

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.	SHEET NO.
B-4214	TCP-1

**PLAN FOR PROPOSED
TRAFFIC CONTROL, MARKING & DELINEATION**

ONslow COUNTY

B-4214

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS"-
ROADWAY DESIGN UNIT-N.C. DEPARTMENT OF TRANSPORTATION-RALEIGH, N.C.,
DATED JANUARY 2002 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE
CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
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
1115.01	FLASHING ARROW PANELS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGERS
1165.01	TRUCK MOUNTED IMPACT ATTENUATOR
1160.01	TEMPORARY CRASH CUSHION
1170.01	PORTABLE CONCRETE BARRIER
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - THRU LANE DROPS
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	PAVEMENT MARKER SPACING
1251.01	RAISED PAVEMENT MARKERS (TEMPORARY & PERMANENT)
1253.01	SNOWPLOWABLE RAISED PAVEMENT MARKERS
1261.01	GUARDRAIL & BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL & BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION

INDEX OF SHEETS

SHEET NO.	TITLE
TCP-1	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, INDEX OF SHEETS, AND TEMP PAV'T MARKINGS SCHEDULE
TCP-2	GENERAL NOTES
TCP-3	GENERAL NOTES AND PHASING
TCP-4	PHASE I DETAIL 1
TCP-5	PHASE I DETAIL 2
TCP-6	PHASE II DETAIL 1
TCP-7	PHASE II DETAIL 2
TCP-8	US 17 ALTERNATE DETOUR ROUTE & CMS LOCATIONS
TCP-9	TEMPORARY SHORING RECOMMENDATIONS
TCP-10	PORTABLE CONCRETE BARRIER AT TEMP SHORING LOCATIONS
TCP-11	DETAIL DRAWING FOR TWO-WAY UNDIVIDED AND URBAN FREEWAYS ADVANCED WORK ZONE WARNING SIGNS
PM-1 & PM-2	FINAL PAVEMENT MARKING PLANS AND SCHEDULE

TEMPORARY PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	QUANTITY	PAY ITEM	TOTAL
PAVEMENT MARKING LINES COLD APPLIED PLASTIC (4") Type4 - Removable Tape				
CA - IV	WHITE EDGELINE	2210 LF		
CI - IV	YELLOW DOUBLE CENTER	1710 LF		
			TOTAL	3920 LF
PAINT (4")				
PA	WHITE EDGELINE (2X)	13200 LF		
PB	YELLOW EDGELINE (2X)	1600 LF		
PI	YELLOW DOUBLE CENTER (2X)	12800 LF		
			TOTAL	27600 LF
MARKERS				
TEMPORARY RAISED PAVEMENT MARKERS				
MH	YELLOW & YELLOW	40 EA		
			TOTAL	40 EA

NOTE: FOR EACH PAINT PAVEMENT MARKING ITEM, 1X IMPLIES A SINGLE APPLICATION, 2X IMPLIES TWO APPLICATIONS, AND 3X IMPLIES THREE APPLICATIONS.

LEGEND

- GENERAL**
- ← DIRECTION OF TRAFFIC FLOW
 - ↖ NORTH ARROW
 - PROPOSED PVMT. - - - - - EXIST. PVMT.
 - WORK AREA
 - ▨ REMOVAL OF EXISTING PAVEMENT
- TRAFFIC CONTROL DEVICES**
- I TYPE I BARRICADE
 - II TYPE II BARRICADE
 - ▨ TYPE III BARRICADE
 - ▲ CONE
 - DRUM ⊙ SKINNY DRUM
 - ⊙ FLASHING ARROW PANEL (TYPE C)
 - ⊥ STATIONARY SIGN
 - ⊏ PORTABLE SIGN
 - STATIONARY OR PORTABLE SIGN
 - ⚠ WARNING FLAGS
 - ⋄ CRASH CUSHION
 - Ⓜ CHANGEABLE MESSAGE SIGN
 - Ⓜ TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
 - Ⓜ POLICE
 - Ⓜ FLAGGER
- PAVEMENT MARKINGS**
- CRYSTAL/CRYSTAL PAVEMENT MARKER
 - ◆ YELLOW/YELLOW PAVEMENT MARKER
 - CRYSTAL/RED PAVEMENT MARKER
 - ↔ PAVEMENT MARKING SYMBOLS

TIP PROJECT:

02-JAN-2009 10:07 \\dot\dfsroot\proj\p\projstore\proj\Tipp\projects-b\4214\trafficcontrol\top\b-4214.tc_top.ldgn halawandos AT W71244737

APPROVED: _____ DATE: _____	PLAN PREPARED BY: N.C.D.O.T. WORK ZONE TRAFFIC CONTROL UNIT
<p>See 31, 2008</p>	STUART BOURNE, P.E. _____ TRAFFIC CONTROL ENGINEER
	JOSEPH ISHAK, P.E. _____ TRAFFIC CONTROL PROJECT ENGINEER
	HABIB LAWANDOS _____ TRAFFIC CONTROL PROJECT DESIGN ENGINEER
	_____ TRAFFIC CONTROL DESIGN ENGINEER / TECHNICIAN

GENERAL NOTES

TRAFFIC CONTROL DEVICES

- W) SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH), EXCEPT 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY, WHEN LANE CLOSURES ARE NOT IN EFFECT. WHEN SKINNY DRUMS ARE ALLOWED, REFER TO SECTION 1180 OF STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES OR AS SHOWN IN THE PLANS.
- X) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.
- Y) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES DRUMS PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

- Z) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
US 17 BRIDGE	POLYUREA POLYUREA	SNOWPLOABLE PERMANENT RAISED

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

ROAD NAME	MARKING	MARKER
US 17 BRIDGE	PAINT COLD APPLIED (REMOVABLE TAPE)	TEMPORARY RAISED TEMPORARY RAISED

- BB) 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.

