



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

J.R. "JOEY" HOPKINS
SECRETARY

March 6, 2025

MEMORANDUM TO: Division Environmental and Construction Units
FROM: *mat* Michael A. Turchy, ECAP Group Leader
Environmental Analysis Unit
SUBJECT: Environmental Permits for the I-85/I-485 interchange improvements in Mecklenburg County, Division 10, **TIP: I-6016.**

Please find enclosed the following permits for this project:

Agency	Permit Type	Permit Expiration
US Army Corps of Engineers Section 404 Clean Water Act Permit	Nationwide Permit 14	March 14, 2026
NC Division of Water Resources Section 401 Water Quality Certification	Individual Certification No. 007493	March 14, 2026

Work is authorized by the above referenced permit provided it is accomplished in strict accordance with the permitted plans. The Environmental Coordination and Permitting Group or the Division Environmental Office must be consulted if any deviation from the permit(s) is required.

The General Conditions and Certifications for Nationwide and Regional Permits can be referenced at: https://xfer.services.ncdot.gov/pdea/PermIssued/_General_Conditions_and_Certifications/

The Project Commitments "Greensheet" is located on the Preconstruction SharePoint Dashboard at: <https://connect.ncdot.gov/site/preconstruction>



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, WILMINGTON DISTRICT
WILMINGTON REGULATORY OFFICE
69 DARLINGTON AVENUE
WILMINGTON NORTH CAROLINA 28403

March 4, 2025

Regulatory Division
SAW-2025-00063

Sent Via email: ekcheely@ncdot.gov

Erin Cheely, Western Team Lead
Environmental Coordination & Permitting
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, NC 27699-1598

Dear Ms. Cheely:

This letter is in response to the Pre-Construction Notification (PCN) you submitted to the Wilmington District, WRDA / Transportation Branch on January 9, 2025, for a Department of the Army Nationwide permit (NWP) verification. This project has been assigned the file number SAW-2025-00063 and is known as NCDOT, I-6016, Interstate 85 (I-85), Sam Wilson Road and Interstate 485 (I-485) Interchange and Roadway Improvements in Mecklenburg County, N.C. This file number should be referenced in all correspondence concerning this project.

A review of the information provided indicates that the proposed work would include Interstate and Interchange improvements on and along 1.42-mile-long segment of I-85 associated with the I-85 and I-485 interchange. These improvements will include the permanent placement of cut/fill/structure in a total of 216 linear feet (lf), the permanent placement of 36 lf of bank stabilization, temporary placement of bank stabilization in 36 lf, and a total of 108 lf of temporary dewatering activities in unnamed tributaries to Catawba River. The project area for this determination includes an approximate 37 acres area which is illustrated on the enclosed site plans/maps. The project/review area is located across tributaries of Catawba River; at location on and along a segment of I-85, Sam Wilson Road Interchange, I-85/I-485 Interchange and I-485 from a location just east of the I-85 crossing of Catawba River through the I-85/I485 Interchange to a location east of I-85/I-485 Interchange,, at Latitude 35.249510 and Longitude - 80.969140; in Charlotte, Mecklenburg County, North Carolina.

We have determined that the proposed work is authorized by Nationwide Permit 14 (NWP-14) pursuant to authorities under Section 404 of the Clean Water Act (33 U.S.C § 1344). The proposed work must be accomplished in strict accordance with the general permit conditions, any regional conditions, the special conditions listed in this letter, the application materials, and the enclosed plans. If the extent of the project area and/or

nature of the authorized impacts to waters are modified, a revised PCN must be submitted to this office for written approval before work is initiated. Any violation of permit conditions or deviation from your submitted plans may subject the permittee to enforcement action.

This verification is valid until March 14, 2026, unless prior to this date the subject NWP(s) is suspended, revoked, or is modified such that the activity no longer complies with the terms and conditions of this NWP. If you commence or are under contract to commence this activity before the date that the relevant NWP is modified or revoked, you will have 12 months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this NWP.

Project Specific Special Conditions:

1. All work must be performed in strict compliance with (a) the description of work in the PCN and (b) the Wetlands and Surface Water Impact Permit Drawing(s) (Permit Plans) in the application dated January 7, 2025. Any modification to the description of work and/or the permit plans must be approved by the USACE prior to implementation.
2. The permittee shall require its contractors and/or agents to comply with the terms and conditions of this authorization letter in the **construction** and maintenance of this project and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this authorization letter, all conditions, and any authorized modifications. A copy of this authorization letter, all conditions, and any authorized modifications, shall be available at the project site during construction and maintenance of this project.
3. Since suitable habitat for tricolored bat (*Perimyotis subflavus*) may be present in the I-6016 project area, the permittee agrees to implement the follow conservation measures for the NCDOT, I-6016, Interstate 85 (I-85), Sam Wilson Road and Interstate 485 (I-85) Interchange and Roadway Improvements in Mecklenburg County, N.C.:
 - a. Should two years pass between the completed structure surveys for bats and the start of construction, surveys will be repeated to ensure absence of roosting bats.
4. 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 Forms. The requirements of these forms, including any special conditions listed on these forms, are hereby incorporated as special conditions of this permit authorization.

5. NCDOT Project Manager and NCDOT Cultural Resources Group will continue coordination to minimize impacts to gravesites identified within Mt. Zion Cemetery and develop a plan for potential relocations if impacts cannot be avoided to comply with North Carolina General Statutes Chapter 65 (Cemeteries).

This NWP verification does not preclude the necessity to obtain any other Federal, State, or local permits, licenses, and/or certifications, which may be required.

If you have any questions related to this verification or have issues accessing documents referenced in this letter, please contact Stephen Brumagin, WRDA Project Manager of the WRDA / Transportation Branch at (704) 798-6471, by mail at the above address, or by email at stephen.a.brumagin@usace.army.mil. Please take a moment to complete our customer satisfaction survey located at <https://regulatory.ops.usace.army.mil/customer-service-survey/>.

Sincerely,

A handwritten signature in black ink that reads "M. Scott Jones". The signature is written in a cursive, flowing style.

M. Scott Jones, PWS
WRDA / Transportation Branch Chief
USACE - Wilmington District

Enclosures

Project Plans
401 WQC
NWP-14

cc (w/enclosures)

William Barrett, NCDOT (via wabarrett@ncdot.gov)
Joel Howard, NCDOT Div 10 (via jmhoward@ncdot.gov)

Compliance Certification Form

File Number: SAW-2025-00063

County: Mecklenburg

Permittee: North Carolina Department of Transportation , Erin Cheely

Project Name: NCDOT, I-6016, Interstate 85 (I-85), Sam Wilson Road and Interstate 485 (I-85) Interchange and Roadway Improvements in Mecklenburg County, N.C.

Date Verification Issued: 2/3/2025

Project Manager: Stephen Brumagin

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

**US ARMY CORPS OF ENGINEERS
Wilmington District
Attn: Stephen Brumagin
Charlotte Field Office
8430 University Executive Park Drive Suite 615
Charlotte, NC 28262
or
stephen.a.brumagin@usace.army.mil**

Please note that your permitted activity is subject to a compliance inspection by a U. S. Army Corps of Engineers representative. Failure to comply with any terms or conditions of this authorization may result in the Corps suspending, modifying or revoking the authorization and/or issuing a Class I administrative penalty, or initiating other appropriate legal action.

I hereby certify that the work, and mitigation (if applicable), authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit including any general or specific conditions.

Date Authorized Work Started: _____ **Completed:** _____

Describe any deviations from permit (attach drawing(s) depicting the deviations):

***Note: The description of any deviations on this form does not constitute approval by the Corps.**

Signature of Permittee

Date

US Army Corps of Engineers – Wilmington District
Compensatory Mitigation Responsibility Transfer Form

Permittee: Erin Cheely

Action ID: SAW-2025-00063

Project Name: NCDOT, I-6016, Interstate 85 (I-85), Sam Wilson Road and Interstate 485 (I-85) Interchange and Roadway Improvements in Mecklenburg County, N.C.

County: Mecklenburg

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 Division of Mitigation Services (NCDMS), 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 Wilmington District 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 verifies that the mitigation requirements (credits) shown below have been released and are available at the identified site. By signing below, the Sponsor is accepting full responsibility for the identified mitigation, regardless of whether they have received payment from the Permittee. Once the form is signed, the Sponsor must update the bank ledger and provide a copy of the signed form and the updated ledger to the Permittee, the Project Manager who issued the permit, the Bank Project Manager, and the District Mitigation Office (see contact information on page 2). 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: 03050101, Catawba River Basin

Stream Impacts (linear feet)			Wetland Impacts (acres)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
216						

*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: 03050101, Catawba River Basin

Stream Mitigation (credits)			Wetland Mitigation (credits)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
432						

Mitigation Site Debited: NCDMS in-lieu fee program.

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 NCDMS), as approved by the Wilmington District, 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: NCDMS

Name of Sponsor’s Authorized Representative: Beth Harmon

Elizabeth Harmon

03/06/2025

Signature of Sponsor’s Authorized Representative

Date of Signature

USACE Wilmington District – MRTF Page 2

Conditions for Transfer of Compensatory Mitigation Credit:

- Once this document has been signed by the Mitigation Sponsor and the District 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 District 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. When NCDMS provides mitigation 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 NCDMS must be provided to the District within 30 days of permit issuance. NCDOT remains fully responsible for the mitigation until the District 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 District 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 District, the Sponsor must obtain case-by-case approval from the District 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 District administrative records for both the permit and the Bank/ILF Instrument.

