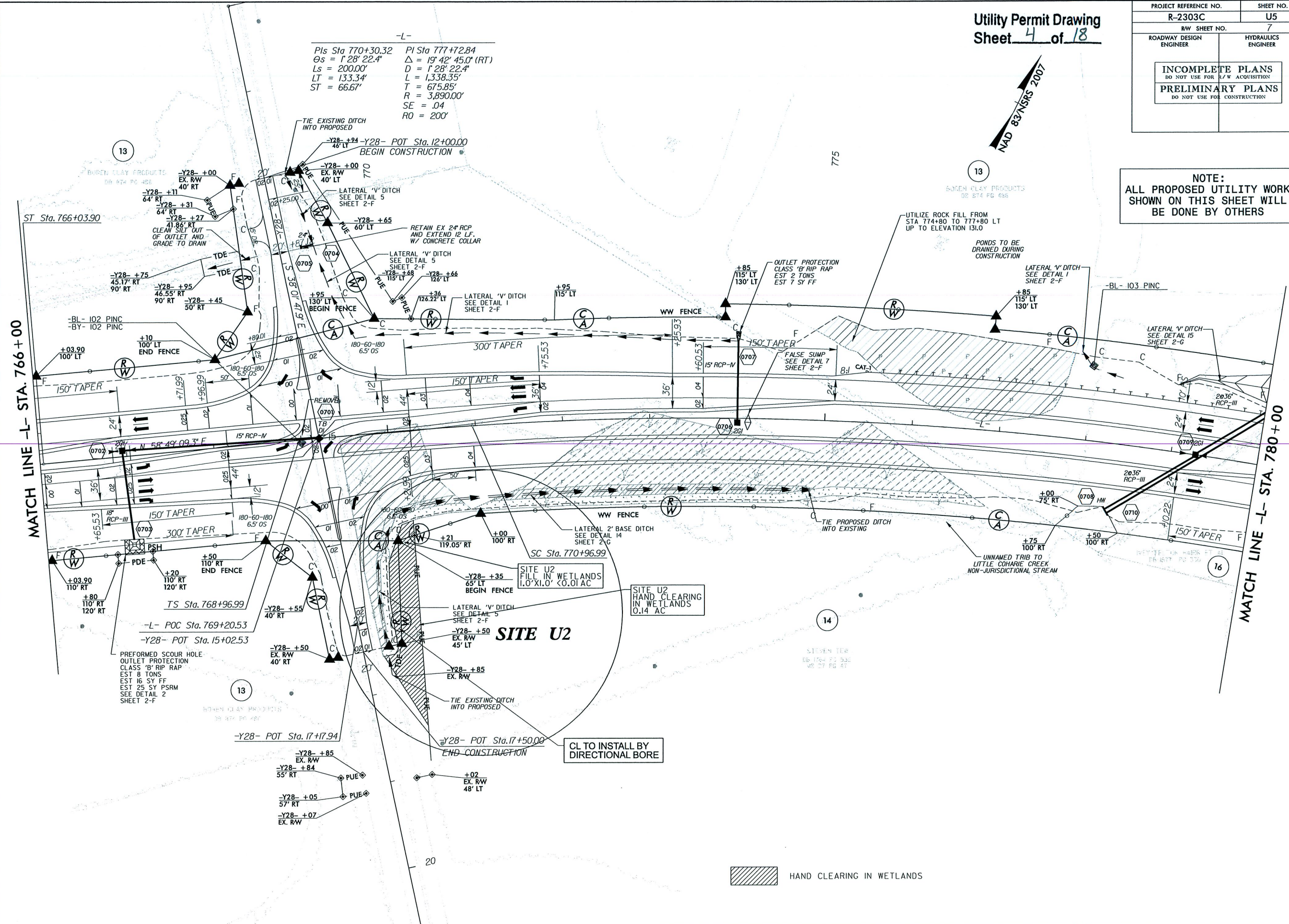
8/17/99
09-APR-2013 16:49
Y:\Projects\NCDOT\Utility On-Call\Contract\2303C_Sampson County\Environmental\2303C_rdy.psh.U005.dgn
Newsome AT RALPH WHEWELSON

REVISIONS

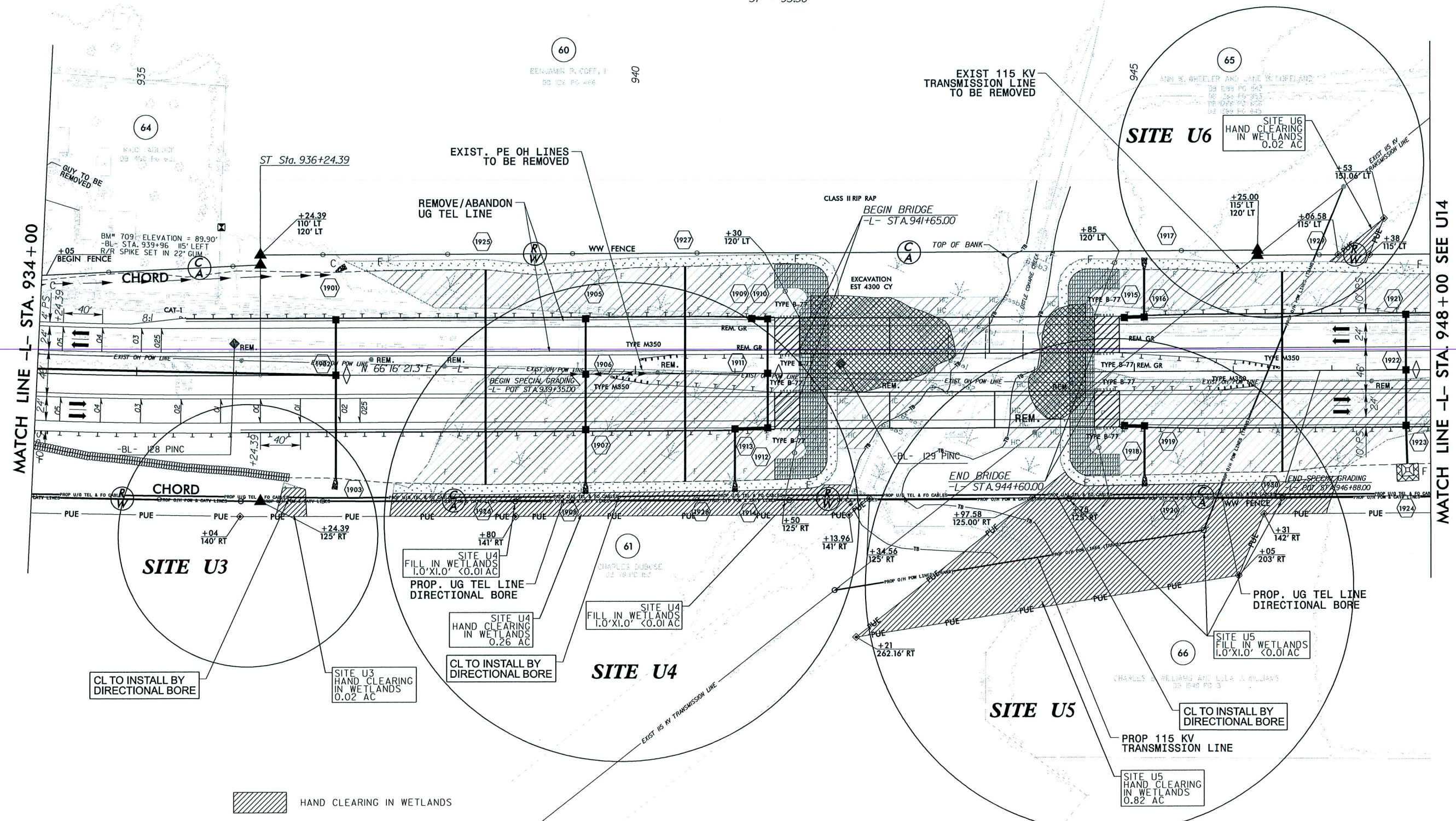
Utility Permit Drawing
Sheet 4 of 18

PROJECT REFERENCE NO.	SHEET NO.
R-2303C	U5
RAW SHEET NO.	7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS



NAD 83/NSRS 2007

[illegible]

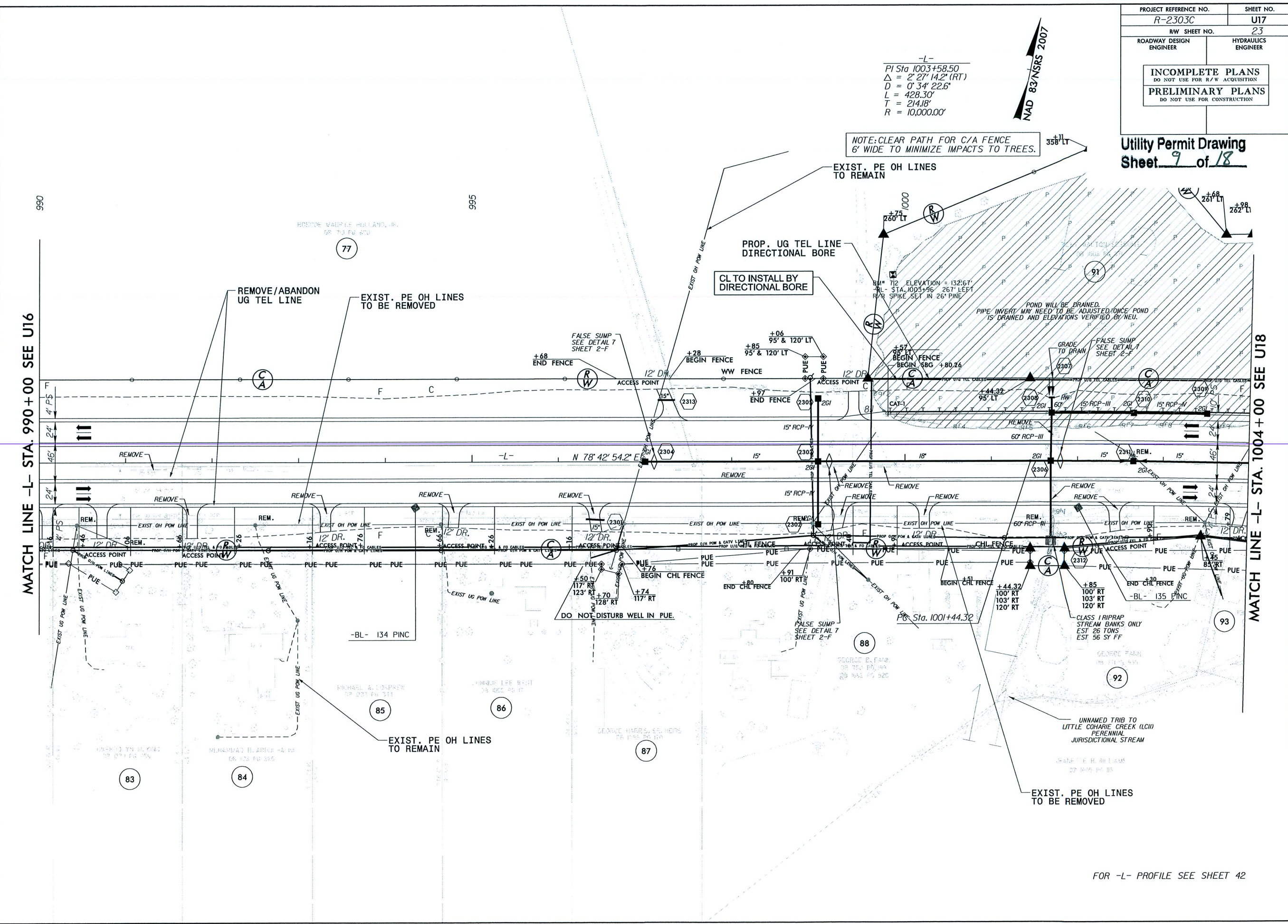
NAD 83/NSRS 2007



8/17/99
09-APR-2013 16:20
Y:\Projects\NCDOT\MO001\Utility On-Call Construction\2303C-rd\phd\U17.dgn
Newsome
AT
HALL COUNTY
REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2303C	U17
R/W SHEET NO.	23
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



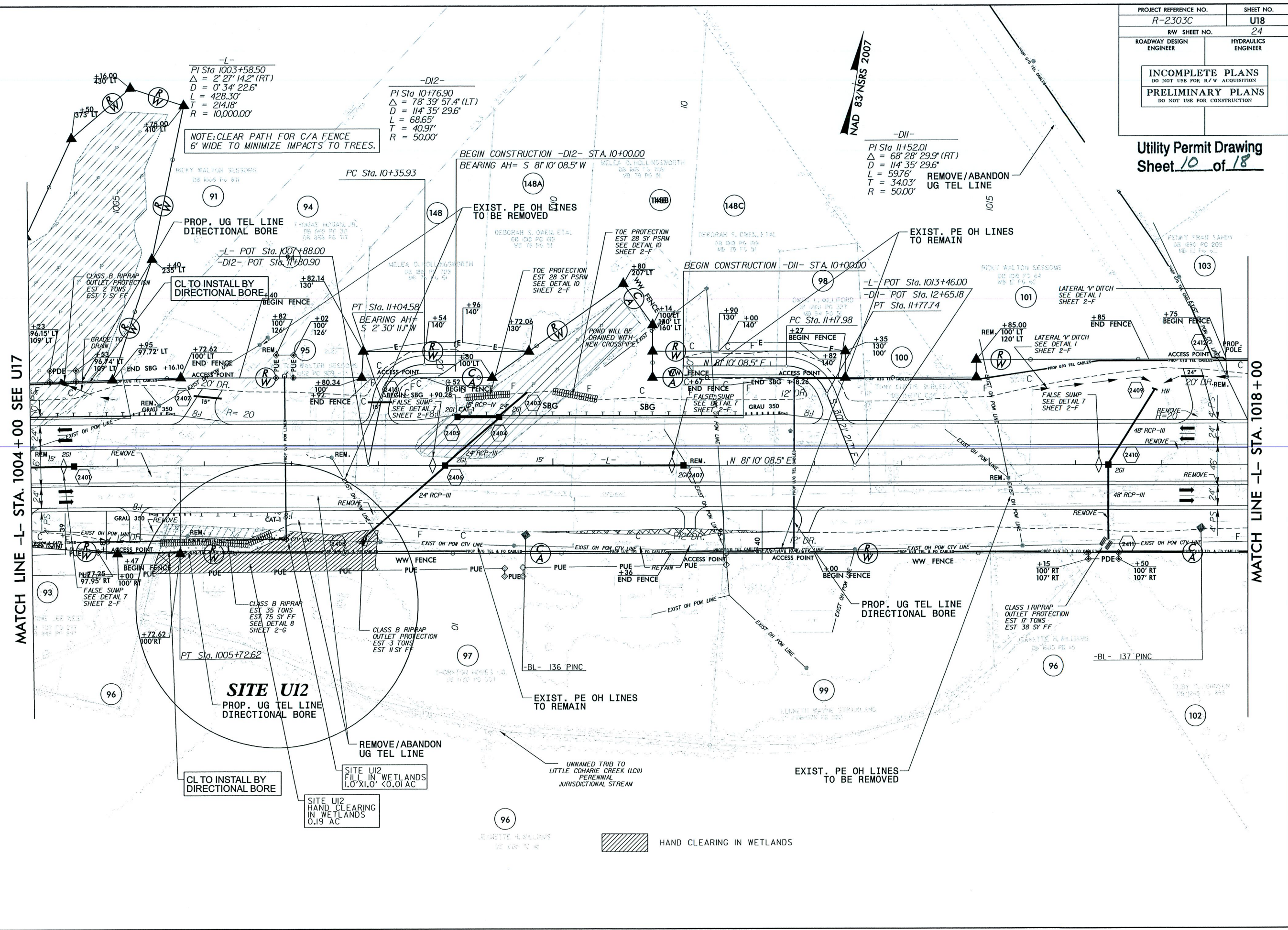
8/17/99
09-APR-2013 16:21
Y:\Projects\NCDOT\Utility On-Call Contract\R-2303C Sampson County\Environmental\R-2303c-rdy.psh_U018.dgn
Newsome AT RALPH NEWSOME

PROJECT REFERENCE NO.	SHEET NO.
R-2303C	U18
R/W SHEET NO.	24
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Utility Permit Drawing
Sheet 10 of 18

MATCH LINE -L- STA. 1004+00 SEE U17

MATCH LINE -L- STA. 1018+00

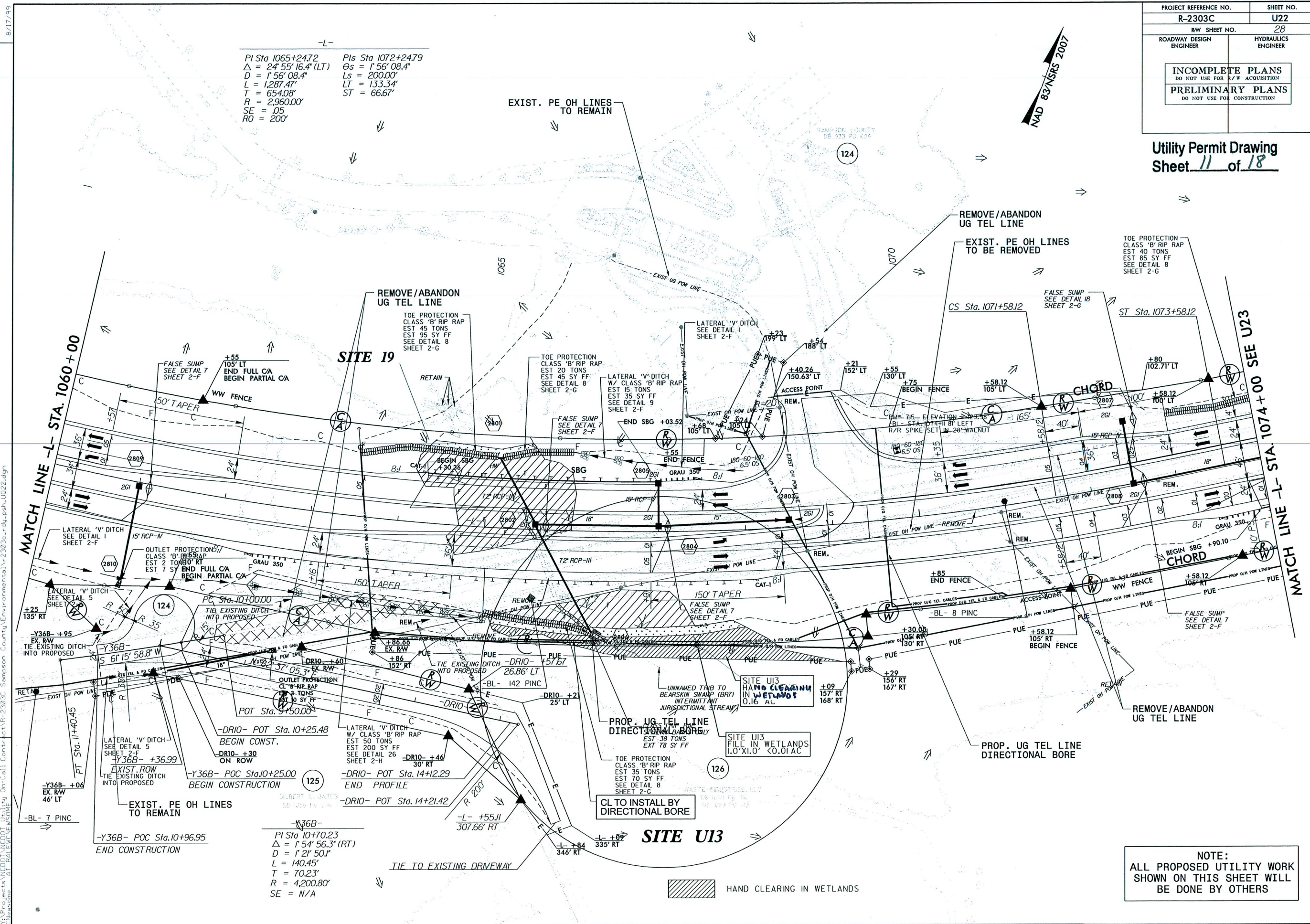


NAD 83/NSRS 2007

HAND CLEARING IN WETLANDS

PROJECT REFERENCE NO.	SHEET NO.
R-2303C	U22
RAW SHEET NO.	28
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

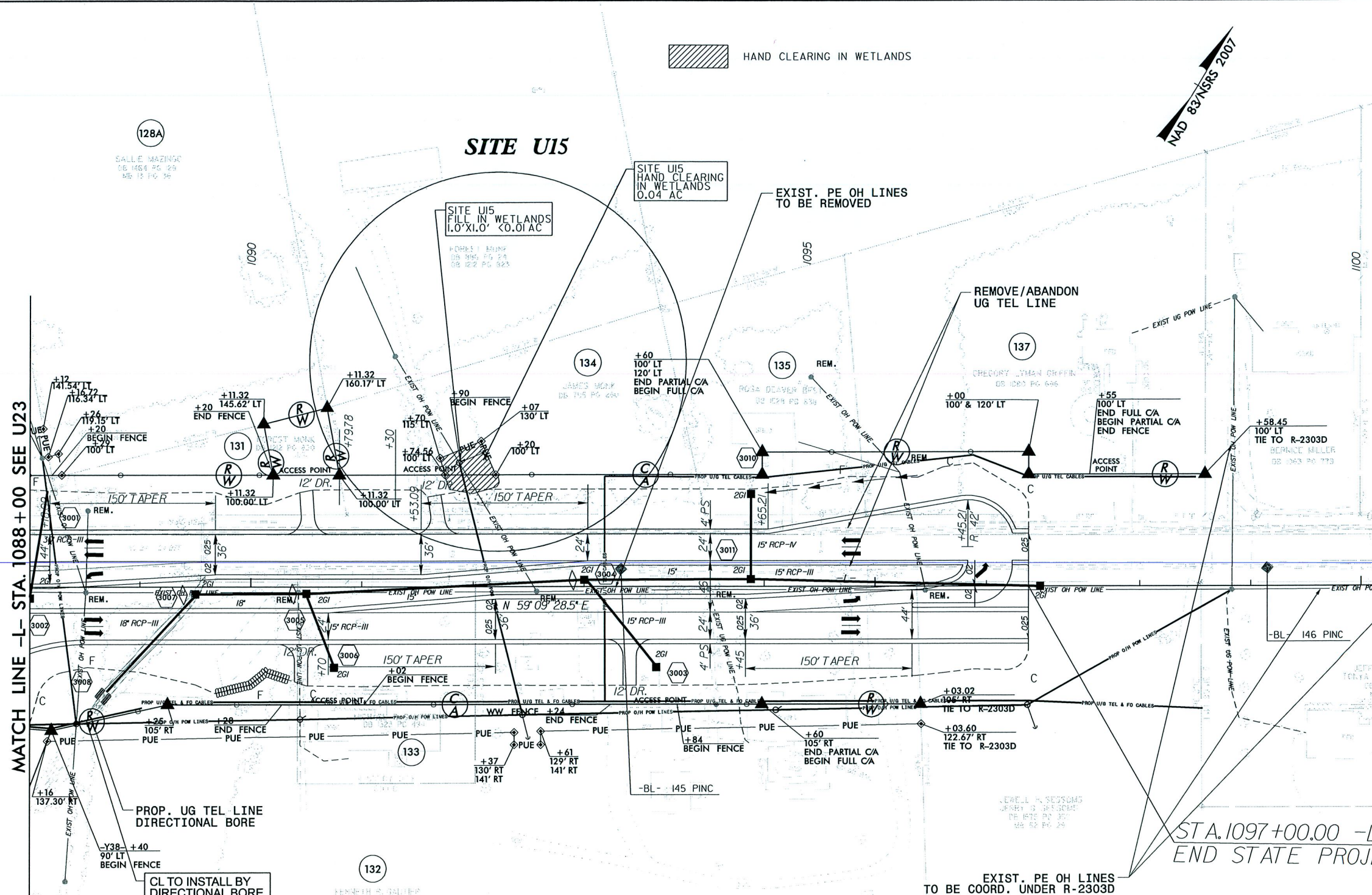
Utility Permit Drawing
Sheet 11 of 18



8/17/99
09-APR-2003 16:21
Y:\Projects\NCDOT\Utility On-Call\Contract\R-2303C_Sampson County\Environmental\R-2303C_rdy.psh.U024.dgn
C:\Users\at\OneDrive\AT_Retiree\New\ONE

REVISIONS

MATCH LINE -L- STA. 1088 + 00 SEE U23



PROJECT REFERENCE NO.	SHEET NO.
R-2303C	U24
R/W SHEET NO.	30
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Utility Permit Drawing
Sheet 13 of 18

RW ACQUIRED UNDER
R-2303D

NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS

Power, Communication, Natural Gas Utility Wetland Impacts

PROP. NO.	PROPERTY OWNER NAME	PROP. OWNER ADDRESS
2	Margie Aman	2223 Autry Highway, Roseboro, NC 28382
14	Audrey Lee, Starling Kerr, etal	980 Boren Brick Road, Roseboro, NC 28382
61	Charles Dubose	Roseboro Hwy, Roseboro, NC 28382
65	Ann Wheeler, Jane Copeland	9406 Roseboro Highway, Roseboro, NC 28382
66	Charles Williams, Lela Williams	1793 Marion-Amos Road, Roseboro, NC 28382
74	Roger Royal	1234 Underwood Road, Roseboro, NC 28382
126	Waste Industries, LLC	7654 Roseboro Hwy, Roseboro, NC 28382
129	Baron Van Liew	G11 0 61C SR 24 , Roseboro, NC 28382
134	James Monk	6956 Roseboro Highway, Roseboro, NC 28382
		N.C. DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS SAMPSON COUNTY PROJECT: R-2303C 4/10/2013 2/21/13 REVISED

Utility Permit Drawing
Sheet 14 of 18

Property Owners - Buffer

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)
U1	734+78 -L-	POWER, CTV					<0.01					
U2	16+33 -Y28-	POWER	<0.01				0.14					
U3	936+39 -L-	POWER, CTV					0.02					
U4	937+54 -L-	POWER, CTV	<0.01				0.26					
U5	942+21 -L-	POWER, CTV	<0.01				0.82					
U6	947+07 -L-	POWER					0.02					
U7	948+32 -L-	POWER, CTV	<0.01				0.16					
U8	955+66 -L-	POWER, CTV	<0.01				0.12					
U9	958+17 -L-	POWER, CTV					0.04					
U10	978+43 -L-	POWER, CTV					0.01					
U11	979+24 -L-	POWER, CTV	<0.01				0.13					
U12	1005+40-L-	POWER, CTV	<0.01				0.19					
U13	1075+13 -L-	POWER, CTV	<0.01				0.16					
U14	1076+31 -L-	POWER, CTV	<0.01				0.28					
U15	1091+70 -L-	POWER	<0.01				0.04					
TOTALS:			<0.01 (14sf)		0.0000		2.38		0.0000		0	

b6/82/83

TIP PROJECT: R-2303C

CONTRACT:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES CONSTRUCTION
SAMPSON COUNTY

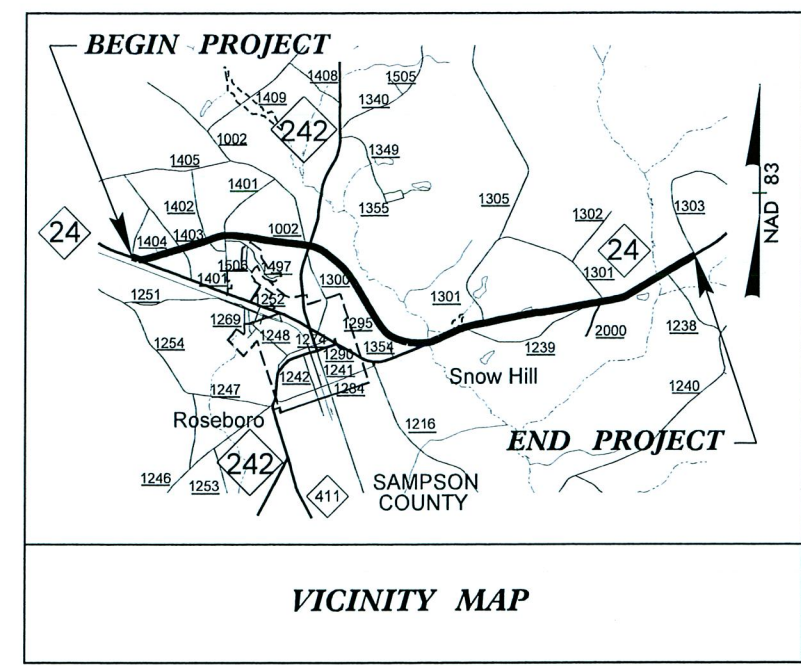
LOCATION: NC 24 FROM SR 1404 (DOWDY ROAD) TO SR 1303
(MITCHELL LOOP ROAD)

