STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH, N.C.

C204570

CONTRACT AND

CONTRACT BONDS

FOR CONTRACT NO. C204570

WBS 34466.1.5 0087051

T.I.P NO. R-2561CA

COUNTY OF COLUMBUS
THIS IS THE ROADWAY & STRUCTURE CONTRACT
ROUTE NUMBER NC-87 LENGTH 1.695 MILES
LOCATION NC-87 AT NC-11 CONSTRUCT INTERCHANGE.

CONTRACTOR BALFOUR BEATTY INFRASTRUCTURE INC
ADDRESS 3314 JAECKLE DR UNIT 140
WILMINGTON, NC 28403

BIDS OPENED MAY 16, 2023
CONTRACT EXECUTION 07/13/2023

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH, N.C.

PROPOSAL

DATE AND TIME OF BID OPENING: **May 16, 2023 AT 02:00 PM**

CONTRACT ID	C204570
WBS	34466.1.5

FEDERAL-AID NO.	0087051
COUNTY	COLUMBUS
T.I.P NO.	R-2561CA
MILES	1.695
ROUTE NO.	NC-87
LOCATION	NC-87 AT NC-11 CONSTRUCT INTERCHANGE.
TYPE OF WORK	GRADING, DRAINAGE, PAVING, AND STRUCTURES.

NOTICE:

ALL BIDDERS SHALL COMPLY WITH ALL APPLICABLE LAWS REGULATING THE PRACTICE OF GENERAL CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA WHICH REQUIRES THE BIDDER TO BE LICENSED BY THE N.C. LICENSING BOARD FOR CONTRACTORS WHEN BIDDING ON ANY NON-FEDERAL AID PROJECT WHERE THE BID IS $30,000 OR MORE, EXCEPT FOR CERTAIN SPECIALTY WORK AS DETERMINED BY THE LICENSING BOARD. BIDDERS SHALL ALSO COMPLY WITH ALL OTHER APPLICABLE LAWS REGULATING THE PRACTICES OF ELECTRICAL, PLUMBING, HEATING AND AIR CONDITIONING AND REFRIGERATION CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA. NOTWITHSTANDING THESE LIMITATIONS ON BIDDING, THE BIDDER WHO IS AWARDED ANY FEDERAL - AID FUNDED PROJECT SHALL COMPLY WITH CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA FOR LICENSING REQUIREMENTS WITHIN 60 CALENDAR DAYS OF BID OPENING.

BIDS WILL BE RECEIVED AS SHOWN BELOW:

THIS IS A ROADWAY & STRUCTURE PROPOSAL

5% BID BOND OR BID DEPOSIT REQUIRED

PROPOSAL FOR THE CONSTRUCTION OF

CONTRACT No. C204570 IN COLUMBUS COUNTY, NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION,

RALEIGH, NORTH CAROLINA

The Bidder has carefully examined the location of the proposed work to be known as Contract No. **C204570** has carefully examined the plans and specifications, which are acknowledged to be part of the proposal, the special provisions, the proposal, the form of contract, and the forms of contract payment bond and contract performance bond; and thoroughly understands the stipulations, requirements and provisions. The undersigned bidder agrees to bound upon his execution of the bid and subsequent award to him by the Board of Transportation in accordance with this proposal to provide the necessary contract payment bond and contract performance bond within fourteen days after the written notice of award is received by him. The undersigned Bidder further agrees to provide all necessary machinery, tools, labor, and other means of construction; and to do all the work and to furnish all materials, except as otherwise noted, necessary to perform and complete the said contract in accordance with *the 2018 Standard Specifications for Roads and Structures* by the dates(s) specified in the Project Special Provisions and in accordance with the requirements of the Engineer, and at the unit or lump sum prices, as the case may be, for the various items given on the sheets contained herein.

The Bidder shall provide and furnish all the materials, machinery, implements, appliances and tools, and perform the work and required labor to construct and complete State Highway Contract No. **C204570** in **Columbus County**, for the unit or lump sum prices, as the case may be, bid by the Bidder in his bid and according to the proposal, plans, and specifications prepared by said Department, which proposal, plans, and specifications show the details covering this project, and hereby become a part of this contract.

The published volume entitled *North Carolina Department of Transportation, Raleigh, Standard Specifications for Roads and Structures, January 2018* with all amendments and supplements thereto, is by reference incorporated into and made a part of this contract; that, except as herein modified, all the construction and work included in this contract is to be done in accordance with the specifications contained in said volume, and amendments and supplements thereto, under the direction of the Engineer.

If the proposal is accepted and the award is made, the contract is valid only when signed either by the Contract Officer or such other person as may be designated by the Secretary to sign for the Department of Transportation. The conditions and provisions herein cannot be changed except over the signature of the said Contract Officer.

The quantities shown in the itemized proposal for the project are considered to be approximate only and are given as the basis for comparison of bids. The Department of Transportation may increase or decrease the quantity of any item or portion of the work as may be deemed necessary or expedient.

An increase or decrease in the quantity of an item will not be regarded as sufficient ground for an increase or decrease in the unit prices, nor in the time allowed for the completion of the work, except as provided for the contract.

Accompanying this bid is a bid bond secured by a corporate surety, or certified check payable to the order of the Department of Transportation, for five percent of the total bid price, which deposit is to be forfeited as liquidated damages in case this bid is accepted and the Bidder shall fail to provide the required payment and performance bonds with the Department of Transportation, under the condition of this proposal, within 14 calendar days after the written notice of award is received by him, as provided in the *Standard Specifications*; otherwise said deposit will be returned to the Bidder.



State Contract Officer

DocuSigned by:
Ronald Elton Davenport, Jr.
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04/13/2023

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CONTRACTOR PREQUALIFICATION:

(10-18-22) 102 SP1 G01

Revise the *2018 Standard Specifications* as follows:

Page 1-10, Subarticle 102-2(A) Bidder Prequalification, lines 30-31, delete and replace the first sentence with the following:

Prospective bidders shall obtain prequalification approval at least two business days prior to any letting in which they intend to submit a bid. It is recommended that the prospective bidder file all required statements and documents with the State Prequalifications Engineer no less than 4 weeks before a given letting.

Page 1-11, Subarticle 102-2(B) Purchase Order Bidder Prequalification, lines 16-18, delete and replace the first sentence with the following:

Prospective bidders shall obtain prequalification approval at least two business days prior to any letting in which they intend to submit a bid. It is recommended that the applicant file all required statements and documents with the State Prequalifications Engineer no less than 4 weeks before a given bid opening for their bid to be considered.

Page 1-11, Subarticle 102-2(C) Subcontractor Prequalification, lines 44-45, delete and replace the first sentence with the following:

The subcontractor shall file all required statements and documents with the State Prequalifications Engineer no less than 4 weeks before beginning work.

Page 1-12, Subarticle 102-2(E) Renewal and Requalification, lines 38-40, delete and replace the first sentence with the following:

It is recommended that the renewing or requalifying firm file all required statements and documents with the State Prequalifications Engineer no less than 4 weeks before a given letting for their bid to be considered.

INTERESTED PARTIES LIST:

(6-21-22)(Rev. 7-19-22) 102 SP1 G02

Revise the *2018 Standard Specifications* as follows:

Page 1-12, Article 102-3 PROPOSALS AND PLAN HOLDER LISTS, lines 45-49, delete and replace with the following:

102-3 PROPOSALS AND INTERESTED PARTIES LIST

On Department projects advertised, the prospective bidder shall sign up on the *Interested Parties*

List no later than one business day prior to the Letting day of that project, for which he intends to submit a bid. There is no cost for signing up on the *Interested Parties List* that can be found on the Department's website at connect.ncdot.gov/letting.

Page 1-12, Article 102-3 PROPOSALS AND PLAN HOLDER LISTS, lines 1-3, delete and replace the first sentence of the second paragraph with the following:

The proposal will state the location of the contemplated construction and show a schedule of contract items with the approximate quantity of each of these items for which bid prices are invited.

Page 1-14, Article 102-8 PREPARATION AND SUBMISSION OF BIDS, lines 30-31, delete and replace the first paragraph with the following:

Prior to submitting a bid on a project, the bidder shall sign up on the *Interested Parties List* in conformance with Article 102-3. The bidder shall submit a unit or lump sum price for every item in the proposal other than items that are authorized alternates to those items for which a bid price has been submitted.

BUILD AMERICA, BUY AMERICA (BABA):

(11-15-22) 106 SP1 G04

Revise the *2018 Standard Specifications* as follows:

Page 1-53, Article 106-1 GENERAL REQUIREMENTS, add the following after line 27:

(C) Build America, Buy America (BABA)

All manufactured products and construction materials permanently incorporated into any project must meet requirements of the Build America, Buy America (BABA) Act of the Infrastructure Investment and Jobs Act (IIJA). Before any material or product shown on the Department's Build America, Buy America (BABA) List is included for payment on a monthly estimate, the Contractor shall furnish the Engineer with a notarized certification certifying that the items conform to the BABA Act. The Department's Build America Buy America (BABA) List can be found on the Department's website.

https://connect.ncdot.gov/letting/LetCentral/NCDOT%20BABA%20Materials%20List.pdf

Each purchase order issued by the Contractor or a subcontractor for items on the BABA List to be permanently incorporated into any project shall contain in bold print a statement advising the supplier that the manufactured products and construction materials must be produced in the United States of America. The Contractor and all affected subcontractors shall maintain a separate file for BABA List items so that verification of the Contractor's efforts to purchase items produced in the United States can readily be verified by an authorized representative of the Department or the Federal Highway Administration (FHWA).

LIABILITY INSURANCE:

(5-16-23) 107 SP1 G05

Revise the *2018 Standard Specifications* as follows:

Page 1-64, Article 107-15 LIABILITY INSURANCE, replace the first sentence with the following:

The Contractor shall at its sole cost and expense obtain and furnish to the Department an original standard Association for Cooperative Operations Research and Development (ACORD) certificate of liability insurance evidencing commercial general liability with a limit for bodily injury and property damage in the amount of $5,000,000 per occurrence and $5,000,000 general aggregate, covering the Contractor from claims or damages for bodily injury, personal injury, or for property damages that may arise from operating under the contract by the employees and agents of the Contractor.

CONTRACT TIME AND LIQUIDATED DAMAGES:
(8-15-00) (Rev. 5-16-23) 108 SP1 G08 A

The date of availability for this contract is **June 26, 2023**, except that work in jurisdictional waters and wetlands shall not begin until a meeting between the DOT, Regulatory Agencies, and the Contractor is held as stipulated in the permits contained elsewhere in this proposal. This delay in availability has been considered in determining the contract time for this project.

The completion date for this contract is **November 11, 2026**.

Except where otherwise provided by the contract, observation periods required by the contract will not be a part of the work to be completed by the completion date and/or intermediate contract times stated in the contract. The acceptable completion of the observation periods that extend beyond the final completion date shall be a part of the work covered by the performance and payment bonds.

The liquidated damages for this contract are **Two Hundred Dollars ($ 200.00)** per calendar day. These liquidated damages will not be cumulative with any liquidated damages which may become chargeable under Intermediate Contract Time Number 1.

INTERMEDIATE CONTRACT TIME NUMBER 1 AND LIQUIDATED DAMAGES:
(7-1-95) (Rev. 2-21-12) 108 SP1 G13 A

Except for that work required under the Project Special Provisions entitled *Planting, Reforestation* and/or *Permanent Vegetation Establishment*, included elsewhere in this proposal, the Contractor will be required to complete all work included in this contract and shall place and maintain traffic on same.

The date of availability for this intermediate contract time is **June 26, 2023**.

The completion date for this intermediate contract time is **May 15, 2026**.

The liquidated damages for this intermediate contract time are **Three Thousand Five Hundred Dollars ($ 3,500.00)** per calendar day.

Upon apparent completion of all the work required to be completed by this intermediate date, a final inspection will be held in accordance with Article 105-17 and upon acceptance, the Department will assume responsibility for the maintenance of all work except *Planting, Reforestation* and/or *Permanent Vegetation Establishment*. The Contractor will be responsible for

and shall make corrections of all damages to the completed roadway caused by his planting operations, whether occurring prior to or after placing traffic through the project.

INTERMEDIATE CONTRACT TIME NUMBER 2 AND LIQUIDATED DAMAGES:
(2-20-07) 108 SP1 G14 B

The Contractor shall not narrow or close a lane of traffic on **NC 11 and/or NC 87**, detain and /or alter the traffic flow on or during holiday weekends, special events, or any other time when traffic is unusually heavy, including the following schedules:

HOLIDAY AND HOLIDAY WEEKEND LANE CLOSURE RESTRICTIONS

1. For **unexpected occurrence** that creates unusually high traffic volumes, as directed by the Engineer.

2. For **New Year's Day**, between the hours of **6:00 A.M.** December 31st and **6:00 P.M.** January 2nd. If New Year's Day is on a Friday, Saturday, Sunday or Monday, then until **6:00 P.M.** the following Tuesday.

3. For **Easter**, between the hours of **6:00 A.M.** Thursday and **6:00 P.M.** Monday.

4. For **Memorial Day**, between the hours of **6:00 A.M.** Friday and **6:00 P.M.** Tuesday.

5. For **Independence Day**, between the hours of **6:00 A.M.** the day before Independence Day and **6:00 P.M.** the day after Independence Day.

   If **Independence Day** is on a Friday, Saturday, Sunday or Monday, then between the hours of **6:00 A.M.** the Thursday before Independence Day and **6:00 P.M.** the Tuesday after Independence Day.

6. For **Labor Day**, between the hours of **6:00 A.M.** Friday and **6:00 P.M.** Tuesday.

7. For **Thanksgiving**, between the hours of **6:00 A.M.** Tuesday and **6:00 P.M.** Monday.

8. For **Christmas**, between the hours of **6:00 A.M.** the Friday before the week of Christmas Day and **6:00 P.M.** the following Tuesday after the week of Christmas Day.

Holidays and holiday weekends shall include New Year's, Easter, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas. The Contractor shall schedule his work so that lane closures are not required during these periods, unless otherwise directed by the Engineer.

The time of availability for this intermediate contract work shall be the time the Contractor begins to install all traffic control devices for lane closures according to the time restrictions listed herein.

The completion time for this intermediate contract work shall be the time the Contractor is required to complete the removal of all traffic control devices for lane closures according to the time restrictions stated herein and place traffic in the existing traffic pattern.

The liquidated damages are **Five Hundred Dollars ($ 500.00)** per hour.

INTERMEDIATE CONTRACT TIME NUMBER 3 AND LIQUIDATED DAMAGES:
(2-20-07) 108 SP1 G14 D

The Contractor shall complete the required work of installing, maintaining and removing the traffic control devices for road closures and restoring traffic to the existing traffic pattern. The Contractor shall not close **NC 87** during the following time restrictions:

DAY AND TIME RESTRICTIONS

Monday thru Sunday, 6:00 A.M. to 6:00 P.M.

The time of availability for this intermediate contract time will be the time the Contractor begins to install traffic control devices required for road closures according to the time restrictions stated herein.

The completion time for this intermediate contract time will be the time the Contractor is required to complete the removal of traffic control devices required for the road closures according to the time restrictions stated herein and restore traffic to the existing traffic pattern

The liquidated damages are **Two Hundred Fifty Dollars ($ 250.00)** per fifteen **(15)** minute time period.

INTERMEDIATE CONTRACT TIME NUMBER 4 AND LIQUIDATED DAMAGES:
(2-20-07) (Rev. 10-15-13) 108 SP1 G14 E

The Contractor shall complete the required work of installing, maintaining and removing the traffic control devices for road closures and restoring traffic to the existing traffic pattern. The Contractor shall not close **NC 87** during the following time restrictions:

DAY AND TIME RESTRICTIONS

Monday thru Sunday, 6:00 A.M. to 6:00 P.M.

The maximum allowable time for overhead construction operations is **thirty (30)** minutes for **NC 87**. The Contractor shall reopen the travel lanes to traffic until any resulting traffic queue is depleted.

The time of availability for this intermediate contract time will be the time the Contractor begins to install traffic control devices required for the road closures according to the time restrictions stated herein.

The completion time for this intermediate contract time will be the time the Contractor is required to complete the removal of traffic control devices required for the road closures according to the time restrictions stated herein and restore traffic to the existing traffic pattern.

The liquidated damages are **Two Hundred Fifty Dollars ($ 250.00)** per fifteen **(15)** minute time period.

INTERMEDIATE CONTRACT TIME NUMBER 5 AND LIQUIDATED DAMAGES:
(2-20-07) (Rev. 6-18-13) 108 SP1 G14 H

The Contractor shall complete the work required of **Phase I, Step #3** as shown on Sheet **TMP-3** and shall place and maintain traffic on same.

The date of availability for this intermediate contract time is the date the Contractor elects to begin the work.

The completion date for this intermediate contract time is the date which is **Two Hundred Ten (210)** consecutive calendar days after and including the date the Contractor begins this work.

The liquidated damages are **One Thousand Five Hundred Dollars ($ 1,500.00)** per calendar day.

INTERMEDIATE CONTRACT TIME NUMBER 6 AND LIQUIDATED DAMAGES:
(2-20-07) (Rev. 6-18-13) 108 SP1 G14 H

The Contractor shall complete the work required of **Phase III, Step #3** as shown on Sheet **TMP-3** and shall place and maintain traffic on same.

The date of availability for this intermediate contract time is the date the Contractor elects to begin the work.

The completion date for this intermediate contract time is the date which is **Twenty-One (21)** consecutive calendar days after and including the date the Contractor begins this work.

The liquidated damages are **Two Hundred Fifty Dollars ($ 250.00)** per calendar day.

PERMANENT VEGETATION ESTABLISHMENT:
(2-16-12) (Rev. 10-15-13) 104 SP1 G16

Establish a permanent stand of the vegetation mixture shown in the contract. During the period between initial vegetation planting and final project acceptance, perform all work necessary to establish permanent vegetation on all erodible areas within the project limits, as well as, in borrow and waste pits. This work shall include erosion control device maintenance and installation, repair seeding and mulching, supplemental seeding and mulching, mowing, and fertilizer topdressing, as directed. All work shall be performed in accordance with the applicable section of the *2018 Standard Specifications*. All work required for initial vegetation planting shall be performed as a part of the work necessary for the completion and acceptance of the Intermediate Contract Time (ICT). Between the time of ICT and Final Project acceptance, or otherwise referred to as the vegetation establishment period, the Department will be responsible for preparing the required National Pollutant Discharge Elimination System (NPDES) inspection records.

Once the Engineer has determined that the permanent vegetation establishment requirement has been achieved at an 80% vegetation density (the amount of established vegetation per given area to stabilize the soil) and no erodible areas exist within the project limits, the Contractor will be notified to remove the remaining erosion control devices that are no longer needed. The Contractor will be responsible for, and shall correct any areas disturbed by operations performed in permanent vegetation establishment and the removal of temporary erosion control measures, whether occurring prior to or after placing traffic on the project.

Payment for *Response for Erosion Control*, *Seeding and Mulching, Repair Seeding*, *Supplemental Seeding, Mowing, Fertilizer Topdressing, Silt Excavation,* and *Stone for Erosion Control* will be made at contract unit prices for the affected items. Work required that is not represented by contract line items will be paid in accordance with Articles 104-7 or 104-3 of the *2018 Standard Specifications*. No additional compensation will be made for maintenance and removal of temporary erosion control items.

CONSTRUCTION MORATORIUM:
(1-19-16) (Rev. 5-21-21) SP1 G18C

No tree cutting will be allowed **when temperature is 40 degrees or less**.

MAJOR CONTRACT ITEMS:
(2-19-02) 104 SP1 G28

The following listed items are the major contract items for this contract (see Article 104-5 of the *2018 Standard Specifications*):

Line #	Description
11	Borrow Excavation
56	Asphalt Concrete Intermediate Course, Type I19.0C
204	Reinforced Concrete Deck Slab

SPECIALTY ITEMS:
(7-1-95)(Rev. 7-20-21) 108-6 SP1 G37

Items listed below will be the specialty items for this contract (see Article 108-6 of the *2018 Standard Specifications*).

Line #	Description
89-97	Guardrail
98-101	Fencing
106-113	Signing
126-133	Long-Life Pavement Markings
138-139	Permanent Pavement Markers
140-155	Utility Construction
156-194	Erosion Control

FUEL PRICE ADJUSTMENT:
(11-15-05) (Rev. 11-15-22) 109-8 SP1 G43

Revise the *2018 Standard Specifications* as follows:

Page 1-87, Article 109-8, Fuel Price Adjustments, add the following:

The base index price for DIESEL #2 FUEL is **$ 2.7912** per gallon. Where any of the following are included as pay items in the contract, they will be eligible for fuel price adjustment.

The pay items and the fuel factor used in calculating adjustments to be made will be as follows:

Description	Units	Fuel Usage Factor Diesel
Unclassified Excavation	Gal/CY	0.29
Borrow Excavation	Gal/CY	0.29
Class IV Subgrade Stabilization	Gal/Ton	0.55
Aggregate Base Course	Gal/Ton	0.55
Sub-Ballast	Gal/Ton	0.55
Erosion Control Stone	Gal/Ton	0.55
Rip Rap, Class _____	Gal/Ton	0.55
Asphalt Concrete Base Course, Type ____	Gal/Ton	0.90 or 2.90
Asphalt Concrete Intermediate Course, Type ____	Gal/Ton	0.90 or 2.90
Asphalt Concrete Surface Course, Type ____	Gal/Ton	0.90 or 2.90
Open-Graded Asphalt Friction Course	Gal/Ton	0.90 or 2.90
Permeable Asphalt Drainage Course, Type ____	Gal/Ton	0.90 or 2.90
Sand Asphalt Surface Course, Type ____	Gal/Ton	0.90 or 2.90
Ultra-thin Bonded Wearing Course	Gal/Ton	0.90 or 2.90
Aggregate for Cement Treated Base Course	Gal/Ton	0.55
Portland Cement for Cement Treated Base Course	Gal/Ton	0.55
> 11" Portland Cement Concrete Pavement	Gal/SY	0.327
Concrete Shoulders Adjacent to > 11” Pavement	Gal/SY	0.327
9” to 11" Portland Cement Concrete Pavement	Gal/SY	0.272
Concrete Shoulders Adjacent to 9” to 11” Pavement	Gal/SY	0.272
< 9” Portland Cement Concrete Pavement	Gal/SY	0.245
Concrete Shoulders Adjacent to < 9” Pavement	Gal/SY	0.245

For the asphalt items noted in the chart as eligible for fuel adjustments, the bidder may include the *Fuel Usage Factor Adjustment Form* with their bid submission if they elect to use the fuel usage factor. The *Fuel Usage Factor Adjustment Form* is found at the following link:

https://connect.ncdot.gov/letting/LetCentral/Fuel%20Usage%20Factor%20Adjustment%20Form%20-%20%20Starting%20Nov%202022%20Lettings.pdf

Select either 2.90 Gal/Ton fuel factor or 0.90 Gal/Ton fuel factor for each asphalt line item on the *Fuel Usage Factor Adjustment Form*. The selected fuel factor for each asphalt item will remain in effect for the duration of the contract.

Failure to complete the *Fuel Usage Factor Adjustment Form* will result in using 2.90 gallons per ton as the Fuel Usage Factor for Diesel for the asphalt items noted above. The contractor will not be permitted to change the Fuel Usage Factor after the bids are submitted.

STEEL PRICE ADJUSTMENT:

(4-19-22)(Rev. 5-16-23) SP1 G47

Description and Purpose

Steel price adjustments will be made to the payments due the Contractor for items as defined herein that are permanently incorporated into the work, when the price of raw steel mill products

utilized on the contract have fluctuated. The Department will adjust monthly progress payments up or down as appropriate for cost changes in steel according to this provision.

Eligible Items

The list of eligible bid items for steel price adjustment can be found on the Departments website at the following address:

https://connect.ncdot.gov/letting/LetCentral/Eligible%20Bid%20Items%20for%20Steel%20Price%20Adjustment.xlsx

Nuts, bolts, anchor bolts, rebar chairs, connecting bands and other miscellaneous hardware associated with these items shall not be included in the price adjustment.

Adjustments will only be made for fluctuations in the material cost of the steel used in the above products as specified in the Product Relationship Table below. The producing mill is defined as the source of steel product before any fabrication has occurred (e.g., coil, plate, rebar, hot rolled shapes, etc.). No adjustment will be made for changes in the cost of fabrication, coating, shipping, storage, etc.

No steel price adjustments will be made for any products manufactured from steel having an adjustment date, as defined by the Product Relationship Table below, prior to the letting date.

Bid Submittal Requirements

The successful bidder, within 14 calendar days after the notice of award is received by him, shall provide the completed Form SPA-1 to the Department (State Contract Officer or Division Contract Engineer) along with the payment bonds, performance bonds and contract execution signature sheets in a single submittal. If Form SPA-1 is not included in the same submittal as the payment bonds, performance bonds and contract execution signature sheets, the Contractor will not be eligible for any steel price adjustment for any item in the contract for the life of the contract. Form SPA-1 can be found on the Department's website at the following address:

https://connect.ncdot.gov/letting/LetCentral/Form%20SPA-1.xlsm

The Contractor shall provide Form SPA-1 listing the Contract Line Number, (with corresponding Item Number, Item Description, and Category) for the steel products they wish to have an adjustment calculated. Only the contract items corresponding to the list of eligible item numbers for steel price adjustment may be entered on Form SPA-1. The Contractor may choose to have steel price adjustment applied to any, all, or none of the eligible items. However, the Contractor's selection of items for steel price adjustment or non-selection (non-participation) may not be changed once Form SPA-1 has been received by the Department. Items the Bidder chooses for steel price adjustment must be designated by writing the word "Yes" in the column titled "Option" by each Pay Item chosen for adjustment. Should the bidder elect an eligible steel price item, the entire quantity of the line item will be subject to the price adjustment for the duration of the Contract. The Bidder's designations on Form SPA-1 must be written in ink or typed and signed by the Bidder (Prime Contractor) to be considered complete. Items not properly designated, designated with "No", or left blank on the Bidder's Form SPA-1 will automatically be removed from consideration for adjustment. No steel items will be eligible for

steel price adjustment on this Project if the Bidder fails to return Form SPA-1 in accordance with this provision.

Establishing the Base Price

The Department will use a blend of monthly average prices as reported from the Fastmarkets platform to calculate the monthly adjustment indices (BI and MI). This data is typically available on the first day of the month for the preceding month. The indices will be calculated by the Department for the different categories found on the Product Relationship Table below. For item numbers that include multiple types of steel products, the category listed for that item number will be used for adjusting each steel component.

The bidding index for Category 1 Steel items is **$ 47.40** per hundredweight.
The bidding index for Category 2 Steel items is **$ 72.89** per hundredweight.
The bidding index for Category 3 Steel items is **$ 66.39** per hundredweight.
The bidding index for Category 4 Steel items is **$ 57.03** per hundredweight.
The bidding index for Category 5 Steel items is **$ 59.31** per hundredweight.
The bidding index for Category 6 Steel items is **$ 76.32** per hundredweight.
The bidding index for Category 7 Steel items is **$ 51.48** per hundredweight.
The bidding index represents a selling price of steel based on Fastmarkets data for the month of **March 2023**.

MI = Monthly Index. – in Dollars ($) per hundredweight (CWT). Use the adjustment indices from the month the steel was shipped from the producing mill, received on the project, or member cast as defined in the Product Relationship Table.

BI = Bidding Index. - in Dollars ($) per hundredweight (CWT). Use the adjustment indices as listed in the proposal.

Steel Product (Title)	BI, MI*	Adjustment Date for MI	Category
Reinforcing Steel, Bridge Deck, and SIP Forms	Based on one or more Fastmarkets indices	Delivery Date from Producing Mill	1
Structural Steel and Encasement Pipe	Based on one or more Fastmarkets indices	Delivery Date from Producing Mill	2
Steel H-Piles, Soldier Pile Walls	Based on one or more Fastmarkets indices	Delivery Date from Producing Mill	3
Guardrail Items and Pipe Piles	Based on one or more Fastmarkets indices	Material Received Date**	4
Fence Items	Based on one or more Fastmarkets indices	Material Received Date**	5
Overhead Sign Assembly, Signal Poles, High Mount Standards	Based on one or more Fastmarkets indices	Material Received Date**	6
Prestressed Concrete Members	Based on one or more Fastmarkets indices	Cast Date of Member	7

Submit documentation to the Engineer for all items listed in the Contract for which the Contractor is requesting a steel price adjustment.

Submittal Requirements

The items in categories 1,2, and 3, shall be specifically stored, labeled, or tagged, recognizable by color marking, and identifiable by Project for inspection and audit verification immediately upon arrival at the fabricator.

Furnish the following documentation for all steel products to be incorporated into the work and documented on Form SPA-2, found on the Departments website at the following address:

https://connect.ncdot.gov/projects/construction/Construction%20Forms/Form%20SPA-2.xlsx

Submit all documentation to the Engineer prior to incorporation of the steel into the completed work. The Department will withhold progress payments for the affected contract line item if the documentation is not provided and at the discretion of the Engineer the work is allowed to proceed. Progress payments will be made upon receipt of the delinquent documentation.

Step 1 (Form SPA -2)

Utilizing Form SPA-2, submit separate documentation packages for each line item from Form SPA-1 for which the Contractor opted for a steel price adjustment. For line items with multiple components of steel, each component should be listed separately. Label each SPA-2 documentation package with a unique number as described below.

a. Documentation package number: (Insert the contract line-item) - (Insert sequential package number beginning with "1").
   Example: 412 - 1,
   412 - 2,
   424 – 1,
   424 – 2,
   424 – 3, etc.
b. The steel product quantity in pounds
   i. The following sources should be used, in declining order of precedence, to determine the weight of steel/iron, based on the Engineers decision:
      1. Department established weights of steel/iron by contract pay item per pay unit;
      2. Approved Shop Drawings;
      3. Verified Shipping Documents;
      4. Contract Plans;
      5. Standard Drawing Sheets;
      6. Industry Standards (i.e., AISC Manual of Steel Construction, AWWA Standards, etc.); and
      7. Manufacture's data.
   ii. Any item requiring approved shop drawings shall have the weights of steel calculated and shown on the shop drawings or submitted and certified separately by the fabricator.
c. The date the steel product, subject to adjustment, was shipped from the producing mill (Categories 1-3), received on the project (Categories 4-6), or casting date (Category 7).

Step 2 (Monthly Calculator Spreadsheet)

For each month, upon the incorporation of the steel product into the work, provide the Engineer the following:

1) Completed NCDOT Steel Price Adjustment Calculator Spreadsheet, summarizing all the steel submittal packages (Form SPA-2) actually incorporated into the completed work in the given month.
    a. Contract Number
    b. Bidding Index Reference Month
    c. Contract Completion Date or Revised Completion Date
    d. County, Route, and Project TIP information
    e. Item Number
    f. Line-Item Description
    g. Submittal Number from Form SPA-2
    h. Adjustment date
    i. Pounds of Steel
2) An affidavit signed by the Contractor stating the documentation provided in the NCDOT Steel Price Adjustment Calculator Spreadsheet is true and accurate.

Price Adjustment Conditions

Download the Monthly Steel Adjustment Spreadsheet with the most current reference data from the Department's website each month at the following address:

https://connect.ncdot.gov/projects/construction/Construction%20Forms/Form%20SPA-3%20NCDOT%20Steel%20Price%20Adjustment%20Calculator.xlsx

If the monthly Fastmarkets data is not available, the data for the most recent immediately preceding month will be used as the basis for adjustment.

Price Adjustment Calculations

The price adjustment will be determined by comparing the percentage of change in index value listed in the proposal (BI) to the monthly index value (MI). (See included sample examples). Weights and date of shipment must be documented as required herein. The final price adjustment dollar value will be determined by multiplying this percentage increase or decrease in the index by the represented quantity of steel incorporated into the work, and the established bidding index (BI) subject to the limitations herein.

Price increase/decrease will be computed as follows:

SPA = ((MI/ BI) -1) * BI *(Q/100)

Where;

SPA = Steel price adjustment in dollars

MI = Monthly Shipping Index. – in Dollars ($) per hundredweight (CWT). Use the adjustment indices from the month the steel was shipped from the producing mill, received on the project, or member cast as defined in the Product Relationship Table.

BI = Bidding Index. - in Dollars ($) per hundredweight (CWT). Use the adjustment indices as listed in the proposal.

Q = Quantity of steel, product, pounds actually incorporated into the work as documented by the Contractor, or Design Build Team and verified by the Engineer.

Calculations for price adjustment shall be shown separate from the monthly progress estimate and will not be included in the total cost of work for determination of progress or for extension of Contract time in accordance with Subarticle 108-10(B)(1).

Any apparent attempt to unbalance bids in favor of items subject to price adjustment may result in rejection of the bid proposal.

Adjustments will be paid or charged to the Contractor only. Any Contractor receiving an adjustment under this provision shall distribute the proper proportional part of such adjustments to the subcontractor who performed the applicable work.

Delays to the work caused by steel shortages may be justification for a Contract time extension but will not constitute grounds for claims for standby equipment, extended office overhead, or other costs associated with such delays.

If an increase in the steel material price is anticipated to exceed 50% of the original quoted price, the contractor must notify the Department within 7 days prior to purchasing the material. Upon receipt of such notification, the Department will direct the Contractor to either (1) proceed with the work or (2) suspend the work and explore the use of alternate options.

If the decrease in the steel material exceeds 50% of the original quoted price, the contractor may submit to the Department additional market index information specific to the item in question to dispute the decrease. The Department will review this information and determine if the decrease is warranted.

When the steel product adjustment date, as defined in the Product Relationship Table, is after the approved contract completion date, the steel price adjustments will be based on the lesser value of either the MI for the month of the approved contract completion date or the MI for the actual adjustment date.

If the price adjustment is based on estimated material quantities for that time, and a revision to the total material quantity is made in a subsequent or final estimate, an appropriate adjustment will be made to the price adjustment previously calculated. The adjustment will be based on the same indices used to calculate the price adjustment which is being revised. If the adjustment date of the revised material quantity cannot be determined, the adjustment for the quantity in question, will be based on the indices utilized to calculate the steel price adjustment for the last initial documentation package submission, for the steel product subject to adjustment, that was incorporated into the particular item of work, for which quantities are being finalized. Example: Structural steel for a particular bridge was provided for in three different shipments with each having a different mill shipping date. The quantity of structural steel actually used for the bridge was calculated and a steel price adjustment was made in a progress payment. At the conclusion of the work an error was found in the plans of the final quantity of structural steel used for the bridge. The quantity to be adjusted cannot be directly related to any one of the three

mill shipping dates. The steel price adjustment for the quantity in question would be calculated using the indices that were utilized to calculate the steel price adjustment for the quantity of structural steel represented by the last initial structural steel documentation package submission. The package used will be the one with the greatest sequential number.

Extra Work/Force Account:

When steel products, as specified herein, are added to the contract as extra work, in accordance with the provisions of Article 104-7 or 104-3, the Engineer will determine and specify in the supplemental agreement, the need for application of steel price adjustments on a case-by-case basis. No steel price adjustments will be made for any products manufactured from steel having an adjustment date prior to the supplemental agreement execution date. Price adjustments will be made as provided herein, except the Bidding Index will be based on the month in which the supplemental agreement pricing was executed.

For work performed on force account basis, reimbursement of actual material costs, along with the specified overhead and profit markup, will be considered to include full compensation for the current cost of steel and no steel price adjustments will be made.

Examples **Form SPA-2**

Steel Price Adjustment Submission Form

Contract Number C203394 Bid Reference Month January 2019

Submittal Date 8/31/2019

Contract Line Item 237

Line Item Description APPROX….LBS Structural Steel

Sequential Submittal Number 2

Supplier	Description of material	Location information	Quantity in lbs.	Adjustment Date
XYZ mill	Structural Steel	Structure 3, Spans A-C	1,200,000	May 4, 2020
ABC distributing	Various channel & angle shapes	Structure 3 Spans A-C	35,000	July 14, 2020
		Total Pounds of Steel	1,235,000	

Note: Attach the following supporting documentation to this form.

- Bill of Lading to support the shipping dates
- Supporting information for weight documentation (e.g., Pay item reference, Shop drawings, shipping documents, Standards Sheets, industry standards, or manufacturer's data)

By providing this data under my signature, I attest to the accuracy of and validity of the data on this form and certify that no deliberate misrepresentation in any manner has occurred.

Printed Name Signature

Examples **Form SPA-2**

Steel Price Adjustment Submission Form

Contract Number C203394 Bid Reference Month January 2019

Submittal Date August 31, 2019

Contract Line Item 237

Line Item Description SUPPORT, OVRHD SIGN STR -DFEB – STA 36+00

Sequential Submittal Number 2

Supplier	Description of material	Location information	Quantity in lbs.	Adjustment Date
XYZ mill	Tubular Steel (Vertical legs)	-DFEB – STA 36+00	12000	December 11, 2021
PDQ Mill	4" Tubular steel (Horizontal legs)	-DFEB – STA 36+00	5900	December 11, 2021
ABC distributing	Various channel & angle shapes (see quote)	-DFEB – STA 36+00	1300	December 11, 2021
	Catwalk assembly	-DFEB – STA 36+00	2000	December 11, 2021
Nucor	Flat plate	-DFEB – STA 36+00	650	December 11, 2021
		Total Pounds of Steel	21,850	

Note: Attach the following supporting documentation to this form.

- Bill of Lading to support the shipping dates
- Supporting information for weight documentation (e.g., Pay item reference, Shop drawings, shipping documents, Standards Sheets, industry standards, or manufacturer's data)

By providing this data under my signature, I attest to the accuracy of and validity of the data on this form and certify that no deliberate misrepresentation in any manner has occurred.

Printed Name Signature

Price Adjustment Sample Calculation (increase)

Project bid on September 17, 2019

Line Item 635 “Structural Steel” has a plan quantity of 2,717,000 lbs.

Bidding Index for Structural Steel (Category 2) in the proposal was $36.12/CWT = BI

450,000 lbs. of Structural Steel for Structure 2 at Station 44+08.60 were shipped to fabricator from the producing mill in same month, May 2021.

Monthly Index for Structural Steel (Category 2) for May 2021 was $64.89/CWT = MI

The Steel Price Adjustment formula is as follows:

SPA = ((MI/ BI) -1) * BI *(Q/100)

Where; SPA = Steel price adjustment in dollars

BI = Bidding Index – in dollars ($) per hundredweight (CWT). Use the adjustment indices as listed in the proposal.

MI = Mill Shipping Index – in dollars ($) per hundredweight (CWT). Use the adjustment indices from the month the steel was shipped from the producing mill, received on the project, or member cast as defined in the Product Relationship Table.

Q = Quantity of steel product, in pounds (lbs.) actually incorporated into the work as documented by the Contractor, or Design Build Team and verified by the Engineer.

BI = $36.12/ CWT

MI = $64.89 / CWT

% change = ((MI/ BI)-1) = ($64.89 / $36.12 – 1) = (1.79651 – 1) = 0.79651162791

Q = 450,000 lbs.

SPA = 0.79651162791x $36.12 x (450,000/100)

SPA = 0.79651162791* $36.12 *4,500

SPA = $129,465 pay adjustment to Contractor for Structural Steel (Structure 2 at Station 44+08.60)

Price Adjustment Sample Calculation (decrease)

Project bid on December 18, 2018

Line Item 635 Structural Steel has a plan quantity of 2,717,000 lbs.

Bidding Index for Structural Steel (Category 2) in the proposal was $46.72/CWT = BI

600,000 lbs. of Structural Steel for Structure 1 at Station 22+57.68 were shipped to fabricator from the producing mill in same month, August 2020.

Monthly Index for Structural Steel (Category 2) for August 2020 was $27.03/CWT = MI

The Steel Price Adjustment formula is as follows:

SPA = ((MI/ BI) -1) * BI *(Q/100)

Where;

SPA = Steel price adjustment in dollars

BI = Bidding Index – in dollars ($) per hundredweight (CWT). Use the adjustment indices as listed in the proposal.

MI = Mill Shipping Index – in dollars ($) per hundredweight (CWT). Use the adjustment indices from the month the steel was shipped from the producing mill, received on the project, or member cast as defined in the Product Relationship Table.

Q = Quantity of steel product, in pounds (lbs.) actually incorporated into the work as documented by the Contractor, or Design Build Team and verified by the Engineer.

BI = $46.72/ CWT

MI = $27.03 / CWT

% change = ((MI/ BI)-1) = ($27.03/ $46.72–1) = (0.57855–1) = -0.421446917808

Q = 600,000 lbs.

SPA = -0.421446917808 * $46.72 * (600,000/100)

SPA = -0.421446917808 * $46.72 *6,000

SPA = $ 118,140.00 Credit to the Department for Structural Steel (Structure 1 at Station 22+57.68)

Price Adjustment Sample Calculation (increase)

Project bid on July 16, 2020

Line Item 614 Reinforced Concrete Deck Slab has a plan quantity of 241974 lbs.

Bidding Index Reference Month was May 2020. Bidding Index for Reinforced Concrete Deck Slab (Category 1) in the proposal was $29.21/CWT = BI

51,621 lbs. of reinforcing steel and 52,311 lbs. of epoxy coated reinforcing steel for Structure 2 at Station 107+45.55 -L- was shipped to fabricator from the producing mill in same month, May 2021.

Monthly Index for Reinforced Concrete Deck Slab (Category 1) for May 2021 was $43.13/CWT = MI

The Steel Price Adjustment formula is as follows:

SPA = ((MI/ BI) -1) * BI *(Q/100)

Where; SPA = Steel price adjustment in dollars

BI = Bidding Index – in dollars ($) per hundredweight (CWT). Use the adjustment indices as listed in the proposal.

MI = Mill Shipping Index – in dollars ($) per hundredweight (CWT). Use the adjustment indices from the month the steel was shipped from the producing mill, received on the project, or member cast as defined in the Product Relationship Table.

Q = Quantity of steel product, in pounds (lbs.) actually incorporated into the work as documented by the Contractor, or Design Build Team and verified by the Engineer.

BI = $29.21/ CWT

MI = $43.13 / CWT

% change = ((MI/ BI)-1) = ($43.13 / $29.21 – 1) = (1.47655 – 1) = 0.47654912701

Q = 103932 lbs.

SPA = 0. 47654912701 * $29.21 * (103,932/100)

SPA = 0. 47654912701 * $29.21 *1,039.32

SPA = $14,467.33 Pay Adjustment to Contractor for Reinforced Concrete Deck Slab (Category 1) at Station 107+45.55 -L-

SCHEDULE OF ESTIMATED COMPLETION PROGRESS:

(7-15-08) (Rev. 7-19-22) 108-2 SP1 G58

The Contractor's attention is directed to the Standard Special Provision entitled *Availability of Funds Termination of Contracts* included elsewhere in this proposal. The Department of Transportation's schedule of estimated completion progress for this project as required by that Standard Special Provision is as follows:

	Fiscal Year	Progress (% of Dollar Value)
2024	(7/01/23 - 6/30/24)	**45**% of Total Amount Bid
2025	(7/01/24 - 6/30/25)	**35**% of Total Amount Bid
2026	(7/01/25 - 6/30/26)	**20**% of Total Amount Bid

The Contractor shall also furnish his own progress schedule in accordance with Article 108-2 of the *2018 Standard Specifications*. Any acceleration of the progress as shown by the Contractor's progress schedule over the progress as shown above shall be subject to the approval of the Engineer.

DISADVANTAGED BUSINESS ENTERPRISE:

(10-16-07)(Rev. 8-17-21) 102-15(J) SP1 G61

Description

The purpose of this Special Provision is to carry out the U.S. Department of Transportation's policy of ensuring nondiscrimination in the award and administration of contracts financed in whole or in part with Federal funds. This provision is guided by 49 CFR Part 26.

Definitions

Additional DBE Subcontractors - Any DBE submitted at the time of bid that will not be used to meet the DBE goal. No submittal of a Letter of Intent is required.

Committed DBE Subcontractor - Any DBE submitted at the time of bid that is being used to meet the DBE goal by submission of a Letter of Intent. Or any DBE used as a replacement for a previously committed DBE firm.

Contract Goal Requirement - The approved DBE participation at time of award, but not greater than the advertised contract goal.

DBE Goal - A portion of the total contract, expressed as a percentage, that is to be performed by committed DBE subcontractor(s).

Disadvantaged Business Enterprise (DBE) - A firm certified as a Disadvantaged Business Enterprise through the North Carolina Unified Certification Program.

Goal Confirmation Letter - Written documentation from the Department to the bidder confirming the Contractor's approved, committed DBE participation along with a listing of the committed DBE firms.

Manufacturer - A firm that operates or maintains a factory or establishment that produces on the premises, the materials or supplies obtained by the Contractor.

Regular Dealer - A firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials or supplies required for the performance of the contract are bought, kept in stock, and regularly sold to the public in the usual course of business. A regular dealer engages in, as its principal business and in its own name, the purchase and sale or lease of the products in question. A regular dealer in such bulk items as steel, cement, gravel, stone, and petroleum products need not keep such products in stock, if it owns and operates distribution equipment for the products. Brokers and packagers are not regarded as manufacturers or regular dealers within the meaning of this section.

Replacement / Substitution – A full or partial reduction in the amount of work subcontracted to a committed (or an approved substitute) DBE firm.

North Carolina Unified Certification Program (NCUCP) - A program that provides comprehensive services and information to applicants for DBE certification, such that an applicant is required to apply only once for a DBE certification that will be honored by all recipients of USDOT funds in the state and not limited to the Department of Transportation only. The Certification Program is in accordance with 49 CFR Part 26.

United States Department of Transportation (USDOT) - Federal agency responsible for issuing regulations (49 CFR Part 26) and official guidance for the DBE program.

Forms and Websites Referenced in this Provision

DBE Payment Tracking System - On-line system in which the Contractor enters the payments made to DBE subcontractors who have performed work on the project. https://apps.dot.state.nc.us/Vendor/PaymentTracking/

DBE-IS *Subcontractor Payment Information* - Form for reporting the payments made to all DBE firms working on the project. This form is for paper bid projects only. https://connect.ncdot.gov/business/Turnpike/Documents/Form%20DBE-IS%20Subcontractor%20Payment%20Information.pdf

RF-1 *DBE Replacement Request Form* - Form for replacing a committed DBE. http://connect.ncdot.gov/projects/construction/Construction%20Forms/DBE%20MBE%20WBE%20Replacement%20Request%20Form.pdf

SAF *Subcontract Approval Form* - Form required for approval to sublet the contract. http://connect.ncdot.gov/projects/construction/Construction%20Forms/Subcontract%20Approval%20Form%20Rev.%202012.zip

JC-1 *Joint Check Notification Form* - Form and procedures for joint check notification. The form acts as a written joint check agreement among the parties providing full and prompt disclosure of the expected use of joint checks. http://connect.ncdot.gov/projects/construction/Construction%20Forms/Joint%20Check%20Notification%20Form.pdf

Letter of Intent - Form signed by the Contractor and the DBE subcontractor, manufacturer or regular dealer that affirms that a portion of said contract is going to be performed by the signed DBE for the estimated amount (based on quantities and unit prices) listed at the time of bid.
http://connect.ncdot.gov/letting/LetCentral/Letter%20of%20Intent%20to%20Perform%20as%20a%20Subcontractor.pdf

Listing of DBE Subcontractors Form - Form for entering DBE subcontractors on a project that will meet this DBE goal. This form is for paper bids only.
http://connect.ncdot.gov/municipalities/Bid%20Proposals%20for%20LGA%20Content/08%20DBE%20Subcontractors%20(Federal).docx

Subcontractor Quote Comparison Sheet - Spreadsheet for showing all subcontractor quotes in the work areas where DBEs quoted on the project. This sheet is submitted with good faith effort packages.
http://connect.ncdot.gov/business/SmallBusiness/Documents/DBE%20Subcontractor%20Quote%20Comparison%20Example.xls

DBE Goal

The following DBE goal for participation by Disadvantaged Business Enterprises is established for this contract:

Disadvantaged Business Enterprises **6.0** %

(A) *If the DBE goal is more than zero*, the Contractor shall exercise all necessary and reasonable steps to ensure that DBEs participate in at least the percent of the contract as set forth above as the DBE goal.

(B) *If the DBE goal is zero*, the Contractor shall make an effort to recruit and use DBEs during the performance of the contract. Any DBE participation obtained shall be reported to the Department.

Directory of Transportation Firms (Directory)

Real-time information is available about firms doing business with the Department and firms that are certified through NCUCP in the Directory of Transportation Firms. Only firms identified in the Directory as DBE certified shall be used to meet the DBE goal. The Directory can be found at the following link. https:// www.ebs.nc.gov/VendorDirectory/default.html

The listing of an individual firm in the directory shall not be construed as an endorsement of the firm's capability to perform certain work.

Listing of DBE Subcontractors

At the time of bid, bidders shall submit <u>all</u> DBE participation that they anticipate to use during the life of the contract. Only those identified to meet the DBE goal will be considered committed, even though the listing shall include both committed DBE subcontractors and additional DBE subcontractors. Additional DBE subcontractor participation submitted at the time of bid will be used toward the Department's overall race-neutral goal. Only those firms with current DBE

certification at the time of bid opening will be acceptable for listing in the bidder's submittal of DBE participation. The Contractor shall indicate the following required information:

(A) Electronic Bids

Bidders shall submit a listing of DBE participation in the appropriate section of the electronic submittal file.

(1) Submit the names and addresses of DBE firms identified to participate in the contract. If the bidder uses the updated listing of DBE firms shown in the electronic submittal file, the bidder may use the dropdown menu to access the name and address of the DBE firm.

(2) Submit the contract line numbers of work to be performed by each DBE firm. When no figures or firms are entered, the bidder will be considered to have no DBE participation.

(3) The bidder shall be responsible for ensuring that the DBE is certified at the time of bid by checking the Directory of Transportation Firms. If the firm is not certified at the time of the bid-letting, that DBE's participation will not count towards achieving the DBE goal.

(B) Paper Bids

(1) *If the DBE goal is more than zero,*

(a) Bidders, at the time the bid proposal is submitted, shall submit a listing of *DBE* participation, including the names and addresses on *Listing of DBE Subcontractors* contained elsewhere in the contract documents in order for the bid to be considered responsive. Bidders shall indicate the total dollar value of the DBE participation for the contract.

(b) If bidders have no DBE participation, they shall indicate this on the *Listing of DBE Subcontractors* by entering the word “None” or the number “0.” This form shall be completed in its entirety. **Blank forms will not be deemed to represent zero participation**. Bids submitted that do not have DBE participation indicated on the appropriate form will not be read publicly during the opening of bids. The Department will not consider these bids for award and the proposal will be rejected.

(c) The bidder shall be responsible for ensuring that the DBE is certified at the time of bid by checking the Directory of Transportation Firms. If the firm is not certified at the time of the bid-letting, that DBE’s participation will not count towards achieving the corresponding goal.

(2) *If the DBE goal is zero,* entries on the *Listing of DBE Subcontractors* are not required for the zero goal, however any DBE participation that is achieved during the project shall be reported in accordance with requirements contained elsewhere in the special provision.

DBE Prime Contractor

When a certified DBE firm bids on a contract that contains a DBE goal, the DBE firm is responsible for meeting the goal or making good faith efforts to meet the goal, just like any other bidder. In most cases, a DBE bidder on a contract will meet the DBE goal by virtue of the work it performs on the contract with its own forces. However, all the work that is performed by the DBE bidder and any other DBE subcontractors will count toward the DBE goal. The DBE bidder shall list itself along with any DBE subcontractors, if any, in order to receive credit toward the DBE goal.

For example, if the DBE goal is 45% and the DBE bidder will only perform 40% of the contract work, the prime will list itself at 40%, and the additional 5% shall be obtained through additional DBE participation with DBE subcontractors or documented through a good faith effort.

DBE prime contractors shall also follow Sections A and B listed under *Listing of DBE Subcontractor* just as a non-DBE bidder would.

Written Documentation – Letter of Intent

The bidder shall submit written documentation for each DBE that will be used to meet the DBE goal of the contract, indicating the bidder's commitment to use the DBE in the contract. This documentation shall be submitted on the Department's form titled *Letter of Intent*.

The documentation shall be received in the office of the State Contractor Utilization Engineer or at DBE@ncdot.gov no later than 10:00 a.m. of the sixth calendar day following opening of bids, unless the sixth day falls on an official state holiday. In that situation, it is due in the office of the State Contractor Utilization Engineer no later than 10:00 a.m. on the next official state business day.

If the bidder fails to submit the Letter of Intent from each committed DBE to be used toward the DBE goal, or if the form is incomplete (i.e. both signatures are not present), the DBE participation will not count toward meeting the DBE goal. If the lack of this participation drops the commitment below the DBE goal, the Contractor shall submit evidence of good faith efforts, completed in its entirety, to the State Contractor Utilization Engineer or DBE@ncdot.gov no later than 10:00 a.m. on the eighth calendar day following opening of bids, unless the eighth day falls on an official state holiday. In that situation, it is due in the office of the State Contractor Utilization Engineer no later than 10:00 a.m. on the next official state business day.

Submission of Good Faith Effort

If the bidder fails to meet or exceed the DBE goal, the apparent lowest responsive bidder shall submit to the Department documentation of adequate good faith efforts made to reach the DBE goal.

A hard copy and an electronic copy of this information shall be received in the office of the State Contractor Utilization Engineer or at DBE@ncdot.gov no later than 10:00 a.m. on the sixth calendar day following opening of bids unless the sixth day falls on an official state holiday. In that situation, it is due in the office of the State Contractor Utilization Engineer no later than 10:00 a.m.

on the next official state business day. If the contractor cannot send the information electronically, then one complete set and 5 copies of this information shall be received under the same time constraints above.

Note: Where the information submitted includes repetitious solicitation letters, it will be acceptable to submit a representative letter along with a distribution list of the firms that were solicited. Documentation of DBE quotations shall be a part of the good faith effort submittal. This documentation may include written subcontractor quotations, telephone log notations of verbal quotations, or other types of quotation documentation.

Consideration of Good Faith Effort for Projects with DBE Goals More Than Zero

Adequate good faith efforts mean that the bidder took all necessary and reasonable steps to achieve the goal which, by their scope, intensity, and appropriateness, could reasonably be expected to obtain sufficient DBE participation. Adequate good faith efforts also mean that the bidder actively and aggressively sought DBE participation. Mere *pro forma* efforts are not considered good faith efforts.

The Department will consider the quality, quantity, and intensity of the different kinds of efforts a bidder has made. Listed below are examples of the types of actions a bidder will take in making a good faith effort to meet the goal and are not intended to be exclusive or exhaustive, nor is it intended to be a mandatory checklist.

(A) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising, written notices, use of verifiable electronic means through the use of the NCDOT Directory of Transportation Firms) the interest of all certified DBEs who have the capability to perform the work of the contract. The bidder must solicit this interest within at least 10 days prior to bid opening to allow the DBEs to respond to the solicitation. Solicitation shall provide the opportunity to DBEs within the Division and surrounding Divisions where the project is located. The bidder must determine with certainty if the DBEs are interested by taking appropriate steps to follow up initial solicitations.

(B) Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved.

(1) Where appropriate, break out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.

(2) Negotiate with subcontractors to assume part of the responsibility to meet the contract DBE goal when the work to be sublet includes potential for DBE participation (2nd and 3rd tier subcontractors).

(C) Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

(D) (1) Negotiating in good faith with interested DBEs. It is the bidder's responsibility to

make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBEs to perform the work.

(2) A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidding contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.

(E) Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associates and political or social affiliations (for example, union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.

(F) Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or bidder.

(G) Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.

(H) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; Federal, State, and local minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs. Contact within 7 days from the bid opening the Business Opportunity and Work Force Development Unit at BOWD@ncdot.gov to give notification of the bidder's inability to get DBE quotes.

(I) Any other evidence that the bidder submits which shows that the bidder has made reasonable good faith efforts to meet the DBE goal.

In addition, the Department may take into account the following:

(1) Whether the bidder's documentation reflects a clear and realistic plan for achieving the DBE goal.

(2) The bidders' past performance in meeting the DBE goals.

(3) The performance of other bidders in meeting the DBE goal. For example, when the apparent successful bidder fails to meet the DBE goal, but others meet it, you may reasonably raise the question of whether, with additional reasonable efforts the apparent successful bidder could have met the goal. If the apparent successful bidder fails to meet the DBE goal, but meets or exceeds the average DBE participation obtained by other bidders, the Department may view this, in conjunction with other factors, as evidence of the apparent successful bidder having made a good faith effort.

If the Department does not award the contract to the apparent lowest responsive bidder, the Department reserves the right to award the contract to the next lowest responsive bidder that can satisfy to the Department that the DBE goal can be met or that an adequate good faith effort has been made to meet the DBE goal.

Non-Good Faith Appeal

The State Prequalification Engineer will notify the contractor verbally and in writing of non-good faith. A contractor may appeal a determination of non-good faith made by the Goal Compliance Committee. If a contractor wishes to appeal the determination made by the Committee, they shall provide written notification to the State Prequalification Engineer or at DBE@ncdot.gov. The appeal shall be made within 2 business days of notification of the determination of non-good faith.

Counting DBE Participation Toward Meeting DBE Goal

(A) Participation

The total dollar value of the participation by a committed DBE will be counted toward the contract goal requirement. The total dollar value of participation by a committed DBE will be based upon the value of work actually performed by the DBE and the actual payments to DBE firms by the Contractor.

(B) Joint Checks

Prior notification of joint check use shall be required when counting DBE participation for services or purchases that involves the use of a joint check. Notification shall be through submission of Form JC-1 *(Joint Check Notification Form)* and the use of joint checks shall be in accordance with the Department's Joint Check Procedures.

(C) Subcontracts (Non-Trucking)

A DBE may enter into subcontracts. Work that a DBE subcontracts to another DBE firm may be counted toward the contract goal requirement. Work that a DBE subcontracts to a non-DBE firm does <u>not</u> count toward the contract goal requirement. If a DBE contractor or subcontractor subcontracts a significantly greater portion of the work of the contract than would be expected on the basis of standard industry practices, it shall be presumed that the DBE is not performing a commercially useful function. The DBE may present evidence to rebut this presumption to the Department. The Department's decision on the rebuttal of this presumption is subject to review by the Federal Highway Administration but is not administratively appealable to USDOT.

(D) Joint Venture

When a DBE performs as a participant in a joint venture, the Contractor may count toward its contract goal requirement a portion of the total value of participation with the DBE in the joint venture, that portion of the total dollar value being a distinct clearly defined portion of work that the DBE performs with its forces.

(E) Suppliers

A contractor may count toward its DBE requirement 60 percent of its expenditures for materials and supplies required to complete the contract and obtained from a DBE regular dealer and 100 percent of such expenditures from a DBE manufacturer.

(F) Manufacturers and Regular Dealers

A contractor may count toward its DBE requirement the following expenditures to DBE firms that are not manufacturers or regular dealers:

(1) The fees or commissions charged by a DBE firm for providing a *bona fide* service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a DOT-assisted contract, provided the fees or commissions are determined to be reasonable and not excessive as compared with fees and commissions customarily allowed for similar services.

(2) With respect to materials or supplies purchased from a DBE, which is neither a manufacturer nor a regular dealer, count the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site (but not the cost of the materials and supplies themselves), provided the fees are determined to be reasonable and not excessive as compared with fees customarily allowed for similar services.

Commercially Useful Function

(A) DBE Utilization

The Contractor may count toward its contract goal requirement only expenditures to DBEs that perform a commercially useful function in the work of a contract. A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE shall also be responsible with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, the Department will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the

contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work, and any other relevant factors.

(B) DBE Utilization in Trucking

The following factors will be used to determine if a DBE trucking firm is performing a commercially useful function:

(1) The DBE shall be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there shall not be a contrived arrangement for the purpose of meeting DBE goals.

(2) The DBE shall itself own and operate at least one fully licensed, insured, and operational truck used on the contract.

(3) The DBE receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures, and operates using drivers it employs.

(4) The DBE may subcontract the work to another DBE firm, including an owner-operator who is certified as a DBE. The DBE who subcontracts work to another DBE receives credit for the total value of the transportation services the subcontracted DBE provides on the contract.

(5) The DBE may also subcontract the work to a non-DBE firm, including from an owner-operator. The DBE who subcontracts the work to a non-DBE is entitled to credit for the total value of transportation services provided by the non-DBE subcontractor not to exceed the value of transportation services provided by DBE-owned trucks on the contract. Additional participation by non-DBE subcontractors receives credit only for the fee or commission it receives as a result of the subcontract arrangement. The value of services performed under subcontract agreements between the DBE and the Contractor will not count towards the DBE contract requirement.

(6) A DBE may lease truck(s) from an established equipment leasing business open to the general public. The lease must indicate that the DBE has exclusive use of and control over the truck. This requirement does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. This type of lease may count toward the DBE's credit as long as the driver is under the DBE's payroll.

(7) Subcontracted/leased trucks shall display clearly on the dashboard the name of the DBE that they are subcontracted/leased to and their own company name if it is not identified on the truck itself. Magnetic door signs are not permitted.

DBE Replacement

When a Contractor has relied on a commitment to a DBE subcontractor (or an approved substitute DBE subcontractor) to meet all or part of a contract goal requirement, the contractor shall not

terminate the DBE subcontractor for convenience. This includes, but is not limited to, instances in which the Contractor seeks to perform the work of the terminated subcontractor with another DBE subcontractor, a non-DBE subcontractor, or with the Contractor's own forces or those of an affiliate.

The Contractor must give notice in writing both by certified mail and email to the DBE subcontractor, with a copy to the Engineer of its intent to request to terminate and/or substitute, and the reason for the request. The Contractor must give the DBE subcontractor five (5) business days to respond to the Contractor's Notice of Intent to Request Termination and/or Substitution. If the DBE subcontractor objects to the intended termination/substitution, the DBE, within five (5) business days must advise the Contractor and the Department of the reasons why the action should not be approved. The five-day notice period shall begin on the next business day after written notice is provided to the DBE subcontractor.

A committed DBE subcontractor may only be terminated after receiving the Department's written approval based upon a finding of good cause for the proposed termination and/or substitution. For purposes of this section, good cause shall include the following circumstances:

(a) The listed DBE subcontractor fails or refuses to execute a written contract;
(b) The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the prime contractor;
(c) The listed DBE subcontractor fails or refuses to meet the prime contractor's reasonable, nondiscriminatory bond requirements;
(d) The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
(e) The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant to 2 CFR Parts 180, 215 and 1,200 or applicable state law;
(f) The listed DBE subcontractor is not a responsible contractor;
(g) The listed DBE voluntarily withdraws from the project and provides written notice of withdrawal;
(h) The listed DBE is ineligible to receive DBE credit for the type of work required;
(i) A DBE owner dies or becomes disabled with the result that the listed DBE contractor is unable to complete its work on the contract;
(j) Other documented good cause that compels the termination of the DBE subcontractor. Provided, that good cause does not exist if the prime contractor seeks to terminate a DBE it relied upon to obtain the contract so that the prime contractor can self-perform the work for which the DBE contractor was engaged or so that the prime contractor can substitute another DBE or non-DBE contractor after contract award.

The Contractor shall comply with the following for replacement of a committed DBE:

(A) Performance Related Replacement

When a committed DBE is terminated for good cause as stated above, an additional DBE that was submitted at the time of bid may be used to fulfill the DBE commitment. A good faith effort will only be required for removing a committed DBE if there were no additional DBEs submitted at the time of bid to cover the same amount of work as the DBE that was terminated.

If a replacement DBE is not found that can perform at least the same amount of work as the terminated DBE, the Contractor shall submit a good faith effort documenting the steps taken. Such documentation shall include, but not be limited to, the following:

(1) Copies of written notification to DBEs that their interest is solicited in contracting the work defaulted by the previous DBE or in subcontracting other items of work in the contract.

(2) Efforts to negotiate with DBEs for specific subbids including, at a minimum:

(a) The names, addresses, and telephone numbers of DBEs who were contacted.
(b) A description of the information provided to DBEs regarding the plans and specifications for portions of the work to be performed.

(3) A list of reasons why DBE quotes were not accepted.

(4) Efforts made to assist the DBEs contacted, if needed, in obtaining bonding or insurance required by the Contractor.

(B) Decertification Replacement

(1) When a committed DBE is decertified by the Department after the SAF (*Subcontract Approval Form*) has been received by the Department, the Department will not require the Contractor to solicit replacement DBE participation equal to the remaining work to be performed by the decertified firm. The participation equal to the remaining work performed by the decertified firm will count toward the contract goal requirement.

(2) When a committed DBE is decertified prior to the Department receiving the SAF (*Subcontract Approval Form*) for the named DBE firm, the Contractor shall take all necessary and reasonable steps to replace the DBE subcontractor with another DBE subcontractor to perform at least the same amount of work to meet the DBE goal requirement. If a DBE firm is not found to do the same amount of work, a good faith effort must be submitted to NCDOT (see A herein for required documentation).

(3) Exception: If the DBE's ineligibility is caused solely by its having exceeded the size standard during the performance of the contract, the Department will not require the Contractor to solicit replacement DBE participation equal to the remaining work to be performed by the decertified firm. The participation equal to the remaining work performed by the decertified firm will count toward the contract goal requirement and overall goal.

All requests for replacement of a committed DBE firm shall be submitted to the Engineer for approval on Form RF-1 *(DBE Replacement Request).* If the Contractor fails to follow this procedure, the Contractor may be disqualified from further bidding for a period of up to 6 months.

Changes in the Work

When the Engineer makes changes that result in the reduction or elimination of work to be performed by a committed DBE, the Contractor will not be required to seek additional participation. When the Engineer makes changes that result in additional work to be performed by a DBE based upon the Contractor's commitment, the DBE shall participate in additional work to the same extent as the DBE participated in the original contract work.

When the Engineer makes changes that result in extra work, which has more than a minimal impact on the contract amount, the Contractor shall seek additional participation by DBEs unless otherwise approved by the Engineer.

When the Engineer makes changes that result in an alteration of plans or details of construction, and a portion or all of the work had been expected to be performed by a committed DBE, the Contractor shall seek participation by DBEs unless otherwise approved by the Engineer.

When the Contractor requests changes in the work that result in the reduction or elimination of work that the Contractor committed to be performed by a DBE, the Contractor shall seek additional participation by DBEs equal to the reduced DBE participation caused by the changes.

Reports and Documentation

A SAF (*Subcontract Approval Form*) shall be submitted for all work which is to be performed by a DBE subcontractor. The Department reserves the right to require copies of actual subcontract agreements involving DBE subcontractors.

When using transportation services to meet the contract commitment, the Contractor shall submit a proposed trucking plan in addition to the SAF. The plan shall be submitted prior to beginning construction on the project. The plan shall include the names of all trucking firms proposed for use, their certification type(s), the number of trucks owned by the firm, as well as the individual truck identification numbers, and the line item(s) being performed.

Within 30 calendar days of entering into an agreement with a DBE for materials, supplies or services, not otherwise documented by the SAF as specified above, the Contractor shall furnish the Engineer a copy of the agreement. The documentation shall also indicate the percentage (60% or 100%) of expenditures claimed for DBE credit.

Reporting Disadvantaged Business Enterprise Participation

The Contractor shall provide the Engineer with an accounting of payments made to all DBE firms, including material suppliers and contractors at all levels (prime, subcontractor, or second tier subcontractor). This accounting shall be furnished to the Engineer for any given month by the end of the following month. Failure to submit this information accordingly may result in the following action:

(A) Withholding of money due in the next partial pay estimate; or

(B) Removal of an approved contractor from the prequalified bidders' list or the removal of other entities from the approved subcontractors list.

While each contractor (prime, subcontractor, 2nd tier subcontractor) is responsible for accurate accounting of payments to DBEs, it shall be the prime contractor's responsibility to report all monthly and final payment information in the correct reporting manner.

Failure on the part of the Contractor to submit the required information in the time frame specified may result in the disqualification of that contractor and any affiliate companies from further bidding until the required information is submitted.

Failure on the part of any subcontractor to submit the required information in the time frame specified may result in the disqualification of that contractor and any affiliate companies from being approved for work on future DOT projects until the required information is submitted.

Contractors reporting transportation services provided by non-DBE lessees shall evaluate the value of services provided during the month of the reporting period only.

At any time, the Engineer can request written verification of subcontractor payments.

The Contractor shall report the accounting of payments through the Department's DBE Payment Tracking System.

Failure to Meet Contract Requirements

Failure to meet contract requirements in accordance with Subarticle 102-15(J) of the *2018 Standard Specifications* may be cause to disqualify the Contractor.

CERTIFICATION FOR FEDERAL-AID CONTRACTS:

(3-21-90) SP1 G85

The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

(A) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(B) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, *Disclosure Form to Report Lobbying*, in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by *Section 1352, Title 31, U.S. Code*. Any person who

fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such subrecipients shall certify and disclose accordingly.

RESTRICTIONS ON ITS EQUIPMENT AND SERVICES:

(11-17-20) SP01 G090

All telecommunications, video or other ITS equipment or services installed or utilized on this project must be in conformance with UNIFORM ADMINISTRATIVE REQUIREMENTS, COST PRINCIPLES, AND AUDIT REQUIREMENTS FOR FEDERAL AWARDS **2 CFR, § 200.216 Prohibition on certain telecommunications and video surveillance services or equipment.**

USE OF UNMANNED AIRCRAFT SYSTEM (UAS):

(8-20-19) SP1 G092

The Contractor shall adhere to all Federal, State and Local regulations and guidelines for the use of Unmanned Aircraft Systems (UAS). This includes but is not limited to US 14 CFR Part 107 *Small UAS Rule*, NC GS 15A-300.2 *Regulation of launch and recovery sites,* NC GS 63-95 *Training required for the operation of unmanned aircraft systems*, NC GS 63-96 *Permit required for commercial operation of unmanned aircraft system,* and NCDOT UAS Policy. The required operator certifications include possessing a current Federal Aviation Administration (FAA) Remote Pilot Certificate, a NC UAS Operator Permit as well as operating a UAS registered with the FAA.

Prior to beginning operations, the Contractor shall complete the NCDOT UAS – Flight Operation Approval Form and submit it to the Engineer for approval. All UAS operations shall be approved by the Engineer prior to beginning the operations.

All contractors or subcontractors operating UAS shall have UAS specific general liability insurance to cover all operations under this contract.

The use of UAS is at the Contractor's discretion. No measurement or payment will be made for the use of UAS. In the event that the Department directs the Contractor to utilize UAS, payment will be in accordance with Article 104-7 Extra Work.

EQUIPMENT IDLING GUIDELINES:

(1-19-21) 107 SP1 G096

Exercise reduced fuel consumption and reduced equipment emissions during the construction of all work associated with this contract. Employees engaged in the construction of this project should turn off vehicles when stopped for more than thirty (30) minutes and off-highway equipment should idle no longer than fifteen (15) consecutive minutes.

These guidelines for turning off vehicles and equipment when idling do not apply to:

1. Idling when queuing.
2. Idling to verify the vehicle is in safe operating condition.

3. Idling for testing, servicing, repairing or diagnostic purposes.
4. Idling necessary to accomplish work for which the vehicle was designed (such as operating a crane, mixing concrete, etc.).
5. Idling required to bring the machine system to operating temperature.
6. Emergency vehicles, utility company, construction, and maintenance vehicles where the engines must run to perform needed work.
7. Idling to ensure safe operation of the vehicle.
8. Idling when the propulsion engine is providing auxiliary power for other than heating or air conditioning. (such as hydraulic systems for pavers)
9. When specific traffic, safety, or emergency situations arise.
10. If the ambient temperature is less than 32 degrees Fahrenheit. Limited idling to provide for the safety of vehicle occupants (e.g. to run the heater).
11. If the ambient temperature is greater than 90 degrees Fahrenheit. Limited idling to provide for the safety of vehicle occupants of off-highway equipment (e.g. to run the air conditioning) no more than 30 minutes.
12. Diesel powered vehicles may idle for up to 30 minutes to minimize restart problems.

Any vehicle, truck, or equipment in which the primary source of fuel is natural gas or electricity is exempt from the idling limitations set forth in this special provision.

U.S. DEPARTMENT OF TRANSPORTATION HOTLINE:
(11-22-94) 108-5 SP1 G100

To report bid rigging activities call: **1-800-424-9071**

The U.S. Department of Transportation (DOT) operates the above toll-free hotline Monday through Friday, 8:00 a.m. to 5:00 p.m. eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the hotline to report such activities.

The hotline is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

SUBSURFACE INFORMATION:
(7-1-95) 450 SP1 G112 C

Subsurface information is available on the roadway and structure portions of this project.

MAINTENANCE OF THE PROJECT:
(11-20-07) (Rev. 1-17-12) 104-10 SP1 G125

Revise the *2018 Standard Specifications* as follows:

Page 1-39, Article 104-10 Maintenance of the Project, line 25, add the following after the first sentence of the first paragraph:

All guardrail/guiderail within the project limits shall be included in this maintenance.

Page 1-39, Article 104-10 Maintenance of the Project, line 30, add the following as the last sentence of the first paragraph:

The Contractor shall perform weekly inspections of guardrail and guiderail and shall report damages to the Engineer on the same day of the weekly inspection. *Where damaged guardrail or guiderail is repaired or replaced as a result of maintaining the project in* accordance with this article, such repair or replacement shall be performed within 7 consecutive calendar days of such inspection report.

Page 1-39, Article 104-10 Maintenance of the Project, lines 42-44, replace the last sentence of the last paragraph with the following:

The Contractor will not be directly compensated for any maintenance operations necessary, except for maintenance of guardrail/guiderail, as this work will be considered incidental to the work covered by the various contract items. The provisions of Article 104-7, Extra Work, and Article 104-8, Compensation and Record Keeping will apply to authorized maintenance of guardrail/guiderail. Performance of weekly inspections of guardrail/guiderail, and the damage reports required as described above, will be considered to be an incidental part of the work being paid for by the various contract items.

ELECTRONIC BIDDING:

(2-19-19) 101, 102, 103 SP1 G140

Revise the *2018 Standard Specifications* as follows:

Page 1-4, Article 101-3, DEFINITIONS, BID (OR PROPOSAL) *Electronic Bid,* line 1, replace "Bid Express®" with "the approved electronic bidding provider".

Page 1-15, Subarticle 102-8(B), Electronic Bids, lines 39-40, replace "to Bid Express®" with "via the approved electronic bidding provider".

Page 1-15, Subarticle 102-8(B)(1), Electronic Bids, line 41, delete "from Bid Express®"

Page 1-17, Subarticle 102-9(C)(2), Electronic Bids, line 21, replace "Bid Express® miscellaneous folder within the .ebs" with "electronic submittal".

Page 1-29, Subarticle 103-4(C)(2), Electronic Bids, line 32, replace ".ebs miscellaneous data file of Expedite" with "electronic submittal file"

AWARD LIMITS:

(4-19-22) 103 SP1 G141

Revise the *2018 Standard Specifications* as follows:

Page 1-29, Subarticle 103-4(C), Award Limits, line 4-8, delete and replace the first sentence in the first paragraph with the following:

A bidder who desires to bid on more than one project on which bids are to be opened in the same letting and who desires to avoid receiving an award of more projects than he is equipped to handle, may bid on any number of projects but may limit the total amount of work awarded to him on selected projects by completing the form Award Limits on Multiple Projects for each project subject to the award limit.

TWELVE MONTH GUARANTEE:

(7-15-03) 108 SP1 G145

(A) The Contractor shall guarantee materials and workmanship against latent and patent defects arising from faulty materials, faulty workmanship or negligence for a period of twelve months following the date of final acceptance of the work for maintenance and shall replace such defective materials and workmanship without cost to the Department. The Contractor will not be responsible for damage due to faulty design, normal wear and tear, for negligence on the part of the Department, and/or for use in excess of the design.

(B) Where items of equipment or material carry a manufacturer's guarantee for any period in excess of twelve months, then the manufacturer's guarantee shall apply for that particular piece of equipment or material. The Department's first remedy shall be through the manufacturer although the Contractor is responsible for invoking the warranted repair work with the manufacturer. The Contractor's responsibility shall be limited to the term of the manufacturer's guarantee. NCDOT would be afforded the same warranty as provided by the Manufacturer.

This guarantee provision shall be invoked only for major components of work in which the Contractor would be wholly responsible for under the terms of the contract. Examples would include pavement structures, bridge components, and sign structures. This provision will not be used as a mechanism to force the Contractor to return to the project to make repairs or perform additional work that the Department would normally compensate the Contractor for. In addition, routine maintenance activities (i.e. mowing grass, debris removal, ruts in earth shoulders,) are not parts of this guarantee.

Appropriate provisions of the payment and/or performance bonds shall cover this guarantee for the project.

To ensure uniform application statewide the Division Engineer will forward details regarding the circumstances surrounding any proposed guarantee repairs to the Chief Engineer for review and approval prior to the work being performed.

EROSION AND SEDIMENT CONTROL/STORMWATER CERTIFICATION:

(1-16-07) (Rev 12-15-20) 105-16, 225-2, 16 SP1 G180

General

Schedule and conduct construction activities in a manner that will minimize soil erosion and the resulting sedimentation and turbidity of surface waters. Comply with the requirements herein regardless of whether or not a National Pollution discharge Elimination System (NPDES) permit for the work is required.

Establish a chain of responsibility for operations and subcontractors' operations to ensure that the *Erosion and Sediment Control/Stormwater Pollution Prevention Plan* is implemented and maintained over the life of the contract.

(A) *Certified Supervisor* - Provide a certified Erosion and Sediment Control/Stormwater Supervisor to manage the Contractor and subcontractor operations, insure compliance with Federal, State and Local ordinances and regulations, and manage the Quality Control Program.

(B) *Certified Foreman* - Provide a certified, trained foreman for each construction operation that increases the potential for soil erosion or the possible sedimentation and turbidity of surface waters.

(C) *Certified Installer* - Provide a certified installer to install or direct the installation for erosion or sediment/stormwater control practices.

(D) *Certified Designer* - Provide a certified designer for the design of the erosion and sediment control/stormwater component of reclamation plans and, if applicable, for the design of the project erosion and sediment control/stormwater plan.

Roles and Responsibilities

(A) *Certified Erosion and Sediment Control/Stormwater Supervisor* - The Certified Supervisor shall be Level II and responsible for ensuring the erosion and sediment control/stormwater plan is adequately implemented and maintained on the project and for conducting the quality control program. The Certified Supervisor shall be on the project within 24 hours notice from initial exposure of an erodible surface to the project's final acceptance. Perform the following duties:

(1) Manage Operations - Coordinate and schedule the work of subcontractors so that erosion and sediment control/stormwater measures are fully executed for each operation and in a timely manner over the duration of the contract.

(a) Oversee the work of subcontractors so that appropriate erosion and sediment control/stormwater preventive measures are conformed to at each stage of the work.
(b) Prepare the required National Pollutant Discharge Elimination System (NPDES) Inspection Record and submit to the Engineer.
(c) Attend all weekly or monthly construction meetings to discuss the findings of the NPDES inspection and other related issues.

(d) Implement the erosion and sediment control/stormwater site plans requested.

(e) Provide any needed erosion and sediment control/stormwater practices for the Contractor's temporary work not shown on the plans, such as, but not limited to work platforms, temporary construction, pumping operations, plant and storage yards, and cofferdams.

(f) Acquire applicable permits and comply with requirements for borrow pits, dewatering, and any temporary work conducted by the Contractor in jurisdictional areas.

(g) Conduct all erosion and sediment control/stormwater work in a timely and workmanlike manner.

(h) Fully perform and install erosion and sediment control/stormwater work prior to any suspension of the work.

(i) Coordinate with Department, Federal, State and Local Regulatory agencies on resolution of erosion and sediment control/stormwater issues due to the Contractor's operations.

(j) Ensure that proper cleanup occurs from vehicle tracking on paved surfaces or any location where sediment leaves the Right-of-Way.

(k) Have available a set of erosion and sediment control/stormwater plans that are initialed and include the installation date of Best Management Practices. These practices shall include temporary and permanent groundcover and be properly updated to reflect necessary plan and field changes for use and review by Department personnel as well as regulatory agencies.

(2) Requirements set forth under the NPDES Permit - The Department's NPDES Stormwater permit (NCS000250) outlines certain objectives and management measures pertaining to construction activities. The permit references *NCG010000, General Permit to Discharge Stormwater* under the NPDES, and states that the Department shall incorporate the applicable requirements into its delegated Erosion and Sediment Control Program for construction activities disturbing one or more acres of land. The Department further incorporates these requirements on all contracted bridge and culvert work at jurisdictional waters, regardless of size. Some of the requirements are, but are not limited to:

(a) Control project site waste to prevent contamination of surface or ground waters of the state, i.e. from equipment operation/maintenance, construction materials, concrete washout, chemicals, litter, fuels, lubricants, coolants, hydraulic fluids, any other petroleum products, and sanitary waste.

(b) Inspect erosion and sediment control/stormwater devices and stormwater discharge outfalls at least once every 7 calendar days and within 24 hours after a rainfall event equal to or greater than 1.0 inch that occurs within a 24 hour period. Additional monitoring may be required at the discretion of Division of Water Resources personnel if the receiving stream is 303(d) listed for turbidity and the project has had documented problems managing turbidity.

(c) Maintain an onsite rain gauge or use the Department's Multi-Sensor Precipitation Estimate website to maintain a daily record of rainfall amounts and dates.

(d) Maintain erosion and sediment control/stormwater inspection records for review by Department and Regulatory personnel upon request.
(e) Implement approved reclamation plans on all borrow pits, waste sites and staging areas.
(f) Maintain a log of turbidity test results as outlined in the Department's Procedure for Monitoring Borrow Pit Discharge.
(g) Provide secondary containment for bulk storage of liquid materials.
(h) Provide training for employees concerning general erosion and sediment control/stormwater awareness, the Department's NPDES Stormwater Permit NCS000250 requirements, and the applicable requirements of the *General Permit, NCG010000*.
(i) Report violations of the NPDES permit to the Engineer immediately who will notify the Division of Water Quality Regional Office within 24 hours of becoming aware of the violation.

(3) Quality Control Program - Maintain a quality control program to control erosion, prevent sedimentation and follow provisions/conditions of permits. The quality control program shall:

(a) Follow permit requirements related to the Contractor and subcontractors' construction activities.
(b) Ensure that all operators and subcontractors on site have the proper erosion and sediment control/stormwater certification.
(c) Notify the Engineer when the required certified erosion and sediment control/stormwater personnel are not available on the job site when needed.
(d) Conduct the inspections required by the NPDES permit.
(e) Take corrective actions in the proper timeframe as required by the NPDES permit for problem areas identified during the NPDES inspections.
(f) Incorporate erosion control into the work in a timely manner and stabilize disturbed areas with mulch/seed or vegetative cover on a section-by-section basis.
(g) Use flocculants approved by state regulatory authorities where appropriate and where required for turbidity and sedimentation reduction.
(h) Ensure proper installation and maintenance of temporary erosion and sediment control devices.
(i) Remove temporary erosion or sediment control devices when they are no longer necessary as agreed upon by the Engineer.
(j) The Contractor's quality control and inspection procedures shall be subject to review by the Engineer. Maintain NPDES inspection records and make records available at all times for verification by the Engineer.

(B) *Certified Foreman* - At least one Certified Foreman shall be onsite for each type of work listed herein during the respective construction activities to control erosion, prevent sedimentation and follow permit provisions:

(1) Foreman in charge of grading activities
(2) Foreman in charge of bridge or culvert construction over jurisdictional areas
(3) Foreman in charge of utility activities

The Contractor may request to use the same person as the Level II Supervisor and Level II Foreman. This person shall be onsite whenever construction activities as described above are taking place. This request shall be approved by the Engineer prior to work beginning.

The Contractor may request to name a single Level II Foreman to oversee multiple construction activities on small bridge or culvert replacement projects. This request shall be approved by the Engineer prior to work beginning.

(C) *Certified Installers* - Provide at least one onsite, Level I Certified Installer for each of the following erosion and sediment control/stormwater crew:

(1) Seeding and Mulching
(2) Temporary Seeding
(3) Temporary Mulching
(4) Sodding
(5) Silt fence or other perimeter erosion/sediment control device installations
(6) Erosion control blanket installation
(7) Hydraulic tackifier installation
(8) Turbidity curtain installation
(9) Rock ditch check/sediment dam installation
(10) Ditch liner/matting installation
(11) Inlet protection
(12) Riprap placement
(13) Stormwater BMP installations (such as but not limited to level spreaders, retention/detention devices)
(14) Pipe installations within jurisdictional areas

If a Level I *Certified Installer* is not onsite, the Contractor may substitute a Level II Foreman for a Level I Installer, provided the Level II Foreman is not tasked to another crew requiring Level II Foreman oversight.

(D) *Certified Designer* - Include the certification number of the Level III Certified Designer on the erosion and sediment control/stormwater component of all reclamation plans and if applicable, the certification number of the Level III Certified Designer on the design of the project erosion and sediment control/stormwater plan.

Preconstruction Meeting

Furnish the names of the *Certified Erosion and Sediment Control/Stormwater Supervisor, Certified Foremen, Certified Installers* and *Certified Designer* and notify the Engineer of changes in certified personnel over the life of the contract within 2 days of change.

Ethical Responsibility

Any company performing work for the North Carolina Department of Transportation has the ethical responsibility to fully disclose any reprimand or dismissal of an employee resulting from improper testing or falsification of records.

Revocation or Suspension of Certification

Upon recommendation of the Chief Engineer to the certification entity, certification for *Supervisor*, *Certified Foremen*, *Certified Installers* and *Certified Designer* may be revoked or suspended with the issuance of an *Immediate Corrective Action (ICA), Notice of Violation (NOV),* or C*ease and Desist Order* for erosion and sediment control/stormwater related issues.

The Chief Engineer may recommend suspension or permanent revocation of certification due to the following:

(A) Failure to adequately perform the duties as defined within this certification provision.
(B) Issuance of an ICA, NOV, or Cease and Desist Order.
(C) Failure to fully perform environmental commitments as detailed within the permit conditions and specifications.
(D) Demonstration of erroneous documentation or reporting techniques.
(E) Cheating or copying another candidate's work on an examination.
(F) Intentional falsification of records.
(G) Directing a subordinate under direct or indirect supervision to perform any of the above actions.
(H) Dismissal from a company for any of the above reasons.
(I) Suspension or revocation of one's certification by another entity.

Suspension or revocation of a certification will be sent by certified mail to the certificant and the Corporate Head of the company that employs the certificant.

A certificant has the right to appeal any adverse action which results in suspension or permanent revocation of certification by responding, in writing, to the Chief Engineer within 10 calendar days after receiving notice of the proposed adverse action.

Chief Engineer
1536 Mail Service Center
Raleigh, NC 27699-1536

Failure to appeal within 10 calendar days will result in the proposed adverse action becoming effective on the date specified on the certified notice. Failure to appeal within the time specified will result in a waiver of all future appeal rights regarding the adverse action taken. The certificant will not be allowed to perform duties associated with the certification during the appeal process.

The Chief Engineer will hear the appeal and make a decision within 7 days of hearing the appeal. Decision of the Chief Engineer will be final and will be made in writing to the certificant.

If a certification is temporarily suspended, the certificant shall pass any applicable written examination and any proficiency examination, at the conclusion of the specified suspension period, prior to having the certification reinstated.

Measurement and Payment

Certified Erosion and Sediment Control/Stormwater Supervisor, Certified Foremen, Certified Installers and *Certified Designer* will be incidental to the project for which no direct compensation will be made.

PROCEDURE FOR MONITORING BORROW PIT DISCHARGE:

(2-20-07) (Rev. 4-5-19) 105-16, 230, 801 SP1 G181

Water discharge from borrow pit sites shall not cause surface waters to exceed 50 NTUs (nephelometric turbidity unit) in streams not designated as trout waters and 10 NTUs in streams, lakes or reservoirs designated as trout waters. For lakes and reservoirs not designated as trout waters, the turbidity shall not exceed 25 NTUs. If the turbidity exceeds these levels due to natural background conditions, the existing turbidity level shall not be increased.

If during any operating day, the downstream water quality exceeds the standard, the Contractor shall do all of the following:

(A) Either cease discharge or modify the discharge volume or turbidity levels to bring the downstream turbidity levels into compliance, or

(B) Evaluate the upstream conditions to determine if the exceedance of the standard is due to natural background conditions. If the background turbidity measurements exceed the standard, operation of the pit and discharge can continue as long as the stream turbidity levels are not increased due to the discharge.

(C) Measure and record the turbidity test results (time, date and sampler) at all defined sampling locations 30 minutes after startup and at a minimum, one additional sampling of all sampling locations during that 24-hour period in which the borrow pit is discharging.

(D) Notify DWQ within 24 hours of any stream turbidity standard exceedances that are not brought into compliance.

During the Environmental Assessment required by Article 230-4 of the *2018 Standard Specifications*, the Contractor shall define the point at which the discharge enters into the State's surface waters and the appropriate sampling locations. Sampling locations shall include points upstream and downstream from the point at which the discharge enters these waters. Upstream sampling location shall be located so that it is not influenced by backwater conditions and represents natural background conditions. Downstream sampling location shall be located at the point where complete mixing of the discharge and receiving water has occurred.

The discharge shall be closely monitored when water from the dewatering activities is introduced into jurisdictional wetlands. Any time visible sedimentation (deposition of sediment) on the wetland surface is observed, the dewatering activity will be suspended until turbidity levels in the stilling basin can be reduced to a level where sediment deposition does not occur. Staining of wetland surfaces from suspended clay particles, occurring after evaporation or infiltration, does not constitute sedimentation. No activities shall occur in wetlands that adversely affect the functioning of a wetland. Visible sedimentation will be considered an indication of possible adverse impacts on wetland use.

The Engineer will perform independent turbidity tests on a random basis. These results will be maintained in a log within the project records. Records will include, at a minimum, turbidity test results, time, date and name of sampler. Should the Department's test results exceed those of the Contractor's test results, an immediate test shall be performed jointly with the results superseding the previous test results of both the Department and the Contractor.

The Contractor shall use the *NCDOT Turbidity Reduction Options for Borrow Pits Matrix,* available at https://connect.ncdot.gov/resources/roadside/FieldOperationsDocuments/TurbidityReductionOptionSheet.pdf to plan, design, construct, and maintain BMPs to address water quality standards. Tier I Methods include stilling basins which are standard compensatory BMPs. Other Tier I methods are noncompensatory and shall be used when needed to meet the stream turbidity standards. Tier II Methods are also noncompensatory and are options that may be needed for protection of rare or unique resources or where special environmental conditions exist at the site which have led to additional requirements being placed in the DWQ's 401 Certifications and approval letters, Isolated Wetland Permits, Riparian Buffer Authorization or a DOT Reclamation Plan's Environmental Assessment for the specific site. Should the Contractor exhaust all Tier I Methods on a site exclusive of rare or unique resources or special environmental conditions, Tier II Methods may be required by regulators on a case by case basis per supplemental agreement.

The Contractor may use cation exchange capacity (CEC) values from proposed site borings to plan and develop the bid for the project. CEC values exceeding 15 milliequivalents per 100 grams of soil may indicate a high potential for turbidity and should be avoided when dewatering into surface water is proposed.

No additional compensation for monitoring borrow pit discharge will be paid.

PROJECT SPECIAL PROVISIONS

ROADWAY

CLEARING AND GRUBBING - METHOD III:

(4-6-06) (Rev.8-18-15) 200 SP2 R02B

Perform clearing on this project to the limits established by Method "III" shown on Standard Drawing No. 200.03 of the *2018 Roadway Standard Drawings*. Conventional clearing methods may be used except where permit drawings or conditions have been included in the proposal which require certain areas to be cleared by hand methods.

TEMPORARY DETOURS:

(7-1-95) (Rev. 11-19-13) 1101 SP2 R30B

Construct temporary detours required on this project in accordance with the typical sections in the plans or as directed.

After the detours have served their purpose, remove the portions deemed unsuitable for use as a permanent part of the project as directed by the Engineer. Salvage and stockpile the aggregate base course removed from the detours at locations within the right of way, as directed by the Engineer, for removal by State Forces. Place pavement and earth material removed from the detour in embankments or dispose of in waste areas furnished by the Contractor.

Aggregate base course and earth material that is removed will be measured and will be paid at the contract unit price per cubic yard for *Unclassified Excavation*. Pavement that is removed will be measured and will be paid at the contract unit price per square yard for *Removal of Existing* _____ *Pavement*. Pipe culverts removed from the detours remain the property of the Contractor. Pipe culverts that are removed will be measured and will be paid at the contract unit price per linear foot for *Pipe Removal*. Payment for the construction of the detours will be made at the contract unit prices for the various items involved.

Such prices and payments will be full compensation for constructing the detours and for the work of removing, salvaging, and stockpiling aggregate base course; removing pipe culverts; and for placing earth material and pavement in embankments or disposing of earth material and pavement in waste areas.

SHOULDER AND FILL SLOPE MATERIAL:

(5-21-02) 235, 560 SP2 R45 B

Description

Perform the required shoulder and slope construction for this project in accordance with the applicable requirements of Section 560 and Section 235 of the *2018 Standard Specifications*.

Measurement and Payment

When the Contractor elects to obtain material from an area located beneath a proposed fill sections which does not require excavation for any reason other than to generate acceptable shoulder and fill slope material, the work of performing the excavation will be considered incidental to the item of *Borrow Excavation* or *Shoulder Borrow*. If there is no pay item for *Borrow* or *Shoulder Borrow*

in the contract, this work will be considered incidental to *Unclassified Excavation*. Stockpile the excavated material in a manner to facilitate measurement by the Engineer. Fill the void created by the excavation of the shoulder and fill slope material with suitable material. Payment for material used from the stockpile will be made at the contract unit price for *Borrow Excavation* or *Shoulder Borrow*. If there is no pay item for *Borrow Excavation* or *Shoulder Borrow*, then the material will be paid for at the contract unit price for *Unclassified Excavation*. The material used to fill the void created by the excavation of the shoulder and fill slope material will be made at the contract unit price for *Unclassified Excavation*, *Borrow Excavation*, or *Shoulder Borrow*, depending on the source of the material.

Material generated from undercut excavation, unclassified excavation or clearing and grubbing operations that is placed directly on shoulders or slope areas, will not be measured separately for payment, as payment for the work requiring the excavation will be considered adequate compensation for depositing and grading the material on the shoulders or slopes.

When undercut excavation is performed at the direction of the Engineer and the material excavated is found to be suitable for use as shoulder and fill slope material, and there is no area on the project currently prepared to receive the material generated by the undercut operation, the Contractor may construct a stockpile for use as borrow at a later date. Payment for the material used from the stockpile will be made at the contract unit price for *Borrow Excavation* or *Shoulder Borrow*.

When shoulder material is obtained from borrow sources or from stockpiled material, payment for the work of shoulder construction will be made at the contract unit price per cubic yard for *Borrow Excavation* or *Shoulder Borrow* in accordance with the applicable provisions of Section 230 or Section 560 of the *2018 Standard Specifications*.

COAL COMBUSTION PRODUCTS IN EMBANKMENTS:

(4-16-02) (Rev. 12-15-20) 235 SP02 R70

Description

This specification allows the Contractor an option, with the approval of the Engineer, to use coal combustion products (CCPs) in embankments as a substitute for conventional borrow material. The amount of CCPs allowed to be used for this project will be less than 80,000 tons total and less than 8,000 tons per acre.

Materials

Supply coal combustion products from the Department list of potential suppliers maintained by the Materials and Tests Unit. Site specific approval of CCP material will be required prior to beginning construction.

The following CCPs are unacceptable:

(A) Frozen material,

(B) Ash from boilers fired with both coal and petroleum coke, and

(C) Material with a maximum dry unit weight of less than 65 pounds per cubic foot when tested in accordance with AASHTO T-99 Method A or C.

Collect and transport CCPs in a manner that will prevent nuisances and hazards to public health and safety. Moisture condition the CCPs as needed and transport in covered trucks to prevent dusting.

Preconstruction Requirements

When CCPs are to be used as a substitute for earth borrow material, request written approval from the Engineer at least ninety (90) days in advance of the intent to use CCPs and include the following details using the NCDOT Form CCP-2015 in accordance with NCGS § 130A-309.219(b)(1):

(A) Description, purpose and location of project.
(B) Estimated start and completion dates of project.
(C) Estimated volume of CCPs to be used on project with specific locations and construction details of the placement.
(D) Toxicity Characteristic Leaching Procedure analysis from a representative sample of each different CCP source to be used in the project for, at minimum, all of the following constituents: arsenic, barium, cadmium, lead, chromium, mercury, selenium, and silver.
(E) The names, address, and contact information for the generator of the CCPs.
(F) Physical location of the project at which the CCPs were generated.