Comments/Additional Conditions: NCDMS provided a letter dated September 23, 2024, indicating their approval to provide stream mitigation for 216 lf of stream impacts from NCDOT I-6016 project in Mecklenburg County.

This form is not valid unless signed below by the District Project Manager and by the Mitigation Sponsor on Page 1. ***Once signed, the Sponsor should provide copies of this form along with an updated bank ledger to: 1) the Permittee, 2) the District Project Manager at the address below, 3) the Bank Manager listed in RIBITS, and 4) the Wilmington District Mitigation Office, 3331 Heritage Trade Drive, Suite 105, Wake Forest, NC 27587 (or by email to SAWMIT@usace.army.mil).***

Questions regarding this form or any of the permit conditions may be directed to the District Mitigation Office.

USACE Project Manager: Stephen Brumagin
USACE Field Office: Charlotte Field Office
US Army Corps of Engineers
8430 University Executive Park Drive
Charlotte

Email: stephen.a.brumagin@usace.army.mil


Digitally signed by
BRUMAGIN.STEPHEN.A.128352
0737
Date: 2025.03.03 14:15:17
-05'00'

Wilmington District Project Manager Signature

March 3, 2025

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>.

From: [Youngman, Holland J](#)
To: [Barrett, William A](#)
Subject: Re: [EXTERNAL] I-6016 Informal Concurrence Request
Date: Thursday, January 2, 2025 2:23:49 PM
Attachments: [image001.png](#)

CAUTION: External email. Do not click links or open attachments unless verified. Report suspicious emails with the Report Message button located on your Outlook menu bar on the Home tab.

Hi Bill, A response to your request for informal conference on tricolored bat is provided below. Please let me know if anything additional is needed for this project.

[Informal Conference for Tricolored Bat \(*Perimyotis subflavus*\) Relating to the Subject Project - FWS Log # 25-118](#)

We have reviewed the information you submitted and the following is provided in accordance with the provisions of the National Environmental Policy Act (42 U.S.C. § 4321 et seq.); the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661 - 667e); and section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 - 1543) (Act).

NCDOT proposes improvements to the I-85/I-485 Interchange in Charlotte near Belmont, Mecklenburg County. The action area is within a developed interstate corridor interspersed with portions of intact forest. Tree clearing was previously completed within the action area. Bridge and culvert replacement, percussive actions, lighting replacement, and night work with temporary lighting will occur. According to the information provided, suitable bat roosting structures were surveyed for bats and signs of bats on August 1, 2024, and results were negative. No conservation measures associated with the proposed work were provided, though the following is assumed based on NCDOT's operational procedures:

1. Should two years pass between the completed structure surveys for bats and the start of construction, surveys will be repeated to ensure absence of roosting bats.

The information provided indicates that “No Effect” (NE) determinations have been made for Michaux's sumac (*Rhus michauxii*), smooth coneflower (*Echinacea laevigata*), and Schweinitz's sunflower (*Helianthus schweinitzii*). In instances of suitable habitat being absent from the action area, we would agree that NE determinations are appropriate. In instances where suitable habitat is present and botanical surveys conducted during the optimal survey window and within the past 1 or 2 years (depending on the species) have negative results, we would concur with a biological determination of “may affect, not likely to adversely affect” (NLAA). This information is provided for the sake of the administrative record.

On September 14, 2022, the U.S. Fish and Wildlife Service published a proposal in the Federal Register to list the tricolored bat (*Perimyotis subflavus*) as endangered under the Act. As a result, NCDOT has requested a conference for the tricolored bat as the project may be on-going after the effective date of any final listing rule, if one is published. Based on the information provided, the negative survey results, and the existing conditions within the action area, we have determined that the proposed project will not jeopardize the continued existence of the tricolored bat. Additionally, we would concur with the NCDOT's determination that the project is NLAA the tricolored bat should

it become listed.

Conservation Recommendations: Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed/proposed species or critical habitat, to help implement recovery plans, or to develop information.

- **Structure Demolition**: Avoid conducting demolition of suitable bat roosting structures during the pup season (May 1 - July 15). These dates are for the year-round active zone 1, as explained in Appendix L of the Service's Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>. This guidance includes tricolored bat.

- **Lighting**:

- Should night work occur from April 1 - July 15, direct temporary lighting at the work area and shield lighting from illuminating the surrounding landscape, especially any waterbodies and riparian areas. Turn lighting off when not needed for safety or ongoing work.
- When installing new or replacing existing permanent lights, use downward-facing, full cut-off lens lights (with same intensity or less for replacement lighting); or for those transportation agencies using the Backlight-Uplight-Glare (BUG) system developed by the Illuminating Engineering Society, the goal is to be as close to 0 for all three ratings with a priority of "uplight" of 0 and "backlight" as low as practicable.
- Use light fixtures with a lower lumen output, reducing overall brightness, and use the shortest light poles that meet highway and safety requirements.
- Prioritize use of low-pressure sodium (LPS), high-pressure sodium (HPS), or LED light sources that emit "warm" light. "Warm" light sources are those that contain low amounts of blue light in their spectrum. Choosing light sources with a color temperature of no more than 3,000 Kelvins will minimize the effects of blue light exposure. If using LEDs, use lights with Type I or II distribution patterns that create rectangular lighting patterns that limit light spill into adjacent habitats.

-**Riparian Replanting**: Because the removal of forested riparian habitat can affect the quality and suitability of foraging and commuting habitat for bats, we recommend replanting any impacted riparian zones with native, fast-growing trees and shrubs that would serve to block light pollution and improve the quality of the habitat not only for bats but for aquatic species. Examples of potential native tree species to plant include: Sycamore, tulip poplar, black cherry and river birch. Planting with established (e.g. containerized) young trees can increase the survival rate of plantings and contribute to faster improvement of riparian habitat.

We believe the requirements under section 7 of the Act are fulfilled for the federally listed species discussed above. However, obligations under section 7 must be reconsidered if: (1) new information reveals impacts of this proposed action may affect listed species or critical habitat in a manner not previously considered, (2) this proposed action is subsequently modified in a manner that was not considered in this review, or (3) a new species is listed, or critical habitat is determined that may be affected by the proposed action.

We appreciate the opportunity to provide these comments. In any future correspondence on this project, please reference FWS Log # 25-118.

Sincerely,

Holland Youngman
(she/her)
Wildlife Biologist
U.S. Fish and Wildlife Service
Asheville Ecological Services Field Office
160 Zillicoa Street, Asheville, North Carolina, 28801
Cell: 828-575-3920

From: Barrett, William A <wabarrett@ncdot.gov>
Sent: Thursday, October 31, 2024 8:48 AM
To: Youngman, Holland J <holland_youngman@fws.gov>
Subject: RE: [EXTERNAL] I-6016 Informal Concurrence Request

Hi Holland,

Thanks for the verification of receipt!

Regards,
Bill

William A. Barrett
ECAP Environmental Coordinator
Environmental Analysis Unit
North Carolina Department of Transportation

919 707 6103 office
919 302 1908 mobile
wabarrett@ncdot.gov

1598 Mail Service Center (Mail)
Raleigh, NC 27699-1598

1000 Birch Ridge Drive (Delivery)
Raleigh, NC 27610



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NORTH CAROLINA
Environmental Quality

JOSH STEIN
Governor

D. REID WILSON
Secretary

RICHARD E. ROGERS, JR.
Director

February 27, 2025
Mecklenburg County
NCDWR Project No. 20250022
I-6016 I-85/I-485 Interchange Improvements
WBS Element No. 47968.1.1

APPROVAL of 401 WATER QUALITY CERTIFICATION with ADDITIONAL CONDITIONS

Mr. William Barrett
NCDOT
1598 Mail Service Center
Raleigh, NC, 27699-6103
WABarrett@NCDOT.gov

Subject: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with
ADDITIONAL CONDITIONS I-85/I-485 Interchange Improvements in Mecklenburg County, TIP No. I-
6016, NCDWR Project No. 20250022, WBS No. 47968.1.1.

Dear Mr. Barrett

Attached hereto is a copy of Certification No. WQC007493 issued to The NCDOT dated February 27, 2025.

This approval is for the purpose and design described in your application. The plans and specifications for this project are incorporated by reference as part of this Water Quality Certification. If you change your project, you must notify the Division, and you may be required to submit a new application package with the appropriate fee. If the property is sold, the new owner must be given a copy of this Certification and is responsible for complying with all conditions. [15A NCAC 02H .0507(d)(2)]. This Certification does not relieve the permittee of the responsibility to obtain all other required Federal, State, or Local approvals before proceeding with the project, including those required by, but not limited to, Sediment and Erosion Control, Non-Discharge, Water Supply Watershed, and Trout Buffer regulations.

This letter completes the review of the Division under section 401 of the Clean Water Act and 15A NCAC 02H .0500. Please contact Mary Plummer at 704-235-2193 or Mary.Plummer@deq.nc.gov if you have any questions or concerns.

