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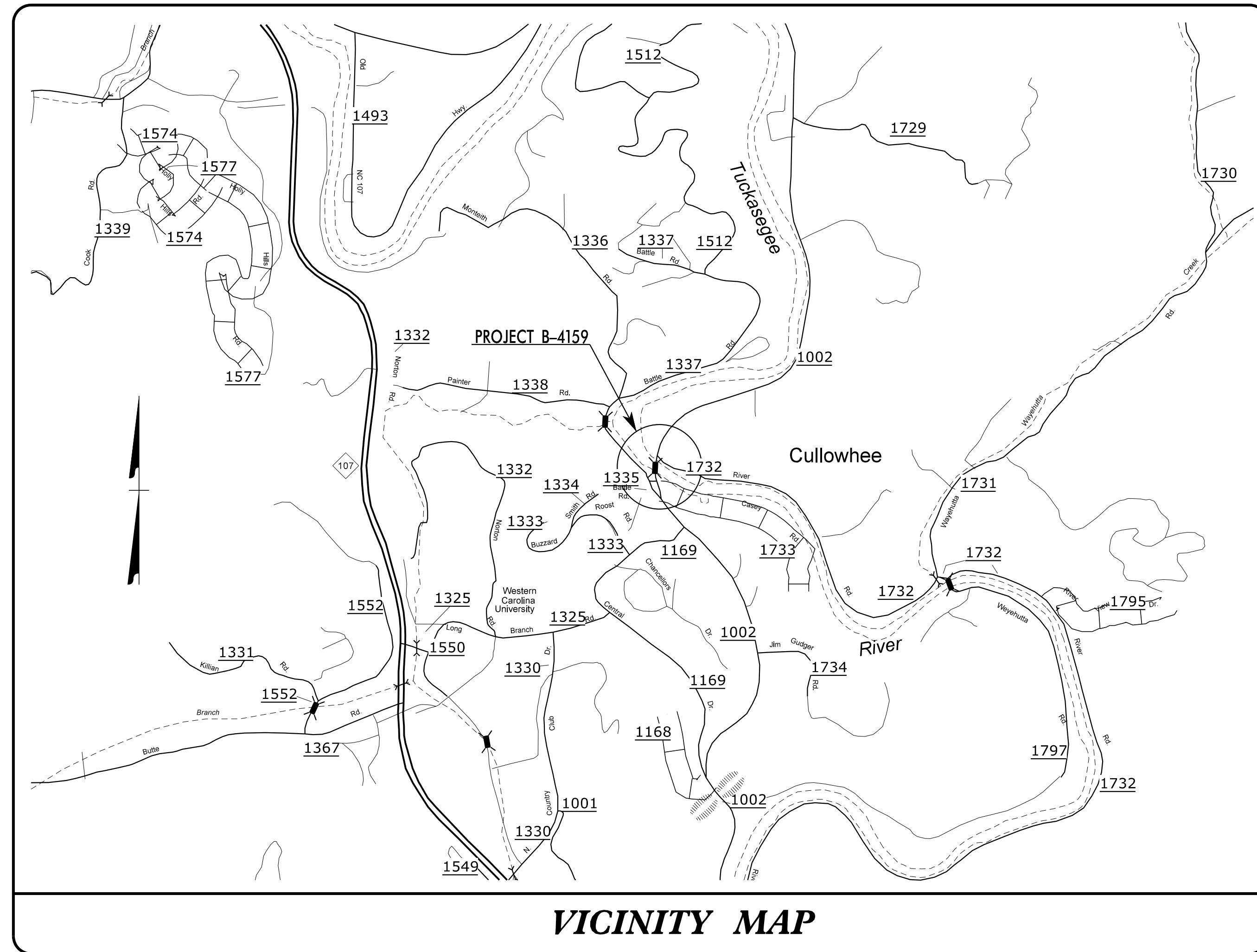
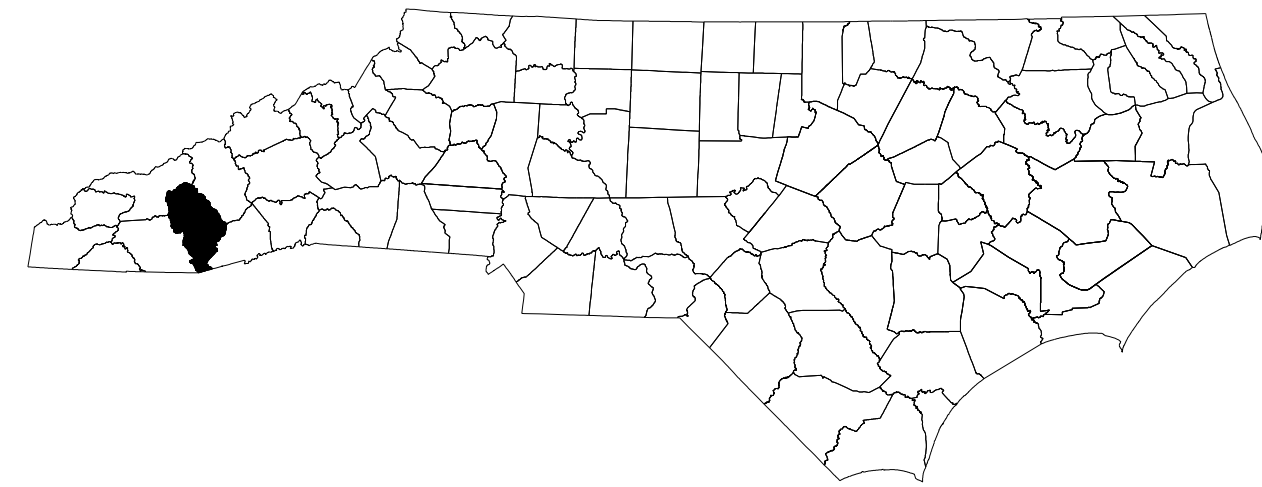
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

JACKSON COUNTY



VICINITY MAP

INDEX OF SHEETS

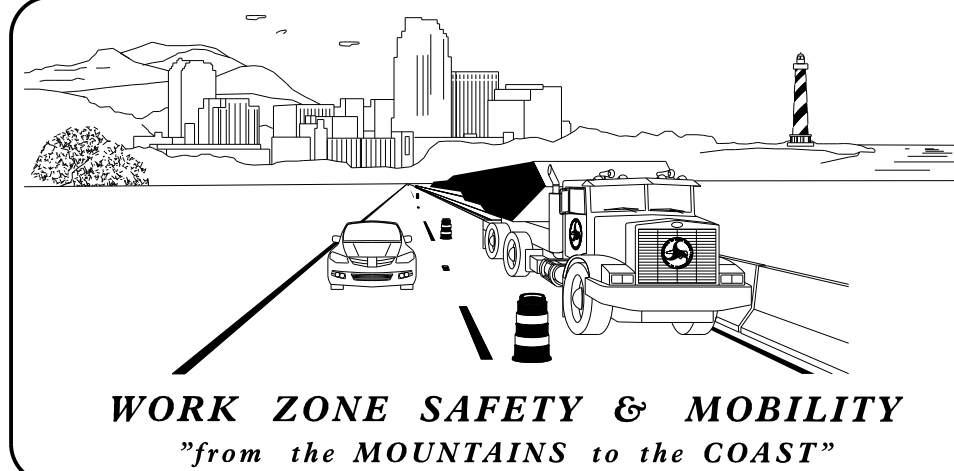
SHEET NO.	TITLE
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SHEET NO.
TMP-1

B-4159

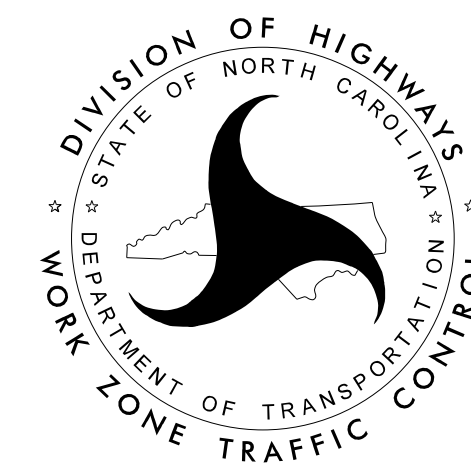
TIP PROJECT:

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N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
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APPROVED: *J. W. Woolard, Jr.*
DATE: 8/27/2014

SEAL



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
1101.06	WARNING SIGNS FOR BLASTING ZONES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1170.01	POSITIVE PROTECTION
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - 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

WEDGING

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

- CA - WHITE EDGELINE (COLD APPLIED PLASTIC-TYPE 4) - 4"
- CI - YELLOW DOUBLE CENTER (COLD APPLIED PLASTIC-TYPE 4) - 4"
- PA - WHITE EDGELINE (PAINT) - 4"
- PD - 3 FT. WHITE MINISKIP (PAINT) - 4"
- PE - WHITE SOLID LANE LINE (PAINT) - 4"
- PI - YELLOW DOUBLE CENTER (PAINT) - 4"
- PP - YELLOW DIAGONAL (PAINT) - 8"
- P2 - WHITE STOPBAR (PAINT) - 24"
- P8 - 2 FT. WHITE MINISKIP (PAINT) - 4"
- MH - YELLOW & YELLOW TEMPORARY RAISED MARKER
- MI - CRYSTAL & RED TEMPORARY RAISED MARKER
- MM - CRYSTAL & CRYSTAL TEMPORARY RAISED MARKER
- QA - LEFT TURN ARROW (PAINT)
- QJ - BICYCLE SYMBOL (PAINT)
- QK - BICYCLE STRAIGHT ARROW (PAINT)

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APPROVED: DATE: 10/2/2015 		ROADWAY STANDARD DRAWINGS & LEGEND
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GENERAL NOTES / LOCAL 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 UNDESIRE 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
-L- SR 1002 (OLD CULLOWHEE ROAD)	FROM 7:00 A.M. TO 4:00 P.M.

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

ROAD NAME
-L- SR 1002 (OLD CULLOWHEE ROAD)

HOLIDAY

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S DAY, BETWEEN THE HOURS OF 7:00 A.M. DECEMBER 31st AND 4:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 4:00 P.M. THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 7:00 A.M. THURSDAY AND 4:00 P.M. MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY TO 4:00 P.M. TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 7:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 4:00 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 4:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

6. FOR LABOR DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY AND 4:00 P.M. TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 7:00 A.M. TUESDAY TO 4:00 P.M. MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 7:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 4:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.
9. FOR WESTERN CAROLINA UNIVERSITY FRESHMAN MOVE-IN DAYS, BETWEEN THE HOURS OF 7:00 A.M. THE FRIDAY BEFORE FRESHMAN MOVE-IN DAYS AND 7:00 A.M. THE MONDAY AFTER FRESHMAN MOVE-IN DAYS.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- C) 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.

D) 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.

E) 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.

F) 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 REMAIN WITHIN THE CLOSED TRAVEL LANE.

G) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

H) PROVIDE TRAFFIC CONTROL FOR APPROPRIATE LANE CLOSURES FOR SURVEYING DONE BY THE DEPARTMENT.

PAVEMENT EDGE DROP OFF REQUIREMENTS

I) 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.

J) 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) 100 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

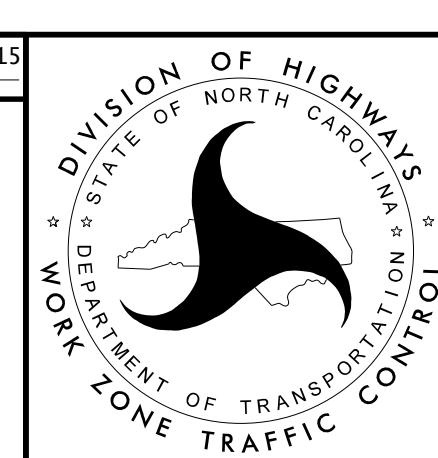
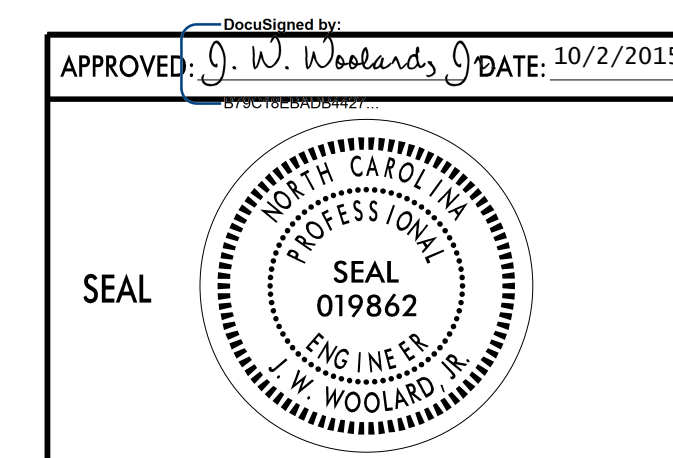
SIGNING

L) 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.

M) PROVIDE PERMANENT SIGNING.

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

O) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 100 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.



**TRANSPORTATION
OPERATIONS
PLAN**

TRAFFIC BARRIER

- O) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRAFFIC CONTROL PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATION UNLESS OTHERWISE STATED IN THE TRAFFIC CONTROL PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE.

ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE TEMPORARY BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE/RESET TEMPORARY BARRIER AT NO COST TO THE DEPARTMENT UNLESS OTHERWISE STATED IN THE TRAFFIC CONTROL PLANS, TEMPORARY BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY BARRIER WITH THE TRAFFIC FLOW BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE TEMPORARY BARRIER AGAINST THE TRAFFIC FLOW BEGINNING WITH THE DOWNSTREAM SIDE OF TRAFFIC.

INSTALL AND SPACE DRUMS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH) TO CLOSE OR KEEP THE SECTION OF THE ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.

- P) PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED IMPACT ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.

PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING TRAFFIC AS FOLLOWS OR AS SHOWN IN THE PLANS:

POSTED SPEED LIMIT	MINIMUM OFFSET
40 OR LESS	15 FT
45 - 50	20 FT
55	25 FT
60 MPH or HIGHER	30 FT

TRAFFIC CONTROL DEVICES

- Q) 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 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.

- R) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

PAVEMENT MARKINGS AND MARKERS

- S) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS SHOWN IN THE PAVEMENT MARKING PLAN.

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

ROAD NAME	MARKING	MARKER
-L- SR 1002	PAINT	TEMPORARY RAISED
-Y1-, -Y2-, -DR1-	PAINT	TEMPORARY RAISED
BRIDGE DECK	REMOVABLE COLD APPLIED PLASTIC, TYPE IV	TEMPORARY RAISED

- U) 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.

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

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

TEMPORARY / FINAL SIGNALS

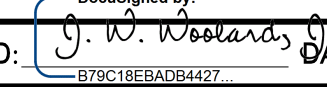

- X) NOTIFY THE ENGINEER TWO (2) MONTHS BEFORE A TRAFFIC SIGNAL INSTALLATION BY OTHERS IS REQUIRED.

