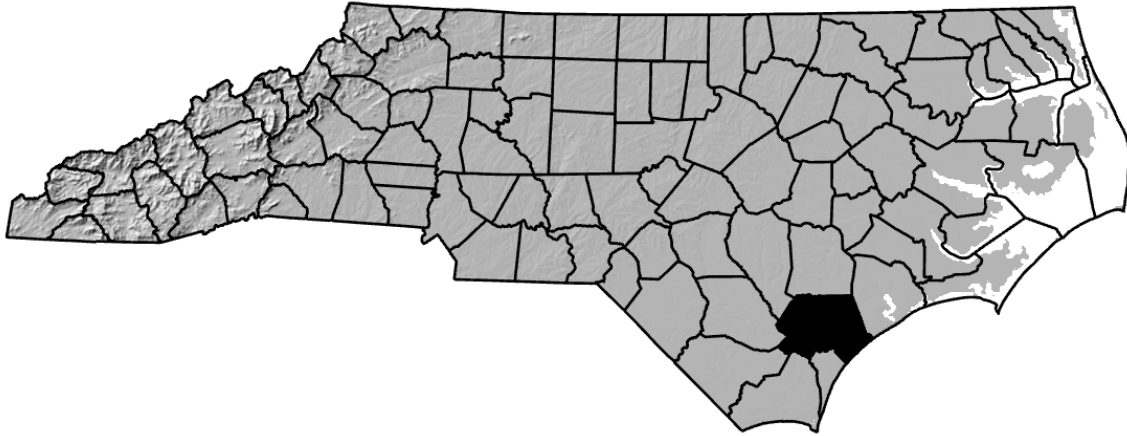
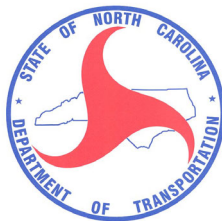


# ANNUAL REPORT FOR 2023



**Surf City Bridge Temporary Impact Site**  
**Pender County**  
**TIP No. B-4929**  
**CAMA Permit No. 60-16**



Prepared By:  
Roadside Environmental Unit and Environmental Analysis Unit  
North Carolina Department of Transportation  
September 2023

## TABLE OF CONTENTS

SUMMARY .....	1
1.0 Introduction .....	2
.1 Project Description .....	2
.2 Purpose .....	2
.3 Project History .....	2
.4 Debit Ledger .....	2
2.0 Vegetation: .....	3
.1 Success Criteria .....	3
.2 Description of Species .....	3
.3 Results of Vegetation Monitoring .....	3
.4 Conclusions. ....	4
3.0 Overall Conclusions and Recommendations .....	4

## FIGURES

Figure 1 – Vicinity Map .....	5
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## APPENDICES

Appendix A – Site Photos and Site Map	
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## **SUMMARY**

The Surf City Bridge Temporary Impact Site is located in Pender County. This is an annual report for temporary impacts associated with the bridge replacement of Bridge No. 16 on NC 50-210 over the Intracoastal Waterway. The project was accepted as complete on October 4, 2019.

The temporary impacts encompass approximately 0.03 acres for roadway/bridge and 0.10 acres for utility temporary impacts from temporary fill and hand clearing in CAMA wetlands. The area that was impacted is being monitored to ensure that it re-attains jurisdictional wetland status. The areas to the North of the Intracoastal Waterway where the temporary work bridge pilings were removed and the temporary utility impact areas adjacent to NC 50-210 were planted in June 2018. The temporary work bridge pilings to the South of the Intracoastal waterway and the temporary impact area from the NCDOT Geotechnical Unit's boring machine adjacent to the Surf City Park were planted in April 2021. All other temporary impact areas were left to re-vegetate naturally. Hydrologic monitoring is not required for this site; however, vegetation monitoring is required for three years.