- CC) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

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

TEMPORARY / FINAL SIGNALS

- EE) NOTIFY THE ENGINEER TWO (2) MONTHS BEFORE A TRAFFIC SIGNAL INSTALLATION BY OTHERS IS REQUIRED.

- FF) SHIFT AND REVISE ALL SIGNAL HEADS AS SHOWN ON THE SIGNAL PLANS.

MISCELLANEOUS

- GG) POLICE MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS, AS DIRECTED BY THE ENGINEER.

PHASING

NOTE: MAINTAIN ACCESS TO ALL DRIVEWAYS DURING THE LIFE OF THE PROJECT.

PHASE I

STEP 1:
INSTALL ADVANCE WORK ZONE WARNING SIGNS ON ALL ROAD. SEE SHEET TCP-11

WORK IN A CONTINUOUS MANNER TO COMPLETE THE WORK REQUIRED IN STEP 2.

STEP 2:
USING RSD 1101.02 SHEETS 3, 4, & 5 OF 9, AND RSD 1101.03 SHEETS 4 & 6 OF 9, BEGIN DRAINAGE AND UTILITY WORK AND PERFORM THE FOLLOWING:

- INSTALL CHANGEABLE MESSAGE SIGNS AS SHOWN ON SHEET TCP-8 FOR US 17 ALTERNATE ROUTE.
- PLACE US 17 TRAFFIC ONTO A TEMPORARY TWO LANE TWO WAY TRAFFIC PATTERN ON THE RIGHT SIDE OF EXISTING BRIDGE AND PLACE TEMPORARY PAVEMENT MARKINGS AS SHOWN ON SHEETS TCP-4 AND TCP-5 AS FOLLOWS:
 - PLACE EB TRAFFIC ONTO A TEMPORARY ONE LANE TRAFFIC PATTERN ON THE EXISTING OUTSIDE LANE. (SEE SHEET TCP-4).
 - PLACE WB US 17 TRAFFIC ONTO A TEMPORARY ONE LANE TRAFFIC PATTERN ON THE OUTSIDE WB LANE OF EXISTING BRIDGE.
 - USING SHEETS TCP-4 AND TCP-5, INSTALL PCB AND CRASH CUSHIONS FROM -L- STA.17+44 +/- TO -L- STA. 31+30 +/-, AND INSTALL TEMPORARY PAVEMENT MARKINGS.
 - USING SHEET TCP-5, CLOSE THE TWO OUTSIDE LANES OF WB US 17, AND PLACE US 17 TRAFFIC ONTO A TEMPORARY TWO LANE TWO WAY TRAFFIC PATTERN ON THE RIGHT SIDE OF EXISTING BRIDGE.
- BEHIND PCB INSTALL TEMPORARY SHORING AS FOLLOWS:
 - TEMP SHORING # 1, FROM -L-STA.18+80 +/- TO -L- STA.19+55 +/-
 - TEMP SHORING # 2, FROM -L-STA.27+20 +/- TO -L- STA.27+50 +/-
- USING SHEETS TCP-4 & 5, STRUCTURE PLANS, ROADWAY PLANS, AND SIGNALS PLANS, PERFORM THE FOLLOWING:
 - REMOVE STAGE I EXISTING BRIDGE.
 - CONSTRUCT STAGE I PROPOSED BRIDGE AND ALL APPROACHES UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE FROM -L- STA.11+50 +/- TO -L- STA.37+25 +/-.
 - INSTALL TEMPORARY SIGNALS AT US 17/MURRILL ST. TO BE ACTIVATED IN PHASE II.

PHASE II

WORK IN A CONTINUOUS MANNER TO COMPLETE THE WORK REQUIRED IN STEPS 1 & 2.

STEP 1:

