

# MINNESOTA DEPARTMENT OF TRANSPORTATION

## ANOKA COUNTY

### DEPARTMENT OF PUBLIC WORKS

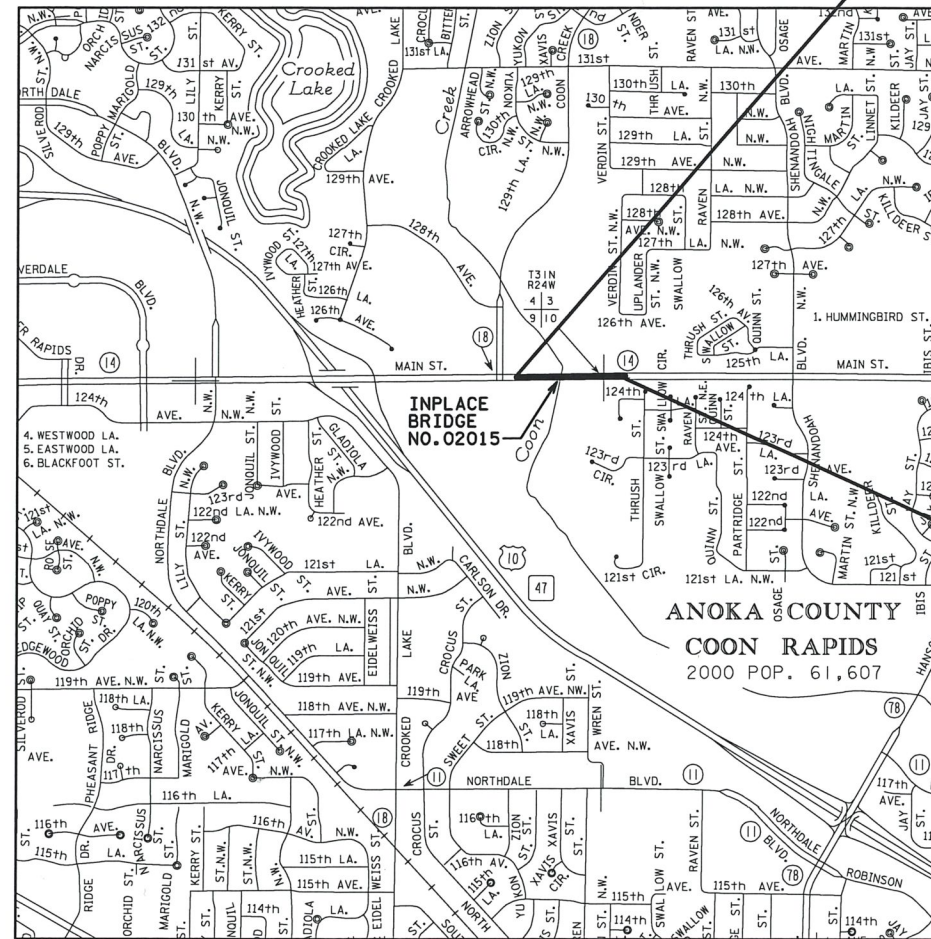
PLAN FOR GRADING, BITUMINOUS SURFACING, TRAFFIC SIGNALS, AND BRIDGE NO. 02015  
 LOCATED ON CSAH 14 (MAIN STREET), 0.50 MILES EAST OF TH 10

**S.P. 002-614-044**

GROSS LENGTH ..... 1392.00 FEET 0.264 MILES  
 BRIDGES-LENGTH ..... 962.41 FEET 0.182 MILES  
 EXCEPTIONS-LENGTH ..... FEET ..... MILES  
 NET LENGTH ..... 1392.00 FEET 0.264 MILES

**BEGIN S.P. 002-614-044**  
 CSAH 14 STA. 133+99.00

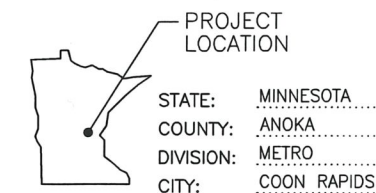
**END S.P. 002-614-044**  
 CSAH 14 STA. 147+91.00



**CSAH 14 (MAIN STREET)  
 DESIGN DESIGNATION**

ADT (2016)	17,506
ADT (2036)	29,500
FUNCTIONAL CLASS	PRINCIPAL ARTERIAL
NO OF TRAFFIC LANES	4
NO OF PARKING LANES	0
SHOULDER WIDTH	12
R-VALUE	1
TON DESIGN	1
ESALS	1
DESIGN SPEED (MPH):	55

DESIGN SPEED NOT ACHIEVED AT:  
 BASED ON STOPPING SIGHT DISTANCE.  
 3.5 FT HEIGHT OF EYE  
 2.0 FT HEIGHT OF OBJECT



PLAN SYMBOLS	
STATE LINE	----
COUNTY LINE	-----
TOWNSHIP OR RANGE LINE	-----
SECTION LINE	-----
QUARTER LINE	-----
SIXTEENTH LINE	-----
RIGHT-OF-WAY LINE	-----
TEMPORARY EASEMENT	-----
PRESENT RIGHT-OF-WAY	-----
CONTROL OF ACCESS LINE	-----
PROPERTY LINES (EXCEPT LAND LINES)	-----
VACATED PLATTED PROPERTY	-----
CORPORATE OR CITY LIMITS	-----
TRUNK HIGHWAY CENTER LINE	-----
RETAINING WALL	-----
RAILROAD	-----
RAILROAD RIGHT-OF-WAY	-----
RIVER OR CREEK	-----
DRY RUN	-----
DRAINAGE DITCH	-----
DRAIN TILE	-----
CULVERT	-----
DROP INLET	-----
GUARD RAIL	-----
BARBED WIRE FENCE	-----
WOVEN WIRE FENCE	-----
CHAIN LINK FENCE	-----
RAILROAD SNOW FENCE	-----
STONE WALL OR FENCE	-----
HEDGE	-----
RAILROAD CROSSING SIGN	-----
RAILROAD CROSSING BELL	-----
ELECTRIC WARNING SIGN	-----
CROSSING GATE	-----
MEANDER CORNER	-----
SPRINGS	-----
MARSH	-----
TIMBER	-----
ORCHARD	-----
BRUSH	-----
NURSERY	-----
CATCH BASIN	-----
FIRE HYDRANT	-----
CATTLE GUARD	-----
OVERPASS (HIGHWAY OVER)	-----
UNDERPASS (HIGHWAY UNDER)	-----
BRIDGE	-----
BUILDING (ONE STORY FRAME)	-----
F - FRAME	-----
S - STONE	-----
B - BRICK	-----
IRON ROD OR PIPE	-----
MONUMENT (STONE, CONCRETE, OR METAL)	-----
WOODEN HUB	-----
GRAVEL PIT	-----
SAND PIT	-----
BORROW PIT	-----
ROCK QUARRY	-----

UTILITY SYMBOLS	
POWER POLE LINE	-----
TELEPHONE POLE LINE	-----
ANCHOR	-----
STREET LIGHT	-----
STREET LIGHT CONDUIT	-----
PEDESTAL (TELEPHONE CABLE TERMINAL)	-----
GAS MAIN	-----
WATER MAIN	-----
HYDRANT	-----
VALVE	-----
TELEPHONE CABLE IN CONDUIT	-----
ELECTRIC CABLE IN CONDUIT	-----
TELEVISION CABLE IN CONDUIT	-----
TELEPHONE MANHOLE	-----
ELECTRIC MANHOLE	-----
BURIED TELEPHONE CABLE	-----
BURIED ELECTRIC CABLE	-----
BURIED TELEVISION CABLE	-----
TRAFFIC SIGNAL INTERCONNECT CABLE	-----
SEWER (STORM) MANHOLE	-----
SEWER (SANITARY) MANHOLE	-----
SEWER (STORM)	-----
SEWER (SANITARY)	-----

SCALES  
 INDEX MAP 1200'

MINN. PROJ. NO.: NHPP 0218 (025)

**GOVERNING SPECIFICATIONS**  
 THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

**UTILITY NOTE:**  
 THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

**TRAFFIC CONTROL NOTE:**  
 ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO AND BE PLACED IN ACCORDANCE WITH THE LATEST EDITION OF THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING THE LATEST "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITHIN THE CONSTRUCTION OF THIS PROJECT.

**INDEX**

SHEET NO.	SHEET DESCRIPTION
1	TITLE SHEET
2	GENERAL LAYOUT
3	ESTIMATED QUANTITIES, STANDARD PLATES
4	TABULATIONS
5-6	STANDARD PLANS
7	ALIGNMENT PLAN AND TABULATION
8-9	INPLACE TOPOGRAPHY, UTILITIES, & REMOVALS
10-11	CONSTRUCTION PLANS
12-16	BYPASS PLANS
17-31	TRAFFIC CONTROL PLANS
32-33	PAVEMENT MARKING PLANS
34-36	SIGNAL PLANS
B1-B34	BRIDGE NO. 02015 PLANS

THIS PLAN CONTAINS 70 SHEETS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

TKDA SIGNATURE: *Thomas O. Parker*  
 PRINTED NAME: THOMAS O. PARKER  
 DATE: 6/29/2018 LIC. NO. 15924

APPROVED: *[Signature]* 7/2/18  
 ANOKA COUNTY ENGINEER DATE

APPROVED: *[Signature]* 7/2/18  
 CITY OF COON RAPIDS ENGINEER DATE

RECOMMENDED FOR APPROVAL: *Cathleen Huebner* 7/11/18  
 DISTRICT STATE AID ENGINEER DATE

APPROVED FOR STATE AID AND FEDERAL AID FUNDING: *Cathleen Huebner* 7/11/18  
 STATE AID ENGINEER DATE

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY




S.P. 002-614-044


Sheet No. 1 of 36 Sheets

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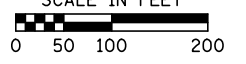
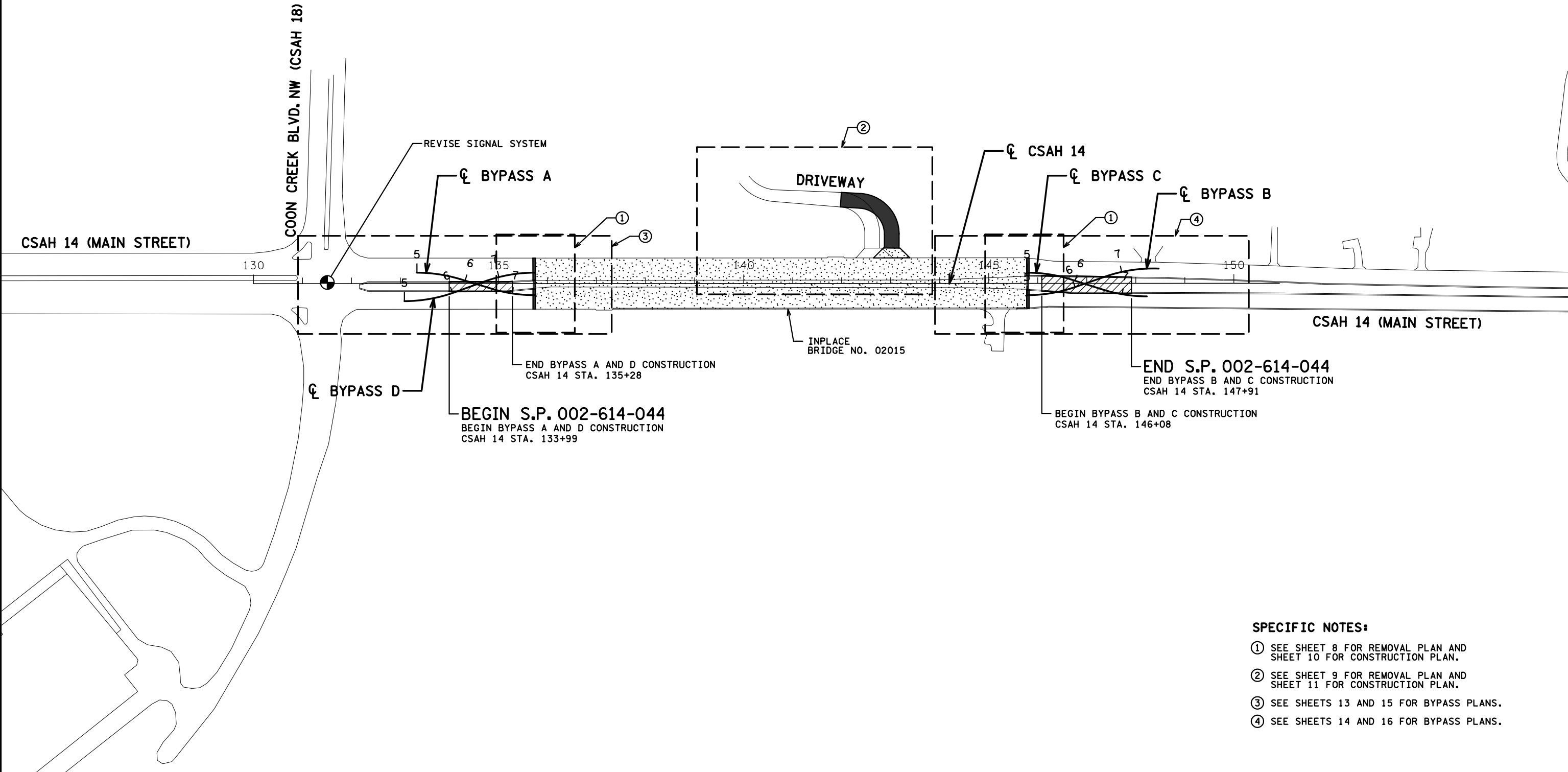
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**LEGEND**

-  BRIDGE REPAIR
-  BYPASS CONSTRUCTION
-  ROADWAY RECONSTRUCTION



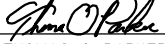
SCALE IN FEET

- SPECIFIC NOTES:**
- ① SEE SHEET 8 FOR REMOVAL PLAN AND SHEET 10 FOR CONSTRUCTION PLAN.
  - ② SEE SHEET 9 FOR REMOVAL PLAN AND SHEET 11 FOR CONSTRUCTION PLAN.
  - ③ SEE SHEETS 13 AND 15 FOR BYPASS PLANS.
  - ④ SEE SHEETS 14 AND 16 FOR BYPASS PLANS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE:   
 PRINTED NAME: THOMAS O. PARKER  
 DATE: 6/18/2018 LIC. NO. 15924



444 Cedar Street, Suite 1500  
 Saint Paul, MN 55101  
 651.292.4400  
 tkda.com

CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA

GENERAL LAYOUT

S.P. 002-614-044  
 Sheet No. 2 of 36 Sheets

DATE: 7/27/2018 TIME: 8:45:10 AM  
 FILENAME: K:\v-f\AnokaCity\16865000\04\_Production\01\_CAD\Bridg\General\CBR02015\_eq.dgn

ESTIMATED QUANTITIES						
TAB LETTER	SHEET NO.	ITEM NUMBER	ITEM	NOTE NO.	UNIT	ESTIMATED QUANTITY
		2021.501	MOBILIZATION		LUMP SUM	1
A	4	2101.524	CLEARING		TREE	2
A	4	2101.524	GRUBBIING		TREE	2
F	32	2102.518	PAVEMENT MARKING REMOVAL		SQ FT	384
	8	2104.502	SALVAGE MAIL BOX SUPPORT		EACH	1
A,C	4	2104.503	SAWING BIT PAVEMENT (FULL DEPTH)		LIN FT	1434
A,C	4	2104.503	REMOVE CURB & GUTTER		LIN FT	669
A,C	4	2104.518	REMOVE CONCRETE WALK		SQ FT	7349
A,C	4	2104.518	REMOVE BITUMINOUS PAVEMENT		SQ FT	13611
A	4	2106.507	EXCAVATION - COMMON		CU YD	400
B	4	2106.507	GRANULAR EMBANKMENT (CV)		CU YD	150
B	4	2106.507	COMMON EMBANKMENT (CV)		CU YD	250
B,D	4	2211.507	AGGREGATE BASE (CV) CLASS 5		CU YD	499
B	4	2360.509	TYPE SP 9.5 WEARING COURSE MIX (2,B)		TON	107
D	4	2360.509	TYPE SP 12.5 WEARING COURSE MIX (4,F) (BYPASS)		TON	236
B	4	2360.509	TYPE SP 12.5 WEARING COURSE MIX (4,F)		TON	32
B,D	4	2521.518	4" CONCRETE WALK		SQ FT	7349
B,D	4	2531.503	CONCRETE CURB & GUTTER DESIGN B424		LIN FT	669
	8	2540.602	INSTALL MAIL BOX SUPPORT		EACH	1
		2563.601	TRAFFIC CONTROL		LUMP SUM	1
E	17	2563.602	RAISED PAVEMENT MARKER TEMPORARY		EACH	605
		2565.616	REVISE SIGNAL SYSTEM		SYSTEM	1
D	4	2573.502	STORM DRAIN INLET PROTECTION		EACH	7
A	4	2573.503	SEDIMENT CONTROL LOG TYPE COMPOST		LIN FT	100
		2575.501	TURF ESTABLISHMENT	(2)	LUMP SUM	1
E	17	2581.503	REMOVABLE PREFORM PAVEMENT MARKING TAPE		LIN FT	14040
E	17	2581.603	REMOVABLE PREFORMED PLASTIC MASK (BLACK)		LIN FT	2110
F	32	2582.503	4" SOLID LINE MULTI-COMPONENT		LIN FT	496
F	32	2582.503	4" BROKEN LINE MULTI-COMPONENT	(1)	LIN FT	50

**NOTES:**  
 (1) LENGTH DOES NOT INCLUDE GAPS.  
 (2) RESTORE ALL DISTURBED AREAS (APPROX. 0.4 ACRE) WITH SEED MIXTURE 25-131, FERTILIZER TYPE 3 (22-5-10 @ 350 POUNDS/ACRE), AND EROSION CONTROL BLANKETS CATEGORY 3N (NATURAL NETTING).

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT.

MNDOT STANDARD PLATES	
PLATE NO.	DESCRIPTION
3000L	REINFORCED CONCRETE PIPE (5 SHEETS)
3006G	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
4006L	MANHOLE OR CATCH BASIN PRECAST - DESIGNS G AND H
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4140D	SPECIAL GRATE CASTINGS FOR CATCH BASIN (CONVEX AND CONCAVE) - CASTING NO. 720 AND 721
7100H	CONCRETE CURB & GUTTER (DESIGN B & V)
8000J	CHANNELIZERS (3 SHEETS)

1

DATE: 6/18/2018 TIME: 4:06:15 PM  
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REMOVALS								A
LOCATION	CLEARING	GRUBBING	REMOVE CURB AND GUTTER	REMOVE CONCRETE WALK	REMOVE BITUMINOUS PAVEMENT	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	EXCAVATION-COMMON	SEDIMENT CONTROL LOG TYPE COMPOST
	TREE	TREE	LIN FT	SQ FT	SQ FT	LIN FT	CU YD	LIN FT
WEST OF BRIDGE NO. 02015			10	66	430	86		
EAST OF BRIDGE NO. 02015			15	128	358	70		
DRIVEWAY, LT.	2	2			4004	30	400	100
DRIVEWAY, RT.			20					
<b>TOTALS</b>	<b>2</b>	<b>2</b>	<b>45</b>	<b>194</b>	<b>4792</b>	<b>186</b>	<b>400</b>	<b>100</b>

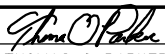
CONSTRUCTION								B
LOCATION	GRANULAR EMBANKMENT (CV)	COMMON EMBANKMENT (CV)	AGGREGATE BASE (CV) CLASS 5	TYPE SP 9.5 WEARING COURSE MIX (2,B) (SPWEA230B)	TYPE SP 12.5 WEARING COURSE MIX (4,F) (SPWEB440F)	4" CONCRETE WALK	CONCRETE CURB & GUTTER DESIGN B424	
	CU YD	CU YD	CU YD	TON	TON	SQ FT	LIN FT	
WEST OF BRIDGE NO. 02015			9		17	66	10	
EAST OF BRIDGE NO. 02015			9		15	128	15	
DRIVEWAY, LT.	150	250	75	107				
DRIVEWAY, RT.							20	
<b>TOTALS</b>	<b>150</b>	<b>250</b>	<b>93</b>	<b>107</b>	<b>32</b>	<b>194</b>	<b>45</b>	

BYPASS REMOVALS					C
LOCATION	REMOVE CURB AND GUTTER	REMOVE CONCRETE WALK	REMOVE BITUMINOUS PAVEMENT	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	
	LIN FT	SQ FT	SQ FT	LIN FT	
BYPASS A & D REMOVALS FOR BYPASS CONSTRUCTION	258	1947		258	
BYPASS A & D REMOVALS FOR PERMANENT RESTORATION			2635	258	
BYPASS B & C REMOVALS FOR BYPASS CONSTRUCTION	366	5208		366	
BYPASS B & C REMOVALS FOR PERMANENT RESTORATION			6184	366	
<b>TOTALS</b>	<b>624</b>	<b>7155</b>	<b>8819</b>	<b>1248</b>	

BYPASS CONSTRUCTION AND RESTORATION ITEMS						D
LOCATION	AGGREGATE BASE (CV) CLASS 5	TYPE SP 12.5 WEARING COURSE MIX (4,F) (SPWEB440F) (BYPASS)	4" CONCRETE WALK	CONCRETE CURB & GUTTER DESIGN B424	STORM DRAIN INLET PROTECTION	
	CU YD	TON	SQ FT	LIN FT	EACH	
BYPASS A & D CONSTRUCTION	49	71			4	
BYPASS A & D PERMANENT RESTORATION	69		1947	258		
BYPASS B & C CONSTRUCTION	115	165			3	
BYPASS B & C PERMANENT RESTORATION	173		5208	366		
<b>TOTALS</b>	<b>406</b>	<b>236</b>	<b>7155</b>	<b>624</b>	<b>7</b>	

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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SIGNATURE:   
 PRINTED NAME: **THOMAS O. PARKER**  
 DATE: 6/18/2018 LIC. NO. 15924



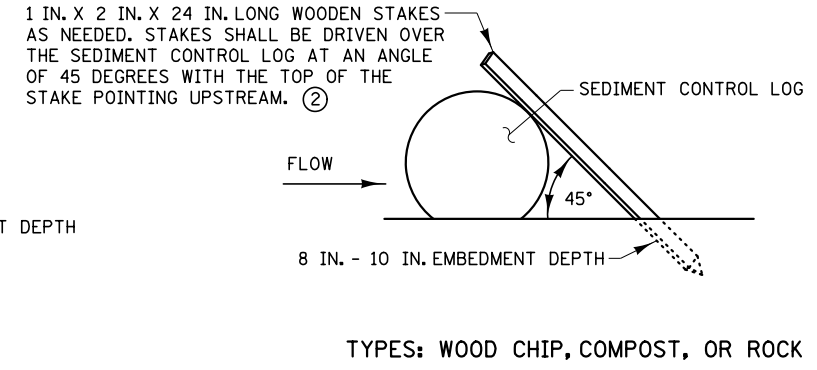
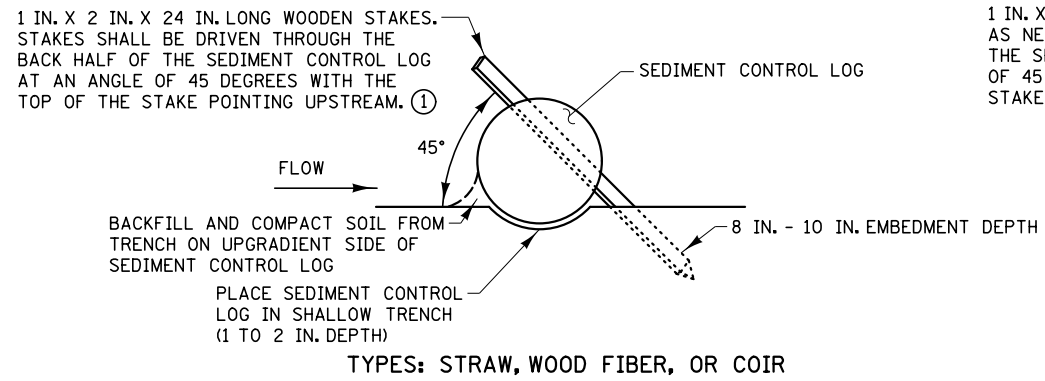
**CSAH 14 (MAIN ST.) AT COON CREEK COON RAPIDS, MINNESOTA**

**TABULATIONS**

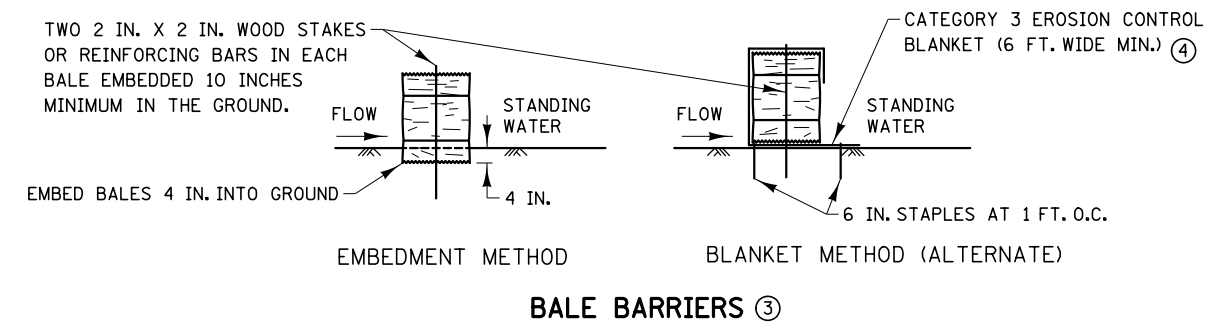
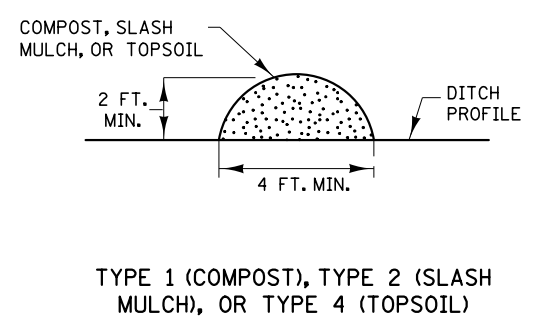
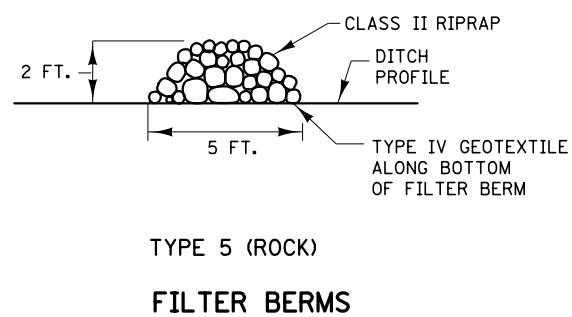
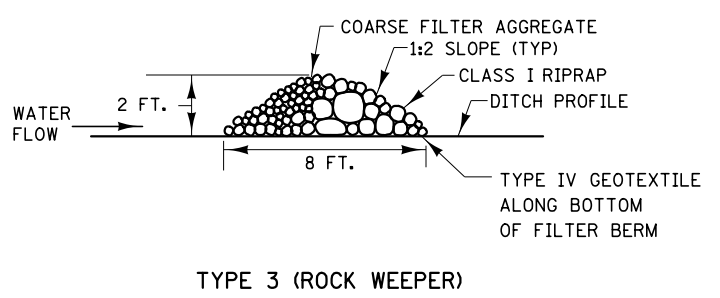
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 Sheet No. 4 of 36 Sheets



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**SEDIMENT CONTROL LOGS**



**NOTES:**

- SEE SPECS. 2573, 3149, 3874, 3882, 3886, & 3897.
- ① SPACE BETWEEN STAKES SHALL BE A MAXIMUM OF 1 FOOT FOR DITCH CHECKS OR 2 FEET FOR OTHER APPLICATIONS.
- ② PLACE STAKES AS NEEDED TO PREVENT MOVEMENT OF SEDIMENT CONTROL LOGS PLACED ON SLOPES OR AS NEEDED DUE TO OTHER FACTORS. STAKES SHALL BE INCIDENTAL.
- ③ TO BE USED FOR CRITICAL PERIMETER CONTROL AREAS WHERE STANDING WATER OCCURS (6 INCH MAX. DEPTH). BALES SHALL CONSIST OF TYPE 1 MULCH OF APPROXIMATELY 14 IN. X 18 IN. X 36 IN. LONG. BALES SHALL BE PLACED ON EDGE AND BUTTED TIGHT TO ADJACENT BALES.
- ④ INSTEAD OF TRENCHING, PLACE BALE ON THE BLANKET AND WRAP BLANKET AROUND THE BALE. PLACE STAKE THROUGH BALE AND BLANKET.

REVISIONS:

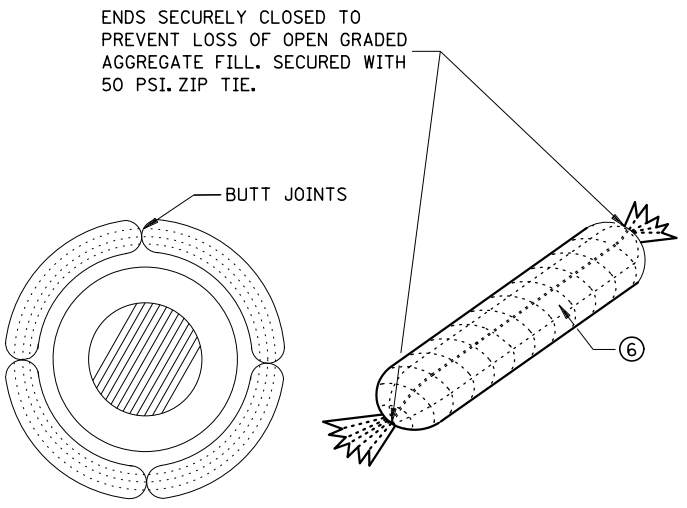
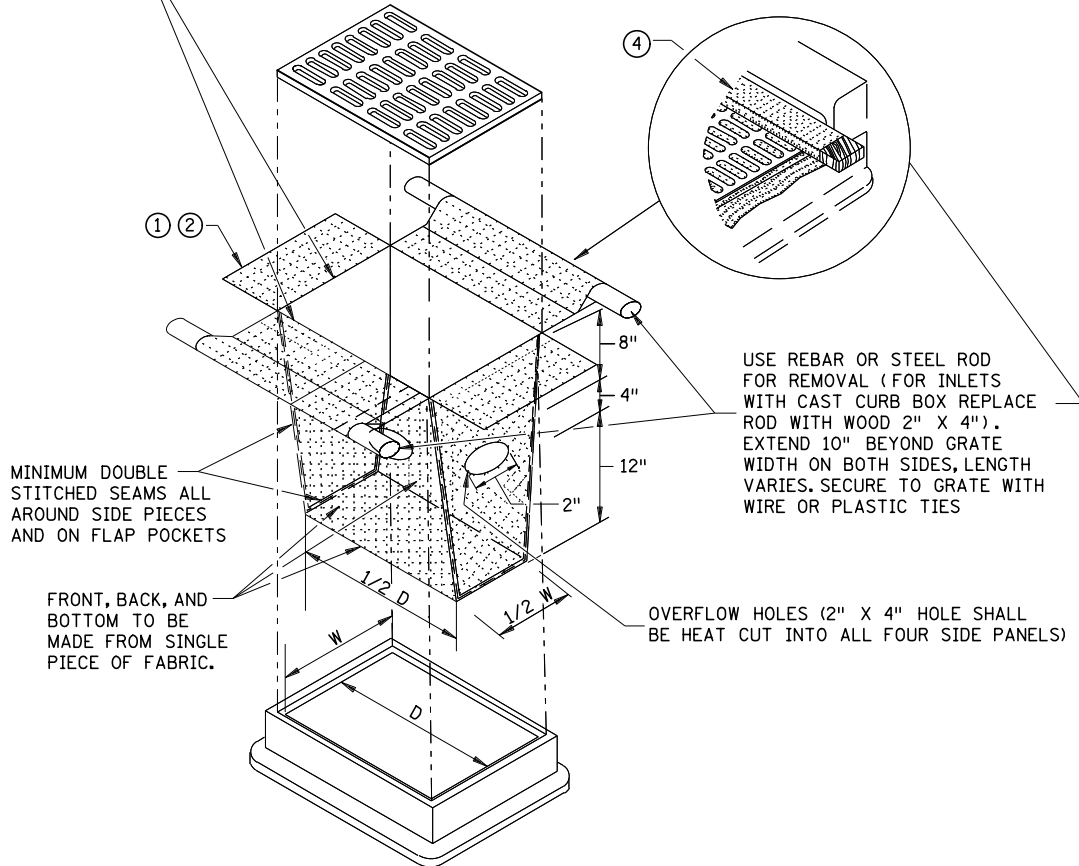
APPROVED: 2-28-2017

*[Signature]*  
CHIEF ENVIRONMENTAL OFFICER

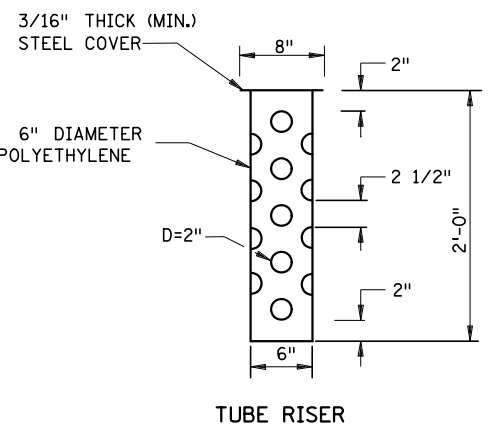
	STANDARD PLAN 5-297.405	2 OF 8	<p><b>TEMPORARY SEDIMENT CONTROL</b></p> <p><b>FILTER BERMS, SEDIMENT CONTROL LOGS, AND BALE BARRIERS</b></p>
		APPROVED: 2-28-2017	
DEPARTMENT OF TRANSPORTATION	STATE DESIGN ENGINEER	S.P. 002-614-044	SHEET NO. 5 OF 36 SHEETS

DATE: 6/18/2018 TIME: 4:06:17 PM FILENAME: K:\v-f\AnokaCity\1686500004\_Production\01\_CAD\Bridges\General\CBRO2015\_s405\_4\_spn.dgn

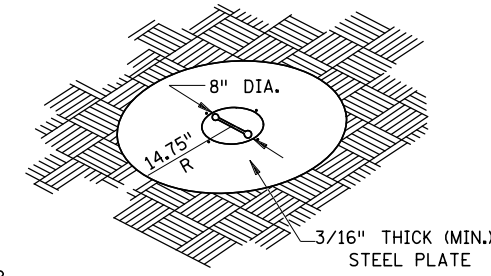
INLET SPECIFICATIONS AS PER THE PLAN DIMENSION LENGTH AND WIDTH TO MATCH FLAP POCKET



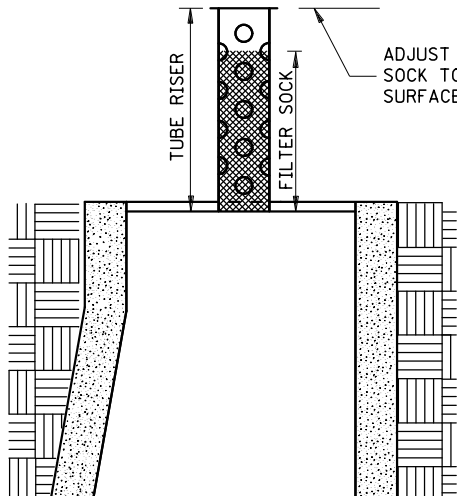
ROCK LOG/COMPOST LOG



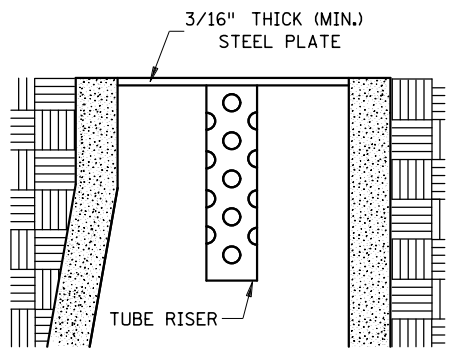
TUBE RISER



PERSPECTIVE VIEW



SECTION (UP POSITION)

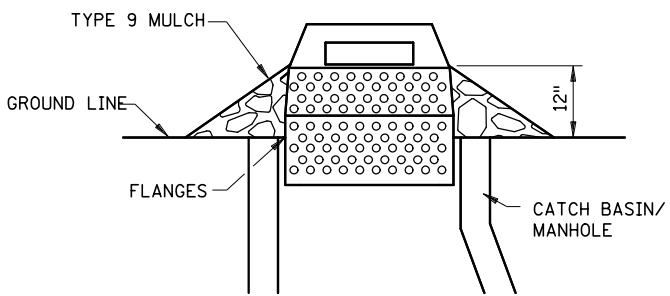


SECTION (DOWN POSITION)

POP-UP HEAD

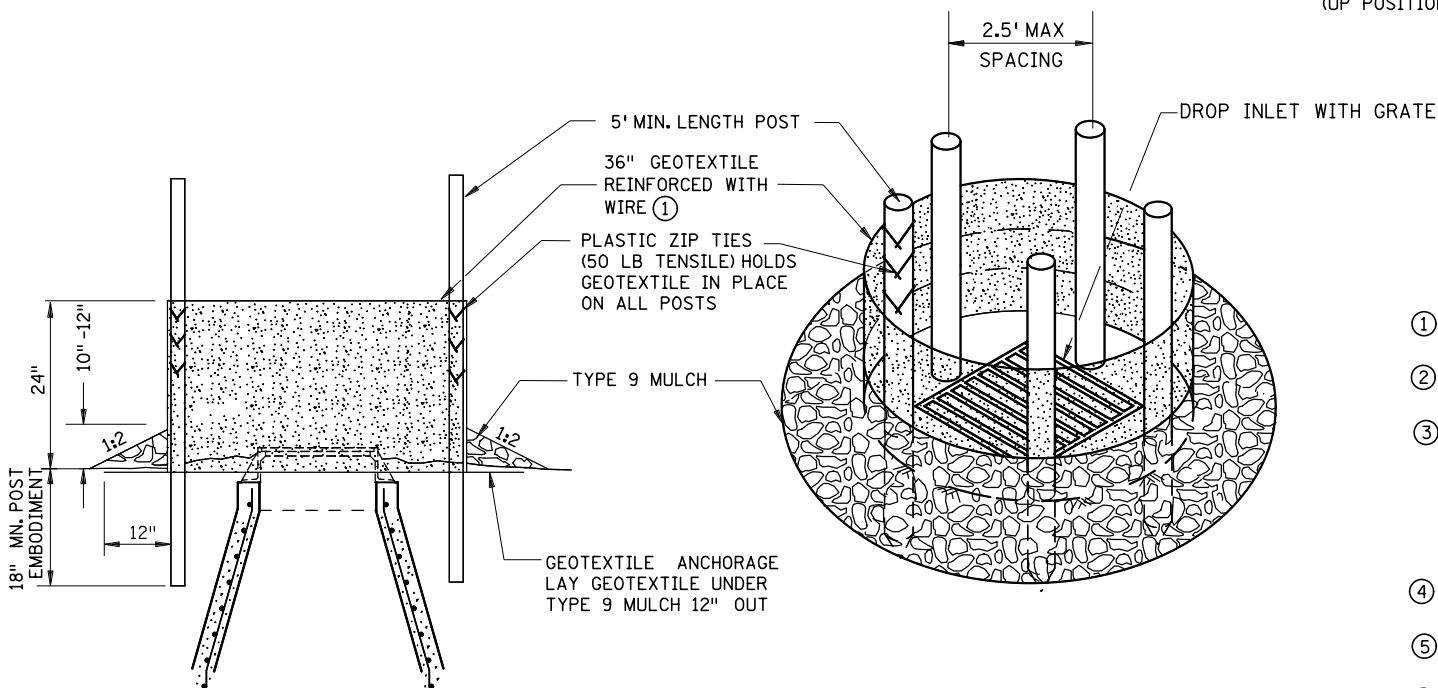
FILTER BAG INSERT ③

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX)



SEDIMENT CONTROL INLET HAT

NOTE: THE SEDIMENT CONTROL BARRIER SHALL BE A METAL OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING, FLANGES AND A LID/COVER.



SILT FENCE RING AND ROCK FILTER BERM

USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 OR LESS

**NOTES:**

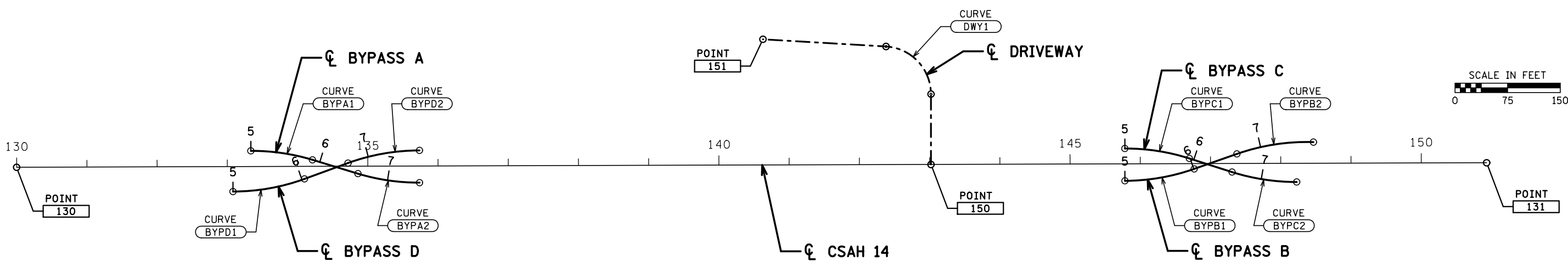
- SEE SPECS. 2573, 3137, & 3886.
- DEVICES MUST BE ADJUSTED ACCORDINGLY AS TO NOT CAUSE FLOODING ON ROADWAY THAT WOULD IMPEDE TRAFFIC FLOW.
- ① ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.
- ② FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ③ INSTALLATION NOTES: DO NOT PLACE FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE PLACED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
- ④ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.
- ⑤ SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.
- ⑥ GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADATION.

REVISION:
APPROVED: 2-28-2017
<i>[Signature]</i> CHIEF ENVIRONMENTAL OFFICER

	STANDARD PLAN 5-297.405	4 OF 8
	APPROVED: 2-28-2017 REVISOR:	
STATE DESIGN ENGINEER <i>[Signature]</i>	S.P. 002-614-044	

**TEMPORARY SEDIMENT CONTROL  
STORM DRAIN INLET PROTECTION**

DATE: 6/18/2018 TIME: 4:06:17 PM  
 FILENAME: K:\a-f\AnokaCity\1686500004\_Production\01\_CAD\Bridges\General\CBR02015\_dla.dgn



ALIGNMENT TABULATION										
POINT NUMBER OR CURVE NAME	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
			SPIRAL CURVE DATA							
			ANGLE (θs)	DEGREE	ST	LT	LS			
<b>CSAH 14</b>										
130	POT	130+00.000						482,852.0256	159,187.1858	89° 49' 22.94"
131	POT	150+93.165						484,945.1802	159,193.6506	
<b>DRIVEWAY</b>										
150	POT	15+00.000						484,153.9628	159,191.2069	0° 00' 00.00"
	PC	16+00.313						484,153.9628	159,291.5201	
	PI	16+64.457	86° 39' 25.89" LT	84° 15' 30.60"	68.000'	64.144'	102.847'	484,153.9628	159,355.6642	PI
	CC							484,085.9628	159,291.5201	
	PT	17+03.160						484,089.9279	159,359.4044	273° 20' 34.11"
151	POT	18+78.710						483,914.6769	159,369.6407	
<b>BYPASS A</b>										
	PC	5+00.000						483,185.4830	159,210.6778	89° 50' 52.48"
	PI	5+44.824	16° 59' 44.95" RT	19° 05' 54.94"	300.000'	44.824'	88.990'	483,230.3069	159,210.7968	PI
	CC							483,186.2793	158,910.6789	
	PT	5+88.990						483,273.2080	159,197.8085	106° 50' 37.43"
	PC	6+56.713						483,338.0259	159,178.1848	
	PI	7+01.537	16° 59' 44.95" LT	19° 05' 54.94"	300.000'	44.824'	88.990'	483,380.9270	159,165.1965	PI
	CC							483,424.9546	159,465.3144	
	PT	7+45.703						483,425.7509	159,165.3155	89° 50' 52.48"
<b>BYPASS B</b>										
	PC	5+00.000						484,430.1137	159,167.9815	89° 50' 52.48"
	PI	5+50.773	19° 12' 41.90" LT	19° 05' 54.94"	300.000'	50.773'	100.592'	484,480.8861	159,168.1163	PI
	CC							484,429.3174	159,467.9804	
	PT	6+00.592						484,528.7866	159,184.9506	70° 38' 10.58"
	PC	6+64.939						484,589.4937	159,206.2858	
	PI	7+21.068	21° 11' 40.76" RT	19° 05' 54.94"	300.000'	56.129'	110.975'	484,642.4476	159,224.8961	PI
	CC							484,688.9629	158,923.2560	
	PT	7+75.914						484,698.5480	159,223.1028	91° 49' 51.34"

ALIGNMENT TABULATION										
POINT NUMBER OR CURVE NAME	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
			SPIRAL CURVE DATA							
			ANGLE (θs)	DEGREE	ST	LT	LS			
<b>BYPASS C</b>										
	PC	5+00.000						484,429.9916	159,213.9813	89° 50' 52.48"
	PI	5+47.045	17° 49' 29.23" RT	19° 05' 54.94"	300.000'	47.045'	93.330'	484,477.0367	159,214.1062	PI
	CC							484,430.7879	158,913.9824	
	PT	5+93.330						484,521.8617	159,199.8243	107° 40' 21.71"
	PC	6+57.086						484,582.6082	159,180.4695	
	PI	7+04.234	17° 51' 48.05" LT	19° 05' 54.94"	300.000'	47.149'	93.532'	484,627.5317	159,166.1561	PI
	CC							484,673.6819	159,466.3114	
	PT	7+50.618						484,674.6801	159,166.3130	89° 48' 33.66"
<b>BYPASS D</b>										
	PC	5+00.000						483,160.0854	159,152.6102	89° 50' 52.48"
	PI	5+52.453	19° 50' 06.22" LT	19° 05' 54.94"	300.000'	52.453'	103.856'	483,212.5382	159,152.7495	PI
	CC							483,159.2890	159,452.6092	
	PT	6+03.856						483,261.8319	159,170.6784	70° 00' 46.26"
	PC	6+69.883						483,323.8823	159,193.2471	
	PI	7+22.336	19° 50' 06.22" RT	19° 05' 54.94"	300.000'	52.453'	103.856'	483,373.1760	159,211.1761	PI
	CC							483,426.4252	158,911.3164	
	PT	7+73.740						483,425.6288	159,211.3153	89° 50' 52.48"

NOTE:  
 THE ALIGNMENTS PROVIDED ARE FOR REFERENCE ONLY.  
 IF THE ALIGNMENTS ARE USED FOR STAKING THIS PROJECT,  
 ADJUST AS NECESSARY TO FIT THE EXISTING CONDITIONS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 SIGNATURE: *Thomas O. Parker*  
 PRINTED NAME: **THOMAS O. PARKER**  
 DATE: 6/18/2018 LIC. NO. 15924







**CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA**

**ALIGNMENT PLAN  
 AND TABULATIONS**

**S.P. 002-614-044  
 Sheet No. 7 of 36 Sheets**

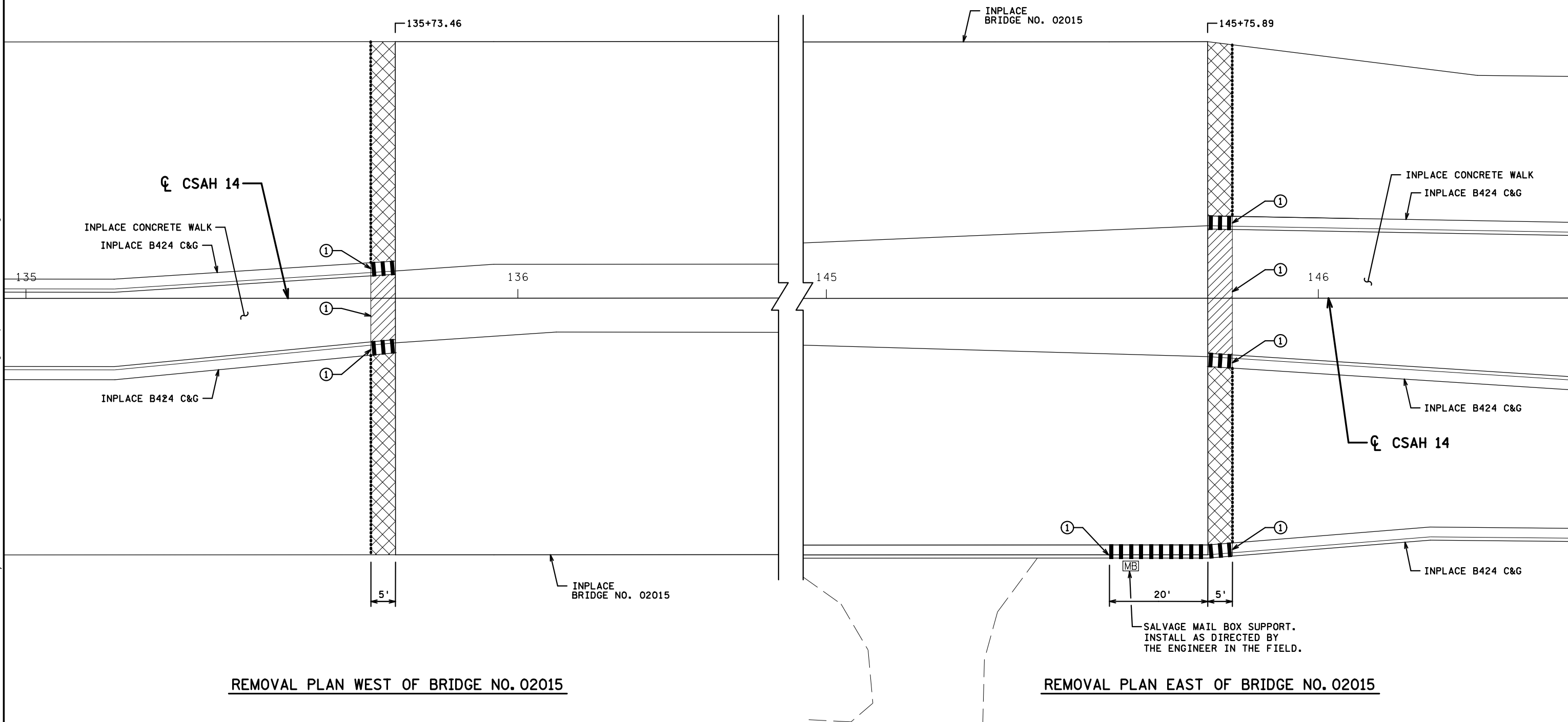
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**LEGEND**

-  REMOVE CURB & GUTTER
-  SAWING BITUMINOUS PAVEMENT (FULL DEPTH)
-  REMOVE CONCRETE WALK
-  REMOVE BITUMINOUS PAVEMENT



SCALE IN FEET

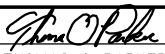
REMOVAL PLAN WEST OF BRIDGE NO. 02015

REMOVAL PLAN EAST OF BRIDGE NO. 02015

**SPECIFIC NOTES:**  
 ① SAWING IS INCIDENTAL.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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SIGNATURE:   
 PRINTED NAME: THOMAS O. PARKER  
 DATE: 6/18/2018 LIC. NO. 15924



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 tkda.com

CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA

INPLACE TOPOGRAPHY, UTILITIES,  
 & REMOVAL PLAN

S.P. 002-614-044  
 Sheet No. 8 of 36 Sheets

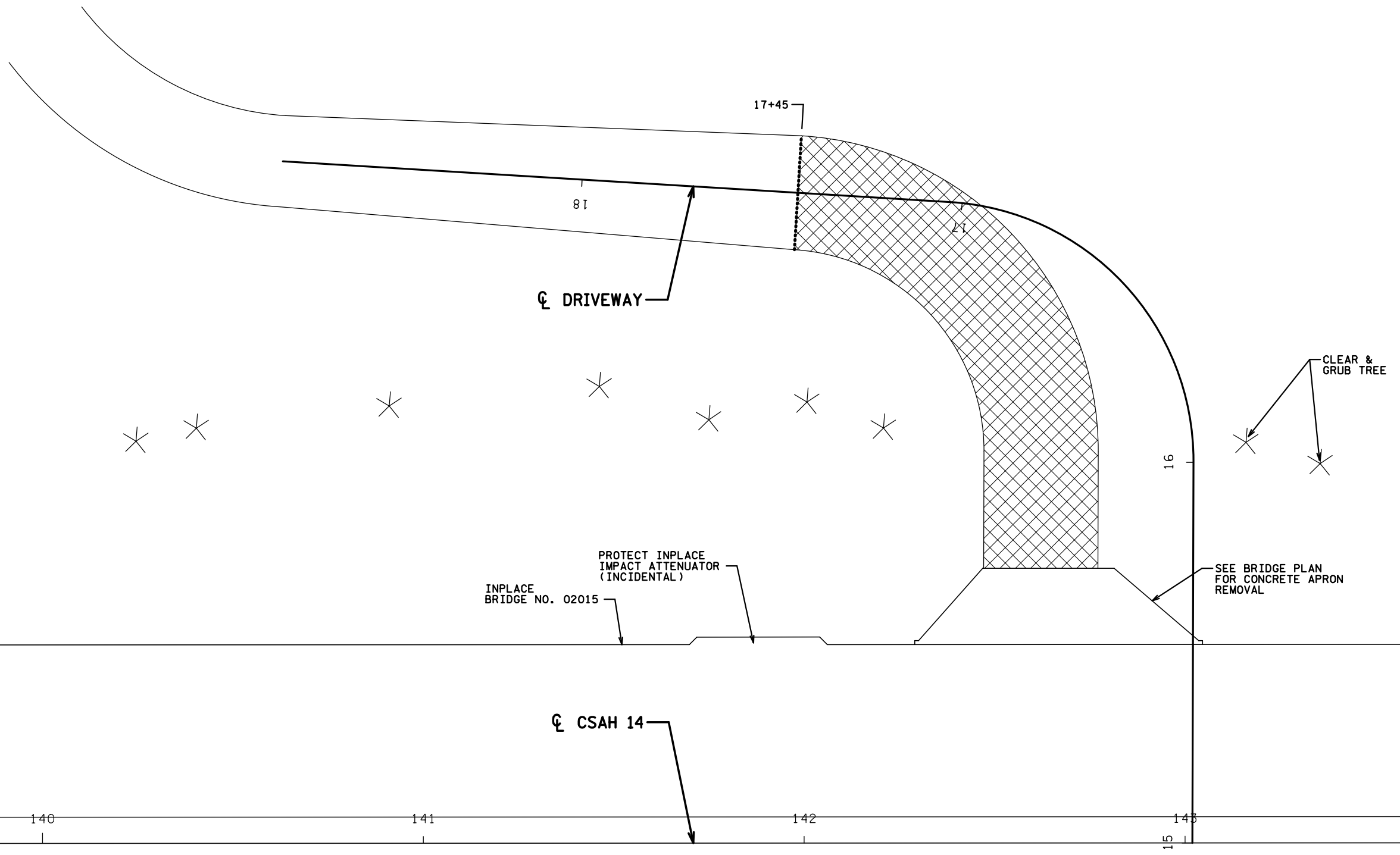


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**LEGEND**

- ..... SAWING BITUMINOUS PAVEMENT (FULL DEPTH)
- ▨ REMOVE BITUMINOUS PAVEMENT

SCALE IN FEET  
0 15 30



NO.	DATE	BY	DESCRIPTION OF REVISIONS

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





**CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA**

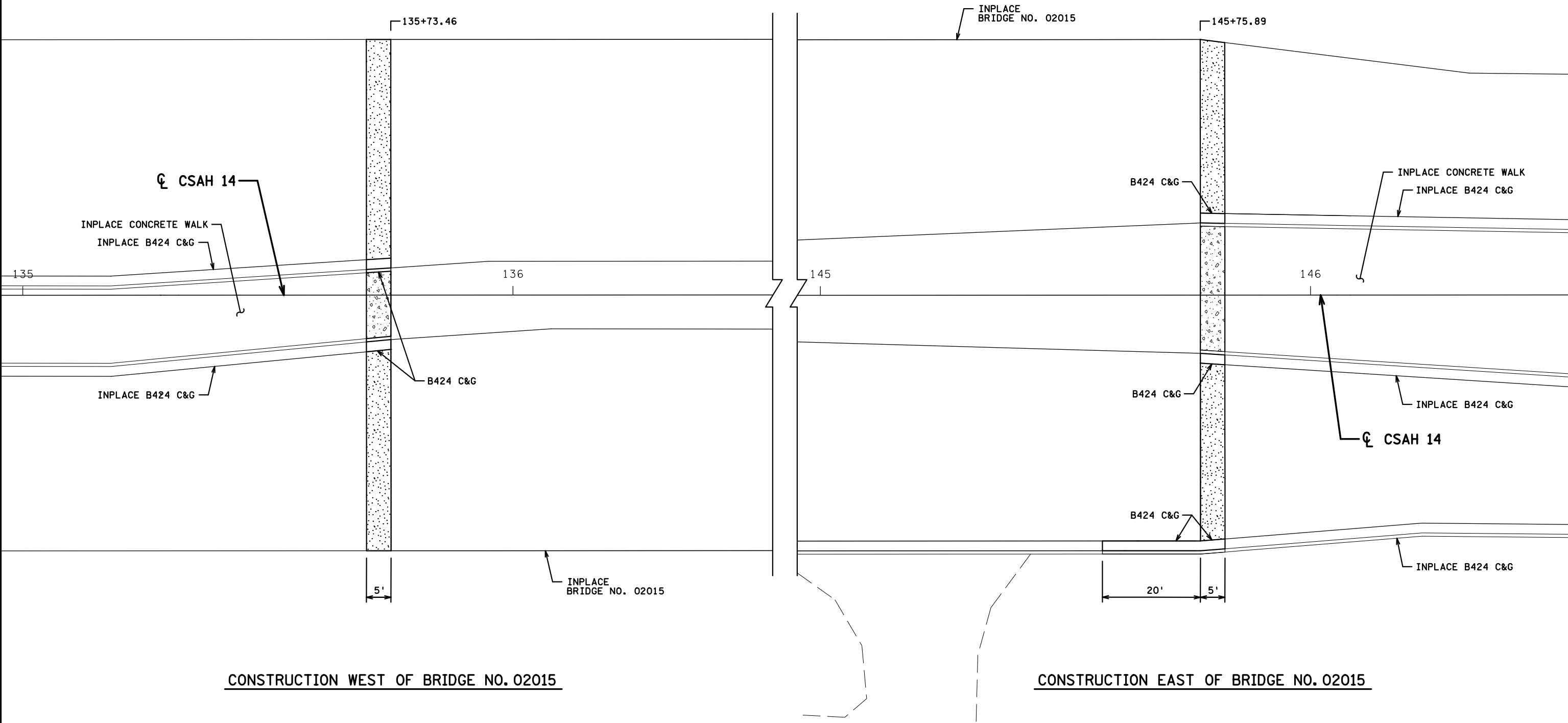
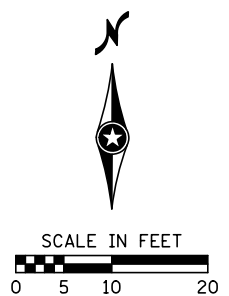
**INPLACE TOPOGRAPHY, UTILITIES,  
 & REMOVAL PLAN**

**S.P. 002-614-044**  
**Sheet No. 9 of 36 Sheets**

DATE: 6/18/2018 TIME: 4:06:18 PM  
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**LEGEND**

-  2" TYPE SP 12.5 WEARING COURSE MIX (4,F) (SPWEB440F)
-  2" TYPE SP 12.5 WEARING COURSE MIX (4,F) (SPWEB440F)
-  2" TYPE SP 12.5 WEARING COURSE MIX (4,F) (SPWEB440F)
-  6" AGGREGATE BASE (CV) CLASS 5
-  4" CONCRETE WALK
-  4" AGGREGATE BASE (CV) CLASS 5

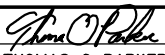


CONSTRUCTION WEST OF BRIDGE NO. 02015

CONSTRUCTION EAST OF BRIDGE NO. 02015

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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

**CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA**


**CONSTRUCTION PLAN**

**S.P. 002-614-044  
 Sheet No. 10 of 36 Sheets**

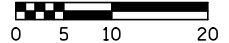
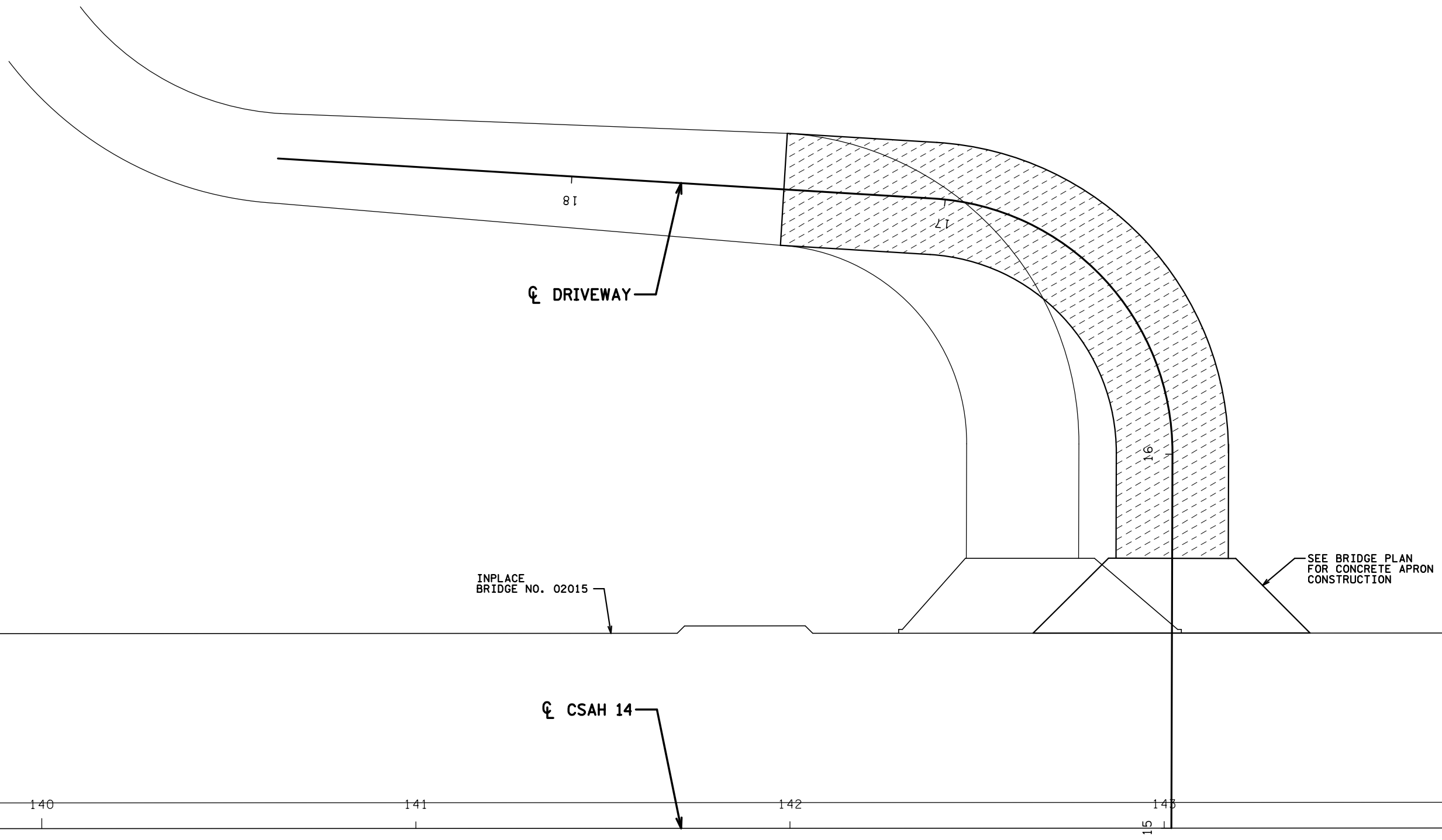
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**LEGEND**

-  2" TYPE SP 9.5 WEARING COURSE MIX (2,B) (SPWEA230B)
-  2" TYPE SP 9.5 WEARING COURSE MIX (2,B) (SPWEA230B)
-  6" AGGREGATE BASE (CV) CLASS 5

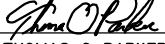


SCALE IN FEET

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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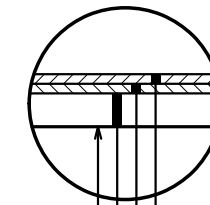
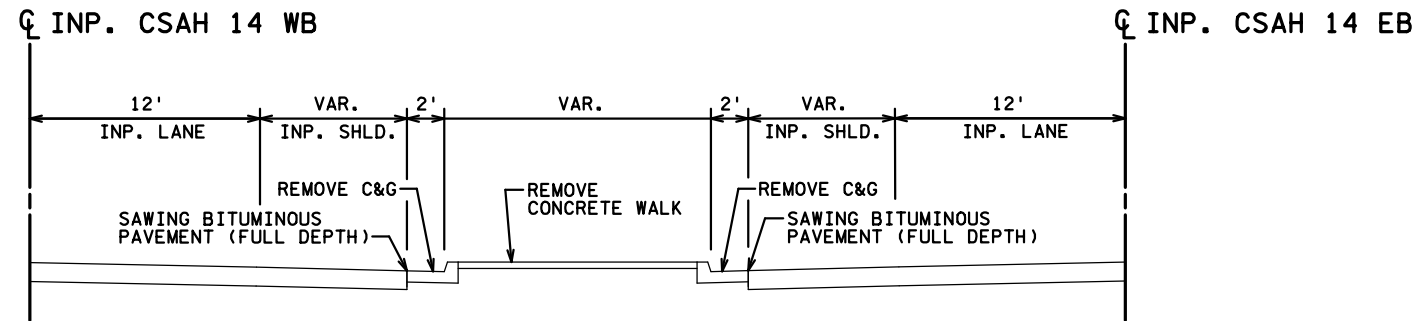
CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA

CONSTRUCTION PLAN

S.P. 002-614-044  
 Sheet No. 11 of 36 Sheets

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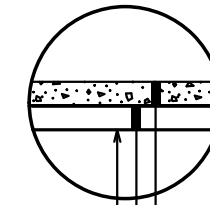
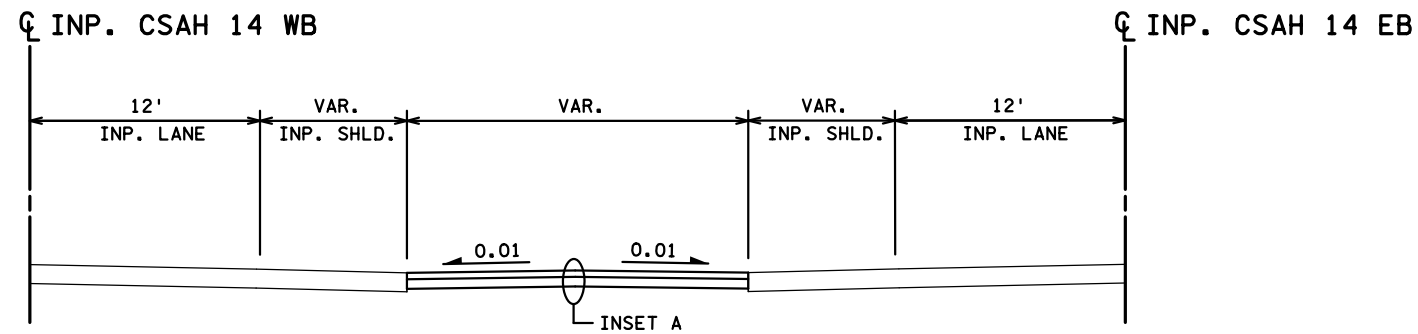
**BYPASS REMOVAL TYPICAL SECTION**



**INSET A**  
BYPASS

- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (4,F) (SPWEB440F) (BYPASS)
- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (4,F) (SPWEB440F) (BYPASS)
- 6" AGGREGATE BASE (CV) CLASS 5
- GRADING GRADE

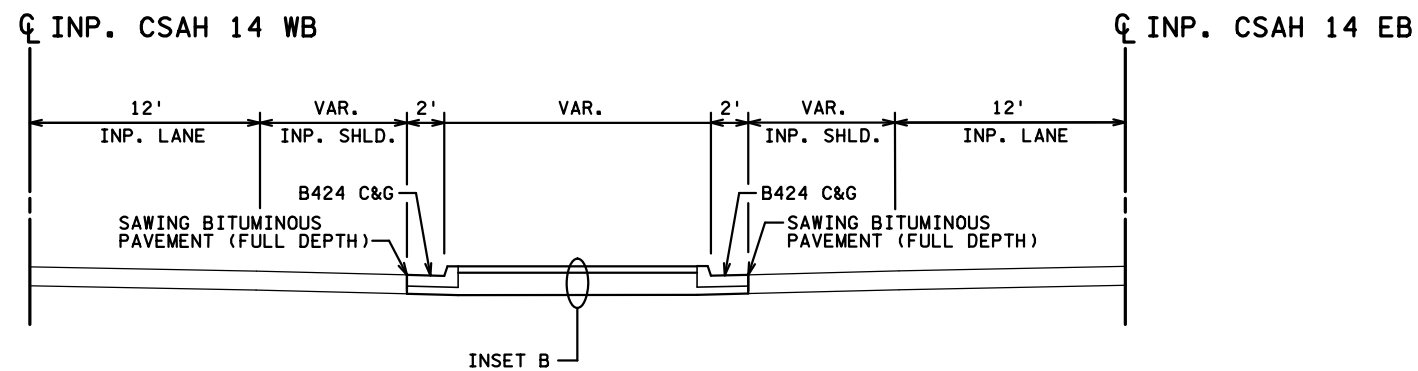
**BYPASS CONSTRUCTION TYPICAL SECTION**



**INSET B**  
CONCRETE MEDIAN

- 4" CONCRETE WALK
- VAR. DEPTH AGGREGATE BASE (CV) CLASS 5
- GRADING GRADE

**RESTORATION CONSTRUCTION TYPICAL SECTION**



**GENERAL NOTES:**

- ALL CROSS SLOPES ARE EXPRESSED IN FT./FT.
- BYPASS A AND B ARE ASSOCIATED WITH STAGE 1 CONSTRUCTION. BYPASS C AND D ARE ASSOCIATED WITH STAGE 2 CONSTRUCTION. SEE BRIDGE RECONSTRUCTION PLAN SHEETS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Thomas O. Parker*  
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 DATE: 6/18/2018 LIC. NO. 15924

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**TKDA**

**CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA**

**BYPASS PLAN**  
TYPICAL SECTIONS

S.P. 002-614-044

Sheet No. 12 of 36 Sheets



COON CREEK BLVD.  
(CSAH 18)

☉ CSAH 14

☉ BYPASS A

INPLACE CONCRETE WALK  
INPLACE B424 C&G

INPLACE B424 C&G

☉ BYPASS D

CONTRACTOR SHALL TACK WELD  
INLET GRATE IF IN A TRAVELED  
WHEEL PATH (INCIDENTAL).

BEGIN REMOVAL ①  
CSAH 14 STA. 133+99

END REMOVAL ①  
CSAH 14 STA. 135+28

INPLACE  
BRIDGE NO. 02015

SCALE IN FEET  
0 10 20 40



**REMOVAL PLAN FOR BYPASS A & D CONSTRUCTION**

**LEGEND**

- REMOVE CURB & GUTTER
- SAWING BITUMINOUS PAVEMENT (FULL DEPTH)
- REMOVE CONCRETE WALK
- REMOVE BITUMINOUS PAVEMENT

**SPECIFIC NOTES:**  
① SAWING OF CURB & GUTTER AND  
CONCRETE WALK IS INCIDENTAL.

SCALE IN FEET  
0 10 20 40



COON CREEK BLVD.

☉ CSAH 14

☉ BYPASS A

INPLACE CONCRETE WALK  
INPLACE B424 C&G

INPLACE B424 C&G

☉ BYPASS D

BEGIN REMOVAL  
CSAH 14 STA. 133+99

END REMOVAL  
CSAH 14 STA. 135+28

INPLACE  
BRIDGE NO. 02015

SCALE IN FEET  
0 10 20 40



**REMOVAL PLAN FOR PERMANENT RESTORATION**

DATE: 6/18/2018 TIME: 4:06:20 PM  
FILENAME: K:\v-f\AnokaCity\686500004\_Production\01\_CAD\Bridges\Super\CBR02015\_byb.dgn

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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SIGNATURE:   
PRINTED NAME: **THOMAS O. PARKER**  
DATE: 6/18/2018 LIC. NO. 15924

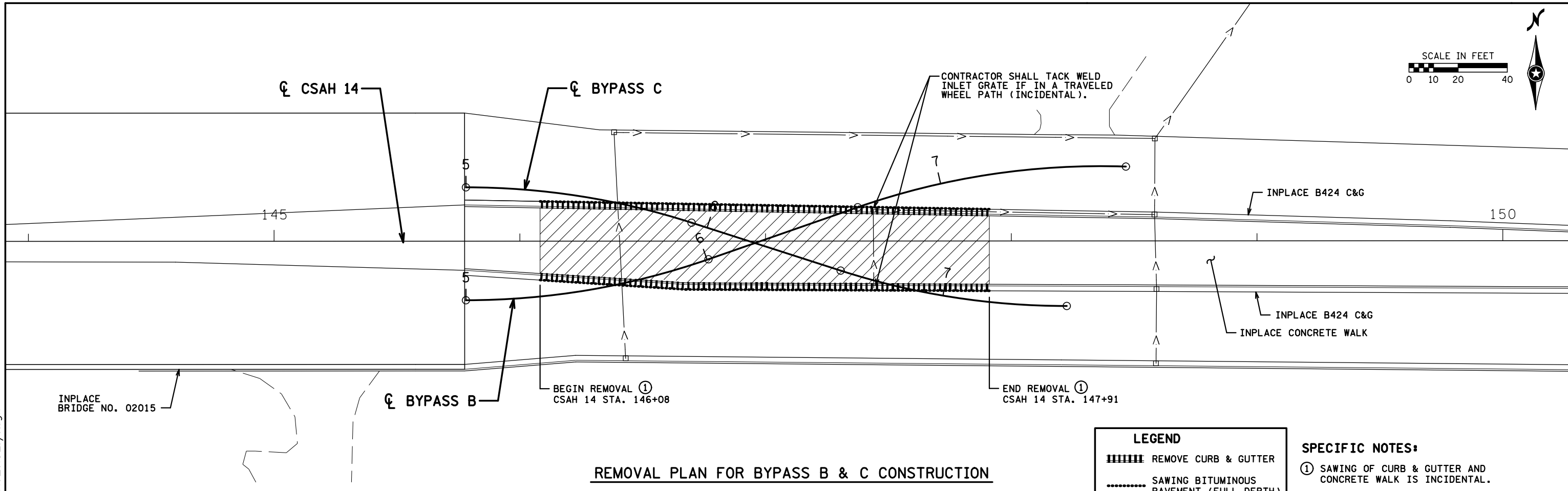
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tkda.com

**CSAH 14 (MAIN ST.) AT COON CREEK  
COON RAPIDS, MINNESOTA**

**BYPASS PLAN**  
BYPASS A & D - REMOVAL PLAN

S.P. 002-614-044  
**Sheet No. 13 of 36 Sheets**

DATE: 6/18/2018 TIME: 4:06:20 PM  
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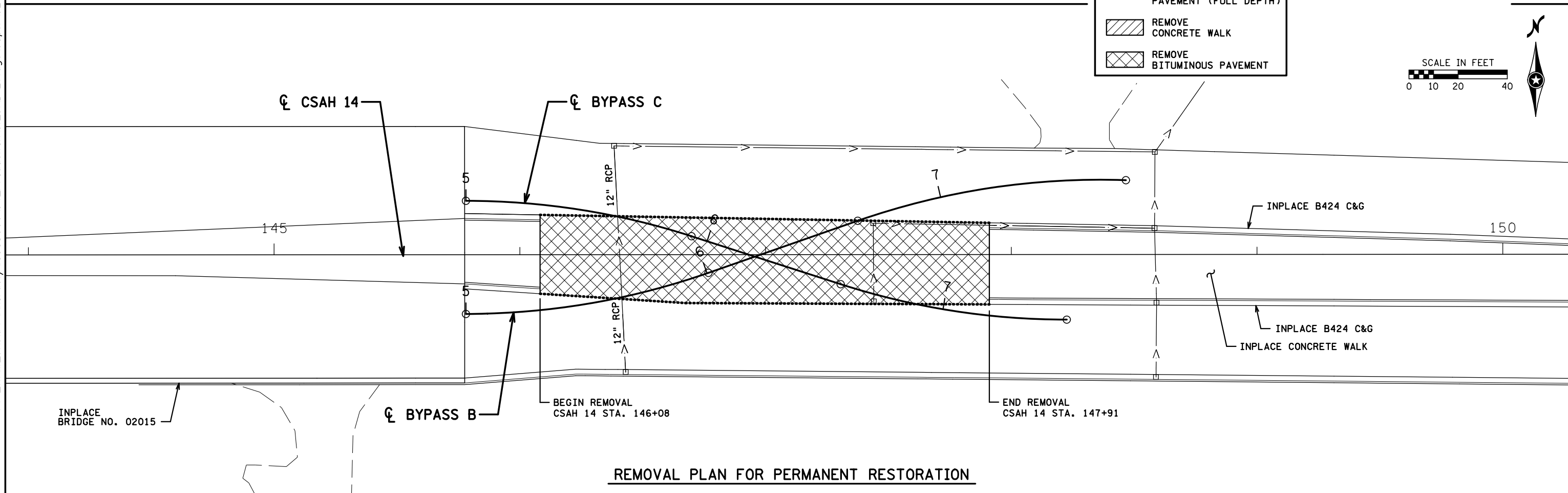


**REMOVAL PLAN FOR BYPASS B & C CONSTRUCTION**

**LEGEND**

- REMOVE CURB & GUTTER
- SAWING BITUMINOUS PAVEMENT (FULL DEPTH)
- REMOVE CONCRETE WALK
- REMOVE BITUMINOUS PAVEMENT

**SPECIFIC NOTES:**  
 ① SAWING OF CURB & GUTTER AND CONCRETE WALK IS INCIDENTAL.



**REMOVAL PLAN FOR PERMANENT RESTORATION**

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 SIGNATURE: *Thomas O. Parker*  
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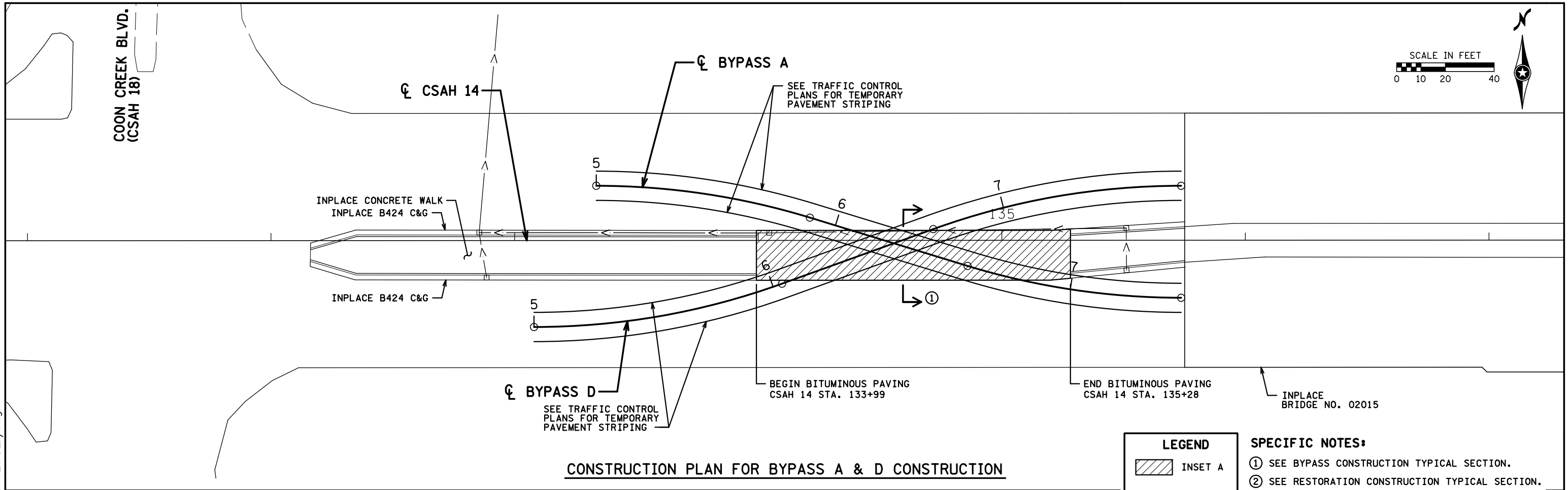
**TKDA**  
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 Saint Paul, MN 55101  
 651.292.4400  
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**CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA**

**BYPASS PLAN  
 BYPASS B & C - REMOVAL PLAN**


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 Sheet No. 14 of 36 Sheets**


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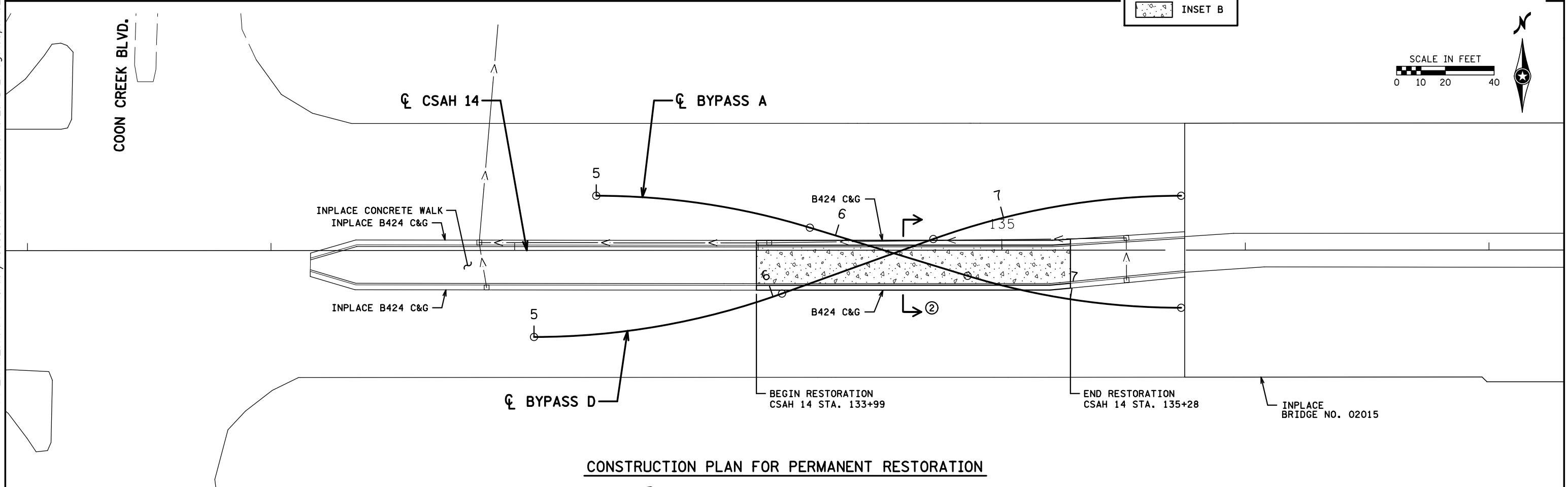
**CONSTRUCTION PLAN FOR BYPASS A & D CONSTRUCTION**

**LEGEND**

 INSET A

 INSET B

- SPECIFIC NOTES:**
- ① SEE BYPASS CONSTRUCTION TYPICAL SECTION.
  - ② SEE RESTORATION CONSTRUCTION TYPICAL SECTION.



**CONSTRUCTION PLAN FOR PERMANENT RESTORATION**

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 DATE: 6/18/2018 LIC. NO. 15924

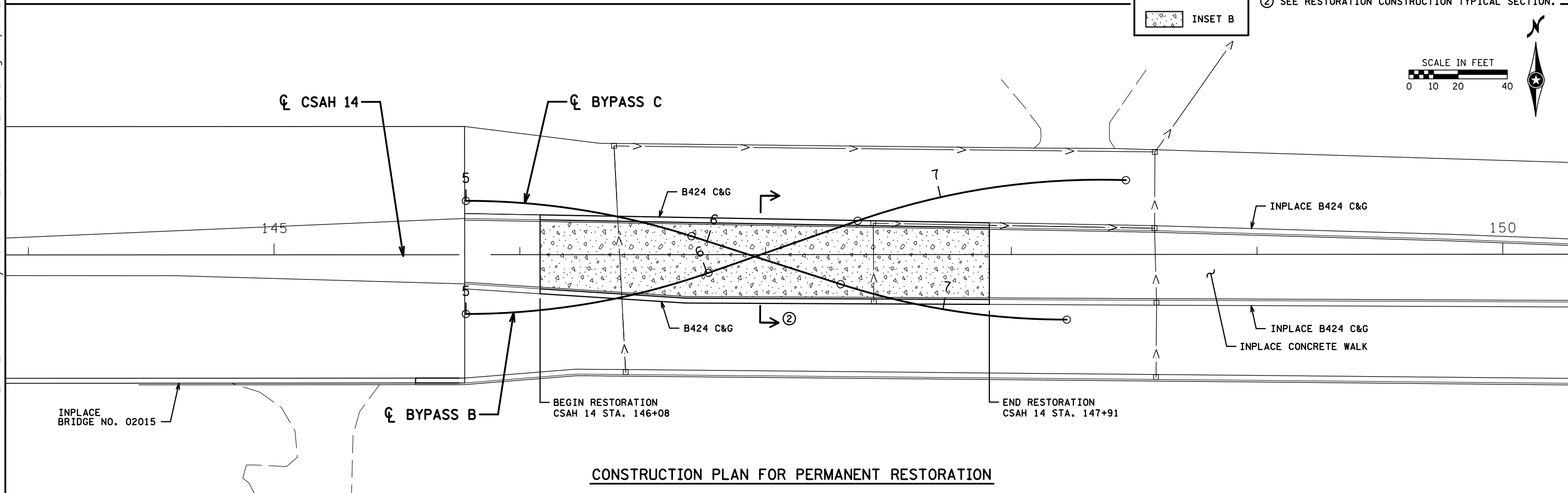
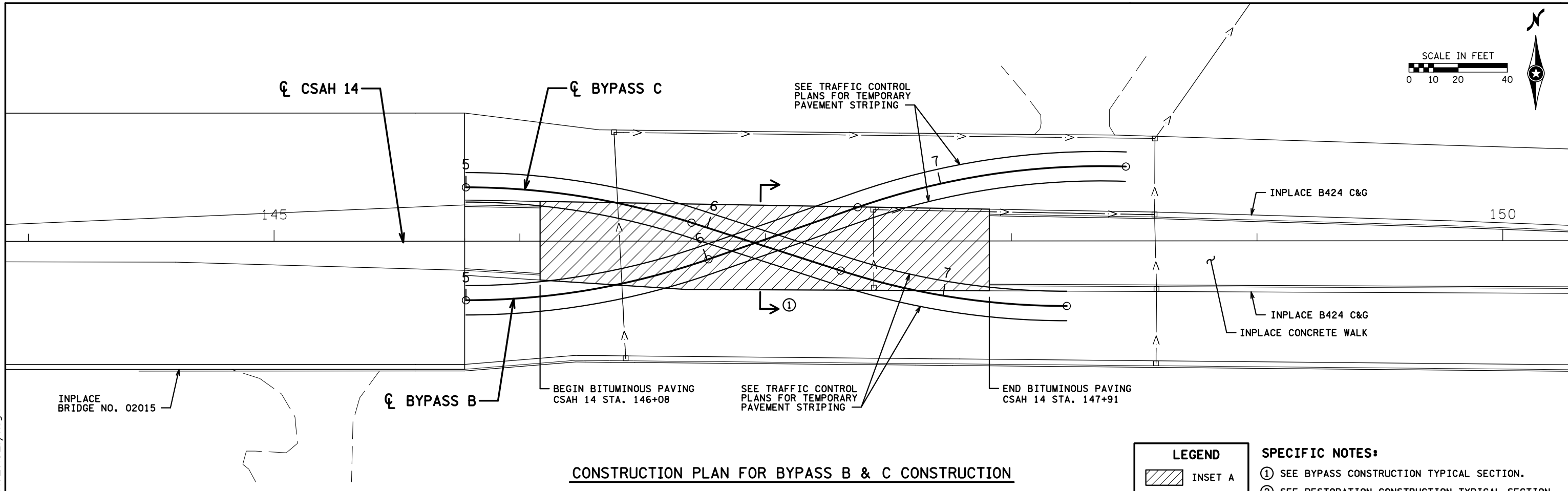
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**CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA**

**BYPASS PLAN**  
 BYPASS A & D - CONSTRUCTION PLAN

S.P. 002-614-044  
**Sheet No. 15 of 36 Sheets**

DATE: 6/18/2018 TIME: 4:06:21 PM  
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NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Thomas O. Parker*  
 PRINTED NAME: THOMAS O. PARKER  
 DATE: 6/18/2018 LIC. NO. 15924



CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA

BYPASS PLAN  
 BYPASS B & C - CONSTRUCTION PLAN

S.P. 002-614-044  
 Sheet No. 16 of 36 Sheets



**NOTES & GUIDELINES**

**GENERAL INFORMATION:**

1. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED.
2. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.
3. ALL DISTANCES ARE APPROXIMATE.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE MN MUTCD.
5. AN ANNUAL FALL REVIEW OF ALL TRAFFIC CONTROLS WILL BE MADE TO PREPARE FOR WINTER MAINTENANCE OF THE PROJECT. THIS MAY INCLUDE ADJUSTMENTS OR EXCHANGE OF ONE TRAFFIC CONTROL DEVICE FOR ANOTHER. READJUSTMENTS MAY AGAIN BE REQUIRED IN THE SPRING.
6. IF THE CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN SHOWN IN THIS TRAFFIC CONTROL PLAN THE CONTRACTOR SHALL PROVIDE COMPLETE REVISED TRAFFIC CONTROL PLANS TO BE APPROVED BY THE ENGINEER.

**SIGNING:**

1. ALL TRAFFIC CONTROL DEVICES, INCLUDING OVERHEAD SIGNS ON ROADS OPEN TO TRAFFIC THAT ARE NOT CONSISTENT WITH TRAFFIC OPERATION SHALL BE COVERED, REMOVED OR REVISED AS DIRECTED BY THE ENGINEER.
2. WHEN SIGNS ARE PLACED, THEY SHALL BE MOUNTED ON POSTS DRIVEN INTO THE GROUND AT THE PROPER HEIGHT AND LATERAL OFFSET AS SHOWN IN THE TYPICAL TEMP SIGN FRAMING & INSTALLATION DETAILS IN THE PLAN. IF THIS IS NOT POSSIBLE THEY WILL BE MOUNTED ON PORTABLE SUPPORTS AS APPROVED BY THE ENGINEER. WHEN THE SIGNS ARE REMOVED THE SIGN POSTS SHALL ALSO BE REMOVED AS SOON AS POSSIBLE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA SIGNING NEEDED TO FACILITATE TRAFFIC SWITCHES OR FOR TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER.
4. ALL ORANGE WARNING AND ORANGE GUIDE SIGNS SHALL BE FABRICATED WITH SIGN SHEETING MATERIAL AS LISTED ON THE MnDOT APPROVED PRODUCT LIST FOR "SHEETING FOR RIGID TEMPORARY WORK ZONE SIGNS".
5. BARRICADES SHALL BE FABRICATED WITH SIGN SHEETING MATERIAL AS LISTED ON THE MnDOT APPROVED PRODUCT LIST FOR BARRICADE SHEETING.
6. LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN IN THE "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" FIELD MANUAL UNLESS OTHERWISE SPECIFIED IN THESE PLANS.
7. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE PLACED AS NEEDED, OR PROVIDE TEMPORARY SIGNING AT THEIR EXPENSE UNTIL THE FINAL SIGNING IS PLACED.

**PAVEMENT MARKING:**













1. OBLITERATE ANY CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
2. PAINT, POLYMER LANE TAPE AND/OR TRPM'S ARE ACCEPTABLE TEMPORARY STRIPING ALTERNATIVES ACCORDING TO ACTUAL CONDITIONS ENCOUNTERED AS DIRECTED BY THE ENGINEER. GENERALLY, ONLY PAINT WILL BE USED BEFORE MAY 1ST OR WHEN THE OTHER MANUFACTURERS' SPECIFICATIONS CAN NOT BE MET.
3. TRPM'S (TEMPORARY RAISED PAVEMENT MARKERS) SHOULD BE USED TO SUPPLEMENT THE LONG TERM (MORE THAN 3 DAYS) EDGELINES ON ALL TRANSITION AREAS WHEN THE CONDITIONS ARE WITHIN THE MANUFACTURERS' SPECIFICATIONS.
4. SEE 1404 IN THE SPECIAL PROVISIONS FOR STRIPING SPOTTING RESPONSIBILITIES.

**CONSTRUCTION INFORMATION SIGNING:**

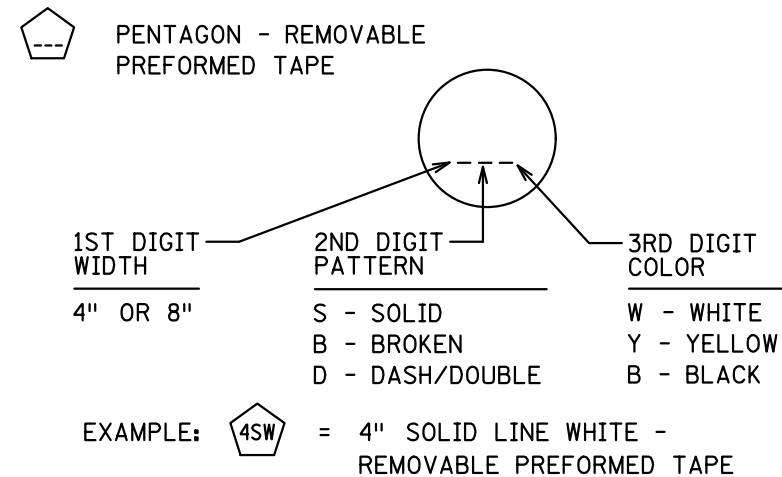
1. THE CONTRACTOR SHALL USE CONSTRUCTION INFORMATION SIGNING AS SHOWN IN THE PLAN AND WHICH ARE TO BE USED AS FOLLOWS:  
 G20-X1 CLOSURE NOTICE SIGNS PAIRED WITH G20-X3 WORK ENDS SIGNS TO DISPLAY THE CORRECT START DATE AND AN ESTIMATED FINISH DATE AS APPROVED BY THE PROJECT ENGINEER.  
 G20-X2 WORK ZONE ADVANCE NOTICE SIGNS WITH THE CORRECT STARTING DATE DISPLAYED BEFORE WORK BEGINS. ONCE WORK BEGINS, THE START DATE LEGEND SHALL BE COVERED BY THE SUGGESTED PLAQUE CONTAINED IN THIS PLAN. IF NO ALTERNATE MESSAGE IS SUGGESTED OR IF DIRECTED BY THE PROJECT ENGINEER, THE CORRECT ESTIMATED FINISH DATE, MONTH, OR SEASON SHALL BE DISPLAYED.  
 CONSTRUCTION INFORMATION SIGNING NOT VISIBLE TO THE MOTORING PUBLIC ONCE WORK BEGINS WILL BE MOVED BY THE CONTRACTOR TO A SITE IN ADVANCE OF THE WORK ZONE OR CLOSURE AS DIRECTED BY THE PLAN OR PROJECT ENGINEER.

**TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND**

**SYMBOL DESCRIPTION**

-  AREA CLOSED TO TRAFFIC / WORK AREA
-  TRAFFIC CONTROL SIGN
-  TYPE III BARRICADE = 
-  DRUM-LIKE CHANNELIZER (TYPE B) = 
-  SURFACE MOUNTED DELINEATOR = 
-  TYPE A FLASHING WARNING LIGHT
-  FLASHING ARROW BOARD TYPE C =  (4' X 8' UNLESS OTHERWISE NOTED).
-  - - - - SOLID LINE PAVEMENT MARKING WITH TEMPORARY RAISED PAVEMENT MARKERS AT 10' SPACES UNLESS NOTED OTHERWISE.

**STRIPING KEY**



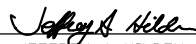
**INDEX**

TRAFFIC CONTROL SHEET NO.	DESCRIPTIONS
17	TITLE SHEET
18	CONSTRUCTION AND TRAFFIC CONTROL NARRATIVE
19	TRAFFIC CONTROL TABULATION SHEET
20-28	TRAFFIC CONTROL PLANS
29-31	TRAFFIC CONTROL DETAILS

STATION	TRAFFIC CONTROL PAY ITEMS			E REMOVABLE PREFORMED PLASTIC MASK (BLACK) LIN FT
	RAISED PAVEMENT MARKER TEMPORARY	REMOVABLE PREFORM PAVEMENT MARKING TAPE		
		YELLOW LIN FT	WHITE LIN FT	
STAGE 1	390	6060	3150	1830
STAGE 2	215	3100	1730	280
<b>TOTALS</b>	<b>605</b>	<b>14040</b>		<b>2110</b>

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 SIGNATURE:   
 PRINTED NAME: JEFFREY A. HILDEN  
 DATE: 6/18/2018 LIC. NO. 20781

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CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA

**TRAFFIC CONTROL PLAN**  
 TITLE SHEET

S.P. 002-614-044  
 Sheet No. 17 of 36 Sheets

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**PRE STAGE 1 CONSTRUCTION**

**CONSTRUCTION:**

1. CONSTRUCTION OF BYPASSES A & B.

**TRAFFIC:**

1. CLOSE THE LEFT LANE OF WB CSAH 14 AND LEFT LANE OF EB CSAH 14. SEE LEFT LANE CLOSURE DETAIL ON SHEET 29.

**CSAH 14 STAGE 1**

**CONSTRUCTION:**

1. RECONSTRUCTION WORK OF BRIDGE 02015 AND APPROACH SLABS ON CSAH 14 WB.

**TRAFFIC:**

1. SHIFT ALL CSAH 14 WB TRAFFIC TO ONE LANE ON CSAH 14 EB. CSAH 14 EB TRAFFIC SHALL SHIFT TO ONE LANE TO ACCOMMODATE TWO-WAY TRAFFIC. SEE DETAILS ON SHEETS 20-26.

**PRE STAGE 2 CONSTRUCTION**

**CONSTRUCTION:**

1. CONSTRUCTION OF BYPASSES C & D.

**TRAFFIC:**

1. CLOSE THE LEFT LANE OF WB CSAH 14 AND LEFT LANE OF EB CSAH 14. SEE LEFT LANE CLOSURE DETAIL ON SHEET 29.

**CSAH 14 - STAGE 2**

**CONSTRUCTION:**

1. RECONSTRUCTION WORK OF BRIDGE 02015 AND APPROACH SLABS ON CSAH 14 EB.

**TRAFFIC:**

1. SHIFT ALL CSAH 14 EB TRAFFIC TO ONE LANE ON CSAH 14 WB. CSAH 14 WB TRAFFIC SHALL SHIFT TO ONE LANE TO ACCOMMODATE TWO-WAY TRAFFIC. SEE DETAIL ON SHEET 20-22, & 25-28.

**POST STAGE 2 CONSTRUCTION**

**CONSTRUCTION:**

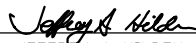
1. PERMANENT RESTORATION CONSTRUCTION.

**TRAFFIC:**

1. CLOSE THE LEFT LANE OF WB CSAH 14 AND LEFT LANE OF EB CSAH 14. SEE LEFT LANE CLOSURE DETAIL ON SHEET 29.

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**CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA**

**TRAFFIC CONTROL PLAN**  
 CONSTRUCTION AND TRAFFIC CONTROL NARRATIVE

S.P. 002-614-044  
**Sheet No. 18 of 36 Sheets**

**TRAFFIC CONTROL TABULATION SHEET**

<b>"W" SERIES</b>			
SIGN	SIGN NO.	COLOR	SIZE
	W1-3 (L & R)	BLACK ON ORANGE	48" X 48"
	W1-6 (L & R)	BLACK ON ORANGE	48" X 24"
	W1-8	BLACK ON YELLOW	30" X 36"
	W3-3	BLACK ON ORANGE	48" X 48"
	W4-2 (L & R)	BLACK ON ORANGE	48" X 48"
	W6-1	BLACK ON ORANGE	48" X 48"
	W6-2	BLACK ON ORANGE	48" X 48"
	W6-3	BLACK ON ORANGE	48" X 48"
	W7-3aP	BLACK ON ORANGE	42" X 24"
	W12-1	BLACK ON ORANGE	48" X 48"
	W13-1P	BLACK ON ORANGE	30" X 30"
	W14-3	BLACK ON ORANGE	64" X 64" X 48"
	W20-1	BLACK ON ORANGE	48" X 48"
	W21-X5L	BLACK ON ORANGE	48" X 48"

<b>"G" SERIES</b>			
SIGN	SIGN NO.	COLOR	SIZE
	G20-2a	BLACK ON ORANGE	48" X 24"
	G20-X9	BLACK ON ORANGE	30" X 36"

<b>"R" SERIES</b>			
SIGN	SIGN NO.	COLOR	SIZE
	R3-8AELA	BLACK ON WHITE	48" X 30"
	R4-1	BLACK ON WHITE	24" X 30"
	R4-7	BLACK ON WHITE	24" X 30"
	R5-1	RED ON WHITE	36" X 36"
	R11-2L	BLACK ON WHITE	48" X 30"
	R11-2R	BLACK ON WHITE	48" X 30"

<b>DEVICES</b>			
ITEM	SIGN NO.	COLOR	SIZE
	SURFACE MOUNTED DELINEATOR	WHITE ON ORANGE	
	REFLECTORIZED PLASTIC DRUM	WHITE ON ORANGE	
	TYPE III BARRICADE	WHITE ON ORANGE	8'
	ARROW BOARD	YELLOW	96" X 48"
	TYPE A FLASHING WARNING LIGHT	YELLOW	

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DATE: 6/29/2018 LIC. NO. 20781

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CSAH 14 (MAIN ST.) AT COON CREEK  
COON RAPIDS, MINNESOTA

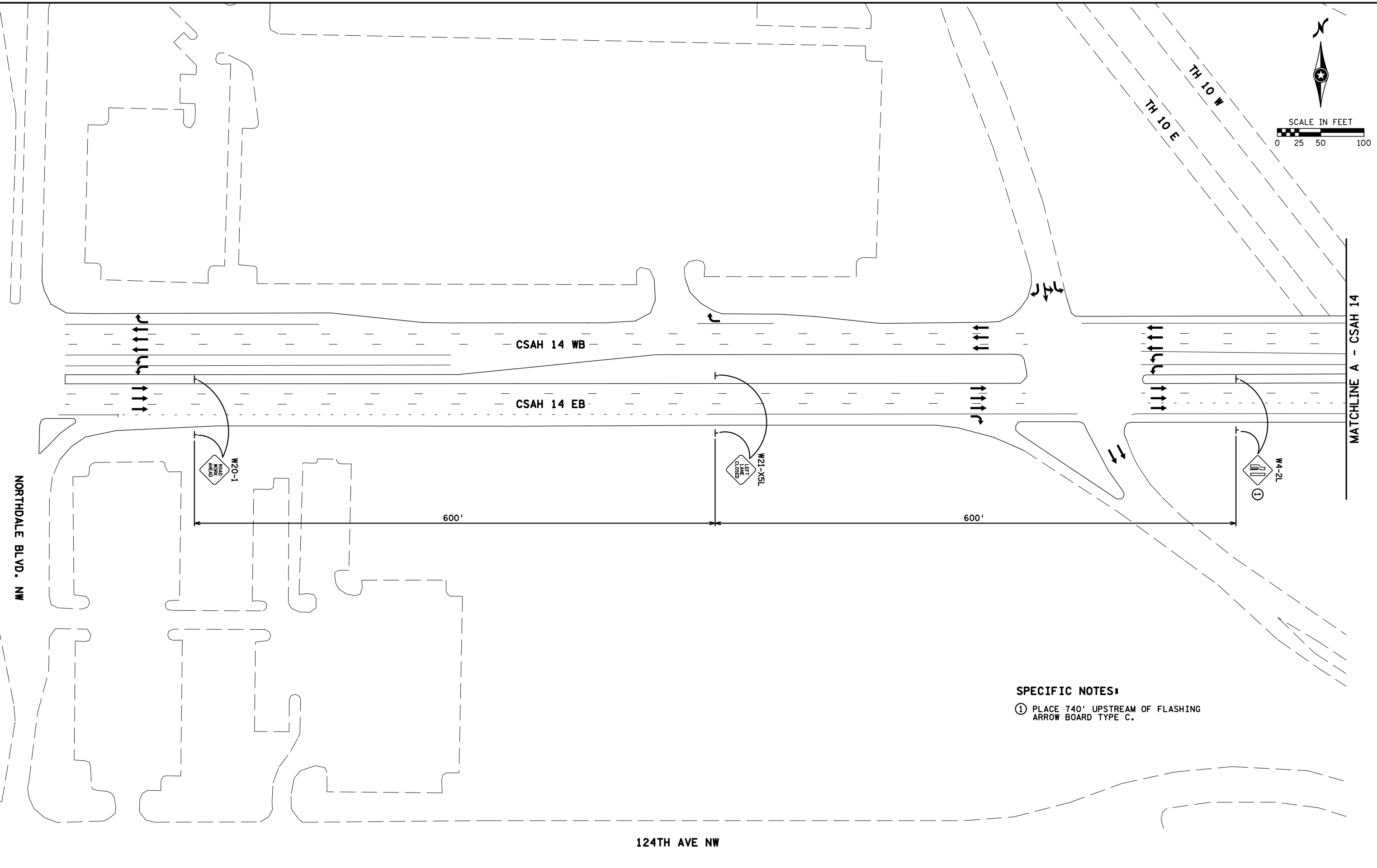
TRAFFIC CONTROL PLAN  
SIGN TABULATION

S.P. 002-614-044

Sheet No. 19 of 36 Sheets

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NORTHDALE BLVD. NW



**SPECIFIC NOTES:**  
 ① PLACE 740' UPSTREAM OF FLASHING ARROW BOARD TYPE C.

124TH AVE NW

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SIGNATURE: *Jeffrey A. Hilden*  
 PRINTED NAME: JEFFREY A. HILDEN  
 DATE: 6/18/2018 LIC. NO. 20781

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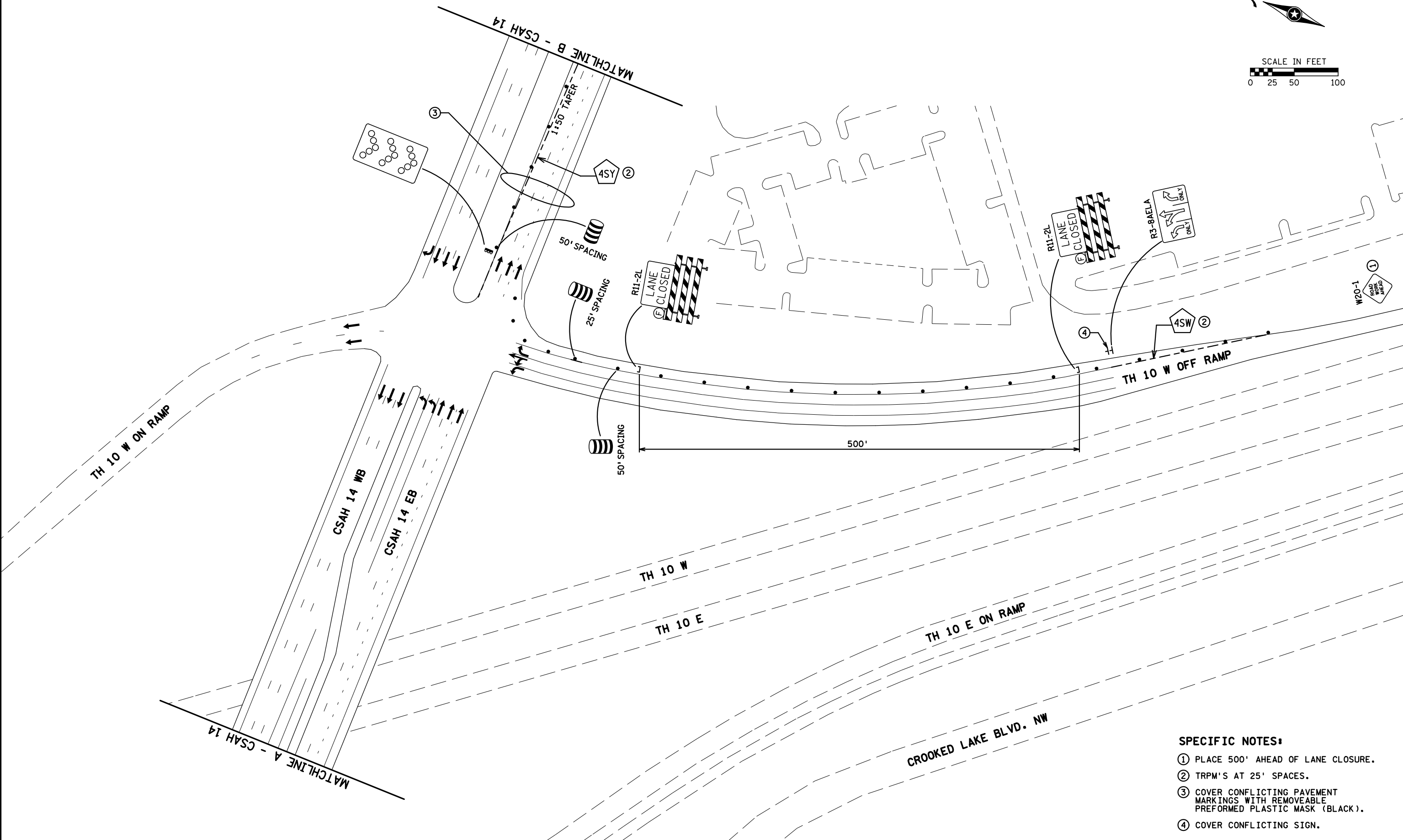
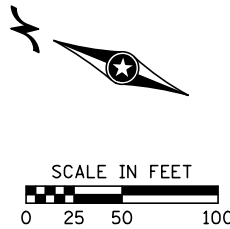
CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA

TRAFFIC CONTROL PLAN  
 CSAH 14 STAGE 1 & 2

S.P. 002-614-044  
 Sheet No. 20 of 36 Sheets



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 FILENAME: K:\v-f\AnokaCity\6865000004\_Production\01\_CAD\Bridg\Super\C\BR02015\_1.tce.dgn



- SPECIFIC NOTES:**
- ① PLACE 500' AHEAD OF LANE CLOSURE.
  - ② TRPM'S AT 25' SPACES.
  - ③ COVER CONFLICTING PAVEMENT MARKINGS WITH REMOVEABLE PREFORMED PLASTIC MASK (BLACK).
  - ④ COVER CONFLICTING SIGN.

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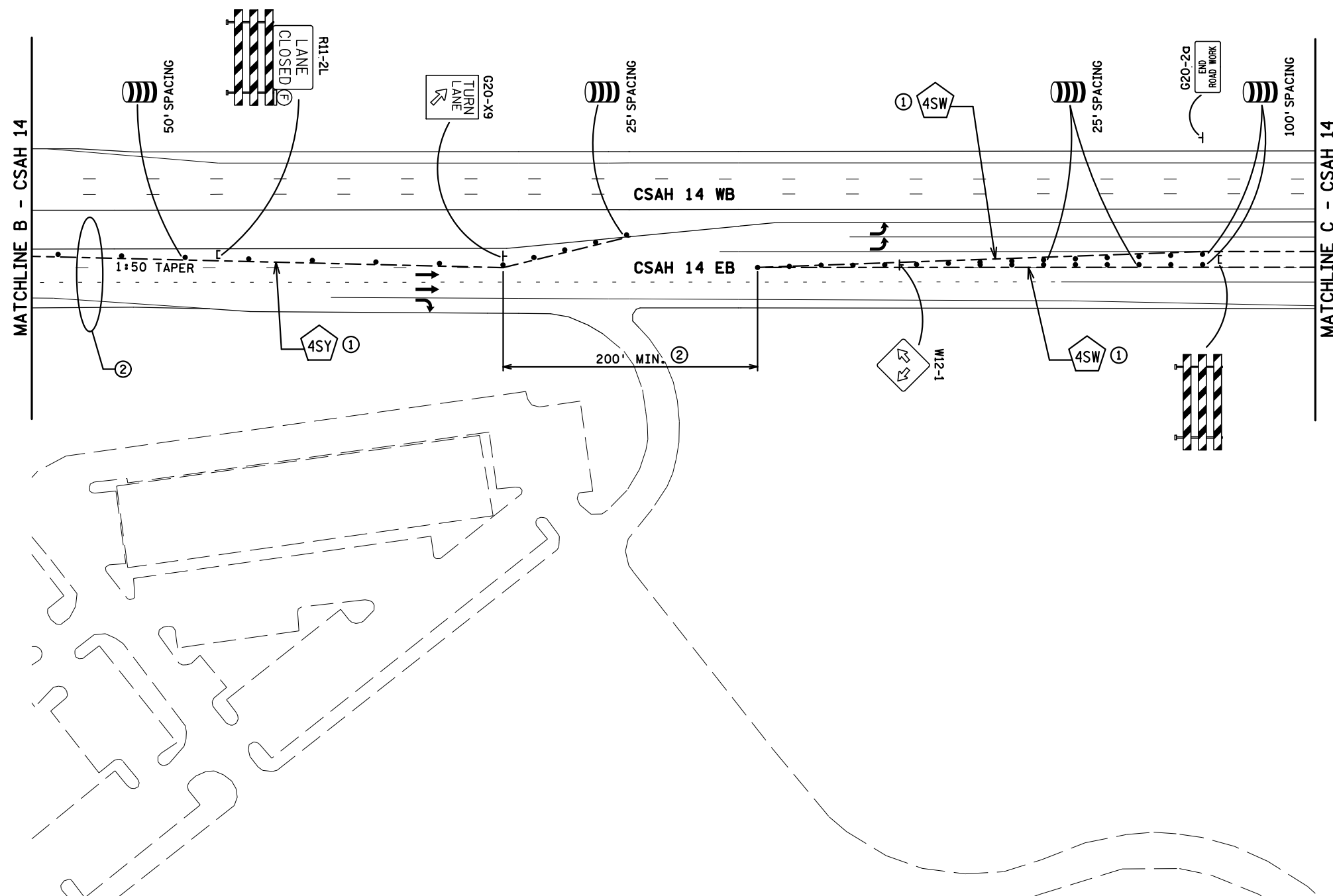
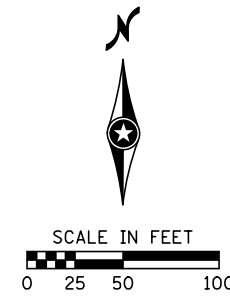


CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA

TRAFFIC CONTROL PLAN  
 CSAH 14 STAGE 1 & 2

S.P. 002-614-044  
 Sheet No. 21 of 36 Sheets

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**SPECIFIC NOTES:**

- ① TRPM'S AT 25' SPACES.
- ② COVER CONFLICTING PAVEMENT MARKINGS WITH REMOVEABLE PREFORMED PLASTIC MASK (BLACK).

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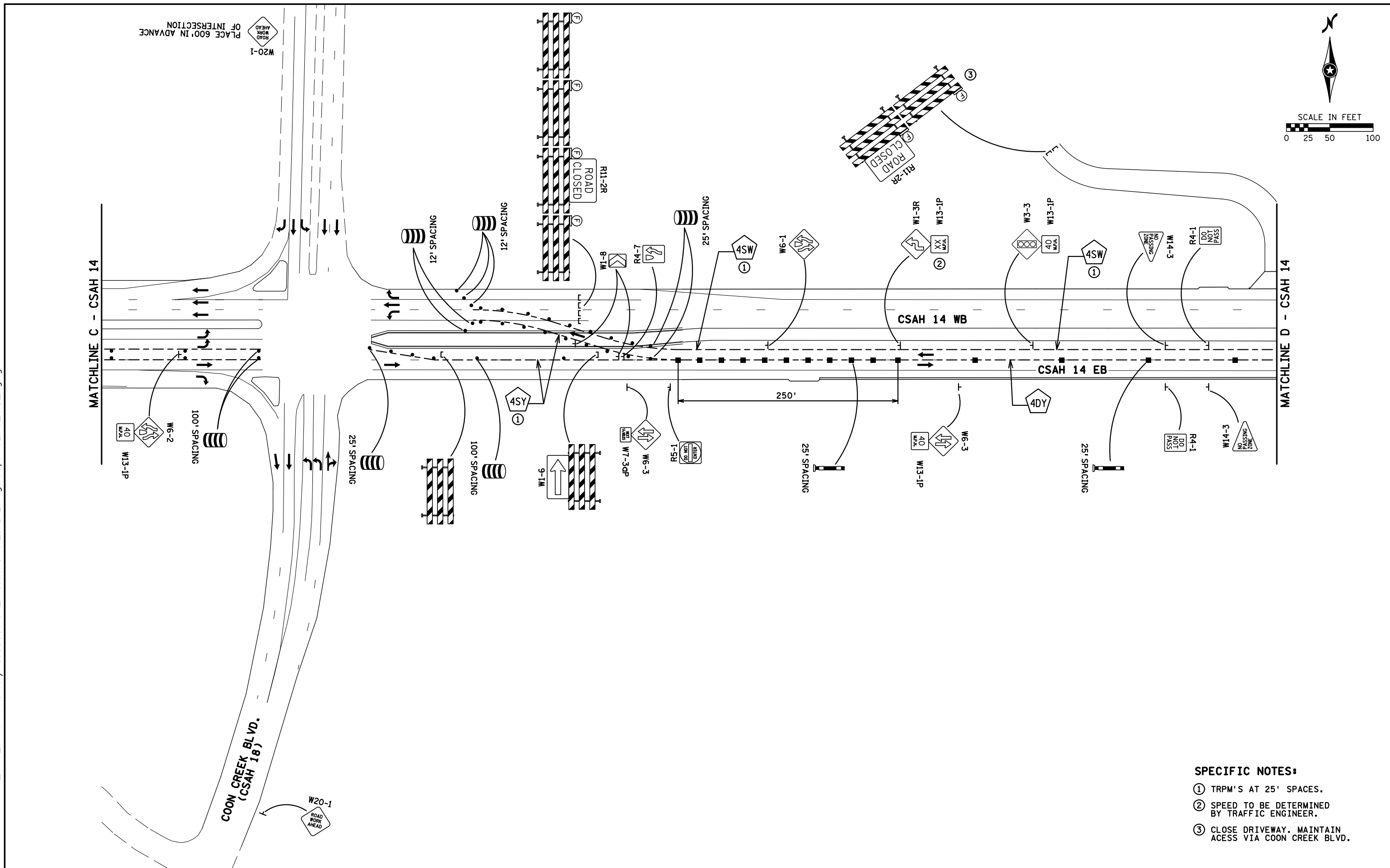
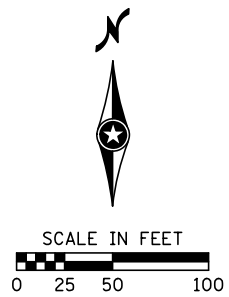
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**CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA**

**TRAFFIC CONTROL PLAN**  
 CSAH 14 STAGE 1 & 2

**S.P. 002-614-044**  
**Sheet No. 22 of 36 Sheets**

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- SPECIFIC NOTES:**
- ① TRPM'S AT 25' SPACES.
  - ② SPEED TO BE DETERMINED BY TRAFFIC ENGINEER.
  - ③ CLOSE DRIVEWAY. MAINTAIN ACCESS VIA COON CREEK BLVD.