In April 2022, NCDOT and Regulatory Agencies held an onsite meeting to review temporary wetland impact sites. The Regulatory Agencies agreed to discontinue monitoring all sites, except for Site 4 (temp. work bridge impact area – beach side) at Photo Point #2.

After the fifth year of monitoring, the Surf City Bridge Temporary Impact Site shows by visual observation that the temporarily impacted areas are re-attaining jurisdictional wetland status but the temporary work bridge area at Site 4 has not fully revegetated at this time. Some revegetation has occurred through supplemental plantings and natural revegetation since 2022.

Div. 3 staff and Regulatory Agencies reviewed Site 4 in April 2023 and CAMA reviewed the site again in September 2023. CAMA suggested NCDOT proceed with additional planting of this area at Site 4.

NCDOT proposes to complete additional marsh grass planting and to continue vegetation monitoring at the Surf City Bridge Temporary Impact Site 4 in 2024.

## 1.0 INTRODUCTION

### 1.1 Project Description

The Surf City Bridge Temporary Impact Site is located in Pender County at Bridge No. 16 on NC 50-210 over the Intracoastal Waterway (Figure 1). The temporary impacts encompass approximately 0.03 acres for roadway/bridge and 0.10 acres for temporary utility impacts from temporary fill and hand clearing in CAMA wetlands. The area that was impacted is being monitored to ensure that it re-attains jurisdictional wetland status. Hydrologic monitoring is not required for this site; however, vegetation monitoring is required for three years.

### 1.2 Purpose

In order for a temporary impact site to be considered successful, a site must meet vegetation success criteria. This report details the vegetation monitoring in 2023 at the Surf City Bridge Temporary Impact Site. Hydrologic monitoring was not required for the site.

### 1.3 Project History

June 2018	Marsh Grass Planting
September 2019	Vegetation Monitoring (Year 1)
October 2019	Project Acceptance Date
August 2020	Vegetation Monitoring (Year 2)
April 2021	Marsh Grass Planting
August 2021	Vegetation Monitoring (Year 3)
April 2022	Onsite Regulatory Agency Meeting
May 2022	Supplemental Marsh Grass Planting @ Site 4
September 2022	Vegetation Monitoring (Year 4)
March 2023	Div. 3 and Regulatory Agency Onsite Review
August 2023	Vegetation Monitoring (Year 5)
September 2023	CAMA Onsite Review

### 1.4 Debit Ledger

The restoration of the Surf City Bridge temporary impact site was used entirely to compensate for temporary impacts on the B-4929 project. There were no wetland mitigation credits generated from the restoration of the impacted area.



## **2.0 VEGETATION: SURF CITY BRIDGE TEMPORARY IMPACT SITE (YEAR 5 MONITORING)**

### **2.1 Success Criteria**

#### **CAMA Condition #25**

Due to the possibility that shading, compaction, hand clearing, mechanized clearing, excavation, and/or other site alterations might prevent the temporary Coastal Wetland impacts from re-attaining pre-project wetland functions, the permittee shall provide an annual update on the Coastal Wetland areas temporarily impacted by this project. This annual update shall consist of photographs and a brief written report on the progress of these temporarily impacted areas in re-attaining their pre-project functions. The permittee shall schedule a meeting with DCM to verify the extent and location of the temporary impacts upon project completion. Within three years after project completion, the permittee shall hold another agency field meeting with DCM to determine if the Coastal Wetland areas temporarily impacted by this project have re-attained pre-project wetland functions, DCM will determine whether compensatory mitigation shall be required for these impacts.

### **2.2 Description of Species**

The following wetland species were planted in the temporary impact areas to the North of the Intracoastal Waterway:

*Juncus roemerianus*, Black Needle Rush

*Spartina alterniflora*, Smooth Cordgrass

### **2.3 Results of Vegetation Monitoring**

The area where the temporary impacts occurred is re-attaining jurisdictional wetland status. Site 4 (temporary work bridge area – beach side) shows that some of the supplemental plantings survived and some natural revegetation has occurred, but the area has not fully revegetated at this time.

