

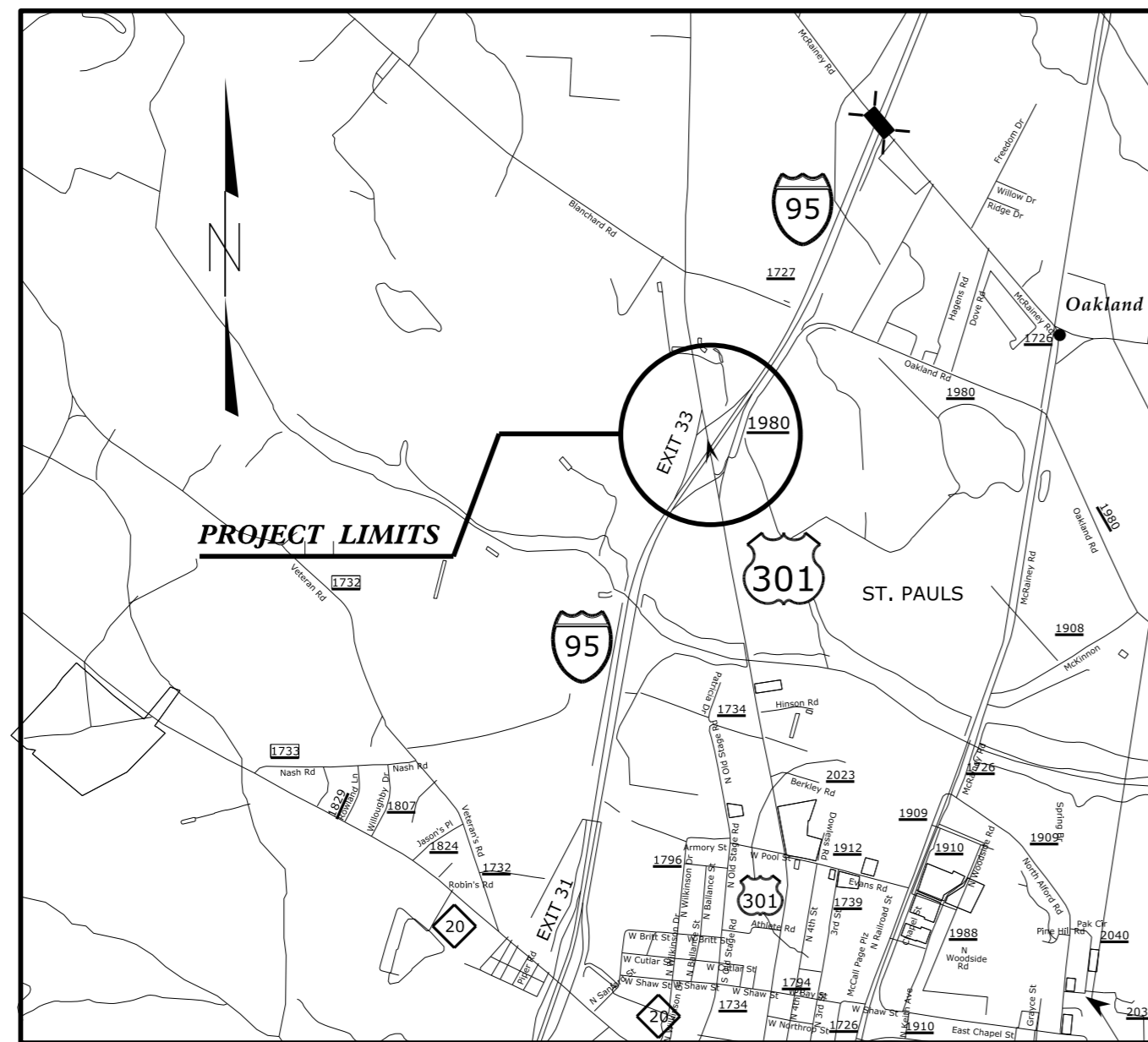
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5509	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
50076.1.1	NHPP-095-1(092)25	PE	
50076.2.FRI	NHPP-095-1(092)25	ROWUTIL	
50076.3.FRI	NHPP-095-1(092)25	CONST.	

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

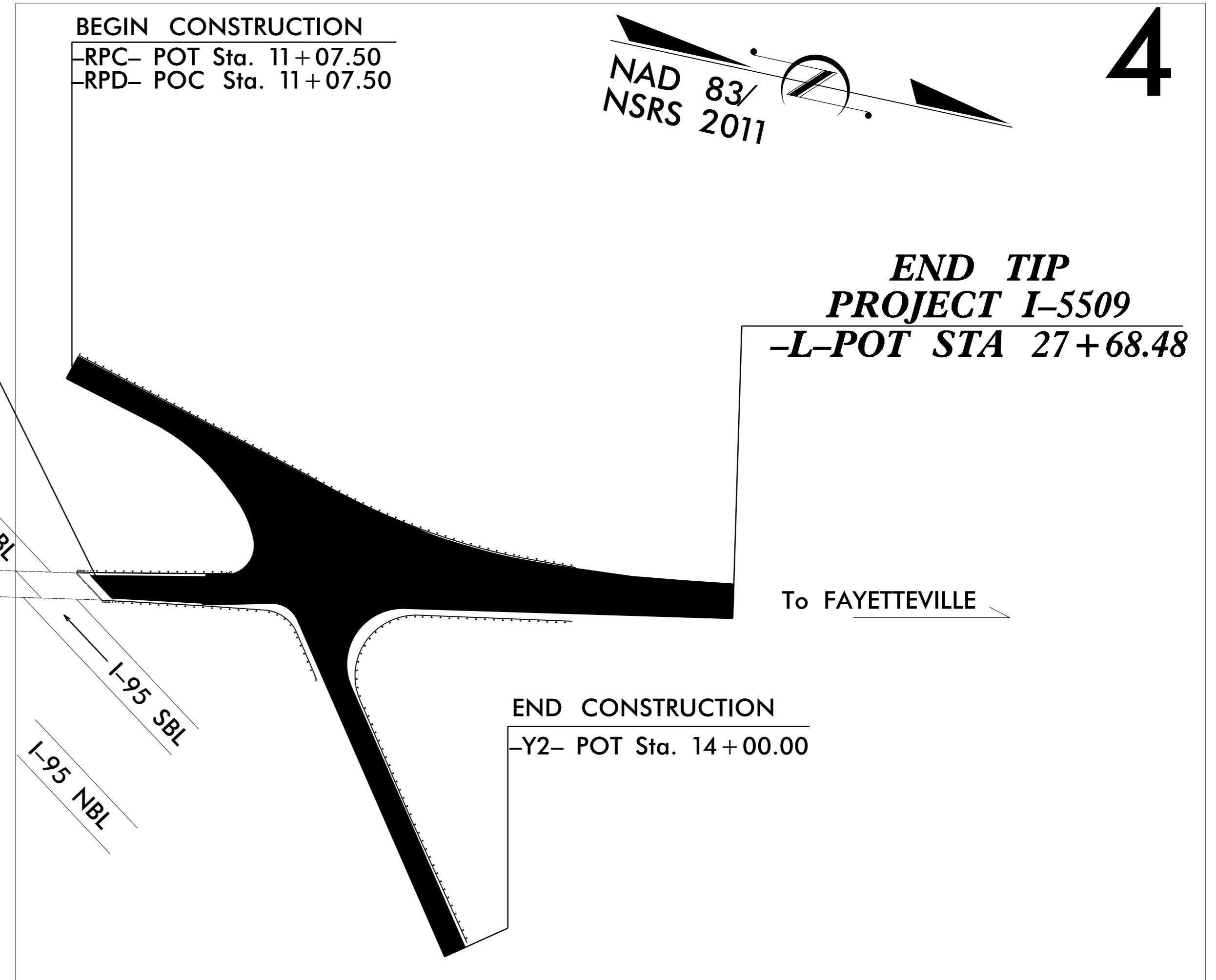
**ROBESON COUNTY**

LOCATION: U.S. 301 (EXIT 33 ON I-95)

TYPE OF WORK: GRADING, PAVING, DRAINAGE & PAVEMENT MARKINGS

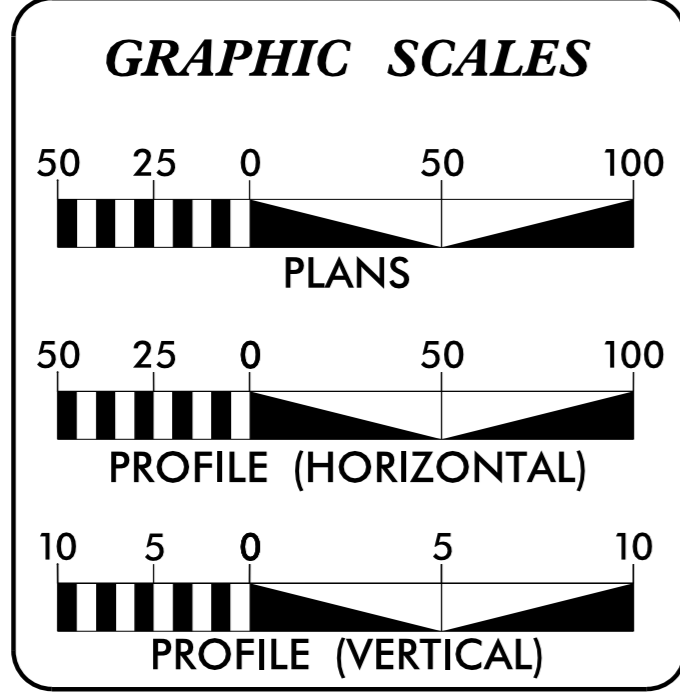


VICINITY MAP



TIP PROJECT: I-5509

PROJECT: 50076.3.FRI



**DESIGN DATA**

ADT 2012 =	4,000
ADT 2032 =	7,300
DHV =	%
D =	%
T =	% *
V =	50 MPH
* TTST =	DUAL
FUNC CLASS =	

**PROJECT LENGTH**

TOTAL LENGTH OF TIP PROJECT I-5509 = 0.13 MI

Prepared in the Office of:  
**DIVISION OF HIGHWAYS**  
431 Transportation Drive, Fayetteville, NC 28301

2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: MAR 19, 2014	SEAN MATUSZEWSKI PROJECT ENGINEER
LETTING DATE: JAN. 28, 2015	GLEND A SNIVELY PROJECT DESIGN ENGINEER



30-DEC-2014 12:59 H:\DDC\Projects\I-5509\_50076.1\IUS301\95\_St\_Pauls\_Exit33\Roadway\Project\I-5509\_Rdy\_Tsh\_.l.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	○ EP
Property Corner	----->
Property Monument	□ ECM
Parcel/Sequence Number	⑫③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	--- MLB
Proposed Wetland Boundary	--- MLB
Existing Endangered Animal Boundary	--- EAB
Existing Endangered Plant Boundary	--- EPB
Known Soil Contamination: Area or Site	☠
Potential Soil Contamination: Area or Site	☠?

### 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	▭
False Sump	▭

### RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ CSX TRANSPORTATION 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 RW 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	○
Storm Sewer	----- S

### UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊗
Power Transformer	⊗
U/G Power Cable Hand Hole	▭
H-Frame Pole	●
Recorded U/G Power Line	----- P
Designated U/G Power Line (S.U.E.*)	----- P

### TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Booth	▭
Telephone Pedestal	⊕
Telephone Cell Tower	⊕
U/G Telephone Cable Hand Hole	▭
Recorded U/G Telephone Cable	----- T
Designated U/G Telephone Cable (S.U.E.*)	----- T
Recorded U/G Telephone Conduit	----- TC
Designated U/G Telephone Conduit (S.U.E.*)	----- TC
Recorded U/G Fiber Optics Cable	----- T FO
Designated U/G Fiber Optics Cable (S.U.E.*)	----- T FO

### WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
Recorded U/G Water Line	----- W
Designated U/G Water Line (S.U.E.*)	----- W
Above Ground Water Line	----- A/G Water

### TV:

TV Satellite Dish	☼
TV Pedestal	⊕
TV Tower	⊗
U/G TV Cable Hand Hole	▭
Recorded U/G TV Cable	----- TV
Designated U/G TV Cable (S.U.E.*)	----- TV
Recorded U/G Fiber Optic Cable	----- TV FO
Designated U/G Fiber Optic Cable (S.U.E.*)	----- TV FO

### GAS:

Gas Valve	◇
Gas Meter	⊕
Recorded U/G Gas Line	----- G
Designated U/G Gas Line (S.U.E.*)	----- G
Above Ground Gas Line	----- A/G Gas

### SANITARY SEWER:

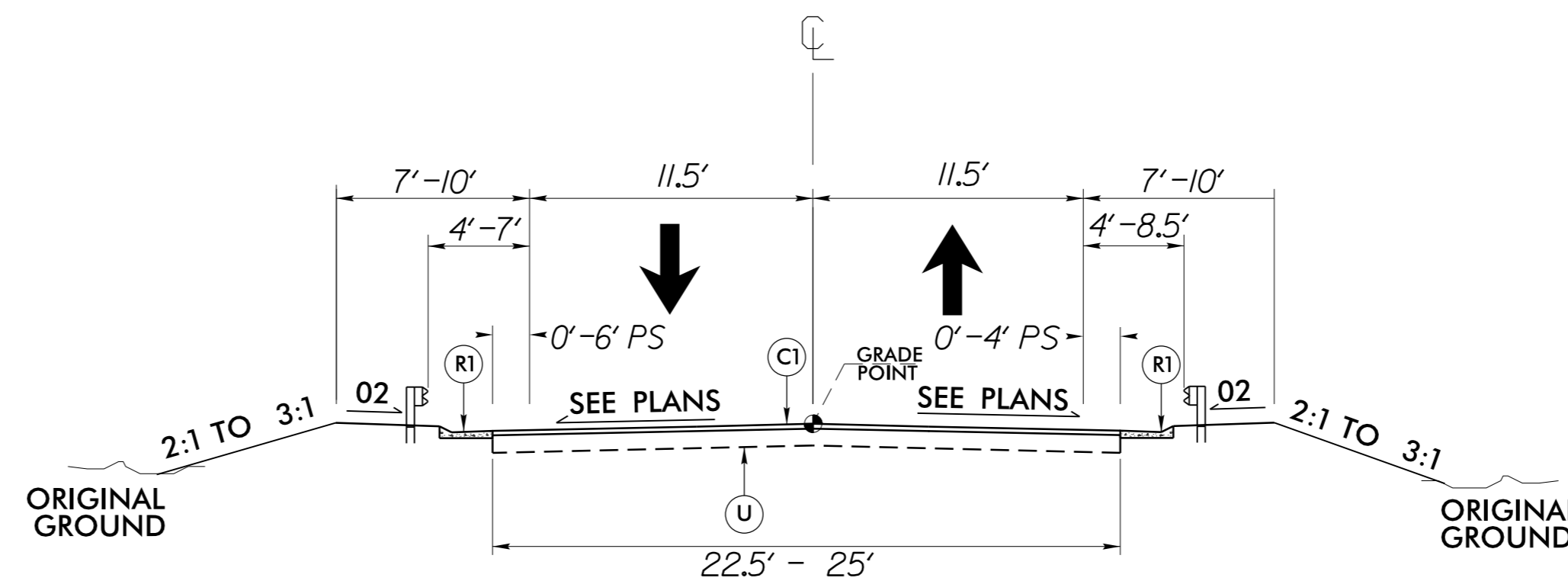
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	----- SS
Above Ground Sanitary Sewer	----- A/G Sanitary Sewer
Recorded SS Forced Main Line	----- FSS
Designated SS Forced Main Line (S.U.E.*)	----- FSS

### MISCELLANEOUS:

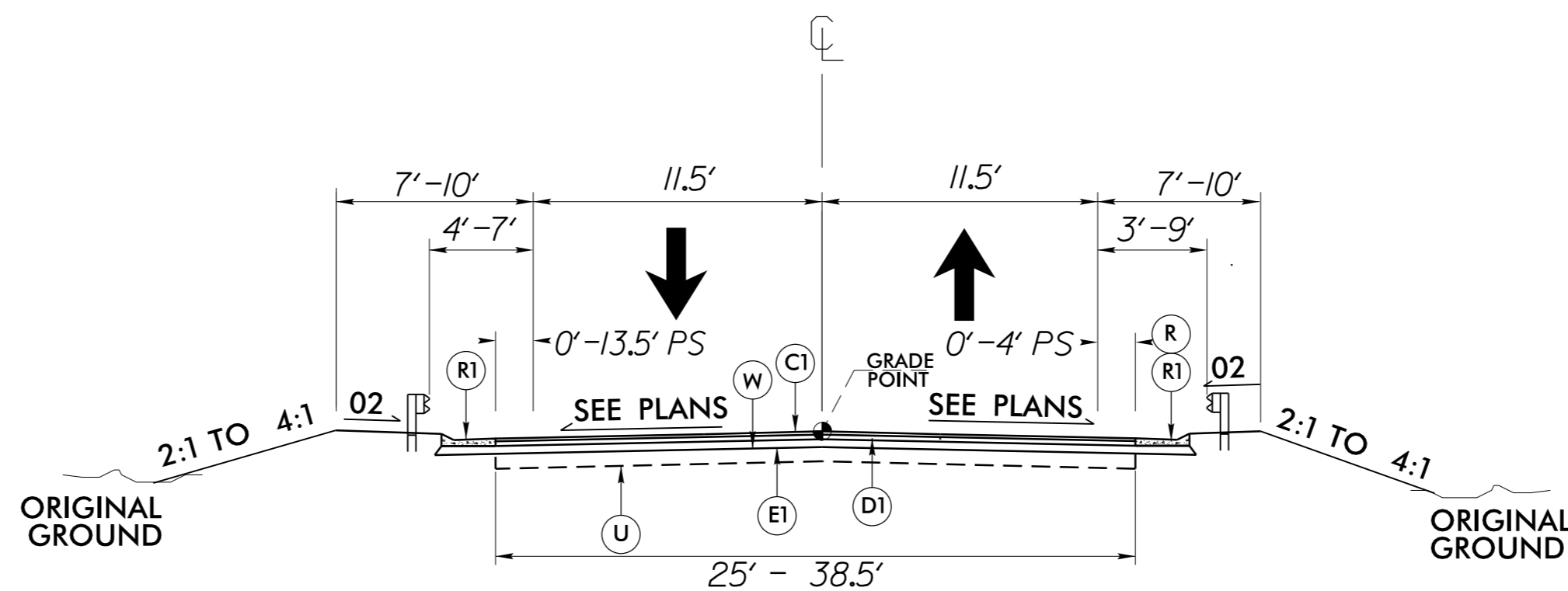
Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line	----- ?UTL
U/G Tank; Water, Gas, Oil	▭
Underground Storage Tank, Approx. Loc.	⊕
A/G Tank; Water, Gas, Oil	▭
Geoenvironmental Boring	⊕
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

**PROJECT NOTES**

1. The Contractor shall not work on both sides of the road simultaneously within the same area.
2. Ingress and egress shall be maintained to all businesses and dwellings on the project.
3. At the end of each workday, the Contractor shall be required to backfill any area adjacent to existing travelway that has been graded leaving no more than a 2" drop-off.
4. A minimum of two-way, two-lane traffic (plus all existing left and right turn lanes) shall be maintained during periods of construction inactivity.
5. The Contractor shall not be allowed to stop traffic for more than 5 minutes at a time in any one direction.
6. During periods of construction inactivity, the difference in elevation between lanes shall not exceed 1 1/2 inch.
7. During periods of construction inactivity, place cones/drums 3' from existing edge of pavement (travelway) as directed by the Engineer.
8. Contractor to install Erosion Control devices as directed by the Engineer.
9. Contractor shall coordinate with the Division Six Traffic Services Unit for placement of all pavement markings and signs.
10. Removal of existing road signs is incidental to the project. Contractor to maintain all existing signs throughout the duration of the project and adjust once shoulder work has been completed.



**TYPICAL SECTION NO. 1**  
-L- STA. 20+79.84 TO STA 21+50.00



**TYPICAL SECTION NO. 2**  
-L- STA. 21+50.00 TO STA 26+50.00

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	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 TO EXCEED 2" IN DEPTH.
D1	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
D2	PROP. VAR DEPTH ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT GREATER THAN 5.5" IN DEPTH OR LESS THAN 3" IN DEPTH
R	EXPRESSWAY GUTTER
R1	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

CONTRACTOR SHALL COORDINATE WITH LOCAL TRAFFIC SERVICES UNIT FOR PROPOSED SIGNAL DESIGN AND PLACEMENT OF ALL PAVEMENT MARKINGS.

FOR SIGNAL WORK, CONTACT FRANK WEST 910-486-1452, 28 DAYS PRIOR TO PLACEMENT.

FOR PAVEMENT MARKING, CONTACT KENT LANGDON 910-4861452, 14 DAYS PRIOR TO FINAL PLACEMENT.

