STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J.R. "JOEY" HOPKINS
SECRETARY

June 6, 2025

MEMORANDUM TO: Becca Gallas, P.E.
Division 5 Engineer

FROM: Alan Shapiro, P.E.
NCTA Deputy Chief Engineer

DocuSigned by:
Alan Shapiro
B149124683BD45D...

SUBJECT: Triangle Expressway Southeast Extension (Complete 540) from NC 55 Bypass in Apex to US 64/264 (I-87) in Knightdale, Wake and Johnston Counties; Federal Aid No. STP-0540(19), STP-0540(20), and STP-0540(21); WBS Nos. 37673.1.TA1, 35516.1.TA1, and 35517.1.TA1; STIP Project Nos. R-2721, R-2828, and R-2829

Attached are the modified US Army Corps of Engineers (USACE) Phased Section 404 Individual Permit, NC Division of Water Resources (NCDWR) Section 401 Individual Water Quality Certification, Neuse Riparian Buffer Authorization, and Non-404 Jurisdictional Wetlands and Waters Permit for the construction of the Triangle Expressway Southeast Extension (Complete 540) from NC 55 Bypass in Apex to US 64/264 (I-87) in Knightdale, Wake and Johnston Counties. STIP Nos. R- 2721, R-2828, and R-2829. ***The changes are based on the May 30, 2025 revision submittal for the R-2829A section of the project, related to utilities.*** Subject to any requisite permit modifications, all environmental permits have been received for the construction of the final design sections of this project.

A copy of this permit package is posted on the NCDOT website at:
https://xfer.services.ncdot.gov/pdea/PermIssued

cc: w/o attachment (see website for attachments)
Mr. Ron Davenport, P.E. Contracts Management
Mr. Clarence Coleman, P.E., FHWA
Mrs. Heather Montague, Division 5
Mr. Mark Craig, P.E., Division 5
Mr. Boyd Tharrington, P.E., Deputy Chief Engineer
Mr. Bill Martin, P.E., Programming and TIP
Mr. Timothy Ritacco, Utilities Unit
Mr. Matt Lauffer, P.E., Hydraulics Unit
Mr. David Snoke, P.E., Structures Management Unit
Mr. Mark Staley, Roadside Environmental
Mr. John Jamison, Environmental Policy Unit
Ms. Beth Harmon, NCDMS
Ms. Deanna Riffey, Natural Environment Unit-Environmental Coordination & Permitting

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
TURNPIKE AUTHORITY
1599 MAIL SERVICE CENTER
RALEIGH, NC 27699-1599

Telephone: (919) 707-2700
Fax: (919) 715-5511
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
2501 AERIAL CENTER PARKWAY
SUITE 200
MORRISVILLE, NC 27560

Harris (HNTB), Jennifer H

From: Alsmeyer, Eric C CIV USARMY CESAW (USA) <Eric.C.Alsmeyer@usace.army.mil>
Sent: Friday, June 6, 2025 1:11 PM
To: Shapiro, Alan W; Harris (HNTB), Jennifer H
Cc: Norman, Patrick A; Mccollum, Ron; Shapiro, Alan W; Riffey, Deanna; Roy Bruce; Fleming, Jenny; Wilson, Travis W.; Brew, Donnie (FHWA); Privette, Dale (FHWA); Turchy, Michael A; Richards (WSP), Cameron; Scuffham, Bruce W; Duprey (Sage Group), Nicole J; nduprey@sageecological.com; Montague, Heather W; Jennifer Harris; Travis Feltes; Feltes (HNTB), Travis J; Gray, Jared S; White (WSP), Kadin L; Morgan (H.W. Lochner, Inc.), Clinton J; clint.morgan@hwlochner.com
Subject: [External] Utility mod RE: Complete 540 in Wake and Johnston Counties; Individual Permit Modification Submittal for R-2829A - May 30, 2025
Attachments: 250530_Utility Mod Drwgs_R-2829A_Complete540_Wake-Johnston.pdf

Mr. Shapiro: Reference the Department of the Army permit issued to the North Carolina Department of Transportation (NCDOT) on October 24, 2019, and subsequently modified, to authorize the discharge of fill material into waters of the United States, for construction of the Triangle Expressway Southeast Extension (Complete 540) from NC 55 Bypass in Apex to US 64/264 (1-87) in Knightdale, Wake and Johnston Counties. Sections included within this permit are R-2721, R-2828, and R-2829. R-2828 and R-2829A&B have since completed final design and were authorized by modification of the permit.

Also, please reference your May 30, 2025 letter, requesting modification of the permit to authorize proposed changes to jurisdictional resource impacts for R-2829, Section A, for utility relocation adjustments at Site 29(A).

The proposed modification is for one utility site in R-2829A, Site 29(A). The proposed modified impacts add 0.039 acre of non-404 hand clearing in wetlands.

The Corps has completed the evaluation of your request and has determined that it is appropriate and reasonable, and that no public notice is required for this modification. Therefore, the permit is modified as requested and as shown on the enclosed R-2829A modified Utility Permit Drawings, Sheets 1 through 8, revised on 5/9/2025, and WETLAND AND SURFACE WATER IMPACTS SUMMARY, Sheet, Revised Submittal May 30, 2025.

No additional compensatory mitigation is required. The special conditions for the permit are also enclosed, and have not changed from the original Special Conditions with the exceptions of Special Condition 9, which is revised to indicate the September 30, 2024 Addendum to the US Fish and Wildlife Service BIOLOGICAL/CONFERENCE OPINION, and Added Special Condition 30. Boater Safety Plan. The permit expiration date was previously extended to December 31, 2029.

Please reply or call if you have any questions or if I may serve you in any other way.

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the Customer Satisfaction Survey located at https://regulatory.ops.usace.army.mil/customer-service-survey/.

Eric
Eric Alsmeyer
Project Manager
Work Cell: 919.817.1570

Regulatory - WRDA / Transportation Branch
US Army Corps of Engineers, Wilmington District
3331 Heritage Trade Drive, Suite 105, Wake Forest, NC 27587
Regulatory Homepage: http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram.aspx

JOSH STEIN
Governor
D. REID WILSON
Secretary
RICHARD E. ROGERS, JR.
Director

NORTH CAROLINA
Environmental Quality

June 2, 2025

Patrick Norman, P.E., Chief Engineer
North Carolina Turnpike Authority
1578 Mail Service Center
Raleigh, NC 27699
pnorman@ncdot.gov

Subject: MODIFICATION of 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with ADDITIONAL CONDITIONS for Proposed construction of the Triangle Expressway Southeast Extension (NC 540) in Wake & Johnston Counties, Federal Aid Project No. 050047, State Project No. 35517.3.TA1, TIP Nos, R-2721, R-2828, & R-2829. (TIP R-2829A for This Modification) NCDWR Project No. 20181249 version 22.

Dear Mr. Norman:

Attached hereto is a copy of Modification to Certification No. 4179 issued to The North Carolina Department of Transportation (NCDOT), Turnpike Authority, originally dated February 15, 2019 and most recent modification dated June 2, 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, and Water Supply Watershed regulations.

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

Sincerely,

Signed by:
Susan Locklear
375CAE2BB9F540C...

Richard E. Rogers Jr, Director
Division of Water Resources

Attachments
Cc: Eric Alsmeyer, US Corps of Engineers, Raleigh Field Office (Eric.C.Alsmeyer@usace.army.mil)
Jennifer Harris, PE, NC Turnpike Authority (ext-jharris1@ncdot.gov)
Deanna Riffey, NCDOT Environmental Analysis (driffey@ncdot.gov)
Beth Harmon, NC Division of Mitigation Services (beth.harmon@deq.nc.gov)
File Copy

MODIFICATION to 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with ADDITIONAL CONDITIONS

THIS MODIFIED 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 modification authorizes the NC Turnpike Authority to impact 8.797 acres of jurisdictional wetlands and 10517 linear feet of jurisdictional streams in Wake County for section **R-2829A** of the Complete 540 project. The project shall be constructed pursuant to the modification application received May 30, 2025. The authorized modified impacts for this modification are as described below:

Additional R-2829A Wetland Impact Modifications in the Neuse River Basin:

Site	Hand Clearing Already Permitted (ac)	Increase in Hand Clearing (ac)	Net Total Change +/- (ac)
29A	**0**	**0.039**	**+0.039**

Total increase in impacts for R-2829A: 0.039 ac wetland Hand Clearing

The application provides adequate assurance that the discharge of fill material into the waters of the Neuse 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 modification application received November 14, 2024. 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 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7).

For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

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 of Certification:

1. All conditions in the Water Quality Certification for this project dated December 10, 2024, and all previous versions thereof, are still applicable to this approval.

This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit. 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:
William F. Lane, 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 2nd day of June 2025

DIVISION OF WATER RESOURCES

Signed by:
Susan Locklear
375CAE2BB9F540C...

Richard E. Rogers, Jr, Director

WQC No. 4179

JOSH STEIN
Governor
D. REID WILSON
Secretary
RICHARD E. ROGERS, JR.
Director

NORTH CAROLINA
Environmental Quality

June 2, 2025

DWR #20181249 ver 22
Wake County

Patrick Norman, P.E., Chief Engineer
North Carolina Turnpike Authority
1578 Mail Service Center
Raleigh, NC 27699
pnorman@ncdot.gov

Subject: MODIFICATION of APPROVAL of NEUSE RIPARIAN BUFFER IMPACTS WITH ADDITIONAL CONDITIONS
PROJECT: TIP #R-2829A: NC 540 Extension of Triangle Expressway

Dear Mr. Norman:

You have our approval for the impacts listed below for the purpose described in your Modification application received by the Division of Water Resources (Division) on May 3, 2025. These impacts are covered by the Neuse Buffer Rules and the conditions listed below. Please note that you should get any other federal, state or local permits before proceeding with your project, including those required by (but not limited to) Sediment and Erosion Control, Non-Discharge, and Water Supply Watershed regulations.
The following additional impacts are hereby approved, provided that all of the Conditions listed below and all of the conditions of the Neuse Buffer Rules are met. No other impacts are approved, including incidental impacts. [15A NCAC 02B.0611(b)(2)]

R-2829A Additional Neuse Riparian Buffer Impacts

Site	Previous Zone 1 Approved (sq ft)	Revised Zone 1 Approved (sq ft)	+/- Net Change (sq ft)		Previous Zone 2 Approved (sq ft)	Revised Zone 2 Approved (sq ft)	+/- Net Change (sq ft)
Utility 29	1983	1811	-172		2013	1937	-76
Utility 29-A	0	1636	+ 1636		0	1191	+1191
Totals	**1983**	**3447**	**+1464**		**2013**	**3128**	**+1115**

Additional Zone 1 Mitigation Required: 1464 x 3= 4392 sq ft
Additional Zone 2 Mitigation Required: 1115 x 1.5= 1672 sq ft

This approval is for the purpose and design described in your modification application. The plans and specifications for this project are incorporated by reference as part of this Authorization Certificate. If you change your project, you must notify the Division and you may be required to submit a new application package. If the property is sold, the new owner must be given a copy of this Authorization Certificate and is responsible for complying with all conditions. [15A NCAC 02B.0611(b)]. If you are unable to comply with any of the conditions below, you must notify the DWR Transportation Permitting Branch within 24 hours (or the next business day if a weekend or holiday) from the time the permittee becomes aware of the circumstances.
The permittee shall report to the NC Division of Water Resources any noncompliance with the conditions of this Authorization Certificate and/or any violation of state regulated riparian buffer rules [15A NCAC 02B.0611(b)]. Information shall be provided orally within 24 hours (or the next business day if a weekend or holiday) from the time the applicant became aware of the circumstances.