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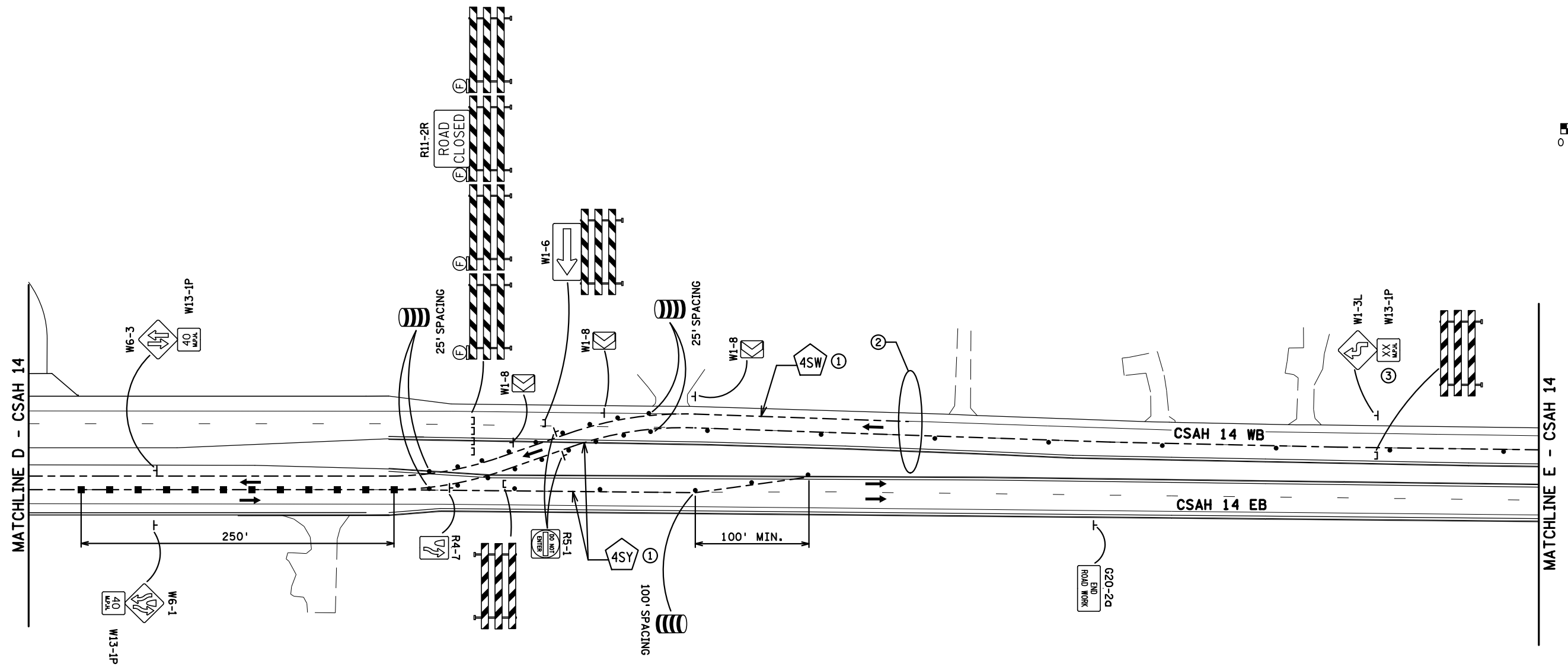
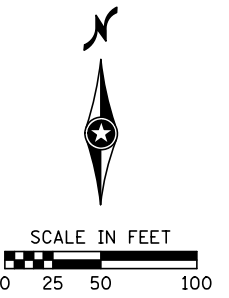
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**CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA**

**TRAFFIC CONTROL PLAN**  
 CSAH 14 STAGE 1: WB CONSTRUCTION

**S.P. 002-614-044**  
**Sheet No. 23 of 36 Sheets**

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- SPECIFIC NOTES:**
- ① TRPM'S AT 25' SPACES.
  - ② COVER CONFLICTING PAVEMENT MARKINGS WITH REMOVEABLE PREFORMED PLASTIC MASK (BLACK).
  - ③ SPEED TO BE DETERMINED BY TRAFFIC ENGINEER.

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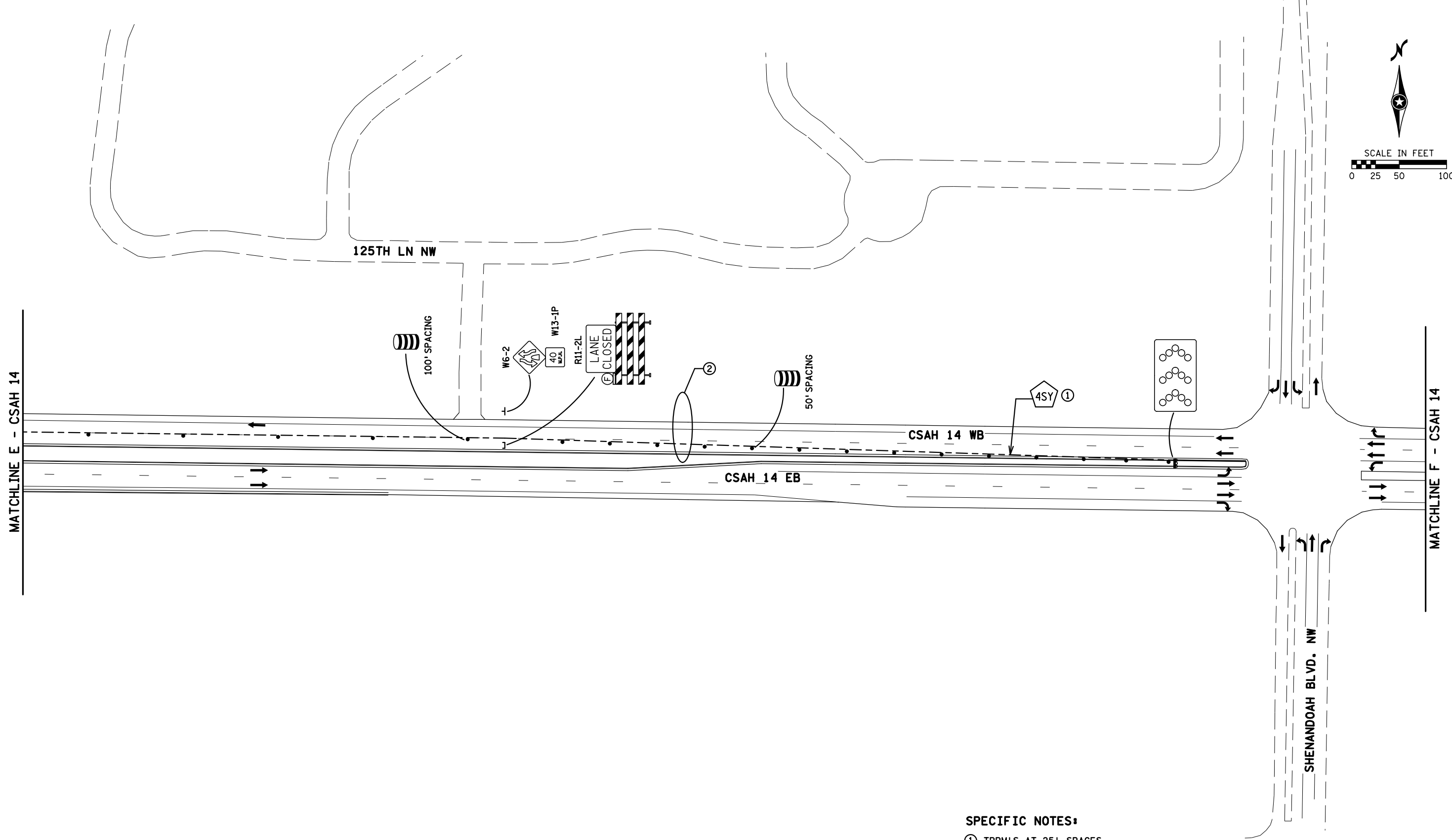
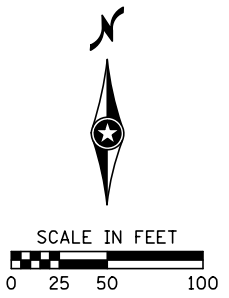


**CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA**

**TRAFFIC CONTROL PLAN**  
 CSAH 14 STAGE 1: WB CONSTRUCTION

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**Sheet No. 24 of 36 Sheets**

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- SPECIFIC NOTES:**
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  - ② COVER CONFLICTING PAVEMENT MARKINGS WITH REMOVEABLE PREFORMED PLASTIC MASK (BLACK).

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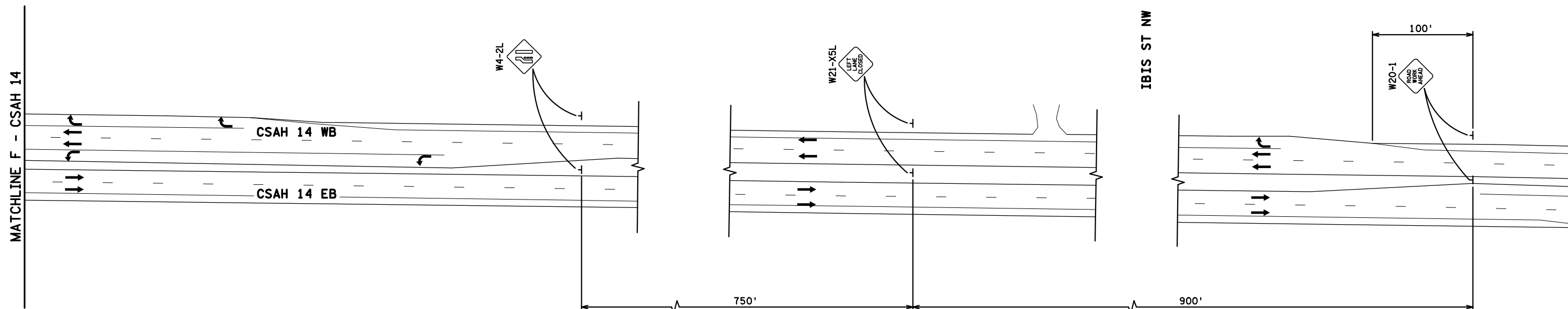
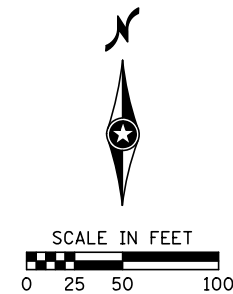


**CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA**

**TRAFFIC CONTROL PLAN**  
 CSAH 14 STAGE 1 & 2

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**Sheet No. 25 of 36 Sheets**

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 PRINTED NAME: **JEFFREY A. HILDEN**  
 DATE: 6/18/2018 LIC. NO. 20781



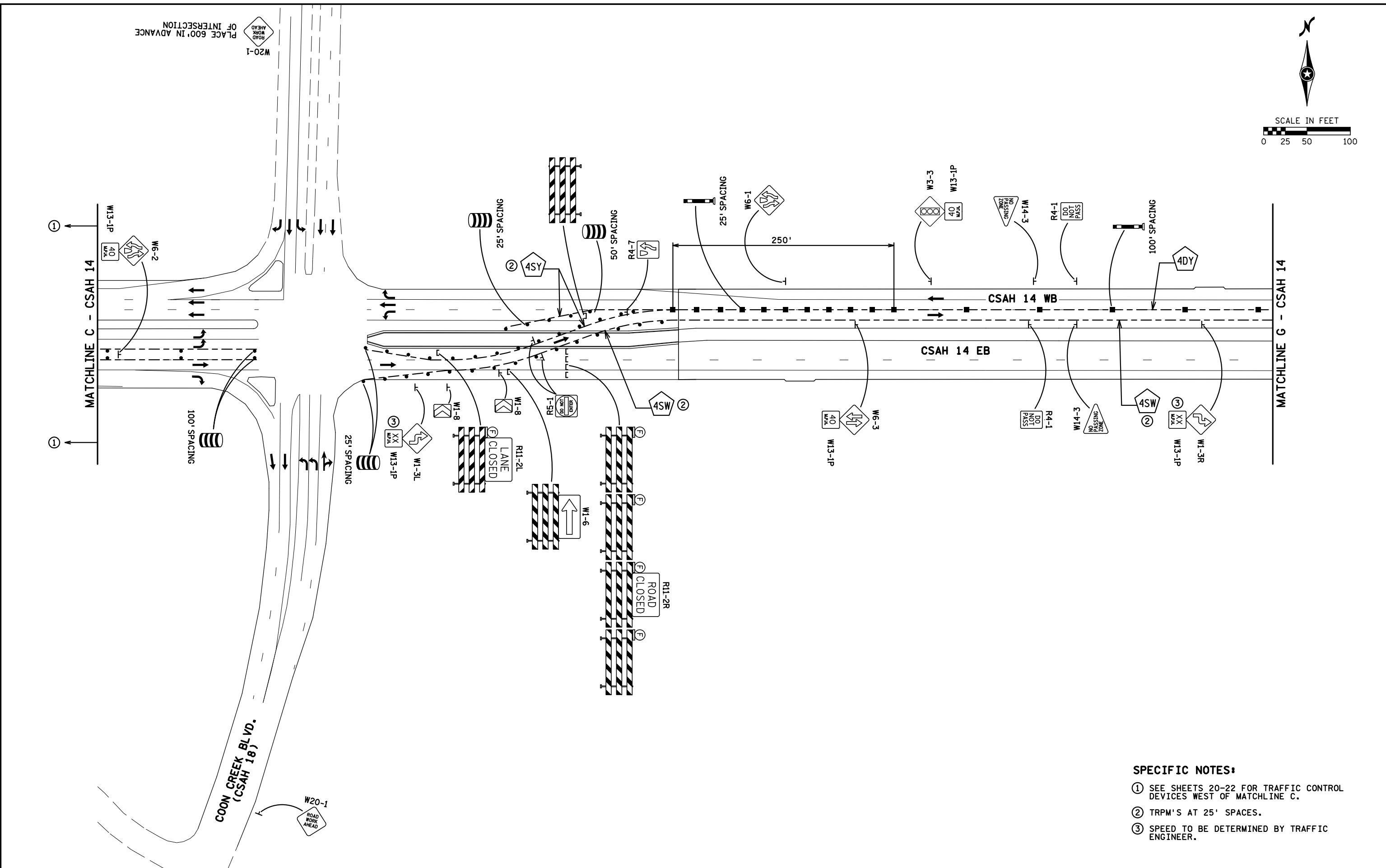
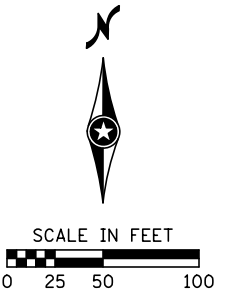
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**CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA**

**TRAFFIC CONTROL PLAN**  
 CSAH 14 STAGE 1 & 2

S.P. 002-614-044  
**Sheet No. 26 of 36 Sheets**

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- SPECIFIC NOTES:**
- ① SEE SHEETS 20-22 FOR TRAFFIC CONTROL DEVICES WEST OF MATCHLINE C.
  - ② TRPM'S AT 25' SPACES.
  - ③ SPEED TO BE DETERMINED BY TRAFFIC ENGINEER.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden*  
 PRINTED NAME: **JEFFREY A. HILDEN**  
 DATE: 6/18/2018 LIC. NO. 20781

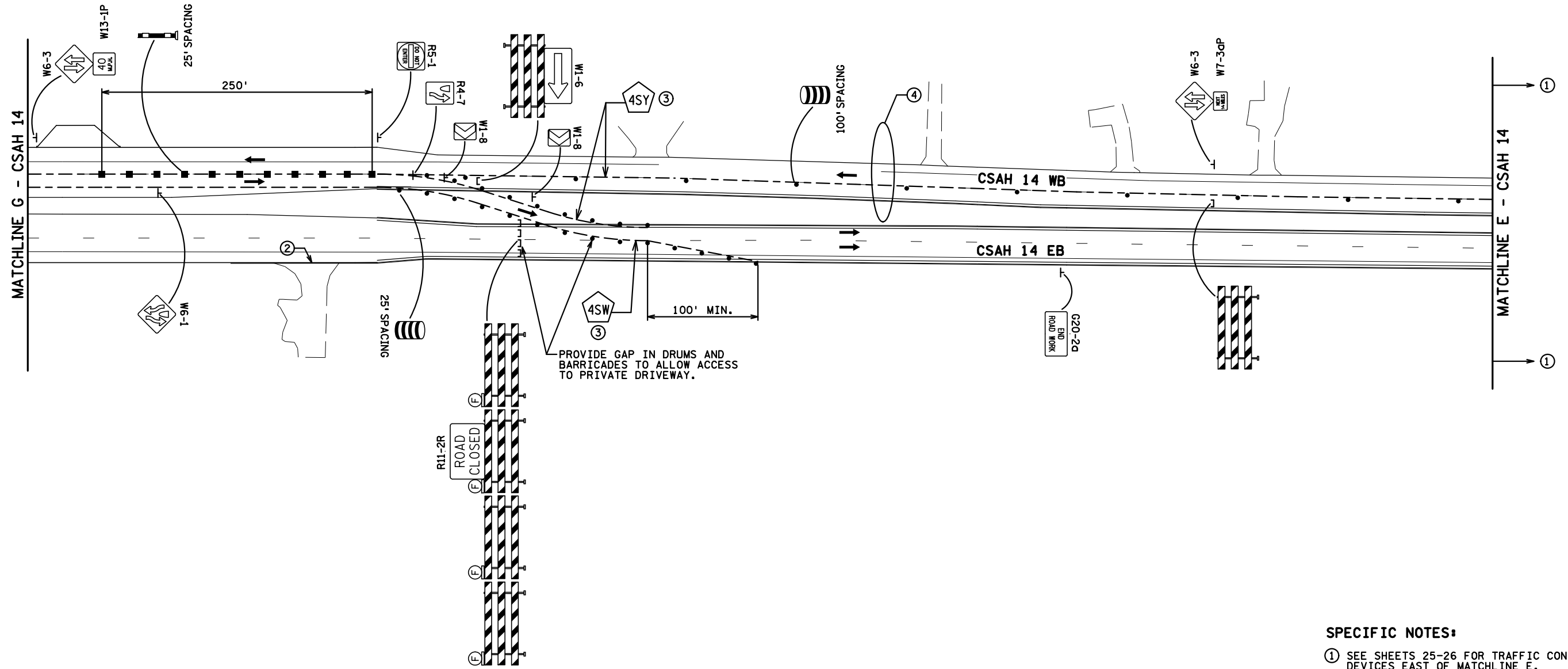
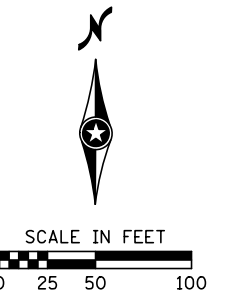


**CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA**

**TRAFFIC CONTROL PLAN**  
 CSAH 14 STAGE 2: EB CONSTRUCTION

S.P. 002-614-044  
**Sheet No. 27 of 36 Sheets**

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- SPECIFIC NOTES:**
- ① SEE SHEETS 25-26 FOR TRAFFIC CONTROL DEVICES EAST OF MATCHLINE E.
  - ② MAINTAIN ACCESS TO PRIVATE DRIVEWAY.
  - ③ TRPM'S AT 25' SPACES.
  - ④ COVER CONFLICTING PAVEMENT MARKINGS WITH REMOVEABLE PREFORMED PLASTIC MASK (BLACK).

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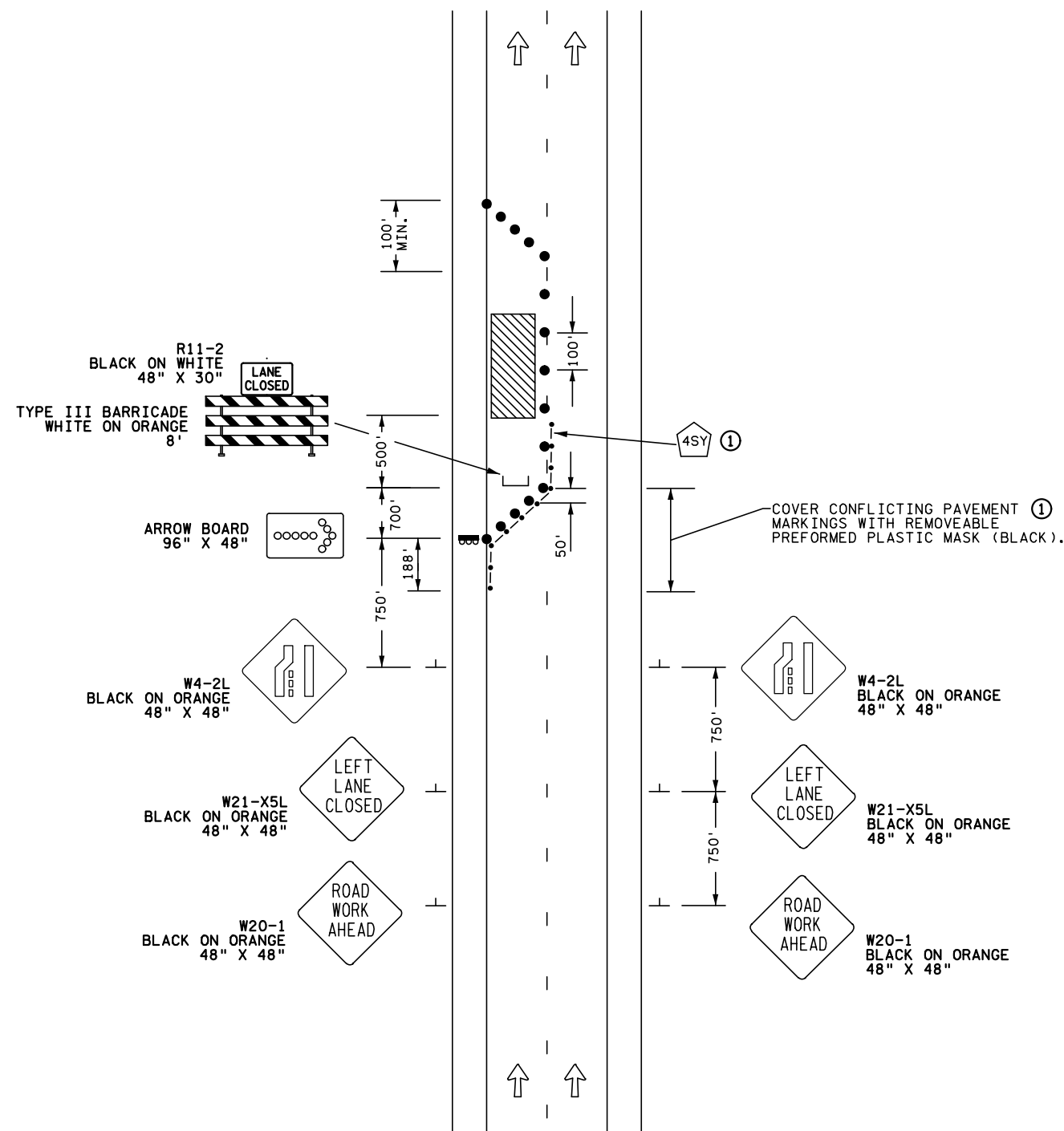
**CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA**

**TRAFFIC CONTROL PLAN**  
 CSAH 14 STAGE 2: EB CONSTRUCTION

**S.P. 002-614-044**  
**Sheet No. 28 of 36 Sheets**



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LEFT LANE CLOSURE  
 MULTI-LANE DIVIDED ROAD  
 LONG TERM

- ④SY 4" SOLID YELLOW REMOVEABLE PREFORMED PLASTIC MARKING
- DRUMS, TYPE I OR TYPE II BARRICADE OR VERTICAL PANEL.
- · — · — · — SOLID LINE PAVEMENT MARKING WITH TEMPORARY RAISED PAVEMENT MARKERS AT 25' SPACING AND WET REFLECTIVE TAPE.

**GENERAL NOTES:**

- FOR ANY EXCAVATION OR DROP-OFF IN EXCESS OF 12 IN., SEE THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES SECTION 6F.85 "TEMPORARY TRAFFIC BARRIERS".

**SPECIFIC NOTES:**

- ① PLACE WHEN LANE IS CLOSED FOR GREATER THAN THREE DAYS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA

TRAFFIC CONTROL PLAN  
 LEFT LANE CLOSURE DETAIL

S.P. 002-614-044

Sheet No. 29 of 36 Sheets

SIGN DATA

SIGNS TO BE PLACED ON DRIVEN U-POSTS SHALL BE PLACED IN ACCORDANCE WITH TABLE 1 OR 2 BELOW. IF THE TTC PLAN PLACES POST MOUNTED TEMPORARY SIGNS ADJACENT TO EXISTING STRUCTURES THERE SHALL BE NO MORE THAN TWO U-POST WITHIN 84 INCHES OF EACH OTHER ALIGNED IN THE SAME PLANE SO AS NOT TO COMPROMISE THAT STRUCTURE'S AND THE NEW DEVICE'S CRASHWORTHINESS. IF IT IS NOT POSSIBLE TO MAINTAIN THIS SPACING THEN THE POST MOUNTED TEMPORARY SIGNS SHALL BE PLACED A MIN OF 4' BEYOND THE IN PLACE STRUCTURES. SIGN PANELS SHALL BE PLACED ON SIGN STRUCTURES TO MEET THE 5' MIN DEPICTED ON THE TYPICAL RURAL DESIGN DETAIL, THE 7' MIN DEPICTED ON THE TYPICAL URBAN DESIGN DETAIL, AND THE 9' MIN DEPICTED ON THE TYPICAL MOUNTING DETAIL ON THIS SHEET.

STANDARD CONSTRUCTION SIGNS IN MnDOT STANDARD SIGNS AND MARKINGS MANUAL

TABLE 1

PANEL SIZE (IN.)	POSTS			
	NO. & TYPE	SPACING (IN.)	KNEE BRACES QUANT.	LENGTH (FT.)
24 x 24	2-U	18		13
30 x 24	2-U	18		13
36 x 30	2-U	24		13
36 x 36	2-U	18		14
42 x 36	2-U	30		14
48 x 48	2-U	30		15
60 x 60	2-U	42	1	16
66 x 60	2-U	42	2	16
72 x 72	2-U	42	2	17
96 x 54	2-U	54	2	19
96 x 84	2-U	54	2	19
132 x 108	3-U	45	3	22
168 x 132	4-U	48	4	25

GENERAL NOTES:

1. POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT, BUT DO NOT INCLUDE ADDITIONAL LENGTH REQUIRED FOR SPLICE.
2. SEE MnDOT STANDARD SIGNS AND MARKINGS MANUAL FOR PUNCHING HOLES.
3. MINIMUM OF 45" SPACING BETWEEN POSTS MUST BE MAINTAINED WHEN USING MORE THAN TWO POSTS.

TABLE 2

SPECIAL DESIGN CONSTRUCTION SIGNS

PANEL SIZE		POSTS			
LENGTH (IN.)	HEIGHT (IN.)	NO. & TYPE	SPACING (IN.)	KNEE BRACES QUANT.	LENGTH (FT.)
54 - 96	78	2-U	42	2	20
102 - 138	78	3-U	45	3	20
144 - 180	78	4-U	45	4	20

NOTES: FOR TEMPORARY CONSTRUCTION SIGN FRAMING, THE CONTRACTOR MAY USE GRADE 5 ZINC PLATED BOLTS FOR ALL BOLTED CONNECTIONS, EXCEPT FOR THE KNEE BRACE CONNECTION TO THE REAR STUB POST, WHICH SHALL UTILIZE A 5/16 INCH STAINLESS STEEL BOLT AND NYLON INSERT LOCK NUT. ADDITIONAL SIGN FRAMING DETAILS CAN BE FOUND IN THE TRAFFIC ENGINEERING MANUAL PART 6.

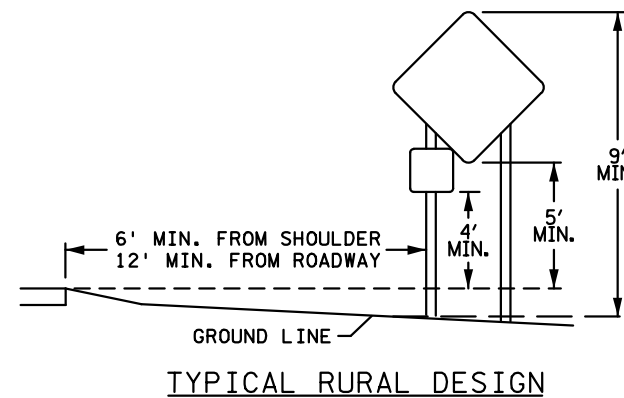
IF THE CONTRACTOR ELECTS TO USE SOME OTHER TYPE OF SIGN SUPPORT (OTHER THAN U-CHANNEL SIGN POSTS) FOR MOUNTING CONSTRUCTION SIGNS, DETAILS OF THE PROPOSED SIGN STRUCTURE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING THE SIGN STRUCTURE COMPONENTS. ANY SIGN STRUCTURE TO BE SUBMITTED TO THE ENGINEER SHALL BE AN FHWA ACCEPTED BREAKAWAY SIGN SUPPORT. SIGN STRUCTURE SHALL ALSO BE APPROVED FOR 90 MPH WIND LOAD.

TYPICAL TEMPORARY SIGN FRAMING AND INSTALLATION DETAILS

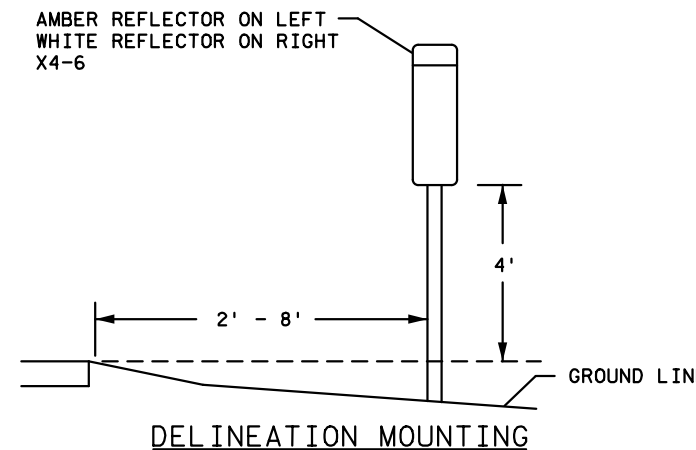
TRAFFIC CONTROL PLAN  
TEMPORARY SIGN FRAMING AND INSTALLATION DETAILS

S.P. 002-614-044

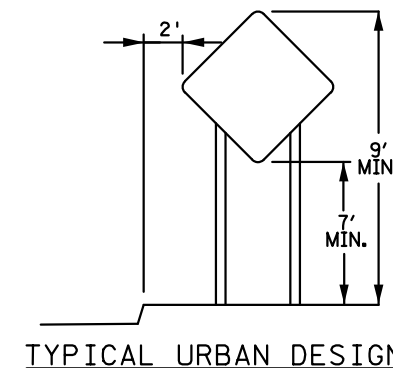
Sheet No. 30 of 36 Sheets



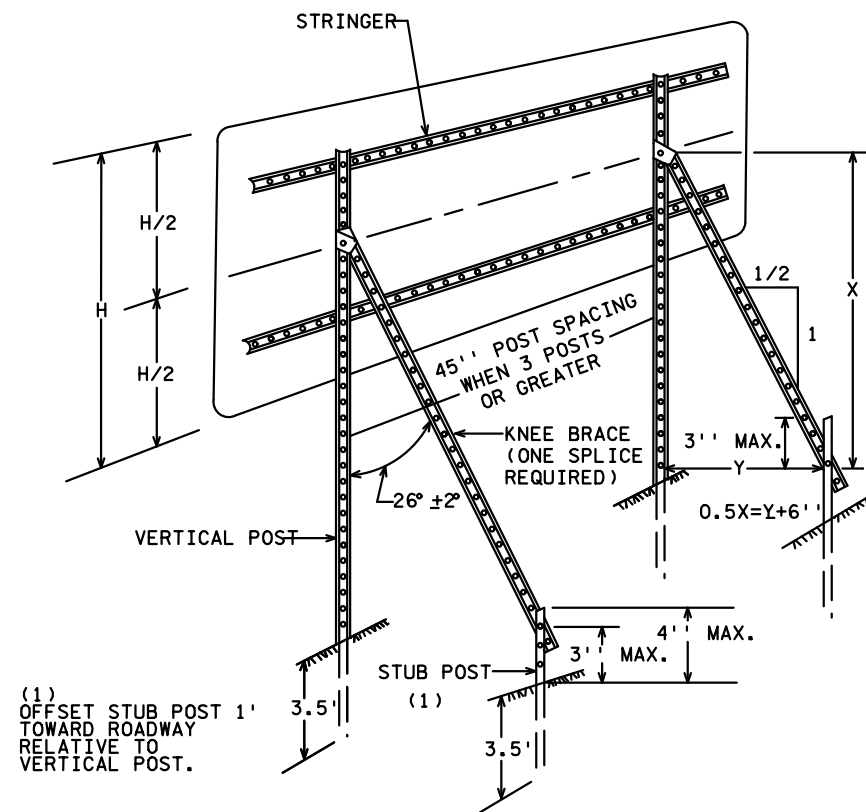
TYPICAL RURAL DESIGN



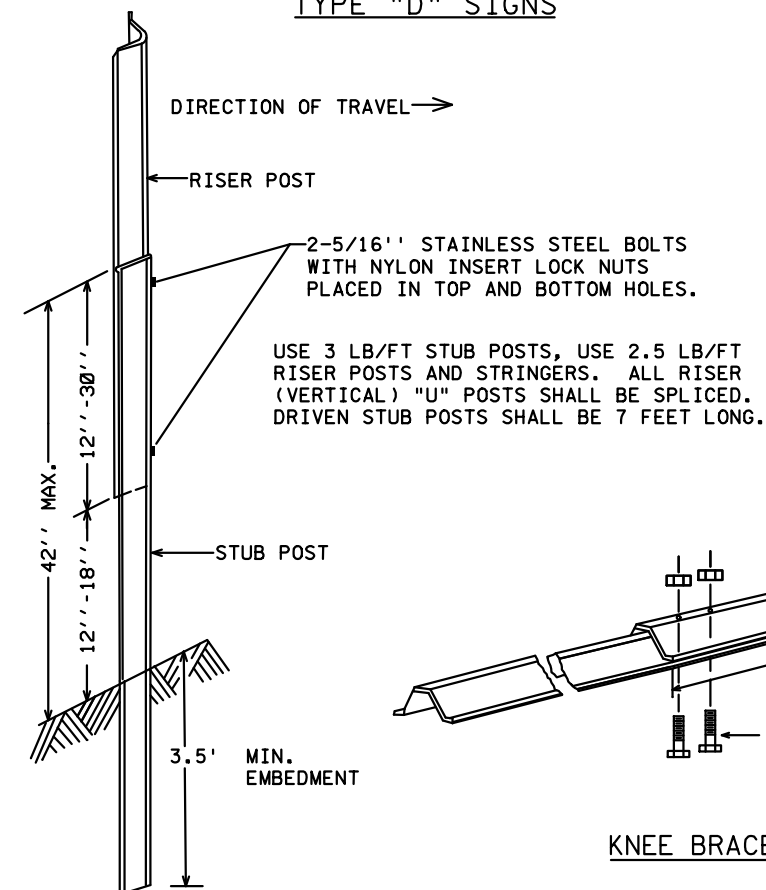
DELINEATION MOUNTING



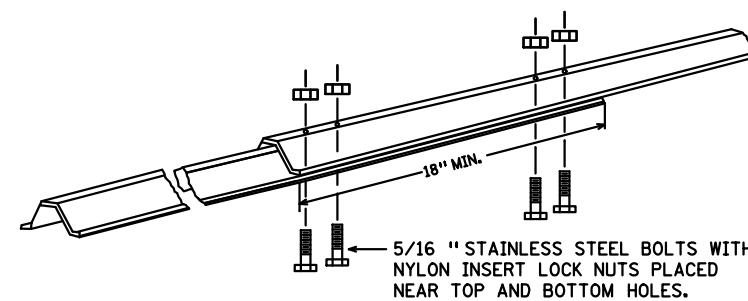
TYPICAL URBAN DESIGN



TYPICAL "A-FRAME" INSTALLATION  
TYPE "D" SIGNS



"U" POST BREAKAWAY SPLICE



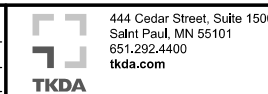
KNEE BRACE STRUCTURAL SPLICE

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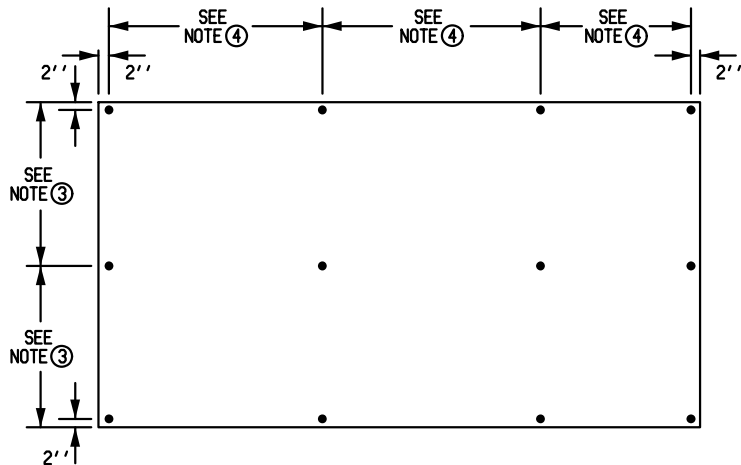
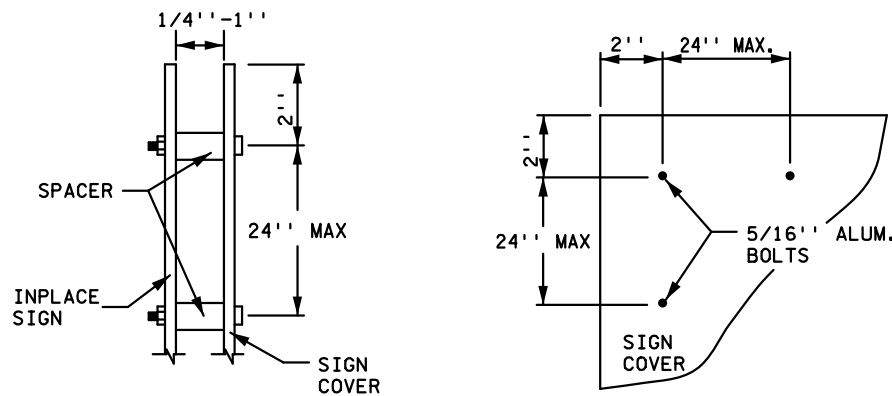
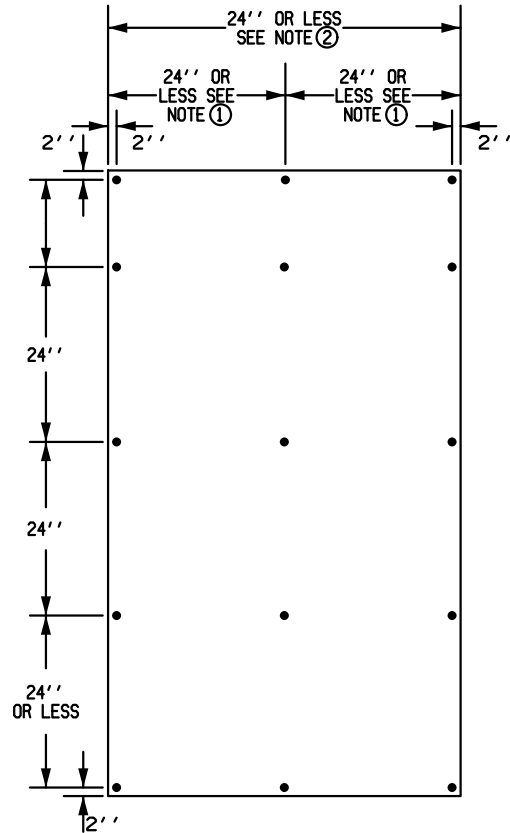
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CSAH 14 (MAIN ST.) AT COON CREEK  
COON RAPIDS, MINNESOTA

DATE: 6/18/2018 TIME: 4:06:27 PM  
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**OVERLAY ASSEMBLY STEPS FOR COVERING COMPLETE OR PORTION OF EXTRUDED SIGN PANEL:**

- 1) DRILL 1/4" HOLES ON THE SHEET ALUMINUM OVERLAYS IN ACCORDANCE WITH THE HOLE SPACING ON THE DIAGRAM. OUTSIDE HOLES SHALL NOT BE SPACED MORE THAN 24" APART.
- 2) ATTACH PLASTIC SPACER(S) (1/4" MIN THICKNESS, 3/8" I.D. AND 7/8" O.D.) WITH DOUBLE FACED TAPE, CENTERED BEHIND EACH DRILLED HOLE.
- 3) POSITION THE FIRST OVERLAY PANEL'S BOTTOM EDGE FLUSH WITH THE BOTTOM OF THE INPLACE EXTRUDED SIGN PANEL AND THE OVERLAY PANEL'S LOWER LEFT EDGE FLUSH WITH THE LOWER LEFT EDGE OF THE BOTTOM INPLACE EXTRUDED PANEL SECTION.
- 4) DRILL ALL OF THE OUTSIDE HOLES THROUGH THE INPLACE EXTRUDED SIGN PANEL AND ATTACH THE OVERLAY PANEL WITH SHEET METAL SCREWS.
- 5) DRILL THE INNER HOLES THROUGH THE INPLACE EXTRUDED SIGN PANEL AND ATTACH WITH SHEET METAL SCREWS AS SPECIFIED IN STEP 4 ABOVE.
- 6) ABUT THE NEXT OVERLAY PANEL TO THE FIRST ATTACHED OVERLAY PANEL AND PERFORM THE SAME WORK AS SPECIFIED IN STEPS 4 AND 5 ABOVE.
- 7) PLACE EACH ADDITIONAL OVERLAY PANEL AS SPECIFIED IN STEP 6 ABOVE.

**NOTES FOR COVERING COMPLETE OR PORTION OF EXTRUDED SIGN PANEL:**

- ① THE CENTER SHEET METAL SCREWS SHALL BE SPACED AT 1/2 OF THE PANELS WIDTH.
- ② IF THE SHEET ALUMINUM PANEL IS GREATER THAN 48" WIDE, THE SHEET METAL SCREWS SPACING SHALL BE NO GREATER THAN 24". IF THE SHEET ALUMINUM PANEL IS LESS THAN 24" WIDE, THERE SHALL BE NO INNER HOLES.
- ③ VERTICAL SPACING FOR THE MOUNTING HOLES IS 50% OF THE PANEL HEIGHT. IF THE PANEL IS LESS THAN 24" HIGH, THERE SHALL BE NO INNER HOLES.
- ④ HORIZONTAL SPACING FOR MOUNTING HOLES SHALL NOT BE LESS THAN 15" NOR MORE THAN 24".

**GENERAL NOTES:**

SIGN PANEL OVERLAYS SHALL BE MADE OF A RIGID MATERIAL. (SHEET ALUMINUM, PLYWOOD, CORRUGATED PLASTIC, OR OTHER MATERIAL AS APPROVED BY THE ENGINEER), THE INSTALLATION SHALL ALLOW ADEQUATE AIR FLOW BETWEEN THE OVERLAY PANEL AND THE INPLACE SIGN PANEL BY PROVIDING A MINIMUM SPACING OF 1/4" (1" MAXIMUM).

IF SHEET METAL SCREWS ARE USED WITH CORRUGATED PLASTIC, FENDER WASHERS SHALL BE PLACED BETWEEN SCREWS AND PANEL OVERLAY.

SPACERS SHALL BE A MATERIAL THAT WILL NOT HARM THE SIGN SHEETING FACE (SUCH AS PLASTIC OR RUBBER).

ALL COVERING MATERIAL, MOUNTING HARDWARE AND FASTENERS SHALL BE REMOVED WHEN PANEL OVERLAY IS REMOVED.

SIGN PANEL OVERLAYS USED TO COVER ALL OR PART OF A SIGN SHALL BE THE SAME COLOR AS THE BACKGROUND COLOR OF THE SIGN TO BE COVERED AND SHALL COVER ALL OF THE SIGN OR MESSAGE TO BE COVERED UNLESS SHOWN OTHERWISE IN THE PLAN.

TAPE SHALL NOT BE APPLIED TO THE SIGN SHEETING SURFACE. PRE-MASK OR APPLICATION TAPE SHALL BE REMOVED PRIOR TO EXPOSURE TO SUNLIGHT.

**OVERLAY ASSEMBLY COVERING TYPE C OR D SIGN PANEL:**

A RIGID OPAQUE PANEL OVERLAY, THE OVERLAY PANEL SHOULD BE APPROXIMATELY THE SAME SIZE AS THE SIGN PANEL SUCH THAT THE SIGN MESSAGE IS COMPLETELY COVERED

HOOKS OR PREFORMED STRAPS EXTEND OVER TOP EDGE(S) OF SIGN PANEL

INPLACE SIGN

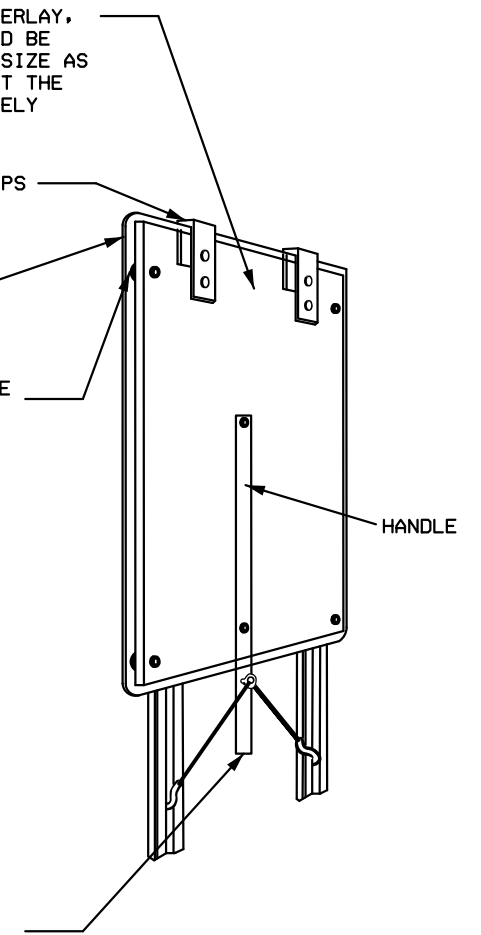
A SPACER IS REQUIRED IN ALL 4 CORNERS TO PROVIDE AIR FLOW GAP BETWEEN THE SIGN FACE AND OVERLAY PANEL

SPACERS SHALL ALLOW BETWEEN 1/4" TO 1" GAP AND BE A MATERIAL THAT WILL NOT HARM THE SIGN SHEETING FACE

ALL FASTENERS (SUCH AS BOLTS, HOOKS OR SCREWS) SHALL NOT TOUCH THE SIGN SHEETING FACE

THE OVERLAY PANEL SHALL BE ATTACHED TO THE SIGN STRUCTURE SUCH THAT IT WILL NOT MOVE DUE TO WIND

BOTTOM OF HANDLE SHALL BE SECURED TO PREVENT MOVEMENT. BOLT ON HANDLE SHALL BE ATTACHED TO OVERLAY PANEL AS TO NOT DAMAGE INPLACE SIGN PANEL.



1/26/18

TYPICAL TEMPORARY SIGN COVERING DETAILS

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NO.	DATE	BY	DESCRIPTION OF REVISIONS												

# PERMANENT PAVEMENT MARKING PLAN

## NOTES & GUIDELINES

### GENERAL INFORMATION:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAVEMENT MARKING RELATED ACTIVITIES SUCH AS, BUT NOT EXCLUSIVE TO, COLLECTING DATA FROM IN PLACE LANE LINES AND MARKING PERMANENT MARKING ALIGNMENTS. THIS SHALL ALSO INCLUDE ANY LANE CLOSURES OR TRAFFIC CONTROL NECESSARY TO COMPLETE THESE PROJECTS SAFELY. MnDOT PERSONNEL WILL ASSIST IN THE LOCATION OF GORES, MESSAGES AND TAPERS FOR PERMANENT PAVEMENT MARKING ALIGNMENTS. MnDOT PERSONNEL SHALL BE GIVEN A MINIMUM OF 24 HOURS' NOTICE TO PROVIDE THIS ASSISTANCE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND PLACEMENT OF TEMPORARY PAVEMENT MARKINGS. MnDOT PERSONNEL WILL BE AVAILABLE TO ASSIST IN THE SPOTTING OF TRANSITION AREAS, GORES, MESSAGES, AND TAPERS, AND SHALL BE GIVEN 24 HOURS' NOTICE TO PROVIDE THIS ASSISTANCE.

PAYMENT FOR SAID PAVEMENT MARKING RELATED PROJECTS SHALL BE INCIDENTAL WITH NO DIRECT COMPENSATION MADE.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY AN AGENCY PLACED YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.

A TOLERANCE OF 1/4 INCH UNDER OR 1/4 INCH OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO 3 INCHES FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 1 INCH. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINTS. ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.

JUST PRIOR TO THE PLACEMENT OF PAVEMENT MARKINGS THE ROAD SURFACE SHALL BE CLEANED AND FREE OF CONTAMINATION AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENTS AND/OR LAITANCE.

APPLY ALL PAVEMENT MARKINGS AS RECOMMENDED BY THE MATERIAL MANUFACTURER.

PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.

THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.

REFER TO SPECIAL PROVISIONS OR SPEC BOOK FOR GROUND IN/RECESSED PAVEMENT MARKING APPLICATION REQUIREMENTS.

### MULTI-COMPONENT LIQUID:

THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC) OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENTS AND/OR LAITANCE.

THE MULTI-COMPONENT LIQUID MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE MULTI-COMPONENT LIQUID PAVEMENT MARKING.

APPLY MULTI-COMPONENT LIQUID MARKINGS WITH A MINIMUM THICKNESS OF 20 MILS; GLASS BEADS SHALL BE APPLIED AT A RATE OF AT LEAST 25 LB/GAL. THE 'NO-TRACKING' CONDITION SHALL BE DETERMINED ON AN APPLICATION OF SPECIFIED THICKNESS TO THE PAVEMENT AND COVERED WITH GLASS BEADS AT THE RATE OF AT LEAST 25 LB/GAL.

PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR AND PAVEMENT SURFACE TEMPERATURES ARE 40°F OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILM OF DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.

PAVEMENT MARKINGS			F
LOCATION	4" SOLID LINE MULTI-COMPONENT		4" BROKEN LINE MULTI-COMPONENT
	WHITE	YELLOW	WHITE
	LIN FT		LIN FT
CSAH 14	248	248	50
<b>TOTALS</b>	<b>496</b>		<b>50</b>

#### SPECIFIC NOTES:

① DOES NOT INCLUDE GAPS.

### PERMANENT PAVEMENT MARKING PLAN INDEX

- 32 PERMANENT PAVEMENT MARKING TITLE SHEET, CHART, AND DETAIL
- 33 PERMANENT PAVEMENT DETAILS

### SYMBOLS & MATERIALS LEGEND

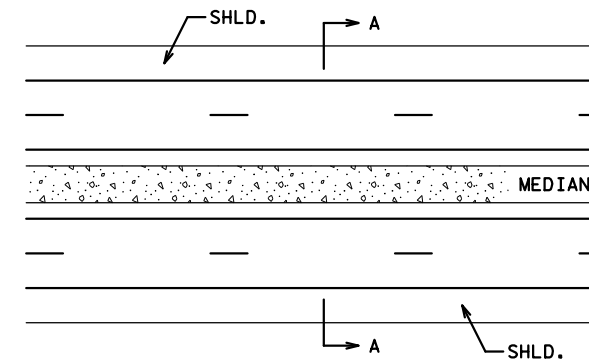
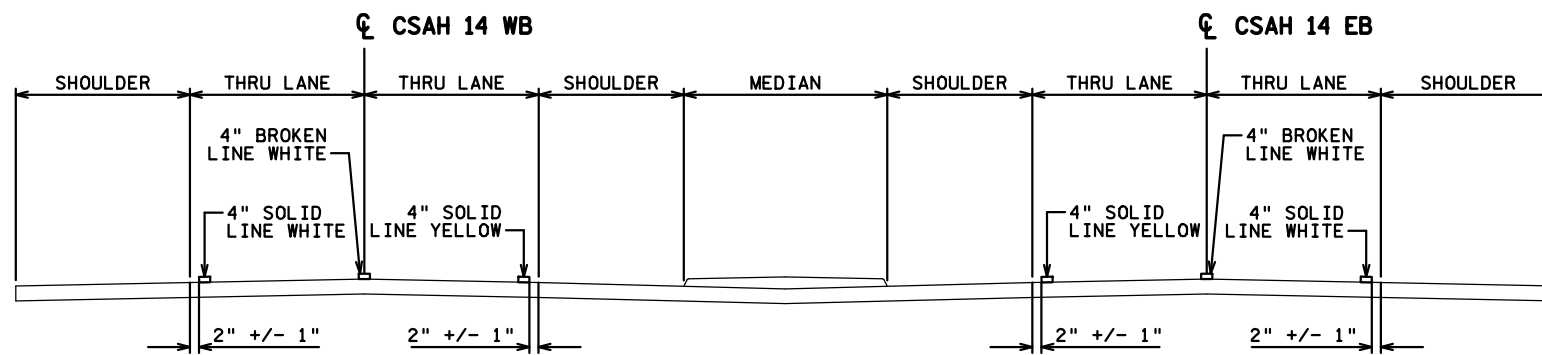
- BROKEN LINE-50' CYCLE (10' LINE, 40' GAP)
- - - - DOTTED LINE-15' CYCLE (3' LINE, 12' GAP, UNLESS SHOWN OTHERWISE IN THE PLAN)

### STRIPING KEY

- CIRCLE-MULTI COMP
- |                                 |  |   |
|---------------------------------|--|---|
| 1ST DIGIT WIDTH<br>4", 8", ETC. | 2ND DIGIT PATTERN<br>S - SOLID<br>B - BROKEN<br>T - DOTTED<br>D - DOUBLE<br>K - DOUBLE BROKEN<br>H - DOUBLE DOTTED | 3RD DIGIT COLOR<br>W - WHITE<br>Y - YELLOW<br>B - BLACK |
|---------------------------------|--|---|

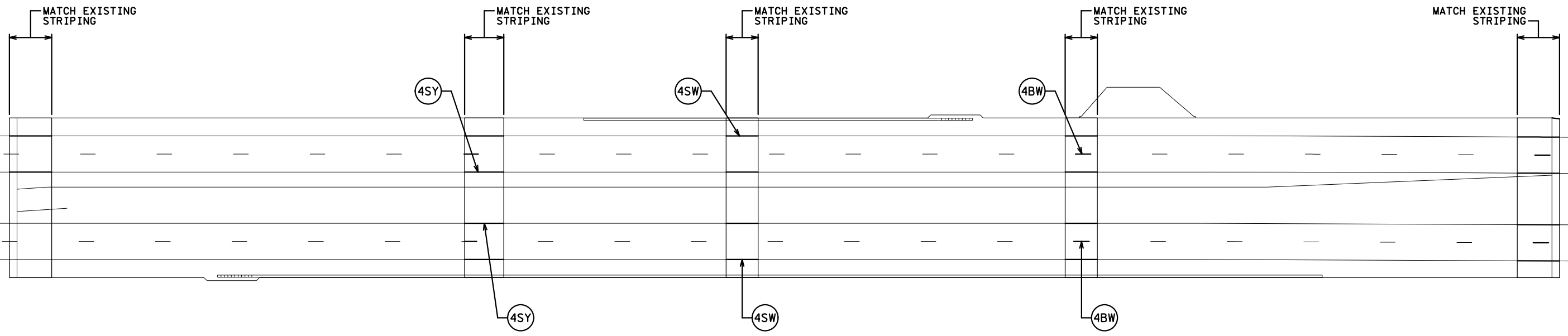
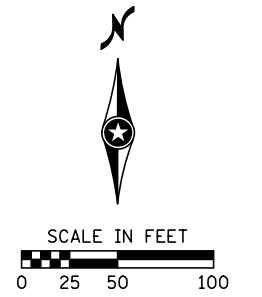
- G=GROUND IN      W=WET REFLECTIVE
- C=CONTRAST      E=ENHANCED SKID RESISTANCE

EXAMPLE: (4SW) = 4" SOLID LINE WHITE PREF THERMO  
GCW = GROUND IN, CONTRAST, WET REFLECTIVE



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**GENERAL NOTES:**  
 - SEE BRIDGE PLANS FOR CONSTRUCTION DETAILS.

1

NO.	DATE	BY	DESCRIPTION OF REVISIONS	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> PRINTED NAME: <b>JEFFREY A. HILDEN</b> DATE: <u>7/27/2018</u> LIC. NO. <b>20781</b>	 444 Cedar Street, Suite 1500 Saint Paul, MN 55101 651.292.4400 tkda.com	<b>CSAH 14 (MAIN ST.) AT COON CREEK          COON RAPIDS, MINNESOTA</b>	<b>PAVEMENT MARKING PLAN</b>	<b>S.P. 002-614-044</b> <b>Sheet No. 33 of 36 Sheets</b>
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DATE: 6/18/2018 TIME: 4:06:28 PM  
 FILENAME: K:\a-f\AnokaCity\686500004\_Production\01\_CAD\Bridg\Super\BR02015\_slga.dgn

REF DRAWINGS

CAMERA	STATUS	NUMBER	SIZE (m)	LOCATION (m)	FUNCTION
	INPLACE	D1-1	2-1.7 X 1.7	3,12	1
	INPLACE	D2-1, D2-2	1.7 X 1.7	92	1
	INPLACE	D3-1, D3-2	1.7 X 1.7	3,12	1
	INPLACE	D4-1	1.7 X 1.7	92	3 & B
	INPLACE	D4-2	2-1.7 X 1.7	1,5,6	1
	INPLACE	D5-1	2-1.7 X 1.7	3,12	1
	INPLACE	D5-2	2-1.7 X 1.7	3,12	1
V-1	F & I	D6-1	1.7 X 1.7	145	1
V-1	F & I	D6-2	1.7 X 1.7	145	1
	INPLACE	D7-1	2-1.7 X 1.7	3,12	1
	INPLACE	D8-1	1.7 X 1.7	37	3 & B
	INPLACE	D8-2	1.7,3,4	1,5,6	1

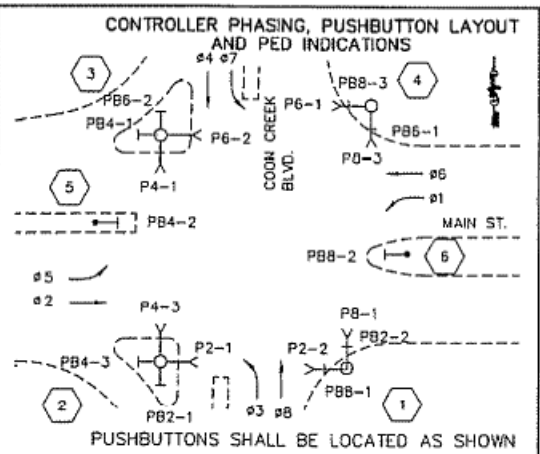
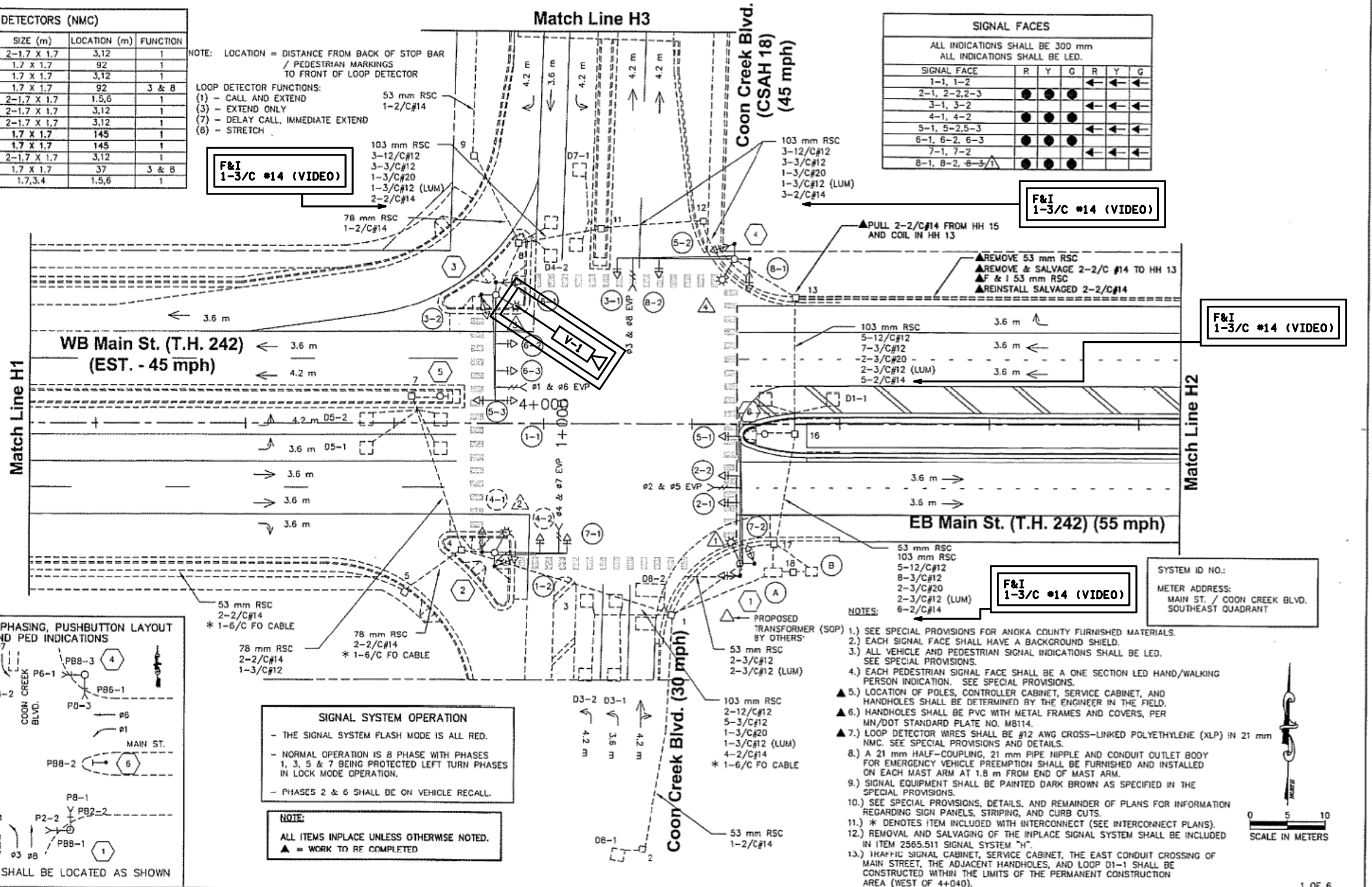
NOTE: LOCATION = DISTANCE FROM BACK OF STOP BAR / PEDESTRIAN MARKINGS TO FRONT OF LOOP DETECTOR

LOOP DETECTOR FUNCTIONS:  
 (1) - CALL AND EXTEND  
 (3) - EXTEND ONLY  
 (7) - DELAY CALL, IMMEDIATE EXTEND  
 (8) - STRETCH

SIGNAL FACES						
ALL INDICATIONS SHALL BE 300 mm ALL INDICATIONS SHALL BE LED.						
SIGNAL FACE	R	Y	G	R	Y	G
1-1, 1-2	●	●	●	←	←	←
2-1, 2-2, 2-3	●	●	●	←	←	←
3-1, 3-2	●	●	●	←	←	←
4-1, 4-2	●	●	●	←	←	←
5-1, 5-2, 5-3	●	●	●	←	←	←
6-1, 6-2, 6-3	●	●	●	←	←	←
7-1, 7-2	●	●	●	←	←	←
8-1, 8-2, 8-3	●	●	●	←	←	←

DOUBLE BOX AND BOLD TEXT INDICATES NEW WORK

SPECIFIC NOTES:  
 ① AT END OF PROJECT, REMOVE ALL F&I EQUIPMENT.