Submit the form to the Engineer and the Resource Conservation Program (RCP) Engineer at ResourceConservation@ncdot.gov for review. The Engineer and the RCP Engineer will coordinate the requirements of NCGS § 130A-309.219(a)(1) and notify the Contractor that all the necessary requirements have been met before the placement of structural fill using coal combustion products is allowed.

Construction Methods

In accordance with the detail in the plans, place CCPs in the core of the embankment section with at least 4 feet of earth cover to the outside limits of the embankments or subgrade and at least 5 feet above the seasonal high ground-water table. CCPs used in embankments shall not be placed as follows:

(A) Within 50 feet of any property boundary.
(B) Within 300 horizontal feet of a private dwelling or well.
(C) Within 50 horizontal feet of the top of the bank of a perennial stream or other surface water body.
(D) Within a 100-year floodplain except as authorized under NCGS § 143-215.54A(b). A site located in a floodplain shall not restrict the flow of the 100-year floodplain or result in washout of solid waste so as to pose a hazard to human life, wildlife or land and water resources.
(E) Within 50 horizontal feet of a wetland, unless, after consideration of the chemical and physical impact on the wetland, the United States Army Corps of Engineers issues a permit or waiver for the fill.

Construct embankments by placing CCPs in level uniform lifts with no more than a lift of 10 inches and compacted to at least a density of 95 percent as determined by test methods in AASHTO T-99, Determination of Maximum Dry Density and Optimum Moisture Content, Method A or C

depending upon particle size of the product. Provide a moisture content at the time of compaction of within 4 percent of optimum but not greater than one percent above optimum as determined by AASHTO T-99, Method A or C.

Divert surface waters resulting from precipitation from the CCPs placement area during filling and construction activities. Construct embankments such that rainfall will not run directly off of the CCPs. Provide dust control to minimize airborne emissions. Construct fill in a manner that prevents water from accumulating and ponding and do not pump nor discharge waters from CCP's filling and construction areas.

Measurement and Payment

Borrow Excavation will be measured by truck volume and paid in cubic yards in accordance with Article 230-5 of the *2018 Standard Specifications*.

MANUFACTURED QUARRY FINES IN EMBANKMENTS:

(01-17-17) 235 SP02 R72

Description

This specification addresses the use of manufactured quarry fines that are not classified as select materials. The specification allows the Contractor an option, with the approval of the Engineer, to use manufactured quarry fines (MQFs) in embankments as a substitute for conventional borrow material. Furnish and place geotextile for pavement stabilization in accordance with the Geotextile for Pavement Stabilization special provision and detail. Geotextile for pavement stabilization is required to prevent pavement cracking and provide separation between the subgrade and pavement section at embankment locations where manufactured quarry fines are utilized and as directed by the Engineer.

Materials

Manufactured Quarry Fines.

Site specific approval of MQFs material will be required prior to beginning construction as detailed in the preconstruction requirements of this provision.

The following MQFs are unacceptable:

(A) Frozen material,

(B) Material with a maximum dry unit weight of less than 90 pounds per cubic foot when tested in accordance with AASHTO T-99 Method A or C.

(C) Material with greater than 80% by weight Passing the #200 sieve

Collect and transport MQFs in a manner that will prevent nuisances and hazards to public health and safety. Moisture condition the MQFs as needed and transport in covered trucks to prevent dusting. If MQFs are blended with natural earth material, follow Borrow Criteria in Section 1018 of the *Standard Specifications.*

Geotextiles

Areas of embankment where MQFs are incorporated, Geotextile for Pavement Stabilization shall be used. If the Geotextile for Pavement Stabilization special provision is not included elsewhere in this contract, then it along with a detail will be incorporated as part of the contractors request to use. Notification of subgrade elevation, sampling and waiting period as required in the Construction Methods section of the Geotextile for Pavement Stabilization special provision are not required.

Preconstruction Requirements

When MQFs are to be used as a substitute for earth borrow material, request written approval from the Engineer at least ninety (90) days in advance of the intent to use MQFs and include the following details:

(A) Description, purpose and location of project.
(B) Estimated start and completion dates of project.
(C) Estimated volume of MQFs to be used on project with specific locations and construction details of the placement.
(D) The names, address, and contact information for the generator of the MQFs.
(E) Physical location of the site at which the MQFs were generated.

The Engineer will forward this information to the State Materials Engineer for review and material approval.

Construction Methods

Place MQFs in the core of the embankment section with at least 4 feet of earth cover to the outside limits of the embankments or subgrade.

Construct embankments by placing MQFs in level uniform lifts with no more than a lift of 10 inches and compacted to at least a density of 95 percent as determined by test methods in AASHTO T-99, Determination of Maximum Dry Density and Optimum Moisture Content, Method A or C depending upon particle size of the product. Provide a moisture content at the time of compaction of within 4 percent of optimum but not greater than one percent above optimum as determined by AASHTO T-99, Method A or C.

Areas of embankment where MQFs are incorporated, Geotextile for Pavement Stabilization shall be used. See Geotextile for Pavement Stabilization special provision for geotextile type and construction method.

Measurement and Payment

Borrow Excavation will be measured by truck volume and paid in cubic yards in accordance with Article 230-5 of the *2018 Standard Specifications*. As an alternate weigh tickets can be provided and payment made by converting weight to cubic yards based on the verifiable unit weight.

Where the pay item of *Geotextile for Pavement Stabilization* is included in the original contract the material will be measured and paid in square yards (see Geotextile for Pavement Stabilization special provision). Where the pay item of *Geotextile for Pavement Stabilization* is not included in the original contract then no payment will be made for this item and will be considered incidental to the use of MQFs in embankment.

FLOWABLE FILL:

(9-17-02) (Rev 1-17-12) 300, 340, 1000, 1530, 1540, 1550 SP3 R30

Description

This work consists of all work necessary to place flowable fill in accordance with these provisions, the plans, and as directed.

Materials

Refer to Division 10 of the *2018 Standard Specifications*.

Item	Section
Flowable Fill	1000-6

Construction Methods

Discharge flowable fill material directly from the truck into the space to be filled, or by other approved methods. The mix may be placed full depth or in lifts as site conditions dictate. The Contractor shall provide a method to plug the ends of the existing pipe in order to contain the flowable fill.

Measurement and Payment

At locations where flowable fill is called for on the plans and a pay item for flowable fill is included in the contract, *Flowable Fill* will be measured in cubic yards and paid as the actual number of cubic yards that have been satisfactorily placed and accepted. Such price and payment will be full compensation for all work covered by this provision including, but not limited to, the mix design, furnishing, hauling, placing and containing the flowable fill.

Payment will be made under:

Pay Item	Pay Unit
Flowable Fill	Cubic Yard

CORRUGATED ALUMINUM ALLOY CULVERT PIPE:

(9-21-21) 305, 310 SP3 R34

Revise the *Standard Specifications* as follows:

Page 3-5, Article 305-2, MATERIALS, add the following after line 16:

Item	Section
Waterborne Paint	1080-9
Hot Bitumen	1081-3

Page 3-5, Article 305-3, CONSTRUCTION METHODS, add the following after line 24:

Coating must be applied to the aluminum when in contact with concrete. Immediately prior to coating, aluminum surfaces to be coated shall be cleaned by a method that will remove all dirt, oil, grease, chips, and other foreign substances. Aluminum to be coated shall be given one coat of suitable quality coating such as:

Approved waterborne paint (Section 1080-9)
Approved Hot Bitumen (Section 1081-3)

Other coating materials may be submitted to the Engineer for approval.

Page 3-7, Article 310-6, MEASUREMENT AND PAYMENT, lines 6-11, delete the fourth sentence and replace with the following:

Select bedding and backfill material and coating will be included in the cost of the installed pipe. Such price and payment will be full compensation for all materials, labor, equipment, and other incidentals necessary to complete the work.

CULVERT PIPE:

(8-20-19)(Rev. 5-17-22) 305,310 SP3 R35

Revise the *2018 Standard Specifications* as follows:

Page 3-5, Article 305-1 DESCRIPTION, lines 12-14, replace with the following:

Where shown in the plans, the Contractor may use reinforced concrete pipe, aluminum alloy pipe, aluminized corrugated steel pipe, galvanized corrugated steel pipe, HDPE pipe, Polypropylene pipe or PVC pipe in accordance with the following requirements.

Page 3-5, Article 305-2 MATERIALS, add the following after line 16:

Item	**Section**
Polypropylene Pipe	1032-9
Galvanized Corrugated Steel Pipe	1032-3

Page 3-6, Article 310-2 MATERIALS, add the following after line 9:

Item	**Section**
Polypropylene Pipe	1032-9
Galvanized Corrugated Steel Pipe	1032-3

Page 3-6, Article 310-4 SIDE DRAIN PIPE, lines 24-25, replace the first sentence of the second paragraph with the following:

Where shown in the plans, side drain pipe may be Class II reinforced concrete pipe, aluminized corrugated steel pipe, galvanized corrugated steel pipe, corrugated aluminum alloy pipe, Polypropylene pipe, HDPE pipe or PVC pipe.

Page 3-7, Article 310-5 PIPE END SECTIONS, lines 2-4, replace the second sentence with the following:

Both corrugated steel and concrete pipe end sections will work on concrete pipe, corrugated steel pipe, Polypropylene pipe and HDPE smooth lined corrugated plastic pipe.

Page 3-7, Article 310-6 MEASUREMENT AND PAYMENT, add the following after line 14:

Pay Item	**Pay Unit**
__″ Polypropylene Pipe	Linear Foot

Page 10-60, add Article 1032-9:

(A) General

Use polypropylene pipe from sources participating in the Department's Polypropylene Pipe QA/QC Program. A list of participating sources is available from the Materials and Tests Unit. The Department will remove a manufacturer of polypropylene pipe from this program if the monitoring efforts indicated that non-specification material is being provided or test procedures are not being followed.

Use polypropylene culvert pipe that meets AASHTO M 330 for Type S or Type D, or ASTM F2881 or ASTM F2764 Double or Triple wall; and has been evaluated by NTPEP.

(B) End Treatments, Pipe Tees and Elbows

End treatments, pipe tees and elbows shall meet AASHTO M 330, Section 7.7, or ASTM F2764, Section 6.6.

(C) Marking

Clearly mark each section of pipe, end section, tee and elbow and other accessories according to the Department's Polypropylene Pipe QC/QA Program:

(1) AASHTO or ASTM Designation
(2) The date of manufacture
(3) Name or trademark of the manufacturer

When polypropylene pipe, end sections, tees and elbows have been inspected and accepted a sticker will be applied to the inside of the pipe. Do no use pipe sections, flared end sections, tees or elbows which do not have this seal of approval.

BRIDGE APPROACH FILLS:

(10-19-10) (Rev. 1-16-18) 422 SP4 R02A

Description

Bridge approach fills consist of backfilling behind bridge end bents with select material or aggregate to support all or portions of bridge approach slabs. Install drains to drain water from bridge approach fills and geotextiles to separate approach fills from embankment fills, ABC and natural ground as required. For bridge approach fills behind end bents with mechanically stabilized earth (MSE) abutment walls, reinforce bridge approach fills with MSE wall reinforcement connected to end bent caps. Construct bridge approach fills in accordance with the contract, accepted submittals and 2018 Roadway Standard Drawing Nos. 422.01 or 422.02 or Roadway Detail Drawing No. 422D10.

Define bridge approach fill types as follows:

Approach Fills – Bridge approach fills in accordance with 2018 Roadway Standard Drawing Nos. 422.01 or 422.02 or Roadway Detail Drawing No. 422D10;

Standard Approach Fill – Type I Standard Bridge Approach Fill in accordance with 2018 Roadway Standard Drawing No. 422.01;

Modified Approach Fill – Type II Modified Bridge Approach Fill in accordance with 2018 Roadway Standard Drawing No. 422.02 and

Reinforced Approach Fill – Type III Reinforced Bridge Approach Fill in accordance with Roadway Detail Drawing No. 422D10.

Materials

Refer to Division 10 of the *2018 Standard Specifications*.

Item	Section
Geotextiles, Type 1	1056
Portland Cement Concrete	1000
Select Materials	1016
Subsurface Drainage Materials	1044

Provide Type 1 geotextile for separation geotextiles and Class B concrete for outlet pads. Use Class V or Class VI select material for standard and modified approach fills. For an approach fill behind a bridge end bent with an MSE abutment wall, backfill the reinforced approach fill with the same aggregate type approved for the reinforced zone in the accepted MSE wall submittal. For MSE wall aggregate, reinforcement and connector materials, see the *Mechanically Stabilized Earth Retaining Walls* provision. Provide PVC pipes, fittings and outlet pipes for subsurface drainage materials. For PVC drain pipes, use pipes with perforations that meet AASHTO M 278.

Construction Methods

Excavate as necessary for approach fills in accordance with the contract. Notify the Engineer when foundation excavation is complete. Do not place separation geotextiles or aggregate until approach fill dimensions and foundation material are approved.

For reinforced approach fills, cast MSE wall reinforcement or connectors into end bent cap backwalls within 3" of locations shown in the accepted MSE wall submittals. Install MSE wall reinforcement with the orientation, dimensions and number of layers shown in the accepted MSE wall submittals. If a reinforced approach fill is designed with geogrid reinforcement embedded in an end bent cap, cut geogrids to the required lengths and after securing ends of geogrids in place, reroll and rewrap portions of geogrids not embedded in the cap to protect geogrids from damage. Before placing aggregate, pull geosynthetic reinforcement taut so that it is in tension and free of kinks, folds, wrinkles or creases.

Attach separation geotextiles to end bent cap backwalls and wing walls with adhesives, tapes or other approved methods. Overlap adjacent separation geotextiles at least 18" with seams oriented parallel to the roadway centerline. Hold geotextiles in place with wire staples or anchor pins as needed. Contact the Engineer when existing or future obstructions such as foundations, pavements, pipes, inlets or utilities will interfere with separation geotextiles or MSE wall reinforcement.

Install continuous perforated PVC drain pipes with perforations pointing down in accordance with 2018 Roadway Standard Drawing Nos. 422.01 or 422.02. Connect drain pipes to outlet pipes just beyond wing walls. Connect PVC pipes, fittings and outlet pipes with solvent cement in

accordance with Article 815-3 of the *2018 Standard Specifications* and place outlet pads in accordance with 2018 Roadway Standard Drawing No. 815.03.

Install drain pipes so water drains towards outlets. If the groundwater elevation is above drain pipe elevations, raise drains up to maintain positive drainage towards outlets. Place pipe sleeves in or under wing walls so water drains towards outlets. Use sleeves that can withstand wing wall loads.

Place select material or aggregate in 8" to 10" thick lifts. Compact fine aggregate for reinforced approach fills in accordance with Subarticle 235-3(C) of the *2018 Standard Specifications* except compact fine aggregate to a density of at least 98%. Compact select material for standard or modified approach fills and coarse aggregate for reinforced approach fills with a vibratory compactor to the satisfaction of the Engineer. Do not displace or damage geosynthetics, MSE wall reinforcement or drains when placing and compacting select material or aggregate. End dumping directly on geosynthetics is not permitted. Do not operate heavy equipment on geosynthetics or drain pipes until they are covered with at least 8" of select material or aggregate. Replace any damaged geosynthetics or drains to the satisfaction of the Engineer. When approach fills extend beyond bridge approach slabs, wrap separation geotextiles over select material or aggregate as shown in 2018 Roadway Standard Drawing No. 422.01 or 2018 Roadway Detail Drawing No. 422D10.

Measurement and Payment

Type I Standard Approach Fill, Station ____, *Type II Modified Approach Fill, Station ____* and *Type III Reinforced Approach Fill, Station ____* will be paid at the contract lump sum price. The lump sum price for each approach fill will be full compensation for providing labor, tools, equipment and approach fill materials, excavating, backfilling, hauling and removing excavated materials, installing geotextiles and drains, compacting backfill and supplying select material, aggregate, separation geotextiles, drain pipes, pipe sleeves, outlet pipes and pads and any incidentals necessary to construct approach fills behind bridge end bents.

The contract lump sum price for *Type III Reinforced Approach Fill, Station ____* will also be full compensation for supplying and connecting MSE wall reinforcement to end bent caps but not designing MSE wall reinforcement and connectors. The cost of designing reinforcement and connectors for reinforced approach fills behind bridge end bents with MSE abutment walls will be incidental to the contract unit price for *MSE Retaining Wall No. __*.

Payment will be made under:

Pay Item	**Pay Unit**
Type I Standard Approach Fill, Station ____	Lump Sum
Type II Modified Approach Fill, Station ____	Lump Sum
Type III Reinforced Approach Fill, Station ____	Lump Sum

ALTERNATE BRIDGE APPROACH FILLS FOR INTEGRAL ABUTMENTS:

(1-16-18) 422 SP4 R02B

Description

At the Contractors option, use Type A Alternate Bridge Approach Fills instead of Type I or II

Bridge Approach Fills to support bridge approach slabs for integral bridge abutments. An alternate bridge approach fill consists of constructing an approach fill with a temporary geotextile wall before placing all or a portion of the concrete for the backwall and wing walls of the integral end bent cap. The temporary geotextile wall is designed for a crane surcharge, remains in place and aligned so the wall face functions as a form for the end bent cap backwall and wing walls. Install drains, welded wire facing and geotextiles and backfill approach fills and temporary walls with select material as required. Define "geotextiles" as separation or reinforcement geotextiles, "temporary wall" as a temporary geotextile wall and "alternate approach fill" as a Type A Alternate Bridge Approach Fill in accordance with 2018 Roadway Standard Drawing No. 422.03.

Materials

Refer to Division 10 of the *2018 Standard Specifications*.

Item	**Section**
Geotextiles	1056
Portland Cement Concrete	1000
Select Materials	1016
Subsurface Drainage Materials	1044
Welded Wire Reinforcement	1070-3

For temporary walls, use welded wire reinforcement for welded wire facing and Type 5 geotextile for reinforcement geotextiles. Use Type 5 geotextile with lengths and an ultimate tensile strength as shown in 2018 Roadway Standard Drawing No. 422.03. Provide Type 1 geotextile for separation geotextiles and Class B concrete for outlet pads. Use Class V or Class VI select material for alternate approach fills and temporary walls. Provide PVC pipes, fittings and outlet pipes for subsurface drainage materials. For PVC drain pipes, use pipes with perforations that meet AASHTO M 278.

Construction Methods

Excavate as necessary for alternate approach fills and temporary walls in accordance with the contract. Notify the Engineer when foundation excavation is complete. Do not place geotextiles until approach fill dimensions and foundation material are approved.

Install geotextiles as shown in 2018 Roadway Standard Drawing No. 422.03. Attach separation geotextiles to end bent cap backwalls and wing walls as needed with adhesives, tapes or other approved methods. Overlap adjacent geotextiles at least 18" with seams oriented parallel to the roadway centerline. Hold geotextiles in place with wire staples or anchor pins as needed. Contact the Engineer when existing or future obstructions such as foundations, pavements, pipes, inlets or utilities will interfere with geotextiles.

Install continuous perforated PVC drain pipes with perforations pointing down in accordance with 2018 Roadway Standard Drawing No. 422.03. Connect drain pipes to outlet pipes just beyond wing walls. Connect PVC pipes, fittings and outlet pipes with solvent cement in accordance with Article 815-3 of the *2018 Standard Specifications* and place outlet pads in accordance with 2018 Roadway Standard Drawing No. 815.03.

Install drain pipes so water drains towards outlets. If the groundwater elevation is above drain pipe elevations, raise drains up to maintain positive drainage towards outlets. Place pipe sleeves

in or under wing walls so water drains towards outlets. Use sleeves that can withstand wing wall loads.

At the Contractor's option, construct bottom portion of integral end bents before temporary walls as shown in 2018 Roadway Standard Drawings No. 422.03. Erect and set welded wire facing so facing functions as a form for the end bent cap backwall. Place welded wire facing adjacent to each other in the horizontal and vertical directions to completely cover the temporary wall face. Stagger welded wire facing to create a running bond by centering facing over joints in the row below.

Wrap reinforcement geotextiles at the temporary wall face in accordance with 2018 Roadway Standard Drawing No. 422.03 and cover geotextiles with at least 3" of select material. Place layers of reinforcement geotextiles within 3" of locations shown in 2018 Roadway Standard Drawing No. 422.03. Before placing select material, pull reinforcement geotextiles taut so they are in tension and free of kinks, folds, wrinkles or creases. Install reinforcement geotextiles with the direction shown in 2018 Roadway Standard Drawing No. 422.03. Do not splice or overlap reinforcement geotextiles so seams are parallel to the temporary wall face.

Place select material in 8" to 10" thick lifts and compact select material with a vibratory compactor to the satisfaction of the Engineer. Do not displace or damage geotextiles or drains when placing and compacting select material. End dumping directly on geotextiles is not permitted. Do not operate heavy equipment on geotextiles or drain pipes until they are covered with at least 8" of select material. Replace any damaged geotextiles or drains to the satisfaction of the Engineer. When alternate approach fills extend beyond bridge approach slabs, wrap separation geotextiles over select material as shown in 2018 Roadway Standard Drawing No. 422.03.

Temporary walls are designed for a surcharge pressure in accordance with 2018 Roadway Standard Drawing No. 422.03. If the crane surcharge will exceed the wall design, contact the Engineer before positioning the crane over reinforcement geotextiles.

Measurement and Payment

Alternate approach fills will be paid at the contract lump sum for either *Type I Standard Approach Fill, Station* ____ or *Type II Modified Approach Fill, Station* ____ based on the approach fill type that the alternate approach fill is replacing. The lump sum price for each approach fill will be full compensation for providing labor, tools, equipment and alternate approach fill materials, excavating, backfilling, hauling and removing excavated materials, constructing temporary walls, installing wall facing, geotextiles and drains, compacting backfill and supplying select material, separation and reinforcement geotextiles, welded wire facing, drain pipes, pipe sleeves, outlet pipes and pads and any incidentals necessary to construct alternate approach fills for integral abutments.

BRIDGE APPROACH FILLS – GEOTEXTILE:

(5-17-22) SP4 R03

Place a single layer of Type 5 Geotextile one foot below the approach slab for the full width and length of the approach fill. Type 5 Geotextile shall meet the requirements of Section 1056 of the *Standard Specifications*. This revision applies to Roadway Standard 422.01, 422.02, 422.03 and Detail in Lieu of Standard 422DO10.

No separate measurement or payment will be made for the work required by this provision as the cost of such work shall be included in the lump sum price bid for *Type I Standard Approach Fill Station _____, Type III Reinforced Approach Fill, Station _____* or *Type II Modified Approach Fill, Station _____*.

PILES:

(10-19-21)(Rev. 12-20-22) 450 SP4 R05

Revise the *2018 Standard Specifications* as follows:

Page 4-65, Article 450-1 DESCRIPTION, lines 8-9, replace the fourth sentence of the first paragraph with the following:

Galvanize, metallize, restrike, redrive, splice, cut off and build up piles and perform predrilling, spudding and pile driving analyzer testing as necessary or required.

Page 4-65, Article 450-1 DESCRIPTION, lines 14-16, replace the third paragraph with the following:

The estimated pile lengths shown in the plans are sufficient for the minimum required pile embedment and penetration and are estimates of the pile lengths needed for required driving resistance. For prestressed concrete piles, use estimated pile lengths for pile order lengths or the Engineer will provide pile order lengths based on testing prestressed concrete piles with the pile driving analyzer (PDA). For bridges with staged construction and pile order lengths based on testing prestressed concrete piles with the PDA, order lengths for latter stages will not be provided until pile driving for previous stage of construction is complete.

Page 4-66, Article 450-3(C) Pile Accessories, line 14, insert the following as the second, third and fourth sentence of the first paragraph:

Steel pile points for steel pipe piles include pipe pile cutting shoes and conical points. Use "inside fit" pipe pile cutting shoes, i.e., cutting shoes with an outside diameter equal to the pipe pile diameter. Use pipe pile plates with a diameter equal to the pipe pile diameter.

Page 4-66, Article 450-3(D) Driven Piles, lines 37-39, replace the fourth paragraph with the following:

Redrive piles raised or moved laterally due to driving adjacent piles. For initial drive of prestressed concrete piles below a depth of 10 ft or 20% of pile length, whichever is greater, drive each pile continuously except to pause driving for one hour or less to change pile cushions and remove templates. Design and construct templates so prestressed concrete piles can be driven to pile cut-off without exceeding the one-hour time limit. When a prestressed concrete pile attains the required resistance and pile penetration, do not drive the pile any further to avoid cutting off the pile. If a prestressed concrete pile does not have the minimum required driving resistance when the pile head is 1 ft above pile cut-off, stop driving the pile.

Page 4-68, Article 450-3(D)(3) Required Driving Resistance, lines 10-11, replace the second paragraph with the following:

Stop driving piles if “refusal” is reached. Refusal occurs at 240 blows per foot (20 blows per inch)

or any equivalent set (maximum set of 1/2 inch in 10 blows) with the required stroke as per the pile driving criteria.

Page 4-68, Article 450-3(D)(4) Restriking and Redriving Piles, lines 13-15, replace the first sentence of the first paragraph with the following:

If piles do not attain the required resistance with the estimated or order lengths, the Engineer may require the Contractor to stop driving piles, wait and restrike or redrive piles to attain the required resistance.

Page 4-69, Article 450-3(F) Pile Driving Analyzer, lines 16-18, replace the first and second sentences of the second paragraph with the following:

Test piles in accordance with the plans or as directed by the Engineer. Provide piles for PDA testing with lengths shown in the plans.

Page 4-69, Article 450-3(F)(1) PDA Testing, line 33 and 34, replace the fifth sentence of the second paragraph with the following:

The PDA Operator or Engineer may require modified pile installation procedures during driving, including but not limited to driving piles deeper or to a higher driving resistance than stated in the plans.

Page 4-71, Article 450-4 MEASUREMENT AND PAYMENT, lines 27-28, replace the second sentence of the third paragraph with the following:

Steel piles will be measured as the pile length before installation minus any pile cut-offs. Prestressed concrete piles will be measured as the authorized pile length before installation.

Page 4-71, Article 450-4 MEASUREMENT AND PAYMENT, lines 40-45, replace the fifth paragraph with the following:

After steel piles attain the required resistance and pile penetration and at the Contractor's option, drive piles to grade instead of cutting off steel piles provided the remaining portions of steel piles do not exceed 5 ft and steel piles can be driven without damage or exceeding the maximum stroke or refusal. When this occurs, the additional pile length driven will be measured and paid at the contract unit prices for ____ *Steel Piles* and ____ *Galvanized Steel Piles*.

STABILIZATION OF COASTAL PLAIN SANDS:

(11-18-14) 510 SP5 R12

Description

As directed by the Engineer, stabilize sandy subgrade material with Class IV aggregate to prevent rutting of the subgrade prior to paving directly on the subgrade. Remove material as needed in cut areas prior to placing the Class IV aggregate.

Materials

Refer to Division 10.

Item	Section
Select Material, Class IV	1016

Use Class IV Select Material for Class IV Aggregate Stabilization.

Construction Methods

Class IV Aggregate Stabilization

As directed by the Engineer, place aggregate by end dumping aggregate on approved subgrade soils to provide a working platform and reduce wheel rutting of subgrade material. Place the Class IV aggregate stabilization to a thickness of 2 to 3 inches.

Maintenance

Maintain aggregate stabilization in an acceptable condition and minimize the use of heavy equipment on aggregate in order to avoid damaging the subgrade. Provide and maintain drainage ditches and drains as required to prevent entrapping water in aggregate stabilization.

Measurement and Payment

Class IV Aggregate Stabilization will be measured and paid in tons. Aggregate will be measured by weighing in trucks in accordance with Article 106-7. The contract unit price for *Class IV Aggregate Stabilization* will be full compensation for furnishing, hauling, handling, placing, mixing, compacting and maintaining aggregate.

The work to excavate material to place Class IV Aggregate Stabilization below subgrade is considered incidental to the work of placing the aggregate and no separate payment will be made.

Payment will be made under:

Pay Item	Pay Unit
Class IV Aggregate Stabilization	Ton

INCIDENTAL MILLING:

(11-15-22)(Rev. 1-17-23) 607 SP6 R02R

Revise the *2018 Standard Specifications* as follows:

Page 6-5, Article 607-3 CONSTRUCTION METHODS, add the following paragraph after line 45:

Variable depth milling is intended to improve the cross-sectional slope of the pavement.

Page 6-6, Article 607-3 CONSTRUCTION METHODS, line 9, delete and replace the first sentence in the sixth paragraph with the following:

The Engineer may require re-milling of any area exhibiting pavement laminations, scabbing or other defects.

Page 6-6, Article 607-4 TOLERANCE, lines 17-18, delete and replace the second sentence with the following:

The Engineer may vary the depth of milling by not more than one inch. In the event the directed depth of milling cut is altered by the Engineer more than one inch, either the Department or the Contractor may request an adjustment in unit price in accordance with Article 104-3. In administering Article 104-3, the Department will give no consideration to value given to RAP due to the deletion or reduction in quantity of milling. Article 104-3 will not apply to the item of *Incidental Milling*.

Page 6-6, Subarticle 607-5(A) Milled Asphalt Pavement, lines 21-23, delete and replace the first sentence with the following:

Milled Asphalt Pavement, __" Depth will be measured and paid as the actual number of square yards of pavement surface milled in accordance with this specification.

Page 6-6, Subarticle 607-5(A) Milled Asphalt Pavement, lines 24-28, delete and replace the third and fourth sentence with the following:

The width will be the width required by the plans or directed by the Engineer, measured along the pavement surface. Areas to be paid under this item include mainline travel lanes, full width turn lanes greater than 500 feet in length, collector lanes, shoulders, and any additional equipment necessary to remove pavement in the area of manholes, water valves, curb, gutter and other obstructions.

Page 6-6, Subarticle 607-5(B) Milled Asphalt Pavement Depth Varies from Required Depth, lines 29-37, delete and replace the title and first paragraph with the following:

(B) Variable Depth Milled Asphalt Pavement

Milling Asphalt Pavement, __" to __" will be measured and paid as the actual number of square yards of pavement surface milled in accordance with this specification. In measuring this quantity, the length will be the actual length milled, measured along the pavement surface. The width will be the width required by the plans or directed by the Engineer, measured along the pavement surface. Areas to be paid under this item include mainline travel lanes, full width turn lanes greater than 500 feet in length, collector lanes, shoulders, and any additional equipment necessary to remove pavement in the area of manholes, water valves, curb, gutter and other obstructions.

Page 6-6, Subarticle 607-5(C) Incidental Milling, lines 45-49, delete and replace the first and second sentence with the following:

Incidental Milling will be measured and paid as the actual number of square yards of surface milled where the Contractor is required to mill butt joints, irregular areas, full width turn lanes 500 feet or less, intersections and re-mill areas that are not due to the Contractor's negligence. In measuring this quantity, the length will be the actual length milled, measured along the pavement surface. The width will be the width required by the plans or directed by the Engineer, measured along the pavement surface.

Page 6-7, Subarticle 607-5(D) Milling of Defects, lines 6-10, delete and replace the second sentence with the following:

If the Engineer directs re-milling of an area and is not due to the Contractor's negligence, the re-milled area will be measured as provided in Subarticle 607-5(C) and paid at the contract unit price per square yard for *Incidental Milling*.

PRICE ADJUSTMENT - ASPHALT BINDER FOR PLANT MIX:
(11-21-00) 620 SP6 R25

Price adjustments for asphalt binder for plant mix will be made in accordance with Section 620 of the *2018 Standard Specifications.*

The base price index for asphalt binder for plant mix is **$ 641.88** per ton.

This base price index represents an average of F.O.B. selling prices of asphalt binder at supplier's terminals on **April 1, 2023**.

FINAL SURFACE TESTING NOT REQUIRED:
(5-18-04) (Rev. 2-16-16) 610 SP6 R45

Final surface testing is not required on this project in accordance with Section 610-13, *Final Surface Testing and Acceptance*.

MILLING ASPHALT PAVEMENT:
(1-15-19) 607 SP6 R59

Revise the *2018 Standard Specifications* as follows:

Page 6-5, Article 607-2, EQUIPMENT, lines 14-16, delete the seventh sentence of this Article and replace with the following:

Use either a non-contacting laser or sonar type ski system with a minimum of three referencing stations mounted on the milling machine at a length of at least 24 feet.

ASPHALT CONCRETE PLANT MIX PAVEMENTS:
(2-20-18) (Rev.1-15-19) 610, 1012 SP6 R65

Revise the *2018 Standard Specifications* as follows:

Page 6-14, Table 609-3, LIMITS OF PRECISION FOR TEST RESULTS, replace with the following:

TABLE 609-3 LIMITS OF PRECISION FOR TEST RESULTS	
Mix Property	**Limits of Precision**
25.0 mm sieve (Base Mix)	± 10.0%
19.0 mm sieve (Base Mix)	± 10.0%
12.5 mm sieve (Intermediate & Type P-57)	± 6.0%
9.5 mm sieve (Surface Mix)	± 5.0%
4.75 mm sieve (Surface Mix)	± 5.0%
2.36 mm sieve (All Mixes, except S4.75A)	± 5.0%
1.18 mm sieve (S4.75A)	± 5.0%
0.075 mm sieve (All Mixes)	± 2.0%
Asphalt Binder Content	± 0.5%
Maximum Specific Gravity (G_{mm})	± 0.020
Bulk Specific Gravity (G_{mb})	± 0.030
TSR	± 15.0%
QA retest of prepared QC Gyratory Compacted Volumetric Specimens	± 0.015
Retest of QC Core Sample	± 1.2% (% Compaction)
Comparison QA Core Sample	± 2.0% (% Compaction)
QA Verification Core Sample	± 2.0% (% Compaction)
Density Gauge Comparison of QC Test	± 2.0% (% Compaction)
QA Density Gauge Verification Test	± 2.0% (% Compaction)

Page 6-17, Table 610-1, MIXING TEMPERATURE AT THE ASPHALT PLANT, replace with the following:

TABLE 610-1 MIXING TEMPERATURE AT THE ASPHALT PLANT	
Binder Grade	**JMF Temperature**
PG 58-28; PG 64-22	250 - 290°F
PG 76-22	300 - 325°F

Page 6-17, Subarticle 610-3(C), Job Mix Formula (JMF), lines 38-39, delete the fourth paragraph.

Page 6-18, Subarticle 610-3(C), Job Mix Formula (JMF), line 12, replace “SF9.5A” with “S9.5B”.

Page 6-18, Table 610-3, MIX DESIGN CRITERIA, replace with the following:

TABLE 610-3
MIX DESIGN CRITERIA

Mix Type	Design ESALs millions [A]	Binder PG Grade	Compaction Levels G_{mm} @ N_{ini}	Compaction Levels G_{mm} @ N_{des}	Max. Rut Depth (mm)	Volumetric Properties [B] VMA % Min.	VTM %	VFA Min.-Max.	$\%G_{mm}$ @ N_{ini}
S4.75A	< 1	64 - 22	6	50	11.5	16.0	4.0 - 6.0	65 - 80	≤ 91.5
S9.5B	0 - 3	64 - 22	6	50	9.5	16.0	3.0 - 5.0	70 - 80	≤ 91.5
S9.5C	3 - 30	64 - 22	7	65	6.5	15.5	3.0 - 5.0	65 - 78	≤ 90.5
S9.5D	> 30	76 - 22	8	100	4.5	15.5	3.0 - 5.0	65 - 78	≤ 90.0
I19.0C	ALL	64 - 22	7	65	-	13.5	3.0 - 5.0	65 - 78	≤ 90.5
B25.0C	ALL	64 - 22	7	65	-	12.5	3.0 - 5.0	65 - 78	≤ 90.5
	Design Parameter					**Design Criteria**			
All Mix Types	Dust to Binder Ratio ($P_{0.075}$ / P_{be})					0.6 - 1.4 [C]			
	Tensile Strength Ratio (TSR) [D]					85% Min. [E]			

A. Based on 20 year design traffic.
B. Volumetric Properties based on specimens compacted to N_{des} as modified by the Department.
C. Dust to Binder Ratio ($P_{0.075}$ / P_{be}) for Type S4.75A is 1.0 - 2.0.
D. NCDOT-T-283 (No Freeze-Thaw cycle required).
E. TSR for Type S4.75A & B25.0C mixes is 80% minimum.

Page 6-19, Table 610-5, BINDER GRADE REQUIREMENTS (BASED ON RBR%), replace with the following:

TABLE 610-5
BINDER GRADE REQUIREMENTS (BASED ON RBR%)

Mix Type	%RBR ≤ 20%	21% ≤ %RBR ≤ 30%	%RBR ≥ 30%
S4.75A, S9.5B, S9.5C, I19.0C, B25.0C	PG 64-22	PG 64-22[A]	PG-58-28
S9.5D, OGFC	PG 76-22[B]	n/a	n/a

A. If the mix contains any amount of RAS, the virgin binder shall be PG 58-28.
B. Maximum Recycled Binder Replacement (%RBR) is 18% for mixes using PG 76-22 binder.

Page 6-20, Table 610-6, PLACEMENT TEMPERATURES FOR ASPHALT, replace with the following:

TABLE 610-6
PLACEMENT TEMPERATURES FOR ASPHALT

Asphalt Concrete Mix Type	Minimum Surface and Air Temperature
B25.0C	35°F
I19.0C	35°F
S4.75A, S9.5B, S9.5C	40°F [A]
S9.5D	50°F

A. For the final layer of surface mixes containing recycled asphalt shingles (RAS), the minimum surface and air temperature shall be 50°F.

Page 6-21, Article 610-8, SPREADING AND FINISHING, lines 34-35, delete the second sentence and replace with the following:

Use an MTV for all surface mix regardless of binder grade on Interstate, US Routes, and NC Routes (primary routes) that have 4 or more lanes and median divided.

Page 6-21, Article 610-8, SPREADING AND FINISHING, lines 36-38, delete the fourth sentence and replace with the following:

Use MTV for all ramps, loops, Y-line that have 4 or more lanes and are median divided, full width acceleration lanes, full width deceleration lanes, and full width turn lanes that are greater than 1000 feet in length.

Page 6-23, Table 610-7, DENSITY REQUIREMENTS, replace with the following:

TABLE 610-7 DENSITY REQUIREMENTS	
Mix Type	**Minimum % G_{mm} (Maximum Specific Gravity)**
S4.75A	85.0 [A]
S9.5B	90.0
S9.5C, S9.5D, I19.0C, B25.0C	92.0

A. Compaction to the above specified density will be required when the S4.75A mix is applied at a rate of 100 lbs/sy or higher.

Page 6-24, Article 610-13, FINAL SURFACE TESTING, lines 35-36, delete the second sentence and replace with the following:

Final surface testing is not required on ramps, loops and turn lanes.

Page 6-26, Subarticle 610-13(A)(1), Acceptance for New Construction, lines 29-30, delete the second sentence and replace with the following:

Areas excluded from testing by the profiler may be tested using a 10-foot straightedge in accordance with Article 610-12.

Page 6-27, Subarticle 610-13(B), Option 2- North Carolina Hearne Straightedge, lines 41-46, delete the eighth and ninth sentence of this paragraph and replace with the following:

Take profiles over the entire length of the final surface travel lane pavement exclusive of structures, approach slabs, paved shoulders, tapers, or other irregular shaped areas of pavement, unless otherwise approved by the Engineer. Test in accordance with this provision all mainline travel lanes, full width acceleration or deceleration lanes and collector lanes.

Page 6-28, Subarticle 610-13(B), Option 2- North Carolina Hearne Straightedge, lines 1-2, delete these two lines.

Page 6-32, Article 610-16 MEASUREMENT AND PAYMENT, replace with the following:

Pay Item	Pay Unit
Asphalt Concrete Base Course, Type B25.0C	Ton
Asphalt Concrete Intermediate Course, Type I19.0C	Ton
Asphalt Concrete Surface Course, Type S4.75A	Ton
Asphalt Concrete Surface Course, Type S9.5B	Ton
Asphalt Concrete Surface Course, Type S9.5C	Ton
Asphalt Concrete Surface Course, Type S9.5D	Ton

Page 10-30, Table 1012-1, AGGREGATE CONSENSUS PROPERTIES, replace with the following:

TABLE 1012-1
AGGREGATE CONSENSUS PROPERTIES[A]

Mix Type	Coarse Aggregate Angularity[B] % Minimum	Fine Aggregate Angularity % Minimum	Sand Equivalent % Minimum	Flat and Elongated 5 : 1 Ratio % Maximum
Test Method	*ASTM D5821*	*AASHTO T 304*	*AASHTO T 176*	*ASTM D4791*
S4.75A; S9.5B	75 / -	40	40	-
S9.5C; I19.0C; B25.0C	95 / 90	45	45	10
S9.5D	100 / 100	45	50	10
OGFC	100 / 100	45	45	10
UBWC	100 / 85	45	45	10

A. Requirements apply to the design aggregate blend.
B. 95 / 90 denotes that 95% of the coarse aggregate has one fractured face and 90% has 2 or more fractured faces.

SUPPLEMENTAL SURVEYING:
(4-20-21) 801 SP8 R03

Revise the *2018 Standard Specifications* as follows:

Page 8-7, Article 801-3 MEASUREMENT AND PAYMENT, lines 10-11, replace with the following:

Supplemental Surveying Office Calculations will be paid at the stated price of $85.00 per hour. *Supplemental Field Surveying* will be paid at the stated price of $145.00 per hour. The

GUARDRAIL END UNITS & TEMPORARY GUARDRAIL END UNITS, TYPE - TL-3:
(4-20-04) (Rev. 5-16-23) 862 SP8 R65

Description

Furnish and install guardrail end units in accordance with the details in the plans, the applicable requirements of Section 862 of the *Standard Specifications*, and at locations shown in the plans.

Materials

Furnish guardrail end units listed on the NCDOT APL. Units shall not be modified by the manufacturer and installer once approved and on the NCDOT APL.

Prior to installation the Contractor shall submit to the Engineer certified working drawings and assembling instructions from the manufacturer for each guardrail end unit in accordance with Article 105-2 of the *Standard Specifications*.

Perform installation in accordance with the details in the plans, and details and assembling instructions furnished by the manufacturer.

Construction Methods

Guardrail end delineation is required on all approach and trailing end sections for both temporary and permanent installations. Guardrail end delineation consists of yellow reflective sheeting applied to the entire end section of the guardrail in accordance with Article 1088-3 of the *Standard Specifications* and is incidental to the cost of the guardrail end unit.

Measurement and Payment

Measurement and payment will be made in accordance with Article 862-6 of the *Standard Specifications*.

Payment will be made under:

Pay Item	**Pay Unit**
Guardrail End Units, Type TL-3	Each
Temporary Guardrail End Units, Type TL-3	Each

GUARDRAIL ANCHOR UNITS AND TEMPORARY GUARDRAIL ANCHOR UNITS:

(1-16-2018) 862 SP8 R70

Guardrail anchor units will be in accordance with the details in the plans and the applicable requirements of Section 862 of the *2018 Standard Specifications*.

Revise the *2018 Standard Specifications* as follows:

Page 8-42, Article 862-6 MEASUREMENT AND PAYMENT, add the following:

Guardrail Anchor Units, Type ___ and Temporary Guardrail Anchor Units Type ___ will be measured and paid as units of each completed and accepted. No separate measurement will be made of any rail, terminal sections, posts, offset blocks, concrete, hardware or any other components of the completed unit that are within the pay limits shown in the plans for the unit as all such components will be considered to be part of the unit.

Payment will be made under:

Pay Item	Pay Unit
Guardrail Anchor Units, Type ____	Each
Temporary Guardrail Anchor Units, Type ___	Each

IMPACT ATTENUATOR UNITS, TYPE TL-3:

(4-20-04) (Rev. 12-18-18) SP8 R75

Description

Furnish and install impact attenuator units and any components necessary to connect the impact attenuator units in accordance with the manufacturer's requirement, the details in the plans and at locations shown in the plans.

Materials

Furnish impact attenuator units listed on the Approved Products List at https://apps.dot.state.nc.us/vendor/approvedproducts/ or approved equal. Prior to installation the Contractor shall submit to the Engineer:

(A) FHWA acceptance letter for each impact attenuator unit certifying it meets the requirements of the Manual for Assessing Safety Hardware (MASH-16), Test Level 3, in accordance with Article 106-2 of the *2018 Standard Specifications*.

(B) Certified working drawings and assembling instructions from the manufacturer for each impact attenuator unit in accordance with Article 105-2 of the *2018 Standard Specifications*.

No modifications shall be made to the impact attenuator unit without the express written permission from the manufacturer. Perform installation in accordance with the details in the plans and details and assembling instructions furnished by the manufacturer.

Construction Methods

If the median width is 40 feet or less, the Contractor shall supply NON-GATING Impact Attenuator Units.

If the median width is greater than 40 feet, the Contractor may use GATING or NON-GATING Impact Attenuator Units.

Measurement and Payment

Impact Attenuator Unit, Type TL-3 will be measured and paid at the contract unit price per each. Such prices and payment will be full compensation for all work covered by this provision including, but not limited to, furnishing, installing and all incidentals necessary to complete the work.

Payment will be made under:

Pay Item	**Pay Unit**
Impact Attenuator Units, Type TL-3	Each

PORTLAND CEMENT CONCRETE PRODUCTION AND DELIVERY:

(9-15-20) 1000, 1014, 1024 SP10 R01

Revise the *2018 Standard Specifications* as follows:

Page 10-6, Table 1000-1, REQUIREMENTS FOR CONCRETE, replace with the following:

TABLE 1000-1
REQUIREMENTS FOR CONCRETE

Class of Concrete	Min. Compressive Strength at 28 days	Maximum Water-Cement Ratio				Consistency Maximum Slump		Cement Content			
		Air-Entrained Concrete		Non-Air-Entrained Concrete		Vibrated	Non-Vibrated	Vibrated		Non-Vibrated	
		Rounded Aggregate	Angular Aggregate	Rounded Aggregate	Angular Aggregate			Min.	Max.	Min.	Max.
Units	*psi*					*inch*	*inch*	*lb/cy*	*lb/cy*	*lb/cy*	*lb/cy*
AA	4500	0.381	0.426	---	---	3.5[A]	---	639	715	---	---
AA Slip Form	4500	0.381	0.426	---	---	1.5	---	639	715	---	---
Drilled Pier	4500	---	---	0.450	0.450	---	5 – 7 dry 7 - 9 wet	---	---	640	800
A	3000	0.488	0.532	0.550	0.594	3.5 [A]	4.0	564	---	602	---
B	2500	0.488	0.567	0.559	0.630	1.5 machine placed 2.5 [A] hand placed	4.0	508	---	545	---
Sand Light-weight	4500	---	0.420	---	---	4.0 [A]	---	715	---	---	---
Latex Modified	3000 (at 7 days)	0.400	0.400	---	---	6.0	---	658	---	---	---
Flowable Fill excavatable	150 max. (at 56 days)	as needed	as needed	as needed	as needed	---	Flowable	---	---	40	100
Flowable Fill non-excavatable	125	as needed	as needed	as needed	as needed	---	Flowable	---	---	100	as needed

Pavement	4500 Design, field 650 flexural, design only	0.559	0.559	---	---	1.5 slip form 3.0 hand placed	---	526	---	---	---
Precast	See Table 1077-1	as needed	as needed	---	---	6.0	as needed	as needed	as needed	as needed	as needed
Prestressed	per contract	See Table 1078-1	See Table 1078-1	---	---	8.0	---	564	as needed	---	---

A. The slump may be increased to 6 inches, provided the increase in slump is achieved by adding a chemical admixture conforming to Section 1024-3. In no case shall the water-cement ratio on the approved design be exceeded. Concrete exhibiting segregation and/or excessive bleeding will be rejected. Utilizing an Admixture to modify slump does not relinquish the contractor's responsibility to ensure the final product quality and overall configuration meets design specifications. Caution should be taken when placing these modified mixes on steep grades to prevent unintended changes to the set slope.

THERMOPLASTIC INTERMIXED BEAD TESTING:

7-19-22 1087 SP10 R04

Revise the *2018 Standard Specifications* as follows:

Page 10-183, Subarticle 1087-7(B) Thermoplastic Pavement Marking Material Composition, delete line 34 and 35.

Page 10-184, Article 1087-8 MATERIAL CERTIFICATION, delete and replace with the following after line 34:

Drop-on Glass Beads	Type 3 Material Certification and Type 4 Material Certification
Intermix Glass Beads	Type 2 Material Certification and Type 3 Material Certification
Paint	Type 3 Material Certification
Removable Tape	Type 3 Material Certification
Thermoplastic	Type 3 Material Certification and Type 4 Material Certification
Cold Applied Plastic	Type 2 Material Certification and Type 3 Material Certification
Polyurea	Type 2 Material Certification and Type 3 Material Certification

THERMOPLASTIC PAVEMENT MARKING MATERIAL – COLOR TESTING:

3-19-19 1087 SP10 R05

Revise the *2018 Standard Specifications* as follows:

Pages 10-183 and 10-184, Subarticle 1087-7(D)(1)(b) Yellow, lines 9-11, delete and replace with the following:

Obtain Color Values Y,x,y per ASTM E1349 using C/2° illuminant/observer.

Results shall be Y ≥ 45%, and x,y shall fall within PR#1 chart chromaticity limits.

NON-CAST IRON SNOWPLOWABLE PAVEMENT MARKERS:

10-19-21 (Rev. 11-16-21) 1086, 1250, 1253 SP10 R08

Revise the *2018 Standard Specifications* as follows:

Pages 10-177 and 10-178, Subarticle 1086-3 SNOWPLOWABLE PAVEMENT MARKERS, delete items (A), (B) and (C)(1) and replace with the following:

(A) General

Use non-cast iron snowplowable pavement markers evaluated by NTPEP. The non-cast iron snowplowable pavement marker shall consist of a housing with one or more glass or plastic face lens type reflective lenses to provide the required color designation. The marker shall be designed or installed in a manner that minimizes damage from snowplow blades. Plastic lens faces shall use an abrasion resistant coating.

(B) Housings

(1) Dimensions

The dimension, slope and minimum area of reflecting surface shall conform to dimensions as shown in the plans. The minimum area of each reflecting surface shall be 1.44 sq.in.

(2) Materials

Use non-cast iron snowplowable pavement markers that are on the NCDOT Approved Products List.

(3) Surface

The surface of the housing shall be free of scale, dirt, rust, oil, grease or any other contaminant which might reduce its bond to the epoxy adhesive.

(4) Identification

Mark the housing with the manufacturer's name and model number of marker.

(C) Reflectors

(1) General

Laminate the reflector to an elastomeric pad and attach with adhesive to the housing. The thickness of the elastomeric pad shall be 0.04".

Pages 12-14, Subarticle 1250-3(C) Removal of Existing Pavement Markers, lines 19-29, delete and replace with the following:

Remove the existing raised pavement markers or the snowplowable pavement markers including the housings, before overlaying an existing roadway with pavement. Repair the pavement by filling holes as directed by the Engineer.

When traffic patterns are changed in work zones due to construction or reconstruction, remove all raised pavement markers or snowplowable markers including housings that conflict with the new traffic pattern before switching traffic to the new traffic pattern. Lens removal in lieu of total housing removal is not an acceptable practice for snowplowable markers.

Properly dispose of the removed pavement markers. No direct payment will be made for removal or disposal of existing pavement markers or repair of pavement, as such work will be incidental to other items in the contract.

Pages 12-16, Subarticle 1253-1 DESCRIPTION, lines 4-5, delete and replace with the following:

Furnish, install and maintain non-cast iron snowplowable pavement markers in accordance with the contract.

Pages 12-16 and 12-17, Subarticle 1253-3 CONSTRUCTION METHODS, delete items (A), (B) and (C) and replace with the following:

(A) General

Bond marker housings to the pavement with epoxy adhesive. Mechanically mix and dispense epoxy adhesives as required by the manufacturer's specifications. Place the markers immediately after the adhesive has been mixed and dispensed.

If saw cutting, milling, or grooving operations are used, promptly remove all resulting debris from the pavement surface. Install the marker housings within 7 calendar days after saw cutting, milling, or grooving the pavement. Remove and dispose of loose material from the slots by brushing, blow cleaning, or vacuuming. Dry the slots before applying the epoxy adhesive. Install non-cast iron snowplowable pavement markers according to the manufacturer’s recommendations.

Protect the non-cast iron snowplowable pavement markers until the epoxy has initially cured and is track free.

(B) Reflector Replacement

In the event that a reflector is damaged, replace the damaged reflector by using adhesives and methods recommended by the manufacturer of the markers and approved by the Engineer. This work is considered incidental if damage occurs during the initial installation of the marker housings and maintenance of initial non-cast iron snowplowable markers specified in this section. This work will be paid for under the pay item for the type of reflector replacement if the damage occurred after the initial installation of the non-cast iron snowplowable pavement marker.

Missing housings shall be replaced. Broken housings shall be removed and replaced. In both cases the slot for the housings shall be properly prepared prior to installing the new housing; patch the existing marker slots as directed by the Engineer and install the new marker approximately one foot before or after the patch. Removal of broken housings and preparation of slots will be considered incidental to the work of replacing housings.

Pages 12-17, Subarticle 1253-4 MAINTENANCE, lines 5, delete and replace with the following:

Maintain all installed non-cast iron snowplowable pavement markers until acceptance.

Pages 12-17, Subarticle 1253-5 MEASUREMENT AND PAYMENT, lines 7-8, delete and replace with the following:

Non-Cast Iron Snowplowable Pavement Markers will be measured and paid as the actual number of non-cast iron snowplowable pavement markers satisfactorily placed and accepted by the Engineer.

Pages 12-17, Subarticle 1253-5 MEASUREMENT AND PAYMENT, lines 11, delete and replace with the following:

Payment will be made under:

Pay Item	**Pay Unit**
Non-Cast Iron Snowplowable Pavement Marker	Each
Replace Snowplowable Pavement Marker Reflector	Each

MATERIALS FOR PORTLAND CEMENT CONCRETE:

(9-15-20) 1000, 1024 SP10 R24

Revise the *2018 Standard Specifications* as follows:

Page 10-52, Article 1024-4, WATER, lines 3-6, delete and replace with the following:

Test water from wells at all locations. Test public water supplies from all out of state locations and in the following counties: Beaufort, Bertie, Brunswick, Camden, Carteret, Chowan, Craven, Currituck, Dare, Gates, Hyde, New Hanover, Onslow, Pamlico, Pasquotank, Pender, Perquimans, Tyrell and Washington unless the Engineer waives the testing requirements.

Page 10-52, Table 1024-2, PHYSICAL PROPERTIES OF WATER, replace with the following:

Property	Requirement	Test Method
Compression Strength, minimum percent of control at 3 and 7 days	90%	ASTM C1602
Time of set, deviation from control	From 1:00 hr. earlier to 1:30 hr. later	ASTM C1602
pH	4.5 to 8.5	ASTM D1293 *
Chloride Ion Content, Max.	250 ppm	ASTM D512 *
Total Solids Content (Residue), Max.	1,000 ppm	SM 2540B *
Resistivity, Min.	0.500 kohm-cm	ASTM D1125 *

*Denotes an alternate method is acceptable. Test method used shall be referenced in the test report.

MATERIAL AND EQUIPMENT STORAGE & PARKING OF PERSONAL VEHICLES:
11-17-21(Rev. 8-16-22) 1101 SP11 R03

Revise the *2018 Standard Specifications* as follows:

Page 11-2, Article 1101-8 MATERIAL AND EQUIPMENT STORAGE, line 35-38, delete and replace with the following:

When work is not in progress, keep all personnel, equipment, machinery, tools, construction debris, materials and supplies away from active travel lanes that meets Table 1101-1.

TABLE 1101-1
MATERIAL AND EQUIPMENT STORAGE FROM ACTIVE TRAVEL LANES

Posted Speed Limit (mph)	Distance (ft)
40 or less	≥ 18
45-50	≥ 28
55	≥ 32
60 or higher	≥ 40

When vehicles, equipment and materials are protected by concrete barrier or guardrail, they shall be offset at least 5 feet from the barrier or guardrail.

Page 11-2, Article 1101-9 PARKING OF PERSONAL VEHICLES, line 40-41, delete and replace with the following:

Provide staging areas for personal vehicle parking in accordance with Article 1101-8 or as directed by the Engineer before use.

WORK ZONE INSTALLER:
(7-20-21)(Rev. 8-16-22) 1101, 1150 SP11 R04

Provide the service of at least one qualified work zone installer during the setup, installation, and removal of temporary traffic control within the highway right of way. The qualified work zone installer shall serve as crew leader and shall be on site and directing the installation and removal of temporary traffic control. If multiple temporary traffic control installations or removals are occurring simultaneously, then each shall have a qualified work zone installer.

The work zone installer shall be qualified by an NCDOT approved training agency or other NCDOT approved training provider in the safe and competent set up of temporary traffic control. For a complete listing of approved training agencies, see the Work Zone Safety Training webpage.

A work zone supervisor, in accordance with Article 1101-13 of the *Standard Specifications*, may fulfill the role of the work zone installer during the setup, installation, and removal of temporary traffic control within the highway right of way provided they are on site and directing the installation and removal of temporary traffic control.

All other individuals participating in the setup, installation, and removal of temporary traffic control within the highway right of way shall be certified as a qualified flagger in accordance with Article 1150-3 of the *Standard Specifications*, even if flagging is not being performed as part of

the traffic control.

Provide the name and contact information of all qualified work zone installers to the Engineer prior to or at the preconstruction conference. Additionally, provide a qualification statement that all other individuals participating in the setup, installation, and removal of temporary traffic control are qualified flaggers that have been properly trained through an NCDOT approved training agency or other NCDOT approved training provider.

All certification records for qualified work zone installers and flaggers shall be uploaded by the approved training agency or other NCDOT approved training provider to the Department's Work Zone Education Verification App (WZ-EVA) prior to the qualified work zone installer or flagger performing any traffic control duties on the project. For more information about WZ-EVA, see the Work Zone Safety Training webpage.

PORTABLE CHANGEABLE MESSAGE SIGNS:

(9-20-22)(Rev. 11-15-22) 1089, 1120 SP11 R10

Revise the *2018 Standard Specifications* as follows:

Page 10-197, Subarticle 1089-7(D) Controller, line 16, add the following after the third sentence of the first paragraph:

Change the controller password from the factory default and periodically change the controller password to deter unauthorized programming of the controller.

Page 10-197, Subarticle 1089-7(D) Controller, lines 16-19, replace the forth sentence of the first paragraph with the following:

The password system is recommended to include at least two levels of security such that operators at one level may only change message sequences displayed using preprogrammed sequences and operators at a higher level may create and store messages or message sequences.

Page 10-197, Subarticle 1089-7(D) Controller, line 24 replace the sentence with the following:

The controller shall be stored in a locked, weather and vandal resistant box when not in use and after changes to the messages are made.

Page 11-8, Article 1120-3 CONSTRUCTION METHODS, lines 26-32, replace the second paragraph with the following:

Provide an experienced operator for the portable changeable message sign during periods of operation to ensure that the messages displayed on the sign panel are in accordance with the plans and Subarticle 1089-7(D). Change the controller password from the factory default and periodically change the controller password to deter unauthorized programming of the controller. Using two levels of password security is recommended such that operators at one level may only change message sequences displayed using preprogrammed sequences and operators at a higher level may create and store messages or message sequences. Lock the controller in a weather and vandal resistant box when not in use and after changes to the messages are made.

EXTRUDED THERMOPLASTIC PAVEMENT MARKING THICKNESS:

3-19-19 (Rev. 6-21-22) 1205 SP12 R05

Revise the *2018 Standard Specifications* as follows:

Page 12-6, Subarticle 1205-4(A)(1) General, lines 5-8, delete the second sentence and replace with the following:

Use application equipment that provides multiple width settings ranging from 4 inches to 12 inches and multiple thickness settings to achieve the required thickness above the surface of the pavement as shown in Table 1205-3.

Page 12-7, Table 1205-3, THICKNESS REQUIREMENTS FOR THERMOPLASTIC, replace with the following:

TABLE 1205-3 MINIMUM THICKNESS REQUIREMENTS FOR THERMOPLASTIC	
Thickness	**Location**
240 mils	In-lane and shoulder-transverse pavement markings (rumble strips). May be placed in 2 passes.
90 mils	Center lines, skip lines, transverse bands, mini-skip lines, characters, bike lane symbols, crosswalk lines, edge lines, gore lines, diagonals, and arrow symbols

PERMANENT SEEDING AND MULCHING:

(7-1-95) 1660 SP16 R02

The Department desires that permanent seeding and mulching be established on this project as soon as practical after slopes or portions of slopes have been graded. As an incentive to obtain an early stand of vegetation on this project, the Contractor's attention is called to the following:

For all permanent seeding and mulching that is satisfactorily completed in accordance with the requirements of Section 1660 in the *2018 Standard Specifications* and within the following percentages of elapsed contract times, an additional payment will be made to the Contractor as an incentive additive. The incentive additive will be determined by multiplying the number of acres of seeding and mulching satisfactorily completed times the contract unit bid price per acre for Seeding and Mulching times the appropriate percentage additive.

Percentage of Elapsed Contract Time	Percentage Additive
0% - 30%	30%
30.01% - 50%	15%

Percentage of elapsed contract time is defined as the number of calendar days from the date of availability of the contract to the date the permanent seeding and mulching is acceptably completed divided by the total original contract time.

STANDARD SPECIAL PROVISION
AVAILABILITY OF FUNDS – TERMINATION OF CONTRACTS

(5-20-08) Z-2

General Statute 143C-6-11. (h) Highway Appropriation is hereby incorporated verbatim in this contract as follows:

(h) Amounts Encumbered. – Transportation project appropriations may be encumbered in the amount of allotments made to the Department of Transportation by the Director for the estimated payments for transportation project contract work to be performed in the appropriation fiscal year. The allotments shall be multiyear allotments and shall be based on estimated revenues and shall be subject to the maximum contract authority contained in *General Statute 143C-6-11(c)*. Payment for transportation project work performed pursuant to contract in any fiscal year other than the current fiscal year is subject to appropriations by the General Assembly. Transportation project contracts shall contain a schedule of estimated completion progress, and any acceleration of this progress shall be subject to the approval of the Department of Transportation provided funds are available. The State reserves the right to terminate or suspend any transportation project contract, and any transportation project contract shall be so terminated or suspended if funds will not be available for payment of the work to be performed during that fiscal year pursuant to the contract. In the event of termination of any contract, the contractor shall be given a written notice of termination at least 60 days before completion of scheduled work for which funds are available. In the event of termination, the contractor shall be paid for the work already performed in accordance with the contract specifications.

Payment will be made on any contract terminated pursuant to the special provision in accordance with Subarticle 108-13(D) of the *2018 Standard Specifications*.

STANDARD SPECIAL PROVISION
NCDOT GENERAL SEED SPECIFICATION FOR SEED QUALITY

(5-17-11) Z-3

Seed shall be sampled and tested by the North Carolina Department of Agriculture and Consumer Services, Seed Testing Laboratory. When said samples are collected, the vendor shall supply an independent laboratory report for each lot to be tested. Results from seed so sampled shall be final. Seed not meeting the specifications shall be rejected by the Department of Transportation and shall not be delivered to North Carolina Department of Transportation warehouses. If seed has been delivered it shall be available for pickup and replacement at the supplier's expense.

Any re-labeling required by the North Carolina Department of Agriculture and Consumer Services, Seed Testing Laboratory, that would cause the label to reflect as otherwise specified herein shall be rejected by the North Carolina Department of Transportation.

Seed shall be free from seeds of the noxious weeds Johnsongrass, Balloonvine, Jimsonweed, Witchweed, Itchgrass, Serrated Tussock, Showy Crotalaria, Smooth Crotalaria, Sicklepod, Sandbur, Wild Onion, and Wild Garlic. Seed shall not be labeled with the above weed species on the seed analysis label. Tolerances as applied by the Association of Official Seed Analysts will NOT be allowed for the above noxious weeds except for Wild Onion and Wild Garlic.

Tolerances established by the Association of Official Seed Analysts will generally be recognized. However, for the purpose of figuring pure live seed, the found pure seed and found germination percentages as reported by the North Carolina Department of Agriculture and Consumer Services, Seed Testing Laboratory will be used. Allowances, as established by the NCDOT, will be recognized for minimum pure live seed as listed on the following pages.

The specifications for restricted noxious weed seed refers to the number per pound as follows:

Restricted Noxious **Weed**	Limitations per Lb. Of Seed	Restricted Noxious **Weed**	Limitations per Lb. of Seed
Blessed Thistle	4 seeds	Cornflower (Ragged Robin)	27 seeds
Cocklebur	4 seeds	Texas Panicum	27 seeds
Spurred Anoda	4 seeds	Bracted Plantain	54 seeds
Velvetleaf	4 seeds	Buckhorn Plantain	54 seeds
Morning-glory	8 seeds	Broadleaf Dock	54 seeds
Corn Cockle	10 seeds	Curly Dock	54 seeds
Wild Radish	12 seeds	Dodder	54 seeds
Purple Nutsedge	27 seeds	Giant Foxtail	54 seeds
Yellow Nutsedge	27 seeds	Horsenettle	54 seeds
Canada Thistle	27 seeds	Quackgrass	54 seeds
Field Bindweed	27 seeds	Wild Mustard	54 seeds
Hedge Bindweed	27 seeds		

Seed of Pensacola Bahiagrass shall not contain more than 7% inert matter, Kentucky Bluegrass, Centipede and Fine or Hard Fescue shall not contain more than 5% inert matter whereas a maximum of 2% inert matter will be allowed on all other kinds of seed. In addition, all seed shall not contain more than 2% other crop seed nor more than 1% total weed seed. The germination

rate as tested by the North Carolina Department of Agriculture shall not fall below 70%, which includes both dormant and hard seed. Seed shall be labeled with not more than 7%, 5% or 2% inert matter (according to above specifications), 2% other crop seed and 1% total weed seed.

Exceptions may be made for minimum pure live seed allowances when cases of seed variety shortages are verified. Pure live seed percentages will be applied in a verified shortage situation. Those purchase orders of deficient seed lots will be credited with the percentage that the seed is deficient.

FURTHER SPECIFICATIONS FOR EACH SEED GROUP ARE GIVEN BELOW:

Minimum 85% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 restricted noxious weed seed per pound. Seed less than 83% pure live seed will not be approved.

Sericea Lespedeza
Oats (seeds)

Minimum 80% pure live seed; maximum 1% total weed seed; maximum 2% total other crop; maximum 144 restricted noxious weed seed per pound. Seed less than 78% pure live seed will not be approved.

Tall Fescue (all approved varieties)
Kobe Lespedeza
Korean Lespedeza
Weeping Lovegrass
Carpetgrass
Bermudagrass
Browntop Millet
German Millet – Strain R
Clover – Red/White/Crimson

Minimum 78% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 restricted noxious weed seed per pound. Seed less than 76% pure live seed will not be approved.

Common or Sweet Sundangrass

Minimum 76% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 restricted noxious weed seed per pound. Seed less than 74% pure live seed will not be approved.

Rye (grain; all varieties)
Kentucky Bluegrass (all approved varieties)
Hard Fescue (all approved varieties)
Shrub (bicolor) Lespedeza

Minimum 70% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 noxious weed seed per pound. Seed less than 70% pure live seed will not be approved.

Centipedegrass
Crownvetch
Pensacola Bahiagrass
Creeping Red Fescue
Japanese Millet
Reed Canary Grass
Zoysia

Minimum 70% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 5% inert matter; maximum 144 restricted noxious weed seed per pound.

Barnyard Grass
Big Bluestem
Little Bluestem
Bristly Locust
Birdsfoot Trefoil
Indiangrass
Orchardgrass
Switchgrass
Yellow Blossom Sweet Clover

STANDARD SPECIAL PROVISION

ERRATA

(10-16-18) (Rev. 4-18-23) Z-4

Revise the *2018 Standard Specifications* as follows:

Division 1

Page 1-1, Article 101-2 Abbreviations, line 13, replace " American National Standards Institute, Inc." with "American National Standards Institute".

Page 1-1, Article 101-2 Abbreviations, line 32, replace "Equivalent Single Axis Load" with "Equivalent Single Axle Load".

Page 1-16, Subarticle 102-9(A) General, line 26, replace "10 U.S.C. 2304(g)" with "10 U.S.C. 3205".

Page 1-43, Article 104-13 RECYCLED PRODUCTS OR SOLID WASTE MATERIALS, line 4, replace "104-13(B)(2)" with "104-13(B)".

Page 1-52, Article 106-1 RECYCLED PRODUCTS OR SOLID WASTE MATERIALS, line 25, replace "13 NCAC 7CF.0101(a)(99)" with "29 CFR 1910.1200".

Page 1-79, Article 109-1 MEASUREMENT AND PAYMENT, Test Method prior to line 34, replace "AASHTO M 32" with "AASHTO M 336".

Division 2

Page 2-5, Article 210-2 CONSTRUCTION METHODS, line 21, replace " NCGS §§ 130A-444 to -452" with "NCGS §§ 130A-444 to -453".

Page 2-13, Article 225-2 EROSION CONTROL REQUIREMENTS, line 17, replace "the Sedimentation and Pollution Control Act" with "Article 107-12".

Page 2-20, Subarticle 230-4(B)(3) Reclamation Plan, line 12, replace " Department's borrow and waste site reclamation procedures for contracted projects" with "Department's *Borrow Waste and Staging Site Reclamation Procedures for Contract Projects*".

Page 2-25, Subarticle 235-3(E) Surcharges and Waiting Periods, line 21 and 27, delete "Department's Materials and Tests Unit.".

Page 2-27, Article 240-4 MEASUREMENT AND PAYMENT, line 23, replace "Section 225" with "Article 225-7".

Page 2-30, Article 275-4 MEASUREMENT AND PAYMENT, line 33, replace "Section 815" with "Article 815-4".

Division 4

Page 4-18, Subarticle 411-5(C)(3) Coring, line 11, replace "in accordance with ASTM D5079" with "with methods acceptable to the Engineer".

Page 4-50, Article 430-2 MATERIALS, prior to line 15, replace Section "1080-9" with "1080-7".

Page 4-53, Article 440-2 MATERIALS, prior to line 6, replace Section "1080-9" with "1080-7".

Page 4-58, Article 442-2 MATERIALS, prior to line 15, replace Section "1080-6" with "1080-12".

Page 4-59, Subarticle 442-7(A) Blast Cleaning, line 36, replace Article "1080-6" with "1080-12".

Page 4-76, Article 454-2 MATERIALS, prior to line 24, replace Section "815-2" with "1044".

Page 4-79, Article 455-2 MATERIALS, prior to line 21, replace Section "815" with "1044".

Page 4-80, Subarticle 455-3(B) Precast Gravity Wall Designs, line 23 and lines 25-26, replace "AASHTO LRFD specifications" with "*AASHTO LRFD Bridge Design Specifications*".

Page 4-84, Article 458-5 MEASUREMENT AND PAYMENT, line 31, replace article number "454-1" with "458-1".

Division 6

Page 6-7, Article 609-1 DESCRIPTION, line 29, replace article number "609-10" with "609-9".

Page 6-10, Subarticle 609-6(C) Control Charts, line 17, replace Section number "7021" with "7.20.1".

Page 6-13, Article 609-9 QUALITY ASSURANCE, line 31, replace Section number "7.60" with "7.6".

Page 6-26, Subarticle 610-13(A)(1) Acceptance for New Construction, line 31, replace Table number "610-7" with "610-8".

Page 6-29, Subarticle 610-13(B) North Carolina Hearne Straightedge, line 32, replace Table number "610-8" with "610-9".

Page 6-31, Article 610-14 DENSITY ACCEPTANCE, Specified Density prior to line 30 and line 32, replace Table number "610-6" with "610-7".

Page 6-37, Article 650-5 CONSTRUCTION METHODS, line 10, replace Section number "9.5(E)" with "9.5.1(E)".

Page 6-44, Subarticle 660-8(B) Asphalt Mat and Seal, line 40, replace Subarticle number "660-8(A)" with "660-8(C)".

Page 6-44, Subarticle 660-8(B) Asphalt Mat and Seal, line 42, replace Subarticle number "660-8(C)" with "660-8(A)".

Division 7

Page 7-11, Subarticle 700-15(E) Compressive Strength, line 5, replace “AASHTO T 23” with “AASHTO R 100”.

Page 7-24, Article 723-4 Very High Early Strength Concrete for Concrete Pavement Repair, line 4, replace “AASHTO T126” with “AASHTO R 39”.

Page 7-24, Article 723-5 MEASUREMENT AND PAYMENT, line 34, replace "Section 225” with “Article 225-7”.

Page 7-24, Article 723-5 MEASUREMENT AND PAYMENT, line 36, replace "Section 270” with “Article 270-4”.

Page 7-27, Article 725-1 MEASUREMENT AND PAYMENT, line 4, replace article number “725-1” with “724-4”.

Page 7-28, Article 725-1 MEASUREMENT AND PAYMENT, line 10, replace article number “725-1” with “725-3”.

Division 8

Page 8-11, Article 815-1 MATERIALS, after line 35, replace “1080-12” with “1080-10”.

Page 8-13, Article 816-1 MATERIALS, after line 28, replace “1080-12” with “1080-10”.

Page 8-17, Article 825-1 Description, line 5, delete “853” and “855”.

Division 10

Page 10-2, Subarticle 1000-3(B) Air Entrainment, line 33, replace “Chase” with “Chace”.

Page 10-4, Subarticle 1000-4(A) Composition and Design, after line 17, replace “T23” with “R100”.

Page 10-4, Subarticle 1000-4(B) Air Entrainment, line 31 and 33, replace “Chase” with “Chace”.

Page 10-4, Subarticle 1000-4(C) Strength of Concrete, line 39 and 41, replace “T 23” with “R 100”.

Page 10-15, Subarticle 1000-11(B) Mixing Time for Central Mixed Concrete, after line 35, replace “T 23” with “R 100”.

Page 10-22, Article 1003-3 COMPOSITION AND DESIGN, line 9, replace “Engineer” with “engineer”.

Page 10-23, Article 1003-4 GROUT REQUIREMENTS, line 16 and 18, replace “T 23” with “R 100”.

Page 10-26, Article 1005-4 TESTING, after line 26, replace “1014-2€(6)” with “1014-2€(6)”in C. of Table 1005-1 footnote and replace “Lightweight[B]” with “Lightweight[C]”.

Page 10-29, Subarticle 1012-1(B)(4) Flat and Elongated Pieces, line 44, delete "SF9.5A"

Page 10-36, Subarticle 1012-2(E) Toughness (Resistance to Abrasion), line 31, replace "course" with "coarse".

Page 10-37, Article 1012-4, LIGHTWEIGHT AGGREGATE, line 4, replace Table number "1012-8" with "1012-5".

Page 10-48, Subarticle 1020-10(A) Mineral Fibers, line 27, replace "Table 1012-5" with "Table 1020-2".

Page 10-52, Article 1024-5 FLY ASH, line 12, replace "Table 2" with "Table 3".

Page 10-60, Subarticle 1032-6(F) Joint Materials, line 15, replace "AASHTO M 198" with "ASTM C990" and delete "Type B".

Page 10-61, Article 1034-3 CONCRETE SEWER PIPE, line 33, replace "AASHTO M 198" with "ASTM C990" and delete "Type A or B".

Page 10-64, Article 1040-1 BRICK, line 12, replace "ASTM C62" with "ASTM C62 or ASTM C216".

Page 10-67, Article 1044-7 CORRUGATED PLASTIC PIPE AND FITTINGS, line 24, replace "AASHTO M 294 for heavy duty tubing" with "Article 1032-7 and AASHTO M 252".

Page 10-69, Subarticle 1046-3(D) Offset Blocks, before line 1, replace "WIRE DIAMETER" with "COMPOSITE OFFSET BLOCKS" as the tile of Table 1046-1 and replace "NCHRP Report 350" with "MASH" in Table 1046-1.

Page 10-80, Article 1060-2 FERTILIZER, line 18, replace "North Carolina Fertilizer Law" with "North Carolina Commercial Fertilizer Law".

Page 10-83, Article 1060-9 WATER, line 9, replace "15 NCAC 2B.0200" with "15A NCAC 02B.0200".

Page 10-86, Article 1070-3 COLD DRAWN STEEL WIRE AND WIRE REINFORCEMENT, line 23 and 25, replace "M 32" and "M 55" with "M 336".

Page 10-87, Article 1070-6 DOWELS AND TIE BARS FOR PORTLAND CEMENT CONCRETE PAVEMENT, line 17, replace "AASHTO M 32" with "AASHTO M 336".

Page 10-88, Subarticle 1070-7(D) Handling, Storage and Transportation, line 40, replace "Section" with "Subarticle".

Page 10-89, Article 1070-8 SPIRAL COLUMN REINFORCING STEEL, line 21, replace "AASHTO M 32" with "AASHTO M 336".

Page 10-91, Article 1072-3 BEARING PLATE ASSEMBLIES, line 44, replace "Article 1080-9" with "Article 1080-7".

Page 10-92, Subarticle 1072-5(A) General, after line 30, replace "SAMPLING REQUIREMENTS FOR HIGH STRENGTH BOLTS, NUTS AND WASHERS" with "SAMPLING REQUIREMENTS FOR HIGH STRENGTH BOLTS, NUTS AND WASHERS TO INCLUDE DIRECT TENSION INDICATORS" as the title of Table 1072-1.

Page 10-95, Subarticle 1072-5(D)(7)(a) Mill Test Report(s), line 18, replace title with "Mill Test Report(s) (MTR)".

Page 10-95, Subarticle 1072-5(D)(7)(b) Manufacturer Certified Test Report(s), line 24, replace title with "Manufacturer Certified Test Report(s) (MCTR)".

Page 10-96, Subarticle 1072-5(D)(7)(c) Distributor Certified Test Report(s), line 1, replace title with "Distributor Certified Test Report(s) (DCTR)".

Page 10-98, Subarticle 1072-5(F) Galvanized High Strength Bolts, Nuts and Washers, line 11, replace "Article 1080-9" with "Article 1080-7".

Page 10-98, Subarticle 1072-5(F) Galvanized High Strength Bolts, Nuts and Washers, line 11, replace "Article 1080-9" with "Article 1080-7".

Page 10-111, Subarticle 1072-18(B) General, line 24, replace "Structural Welding Code-Reinforcing Steel" with "Structural Welding Code-Steel Reinforcing Bars".

Page 10-117, Article 1074-1 WELDING, lines 21-22, replace "Structural Welding Code-Reinforcing Steel" with "Structural Welding Code-Steel Reinforcing Bars".

Page 10-119, Article 1074-7(B) Gray Iron Castings, line 16, replace "M306" with "AASHTO M 306".

Page 10-121, Article 1076-7, REPAIR OF GALVANIZING, line 8, replace article number "1080-9" with "1080-7".

Page 10-125, Subarticle 1077-5(B) Testing, line 31, replace "T 23" with "R 100".

Page 10-136, Subarticle 1077-5(J)(2) Mixing Time for Central Mixed Concrete, after line 17, replace "T23" with "R100".

Page 10-131, Subarticle 1078-4(A) Composition and Design, after line 23, in Table 1078-2 replace "T 23" with "R 100".

Page 10-153, Subarticle 1079-1 PREFORMED BEARING PADS, line 8, replace "MIL-C882-D" with "MIL-C-882-E".

Page 10-154, Subarticle 1079-2(A) General, line 6, delete "and 1079-2(E)".

Page 10-156, Article 1080-5 SELF-CURING INORGANIC ZINC PAINT, line 8, replace "AASHTO M 252" with "AASHTO M 300".

Page 10-156, Article 1080-5 SELF-CURING INORGANIC ZINC PAINT, line 20, replace "AASHTO M 253" with "AASHTO M 300".

Page 10-156, Subarticle 1080-9(A) Composition, line 40, replace "Tables 1080-7 through 1080-14" with "Tables 1080-1 through 1080-3".

Page 10-157, Subarticle 1080-9(B) Properties, line 5, replace "Tables 1080-7 through 1080-14" with "Tables 1080-1 through 1080-3".

Page 10-157, Subarticle 1080-9(B) Properties, line 35, replace "Materials and Tests Standards CLS-P-1.0" with "*Structural Steel Shop Coatings Program*".

Page 10-159, Subarticle 1080-9(E) Color Variation, Table 1080-1, replace "ASTM D1159" with "ASTM D1199".

Page 10-159, Subarticle 1080-9(E) Color Variation, Table 1080-1, replace "NCDOT M&T P-10" with "ASTM D6280".

Page 10-161, Subarticle 1080-9(E) Color Variation, Table 1080-3, replace "ASTM D13278" and "ASTM D3278".

Page 10-161, Subarticle 1080-9(E) Color Variation, Table 1080-3, replace "NCDOT M&T P-10" and "Structural Steel Shop Coatings Program".

Page 10-161, Subarticle 1080-9(E) Color Variation, Table 1080-3, add Test Method "ASTM D4400" for the Leneta Sag Test property in Table 1080-3.

Page 10-161, Subarticle 1080-9(E) Color Variation, Table 1080-3, add Test Method "ASTM D523" for the Gloss, Specular property in Table 1080-3.

Page 10-161, Subarticle 1080-9(E) Color Variation, Table 1080-3, replace Test Method "ASTM" with "ASTM E70" for the pH property in Table 1080-3.

Page 10-162, Article 1080-50 PAINT FOR VERTICAL MARKERS, line 1, replace article number "1080-50" with "1080-10".

Page 10-162, Article 1080-61 EPOXY RESIN FOR REINFORCING STEEL, line 5, replace article number "1080-61" with "1080-11".

Page 10-162, Article 1080-72 ABRASIVE MATERIALS FOR BLAST CLEANING STEEL, line 22, replace article number "1080-72" with "1080-12".

Page 10-163, Article 1080-83 FIELD PERFORMANCE AND SERVICES, line 25, replace article number "1080-83" with "1080-13".

Page 10-166, Subarticle 1081-1(E) Prequalification, line 24, replace "Value Management Unit" with "Product Evaluation Program".

Page 10-168, Subarticle 1081-3(A) Physical Requirements, after line 25, replace "Subarticle 1081-4(B)" with "Subarticle 1081-3(B)" in Table 1081-2.

Page 10-168, Subarticle 1087-2(A) Paint Composition, lines 19-20, replace "Federal Specification TTP 1952F" with "Federal Specification TT-P-1952".

Page 10-200, Subarticle 1090-1(C) Anchor Bolts, line 38, replace ASTM number "A325" with "F3125".

Page 10-202, Subarticle 1091-3(F) Solid Wall HDPE Conduit, line 5, replace ", Table 1091-1, 1091-2 and 1091-3" with "and Table 1091-1".

Page 10-208, Subarticle 1094-1(A) Breakaway or Simple Steel Beam Sign Supports, line 19, replace ASTM number "A325" with "F3125".

Page 10-209, Subarticle 1094-1(D) Steel Square Tube Posts, line 10, replace ASTM number "A123" with "A653".

Page 10-209, Subarticle 1094-1(E) Wood Supports, line 17, replace "Article 1082-2 and 1082-3" with "Section 1082".

Page 10-212, Subarticle 1098-1(H) Electrical Service, line 21, replace "NEMA Type 3R" with "NEMA 3R".

Page 10-212, Subarticle 1098-1(H) Electrical Service, line 36, replace "UL Standard 231" with "UL Standard UL-231".

Page 10-212, Subarticle 1098-1(H) Electrical Service, line 37, replace "UL Standard 67" with "UL Standard UL-67".

Page 10-224, Subarticle 1098-14(H)(1) Type I – Pedestrian Pushbutton Post, line 3, replace ASTM number "325" with "F3125".

Page 10-224, Article 1098-16 CABINET BASE ADAPTER/EXTENDER, line 33, replace Section number "6.7" with "6.8".

Division 14

Page 14-11, Subarticle 1401-2(B) Lowering Device, line 36, replace Military Specification "MIL-W-83420E" with "MIL-DTL-83420".

Page 14-22, Article 1412-2 MATERIALS, line 29, replace UL Standard "1572" with "1598".

Division 15

Page 15-6, Subarticle 1510-3(B) Testing and Sterilization, line 40, replace Section number "4.4.3" with "4.4".

Page 15-14, Article 1525-2 MATERIALS, line 9, replace “AASHTO M 198” with “ASTM C990”.

Page 15-14, Article 1525-2 MATERIALS, lines 17-18, delete “in the Grout Production and Delivery provision”.

Page 15-19, Article 1550-2 MATERIALS, line 16, replace “*AASHTO LRFD Bridge Design Specifications*” with “*AASHTO LRFD Bridge Construction Specifications*”.

Division 16

Page 16-9, Article 1630-3 MEASUREMENT AND PAYMENT, line 7, replace "Section 225” with “Article 225-7”.

Page 16-9, Article 1630-3 MEASUREMENT AND PAYMENT, line 8, replace "Section 230” with “Article 230-5”.

Page 16-16, Article 1637-5 MEASUREMENT AND PAYMENT, line 17, replace "Section 310” with “Article 310-6”.

Division 17

Page 17-15, Article 1715-4 MEASUREMENT AND PAYMENT, lines 42-44, replace the second sentence with the following:

An example is an installation of a single 1.25 inch HDPE conduit would be paid as:

Directional Drill (1)(1.25″) Linear Foot

Page 17-15, Subarticle 1715-3(E) Bore and Jack, line 5, replace article number “1540-4” with “1550-4”.

Page 17-15, Subarticle 1715-3(E) Bore and Jack, lines 10 & 11, replace "*NCDOT Policies and Procedures for Accommodating Utilities on Highway Rights of Way*” with “*NCDOT Utilities Accommodations Manual*”.

STANDARD SPECIAL PROVISION

PLANT AND PEST QUARANTINES
(Imported Fire Ant, Gypsy Moth, Witchweed, Emerald Ash Borer, Guava Root Knot Nematode, And Other Noxious Weeds)

(3-18-03) (Rev. 5-21-19) Z-04a

Within Quarantined Area

This project may be within a county regulated for plant and/or pests. If the project or any part of the Contractor's operations is located within a quarantined area, thoroughly clean all equipment prior to moving out of the quarantined area. Comply with federal/state regulations by obtaining a certificate or limited permit for any regulated article moving from the quarantined area.

Originating in a Quarantined County

Obtain a certificate or limited permit issued by the N.C. Department of Agriculture/United States Department of Agriculture. Have the certificate or limited permit accompany the article when it arrives at the project site.

Contact

Contact the N.C. Department of Agriculture/United States Department of Agriculture at 1-800-206-9333, 919-707-3730, or *https://www.ncagr.gov/plantindustry/Plant/quaran/table2.htm* to determine those specific project sites located in the quarantined area or for any regulated article used on this project originating in a quarantined county.

Regulated Articles Include

1. Soil, sand, gravel, compost, peat, humus, muck, and decomposed manure, separately or with other articles. This includes movement of articles listed above that may be associated with cut/waste, ditch pulling, and shoulder cutting.
2. Plants with roots including grass sod.
3. Plant crowns and roots.
4. Bulbs, corms, rhizomes, and tubers of ornamental plants.
5. Hay, straw, fodder, and plant litter of any kind.
6. Clearing and grubbing debris.
7. Used agricultural cultivating and harvesting equipment.
8. Used earth-moving equipment.
9. Any other products, articles, or means of conveyance, of any character, if determined by an inspector to present a hazard of spreading imported fire ant, gypsy moth, witchweed, emerald ash borer, guava root knot nematode, or other noxious weeds.

STANDARD SPECIAL PROVISION

TITLE VI AND NONDISCRIMINATION:

(6-28-77)(Rev 6/19/2018) Z-6

Revise the *2018 Standard Specifications* as follows:

Replace Article 103-4(B) with the following:

The North Carolina Department of Transportation is committed to carrying out the U.S. Department of Transportation's policy of ensuring nondiscrimination in the award and administration of contracts.

The provisions of this section related to United States Department of Transportation (US DOT) Order 1050.2A, Title 49 Code of Federal Regulations (CFR) part 21, 23 United States Code (U.S.C.) 140 and 23 CFR part 200 (or 49 CFR 303, 49 U.S.C. 5332 or 49 U.S.C. 47123) are applicable to all North Carolina Department of Transportation (NCDOT) contracts and to all related subcontracts, material supply, engineering, architectural and other service contracts, regardless of dollar amount. Any Federal provision that is specifically required not specifically set forth is hereby incorporated by reference.

(1) **Title VI Assurances (USDOT Order 1050.2A, Appendix A)**

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

(a) Compliance with Regulations

The contractor (hereinafter includes consultants) shall comply with the Acts and the Regulations relative to Nondiscrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration (FHWA), as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

(b) Nondiscrimination

The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

(c) Solicitations for Subcontractors, Including Procurements of Materials and Equipment

In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Nondiscrimination on the grounds of race, color, or national origin.

(d) Information and Reports

The contractor shall provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the FHWA to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the

exclusive possession of another who fails or refuses to furnish the information, the contractor shall so certify to the Recipient or the FHWA, as appropriate, and shall set forth what efforts it has made to obtain the information.

(e) Sanctions for Noncompliance:
In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it and/or the FHWA may determine to be appropriate, including, but not limited to:
(i) Withholding payments to the contractor under the contract until the contractor complies; and/or
(ii) Cancelling, terminating, or suspending a contract, in whole or in part.

(f) Incorporation of Provisions
The contractor shall include the provisions of paragraphs (a) through (f) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor shall take action with respect to any subcontract or procurement as the Recipient or the FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

(2) **Title VI Nondiscrimination Program (23 CFR 200.5(p))**
The North Carolina Department of Transportation (NCDOT) has assured the USDOT that, as a condition to receiving federal financial assistance, NCDOT will comply with Title VI of the Civil Rights Act of 1964 and all requirements imposed by Title 49 CFR part 21 and related nondiscrimination authorities to ensure that no person shall, on the ground of race, color, national origin, limited English proficiency, sex, age, or disability (including religion/creed or income-level, where applicable), be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any programs, activities, or services conducted or funded by NCDOT. Contractors and other organizations under contract or agreement with NCDOT must also comply with Title VI and related authorities, therefore:

(a) During the performance of this contract or agreement, contractors (e.g., subcontractors, consultants, vendors, prime contractors) are responsible for complying with NCDOT's Title VI Program. Contractors are not required to prepare or submit Title VI Programs. To comply with this section, the prime contractor shall:
1. Post NCDOT's Notice of Nondiscrimination and the Contractor's own Equal Employment Opportunity (EEO) Policy in conspicuous locations accessible to all employees, applicants and subcontractors on the jobsite.
2. Physically incorporate the required Title VI clauses into all subcontracts on federally-assisted and state-funded NCDOT projects, and ensure inclusion by subcontractors into all lower-tier subcontracts.
3. Required Solicitation Language. The Contractor shall include the following notification in all solicitations for bids and requests for work or material, regardless of funding source:
"The North Carolina Department of Transportation, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 US.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not

be discriminated against on the grounds of race, color, or national origin in consideration for an award. In accordance with other related nondiscrimination authorities, bidders and contractors will also not be discriminated against on the grounds of sex, age, disability, low-income level, creed/religion, or limited English proficiency in consideration for an award."

4. Physically incorporate the FHWA-1273, in its entirety, into all subcontracts and subsequent lower tier subcontracts on Federal-aid highway construction contracts only.
5. Provide language assistance services (i.e., written translation and oral interpretation), free of charge, to LEP employees and applicants. Contact NCDOT OCR for further assistance, if needed.
6. For assistance with these Title VI requirements, contact the NCDOT Title VI Nondiscrimination Program at 1-800-522-0453.

(b) Subrecipients (e.g. cities, counties, LGAs, planning organizations) may be required to prepare and submit a Title VI Plan to NCDOT, including Title VI Assurances and/or agreements. Subrecipients must also ensure compliance by their contractors and subrecipients with Title VI. (23 CFR 200.9(b)(7))

(c) If reviewed or investigated by NCDOT, the contractor or subrecipient agrees to take affirmative action to correct any deficiencies found within a reasonable time period, not to exceed 90 calendar days, unless additional time is granted by NCDOT. (23 CFR 200.9(b)(15))

(d) The Contractor is responsible for notifying subcontractors of NCDOT's External Discrimination Complaints Process.

1. Applicability
   Title VI and related laws protect participants and beneficiaries (e.g., members of the public and contractors) from discrimination by NCDOT employees, subrecipients and contractors, regardless of funding source.
2. Eligibility
   Any person—or class of persons—who believes he/she has been subjected to discrimination based on race, color, national origin, Limited English Proficiency (LEP), sex, age, or disability (and religion in the context of employment, aviation, or transit) may file a written complaint. The law also prohibits intimidation or retaliation of any sort.
3. Time Limits and Filing Options
   Complaints may be filed by the affected individual(s) or a representative and must be filed no later than 180 calendar days after the following:
   (i) The date of the alleged act of discrimination; or
   (ii) The date when the person(s) became aware of the alleged discrimination; or
   (iii) Where there has been a continuing course of conduct, the date on which that conduct was discontinued or the latest instance of the conduct.

   Title VI and related discrimination complaints may be submitted to the following entities:
   - North Carolina Department of Transportation, Office of Civil Rights, Title VI Program, 1511 Mail Service Center, Raleigh, NC 27699-1511; toll free 1-800-522-0453
   - Federal Highway Administration, North Carolina Division Office, 310 New Bern Avenue, Suite 410, Raleigh, NC 27601, 919-747-7010
   - US Department of Transportation, Departmental Office of Civil Rights, External Civil Rights Programs Division, 1200 New Jersey Avenue, SE, Washington, DC 20590; 202-366-4070

4. Format for Complaints
   Complaints must be in writing and signed by the complainant(s) or a representative, and include the complainant's name, address, and telephone number. Complaints received by fax or e-mail will be acknowledged and processed. Allegations received by telephone will be reduced to writing and provided to the complainant for confirmation or revision before processing. Complaints will be accepted in other languages, including Braille.
5. Discrimination Complaint Form
   Contact NCDOT Civil Rights to receive a full copy of the Discrimination Complaint Form and procedures.
6. Complaint Basis
   Allegations must be based on issues involving race, color, national origin (LEP), sex, age, disability, or religion (in the context of employment, aviation or transit). "Basis" refers to the complainant's membership in a protected group category.

TABLE 103-1
COMPLAINT BASIS

Protected Categories	Definition	Examples	Applicable Nondiscrimination Authorities
Race and Ethnicity	An individual belonging to one of the accepted racial groups; or the perception, based usually on physical characteristics that a person is a member of a racial group	Black/African American, Hispanic/Latino, Asian, American Indian/Alaska Native, Native Hawaiian/Pacific Islander, White	Title VI of the Civil Rights Act of 1964; 49 CFR Part 21; 23 CFR 200; 49 U.S.C. 5332(b); 49 U.S.C. 47123. *(Executive Order 13166)*
Color	Color of skin, including shade of skin within a racial group	Black, White, brown, yellow, etc.	
National Origin *(Limited English Proficiency)*	Place of birth. Citizenship is not a factor. (*Discrimination based on language or a person's accent is also covered)*	Mexican, Cuban, Japanese, Vietnamese, Chinese	
Sex	Gender. The sex of an individual. *Note:* Sex under this program does not include sexual orientation.	Women and Men	1973 Federal-Aid Highway Act; 49 U.S.C. 5332(b); 49 U.S.C. 47123.
Age	Persons of any age	21-year-old person	Age Discrimination Act of 1975 49 U.S.C. 5332(b); 49 U.S.C. 47123.
Disability	Physical or mental impairment, permanent or temporary, or perceived.	Blind, alcoholic, para-amputee, epileptic, diabetic, arthritic	Section 504 of the Rehabilitation Act of 1973; Americans with Disabilities Act of 1990

Religion (in the context of employment) *(Religion/ Creed in all aspects of any aviation or transit-related construction)*	An individual belonging to a religious group; or the perception, based on distinguishable characteristics that a person is a member of a religious group. In practice, actions taken as a result of the moral and ethical beliefs as to what is right and wrong, which are sincerely held with the strength of traditional religious views. ***Note:*** Does not have to be associated with a recognized religious group or church; if an individual sincerely holds to the belief, it is a protected religious practice.	Muslim, Christian, Sikh, Hindu, etc.	Title VII of the Civil Rights Act of 1964; 23 CFR 230; FHWA-1273 Required Contract Provisions. *(49 U.S.C. 5332(b);* *49 U.S.C. 47123)*

(3) **Pertinent Nondiscrimination Authorities**

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest agrees to comply with the following non-discrimination statutes and authorities, including, but not limited to:

(a) Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.