Sincerely,

Signed by:

Susan Locklear

375CAE2BB9F540C...
Richard E. Rogers, Jr., Director
Division of Water Resources

Electronic copy only distribution:

Meadhunt, Eric Leonhart
Steve Brumagin, US Army Corps of Engineers, Charlotte Regulatory Field Office
Rebekah Reid, US Fish and Wildlife Service
David McHenry, NC Wildlife Resources Commission
File Copy



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 Resources (NCDWR) Regulations in 15 NCAC 2H .0500. This certification authorizes the NCDOT to impact 396 Linear Feet of jurisdictional streams in Mecklenburg County. The project shall be constructed pursuant to the application dated and received January 7, 2025. The authorized impacts are as described below:

Stream Impacts (Linear Feet) in the Catawba River Basin

Site	Permanent in Perennial		Permanent in Intermittent	Temporary in Intermittent	Temporary in Perennial		Total Stream Impacts	Stream Impacts Requiring Mitigation
	Culvert	Bank Stab.	Roadway Fill/ Channel Change	Spin Casting	Bank Stab.			
1 SD1A	-	-	-	-	43	-	43	-
2 SD1B	-	-	-	-	10	-	10	-
3 SA2A	49	-	-	-	-	-	49	49
4 SA2B	-	36	-	-	-	-	36	-
5 SA2C	-	-	-	-	-	36	36	-
6 SB3A	-	-	167	-	-	-	167	167
7 SB3B	-	-	-	55	-	-	55	-
Totals	49	36	167	55	53	36	396	216
	85				89			
	252			144				

Total Stream Impacts for Project: 396 Linear Feet.

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

This approval is only valid for the purpose and design that you submitted in your application dated and received January 7, 2025. Should your project change, you are required to notify the NCDWR 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 300 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 (if applicable).

This Water Quality Certification neither grants nor affirms any property right, license, or privilege in any lands or waters, or any right of use in any waters. This Water Quality Certification does not authorize any person to interfere with the riparian rights, littoral rights, or water use rights of any other person and does not create any prescriptive right or any right of priority regarding any usage of water. This Water Quality Certification shall not be interposed as a defense in any action respecting the determination of riparian or littoral rights or other rights to water use. No consumptive user is deemed by virtue of this Water Quality Certification to possess any prescriptive or other right of priority with respect to any other consumptive user regardless of the quantity of the withdrawal or the date on which the withdrawal was initiated or expanded. Upon the presentation of proper credentials, the Division may inspect the property.



Condition(s) of Certification:

Project Specific Conditions

1. Design and placement of culverts and other structures shall be installed in such a manner that the original stream profiles are not altered (i.e., the depth of the channel must not be reduced by a widening of the streambed). Existing stream dimensions (including pattern and profile) are to be maintained above and below locations of each culvert. The structures shall be designed and installed to allow for fish and other wildlife movement as well as prevent headcutting of the stream. The applicant may be required to provide evidence that the equilibrium has been maintained if requested in writing by the NCDWR. [15A NCAC 02H.0506(b)(2)]
2. Unless otherwise approved in this certification, placement of culverts and other structures in open waters and streams, shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in disequilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by the NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NCDWR for guidance on how to proceed and to determine whether or not a permit modification will be required. [15A NCAC 02H.0506(b)(2)]
3. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross sections as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage. [15A NCAC 02H.0506(b)(2)]
4. Riprap shall not be placed in the active thalweg channel. If placement in the streambed is approved per plans and permit, the riprap must be keyed-into the streambed in a manner that shall not preclude aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed. [15A NCAC 02H.0506(b)(2)]
5. The stream channel shall be excavated no deeper than the natural bed material of the stream, to the maximum extent practicable. Efforts must be made to minimize impacts to the stream banks, as well as to vegetation responsible for maintaining the stream bank stability. Any applicable riparian buffer impact for access to stream channel shall be temporary and be revegetated with native riparian species. [15A NCAC 02H.0506(b)(2)]
6. Turbidity curtains shall be used to isolate all work areas from the stream, including pile or casement installation, placement of riprap, excavation or filling. Strict adherence to the Construction and Maintenance Best Management Practices will be required.
7. Compensatory mitigation for 216 linear feet of impact to perennial streams is required. We understand that you have chosen to perform compensatory mitigation for impacts to streams through the North Carolina Division of Mitigation Service (DMS), and that the DMS has agreed to implement the mitigation for the project. The DMS has indicated in a letter dated September 23, 2024 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the DMS Mitigation Banking Instrument signed July 28, 2010.

General Conditions

1. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills. [15A NCAC 02B.0200]



2. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S. or protected riparian buffers. [15A NCAC 02H.0506(b)(2)]
3. The dimension, pattern and profile of the stream above and below any crossing shall not be modified. Disturbed floodplains and streams shall be restored to natural geomorphic conditions. [15A NCAC 02H.0506(b)(2)]
4. The use of rip-rap above the Normal High-Water Mark shall be minimized. Any rip-rap placed for stream stabilization shall be placed in stream channels in such a manner that it does not impede aquatic life passage. [15A NCAC 02H.0506(b)(2)]
5. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval. [15A NCAC 02H .0507 (c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]
6. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water. [15A NCAC 02H.0506(b)(3)]
7. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream. [15A NCAC 02H.0506(b)(3)]
8. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials. [15A NCAC 02H.0506(b)(3)]
9. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification. [15A NCAC 02H.0506(b)(3)]
10. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited. [15A NCAC 02H.0506(b)(3)]
11. The permittee and its authorized agents shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law. If the NCDWR determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, the NCDWR may reevaluate and modify this certification. [15A NCAC 02B.0200]
12. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification. [15A NCAC 02H.0506(b)(2)]
13. A copy of this Water Quality Certification shall be maintained on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Engineer and the on-site project manager. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]
14. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization, including all non-commercial borrow and waste sites associated with the project, shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification. [15A NCAC 02H.0501 and .0502]
15. The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.
16. The Permittee shall report any violations of this certification to the Division of Water Resources within 24 hours of discovery. [15A NCAC 02B.0506(b)(2)]



17. Upon completion of the project (including any impacts at associated borrow or waste sites), the authorized agent shall complete and return the "Certification of Completion Form" to notify the NCDWR when all work included in the 401 Certification has been completed. [15A NCAC 02H.0507]
18. Native riparian vegetation must be reestablished in the riparian areas within the construction limits of the project by the end of the growing season following completion of construction. [15A NCAC 02B.0506(b)(2)]
19. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities. [15A NCAC 02H.0506(b)(3) and (c)(3)]
20. Erosion control matting that incorporates plastic mesh and/or plastic twine shall not be used along streambanks or within jurisdictional wetlands. [15A NCAC 2H.0506; 15A NCAC 2H.0507]
21. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface waters standards [15A NCAC 02H.0506(b)(3) and (c)(3)]:
 - a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.
 - b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
 - c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
 - d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act
22. Sediment and erosion control measures shall not be placed in wetlands or surface waters, or within 5 feet of the top of bank, without prior approval from DWR. [15A NCAC 02H.0506(b)(3) and (c)(3)]
23. When applicable, all construction activities shall be performed and maintained in full compliance with G.S. Chapter 113A Article 4 (Sediment and Pollution Control Act of 1973). Regardless of applicability of the Sediment and Pollution Control Act, all projects shall incorporate appropriate Best Management Practices for the control of sediment and erosion so that no violations of state water quality standards, statutes, or rules occur. [15A NCAC 02H.0506(b)(3) and (c)(3) and 15A NCAC 02B.0200]
24. Design, installation, operation, and maintenance of all sediment and erosion control measures shall be equal to or exceed the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*.
25. All devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) sites, including contractor-owned or leased borrow pits associated with the project. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times.
26. For borrow pit sites, the erosion and sediment control measures shall be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*. Reclamation measures and implementation shall comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971.



This Certification shall become null and void unless the above conditions are made conditions of the (applicable) Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the (applicable) 404 or CAMA permit. Please be aware that impacting waters without first applying for and securing the issuance of a 401 Water Quality Certification violates Title 15A of the North Carolina Administrative Code (NCAC) 2H .0500. Title 15A NCAC 2H .0500 requires certifications pursuant to Section 401 of the Clean Water Act whenever construction or operation of facilities will result in a discharge into navigable waters, including wetlands, as described in 33 Code of Federal Regulations (CFR) Part 323. It also states any person desiring issuance of the State certification or coverage under a general certification required by Section 401 of the Federal Water Pollution Control Act shall file with the Director of the North Carolina 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. Pursuant to G.S. 143-215.6A, these violations and any future violations are subject to a civil penalty assessment of up to a maximum of \$25,000.00 per day for each violation.

This approval and its conditions are final and binding unless contested [G.S. 143-215.5]. Please be aware that impacting waters without first applying for and securing the issuance of a 401 Water Quality Certification violates Title 15A of the North Carolina Administrative Code (NCAC) 2H .0500. Title 15A NCAC 2H .0500 requires certifications pursuant to Section 401 of the Clean Water Act whenever construction or operation of facilities will result in a discharge into navigable waters, including wetlands, as described in 33 Code of Federal Regulations (CFR) Part 323. It also states any person desiring issuance of the State certification or coverage under a general certification required by Section 401 of the Federal Water Pollution Control Act shall file with the Director of the North Carolina Division of Water Quality. Pursuant to G.S. 143-215.6A, these violations and any future violations are subject to a civil penalty assessment of up to a maximum of \$25,000.00 per day for each violation.