TYPE OF WORK: WATER LINE AND SEWER LINE RELOCATION

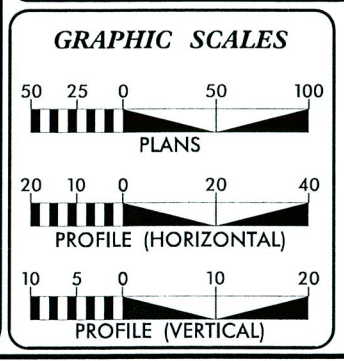
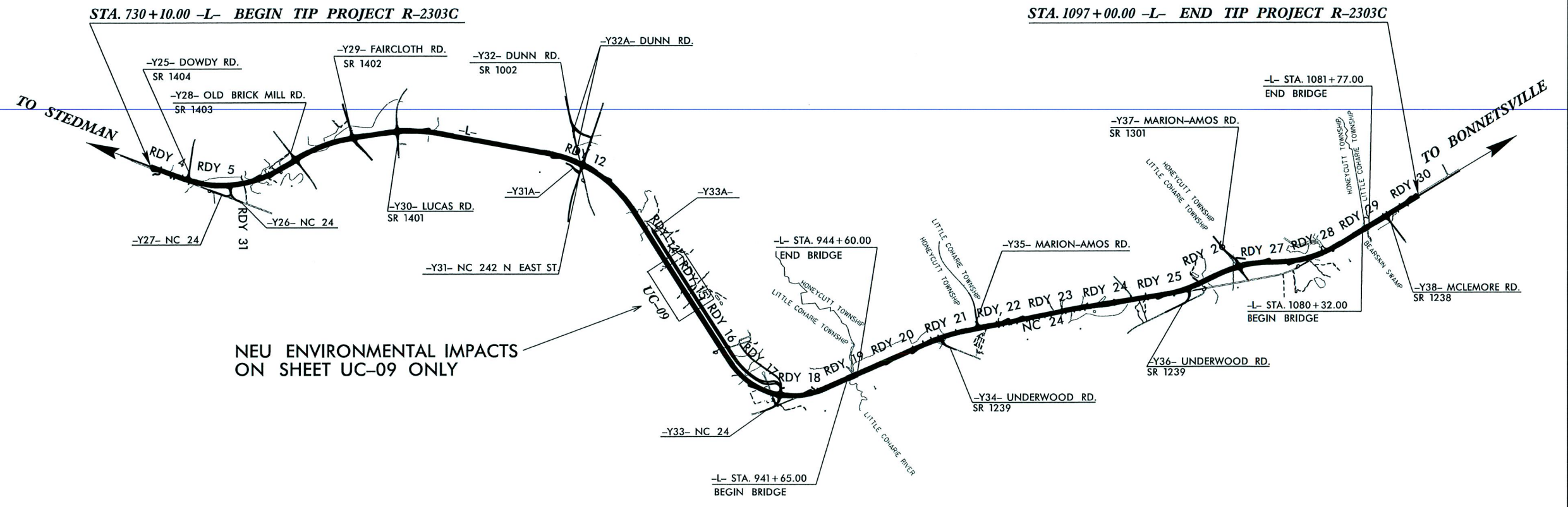
T.I.P. NO.	SHEET NO.
R-2303C	UC-1

NEU UTILITY
RELOCATION PLANS

Utility Permit Drawing
Sheet 16 of 18



VICINITY MAP



INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	SYMBOLGY SHEET
UC-3 TO UC-3F	NOTES SHEETS AND UTILITY DETAIL SHEETS
UC-4 TO UC-24	UTILITIES CONSTRUCTION PLAN SHEETS
UC-25 TO UC-55	UTILITIES CONSTRUCTION PROFILE PLAN SHEETS

UTILITY OWNERS ON PROJECT
(1) SAMPSON COUNTY PUBLIC WORKS - WATER LINE
(2) SAMPSON COUNTY PUBLIC WORKS - SEWER LINE
(3) TOWN OF ROSEBORO - WATER LINE
(4) TOWN OF ROSEBORO - SEWER LINE

SEAL

UTILITY DESIGN BY:

MA Engineering
CONSULTANTS, INC.
598 East Chatham Street, Suite 137 Cary, NC 27511
Phone: 919.297.0220 Fax: 919.297.0221

NCDOT PROJECT ENGINEER:
RON WILKINS, P.E.
PREPARED FOR:
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
UTILITIES UNIT
RALEIGH, NC

NEU UTILITY
RELOCATION
PLANS

MA Engineering
CONSULTANTS, INC. 598 E. Charlton Street,
Suite 137
Cory, N.C. 27511

UTILITY OWNERS ON THIS PROJECT:
1. TOWN OF ROSEBORO
UTILITY: 12"/18" GRAVITY SEWER
CONTACT: BUCK AMMONS
PHONE: 910-525-4121

MATCH LINE -L- STA. 878+00 SEE SHEET NO. 08

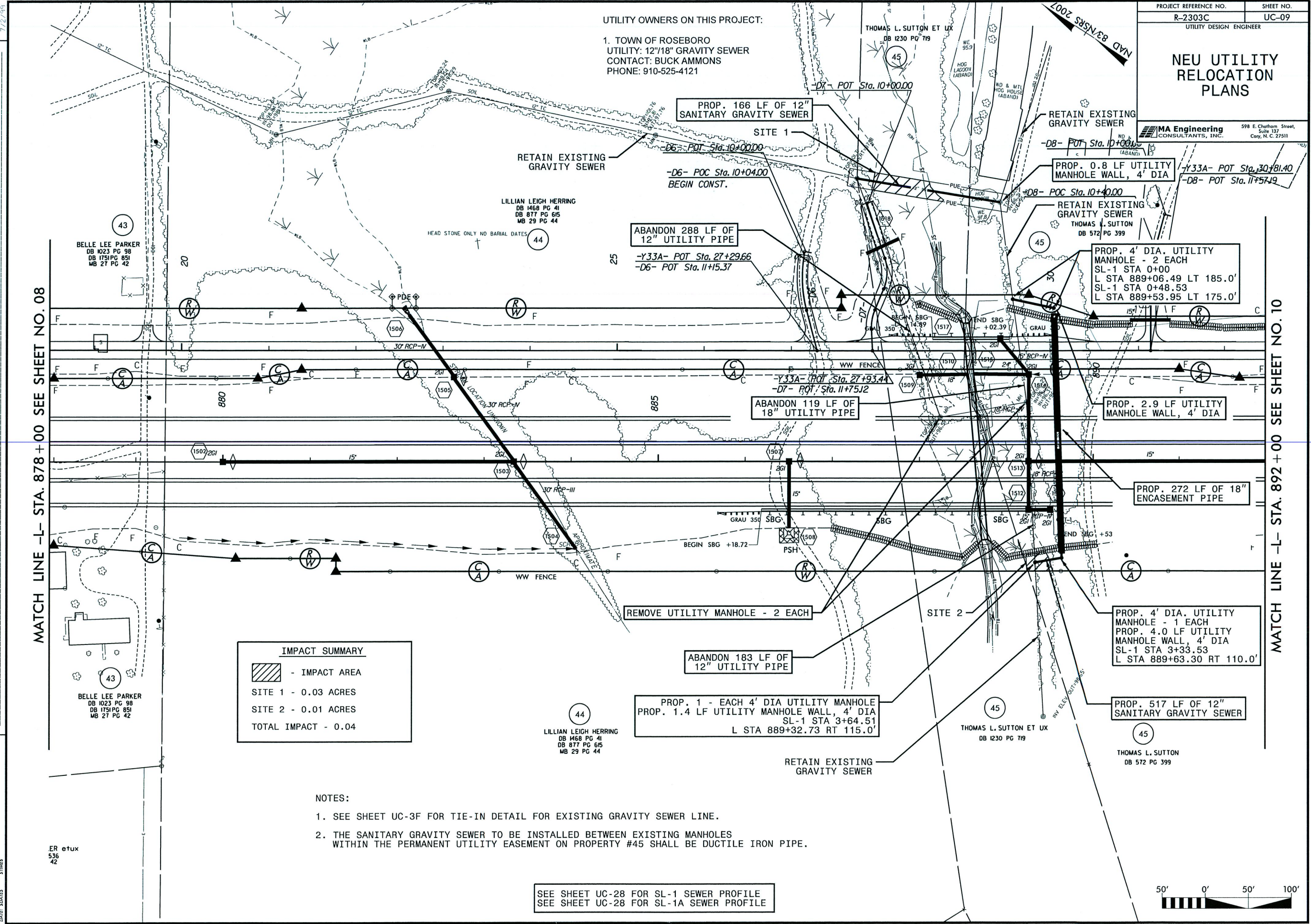
MATCH LINE -L- STA. 892+00 SEE SHEET NO. 10

IMPACT SUMMARY	
	- IMPACT AREA
SITE 1 - 0.03 ACRES	
SITE 2 - 0.01 ACRES	
TOTAL IMPACT - 0.04	

NOTES:

- SEE SHEET UC-3F FOR TIE-IN DETAIL FOR EXISTING GRAVITY SEWER LINE.
- THE SANITARY GRAVITY SEWER TO BE INSTALLED BETWEEN EXISTING MANHOLES WITHIN THE PERMANENT UTILITY EASEMENT ON PROPERTY #45 SHALL BE DUCTILE IRON PIPE.

SEE SHEET UC-28 FOR SL-1 SEWER PROFILE
SEE SHEET UC-28 FOR SL-1A SEWER PROFILE



			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	887+46 to 888+16	12" Gravity Sewer			0.03							
2	889+23 to 889+53	12" Gravity Sewer			0.01							

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Sampson County
WBS - 34416.2.4 (R-2303C)

ATN Revised 3/31/05

SHEET 1 OF 1 4/17/2013

TIP PROJECT: R-2303D



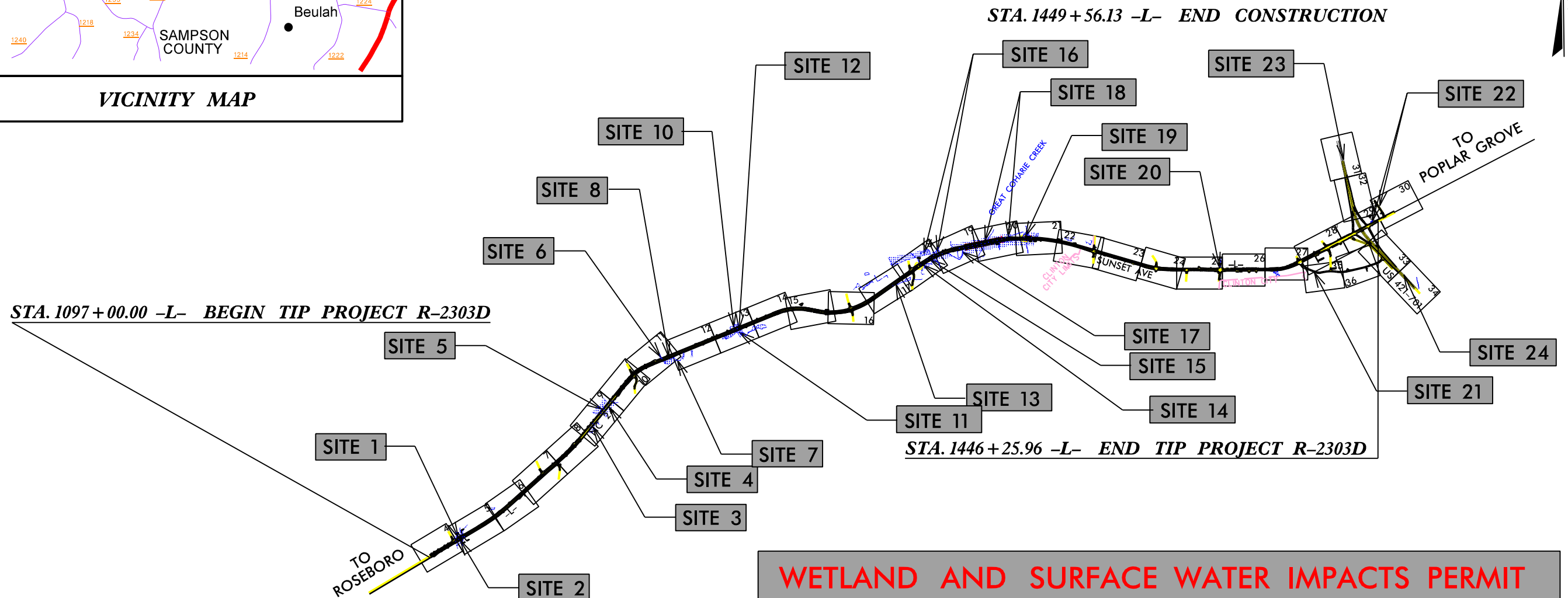
SAMPSON COUNTY

TYPE OF WORK: GRADING, DRAINAGE, PAVING, RESURFACING, CURB & GUTTER, SIGNALS, AND STRUCTURES

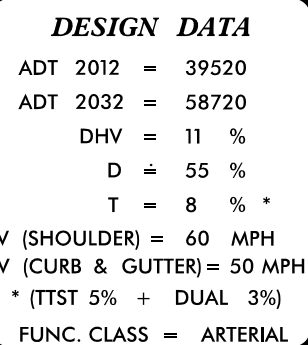
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83/95



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD _____.
PORTIONS OF THIS PROJECT ARE WITHIN THE TOWN LIMITS OF BELVOIR & LITTLE COHAIRE AND CITY LIMITS OF CLINTON.
THIS IS A LIMITED AND PARTIAL CONTROL OF ACCESS PROJECT WITH ACCESS BEING LIMITED TO THE POINTS AS SHOWN ON THE PLANS.



LENGTH ROADWAY TIP PROJECT R-2303D	=	6.35 MILES
LENGTH STRUCTURES TIP PROJECT R-2303D	=	0.26 MILES
TOTAL LENGTH TIP PROJECT R-2303D	=	6.61 MILES

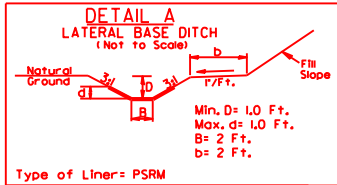
LETTING DATE:
JUNE 18, 2013

WAYNE BEST
PROJECT DESIGN ENGINEER

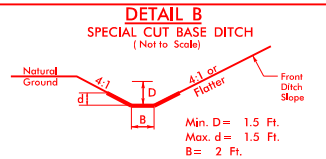
SIGNATURE: _____ *P.E.* _____



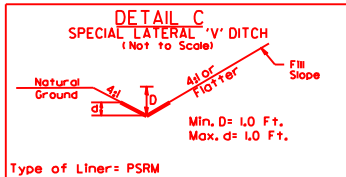
P.E.
STATE HIGHWAY DESIGN ENGINEER



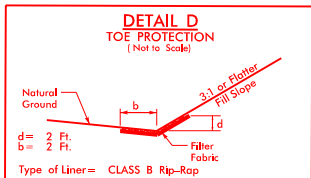
FROM STA. 1100+00 TO STA. 1106+15 -L- RT.
FROM STA. 1159+50 TO STA. 1160+46 -L- LT.
FROM STA. 1171+70 TO STA. 1174+68 -L- LT.
FROM STA. 1176+55 TO STA. 1180+50 -L- RT.
FROM STA. 1180+50 TO STA. 1186+00 -L- RT. (16+00 -Y42- RT.)
FROM STA. 16+00 TO STA. 17+88 -Y42- RT.
FROM STA. 1189+00 TO STA. 1197+50 -L- RT.
FROM STA. 1245+80 TO STA. 1248+15 -L- LT.
FROM STA. 1247+00 TO STA. 1248+72 -L- RT.
FROM STA. 1279+00 TO STA. 1285+70 -L- LT.
FROM STA. 1287+10 TO STA. 1289+00 -L- LT.
FROM STA. 9+40 TO STA. 10+85 -RPD- LT.
FROM STA. 17+15 TO STA. 20+50 -SRI- RT.
FROM STA. 15+94 TO STA. 17+19 -RPA- RT



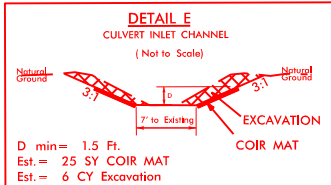
FROM STA. 11+85 TO STA. 12+45 -Y39- RT.
FROM STA. 1154+50 TO STA. 1157+70 -L- LT.
FROM STA. 18+50 TO STA. 22+00 -Y42- LT.



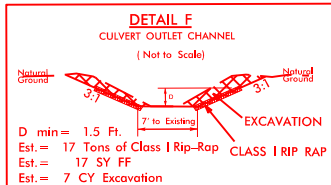
FROM STA. 1141+50 TO STA. 1142+41 -L- LT (14+20 -Y40- RT.)
FROM STA. 12+93 TO STA. 14+20 -Y40- RT.
FROM STA. 1152+00 TO STA. 1153+60 -L- LT.
FROM STA. 1160+80 TO STA. 1162+63 -L- LT.
FROM STA. 1163+10 TO STA. 1164+11 -L- LT.
FROM STA. 1164+50 TO STA. 1165+81 -L- LT.
FROM STA. 1166+20 TO STA. 1167+00 -L- LT.
FROM STA. 1168+00 TO STA. 1169+20 -L- LT.
FROM STA. 1174+68 TO STA. 1179+50 -L- LT.
FROM STA. 1197+60 TO STA. 1198+50 -L- LT.
FROM STA. 1200+05 TO STA. 1200+50 -L- LT.
FROM STA. 1201+90 TO STA. 1202+50 -L- RT.
FROM STA. 1211+00 TO STA. 1213+80 -L- LT.
FROM STA. 1297+55 TO STA. 1300+00 -L- LT.
FROM STA. 1300+40 TO STA. 1301+50 -L- RT.
FROM STA. 1302+00 TO STA. 1302+95 -L- RT.
FROM STA. 8+90 TO STA. 14+00 -RPC- LT.
FROM STA. 17+50 TO STA. 18+50 -Y52- RT.
FROM STA. 17+25 TO STA. 18+00 -Y52- LT.
FROM STA. 11+00 TO STA. 14+50 -RPA- LT.
FROM STA. 12+50 TO STA. 12+80 -Y39- RT.
FROM STA. 11+50 TO STA. 12+70 -Y44- RT.
FROM STA. 11+50 TO STA. 12+50 -Y44- LT.
FROM STA. 16+50 TO STA. 18+00 -Y44- LT.
FROM STA. 12+93 TO STA. 13+93 -Y40- LT.
FROM STA. 46+00 TO STA. 51+50 -Y52- RT.
FROM STA. 19+05 TO STA. 21+00 -SRI- LT



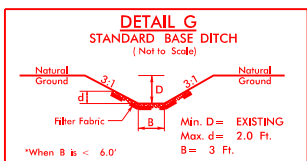
FROM STA. 1106+15 TO STA. 1108+65 -L- RT
FROM STA. 1109+00 TO STA. 1110+45 -L- RT
FROM STA. 1106+95 TO STA. 1109+50 -L- LT
FROM STA. 1109+80 TO STA. 1110+20 -L- LT
FROM STA. 1163+30 TO STA. 1167+40 -L- RT
FROM STA. 1170+00 TO STA. 1172+65 -L- LT
FROM STA. 1170+70 TO STA. 1176+00 -L- RT
FROM STA. 1197+25 TO STA. 1197+70 -L- LT
FROM STA. 1197+80 TO STA. 1198+40 -L- RT
FROM STA. 1199+30 TO STA. 1201+65 -L- RT
FROM STA. 1204+75 TO STA. 1205+15 -L- RT
FROM STA. 1207+45 TO STA. 1207+80 -L- RT
FROM STA. 1221+00 TO STA. 1224+50 -L- RT
FROM STA. 1224+80 TO STA. 1225+45 -L- RT
FROM STA. 1222+15 TO STA. 1224+10 -L- LT
FROM STA. 1224+40 TO STA. 1225+15 -L- LT
FROM STA. 1266+50 TO STA. 1269+25 -L- RT
FROM STA. 1290+60 TO STA. 1300+00 -L- RT
FROM STA. 1296+25 TO STA. 1297+40 -L- LT
FROM STA. 1301+50 TO STA. 1305+32 -L- LT
FROM STA. 1304+90 TO STA. 1305+32 -L- RT
FROM STA. 1317+82 TO STA. 1325+78 -L- LT & RT
FROM STA. 1328+10 TO STA. 1328+50 -L- LT
FROM STA. 1328+10 TO STA. 1329+05 -L- LT
FROM STA. 13+55 TO STA. 16+95 -SRI- RT
FROM STA. 14+50 TO STA. 16+50 -SRI- LT



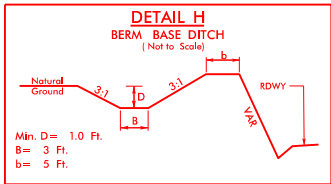
STA. 1109+60 -L- LT



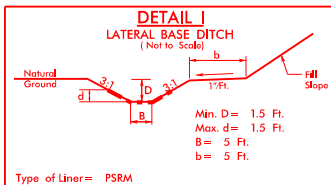
STA. 1108+85 -L- RT



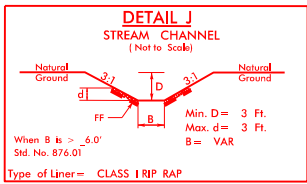
FROM STA. 1128+95 -L- LT
FROM STA. 1197+50 TO STA. 1197+90 -L- RT



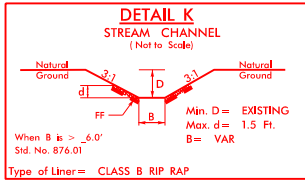
FROM STA. 1128+90 TO STA. 1132+00 -L- RT



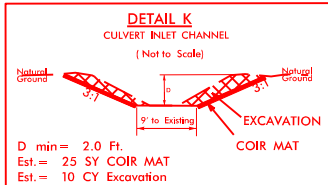
FROM STA. 1129+00 TO STA. 1131+00 -L- LT
EST. 1800 SY
FROM STA. 1248+23 TO STA. 1251+00 -L- LT.
FROM STA. 1248+87 TO STA. 1250+65 -L- RT.



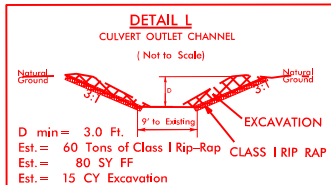
STA. 1198+00 -L- RT
EST 55 TONS; EST 70 SY FF; EST 20 CY EXCAV
STA. 1278+55 -L- LT
EST 35 TONS; EST 40 SY FF; EST 35 CY EXCAV
STA. 1281+30 -L- RT
EST 40 TONS; EST 40 SY FF; EST 25 CY EXCAV
STA. 1291+75 -L- RT
EST 40 TONS; EST 50 SY FF; EST 10 CY EXCAV
STA. 16+40 -Y44- LT
EST 35 TONS; EST 40 SY FF; EST 60 CY EXCAV
STA. 16+75 -Y44- RT
EST 70 TONS; EST 80 SY FF; EST 100 CY EXCAV
STA. 1294+70 -L- RT
EST 40 TONS; EST 40 SY FF; EST 30 CY EXCAV



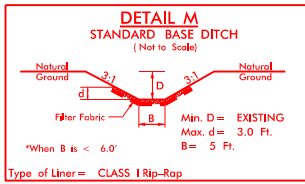
STA. 1200+10 -L- RT
EST 55 TONS; EST 70 SY FF; EST 20 CY EXCAV



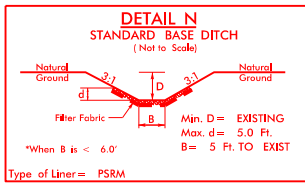
STA. 1224+30 -L- LT



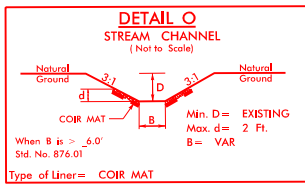
STA. 1224+60 -L- RT



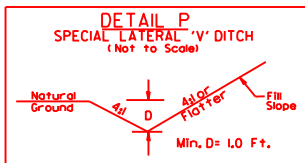
STA. 1248+19 -L- LT
EST 80 TONS; EST 100 SY FF; EST 60 CY EXCAV
STA. 1248+79 -L- RT
EST 80 TONS; EST 100 SY FF; EST 60 CY EXCAV
STA. 1347+60 -L- LT
EST 110 TONS; EST 140 SY FF; EST 110 CY EXCAV



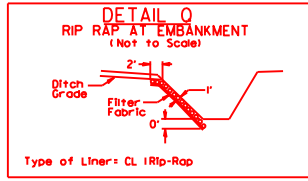
STA. 1249+00 -L- RRT



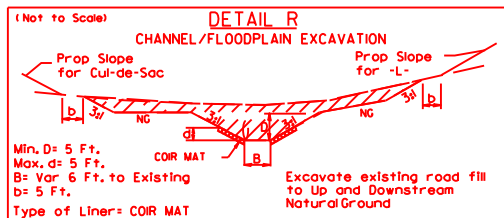
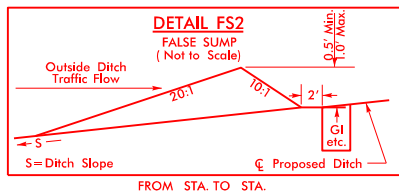
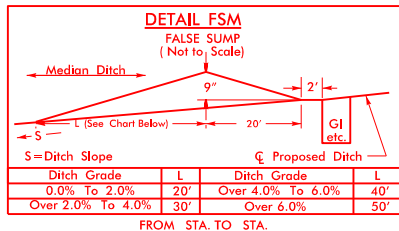
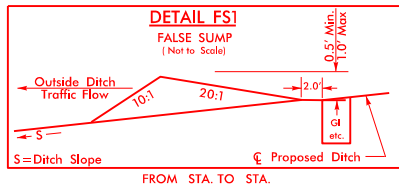
STA. 1290+05 -L- LT
EST 75 SY COIR MAT; EST 25 CY EXCAV
STA. 1294+50 -L- LT
EST 70 SY COIR MAT; EST 30 CY EXCAV



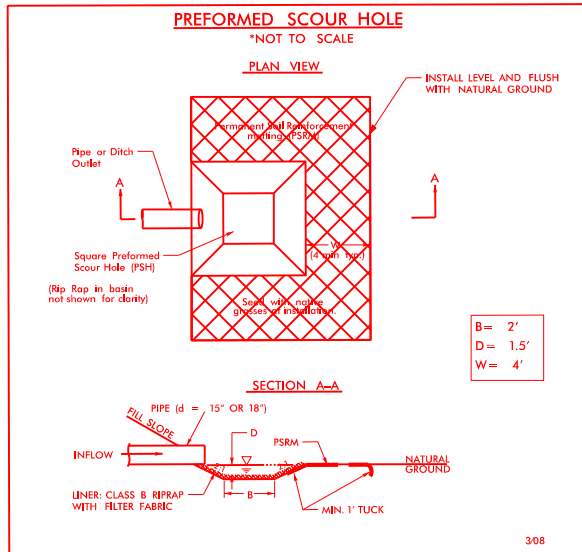
FROM STA. 1131+00 TO STA. 1139+75 -L- LT
FROM STA. 5+84 TO STA. 10+00 -RPC- RT
FROM STA. 10+00 TO STA. 15+00 -RPA- RT



STA. 12+34 -Y53- LT 3 TONS; 6 SY FF
STA. 12+54 -Y53- LT 3 TONS; 6 SY FF
STA. 12+57 -Y53- RT 3 TONS; 6 SY FF
STA. 12+77 -Y53- RT 3 TONS; 6 SY FF



FROM STA. 1444+10 TO STA. 1445+40 -L- LT
EST EXCAV = 530 CY
EST COIR MAT = 400 SY



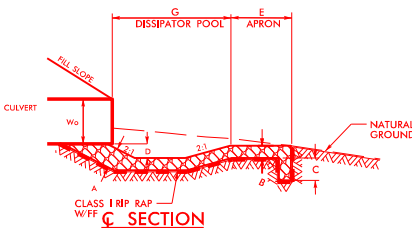
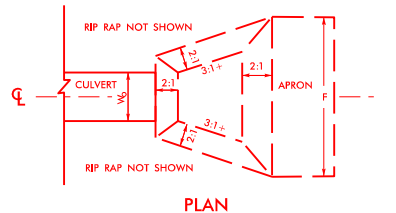
STA. 12+84 -Y39- LT
STA. 1106+18 -L- RT
STA. 1167+68 -L- RT
STA. 1169+20 -L- LT
STA. 1176+45 -L- RT
STA. 1199+10 -L- RT
STA. 1201+90 -L- RT
STA. 1220+63 -L- RT
STA. 17+10 -SRI- RT

DETAIL S
RIP-RAPPED ENERGY DISSIPATOR BASIN

DIM. (ft)	RIP RAP BASIN #	#1	#2	#3
A	2.0'	2.0'	?	?
B	2.0'	2.0'	?	?
C	1.5'	1.5'	?	?
D	1.5'	1.5'	?	?
E	5'	5'	?	?
F	16'	16'	?	?
G	15'	15'	?	?

ALL DIMENSIONS APPROXIMATE

BASIN #	LOCATION (AT OUTLET)
#1	STA. 1205+25 -L- RT
#2	STA. 1329+20 -L- LT
?	?



FROM STA. TO STA.

