



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

July 5, 2017

U.S. Army Corps of Engineers
Asheville Regulatory Field Office
151 Patton Avenue, Room 208
Asheville, NC 28805

ATTN: Ms. Loretta Beckwith
NCDOT Division 13 Coordinator

SUBJECT: **Addendum to the Application for Section 404 Individual Permit and Section 401 Water Quality Certification** for the proposed I-26 Interchange improvements at NC 191 (Brevard Road), Buncombe County, Division 13; Federal Aid Project No. IMF-26-1(191)47; TIP Project No. I-5504.

RE: Permit Application for Section 404 Individual Permit and Section 401 Water Quality Certification Submitted on November 21, 2016

Dear Ms. Beckwith:

On November 21, 2016 the North Carolina Department of Transportation (NCDOT) submitted an application for Section 404 Individual Permit and Section 401 Individual Water Quality Certification for modification of the I-26 / NC 191 (Brevard Road) interchange ramps, widening and elevating the NC 191 bridge and approaches through the interchange, reconstruction of the I-26 pavement, paving the median of I-26, and reconfiguration of local roadways.

Concerns were expressed by the West Range LLC (Biltmore Estate) regarding stormwater volume and erosion in areas discharging to Westerly Lake. Based on these concerns, and subsequent coordination between West Range and NCDOT, the hydraulic design at Site 1D has been revised. The existing stream channel paralleling I-26 will be stabilized with rip rap to minimize potential for erosion and downstream sedimentation as described below under Site 1D.

Revised permit impact drawings are attached (a full set is provided – changes occurred to permit drawing sheets 2, 3, 4, 7, 8, and 26 of 26). Also attached are the following: DMS Mitigation Acceptance Letter, Biltmore comment response memo, Section 106 (SHPO) email, and Section 7 Concurrence Request Letter.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
NATURAL ENVIRONMENT SECTION
1598 MAIL SERVICE CENTER
RALEIGH, NC 27699-1598

Telephone: (919) 707-6157
Fax: (919) 212-5785
Customer Service: 1-877-368-4968
Website: www.ncdot.gov

Location:
1020 BIRCH RIDGE DRIVE
RALEIGH, NC 27610

PROJECT SCHEDULE

Due to delays related to right-of-way and the concerns being addressed through the permitting process, the project is likely to extend into the summer of 2019.

IMPACTS TO WATERS OF THE UNITED STATES

Changes to Permit Impact Sites

One site (1c) has been revised and is addressed below:

Site 1d – UT to Long Valley Branch

A 15” Corrugated Metal Pipe (CMP) is being plugged and filled, and a new 15” Reinforced Concrete Pipe (RCP) / Corrugated Steel Pipe (CSP) is being installed at this site to assist in proper roadway stormwater drainage. The new pipe will outlet adjacent to a UT to Long Valley Branch/Westerly Lake (Stream SI).

Stream SI paralleling the Biltmore Estate fence will be lined with rip rap for 313 linear feet to address erosion and sediment concerns expressed by West Range through the Section 404 public comment process. In addition, a rip rap ditch has been extended above Stream SI, paralleling the proposed toe of slope of I-26, to further minimize sedimentation from overland flow in this area and to contain the stormwater runoff, keeping it on NCDOT property.

Although the stream channel is entirely within NCDOT right-of-way, temporary access has been negotiated with West Range to allow construction of this channel stabilization from the Biltmore Estate. Due to the reinforced soil slopes utilized along this section to minimize impacts to Clean Water Act resources, the channel work will have to be performed from the east (Biltmore) side of the stream. The State Historic Preservation Office has stated that this will be acceptable impact to the 4f property.

Wetlands

The revised design has not changed the original wetland impacts proposed in the November 2016 application.

Ponds

The revised design has not changed the original pond impacts proposed in the November 2016 application.

MITIGATION OPTIONS

Avoidance and Minimization

In addition to the measures provided in the November 2016 application, the following additional specific measures have been revised/added to maintain water quality:

- [Revised] Sites 1c: The UT from the outlet of the 14'x14' RCBC (Stream SI) to Westerly Lake will be avoided except for placement of mats or other devices over the stream (above ordinary high water mark) for construction equipment access;
- [Added] Site 1d: The UT adjacent to I-26 (Stream SI) will be lined with rip rap to limit sediment transport to Westerly Lake.

Compensatory Mitigation

Compensatory requirements for I-5504 are summarized below in Table 3. The proposed design changes have increased total stream impacts by 282 linear feet at Site 1d. No other changes to proposed impacts have occurred. The project will permanently impact 2,170 linear feet of cool water streams.

Table 3. Compensatory Mitigation Summary

| | USACE Stream Impacts (linear feet) | Riparian Wetland Impacts (acre) |
|------------------------------|---------------------------------------|------------------------------------|
| Impacts Requiring Mitigation | 2,115 | 0.02 |
| Required NCDMS Mitigation | 791 @ 2:1 | 2:1 |
| | 1,324 @ 1:1 | |

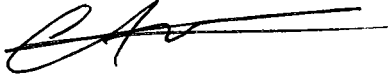
CULTURAL RESOURCES

A Right-Of-Entry (ROE) has been obtained from West Range to temporarily access areas along Site 1d for installation of the channel stabilization. The ROE is required, as described above, due to the steep slopes being used to minimize overall impacts to CWA resources. This ROE includes removal and replacement of the existing right-of-way (R/W) fence along the edge of the Biltmore Estate. Temporary livestock fencing will be installed along the construction easement while the project is being built. The temporary livestock fence will be removed and R/W fencing will be installed along the edge of the NCDOT R/W upon completion of the project.

On June 7, 2017, the NC SHPO submitted an email verifying the decision on May 5, 2017 of a No Adverse Effects finding for the project including the proposed design revisions and ROE. A copy of the email is attached.

A copy of this permit application addendum and its distribution list will be posted on the NCDOT website at <https://xfer.services.ncdot.gov/pdea/PermApps/>. Thank you for your time and assistance with this project. Please contact William Barrett either at wabarrett@ncdot.gov or at (919) 707-6103 if you have any questions or need additional information.

Sincerely,



for

Philip S. Harris III, P.E., C.P.M.
Environmental Analysis Unit Head

Cc:
NCDOT Permit Application Standard Distribution List



ROY COOPER
Governor

July 3, 2017

Mr. Philip S. Harris, III, P.E., CPM
Project Development and Environmental Analysis Unit
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Harris:

Subject: Mitigation Acceptance Letter:

I-5504, I-26 at the NC 191 Interchange, Buncombe County

The purpose of this letter is to notify you that the Division of Mitigation Services (DMS) will provide the compensatory stream and riparian wetland mitigation for the subject project. **This letter replaces the acceptance letter issued on October 20, 2016.** Based on the information supplied by you on July 3, 2017, the impacts are located in CU 06010105 of the French Broad River basin in the Southern Mountains (SM) Eco-Region, and are as follows:

| French Broad 06010105 SM | Stream | | | Wetlands | | | Buffer (Sq. Ft.) | |
|--------------------------------|--------|---------|------|----------|--------------|---------------|------------------|--------|
| | Cold | Cool | Warm | Riparian | Non-Riparian | Coastal Marsh | Zone 1 | Zone 2 |
| Impacts (feet/acres) | 0 | 2,115.0 | 0 | 0.02 | 0 | 0 | 0 | 0 |

*Some of the stream and/or wetland impacts may be proposed to be mitigated at a 1:1 mitigation ratio. See permit application for details.

The impacts and associated mitigation needs were under projected by the NCDOT in the 2016 impact data. DMS will commit to implement sufficient compensatory stream and riparian wetland mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies using the delivery timeline listed in Section F.3.c.iii of the In-Lieu Fee Instrument dated July 28, 2010. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from DMS.

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

Sincerely,

James B. Stanfill
Credit Management Supervisor

cc: Ms. Lori Beckwith, USACE – Asheville Regulatory Field Office
Ms. Amy Chapman, NCDWR
File: I-5504

May 16, 2017

In response to the email from the USACE on March, 23, 2017, the following comments are presented (numbered for reference to email):

1. NCDOT met with West Range on-site on March 10, 2017 during which time a revision to the plans was discussed that would be beneficial to both parties and address the concerns expressed in the March 13, 2017 letter to the USACE from West Range. Subsequently, a change to the drainage plans was devised, presented to West Range and accepted by a right of entry agreement allowing NCDOT to make these changes. The revised plans are attached. In addition to revising the plans in upland areas, the revision will also impact an existing stream that runs parallel to the toe of the roadway fill slope. The stream is listed as "SI" in the Categorical Exclusion document dated October 2015 and Site 1D on the permit application. Although the changes to the plans result in impacts to jurisdictional areas greater to those shown in the permit application, NCDOT believes these changes will adequately address any long-term erosion and sedimentation concerns referenced in the letter by West Range. A summary of the changes to jurisdictional areas are as follows:

Site 1D

- Proposed 282 feet of additional permanent stream impact for a total of 313 feet. Note the 31 feet shown in the original permit application was for stream bank stabilization only. The 313 feet now proposed would be to completely armor the stream.
 - Proposed 10' of temporary impacts for erosion control devices and dewatering during construction.
2. NCDOT does not propose to change the plans with respect to Westerly Pond. We agree that our design will increase discharges to the pond but our analysis to date does not warrant any changes to our design. We believe addressing potential erosion concerns by way of armoring the contributing drainage ways will address the concerns raised by West Range. It should be noted these post-construction measures are in addition to the erosion control measures that will be used during construction to control erosion.

As noted above, NCDOT will obtain a Right of Entry (ROE) to perform the work on the West Range property. Below is a summary of the work Blythe Development Corporation (BDC) will do to construct the armored ditch:

To keep the proposed channel work inside NCDOT ROW, steeper reinforced soil slopes (RSS) are proposed along the right side of I-26. The steep slope of the RSS will not allow BDC to construct the proposed armored ditch from the I-26 fill slope. BDC will need to access the area from the backside of the channel adjacent on the Biltmore property using the ROE agreement. BDC will remove the existing R/W fence and place a temporary livestock fence as needed on Biltmore's property and construct the channel and rip rap stabilization. BDC will then place a new fence along any portion of fence previously disturbed as well as remove the temporary livestock fence. Lastly BDC will place a CA fence along the NCDOT existing ROW.

From: Beckwith, Loretta A CIV USARMY CESAW (US)
<Loretta.A.Beckwith@usace.army.mil>
Sent: Thursday, March 23, 2017 3:57 PM
To: Morgan, Stephen R; Tipton, Ricky A
Cc: Jones, M Scott (Scott) CIV USARMY CESAW (US); Matthews, Monte K CIV
USARMY CESAW (US)
Subject: USACE comments re STIP No. I-5504
Attachments: West Range - Our 3_13_17 Comments to Corps.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Good afternoon Stephen and Rick,

After reviewing the attached letter from West Range, LLC and the Biltmore Company, we've requesting the following information from NCDOT:

1. Concerning Outfalls 1-4 - as I understand it, NCDOT met with West Range on-site on March 10, 2017, to discuss these outfall pipes, and that NCDOT was considering revising their plans. If this is accurate, please (1) let me know, and (2) please submit the revised plans and provide a text description of the changes, to include formerly proposed impacts (as noted in the application and public notice) and the revised impacts to waters of the U.S. Please include the type and length (or area) of impact - e.g., formerly proposed impact of 20' for culvert extension - revised impact of 30' for culvert extension and 20' of rip rap, etc. Also, please summarize any proposed changes and detail how, in NCDOT's opinion, the revised plan/design for these outlets would not have adverse effects on downstream areas, and whether or not the proposed project/plans meet all necessary requirements (e.g., stormwater, sediment control, etc.).

If NCDOT is not going to revise the plans, please detail how, in NCDOT's opinion, the propped plan/design for these outlets would not have adverse effects on downstream areas and whether or not the proposed project/plans meet all necessary requirements (e.g., stormwater, sediment control, etc.).

2. Concerning Westerly Pond, the dam, outfall/overflow mechanisms, and downstream areas - I'm not aware that NCDOT is considering revising the plans here (Site 1), but if I'm mistaken, please (1) let me know, and (2) please submit the revised plans and provide a text description of the changes, to include formerly proposed impacts (as noted in the application and public notice) and the revised impacts to waters of the U.S. Please include the type and length (or area) of impact.

If NCDOT is not going to revise the plans, please detail how, in NCDOT's opinion, the propped plan/design for this area would not have adverse effects on Westerly Pond, the dam, outfall/overflow mechanisms, and downstream areas, and whether or not the proposed project/plans meet all necessary requirements (e.g., stormwater, sediment control, etc.).

Please let me know if you have any questions about what I've written above.

Thank you,

Lori

-----Original Message-----

From: Lach Zemp [<mailto:LZemp@roberts-stevens.com>]

Sent: Monday, March 13, 2017 2:39 PM

To: Beckwith, Loretta A CIV USARMY CESAW (US) <Loretta.A.Beckwith@usace.army.mil>; kevin.barnett@ncdenr.gov

Cc: Mahoney, Kevin <Kmahoney@ncdoj.gov>; Lawton, Thomas <Tlawton@ncdoj.gov>; Tipton, Ricky A (rtipton@ncdot.gov) <rtipton@ncdot.gov>; Bill Cecil <bcecil@biltmore.com>; Dini Pickering <dpickering@biltmore.com>; Chuck Pickering <Cpickering@biltmore.com>; Bruce Hazzard <hazzardcon@aol.com>; Jack Stevens <JStevens@roberts-stevens.com>; Vince Childress <VChildress@roberts-stevens.com>; Ashley Norris Kuykendall <AKuykendall@roberts-stevens.com>
Subject: [EXTERNAL] Requested Follow Up Comments on Action ID: SA-2014-02016; STIP No. I-5504

Ms. Beckwith and Mr. Barnett:

Pursuant to Ms. Beckwith's request, attached is a letter containing follow up comments on behalf of West Range, LLC, and The Biltmore Company regarding their concerns about the potential impacts to the Biltmore Estate in the area of Westerly Pond.

We appreciate Ms. Beckwith creating an opportunity for us to discuss these concerns and NCDOT's willingness to sit down and discuss these with us.

If there are additional questions or information you seek, please let me know.

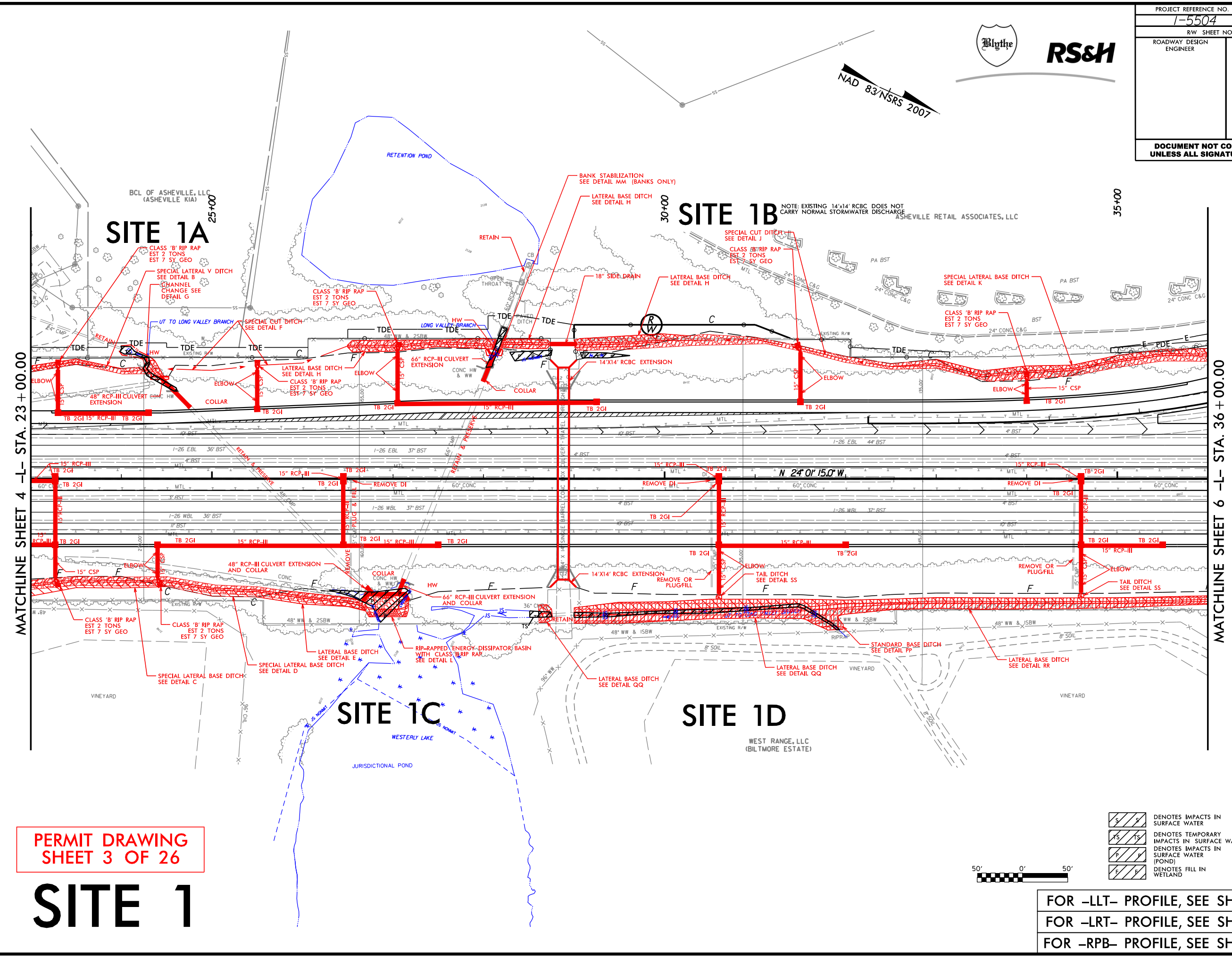
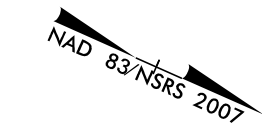
Lach

F. Lachicotte Zemp, Jr.

Attorney | Roberts & Stevens, P.A.

