



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

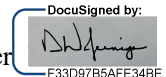
J. ERIC BOYETTE
SECRETARY

September 14, 2022

MEMORANDUM TO: Mr. Brandon Jones, P.E.
Division 5 Engineer

FROM: Dennis Jernigan, P.E.
NCTA Interim Chief Engineer

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. ***This change is based on the July 18, 2022 email requesting modification of the permit to authorize a change in the previously permitted impacts to wetlands for R-2721A. The permanent wetland impact acreage remains the same and there are no changes to the mitigation requirements.*** 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., Director of Field Support
Mr. Corey McLamb, P.E., Division 4
Dr. Majed Al-Ghandour, P.E., Programming and TIP
Mr. Todd Lapham, Utilities Unit
Mr. Stephen Morgan, P.E., Hydraulics Unit
Mr. Brian Hanks, P.E., Structures Management Unit
Mr. Mark Staley, Roadside Environmental
Mr. Colin Mellor, Environmental Policy Unit
Ms. Beth Harmon, NCDMS
Ms. Deanna Riffey, Natural Environment Unit-Environmental Coordination & Permitting

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
TURNPIKE AUTHORITY
1578 MAIL SERVICE CENTER
RALEIGH, NC 27699-1578

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

Website: ncdot.gov

Location:
1 SOUTH WILMINGTON STREET
RALEIGH, NC 27601

PROJECT COMMITMENTS

Complete 540 – Triangle Expressway Southeast Extension Wake and Johnston Counties, North Carolina

STIP Project Nos. R-2721, R-2828, and R-2829
State Project Nos. 6.401078, 6.401079, and 6.401080
Federal Aid Project Nos. STP-0540(19), STP-0540(20), and STP-0540(21)
WBS Nos. 37673.1.TA1, 35516.1.TA1, and 35517.1.TA1

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

Item	Responsible Party	Resource	Project Commitment	Project Stage / Status	Applicable STIP Project
1	Environmental Analysis Unit, NCTA	Historic Architectural Resources	NCDOT will coordinate with the NC State Historic Preservation Office and the property owner(s) relative to potential retaining wall design to eliminate the need for permanent easement or right-of-way from the Panther Branch School.	Completed	R-2828
2	Environmental Analysis Unit, NCTA	Archaeological Resources	NCDOT will conduct an archaeological survey of the Preferred Alternative and will coordinate the results with the NC State Historic Preservation Office and the NC Office of State Archaeology.	Completed	R-2721, R-2828, and R-2829
3	Environmental Analysis Unit, NCTA	Archaeological Resources	NCDOT will establish a Memorandum of Agreement with the NC State Historic Preservation Office in order to take into account the project's effect on archaeological resources.	Completed	R-2828
4	Environmental Analysis Unit, NCTA	Archaeological Resources	NCDOT will coordinate with the NC Office of State Archaeology relative to data recovery of materials in the one site determined eligible for the National Register of Historic Places based on the information contained at the site.	Final Design and Construction	R-2828
5	NCTA	Community Resources & Section 4(f)	NCDOT will coordinate with the Town of Cary relative to a potential Section 4(f) de minimis use finding for the Middle Creek School Park.	Completed	R-2721
6	NCTA	Community Resources & Section 4(f)	NCDOT will coordinate with the City of Raleigh relative to a potential Section 4(f) de minimis use finding for the Neuse River Trail.	Completed	R-2829
7	Division 5, NCTA	Recreation Facility	During construction, NCDOT will accommodate trail users along the Neuse River Trail through the project construction zone.	Final Design and Construction	R-2829
8	Environmental Analysis Unit, NCTA	Noise	NCDOT will prepare Design Noise Reports for the Selected Alternative during final design. All feasible and reasonable noise abatement measures will be constructed.	Final Design and Construction	R-2721, R-2828, and R-2829

Item	Responsible Party	Resource	Project Commitment	Project Stage / Status	Applicable STIP Project
9	Hydraulics Unit, NCTA	Stormwater Management	NCDOT will utilize Design Standards in Sensitive Watersheds in the Swift Creek and in the Lower Middle Creek watersheds.	Construction and *Final Design	R-2721, R-2828, and R-2829*
10	Environmental Analysis Unit, NCTA	Migratory Birds	NCDOT will comply with requirements set forth in the Migratory Bird Treaty Act (MBTA) of 1918. <i>On December 22, 2017, after further analysis of the text, history, and purpose of the MBTA, the US Department of Interior issued Opinion M-37050. Opinion M-37050 permanently withdraws and replaces Opinion M-37041. Opinion 37050 concludes that the MBTA applies to only affirmative actions that have as their purpose to reduce migratory birds by taking or killing of migratory birds, their eggs, or their nest.</i>	Construction	R-2721, R-2828, and R-2829
11	Hydraulics Unit, NCTA	Major Drainage Structures	NCDOT will perform a more detailed hydrologic and hydraulic analysis for each major drainage crossing for the Selected Alternative.	Final Design	R-2721, R-2828, and R-2829
12	Utilities Unit, NCTA	Utilities	NCDOT will coordinate with the appropriate utility owners during design of the Selected Alternative for all utility conflicts, including means to avoid or minimize impacts to utilities.	Final Design	R-2721, R-2828, and R-2829
13	Environmental Analysis Unit, NCTA	Indirect Effects & Cumulative Impacts	NCDOT will prepare a quantitative assessment for indirect and cumulative effects and impacts for the Selected Alternative.	Completed	R-2721, R-2828, and R-2829
14	Environmental Analysis Unit, NCTA	Protected Species	NCDOT will carry out all activities for which it has been assigned responsibility in the Biological Assessment of Potential Impacts to Federally Listed Species (December 2017) and the USFWS Biological Opinion (April 2018) and as amended.	Construction and *Final Design	R-2721, R-2828, and R-2829*
15	Environmental Analysis Unit, NCTA	Protected Species	NCDOT will carry out all activities for which it has been assigned responsibility in the Biological Assessment for Atlantic Sturgeon Critical Habitat (December 2017) and the NMFS concurrence letter (May 2018).	Final Design and Construction	R-2829
16	Environmental Analysis Unit, Division 5, NCTA	Protected Species	FHWA and NCDOT will update the 2017 Biological Assessment and coordinate with USFWS in accordance with ESA Section 7 for the Neuse River Waterdog, Carolina Madtom, Atlantic Pigtoe, and Atlantic Pigtoe Critical Habitats.	Completed	R-2721, R-2828, and R-2829
17	Environmental Analysis Unit, Division 5, NCTA	Protected Species	NCDOT will carry out all activities for which it has been assigned responsibility in the Revised Biological Assessment of Potential Impacts to Federally Listed Species (July 2019) and the USFWS Revised Biological/Conference Opinion (October 2019).	Construction and *Final Design	R-2721, R-2828, and R-2829*

COMMITMENTS FROM PERMITTING

Item	Responsible Party	Commitment Source	Project Commitment	Project Stage / Status	Applicable STIP Project
18	Division 5, NCTA	Recreation Facility	During construction, NCDOT will accommodate trail users along the Woodcreek Trail through the project construction zone.	Construction	R-2721A
19	Division 5, NCTA	404 Permit Condition 2	NCDOT will protect the Atlantic Sturgeon by not blocking greater than 50% of the Neuse River below the ordinary high-water mark with temporary causeways or work bridges. All causeways and work bridges will be removed at the end of the project.	Construction	R-2829
20	Environmental Analysis Unit, Division 5, NCTA	404 Permit Condition 3	NCDOT will comply with the attached USFWS Biological Opinion-Revised (USFWS BO), dated October 15, 2019.	Construction and *Final Design	R-2721, R-2828, and R-2829*
21	Division 5, NCTA	404 Permit Condition 3 (Attachment: USFWS Biological Opinion (BO) Section 2.4)	NCDOT will invite representatives of the USFWS NCWRC, and other agency personnel to preconstruction meetings prior to incurring impacts in jurisdictional features, as well as to preconstruction meetings associated with installation of structures within 0.25 mile of the Swift Creek crossing.	Construction	R-2828
22	Division 5, NCTA	404 Permit Condition 3 (Attachment: USFWS BO Section 2.4)	NCDOT will not allow any part of the bridging structure for Swift Creek to be within 10 feet of the top of bank on either side of the channel. No permanent structures or temporary structures will be placed in Swift Creek. All permanent and temporary structures will be installed and designed to maintain stability of the stream banks of Swift Creek.	Construction	R-2828
23	Roadside Environmental Unit, Division 5, NCTA	404 Permit Condition 3 (Attachment: USFWS BO Section 2.4)	NCDOT will require construction of two permanent hazardous spill basins (HSBs) at the crossing of Swift Creek. Road runoff from approximately 1.3 miles of road facility will be directed to the HSBs prior to discharge into Swift Creek or Swift Creek tributaries. The HSBs will be designed to contain a spill from a typical tanker truck. NCDOT will implement their standard protocols for upkeep and use of these HSBs.	Construction	R-2828