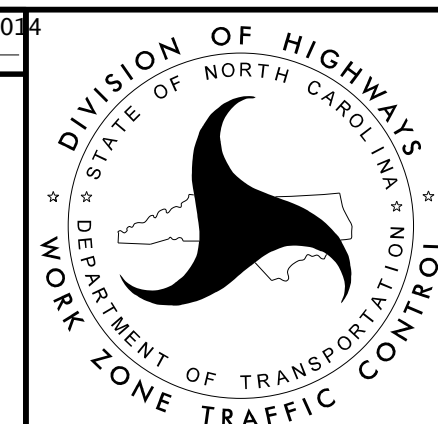
- Y) SHIFT AND REVISE ALL SIGNAL HEADS AS SHOWN ON THE SIGNAL PLANS.

MISCELLANEOUS

- Z) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAY'S TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) 200 FT AND 100 FT RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

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**TRANSPORTATION
OPERATIONS
PLAN**

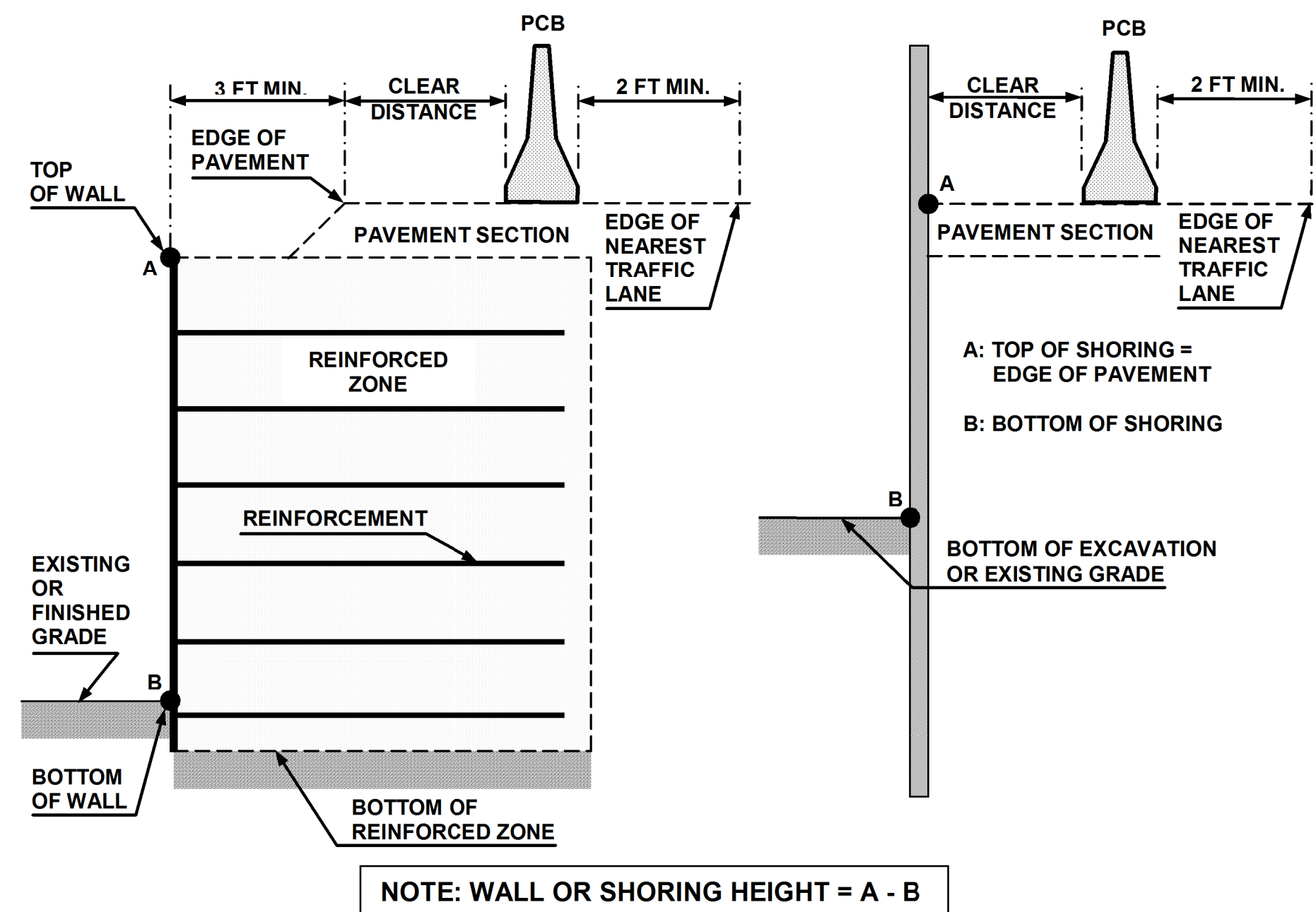


FIGURE A

NOTES

- REFER TO THE TRAFFIC CONTROL PLANS FOR TEMPORARY SHORING LOCATIONS AND NOTES.
- REFER TO THE "TEMPORARY SHORING" PROJECT SPECIAL PROVISION FOR INFORMATION ABOUT TEMPORARY SHORING AND PORTABLE CONCRETE BARRIER (PCB).
- PCB IS REQUIRED IF TEMPORARY SHORING IS LOCATED WITHIN THE CLEAR ZONE IN ACCORDANCE WITH THE AASHTO ROADSIDE DESIGN GUIDE. DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE. (CONTACT NCDOT PAVEMENT MANAGEMENT UNIT FOR APPLICABLE PAVEMENT DESIGN).
- BASED ON THE CLEAR DISTANCE, OFFSET, DESIGN SPEED AND PAVEMENT TYPE, CHOOSE AN UNANCHORED OR ANCHORED PCB FROM THE TABLE SHOWN IN FIGURE B. CLEAR DISTANCE IS DEFINED AS SHOWN IN FIGURE A AND OFFSET IS DEFINED AS SHOWN IN FIGURE B.
- AT THE CONTRACTOR'S OPTION OR IF THE MINIMUM REQUIRED CLEAR DISTANCE IS NOT AVAILABLE, SET PCB NEXT TO AND UP AGAINST THE TRAFFIC SIDE OF THE TEMPORARY SHORING EXCEPT FOR BARRIER ABOVE TEMPORARY WALLS. PCB WITH THE MINIMUM REQUIRED CLEAR DISTANCE IS REQUIRED ABOVE TEMPORARY WALLS.
- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.
- PCB REQUIREMENTS FOR TEMPORARY WALLS APPLY TO TEMPORARY MECHANICALLY STABILIZED EARTH (MSE) WALLS AND TEMPORARY SOIL NAIL WALLS.
- SET PCB WITH A MINIMUM HORIZONTAL DISTANCE OF 2 FT BETWEEN THE FRONT FACE OF THE BARRIER AND THE EDGE OF THE NEAREST TRAFFIC LANE AS SHOWN IN FIGURE A UNLESS OTHERWISE SHOWN IN THE PLANS AND OR AS APPROVED BY THE ENGINEER.
- FOR PCB ABOVE AND BEHIND TEMPORARY 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 FT 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	Asphalt	All Offsets	24 for All Design Speeds					
Anchored PCB	Concrete (including bridge approach slabs)	All Offsets	12 for All Design Speeds					

* See Figure Below

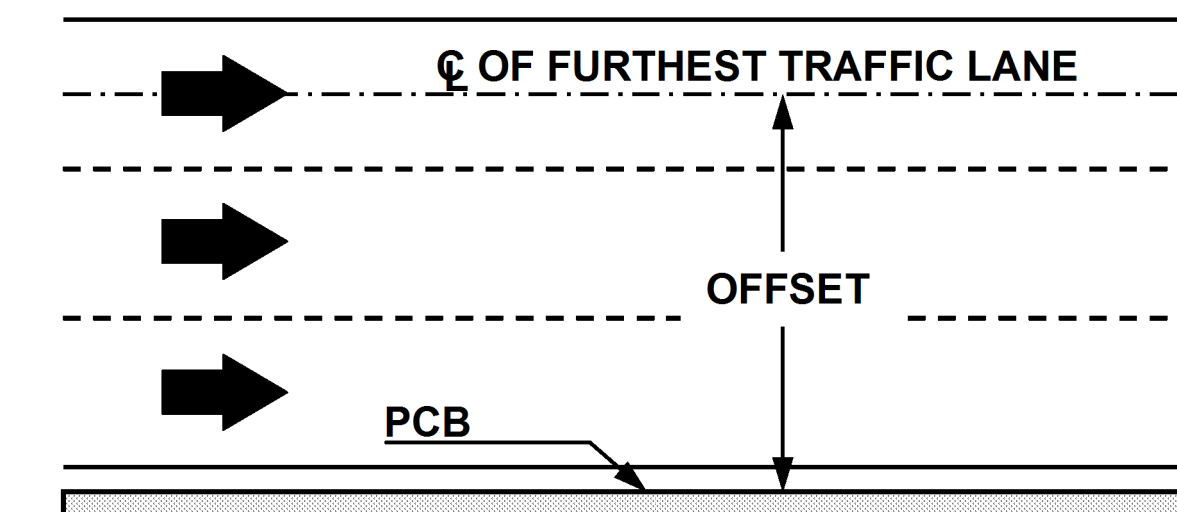
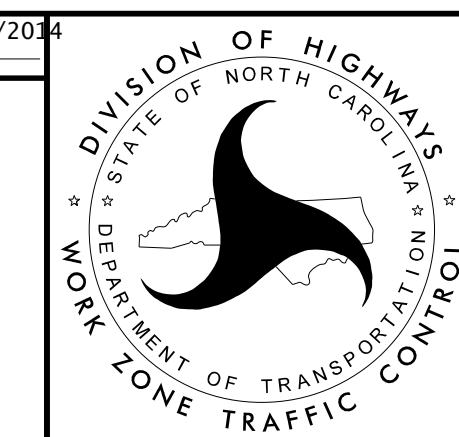
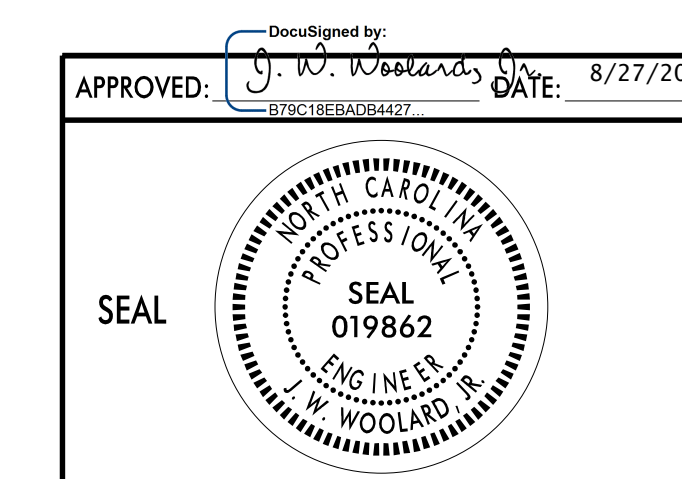


FIGURE B



PORTABLE CONCRETE BARRIER
AT
TEMPORARY SHORING LOCATIONS

TEMPORARY SHORING DATA

SHORING LOCATION NO. 1

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION 18+56 +/-, 9 FT LEFT, TO STATION 18+79 +/-, 9 FT LEFT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 LB/CF
 FRICTION ANGLE (ϕ) = 30 DEGREES
 COHESION (c) = 0 LB/SF
 GROUNDWATER ELEVATION = UNKNOWN

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION 18+56 +/-, 9 FT LEFT, TO STATION 18+79 +/-, 9 FT LEFT, THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 18+56 +/-, 9 FT LEFT, TO STATION 18+79 +/-, 9 FT LEFT, MAY NOT PENETRATE BELOW ELEVATION 2068 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION 18+56 +/-, 9 FT LEFT, TO STATION 18+79 +/-, 9 FT LEFT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 18+56 +/-, 9 FT LEFT, TO STATION 18+79 +/-, 9 FT LEFT. SEE STANDARD DRAWING NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

WHEN BACKFILL FOR BRIDGE APPROACH FILLS OVERLAPS WITH THE REINFORCED ZONE OF TEMPORARY WALLS, USE SHORING BACKFILL OR BACKFILL MATERIAL REQUIRED FOR BRIDGE APPROACH FILLS, WHICHEVER IS BETTER, IN THE REINFORCED ZONE OF TEMPORARY WALLS.

SHORING LOCATION NO. 2

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION 21+52 +/-, 10 FT LEFT, TO STATION 21+76 +/-, 10 FT LEFT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 LB/CF
 FRICTION ANGLE (ϕ) = 30 DEGREES
 COHESION (c) = 0 LB/SF
 GROUNDWATER ELEVATION = UNKNOWN

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION 21+52 +/-, 10 FT LEFT, TO STATION 21+76 +/-, 10 FT LEFT, THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 21+52 +/-, 10 FT LEFT, TO STATION 21+76 +/-, 10 FT LEFT, MAY NOT PENETRATE BELOW ELEVATION 2068 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION 21+52 +/-, 10 FT LEFT, TO STATION 21+76 +/-, 10 FT LEFT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 21+52 +/-, 10 FT LEFT, TO STATION 21+76 +/-, 10 FT LEFT. SEE STANDARD DRAWING NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

WHEN BACKFILL FOR BRIDGE APPROACH FILLS OVERLAPS WITH THE REINFORCED ZONE OF TEMPORARY WALLS, USE SHORING BACKFILL OR BACKFILL MATERIAL REQUIRED FOR BRIDGE APPROACH FILLS, WHICHEVER IS BETTER, IN THE REINFORCED ZONE OF TEMPORARY WALLS.

SHORING LOCATION NO. 3

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION 18+56 +/-, 3 FT LEFT, TO STATION 18+79 +/-, 3 FT LEFT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 LB/CF
 FRICTION ANGLE (ϕ) = 30 DEGREES
 COHESION (c) = 0 LB/SF
 GROUNDWATER ELEVATION = UNKNOWN

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION 18+56 +/-, 3 FT LEFT, TO STATION 18+79 +/-, 3 FT LEFT, THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 18+56 +/-, 3 FT LEFT, TO STATION 18+79 +/-, 3 FT LEFT, MAY NOT PENETRATE BELOW ELEVATION 2068 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION 18+56 +/-, 3 FT LEFT, TO STATION 18+79 +/-, 3 FT LEFT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 18+56 +/-, 3 FT LEFT, TO STATION 18+79 +/-, 3 FT LEFT. SEE STANDARD DRAWING NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

WHEN BACKFILL FOR BRIDGE APPROACH FILLS OVERLAPS WITH THE REINFORCED ZONE OF TEMPORARY WALLS, USE SHORING BACKFILL OR BACKFILL MATERIAL REQUIRED FOR BRIDGE APPROACH FILLS, WHICHEVER IS BETTER, IN THE REINFORCED ZONE OF TEMPORARY WALLS.

SHORING LOCATION NO. 4

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION 21+52 +/-, 3 FT LEFT, TO STATION 21+76 +/-, 3 FT LEFT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 LB/CF
 FRICTION ANGLE (ϕ) = 30 DEGREES
 COHESION (c) = 0 LB/SF
 GROUNDWATER ELEVATION = UNKNOWN

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION 21+52 +/-, 3 FT LEFT, TO STATION 21+76 +/-, 3 FT LEFT, THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.



DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 21+52 +/-, 3 FT LEFT, TO STATION 21+76 +/-, 3 FT LEFT, MAY NOT PENETRATE BELOW ELEVATION 2068 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION 21+52 +/-, 3 FT LEFT, TO STATION 21+76 +/-, 3 FT LEFT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 21+52 +/-, 3 FT LEFT, TO STATION 21+76 +/-, 3 FT LEFT. SEE STANDARD DRAWING NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

WHEN BACKFILL FOR BRIDGE APPROACH FILLS OVERLAPS WITH THE REINFORCED ZONE OF TEMPORARY WALLS, USE SHORING BACKFILL OR BACKFILL MATERIAL REQUIRED FOR BRIDGE APPROACH FILLS, WHICHEVER IS BETTER, IN THE REINFORCED ZONE OF TEMPORARY WALLS.

2/19/2015
 P:\TIP\Projects-B\B4159\TrafficControl\TCP\B4159_TC_TMP-TMP-2A_SHORING_DATA.dgn
 User: jwooldor

APPROVED: <u>Shane C. Clark</u> DATE: 2/19/2015 		SHORING DATA
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NOTE 1: MAINTAIN TRAFFIC FOR ALL DRIVEWAYS AND SECONDARY ROADS FOR THE DURATION OF THE PROJECT.

NOTE 2: TEMPORARILY DE-ACTIVATE OR COVER TEMPORARY SIGNAL WHEN USING A FLAGGER OPERATION

NOTE 3: BEGINNING WITH PHASE I STEP 3 THRU PHASE III STEP 2, THE FOLLOWING GENERAL NOTES DO NOT APPLY: TIME RESTRICTIONS A)

PHASE I

STEP 1

PLACE ADVANCED WORK ZONE WARNING SIGNING USING RSD 1101.01 SHEET 3 OF 3.

STEP 2

USING RSD 1101.02 SHEET 1 OF 15:

- WEDGE -Y1- UP TO BUT NOT INCLUDING THE FINAL LIFT OF SURFACE COURSE. MAY BEGIN CONSTRUCTING SIDEWALK. (SEE TMP-4)
- CONSTRUCT -Y2- AND -DR1- AWAY FROM TRAFFIC, CONSTRUCT TIE-INS & SHIFT TRAFFIC. (SEE TMP-4)
- WEDGE -L- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE. (SEE TMP-4)
 - STA. 14+25 TO STA. 16+66- (TAPER FROM STA. 16+66 TO STA. 18+77 (BEGINNING OF EXISTING BRIDGE) USING 12" PER 100 LF)
 - STA. 23+66 TO STA. 29+75- (TAPER FROM STA. 21+52 (END OF EXISTING BRIDGE) TO STA. 23+66 USING 12" PER 100 LF)

STEP 3

INSTALL TEMPORARY SIGNAL AND COVER/BAG HEADS

USING RSD 1101.02 SHEET 1 OF 15:

- PLACE TEMPORARY PAVEMENT MARKINGS AND PCB ON -L-. ACTIVATE TEMPORARY SIGNAL AND SHIFT TRAFFIC TO 1-LANE, 2-WAY PATTERN FOR PHASE II. (SEE TMP-5)
- CLOSE SR 1335 AZTEC DRIVE, PLACE TEMPORARY PAVEMENT MARKINGS DOWN ON -Y1- AND OPEN TO TRAFFIC. COMPLETE CONSTRUCTION OF SHOULDER ON -Y1-. (SEE TMP-5)
- PLACE TEMPORARY PAVEMENT MARKINGS ON -Y2- AND -DR1-. CLOSE PARTS OF SR 1732 (WAYEHUTTA ROAD) AND OPEN -Y2- AND -DR1- TO TRAFFIC. (SEE TMP-5)

PHASE II

STEP 1

REMOVE PART OF EXISTING BRIDGE; REMOVE PART OF MONTEITH GAP ROAD, WAYEHUTTA ROAD, AND AZTEC DRIVE (SEE TMP-5)

INSTALL TEMPORARY SHORING (SEE TMP-5)

STEP 2

CONSTRUCT PHASE I OF PROPOSED STRUCTURE (SEE TMP-5 AND CONSTRUCTION PLANS)

CONSTRUCT RIGHT SIDE OF -L- UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE AND CONSTRUCT CURB & GUTTER FROM -L- STA. 17+25 TO STA. 18+37 AND STA. 21+71 TO STA. 22+41. (SEE TMP-5)

STEP 3

USING RSD 1101.02 SHEET 1 OF 15, PLACE PAVEMENT MARKINGS AND PCB FOR PHASE III PATTERN, SHIFT TRAFFIC AND REVISE TEMPORARY SIGNAL HEADS. (SEE TMP-6)

PHASE III

STEP 1

REMOVE REMAINDER OF EXISTING STRUCTURE

CONSTRUCT PHASE II OF PROPOSED STRUCTURE (SEE TMP-6 AND CONSTRUCTION PLANS)

STEP 2

CONSTRUCT LEFT SIDE OF -L- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE. CONSTRUCT SIDEWALK AND CURB & GUTTER ON -L- FROM STA. 15+75 TO STA. 18+70 AND STA. 21+85 TO STA. 29+54 (SEE TMP-6)

STEP 3


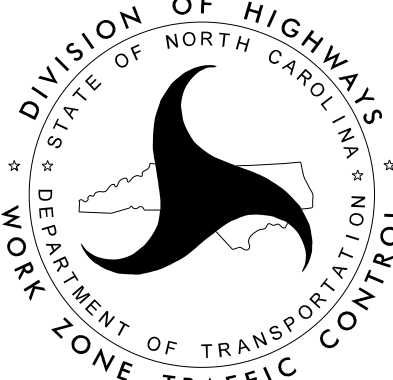
USING RSD 1101.02 SHEET 1 OF 15, REMOVE PCB, TEMPORARY SIGNAL, AND SIGNS; PLACE TEMPORARY MARKINGS IN THE FINAL PATTERN AND SHIFT TRAFFIC TO FINAL PATTERN. (SEE TMP-7)

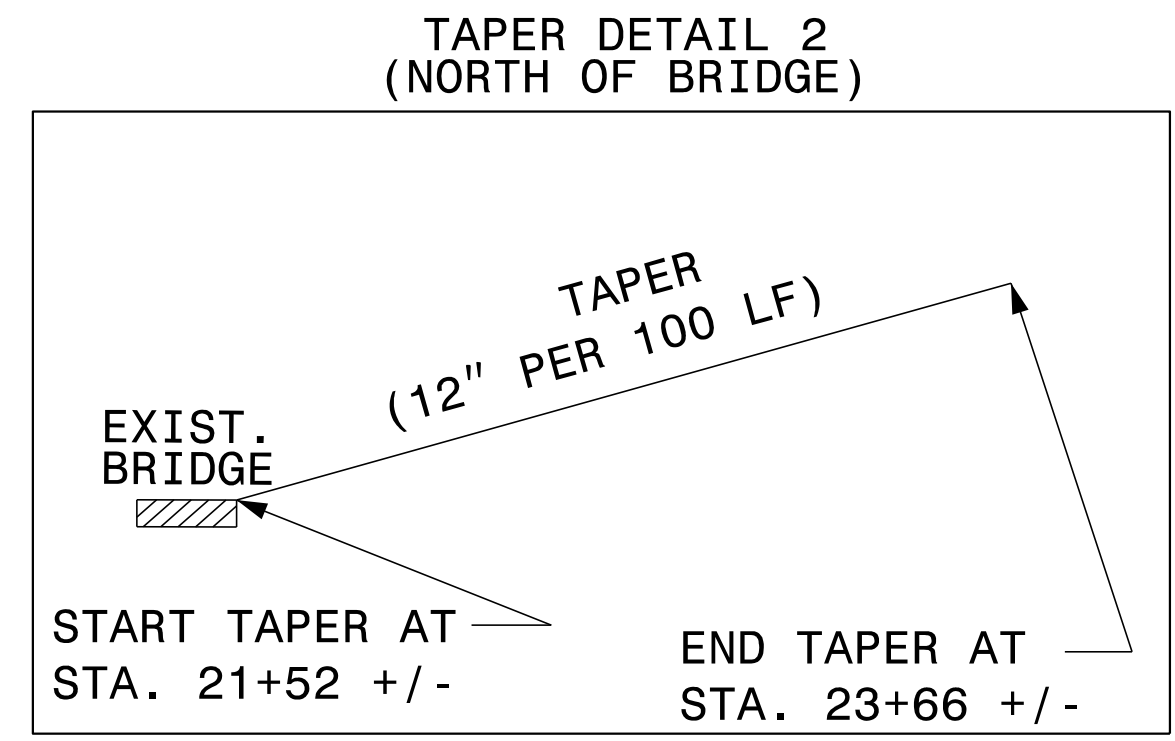
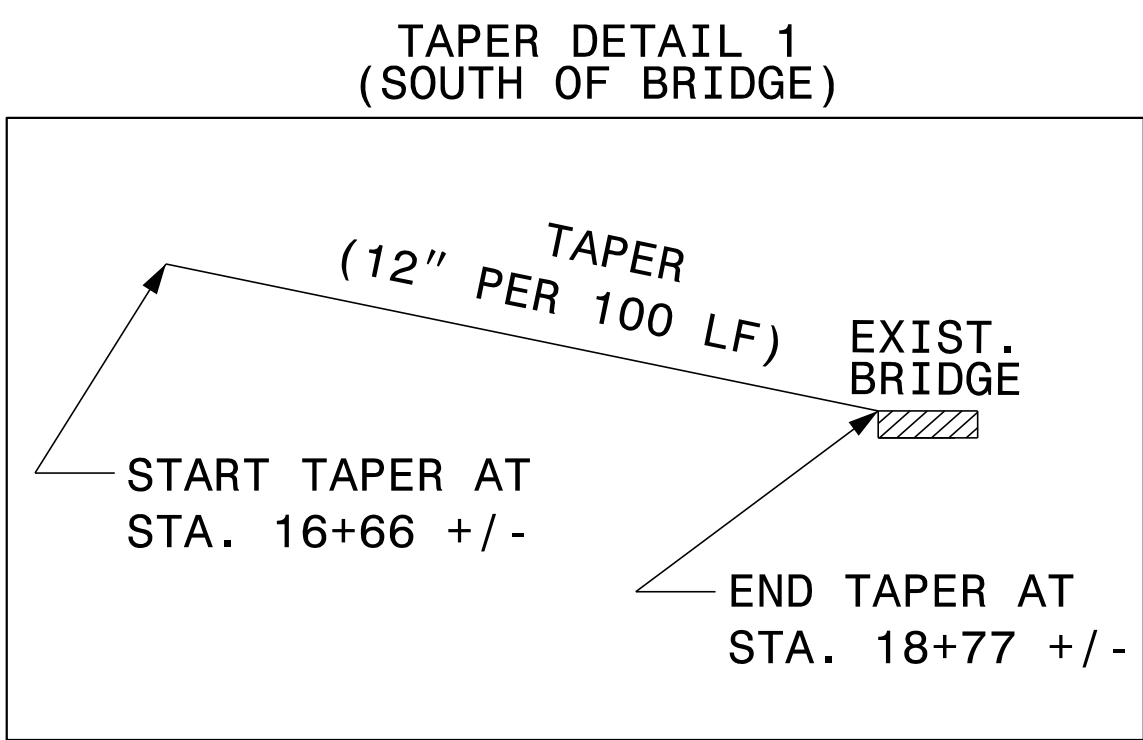
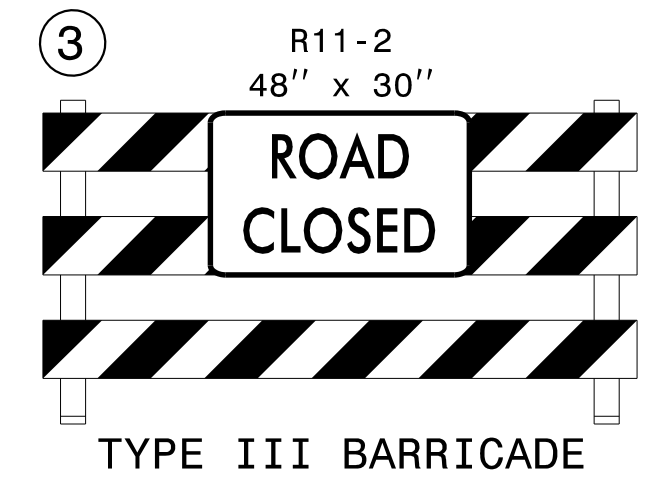
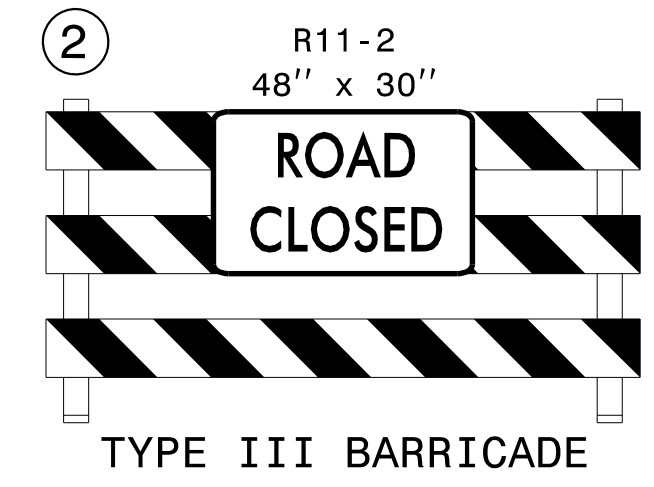
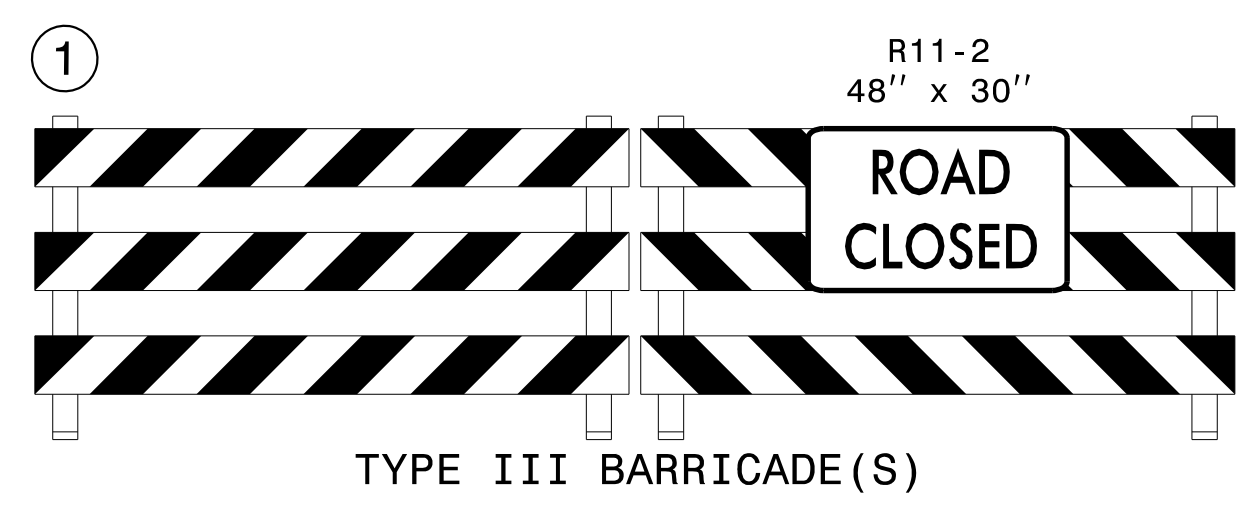
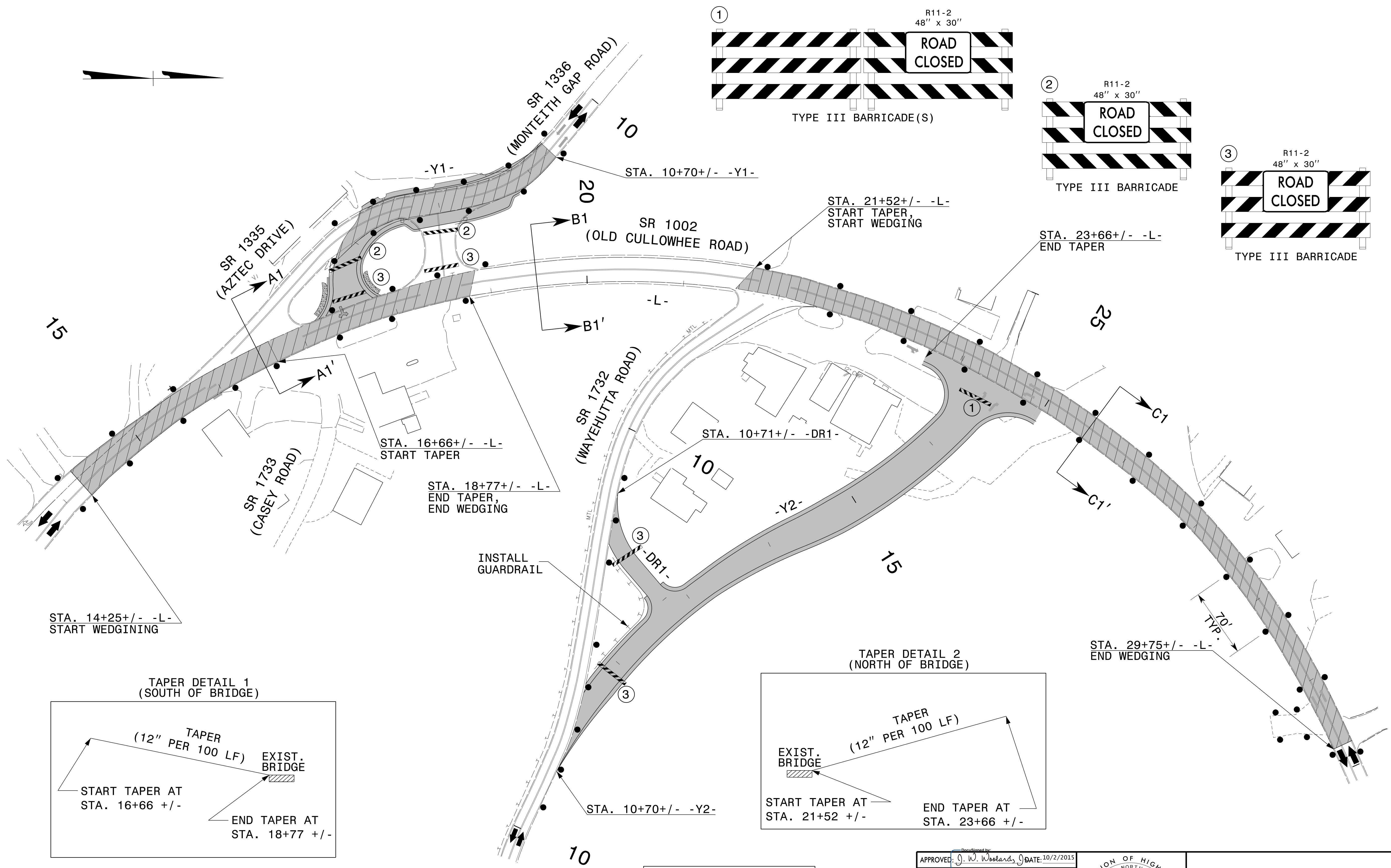
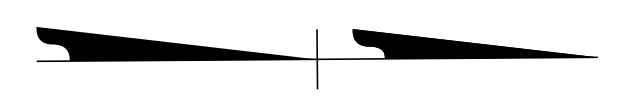
PHASE IV