## **2.4 Conclusions**

There were approximately 0.03 acres for roadway/bridge and 0.10 acres for temporary utility impacts from temporary fill and hand clearing in CAMA wetlands. There were no plots established on the site. By visual observation, the Surf City Bridge Temporary Impact Site 4 shows that some of the supplemental plantings survived and some natural revegetation has occurred, but the area has not fully revegetated at this time.

## **3.0 OVERALL CONCLUSIONS AND RECOMMENDATIONS**

NCDOT proposes to complete additional marsh grass planting and to continue vegetation monitoring at the Surf City Bridge Temporary Impact Site 4 in 2024.

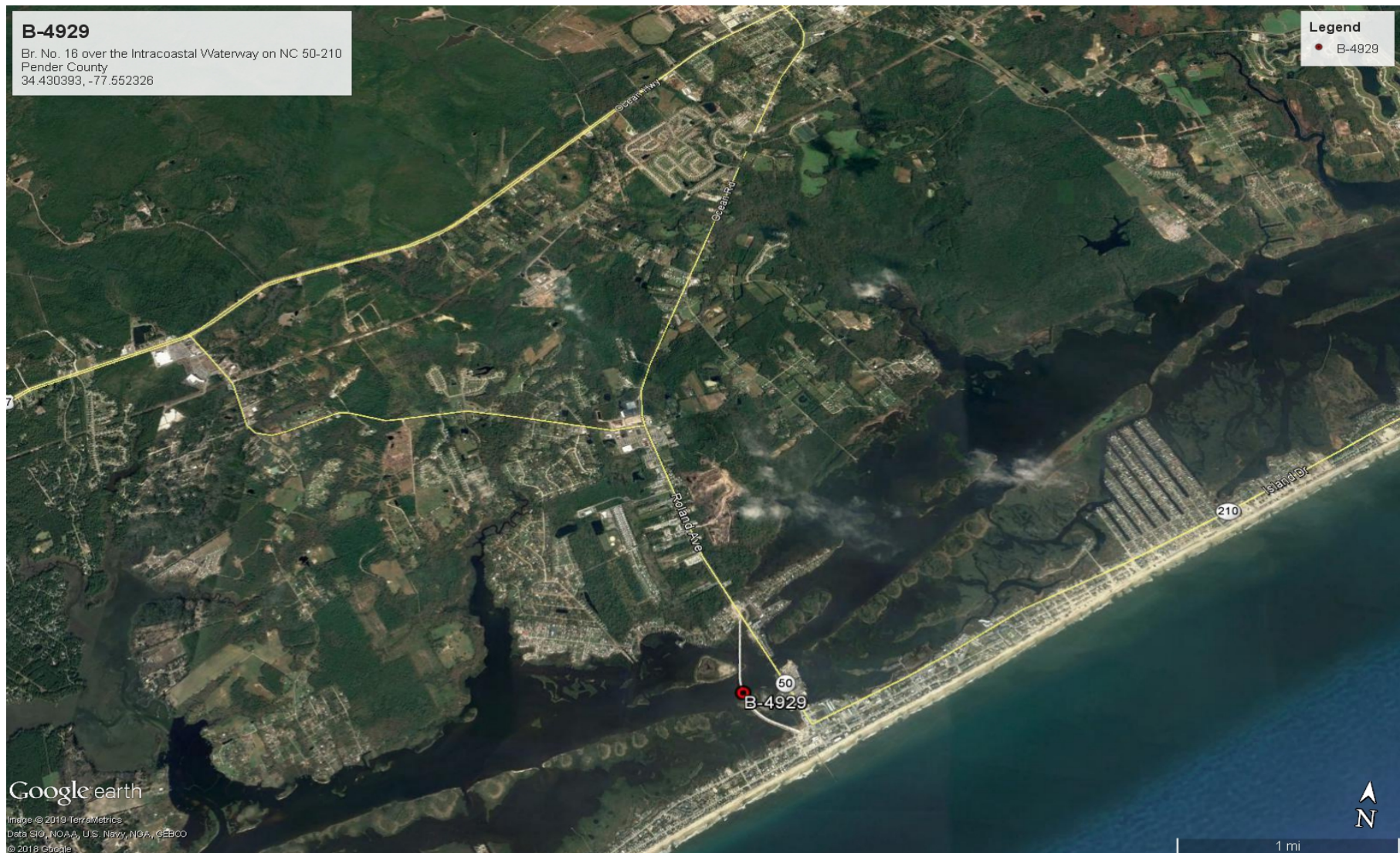


Figure 1. Vicinity Map

## **APPENDIX A**

### **SITE PHOTOS, PERMIT DRAWINGS, & PHOTO POINT LOCATIONS**



# Surf City Bridge Temporary Impact Site



PP#2 Site 4 (temporary work bridge)



Site 4 (temporary work bridge) additional photo



Site 4 (temporary work bridge) additional photo

August 2023

09/08/99  
11:43:59 AM  
CONTRACT: TIP PROJECT: B-4929

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

PENDER COUNTY

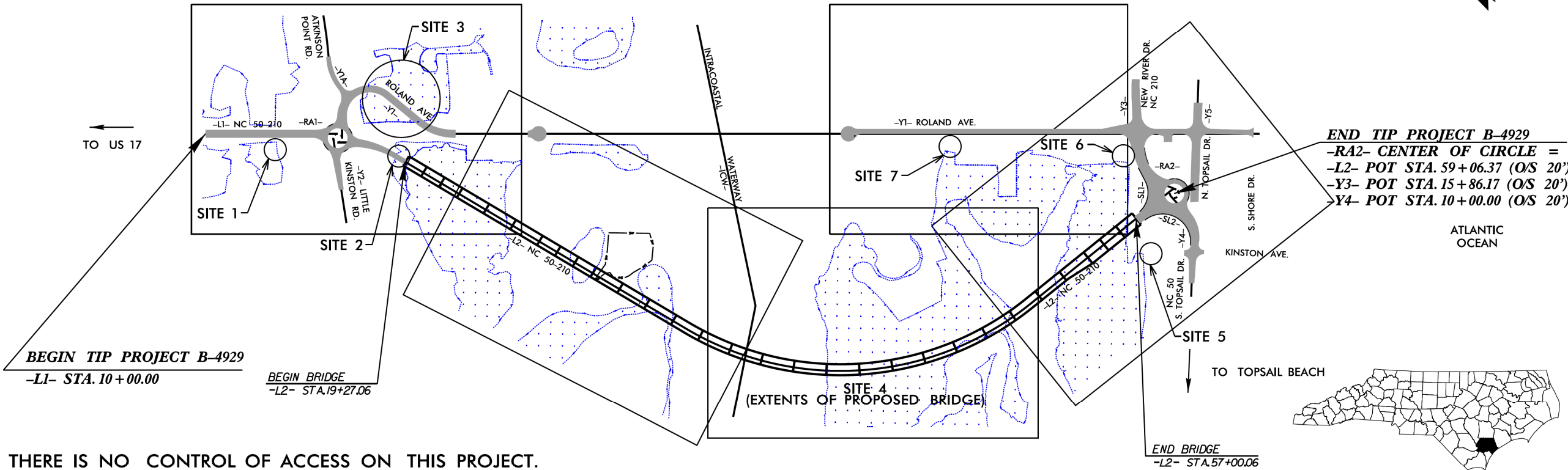
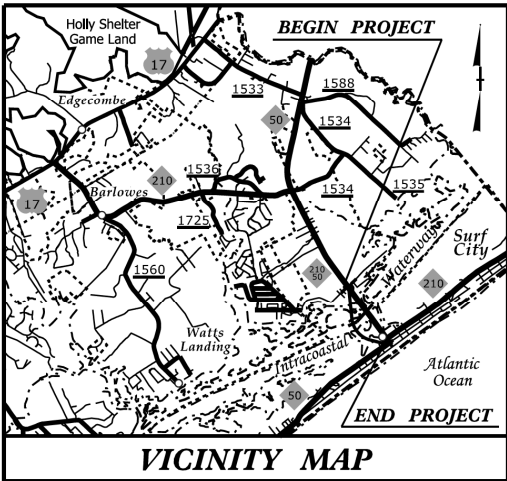
LOCATION: BRIDGE NO.16 OVER THE INTRACOASTAL  
WATERWAY ON NC 50-210