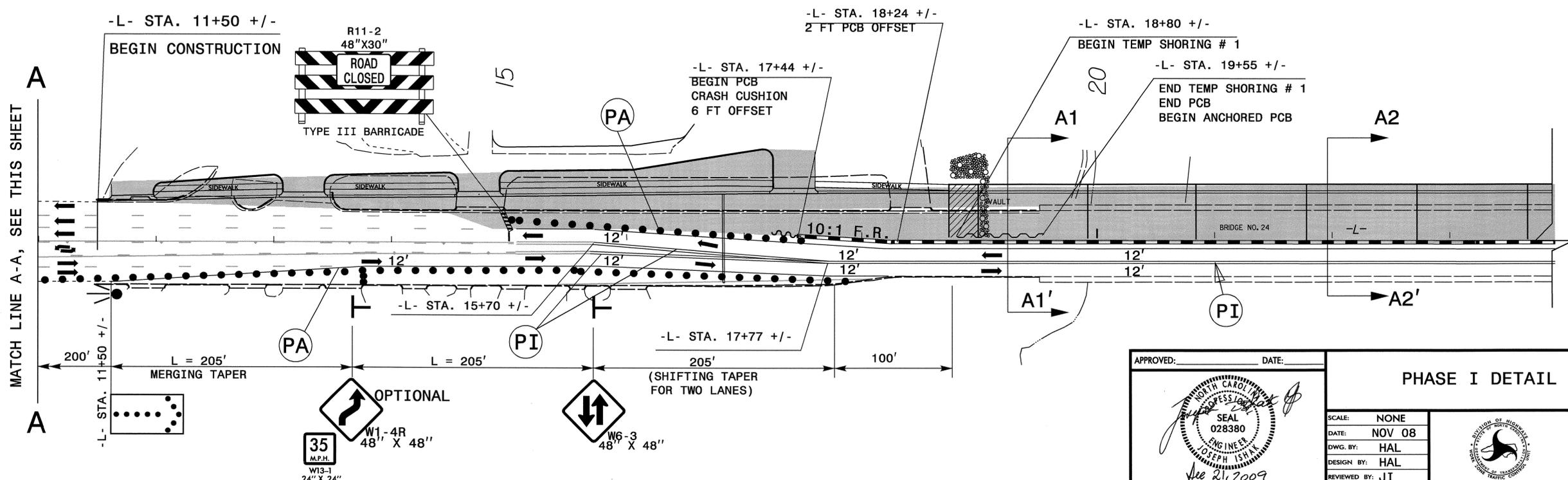
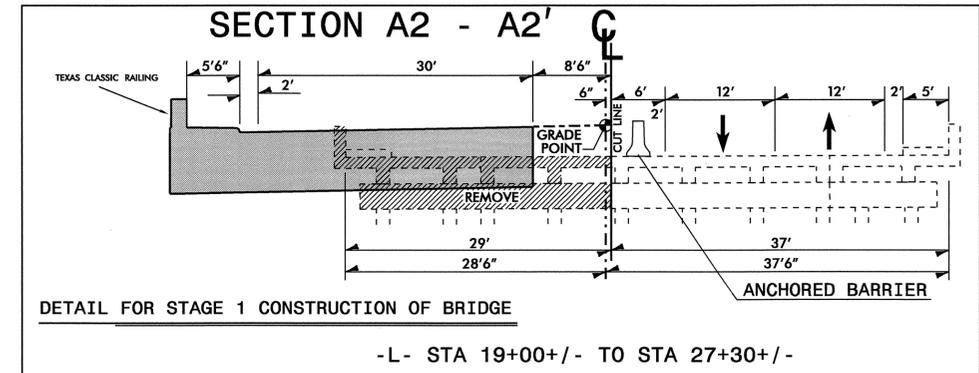
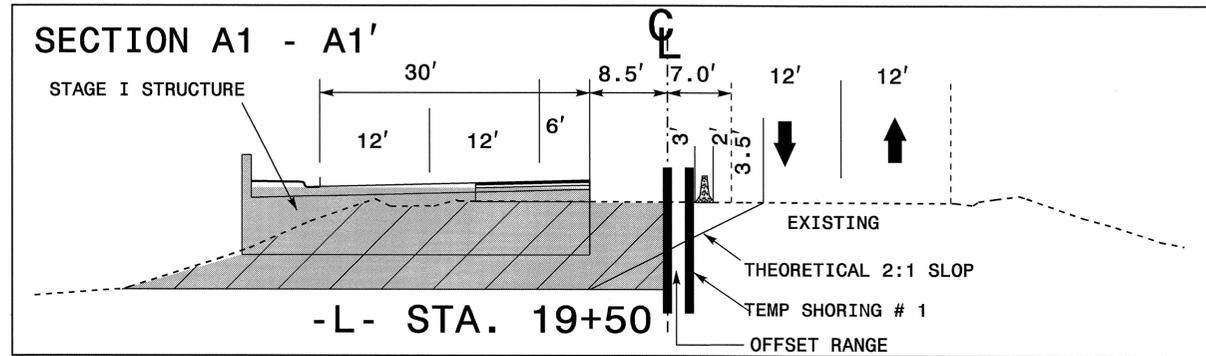
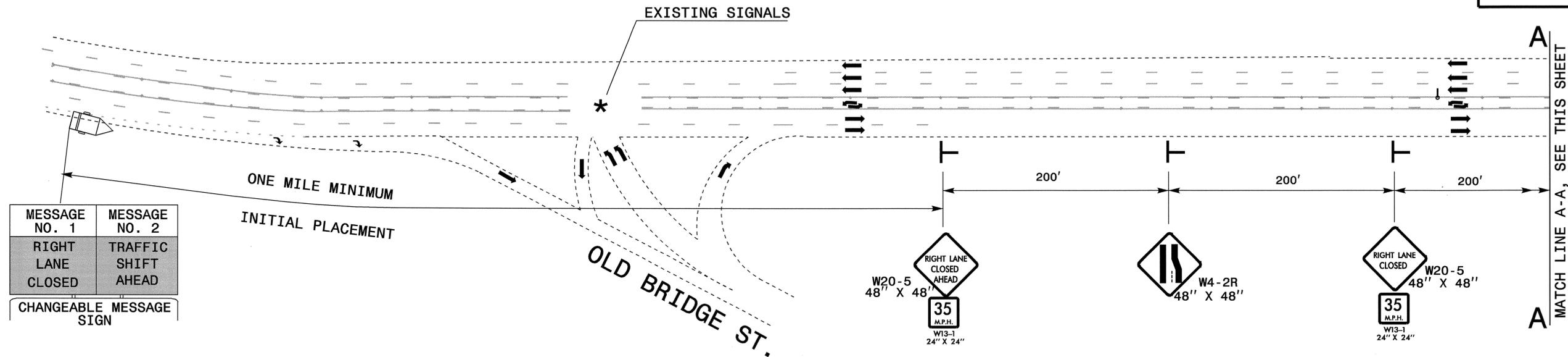
- AWAY FROM TRAFFIC INSTAL TEMPORARY PAVEMENT MARKINGS FROM -L- STA. 15+40 +/- TO -L- STA. 28+72 +/- (SEE SHEETS TCP-6 & 7).
- USING RSD 1101.02 SHEETS 3, 4, & 5 OF 9, RSD 1101.03 SHEETS 4 & 6 OF 9, AND POLICE; SHIFT US 17 TRAFFIC ONTO A TEMPORARY TWO LANE TWO WAY TRAFFIC PATTERN ON THE LEFT SIDE OF PROPOSED BRIDGE AS SHOWN ON SHEETS TCP-6 & 7 AS FOLLOWS:
 - PLACE WB TRAFFIC ONTO A TEMPORARY ONE LANE TRAFFIC PATTERN ON THE PROPOSED OUTSIDE LANE.
 - PLACE EB TRAFFIC ONTO A TEMPORARY ONE LANE TRAFFIC PATTERN ON THE EXISTING OUTSIDE LANE FROM -L- STA. 11+50 +/- TO -L- STA. 17+77 +/-.