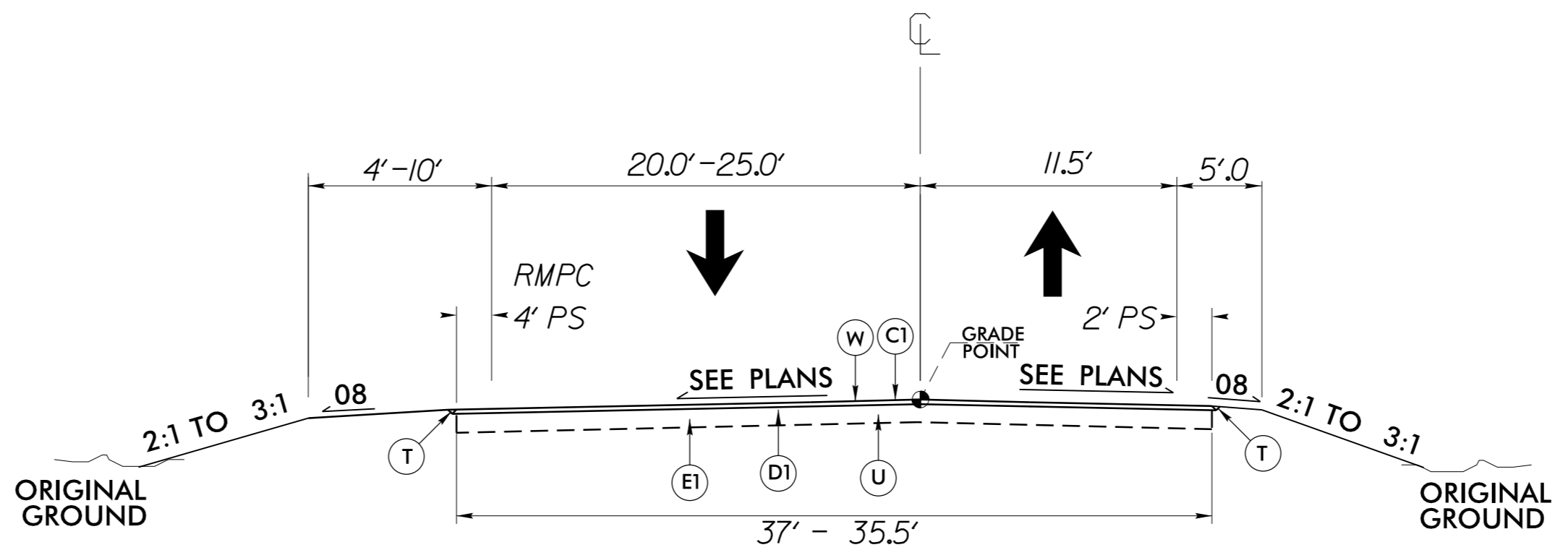
**MILLING AT PAVEMENT TIE-INS**

**NOTES TO CONTRACTOR**

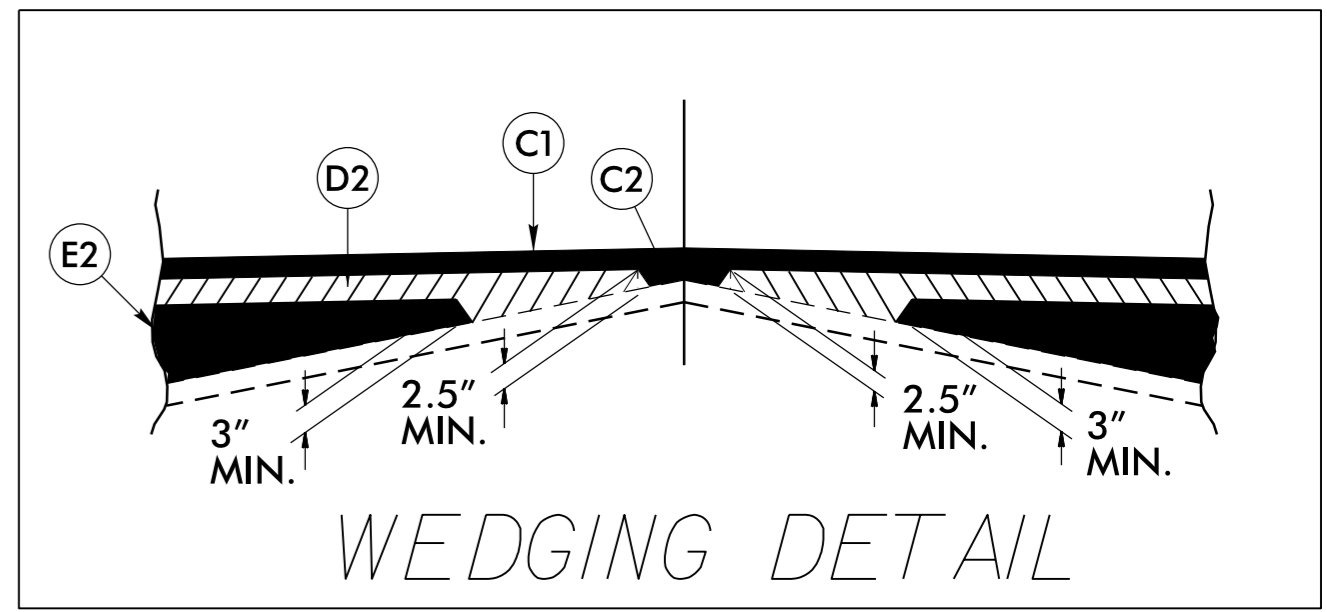
For surface mixes over 1" in thickness, mill the existing pavement in accordance with the following sketch as directed by the Engineer.

Locations shall include ties into existing concrete pavement, at bridge approaches where the bridge will not be resurfaced, and at the beginning and ending point of each resurfacing map.

Perform the work in accordance with Section 607 of the January 2012 North Carolina Department of Transportation Standard Specifications for Roads and Structures. Resurfacing will be accomplished at the same time as the milling operation.



**TYPICAL SECTION NO. 3**  
-L- STA. 26+00.00 TO STA 27+68.48



**GUARDRAIL RE-SET PLACEMENT**

- L-LT 20+92.47 (END OF MODIFIED GUARDRAIL III) BEGIN
  - L-LT 20+92.47 END -L-LT 22+31.68
  - L-RT 21+20.55 (END OF MODIFIED GUARDRAIL III) BEGIN
  - L-RT 21+20.55 END -L-RT 22+59.52
  - RMPC-LT TIE TO EXIST GUARDRAIL @ 10+00.00 END -RMPC-LT 16+85.03
  - BEGIN -L-RT 24+18.21 END -L-RT 25+93.20
  - BEGIN -Y2-LT 10+64.20 END 14+00.00 (TIE TO EXIST GUARDRAIL)
- SEE PLANS

6/12/09 30-DEC-2014 12:59 5509 50076.1.1 US301.195.St.Pauls.Ex1.c33\Roadway\Project\1-5509\_Rdy\_typ-2.dgn

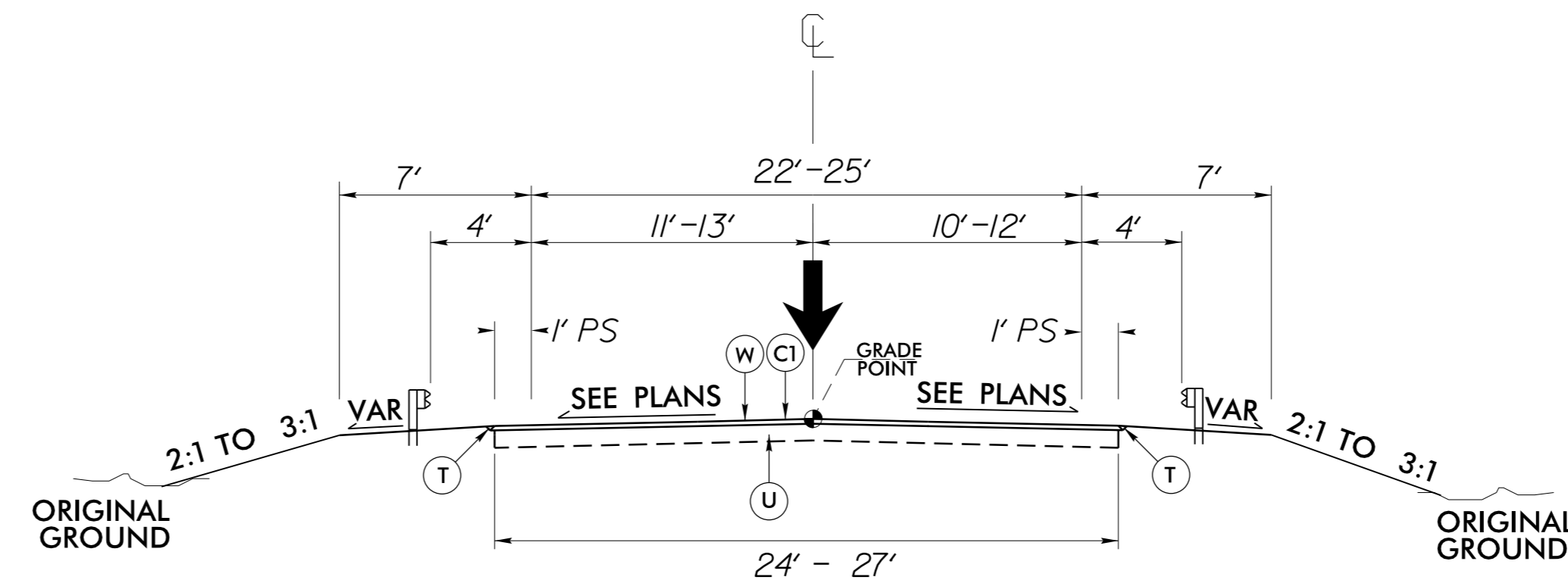
### PROJECT NOTES

- The Contractor shall not work on both sides of the road simultaneously within the same area.
- Ingress and egress shall be maintained to all businesses and dwellings on the project.
- At the end of each workday, the Contractor shall be required to backfill any area adjacent to existing travelway that has been graded leaving no more than a 2" drop-off.
- A minimum of two-way, two-lane traffic (plus all existing left and right turn lanes) shall be maintained during periods of construction inactivity.
- The Contractor shall not be allowed to stop traffic for more than 5 minutes at a time in any one direction.
- During periods of construction inactivity, the difference in elevation between lanes shall not exceed 1 1/2 inch.
- During periods of construction inactivity, place cones/drums 3' from existing edge of pavement (travelway) as directed by the Engineer.
- Contractor to install Erosion Control devices as directed by the Engineer.
- Contractor shall coordinate with the Division Six Traffic Services Unit for placement of all pavement markings and signs.
- Removal of existing road signs is incidental to the project.

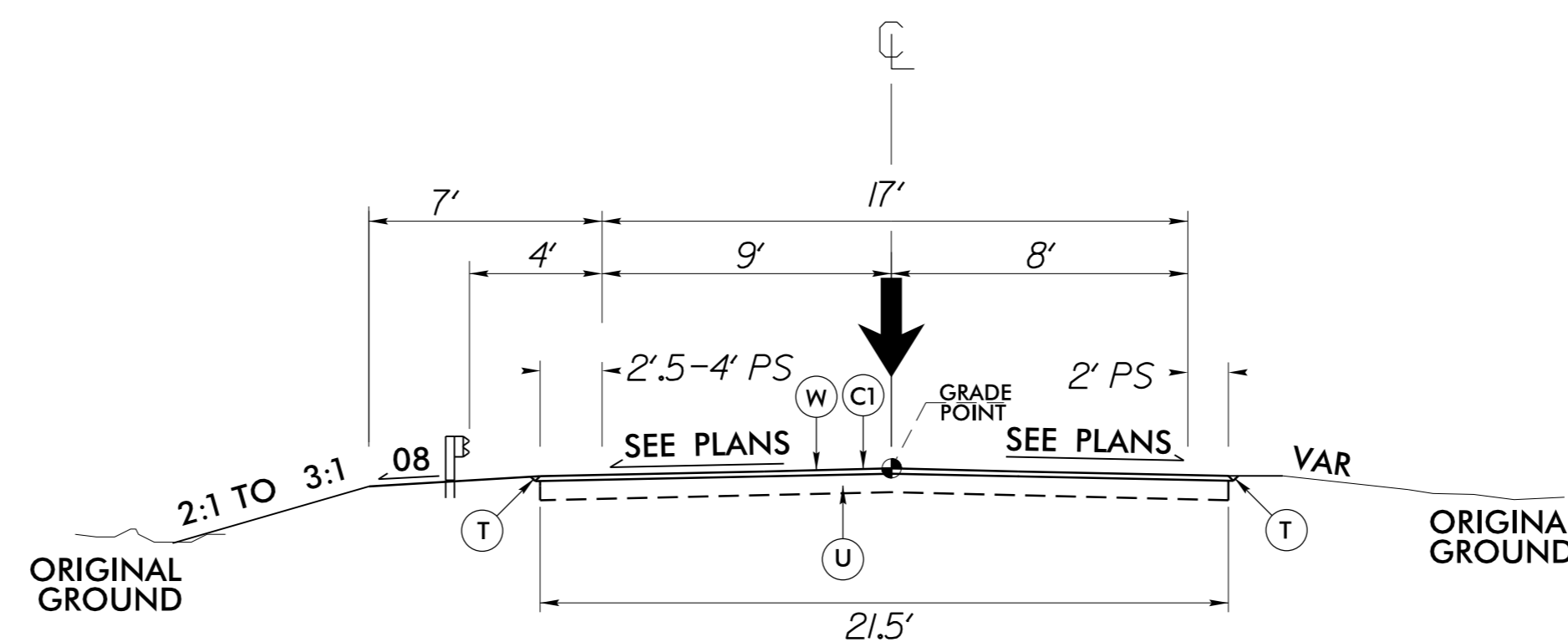
CONTRACTOR SHALL COORDINATE WITH LOCAL TRAFFIC SERVICES UNIT FOR PROPOSED SIGNAL DESIGN AND PLACEMENT OF ALL PAVEMENT MARKINGS.

FOR SIGNAL WORK, CONTACT FRANK WEST 910-486-1452, 28 DAYS PRIOR TO PLACEMENT.

FOR PAVEMENT MARKING, CONTACT KENT LANGDON 910-486/452, 14 DAYS PRIOR TO FINAL PLACEMENT.

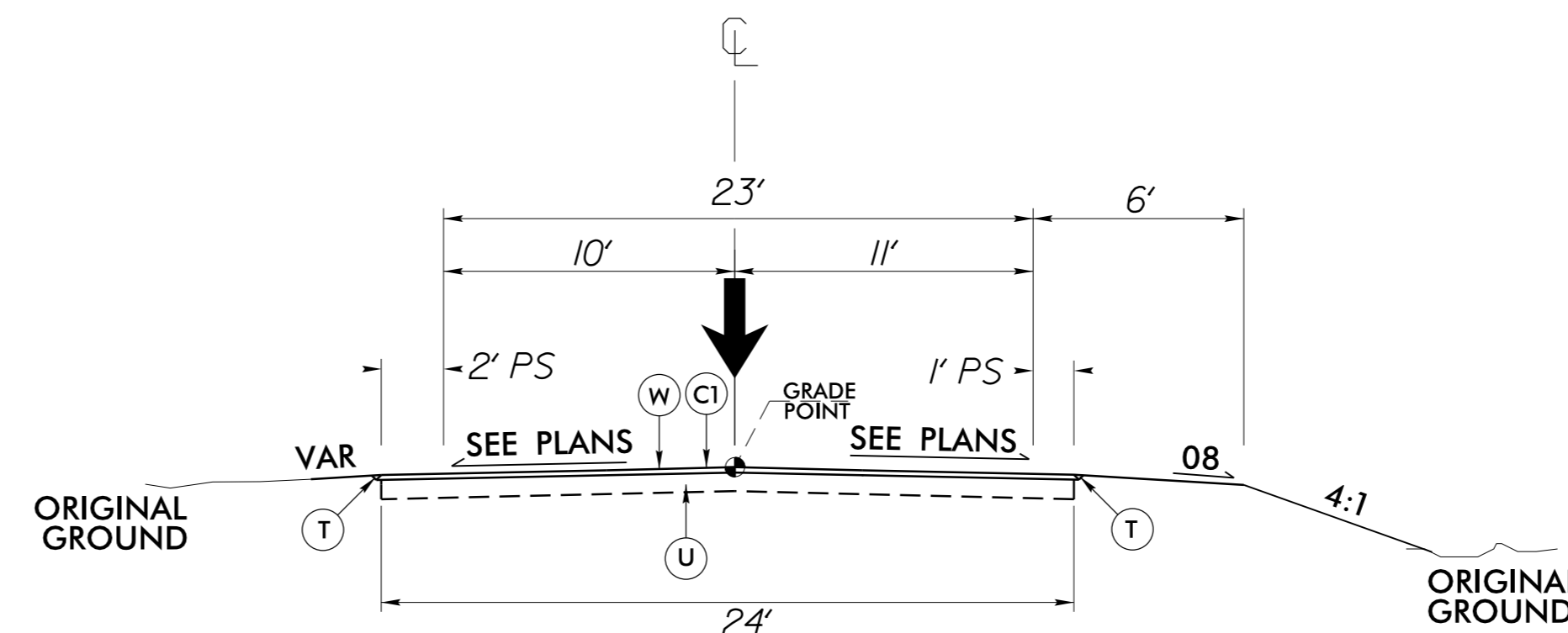


**TYPICAL SECTION NO. 4**  
-Y2- STA. 11+07.50 TO STA 14+00



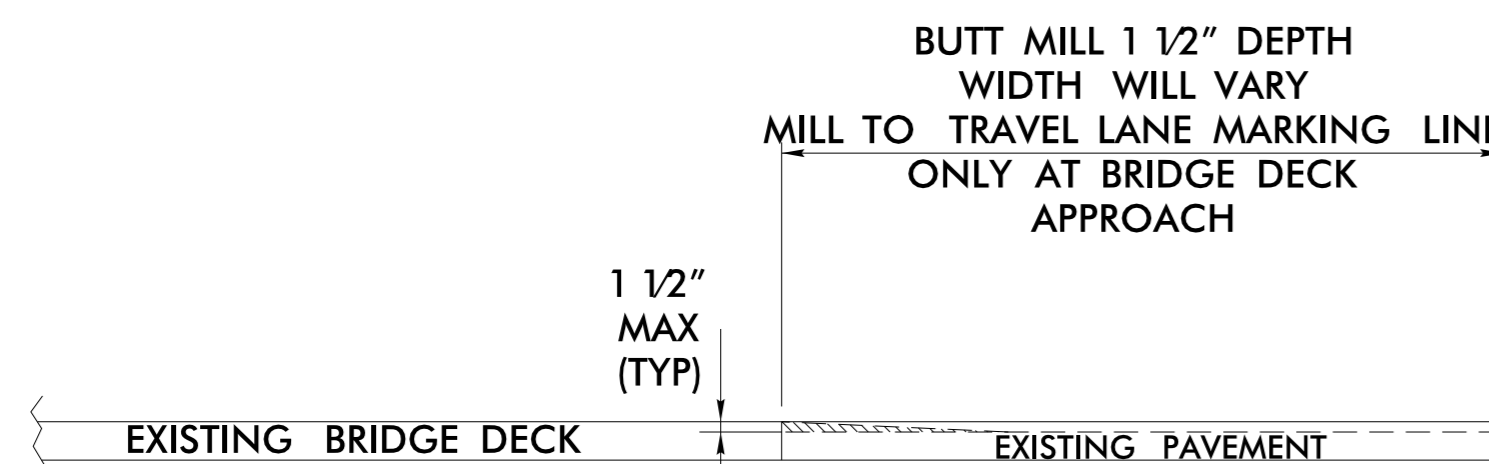
**TYPICAL SECTION NO. 5**  
-RMPC- STA. 11+07.50 TO -L- STA 27+68.48

TRANSITION FROM TYPICAL NO. 5 TO EXISTING

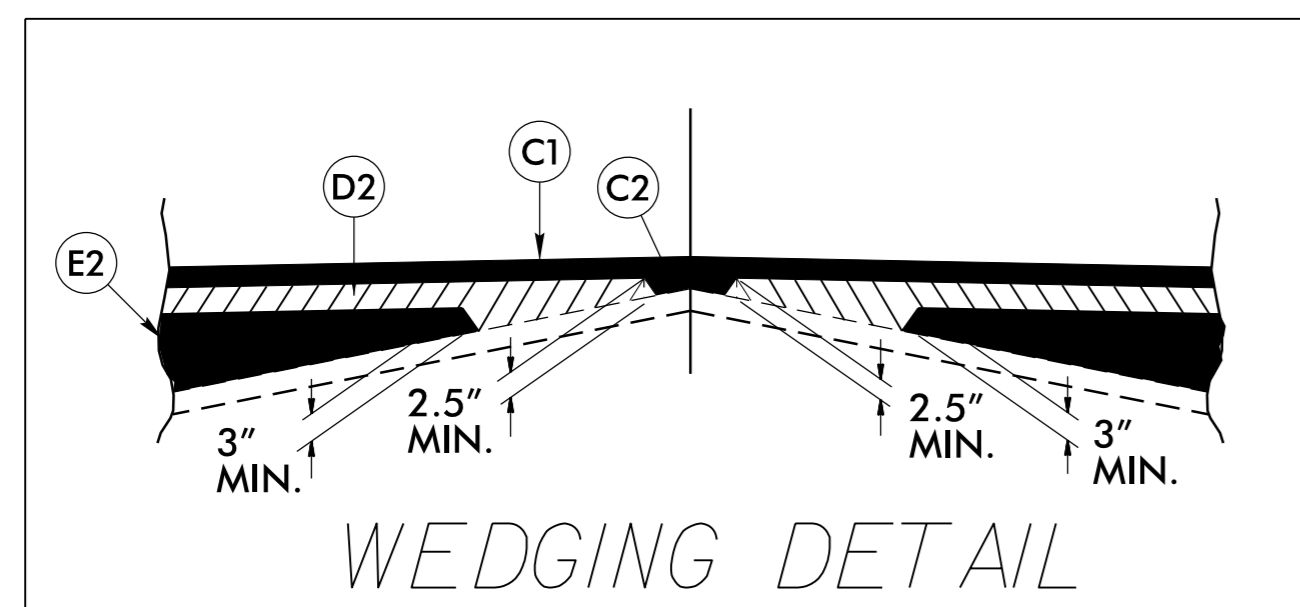


**TYPICAL SECTION NO. 6**  
-RMPD- STA. 11+07.50 TO STA 13+33.67

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	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 TO EXCEED 2" IN DEPTH.
D1	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
D2	PROP. VAR DEPTH ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT GREATER THAN 5.5" IN DEPTH OR LESS THAN 3" IN DEPTH
R	EXPRESSWAY GUTTER
R1	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING



**MILLING - BRIDGE APPROACH**  
-L- BEGIN STA. 20+93.40



WEDGING DETAIL

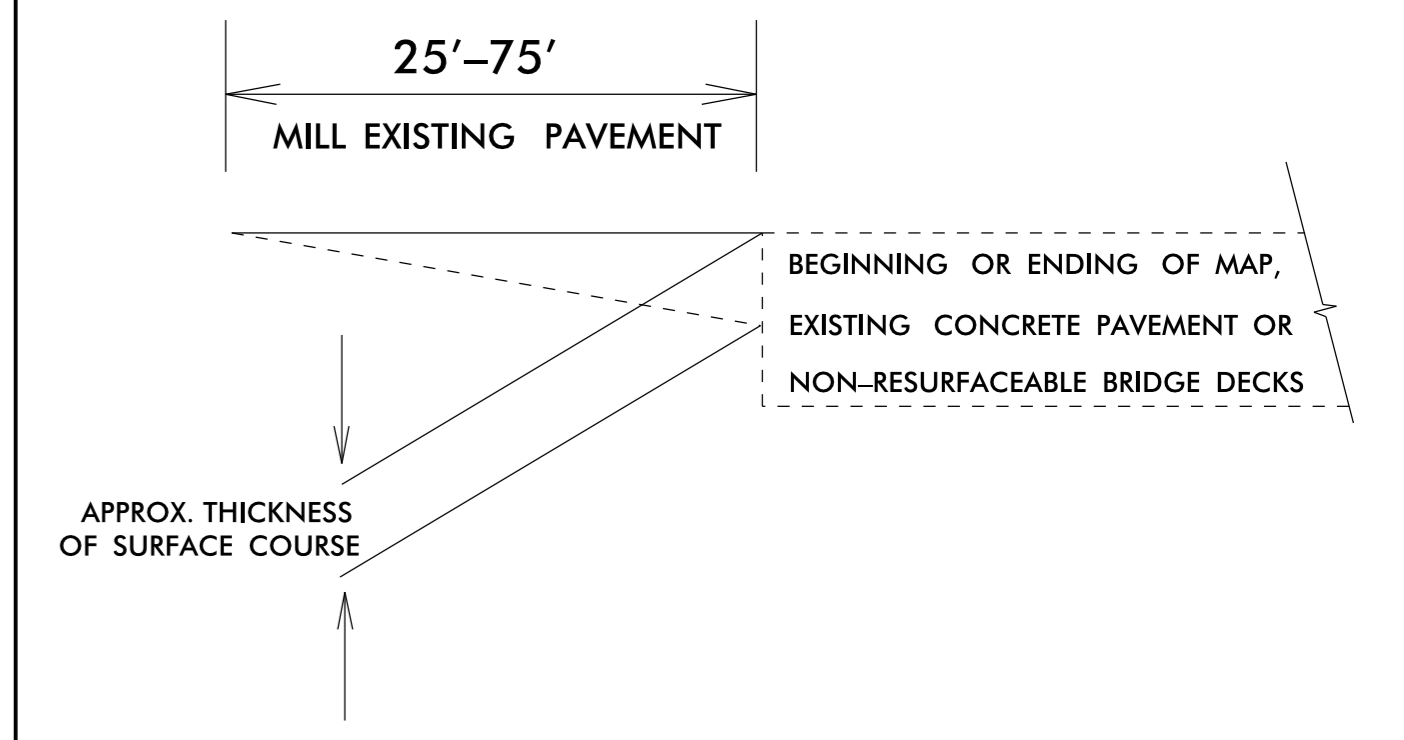
### MILLING AT PAVEMENT TIE-INS

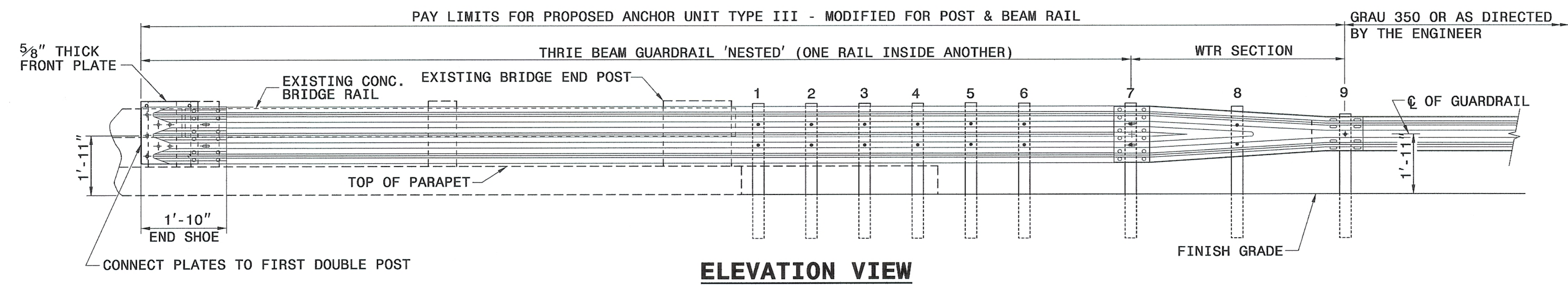
#### NOTES TO CONTRACTOR

For surface mixes over 1" in thickness, mill the existing pavement in accordance with the following sketch as directed by the Engineer.

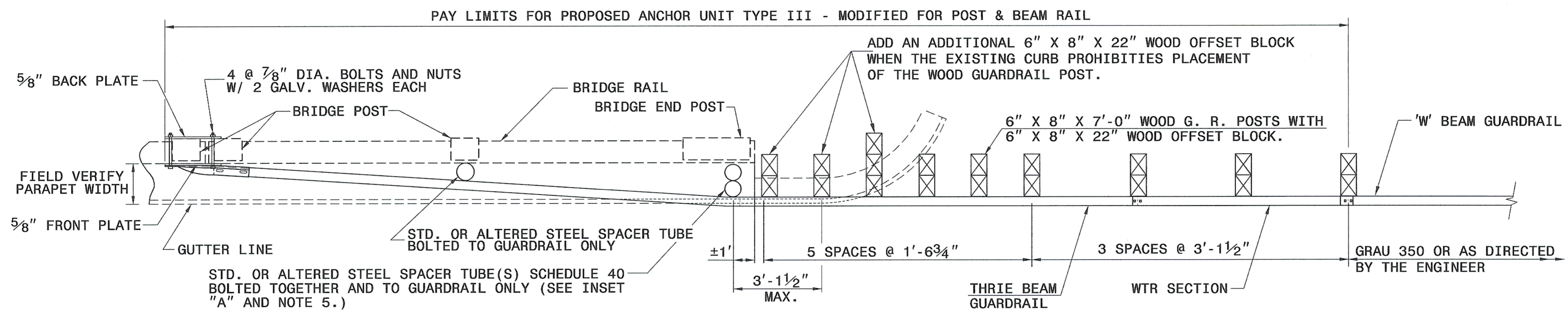
Locations shall include ties into existing concrete pavement, at bridge approaches where the bridge will not be resurfaced, and at the beginning and ending point of each resurfacing map.

Perform the work in accordance with Section 607 of the January 2012 North Carolina Department of Transportation Standard Specifications for Roads and Structures. Resurfacing will be accomplished at the same time as the milling operation.

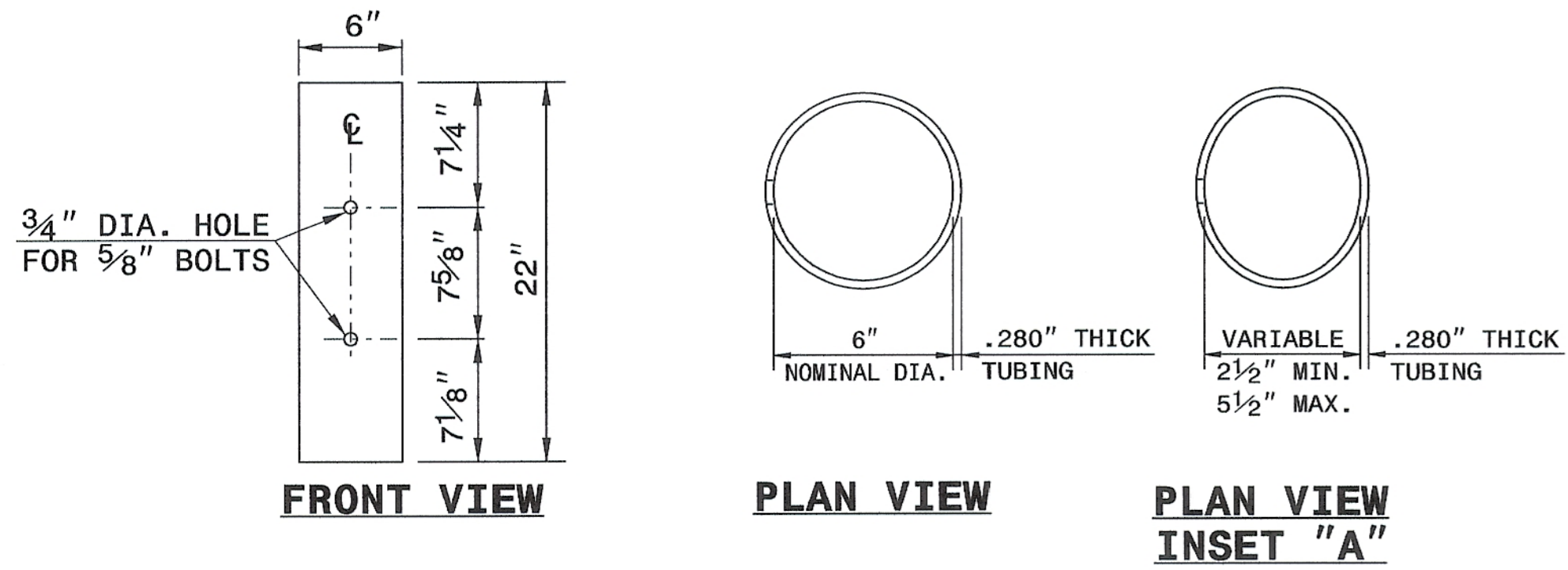




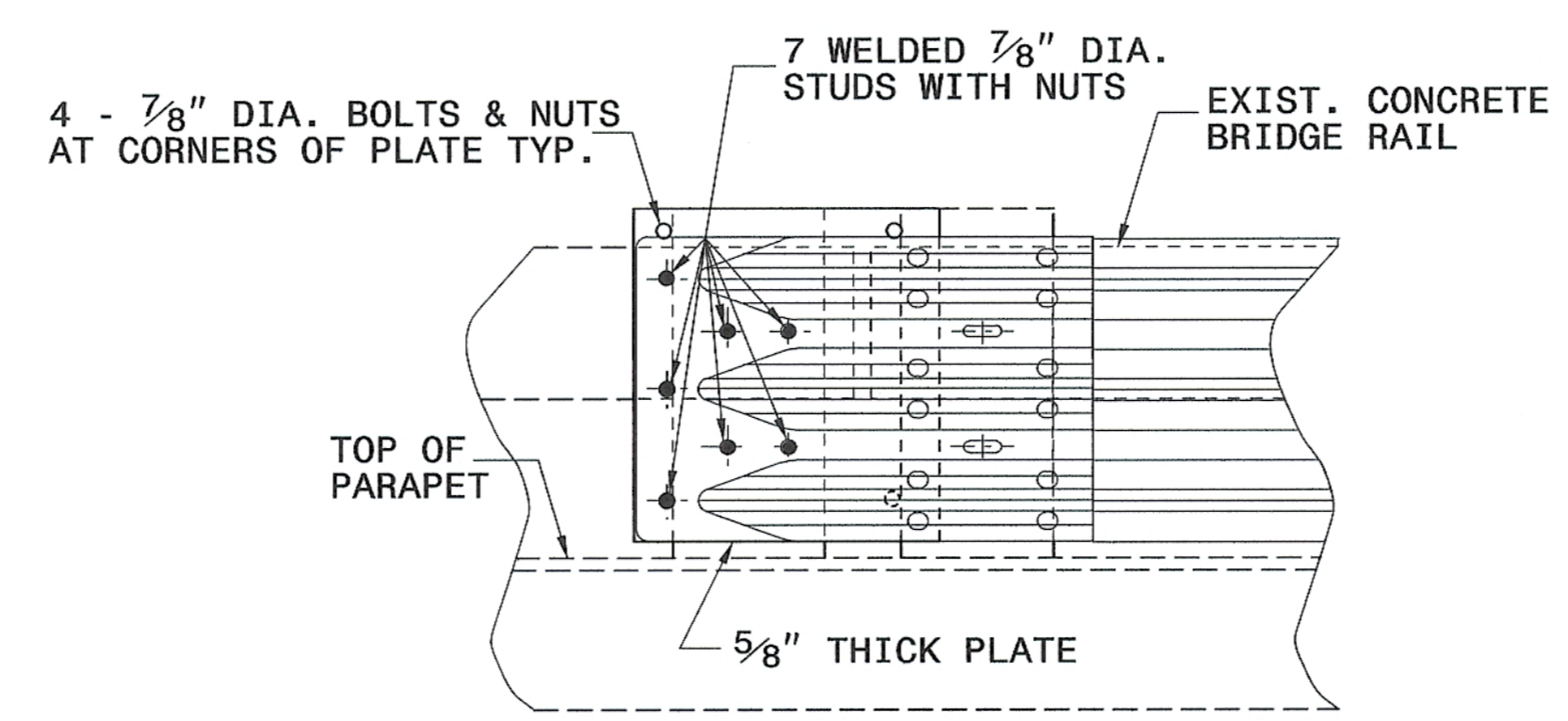
**ELEVATION VIEW**



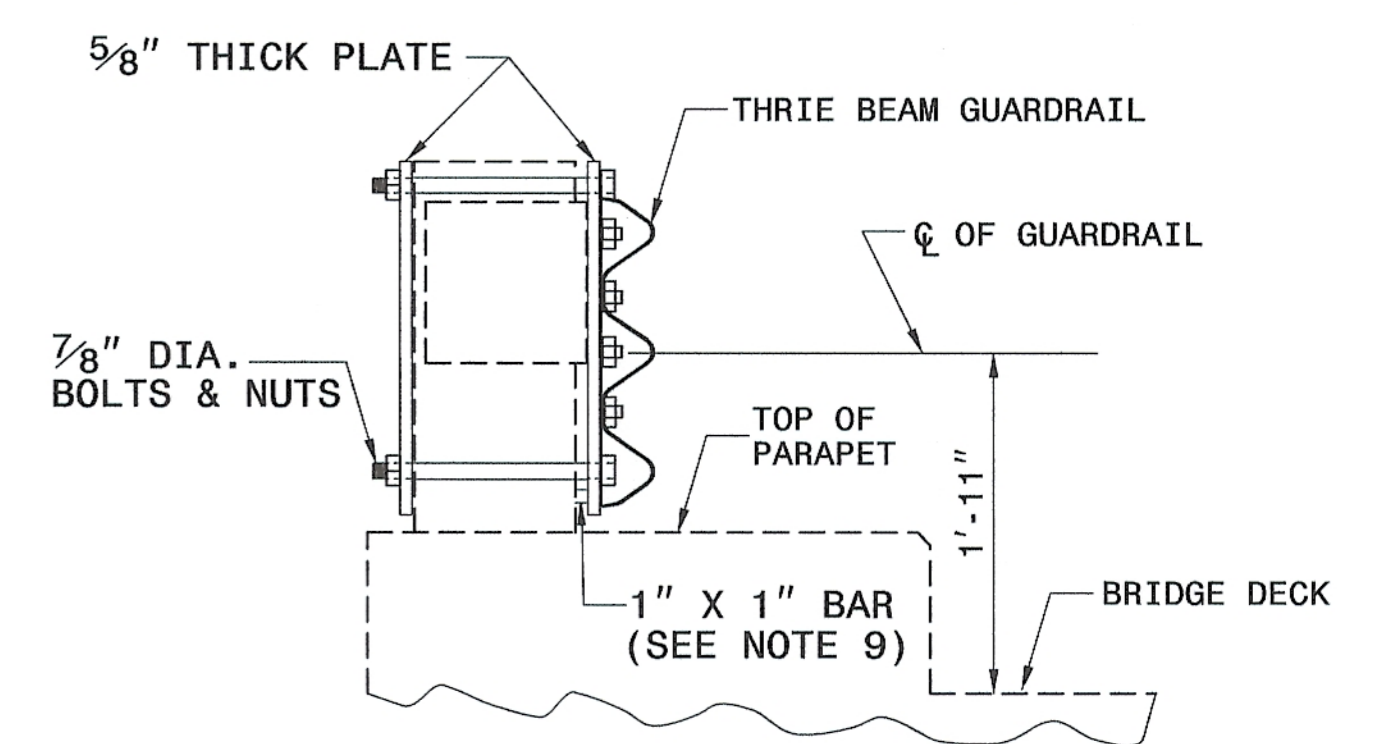
**PLAN VIEW**



**STEEL SPACER TUBE**

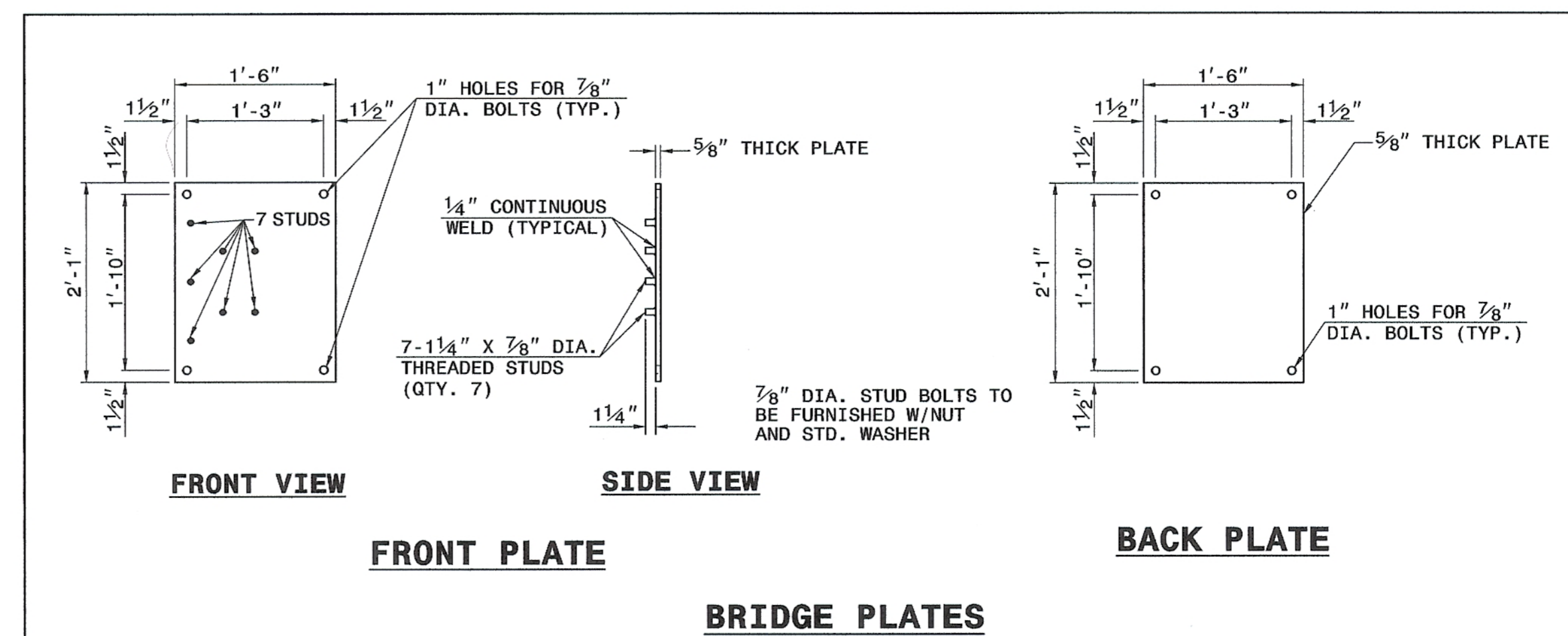


**ELEVATION VIEW**



**SECTION VIEW**

- GENERAL NOTES:**
1. USE NUTS, BOLTS, AND WASHERS CONFORMING TO THE REQUIREMENTS OF A.S.T.M. A-307 AND GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF STAND. SPECS.
  2. TAP NUTS FOR THE 7/8" DIA. STUDS AND BOLTS AFTER GALVANIZING SEE A.S.T.M. A-563.
  3. USE PLATES AND TUBES CONFORMING TO THE REQUIREMENTS OF A.S.T.M. A-36 AND GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH SECTION 1076 OF STAND. SPECS.
  4. ADDITIONAL FIELD HOLES MAY BE DRILLED IN STEEL RAIL AS DIRECTED BY THE ENGINEER.
  5. INSTALL FACE OF GUARDRAIL AS NEAR AS POSSIBLE TO PLUMB WITH THE PARAPET FACE AT BRIDGE END POST SPACER TUBE LOCATION BY USING STANDARD OR ALTERED SPACER TUBES OR A COMBINATION THEREOF OR AS DIRECTED BY THE ENGINEER. FOR VERY SMALL PARAPET WIDTHS, GUARDRAIL MAY BE INSTALLED AGAINST BRIDGE RAIL WITHOUT SPACER TUBES.
  6. DO NOT DRILL BRIDGE RAIL IN ORDER TO INSTALL GUARDRAIL ANCHOR UNIT.
  7. USE THIS DETAIL ONLY FOR BRIGES WITH POST AND BEAM TYPE RAIL.
  8. ATTACH 1" X 1" BAR AND THREADED STUDS TO PLATE WITH 1/4" WELDS ALL AROUND.
  9. 1" X 1" BAR MAY NOT BE NEEDED ON BRIDGE RAILS WHERE FACE OF RAIL DOES NOT PROJECT BEYOND FACE OF POST.
  10. PROVIDE SHOP DRAWINGS OF THE PLATES TO THE ENGINEER FOR APPROVAL BEFORE FABRICATING THE PLATES.
  11. LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
  12. SEE ROADWAY STARDARD DRAWING 862.03 SHEET 3 FOR ADDITIONAL INFORMATION ON THE TYPE III ANCHOR UNIT