TYPE OF WORK: GRADING, PAVING, RESURFACING,  
DRAINAGE, STRUCTURE, AND WALLS

WETLAND AND SURFACE WATER IMPACTS PERMIT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4929	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
40233.1.1	N/A	PE	
40233.2.1	N/A	R/W	
40233.2.U1	N/A	UTL	

PERMIT DRAWING  
SHEET 1 OF 21



THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.  
THIS PROJECT IS WITHIN THE MUNICIPAL ETJ BOUNDARIES OF SURF CITY.  
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

**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 2017 = 17,200  
ADT 2035 = 30,000  
K = 9 %  
D = 55 %  
T = 3 % \*  
V = 40 MPH  
\* TTST =1% DUAL =2%  
FUNC CLASS =  
MAJOR COLLECTOR  
STATEWIDE TIER

**PROJECT LENGTH**

TIP B-4929 LENGTH ROADWAY = 0.215 MILES  
TIP B-4929 LENGTH STRUCTURE = 0.715 MILES  
TIP B-4929 TOTAL LENGTH = 0.930 MILES

-L1- AND -L2- USED TO CALCULATE PROJECT LENGTH

PLANS PREPARED BY:  
**RS&H**  
FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

1520 SOUTH BOULEVARD  
SUITE 200  
CHARLOTTE, NC 28203  
(704) 940-4780

RIGHT OF WAY DATE:  
AUGUST 31, 2015

LETTING DATE:  
FEBRUARY 21, 2017

JENNIFER FARINO, PE  
PROJECT ENGINEER

SEAN KORTOVICH, EI  
PROJECT DESIGNER

TONY HOUSER, PE  
NCDOT CONTACT

**HYDRAULICS ENGINEER**

SIGNATURE: \_\_\_\_\_ P.E.

ROADWAY DESIGN ENGINEER





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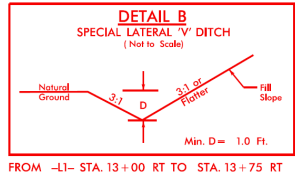