USING RSD 1101.02 SHEET 1 OF 15, PLACE FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS AS SHOWN IN THE FINAL PAVEMENT MARKING PLANS.

REMOVE ALL TRAFFIC CONTROL DEVICES

10/16/2015 P:\TIP\Projects-B\B4159\TrafficControl\TCP\B4159_TC_TMP-TMP-3_PHASING.dgn User:lwolard

APPROVED: <i>J. W. Woolard</i> DATE: 10/16/2015 		<h1>PHASING</h1>
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SEE TMP-8 FOR SECTIONS
A1-A1', B1-B1', & C1-C1'

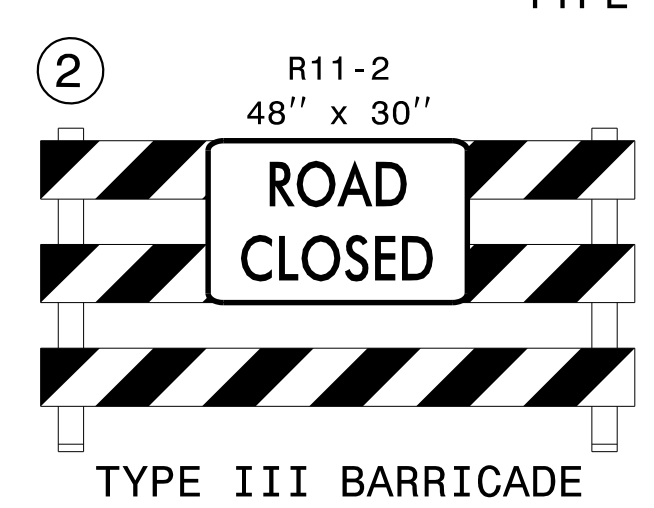
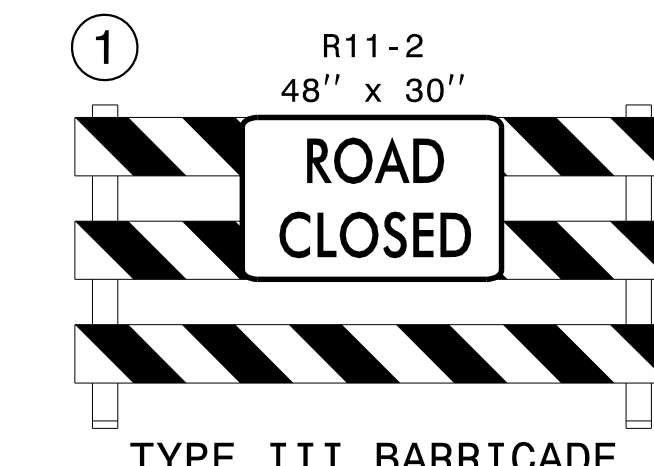
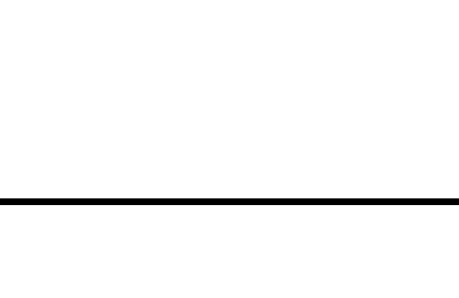
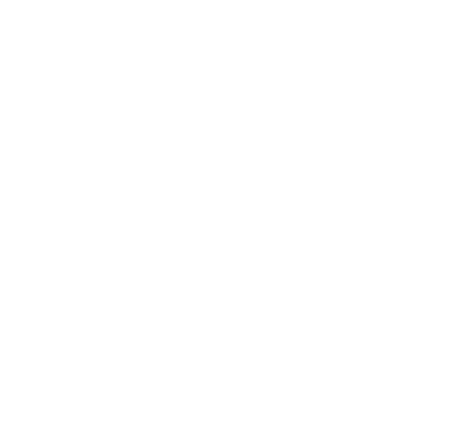
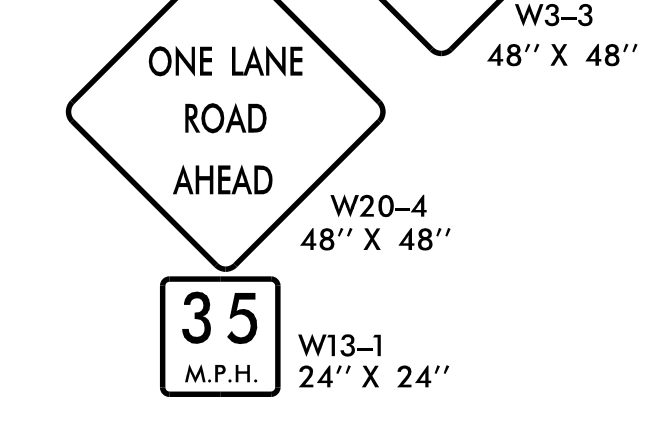
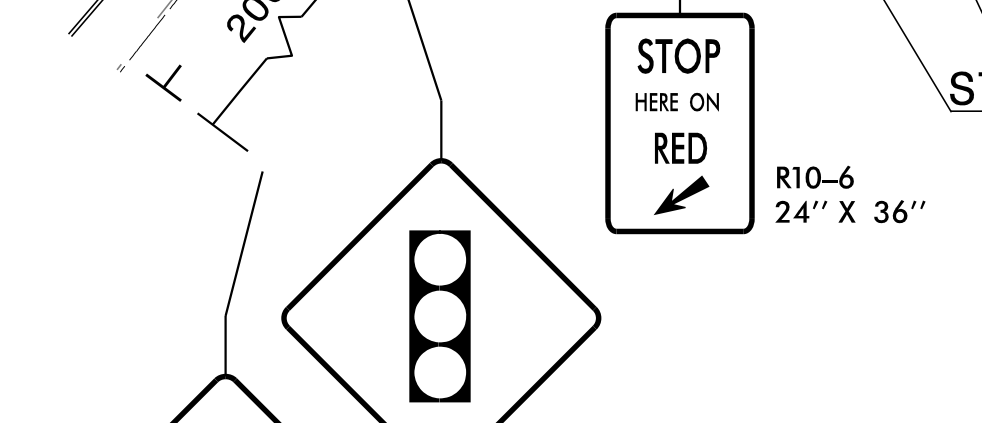
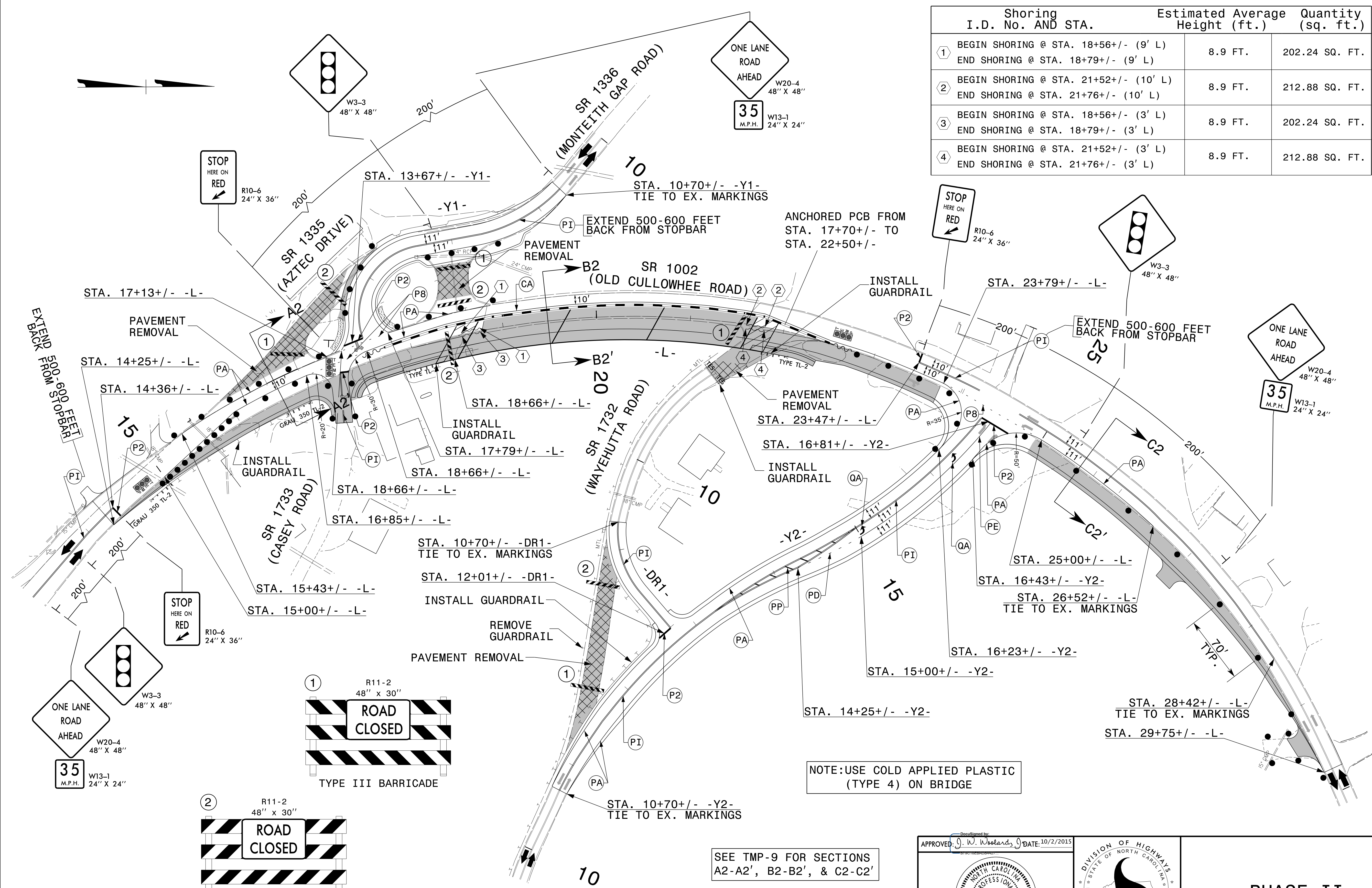
APPROVED: *J. W. Woolard* DATE: 10/2/2015

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

PHASE I, STEP 2

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Shoring I.D. No. AND STA.	Estimated Average Height (ft.)	Quantity (sq. ft.)
① BEGIN SHORING @ STA. 18+56+/- (9' L) END SHORING @ STA. 18+79+/- (9' L)	8.9 FT.	202.24 SQ. FT.
② BEGIN SHORING @ STA. 21+52+/- (10' L) END SHORING @ STA. 21+76+/- (10' L)	8.9 FT.	212.88 SQ. FT.
③ BEGIN SHORING @ STA. 18+56+/- (3' L) END SHORING @ STA. 18+79+/- (3' L)	8.9 FT.	202.24 SQ. FT.
④ BEGIN SHORING @ STA. 21+52+/- (3' L) END SHORING @ STA. 21+76+/- (3' L)	8.9 FT.	212.88 SQ. FT.