**CONTRACT STANDARDS AND DEVELOPMENT UNIT**  
Office 919-707-6950 FAX 919-250-4119

**TYPE III MODIFIED FOR POST AND BEAM RAIL**

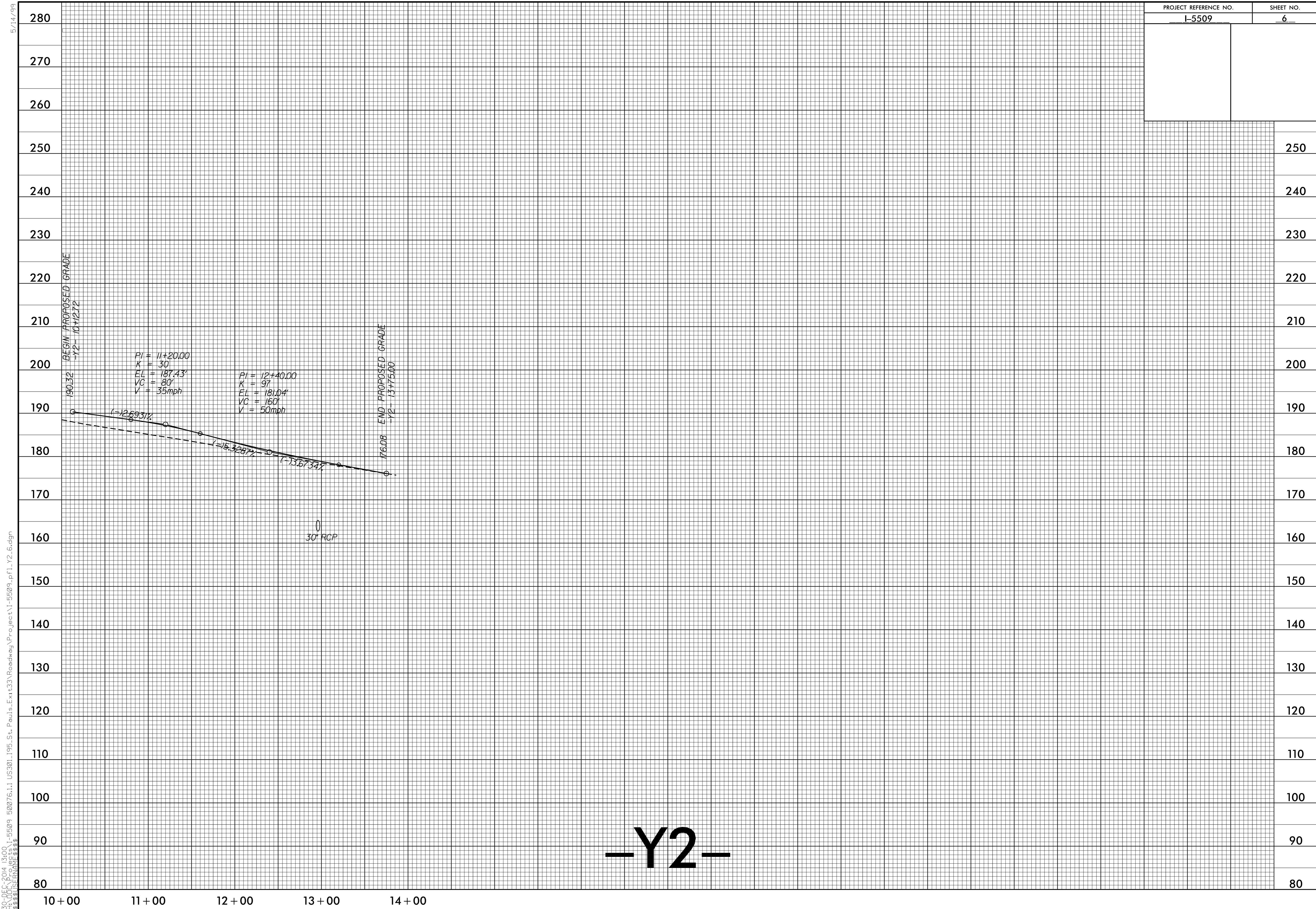
ORIGINAL BY: E.E. WARD DATE: 01-03  
MODIFIED BY: E.E. WARD DATE: 02-04  
CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
FILE SPEC.: s:details\stand\bp11 original.dgn









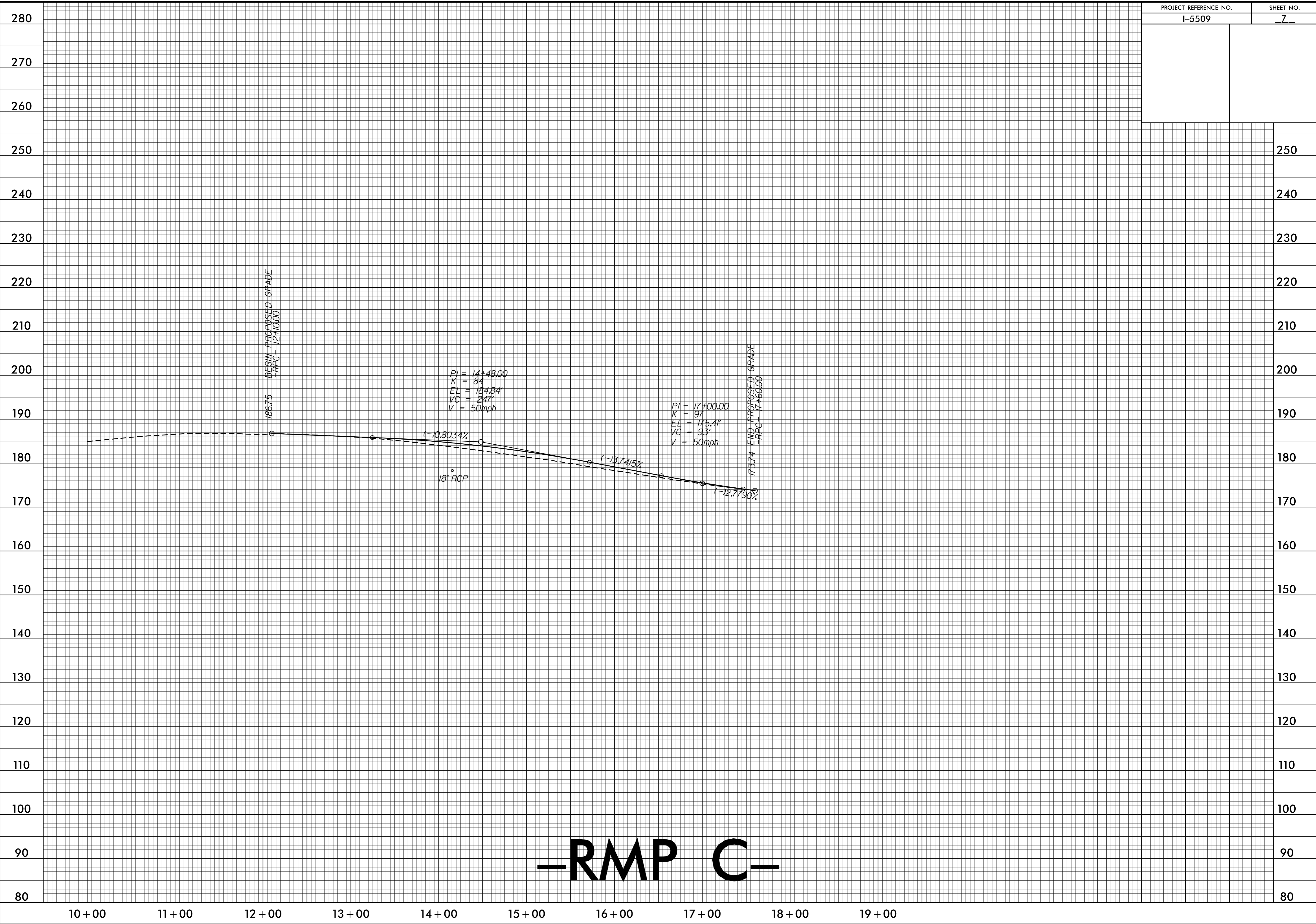


-Y2-

5/14/99

30-DEC-2014 13:00 I-5509\_5509\_50076.1.1 US301.195.St.Pauls.Ex133\Roadway\Project\I-5509\_p1.RPC.7.dgn

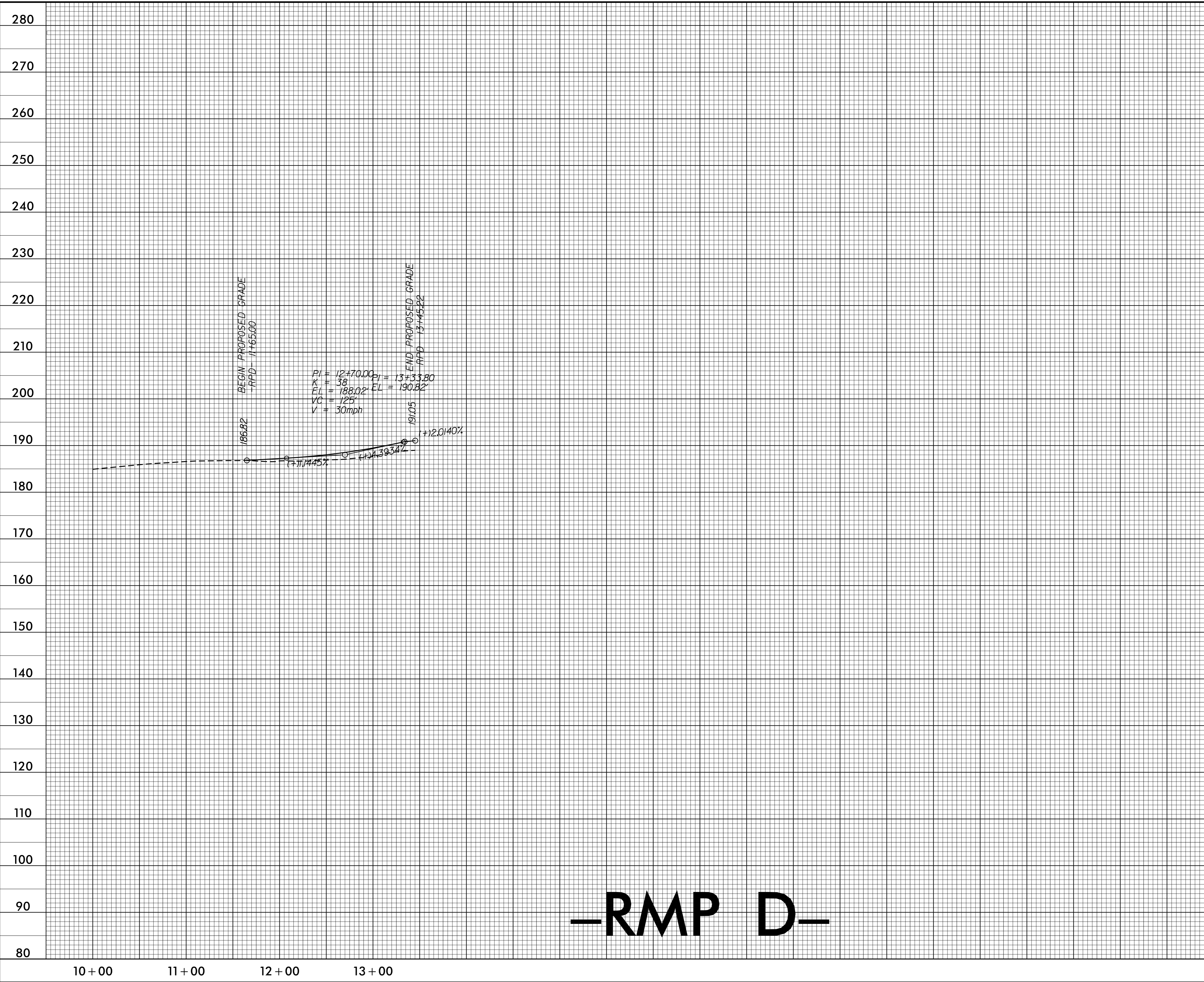
PROJECT REFERENCE NO.	SHEET NO.
I-5509	7



**-RMP C-**

30-DEC-2014 13:00 I:\5509\5509\50076.1.1 US301.195.St.Pauls.Ex1\33\Roadway\Project\I-5509\_p11.RPD.8.dgn  
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5509	8



BEGIN PROPOSED GRADE  
-RPD- 11+65.00

PI = 12+70.00 P1 = 13+33.80  
K = 38  
EL = 188.02' EL = 190.82'  
VC = 125'  
V = 30mph

END PROPOSED GRADE  
RPD 13+45.22

185.42

191.05

+1.145%

+1.3934%

+2.0140%

**-RMP D-**

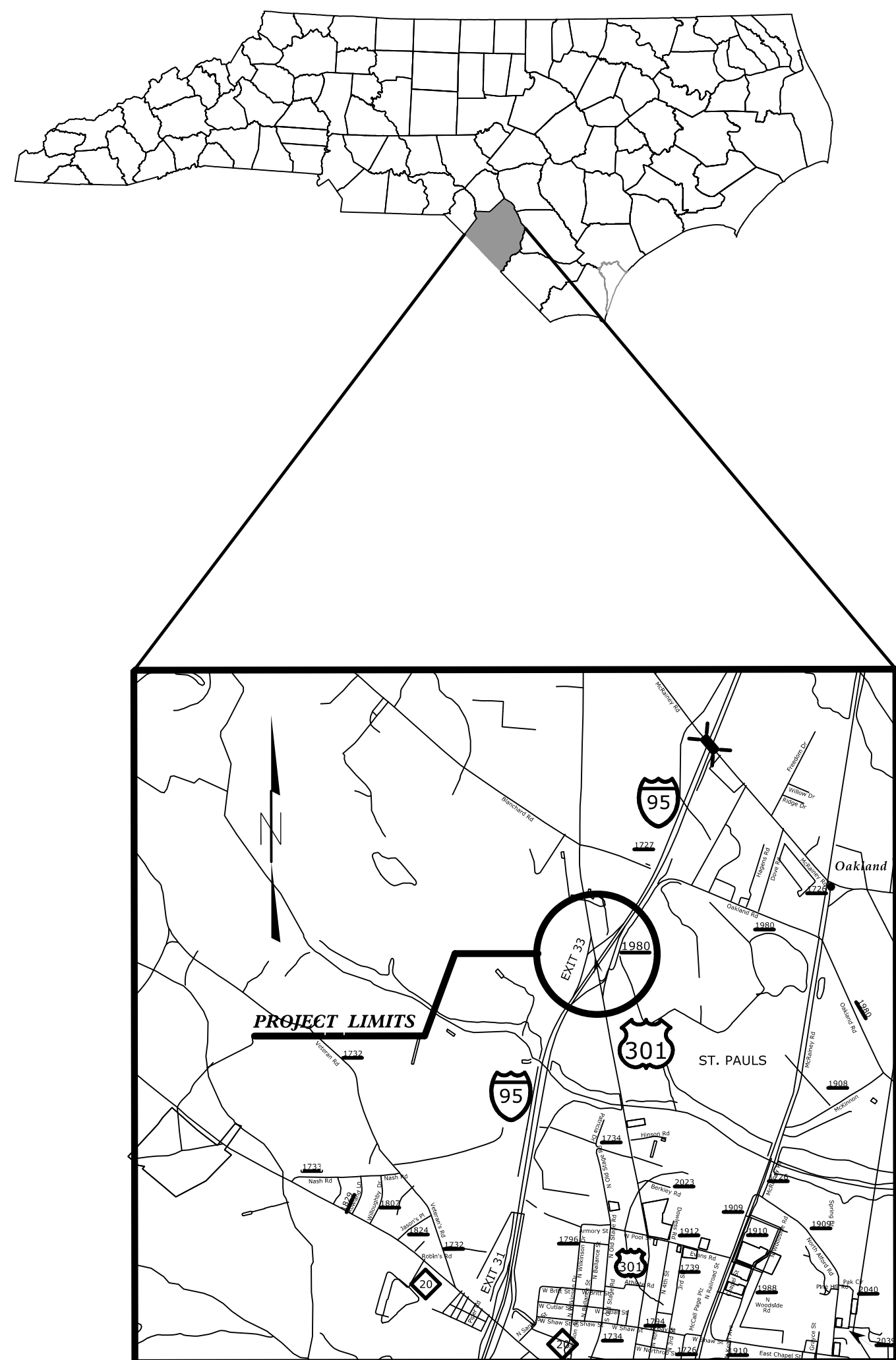
10+00 11+00 12+00 13+00

280  
270  
260  
250  
240  
230  
220  
210  
200  
190  
180  
170  
160  
150  
140  
130  
120  
110  
100  
90  
80

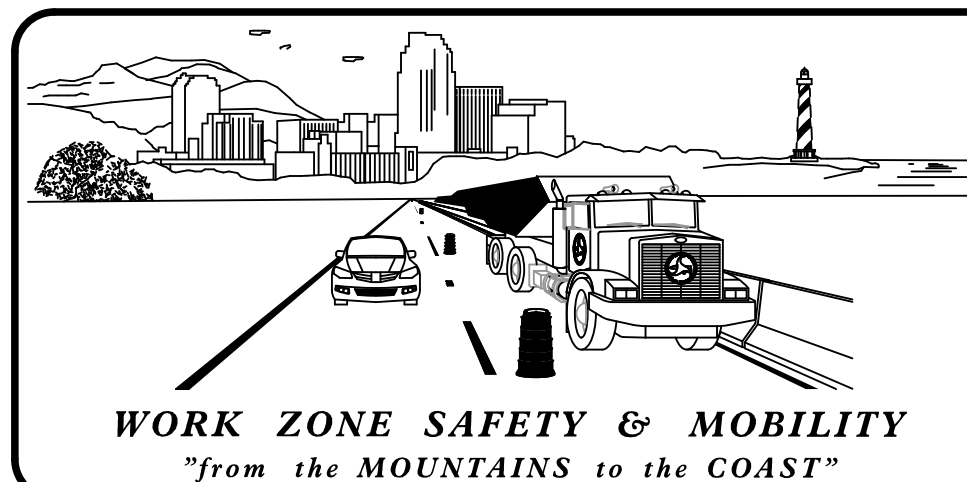
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**TRANSPORTATION MANAGEMENT PLAN**

**ROBESON COUNTY**



LOCATION: US 301 (EXIT 33 ON I-95)



**N.C.D.O.T. WORK ZONE TRAFFIC CONTROL**  
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561  
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)  
PHONE: (919) 773-2800 FAX: (919) 771-2745

J. S. BOURNE, P.E. STATE TRAFFIC MANAGEMENT ENGINEER  
J. S. KITE, PE EASTERN TRAFFIC CONTROL ENGINEER  
D. A. PARKER TRAFFIC CONTROL PROJECT DESIGN ENGINEER



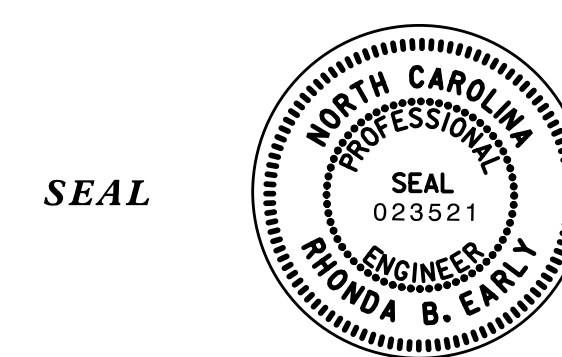
**INDEX OF SHEETS**

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND AND TEMPORARY PAVEMENT MARKING
TMP-2	GENERAL NOTES & PHASING
TMP-3	DETOUR DETAIL
TMP-4	PHASE I DETAIL
TMP-5	PHASE II DETAIL

**HNTB** HNTB NORTH CAROLINA, P.C.  
343 E. Six Forks Road, Suite 200  
Raleigh, North Carolina 27609  
NC License No: C-1554

R. B. EARLY, PE TRAFFIC CONTROL PROJECT ENGINEER  
R. B. EARLY, PE TRAFFIC CONTROL PROJECT DESIGN ENGINEER  
J. A. PHILLIPS TRAFFIC CONTROL DESIGN ENGINEER

APPROVED: Rhonda Early  
DATE: 12/18/2014



SEAL

REVISIONS

8:36:20 AM  
I:\Projects\15509\te\_TMP\_01.dgn  
\$\$\$\$\$USERNAME\$\$\$\$\$  
QA/QC STAGE:  
REVIEW:  
CONCUR:  
REVISE:  
VERIFY:

SHEET NO.  
TMP-1

I-5509

TIP PROJECT:

# ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS
1205.03	PAVEMENT MARKINGS - EXIT & ENTRANCE RAMPS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1250.01	PAVEMENT MARKER - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
1261.01	GUARDRAIL & BARRIER DELINEATOR - INSTALLATION SPACING
1261.02	GUARDRAIL & BARRIER DELINEATOR - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

# LEGEND

## GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)
- WORK AREA
- REMOVAL
- WEDGE / WIDEN

## SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY

## PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

## TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM SKINNY DRUM TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BOARD
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN

## TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

## PAVEMENT MARKERS

- CRYSTAL/CRYSTAL
- CRYSTAL/RED
- YELLOW/YELLOW

## PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

## TEMPORARY PAVEMENT MARKING

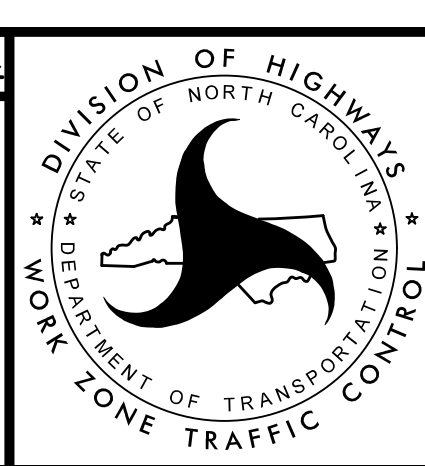
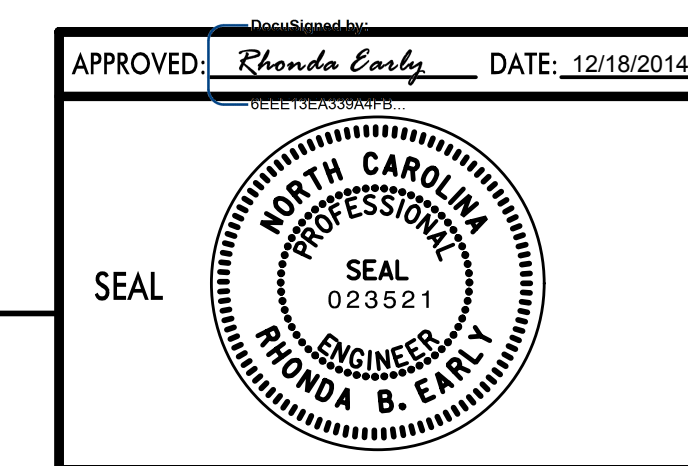
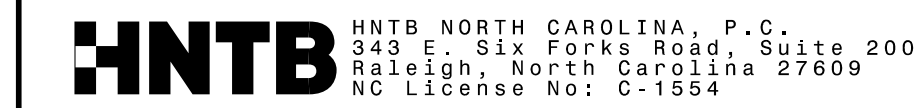
SYMBOL	DESCRIPTION	PAY ITEM
<u>PAVEMENT MARKING LINES</u>		
		PAINT (4")
PA	WHITE EDGELINE	
PB	YELLOW EDGELINE	
PD	WHITE MINISKIPS	
PI	YELLOW DOUBLE CENTER LINE	
		PAINT (8")
PN	WHITE GORE LINE	
		PAINT (24")
P2	WHITE STOP BAR	
<u>PAVEMENT MARKERS</u>		
		TEMPORARY RAISED
MH	YELLOW & YELLOW	
MI	CRYSTAL & RED	

REVISIONS

8:36:42 AM 12/18/2014 ts TMP\_01A.dgn  
\$\$\$\$\$USERNAME\$\$\$\$\$

QA/QC STAGE:

REVIEW:  
CONCUR:  
REVISE:  
VERIFY:



TRANSPORTATION  
MANAGEMENT PLAN

**ROADWAY STANDARD  
DRAWINGS & LEGENDS**

# GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS, OR RESULT IN DUPLICATE, OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

### TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
US 301, -Y2-, -RMPD-	MONDAY THRU FRIDAY 7:00 AM - 8:00 AM & 5:00 PM - 6:00 PM

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

#### ROAD NAME

US 301

#### HOLIDAY

- FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- FOR NEW YEAR'S, BETWEEN THE HOURS OF 7:00 A.M. DECEMBER 31ST TO 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.
- FOR EASTER, BETWEEN THE HOURS OF 7:00 A.M. THURSDAY AND 6:00 P.M. MONDAY.
- FOR MEMORIAL DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY TO 6:00 P.M. TUESDAY.
- FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 7:00 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 7:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 6:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
- FOR LABOR DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY TO 6:00 P.M. TUESDAY.
- FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 7:00 A.M. TUESDAY TO 6:00 P.M. MONDAY.
- FOR CHRISTMAS, BETWEEN THE HOURS OF 7:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 6:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

C) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

### LANE CLOSURE REQUIREMENTS

- D) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAINS WITHIN THE CLOSED TRAVEL LANE.