Conditions of Approval:

1. Compensatory mitigation for impacts to an additional 14647 square feet of protected riparian buffers in Zone 1 and an additional 1115 square feet of protected riparian buffers in Zone 2 shall be required. We understand that you have chosen to perform compensatory mitigation for impacts to protected buffers through use of the North Carolina Division of Mitigation Services (DMS). Mitigation for unavoidable impacts to Neuse Riparian Buffers shall be provided in the Neuse River Basin and done in accordance with 15A NCAC 2B.0295**.** The DMS has indicated in a letter dated May 22, 2025 that they will assume responsibility for satisfying the compensatory mitigation requirements for the above-referenced project, in accordance with DMS's Mitigation Banking Instrument signed June 14, 2016.

2. All prior conditions of the original Neuse Buffer Authorization for this project issued February 15, 2019, and all subsequent modifications since, are still all applicable.

This approval and its conditions are final and binding unless contested. [G.S. 143-215.5]
This Authorization Certificate 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. One (1) copy of the Petition must also be served to the North Carolina Department of Environmental Quality:

William F. Lane, General Counsel
Department of Environmental Quality
1601 Mail Service Center
Raleigh, NC 27699-1601

This Authorization shall expire five (5) years from the date of this letter.
This letter completes the review of the Division under the Neuse Riparian Buffer Rules as described in 15A NCAC 02B.0714. Please contact Rob Ridings at rob.ridings@deq.nc.gov or 919-707-8786 if you have any questions or concerns.

Sincerely,

Signed by:
Susan Locklear
375CAE2BB9F540C...

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

Cc: Eric Alsmeyer, US Corps of Engineers, Raleigh Field Office (Eric.C.Alsmeyer@usace.army.mil)
Jennifer Harris, PE, NC Turnpike Authority (ext-jharris1@ncdot.gov)
Deanna Riffey, NCDOT Environmental Analysis (driffey@ncdot.gov)
Beth Harmon, NC Division of Mitigation Services (beth.harmon@deq.nc.gov)
File Copy

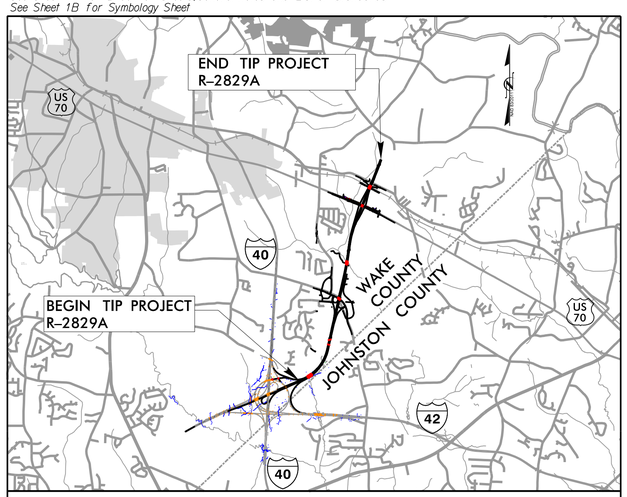
Revised Submittal May 30, 2025

09/08/99

TIP PROJECT: R-2829A

CONTRACT: C204824

See Sheet 1A for Index of Sheets, General Notes and List of Standards
See Sheet 1B for Symbology Sheet



VICINITY MAP (NTS)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAKE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2829A	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
35517.3.TA1	N/A, 0540047	DESIGN-BUILD
35517.3. TAGV1	N/A, 0540047	DESIGN-BUILD
35517.2.TA1	N/A, 0540047	DESIGN-BUILD

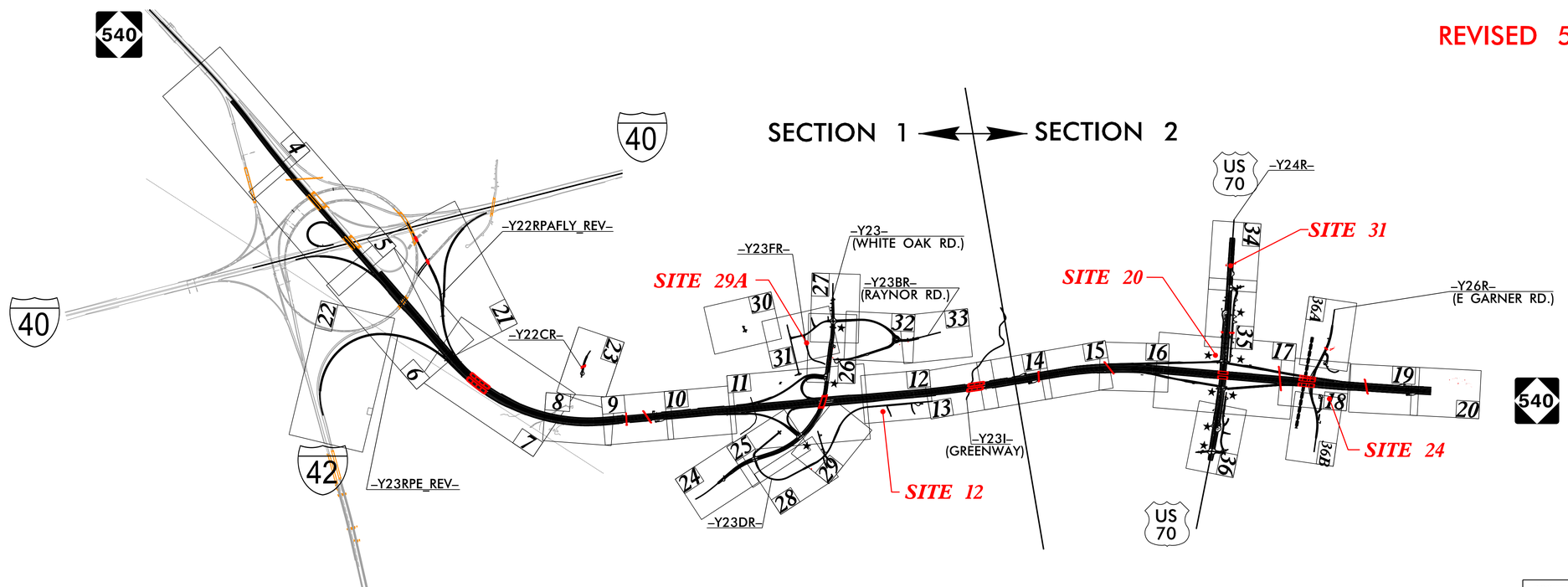
LOCATION: TRIANGLE EXPRESSWAY SOUTHEAST EXTENSION FROM I-40 TO SOUTH OF SR 2542 (ROCK QUARRY RD.)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, LIGHTING, SIGNING, ITS, CULVERTS & STRUCTURES

SAFETEA-LU SECTION 6002
HYDRAULIC DESIGN MEETING PLANS

UTILITY PERMIT DRAWING
SHEET 1 OF 9

REVISED 5/9/2025



NOTES:
1. THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.

★ PROPOSED TRAFFIC SIGNAL

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2023 = 15,440
ADT 2043 = 22,040
K = 12%
D = 65%
T = 10% *
V = 75 MPH

FUNC CLASS: INTERSTATE
* (TTST 4% + DUALS 6%)

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2829A.....3.922 MILES
LENGTH STRUCTURE TIP PROJECT R-2829A.....0.242 MILES
TOTAL LENGTH TIP PROJECT R-2829A.....4.164 MILES

NCTA CONTACT

Ron McCollum, PE
DEPUTY CHIEF ENGINEER for PRECONSTRUCTION
TURNPIKE AUTHORITY

PLANS PREPARED BY:

RK&K
RUMMEL, KLEPPER & KAHL, LLP
8601 SIX FORKS ROAD, FORUM 1, SUITE 700
RALEIGH, NORTH CAROLINA 27615-3960
NC LICENSE NO. F-0112

FOR NORTH CAROLINA TURNPIKE AUTHORITY

2018 STANDARD SPECIFICATIONS

LETTING DATE:
October 17, 2023

C. Byron Holden, PE
PROJECT ENGINEER

Anthony A. Houser, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER
SIGNATURE: *P.E.*

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

5/9/2025
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aburke

Revised Submittal May 30, 2025

PROJECT REFERENCE NO.	SHEET NO.
R-2829A	12
RW SHEET NO.	