City Centre Building | 301 College Street, Suite 400, Asheville, NC 28801

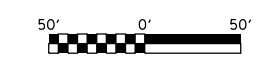
Office: 828-252-6600 | Direct: 828-210-6827 Blockedwww.roberts-stevens.com
<Blocked<http://www.roberts-stevens.com>>



**PERMIT DRAWING
SHEET 3 OF 26**

SITE 1

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



FOR -LLT- PROFILE, SEE SHEET NO. 14
FOR -LRT- PROFILE, SEE SHEET NO. 14
FOR -RPB- PROFILE, SEE SHEET NO. 23

F:\2017\Projects\PERMITS_Environmental\Drawings\15504_hyd.prm.psh_05_no_contours.sdfm

Barrett, William A

From: Watson, Malcolm C
Sent: Wednesday, June 07, 2017 1:18 PM
To: Barrett, William A
Subject: FW: I-5504 Interchange modification

Email from Renee to Lori

Malcolm Watson, PE
Design-Build Engineer
Design-Build Unit
North Carolina Department of Transportation

919 707 6614 office
mcwatson@ncdot.gov

1020 Birch Ridge Drive
Raleigh, NC 27610 (Delivery)
1595 Mail Service Center
Raleigh, NC 27699-1595 (Mail)



Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

From: Furr, Mary Pope
Sent: Wednesday, June 07, 2017 1:15 PM
To: Watson, Malcolm C <mcwatson@ncdot.gov>
Subject: FW: I-5504 Interchange modification

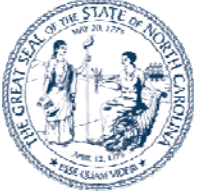
From: Gledhill-earley, Renee
Sent: Wednesday, June 07, 2017 1:08 PM
To: Lori Beckwith (Loretta.A.Beckwith@usace.army.mil)
Cc: Furr, Mary Pope
Subject: I-5504 Interchange modification

Lori:
Mary Pope just reminded me that you needed to know that I am okay with what is to happen at Biltmore on this project. I actually updated my project info, but forgot to send you the message. So, I am hoping that the following notation in our project file will let you go ahead and accept a no adverse effect for this project and Biltmore.

5/26/17: reviewed drainage plans on Biltmore Estate with Mary Pope Furr at E/E meeting. No adverse effect and Biltmore Estate good with the plans so not likely to object. Passed on this info to Lori Beckwith, USACE, so she can continue with project permit. RGE

Thanks,
Renee

--



Renee Gledhill-Earley
Environmental Review Coordinator
State Historic Preservation Office
NC Dept. of Natural and Cultural Resources
919-807-6579
Renee.Gledhill-Earley@ncdcr.gov

109 East Jones Street | 4716 Mail Service Center | Raleigh, NC 27699-4617

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

Please Note: Requests for project review or responses to our review comments should be sent to our Environmental Review mailbox at environmental.review@ncdcr.gov Otherwise, I will have to return your request and ask that you send it to the proper mailbox. This will cause delays in your project. Information on email project submittal is at: http://www.hpo.ncdcr.gov/er/er_email_submittal.html

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



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

June 26, 2017

Ms. Janet A. Mizzi
Field Supervisor
US Fish and Wildlife Service
160 Zillicoa Street
Asheville, NC 28801

Subject: **Section 7 Concurrence Request** for the Proposed I-26 at NC 191 Interchange Modification, Buncombe County, Federal Aid Project No. IMF-026-1(191)47; WBS No. 45552.1.1; Division 13, TIP I-5504

Reference: Section 7 Consultation for the Northern long-eared bat and Gray bat, May 4, 2016
Bridge and Culvert Bat Assessment, dated August 25, 2016
I-5504 - Lighting Plan/Response
I-5504 - Lighting response email, dated March 10, 2017

Dear Ms. Mizzi,

The purpose of this letter is to request concurrence from the U.S. Fish and Wildlife Service (USFWS) pursuant to Section 7 of the Endangered Species Act, as amended (16 U.S.C. 1531 et seq.) (ESA) for the proposed I-26 at NC 191 Interchange Modification, Buncombe County.

As of April 11, 2017 the USFWS lists eleven federally protected species for Buncombe County.

| Scientific Name | Common Name | Federal Status | Habitat Present | Biological Conclusion |
|--------------------------------------|-----------------------------------|----------------|-----------------|-----------------------|
| <i>Alasmidonta raveneliana</i> | Appalachian elktoe* | E | No | No Effect |
| <i>Bombus affinis</i> | Rusty-patched bumble bee | E | ** | ** |
| <i>Clemmys muhlenbergii</i> | Bog turtle | T (S/A) | No | Not Required |
| <i>Epioblasma florentina walker</i> | Tan riffleshell* | E | No | No Effect |
| <i>Erimonax monachus</i> | Spotfin chub* | T | No | No effect |
| <i>Geum radiatum</i> | Spreading avens | E | No | No Effect |
| <i>Glaucomys sabrinus coloratus</i> | Carolina northern flying squirrel | E | No | No Effect |
| <i>Gymnoderma lineare</i> | Rock gnome lichen | E | No | No Effect |
| <i>Microhexura montivaga</i> | Spruce-fir moss spider | E | No | No Effect |
| <i>Myotis grisescens</i> | Gray bat | E | Yes | MANLAA |
| <i>Myotis septentrionalis</i> | Northern long-eared bat | T | Yes | *** |
| <i>Sagittaria fasciculata</i> | Bunched arrowhead | E | No | No Effect |
| <i>Sarracenia rubra ssp. Jonesii</i> | Mountain Sweet Pitcherplant | E | No | No Effect |
| <i>Solidago spithamaea</i> | Blue Ridge Goldenrod | T | No | No Effect |

| | | | | |
|---------------------------|-------------------|---|----|-----------|
| <i>Spiraea virginiana</i> | Virginia spiraea* | T | No | No Effect |
|---------------------------|-------------------|---|----|-----------|

E – Endangered; T – Threatened; T(S/A) – Threatened due to similarity of appearance

MANLAA = May Affect – Not Likely to Adversely Affect

*Historical records (the species was last observed in the county more than 50 years ago)

**No Section 7 survey, conclusion, or consultation is required at this time.

***May Affect – NLEB is exempt due to consistency with the 4(d) rule

Summary of Species with Habitat:

Gray bat – In the late summer of 2016, the North Carolina Wildlife Commission (NCWRC) documented the gray bat (*Myotis grisescens*) roosting in several bridges in Buncombe County in close proximity to the proposed project site. Additionally, two transmitted gray bats were identified to be using areas in the vicinity of the project site for night foraging. As such, the project does have habitat for the gray bat. Based on the results of a gray bat survey conducted on August 22 and 23, 2016 (enclosed report dated August 25, 2016), gray bats are not roosting in any of the structures at the project site. Attached is the lighting plan for this project.

BIOLOGICAL CONCLUSION: May Affect Not Likely to Adversely Affect

Northern long-eared bat – According to the North Carolina Natural Heritage Program (NHP) Biotics Database, most recently updated January 2016, the nearest NLEB hibernacula record is 19 miles east (EO ID 32137) and no known NLEB roost trees occur within 150 feet of the project area. EO 32137 represents Bat Site Preserve, including Big Bat Cave and Little Bat Cave with multiple observations from 1980 to 2014. NCDOT has also reviewed the USFWS Asheville office website for consistency with NHP records. This project is located entirely outside of the red highlighted areas (12-digit HUC) that the USFWS Asheville Field Office has determined to be representative of an area that may require consultation. See referenced Memo enclosed.

NCDOT has determined that the proposed action does not require separate consultation on the grounds that the proposed action is consistent with the final Section 4(d) rule, codified at 50 C.F.R. § 17.40(o) and effective February 16, 2016. NCDOT may presume its determination is informed by best available information and consider Section 7 responsibilities fulfilled for NLEB.

Proposed Commitments

1. If anything changes with the location or extent of the work or the lighting, USFWS will be contacted immediately.
2. A kickoff meeting will be held with all contractors and subcontractors prior to the permitted work commencing on the project to ensure the limits of construction and scope of work are clear.

Please see the attached

- Section 7 Consultation for the Northern long-eared bat and Gray bat, May 4, 2016
- Bridge and Culvert Bat Assessment, dated August 25, 2016
- I-5504 - Lighting Plan/Response
- I-5504 - Lighting response email, dated March 10, 2017

NCDOT believes that the requirements of Section 7(a)(2) of the ESA have been satisfied and hereby request your concurrence. If you have any questions, please contact Bill Barrett at wabarrett@ncdot.gov or (919) 707-6103.

Sincerely,



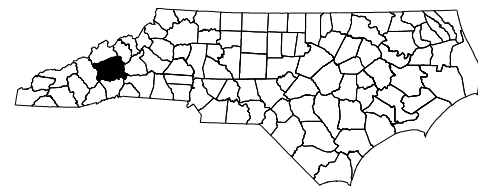
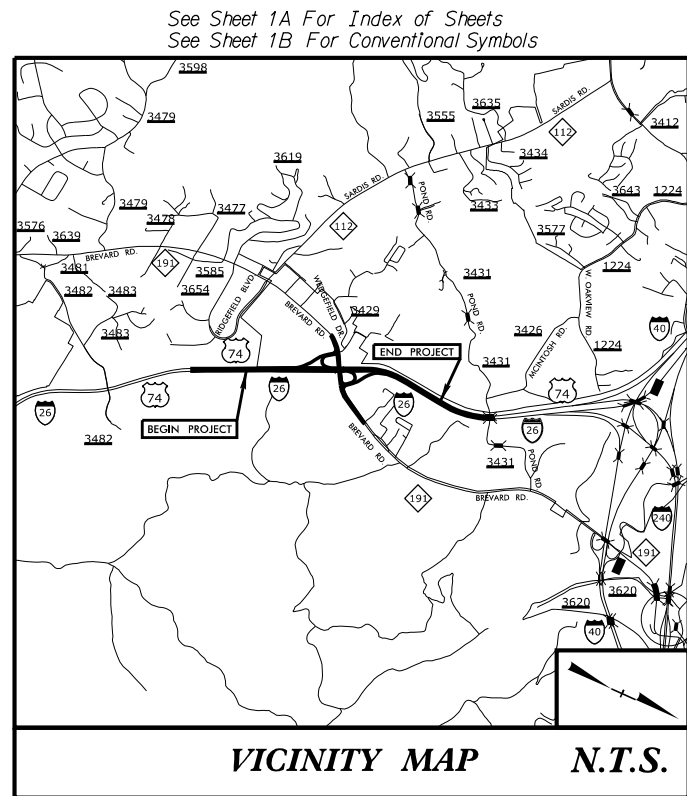
for Phillip S, Harris, P.E., C.P.M.
Environmental Analysis Unit Head

Cc:

Ms. Lori Beckwith, USACE
Mr. Jared Gray, NCDOT – NES
Ms. Kathy Herring, NCDOT – NES
Mr. Chris Manley, NCDOT - NES
Ms. Marella Buncick, USFWS
Mr. Roger Bryan, NCDOT – Division 13
Mr. Malcolm Watson, NCDOT-Design Build

TIP PROJECT: I-5504

CONTRACT: C203754



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BUNCOMBE COUNTY

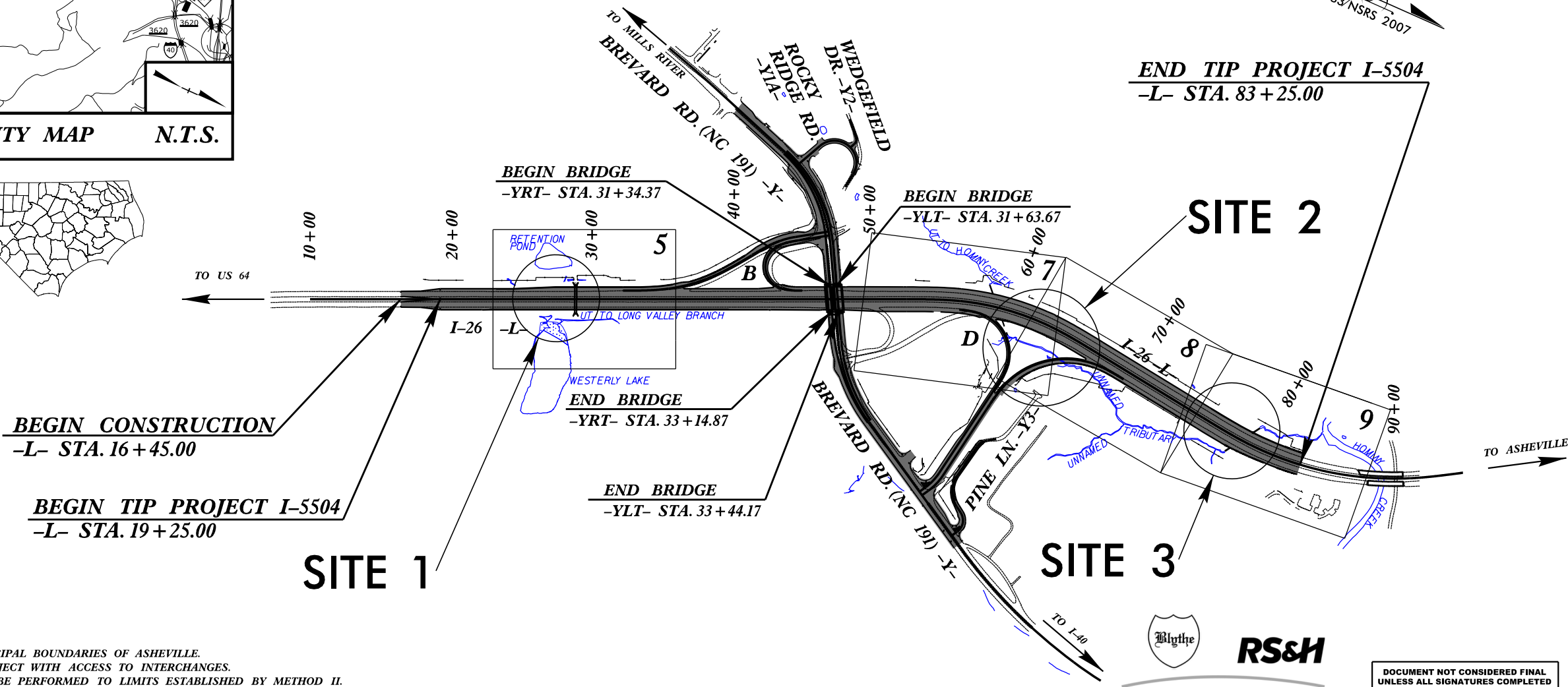
**LOCATION: I-26/NC 191 (BREVARD ROAD) INTERCHANGE MODIFICATIONS
AND I-26 WIDENING AND PAVEMENT RECONSTRUCTION**

**TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURES, CULVERT,
RETAINING WALLS, SOUND WALLS, SIGNALS, AND SIGNING**

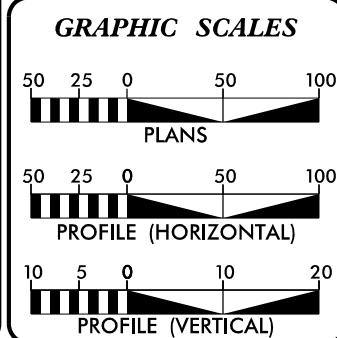
WETLAND AND SURFACE WATER IMPACTS PERMIT

| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|-----------------|-----------------------------|-------------|--------------|
| N.C. | I-5504 | 1 | |
| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION | |
| 45552.3.1 | IMF-026-1(191)47 | P.E. | |
| | | | |
| | | | |
| | | | |

**PERMIT DRAWING
SHEET 1 OF 26**



THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF ASHEVILLE.
THIS IS A CONTROLLED ACCESS PROJECT WITH ACCESS TO INTERCHANGES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO LIMITS ESTABLISHED BY METHOD II.
DESIGN EXCEPTION REQUIRED FOR THE HORIZONTAL RADII OF -LPD- AND -RPD-.



DESIGN DATA

| | |
|----------------------------|------------|
| ADT 2016 = | 95,900 |
| ADT 2040 = | 118,300 |
| DHV = | 10 % |
| D = | 55 % |
| T = | 14 % * |
| V = | 70 MPH |
| * (TTST = 10% + DUAL = 4%) | |
| FUNC CLASS = | INTERSTATE |

PROJECT LENGTH

| | | |
|-------------------------------------|---|-------------|
| LENGTH ROADWAY TIP PROJECT I-5504 | = | 1.212 MILES |
| LENGTH STRUCTURE TIP PROJECT I-5504 | = | 0.000 MILES |
| TOTAL LENGTH TIP PROJECT I-5504 | = | 1.212 MILES |

*NOTE: EASTBOUND LANES USED TO CALCULATE LENGTH OF PROJECT.

K. ZAK HAMIDI, PE
NCDOT CONTACT

Prepared In the Office of:
RS&H
ARCHITECTS-ENGINEERS-PLANNERS, INC.
8601 SIX FORKS ROAD, SUITE 260
RALEIGH, NC 27615

2012 STANDARD SPECIFICATIONS

| | |
|--|--|
| RIGHT OF WAY DATE: FEBRUARY 16, 2016 | JASON TALLEY, PE PROJECT ENGINEER |
| LETTING DATE: FEBRUARY 16, 2016 | ALLISON DRAKE, PE PROJECT DESIGN ENGINEER |

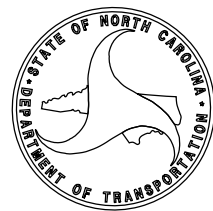
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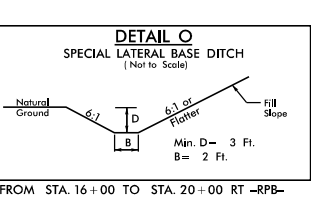
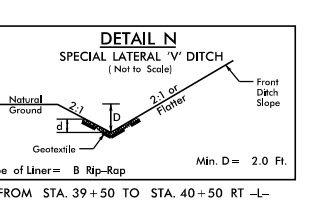
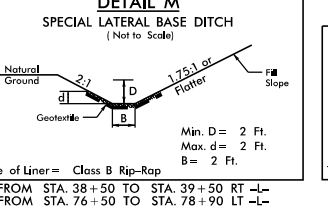
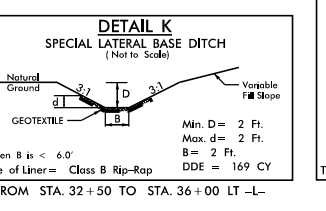
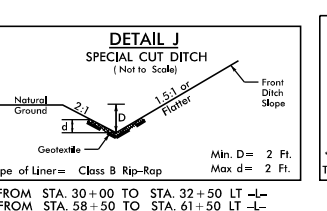
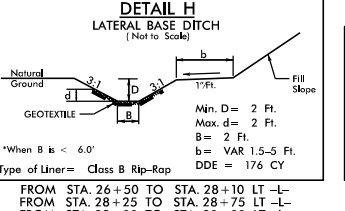
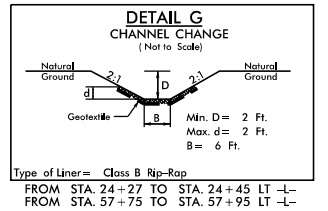
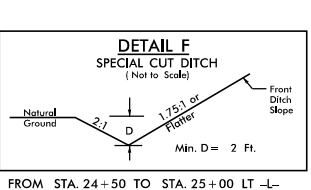
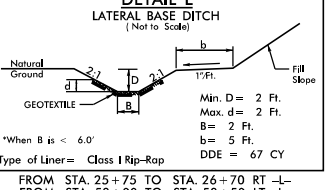
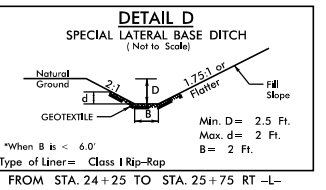
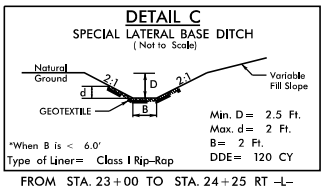
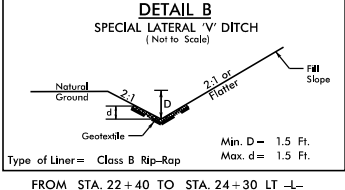
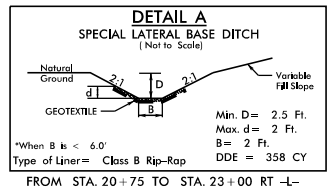
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ROADWAY DESIGN ENGINEER