### PAVEMENT EDGE DROP OFF REQUIREMENTS

H) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

I) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 500' IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

### TRAFFIC PATTERN ALTERATIONS

J) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

### SIGNING

K) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

L) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

M) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 500' IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

### TRAFFIC CONTROL DEVICES

N) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH), EXCEPT 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPENED TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES), AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

### PAVEMENT MARKINGS AND MARKERS

O) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
ALL ROADS	PAINT	TEMPORARY

P) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

Q) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

R) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

### MISCELLANEOUS

S) USE TRUCK MOUNTED ATTENUATOR TO PROTECT THE APPROACH END OF GUARDRAIL AT ALL TIMES DURING CONSTRUCTION (MAXIMUM 72 HOURS).

# PHASING

### NOTES:

REPLACE MARKINGS AND RETURN TRAFFIC TO THE CURRENT TRAFFIC PATTERN AT THE END OF EACH WORK PERIOD UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER.

COMPLETE ANY PROPOSED WIDENING IN SUCH A MANNER THAT PONDING OF WATER WILL NOT OCCUR IN THE TRAVEL LANE. THIS MAY REQUIRE A COMBINATION OF INSTALLATION OF PROPOSED PIPES, TEMPORARY PIPES, STEEL PLATES AND TEMPORARY DITCHES.

PAVE PROPOSED CONSTRUCTION, UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE, IN ALL PHASES UNTIL STATED TO INSTALL FINAL LAYER IN THE PHASING.

THE TERM "RSD" DENOTES ROADWAY STANDARD DRAWING.

### PHASE I

\*\*\* REFER TO SHEET TMP-4 FOR DETAIL \*\*\*

STEP 1: USING RSD 1101.01 (SHEET 3 OF 3), INSTALL ADVANCE WARNING SIGNS ON -L-, -Y2- AND -RMPD-/-RMPD-.

STEP 2: USING DRUMS AND TYPE III BARRICADES AS SHOWN ON SHEET TMP-4, CLOSE -RMPD- TO TRAFFIC AND BEGIN CONSTRUCTION OF -RMPD- AS MUCH AS POSSIBLE AWAY FROM TRAFFIC.

STEP 3: USING RSD 1101.04 AND DRUMS, CLOSE SOUTHEAST SHOULDER OF -Y2- AND PARTIALLY REMOVE GUARDRAIL & RESET ANCHOR UNIT. CONSTRUCT -Y2- (SOUTHEAST QUADRANT) AS MUCH AS POSSIBLE AWAY FROM TRAFFIC.

STEP 4: USING DRUMS TO MINIMIZE OPEN LANE WIDTH OF -Y2- TO 12' AND RSD 1101.02 (SHEET 1 OF 15) AS NEEDED, REMOVE SECTIONS OF EXISTING GUARDRAIL TO DUMP FILL MATERIAL AND CONSTRUCT SIDE SLOPES TO WITHIN 1' OF EXISTING GUARDRAIL POST (OR AS DIRECTED BY ENGINEER) AND REPLACE GUARDRAIL SECTIONS BY THE END OF EACH DAY'S WORK.

STEP 5: USING DRUMS AT 25' CENTERS AND RSD 1101.04 (SHEET 1 OF 1) CLOSE OUTSIDE SHOULDER OF -Y2-. REMOVE AND STOCKPILE EXISTING GUARDRAIL AND BEGIN OF CONSTRUCTION OUTSIDE SHOULDER.

INSTALL AND COVER DETOUR SIGNS AS SHOWN ON SHEET TMP-3.

### PHASE II

\*\*\* REFER TO SHEET TMP-5 FOR DETAIL \*\*\*

COMPLETE THE REQUIREMENTS OF PHASE II, STEPS 1 THRU 3 IN 14 CONSECUTIVE DAYS. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.)

STEP 1: UNCOVER DETOUR SIGNS PLACED IN PHASE I. STEP 4 AND USING RSD 1101.03 (SHEET 2 OF 9), CLOSE -L- TO TRAFFIC. REFER TO SHEETS TMP-3 & TMP-5.

STEP 2: AWAY FROM TRAFFIC, CONSTRUCT -L- FROM EXISTING BRIDGE (STA 20+80+/-) TO STA 22+50+/-.  
NOTE: TEMPORARY TRANSITION GRADE TO EXISTING PAVEMENT MAY BE REQUIRED IF WEDGING FROM -L- STA 22+50+/- TO STA 27+68+/- HAS NOT BEEN COMPLETED PRIOR TO REOPENING -L- TO TRAFFIC.

USING DRUMS TO CHANNELIZE TRAFFIC ON RAMPS AND RSD 1101.02 (SHEET 1 OF 15) AS NEEDED, BEGIN WEDGING OF:  
\* -L- FROM STA 22+50+/- TO STA 27+68+/- INCLUDING WIDENING FOR -RMPD-  
\* -Y2- FROM -L- TO STA 14+00+/-  
\* -RMPD- FROM STA 11+08+/- TO -L- INCLUDING WIDENING FOR -RMPD-

STEP 3: COVER/REMOVE DETOUR SIGNING AND OPEN -L- TO TRAFFIC.

STEP 4: USING RSD 1101.02 (SHEET 1 OF 15) AS NEEDED, COMPLETE CONSTRUCTION BEGUN IN PHASE I, STEP 5 AND PHASE II, STEP 2.

STEP 5: USING RSD 1101.02 (SHEET 1 OF 15) AS NEEDED, PLACE FINAL LAYER OF SURFACE COURSE, FINAL PAVEMENT MARKINGS AND PAVEMENT MARKERS.

REMOVE ANY REMAINING TEMPORARY SIGNS AND DEVICES.

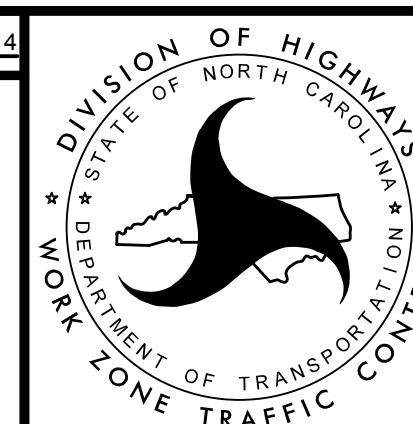
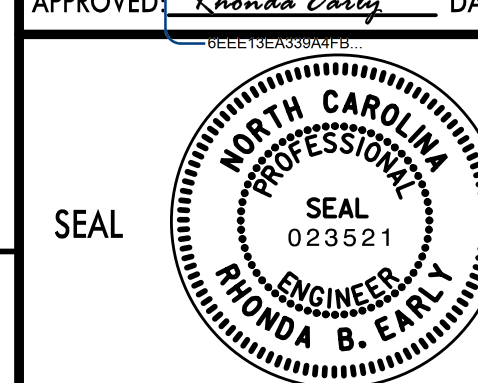
REVISIONS

8:17/01/AY 5509 ts TMP-02 notes.dgn

QA/QC STAGE:

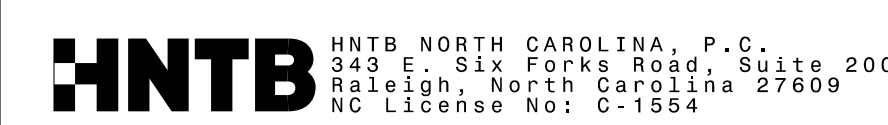
REVIEW: \_\_\_\_\_  
CONCUR: \_\_\_\_\_  
REVISE: \_\_\_\_\_  
VERIFY: \_\_\_\_\_

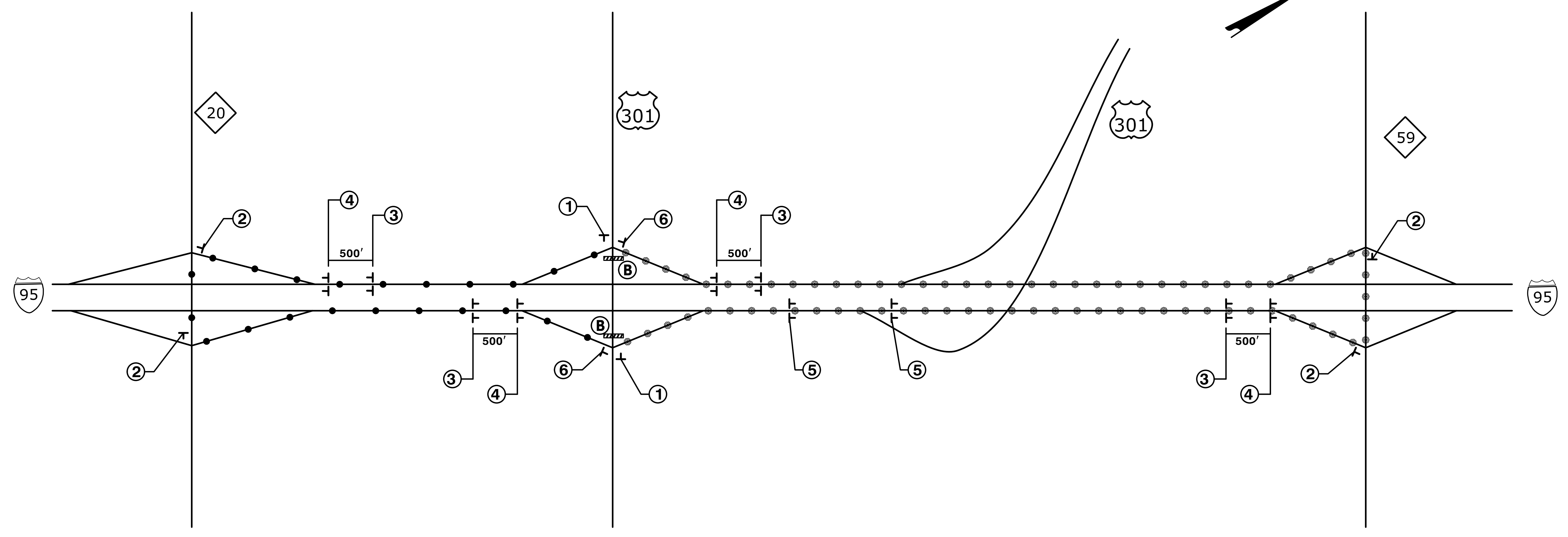
APPROVED: Rhonda Emly DATE: 12/18/2014



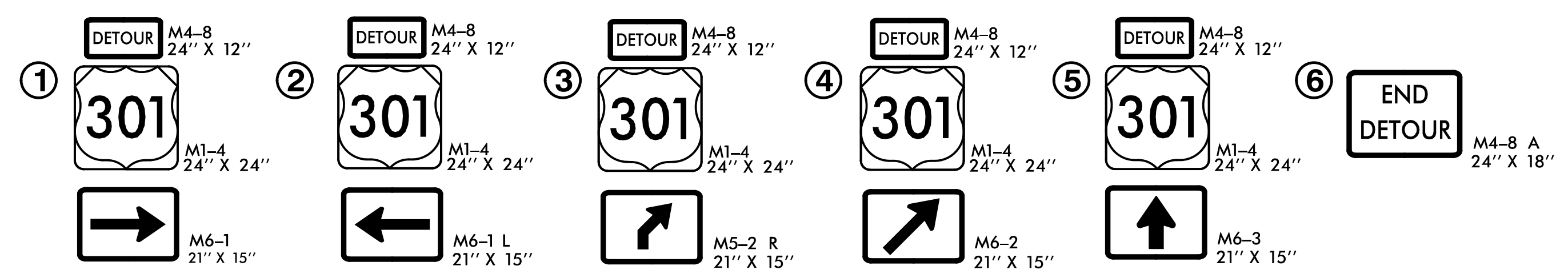
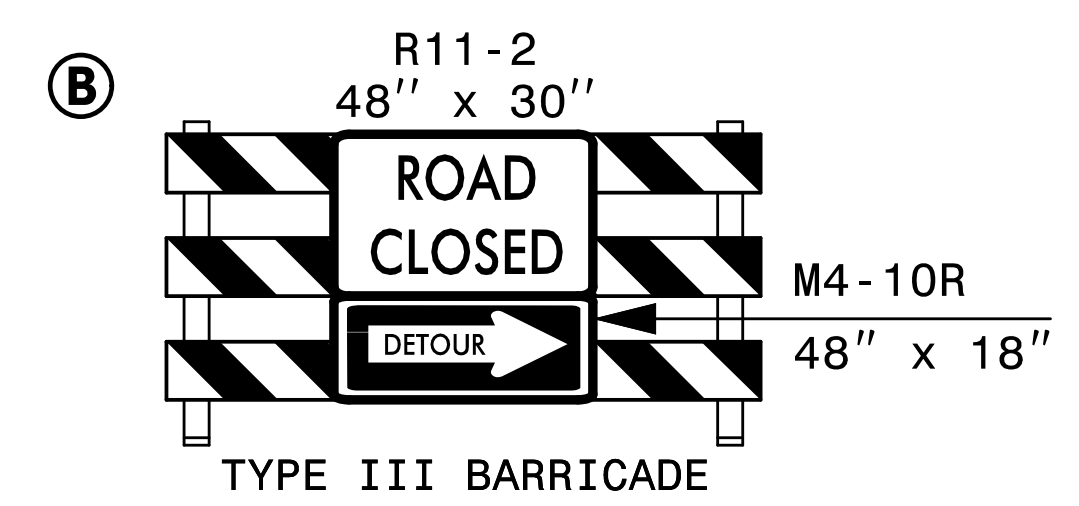
TRANSPORTATION  
MANAGEMENT PLAN

GENERAL NOTES  
& PHASING





REFER TO RSD 1101.03 (SHEET 2 OF 9) FOR ADDITIONAL ROAD CLOSURE SIGNING REQUIREMENTS.



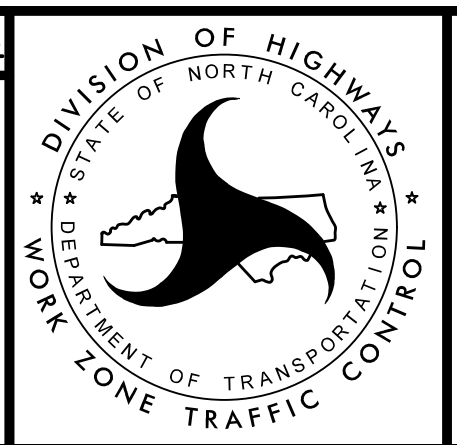
REVISIONS

8:17:00 AM 12/18/2014 ts.tmp\_03 detour.dgn  
\$\$\$\$\$USERNAME\$\$\$\$\$

QA/QC STAGE: \_\_\_\_\_  
REVIEW: \_\_\_\_\_  
CONCUR: \_\_\_\_\_  
REVISE: \_\_\_\_\_  
VERIFY: \_\_\_\_\_

**HNTB** HNTB NORTH CAROLINA, P.C.  
343 E. SIX FORKS ROAD, SUITE 200  
RALEIGH, NORTH CAROLINA 27609  
NC LICENSE NO: C-1554

APPROVED: *Rhonda Early* DATE: 12/18/2014  
SEAL  
NORTH CAROLINA PROFESSIONAL ENGINEER  
RHONDA B. EARLY



TRANSPORTATION MANAGEMENT PLAN  
DETOUR DETAIL







**TIP PROJECT: I-5509**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  

---

---

**PLAN FOR PROPOSED  
HIGHWAY EROSION CONTROL**

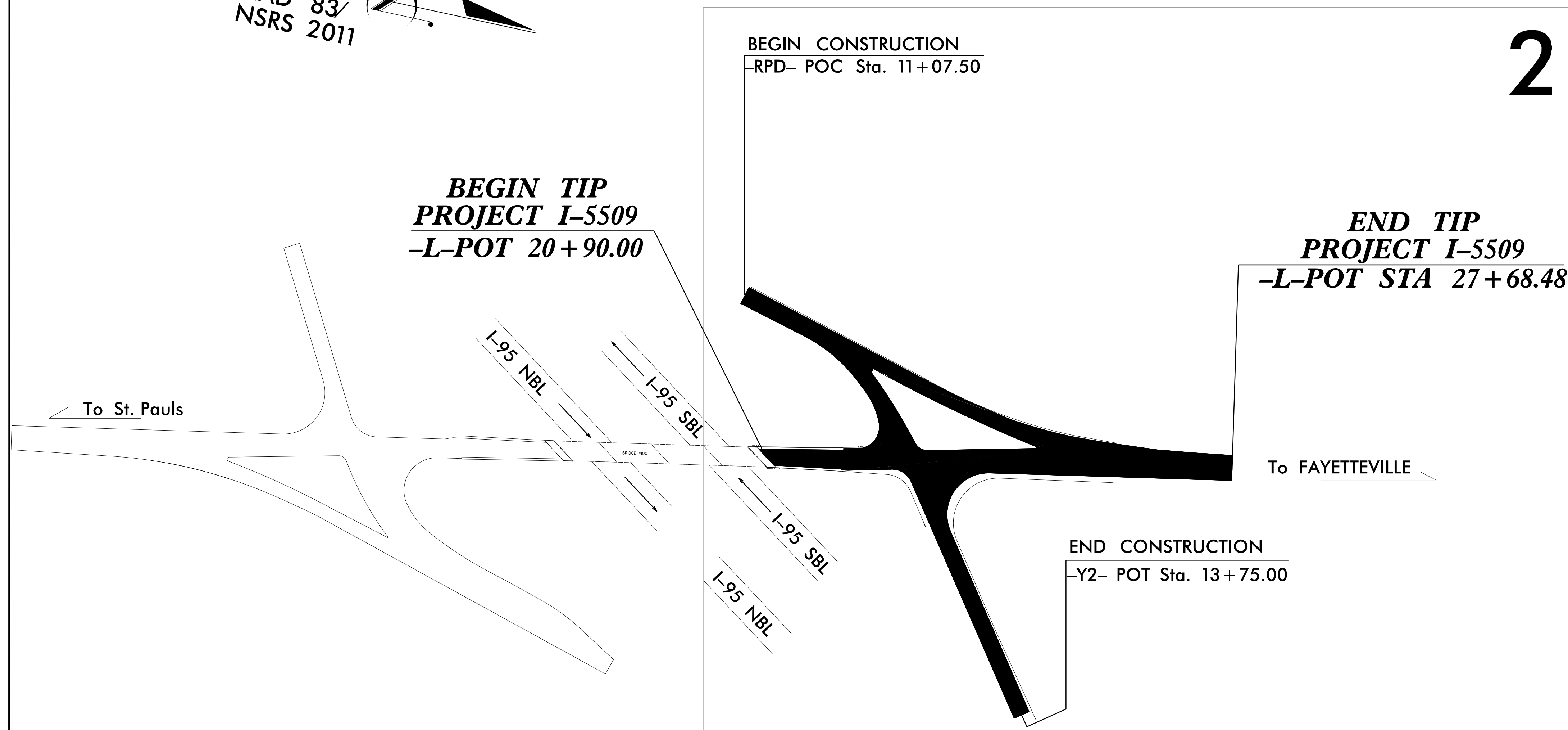
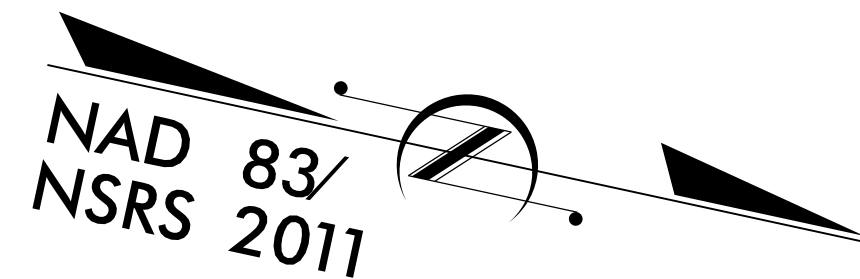
---

---

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5509	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

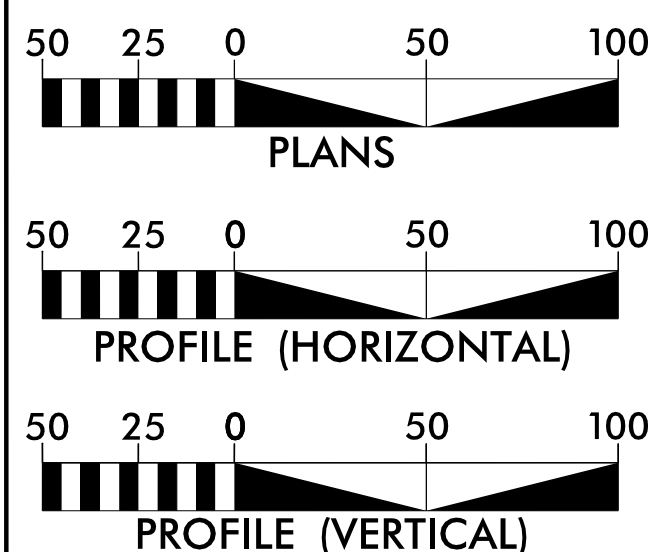
**EROSION AND SEDIMENT CONTROL MEASURES**

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	TSF
1606.01	Special Sediment Control Fence	SSCF
1622.01	Temporary Berms and Slope Drains	TBSD
1630.02	Silt Basin Type B	SBS
1633.01	Temporary Rock Silt Check Type-A	TRSCA
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	TRSCA-PAM
1633.02	Temporary Rock Silt Check Type-B	TRSCB
	Wattle/Coir Fiber Wattle	WCFW
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	WCFW-PAM
1634.01	Temporary Rock Sediment Dam Type-A	TRSDA
1634.02	Temporary Rock Sediment Dam Type-B	TRSDB
1635.01	Rock Pipe Inlet Sediment Trap Type-A	RPISTRA
1635.02	Rock Pipe Inlet Sediment Trap Type-B	RPISTRB
1630.04	Stilling Basin	SB
1630.06	Special Stilling Basin	SSB
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	SKB
	Tiered Skimmer Basin	TSKB
	Infiltration Basin	IB



THIS PROJECT CONTAINS  
EROSION CONTROL PLANS  
FOR CLEARING AND  
GRUBBING PHASE OF  
CONSTRUCTION.