SITE 2



WATCH LINE -L- STA 1107 + 50 SEE SHEET 5

FROM -L- STA. 1095+47.50 LT
TO -L- STA. 1098+58.46 LT
THE RW WILL BE PURCHASED
UNDER R-2303C

STA. 1097+00.00 - BEGIN TIP PROJECT R-2303D

GRASS SWALE DATA
 DA = 4.6ac (2.8p; 3.8g)
 SLOPE = 0.012-0.038
 PRO. = ?
 Q10 = 5.0 cts
 Q10 = 2.1-3.2 FTS
 Q10 = 0.6'
 STA. 1129+00 -L- LT

 DENOTES FILL IN WETLAND

 DENOTES MECHANIZED CLEARING

REVISIONS

2/2012
inkeeper
Hydraulics\PEBMTS_Environmental\Drawings\B2203D_Hyd_prm_wet_psh4.dgn
September 28, 2011
B2203D_Hyd_prm_wet_psh4.dgn

SITE 2

MATCH LINE -L- STA 1107 +50 SEE SHEET 5

GRASS SWALE DATA
QA = 4.6pc (2.8g; 3.8g)
SLOPE = 0.012-0.038
PRO. = ?
Q10 = 5.0 cfs
Q10 = 2.1-3.2 FTS
Q10 = 0.6'
STA. 1129+00 - LT


 DENOTES FILL IN WETLAND
 DENOTES MECHANIZED CLEARING

50' 0' 50' 100' 150'

SCALE = 1" = 50'

4/22/2013
 R:\Hydraulics\PERMITS_Environmental Drawings\R2303D_Hyd_prm_wet_psh4.dgn
 November 28, 2011
 2303D_hyd_prm_wet.psh4.dgn



— PUE

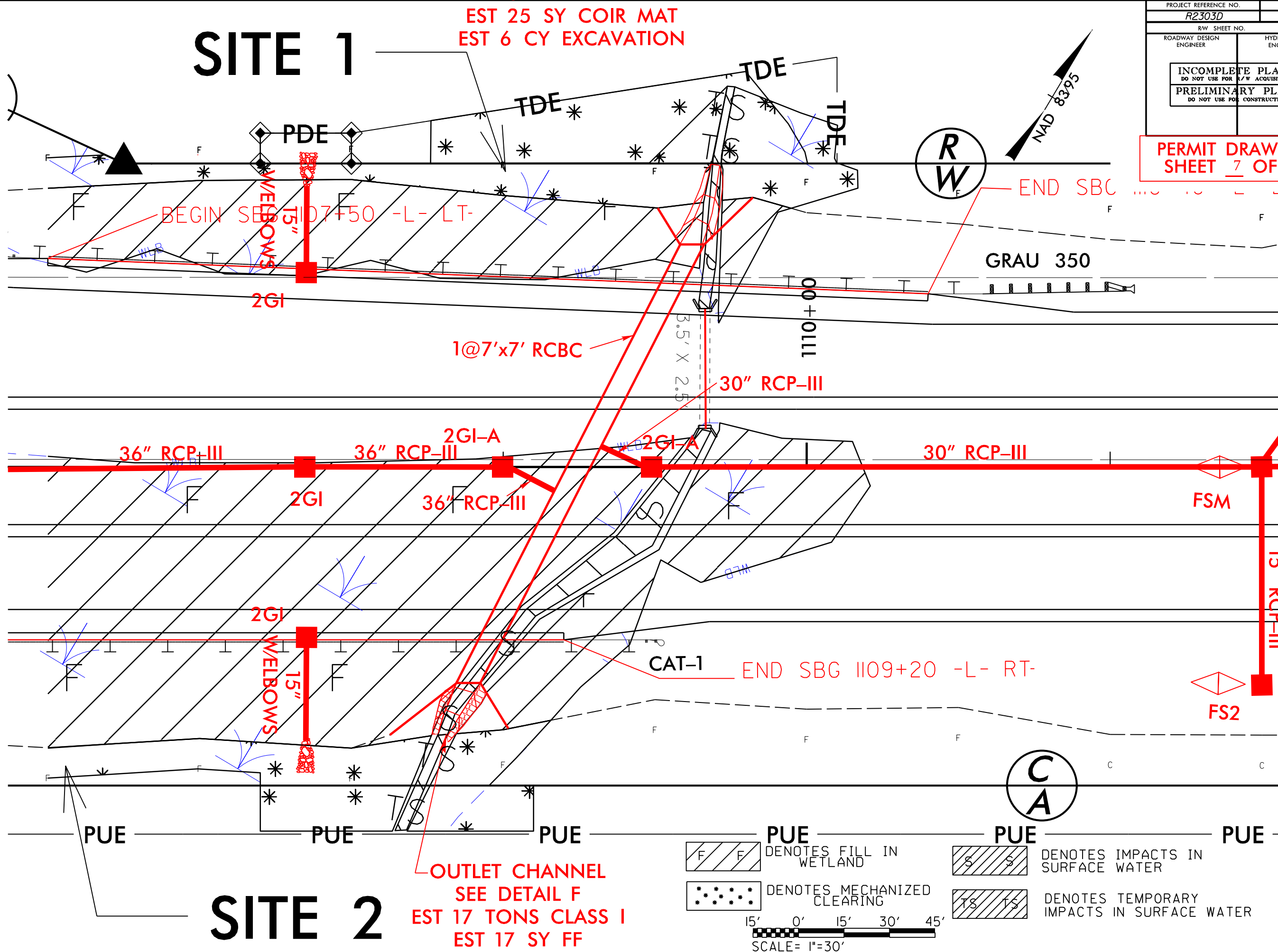
W

ATCH LINE -L- STA 1121+00 SEE SHEET 6

REVISIONS

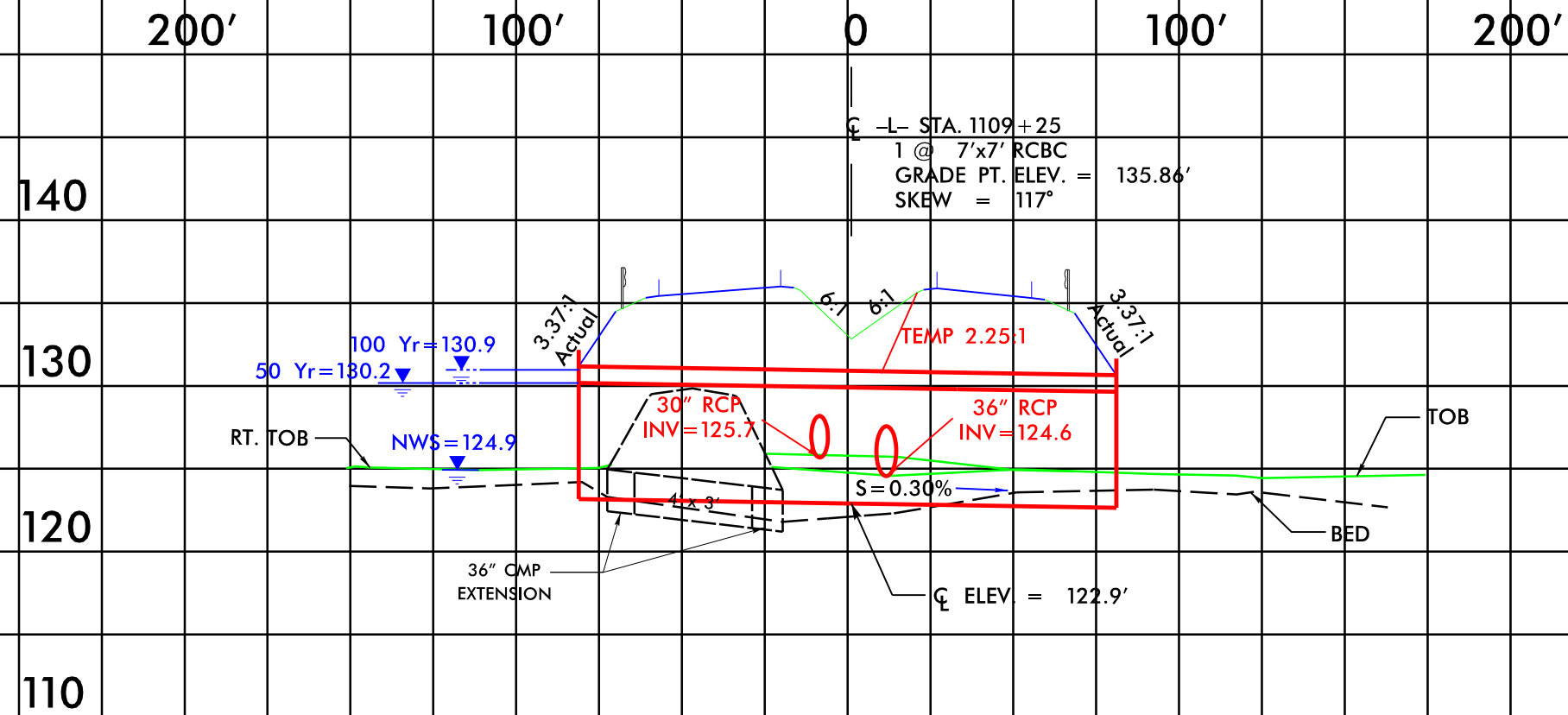
452013
amkceeler
R: R:\Hydraulics\PERMITS_Environmental\Drawings\R2303D_Hyd_prm_wet_psh5dgn
November 28, 2011
r2303d_hyd_prm_wet_psh5.dgn

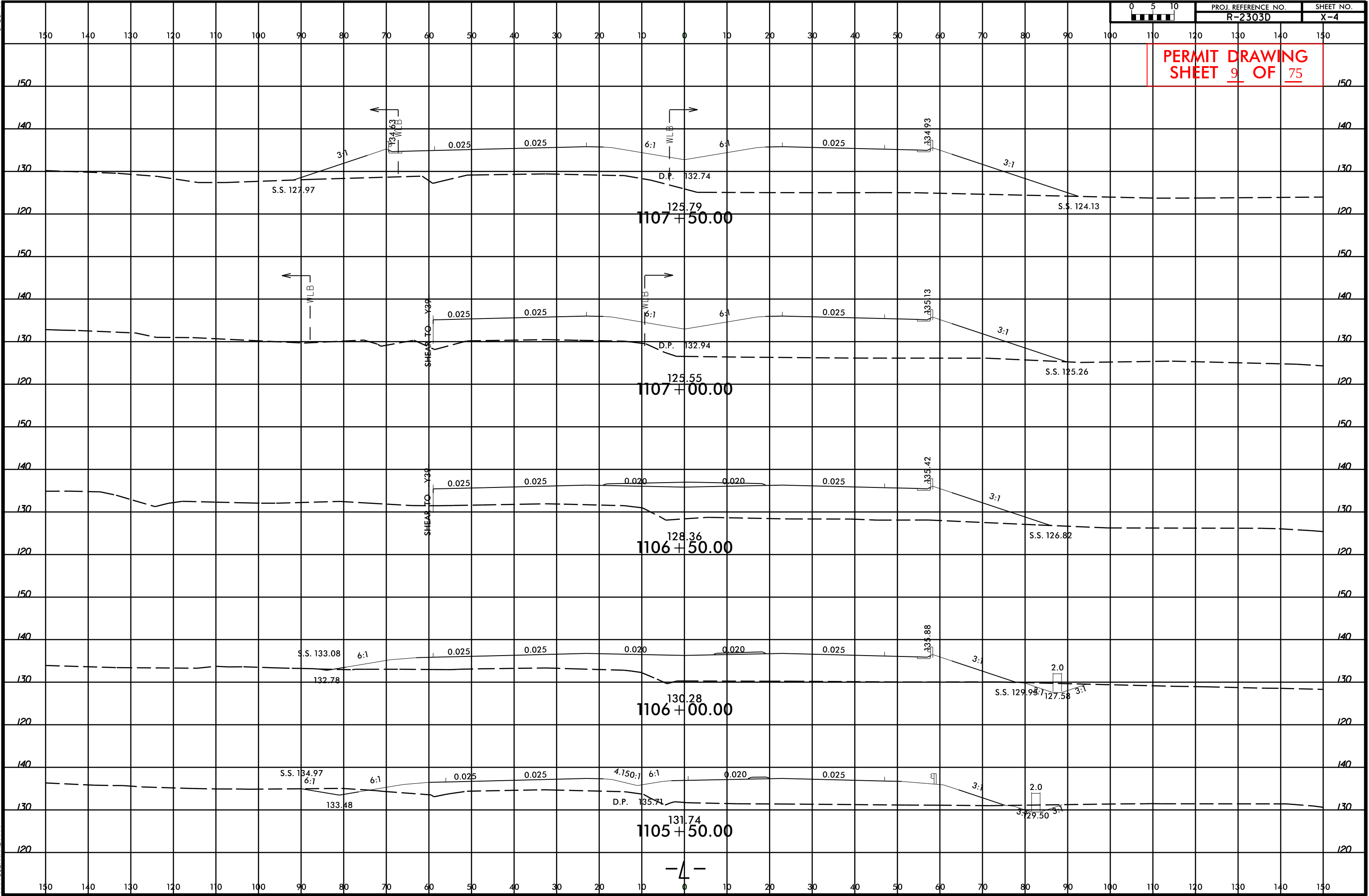
PERMIT DRAWING
SHEET 7 OF 75



INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION
---	---

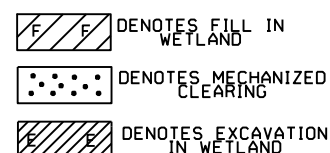
PERMIT DRAWING
SHEET 8 OF 75





PERMIT DRAWING
SHEET 9 OF 75

PERMIT SHEET 10 OF 75



50' 0' 50' 100' 150'

SCALE = 1"=50'

SITE 4

WATCH LINE -L- STA 1161+50 SEE SHEET 8

MATCH LINE -I- STA 1175+00 SEE SHEET 10

NOTE: EQUALIZER PIPES ARE
NOT TO BE BURIED

REVISIONS

4/11/2013
untkeeter
R: HydroRoules PERMITS Environmental Drawings\K2303D_Hyd_prm_wet_psh9.dgn
November 28, 2011
2303d_hyd-prm-wet_psh9.dgn

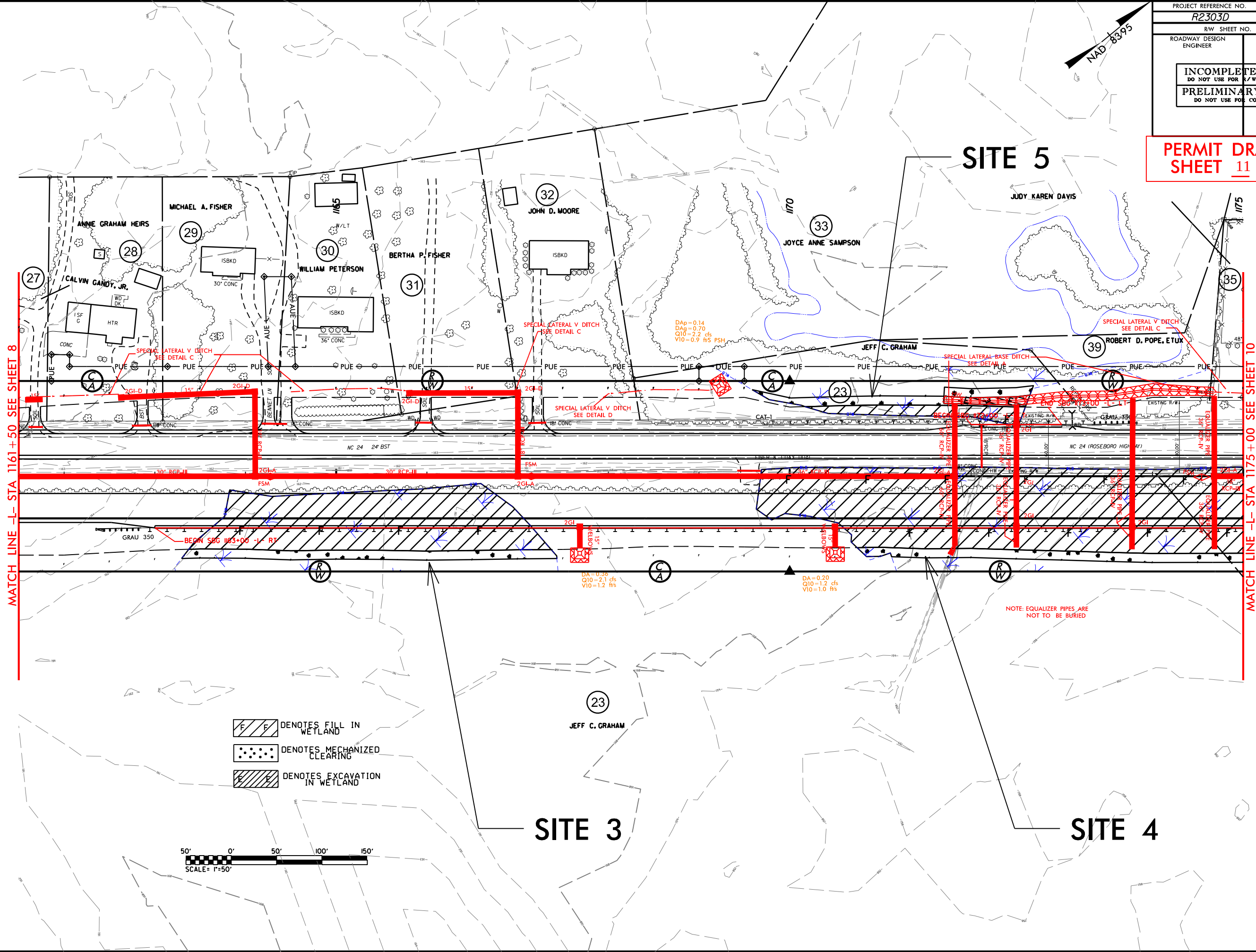
4/12/2013
R:\Hydraulics\PERMITS\Environmental Drawings\R2303D_Hyd_perm_wet_psf.dgn
No. 28, 2011
R2303D_Hyd_perm_wet_psf.dgn

REVISIONS

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R2303D	9
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 11 OF 75

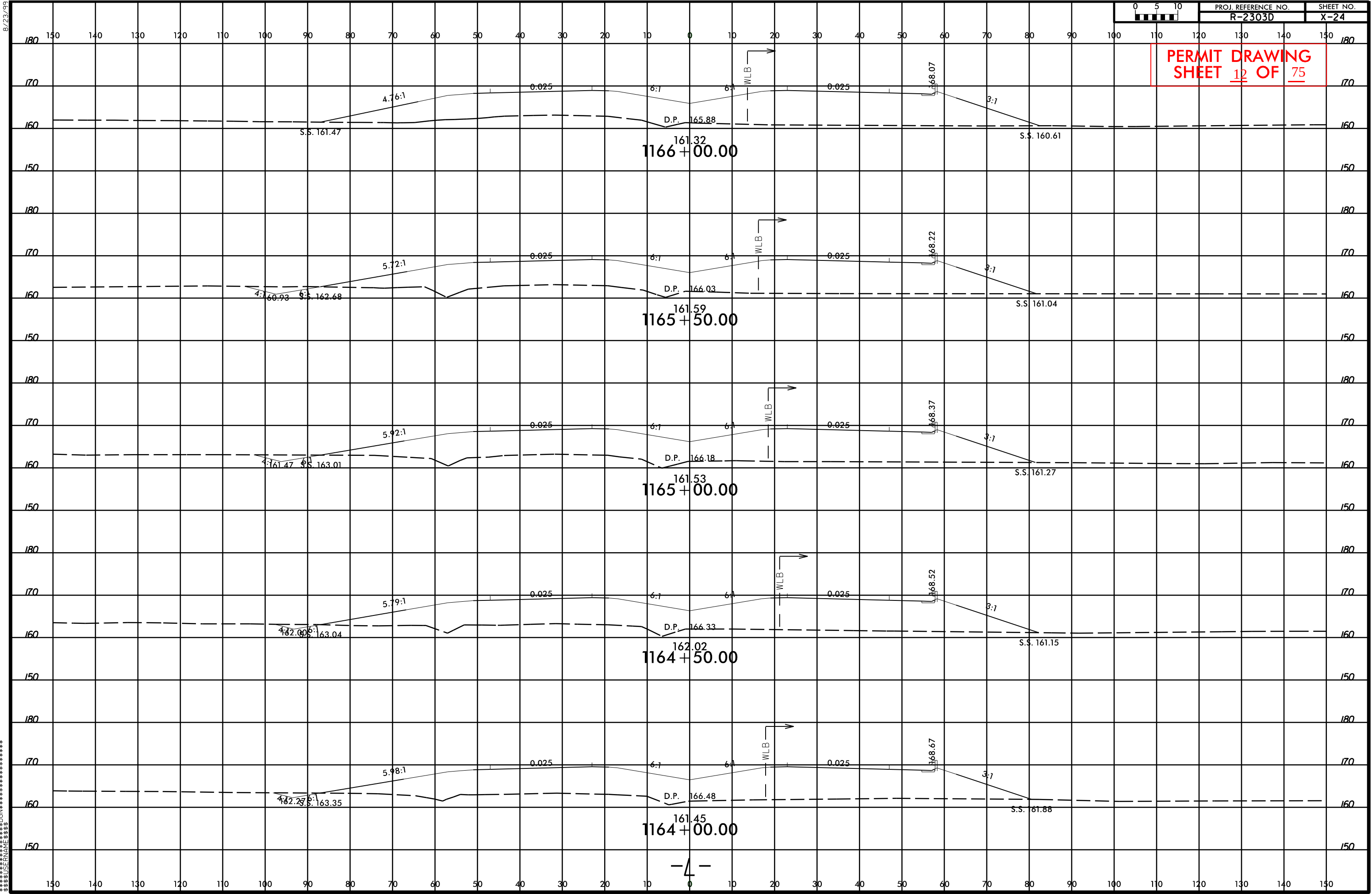


- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES EXCAVATION IN WETLAND

50' 0' 50' 100' 150'
SCALE= 1"=50'

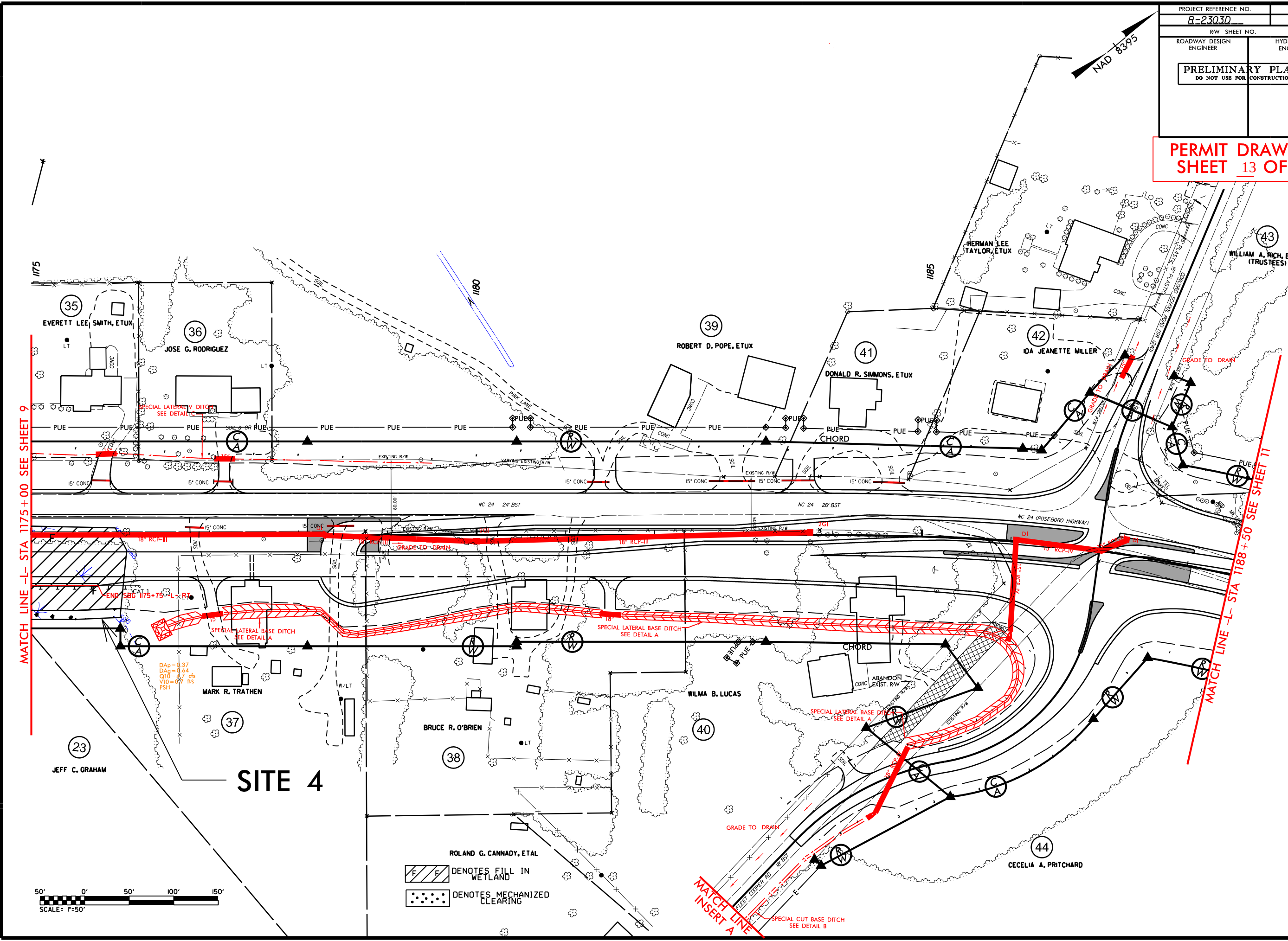
NOTE: EQUALIZER PIPES ARE NOT TO BE BURIED

4/22/2013
R:\Hydraulic\PERMITS\Environmental\Drawings\2303d_hyd_vpl_prm_wet_pst9.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$



PROJECT REFERENCE NO.	SHEET NO.
R-2303D	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING
SHEET 13 OF 75



MATCH LINE -L- STA 1175+00 SEE SHEET 9

MATCH LINE -L- STA 1188+50 SEE SHEET 11

SITE 4



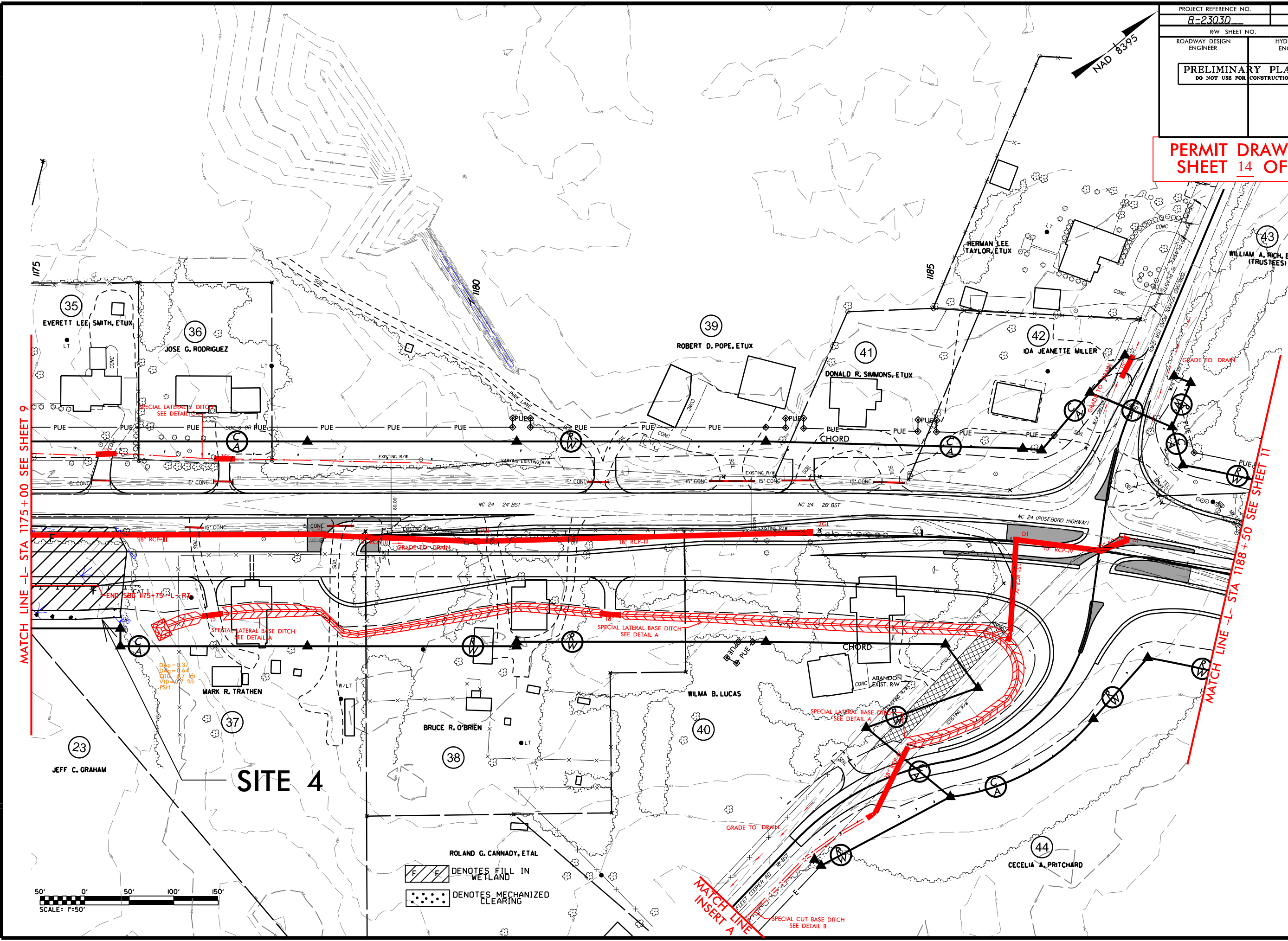
- ROLAND G. CANNADY, ETAL
- [Hatched box symbol] DENOTES FILL IN WETLAND
- [Dotted box symbol] DENOTES MECHANIZED CLEARING

REVISIONS

452013
R:\Hydraulics\PERMITS Environmental Drawings\R2303D_Hyd_arm_wet_pah10.dgn
\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DATE\$\$\$\$\$
\$\$\$\$\$DRAWN\$\$\$\$\$
\$\$\$\$\$CHECKED\$\$\$\$\$
\$\$\$\$\$APPVED\$\$\$\$\$

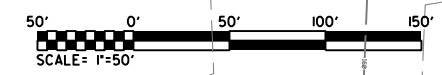
PROJECT REFERENCE NO.	SHEET NO.
R-2303D	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING
SHEET 14 OF 75



MATCH LINE -L- STA 1175+00 SEE SHEET 9

MATCH LINE -L- STA 1188+50 SEE SHEET 11



- ROLAND G. CANNADY, ETAL
- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING

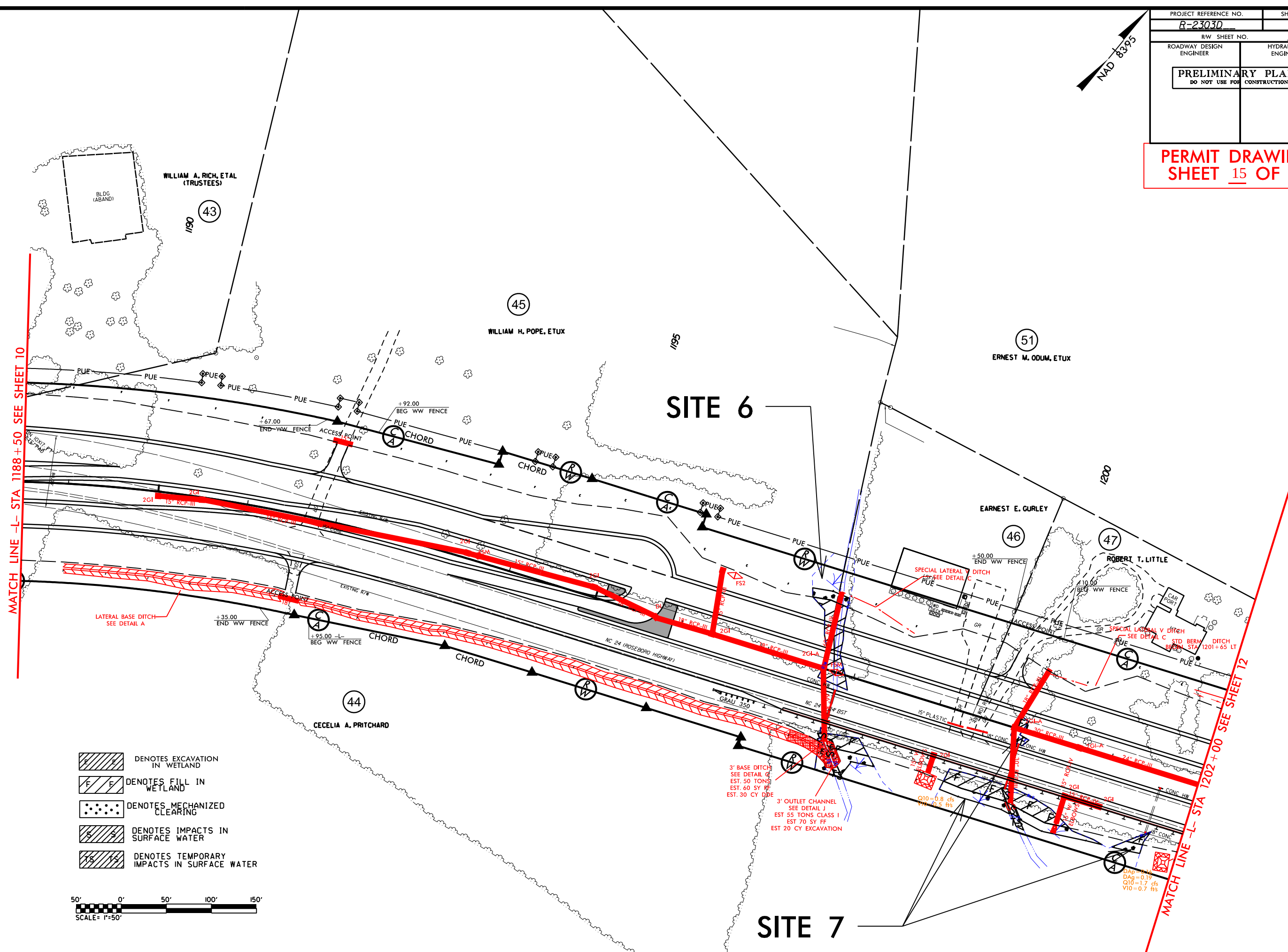
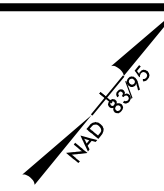
SITE 4

REVISIONS

452013
R:\Hydraulics\PERMITS Environmental Drawings\R2303D_Hyd_arm_wat_pah10.dgn
\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DATE\$\$\$\$\$
\$\$\$\$\$DRAWN\$\$\$\$\$
\$\$\$\$\$CHECKED\$\$\$\$\$
\$\$\$\$\$APPROVED\$\$\$\$\$

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING
SHEET 15 OF 75



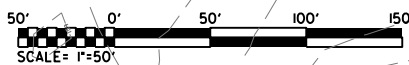
- DENOTES EXCAVATION IN WETLAND
- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

50' 0' 50' 100' 150'
SCALE= 1"=50'

SITE 7

REVISIONS

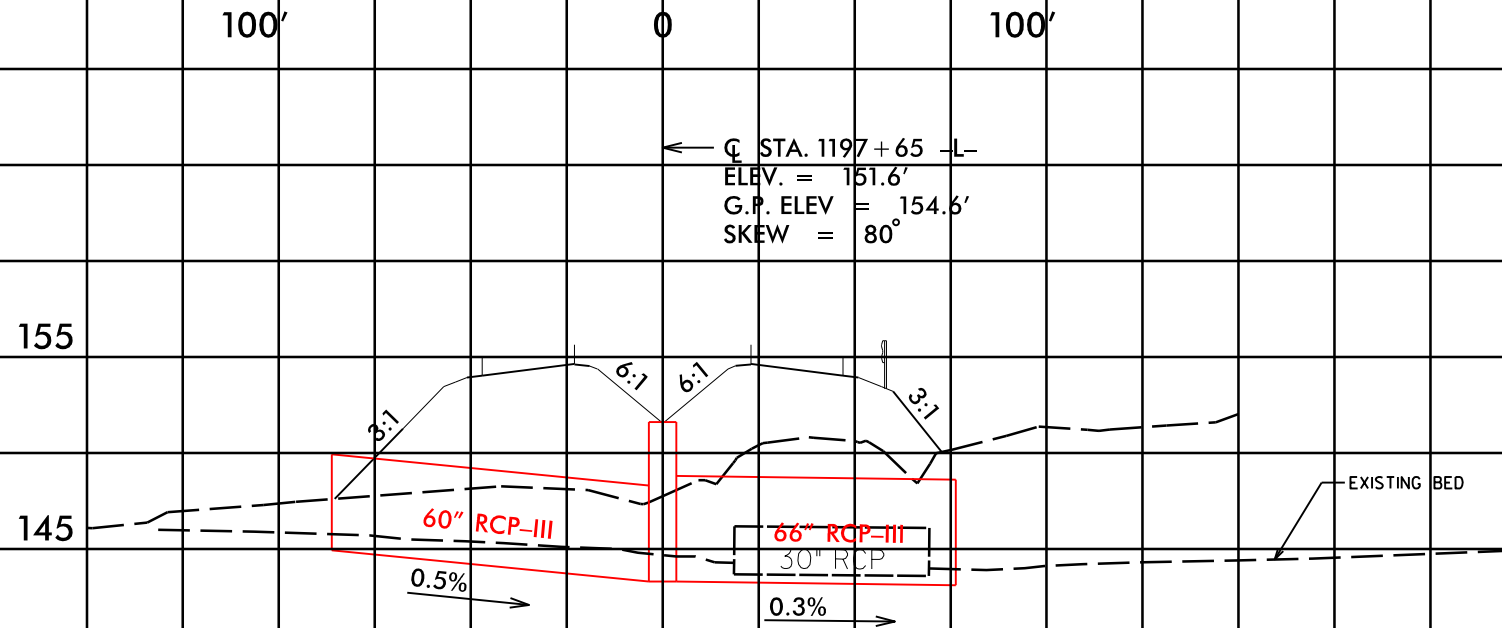
4/5/2013
R:\Hydraulics\PERMITS Environmental Drawings\R2303D_Hyd_arm_vot_pjhl.dgn
\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DON\$\$\$\$\$
\$\$\$\$\$NAME\$\$\$\$\$



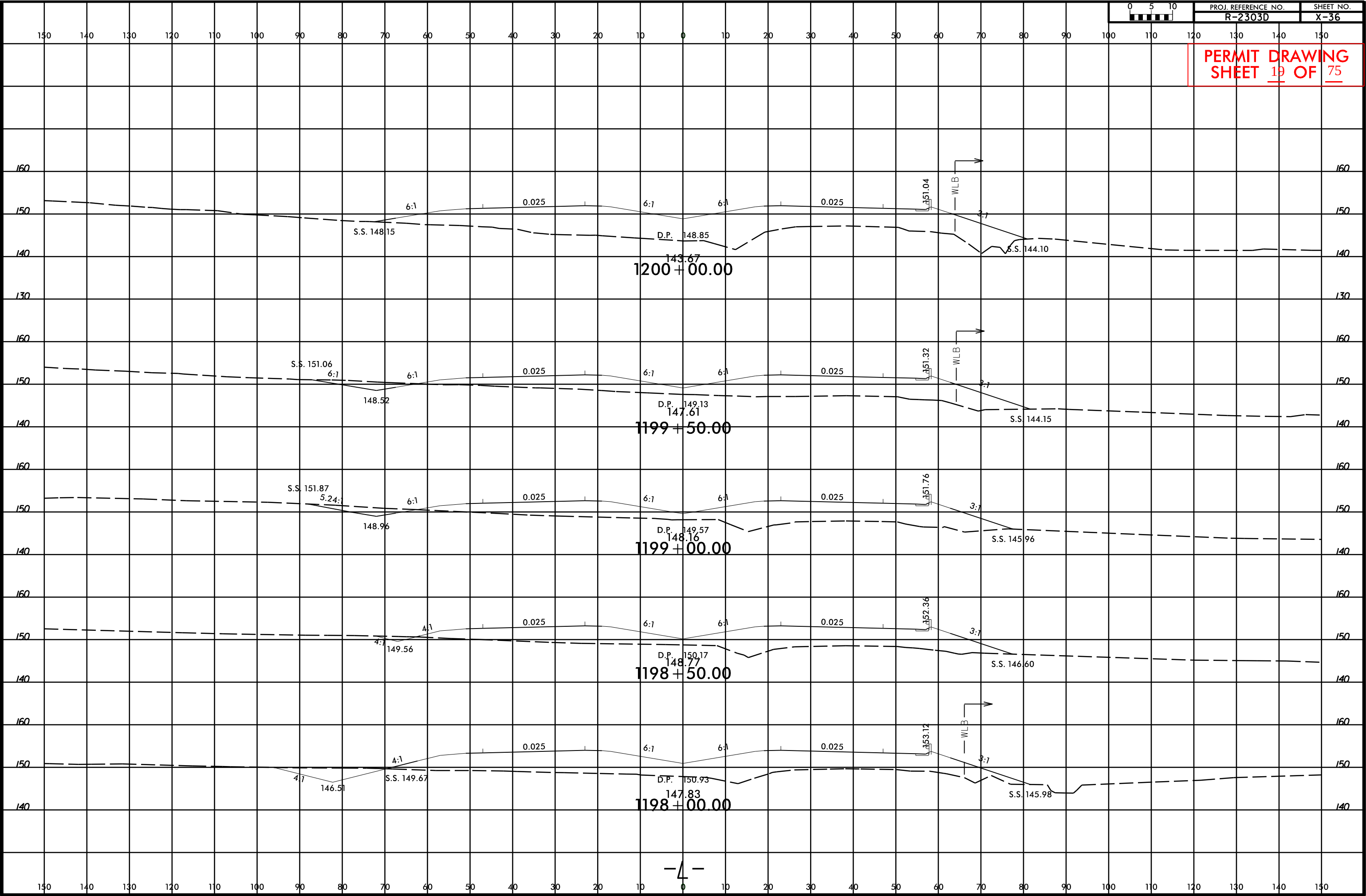
SITE 7

PROJECT REFERENCE NO.		SHEET NO.	
R2303D		11_PFL	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

PERMIT DRAWING
SHEET 18 OF 75



SITE 7



PROJ. REFERENCE NO.	SHEET NO.
R-2303D	X-36

PERMIT DRAWING
SHEET 19 OF 75



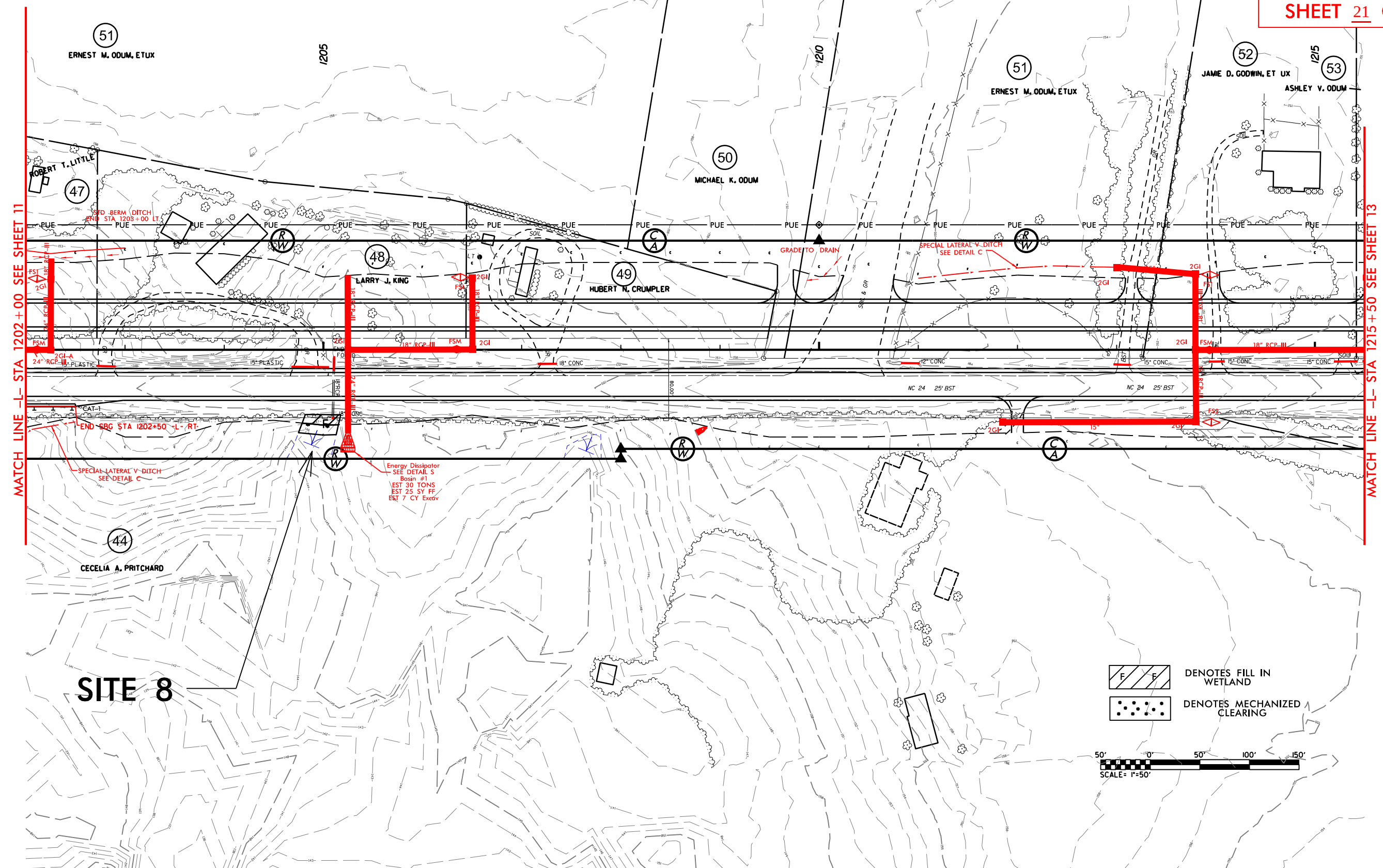
SITE 8

REVISIONS

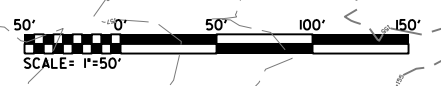
5/2013
amkeeter
C:\Hydraulics\PERMITS_Environmental Drawings\R2303D_Hyd_prm_wet_psh12.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING
SHEET 21 OF 75

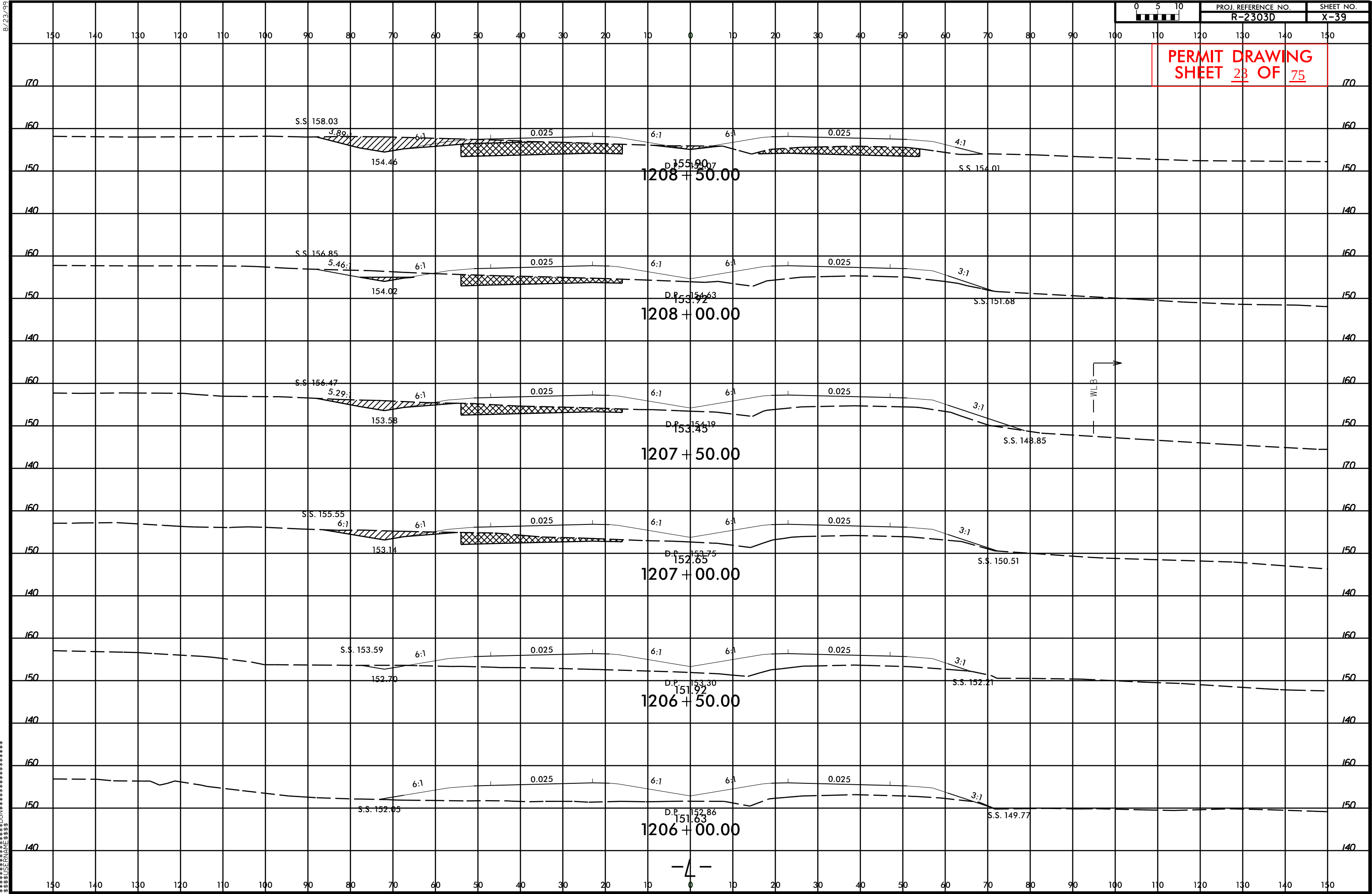


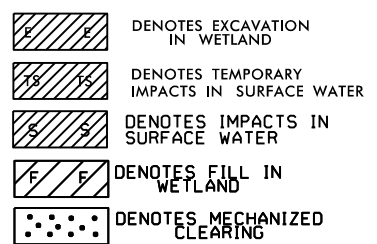
Denotes FILL IN WETLAND
Denotes MECHANIZED CLEARING



REVISIONS

4/5/2013
R:\Hydraulics\PERMITS Environmental Drawings\12303D_Hyd_prm_wet_pah12.dgn
\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DATE\$\$\$\$\$
\$\$\$\$\$NAME\$\$\$\$\$

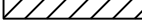
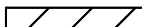






20' 0' 20' 40' 60'

SCALE = 1" = 40'

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

DENOTES EXCAVATION
 IN WETLAND
 DENOTES TEMPORARY
 IMPACTS IN SURFACE WATER

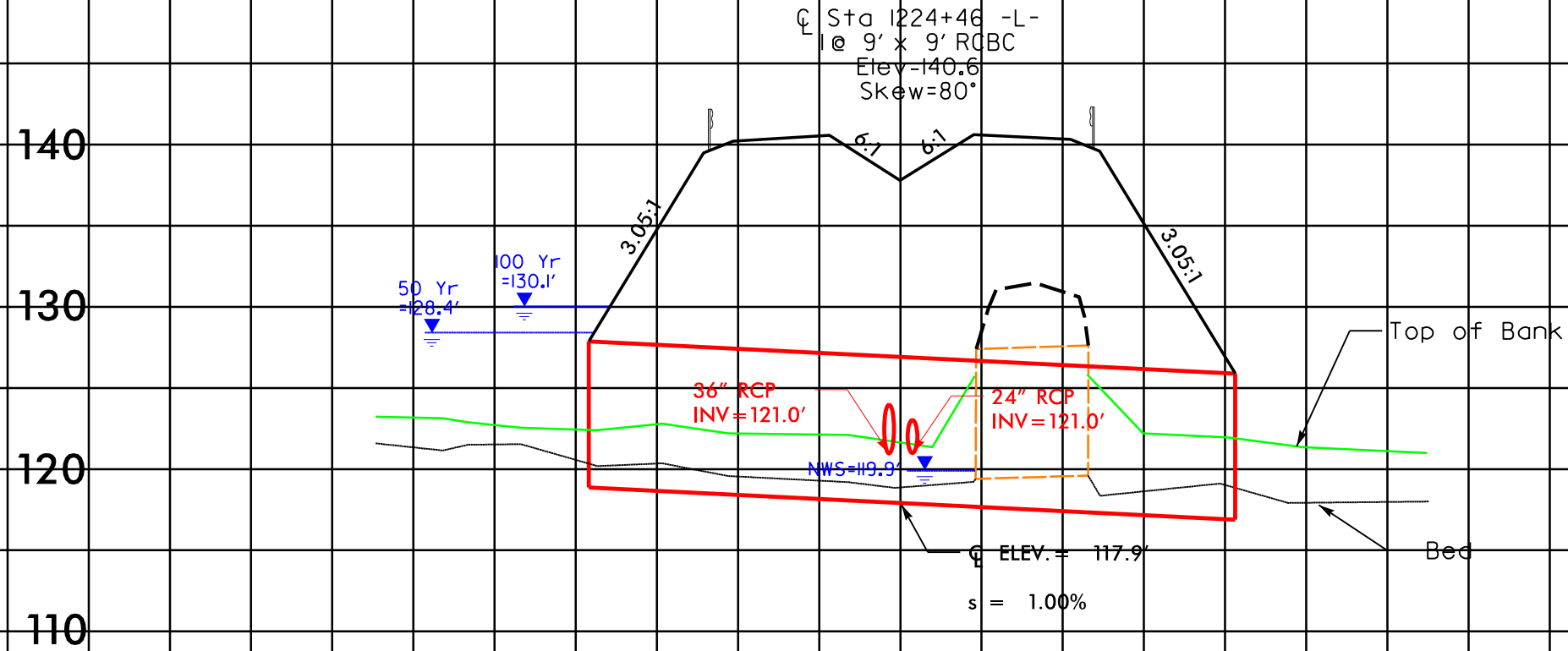
OUTLET CHANNEL
SEE DETAIL L
EST 60 TONS CLASS I
EST 80 SY FF
EST 15 CY EXCAVATION

5/14/99

PROJECT REFERENCE NO.		SHEET NO.	
R2303D		13_PFL	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

PERMIT DRAWING
SHEET 27 OF 75

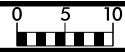
200' 100' 0' 100' 200'



SITE 12

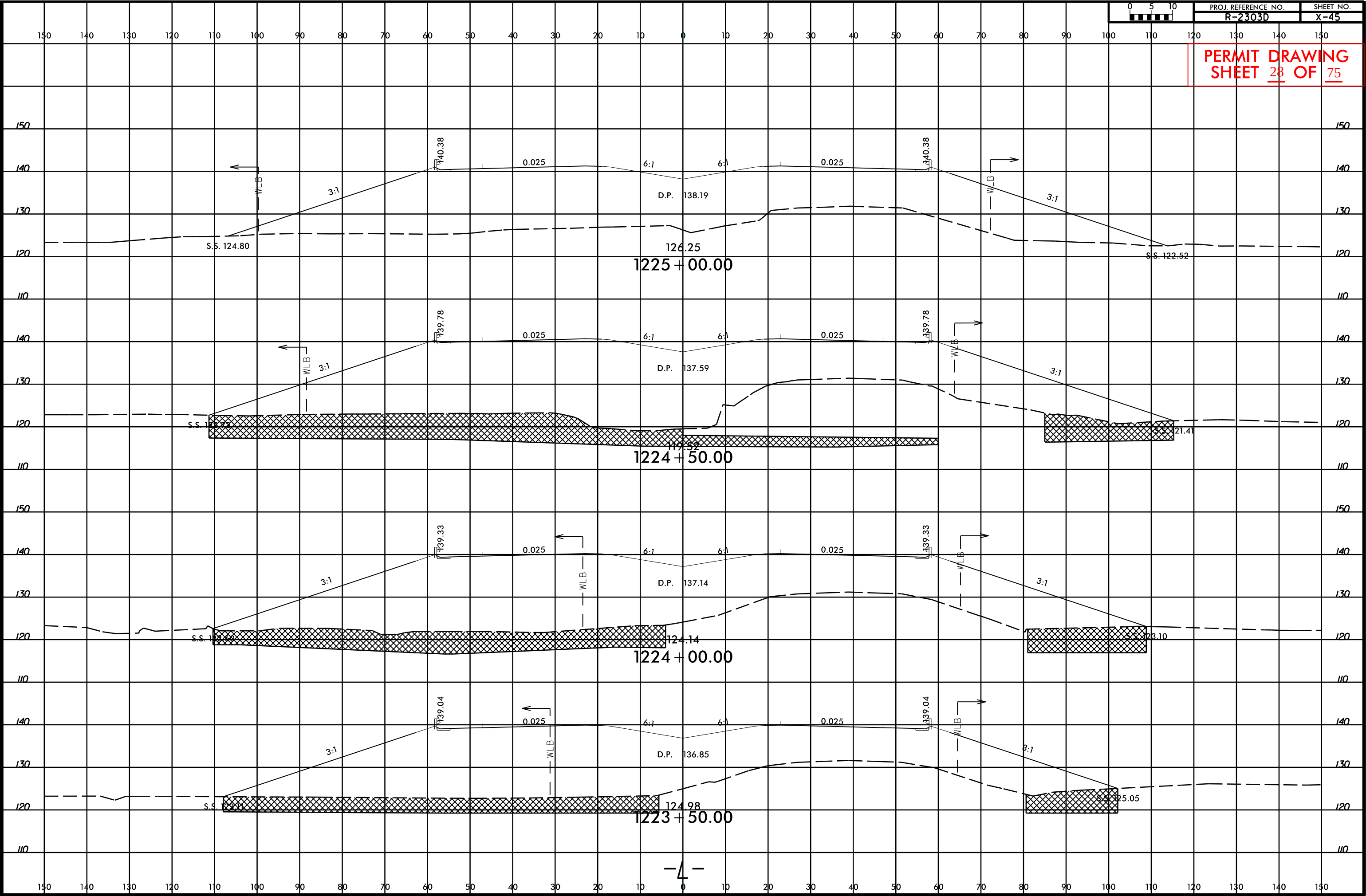
4/3/2013
anikaeter
R:\projects\2303d\2303d_hyd_xpl_perm_wat_psh13.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

8/23/99



PROJ. REFERENCE NO.	SHEET NO.
R-2303D	X-45

PERMIT DRAWING
SHEET 28 OF 75



PERMIT DRAWING
SHEET 29 OF 75

 DENOTES IMPACTS IN SURFACE WATER

 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

50' 0' 50' 100' 150'

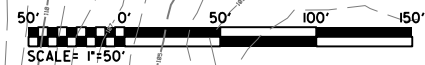
SCALE = 1"=50'

MATCH LINE -L- STA 1269+50 SEE SHEET 16

WATCH LINE - STA 1283+00 SEE SHEET 18

REVISIONS

4/12/2013
umkeeter
PERMITS Environmental Drawings\R2303D_Hyd_prm_wel_psh12.dgn



SITE 13

 DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

MATCH LINE -L- STA 1269+50 SEE SHEET 16

WASH. LINE - STA 1283+00 SEE SHEET 18

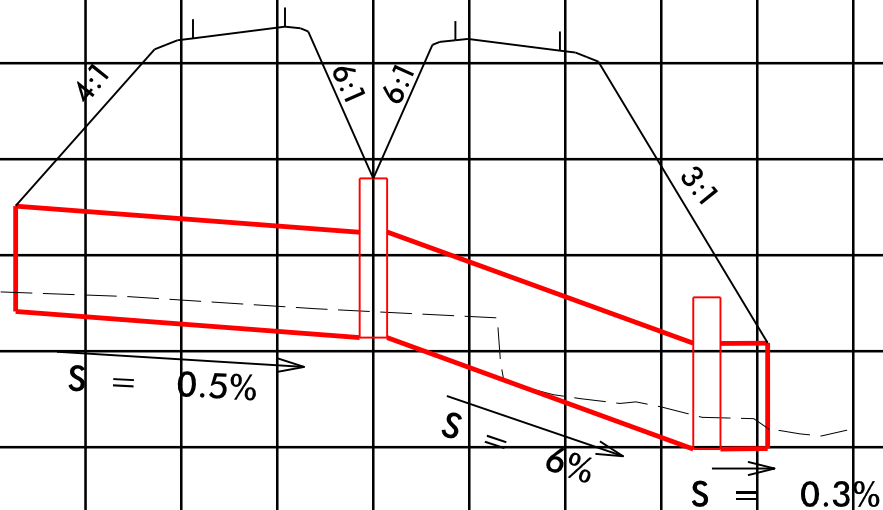
REVISIONS

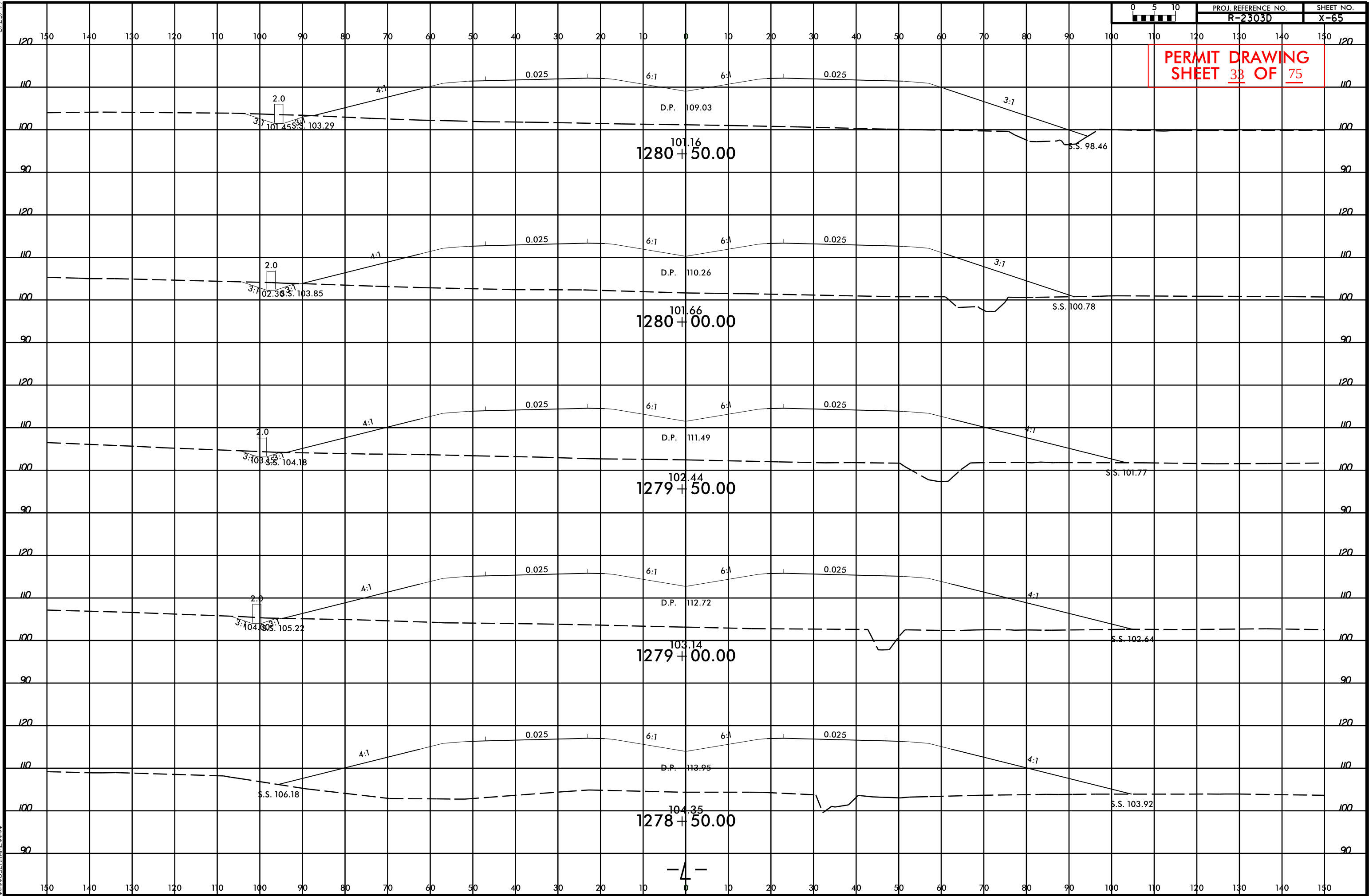
[illegible]