Item	Responsible Party	Commitment Source	Project Commitment	Project Stage / Status	Applicable STIP Project
24	Environmental Analysis Unit, Division 5, NCTA	404 Permit Condition 3 (Attachment: USFWS BO Sections: 2.4, 8.2 & 8.3)	NCDOT will conduct a preconstruction survey (just prior to construction) at the Swift Creek crossing and remove mussels from a defined salvage area and relocate them to appropriate habitat within Swift Creek outside of the salvage area (relocation site) or if deemed appropriate, after coordination with the USFWS and NCWRC, Dwarf Wedgemussel and Yellow Lance individuals may be taken into captivity to use as brood stock for propagation efforts. The preconstruction survey will be incorporated into a Mussel Relocation Plan, which will identify the salvage area and relocation site, and be developed in coordination with USFWS/NCWRC.	Construction	R-2828
25	Environmental Analysis Unit, Division 5, NCTA	404 Permit Condition 3 (Attachment: USFWS BO Sections: 2.4, 8.2 & 8.3)	NCDOT will provide funding to Wake County and NCWRC, after receiving the Section 404 Permit, to be utilized for the retrofit and upgrade of the existing research facility in the A.E. Finley Center, at the Historic Yates Mill County Park for the purpose of research and propagation of aquatic species.	Final Design	R-2721, R-2828, and R-2829
26	Division 5, NCTA	404 Permit Condition 3 (Attachment: USFWS BO Section 8.4)	NCDOT will monitor the Action area for evidence of sediment loss. The USFWS will be contacted if project related sedimentation is occurring beyond 400 meters from the Action area.	Construction	R-2828
27	Environmental Analysis Unit, Division 5, NCTA	404 Permit Condition 17	NCDOT will implement the Memorandum of Agreement (MOA) between the USACE and SHPO dated March 11, 2018 and adhere to the specific Stipulations provided in the MOA attachment.	Final Design and Construction	R-2721, R-2828, and R-2829
28	Roadside Environmental Unit, Division 5, NCTA	404 Permit Condition 23	NCDOT will segregate topsoil (6-12") in wetland areas where pipelines will be installed via trenching. The topsoil will be used to backfill the trench.	Construction	R-2828
29	Environmental Analysis Unit, Division 5, NCTA	404 Permit Condition 27	NCDOT will only complete construction activities on TIPs R-2721A and B under the Section 404 Permit dated October 24, 2019 and R-2828 dated February 3, 2020. No work will commence for TIP R-2829 without further USACE coordination.	Construction	R-2721, R-2828, and R-2829
30	Division 5, NCTA	National Marine Fisheries Service Consultation (Page 3)	NCDOT will stop in-water construction activities if a sturgeon is spotted within 50 feet of operations. (See Attached NMFS Consultation)	Construction	R-2829
31	Division 5, NCTA	National Marine Fisheries Service Consultation (Page 3)	NCDOT will observe an in-water work moratorium of February 15-October 31. This includes installation/removal of causeways and temporary bridges. This will cover the WRC moratorium of February 15-September 30.	Construction	R-2829

Item	Responsible Party	Commitment Source	Project Commitment	Project Stage / Status	Applicable STIP Project
32	Division 5, NCTA	National Marine Fisheries Service Consultation (Page 4)	NCDOT will not blast within 50 feet of the Neuse River.	Construction	R-2829
33	Division 5, NCTA	National Marine Fisheries Service Consultation (Page 4)	NCDOT will adhere to shoreline stabilization Project Design Criteria (PDCs) when installing new bridges and piers.	Construction	R-2829
34	Division 5, NCTA	National Marine Fisheries Service Consultation (Attachment 1)	NCDOT will follow the PDCs outlined in Attachment 1 of the NMFS Consultation	Construction	R-2829

From: [Williams, Andrew E CIV USARMY CESAW \(USA\)](#)
To: [Riffey, Deanna](#)
Cc: [Alsmeyer, Eric C CIV USARMY CESAW \(USA\)](#); [Matthews, Monte K CIV USARMY CESAW \(USA\)](#); [Williams, Andrew E CIV USARMY CESAW \(USA\)](#)
Subject: [External] SAW-2009-02240 R-2721A Individual Permit Modification--MOD9
Date: Tuesday, September 13, 2022 10:39:18 AM
Attachments: [R-2721A Permit Drawings 06292022.pdf](#)

CAUTION: External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to [Report Spam](#).

Deanna,

Reference the Department of the Army permit issued to the North Carolina Department of Transportation (NCDOT) on October 24, 2019, and subsequently modified on February 4, 2020, April 29, 2020, January 7, 2021, March 19, 2021, April 20, 2021, July 1, 2021, March 3, 2022 and July 1, 2022. This permit authorized 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 (I-87) in Knightdale, Wake and Johnston Counties. Sections included within this permit are R-2721, R-2828, and R-2829. Currently, only STIPs R-2721A&B and R-2828 are authorized for construction; STIP R-2829 has not yet been through final design, has not completely minimized impacts to waters and wetlands, nor has a final compensatory mitigation plan been submitted/approved. Also, please reference your July 18, 2022 email, requesting modification of the permit due the addition of a noise wall/shoulder width increase.

Specifically, there are no additional/new impacts, only a change in the type of impacts at 4 sites as follows:

Site 6- 0.01 acre that were previously permitted as excavation would be permanently filled.

Site 12- 0.02 acre that were previously permitted as mechanized clearing would be permanently filled.

Site 13- 0.01 acre that were previously permitted as mechanized clearing would be permanently filled.

Site 38- 0.01 acre that were previously permitted as mechanized clearing would be permanently filled.

Based on a review of the administrative record for this project and your letter, all excavation activities at these four (4) sites were previously designated for excavation/mechanized land clearing and NCDOT provided compensatory mitigation for those impacts.

Special Conditions 1 and 2 of your permit require notification and USACE approval for any modification of the permitted plans. Your July 18, 2022 email/letter (including the updated and attached plans) meets the requirements for notification and this response is our approval of the minor modification request. The enclosed revised Permit Drawings (R-2721A), Sheets 1, 15, 16, 24, 25, 30B, 30C, 76, 77, 80, 115, 116, 117 and 118 will be added to the administrative record to reflect these minor changes. The modified design for R-2721A will have minimal additional permanent impacts, so additional compensatory mitigation will not be required.

Note: The drawings listed above are now part of the permit drawing packages referenced in Special Condition 1 of the permit. All conditions of the permit, including the permit expiration date of December 31, 2024, remain applicable. Should you have any questions, please contact me.

Andrew Williams
Regulatory Project Manager
Regulatory Division Office
US Army Corps of Engineers, Wilmington District
3331 Heritage Trade Drive, Suite 105
Wake Forest, North Carolina 27587
Office Tel: (919) 554-4884, x26

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 our website at <https://regulatory.ops.usace.army.mil/customer-service-survey/> to complete the survey online.

ROY COOPER

Governor

ELIZABETH S. BISER

Secretary

RICHARD E. ROGERS, JR.

Director



NORTH CAROLINA
Environmental Quality

July 22, 2022

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

Subject: MODIFICATION of 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act, NEUSE BUFFER RULES, and ISOLATED WETLANDS PERMIT Pursuant to IWGP100000 with ADDITIONAL CONDITIONS for Proposed construction of the Triangle Expressway Southeast Extension (NC 540) in Wake & Johnston Counties, Federal Aid Project No. STP-0540(19-21), State Project No. 37673.1.TA2, TIP Nos, R-2721, R-2828, & R-2829.
NCDWR Project No. 20181249 version 10

Dear Mr. Harris:

Attached hereto is a copy of the Modification to Certification No. 4179 issued to The North Carolina Department of Transportation (NCDOT) originally dated February 15, 2019, modified January 30, 2020, April 23, 2020, June 1, 2020, December 29, 2020, March 9, 2021, April 8, 2021, November 1, 2021, May 18, 2022, and July 22, 2022.

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

Sincerely,

DocuSigned by:
Robert Ridings
80ECA32C7C38490...

Richard E. Rogers Jr, Director
Division of Water Resources

Attachments

Electronic copy only distribution:

Andy Williams, US Army Corps of Engineers, Raleigh Field Office
Heather Montague, Division 5 Environmental Officer
Deanna Riffey, NC Department of Transportation
File Copy



North Carolina Department of Environmental Quality | Division of Water Resources
512 North Salisbury Street | 1611 Mail Service Center | Raleigh, North Carolina 27699-1611
919.707.9000

MODIFICATION of 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act, NEUSE BUFFER RULES, and ISOLATED WETLANDS PERMIT Pursuant to IWGP100000 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 and 15A NCAC 2B.0714 and ISOLATED WETLANDS PERMIT Pursuant to IWGP100000. This certification version authorizes the NCDOT to impact 55.34 acres of wetlands, 40153 linear feet of jurisdictional streams and 43195165 square feet of protected riparian buffers in Wake & Johnston Counties. The project shall be constructed pursuant to the permit modification request received July 18, 2022. **The revised authorized impacts are as described below:**

R-2721A Wetland Impact Revisions:

Site 6: 0.01 acres Excavation changed to Permanent Fill.