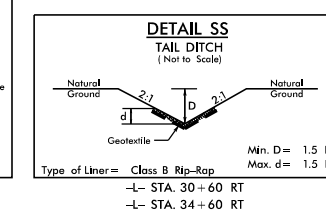
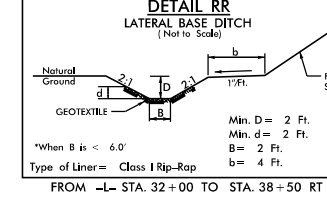
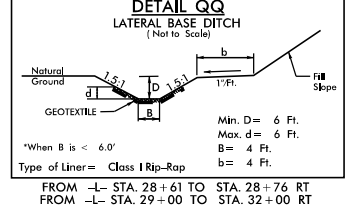
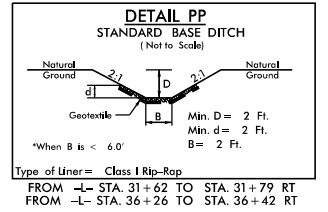
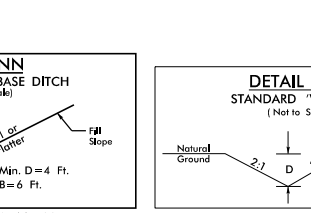
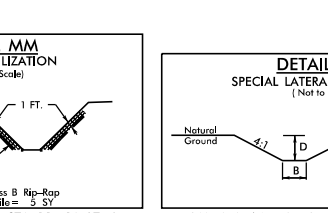
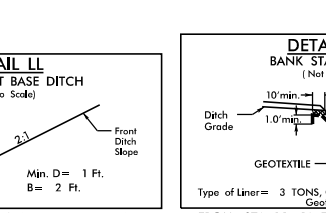
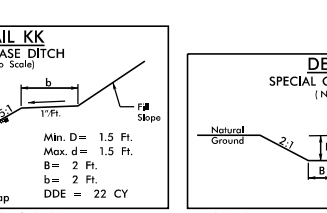
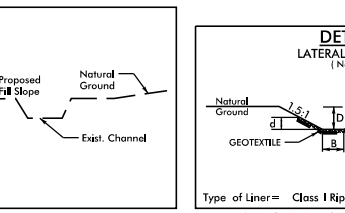
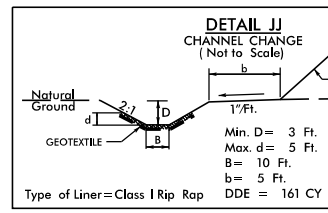
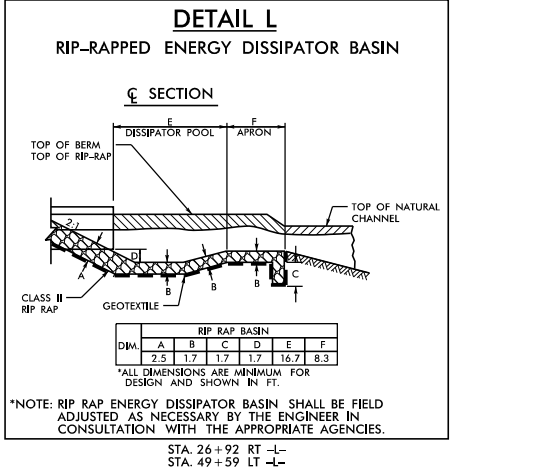
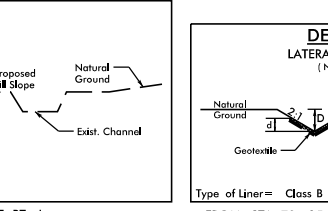
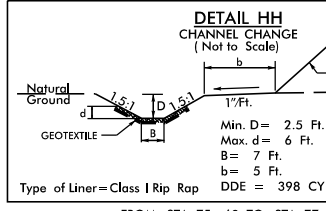
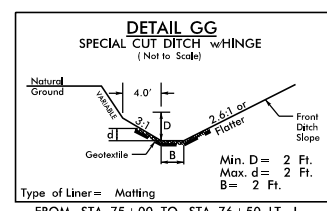
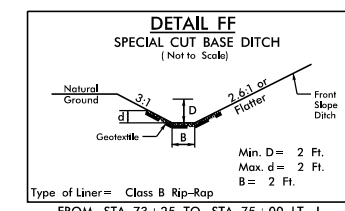
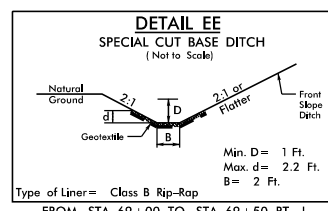
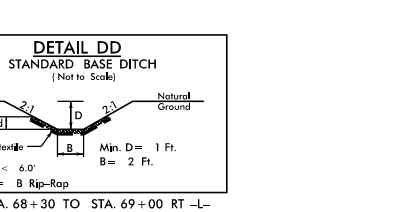
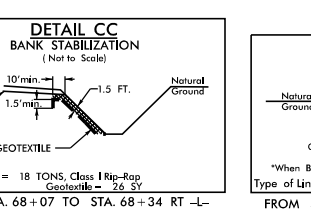
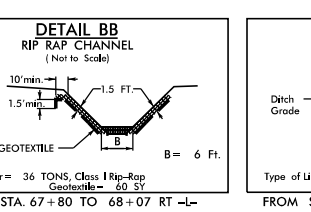
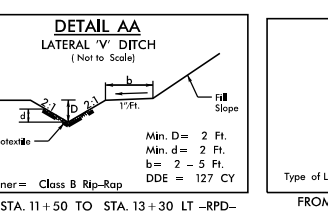
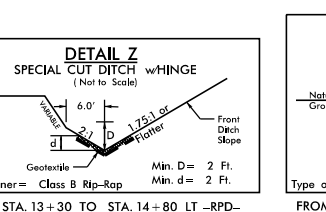
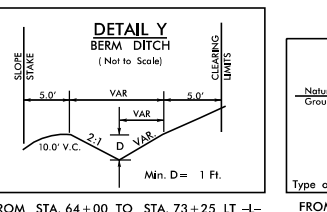
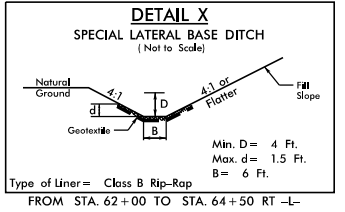
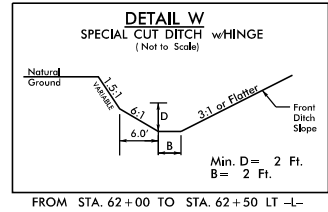
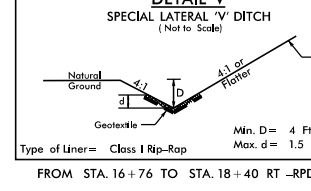
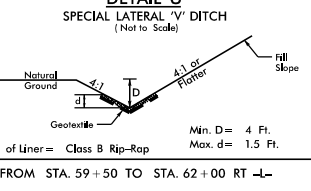
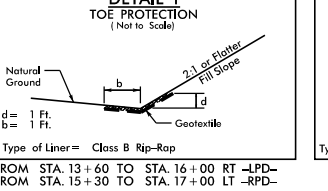
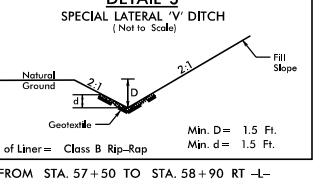
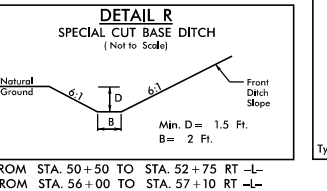
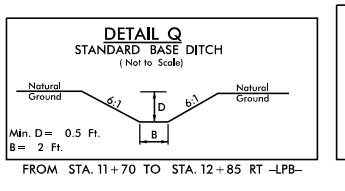
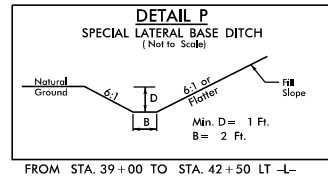
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DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED





PERMIT DRAWING SHEET 2 OF 26



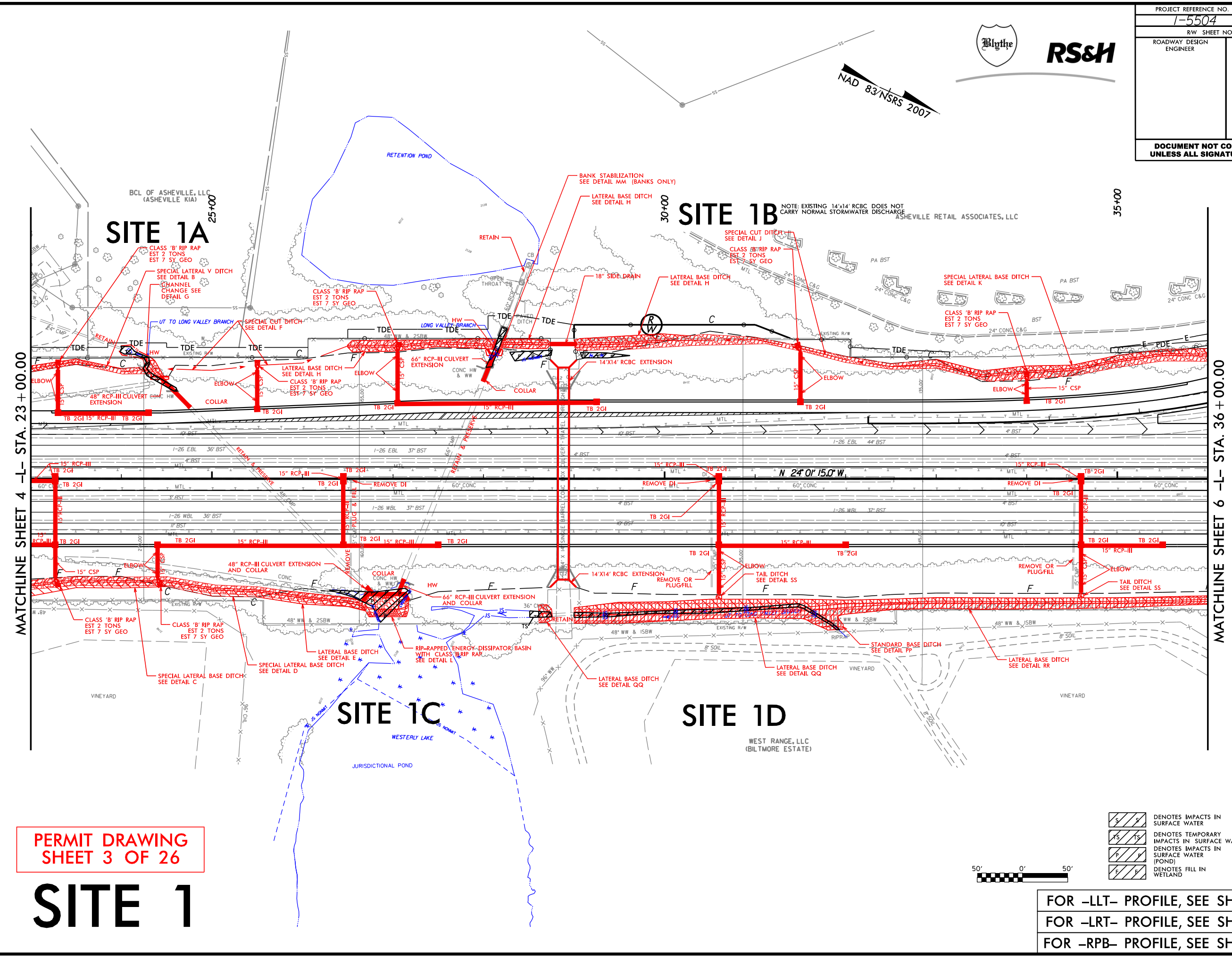
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| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
| DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED | |



NAD 83/NSRS 2007



**PERMIT DRAWING
SHEET 3 OF 26**

SITE 1

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

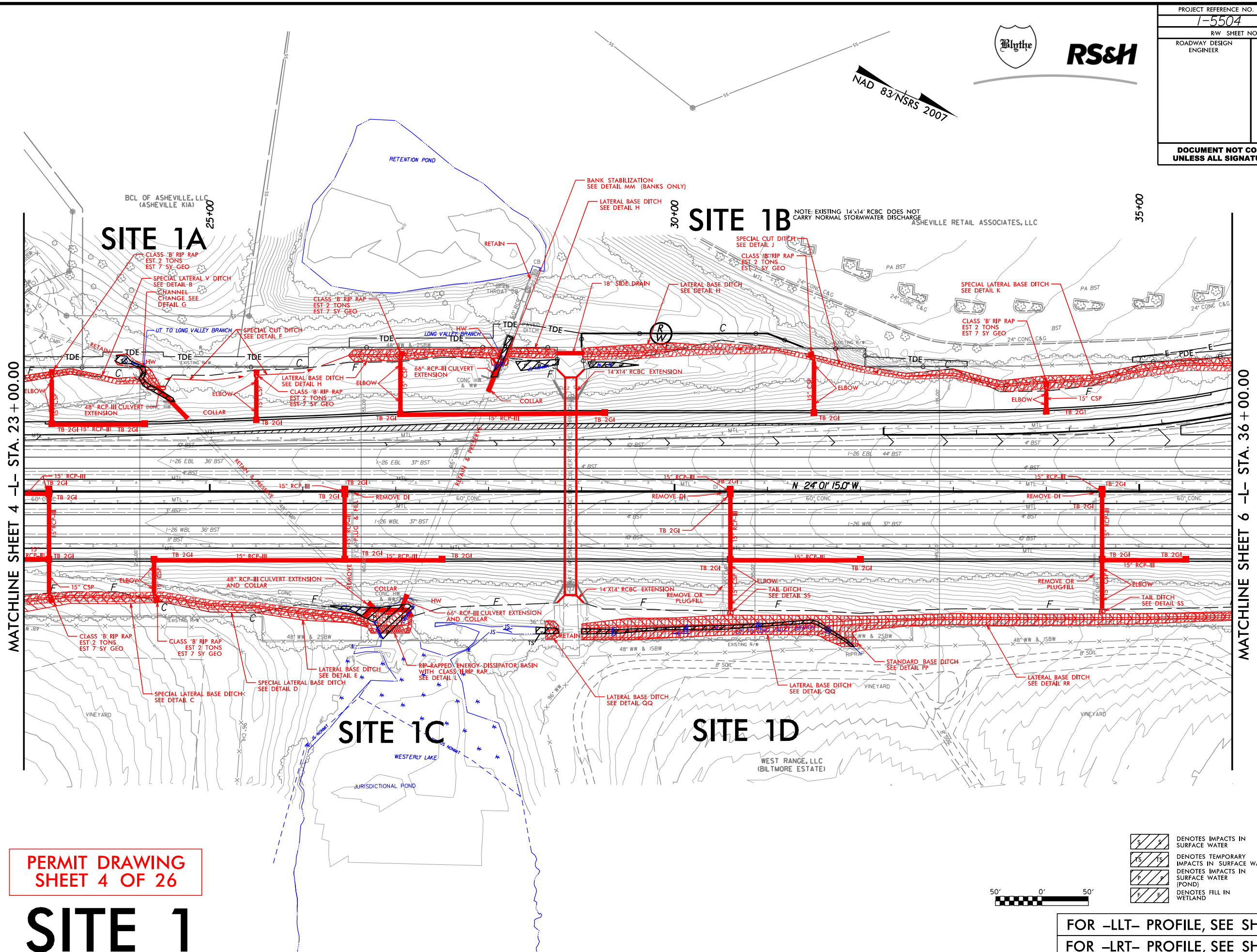
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FOR -LRT- PROFILE, SEE SHEET NO. 14
FOR -RPB- PROFILE, SEE SHEET NO. 23

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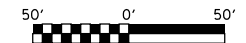
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PERMIT DRAWING
SHEET 4 OF 26

SITE 1

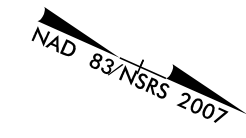
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES IMPACTS IN SURFACE WATER (POND)
- DENOTES FILL IN WETLAND



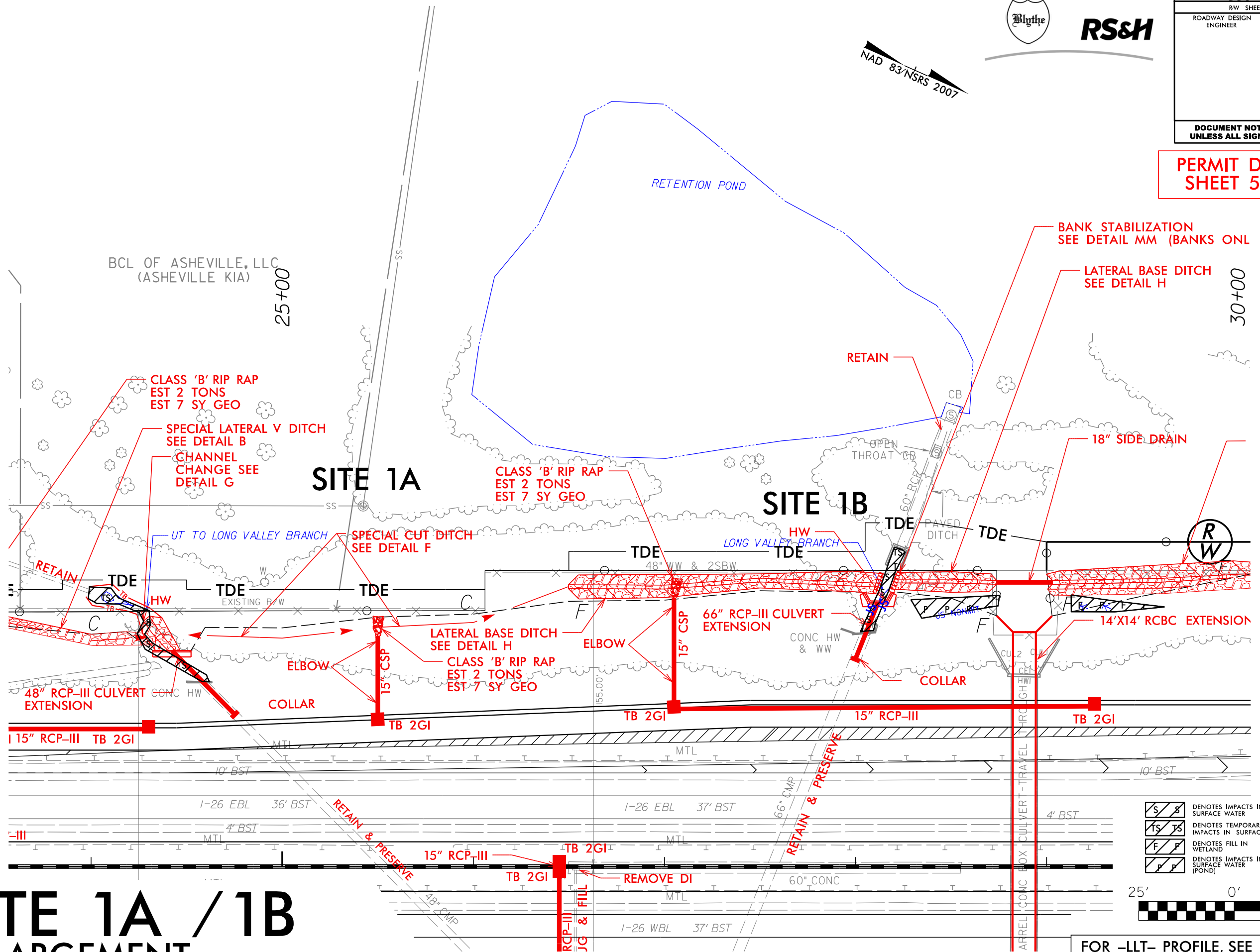
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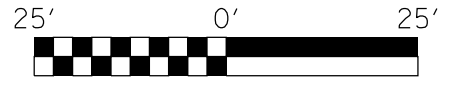