0

C STA. 1278 + 55 -L-			
66" RCP-TYPE III			



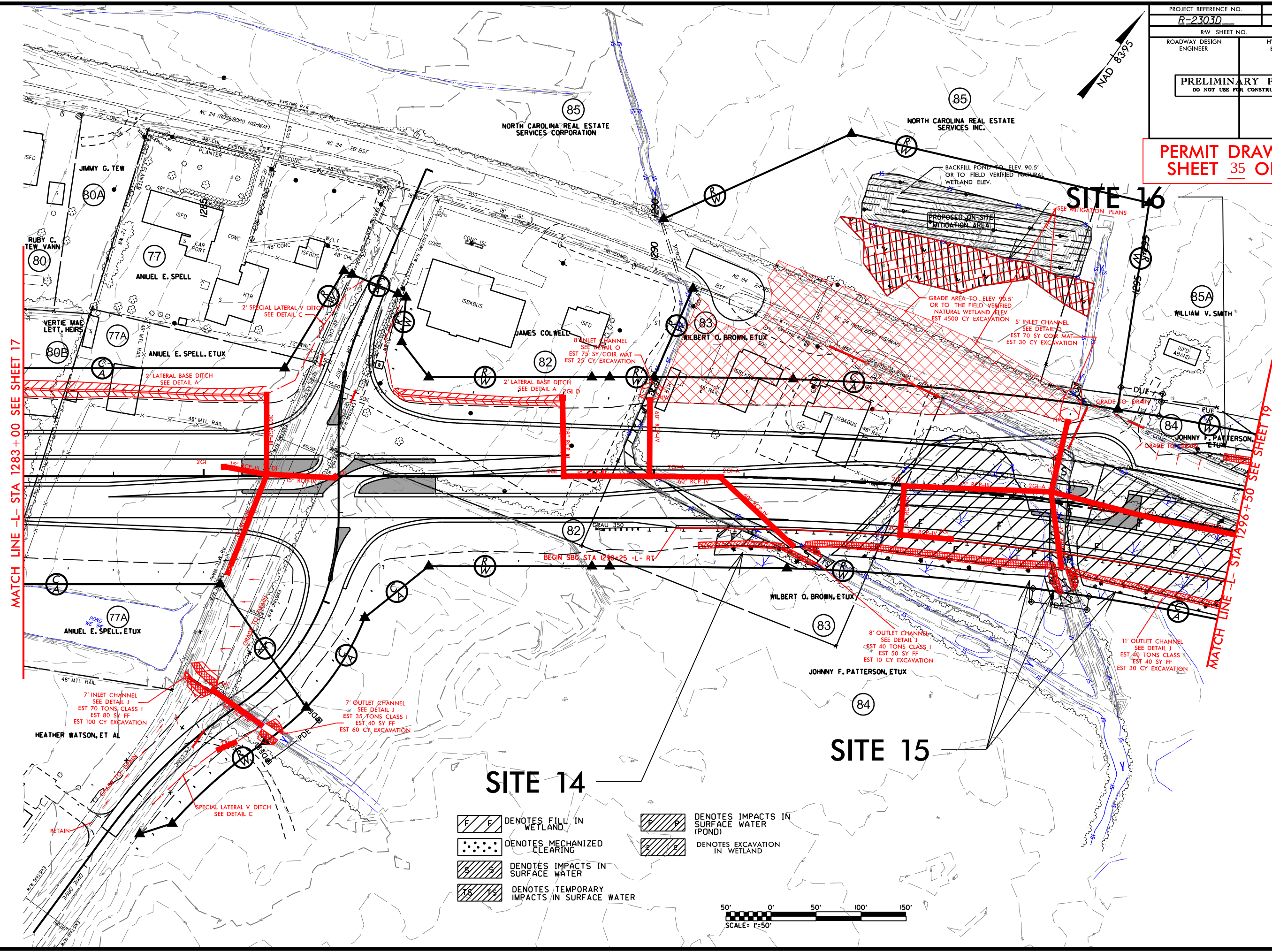




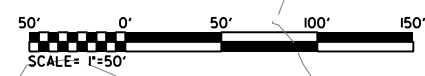
SITE 16

SITE 15

SITE 14



- | | |
|--|---|
|  DENOTES FILL IN WETLAND |  DENOTES IMPACTS IN SURFACE WATER (POND) |
|  DENOTES MECHANIZED CLEARING |  DENOTES EXCAVATION IN WETLAND |
|  DENOTES IMPACTS IN SURFACE WATER | |
|  DENOTES TEMPORARY IMPACTS IN SURFACE WATER | |



MATCH LINE -L- STA 1283+00 SEE SHEET 17

MATCH LINE -L- STA 1296+50 SEE SHEET 19

REVISIONS

4/1/2013
R:\Hydro\Permits\Environmental Drawings\R2303D_Hyd_perm_wet_pah18.dgn
\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DON\$\$\$\$\$
\$\$\$\$\$NAME\$\$\$\$\$

5/14/99

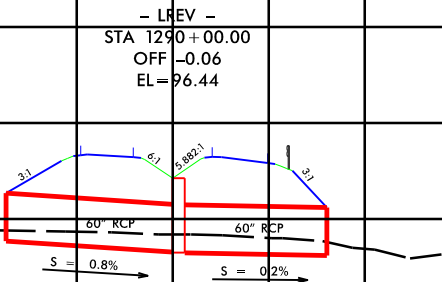
PROJECT REFERENCE NO.		SHEET NO.	
R2303D		18_PRL	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

PERMIT DRAWING
SHEET 37 OF 75

100 0 100

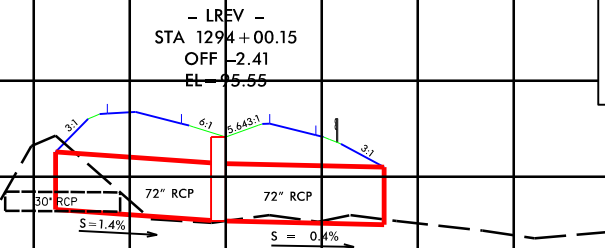
SITE 14

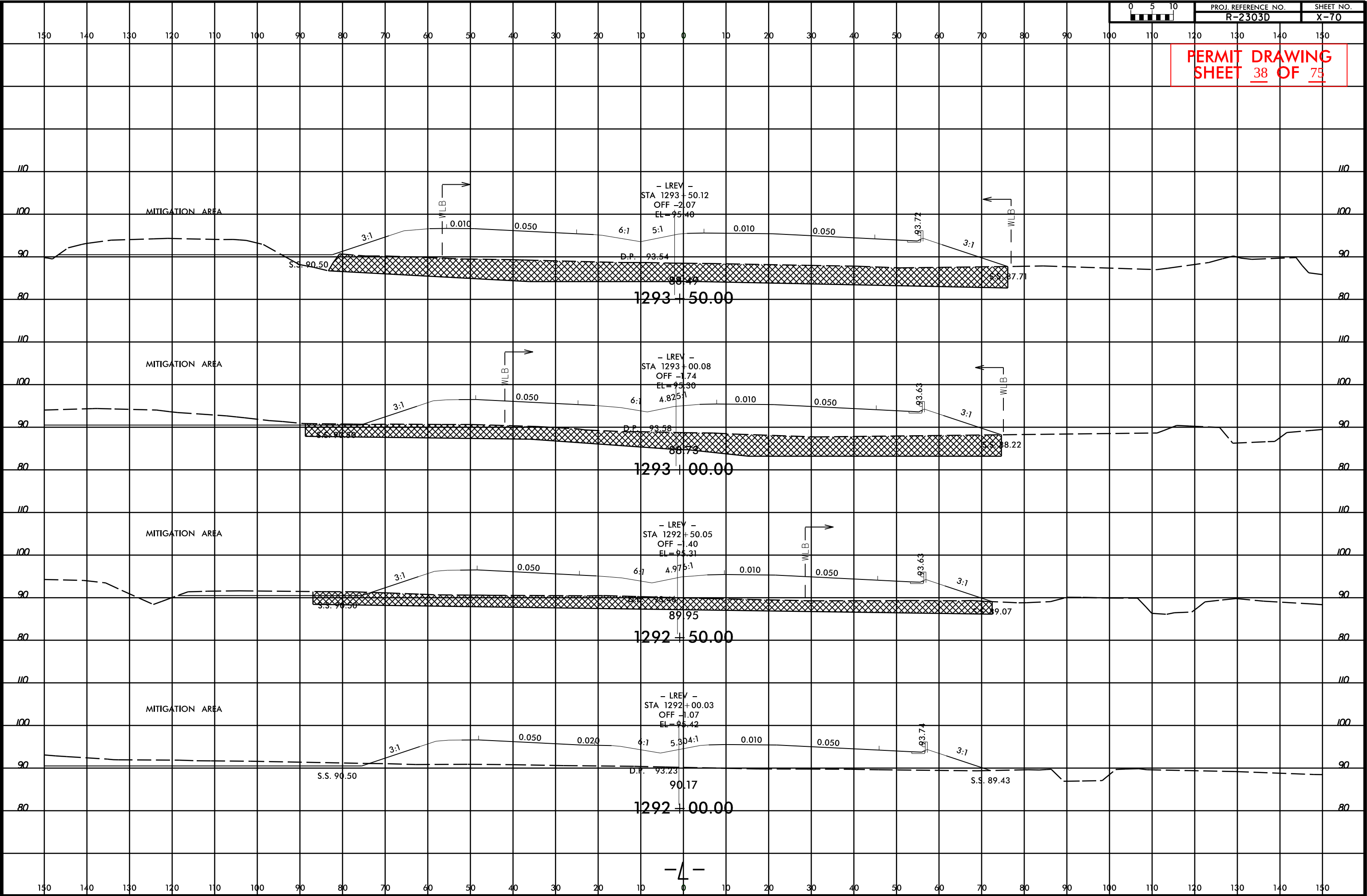
100
90
80



SITE 15

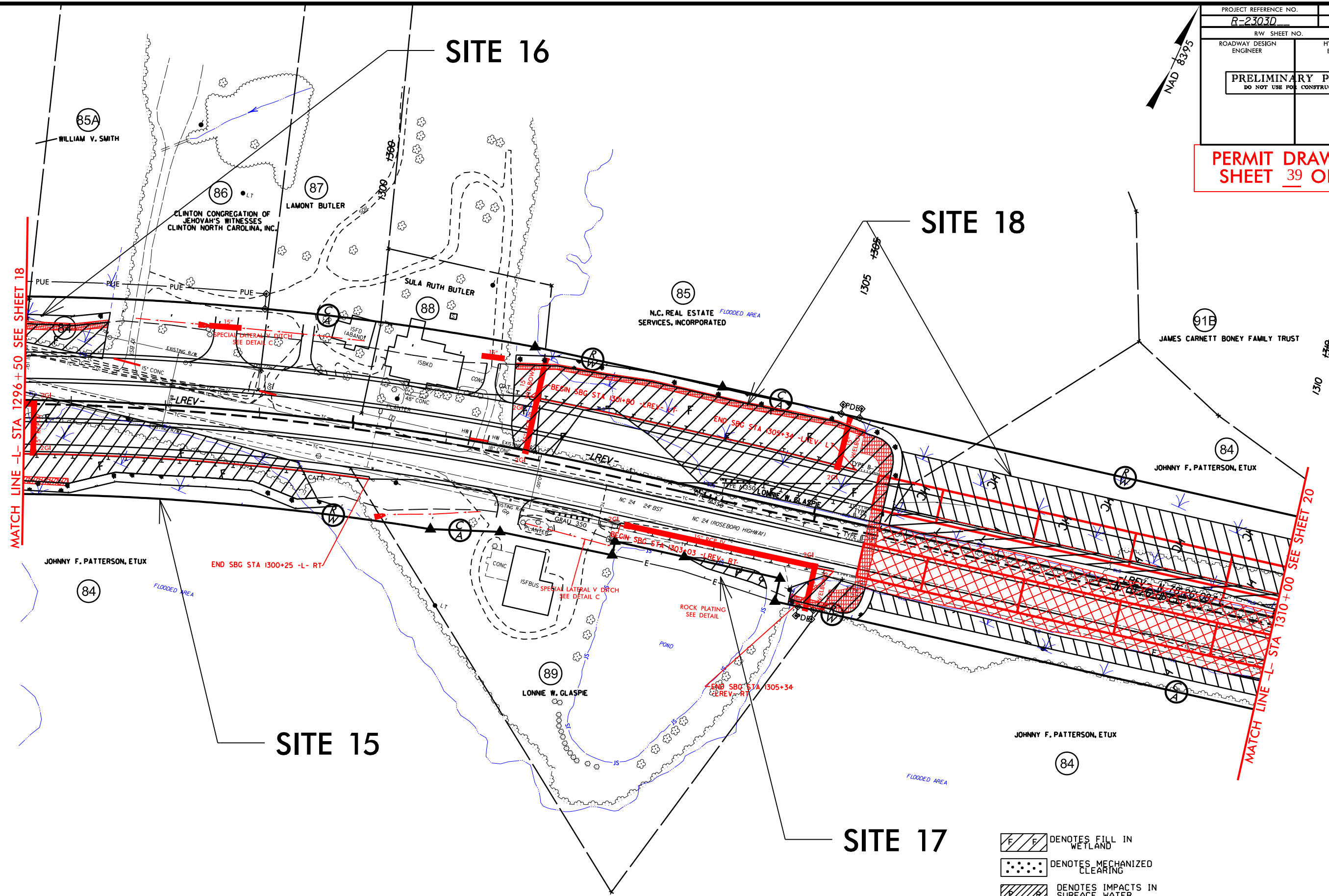
100
90
80





PROJECT REFERENCE NO.	SHEET NO.
R-2303D	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING
SHEET 39 OF 75



- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS IN SURFACE WATER (POND)
- DENOTES HAND CLEARING
- DENOTES TEMPORARY FILL IN WETLAND

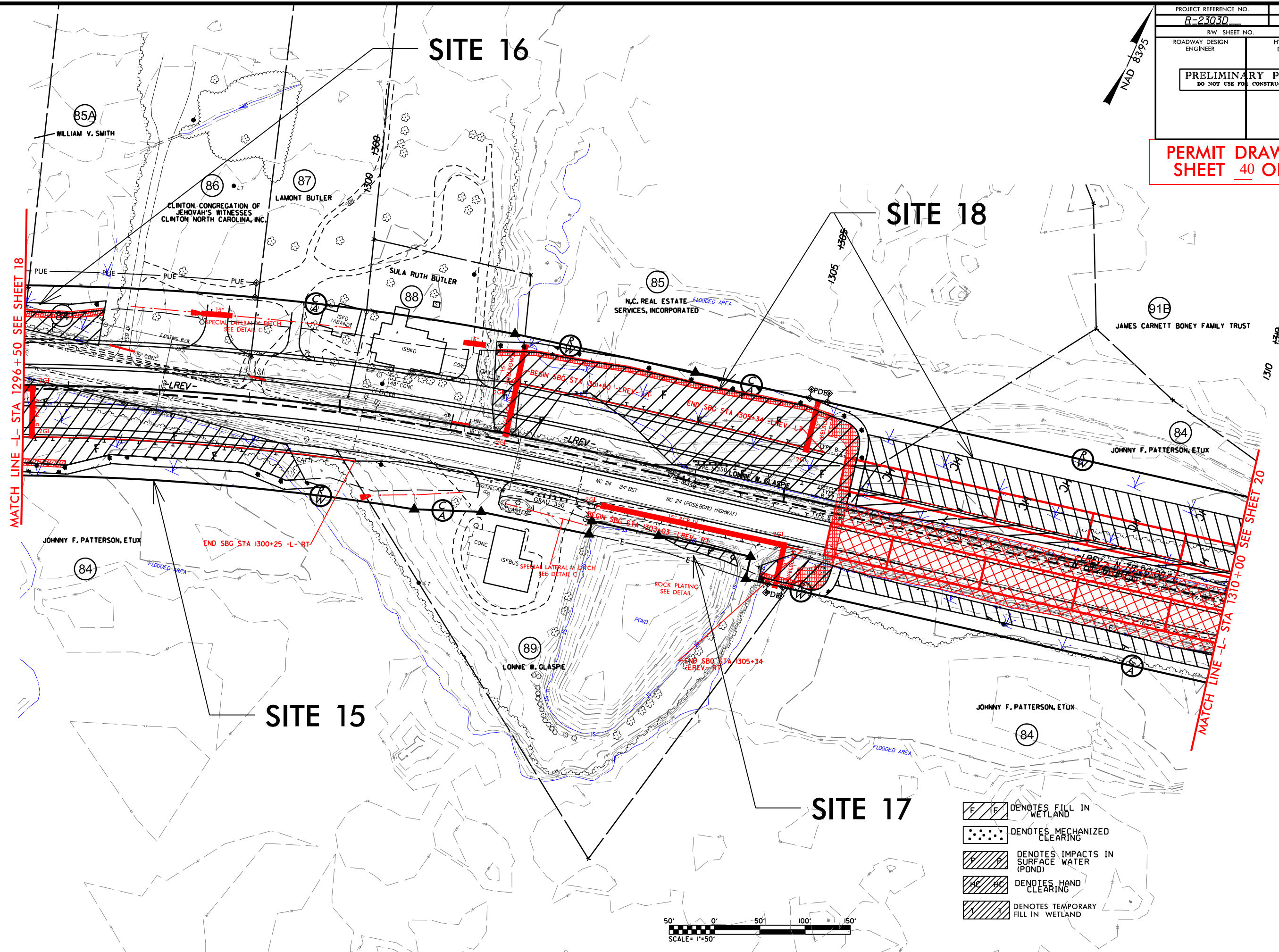


REVISIONS

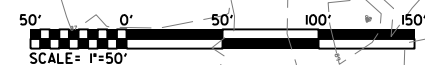
452013
R:\Hydraulics\PERMITS\Environmental Drawings\12303D_Hyd_perm_wet_pah13.dgn
\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DON\$\$\$\$\$
\$\$\$\$\$\$\$\$\$\$

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING
SHEET 40 OF 75



- [Hatched pattern] DENOTES FILL IN WETLAND
- [Dotted pattern] DENOTES MECHANIZED CLEARING
- [Hatched pattern] DENOTES IMPACTS IN SURFACE WATER (POND)
- [Hatched pattern] DENOTES HAND CLEARING
- [Hatched pattern] DENOTES TEMPORARY FILL IN WETLAND



REVISIONS

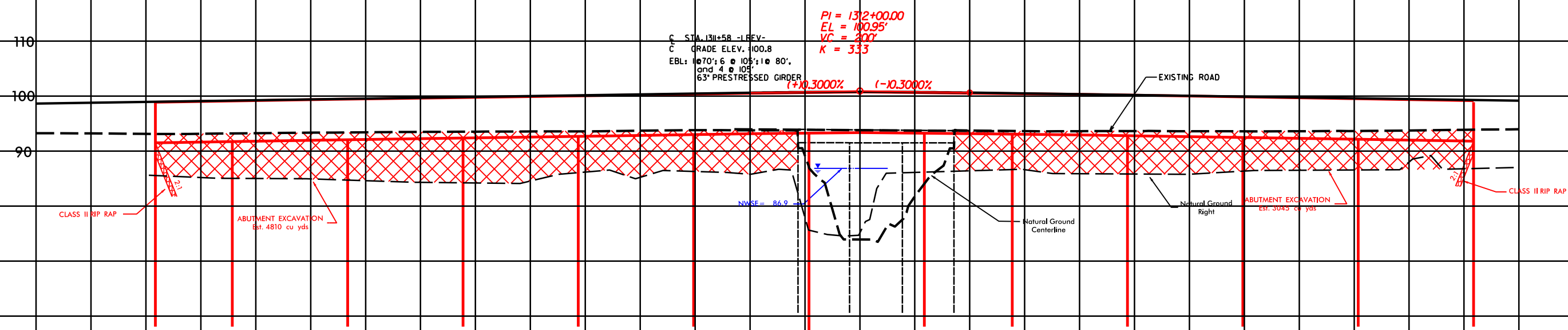
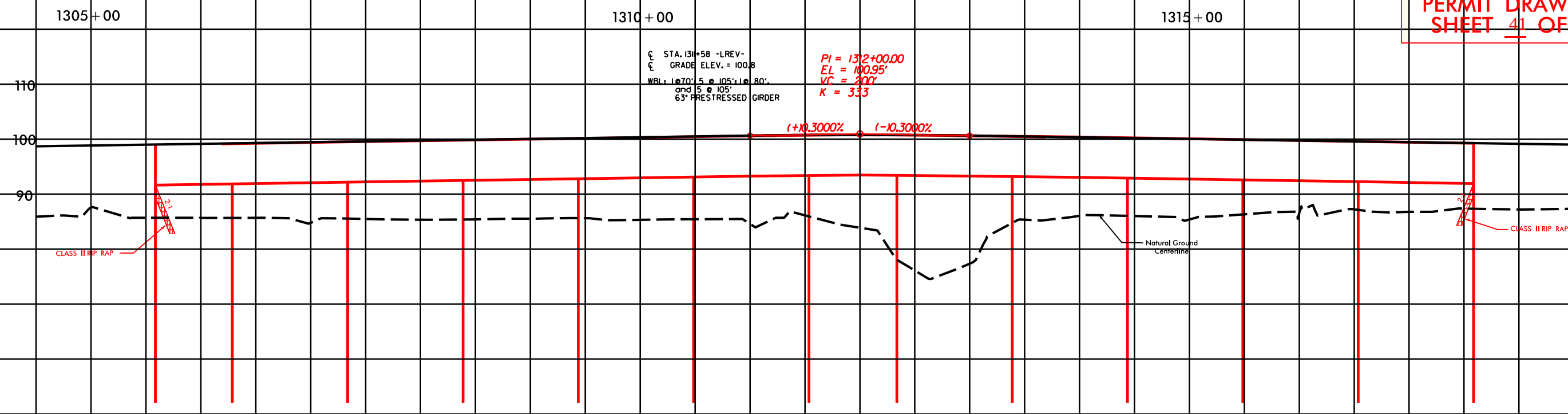
452013
R:\Hydraulics\PERMITS\Environmental Drawings\12303D_Hyd_perm_wet_pah13.dgn
\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DATE\$\$\$\$\$
\$\$\$\$\$DRAWN\$\$\$\$\$
\$\$\$\$\$CHECKED\$\$\$\$\$
\$\$\$\$\$APPROVED\$\$\$\$\$

HYDRAULICS
ENGINEER

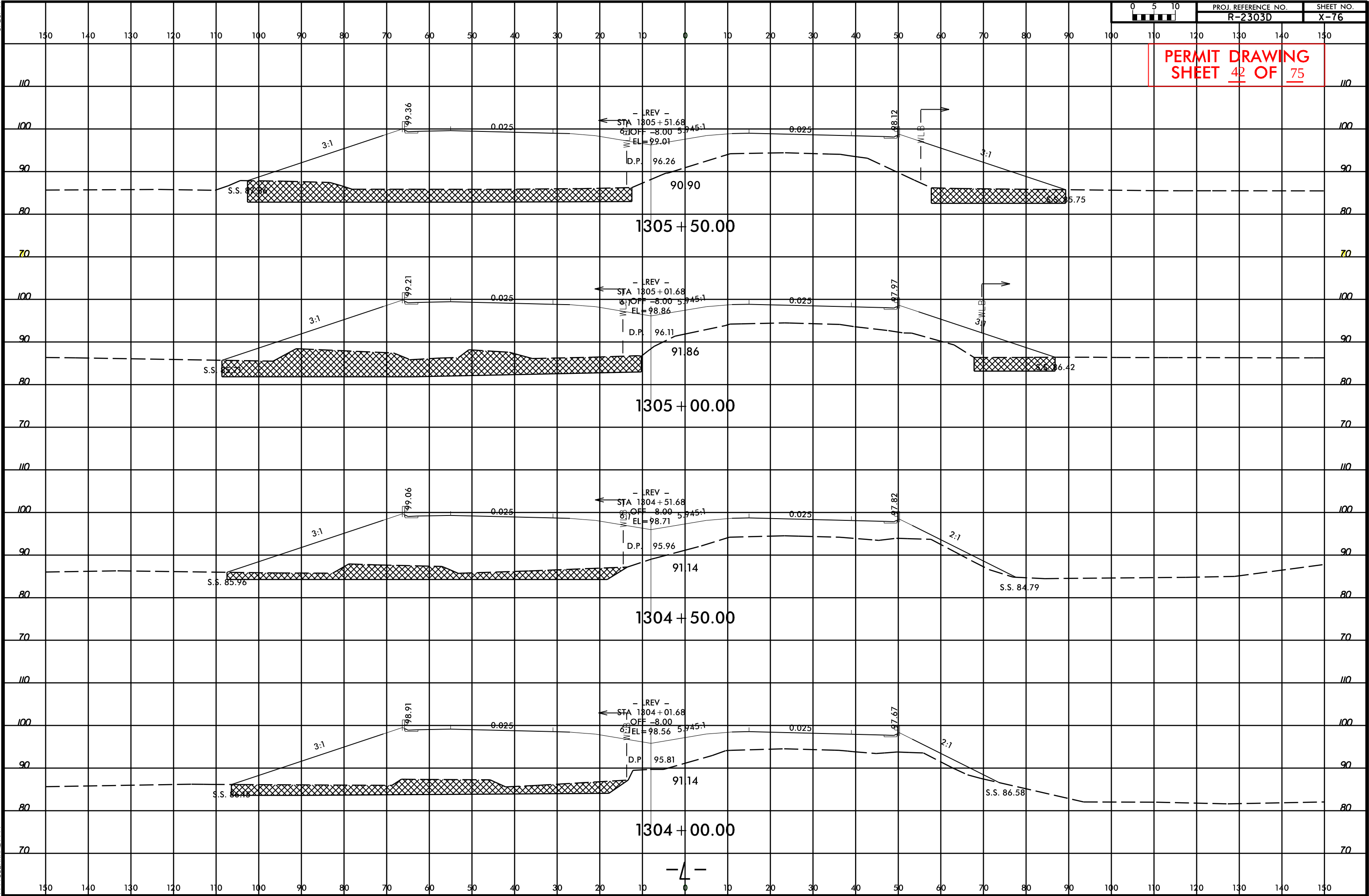
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT	DRAWING
SHEET	41 OF 75

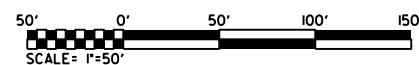
SITE 18



PERMIT DRAWING
SHEET 42 OF 75



SITE 19



REVISIONS

4/9/2013
jmkleider
PERMITS_Environmental Drawings\R2303D_Hyd_prm_wet_pst12.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING
SHEET 44 OF 75

NAD 83 95

SITE 18

STATE OF NORTH CAROLINA

JAMES CARNETT BONEY FAMILY TRUST

JOHNNY F. PATTERSON, ETUX

LONNIE W. GLASPIE

JACK W. GRIFFIN, ET AL

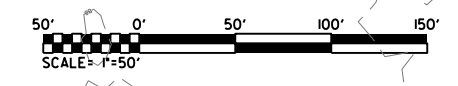
LONNIE W. GLASPIE

JOHNNY F. PATTERSON, ETUX

COHARIE INCORPORATED

SITE 19

- DENOTES EXCAVATION IN WETLAND
- DENOTES HAND CLEARING
- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES TEMPORARY FILL IN WETLAND