**GRAPHIC SCALE**



ROADSIDE ENVIRONMENTAL UNIT  
DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY  
WITH THE REGULATIONS SET FORTH BY THE  
NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011  
ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND  
NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared in the Office of:  
**ROADSIDE ENVIRONMENTAL UNIT**  
1 South Wilmington St.  
Raleigh, NC 27611  
**2012 STANDARD SPECIFICATIONS**

**Roadway Standard Drawings**

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

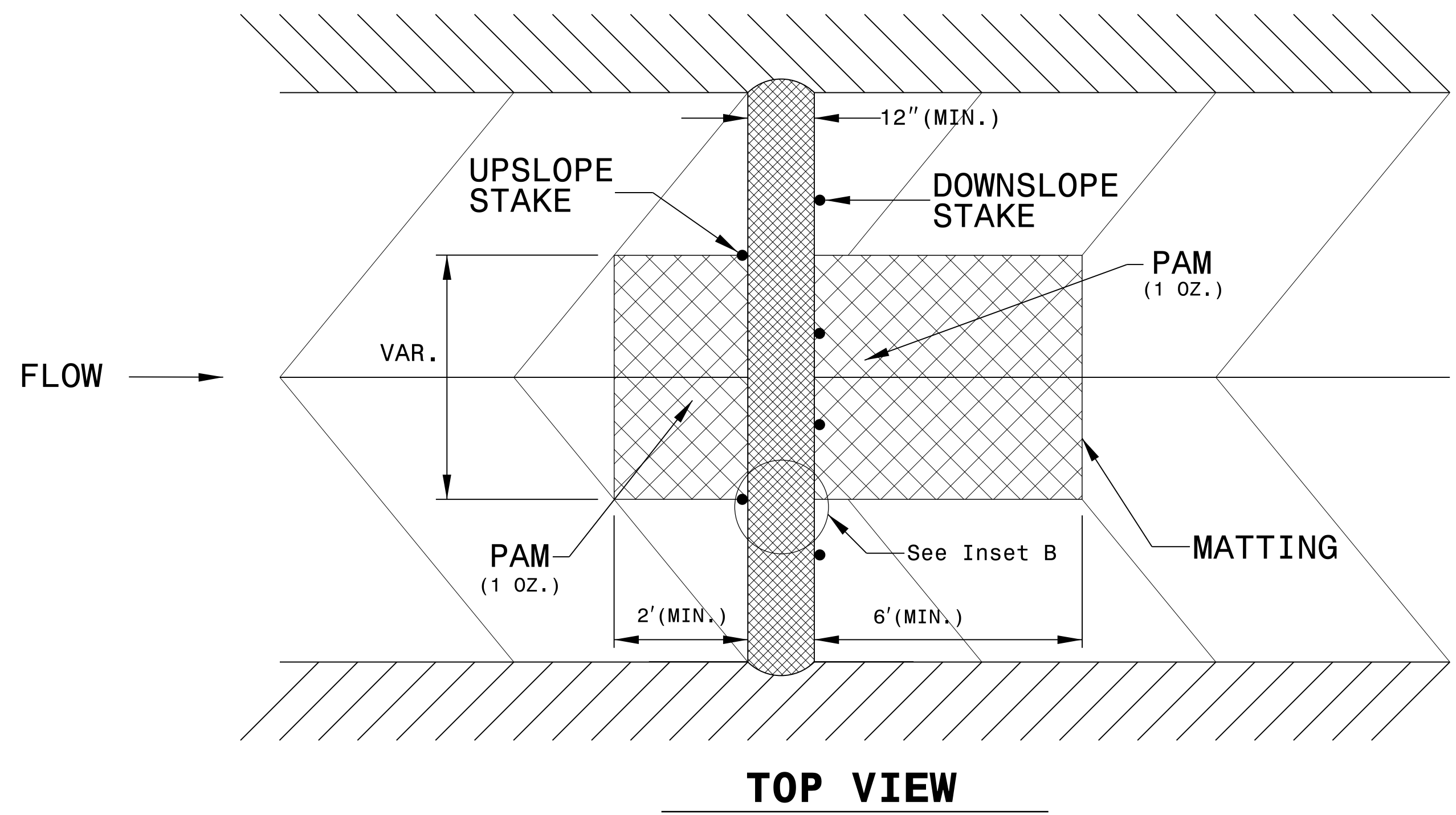
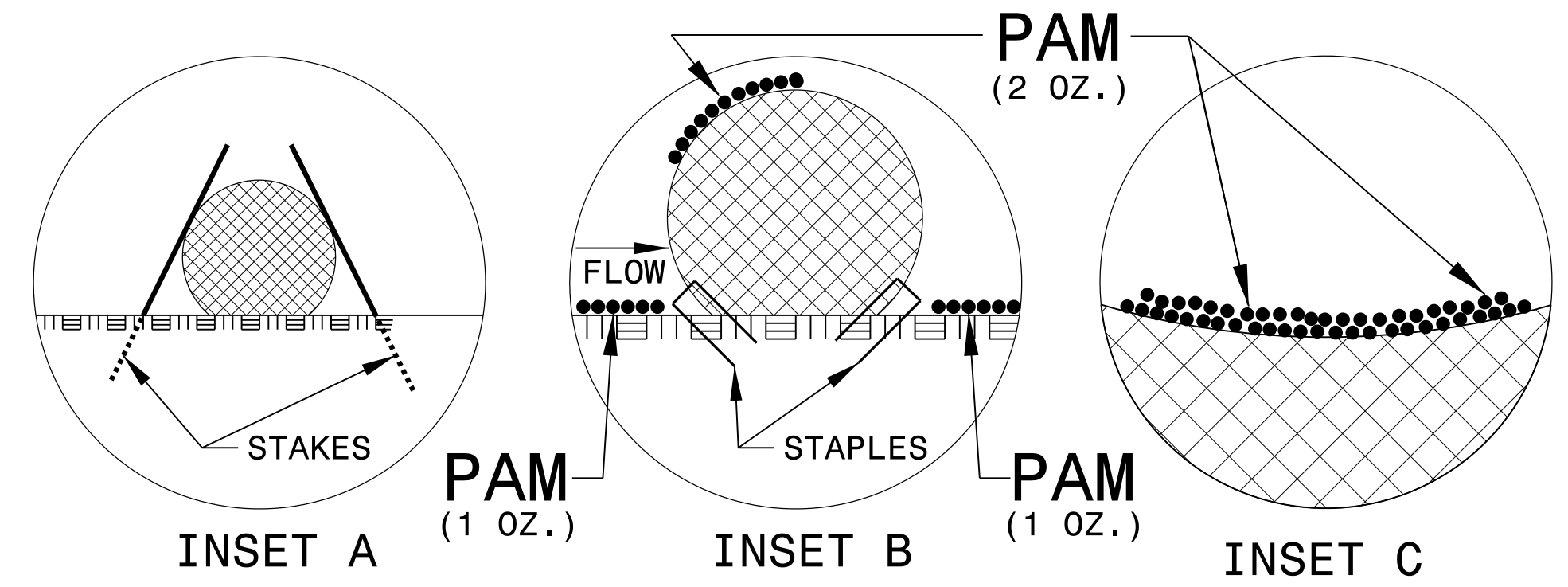
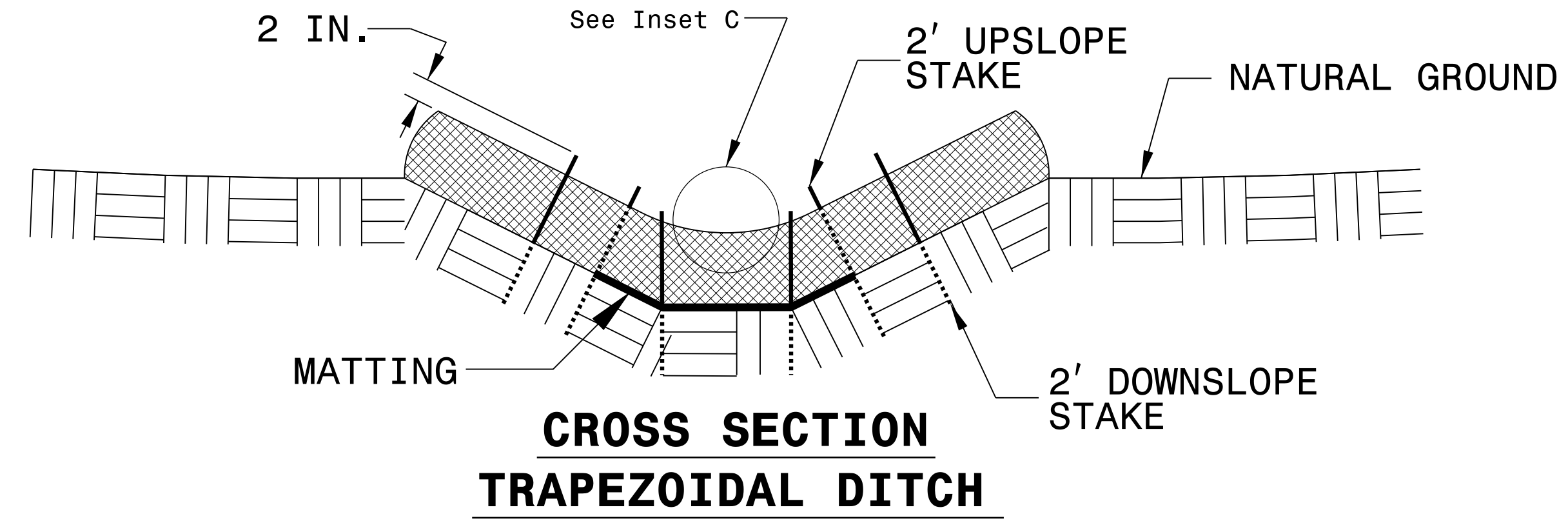
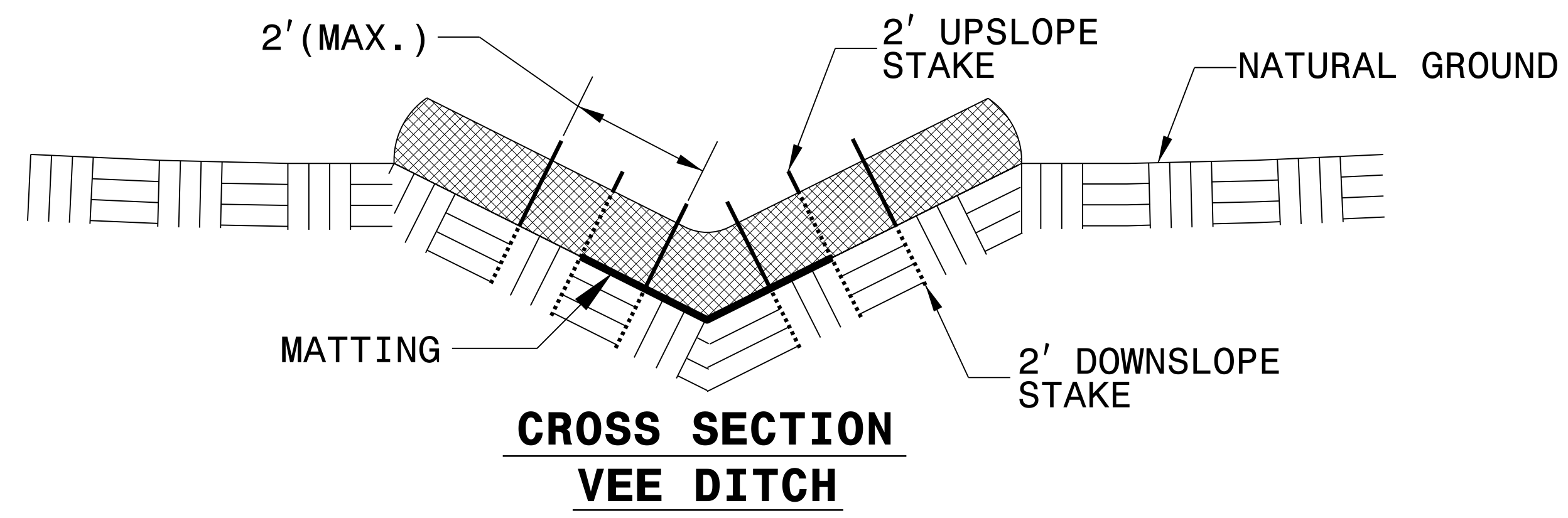
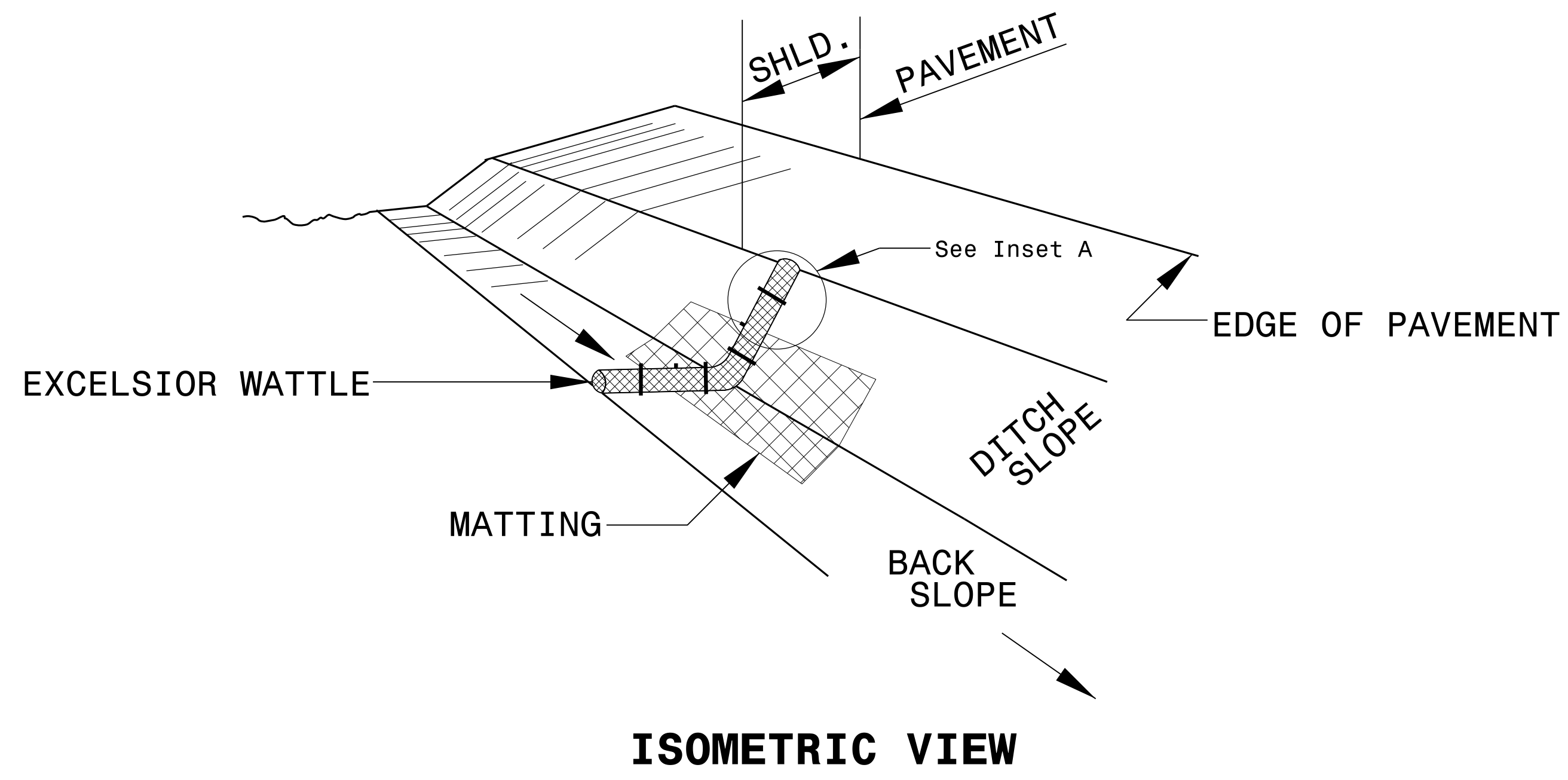
1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type B
1630.01 Riser Basin	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type B	1634.02 Temporary Rock Sediment Dam Type B
1630.03 Temporary Silt Ditch	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.04 Stilling Basin	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.05 Temporary Diversion	1640.01 Coir Fiber Baffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

PROJECT REFERENCE NO. I-5509	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

**NOTES:**

- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.
- PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.
- INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



REVISIONS

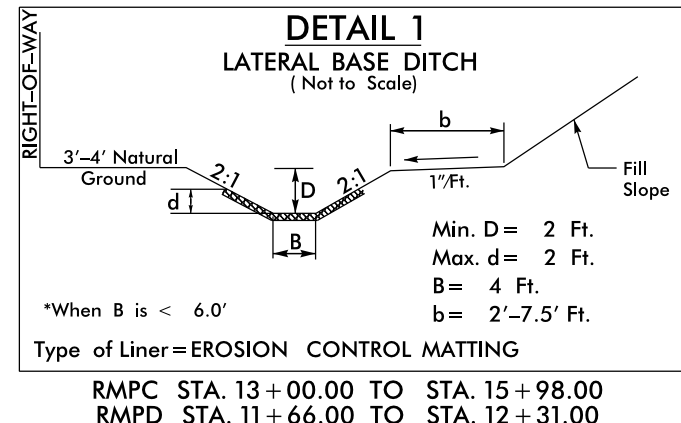
8/17/99

30-DEC-2014 13:00 I-5509\_50076.1.1 US301.195.St.Pauls.Ext33.Roadway\Project\I-5509\_EC-EC2.dgn