 - INSTALL THE REST OF TEMPORARY PAVEMENT MARKINGS AND RESET PCB AND CRASH CUSHIONS (INSTALLED IN PHASE I STEP 2) FROM -L- STA.16+50 +/- TO -L- STA.28+20 +/- (SEE SHEETS TCP-6 & 7).
 - PLACE US 17 TRAFFIC ONTO A TEMPORARY TWO LANE TWO WAY TRAFFIC PATTERN ON THE LEFT SIDE OF PROPOSED BRIDGE, AND ACTIVATE THE TEMPORARY SIGNALS AT US 17/MURRILL ST. AS SHOWN ON SHEETS TCP-6 & 7.
- USING SHEETS TCP-6 & 7, STRUCTURE PLANS, ROADWAY PLANS, AND SIGNALS PLANS, PERFORM THE FOLLOWING:
 - REMOVE THE REST OF EXISTING BRIDGE.
 - CONSTRUCT STAGE II PROPOSED BRIDGE AND APPROACHES UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE FROM -L- STA.11+50 +/- TO -L- STA.37+25 +/-.
 - INSTALL FINAL SIGNALS AT US 17/MURRILL ST. TO BE ACTIVATED IN STEP 2.
 - COMPLETE CONSTRUCTION OF PROPOSED DRAINAGE AND UTILITY WORK.