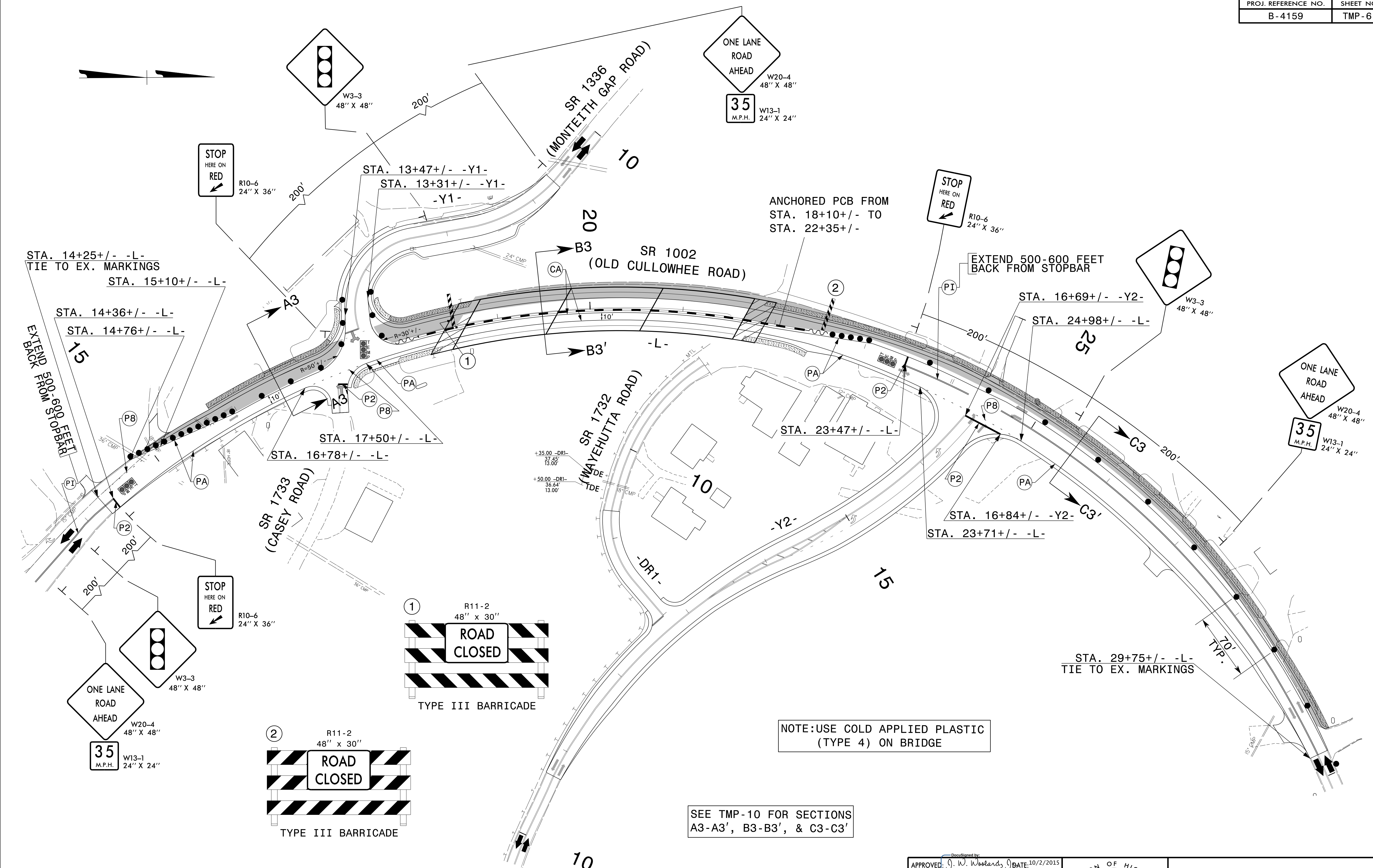
NOTE: USE COLD APPLIED PLASTIC (TYPE 4) ON BRIDGE

SEE TMP-9 FOR SECTIONS A2-A2', B2-B2', & C2-C2'

APPROVED: *J. W. Woolard* DATE: 10/2/2015

PHASE II

10/2/2015 P:\TIP\Projects-B\B4159\TrafficControl\TCP\B4159_TC_TMP-TMP-5_PHASE 2.dgn User:idsfouchko