(b) The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);

(c) Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);

(d) Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability) and 49 CFR Part 27;

(e) The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);

(f) Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);

(g) The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);

(h) Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;

(i) The Federal Aviation Administration's Nondiscrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);

(j) Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures Nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;

(k) Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of Limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);

(l) Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

(m) Title VII of the Civil Rights Act of 1964 (42 U.S.C. § 2000e et seq., Pub. L. 88-352), (prohibits employment discrimination on the basis of race, color, religion, sex, or national origin).

(4) **Additional Title VI Assurances**

******The following Title VI Assurances (Appendices B, C and D) shall apply, as applicable*

(a) Clauses for Deeds Transferring United States Property (1050.2A, Appendix B)

The following clauses will be included in deeds effecting or recording the transfer of real property, structures, or improvements thereon, or granting interest therein from the United States pursuant to the provisions of Assurance 4.

NOW, THEREFORE, the U.S. Department of Transportation as authorized by law and upon the condition that the North Carolina Department of Transportation (NCDOT) will accept title to the lands and maintain the project constructed thereon in accordance with the North Carolina General Assembly, the Regulations for the Administration of the Federal-Aid Highway Program, and the policies and procedures prescribed by the Federal Highway Administration of the U.S. Department of Transportation in accordance and in compliance with all requirements imposed by Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the U.S Department of Transportation pertaining to and effectuating the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252; 42 U.S.C. § 2000d to 2000d-4), does hereby remise, release, quitclaim and convey unto the NCDOT all the right, title and interest of the U.S. Department of Transportation in and to said lands described in Exhibit A attached hereto and made a part hereof.

(HABENDUM CLAUSE)

TO HAVE AND TO HOLD said lands and interests therein unto the North Carolina Department of Transportation (NCDOT) and its successors forever, subject, however, to the covenants, conditions, restrictions and reservations herein contained as follows, which will remain in effect for the period during which the real property or structures are used for a purpose for which Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits and will be binding on the NCDOT, its successors and assigns.

The NCDOT, in consideration of the conveyance of said lands and interests in lands, does hereby covenant and agree as a covenant running with the land for itself, its successors and assigns, that (1) no person will on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination with regard to any facility located wholly or in part on, over, or under such lands hereby conveyed [,] [and]* (2) that the NCDOT will use the lands and interests in lands and interests in lands so conveyed, in compliance with all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations and Acts may be amended [, and (3) that in the event of breach of any of the above-mentioned nondiscrimination conditions, the Department will have a right to enter or re-enter said lands and facilities on said land, and that above described land and facilities will thereon revert to and vest in and become the absolute property of the U.S. Department of Transportation and its assigns as such interest existed prior to this instruction].*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary in order to make clear the purpose of Title VI.)

(b) Clauses for Transfer of Real Property Acquired or Improved Under the Activity, Facility, or Program (1050.2A, Appendix C)

The following clauses will be included in deeds, licenses, leases, permits, or similar instruments entered into by the North Carolina Department of Transportation (NCDOT) pursuant to the provisions of Assurance 7(a):

1. The (grantee, lessee, permittee, etc. as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree [in the case of deeds and leases add "as a covenant running with the land"] that:
   (i.) In the event facilities are constructed, maintained, or otherwise operated on the property described in this (deed, license, lease, permit, etc.) for a purpose for which a U.S. Department of Transportation activity, facility, or program is extended or for another purpose involving the provision of similar services or benefits, the (grantee, licensee, lessee, permittee, etc.) will maintain and operate such facilities and services in compliance with all requirements imposed by the Acts and Regulations (as may be amended) such that no person on the grounds of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities.
2. With respect to licenses, leases, permits, etc., in the event of breach of any of the above Nondiscrimination covenants, the NCDOT will have the right to terminate the (lease, license, permit, etc.) and to enter, re-enter, and repossess said lands and facilities thereon, and hold the same as if the (lease, license, permit, etc.) had never been made or issued. *
3. With respect to a deed, in the event of breach of any of the above Nondiscrimination covenants, the NCDOT will have the right to enter or re-enter the lands and facilities thereon, and the above described lands and facilities will there upon revert to and vest in and become the absolute property of the NCDOT and its assigns. *

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

(c) Clauses for Construction/Use/Access to Real Property Acquired Under the Activity, Facility or Program (1050.2A, Appendix D)

The following clauses will be included in deeds, licenses, permits, or similar instruments/ agreements entered into by the North Carolina Department of Transportation (NCDOT) pursuant to the provisions of Assurance 7(b):

1. The (grantee, licensee, permittee, etc., as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree (in the case of deeds and leases add, "as a covenant running with the land") that (1) no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over, or under such land, and the furnishing of services thereon, no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination, (3) that the (grantee, licensee, lessee, permittee, etc.) will use the premises in compliance with all other requirements imposed by or pursuant to the Acts and Regulations, as amended, set forth in this Assurance.
2. With respect to (licenses, leases, permits, etc.), in the event of breach of any of the above Non¬ discrimination covenants, the NCDOT will have the right to terminate the (license, permit, etc., as appropriate) and to enter or re-enter and repossess said land and the facilities thereon, and hold the same as if said (license, permit, etc., as appropriate) had never been made or issued. *
3. With respect to deeds, in the event of breach of any of the above Nondiscrimination covenants, the NCDOT will there upon revert to and vest in and become the absolute property of the NCDOT and its assigns. *

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

STANDARD SPECIAL PROVISION

MINORITY AND FEMALE EMPLOYMENT REQUIREMENTS

Z-7

NOTICE OF REQUIREMENTS FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (*EXECUTIVE NUMBER 11246*)

1. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, see as shown on the attached sheet entitled "Employment Goals for Minority and Female participation".

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The Contractor's compliance with the Executive Order and the regulations in *41 CFR Part 60-4* shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in *41 CFR 60-4.3(a)*, and its effort to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the executive Order and the regulations *in 41 CFR Part 60-4*. Compliance with the goals will be measured against the total work hours performed.

2. As used in this Notice and in the contract resulting from this solicitation, the "covered area" is the county or counties shown on the cover sheet of the proposal form and contract.

EMPLOYMENT GOALS FOR MINORITY AND FEMALE PARTICIPATION

Economic Areas

Area 023 29.7%
Bertie County
Camden County
Chowan County
Gates County
Hertford County
Pasquotank County
Perquimans County

Area 024 31.7%
Beaufort County
Carteret County
Craven County
Dare County
Edgecombe County
Green County
Halifax County
Hyde County
Jones County
Lenoir County
Martin County
Nash County
Northampton County
Pamlico County
Pitt County
Tyrrell County
Washington County
Wayne County
Wilson County

Area 025 23.5%
Columbus County
Duplin County
Onslow County
Pender County

Area 026 33.5%
Bladen County
Hoke County
Richmond County
Robeson County
Sampson County
Scotland County

Area 027 24.7%
Chatham County
Franklin County
Granville County
Harnett County
Johnston County
Lee County
Person County
Vance County
Warren County

Area 028 15.5%
Alleghany County
Ashe County
Caswell County
Davie County
Montgomery County
Moore County
Rockingham County
Surry County
Watauga County
Wilkes County

Area 029 15.7%
Alexander County
Anson County
Burke County
Cabarrus County
Caldwell County
Catawba County
Cleveland County
Iredell County
Lincoln County
Polk County
Rowan County
Rutherford County
Stanly County

Area 0480 8.5%
Buncombe County
Madison County

Area 030 6.3%
Avery County
Cherokee County
Clay County
Graham County
Haywood County
Henderson County
Jackson County
McDowell County
Macon County
Mitchell County
Swain County
Transylvania County
Yancey County

SMSA Areas

Area 5720 26.6%
Currituck County

Area 9200 20.7%
Brunswick County
New Hanover County

Area 2560 24.2%
Cumberland County

Area 6640 22.8%
Durham County
Orange County
Wake County

Area 1300 16.2%
Alamance County

Area 3120 16.4%
Davidson County
Forsyth County
Guilford County
Randolph County
Stokes County
Yadkin County

Area 1520 18.3%
Gaston County
Mecklenburg County
Union County

Goals for Female

Participation in Each Trade

(Statewide) 6.9%

FHWA-1273 -- Revised July 5, 2022

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Non-segregated Facilities
IV. Davis-Bacon and Related Act Provisions
V. Contract Work Hours and Safety Standards Act Provisions
VI. Subletting or Assigning the Contract
VII. Safety: Accident Prevention
VIII. False Statements Concerning Highway Projects
IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
XI. Certification Regarding Use of Contract Funds for Lobbying
XII. Use of United States-Flag Vessels:

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (*see* 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:
(1) Withholding monthly progress payments;
(2) Assessing sanctions;
(3) Liquidated damages; and/or
(4) Disqualifying the contractor from future bidding as non-responsible.
c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

a. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than $10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH–1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding (29 CFR 5.5)

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records (29 CFR 5.5)

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency.

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or

subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees (29 CFR 5.5)

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the

corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility (29 CFR 5.5)

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1 of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph 1 of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1 of this section. 29 CFR 5.5.

* $27 as of January 23, 2019 (See 84 FR 213-01, 218) as may be adjusted annually by the Department of Labor; pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990).

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 2 of this section. 29 CFR 5.5.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs 1 through 4 of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1 through 4 of this section. 29 CFR 5.5.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;
(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance

with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of $150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.326.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.326.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. “First Tier Covered Transactions” refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant

who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

3. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is

submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion–Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(a) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(b) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(c) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier

subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B) This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

STANDARD SPECIAL PROVISION

ON-THE-JOB TRAINING

(10-16-07) (Rev. 4-21-15) Z-10

Description

The North Carolina Department of Transportation will administer a custom version of the Federal On-the-Job Training (OJT) Program, commonly referred to as the Alternate OJT Program. All contractors (existing and newcomers) will be automatically placed in the Alternate Program. Standard OJT requirements typically associated with individual projects will no longer be applied at the project level. Instead, these requirements will be applicable on an annual basis for each contractor administered by the OJT Program Manager.

On the Job Training shall meet the requirements of 23 CFR 230.107 (b), 23 USC – Section 140, this provision and the On-the-Job Training Program Manual.

The Alternate OJT Program will allow a contractor to train employees on Federal, State and privately funded projects located in North Carolina. However, priority shall be given to training employees on NCDOT Federal-Aid funded projects.

Minorities and Women

Developing, training and upgrading of minorities and women toward journeyman level status is a primary objective of this special training provision. Accordingly, the Contractor shall make every effort to enroll minority and women as trainees to the extent that such persons are available within a reasonable area of recruitment. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

Assigning Training Goals

The Department, through the OJT Program Manager, will assign training goals for a calendar year based on the contractors' past three years' activity and the contractors' anticipated upcoming year's activity with the Department. At the beginning of each year, all contractors eligible will be contacted by the Department to determine the number of trainees that will be assigned for the upcoming calendar year. At that time the Contractor shall enter into an agreement with the Department to provide a self-imposed on-the-job training program for the calendar year. This agreement will include a specific number of annual training goals agreed to by both parties. The number of training assignments may range from 1 to 15 per contractor per calendar year. The Contractor shall sign an agreement to fulfill their annual goal for the year.\

Training Classifications

The Contractor shall provide on-the-job training aimed at developing full journeyman level workers in the construction craft/operator positions. Preference shall be given to providing training in the following skilled work classifications:

Equipment Operators	Office Engineers
Truck Drivers	Estimators
Carpenters	Iron / Reinforcing Steel Workers
Concrete Finishers	Mechanics
Pipe Layers	Welders

The Department has established common training classifications and their respective training requirements that may be used by the contractors. However, the classifications established are not all-inclusive. Where the training is oriented toward construction applications, training will be allowed in lower-level management positions such as office engineers and estimators. Contractors shall submit new classifications for specific job functions that their employees are performing. The Department will review and recommend for acceptance to FHWA the new classifications proposed by contractors, if applicable. New classifications shall meet the following requirements:

Proposed training classifications are reasonable and realistic based on the job skill classification needs, and

The number of training hours specified in the training classification is consistent with common practices and provides enough time for the trainee to obtain journeyman level status.

The Contractor may allow trainees to be trained by a subcontractor provided that the Contractor retains primary responsibility for meeting the training and this provision is made applicable to the subcontract. However, only the Contractor will receive credit towards the annual goal for the trainee.

Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. The number of trainees shall be distributed among the work classifications on the basis of the contractor's needs and the availability of journeymen in the various classifications within a reasonable area of recruitment.

No employee shall be employed as a trainee in any classification in which they have successfully completed a training course leading to journeyman level status or in which they have been employed as a journeyman.

Records and Reports

The Contractor shall maintain enrollment, monthly and completion reports documenting company compliance under these contract documents. These documents and any other information as requested shall be submitted to the OJT Program Manager.

Upon completion and graduation of the program, the Contractor shall provide each trainee with a certification Certificate showing the type and length of training satisfactorily completed.

Trainee Interviews

All trainees enrolled in the program will receive an initial and Trainee/Post graduate interview conducted by the OJT program staff.

Trainee Wages

Contractors shall compensate trainees on a graduating pay scale based upon a percentage of the prevailing minimum journeyman wages (Davis-Bacon Act). Minimum pay shall be as follows:

60 percent	of the journeyman wage for the first half of the training period
75 percent	of the journeyman wage for the third quarter of the training period
90 percent	of the journeyman wage for the last quarter of the training period

In no instance shall a trainee be paid less than the local minimum wage. The Contractor shall adhere to the minimum hourly wage rate that will satisfy both the NC Department of Labor (NCDOL) and the Department.

Achieving or Failing to Meet Training Goals

The Contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and who receives training for at least 50 percent of the specific program requirement. Trainees will be allowed to be transferred between projects if required by the Contractor's scheduled workload to meet training goals.

If a contractor fails to attain their training assignments for the calendar year, they may be taken off the NCDOT's Bidders List.

Measurement and Payment

No compensation will be made for providing required training in accordance with these contract documents.

STANDARD SPECIAL PROVISION
MINIMUM WAGES
GENERAL DECISION NC20230091 01/06/2023 NC91

Z-091

Date: January 6, 2023

General Decision Number: NC20230091 01/06/2023 NC91

Superseded General Decision Numbers: NC20220091

State: North Carolina

Construction Type: HIGHWAY

COUNTIES:

Beaufort	Granville	Pasquotank
Bertie	Halifax	Perquimans
Bladen	Harnett	Robeson
Camden	Hertford	Sampson
Carteret	Hyde	Scotland
Chowan	Jones	Tyrrell
Columbus	Lenoir	Vance
Craven	Martin	Warren
Dare	Northampton	Washington
Duplin	Pamlico	Wilson
Gates		

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least $16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract	Executive Order 13658 generally applies to the contract. The contractor must pay all covered workers at least $12.15 per hour (or the applicable wage rate listed on

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least $16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.
is not renewed or extended on or after January 30, 2022:	this wage determination, if it is higher) for all hours spent performing on that contract in 2023.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at http://www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/06/2023

SUNC2014-006 11/17/2014

	Rates	Fringes
BLASTER	21.85	
CARPENTER	13.72 **	
CEMENT MASON/CONCRETE FINISHER	14.26 **	
ELECTRICIAN		
Electrician	18.69	2.66
Telecommunications Technician	14.72 **	1.67
IRONWORKER	16.32	
LABORER		
Asphalt Raker and Spreader	12.42 **	
Asphalt Screed/Jackman	13.48 **	
Carpenter Tender	10.85 **	
Cement Mason/Concrete Finisher Tender	11.35 **	
Common or General	10.12 **	
Guardrail/Fence Installer	13.39 **	
Pipelayer	13.31 **	
Traffic Signal/Lighting Installer	16.88	
PAINTER		
Bridge	19.62	
POWER EQUIPMENT OPERATORS		
Asphalt Broom Tractor	13.28 **	
Bulldozer Fine	18.46	
Bulldozer Rough	14.09 **	
Concrete Grinder/Groover	24.66	
Crane Boom Trucks	17.25	
Crane Other	21.48	
Crane Rough/All-Terrain	19.00	
Drill Operator Rock	15.43 **	1.61
Drill Operator Structure	19.12	
Excavator Fine	17.61	

	Rates	Fringes
Excavator Rough	12.99 **	
Grader/Blade Fine	16.73	
Grader/Blade Rough	15.28 **	
Loader 2 Cubic Yards or Less	10.28 **	
Loader Greater Than 2 Cubic Yards	13.58 **	
Material Transfer Vehicle (Shuttle Buggy)	17.39	
Mechanic	18.63	
Milling Machine	14.38 **	
Off-Road Hauler/Water Tanker	9.30 **	
Oiler/Greaser	13.45 **	
Pavement Marking Equipment	11.87 **	
Paver Asphalt	15.53 **	
Roller Asphalt Breakdown	12.13 **	
Roller Asphalt Finish	13.65 **	
Roller Other	10.48 **	
Scraper Finish	13.98 **	
Scraper Rough	10.17 **	
Slip Form Machine	19.29	
Tack Truck/Distributor Operator	14.56 **	
TRUCK DRIVER		
GVWR of 26,000 Lbs or Less	10.35 **	
GVWR of 26,001 Lbs or Greater	12.04 **	

Welders – Receive rate prescribed for craft performing operation to which welding is incidental.

** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 ($16.20) or 13658 ($12.15). Please see the Note at the top of the wage determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the David-

Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U. S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

PROJECT SPECIAL PROVISIONS

GEOTECHNICAL

AGGREGATE SUBGRADE (SPECIAL) GT-1.1 - GT-1.1

DocuSigned by:
Geotechnical Engineering Unit
04/12/2023
E06538624A11498...

AGGREGATE SUBGRADE **(SPECIAL)**

Revise the *2018 Standard Specifications* as follows:

Page 5-8, Article 505-1 DESCRIPTION, lines 4-6, replace the paragraph with the following:

Construct aggregate subgrades in accordance with the contract. Install geotextile for soil stabilization and place Class IV subgrade stabilization at locations shown in the plans and as directed.

Undercut natural soil materials if necessary to construct aggregate subgrades. Define "subbase" as the portion of the roadbed below the Class IV subgrade stabilization. For Type 2 aggregate subgrades, undercut subbases as needed. The types of aggregate subgrade with thickness and compaction requirements for each are as shown below.

Type 1 – A 6 to 24 inch thick aggregate subgrade with Class IV subgrade stabilization compacted to 92% of AASHTO T 180 as modified by the Department or to the highest density that can be reasonably obtained.

Type 2 – An 8 inch thick aggregate subgrade on a proof rolled subbase with Class IV subgrade stabilization compacted to 97% of AASHTO T 180 as modified by the Department.

Page 5-8, Article 505-3 CONSTRUCTION METHODS, line 12, insert the following after the first sentence of the first paragraph:

For Type 2 aggregate subgrades, proof roll subbases in accordance with Section 260 before installing geotextile for soil stabilization.

Page 5-8, Article 505-3 CONSTRUCTION METHODS, lines 16-17, replace the last sentence of the first paragraph with the following:

Compact ABC as required for the type of aggregate subgrade constructed.

Page 5-8, Article 505-4 MEASUREMENT AND PAYMENT, line 26, insert the following after the last sentence of the first paragraph:

Undercut Excavation of natural soil materials from subbases for Type 2 aggregate subgrades will be measured and paid in accordance with Article 225-7 or 226-3. No measurement will be made for any undercut excavation of fill materials from subbases.



DocuSigned by:
John L. Pilipchuk
52C44B94B8BE444...
04/12/2023

DocuSign Envelope ID: BACD991A-38B6-4877-88EE-E8E50ADB6C54

Project: R-2561CA **UC-1** County: Columbus

EXHIBIT A

PROJECT SPECIAL PROVISIONS
Utility Construction

Highfill Infrastructure Engineering, P.C.
2703 Jones Franklin Road
Suite 201
Cary, NC 27518
Firm License No. C-2586



2022.08.29
DocuSigned by:
Brian Oschwald (Seal)
F900429F174...

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

Revise the 2018 Standard Specifications as follows:

Page 15-1, Sub-article 1500-2 Cooperation with the Utility Owner, paragraph 2:
add the following sentences:

The utility owner is the Town of Sandyfield (Town) located at 1795 Woodyard Road, Riegelwood, NC 28456. The contact person is Garry Keaton, and he can be reached by phone at 910-655-9877 (Office).

I. DESCRIPTION

The work covered by these provisions only applies to Town facilities and consists of constructing various utilities as required by the plans and provisions herein or as directed by the Engineer. The Contractor shall furnish any and all materials, labor, equipment, and incidentals necessary to complete the proposed utility work.

Apply the applicable provisions of the Rules and Regulations of the North Carolina Department of Environment and Natural Resources, Division of Environmental Health to the construction of water lines. Apply the Rules and Regulations of the North Carolina Department of Environment and Natural Resources, Division of Water Quality to the construction of the water lines except as otherwise provided. Perform all work in accordance with the applicable plumbing codes.

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II. GENERAL CONSTRUCTION REQUIREMENTS

Specifications:

The proposed utility construction shall meet the applicable requirements:

1) The NCDOT's "Standard Specifications for Roads and Structures" dated January 2018.
    a. Section 1036 – Water Pipe and Fittings
    b. Section 1500 – General Utility Requirements
    c. Section 1505 – Excavation, Trenching, Pipe Laying and Backfilling for Utilities
    d. Section 1510 – Water Lines
    e. Section 1515 – Utility Controls
    f. Section 1530 – Abandon or Remove Utilities
2) Insert Valves:
    a. Insert valves shall meet the requirements of gate valves for the valve mechanism and AWWA C110/ANSI A21.10 for the sleeve. Pressure rating shall be as indicated in NCDOT's Standard Specifications for Roads and Structures, dated January 2018, Section 1036-7 Water Valves, specifically as indicated for Gate Valves.
    b. Prior to ordering insertion valve and sleeve assembly, expose existing main at point of installation and verify circumference, actual caliper diameter, and roundness of existing pipe. In addition, identify the exterior condition of the pipe with respect to pitting, scaling, electrolysis, or other defects that would affect manufacturing dimensions or exact location of the insertion. This information shall be provided to the Owner and to the valve manufacturer.
3) Public Water Supply Permit
    a. Engineering Plans and Project Special Provisions Approval – 1 page
    b. Authorization to Construct – 1 page

III. COMPENSATION

No direct payment will be made for utility construction work required by the preceding provisions, which are general requirements applying to utility construction, and all of the requirements stated will be considered incidental work, paid for at the contract unit prices of the various utility items included in the contract. Measurement and Payments for items shall be in accordance with the **NC Department of Transportation's "Standard Specifications for Roads and Structures" dated January 2018,** unless otherwise specified herein.

IV. SPECIAL PAY ITEM DESCRIPTIONS

n/a

PROJECT SPECIAL PROVISIONS
Utilities by Others

SEPI Inc. 1 Glenwood Avenue Raleigh, NC 27603	Division 6 Utilities Unit 500 Transportation Drive Fayetteville, NC 28348

General:

The following utility companies have facilities that will conflict with the construction of this project:

A) AT&T – Communications
B) Charter – Communications
C) Four County EMC – Power (Distribution)
D) Four County EMC - Power (Transmission)
E) Windstream - Communications
F) FOCUS Broadband – Communications
G) Four County Fiber

The conflicting facilities of these concerns will be adjusted prior to the Date of Availability, unless otherwise noted and are therefore listed in these special provisions for the benefit of the Contractor. All utility work listed herein will be done by the utility owners. All utilities are shown on the plans from the best available information.

The Contractor's attention is directed to Article 105-8 of the 2018 Standard Specifications.

Utilities Requiring Adjustment:

Utility relocations are shown on the Utilities by Others Plans.

A) AT&T – Communications

Contact person for AT&T: Roc Iv (910)341-1625
ri1940@att.com

B) Charter – Communications

Contact person for Charter: Steve Barnette (910)772-5755
Steve.Barnette@charter.com

PROJECT SPECIAL PROVISIONS
Utilities by Others

C) Four County EMC – Power (Distribution)

Contact person for Four CEMC: Harry Buckner at (919)606-9208
hbuckner@rgridpower.com

D) Four County EMC – Power (Transmission)

Contact person for Four CEMC: Harry Buckner at (919)606-9208
hbuckner@rgridpower.com

E) Duke – Communications

Contact person for Duke Fiber: Rick Bounds (910)639-7345
Ext-rbounds@ncdot.gov

F) Windstream – Communications

Contact person for Windstream: Don Fradel at (919)863-1771
Donald.Fradel@windstream.com

G) FOCUS Broadband – Communications

Contact person for FOCUS: Barry Michael at (910)755-1709
bmichael@focusbroadband.com

H) Four County Fiber

Contact person for Four County Fiber: Harry Buckner at (919)606-9208
hbuckner@rgridpower.com

Utilities Relocation Phasing:
Utility relocations will be constructed in the following areas:

Area 1:

-Y- (NC11)10+00.00 LT & RT to -Y- 21+00.00
-L- (NC 87) LT & RT from STA 63+00.00 to 84+16.32
-L3- (NC 87) LT & RT from STA 84+16.32 to 104+00.00
-L4- (NC 87) LT & RT from STA 84+16.32 to 100+50.07

Area 2:

-L1- (NC 87) LT & RT from STA 7+00.00 to 25+50.00
-L2- (NC 87) LT from STA 11+99.22 to 28+32.97
-L- (NC 87) LT from STA 30+00.00 to 84+16.32

PROJECT SPECIAL PROVISIONS
Utilities by Others

-L3- (NC 87) LT & RT from STA 84+16.32 to 104+00.00
-L4- (NC 87) LT & RT from STA 84+16.32 to 100+50.07

Area 3:

-Y2- (Andrews Drive) LT & RT from STA 9+00.00 to STA 15+00.00 and
-Y2A-Not Named) LT & RT from STA 10+00.00 to STA 19+50.00 and
-Y3- (Woodyard Road) LT & RT from STA 10+00.00 to STA 15+00.00

Area 4:

-Y- (NC 11) LT & RT STA 21+00.00 to 56+00.00

Area 5:

-L1- (NC 87) LT & RT from STA 25+50.00 to 28+32.97
-L2- (NC 87) LT from STA 11+99.22 to 28+32.97
-L- (NC 87) LT from STA 28+31.59 to 30+00.00

Relocations in each area will proceed as outlined in the following sections:

Area 1 Schedule:

-Y- (Hwy 11 South) LT & RT STA 10+00.00 to -Y- 21+00.00
-L- (NC 87) LT & RT from STA 63+00.00 to 84+16.32
-L3- (NC 87) LT & RT from STA 84+16.32 to 104+00.00
-L4- (NC 87) LT & RT from STA 84+16.32 to 100+50.07

A) AT&T – Communications

AT&T has started relocating their facilities.
AT&T's relocation work will be completed by the date of Availability.

B) Charter – Communications

Will be completed by date of availability.

C) Four County EMC – Power (Distribution)

Completed

D) Four County EMC – Power (Transmission)

Not Present

PROJECT SPECIAL PROVISIONS
Utilities by Others

E) Duke Fiber

Duke Fiber has completed relocating their facilities.

F) Windstream – Communications

Not Present

G) FOCUS Broadband – Communications

FOCUS has completed relocating their facilities.

H) Four County Fiber

No at this location

Area 2 Schedule:

-L1- (NC 87) LT & RT from STA 7+00.00 to 25+50.00
-L2- (NC 87) LT from STA 11+99.22 to 28+32.97
-L- (NC 87) LT from STA 30+00.00 to 84+16.32

-L3- (NC 87) LT & RT from STA 84+16.32 to 104+00.00
-L4- (NC 87) LT & RT from STA 84+16.32 to 100+50.07

A) AT&T – Communications

AT&T has started relocating their facilities.
AT&T's relocation work will be completed by the date of Availability.

B) Charter – Communications

Charter has started relocating their facilities.
Charter's relocation work will be completed by the date of Availability.

C) Four County EMC – Power (Distribution)

Completed

D) Four County EMC – Power (Transmission)

No power transmission this area

PROJECT SPECIAL PROVISIONS
Utilities by Others

E) Duke Fiber – Communications

Duke is complete within the project limits.

F) Windstream – Communications

Windstream has started relocating their facilities.
Windstream's relocation work will be completed by the date of Availability.

G) FOCUS Broadband – Communications

FOCUS has completed their facilities.

H) Four County Fiber

No present

Area 3 Schedule:

-Y2- (Andrews Drive) LT & RT from STA 9+00.00 to STA 15+00.00 and
-Y2A-Not Named) LT & RT from STA 10+00.00 to STA 19+50.00 and
-Y3- (Woodyard Road) LT & RT from STA 10+00.00 to STA 15+00.00

A) AT&T – Communications

AT&T has started relocating their facilities.
AT&T's relocation work will be completed by the date of Availability.

B) Charter – Communications

Completed

C) Four County EMC – Power (Distribution)

Completed

D) Four County EMC – Power (Transmission)

Four County EMC Transmission will start relocating their facilities August 2023
Four County EMC Transmission's relocation work will be completed December 31, 2023

E) Duke Fiber – Communications

Duke is complete within the project limits.

PROJECT SPECIAL PROVISIONS
Utilities by Others

F) Windstream – Communications

Windstream has started relocating their facilities.
Windstream's relocation work will be completed by the date of Availability.

G) FOCUS Broadband – Communications

FOCUS has completed their facilities.

H) Four County Fiber

Will begin May 2023
Will be completed June 2023

Area 4 Schedule:

-Y- (NC 11) LT & RT STA 21+00.00 to 56+00.00

A) AT&T – Communications

AT&T has started relocating their facilities.
AT&T's relocation work will be completed by the date of Availability.

B) Charter – Communications

Charter no utilities this section

C) Four County EMC – Power (Distribution)

Completed

D) Four County EMC – Power (Transmission)

Four County EMC Transmission will start relocating their facilities August 2023
Four County EMC Transmission's relocation work will be completed December 31 2023

E) Duke Fiber – Communications

Duke is complete within the project limits.

PROJECT SPECIAL PROVISIONS
Utilities by Others

F) Windstream – Communications

Windstream has started relocating their facilities.
Windstream's relocation work will be completed by the date of Availability.

G) FOCUS Broadband – Communications

FOCUS has completed their facilities.

H) Four County Fiber

Will begin May 2023
Will be completed June 2023

Area 5 Schedule:

-L1- (NC 87) LT & RT from STA 25+50.00 to 28+32.97
-L2- (NC 87) LT from STA 11+99.22 to 28+32.97
-L- (NC 87) LT from STA 28+31.59 to 30+00.00

A) AT&T – Communications

AT&T has started relocating their facilities.
AT&T's relocation work will be completed by the date of Availability.

B) Charter – Communications

Charter is completed.

C) Four County EMC – Power (Distribution)

Completed

D) Four County EMC – Power (Transmission)

Four County EMC Transmission will start relocating their facilities August 2023
Four County EMC Transmission's relocation work will be completed December 31, 2023

E) Duke Fiber – Communications

Duke is complete within the project limits.

PROJECT SPECIAL PROVISIONS
Utilities by Others

F) Windstream – Communications

Windstream has started relocating their facilities.
Windstream's relocation work will be completed by the date of Availability.

G) FOCUS Broadband – Communications

FOCUS has completed their facilities.

H) Four County Fiber

Will begin May 2023
Will be completed June 2023

Project Special Provisions
Erosion Control

STABILIZATION REQUIREMENTS:
(4-30-2019)

Stabilization for this project shall comply with the time frame guidelines as specified by the NCG-010000 general construction permit effective April 1, 2019 issued by the North Carolina Department of Environmental Quality Division of Water Resources. Temporary or permanent ground cover stabilization shall occur within 7 calendar days from the last land-disturbing activity, with the following exceptions in which temporary or permanent ground cover shall be provided in 14 calendar days from the last land-disturbing activity:

- Slopes between 2:1 and 3:1, with a slope length of 10 ft. or less
- Slopes 3:1 or flatter, with a slope of length of 50 ft. or less
- Slopes 4:1 or flatter

The stabilization timeframe for High Quality Water (HQW) Zones shall be 7 calendar days with no exceptions for slope grades or lengths. High Quality Water Zones (HQW) Zones are defined by North Carolina Administrative Code 15A NCAC 04A.0105 (25). Temporary and permanent ground cover stabilization shall be achieved in accordance with the provisions in this contract and as directed.

SEEDING AND MULCHING: **(East)**

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

All Roadway Areas

March 1 - August 31		**September 1 - February 28**	
50#	Tall Fescue	50#	Tall Fescue
10#	Centipede	10#	Centipede
25#	Bermudagrass (hulled)	35#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Waste and Borrow Locations

March 1 – August 31		**September 1 - February 28**	
75#	Tall Fescue	75#	Tall Fescue
25#	Bermudagrass (hulled)	35#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Note: 50# of Bahiagrass may be substituted for either Centipede or Bermudagrass only upon Engineer's request.

Approved Tall Fescue Cultivars

06 Dust	Escalade	Justice	Serengeti
2nd Millennium	Essential	Kalahari	Shelby
3rd Millennium	Evergreen 2	Kitty Hawk 2000	Sheridan
Apache III	Falcon IV	Legitimate	Signia
Avenger	Falcon NG	Lexington	Silver Hawk
Barlexas	Falcon V	LSD	Sliverstar
Barlexas II	Faith	Magellan	Shenandoah Elite
Bar Fa	Fat Cat	Matador	Sidewinder
Barrera	Festnova	Millennium SRP	Skyline
Barrington	Fidelity	Monet	Solara
Barrobusto	Finelawn Elite	Mustang 4	Southern Choice II
Barvado	Finelawn Xpress	Ninja 2	Speedway
Biltmore	Finesse II	Ol' Glory	Spyder LS
Bingo	Firebird	Olympic Gold	Sunset Gold
Bizem	Firecracker LS	Padre	Taccoa
Blackwatch	Firenza	Patagonia	Tanzania
Blade Runner II	Five Point	Pedigree	Trio
Bonsai	Focus	Picasso	Tahoe II
Braveheart	Forte	Piedmont	Talladega
Bravo	Garrison	Plantation	Tarheel
Bullseye	Gazelle II	Proseeds 5301	Terrano
Cannavaro	Gold Medallion	Prospect	Titan ltd
Catalyst	Grande 3	Pure Gold	Titanium LS
Cayenne	Greenbrooks	Quest	Tracer
Cessane Rz	Greenkeeper	Raptor II	Traverse SRP
Chipper	Gremlin	Rebel Exeda	Tulsa Time
Cochise IV	Greystone	Rebel Sentry	Turbo
Constitution	Guardian 21	Rebel IV	Turbo RZ
Corgi	Guardian 41	Regiment II	Tuxedo RZ
Corona	Hemi	Regenerate	Ultimate
Coyote	Honky Tonk	Rendition	Venture
Darlington	Hot Rod	Rhambler 2 SRP	Umbrella
Davinci	Hunter	Rembrandt	Van Gogh
Desire	Inferno	Reunion	Watchdog
Dominion	Innovator	Riverside	Wolfpack II
Dynamic	Integrity	RNP	Xtremegreen
Dynasty	Jaguar 3	Rocket	
Endeavor	Jamboree	Scorpion	

On cut and fill slopes 2:1 or steeper Centipede shall be applied at the rate of 5 pounds per acre and add 20# of Sericea Lespedeza from January 1 - December 31.

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

Native Grass Seeding and Mulching **(East)**

Native Grass Seeding and Mulching shall be performed on the disturbed areas of wetlands and riparian areas, and adjacent to Stream Relocation construction within a 50 foot zone on both sides of the stream or depression, measured from top of stream bank or center of depression. The stream bank of the stream relocation shall be seeded by a method that does not alter the typical cross section of the stream bank. Native Grass Seeding and Mulching shall also be performed in the permanent soil reinforcement mat section of preformed scour holes, and in other areas as directed.

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

March 1 - August 31		**September 1 - February 28**	
18#	Creeping Red Fescue	18#	Creeping Red Fescue
6#	Indiangrass	6#	Indiangrass
8#	Little Bluestem	8#	Little Bluestem
4#	Switchgrass	4#	Switchgrass
25#	Browntop Millet	35#	Rye Grain
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Approved Creeping Red Fescue Cultivars:

Aberdeen	Boreal	Epic	Cindy Lou

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

Native Grass Seeding and Mulching shall be performed in accordance with Section 1660 of the *Standard Specifications* and vegetative cover sufficient to restrain erosion shall be installed immediately following grade establishment.

Measurement and Payment

Native Grass *Seeding and Mulching* will be measured and paid for in accordance with Article 1660-8 of the *Standard Specifications*.

All areas seeded and mulched shall be tacked with asphalt. Crimping of straw in lieu of asphalt tack shall not be allowed on this project.

CRIMPING STRAW MULCH:

Crimping shall be required on this project adjacent to any section of roadway where traffic is to be maintained or allowed during construction. In areas within six feet of the edge of pavement, straw is to be applied and then crimped. After the crimping operation is complete, an additional application of straw shall be applied and immediately tacked with a sufficient amount of undiluted emulsified asphalt.

Straw mulch shall be of sufficient length and quality to withstand the crimping operation.

Crimping equipment including power source shall be subject to the approval of the Engineer providing that maximum spacing of crimper blades shall not exceed 8".

TEMPORARY SEEDING:

Fertilizer shall be the same analysis as specified for *Seeding and Mulching* and applied at the rate of 400 pounds and seeded at the rate of 50 pounds per acre. Sweet Sudan Grass, German Millet or Browntop Millet shall be used in summer months and Rye Grain during the remainder of the year. The Engineer will determine the exact dates for using each kind of seed.

FERTILIZER TOPDRESSING:

Fertilizer used for topdressing on all roadway areas except slopes 2:1 and steeper shall be 10-20-20 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 10-20-20 analysis and as directed.

Fertilizer used for topdressing on slopes 2:1 and steeper and waste and borrow areas shall be 16-8-8 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 2-1-1 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 16-8-8 analysis and as directed.

SUPPLEMENTAL SEEDING:

The kinds of seed and proportions shall be the same as specified for *Seeding and Mulching*, with the exception that no centipede seed will be used in the seed mix for supplemental seeding. The rate of application for supplemental seeding may vary from 25# to 75# per acre. The actual rate per acre will be determined prior to the time of topdressing and the Contractor will be notified in writing of the rate per acre, total quantity needed, and areas on which to apply the supplemental seed. Minimum tillage equipment, consisting of a sod seeder shall be used for incorporating seed into the soil as to prevent disturbance of existing vegetation. A clodbuster (ball and chain) may be used where degree of slope prevents the use of a sod seeder.

MOWING:

The minimum mowing height on this project shall be 4 inches.

LAWN TYPE APPEARANCE:

All areas adjacent to lawns must be hand finished as directed to give a lawn type appearance. Remove all trash, debris, and stones ¾" and larger in diameter or other obstructions that could interfere with providing a smooth lawn type appearance. These areas shall be reseeded to match their original vegetative conditions, unless directed otherwise by the Field Operations Engineer.

RESPONSE FOR EROSION CONTROL:

Description

Furnish the labor, materials, tools and equipment necessary to move personnel, equipment, and supplies to the project necessary for the pursuit of any or all of the following work as shown herein, by an approved subcontractor.

Section	Erosion Control Item	Unit
1605	Temporary Silt Fence	LF
1606	Special Sediment Control Fence	LF/TON
1615	Temporary Mulching	ACR
1620	Seed - Temporary Seeding	LB
1620	Fertilizer - Temporary Seeding	TN
1631	Matting for Erosion Control	SY
SP	Coir Fiber Mat	SY
1640	Coir Fiber Baffles	LF
SP	Permanent Soil Reinforcement Mat	SY
1660	Seeding and Mulching	ACR
1661	Seed - Repair Seeding	LB
1661	Fertilizer - Repair Seeding	TON
1662	Seed - Supplemental Seeding	LB
1665	Fertilizer Topdressing	TON
SP	Safety/Highly Visible Fencing	LF
SP	Response for Erosion Control	EA

Construction Methods

Provide an approved subcontractor who performs an erosion control action as described in the NPDES Inspection Form SPPP30. Each erosion control action may include one or more of the above work items.

Measurement and Payment

Response for Erosion Control will be measured and paid for by counting the actual number of times the subcontractor moves onto the project, including borrow and waste sites, and satisfactorily completes an erosion control action described in Form 1675. The provisions of Article 104-5 of the *Standard Specifications* will not apply to this item of work.

Payment will be made under:

Pay Item	Pay Unit
Response for Erosion Control	Each

MINIMIZE REMOVAL OF VEGETATION:

The Contractor shall minimize removal of vegetation within project limits to the maximum extent practicable. Vegetation along stream banks and adjacent to other jurisdictional resources outside the construction limits shall only be removed upon approval of Engineer. No additional payment will be made for this minimization work.

STOCKPILE AREAS:

The Contractor shall install and maintain erosion control devices sufficient to contain sediment around any erodible material stockpile areas as directed.

ACCESS AND HAUL ROADS:

At the end of each working day, the Contractor shall install or re-establish temporary diversions or earth berms across access/haul roads to direct runoff into sediment devices. Silt fence sections that are temporarily removed shall be reinstalled across access/haul roads at the end of each working day.

CONSTRUCTION MATERIALS MANAGEMENT
(3-19-19) (rev. 04-27-19)

Description

The requirements set forth shall be adhered to in order to meet the applicable materials handling requirements of the NCG010000 permit. Structural controls installed to manage construction materials stored or used on site shall be shown on the E&SC Plan. Requirements for handling materials on construction sites shall be as follows:

Polyacrylamides (PAMS) and Flocculants

Polyacrylamides (PAMS) and flocculants shall be stored in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures designed to protect adjacent surface waters. PAMS or other flocculants used shall be selected from the NC DWR List of Approved PAMS/Flocculants The concentration of PAMS and other flocculants used shall not exceed those specified in the NC DWR List of Approved PAMS/Flocculants and in accordance with the manufacturer's instructions. The NC DWR List of Approved PAMS/Flocculants is available at:

https://files.nc.gov/ncdeq/Water%20Quality/Environmental%20Sciences/ATU/ApprovedPAMS4_1_2017.pdf

Equipment Fluids

Fuels, lubricants, coolants, and hydraulic fluids, and other petroleum products shall be handled and disposed of in a manner so as not to enter surface or ground waters and in accordance with applicable state and federal regulations. Equipment used on the site must be operated and maintained properly to prevent discharge of fluids. Equipment, vehicle, and other wash waters shall not be discharged into E&SC basins or other E&SC devices. Alternative controls should be provided such that there is no discharge of soaps, solvents, or detergents.

Waste Materials

Construction materials and land clearing waste shall be disposed of in accordance with North Carolina General Statutes, Chapter 130A, Article 9 - Solid Waste Management, and rules governing the disposal of solid waste (15A NCAC 13B). Areas dedicated for managing construction material and land clearing waste shall be at least 50 feet away from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. Paint and other liquid construction material waste shall not be dumped into storm drains. Paint and other liquid construction waste washouts should be located at least 50 feet away from storm drain inlets unless there is no alternative. Other options are to install lined washouts or use portable, removable bags or bins. Hazardous or toxic waste shall be managed in accordance with the federal Resource Conservation and Recovery Act (RCRA) and NC Hazardous Waste Rules at 15A NCAC, Subchapter 13A. Litter and sanitary waste shall be managed in a manner to prevent it from entering jurisdictional waters and shall be disposed of offsite.

Herbicide, Pesticide, and Rodenticides

Herbicide, pesticide, and rodenticides shall be stored and applied in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act, North Carolina Pesticide Law of 1971 and labeling restrictions.

Concrete Materials

Concrete materials onsite, including excess concrete, must be controlled and managed to avoid contact with surface waters, wetlands or buffers. No concrete or cement slurry shall be discharged from the site. (Note that discharges from onsite concrete plants require coverage under a separate NPDES permit – NCG140000.) Concrete wash water shall be managed in accordance with the *Concrete Washout Structure* provision. Concrete slurry shall be managed and disposed of in accordance with *NCDOT DGS and HOS DCAR Distribution of Class A Residuals Statewide* (Permit No. WQ0035749). Any hardened concrete residue will be disposed of, or recycled on site, in accordance with state solid waste regulations.

Earthen Material Stock Piles

Earthen material stock piles shall be located at least 50 feet away from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available.

Measurement and Payment

Conditions set within the *Construction Materials Management* provision are incidental to the project for which no direct compensation will be made.

WASTE AND BORROW SOURCES:
(2-16-11) (Rev. 3-17-22)

Payment for temporary erosion control measures, except those made necessary by the Contractor's own negligence or for his own convenience, will be paid for at the appropriate contract unit price for the devices or measures utilized in borrow sources and waste areas.

No additional payment will be made for erosion control devices or permanent seeding and mulching in any commercial borrow or waste pit. All erosion and sediment control practices that may be required on a commercial borrow or waste site will be done at the Contractor's expense.

All offsite Staging Areas, Borrow and Waste sites shall be in accordance with "Borrow and Waste Site Reclamation Procedures for Contracted Projects" located at:

https://connect.ncdot.gov/resources/roadside/FieldOperationsDocuments/Contract%20Reclamation%20Procedures.pdf

All forms and documents referenced in the "Borrow and Waste Site Reclamation Procedures for Contracted Projects" shall be included with the reclamation plans for offsite staging areas, and borrow and waste sites.

CLEAN WATER DIVERSION:

Description

This work consists of installing, maintaining, and removing any and all material required for the construction of clean water diversions. The clean water diversions shall be used to direct water flowing from offsite around/away from specific area(s) of construction.

Materials

Refer to Division 10

Item	Section
Geotextile for Soil Stabilization, Type 4	1056

Construction Methods

The Contractor shall install the clean water diversions in accordance with the details in the plans and at locations indicated in the plans, and as directed. Upon installation, the excavated material shall be immediately stabilized as provided in Section 1620 of the *Standard Specifications*. Other stabilization methods may be utilized with prior approval from the Engineer.

Line clean water diversion with geotextile unrolled in the direction of flow and lay smoothly but loosely on soil surface without creases. Bury top of slope geotextile edge in a trench at least 5" deep and tamp securely. Make vertical overlaps a minimum of 18" with upstream geotextile overlapping the downstream geotextile.

Secure geotextile with eleven gauge wire staples shaped into a *u* shape with a length of not less than 6" and a throat not less than 1" in width. Place staples along outer edges and throughout the geotextile a maximum of 3 ft. horizontally and vertically.

Measurement and Payment

Silt Excavation will be measured and paid for in accordance with Article 1630-4 of the *Standard Specifications*.

Geotextile for Soil Stabilization will be measured and paid for in accordance with Article 270-4 of the *Standard Specifications*.

Stabilization of the excavated material will be paid for as *Temporary Seeding* as provided in Section 1620 of the *Standard Specifications*.

Such price and payment shall be considered full compensation for all work covered by this section including all materials, construction, maintenance, and removal of the clean water diversions.

SAFETY FENCE AND JURISDICTIONAL FLAGGING:

Description

Safety Fence shall consist of furnishing materials, installing and maintaining polyethylene or polypropylene fence along the outside riparian buffer, wetland, or water boundary, or other boundaries located within the construction corridor to mark the areas that have been approved to infringe within the buffer, wetland, endangered vegetation, culturally sensitive areas or water. The fence shall be installed prior to any land disturbing activities.

Interior boundaries for jurisdictional areas noted above shall be delineated by stakes and highly visible flagging.

Jurisdictional boundaries at staging areas, waste sites, or borrow pits, whether considered outside or interior boundaries shall be delineated by stakes and highly visible flagging.

Materials

(A) Safety Fencing

Polyethylene or polypropylene fence shall be a highly visible preconstructed safety fence approved by the Engineer. The fence material shall have an ultraviolet coating.

Either wood posts or steel posts may be used. Wood posts shall be hardwood with a wedge or pencil tip at one end, and shall be at least 5 ft. in length with a minimum nominal 2" x 2" cross section. Steel posts shall be at least 5 ft. in length, and have a minimum weight of 0.85 lb/ft of length.

(B) Boundary Flagging

Wooden stakes shall be 4 feet in length with a minimum nominal 3/4" x 1-3/4" cross section. The flagging shall be at least 1" in width. The flagging material shall be vinyl and shall be orange in color and highly visible.

Construction Methods

No additional clearing and grubbing is anticipated for the installation of this fence. The fence shall be erected to conform to the general contour of the ground.

(A) Safety Fencing

Posts shall be set at a maximum spacing of 10 ft., maintained in a vertical position and hand set or set with a post driver. Posts shall be installed a minimum of 2 ft. into the ground. If hand set, all backfill material shall be thoroughly tamped. Wood posts may be sharpened to a dull point if power driven. Posts damaged by power driving shall be removed and replaced prior to final

acceptance. The tops of all wood posts shall be cut at a 30-degree angle. The wood posts may, at the option of the Contractor, be cut at this angle either before or after the posts are erected.

The fence geotextile shall be attached to the wood posts with one 2" galvanized wire staple across each cable or to the steel posts with wire or other acceptable means.

Place construction stakes to establish the location of the safety fence in accordance with Article 105-9 or Article 801-1 of the *Standard Specifications.* No direct pay will be made for the staking of the safety fence. All stakeouts for safety fence shall be considered incidental to the work being paid for as "Construction Surveying", except that where there is no pay item for construction surveying, all safety fence stakeout will be performed by state forces.

The Contractor shall be required to maintain the safety fence in a satisfactory condition for the duration of the project as determined by the Engineer.

(B) Boundary Flagging

Boundary flagging delineation of interior boundaries shall consist of wooden stakes on 25 feet maximum intervals with highly visible orange flagging attached. Stakes shall be installed a minimum of 6" into the ground. Interior boundaries may be staked on a tangent that runs parallel to buffer but must not encroach on the buffer at any location. Interior boundaries of hand clearing shall be identified with a different colored flagging to distinguish it from mechanized clearing.

Boundary flagging delineation of interior boundaries will be placed in accordance with Article 105-9 or Article 801-1 of the *Standard Specifications*. No direct pay will be made for delineation of the interior boundaries. This delineation will be considered incidental to the work being paid for as *Construction Surveying,* except that where there is no pay item or construction surveying the cost of boundary flagging delineation shall be included in the unit prices bid for the various items in the contract. Installation for delineation of all jurisdictional boundaries at staging areas, waste sites, or borrow pits shall consist of wooden stakes on 25 feet maximum intervals with highly visible orange flagging attached. Stakes shall be installed a minimum of 6" into the ground. Additional flagging may be placed on overhanging vegetation to enhance visibility but does not substitute for installation of stakes.

Installation of boundary flagging for delineation of all jurisdictional boundaries at staging areas, waste sites, or borrow pits shall be performed in accordance with Subarticle 230-4(B)(5) or Subarticle 802-2(F) of the *Standard Specifications*. No direct pay will be made for this delineation, as the cost of same shall be included in the unit prices bid for the various items in the contract.

The Contractor shall be required to maintain alternative stakes and highly visible flagging in a satisfactory condition for the duration of the project as determined by the Engineer.

Measurement and Payment

Safety Fence will be measured and paid as the actual number of linear feet of polyethylene or polypropylene fence installed in place and accepted. Such payment will be full compensation

including but not limited to furnishing and installing fence geotextile with necessary posts and post bracing, staples, tie wires, tools, equipment and incidentals necessary to complete this work.

Payment will be made under:

Pay Item	**Pay Unit**
Safety Fence	Linear Foot

SKIMMER BASIN WITH BAFFLES: (East)

Description

Provide a skimmer basin to remove sediment from construction site runoff at locations shown in the erosion control plans. See the Skimmer Basin with Baffles Detail sheet provided in the erosion control plans. Work includes constructing sediment basin, installation of temporary slope drain pipe and coir fiber baffles, furnishing, installation and cleanout of skimmer, providing and placing stone pad on bottom of basin underneath skimmer device, providing and placing a geotextile spillway liner, providing coir fiber mat stabilization for the skimmer outlet, disposing of excess materials, removing temporary slope drain, coir fiber baffles, geotextile liner and skimmer device, backfilling basin area with suitable material and providing proper drainage when basin area is abandoned.

Materials

Item	**Section**
Stone for Erosion Control, Class B	1042
Geotextile for Soil Stabilization, Type 4	1056
Fertilizer for Temporary Seeding	1060-2
Seed for Temporary Seeding	1060-4
Seeding and Mulching	1060-4
Matting for Erosion Control	1060-8
Staples	1060-8
Coir Fiber Mat	1060-14
Temporary Slope Drain	1622-2
Coir Fiber Baffle	1640

Provide appropriately sized and approved skimmer device.

Provide Schedule 40 PVC pipe with a length of 6 ft. to attach to the skimmer and the coupling connection to serve as the arm pipe. For skimmer sizes of 2.5 in. and smaller, the arm pipe diameter shall be 1.5 inches. For skimmer sizes of 3 in. and larger, refer to manufacturer recommendation.

Provide 4” diameter Schedule 40 PVC pipe to attach to coupling connection of skimmer to serve as the barrel pipe through the earthen dam.

The geotextile for the spillway liner shall meet the following minimum physical properties for low permeability, woven polypropylene geotextiles:

Property	**Test Method**	**Value**	**Unit**
Tensile Strength	ASTM D-4632	315	lb.
Tensile Elongation (Maximum)	ASTM D-4632	15	%
Trapezoidal Tear	ASTM D-4533	120	lbs.
CBR Puncture	ASTM D-6241	900	lbs.
UV Resistance (% retained at 500 hrs.)	ASTM D-4355	70	%
Apparent Opening Size (AOS)	ASTM D-4751	40	US Std. Sieve
Permittivity	ASTM D-4491	0.05	sec^{-1}
Water Flow Rate	ASTM D-4491	4	$gal/min/ft^2$

Anchors: Staples, stakes, or reinforcement bars shall be used as anchors.

Wooden Stakes:

Provide hardwood stakes 12"- 24" long with a 2" x 2" nominal square cross section. One end of the stake must be sharpened or beveled to facilitate driving through the coir fiber mat and down into the underlying soil. The other end of the stake needs to have a 1"- 2" long head at the top with a 1"- 2" notch following to catch and secure the coir fiber mat.

Steel Reinforcement Bars:

Provide uncoated #10 steel reinforcement bars 24" nominal length. The bars shall have a 4" diameter bend at one end with a 4" straight section at the tip to catch and secure the coir fiber mat.

Staples:

Provide staples made of 0.125" diameter new steel wire formed into a *u* shape not less than 12" in length with a throat of 1" in width.

Construction Methods

Excavate basin according to the erosion control plans with basin surface free of obstructions, debris, and pockets of low-density material. Install temporary slope drain pipe and construct the primary spillway according to the Skimmer Basin with Baffles Detail sheet in the erosion control plans. Temporary slope drain pipe at inlet of basin may be replaced by Type 4 geotextile as directed. Construct the coir fiber baffles according to *Roadway Standard Drawings* No. 1640.01 and Section 1640 of the *Standard Specifications*.

Install skimmer device according to manufacturer recommendations. Install 4” Schedule 40 PVC pipe into dam on the lower side of basin 1 ft. from the bottom of the basin and according to the detail, and extend the pipe so the basin will drain. Attach a 6 ft. arm pipe to the coupling connection

and skimmer according to manufacturer recommendations. The coupling shall be rigid and non-buoyant and not exceed a diameter of 4" and 12" in length. Attach the rope included with the skimmer to the tee between the vent socket and the tube inlet, and the other end to a wooden stake or metal post. Clean out skimmer device when it becomes clogged with sediment and/or debris and is unable to float at the top of water in skimmer basin. Take appropriate measures to avoid ice accumulation in the skimmer device. Construct a stone pad of Class B stone directly underneath the skimmer device at bottom of basin. The pad shall be a minimum of 12" in height, and shall have a minimum cross sectional area of 4 ft. by 4 ft.

Line primary spillway with low permeability polypropylene geotextile unrolled in the direction of flow and lay smoothly but loosely on soil surface without creases. Bury edges of geotextile in a trench at least 5" deep and tamp firmly. If geotextile for the primary spillway is not one continuous piece of material, make horizontal overlaps a minimum of 18" with upstream geotextile overlapping the downstream geotextile. Secure geotextile with eleven gauge wire staples shaped into a *u* shape with a length of not less than 12" and a throat not less than 1" in width. Place staples along outer edges and throughout the geotextile a maximum of 3 ft. horizontally and vertically. Geotextile shall be placed to the bottom and across the entire width of the basin according to the Skimmer Basin with Baffles detail. Place sealant inside basin around barrel pipe on top of geotextile with a minimum width of 6 in.

At the skimmer outlet, provide a smooth soil surface free from stones, clods, or debris that will prevent contact of the coir fiber matting with the soil. Unroll the matting and apply without stretching such that it will lie smoothly but loosely on the soil surface. Wooden stakes, reinforcement bars, or staples may be used as anchors in accordance with the details in the plans and as directed. Place anchors across the matting at the ends approximately 1 ft. apart. Place anchors along the outer edges and down the center of the matting 3 ft. apart.

All bare side slope sections of the skimmer basin shall be seeded with a temporary or permanent seed mix as directed and in accordance with Articles 1620-3, 1620-4, 1620-5, 1660-4, 1660-5 and 1660-7 of the *Standard Specifications*. Straw or excelsior matting shall be installed on all bare side slope sections immediately upon the completion of seeding and in accordance with Article 1631-3 of the *Standard Specifications*.

Measurement and Payment

Silt Excavation will be measured and paid for in accordance with Article 1630-4 of the *Standard Specifications*, as calculated from the typical section throughout the length of the basin as shown on the final approved plans.

Geotextile for Soil Stabilization will be measured and paid for in accordance with Article 270-4 of the *Standard Specifications*.

Low Permeability Geotextile will be measured and paid for as the actual number of square yards measured along the surface of the spillway over which the geotextile is installed and accepted.

Coir Fiber Baffles will be measured and paid for in accordance with Article 1640-4 of the *Standard Specifications*.

__" *Skimmer* will be measured in units of each. __" *Skimmer* will be measured and paid for as the maximum number of each size skimmer acceptably installed and in use at any one time during the life of the project. Barrel and arm pipe, cleanout, relocation and reinstallation of __" *Skimmer* is considered incidental to the measurement of the quantity of __" *Skimmer* and no separate payment will be made. No separate payment shall be made if __" *Skimmer*, barrel and/or arm pipe(s) are damaged by ice accumulation.

Coir Fiber Mat will be measured and paid for as the actual number of square yards measured along the surface of the ground over which coir fiber mat is installed and accepted.

Temporary Slope Drain will be measured and paid for in accordance with Article 1622-4 of the *Standard Specifications*.

Stone for Erosion Control, Class __ will be measured and paid for in accordance with Article 1610-4 of the *Standard Specifications*.

Seeding and Mulching will be measured and paid for in accordance with Article 1660-8 of the *Standard Specifications*.

Seed for Temporary Seeding will be measured and paid for in accordance with Article 1620-6 of the *Standard Specifications*.

Fertilizer for Temporary Seeding will be measured and paid for in accordance with Article 1620-6 of the *Standard Specifications*.

Matting for Erosion Control will be measured and paid for in accordance with Article 1631-4 of the *Standard Specifications*.

No measurement will be made for other items or for over excavation or stockpiling.

Payment will be made under:

Pay Item	**Pay Unit**
__" Skimmer	Each
Coir Fiber Mat	Square Yard
Low Permeability Geotextile	Square Yard

TIERED SKIMMER BASIN WITH BAFFLES: **(East)**

Description

Provide a tiered skimmer basin to remove sediment from construction site runoff at locations shown in the erosion control plans. See the Tiered Skimmer Basin Detail sheet provided in the

erosion control plans. Tiered Skimmer Basins shall be installed in areas where topography creates a large elevation difference between the inlet and outlet of a single skimmer basin. Work includes constructing sediment basins, installation of coir fiber baffles, installation of temporary slope drain pipe, furnishing, installation and cleanout of skimmer, providing and placing stone pad on bottom of basin underneath skimmer device, providing and placing geotextile spillway liners, providing coir fiber mat stabilization for the skimmer outlet, disposing of excess materials, removing temporary slope drain pipe, coir fiber baffles, geotextile liner and skimmer device, backfilling basin area with suitable material and providing proper drainage when basin area is abandoned.

Materials

Item	**Section**
Stone for Erosion Control, Class B	1042
Fertilizer for Temporary Seeding	1060-2
Seed for Temporary Seeding	1060-4
Seeding and Mulching	1060-4
Matting for Erosion Control	1060-8
Staples	1060-8
Coir Fiber Mat	1060-14
Temporary Slope Drain	1622-2
Coir Fiber Baffle	1640

Provide appropriately sized and approved skimmer device.

Provide Schedule 40 PVC pipe with a length of 6 ft. to attach to the skimmer and the coupling connection to serve as the arm pipe. For skimmer sizes of 2.5 in. and smaller, the arm pipe diameter shall be 1.5 inches. For skimmer sizes of 3 in. and larger, refer to manufacturer recommendation.

Provide 4” diameter Schedule 40 PVC pipe to attach to coupling connection of skimmer to serve as the barrel pipe through the earthen dam.

The geotextile for the spillway liner shall meet the following minimum physical properties for low permeability, woven polypropylene geotextiles:

Property	**Test Method**	**Value**	**Unit**
Tensile Strength	ASTM D-4632	315	lb.
Tensile Elongation (Maximum)	ASTM D-4632	15	%
Trapezoidal Tear	ASTM D-4533	120	lbs.
CBR Puncture	ASTM D-6241	900	lbs.
UV Resistance (% retained at 500 hrs.)	ASTM D-4355	70	%
Apparent Opening Size (AOS)	ASTM D-4751	40	US Std. Sieve
Permittivity	ASTM D-4491	0.05	sec^{-1}
Water Flow Rate	ASTM D-4491	4	$gal/min/ft^2$

Anchors: Staples, stakes, or reinforcement bars shall be used as anchors.

Wooden Stakes:

Provide hardwood stakes 12"- 24" long with a 2" x 2" nominal square cross section. One end of the stake must be sharpened or beveled to facilitate driving through the coir fiber mat and down into the underlying soil. The other end of the stake needs to have a 1"- 2" long head at the top with a 1"- 2" notch following to catch and secure the coir fiber mat.

Steel Reinforcement Bars:

Provide uncoated #10 steel reinforcement bars 24" nominal length. The bars shall have a 4" diameter bend at one end with a 4" straight section at the tip to catch and secure the coir fiber mat.

Staples:

Provide staples made of 0.125" diameter new steel wire formed into a *u* shape not less than 12" in length with a throat of 1" in width.

Construction Methods

Excavate basins according to the erosion control plans with basin surface free of obstructions, debris, and pockets of low-density material. Install temporary slope drain pipe and construct the primary spillways according to the Tiered Skimmer Basin Detail sheet in the erosion control plans. Construct the coir fiber baffles according to *Roadway Standard Drawings* No. 1640.01 and Section 1640 of the *Standard Specifications*. Multiple upper basins, or Modified Silt Basins Type 'B' as labeled on the detail, may be required based on site conditions and as directed.

Install skimmer device according to manufacturer recommendations. Install 4" Schedule 40 PVC pipe into dam on the lower side of basin 1 ft. from the bottom of the basin and according to the detail, and extend the pipe so the basin will drain. Attach a 6 ft. arm pipe to the coupling connection and skimmer according to manufacturer recommendations. The coupling shall be rigid and non-buoyant and not exceed a diameter of 4" and 12" in length. Attach the rope included with the skimmer to the tee between the vent socket and the tube inlet, and the other end to a wooden stake or metal post. Clean out skimmer device when it becomes clogged with sediment and/or debris and is unable to float at the top of water in skimmer basin. Take appropriate measures to avoid ice accumulation in the skimmer device. Construct a stone pad of Class B stone directly underneath the skimmer device at bottom of basin. The pad shall be a minimum of 12" in height, and shall have a minimum cross sectional area of 4 ft. by 4 ft.

Line primary spillways with low permeability polypropylene geotextile unrolled in the direction of flow and lay smoothly but loosely on soil surface without creases. Bury edges of geotextile in a trench at least 5" deep and tamp firmly. If geotextile for primary spillways is not one continuous piece of material, make horizontal overlaps a minimum of 18" with upstream geotextile overlapping the downstream geotextile. Secure geotextile with eleven gauge wire staples shaped into a *u* shape with a length of not less than 12" and a throat not less than 1" in width. Place staples along outer edges and throughout the geotextile a maximum of 3 ft. horizontally and vertically.

Geotextile shall be placed to the bottom and across the entire width of the basin according to the Tiered Skimmer Basin with Baffles detail.

At the skimmer outlet, provide a smooth soil surface free from stones, clods, or debris that will prevent contact of the coir fiber matting with the soil. Unroll the matting and apply without stretching such that it will lie smoothly but loosely on the soil surface. Wooden stakes, reinforcement bars, or staples may be used as anchors in accordance with the details in the plans and as directed. Place anchors across the matting at the ends approximately 1 ft. apart. Place anchors along the outer edges and down the center of the matting 3 ft. apart. Place sealant inside basin around barrel pipe on top of geotextile with a minimum width of 6 in.

All bare side slope sections of the skimmer basin shall be seeded with a temporary or permanent seed mix as directed and in accordance with Articles 1620-3, 1620-4, 1620-5, 1660-4, 1660-5 and 1660-7 of the *Standard Specifications*. Straw or excelsior matting shall be installed on all bare side slope sections immediately upon the completion of seeding and in accordance with Article 1631-3 of the *Standard Specifications*.

Measurement and Payment

Silt Excavation will be measured and paid for in accordance with Article 1630-4 of the *Standard Specifications*, as calculated from the typical section throughout the length of the basin as shown on the final approved plans.

Low Permeability Geotextile will be measured and paid for as the actual number of square yards measured along the surface of the spillway over which the geotextile is installed and accepted.

Coir Fiber Baffles will be measured and paid for in accordance with Article 1640-4 of the *Standard Specifications*.

__" *Skimmer* will be measured in units of each. __" *Skimmer* will be measured and paid for as the maximum number of each size skimmer acceptably installed and in use at any one time during the life of the project. Barrel and arm pipe, cleanout, relocation and reinstallation of __" *Skimmer* is considered incidental to the measurement of the quantity of __" *Skimmer* and no separate payment will be made. No separate payment shall be made if __" *Skimmer*, barrel and/or arm pipe(s) are damaged by ice accumulation.

Coir Fiber Mat will be measured and paid for as the actual number of square yards measured along the surface of the ground over which coir fiber mat is installed and accepted.

Temporary Slope Drain will be measured and paid for in accordance with Article 1622-4 of the *Standard Specifications*.

Stone for Erosion Control, Class __ will be measured and paid for in accordance with Article 1610-4 of the *Standard Specifications*.

Seeding and Mulching will be measured and paid for in accordance with Article 1660-8 of the *Standard Specifications*.

Seed for Temporary Seeding will be measured and paid for in accordance with Article 1620-6 of the *Standard Specifications*.

Fertilizer for Temporary Seeding will be measured and paid for in accordance with Article 1620-6 of the *Standard Specifications*.

Matting for Erosion Control will be measured and paid for in accordance with Article 1631-4 of the *Standard Specifications*.

No measurement will be made for other items or for over excavation or stockpiling.

Payment will be made under:

Pay Item	**Pay Unit**
__" Skimmer	Each
Coir Fiber Mat	Square Yard
Low Permeability Geotextile	Square Yard

COIR FIBER WATTLES WITH POLYACRYLAMIDE (PAM):

Description

Coir Fiber Wattles are tubular products consisting of coir fibers (coconut fibers) encased in coir fiber netting. Coir Fiber Wattles are used on slopes or channels to intercept runoff and act as a velocity break. Coir Fiber Wattles are to be placed at locations shown on the plans or as directed. Installation shall follow the detail provided in the plans and as directed. Work includes furnishing materials, installation of coir fiber wattles, matting installation, PAM application, and removing wattles.

Materials

Coir Fiber Wattle shall meet the following specifications:

100% Coir (Coconut) Fibers	
Minimum Diameter	12 in.
Minimum Density	3.5 lb/ft^3 +/- 10%
Net Material	Coir Fiber
Net Openings	2 in. x 2 in.
Net Strength	90 lbs.
Minimum Weight	2.6 lbs./ft. +/- 10%

Anchors: Stakes shall be used as anchors.

Wooden Stakes:

Provide hardwood stakes a minimum of 2-ft. long with a 2 in. x 2 in. nominal square cross section. One end of the stake must be sharpened or beveled to facilitate driving down into the underlying soil.

Matting shall meet the requirements of Article 1060-8 of the *Standard Specifications*, or shall meet specifications provided elsewhere in this contract.

Provide staples made of 0.125" diameter new steel wire formed into a *u* shape not less than 12" in length with a throat of 1" in width.

Polyacrylamide (PAM) shall be applied in powder form and shall be anionic or neutrally charged. Soil samples shall be obtained in areas where the wattles will be placed, and from offsite material used to construct the roadway, and analyzed for the appropriate PAM flocculant to be utilized with each wattle. The PAM product used shall be listed on the North Carolina Department of Environmental Quality Division of Water Resources web site as an approved PAM product for use in North Carolina.

Construction Methods

Coir Fiber Wattles shall be secured to the soil by wire staples approximately every 1 linear foot and at the end of each section of wattle. A minimum of 4 stakes shall be installed on the downstream side of the wattle with a maximum spacing of 2 linear feet along the wattle, and according to the detail. Install a minimum of 2 stakes on the upstream side of the wattle according to the detail provided in the plans. Stakes shall be driven into the ground a minimum of 10 in. with no more than 2 in. projecting from the top of the wattle. Drive stakes at an angle according to the detail provided in the plans.

Only install coir fiber wattle(s) to a height in ditch so flow will not wash around wattle and scour ditch slopes and according to the detail provided in the plans and as directed. Overlap adjoining sections of wattles a minimum of 6 in.

Installation of matting shall be in accordance with the detail provided in the plans, and in accordance with Article 1631-3 of the *Standard Specifications*, or in accordance with specifications provided elsewhere in this contract.

Apply PAM over the lower center portion of the coir fiber wattle where the water is going to flow over at a rate of 2 ounces per wattle, and 1 ounce of PAM on matting on each side of the wattle. PAM applications shall be done during construction activities after every rainfall event that is equal to or exceeds 0.50 in.

The Contractor shall maintain the coir fiber wattles until the project is accepted or until the wattles are removed, and shall remove and dispose of silt accumulations at the wattles when so directed in accordance with the requirements of Section 1630 of the *Standard Specifications*.

Measurement and Payment

Coir Fiber Wattles will be measured and paid for by the actual number of linear feet of wattles which are installed and accepted. Such price and payment will be full compensation for all work covered by this section, including, but not limited to, furnishing all materials, labor, equipment and incidentals necessary to install the *Coir Fiber Wattles*.

Matting will be measured and paid for in accordance with Article 1631-4 of the *Standard Specifications*, or in accordance with specifications provided elsewhere in this contract.

Polyacrylamide(PAM) will be measured and paid for by the actual weight in pounds of PAM applied to the coir fiber wattles. Such price and payment will be full compensation for all work covered by this section, including, but not limited to, furnishing all materials, labor, equipment and incidentals necessary to apply the *Polyacrylamide(PAM)*.

Payment will be made under:

Pay Item	**Pay Unit**
Polyacrylamide(PAM)	Pound
Coir Fiber Wattle	Linear Foot

SILT FENCE COIR FIBER WATTLE BREAK:
(8-21-12) 1605,1630

Description

Silt fence coir fiber wattle breaks are tubular products consisting of coir fibers (coconut fibers) encased in coir fiber netting and used in conjunction with temporary silt fence at the toe of fills to intercept runoff. Silt fence coir fiber wattle breaks are to be placed at locations shown on the plans or as directed. Installation shall follow the detail provided in the plans and as directed. Work includes furnishing materials, installation, maintenance and removing Silt fence coir fiber wattle breaks.

Materials

Coir fiber wattle shall meet the following specifications:

100% Coir (Coconut) Fibers	
Minimum Diameter	12"
Minimum Length	10 ft
Minimum Density	3.5 lb/cf ± 10%
Net Material	Coir Fiber
Net Openings	2" x 2"
Net Strength	90 lb.
Minimum Weight	2.6 lb/ft ± 10%

Stakes shall be used as anchors. Provide hardwood stakes a minimum of 2-ft long with a 2" x 2" nominal square cross section. One end of the stake shall be sharpened or beveled to facilitate driving down into the underlying soil.

Provide staples made of 0.125" diameter new steel wire formed into a U-shape not less than 12" in length with a throat of 1" in width.

Construction Methods

Excavate a trench the entire length of each wattle with a depth of 1" to 2" for the wattle to be placed. Secure silt fence coir fiber wattle breaks to the soil by wire staples approximately every linear foot and at the end of each wattle. Install at least 4 stakes on the downslope side of the wattle with a maximum spacing of 2 linear feet and according to the detail. Install at least 2 stakes on the upslope side of the silt fence coir fiber wattle break according to the detail provided in the plans. Drive stakes into the ground at least 10" with no more than 2" projecting from the top of the wattle. Drive stakes at an angle according to the detail provided in the plans.

Install temporary silt fence in accordance with Section 1605 of the *Standard Specifications* and overlap each downslope side of silt fence wattle break by 6".

Maintain the silt fence coir fiber wattle breaks until the project is accepted or until the silt fence coir fiber wattle breaks are removed, and remove and dispose of silt accumulations at the silt fence coir fiber wattle breaks when so directed in accordance with Section 1630 of the *Standard Specifications*.

Measurement and Payment

Coir Fiber Wattle will be measured and paid as the actual number of linear feet of wattles installed and accepted. Such price and payment will be full compensation for all work covered by this provision, including, but not limited to, furnishing all materials, labor, equipment and incidentals necessary to install the silt fence coir fiber wattle break.

Payment will be made under:

Pay Item	**Pay Unit**
Coir Fiber Wattle	Linear Foot

COIR FIBER WATTLE BARRIER:
(5-20-13) 1630

Description

Coir fiber wattle barriers are tubular products consisting of coir fibers (coconut fibers) encased in coir fiber or synthetic netting and used at the toe of fills or on slopes to intercept runoff. Coir fiber wattle barriers are to be placed at locations shown on the plans or as directed. Installation shall

follow the detail provided in the plans and as directed. Work includes furnishing materials, installation, maintenance and removing coir fiber wattle barriers.

Materials

Coir fiber wattle shall meet the following specifications:

Inner Material	100% Coir (Coconut) Fibers
Minimum Diameter	18"
Minimum Length	10 ft.
Minimum Density	5 lb./c.f. ± 10%
Net Material	Coir (Coconut) or Synthetic
Net Openings	2" x 2"
Net Strength	90 lb.
Minimum Weight	10 lb./ft. ± 10%

Stakes shall be used as anchors. Provide hardwood stakes a minimum of 2-ft long with a 2" x 2" nominal square cross section. One end of the stake shall be sharpened or beveled to facilitate driving down into the underlying soil.

Provide staples made of 0.125" diameter new steel wire formed into a U-shape not less than 12" in length with a throat of 1" in width.

Construction Methods

Align coir fiber wattle barriers in an overlapping and alternating pattern. Excavate a trench the entire length of each wattle with a depth of 2" to 3" for the wattle to be placed. Secure coir fiber wattle barriers to the soil by wire staples approximately every linear foot and at the end of each wattle. Install at least 4 stakes on the downslope side of the wattle with a maximum spacing of 2 linear feet and according to the detail. Install at least 2 stakes on the upslope side of the coir fiber wattle barriers according to the detail provided in the plans. Drive stakes into the ground at least 10" with no more than 2" projecting from the top of the wattle. Drive stakes at an angle according to the detail provided in the plans.

For coir fiber wattle barriers used to reduce runoff velocity for large slopes, use a maximum spacing of 25 ft. for the barrier measured along the slope.

Maintain the coir fiber wattle barriers until the project is accepted or until the coir fiber wattle barriers are removed, and remove and dispose of silt accumulations at the coir fiber wattle barriers when so directed in accordance with Section 1630 of the *Standard Specifications*.

Measurement and Payment

Coir Fiber Wattle Barrier will be measured and paid as the actual number of linear feet of coir fiber wattle barrier installed and accepted. Such price and payment will be full compensation for

all work covered by this provision, including, but not limited to, furnishing all materials, labor, equipment and incidentals necessary to install the coir fiber wattle barrier.

Payment will be made under:

Pay Item	**Pay Unit**
Coir Fiber Wattle Barrier	Linear Foot

TEMPORARY ROCK SILT CHECK TYPE A WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM):

Description

Temporary Rock Silt Checks Type A with Excelsior Matting and Polyacrylamide (PAM) are devices utilized in temporary and permanent ditches to reduce runoff velocity and incorporate PAM into the construction runoff to increase settling of sediment particles and reduce turbidity of runoff. Temporary Rock Silt Checks Type A with Excelsior Matting and PAM are to be placed at locations shown on the plans or as directed. Installation shall follow the detail provided in the plans and as directed. Work includes furnishing materials, installation of Temporary Rock Silt Checks Type A, matting installation, PAM application, and removing Temporary Rock Silt Checks Type A with Excelsior Matting and PAM.

Materials

Structural stone shall be class B stone that meets the requirements of Section 1042 of the *Standard Specifications* for Stone for Erosion Control, Class B.

Sediment control stone shall be #5 or #57 stone, which meets the requirements of Section 1005 of the *Standard Specifications* for these stone sizes.

Matting shall meet the requirements of Excelsior Matting in Subarticle 1060-8(B) of the *Standard Specifications*, or shall meet specifications provided elsewhere in this contract.

Polyacrylamide (PAM) shall be applied in powder form and shall be anionic or neutrally charged. Soil samples shall be obtained in areas where the Temporary Rock Silt Checks Type A with Excelsior Matting and PAM will be placed, and from offsite material used to construct the roadway, and analyzed for the appropriate PAM flocculant to be utilized with each Temporary Rock Silt Check Type A. The PAM product used shall be listed on the North Carolina Department of Environmental Quality Division of Water Resources web site as an approved PAM product for use in North Carolina.

Construction Methods

Temporary Rock Silt Checks Type A shall be installed in accordance with Subarticle 1633-3(A) of the *Standard Specifications*, Roadway Standard Drawing No. 1633.01 and the detail provided in the plans.

Installation of matting shall be in accordance with the detail provided in the plans, and anchored by placing Class B stone on top of the matting at the upper and lower ends.

Apply PAM at a rate of 4 ounces over the center portion of the Temporary Rock Silt Checks Type A and matting where the water is going to flow over. PAM applications shall be done during construction activities and after every rainfall event that is equal to or exceeds 0.50 in.

The Contractor shall maintain the Temporary Rock Silt Checks Type A with Excelsior Matting and PAM until the project is accepted or until the Temporary Rock Silt Checks Type A with Excelsior Matting and PAM are removed, and shall remove and dispose of silt accumulations at the Temporary Rock Silt Checks Type A with Excelsior Matting and PAM when so directed in accordance with the requirements of Section 1630 of the *Standard Specifications*.

Measurement and Payment

Temporary Rock Silt Checks Type A will be measured and paid for in accordance with Article 1633-5 of the *Standard Specifications*, or in accordance with specifications provided elsewhere in this contract.

Matting will be measured and paid for in accordance with Article 1631-4 of the *Standard Specifications*, or in accordance with specifications provided elsewhere in this contract.
Polyacrylamide(PAM) will be measured and paid for by the actual weight in pounds of PAM applied to the Temporary Rock Silt Checks Type A. Such price and payment will be full compensation for all work covered by this section, including, but not limited to, furnishing all materials, labor, equipment and incidentals necessary to apply the *Polyacrylamide(PAM)*.

Payment will be made under:

Pay Item	Pay Unit
Polyacrylamide(PAM)	Pound

BORROW PIT DEWATERING BASIN:
(3-17-09) (Rev 3-2-11)

Description

Water discharge from borrow pit sites shall not cause surface waters to exceed 50 NTUs (nephelometric turbidity unit) in streams not designated as trout waters and 10 NTUs in streams, lakes or reservoirs designated as trout waters. For lakes and reservoirs not designated as trout waters, the turbidity shall not exceed 25 NTUs. If the turbidity exceeds these levels due to natural background conditions, the existing turbidity level shall not be increased.

Construct, maintain and remove earth embankments used to reduce turbidity from dewatering borrow sites. Work includes providing porous coir fiber baffle, filtration geotextile, stone and outlet structures; cleaning out, maintaining, removing and disposing of the borrow pit dewatering basin and all components; and reshaping, dressing, seeding and mulching the area.

Materials

Refer to Division 10

Item	Section
Riprap, Class A, B, 1, and 2	1042
Geotextile for Drainage, Type 2	1056
Coir Fiber Baffle	1640-2

Use suitable excavated materials, as specified in Sections 225, 230 and 240 of the *Standard Specifications* in the construction of earth embankments for borrow pit dewatering basins, except where otherwise specified.

Construction Methods

Construct borrow pit dewatering basins according to the detail in the erosion control plans, and at locations shown on Reclamation Plans or in areas as directed.

The volume of the borrow pit dewatering basin will be based on a 2 hour retention time. The pump rate shall not exceed 1,000 GPM. The Contractor, at his option, may use a greater retention time for managing turbidity.

The straight line distance between the inlet and outlet shall be divided to include a forebay chamber in the upper quarter cell. Install one porous coir fiber baffle across the full width of the basin to delineate the forebay chamber. Do not use earthen or rock baffle. Install filtration geotextile on the interior side slopes and the floor of the forebay.

The water pumped from the borrow pit into the dewatering basin shall be obtained from the top of the water column and shall be discharged into the forebay in a non-erodible manner.

The borrow pit dewatering basin outlet shall be a vertical non-perforated riser pipe or flash board riser attached with a watertight connection to a barrel that carries the water through the embankment.

Maintenance and Removal

Maintain the borrow pit dewatering basin, coir fiber baffle, and remove and dispose of silt accumulations in accordance with Article 1630-3 of the *Standard Specifications*. The Contractor may include a drain device for maintenance and removal at his discretion.

Remove the borrow pit dewatering basin once dewatering operations are completed. Grade, seed, and mulch the area after removal of the borrow pit dewatering basin in accordance with Section 1660 of the *Standard Specifications*. The area shall be stabilized with an approved groundcover before final acceptance of the site.

Measurement and Payment

No direct payment will be made for borrow pit dewatering basins with the exception of the work of silt removal during dewatering basin operation and the work of seeding and mulching after removal of the dewatering basin. All other work and materials required for installation, maintenance and removal of borrow pit dewatering basins shall be incidental to *Borrow Excavation*. Such price and payments will be full compensation for the work of constructing, maintaining and removing the borrow pit dewatering basin including, but not limited to, the construction and removal of the borrow pit dewatering basin; furnishing of the outlet structure, baffle, filtration geotextile, stone and optional drain devices; and removal of all such items once dewatering operations are completed.

Removal and disposal of silt accumulations during dewatering operations will be measured and paid at the contract unit price per cubic yard for *Silt Excavation* in accordance with Article 1630-4 of the *Standard Specifications.*

Grading, seeding, and mulching the area after removal of the borrow pit dewatering basin will be measured and paid at the contract unit price per acre for *Seeding and Mulching* in accordance with Section 1660-8 of the *Standard Specifications*.

CULVERT DIVERSION CHANNEL:

Description

This work consists of providing a *Culvert Diversion Channel* to detour the existing stream around the culvert construction site at locations shown on the plans. Work includes constructing the diversion channel, disposing of excess materials, providing and placing geotextile liner, maintaining the diversion area in an acceptable condition, removing geotextile liner, backfilling diversion channel area with suitable material, and providing proper drainage when diversion channel area is abandoned.

Materials

Refer to Division 10

Item	Section
Geotextile for Soil Stabilization, Type 4	1056

Construction Methods

Grade channel according to the plans with channel surface free of obstructions, debris, and pockets of low-density material. Utilize suitable material and provide disposal area for unsuitable material.

Line channel with geotextile unrolled in the direction of flow and lay smoothly but loosely on soil surface without creases. Bury top of slope geotextile edge in a trench at least 5" deep and tamp

securely. Make vertical overlaps a minimum of 18" with upstream geotextile overlapping the downstream geotextile.
Secure geotextile with eleven gauge wire staples shaped into a *u* shape with a length of not less than 6" and a throat not less than 1" in width. Place staples along outer edges and throughout the geotextile a maximum of 3 ft. horizontally and vertically.

Measurement and Payment

Culvert Diversion Channel will be measured and paid for as the actual number of cubic yards excavated, as calculated from the typical section throughout the length of the diversion channel as shown on the final approved plans.

Geotextile for Soil Stabilization will be measured and paid for in accordance with Article 270-4 of the *Standard Specifications*.

Such price and payment shall be considered full compensation for all work covered by this section including all materials, construction, maintenance, and removal of *Culvert Diversion Channel*.

Payment will be made under:

Pay Item	**Pay Unit**
Culvert Diversion Channel	Cubic Yard

IMPERVIOUS DIKE:
(09-09-11) (rev. 11-15-22)

Description

This work consists of furnishing, installing, maintaining, and removing an *Impervious Dike* for the purpose of diverting normal stream flow around the construction site. The Contractor shall construct an impervious dike in such a manner approved by the Engineer. The impervious dike shall not permit seepage of water into the construction site or contribute to siltation of the stream. The impervious dike shall be constructed of an acceptable material in the locations noted on the plans or as directed.

Where impervious dikes are shown on the plans and used to dewater or lower the water elevation, construct in accordance with Article 410-4 and 410-5.

Materials

Acceptable materials shall include but not be limited to sheet piles, sandbags, and/or the placement of an acceptable size stone lined with polypropylene or other impervious geotextile.

Earth material shall not be used to construct an impervious dike when it is in direct contact with the stream unless vegetation can be established before contact with the stream takes place.

Measurement and Payment

Impervious Dike will be measured and paid as the actual number of linear feet of impervious dike(s) constructed, measured in place from end to end of each separate installation that has been completed and accepted. Such price and payment will be full compensation for all work including but not limited to furnishing materials, construction, maintenance, pumping, and removal of the impervious dike.

Payment will be made under:

Pay Item	Pay Unit
Impervious Dike	Linear Foot

PUMP AROUND OPERATION:

Description

The work covered by this section consists of furnishing, installing, maintaining and removing any and all pump around systems used on this project. The Contractor shall install a pump around system in locations as shown in the plans and in other locations approved by the Engineer. The pump around system shall provide a passageway for the stream flow around the work site.

The quantity of pump around systems may be increased, decreased, or eliminated entirely as directed. Such variations in quantity will not be considered as alterations in the details of construction or a change in the character of the work. See NCDOT *Best Management Practices for Construction and Maintenance Activities* manual for example pump around operation.

Materials

Item	Section
Special Stilling Basin	1639

Impervious Dike shall meet the specifications as provided elsewhere in this contract.

Pumps shall be of sufficient size to divert the stream flow around the work area, as approved by the Engineer.

Construction Methods

Install *impervious dike(s)* as shown on the plans or as directed. Pump water around the work site. If the water is turbid or exposed to bare soil, pump through a *special stilling basin*. Once the work is complete in an area remove the *impervious dike(s)* and pump system, and stabilize the area.

Measurement and Payment

Impervious Dike will be measured and paid for as provided elsewhere in this contract.

Special Stilling Basin will be measured and paid for in accordance with Article 1639-4 of the *Standard Specifications*.

Payment for pumping operations shall be considered incidental to the work of installing pipes and culverts. The pumping operations shall include but not be limited to, diverting the stream flow around the work area and pumping runoff from the work area into a stilling basin, special stilling basin or other sediment control device. No additional payment will be made for furnishing materials or maintenance of the pumping operations for the installation of pipes and culverts.

The above prices and payments will be full compensation for all work covered by this section including, but not limited to furnishing all of the necessary materials, construction, maintenance and removal of the impervious dike and pump around system.

COIR FIBER MAT:

Description

Furnish material, install and maintain coir fiber mat in locations shown on the plans or in locations as directed. Work includes providing all materials, excavating and backfilling, and placing and securing coir fiber mat with stakes, steel reinforcement bars or staples as directed.

Materials

Item	**Section**
Coir Fiber Mat	1060-14

Anchors: Stakes, reinforcement bars, or staples shall be used as anchors.

Wooden Stakes:

Provide hardwood stakes 12"- 24" long with a 2" x 2" nominal square cross section. One end of the stake must be sharpened or beveled to facilitate driving through the coir fiber mat and down into the underlying soil. The other end of the stake needs to have a 1"- 2" long head at the top with a 1"- 2" notch following to catch and secure the coir fiber mat.

Steel Reinforcement Bars:

Provide uncoated #10 steel reinforcement bars 24" nominal length. The bars shall have a 4" diameter bend at one end with a 4" straight section at the tip to catch and secure the coir fiber mat.

Staples:

Provide staples made of 0.125" diameter new steel wire formed into a *u* shape not less than 12" in length with a throat of 1" in width.

Construction Methods

Place the coir fiber mat immediately upon final grading. Provide a smooth soil surface free from stones, clods, or debris that will prevent the contact of the mat with the soil. Unroll the mat and apply without stretching such that it will lie smoothly but loosely on the soil surface.

For stream relocation applications, take care to preserve the required line, grade, and cross section of the area covered. Bury the top slope end of each piece of mat in a narrow trench at least 6 in. deep and tamp firmly. Where one roll of matting ends and a second roll begins, overlap the end of the upper roll over the buried end of the second roll so there is a 6 in. overlap. Construct check trenches at least 12 in. deep every 50 ft. longitudinally along the edges of the mat or as directed. Fold over and bury mat to the full depth of the trench, close and tamp firmly. Overlap mat at least 6 in. where 2 or more widths of mat are installed side by side.

Place anchors across the mat at the ends approximately 1 ft. apart. Place anchors along the outer edges and down the center of the mat 3 ft. apart.

Adjustments in the trenching or anchoring requirements to fit individual site conditions may be required.

Measurement and Payment

Coir Fiber Mat will be measured and paid for as the actual number of square yards measured along the surface of the ground over which coir fiber mat is installed and accepted.

No measurement will be made for anchor items.

Payment will be made under:

Pay Item	Pay Unit
Coir Fiber Mat	Square Yard

FLOATING TURBIDITY CURTAIN:

Description

This work consists of furnishing a *Floating Turbidity Curtain* to deter silt suspension and movement of silt particles during construction. The floating turbidity curtain shall be constructed at locations as directed.

Materials

The curtain material shall be made of a tightly woven nylon, plastic or other non-deteriorating material meeting the following specifications:

Property	Value
Grab tensile strength	*md-370 lbs *cd-250 lbs
Mullen burst stength	480 psi
Trapezoid tear strength	*md-100 lbs *cd-60 lbs
Apparent opening size	70 US standard sieve
Percent open area	4% permittivity 0.28 sec-1

*md - machine direction
*cd - cross machine direction

In the event that more than one width of fabric is required, a 6" overlap of the material shall also be required.

The curtain material shall be supported by a flotation material having over 29 lbs/ft buoyancy. The floating curtain shall have a 5/16" galvanized chain as ballast and dual 5/16" galvanized wire ropes with a heavy vinyl coating as load lines.

Construction Methods

The Contractor shall maintain the *Floating Turbidity Curtain* in a satisfactory condition until its removal is requested by the Engineer. The curtain shall extend to the bottom of the jurisdictional resource. Anchor the curtain according to manufacturer recommendations.

Measurement and Payment

Floating Turbidity Curtain will be measured and paid for as the actual number of square yards of curtain furnished as specified and accepted. Such price and payment will be full compensation for the work as described in this section including but not limited to furnishing all materials, tools, equipment, and all incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
Floating Turbidity Curtain	Square Yard

CONCRETE WASHOUT STRUCTURE:
(12-10-20)

Description

Concrete washout structures are enclosures above or below grade to contain concrete waste water and associated concrete mix from washing out ready-mix trucks, drums, pumps, or other equipment. Concrete washouts must collect and retain all the concrete washout water and solids, so that this material does not migrate to surface waters or into the ground water. These enclosures are not intended for concrete waste not associated with wash out operations.

The concrete washout structure may include constructed devices above or below ground and or commercially available devices designed specifically to capture concrete wash water.

Materials

Item	Section
Temporary Silt Fence	1605

Safety Fence shall meet the specifications as provided elsewhere in this contract.

Geomembrane basin liner shall meet the following minimum physical properties for low permeability; it shall consist of a polypropylene or polyethylene 10 mil think geomembrane. If the minimum setback dimensions can be achieved the liner is not required. (5 feet above groundwater, 50 feet from top of bank of perennial stream, other surface water body, or wetland.)

Construction Methods

Build an enclosed earthen berm or excavate to form an enclosure in accordance with the details and as directed.

Install temporary silt fence around the perimeter of the enclosure in accordance with the details and as directed if structure is not located in an area where existing erosion and sedimentation control devices are capable to containing any loss of sediment.

Post a sign with the words “Concrete Washout” in close proximity of the concrete washout area, so it is clearly visible to site personnel. Install safety fence as directed for visibility to construction traffic.

The construction details for the above grade and below grade concrete washout structures can be found on the following web page link:

https://connect.ncdot.gov/resources/roadside/SoilWaterDocuments/ConcreteWashoutStructuredetail.pdf

Alternate details for accommodating concrete washout may be submitted for review and approval.

The alternate details shall include the method used to retain and dispose of the concrete waste water within the project limits and in accordance with the minimum setback requirements. (5 feet above groundwater, 50 feet from top of bank of perennial stream, other surface water body, or wetland.)

Maintenance and Removal

Maintain the concrete washout structure(s) to provide adequate holding capacity plus a minimum freeboard of 12 inches. Remove and dispose of hardened concrete and return the structure to a functional condition after reaching 75% capacity.

Inspect concrete washout structures for damage and maintain for effectiveness.
Remove the concrete washout structures and sign upon project completion. Grade the earth material to match the existing contours and permanently seed and mulch area.

Measurement and Payment

Concrete Washout Structure will be paid for per each enclosure installed in accordance with the details. If alternate details or commercially available devices are approved, then those devices will also be paid for per each approved and installed device.

Temporary Silt Fence will be measured and paid for in accordance with Article 1605-5 of the *Standard Specifications*.

Safety Fence shall be measured and paid for as provided elsewhere in this contract.

No measurement will be made for other items or for over excavation or stockpiling.

Payment will be made under:

Pay Item	**Pay Unit**
Concrete Washout Structure	Each

LITTER REMOVAL (MOWING AREAS ONLY):
(07-19-22)

Description

This work consists of the pickup, removal, and disposal of litter from roadsides within the construction project prior to mowing operations.

Construction Methods

Provide labor, equipment and materials necessary for the pickup and removal of litter from non-construction sources and the disposal of same into state approved landfills. The Contractor shall abide by all ordinances, laws and regulations regarding disposal of litter and recycling of eligible materials. Wastes generated from construction activities shall be managed as provided elsewhere in the contract. Litter items may consist of any item not considered normal to the right-of-way, including but not limited to, varied sizes of bottles, cans, paper, tires, tire pieces, lumber, vehicle parts, building supplies, metals, household furnishings, cardboard, plastics, ladders, brush and other items not considered normal to the right of way. Litter removal shall be performed in designated areas within five days prior to any mowing operations and as directed. Designated areas shall include vegetated medians and shoulders within the project limits including all interchange ramps and other areas to be mown. Designated areas may be omitted for litter removal by the Engineer due to safety concerns.

The Contractor shall provide adequate personnel and materials to collect and remove litter. The Contractor shall be responsible for locating and utilizing approved local landfills and recycling facilities. Refer to Section 105-27 of the *Standard Specifications* for potential hazardous materials. All collected litter shall be containerized immediately and kept off the traveled portions of the roadway, shoulders, and rights-of-way (including paved shoulders). All collected litter that is small enough to be placed in a bag shall be bagged immediately. All collected litter that is too large for a bag shall be placed into a vehicle. Extended storage or stockpiling of collected litter and recyclables will not be permitted.

The Contractor's personnel shall dispose of any litter in a landfill approved by North Carolina Division of Waste Management. The Contractor will not be allowed to use NCDOT accounts at the landfills/recycling centers nor be allowed to dispose of the litter in NCDOT trash containers on any NCDOT property.

The Contractor shall report online the number of bags of litter and any recycling on the NCDOT Litter Management Website on the date of the pickup at the following website:

https://apps.ncdot.gov/LM

An access code ('Pickup Key') for the online reporting portal may be obtained via emailing the Roadside Environmental Unit Litter Management Section at ncdot.clr@ncdot.gov. The Contractor shall request access to the litter removal reporting website prior to starting initial litter collection operations.

Measurement and Payment

The quantity of litter removal to be performed will be affected by the actual conditions that occur during construction of the project. The quantity of litter removal may be increased, decreased, or eliminated entirely as directed. Such variations in quantity will not be considered as alterations in the details of construction or a change in the character of the work.