STEP 2:

- USE RSD 1101.02 SHEETS 1, 3, 4, & 5, PERFORM THE FOLLOWING:
- REMOVE PCB AND CRASH CUSHIONS INSTALLED IN PHASE II STEP 1.
 - PLACE FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS (POLYUREA) AND PERMANENT MARKERS (SNOWPLOABLE/PERMANENT RAISED) FROM -L- STA.11+50 +/- TO -L- STA.37+25 +/-.
 - REMOVE DETOUR SIGNINGS FOR US 17 ALTERNATE DETOUR ROUTE.
 - REMOVE ALL TRAFFIC CONTROL DEVICES AND OPEN ALL ROAD TO PROPOSED TRAFFIC PATTERN.

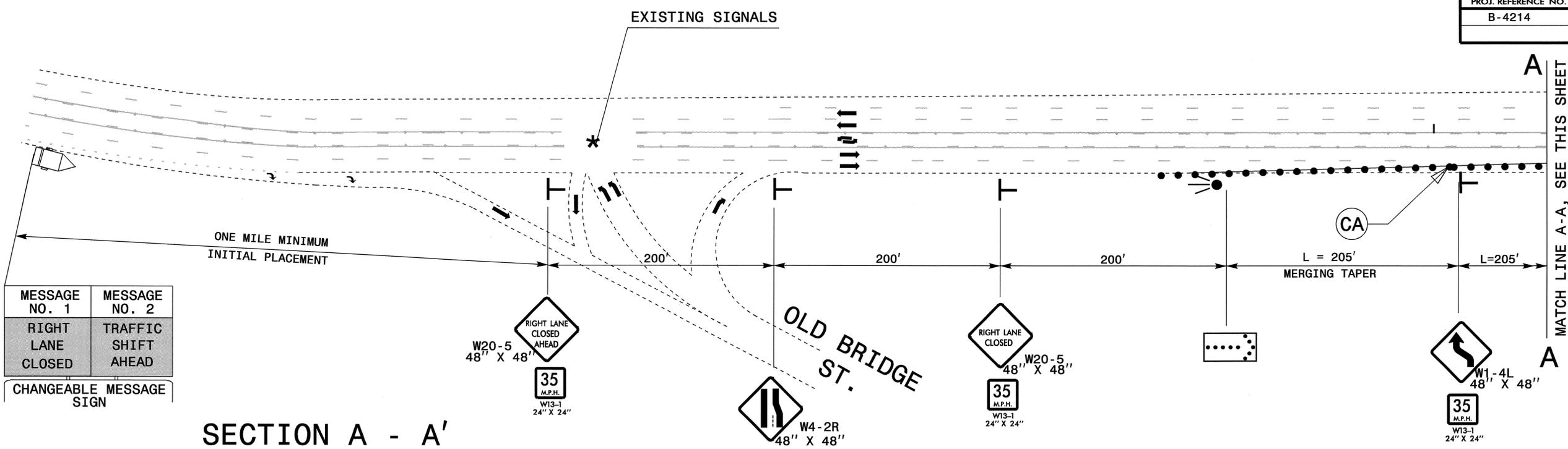
31-DEC-2008 10:31 \\dot\cfsr\root01\projstore\proj\hiprojects-b\4214\trafficoontrol\top_b-4214_top-2&3.dgn AT WZTC244737 palawandos

APPROVED: _____ DATE: _____	GENERAL NOTES AND PHASING		REVISIONS	
				
		DWG. BY: HAL		
		DESIGN BY: HAL		
		REVIEWED BY: JI		

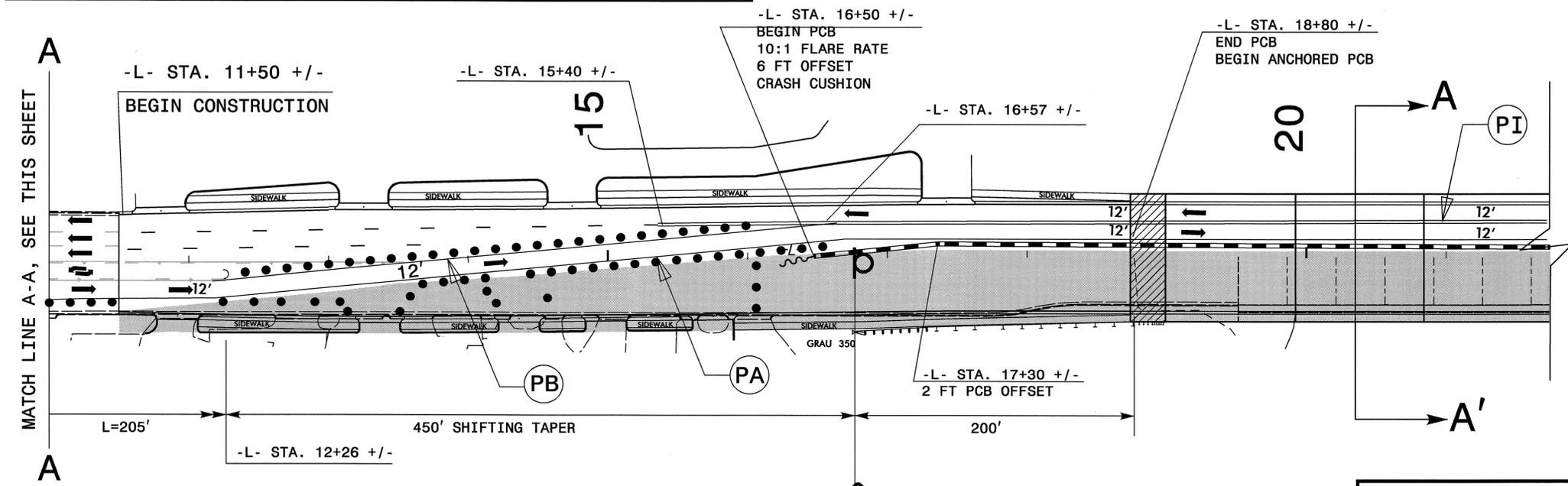
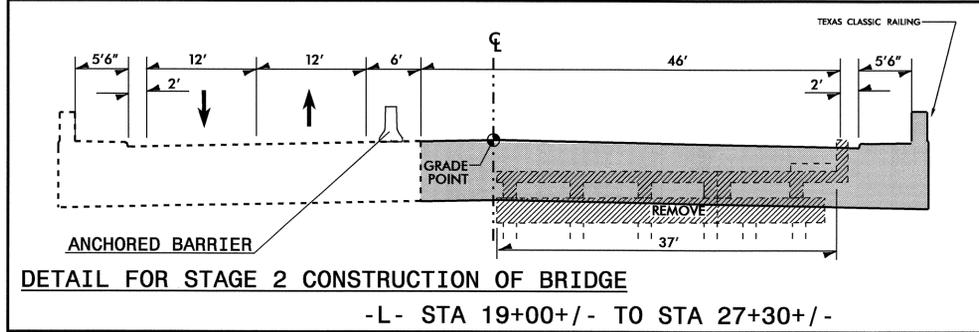