This Certification can be contested as provided in Chapter 150B of the North Carolina General Statutes by filing a Petition for a Contested Case Hearing (Petition) with the North Carolina Office of Administrative Hearings (OAH) within sixty (60) calendar days. Requirements for filing a Petition are set forth in Chapter 150B of the North Carolina General Statutes and Title 26 of the North Carolina Administrative Code. Additional information regarding requirements for filing a Petition and Petition forms may be accessed at <http://www.ncoah.com/> or by calling the OAH Clerk's Office at (919) 431-3000.

A party filing a Petition must serve a copy of the Petition on:

Dan Hirschman, General Counsel
Department of Environmental Quality
1601 Mail Service Center
Raleigh, NC 27699-1601

If the party filing the Petition is not the permittee, then the party must also serve the recipient of the Certification in accordance with N.C.G.S 150B-23(a).

This the 27th day of February 2025

DIVISION OF WATER RESOURCES

Signed by:

Susan Locklear

375CAE2BB9F540C...
Richard E. Rogers, Jr., Director

WQC No. WQC007493





NORTH CAROLINA
Environmental Quality

JOSH STEIN
Governor

D. REID WILSON
Secretary

RICHARD E. ROGERS, JR.
Director

NCDWR 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 Resources, 1617 Mail Service Center, Raleigh, NC, 27699-1617. This form may be returned to NCDWR 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 _____

Completed hard copies can be emailed to kristilynn.carpenter@ncdenr.gov or mailed to:
NCDEQ Transportation Permitting
1617 Mail Service Center
Raleigh NC 27699-1617





North Carolina Department of Transportation
 Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
 FOR NCDOT PROJECTS



(Version 3.02; Released April 23, 2024)

WBS Element: 47968.1.1 TIP/Proj No: I-6016 County(ies): Mecklenburg Page 1 of 2

General Project Information

WBS Element:	47968.1.1	TIP Number:	I-6016	Project Type:	Roadway Widening	Date:	8/7/2024
NCDOT Contact:	Brook Anderson, PE		Contractor / Designer:		Eric M. Leonhart, PE		
Address:	1000 Birch Ridge Drive Raleigh, NC 27610		Address:		111 E. Hargett Street Suite 300 Raleigh, NC 27601		
Phone:	(919) 707-6706		Phone:		(919) 526-1001		
Email:	beanderson1@ncdot.gov		Email:		eric.leonhart@meadhunt.com		
City/Town:	Charlotte		County(ies):	Mecklenburg			
River Basin(s):	Catawba		CAMA County?	No			
Wetlands within Project Limits?	No						

Project Description

Project Length (lin. miles or feet):	1.42	Surrounding Land Use:	Low Density Residential, Commercial, Industrial					
Project Built-Up Area (ac.)		Proposed Project			Existing Site			
		37.1	ac.	30.8	ac.			
Typical Cross Section Description:	I-85: varying 4-6 lanes with 22' median and concrete median barrier. Additional 14' shoulder (10' paved) will be provided in southbound direction. Collector Distributor (C-D): Varying 2-3 lanes (12' lanes) with varying paved/grass shoulder widths (see project cross sections for additional detail). RPB: 16' lane with 12' paved shoulder w/ expressway gutter on LT side.			I-85: varying 4-6 lanes with 22' median and concrete median barrier, 14' shoulder (10' paved). RPB: 16' paved lane w/ 6' shoulders (4' paved) on each side.				
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	158,125	Year:	2030	Existing:	152,500	Year:	2025

General Project Narrative:
(Description of Minimization of Water Quality Impacts)

NCDOT is proposing a Collector Distributor (C-D) Road along I-85 SB in Mecklenburg county to help relieve traffic congestion from both directions of I-485 to I-85 SB. The proposed roadway improvements will result in proposed slopes filling in existing ditches and covering existing storm drainage systems. There is an existing 2@6'x6' Reinforced Concrete Box Culvert within the proposed project limits beneath existing I-85 SB. The existing culvert requires an extension on the upstream side. The culvert extension will require minor channel improvements on the upstream side. The channel improvements will smoothly tie the existing channel to the box culvert extension. Class II Rip Rap will be used as bank stabilization. All major structures have been designed to have as little environmental and surface water impacts as possible. Avoidance and minimization measures include steepening fill slopes and adding guardrail to avoid stream impacts between 21+75 and 23+25 -LSB- LT and adding a dogleg in the proposed 2@6'x6' RCBC extensions to align with the existing channel in order to avoid a channel realignment upstream of the culvert extension.



North Carolina Department of Transportation
 Highway Stormwater Program
 STORMWATER MANAGEMENT PLAN
 FOR NCDOT PROJECTS



(Version 3.02; Released April 23, 2024)

WBS Element: 47968.1.1 TIP/Proj No.: I-6016 County(ies): Mecklenburg Page 2 of 2

General Project Information

Waterbody Information

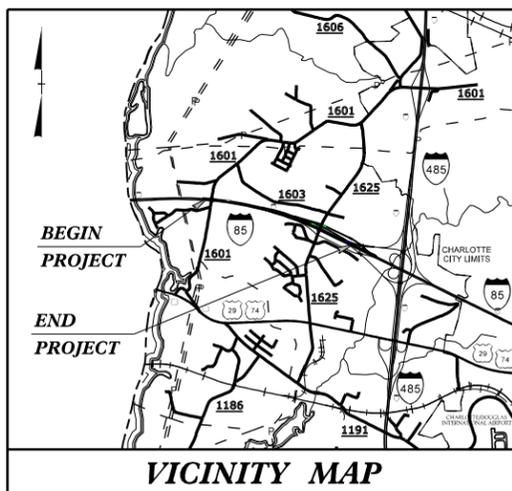
Surface Water Body (1):	UT To Catawba River		NCDWR Stream Index No.:	11-(122)	
NCDWR Surface Water Classification for Water Body	Primary Classification:	Water Supply IV (WS-IV)		Class B	
	Supplemental Classification:	CA			
Other Stream Classification:					
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	SD, SA, SB		Buffer Rules in Effect:	N/A	
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (2):	Catawba River		NCDWR Stream Index No.:	11-(122)	
NCDWR Surface Water Classification for Water Body	Primary Classification:	Water Supply IV (WS-IV)		Class B	
	Supplemental Classification:	CA			
Other Stream Classification:	NC Natural and Scenic Rivers				
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:			Buffer Rules in Effect:	Catawba	
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (3):			NCDWR Stream Index No.:		
NCDWR Surface Water Classification for Water Body	Primary Classification:				
	Supplemental Classification:				
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?		Comments:			
NRTR Stream ID:			Buffer Rules in Effect:		
Project Includes Bridge Spanning Water Body?		Deck Drains Discharge Over Buffer?		Dissipator Pads Provided in Buffer?	
Deck Drains Discharge Over Water Body?		(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

09/08/99

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



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**PERMIT DRAWING
SHEET 1 OF 14**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-6016	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
47968.1.1	NA	PE	
47968.2.1	NA	ROW	
47968.2.2	NA	UTILITIES	

MECKLENBURG COUNTY

**LOCATION: I-85/I-485 INTERCHANGE WEST OF CHARLOTTE.
IMPROVE INTERCHANGE.**

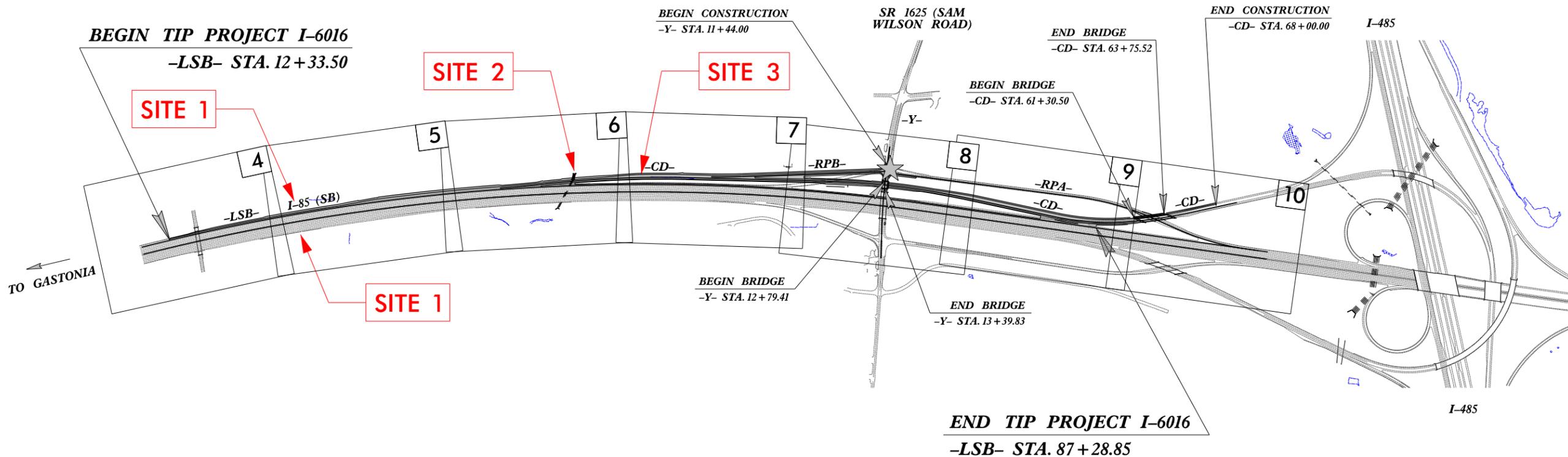
**TYPE OF WORK: GRADING, PAVING, DRAINAGE, RETAINING WALLS,
SIGNALS AND STRUCTURES**

RIGHT-OF-WAY PLAN SET

WETLAND AND SURFACE WATER IMPACTS PERMIT



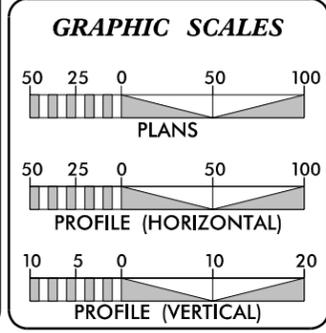
TIP PROJECT: I-6016



THIS IS A CONTROLLED ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.