8/17/99

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REVISIONS

-  DENOTES FILL IN WETLAND
-  DENOTES HAND CLEARING
-  DENOTES MECHANIZED CLEARING
-  DENOTES EXCAVATION IN WETLAND

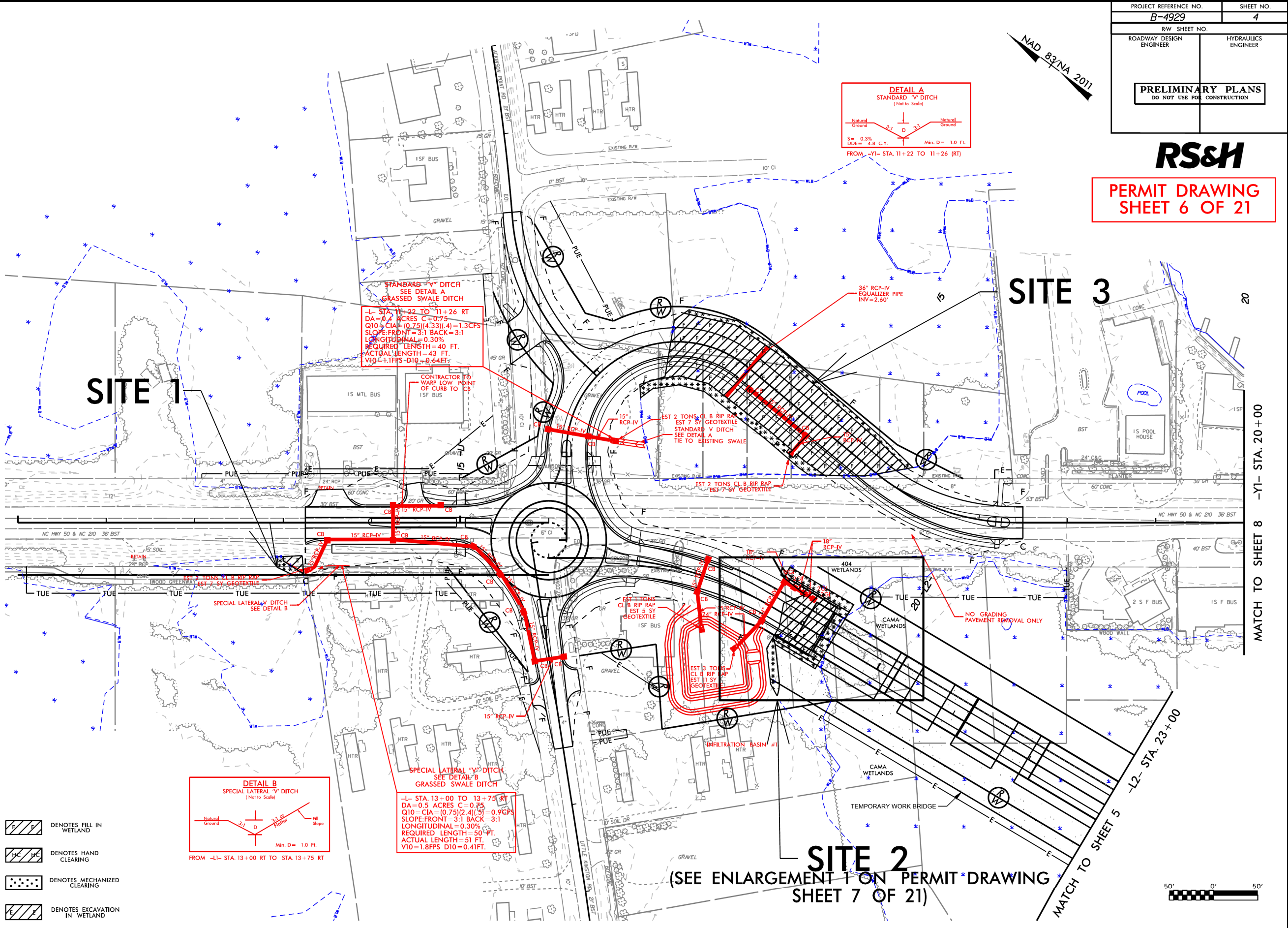
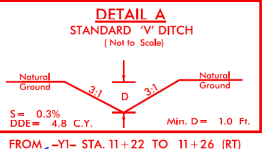


**SPECIAL LATERAL "V" DITCH**  
SEE DETAIL B  
GRASSED SWALE DITCH

-L- STA. 13+00 TO 13+75 RT  
DA=0.5 ACRES C=0.75  
Q10=CIA=[0.75](2.4)(.5)=0.9 CFS  
SLOPE: FRONT=3:1 BACK=3:1  
LONGITUDINAL=0.30%  
REQUIRED LENGTH=50 FT.  
ACTUAL LENGTH=51 FT.  
V10=1.8FPS D10=0.41FT.