Revised Site 6 Total Impacts: 1.58 ac Permanent Fill. 0.03 ac Excavation. 0.06 ac Mechanized Clearing. 0.18 ac Hand Clearing.

Site 12: 0.02 acres Mechanized Clearing changed to Permanent Fill.

Revised Site 12 Total Impacts: 0.49 ac Permanent Fill. 0.01 ac Mechanized Clearing.

Site 13: 0.01 acres Mechanized Clearing changed to Permanent Fill.

Revised Site 13 Total Impacts: 0.18 ac Permanent Fill. 0.02 ac Mechanized Clearing.

Site 38: 0.01 acres Mechanized Clearing changed to Permanent Fill.

Revised Site 6 Total Impacts: 0.31 ac Permanent Fill. 0.01 ac Excavation. 0.05 ac Mechanized Clearing.

The application provides adequate assurance that the discharge of fill material into the waters of the Cape Fear and Neuse River Basins 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 dated July 18, 2022. 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). Additional buffer impacts may require compensatory mitigation as described in 15A NCAC 2B.0714. For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

Conditions of Certification:

1. All conditions in the 401 Water Quality Certifications for this project, originally dated February 15, 2019, and all modifications afterwards, still apply.



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

If you wish to contest any statement in the attached Certification you must file a petition for an administrative hearing. You may obtain the petition form from the office of Administrative hearings. You must file the petition with the office of Administrative Hearings within sixty (60) days of receipt of this notice. A petition is considered filed when it is received in the office of Administrative Hearings during normal office hours. The Office of Administrative Hearings accepts filings Monday through Friday between the hours of 8:00am and 5:00pm, except for official state holidays. The original and one (1) copy of the petition must be filed with the Office of Administrative Hearings.

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

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

A copy of the petition must also be served on DEQ as follows:
Mr. Bill F. Lane, General Counsel
Department of Environmental Quality
1601 Mail Service Center

This the 22nd Day of July 2022

DIVISION OF WATER RESOURCES

DocuSigned by:
Robert Ridings
80ECA32C7C38490...

Richard E. Rogers Jr, Director

WQC No. 4179

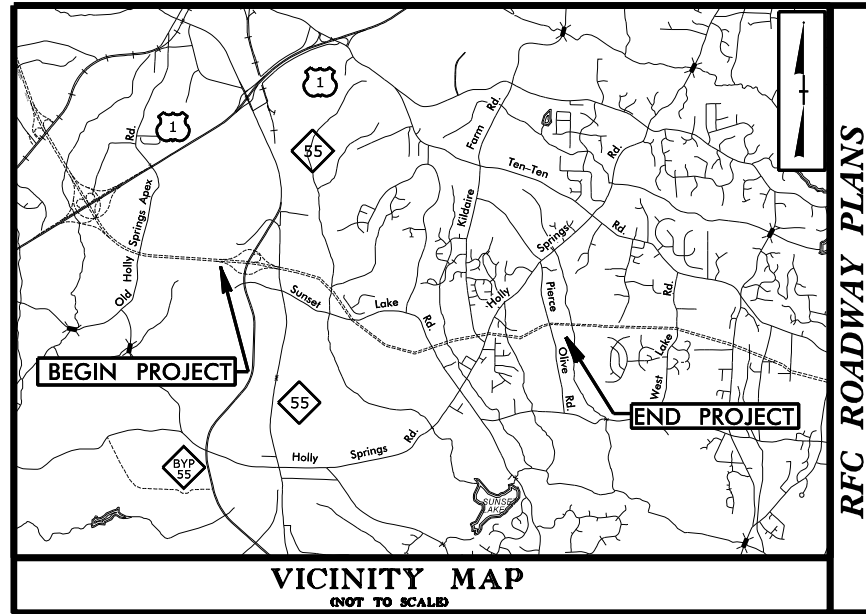


North Carolina Department of Environmental Quality | Division of Water Resources
512 North Salisbury Street | 1611 Mail Service Center | Raleigh, North Carolina 27699-1611
919.707.9000

TIP PROJECT: R-2721A

CONTRACT: C204196

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



STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

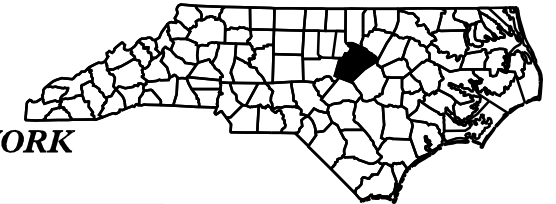
WAKE COUNTY

LOCATION: COMPLETE 540 - FROM WEST OF NC55 BYPASS TO EAST OF PIERCE OLIVE ROAD (SR 1389)

TYPE OF WORK: DESIGN-BUILD AS SPECIFIED IN THE SCOPE OF WORK CONTAINED IN THE REQUEST FOR PROPOSALS

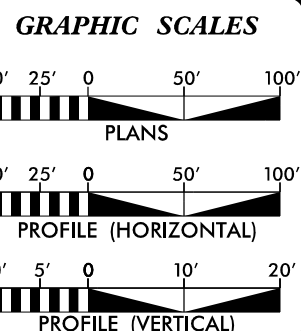
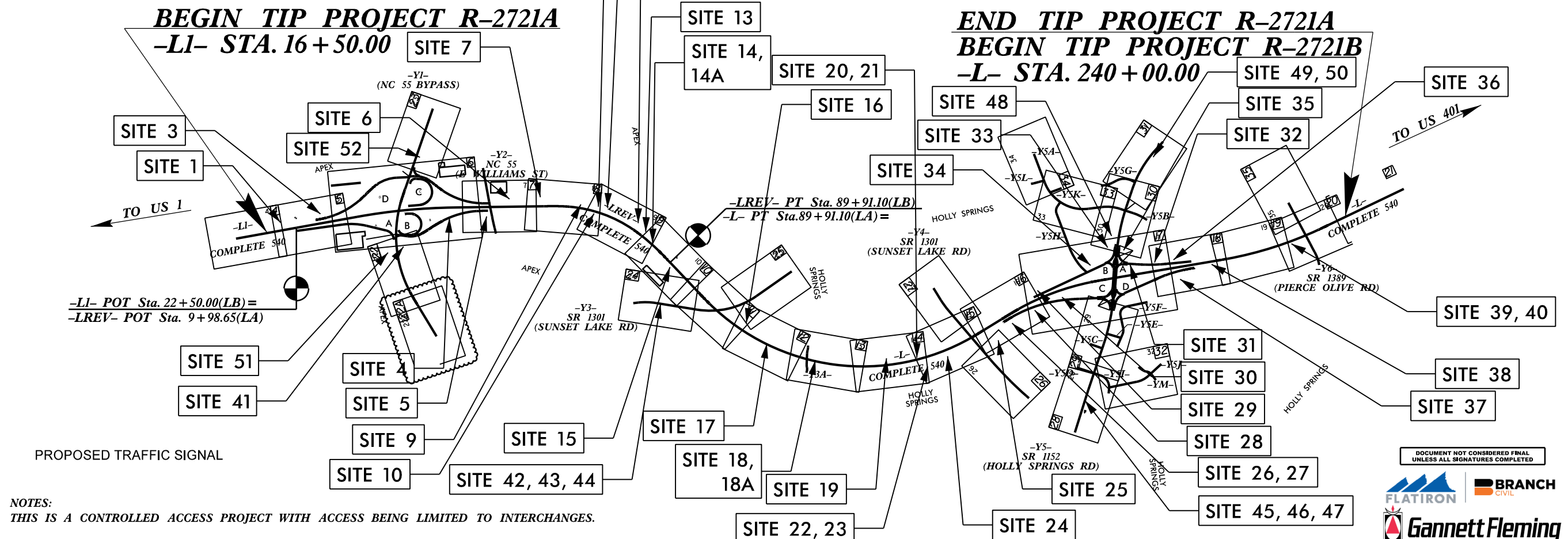
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2721A	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
37673.3.GV3	(A) NHP-0540(041)	PE, R/W	

PERMIT DRAWING
PACKAGE LAST REVISED
ON 06/29/2022



WETLAND AND SURFACE WATER IMPACTS PERMIT SECTION A

PERMIT DRAWING
SHEET 1 OF 119



DESIGN DATA	
ADT 2020 =	22,800
ADT 2040 =	49,200
K =	12 %
D =	65 %
T =	11 % *
V =	75 MPH
* TTST =	4% DUAL 7%
FUNC CLASS =	FREEWAY
STATEWIDE TIER	

