



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

June 19, 2015

U.S. Fish and Wildlife Service
Pea Island National Wildlife Refuge
PO Box 1969
Manteo, NC 27954

ATTN: Mr. Mike Bryant
Refuge Manager

SUBJECT: **Request for Modification of Permits for Construction and Demolition Activities** for the Replacement of the Temporary Bridge over New Inlet on NC 12 in Dare County, TIP No. B-2500 AB.

REFERENCE: PINWR SUP September 16, 2013
Settlement Agreement June 2015

Dear Mr. Bryant:

The North Carolina Department of Transportation requests modifications to the above referenced permit to redesign the structure replacing the existing temporary bridge over New Inlet. Pursuant to the Settlement Agreement between Defenders of Wildlife and National Wildlife Refuge Association, the North Carolina Department of Transportation, North Carolina Department of Environment and Natural Resources Division of Coastal Management, Federal Highway Administration and Cape Hatteras Electric Membership Corporation, the project scope has changed. The attached revisions will reduce the project area, and will therefore have reduced impacts compared to the previously permitted project.

This reduced project area on will result in fewer impacts compared to the previously permitted replacement structure. However, additional temporary construction easements within the Pea Island National Wildlife Refuge (PINWR) will be needed for construction. Due to the tight alignment, constructability issues, and morphology, "slivers" of PINWR property may be temporarily impacted. The additional temporary construction easement needed on the Pea Island National Wildlife Refuge is 0.135 acres (or 5,859 square feet).

This letter serves as a request for a modification of the Special Use Permit held by the Department, for the construction of the project and any associated temporary impacts, including temporary construction easements. Project drawings are included for your review and reference.

Minimization

The following measures and commitments, as found in the previous application, remain applicable:

NCDOT has continued to minimize impacts to PINWR and lessen the easement requirements for the project. The primary goal was to align the bridge as close to the existing NC 12 as feasible while generally adhering to NCDOT and FHWA design standards.

Protected Species Measures

A number of conservation measures for protected species are being implemented for this project. As the mission of your agency and PINWR includes wildlife conservation, we hereby reference these measures, which are further documented in the USFWS Biological and Conference Opinions. In addition:

- An educational night lighting meeting on-site will be scheduled with USFWS and all contractors in order to minimize disturbance to sea turtles and other protected species. Night lighting will meet the requirements specified in the attached USFWS Biological and Conference Opinions, unless otherwise specified by USFWS.
- No permanent light fixtures will be mounted on the proposed bridge.
- To the maximum extent practical, while ensuring safe travel, NCDOT will limit or avoid the use of road signs or other potential predator perches adjacent to plover nesting and foraging areas. Large cantilever signs will be avoided in favor of smaller and shorter signs.

Construction Staging Measures

- All areas of Temporary Construction Easement will be returned to the conditions present before construction started or better, and where applicable, areas to be returned to PINWR will be restored to natural habitat conditions to the satisfaction of the Refuge Manager.
- No staging of construction equipment or storage of construction supplies will be allowed in wetlands.
- Lighting required at the staging area will be coordinated along with other construction lighting to ensure no adverse effects to sea turtles and other aquatic species.
- Fueling stations will be contained to avoid inadvertent spills reaching surface waters. Any spills will be controlled and reported as applicable.

Proposed Let Date

The tentative let date for this project is currently scheduled for September 15, 2015, with a July 28, 2015 review date. Therefore, we request issuance of the above requested modifications by the review date.

Regulatory Approvals

Regulatory Approvals

The NCDOT anticipates that these activities will also be authorized under the following permits:

- USACE General 404 Permit
- NC Division of Water Quality 401 Water Quality Certification
- NC Division of Coastal Management CAMA Major Development Permit (Modification)

If you have any questions or would like additional information, please contact Michael Turchy at maturchy@ncdot.gov or (919) 707-6157. A copy of this modification request will also be posted at <http://www.doh.dot.state.nc.us/preconstruct/pe/>.

Sincerely,

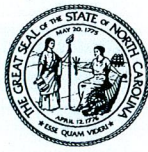


Rodger Rochelle, P.E. Administrator
Technical Services Division

cc:

Ms. Tracey Wheeler, Washington Field Office, USACE

Ms. Cynthia Dohner, Southeast Regional Director, USFWS



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY
GOVERNOR

June 19, 2015

ANTHONY J. TATA
SECRETARY

Pea Island National Wildlife Refuge
ATTN: Mr. Dennis Stewart
PO BOX 1969
Manteo, NC 27954-1969

Dear Landowner:

The North Carolina Department of Transportation (NCDOT) proposes to modify the existing permit to replace the existing temporary bridge over "New Inlet," from a 2.1 mile bridge, to a 2,350 foot bridge. This project crosses an Area of Environmental Concern, as defined by the North Carolina Division of Coastal Management (DCM), and must be approved by the DCM under provisions of the Coastal Area Management Act (CAMA). One of the prerequisites to this approval is that adjacent riparian landowners be given an opportunity to comment on the proposal. A permit application, vicinity map and site drawings are enclosed for your review.

The attached form is submitted to ensure that you have an opportunity to comment on the proposal. The work planned is depicted in the attached drawing. If you have no objections to the proposal, please return the form with your response within 30 days to this office. If you do have objections to the project, please forward your comments to:

Mr. Greg Daisey
N.C. Division of Coastal Management
1367 US 17 South
Elizabeth City, NC 27909

Thank you for your cooperation.
Sincerely,

A handwritten signature in black ink, appearing to read "RR", written over a horizontal line.

Rodger Rochelle, P.E. Administrator
Technical Services Division

Enclosures

cc: Greg Daisey, NCDOT
File: B-2500 AB

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
NATURAL ENVIRONMENT UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

TELEPHONE: 919-707-6100
FAX: 919-212-5785
WEBSITE: WWW.NCDOT.ORG

LOCATION:
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610-4328

ADJACENT RIPARIAN LANDOWNER STATEMENT

Dare County: Construction of Bridge over New Inlet
NCDOT TIP B-2500 AB

General Statutes and Division of Coastal Management Major Development Permit approval procedures require that riparian landowners with property adjoining a proposed development in an Area of Environmental Concern (AEC) be given thirty (30) days in which to comment on the proposed development. This form allows the adjacent riparian landowner to express either: (1) that he objects to the project; or, (2) that he does not object and desires to waive his/her right to the 30-day period so that the processing of the application can progress more rapidly. Of course, the adjacent riparian landowner need not sign this form at all if he/she so chooses.

I, _____, am an adjacent riparian property owner and am aware of the North Carolina Department of Transportation’s plans for constructing a bridge over New Inlet in Dare County, North Carolina. I am further aware that this work will occur in one or more Areas of Environmental Concern and therefore will require authorization from the Division of Coastal Management in accordance with the Coastal Area Management Act (CAMA).

_____ I have no objection to the project as presently proposed and hereby waive that right of objection as provided in General Statute 113-229.

_____ I have objections to the project as presently proposed and my comments are attached

Signature of Adjacent Riparian Landowner

Date

Phone Number with Area Code

APPLICATION for Major Development Permit

(last revised 12/27/06)



North Carolina DIVISION OF COASTAL MANAGEMENT

1. Primary Applicant/ Landowner Information			
Business Name North Carolina Department Of Transportation		Project Name (if applicable) B-2500 AB	
Applicant 1: First Name Richard	MI W	Last Name Hancock	
Applicant 2: First Name	MI	Last Name	
<i>If additional applicants, please attach an additional page(s) with names listed.</i>			
Mailing Address 1020 Birch Ridge Drive		PO Box	City Raleigh
		State NC	
ZIP 27610	Country US	Phone No. 919 - 707 - 6157 ext.	FAX No. - -
Street Address (if different from above)		City	State
		ZIP -	
Email			

2. Agent/Contractor Information			
Business Name N/A			
Agent/ Contractor 1: First Name	MI	Last Name	
Agent/ Contractor 2: First Name	MI	Last Name	
Mailing Address		PO Box	City
		State	
ZIP		Phone No. 1 - - ext.	Phone No. 2 - - ext.
FAX No.	Contractor #		
Street Address (if different from above)		City	State
		ZIP -	
Email			

<Form continues on back>

3. Project Location			
County (can be multiple) Dare	Street Address Existing NC 12 from just south of southern most freshwater pond to north of Rodanthe. 21111 A NC Highway 12	State Rd. # NC-12	
Subdivision Name N/A	City Rodanthe	State NC	Zip n/a -
Phone No. N/A - - ext.		Lot No.(s) (if many, attach additional page with list) N/A, , , ,	
a. In which NC river basin is the project located? Pasquotank	b. Name of body of water nearest to proposed project Pamlico Sound		
c. Is the water body identified in (b) above, natural or manmade? <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Manmade <input type="checkbox"/> Unknown	d. Name the closest major water body to the proposed project site. Atlantic Ocean		
e. Is proposed work within city limits or planning jurisdiction? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	f. If applicable, list the planning jurisdiction or city limit the proposed work falls within. N/A		

4. Site Description	
a. Total length of shoreline on the tract (ft.) 300 ft	b. Size of entire tract (sq.ft.) 174,240
c. Size of individual lot(s) N/A, (If many lot sizes, please attach additional page with a list)	d. Approximate elevation of tract above NHW (normal high water) or NWL (normal water level) 3' <input checked="" type="checkbox"/> NHW or <input type="checkbox"/> NWL
e. Vegetation on tract Brackish marsh, smooth cordgrass, maritime shrub thicket, salt/shrub grassland, maritime grassland, black needlerush, reed stands, beach, dunes and disturbed wetland and upland vegetation.	
f. Man-made features and uses now on tract Existing NC-12, utility lines, recreation.	
g. Identify and describe the existing land uses <u>adjacent</u> to the proposed project site. Recreational (federal Seashore and Refuge lands), open space, open water and water foul impoundments.	
h. How does local government zone the tract? Unzoned	i. Is the proposed project consistent with the applicable zoning? (Attach zoning compliance certificate, if applicable) <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
j. Is the proposed activity part of an urban waterfront redevelopment proposal? <input type="checkbox"/>Yes <input checked="" type="checkbox"/>No	
k. Has a professional archaeological assessment been done for the tract? If yes, attach a copy. <input checked="" type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>NA If yes, by whom? NCDOT	
l. Is the proposed project located in a National Registered Historic District or does it involve a National Register listed or eligible property? <input checked="" type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>NA	

<Form continues on next page>

m. (i) Are there wetlands on the site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
(ii) Are there coastal wetlands on the site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
(iii) If yes to either (i) or (ii) above, has a delineation been conducted? <i>(Attach documentation, if available)</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
n. Describe existing wastewater treatment facilities. N/A	
o. Describe existing drinking water supply source. N/A	
p. Describe existing storm water management or treatment systems. Grass swales and Rip rap pads at the pipe ends	

5. Activities and Impacts	
a. Will the project be for commercial, public, or private use?	<input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Public/Government <input type="checkbox"/> Private/Community
b. Give a brief description of purpose, use, and daily operations of the project when complete. NCDOT Roadway and temporary bridge.	
c. Describe the proposed construction methodology, types of construction equipment to be used during construction, the number of each type of equipment and where it is to be stored. Work bridge over open water. Crane, backhoe, etc, for construction and demolotion.	
d. List all development activities you propose. Roadway re-alignment and new temporary bridge.	
e. Are the proposed activities maintenance of an existing project, new work, or both?	Both
f. What is the approximate total disturbed land area resulting from the proposed project?	12.3 <input type="checkbox"/> Sq.Ft or <input checked="" type="checkbox"/> Acres
g. Will the proposed project encroach on any public easement, public accessway or other area that the public has established use of?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
h. Describe location and type of existing and proposed discharges to waters of the state. The roadway typical is shoulder section, therefore runoff from the road will quickly infiltrate into the sandy shoulders. Stormwater runoff along the concrete sheet pile walls will go over the top of the walls and fall onto rip-rap placed along the walls where it will infiltrate into sandy soils. Bridge deck will drain using horizontal deck drains. Bridge is 9' to 12' above the ground elevation.	
i. Will wastewater or stormwater be discharged into a wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
If yes, will this discharged water be of the same salinity as the receiving water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
j. Is there any mitigation proposed?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
If yes, attach a mitigation proposal.	

<Form continues on back>

6. Additional Information

In addition to this completed application form, (MP-1) the following items below, if applicable, must be submitted in order for the application package to be complete. Items (a) – (f) are always applicable to any major development application. Please consult the application instruction booklet on how to properly prepare the required items below.

- a. A project narrative.
- b. An accurate, dated work plat (including plan view and cross-sectional drawings) drawn to scale. Please give the present status of the proposed project. Is any portion already complete? If previously authorized work, clearly indicate on maps, plats, drawings to distinguish between work completed and proposed.
- c. A site or location map that is sufficiently detailed to guide agency personnel unfamiliar with the area to the site.
- d. A copy of the deed (with state application only) or other instrument under which the applicant claims title to the affected properties.
- e. The appropriate application fee. Check or money order made payable to DENR.

f. A list of the names and complete addresses of the adjacent waterfront (riparian) landowners and signed return receipts as proof that such owners have received a copy of the application and plats by certified mail. Such landowners must be advised that they have 30 days in which to submit comments on the proposed project to the Division of Coastal Management.

Name Pea Island National Wildlife Refuge, Attn: Mr. Dennis Stewart	Phone No.
Address PO Box 1969, Manteo, NC 27954-1969	
Name	Phone No.
Address	
Name	Phone No.
Address	

g. A list of previous state or federal permits issued for work on the project tract. Include permit numbers, permittee, and issuing dates.
See References in attached permit application cover letter.

h. Signed consultant or agent authorization form, if applicable.

i. Wetland delineation, if necessary.

j. A signed AEC hazard notice for projects in oceanfront and inlet areas. (Must be signed by property owner)

k. A statement of compliance with the N.C. Environmental Policy Act (N.C.G.S. 113A 1-10), if necessary. If the project involves expenditure of public funds or use of public lands, attach a statement documenting compliance with the North Carolina Environmental Policy Act.

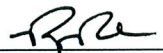
7. Certification and Permission to Enter on Land

I understand that any permit issued in response to this application will allow only the development described in the application. The project will be subject to the conditions and restrictions contained in the permit.

I certify that I am authorized to grant, and do in fact grant permission to representatives of state and federal review agencies to enter on the aforementioned lands in connection with evaluating information related to this permit application and follow-up monitoring of the project.

I further certify that the information provided in this application is truthful to the best of my knowledge.

Date 6-19-15 Print Name Redger Rochelle

Signature 

Please indicate application attachments pertaining to your proposed project.

- DCM MP-2 Excavation and Fill Information
- DCM MP-3 Upland Development
- DCM MP-4 Structures Information
- DCM MP-5 Bridges and Culverts

BRIDGES and CULVERTS

Attach this form to Joint Application for CAMA Major Permit, Form DCM MP-1. Be sure to complete all other sections of the Joint Application that relate to this proposed project. Please include all supplemental information.

1. BRIDGES This section not applicable

a. Is the proposed bridge:
 Commercial Public/Government Private/Community

b. Water body to be crossed by bridge:
Pea Island, New Inlet

c. Type of bridge (construction material):
Reinforced Concrete

d. Water depth at the proposed crossing at NLW or NWL:
Approx. 8' (NWL) at breach

e. (i) Will proposed bridge replace an existing bridge? Yes No
If yes,
(ii) Length of existing bridge: 650'
(iii) Width of existing bridge: 24'
(iv) Navigation clearance underneath existing bridge: 15'
(v) Will all, or a part of, the existing bridge be removed?
(Explain) All parts of the existing bridge will be removed.

f. (i) Will proposed bridge replace an existing culvert? Yes No
If yes,
(ii) Length of existing culvert: _____
(iii) Width of existing culvert: _____
(iv) Height of the top of the existing culvert above the NHW or NWL: _____
(v) Will all, or a part of, the existing culvert be removed?
(Explain)

g. Length of proposed bridge: 2,350'

h. Width of proposed bridge: 36' out to out

i. Will the proposed bridge affect existing water flow? Yes No
If yes, explain:

j. Will the proposed bridge affect navigation by reducing or increasing the existing navigable opening? Yes No
If yes, explain: New breach between Pamlico Sound and Atlantic Ocean. Vertical clearance will be increased.

k. Navigation clearance underneath proposed bridge: Approx. 10' to 11.5'

l. Have you contacted the U.S. Coast Guard concerning their approval? Yes No
If yes, explain: Advanced approval has been received.

m. Will the proposed bridge cross wetlands containing no navigable waters? Yes No
If yes, explain: Coastal wetlands

n. Height of proposed bridge above wetlands: Approx. 9' to 12'

2. CULVERTS This section not applicable

a. Number of culverts proposed: _____

b. Water body in which the culvert is to be placed:

< Form continues on back >

c. Type of culvert (construction material):

d. (i) Will proposed culvert replace an existing bridge? Yes No

If yes,

(ii) Length of existing bridge: _____

(iii) Width of existing bridge: _____

(iv) Navigation clearance underneath existing bridge: _____

(v) Will all, or a part of, the existing bridge be removed? (Explain)

e. (i) Will proposed culvert replace an existing culvert? Yes No

If yes,

(ii) Length of existing culvert(s): _____

(iii) Width of existing culvert(s): _____

(iv) Height of the top of the existing culvert above the NHW or NWL: _____

(v) Will all, or a part of, the existing culvert be removed? (Explain)

f. Length of proposed culvert: _____

g. Width of proposed culvert: _____

h. Height of the top of the proposed culvert above the NHW or NWL.

i. Depth of culvert to be buried below existing bottom contour.

j. Will the proposed culvert affect navigation by reducing or increasing the existing navigable opening? Yes No

If yes, explain:

k. Will the proposed culvert affect existing water flow? Yes No

If yes, explain:

3. EXCAVATION and FILL This section not applicable

a. (i) Will the placement of the proposed bridge or culvert require any excavation below the NHW or NWL? Yes No

If yes,

(ii) Avg. length of area to be excavated: 380'

(iii) Avg. width of area to be excavated: 29'

(iv) Avg. depth of area to be excavated: 2'

(v) Amount of material to be excavated in cubic yards: 816 cy

b. (i) Will the placement of the proposed bridge or culvert require any excavation within coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.