APPROVED:	DATE:	PHASE I DETAIL 1					
	SCALE: NONE						
	DATE: NOV 08						
	DWG. BY: HAL						
	DESIGN BY: HAL						
REVIEWED BY: JI	REVISIONS	<table border="1"> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table>					

21-DEC-2009 13:01
 \\dof\dfs\00101\proj\top\projects-b\4214\traffico\trafficocontrol\top\b-4214_ph1_top4&5.dgn
 sblennings AT WZ124731



SECTION A - A'



APPROVED: _____ DATE: _____

SEAL
PROFESSIONAL ENGINEER
JOSEPH ISHAK
028380
DEC 31 2008

PHASE II DETAIL 1		REVISIONS	
SCALE: NONE	DATE: NOV 08		
DWG. BY: HAL	DESIGN BY: HAL		
REVIEWED BY: JI			

31-DEC-2008 10:29
 \\dot\dfsroot\projstore\proj\ipproj\projects\b4214\traffic\trafficcontrol\top\b-4214_Phil_TCP6&7.dgn
 halawandos AT WZTC244737

MESSAGE NO. 1	MESSAGE NO. 2
WK. ZONE US-17B NC-24B	EXPECT DELAYS

CHANGEABLE MESSAGE SIGN

MESSAGE NO. 1	MESSAGE NO. 2
ALT RT TO AVOID DELAYS	US-17 S NC-24 W

CHANGEABLE MESSAGE SIGN

MESSAGE NO. 1	MESSAGE NO. 2
WK. ZONE US-17B NC-24B	EXPECT DELAYS

CHANGEABLE MESSAGE SIGN

MESSAGE NO. 1	MESSAGE NO. 2
ALT RT TO AVOID DELAYS	NC-24 E TO US-17 N

CHANGEABLE MESSAGE SIGN

MESSAGE NO. 1	MESSAGE NO. 2
ALT RT TO AVOID DELAYS	US-17 S NC-24 W

CHANGEABLE MESSAGE SIGN

MESSAGE NO. 1	MESSAGE NO. 2
WK. ZONE US-17B NC-24B	EXPECT DELAYS

CHANGEABLE MESSAGE SIGN

MESSAGE NO. 1	MESSAGE NO. 2
ALT RT TO AVOID DELAYS	NC-24 E TO US-17 N

CHANGEABLE MESSAGE SIGN

MESSAGE NO. 1	MESSAGE NO. 2
WK. ZONE US-17B NC-24B	EXPECT DELAYS

CHANGEABLE MESSAGE SIGN

MESSAGE NO. 1	MESSAGE NO. 2
ALT RT TO AVOID DELAYS	US-17 N NC-24 E

CHANGEABLE MESSAGE SIGN

MESSAGE NO. 1	MESSAGE NO. 2
WK. ZONE US-17B NC-24B	EXPECT DELAYS

CHANGEABLE MESSAGE SIGN

LEGEND

 CHANGEABLE MESSAGE SIGN

 NB / SB US-17 ALTERNATE DETOUR ROUTE

APPROVED: _____ DATE: _____	US 17 ALTERNATE DETOUR ROUTE CMS LOCATIONS		<table border="1"> <tr> <td>SCALE:</td> <td>NONE</td> </tr> <tr> <td>DATE:</td> <td>NOV. 08</td> </tr> <tr> <td>DWG. BY:</td> <td>HAL</td> </tr> <tr> <td>DESIGN BY:</td> <td>HAL</td> </tr> <tr> <td>REVIEWED BY:</td> <td>JI</td> </tr> </table>		SCALE:	NONE	DATE:	NOV. 08	DWG. BY:	HAL	DESIGN BY:	HAL	REVIEWED BY:	JI
SCALE:					NONE									
DATE:	NOV. 08													
DWG. BY:	HAL													
DESIGN BY:	HAL													
REVIEWED BY:	JI													
 Dec 31, 2008			<table border="1"> <tr> <td colspan="2">REVISIONS</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table>		REVISIONS									
REVISIONS														

3-DEC-2008 10:26
 \\dot\dfsroot\proj\ltp\projects-b\4214\traffic\trafficcontrol\top\4214_tcp_8.dgn
 halawandos AT WZTC244737

PROJ. REFERENCE NO.	SHEET NO.
B-4214	TCP-9

TEMPORARY SHORING RECOMMENDATIONS

Temporaray Shoring No. 1

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.

DO NOT USE A TEMPORARY MSE WALL FROM STATION 18+80 -L- +/- TO 19+55 -L- +/-, 0 FT. TO 3 FT. OFFSET RIGHT OF CENTERLINE.

WHEN USING CONTRACTOR DESIGNED SHORING FROM STATION 18+80 -L- +/- TO 19+55 -L- +/-, 0 FT. TO 3 FT. OFFSET RIGHT OF CENTERLINE. DESIGN SHORING FOR THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:

UNIT WEIGHT OF SOIL ABOVE WATER TABLE, $\gamma = 120$ PCF
UNIT WEIGHT OF SOIL BELOW WATER TABLE, $\gamma = 60$ PCF
FRICTION ANGLE, $\phi = 30$ DEGREES
COHESION, $c = 0$ PSF

FOR CONTRACTOR DESIGNED SHORING, SURVEY THE SHORING LOCATION TO DETERMINE EXISTING ELEVATIONS AND ACTUAL DESIGN HEIGHTS BEFORE BEGINNING DESIGN.