PROJECT LENGTH	
LENGTH ROADWAY TIP PROJECT R-2721A	= 4.311 Miles
LENGTH STRUCTURES	= 0.159 Miles*
TOTAL LENGTH TIP PROJECT R-2721A	= 4.470 Miles
*LENGTH BASED ON EB BRIDGES	
NCDOT CONTACT:	RODGER ROCHELLE, PE TURNPIKE AUTHORITY CHIEF ENGINEER, INNOVATIVE DELIVERY

Prepared for the Office of: DIVISION OF HIGHWAYS 1000 Birch Ridge Dr., Raleigh NC, 27610	
2018 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: April 16, 2019	JERRY P. PAGE, PE PROJECT ENGINEER
LETTING DATE: April 16, 2019	BENJAMIN A. WHITE, PE PROJECT DESIGN ENGINEER

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



PERMIT DRAWING
SHEET 15 OF 119

50' 25' 0 50' 100'
SCALE: 1"=100'

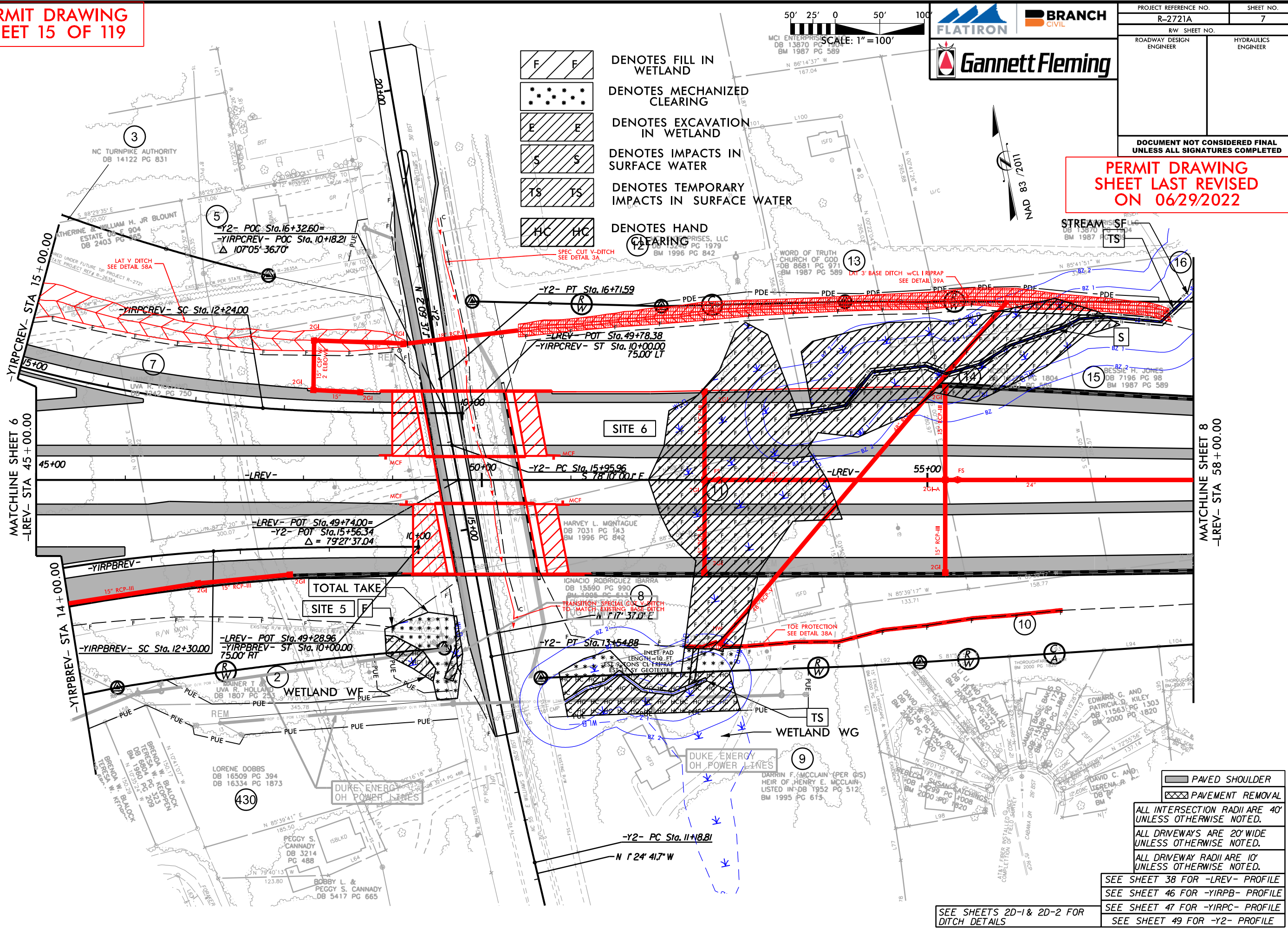


PROJECT REFERENCE NO.	SHEET NO.
R-2721A	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET LAST REVISED
ON 06/29/2022

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



- PAVED SHOULDER
- PAVEMENT REMOVAL

ALL INTERSECTION RADII ARE 40' UNLESS OTHERWISE NOTED.

ALL DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.

ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED.

SEE SHEETS 2D-1 & 2D-2 FOR DITCH DETAILS

SEE SHEET 38 FOR -LREV- PROFILE

SEE SHEET 46 FOR -YIRPB- PROFILE

SEE SHEET 47 FOR -YIRPC- PROFILE

SEE SHEET 49 FOR -Y2- PROFILE

PERMIT DRAWING
SHEET 16 OF 119

50' 25' 0 50' 100'
SCALE: 1"=100'

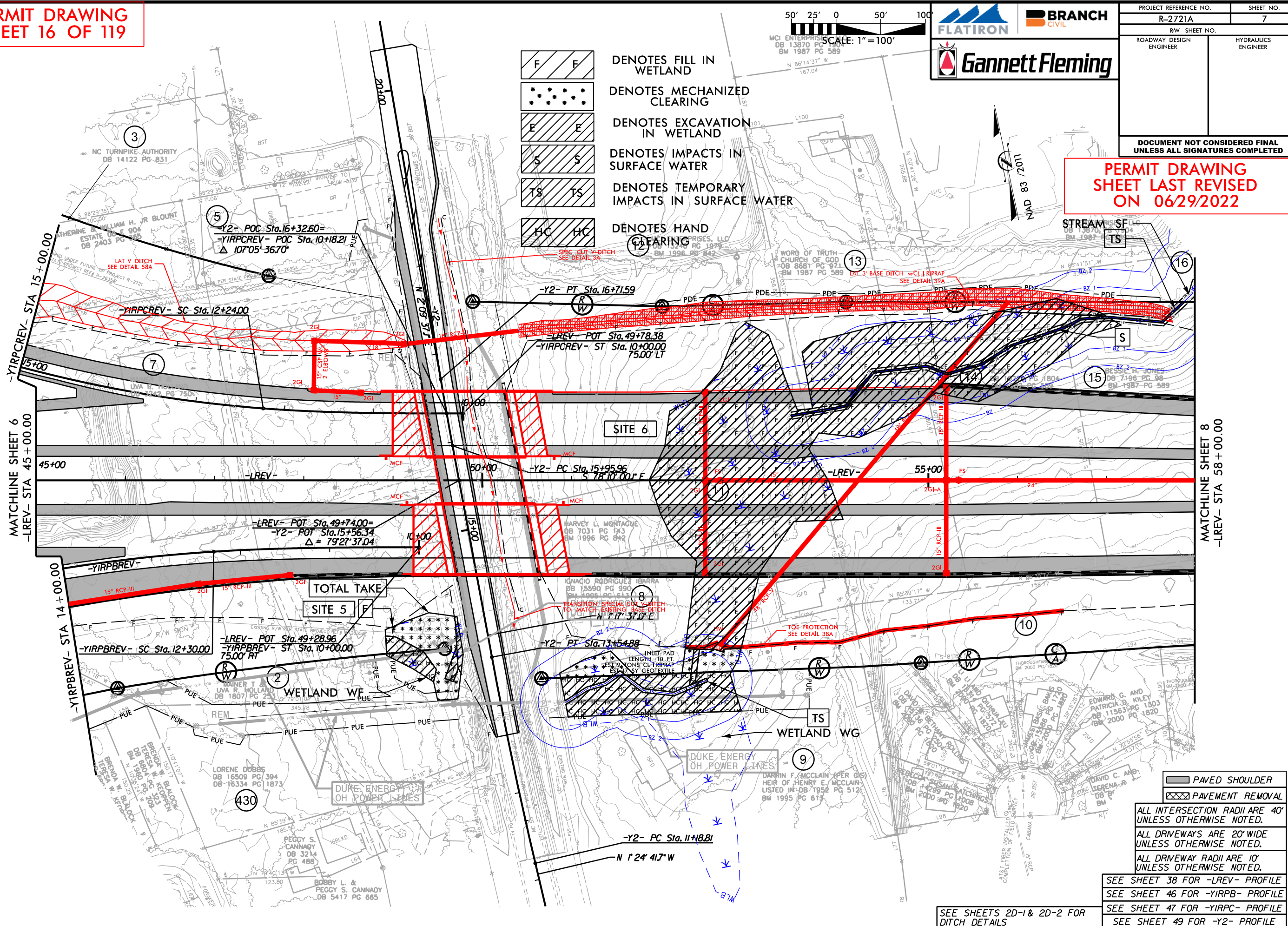


PROJECT REFERENCE NO.	SHEET NO.
R-2721A	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET LAST REVISED
ON 06/29/2022

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



- PAVED SHOULDER
- PAVEMENT REMOVAL

ALL INTERSECTION RADII ARE 40' UNLESS OTHERWISE NOTED.