PERMIT DRAWING
SHEET 5 OF 26



SITE 1A / 1B ENLARGEMENT

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



FOR -LLT- PROFILE, SEE SHEET NO. 14
FOR -LRT- PROFILE, SEE SHEET NO. 14

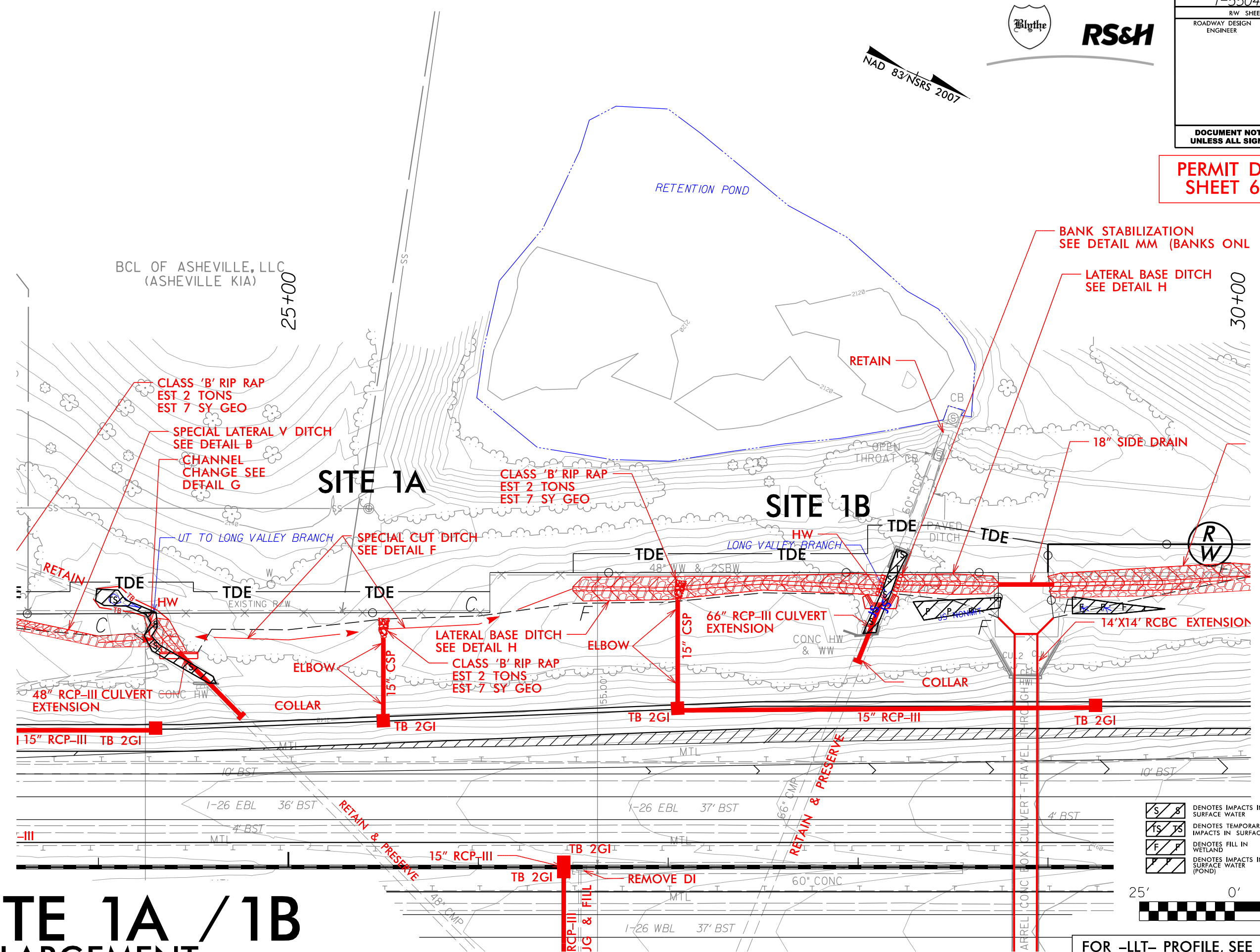
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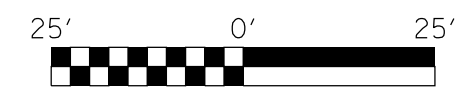
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PERMIT DRAWING
SHEET 6 OF 26



SITE 1A / 1B ENLARGEMENT

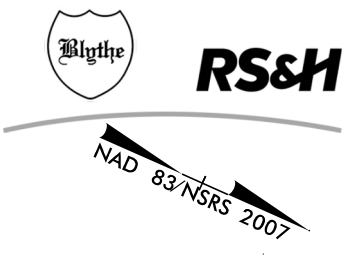
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| | DENOTES IMPACTS IN SURFACE WATER |
| | DENOTES TEMPORARY IMPACTS IN SURFACE WATER |
| | DENOTES FILL IN WETLAND |
| | DENOTES IMPACTS IN SURFACE WATER (POND) |



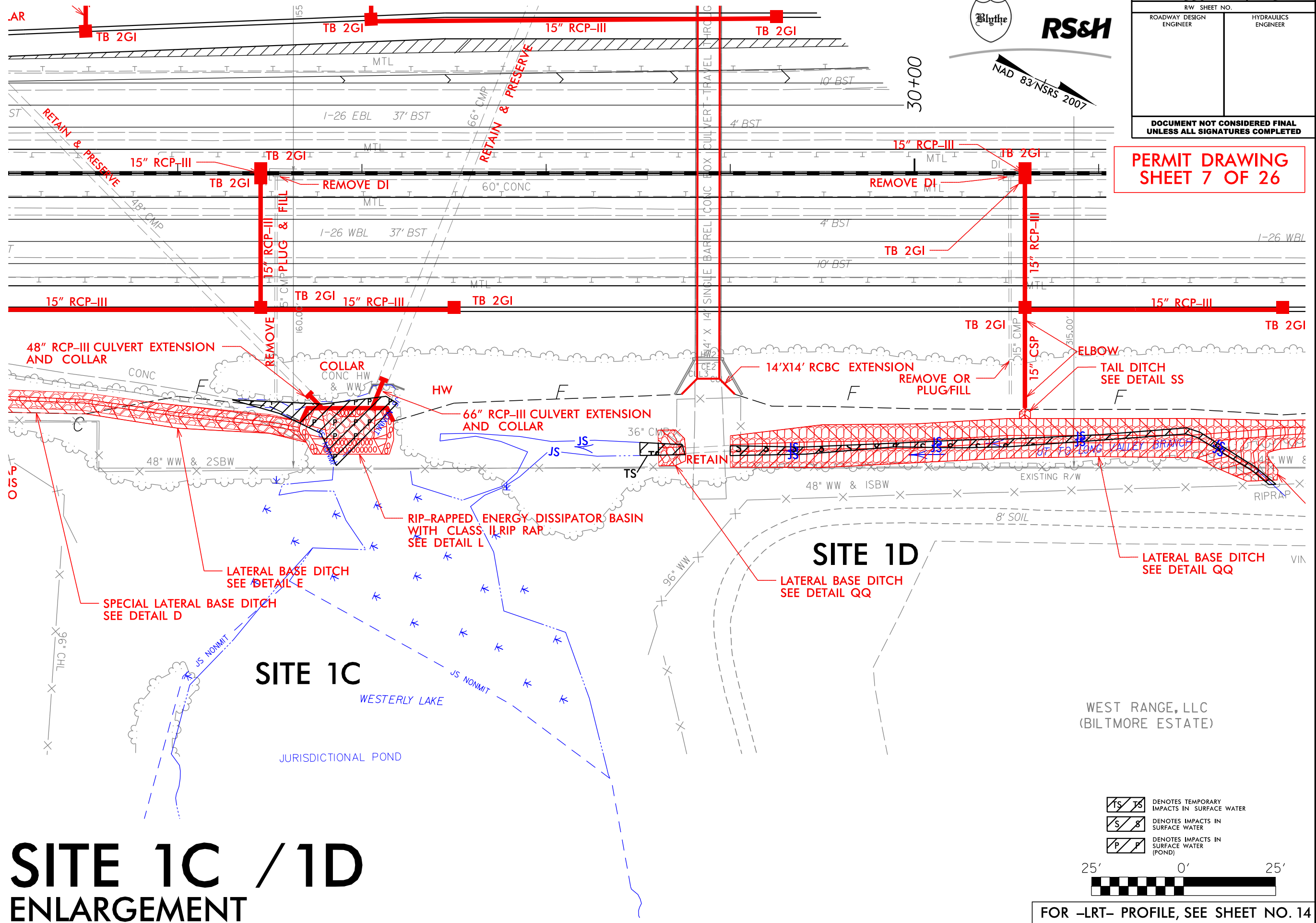
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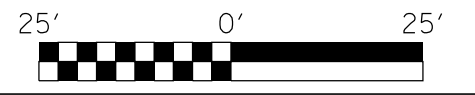


PERMIT DRAWING
SHEET 7 OF 26



SITE 1C / 1D ENLARGEMENT

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

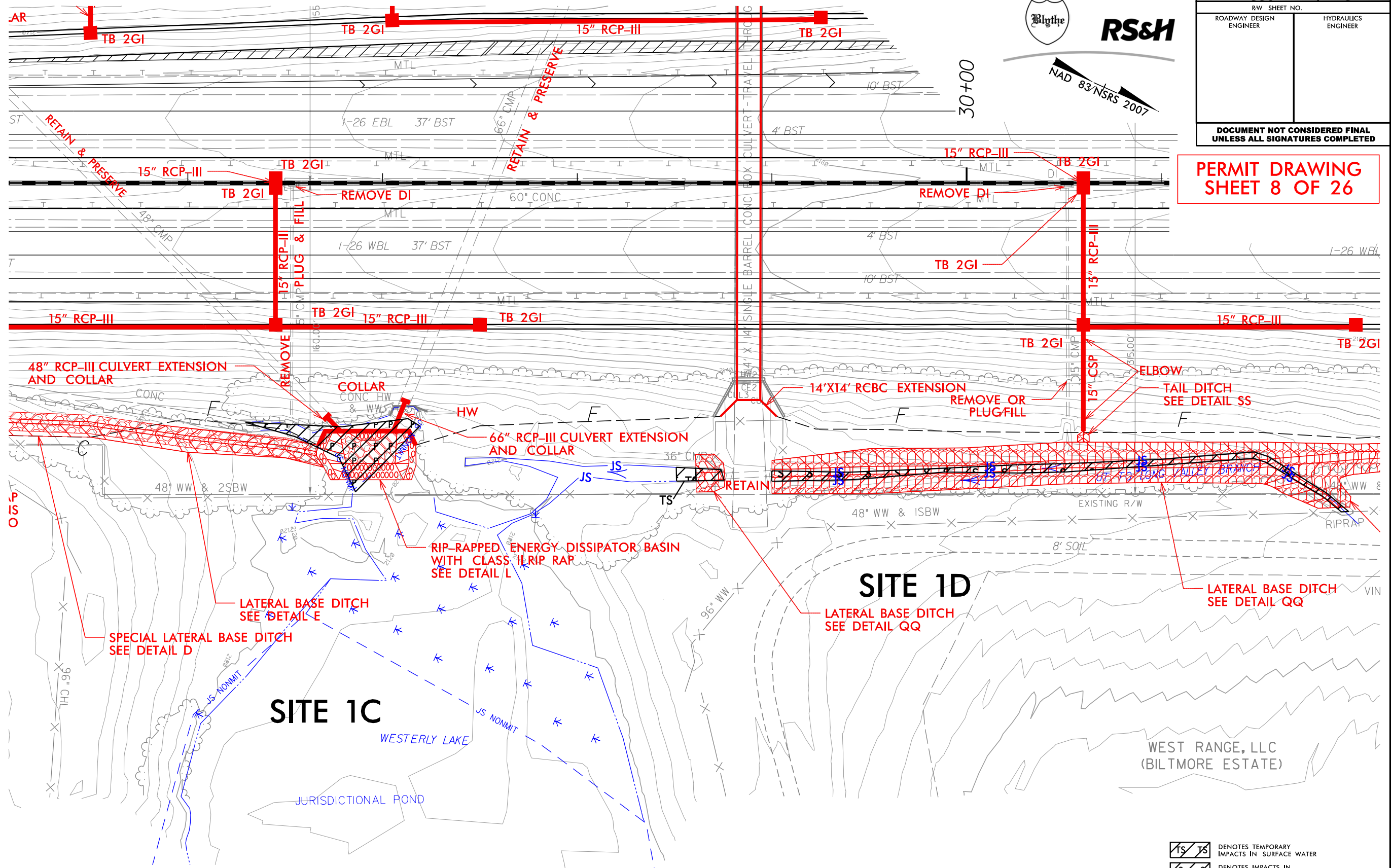


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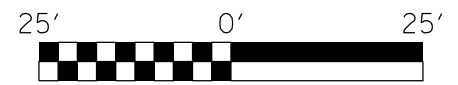
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PERMIT DRAWING
SHEET 8 OF 26



SITE 1C / 1D ENLARGEMENT

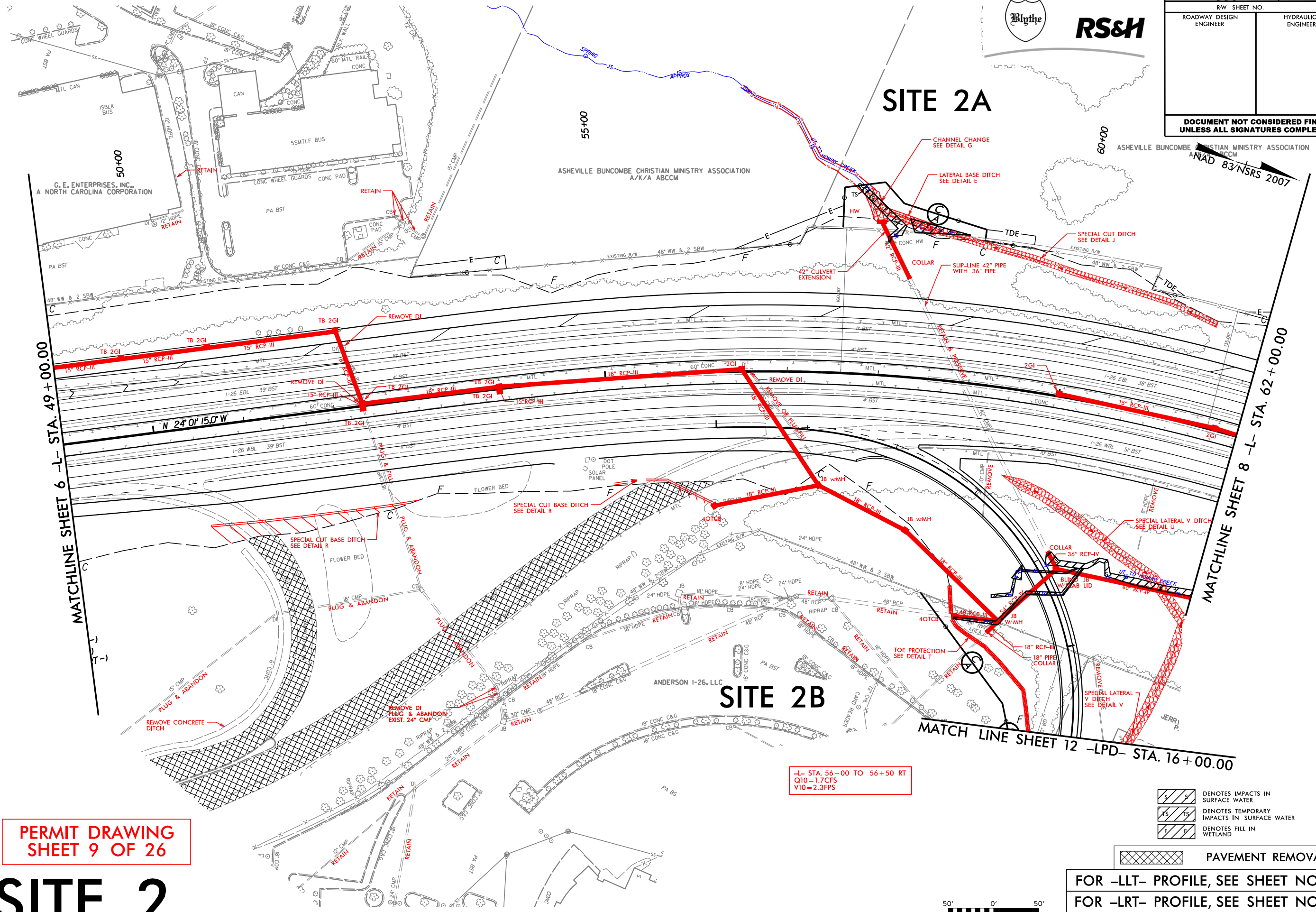
- TS/JS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- S/S DENOTES IMPACTS IN SURFACE WATER
- P/P DENOTES IMPACTS IN SURFACE WATER (POND)