CW _____ SAV _____ SB _____

WL _____ None

(ii) Describe the purpose of the excavation in these areas:

c. (i) Will the placement of the proposed bridge or culvert require any high-ground excavation? Yes No

If yes,

(ii) Avg. length of area to be excavated: _____

(iii) Avg. width of area to be excavated: _____

(iv) Avg. depth of area to be excavated: _____

(v) Amount of material to be excavated in cubic yards: _____

d. If the placement of the bridge or culvert involves any excavation, please complete the following:

(i) Location of the spoil disposal area: Jetting spoils will be confined to the 100' Transportation Easement within the Pea Island National Wildlife Refuge, unless the Refuge accepts the material for Refuge use.

(ii) Dimensions of the spoil disposal area: TBD by contractor, possibly in conjunction with the Refuge.

(iii) Do you claim title to the disposal area? Yes No (If no, attach a letter granting permission from the owner.)

(iv) Will the disposal area be available for future maintenance? Yes No

(v) Does the disposal area include any coastal wetlands/marsh (CW), submerged aquatic vegetation (SAVs), other wetlands (WL), or shell bottom (SB)?

CW SAV WL SB None

If any boxes are checked, give dimensions if different from (ii) above.

(vi) Does the disposal area include any area below the NHW or NWL? ? Yes No

If yes, give dimensions if different from (ii) above.

e. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item d above) to be placed below NHW or NWL? Yes No

If yes,

(ii) Avg. length of area to be filled: _____

(iii) Avg. width of area to be filled: _____

(iv) Purpose of fill:

f. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item d above) to be placed within coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.

CW 369 SAV _____ SB _____

WL _____ None

(ii) Describe the purpose of the excavation in these areas:

Temporary impacts at interior bridge bents due pile installation.

g. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item d above) to be placed on high-ground? Yes No

If yes,

(ii) Avg. length of area to be filled: 800'

(iii) Avg. width of area to be filled: 41.5'

(iv) Purpose of fill: Roadway approaches to bridge

4. GENERAL

a. Will the proposed project require the relocation of any existing utility lines? Yes No

If yes, explain:

If this portion of the proposed project has already received approval from local authorities, please attach a copy of the approval or certification.

b. Will the proposed project require the construction of any temporary detour structures? Yes No

If yes, explain:

< Form continues on back >

c. Will the proposed project require any work channels? Yes No

If yes, complete Form DCM-MP-2.

d. How will excavated or fill material be kept on site and erosion controlled?

Standard erosion control measures such as silt fence and rock filter dams.

e. What type of construction equipment will be used (for example, dragline, backhoe, or hydraulic dredge)?

Work bridge over open water; Crane and backhoe for piers; timber matting; pile hammer; jetting equipment

f. Will wetlands be crossed in transporting equipment to project site? Yes No

If yes, explain steps that will be taken to avoid or minimize environmental impacts.

g. Will the placement of the proposed bridge or culvert require any shoreline stabilization? Yes No

If yes, complete form MP-2, Section 3 for Shoreline Stabilization only.

6-19-15

Date

B-2500 AB

Project Name

Rodger Rochelle

Applicant Name

[Signature]

Applicant Signature



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



(Version 2.02; Released April 2015)

WBS Element: 32635.1.3 **TIP No.:** B-2500AB **County(ies):** Dare **Page** 1 **of** 1

General Project Information

WBS Element:	32635.1.3	TIP Number:	B-2500AB	Project Type:	New Location	Date:	6/18/2015
NCDOT Contact:	John W. Twisdale, Jr., PE			Contractor / Designer:	Matthew York		
	Address:	1020 Birch Ridge Road Raleigh, NC 27610			Address:	1020 Birch Ridge Road Raleigh, NC 27610	
	Phone:	919-707-6700			Phone:	919-707-6765	
	Email:	jtwisdale@ncdot.gov			Email:	mjyork@ncdot.gov	
City/Town:	Pea Island			County(ies):	Dare		
River Basin(s):	Pasquotank			CAMA County?	Yes		
Wetlands within Project Limits?	Yes						

Project Description

Project Length (lin. miles or feet):	1.017 miles	Surrounding Land Use:	Coastal Barrier Island
	Proposed Project		Existing Site
Project Built-Up Area (ac.)	4.0 ac.		3.3 ac.
Typical Cross Section Description:	Two lane highway with 12' travel lanes and 8' shoulders (4' paved and 4' W/GR).		Two lane highway with 10' travel lanes and 2' paved shoulders.
Annual Avg Daily Traffic (veh/hr/day):	Design/Future: 10900	Year: 2032	Existing: 7300 Year: 2012

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

The project is located within the Pasquotank Basin in Dare County which is also a CAMA county. The roadway typical is shoulder section, therefore runoff from the road will quickly infiltrate into the sandy shoulders. Stormwater runoff along the concrete sheet pile walls will go over the top of the walls and fall onto rip-rap placed along the walls where it will infiltrate into sandy soils.

The existing temporary structure has a total length of 664' and the proposed temporary bridge will have a total length of 2350'. The proposed temporary bridge will have horizontal deck drains down the entire length of the bridge roughly 7' to 11' above the ground elevation. Concentration of runoff has been minimized by placing deck drains on 4'-4" centers and no deck drains within 5'-5" from all proposed bridge bents. These distributed flows will quickly infiltrate into existing soils. Open graded friction course will be used on the bridge deck which will reduce total suspended solids concentrations and decrease under carriage wash from vehicles. Finally the existing two lane facility will be maintained; therefore, the result will be equal or better treatment than currently exists.

Note for spanning and discharging over water body:
The water body shown on the permit drawings is currently filled in with sand. The water body forms during major storm events causing a breach within the coastal barrier island. The water body will later fill back in after the storm event, but the bridge will span the water body as long as it remains open. For more frequent rain events, water from bridge will be discharged onto sand.

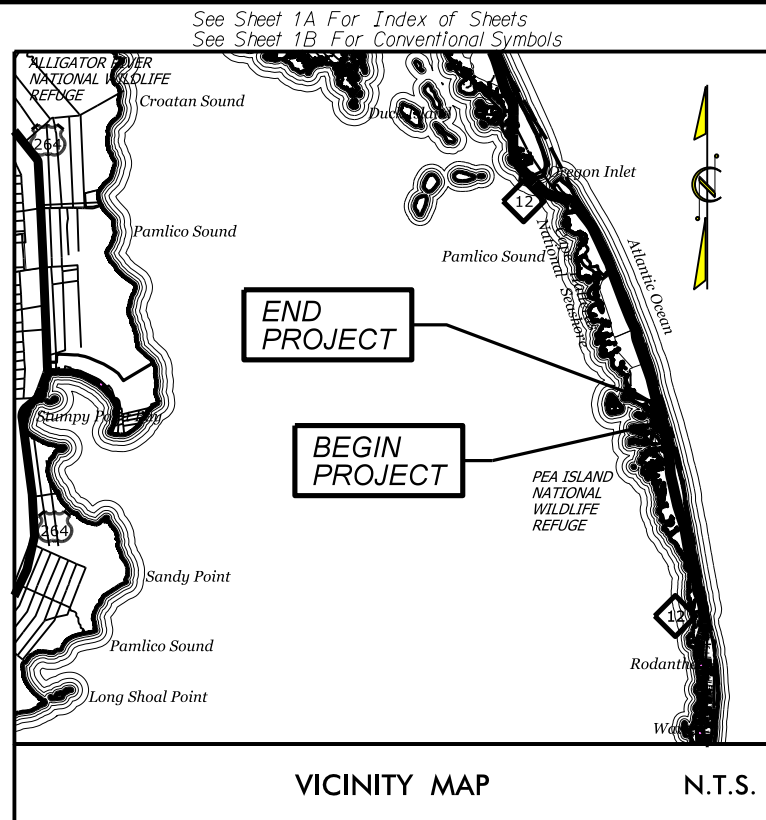
Waterbody Information

Surface Water Body (1):	Atlantic Ocean		NCDWR Stream Index No.:	N/A	
NCDWR Surface Water Classification for Water Body	Primary Classification:	Class SA			
	Supplemental Classification:	High Quality Waters (HQW)			
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?	Comments:				
NRTR Stream ID:					
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	No	Buffer Rules in Effect:	N/A
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)		Dissipator Pads Provided in Buffer?	N/A
(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)			

09/06/99

CONTRACT: TIP PROJECT: B-2500AB

CONTRACT: TIP PROJECT: B-2500AB



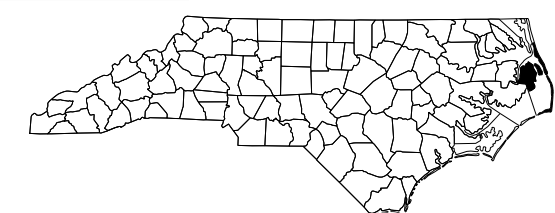
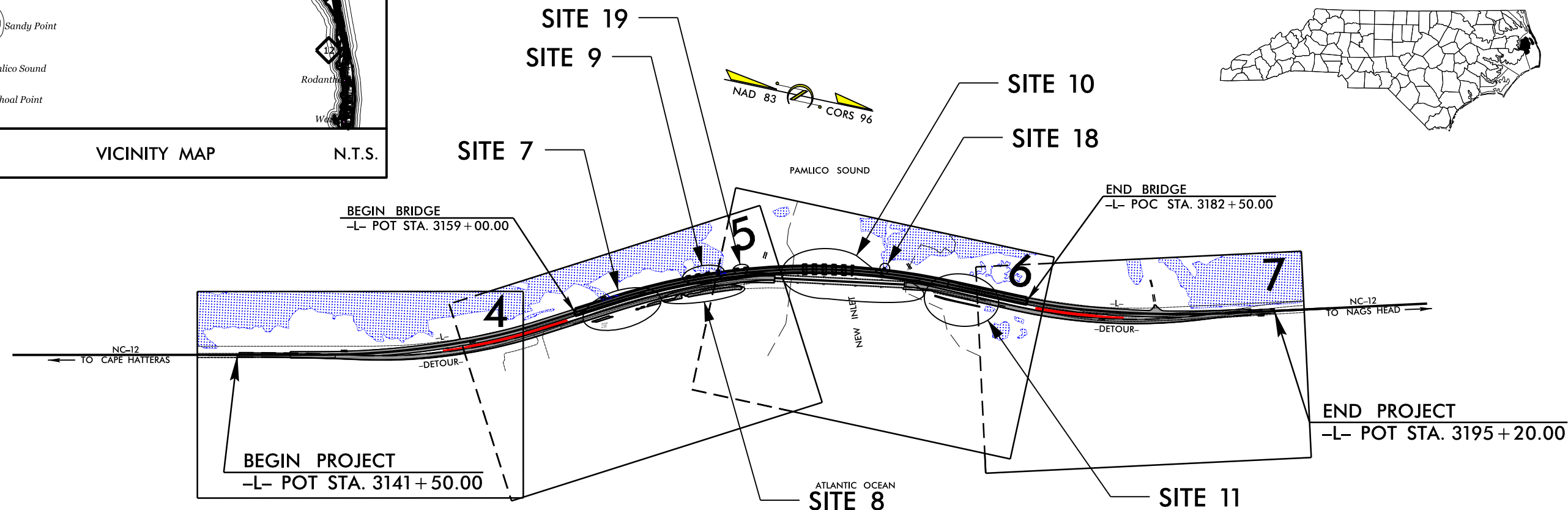
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
DARE COUNTY

LOCATION: PHASE II, NC-12 SHORT-TERM IMPROVEMENTS AT PEA ISLAND
TYPE OF WORK: GRADING, PAVING, DRAINAGE & STRUCTURE

WETLAND AND SURFACE WATER IMPACTS PERMIT

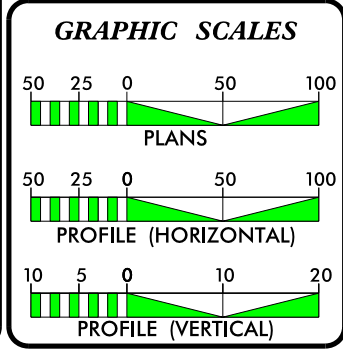
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-2500AB	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
		P.E.	
		CONSTR.	

**PERMIT DRAWING
SHEET 1 OF 12**



* RECOMMENDED POSTED 45 MPH

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



DESIGN DATA
(B-2500A DATA)

ADT 2012 = 7,300
ADT 2032 = 10,900

K = N/A %
D = N/A %
T = 6% **
* V = 55 MPH
** (TTST 1%, DUAL 5%)

FUNC CLASS=COLLECTOR
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-2500AB = 0.572 MILES
LENGTH STRUCTURE TIP PROJECT B-2500AB = 0.445 MILES
TOTAL LENGTH TIP PROJECT B-2500AB = 1.017 MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh, NC 27610

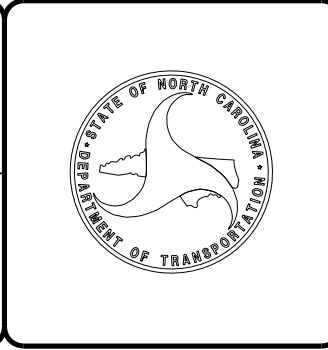
2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: N/A	GARY LOVERING, PE PROJECT ENGINEER
LETTING DATE:	CHRISTOPHER H. LEE PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

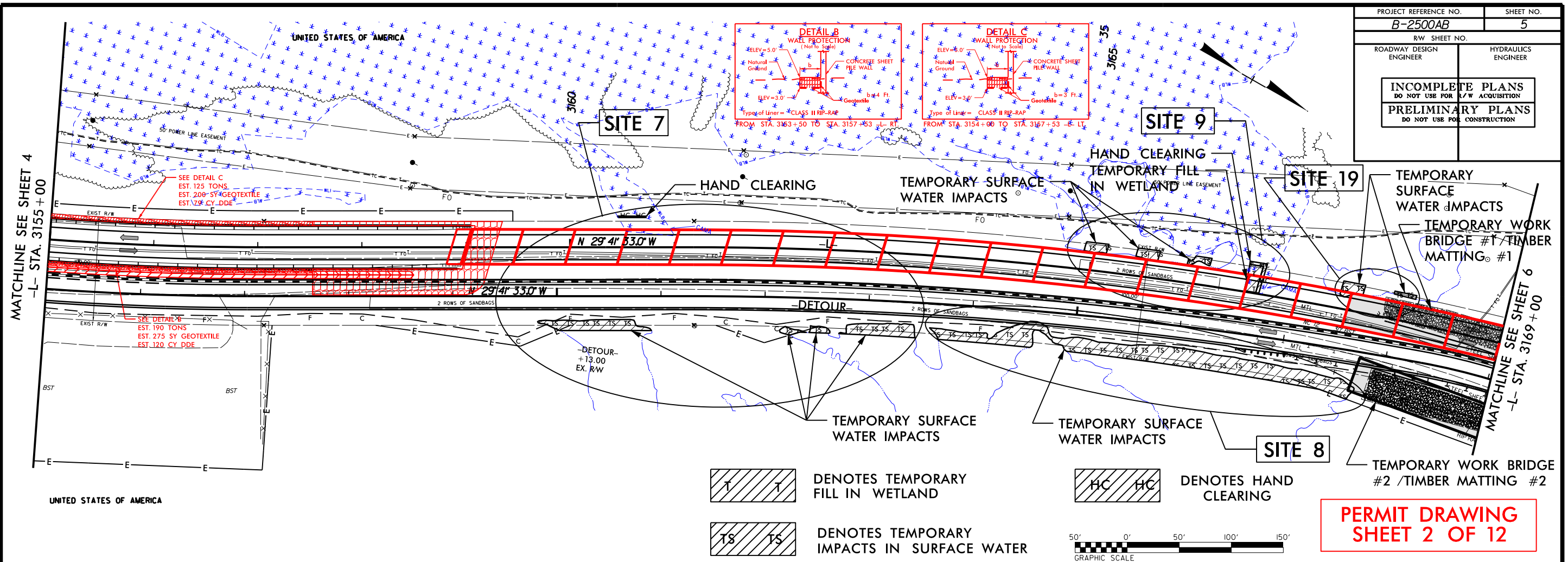
ROADWAY DESIGN ENGINEER

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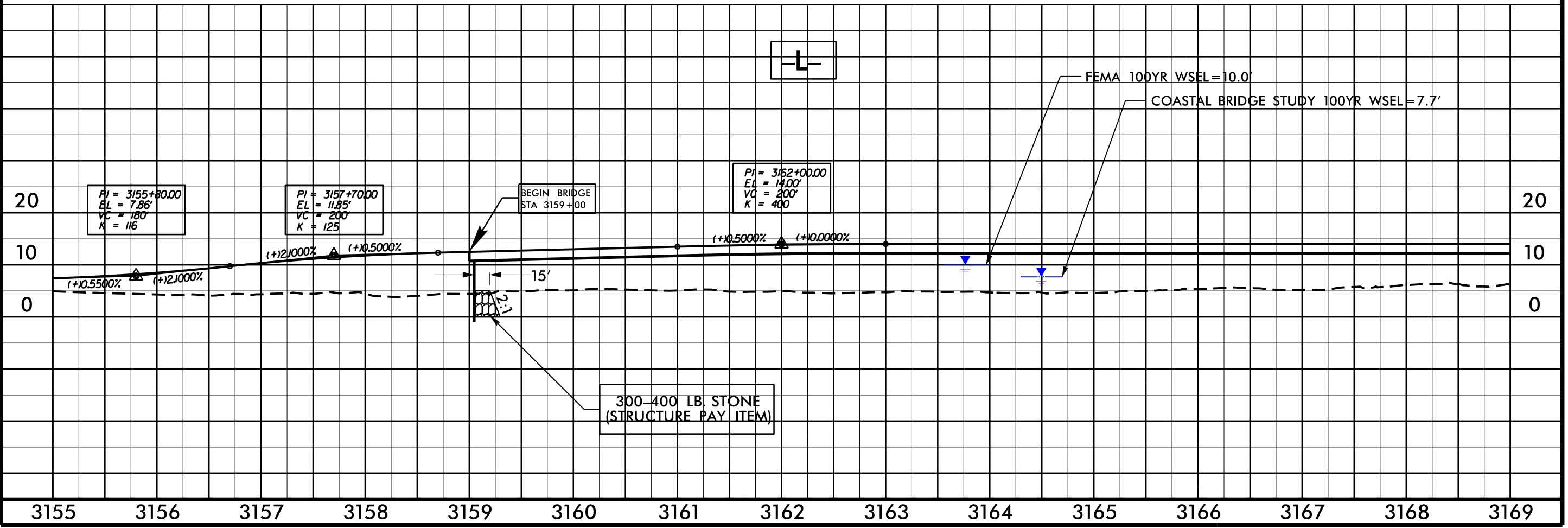