ALL DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.

ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED.

SEE SHEET 38 FOR -LREV- PROFILE

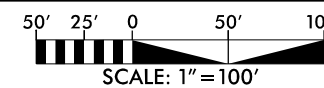
SEE SHEET 46 FOR -YIRPB- PROFILE

SEE SHEET 47 FOR -YIRPC- PROFILE

SEE SHEET 49 FOR -Y2- PROFILE

SEE SHEETS 2D-1 & 2D-2 FOR
DITCH DETAILS

PERMIT DRAWING
SHEET 24 OF 119



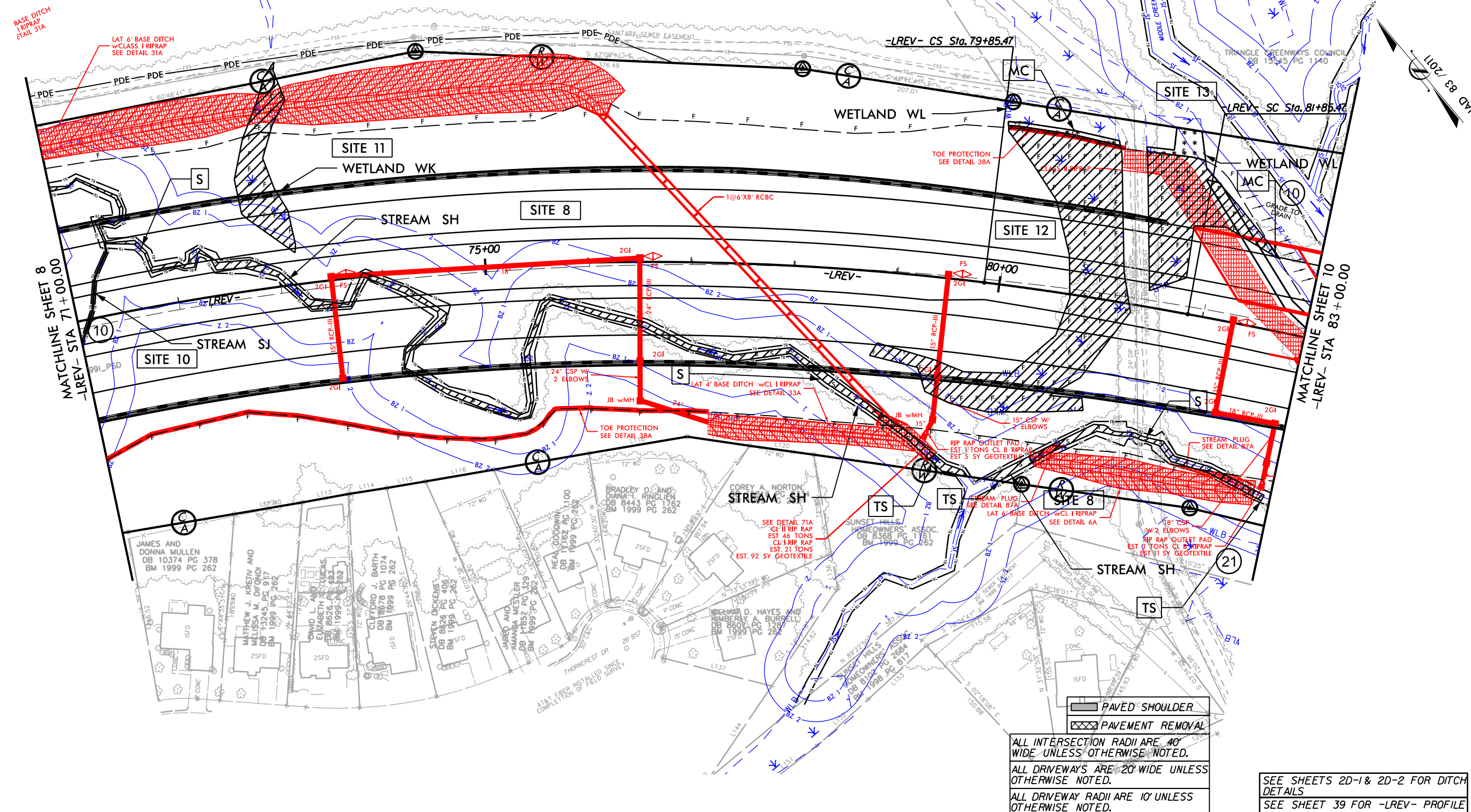
PROJECT REFERENCE NO.	SHEET NO.
R-2721A	9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET LAST REVISED
ON 06/29/2022

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

(18)
HSA PROPERTIES LLC
DB 10611 PG 223
PART OF BM 1995 PG 801



PAVED SHOULDER
PAVEMENT REMOVAL

ALL INTERSECTION RADII ARE 40'
WIDE UNLESS OTHERWISE NOTED.

ALL DRIVEWAYS ARE 20' WIDE UNLESS
OTHERWISE NOTED.

ALL DRIVEWAY RADII ARE 10' UNLESS
OTHERWISE NOTED.

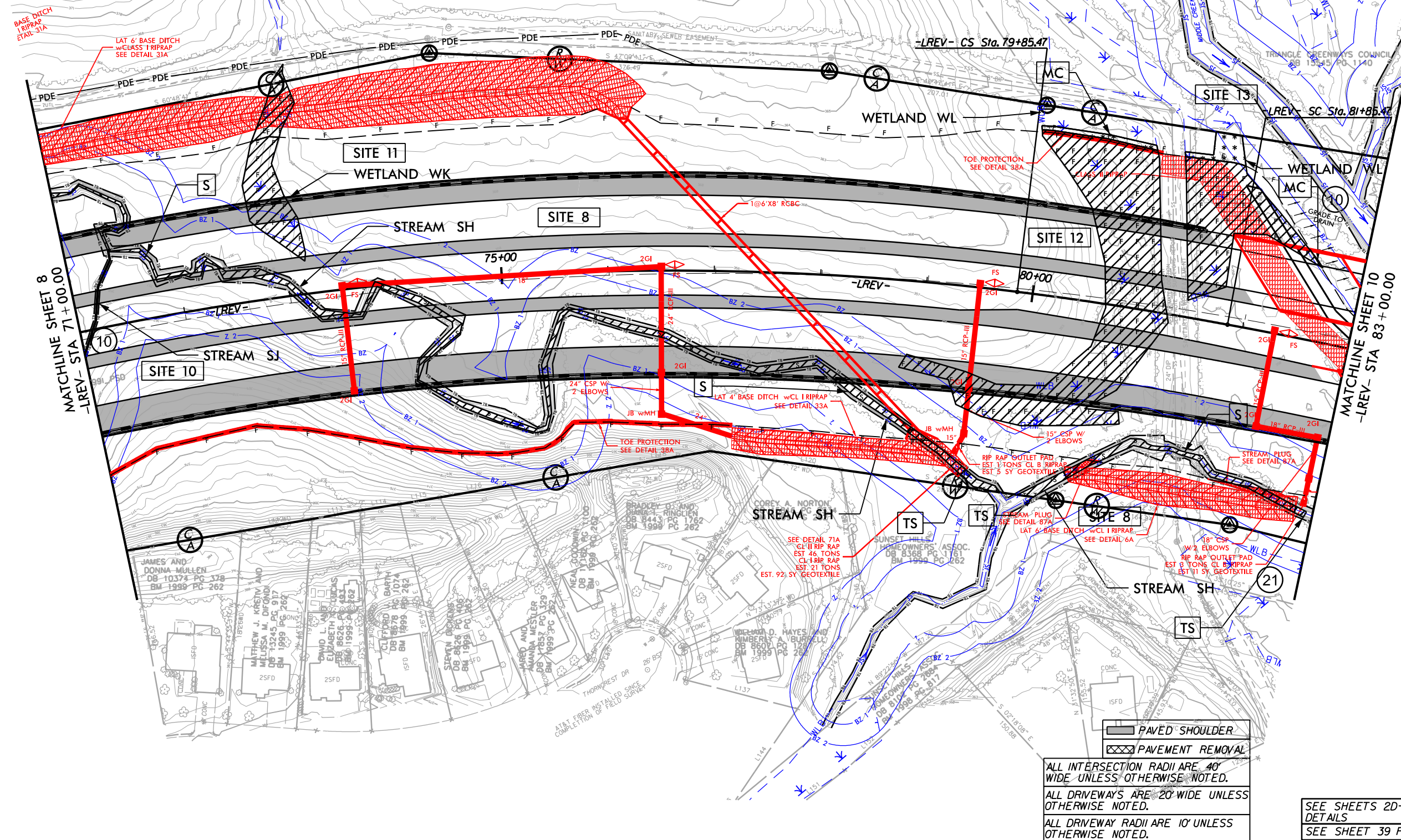
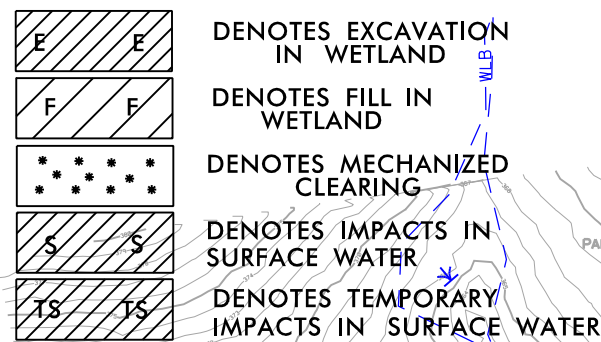
SEE SHEETS 2D-1 & 2D-2 FOR DITCH
DETAILS