Manual Litter Removal will be measured and paid as the actual number of man hours each worker spends picking up litter. Such price and payment will be full compensation for all litter removal work covered by *Litter Removal*, including, but not limited to, furnishing all materials, labor, equipment, transport, reporting, and incidentals necessary to accomplish the work.

Litter Disposal will be measured and paid for by the actual number of tons of litter collected and properly disposed of at a state approved landfill. Such price and payment will be full compensation for all fees, labor, transport, and incidentals necessary to dispose of collected litter associated with *Litter Removal*.

All traffic control necessary to provide a safe work area for *Litter Removal* shall be paid for as specified elsewhere in the contract.

Payment will be made under:

Pay Item	Pay Unit
Manual Litter Removal	MHR
Litter Disposal	TON

TACK FOR MULCH FOR EROSION CONTOL:
(07-19-22)

Description

This work consists of supplying and installing of an approved material for binding mulch for erosion control in accordance with Section 1060-5, Section 1615 and Section 1660 of the *Standard Specifications*. This provision defines acceptable materials and rates for tacking material for holding mulch in place.

Materials

(a) Emulsified Asphalt

Asphalt emulsion tack shall conform to the requirements of AASHTO M 140, Specification for Emulsified Asphalt. The emulsified asphalt may be rapid setting, medium setting, or slow setting. Apply emulsified asphalt tackifier at a rate of 0.10 gallons per square yard (approximately 484 gallons per acre).

(b) Cellulose Hydromulch

Cellulose hydromulch products shall be non-toxic, weed-free, prepackaged cellulose fiber (pulp) material containing no more than 3% ash or other inert materials. Cellulose hydromulches may contain dyes or binders specifically formulated to enhance the adhesive qualities of the hydromulch. Apply cellulose hydromulches at a rate of 1000 pounds (dry weight) per acre.

Wood fiber or wood fiber blend hydromulches may be substituted for cellulose hydromulch at the same application rate.

(c) Other tackifiers

Other approved materials, specifically designed and manufactured for application as a straw mulch tacking agent, may be used at the manufacturer's recommended rate.

Construction Methods

Apply the Tack for Mulch for Erosion Control uniformly across straw mulch per Section 1615 and Section 1660 of the *Standard Specifications.*

Payment

Tack for Mulch for Erosion Control is incidental to the application of *Temporary Mulching*, Section 1615-4, and *Seeding and Mulching*, Section 1660-8, and no additional payment will be made.

FABRIC INSERT INLET PROTECTION DEVICE (HIGH FLOW)
(6-29-17)
Description

This work shall consist of installing, maintaining, and removing *Fabric Insert Inlet Protection Device*, of the type specified, in inlet structures (catch basins, drop inlets, etc) in areas where asphalt or concrete may prevent the proper installation of a Rock Inlet Sediment Traps Type C, or as directed.

Materials

The product shall be a fabric inlet protection device composed of a fitted woven polypropylene geotextile double sewn with nylon thread suspended sack. The *Fabric Insert Inlet Protection Device* shall be manufactured to fit the opening of the catch basin or drop inlet or shall have a deflector to direct runoff from the curb opening into the fabric sack. The *Fabric Insert Inlet Protection Device* shall have a rigid frame or support system to support the loaded weight of the product. The product shall have lifting loops for removing the device from the basin and will have dump straps attached at the bottom to facilitate the emptying of the device. The *Fabric Insert Inlet Protection Device* shall have an overflow system to allow stormwater to enter the inlet structure and avoid ponding on the roadway when the device reaches capacity.

The stitching shall meet the following physical properties:

Physical	Test Method	English
Average Wide Width Strength	ASTM D-4884	165 lb/in

The fitted filter assembly shall have the following physical properties:

Physical	Test Method	English
Grab Tensile	ASTM D-4632	255 x 275 lbs
Minimum Puncture Strength	ASTM D-4833	125 lbs
Mullen Burst	ASTM D-3786	420 PSI
Minimum UV Resistance	ASTM D-4355	70 %.
Flow Rate	ASTM D-4491	200 gal/min/ft^2
Apparent Opening	ASTM D-4751	20 US Sieve
Permittivity	ASTM D-4491	1.5 sec^{-1}

Construction Methods

Strictly comply with manufacturer's installation instructions and recommendations. Maintenance shall include regular daily inspections and after each qualifying rain event. The *Fabric Insert Inlet Protection Device* shall be emptied, cleaned and placed back into the basin when it reaches 50% capacity or as directed.

Measurement and Payment

This work will be paid for at the contract unit price per *Fabric Insert Inlet Protection Device* of the type specified, complete in place and accepted. Such payment shall be full compensation for furnishing and installing the *Fabric Insert Inlet Protection Device* in accordance with this specification and for all required maintenance.

Maintenance of the device, cleanout and disposal of accumulated sediments shall be paid for by *Fabric Insert Inlet Protection Device Cleanout*.

Payment will be made under:

Pay Item	**Pay Unit**
Fabric Insert Inlet Protection Device	Each
Fabric Insert Inlet Protection Device Cleanout	Each

Project Special Provisions

Structure

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NORTH CAROLINA PROFESSIONAL SEAL 14114 ENGINEER ROBERT C. LARSON

8/10/2022

Company License No. C-0764

PROJECT SPECIAL

PROVISIONS STRUCTURE

MAINTENANCE AND PROTECTION OF TRAFFIC (8-13-04)
BENEATH PROPOSED STRUCTURE AT STATION 34+01.72 -Y-

1.0 GENERAL

Maintain traffic on NC 87 as shown in Traffic Control Plans and as directed by the Engineer.

Provide a minimum temporary vertical clearance of 16'-6" at all times during construction.

Submit plans and calculations for review and approval for protecting traffic and bracing girders, as described herein, at the above station before beginning work at this location. Have the drawings and design calculations prepared, signed, and sealed by a North Carolina Registered Professional Engineer. The approval of the Engineer will not relieve the Contractor of the responsibility for the safety of the method or equipment.

2.0 PROTECTION OF TRAFFIC

Protect traffic from any operation that affords the opportunity for construction materials, equipment, tools, etc. to be dropped into the path of traffic beneath the structure. Based on Contractor means and methods determine and clearly define all dead and live loads for this system, which, at a minimum, shall be installed between beams or girders over any travelway or shoulder area where traffic is maintained. Install the protective system before beginning any construction operations over traffic. In addition, for these same areas, keep the overhang falsework in place until after the rails have been poured.

3.0 BRACING GIRDERS

Brace girders to resist wind forces, weight of forms and other temporary loads, especially those eccentric to the vertical axis of the member during all stages of erection and construction. Before casting of intermediate diaphragms, decks, or connecting steel diaphragms do not allow the horizontal movement of girders to exceed ½ inch.

4.0 BASIS OF PAYMENT

Payment at the contract unit prices for the various pay items will be full compensation for the above work.

CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS AT STATION 70+34.00 -L- **(12-12-13)**

1.0 GENERAL

Construct, maintain, and remove the temporary access required to provide the working area necessary for construction of the new bridge, construction of the temporary detour structure, or for the removal of an existing bridge, as applicable. Temporary access may involve the use of a rock causeway [workpad], a work bridge, or other methods; however, all types of temporary access are required to meet the requirements of all permits, the Standard Specifications, and this Special Provision.

2.0 TEMPORARY ROCK CAUSEWAY [WORKPAD]

At the contractor's option, construction of a temporary rock causeway [workpad] within the limits shown on the plans is permitted. Build the causeway [workpad] with Class II riprap topped by a layer of Class B riprap or as otherwise designated on the plans or approved by the Engineer. If desired, recycle the Class II riprap used in the causeway [workpad] for placement in the final riprap slope protection as directed by the Engineer. No payment will be made for recycled riprap as this material is considered incidental to the causeway [workpad] placement and removal. If this option is exercised, no adjustment in contract bid price will be allowed due to an underrun in the quantity of "Rip Rap Class II (2'-0" Thick)".

Completely remove all causeway [workpad] material including pipes and return the entire causeway [workpad] footprint to the original contours and elevations within 90 days of the completion of the deck slab or as otherwise required by permits.

For sites affected by moratoriums or restrictions on in-stream work: Do not construct or remove causeway [workpad] during the moratorium period shown on the permit. If the completion of the deck slab falls within the prohibitive dates for causeway [workpad] construction or removal, begin causeway [workpad] removal immediately following the prohibitive dates.

3.0 TEMPORARY WORK BRIDGE

At the contractor's option, construction of a temporary work bridge in lieu of the causeway(s) [workpad] is acceptable, provided the temporary work bridge satisfies all permits. Submit details of the temporary work bridge to the Engineer prior to constructing the work bridge to ensure conformance with the plans and all permits. Completely remove the temporary bridge prior to final acceptance or as otherwise required by the permits.

4.0 BASIS OF PAYMENT

The lump sum price bid for "Construction, Maintenance and Removal of Temporary Access at Station 70+34.00 -L-" will be full compensation for the above work, or other methods of

access, including all material, pipes, work bridge components, equipment, tools, labor, disposal, and incidentals necessary to complete the work.

STEEL REINFORCED ELASTOMERIC BEARINGS (6-22-16)

The 2018 Standard Specifications shall be revised as follows:
In **Section 1079-2(A) – Elastomeric Bearings** add the following after the second paragraph:

Internal holding pins are required for all shim plates when the contract plans indicate the structure contains the necessary corrosion protection for a corrosive site.

Repair laminated (reinforced) bearing pads utilizing external holding pins via vulcanization. Submit product data for repair material and a detailed application procedure to the Materials and Tests Unit for approval before use and annually thereafter.

THERMAL SPRAYED COATINGS (METALLIZATION) (12-1-2017)

1.0 DESCRIPTION

Apply a thermal sprayed coating (TSC) and sealer to metal surfaces in accordance with the Thermal Sprayed Coatings (Metallization) Program and as specified herein when called for on the plans or by other Special Provisions. Use only Arc Sprayed application methods to apply TSC. The Engineer must approve other methods of application.

The Thermal Sprayed Coatings (Metallization) Program is available on the Materials and Tests Unit website.

2.0 QUALIFICATIONS

Only use NCDOT approved TSC Contractors meeting the requirements outlined in the Thermal Sprayed Coatings (Metallization) Program.

3.0 MATERIALS

Use only materials meeting the requirements of Section 7 of the Thermal Sprayed Coatings (Metallization) Program.

4.0 SURFACE PREPARATION AND TSC APPLICATION

Surface preparation of TSC surfaces shall meet the requirements of Section 8 of the Thermal Sprayed Coatings (Metallization) Program. Apply TSC with the alloy to the thickness specified on the plans or as required by Thermal Sprayed Coatings (Metallization) Program.

5.0 INSPECTION AND TESTING

The TSC Contractor must conduct inspections and tests listed in the Thermal Sprayed Coatings (Metallization) Program.

6.0 REPAIRS

Perform all shop repairs in accordance with the procedures outlined in the Thermal Sprayed Coatings (Metallization) Program.

Repairs associated with field welding shall be made by removing the existing metallizing by blast or power tool cleaning. Affected areas shall be addressed as follows:

- For Marine Environments, incorporate a minimum surface preparation in accordance with SSPC SP-11 (Power Tool Cleaning to Bare Metal) and require an approved epoxy mastic coating applied in accordance with the manufacturer's recommendation. Apply a minimum of two (2) coats at a rate of 5-7 (WFT) per coat to the affected area.

- For Non-Marine Environments, incorporate a minimum surface preparation in accordance with SSPC SP-11 (Power Tool Cleaning to Bare Metal) and require an approved organic zinc-rich coating applied in accordance with the manufacturer's recommendation. Apply a minimum of two (2) coats at a rate of 5-7 (WFT) per coat to the affected area.

    1. Minor localized areas less than or equal to 0.1 ft^2 with exposed substrate shall be repaired as outlined above for marine and non-marine environments.

    2. Large localized areas greater than 0.1 ft^2 with exposed substrate shall require the Contractor to submit a detailed repair procedure to the Engineer for review and approval.

- Repair methods for areas where the substrate has not been exposed shall be mutually agreed upon between the Contractor and TSC Contractor as approved by the Engineer.

7.0 TWELVE MONTH OBSERVATION PERIOD

All TSC materials applied under the Thermal Sprayed Coatings (Metallization) Program shall be evaluated twelve (12) months after project acceptance for defective materials and workmanship.

8.0 BASIS OF PAYMENT

The contract price bid for the metal component to which the TSC is applied will be full compensation for the thermal sprayed coating.

FALSEWORK AND FORMWORK (2-14-22)

1.0 DESCRIPTION

Use this Special Provision as a guide to develop temporary works submittals required by the Standard Specifications or other provisions; no additional submittals are required herein. Such temporary works include, but are not limited to, falsework and formwork.

Falsework is any temporary construction used to support the permanent structure until it becomes self-supporting. Formwork is the temporary structure or mold used to retain plastic or fluid concrete in its designated shape until it hardens. Access scaffolding is a temporary structure that functions as a work platform that supports construction personnel, materials, and tools, but is not intended to support the structure. Scaffolding systems that are used to temporarily support permanent structures (as opposed to functioning as work platforms) are considered to be falsework under the definitions given. Shoring is a component of falsework such as horizontal, vertical, or inclined support members. Where the term "temporary works" is used, it includes all of the temporary facilities used in bridge construction that do not become part of the permanent structure.

Design and construct safe and adequate temporary works that will support all loads imposed and provide the necessary rigidity to achieve the lines and grades shown on the plans in the final structure.

2.0 MATERIALS

Select materials suitable for temporary works; however, select materials that also ensure the safety and quality required by the design assumptions. The Engineer has authority to reject material on the basis of its condition, inappropriate use, safety, or nonconformance with the plans. Clearly identify allowable loads or stresses for all materials or manufactured devices on the plans. Revise the plan and notify the Engineer if any change to materials or material strengths is required.

3.0 DESIGN REQUIREMENTS

A. Working Drawings

Provide working drawings for items as specified in the contract, or as required by the Engineer, with design calculations and supporting data in sufficient detail to permit a structural and safety review of the proposed design of the temporary work.

On the drawings, show all information necessary to allow the design of any component to be checked independently as determined by the Engineer.

When concrete placement is involved, include data such as the drawings of proposed sequence, rate of placement, direction of placement, and location of all construction joints.

When required, have the drawings and calculations prepared under the guidance of, and sealed by, a North Carolina Registered Professional Engineer who is knowledgeable in temporary works design.

If requested by the Engineer, submit with the working drawings manufacturer's catalog data listing the weight of all construction equipment that will be supported on the temporary work. Show anticipated total settlements and/or deflections of falsework and forms on the working drawings. Include falsework footing settlements, joint take-up, and deflection of beams or girders.

As an option for the Contractor, overhang falsework hangers may be uniformly spaced, at a maximum of 36 inches, provided the following conditions are met:

Member Type (PCG)	Member Depth, (inches)	Max. Overhang Width, (inches)	Max. Slab Edge Thickness, (inches)	Max. Screed Wheel Weight, (lbs.)	Bracket Min. Vertical Leg Extension, (inches)
II	36	39	14	2000	26
III	45	42	14	2000	35
IV	54	45	14	2000	44
MBT	63	51	12	2000	50
MBT	72	55	12	1700	48

Overhang width is measured from the centerline of the girder to the edge of the deck slab. For Type II, III & IV prestressed concrete girders (PCG), 45-degree cast-in-place half hangers and rods must have a minimum safe working load of 6,000 lbs.

For MBT prestressed concrete girders, 45-degree angle holes for falsework hanger rods shall be cast through the girder top flange and located, measuring along the top of the member, 1'-2 ½" from the edge of the top flange. Hanger hardware and rods must have a minimum safe working load of 6,000 lbs.

For links slabs, the tops of girders directly beneath the link slab shall be free of overhang falsework attachments or other hardware. Submit calculations and working drawings for overhang falsework in the link slab region.

The overhang bracket provided for the diagonal leg shall have a minimum safe working load of 3,750 lbs. The vertical leg of the bracket shall extend to the point that the heel bears on the girder bottom flange, no closer than 4 inches from the bottom of the member. However, for 72-inch members, the heel of the bracket shall bear on the web, near the bottom flange transition.

Provide adequate overhang falsework and determine the appropriate adjustments for deck geometry, equipment, casting procedures and casting conditions.

If the optional overhang falsework spacing is used, indicate this on the falsework submittal and advise the girder producer of the proposed details. Failure to notify the Engineer of hanger type and hanger spacing on prestressed concrete girder casting drawings may delay the approval of those drawings.

Falsework hangers that support concentrated loads and are installed at the edge of thin top flange concrete girders (such as bulb tee girders) shall be spaced so as not to exceed 75% of the manufacturer's stated safe working load. Use of dual leg hangers (such as Meadow Burke HF-42 and HF-43) are not allowed on concrete girders with thin top flanges. Design the falsework and forms supporting deck slabs and overhangs on girder bridges so that there will be no differential settlement between the girders and the deck forms during placement of deck concrete.

When staged construction of the bridge deck is required, detail falsework and forms for screed and fluid concrete loads to be independent of any previous deck pour components when the mid-span girder deflection due to deck weight is greater than ¾".

Note on the working drawings any anchorages, connectors, inserts, steel sleeves or other such devices used as part of the falsework or formwork that remains in the permanent structure. If the plan notes indicate that the structure contains the necessary corrosion protection required for a Corrosive Site, epoxy coat, galvanize or metalize these devices. Electroplating will not be allowed. Any coating required by the Engineer will be considered incidental to the various pay items requiring temporary works.

Design falsework and formwork requiring submittals in accordance with the 1995 AASHTO Guide Design Specifications for Bridge Temporary Works except as noted herein.

1. Wind Loads

   Table 2.2 of Article 2.2.5.1 is modified to include wind velocities up to 110 mph. In addition, Table 2.2A is included to provide the maximum wind speeds by county in North Carolina.

Table 2.2 - Wind Pressure Values

Height Zone feet above ground	Pressure, lb/ft^2 for Indicated Wind Velocity, mph				
	70	80	90	100	110
0 to 30	15	20	25	30	35
30 to 50	20	25	30	35	40
50 to 100	25	30	35	40	45
over 100	30	35	40	45	50

2. Time of Removal

The following requirements replace those of Article 3.4.8.2.

Do not remove forms until the concrete has attained strengths required in Article 420-16 of the Standard Specifications and these Special Provisions.

Do not remove forms until the concrete has sufficient strength to prevent damage to the surface.

Table 2.2A - Steady State Maximum Wind Speeds by Counties in North Carolina

COUNTY	25 YR (mph)	COUNTY	25 YR (mph)	COUNTY	25 YR (mph)
Alamance	70	Franklin	70	Pamlico	100
Alexander	70	Gaston	70	Pasquotank	100
Alleghany	70	Gates	90	Pender	100
Anson	70	Graham	80	Perquimans	100
Ashe	70	Granville	70	Person	70
Avery	70	Greene	80	Pitt	90
Beaufort	100	Guilford	70	Polk	80
Bertie	90	Halifax	80	Randolph	70
Bladen	90	Harnett	70	Richmond	70
Brunswick	100	Haywood	80	Robeson	80
Buncombe	80	Henderson	80	Rockingham	70
Burke	70	Hertford	90	Rowan	70
Cabarrus	70	Hoke	70	Rutherford	70
Caldwell	70	Hyde	110	Sampson	90
Camden	100	Iredell	70	Scotland	70
Carteret	110	Jackson	80	Stanley	70
Caswell	70	Johnston	80	Stokes	70
Catawba	70	Jones	100	Surry	70
Cherokee	80	Lee	70	Swain	80
Chatham	70	Lenoir	90	Transylvania	80
Chowan	90	Lincoln	70	Tyrell	100
Clay	80	Macon	80	Union	70
Cleveland	70	Madison	80	Vance	70
Columbus	90	Martin	90	Wake	70
Craven	100	McDowell	70	Warren	70
Cumberland	80	Mecklenburg	70	Washington	100
Currituck	100	Mitchell	70	Watauga	70
Dare	110	Montgomery	70	Wayne	80
Davidson	70	Moore	70	Wilkes	70
Davie	70	Nash	80	Wilson	80
Duplin	90	New Hanover	100	Yadkin	70
Durham	70	Northampton	80	Yancey	70
Edgecombe	80	Onslow	100		
Forsyth	70	Orange	70		

B. Review and Approval

The Engineer is responsible for the review and approval of temporary works' drawings.

Submit the working drawings sufficiently in advance of proposed use to allow for their review, revision (if needed), and approval without delay to the work.

The time period for review of the working drawings does not begin until complete drawings and design calculations, when required, are received by the Engineer.

Do not start construction of any temporary work for which working drawings are required until the drawings have been approved. Such approval does not relieve the Contractor of the responsibility for the accuracy and adequacy of the working drawings.

4.0 CONSTRUCTION REQUIREMENTS

All requirements of Section 420 of the Standard Specifications apply.

Construct temporary works in conformance with the approved working drawings. Ensure that the quality of materials and workmanship employed is consistent with that assumed in the design of the temporary works. Do not weld falsework members to any portion of the permanent structure unless approved. Show any welding to the permanent structure on the approved construction drawings.

Provide tell-tales attached to the forms and extending to the ground, or other means, for accurate measurement of falsework settlement. Make sure that the anticipated compressive settlement and/or deflection of falsework does not exceed 1 inch. For cast-in-place concrete structures, make sure that the calculated deflection of falsework flexural members does not exceed 1/240 of their span regardless of whether or not the deflection is compensated by camber strips.

A. Maintenance and Inspection

Inspect and maintain the temporary work in an acceptable condition throughout the period of its use. Certify that the manufactured devices have been maintained in a condition to allow them to safely carry their rated loads. Clearly mark each piece so that its capacity can be readily determined at the job site.

Perform an in-depth inspection of an applicable portion(s) of the temporary works, in the presence of the Engineer, not more than 24 hours prior to the beginning of each concrete placement. Inspect other temporary works at least once a month to ensure that they are functioning properly. Have a North Carolina Registered Professional Engineer inspect the cofferdams, shoring, sheathing, support of excavation structures, and support systems for load tests prior to loading.

B. Foundations

Determine the safe bearing capacity of the foundation material on which the supports for temporary works rest. If required by the Engineer, conduct load tests to verify proposed bearing capacity values that are marginal or in other high-risk situations.

The use of the foundation support values shown on the contract plans of the permanent structure is permitted if the foundations are on the same level and on the same soil as those of the permanent structure.

Allow for adequate site drainage or soil protection to prevent soil saturation and washout of the soil supporting the temporary works supports.

If piles are used, the estimation of capacities and later confirmation during construction using standard procedures based on the driving characteristics of the pile is permitted. If preferred, use load tests to confirm the estimated capacities; or, if required by the Engineer conduct load tests to verify bearing capacity values that are marginal or in other high risk situations.

The Engineer reviews and approves the proposed pile and soil bearing capacities.

5.0 REMOVAL

Unless otherwise permitted, remove and keep all temporary works upon completion of the work. Do not disturb or otherwise damage the finished work.

Remove temporary works in conformance with the contract documents. Remove them in such a manner as to permit the structure to uniformly and gradually take the stresses due to its own weight.

6.0 METHOD OF MEASUREMENT

Unless otherwise specified, temporary works will not be directly measured.

7.0 BASIS OF PAYMENT

Payment at the contract unit prices for the various pay items requiring temporary works will be full compensation for the above falsework and formwork.

SUBMITTAL OF WORKING DRAWINGS (2-14-22)

1.0 GENERAL

Submit working drawings in accordance with Article 105-2 of the *Standard Specifications* and this provision. For this provision, “submittals” refers to only those listed in this provision. The list of submittals contained herein does not represent a list of required submittals for the project. Submittals are only necessary for those items as required by the contract. Make submittals that are not specifically noted in this provision directly to the Engineer. Either the Structures Management Unit or the Geotechnical Engineering Unit or both units will jointly review submittals.

If a submittal contains variations from plan details or specifications or significantly affects project cost, field construction or operations, discuss the submittal with and submit all copies to the Engineer. State the reason for the proposed variation in the submittal. To minimize review time, make sure all submittals are complete when initially submitted. Provide a contact name and information with each submittal. Direct any questions regarding submittal requirements to the Engineer, Structures Management Unit contacts or the Geotechnical Engineering Unit contacts noted below.

To facilitate in-plant inspection by NCDOT and approval of working drawings, provide the name, address and telephone number of the facility where fabrication will actually be done if different than shown on the title block of the submitted working drawings. This includes, but is not limited to, precast concrete items, prestressed concrete items and fabricated steel or aluminum items.

2.0 ADDRESSES AND CONTACTS

For submittals to the Structures Management Unit, use the following addresses:

Via Email: SMU-wdr@ncdot.gov (do not cc SMU Working Drawings staff)

Via US mail:

Mr. B. C. Hanks, P. E.
State Structures Engineer
North Carolina Department
of Transportation
Structures Management Unit
1581 Mail Service Center
Raleigh, NC 27699-1581

Attention: Mr. J. L. Bolden, P. E.

Via other delivery service:

Mr. B. C. Hanks, P. E.
State Structures Engineer
North Carolina Department
of Transportation
Structures Management Unit
1000 Birch Ridge Drive
Raleigh, NC 27610

Attention: Mr. J. L. Bolden, P. E.

For submittals to the Geotechnical Engineering Unit, use the following addresses:

For projects in Divisions 1-7, use the following Eastern Regional Office addresses:

Via Email: EastGeotechnicalSubmittal@ncdot.gov

Via US mail:

Mr. David Hering, L.G., P. E.
Assistant State Geotechnical
Engineer – Eastern Region
North Carolina Department
of Transportation
Geotechnical Engineering Unit
Eastern Regional Office
1570 Mail Service Center
Raleigh, NC 27699-1570

Via other delivery service:

Mr. David Hering, L.G., P. E.
Assistant State Geotechnical
Engineer – Eastern Region
North Carolina Department
of Transportation
Geotechnical Engineering Unit
Eastern Regional Office
3301 Jones Sausage Road, Suite 100
Garner, NC 27529

For projects in Divisions 8-14, use the following Western Regional Office addresses:

Via Email: WestGeotechnicalSubmittal@ncdot.gov

Via US mail or other delivery service:

Mr. Eric Williams, P. E.
Assistant State Geotechnical
Engineer – Western Region
North Carolina Department
of Transportation
Geotechnical Engineering Unit
Western Regional Office
5253 Z Max Boulevard
Harrisburg, NC 28075

The status of the review of structure-related submittals sent to the Structures Management Unit can be viewed from the Unit's website, via the "Drawing Submittal Status" link. The status of the review of geotechnical-related submittals sent to the Geotechnical Engineering Unit can be viewed from the Unit's website, via the "Geotechnical Construction Submittals" link.

Direct any questions concerning submittal review status, review comments or drawing markups to the following contacts:

Primary Structures Contact: James Bolden (919) 707 – 6408
jlbolden@ncdot.gov

Secondary Structures Contacts: Emmanuel Omile (919) 707 – 6451
eomile@ncdot.gov

Madonna Rorie (919) 707 – 6508
mrorie@ncdot.gov

Eastern Regional Geotechnical Contact (Divisions 1-7):

David Hering (919) 662 – 4710
dthering@ncdot.gov

Western Regional Geotechnical Contact (Divisions 8-14):

Eric Williams (704) 455 – 8902
ewilliams3@ncdot.gov

3.0 SUBMITTAL COPIES

Furnish one complete copy of each submittal, including all attachments, to the Engineer. At the same time, submit a copy of the same complete submittal directly to the Structures Management Unit and/or the Geotechnical Engineering Unit as specified in the tables below.

The first table below covers "Structure Submittals." The Engineer will receive review comments and drawing markups for these submittals from the Structures Management Unit. The second table in this section covers "Geotechnical Submittals." The Engineer will receive review comments and drawing markups for these submittals from the Geotechnical Engineering Unit.

Unless otherwise required, submit one set of supporting calculations to either the Structures Management Unit or the Geotechnical Engineering Unit unless both units require submittal copies in which case submit a set of supporting calculations to each unit. Provide additional copies of any submittal as directed.

STRUCTURE SUBMITTALS

Submittal	Submittal Required by Structures Management Unit?	Submittal Required by Geotechnical Engineering Unit?	Contract Reference Requiring Submittal [1]
Arch Culvert Falsework	Y	N	Plan Note, SN Sheet & "Falsework and Formwork"
Box Culvert Falsework [7]	Y	N	Plan Note, SN Sheet & "Falsework and Formwork"
Cofferdams	Y	Y	Article 410-4
Foam Joint Seals [6]	Y	N	"Foam Joint Seals"
Expansion Joint Seals (hold down plate type with base angle)	Y	N	"Expansion Joint Seals"
Expansion Joint Seals (modular)	Y	N	"Modular Expansion Joint Seals"
Expansion Joint Seals (strip seals)	Y	N	"Strip Seal Expansion Joints"
Falsework & Forms [2] (substructure)	Y	N	Article 420-3 & "Falsework and Formwork"
Falsework & Forms (superstructure)	Y	N	Article 420-3 & "Falsework and Formwork"

Girder Erection over Railroad	Y	N	Railroad Provisions
Maintenance and Protection of Traffic Beneath Proposed Structure	Y	N	"Maintenance and Protection of Traffic Beneath Proposed Structure at Station ___"
Metal Bridge Railing	Y	N	Plan Note
Metal Stay-in-Place Forms	Y	N	Article 420-3
Metalwork for Elastomeric Bearings [4,5]	Y	N	Article 1072-8
Miscellaneous Metalwork [4,5]	Y	N	Article 1072-8
Disc Bearings [4]	Y	N	"Disc Bearings"
Overhead and Digital Message Signs (DMS) (metalwork and foundations)	Y	N	Applicable Provisions
Placement of Equipment on Structures (cranes, etc.)	Y	N	Article 420-20
Prestressed Concrete Box Beam (detensioning sequences) [3]	Y	N	Article 1078-11
Precast Concrete Box Culverts	Y	N	"Optional Precast Reinforced Concrete Box Culvert at Station ___"
Prestressed Concrete Cored Slab (detensioning sequences) [3]	Y	N	Article 1078-11
Prestressed Concrete Deck Panels	Y	N	Article 420-3
Prestressed Concrete Girder (strand elongation and detensioning sequences)	Y	N	Articles 1078-8 and 1078-11
Removal of Existing Structure over Railroad	Y	N	Railroad Provisions
Revised Bridge Deck Plans (adaptation to prestressed deck panels)	Y	N	Article 420-3
Revised Bridge Deck Plans (adaptation to modular expansion joint seals)	Y	N	"Modular Expansion Joint Seals"

Sound Barrier Wall (precast items)	Y	N	Article 1077-2 & "Sound Barrier Wall"
Sound Barrier Wall Steel Fabrication Plans [5]	Y	N	Article 1072-8 & "Sound Barrier Wall"
Structural Steel [4]	Y	N	Article 1072-8
Temporary Detour Structures	Y	Y	Article 400-3 & "Construction, Maintenance and Removal of Temporary Structure at Station ____"
TFE Expansion Bearings [4]	Y	N	Article 1072-8

FOOTNOTES

1. References are provided to help locate the part of the contract where the submittals are required. References in quotes refer to the provision by that name. Articles refer to the *Standard Specifications*.
2. Submittals for these items are necessary only when required by a note on plans.
3. Submittals for these items may not be required. A list of pre-approved sequences is available from the producer or the Materials & Tests Unit.
4. The fabricator may submit these items directly to the Structures Management Unit.
5. The two sets of preliminary submittals required by Article 1072-8 of the *Standard Specifications* are not required for these items.
6. Submittals for Fabrication Drawings are not required. Submittals for Catalogue Cuts of Proposed Material are required. See Section 5.A of the referenced provision.
7. Submittals are necessary only when the top slab thickness is 18" or greater.

GEOTECHNICAL SUBMITTALS

Submittal	Submittals Required by Geotechnical Engineering Unit	Submittals Required by Structures Management Unit	Contract Reference Requiring Submittal [1]
Drilled Pier Construction Plans [2]	Y	N	Subarticle 411-3(A)
Crosshole Sonic Logging (CSL) Reports [2]	Y	N	Subarticle 411-5(A)(2)
Pile Driving Equipment Data Forms [2,3]	Y	N	Subarticle 450-3(D)(2)
Pile Driving Analyzer (PDA) Reports [2]	Y	N	Subarticle 450-3(F)(3)
Retaining Walls [4]	Y; drawings and calculations	Y; drawings	Applicable Provisions
Temporary Shoring [4]	Y; drawings and calculations	Y; drawings	"Temporary Shoring" & "Temporary Soil Nail Walls"

FOOTNOTES

1. References are provided to help locate the part of the contract where the submittals are required. References in quotes refer to the provision by that name. Subarticles refer to the *Standard Specifications*.

2. Submit one hard copy of submittal to the Engineer. Submit a second copy of submittal electronically (PDF via email), US mail or other delivery service to the appropriate Geotechnical Engineering Unit regional office. Electronic submission is preferred.

3. The Pile Driving Equipment Data Form is available from:
   https://connect.ncdot.gov/resources/Geological/Pages/Geotech_Forms_Details.aspx

   See second page of form for submittal instructions.

4. Electronic copy of submittal is required. See referenced provision.

CRANE SAFETY (6-20-19)

Comply with the manufacturer specifications and limitations applicable to the operation of any and all cranes and derricks. Prime contractors, sub-contractors, and fully operated rental companies shall comply with the current Occupational Safety and Health Administration (OSHA) regulations.

Submit all items listed below to the Engineer prior to beginning crane operations. Changes in personnel or equipment must be reported to the Engineer and all applicable items listed below must be updated and submitted prior to continuing with crane operations.

CRANE SAFETY SUBMITTAL LIST

A. **Competent Person:** Provide the name and qualifications of the "Competent Person" responsible for crane safety and lifting operations. The named competent person will have the responsibility and authority to stop any work activity due to safety concerns.

B. **Riggers:** Provide the qualifications and experience of the persons responsible for rigging operations. Qualifications and experience should include, but not be limited to, weight calculations, center of gravity determinations, selection and inspection of sling and rigging equipment, and safe rigging practices.

C. **Crane Inspections:** Inspection records for all cranes shall be current and readily accessible for review upon request.

D. **Certifications:** Crane operators shall be certified by the National Commission for the Certification of Crane Operators (NCCCO) or the National Center for Construction Education and Research (NCCER). Other approved nationally accredited programs will be considered upon request. In addition, crane operators shall have a current CDL medical card. Submit a list of crane operator(s) and include current certification for each type of crane operated (small hydraulic, large hydraulic, small lattice, large lattice) and medical evaluations for each operator.

GROUT FOR STRUCTURES (12-1-17)

1.0 DESCRIPTION

This special provision addresses grout for use in pile blockouts, grout pockets, shear keys, dowel holes and recesses for structures. This provision does not apply to grout placed in post-tensioning ducts for bridge beams, girders, decks, end bent caps, or bent caps. Mix and place grout in accordance with the manufacturer's recommendations, the applicable sections of the Standard Specifications and this provision.

2.0 MATERIAL REQUIREMENTS

Unless otherwise noted on the plans, use a Type 3 Grout in accordance with Section 1003 of the Standard Specifications.

Initial setting time shall not be less than 10 minutes when tested in accordance with ASTM C266.

Construction loading and traffic loading shall not be allowed until the 3 day compressive strength is achieved.

3.0 SAMPLING AND PLACEMENT

Place and maintain components in final position until grout placement is complete and accepted. Concrete surfaces to receive grout shall be free of defective concrete, laitance, oil, grease and other foreign matter. Saturate concrete surfaces with clean water and remove excess water prior to placing grout.

4.0 BASIS OF PAYMENT

No separate payment will be made for "Grout for Structures". The cost of the material, equipment, labor, placement, and any incidentals necessary to complete the work shall be considered incidental to the structure item requiring grout.

ASBESTOS ASSESSMENT FOR BRIDGE DEMOLITION AND RENOVATION ACTIVITIES (12-30-15)

1.0 INSPECTION FOR ASBESTOS CONTAINING MATERIAL

Prior to conducting bridge demolition or renovation activities, the Contractor shall thoroughly inspect the bridge or affected components for the presence of asbestos containing material (ACM) using a firm prequalified by NCDOT to perform asbestos surveys. The inspection must be performed by a N.C. accredited asbestos inspector with experience inspecting bridges or other industrial structures. The N.C. accredited asbestos inspector must conduct a thorough inspection, identifying all asbestos-containing material as required by the Environmental Protection Agency National Emission Standards for Hazardous Air Pollutants (NESHAP) Code of Federal Regulations (CFR) 40 CFR, Part 61, Subpart M.

The Contractor shall submit an inspection report to the Engineer, which at a minimum must include information required in 40 CFR 763.85 (a)(4) vi)(A)-(E), as well as a project location map, photos of existing structure, the date of inspection and the name, N.C. accreditation number, and signature of the N.C. accredited asbestos inspector who performed the inspection and completed the report. The cover sheet of the report shall include project identification information. Place the following notes on the cover sheet of the report and check the appropriate box:

___ ACM was found
___ ACM was not found

2.0 REMOVAL AND DISPOSAL OF ASBESTOS CONTAINING MATERIAL

If ACM is found, notify the Engineer. Compensation for removal and disposal of ACM is considered extra work in accordance with Article 104-7 of the Standard Specifications.

An Asbestos Removal Permit must be obtained from the Health Hazards Control Unit (HHCU) of the N.C. Department of Health & Human Services, Division of Public Health, if more than 35 cubic feet, 160 square feet, or 260 linear feet of regulated ACM (RACM) is to be removed from a structure and this work must be completed by a contractor prequalified by NCDOT to perform asbestos abatement. RACM is defined in 40 CFR, Part 61, Subpart M. Note: 40 CFR 763.85 (a)(4) vi)(D) defines ACM as surfacing, TSI and Miscellaneous which does not meet the NESHAP RACM.

3.0 DEMOLITION NOTIFICATION

Even if no ACM is found (or if quantities are less than those required for a permit), a Demolition Notification (DHHS-3768) must be submitted to the HHCU. Notifications and Asbestos Permit applications require an original signature and must be submitted to the HHCU 10 working days prior to beginning demolition activities. The 10 working day period starts based on the post-marked date or date of hand delivery. Demolition that does not begin as originally notified requires submission of a separate revision form HHCU 3768-R to HHCU. Reference the North Carolina Administrative Code, Chapter 10A, Subchapter 41C, Article .0605 for directives on revision submissions.

Contact Information

Health Hazards Control Unit (HHCU)
N.C. Department of Health and Human Services
1912 Mail Service Center
Raleigh, NC 27699-1912
Telephone: (919) 707-5950
Fax: (919) 870-4808

4.0 SPECIAL CONSIDERATIONS

Buncombe, Forsyth, and Mecklenburg counties also have asbestos permitting and NESHAP requirements must be followed. For projects involving permitted RACM removals, both the applicable county and the state (HHCU) must be notified.

For demolitions with no RACM, only the local environmental agencies must be notified. Contact information is as follows:

Buncombe County
WNC Regional Air Pollution Control Agency
49 Mt. Carmel Road
Asheville, NC 28806
(828) 250-6777

Forsyth County
Environmental Affairs Department
537 N. Spruce Street
Winston-Salem, NC 27101
(336) 703-2440

Mecklenburg County
Land Use and Environmental Services Agency
Mecklenburg Air Quality
700 N. Tryon Street
Charlotte, NC 28202
(704) 336-5430

5.0 ADDITIONAL INFORMATION

Additional information may be found on N.C. asbestos rules, regulations, procedures and N.C. accredited inspectors, as well as associated forms for demolition notifications and asbestos permit applications at the N.C. Asbestos Hazard Management Program website:

www.epi.state.nc.us/epi/asbestos/ahmp.html

6.0 BASIS OF PAYMENT

Payment for the work required in this provision will be at the lump sum contract unit price for "Asbestos Assessment". Such payment will be full compensation for all asbestos inspections, reports, permitting and notifications.

PROJECT SPECIAL PROVISION

(10-18-95) (Rev. 3-21-17) Z-1a

PERMITS

The Contractor's attention is directed to the following permits, which have been issued to the Department of Transportation by the authority granting the permit.

PERMIT	AUTHORITY GRANTING THE PERMIT
Dredge and Fill and/or Work in Navigable Waters (404)	U. S. Army Corps of Engineers
Water Quality (401)	Division of Environmental Management, DEQ State of North Carolina

The Contractor shall comply with all applicable permit conditions during construction of this project. Those conditions marked by * are the responsibility of the Department and the Contractor has no responsibility in accomplishing those conditions.

Agents of the permitting authority will periodically inspect the project for adherence to the permits.

The Contractor's attention is also directed to Articles 107-10 and 107-13 of the *2018 Standard Specifications* and the following:

Should the Contractor propose to utilize construction methods (such as temporary structures or fill in waters and/or wetlands for haul roads, work platforms, cofferdams, etc.) not specifically identified in the permit (individual, general, or nationwide) authorizing the project it shall be the Contractor's responsibility to coordinate with the Engineer to determine what, if any, additional permit action is required. The Contractor shall also be responsible for initiating the request for the authorization of such construction method by the permitting agency. The request shall be submitted through the Engineer. The Contractor shall not utilize the construction method until it is approved by the permitting agency. The request normally takes approximately 60 days to process; however, no extensions of time or additional compensation will be granted for delays resulting from the Contractor's request for approval of construction methods not specifically identified in the permit.

Where construction moratoriums are contained in a permit condition which restricts the Contractor's activities to certain times of the year, those moratoriums will apply only to the portions of the work taking place in the restricted waters, wetlands or buffer zones, provided that activities outside those areas is done in such a manner as to not affect the restricted waters, wetlands or buffer zones.

P-2

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

April 15, 2021

Regulatory Division

Action ID. SAW-2008-01509

Mr. Gregory W. Price
North Carolina Department of Transportation
Division 6
500 Transportation Drive
Fayetteville, North Carolina 28302
Gwprice2@ncdot.gov

Dear Mr. Price,

In accordance with the written request of October 30, 2020, and the ensuing administrative record, enclosed is a permit to discharge dredged or fill material into waters of the U.S. in association with construction activities related to converting the existing at-grade intersection of NC 87 (Old Stage Highway) and NC 11 (General Howe Highway) to an interchange, near Riegelwood, Columbus County, North Carolina. This project has been identified as R-2561 CA.

Any deviation in the authorized work will likely require modification of this permit. If any change in the authorized work is necessary, you should promptly submit revised plans to the Corps showing the proposed changes. You may not undertake the proposed changes until the Corps notifies you that your permit has been modified.

Carefully read your permit. The general and special conditions are important. Your failure to comply with these conditions could result in a violation of Federal law. Certain significant general conditions require that:

a. You must complete construction before December 31, 2026.

b. You must notify this office in advance as to when you intend to commence and complete work.

c. You must allow representatives from this office to make periodic visits to your worksite as deemed necessary to assure compliance with permit plans and conditions.

You should address all questions regarding this authorization to Ms. Liz Hair at the Wilmington Regulatory Field Office, telephone 910-251-4049.

FOR THE CHIEF, REGULATORY DIVISION

Monte Matthews Date: 2021.04.15 10:22:55 -04'00'

Monte Matthews
Lead Project Manager
Wilmington District

Enclosures:

Copies Furnished (with enclosures):

Chief, Source Data Unit
NOAA/National Ocean Service
1315 East-west Highway, Room 7316
Silver Spring, Maryland 20910-3282

Copies Furnished with Special Conditions and Plans:

U. S. Fish and Wildlife Enhancement
Fish and Wildlife Enhancement
Post Office Box 33726
Raleigh, North Carolina 27636-3726

Dr. Pace Wilber
National Marine Fisheries Service
101 Pivers Island Road
Beaufort, North Carolina 28516

Mr. Todd Bowers
Wetlands and Marine Regulatory Section
Water Protection Division – Region IV
U. S. Environmental Protection Agency
61 Forsyth St. SW
Atlanta, Georgia 30303-8931

Mr. Jonathan Howell
Division of Coastal Management
North Carolina Department of
Environmental Quality
400 Commerce Avenue
Morehead City, North Carolina 28557

Ms. Amy Chapman
Transportation Permitting Unit
Division of Water Resources
Department of Environmental Quality
1617 Mail Service Center
Raleigh, North Carolina 27699

P-5

DEPARTMENT OF THE ARMY PERMIT

Permittee: **NORTH CAROLINA DEPARTMENT OF TRANSPORTATION**
ATTN: MR. GREG PRICE

Permit No.: **SAW-2008-01509, R-2561 CA**

Issuing Office: **CESAW-RG-L**

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: **The North Carolina Department of Transportation (NCDOT) proposes to convert the at-grade intersection of NC 87 (Old Stage Highway) and NC 11 (General Howe Highway) to an interchange. NC 11 will travel over NC 87 on an overpass. The project would involve the replacement of the existing intersection with a partial diamond interchange and include the construction of a loop on-ramp and diagonal off-ramp in the northwest quadrant, and a loop off-ramp and diagonal on-ramp in the southeast quadrant of the intersection. The project corridor is 1.7 miles long. Proposed total impacts associated with the overall R-2561 CA project include permanent impacts to 532 linear feet of streams and 4.08 acres of wetlands, temporary impacts to 222 linear feet of streams and 0.23 acre of hand clearing to wetlands.**

Project Location: **The proposed project is located in northern Columbus County, along NC 87 (Old Stage Highway) and NC 11 (General Howe Highway), in Columbus County, North Carolina.**

General Conditions:

1. The time limit for completing the work authorized ends on **December 31, 2026**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit,

Special Conditions:

SEE ATTACHED SPECIAL CONDITIONS

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

( ) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit, Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

Gregg V Price _____ 4/14/2021

(PERMITTEE) **NC DEPARTMENT OF TRANSPORTATION** *(DATE)*
ATTN: MR GREG PRICE

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

_____ _____

FOR THE DISTRICT COMMANDER, **BENJAMIN A. BENNETT, COLONEL** *(DATE)*

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____ _____

(TRANSFEREE) *(DATE)*

*U.S. GOVERNMENT PRINTING OFFICE: 1986 - 717-425

SPECIAL CONDITIONS
SAW-2008-01509
R-2561 CA

WORK LIMITS / NOTIFICATION

1. **Work Limits:** All work authorized by this permit shall be performed in strict compliance with the attached permit plans entitled Wetland and Surface Water Impacts-R-2561 CA and the Wetland and Surface Water Impacts Summary Tables as revised on February 25, 2021. The Permittees shall ensure that the construction design plans for this project do not deviate from the permit plans attached to this authorization. Any modification to the attached permit plans must be approved by the U.S. Army Corps of Engineers (Corps) prior to any active construction in waters or wetlands.

2. **Unauthorized Dredge and/or Fill:** Except as authorized by this permit or any Corps approved modification to this permit, no excavation, fill, or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, within waters or wetlands, or shall any activities take place that cause the degradation of waters or wetlands. There shall be no excavation from, waste disposal into, or degradation of, jurisdictional wetlands or waters associated with this permit without appropriate modification of this permit, including appropriate compensatory mitigation. This prohibition applies to all borrow and waste activities connected with this project. In addition, except as specified in the plans attached to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, in such a manner as to impair normal flows and circulation patterns within, into, or out of waters or wetlands or to reduce the reach of waters or wetlands.

3. **Permit Distribution:** The Permittees shall require its contractors and/or agents to comply with the terms and conditions of this permit 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 permit. A copy of this permit, including all conditions and drawings shall be available at the project site during construction and maintenance of this project.

4. **Preconstruction Meeting:** The Permittee shall schedule and attend a preconstruction meeting between its representatives, the contractors representatives, and the Corps, Wilmington Field Office, NCDOT Regulatory Project Manager, prior to any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all the terms and conditions contained with this Department of Army Permit. The Permittee shall provide the Corps, Wilmington Field Office, NCDOT Project Manager, with a copy of the final

permit plans at least two weeks prior to the preconstruction meeting along with a description of any changes that have been made to the project's design, construction methodology or construction timeframe. The Permittee shall schedule the preconstruction meeting for a time frame when the Corps and North Carolina Division of Water Resources (NCDWR) Project Managers can attend. The Permittee shall invite the Corps and NCDWR Project Managers a minimum of thirty (30) days in advance of the scheduled meeting in order to provide those individuals with ample opportunity to schedule and participate in the required meeting. The thirty (30) day requirement can be waived with the concurrence of the Corps.

5. **Notification of Construction Commencement and Completion:** The Permittees shall notify the Corps in writing prior to beginning the work authorized by this permit and again upon completion of the work authorized by this permit.

6. **Reporting Address:** All reports, documentation, and correspondence required by the conditions of this permit shall be submitted to the following: U.S. Army Corps of Engineers, Wilmington District Wilmington Field Office, Attn: Liz Hair at 910-251-4049 / sarah.e.hair@usace.army.mil. The Permittees shall reference the following permit number, SAW-2008-01509, on all submittals.

7. **Permit Revocation:** The Permittees, upon receipt of a notice of revocation of this permit or upon its expiration before completion of the work will, without expense to the United States and in such time and manner as the Secretary of the Army or his authorized representative may direct, restore the water or wetland to its pre-project condition.

8. **Reporting Violations:** Violation of these permit conditions or violation of Section 404 of the Clean Water Act shall be reported to the Corps in writing and by telephone at: 910-251-4049 / sarah.e.hair@usace.army.mil within 24 hours of the Permittee's discovery of the violation.

9. **Endangered Species Act:** The Permittees shall implement all necessary measures to ensure the authorized activity does not kill, injure, capture, harass, or otherwise harm any federally-listed threatened or endangered species. While accomplishing the authorized work, if the Permittees discover or observe an injured or dead threatened or endangered species, the U.S. Army Corps of Engineers, Wilmington District Wilmington Field Office, Attn: Liz Hair at 910-251-4049/ sarah.e.hair@usace.army.mil will be immediately notified to initiate the required Federal coordination.

10. The U.S. Fish and Wildlife Service's (USFWS's) Programmatic Biological Opinion (PBO) titled, "NCDOT Program Effects on the Northern Long-eared Bat in Divisions 1-8", dated November 6, 2020, contains agreed upon conservation

measures for the NLEB. As noted in the PBO, applicability of these conservation measures varies depending on the location of the project. Your authorization under this Department of the Army permit is conditional upon your compliance with all applicable agreed upon conservation measures in the PBO, which are incorporated by reference in this permit. Failure to comply with the applicable these conservation measures would constitute non-compliance with your Department of the Army permit. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its PBO, and with the ESA.

11. **National Historic Preservation Act:** While accomplishing the authorized work, if the Permittees discover any previously unknown cultural resources, the District Engineer will be immediately notified so that required coordination can be initiated with the North Carolina Division of Natural and Cultural Resources.

12. **Culverts:**

    a. Unless otherwise requested in the application and depicted on the approved permit plans, culverts greater than 48 inches in diameter shall be buried at least one foot below the bed of the stream. Culverts 48 inches in diameter and less shall be buried or placed on the stream bed as practicable and appropriate to maintain aquatic passage, and every effort shall be made to maintain existing channel slope. The bottom of the culvert shall be placed at a depth below the natural stream bottom to provide for passage during drought or low flow conditions. Culverts shall be designed and constructed in a manner that minimizes destabilization and head cutting.

    b. Measures shall be included in the construction/installation that will promote the safe passage of fish and other aquatic organisms. The dimension, pattern, and profile of the stream above and below a pipe or culvert shall not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. The width, height, and gradient of a proposed opening shall be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. Spring flow should be determined from gauge data, if available. In the absence of such data, bankfull flow can be used as a comparable level.

    c. The Permittee shall implement all reasonable and practicable measures to ensure that equipment, structures, fill pads, work, and operations associated with this project do not adversely affect upstream and/or downstream reaches. Adverse effects include, but are not limited to, channel instability, flooding, and/or stream bank erosion. The Permittee shall routinely monitor for these effects, cease all work when detected,

take initial corrective measures to correct actively eroding areas, and notify this office immediately. Permanent corrective measures may require additional authorization by the Corps.

d. Culverts placed within wetlands must be installed in a manner that does not restrict the flows and circulation patterns of waters of the United States. Culverts placed across wetland fills purely for the purposes of equalizing surface water shall not be buried, but the culverts must be of adequate size and/or number to ensure unrestricted transmission of water.

13. **Maintain Flows and Circulation Patterns of Waters:** Except as specified in the plans attached to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, in such a manner as to impair normal flows and circulation patterns within waters or wetlands or to reduce the reach of waters and/or wetlands.

14. **Sediment and Erosion Control:**

a. During the clearing phase of the project, heavy equipment shall not be operated in surface waters or stream channels. Temporary stream crossings will be used to access the opposite sides of stream channels. All temporary diversion channels and stream crossings will be constructed of non-erodible materials. Grubbing of riparian vegetation will not occur until immediately before construction begins on a given segment of stream channel.

b. No fill or excavation impacts for the purposes of sedimentation and erosion control shall occur within jurisdictional waters, including wetlands, unless the impacts are included on the plan drawings and specifically authorized by this permit. This includes, but is not limited to, sediment control fences and other barriers intended to catch sediment losses.

c. The Permittees shall remove all sediment and erosion control measures placed in waters and/or wetlands, and shall restore natural grades on those areas, prior to project completion.

d. The Permittees shall use appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the “North Carolina Sediment and Erosion Control Planning and Design Manual” to ensure compliance with the appropriate turbidity water quality standard. Erosion and sediment control practices shall be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to ensure compliance with the appropriate turbidity water quality

standards. This shall include, but is not limited to, the immediate installation of silt fencing or similar appropriate devices around all areas subject to soil disturbance or the movement of earthen fill, and the immediate stabilization of all disturbed areas. Additionally, the project shall remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4). Adequate sedimentation and erosion control measures shall be implemented prior to any ground disturbing activities to minimize impacts to downstream aquatic resources. These measures shall be inspected and maintained regularly, especially following rainfall events. All fill material shall be adequately stabilized at the earliest practicable date to prevent sediment from entering adjacent waters or wetlands.

15. **Clean Fill:** The Permittees shall use only clean fill material for this project. The fill material shall be free of items such as trash, construction debris, metal and plastic products, and concrete block with exposed metal reinforcement bars. Soils used for fill shall not be contaminated with any toxic substance in concentrations governed by Section 307 of the Clean Water Act. Unless otherwise authorized by this permit, all fill material placed in waters or wetlands shall be generated from an upland source.

16. **Temporary Fills:** Within thirty (30) days of the date of completing the authorized work, the Permittee shall remove all temporary fills in waters of the United States and restore the affected areas to pre-construction contours and elevations. The affected areas shall be re-vegetated with native, non-invasive vegetation as necessary to minimize erosion and ensure site stability.

17. **Borrow and Waste:** To ensure that all borrow and waste activities occur on high ground and do not result in the degradation of adjacent waters and wetlands, except as authorized by this permit, the Permittee shall require its contractors and/or agents to identify all areas to be used as borrow and/or waste sites associated with this project. The Permittee shall provide the Corps with appropriate maps indicating the locations of proposed borrow and/or waste sites as soon as such information is available. The Permittee shall submit to the Corps site-specific information needed to ensure that borrow and/or waste sites comply with all applicable Federal requirements, to include compliance with the Endangered Species Act and the National Historic Preservation Act, such as surveys or correspondence with agencies (e.g., the USFWS, the NC-HPO, etc.). The required information shall also include the location of all aquatic features, if any, out to a distance of 400 feet beyond the nearest boundary of the site. The Permittee shall not approve any borrow and/or waste sites before receiving written confirmation from the Corps that the proposed site meets all Federal requirements, whether or not waters of the U.S., including wetlands, are located in the proposed borrow and/or waste site. All delineations of aquatic sites on

borrow and/or waste sites shall be verified by the Corps and shown on the approved reclamation plans. The Permittee shall ensure that all borrow and/or waste sites comply with Special Condition 2 of this permit. Additionally, the Permittee shall produce and maintain documentation of all borrow and waste sites associated with this project. This documentation will include data regarding soils, vegetation, hydrology, any delineation(s) of aquatic sites, and any jurisdictional determinations made by the Corps to clearly demonstrate compliance with Special Condition 2. All information will be available to the Corps upon request. The Permittee shall require its contractors to complete and execute reclamation plans for each borrow and/or waste site and provide written documentation that the reclamation plans have been implemented and all work is completed. This documentation will be provided to the Corps within 30 days of the completion of the reclamation work.

18. **Water Contamination:** All mechanized equipment shall be regularly inspected and maintained to prevent contamination of waters and wetlands from fuels, lubricants, hydraulic fluids, or other toxic materials. In the event of a spill of petroleum products or any other hazardous waste, the Permittees shall immediately report it to the N.C. Division of Water Resources at (919) 733-3300 or (800) 858-0368 and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act shall be followed.

AQUATIC LIFE

19. **Aquatic Life Movement:** No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area. All discharges of dredged or fill material within waters of the United States shall be designed and constructed, except as authorized as indirect impacts, to maintain low flows to sustain the movement of aquatic species.

20. **Prohibitions on Concrete:** The Permittees shall take measures necessary to prevent live or fresh concrete, including bags of uncured concrete, from coming into contact with any water in or entering waters of the United States. Water inside coffer dams or casings that has been in contact with concrete shall only be returned to waters of the United States when it no longer poses a threat to aquatic organisms (concrete is set and cured).

COMPENSATORY MITIGATION

21. 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.

DocuSign Envelope ID: FBD54EC5-D7C2-45E0-83F6-1680266C290B

ROY COOPER
Governor
DIONNE DELLI-GATTI
Secretary
S. DANIEL SMITH
Director

NORTH CAROLINA
Environmental Quality

March 19, 2021

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 to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with ADDITIONAL CONDITIONS for the proposed conversion of an at grade intersection of NC 87 (Old Stage Highway) and NC 11 (General Howe Highway) to an interchange in Columbus County, TIP R-2561CA.
NCDWR Project No. 20201515V2

Dear Mr. Harris:

Attached hereto is a modification of Certification No. WQC004278 issued to The North Carolina Department of Transportation (NCDOT) dated December 22, 2020 and modified on March 19,2021.

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

Sincerely,

DocuSigned by:
Amy Chapman
9C9886312DCD474...

S. Daniel Smith, Director
Division of Water Resources

Attachment

Electronic copy only distribution:
Liz Hair, US Army Corps of Engineers, Wilmington Field Office
Greg Price, Division 6 Environmental Officer
Chris Rivenbark, NC Department of Transportation
Gary Jordan, US Fish and Wildlife Service
Travis Wilson, NC Wildlife Resources Commission
Beth Harmon, Division of Mitigation Services
File Copy

DocuSign Envelope ID: FBD54EC5-D7C2-45E0-83F6-1680266C290B

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 4.086 acres of jurisdictional wetlands and 681 linear feet of jurisdictional streams and in Columbus County. The project shall be constructed pursuant to the application dated received September 28, 2020 and revised application received February 26, 2021. The authorized impacts are as described below:

Stream Impacts in the Cape Fear River Basin

Site	Permanent Fill in Intermittent Stream (linear ft)	Temporary Fill in Intermittent Stream (linear ft)	Permanent Fill in Perennial Stream (linear ft)	Temporary Fill in Perennial Stream (linear ft)	*Bank Stabilization	Total Stream Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
1-15+40 to 15+64 L2-LT Roadway fill/54" pipe			34			34	N/A
1-15+59 – 15+70-L2-LT Rip Rap Bank Stabilization					18	N/A	N/A
1-15+66-15+72-L2-LT Dewatering for pipe install				10		10	N/A
6-27+01-28+70-Y-RT Roadway Fill	276					276	N/A
6-22+65-22+75-RPD-LT Rip Rap Bank Stabilization					20	N/A	N/A
6-22+65-22+84-RPD-LT Dewatering pipe install		16				16	N/A
9-70+38 -71+62 -L-LT Bank Stabilization					35	N/A	N/A
9-70+30 – 71+36 -L-LT Permanent Channel Stabilization			66			66	N/A
9-69+63-69+73-L-LT Bridge Bent in Stream				10		10	N/A
9-70+25-70+40-L-LT Stream Access for Stabilization				10		10	N/A
9-70+65-71+54-L-RT Permanent Channel Stabilization				64		64	N/A
9-70+67 – 70+67 L-RT Stream Access for Stabilization				21		21	N/A

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11-16+57 – 17+48 – Y Culvert removal/bridge const./Bank Stabilization			83			83	N/A
11-16+56 – 16+63 -Y-LT Stream Access for Stabilization				10		10	N/A
11-16+64 – 17+39 -Y-LT Dewatering Culvert removal				38		38	N/A
11-17+48 – 17+59 -Y-LT Stream Access for Stabilization				5		5	N/A
11-64+84 – 17+11-Y-RT Dewatering for Culvert removal				18		18	N/A
11-16+64 – 16+78-Y-RT Stream Access for Stabilization				10		10	N/A
11-17+13 – 17+21-Y-RT Stream Access for Stabilization				10		10	N/A
Total	**276**	**16**	**183**	**206**	***73**	**681**	**N/A**

Total Stream Impact for Project:681 linear feet
***Bank Stabilization does not count towards impacts**

Wetland Impacts in the Cape Fear River Basin

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	*Hand Clearing (ac)	Total Take (ac)	Total Wetland Impact (ac)
1-14+89 – 15+87 – L1-RT Roadway/Ditch construction	0.012		0.028	0.029			0.069
1-14+87 – 16+29 -L1-RT Hand clearing/ROW/PUE					0.021		N/A
2-9+45 – 11+05 -Y2-LT Ditch Construction			0.011	0.023			0.034
2-9+46 – 9+53-Y2-RT 2@ 18" pipe/riprap at outlet	0.003			0.016			0.019
3-35+59 – 38+98 L-LT Roadway Fill	0.285						0.285
3-36+46 – 38+98 -L-LT	0.034		0.047				0.081

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Rip Rap Toe Protection							
4-46+49 -47+74 -L-LT Roadway/Ditch construction	0.077		0.035		0.024		0.112
4-18+01 -19+18-RPB-LT Roadway/Ditch Construction	0.102		0.050	0.056			0.208
4-18+01 – 19+18 RPB-LT Total Take)						0.385	0.385
4-18+11 – 20+19-RPB-RT Roadway/Ditch/EC Basin Const.	0.090		0.047		0.045		0.137
4-19+62-RPB -16+03-LPB-LT Ditch w/ Rip Rap Construction	0.024				0.017		0.024
4-13+09 -14+54 -LPB-LT Roadway/Ditch/EC Basin Const.	0.092		0.059		0.066		0.151
4-13+16 – 14+38 -LPB – RT Roadway/Ditch Construction	0.074		0.033	0.014			0.107
4-14+99 – 16+02- LPB-LT Roadway/Ditch Construction	0.081		0.017		0.020		0.098
4-14+98 – 16+30- LPB- RT Roadway Fill	0.090						0.090
4-15+63 – 16+17 -LPB – RT Ditch w/ Rip Rap Construction	0.045			0.098			0.045
5-37+71 – 37+82-Y-RT Hand Clearing in TDE					0.008		N/A
5-39+12 - 40+79 -Y-RT Roadway Fill	0.080			0.142			0.222
5-40+90 – 41+10 -Y-RT 15" Pipe/Rip Rap at Outlet	0.007		0.030	0.020			0.057
6-28+43 – 28+74 -Y-LT Roadway Fill/Channel Change	0.012		0.004	0.006			0.022
7- 17+53 – 17+76 -RPD-RT Ditch Construction			0.001	0.005			0.006
8- 11+55 – 12+24 – RPD – RT Ditch w/ Rip Rap Construction	0.034			0.008			0.042
8- 11+55 – 12+19 – RPD-RT Rip Rap down existing slope	0.029			0.065			0.094
9-67+98 - 70+95 – L- LT Roadway Fill	0.231			0.135			0.366
9- 70+20 – 71+05 – L- RT	0.003			0.010			0.013

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Roadway Fill							
9- 70+91 – 77+15 – L- RT Roadway Fill	0.205			0.163			0.368
9-74+54 – 77+15 – L-RT Rip Rap Toe Protection	0.048			0.085			0.133
9- 71+08 – 76+00 – L – RT Hand Clearing in ROW					0.025		N/A
10 – 80+78 – 81+26 – L -LT Roadway/Ditch Construction	0.007			0.002			0.009
10 – 80+68 – 80+88 – L – LT Hand Clearing DUE					0.005		N/A
11 – 12+85 – 13+07 – Y -LT Roadway Fill	0.002						0.002
11- 12+63 – 13+40 – Y – LT Rip Rap Toe protection	0.005			0.023			0.028
11- 13+40 – 16+21 – Y – LT Clearing for Silt Fence				0.114			0.114
11- 16+21 – 16+79 – Y – LT Roadway Fill	0.011			0.013			0.024
11- 17+03 – 17+58 – Y – LT Roadway Fill	0.010			0.003			0.013
11- 17+58 – 19+09 – Y – LT Clearing for Silt Fence				0.029			0.029
11- 19+37 – 19+53 – Y – LT Rip Rap at Pipe Outlet				0.002			0.002
11- 17+13 – 18+91 – Y – RT Roadway Fill	0.059						0.059
11- 17+18 – 19+06 – Y -RT Rip Rap Toe Protection	0.019			0.408			0.427
12 – 47+43 – 48+29 – Y -LT Roadway Fill/Detour	0.065		0.020	0.014			0.099
Total	**1.836**		**0.382**	**1.483**	***0.231**	**0.385**	**4.086**

Total Wetland Impact for Project: 4.086 acres.
***Hand Clearing does not count towards Impacts**

The application provides adequate assurance that the discharge of fill material into the waters of the Cape Fear River Basin in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate

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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 received September 28, 2020 and modification requested February 26, 2021. 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.

Conditions of Certification:

Project Specific Conditions

1. The NCDOT Division Environmental Officer or Environmental Assistant will conduct a pre-construction meeting with all appropriate staff to ensure that the project supervisor and essential staff understand the potential issues with stream and pipe alignment at the permitted site. NCDWR staff shall be invited to the pre-construction meeting. [15A NCAC 02H.0506(b)(2) and (b)(3)]

2. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section 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)]

3. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed. [15A NCAC 02H.0506(b)(2)]

4. 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)]

5. Pipes and culverts used exclusively to maintain equilibrium in wetlands, where aquatic life passage is not a concern, shall not be buried. These pipes shall be installed at natural ground elevation.) [15A NCAC 02H.0506(b)(2) and (b)(3)]

6. Tall fescue shall not be used in the establishment of temporary or permanent groundcover within riparian areas. For the establishment of permanent herbaceous cover, erosion control matting shall be used in conjunction with an appropriate native seed mix on disturbed soils within the riparian area and on disturbed steep slopes with the following exception. Erosion control matting is not necessary if the area is contained by perimeter erosion control devices such as silt fence, temporary sediment ditches, basins, etc. Matting should be secured in place with staples, stakes, or wherever possible, live stakes of native trees. Erosion control matting placed in riparian areas shall not contain a nylon mesh grid, which can impinge and entrap small animals. For the establishment of temporary groundcover within riparian areas, hydroseeding along with wood or cellulose based hydro mulch applied from a fertilizer- and limestone-free tank is allowable at the appropriate rate in conjunction with the erosion control measures. Discharging hydroseed mixtures and wood or cellulose mulch into surface waters in

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prohibited. Riparian areas are defined as a distance 25 feet landward from top of stream bank.

General Conditions

7. 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 dis-equilibrium 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 NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact 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)]

8. 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]

9. 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)]

10. The dimension, pattern and profile of the stream above and below the crossing shall not be modified. Disturbed floodplains and streams shall be restored to natural geomorphic conditions. [15A NCAC 02H.0506(b)(2)]

11. 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)]

* 12. 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)]

13. 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) and (c)(3)]

14. 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)]

15. 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)]

16. 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)]

17. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited. [15A NCAC 02H.0506(b)(3)]

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18. 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]

19. 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)]

20. 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 Division Engineer and the on-site project manager. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]

21. 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]

22. 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.

23. 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)]

* 24. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify the NCDWR when all work included in the 401 Certification has been completed. [15A NCAC 02H.0502(f)]

25. 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 02H 0506(b)(2)]

26. 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)

27. 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*.

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d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.

28. Sediment and erosion control measures shall not be placed in wetlands or waters unless otherwise approved by this Certification. [15A NCAC 02H.0506(b)(3) and (c)(3)]

29. Compensatory mitigation for impacts to 4.086 acres of wetlands is required. We understand that you have chosen to perform compensatory mitigation for impacts to wetlands through the Division of Mitigation Services, and that the bank has agreed to implement the mitigation for the project. The DMS has indicated in a letter dated February 26, 2021 that they will assume responsibility for satisfying the Federal Clean Water Act compensatory mitigation requirements for the above-referenced project.

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

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

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

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

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

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

This the 19th day of March 2021

DIVISION OF WATER RESOURCES

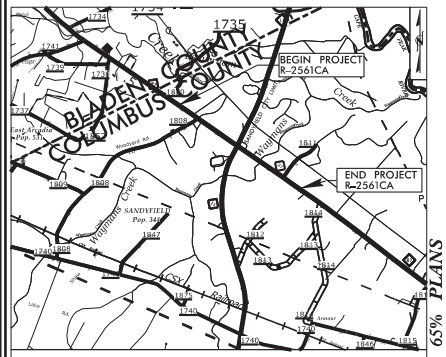
DocuSigned by:
Amy Chapman
9C9886312DCD474...
S. Daniel Smith, Director

WQC No. WQC004278

TIP PROJECT: R-2561CA

CONTRACT:

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols
See Sheet RW02C-1 Thru RW02C-4 For Right of Way Plan Sheets



VICINITY MAP
(NOT TO SCALE)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

COLUMBUS COUNTY

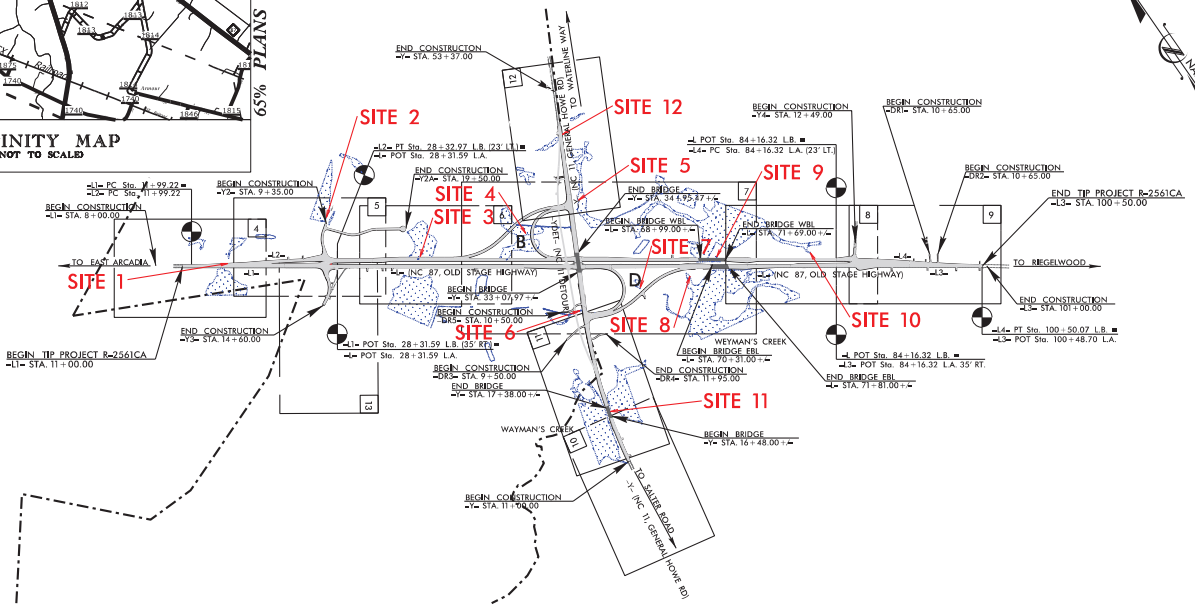
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2561CA	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
34466.4.5	N/A	P.E.
34466.3.8	N/A	R/W & UTILITIES
34466.1.5	N/A	CONST.

LOCATION: NC 87 (OLD STAGE RD.)/NC 11 (GENERAL HOWE RD.) INTERCHANGE
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURES

PERMIT DRAWING
SHEET 1 OF 69

WETLAND AND SURFACE WATER IMPACTS PERMIT



A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF SANDYFIELD.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
THIS IS A PARTIAL CONTOLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.

RIGHT OF WAY ACQUISITION HAS BEEN RELEASED ON THE FOLLOWING PARCELS:
24, 26, 27, 29, 33, 34, 35, 36, 37, 41, 42, 44, 48, 51, 52, AND 53.

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 2021 = 7273
ADT 2040 = 9000
K = 9 %
D = 60 %
T = 24 % *
V = 60 MPH
* TTST=20% DUAL=4%
FUNC CLASS =
MINOR ARTERIAL
"REGIONAL TIER"

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT R-2561CA = 1.644 MILES
LENGTH OF STRUCTURE TIP PROJECT R-2561CA = 0.051 MILES
TOTAL LENGTH OF TIP PROJECT R-2561CA = 1.695 MILES

PLANS PREPARED FOR THE NCDOT BY:
SEPI
Engineering & Construction, Inc.
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.5077
Fax:919.789.2591
License:C-2197

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
OCTOBER 28, 2019

LETTING DATE:
APRIL 20, 2021

MICHAEL TAYLOR, PE
PROJECT ENGINEER

DANIEL W. GARDNER, JR., PE
PROJECT DESIGN ENGINEER

JOHN B. GAUTHIER
NCDOT CONTACT

HYDRAULICS ENGINEER

SIGNATURE: P.E.

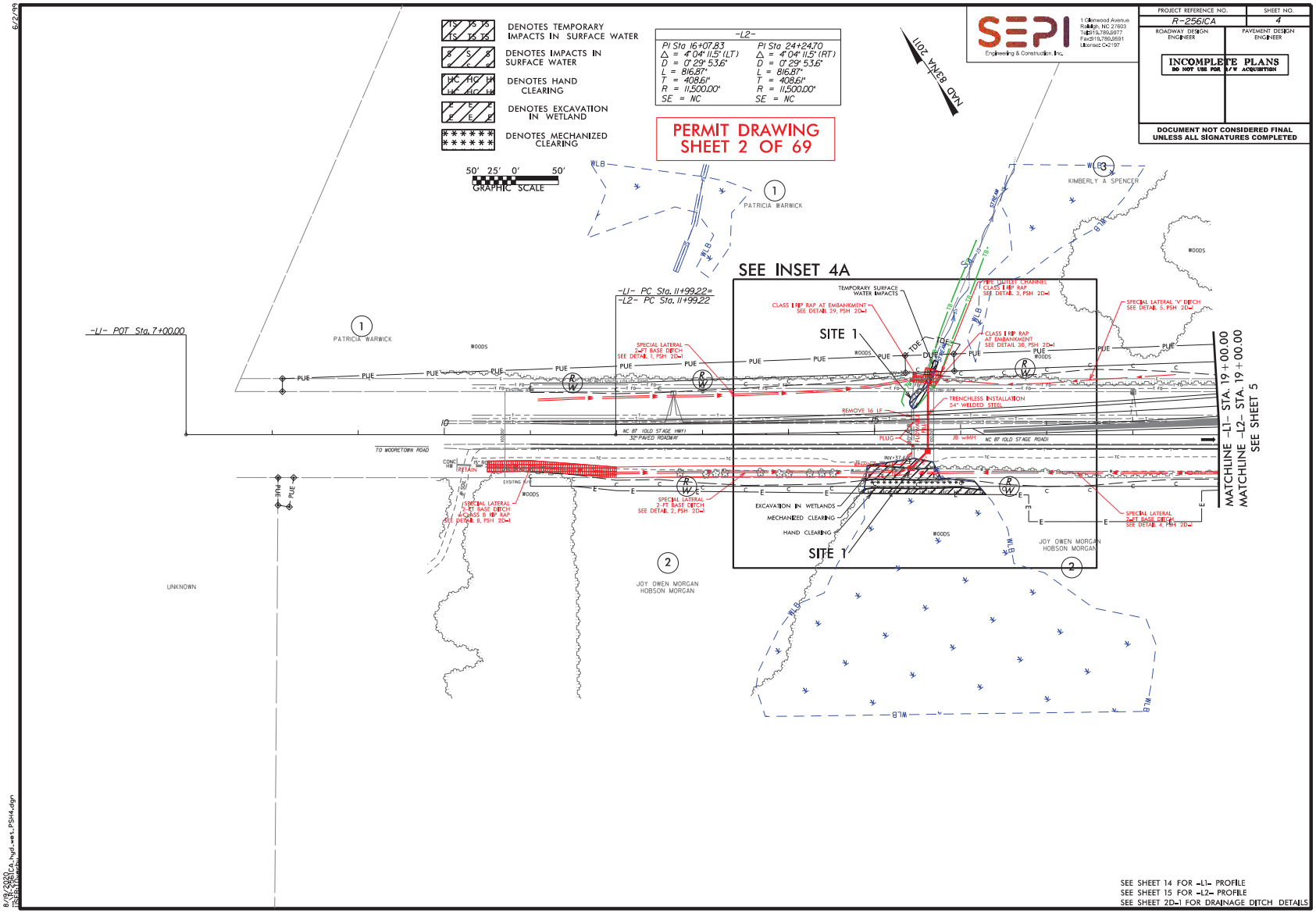
ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

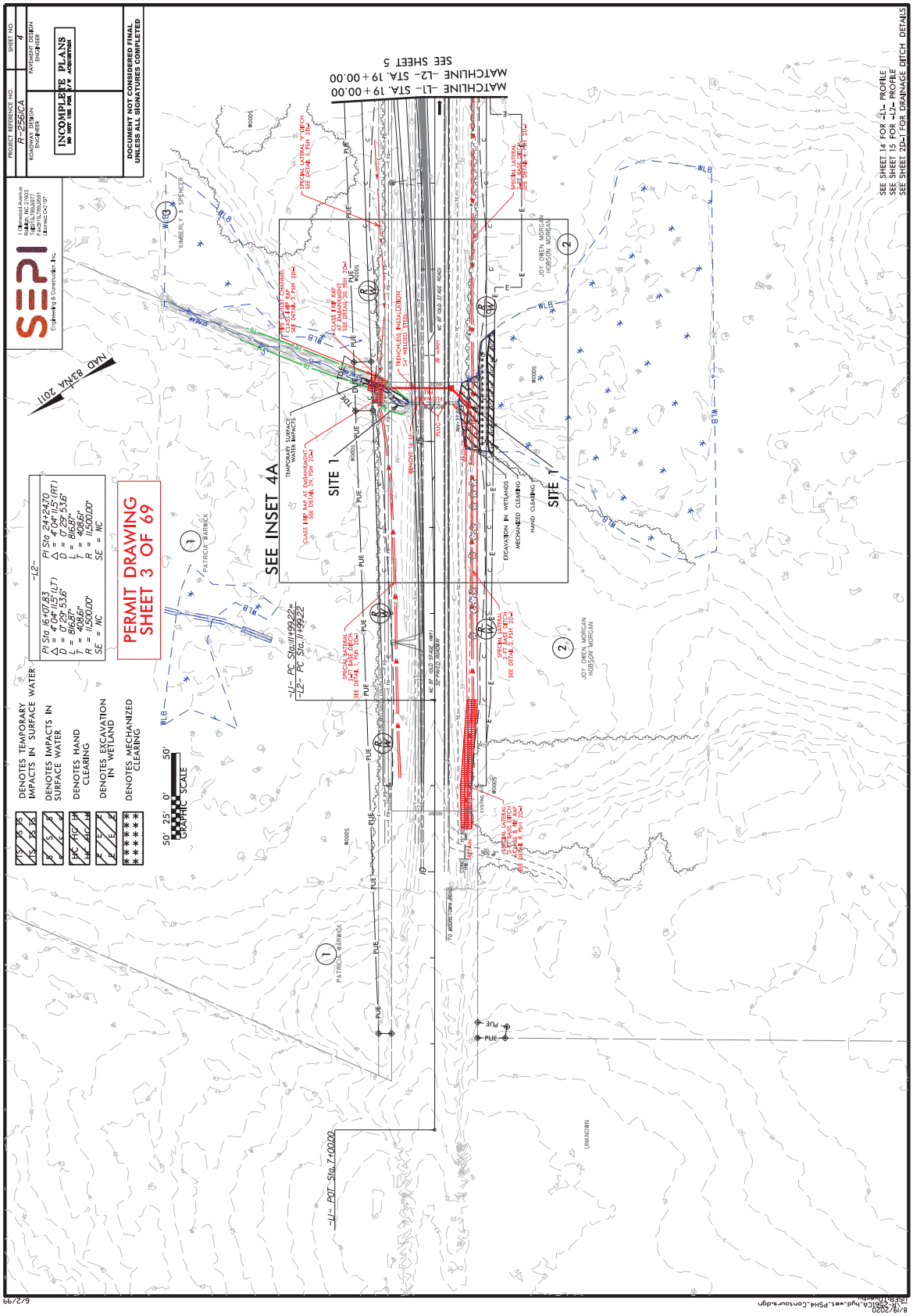
09/08/99

9/1/2020
R-2561CA_hyd_wet_TSH.dgn
USER:rdoverby



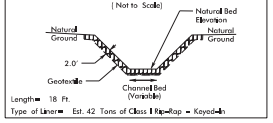
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES IMPACTS IN SURFACE WATER
DENOTES HAND CLEARING
DENOTES EXCAVATION IN WETLAND
DENOTES MECHANIZED CLEARING
50' 25' 0' 50'
GRAPHIC SCALE
-L2-
PI Sta 16+07.83
Δ = 4°04'11.5" (LT)
D = 0°29'53.6"
L = 816.87'
T = 408.61'
R = 11,500.00'
SE = NC
PI Sta 24+24.70
Δ = 4°04'11.5" (RT)
D = 0°29'53.6"
L = 816.87'
T = 408.61'
R = 11,500.00'
SE = NC
PERMIT DRAWING
SHEET 2 OF 69
NAD 83/NA 2011
SEPI
Engineering & Construction, Inc.
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.5977
Fax:919.789.9591
Licensed C-2197
PROJECT REFERENCE NO.
R-2561CA
SHEET NO.
4
ROADWAY DESIGN ENGINEER
PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
SEE INSET 4A
-L1- PC Sta. 11+99.22=
-L2- PC Sta. 11+99.22
-L1- POT Sta. 7+00.00
PATRICIA WARWICK
KIMBERLY A SPENCER
JOY OWEN MORGAN
HOBSON MORGAN
UNKNOWN
TO MOORETOWN ROAD
NC 87 (OLD STAGE HWY)
32' PAVED ROADWAY
TEMPORARY SURFACE WATER IMPACTS
CLASS I RIP RAP AT EMBANKMENT SEE DETAIL 29, PSH 2D-1
PIPE OUTLET CHANNEL CLASS I RIP RAP SEE DETAIL 3, PSH 2D-1
CLASS I RIP RAP AT EMBANKMENT SEE DETAIL 30, PSH 2D-1
SPECIAL LATERAL 'V' DITCH SEE DETAIL 5, PSH 2D-1
SPECIAL LATERAL 2-FT BASE DITCH SEE DETAIL 1, PSH 2D-1
SPECIAL LATERAL 2-FT BASE DITCH SEE DETAIL 2, PSH 2D-1
SPECIAL LATERAL 2-FT BASE DITCH SEE DETAIL 4, PSH 2D-1
SPECIAL LATERAL 2-FT BASE DITCH CLASS B RIP RAP SEE DETAIL 8, PSH 2D-1
TRENCHLESS INSTALLATION 54" WELDED STEEL
REMOVE 16 LF
PLUG
EXCAVATION IN WETLANDS
MECHANIZED CLEARING
HAND CLEARING
SITE 1
MATCHLINE -L1- STA. 19+00.00
MATCHLINE -L2- STA. 19+00.00
SEE SHEET 5
SEE SHEET 14 FOR -L1- PROFILE
SEE SHEET 15 FOR -L2- PROFILE
SEE SHEET 2D-1 FOR DRAINAGE DITCH DETAILS

P-24


PROJECT REFERENCE NO.
R-2561CA
SHEET NO.
4
ROADWAY DESIGN ENGINEER
PAYMENT DESIGN ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
SEPI
Engineering & Construction, Inc.
PERMIT DRAWING
SHEET 3 OF 69
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES IMPACTS IN SURFACE WATER
DENOTES HAND CLEARING
DENOTES EXCAVATION IN WETLAND
DENOTES MECHANIZED CLEARING
GRAPHIC SCALE
SEE INSET 4A
SITE 1
SITE 1
MATCHLINE -L1- STA. 19+00.00
MATCHLINE -L2- STA. 19+00.00
SEE SHEET 5
SEE SHEET 14 FOR -L1- PROFILE
SEE SHEET 15 FOR -L2- PROFILE
SEE SHEET 2D-1 FOR DRAINAGE DITCH DETAILS
-L1- PC Sta. 11+99.22=
-L2- PC Sta. 11+99.22
-L1- POT Sta. 7+00.00
PATRICIA WARWICK
JOY OWEN MORGAN
HOBSON MORGAN
KIMBERLY A SPENCER
LINKNOWN
TO MOORETOWN ROAD
NAD 83/NA 2011

6/2/99

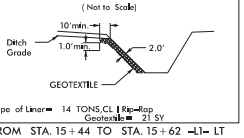
DETAIL 3
PIPE OUTLET CHANNEL STABILIZATION
(Not to Scale)



Length= 18 Ft.
Type of Liner= Est. 42 Tons of Class I Rip-Rap + Keyed-In

STA. 15+62 –L2– LT

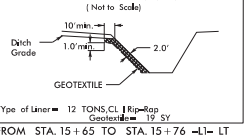
DETAIL 29
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner= 14 TONS,CL I Rip-Rap
Geotextile= 21 SY

FROM STA. 15+44 TO STA. 15+62 –L1– LT

DETAIL 30
RIP RAP AT EMBANKMENT
(Not to Scale)



TYpe of Liner= 12 TONS,CL I Rip-Rap
Geotextile= 19 SY

FROM STA. 15+65 TO STA. 15+76 –L1– LT

TS TS TS / TS TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER

S S S / S S S — DENOTES IMPACTS IN SURFACE WATER

HC HC HC HC / HC HC HC HC — DENOTES HAND CLEARING

E E E / E E E — DENOTES EXCAVATION IN WETLAND

* * * * * * / * * * * * * — DENOTES MECHANIZED CLEARING

25' 12.5' 0' 25'
GRAPHIC SCALE

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1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.9977
Fax:919.789.9591
License: C-2197

PERMIT DRAWING
SHEET 4 OF 69

PROJECT REFERENCE NO.	SHEET NO.
R-2561CA	4A

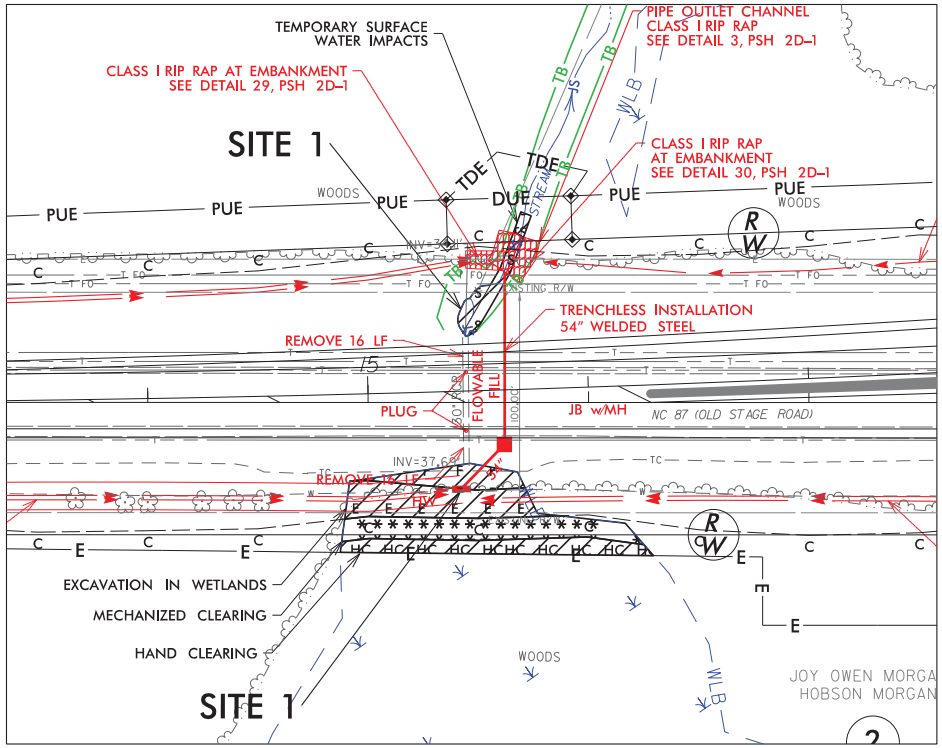
ROADWAY DESIGN ENGINEER

PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

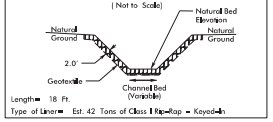
SEE INSET 4A



8/2/2020
R-2561CA_hyd_ws_PSH4A.dgn

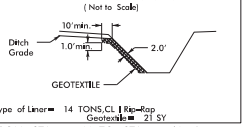
6/2/99

DETAIL 3
PIPE OUTLET CHANNEL STABILIZATION
(Not to Scale)



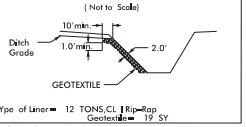
Length= 18 Ft.
Type of Liner= Est. 42 Tons of Class I Rip-Rap + Keyed-In
STA. 15+62 –L2– LT

DETAIL 29
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner= 14 TONS,CL I Rip-Rap
Geotextile= 21 SY
FROM STA. 15+44 TO STA. 15+62 –L1– LT

DETAIL 30
RIP RAP AT EMBANKMENT
(Not to Scale)



TYpe of Liner= 12 TONS,CL I Rip-Rap
Geotextile= 19 SY
FROM STA. 15+65 TO STA. 15+76 –L1– LT

TS TS TS / TS TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
S S S / S S S — DENOTES IMPACTS IN SURFACE WATER
HC HC HC / HC HC HC — DENOTES HAND CLEARING
E E E / E E E — DENOTES EXCAVATION IN WETLAND
* * * * * * / * * * * * * — DENOTES MECHANIZED CLEARING

25' 12.5' 0' 25'
GRAPHIC SCALE

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Raleigh, NC 27603
Tel:919.789.9977
Fax:919.789.9591
License: C-2197

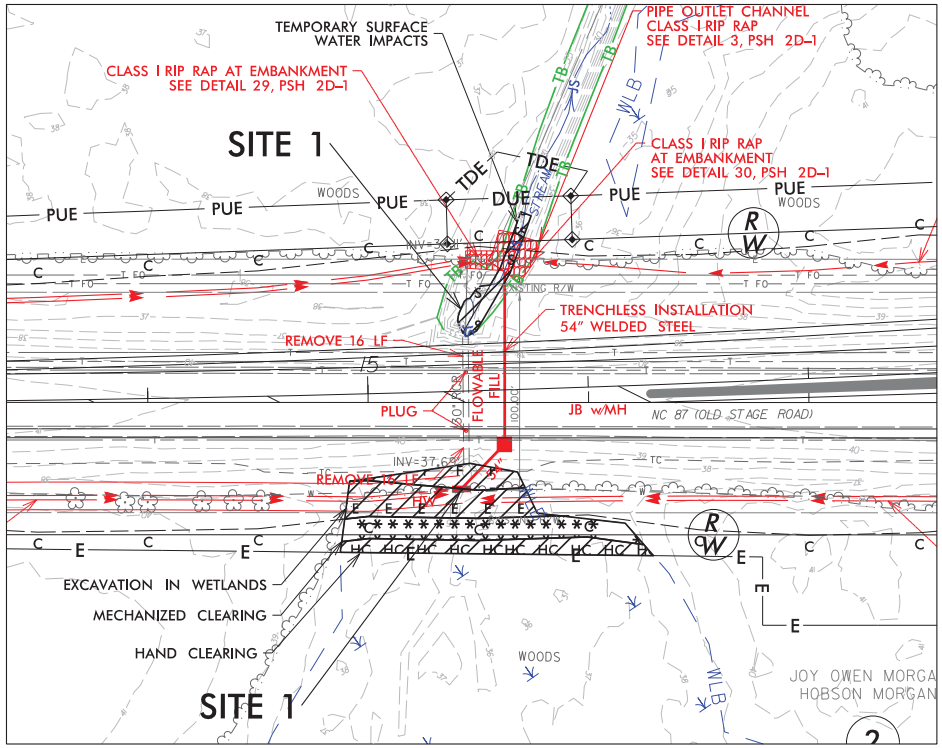
PERMIT DRAWING
SHEET 5 OF 69

PROJECT REFERENCE NO.	SHEET NO.
R-2561CA	4A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

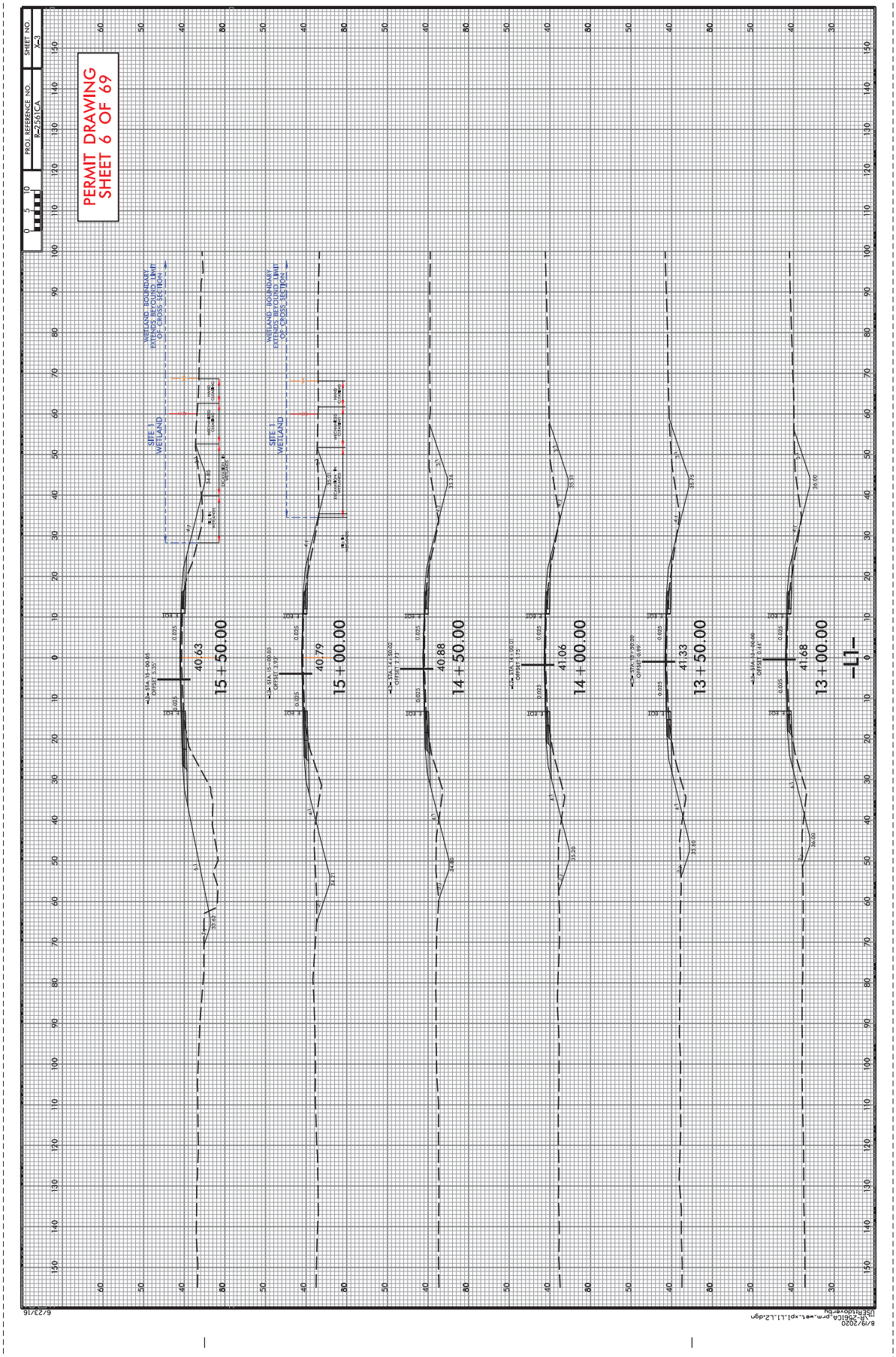
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