★ PROPOSED SIGNAL
**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

CONTRACT:



DESIGN DATA

ADT 2025 =	152,500
ADT 2030 =	158,125
K =	7 %
D =	55 %
T =	15 % *
V =	65 MPH
* TTST =	11% DUAL = 4%
FUNC CLASS =	INTERSTATE
STATEWIDE TIER	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT I-6016	=	1.420 MILES
LENGTH STRUCTURE TIP PROJECT I-6016	=	0.000 MILES
TOTAL LENGTH TIP PROJECT I-6016	=	1.420 MILES

-LSB- USED FOR PROJECT LENGTH

Prepared for NCDOT in the Office of:

Mead&Hunt
111 E. Hargett Street, Suite 300
Raleigh, North Carolina 27601
919-714-8670 | meadhunt.com
NC License No. F-1235

2024 STANDARD SPECIFICATIONS	RICK DECOLA, PE PROJECT ENGINEER
RIGHT OF WAY DATE: JUNE 21, 2024	FISHER REESE, PE PROJECT DESIGN ENGINEER
LETTING DATE: JULY 15, 2025	JON GAILLARD NCDOT CONTACT

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

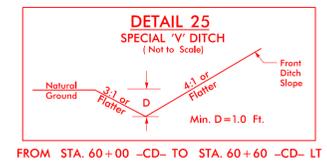
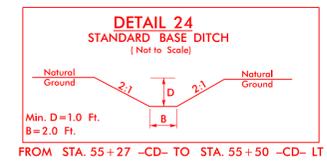
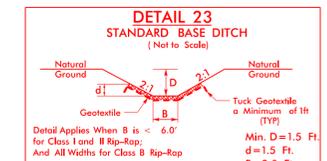
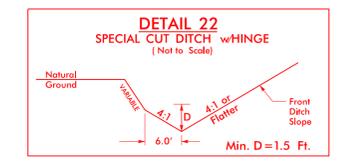
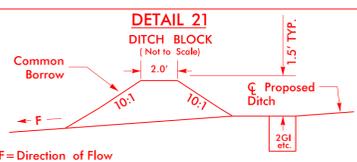
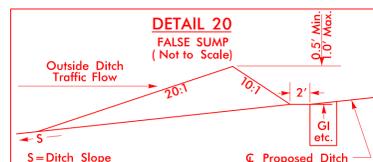
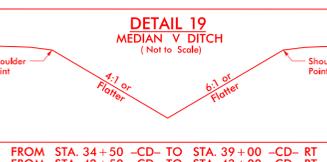
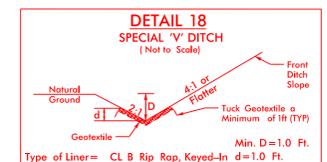
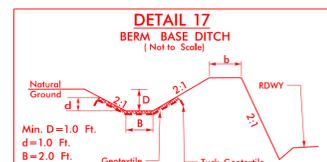
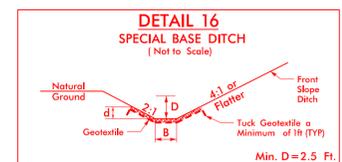
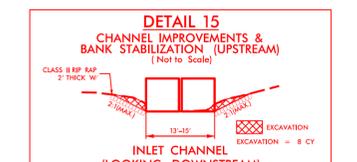
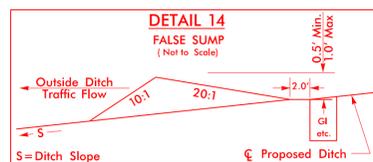
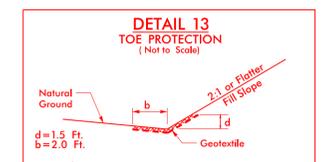
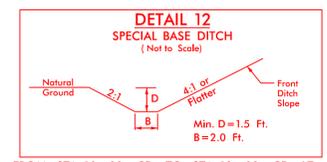
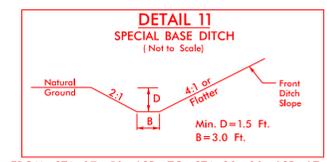
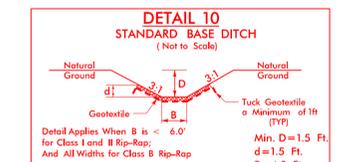
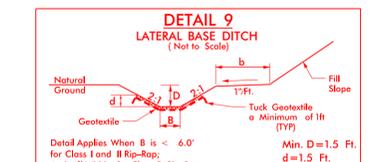
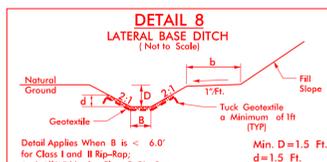
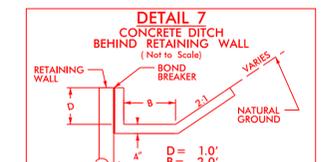
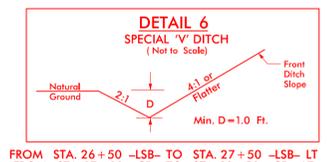
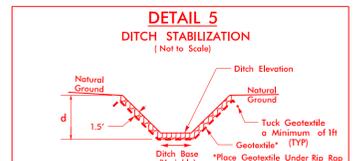
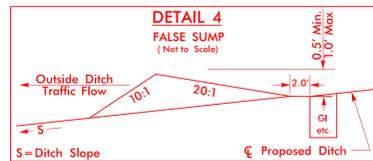
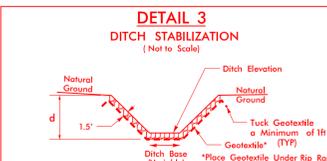
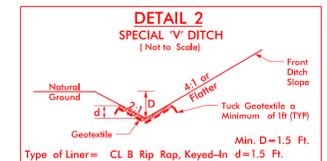
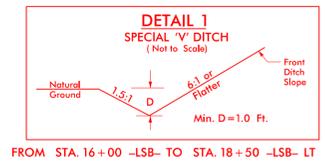
ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



8/7/2024 03249 X:\4306200\212364.01\TECH\Hydraulics\Permits_Environmental\Drawings\I-6016_Hyd_PSH_TSH_wet.dgn

PROJECT REFERENCE NO. 1-6016		SHEET NO. 20-1	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
 111 E. Hargett Street, Suite 300 Raleigh, North Carolina 27601 919-774-8870 meadandhunt.com NC License No. F-1235			
PERMIT DRAWING SHEET 2 OF 14			



8/17/99

PROJECT REFERENCE NO. 1-6016	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
PERMIT DRAWING SHEET 4 OF 14	

NAD 83/NA 2011

TS TS TEMPORARY SURFACE WATER IMPACTS

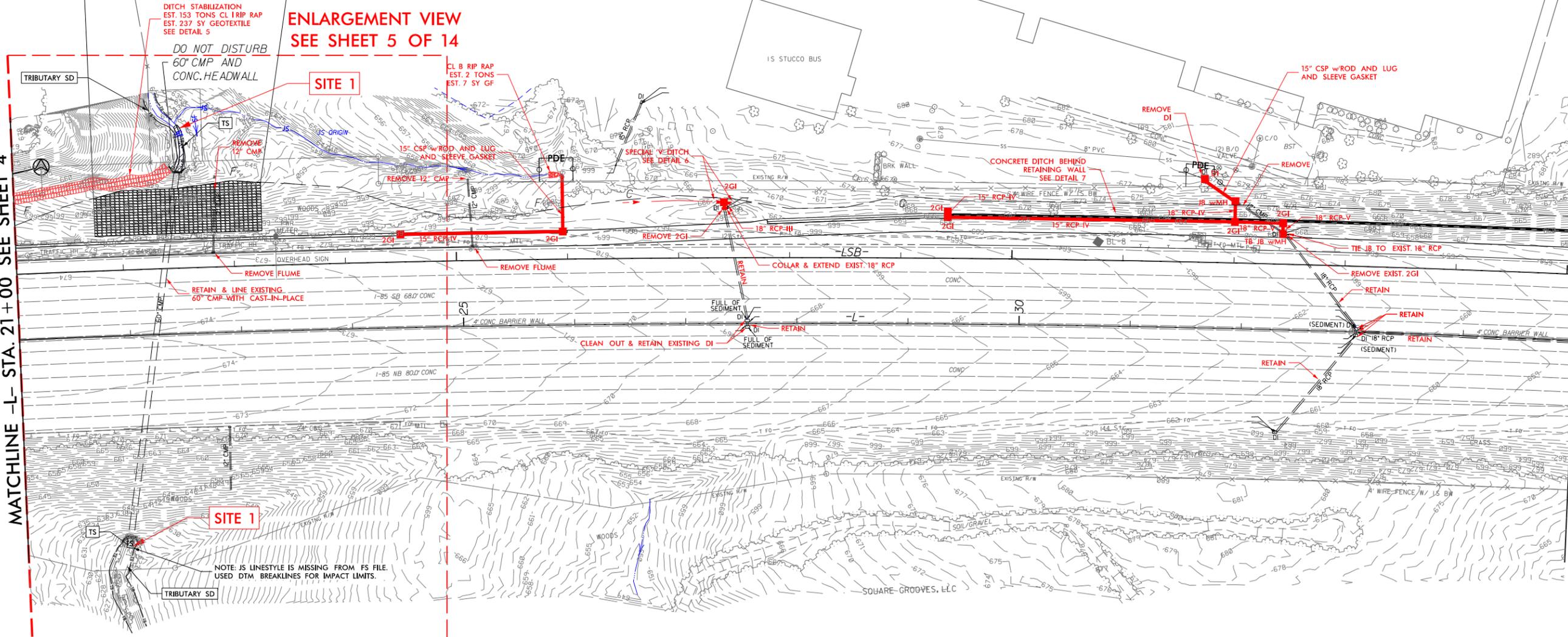
3F NORTH AMERICA, INC.