SEE SHEET 39 FOR -LREV- PROFILE



PROJECT REFERENCE NO.		SHEET NO.	
R-2721A		9	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

NAD 83 / 2011



SEE SHEETS 2D-1 & 2D-2 FOR DITCH DETAILS
SEE SHEET 39 FOR -LREV- PROFILE

6/23/16

6/23/2022
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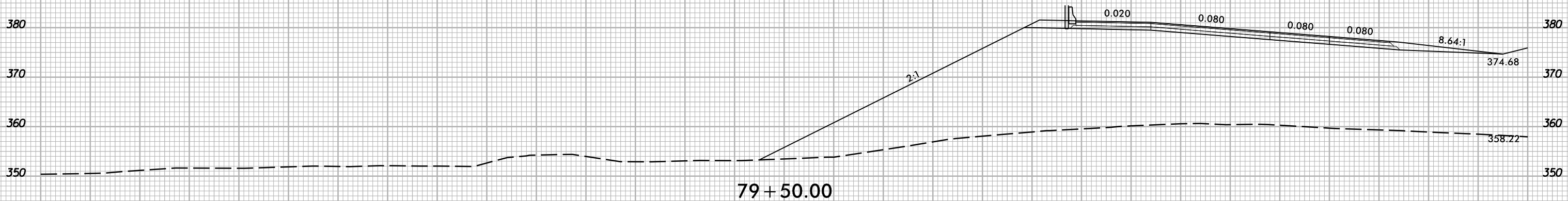
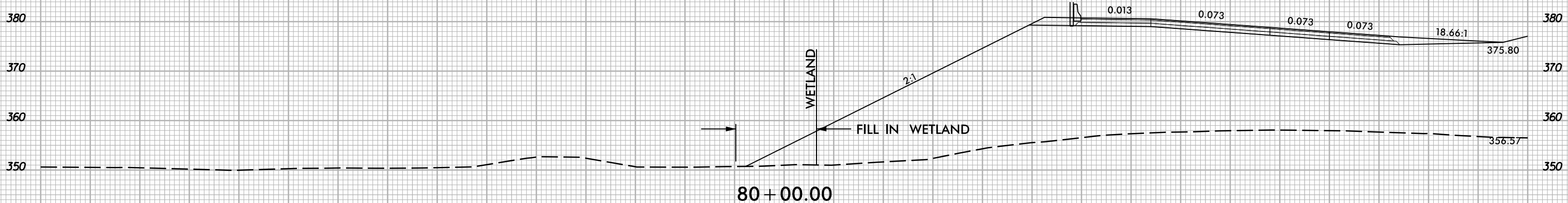
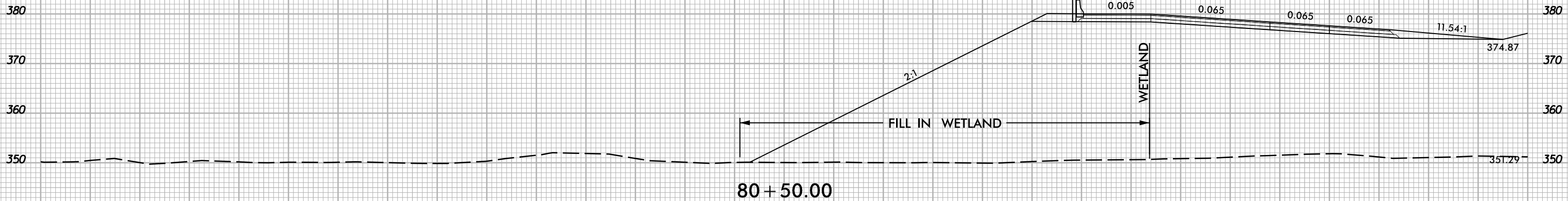


PROJ. REFERENCE NO.
R-2721A

SHEET NO.
X-54

PERMIT DRAWING
SHEET 30B OF 119

PERMIT DRAWING
SHEET LAST REVISED
ON 06/29/2022



-LREV- LT

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6/23/16

6/23/2022
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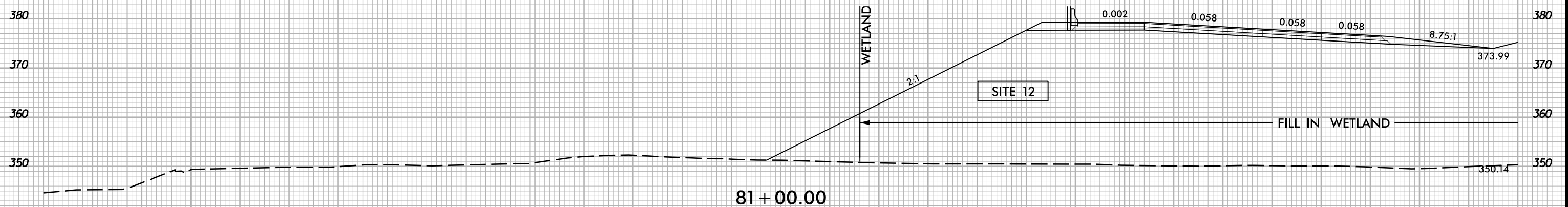
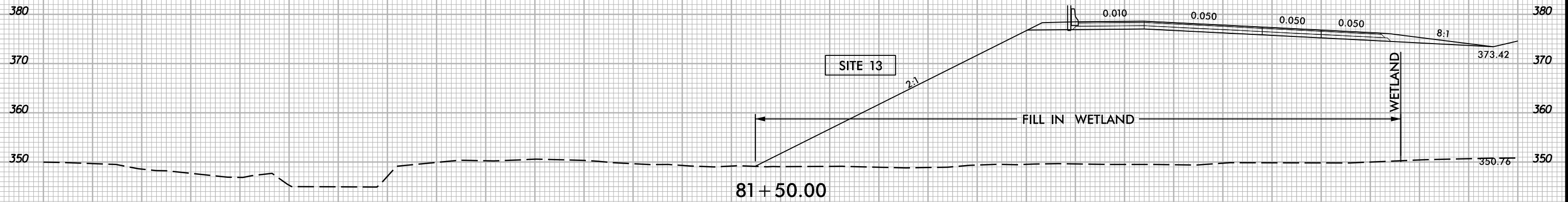
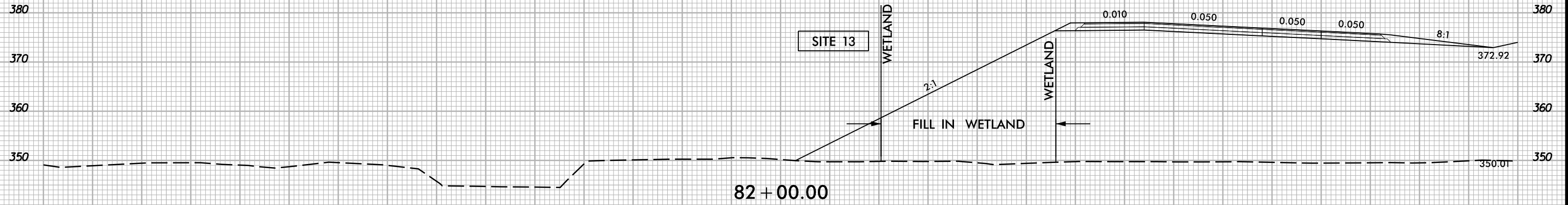
PERMIT DRAWING
SHEET 30C OF 119