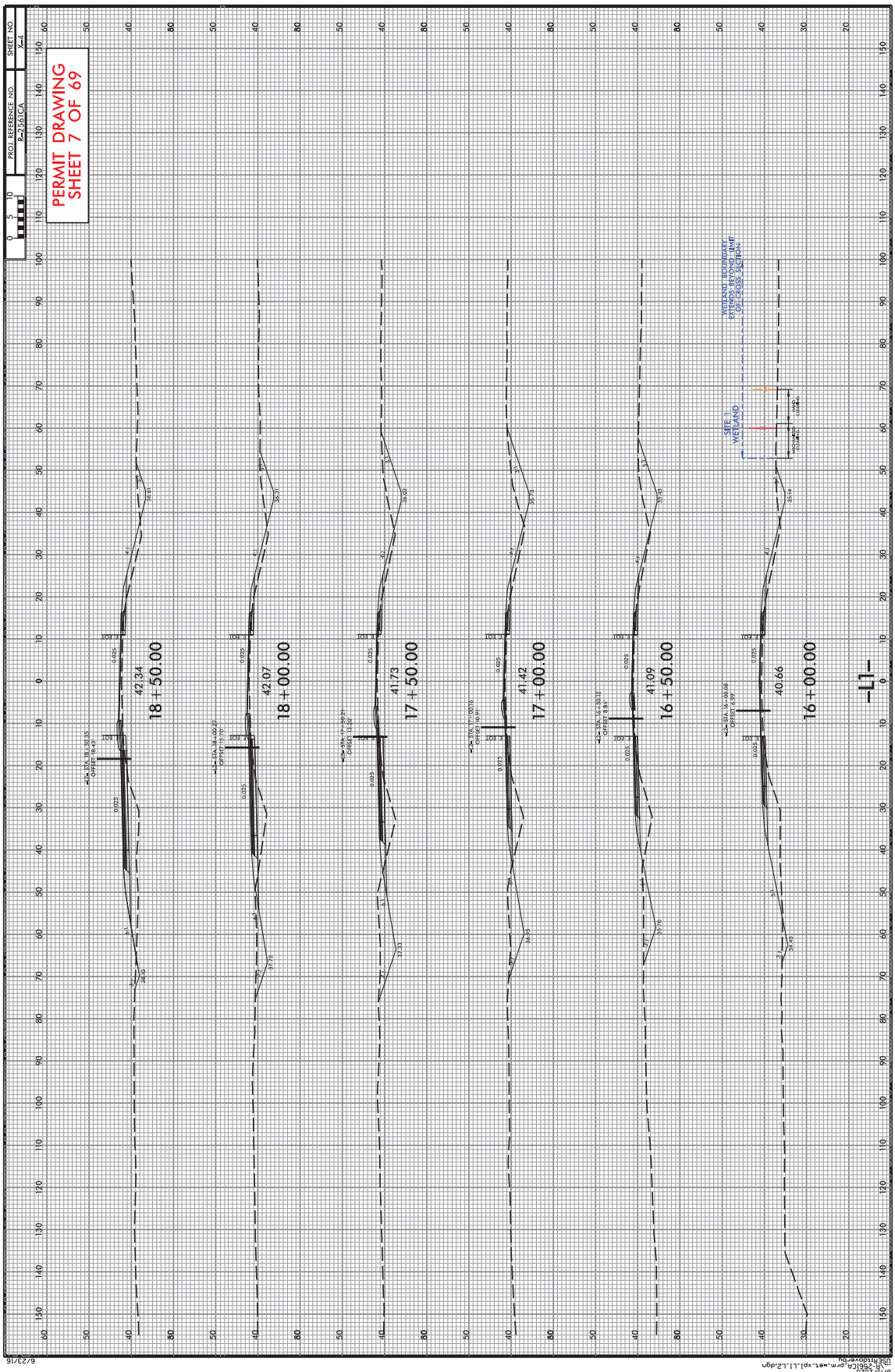
SEE INSET 4A



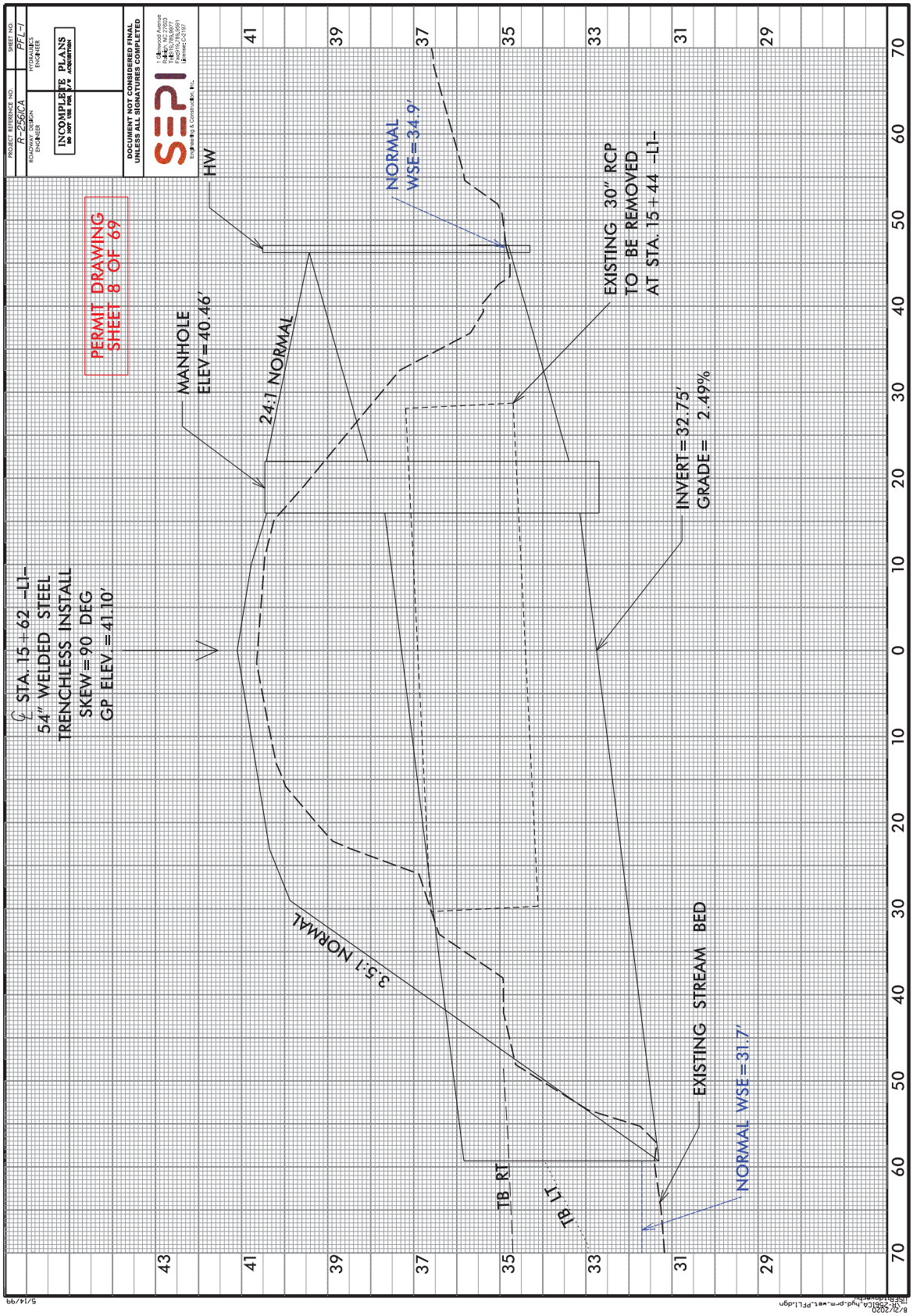
P-27

8/2/2020
R-2561CA_hydraulics_PSH4A_Contours.dgn


PERMIT DRAWING
SHEET 6 OF 69
PROJ REFERENCE NO.
SHEET NO.
WETLAND BOUNDARY
EXTENDS BEYOND LIMIT
OF CROSS SECTION
SITE 1
WETLAND
15 + 50.00
15 + 00.00
14 + 50.00
14 + 00.00
13 + 50.00
13 + 00.00
-L1-


PERMIT DRAWING
SHEET 7 OF 69
PROJ. REFERENCE NO.
R-2561CA
SHEET NO.
X-4
42.34
18+50.00
42.07
18+00.00
41.73
17+50.00
41.42
17+00.00
41.09
16+50.00
40.66
16+00.00
-L1-
SITE 1
WETLAND
WETLAND BOUNDARY
EXTENDS BEYOND LIMIT
OF CROSS SECTION

P-30



PROJECT REFERENCE NO.
R-2561CA
SHEET NO.
PFL-1
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
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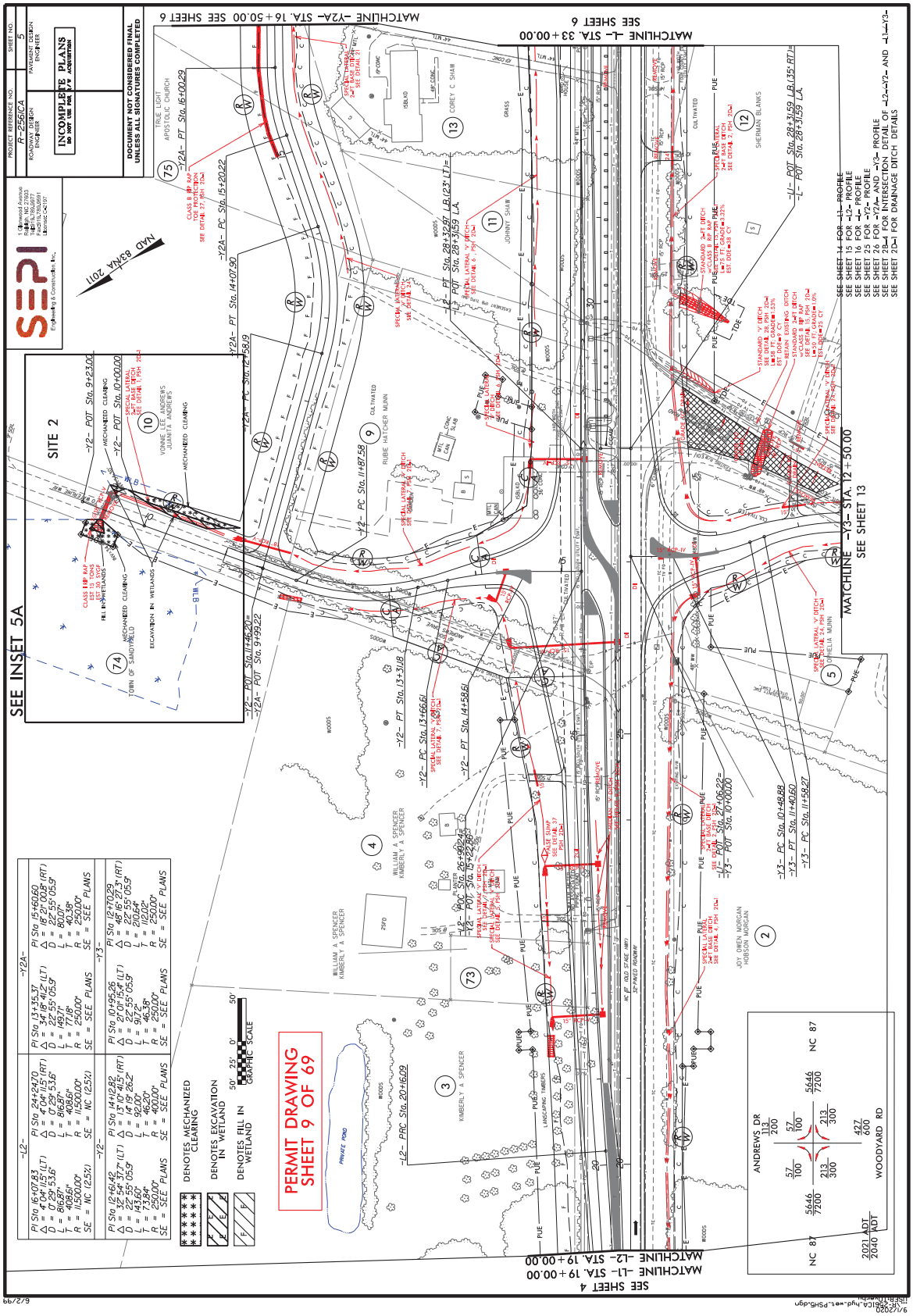
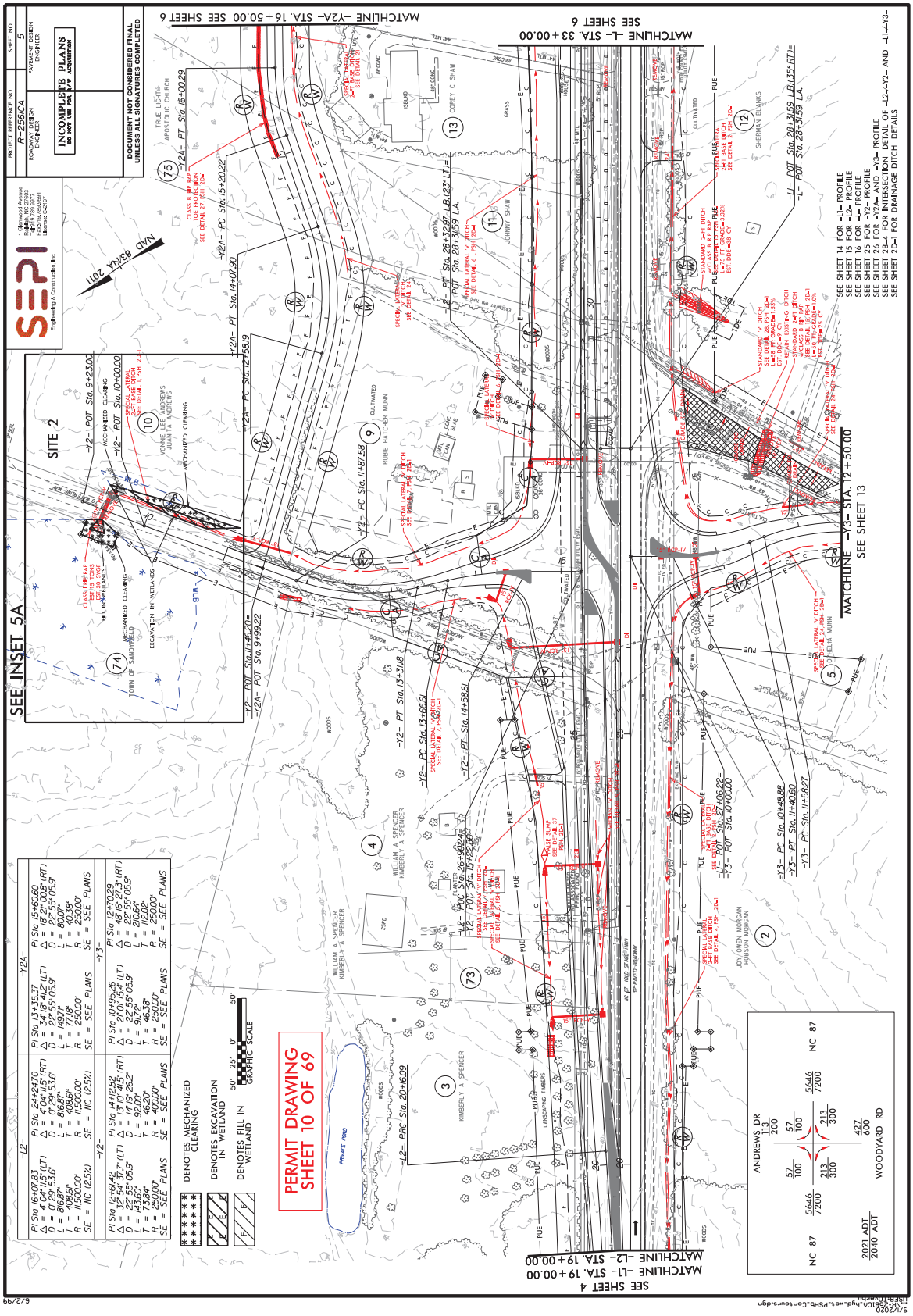
PERMIT DRAWING
SHEET 8 OF 69
HW
NORMAL
WSE=34.9'
EXISTING 30" RCP
TO BE REMOVED
AT STA. 15+44 -L1-
MANHOLE
ELEV=40.46'
24:1 NORMAL
INVERT=32.75'
GRADE= 2.49%
℄ STA. 15+62 -L1-
54" WELDED STEEL
TRENCHLESS INSTALL
SKEW=90 DEG
GP ELEV.=41.10'
3.5:1 NORMAL
EXISTING STREAM BED
NORMAL WSE=31.7'
TB RT
TB LT


SEE INSET 5A
SITE 2
PERMIT DRAWING
SHEET 9 OF 69
MATCHLINE -L- STA. 33+00.00
SEE SHEET 6
MATCHLINE -Y2A- STA. 16+50.00 SEE SHEET 6
MATCHLINE -L- STA. 19+00.00
SEE SHEET 4
MATCHLINE -Y3- STA. 12+50.00
SEE SHEET 13
DENOTES MECHANIZED CLEARING
DENOTES EXCAVATION IN WETLAND
DENOTES FILL IN WETLAND
GRAPHIC SCALE
NAD 83/NA 2011
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PROJECT REFERENCE NO. R-2561CA
SHEET NO. 5
ROADWAY DESIGN ENGINEER
PAVEMENT DESIGN ENGINEER
SEPI
Engineering & Construction, Inc.
ANDREWS DR
WOODYARD RD
NC 87
2021 ADT 5646
2040 ADT 7200
SEE SHEET 14 FOR -L1- PROFILE
SEE SHEET 15 FOR -L2- PROFILE
SEE SHEET 16 FOR -L- PROFILE
SEE SHEET 25 FOR -Y2- PROFILE
SEE SHEET 26 FOR -Y2A- AND -Y3- PROFILE
SEE SHEET 28-1 FOR INTERSECTION DETAIL OF -L2-&-Y2- AND -L1-&-Y3-
SEE SHEET 21-1 FOR DRAINAGE DITCH DETAILS


PERMIT DRAWING
SHEET 10 OF 69
SEE INSET 5A
SITE 2
MATCHLINE -L2- STA. 19+00.00
SEE SHEET 4
MATCHLINE -L1- STA. 19+00.00
SEE SHEET 6
MATCHLINE -L- STA. 33+00.00
SEE SHEET 6
MATCHLINE -Y2A- STA. 16+50.00 SEE SHEET 6
MATCHLINE -Y3- STA. 12+50.00
SEE SHEET 13
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PROJECT REFERENCE NO. R-2561CA
SHEET NO. 5
ROADWAY DESIGN ENGINEER
PAVEMENT DESIGN ENGINEER
SEPI
NAD 83/NA 2011
DENOTES MECHANIZED CLEARING
DENOTES EXCAVATION IN WETLAND
DENOTES FILL IN WETLAND
GRAPHIC SCALE
ANDREWS DR
WOODYARD RD
NC 87
2021 ADT
2040 ADT
SEE SHEET 14 FOR -L1- PROFILE
SEE SHEET 15 FOR -L2- PROFILE
SEE SHEET 16 FOR -L- PROFILE
SEE SHEET 25 FOR -Y2- PROFILE
SEE SHEET 26 FOR -Y2A- AND -Y3- PROFILE
SEE SHEET 28-1 FOR INTERSECTION DETAIL OF -L2-/-Y2- AND -L1-/-Y3-
SEE SHEET 21-1 FOR DRAINAGE DITCH DETAILS

SEPI Engineering & Construction, Inc.
1 Glenwood Avenue
Raleigh, NC 27603
Tel: 919.789.9977
Fax: 919.789.9991
License: C-2197

PROJECT REFERENCE NO.	SHEET NO.
R-2561CA	5A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

F F DENOTES FILL IN WETLAND

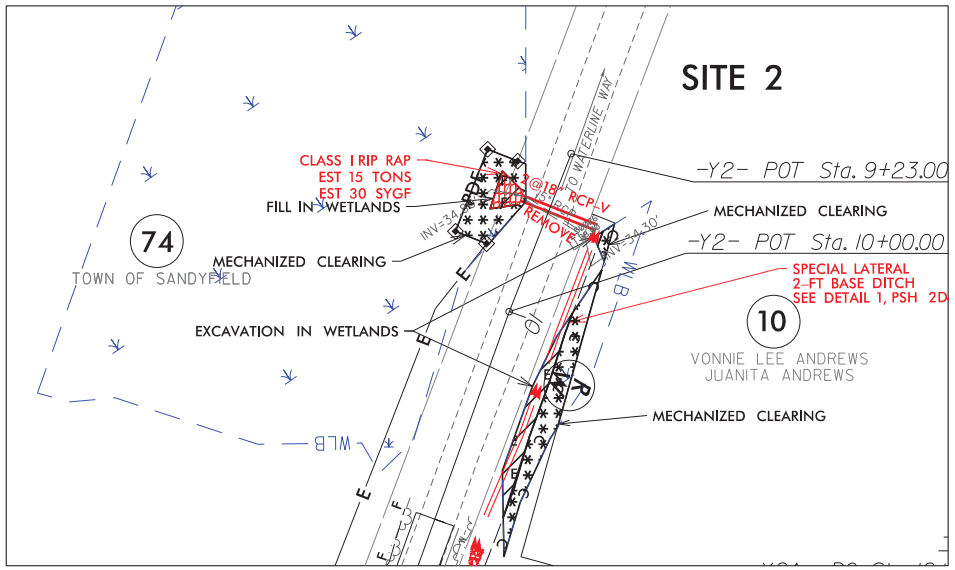
DENOTES MECHANIZED CLEARING

F F F F DENOTES EXCAVATION IN WETLAND

25' 12.5' 0' 25'
GRAPHIC SCALE

PERMIT DRAWING
SHEET 11 OF 69

INSET 5A


SITE 2
CLASS I RIP RAP
EST 15 TONS
EST 30 SYGF
FILL IN WETLANDS
MECHANIZED CLEARING
EXCAVATION IN WETLANDS
MECHANIZED CLEARING
MECHANIZED CLEARING
-Y2- POT Sta. 9+23.00
-Y2- POT Sta. 10+00.00
SPECIAL LATERAL
2-FT BASE DITCH
SEE DETAIL 1, PSH 2D
74
TOWN OF SANDYFIELD
10
VONNIE LEE ANDREWS
JUANITA ANDREWS
REMOVE
@18" RCP-V
TO WATERLINE WAY
WLB
WLB
INV=34
INV=330'
E
E
E
E
F F F F
F F F F
F F F F

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Raleigh, NC 27603
Tel:919.789.9977
Fax:919.789.9591
License: C-2197

PROJECT REFERENCE NO.	SHEET NO.
R-2561CA	5A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DENOTES FILL IN WETLAND

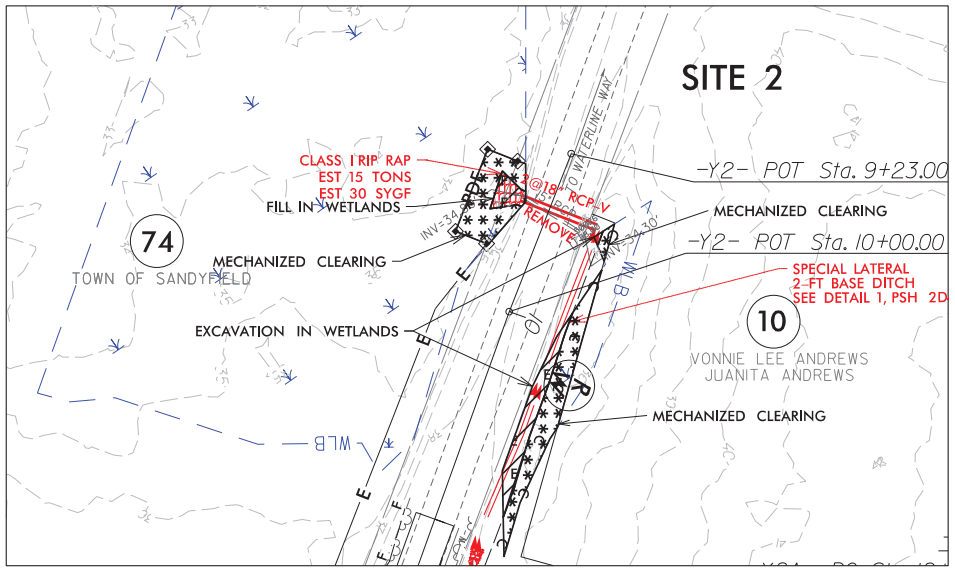
DENOTES MECHANIZED CLEARING

DENOTES EXCAVATION IN WETLAND

25' 12.5' 0' 25'
GRAPHIC SCALE

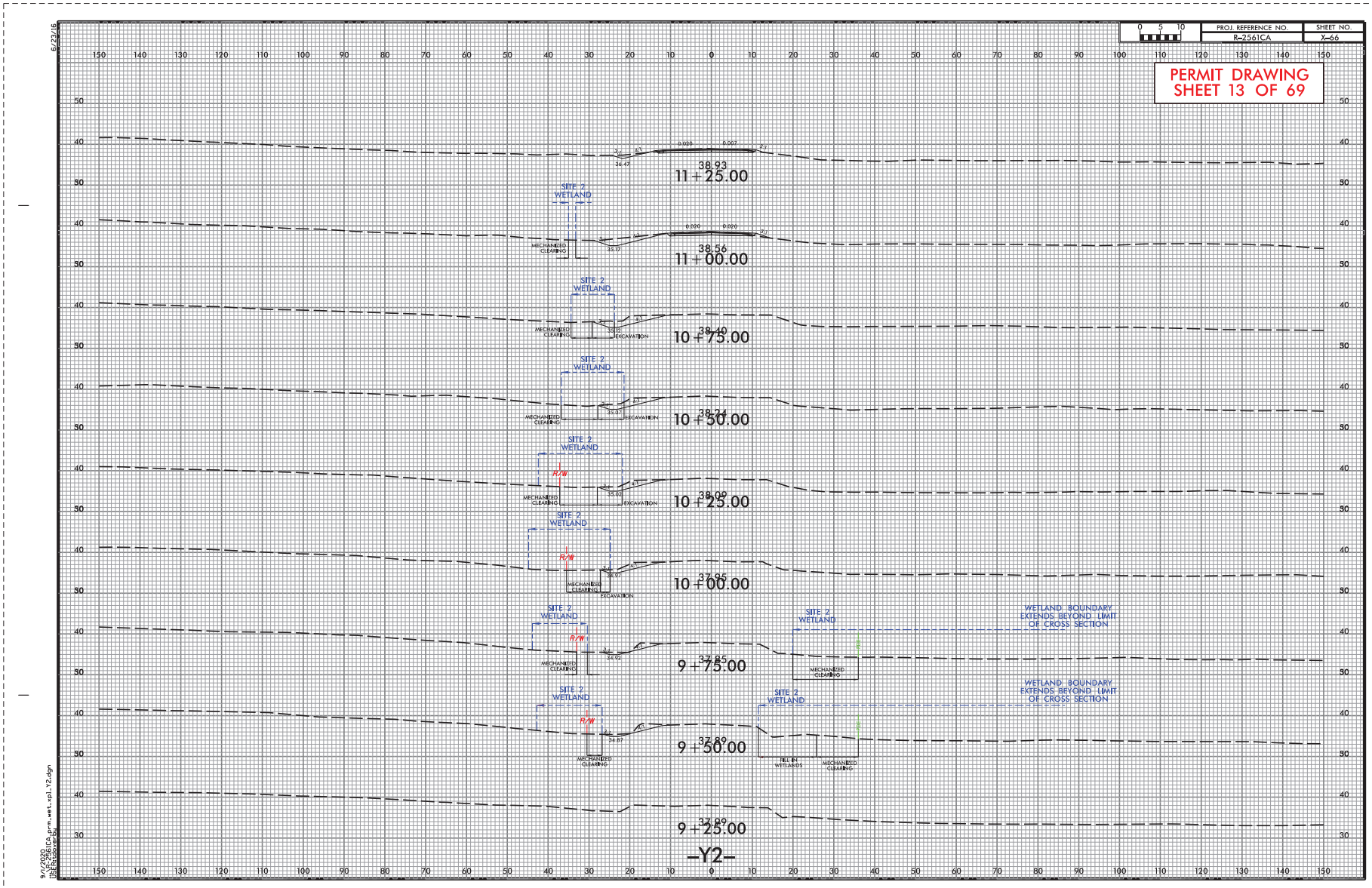
PERMIT DRAWING
SHEET 12 OF 69

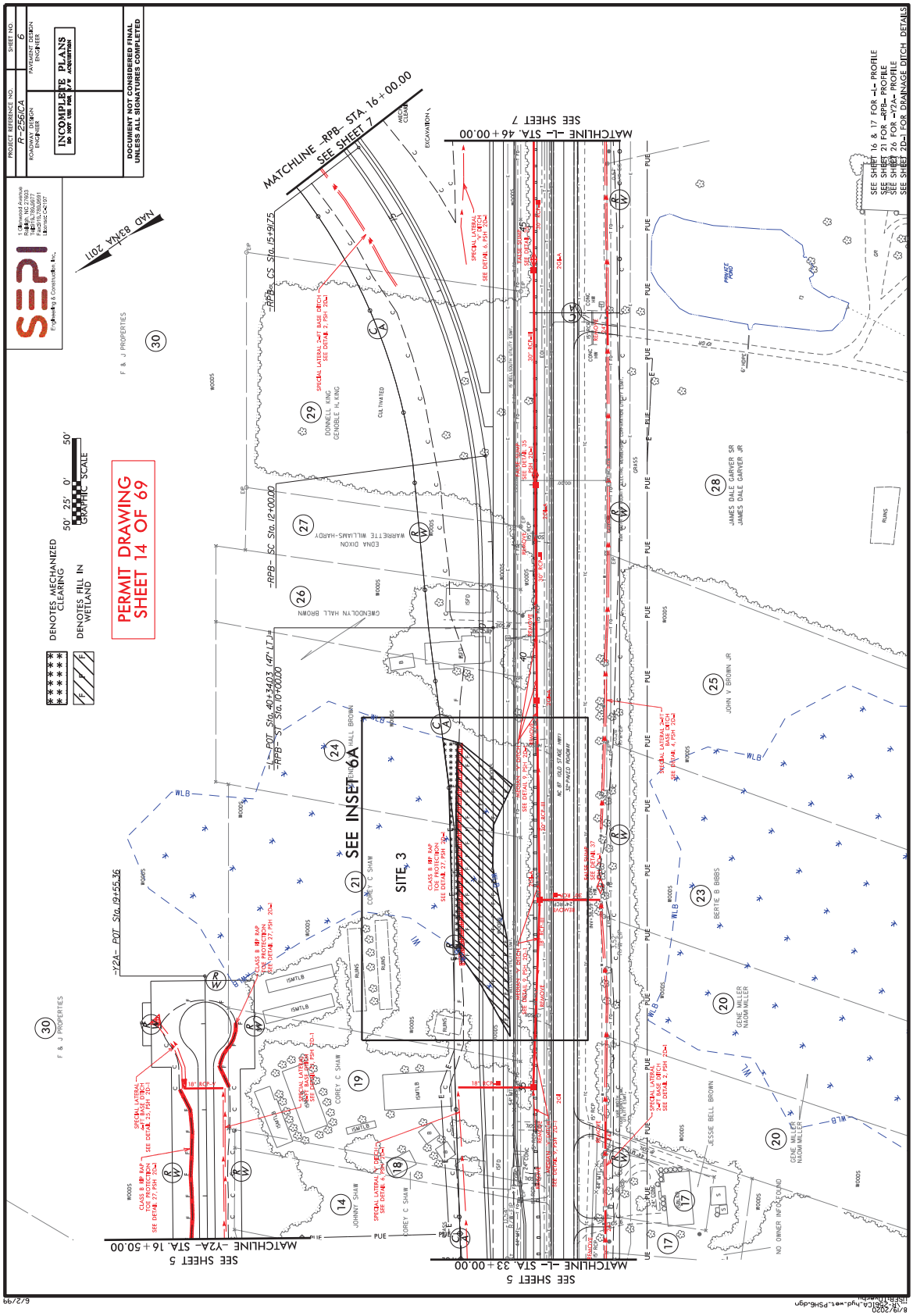
INSET 5A

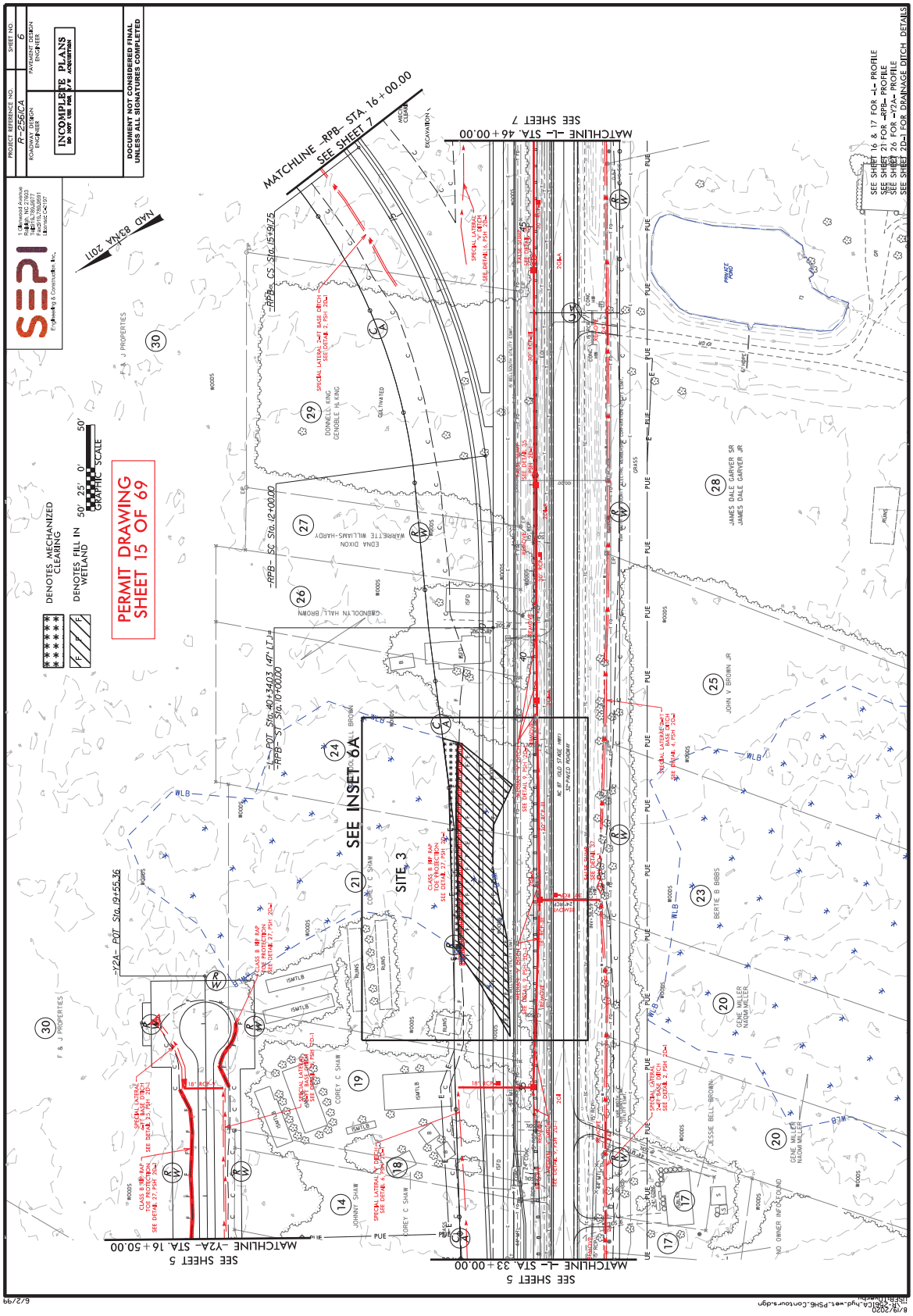


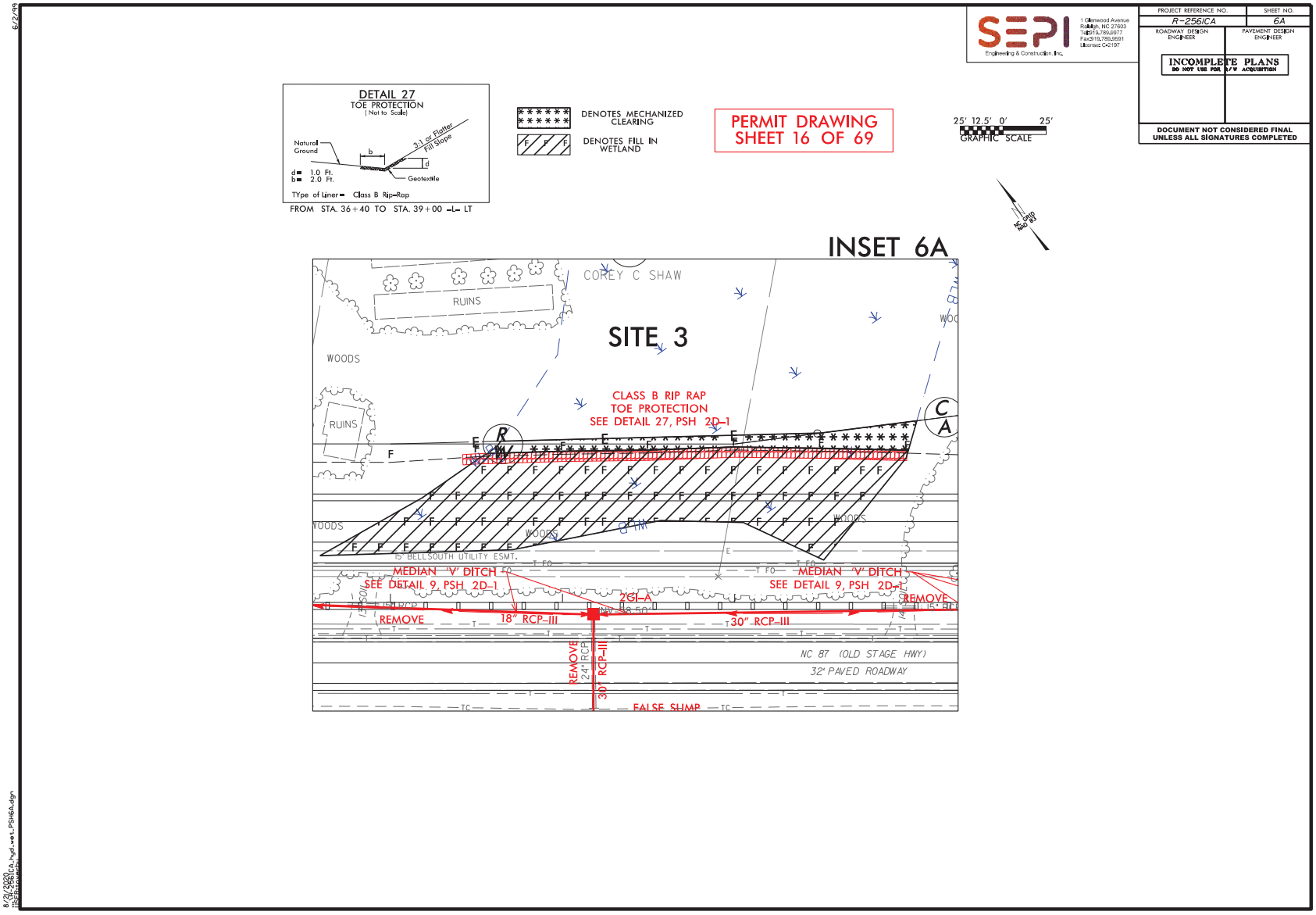
6/2/99

9/4/2020
R-2561CA_hyd_wet_PSHSA_Contours.dgn

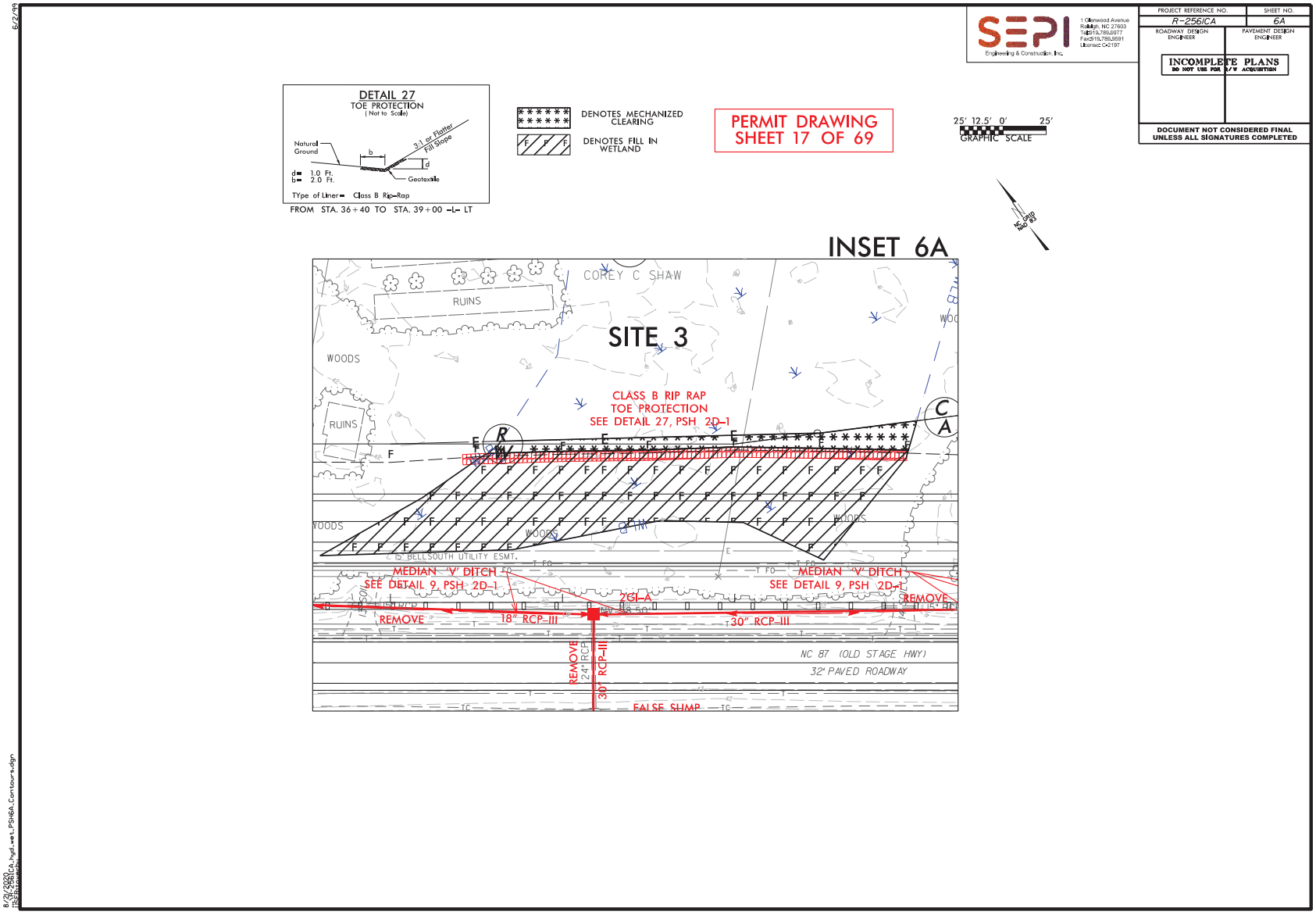

PROJ. REFERENCE NO.
R-2561CA
SHEET NO.
X-66
PERMIT DRAWING
SHEET 13 OF 69
11+25.00
38.93
11+00.00
38.56
10+75.00
38.40
10+50.00
38.24
10+25.00
38.09
10+00.00
37.95
9+75.00
37.85
9+50.00
37.89
9+25.00
37.99
SITE 2 WETLAND
MECHANIZED CLEARING
EXCAVATION
R/W
WETLAND BOUNDARY EXTENDS BEYOND LIMIT OF CROSS SECTION
FILL IN WETLANDS
-Y2-
6/23/16
9/1/2020
R-2561CA_prm_wet_xpl_Y2.dgn
USER:tdoverby


PROJECT REFERENCE NO.
R-2561CA
SHEET NO.
6
ROADWAY DESIGN ENGINEER
PAYMENT ITEMS BY ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
SEPI
NAD 83/NA 2011
PERMIT DRAWING
SHEET 14 OF 69
DENOTES MECHANIZED CLEARING
DENOTES FILL IN WETLAND
GRAPHIC SCALE
MATCHLINE -RPB- STA. 16+00.00
SEE SHEET 7
MATCHLINE -L- STA. 46+00.00
SEE SHEET 7
MATCHLINE -Y2A- STA. 16+50.00
SEE SHEET 5
MATCHLINE -L- STA. 33+00.00
SEE SHEET 5
SEE INSET 6A
SITE 3
SEE SHEET 16 & 17 FOR -L- PROFILE
SEE SHEET 21 FOR -RPB- PROFILE
SEE SHEET 26 FOR -Y2A- PROFILE
SEE SHEET 29 FOR DRAINAGE DITCH DETAILS
F & J PROPERTIES
DONNELL KING
GENOBLE H. KING
EDNA DIXON
MARRIETTE WILLIAMS-HARDY
OWENDOLYN HALL BROWN
COREY C SHAW
JOHNNY SHAW
JESSE BELL BROWN
GENE MILLER
NAOMI MILLER
JAMES DALE GARVER SR
JAMES DALE GARVER JR
JOHN V BROWN JR
BERTIE B BIBBS
NO OWNER INFORMATION FOUND


PERMIT DRAWING
SHEET 15 OF 69
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PROJECT REFERENCE NO. R-2561CA
SHEET NO. 6
ROADWAY DESIGN ENGINEER
PAVEMENT DESIGN ENGINEER
SEPI
DENOTES MECHANIZED CLEARING
DENOTES FILL IN WETLAND
GRAPHIC SCALE
NAD 83/NA 2011
MATCHLINE -RPB- STA. 16+00.00 SEE SHEET 7
MATCHLINE -L- STA. 46+00.00 SEE SHEET 7
MATCHLINE -Y2A- STA. 16+50.00 SEE SHEET 5
MATCHLINE -L- STA. 33+00.00 SEE SHEET 5
SEE INSET 6A
SITE 3
SEE SHEET 16 & 17 FOR -L- PROFILE
SEE SHEET 21 FOR -RPB- PROFILE
SEE SHEET 26 FOR -Y2A- PROFILE
SEE SHEET 29 FOR DRAINAGE DITCH DETAILS

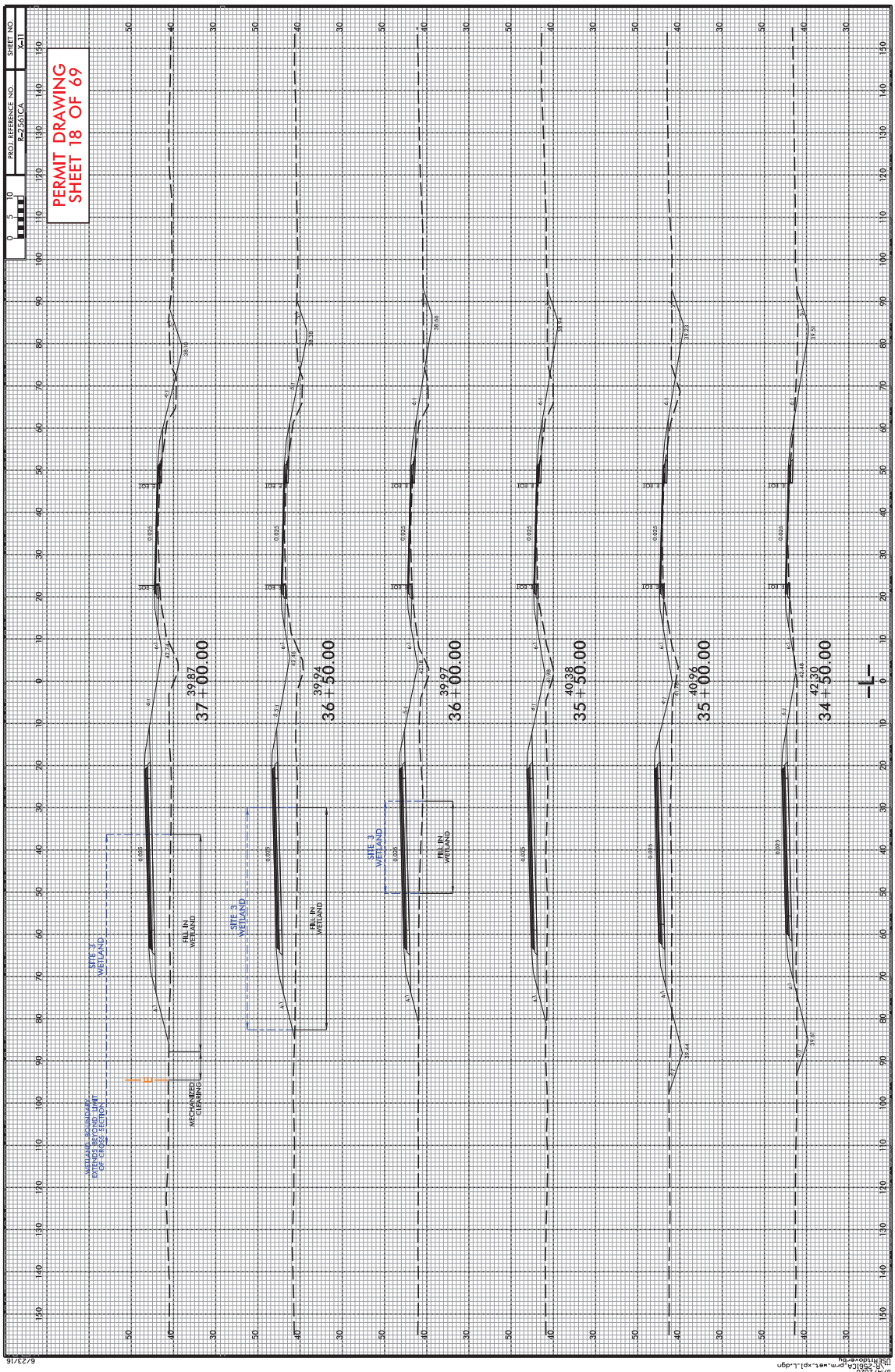


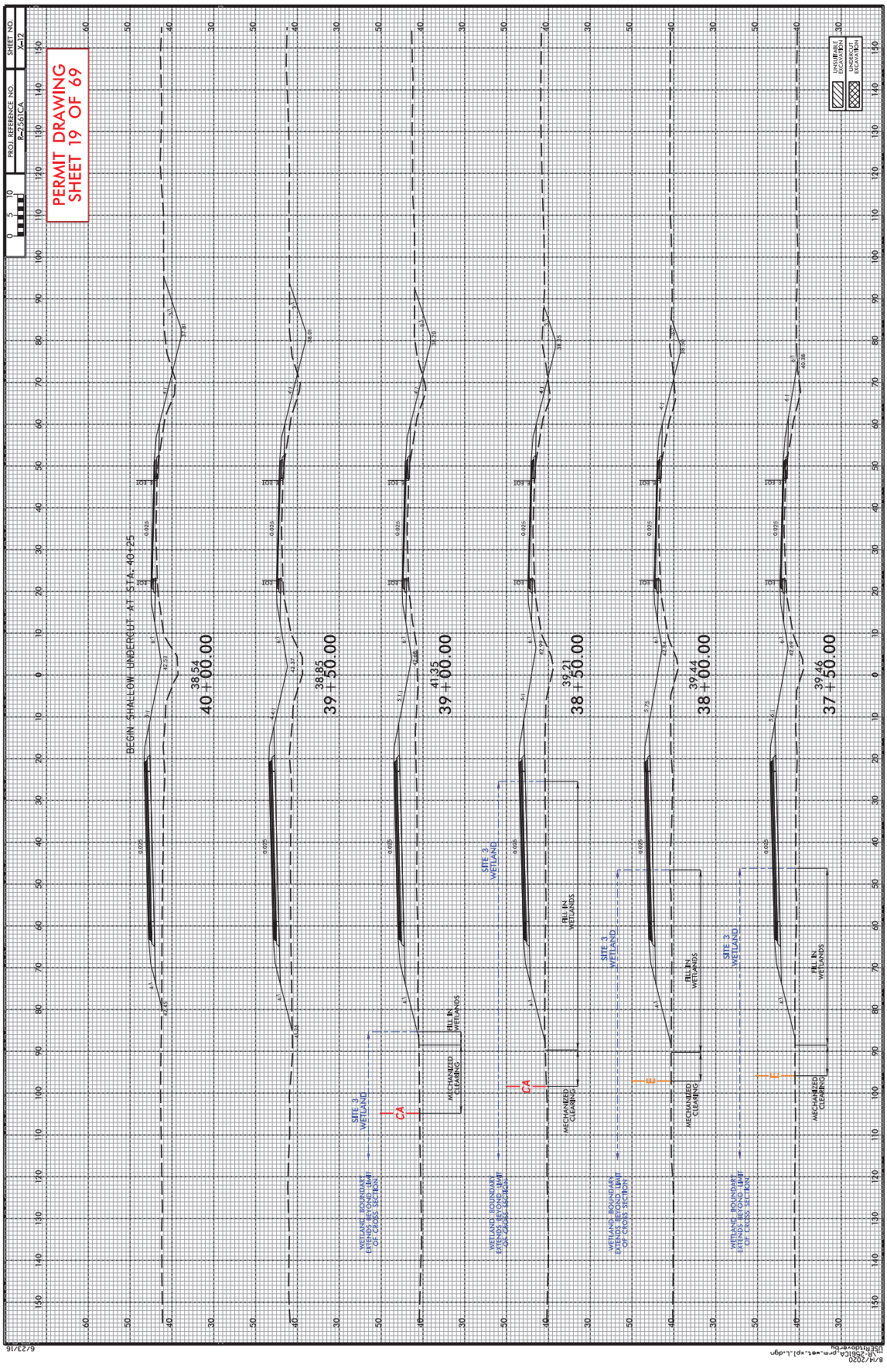
SEPI
Engineering & Construction, Inc.
1 Glenwood Avenue
Raleigh, NC 27603
Tel:(919)789-5977
Fax:(919)789-9591
Licensed C-2197
PROJECT REFERENCE NO.
R-2561CA
SHEET NO.
6A
ROADWAY DESIGN ENGINEER
PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
DETAIL 27
TOE PROTECTION
(Not to Scale)
Natural Ground
3:1 or Flatter Fill Slope
Geotextile
d= 1.0 Ft.
b= 2.0 Ft.
TYpe of Liner= Class B Rip-Rap
FROM STA. 36+40 TO STA. 39+00 -L- LT
DENOTES MECHANIZED CLEARING
DENOTES FILL IN WETLAND
PERMIT DRAWING
SHEET 16 OF 69
25' 12.5' 0' 25'
GRAPHIC SCALE
INSET 6A
COREY C SHAW
RUINS
SITE 3
WOODS
CLASS B RIP RAP
TOE PROTECTION
SEE DETAIL 27, PSH 2D-1
15' BELLSOUTH UTILITY ESMT.
MEDIAN 'V' DITCH
SEE DETAIL 9, PSH 2D-1
2GI-A
REMOVE
18" RCP-III
30" RCP-III
24" RCP
NC 87 (OLD STAGE HWY)
32' PAVED ROADWAY
FALSE SUMP



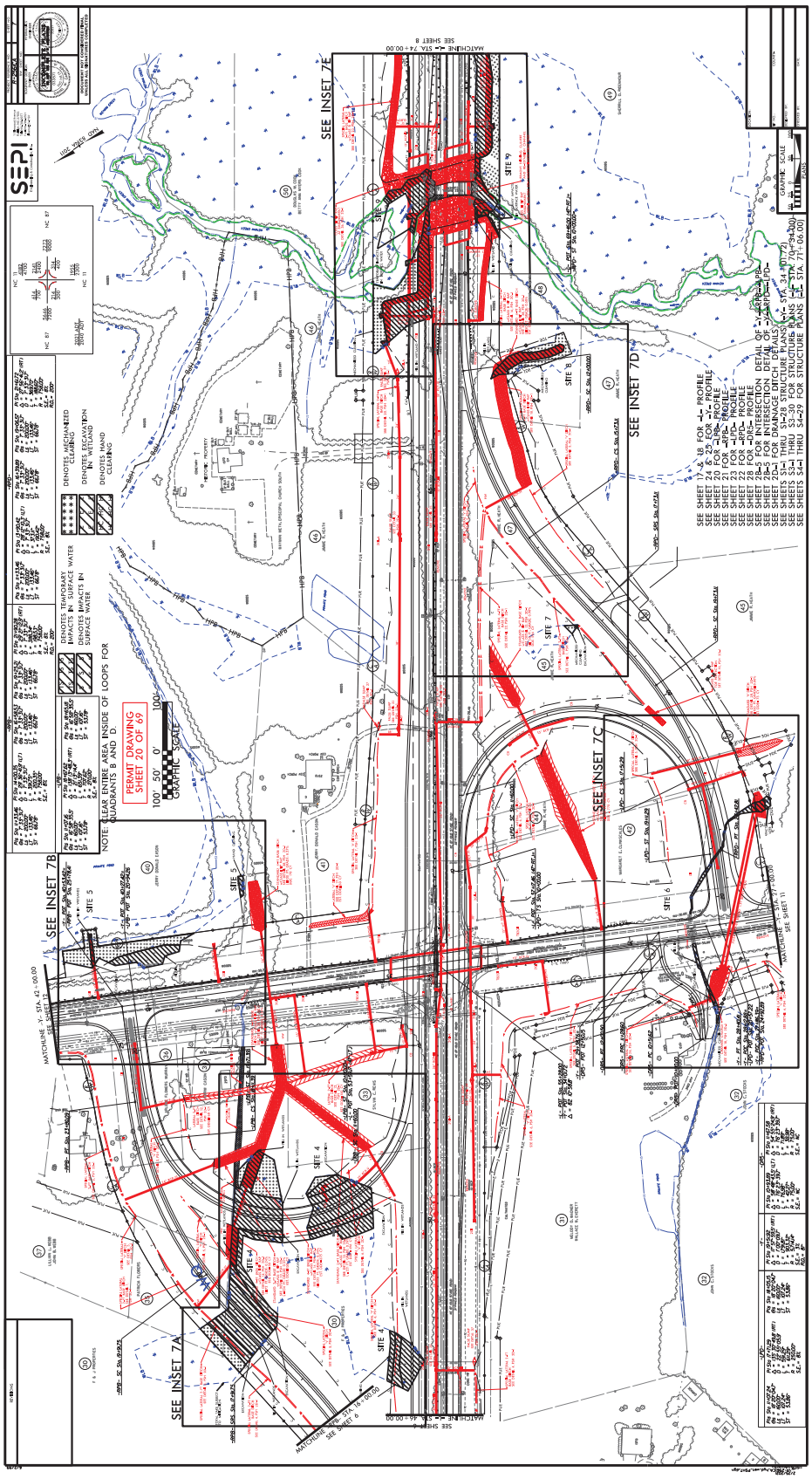
SEPI
Engineering & Construction, Inc.
1 Glenwood Avenue
Raleigh, NC 27603
Tel:(919)789-5977
Fax:(919)789-5591
Licensed C-2197
PROJECT REFERENCE NO.
R-2561CA
SHEET NO.
6A
ROADWAY DESIGN ENGINEER
PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
DETAIL 27
TOE PROTECTION
(Not to Scale)
Natural Ground
3:1 or Flatter Fill Slope
b
d
Geotextile
d= 1.0 Ft.
b= 2.0 Ft.
Type of Liner= Class B Rip-Rap
FROM STA. 36+40 TO STA. 39+00 -L- LT
DENOTES MECHANIZED CLEARING
DENOTES FILL IN WETLAND
PERMIT DRAWING
SHEET 17 OF 69
25' 12.5' 0' 25'
GRAPHIC SCALE
INSET 6A
COREY C SHAW
RUINS
SITE 3
WOODS
CLASS B RIP RAP
TOE PROTECTION
SEE DETAIL 27, PSH 2D-1
C
A
R
W
15' BELLSOUTH UTILITY ESMT.
MEDIAN 'V' DITCH
SEE DETAIL 9, PSH 2D-1
2GI-A
REMOVE
18" RCP-III
30" RCP-III
REMOVE
24" RCP
30" RCP-III
NC 87 (OLD STAGE HWY)
32' PAVED ROADWAY
FALSE SUMP
6/2/99
8/21/2020
R-2561CA_hyd_wet_PSH6A_Contours.dgn

P-40

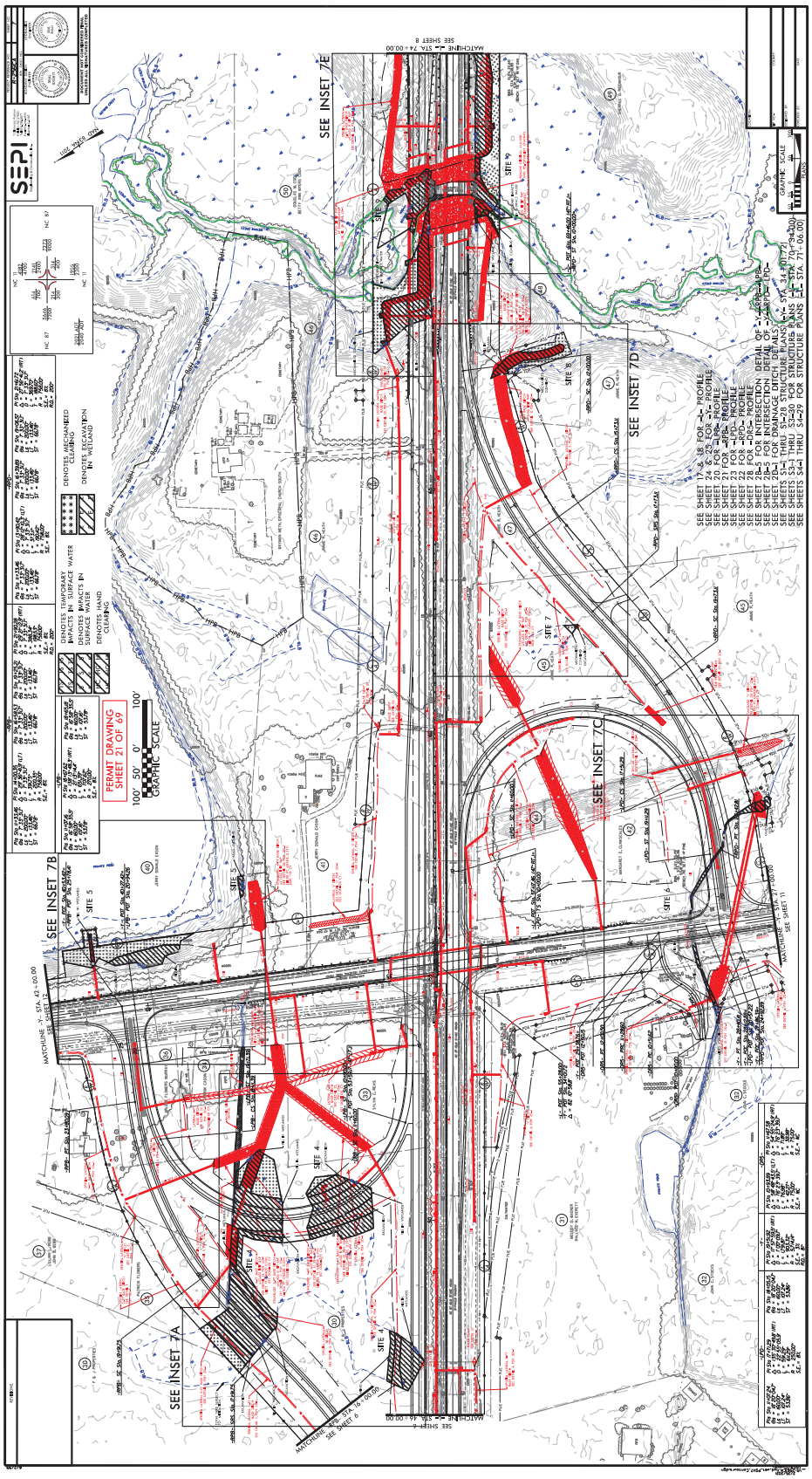

PERMIT DRAWING
SHEET 18 OF 69
PROJ REFERENCE NO
R-2561CA
SHEET NO
37+00.00
36+50.00
36+00.00
35+50.00
35+00.00
34+50.00
SITE 3
WETLAND
FILL IN
WETLAND
MECHANIZED
CLEARING
WETLAND BOUNDARY
EXTENDS BEYOND LIMIT
OF CROSS SECTION
-L-

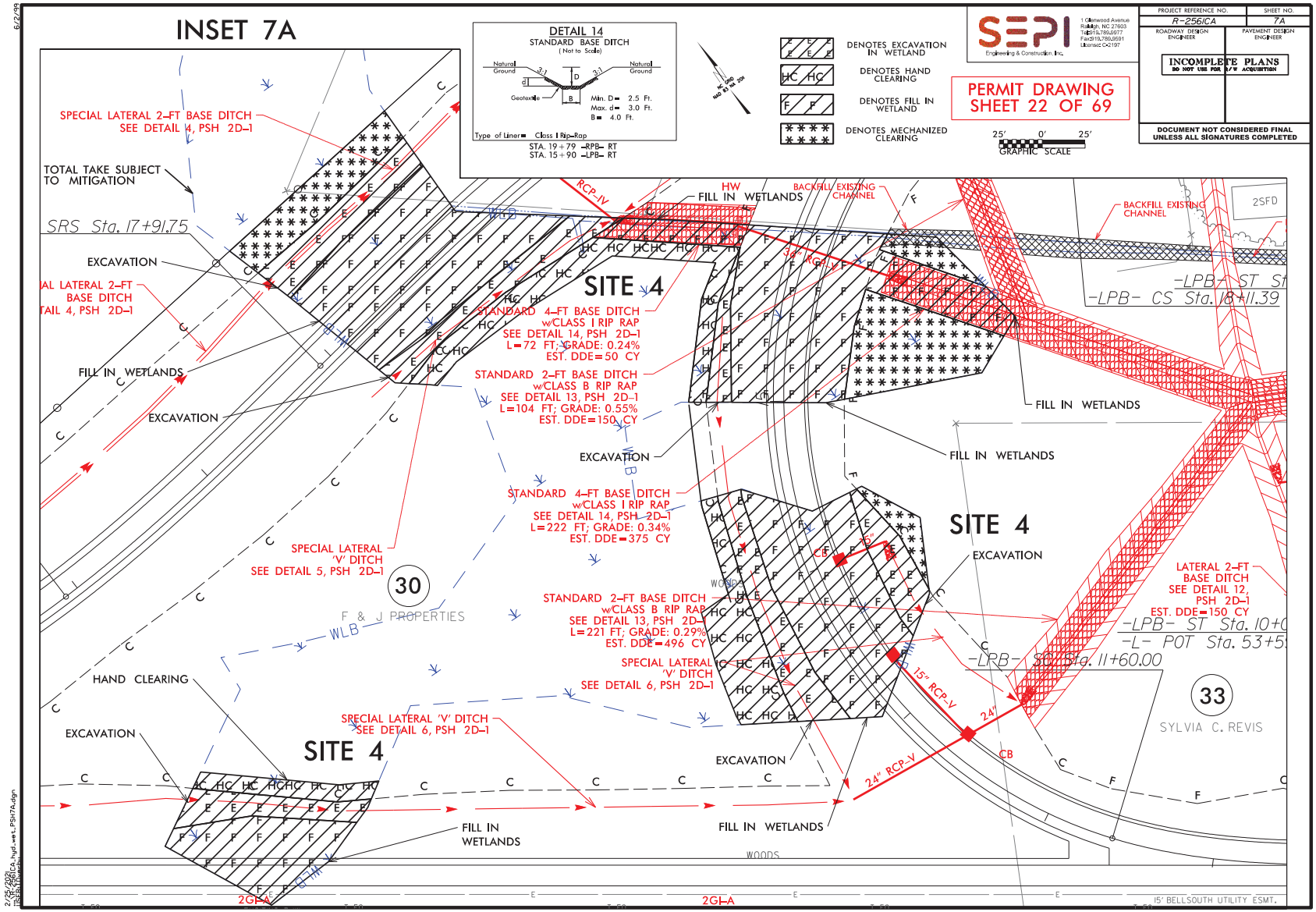

PERMIT DRAWING
SHEET 19 OF 69
PROJ. REFERENCE NO.
R-2561CA
SHEET NO.
X-12
BEGIN SHALLOW UNDERCUT AT STA. 40+25
40+00.00
39+50.00
39+00.00
38+50.00
38+00.00
37+50.00
SITE 3 WETLAND
FILL IN WETLANDS
MECHANIZED CLEARING
WETLAND BOUNDARY EXTENDS BEYOND LIMIT OF CROSS SECTION
UNSUITABLE EXCAVATION
UNDERCUT EXCAVATION

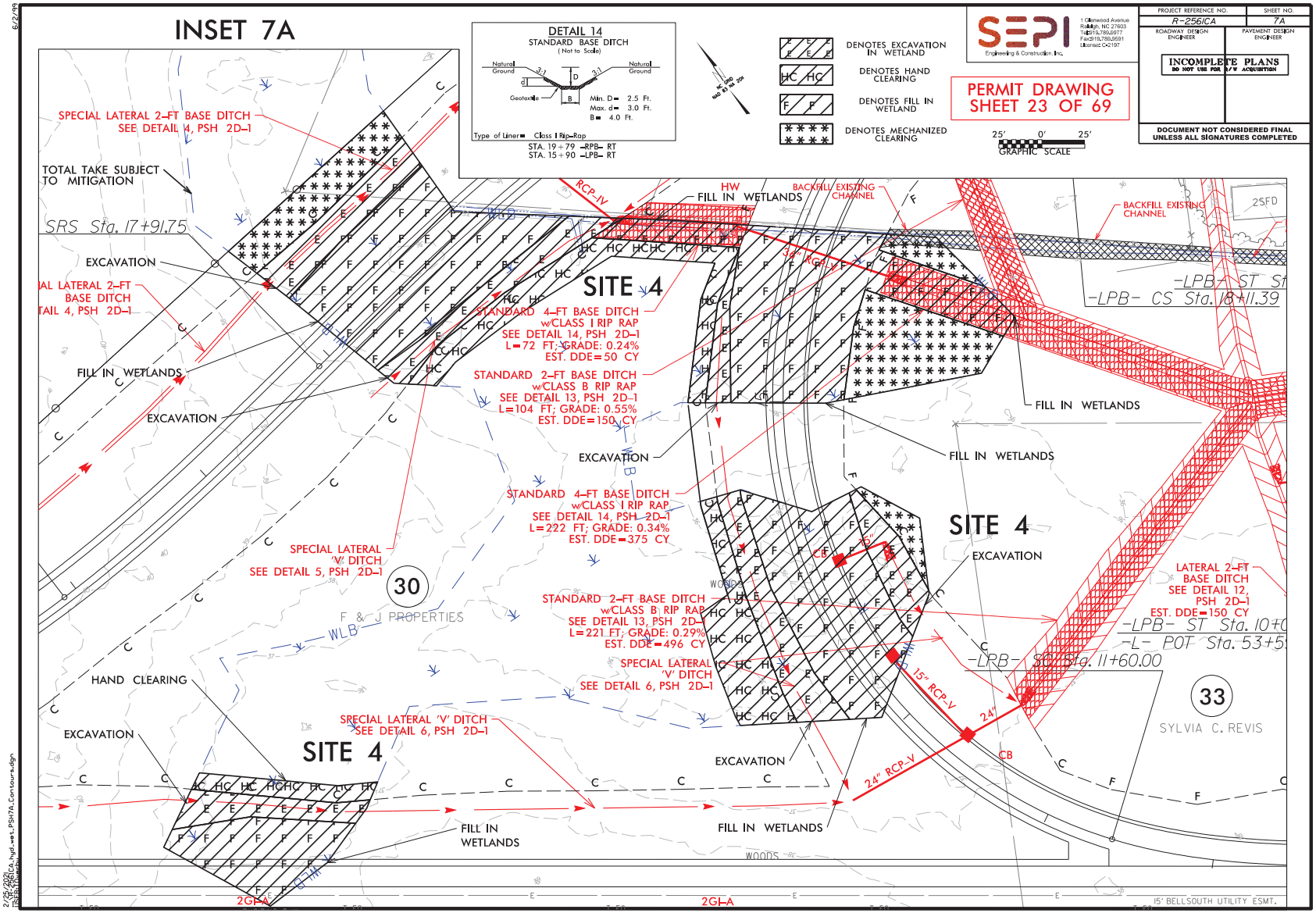
P-42

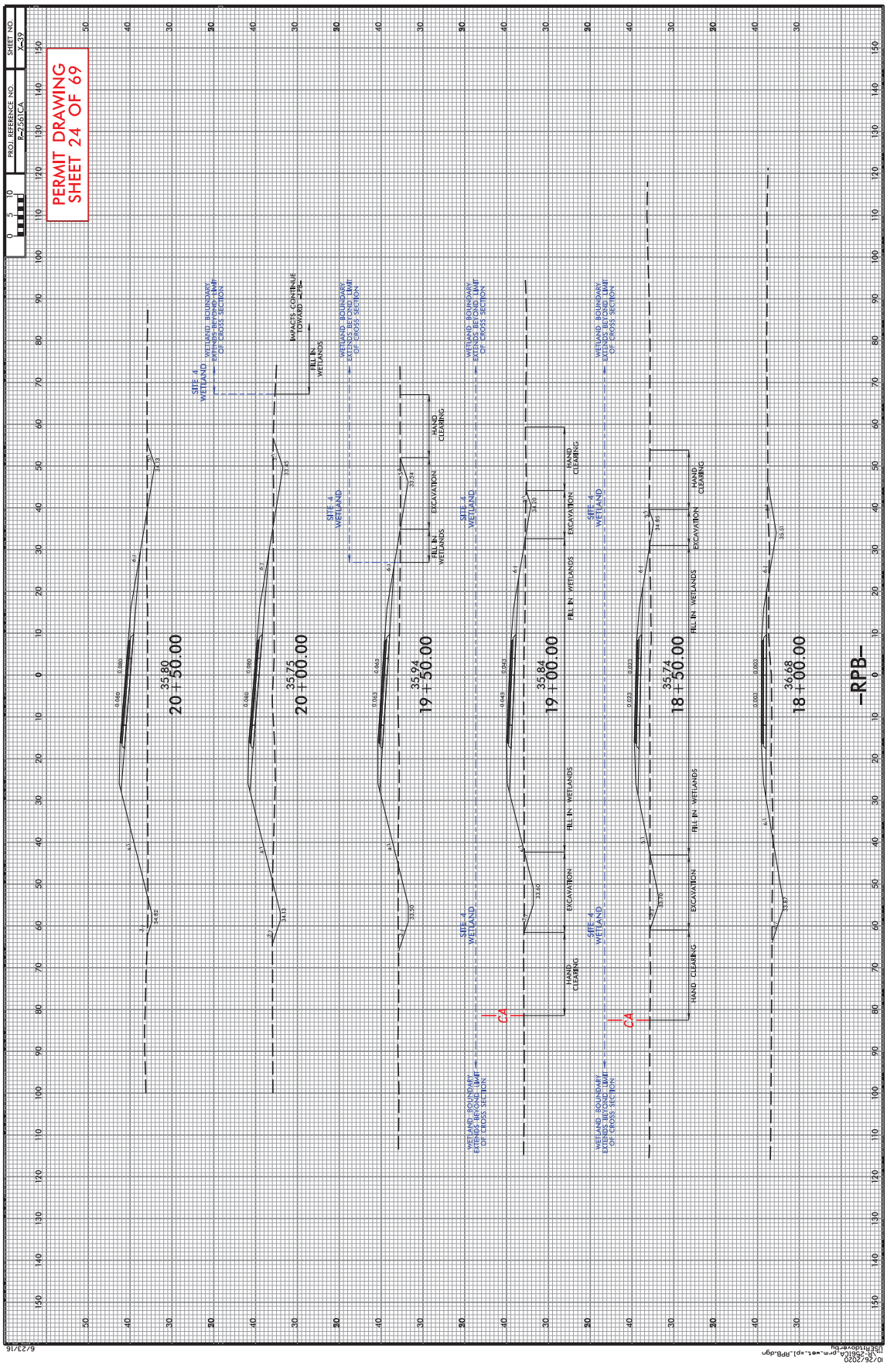

SEE INSET 7E
SEE INSET 7D
SEE INSET 7C
SEE INSET 7B
SEE INSET 7A
PERMIT DRAWING
SHEET 20 OF 69
GRAPHIC SCALE
NOTE: CLEAR ENTIRE AREA INSIDE OF LOOPS FOR QUADRANTS B AND D.
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES IMPACTS IN SURFACE WATER
DENOTES SELECTIVE CLEARING
DENOTES EXCAVATION IN WETLAND
DENOTES HAND CLEARING

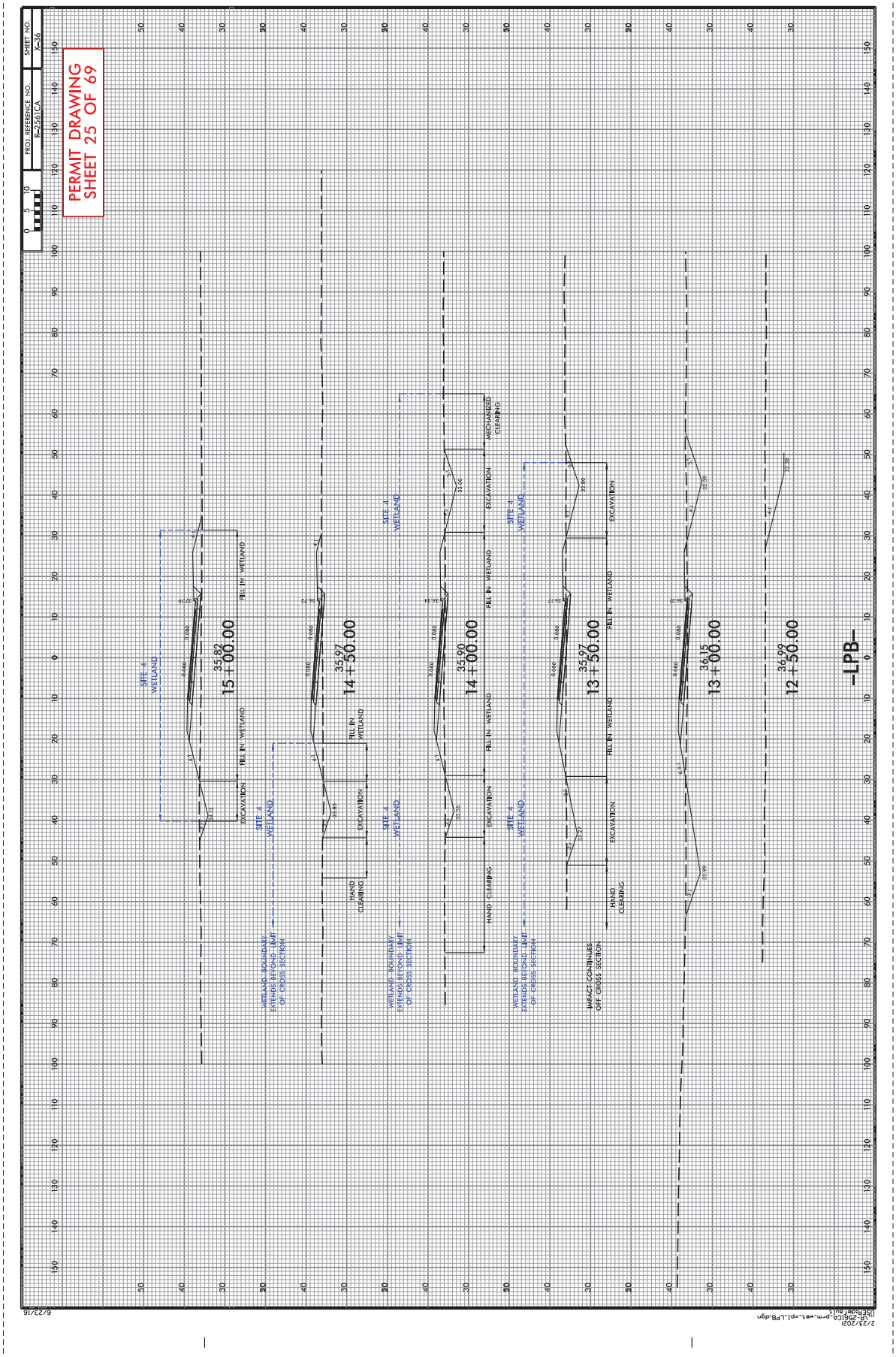
P-43

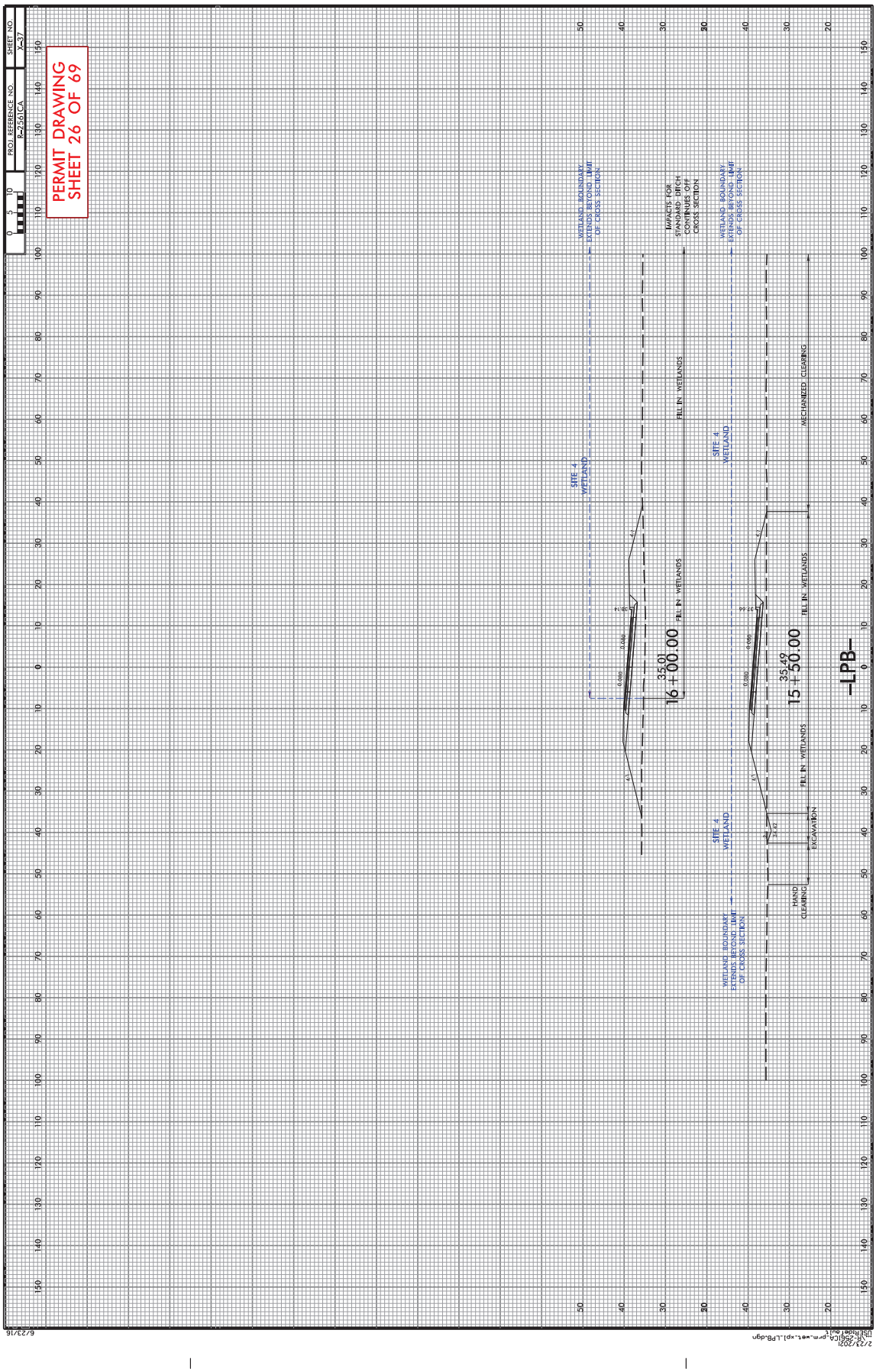

SEE INSET 7A
SEE INSET 7B
SEE INSET 7C
SEE INSET 7D
SEE INSET 7E
PERMIT DRAWING
SHEET 21 OF 69
GRAPHIC SCALE
100' 50' 0' 100'
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES IMPACTS IN SURFACE WATER
DENOTES HAND CLEARING
DENOTES MECHANIZED CLEARING
DENOTES EXCAVATION IN WETLAND
SEPI

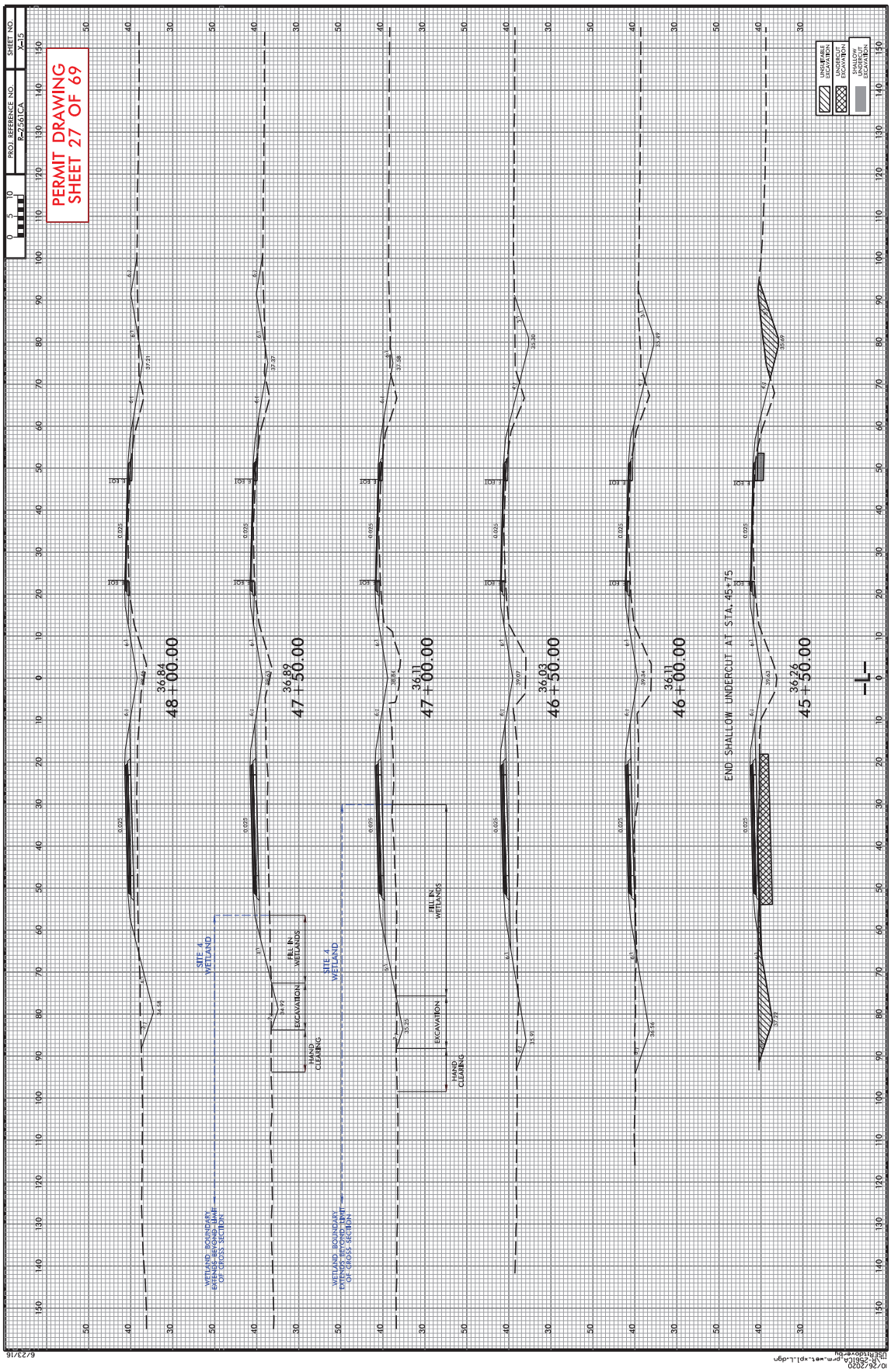

INSET 7A
DETAIL 14
STANDARD BASE DITCH
(Not to Scale)
Natural Ground
Geotextile
Min. D= 2.5 Ft.
Max. d= 3.0 Ft.
B= 4.0 Ft.
Type of Liner= Class I Rip-Rap
STA. 19+79 -RPB- RT
STA. 15+90 -LPB- RT
DENOTES EXCAVATION IN WETLAND
DENOTES HAND CLEARING
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
SEPI
Engineering & Construction, Inc.
PERMIT DRAWING
SHEET 22 OF 69
GRAPHIC SCALE
PROJECT REFERENCE NO.
R-2561CA
SHEET NO.
7A
ROADWAY DESIGN ENGINEER
PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
SPECIAL LATERAL 2-FT BASE DITCH
SEE DETAIL 4, PSH 2D-1
TOTAL TAKE SUBJECT TO MITIGATION
SRS Sta. 17+91.75
EXCAVATION
FILL IN WETLANDS
SITE 4
STANDARD 4-FT BASE DITCH
w/CLASS I RIP RAP
SEE DETAIL 14, PSH 2D-1
L=72 FT; GRADE: 0.24%
EST. DDE=50 CY
STANDARD 2-FT BASE DITCH
w/CLASS B RIP RAP
SEE DETAIL 13, PSH 2D-1
L=104 FT; GRADE: 0.55%
EST. DDE=150 CY
STANDARD 4-FT BASE DITCH
w/CLASS I RIP RAP
SEE DETAIL 14, PSH 2D-1
L=222 FT; GRADE: 0.34%
EST. DDE=375 CY
STANDARD 2-FT BASE DITCH
w/CLASS B RIP RAP
SEE DETAIL 13, PSH 2D-1
L=221 FT; GRADE: 0.29%
EST. DDE=496 CY
SPECIAL LATERAL 'V' DITCH
SEE DETAIL 5, PSH 2D-1
SPECIAL LATERAL 'V' DITCH
SEE DETAIL 6, PSH 2D-1
SPECIAL LATERAL 'V' DITCH
SEE DETAIL 6, PSH 2D-1
HAND CLEARING
30
F & J PROPERTIES
33
SYLVIA C. REVIS
BACKFILL EXISTING CHANNEL
-LPB- CS Sta. 18+11.39
LATERAL 2-FT BASE DITCH
SEE DETAIL 12, PSH 2D-1
EST. DDE=150 CY
-LPB- ST Sta. 10+0
-L- POT Sta. 53+5
-LPB- SC Sta. 11+60.00
15" RCP-V
24" RCP-V
24"
CB
RCP-IV
HW
WLB
WOODS
2GI-A
15' BELLSOUTH UTILITY ESMT.
6/2/99
2/25/2021
R-2561CA_hyd_wet_PSH7A.dgn


INSET 7A
DETAIL 14
STANDARD BASE DITCH
(Not to Scale)
Natural Ground
Geotextile
Min. D= 2.5 Ft.
Max. d= 3.0 Ft.
B= 4.0 Ft.
Type of Liner= Class I Rip-Rap
STA. 19+79 -RPB- RT
STA. 15+90 -LPB- RT
DENOTES EXCAVATION IN WETLAND
DENOTES HAND CLEARING
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
GRAPHIC SCALE
SEPI
Engineering & Construction, Inc.
PERMIT DRAWING
SHEET 23 OF 69
PROJECT REFERENCE NO.
R-2561CA
SHEET NO.
7A
ROADWAY DESIGN ENGINEER
PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
SPECIAL LATERAL 2-FT BASE DITCH
SEE DETAIL 4, PSH 2D-1
TOTAL TAKE SUBJECT TO MITIGATION
SRS Sta. 17+91.75
EXCAVATION
FILL IN WETLANDS
SITE 4
STANDARD 4-FT BASE DITCH
w/CLASS I RIP RAP
SEE DETAIL 14, PSH 2D-1
L=72 FT; GRADE: 0.24%
EST. DDE=50 CY
STANDARD 2-FT BASE DITCH
w/CLASS B RIP RAP
SEE DETAIL 13, PSH 2D-1
L=104 FT; GRADE: 0.55%
EST. DDE=150 CY
STANDARD 4-FT BASE DITCH
w/CLASS I RIP RAP
SEE DETAIL 14, PSH 2D-1
L=222 FT; GRADE: 0.34%
EST. DDE=375 CY
STANDARD 2-FT BASE DITCH
w/CLASS B RIP RAP
SEE DETAIL 13, PSH 2D-1
L=221 FT; GRADE: 0.29%
EST. DDE=496 CY
SPECIAL LATERAL 'V' DITCH
SEE DETAIL 5, PSH 2D-1
SPECIAL LATERAL 'V' DITCH
SEE DETAIL 6, PSH 2D-1
SPECIAL LATERAL 'V' DITCH
SEE DETAIL 6, PSH 2D-1
HAND CLEARING
30
F & J PROPERTIES
33
SYLVIA C. REVIS
BACKFILL EXISTING CHANNEL
LATERAL 2-FT BASE DITCH
SEE DETAIL 12, PSH 2D-1
EST. DDE=150 CY
-LPB- ST Sta. 10+0
-L- POT Sta. 53+5
-LPB- SB Sta. 11+60.00
-LPB- CS Sta. 18+11.39
15" RCP-V
24" RCP-V
24"
CB
2GI-A
15' BELLSOUTH UTILITY ESMT.
WOODS
WLB
2SFD


PERMIT DRAWING
SHEET 24 OF 69
PROJ. REFERENCE NO.
R-2561CA
SHEET NO.
X-39
35.80
20+50.00
35.75
20+00.00
35.94
19+50.00
35.84
19+00.00
35.74
18+50.00
36.68
18+00.00
-RPB-
SITE 4 WETLAND
WETLAND BOUNDARY EXTENDS BEYOND LIMIT OF CROSS SECTION
IMPACTS CONTINUE TOWARD -RPB-
FILL IN WETLANDS
EXCAVATION
HAND CLEARING
CA


PERMIT DRAWING
SHEET 25 OF 69
PROJ. REFERENCE NO.
R-2561CA
SHEET NO.
X-36
SITE 4 WETLAND
35.82
15+00.00
35.97
14+50.00
35.90
14+00.00
35.97
13+50.00
36.15
13+00.00
36.99
12+50.00
FILL IN WETLAND
EXCAVATION
HAND CLEARING
MECHANIZED CLEARING
WETLAND BOUNDARY EXTENDS BEYOND LIMIT OF CROSS SECTION
IMPACT CONTINUES OFF CROSS SECTION
-LPB-
6/23/16
2/23/2021


PERMIT DRAWING
SHEET 26 OF 69
PROJ. REFERENCE NO.
R-2561CA
SHEET NO.
X-37
SITE 4 WETLAND
WETLAND BOUNDARY EXTENDS BEYOND LIMIT OF CROSS SECTION
IMPACTS FOR STANDARD DITCH CONTINUES OFF CROSS SECTION
FILL IN WETLANDS
MECHANIZED CLEARING
EXCAVATION
HAND CLEARING
35.01
16+00.00
35.49
15+50.00
-LPB-


PERMIT DRAWING
SHEET 27 OF 69
PROJ. REFERENCE NO.
R-2561CA
SHEET NO.
X-15
48+00.00
47+50.00
47+00.00
46+50.00
46+00.00
45+50.00
36.84
36.89
36.11
36.03
36.11
36.26
END SHALLOW UNDERCUT AT STA. 45+75
SITE 4 WETLAND
FILL IN WETLANDS
EXCAVATION
HAND CLEARING
WETLAND BOUNDARY EXTENDS BEYOND LIMIT OF CROSS SECTION
UNSUITABLE EXCAVATION
UNDERCUT EXCAVATION
SHALLOW UNDERCUT EXCAVATION
-L-