REVISED 5/9/2025

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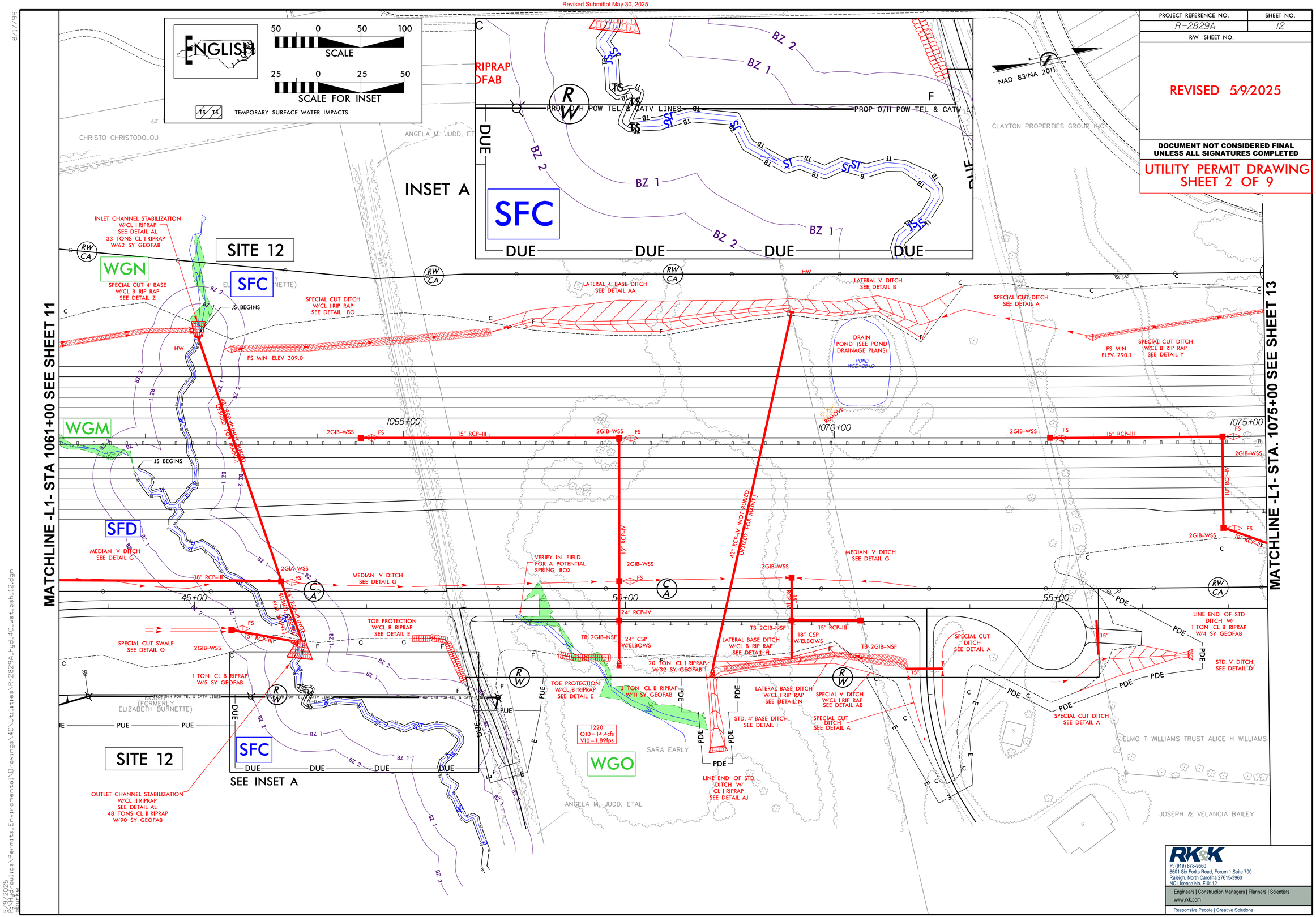
UTILITY PERMIT DRAWING
SHEET 2 OF 9



RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/17/99

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5/9/2025

Revised Submittal May 30, 2025

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2829A	17
R/W SHEET NO.	

REVISED 5/9/2025

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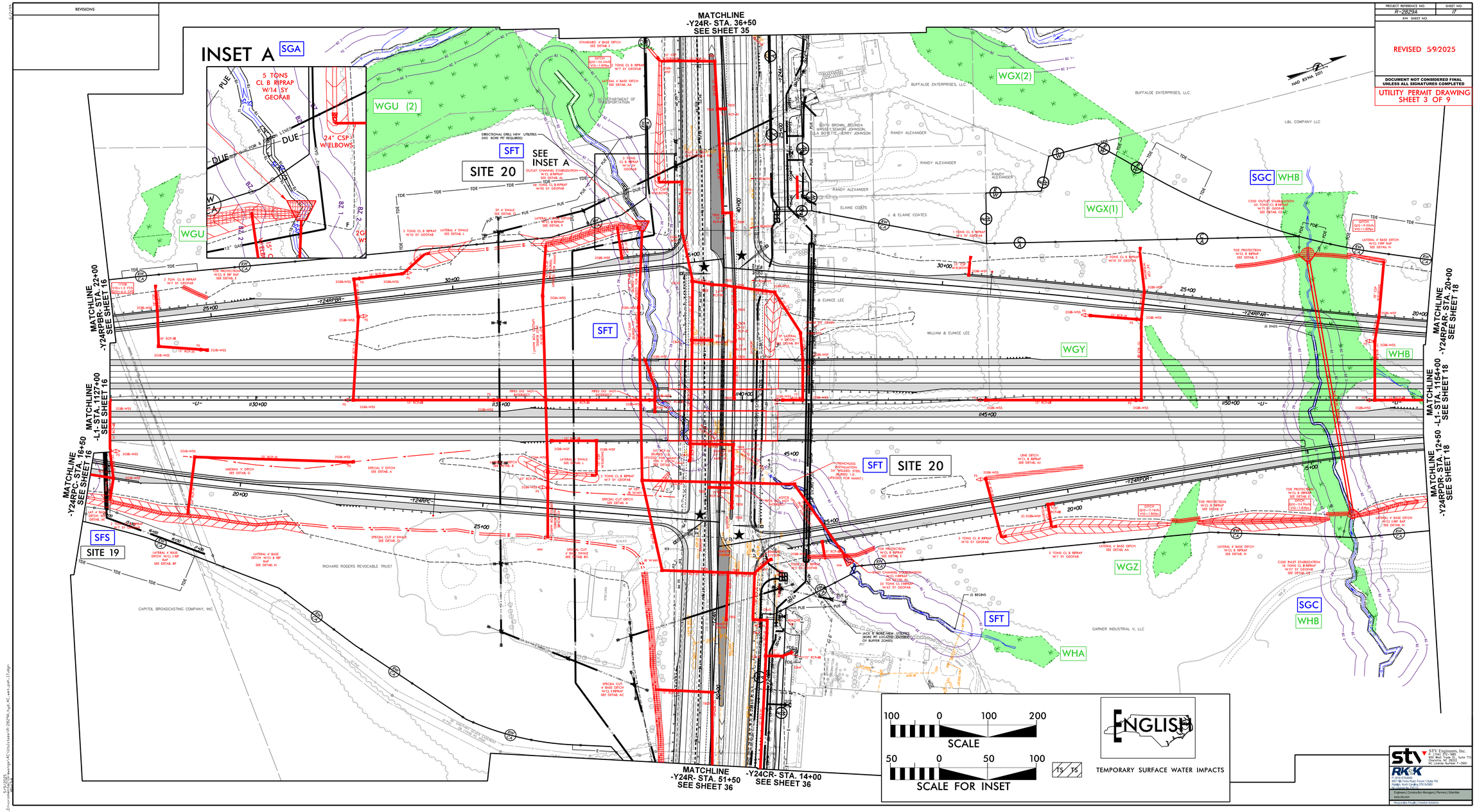
UTILITY PERMIT DRAWING
SHEET 3 OF 9



stv STV Engineers, Inc. P: (704) 375-1800 900 West Trade St., Suite 715 Charlotte, NC 28202 NC License Number F-0881

RK&K P: (919) 878-9560 8601 Six Forks Road, Forum 1, Suite 700 Raleigh, North Carolina 27615-3960 NC License Number F-0112

Engineers | Construction Managers | Planners | Scientists www.rkk.com

Responsive People | Creative Solutions

5/9/2025
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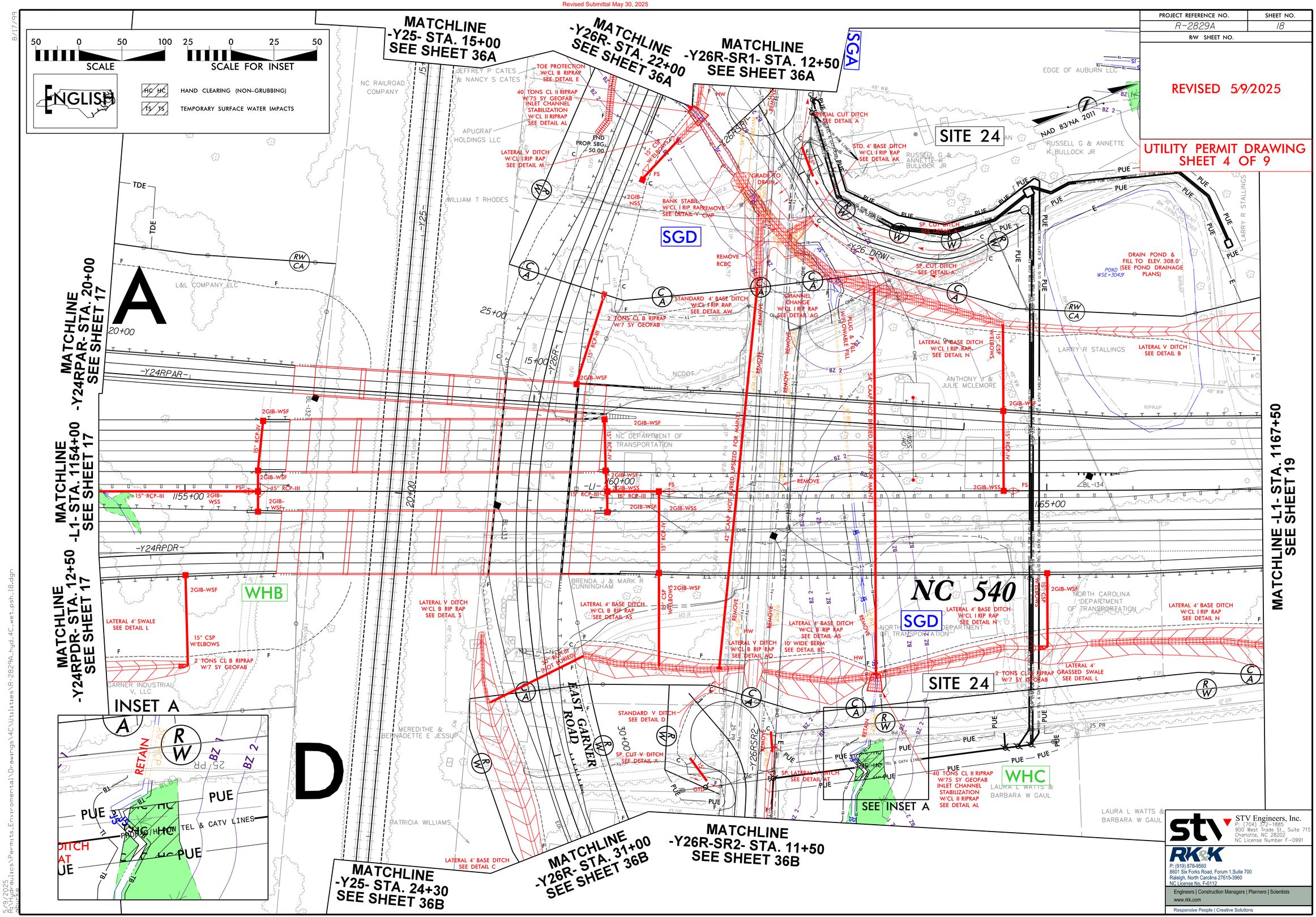
Revised Submittal May 30, 2025

PROJECT REFERENCE NO.	SHEET NO.
R-2829A	18
R/W SHEET NO.	