USE MAX. 1.5:1 FILL SLOPES WITH ROCK PLATING STD. 275.01
-LSB- STA. 21+75 TO STA. 23+25

ENLARGEMENT VIEW
SEE SHEET 5 OF 14

MATCHLINE -L- STA. 21+00 SEE SHEET 4

MATCHLINE -L- STA. 35+00 SEE SHEET 6



SITE 1
NOTE: 15 LIFESTYLE IS MISSING FROM FS FILE. USED DTM, BREAKLINES FOR IMPACT LIMITS.

FOR -LSB- PROFILE, SEE SHEET 11

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8/17/19

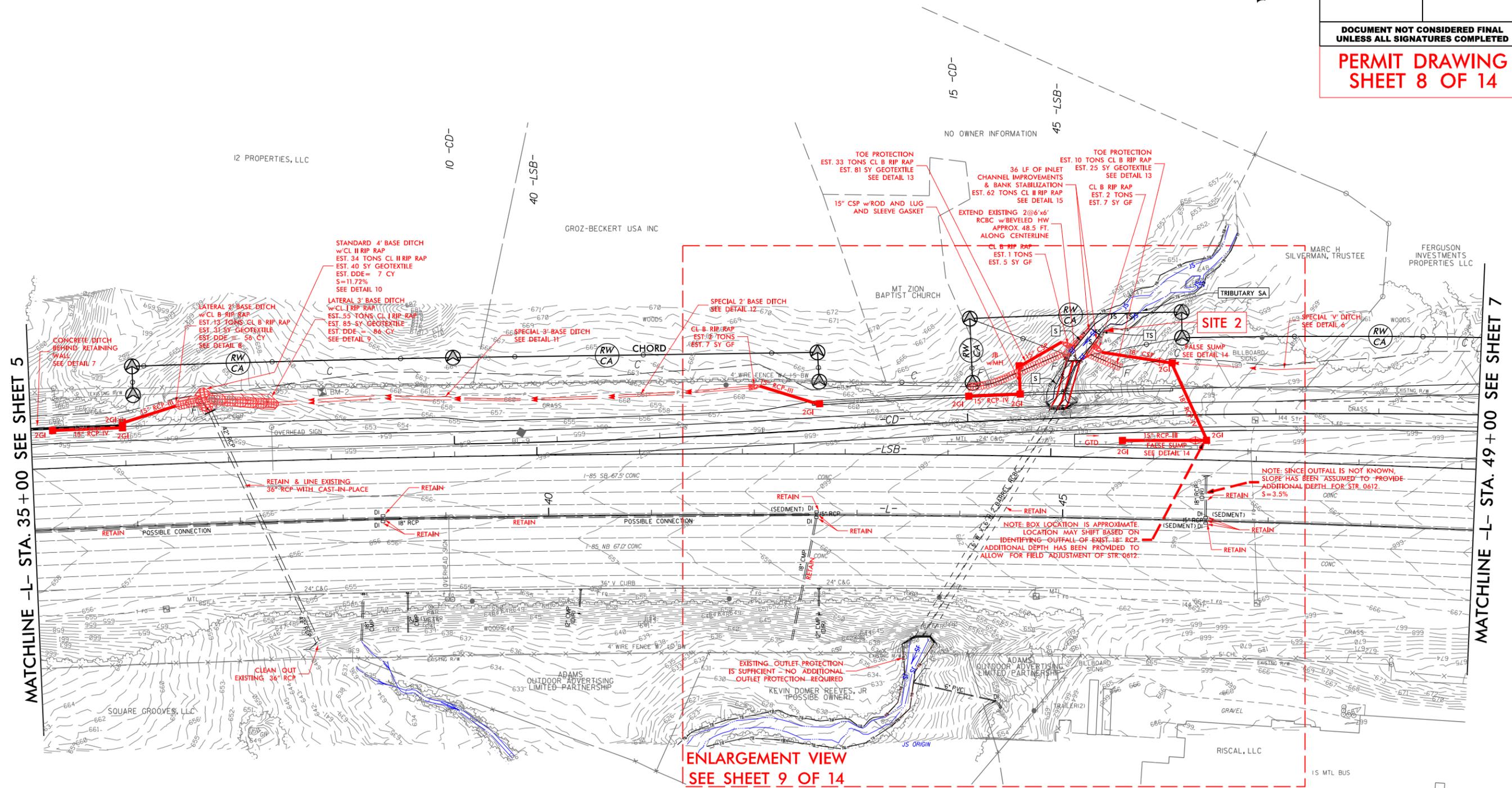
 SURFACE WATER IMPACTS
 TEMPORARY SURFACE WATER IMPACTS

NAD 83 NA 2011

PROJECT REFERENCE NO. 1-6016	SHEET NO. 6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	

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PERMIT DRAWING SHEET 8 OF 14



MATCHLINE -L- STA. 35+00 SEE SHEET 5

MATCHLINE -L- STA. 49+00 SEE SHEET 7

**ENLARGEMENT VIEW
SEE SHEET 9 OF 14**

FOR -CD- PROFILE, SEE SHEET 14
FOR -LSB- PROFILE, SEE SHEET 12

FOR STRUCTURES PLANS, SEE SHEETS C-01 THRU C-XX

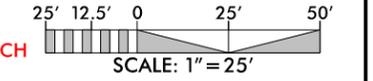
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8/17/99

PROJECT REFERENCE NO. 1-6016	SHEET NO.
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	

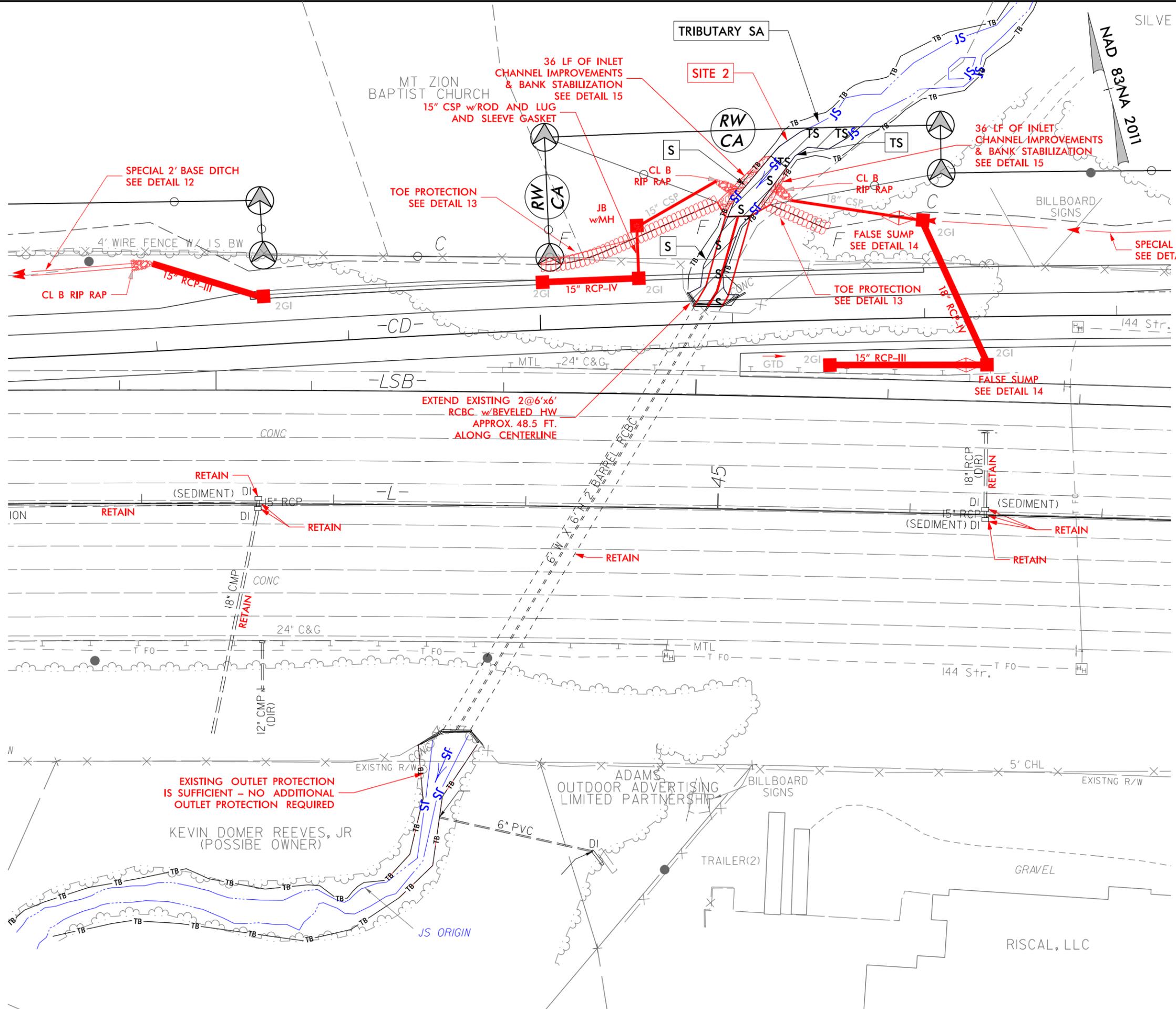
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 9 OF 14