SEPI Engineering & Construction, Inc.
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.5977
Fax:919.789.9591
Licensed C-2197

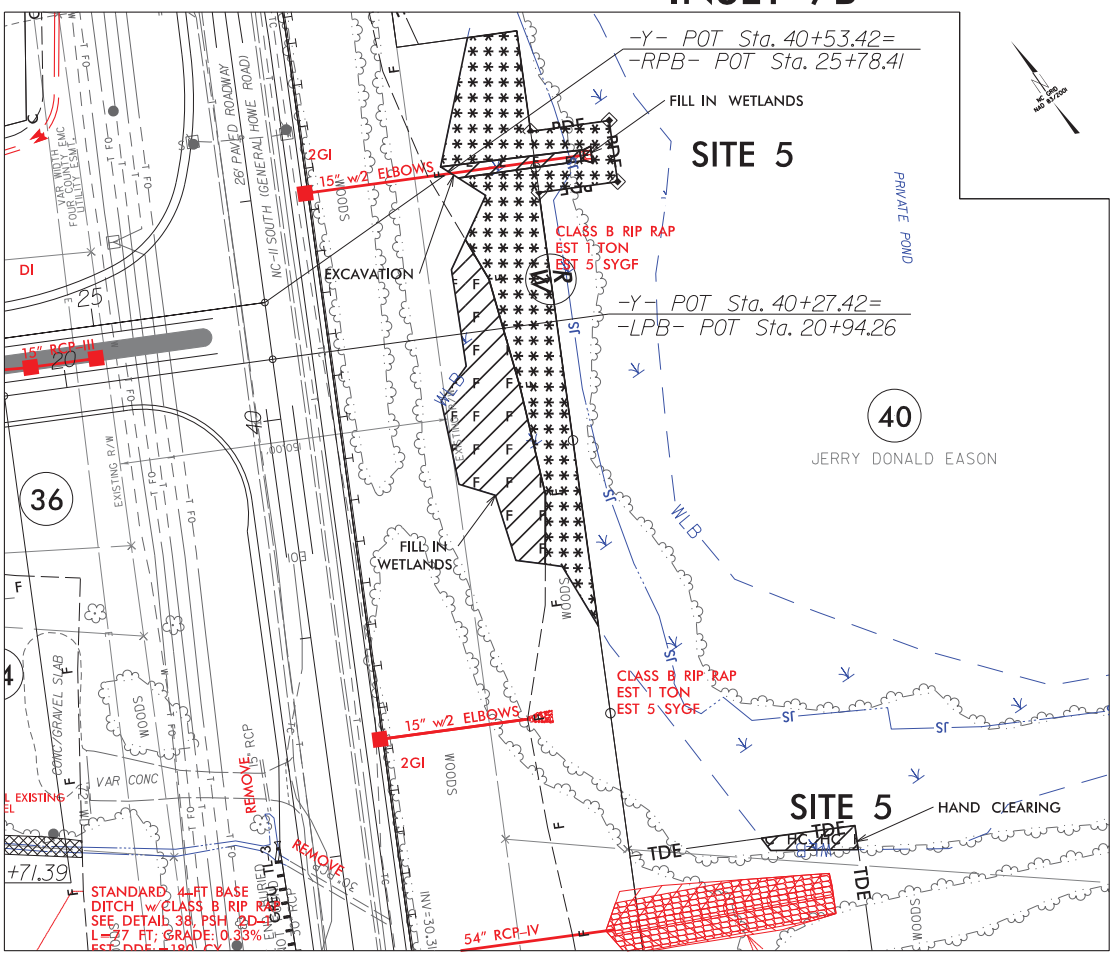
PROJECT REFERENCE NO.	SHEET NO.
R-2561CA	7B
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 28 OF 69

INSET 7B



DENOTES HAND CLEARING

DENOTES EXCAVATION IN WETLAND

DENOTES MECHANIZED CLEARING

25' 0' 25'
GRAPHIC SCALE

6/2/99

9/3/2020
R-2561CA_hyd_wet_PSH7B.dgn

SEPI Engineering & Construction, Inc.
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.5977
Fax:919.789.5591
Licensed C-2197

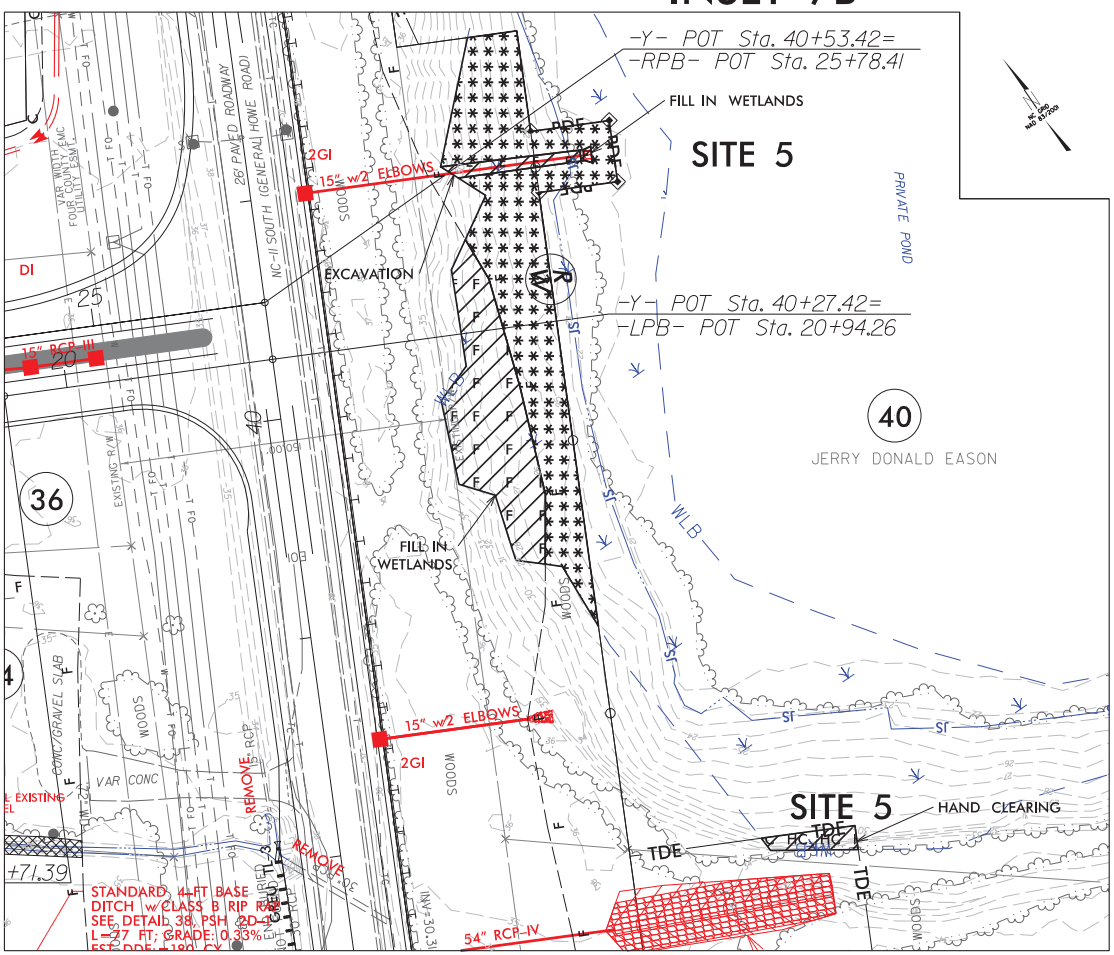
PROJECT REFERENCE NO.	SHEET NO.
R-2561CA	7B
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

INSET 7B

PERMIT DRAWING
SHEET 29 OF 69



DENOTES HAND CLEARING

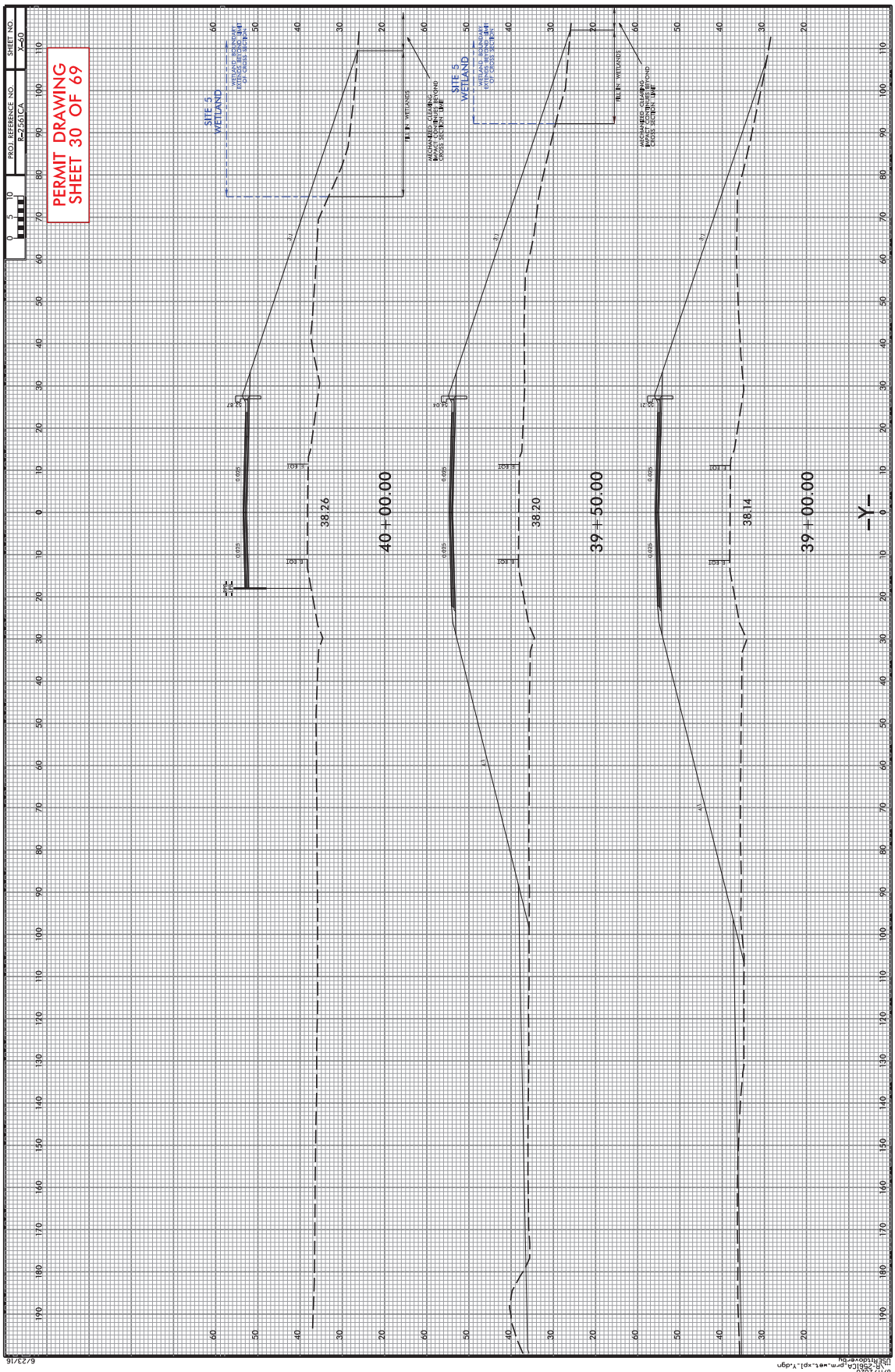
DENOTES EXCAVATION IN WETLAND

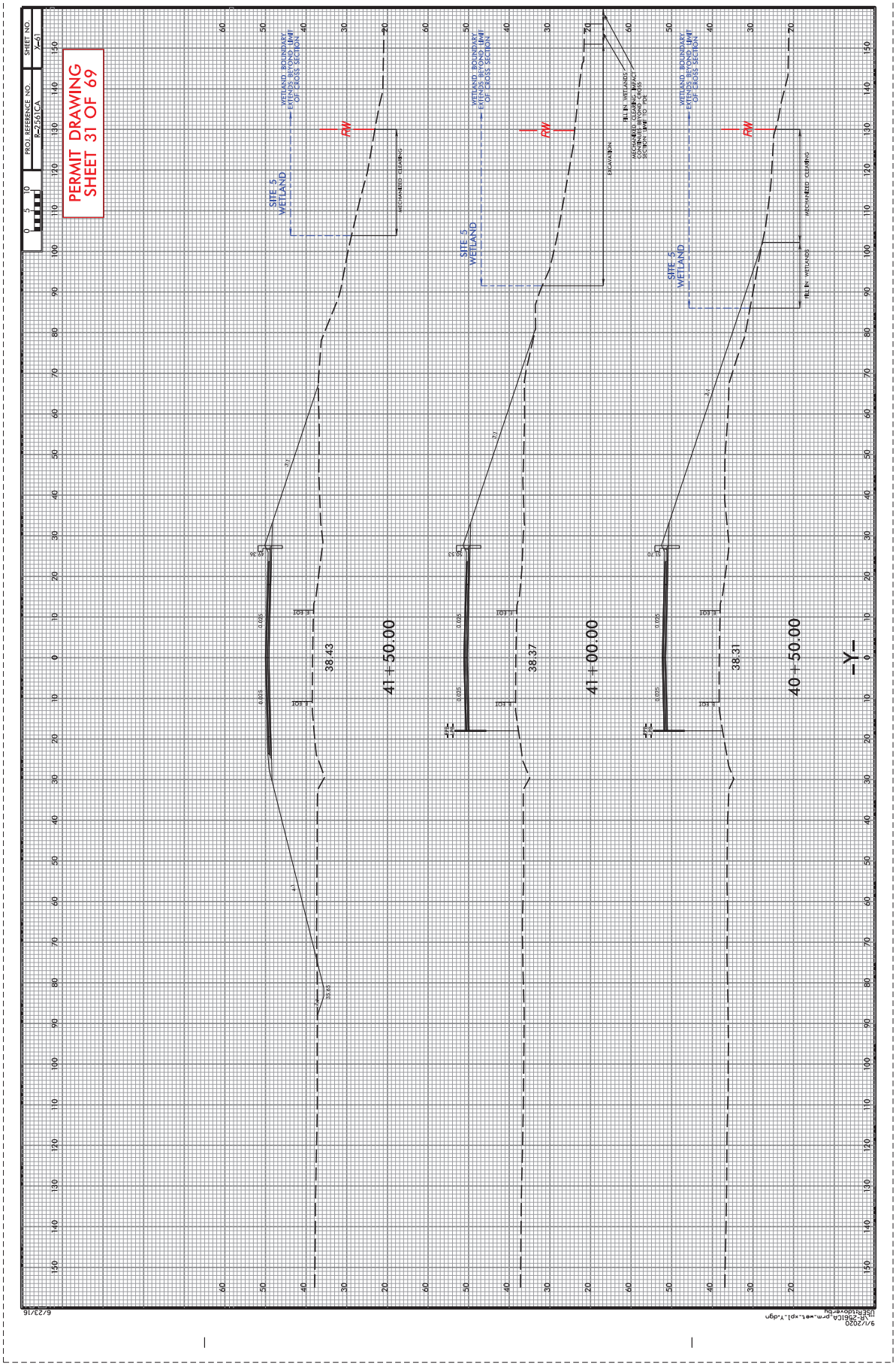
DENOTES MECHANIZED CLEARING

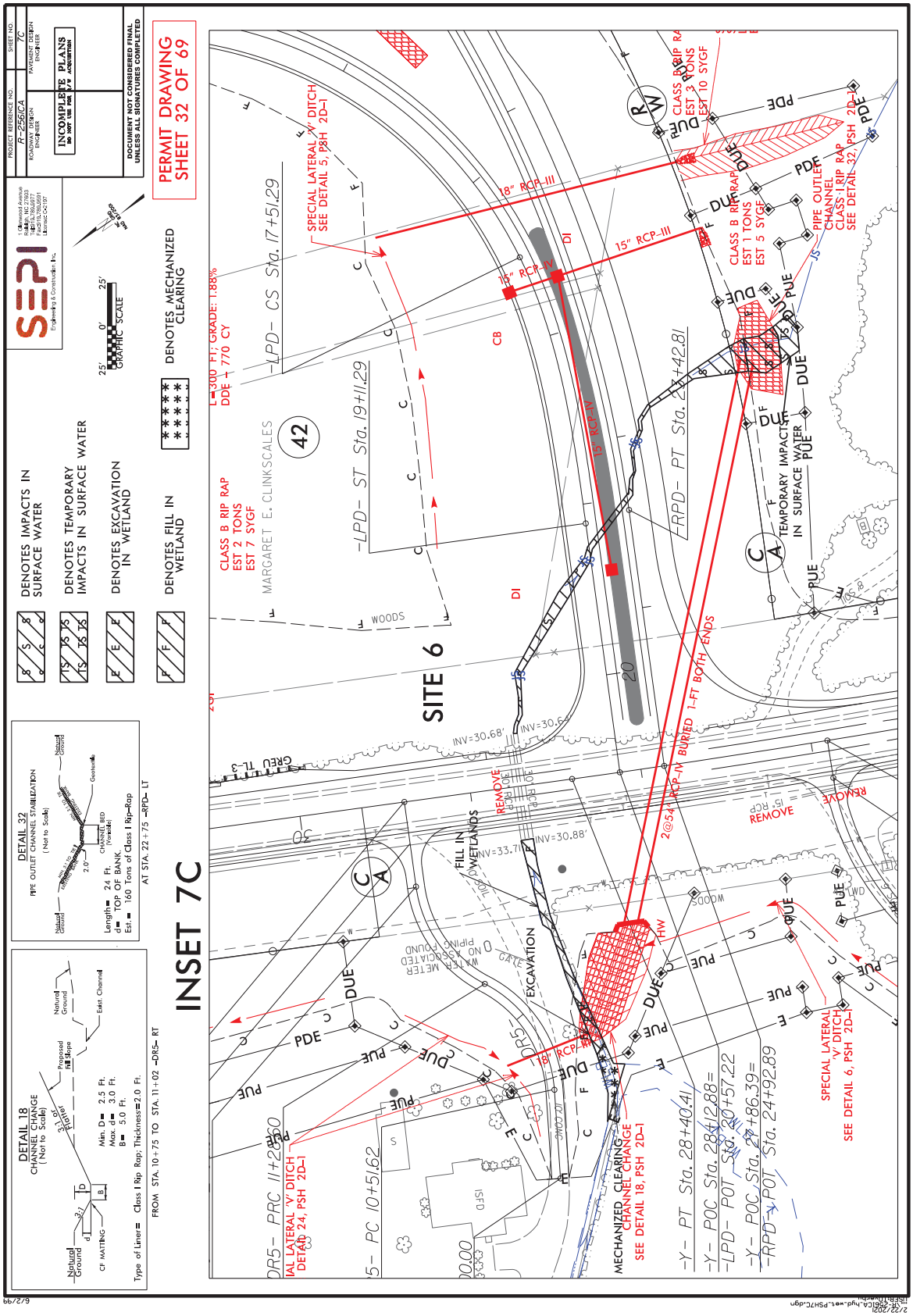
25' 0' 25'
GRAPHIC SCALE

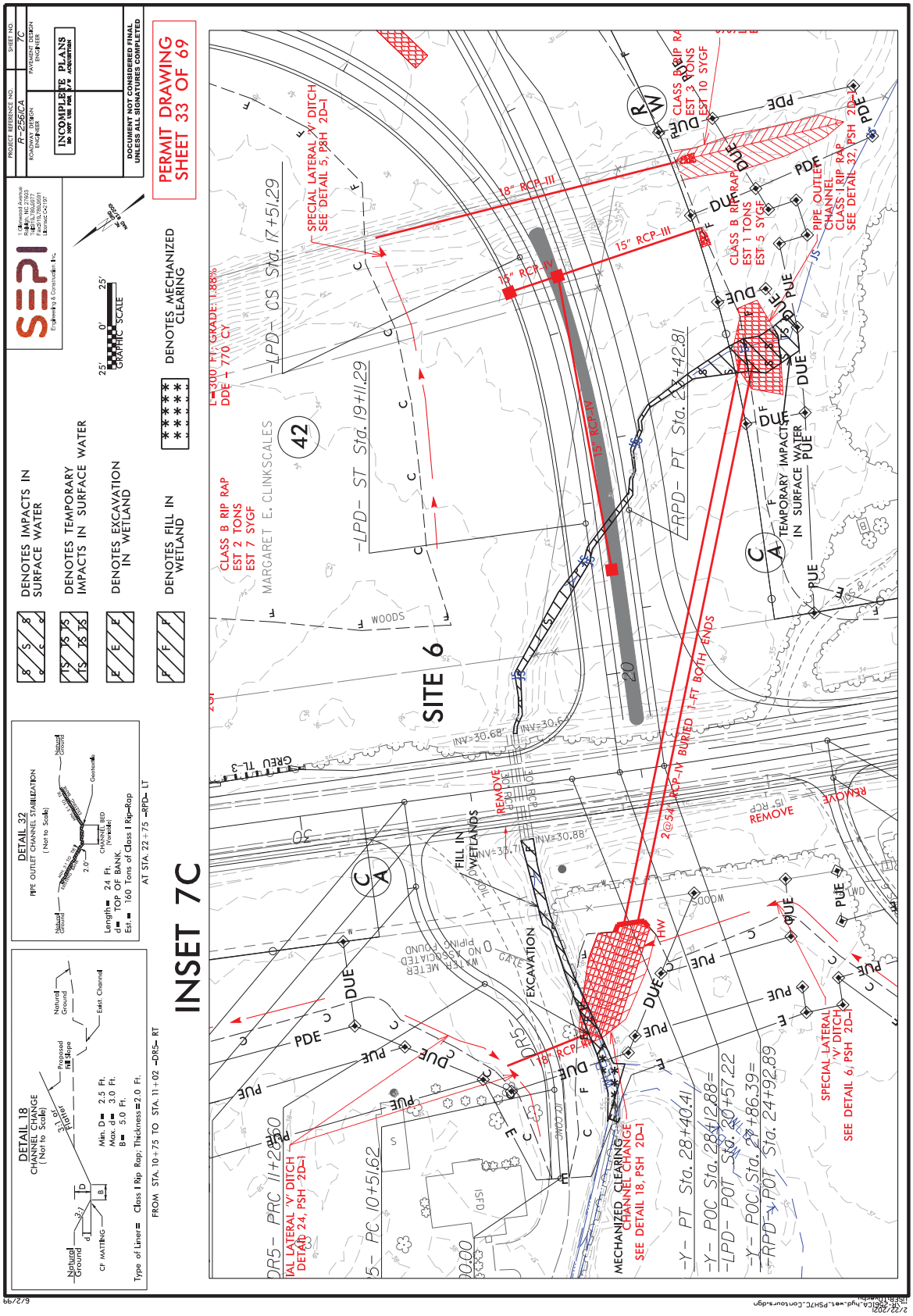
6/2/99

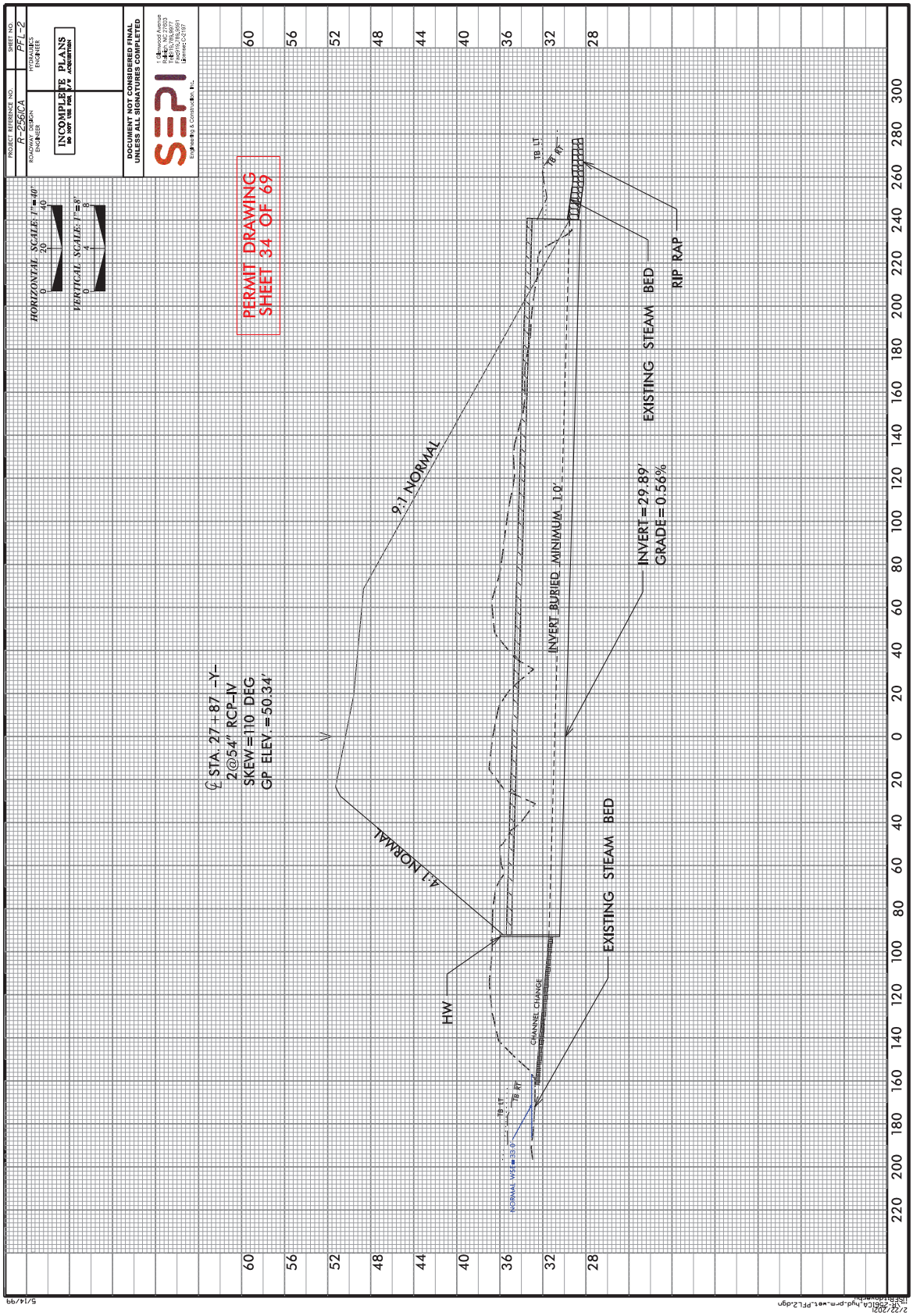
9/3/2020
R-2561CA_hyd_wet_PSH7B_Contours.dgn

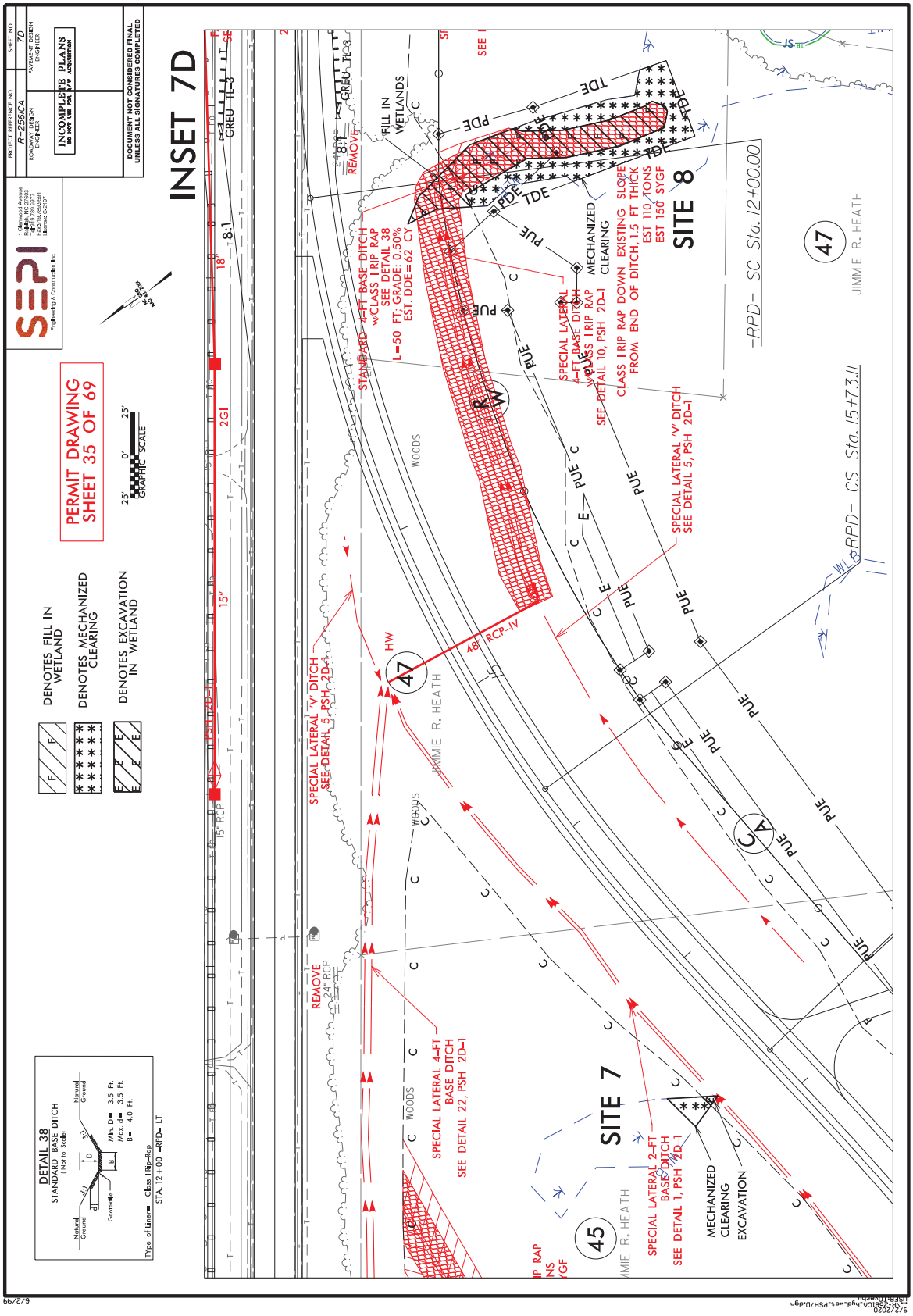

PERMIT DRAWING
SHEET 30 OF 69
SHEET NO.
PROJ REFERENCE NO.
SITE 5
WETLAND
SITE 5
WETLAND
40+00.00
39+50.00
39+00.00
38.26
38.20
38.14
-Y-

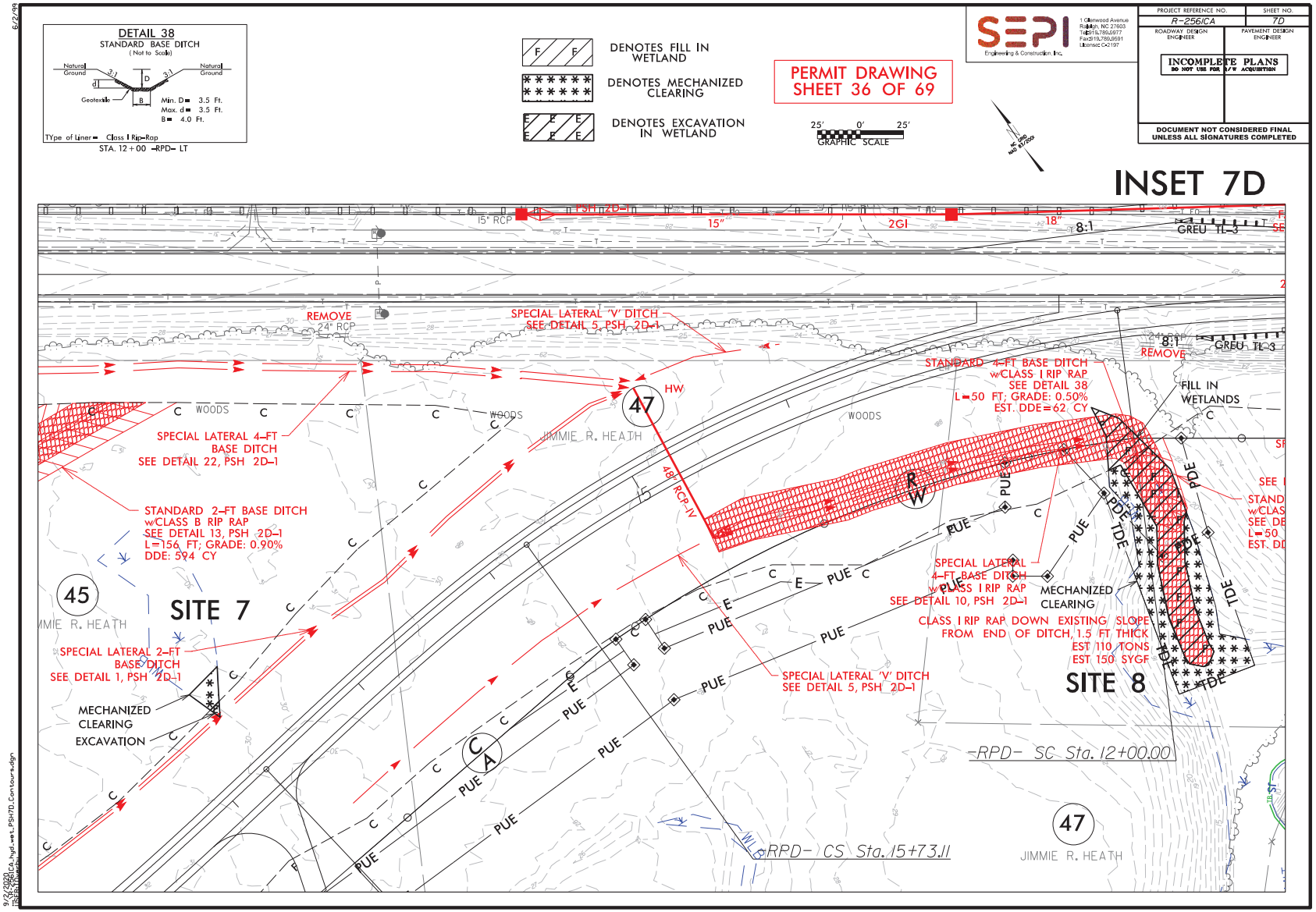

PERMIT DRAWING
SHEET 31 OF 69
SHEET NO.
PROJ REFERENCE NO.
SITE 5 WETLAND
WETLAND BOUNDARY
EXTENDS BEYOND LIMIT
OF CROSS SECTION
MECHANIZED CLEARING
EXCAVATION
RW
41+50.00
41+00.00
40+50.00
38.43
38.37
38.31
-Y-

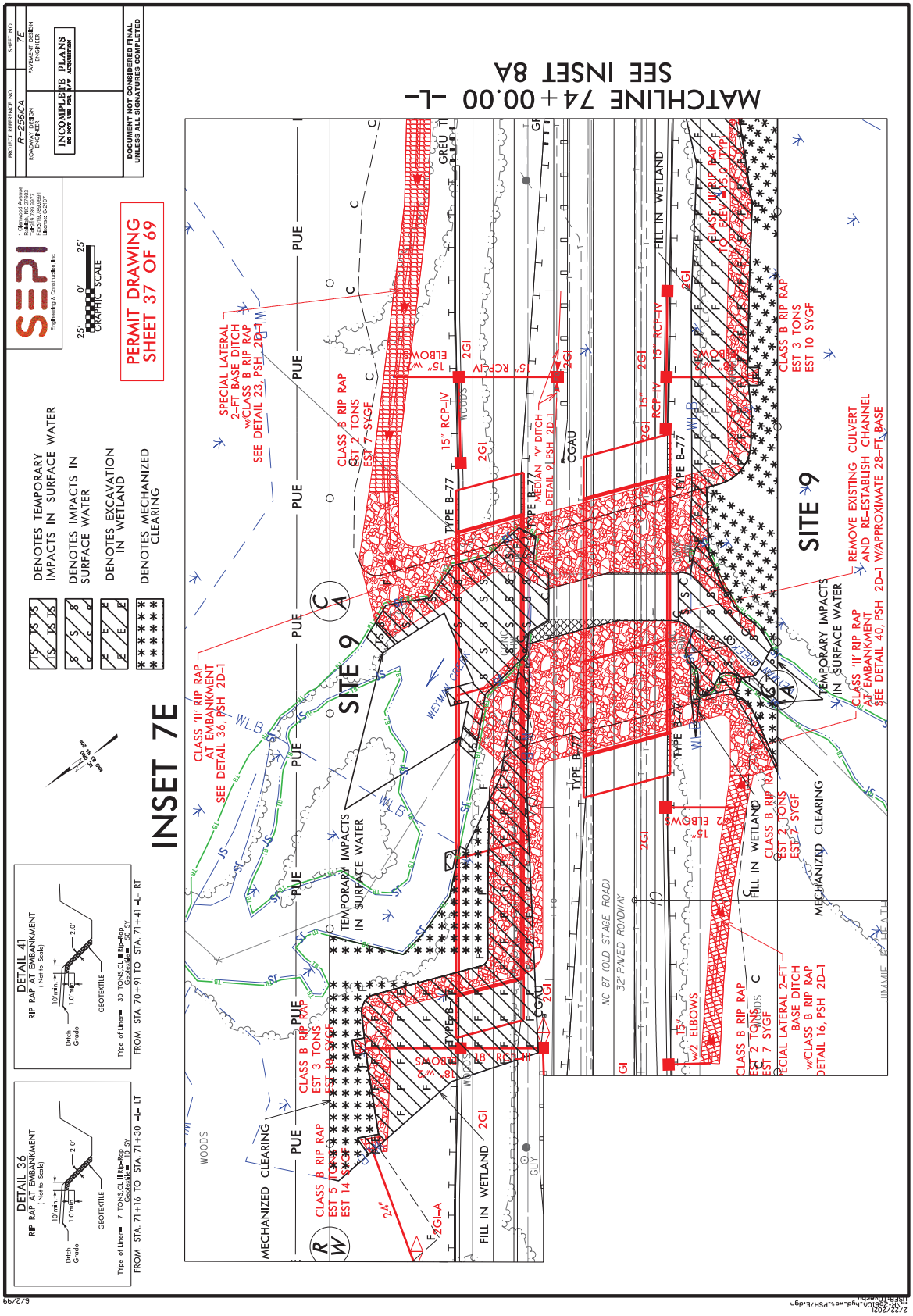

INSET 7C
SITE 6
PERMIT DRAWING
SHEET 32 OF 69
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES EXCAVATION IN WETLAND
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DETAIL 18
CHANNEL CHANGE
DETAIL 32
PIPE OUTLET CHANNEL STABILIZATION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PROJECT REFERENCE NO. R-2561CA
SHEET NO. 7C
-LPD- CS Sta. 17+51.29
-LPD- ST Sta. 19+11.29
-RPD- PT Sta. 21+42.81
-Y- PT Sta. 28+40.41
-LPD- POT Sta. 28+12.88
-Y- POC Sta. 28+57.22
-Y- POC Sta. 27+86.39
-RPD- POT Sta. 24+92.89
-DR5- PRC 11+28.00
-DR5- PC 10+51.62
MARGARET E. CLINKSCALES
CLASS B RIP RAP
EST 2 TONS
EST 7 SYGF
L=300 FT; GRADE: 1.88%
DDE = 770 CY
SPECIAL LATERAL 'V' DITCH
SEE DETAIL 5, PSH 2D-1
18" RCP-III
15" RCP-III
15" RCP-IV
2@54" RCP-IV BURIED 1-FT BOTH ENDS
CLASS B RIP RAP
EST 3 TONS
EST 10 SYGF
CLASS B RIPRAP
EST 1 TONS
EST 5 SYGF
PIPE OUTLET CHANNEL
CLASS I RIP RAP
SEE DETAIL 32, PSH 2D-2
TEMPORARY IMPACTS IN SURFACE WATER
FILL IN WETLANDS
REMOVE
EXCAVATION
MECHANIZED CLEARING
CHANNEL CHANGE
SEE DETAIL 18, PSH 2D-1
SPECIAL LATERAL 'V' DITCH
SEE DETAIL 6, PSH 2D-1
IAL LATERAL 'V' DITCH
DETAIL 24, PSH 2D-1
WOODS
WOODS
WOODS

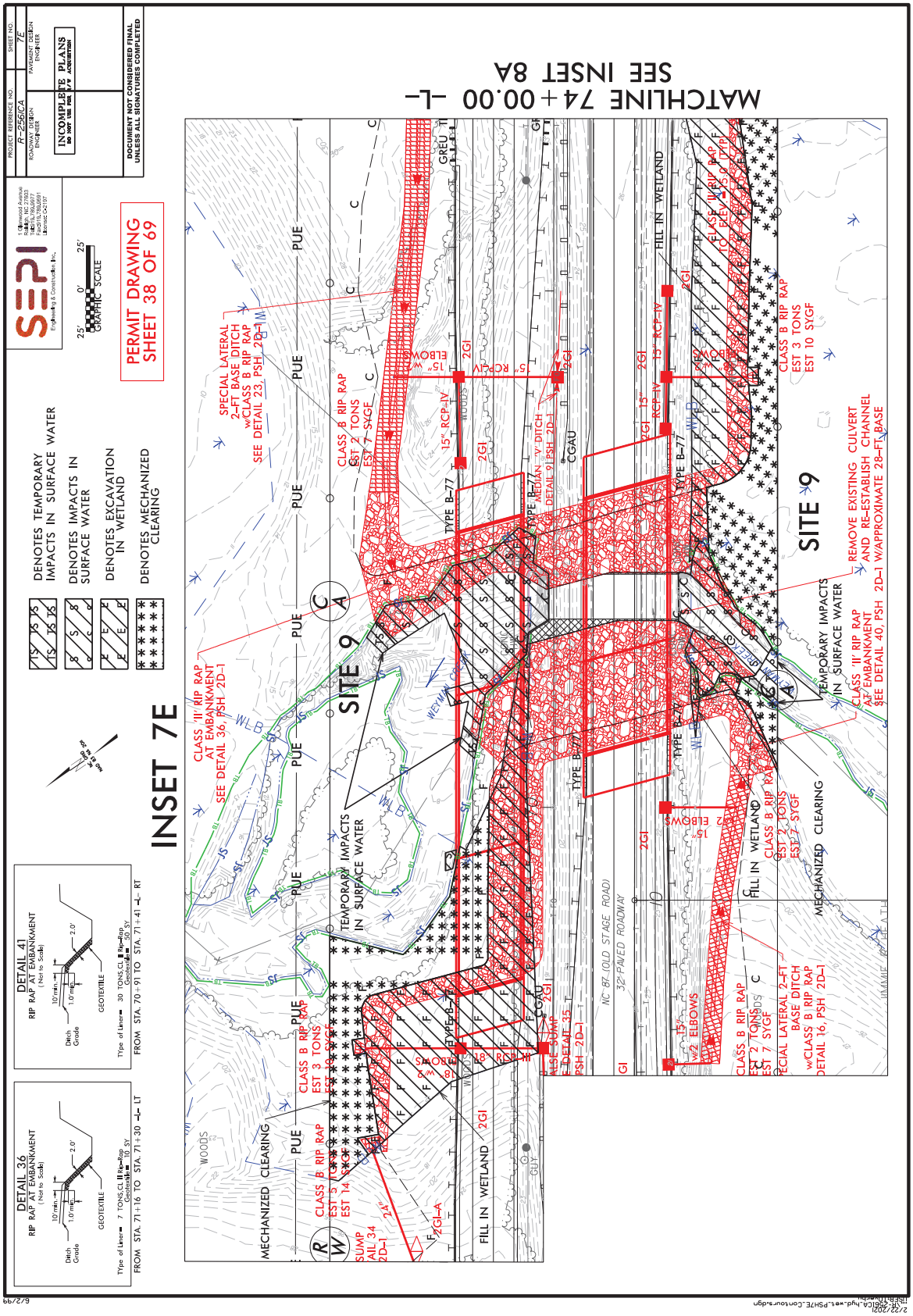

INSET 7C
SITE 6
PERMIT DRAWING
SHEET 33 OF 69
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES EXCAVATION IN WETLAND
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
GRAPHIC SCALE
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PROJECT REFERENCE NO. R-2561CA
SHEET NO. 7C
ROADWAY DESIGNER
PAVEMENT DESIGNER
DETAIL 18
CHANNEL CHANGE
(Not to Scale)
DETAIL 32
PIPE OUTLET CHANNEL STABILIZATION
(Not to Scale)
Type of Liner = Class I Rip Rap; Thickness = 2.0 Ft.
FROM STA. 10+75 TO STA. 11+02 -DR5- RT
Length = 24 Ft.
d = TOP OF BANK
Est. = 160 Tons of Class I Rip-Rap
AT STA. 22+75 -RPD- LT
CLASS B RIP RAP
EST 2 TONS
EST 7 SYGF
L=300 FT; GRADE: 1.88%
DDE - 770 CY
-LPD- CS Sta. 17+51.29
SPECIAL LATERAL 'V' DITCH
SEE DETAIL 5, PSH 2D-1
-LPD- ST Sta. 19+11.29
-RPD- PT Sta. 21+42.81
MARGARET E. CLINKSCALES
42
WOODS
18" RCP-III
15" RCP-III
15" RCP-IV
18" RCP-IV
2@54" RCP-IV BURIED 1-FT BOTH ENDS
CLASS B RIP RAP
EST 3 TONS
EST 10 SYGF
CLASS B RIPRAP
EST 1 TONS
EST 5 SYGF
PIPE OUTLET CHANNEL
CLASS I RIP RAP
SEE DETAIL 32, PSH 2D-1
TEMPORARY IMPACTS IN SURFACE WATER
FILL IN WETLANDS
EXCAVATION
REMOVE
MECHANIZED CLEARING
CHANNEL CHANGE
SEE DETAIL 18, PSH 2D-1
SPECIAL LATERAL 'V' DITCH
SEE DETAIL 6, PSH 2D-1
-Y- PT Sta. 28+40.41
-Y- POC Sta. 28+12.88=
-LPD- POT Sta. 20+57.22
-Y- POC Sta. 27+86.39=
-RPD- POT Sta. 24+92.89
-DR5- PRC 11+28.00
-DR5- PC 10+51.62
IAL LATERAL 'V' DITCH
DETAIL 24, PSH 2D-1
WATER METER
NO ASSOCIATED PIPING FOUND
GATE
HW
INV=30.68'
INV=30.5'
INV=30.88'
INV=33.7'
DUE
PDE
PUE
RW
SEE DETAIL 18, PSH 2D-1


PROJECT REFERENCE NO.
R-2561A
SHEET NO.
PF L-2
ROADWAY DESIGN ENGINEER
STRUCTURES ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
SEPI
Engineering & Construction, Inc.
HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=8'
PERMIT DRAWING
SHEET 34 OF 69
℄ STA. 27+87 -Y-
2@54" RCP-IV
SKEW=110 DEG
GP ELEV=50.34'
9:1 NORMAL
4:1 NORMAL
HW
INVERT BURIED MINIMUM 1.0'
INVERT=29.89'
GRADE=0.56%
EXISTING STEAM BED
RIP RAP
TB LT
TB RT
CHANNEL CHANGE
NORMAL WSEL=33.0'
5/14/99
2/22/2021

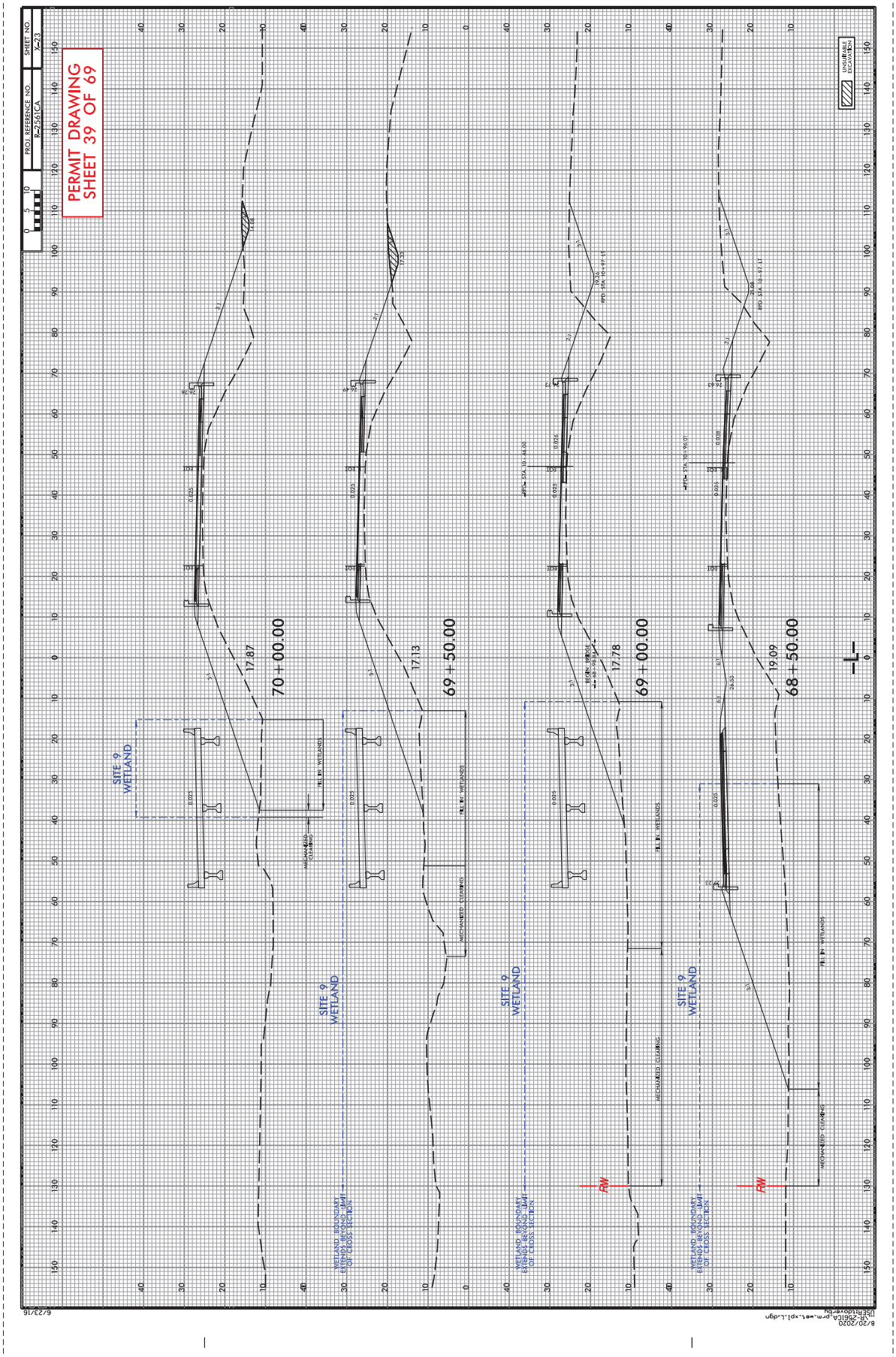

INSET 7D
PERMIT DRAWING
SHEET 35 OF 69
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES EXCAVATION IN WETLAND
DETAIL 38
STANDARD BASE DITCH
SITE 7
SITE 8
SPECIAL LATERAL 4-FT BASE DITCH SEE DETAIL 22, PSH 2D-1
SPECIAL LATERAL 2-FT BASE DITCH SEE DETAIL 1, PSH 2D-1
MECHANIZED CLEARING EXCAVATION
SPECIAL LATERAL 'V' DITCH SEE DETAIL 5, PSH 2D-1
CLASS I RIP RAP DOWN EXISTING SLOPE FROM END OF DITCH, 1.5 FT THICK
EST 110 TONS
EST 150 SYGF
STANDARD 4-FT BASE DITCH w/CLASS I RIP RAP SEE DETAIL 38
L=50 FT; GRADE: 0.50%
EST. DDE=62 CY
REMOVE 24" RCP
REMOVE 15" RCP
48" RCP-IV
-RPD- SC Sta. 12+00.00
-RPD- CS Sta. 15+73.11
JIMMIE R. HEATH
WOODS
FILL IN WETLANDS
PERMIT DRAWING SHEET 35 OF 69

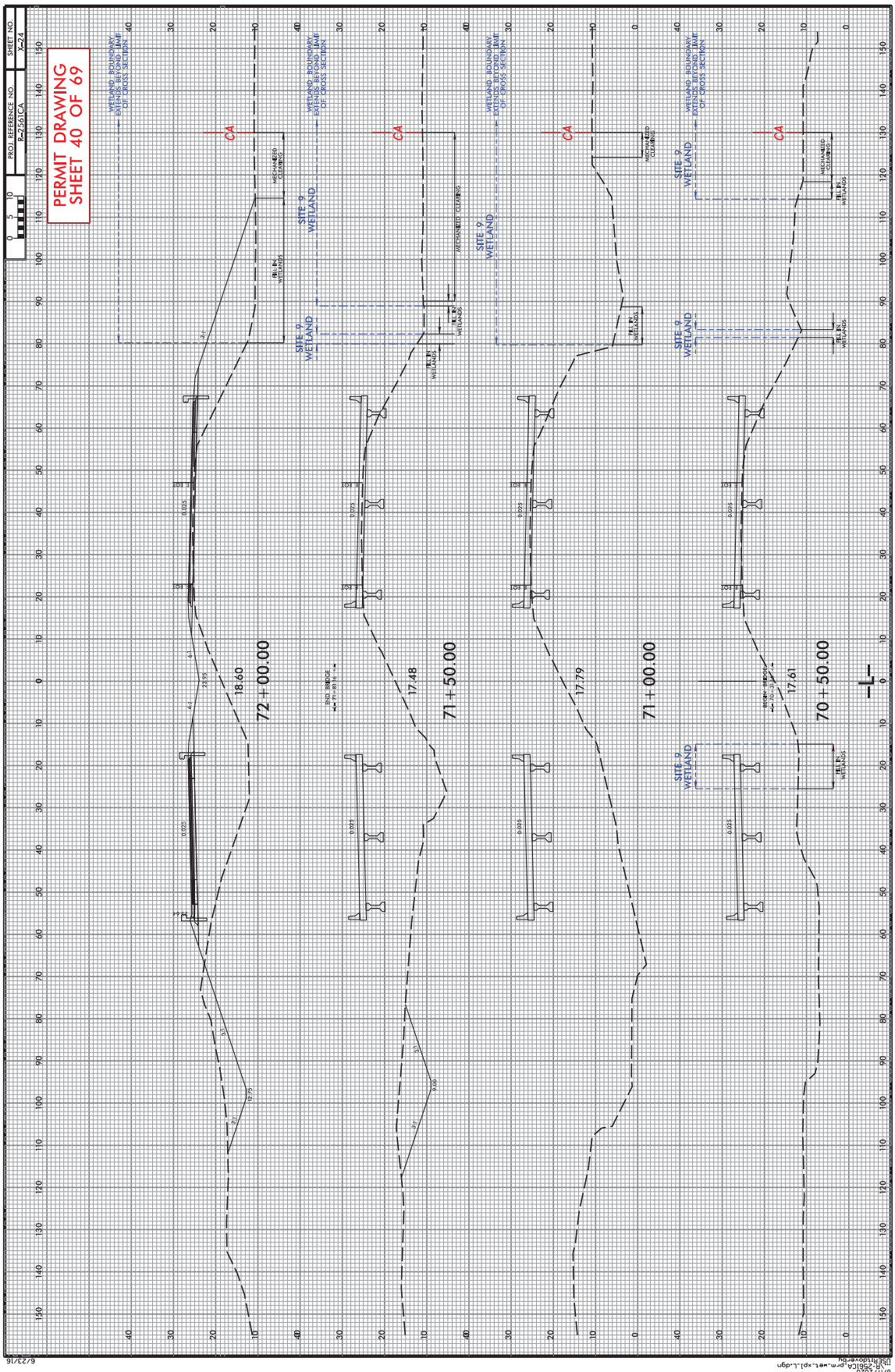

DETAIL 38
STANDARD BASE DITCH
(Not to Scale)
Natural Ground
Geotextile
Min. D= 3.5 Ft.
Max. d= 3.5 Ft.
B= 4.0 Ft.
TYpe of Liner= Class I Rip-Rap
STA. 12+00 -RPD- LT
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES EXCAVATION IN WETLAND
PERMIT DRAWING
SHEET 36 OF 69
GRAPHIC SCALE
SEPI
Engineering & Construction, Inc.
PROJECT REFERENCE NO.
R-2561CA
SHEET NO.
7D
ROADWAY DESIGN ENGINEER
PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
INSET 7D
REMOVE
24" RCP
SPECIAL LATERAL 'V' DITCH
SEE DETAIL 5, PSH 2D-1
STANDARD 4-FT BASE DITCH
w/CLASS I RIP RAP
SEE DETAIL 38
L=50 FT; GRADE: 0.50%
EST. DDE=62 CY
FILL IN WETLANDS
SPECIAL LATERAL 4-FT BASE DITCH
SEE DETAIL 22, PSH 2D-1
STANDARD 2-FT BASE DITCH
w/CLASS B RIP RAP
SEE DETAIL 13, PSH 2D-1
L=156 FT; GRADE: 0.90%
DDE: 594 CY
SITE 7
SPECIAL LATERAL 2-FT BASE DITCH
SEE DETAIL 1, PSH 2D-1
MECHANIZED CLEARING
EXCAVATION
SPECIAL LATERAL 4-FT BASE DITCH
w/CLASS I RIP RAP
SEE DETAIL 10, PSH 2D-1
MECHANIZED CLEARING
CLASS I RIP RAP DOWN EXISTING SLOPE FROM END OF DITCH, 1.5 FT THICK
EST 110 TONS
EST 150 SYGF
SITE 8
SPECIAL LATERAL 'V' DITCH
SEE DETAIL 5, PSH 2D-1
-RPD- SC Sta. 12+00.00
-RPD- CS Sta. 15+73.11
JIMMIE R. HEATH
WOODS
48" RCP-IV
GREU TL-3
8:1
47
45
PUE
TDE
PDE
6/2/99
9/2/2020
R-2561CA_hyd_wet_PSH7D_Contours.dgn

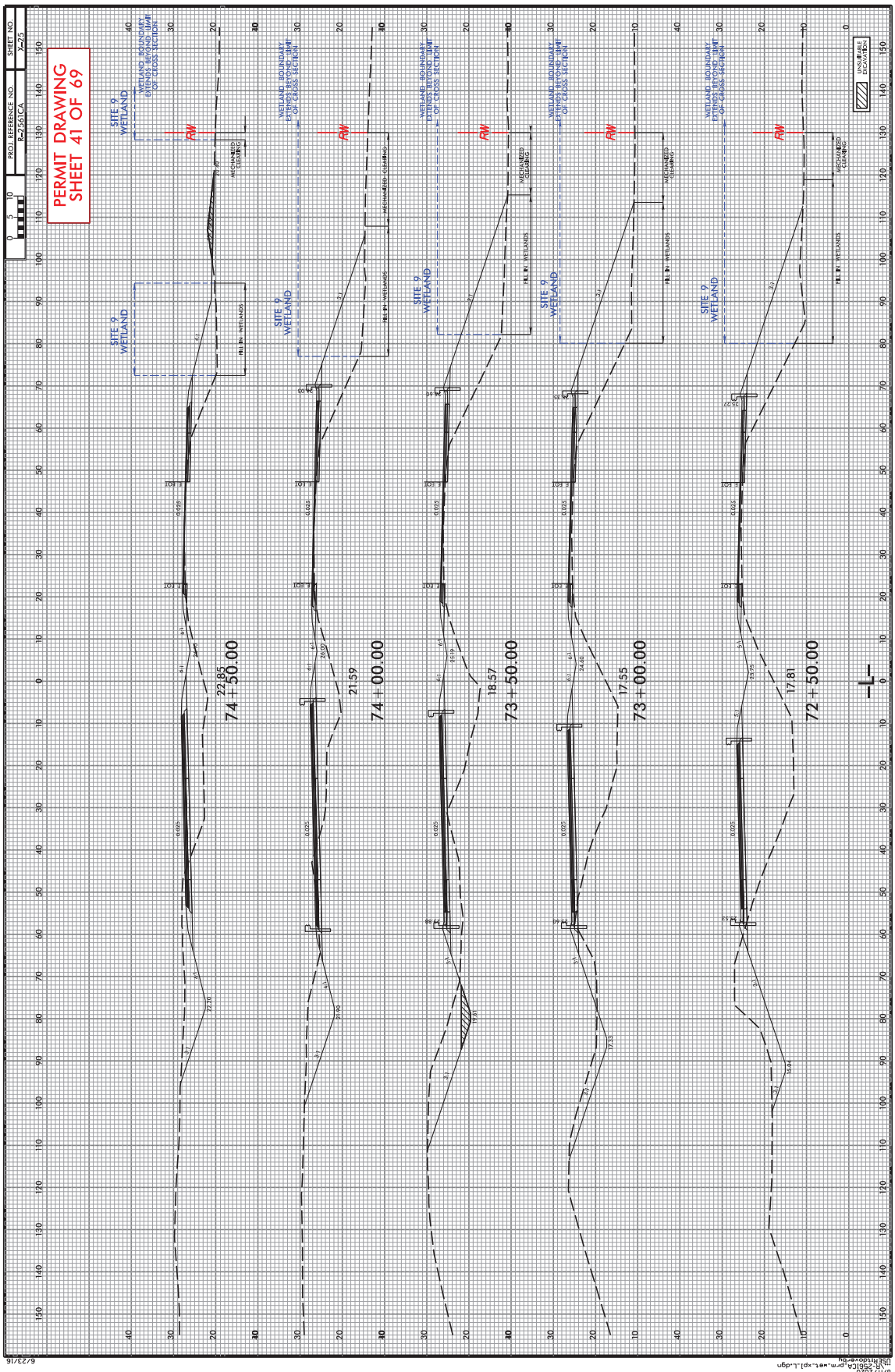

MATCHLINE 74+00.00 -L-
SEE INSET 8A
INSET 7E
SITE 9
SITE 9
PERMIT DRAWING
SHEET 37 OF 69
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES IMPACTS IN SURFACE WATER
DENOTES EXCAVATION IN WETLAND
DENOTES MECHANIZED CLEARING
DETAIL 41
RIP RAP AT EMBANKMENT
DETAIL 36
RIP RAP AT EMBANKMENT
INCOMPLETE PLANS
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
SPECIAL LATERAL 2-FT BASE DITCH w/CLASS B RIP RAP SEE DETAIL 23, PSH 2D-1
CLASS B RIP RAP EST 2 TONS EST 7 SYGF
CLASS 'II' RIP RAP AT EMBANKMENT SEE DETAIL 36, PSH 2D-1
CLASS B RIP RAP EST 3 TONS EST 10 SYGF
REMOVE EXISTING CULVERT AND RE-ESTABLISH CHANNEL W/APPROXIMATE 28-FT BASE
CLASS 'II' RIP RAP AT EMBANKMENT SEE DETAIL 40, PSH 2D-1
TEMPORARY IMPACTS IN SURFACE WATER
MECHANIZED CLEARING
FILL IN WETLAND
NC 87 (OLD STAGE ROAD)
32' PAVED ROADWAY
TYPE B-77
15" RCP-IV
18" RCP-III
WOODS
GREU
CGAU
GUY
WLB
2GI
2GI-A
24"
R-2561CA
ROADWAY DESIGN ENGINEER
PAVEMENT DESIGN ENGINEER
SHEET NO.
7E
PROJECT REFERENCE NO.
R-2561CA
GRAPHIC SCALE
25' 0' 25'
Engineering & Construction, Inc.
1 Glenwood Avenue
Raleigh, NC 27603
Tel: 919.789.5977
Fax: 919.789.5981
License: C-2197
SEPI
2/22/2021
R-2561CA_hyd_wet_PSH7E.dgn

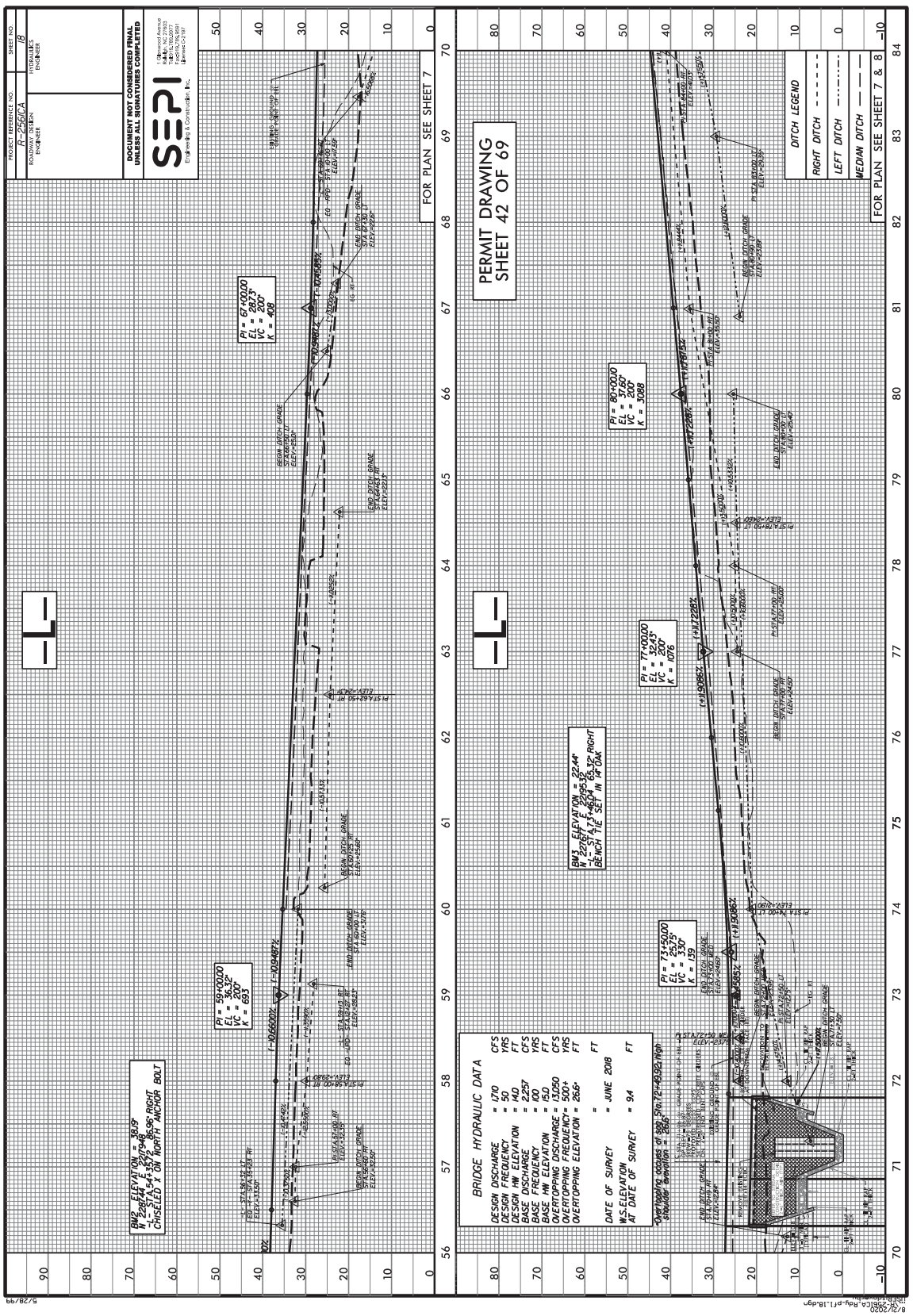

INSET 7E
PERMIT DRAWING
SHEET 38 OF 69
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES IMPACTS IN SURFACE WATER
DENOTES EXCAVATION IN WETLAND
DENOTES MECHANIZED CLEARING
GRAPHIC SCALE
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PROJECT REFERENCE NO. R-2566CA
SHEET NO. 7E
ROADWAY DESIGN ENGINEER
PAVEMENT DESIGN ENGINEER
SEPI
DETAIL 41
RIP RAP AT EMBANKMENT
(Not to Scale)
DETAIL 36
RIP RAP AT EMBANKMENT
(Not to Scale)
GEOTEXTILE
Ditch Grade
10' min.
1.0' min.
2.0'
TYpe of Liner= 30 TONS CL II Rip-Rap
FROM STA. 70+91 TO STA. 71+41 -L- RT
TYpe of Liner= 7 TONS CL II Rip-Rap
FROM STA. 71+16 TO STA. 71+30 -L- LT
MATCHLINE 74+00.00 -L-
SEE INSET 8A
SITE 9
MECHANIZED CLEARING
TEMPORARY IMPACTS IN SURFACE WATER
FILL IN WETLAND
CLASS B RIP RAP EST 3 TONS
CLASS 'II' RIP RAP AT EMBANKMENT SEE DETAIL 36, PSH 2D-1
SPECIAL LATERAL 2-FT BASE DITCH w/CLASS B RIP RAP SEE DETAIL 23, PSH 2D-1
CLASS B RIP RAP EST 2 TONS EST 7 SYGF
15" RCP-IV
TYPE B-77
2GI
CGAU
SUMP AIL 34 2D-1
24"
NC 87 (OLD STAGE ROAD)
32' PAVED ROADWAY
REMOVE EXISTING CULVERT AND RE-ESTABLISH CHANNEL SEE DETAIL 40, PSH 2D-1 W/APPROXIMATE 28-FT. BASE
CLASS 'II' RIP RAP AT EMBANKMENT
WOODS
WLB
PUE
SS
CG
GUP
GREU
ELBOWS
15"
MEDIAN "V" DITCH DETAIL 9, PSH 2D-1

P-61


PERMIT DRAWING
SHEET 39 OF 69
PROJ REFERENCE NO
R-2561CA
SHEET NO
39
70+00.00
69+50.00
69+00.00
68+50.00
SITE 9
WETLAND
WETLAND BOUNDARY
EXTENT BEYOND LIMIT
OF CROSS SECTION
MECHANIZED CLEARING
FILL IN WETLANDS
UNSUITABLE EXCAVATION
-L-


PERMIT DRAWING
SHEET 40 OF 69
PROJ. REFERENCE NO.
R-2561CA
SHEET NO.
X-24
WETLAND BOUNDARY EXTENDS BEYOND LIMIT OF CROSS SECTION
SITE 9 WETLAND
MECHANIZED CLEARING
FILL IN WETLANDS
CA
18.60
72+00.00
17.48
71+50.00
17.79
71+00.00
17.61
70+50.00
-L-


PERMIT DRAWING
SHEET 41 OF 69
PROJ. REFERENCE NO.
R-2561CA
SHEET NO.
X-25
SITE 9 WETLAND
WETLAND BOUNDARY EXTENDS BEYOND LIMIT OF CROSS SECTION
RW
MECHANIZED CLEARING
FILL IN WETLANDS
UNSUITABLE EXCAVATION
22.85
74+50.00
21.59
74+00.00
18.57
73+50.00
17.55
73+00.00
17.81
72+50.00
-L-


PROJECT REFERENCE NO.
R-2566/CA
SHEET NO.
18
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
S&EPI
Engineering & Construction P.C.
PERMIT DRAWING
SHEET 42 OF 69
BRIDGE HYDRAULIC DATA
DESIGN DISCHARGE = 1710 CFS
DESIGN FREQUENCY = 50 YRS
DESIGN HW ELEVATION = 140 FT
BASE DISCHARGE = 2257 CFS
BASE FREQUENCY = 100 YRS
BASE HW ELEVATION = 150 FT
OVERTOPPING DISCHARGE = 5050 CFS
OVERTOPPING FREQUENCY = 500+ YRS
OVERTOPPING ELEVATION = 256+ FT
DATE OF SURVEY = JUNE 2018
WS ELEVATION AT DATE OF SURVEY = 94 FT
DITCH LEGEND
RIGHT DITCH
LEFT DITCH
MEDIAN DITCH
FOR PLAN SEE SHEET 7
FOR PLAN SEE SHEET 7 & 8
8/21/2020

PROPOSED STREAM BED DETAILS
BRIDGE NO. 372 (–L– STA. 71+06.00)
BRIDGE NO. 418 (–L– STA. 70+34.00)

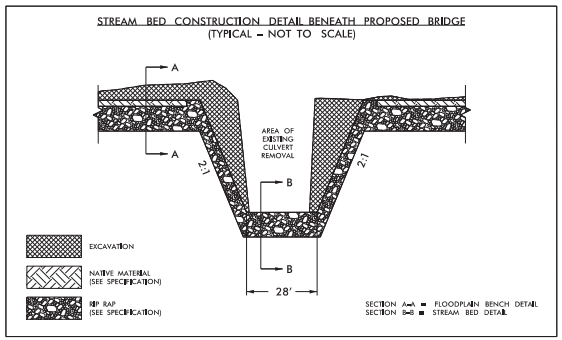
SEPI Engineering & Construction, Inc.
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.9977
Fax:919.789.9591
License C-2197

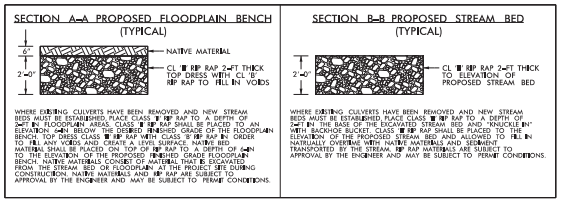
PROJECT REFERENCE NO.	SHEET NO.
R-256ICA	2D-2
R/W SHEET NO.	

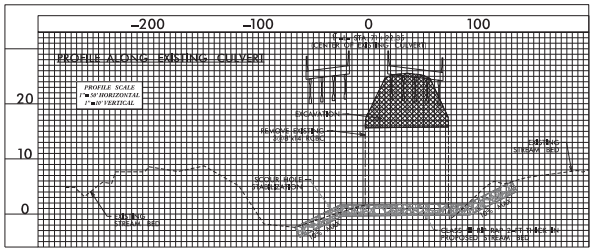
PERMIT DRAWING
SHEET 42A OF 69

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

REVISIONS 8/17/99







P-65

2/22/2021
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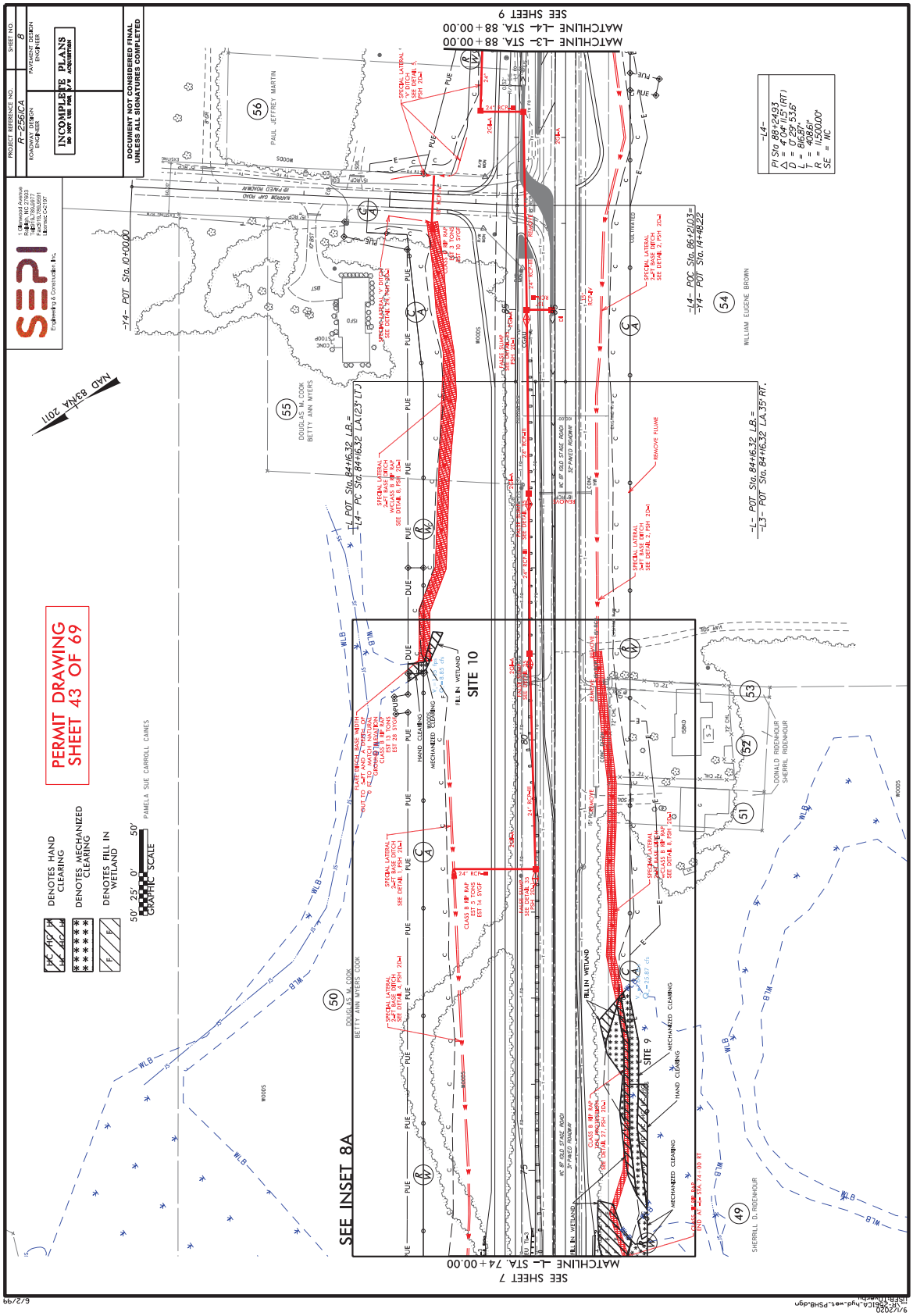
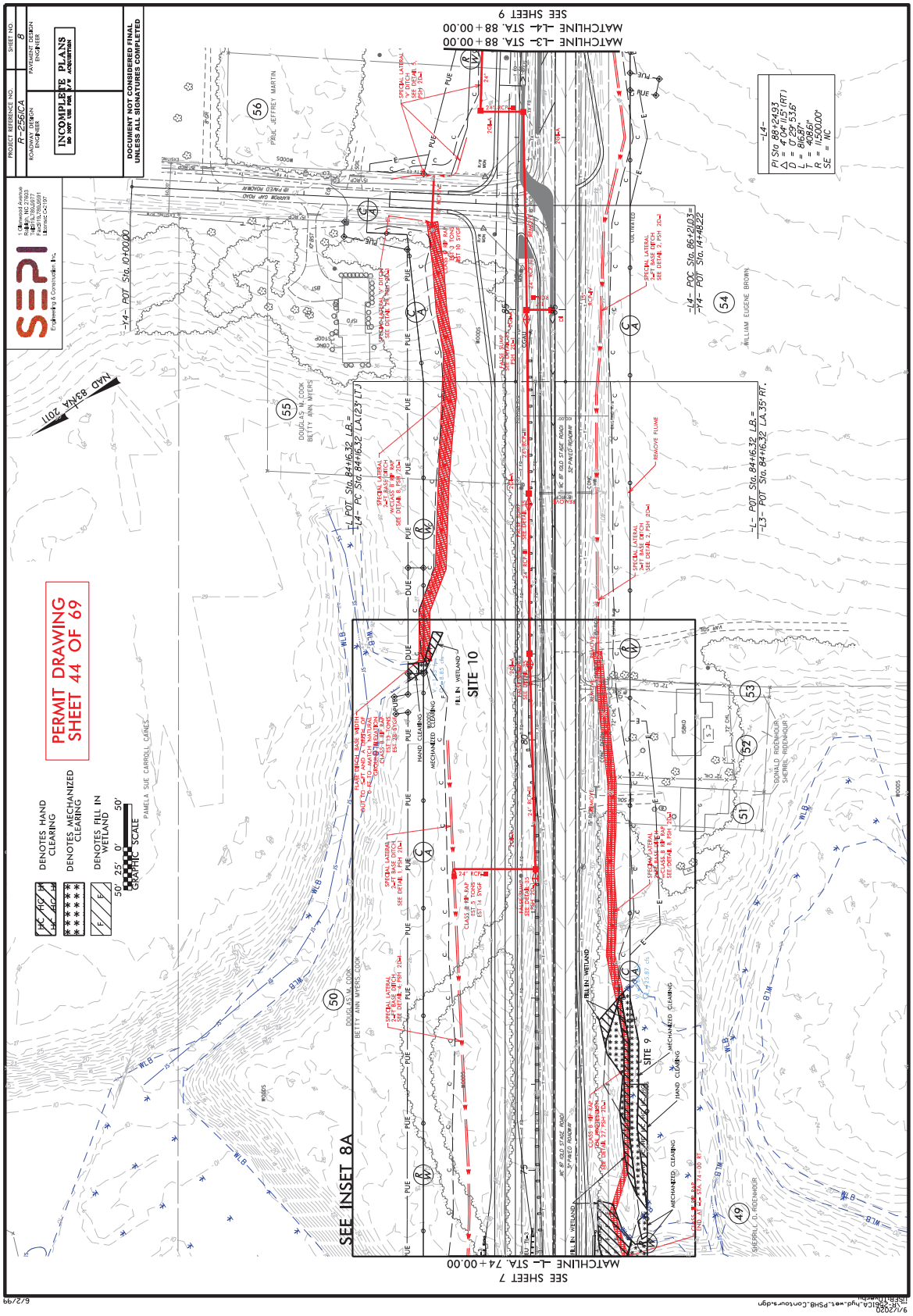
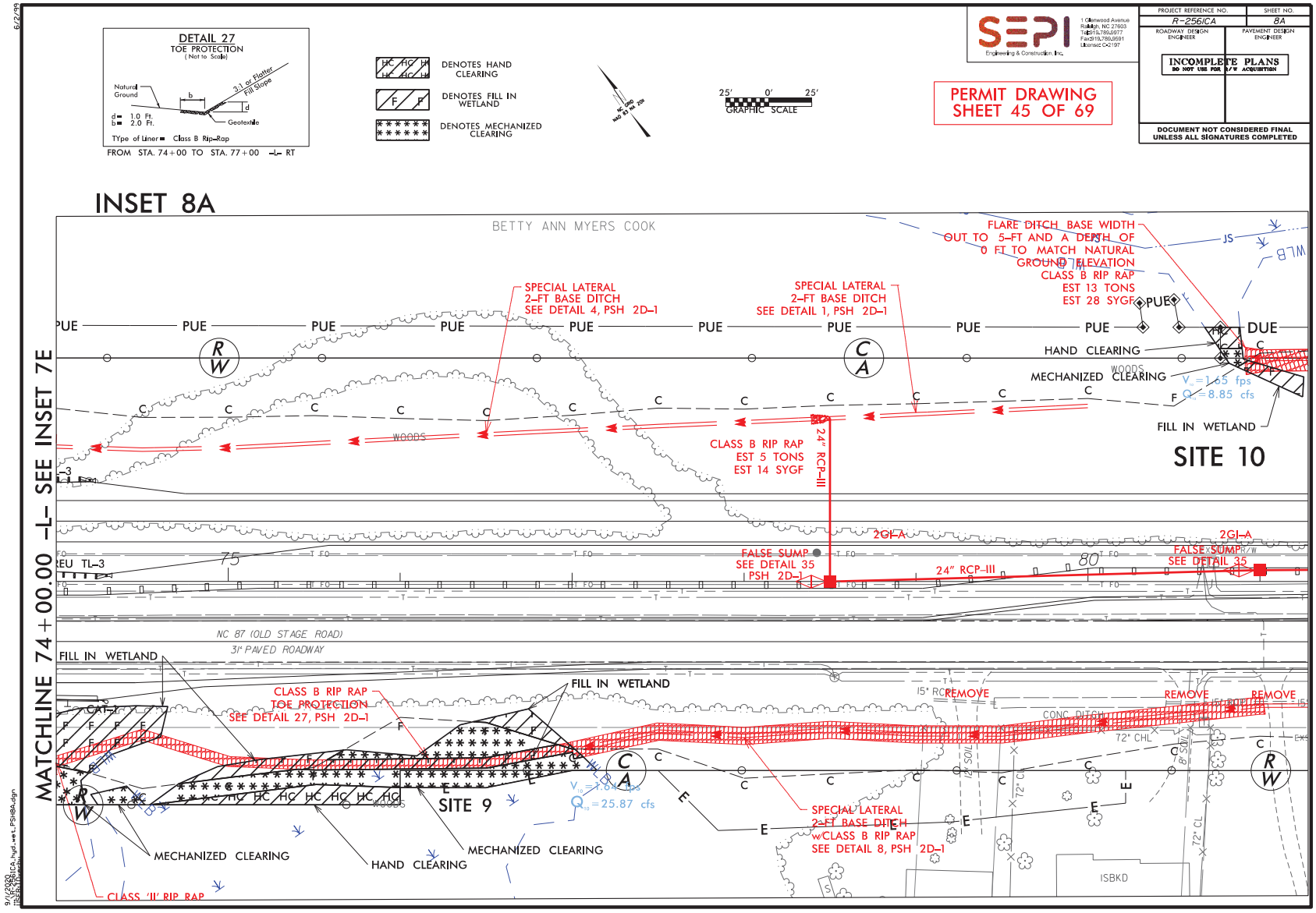
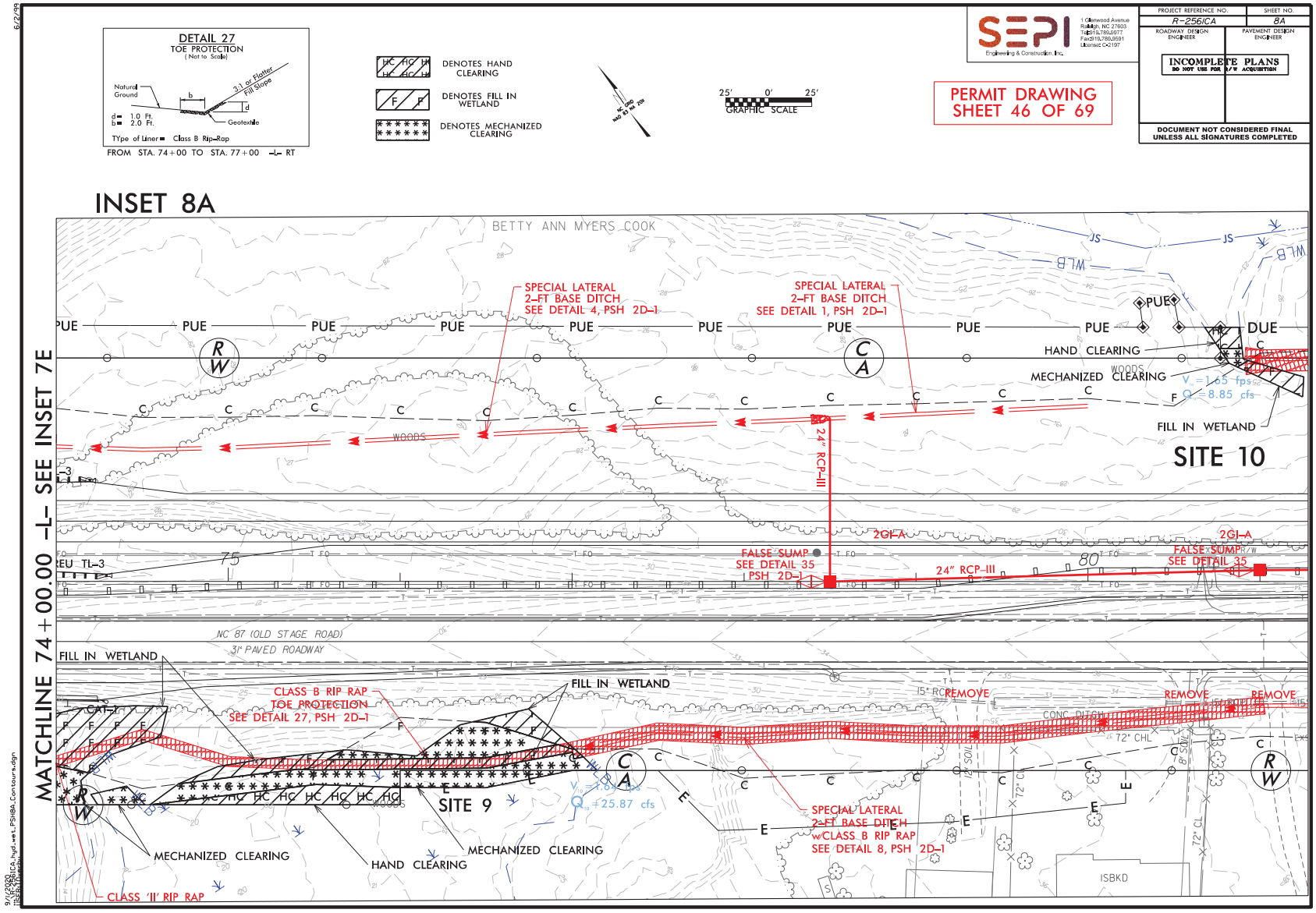

PERMIT DRAWING
SHEET 43 OF 69
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PROJECT REFERENCE NO. R-2561CA
SHEET NO. 8
ROADWAY DESIGN ENGINEER
PAYMENT ITEMS BEEN ENGINEER
SEPI
SEE INSET 8A
SITE 10
SITE 9
FILL IN WETLAND
MECHANIZED CLEARING
HAND CLEARING
WLB
DENOTES HAND CLEARING
DENOTES MECHANIZED CLEARING
DENOTES FILL IN WETLAND
GRAPHIC SCALE
50' 25' 0' 50'
NAD 83/NA 2011
MATCHLINE -L- STA. 74+00.00
SEE SHEET 7
MATCHLINE -L3- STA. 88+00.00
MATCHLINE -L4- STA. 88+00.00
SEE SHEET 9
-L- POT Sta. 84+16.32 LA.35° RT.
-L3- POT Sta. 84+16.32 LA.35° RT.
-L4- POT Sta. 84+16.32 LB.=
-L4- PC Sta. 84+16.32 LA(123° LT)
-L4- POC Sta. 86+20.03=
-Y4- POT Sta. 14+48.22
-Y4- POT Sta. 10+00.00
-L4-
PI Sta. 88+24.97
Δ = 84°41'53" (RT)
D = 01°29'53.6"
L = 866.87'
R = 408.66'
T = 1150.00'
SE = NC
PAUL JEFFREY MARTIN
DOUGLAS M. COOK
BETTY ANN MYERS
WILLIAM EUGENE BROWN
DONALD RIDENHOUR
SHERRILL RIDENHOUR
PAMELA SUE CARROLL CANNES
SHERRILL D. RIDENHOUR
HARROW OAK ROAD
NC 8TH FIELD STATE ROAD
32'PAVED ROADWAY
REMOVE PLUME
SPECIAL LATERAL
CLASS B RIP RAP
SEE DETAIL 2, PSH 20a
24" RCP
18" RCP
15" RCP
WOODS
CONIFEROUS
DECIDUOUS
BST
ISPD
CONC
CMP
DRIVE
SHED
DEMO
9/12/2020
R-2561CA_hyd_wet_PSH8.dgn

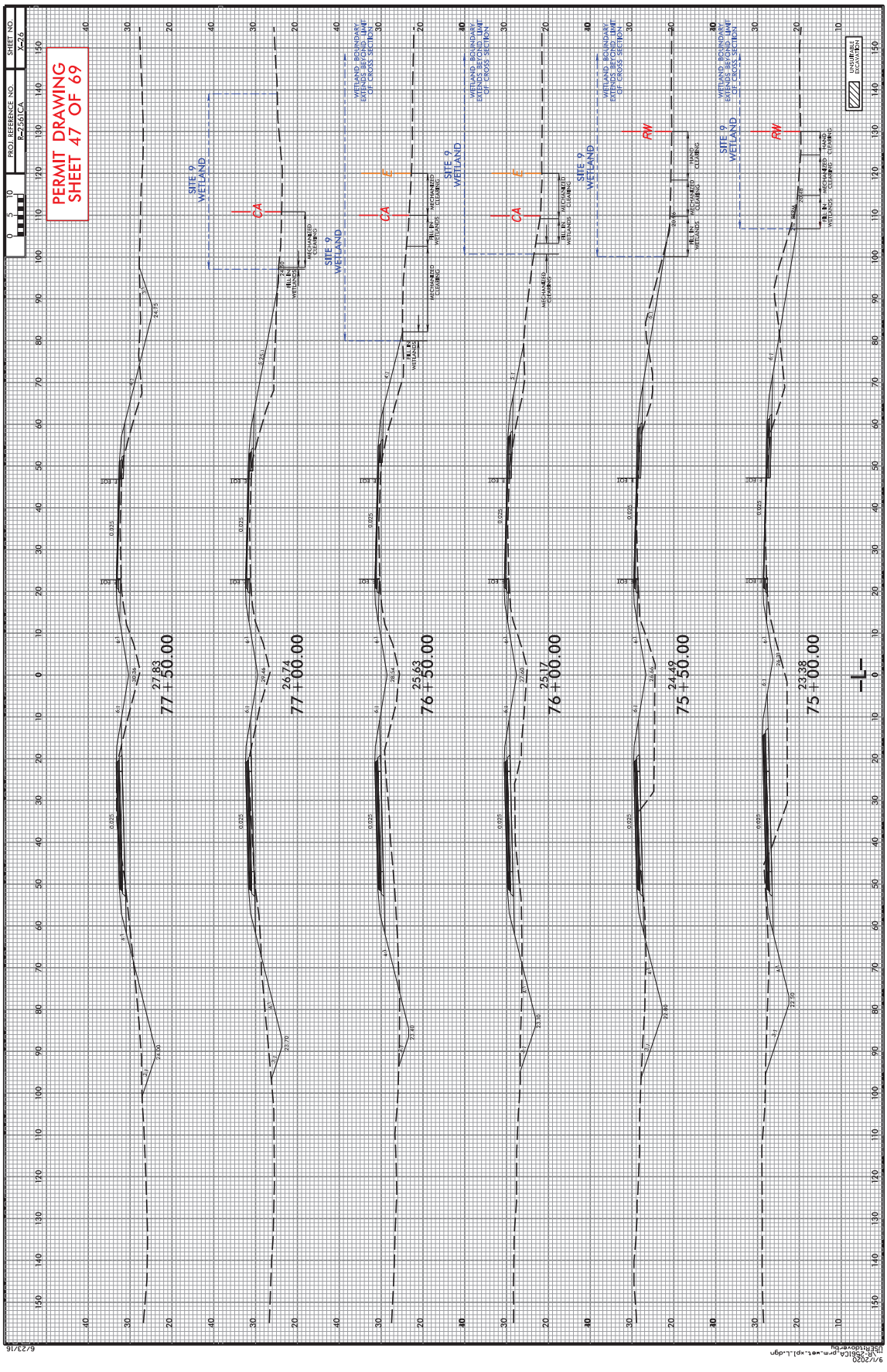

PERMIT DRAWING
SHEET 44 OF 69
DENOTES HAND CLEARING
DENOTES MECHANIZED CLEARING
DENOTES FILL IN WETLAND
GRAPHIC SCALE
SEE INSET 8A
SITE 10
SITE 9
MATCHLINE -L- STA. 74+00.00
SEE SHEET 7
MATCHLINE -L3- STA. 88+00.00
SEE SHEET 9
INCOMPLETE PLANS
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
R-2561CA
NAD 83/NA 2011