6/18/2015
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\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DCN\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$

PROJECT REFERENCE NO. B-2500AB	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

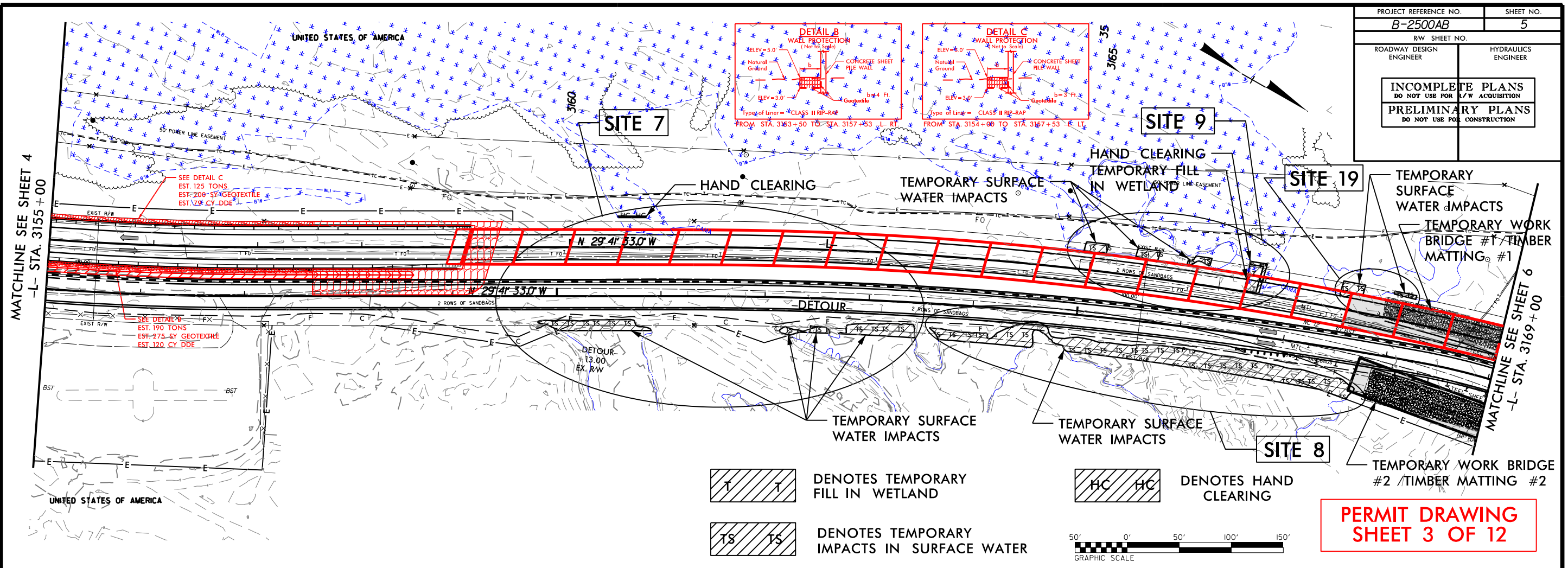


PERMIT DRAWING
 SHEET 2 OF 12



6/18/2015
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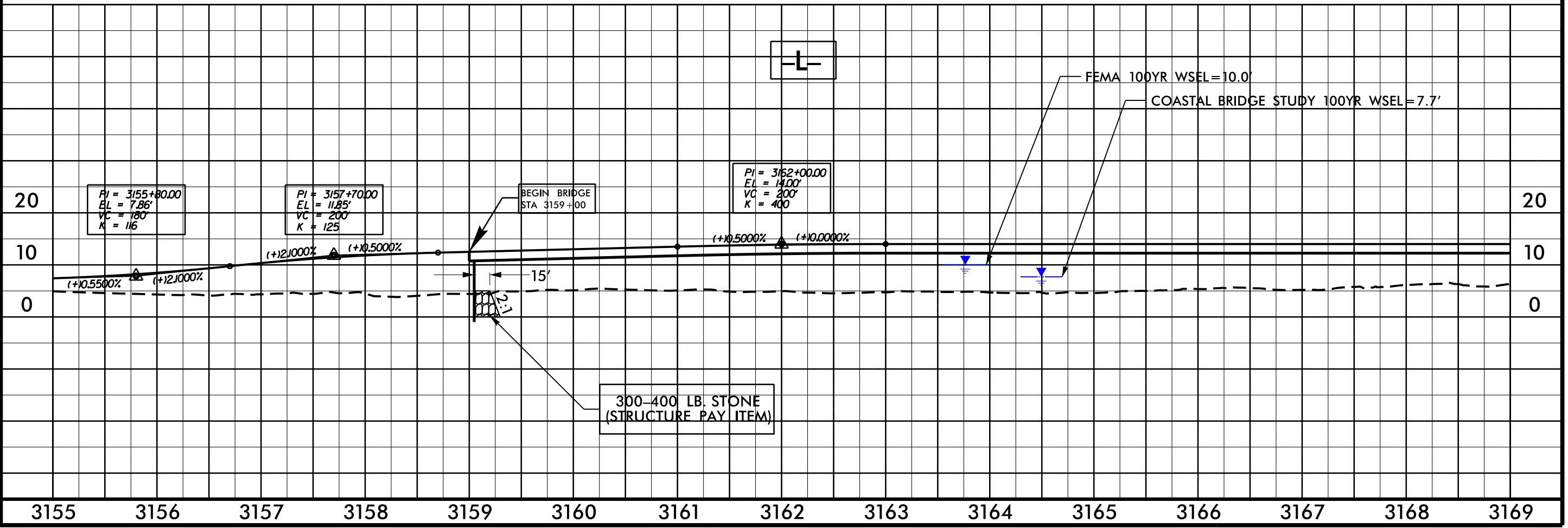
PROJECT REFERENCE NO. B-2500AB	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



DENOTES TEMPORARY FILL IN WETLAND
 DENOTES HAND CLEARING
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PERMIT DRAWING
 SHEET 3 OF 12



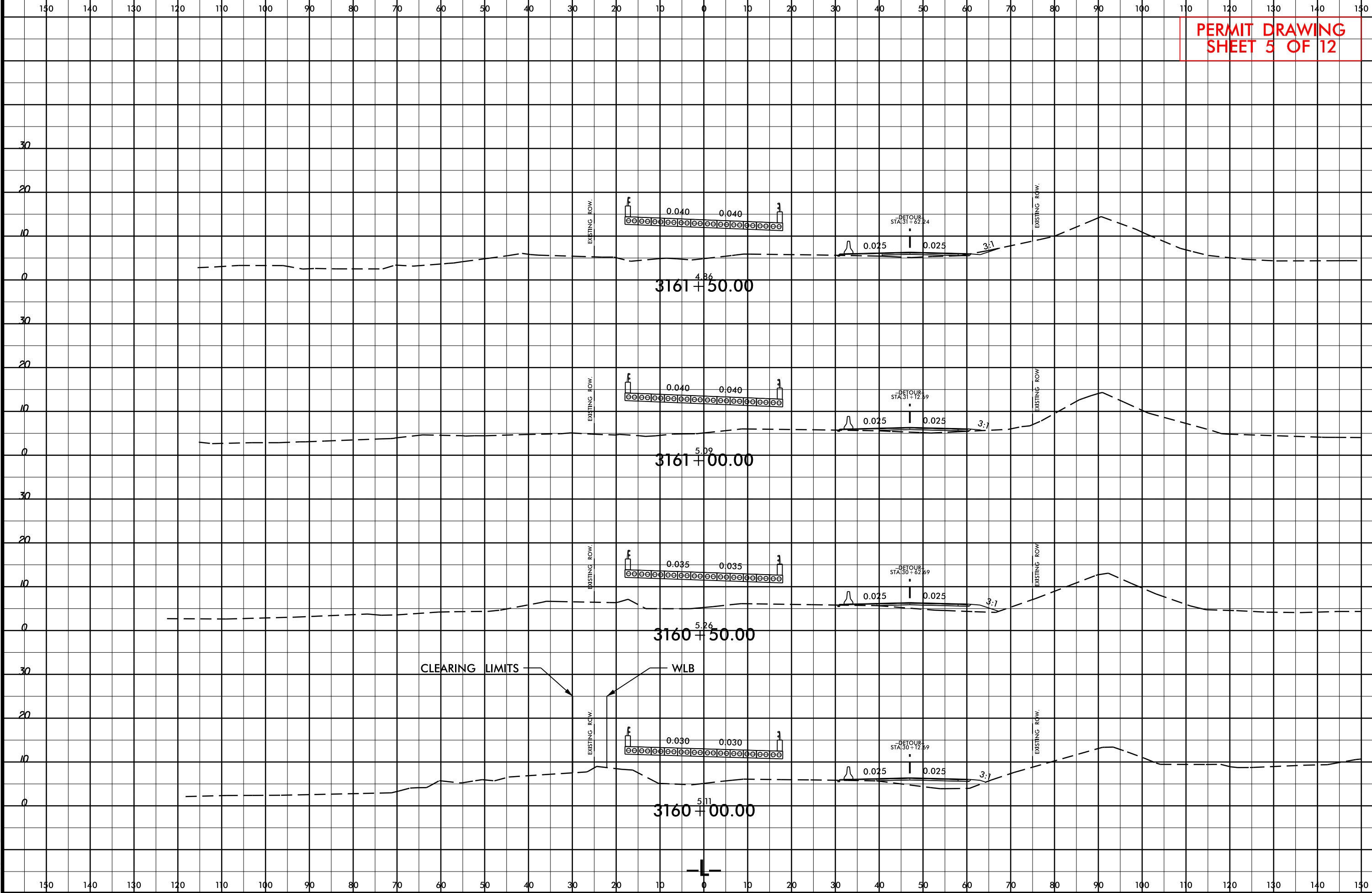
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8/23/99



PROJ. REFERENCE NO. B-2500AB SHEET NO. X-7

PERMIT DRAWING SHEET 5 OF 12



CLEARING LIMITS WLB

3161+50.00

3161+00.00

3160+50.00

3160+00.00

0.040 0.040

0.040 0.040

0.035 0.035

0.030 0.030

DETOUR STA 31+62.24

DETOUR STA 31+12.59

DETOUR STA 30+62.59

DETOUR STA 30+12.59

0.025

0.025

3:1

0.025

0.025

3:1

0.025

0.025

3:1

0.025

0.025

3:1

EXISTING ROW.

EXISTING ROW.

EXISTING ROW.

EXISTING ROW.

EXISTING ROW.

EXISTING ROW.

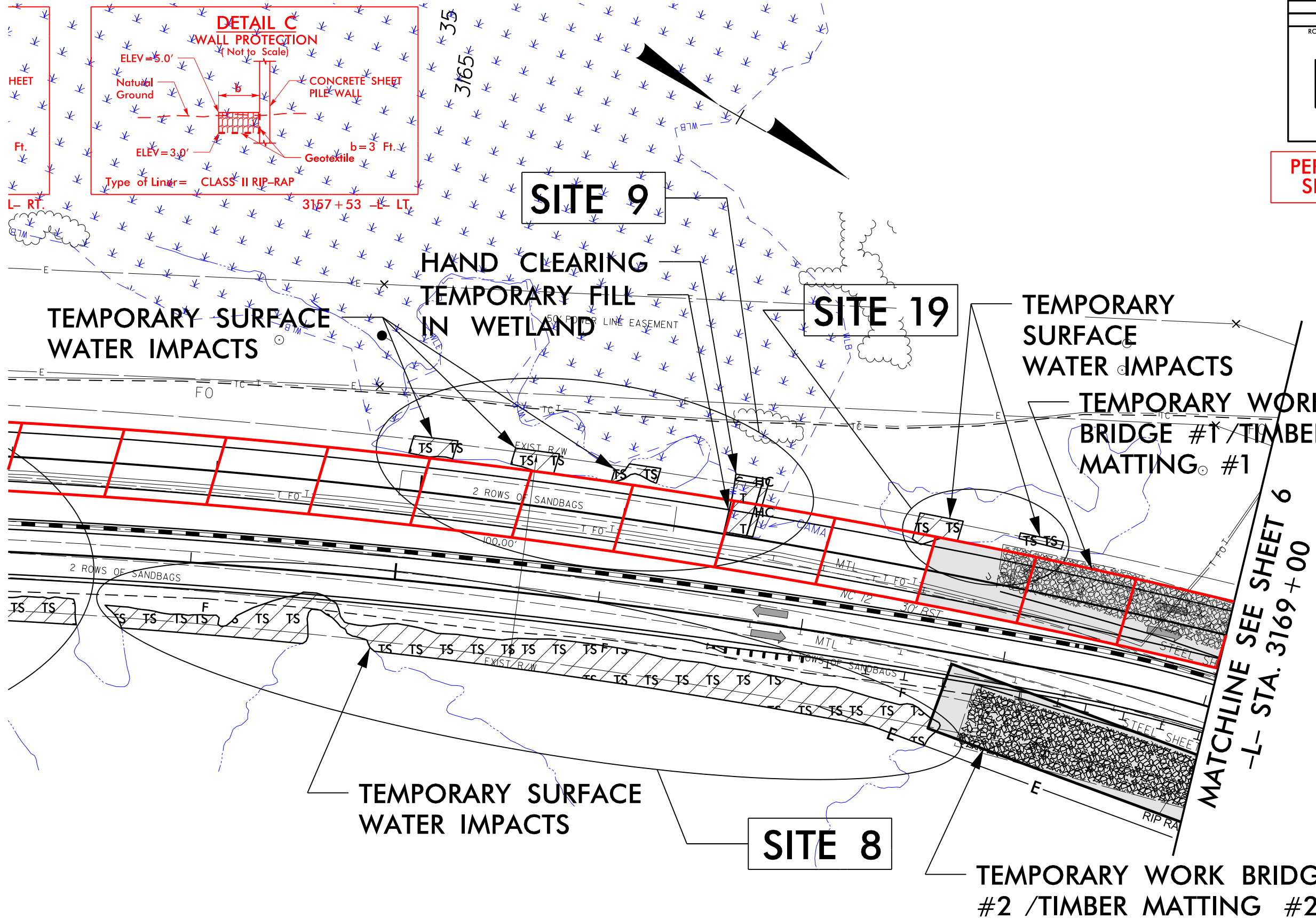
EXISTING ROW.

EXISTING ROW.