**BEGIN**  
**TIP PROJECT I-5509**

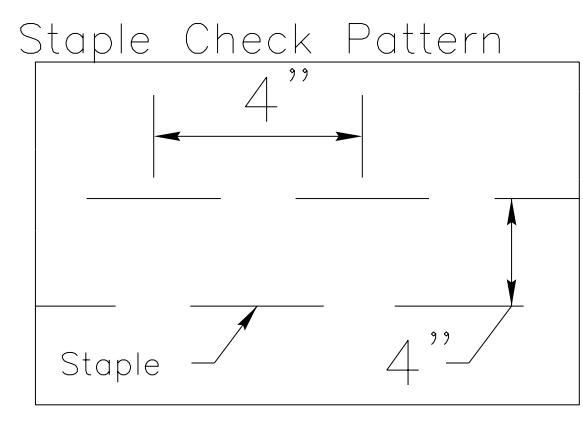
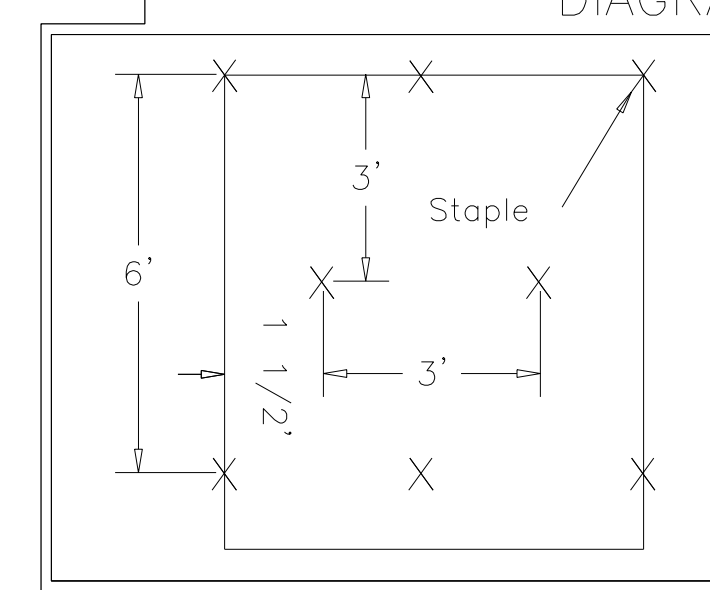
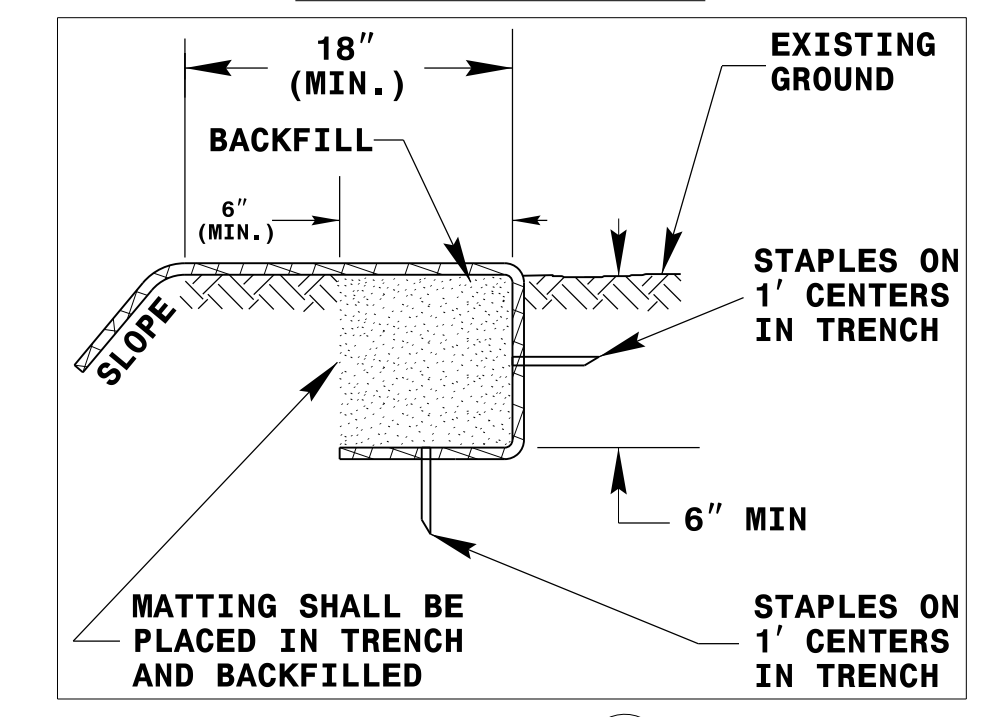
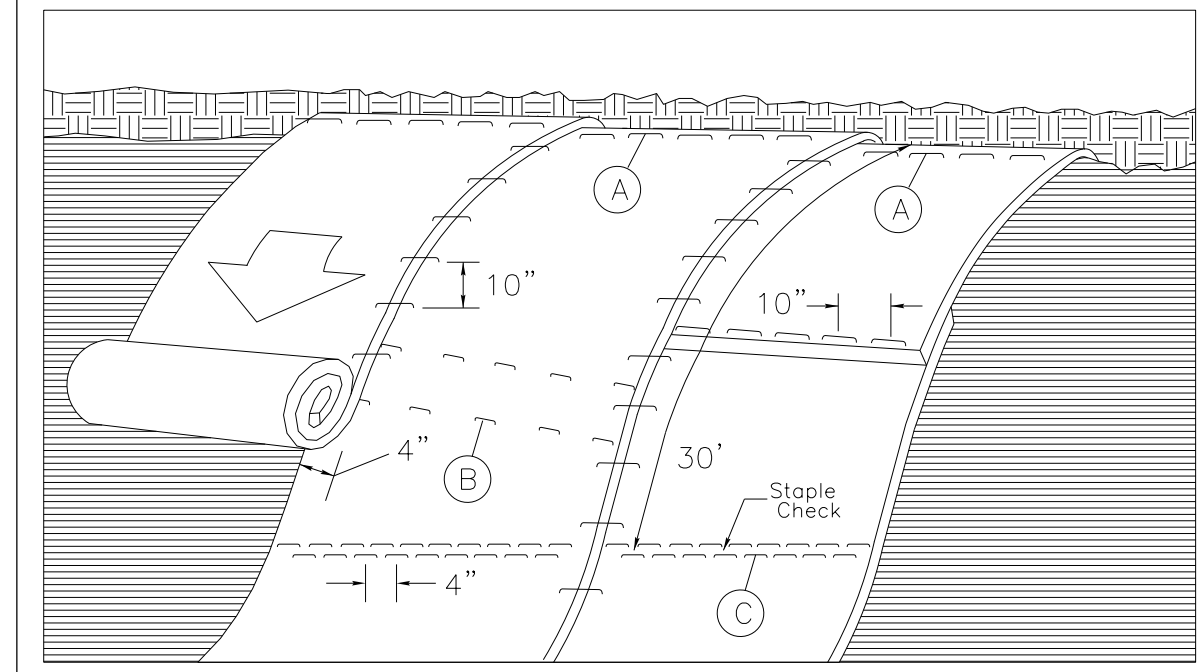
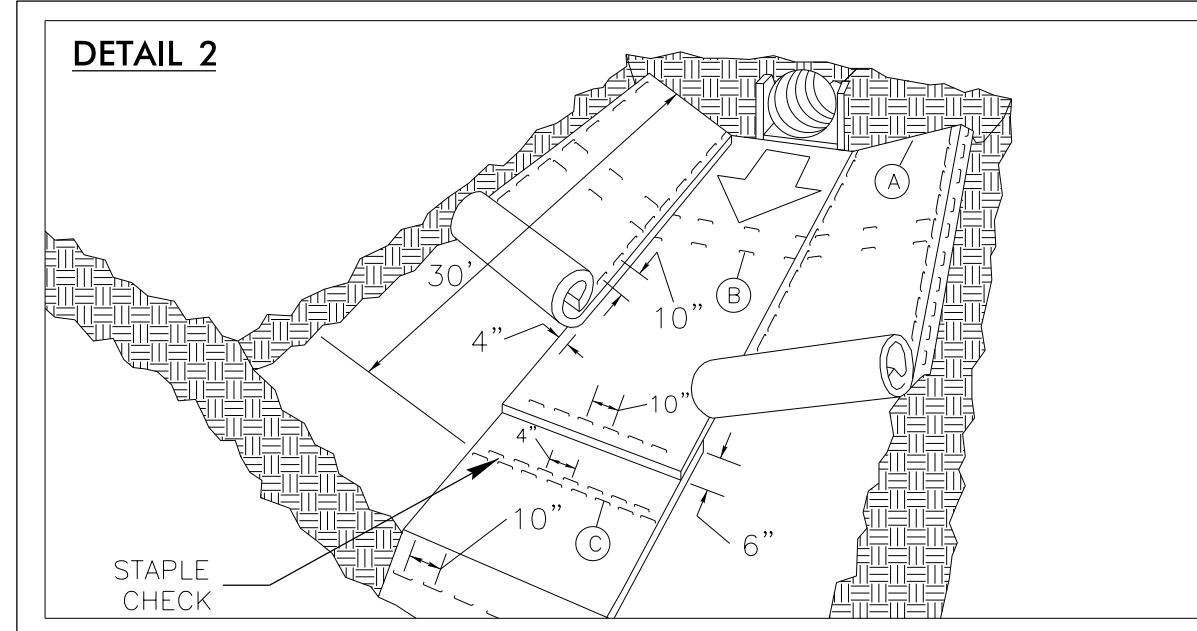
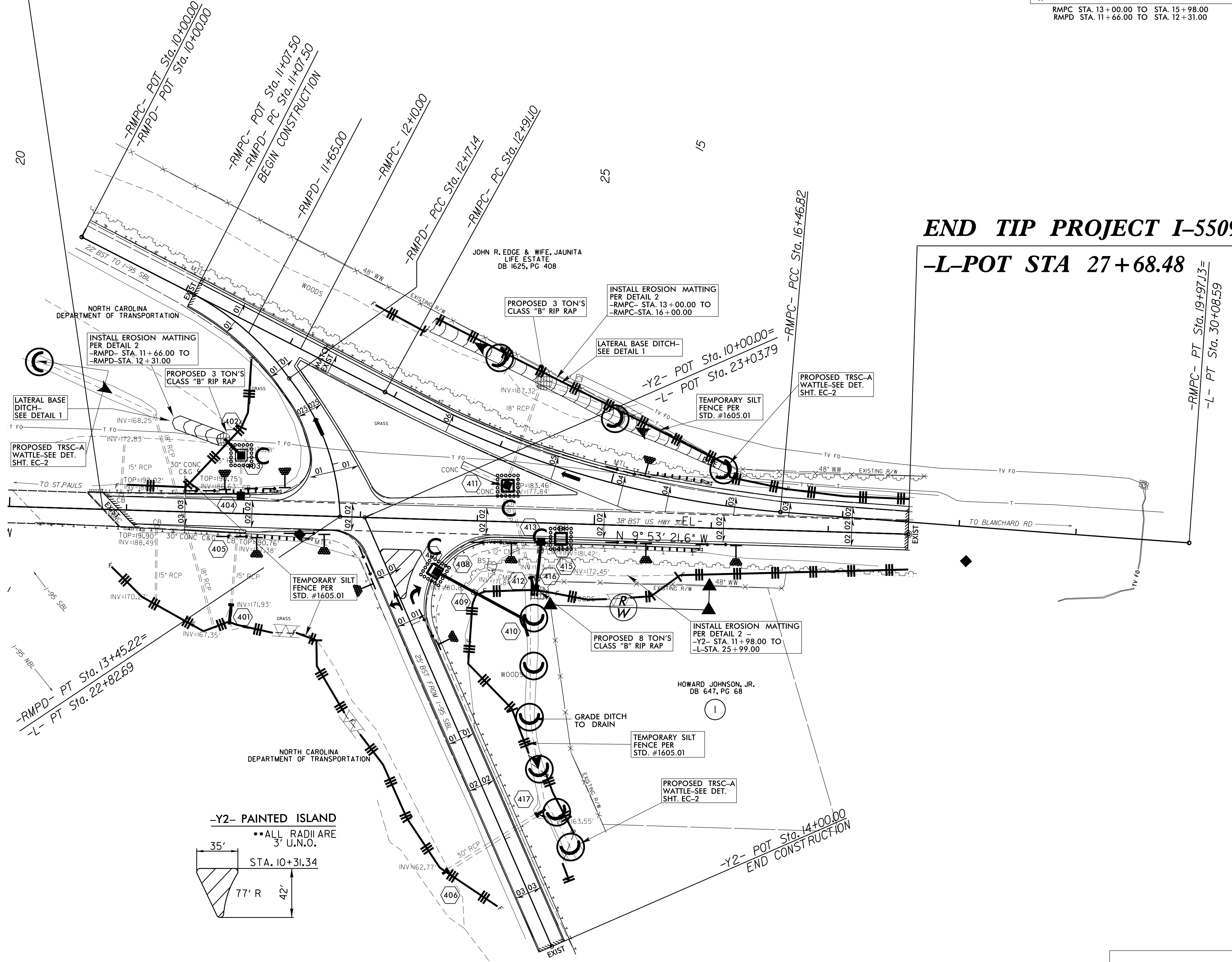
**-L-POT STA 20+79.84**

NAD 83/NA 2011



**END TIP PROJECT I-5509**

**-L-POT STA 27+68.48**



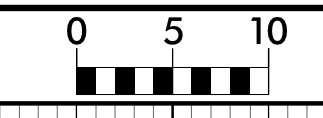
RMPD - C5	RMPD - C6	RMPD - C7	RMPD - C8
PI Sta 14+71.61	PI Sta 18+21.98	PI Sta 11+63.29	PI Sta 12+83.43
$\Delta = 24^{\circ}00'59.1\"$ (LT)	$\Delta = 0^{\circ}25'32.3\"$ (LT)	$\Delta = 26^{\circ}05'11.8\"$ (RT)	$\Delta = 36^{\circ}27'37.9\"$ (RT)
D = 6'45.05.0"	D = 0'07.17.4"	D = 23'47.35.0"	D = 28'27.58.1"
L = 355.73'	L = 350.30'	L = 109.64'	L = 128.08'
T = 180.51'	T = 175.15'	T = 55.79'	T = 66.29'
R = 848.65'	R = 47,155.06'	R = 240.81'	R = 201.28'

**NOTES:**  
THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.  
STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

REVISIONS

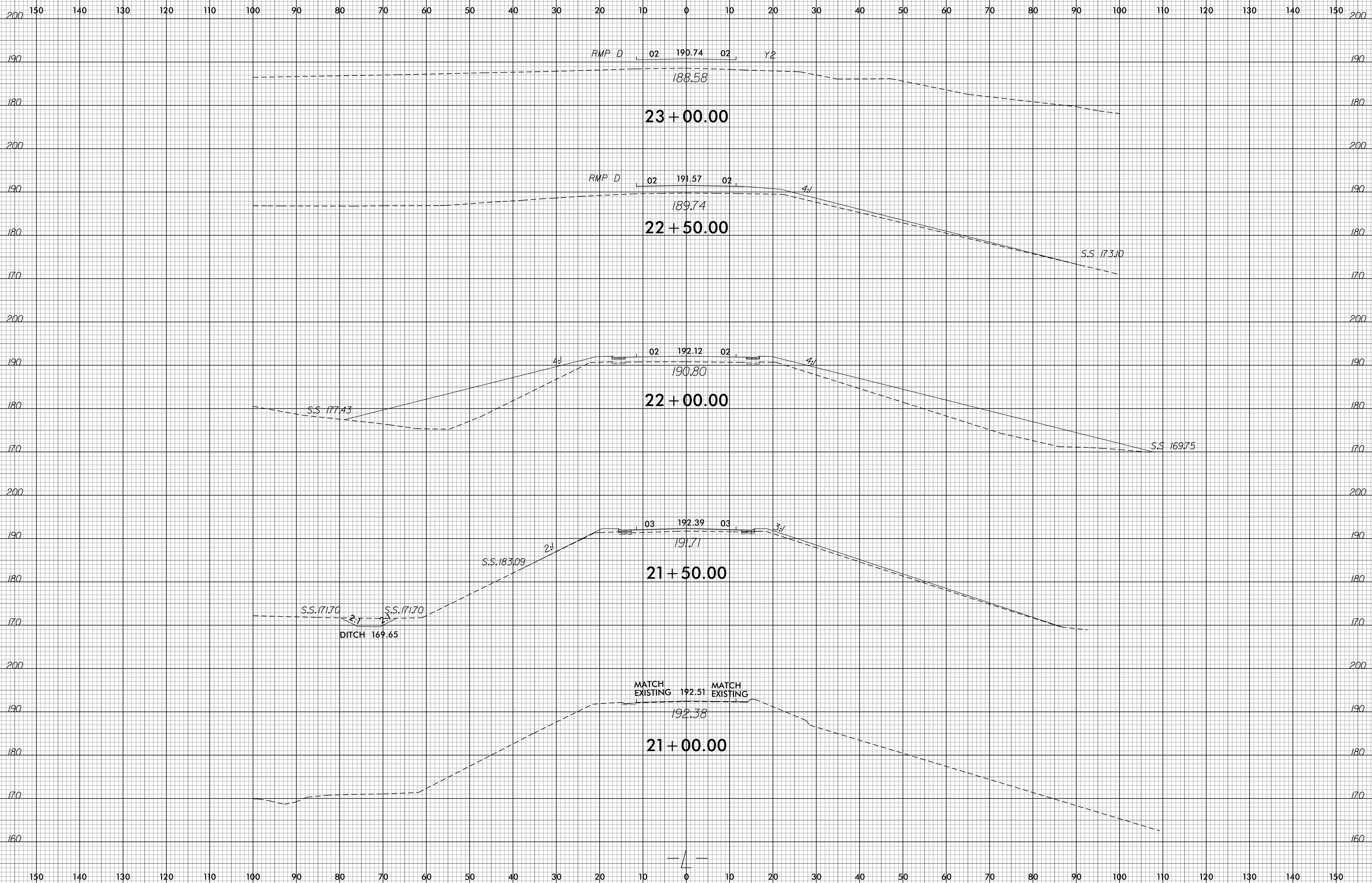
8/17/99  
I:\DEC-2014\14-40\1-5509\1-5509-EC-4.dgn  
50076.1.1 US301.195.St.Pauls.Ext33.Roadway\Project\1-5509-EC-4.dgn

8/23/99

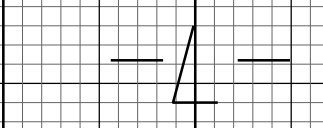


PROJ. REFERENCE NO.  
I-5509

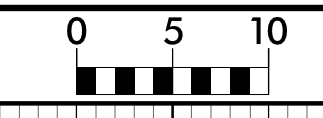
SHEET NO.  
X-1



30-DEC-2014 13:00  
 H:\DOC\Projects\I-5509\50076.11 US301\_195.St. Pauls\_Ext\33\Roadway\Xsc\15509\_Rdy\_xpl.L.dgn  
 \$\$\$USERNAME\$\$\$

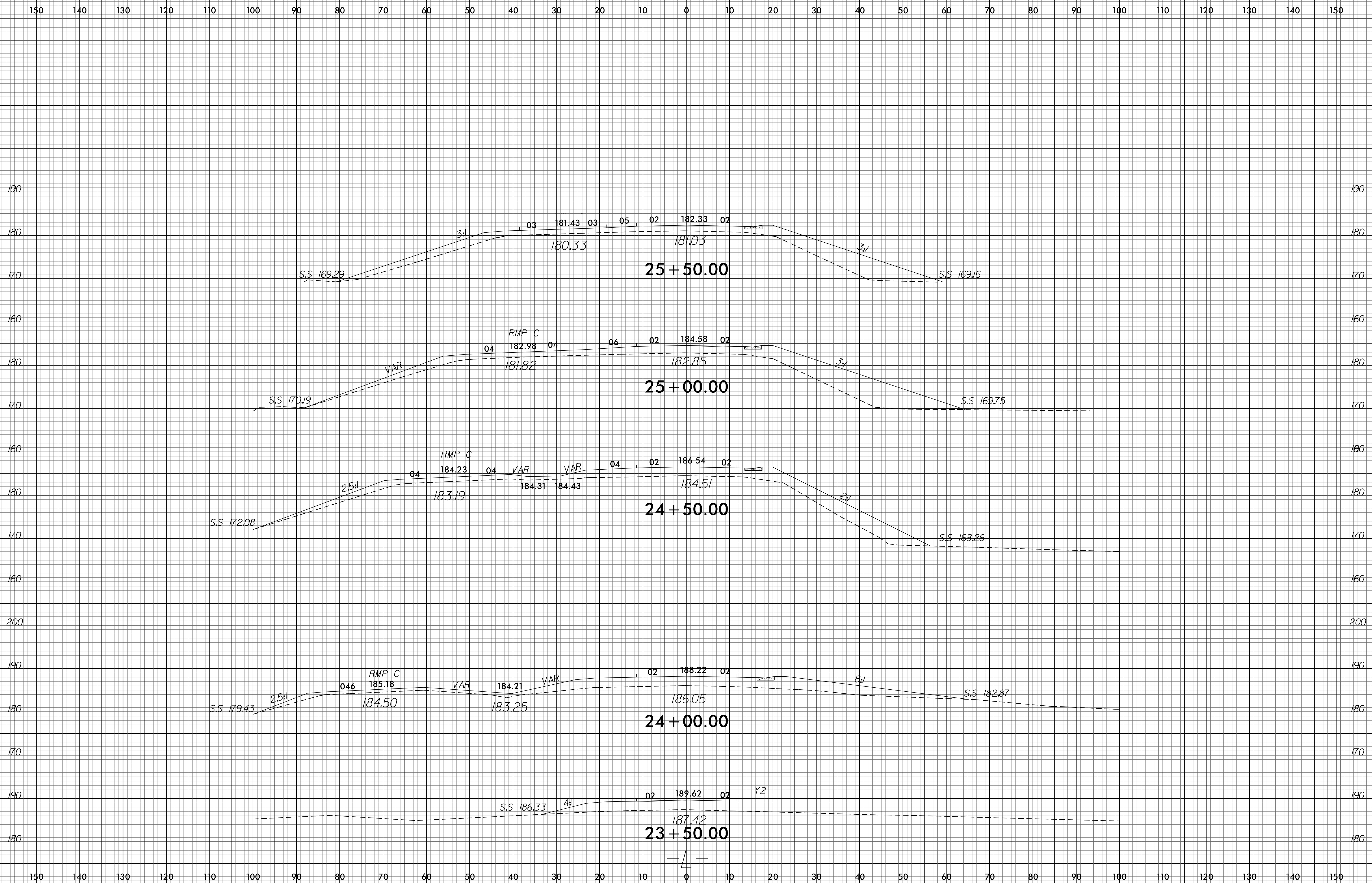


8/23/99



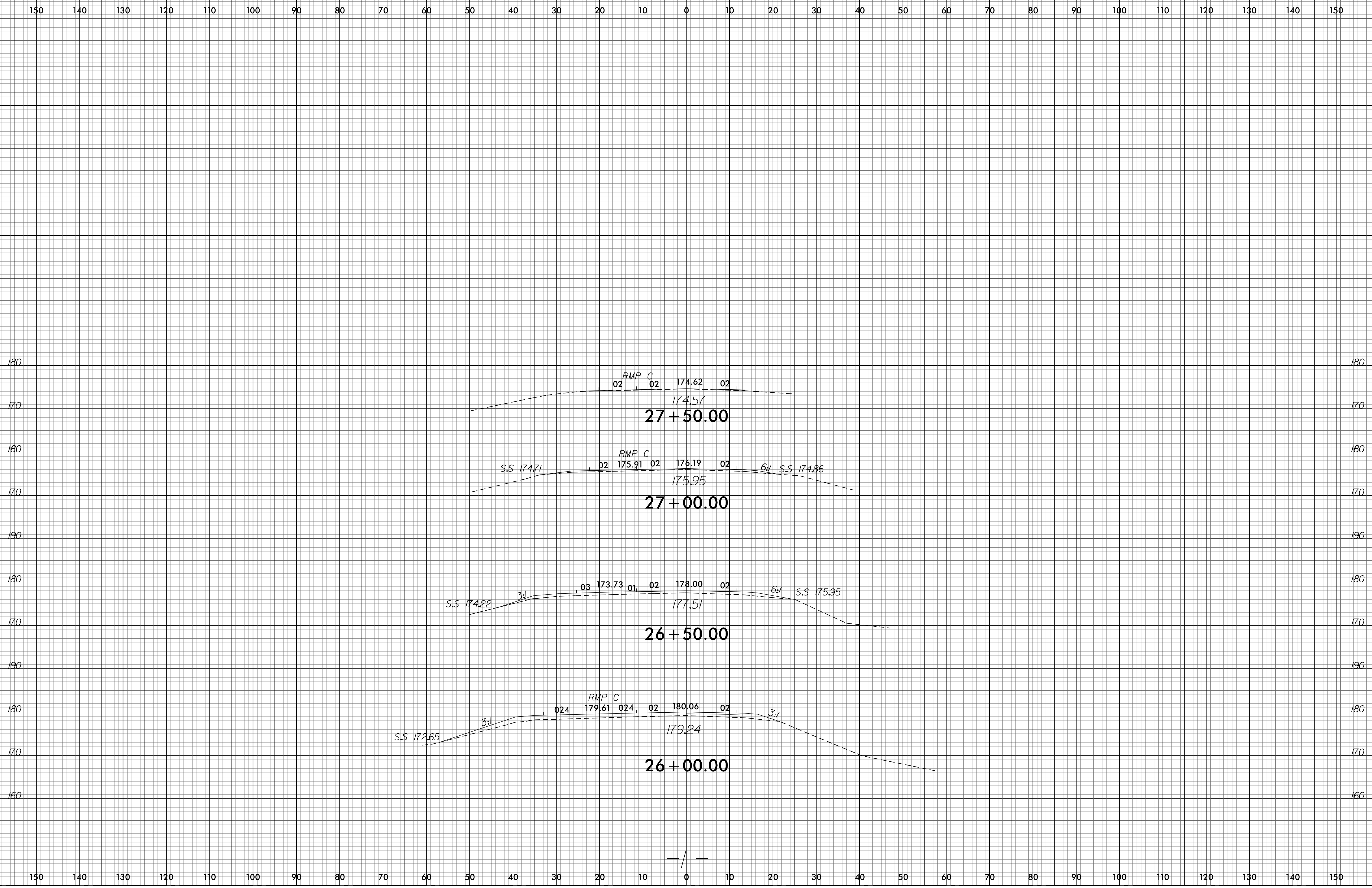
PROJ. REFERENCE NO.  
I-5509

SHEET NO.  
X-2



30-DEC-2014 13:00  
 H:\D\C\Projects\I-5509\50076.11\US301\_195.St.Pauls\_Ext\33\Roadway\Xsec\I5509\_Rdy\_xpl\_L.dgn  
 \$\$\$USERNAME\$\$\$