PERMIT DRAWING
SHEET LAST REVISED
ON 06/29/2022



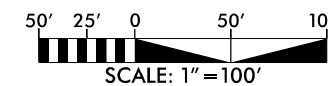
PROJ. REFERENCE NO.
R-2721A

SHEET NO.
X-55



-LREV- LT

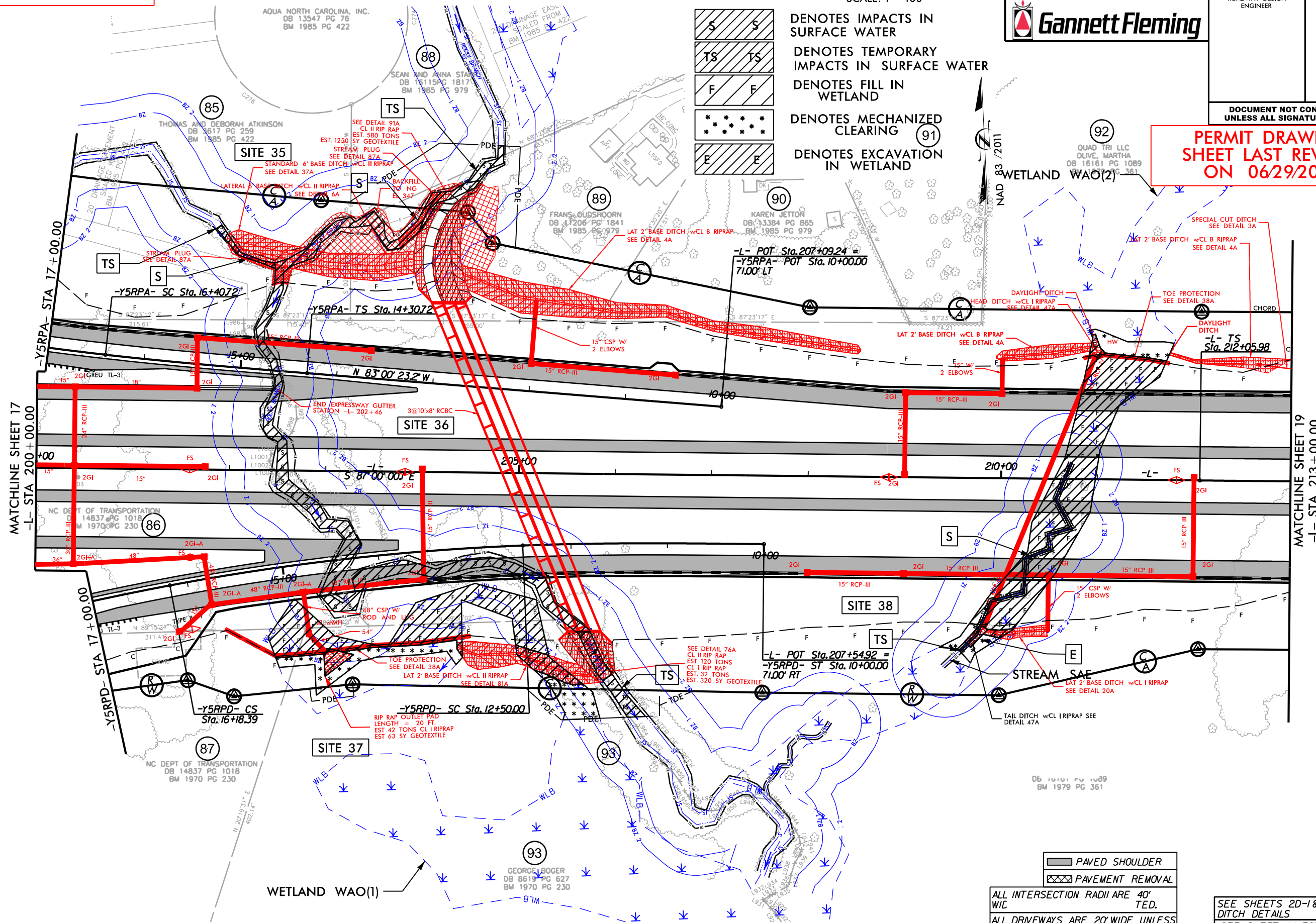
PERMIT DRAWING
SHEET 76 OF 119



PROJECT REFERENCE NO.	SHEET NO.
R-2721A	18
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

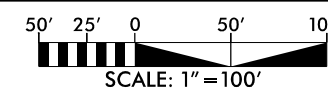
PERMIT DRAWING
SHEET LAST REVISED
ON 06/29/2022



PAVED SHOULDER
PAVEMENT REMOVAL
ALL INTERSECTION RADII ARE 40' WIC.
ALL DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.
ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED.

SEE SHEETS 2D-1 & 2D-2 FOR
DITCH DETAILS
SEE SHEET 44 FOR -L- PROFILE
SEE SHEET 56 FOR -Y5RPA- PROFILE
SEE SHEET 59 FOR -Y5RPD- PROFILE

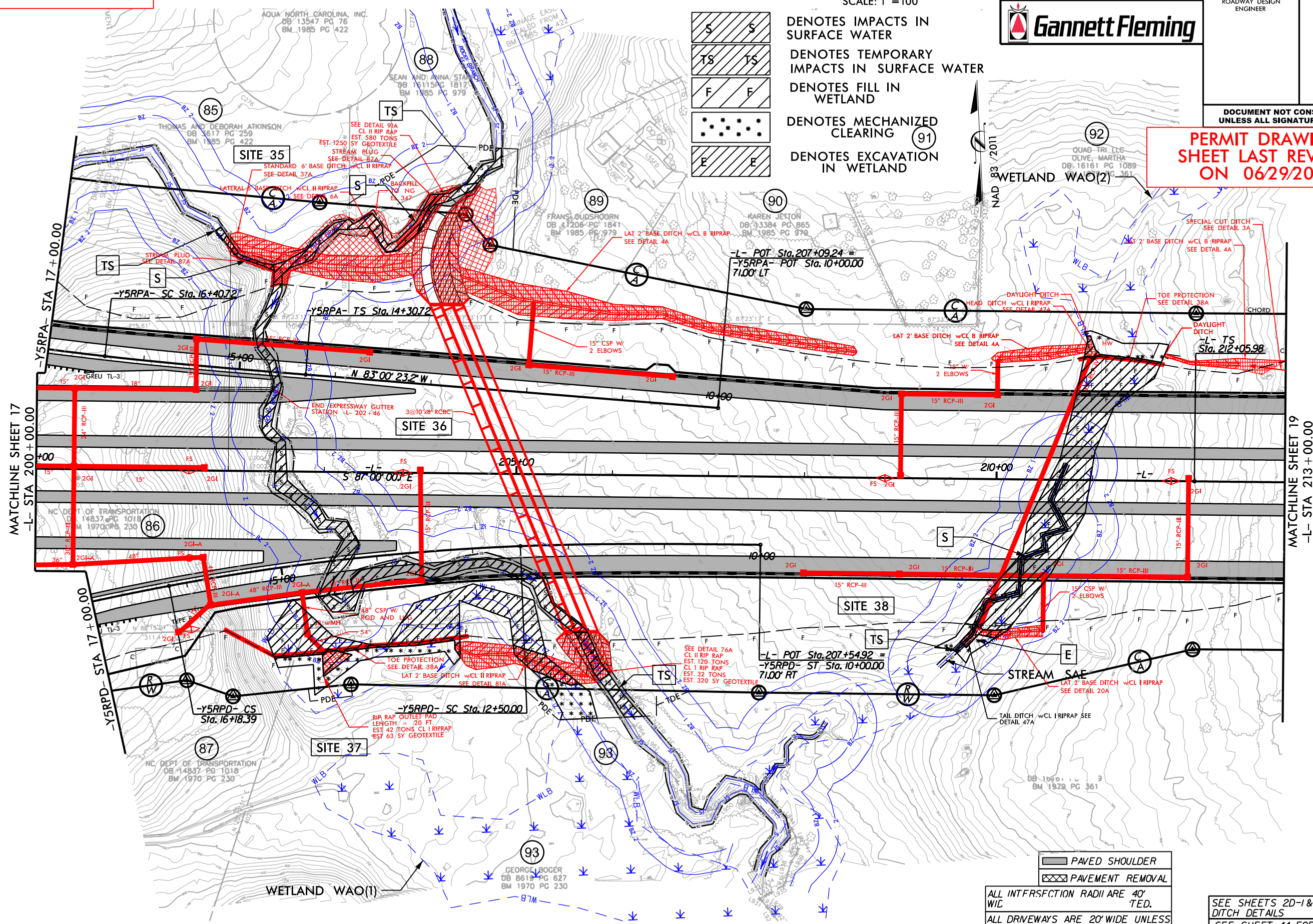
PERMIT DRAWING
SHEET 77 OF 119



PROJECT REFERENCE NO.	SHEET NO.
R-2721A	18
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET LAST REVISED
ON 06/29/2022



PAVED SHOULDER	SEE SHEETS 2D-1 & 2D-2 FOR DITCH DETAILS
PAVEMENT REMOVAL	SEE SHEET 44 FOR -L- PROFILE
ALL INTERSECTION RADII ARE 40' W/C TED.	SEE SHEET 56 FOR -Y5RPA- PROFILE
ALL DRIVEWAYS ARE 20' WIDE UNLESS OTHERWISE NOTED.	SEE SHEET 59 FOR -Y5RPD- PROFILE
ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED.	