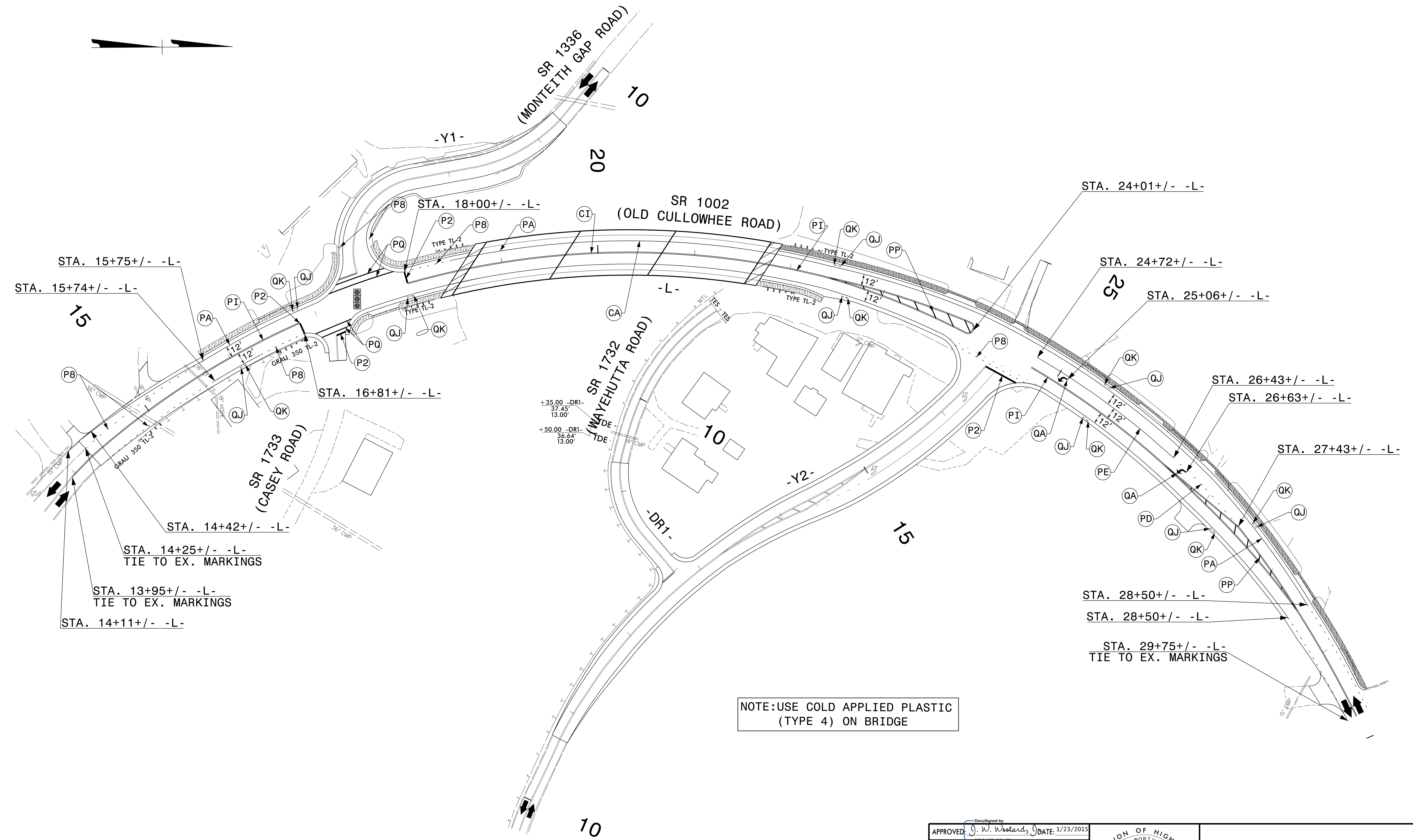


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SEAL

PHASE III

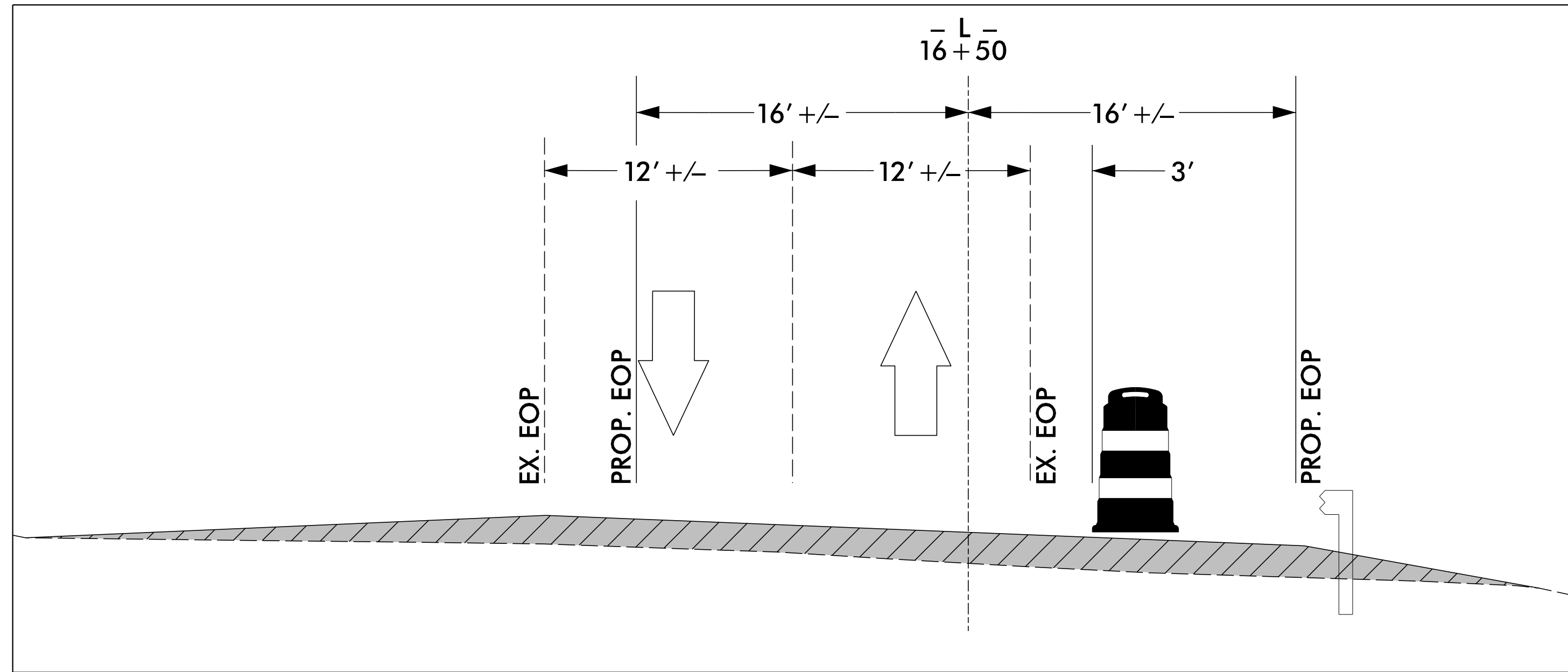


1/23/2015
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 User: jwoolard

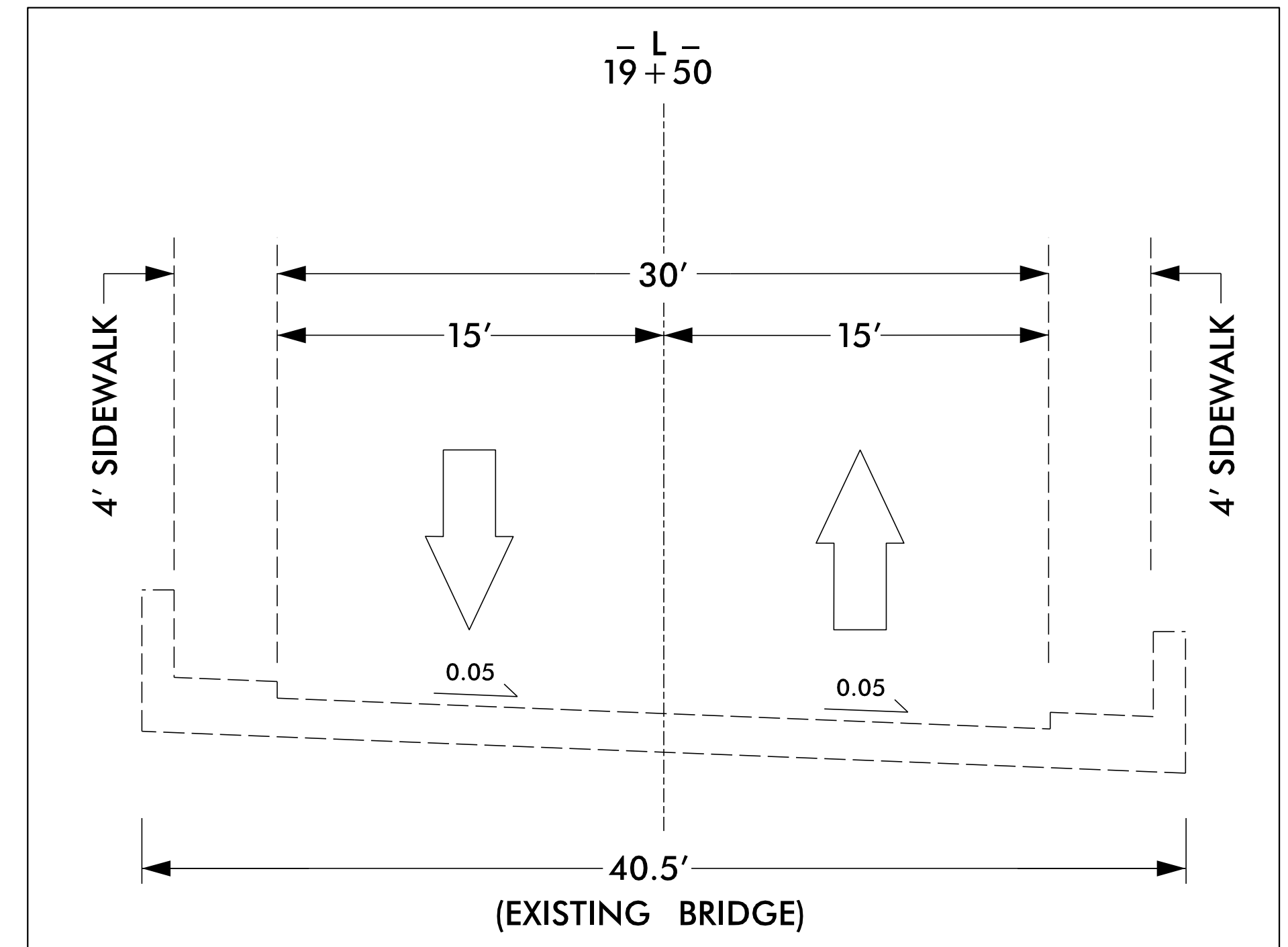
NOTE: USE COLD APPLIED PLASTIC (TYPE 4) ON BRIDGE

APPROVED: <i>J. W. Woolard</i> DATE: 1/23/2015 SEAL 		<h1>PHASE IV</h1>
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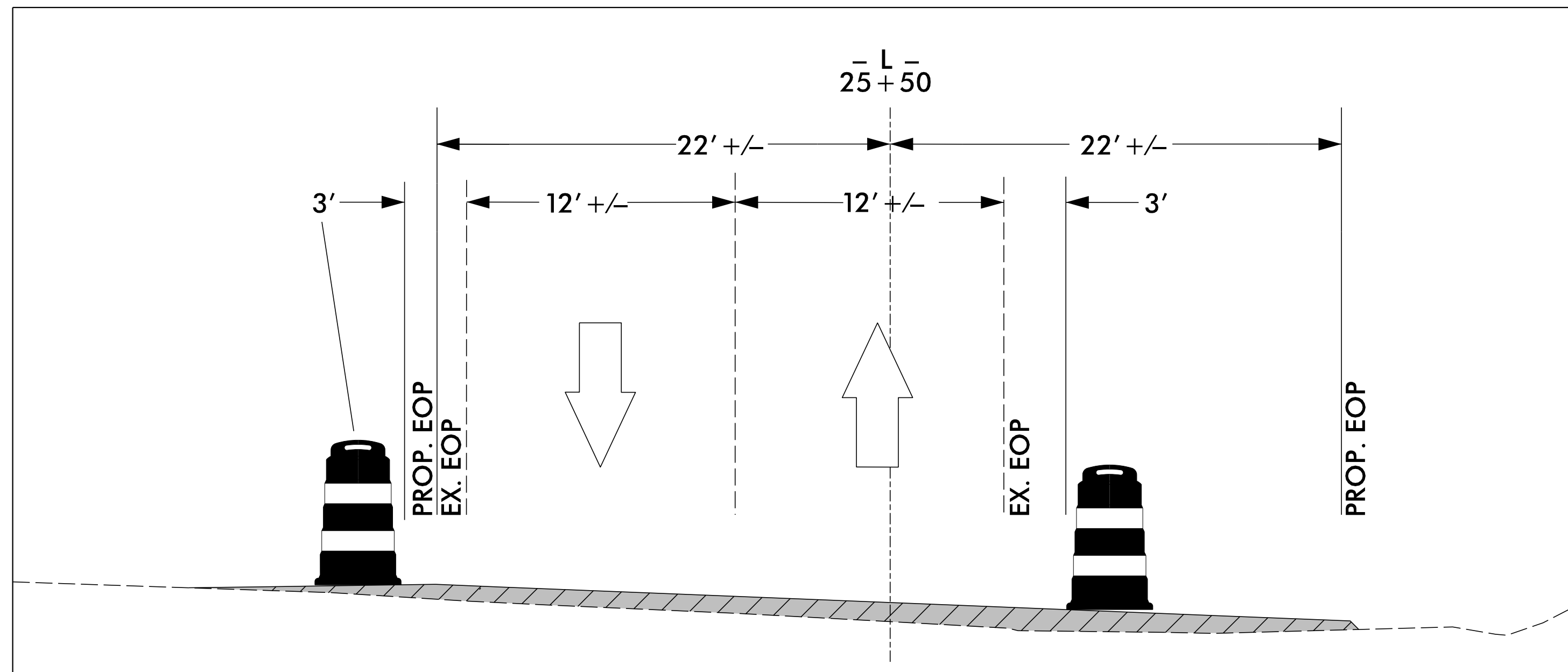
A1 - A1'



B1 - B1'

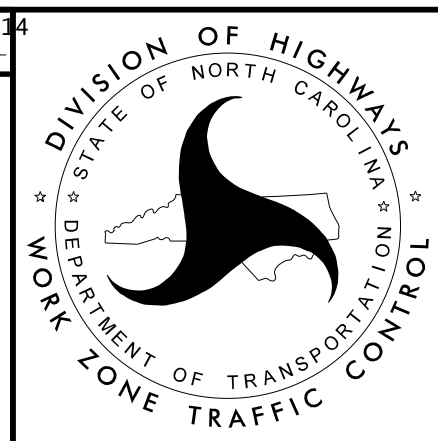


C1 - C1'



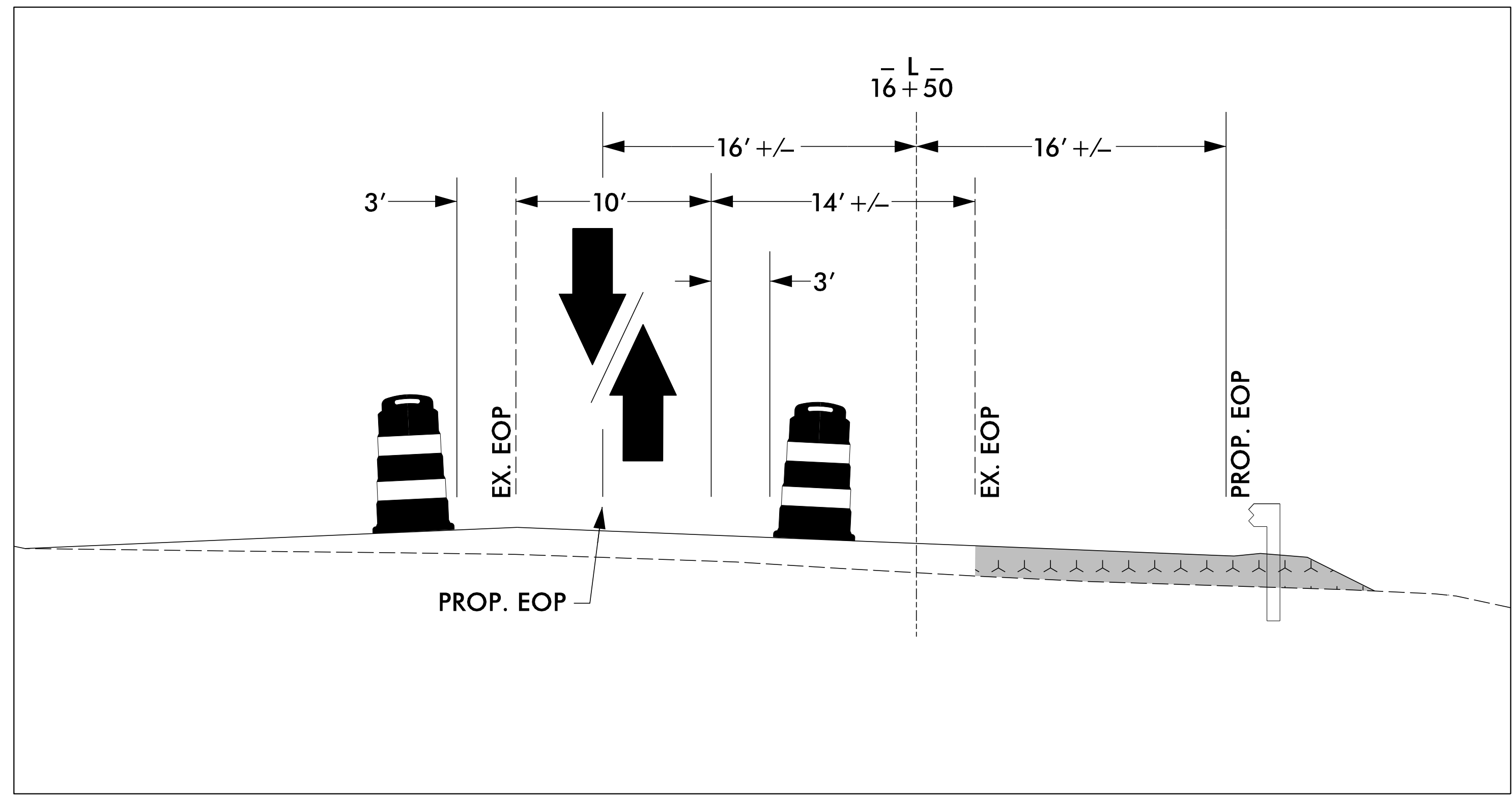
8/27/2014
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 User:cdreich

APPROVED: DATE: 8/27/2014

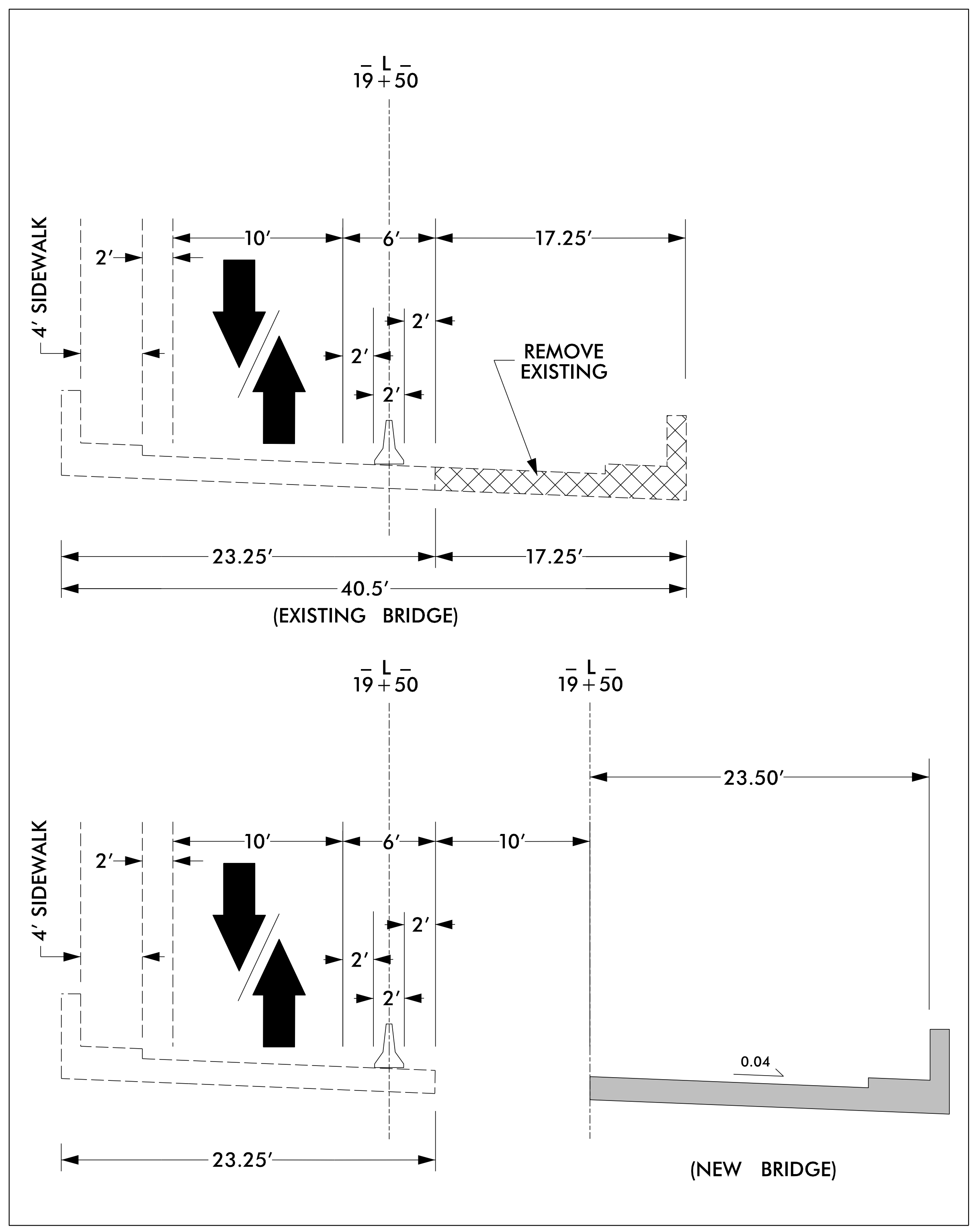


PHASE I, STEP 2
 CROSS SECTIONS

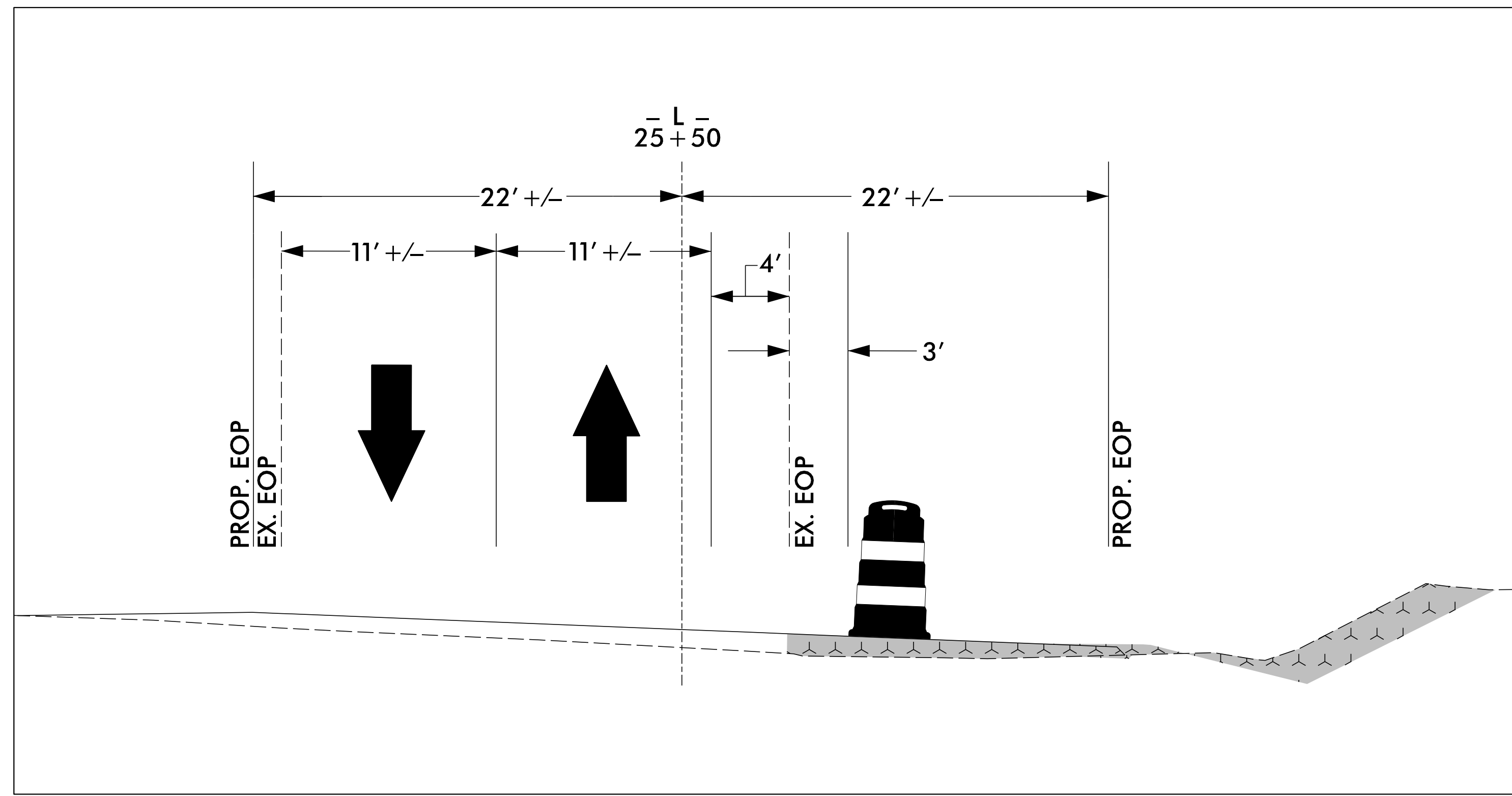
A2 - A2'