REVISED 5/9/2025

UTILITY PERMIT DRAWING
SHEET 4 OF 9



STV Engineers, Inc.
P: (704) 372-1885
900 West Trade St., Suite 715
Charlotte, NC 28202
NC License Number F-0991

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/17/99

5/9/2025
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Revised Submittal May 30, 2025

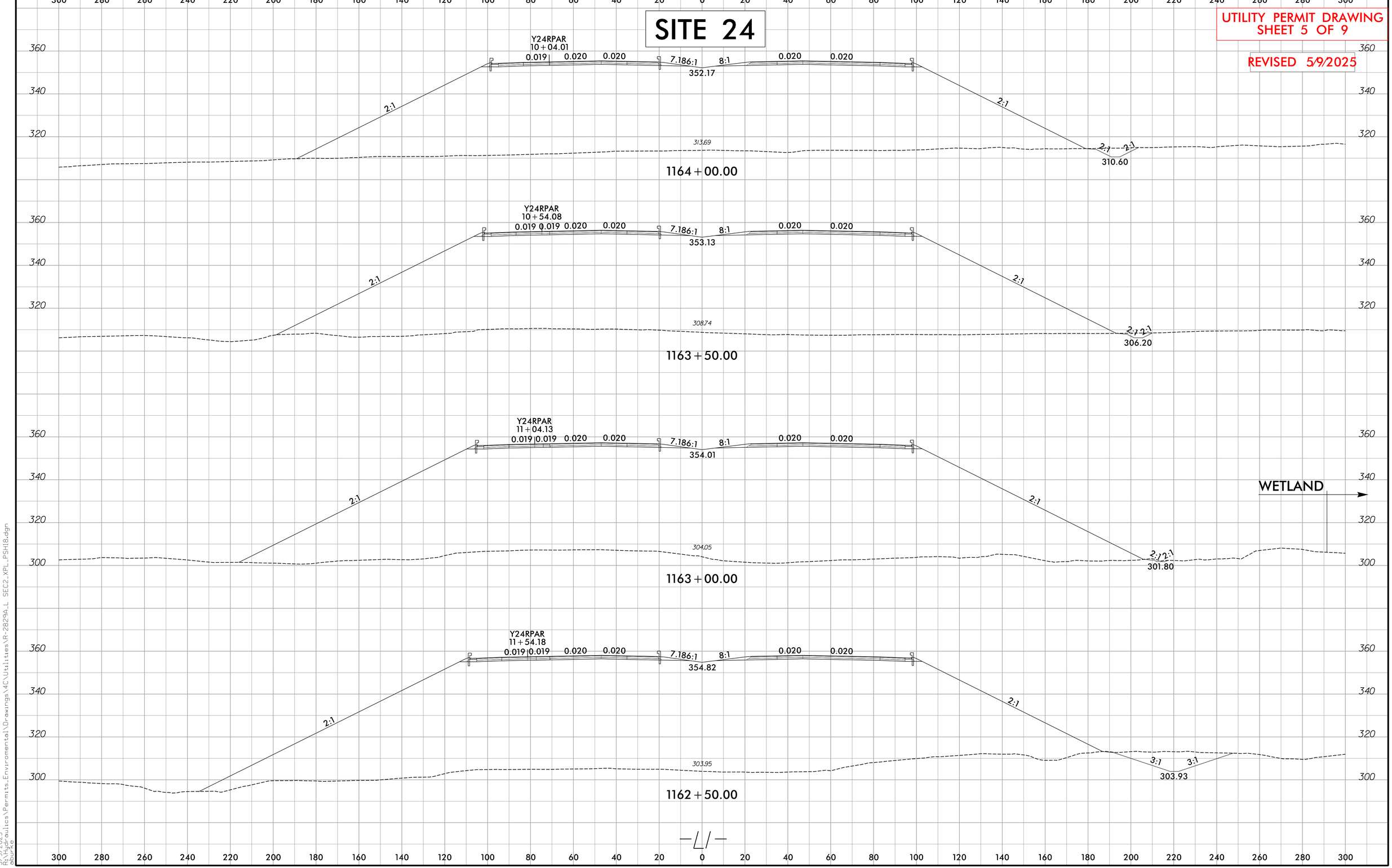
6/23/16

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	R-2829A	S2 X-28

SITE 24

UTILITY PERMIT DRAWING
SHEET 5 OF 9

REVISED 5/9/2025



5/9/2025
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Bruce

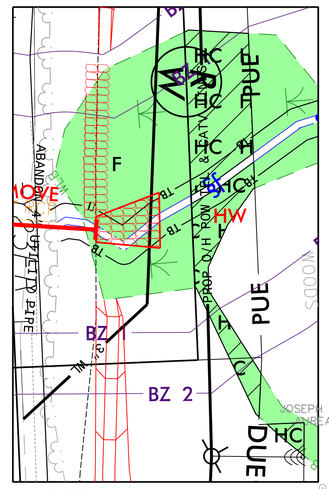
Revised Submittal May 30, 2025

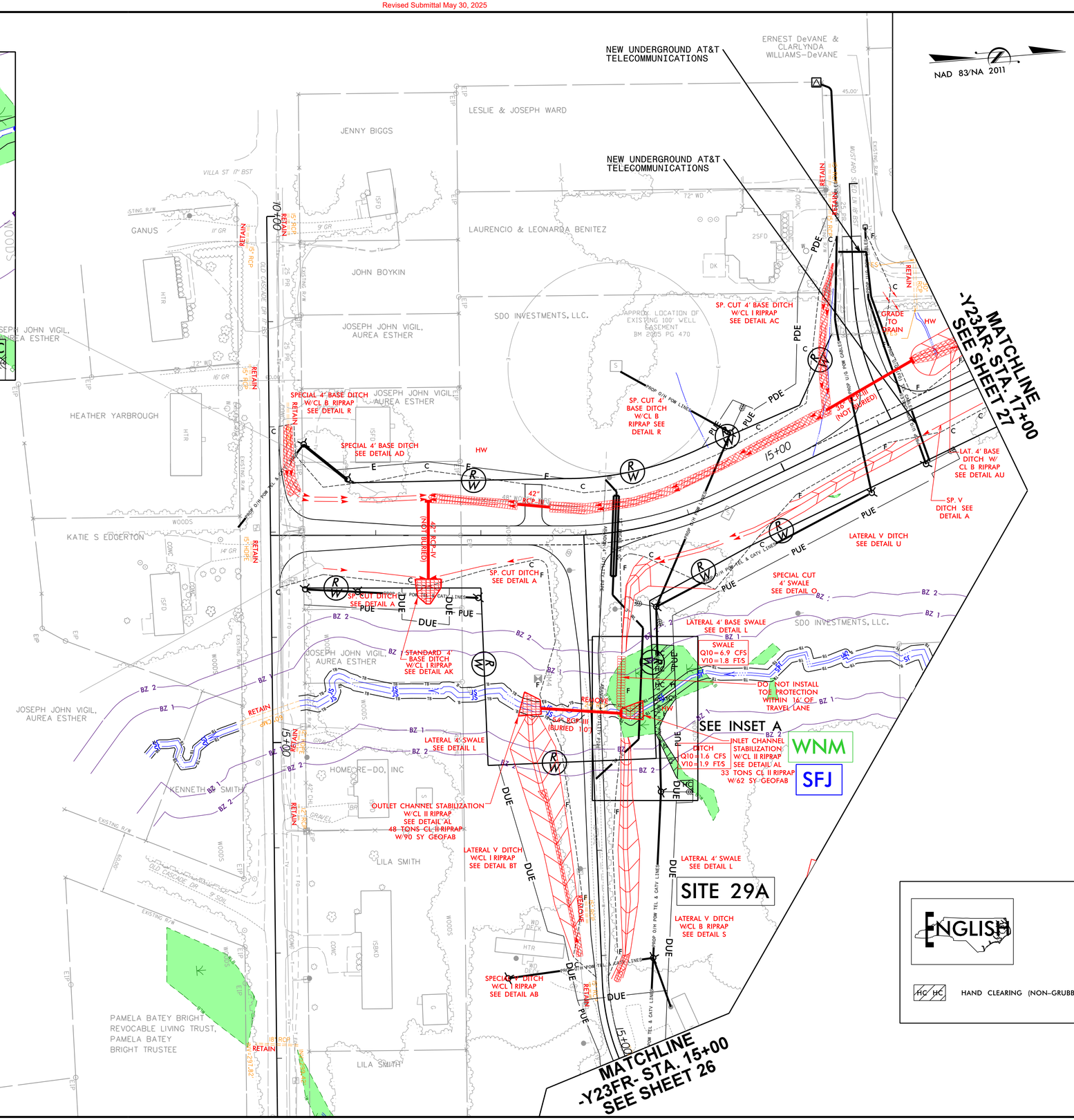
PROJECT REFERENCE NO.	SHEET NO.
R-2829A	31
R/W SHEET NO.	

REVISED 5/9/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

UTILITY PERMIT DRAWING
SHEET 6 OF 9





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Revised Submittal May 30, 2025

PROJECT REFERENCE NO.	SHEET NO.
R-2829A	34
R/W SHEET NO.	

REVISED 5/9/2025

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UTILITY PERMIT DRAWING
SHEET 7 OF 9

ENGLISH

SCALE 50 0 50 100

SCALE FOR INSET 25 0 25 50

HC HC — HAND CLEARING (NON-GRUBBING)

TS TS — TEMPORARY SURFACE WATER IMPACTS

NAD 83/NA 2011

SEVENTY EAST ASSOCIATES, LLC.

CHRISTOPHER DANIELS

STEC

SITE 31

WGW

INSET A

SEE DETAIL E

LINE CUT/FILL TRANSITION W/ 2 TONS CL B RIPRAP W/7 SY GEOFAB

TONS CL B RIPRAP W/7 SY GEOFAB

ABANDON 16" UTILITY PIPE

SP. DET. HW.

PROP U/G COMMUN CONDUIT

EXTEND EXISTING 5'x6'

2GIB –WSF

15" CSP W/ELBOWS

TRENCHLESS INSTALLATION 72" WELDED STEEL

REMOVE 60' EXIST 15"

FS

TB JB w/MH

REMOVE DI

2GIB–WSS

15" RCP–III

PLUG & FILL W/FF

US 70 BUS WB 31' BST

US 70 BUS EB 31' BST

JS BEGINS SP. DET. HW.