6/29/2022
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WETLAND AND SURFACE WATER IMPACTS SUMMARY												
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Excavation In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	19+20 to 19+73 -L1-LT	CULVERT						< 0.01		10	13	
		BANK STABILIZATION						< 0.01	< 0.01	33		
3	15+18 to 15+46-LREV-LT	15" PIPE/ 24"CSP	< 0.01		< 0.01	< 0.01						
4	40+78 to 41+92-LREV-RT	ROADWAY FILL	0.02									
		POND						0.21				
5	48+91 to 49+79-LREV-RT	ROADWAY FILL	< 0.01		< 0.01	0.09	0.03					
6	51+87 to 57+80 -LREV-	48" RCP	1.58		0.03	0.06	0.18	0.02	< 0.01	463	45	
7	59+46 to 60+07-LREV-	30" RCP						< 0.01	< 0.01	372	16	
8	66+34 to 79+65-LREV-	ROADWAY FILL						0.20	0.05	1945	551	
		STABILIZATION						< 0.01		64		
9	67+37 to 70+18-LREV-LT	ROADWAY FILL	0.28									
10	70+17 to 71+41-LREV-	30" RCP						< 0.01	< 0.01	250	10	
		STABILIZATION						< 0.01		9		
11	72+71 to 73+27-LREV-LT	ROADWAY FILL	0.08		0.03							
12	78+80 to 81+30-LREV-	ROADWAY FILL	0.49			0.01						
13	81+19 to 82+63-L-LT	ROADWAY FILL	0.18			0.02						
14	83+13 to 83+46-LREV-	BANK STABILIZATION						< 0.01	< 0.01	57	10	
14A	84+63 to 85+49-LREV-LT	ROADWAY FILL						0.01	< 0.01	237	29	
15	85+31 to 90+05-L-	ROADWAY FILL	1.80		< 0.01	0.16						
16	108+15 to 110+35-L-	ROADWAY FILL			0.51	0.15						
17	115+52 to 116+14 -L-RT	ROADWAY FILL	0.10		< 0.01	0.02						
18	125+08 to 127+71L-L	1@6'x8' RCBC	0.88		0.01	0.15		0.01	< 0.01	271	82	
		STABILIZATION						< 0.01		81		
TOTALS*:			5.42		0.60	0.66	0.21	0.50	0.07	3792	756	0

*Rounded totals are sum of actual impacts

NOTES:

Site 2: Removed

Site 4: Wetland considered Isolated

Site 5: Wetland Total Take

Site 9: Wetland Total Take

Site 16: Wetland Total Take

NC DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

6/29/2022

WAKE COUNTY

R-2721

6.401078

SHEET

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OF

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WETLAND AND SURFACE WATER IMPACTS SUMMARY												
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Excavation 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)
18a	125+31 to 125+85-L-	ROADWAY FILL						< 0.01		91		
19	140+59 to 142+46 -L-	1@6'x8' RCBC	0.02		0.05	0.09		0.04	< 0.01	331	93	
		STABILIZATION						0.01		121		
20	146+70 to 147+85-L-	1@6'x8' RCBC	0.10		0.02	0.08		0.01	< 0.01	249	76	
		STABILIZATION						< 0.01		92		
21	146+88 to 147+06-L-LT	ROADWAY FILL			< 0.01	0.02						
22	148+36 to 149+02-L-RT	30" RCP						< 0.01	< 0.01	70	15	
23	148+41 to 149+02-L-RT	ROADWAY FILL				0.01						
24	149+09 to 155+85-L-	ROADWAY FILL	1.25		0.05	0.08						
25	162+84 to 164+50-L-RT	POND						0.40				
26	165+94 to 168+54 -L-	ROADWAY FILL	1.25			0.09						
		STABILIZATION				0.06						
27	168+51 to 169+40-L-	2@9'x8' RCBC				< 0.01		0.05	< 0.01	311	39	
		STABILIZATION						0.02		120		
28	172+97 to 173+41-L-RT	ROADWAY FILL				< 0.01						
29	173+60 to 176+39-L-LT	POND						1.53				
30	174+63 to 181+12-L-	ROADWAY FILL	1.38			0.05		0.01	< 0.01	257	4	
31	193+15 to 197+24-L-	ROADWAY FILL	0.20					0.04		871		
32	199+29 to 199+93-L-LT	ROADWAY FILL	0.03			0.01						
33	47+12 to 48+74 -Y5-LT(SAA)	66" RCP	0.25		0.05	0.08		< 0.01	< 0.01	251	18	
34	23+30 to 24+76-Y5RPB-LT	24" RCP	0.11		0.01	0.07		< 0.01	< 0.01	28	10	
35	47+58 to 49+64-Y5-RT(SAA,SAB)	ROADWAY FILL						0.04	< 0.01	332	24	
		STABILIZATION						< 0.01		34		
35	197+97 to 200+02-L-LT(SAA)	ROADWAY FILL						0.04	< 0.01	260	40	
TOTALS*:			4.58		0.18	0.65		2.22	0.03	3418	319	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
6/29/2022
WAKE COUNTY
R-2721
6.401078
SHEET 116 OF 119

WETLAND AND SURFACE WATER IMPACTS SUMMARY												
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Excavation 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)
35	201+82 to 202+45-L-LT(SAA)	ROADWAY FILL						< 0.01	< 0.01	62	12	
35	50+01-Y5- to 15+32-Y5A-(SAB)	ROADWAY FILL/48" RCP	< 0.01		< 0.01	< 0.01		0.04	< 0.01	941	20	
		STABILIZATION						< 0.01		44		
36	202+26 to 206+22-L-	3@9'x8' RCBC						0.22	0.02	954	104	
		STABILIZATION						0.03		94		
37	202+42 to 205+59-L-RT	ROADWAY FILL	0.20		0.03	0.09						
38	209+59 to 211+77-L-	42" RCP	0.31		0.01	0.05		0.01	< 0.01	239	10	
		STABILIZATION						< 0.01		25		
39	225+15 to 226+55-L-	42" RCP	0.19		< 0.01	0.09		< 0.01	< 0.01	358	11	
		STABILIZATION						< 0.01		18		
40	225+72 to 227+98-L-	ROADWAY FILL	0.24		< 0.01	0.06						
41	29+93 to 30+17-Y1-RT	48" RCP						< 0.01	< 0.01	56	10	
42	12+90 to 15+00-Y3-LT	ROADWAY FILL	0.03			0.13	0.16					
43	11+86 to 15+02-Y3-RT	ROADWAY FILL	0.17			0.06						
44	15+05 to 16+36-Y3-	4@12'x8' RCBC						0.03	0.03	58	61	
	15+05 to 15+36-Y3- (WS)	STABILIZATION				0.02		0.07		123		
	16+27 to 16+36-Y3- (WT)	STABILIZATION				< 0.01						
45	15+60 to 16+27-Y5-	2@9'x8' RCBC						0.04	< 0.01	211	34	
		STABILIZATION						0.03		100		
46	16+20 to 18+23-Y5-LT	ROADWAY FILL	0.07			0.07						
47	17+25 to 18+39-Y5-RT	ROADWAY FILL	0.06			0.03						
48	50+12 to 51+25-Y5-LT	ROADWAY FILL	0.08									
49	68+06 to 68+58-Y5-	2@7'x8' RCBC						< 0.01	< 0.01	20	26	
		STABILIZATION						0.02		81		
TOTALS*:			1.36		0.06	0.62	0.16	0.51	0.08	3384	288	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
6/29/2022
WAKE COUNTY
R-2721
6.401078
SHEET 117 OF 119

WETLAND AND SURFACE WATER IMPACTS SUMMARY												
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Excavation 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)
50	68+54 to 69+62-Y5-LT	ROADWAY FILL						< 0.01	< 0.01	128	6	
51	29+06 to 29+15-Y1-LT	RIP RAP						< 0.01		13		
52	47+74 to 47+85-Y1-RT	STABILIZATION						< 0.01	< 0.01	20	12	
	TOTAL PAGE 118							0.01	< 0.01	161	18	
	TOTAL PAGE 115		5.42		0.60	0.66	0.21	0.50	0.07	3792	756	
	TOTAL PAGE 116		4.58		0.18	0.65		2.22	0.03	3418	319	
	TOTAL PAGE 117		1.36		0.06	0.62	0.16	0.51	0.08	3384	288	
TOTALS*:			11.37		0.83	1.94	0.36	3.25	0.18	10755	1381	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 6/29/2022
 WAKE COUNTY
 R-2721
 6.401078
 SHEET 118 OF 119