FOR -LRT- PROFILE, SEE SHEET NO. 14

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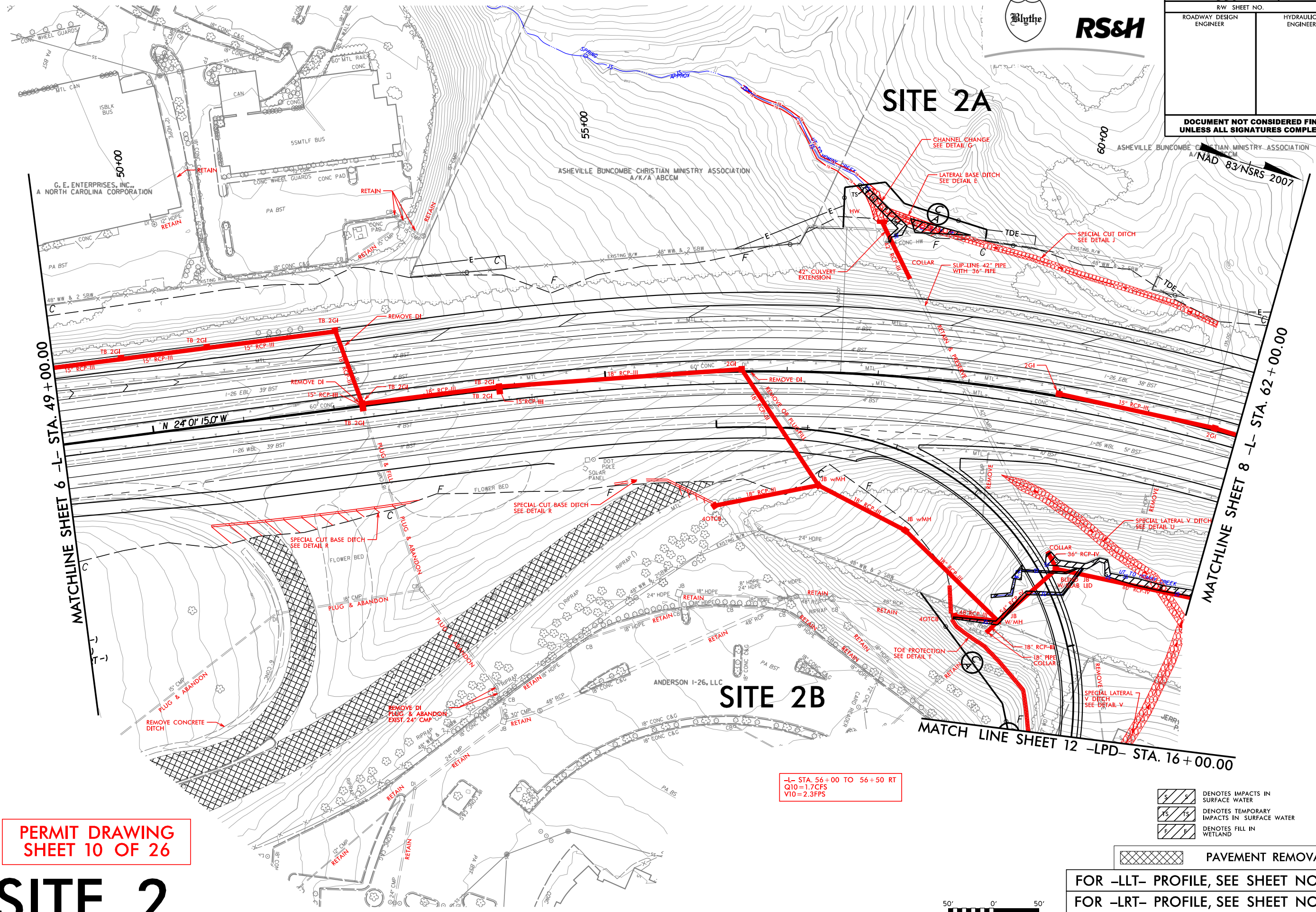
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SHEET 9 OF 26**

SITE 2

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FOR -LRT- PROFILE, SEE SHEET NO. 16
FOR -LPD- PROFILE, SEE SHEET NO. 25

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| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
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| DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED | |



PERMIT DRAWING
SHEET 10 OF 26

SITE 2

-L- STA. 56+00 TO 56+50 RT
Q10=1.7CFS
V10=2.3FPS

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

PAVEMENT REMOVAL

FOR -LLT- PROFILE, SEE SHEET NO. 16
FOR -LRT- PROFILE, SEE SHEET NO. 16
FOR -LPD- PROFILE, SEE SHEET NO. 25

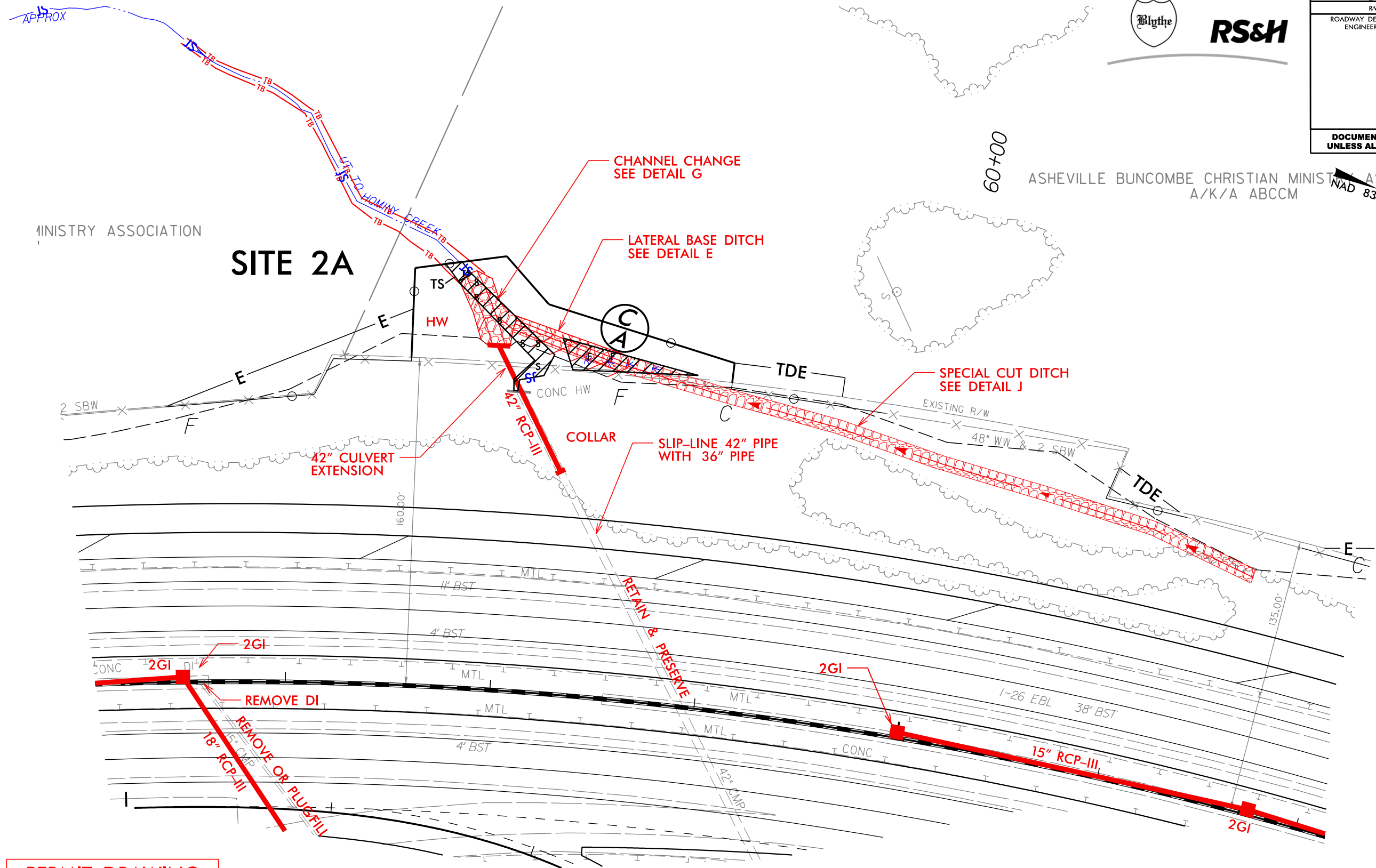


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| R/W SHEET NO. | |
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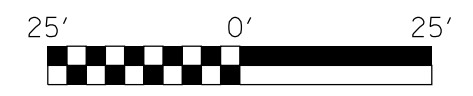


ASHEVILLE BUNCOMBE CHRISTIAN MINISTRY ASSOCIATION
A/K/A ABCCM



**PERMIT DRAWING
SHEET 11 OF 26**

SITE 2A ENLARGEMENT



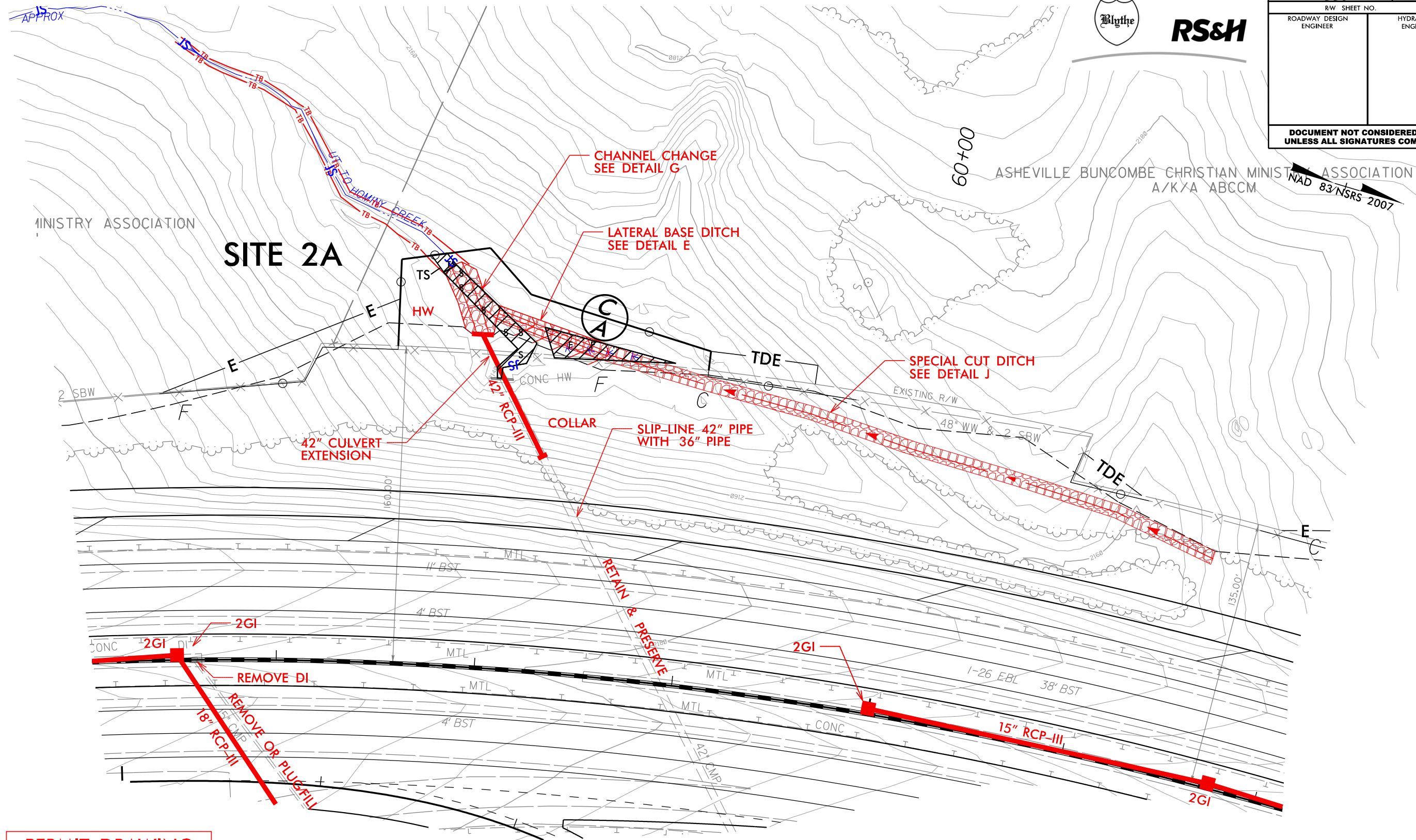
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| | DENOTES IMPACTS IN SURFACE WATER |
| | DENOTES TEMPORARY IMPACTS IN SURFACE WATER |
| | DENOTES FILL IN WETLAND |

PAVEMENT REMOVAL

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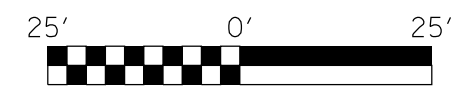
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| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
| DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED | |



PERMIT DRAWING
SHEET 12 OF 26

SITE 2A ENLARGEMENT



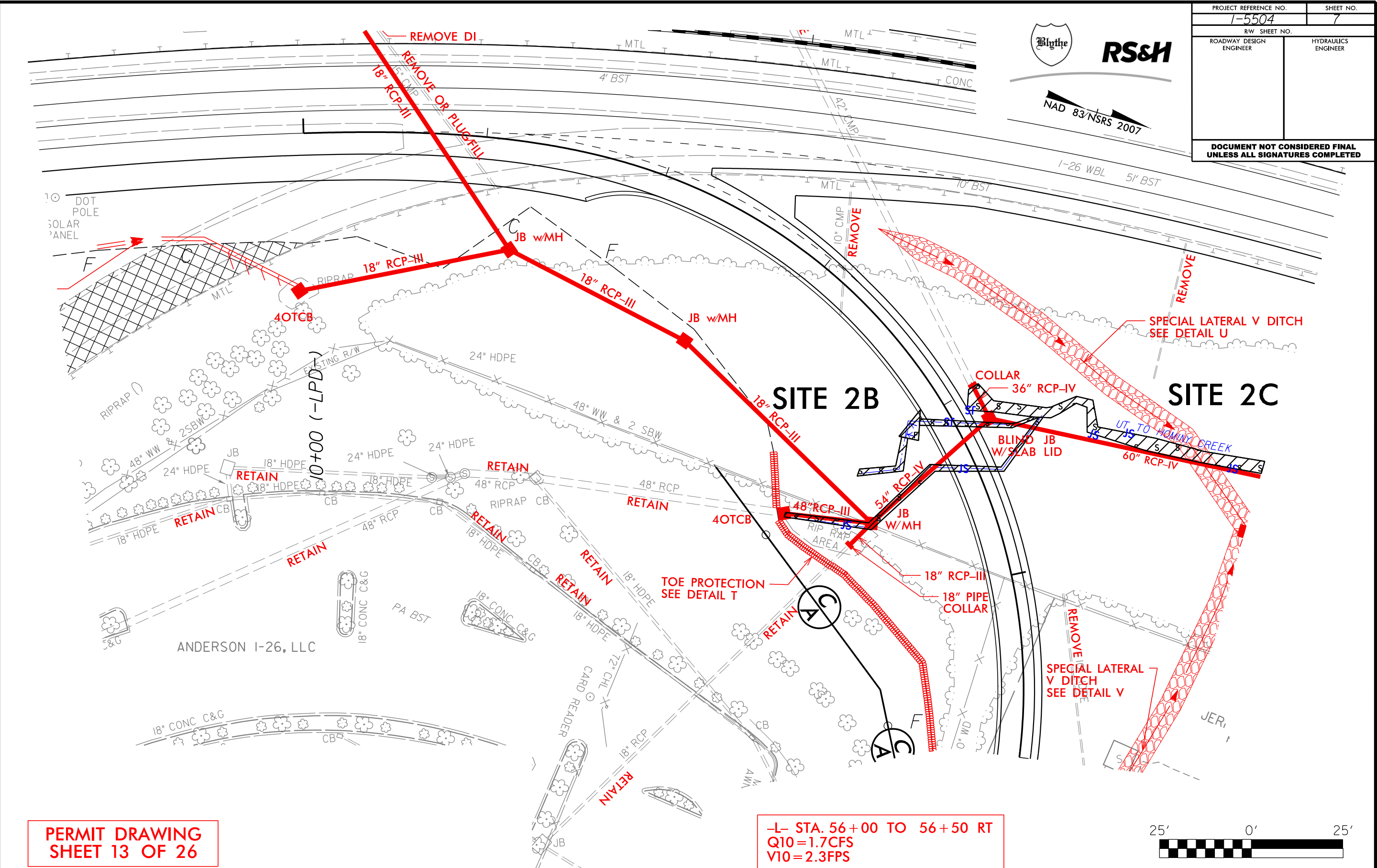
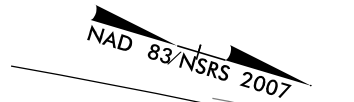
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| | DENOTES IMPACTS IN SURFACE WATER |
| | DENOTES TEMPORARY IMPACTS IN SURFACE WATER |
| | DENOTES FILL IN WETLAND |

PAVEMENT REMOVAL

FOR -LLT- PROFILE, SEE SHEET NO. 16
FOR -LRT- PROFILE, SEE SHEET NO. 16
FOR -LPD- PROFILE, SEE SHEET NO. 25

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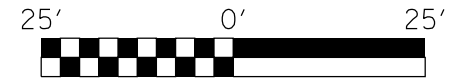


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PERMIT DRAWING SHEET 13 OF 26

SITE 2B / 2C ENLARGEMENT

-L- STA. 56+00 TO 56+50 RT
 Q10=1.7CFS
 V10=2.3FPS



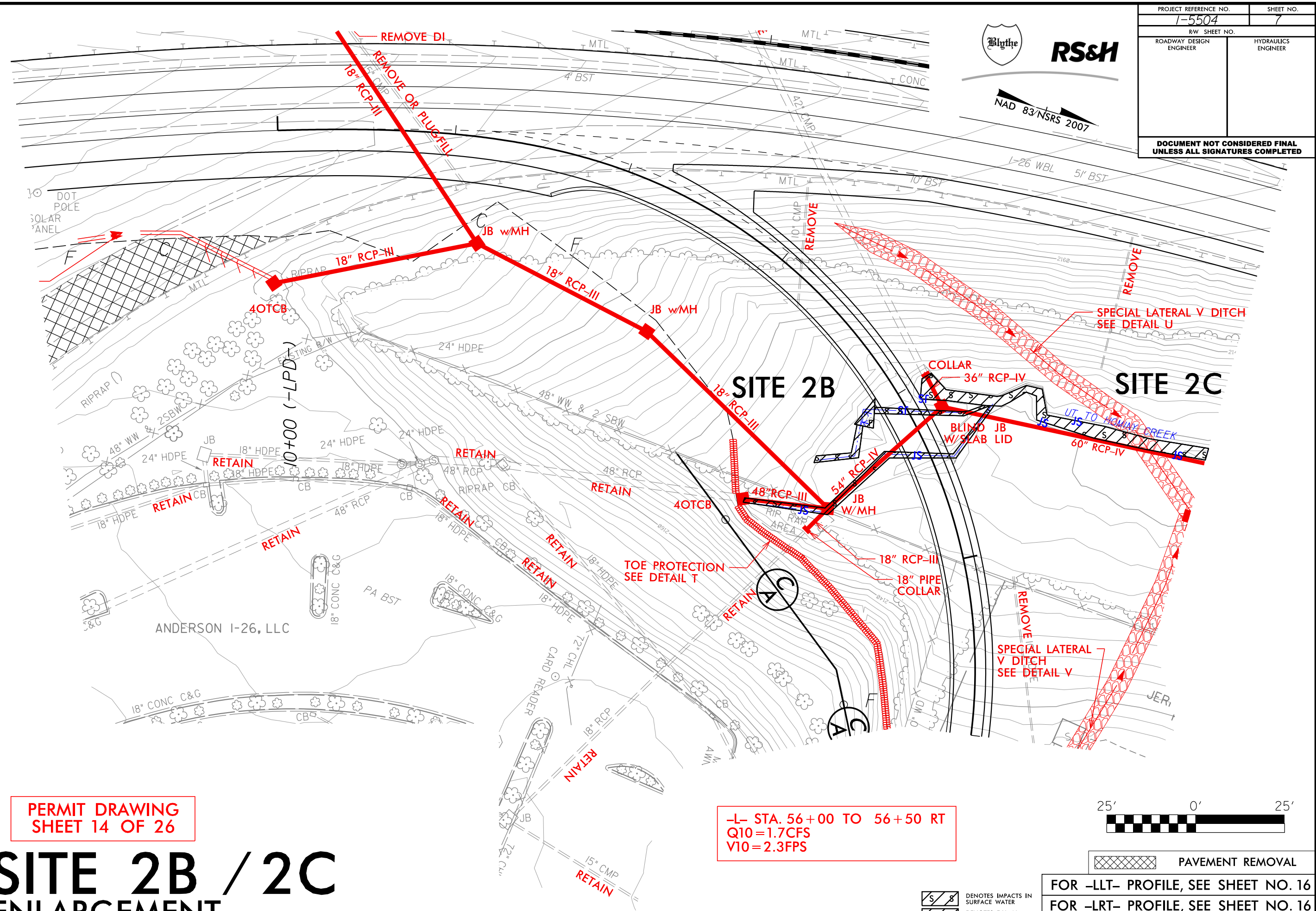
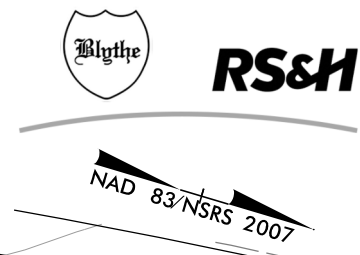
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FOR -LRT- PROFILE, SEE SHEET NO. 16