- SURFACE WATER IMPACTS
- TEMPORARY SURFACE WATER IMPACTS

ENLARGEMENT VIEW PLAN SHEET 06



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5/14/99

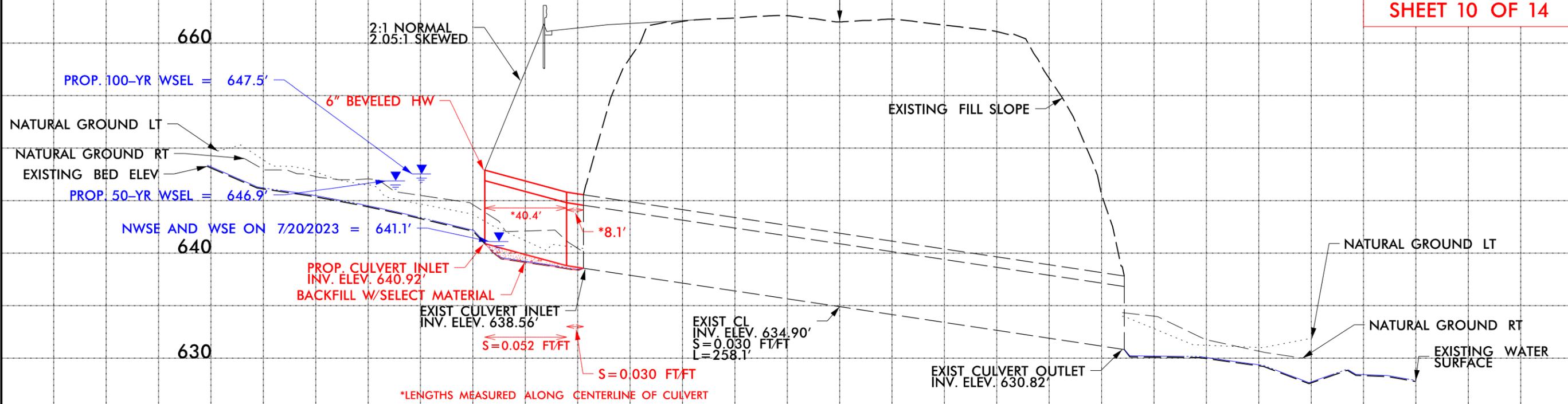
PROJECT REFERENCE NO. 1-6016	SHEET NO.
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

**PERMIT DRAWING
SHEET 10 OF 14**

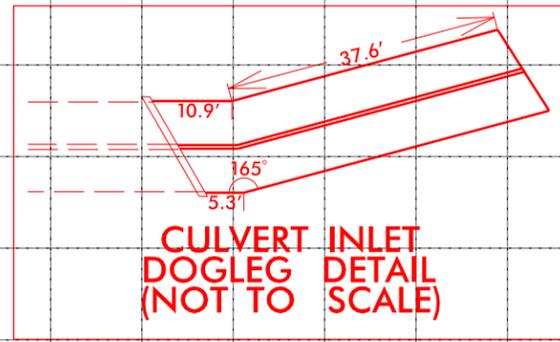
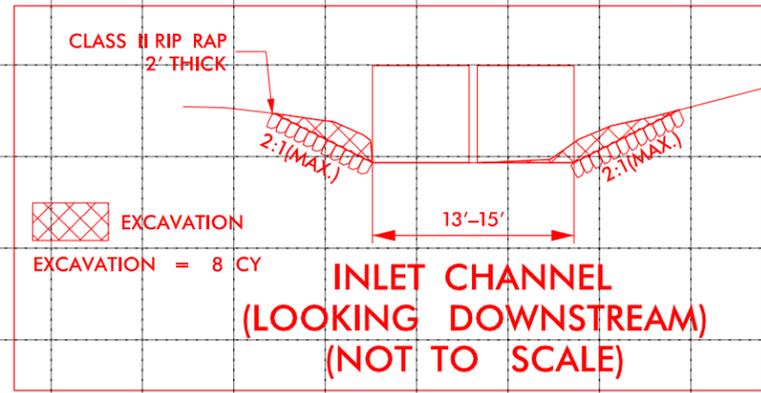
300' LT 200' LT 100' LT 0 100' RT 200' RT

CL STA 44+33 -L-
RETAIN & EXTEND 2@6'x6' RCBC UPSTREAM
SKEW = 120 DEG; CL ELEV = 662.02'



*LENGTHS MEASURED ALONG CENTERLINE OF CULVERT

SITE 2



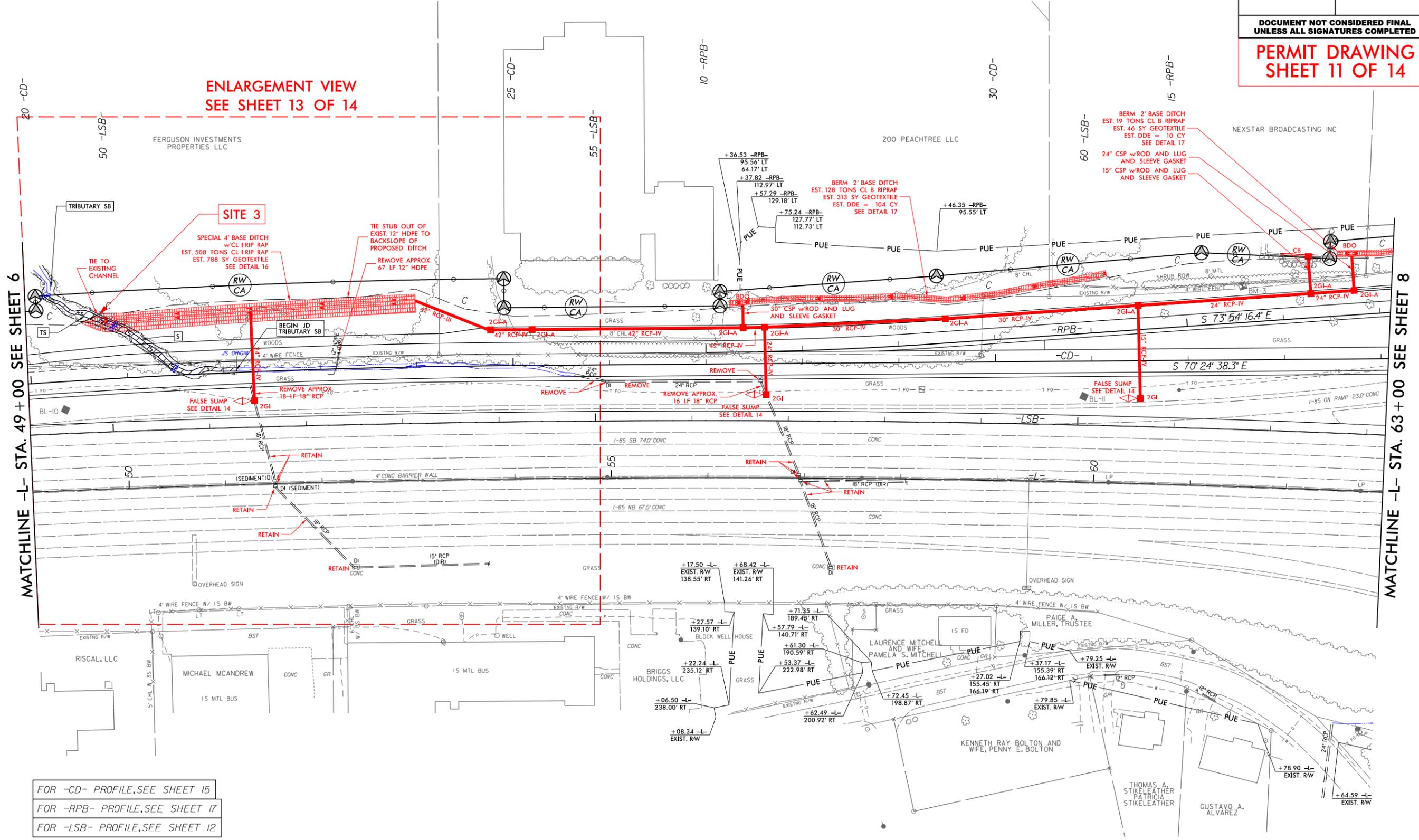
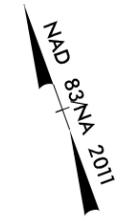
SCALE HORIZONTAL 1" = 25'
SCALE VERTICAL 1" = 2.5'