REVISIONS

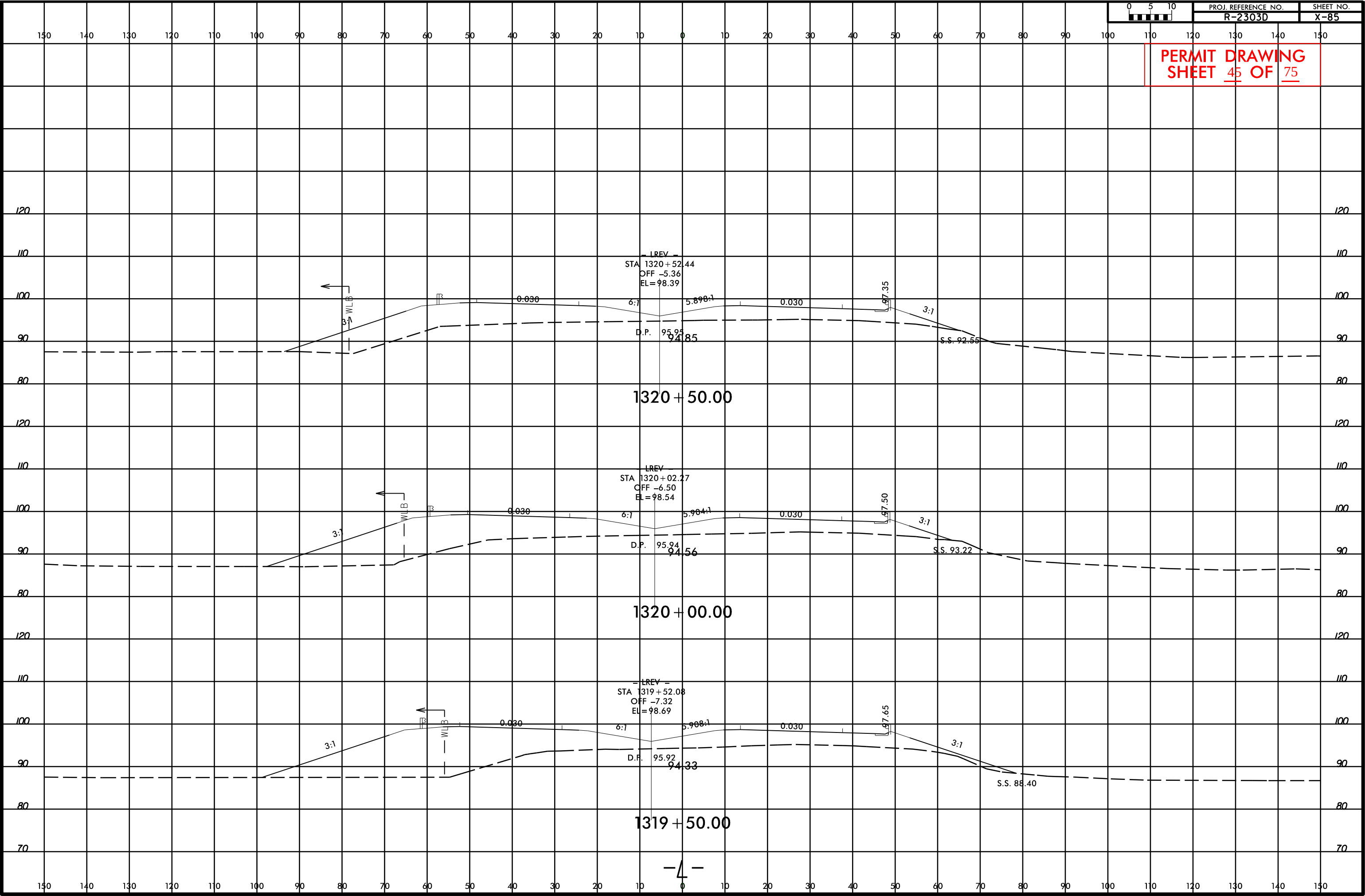
4/9/2013
R:\Hydraulics\PERMITS Environmental Drawings\R2303D_Hyd_perm_wet_pah24.dgn
\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DATE\$\$\$\$\$
\$\$\$\$\$DRAWN\$\$\$\$\$
\$\$\$\$\$CHECKED\$\$\$\$\$
\$\$\$\$\$APPVED\$\$\$\$\$

4/5/2013
anikeeler
R:\Hydro\c\1\ME\4520\30303d_hyd_xpl_prm_wet_pst20.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

8/23/99

0 5 10			PROJ. REFERENCE NO.			SHEET NO.		
			R-2303D			X-85		

PERMIT DRAWING
SHEET 45 OF 75





50' 0' 50' 100' 150'

SCALE = 1"=50'

5/14/99

PROJECT REFERENCE NO.
R2303D

SHEET NO.
21_PRL

ROADWAY DESIGN
ENGINEER

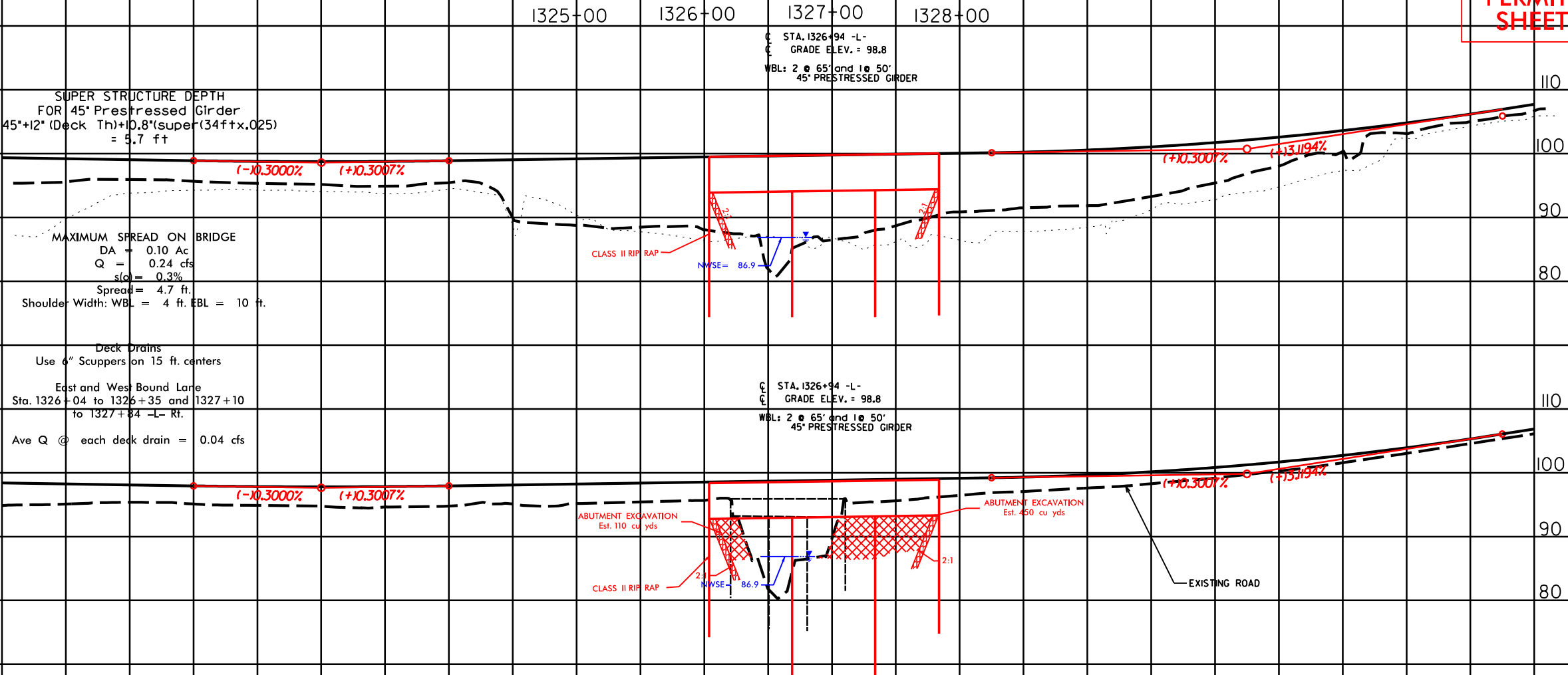
HYDRAULICS
ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

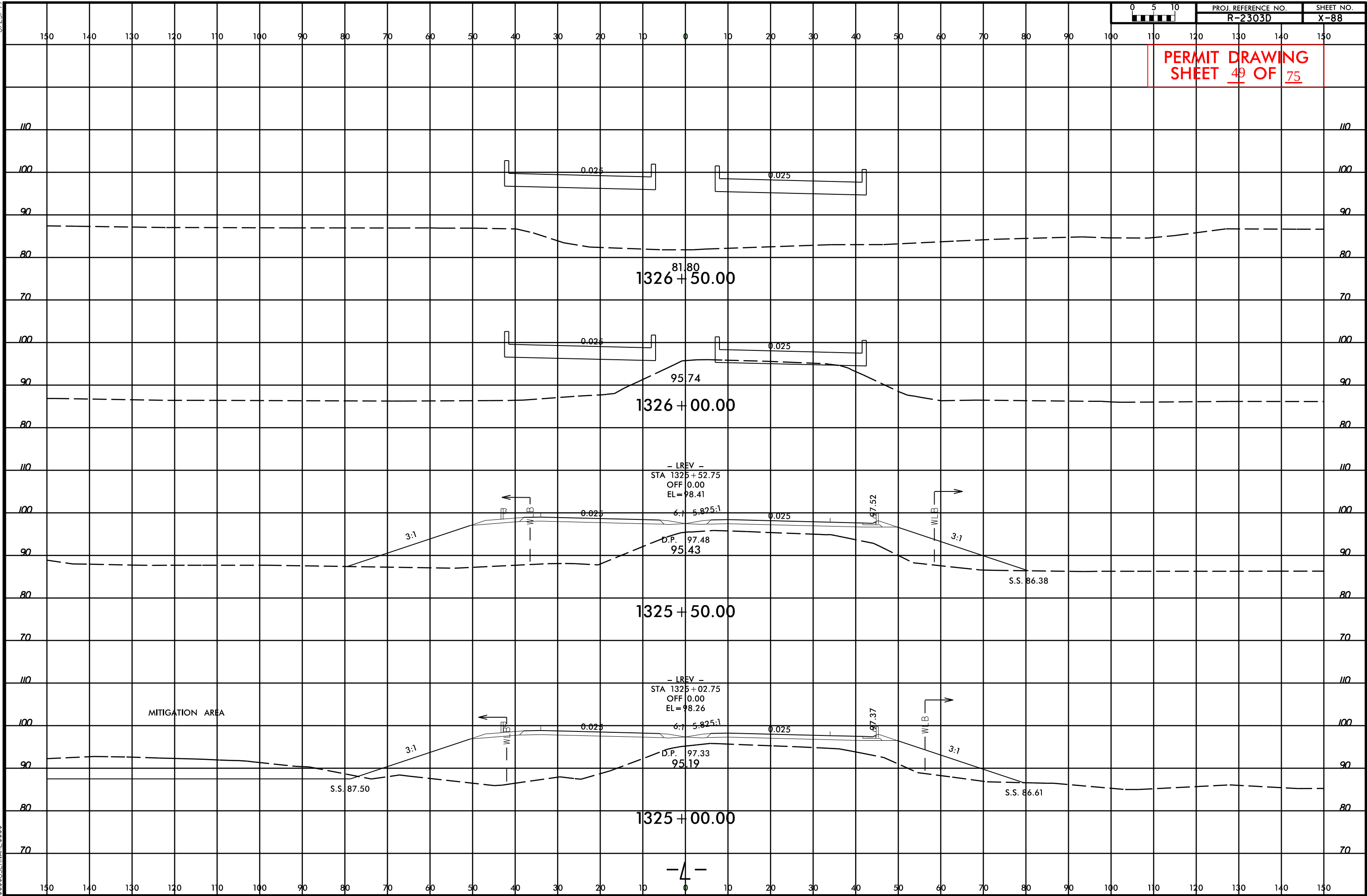
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SITE 19

PERMIT DRAWING
SHEET 48 OF 75



PERMIT DRAWING
SHEET 49 OF 75



PROJECT REFERENCE NO.	SHEET NO.
R-2303D	25
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 50 OF 75

MATCH LINE -L- STA 1377 + 50 SEE SHEET 24

MATCH LINE -L- STA 1391 + 50 SEE SHEET 26

CLINTON PENTECOSTAL HOLINES CHURCH

CLINTON PENTECOSTAL HOLINESS CHURCH

POHLEMEIER MANAGEMENT L.L.C.

SITE 2.0
WADE-CARY ENTERPRISES INC.

K. E. AUSTIN CORP.

SPRING VIEW FARMS

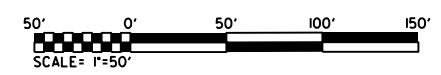
THE TRUSTEES OF
SAMPSON TECHNICAL INST.

A. G. THORNTON, ET AL

HARRIS SIGHT
AND SOUND, INC.

FARCLOTH FARM
PROPERTIES, LLC.

DENOTES IMPACTS IN
SURFACE WATER



WATER
ELEVATED
PUMP

CITY OF CLINTON

NC LAND
LIMITED PARTNERSHIP

-Y48-
+10
EXIST RW
& 55' LT

NO ACCESS TO
FENCED YARD E

CONC SPILLWAY
OPENS INTO DI
8" DIP OVERFLOW FROM
WATER TOWER

CLINTON CITY LIMITS

REVISIONS

4/5/2013
R:\Hydraulics\PERMITS Environmental Drawings\2303d_hyd_perm_wet_p4025.dgn
\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DATE\$\$\$\$\$
\$\$\$\$\$NAME\$\$\$\$\$

5/14/99

REVISIONS

4/5/2013
R:\Hydraulics\PERMITS\Environmental Drawings\2303d_hyd_perm_wet_p4235.dgn
\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DATE\$\$\$\$\$
\$\$\$\$\$NAME\$\$\$\$\$

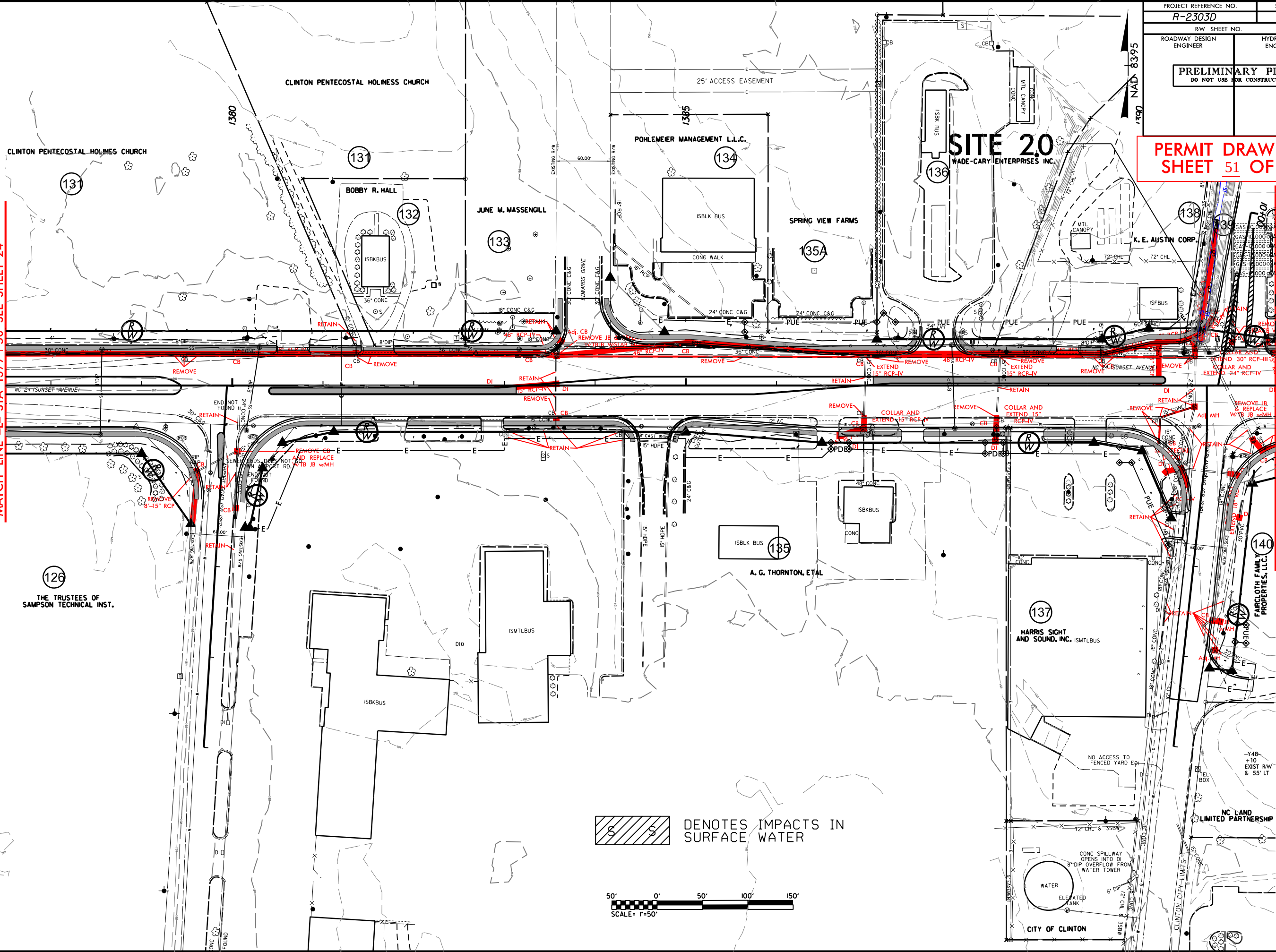
PROJECT REFERENCE NO.	SHEET NO.
R-2303D	25
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 51 OF 75

MATCH LINE -L- STA 1377 + 50 SEE SHEET 24

MATCH LINE -L- STA 1391 + 50 SEE SHEET 26



Denotes IMPACTS IN SURFACE WATER



SCALE = 1" = 50'

SITE 20

PARKER GAS COMPANY, INC.

~~DB 1046M PG 746~~

K. E. AUSTIN CORP.

(138)

ISBLKBUS

13 GAS PUMPS
U/MTI CANOPY

RETAIN

REMOVE CB &
PAGE W/TB JB w/MH

COLLAR AND
EXTEND 30" RCP-III
COLLAR AND
EXTEND 24" RCP-IV

REMOVE JB
& REPLACE
W/TB JB w/MH

~~COLLAR AND
XTEND 15" RCP-IV~~

COLLAR AND
EXTEND 15"
RCP-IV

REMOVE

RETAIN-

RETAIN

-15" RCP-IV

RETAIN

DENOTES IMPACTS IN
SURFACE WATER

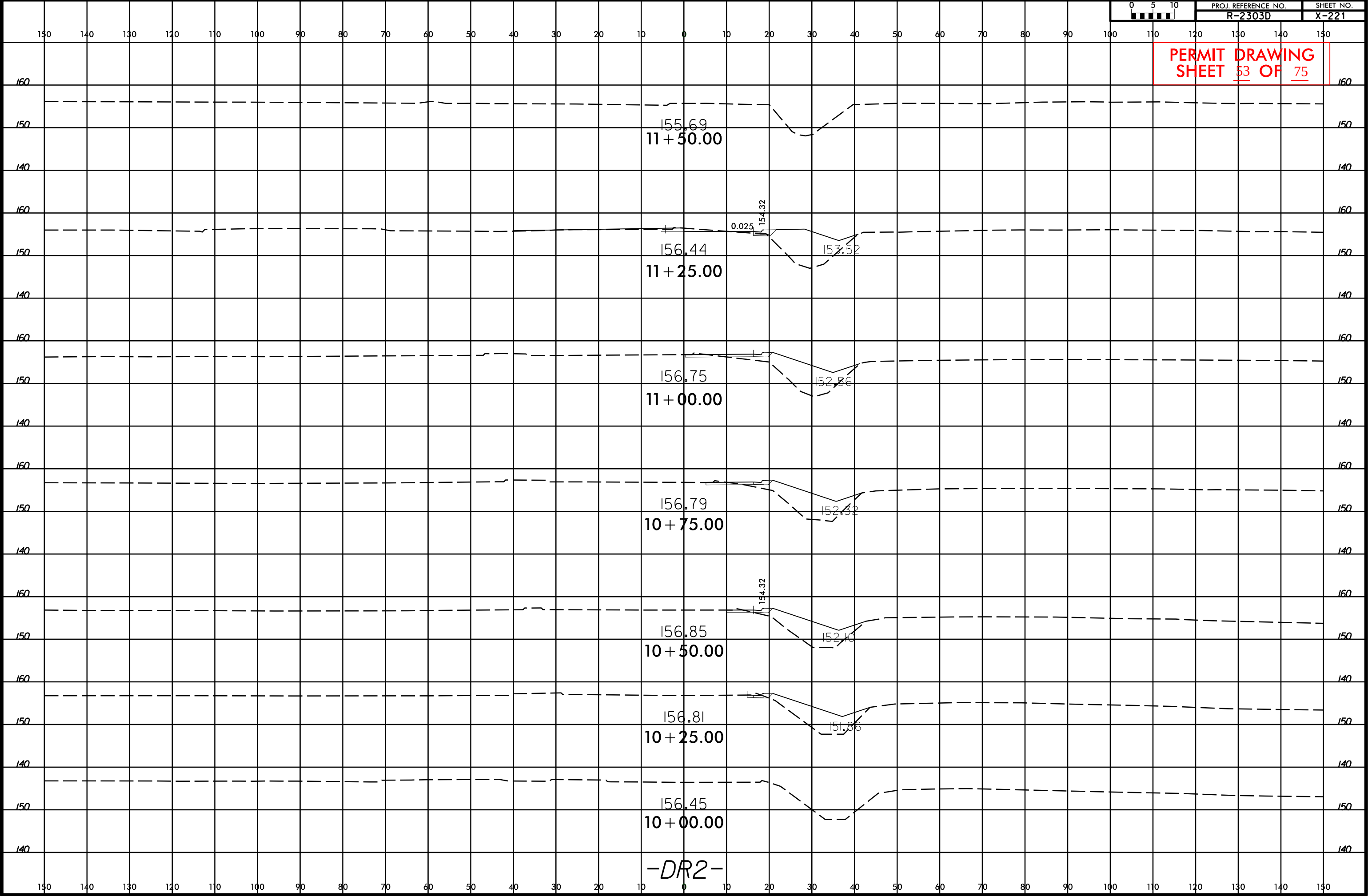
20' 0' 20'

SCALE = 1"=20'

NAD 83/95

REVISIONS

5/5/2013
umkeeler
X:\Hydraulics\PERMITS, Environmental\Drawings\r2303d_hyd
rm_wet_psh258.dgn





50' 0' 50' 100' 150'

SCALE = 1" = 50'

REVISIONS

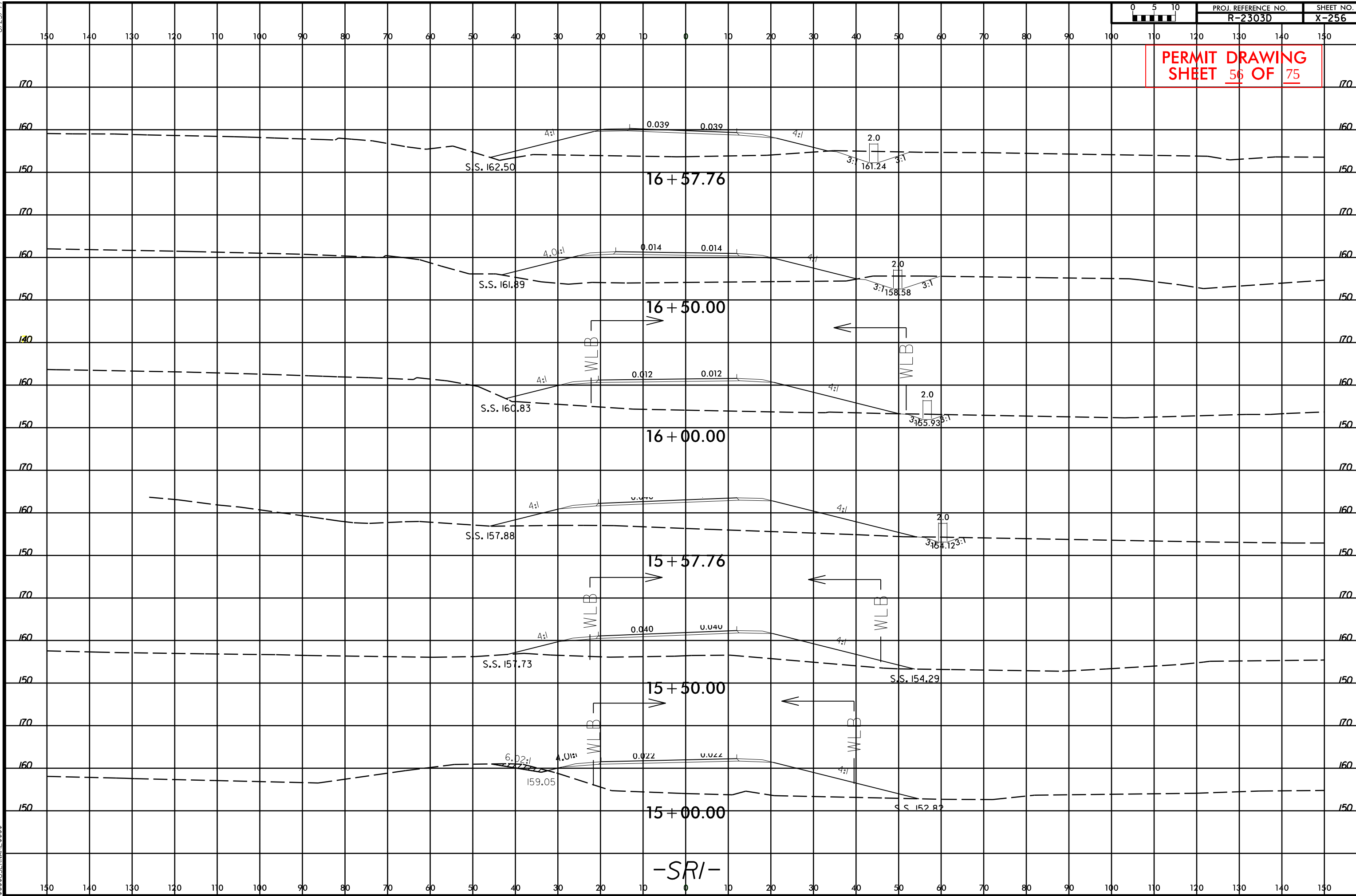
4/3/2013
amkeeler
R:\R\Hydraulics\PERMITS_Environmental Drawings\R2303D_Hyd_prm_wet_psh35.dgn

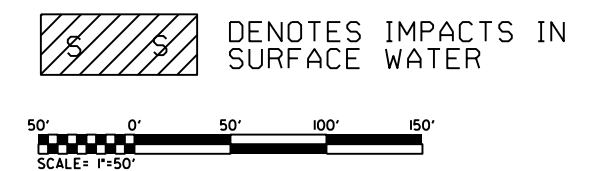
3/17/99



432013
antkeeler
R:\Hydrolics\PERMITS_Environmental Drawings\432030D_Hyd_wet_perm_pak3.dgn