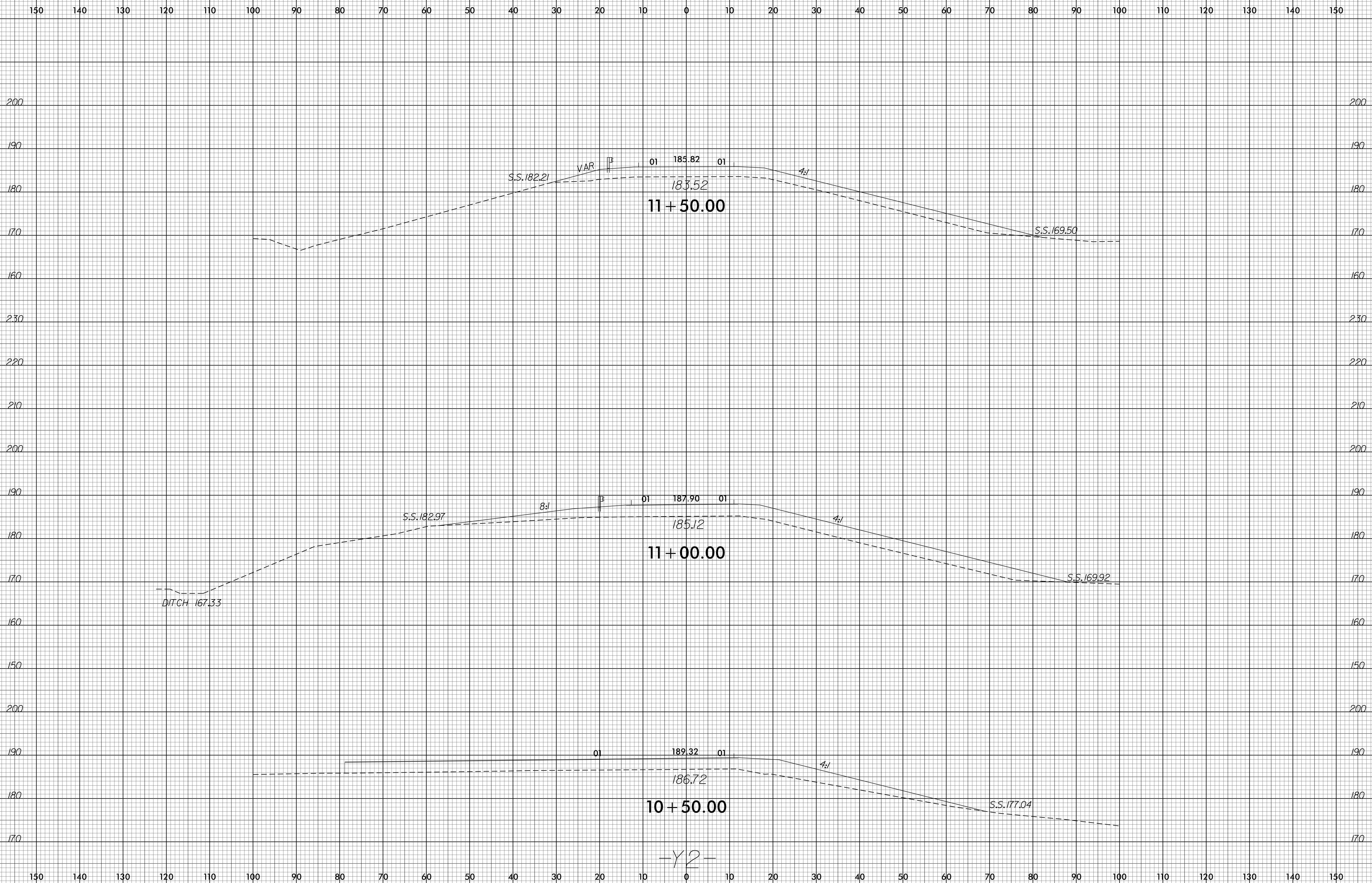
8/23/99



30-DEC-2014 13:00  
H:\DUC\Projects\I-5509\50076.11 US301\_195.St. Pauls\_Ext\33 Roadway\Xsec\15509\_Rdy\_xpl.L.dgn  
\$\$\$\$USERNAME\$\$\$\$

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5509	X-4

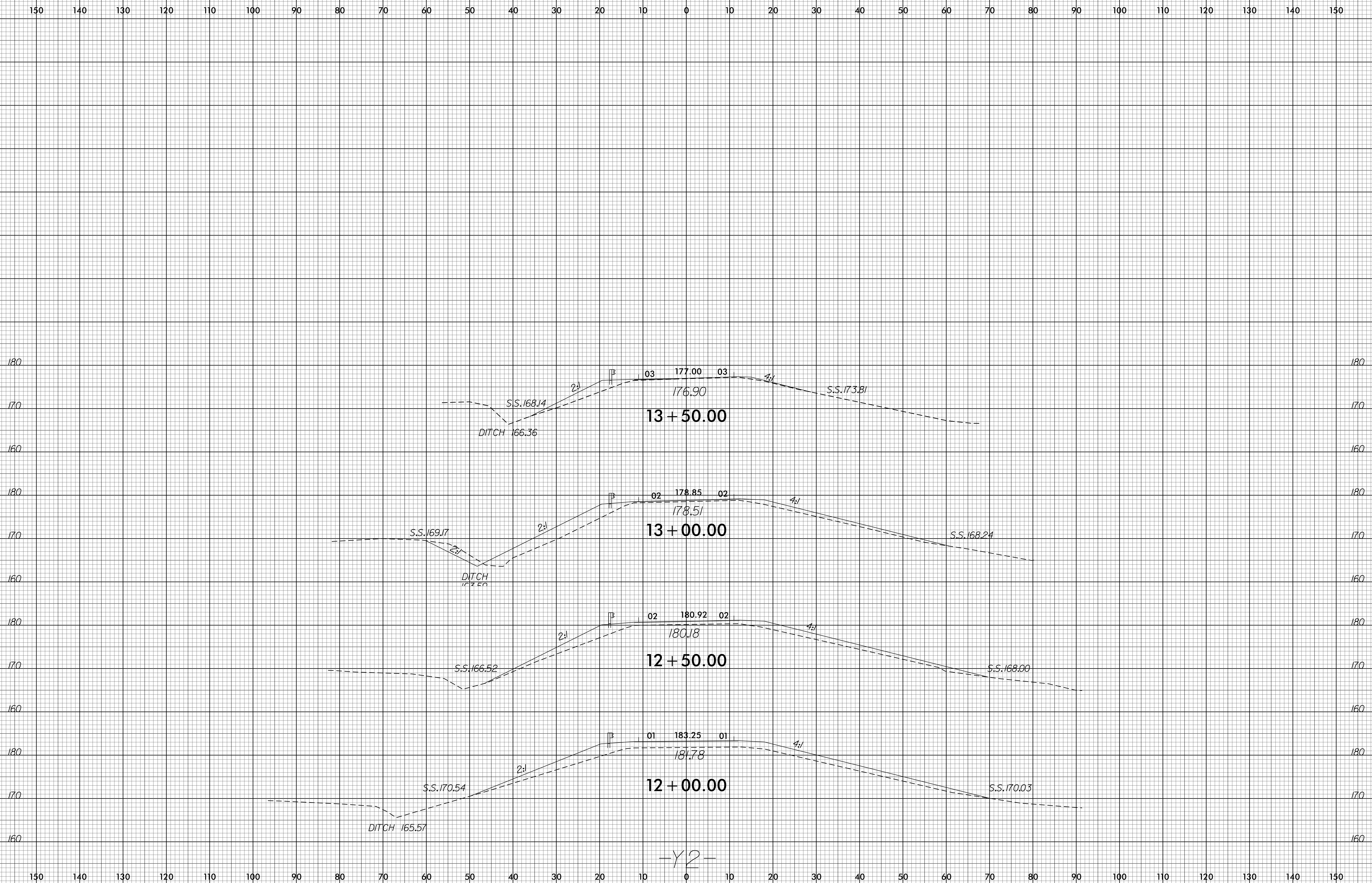


30-DEC-2014 13:00  
H:\DUC\Projects\I-5509\50076.11\US301\_195.St.Pauls\_Ext\33\Roadway\Xsec\15509\_Rdy\_xpl\_Y2.dgn  
\$\$\$\$USERNAME\$\$\$\$

-Y2-



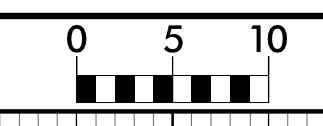
8/23/99



-Y2-

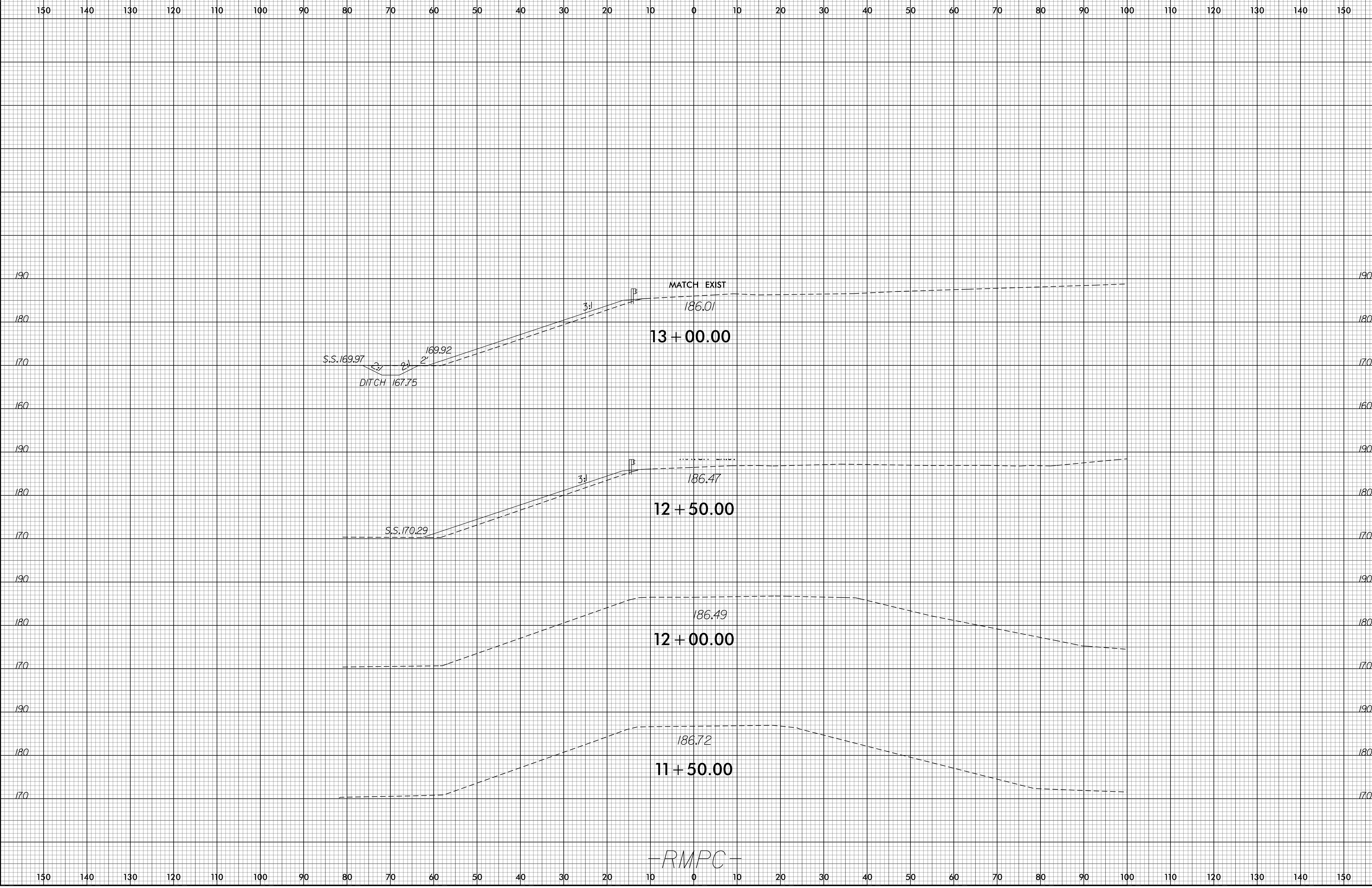
30-DEC-2014 13:00  
H:\DUC\Projects\I-5509\50076.11 US301\_195.St. Pauls\_Ext\33 Roadway\Xsec\15509\_Rdy\_xpl\_Y2.dgn  
\$\$\$\$\$USERNAME\$\$\$\$

8/23/99



PROJ. REFERENCE NO.  
I-5509

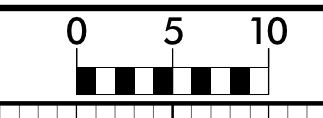
SHEET NO.  
X-6



30-DEC-2014 13:00  
 H:\DUC\Projects\I-5509\50076.11 US301\_195.St. Pauls\_Ext\33 Roadway\Xsc\15509\_Rdy\_xpl\_RPC.dgn  
 \$\$\$USERNAME\$\$\$

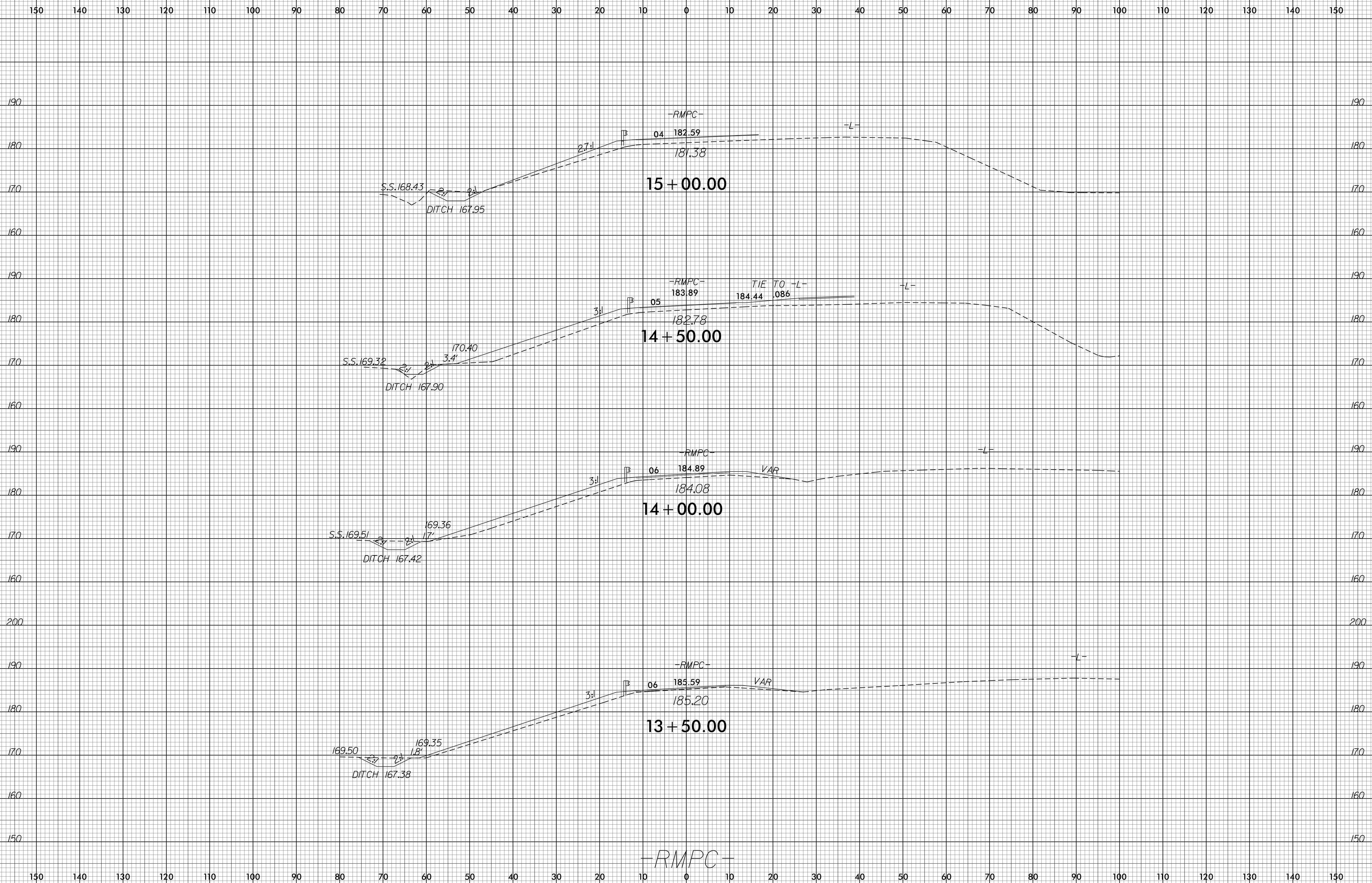
—RMPC—

8/23/99



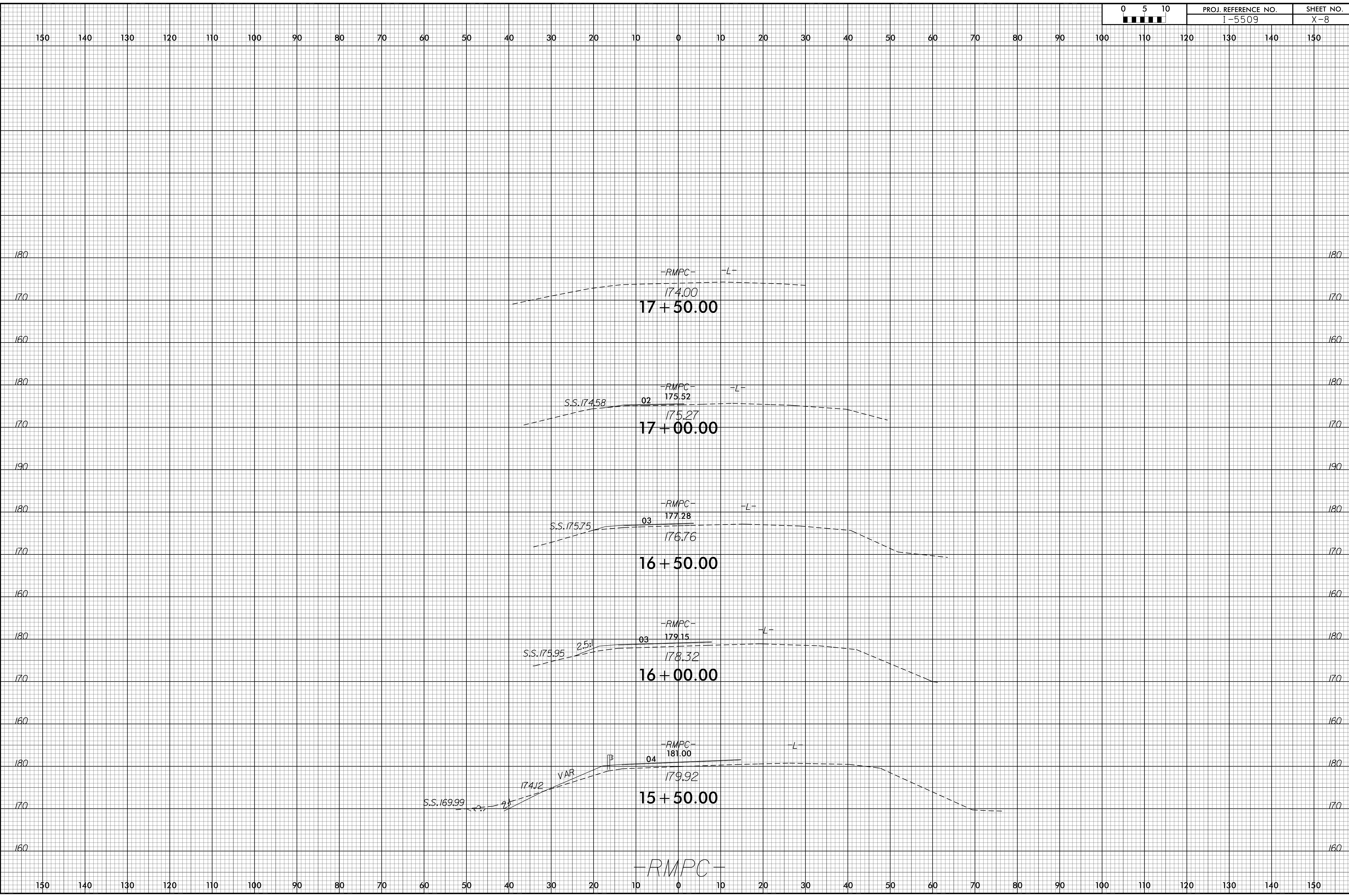
PROJ. REFERENCE NO.  
I-5509

SHEET NO.  
X-7



30-DEC-2014 13:00  
 H:\DCC\Projects\I-5509\50076.11\US301\_195.St.Pauls\_Ext33\Roadway\Xsc\15509\_Rdy\_xpl\_RPC.dgn  
 \$\$\$USERNAME\$\$\$

8/23/99



30-DEC-2014 13:00  
H:\DOC\Projects\I-5509\50076.11\US301\_195.St.Pauls.Ex1.t33\Roadway\Xsec\15509\_Rdy\_xpl\_RPC.dgn  
\$\$\$\$USERNAME\$\$\$\$