FOR -LPD- PROFILE, SEE SHEET NO. 25

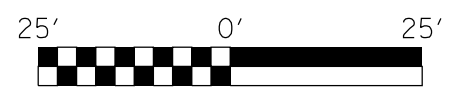
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| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
| DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED | |



**PERMIT DRAWING
SHEET 14 OF 26**

SITE 2B / 2C ENLARGEMENT

**-L- STA. 56+00 TO 56+50 RT
Q10=1.7CFS
V10=2.3FPS**



PAVEMENT REMOVAL

DENOTES IMPACTS IN SURFACE WATER
 DENOTES FILL IN WETLAND

FOR -LLT- PROFILE, SEE SHEET NO. 16
FOR -LRT- PROFILE, SEE SHEET NO. 16
FOR -LPD- PROFILE, SEE SHEET NO. 25

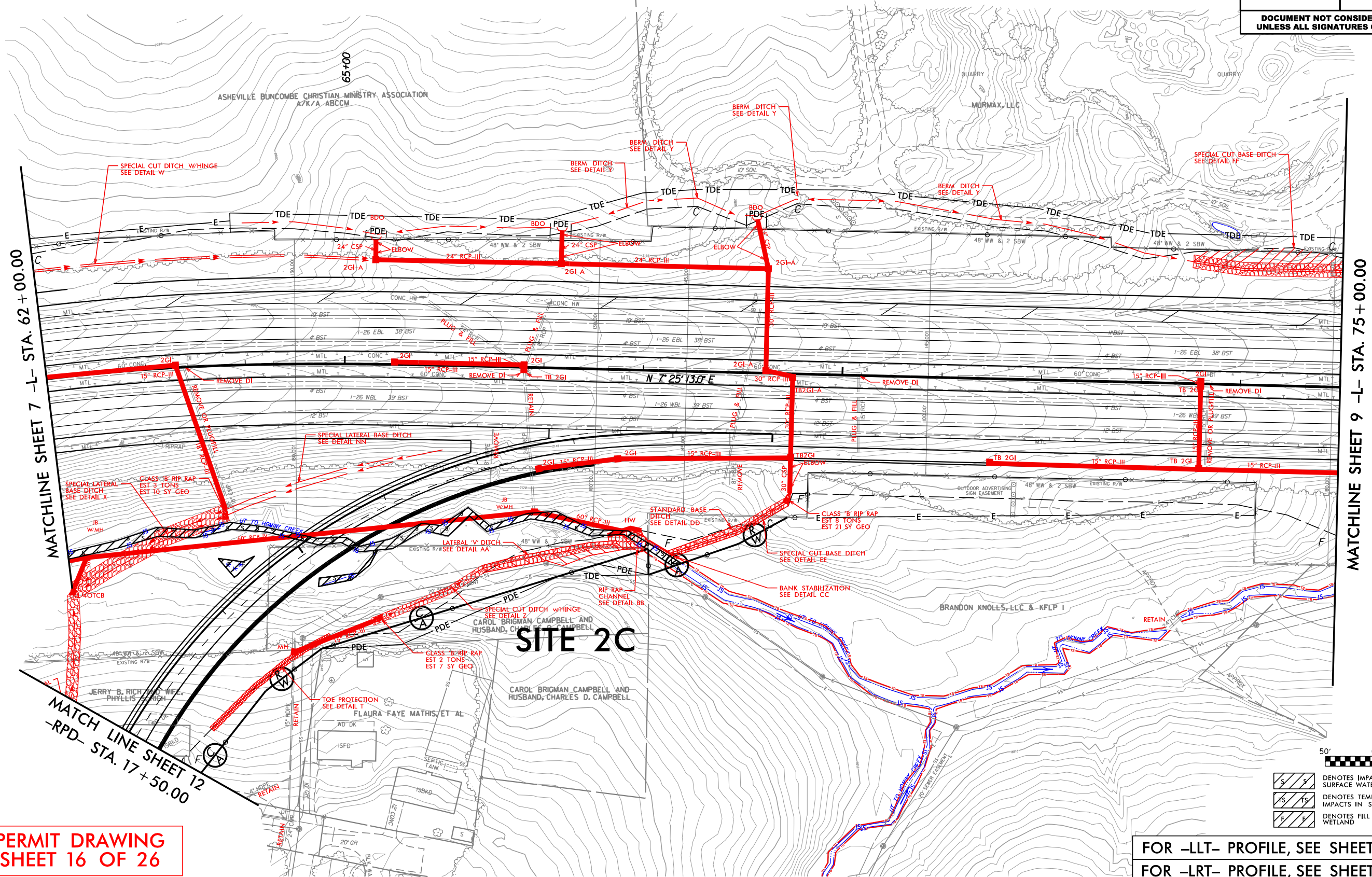
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SITE 2

NAD 83/NSRS 2007



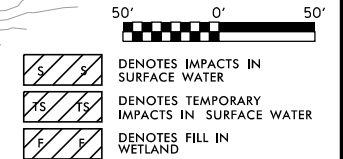
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| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
| DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED | |



MATCHLINE SHEET 7 -L- STA. 62 + 00.00

MATCHLINE SHEET 9 -L- STA. 75 + 00.00

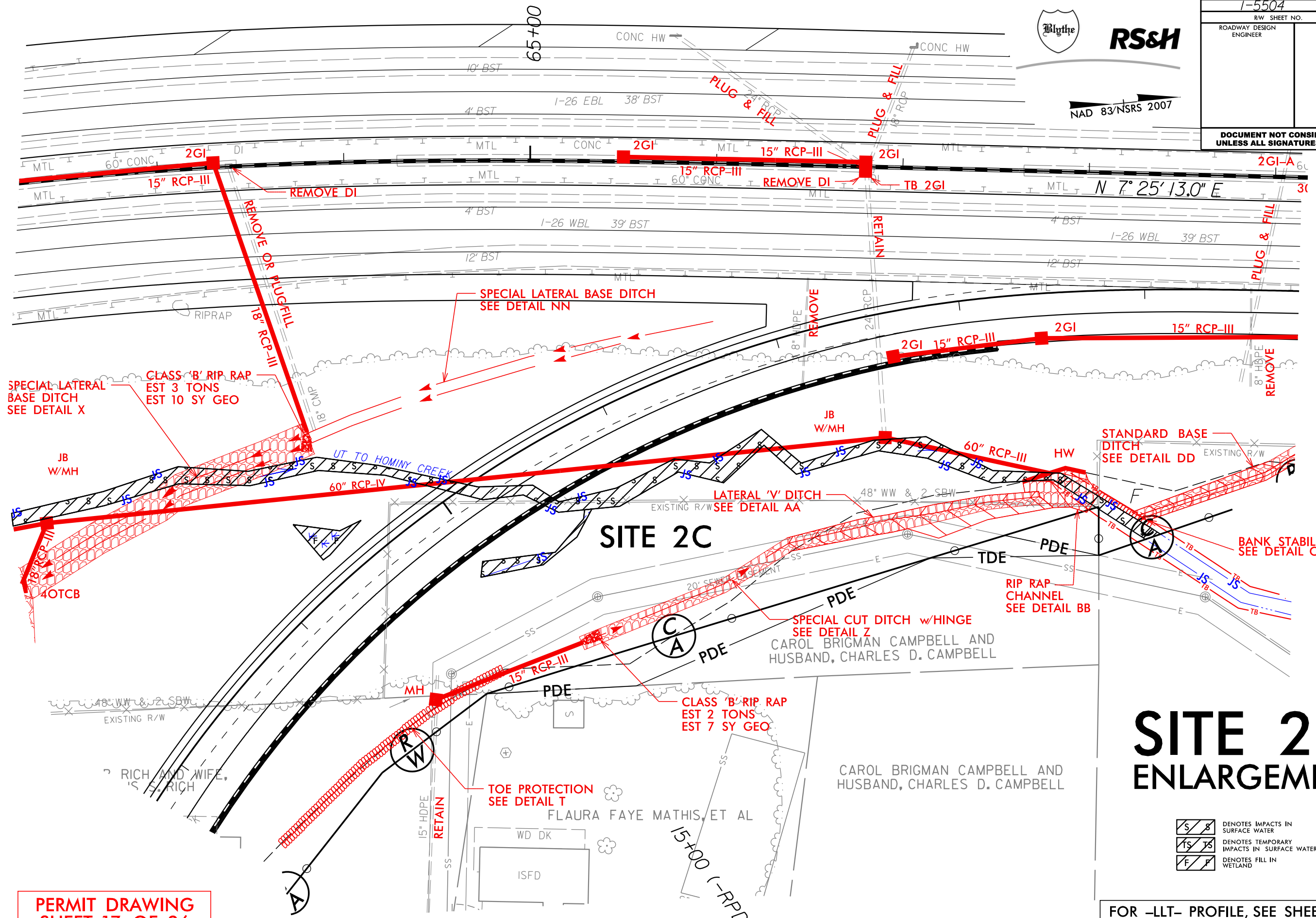
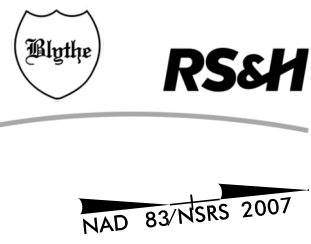
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SHEET 16 OF 26



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 FOR -RPD- PROFILE, SEE SHEET NO. 24

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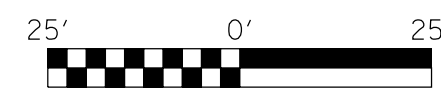


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SHEET 17 OF 26**

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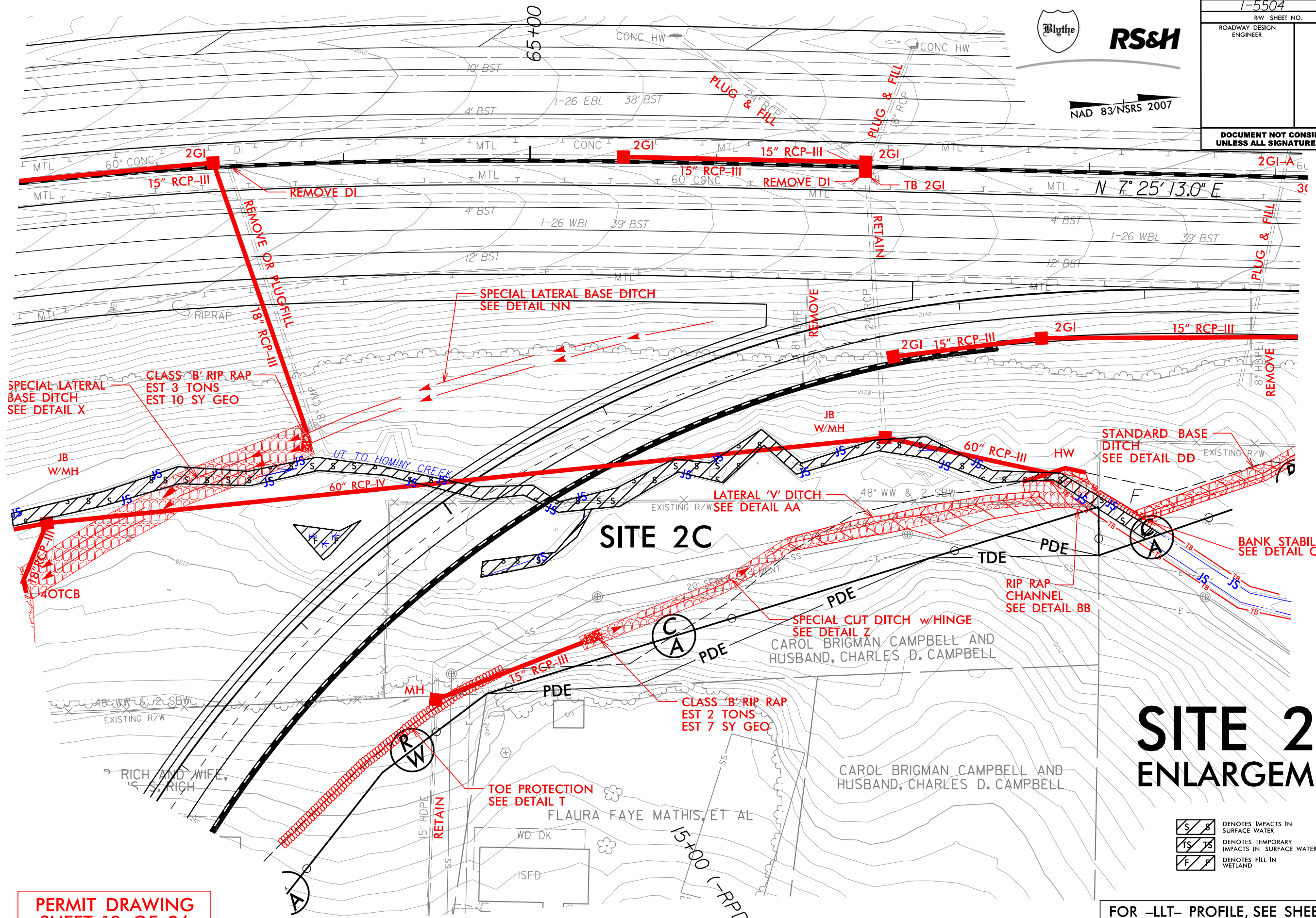
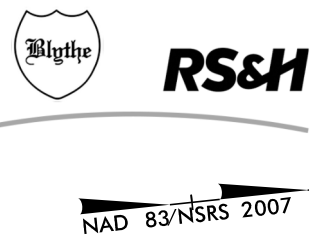
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- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES FILL IN WETLAND

FOR -LLT- PROFILE, SEE SHEET NO. 17
 FOR -LRT- PROFILE, SEE SHEET NO. 17
 FOR -RPD- PROFILE, SEE SHEET NO. 24



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| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
| DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED | |



SPECIAL LATERAL BASE DITCH SEE DETAIL X
 CLASS 'B' RIP RAP EST 3 TONS EST 10 SY GEO

SPECIAL LATERAL BASE DITCH SEE DETAIL NN

LATERAL 'V' DITCH SEE DETAIL AA

STANDARD BASE DITCH SEE DETAIL DD

BANK STABILIZATION SEE DETAIL CC

SPECIAL CUT DITCH w/HINGE SEE DETAIL Z
 CAROL BRIGMAN CAMPBELL AND HUSBAND, CHARLES D. CAMPBELL

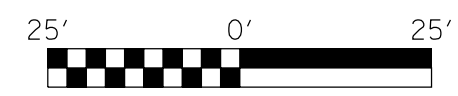
CLASS 'B' RIP RAP EST 2 TONS EST 7 SY GEO

TOE PROTECTION SEE DETAIL T

SITE 2C ENLARGEMENT

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| | DENOTES TEMPORARY IMPACTS IN SURFACE WATER |
| | DENOTES FILL IN WETLAND |

**PERMIT DRAWING
SHEET 18 OF 26**



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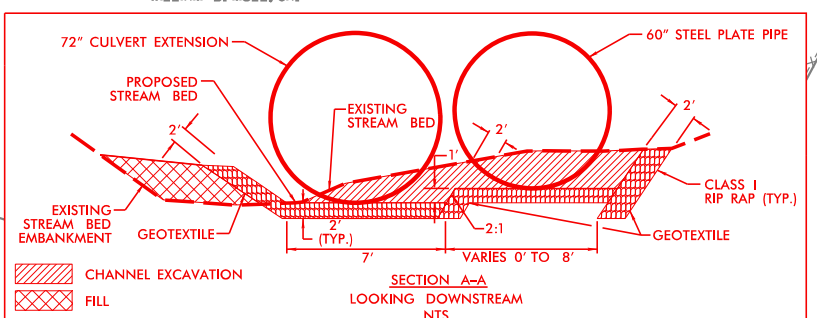
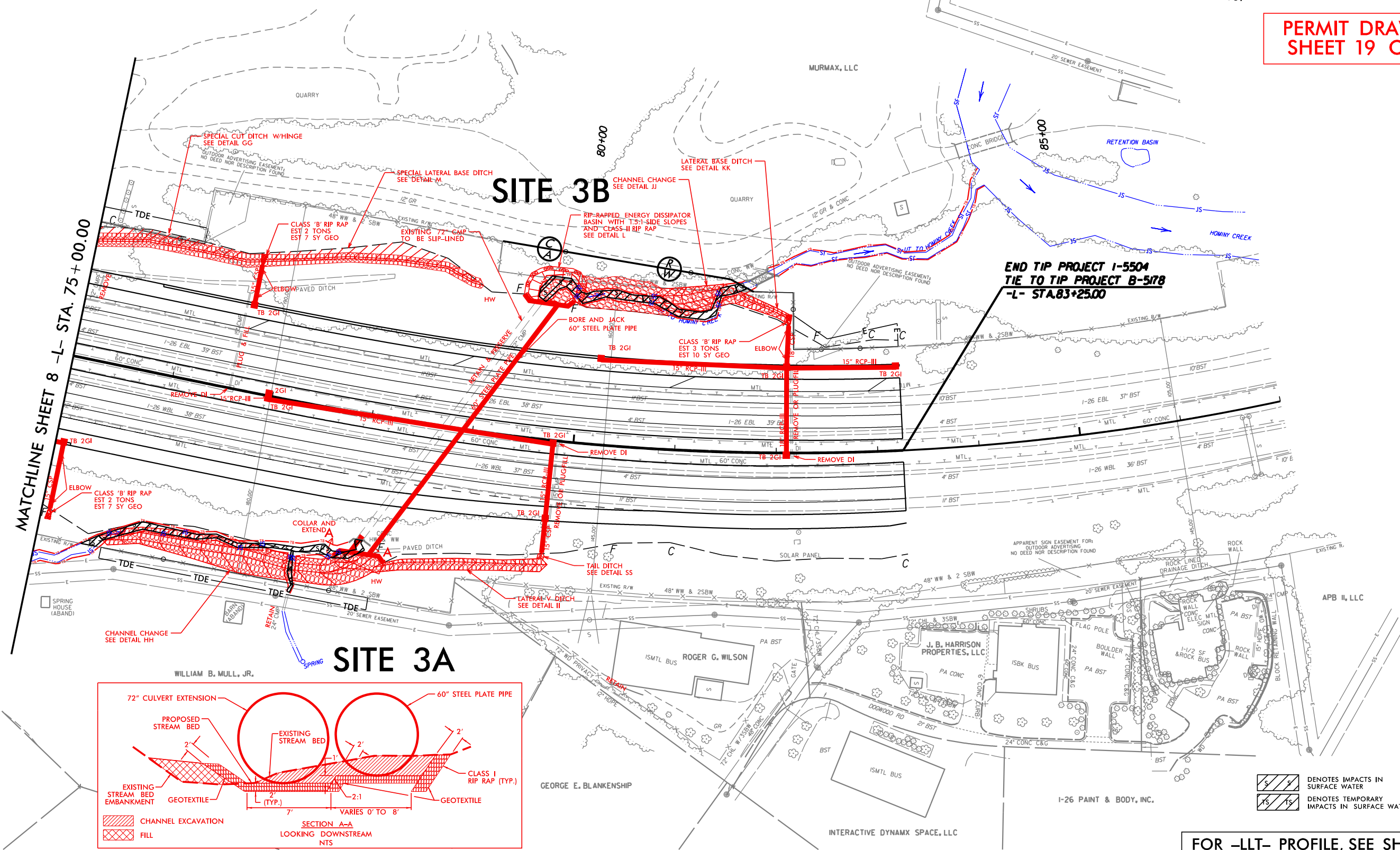