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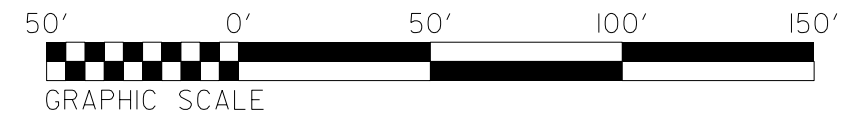
PROJECT REFERENCE NO. B-2500AB	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

**PERMIT DRAWING
SHEET 6 OF 12**



**MATCHLINE SEE SHEET 6
-L- STA. 3169+00**

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



6/18/2015
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 mywork
 \$\$\$\$\$\$SYTIME\$\$\$\$\$\$
 \$\$\$\$\$\$DESIGN\$\$\$\$\$\$
 \$\$\$\$\$\$DATE\$\$\$\$\$\$

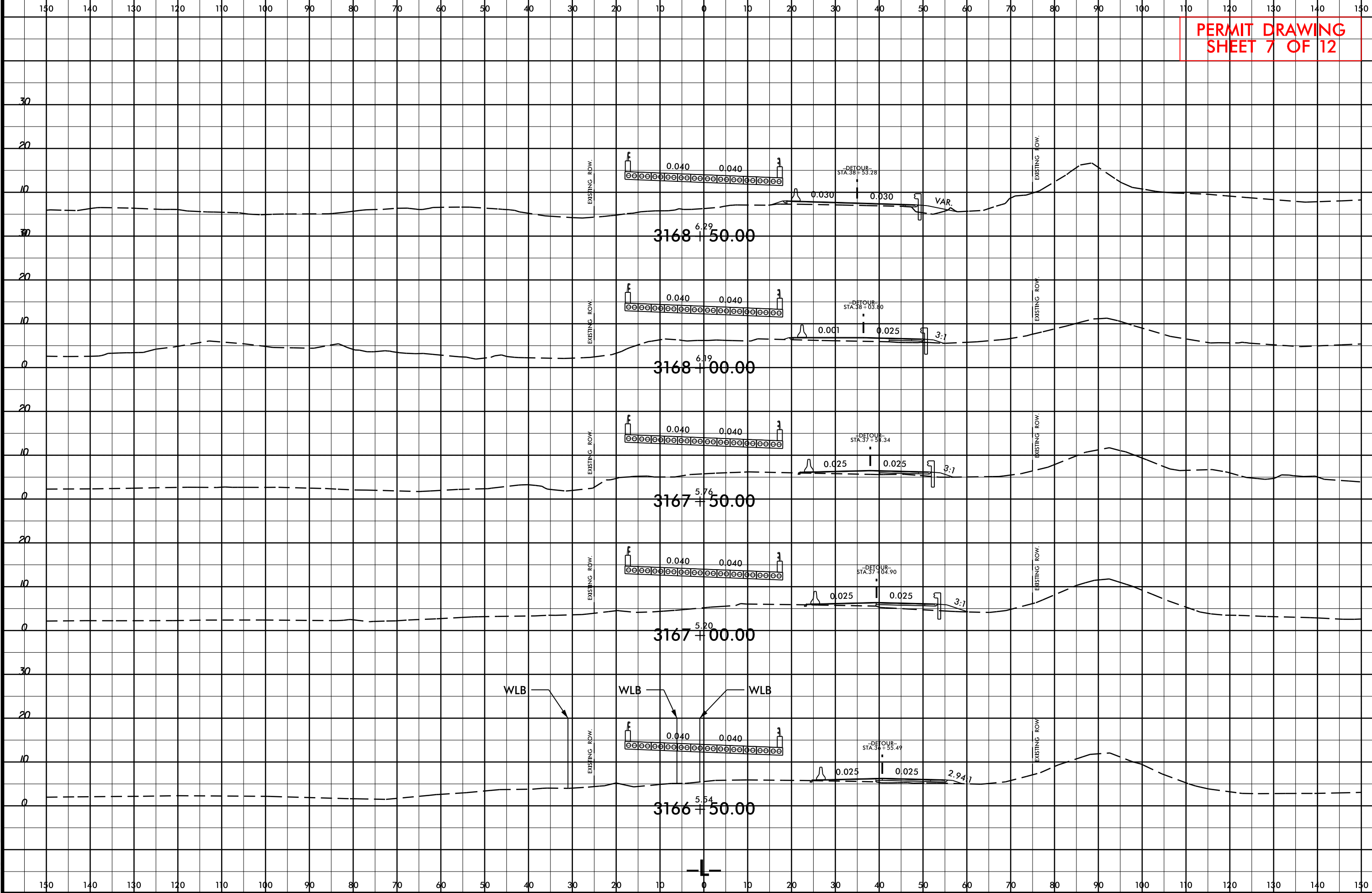
8/23/09



PROJ. REFERENCE NO.
B-2500AB

SHEET NO.
X-10

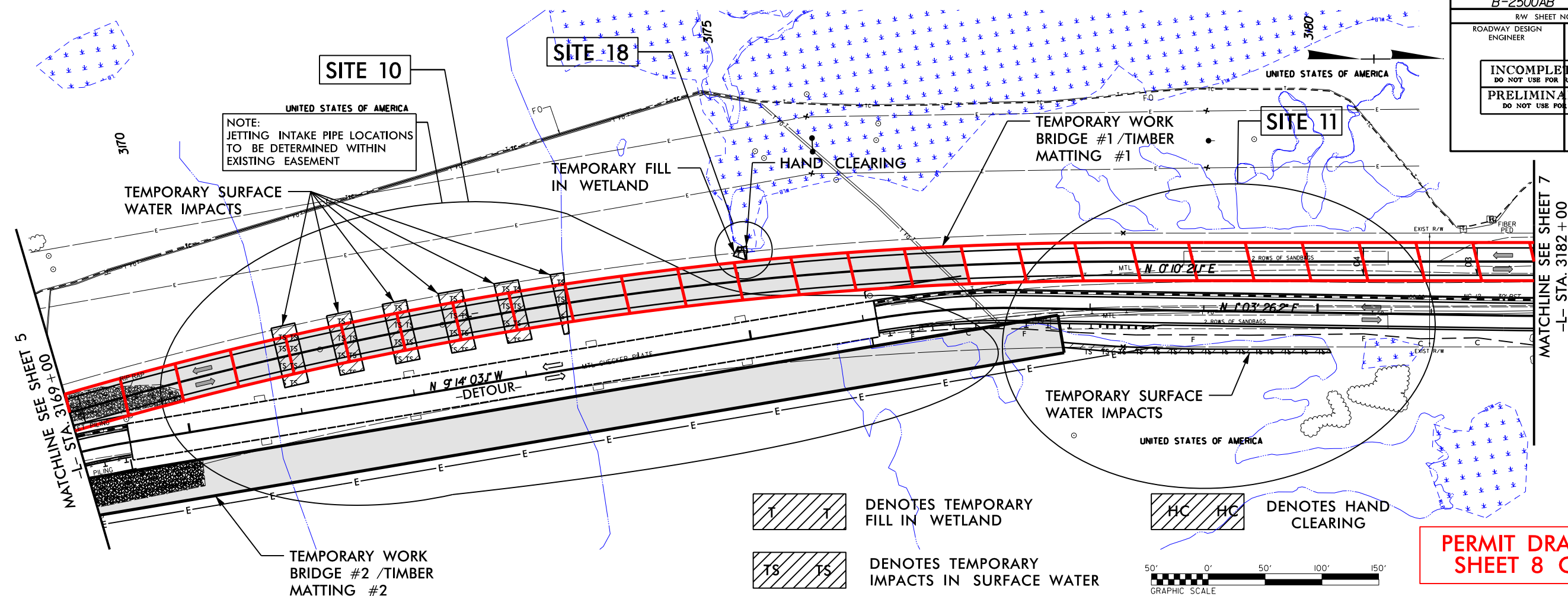
**PERMIT DRAWING
SHEET 7 OF 12**



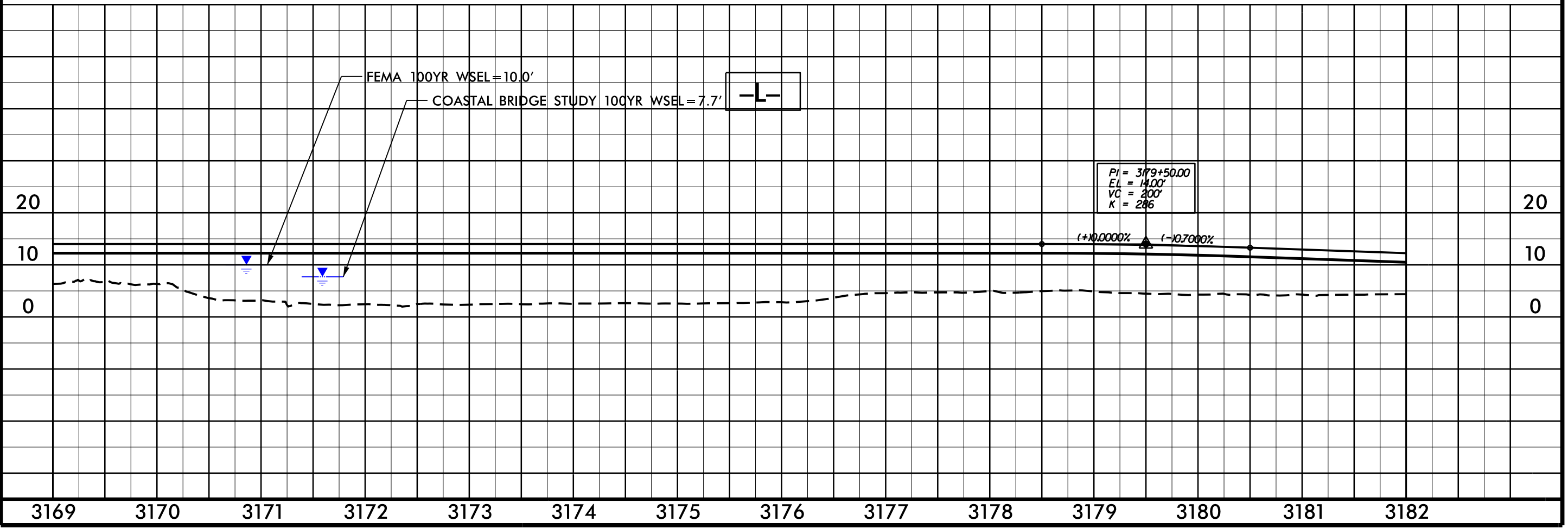
WLB WLB WLB

6/15/2015
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\$\$\$\$\$DGN\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$

PROJECT REFERENCE NO. B-2500AB	SHEET NO. 6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



PERMIT DRAWING
SHEET 8 OF 12



6/18/2015
 R:\Hydraulics\PERMITS_Environmental\Drawings\B2500AB_Hyd_prm_psh06.dgn
 mlyork
 \$\$\$\$\$SYTIME\$\$\$\$\$\$
 \$\$\$\$\$\$DGN\$\$\$\$\$\$
 \$\$\$\$\$\$\$\$\$\$\$\$

PROJECT REFERENCE NO. B-2500AB	SHEET NO. 6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING
SHEET 10 OF 12

SITE 10

SITE 18

NOTE:
 JETTING INTAKE PIPE LOCATIONS
 TO BE DETERMINED WITHIN
 EXISTING EASEMENT

**TEMPORARY SURFACE
WATER IMPACTS**

**TEMPORARY WORK
BRIDGE #1 /TIMBER
MATTING #1**

HAND CLEARING

**TEMPORARY SURFACE
WATER IMPACTS**

UNITED STATES OF AMERICA

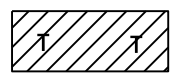
3170

CAMA

RIP RAP

N 9°14'03.1"W
-DETOUR-

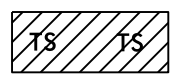
MTL CHECKER PLATE



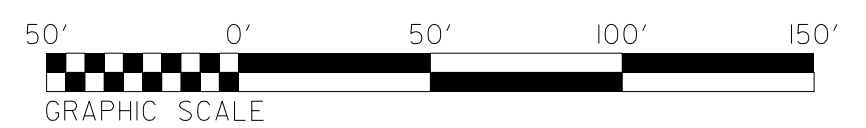
DENOTES TEMPORARY
FILL IN WETLAND



DENOTES HAND
CLEARING



DENOTES TEMPORARY
IMPACTS IN SURFACE WATER



**TEMPORARY WORK
BRIDGE #2 /TIMBER
MATTING #2**

6/17/2015
 R:\Hydraulics\PERMITS Environmental Drawings\B2500AB_Hyd_prm_psh06_2.dgn
 \$\$\$\$\$\$SYTIME\$\$\$\$\$\$
 \$\$\$\$\$\$DESIGN\$\$\$\$\$\$
 \$\$\$\$\$\$DATE\$\$\$\$\$\$

WETLAND PERMIT IMPACT SUMMARY												
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
7	-L- 3159+69 to 3163+36	Bent # 3 & Detour Road						< 0.01		0.04		
8	-L- 3163+50 to 3167+72	Detour Road								0.13		
9	-L- 3164+92 to 3166+68	Bent # 12, 13, 14, 15		< 0.01				< 0.01		0.01		
10	-L- 3170+74 to 3177+14	Bent # 24, 25, 26, 27, 28, 29								0.14		
		*Proposed Bridge										
		**Work Bridge #1										
		***Work Bridge #2										
		****Remove Existing Bridge										
		Jetting Intake Pipe										
11	-L- 3177+84 to 3180+22	Detour Road								0.02		
19	-L- 3167+41 to 3168+13	Bent # 17, 18								< 0.01		
18	-L- 3174+98 to 3175+11	Bent # 32		< 0.01				< 0.01				
TOTALS*:				< 0.01				< 0.01		0.35	0	0

*Rounded totals are sum of actual impacts

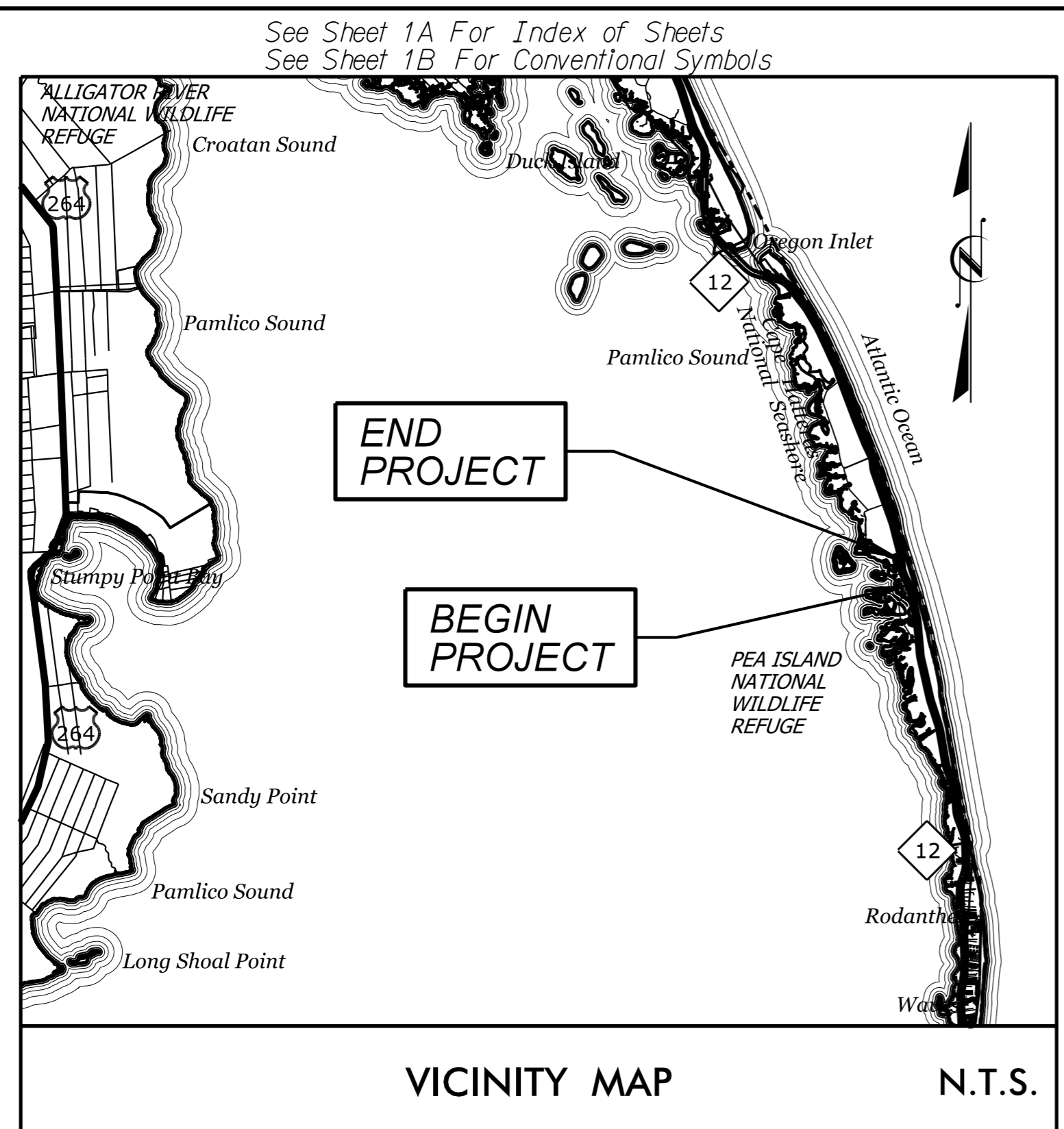
NOTES:

- * Permanent impacts due to the proposed bridge are 89 SF of total impact. (< 0.01 ac for all permanent bents)
 - ** Temporary work bridge # 1 is 950' long and 33.5' wide, between Bent 17 at Station 3167+50 -L- and Bent 36 at Station 3177+00 -L- and will be constructed in the footprint of the proposed bridge.
 - *** Temporary work bridge #2 is about 990' long and 33.5' wide and will be constructed east of the Mabey bridge
 - ****Remove Existing Bridge (6 Footings @ 130 SF = 780 SF Total Impact)
- All wetland impacts occur in CAMA wetlands.