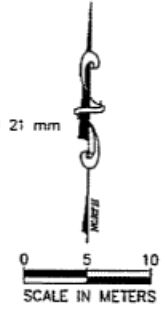


**SIGNAL SYSTEM OPERATION**  
 - THE SIGNAL SYSTEM FLASH MODE IS ALL RED.  
 - NORMAL OPERATION IS 8 PHASE WITH PHASES 1, 3, 5 & 7 BEING PROTECTED LEFT TURN PHASES IN LOCK MODE OPERATION.  
 - PHASES 2 & 6 SHALL BE ON VEHICLE RECALL.

NOTE:  
 ALL ITEMS INPLACE UNLESS OTHERWISE NOTED.  
 ▲ = WORK TO BE COMPLETED

NOTES:  
 1.) SEE SPECIAL PROVISIONS FOR ANOKA COUNTY FURNISHED MATERIALS.  
 2.) EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.  
 3.) ALL VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED. SEE SPECIAL PROVISIONS.  
 4.) EACH PEDESTRIAN SIGNAL FACE SHALL BE A ONE SECTION LED HAND/WALKING PERSON INDICATION. SEE SPECIAL PROVISIONS.  
 5.) LOCATION OF POLES, CONTROLLER CABINET, SERVICE CABINET, AND HANDHOLES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.  
 6.) HANDHOLES SHALL BE PVC WITH METAL FRAMES AND COVERS, PER MN/DOT STANDARD PLATE NO. MB114.  
 7.) LOOP DETECTOR WIRES SHALL BE #12 AWG CROSS-LINKED POLYETHYLENE (XLP) IN 21 mm NMC. SEE SPECIAL PROVISIONS AND DETAILS.  
 8.) A 21 mm HALF-COUPLING, 21 mm PIPE NIPPLE AND CONDUIT OUTLET BODY FOR EMERGENCY VEHICLE PREEMPTION SHALL BE FURNISHED AND INSTALLED ON EACH MAST ARM AT 1.8 m FROM END OF MAST ARM.  
 9.) SIGNAL EQUIPMENT SHALL BE PAINTED DARK BROWN AS SPECIFIED IN THE SPECIAL PROVISIONS.  
 10.) SEE SPECIAL PROVISIONS, DETAILS, AND REMAINDER OF PLANS FOR INFORMATION REGARDING SIGN PANELS, STRIPING, AND CURB CUTS.  
 11.) \* DENOTES ITEM INCLUDED WITH INTERCONNECT (SEE INTERCONNECT PLANS).  
 12.) REMOVAL AND SALVAGING OF THE INPLACE SIGNAL SYSTEM SHALL BE INCLUDED IN ITEM 2565.511 SIGNAL SYSTEM "H".  
 13.) TRAFFIC SIGNAL CABINET, SERVICE CABINET, THE EAST CONDUIT CROSSING OF MAIN STREET, THE ADJACENT HANDHOLES, AND LOOP D1-1 SHALL BE CONSTRUCTED WITHIN THE LIMITS OF THE PERMANENT CONSTRUCTION AREA (WEST OF 4+040).

SYSTEM ID NO.:  
 METER ADDRESS:  
 MAIN ST. / COON CREEK BLVD.  
 SOUTHEAST QUADRANT



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JAS	05/22/02	REVISIONS PER WHDOT C.O. COMMENTS

DESIGN FILE:  
 33889028  
 DRAWN BY:  
 JAS  
 DESIGN BY:  
 GLS  
 CHECKED BY:  
 GLS  
 DWG. NAME:  
 LB-slg04  
 DATE:  
 MARCH 29, 2002



I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 DATE: 5-31-02

MAIN STREET/T.H. 242 RECONSTRUCTION  
 242RAMPA, RAMP B ACCESS, 242RAMPB  
 MAIN ST. (T.H. 242) / COON CREEK BLVD.  
 REVISED TRAFFIC SIGNAL INTERSECTION LAYOUT  
 CITY PROJECT 02-05

SHEET NO.  
 139  
 171  
 S.P. 0212-41

1 OF 6

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 SIGNATURE: Jeffrey A. Hilden  
 PRINTED NAME: JEFFREY A. HILDEN  
 DATE: 6/18/2018 LIC. NO. 20781



CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA

SIGNAL PLAN

S.P. 002-614-044  
 Sheet No. 34 of 36 Sheets

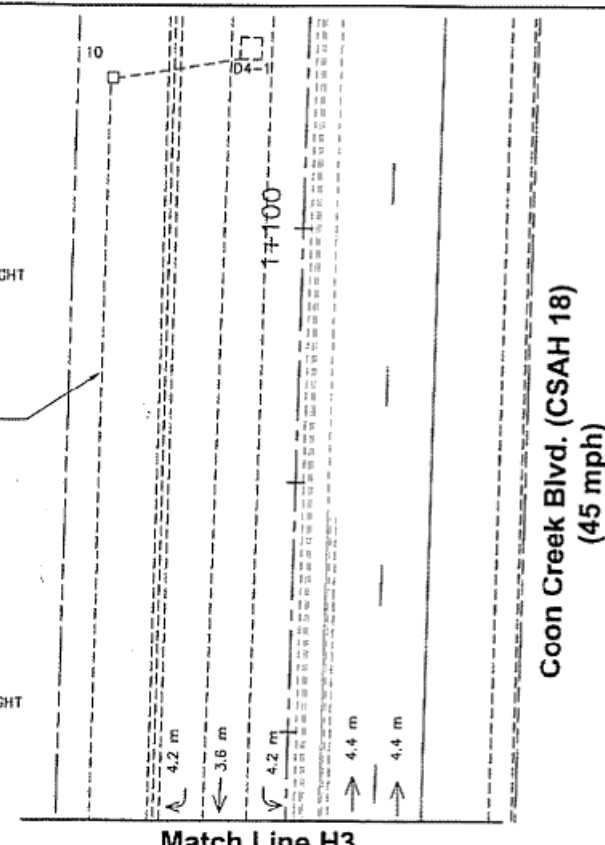
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REF DRAWINGS

PLOT DATE: May 20, 2002 5:22pm DISK FILE NAME: (15.05) R:\33889\33889028\33889028\PLAN\_SHT\Engring\LB-sig05.dwg

- 1 TYPE PA100 POLE FOUNDATION  
 TYPE PA100-A-16.8-X9.1  
 LUMINAIRE ARM AT 350"  
 (SEE SPECIAL PROVISIONS)  
 LUMINAIRE 250 WATT METAL HALIDE  
 WITH P.E.C. AND CHECK SWITCH  
 (SEE SPECIAL PROVISIONS)  
 3 - ONE WAY SIGNALS OVERHEAD (0 m,  
 5.2 m & 8.8 m FROM END OF MAST ARM)  
 1 - TYPE 10B POLE MOUNTED AT 90°  
 1 - TYPE 10B POLE MOUNTED AT 180°  
 2 - PEDESTRIAN PUSHBUTTONS  
 INTERNALLY ILLUMINATED SIGN (D-5)  
 WITH PEC AND SIGN SWITCH ON POLE  
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT  
 (#2 & #5) (1.8 m FROM END OF MAST ARM)  
 EXTEND INTO HH 1:  
 78 mm RSC  
 2-12/C#12  
 4-3/C#12  
 1-3/C#20  
 1-3/C#12 (LUM)
- 3 TYPE PA100 POLE FOUNDATION  
 TYPE PA100-A-13.7-X9.1  
 LUMINAIRE ARM AT 350"  
 (SEE SPECIAL PROVISIONS)  
 LUMINAIRE 250 WATT METAL HALIDE  
 WITH P.E.C. AND CHECK SWITCH  
 (SEE SPECIAL PROVISIONS)  
 3 - ONE WAY SIGNALS OVERHEAD (0 m, 3.3 m &  
 6.9 m FROM END OF MAST ARM)  
 2 - TYPE 10B POLE MOUNTED AT 90° & 180°  
 2 - PEDESTRIAN PUSHBUTTONS  
 INTERNALLY ILLUMINATED SIGN (D-5)  
 WITH PEC AND SIGN SWITCH ON POLE  
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT  
 (#1 & #6) (1.8 m FROM END OF MAST ARM)  
 EXTEND INTO HH 8:  
 78 mm RSC  
 3-12/C#12  
 1-3/C#20  
 1-3/C#12 (LUM)

- 2 TYPE PA90 POLE FOUNDATION  
 TYPE PA90-A-9.1-X9.1  
 LUMINAIRE ARM AT 350"  
 (SEE SPECIAL PROVISIONS)  
 LUMINAIRE 250 WATT METAL HALIDE  
 WITH P.E.C. AND CHECK SWITCH  
 (SEE SPECIAL PROVISIONS)  
 2 - ONE WAY SIGNALS OVERHEAD (0 m &  
 3.3 m FROM END OF MAST ARM)  
 2 - TYPE 10B POLE MOUNTED AT 90° & 180°  
 2 - PEDESTRIAN PUSHBUTTONS  
 INTERNALLY ILLUMINATED SIGN (D-1)  
 WITH PEC AND SIGN SWITCH ON POLE  
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT  
 (#4 & #7) (1.8 m FROM END OF MAST ARM)  
 EXTEND INTO HH 4:  
 78 mm RSC  
 2-12/C#12  
 4-3/C#12  
 1-3/C#20  
 1-3/C#12 (LUM)
- 4 TYPE PA100 POLE FOUNDATION  
 TYPE PA100-A-15.2-X9.1  
 LUMINAIRE ARM AT 350"  
 (SEE SPECIAL PROVISIONS)  
 LUMINAIRE 250 WATT METAL HALIDE  
 WITH P.E.C. AND CHECK SWITCH  
 (SEE SPECIAL PROVISIONS)  
 2 - ONE WAY SIGNALS OVERHEAD (0 m &  
 5.1 m FROM END OF MAST ARM)  
 1 - TYPE 10B POLE MOUNTED AT 90°  
 1 - TYPE 10B POLE MOUNTED AT 270°  
 2 - PEDESTRIAN PUSHBUTTONS  
 INTERNALLY ILLUMINATED SIGN (D-1)  
 WITH PEC AND SIGN SWITCH ON POLE  
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT  
 (#3 & #8) (1.8 m FROM END OF MAST ARM)  
 EXTEND INTO HH 12:  
 78 mm RSC  
 2-12/C#12  
 4-3/C#12  
 1-3/C#20  
 1-3/C#12 (LUM)



INSTALL - ① VIDEO PROCESSOR, MONITOR, AND ALL REQUIRED VIDEO EQUIPMENT (FURNISHED BY COUNTY).

DOUBLE BOX AND BOLD TEXT INDICATES NEW WORK

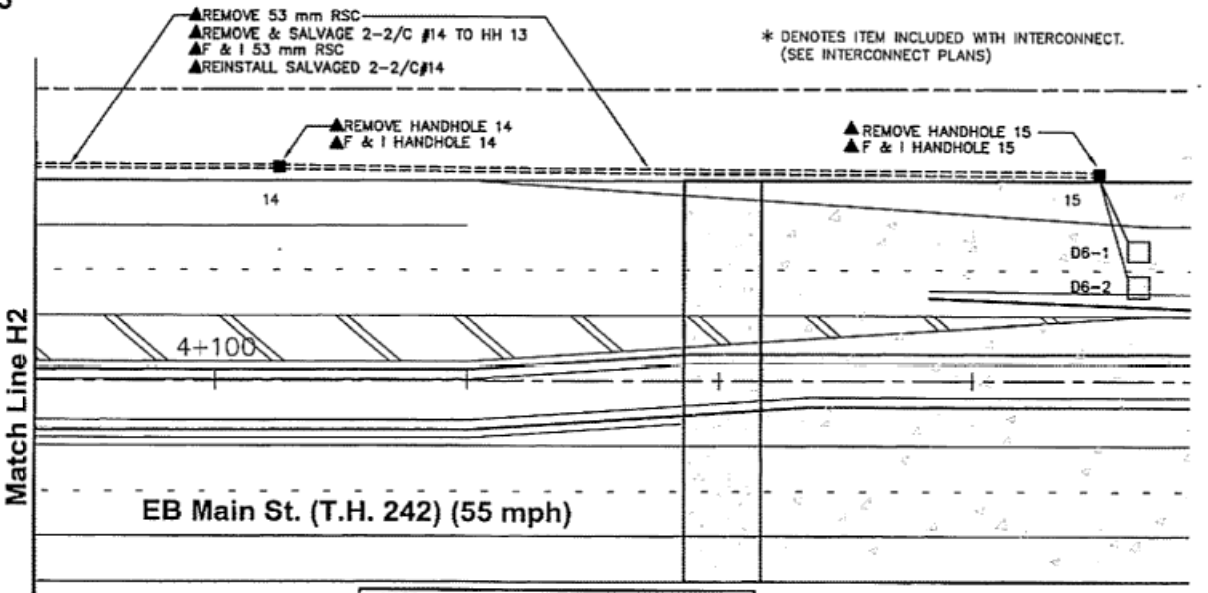
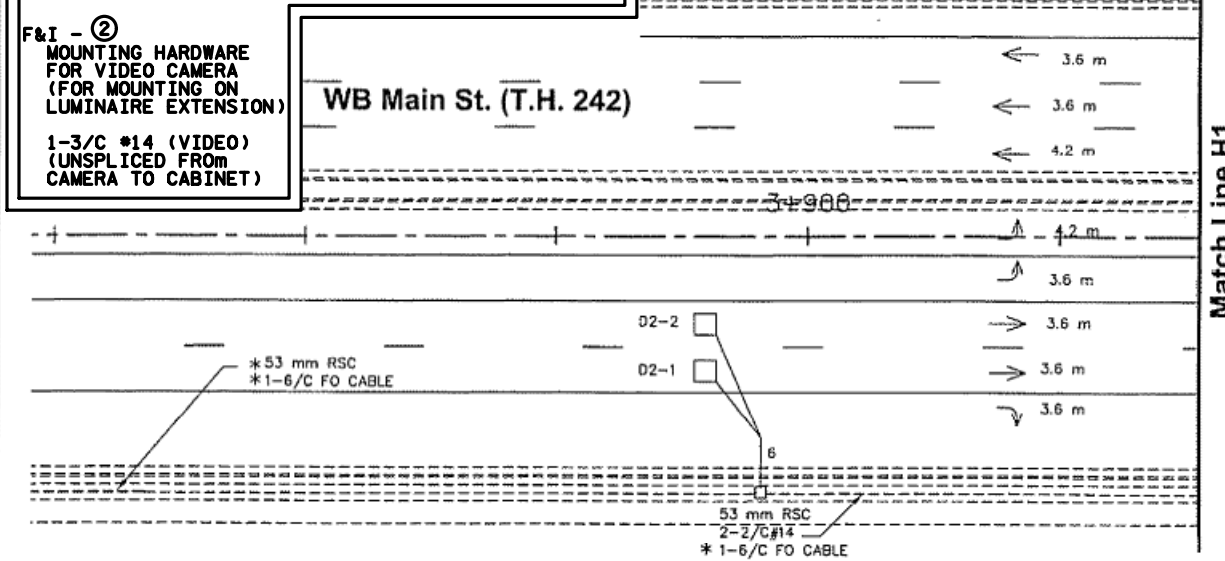
- A INSTALL CONTROLLER AND CABINET (FURNISHED BY ANOKA COUNTY) CABINET FOUNDATION  
 EXTEND INTO HH 17:  
 103 mm RSC  
 5-12/C#12  
 6-3/C#12  
 2-3/C#20  
 6-2/C#14
- B SERVICE CABINET CABINET FOUNDATION  
 EXTEND INTO HH 18:  
 METERED SIGNAL SERVICE  
 35 mm RSC  
 3-1/C#6  
 EXTEND INTO HH 17:  
 53 mm RSC  
 UNMETERED STREET LIGHT SERVICE  
 4-3/C#12 (LUM)  
 UNMETERED ILLUMINATED SIGN SERVICE  
 4-3/C#12  
 STUB OUT 53 mm RSC TO SOUTH (FOR POWER BY CONNEXUS)

- 5 PEDESTAL FOUNDATION  
 3 m PEDESTAL POLE AND BASE  
 PEDESTRIAN PUSHBUTTON  
 EXTEND INTO HH 7:  
 53 mm RSC  
 1-3/C#12
- 6 PEDESTAL FOUNDATION  
 3 m PEDESTAL POLE AND BASE  
 PEDESTRIAN PUSHBUTTON  
 EXTEND INTO HH 16:  
 53 mm RSC  
 1-3/C#12



**SPECIFIC NOTES:**  
 ① AT END OF PROJECT, SALVAGE ALL INSTALLED EQUIPMENT AND RETURN EQUIPMENT TO COUNTY.  
 ② AT END OF PROJECT, REMOVE ALL F&I EQUIPMENT.

INSTALL - ① VIDEO CAMERA-LUMINAIRE EXTENSION MOUNTED (FACING WB TRAFFIC) (V-1) (FURNISHED BY COUNTY)  
 F&I - ② MOUNTING HARDWARE FOR VIDEO CAMERA (FOR MOUNTING ON LUMINAIRE EXTENSION)  
 1-3/C #14 (VIDEO) (UNSPliced FROM CAMERA TO CABINET)



\* DENOTES ITEM INCLUDED WITH INTERCONNECT. (SEE INTERCONNECT PLANS)

NOTE:  
 ALL ITEMS IN PLACE UNLESS OTHERWISE NOTED.  
 ▲ = WORK TO BE COMPLETED

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JAS	05/22/02	REVISIONS PER MNDOT C.C. COMMENTS

DESIGN FILE: 33889028	DRAWN BY: JAS	DESIGN BY: GLS
CHKD. BY: GLS	DWG. NAME: LB-sig05	DATE: MARCH 29, 2002

URS  
 BRW, Inc.

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 DATE: 5-31-02

MAIN STREET/T.H. 242 RECONSTRUCTION  
 242RAMP A, RAMP B ACCESS, 242RAMP B  
 MAIN ST. (T.H. 242) / COON CREEK BLVD.  
 REVISED TRAFFIC SIGNAL INTERSECTION LAYOUT  
 CITY PROJECT 02-05

S.P. 0212-41  
 SHEET NO. 140  
 2 OF 6  
 171

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 SIGNATURE: Jeffrey A. Hilden  
 PRINTED NAME: JEFFREY A. HILDEN  
 DATE: 6/18/2018 LIC. NO. 20781

TKDA  
 444 Cedar Street, Suite 1500  
 Saint Paul, MN 55101  
 651.292.4400  
 tkda.com

CSAH 14 (MAIN ST.) AT COON CREEK  
 COON RAPIDS, MINNESOTA

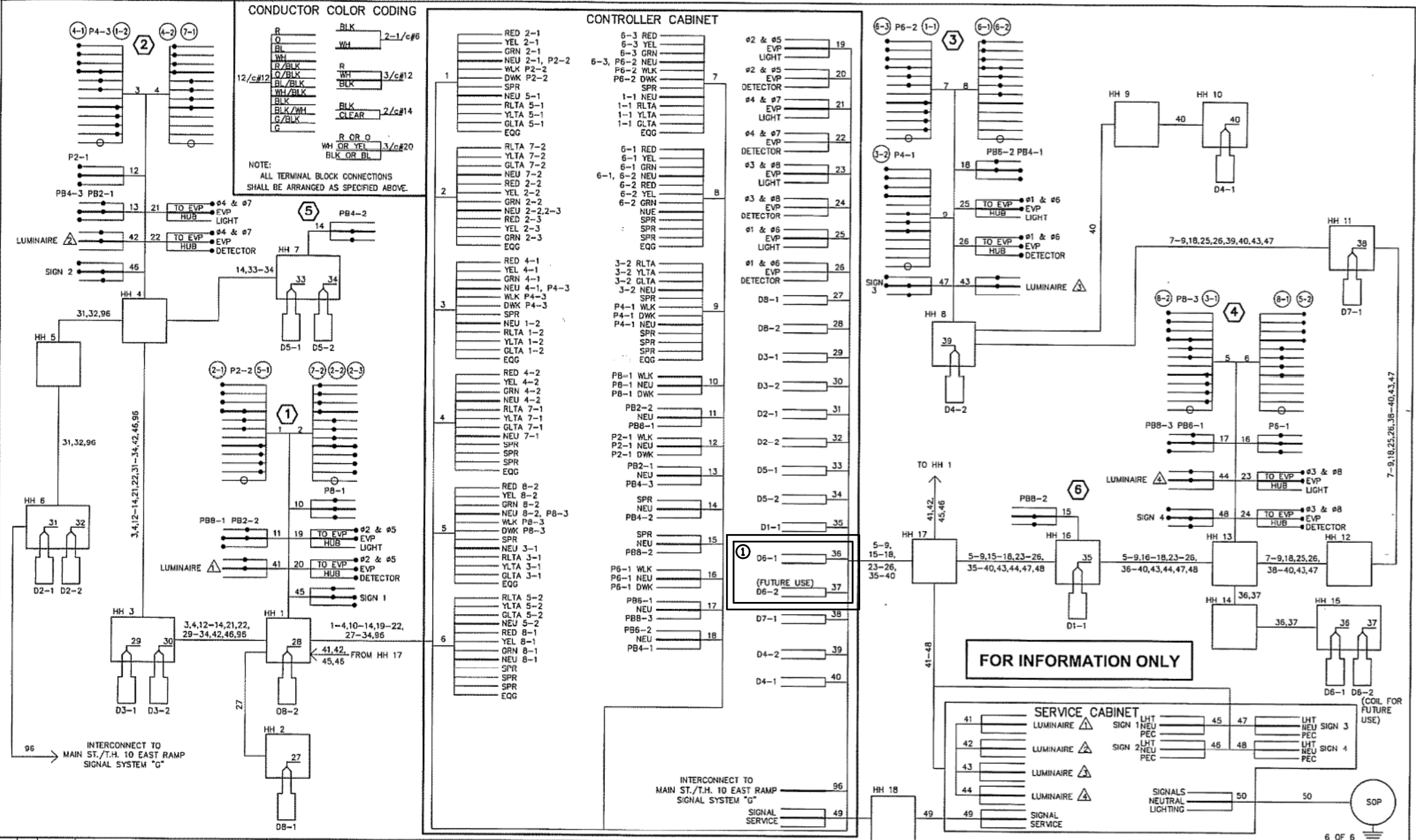
SIGNAL PLAN

S.P. 002-614-044  
 Sheet No. 35 of 36 Sheets



DATE: 6/18/2018 TIME: 4:06:32 PM FILENAME: k:\a-f\AnokaCity\686500004\_Production\01\_CAD\Bridg\Super\BR02015\_slgc.dgn

REF DRAWINGS



**CONDUCTOR COLOR CODING**

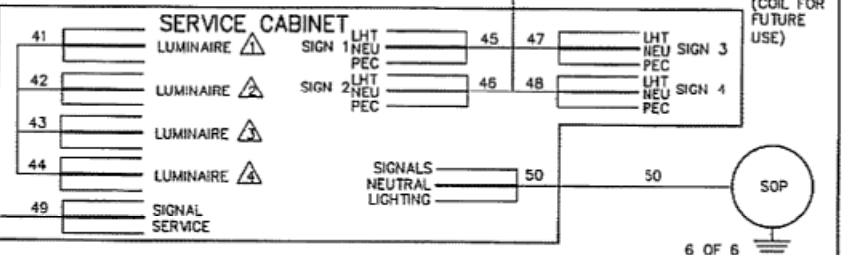
R	BLK	2-1/c#6
O	WH	
BL		
WH		
R/BLK	R	3/c#12
O/BLK	WH	
BL/BLK	BLK	
WH/BLK		
BLK	BLK	2/c#14
BLK/WH	CLEAR	
G/BLK		
G		
R OR O		
WH OR YEL		3/c#20
BLK OR BL		

NOTE:  
ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

**CONTROLLER CABINET**

- RED 2-1
- YEL 2-1
- GRN 2-1
- NEU 2-1, P2-2
- WLK P2-2
- DWK P2-2
- SPR
- NEU 5-1
- RLTA 5-1
- YLTA 5-1
- GLTA 5-1
- EGG
- RLTA 7-2
- YLTA 7-2
- GLTA 7-2
- NEU 7-2
- RED 2-2
- YEL 2-2
- GRN 2-2
- NEU 2-2,2-3
- RED 2-3
- YEL 2-3
- GRN 2-3
- EGG
- RED 4-1
- YEL 4-1
- GRN 4-1
- NEU 4-1, P4-3
- WLK P4-3
- DWK P4-3
- SPR
- NEU 1-2
- RLTA 1-2
- YLTA 1-2
- GLTA 1-2
- EGG
- RED 4-2
- YEL 4-2
- GRN 4-2
- NEU 4-2
- RLTA 7-1
- YLTA 7-1
- GLTA 7-1
- NEU 7-1
- RED 8-2
- YEL 8-2
- GRN 8-2
- NEU 8-2, P8-3
- WLK P8-3
- DWK P8-3
- SPR
- NEU 3-1
- RLTA 3-1
- YLTA 3-1
- GLTA 3-1
- EGG
- RLTA 5-2
- YLTA 5-2
- GLTA 5-2
- NEU 5-2
- RED 8-1
- YEL 8-1
- GRN 8-1
- NEU 8-1
- SPR
- SPR
- SPR
- EGG

**FOR INFORMATION ONLY**



**DOUBLE BOX AND BOLD TEXT INDICATES NEW WORK**

**SPECIFIC NOTES:**

① TEMPORARILY DISCONNECT LOOP DETECTORS D6-1 AND D6-2 IN CABINET. AT END OF PROJECT, RECONNECT LOOP DETECTORS D6-1 AND D6-2.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/22/02	REVISIONS PER WADDY C.O. COMMENTS

DESIGN FILE: 33889028  
DRAWN BY: JAS  
DESIGN BY: GLS  
CHECKED BY: GLS  
DWG. NAME: LB-slg03  
DATE: MARCH 29, 2002



I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
DATE: 5-21-02

MAIN STREET/T.H. 242 RECONSTRUCTION  
242RAMPA, RAMP B ACCESS, 242RAMPB  
MAIN ST. (T.H. 242) / COON CREEK BLVD.  
INPLACE TRAFFIC SIGNAL WIRING DIAGRAM  
CITY PROJECT 02-05

S.P. 0212-41  
SHEET NO. 144  
171

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
SIGNATURE: *Jeffrey A. Hilden*  
PRINTED NAME: JEFFREY A. HILDEN  
DATE: 6/18/2018 LIC. NO. 20781



CSAH 14 (MAIN ST.) AT COON CREEK  
COON RAPIDS, MINNESOTA

SIGNAL PLAN

S.P. 002-614-044  
Sheet No. 36 of 36 Sheets



**CONSTRUCTION NOTES:**

THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

SEE SPECIAL PROVISIONS FOR ALL XXXX.6XX SERIES PAY ITEMS FOR ADDITIONAL REQUIREMENTS.

THE BAR SIZES SHOWN IN THIS PLAN ARE IN U.S. CUSTOMARY DESIGNATIONS. THE FIRST DIGIT OF EACH BAR MARK INDICATES THE BAR SIZE. BARS MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED IN ACCORDANCE WITH SPEC. 3301.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

NO CUTTING WILL BE PERMITTED UNTIL THE CUTTING LIMITS HAVE BEEN OUTLINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. SAWCUT 1/2" MINIMUM AT EDGES OF JOINT REMOVAL. REMOVAL AND RECONSTRUCTION SHALL CONFORM TO SPEC. 2433.

PERFORMED JOINT FILLER MATERIALS ARE INCIDENTAL. PAYMENT IS TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS FOR WHICH NO ADDITIONAL PAYMENT WILL BE MADE.

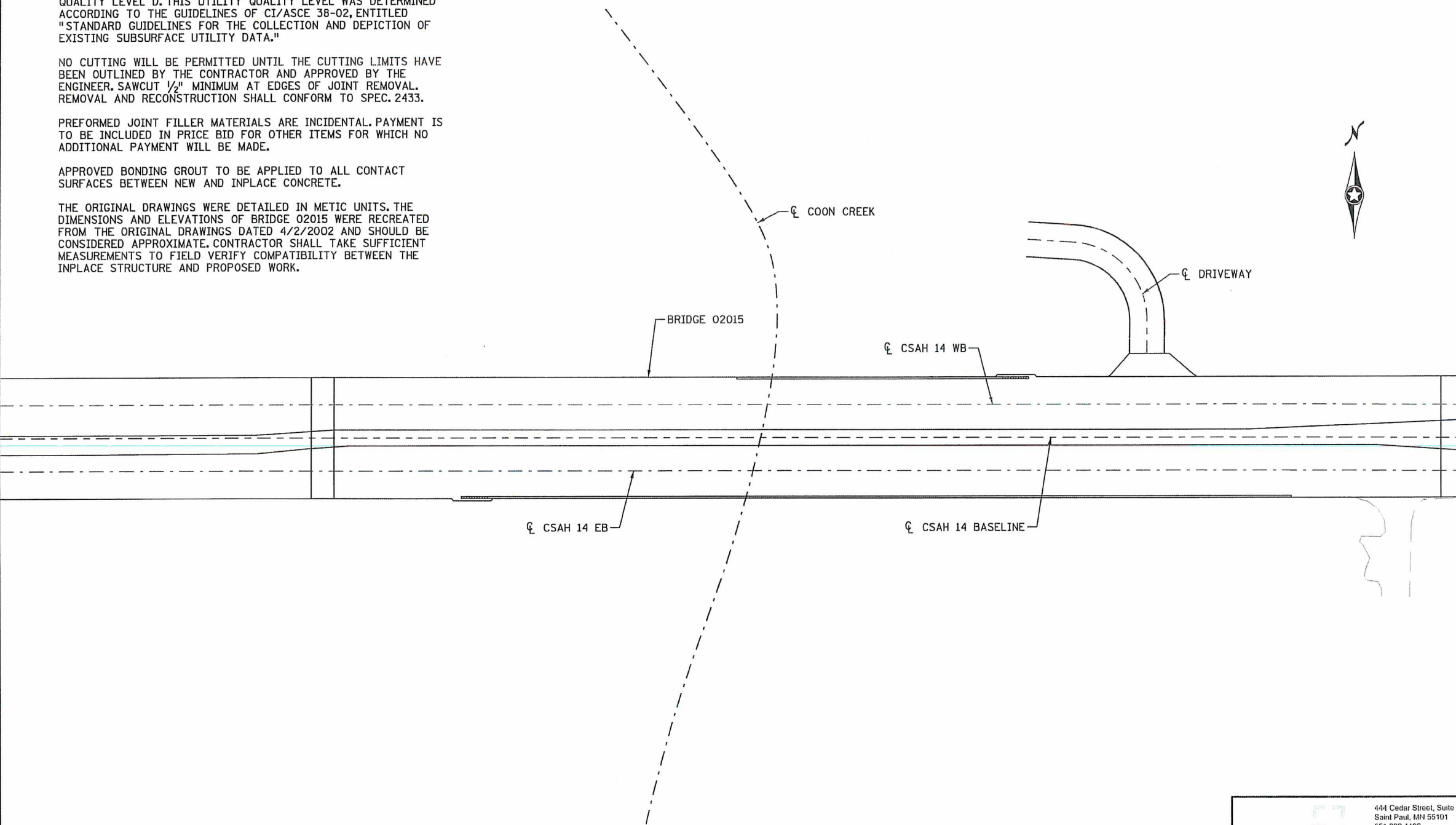
APPROVED BONDING GROUT TO BE APPLIED TO ALL CONTACT SURFACES BETWEEN NEW AND INPLACE CONCRETE.

THE ORIGINAL DRAWINGS WERE DETAILED IN METRIC UNITS. THE DIMENSIONS AND ELEVATIONS OF BRIDGE 02015 WERE RECREATED FROM THE ORIGINAL DRAWINGS DATED 4/2/2002 AND SHOULD BE CONSIDERED APPROXIMATE. CONTRACTOR SHALL TAKE SUFFICIENT MEASUREMENTS TO FIELD VERIFY COMPATIBILITY BETWEEN THE INPLACE STRUCTURE AND PROPOSED WORK.

DESIGN DATA	
DESIGNED IN ACCORDANCE WITH 2017 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS	
HL 93 LIVE LOAD	
DEAD LOAD INCLUDES 20 PSF ALLOWANCE FOR FUTURE WEARING COURSE MODIFICATIONS	
MATERIAL DESIGN PROPERTIES: REINFORCED CONCRETE: f'c = 4 KSI      n = 8 Fy = 60 KSI PLAIN AND EPOXY COATED BARS Fy = 75 KSI STAINLESS STEEL BARS	
HL93 LRFR BRIDGE OPERATING RATING FACTOR RF = 0.95	

LIST OF SHEETS	
NO.	DESCRIPTION
1	BRIDGE DESCRIPTION & LIST OF SHEETS
2-3	GENERAL PLAN & ELEVATION
4	TRANSVERSE SECTIONS & SCHEDULE OF QUANTITIES
5-6	STAGING PLANS
7-10	STAGE 1 REMOVAL PLANS
11-15	STAGE 1 CONSTRUCTION PLANS
16-18	STAGE 2 REMOVAL PLANS
19-23	STAGE 2 CONSTRUCTION PLANS
24	BEARING PLATE INSTALLATION DETAILS
25	BARRIER RECONSTRUCTION DETAILS
26-29	WATERPROOF EXPANSION DEVICE DETAILS
30-34	DRIVEWAY RECONSTRUCTION PLANS

DATE: 6/25/2018 TIME: 2:12:55 PM FILENAME: K:\v-f\AnokaCity\8865000\04\_Production\01\_CAD\Bridg\General\CBR02015\_s001.dgn



NO.	DATE	BY	DESCRIPTION OF REVISIONS

**TKDA**

444 Cedar Street, Suite 1500  
Saint Paul, MN 55101  
651.292.4400  
tkda.com

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNED: *Matthew A. Volz* DATE: 6/25/2018  
NAME: MATTHEW A. VOLZ LICENSE: 53067

ANOKA COUNTY  
MINNESOTA  
DEPARTMENT OF TRANSPORTATION

**BRIDGE NO. 02015  
GENERAL PLAN**

CSAH 14 OVER COON CREEK  
0.20 MI. EAST OF COON CREEK BLVD.  
IN THE CITY OF COON RAPIDS  
962'-4 7/8" CAST-IN-PLACE CONCRETE  
SLAB SPAN

BRIDGE ID. NO. 209

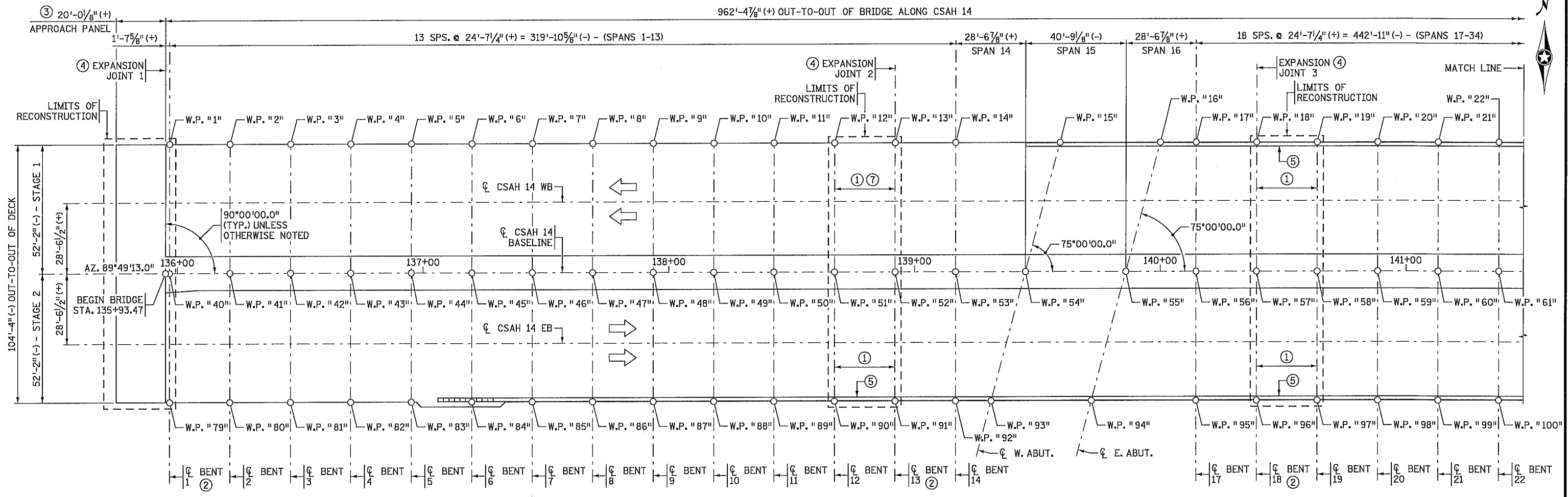
SEC. 4      T 031 N      R 24 W

CITY OF COON RAPIDS      ANOKA COUNTY

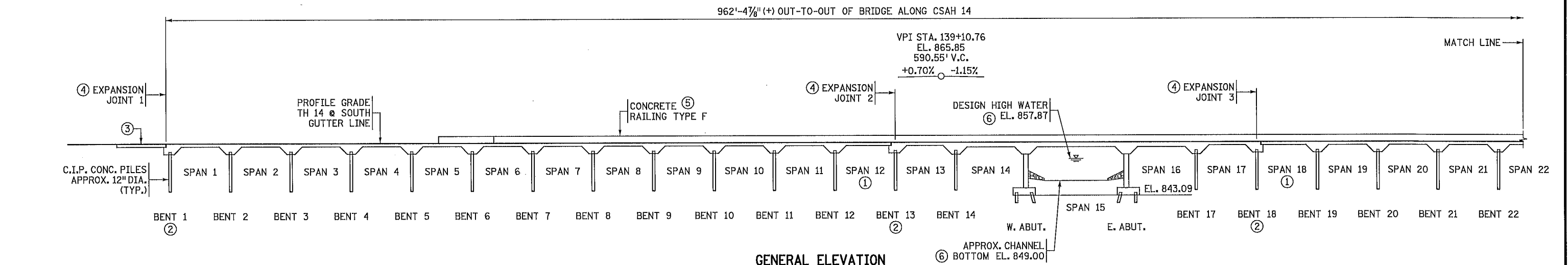
APPROVED: *[Signature]* DATE: 7/14/18  
ANOKA COUNTY ENGINEER

APPROVED: *[Signature]* DATE: 6-25-18  
STATE BRIDGE ENGINEER

DATE: 6/25/2018 TIME: 2:12:56 PM FILENAME: K:\g-f\Anokacy\16865000\04\_Production\01\_CAD\Bridg\General\CBR02015\_sl1201.dgn



**GENERAL PLAN**



**GENERAL ELEVATION**

**NOTES:**

- ① RECONSTRUCT BRIDGE SLAB. INCLUDED IN ITEMS "REMOVE CONCRETE BRIDGE DECK", "REMOVE CONCRETE MEDIAN", "BRIDGE SLAB CONCRETE (3YHPC-M)", "RAISED MEDIAN CONCRETE (3S52)", AND "REINFORCEMENT BARS (EPOXY COATED)".
- ② INSTALL STAINLESS STEEL BEARING PLATES ON EXPANSION BENTS. INCLUDED IN ITEM "STRUCTURAL STEEL (3312)".
- ③ RECONSTRUCT APPROACH PANEL. INCLUDED IN ITEMS "REMOVE CONCRETE APPROACH PANEL" AND "CONCRETE BRIDGE APPROACH PANELS".
- ④ RECONSTRUCT EXPANSION JOINT. INCLUDED IN ITEMS "RECONSTRUCT EXPANSION JOINT TYPE A", "EXPANSION JOINT DEVICE TYPE 4", AND "ANCH TYPE REINF BARS (TYPE L)".

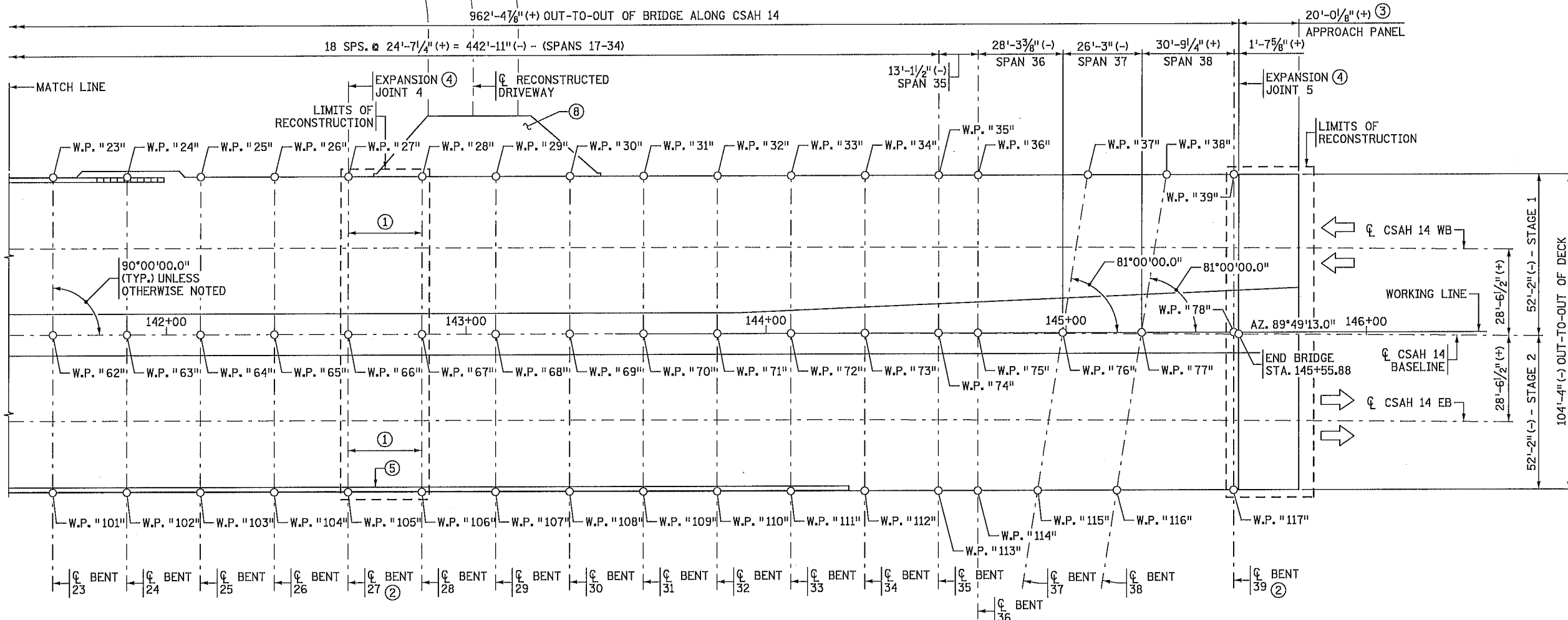
- ⑤ RECONSTRUCT BARRIER AT SLAB RECONSTRUCTION LOCATIONS. INCLUDED IN ITEMS "REMOVE CONCRETE BRIDGE BARRIER", "TYPE MOD F (TL-4) BARRIER CONCRETE (3S52)", AND "REINFORCEMENT BARS (EPOXY COATED)".
- ⑥ ELEVATIONS TAKEN FROM THE 2002 BRIDGE 02015 PLAN SET.
- ⑦ WB CSAH 14 SPAN BETWEEN BENTS 12 & 13 WAS RECONSTRUCTED IN WINTER OF 2018 AS PART OF AN EMERGENCY REPAIR PROJECT. SEE BRIDGE 02015 EMERGENCY REPAIR PLANS INCLUDED IN PROJECT MANUAL.

**GENERAL NOTES:**

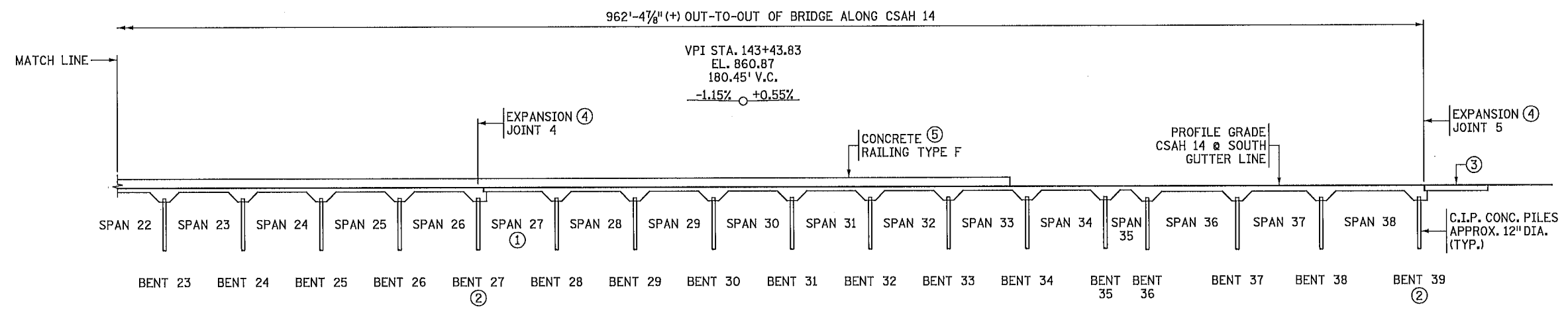
THE INPLACE DIMENSIONS ARE TAKEN FROM THE 2002 PLAN SET FOR BR. 02015 AND SHALL BE FIELD VERIFIED BEFORE CONSTRUCTION BEGINS.

	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA SIGNED: <i>Matthew A. Volz</i> MATTHEW A. VOLZ DATE: 6/25/2018 LIC. NO.: 53067	444 Cedar Street, Suite 1500 Saint Paul, MN 55101 651.282.4400 tkda.com	<b>CSAH 14 EAST OF COON CREEK BLVD.</b> <b>COON RAPIDS, MINNESOTA</b> S.P. NO. 002-614-044	TITLE: <b>GENERAL PLAN &amp; ELEVATION (1 OF 2)</b>	DES: SEM CHK: MAV	DR: SEM CHK: MAV	APPROVED 	BRIDGE NO. <b>02015</b>									
SHEET NO. B2 OF B34 SHEETS																	
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NO.	DATE	BY	DESCRIPTION OF REVISIONS														

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**GENERAL PLAN**



**GENERAL ELEVATION**

**NOTES:**

- SEE SHEET 2 FOR NOTES ① TO ⑦.
- ⑧ RECONSTRUCT DRIVEWAY APPROACH PANEL. INCLUDED IN ITEMS "REMOVE CONCRETE APPROACH PANEL", "REMOVE CONCRETE BRIDGE DECK", "BRIDGE SLAB CONCRETE (3YHPC-M)", AND "CONCRETE DRIVEWAY APPROACH PANELS".

**GENERAL NOTES:**

THE INPLACE DIMENSIONS ARE TAKEN FROM THE 2002 PLAN SET FOR BR. 02015 AND SHALL BE FIELD VERIFIED BEFORE CONSTRUCTION BEGINS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNED: *Matthew A. Volz* MATTHEW A. VOLZ  
DATE: 6/25/2018 LIC. NO.: 53067



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Saint Paul, MN 55101  
651.282.4400  
tkda.com

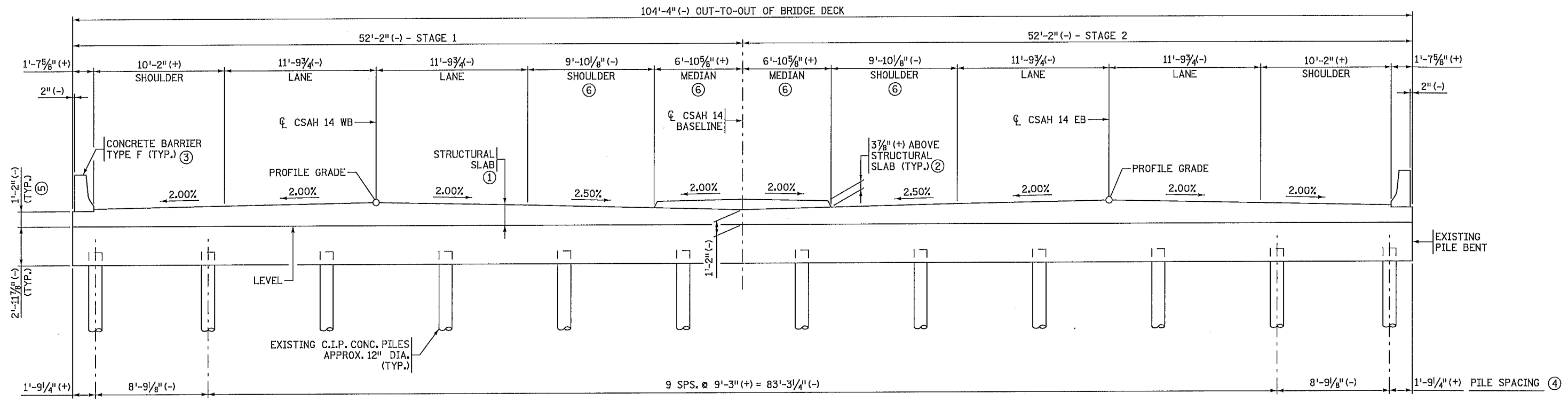
**CSAH 14 EAST OF COON CREEK BLVD.  
COON RAPIDS, MINNESOTA  
S.P. NO. 002-614-044**

TITLE: **GENERAL PLAN & ELEVATION (2 OF 2)**

DES: SEM	DR: SEM	APPROVED
CHK: MAY	CHK: MAY	
SHEET NO. B3 OF B34 SHEETS		

BRIDGE NO. 02015

DATE: 6/25/2018 TIME: 2:12:57 PM FILENAME: K:\a-f\Anokcity\16865000\04\_Production\01\_CAD\Bridg\General\CBRC2015\_sl1203.dgn



**TRANSVERSE SECTION**

(GEOMETRY AND PILE SPACING SHOWN FOR BENTS WITH EXPANSION JOINTS, BENTS 1, 13, 18, 27, & 39. VARIES AT OTHER LOCATIONS.)

**NOTES:**

- ① RECONSTRUCT BRIDGE SLAB. SEE REMOVAL AND CONSTRUCTION PLANS. THICKNESS OF SLAB VARIES FROM 1'-8 1/2" AT CROWN TO 1'-2" AT  $\phi$  CSAH 14. STRUCTURAL SLAB SHALL BE FULL DEPTH.
- ② RECONSTRUCT MEDIAN. SEE REMOVAL AND CONSTRUCTION PLANS.
- ③ RECONSTRUCT BARRIER. SEE "RECONSTRUCT BARRIER (TYPE F) (MOD.)" SHEET.
- ④ EXISTING PILE SPACING FOR BENTS 1, 13, 18, & 27 SHOWN. PILE SPACING FOR BENT 39 SIMILAR WITH 14 PILE.
- ⑤ EDGE OF SLAB THICKNESS IS 1'-4" AT LOCATIONS WITHOUT CONCRETE BARRIER. LOCATIONS WITHOUT BARRIER ARE THE NORTH END OF BENTS 1, 13, 27 & 39 AND THE SOUTH END OF BENTS 1 & 39.
- ⑥ SHOULDER AND MEDIAN WIDTHS VARY AT BRIDGE APPROACH PANELS. CONTRACTOR SHALL FIELD VERIFY SHOULDER AND MEDIAN WIDTHS AT ALL LOCATIONS OF RECONSTRUCTION. NEW MEDIAN WIDTHS SHALL MATCH EXISTING MEDIAN WIDTH. SEE SHEETS 7-9 & 16-17 FOR ADDITIONAL DETAILS.

**SUMMARY OF QUANTITIES**

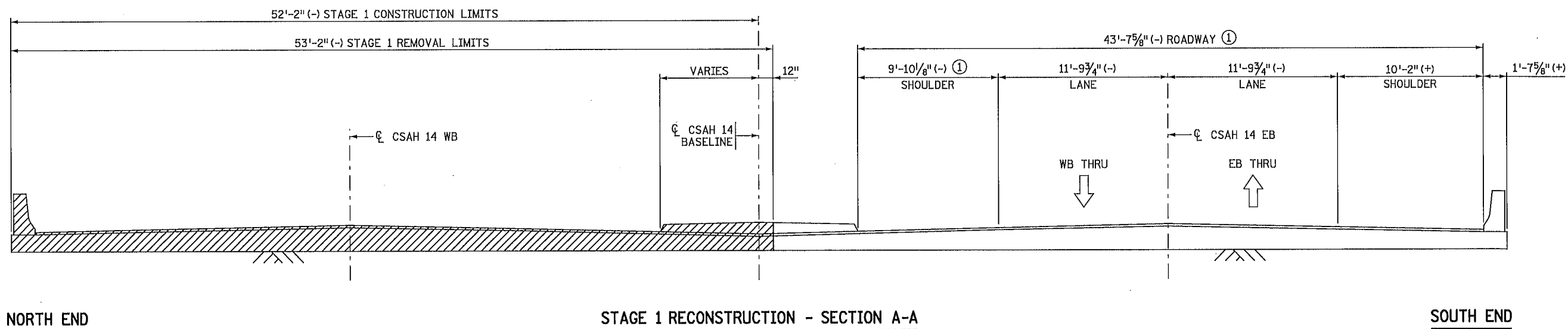
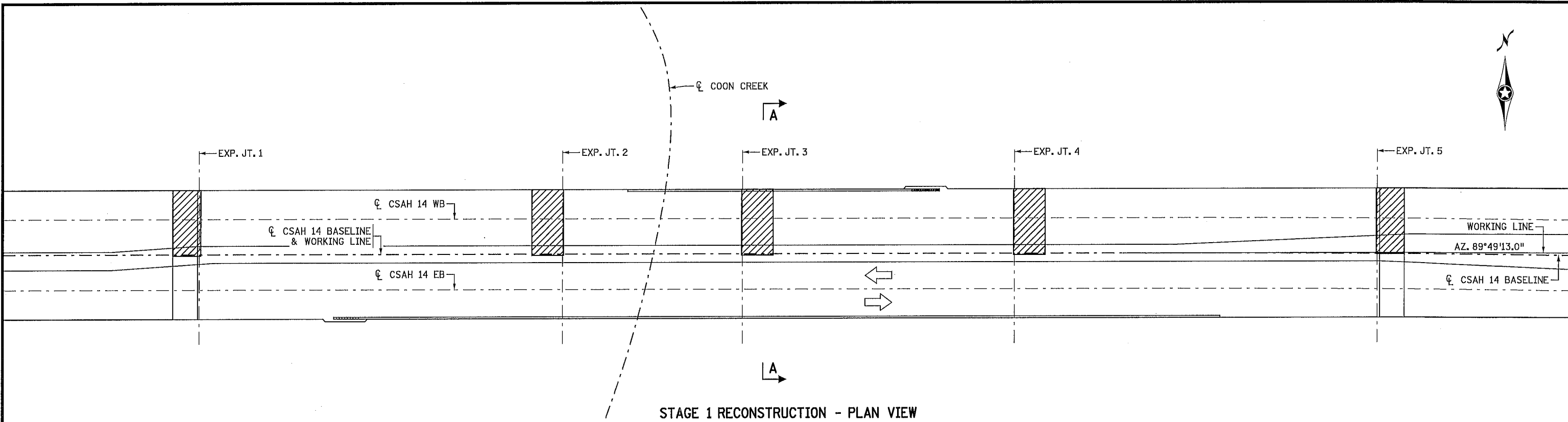
ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY
① 2104.504	REMOVE CONCRETE APPROACH PANEL	SQ YD	515 (P)
2104.601	REGULATED WASTE EVALUATION	LUMP SUM	1
2105.504	GEOTEXTILE FABRIC TYPE 5	SQ YD	652
2105.507	SELECT GRANULAR BORROW MOD 10% (CV)	CU YD	218
2401.503	TYPE MOD F (TL-4) BARRIER CONCRETE (3S52)	LIN FT	96 (P)
2401.508	REINFORCEMENT BARS (EPOXY COATED)	POUND	70780 (P)
2401.518	RAISED MEDIAN CONCRETE (3S52)	SQ FT	1723
2401.618	BRIDGE SLAB CONCRETE (3YHPC-M)	SQ FT	7148 (P)
2402.503	EXPANSION JOINT DEVICE TYPE 4	LIN FT	522 (P)
2402.508	STRUCTURAL STEEL (3312)	POUND	8640 (P)
2406.504	CONCRETE BRIDGE APPROACH PANELS	SQ YD	540 (P)
2406.504	CONCRETE DRIVEWAY APPROACH PANELS	SQ YD	131 (P)
2433.503	REMOVE CONCRETE BRIDGE BARRIER	LIN FT	96 (P)
2433.502	ANCH TYPE REINF BARS (TYPE L)	EACH	561 (P)
② 2433.518	REMOVE CONCRETE BRIDGE DECK	SQ FT	6249 (P)
2433.518	REMOVE CONCRETE MEDIAN	SQ FT	1723
2433.603	RECONSTRUCT EXPANSION JOINT TYPE A	LIN FT	522 (P)
2472.502	COUPLERS (REINFORCEMENT BARS) T-5	EACH	120 (P)
2472.502	COUPLERS (REINFORCEMENT BARS) T-6	EACH	20 (P)

(P) DENOTES PLAN QUANTITY PAY ITEM AS PER SPEC. 1901

① INCLUDES REMOVAL OF DRIVEWAY APPROACH PANEL.

② INCLUDES REMOVAL OF BRIDGE DECK CONCRETE FOR RECONSTRUCTION OF DRIVEWAY APPROACH PANEL.

DATE: 6/25/2018 TIME: 2:12:59 PM  
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**LEGEND:**

LOCATION OF JOINT AND SLAB RECONSTRUCTION.