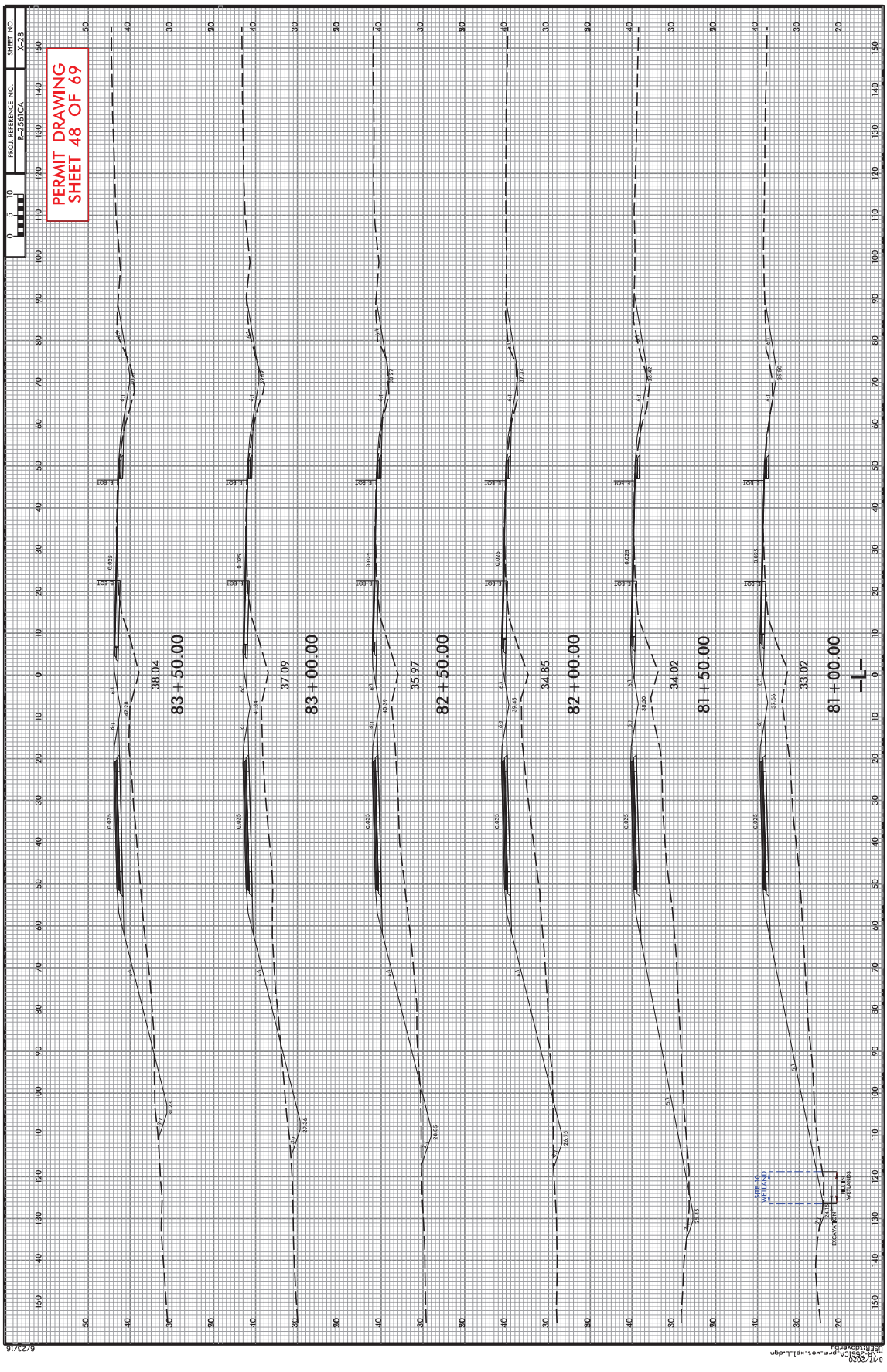


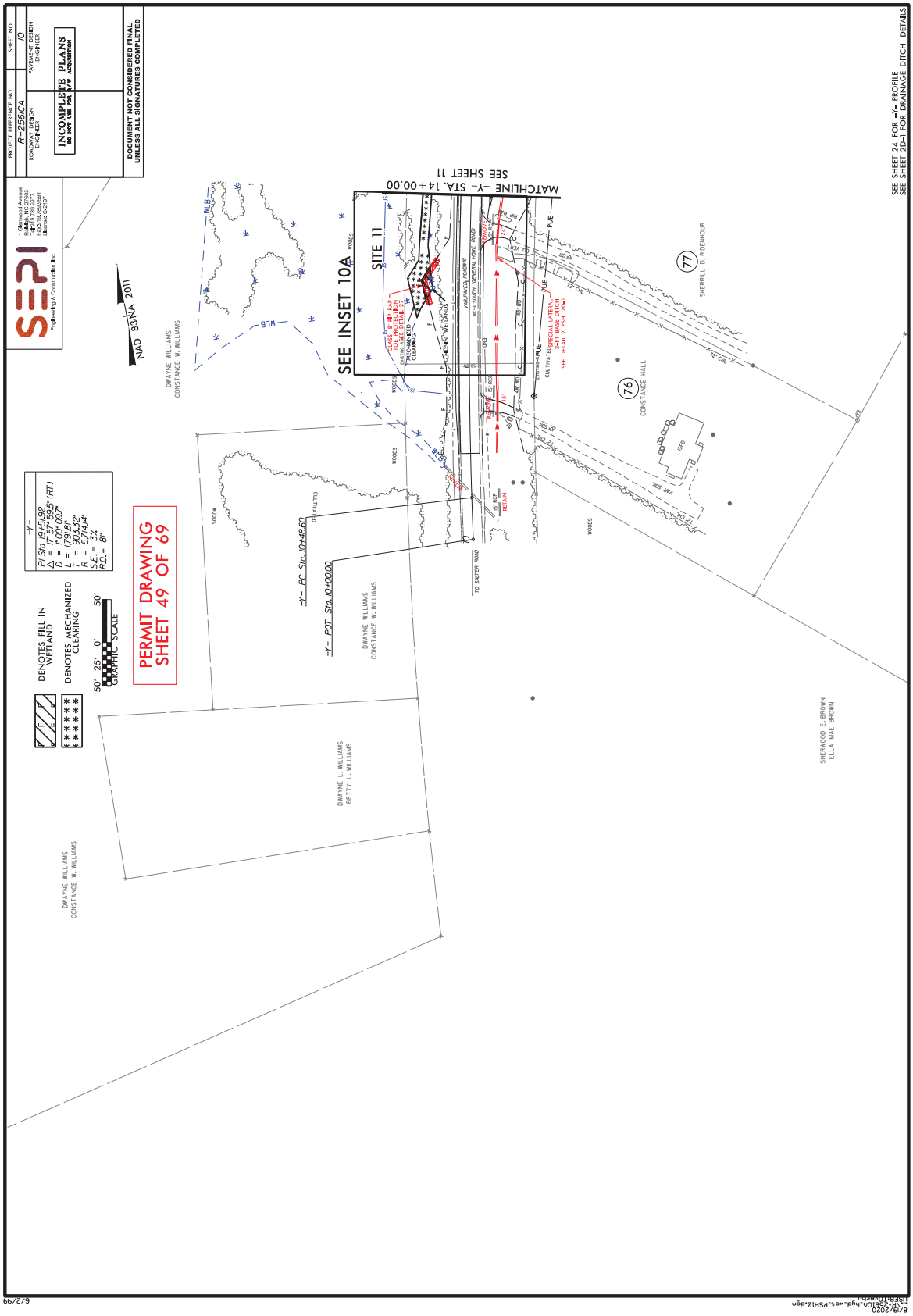
DETAIL 27
TOE PROTECTION
(Not to Scale)
Natural Ground
3:1 or Flatter Fill Slope
Geotextile
d= 1.0 Ft.
b= 2.0 Ft.
TYpe of Liner= Class B Rip-Rap
FROM STA. 74+00 TO STA. 77+00 -L- RT
DENOTES HAND CLEARING
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
25' 0' 25'
GRAPHIC SCALE
PERMIT DRAWING
SHEET 45 OF 69
SEPI
Engineering & Construction, Inc.
PROJECT REFERENCE NO.
R-2561CA
SHEET NO.
8A
ROADWAY DESIGN ENGINEER
PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
INSET 8A
MATCHLINE 74+00.00 -L- SEE INSET 7E
BETTY ANN MYERS COOK
SPECIAL LATERAL 2-FT BASE DITCH SEE DETAIL 4, PSH 2D-1
SPECIAL LATERAL 2-FT BASE DITCH SEE DETAIL 1, PSH 2D-1
FLARE DITCH BASE WIDTH OUT TO 5-FT AND A DEPTH OF 0 FT TO MATCH NATURAL GROUND ELEVATION
CLASS B RIP RAP EST 13 TONS EST 28 SYGF
HAND CLEARING
MECHANIZED CLEARING
FILL IN WETLAND
SITE 10
CLASS B RIP RAP EST 5 TONS EST 14 SYGF
24" RCP-III
2GI-A
FALSE SUMP SEE DETAIL 35 PSH 2D-1
NC 87 (OLD STAGE ROAD)
31' PAVED ROADWAY
FILL IN WETLAND
CLASS B RIP RAP TOE PROTECTION SEE DETAIL 27, PSH 2D-1
REMOVE
CONC DITCH
SITE 9
SPECIAL LATERAL 2-FT BASE DITCH w/CLASS B RIP RAP SEE DETAIL 8, PSH 2D-1
MECHANIZED CLEARING
HAND CLEARING
CLASS 'II' RIP RAP
ISBKD

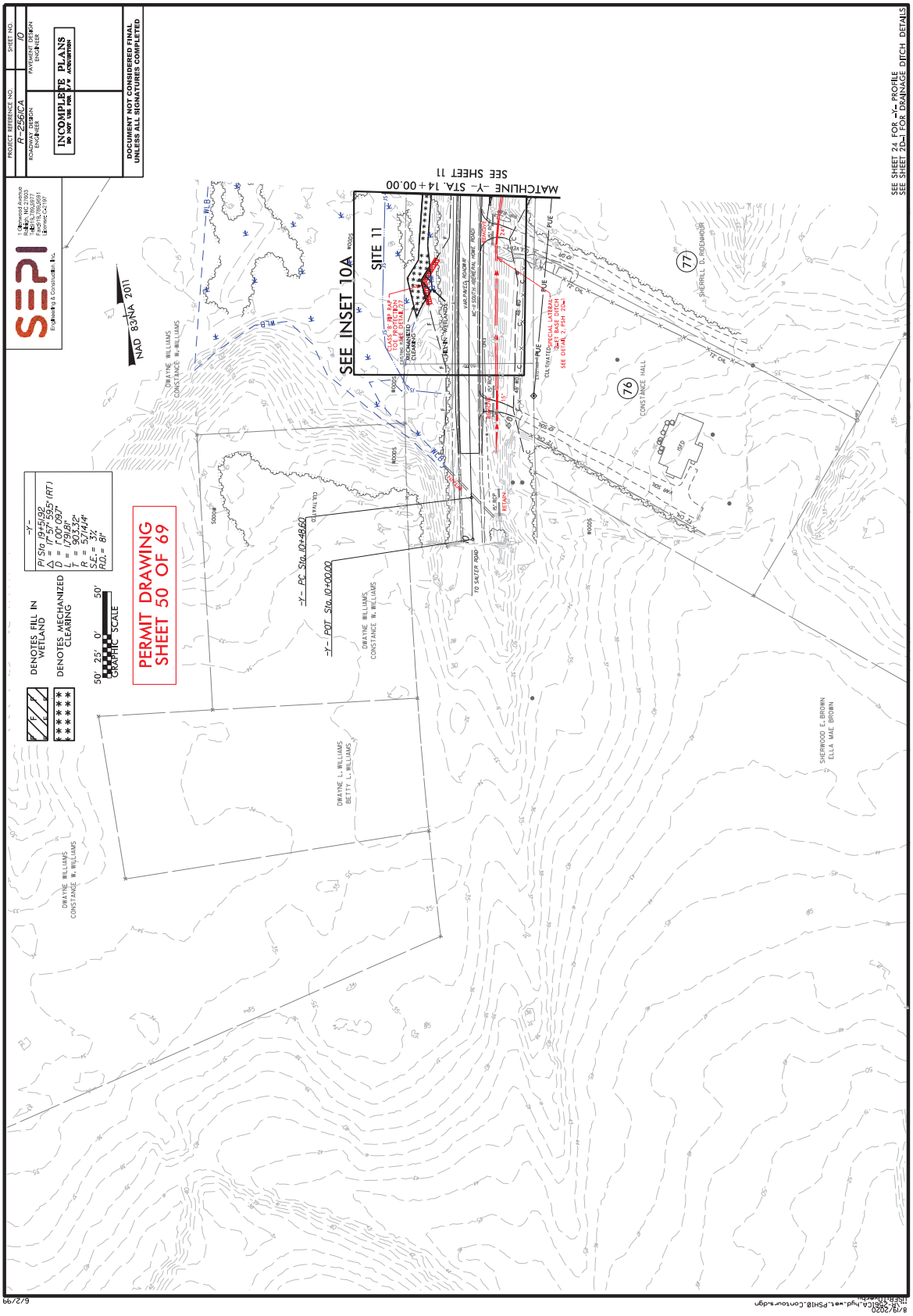


DETAIL 27
TOE PROTECTION
(Not to Scale)
Natural Ground
3:1 or Flatter Fill Slope
Geotextile
d= 1.0 Ft.
b= 2.0 Ft.
TYpe of Liner= Class B Rip-Rap
FROM STA. 74+00 TO STA. 77+00 -L- RT
DENOTES HAND CLEARING
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
GRAPHIC SCALE
SEPI
Engineering & Construction, Inc.
PERMIT DRAWING
SHEET 46 OF 69
PROJECT REFERENCE NO.
R-2561CA
SHEET NO.
8A
ROADWAY DESIGN ENGINEER
PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
INSET 8A
MATCHLINE 74+00.00 -L- SEE INSET 7E
BETTY ANN MYERS COOK
SPECIAL LATERAL
2-FT BASE DITCH
SEE DETAIL 4, PSH 2D-1
SPECIAL LATERAL
2-FT BASE DITCH
SEE DETAIL 1, PSH 2D-1
HAND CLEARING
MECHANIZED CLEARING
FILL IN WETLAND
SITE 10
24" RCP-III
2GI-A
FALSE SUMP
SEE DETAIL 35
PSH 2D-1
NC 87 (OLD STAGE ROAD)
31' PAVED ROADWAY
CLASS B RIP RAP
TOE PROTECTION
SEE DETAIL 27, PSH 2D-1
REMOVE
SITE 9
SPECIAL LATERAL
2-FT BASE DITCH
w/CLASS B RIP RAP
SEE DETAIL 8, PSH 2D-1
CLASS 'II' RIP RAP
ISBKD


PERMIT DRAWING
SHEET 47 OF 69
SHEET NO.
PROJ REFERENCE NO.
SITE 9 WETLAND
WETLAND BOUNDARY EXTENDS BEYOND LIMIT OF CROSS SECTION
CA
RW
MECHANIZED CLEARING
HAND CLEARING
UNSUITABLE EXCAVATION
77+50.00
77+00.00
76+50.00
76+00.00
75+50.00
75+00.00
-L-


PERMIT DRAWING
SHEET 48 OF 69
PROJ. REFERENCE NO.
R-2561CA
SHEET NO.
X-28
38.04
83+50.00
37.09
83+00.00
35.97
82+50.00
34.85
82+00.00
34.02
81+50.00
33.02
81+00.00
-L-
SITE 10 WETLAND
FILL IN WETLANDS
EXCAVATION
6/23/16
8/17/2020
R-2561CA_prm_wet_xpl_L.dgn
USERttdoverby


PROJECT REFERENCE NO.
R-2561CA
SHEET NO.
10
ROADWAY DESIGN ENGINEER
PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
SEPI
Engineering & Construction, Inc.
NAD 83/NA 2011
SEE INSET 10A
SITE 11
MATCHLINE -Y- STA. 14+00.00
SEE SHEET 11
SEE SHEET 24 FOR -Y- PROFILE
SEE SHEET 20-1 FOR DRAINAGE DITCH DETAILS
-Y-
PI Sta 19+51.92
Δ = 17° 57' 59.5" (RT)
D = 1° 00' 09.7"
L = 1,791.81'
T = 903.32'
R = 5,714.14'
S.E. = 3%
R.D. = 81'
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
50' 25' 0' 50'
GRAPHIC SCALE
PERMIT DRAWING
SHEET 49 OF 69
-Y- PC Sta. 10+48.60
-Y- POT Sta. 10+00.00
DWAYNE WILLIAMS
CONSTANCE W. WILLIAMS
DWAYNE L. WILLIAMS
BETTY L. WILLIAMS
SHERWOOD E. BROWN
ELLA MAE BROWN
CONSTANCE HALL
SHERRILL D. RIDENHOUR
TO SALTER ROAD
WOODS
WLB
PUE
RETAIN
SPECIAL LATERAL 2-FT BASE DITCH SEE DETAIL 2, PSH 20-1
CLASS B 18" RIP-RAP TOE PROTECTION
MECHANIZED CLEARING
CULTIVATED
8/19/2020
R-2561CA_hyd_wet_PSH10.dgn


PROJECT REFERENCE NO.
R-2561CA
SHEET NO.
10
ROADWAY DESIGN ENGINEER
PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
SEPI
Engineering & Construction, Inc.
NAD 83/NA 2011
SEE INSET 10A
SITE 11
MATCHLINE -Y- STA. 14+00.00
SEE SHEET 11
SEE SHEET 24 FOR -Y- PROFILE
SEE SHEET 20-1 FOR DRAINAGE DITCH DETAILS
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
GRAPHIC SCALE
PERMIT DRAWING
SHEET 50 OF 69
-Y- PC Sta. 10+48.60
-Y- POT Sta. 10+00.00
DWAYNE WILLIAMS
CONSTANCE W. WILLIAMS
DWAYNE L. WILLIAMS
BETTY L. WILLIAMS
CONSTANCE HALL
SHERRILL D. RIDENHOUR
SHERWOOD E. BROWN
ELLA MAE BROWN
TO SALTER ROAD
76
77

SEPI Engineering & Construction, Inc.
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.9977
Fax:919.789.9591
License: C-2197

PROJECT REFERENCE NO.	SHEET NO.
R-2561CA	10A

ROADWAY DESIGN ENGINEER

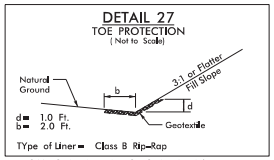
PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

6/2/99

DETAIL 27
TOE PROTECTION
(Not to Scale)



FROM STA. 12+73 TO STA. 13+26 -Y- LT

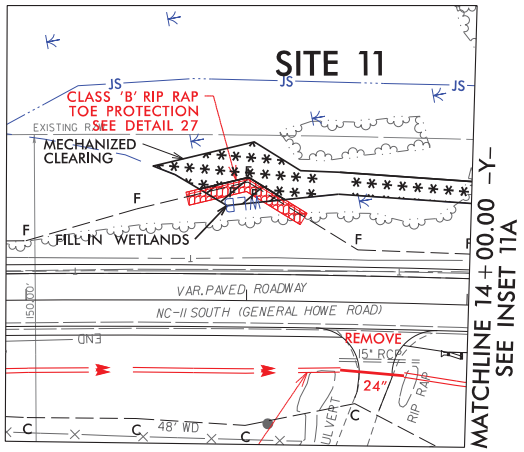
25' 0' 25'
GRAPHIC SCALE

PERMIT DRAWING
SHEET 51 OF 69

F F F
F F F
DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

INSET 10A


SITE 11
JS
JS
JS
CLASS 'B' RIP RAP TOE PROTECTION SEE DETAIL 27
EXISTING R/W
MECHANIZED CLEARING
F
F
FILL IN WETLANDS
F
F
VAR. PAVED ROADWAY
NC-11 SOUTH (GENERAL HOWE ROAD)
150.00'
REMOVE
15" RCP
24"
RIP RAP
48" WD
C
C
C

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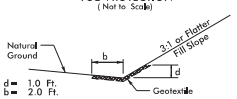
PROJECT REFERENCE NO.	SHEET NO.
R-2561CA	10A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

6/2/99

DETAIL 27
TOE PROTECTION
(Not to Scale)



d = 1.0 Ft.
b = 2.0 Ft.

TYpe of Liner = Class B Rip-Rap

FROM STA. 12+73 TO STA. 13+26 -Y- LT

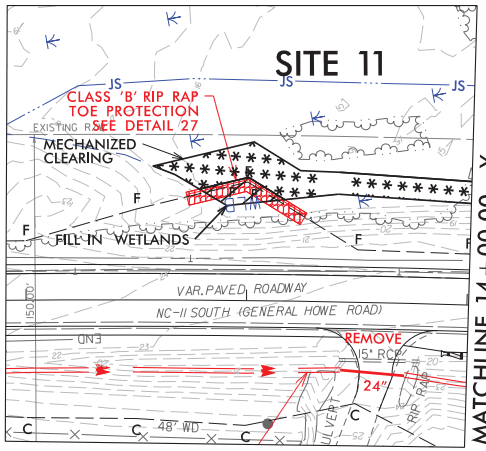
25' 0' 25'
GRAPHIC SCALE

PERMIT DRAWING
SHEET 52 OF 69

DENOTES FILL IN WETLAND

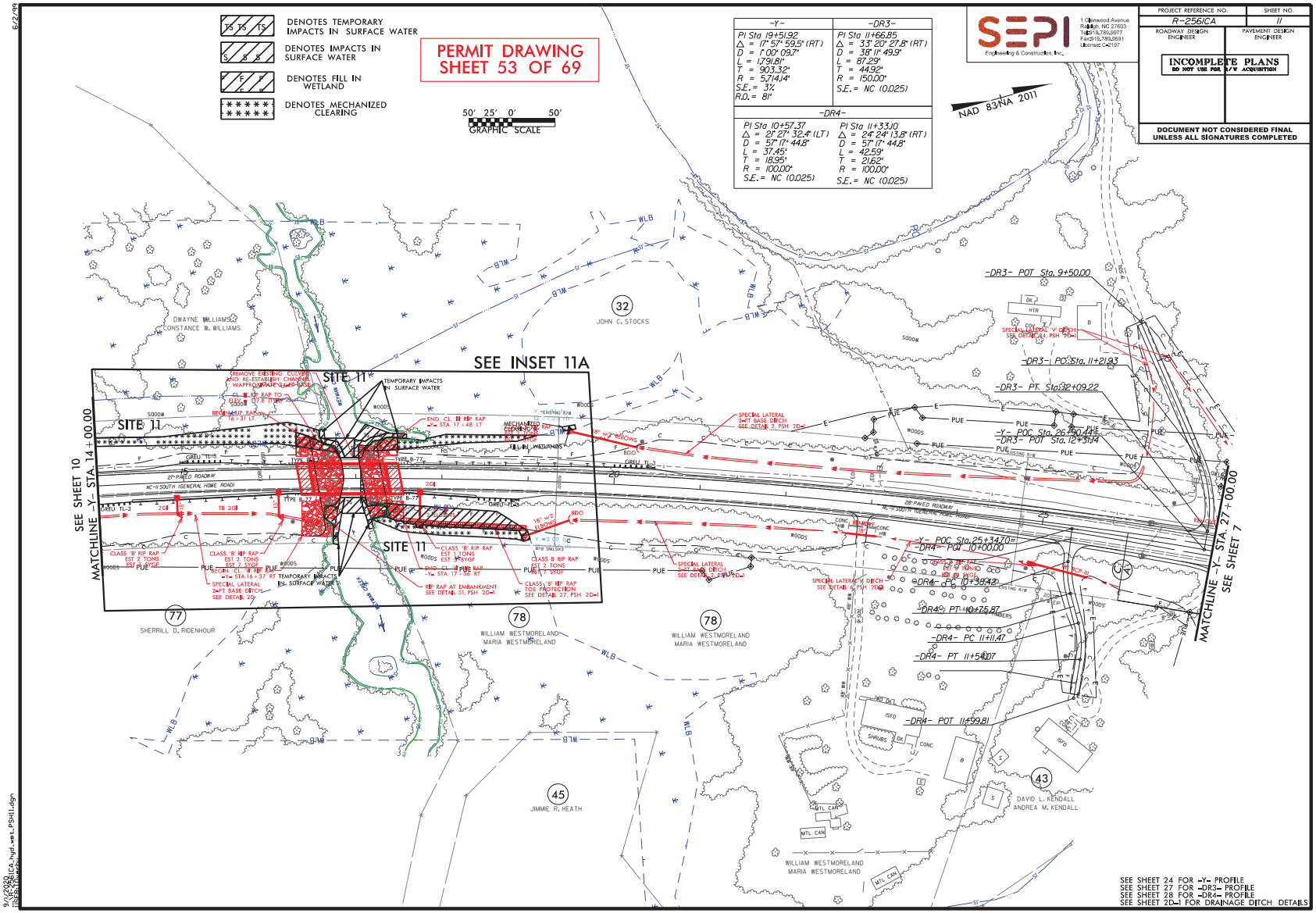
DENOTES MECHANIZED CLEARING

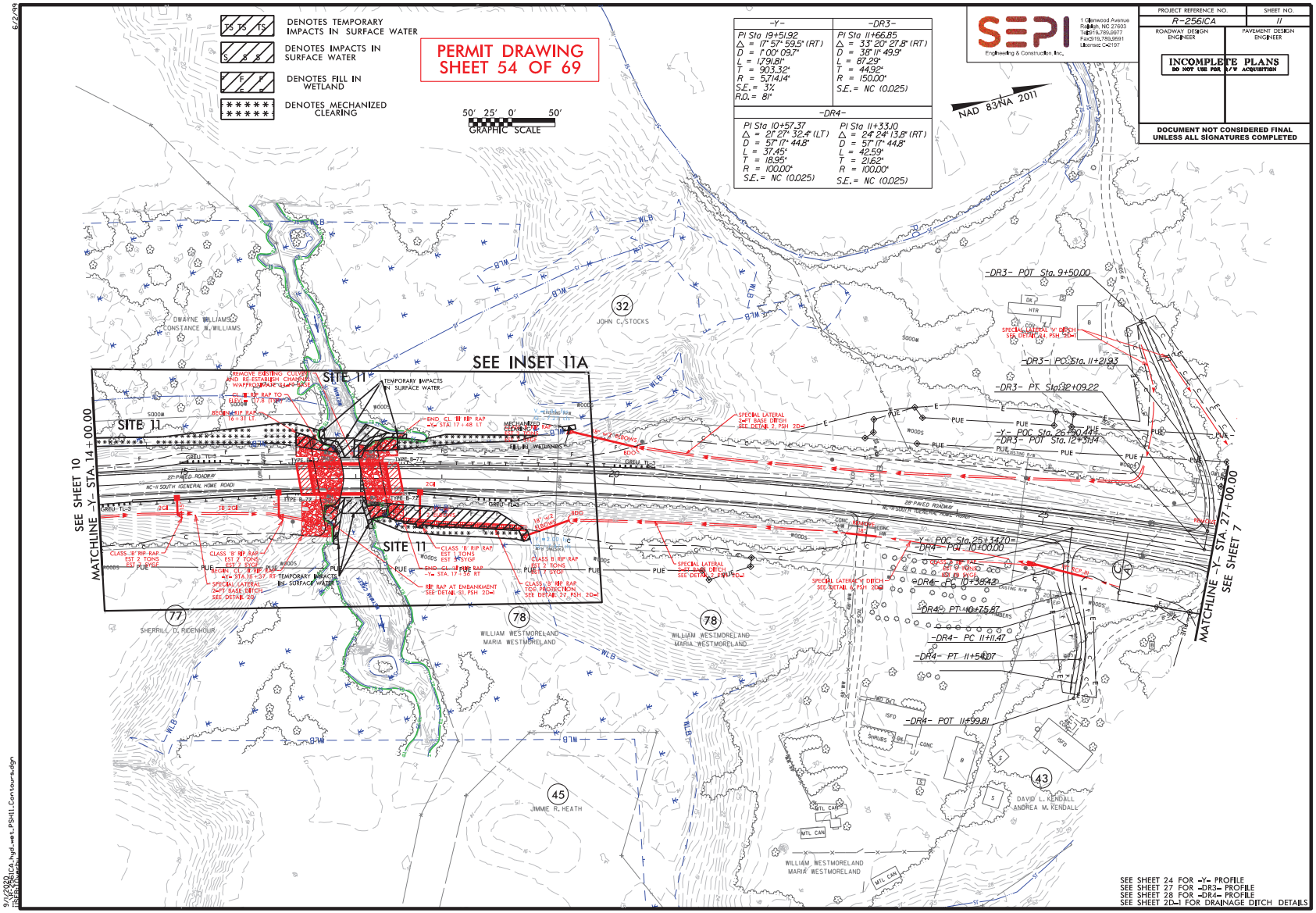
INSET 10A



8/2/2020
R-2561CA_hyd_wet_PSht10A_Contours.dgn

P-75


DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES IMPACTS IN SURFACE WATER
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
PERMIT DRAWING
SHEET 53 OF 69
50' 25' 0' 50'
GRAPHIC SCALE
-Y-
PI Sta 19+51.92
Δ = 17° 57' 59.5" (RT)
D = 1° 00' 09.7"
L = 1,791.81'
T = 903.32'
R = 5,714.14'
S.E. = 3%
R.O. = 81'
-DR3-
PI Sta 11+66.85
Δ = 33° 20' 27.8" (RT)
D = 38° 11' 49.9"
L = 87.29'
T = 44.92'
R = 150.00'
S.E. = NC (0.025)
-DR4-
PI Sta 10+57.37
Δ = 21° 27' 32.4" (LT)
D = 57° 17' 44.8"
L = 37.45'
T = 18.95'
R = 100.00'
S.E. = NC (0.025)
PI Sta 11+33.10
Δ = 24° 24' 13.8" (RT)
D = 57° 17' 44.8"
L = 42.59'
T = 21.62'
R = 100.00'
S.E. = NC (0.025)
SEPI
Engineering & Construction, Inc.
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.3977
Fax:919.789.9591
License: C-2197
PROJECT REFERENCE NO.
R-2561CA
SHEET NO.
11
ROADWAY DESIGN ENGINEER
PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
NAD 83/NA 2011
SEE INSET 11A
SITE 11
SITE 11
SITE 11
TEMPORARY IMPACTS IN SURFACE WATER
SEE SHEET 10
MATCHLINE -Y- STA. 14+00.00
MATCHLINE -Y- STA. 27+00.00
SEE SHEET 7
-DR3- POT Sta. 9+50.00
-DR3- PC Sta. 11+21.93
-DR3- PT Sta. 12+09.22
-Y- POC Sta. 26+50.44
-DR3- POT Sta. 12+31.14
-Y- POC Sta. 25+34.70
-DR4- POT 10+00.00
-DR4- PC 10+38.42
-DR4- PT 10+75.87
-DR4- PC 11+11.47
-DR4- PT 11+58.07
-DR4- POT 11+99.81
32
JOHN C. STOCKS
77
SHERRILL D. RIDENHOUR
78
WILLIAM WESTMORELAND
MARIA WESTMORELAND
78
WILLIAM WESTMORELAND
MARIA WESTMORELAND
45
JIMME R. HEATH
43
DAVID L. KENDALL
ANDREA M. KENDALL
DWAYNE WILLIAMS
CONSTANCE W. WILLIAMS
SEE SHEET 24 FOR -Y- PROFILE
SEE SHEET 27 FOR -DR3- PROFILE
SEE SHEET 28 FOR -DR4- PROFILE
SEE SHEET 2D-1 FOR DRAINAGE DITCH DETAILS



DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES IMPACTS IN SURFACE WATER
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
PERMIT DRAWING
SHEET 54 OF 69
50' 25' 0' 50'
GRAPHIC SCALE
-Y-
PI Sta 19+51.92
Δ = 17° 57' 59.5" (RT)
D = 1° 00' 09.7"
L = 1,791.81'
T = 903.32'
R = 5,714.14'
S.E. = 3%
R.O. = 81'
-DR3-
PI Sta 11+66.85
Δ = 33° 20' 27.8" (RT)
D = 38° 11' 49.9"
L = 87.29'
T = 44.92'
R = 150.00'
S.E. = NC (0.025)
-DR4-
PI Sta 10+57.37
Δ = 21° 27' 32.4" (LT)
D = 57° 17' 44.8"
L = 37.45'
T = 18.95'
R = 100.00'
S.E. = NC (0.025)
PI Sta 11+33.10
Δ = 24° 24' 13.8" (RT)
D = 57° 17' 44.8"
L = 42.59'
T = 21.62'
R = 100.00'
S.E. = NC (0.025)
SEPI
Engineering & Construction, Inc.
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.3977
Fax:919.789.9591
Licensed C-2197
PROJECT REFERENCE NO.
R-2561CA
SHEET NO.
11
ROADWAY DESIGN ENGINEER
PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
NAD 83/NA 2011
SEE INSET 11A
SITE 11
SITE 11
SITE 11
SEE SHEET 10
MATCHLINE -Y- STA. 14+00.00
MATCHLINE -Y- STA. 27+00.00
SEE SHEET 7
-DR3- POT Sta. 9+50.00
-DR3- PC Sta. 11+21.93
-DR3- PT Sta. 12+09.22
-Y- POC Sta. 26+50.44
-DR3- POT Sta. 12+31.14
-Y- POC Sta. 25+34.70
-DR4- POT 10+00.00
-DR4- PC 10+38.42
-DR4- PT 10+75.87
-DR4- PC 11+11.47
-DR4- PT 11+54.07
-DR4- POT 11+99.81
DWAYNE WILLIAMS
CONSTANCE W. WILLIAMS
JOHN C. STOCKS
SHERRILL D. RIDENHOUR
WILLIAM WESTMORELAND
MARIA WESTMORELAND
JIMME R. HEATH
DAVID L. KENDALL
ANDREA M. KENDALL
SEE SHEET 24 FOR -Y- PROFILE
SEE SHEET 27 FOR -DR3- PROFILE
SEE SHEET 28 FOR -DR4- PROFILE
SEE SHEET 2D-1 FOR DRAINAGE DITCH DETAILS

P-77

DETAIL 31
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner ■ 12 TONS CL I Rip-Rap
Geofabric ■ 20 SY
FROM STA. 16+71 TO STA. 16+85 -Y- LT

TS TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER

S S S — DENOTES IMPACTS IN SURFACE WATER

F F F — DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

PERMIT DRAWING SHEET 55 OF 69

25' 0' 25'
GRAPHIC SCALE

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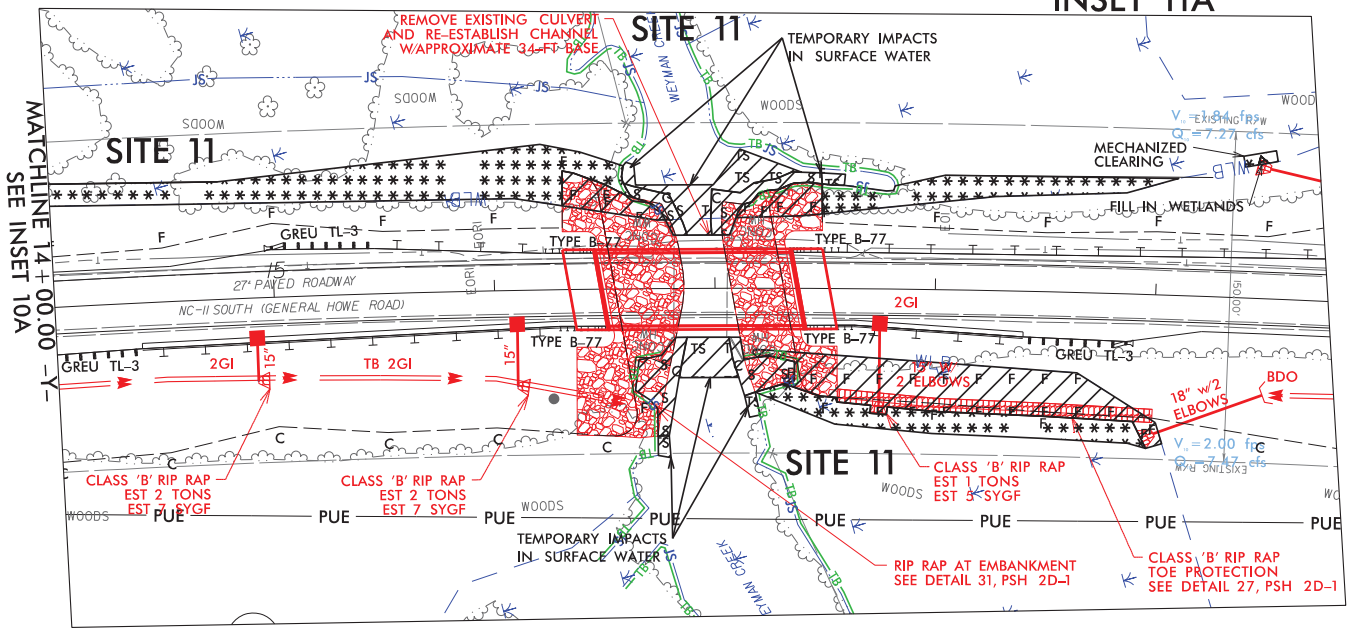
PROJECT REFERENCE NO.	SHEET NO.
R-2561CA	11A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

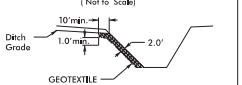
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

INSET 11A



9/4/2020
R-2561CA_hyd_ws_PSH11A.dgn
TEST\Hydraulics\R-2561CA_hyd_ws_PSH11A.dgn

DETAIL 31
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner ■ 12 TONS CL I Rip-Rap
Geofextile ■ 20 SY

FROM STA. 16+71 TO STA. 16+85 -Y- LT

TS TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

S S S DENOTES IMPACTS IN SURFACE WATER

F F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

PERMIT DRAWING
SHEET 56 OF 69

25' 0' 25'
GRAPHIC SCALE

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1 Glenwood Avenue
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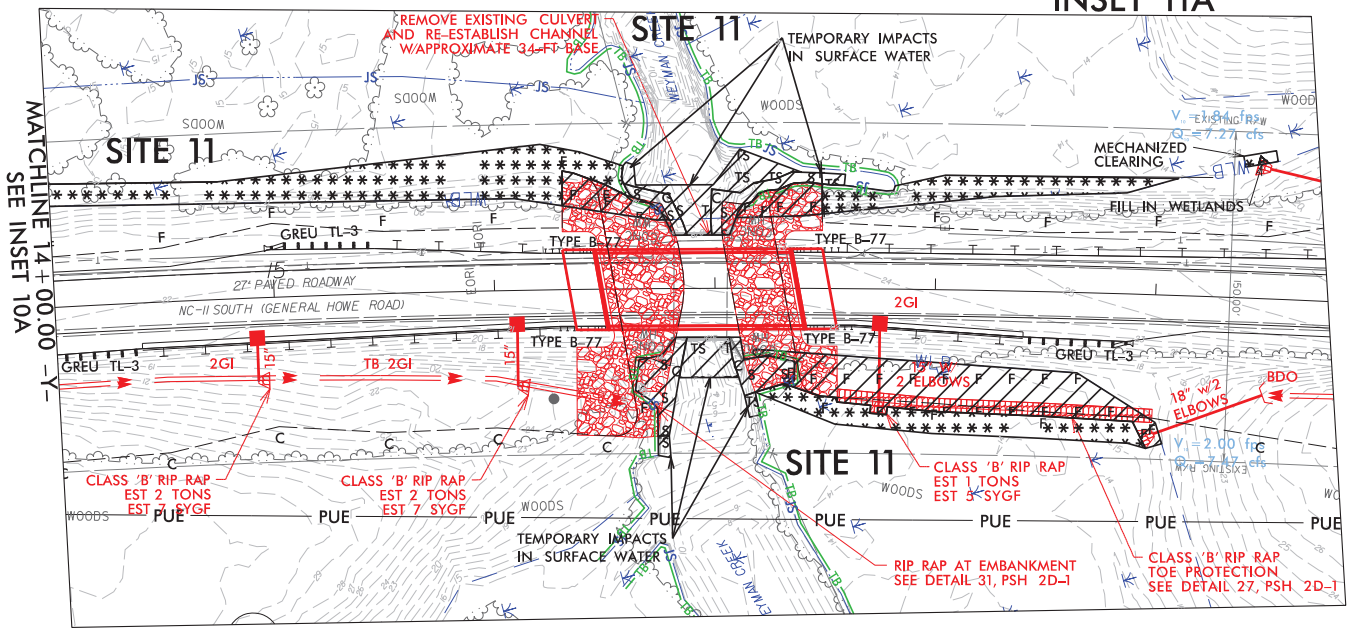
Fax:919.789.9991
License C-2197

PROJECT REFERENCE NO.	SHEET NO.
R-2561CA	11A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

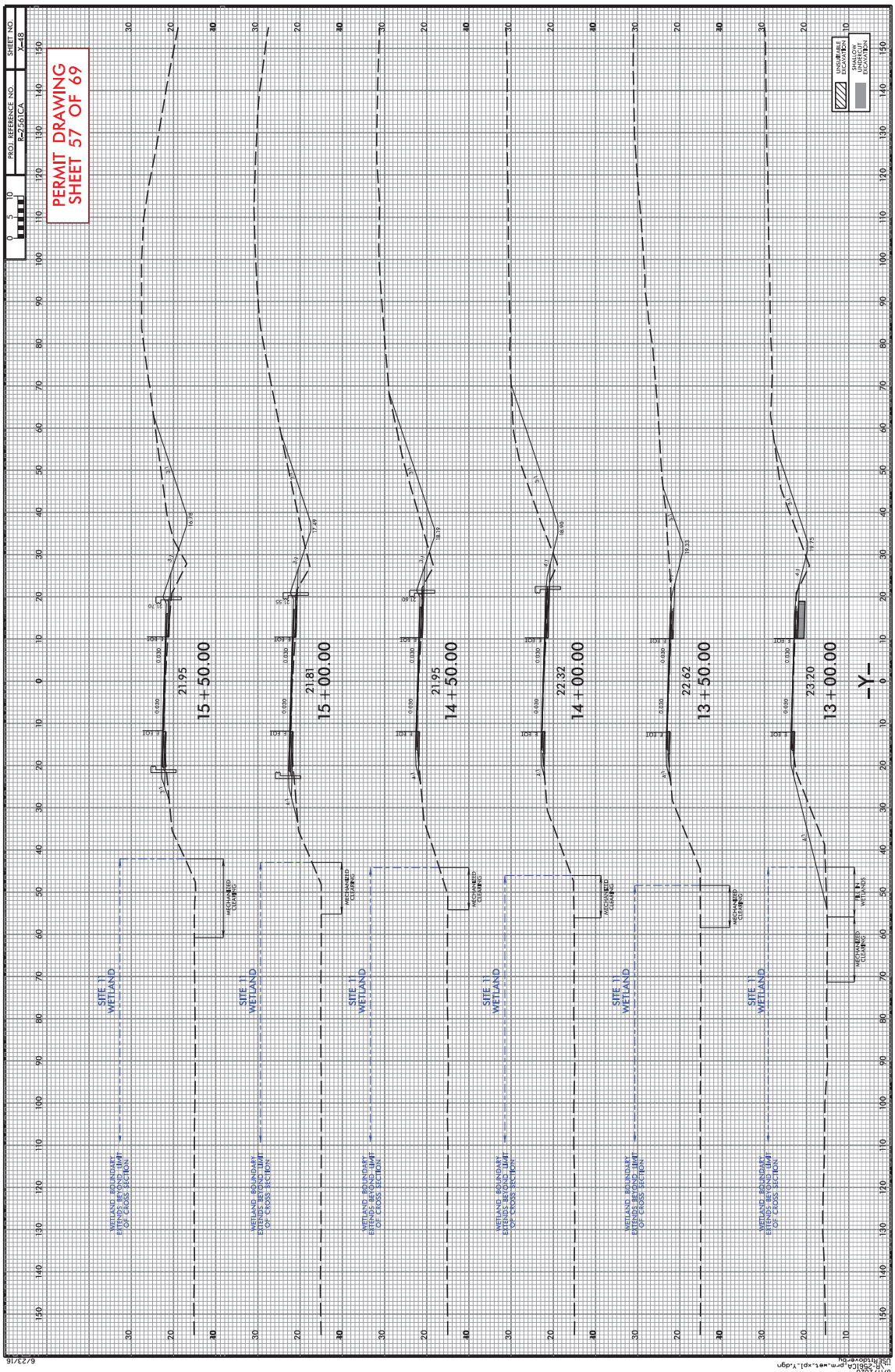
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

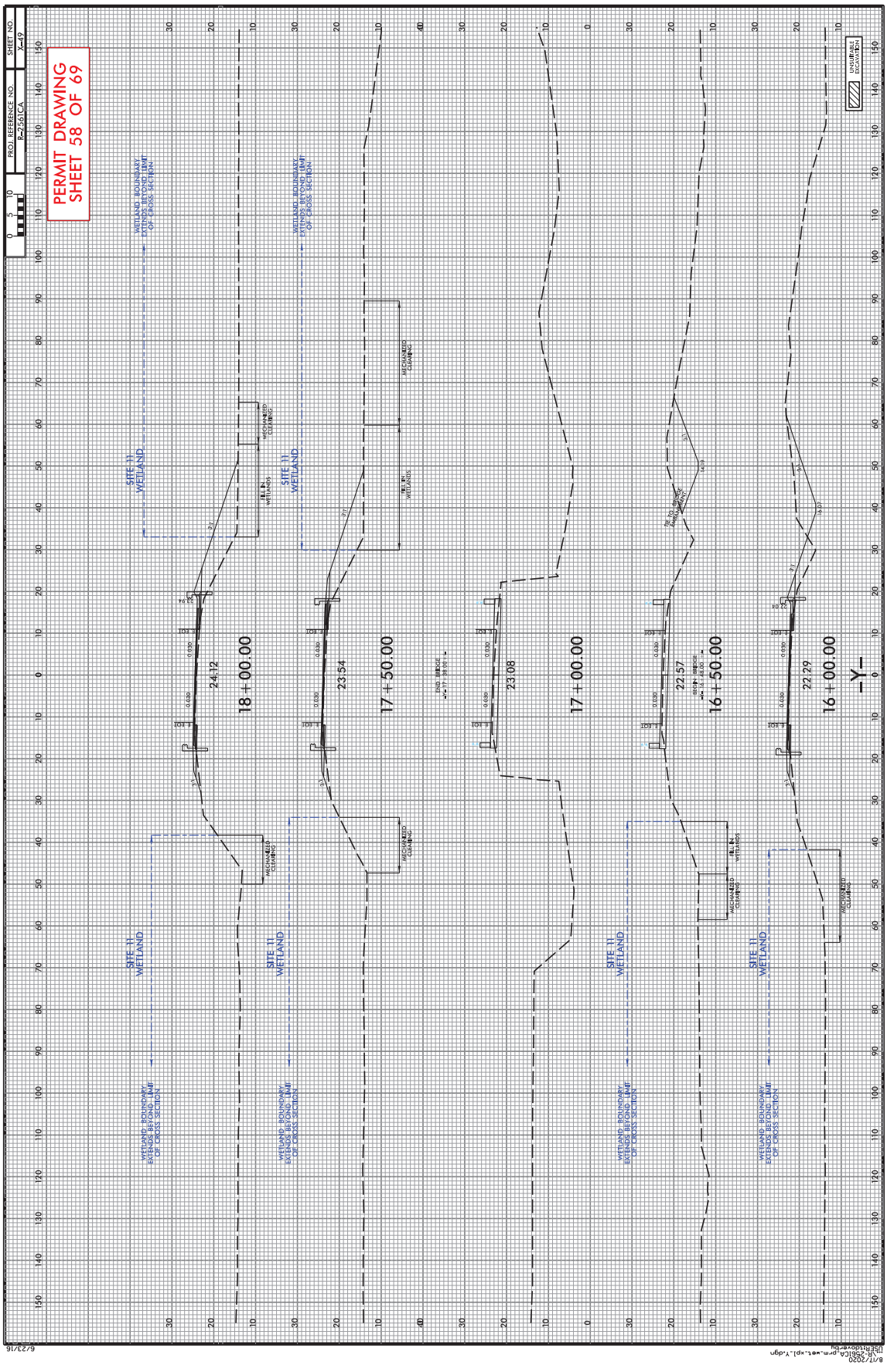
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

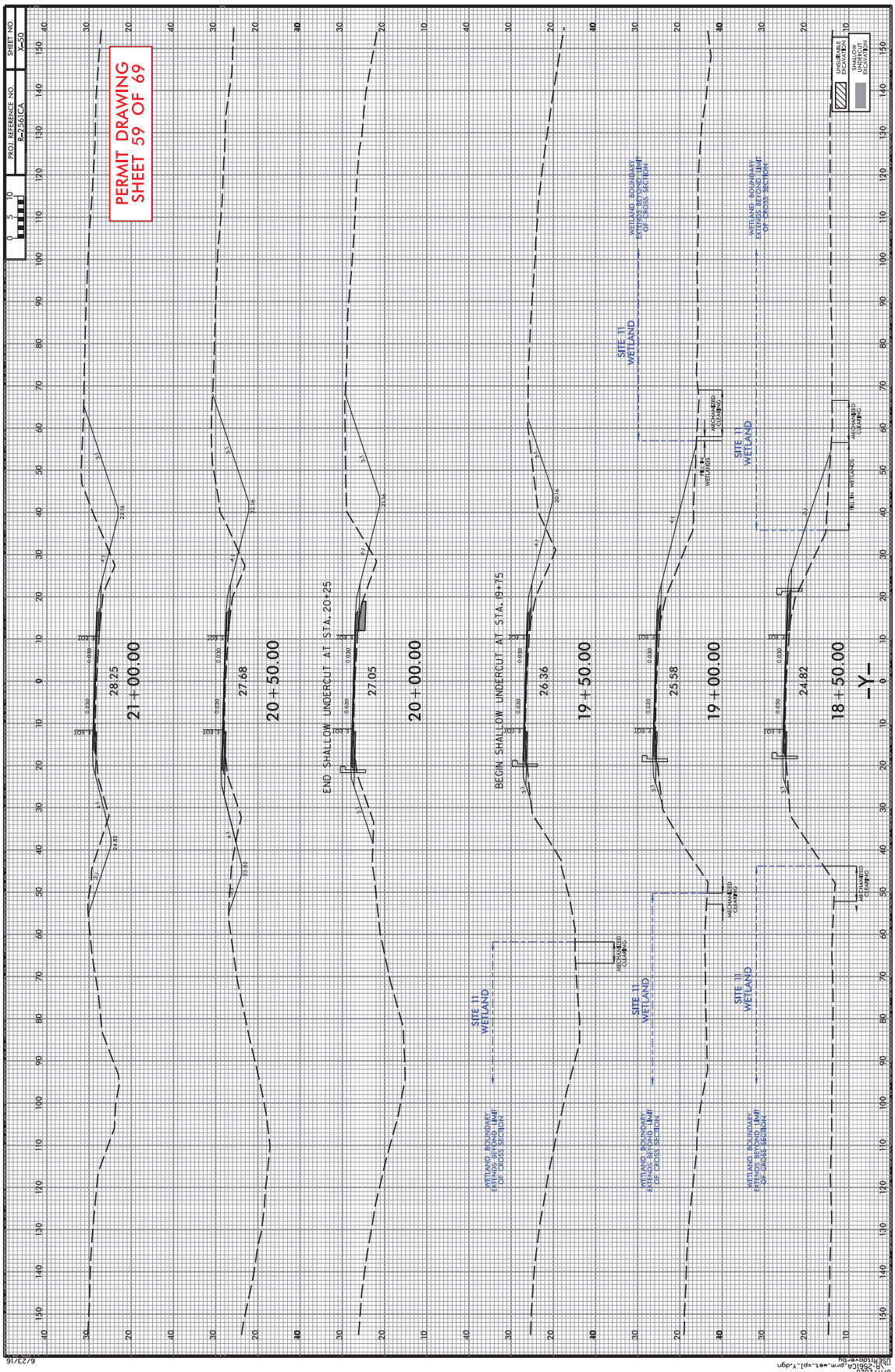
INSET 11A

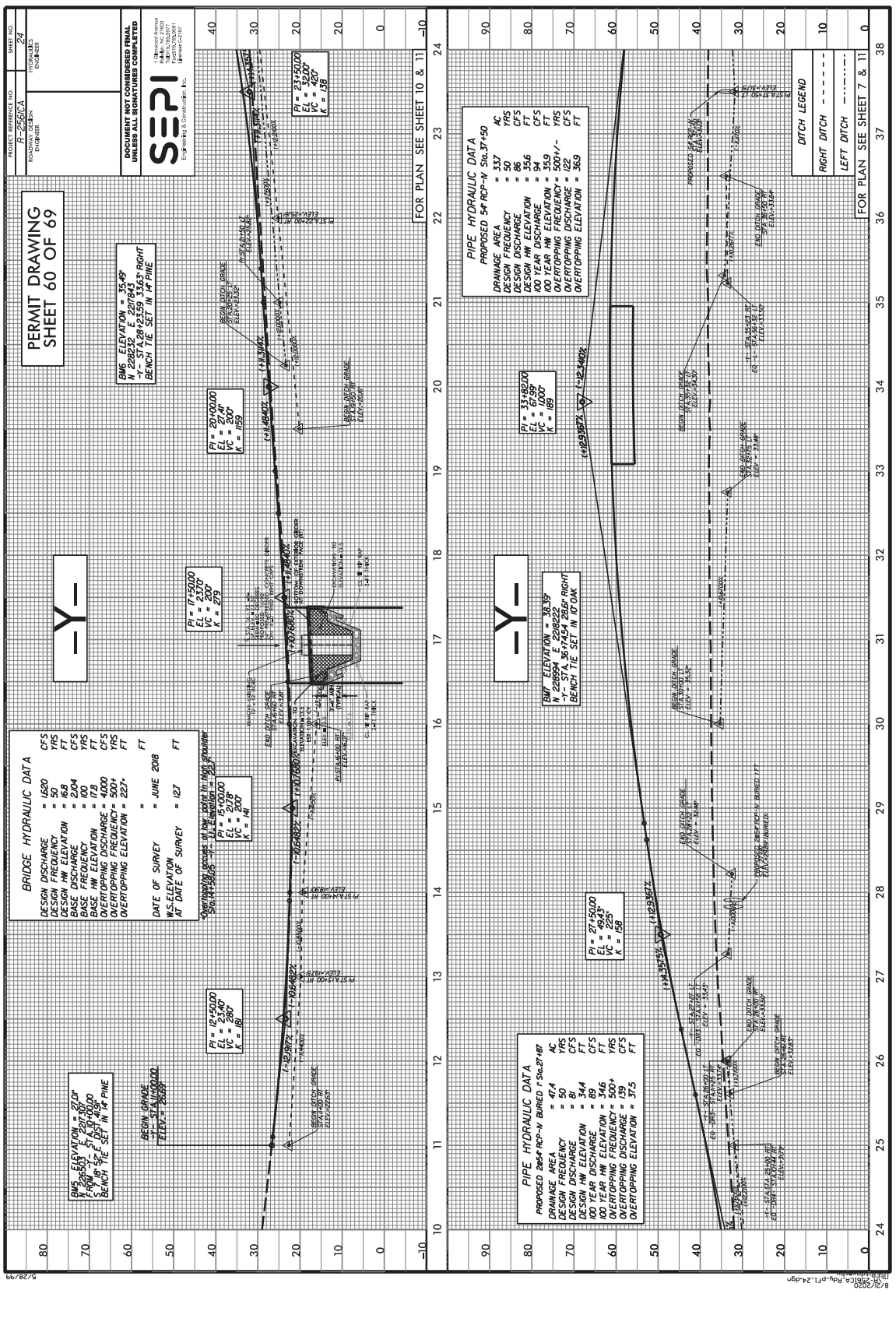


9/4/2020
R-2561CA_hyd_wet_PSH11A_Contour.dgn
jfeltman


PERMIT DRAWING
SHEET 57 OF 69
PROJ. REFERENCE NO.
R-2561CA
SHEET NO.
X-48
UNSUITABLE EXCAVATION
SHALLOW UNDERCUT EXCAVATION
21.95
15+50.00
21.81
15+00.00
21.95
14+50.00
22.32
14+00.00
22.62
13+50.00
23.20
13+00.00
-Y-
SITE 1 WETLAND
WETLAND BOUNDARY EXTENDS BEYOND LIMIT OF CROSS SECTION
MECHANIZED CLEARING
6/23/16
8/17/2020


PERMIT DRAWING
SHEET 58 OF 69
PROJ. REFERENCE NO.
R-2561CA
SHEET NO.
X-49
SITE 11 WETLAND
WETLAND BOUNDARY EXTENDS BEYOND LIMIT OF CROSS SECTION
MECHANIZED CLEARING
FILL IN WETLANDS
24.12
18+00.00
23.54
17+50.00
23.08
17+00.00
22.57
16+50.00
22.29
16+00.00
-Y-
UNSUITABLE EXCAVATION


PERMIT DRAWING
SHEET 59 OF 69
PROJ. REFERENCE NO.
R-2561CA
SHEET NO.
X-50
21+00.00
28.25
20+50.00
27.68
END SHALLOW UNDERCUT AT STA. 20+25
20+00.00
27.05
BEGIN SHALLOW UNDERCUT AT STA. 19+75
19+50.00
26.36
19+00.00
25.58
18+50.00
24.82
-Y-
SITE 11 WETLAND
WETLAND BOUNDARY EXTENDS BEYOND LIMIT OF CROSS SECTION
MECHANIZED CLEARING
FILL IN WETLANDS
UNSUITABLE EXCAVATION
SHALLOW UNDERCUT EXCAVATION


PERMIT DRAWING
SHEET 60 OF 69
PROJECT REFERENCE NO.
R-2566/CA
SHEET NO.
24
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
SEPI
Engineering & Construction P.C.
BRIDGE HYDRAULIC DATA
DESIGN DISCHARGE = 1620 CFS
DESIGN FREQUENCY = 50 YRS
DESIGN HW ELEVATION = 68 FT
BASE DISCHARGE = 2104 CFS
BASE FREQUENCY = 100 YRS
BASE HW ELEVATION = 71.8 FT
OVERTOPPING DISCHARGE = 4000 CFS
OVERTOPPING FREQUENCY= 500+ YRS
OVERTOPPING ELEVATION = 227.- FT
DATE OF SURVEY = JUNE 2018
W.S.ELEVATION AT DATE OF SURVEY = 127 FT
Overtopping occurs at low point in Nat. shoulder Sta.14+38.05 -Y- Lt. Elevation = 233.4'
PIPE HYDRAULIC DATA
PROPOSED 36S# RCP-W BURIED -Y- Sta.27+87
DRAINAGE AREA = 47.4 AC
DESIGN FREQUENCY = 50 YRS
DESIGN DISCHARGE = 81 CFS
DESIGN HW ELEVATION = 34.4 FT
100 YEAR DISCHARGE = 89 CFS
100 YEAR HW ELEVATION = 34.6 FT
OVERTOPPING FREQUENCY= 500+ YRS
OVERTOPPING DISCHARGE = 139 CFS
OVERTOPPING ELEVATION = 37.5 FT
PIPE HYDRAULIC DATA
PROPOSED 54" RCP-W Sta.37+50
DRAINAGE AREA = 33.7 AC
DESIGN FREQUENCY = 50 YRS
DESIGN DISCHARGE = 86 CFS
DESIGN HW ELEVATION = 35.6 FT
100 YEAR DISCHARGE = 94 CFS
100 YEAR HW ELEVATION = 35.9 FT
OVERTOPPING FREQUENCY= 500+/- YRS
OVERTOPPING DISCHARGE = 122 CFS
OVERTOPPING ELEVATION = 36.3 FT
DITCH LEGEND
RIGHT DITCH
LEFT DITCH
FOR PLAN SEE SHEET 10 & 11
FOR PLAN SEE SHEET 7 & 11
-Y-
BEGIN GRADE STA.14+00.00 ELEV.=233.40'
BM5 ELEVATION = 27.07' N 228307 E 2017.307 FROM -Y- STA.14+00.00 DIST. 43.38' RT. BENCH TIE SET IN 14" PINE
BM6 ELEVATION = 35.49' N 228932 E 2018.644 FROM -Y- STA.28+62.55 DIST. 33.63' RIGHT BENCH TIE SET IN 14" PINE
BMT ELEVATION = 38.39' N 228804 E 2018.232 FROM -Y- STA. 36+74.54 28.56' RIGHT BENCH TIE SET IN 10" OAK
PI = 12+50.00 EL = 234.40' VC = 280' K = 18
PI = 15+00.00 EL = 227.8' VC = 200' K = 141
PI = 17+50.00 EL = 217.0' VC = 200' K = 279
PI = 20+00.00 EL = 217.41' VC = 200' K = 159
PI = 23+50.00 EL = 213.4' VC = 200' K = 138
PI = 27+50.00 EL = 205.43' VC = 225' K = 158
PI = 31+92.00 EL = 197.5' VC = 100' K = 189
PI = 37+92.00 EL = 191.5' VC = 100' K = 189
BEGIN DITCH GRADE STA.14+00.00 ELEV.=232.90'
END DITCH GRADE STA.14+38.05 ELEV.=233.4'
BEGIN DITCH GRADE STA.14+38.05 ELEV.=233.4'
END DITCH GRADE STA.18+00.00 ELEV.=227.8'
BEGIN DITCH GRADE STA.18+00.00 ELEV.=227.8'
END DITCH GRADE STA.21+00.00 ELEV.=217.0'
BEGIN DITCH GRADE STA.21+00.00 ELEV.=217.0'
END DITCH GRADE STA.23+00.00 ELEV.=213.4'
BEGIN DITCH GRADE STA.23+00.00 ELEV.=213.4'
END DITCH GRADE STA.27+00.00 ELEV.=205.43'
BEGIN DITCH GRADE STA.27+00.00 ELEV.=205.43'
END DITCH GRADE STA.31+92.00 ELEV.=197.5'
BEGIN DITCH GRADE STA.31+92.00 ELEV.=197.5'
END DITCH GRADE STA.37+92.00 ELEV.=191.5'
BEGIN DITCH GRADE STA.37+92.00 ELEV.=191.5'
END DITCH GRADE STA.41+50.00 ELEV.=187.5'
PROPOSED 54"RCP-W BURIED 1FT ELEV.=203.5'
PROPOSED 36S#RCP-W BURIED 1FT ELEV.=238.9'(BURIED)
PROPOSED 54"RCP-W BURIED 1FT ELEV.=203.5'

PROPOSED STREAM BED DETAILS
BRIDGE NO. 374 (–Y– STA. 16+93.00)

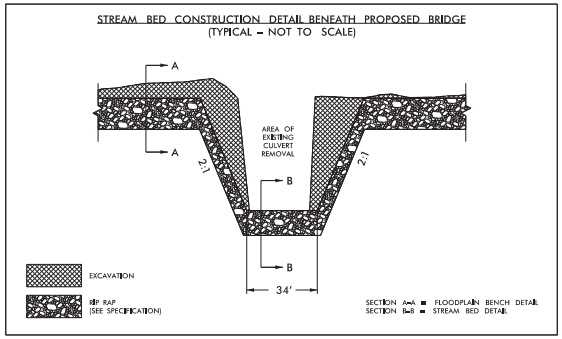
SEPI Engineering & Construction, Inc.
1 Glenwood Avenue
Raleigh, NC 27603
Tel: 919.789.9977
Fax: 919.789.9591
License: C-2197

PERMIT DRAWING
SHEET 60A OF 69

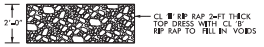
PROJECT REFERENCE NO.	SHEET NO.
R-2561CA	2D-3
R/W SHEET NO.	

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

STREAM BED CONSTRUCTION DETAIL BENEATH PROPOSED BRIDGE
(TYPICAL – NOT TO SCALE)

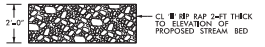


SECTION A–A PROPOSED FLOODPLAIN BENCH
(TYPICAL)



WHERE EXISTING CULVERTS HAVE BEEN REMOVED AND NEW STREAM BEDS MUST BE ESTABLISHED, PLACE CLASS II RIP RAP TO A DEPTH OF 2-FT IN FLOODPLAIN AREAS. CLASS II RIP RAP SHALL BE PLACED TO THE ELEVATION OF THE DESIRED FINISHED GRADE OF THE FLOODPLAIN BENCH. TOP DRESS CLASS II RIP RAP WITH CLASS I RIP RAP IN ORDER TO FILL IN VOIDS OVER THE TOP OF THE RIP RAP. NATURAL FLOODPLAIN BENCH AREAS SHALL BE ALLOWED TO FILL IN NATURALLY OVER TIME WITH NATIVE MATERIALS AND SEDIMENT TRANSPORTED BY THE STREAM DURING OVERBANK FLOOD EVENTS. RIP RAP MATERIALS ARE SUBJECT TO APPROVAL BY THE ENGINEER AND MAY BE SUBJECT TO PERMIT CONDITIONS.

SECTION B–B PROPOSED STREAM BED
(TYPICAL)



WHERE EXISTING CULVERTS HAVE BEEN REMOVED AND NEW STREAM BEDS MUST BE ESTABLISHED, PLACE CLASS II RIP RAP TO A DEPTH OF 2-FT IN THE BASE OF THE EXCAVATED STREAM BED AND "KNUCKLE IN" WITH BACKHOE BUCKET. CLASS II RIP RAP SHALL BE PLACED TO THE ELEVATION OF THE PROPOSED STREAM BED AND ALLOWED TO FILL IN NATURALLY OVER TIME WITH NATIVE MATERIALS AND SEDIMENT TRANSPORTED BY THE STREAM DURING OVERBANK FLOOD EVENTS. RIP RAP MATERIALS ARE SUBJECT TO APPROVAL BY THE ENGINEER AND MAY BE SUBJECT TO PERMIT CONDITIONS.

REVISIONS 8/17/99

2/22/2021
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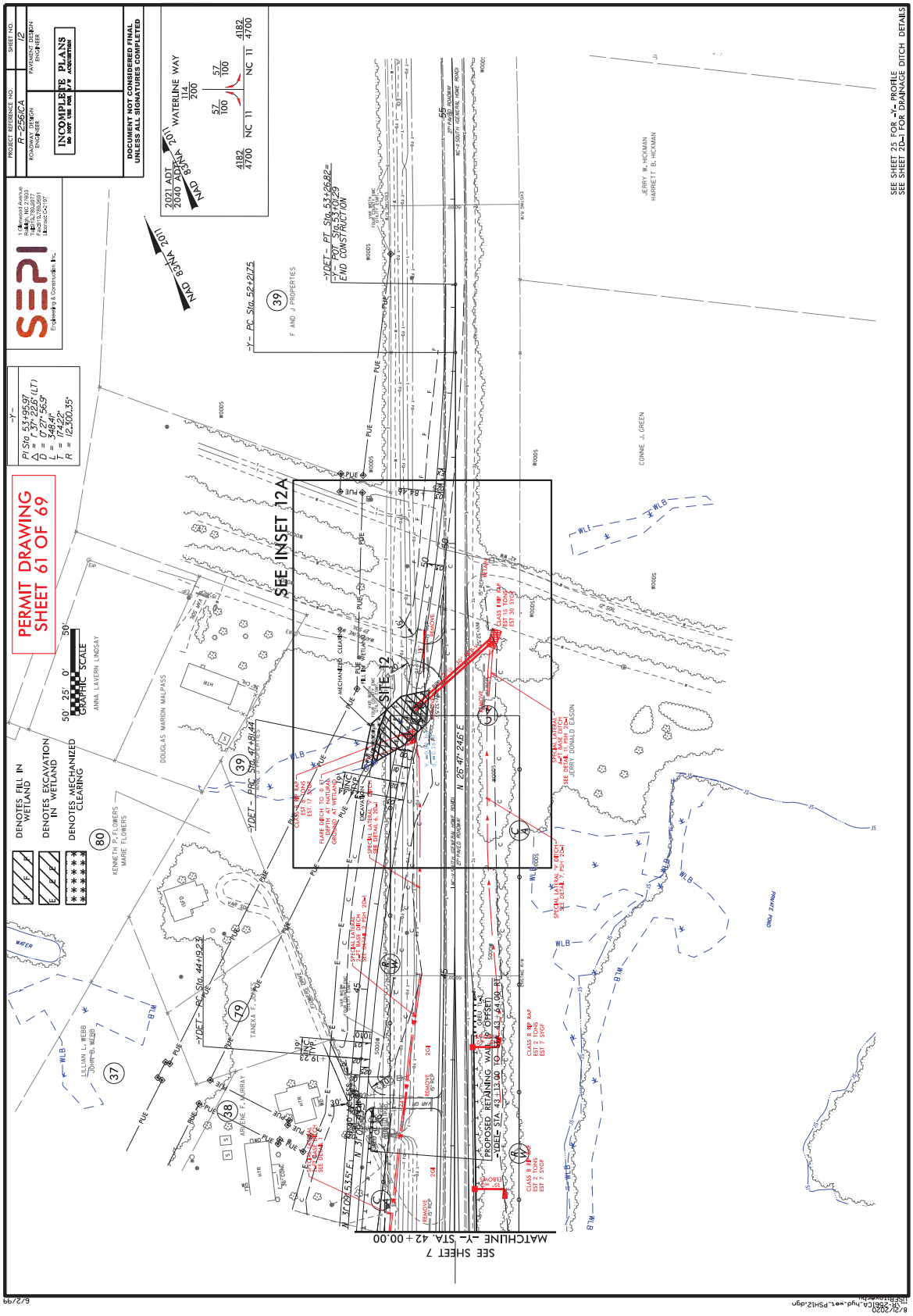
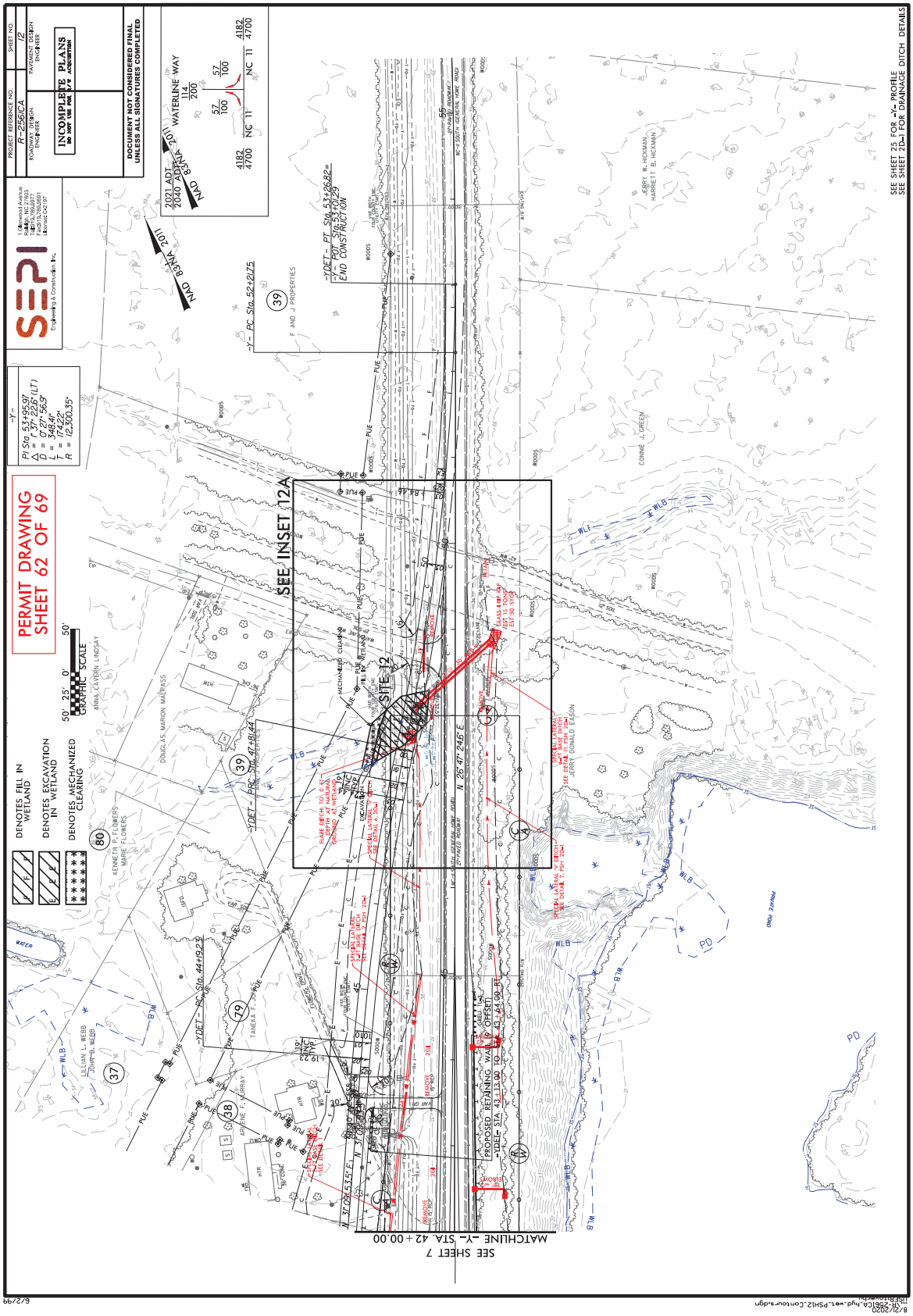

PERMIT DRAWING
SHEET 61 OF 69
SEPI
Engineering & Construction, Inc.
PROJECT REFERENCE NO.
R-2561CA
SHEET NO.
12
ROADWAY DESIGN ENGINEER
PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
2021 ADT
2040 ADT
NAD 83/NA 2011
WATERLINE WAY
NC 11
SEE INSET 12A
SITE 12
DENOTES FILL IN WETLAND
DENOTES EXCAVATION IN WETLAND
DENOTES MECHANIZED CLEARING
GRAPHIC SCALE
ANNA LAVERN LINDSAY
DOUGLAS MARION MALPASS
KENNETH P. FLOWERS
MARIE FLOWERS
TANEKA F. JOHNS
ARVENE F. MURRAY
LILLIAN L. WEBB
JOHN B. WEBB
F AND J PROPERTIES
CONNIE J. GREEN
JERRY W. HICKMAN
HARRIETT B. HICKMAN
PROPOSED RETAINING WALL (OFFSET)
SEE SHEET 7
MATCHLINE -Y- STA. 42+00.00
SEE SHEET 25 FOR -Y- PROFILE
SEE SHEET 2D-1 FOR DRAINAGE DITCH DETAILS


PERMIT DRAWING
SHEET 62 OF 69
DENOTES FILL IN WETLAND
DENOTES EXCAVATION IN WETLAND
DENOTES MECHANIZED CLEARING
GRAPHIC SCALE
50' 25' 0' 50'
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PROJECT REFERENCE NO.
R-2561CA
SHEET NO.
12
ROADWAY DESIGN ENGINEER
PAYMENT DESIGN ENGINEER
SEPI
Engineering & Construction, Inc.
-Y-
PI Sta. 53+95.97
Δ = 1° 37' 26.6" (LT)
D = 0° 27' 56.9"
L = 348.41'
T = 174.22'
R = 12,300.35'
SEE INSET 12A
SITE 12
-Y- PC Sta. 52+21.75
-YDET- PT Sta. 53+26.82=
-Y- POT Sta. 53+01.29
END CONSTRUCTION
-YDET- PRC Sta. 47+81.44
-YDET- PC Sta. 44+19.23
PROPOSED RETAINING WALL 19 (OFFSET)
-YDEL- STA. 43+13.00 TO STA. 43+64.00 RT
N 26° 47' 24.6" E
N 37° 09' 53.5" E
MATCHLINE -Y- STA. 42+00.00
SEE SHEET 7
SEE SHEET 25 FOR -Y- PROFILE
SEE SHEET 2D-1 FOR DRAINAGE DITCH DETAILS
NAD 83/NA 2011
2021 ADT 4182
2040 ADT 4700
WATERLINE WAY
NC 11
F AND J PROPERTIES
DOUGLAS, MARION MALPASS
KENNETH P. FLOWERS
MARIE FLOWERS
LILLIAN L. WEBB
JOHN B. WEBB
ARLENE F. MURRAY
TANEKA F. JONES
ANNA LAVERN LINDSAY
CONNIE J. GREEN
JERRY W. HICKMAN
HARRIETT B. HICKMAN
JERRY DONALD EASON
WOODS
WLB
PD
PUE
8/2/2020
R-2561CA_hyd_wet_PSH12_Contours.dgn

PERMIT DRAWING
SHEET 63 OF 69

SEPI Engineering & Construction, Inc.
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.5977
Fax:919.789.5591
Licensed C-2197

PROJECT REFERENCE NO.	SHEET NO.
R-2561CA	12A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

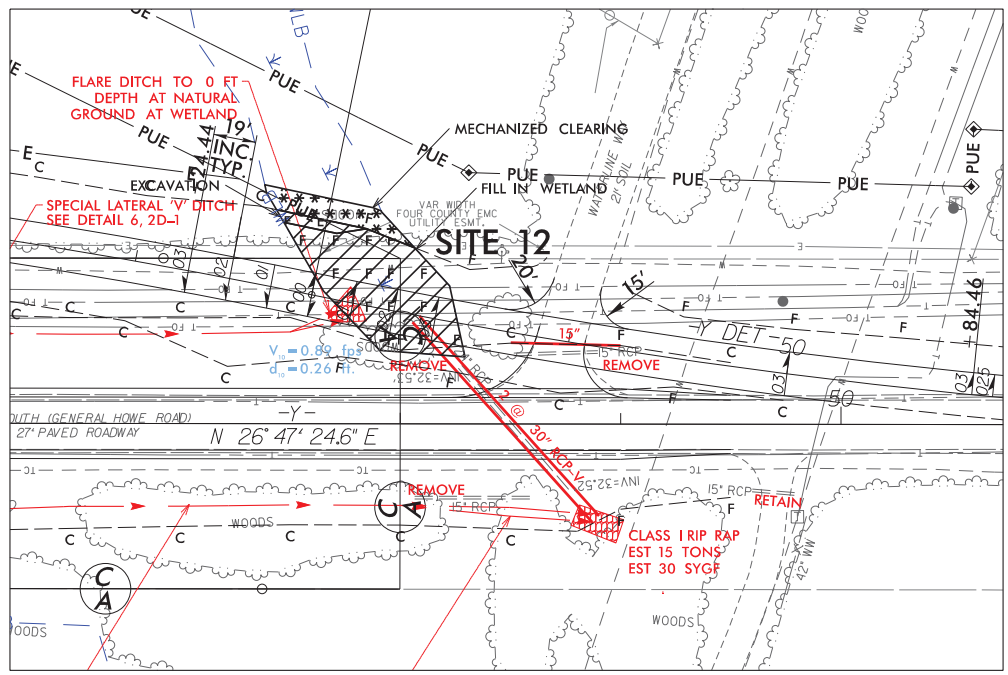
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DENOTES FILL IN WETLAND
DENOTES EXCAVATION IN WETLAND
DENOTES MECHANIZED CLEARING

25' 0' 25'
GRAPHIC SCALE

INSET 12A



6/2/99

8/21/2020
R-2561CA_hyd_wet_PSH12A.dgn

PERMIT DRAWING
SHEET 64 OF 69

SEPI Engineering & Construction, Inc.
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.5977
Fax:919.789.9591
Licensed C-2197

PROJECT REFERENCE NO.	SHEET NO.
R-2561CA	12A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

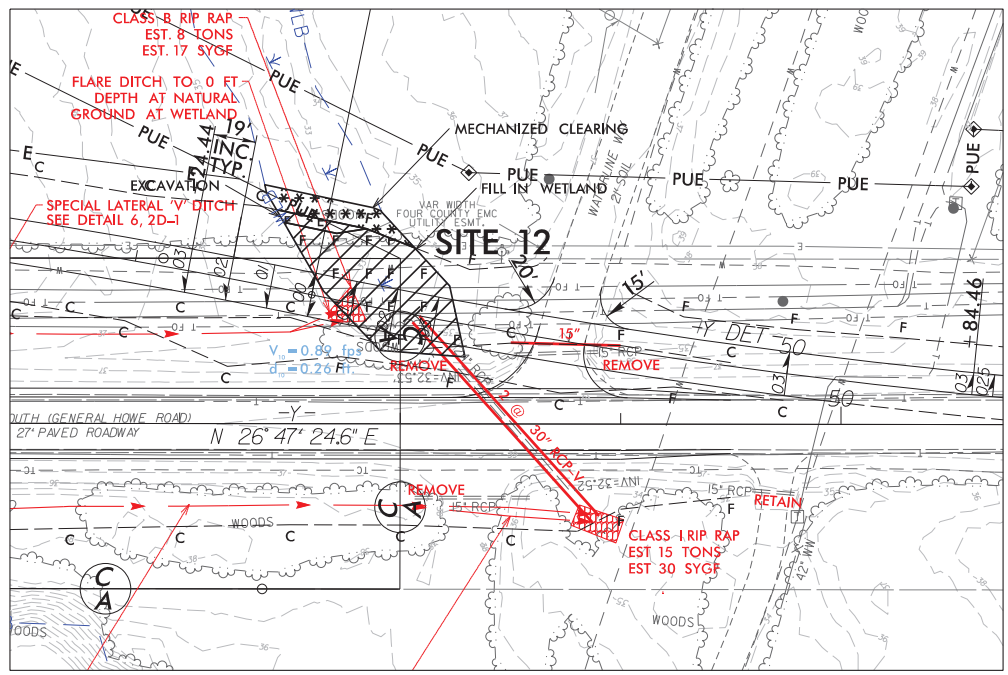
DENOTES FILL IN WETLAND

DENOTES EXCAVATION IN WETLAND

DENOTES MECHANIZED CLEARING

25' 0' 25'
GRAPHIC SCALE

INSET 12A



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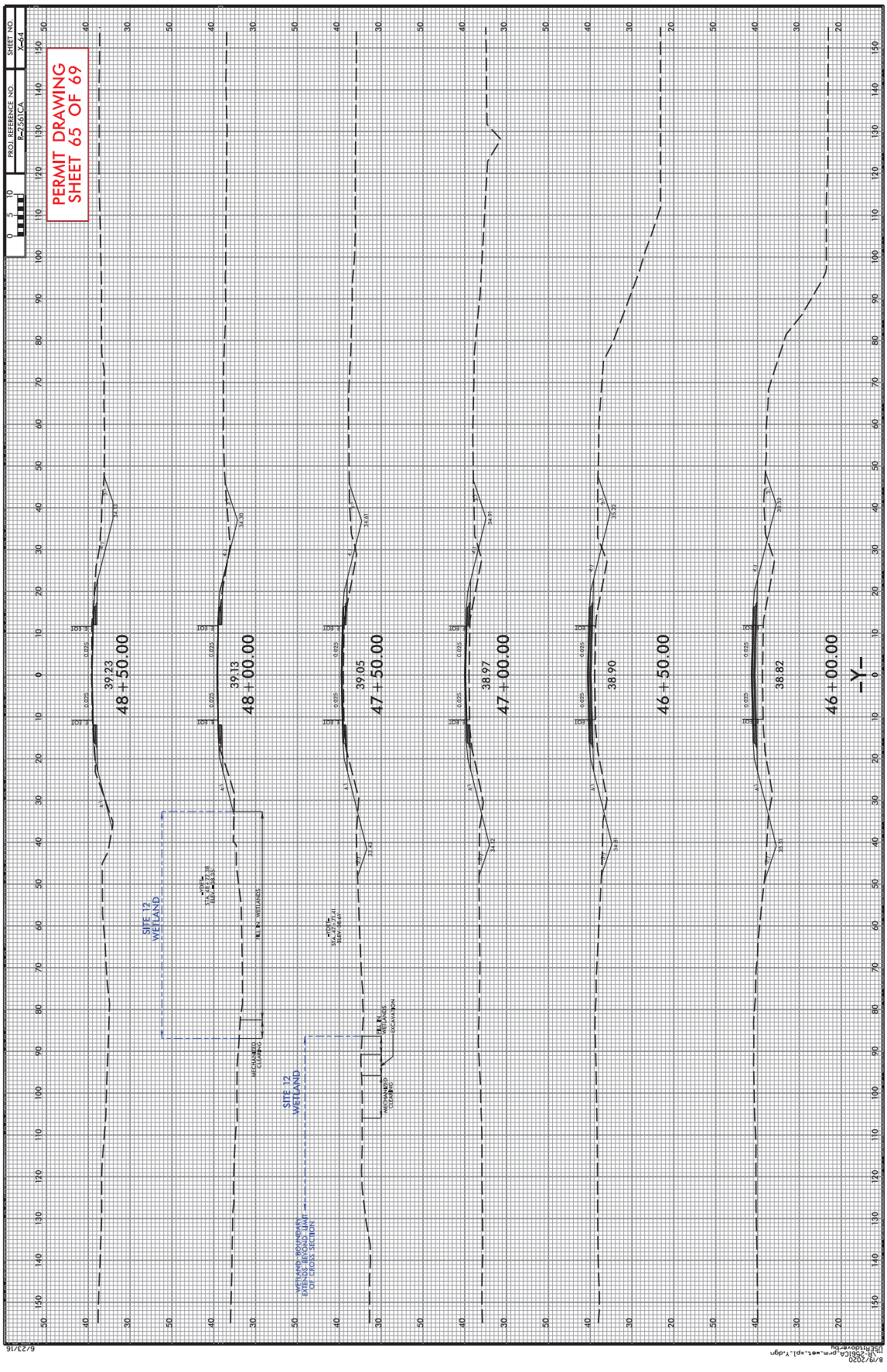
8/21/2020
R-2561CA_hyd_wet_PSH12A_Contours.dgn


PERMIT DRAWING
SHEET 65 OF 69
PROJ REFERENCE NO
R-2561CA
SHEET NO
X-64
48+50.00
48+00.00
47+50.00
47+00.00
46+50.00
46+00.00
SITE 12
WETLAND
WETLAND BOUNDARY
EXTENDS BEYOND LIMIT
OF THIS SECTION
MECHANIZED
CLEARING
WETLANDS
EXCAVATION
-Y-

WETLAND AND SURACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	14+89 - 15+87 -L1- RT	Roadway/Ditch Construction	0.012		0.028	0.029						
1	14+87 - 16+29 -L1- RT	Hand Clearing in ROW/PUE					0.021					
1	15+40 - 15+64 -L2- LT	Roadway Fill/54" Pipe						0.006		34		
1	15+59 - 15+70 -L2- LT	Rip Rap Channel Stabilization						0.002		18		
1	15+66 - 15+72 -L2- LT	Dewatering for Pipe Install							0.001		10	
2	9+45 - 11+05 -Y2- LT	Ditch Construction			0.011	0.023						
2	9+46 - 9+53 -Y2- RT	2@18" Pipe/Rip Rap at Outlet	0.003			0.016						
3	35+59 - 38+98 -L- LT	Roadway Fill	0.285									
3	36+46 - 38+98 -L- LT	Rip Rap Toe Protection	0.034		0.047							
4	46+49 - 47+74 -L- LT	Roadway/Ditch Construction	0.077		0.035		0.024					
4	18+01 - 19+18 -RPB- LT	Roadway/Ditch Construction	0.102		0.050	0.056						
4	18+11 - 20+19 -RPB- RT	Roadway/Ditch/EC Basin Construction	0.090		0.047		0.045					
4	19+62 -RPB- RT - 16+03 -LPB- LT	Ditch w/Rip Rap Construction	0.024				0.017					
4	13+09 - 14+54 -LPB- LT	Roadway/Ditch/EC Basin Construction	0.092		0.059		0.066					
4	13+16 - 14+38 -LPB- RT	Roadway/Ditch Construction	0.074		0.033	0.014						
4	14+99 - 16+02 -LPB- LT	Roadway/Ditch Construction	0.081		0.017		0.020					
4	14+98 - 16+30 -LPB- RT	Roadway Fill	0.090									
4	15+63 - 16+17 -LPB- RT	Ditch w/Rip Rap Construction	0.045			0.098						
SHEET TOTALS*:			1.010	0.000	0.327	0.236	0.192	0.008	0.001	52	10	0

*Rounded totals are sum of actual impacts

NOTES:

Sheet 1 of 4

Project Totals shown on Sheet 4 (69)

*Totals shown above are for this sheet only

SITE 4: Wetland area outside of R/W between 18+01-19+18 -RPB- LT will be a total take subject to mitigation. Area = 0.385 acres

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NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
2/25/2021
Columbus
R-2561CA
34466.4.5
SHEET 66 OF 69

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)
5	37+71 - 37+82 -Y- RT	Hand Clearing in TDE					0.008					
5	39+12 - 40+79 -Y- RT	Roadway Fill	0.080			0.142						
5	40+90 - 41+10 -Y- RT	15" Pipe/Rip Rap at Outlet	0.007		0.030	0.020						
6	28+43 - 28+74 -Y- LT	Roadway Fill/Channel Change	0.012		0.004	0.006						
6	27+01 - 28+70 -Y- RT	Roadway Fill						0.026		276		
6	22+65 - 22+75 -RPD- LT	Rip Rap Channel Stabilization						0.010		20		
6	22+65 - 22+84 -RPD- LT	Dewatering for Pipe Install							0.006		16	
7	17+53 - 17+76 -RPD- RT	Ditch Construction			0.001	0.005						
8	11+55 - 12+24 -RPD- RT	Ditch w/Rip Rap Construction	0.034			0.008						
8	11+55 - 12+19 -RPD- RT	Rip Rap down existing slope	0.029			0.065						
9	67+98 - 70+95 -L- LT	Roadway Fill	0.231			0.135						
9	70+38 - 71+62 -L- LT	Bank Stabilization						0.020		35		
9	70+30 - 71+36 -L- LT	Permanent Channel Stabilization						0.091		66		
9	69+63 - 69+73 -L- LT	Bridge Bent in Stream						0.001		10		
9	70+89 - 71+04 -L- LT	Bridge Bent in Stream						0.003				
9	70+25 - 70+40 -L- LT	Stream Access for Stabilization							0.002		10	
9	70+89 - 71+04 -L- LT	Stream Access for Stabilization							0.002			
SHEET TOTALS*:			0.393	0.000	0.034	0.381	0.008	0.150	0.010	407	26	0

*Rounded totals are sum of actual impacts

NOTES:

Sheet 2 of 4

Project Totals shown on Sheet 4 (69)

*Totals shown above are for this sheet only

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
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Columbus
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SHEET 67 OF 69

Revised 2018 Feb

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)
9	70+65 - 71+54 -L- RT	Permanent Channel Stabilization						0.056		64		
9	70+67 - 70+67 -L- RT	Stream Access for Stabilization							0.004		21	
9	70+85 - 71+03 -L- RT	Stream Access for Stabilization							0.001			
9	70+20 - 71+05 -L- RT	Roadway Fill	0.003			0.010						
9	70+91 - 77+15 -L- RT	Roadway Fill	0.205			0.163						
9	74+54 - 77+15 -L- RT	Rip Rap Toe Protection	0.048			0.085						
9	71+08 - 76+00 -L- RT	Hand Clearing in ROW					0.025					
10	80+78 - 81+26 -L- LT	Roadway/Ditch Construction	0.007			0.002						
10	80+68 - 80+88 -L- LT	Hand Clearing in DUE					0.005					
11	12+85 - 13+07 -Y- LT	Roadway Fill	0.002									
11	12+63 - 13+40 -Y- LT	Rip Rap Toe Protection	0.005			0.023						
11	13+40 - 16+21 -Y- LT	Clearing for Silt Fence				0.114						
11	16+21 - 16+79 -Y- LT	Roadway Fill	0.011			0.013						
11	17+03 - 17+58 -Y- LT	Roadway Fill	0.010			0.003						
11	17+58 - 19+09 -Y- LT	Clearing for Silt Fence				0.029						
11	19+37 - 19+53 -Y- LT	Rip Rap at Pipe Outlet	0.000			0.002						
11	17+13 - 18+91 - Y- RT	Roadway Fill	0.059									
11	17+18 - 19+06 - Y- RT	Rip Rap Toe Protection	0.019			0.408						
SHEET TOTALS*:			0.369	0.000	0.000	0.852	0.030	0.056	0.005	64	21	0

*Rounded totals are sum of actual impacts

NOTES:

Sheet 3 of 4

Project Totals shown on Sheet 4 (69)

*Totals shown above are for this sheet only

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
2/25/2021
Columbus
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34466.4.5
SHEET 68 OF 69

Revised 2018 Feb

WETLAND AND SURACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
11	16+57 - 17+48 -Y-	Culvert Removal/Bridge Const./ Bank Stabilization						0.037		83		
11	16+56 - 16+63 -Y- LT	Stream Access for Stabilization							0.001		10	
11	16+64 - 17+39 -Y- LT	Dewatering for Culvert Removal							0.018		38	
11	17+48 - 17+59 -Y- LT	Stream Access for Stabilization							0.010		5	
11	16+84 - 17+11 -Y- RT	Dewatering for Culvert Removal							0.013		18	
11	16+64 - 16+78 -Y- RT	Stream Access for Stabilization							0.002		10	
11	17+13 - 17+21 -Y- RT	Stream Access for Stabilization							0.002		10	
12	47+43 - 48+29 -Y- LT	Roadway Fill/Detour	0.065		0.020	0.014						
SHEET 66 SUBTOTALS			1.010		0.327	0.236	0.192	0.008	0.001	52	10	
SHEET 67 SUBTOTALS			0.393		0.034	0.381	0.008	0.150	0.010	407	26	
SHEET 68 SUBTOTALS			0.369	0.000	0.000	0.852	0.030	0.056	0.005	64	21	0
PROJECT TOTALS*:			**1.837**	**0.000**	**0.381**	**1.483**	**0.230**	**0.251**	**0.062**	**606**	**148**	**0**

*Rounded totals are sum of actual impacts

NOTES:

Sheet 4 of 4

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
2/25/2021
Columbus
R-2561CA
34466.4.5
SHEET 69 OF 69

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County: COLUMBUS

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
			ROADWAY ITEMS			
0001	0000100000-N	800	MOBILIZATION	Lump Sum	L.S.	
0002	0000400000-N	801	CONSTRUCTION SURVEYING	Lump Sum	L.S.	
0003	0001000000-E	200	CLEARING & GRUBBING .. ACRE(S)	Lump Sum	L.S.	
0004	0008000000-E	200	SUPPLEMENTARY CLEARING & GRUBBING	3 ACR		
0005	0022000000-E	225	UNCLASSIFIED EXCAVATION	38,500 CY		
0006	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (16+93.00 -Y-)	Lump Sum	L.S.	
0007	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (34+01.72 -Y-)	Lump Sum	L.S.	
0008	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (70+34.00 -L-)	Lump Sum	L.S.	
0009	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (71+06.00 -L-)	Lump Sum	L.S.	
0010	0036000000-E	225	UNDERCUT EXCAVATION	15,000 CY		
0011	0106000000-E	230	BORROW EXCAVATION	351,500 CY		
0012	0134000000-E	240	DRAINAGE DITCH EXCAVATION	4,335 CY		
0013	0156000000-E	250	REMOVAL OF EXISTING ASPHALT PAVEMENT	9,600 SY		
0014	0177000000-E	250	BREAKING OF EXISTING ASPHALT PAVEMENT	7,300 SY		
0015	0192000000-N	260	PROOF ROLLING	7 HR		
0016	0195000000-E	265	SELECT GRANULAR MATERIAL	12,980 CY		

County: COLUMBUS

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0017	0196000000-E	270	GEOTEXTILE FOR SOIL STABILIZATION	25,025 SY		
0018	0318000000-E	300	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES	1,490 TON		
0019	0320000000-E	300	FOUNDATION CONDITIONING GEOTEXTILE	4,670 SY		
0020	0335200000-E	305	15" DRAINAGE PIPE	1,068 LF		
0021	0335300000-E	305	18" DRAINAGE PIPE	1,096 LF		
0022	0335400000-E	305	24" DRAINAGE PIPE	1,564 LF		
0023	0335500000-E	305	30" DRAINAGE PIPE	268 LF		
0024	0335850000-E	305	**" DRAINAGE PIPE ELBOWS (15")	30 EA		
0025	0335850000-E	305	**" DRAINAGE PIPE ELBOWS (18")	6 EA		
0026	0354000000-E	310	***" RC PIPE CULVERTS, CLASS ***** (15", V)	236 LF		
0027	0354000000-E	310	***" RC PIPE CULVERTS, CLASS ***** (18", V)	244 LF		
0028	0354000000-E	310	***" RC PIPE CULVERTS, CLASS ***** (24", V)	316 LF		
0029	0354000000-E	310	***" RC PIPE CULVERTS, CLASS ***** (30", V)	244 LF		
0030	0354000000-E	310	***" RC PIPE CULVERTS, CLASS ***** (36", V)	92 LF		
0031	0366000000-E	310	15" RC PIPE CULVERTS, CLASS III	796 LF		
0032	0372000000-E	310	18" RC PIPE CULVERTS, CLASS III	912 LF		
0033	0378000000-E	310	24" RC PIPE CULVERTS, CLASS III	1,208 LF		