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 6/18/15
 DARE COUNTY
 B-2500AB
 32635.1.3
 SHEET 12 OF 12

09/08/99

TIP PROJECT: B-2500AB

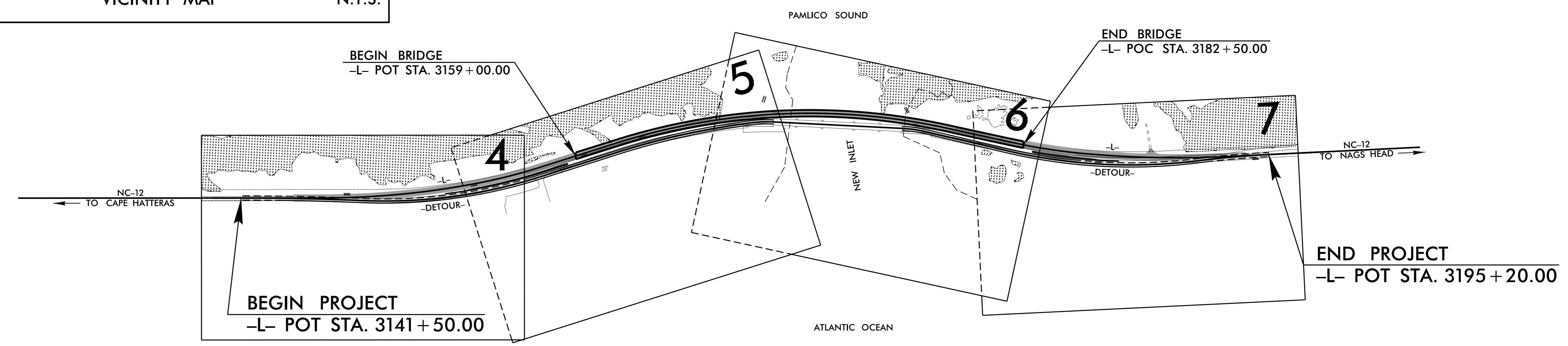
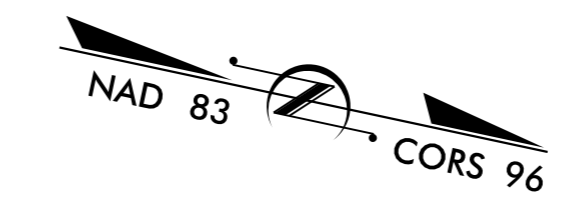
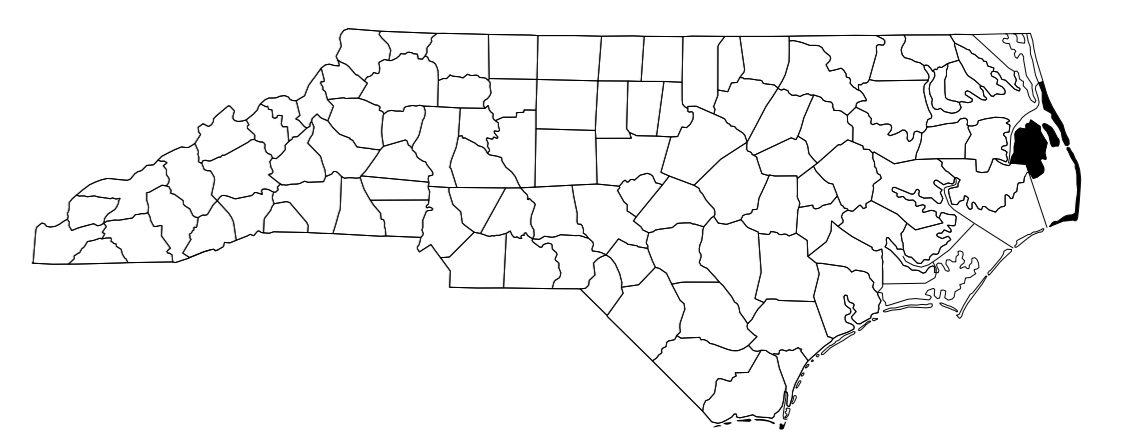


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
DARE COUNTY

LOCATION: PHASE II, NC-12 SHORT-TERM IMPROVEMENTS AT PEA ISLAND

TYPE OF WORK: GRADING, PAVING, DRAINAGE & STRUCTURE

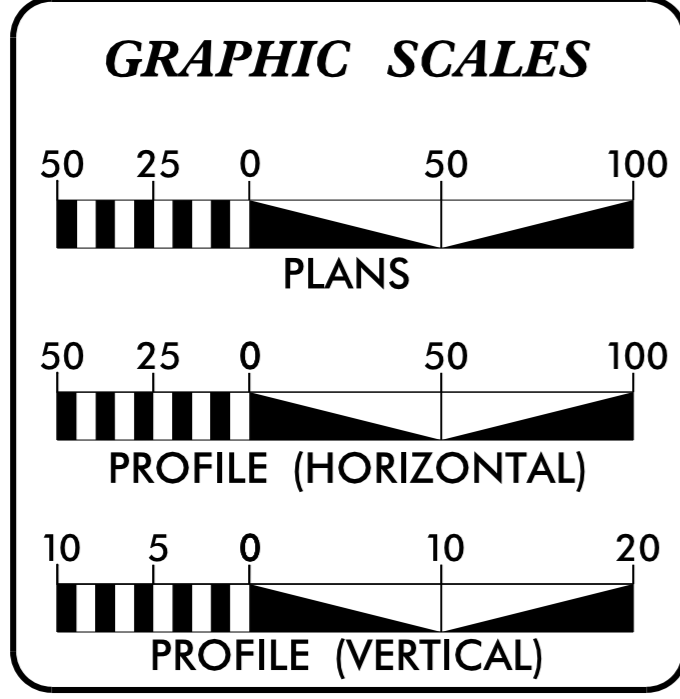
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-2500AB	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
		P.E.	
		CONSTR.	



* RECOMMENDED POSTED 45 MPH

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:



DESIGN DATA
(B-2500A DATA)

ADT 2012 =	7,300
ADT 2032 =	10,900
K =	N/A %
D =	N/A %
T =	6% % **
* V =	55 MPH
** (TTST 1%, DUAL 5%)	
FUNC CLASS =	COLLECTOR
REGIONAL TIER	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-2500AB	= 0.572 MILES
LENGTH STRUCTURE TIP PROJECT B-2500AB	= 0.445 MILES
TOTAL LENGTH TIP PROJECT B-2500AB	= 1.017 MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh, NC 27610

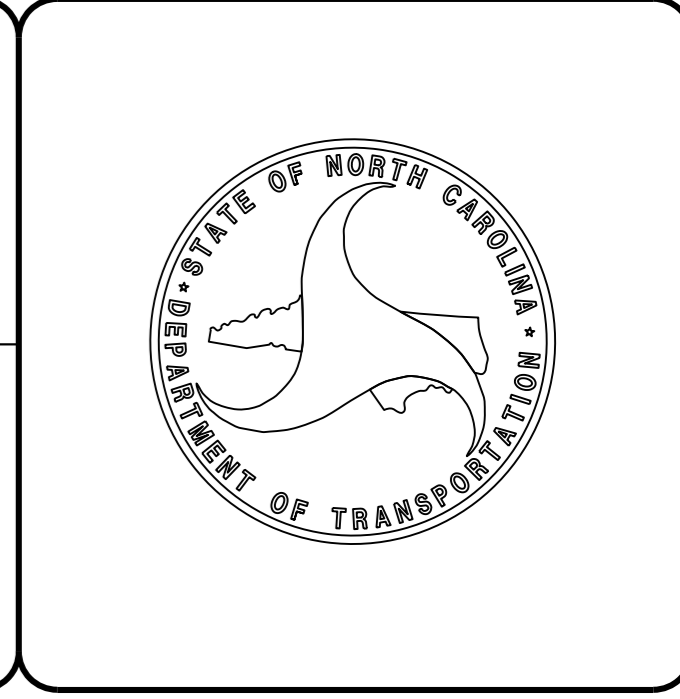
2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE:	N/A
LETTING DATE:	

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



18-JUN-2015 09:36 R:\Roadway\Proj\B2500AB_Rdy_tsh.dgn \$\$\$USERNAME\$\$\$

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale *S.U.E. = Subsurface Utility Engineering

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Property Corner	-----
Property Monument	□ EDM
Parcel/Sequence Number	(23)
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	----- WLB
Proposed Wetland Boundary	----- WLB
Existing Endangered Animal Boundary	----- EAB
Existing Endangered Plant Boundary	----- EPB
Existing Historic Property Boundary	----- HPB
Known Contamination Area: Soil	-----
Potential Contamination Area: Soil	-----
Known Contamination Area: Water	-----
Potential Contamination Area: Water	-----
Contaminated Site: Known or Potential	☠☠

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○ S
Well	○ W
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	□ +
Building	□ +
School	□ +
Church	□ +
Dam	□ +

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	-----
Jurisdictional Stream	----- JS
Buffer Zone 1	----- BZ 1
Buffer Zone 2	----- BZ 2
Flow Arrow	←
Disappearing Stream	-----
Spring	○
Wetland	-----
Proposed Lateral, Tail, Head Ditch	----- FLOW
False Sump	-----

RAILROADS:

Standard Gauge	----- CSX TRANSPORTATION
RR Signal Milepost	○ MILEPOST 35
Switch	□ SWITCH
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◇
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	----- RW
Proposed Right of Way Line with Iron Pin and Cap Marker	----- RW
Proposed Right of Way Line with Concrete or Granite R/W Marker	----- RW
Proposed Control of Access Line with Concrete CA Marker	----- CA
Existing Control of Access	----- CA
Proposed Control of Access	----- CA
Existing Easement Line	----- E
Proposed Temporary Construction Easement	----- E
Proposed Temporary Drainage Easement	----- TDE
Proposed Permanent Drainage Easement	----- PDE
Proposed Permanent Drainage / Utility Easement	----- DUE
Proposed Permanent Utility Easement	----- PUE
Proposed Temporary Utility Easement	----- TUE
Proposed Aerial Utility Easement	----- AUE
Proposed Permanent Easement with Iron Pin and Cap Marker	----- ◇

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	----- C
Proposed Slope Stakes Fill	----- F
Proposed Curb Ramp	----- CR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	○
Pavement Removal	-----

VEGETATION:

Single Tree	☼
Single Shrub	☼
Hedge	-----
Woods Line	-----

Orchard	☼☼☼☼
Vineyard	□ Vineyard

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	----- CONC
Bridge Wing Wall, Head Wall and End Wall	----- CONC WW
MINOR:	
Head and End Wall	----- CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	□ CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	○ S
Storm Sewer	----- S

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	○ P
Power Line Tower	□ P
Power Transformer	□ P
U/G Power Cable Hand Hole	○
H-Frame Pole	●
U/G Power Line LOS B (S.U.E.*)	----- P
U/G Power Line LOS C (S.U.E.*)	----- P
U/G Power Line LOS D (S.U.E.*)	----- P

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	○ T
Telephone Pedestal	□ T
Telephone Cell Tower	□ T
U/G Telephone Cable Hand Hole	○
U/G Telephone Cable LOS B (S.U.E.*)	----- T
U/G Telephone Cable LOS C (S.U.E.*)	----- T
U/G Telephone Cable LOS D (S.U.E.*)	----- T
U/G Telephone Conduit LOS B (S.U.E.*)	----- TC
U/G Telephone Conduit LOS C (S.U.E.*)	----- TC
U/G Telephone Conduit LOS D (S.U.E.*)	----- TC
U/G Fiber Optics Cable LOS B (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS C (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS D (S.U.E.*)	----- T FO

WATER:

Water Manhole	○ W
Water Meter	○
Water Valve	○ X
Water Hydrant	○ H
U/G Water Line LOS B (S.U.E.*)	----- W
U/G Water Line LOS C (S.U.E.*)	----- W
U/G Water Line LOS D (S.U.E.*)	----- W
Above Ground Water Line	----- A/G Water

TV:

TV Pedestal	□ TV
TV Tower	○ TV
U/G TV Cable Hand Hole	○
U/G TV Cable LOS B (S.U.E.*)	----- TV
U/G TV Cable LOS C (S.U.E.*)	----- TV
U/G TV Cable LOS D (S.U.E.*)	----- TV
U/G Fiber Optic Cable LOS B (S.U.E.*)	----- TV FO
U/G Fiber Optic Cable LOS C (S.U.E.*)	----- TV FO
U/G Fiber Optic Cable LOS D (S.U.E.*)	----- TV FO

GAS:

Gas Valve	◇
Gas Meter	◇
U/G Gas Line LOS B (S.U.E.*)	----- G
U/G Gas Line LOS C (S.U.E.*)	----- G
U/G Gas Line LOS D (S.U.E.*)	----- G
Above Ground Gas Line	----- A/G Gas

SANITARY SEWER:

Sanitary Sewer Manhole	○ SS
Sanitary Sewer Cleanout	○ SS
U/G Sanitary Sewer Line	----- SS
Above Ground Sanitary Sewer	----- A/G Sanitary Sewer
SS Forced Main Line LOS B (S.U.E.*)	----- FSS
SS Forced Main Line LOS C (S.U.E.*)	----- FSS
SS Forced Main Line LOS D (S.U.E.*)	----- FSS

MISCELLANEOUS:

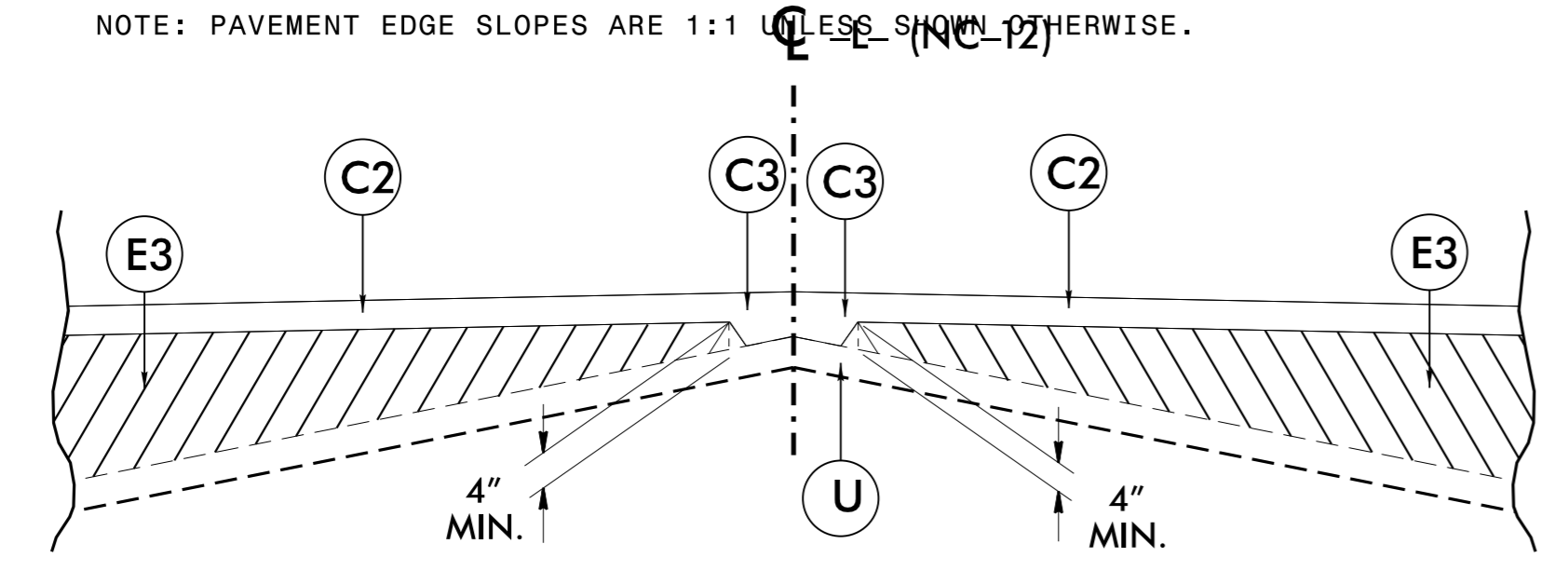
Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	□ TS
Utility Unknown U/G Line LOS B (S.U.E.*)	----- ?U/L
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	□ UST
A/G Tank; Water, Gas, Oil	□
Geoenvironmental Boring	○ GB
U/G Test Hole LOS A (S.U.E.*)	○
Abandoned According to Utility Records	-----
End of Information	-----

AATUR
E.O.I.

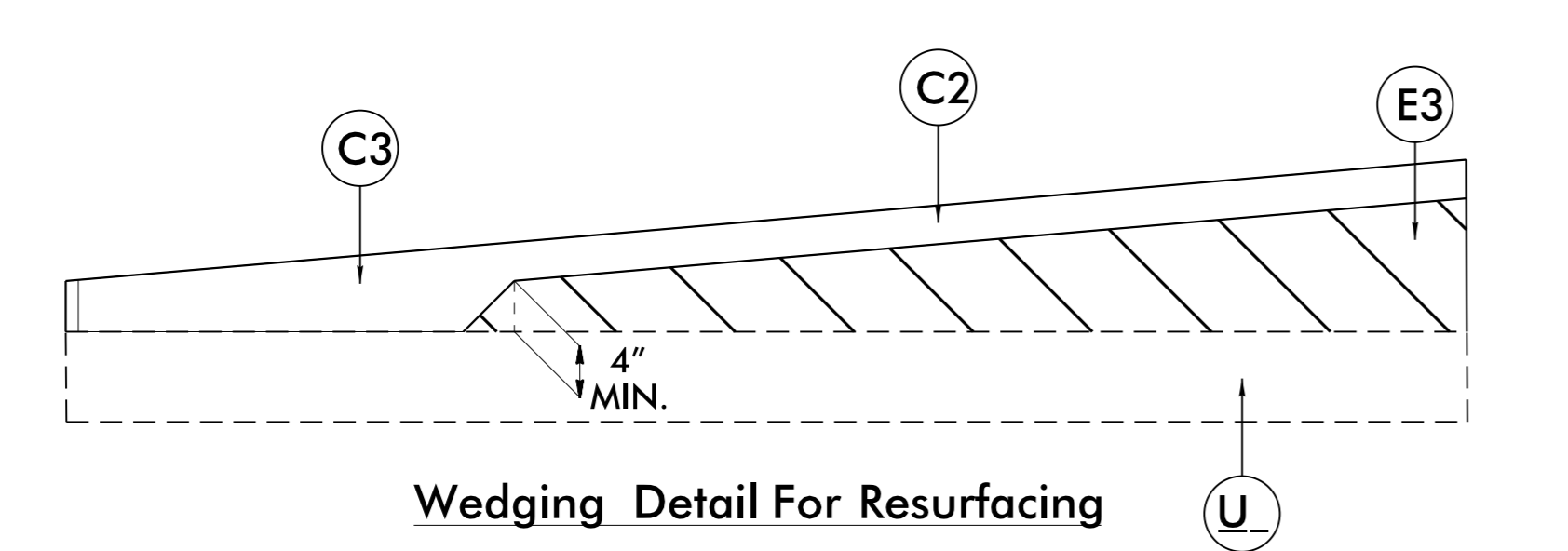
6/2/09

PAVEMENT SCHEDULE (MAY 18, 2015)	
B	PROP. APPROX. 0.75" OPEN-GRADED ASPHALT FRICTION COURSE (OGFC), TYPE FC-2 MODIFIED, AT AN AVERAGE RATE OF 90 LBS. PER SQ. YD.
C1	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1.5" IN DEPTH OR GREATER THAN 2" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E3	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 4" OR GREATER THAN 5.5" IN DEPTH.
R	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT (SEE WEDGING DETAIL THIS SHEET)