**NOTES:**

FIELD VERIFY DIMENSIONS.  
 ① TYPICAL ON BRIDGE. MEDIAN AND SHOULDER WIDTHS VARY ON APPROACH PANELS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 SIGNED: *Matthew A. Volz* MATTHEW A. VOLZ  
 DATE: 6/25/2018 LIC. NO.: 53067



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 651.292.4400  
 tkda.com

**CSAH 14 EAST OF COON CREEK BLVD.**  
**COON RAPIDS, MINNESOTA**  
 S.P. NO. 002-614-044

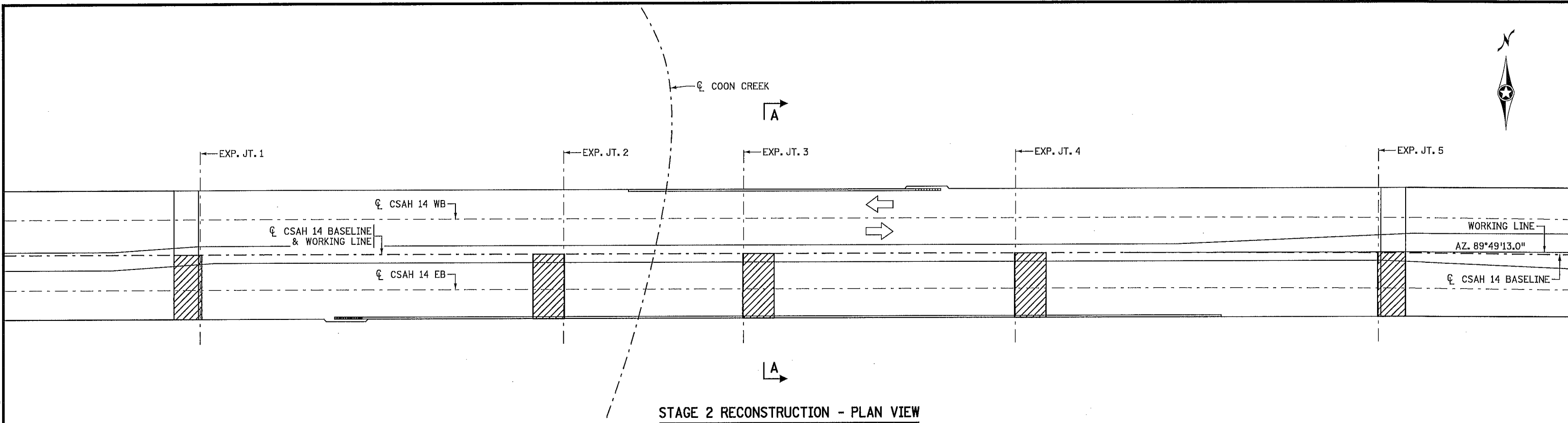
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SHEET NO. B5 OF B34 SHEETS		

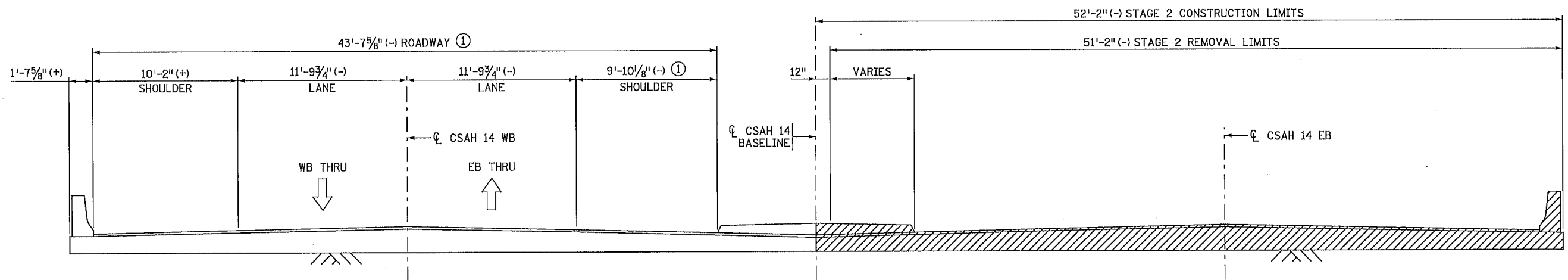
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DATE: 6/25/2018 TIME: 2:13:00 PM  
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STAGE 2 RECONSTRUCTION - PLAN VIEW



NORTH END

STAGE 2 RECONSTRUCTION - SECTION A-A

SOUTH END

**LEGEND:**

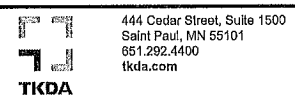
LOCATION OF JOINT AND SLAB RECONSTRUCTION.

**NOTES:**

- FIELD VERIFY DIMENSIONS.
- ① TYPICAL. MEDIAN AND SHOULDER WIDTHS VARY AT ENDS OF BRIDGE AND ON APPROACH PANELS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 SIGNED: *Matthew A. Volz* MATTHEW A. VOLZ  
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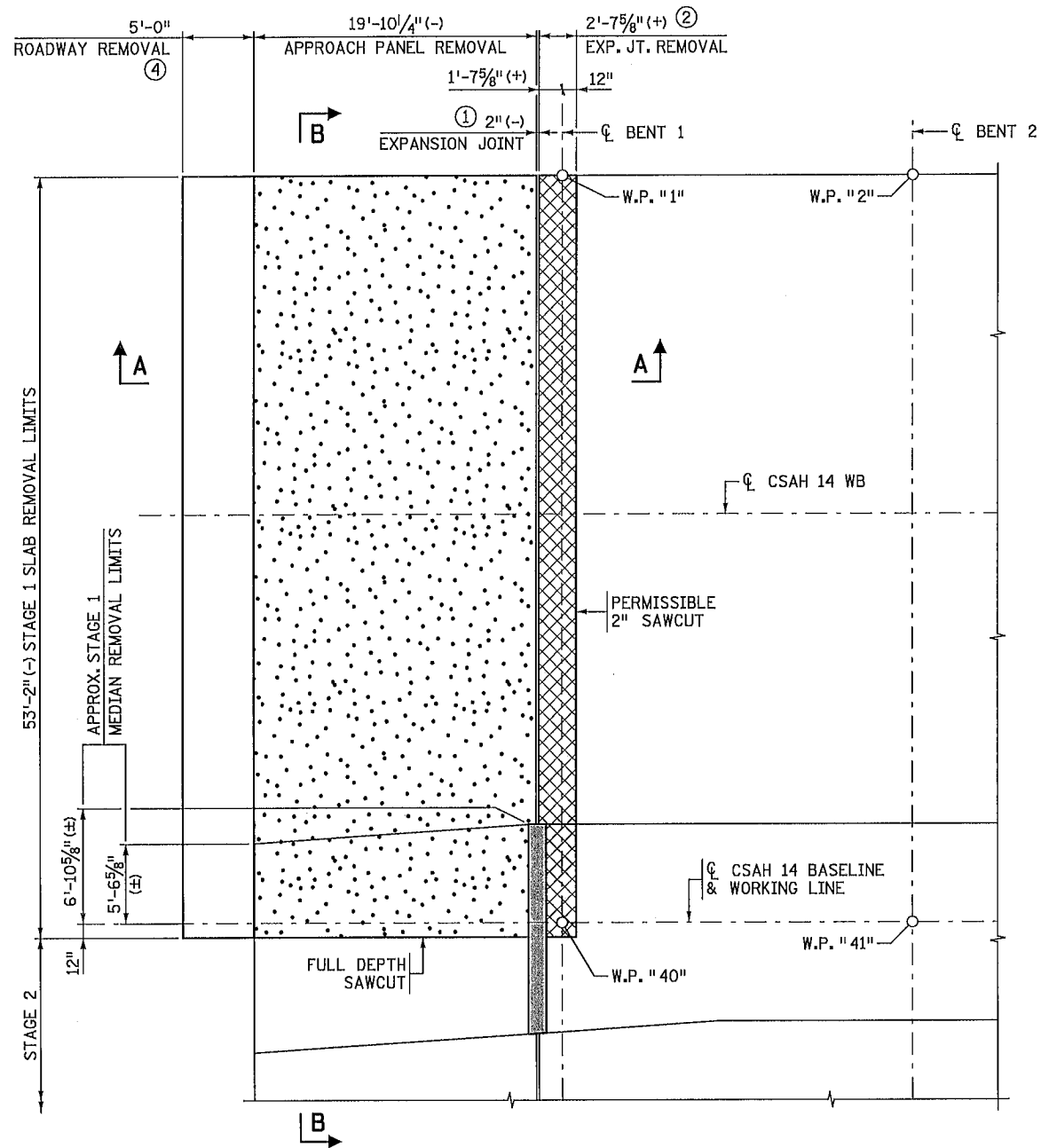
**CSAH 14 EAST OF COON CREEK BLVD.**  
**COON RAPIDS, MINNESOTA**  
 S.P. NO. 002-614-044

TITLE: **STAGE 2 PLAN**

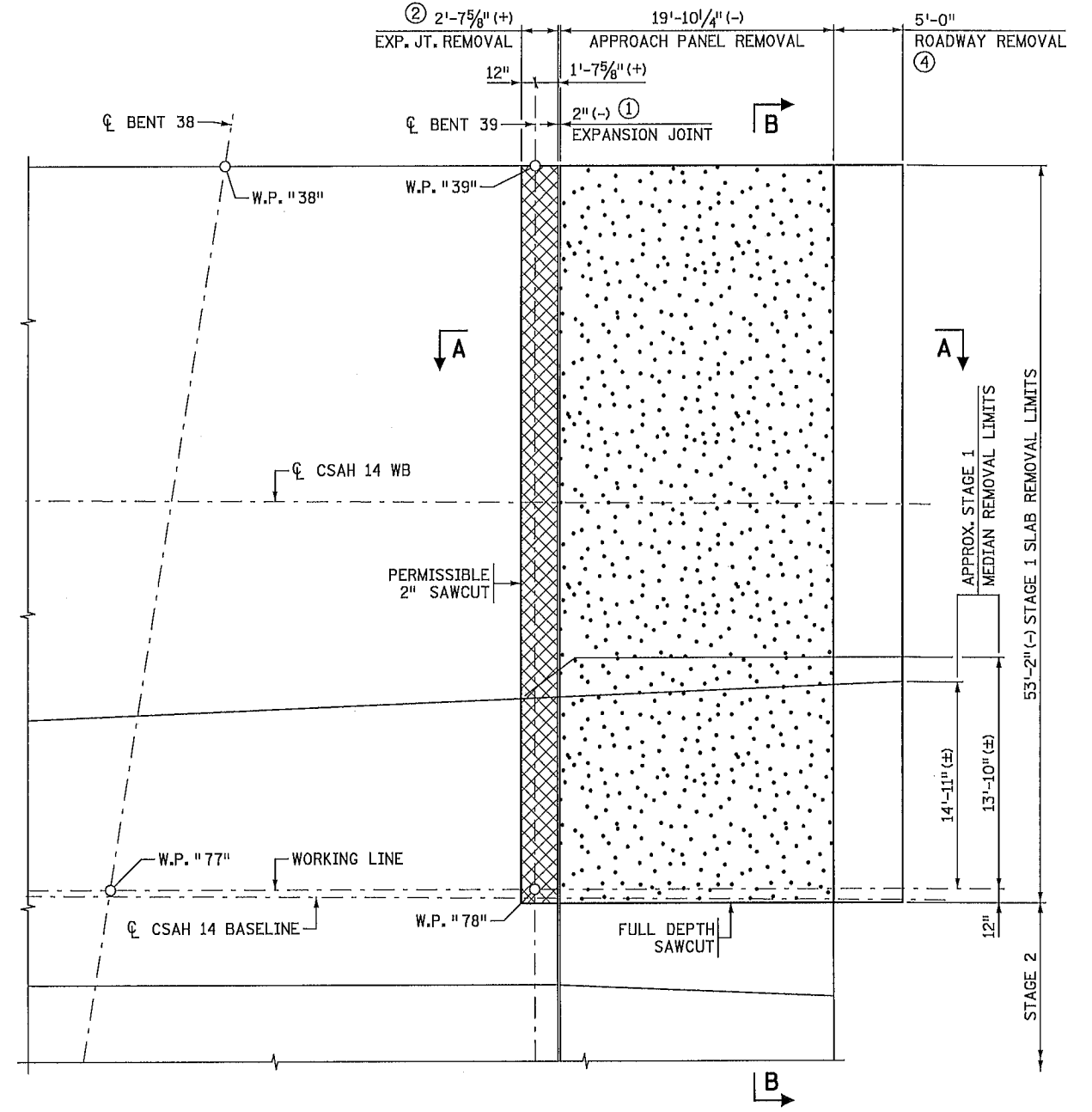
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**STAGE 1 REMOVALS - EXPANSION JOINT 1**



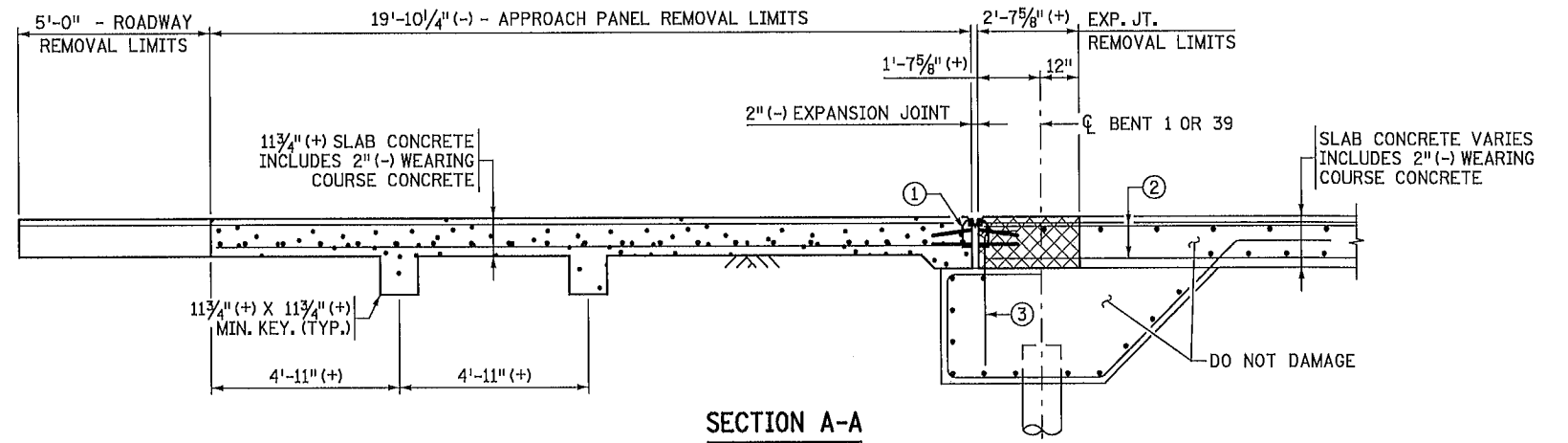
**STAGE 1 REMOVALS - EXPANSION JOINT 5**

**LEGEND:**

- DENOTES CONCRETE REMOVAL AREA TO BE INCLUDED IN "RECONSTRUCT EXPANSION JOINT TYPE A".
- REMOVE STEEL PLATE AND EXPANSION JOINT ASSEMBLY AS NECESSARY. INCIDENTAL.
- DENOTES CONCRETE REMOVAL AREA TO BE INCLUDED IN "REMOVE CONCRETE APPROACH PANEL".

**NOTES:**

- FIELD VERIFY ALL REMOVAL LIMITS.
- SEE SECTION B-B ON SHEET 10.
- ALL REQUIRED SAWCUTTING INCIDENTAL.
- REPAIR ALL ENDS OF CUT REINFORCEMENT.
- ① REMOVE INPLACE EXPANSION JOINT DEVICE ASSEMBLY.
- ② EXPOSED INPLACE SLAB LONGITUDINAL BARS TO BE CLEANED AND STRAIGHTENED. CUT AS REQUIRED TO PROVIDE 2" CLEAR FOR NEW EXPANSION JOINT.
- ③ EXPOSED INPLACE BENT DOWEL BARS TO BE CUT FLUSH WITH BENT SEAT.
- ④ SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.



**SECTION A-A**

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 SIGNED: *Matthew A. Volz* MATTHEW A. VOLZ  
 DATE: 6/25/2018 LIC. NO.: 53067



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 tkda.com

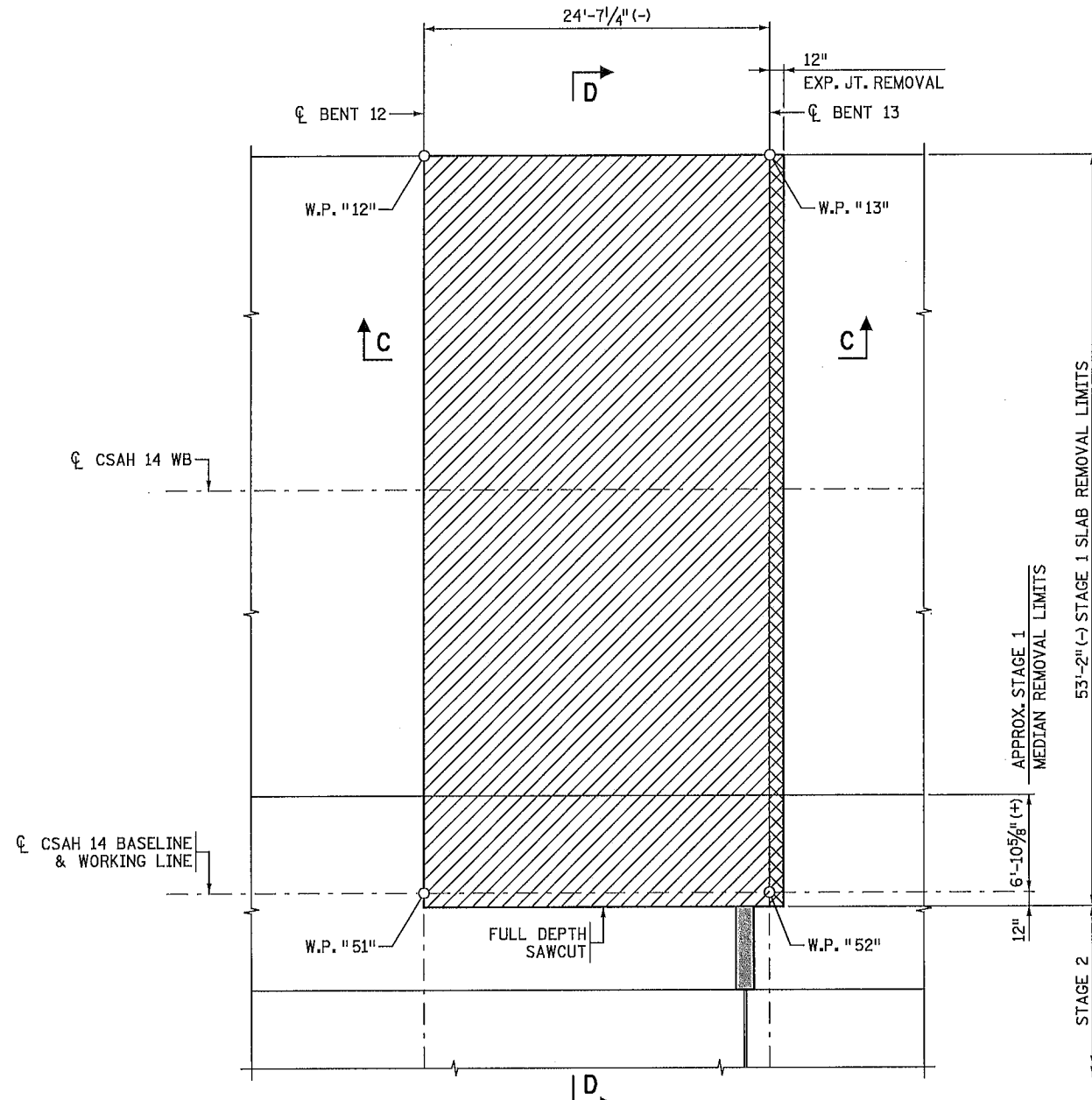
**CSAH 14 EAST OF COON CREEK BLVD.  
 COON RAPIDS, MINNESOTA  
 S.P. NO. 002-614-044**

TITLE:  
**STAGE 1 REMOVAL PLANS  
 EXPANSION JOINTS 1 & 5**

DES: SEM	DR: SEM	APPROVED
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SHEET NO. B7 OF B34 SHEETS		

BRIDGE NO.  
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DATE: 6/25/2018 TIME: 2:13:01 PM  
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**STAGE 1 REMOVALS - EXPANSION JOINT 2**

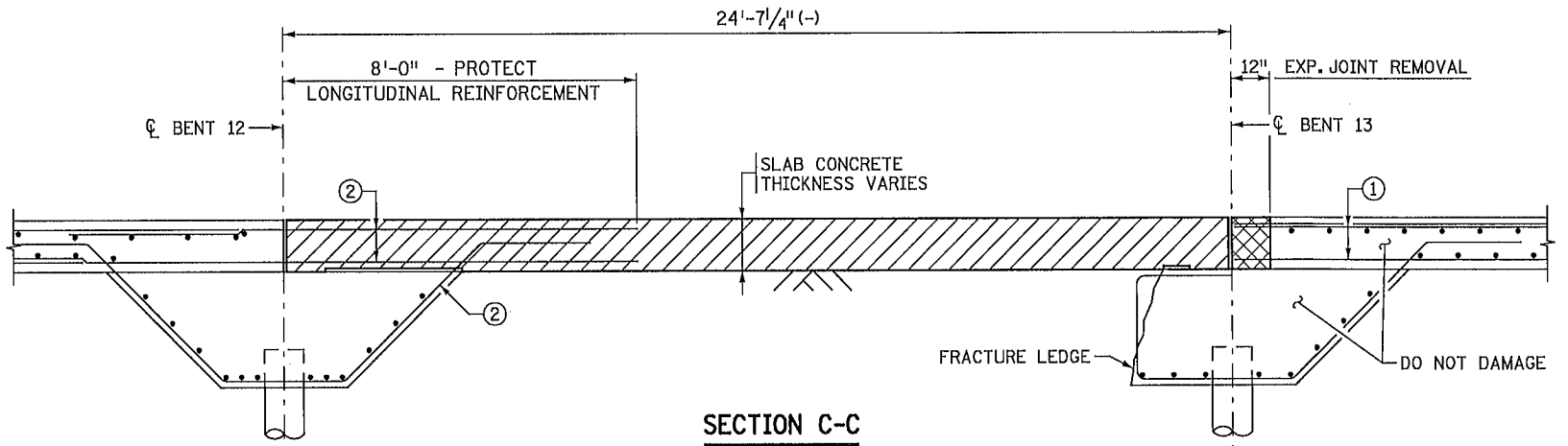
(SLAB REMOVALS REFLECT GEOMETRY OF SLAB REPAIRED IN EMERGENCY BR. 02015 REPAIR PLANS DATED 2/6/2018)

**LEGEND:**

- DENOTES CONCRETE REMOVAL AREA TO BE INCLUDED IN "REMOVE CONCRETE BRIDGE DECK".
- DENOTES CONCRETE REMOVAL AREA TO BE INCLUDED IN "RECONSTRUCT EXPANSION JOINT TYPE A".
- REMOVE STEEL PLATE AND EXPANSION JOINT ASSEMBLY AS NECESSARY. INCIDENTAL.

**NOTES:**

- FIELD VERIFY ALL REMOVAL LIMITS.
- SEE SECTION D-D ON SHEET 10.
- ALL REQUIRED SAWCUTTING INCIDENTAL.
- REPAIR ALL ENDS OF CUT REINFORCEMENT.
- ① EXPOSED INPLACE SLAB LONGITUDINAL BARS TO BE CLEANED AND STRAIGHTENED. CUT AS REQUIRED TO PROVIDE 2" CLEAR FOR NEW EXPANSION JOINT.
- ② LONGITUDINAL BARS WRAPPED WITH 6 MIL POLYETHYLENE SHEETING DURING EMERGENCY BRIDGE REPAIR. PROTECT BARS DURING SLAB REMOVAL. AFTER SLAB CONCRETE IS REMOVED, REMOVE POLYETHYLENE AND STRAIGHTEN LONGITUDINAL REINFORCEMENT BARS.



WB SPAN BETWEEN BENTS 12 & 13 WAS RECONSTRUCTED IN WINTER OF 2018 AS PART OF AN EMERGENCY REPAIR PROJECT.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 SIGNED: *Matthew A. Volz* MATTHEW A. VOLZ  
 DATE: 6/25/2018 LIC. NO.: 53067

**TKDA**  
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 Saint Paul, MN 55101  
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**CSAH 14 EAST OF COON CREEK BLVD.  
 COON RAPIDS, MINNESOTA  
 S.P. NO. 002-614-044**

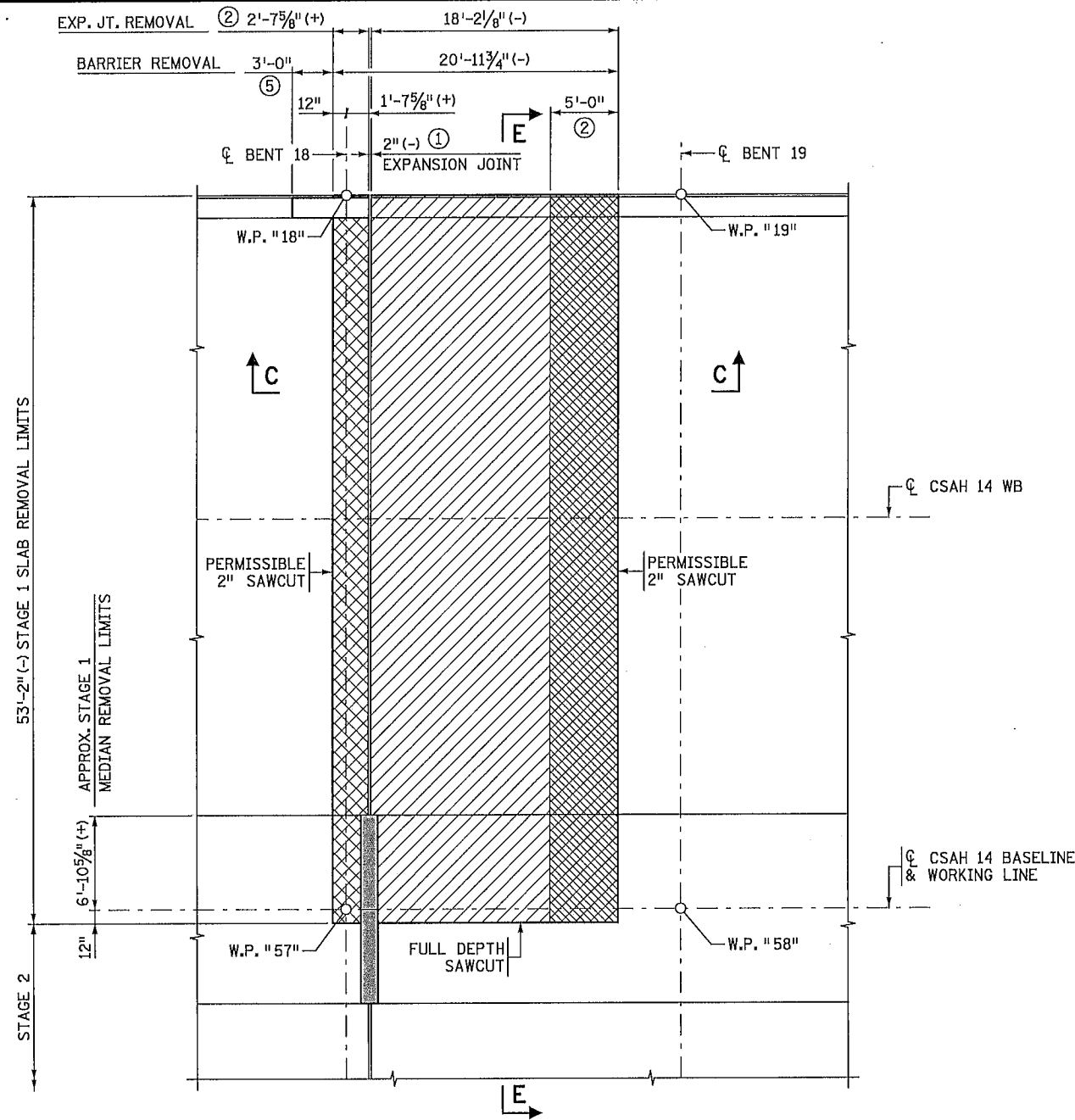
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 EXPANSION JOINT 2**

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SHEET NO. B8 OF B34 SHEETS		

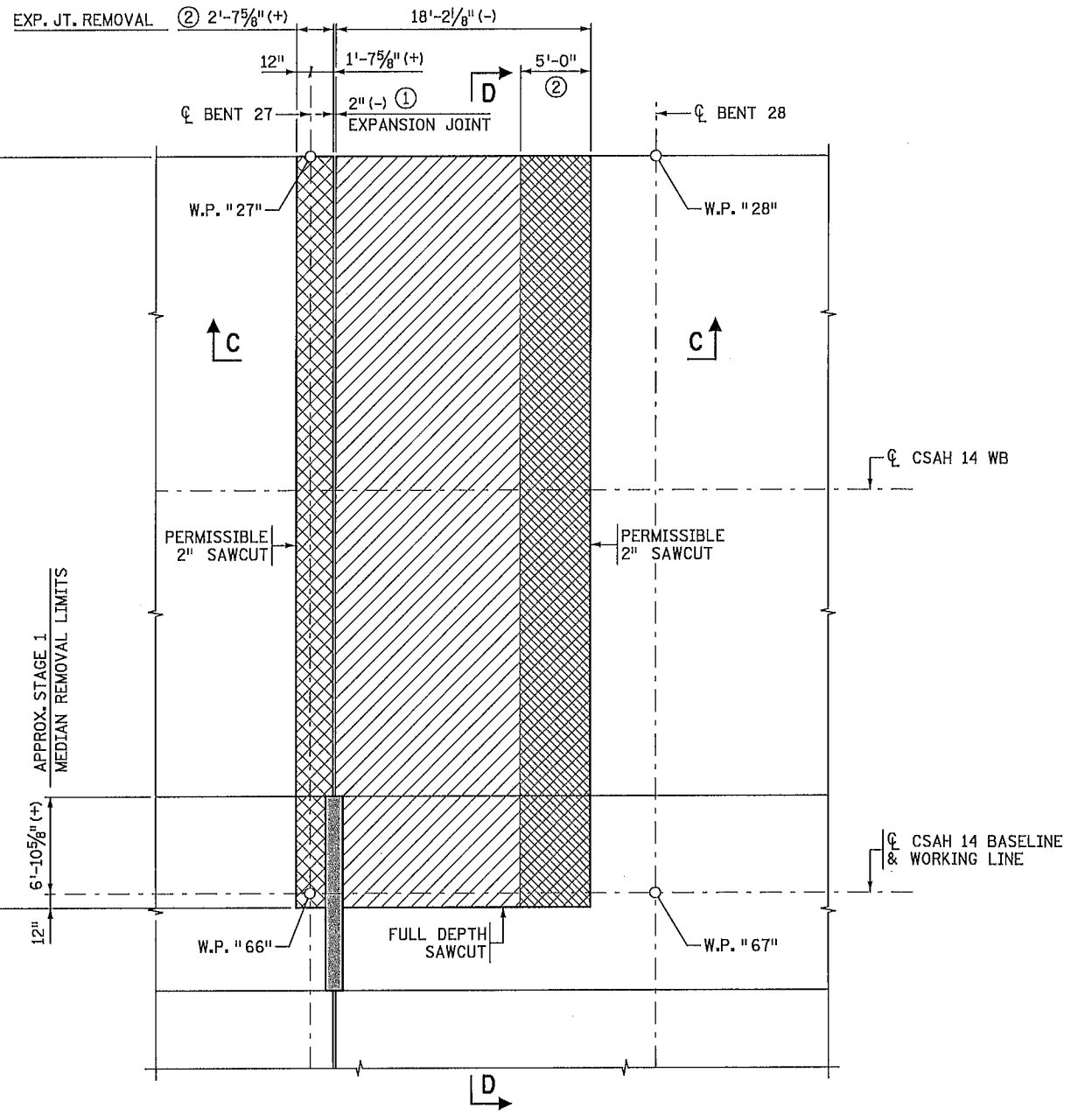
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**STAGE 1 REMOVALS - EXPANSION JOINT 3**



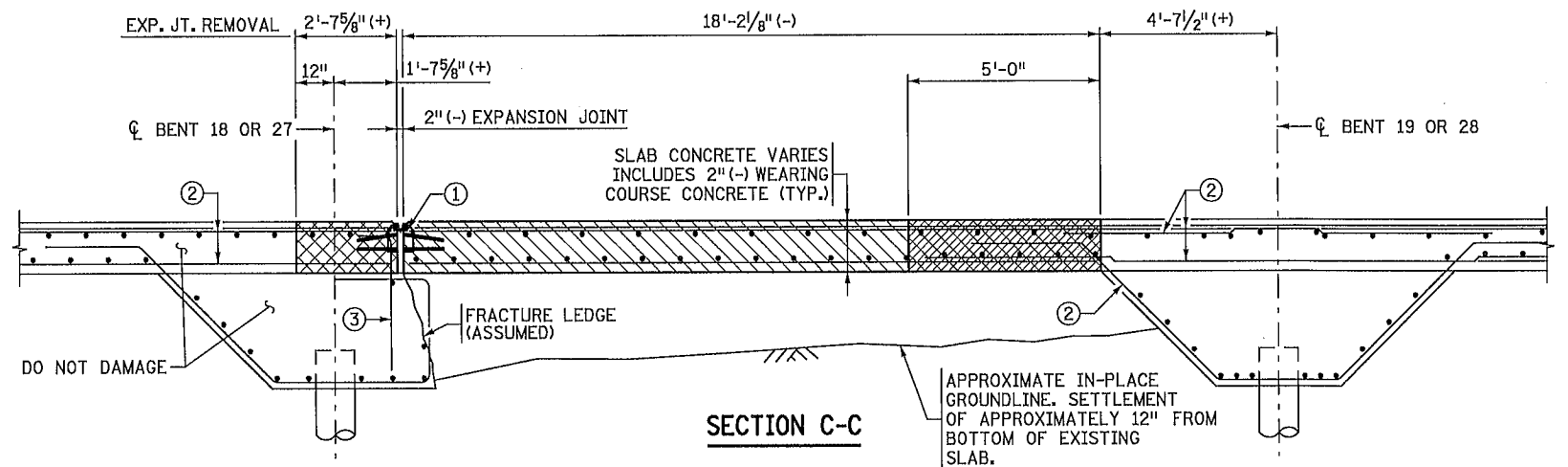
**STAGE 1 REMOVALS - EXPANSION JOINT 4**

**LEGEND:**

- DENOTES CONCRETE REMOVAL AREA TO BE INCLUDED IN "REMOVE CONCRETE BRIDGE DECK".
- DENOTES CONCRETE REMOVAL AREA TO BE INCLUDED IN "RECONSTRUCT EXPANSION JOINT TYPE A".
- REMOVE STEEL PLATE AND EXPANSION JOINT ASSEMBLY AS NECESSARY. INCIDENTAL.
- DENOTES CONCRETE REMOVAL AREA WHERE CARE SHALL BE TAKEN TO PROTECT EXISTING LONGITUDINAL REINFORCEMENT. TO BE INCLUDED IN "REMOVE CONCRETE BRIDGE DECK".

**NOTES:**

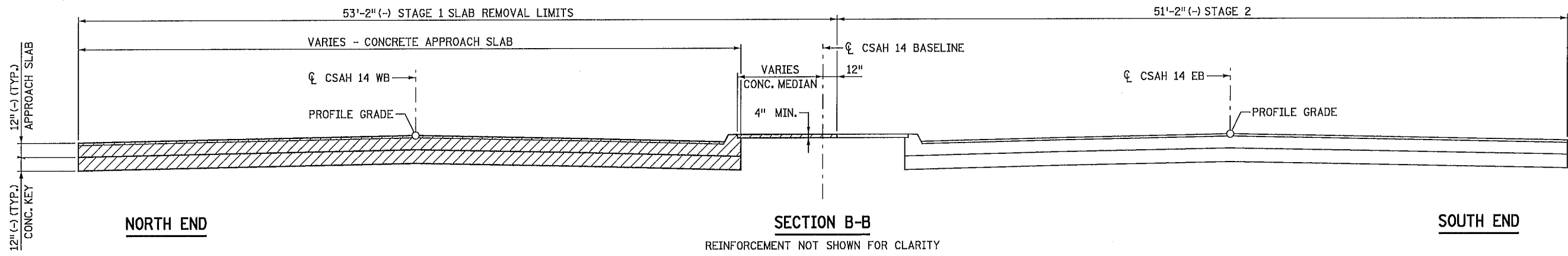
- FIELD VERIFY ALL REMOVAL LIMITS.
- SEE SECTIONS D-D & E-E ON SHEET 10.
- ALL REQUIRED SAWCUTTING INCIDENTAL.
- REPAIR ALL ENDS OF CUT REINFORCEMENT.
- ① REMOVE INPLACE EXPANSION JOINT DEVICE ASSEMBLY.
- ② EXPOSED INPLACE SLAB LONGITUDINAL BARS TO BE CLEANED AND STRAIGHTENED. CUT AS REQUIRED TO PROVIDE 2" CLEAR FOR NEW EXPANSION JOINT.
- ③ EXPOSED INPLACE BENT DOWEL BARS TO BE CUT FLUSH WITH BENT SEAT.
- ④ SEE DRIVEWAY REMOVAL SHEETS FOR ADDITIONAL REMOVAL LIMITS.
- ⑤ CAREFULLY REMOVE BARRIER CONCRETE TO PROTECT EXISTING DOWELS AND LONGITUDINAL REINFORCEMENT. SEE "RECONSTRUCT BARRIER (TYPE F) (MOD.)" SHEET FOR ADDITIONAL DETAILS.



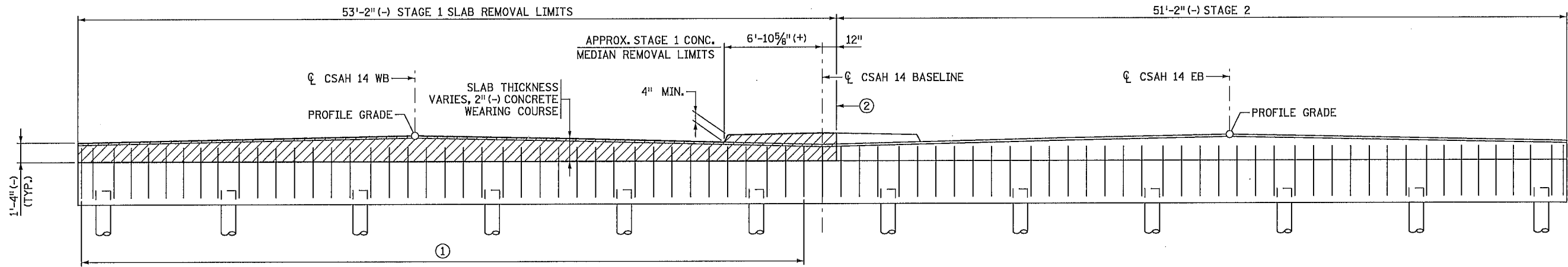
**SECTION C-C**

	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNED: <i>Matthew A. Volz</i> MATTHEW A. VOLZ DATE: 6/25/2018 LIC. NO.: 53067	 444 Cedar Street, Suite 1500 Saint Paul, MN 55101 651.292.4400 tkda.com	<b>CSAH 14 EAST OF COON CREEK BLVD.</b> <b>COON RAPIDS, MINNESOTA</b> S.P. NO. 002-614-044	TITLE: <b>STAGE 1 REMOVAL PLANS</b> <b>EXPANSION JOINTS 3 &amp; 4</b>	DES: SEM CHK: MAV	DR: SEM CHK: MAV	APPROVED 	BRIDGE NO. <b>02015</b>	
NO.	DATE	BY	DESCRIPTION OF REVISIONS	SHEET NO. B9 OF B34 SHEETS					

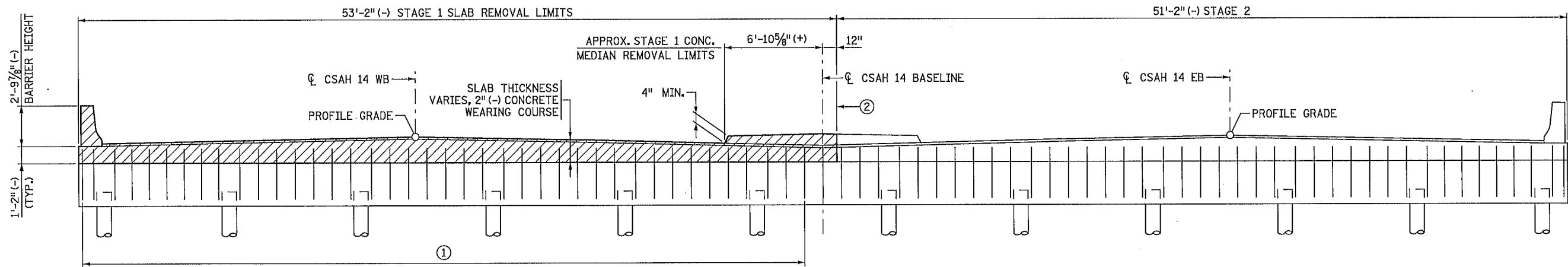
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**SECTION B-B**  
 REINFORCEMENT NOT SHOWN FOR CLARITY



**SECTION D-D**  
 REINFORCEMENT NOT SHOWN FOR CLARITY.



**SECTION E-E**  
 REINFORCEMENT NOT SHOWN FOR CLARITY.

**LEGEND:**

REMOVE CONCRETE SLAB

**NOTES:**

- FIELD VERIFY ALL REMOVAL LIMITS.
- ① EXPOSED INPLACE BENT DOWEL BARS SHALL BE CUT TO BE FLUSH WITH BENT SEAT.
  - ② CUT INPLACE TRANSVERSE BARS THAT PROTRUDE INTO STAGE 1 SLAB REMOVAL LIMITS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 DATE: 6/25/2018 LIC. NO.: 53067



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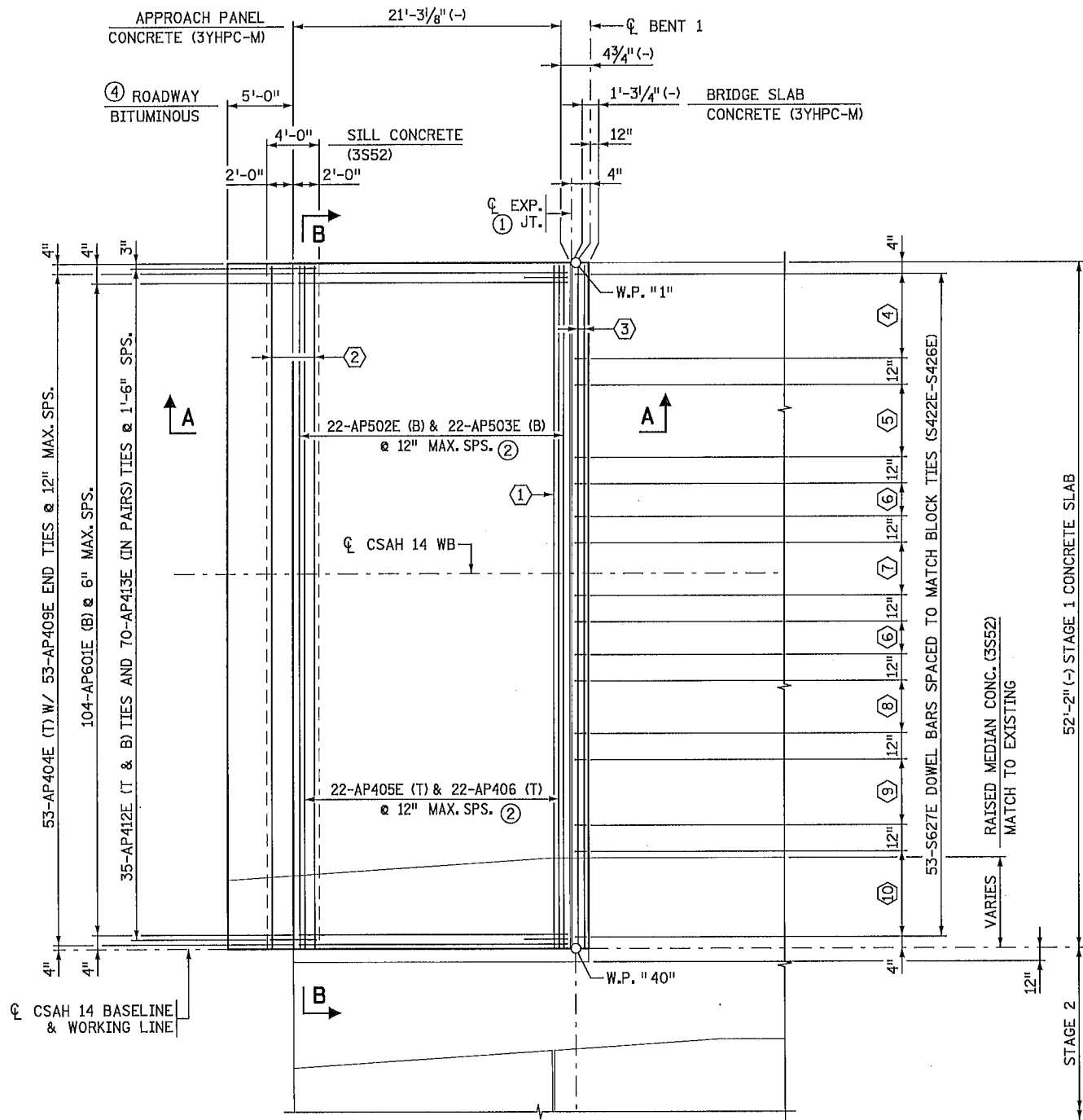
**CSAH 14 EAST OF COON CREEK BLVD.**  
**COON RAPIDS, MINNESOTA**  
 S.P. NO. 002-614-044

TITLE: **STAGE 1 REMOVAL PLAN DETAILS**

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SHEET NO. B10 OF B34 SHEETS		

BRIDGE NO. 02015

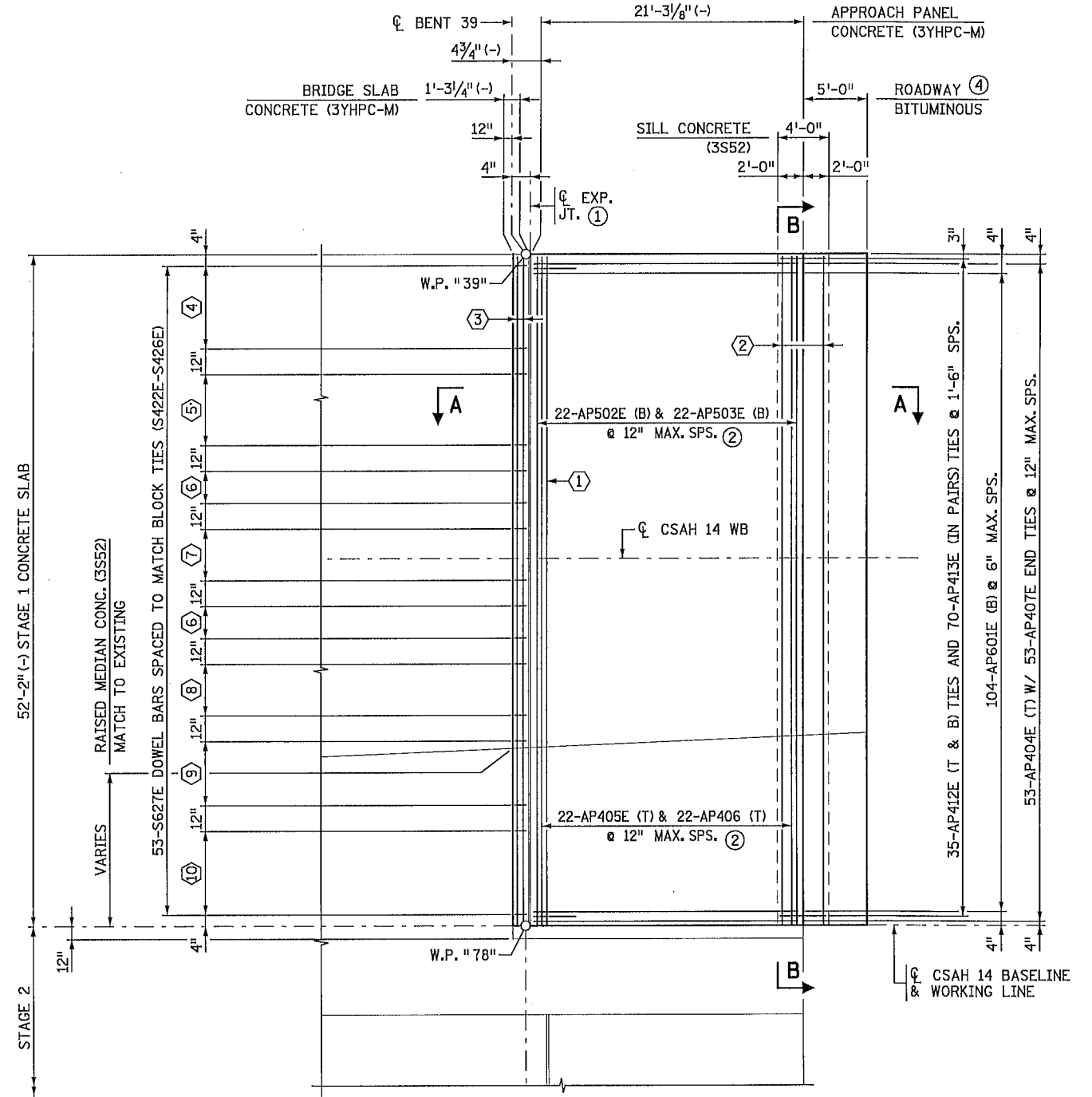
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STAGE 1 CONSTRUCTION - EXPANSION JOINT 1 ③

**NOTES:**

- NEW APPROACH PANEL AND MEDIAN CONCRETE TO MATCH EXISTING. FIELD VERIFY CONSTRUCTION LIMITS.
- SEE SHEET 15 FOR SECTION A-A.
- SEE SHEET 14 FOR SECTIONS B-B.
- ① SEE SHEETS 26-29 FOR EXPANSION JOINT DETAILS.
- ② TRANSVERSE BARS SHALL SPLICE LAP WITH FORM SAVER COUPLER BAR. STAGE 2 BARS SHALL FIELD-CONNECT TO COUPLER. SEE "BAR COUPLER DETAIL" ON SHEET 23.
- ③ APPROACH PANEL CONCRETE AND REINFORCEMENT, AND SILL CONCRETE AND REINFORCEMENT INCIDENTAL TO "CONCRETE BRIDGE APPROACH PANELS". MEDIAN CONCRETE INCLUDED IN ITEM "RAISED MEDIAN CONCRETE (3S52)".
- ④ SEE ROADWAY PLANS.



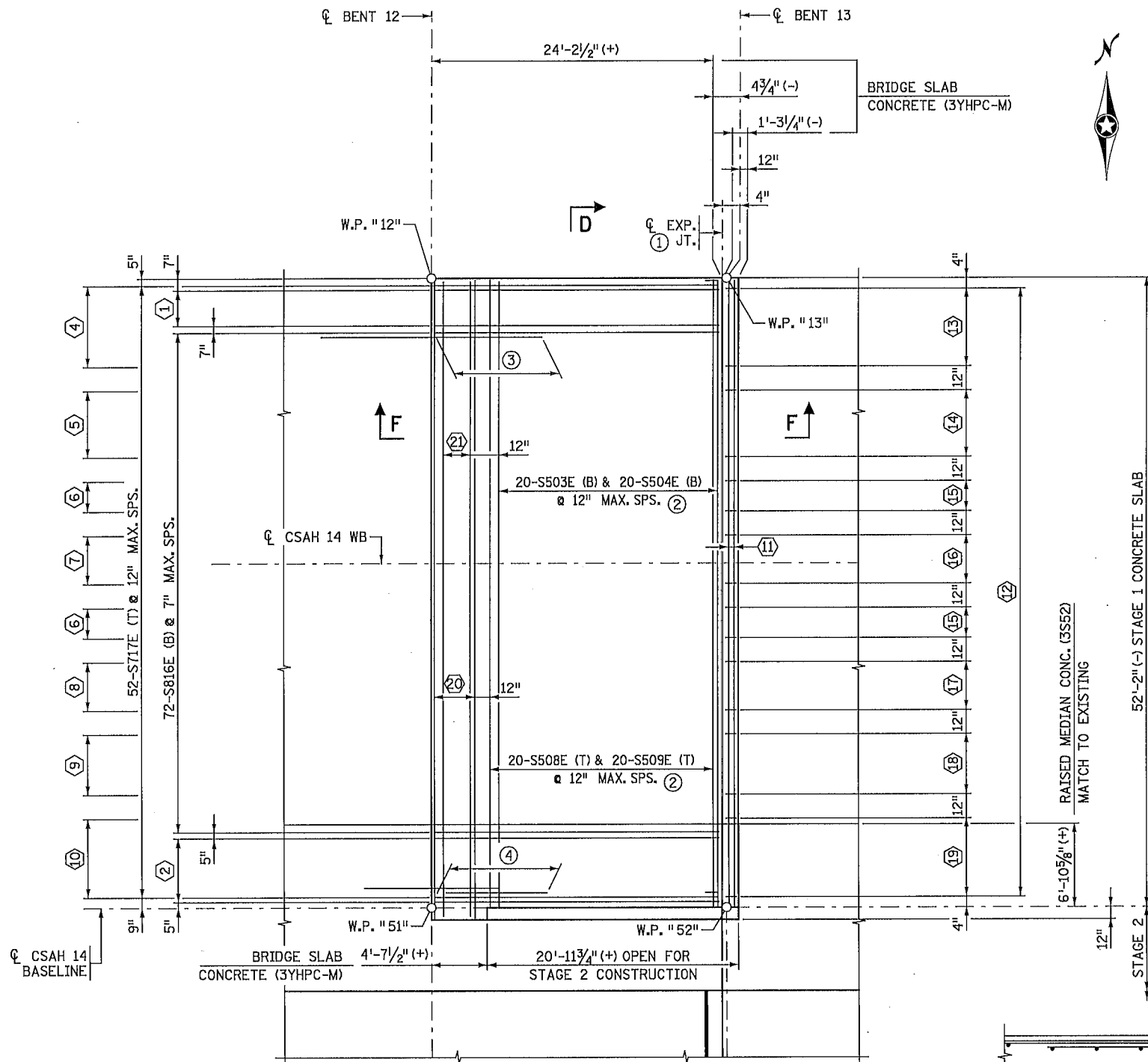
STAGE 1 CONSTRUCTION - EXPANSION JOINT 5 ③

**BAR CALL-OUTS:**

- ① 3-AP607E @ 12" SPS. SEE SECTION A-A ON SHEET 15 FOR DETAILS.
- ② 3-AP511E (T & B) IN SILL. SEE SECTION A-A ON SHEET 15 FOR DETAILS.
- ③ 2-S620E W/ 2-S621E COUPLER BARS (T & B). SEE SECTION A-A ON SHEET 15 FOR DETAILS. SEE BAR COUPLER DETAIL ON SHEET 23.
- ④ 9-S423E BLOCK TIES @ 12" SPS. = 8'-0".
- ⑤ 8-S424E BLOCK TIES @ 12" SPS. = 7'-0".
- ⑥ 4-S425E BLOCK TIES @ 12" SPS. = 3'-0".
- ⑦ 6-S426E BLOCK TIES @ 12" SPS. = 5'-0".
- ⑧ 7-S424E BLOCK TIES @ 12" SPS. = 6'-0".
- ⑨ 7-S423E BLOCK TIES @ 12" SPS. = 6'-0".
- ⑩ 8-S422E BLOCK TIES @ 12" MAX. SPS.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNED: <i>Matthew A. Volz</i> MATTHEW A. VOLZ DATE: 6/25/2018 LIC. NO.: 53067				444 Cedar Street, Suite 1500 Saint Paul, MN 55101 651.282.4400 tkda.com	<b>CSAH 14 EAST OF COON CREEK BLVD.</b> <b>COON RAPIDS, MINNESOTA</b> S.P. NO. 002-614-044	TITLE: <b>STAGE 1 CONSTRUCTION PLANS</b> <b>EXPANSION JOINTS 1 &amp; 5</b>	DES: SEM CHK: MAV DR: SEM CHK: MAV APPROVED:	BRIDGE NO. <b>02015</b>
SHEET NO. B11 OF B34 SHEETS								

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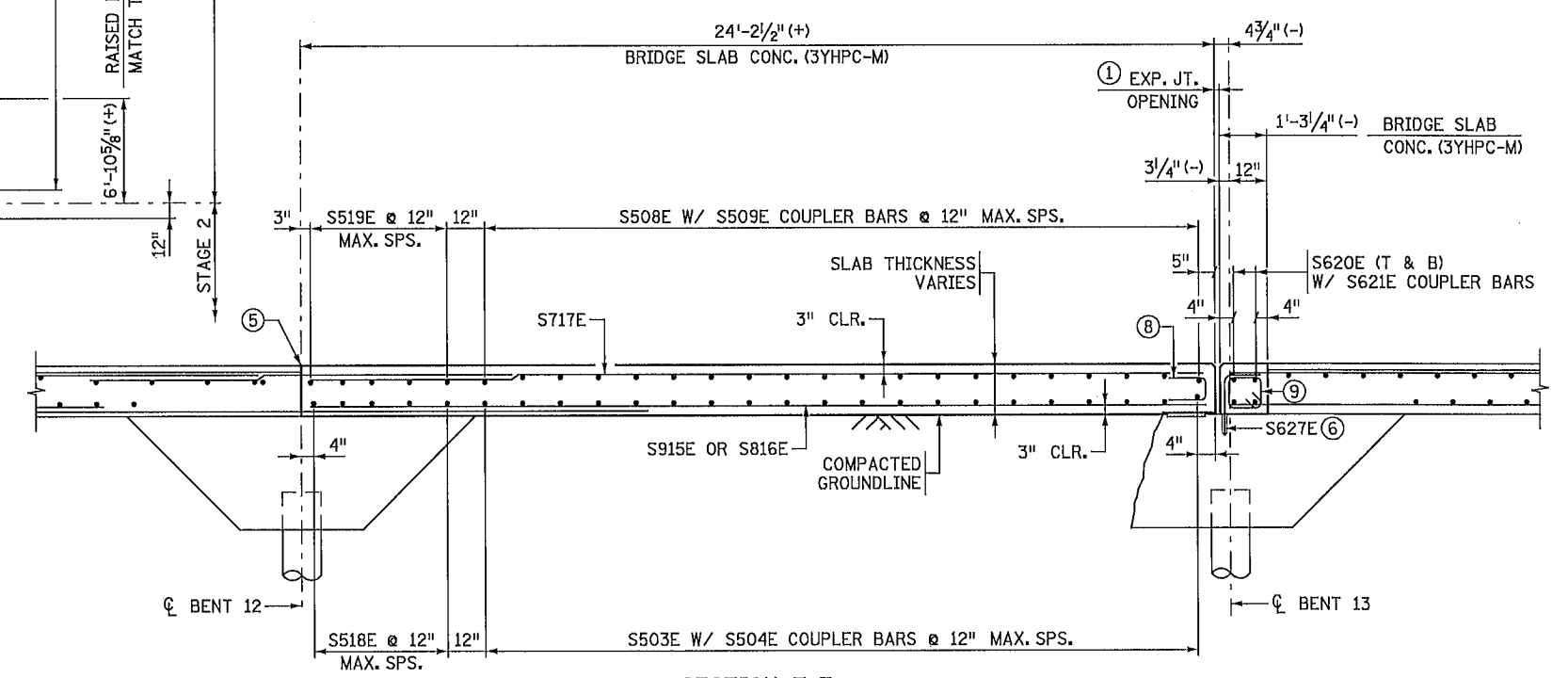
STAGE 1 CONSTRUCTION - EXPANSION JOINT 2

**NOTES:**

- NEW SLAB AND MEDIAN CONCRETE TO MATCH EXISTING. FIELD VERIFY CONSTRUCTION LIMITS.
- SEE SHEET 14 FOR SECTION D-D.
- ① SEE SHEETS 26-29 FOR EXPANSION JOINT DETAILS.
- ② TRANSVERSE BARS SHALL SPLICE LAP WITH FORM SAVER COUPLER BAR. STAGE 2 BARS SHALL FIELD-CONNECT TO COUPLER. SEE "BAR COUPLER DETAIL" ON SHEET 23.
- ③ BOTTOM LONGITUDINAL BARS TO HAVE A 2'-2" MIN. LAP SPLICE.
- ④ TOP LONGITUDINAL BARS TO HAVE A 3'-4" MIN. LAP SPLICE.
- ⑤ PROVIDE 3/8" X 1" SAWCUT AT JOINT. SEAL JOINT PER SPEC. 3723. INCIDENTAL.
- ⑥ PROVIDE AN ADHESIVE ANCHOR WITH A MINIMUM CHARACTERISTIC BOND STRENGTH IN UNCRACKED CONCRETE OF 1.0 K.S.I. EMBED THE ANCHOR NO LESS THAN 6" INTO SOLID CONCRETE. PROOF LOAD TEST TO 2.2 KIPS. INCLUDED IN ITEM "ANCH TYPE REINF BARS (TYPE L)".
- ⑦ BRIDGE SLAB CONCRETE INCLUDED IN ITEM "BRIDGE SLAB CONCRETE (3YHPC-M)", REINFORCEMENT INCLUDED IN ITEM "REINFORCEMENT BARS (EPOXY COATED)", COUPLER BARS INCLUDED IN ITEMS "COUPLERS (REINFORCEMENT BARS) T-5", "COUPLERS (REINFORCEMENT BARS) T-6", AND MEDIAN CONCRETE INCLUDED IN ITEM "RAISED MEDIAN CONCRETE (3S52)".
- ⑧ S410E, S411E, S412E, S413E, S414E
- ⑨ S422E, S423E, S424E, S425E, S426E

**BAR CALL-OUTS:**

- ① 11-S915E (B) @ 4" MAX. SPS. = 3'-4".
- ② 14-S816E (B) @ 5" MAX. SPS. = 5'-5".
- ③ NOT USED.
- ④ 9-S411E END TIES SPACED TO MATCH S717E.
- ⑤ 8-S412E END TIES SPACED TO MATCH S717E.
- ⑥ 4-S413E END TIES SPACED TO MATCH S717E.
- ⑦ 6-S414E END TIES SPACED TO MATCH S717E.
- ⑧ 7-S412E END TIES SPACED TO MATCH S717E.
- ⑨ 7-S411E END TIES SPACED TO MATCH S717E.
- ⑩ 7-S410E END TIES SPACED TO MATCH S717E.
- ⑪ 2-S620E W/ 2-S621E COUPLER BARS (T & B). SEE SECTION F-F FOR DETAILS. SEE BAR COUPLER DETAIL ON SHEET 23.
- ⑫ 53-S627E DOWEL BARS SPACED TO MATCH BLOCK TIES.
- ⑬ 9-S423E BLOCK TIES @ 12" SPS. = 8'-0".
- ⑭ 8-S424E BLOCK TIES @ 12" SPS. = 7'-0".
- ⑮ 4-S425E BLOCK TIES @ 12" SPS. = 3'-0".
- ⑯ 6-S426E BLOCK TIES @ 12" SPS. = 5'-0".
- ⑰ 7-S424E BLOCK TIES @ 12" SPS. = 6'-0".
- ⑱ 7-S423E BLOCK TIES @ 12" SPS. = 6'-0".
- ⑲ 8-S422E BLOCK TIES @ 12" MAX. SPS.
- ⑳ 5-S518E (B) @ 12" MAX. SPS. SEE SECTION F-F FOR DETAILS.
- ㉑ 5-S519E (T) @ 12" MAX. SPS. SEE SECTION F-F FOR DETAILS.