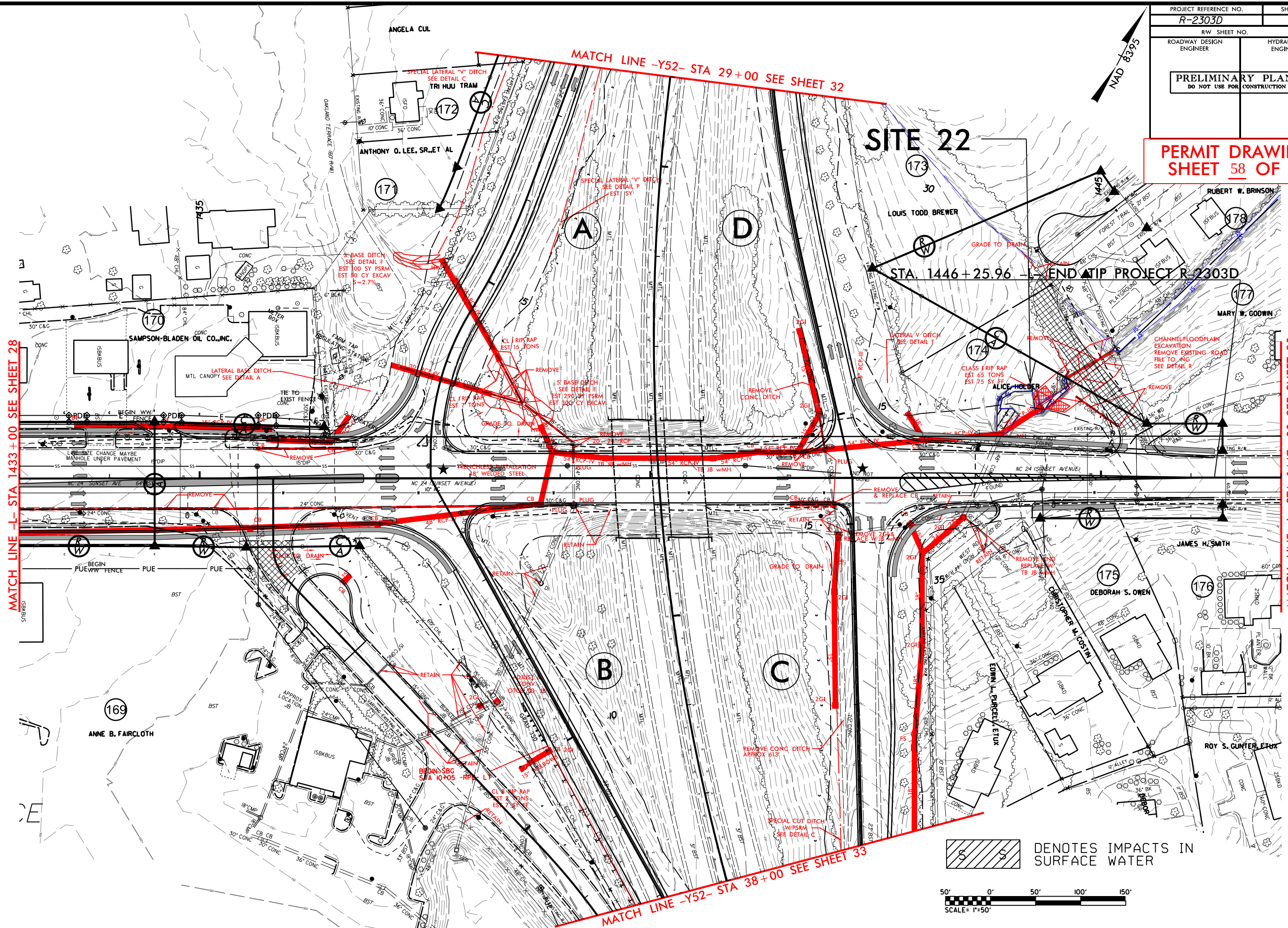
PERMIT DRAWING
SHEET 56 OF 75





PROJECT REFERENCE NO.	SHEET NO.
R-2303D	29
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING
SHEET 58 OF 75



§ § DENOTES IMPACTS IN SURFACE WATER



MATCH LINE -L- STA 1433+00 SEE SHEET 28

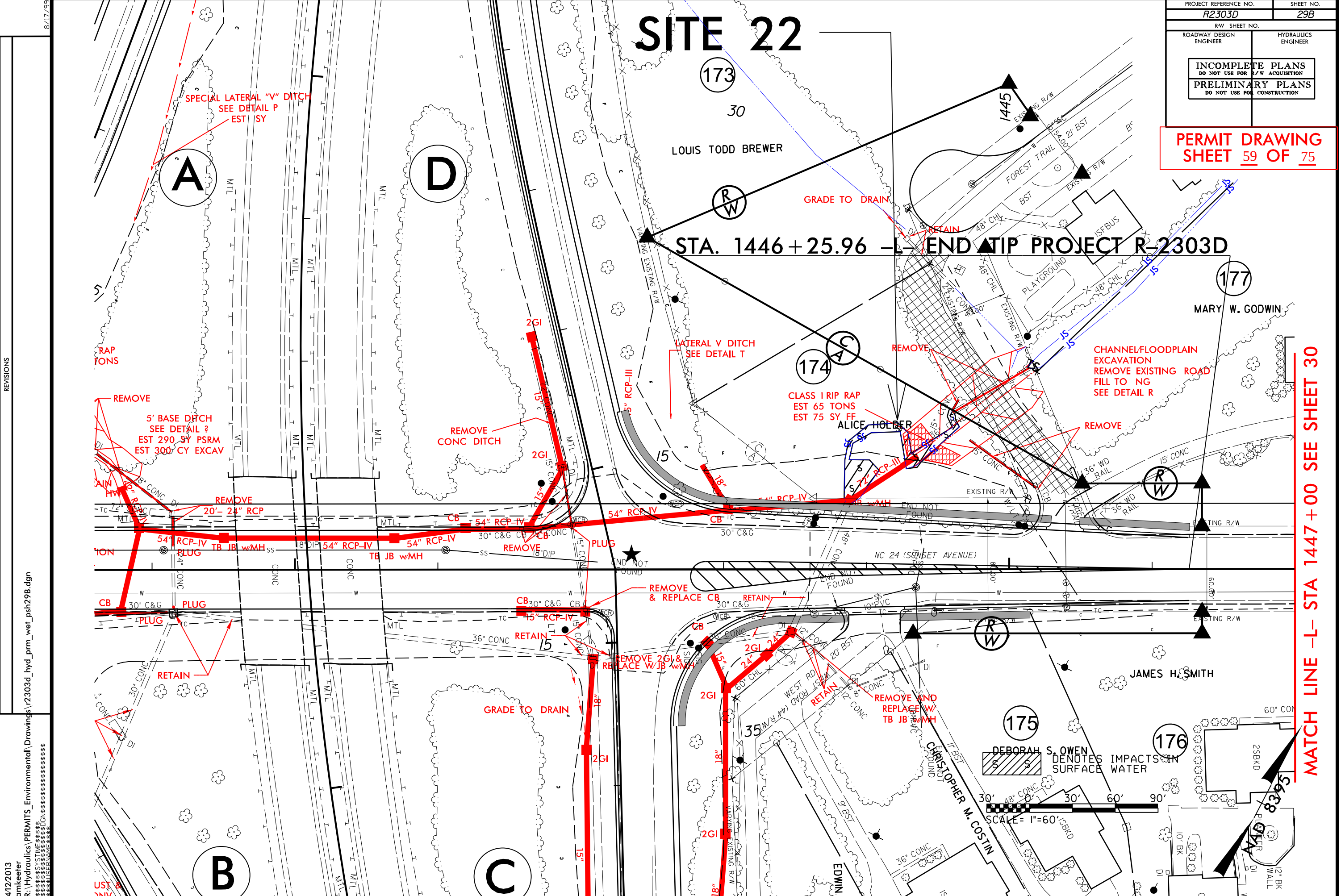
MATCH LINE -Y52- STA 29+00 SEE SHEET 32

MATCH LINE -Y52- STA 38+00 SEE SHEET 33

MATCH LINE -L- STA 1447+00 SEE SHEET 30

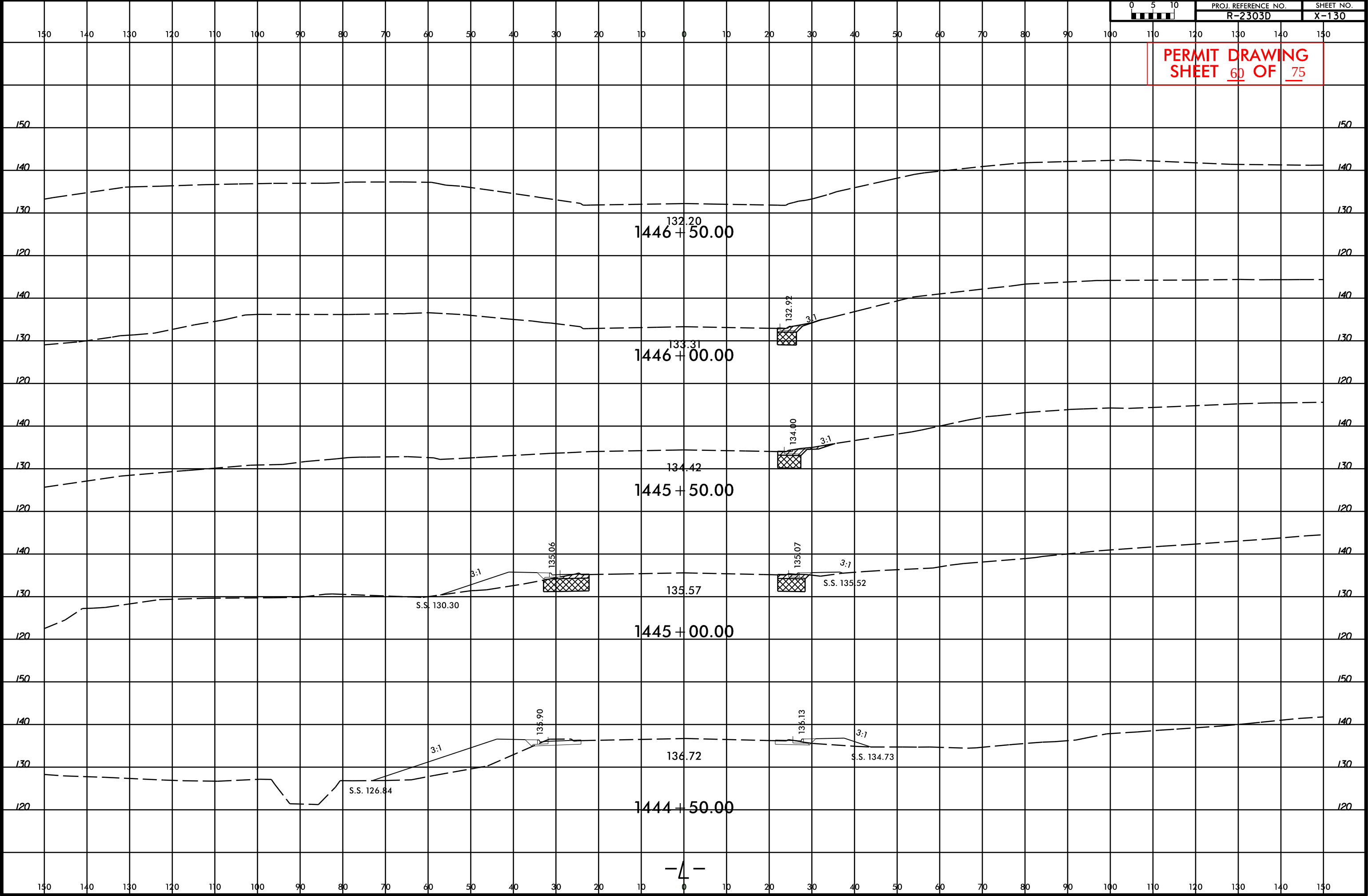
REVISIONS

4/22/2013
R:\Hydraulics\PERMITS\Environmental Drawings\2303d_hyd_perm_wet_p0129.dgn
\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DONOR\$\$\$\$\$
\$\$\$\$\$DATE\$\$\$\$\$



PROJECT REFERENCE NO. R2303D		SHEET NO. 29B	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR A/CQUISITION		PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
PERMIT DRAWING SHEET 59 OF 75			

4/12/2013
R:\Hydraulics\PERMITS_Environmental\Drawings\2303d_hyd_perm_wet_psh29B.dgn
ankeeeter
8/17/99
REVISIONS
MATCH LINE -L- STA 1447+00 SEE SHEET 30

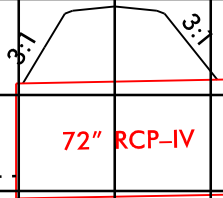


PROJECT REFERENCE NO. R2303D		SHEET NO. 30_PFL	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			
PERMIT DRAWING SHEET <u>64</u> OF <u>75</u>			

100' 0 100'

← C STA. 12 + 55 -Y53-
ELEV. = 119.7'
SKEW = 65°

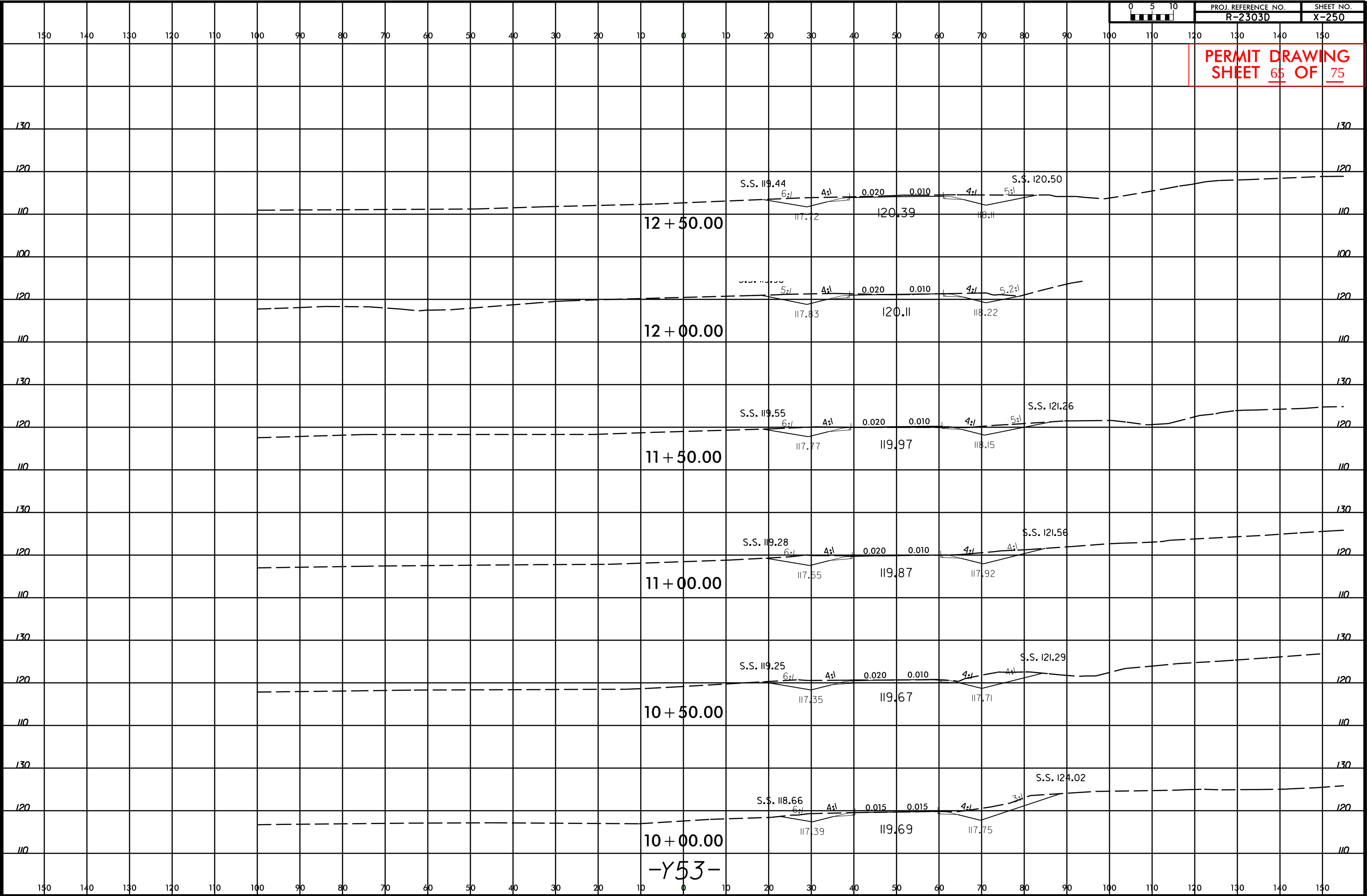
120



110

100

SITE 22



180

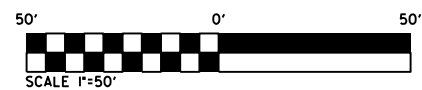
MATCH LINE -Y52- STA 15+00 SEE SHEET 31

WATCH LINE -Y5Z- 50-

100' 0' 100'

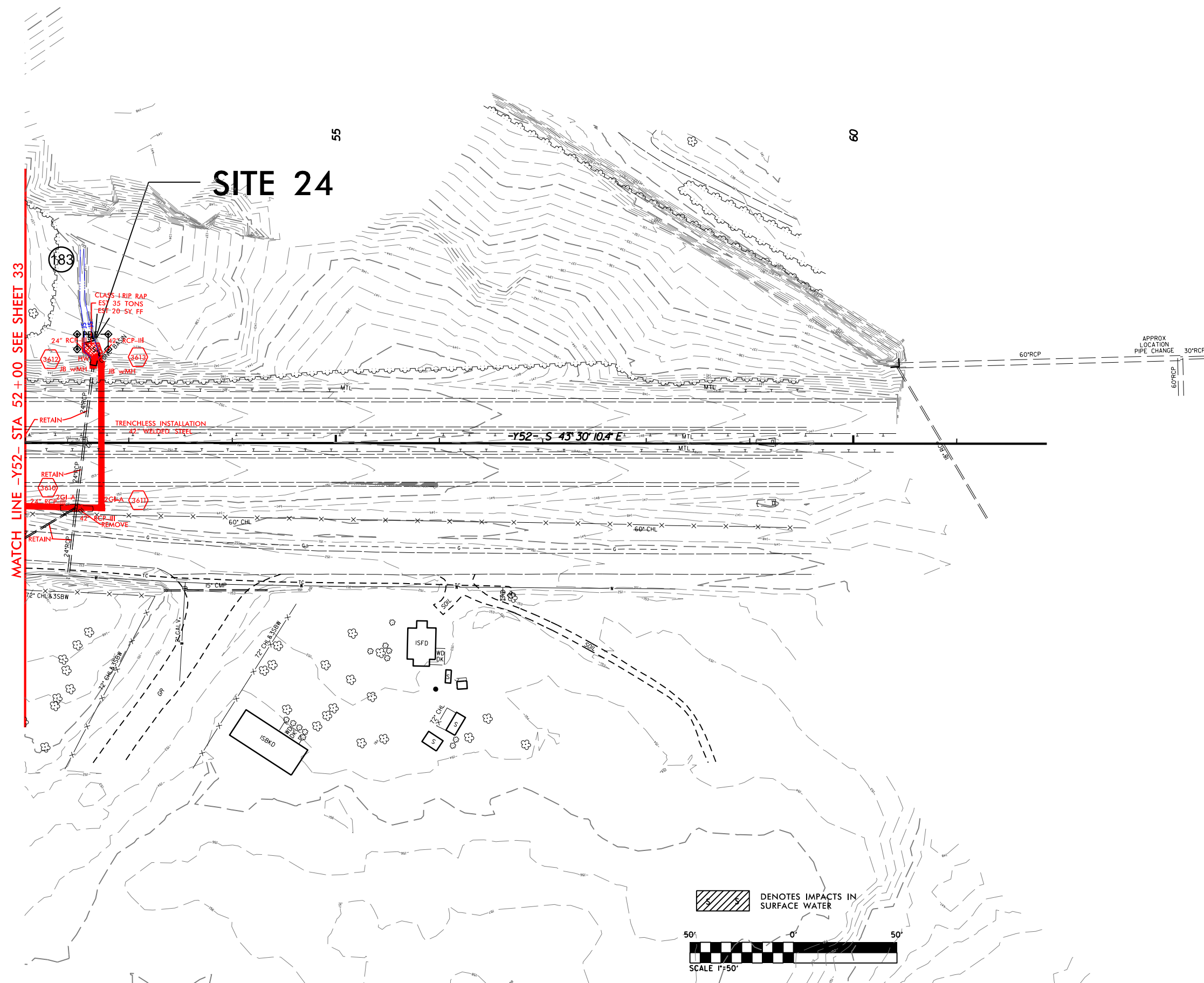
SCALE 1"=50'





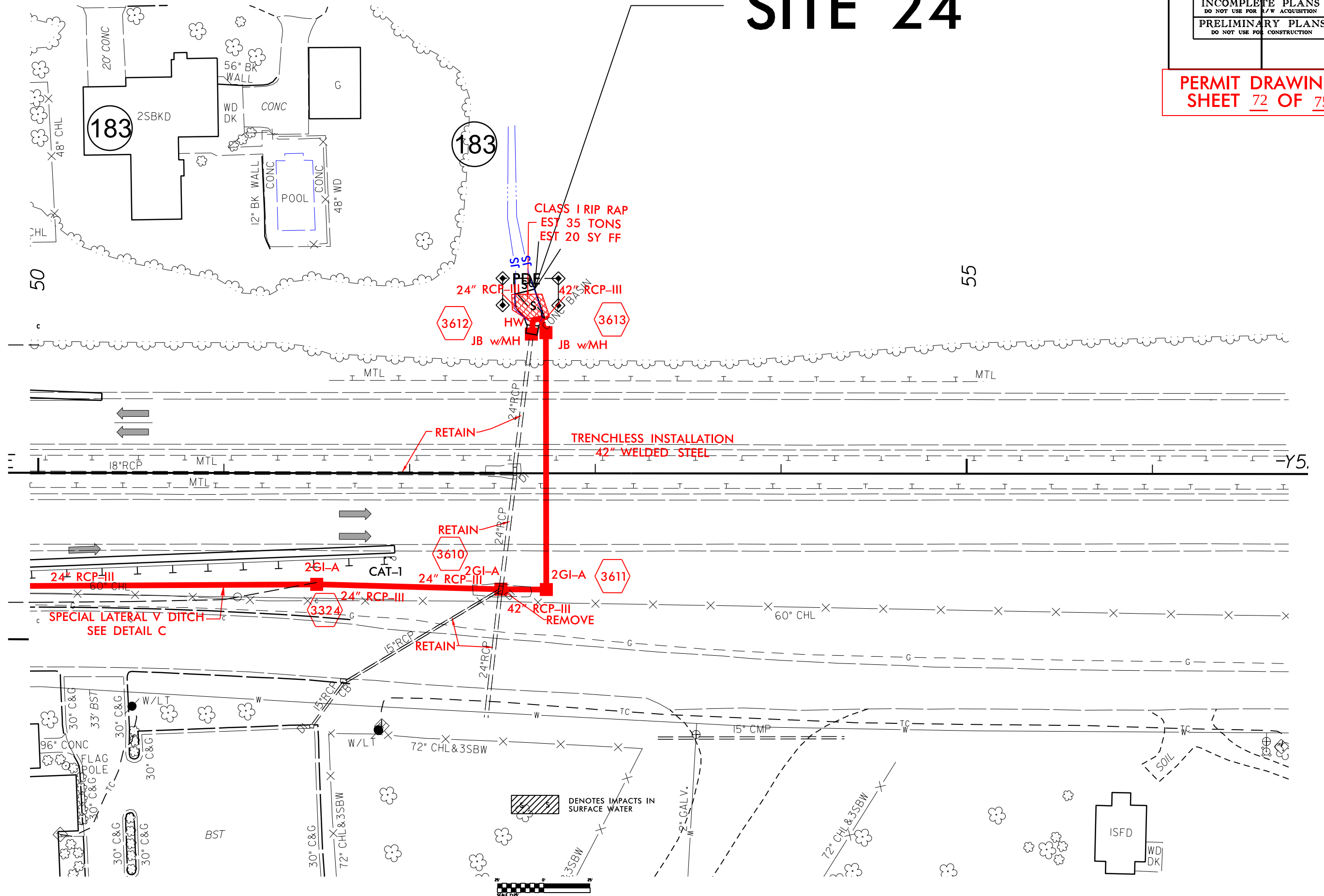
4/5/2013
ankteer
R:\Hydraulics\PERMITS Environmental\Drawings\R2803D_Hyd_prm_wet_psh37.dgn

PERMIT SHEET 71 OF 75



SITE 24

PERMIT SHEET 72 OF 75



WETLAND PERMIT IMPACT SUMMARY												
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	1106+95 to 1110+17-L-LT	Fill	0.15			0.10						
2	1106+68 to 1110+21-L-	Fill / RCBC	0.63			0.10		0.02		183.00		
		Bank Stabilization						<0.01	<0.01	19.00	60.00	
3	1163+26 to 1167+43-L-RT	Fill	0.51			0.09						
4	1169+69 to 1176+07-L-RT	Fill	1.25			0.12						
5	1169+59 to 1172+52-L-LT	Fill	0.06		0.02	0.07						
6	1197+30 to 1197+97-L-LT	Fill	0.06		0.01	0.03		<0.01	0.01	35.00	11.00	
7	1199+32 to 1201+65-L-RT	Fill	0.06		0.01	0.04		<0.01	<0.01	33.00	16.00	
8	1204+71 to 1205+18-L-RT	Fill	0.01			0.01						
ELIMINATED SITE 9 ON 4/2/2013												
10	1222+18 to 1225+09-L-LT	Fill	0.32			0.08						
11	1221+04 to 1225+66-L-RT	Fill	0.30			0.13						
TOTALS:			3.36		0.04	0.75		0.03	0.01	270.00	87.00	

SITE 4 - EQUALIZER PIPES PLACED AT NATURAL GROUND ELEVATION. NOT TO BE BURIED.

*Rounded totals are sum of actual impacts

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SAMPSON COUNTY
WBS - XXXXX.1.1 (R-2303D)

Revised 5/2/2013
Permit Drawing
Sheet 73 of 75

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
12	1224+08 to 1224+64-L-	RCBC			0.02			0.04	0.01	306.00		
		Bank Stabilization						0.01	0.01	42.00	60.00	
13	1278+32 to 1281+53-L-	66" RCP						0.03		286.00		
		Bank Stabilization						<0.01	<0.01	21.00	10.00	
14	1289+68 to 1291+91-L-	Fill / 60" RCP	0.02		<0.01	0.03		0.08		283.00		
		Bank Stabilization						0.01	0.01	30.00	30.00	
15	1292+13 to 1299+88-L-RT	Fill / 72" RCP	1.30		0.01	0.17		0.06		151.00		
		Bank Stabilization				0.02		0.01	<0.01	32.00	20.00	
16	1295+68 to 1297+37-L-LT	Fill	0.07			0.04						
*	1292+00 to 1294+59-L-LT	Fill			0.25			0.35				
17	1303+81 to 1304+67-L-RT	Pond						0.02				
18	1301+67 to 1321+13-L-	Bridge	1.16	0.33	0.01	0.27	2.00					
TOTALS:			2.54	0.33	0.29	0.51	2.00	0.61	0.04	1151.00	120.00	

SITE 16* EXCAVATION IN WETLANDS IS PART OF A MITIGATION SITE AND IS CONSIDERED TEMPORARY IMPACT.

SITE 18 Bridge: Total Impacts due to Piers = 18sq.ft.

*Rounded totals are sum of actual impacts

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SAMPSON COUNTY
WBS - XXXXX.1.1 (R-2303D)

Revised 5/2/2013
Permit Drawing
Sheet 74 of 75

WETLAND PERMIT IMPACT SUMMARY												
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
19	1321+64 to 1329+01-L-	Bridge	0.41		0.01	0.20	0.20					
*	1324+00 to 1325+65-L-LT	Fill			0.10							
20	1391+00-L-LT	RCP						0.02		129.00		
		Bank Stabilization						<0.01		10.00		
21	SR1	Fill	0.36			0.08						
22	1444+00-L-LT	72" RCP						0.02		108.00		
		Bank Stabilization						<0.01	<0.01	46.00	5.00	
*	12+22 to 12+69-Y53-LT	72" RCP						0.01		55.00		56.00
		Bank Stabilization						<0.01	<0.01	24.00	20.00	
23	17+40-Y52-LT	36" RCP						<0.01		9.00		
		Bank Stabilization						<0.01	<0.01	10.00	8.00	
24	52+66-Y52-LT	42" STEEL						<0.01		17.00		
		Bank Stabilization						<0.01		9.00		
TOTALS:			0.77		0.11	0.28	0.20	0.05	<0.01	417.00	33.00	56.00

GRAND TOTAL

6.67

0.33

0.44

1.54

2.2

0.69

0.05

1838

240

56

SITE 19* EXCAVATION IN WETLANDS IS PART OF A MITIGATION SITE AND IS CONSIDERED TEMPORARY IMPACT.

SITE 19 Bridge: Total Impact due to piers = 33sq.ft.

SITE 22* -Y53- 56' OF PIPE TO BE REMOVED AND REPLACED WITH OPEN CHANNEL.

SITE 24 IS LOCATED +/- 500' OUTSIDE OF PROJECT LIMITS.

*Rounded totals are sum of actual impacts

NC DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SAMPSON COUNTY

WBS - XXXXX.1.1 (R-2303D)

SHEET 75 of 75

5/2/2013

Revised 5/2/2013

Permit Drawing

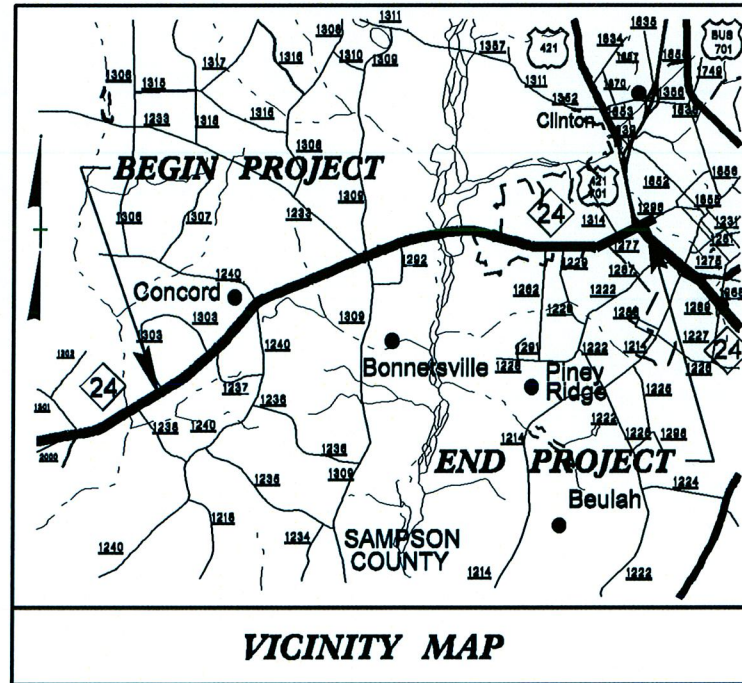
Sheet 75 of 75

23-APR-2013 11:45
R:\Utility\2013\Permit\2303d\UT_PRM_WET.tsh.dgn
\$\$\$\$\$USER\$NAME\$\$\$\$\$

CONTRACT:

TIP PROJECT: R-2303D

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



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITY WETLAND IMPACT PLAN SAMPSON COUNTY

LOCATION: NC 24 FROM SR 1303 (MITCHELL LOOP ROAD)
TO US 421-701/SR 1296 (SUNSET AVENUE)

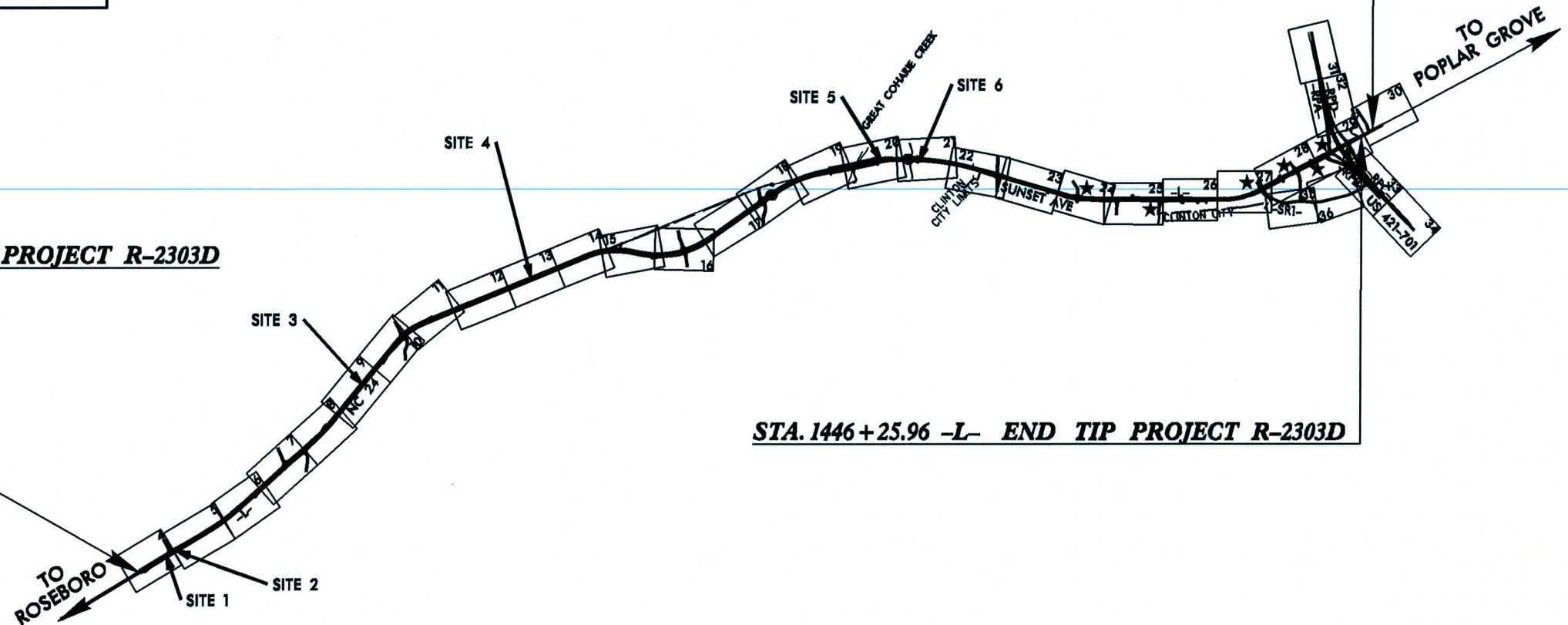
TYPE OF WORK: GRADING, DRAINAGE, PAVING, RESURFACING, CURB &
GUTTER, SIGNALS, AND STRUCTURES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2303D	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34416.1.1		PE	
34416.2.5		R/W, UTIL.	