LATERAL 4' BASE SWALE SEE DETAIL L

TOE PROTECTION W/CL B RIPRAP SEE DETAIL E

C800 INLET STABILIZATION 58 TONS CL II RIPRAP W/86 SY GEOFAB SEE DETAIL CH

DIRECTIONAL DRILL NEW UTILITY (NO BORE PIT REQUIRED)

3406 Q10 = 1.03cfs V10 = 0.36fps

SWALE Q10 = 12.57cfs V10 = 1.97fps

RETAIN SYSTEM

SEE INSET A

2 TONS CL B RIPRAP W/7 SY GEOFAB

SWALE Q10 = 25.43cfs V10 = 1.94fps

C800 OUTLET STABILIZATION 51 TONS CL II RIPRAP W/68 SY GEOFAB SEE DETAIL CH

1 TONS CL B RIPRAP W/5 SY GEOFAB

SFZ(1)

WGV(1)

SFY

SITE 31

R. GARLAND BURNETTE

MATCHLINE -Y24R- STA. 24+00 SEE SHEET 35

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5/9/2025

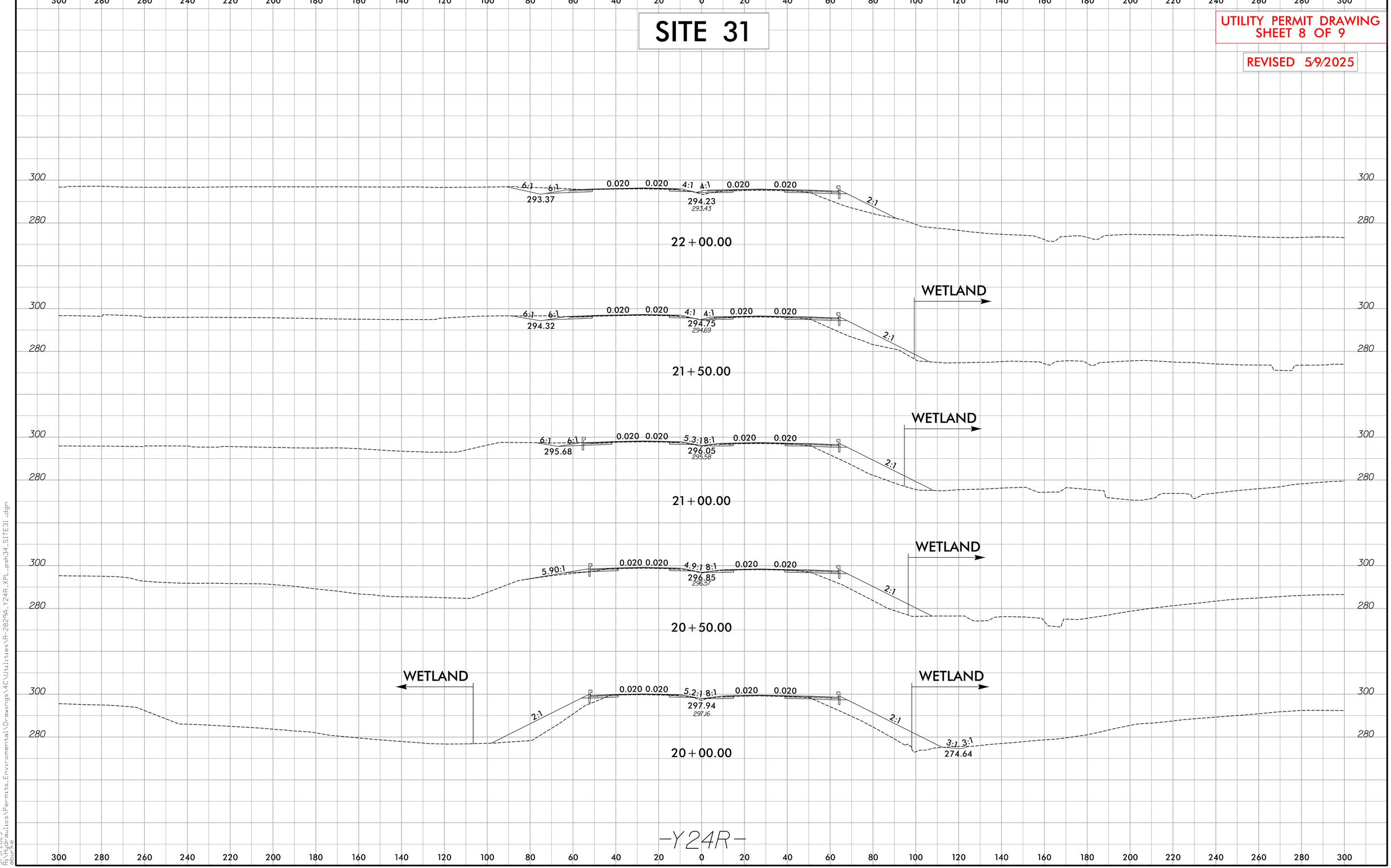
Revised Submittal May 30, 2025

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	R-2829A	S2 X-40

SITE 31

UTILITY PERMIT DRAWING
SHEET 8 OF 9

REVISED 5/9/2025



6/23/16

5/9/2025
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Revised Submittal May 30, 2025

WETLAND AND SURACE WATER IMPACTS SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
12	-Y23DR- 46+82 - 47+18 RT	Overhead Power: SFC							0.003		48	
20	-L1- 1137+51 - 1137+85 LT	Overhead Power, UG Gas & Telephone: SFT							0.006		76	
24	-L1- 1162+71 - 1163+11 RT	Overhead Power: SGD							0.003		36	
		WHC					0.020					
29A	-Y23FR- 11+07 - 12+01 LT	Overhead Power: SFJ, WNM					0.039					
31	-Y24R- 18+90 - 20+18 LT	UG Waterline: WGW					0.034					
	-Y24R-20+37 - 22+10 RT	Overhead Power & Anticipated Utility Line: SFY							0.007		68	
		WGV(1)					0.120					
	-Y24R- 20+25 - 20+38 RT	SFZ(1)							0.002		12	
PROJECT TOTALS*:			**0.000**	**0.000**	**0.000**	**0.000**	**0.213**	**0.000**	**0.021**	**0**	**240**	**0**

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
5/9/2025
Wake County
R-2829A

Revised 2018 Feb

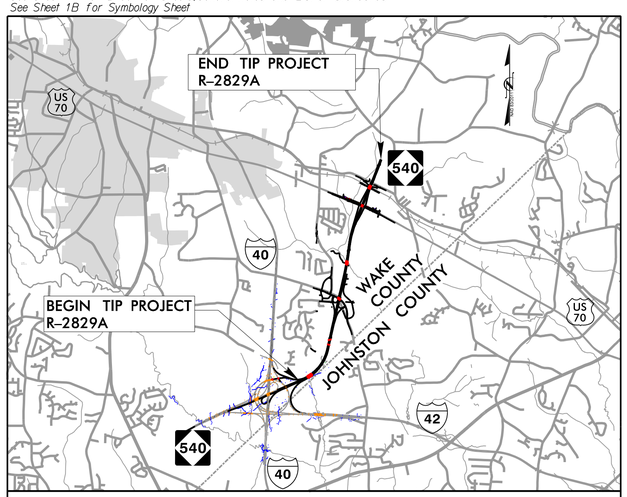
Revised Submittal May 30, 2025

09/08/99

TIP PROJECT: R-2829A

CONTRACT: C204824

See Sheet 1A for Index of Sheets, General Notes and List of Standards
See Sheet 1B for Symbology Sheet



VICINITY MAP (NTS)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAKE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2829A	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
35517.3.TA1	N/A, 0540047	DESIGN-BUILD
35517.3. TAGV1	N/A, 0540047	DESIGN-BUILD
35517.2.TA1	N/A, 0540047	DESIGN-BUILD

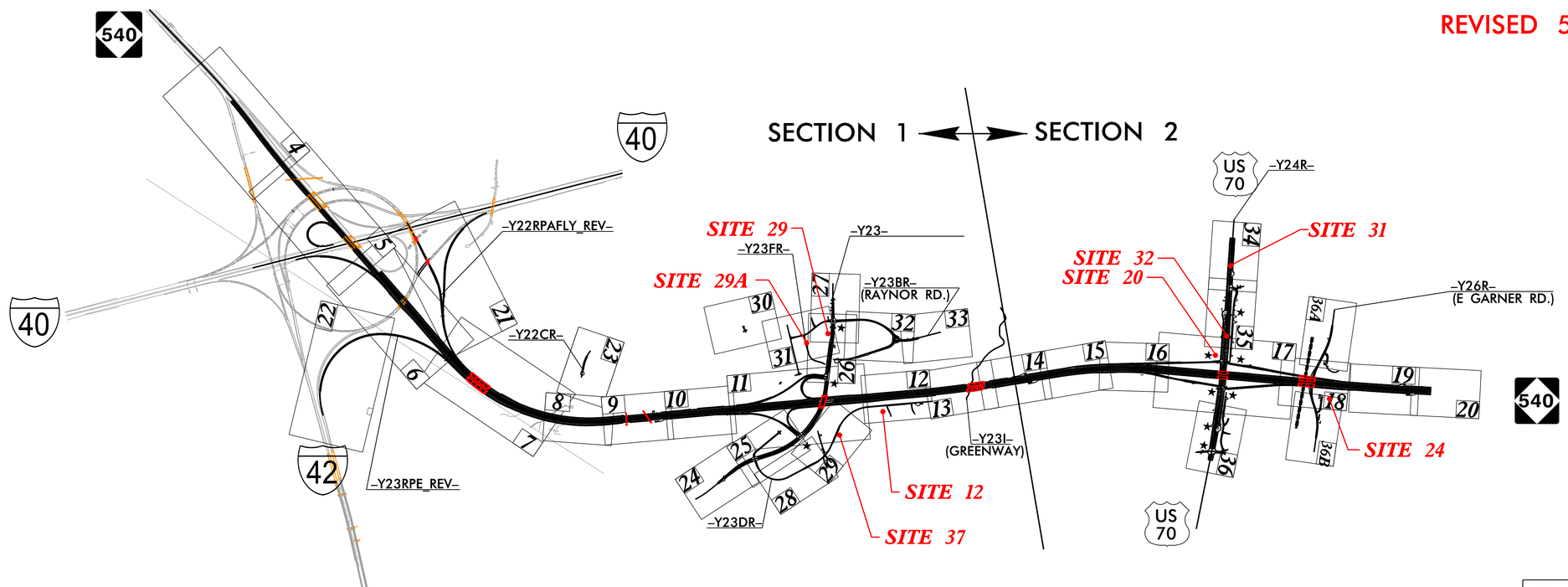
LOCATION: *TRIANGLE EXPRESSWAY SOUTHEAST EXTENSION FROM I-40 TO SOUTH OF SR 2542 (ROCK QUARRY RD.)*

TYPE OF WORK: *GRADING, DRAINAGE, PAVING, LIGHTING, SIGNING, ITS, CULVERTS & STRUCTURES*

SAFETEA-LU SECTION 6002
HYDRAULIC DESIGN MEETING PLANS

UTILITY BUFFER DRAWING
SHEET 1 OF 11

REVISED 5/9/2025



NOTES:
1. THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.

★ PROPOSED TRAFFIC SIGNAL

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GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2023 = 15,440
ADT 2043 = 22,040
K = 12%
D = 65%
T = 10% *
V = 75 MPH

FUNC CLASS: INTERSTATE
* (TTST 4% + DUALS 6%)

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2829A.....3.922 MILES
LENGTH STRUCTURE TIP PROJECT R-2829A.....0.242 MILES
TOTAL LENGTH TIP PROJECT R-2829A.....4.164 MILES

NCTA CONTACT

Ron McCollum, PE
DEPUTY CHIEF ENGINEER for PRECONSTRUCTION
TURNPIKE AUTHORITY

PLANS PREPARED BY:

RK&K
RUMMEL, KLEPPER & KAHL, LLP
8601 SIX FORKS ROAD, FORUM 1, SUITE 700
RALEIGH, NORTH CAROLINA 27615-3960
NC LICENSE NO. F-0112

FOR NORTH CAROLINA TURNPIKE AUTHORITY

2018 STANDARD SPECIFICATIONS

C. Byron Holden, PE
PROJECT ENGINEER

Anthony A. Houser, PE
PROJECT DESIGN ENGINEER

LETTING DATE:
October 17, 2023

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER

SIGNATURE: *P.E.*

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

5/9/2025
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aburke

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PROJECT REFERENCE NO.	SHEET NO.
R-2829A	12
R/W SHEET NO.	