FOR PORTABLE CONCRETE BARRIERS ABOVE AND BEHIND TEMPORARY SHORING, USE AN NCDOT PORTABLE CONCRETE BARRIER (UNANCHORED OR ANCHORED) OR AN OREGON TALL F-SHAPE CONCRETE BARRIER IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS.

Temporaray Shoring No. 2

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.

DO NOT USE A TEMPORARY MSE WALL FROM STATION 27+20 -L- +/- TO 27+50 -L- +/-, 0 FT. TO 3 FT. OFFSET RIGHT OF CENTERLINE.

WHEN USING CONTRACTOR DESIGNED SHORING FROM STATION 27+20 -L- +/- TO 27+50 -L- +/-, 0 FT. TO 3 FT. OFFSET RIGHT OF CENTERLINE. DESIGN SHORING FOR THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:

UNIT WEIGHT OF SOIL ABOVE WATER TABLE, $\gamma = 120$ PCF
UNIT WEIGHT OF SOIL BELOW WATER TABLE, $\gamma = 60$ PCF
FRICTION ANGLE, $\phi = 30$ DEGREES
COHESION, $c = 0$ PSF

FOR CONTRACTOR DESIGNED SHORING, SURVEY THE SHORING LOCATION TO DETERMINE EXISTING ELEVATIONS AND ACTUAL DESIGN HEIGHTS BEFORE BEGINNING DESIGN.

FOR PORTABLE CONCRETE BARRIERS ABOVE AND BEHIND TEMPORARY SHORING, USE AN NCDOT PORTABLE CONCRETE BARRIER (UNANCHORED OR ANCHORED) OR AN OREGON TALL F-SHAPE CONCRETE BARRIER IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS.

19-DEC-2008 09:56
d:\projects\B-4214\shrg\b-4214_tc_top_9.dgn
\$\$\$USERNAME\$\$\$

APPROVED: <i>T. T. Zan</i> DATE: <i>12/19/08</i>		TEMPORARY SHORING RECOMMENDATIONS	
	SCALE: NONE		REVISIONS
	DATE: Dec. 08		
	DWG. BY:		
	DESIGN BY:		
REVIEWED BY:			

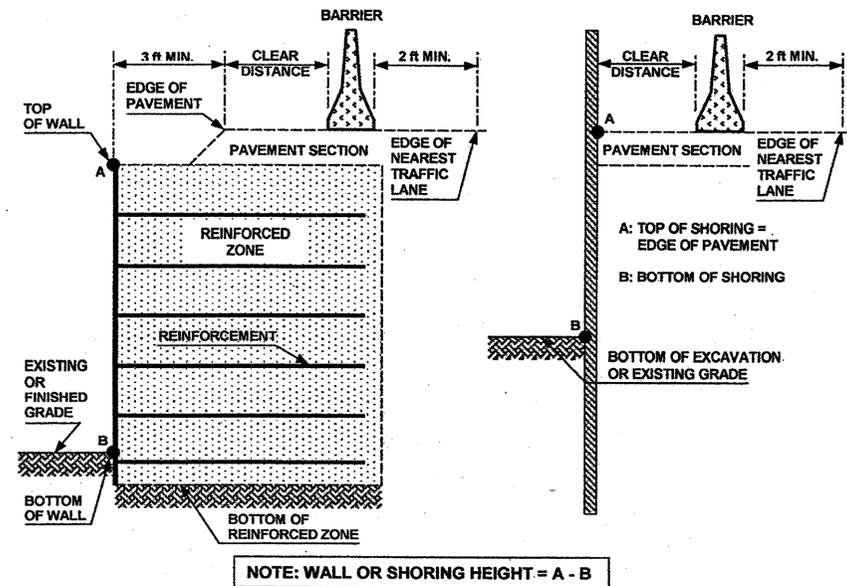


FIGURE A

NOTES

- REFER TO THE TRAFFIC CONTROL PLANS FOR SHORING LOCATIONS AND SOIL PARAMETERS.
- REFER TO THE "TEMPORARY SHORING" PROJECT SPECIAL PROVISION FOR MORE INFORMATION ABOUT TEMPORARY SHORING, MEASUREMENT AND PAYMENT.
- PROVIDE PORTABLE CONCRETE BARRIER TO PROTECT TEMPORARY SHORING IF SHORING IS LOCATED WITHIN THE CLEAR ZONE AS DEFINED IN THE AASHTO ROADSIDE DESIGN GUIDE.
- BASED ON THE CLEAR DISTANCE, OFFSET, DESIGN SPEED AND PAVEMENT TYPE, CHOOSE AN UNANCHORED PCB, ANCHORED PCB OR AN OREGON BARRIER FROM THE TABLE SHOWN IN FIGURE B. FOR TRAFFIC LANES AND PORTABLE CONCRETE BARRIER LOCATED ABOVE AND BEHIND TEMPORARY SHORING, THE FOLLOWING ARE DEFINED AS:

CLEAR DISTANCE - HORIZONTAL DISTANCE FROM THE BACK FACE OF THE BARRIER TO THE EDGE OF PAVEMENT FOR TEMPORARY MSE WALL OR TO THE FACE OF NON-ANCHORED TEMPORARY SHORING AS SHOWN IN FIGURE A.