Utility Permit Drawing
Sheet 1 of 8

NAD 83 95

STA. 1097+00.00 -L- BEGIN TIP PROJECT R-2303D

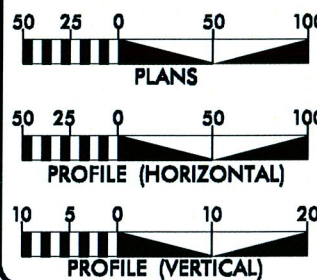


STA. 1446+25.96 -L- END TIP PROJECT R-2303D

STA. 1449+56.13 -L- END CONSTRUCTION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



DESIGN DATA

ADT 2013 = 40480
ADT 2033 = 59680
DHV = 11 %
D = 55 %
T = 8 %
V (SHOULDER) = 60 MPH
V (CURB & GUTTER) = 50 MPH
* (TTST 5% + DUAL 3%)
FUNC. CLASS = ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2303D = 6.35 MILES
LENGTH STRUCTURES TIP PROJECT R-2303D = 0.26 MILES
TOTAL LENGTH TIP PROJECT R-2303D = 6.61 MILES

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JUNE 30, 2011

LETTING DATE:
JUNE 18, 2013

BRENDA MOORE, PE
PROJECT ENGINEER

KATRINA N. WASHINGTON, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN
ENGINEER

SIGNATURE: P.E.

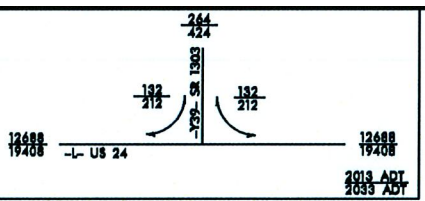
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA



STATE HIGHWAY DESIGN ENGINEER P.E.

Property lines relocated in parcels 3A, 3B & 8, parcel numbers and owner information revised for parcels 2, 3A, 3B, 8, 8A & 8C, access points added for parcels 2 & 4 and parcel 2 PUE changed to AUE. WAS 2/20/2012

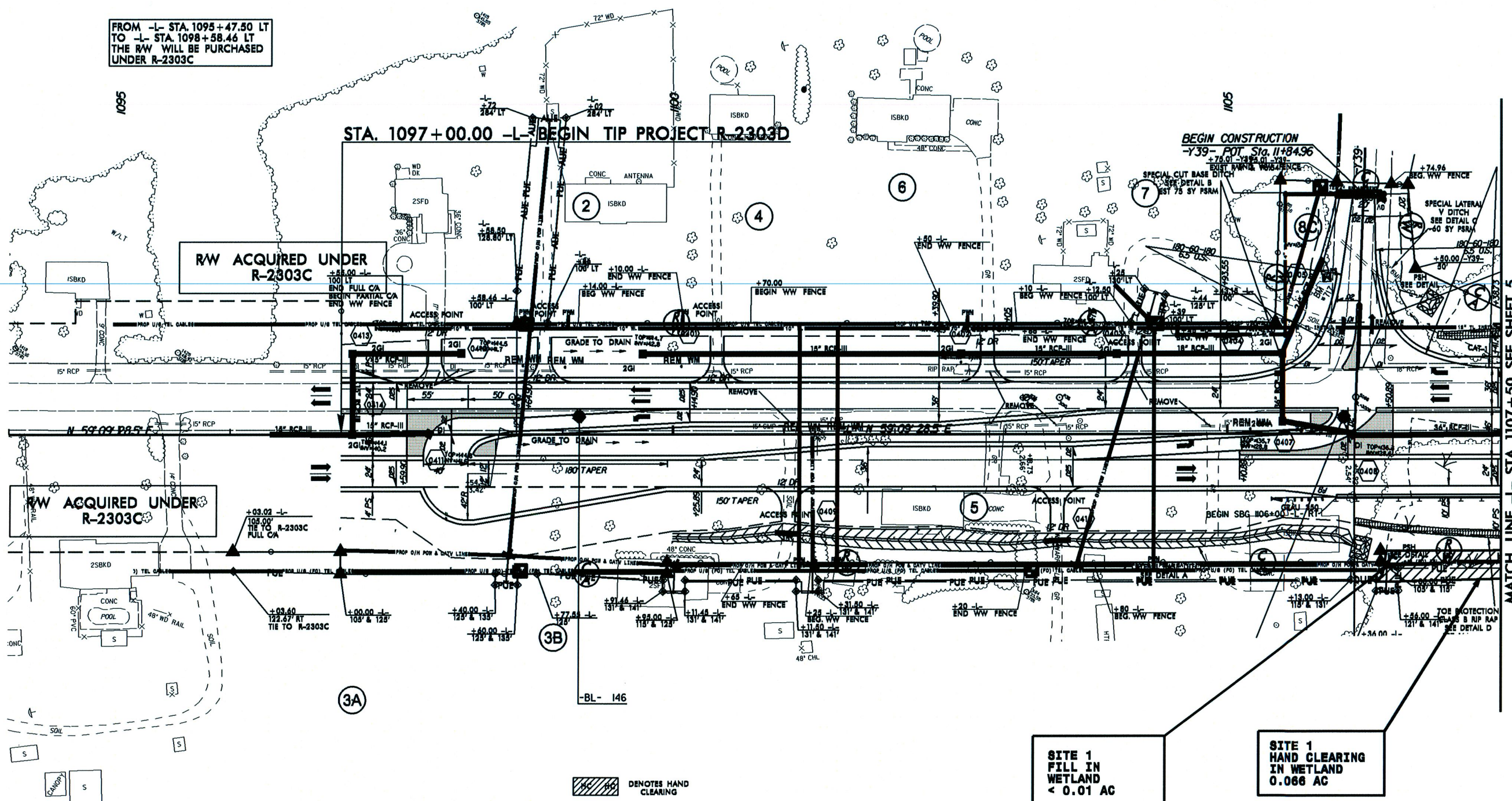
23-APR-2013 11:48 permit\p2303d\UT_PRM_WET-ps_04.dgn



PROJECT REFERENCE NO.	SHEET NO.
R-2303D	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS	
DO NOT USE FOR CONSTRUCTION	

UTILITY WETLAND IMPACT

Utility Permit Drawing Sheet 2 of 8



FROM -L- STA. 1095+47.50 LT TO -L- STA. 1098+58.46 LT THE RW WILL BE PURCHASED UNDER R-2303C

RW ACQUIRED UNDER R-2303C

RW ACQUIRED UNDER R-2303C

STA. 1097+00.00 -L- BEGIN TIP PROJECT R-2303D

BEGIN CONSTRUCTION -Y39- POT. Sta. 11+84.96

SITE 1 FILL IN WETLAND < 0.01 AC

SITE 1 HAND CLEARING IN WETLAND 0.066 AC

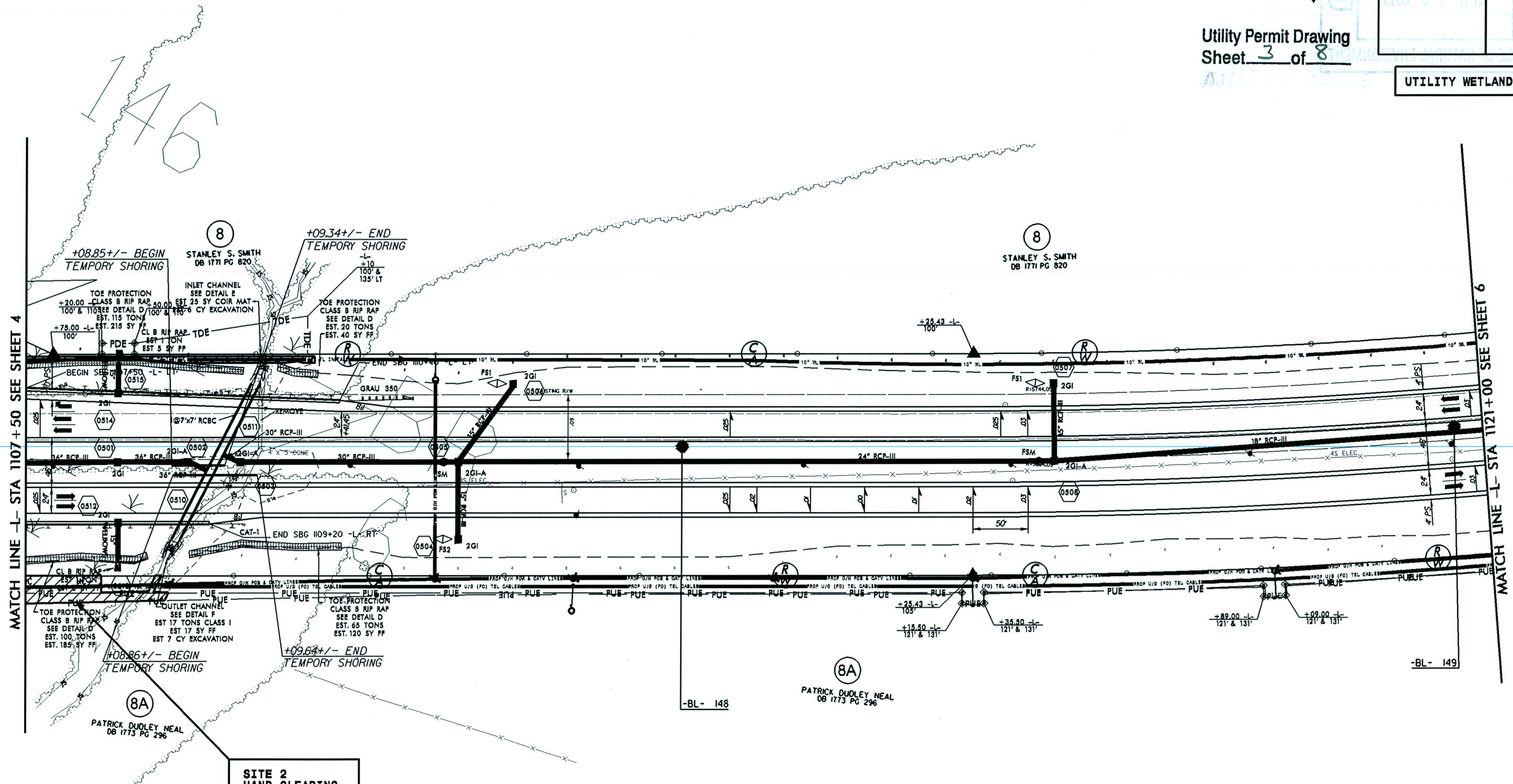
MATCH LINE -L- STA 1107+50 SEE SHEET 5

5/14/99

REVISIONS

U:\APR-2013\141\Permit\23034\UT_PRL_WET.pst_05.dgn
141-23034-UT_PRL_WET.dwg

MATCH LINE -L- STA 1107+50 SEE SHEET 4



SITE 2
HAND CLEARING
IN WETLAND
0.054 AC

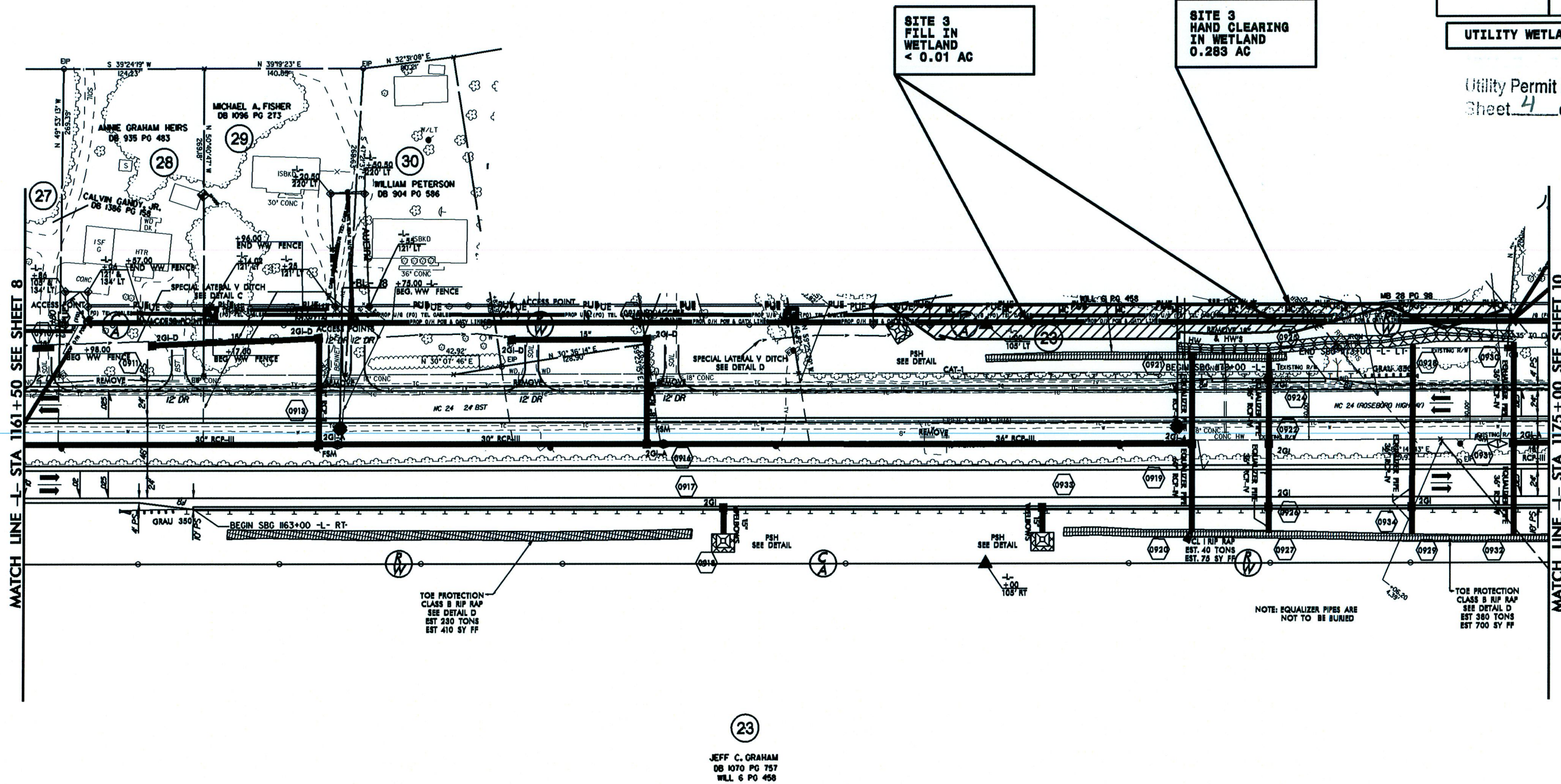
SC HC
DENOTES HAND
CLEARING

UTILITY WETLAND IMPACT

Utility Permit Drawing
Sheet 3 of 8

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS	DO NOT USE FOR CONSTRUCTION

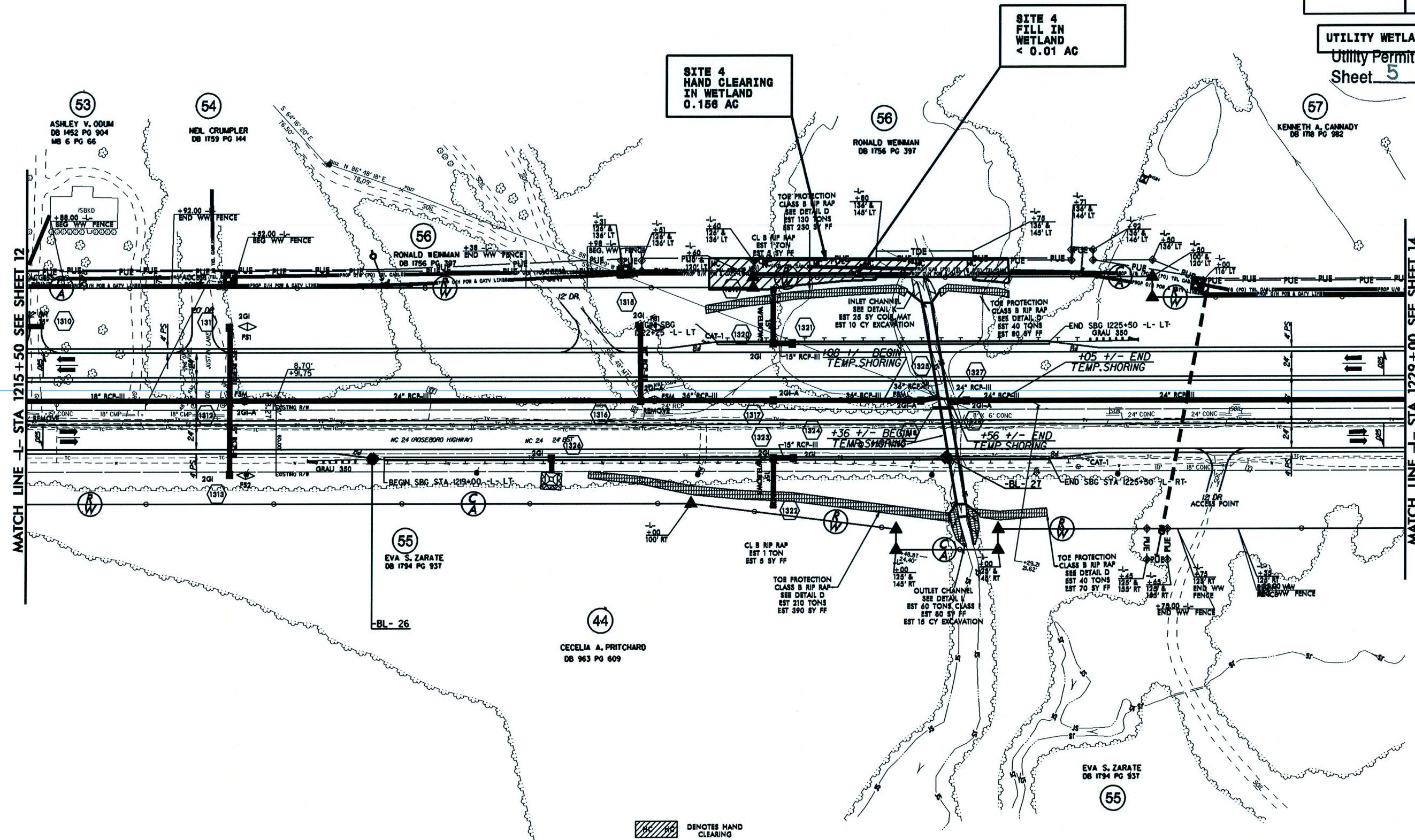
REVISIONS



REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS	
DO NOT USE FOR CONSTRUCTION	

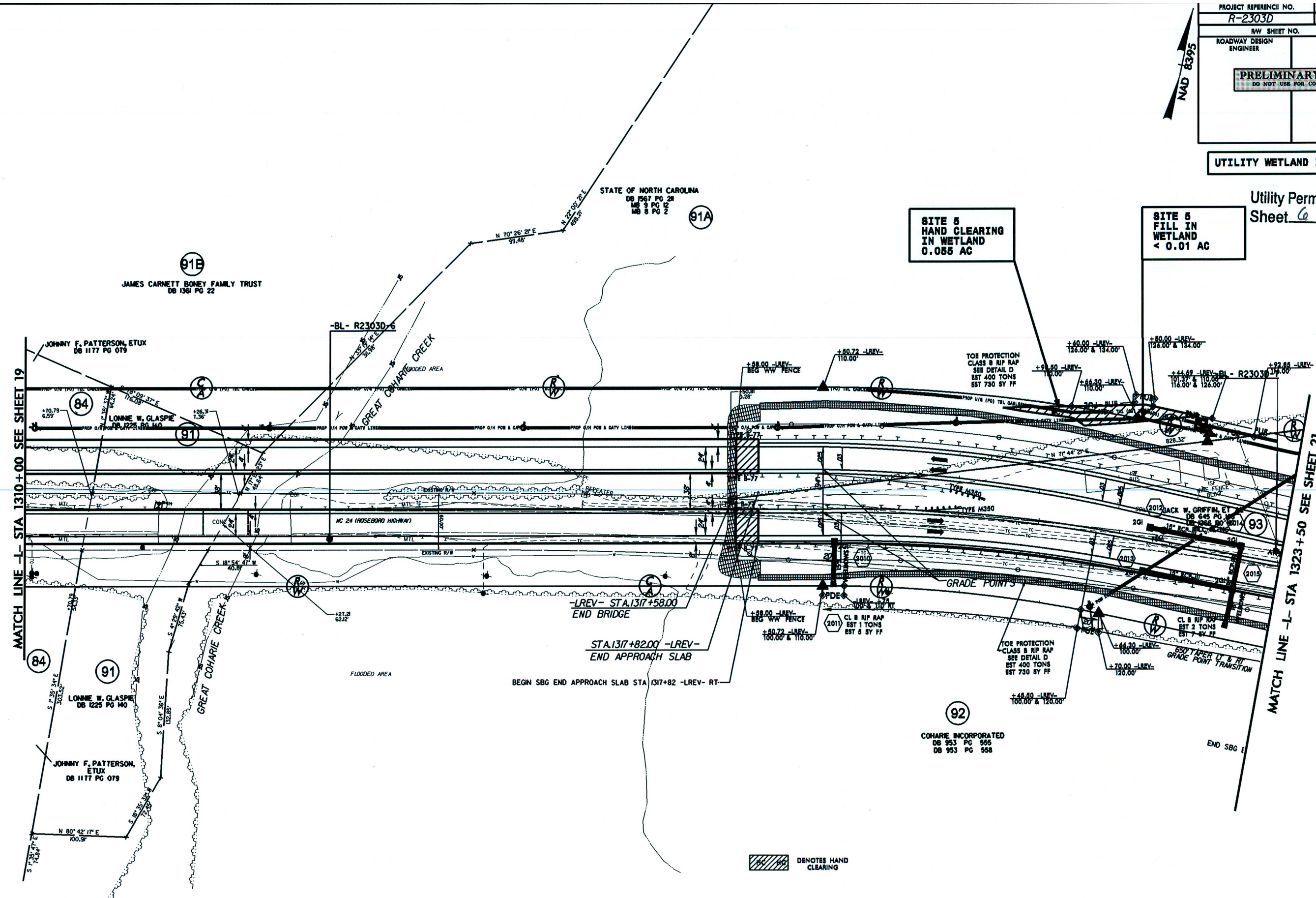
UTILITY WETLAND IMPACT
Utility Permit Drawing
Sheet 5 of 8



PROJECT REFERENCE NO.		SHEET NO.	
R-2303D		20	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER		
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

UTILITY WETLAND IMPACT

Utility Permit Drawing
Sheet 6 of 8



REVISIONS

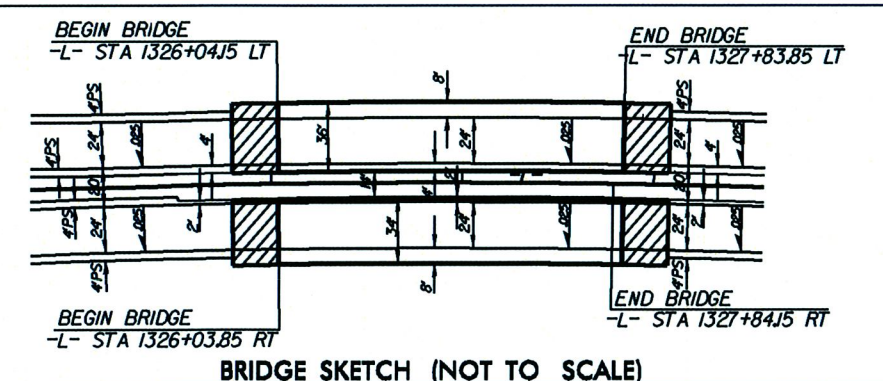
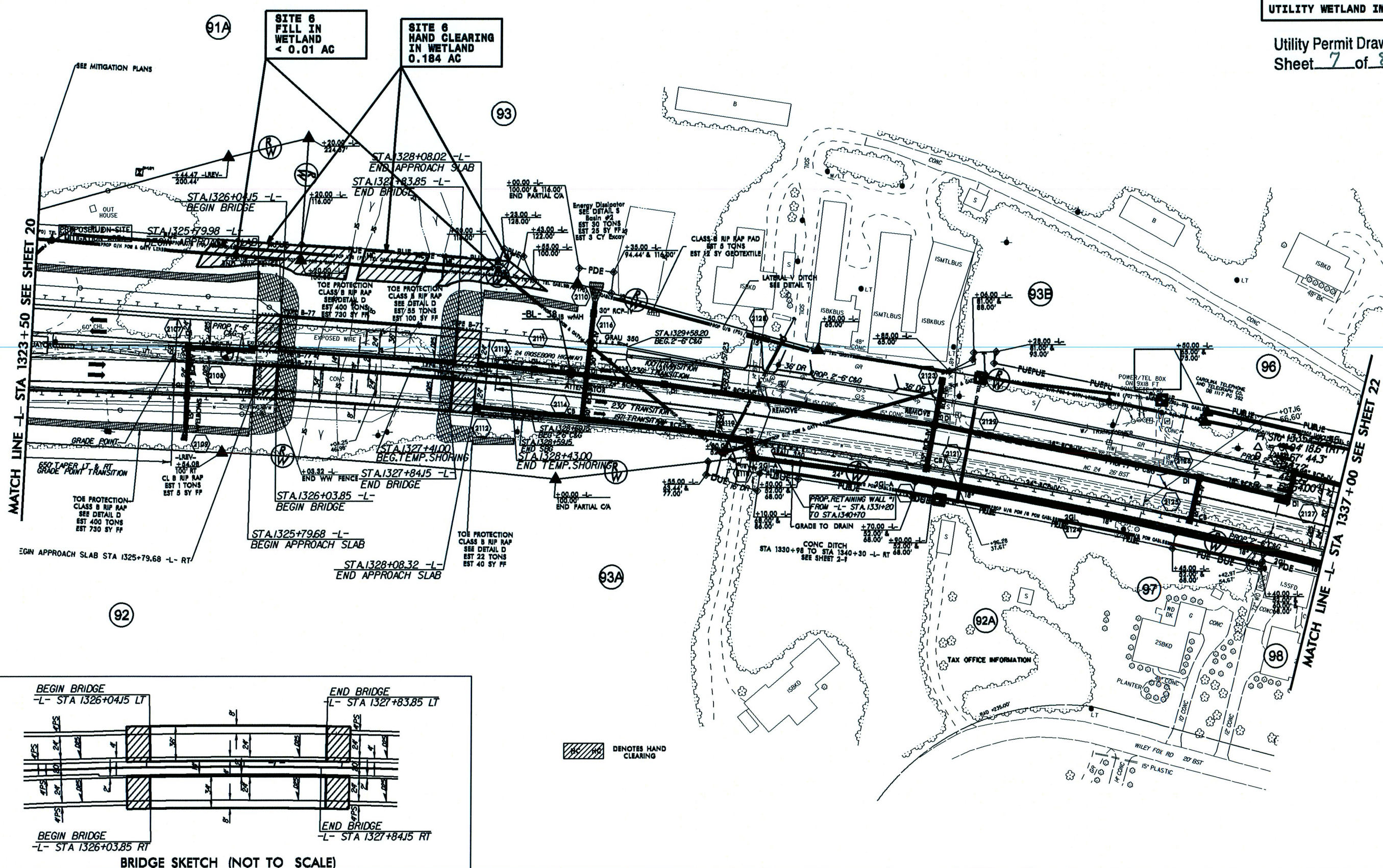
23-APR-2013 11:53
L:\Projects\2303d\UT_PRM_WET-ps-20.dgn
L:\Projects\2303d\UT_PRM_WET-ps-20.dgn

5/14/95

PROJECT REFERENCE NO. R-2303D	SHEET NO. 21
NW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

UTILITY WETLAND IMPACT

Utility Permit Drawing
Sheet 7 of 8



REVISIONS

23-APR-2013 11:55 Permit-2303d-UT-PRM-WET-P-21.dgn

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	1106+36 -L-	POWER	< 0.01				0.07					
2	1107+50 -L-	POWER					0.05					
3	1169+12 -L-	POWER	< 0.01				0.28					
4	1222+17 -L-	POWER	< 0.01				0.16					
5	1319+83 -L-	POWER	< 0.01				0.06					
6	1325+14 -L-	POWER	< 0.01				0.18					
TOTALS:			< 0.01			0.00	0.80			0.00	0.00	

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

CUMBERLAND / SAMPSON COUNTY
WBS - 34416.1.1 (R-2303D)