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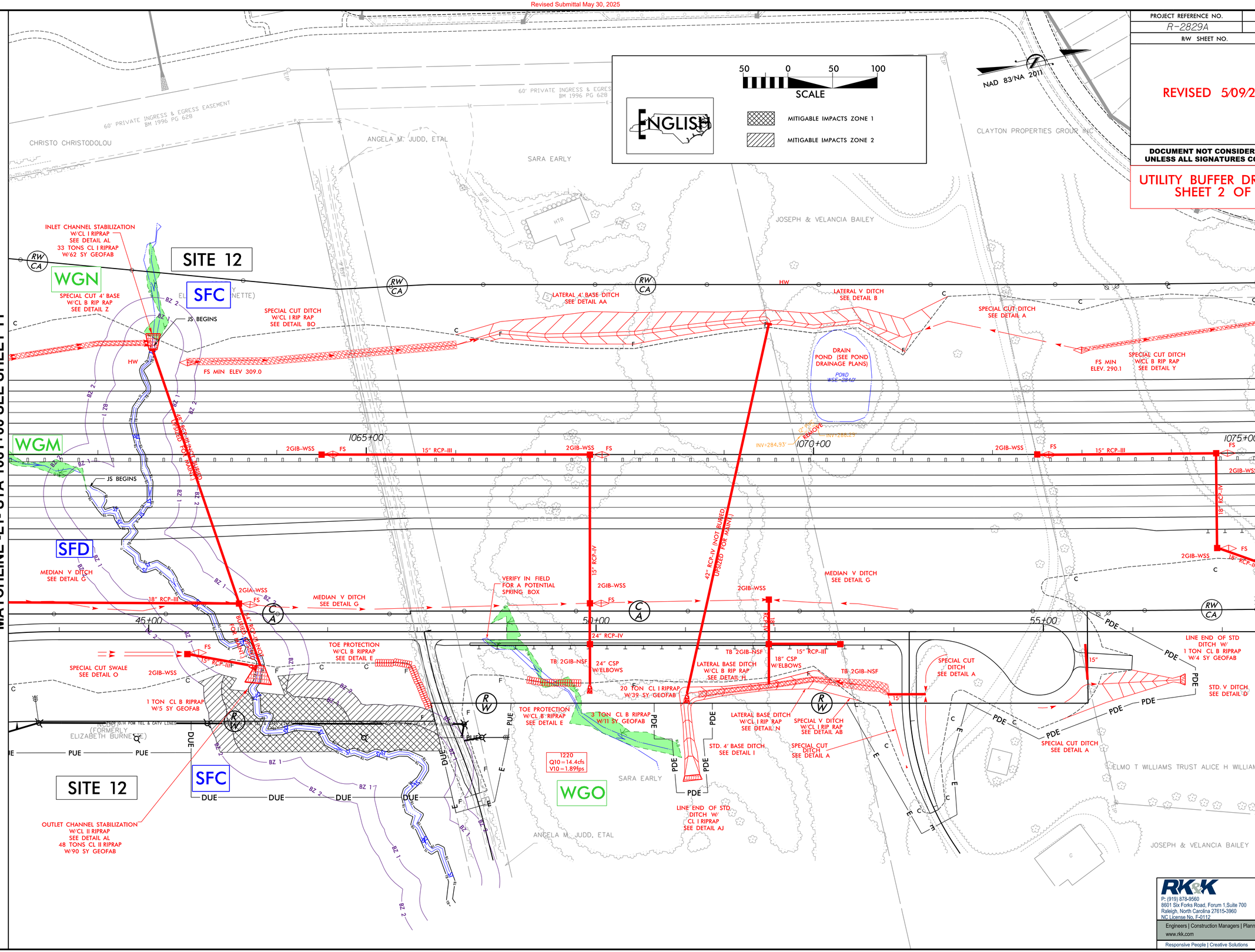
UTILITY BUFFER DRAWING SHEET 2 OF 11



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REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2829A	17
R/W SHEET NO.	

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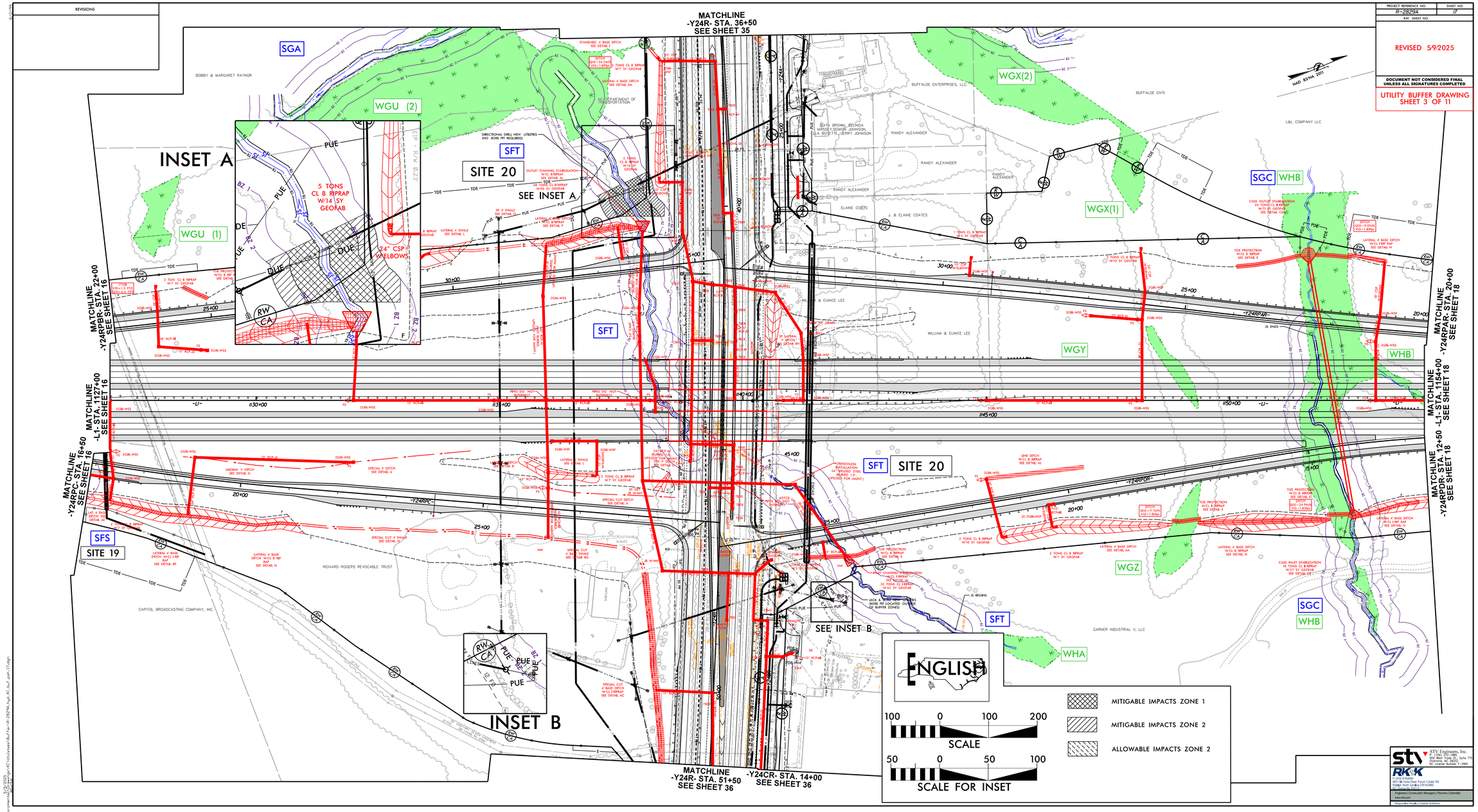
UTILITY BUFFER DRAWING SHEET 3 OF 11



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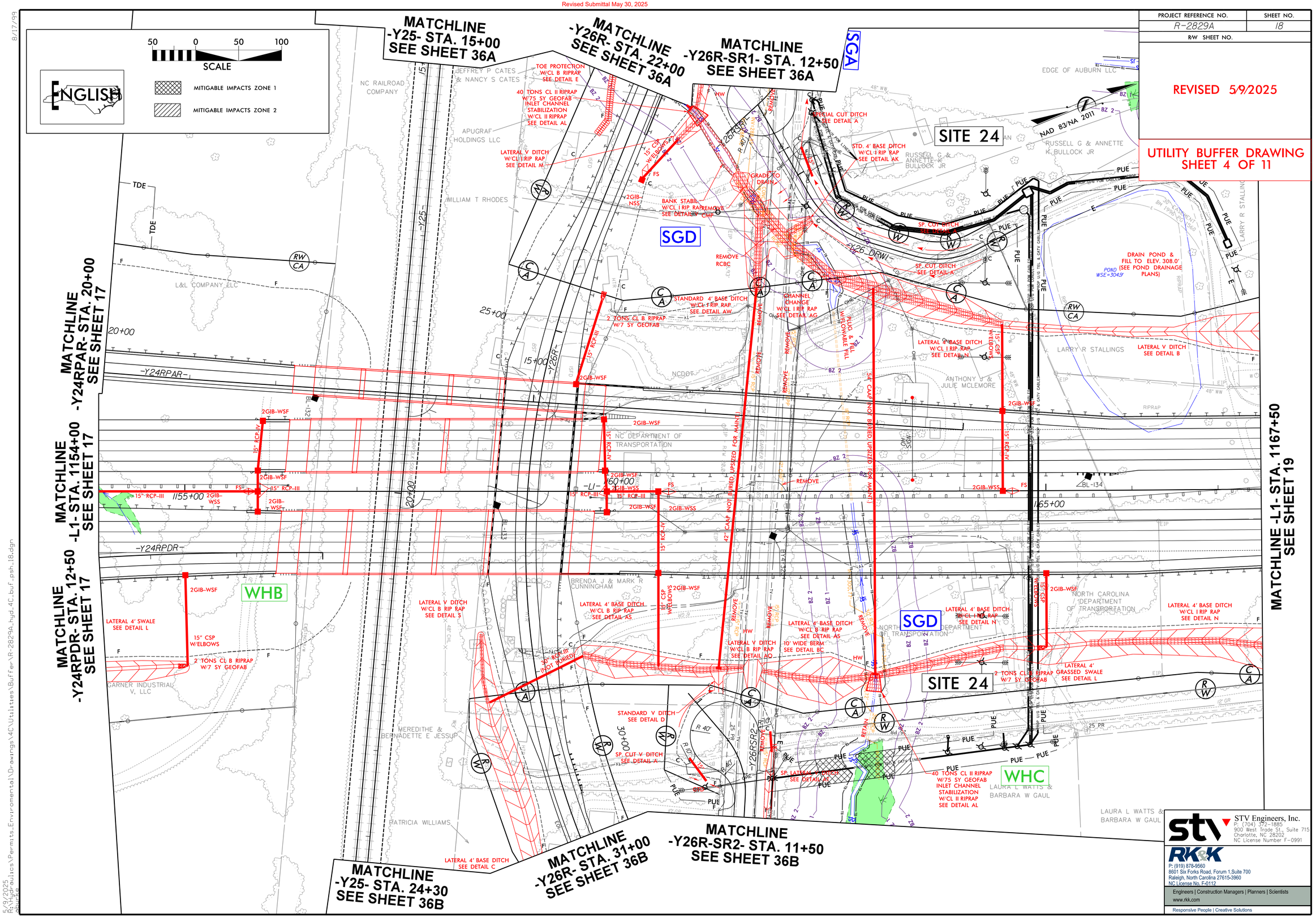
PROJECT REFERENCE NO.	SHEET NO.
R-2829A	18
R/W SHEET NO.	