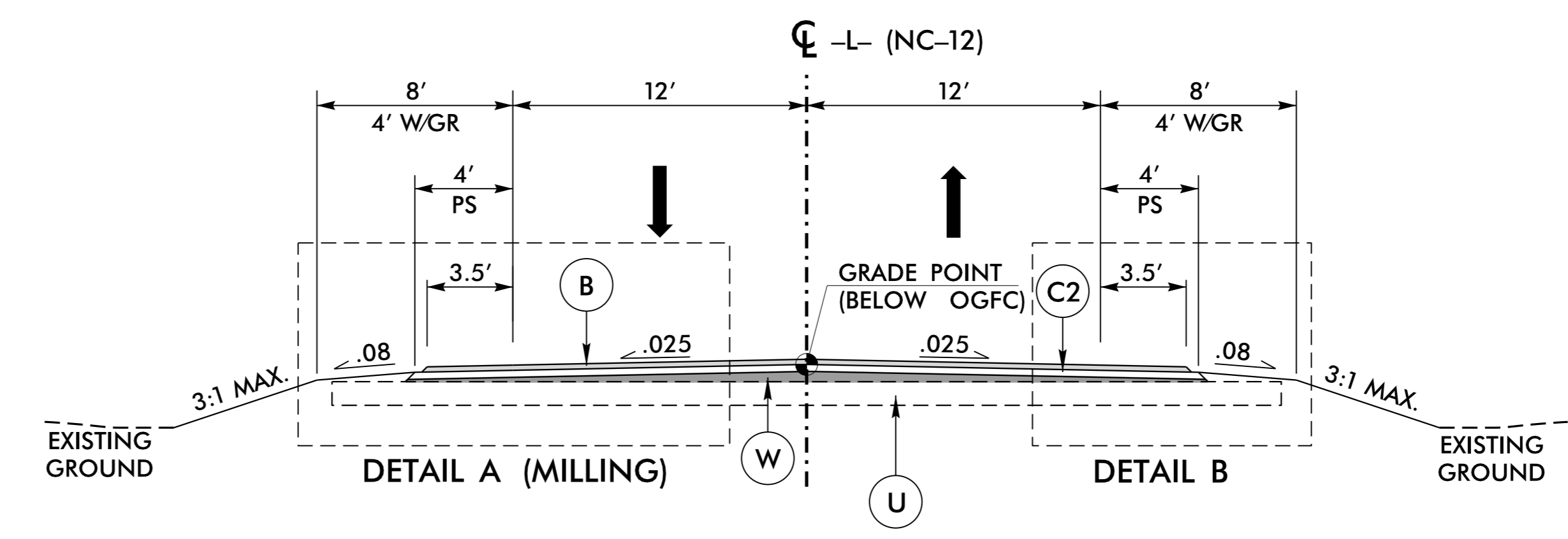
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



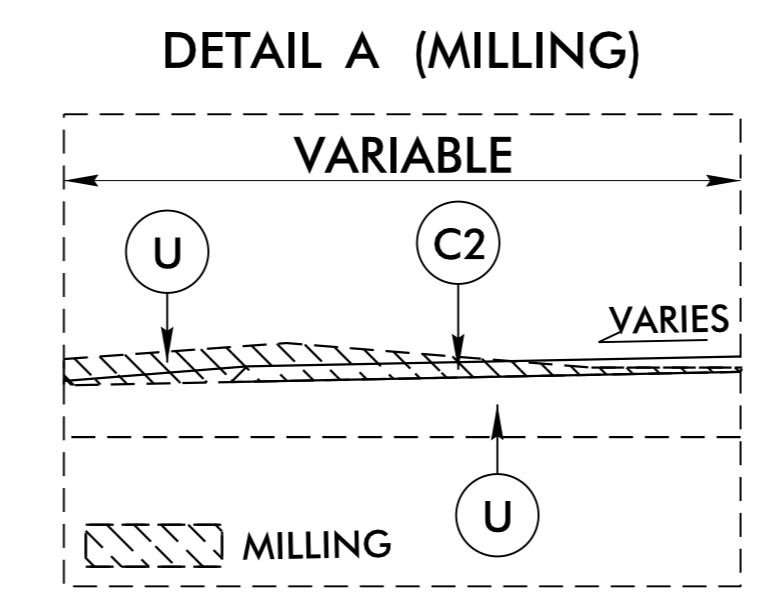
Detail Showing Method of Wedging



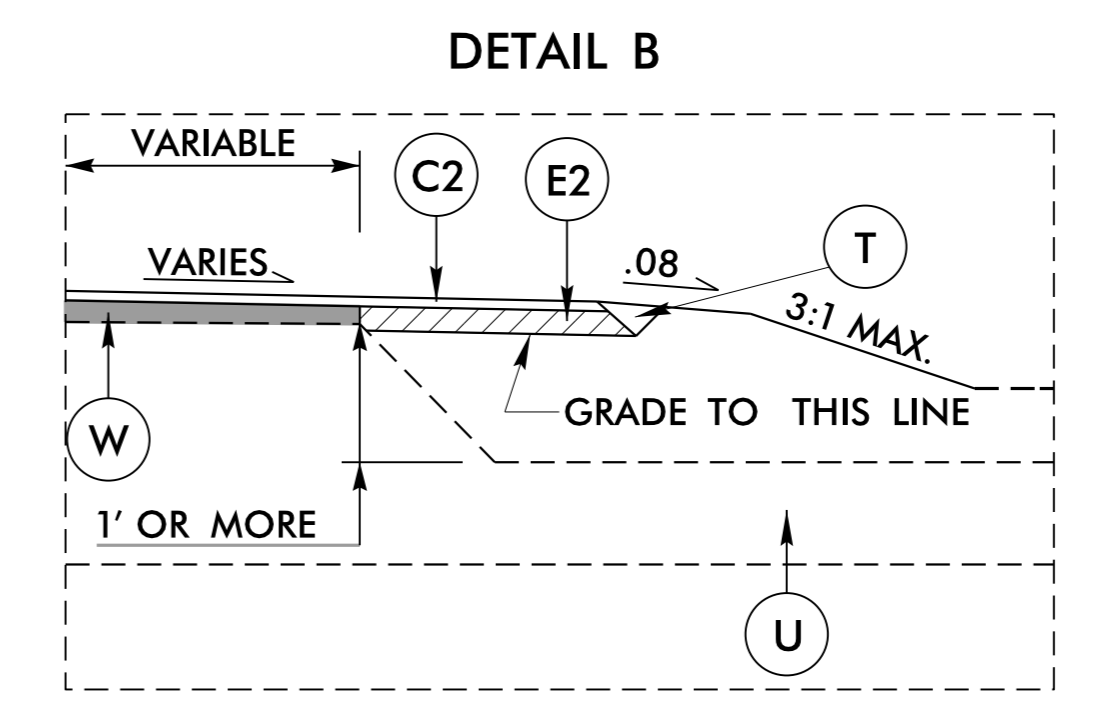
Wedging Detail For Resurfacing



TYPICAL SECTION NO. 1



DETAIL A:
-L- STA. 3144+20.00 TO STA. 3149+50.00 LT

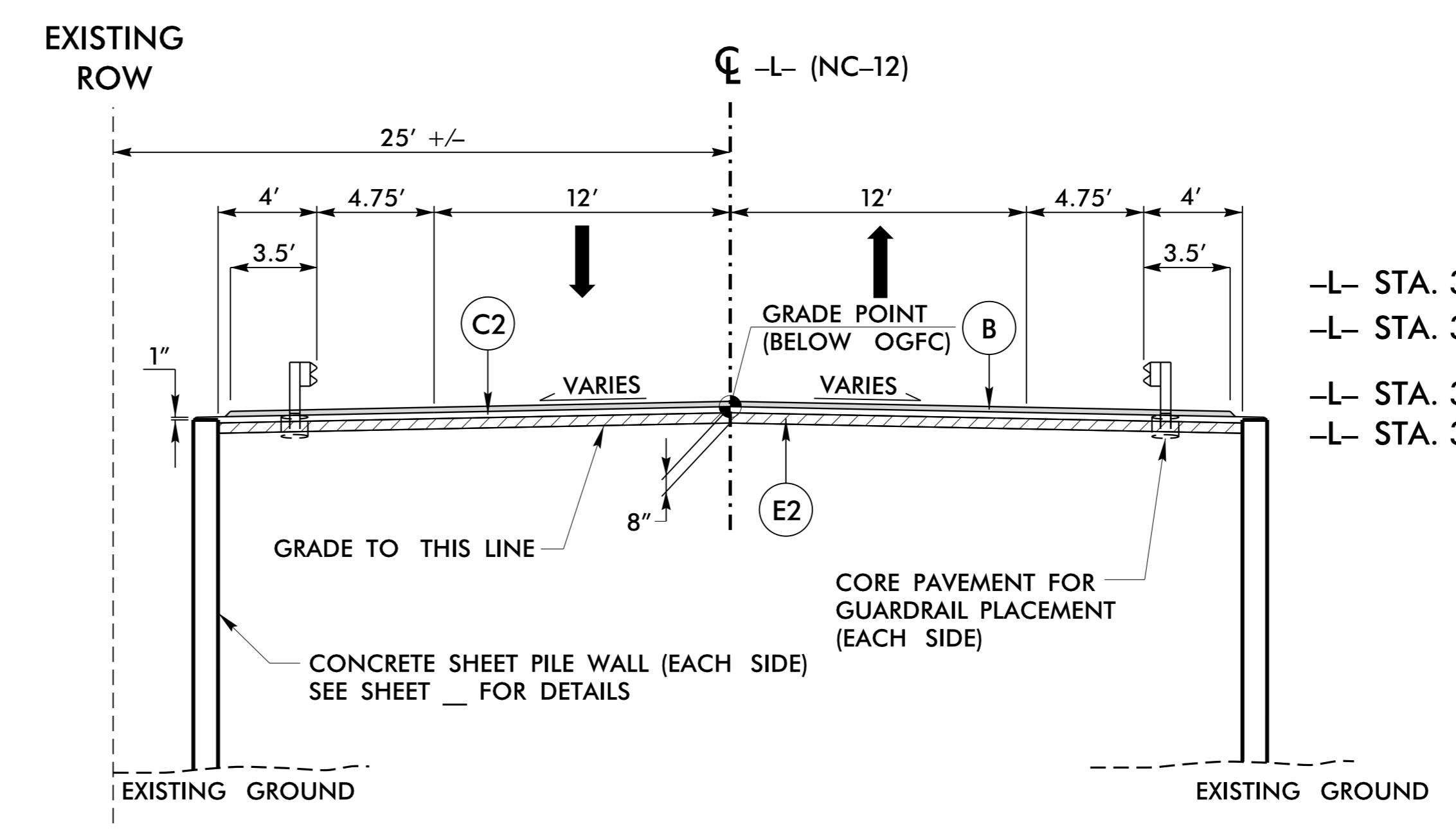


DETAIL B:
-L- STA. 3152+00 TO STA. 3153+50 RT
-L- STA. 3186+00 TO STA. 3188+50 RT

PROJECT REFERENCE NO. B-2500AB	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS <small>DO NOT USE FOR R/W ACQUISITION</small> PRELIMINARY PLANS <small>DO NOT USE FOR CONSTRUCTION</small>	

TYPICAL SECTION NO. 1

- L- STA. 3149+50.00 TO STA. 3154+00.00 LT
- L- STA. 3186+50.00 TO STA. 3194+00.00 LT
- L- STA. 3144+00.00 TO STA. 3153+50.00 RT
- L- STA. 3186+00.00 TO STA. 3194+00.00 RT

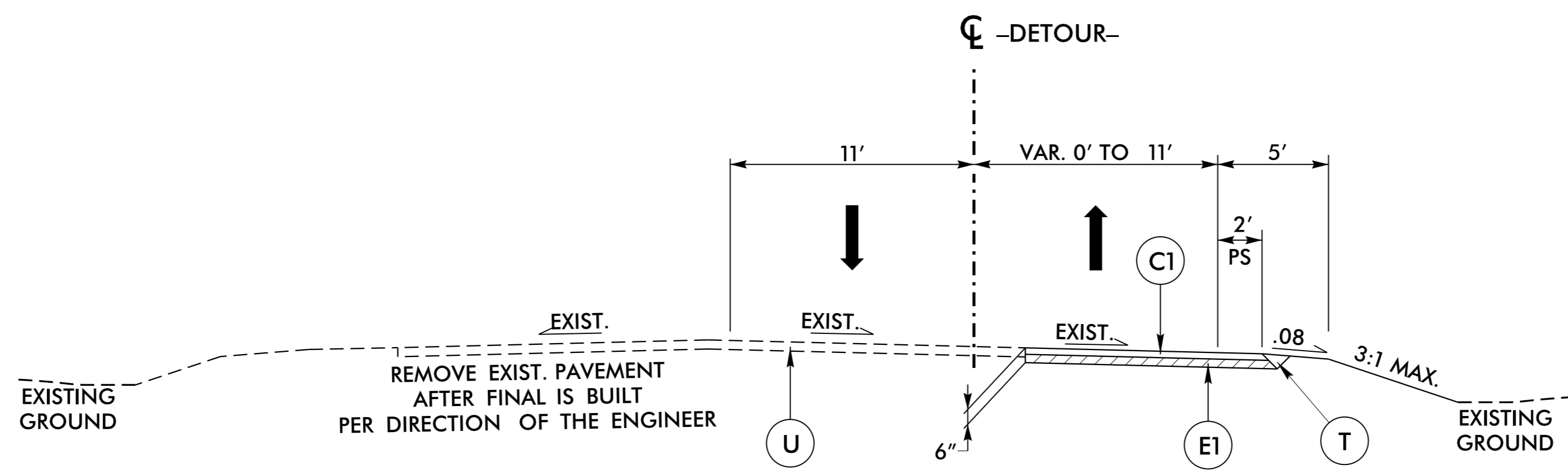


TYPICAL SECTION NO. 2

- TYPICAL SECTION NO. 2
- L- STA. 3154+00.00 TO STA. 3159+00.00 (BEGIN BRIDGE) LT
 - L- STA. 3182+50.00 (END BRIDGE) TO STA. 3186+50.00 LT.
 - L- STA. 3153+50.00 TO STA. 3159+00.00 (BEGIN BRIDGE) RT
 - L- STA. 3182+50.00 (END BRIDGE) TO STA. 3186+00.00 RT.

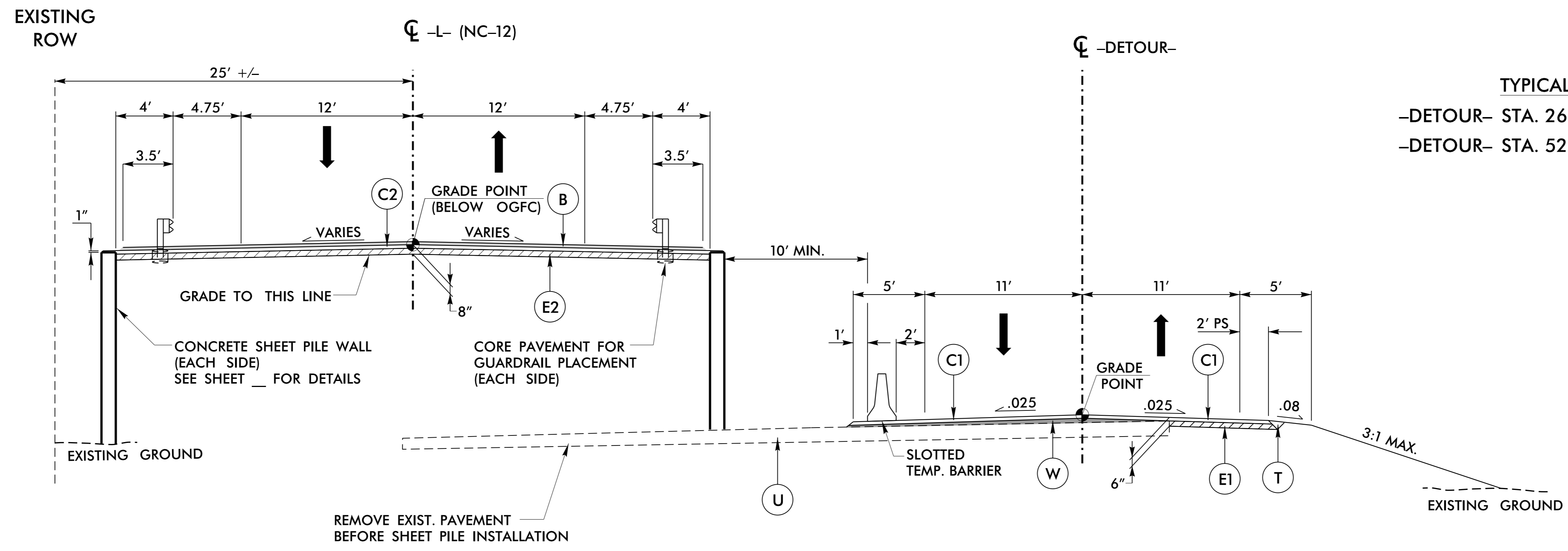
18-JUN-2015 09:36 B-2500AB-RdJ-tyr.dgn

PROJECT REFERENCE NO. B-2500AB	SHEET NO. 2A-2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