OFFSET - HORIZONTAL DISTANCE FROM THE FRONT FACE OF THE BARRIER TO CENTERLINE OF THE FURTHEST TRAFFIC LANE AS SHOWN IN FIGURE B FOR 3 TRAFFIC LANES.
- AT THE CONTRACTOR'S OPTION OR IF THE MINIMUM REQUIRED CLEAR DISTANCE IS NOT AVAILABLE, SET AN UNANCHORED PCB AGAINST THE TRAFFIC SIDE OF THE SHORING AND DESIGN SHORING FOR TRAFFIC IMPACT OR USE THE "SURCHARGE CASE WITH TRAFFIC IMPACT" FOR THE STANDARD TEMPORARY SHORING.
- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.
- USE OREGON TALL F-SHAPE CONCRETE BARRIER IN ACCORDANCE WITH DETAIL DRAWING AND SPECIAL PROVISION OBTAINED FROM: [HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/WZTC/DESRES/ENGLISH/DESRESENG.HTML](http://www.ncdot.org/DOH/PRECONSTRUCT/WZTC/DESRES/ENGLISH/DESRESENG.HTML)
- UNLESS NOTED OTHERWISE ON THE PLANS, SET PORTABLE CONCRETE BARRIER WITH A MINIMUM DISTANCE OF 2 FT BETWEEN THE FRONT FACE OF THE BARRIER AND THE EDGE OF THE NEAREST TRAFFIC LANE AS SHOWN IN FIGURE A.
- FOR PORTABLE CONCRETE BARRIER ABOVE AND BEHIND TEMPORARY MSE WALLS, PROVIDE A MINIMUM DISTANCE OF 3 FT BETWEEN THE EDGE OF PAVEMENT AND THE WALL FACE AS SHOWN IN FIGURE A. IF THESE MINIMUM REQUIRED DISTANCES ARE NOT AVAILABLE, CONTACT THE ENGINEER.
- TABLE SHOWN IN FIGURE B IS BASED ON NCDOT RESEARCH PROJECT NO. 2005-010 WITH VEHICLE TYPE USED FOR NCHRP 350 CRASH TESTS. BARRIER DEFLECTIONS AND RESULTING MINIMUM REQUIRED CLEAR DISTANCES MIGHT VARY SIGNIFICANTLY FOR LARGER HEAVIER VEHICLES, RUNS OF BARRIER LESS THAN 200' IN LENGTH AND WET OR DRY PAVEMENT.

MINIMUM REQUIRED CLEAR DISTANCE, inches

Barrier Type	Pavement Type	Offset * ft	Design Speed, mph					
			<30	31-40	41-50	51-60	61-70	71-80
Unanchored PCB	Asphalt	<8	24	26	29	32	36	40
		8-14	26	28	31	35	38	42
		14-20	27	29	34	36	39	43
		20-26	28	31	35	38	40	44
		26-32	29	32	36	39	42	45
		32-38	30	34	38	41	43	46
		38-44	31	34	41	43	45	48
		44-50	31	35	41	43	46	49
		50-56	32	36	42	44	47	50
	>56	32	36	42	45	47	51	
	Concrete	<8	17	18	21	22	25	26
		8-14	19	20	23	25	26	29
		14-20	22	22	24	26	28	31
		20-26	23	24	26	27	30	34
		26-32	24	25	27	28	32	35
		32-38	24	26	27	30	33	36
		38-44	25	26	28	30	34	37
		44-50	26	26	28	32	35	37
50-56		26	26	28	32	35	38	
>56	26	27	29	32	36	38		
Anchored PCB or Oregon Barrier	Asphalt	All Offsets	24 for All Design Speeds					
Anchored PCB or Oregon Barrier	Concrete (including bridge approach slabs)	All Offsets	12 for All Design Speeds					

* See Figure Below

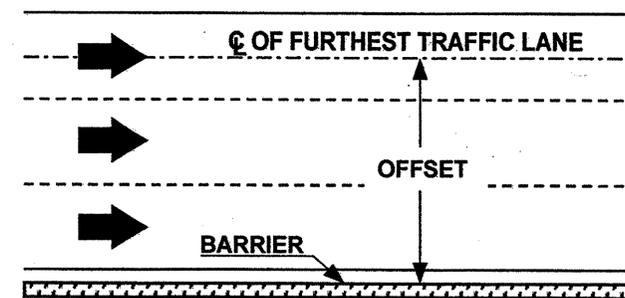


FIGURE B

APPROVED: _____ DATE: _____	PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS		REVISIONS						
			NONE DATE: 3/07 DWG. BY: JI DESIGN BY: JI REVIEWED BY: JI		<table border="1"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>				

22-MAR-2007 09:44 C:\GROUPS\WZTC\share\stds.in.progress\barrierstd.dgn