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 SURFACE WATER IMPACTS
 TEMPORARY SURFACE WATER IMPACTS

PROJECT REFERENCE NO. 1-6016	SHEET NO. 7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	

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PERMIT DRAWING
SHEET 11 OF 14



MATCHLINE -L- STA. 49 + 00 SEE SHEET 6

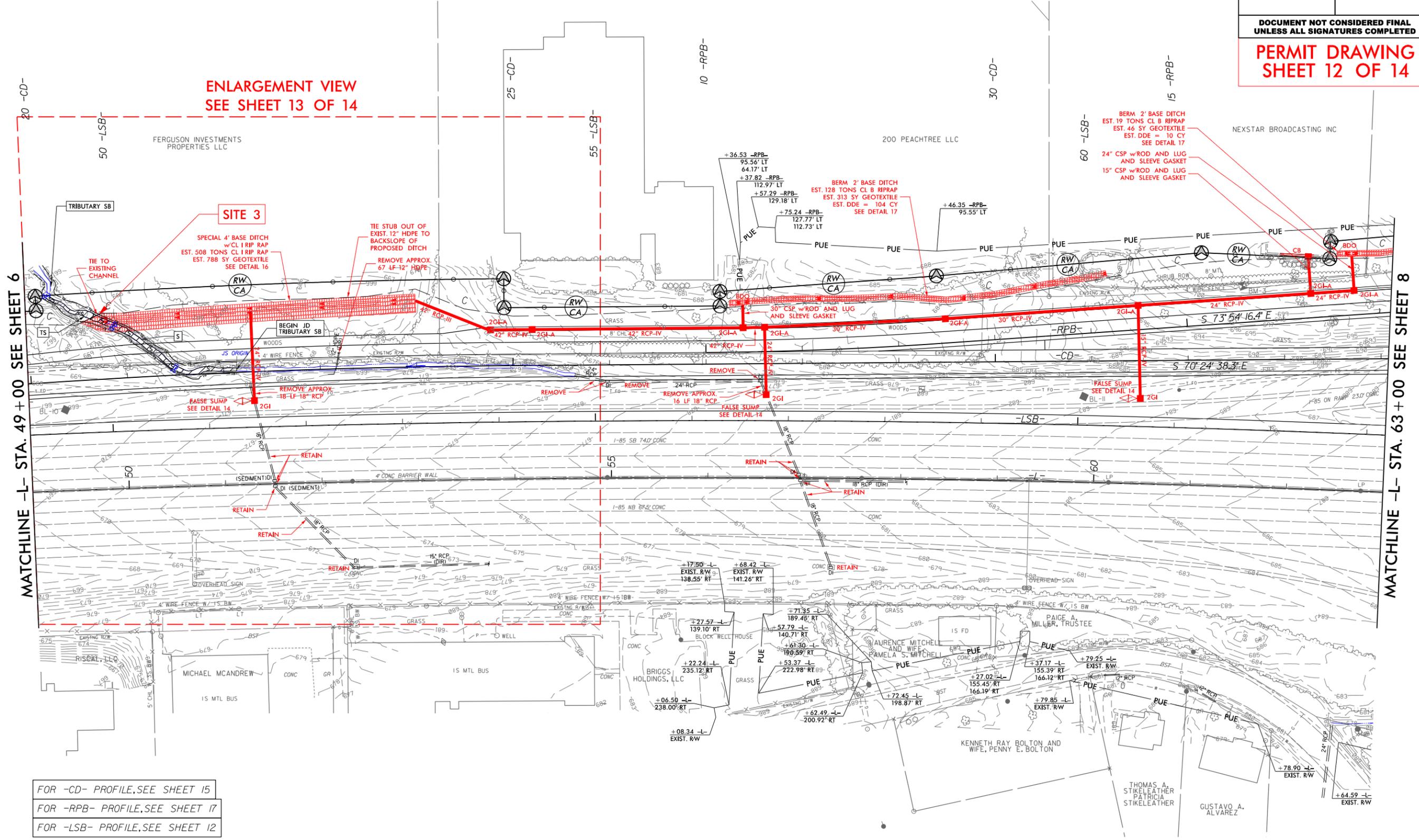
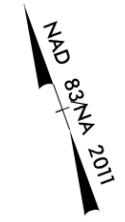
MATCHLINE -L- STA. 63 + 00 SEE SHEET 8

FOR -CD- PROFILE, SEE SHEET 15
 FOR -RPB- PROFILE, SEE SHEET 17
 FOR -LSB- PROFILE, SEE SHEET 12

 SURFACE WATER IMPACTS
 TEMPORARY SURFACE WATER IMPACTS

PROJECT REFERENCE NO. 1-6016	SHEET NO. 7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING
SHEET 12 OF 14



MATCHLINE -L- STA. 49 + 00 SEE SHEET 6

MATCHLINE -L- STA. 63 + 00 SEE SHEET 8

FOR -CD- PROFILE, SEE SHEET 15
 FOR -RPB- PROFILE, SEE SHEET 17
 FOR -LSB- PROFILE, SEE SHEET 12

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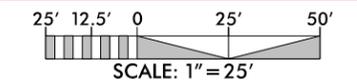
FERGUSON INVESTMENTS
PROPERTIES LLC

NAD 83/NA 2011

PROJECT REFERENCE NO. 1-6016	SHEET NO.
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	

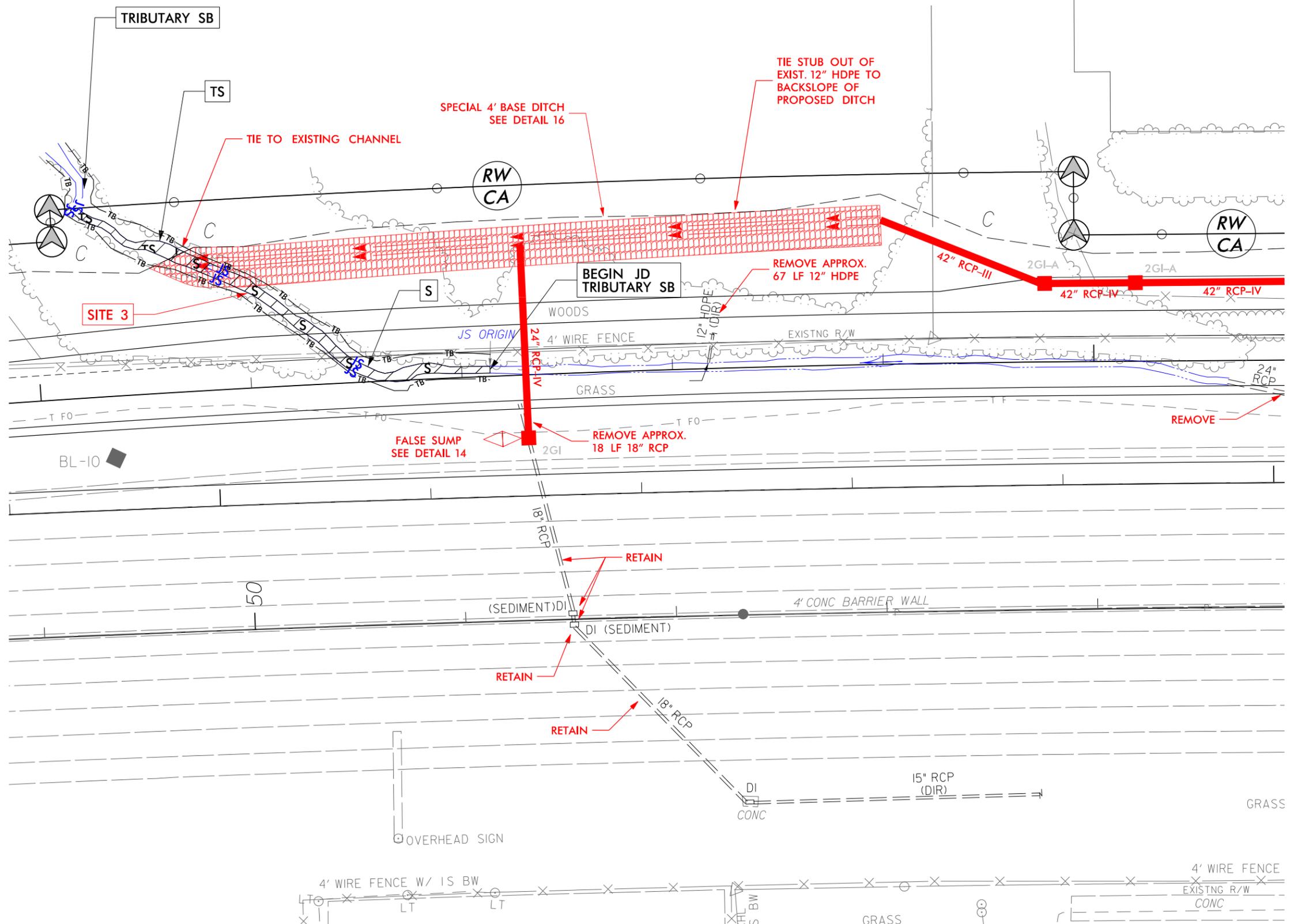
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 13 OF 14



	SURFACE WATER IMPACTS
	TEMPORARY SURFACE WATER IMPACTS

ENLARGEMENT VIEW
PLAN SHEET 07



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