**STANDARD "V" DITCH**  
SEE DETAIL A  
GRASSED SWALE DITCH

-L- STA. 11+22 TO 11+26 RT  
DA=0.4 ACRES C=0.75  
Q10=CIA=[0.75](4.33)(.4)=1.3 CFS  
SLOPE: FRONT=3:1 BACK=3:1  
LONGITUDINAL=0.30%  
REQUIRED LENGTH=40 FT.  
ACTUAL LENGTH=43 FT.  
V10=1.1FPS D10=0.64FT.

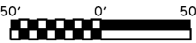


PROJECT REFERENCE NO. <b>B-4929</b>	SHEET NO. <b>4</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

**RS&H**

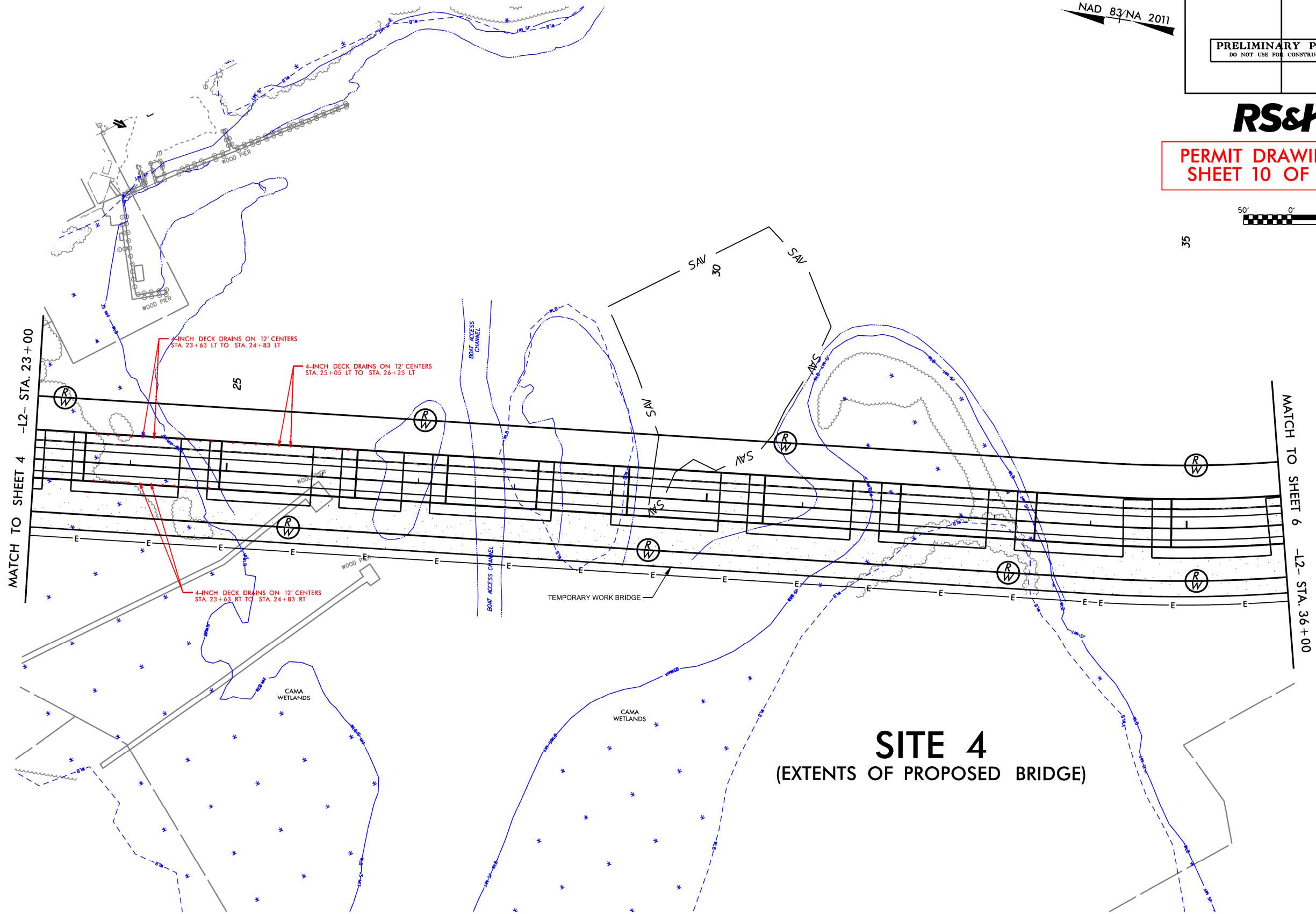
**PERMIT DRAWING**  
**SHEET 6 OF 21**

**SITE 2**  
(SEE ENLARGEMENT 1 ON PERMIT DRAWING SHEET 7 OF 21)



8/17/99  
1/9/2016  
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11/20/2015

REVISIONS

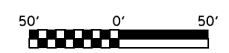


NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
B-4929	5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

RS&H

PERMIT DRAWING  
SHEET 10 OF 21



35

SITE 4  
(EXTENTS OF PROPOSED BRIDGE)



8/17/99

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REVISIONS

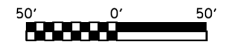
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MATCH TO SHEET 5 -L2- STA. 36+00

PROJECT REFERENCE NO.	SHEET NO.