B2 - B2'



C2 - C2'



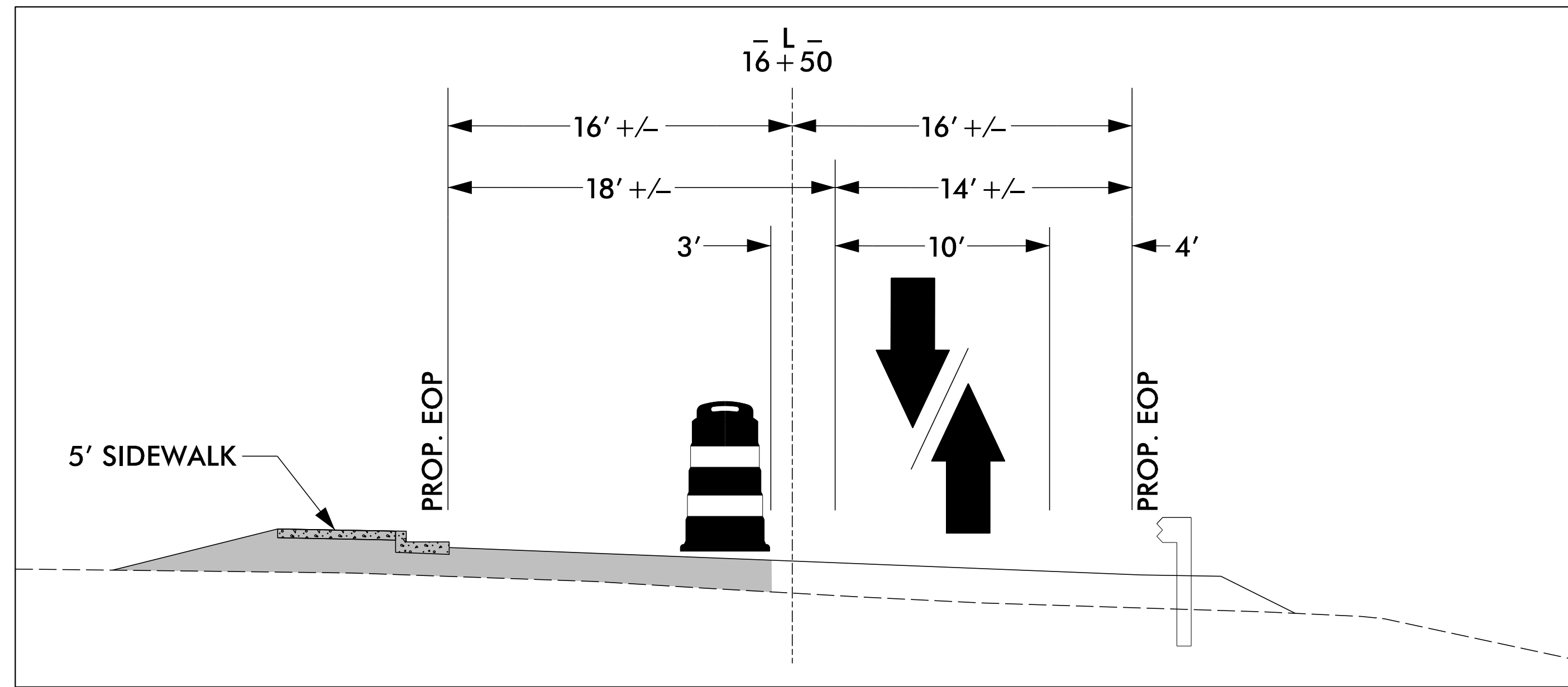
APPROVED: *J. W. Woolard* DATE: 8/27/2014
 SEAL
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 019862
 J. W. WOOLARD



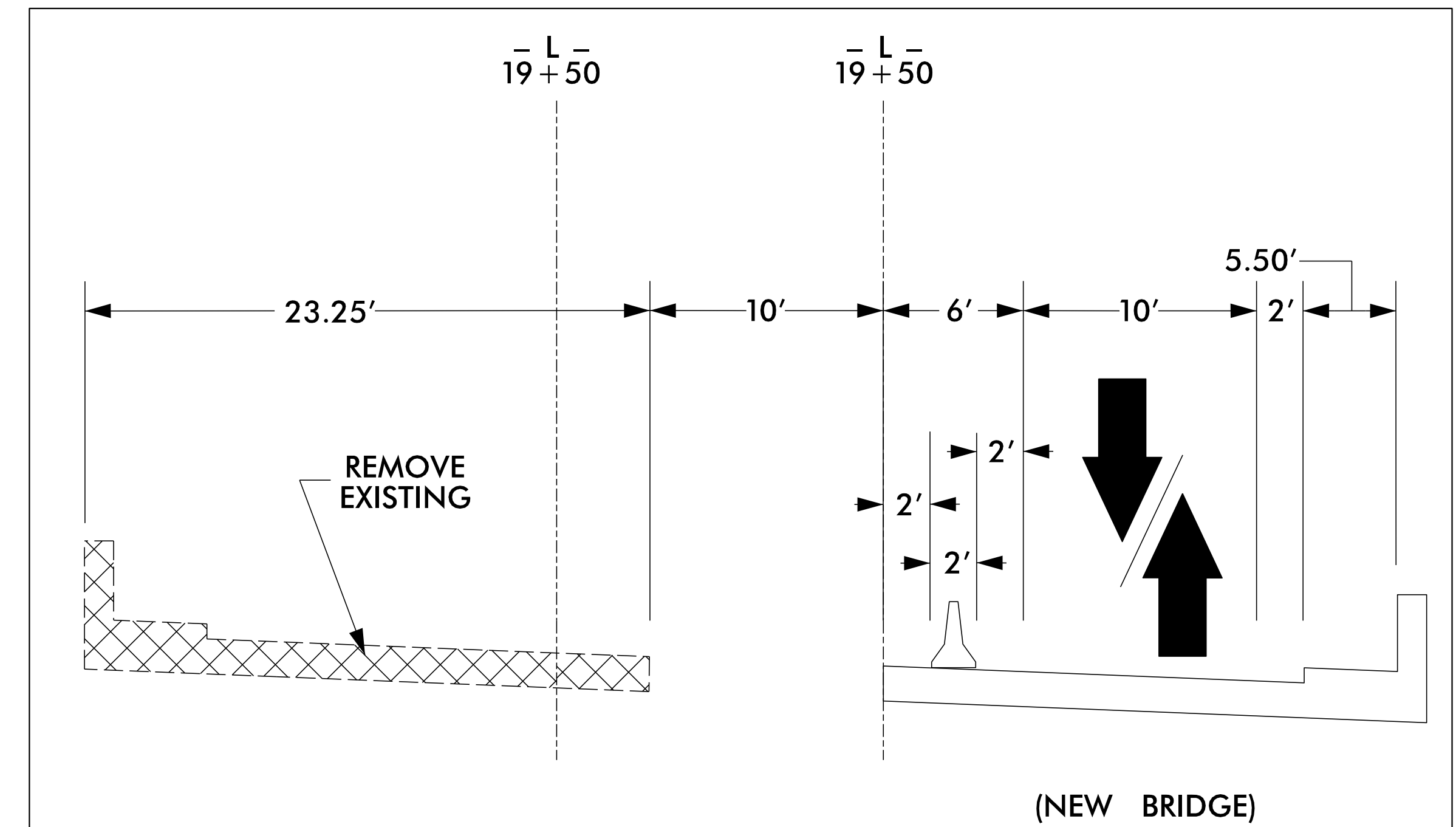
PHASE II
 CROSS SECTIONS

8/27/2014
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 User:cdreich

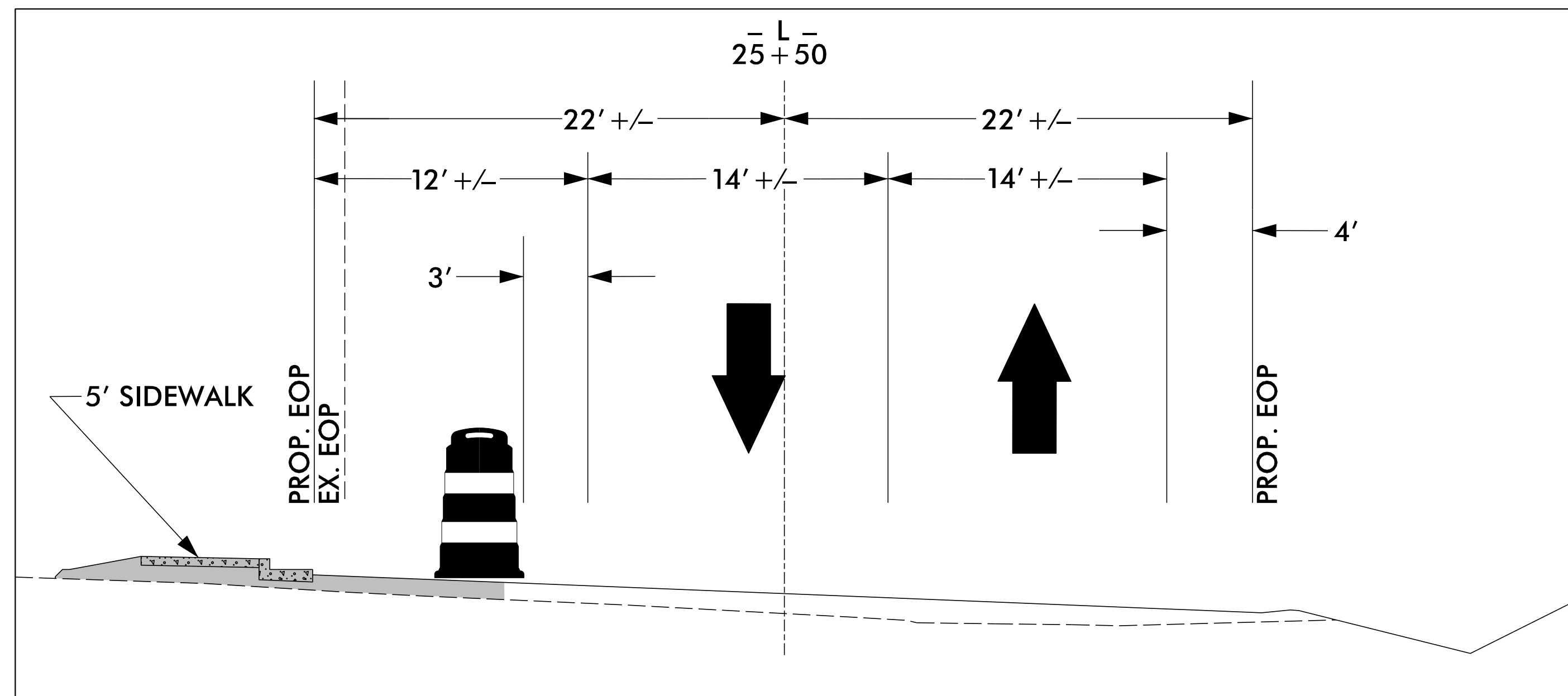
A3 - A3'



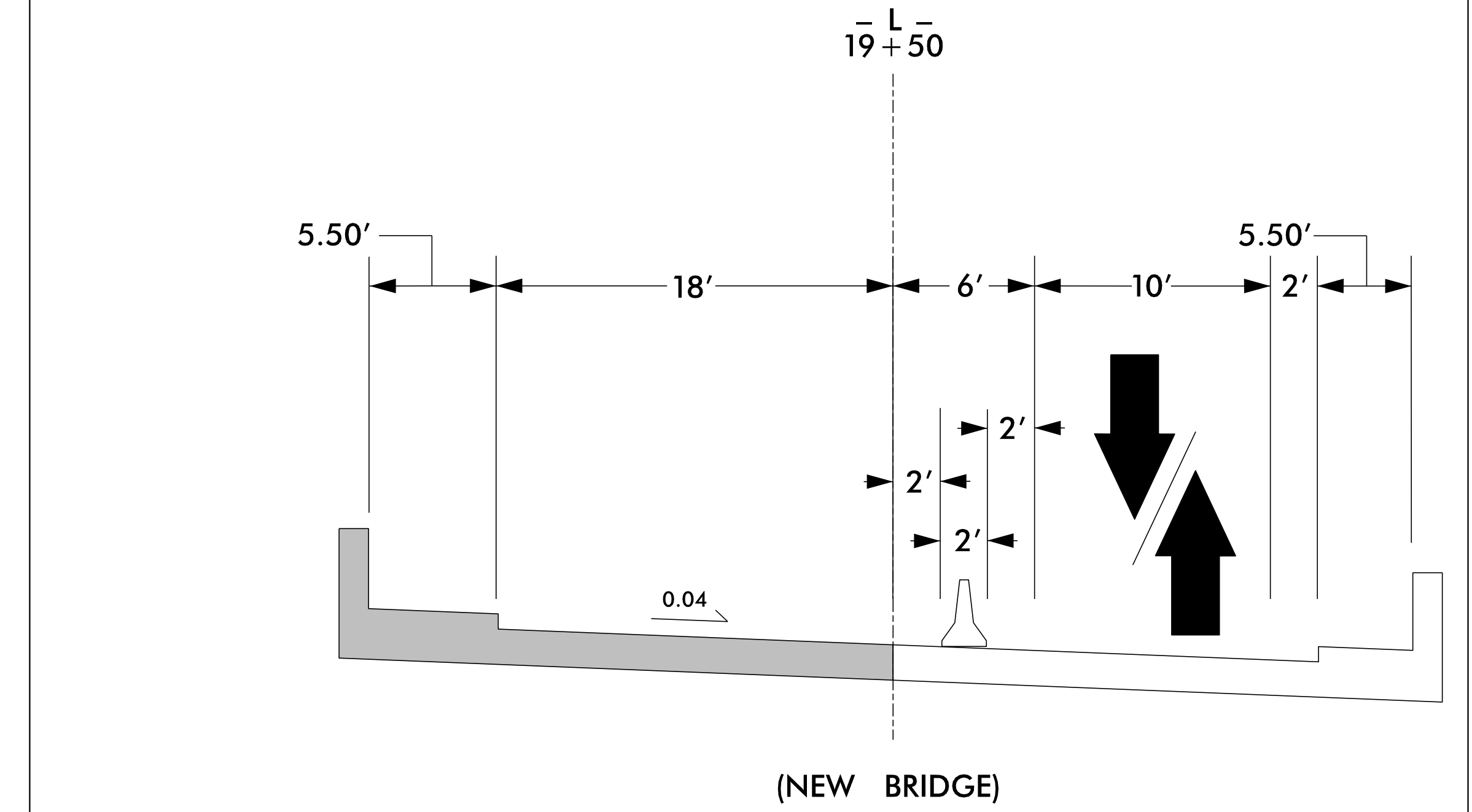
B3 - B3'



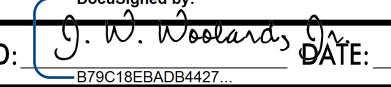
C3 - C3'