TYPICAL SECTION NO. 3

TYPICAL SECTION NO. 3
 -DETOUR- STA. 11+57.38 TO STA. 26+23.97
 -DETOUR- STA. 55+13.50 TO STA. 65+22.38



TYPICAL SECTION NO. 4

TYPICAL SECTION NO. 4
 -DETOUR- STA. 26+23.97 TO STA. 29+06.50
 -DETOUR- STA. 52+45.64 TO STA. 55+13.50

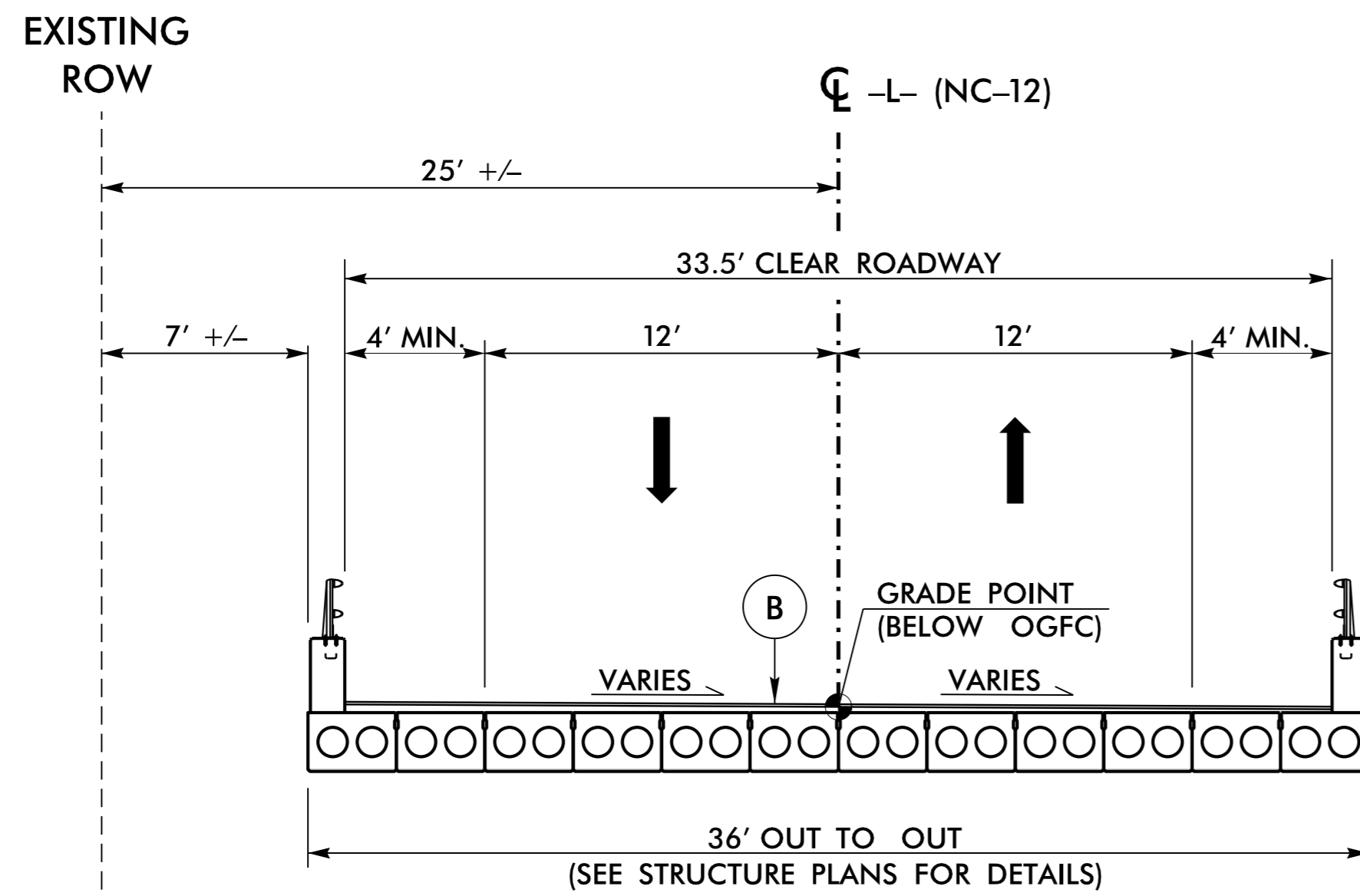
PAVEMENT SCHEDULE	
C1	2" S9.5B
C2	3" S9.5B
C3	VAR. S9.5B
E1	4" B25.0B
E2	5" B25.0B
E3	VAR. B25.0B
R	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING (SEE WEDGING DETAILS SHEET 2A-1)

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

6/2/99

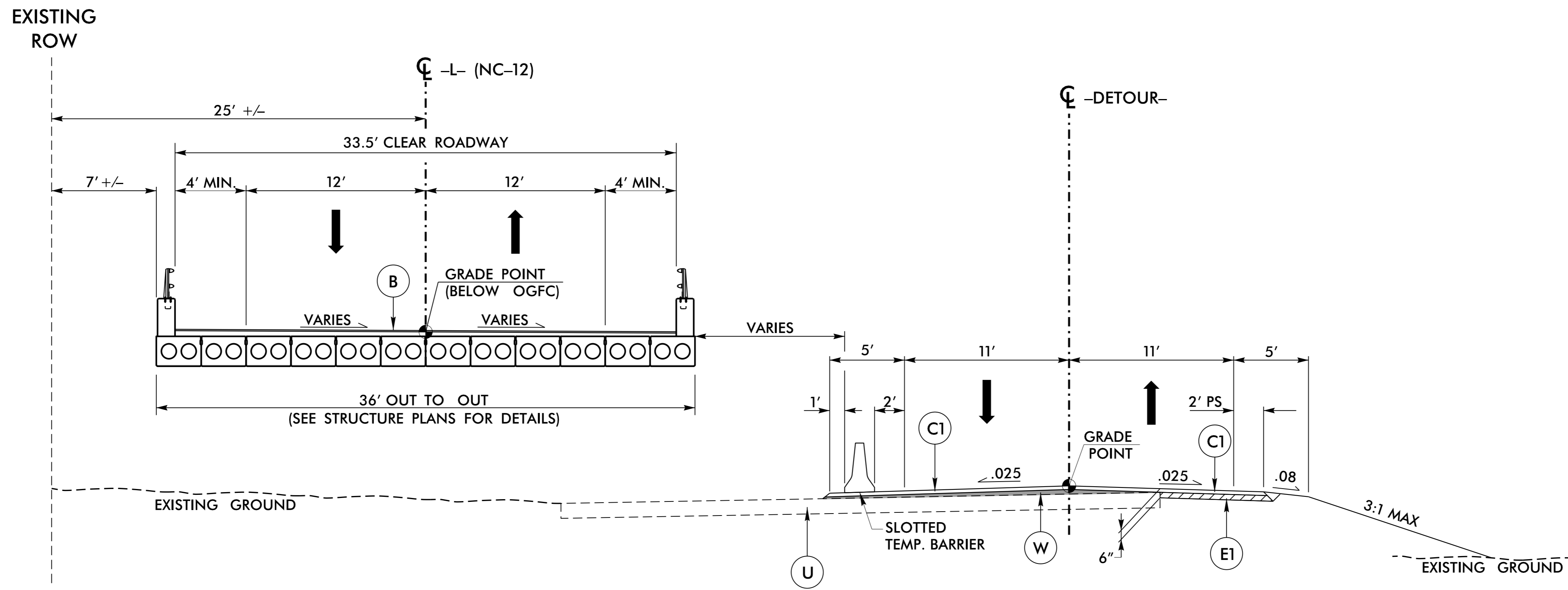
18 JUN 2015 09:36 B-2500AB_Rd.dwg

PROJECT REFERENCE NO. B-2500AB	SHEET NO. 2A-3
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS <small>DO NOT USE FOR R/W ACQUISITION</small>	
PRELIMINARY PLANS <small>DO NOT USE FOR CONSTRUCTION</small>	



TYPICAL SECTION NO. 5

BRIDGE TYPICAL SECTION
 -L- STA. 3159+00.00 (BEGIN BRIDGE) TO STA. 3182+50.00 (END BRIDGE)



TYPICAL SECTION NO. 6

TYPICAL SECTION NO. 6
 -DETOUR- STA. 29+06.50 TO STA. 39+46.67 (BEGIN EXIST. BRIDGE)
 -DETOUR- STA. 46+11.90 (END EXIST. BRIDGE) TO STA. 52+45.64

PAVEMENT SCHEDULE	
C1	2" S9.5B
C2	3" S9.5B
C3	VAR. S9.5B
E1	4" B25.0B
E2	5" B25.0B
E3	VAR. B25.0B
R	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING (SEE WEDGING DETAILS SHEET 2A-1)

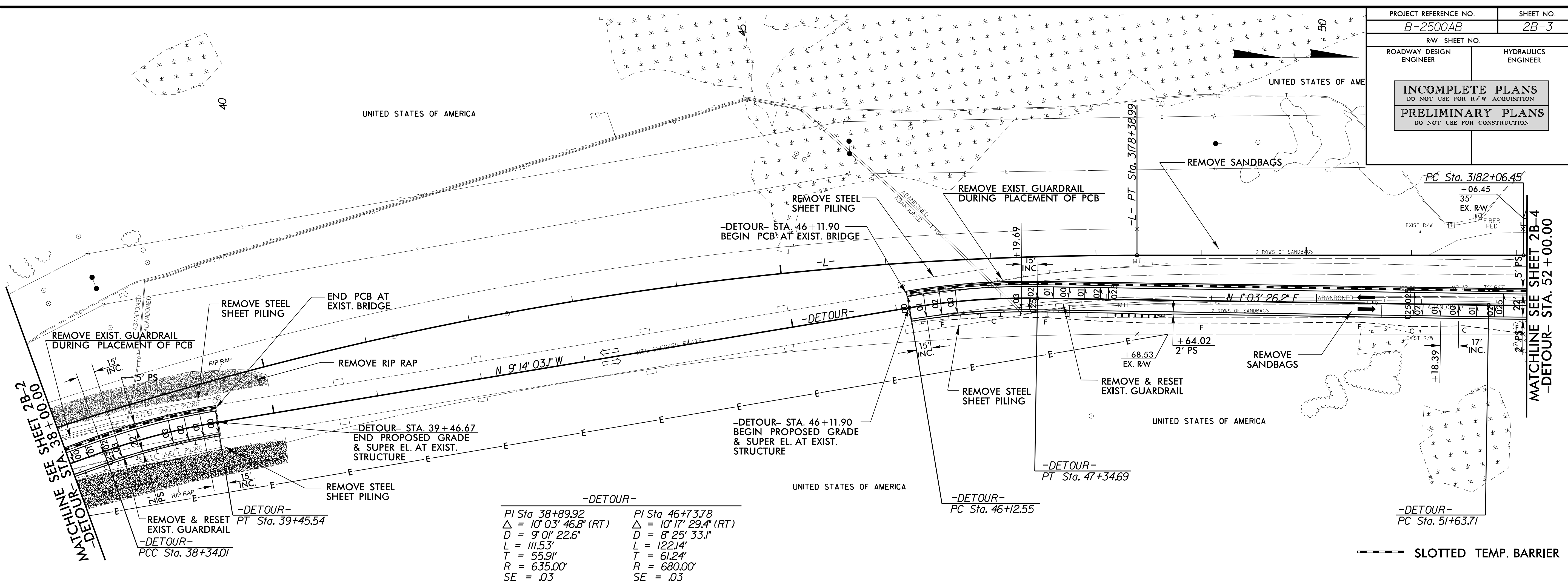
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

6/2/99

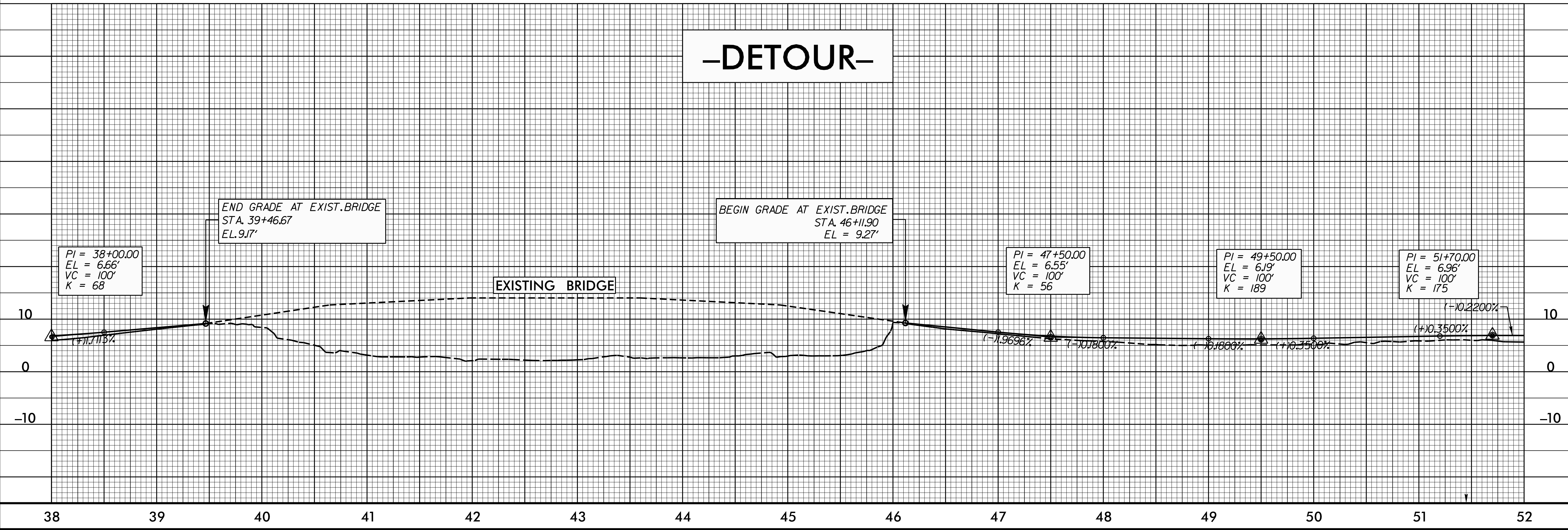
18-JUN-2015 09:36 B-2500AB_RdJ.tyd.dgn
 18-JUN-2015 09:36 B-2500AB_RdJ.tyd.dgn

8/17/99

PROJECT REFERENCE NO. B-2500AB	SHEET NO. 2B-3
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

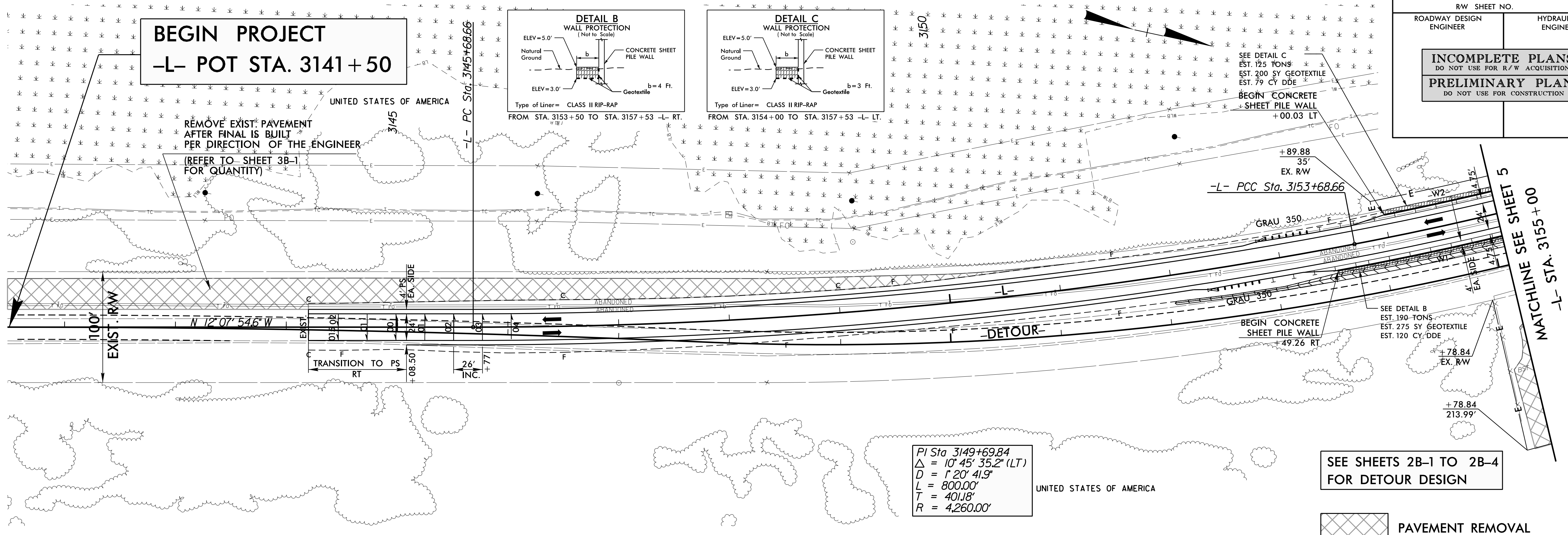


-DETOUR-	
PI Sta 38+89.92	PI Sta 46+73.78
$\Delta = 10^{\circ}03'46.8"$ (RT)	$\Delta = 10^{\circ}17'29.4"$ (RT)
$D = 9^{\circ}01'22.6"$	$D = 8^{\circ}25'33.1"$
$L = 111.53'$	$L = 122.14'$
$T = 55.9'$	$T = 61.24'$
$R = 635.00'$	$R = 680.00'$
$SE = .03$	$SE = .03$