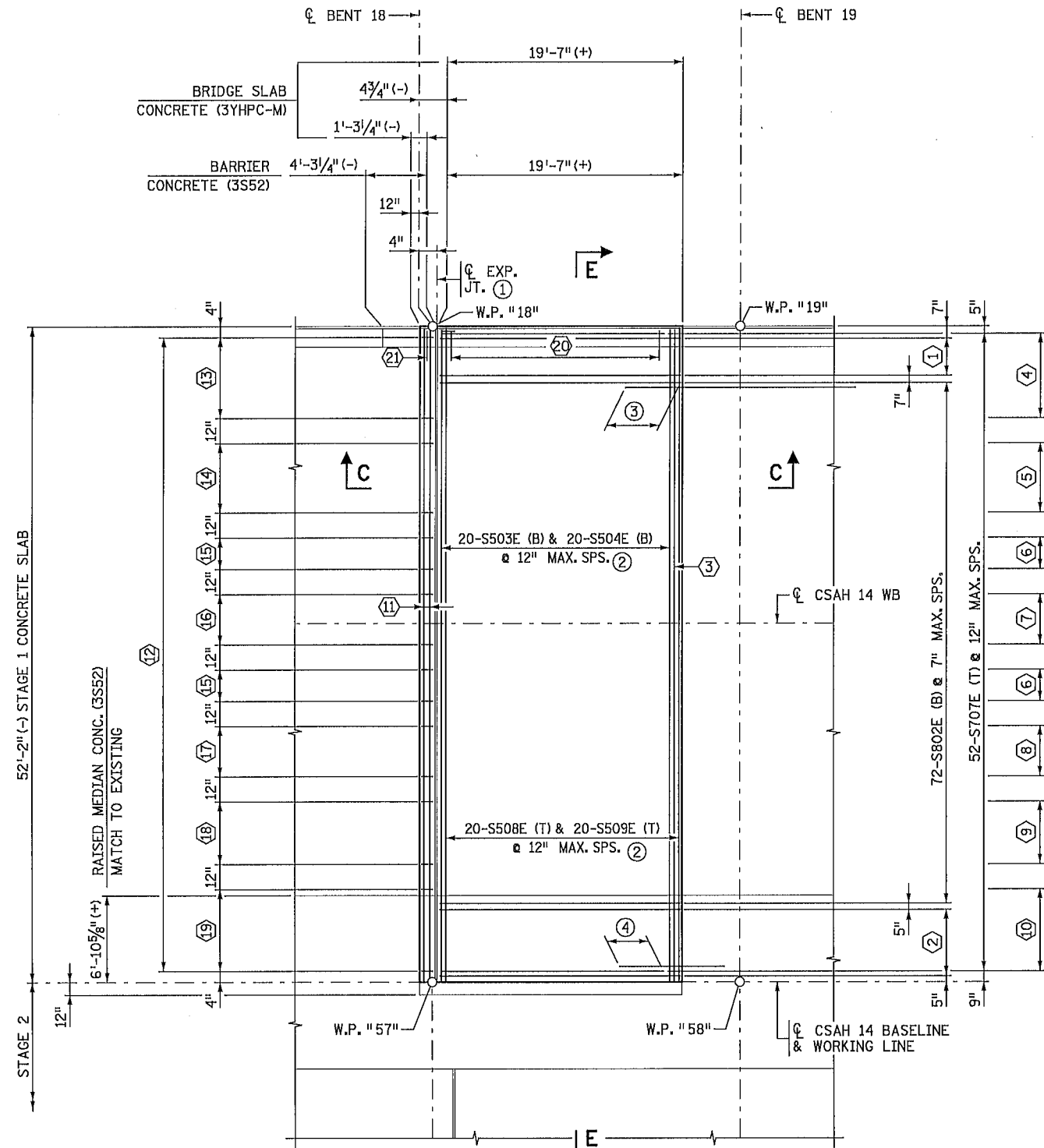


SECTION F-F

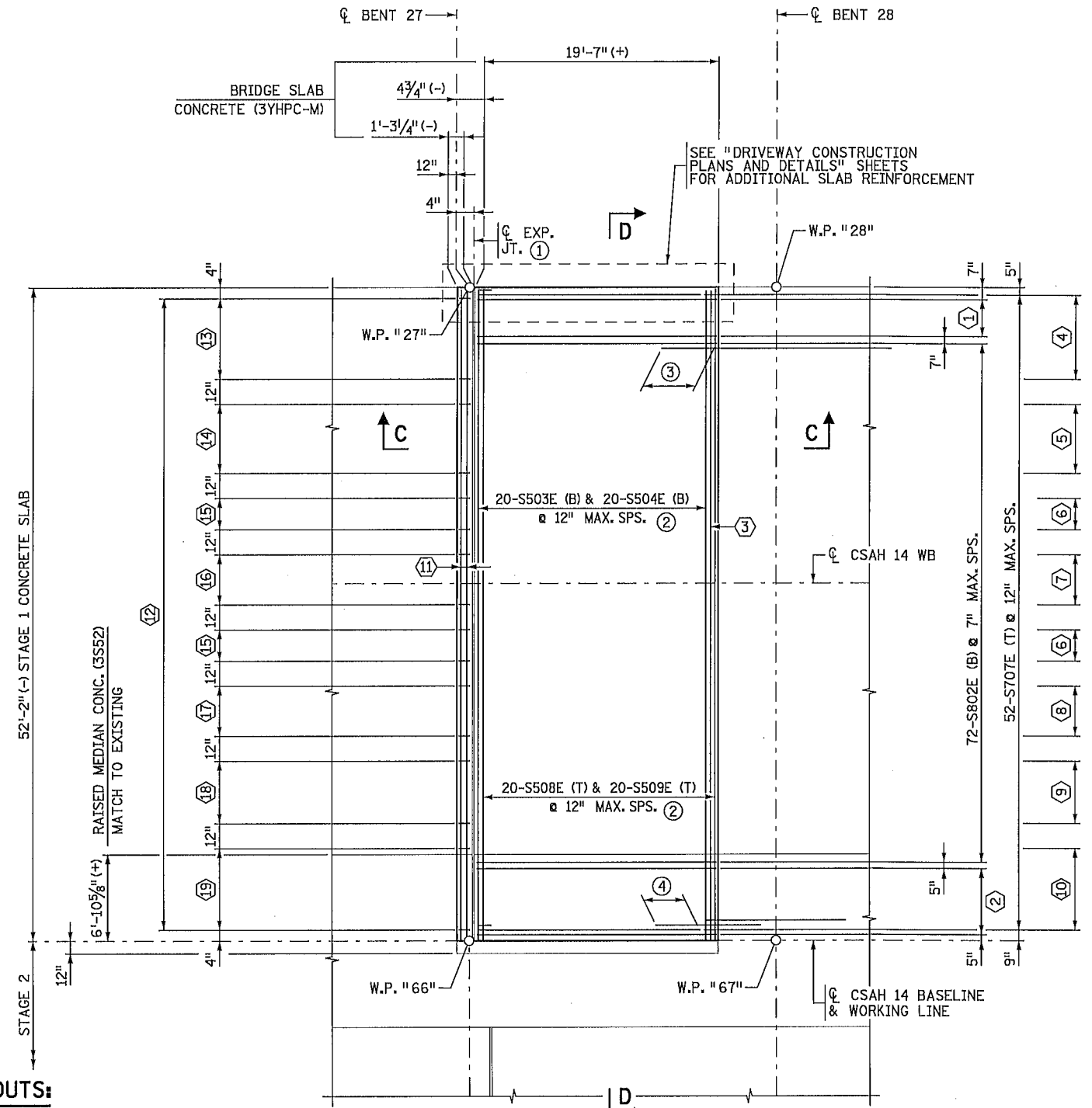
STAINLESS STEEL BEARING PLATES, EXPANSION JOINT DEVICE AND BENT REINFORCEMENT NOT SHOWN FOR CLARITY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA SIGNED: <i>Matthew A. Volz</i> MATTHEW A. VOLZ DATE: 6/25/2018 LIC. NO.: 53067				444 Cedar Street, Suite 1500 Saint Paul, MN 55101 651.292.4400 tkda.com		<b>CSAH 14 EAST OF COON CREEK BLVD.</b> <b>COON RAPIDS, MINNESOTA</b> S.P. NO. 002-614-044		TITLE: <b>STAGE 1 CONSTRUCTION PLANS</b> <b>EXPANSION JOINT 2</b>		DES: SEM CHK: MAV DR: SEM CHK: MAV APPROVED		BRIDGE NO. 02015	
NO. DATE BY DESCRIPTION OF REVISIONS								SHEET NO. B12 OF B34 SHEETS					

DATE: 6/25/2018 TIME: 2:13:03 PM  
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STAGE 1 CONSTRUCTION - EXPANSION JOINT 3 ⑥



STAGE 1 CONSTRUCTION - EXPANSION JOINT 4 ⑤ ⑥

**NOTES:**

NEW SLAB AND MEDIAN CONCRETE TO MATCH EXISTING. FIELD VERIFY CONSTRUCTION LIMITS.  
 SEE SHEET 15 FOR SECTION C-C.  
 SEE SHEET 14 FOR SECTIONS D-D, AND E-E.

- ① SEE SHEETS 26-29 FOR EXPANSION JOINT DETAILS.
- ② TRANSVERSE BARS SHALL SPLICE LAP WITH FORM SAVER COUPLER BAR. STAGE 2 BARS SHALL FIELD-CONNECT TO COUPLER. SEE "BAR COUPLER DETAIL" ON SHEET 23.

- ③ BOTTOM LONGITUDINAL BARS TO HAVE A 2'-2" MIN. LAP SPLICE.
- ④ TOP LONGITUDINAL BARS TO HAVE A 3'-4" MIN. LAP SPLICE.
- ⑤ SEE DRIVEWAY CONSTRUCTION PLAN SHEETS FOR ADDITIONAL CONSTRUCTION LIMITS.
- ⑥ BRIDGE SLAB CONCRETE INCLUDED IN ITEM "BRIDGE SLAB CONCRETE (3YHPC-M)", REINFORCEMENT INCLUDED IN ITEM "REINFORCEMENT BARS (EPOXY COATED)", COUPLER BARS INCLUDED IN ITEMS "COUPLERS (REINFORCEMENT BARS) T-5", "COUPLERS (REINFORCEMENT BARS) T-6", AND MEDIAN CONCRETE INCLUDED IN ITEM "RAISED MEDIAN CONCRETE (3S52)".

**BAR CALL-OUTS:**

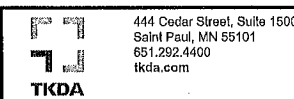
- ① 11-S901E (B) @ 4" MAX. SPS. = 3'-4".
- ② 14-S802E (B) @ 5" MAX. SPS. = 5'-5".
- ③ 1-S605E BAR (B). SEE SECTION C-C ON SHEET 15 FOR DETAILS.
- ④ 9-S411E END TIES SPACED TO MATCH S707E.
- ⑤ 8-S412E END TIES SPACED TO MATCH S707E.
- ⑥ 4-S413E END TIES SPACED TO MATCH S707E.
- ⑦ 6-S414E END TIES SPACED TO MATCH S707E.
- ⑧ 7-S412E END TIES SPACED TO MATCH S707E.
- ⑨ 7-S411E END TIES SPACED TO MATCH S707E.
- ⑩ 7-S410E END TIES SPACED TO MATCH S707E.

- ⑪ 2-S620E W/ 2-S621E COUPLER BARS (T & B). SEE SECTION C-C ON SHEET 15 FOR DETAILS. SEE BAR COUPLER DETAIL ON SHEET 23.
- ⑫ 53-S627E DOWEL BARS SPACED TO MATCH BLOCK TIES.
- ⑬ 9-S423E BLOCK TIES @ 12" SPS. = 8'-0".
- ⑭ 8-S424E BLOCK TIES @ 12" SPS. = 7'-0".
- ⑮ 4-S425E BLOCK TIES @ 12" SPS. = 3'-0".
- ⑯ 6-S426E BLOCK TIES @ 12" SPS. = 5'-0".

- ⑰ 7-S424E BLOCK TIES @ 12" SPS. = 6'-0".
- ⑱ 8-S422E BLOCK TIES @ 12" MAX. SPS.
- ⑲ R501E BARRIER DOWELS. SEE SHEET 25 FOR SPACING AND DETAILS.
- ⑳ R501E BARRIER DOWELS. SEE SHEET 25 FOR SPACING AND DETAILS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA  
 SIGNED: *Matthew A. Volz* MATTHEW A. VOLZ  
 DATE: 6/25/2018 LIC. NO.: 53067



**CSAH 14 EAST OF COON CREEK BLVD.**  
**COON RAPIDS, MINNESOTA**  
 S.P. NO. 002-614-044

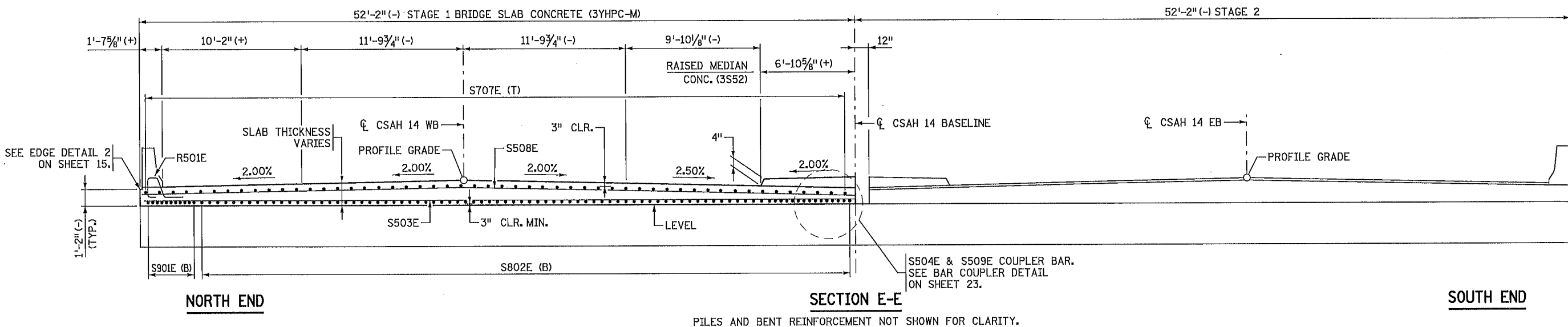
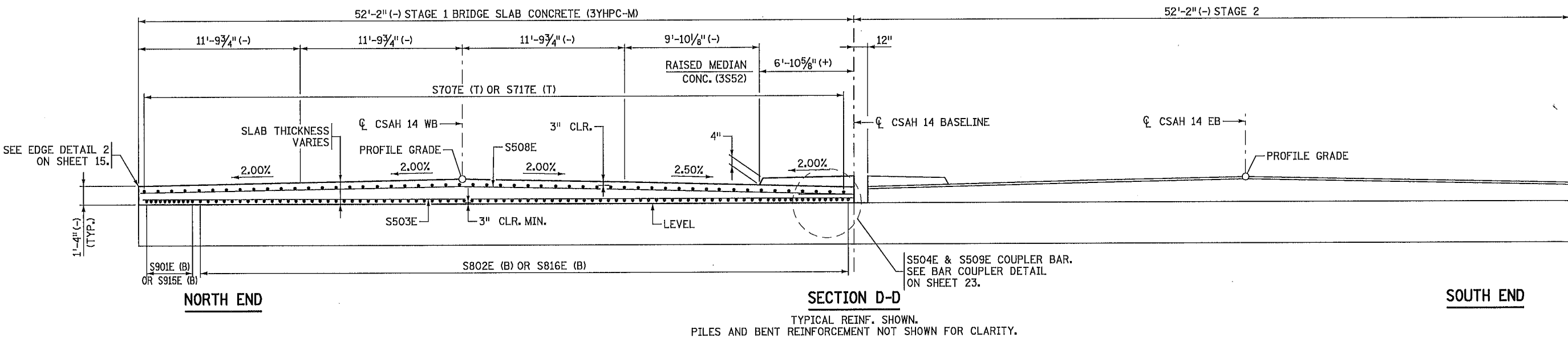
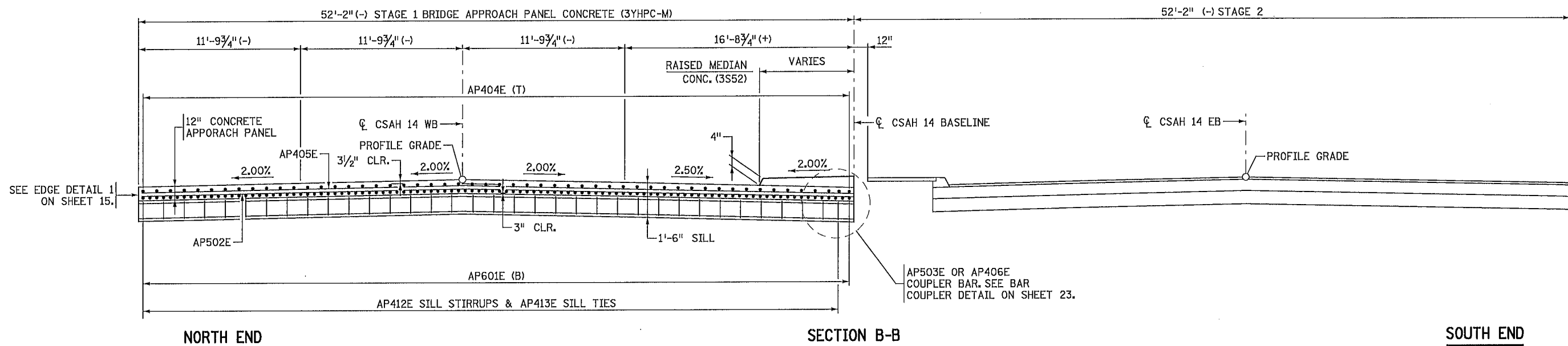
TITLE:  
**STAGE 1 CONSTRUCTION PLANS**  
**EXPANSION JOINTS 3 & 4**

DES: SEM	DR: SEM	APPROVED
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SHEET NO. B13 OF B34 SHEETS

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**NOTES:**  
 NEW SLAB AND MEDIAN CONCRETE TO MATCH EXISTING. FIELD VERIFY CONSTRUCTION LIMITS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNED: *Matthew A. Volz* MATTHEW A. VOLZ  
 DATE: 6/25/2018 LIC. NO.: 53067



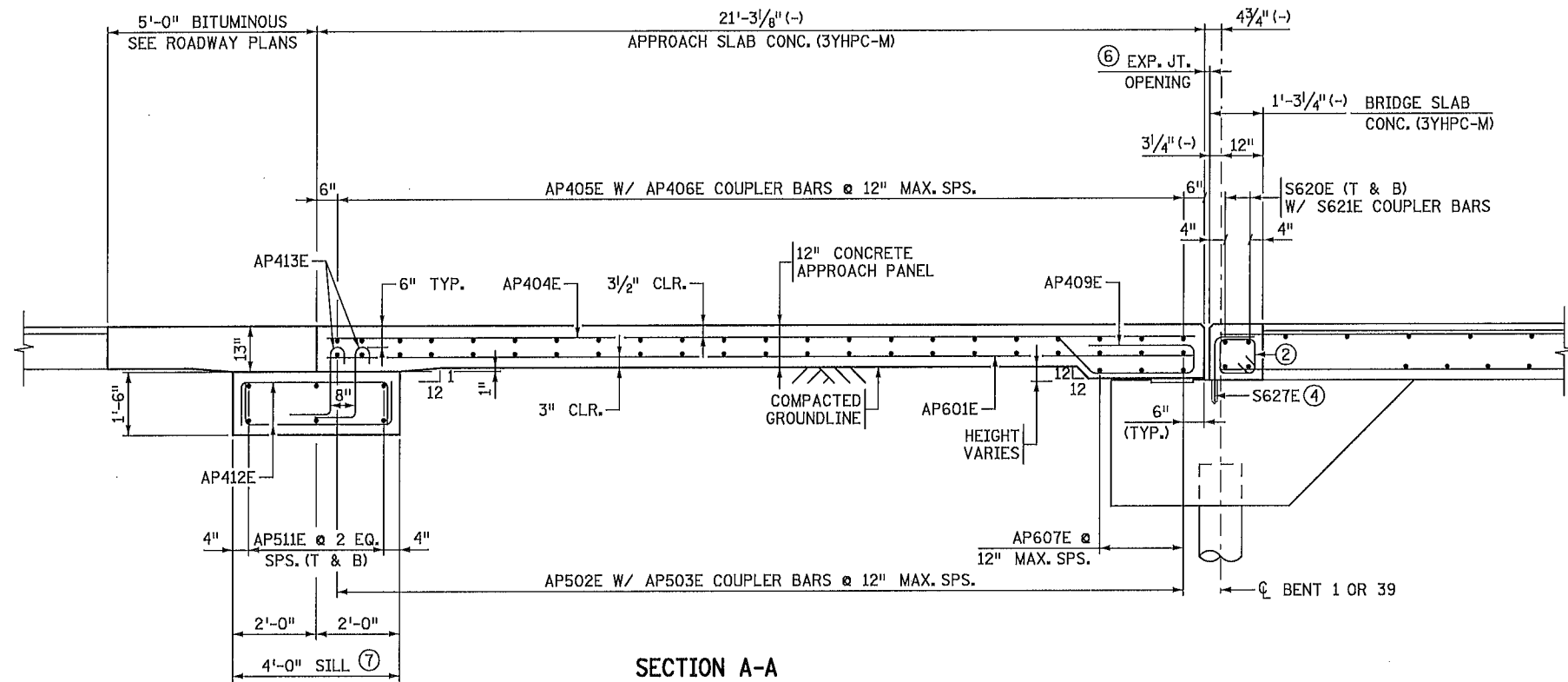
**CSAH 14 EAST OF COON CREEK BLVD.**  
**COON RAPIDS, MINNESOTA**  
 S.P. NO. 002-614-044

TITLE: **STAGE 1 CONSTRUCTION DETAILS (1 OF 2)**

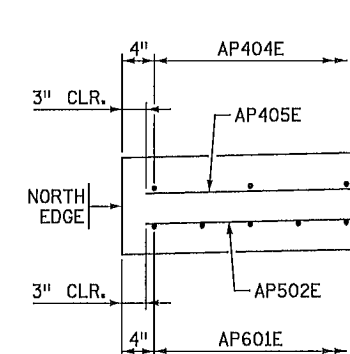
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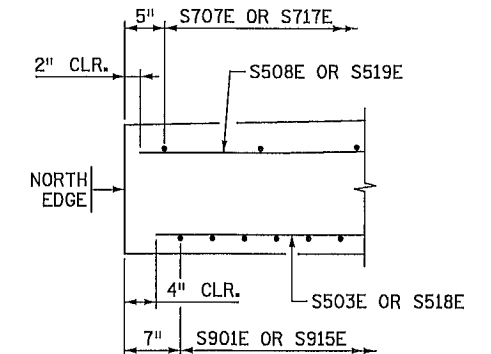
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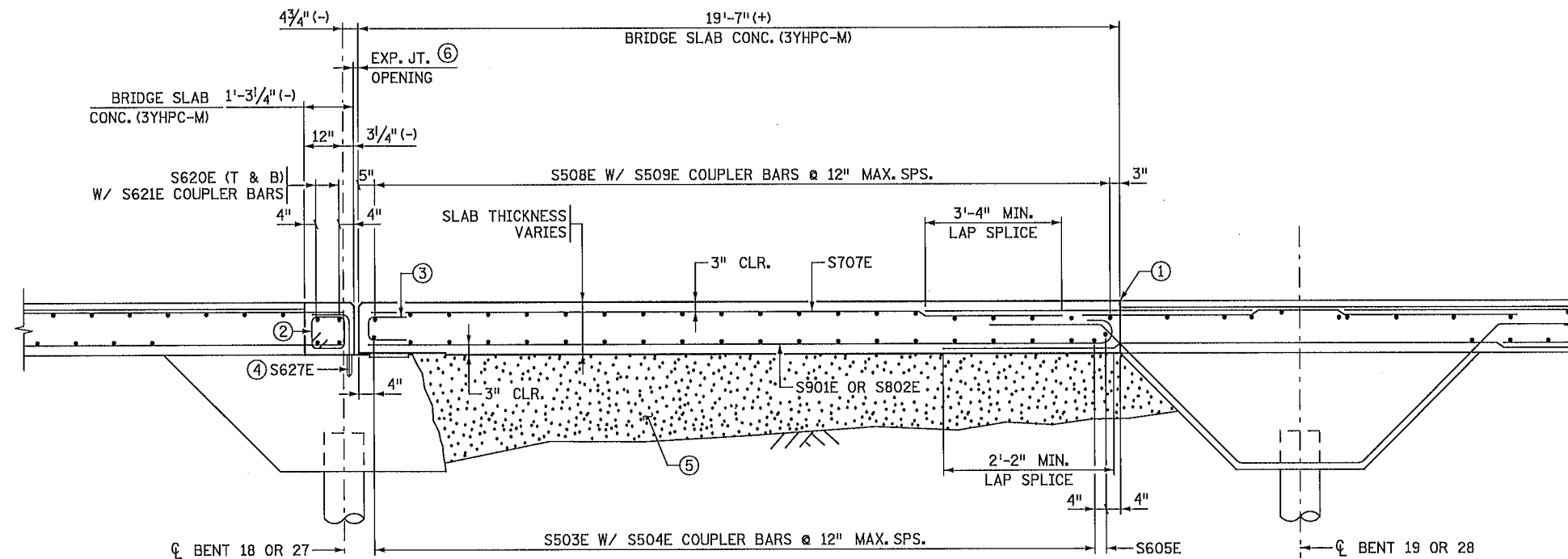
**SECTION A-A**  
STAINLESS STEEL BEARING PLATES AND HARDWARE, EXPANSION JOINT DEVICE, AND BENT REINFORCEMENT NOT SHOWN FOR CLARITY



**EDGE DETAIL 1**  
APPROACH SLAB



**EDGE DETAIL 2**  
BRIDGE SLAB



**SECTION C-C**  
STAINLESS STEEL BEARING PLATES, EXPANSION JOINT DEVICE AND BENT REINFORCEMENT NOT SHOWN FOR CLARITY

**NOTES:**

SLAB AND MEDIAN CONCRETE TO MATCH EXISTING. FIELD VERIFY CONSTRUCTION LIMITS.

- ① PROVIDE 3/8" X 1" SAWCUT AT JOINT. SEAL JOINT PER SPEC. 3723. INCIDENTAL.
- ② S422E, S423E, S424E, S425E, S426E
- ③ S410E, S411E, S412E, S413E, S414E
- ④ PROVIDE AN ADHESIVE ANCHOR WITH A MINIMUM CHARACTERISTIC BOND STRENGTH IN UNCRACKED CONCRETE OF 1.0 K.S.I. EMBED THE ANCHOR NO LESS THAN 6" INTO SOLID CONCRETE. PROOF LOAD TEST TO 2.2 KIPS. INCLUDED IN ITEM "ANCH TYPE REINF BARS (TYPE L)".
- ⑤ SELECT GRANULAR MATERIAL MODIFIED 10% (SPEC. 3149.2B4) COMPACTED AND MEETING MOISTURE REQUIREMENTS OF SPEC. 2105. PLACE GEOTEXTILE FABRIC TYPE 5 MEETING SPEC. 3733 OVER EXISTING GROUND. SELECT GRANULAR MATERIAL MODIFIED 10% PAID FOR AS "SELECT GRANULAR BORROW MOD 10% (CV)".
- ⑥ SEE SHEETS 26-29 FOR EXPANSION JOINT DETAILS.
- ⑦ SILL CONCRETE SHALL BE 3S52, AND SHALL BE INCIDENTAL TO "CONCRETE BRIDGE APPROACH PANELS".

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA  
 SIGNED: *Matthew A. Volz* MATTHEW A. VOLZ  
 DATE: 6/25/2018 LIC. NO.: 53067



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 Saint Paul, MN 55101  
 651.282.4400  
 tkda.com

**CSAH 14 EAST OF COON CREEK BLVD.**  
**COON RAPIDS, MINNESOTA**  
 S.P. NO. 002-614-044

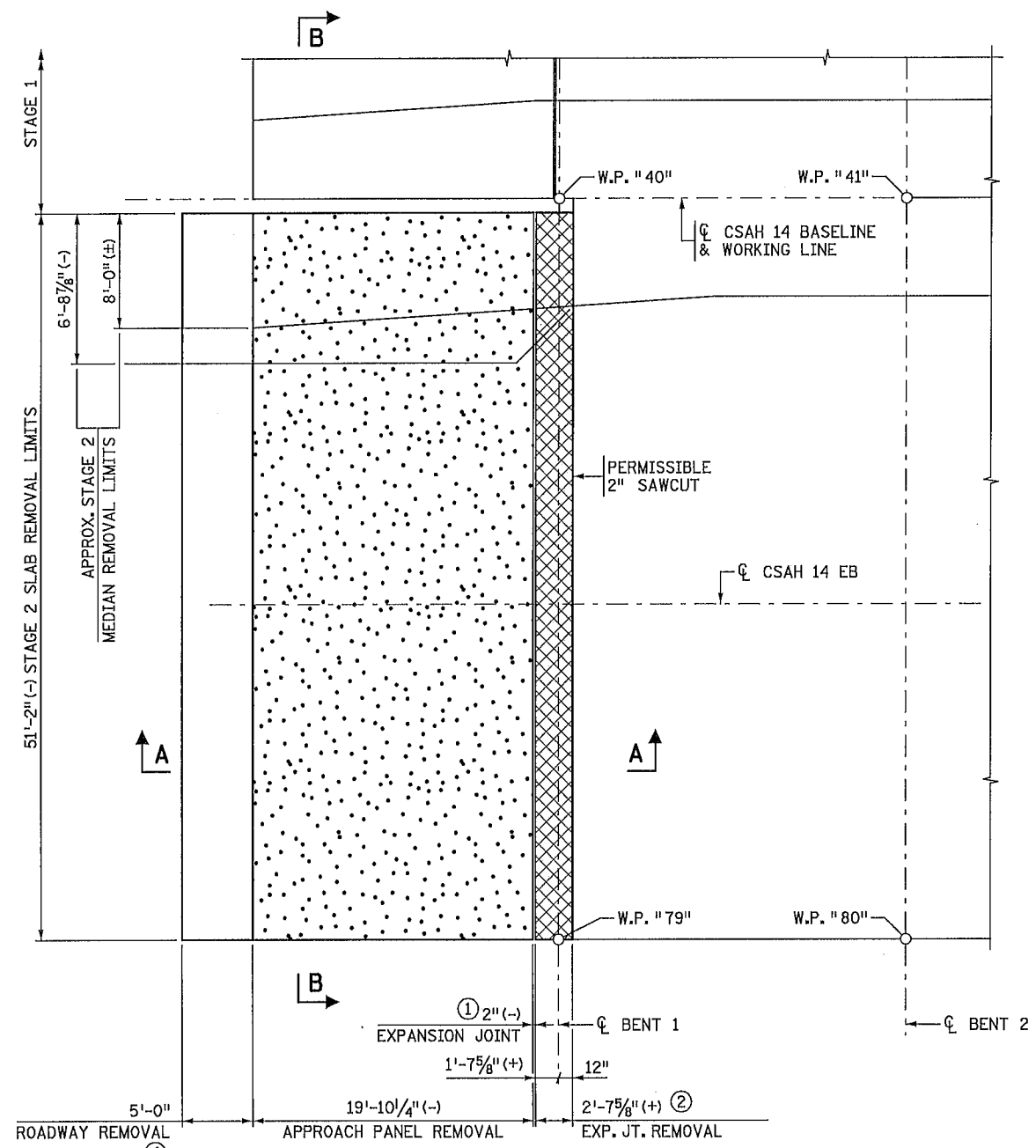
TITLE: **STAGE 1 CONSTRUCTION**  
**DETAILS (2 OF 2)**

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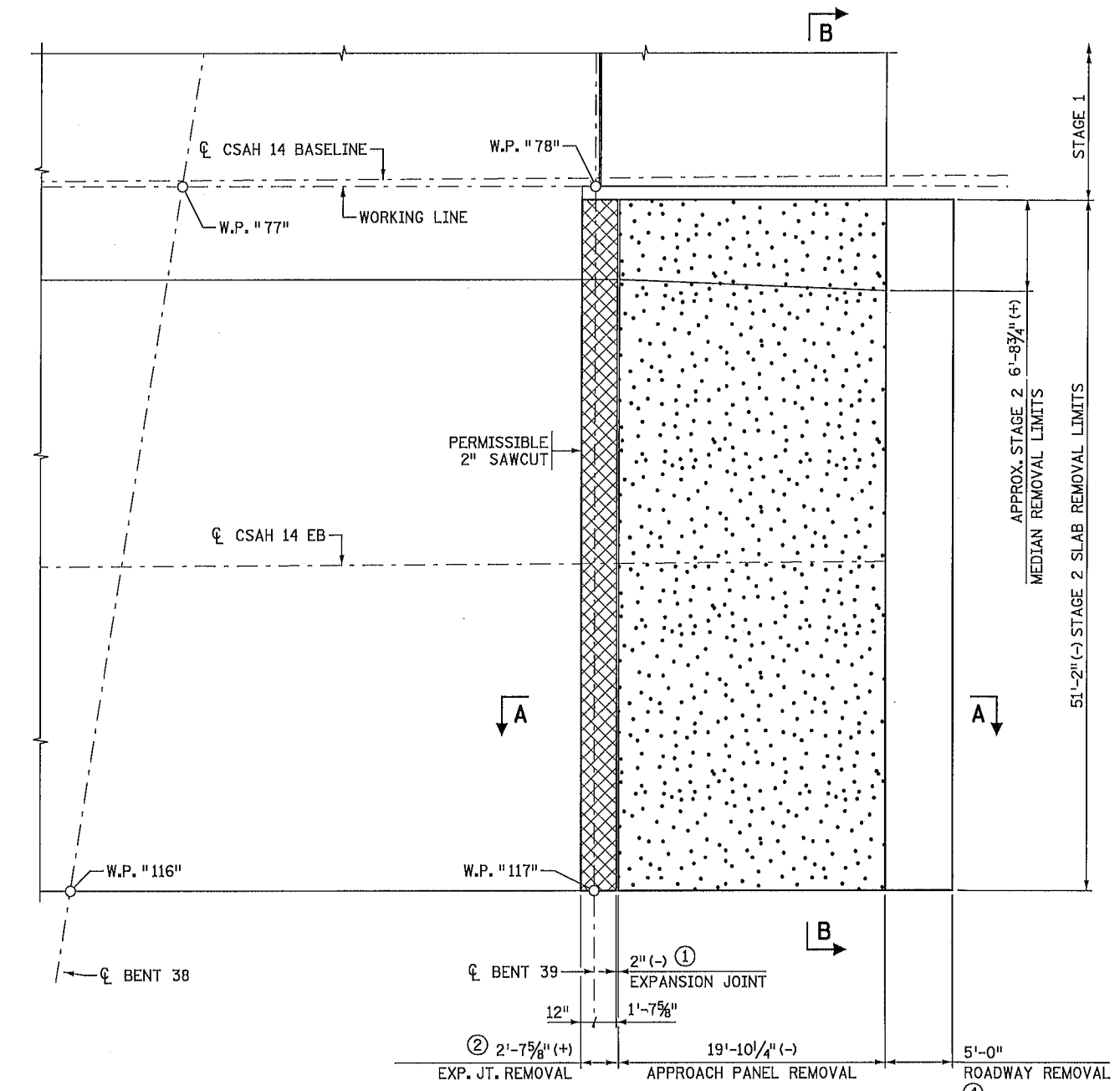
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**STAGE 2 REMOVALS - EXPANSION JOINT 1**



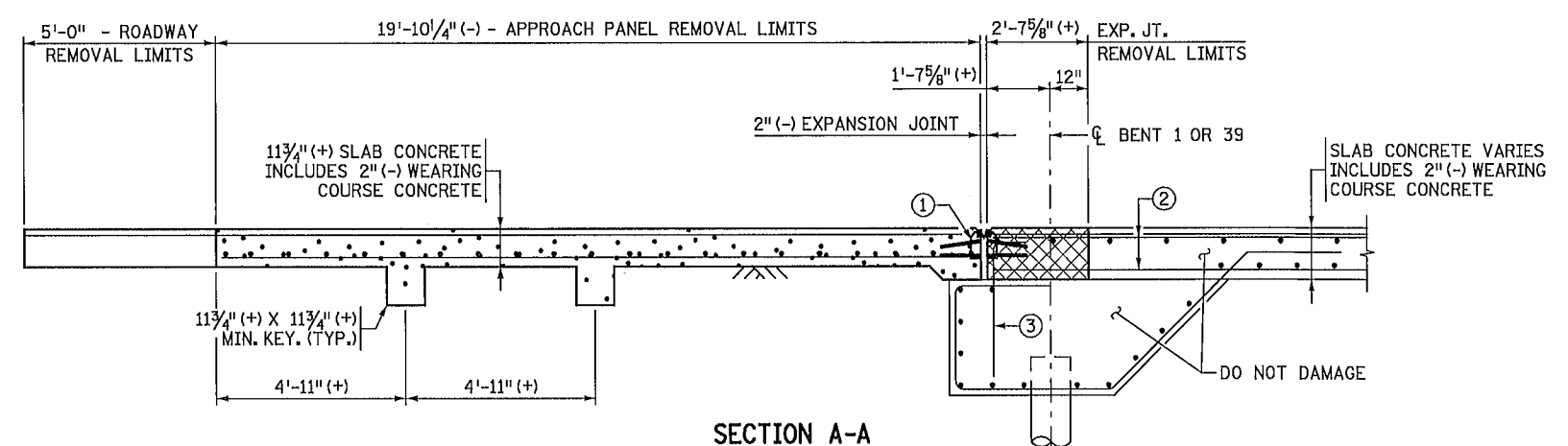
**STAGE 2 REMOVALS - EXPANSION JOINT 5**

**LEGEND:**

- DENOTES CONCRETE REMOVAL AREA TO BE INCLUDED IN "RECONSTRUCT EXPANSION JOINT TYPE A".
- DENOTES CONCRETE REMOVAL AREA TO BE INCLUDED IN "REMOVE CONCRETE APPROACH PANEL".

**NOTES:**

- FIELD VERIFY ALL REMOVAL LIMITS.
- SEE SECTION B-B ON SHEET 18.
- ALL REQUIRED SAWCUTTING INCIDENTAL.
- REPAIR ALL ENDS OF CUT REINFORCEMENT.
- ① REMOVE INPLACE EXPANSION JOINT DEVICE ASSEMBLY.
- ② EXPOSED INPLACE SLAB LONGITUDINAL BARS TO BE CLEANED AND STRAIGHTENED. CUT AS REQUIRED TO PROVIDE 2" CLEAR FOR NEW EXPANSION JOINT.
- ③ EXPOSED INPLACE BENT DOWEL BARS TO BE CUT FLUSH WITH BENT SEAT.
- ④ SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.

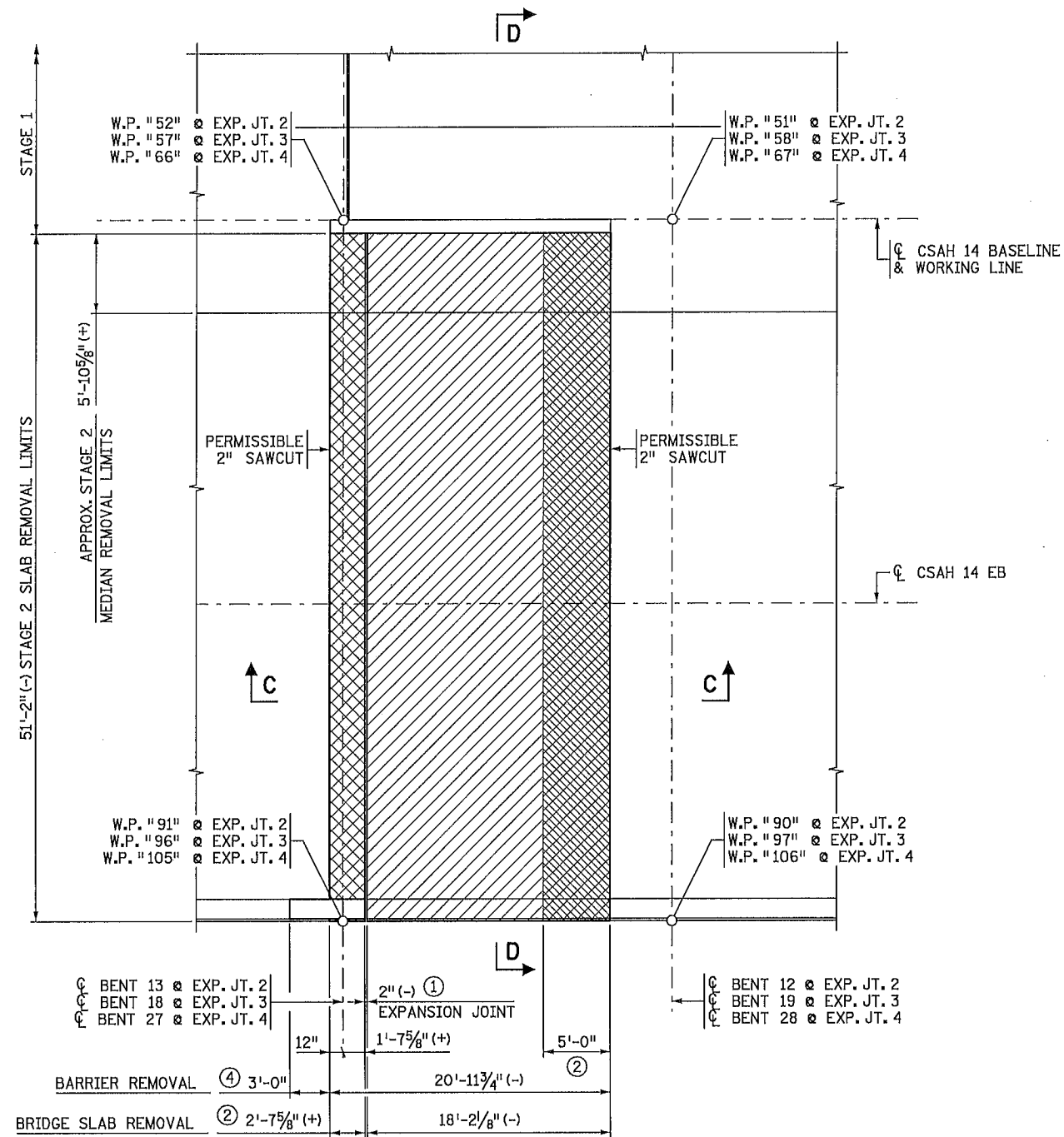


**SECTION A-A**

	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA SIGNED: <i>Matthew A. Volz</i> MATTHEW A. VOLZ DATE: 6/25/2018 LIC. NO.: 53067	 TKDA	444 Cedar Street, Suite 1500 Saint Paul, MN 55101 651.292.4400 tkda.com	<b>CSAH 14 EAST OF COON CREEK BLVD.          COON RAPIDS, MINNESOTA          S.P. NO. 002-614-044</b>	TITLE: <b>STAGE 2 REMOVAL PLANS          EXPANSION JOINTS 1 &amp; 5</b>	DES: SEM CHK: MAV DR: SEM CHK: MAV APPROVED		BRIDGE NO. <b>02015</b>	
NO. DATE BY DESCRIPTION OF REVISIONS									SHEET NO. B16 OF B34 SHEETS

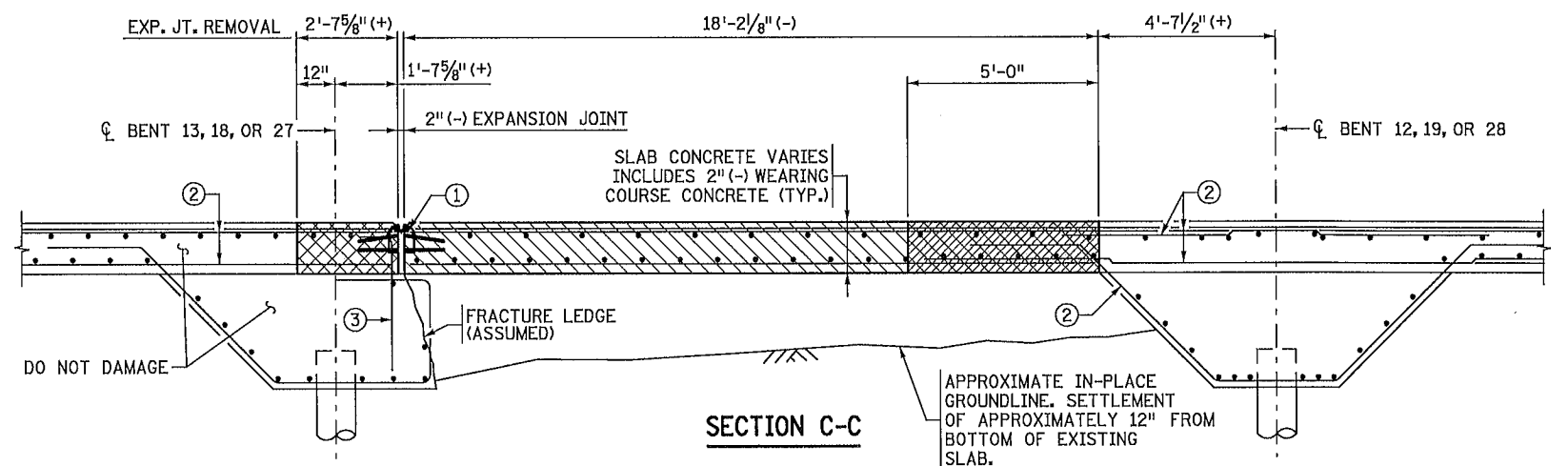


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**STAGE 2 REMOVALS - EXPANSION JOINT 2, 3 & 4**

PLAN VIEW FOR EXPANSION JOINT 3 & 4 SHOWN.  
 PLAN VIEW FOR EXPANSION JOINT 2 IS  
 SYMMETRICAL ABOUT CL JOINT



**LEGEND:**

- DENOTES CONCRETE REMOVAL AREA TO BE INCLUDED IN "REMOVE CONCRETE BRIDGE DECK".
- DENOTES CONCRETE REMOVAL AREA TO BE INCLUDED IN "RECONSTRUCT EXPANSION JOINT TYPE A".
- DENOTES CONCRETE REMOVAL AREA WHERE CARE SHALL BE TAKEN TO PROTECT EXISTING LONGITUDINAL REINFORCEMENT. TO BE INCLUDED IN "REMOVE CONCRETE BRIDGE DECK".

**NOTES:**

- FIELD VERIFY ALL REMOVAL LIMITS.
- SEE SECTIONS D-D ON SHEET 18.
- ALL REQUIRED SAWCUTTING INCIDENTAL.
- REPAIR ALL ENDS OF CUT REINFORCEMENT.
- ① REMOVE INPLACE EXPANSION JOINT DEVICE ASSEMBLY.
- ② EXPOSED INPLACE SLAB LONGITUDINAL BARS TO BE CLEANED AND STRAIGHTENED. CUT AS REQUIRED TO PROVIDE 2" CLEAR FOR NEW EXPANSION JOINT.
- ③ EXPOSED INPLACE BENT DOWEL BARS TO BE CUT FLUSH WITH BENT SEAT.
- ④ CAREFULLY REMOVE BARRIER CONCRETE TO PROTECT EXISTING DOWELS AND LONGITUDINAL REINFORCEMENT. SEE "RECONSTRUCT BARRIER (TYPE F) (MOD.)" SHEET FOR ADDITIONAL DETAILS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 SIGNED: *Matthew A. Volz* MATTHEW A. VOLZ  
 DATE: 6/25/2018 LIC. NO.: 53067



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 tkda.com

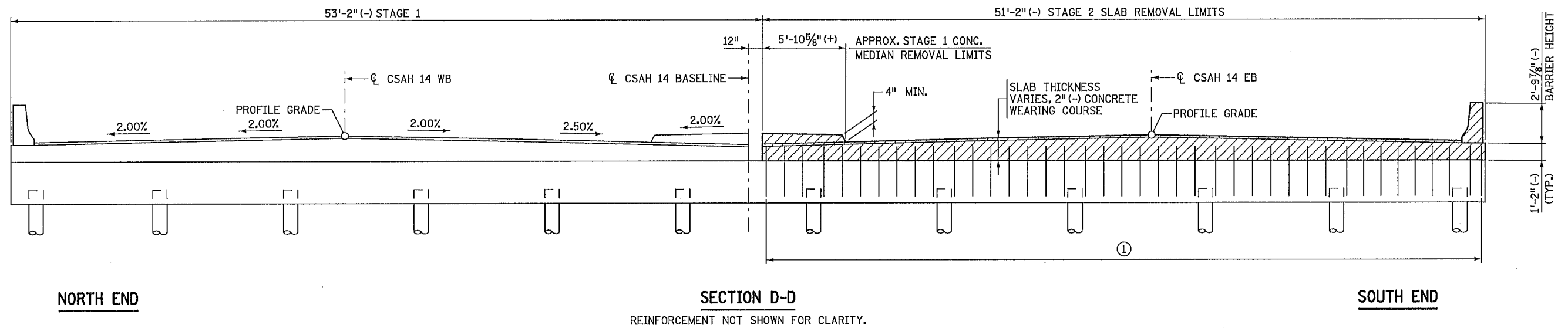
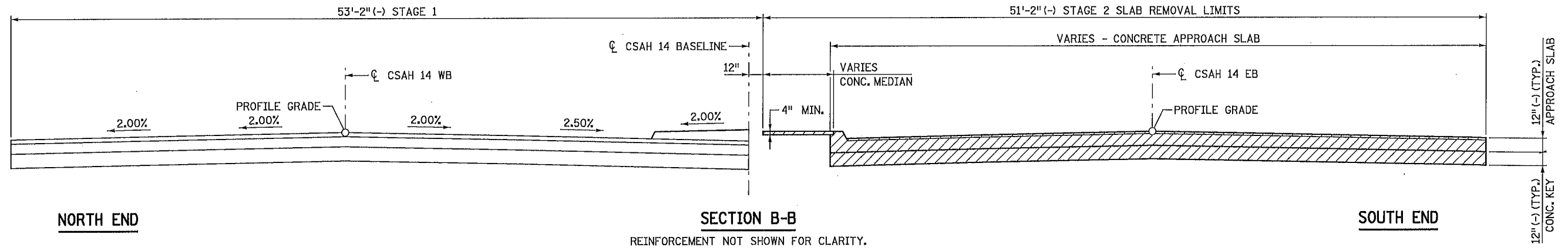
**CSAH 14 EAST OF COON CREEK BLVD.  
 COON RAPIDS, MINNESOTA**  
 S.P. NO. 002-614-044

TITLE: STAGE 2 REMOVAL PLANS  
 EXPANSION JOINTS 2, 3, & 4

DES: SEM DR: SEM APPROVED  
 CHK: MAV CHK: MAV  
 SHEET NO. B17 OF B34 SHEETS

BRIDGE NO.  
 02015

DATE: 6/25/2018 TIME: 2:13:06 PM  
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**LEGEND:**

REMOVE CONCRETE SLAB

**NOTES:**

- FIELD VERIFY ALL REMOVAL LIMITS.
- ① EXPOSED INPLACE BENT DOWEL BARS SHALL BE CUT TO BE FLUSH WITH BENT SEAT.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA  
 SIGNED: *Matthew A. Volz* MATTHEW A. VOLZ  
 DATE: 6/25/2018 LIC. NO.: 53067



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 tkda.com

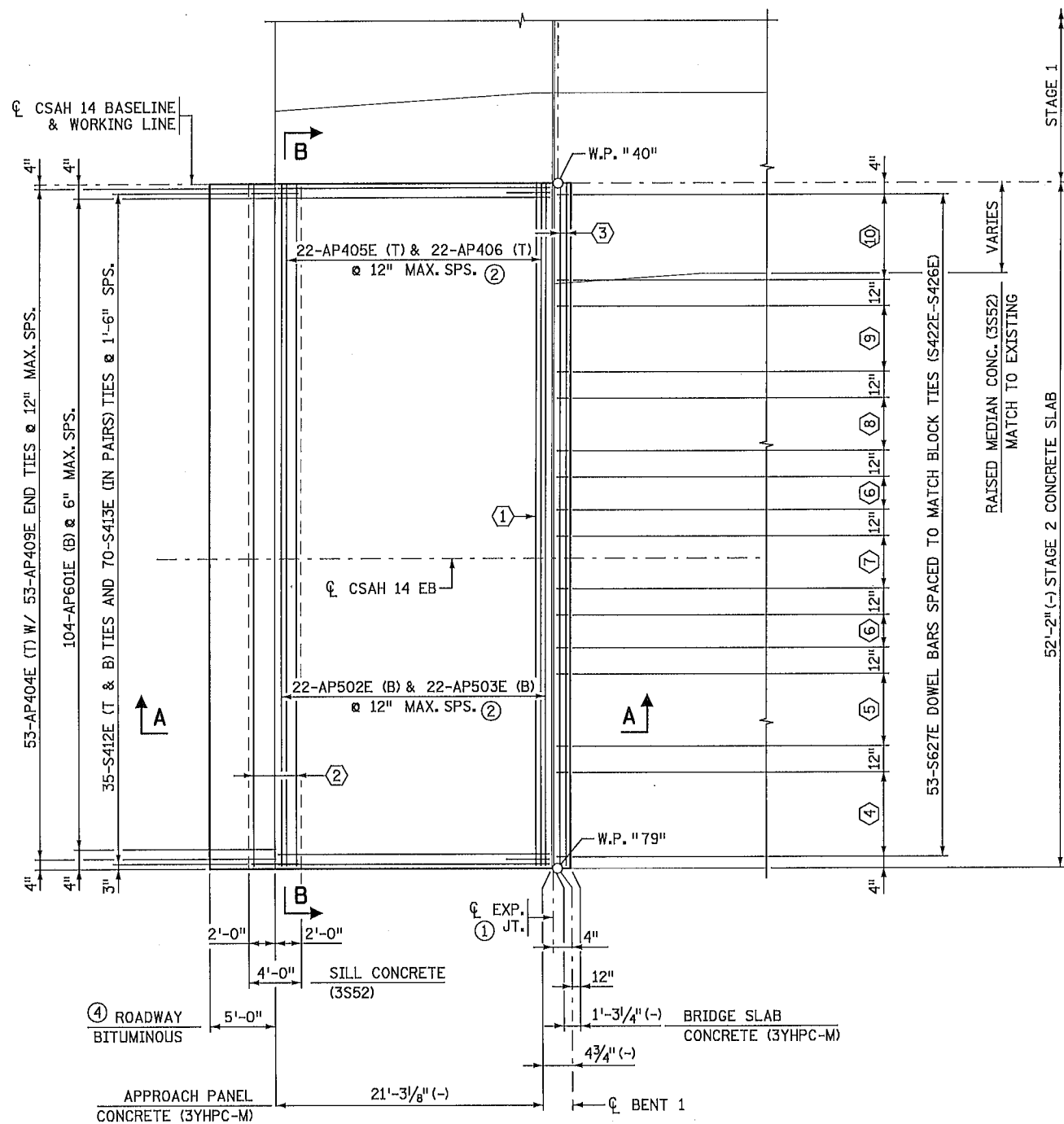
**CSAH 14 EAST OF COON CREEK BLVD.  
 COON RAPIDS, MINNESOTA  
 S.P. NO. 002-614-044**

TITLE: **STAGE 2 REMOVAL  
 PLAN DETAILS**

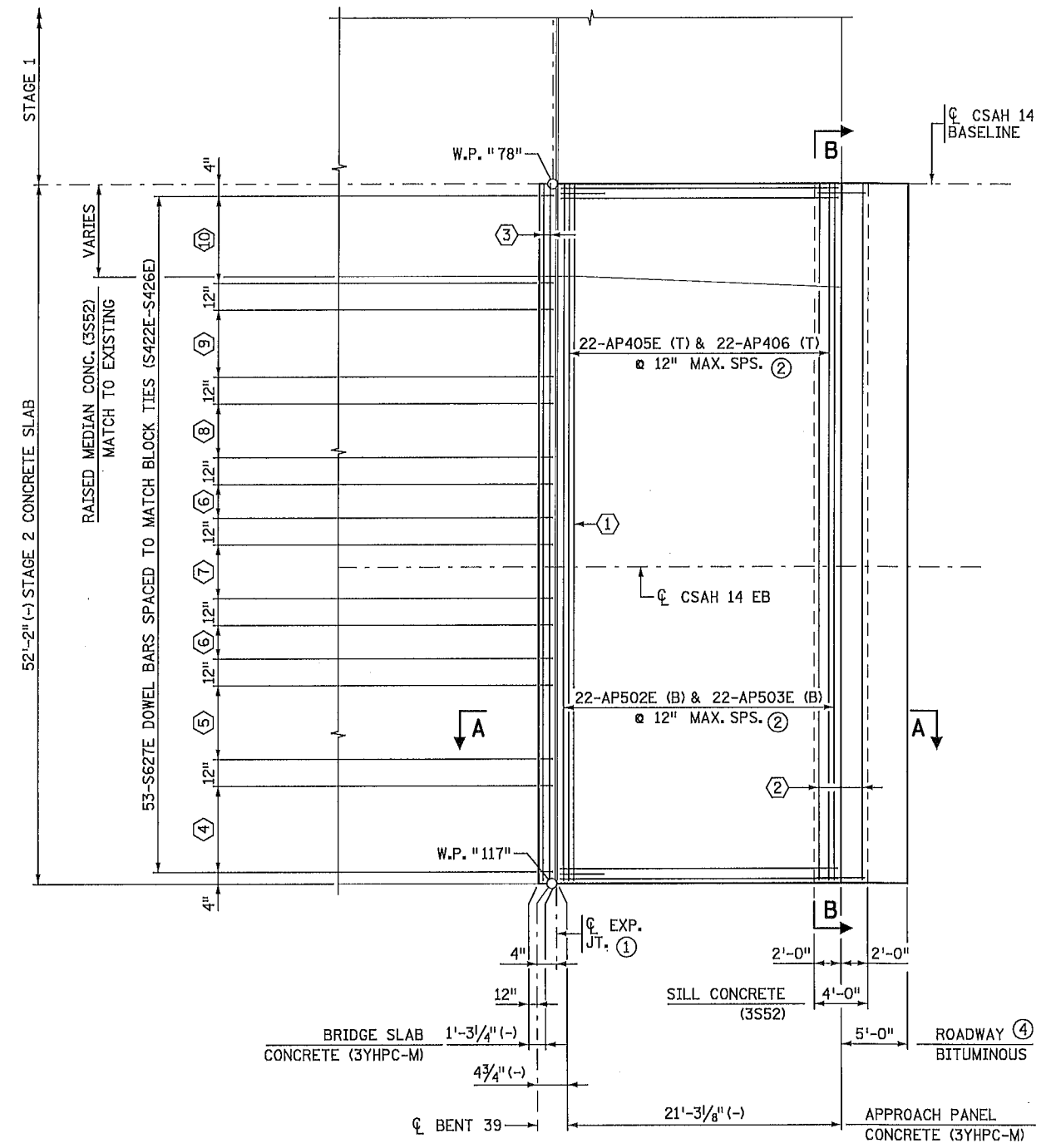
DES: SEM	DR: SEM	APPROVED
CHK: MAV	CHK: MAV	
SHEET NO. B18 OF B34 SHEETS		

BRIDGE NO.  
 02015

DATE: 6/25/2018 TIME: 2:13:06 PM  
 FILENAME: K:\g-f\AnokaCity\686500004\_Production\01\_CAD\Bridges\Super\CBR02015\_rep20.dgn



**STAGE 2 CONSTRUCTION - EXPANSION JOINT 1 ③**



**STAGE 2 CONSTRUCTION - EXPANSION JOINT 5 ③**

**NOTES:**

- NEW APPROACH PANEL AND MEDIAN CONCRETE TO MATCH EXISTING. FIELD VERIFY CONSTRUCTION LIMITS.
- SEE SHEET 22 FOR SECTION A-A.
- SEE SHEET 21 FOR SECTIONS B-B.
- ① SEE SHEETS 26-29 FOR EXPANSION JOINT DETAILS.
- ② TRANSVERSE BARS SHALL SPLICE LAP WITH FORM SAVER COUPLER BAR. STAGE 2 BARS SHALL FIELD-CONNECT TO COUPLER. SEE "BAR COUPLER DETAIL" ON SHEET 23.
- ③ APPROACH PANEL CONCRETE AND REINFORCEMENT, AND SILL CONCRETE AND REINFORCEMENT INCIDENTAL TO "CONCRETE BRIDGE APPROACH PANELS". MEDIAN CONCRETE INCLUDED IN ITEM "RAISED MEDIAN CONCRETE (3S52)".
- ④ SEE ROADWAY PLANS.