B-4929	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

RS&H

PERMIT DRAWING  
SHEET 13 OF 21



NAD 83/NA 2011

MATCH TO SHEET 7 -L2- STA. 50+00

SITE 4

(EXTENTS OF PROPOSED BRIDGE)

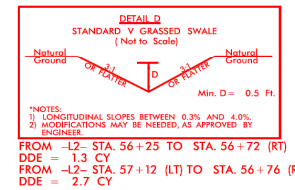
TEMPORARY WORK BRIDGE

CAMA WETLANDS

CAMA WETLANDS

FOR -L2- PROFILE, SEE SHEET 11

NAD 83/NA 2011



(SEE ENLARGEMENT 2, THIS SHEET)

(EXTENTS OF PROPOSED BRIDGE)

TEMPORARY WORK BRIDGE

STORMWATER POND

STORMWATER DITCH

STORMWATER PIPE

WATER TANK

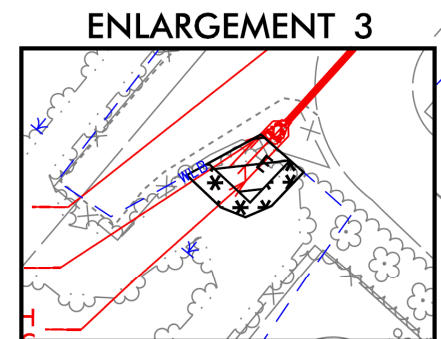
WATER PUMP

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 Q10=CIA=(0.5)[9.2](0.09)=0.41 CFS  
 SLOPE:FRONT=3:1 BACK=3:1  
 LONGITUDINAL=0.30%  
 REQUIRED LENGTH=10 FT.  
 ACTUAL LENGTH=50 FT.  
 V10=0.79 FPS D10=0.42 FT.  
 Q2=0.32 CFS V2=0.74 FPS

(SEE ENLARGEMENT 3, THIS SHEET)

STANDARD "V" DITCH  
SEE DETAIL C  
GRASSED SWALE DITCH

L2- STA. 55+92 TO 56+05 RT  
DA = 0.44 ACRES C=0.75  
Q10 = CIA = [0.9]([6.6])(0.44) = 2.6CFS  
SLOPE:FRONT=3:1 BACK=3:1  
LONGITUDINAL =0.30%  
REQUIRED LENGTH=10 FT.  
ACTUAL LENGTH=20 FT.  
V10 = 0.7FPS D10=1.0FT.  
Q2 = 2.3CFS V2 = 0.7FPS



50' 0' 50'