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| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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NAD 83/NSRS 2007

PERMIT DRAWING
SHEET 19 OF 26



DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

FOR -LLT- PROFILE, SEE SHEET NO. 18
FOR -LRT- PROFILE, SEE SHEET NO. 18

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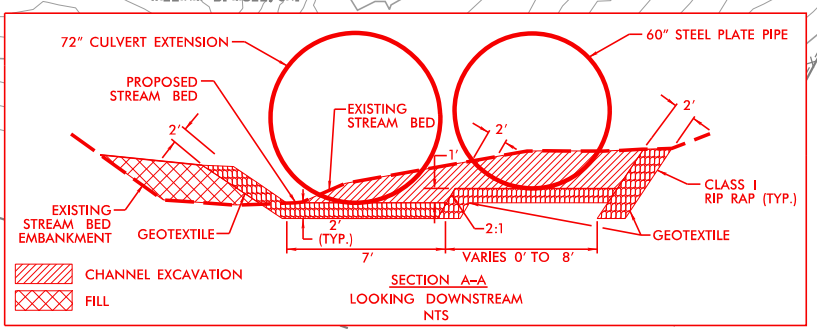
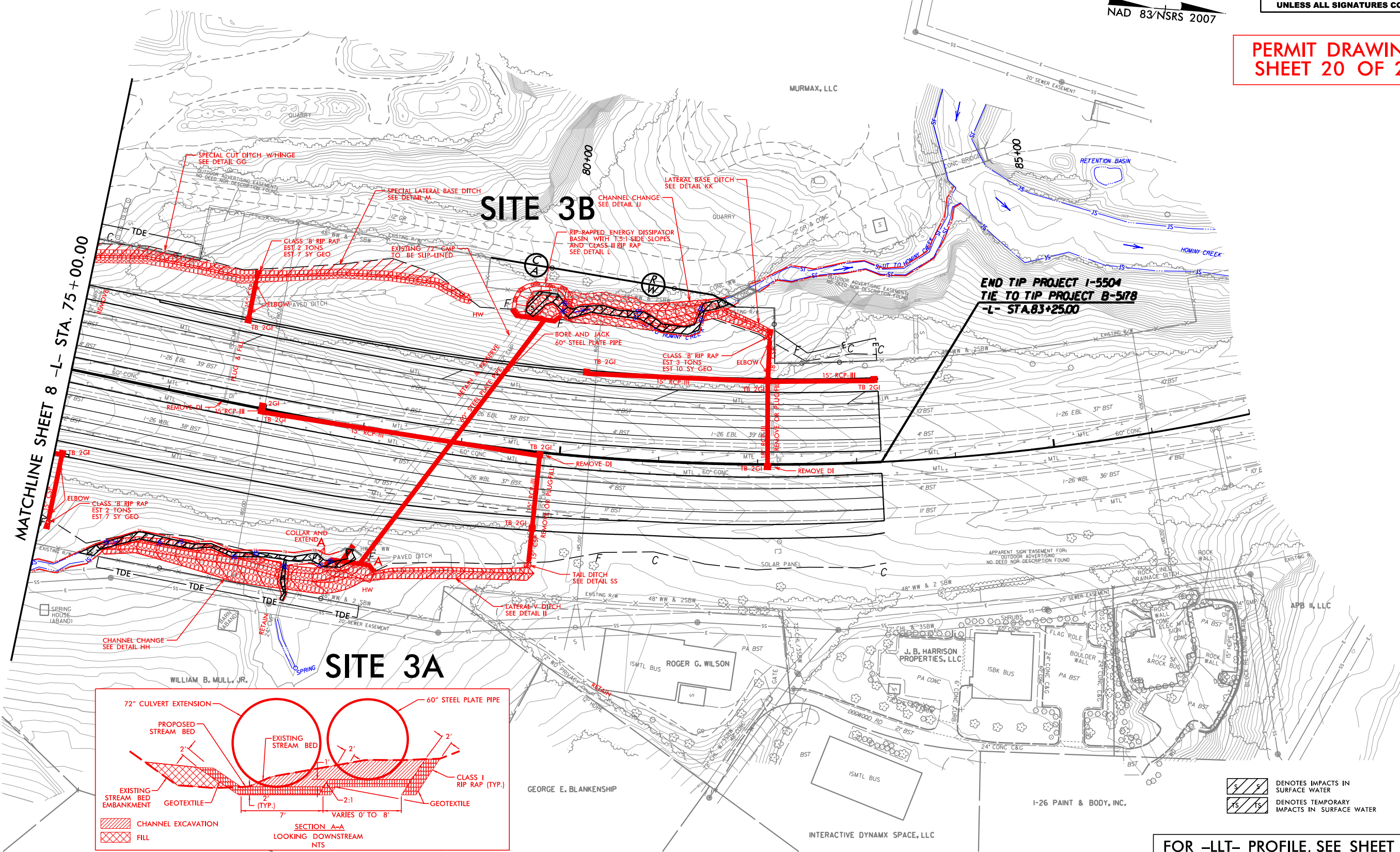


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UNLESS ALL SIGNATURES COMPLETED

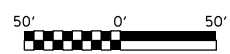
**PERMIT DRAWING
SHEET 20 OF 26**

NAD 83/NSRS 2007



DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

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FOR -LRT- PROFILE, SEE SHEET NO. 18



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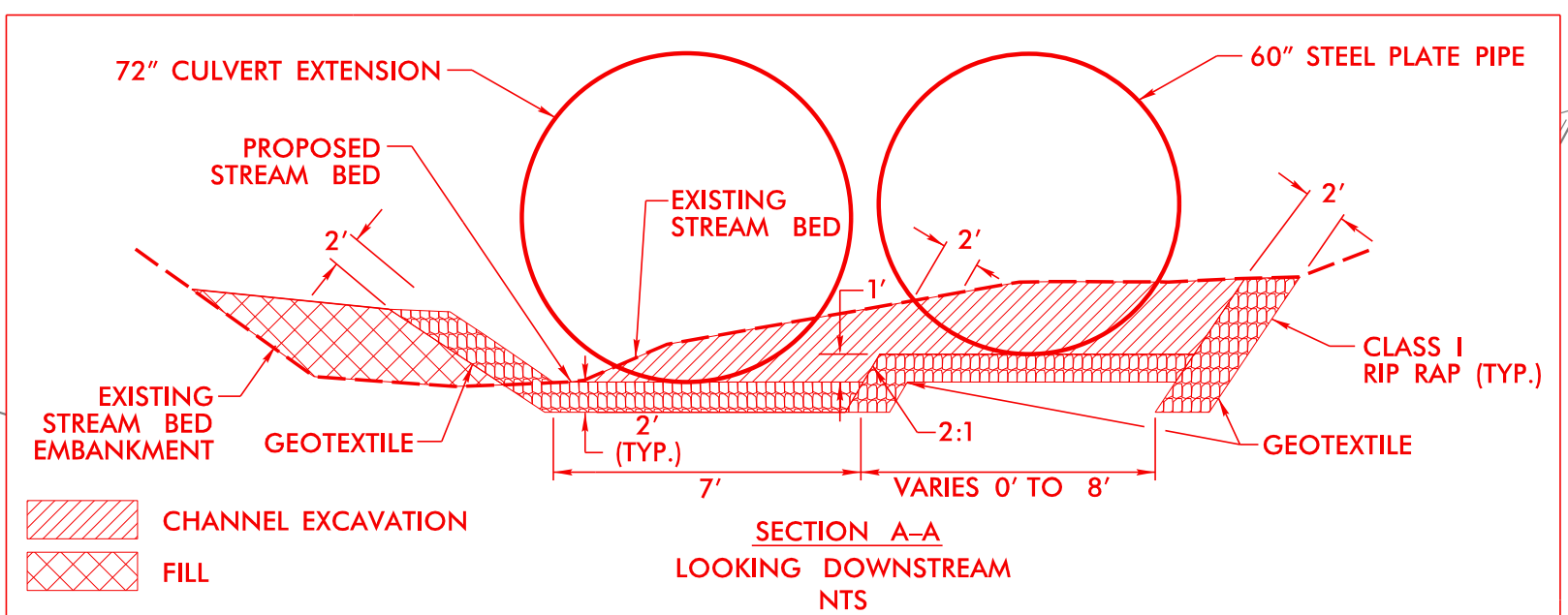
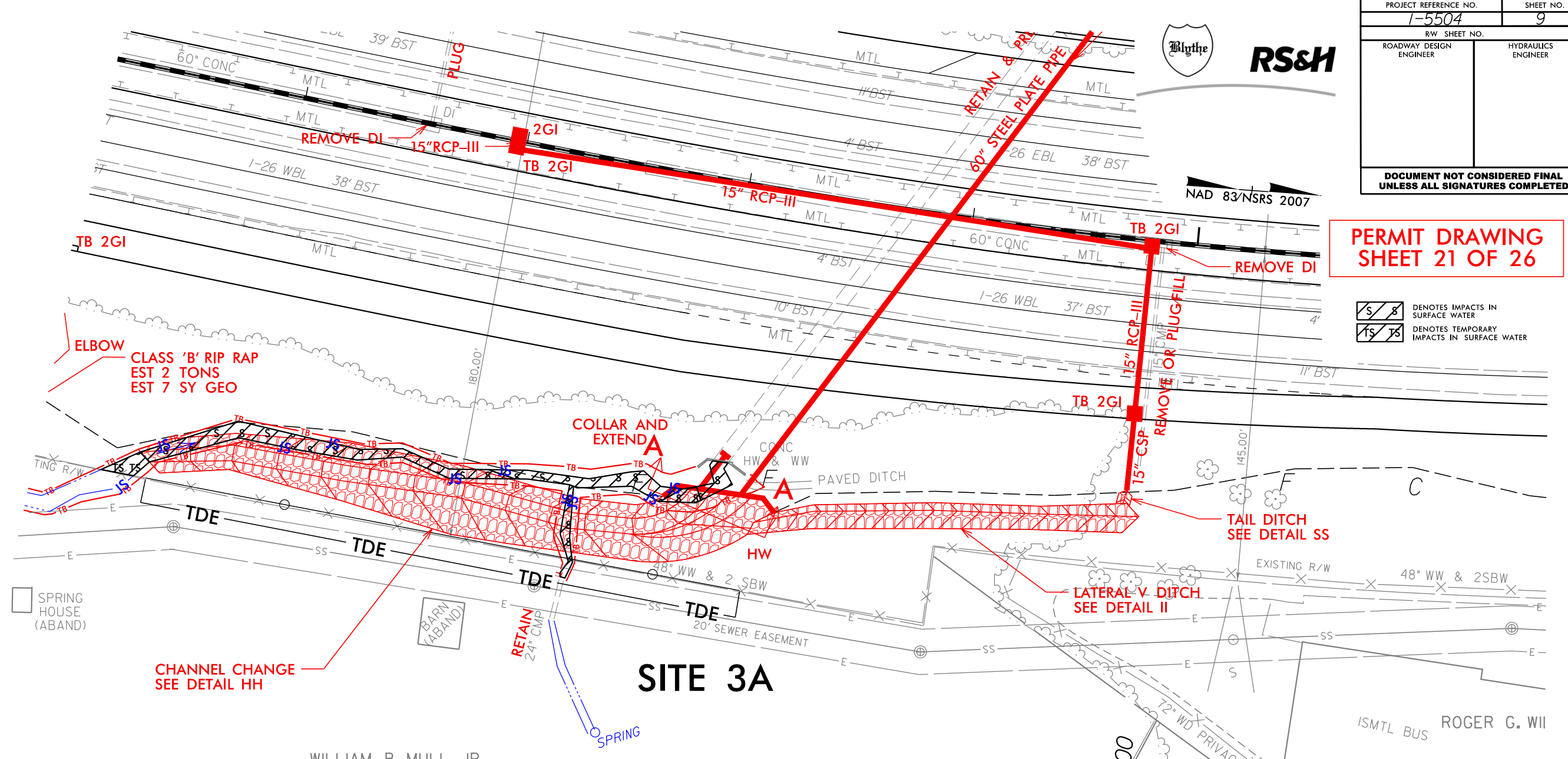
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| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
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PERMIT DRAWING
SHEET 21 OF 26

DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER



SITE 3A
ENLARGEMENT

GEORGE E. BLANKENSHIP



FOR -LLT- PROFILE, SEE SHEET NO. 18
FOR -LRT- PROFILE, SEE SHEET NO. 18

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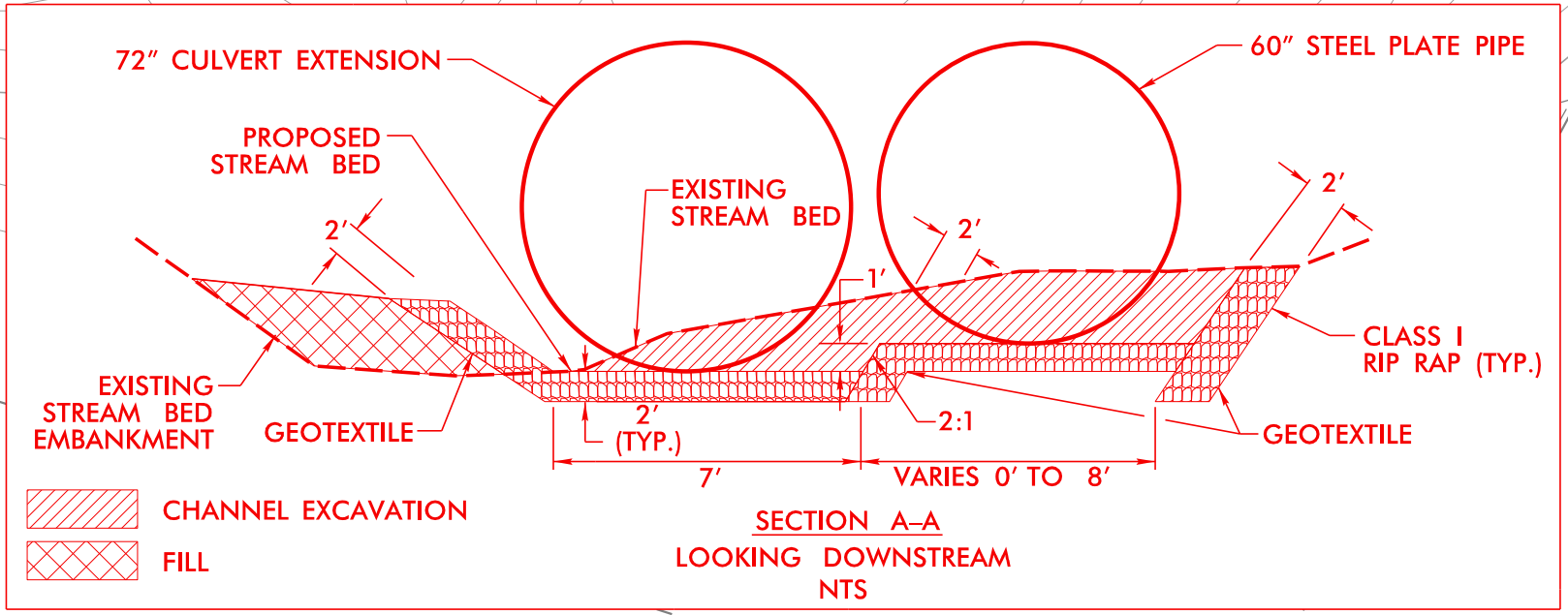
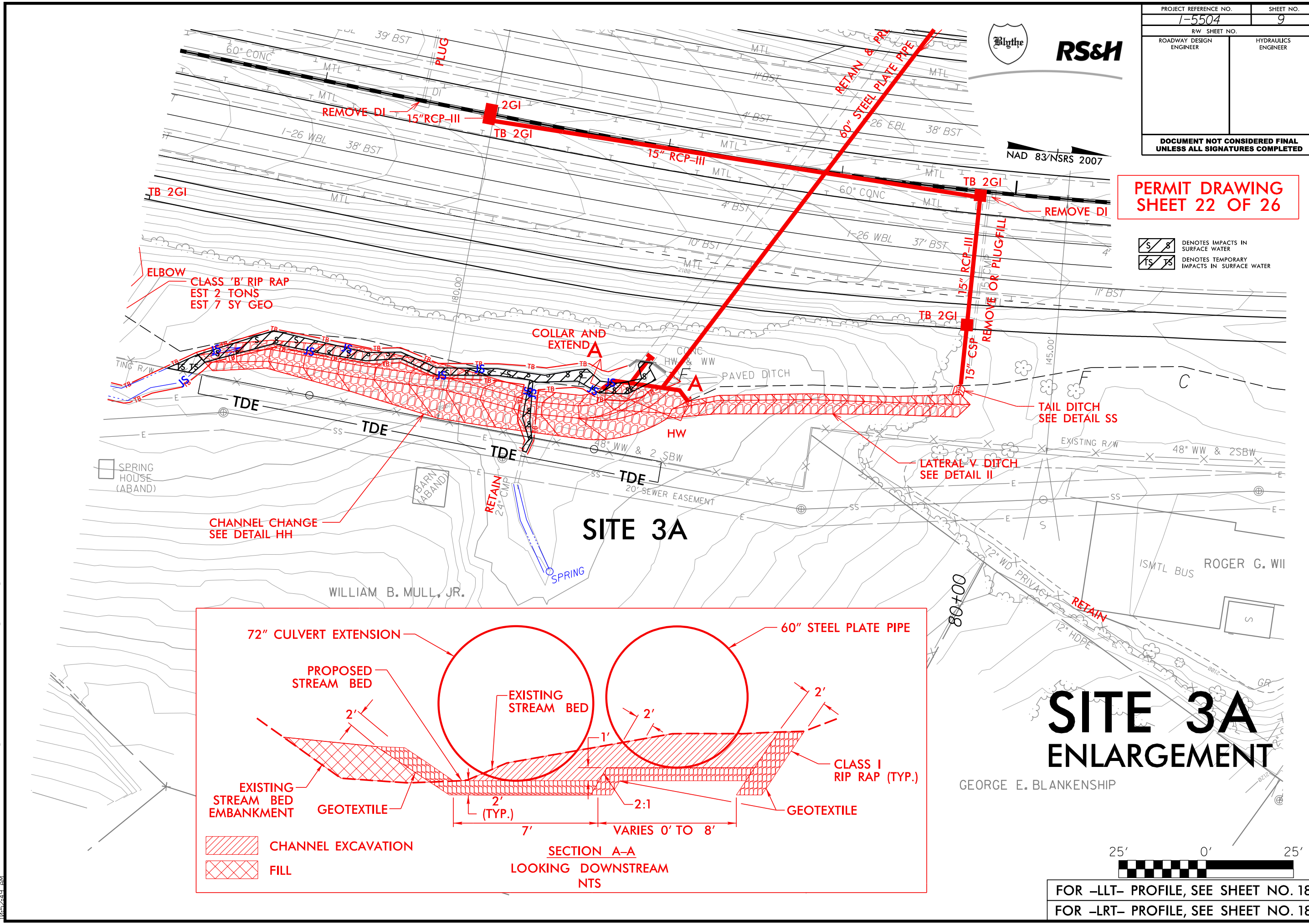
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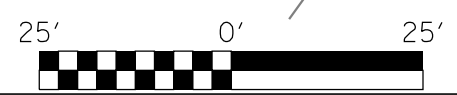
**PERMIT DRAWING
SHEET 22 OF 26**