County: COLUMBUS

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0034	0384000000-E	310	30" RC PIPE CULVERTS, CLASS III	1,248 LF		
0035	0390000000-E	310	36" RC PIPE CULVERTS, CLASS III	1,416 LF		
0036	0448000000-E	310	****" RC PIPE CULVERTS, CLASS IV (48")	100 LF		
0037	0448000000-E	310	****" RC PIPE CULVERTS, CLASS IV (54")	1,160 LF		
0038	0448200000-E	310	15" RC PIPE CULVERTS, CLASS IV	952 LF		
0039	0448300000-E	310	18" RC PIPE CULVERTS, CLASS IV	60 LF		
0040	0448500000-E	310	30" RC PIPE CULVERTS, CLASS IV	64 LF		
0041	0448600000-E	310	36" RC PIPE CULVERTS, CLASS IV	112 LF		
0042	0973100000-E	330	**" WELDED STEEL PIPE, ****" THICK, GRADE B IN SOIL (54", 0.109")	40 LF		
0043	0973300000-E	330	**" WELDED STEEL PIPE, ****" THICK, GRADE B NOT IN SOIL (54", 0.109")	40 LF		
0044	0995000000-E	340	PIPE REMOVAL	2,000 LF		
0045	1000000000-E	462	6" SLOPE PROTECTION	125 SY		
0046	1011000000-N	500	FINE GRADING	Lump Sum	L.S.	
0047	1099500000-E	505	SHALLOW UNDERCUT	2,350 CY		
0048	1099700000-E	505	CLASS IV SUBGRADE STABILIZATION	4,950 TON		
0049	1111000000-E	SP	CLASS IV AGGREGATE STABILIZATION	500 TON		
0050	1121000000-E	520	AGGREGATE BASE COURSE	24,700 TON		

County: COLUMBUS

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0051	1220000000-E	545	INCIDENTAL STONE BASE	1,500 TON		
0052	1275000000-E	600	PRIME COAT	1,540 GAL		
0053	1297000000-E	607	MILLING ASPHALT PAVEMENT, ***" DEPTH (3")	16,000 SY		
0054	1330000000-E	607	INCIDENTAL MILLING	3,100 SY		
0055	1491000000-E	610	ASPHALT CONC BASE COURSE, TYPE B25.0C	9,300 TON		
0056	1503000000-E	610	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	22,400 TON		
0057	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	800 TON		
0058	1523000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5C	18,500 TON		
0059	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	2,660 TON		
0060	1693000000-E	654	ASPHALT PLANT MIX, PAVEMENT REPAIR	110 TON		
0061	2022000000-E	815	SUBDRAIN EXCAVATION	10,820 CY		
0062	2026000000-E	815	GEOTEXTILE FOR SUBSURFACE DRAINS	32,200 SY		
0063	2036000000-E	815	SUBDRAIN COARSE AGGREGATE	5,410 CY		
0064	2044000000-E	815	6" PERFORATED SUBDRAIN PIPE	32,200 LF		
0065	2070000000-N	815	SUBDRAIN PIPE OUTLET	65 EA		
0066	2077000000-E	815	6" OUTLET PIPE	390 LF		
0067	2209000000-E	838	ENDWALLS	13 CY		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0068	2220000000-E	838	REINFORCED ENDWALLS	33 CY		
0069	2275000000-E	SP	FLOWABLE FILL	5 CY		
0070	2286000000-N	840	MASONRY DRAINAGE STRUCTURES	85 EA		
0071	2297000000-E	840	MASONRY DRAINAGE STRUCTURES	17 CY		
0072	2308000000-E	840	MASONRY DRAINAGE STRUCTURES	30 LF		
0073	2364000000-N	840	FRAME WITH TWO GRATES, STD 840.16	11 EA		
0074	2364200000-N	840	FRAME WITH TWO GRATES, STD 840.20	9 EA		
0075	2365000000-N	840	FRAME WITH TWO GRATES, STD 840.22	30 EA		
0076	2366000000-N	840	FRAME WITH TWO GRATES, STD 840.24	8 EA		
0077	2367000000-N	840	FRAME WITH TWO GRATES, STD 840.29	15 EA		
0078	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)	2 EA		
0079	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)	3 EA		
0080	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)	4 EA		
0081	2396000000-N	840	FRAME WITH COVER, STD 840.54	5 EA		
0082	2451000000-N	852	CONCRETE TRANSITIONAL SECTION FOR DROP INLET	12 EA		
0083	2549000000-E	846	2'-6" CONCRETE CURB & GUTTER	2,300 LF		
0084	2556000000-E	846	SHOULDER BERM GUTTER	2,600 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0085	2612000000-E	848	6" CONCRETE DRIVEWAY	200 SY		
0086	2619000000-E	850	4" CONCRETE PAVED DITCH	22 SY		
0087	2655000000-E	852	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)	1,700 SY		
0088	2724000000-E	857	PRECAST REINFORCED CONCRETE BARRIER, SINGLE FACED	100 LF		
0089	3001000000-N	SP	IMPACT ATTENUATOR UNITS, TYPE TL-3	2 EA		
0090	3030000000-E	862	STEEL BEAM GUARDRAIL	3,400 LF		
0091	3150000000-N	862	ADDITIONAL GUARDRAIL POSTS	20 EA		
0092	3210000000-N	862	GUARDRAIL END UNITS, TYPE CAT-1	2 EA		
0093	3287000000-N	SP	GUARDRAIL END UNITS, TYPE TL-3	12 EA		
0094	3317000000-N	SP	GUARDRAIL ANCHOR UNITS, TYPE B-77	18 EA		
0095	3389200000-E	865	CABLE GUIDERAIL	5,000 LF		
0096	3389500000-N	865	ADDITIONAL GUIDERAIL POSTS	10 EA		
0097	3389600000-N	865	CABLE GUIDERAIL ANCHOR UNITS	8 EA		
0098	3503000000-E	866	WOVEN WIRE FENCE, 47" FABRIC	13,000 LF		
0099	3509000000-E	866	4" TIMBER FENCE POSTS, 7'-6" LONG	830 EA		
0100	3515000000-E	866	5" TIMBER FENCE POSTS, 8'-0" LONG	200 EA		
0101	3565000000-E	866	DOUBLE GATES, **" HIGH, **' WIDE, **' OPENING (47", 12', 24')	1 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0102	3628000000-E	876	RIP RAP, CLASS I	2,558 TON		
0103	3635000000-E	876	RIP RAP, CLASS II	2,693 TON		
0104	3649000000-E	876	RIP RAP, CLASS B	3,236 TON		
0105	3656000000-E	876	GEOTEXTILE FOR DRAINAGE	18,296 SY		
0106	4048000000-E	902	REINFORCED CONCRETE SIGN FOUNDATIONS	4 CY		
0107	4060000000-E	903	SUPPORTS, BREAKAWAY STEEL BEAM	3,112 LB		
0108	4072000000-E	903	SUPPORTS, 3-LB STEEL U-CHANNEL	1,750 LF		
0109	4096000000-N	904	SIGN ERECTION, TYPE D	7 EA		
0110	4102000000-N	904	SIGN ERECTION, TYPE E	79 EA		
0111	4108000000-N	904	SIGN ERECTION, TYPE F	15 EA		
0112	4110000000-N	904	SIGN ERECTION, TYPE *** (GROUND MOUNTED) (A)	6 EA		
0113	4155000000-N	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	47 EA		
0114	4400000000-E	1110	WORK ZONE SIGNS (STATIONARY)	1,553 SF		
0115	4405000000-E	1110	WORK ZONE SIGNS (PORTABLE)	128 SF		
0116	4410000000-E	1110	WORK ZONE SIGNS (BARRICADE MOUNTED)	366 SF		
0117	4415000000-N	1115	FLASHING ARROW BOARD	2 EA		
0118	4420000000-N	1120	PORTABLE CHANGEABLE MESSAGE SIGN	2 EA		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0119	4430000000-N	1130	DRUMS	500 EA		
0120	4435000000-N	1135	CONES	100 EA		
0121	4445000000-E	1145	BARRICADES (TYPE III)	312 LF		
0122	4455000000-N	1150	FLAGGER	90 DAY		
0123	4465000000-N	1160	TEMPORARY CRASH CUSHIONS	2 EA		
0124	4485000000-E	1170	PORTABLE CONCRETE BARRIER	750 LF		
0125	4650000000-N	1251	TEMPORARY RAISED PAVEMENT MARKERS	132 EA		
0126	4685000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	72,451 LF		
0127	4695000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)	9,100 LF		
0128	4700000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (12", 90 MILS)	300 LF		
0129	4709000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS)	60 LF		
0130	4720000000-E	1205	THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MILS)	20 EA		
0131	4725000000-E	1205	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	44 EA		
0132	4770000000-E	1205	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (II)	3,139 LF		
0133	4785000000-E	1205	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (12") (II)	145 LF		
0134	4810000000-E	1205	PAINT PAVEMENT MARKING LINES (4")	47,613 LF		
0135	4820000000-E	1205	PAINT PAVEMENT MARKING LINES (8")	7,750 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0136	4835000000-E	1205	PAINT PAVEMENT MARKING LINES (24")	150 LF		
0137	4845000000-N	1205	PAINT PAVEMENT MARKING SYMBOL	57 EA		
0138	4900000000-N	1251	PERMANENT RAISED PAVEMENT MARKERS	35 EA		
0139	4905100000-N	SP	NON-CAST IRON SNOWPLOWABLE PAVEMENT MARKER	1,071 EA		
0140	5325600000-E	1510	6" WATER LINE	5,310 LF		
0141	5325800000-E	1510	8" WATER LINE	3,165 LF		
0142	5329000000-E	1510	DUCTILE IRON WATER PIPE FITTINGS	4,000 LB		
0143	5540000000-E	1515	6" VALVE	8 EA		
0144	5546000000-E	1515	8" VALVE	3 EA		
0145	5571600000-E	1515	6" TAPPING SLEEVE & VALVE	1 EA		
0146	5643100000-E	1515	3/4" WATER METER	1 EA		
0147	5666000000-N	1515	FIRE HYDRANT	4 EA		
0148	5673000000-E	1515	FIRE HYDRANT LEG	55 LF		
0149	5686000000-E	1515	**" WATER SERVICE LINE (1")	30 LF		
0150	5800000000-E	1530	ABANDON 6" UTILITY PIPE	3,900 LF		
0151	5801000000-E	1530	ABANDON 8" UTILITY PIPE	3,800 LF		
0152	5815000000-N	1530	REMOVE WATER METER	1 EA		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0153	5815500000-N	1530	REMOVE FIRE HYDRANT	3 EA		
0154	5835600000-E	1540	12" ENCASEMENT PIPE	365 LF		
0155	5835700000-E	1540	16" ENCASEMENT PIPE	85 LF		
0156	6000000000-E	1605	TEMPORARY SILT FENCE	68,000 LF		
0157	6006000000-E	1610	STONE FOR EROSION CONTROL, CLASS A	1,560 TON		
0158	6009000000-E	1610	STONE FOR EROSION CONTROL, CLASS B	8,700 TON		
0159	6012000000-E	1610	SEDIMENT CONTROL STONE	4,250 TON		
0160	6015000000-E	1615	TEMPORARY MULCHING	143 ACR		
0161	6018000000-E	1620	SEED FOR TEMPORARY SEEDING	6,900 LB		
0162	6021000000-E	1620	FERTILIZER FOR TEMPORARY SEEDING	35 TON		
0163	6024000000-E	1622	TEMPORARY SLOPE DRAINS	2,200 LF		
0164	6029000000-E	SP	SAFETY FENCE	29,720 LF		
0165	6030000000-E	1630	SILT EXCAVATION	22,500 CY		
0166	6036000000-E	1631	MATTING FOR EROSION CONTROL	112,700 SY		
0167	6037000000-E	SP	COIR FIBER MAT	700 SY		
0168	6042000000-E	1632	1/4" HARDWARE CLOTH	1,600 LF		
0169	6043000000-E	SP	LOW PERMEABILITY GEOTEXTILE	1,547 SY		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0170	6048000000-E	SP	FLOATING TURBIDITY CURTAIN	200 SY		
0171	6070000000-N	1639	SPECIAL STILLING BASINS	25 EA		
0172	6071012000-E	SP	COIR FIBER WATTLE	20,340 LF		
0173	6071014000-E	SP	COIR FIBER WATTLE BARRIER	366 LF		
0174	6071020000-E	SP	POLYACRYLAMIDE (PAM)	11,265 LB		
0175	6071030000-E	1640	COIR FIBER BAFFLE	3,200 LF		
0176	6071050000-E	SP	**" SKIMMER (1-1/2")	6 EA		
0177	6071050000-E	SP	**" SKIMMER (2")	5 EA		
0178	6071050000-E	SP	**" SKIMMER (2-1/2")	3 EA		
0179	6071050000-E	SP	**" SKIMMER (3")	1 EA		
0180	6084000000-E	1660	SEEDING & MULCHING	120 ACR		
0181	6087000000-E	1660	MOWING	120 ACR		
0182	6090000000-E	1661	SEED FOR REPAIR SEEDING	1,450 LB		
0183	6093000000-E	1661	FERTILIZER FOR REPAIR SEEDING	4.5 TON		
0184	6096000000-E	1662	SEED FOR SUPPLEMENTAL SEEDING	2,775 LB		
0185	6108000000-E	1665	FERTILIZER TOPDRESSING	83.25 TON		
0186	6111000000-E	SP	IMPERVIOUS DIKE	544 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0187	6114500000-N	1667	SPECIALIZED HAND MOWING	40 MHR		
0188	6114800000-N	SP	MANUAL LITTER REMOVAL	59 MHR		
0189	6114900000-E	SP	LITTER DISPOSAL	3 TON		
0190	6117000000-N	SP	RESPONSE FOR EROSION CONTROL	100 EA		
0191	6117500000-N	SP	CONCRETE WASHOUT STRUCTURE	6 EA		
0192	6120000000-E	SP	CULVERT DIVERSION CHANNEL	655 CY		
0193	6132000000-N	SP	GENERIC EROSION CONTROL ITEM FABRIC INSERT INLET PROTECTION DEVICE	18 EA		
0194	6132000000-N	SP	GENERIC EROSION CONTROL ITEM FABRIC INSERT INLET PROTECTION DEVICE CLEANOUT	54 EA		
			STRUCTURE ITEMS			
0195	8017000000-N	SP	CONSTRUCTION, MAINTENANCE, & REMOVAL OF TEMP ACCESS AT STA ********** (70+34.00 -L-)	Lump Sum	L.S.	
0196	8056000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ********** (16+93.00 -Y-)	Lump Sum	L.S.	
0197	8056000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ********** (71+06.00 -L-)	Lump Sum	L.S.	
0198	8065000000-N	SP	ASBESTOS ASSESSMENT	Lump Sum	L.S.	
0199	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (1, 34+01.72 -Y-)	Lump Sum	L.S.	
0200	8112730000-N	450	PDA TESTING	7 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0201	8121000000-N	412	UNCLASSIFIED STRUCTURE EXCAVATION AT STATION ******** (16+93.00 -Y-)	Lump Sum	L.S.	
0202	8121000000-N	412	UNCLASSIFIED STRUCTURE EXCAVATION AT STATION ******** (70+34.00 -L-)	Lump Sum	L.S.	
0203	8121000000-N	412	UNCLASSIFIED STRUCTURE EXCAVATION AT STATION ******** (71+06.00 -L-)	Lump Sum	L.S.	
0204	8147000000-E	420	REINFORCED CONCRETE DECK SLAB	30,349 SF		
0205	8161000000-E	420	GROOVING BRIDGE FLOORS	31,868 SF		
0206	8182000000-E	420	CLASS A CONCRETE (BRIDGE)	437.9 CY		
0207	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (16+93.00 -Y-)	Lump Sum	L.S.	
0208	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (34+01.72 -Y-)	Lump Sum	L.S.	
0209	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (70+34.00 -L-)	Lump Sum	L.S.	
0210	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (71+06.00 -L-)	Lump Sum	L.S.	
0211	8217000000-E	425	REINFORCING STEEL (BRIDGE)	67,187 LB		
0212	8238000000-E	425	SPIRAL COLUMN REINFORCING STEEL (BRIDGE)	1,157 LB		
0213	8265000000-E	430	54" PRESTRESSED CONCRETE GIRDERS	3,070.07 LF		
0214	8328200000-E	450	PILE DRIVING EQUIPMENT SETUP FOR *** STEEL PILES (HP 12 X 53)	75 EA		
0215	8328400000-E	450	PILE DRIVING EQUIPMENT SETUP FOR *** GALVANIZED STEEL PILES (PP 30 X 0.50)	16 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0216	8364000000-E	450	HP 12 X 53 STEEL PILES	4,510 LF		
0217	8385200000-E	450	PP ** X **** GALVANIZED STEEL PILES (30 X 0.50)	1,330 LF		
0218	8393000000-N	450	PILE REDRIVES	48 EA		
0219	8503000000-E	460	CONCRETE BARRIER RAIL	1,381.34 LF		
0220	8531000000-E	462	4" SLOPE PROTECTION	420 SY		
0221	8608000000-E	876	RIP RAP CLASS II (2'-0" THICK)	2,270 TON		
0222	8622000000-E	876	GEOTEXTILE FOR DRAINAGE	2,525 SY		
0223	8657000000-N	430	ELASTOMERIC BEARINGS	Lump Sum	L.S.	

 Total Amount Of Bid For Entire Project :

Vendor 1 of 6: BALFOUR BEATTY INFRASTRUCTURE INC (2948)
Call Order 006 (Proposal: C204570)

Bid Information

Proposal County: COLUMBUS
Vendor Address: 3314 JAECKLE DR UNIT 140
WILMINGTON , NC , 28403
Signature Check: Donald Bruce Hazle
Time Bid Received: May 16, 2023 01:37 PM
Amendment Count: 0

Bid Checksum: BFF40F0FD9
Bid Total: $35,978,896.35
Items Total: $35,978,896.35
Time Total: $0.00

Bidding Errors:

DBE List Goal not met.
NATIONAL ERECTORS REBAR, INC/DBE: 0204 Quantity is over commmited
NATIONAL ERECTORS REBAR, INC/DBE: 0219 Quantity is over commmited

DBE GOAL SET: 6%
DBE GOAL OBT: 1.22%

Vendor 1 of 6: BALFOUR BEATTY INFRASTRUCTURE INC (2948)
Call Order 006 (Proposal: C204570)

Bid Bond Information

Projects:		**Bond Maximum:**	
Counties:		**State of Incorporation:**	CT
Bond ID:	F2EB-B45C-711B-92C0	**Agency Execution Date:**	2023-05-01T00
Paid by Check:	No	**Surety Name:**	Tinubu Surety
Bond Percent:	5%	**Bond Agency Name:**	Travelers Casualty and Surety Company of America

DBE Load Information

Letting ID: L230516
Letting Date: 05/16/2023
Call Order: 006
Contract ID: C204570
Project: 008705100870510087051008705100870510087051
Bid Total: $35,978,896.35
DBE Goal: 6.00% ($2,158,733.78)

DBE GOAL SET: 6%
DBE GOAL OBT: 1.22%

Vendor ID: 2948
Vendor Name: Balfour Beatty Infrastructure, Inc.
DBE Entered: 1.22% ($440,128.80)

Vendor ID	DBE Name	Is Supplier?	City/State	Goods/Service	Amount
15755	GOSALIA CONCRETE CONSTRUCTORS INC	False	4607 N 56TH STREET TAMPA, FL 33610	SubContractor	154,659.36 Committed
2656	NATIONAL ERECTORS REBAR, INC	False	P.O. Box 2457 LUMBERTON, NC 28359	SubContractor	100,549.74 Committed
15521	4 D CONSTRUCTION	False	P.O. Box 806 MAXTON, NC 28364	SubContractor	81,264.20 Committed
4761	TRAFFIC CONTROL SAFETY SERVICES INC	False	P.O. Box 24511 WINSTON SALEM, NC 27114	SubContractor	103,655.50 Committed

BondID: F2EB-B45C-711B-92C0
Surety Registry Agency: Tinubu Surety
Verified?: 1
Surety Agency: Travelers Casualty and Surety Company of America
Bond Execution Date: 2023-05-01T00:00:00

Line Number	Item Number	Quantity	Unit	Unit Price	Extension Price
Section 0001 ROADWAY ITEMS					
0001	0000100000-N MOBILIZATION	1.000	LS	$1,798,945.0000	$1,798,945.00
0002	0000400000-N CONSTRUCTION SURVEYING	1.000	LS	$800,000.0000	$800,000.00
0003	0001000000-E CLEARING & GRUBBING .. ACRE(S)	1.000	LS	$3,414,000.0000	$3,414,000.00
0004	0008000000-E SUPPLEMENTARY CLEARING & GRUBBING	3.000	ACR	$11,000.0000	$33,000.00
0005	0022000000-E UNCLASSIFIED EXCAVATION	38500.000	CY	$7.3800	$284,130.00
0006	0028000000-N TYPE I STANDARD APPROACH FILL STATION ********** (16+93.00 -Y-)	1.000	LS	$98,655.4200	$98,655.42
0007	0028000000-N TYPE I STANDARD APPROACH FILL STATION ********** (34+01.72 -Y-)	1.000	LS	$121,293.8200	$121,293.82
0008	0028000000-N TYPE I STANDARD APPROACH FILL STATION ********** (70+34.00 -L-)	1.000	LS	$126,075.8300	$126,075.83
0009	0028000000-N TYPE I STANDARD APPROACH FILL STATION ********** (71+06.00 -L-)	1.000	LS	$156,720.6700	$156,720.67
0010	0036000000-E UNDERCUT EXCAVATION	15000.000	CY	$21.2400	$318,600.00
0011	0106000000-E BORROW EXCAVATION	351500.000	CY	$0.0100	$3,515.00
0012	0134000000-E DRAINAGE DITCH EXCAVATION	4335.000	CY	$7.0400	$30,518.40
0013	0156000000-E REMOVAL OF EXISTING ASPHALT PAVEMENT	9600.000	SY	$9.1100	$87,456.00
0014	0177000000-E BREAKING OF EXISTING ASPHALT PAVEMENT	7300.000	SY	$7.2900	$53,217.00
0015	0192000000-N PROOF ROLLING	7.000	HR	$707.5800	$4,953.06
0016	0195000000-E SELECT GRANULAR MATERIAL	12980.000	CY	$0.0100	$129.80
0017	0196000000-E GEOTEXTILE FOR SOIL STABILIZATION	25025.000	SY	$2.7000	$67,567.50
0018	0318000000-E FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES	1490.000	TON	$80.2400	$119,557.60
0019	0320000000-E FOUNDATION CONDITIONING GEOTEXTILE	4670.000	SY	$2.3900	$11,161.30
0020	0335200000-E 15" DRAINAGE PIPE	1068.000	LF	$85.0000	$90,780.00
0021	0335300000-E 18" DRAINAGE PIPE	1096.000	LF	$75.6000	$82,857.60
0022	0335400000-E 24" DRAINAGE PIPE	1564.000	LF	$112.5000	$175,950.00
0023	0335500000-E 30" DRAINAGE PIPE	268.000	LF	$138.7600	$37,187.68

0024	0335850000-E	30.000	EA	$911.4600	$27,343.80
	**" DRAINAGE PIPE ELBOWS (15")				
0025	0335850000-E	6.000	EA	$999.0600	$5,994.36
	**" DRAINAGE PIPE ELBOWS (18")				
0026	0354000000-E	236.000	LF	$79.3100	$18,717.16
	" RC PIPE CULVERTS, CLASS ** (15", V)				
0027	0354000000-E	244.000	LF	$95.1800	$23,223.92
	" RC PIPE CULVERTS, CLASS ** (18", V)				
0028	0354000000-E	316.000	LF	$134.8600	$42,615.76
	" RC PIPE CULVERTS, CLASS ** (24", V)				
0029	0354000000-E	244.000	LF	$178.7200	$43,607.68
	" RC PIPE CULVERTS, CLASS ** (30", V)				
0030	0354000000-E	92.000	LF	$244.5800	$22,501.36
	" RC PIPE CULVERTS, CLASS ** (36", V)				
0031	0366000000-E	796.000	LF	$64.2600	$51,150.96
	15" RC PIPE CULVERTS, CLASS III				
0032	0372000000-E	912.000	LF	$77.2700	$70,470.24
	18" RC PIPE CULVERTS, CLASS III				
0033	0378000000-E	1208.000	LF	$103.6700	$125,233.36
	24" RC PIPE CULVERTS, CLASS III				
0034	0384000000-E	1248.000	LF	$146.6200	$182,981.76
	30" RC PIPE CULVERTS, CLASS III				
0035	0390000000-E	1416.000	LF	$181.8000	$257,428.80
	36" RC PIPE CULVERTS, CLASS III				
0036	0448000000-E	100.000	LF	$348.8500	$34,885.00
	****" RC PIPE CULVERTS, CLASS IV (48")				
0037	0448000000-E	1160.000	LF	$474.5900	$550,524.40
	****" RC PIPE CULVERTS, CLASS IV (54")				
0038	0448200000-E	952.000	LF	$78.4500	$74,684.40
	15" RC PIPE CULVERTS, CLASS IV				
0039	0448300000-E	60.000	LF	$113.2200	$6,793.20
	18" RC PIPE CULVERTS, CLASS IV				
0040	0448500000-E	64.000	LF	$171.1500	$10,953.60
	30" RC PIPE CULVERTS, CLASS IV				
0041	0448600000-E	112.000	LF	$202.1400	$22,639.68
	36" RC PIPE CULVERTS, CLASS IV				
0042	0973100000-E	40.000	LF	$1,807.8900	$72,315.60
	" WELDED STEEL PIPE, **" THICK, GRADE B IN SOIL (54", 0.109")				
0043	0973300000-E	40.000	LF	$0.0100	$0.40
	" WELDED STEEL PIPE, **" THICK, GRADE B NOT IN SOIL (54", 0.109")				
0044	0995000000-E	2000.000	LF	$33.8600	$67,720.00
	PIPE REMOVAL				
0045	1000000000-E	125.000	SY	$158.1500	$19,768.75
	6" SLOPE PROTECTION				
0046	1011000000-N	1.000	LS	$595,724.0000	$595,724.00
	FINE GRADING				
0047	1099500000-E	2350.000	CY	$11.6600	$27,401.00
	SHALLOW UNDERCUT				
0048	1099700000-E	4950.000	TON	$65.1800	$322,641.00

		CLASS IV SUBGRADE STABILIZATION			
0049	1111000000-E	500.000	TON	$69.6100	$34,805.00
		CLASS IV AGGREGATE STABILIZATION			
0050	1121000000-E	24700.000	TON	$63.5800	$1,570,426.00
		AGGREGATE BASE COURSE			
0051	1220000000-E	1500.000	TON	$76.0800	$114,120.00
		INCIDENTAL STONE BASE			
0052	1275000000-E	1540.000	GAL	$12.0000	$18,480.00
		PRIME COAT			
0053	1297000000-E	16000.000	SY	$5.1300	$82,080.00
		MILLING ASPHALT PAVEMENT, ***" DEPTH (3")			
0054	1330000000-E	3100.000	SY	$9.4000	$29,140.00
		INCIDENTAL MILLING			
0055	1491000000-E	9300.000	TON	$93.0000	$864,900.00
		ASPHALT CONC BASE COURSE, TYPE B25.0C			
0056	1503000000-E	22400.000	TON	$92.0000	$2,060,800.00
		ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C			
0057	1519000000-E	800.000	TON	$100.0000	$80,000.00
		ASPHALT CONC SURFACE COURSE, TYPE S9.5B			
0058	1523000000-E	18500.000	TON	$89.0000	$1,646,500.00
		ASPHALT CONC SURFACE COURSE, TYPE S9.5C			
0059	1575000000-E	2660.000	TON	$672.0000	$1,787,520.00
		ASPHALT BINDER FOR PLANT MIX			
0060	1693000000-E	110.000	TON	$372.1200	$40,933.20
		ASPHALT PLANT MIX, PAVEMENT REPAIR			
0061	2022000000-E	10820.000	CY	$20.2400	$218,996.80
		SUBDRAIN EXCAVATION			
0062	2026000000-E	32200.000	SY	$4.2600	$137,172.00
		GEOTEXTILE FOR SUBSURFACE DRAINS			
0063	2036000000-E	5410.000	CY	$157.2800	$850,884.80
		SUBDRAIN COARSE AGGREGATE			
0064	2044000000-E	32200.000	LF	$24.6900	$795,018.00
		6" PERFORATED SUBDRAIN PIPE			
0065	2070000000-N	65.000	EA	$1,207.6600	$78,497.90
		SUBDRAIN PIPE OUTLET			
0066	2077000000-E	390.000	LF	$35.9000	$14,001.00
		6" OUTLET PIPE			
0067	2209000000-E	13.000	CY	$2,023.6800	$26,307.84
		ENDWALLS			
0068	2220000000-E	33.000	CY	$1,963.8800	$64,808.04
		REINFORCED ENDWALLS			
0069	2275000000-E	5.000	CY	$619.6900	$3,098.45
		FLOWABLE FILL			
0070	2286000000-N	85.000	EA	$5,054.7000	$429,649.50
		MASONRY DRAINAGE STRUCTURES			
0071	2297000000-E	17.000	CY	$4,025.9100	$68,440.47
		MASONRY DRAINAGE STRUCTURES			
0072	2308000000-E	30.000	LF	$361.6000	$10,848.00
		MASONRY DRAINAGE STRUCTURES			

0073	2364000000-N FRAME WITH TWO GRATES, STD 840.16	11.000 EA	$1,004.7400	$11,052.14
0074	2364200000-N FRAME WITH TWO GRATES, STD 840.20	9.000 EA	$903.0100	$8,127.09
0075	2365000000-N FRAME WITH TWO GRATES, STD 840.22	30.000 EA	$865.9800	$25,979.40
0076	2366000000-N FRAME WITH TWO GRATES, STD 840.24	8.000 EA	$850.7300	$6,805.84
0077	2367000000-N FRAME WITH TWO GRATES, STD 840.29	15.000 EA	$879.8100	$13,197.15
0078	2374000000-N FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)	2.000 EA	$1,140.1100	$2,280.22
0079	2374000000-N FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)	3.000 EA	$1,140.1200	$3,420.36
0080	2374000000-N FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)	4.000 EA	$1,140.1200	$4,560.48
0081	2396000000-N FRAME WITH COVER, STD 840.54	5.000 EA	$728.0100	$3,640.05
0082	2451000000-N CONCRETE TRANSITIONAL SECTION FOR DROP INLET	12.000 EA	$1,000.0000	$12,000.00
0083	2549000000-E 2'-6" CONCRETE CURB & GUTTER	2300.000 LF	$47.9000	$110,170.00
0084	2556000000-E SHOULDER BERM GUTTER	2600.000 LF	$46.7200	$121,472.00
0085	2612000000-E 6" CONCRETE DRIVEWAY	200.000 SY	$93.3700	$18,674.00
0086	2619000000-E 4" CONCRETE PAVED DITCH	22.000 SY	$145.0000	$3,190.00
0087	2655000000-E 5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)	1700.000 SY	$85.1500	$144,755.00
0088	2724000000-E PRECAST REINFORCED CONCRETE BARRIER, SINGLE FACED	100.000 LF	$116.1000	$11,610.00
0089	3001000000-N IMPACT ATTENUATOR UNITS, TYPE TL-3	2.000 EA	$11,150.0000	$22,300.00
0090	3030000000-E STEEL BEAM GUARDRAIL	3400.000 LF	$24.0000	$81,600.00
0091	3150000000-N ADDITIONAL GUARDRAIL POSTS	20.000 EA	$11.0000	$220.00
0092	3210000000-N GUARDRAIL END UNITS, TYPE CAT-1	2.000 EA	$850.0000	$1,700.00
0093	3287000000-N GUARDRAIL END UNITS, TYPE TL-3	12.000 EA	$3,400.0000	$40,800.00
0094	3317000000-N GUARDRAIL ANCHOR UNITS, TYPE B-77	18.000 EA	$2,500.0000	$45,000.00
0095	3389200000-E CABLE GUIDERAIL	5000.000 LF	$13.7500	$68,750.00
0096	3389500000-N ADDITIONAL GUIDERAIL POSTS	10.000 EA	$95.0000	$950.00
0097	3389600000-N	8.000 EA	$2,400.0000	$19,200.00

		CABLE GUIDERAIL ANCHOR UNITS			
0098	3503000000-E	13000.000	LF	$4.8000	$62,400.00
	WOVEN WIRE FENCE, 47" FABRIC				
0099	3509000000-E	830.000	EA	$32.0000	$26,560.00
	4" TIMBER FENCE POSTS, 7'-6" LONG				
0100	3515000000-E	200.000	EA	$42.0000	$8,400.00
	5" TIMBER FENCE POSTS, 8'-0" LONG				
0101	3565000000-E	1.000	EA	$1,200.0000	$1,200.00
	DOUBLE GATES, **" HIGH, **' WIDE, **' OPENING (47", 12', 24')				
0102	3628000000-E	2558.000	TON	$104.3200	$266,850.56
	RIP RAP, CLASS I				
0103	3635000000-E	2693.000	TON	$118.4500	$318,985.85
	RIP RAP, CLASS II				
0104	3649000000-E	3236.000	TON	$116.8200	$378,029.52
	RIP RAP, CLASS B				
0105	3656000000-E	18296.000	SY	$2.3900	$43,727.44
	GEOTEXTILE FOR DRAINAGE				
0106	4048000000-E	4.000	CY	$1,500.0000	$6,000.00
	REINFORCED CONCRETE SIGN FOUNDATIONS				
0107	4060000000-E	3112.000	LB	$10.0000	$31,120.00
	SUPPORTS, BREAKAWAY STEEL BEAM				
0108	4072000000-E	1750.000	LF	$10.0000	$17,500.00
	SUPPORTS, 3-LB STEEL U-CHANNEL				
0109	4096000000-N	7.000	EA	$150.0000	$1,050.00
	SIGN ERECTION, TYPE D				
0110	4102000000-N	79.000	EA	$85.0000	$6,715.00
	SIGN ERECTION, TYPE E				
0111	4108000000-N	15.000	EA	$150.0000	$2,250.00
	SIGN ERECTION, TYPE F				
0112	4110000000-N	6.000	EA	$1,000.0000	$6,000.00
	SIGN ERECTION, TYPE *** (GROUND MOUNTED) (A)				
0113	4155000000-N	47.000	EA	$5.0000	$235.00
	DISPOSAL OF SIGN SYSTEM, U-CHANNEL				
0114	4400000000-E	1553.000	SF	$13.5000	$20,965.50
	WORK ZONE SIGNS (STATIONARY)				
0115	4405000000-E	128.000	SF	$29.8100	$3,815.68
	WORK ZONE SIGNS (PORTABLE)				
0116	4410000000-E	366.000	SF	$8.0000	$2,928.00
	WORK ZONE SIGNS (BARRICADE MOUNTED)				
0117	4415000000-N	2.000	EA	$3,691.3700	$7,382.74
	FLASHING ARROW BOARD				
0118	4420000000-N	2.000	EA	$22,600.1800	$45,200.36
	PORTABLE CHANGEABLE MESSAGE SIGN				
0119	4430000000-N	500.000	EA	$69.3100	$34,655.00
	DRUMS				
0120	4435000000-N	100.000	EA	$33.1500	$3,315.00
	CONES				
0121	4445000000-E	312.000	LF	$28.5000	$8,892.00
	BARRICADES (TYPE III)				

0122	4455000000-N FLAGGER	90.000	DAY	$432.0300	$38,882.70
0123	4465000000-N TEMPORARY CRASH CUSHIONS	2.000	EA	$11,500.0000	$23,000.00
0124	4485000000-E PORTABLE CONCRETE BARRIER	750.000	LF	$48.9500	$36,712.50
0125	4650000000-N TEMPORARY RAISED PAVEMENT MARKERS	132.000	EA	$10.0000	$1,320.00
0126	4685000000-E THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	72451.000	LF	$0.7900	$57,236.29
0127	4695000000-E THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)	9100.000	LF	$1.9500	$17,745.00
0128	4700000000-E THERMOPLASTIC PAVEMENT MARKING LINES (12", 90 MILS)	300.000	LF	$12.0000	$3,600.00
0129	4709000000-E THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS)	60.000	LF	$20.0000	$1,200.00
0130	4720000000-E THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MILS)	20.000	EA	$200.0000	$4,000.00
0131	4725000000-E THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	44.000	EA	$130.0000	$5,720.00
0132	4770000000-E COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (II)	3139.000	LF	$6.0000	$18,834.00
0133	4785000000-E COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (12") (II)	145.000	LF	$28.0000	$4,060.00
0134	4810000000-E PAINT PAVEMENT MARKING LINES (4")	47613.000	LF	$0.1900	$9,046.47
0135	4820000000-E PAINT PAVEMENT MARKING LINES (8")	7750.000	LF	$0.6000	$4,650.00
0136	4835000000-E PAINT PAVEMENT MARKING LINES (24")	150.000	LF	$5.0000	$750.00
0137	4845000000-N PAINT PAVEMENT MARKING SYMBOL	57.000	EA	$50.0000	$2,850.00
0138	4900000000-N PERMANENT RAISED PAVEMENT MARKERS	35.000	EA	$25.0000	$875.00
0139	4905100000-N NON-CAST IRON SNOWPLOWABLE PAVEMENT MARKER	1071.000	EA	$43.2000	$46,267.20
0140	5325600000-E 6" WATER LINE	5310.000	LF	$65.0000	$345,150.00
0141	5325800000-E 8" WATER LINE	3165.000	LF	$85.0000	$269,025.00
0142	5329000000-E DUCTILE IRON WATER PIPE FITTINGS	4000.000	LB	$5.0000	$20,000.00
0143	5540000000-E 6" VALVE	8.000	EA	$2,500.0000	$20,000.00
0144	5546000000-E 8" VALVE	3.000	EA	$3,500.0000	$10,500.00
0145	5571600000-E 6" TAPPING SLEEVE & VALVE	1.000	EA	$11,000.0000	$11,000.00
0146	5643100000-E	1.000	EA	$5,750.0000	$5,750.00

	3/4" WATER METER				
0147	5666000000-N FIRE HYDRANT	4.000	EA	$8,000.0000	$32,000.00
0148	5673000000-E FIRE HYDRANT LEG	55.000	LF	$100.0000	$5,500.00
0149	5686000000-E **" WATER SERVICE LINE (1")	30.000	LF	$1.2500	$37.50
0150	5800000000-E ABANDON 6" UTILITY PIPE	3900.000	LF	$8.3500	$32,565.00
0151	5801000000-E ABANDON 8" UTILITY PIPE	3800.000	LF	$8.5500	$32,490.00
0152	5815000000-N REMOVE WATER METER	1.000	EA	$1,500.0000	$1,500.00
0153	5815500000-N REMOVE FIRE HYDRANT	3.000	EA	$2,000.0000	$6,000.00
0154	5835600000-E 12" ENCASEMENT PIPE	365.000	LF	$700.0000	$255,500.00
0155	5835700000-E 16" ENCASEMENT PIPE	85.000	LF	$825.0000	$70,125.00
0156	6000000000-E TEMPORARY SILT FENCE	68000.000	LF	$2.6500	$180,200.00
0157	6006000000-E STONE FOR EROSION CONTROL, CLASS A	1560.000	TON	$100.8300	$157,294.80
0158	6009000000-E STONE FOR EROSION CONTROL, CLASS B	8700.000	TON	$105.6300	$918,981.00
0159	6012000000-E SEDIMENT CONTROL STONE	4250.000	TON	$85.4900	$363,332.50
0160	6015000000-E TEMPORARY MULCHING	143.000	ACR	$1,200.0000	$171,600.00
0161	6018000000-E SEED FOR TEMPORARY SEEDING	6900.000	LB	$6.0000	$41,400.00
0162	6021000000-E FERTILIZER FOR TEMPORARY SEEDING	35.000	TON	$2,150.0000	$75,250.00
0163	6024000000-E TEMPORARY SLOPE DRAINS	2200.000	LF	$20.6800	$45,496.00
0164	6029000000-E SAFETY FENCE	29720.000	LF	$2.0000	$59,440.00
0165	6030000000-E SILT EXCAVATION	22500.000	CY	$1.5200	$34,200.00
0166	6036000000-E MATTING FOR EROSION CONTROL	112700.000	SY	$1.9000	$214,130.00
0167	6037000000-E COIR FIBER MAT	700.000	SY	$6.7500	$4,725.00
0168	6042000000-E 1/4" HARDWARE CLOTH	1600.000	LF	$8.0000	$12,800.00
0169	6043000000-E LOW PERMEABILITY GEOTEXTILE	1547.000	SY	$5.8500	$9,049.95
0170	6048000000-E FLOATING TURBIDITY CURTAIN	200.000	SY	$33.3500	$6,670.00

0171	6070000000-N SPECIAL STILLING BASINS	25.000	EA	$448.1200	$11,203.00
0172	6071012000-E COIR FIBER WATTLE	20340.000	LF	$8.0500	$163,737.00
0173	6071014000-E COIR FIBER WATTLE BARRIER	366.000	LF	$8.0000	$2,928.00
0174	6071020000-E POLYACRYLAMIDE (PAM)	11265.000	LB	$18.0000	$202,770.00
0175	6071030000-E COIR FIBER BAFFLE	3200.000	LF	$10.0000	$32,000.00
0176	6071050000-E **" SKIMMER (1-1/2")	6.000	EA	$938.7400	$5,632.44
0177	6071050000-E **" SKIMMER (2")	5.000	EA	$1,196.3800	$5,981.90
0178	6071050000-E **" SKIMMER (2-1/2")	3.000	EA	$1,496.2100	$4,488.63
0179	6071050000-E **" SKIMMER (3")	1.000	EA	$1,918.0800	$1,918.08
0180	6084000000-E SEEDING & MULCHING	120.000	ACR	$2,550.0000	$306,000.00
0181	6087000000-E MOWING	120.000	ACR	$50.0000	$6,000.00
0182	6090000000-E SEED FOR REPAIR SEEDING	1450.000	LB	$8.0000	$11,600.00
0183	6093000000-E FERTILIZER FOR REPAIR SEEDING	4.500	TON	$2,175.0000	$9,787.50
0184	6096000000-E SEED FOR SUPPLEMENTAL SEEDING	2775.000	LB	$8.0000	$22,200.00
0185	6108000000-E FERTILIZER TOPDRESSING	83.250	TON	$2,150.0000	$178,987.50
0186	6111000000-E IMPERVIOUS DIKE	544.000	LF	$508.6100	$276,683.84
0187	6114500000-N SPECIALIZED HAND MOWING	40.000	MHR	$20.0000	$800.00
0188	6114800000-N MANUAL LITTER REMOVAL	59.000	MHR	$48.6400	$2,869.76
0189	6114900000-E LITTER DISPOSAL	3.000	TON	$581.7400	$1,745.22
0190	6117000000-N RESPONSE FOR EROSION CONTROL	100.000	EA	$375.0000	$37,500.00
0191	6117500000-N CONCRETE WASHOUT STRUCTURE	6.000	EA	$978.1100	$5,868.66
0192	6120000000-E CULVERT DIVERSION CHANNEL	655.000	CY	$20.5900	$13,486.45
0193	6132000000-N GENERIC EROSION CONTROL ITEM FABRIC INSERT INLET PROTECTION DEVICE	18.000	EA	$156.5300	$2,817.54
0194	6132000000-N GENERIC EROSION CONTROL ITEM FABRIC INSERT INLET PROTECTION DEVICE CLEANOUT	54.000	EA	$116.0800	$6,268.32

Section 0001 Total $28,708,385.00

Section 0004
STRUCTURE ITEMS

0195	8017000000-N	1.000	LS	$125,842.4200	$125,842.42
	CONSTRUCTION, MAINTENANCE, & REMOVAL OF TEMP ACCESS AT STA ********** (70 +34.00 -L-)				
0196	8056000000-N	1.000	LS	$75,000.0000	$75,000.00
	REMOVAL OF EXISTING STRUCTURE AT STATION ********** (16+93.00 -Y-)				
0197	8056000000-N	1.000	LS	$50,000.0000	$50,000.00
	REMOVAL OF EXISTING STRUCTURE AT STATION ********** (71+06.00 -L-)				
0198	8065000000-N	1.000	LS	$8,000.0000	$8,000.00
	ASBESTOS ASSESSMENT				
0199	8091000000-N	1.000	LS	$13,624.8500	$13,624.85
	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (1, 34+01.72 -Y-)				
0200	8112730000-N	7.000	EA	$4,951.3900	$34,659.73
	PDA TESTING				
0201	8121000000-N	1.000	LS	$80,000.0000	$80,000.00
	UNCLASSIFIED STRUCTURE EXCAVATION AT STATION ******** (16+93.00 -Y-)				
0202	8121000000-N	1.000	LS	$70,000.0000	$70,000.00
	UNCLASSIFIED STRUCTURE EXCAVATION AT STATION ******** (70+34.00 -L-)				
0203	8121000000-N	1.000	LS	$40,000.0000	$40,000.00
	UNCLASSIFIED STRUCTURE EXCAVATION AT STATION ******** (71+06.00 -L-)				
0204	8147000000-E	30349.000	SF	$64.6000	$1,960,545.40
	REINFORCED CONCRETE DECK SLAB				
0205	8161000000-E	31868.000	SF	$1.1800	$37,604.24
	GROOVING BRIDGE FLOORS				
0206	8182000000-E	437.900	CY	$1,600.0000	$700,640.00
	CLASS A CONCRETE (BRIDGE)				
0207	8210000000-N	1.000	LS	$120,000.0000	$120,000.00
	BRIDGE APPROACH SLABS, STATION ********** (16+93.00 -Y-)				
0208	8210000000-N	1.000	LS	$64,000.0000	$64,000.00
	BRIDGE APPROACH SLABS, STATION ********** (34+01.72 -Y-)				
0209	8210000000-N	1.000	LS	$120,000.0000	$120,000.00
	BRIDGE APPROACH SLABS, STATION ********** (70+34.00 -L-)				
0210	8210000000-N	1.000	LS	$122,485.2100	$122,485.21
	BRIDGE APPROACH SLABS, STATION ********** (71+06.00 -L-)				
0211	8217000000-E	67187.000	LB	$1.7400	$116,905.38
	REINFORCING STEEL (BRIDGE)				
0212	8238000000-E	1157.000	LB	$5.5800	$6,456.06
	SPIRAL COLUMN REINFORCING STEEL (BRIDGE)				
0213	8265000000-E	3070.070	LF	$436.0900	$1,338,826.83
	54" PRESTRESSED CONCRETE GIRDERS				
0214	8328200000-E	75.000	EA	$7,500.0000	$562,500.00
	PILE DRIVING EQUIPMENT SETUP FOR *** STEEL PILES (HP 12 X 53)				
0215	8328400000-E	16.000	EA	$15,000.0000	$240,000.00
	PILE DRIVING EQUIPMENT SETUP FOR *** GALVANIZED STEEL PILES (PP 30 X 0.50)				
0216	8364000000-E	4510.000	LF	$90.0000	$405,900.00

		HP 12 X 53 STEEL PILES			
0217	8385200000-E	1330.000	LF	$296.1900	$393,932.70
	PP ** X **** GALVANIZED STEEL PILES (30 X 0.50)				
0218	8393000000-N	48.000	EA	$500.0000	$24,000.00
	PILE REDRIVES				
0219	8503000000-E	1381.340	LF	$156.7500	$216,525.05
	CONCRETE BARRIER RAIL				
0220	8531000000-E	420.000	SY	$137.6700	$57,821.40
	4" SLOPE PROTECTION				
0221	8608000000-E	2270.000	TON	$108.2100	$245,636.70
	RIP RAP CLASS II (2'-0" THICK)				
0222	8622000000-E	2525.000	SY	$3.4400	$8,686.00
	GEOTEXTILE FOR DRAINAGE				
0223	8657000000-N	1.000	LS	$30,919.3800	$30,919.38
	ELASTOMERIC BEARINGS				
Section 0004 Total					$7,270,511.35
Item Total					$35,978,896.35

ELECTRONIC BID SUBMISSION

By submitting this bid electronically, I hereby acknowledge that all requirements included in the hard copy proposal, addendum, amendments, plans, standard specifications, supplemental specifications and special provisions are part of the bid and contract. Further, I acknowledge that I have read, understand, accept, acknowledge and agree to comply with all statements in this electronic bid.

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NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION

The prequalified bidder declares (or certifies, verifies, or states) under penalty of perjury under the laws of the United States that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with any bid or contract, that the prequalified bidder has not been convicted of violating N.C.G.S. §133-24 within the last three years, and that the prequalified bidder intends to do the work with his own bonafide employees or subcontractors and will not bid for the benefit of another contractor.

By submitting this non-collusion, debarment and gift ban certification, the Contractor is attesting his status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

N.C.G.S. §133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

DEBARMENT CERTIFICATION OF PREQUALIFIED BIDDER

Conditions for certification:

1. The prequalified bidder shall provide immediate written notice to the Department if at any time the bidder learns that his certification was erroneous when he submitted his debarment certification or explanation that is file with the Department, or has become erroneous because of changed circumstances.

2. The terms covered transaction, debarred, suspended, ineligible, lower tier

covered transaction, participant, person, primary covered transaction, principal, proposal, and voluntarily excluded, as used in this provision, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. A copy of the Federal Rules requiring this certification and detailing the definitions and coverages may be obtained from the Contract Officer of the Department.

3. The prequalified bidder agrees by submitting this form, that he will not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in NCDOT contracts, unless authorized by the Department.

4. For Federal Aid projects, the prequalified bidder further agrees that by submitting this form he will include the Federal- Aid Provision titled Required Contract Provisions Federal-Aid Construction Contract (Form FHWA PR 1273) provided by the Department, without subsequent modification, in all lower tier covered transactions.

5. The prequalified bidder may rely upon a certification of a participant in a lower tier covered transaction that he is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless he knows that the certification is erroneous. The bidder may decide the method and frequency by which he will determine the eligibility of his subcontractors.

6. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this provision. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

7. Except as authorized in paragraph 6 herein, the Department may terminate any contract if the bidder knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available by the Federal Government.

DEBARMENT CERTIFICATION

The prequalified bidder certifies to the best of his knowledge and belief, that he and his principals:

a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

b. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or

commission of embezzlement, theft, forgery, bribery, falsification or destruction of records; making false statements; or receiving stolen property;

c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph b. of this certification; and

d. Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

e. Will submit a revised Debarment Certification immediately if his status changes and will show in his bid proposal an explanation for the change in status.

If the prequalified bidder cannot certify that he is not debarred, he shall provide an explanation with this submittal. An explanation will not necessarily result in denial of participation in a contract.

Failure to submit a non-collusion and debarment certification will result in the prequalified bidder’s bid being considered non-responsive.

EXPLANATION:

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Award Limits on Multiple Projects

By answering YES to this statement, the bidder acknowleges that they are using the award limits on multiple projects? **Yes** ○ **No** ◉

A bidder who desires to bid on more than one project on which bids are to be opened on the same date, and who also desires to avoid receiving an award of more projects than he is equipped to handle, may bid on any number of projects but may limit the total amount of work awarded to him on selected projects by completing the AWARD LIMITS ON MULTIPLE PROJECTS.

The Award Limits on Multiple Projects must be filled in on each project bid for which the Bidder desires protection.

It is the desire of the Bidder to be awarded contracts, the value of which

will not exceed a total of for those

projects indicated herein, for which bids will be opened on (MM/DD/YY)

The Award Limits shall apply to the following projects:

Contract Number
County

Contract Number
County

Contract Number
County

Contract Number
County

Contract Number
County

Contract Number
County

It is agreed that if I am (we are) the low Bidder(s) on indicated projects, the total value of which is more than the above stipulated award limits, the Board of Transportation will award me (us) projects from among those indicated

that have a total value not to exceed the award limit and will result in the lowest total bids to the Department of Transportation.

DBE List Summary

Project: 0087051
Bid Total: 35,978,896.35

Goal: 6.00% (2,158,733.78)
Total Entered: 1.22% (440,128.80)

Bidder ID: 2948
Business Name: Balfour Beatty Infrastructure, Inc.

ID	Name	Is Supplier?	Item Count	Amount	Is Complete?
15755	GOSALIA CONCRETE CONSTRUCTORS INC	False	2	154,659.36	True
2656	NATIONAL ERECTORS REBAR, INC	False	7	100,549.74	True
15521	4 D CONSTRUCTION	False	1	81,264.20	True
4761	TRAFFIC CONTROL SAFETY SERVICES INC	False	11	103,655.50	True

Name: GOSALIA CONCRETE CONSTRUCTORS INC ID: 15755

Address: 4607 N 56TH STREET TAMPA, FL 33610

Used As: SubContractor DBE Items Total:$154,659.36

Items for GOSALIA CONCRETE CONSTRUCTORS INC

0001 ROADWAY ITEMS					
0001	0000100000-N MOBILIZATION	1.000	LS	$11,000.0000	$11,000.00
Section 0001 Total					$11,000.00
0004 STRUCTURE ITEMS					
0219	8503000000-E CONCRETE BARRIER RAIL	1381.340	LF	$104.0000	$143,659.36
Section 0004 Total					$143,659.36
Item Total					$154,659.36

Name: NATIONAL ERECTORS REBAR, INC ID: 2656

Address: P.O. Box 2457 LUMBERTON, NC 28359

Used As: SubContractor DBE Items Total:$100,549.74

Items for NATIONAL ERECTORS REBAR, INC

0004 STRUCTURE ITEMS					
0204	8147000000-E	231605.018	SF	$0.2750	$63,691.38
	REINFORCED CONCRETE DECK SLAB				
Note: Install by the LB					
0207	8210000000-N	1.000	LS	$1,789.0000	$1,789.00
	BRIDGE APPROACH SLABS, STATION ********** (16+93.00 -Y-)				
Note: 6506lb@.275					
0208	8210000000-N	1.000	LS	$2,470.0000	$2,470.00
	BRIDGE APPROACH SLABS, STATION ********** (34+01.72 -Y-)				
Note: 8982lb@.275					
0209	8210000000-N	1.000	LS	$3,283.0000	$3,283.00
	BRIDGE APPROACH SLABS, STATION ********** (70+34.00 -L-)				
Note: 11938lb@.275					
0210	8210000000-N	1.000	LS	$4,296.0000	$4,296.00
	BRIDGE APPROACH SLABS, STATION ********** (71+06.00 -L-)				
Note: 15622lb@.275					
0211	8217000000-E	67186.989	LB	$0.2375	$15,956.91
	REINFORCING STEEL (BRIDGE)				
0219	8503000000-E	32958	LF	$0.2750	$9,063.45
	CONCRETE BARRIER RAIL				
Note: Install Rebar by the LB					
Section 0004 Total					$100,549.74
Item Total					$100,549.74

Name: 4 D CONSTRUCTION ID: 15521

Address: P.O. Box 806 MAXTON, NC 28364

Used As: SubContractor DBE Items Total:$81,264.20

Items for 4 D CONSTRUCTION

0004 STRUCTURE ITEMS				
0204	8147000000-E	26644 SF	$3.0500	$81,264.20
	REINFORCED CONCRETE DECK SLAB			
Note: Install SIP by SF				
Section 0004 Total				$81,264.20
Item Total				$81,264.20

Name: TRAFFIC CONTROL SAFETY SERVICES INC ID: 4761

Address: P.O. Box 24511 WINSTON SALEM, NC 27114

Used As: SubContractor DBE Items Total:$103,655.50

Items for TRAFFIC CONTROL SAFETY SERVICES INC

0001 ROADWAY ITEMS				
0106	4048000000-E REINFORCED CONCRETE SIGN FOUNDATIONS	4.000 CY	$1,500.0000	$6,000.00
0107	4060000000-E SUPPORTS, BREAKAWAY STEEL BEAM	3112.000 LB	$10.0000	$31,120.00
0108	4072000000-E SUPPORTS, 3-LB STEEL U-CHANNEL	1750.000 LF	$10.0000	$17,500.00
0109	4096000000-N SIGN ERECTION, TYPE D	7.000 EA	$150.0000	$1,050.00
0110	4102000000-N SIGN ERECTION, TYPE E	79.000 EA	$85.0000	$6,715.00
0111	4108000000-N SIGN ERECTION, TYPE F	15.000 EA	$150.0000	$2,250.00
0112	4110000000-N SIGN ERECTION, TYPE *** (GROUND MOUNTED) (A)	6.000 EA	$1,000.0000	$6,000.00
0113	4155000000-N DISPOSAL OF SIGN SYSTEM, U-CHANNEL	47.000 EA	$5.0000	$235.00
0114	4400000000-E WORK ZONE SIGNS (STATIONARY)	1553.000 SF	$13.5000	$20,965.50
0116	4410000000-E WORK ZONE SIGNS (BARRICADE MOUNTED)	366.000 SF	$8.0000	$2,928.00
0121	4445000000-E BARRICADES (TYPE III)	312.000 LF	$28.5000	$8,892.00
Section 0001 Total				$103,655.50
Item Total				$103,655.50

THIS PROPOSAL CONTAINS THE FOLLOWING ERRORS/WARNINGS (IF ANY)
DBE List Goal not met.
NATIONAL ERECTORS REBAR, INC/DBE: 0204 Quantity is over commmited
NATIONAL ERECTORS REBAR, INC/DBE: 0219 Quantity is over commmited

This Bid contains 0 amendment files

Electronic Bid Submission

By submitting this bid electronically, I hereby acknowledge that all requirements included in the hard copy proposal, addendum, amendments, plans, standard specifications, supplemental specifications and special provisions are part of the bid and contract. Further, I acknowledge that I have read, understand, accept, acknowledge and agree to comply with all statements in this electronic bid.

I hereby certify that I have the authority to submit this bid.

Signature _____

Agency _____

Date _____

Signature _____

Agency _____

Date _____

Signature _____

Agency _____

Date _____

Attachments

Failure to complete and attach the Fuel Usage Factor Adjustment Form will result in using 2.90 gallons per ton as the Fuel Usage Factor for Diesel for the asphalt items included on the form. The contractor will not be permitted to change the option after the bids are submitted.

NOTE: The maximum upload limit is 5 MB. ☐ Verify

Contract Item Sheets For C204570

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
			ROADWAY ITEMS			
0001	0000100000-N	800	MOBILIZATION	LUMP SUM	1,798,945.00	1,798,945.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	LUMP SUM	800,000.00	800,000.00
0003	0001000000-E	200	CLEARING & GRUBBING .. ACRE(S)	LUMP SUM LS	3,414,000.00	3,414,000.00
0004	0008000000-E	200	SUPPLEMENTARY CLEARING & GRUBBING	3 ACR	11,000.00	33,000.00
0005	0022000000-E	225	UNCLASSIFIED EXCAVATION	38,500 CY	7.38	284,130.00
0006	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (16+93.00 -Y-)	LUMP SUM	98,655.42	98,655.42
0007	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (34+01.72 -Y-)	LUMP SUM	121,293.82	121,293.82
0008	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (70+34.00 -L-)	LUMP SUM	126,075.83	126,075.83
0009	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (71+06.00 -L-)	LUMP SUM	156,720.67	156,720.67
0010	0036000000-E	225	UNDERCUT EXCAVATION	15,000 CY	21.24	318,600.00
0011	0106000000-E	230	BORROW EXCAVATION	351,500 CY	0.01	3,515.00
0012	0134000000-E	240	DRAINAGE DITCH EXCAVATION	4,335 CY	7.04	30,518.40
0013	0156000000-E	250	REMOVAL OF EXISTING ASPHALT PAVEMENT	9,600 SY	9.11	87,456.00
0014	0177000000-E	250	BREAKING OF EXISTING ASPHALT PAVEMENT	7,300 SY	7.29	53,217.00
0015	0192000000-N	260	PROOF ROLLING	7 HR	707.58	4,953.06
0016	0195000000-E	265	SELECT GRANULAR MATERIAL	12,980 CY	0.01	129.80
0017	0196000000-E	270	GEOTEXTILE FOR SOIL STABILIZATION	25,025 SY	2.70	67,567.50
0018	0318000000-E	300	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES	1,490 TON	80.24	119,557.60
0019	0320000000-E	300	FOUNDATION CONDITIONING GEOTEXTILE	4,670 SY	2.39	11,161.30
0020	0335200000-E	305	15" DRAINAGE PIPE	1,068 LF	85.00	90,780.00

Contract Item Sheets For C204570

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0021	0335300000-E	305	18" DRAINAGE PIPE	1,096 LF	75.60	82,857.60
0022	0335400000-E	305	24" DRAINAGE PIPE	1,564 LF	112.50	175,950.00
0023	0335500000-E	305	30" DRAINAGE PIPE	268 LF	138.76	37,187.68
0024	0335850000-E	305	**" DRAINAGE PIPE ELBOWS (15")	30 EA	911.46	27,343.80
0025	0335850000-E	305	**" DRAINAGE PIPE ELBOWS (18")	6 EA	999.06	5,994.36
0026	0354000000-E	310	***" RC PIPE CULVERTS, CLASS ***** (15", V)	236 LF	79.31	18,717.16
0027	0354000000-E	310	***" RC PIPE CULVERTS, CLASS ***** (18", V)	244 LF	95.18	23,223.92
0028	0354000000-E	310	***" RC PIPE CULVERTS, CLASS ***** (24", V)	316 LF	134.86	42,615.76
0029	0354000000-E	310	***" RC PIPE CULVERTS, CLASS ***** (30", V)	244 LF	178.72	43,607.68
0030	0354000000-E	310	***" RC PIPE CULVERTS, CLASS ***** (36", V)	92 LF	244.58	22,501.36
0031	0366000000-E	310	15" RC PIPE CULVERTS, CLASS III	796 LF	64.26	51,150.96
0032	0372000000-E	310	18" RC PIPE CULVERTS, CLASS III	912 LF	77.27	70,470.24
0033	0378000000-E	310	24" RC PIPE CULVERTS, CLASS III	1,208 LF	103.67	125,233.36
0034	0384000000-E	310	30" RC PIPE CULVERTS, CLASS III	1,248 LF	146.62	182,981.76
0035	0390000000-E	310	36" RC PIPE CULVERTS, CLASS III	1,416 LF	181.80	257,428.80
0036	0448000000-E	310	****" RC PIPE CULVERTS, CLASS IV (48")	100 LF	348.85	34,885.00
0037	0448000000-E	310	****" RC PIPE CULVERTS, CLASS IV (54")	1,160 LF	474.59	550,524.40
0038	0448200000-E	310	15" RC PIPE CULVERTS, CLASS IV	952 LF	78.45	74,684.40
0039	0448300000-E	310	18" RC PIPE CULVERTS, CLASS IV	60 LF	113.22	6,793.20
0040	0448500000-E	310	30" RC PIPE CULVERTS, CLASS IV	64 LF	171.15	10,953.60
0041	0448600000-E	310	36" RC PIPE CULVERTS, CLASS IV	112 LF	202.14	22,639.68
0042	0973100000-E	330	**" WELDED STEEL PIPE, ****" THICK, GRADE B IN SOIL (54", 0.109")	40 LF	1,807.89	72,315.60

Contract Item Sheets For C204570

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0043	0973300000-E	330	**" WELDED STEEL PIPE, ****" THICK, GRADE B NOT IN SOIL (54", 0.109")	40 LF	0.01	0.40
0044	0995000000-E	340	PIPE REMOVAL	2,000 LF	33.86	67,720.00
0045	1000000000-E	462	6" SLOPE PROTECTION	125 SY	158.15	19,768.75
0046	1011000000-N	500	FINE GRADING	LUMP SUM	595,724.00	595,724.00
0047	1099500000-E	505	SHALLOW UNDERCUT	2,350 CY	11.66	27,401.00
0048	1099700000-E	505	CLASS IV SUBGRADE STABILIZATION	4,950 TON	65.18	322,641.00
0049	1111000000-E	SP	CLASS IV AGGREGATE STABILIZATION	500 TON	69.61	34,805.00
0050	1121000000-E	520	AGGREGATE BASE COURSE	24,700 TON	63.58	1,570,426.00
0051	1220000000-E	545	INCIDENTAL STONE BASE	1,500 TON	76.08	114,120.00
0052	1275000000-E	600	PRIME COAT	1,540 GAL	12.00	18,480.00
0053	1297000000-E	607	MILLING ASPHALT PAVEMENT, ***" DEPTH (3")	16,000 SY	5.13	82,080.00
0054	1330000000-E	607	INCIDENTAL MILLING	3,100 SY	9.40	29,140.00
0055	1491000000-E	610	ASPHALT CONC BASE COURSE, TYPE B25.0C	9,300 TON	93.00	864,900.00
0056	1503000000-E	610	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	22,400 TON	92.00	2,060,800.00
0057	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	800 TON	100.00	80,000.00
0058	1523000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5C	18,500 TON	89.00	1,646,500.00
0059	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	2,660 TON	672.00	1,787,520.00
0060	1693000000-E	654	ASPHALT PLANT MIX, PAVEMENT REPAIR	110 TON	372.12	40,933.20
0061	2022000000-E	815	SUBDRAIN EXCAVATION	10,820 CY	20.24	218,996.80
0062	2026000000-E	815	GEOTEXTILE FOR SUBSURFACE DRAINS	32,200 SY	4.26	137,172.00
0063	2036000000-E	815	SUBDRAIN COARSE AGGREGATE	5,410 CY	157.28	850,884.80
0064	2044000000-E	815	6" PERFORATED SUBDRAIN PIPE	32,200 LF	24.69	795,018.00

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0065	2070000000-N	815	SUBDRAIN PIPE OUTLET	65 EA	1,207.66	78,497.90
0066	2077000000-E	815	6" OUTLET PIPE	390 LF	35.90	14,001.00
0067	2209000000-E	838	ENDWALLS	13 CY	2,023.68	26,307.84
0068	2220000000-E	838	REINFORCED ENDWALLS	33 CY	1,963.88	64,808.04
0069	2275000000-E	SP	FLOWABLE FILL	5 CY	619.69	3,098.45
0070	2286000000-N	840	MASONRY DRAINAGE STRUCTURES	85 EA	5,054.70	429,649.50
0071	2297000000-E	840	MASONRY DRAINAGE STRUCTURES	17 CY	4,025.91	68,440.47
0072	2308000000-E	840	MASONRY DRAINAGE STRUCTURES	30 LF	361.60	10,848.00
0073	2364000000-N	840	FRAME WITH TWO GRATES, STD 840.16	11 EA	1,004.74	11,052.14
0074	2364200000-N	840	FRAME WITH TWO GRATES, STD 840.20	9 EA	903.01	8,127.09
0075	2365000000-N	840	FRAME WITH TWO GRATES, STD 840.22	30 EA	865.98	25,979.40
0076	2366000000-N	840	FRAME WITH TWO GRATES, STD 840.24	8 EA	850.73	6,805.84
0077	2367000000-N	840	FRAME WITH TWO GRATES, STD 840.29	15 EA	879.81	13,197.15
0078	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)	2 EA	1,140.11	2,280.22
0079	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)	3 EA	1,140.12	3,420.36
0080	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)	4 EA	1,140.12	4,560.48
0081	2396000000-N	840	FRAME WITH COVER, STD 840.54	5 EA	728.01	3,640.05
0082	2451000000-N	852	CONCRETE TRANSITIONAL SECTION FOR DROP INLET	12 EA	1,000.00	12,000.00
0083	2549000000-E	846	2'-6" CONCRETE CURB & GUTTER	2,300 LF	47.90	110,170.00
0084	2556000000-E	846	SHOULDER BERM GUTTER	2,600 LF	46.72	121,472.00
0085	2612000000-E	848	6" CONCRETE DRIVEWAY	200 SY	93.37	18,674.00

Contract Item Sheets For C204570

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0086	2619000000-E	850	4" CONCRETE PAVED DITCH	22 SY	145.00	3,190.00
0087	2655000000-E	852	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)	1,700 SY	85.15	144,755.00
0088	2724000000-E	857	PRECAST REINFORCED CONCRETE BARRIER, SINGLE FACED	100 LF	116.10	11,610.00
0089	3001000000-N	SP	IMPACT ATTENUATOR UNITS, TYPE TL-3	2 EA	11,150.00	22,300.00
0090	3030000000-E	862	STEEL BEAM GUARDRAIL	3,400 LF	24.00	81,600.00
0091	3150000000-N	862	ADDITIONAL GUARDRAIL POSTS	20 EA	11.00	220.00
0092	3210000000-N	862	GUARDRAIL END UNITS, TYPE CAT-1	2 EA	850.00	1,700.00
0093	3287000000-N	SP	GUARDRAIL END UNITS, TYPE TL-3	12 EA	3,400.00	40,800.00
0094	3317000000-N	SP	GUARDRAIL ANCHOR UNITS, TYPE B-77	18 EA	2,500.00	45,000.00
0095	3389200000-E	865	CABLE GUIDERAIL	5,000 LF	13.75	68,750.00
0096	3389500000-N	865	ADDITIONAL GUIDERAIL POSTS	10 EA	95.00	950.00
0097	3389600000-N	865	CABLE GUIDERAIL ANCHOR UNITS	8 EA	2,400.00	19,200.00
0098	3503000000-E	866	WOVEN WIRE FENCE, 47" FABRIC	13,000 LF	4.80	62,400.00
0099	3509000000-E	866	4" TIMBER FENCE POSTS, 7'-6" LONG	830 EA	32.00	26,560.00
0100	3515000000-E	866	5" TIMBER FENCE POSTS, 8'-0" LONG	200 EA	42.00	8,400.00
0101	3565000000-E	866	DOUBLE GATES, **" HIGH, **' WIDE, **' OPENING (47", 12', 24')	1 EA	1,200.00	1,200.00
0102	3628000000-E	876	RIP RAP, CLASS I	2,558 TON	104.32	266,850.56
0103	3635000000-E	876	RIP RAP, CLASS II	2,693 TON	118.45	318,985.85
0104	3649000000-E	876	RIP RAP, CLASS B	3,236 TON	116.82	378,029.52
0105	3656000000-E	876	GEOTEXTILE FOR DRAINAGE	18,296 SY	2.39	43,727.44
0106	4048000000-E	902	REINFORCED CONCRETE SIGN FOUNDATIONS	4 CY	1,500.00	6,000.00
0107	4060000000-E	903	SUPPORTS, BREAKAWAY STEEL BEAM	3,112 LB	10.00	31,120.00

Contract Item Sheets For C204570

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0108	4072000000-E	903	SUPPORTS, 3-LB STEEL U-CHANNEL	1,750 LF	10.00	17,500.00
0109	4096000000-N	904	SIGN ERECTION, TYPE D	7 EA	150.00	1,050.00
0110	4102000000-N	904	SIGN ERECTION, TYPE E	79 EA	85.00	6,715.00
0111	4108000000-N	904	SIGN ERECTION, TYPE F	15 EA	150.00	2,250.00
0112	4110000000-N	904	SIGN ERECTION, TYPE *** (GROUND MOUNTED) (A)	6 EA	1,000.00	6,000.00
0113	4155000000-N	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	47 EA	5.00	235.00
0114	4400000000-E	1110	WORK ZONE SIGNS (STATIONARY)	1,553 SF	13.50	20,965.50
0115	4405000000-E	1110	WORK ZONE SIGNS (PORTABLE)	128 SF	29.81	3,815.68
0116	4410000000-E	1110	WORK ZONE SIGNS (BARRICADE MOUNTED)	366 SF	8.00	2,928.00
0117	4415000000-N	1115	FLASHING ARROW BOARD	2 EA	3,691.37	7,382.74
0118	4420000000-N	1120	PORTABLE CHANGEABLE MESSAGE SIGN	2 EA	22,600.18	45,200.36
0119	4430000000-N	1130	DRUMS	500 EA	69.31	34,655.00
0120	4435000000-N	1135	CONES	100 EA	33.15	3,315.00
0121	4445000000-E	1145	BARRICADES (TYPE III)	312 LF	28.50	8,892.00
0122	4455000000-N	1150	FLAGGER	90 DAY	432.03	38,882.70
0123	4465000000-N	1160	TEMPORARY CRASH CUSHIONS	2 EA	11,500.00	23,000.00
0124	4485000000-E	1170	PORTABLE CONCRETE BARRIER	750 LF	48.95	36,712.50
0125	4650000000-N	1251	TEMPORARY RAISED PAVEMENT MARKERS	132 EA	10.00	1,320.00
0126	4685000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	72,451 LF	0.79	57,236.29
0127	4695000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)	9,100 LF	1.95	17,745.00
0128	4700000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (12", 90 MILS)	300 LF	12.00	3,600.00
0129	4709000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS)	60 LF	20.00	1,200.00

Contract Item Sheets For C204570

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0130	4720000000-E	1205	THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MILS)	20 EA	200.00	4,000.00
0131	4725000000-E	1205	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	44 EA	130.00	5,720.00
0132	4770000000-E	1205	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (II)	3,139 LF	6.00	18,834.00
0133	4785000000-E	1205	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (12") (II)	145 LF	28.00	4,060.00
0134	4810000000-E	1205	PAINT PAVEMENT MARKING LINES (4")	47,613 LF	0.19	9,046.47
0135	4820000000-E	1205	PAINT PAVEMENT MARKING LINES (8")	7,750 LF	0.60	4,650.00
0136	4835000000-E	1205	PAINT PAVEMENT MARKING LINES (24")	150 LF	5.00	750.00
0137	4845000000-N	1205	PAINT PAVEMENT MARKING SYMBOL	57 EA	50.00	2,850.00
0138	4900000000-N	1251	PERMANENT RAISED PAVEMENT MARKERS	35 EA	25.00	875.00
0139	4905100000-N	SP	NON-CAST IRON SNOWPLOWABLE PAVEMENT MARKER	1,071 EA	43.20	46,267.20
0140	5325600000-E	1510	6" WATER LINE	5,310 LF	65.00	345,150.00
0141	5325800000-E	1510	8" WATER LINE	3,165 LF	85.00	269,025.00
0142	5329000000-E	1510	DUCTILE IRON WATER PIPE FITTINGS	4,000 LB	5.00	20,000.00
0143	5540000000-E	1515	6" VALVE	8 EA	2,500.00	20,000.00
0144	5546000000-E	1515	8" VALVE	3 EA	3,500.00	10,500.00
0145	5571600000-E	1515	6" TAPPING SLEEVE & VALVE	1 EA	11,000.00	11,000.00
0146	5643100000-E	1515	3/4" WATER METER	1 EA	5,750.00	5,750.00
0147	5666000000-N	1515	FIRE HYDRANT	4 EA	8,000.00	32,000.00
0148	5673000000-E	1515	FIRE HYDRANT LEG	55 LF	100.00	5,500.00
0149	5686000000-E	1515	**" WATER SERVICE LINE (1")	30 LF	1.25	37.50
0150	5800000000-E	1530	ABANDON 6" UTILITY PIPE	3,900 LF	8.35	32,565.00
0151	5801000000-E	1530	ABANDON 8" UTILITY PIPE	3,800 LF	8.55	32,490.00

Contract Item Sheets For C204570

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0152	5815000000-N	1530	REMOVE WATER METER	1 EA	1,500.00	1,500.00
0153	5815500000-N	1530	REMOVE FIRE HYDRANT	3 EA	2,000.00	6,000.00
0154	5835600000-E	1540	12" ENCASEMENT PIPE	365 LF	700.00	255,500.00
0155	5835700000-E	1540	16" ENCASEMENT PIPE	85 LF	825.00	70,125.00
0156	6000000000-E	1605	TEMPORARY SILT FENCE	68,000 LF	2.65	180,200.00
0157	6006000000-E	1610	STONE FOR EROSION CONTROL, CLASS A	1,560 TON	100.83	157,294.80
0158	6009000000-E	1610	STONE FOR EROSION CONTROL, CLASS B	8,700 TON	105.63	918,981.00
0159	6012000000-E	1610	SEDIMENT CONTROL STONE	4,250 TON	85.49	363,332.50
0160	6015000000-E	1615	TEMPORARY MULCHING	143 ACR	1,200.00	171,600.00
0161	6018000000-E	1620	SEED FOR TEMPORARY SEEDING	6,900 LB	6.00	41,400.00
0162	6021000000-E	1620	FERTILIZER FOR TEMPORARY SEEDING	35 TON	2,150.00	75,250.00
0163	6024000000-E	1622	TEMPORARY SLOPE DRAINS	2,200 LF	20.68	45,496.00
0164	6029000000-E	SP	SAFETY FENCE	29,720 LF	2.00	59,440.00
0165	6030000000-E	1630	SILT EXCAVATION	22,500 CY	1.52	34,200.00
0166	6036000000-E	1631	MATTING FOR EROSION CONTROL	112,700 SY	1.90	214,130.00
0167	6037000000-E	SP	COIR FIBER MAT	700 SY	6.75	4,725.00
0168	6042000000-E	1632	1/4" HARDWARE CLOTH	1,600 LF	8.00	12,800.00
0169	6043000000-E	SP	LOW PERMEABILITY GEOTEXTILE	1,547 SY	5.85	9,049.95
0170	6048000000-E	SP	FLOATING TURBIDITY CURTAIN	200 SY	33.35	6,670.00
0171	6070000000-N	1639	SPECIAL STILLING BASINS	25 EA	448.12	11,203.00
0172	6071012000-E	SP	COIR FIBER WATTLE	20,340 LF	8.05	163,737.00
0173	6071014000-E	SP	COIR FIBER WATTLE BARRIER	366 LF	8.00	2,928.00
0174	6071020000-E	SP	POLYACRYLAMIDE (PAM)	11,265 LB	18.00	202,770.00

Contract Item Sheets For C204570

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0175	6071030000-E	1640	COIR FIBER BAFFLE	3,200 LF	10.00	32,000.00
0176	6071050000-E	SP	**" SKIMMER (1-1/2")	6 EA	938.74	5,632.44
0177	6071050000-E	SP	**" SKIMMER (2")	5 EA	1,196.38	5,981.90
0178	6071050000-E	SP	**" SKIMMER (2-1/2")	3 EA	1,496.21	4,488.63
0179	6071050000-E	SP	**" SKIMMER (3")	1 EA	1,918.08	1,918.08
0180	6084000000-E	1660	SEEDING & MULCHING	120 ACR	2,550.00	306,000.00
0181	6087000000-E	1660	MOWING	120 ACR	50.00	6,000.00
0182	6090000000-E	1661	SEED FOR REPAIR SEEDING	1,450 LB	8.00	11,600.00
0183	6093000000-E	1661	FERTILIZER FOR REPAIR SEEDING	4.5 TON	2,175.00	9,787.50
0184	6096000000-E	1662	SEED FOR SUPPLEMENTAL SEEDING	2,775 LB	8.00	22,200.00
0185	6108000000-E	1665	FERTILIZER TOPDRESSING	83.25 TON	2,150.00	178,987.50
0186	6111000000-E	SP	IMPERVIOUS DIKE	544 LF	508.61	276,683.84
0187	6114500000-N	1667	SPECIALIZED HAND MOWING	40 MHR	20.00	800.00
0188	6114800000-N	SP	MANUAL LITTER REMOVAL	59 MHR	48.64	2,869.76
0189	6114900000-E	SP	LITTER DISPOSAL	3 TON	581.74	1,745.22
0190	6117000000-N	SP	RESPONSE FOR EROSION CONTROL	100 EA	375.00	37,500.00
0191	6117500000-N	SP	CONCRETE WASHOUT STRUCTURE	6 EA	978.11	5,868.66
0192	6120000000-E	SP	CULVERT DIVERSION CHANNEL	655 CY	20.59	13,486.45
0193	6132000000-N	SP	GENERIC EROSION CONTROL ITEM FABRIC INSERT INLET PROTECTION DEVICE	18 EA	156.53	2,817.54
0194	6132000000-N	SP	GENERIC EROSION CONTROL ITEM FABRIC INSERT INLET PROTECTION DEVICE CLEANOUT	54 EA	116.08	6,268.32

Contract Item Sheets For C204570

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
			STRUCTURE ITEMS			
0195	8017000000-N	SP	CONSTRUCTION, MAINTENANCE, & REMOVAL OF TEMP ACCESS AT STA ********** (70+34.00 -L-)	LUMP SUM	125,842.42	125,842.42
0196	8056000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ********** (16+93.00 -Y-)	LUMP SUM	75,000.00	75,000.00
0197	8056000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ********** (71+06.00 -L-)	LUMP SUM	50,000.00	50,000.00
0198	8065000000-N	SP	ASBESTOS ASSESSMENT	LUMP SUM	8,000.00	8,000.00
0199	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (1, 34+01.72 -Y-)	LUMP SUM	13,624.85	13,624.85
0200	8112730000-N	450	PDA TESTING	7 EA	4,951.39	34,659.73
0201	8121000000-N	412	UNCLASSIFIED STRUCTURE EXCAVATION AT STATION ******** (16+93.00 -Y-)	LUMP SUM	80,000.00	80,000.00
0202	8121000000-N	412	UNCLASSIFIED STRUCTURE EXCAVATION AT STATION ******** (70+34.00 -L-)	LUMP SUM	70,000.00	70,000.00
0203	8121000000-N	412	UNCLASSIFIED STRUCTURE EXCAVATION AT STATION ******** (71+06.00 -L-)	LUMP SUM	40,000.00	40,000.00
0204	8147000000-E	420	REINFORCED CONCRETE DECK SLAB	30,349 SF	64.60	1,960,545.40
0205	8161000000-E	420	GROOVING BRIDGE FLOORS	31,868 SF	1.18	37,604.24
0206	8182000000-E	420	CLASS A CONCRETE (BRIDGE)	437.9 CY	1,600.00	700,640.00
0207	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (16+93.00 -Y-)	LUMP SUM	120,000.00	120,000.00
0208	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (34+01.72 -Y-)	LUMP SUM	64,000.00	64,000.00
0209	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (70+34.00 -L-)	LUMP SUM	120,000.00	120,000.00
0210	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (71+06.00 -L-)	LUMP SUM	122,485.21	122,485.21

Contract Item Sheets For C204570

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0211	8217000000-E	425	REINFORCING STEEL (BRIDGE)	67,187 LB	1.74	116,905.38
0212	8238000000-E	425	SPIRAL COLUMN REINFORCING STEEL (BRIDGE)	1,157 LB	5.58	6,456.06
0213	8265000000-E	430	54" PRESTRESSED CONCRETE GIRDERS	3,070.07 LF	436.09	1,338,826.83
0214	8328200000-E	450	PILE DRIVING EQUIPMENT SETUP FOR *** STEEL PILES (HP 12 X 53)	75 EA	7,500.00	562,500.00
0215	8328400000-E	450	PILE DRIVING EQUIPMENT SETUP FOR *** GALVANIZED STEEL PILES (PP 30 X 0.50)	16 EA	15,000.00	240,000.00
0216	8364000000-E	450	HP 12 X 53 STEEL PILES	4,510 LF	90.00	405,900.00
0217	8385200000-E	450	PP ** X **** GALVANIZED STEEL PILES (30 X 0.50)	1,330 LF	296.19	393,932.70
0218	8393000000-N	450	PILE REDRIVES	48 EA	500.00	24,000.00
0219	8503000000-E	460	CONCRETE BARRIER RAIL	1,381.34 LF	156.75	216,525.05
0220	8531000000-E	462	4" SLOPE PROTECTION	420 SY	137.67	57,821.40
0221	8608000000-E	876	RIP RAP CLASS II (2'-0" THICK)	2,270 TON	108.21	245,636.70
0222	8622000000-E	876	GEOTEXTILE FOR DRAINAGE	2,525 SY	3.44	8,686.00
0223	8657000000-N	430	ELASTOMERIC BEARINGS	LUMP SUM	30,919.38	30,919.38
				TOTAL AMOUNT OF BID FOR ENTIRE PROJECT		$35,978,896.35

Contract No. C204570

County Columbus

Rev. 1-16-18

EXECUTION OF CONTRACT
NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION

CORPORATION

The Contractor declares (or certifies, verifies, or states) under penalty of perjury under the laws of the United States that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with this Contract, that the Contractor has not been convicted of violating *N.C.G.S. § 133-24* within the last three years, and that the Contractor intends to do the work with its own bona fide employees or subcontractors and did not bid for the benefit of another contractor.

By submitting this Execution of Contract, Non-Collusion and Debarment Certification, the Contractor is certifying his status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

SIGNATURE OF CONTRACTOR

Balfour Beatty Infrastructure, Inc.

Full name of Corporation

3314 Jaeckle Drive, Suite 140, Wilmington, NC 28403

Address as Prequalified

Attest _____ By _____

~~Secretary~~/Assistant Secretary
Select appropriate title

~~President~~/Vice President ~~Assistant Vice President~~
Select appropriate title

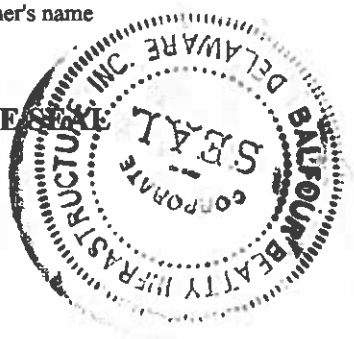
William D. Heston

Print or type Signer's name

Mark R. Johnnie

Print or type Signer's name

CORPORATE SEAL



Contract No. C204570
County Columbus

Rev. 1-16-18

DEBARMENT CERTIFICATION

Conditions for certification:

1. The prequalified bidder shall provide immediate written notice to the Department if at any time the bidder learns that his certification was erroneous when he submitted his debarment certification or explanation filed with the Department, or has become erroneous because of changed circumstances.

2. The terms *covered transaction, debarred, suspended, ineligible, lower tier covered transaction, participant, person, primary covered transaction, principal, proposal,* and *voluntarily excluded,* as used in this provision, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. A copy of the Federal Rules requiring this certification and detailing the definitions and coverages may be obtained from the Contract Officer of the Department.

3. The prequalified bidder agrees by submitting this form, that he will not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in NCDOT contracts, unless authorized by the Department.

4. For Federal Aid projects, the prequalified bidder further agrees that by submitting this form he will include the Federal-Aid Provision titled *Required Contract Provisions Federal-Aid Construction Contract (Form FHWA PR* 1273) provided by the Department, without subsequent modification, in all lower tier covered transactions.

5. The prequalified bidder may rely upon a certification of a participant in a lower tier covered transaction that he is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless he knows that the certification is erroneous. The bidder may decide the method and frequency by which he will determine the eligibility of his subcontractors.

6. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this provision. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

7. Except as authorized in paragraph 6 herein, the Department may terminate any contract if the bidder knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available by the Federal Government.

Contract No. C204570

County Columbus

Rev. 1-16-18

DEBARMENT CERTIFICATION

The prequalified bidder certifies to the best of his knowledge and belief, that he and his principals:

a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

b. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records; making false statements; or receiving stolen property;

c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph b. of this certification; and

d. Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

e. Will submit a revised Debarment Certification immediately if his status changes and will show in his bid proposal an explanation for the change in status.

If the prequalified bidder cannot certify that he is not debarred, he shall provide an explanation with this submittal. An explanation will not necessarily result in denial of participation in a contract.

Failure to submit a non-collusion and debarment certification will result in the prequalified bidder's bid being considered non-responsive.

☐ Check here if an explanation is attached to this certification.

Contract No. **C204570**

County (ies): **Columbus**

ACCEPTED BY THE
DEPARTMENT OF TRANSPORTATION

DocuSigned by:
Ronald E. Davenport, Jr.
F81B6038A47A442...
Contract Officer

07/13/2023
Date

Execution of Contract and Bonds
Approved as to Form:

DocuSigned by:
Jessica Price
B584472DA33F432...
Attorney General

07/13/2023
Date

Contract No. C204570
County Columbus

Rev. 11-1-12

Bond No. 107734844 / 9423520 / 0162335563

North Carolina Department of Transportation

CONTRACT PAYMENT BOND

Date of Payment Bond Execution	July 10, 2023
Name of Principal Contractor	Balfour Beatty Infrastructure, Inc.
Name of Surety:	Travelers Casualty and Surety Company of America / Fidelity and Deposit Company of Maryland / Liberty Mutual Insurance Company
Name of Contracting Body:	North Carolina Department of Transportation
	1020 Birch Ridge Drive, Raleigh, NC 27610
Amount of Bond:	Thirty Five Million Nine Hundred Seventy Eight Thousand Eight Hundred Ninety Six Dollars and 35/100 $35,978,896.35
Contract ID No.:	C204570
County Name:	Columbus

KNOW ALL MEN BY THESE PRESENTS, That we, the PRINCIPAL CONTRACTOR (hereafter, PRINCIPAL) and SURETY above named, are held and firmly bound unto the above named Contracting Body, hereinafter called the Contracting Body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the Contracting Body, numbered as shown above and hereto attached:

NOW THEREFORE, if the principal shall promptly make payment to all persons supplying labor and material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

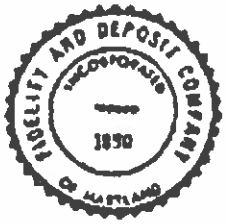
Contract No. C204570
County Columbus

Rev. 11-1-12

CONTRACT PAYMENT BOND

Affix Seal of Surety Company







Travelers Casualty and Surety Company of America / Fidelity and Deposit Company of Maryland / Liberty Mutual Insurance Company
Print or type Surety Company Name

By Amy R. Waugh, Attorney-in-Fact
Print, stamp or type name of Attorney-in-Fact

Signature of Attorney-in-Fact

Signature of Witness

Noah Pierce
Print or type Signer's name

1120 South Tryon Street, Suite 650
Charlotte, NC 28203
Address of Attorney-in-Fact

Contract No. C204570
County Columbus

Rev. 11-1-12

CONTRACT PAYMENT BOND

CORPORATION

SIGNATURE OF CONTRACTOR (Principal)

Balfour Beatty Infrastructure, Inc.
Full name of Corporation

3314 Jaeckle Drive, Suite 140, Wilmington, NC 28403
Address as prequalified

By _____
Signature of ~~President~~, Vice President, ~~Assistant Vice President~~
Select appropriate title

Mark R. Johnnie Vice President
Print or type Signer's name

Affix Corporate Seal

Attest _____
Signature of ~~Secretary~~, Assistant Secretary
Select appropriate title

William D. Heston, Assistant Secretary
Print or type Signer's name

Contract No. C204570
County Columbus

Rev. 11-1-12

Bond No. 107734844 / 9423520 / 0162335563

North Carolina Department of Transportation

CONTRACT PERFORMANCE BOND

Date of Performance Bond Execution:	July 10, 2023
Name of Principal Contractor:	Balfour Beatty Infrastructure, Inc.
Name of Surety:	Travelers Casualty and Surety Company of America / Fidelity and Deposit Company of Maryland / Liberty Mutual Insurance Company
Name of Contracting Body:	North Carolina Department of Transportation
	1020 Birch Ridge Drive, Raleigh, NC 27610
Amount of Bond:	Thirty Five Million Nine Hundred Seventy Eight Thousand Eight Hundred Ninety Six Dollars and 35/100 $35,978,896.35
Contract ID No.:	C204570
County Name:	Columbus

KNOW ALL MEN BY THESE PRESENTS, That we, the PRINCIPAL CONTRACTOR (hereafter, PRINCIPAL) and SURETY above named, are held and firmly bound unto the above named Contracting Body, hereinafter called the Contracting Body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the Contracting Body, numbered as shown above and hereto attached:

NOW THEREFORE, if the principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the Contracting Body, with or without notice to the Surety, and during the life of any guaranty required under the contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Contract No. C204570
County Columbus

Rev. 11-1-12

CONTRACT PERFORMANCE BOND

Affix Seal of Surety Company







Travelers Casualty and Surety Company of America / Fidelity and Deposit Company of Maryland / Liberty Mutual Insurance Company

Print or type Surety Company Name

By Amy R. Waugh, Attorney-in-Fact

Print, stamp or type name of Attorney-in-Fact

Signature of Attorney-in-Fact

Signature of Witness

Noah Pierce

Print or type Signer's name

1120 South Tryon Street, Suite 650
Charlotte, NC 28203

Address of Attorney-in-Fact

Contract No. C204570
County Columbus

Rev. 11-1-12

CONTRACT PERFORMANCE BOND

CORPORATION

SIGNATURE OF CONTRACTOR (Principal)

Balfour Beatty Infrastructure, Inc.
Full name of Corporation

3314 Jaeckle Drive, Suite 140, Wilmington, NC 28403
Address as prequalified

By _____
Signature of ~~President~~, Vice President, ~~Assistant Vice President~~
Select appropriate title

Mark R. Johnnie Vice President
Print or type Signer's name

Affix Corporate Seal

BALFOUR BEATTY INFRASTRUCTURE, INC. * DELAWARE
CORPORATE SEAL

Attest _____
Signature of ~~Secretary,~~ Assistant Secretary
Select appropriate title

William D. Heston, Assistant Secretary
Print or type Signer's name

TRAVELERS

Travelers Casualty and Surety Company of America
Travelers Casualty and Surety Company
St. Paul Fire and Marine Insurance Company
Farmington Casualty Company

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, St. Paul Fire and Marine Insurance Company, and Farmington Casualty Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint Amy R. Waugh of Charlotte , NC , their true and lawful Attorney(s)-in-Fact to sign, execute, seal and acknowledge the following bond:

Surety Bond No.: 107734844 / 9423520 / 0162335563
OR
Project Description: C204570: NC-87 a NC-11 Construct Interchange

Principal: Balfour Beatty Infrastructure, Inc.
Obligee: North Carolina Department of Transportation

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **21st** day of **April, 2021.**

State of Connecticut

City of Hartford ss.

By: _____
Robert L. Raney, Senior Vice President

On this the **21st** day of **April, 2021**, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of each of the Companies, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of said Companies by himself as a duly authorized officer.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June, 2026**

_____
Anna P. Nowik, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of each of the Companies, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes**, the undersigned, Assistant Secretary of each of the Companies, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this 10th day of July , 2023 .

_____
Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney(s)-in-Fact and the details of the bond to which this Power of Attorney is attached.

Bond Number: 107734844 / 9423520 / 0162335563

Obligee North Carolina Department of Transportation

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Illinois, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Illinois (herein collectively called the "Companies"), by Robert D. Murray, Vice President, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Amy R. Waugh**, its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings,** and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND**, this 18th day of April, A.D. 2023.

Colonial American Casualty and Surety Company CORPORATE SEAL 1977 Illinois

Zurich American Insurance Company CORPORATE SEAL 1912 New York

Fidelity and Deposit Company of Maryland CORPORATE SEAL 1890 Illinois

ATTEST:
ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: Robert D. Murray
Vice President

By: Dawn E. Brown
Secretary

State of Maryland
County of Baltimore

On this 18th day of April, A.D. 2023, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **Robert D. Murray, Vice President and Dawn E. Brown, Secretary** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

Iva Bethea
Notary Public
My Commission Expires September 30, 2023

IVA BETHEA NOTARY PUBLIC Baltimore County Maryland

Authenticity of this bond can be confirmed at bondvalidator.zurichna.com or 410-559-8790

EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify of revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 10th day of July, 2023.



MJ Pethick

By: Mary Jean Pethick
Vice President

TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT A COMPLETE DESCRIPTION OF THE CLAIM INCLUDING THE PRINCIPAL ON THE BOND, THE BOND NUMBER, AND YOUR CONTACT INFORMATION TO:

Zurich Surety Claims
1299 Zurich Way
Schaumburg, IL 60196-1056
reportsfclaims@zurichna.com
800-626-4577

Authenticity of this bond can be confirmed at bondvalidator.zurichna.com or 410-559-8790

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated. Not valid for mortgage, note, loan, letter of credit, bank deposit, currency rate, interest rate or residual value guarantees. For bond and/or Power of Attorney (POA) verification inquiries, please call 610-832-8240 or email HOSUR@libertymutual.com.

Liberty Mutual. SURETY

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint Amy R. Waugh of the city of Charlotte, state of NC its true and lawful attorney-in-fact, with full power and authority hereby conferred to sign, execute and acknowledge the following surety bond

Principal Name: Balfour Beatty Infrastructure, Inc.

Obligee Name: North Carolina Department of Transportation

Surety Bond Number: 107734844 / 9423520 / 0162335663 Bond Amount: See Bond Form

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 12th day of March, 2021

The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

By: _____
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 12th day of March, 2021, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania on the day and year first above written.

Commonwealth of Pennsylvania - Notary Seal
Teresa Pastella, Notary Public
Montgomery County
My commission expires March 28, 2025
Commission number 1126044
Member, Pennsylvania Association of Notaries

By: _____
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of Liberty Mutual Insurance Company, The Ohio Casualty Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS – Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings. Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, of Liberty Mutual Insurance Company, The Ohio Casualty Insurance Company, and West American Insurance Company do hereby certify that this power of attorney executed by said Companies is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 10th day of July, 2023

By: _____
Renee C. Llewellyn, Assistant Secretary