18 JUN 2015 09:37 B2500AB Detour B2500AB.Rdy.pln02B-3.dgn

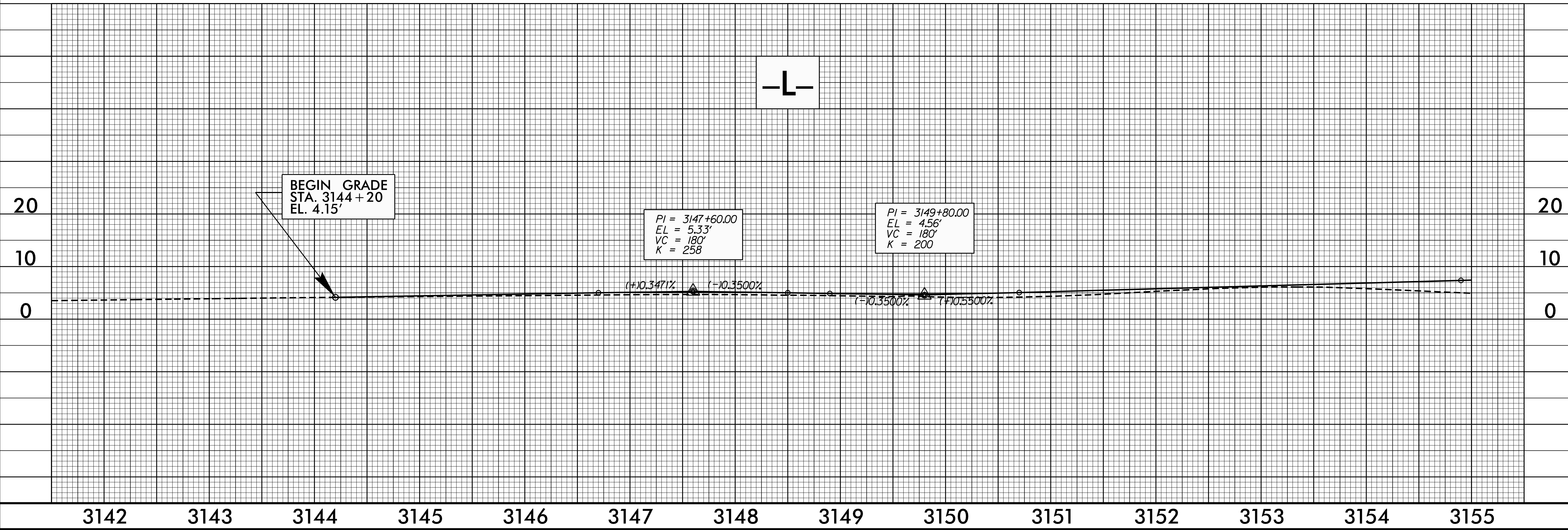
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



PI Sta 3149+69.84
 $\Delta = 10^\circ 45' 35.2\" (LT)$
 $D = 1' 20' 41.9\"$
 $L = 800.00'$
 $T = 401.18'$
 $R = 4,260.00'$

SEE SHEETS 2B-1 TO 2B-4
FOR DETOUR DESIGN

PAVEMENT REMOVAL

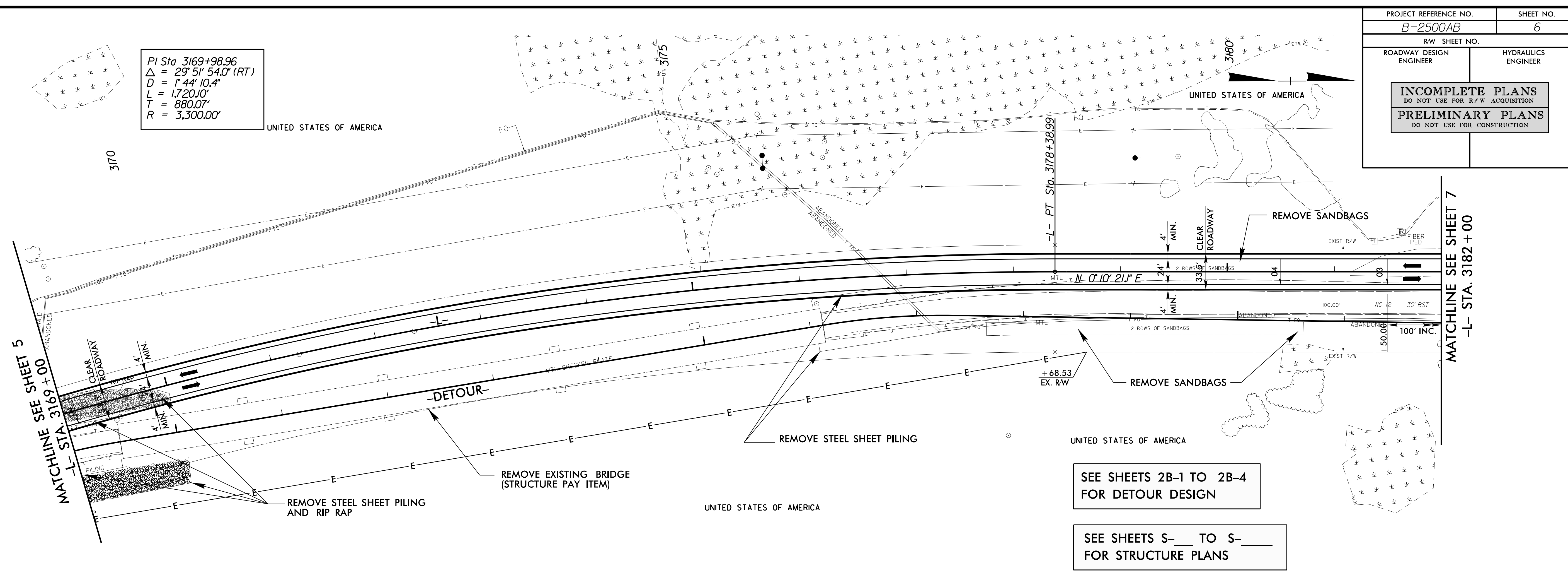


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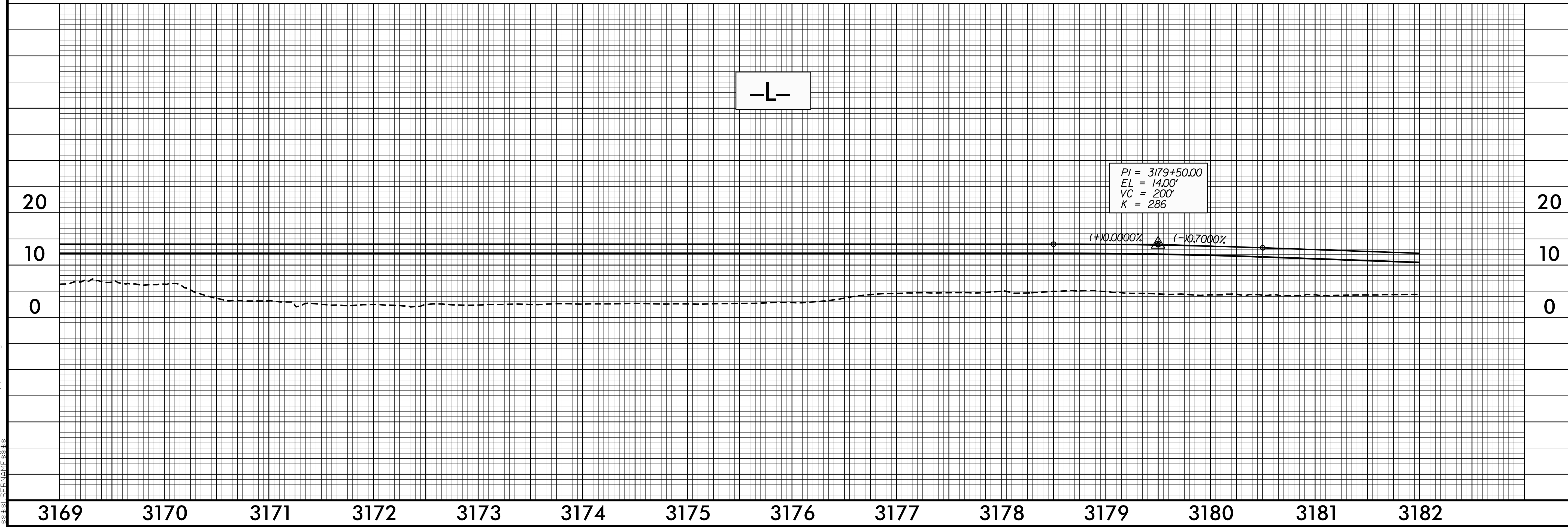
18 JUN 2015 09:37 B-2500AB-Rdy-psht04.dgn
 3142-3155

PROJECT REFERENCE NO. B-2500AB	SHEET NO. 6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

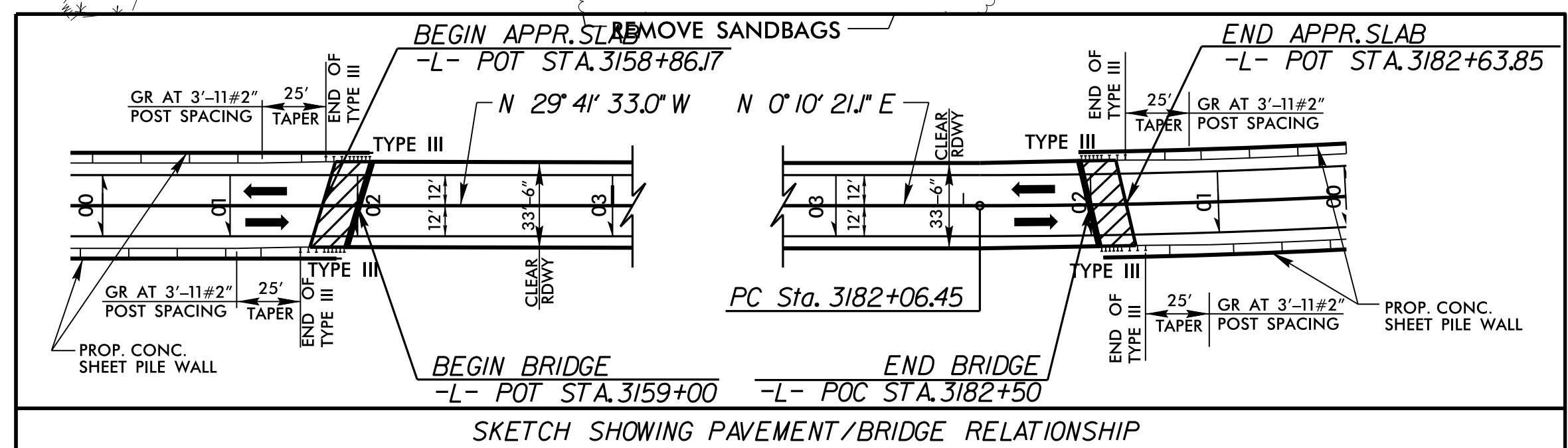
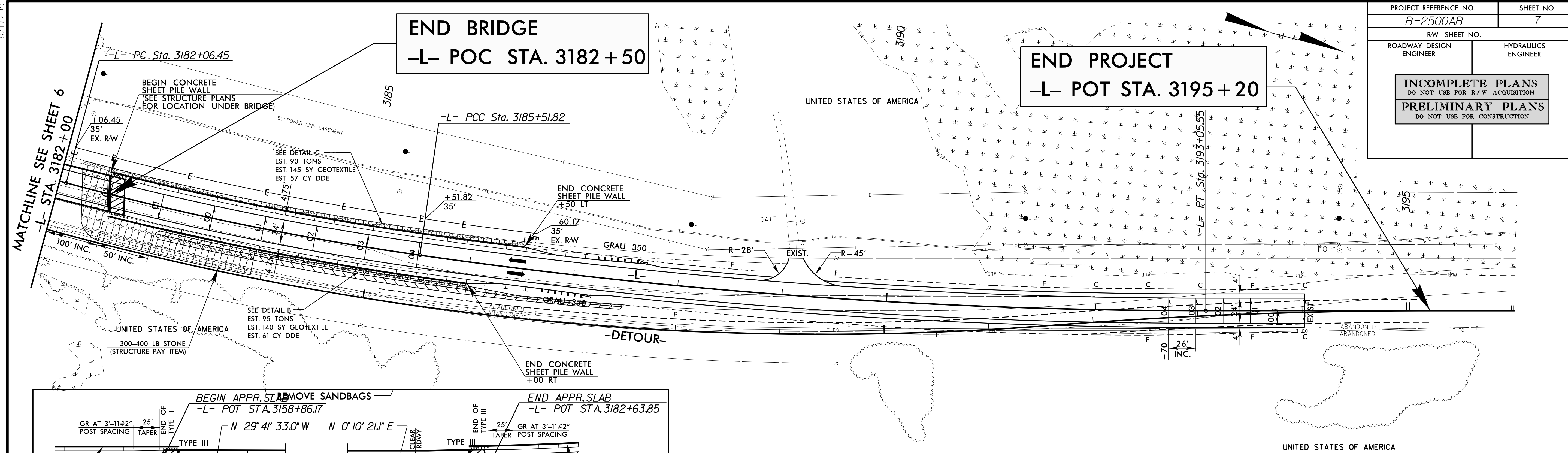
PI Sta 3169+98.96
 $\Delta = 29^\circ 51' 54.0''$ (RT)
 $D = 1' 44'' 10.4''$
 $L = 1,720.10'$
 $T = 880.07'$
 $R = 3,300.00'$



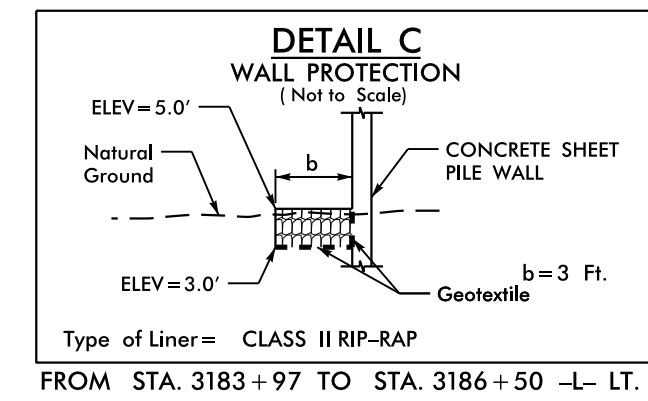
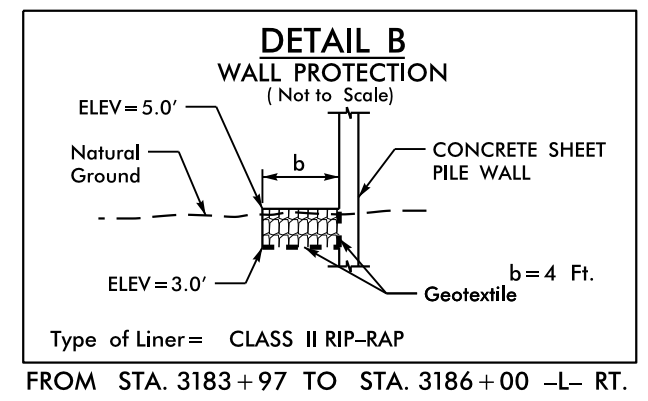
8/17/99



18 JUN 2015 09:37 B2500AB.Rdw-psht06.dgn
 3169-3182

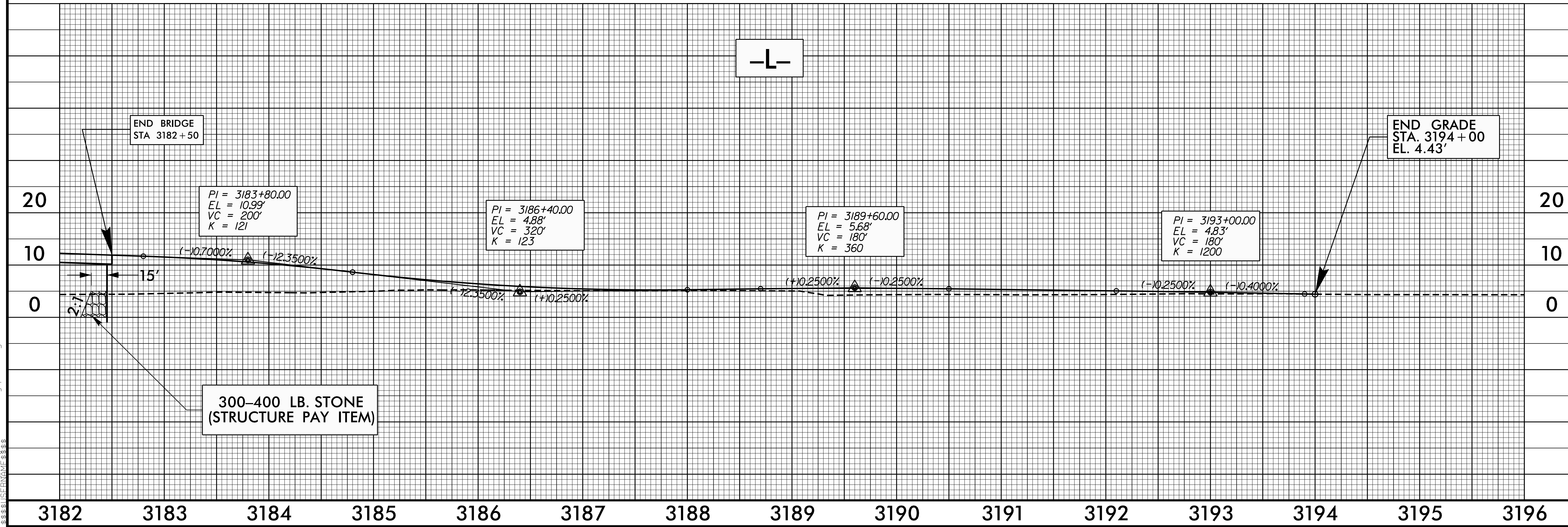


PI Sta 3183+79.35 $\Delta = 6' 58'' 03.6'' (LT)$ $D = 2' 0'' 02.8''$ $L = 345.37'$ $T = 172.90'$ $R = 2,840.00'$	PI Sta 3189+29.31 $\Delta = 8' 04'' 19.6'' (LT)$ $D = 1' 04'' 15.4''$ $L = 753.73'$ $T = 377.49'$ $R = 5,350.00'$
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SEE SHEETS 2B-1 TO 2B-4 FOR DETOUR DESIGN

SEE SHEETS S- TO S- FOR STRUCTURE PLANS



8/17/99
 JUN-2015 09:38 B-2500AB-Rdy-psht07.dgn
 3182-3196