REVISED 5/9/2025

UTILITY BUFFER DRAWING
SHEET 4 OF 11



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PROJECT REFERENCE NO.	SHEET NO.
R-2829A	26
R/W SHEET NO.	

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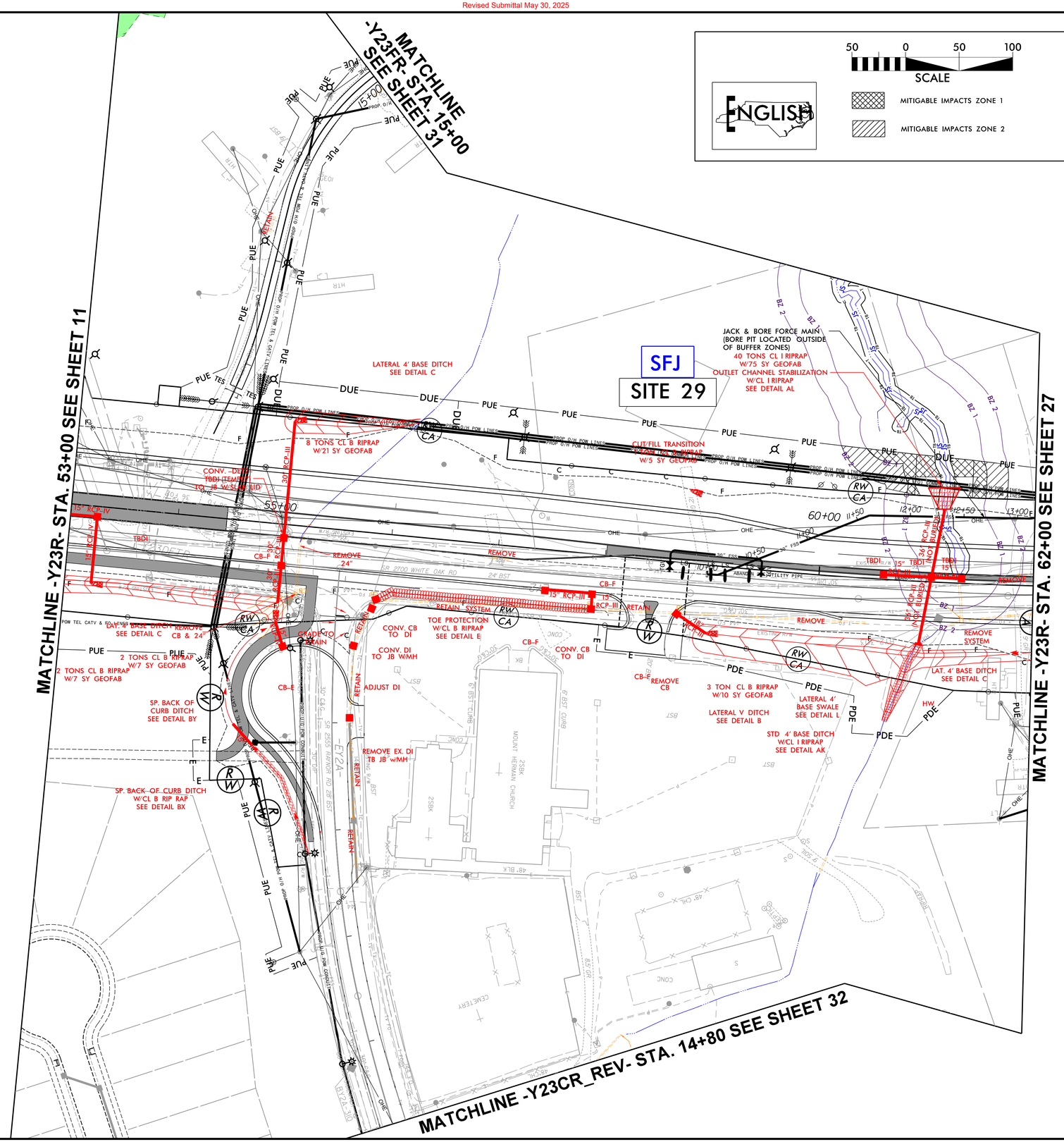
UTILITY BUFFER DRAWING
SHEET 5 OF 11



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R-2829A	29
R/W SHEET NO.	

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UTILITY BUFFER DRAWING
SHEET 6 OF 11

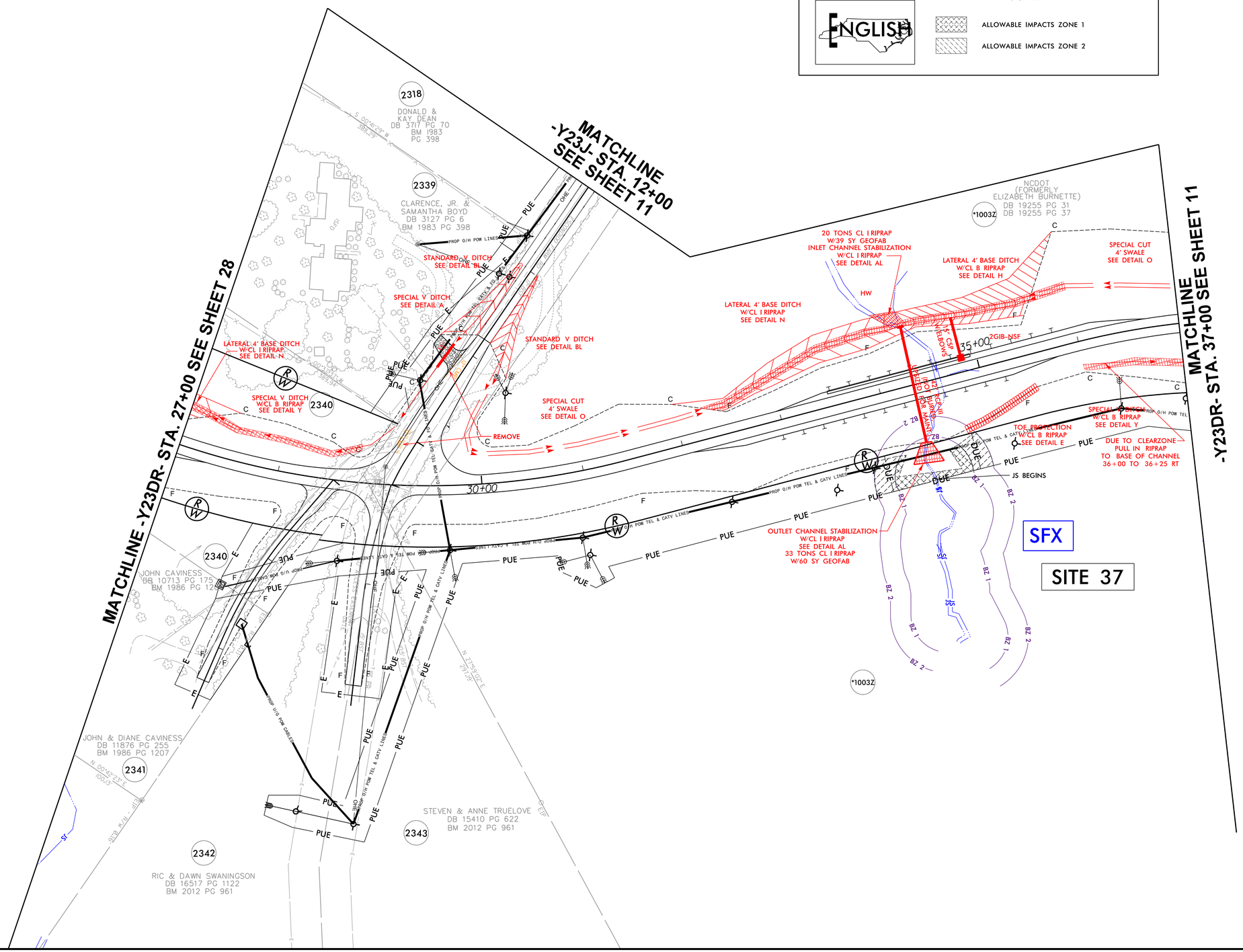
NAD 83/NA 2011

50 0 50 100
SCALE

ENGLISH

ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2



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R-2829A	31
R/W SHEET NO.	