**BAR CALL-OUTS:**

- ① 3-AP607E @ 12" SPS. SEE SECTION A-A ON SHEET 22 FOR DETAILS.
- ② 3-AP511E (T & B) IN SILL. SEE SECTION A-A ON SHEET 22 FOR DETAILS.
- ③ 2-S620E W/ 2-S621E COUPLER BARS (T & B). SEE SECTION C-C ON SHEET 15 FOR DETAILS. SEE BAR COUPLER DETAIL ON SHEET 23.
- ④ 9-S423E BLOCK TIES @ 12" SPS. = 8'-0".
- ⑤ 8-S424E BLOCK TIES @ 12" SPS. = 7'-0".
- ⑥ 4-S425E BLOCK TIES @ 12" SPS. = 3'-0".
- ⑦ 6-S426E BLOCK TIES @ 12" SPS. = 5'-0".
- ⑧ 7-S424E BLOCK TIES @ 12" SPS. = 6'-0".
- ⑨ 7-S423E BLOCK TIES @ 12" SPS. = 6'-0".
- ⑩ 8-S422E BLOCK TIES @ 12" MAX. SPS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA  
 SIGNED: *Matthew A. Volz* MATTHEW A. VOLZ  
 DATE: 6/25/2018 LIC. NO.: 53067



444 Cedar Street, Suite 1600  
 Saint Paul, MN 55101  
 651.282.4400  
 tkda.com

**CSAH 14 EAST OF COON CREEK BLVD.**  
**COON RAPIDS, MINNESOTA**  
 S.P. NO. 002-614-044

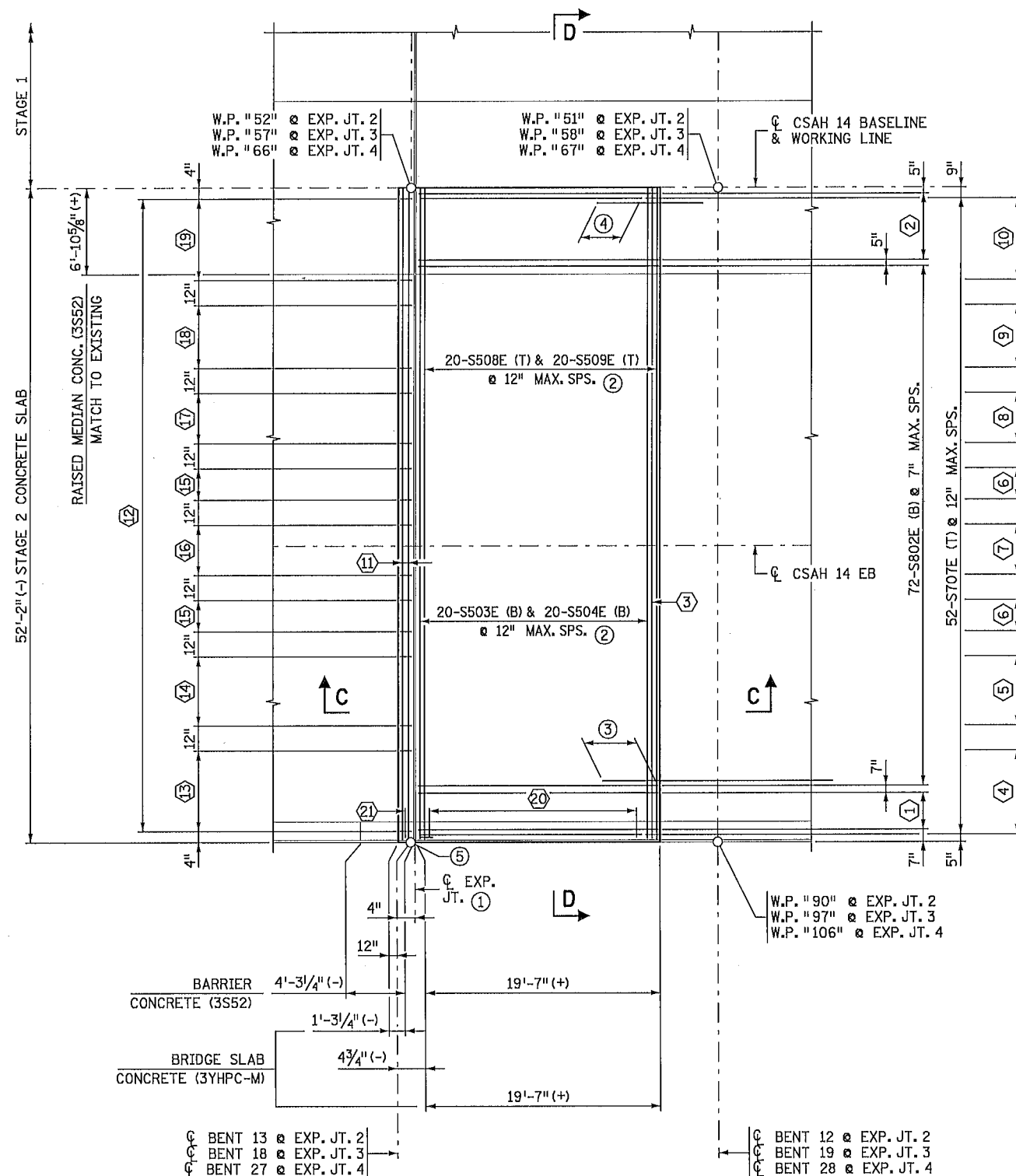
TITLE: **STAGE 2 CONSTRUCTION PLANS**  
**EXPANSION JOINTS 1 & 5**

DES: SEM	DR: SEM	APPROVED
CHK: MAV	CHK: MAV	

SHEET NO. B19 OF B34 SHEETS

BRIDGE NO.  
 02015

DATE: 6/25/2018 TIME: 2:13:07 PM  
 FILENAME: K:\g-f\Anokcity\6865000\04\_Production\01\_CAD\Bridges\Super\CBR02015\_rep2.dgn



**STAGE 2 CONSTRUCTION - EXPANSION JOINT 2, 3 & 4**

PLAN VIEW FOR EXPANSION JOINT 3 & 4 SHOWN.  
 PLAN VIEW FOR EXPANSION JOINT 2 IS  
 SYMMETRICAL ABOUT C-C JOINT

**NOTES:**

- NEW SLAB AND MEDIAN CONCRETE TO MATCH EXISTING. FIELD VERIFY CONSTRUCTION LIMITS.
- SEE SHEET 22 FOR SECTION C-C.
- SEE SHEET 21 FOR SECTION D-D.
- ① SEE SHEETS 26-29 FOR EXPANSION JOINT DETAILS.
- ② TRANSVERSE BARS SHALL SPLICE LAP WITH FORM SAVER COUPLER BAR. STAGE 2 BARS SHALL FIELD-CONNECT TO COUPLER. SEE "BAR COUPLER DETAIL" ON SHEET 23.
- ③ BOTTOM LONGITUDINAL BARS TO HAVE A 2'-2" MIN. LAP SPLICE.
- ④ TOP LONGITUDINAL BARS TO HAVE A 3'-4" MIN. LAP SPLICE.
- ⑤ W.P. "91" @ EXP. JT. 2  
 W.P. "96" @ EXP. JT. 3  
 W.P. "105" @ EXP. JT. 4
- ⑥ BRIDGE SLAB CONCRETE INCLUDED IN ITEM "BRIDGE SLAB CONCRETE (3YHPC-M)", REINFORCEMENT INCLUDED IN ITEM "REINFORCEMENT BARS (EPOXY COATED)", COUPLER BARS INCLUDED IN ITEMS "COUPLERS (REINFORCEMENT BARS) T-5", "COUPLERS (REINFORCEMENT BARS) T-6", AND MEDIAN CONCRETE INCLUDED IN ITEM "RAISED MEDIAN CONCRETE (3S52)".

**BAR CALL-OUTS:**

- ① 11-S901E (B) @ 4" MAX. SPS. = 3'-4".
- ② 14-S802E (B) @ 5" MAX. SPS. = 5'-5".
- ③ 1-S605E (B) SEE SECTION C-C ON SHEET 22 FOR DETAILS.
- ④ 9-S411E END TIES SPACED TO MATCH S707E.
- ⑤ 8-S412E END TIES SPACED TO MATCH S707E.
- ⑥ 4-S413E END TIES SPACED TO MATCH S707E
- ⑦ 6-S414E END TIES SPACED TO MATCH S707E.
- ⑧ 7-S412E END TIES SPACED TO MATCH S707E.
- ⑨ 7-S411E END TIES SPACED TO MATCH S707E.
- ⑩ 7-S410E END TIES SPACED TO MATCH S707E.
- ⑪ 2-S620E W/ 2-S621E COUPLER BARS (T & B). SEE SECTION C-C ON SHEET 22 FOR DETAILS. SEE BAR COUPLER DETAIL ON SHEET 23.
- ⑫ 53-S627E DOWEL BARS SPACED TO MATCH BLOCK TIES.
- ⑬ 9-S423E BLOCK TIES @ 12" SPS. = 8'-0".
- ⑭ 8-S424E BLOCK TIES @ 12" SPS. = 7'-0".
- ⑮ 4-S425E BLOCK TIES @ 12" SPS. = 3'-0".
- ⑯ 6-S426E BLOCK TIES @ 12" SPS. = 5'-0".
- ⑰ 7-S424E BLOCK TIES @ 12" SPS. = 6'-0".
- ⑱ 7-S423E BLOCK TIES @ 12" SPS. = 6'-0".
- ⑲ 8-S422E BLOCK TIES @ 12" MAX. SPS.
- ⑳ R501E BARRIER DOWELS. SEE SHEET 25 FOR SPACING AND DETAILS.
- ㉑ R501E BARRIER DOWELS. SEE SHEET 25 FOR SPACING AND DETAILS.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA  
 SIGNED: *Matthew A. Volz* MATTHEW A. VOLZ  
 DATE: 6/25/2018 LIC. NO.: 53067

TKDA  
 444 Cedar Street, Suite 1500  
 Saint Paul, MN 55101  
 651.292.4400  
 tkda.com

CSAH 14 EAST OF COON CREEK BLVD.  
 COON RAPIDS, MINNESOTA  
 S.P. NO. 002-614-044

TITLE: STAGE 2 CONSTRUCTION PLANS  
 EXPANSION JOINTS 2, 3, & 4

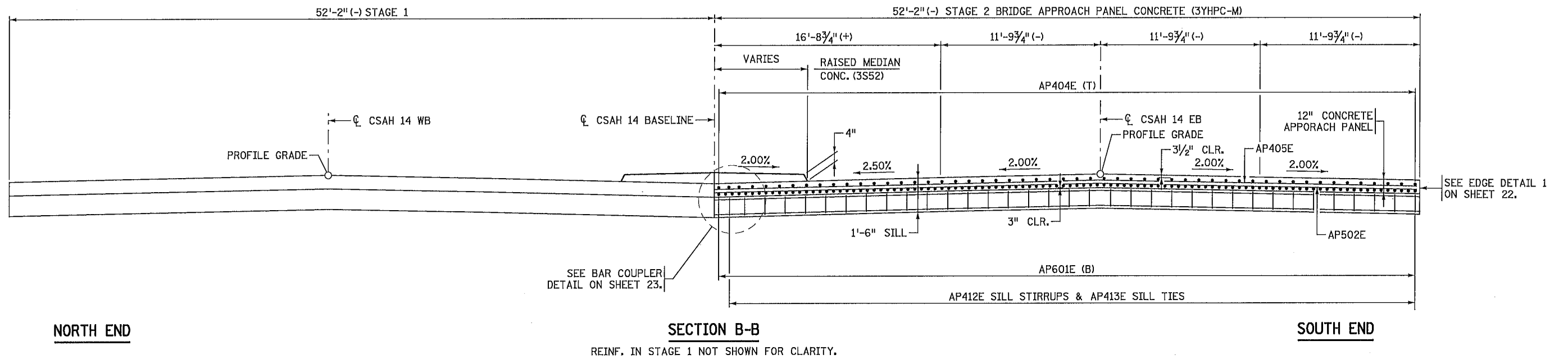
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CHK: MAV	CHK: MAV	

SHEET NO. B20 OF B34 SHEETS

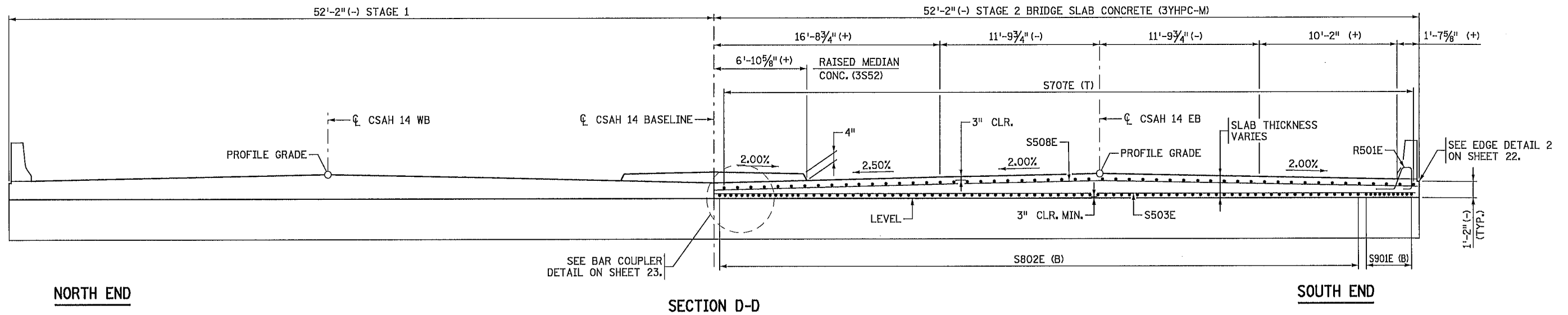
BRIDGE NO.  
 02015

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DATE: 6/25/2018 TIME: 2:13:08 PM  
 FILENAME: K:\a-f\AnokaCity\686500004\_Production\01\_CAD\Bridges\Super\CBR02015\_rep22.dgn



REINF. IN STAGE 1 NOT SHOWN FOR CLARITY.

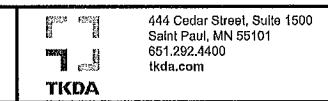


PILES AND BENT REINFORCEMENT NOT SHOWN FOR CLARITY.  
 REINF. IN STAGE 1 NOT SHOWN FOR CLARITY.

**NOTES:**  
 NEW SLAB AND MEDIAN CONCRETE TO MATCH EXISTING. FIELD VERIFY CONSTRUCTION LIMITS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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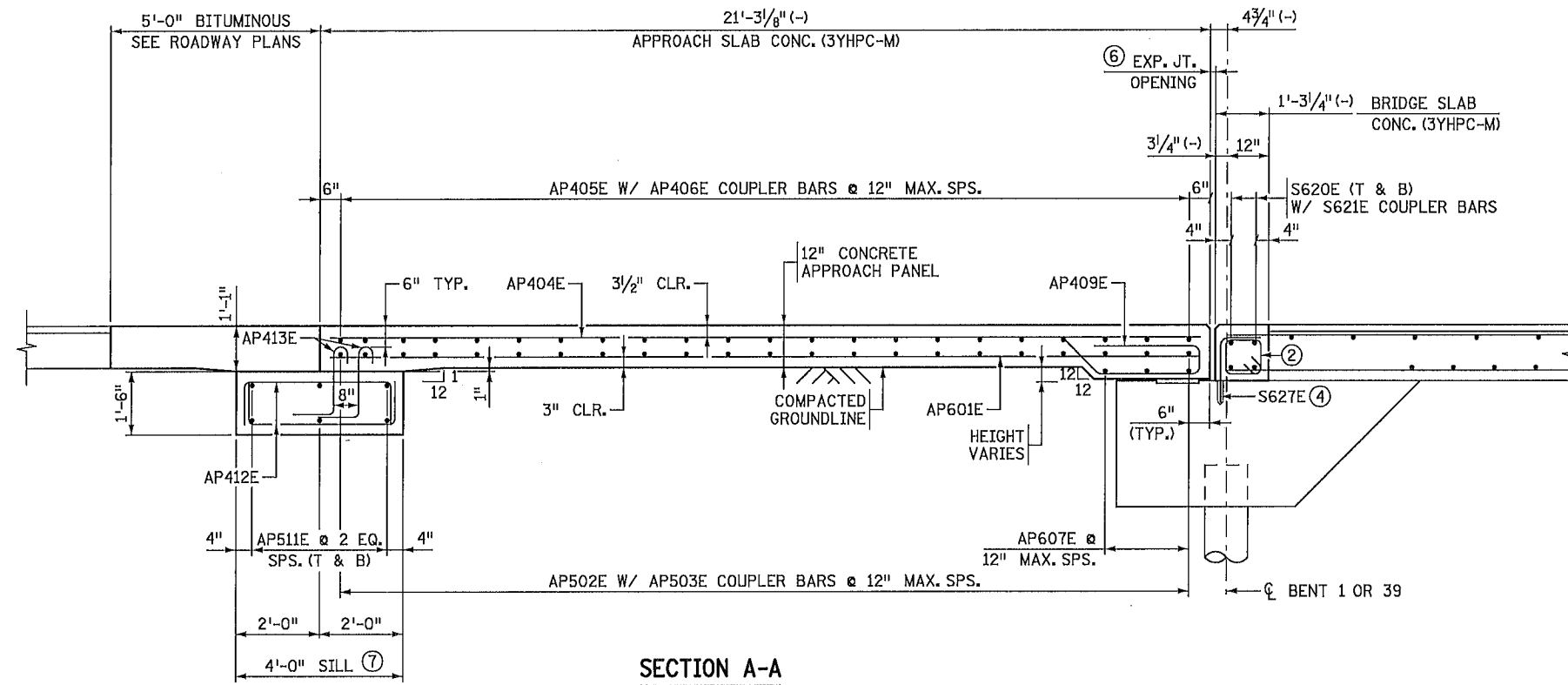


**CSAH 14 EAST OF COON CREEK BLVD.**  
**COON RAPIDS, MINNESOTA**  
 S.P. NO. 002-614-044

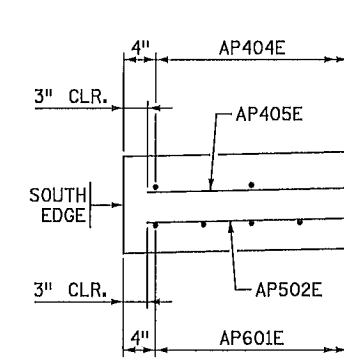
TITLE: **STAGE 2 CONSTRUCTION DETAILS (1 OF 2)**

DES: SEM DR: SEM APPROVED  
 CHK: MAV CHK: MAV  
 SHEET NO. B21 OF B34 SHEETS

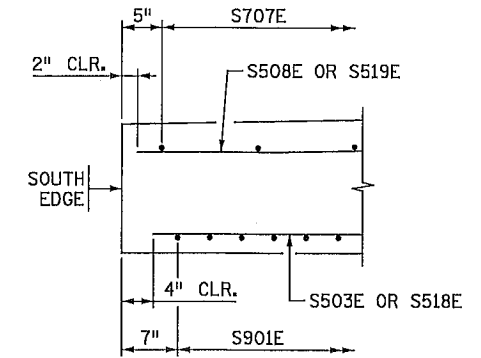
BRIDGE NO. **02015**



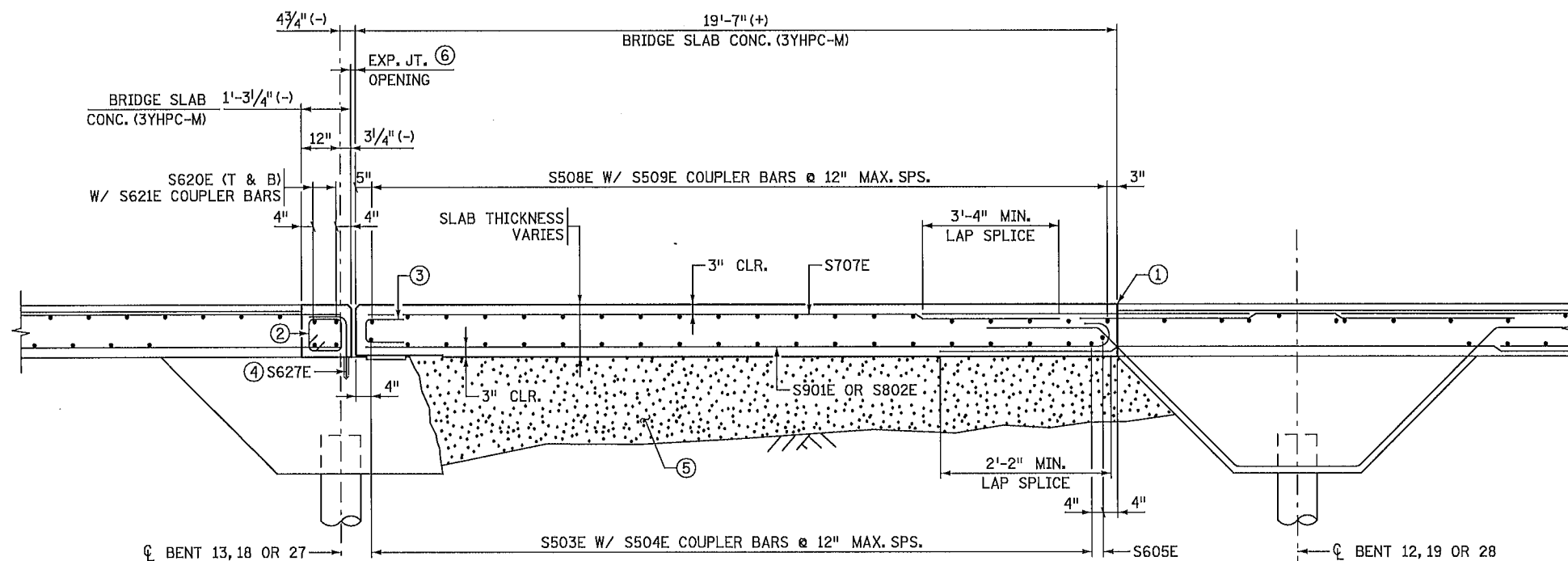
**SECTION A-A**  
STAINLESS STEEL BEARING PLATES AND HARDWARE,  
EXPANSION JOINT DEVICE, AND BENT REINFORCEMENT  
NOT SHOWN FOR CLARITY



**EDGE DETAIL 1**  
APPROACH SLAB



**EDGE DETAIL 2**  
BRIDGE SLAB



**SECTION C-C**  
STAINLESS STEEL BEARING PLATES, EXPANSION JOINT DEVICE  
AND BENT REINFORCEMENT NOT SHOWN FOR CLARITY

**NOTES:**

SLAB AND MEDIAN CONCRETE TO MATCH EXISTING. FIELD VERIFY CONSTRUCTION LIMITS.

- ① PROVIDE 3/8" X 1" SAWCUT AT JOINT. SEAL JOINT PER SPEC. 3723. INCIDENTAL.
- ② S422E, S423E, S424E, S425E, S426E
- ③ S410E, S411E, S412E, S413E, S414E
- ④ PROVIDE AN ADHESIVE ANCHOR WITH A MINIMUM CHARACTERISTIC BOND STRENGTH IN UNCRACKED CONCRETE OF 1.0 K.S.I. EMBED THE ANCHOR NO LESS THAN 6" INTO SOLID CONCRETE. PROOF LOAD TEST TO 2.2 KIPS. INCLUDED IN ITEM "ANCH TYPE REINF BARS (TYPE L)".
- ⑤ SELECT GRANULAR MATERIAL MODIFIED 10% (SPEC. 3149.2B4) COMPACTED AND MEETING MOISTURE REQUIREMENTS OF SPEC. 2105. PLACE GEOTEXTILE FABRIC TYPE 5 MEETING SPEC. 3733 OVER EXISTING GROUND. SELECT GRANULAR MATERIAL MODIFIED 10% PAID FOR AS "SELECT GRANULAR BORROW MOD 10% (CV)".
- ⑥ SEE SHEETS 26-29 FOR EXPANSION JOINT DETAILS.
- ⑦ SILL CONCRETE SHALL BE 3S52, AND SHALL BE INCIDENTAL TO "CONCRETE BRIDGE APPROACH PANELS".

DATE: 6/25/2018 TIME: 2:13:08 PM FILENAME: K:\v-f\AnokaCity\686500004\_Production\01\_CAD\Bridges\Super\CBR02015\_rep23.dgn

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 tkda.com

**CSAH 14 EAST OF COON CREEK BLVD.  
 COON RAPIDS, MINNESOTA  
 S.P. NO. 002-614-044**

TITLE: **STAGE 2 CONSTRUCTION  
 DETAILS (2 OF 2)**

DES: SEM	DR: SEM	APPROVED
CHK: MAV	CHK: MAV	

SHEET NO. B22 OF B34 SHEETS

BRIDGE NO.  
**02015**

DATE: 6/25/2018 TIME: 2:13:09 PM FILENAME: K:\g-f\Anok\City\6865000\04\_Production\01\_CAD\Brl\Super\CBR02015\_rep24.dgn

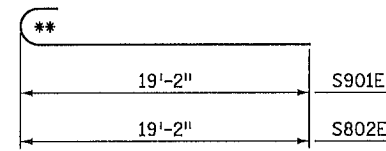
**BILL OF REINFORCEMENT - SLAB BARLIST**

BAR	STAGE 1 NO.	STAGE 2 NO.	TOTAL NO.	LENGTH	SHAPE	LOCATION
S901E	22	33	55	20'-5"	⤴	BOTTOM LONGITUDINAL
S802E	172	258	430	20'-1"	⤴	BOTTOM LONGITUDINAL
S503E	60	60	120	51'-10"	—	BOTTOM TRANSVERSE
S504E	60	0	60	4'-0"	⊞	BOTTOM COUPLER
S605E	2	3	5	51'-10"	—	BOTTOM TRANSVERSE
S707E	104	156	260	19'-1"	—	TOP LONGITUDINAL
S508E	60	60	120	51'-10"	—	TOP TRANSVERSE
S509E	60	0	60	4'-0"	⊞	TOP COUPLER
S410E	21	21	42	2'-8"	⊞	EXPANSION JOINT END TIE
S411E	48	48	96	2'-10"	⊞	EXPANSION JOINT END TIE
S412E	45	45	90	3'-0"	⊞	EXPANSION JOINT END TIE
S413E	24	24	48	3'-2"	⊞	EXPANSION JOINT END TIE
S414E	18	18	36	3'-3"	⊞	EXPANSION JOINT END TIE
S915E	11	0	11	23'-8"	—	BOTTOM LONGIT. EXP. JT. 2
S816E	86	0	86	23'-8"	—	BOTTOM LONGIT. EXP. JT. 2
S717E	52	0	52	23'-8"	—	TOP LONGIT. EXP. JT. 2
S518E	5	0	5	52'-10"	—	BOTTOM TRANS. EXP. JT. 2
S519E	5	0	5	52'-6"	—	TOP TRANS. EXP. JT. 2
S620E	20	20	40	51'-8"	—	EXPANSION TRANSVERSE
S621E	20	0	20	4'-0"	⊞	EXPANSION COUPLER
S422E	40	40	80	3'-9"	⊞	EXPANSION TIE
S423E	80	80	160	4'-1"	⊞	EXPANSION TIE
S424E	75	75	150	4'-5"	⊞	EXPANSION TIE
S425E	40	40	80	4'-9"	⊞	EXPANSION TIE
S426E	30	30	60	4'-11"	⊞	EXPANSION TIE
S627E	265	265	530	2'-6"	⊞	JOINT DOWEL

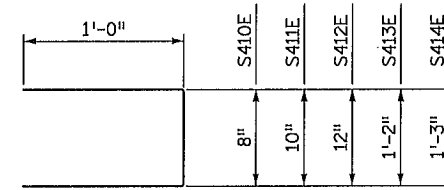
**BILL OF REINFORCEMENT - APPROACH PANEL BARLIST ①**

BAR	STAGE 1 NO.	STAGE 2 NO.	TOTAL NO.	LENGTH	SHAPE	LOCATION
AP601E	208	208	416	20'-9"	—	BOTTOM LONGITUDINAL
AP502E	44	44	88	51'-8"	—	BOTTOM TRANSVERSE
AP503E	44	0	44	4'-0"	⊞	BOTTOM COUPLER
AP404E	106	106	212	20'-9"	—	TOP LONGITUDINAL
AP405E	44	44	88	51'-8"	—	TOP TRANSVERSE
AP406E	44	0	44	4'-0"	⊞	TOP COUPLER
AP607E	6	6	12	51'-8"	—	TRANSVERSE JOINT
AP409E	106	106	212	6'-11"	⊞	APPROACH PANEL END TIE
AP511E	6	6	12	51'-8"	—	SILL TRANSVERSE
AP412E	140	140	280	5'-6"	⊞	SILL STIRRUP
AP413E	140	140	280	3'-3"	⊞	SILL TIE

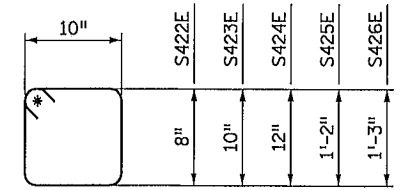
**BAR BENDING DIAGRAMS:**



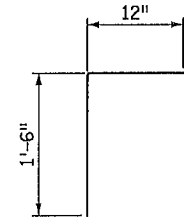
**S901E & S802E**



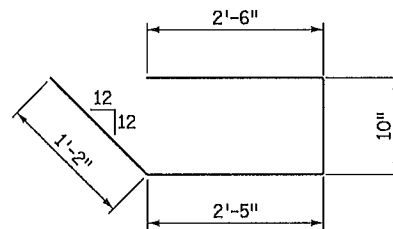
**S410E, S411E, S412E,  
S413E & S414E**



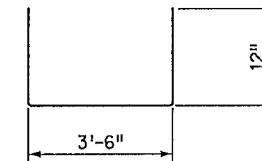
**S422E, S423E, S424E,  
S425E & S426E**



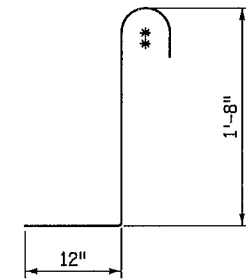
**S627E ③**



**AP409E**



**AP412E**



**AP413E**

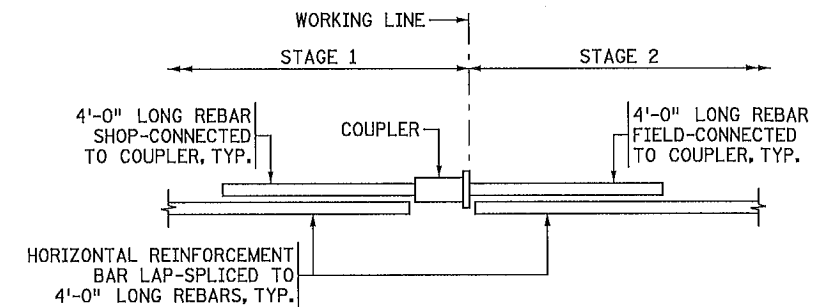
**NOTES:**

BENT BAR DIMENSIONS GIVEN ARE OUT-TO-OUT, ACTUAL BAR LENGTHS SHALL BE DETERMINED BASED ON THE DETAIL DIMENSIONS SHOWN IN THE BAR BENDING DIAGRAMS.

- \* DENOTES STANDARD STIRRUP HOOK.
- \*\* DENOTES STANDARD 180° HOOK

**NOTES:**

- ① APPROACH PANEL REINFORCEMENT AND COUPLERS INCIDENTAL TO "CONCRETE BRIDGE APPROACH PANELS".
- ② COUPLER BAR ASSEMBLY ACCOUNTED FOR IN STAGE 1. SEE "BAR COUPLER DETAIL" FOR PLACEMENT SCHEMATIC. COUPLER BARS INCLUDED IN PAY ITEM "COUPLERS (REINFORCEMENT BARS) T-5", "COUPLERS (REINFORCEMENT BARS) T-6".
- ③ ADHESIVE ANCHOR INCLUDED IN ITEM "ANCH TYPE REINF BARS (TYPE L)".



**BAR COUPLER DETAIL**

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA  
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 DATE: 6/25/2018 LIC. NO.: 53067



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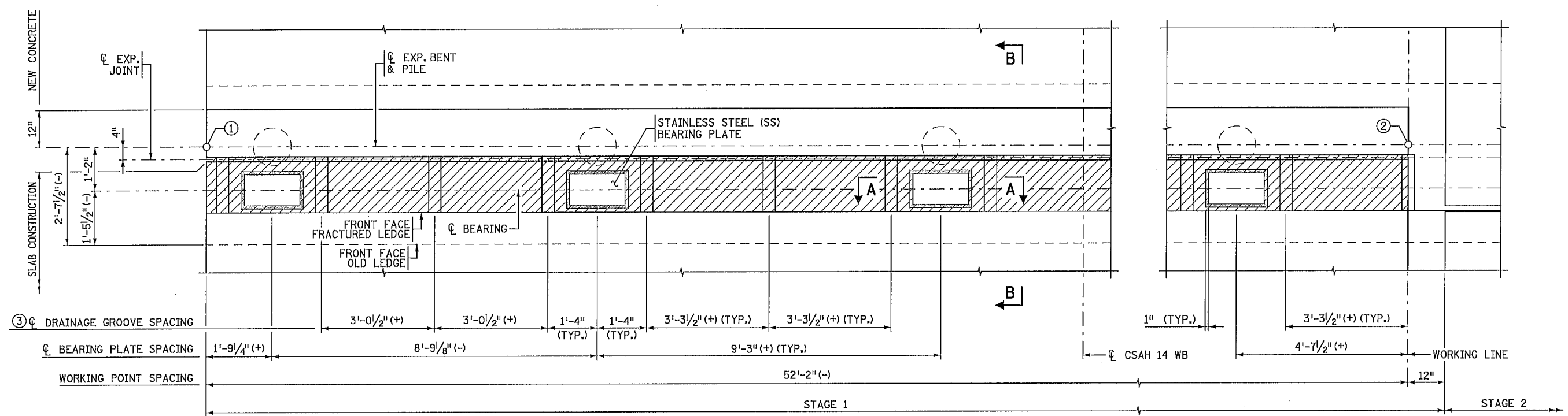
**CSAH 14 EAST OF COON CREEK BLVD.  
 COON RAPIDS, MINNESOTA  
 S.P. NO. 002-614-044**

TITLE: **SLAB BARLIST**

DES: SEM DR: SEM APPROVED  
 CHK: MAV CHK: MAV  
**SHEET NO. B23 OF B34 SHEETS**

**BRIDGE NO.  
 02015**

DATE: 6/25/2018 TIME: 2:13:09 PM FILENAME: K:\g-f\Anokcity\6865000\04\_Production\01\_CAD\Brl\del\Super\CBR02015\_rep25.dgn



NORTH END

**TYPICAL BEARING PLATE PLAN VIEW**

(STAGE 1 SHOWN; STAGE 2 SYMMETRIC ABOUT WORKING LINE)  
 (6 BEARING PLATES THUS PER BENT FOR STAGE 1;  
 6 BEARING PLATES THUS PER BENT FOR STAGE 2)

**BEARING PLATE INSTALLATION SEQUENCE:**

REMOVE EXISTING SLAB AND EXPANSION JOINT IN ACCORDANCE WITH REMOVAL PLANS.

GRIND SMOOTH 3/4" DEEP AREA IN BRIDGE SEAT CENTERED AT PROPOSED BEARING PLATE LOCATIONS FOR PLACEMENT OF STAINLESS STEEL BENT BEARING PLATE. AREA SHALL BE 1" GREATER THAN SS BENT BEARING PLATE DIMENSIONS. CORE AREA FOR 3/4" DIA BENT BEARING PLATE SHEAR STUDS.

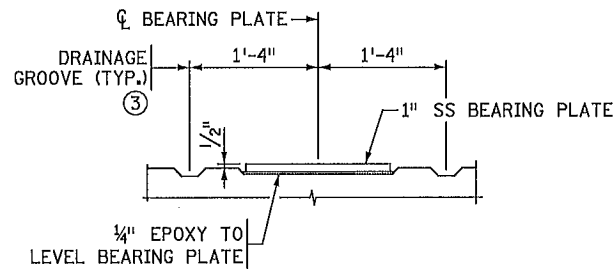
ATTACH PLATE TO BRIDGE SEAT BY FILLING CORED HOLES AND RECESSED BEARING AREA WITH EPOXY AND INSERTING STUDS ON BOTTOM OF BEARING PLATE. PLATE SHALL BE PLACED LEVEL AND SHALL PROJECT 1/2" ABOVE EXISTING CONCRETE SEAT.

PLACE STAINLESS STEEL SLAB BEARING PLATE CENTERED OVER BENT BEARING PLATE.

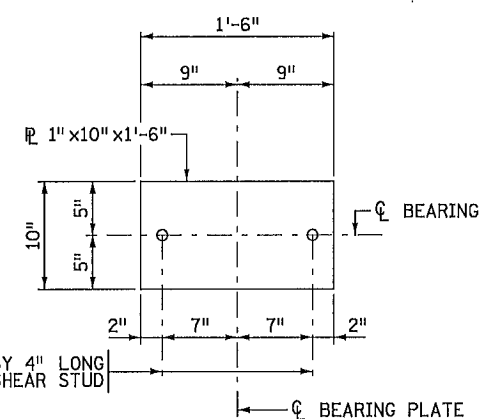
PLACE 1/2" BIT FELT ON BOTH SIDES FOR FULL LENGTH OF BRIDGE SEAT.

PLACE REINFORCEMENT FOR SLAB AND JOINT CONSTRUCTION AND SECURE STAINLESS STEEL SLAB BEARING PLATE TO PREVENT MOVEMENT DURING POUR OF CONCRETE SLAB.

POUR CONCRETE SLAB.

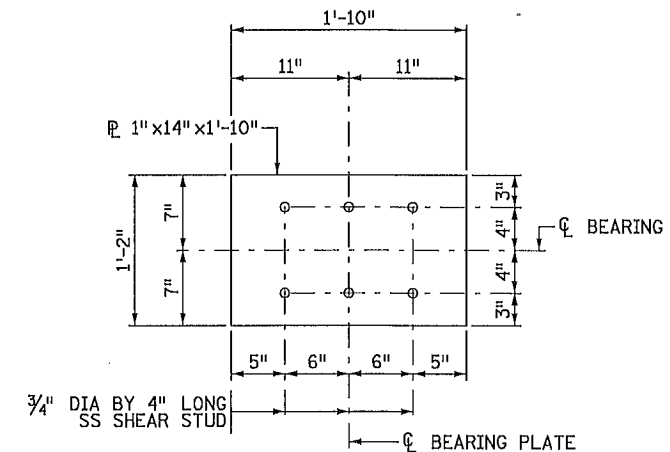


**SECTION A-A**



**SS BENT BEARING PLATE**

(53 LBS. EACH)  
 (30 THUS - STAGE 1)  
 (30 THUS - STAGE 2)



**SS SLAB BEARING PLATE**

(91 LBS. EACH)  
 (30 THUS - STAGE 1)  
 (30 THUS - STAGE 2)

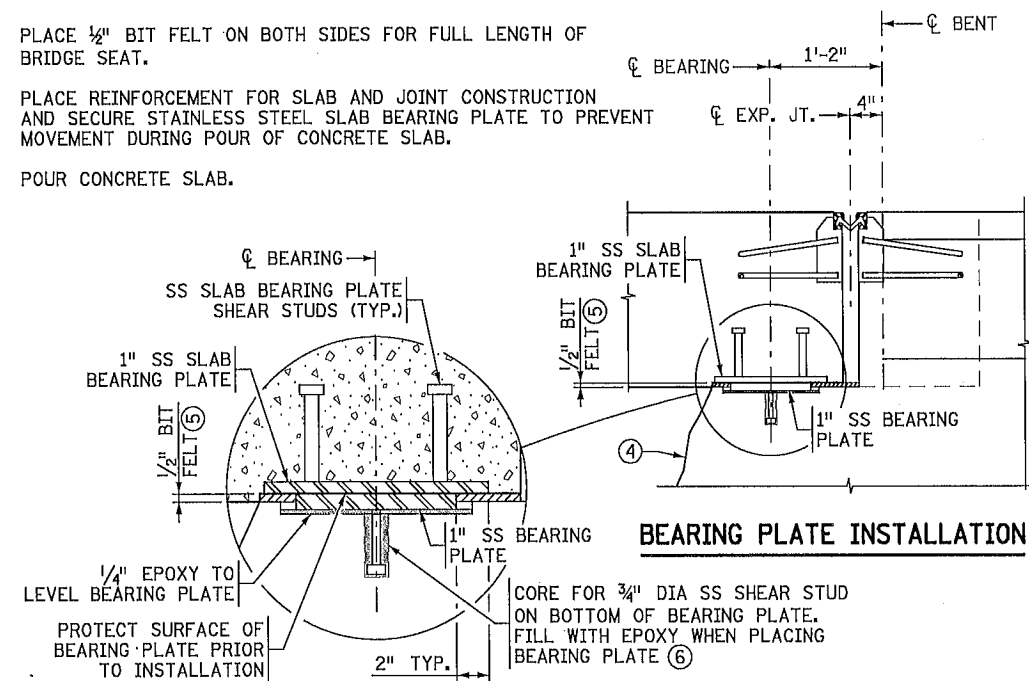
**NOTES:**

SLAB AND JOINT REINFORCEMENT NOT SHOWN FOR CLARITY.

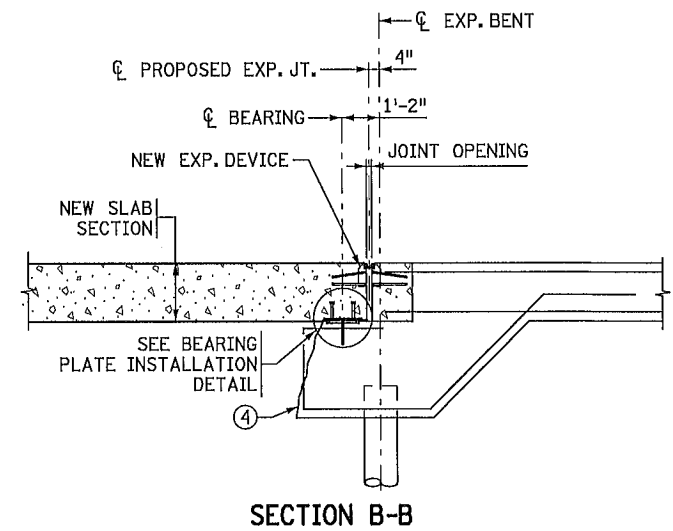
FIELD VERIFY DIMENSIONS.

ALL BEARING PLATE STEEL AND SHEAR STUD STEEL SHALL BE STAINLESS PER SPEC. 3312.

- ① W.P. "1" - EXPANSION JOINT 1, W.P. "13" - EXPANSION JOINT 2, W.P. "18" - EXPANSION JOINT 3, W.P. "27" - EXPANSION JOINT 4, W.P. "39" - EXPANSION JOINT 5
- ② W.P. "40" - EXPANSION JOINT 1, W.P. "52" - EXPANSION JOINT 2, W.P. "57" - EXPANSION JOINT 3, W.P. "66" - EXPANSION JOINT 4, W.P. "78" - EXPANSION JOINT 5
- ③ GRIND 4" WIDE BY 1" MIN. DEEP DRAINAGE GROOVE IN BRIDGE SEAT. SLOPE GROOVE AWAY FROM JOINT TO FRONT FACE OF LEDGE. SURFACE OF DRAINAGE GROOVE SHALL BE SMOOTH.
- ④ FRONT FACE OF FRACTURED LEDGE.
- ⑤ PLACE 1/2" BIT FELT BOTH SIDES OF BEARING PLATE UNDER FULL LENGTH OF BRIDGE SEAT.
- ⑥ CORE SHALL BE SIZED 1/2" WIDER THAN SHEAR STUD HEAD DIAMETER AND 1/2" DEEPER THAN SHEAR STUD LENGTH.
- ⑦ EPOXY PER MnDOT APPROVED/QUALIFIED PRODUCT LIST - CONCRETE ANCHORAGES (NON BRIDGE APPLICATIONS).



**BEARING PLATE INSTALLATION**



**SECTION B-B**

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA  
 SIGNED: *Matthew A. Volz* MATTHEW A. VOLZ  
 DATE: 6/25/2018 LIC. NO.: 53067

TKDA  
 444 Cedar Street, Suite 1500  
 Saint Paul, MN 55101  
 651.292.4400  
 tkda.com

**CSAA 14 EAST OF COON CREEK BLVD.**  
**COON RAPIDS, MINNESOTA**  
 S.P. NO. 002-614-044

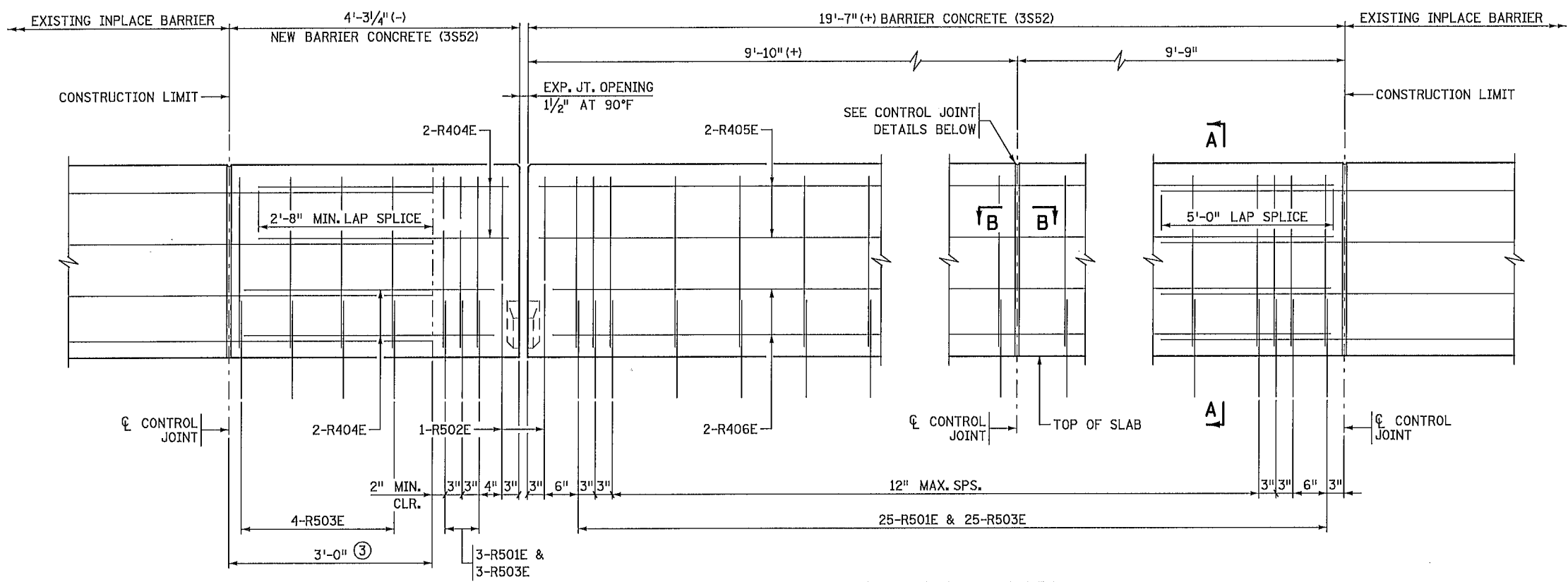
TITLE: **BEARING PLATE INSTALLATION DETAILS**

DES: SEM DR: SEM APPROVED  
 CHK: MAV CHK: MAV  
 SHEET NO. B24 OF B34 SHEETS

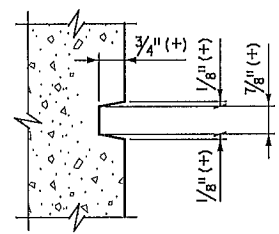
BRIDGE NO. 02015



DATE: 6/25/2018 TIME: 2:13:10 PM FILENAME: K:\g-f\AnokaCity\6865000\04\_Production\01\_CAD\Brl\dge\Super\CBR02015\_rep26.dgn

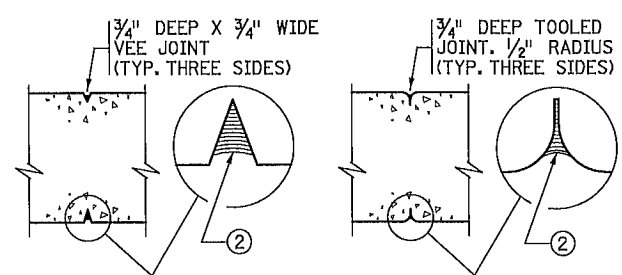


**INSIDE ELEVATION OF BARRIER**

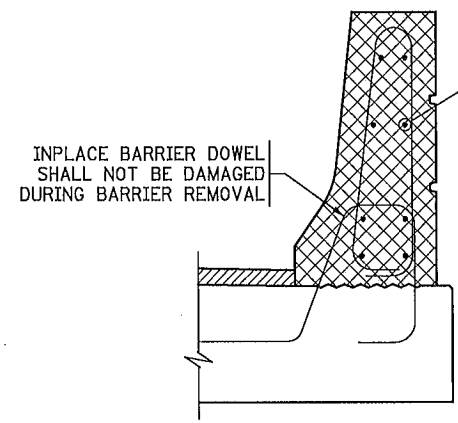


**EXPANSION JOINT**  
EXPANSION JOINT NOT SHOWN

**RAIL RUSTICATION**

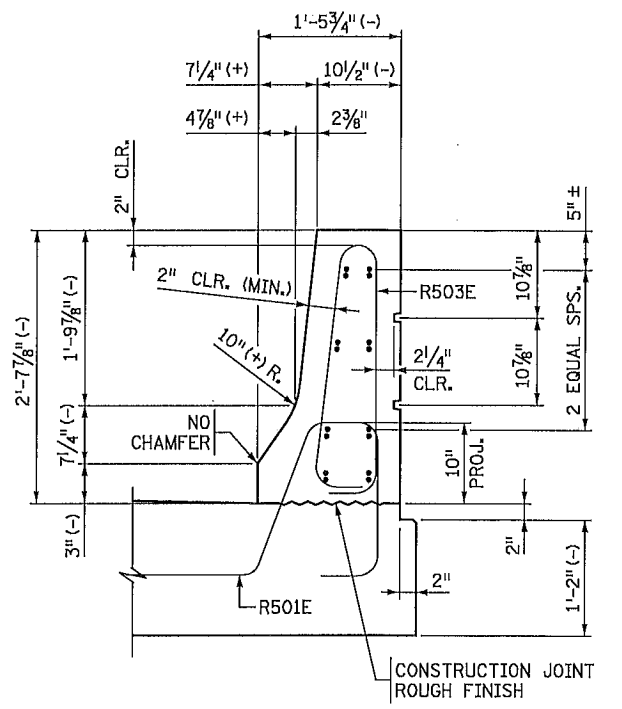
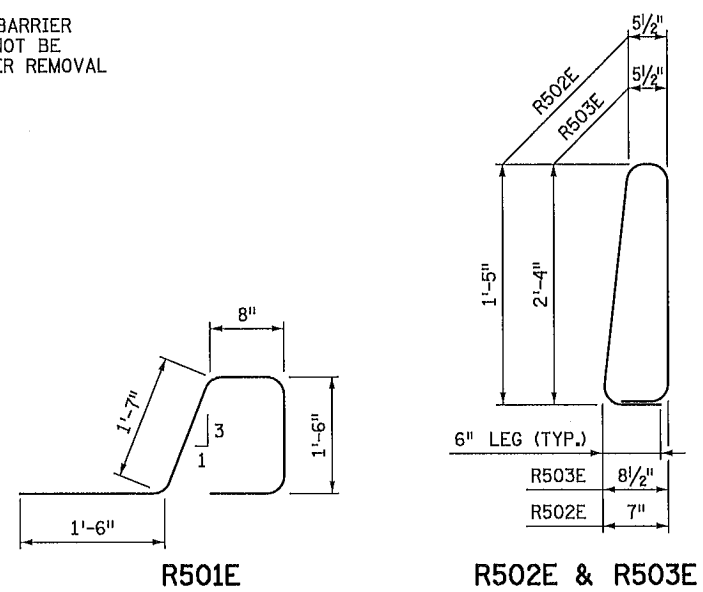


**SECTION B-B**  
CONTRACTOR OPTION 1  
**SECTION B-B**  
CONTRACTOR OPTION 2  
**CONTROL JOINT DETAILS**  
WHEN USING SLIP FORM METHOD TO PLACE THE CONCRETE, CUT JOINT 3 INCHES DEEP USING MARGIN TROWEL OR SIMILAR MEANS IMMEDIATELY AFTER CONCRETE PLACEMENT (TYP. THREE SIDES)



**DETAIL 1**  
INPLACE BARRIER DOWEL SHALL NOT BE DAMAGED DURING BARRIER REMOVAL  
INPLACE LONGITUDINAL BARRIER REINFORCEMENT SHALL NOT BE DAMAGED DURING BARRIER REMOVAL (TYP.)  
HATCHED AREA DENOTES CONCRETE REMOVAL AREA WHERE CARE SHALL BE TAKEN TO PROTECT EXISTING LONGITUDINAL AND BARRIER DOWEL REINFORCEMENT. TO BE INCLUDED IN "REMOVE CONCRETE BRIDGE BARRIER".

BILL OF REINFORCEMENT - BARRIER BARLIST						
BAR	STAGE 1 NO.	STAGE 2 NO.	TOTAL NO.	LENGTH	SHAPE	LOCATION
R501E	28	84	112	5'-9"		BARRIER DOWEL
R502E	2	6	8	4'-4"		BARRIER VERTICAL
R503E	31	93	124	6'-2"		BARRIER VERTICAL
R404E	4	12	16	3'-8"		BARRIER LONGITUDINAL
R405E	4	12	16	19'-3"		BARRIER LONGITUDINAL
R406E	4	12	16	19'-0"		BARRIER LONGITUDINAL



**SECTION A-A** ④

**GENERAL NOTES**

- MEASURE PAYMENT LENGTH BETWEEN THE OUTSIDE FACES OF THE BARRIER.
- CONCRETE BARRIER = 468 LBS./FT. (0.116 CU. YDS./FT.)
- FINISH ALL EDGES OF BARRIER AND END POST WITH 1/2" CHAMFER, EXCEPT WHERE OTHERWISE NOTED.
- SPACE OF CONTROL JOINTS AT BE 10 FT. MAXIMUM. SEE SUPERSTRUCTURE SHEET FOR JOINT SPACING.
- ~~GUARDRAIL CONNECTION TO BE STRUCTURAL STEEL, SPEC. 3306.~~
- ~~GUARDRAIL CONNECTION AND NAME PLATE TO BE CONSIDERED INCIDENTAL TO BARRIER.~~
- ~~BARRIER QUANTITIES ARE LISTED IN SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE.~~
- ① PLACE BAR ON TOP OF BOTTOM REINFORCEMENT MAT.
- ② JOINT SEALANT PER MnDOT APPROVED/QUALIFIED PRODUCTS LIST - CRACK AND JOINT MATERIALS - SILICONE JOINT SEALERS.
- ③ PROTECT BARRIER LONGITUDINAL AND DOWEL REINFORCEMENT IN 3'-0" SECTION. SEE DETAIL 1 FOR MORE DETAILS. MATCH R503E TO INPLACE BARRIER DOWELS.
- ④ FIELD VERIFY DIMENSIONS OF INPLACE BARRIER. NEW BARRIER SHALL MATCH EXISTING DIMENSIONS. NEW BARRIER CONCRETE SHALL BE INCLUDED IN "TYPE MOD F (TL-4) BARRIER CONCRETE (3S52)" AND REINFORCEMENT SHALL BE INCLUDED IN ITEM "REINFORCEMENT BARS (EPOXY COATED)".

**MODIFICATIONS:**  
EXISTING TYPE F BARRIER WAS DIMENSIONED IN METRIC UNITS. DIMENSIONS CHANGED TO MATCH EXISTING BARRIER. SEE SECTION A-A  
CONCRETE BARRIER POUNDS/FORCE AND CU. YDS./FT. UPDATED TO MATCH EXISTING BARRIER.  
"INSIDE ELEVATION OF BARRIER" CHANGED FOR RECONSTRUCTION LIMITS.  
REINFORCEMENT SIZE AND SPACING MODIFIED FOR RECONSTRUCTION LIMITS.

REVISION:  
APPROVED: JANUARY 13, 2015  
*Nancy Subenberger*  
STATE BRIDGE ENGINEER

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA  
SIGNED: *Matthew A. Volz* MATTHEW A. VOLZ  
DATE: 6/25/2018 LIC. NO.: 53067

TKDA  
444 Cedar Street, Suite 1500  
Saint Paul, MN 55101  
651.292.4400  
tkda.com

CSAH 14 EAST OF COON CREEK BLVD.  
COON RAPIDS, MINNESOTA  
S.P. NO. 002-614-044

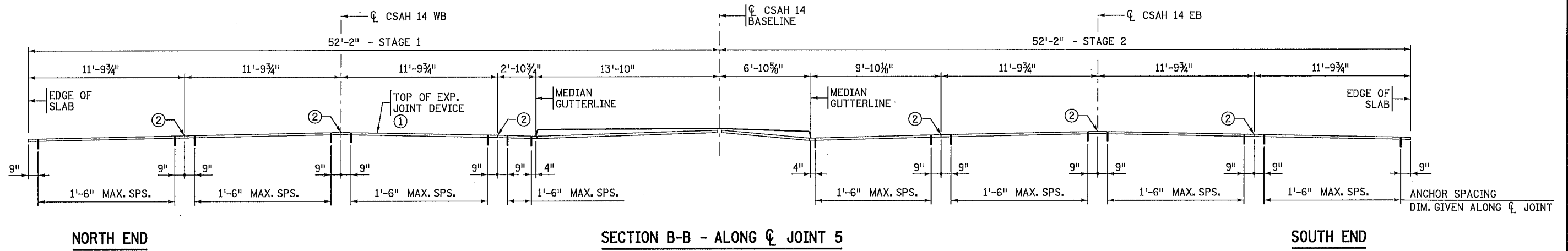
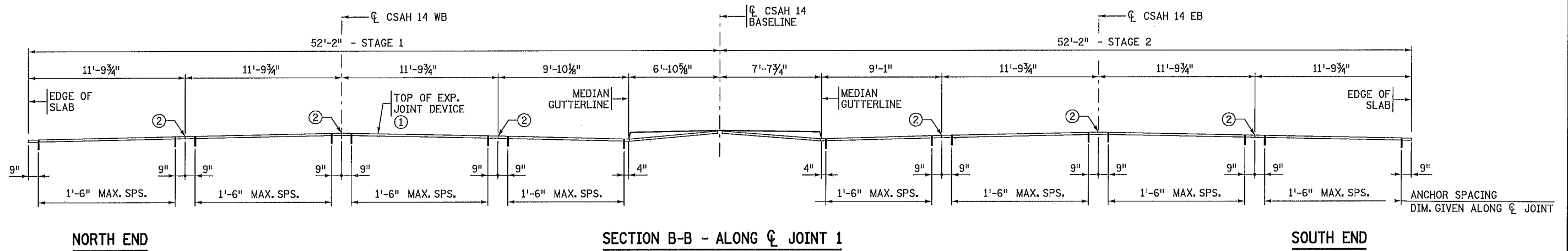
TITLE:  
**RECONSTRUCT CONCRETE BARRIER (TYPE F) (MOD.)**

DES: SEM	DR: SEM	APPROVED	BRIDGE NO. 02015
CHK: MAV	CHK: MAV		

SHEET NO. B25 OF B34 SHEETS

**FIG. 5-397.117(B) (MOD.)**

DATE: 6/25/2018 TIME: 2:13:10 PM  
 FILENAME: K:\A\AnokaCity\6865000\04\_Production\01\_CAD\Bridges\Super\BR02015\_exp01.dgn



**NOTES:**

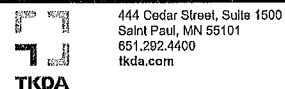
THE INPLACE DIMENSIONS SHOWN ARE TAKEN FROM BR. 02015 PLANS DATED 2002 AND SHALL BE FIELD VERIFIED BEFORE CONSTRUCTION BEGINS.