$\frac{S}{s}$ / $\frac{TS}{ts}$ DENOTES IMPACTS IN SURFACE WATER
 $\frac{TS}{ts}$ DENOTES TEMPORARY IMPACTS IN SURFACE WATER



SITE 3A ENLARGEMENT

GEORGE E. BLANKENSHIP



FOR -LLT- PROFILE, SEE SHEET NO. 18
 FOR -LRT- PROFILE, SEE SHEET NO. 18

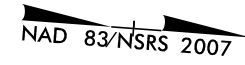
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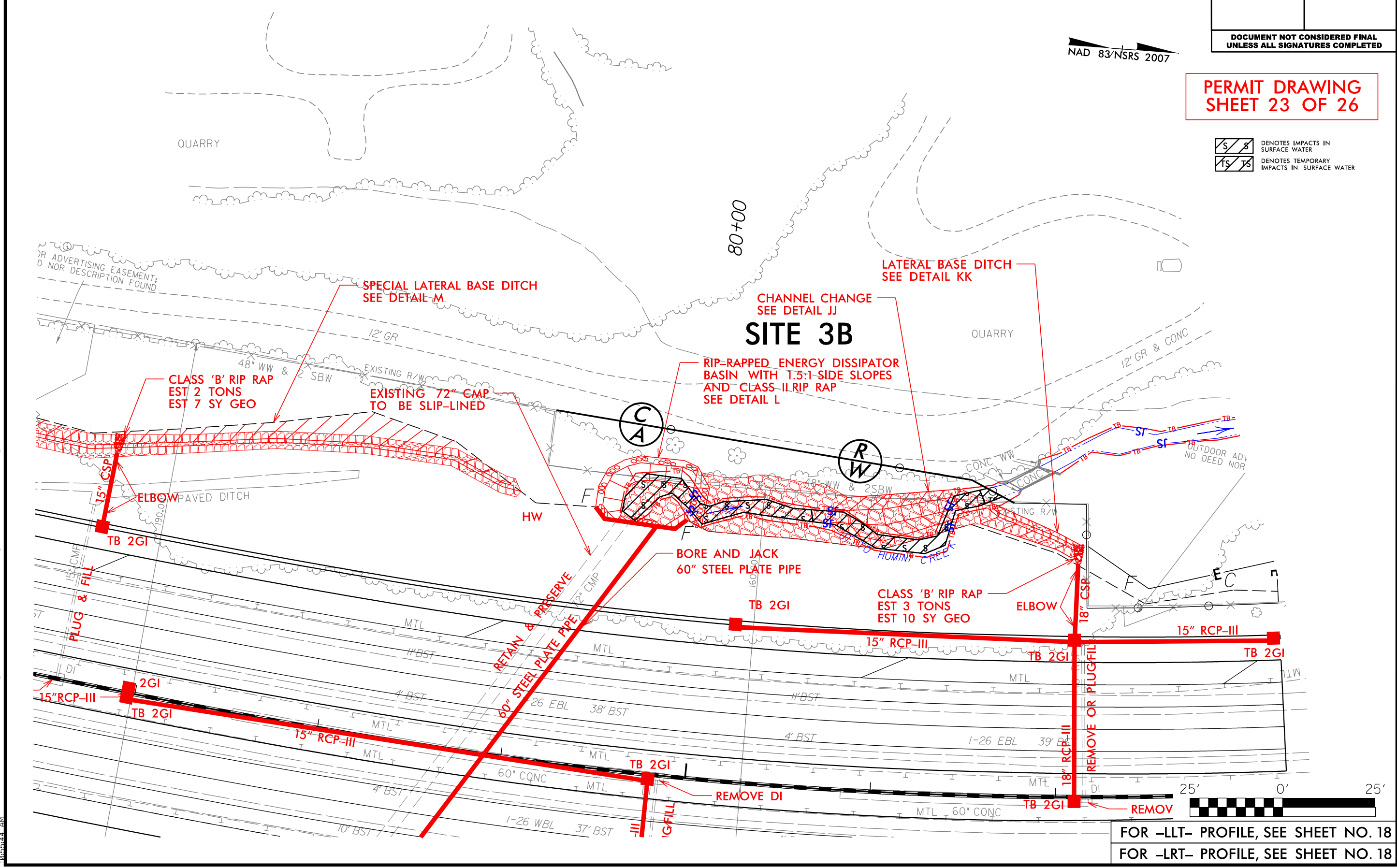
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| PROJECT REFERENCE NO. 1-5504 | SHEET NO. 9 |
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| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



**PERMIT DRAWING
SHEET 23 OF 26**

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| | DENOTES IMPACTS IN SURFACE WATER |
| | DENOTES TEMPORARY IMPACTS IN SURFACE WATER |



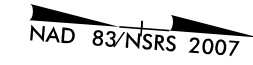
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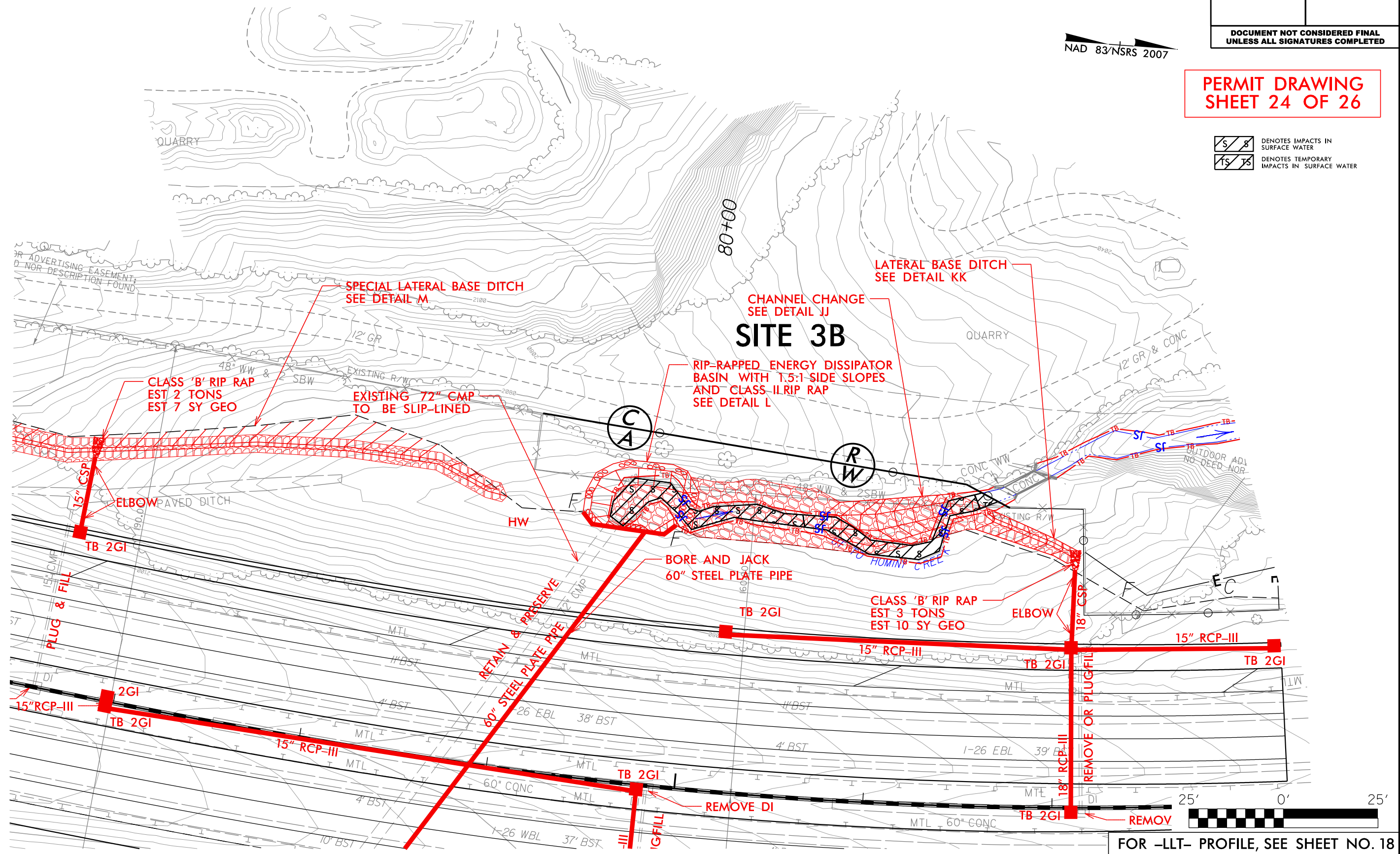


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| DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED | |



PERMIT DRAWING
SHEET 24 OF 26

S / B DENOTES IMPACTS IN SURFACE WATER
TS / TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER



FOR -LLT- PROFILE, SEE SHEET NO. 18
 FOR -LRT- PROFILE, SEE SHEET NO. 18

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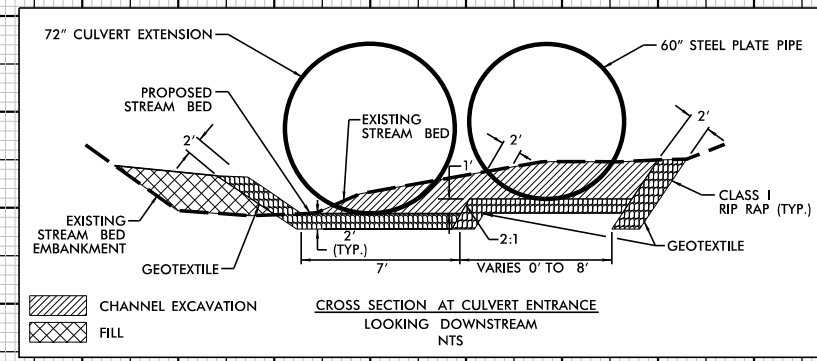
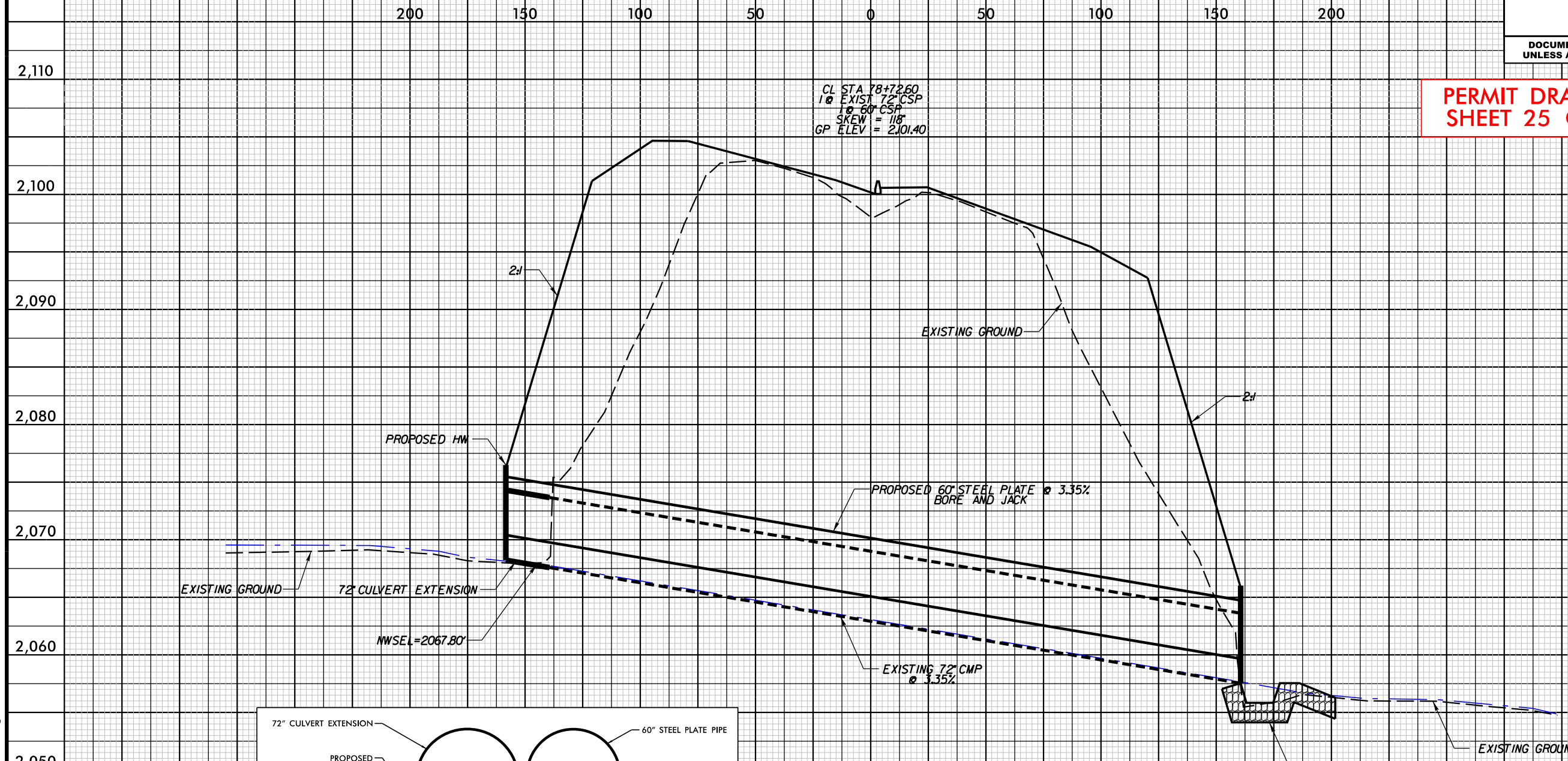
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| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 25 OF 26



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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) |
| 1A | L 24+00 TO 24+30 (LT) | Stream Realignment | | | | | | < 0.01 | < 0.01 | 20 | 28 | |
| 1A | L 24+30 TO 24+62 (LT) | 48" CMP Culvert Extension | | | | | | < 0.01 | | 38 | | |
| 1B | L 28+02 TO 28+12 (LT) | 66" CMP Culvert Extension | | | | | | < 0.01 | | 17 | | |
| 1B | L 28+10 TO 28+20 (LT) | Bank stabilization | | | | | | < 0.01 | < 0.01 | 23 | 13 | |
| 1B | L 28+29 TO 29+62 (LT) | 14' X 14' RCBC Extension | < 0.01 | | | | | < 0.01 | | | | |
| 1C | L 26+30 TO 27+19 (RT) | 48", 66" CMP Culverts Ext. | | | | | | 0.03 | | | | |
| 1D | L 28+54 TO 31+94 (RT) | Stream Realignment | | | | | | 0.02 | < 0.01 | 313 | 10 | |
| 2A | L 57+72 TO 58+05 (LT) | Stream Realignment | | | | | | < 0.01 | < 0.01 | 48 | 10 | |
| 2A | L 58+05 TO 58+84 (LT) | 42" CMP Culvert Extension | 0.01 | | | | | < 0.01 | | 31 | | |
| 2B | L 59+15 TO 60+65 (RT) | 48",54",60" RCP/Fill | | | | | | 0.01 | | 169 | | |
| 2B | L 59+59 TO 60+59 (RT) | 48",54",60" RCP/Fill | < 0.01 | | | | | < 0.01 | | 103 | | |
| 2C | L 60+19 TO 68+91 (RT) | 60" RCP/Fill | < 0.01 | | | | | 0.11 | | 742 | | |
| 2C | L 64+73 TO 65+35 (RT) | 60"RCP/Fill | | | | | | < 0.01 | | 71 | | |
| 2C | L 67+80 TO 68+07 (RT) | Rip Rap in Channel | | | | | | < 0.01 | | 33 | | |
| 2C | L 68+07 TO 68+34 (RT) | Bank stabilization | | | | | | < 0.01 | < 0.01 | 32 | 5 | |
| 3A | L 75+45 TO 78+04 (RT) | Stream Realignment | | | | | | 0.03 | < 0.01 | 256 | 13 | |
| 3A | L 78+04 TO 78+15 (RT) | 72" CMP Culvert Extension | | | | | | < 0.01 | | 18 | | |
| 3A | L 77+46 TO 77+48 (RT) | Rip Rap in Channel | | | | | | < 0.01 | < 0.01 | 33 | 10 | |
| 3B | L 79+50 TO 81+78 (LT) | Stream Realignment | | | | | | 0.04 | < 0.01 | 223 | 8 | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| TOTALS*: | | | 0.02 | | | | | 0.30 | 0.01 | 2170 | 97 | |

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 12 May 2017
 Buncombe County
 I-5504
 45552.3.1
 SHEET 26 OF 26