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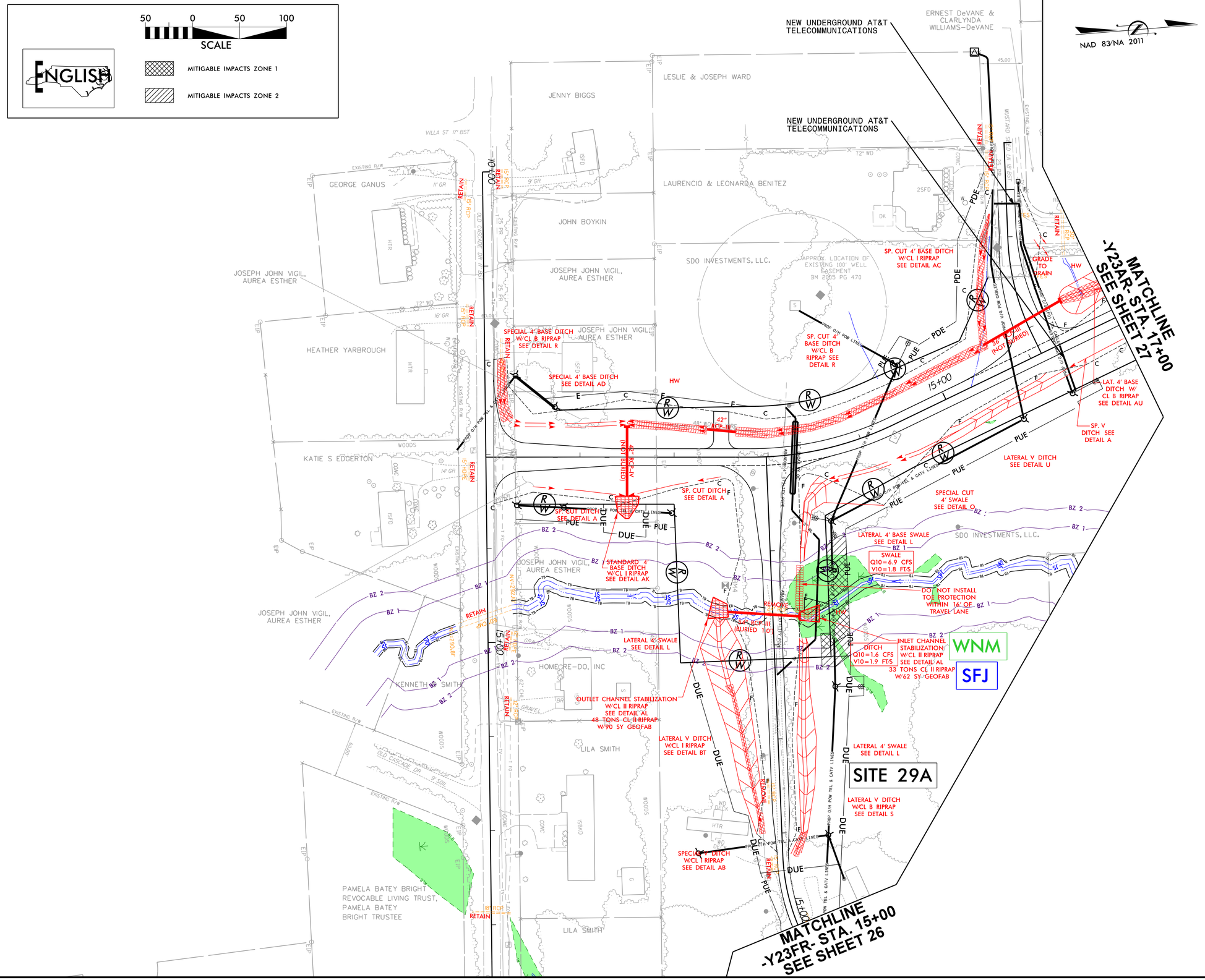
UTILITY BUFFER DRAWING
SHEET 7 OF 11



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R-2829A	34
R/W SHEET NO.	

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UTILITY BUFFER DRAWING
SHEET 8 OF 11

ENGLISH

SCALE 50 0 50 100

SCALE FOR INSET 25 0 25 50

MITIGABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

NAD 83/NA 2011

STEC

DAVID HAWLEY

CHRISTOPHER DANIELS

SEVENTY EAST ASSOCIATES, LLC.

SITE 31

WGW

C800 INLET STABILIZATION
58 TONS CL II RIPRAP
W/86 SY GEOFAB
SEE DETAIL CH

DIRECTIONAL DRILL NEW UTILITY
(NO BORE PIT REQUIRED)

3406
Q10=1.03cfs
V10=0.36fps

SWALE
Q10=12.57cfs
V10=1.97fps

LATERAL 4' BASE DITCH
W/CL I RIPRAP
SEE DETAIL N

TOE PROTECTION
W/CL B RIPRAP
SEE DETAIL E

LINE CUT/FILL
TRANSITION W/
2 TONS CL B RIPRAP
W/7 SY GEOFAB

RETAIN SYSTEM

SPECIAL V DITCH
SEE DETAIL A

REMOVE CONC. PAVED
DITCH – 60 LF

LATERAL
SEE DETAIL L

SP. DET. HW.

EXTEND
EXISTING
5'x6'

15" CSP
W/ELBOWS

REMOVE 60'
EXIST 15"

20+00

US 70 BUS WB 31' BST

US 70 BUS EB 31' BST

PLUG & FILL
W/FF

MATCHLINE -Y24R- STA. 24+00
SEE SHEET 35

INSET A

15" CSP
W/ELBOWS

EXTEND
EXISTING
5'x6'

JS BEGINS
SP. DET. HW.

LATERAL
4' BASE SWALE
SEE DETAIL L

TOE PROTECTI
W/CL B RIPRA
SEE DETAIL

2 TONS CL B RIPRAP
W/7 SY GEOFAB

SWALE
Q10=25.43cfs
V10=1.94fps

C800 OUTLET STABILIZATION
51 TONS CL II RIPRAP
W/68 SY GEOFAB
SEE DETAIL CH

SEE INSET A

R. GARLAND BURNETTE

SFZ(1)

WGV(1)

SFY

SITE 31

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PROJECT REFERENCE NO.	SHEET NO.
R-2829A	35
R/W SHEET NO.	

REVISED 5/9/2025

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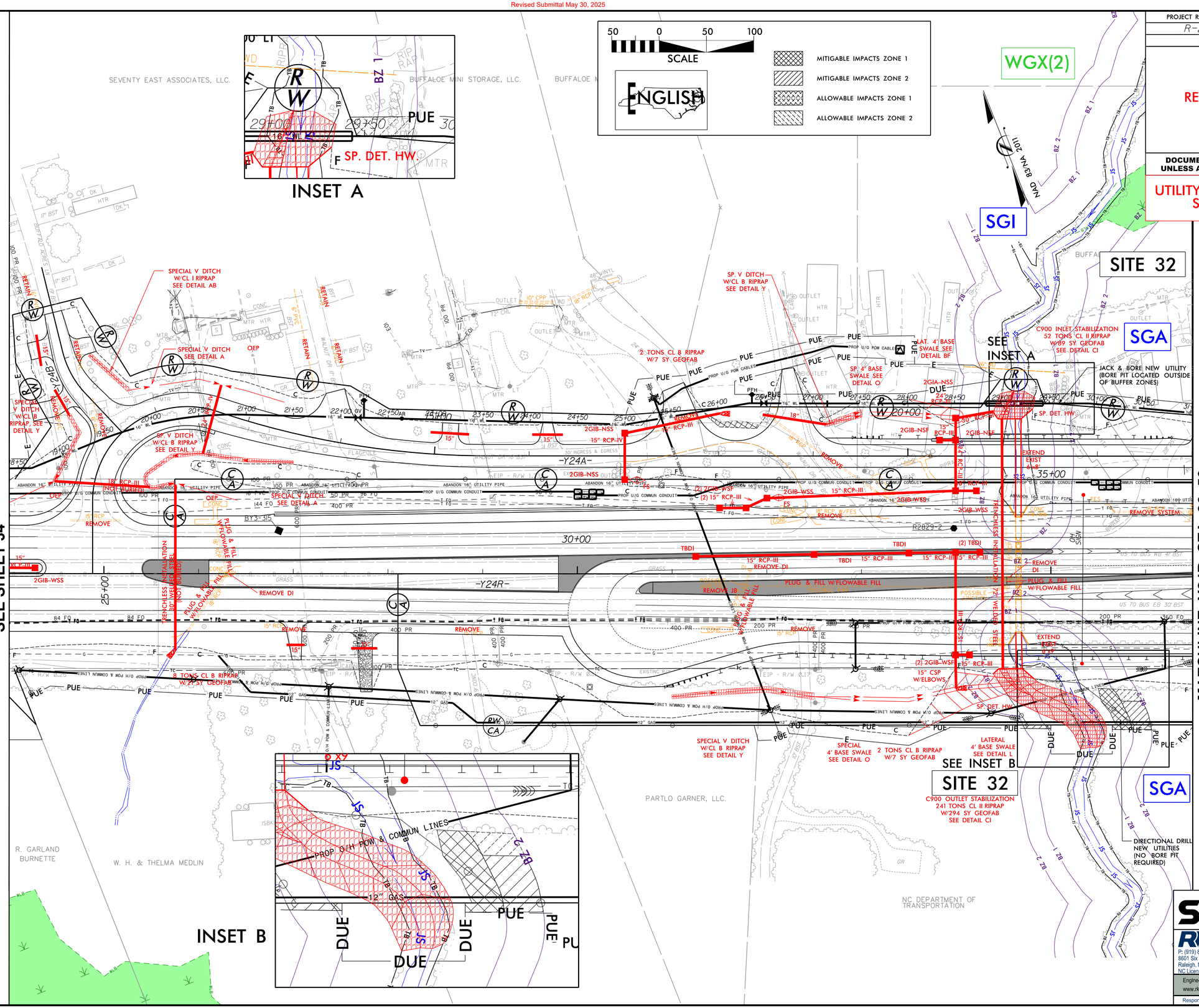
UTILITY BUFFER DRAWING SHEET 9 OF 11

50 0 50 100
SCALE

ENGLISH

MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2
ALLOWABLE IMPACTS ZONE 1
ALLOWABLE IMPACTS ZONE 2



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Revised Submittal May 30, 2025

RIPARIAN BUFFER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	IMPACTS									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE				
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)
12	-Y23DR- 45+55- 48+40 RT	Overhead Power: SFC	X						10341	5473	15814		
20	-Y24R- 39+28 - 40+20 RT	Overhead Power, UG Gas & Telephone: SFT	X						4679	2964	7643		
	-Y24RPDR- 24+84 - 25+03 LT	Overhead Power: SFT	X				249	249					
24	-L1- 1162+12 - 1163+45 RT	Overhead Power: SGD, WHC	X						2110	1268	3378		
29	-Y23R- 60+10- 61+74 LT	Overhead Power: SFJ	X						1811	1937	3748		
29A	-Y24FR- 10+86 - 12+26 LT	Overhead Power: SFJ, WNM	X						1636	1191	2827		
31	-Y24R- 20+37 - 21+38 RT	UG Gas: SFY, WGV(1)	X				1174	1174	590		590		
32	-Y24R- 34+93 - 35+25 LT	UG Waterline: SGA	X			118	232	350					
	-Y24R- 35+50 - 36+06 RT	UG Gas, UG Telephone & Overhead Power: SGA	X				280	280	815	727	1542		
37	-Y23DR- 33+72 - 34+89 RT	Overhead Power: SFX	X			1018	706	1724					
TOTALS*:						**1136**	**2641**	**3777**	**21982**	**13560**	**35542**	**0**	**0**

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
5/9/2025
Wake County
R-2829A

Revised 2018 Feb

WETLANDS IN BUFFER IMPACTS SUMMARY

SITE NO.	STATION (FROM/TO)		WETLANDS IN BUFFERS ZONE 1 (ft^2)	WETLANDS IN BUFFERS ZONE 2 (ft^2)
24	-L1- 1162+12 RT		715	
29A	-Y23FR- 11+50 LT		1062	238
31	-Y24R- 20+50 RT		532	1174
TOTAL:			**2309**	**1412**

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
5/9/2025
Wake County
R-2829A