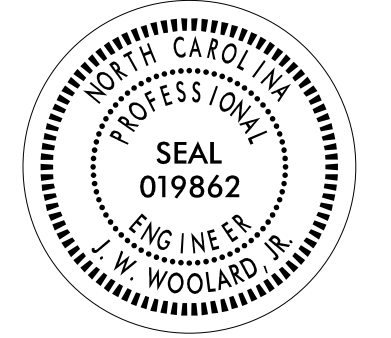
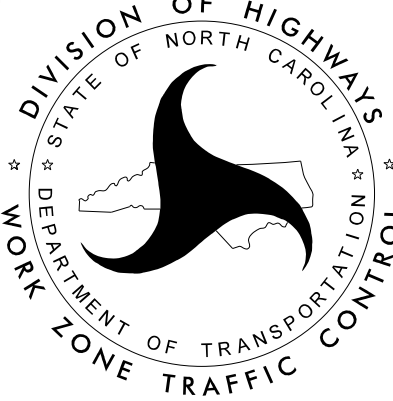
L 19+50



8/27/2014
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User:cdreich

APPROVED:  DATE: 8/27/2014

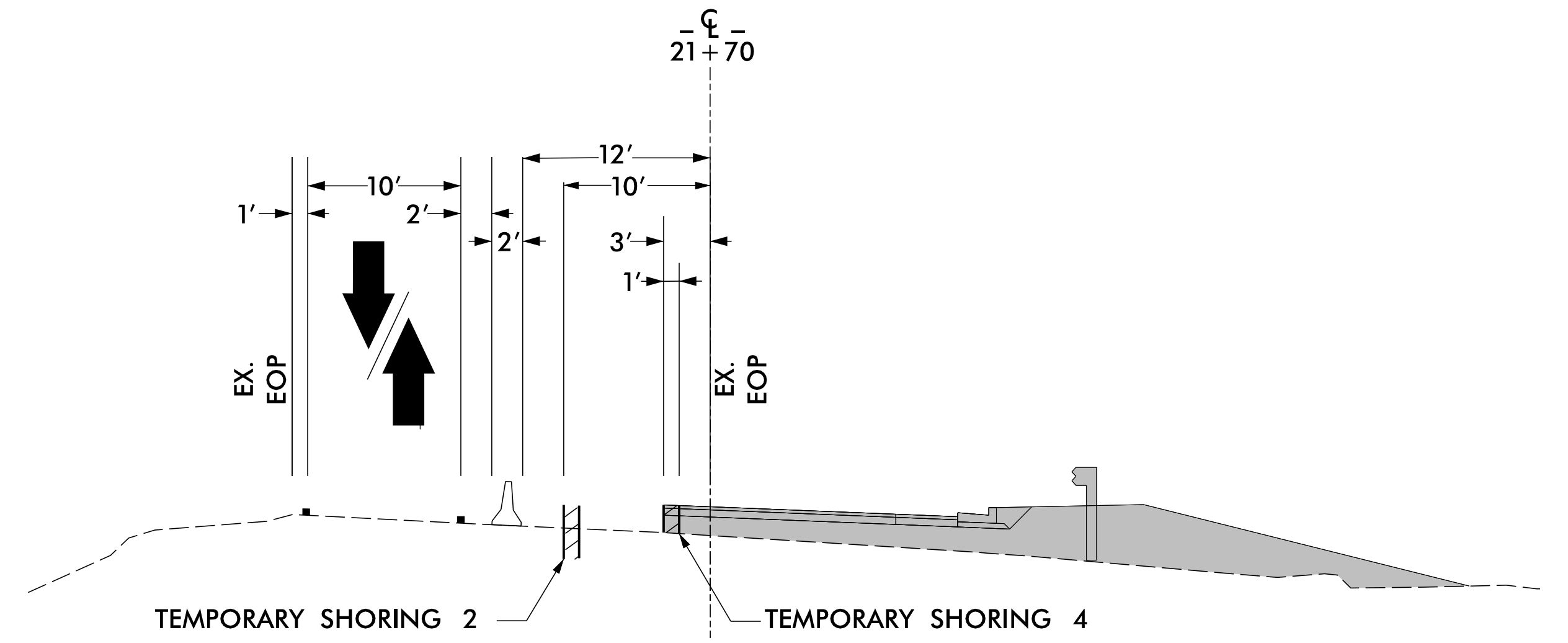
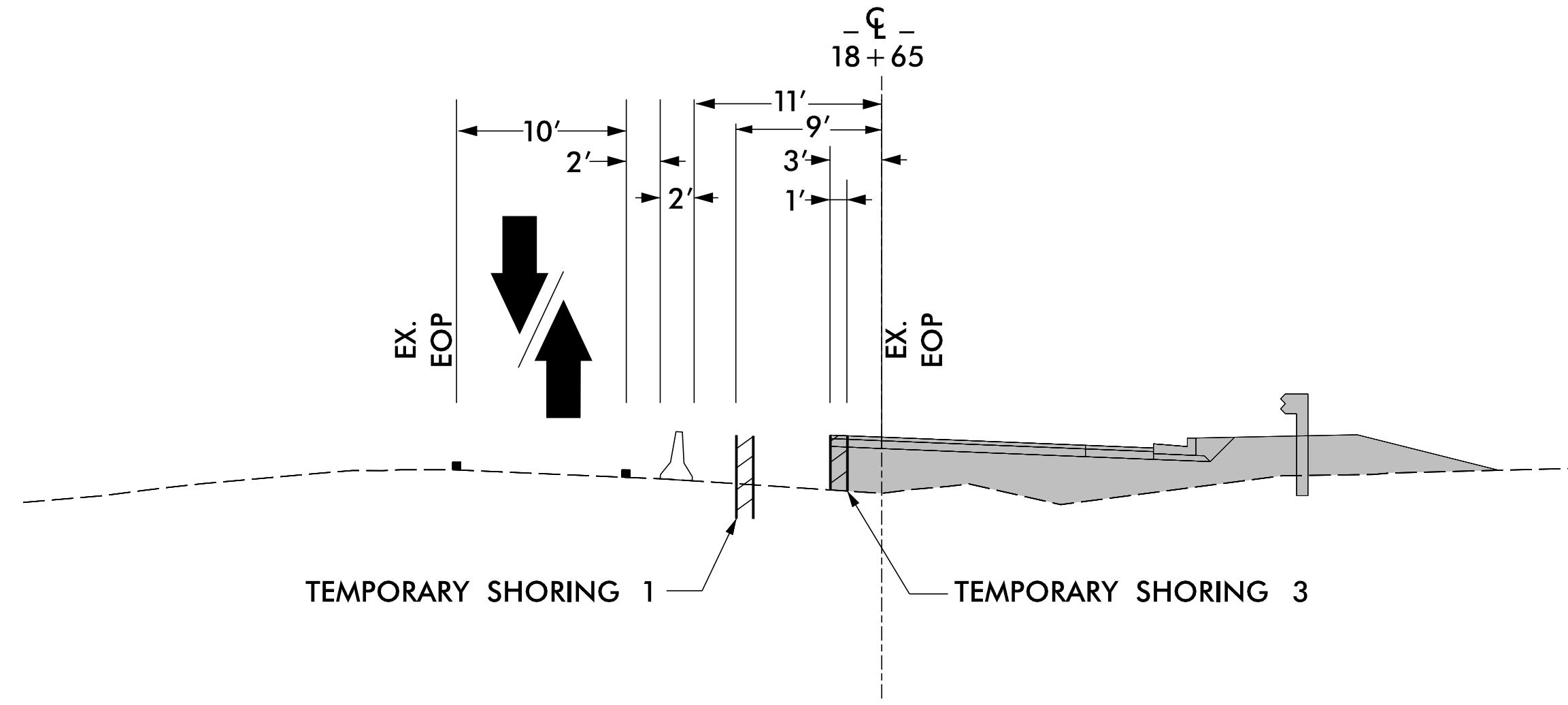
SEAL

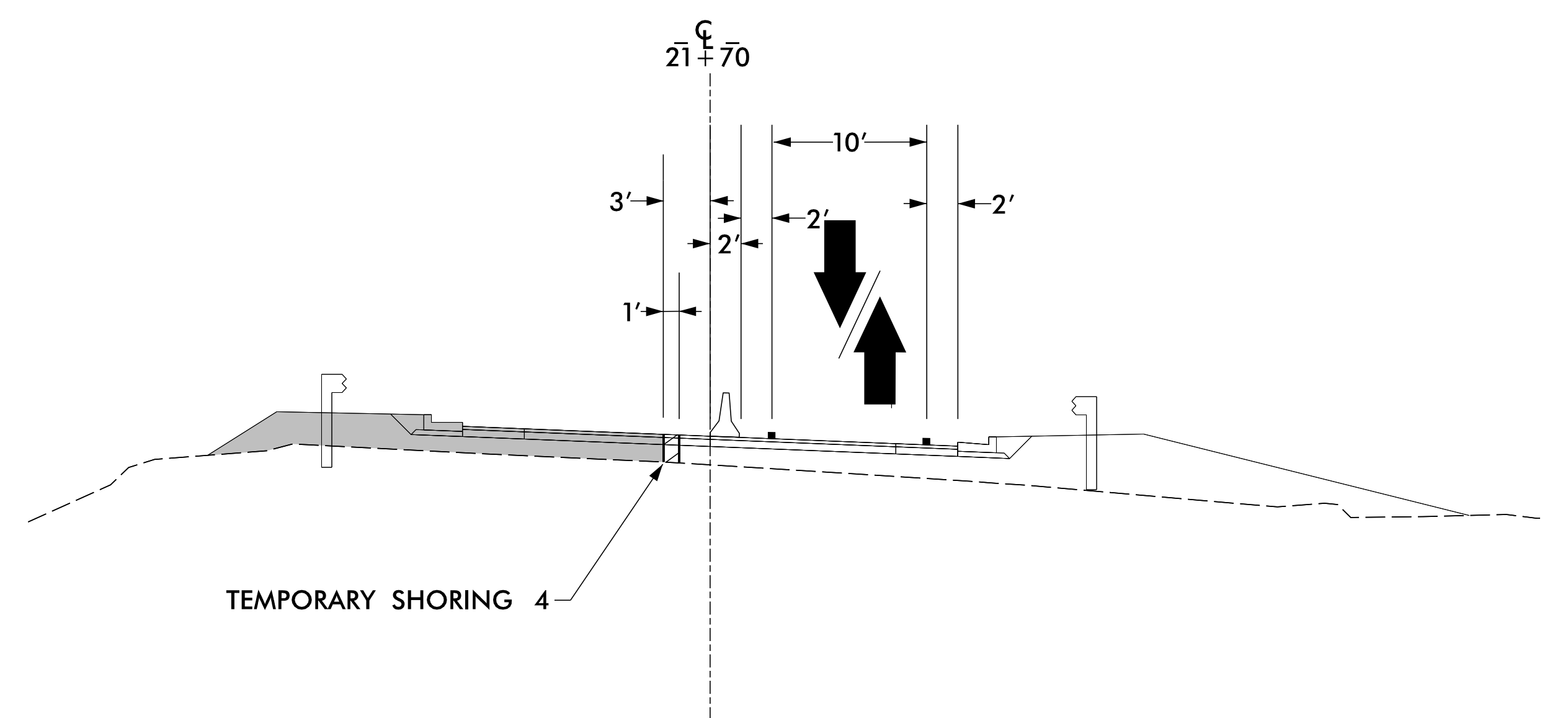
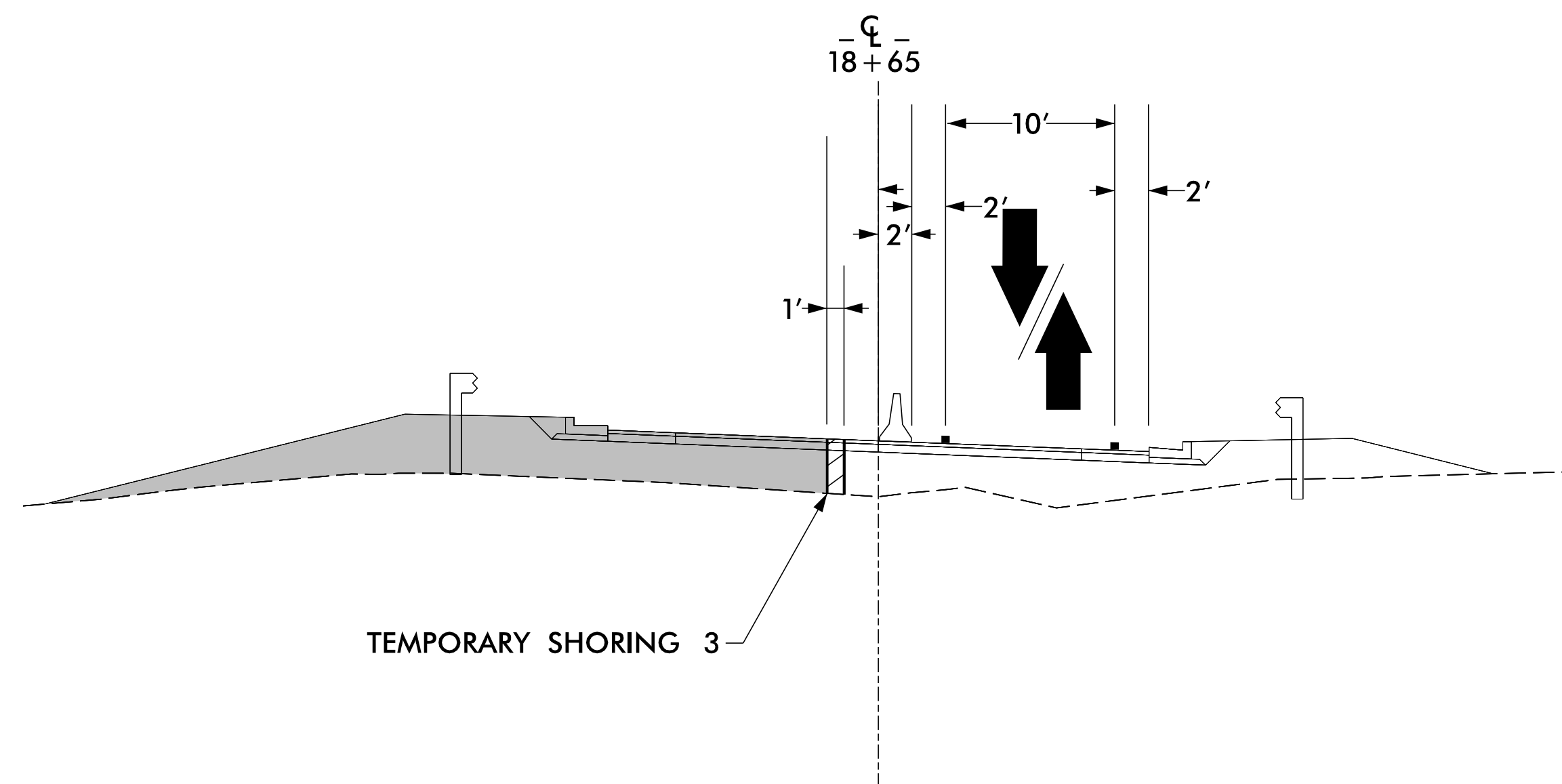
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DEPARTMENT OF TRANSPORTATION
ZONE TRAFFIC CONTROL

PHASE III
CROSS SECTIONS

PHASE II



PHASE III



2/5/2015
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 User: jwoolard

APPROVED: *J. W. Woolard* DATE: 2/5/2015

SEAL

SHORING CROSS SECTIONS