CONTRACTOR TO FIELD DETERMINE RELATIVE ELEVATIONS PRIOR TO FABRICATION.

- ① CL EXPANSION JOINT TO BE 1/8" BELOW TOP OF SLAB.
- ② CROWN BREAK. SEE DETAIL "B" ON SHEET 28.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA  
 SIGNED: *Matthew A. Volz* MATTHEW A. VOLZ  
 DATE: 6/25/2018 LIC. NO.: 53067



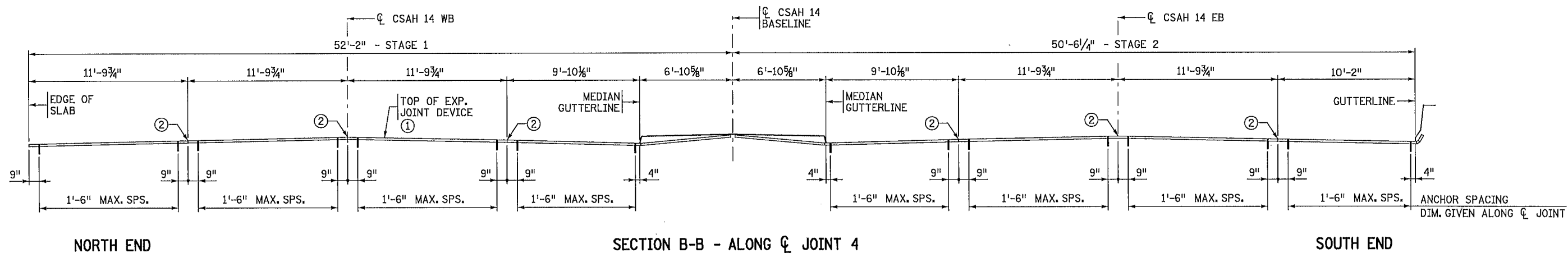
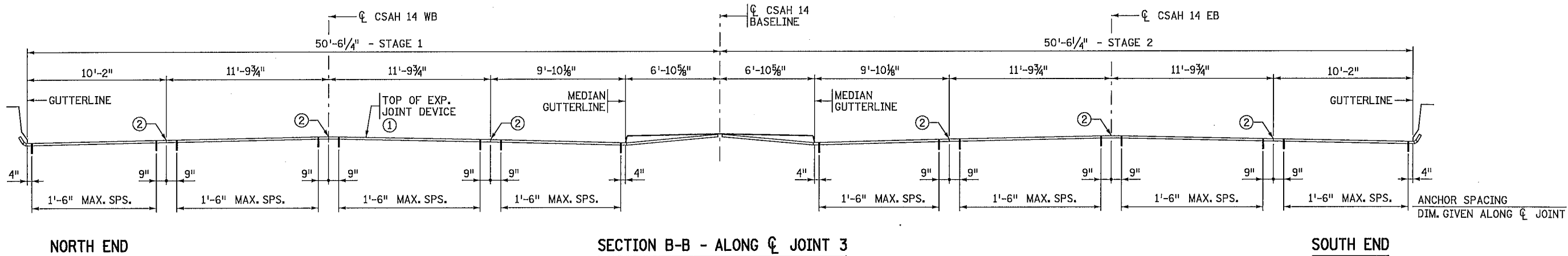
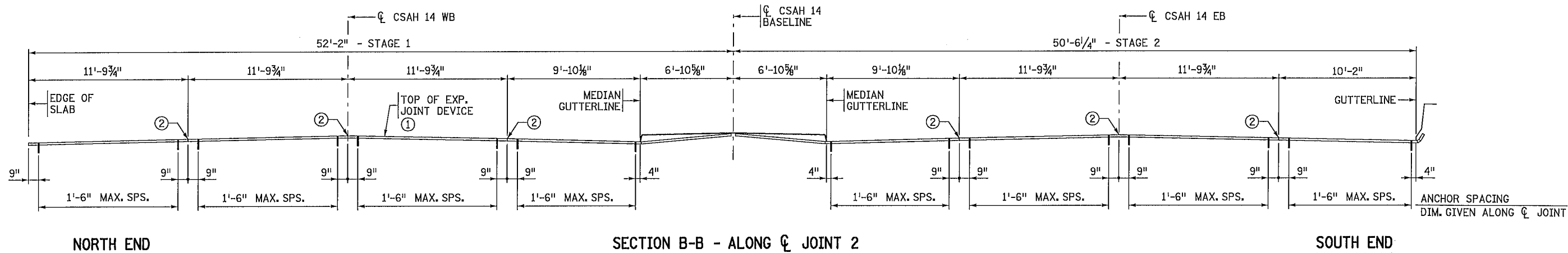
**CSAH 14 EAST OF COON CREEK BLVD.**  
**COON RAPIDS, MINNESOTA**  
 S.P. NO. 002-614-044

TITLE: **WATERPROOF EXPANSION DEVICE (1 OF 2)**

DES: SEM	DR: MAV	APPROVED
CHK: MAV	CHK: SEM	
SHEET NO. B26 OF B34 SHEETS		

BRIDGE NO. 02015

DATE: 6/25/2018 TIME: 2:13:11 PM  
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**NOTES:**

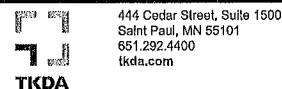
THE INPLACE DIMENSIONS SHOWN ARE TAKEN FROM BR. 02015 PLANS DATED 2002 AND SHALL BE FIELD VERIFIED BEFORE CONSTRUCTION BEGINS.

CONTRACTOR TO FIELD DETERMINE RELATIVE ELEVATIONS PRIOR TO FABRICATION.

- ① CL EXPANSION JOINT TO BE 1/8" BELOW TOP OF SLAB.
- ② CROWN BREAK. SEE DETAIL "B" ON SHEET 28.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA  
 SIGNED: *Matthew A. Volz* MATTHEW A. VOLZ  
 DATE: 6/25/2018 LIC. NO.: 53067



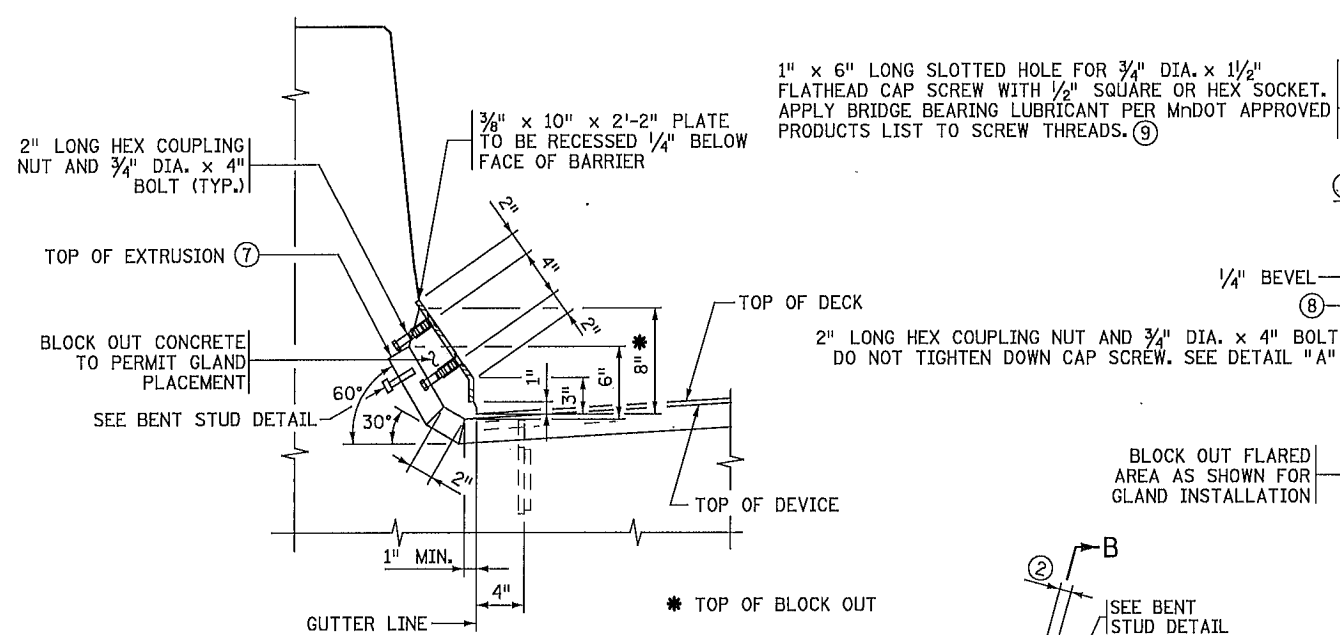
**CSAH 14 EAST OF COON CREEK BLVD.**  
**COON RAPIDS, MINNESOTA**  
 S.P. NO. 002-614-044

TITLE: **WATERPROOF EXPANSION DEVICE (2 OF 2)**

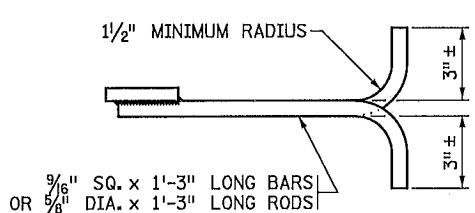
DES: SEM	DR: MAV	APPROVED
CHK: MAV	CHK: SEM	
SHEET NO. B27 OF B34 SHEETS		

BRIDGE NO. 02015

DATE: 6/25/2018 TIME: 2:13:11 PM  
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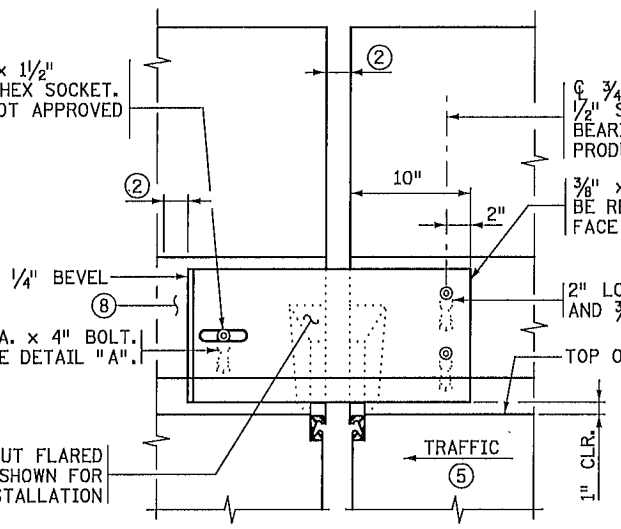
**SECTION THROUGH BARRIER**  
TYPE F BARRIER



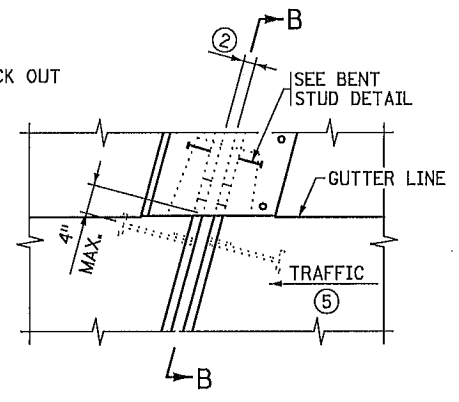
**BAR-ROD DETAIL**

1" x 6" LONG SLOTTED HOLE FOR 3/4" DIA. x 1/2" FLATHEAD CAP SCREW WITH 1/2" SQUARE OR HEX SOCKET. APPLY BRIDGE BEARING LUBRICANT PER MnDOT APPROVED PRODUCTS LIST TO SCREW THREADS. (9)

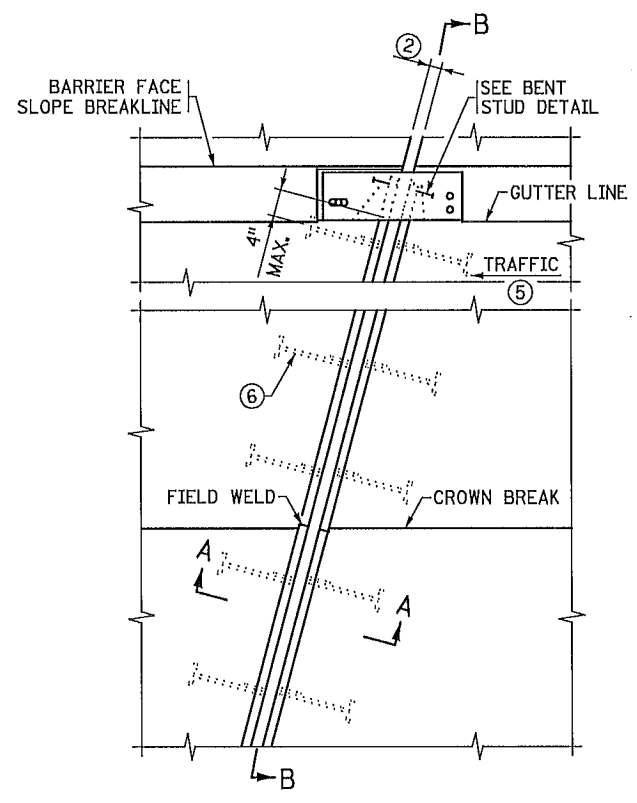
2" LONG HEX COUPLING NUT AND 3/4" DIA. x 4" BOLT. DO NOT TIGHTEN DOWN CAP SCREW. SEE DETAIL "A".



**BARRIER ELEVATION**



**PLAN VIEW @ EXPANSION DEVICE**  
MEDIAN OR SIDEWALK ALTERNATE

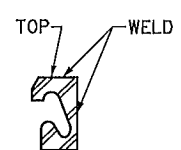


**PLAN VIEW @ EXPANSION DEVICE**  
WITH STRAIGHT DEVICE

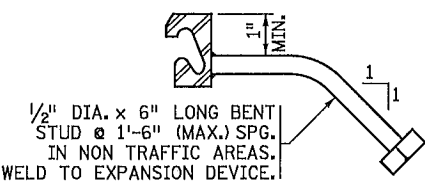
6 3/4" DIA. x 1/2" FLATHEAD CAP SCREW WITH 1/2" SQUARE OR HEX SOCKET. APPLY BRIDGE BEARING LUBRICANT PER MnDOT APPROVED PRODUCTS LIST TO SCREW THREADS. (9)

3/8" x 10" x 2"-2" PLATE TO BE RECESSED 1/4" BELOW FACE OF BARRIER

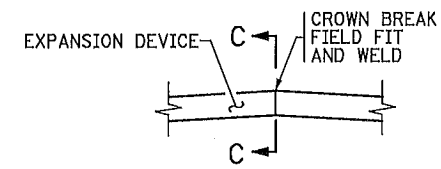
2" LONG HEX COUPLING NUT AND 3/4" DIA. x 4" BOLT



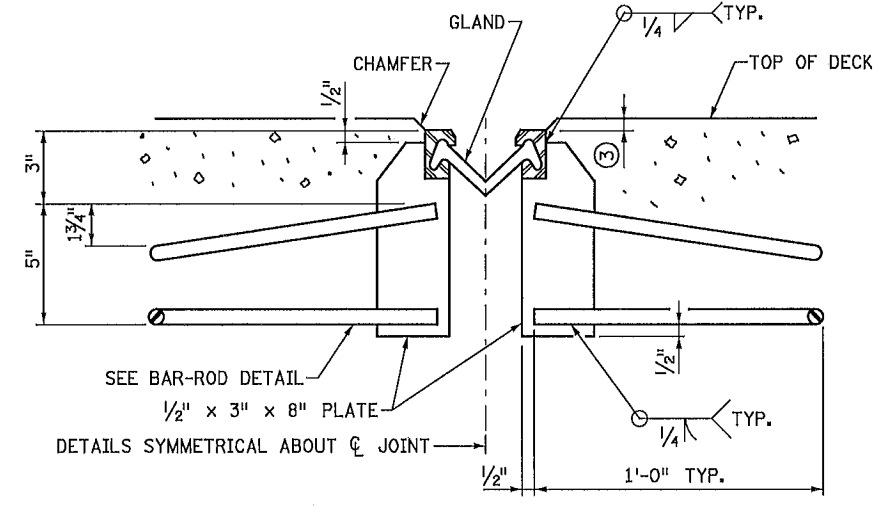
**SECTION C-C**



**BENT STUD DETAIL**

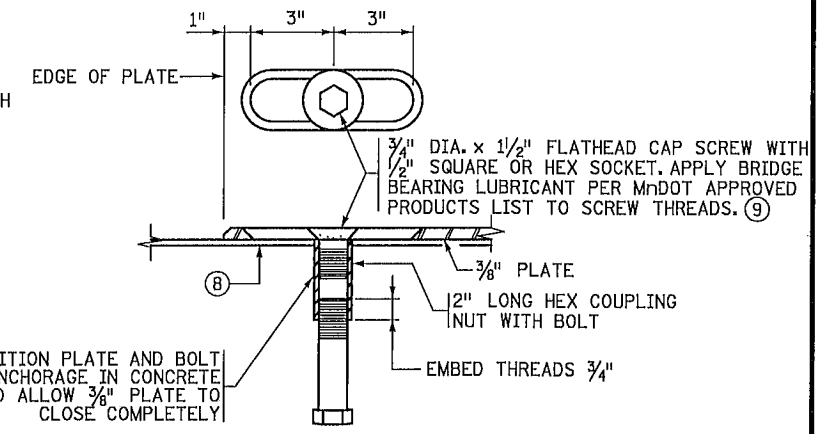


**DETAIL "B"**



**SECTION A-A**

**MODIFICATIONS:**  
 REMOVED SECTION B-B AND CURVED DEVICE ALTERNATIVE.  
 UPDATED NOTE 2 FOR ALL EXP. JOINTS.



**DETAIL "A"**

**GENERAL NOTES**

- GALVANIZE STRUCTURAL STEEL AFTER FABRICATION PER SPEC. 3394. GALVANIZE FASTENERS PER SPEC. 3392.
- LOCATE JOINTS IN EXTRUSION AT BREAKS IN TRANSVERSE PROFILE AND AS OTHERWISE REQUIRED, WITH CLOSE FIT, WELDED JOINTS. REPAIR AFTER WELDING PER SPEC. 2471.3.L.
- PROVIDE STRUCTURAL STEEL PER SPEC. 3306 OR SPEC. 3309.
- STRAIGHTEN EXPANSION DEVICE TO A TOLERANCE OF 1/8" IN 10 FT.
- 3/4" DIA. X 1/2" FLATHEAD CAP SCREW WITH 1/2" SQUARE OR HEX SOCKET PER SPEC 3391. COUNTERSINK CAP SCREWS 1/16" BELOW TOP OF PLATE. APPLY BRIDGE BEARING LUBRICANT PER MnDOT APPROVED PRODUCTS LIST TO SCREW THREADS. (9)
- PAYMENT LENGTH IS BASED ON THE HORIZONTAL DISTANCE BETWEEN THE OUTSIDE EDGES OF THE DECK MEASURED ALONG THE CENTERLINE OF JOINT.

- ① DIMENSIONS ARE ALONG CENTERLINE OF JOINT.
- ② 2" AT ALL TEMPS (FOR EXP. JOINTS 1 & 5)  
 2 1/4" AT 45° F; 1 1/2" AT 90° F. (FOR EXP. JT. 2)  
 2 1/8" AT 45° F; 1 1/2" AT 90° F. (FOR EXP. JT. 3)  
 2 3/8" AT 45° F; 1 1/2" AT 90° F. (FOR EXP. JT. 4)
- ③ 1/8" (1/4" MAX.).
- ④ SEE SUPERSTRUCTURE DETAILS FOR RADIUS.
- ⑤ SEE SHEET NO. 2 & 3 FOR DIRECTION OF TRAFFIC.
- ⑥ PLACE BAR-ROD NORMAL TO JOINT ON NEW BRIDGES AND JOINT REPLACEMENTS. ON JOINT REPLACEMENTS WHEN SKEW IS OVER 15° AND LESS THAN 50° BEND RODS PARALLEL TO CL ROADWAY.
- ⑦ EXTEND GLAND 1" MIN. BEYOND THE TOP OF THE EXTRUSION.
- ⑧ PROVIDE SMOOTH CONCRETE FINISH BENEATH PLATE WITH 0" MIN. TO 1/8" MAX. GAP BETWEEN CONCRETE AND UNDERSIDE OF PLATE. PROVIDE BOND BREAKER (DUCT TAPE, ETC.) TO UNDERSIDE OF COVER PLATE.
- ⑨ LUBRICANT PER MnDOT APPROVED/QUALIFIED PRODUCTS LIST: BRIDGE GREASE.

REVISION: FEBRUARY 22, 2018  
 APPROVED: AUGUST 24, 2016  
 Kevin Westrom  
 STATE BRIDGE ENGINEER

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA  
 SIGNED: *Matthew A. Volz* MATTHEW A. VOLZ  
 DATE: 6/25/2018 LIC. NO.: 53067

TKDA  
 444 Cedar Street, Suite 1600  
 Saint Paul, MN 55101  
 651.292.4400  
 tkda.com

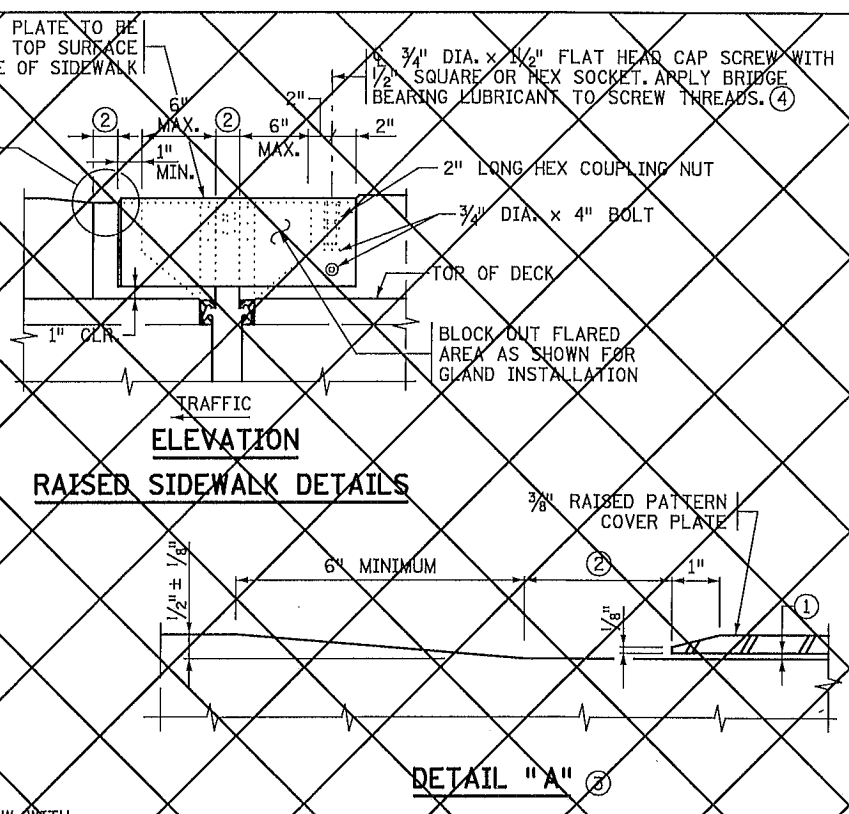
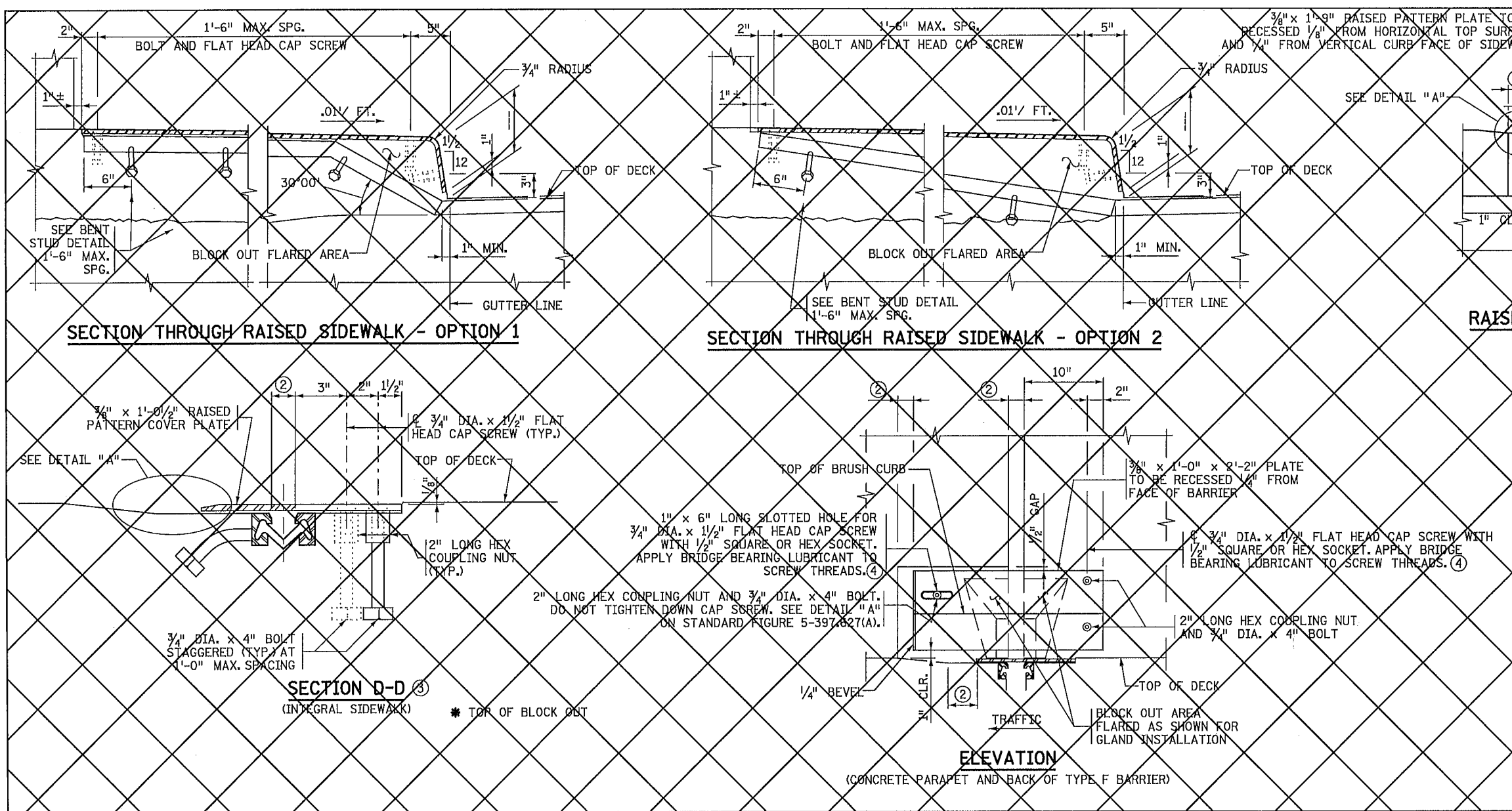
CSAH 14 EAST OF COON CREEK BLVD.  
 COON RAPIDS, MINNESOTA  
 S.P. NO. 002-614-044

TITLE: WATERPROOF EXPANSION DEVICE DETAILS

DES: SEM DR: MAV APPROVED  
 CHK: MAV CHK: SEM  
 SHEET NO. B28 OF B34 SHEETS  
 BRIDGE NO. 02015

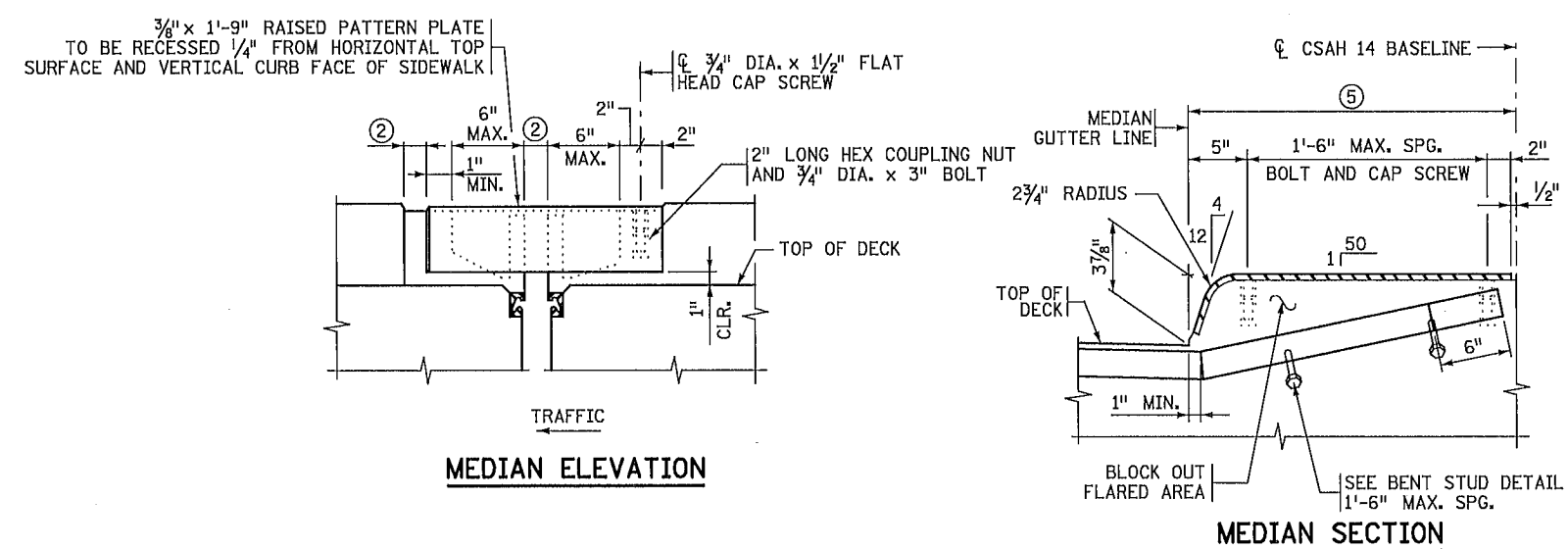
**FIG. 5-397.627(A) MOD.**

DATE: 6/25/2018 TIME: 2:13:12 PM  
 FILENAME: K:\g-f\anokdcy\6865000\04\_Production\01\_CAD\Bridges\Super\CBR02015\_exp04.dgn



- GENERAL NOTES**
- SEE OTHER WATERPROOF EXPANSION DEVICE SHEET FOR ADDITIONAL DETAILS AND NOTES.
  - TRANSVERSE DECK REINFORCEMENT MAY BE SHIFTED THE MINIMUM DISTANCE REQUIRED FOR EXPANSION DEVICE PLACEMENT.
  - 3/4" DIA. X 1/2" FLATHEAD CAP SCREW WITH 1/2" SQUARE OR HEX SOCKET PER SPEC 3391. COUNTERSINK CAP SCREWS 1/16" FROM TOP OF PLATE. APPLY BRIDGE BEARING LUBRICANT PER MNDOT APPROVED PRODUCTS LIST TO SCREW THREADS. (4)
  - (1) PROVIDE SMOOTH CONCRETE FINISH BENEATH PLATE WITH 0" MIN. TO 1/8" MAX. GAP BETWEEN CONCRETE AND UNDERSIDE OF PLATE. PROVIDE BOND BREAKER (DUCT TAPE, ETC.) TO UNDERSIDE OF COVER PLATE.
  - (2) SEE NOTE (2) ON OTHER WATERPROOF EXPANSION DEVICE SHEET.
  - (3) DIMENSIONS SHOWN ARE REQUIRED TO COMPLY WITH A.D.A. STANDARDS.
  - (4) LUBRICANT PER MNDOT APPROVED/QUALIFIED PRODUCTS LIST: BRIDGE GREASE.
  - (5) VARIES, SEE SHEETS 26 & 27 FOR MEDIAN WIDTH.

**MODIFICATIONS:**  
 REMOVED SECTION THROUGH BARRIER - INTEGRAL SIDEWALK DETAIL.  
 UPDATED MEDIAN SECTION FOR PLAN GEOMETRY.



REVISION: FEBRUARY 22, 2018  
 APPROVED: AUGUST 24, 2016  
*Kevin Westrom*  
 STATE BRIDGE ENGINEER

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 SIGNED: *Matthew A. Volz* MATTHEW A. VOLZ  
 DATE: 6/25/2018 LIC. NO.: 53067

**TKDA**  
 444 Cedar Street, Suite 1500  
 Saint Paul, MN 55101  
 651.282.4400  
 tkda.com

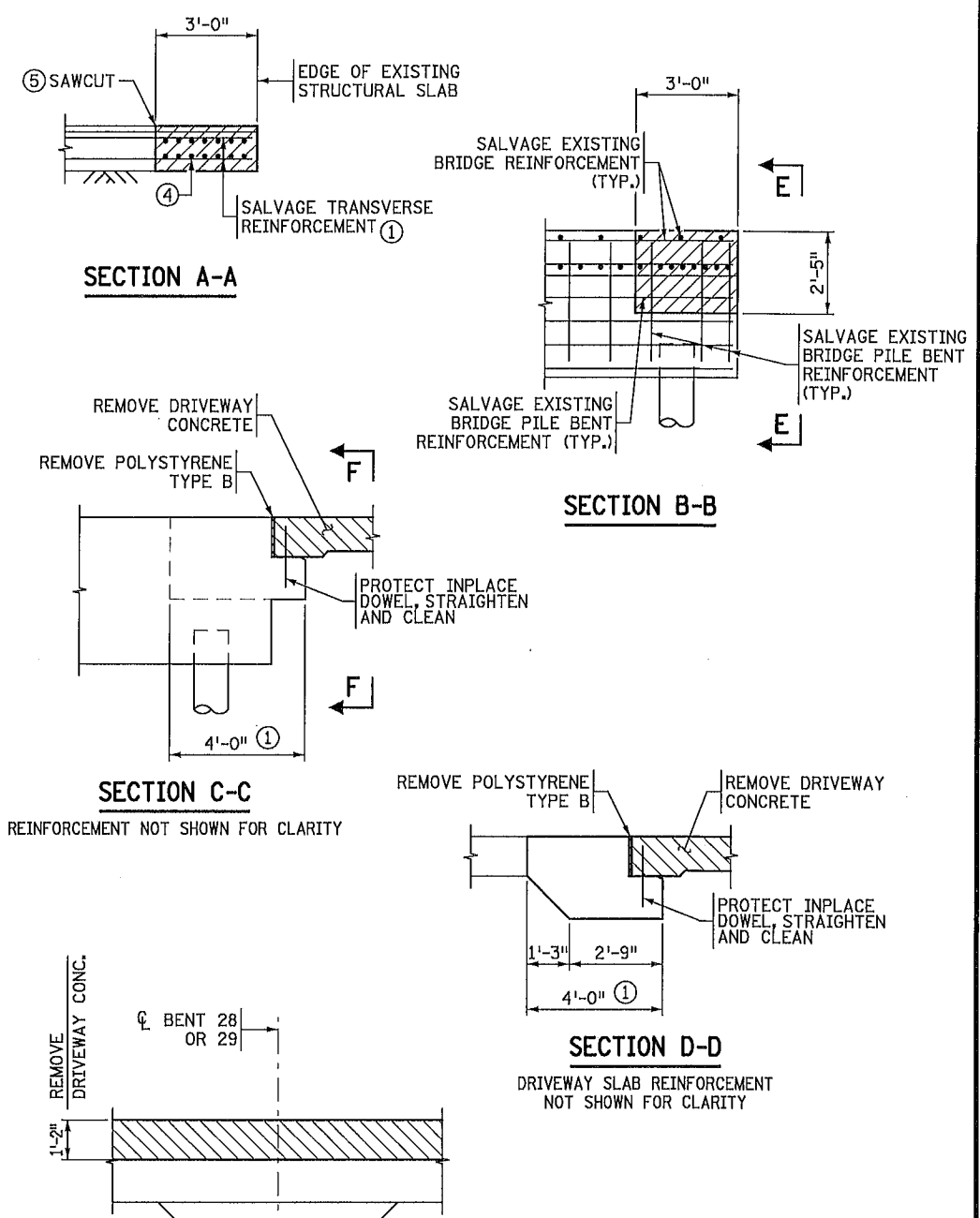
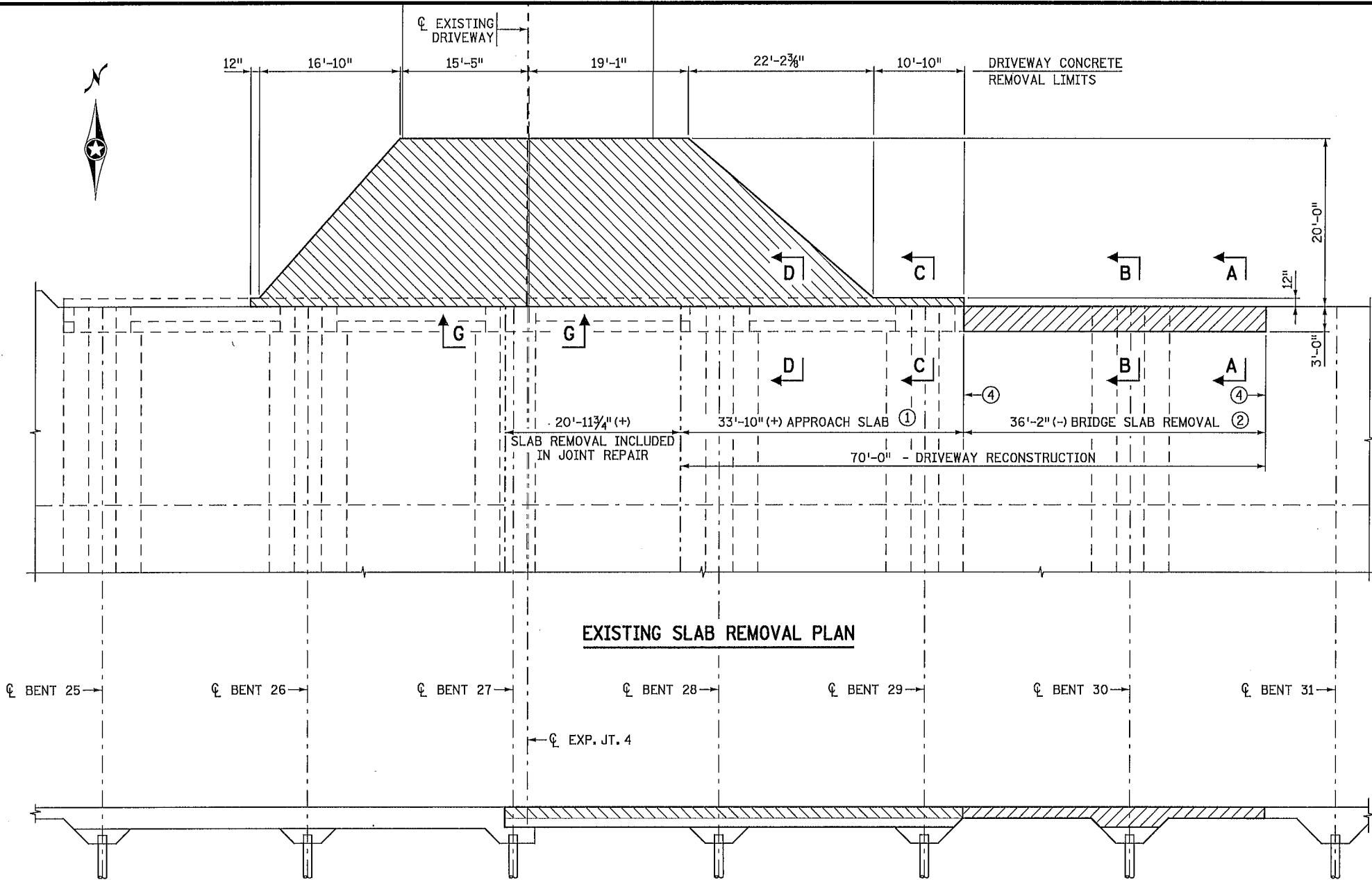
**CSAH 14 EAST OF COON CREEK BLVD.  
 COON RAPIDS, MINNESOTA  
 S.P. NO. 002-614-044**

TITLE: **WATERPROOF EXPANSION DEVICE (RAISED MEDIAN)**

DES: SEM	DR: MAV	APPROVED	BRIDGE NO. 02015
CHK: MAV	CHK: SEM		
SHEET NO. B29 OF B34 SHEETS			

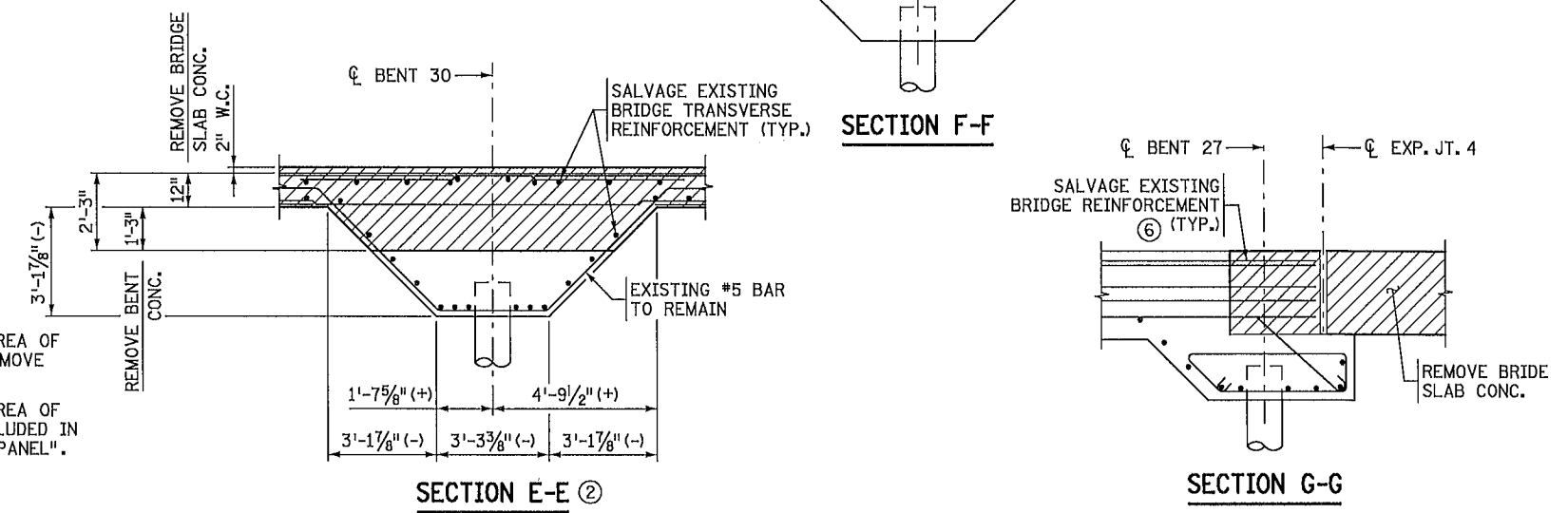
**FIG. 5-397.630(A) MOD.**

DATE: 6/25/2018 TIME: 2:13:12 PM FILENAME: K:\g-f\AnokaCity\6865000\04\_Production\01\_CAD\Bridges\Super\CBR02015\_rep30.dgn



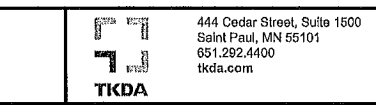
- NOTES:**
- ① PLAN DIMENSIONS FROM 2013 BRIDGE REPAIR PLANS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS.
  - ① SLAB REPAIRED IN 2013 DRIVEWAY REPAIR PLANS. CAREFULLY REMOVE DRIVEWAY, SO LEDGE MAY BE USED FOR PROPOSED DRIVEWAY CONSTRUCTION
  - ② WHEN SAWCUTTING STRUCTURAL SLAB DO NOT CUT EXISTING SLAB & PILE BENT REINFORCEMENT. EXISTING BRIDGE STRUCTURAL SLAB REINFORCEMENT AND EXISTING PILE BENT DECK TIES TO REMAIN IN PLACE. EXISTING REINFORCEMENT SHALL BE CLEANED, INCIDENTAL TO "REMOVE CONCRETE SLAB". STRAIGHTENED AND REPAIR EPOXY COATING.
  - ③ SEE ROADWAY PLANS FOR REMOVAL LIMITS OF EXISTING BITUMINOUS DRIVEWAY.
  - ④ SALVAGE LONGITUDINAL BARS OF EXISTING STRUCTURAL SLAB. SALVAGE 8'-0" OF #9 BOTTOM BARS, AND 5'-6" OF #7 TOP BARS.
  - ⑤ SAW CUTTING SHALL BE A MAXIMUM DEPTH OF 2 1/2" TO AVOID TRANSVERSE BRIDGE DECK REINFORCEMENT.
  - ⑥ EXPOSED INPLACE BRIDGE REINFORCEMENT TO BE CLEANED AND STRAIGHTENED. CUT AS REQUIRED TO PROVIDE A 2" CLEAR FOR NEW EXPANSION JOINT. SEE STAGE 1 REMOVAL AND CONSTRUCTION PLAN SHEETS FOR MORE DETAILS.

- LEGEND:**
- DENOTES CONCRETE REMOVAL AREA OF BRIDGE SLAB, INCLUDED IN "REMOVE CONCRETE BRIDGE DECK".
  - DENOTES CONCRETE REMOVAL AREA OF DRIVEWAY APPROACH SLAB, INCLUDED IN "REMOVE CONCRETE APPROACH PANEL".



NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA  
 SIGNED: *Matthew A. Volz* MATTHEW A. VOLZ  
 DATE: 6/25/2018 LIC. NO.: 53067



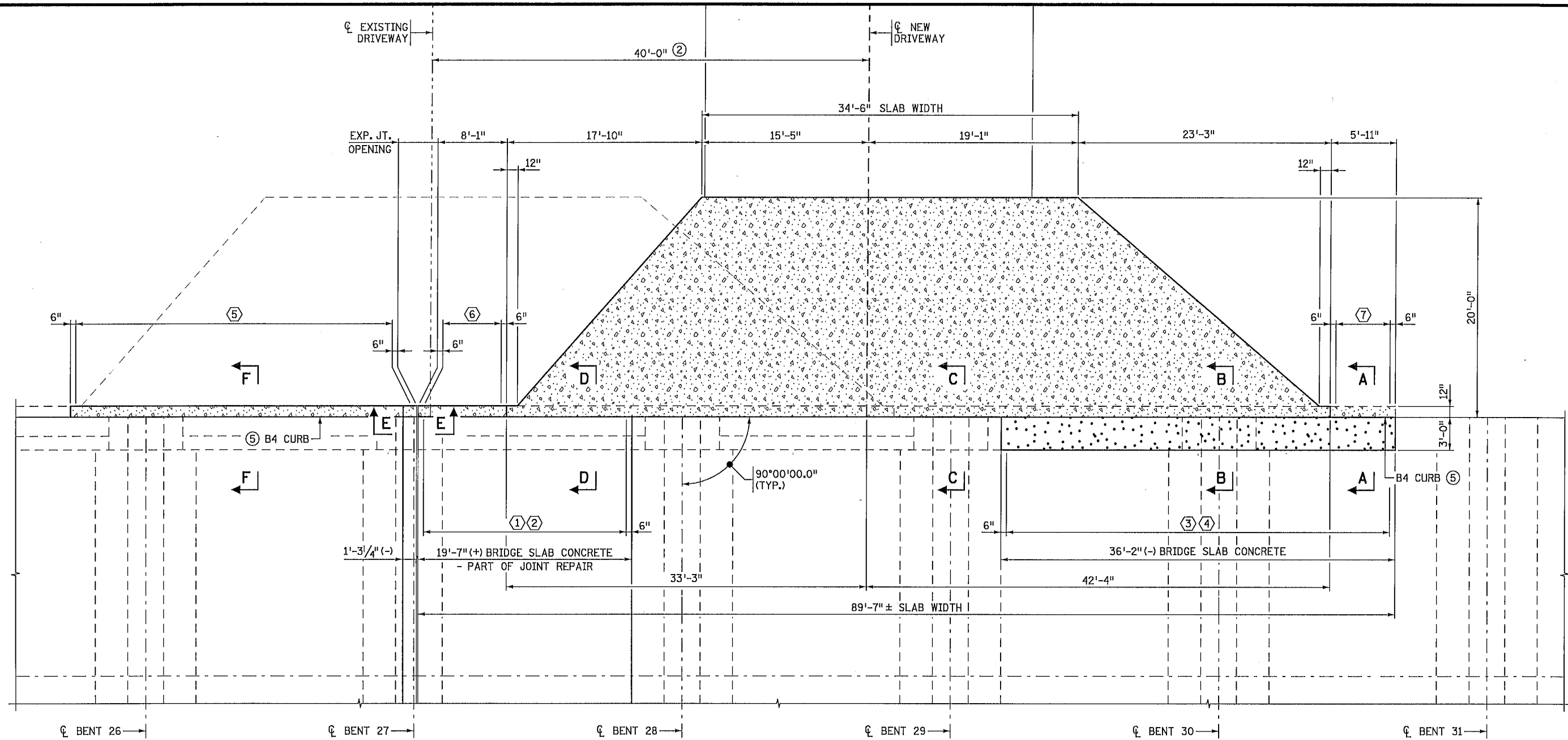
CSAH 14 EAST OF COON CREEK BLVD.  
 COON RAPIDS, MINNESOTA  
 S.P. NO. 002-614-044

TITLE: DRIVEWAY REMOVAL PLANS

DES: SEM	DR: SEM	APPROVED
CHK: MAY	CHK: MAY	
SHEET NO. B30 OF B34 SHEETS		

BRIDGE NO. 02015

DATE: 6/25/2018 TIME: 2:13:13 PM FILENAME: K:\v-AnokaCity\6865000\04\_Production\01\_CAD\Bridges\Super\CBR02015\_rep31.dgn



**PLAN VIEW**

**NOTES:**

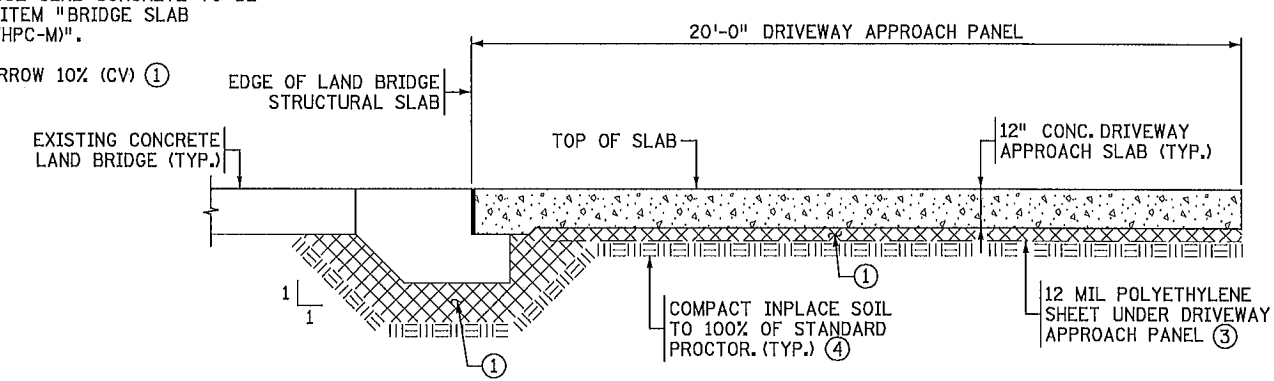
- PLAN DIMENSIONS FROM 2013 BRIDGE REPAIR PLANS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS.
- ELEVATION OF DRIVEWAY TO MATCH EXISTING BITUMINOUS DRIVEWAY.
- DRIVEWAY CONSTRUCTION TO BE PERFORMED IN CONCURRENCE WITH STAGE 1 BRIDGE CONSTRUCTION.
- ① BACKFILL UNDER SLAB AND AROUND STRUCTURAL SLAB WITH 12" MINIMUM DEPTH OF SELECT GRANULAR BORROW 10% (CV). GRANULAR BORROW SHALL COMPLY WITH SPEC. 3149.2B2, MODIFIED TO 10% OR LESS PASSING THE NUMBER 200 SIEVE. COMPACTION TO 100% OF STANDARD PROCTOR. EXCAVATION OF EXISTING GROUND INCIDENTAL. INCLUDED IN ITEM "SELECT GRANULAR BORROW MOD 10% (CV)".
- ② NEW DRIVEWAY TO BE PLACED APPROXIMATELY 40'-0" WEST OF EXISTING DRIVEWAY. SEE ROADWAY PLANS FOR NEW DRIVEWAY ALIGNMENT AND RECONSTRUCTION DETAILS. MINOR ADJUSTMENTS MAY BE MADE TO MATCH DRIVEWAY WIDTH.
- ③ PLACE 12 MIL POLYETHYLENE SHEETING (OR 2 LAYERS OF 6 MIL) UNDER THE LIMITS OF THE APPROACH PANEL TO ALLOW THE PANEL TO MOVE LONGITUDINALLY. INCIDENTAL.
- ④ PLACE GEOTEXTILE FABRIC TYPE 5 BETWEEN INPLACE SOIL AND BACKFILL.
- ⑤ SEE MnDOT STANDARD PLATE 7020K FOR CURB DETAILS. B4 CURB TO BE INCIDENTAL TO "CONCRETE DRIVEWAY APPROACH PANELS".

**BAR CALL-OUTS:**

- ① 26-B405E @ 9" MAX. SPACES. 52-B404E (IN PAIRS) SPACED TO MATCH.
- ② 20-B406E @ 12" MAX SPACES W/ 20-B607E DWLS. SPACED TO MATCH.
- ③ 49-B405E @ 9" MAX. SPACES. 98-B404E (IN PAIRS) SPACED TO MATCH.
- ④ 37-B406E @ 12" MAX SPACES W/ 37-B607E DWLS. SPACED TO MATCH.
- ⑤ 31-B416E DOWEL BARS W/ 31-B417E TIES @ 12" MAX. SPS. PROVIDE AN ADHESIVE ANCHOR WITH A MINIMUM CHARACTERISTIC BOND STRENGTH IN UNCRACKED CONCRETE OF 1.0 K.S.I. EMBED THE ANCHOR NO LESS THAN 6" INTO SOLID CONCRETE. PROOF LOAD TEST TO 2.2 KIPS. INCLUDED IN ITEM "ANCH TYPE REINF BAR (TYPE L)".
- ⑥ 7-B415E CURB TIES & 7-B417E TIES @ 12" MAX. SPS.
- ⑦ 5-B415E CURB TIE & 5-B417E TIES @ 12" MAX. SPS.

**LEGEND:**

- DENOTES DRIVEWAY CONCRETE TO BE INCLUDED IN ITEM "CONCRETE DRIVEWAY APPROACH PANELS".
- DENOTES BRIDGE SLAB CONCRETE TO BE INCLUDED IN ITEM "BRIDGE SLAB CONCRETE (3YHPC-M)".
- GRANULAR BORROW 10% (CV) ①



**ELEVATION**

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 DATE: 6/25/2018 LIC. NO. 53067

**TKDA**  
 444 Cedar Street, Suite 1500  
 Saint Paul, MN 55101  
 651.292.4400  
 tkda.com

**CSAH 14 EAST OF COON CREEK BLVD.  
 COON RAPIDS, MINNESOTA  
 S.P. NO. 002-614-044**

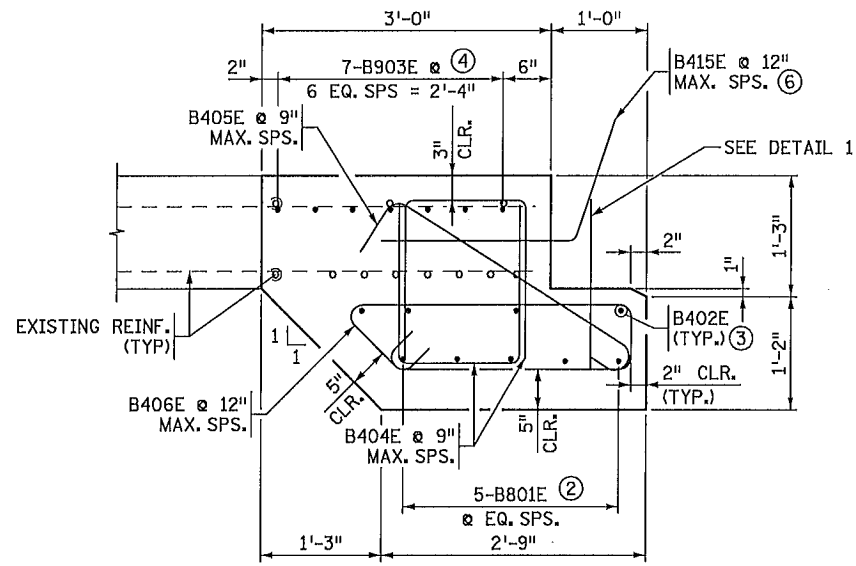
TITLE: **DRIVEWAY CONSTRUCTION PLANS**

DES: SEM	DR: SEM	APPROVED
CHK: MAV	CHK: MAV	
SHEET NO. B31 OF B34 SHEETS		

BRIDGE NO. **02015**

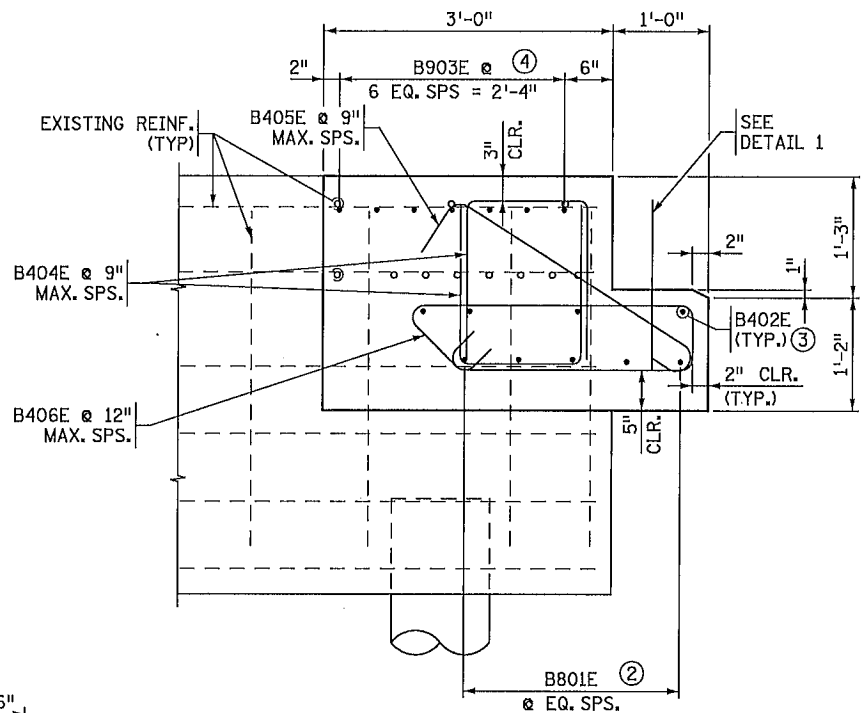


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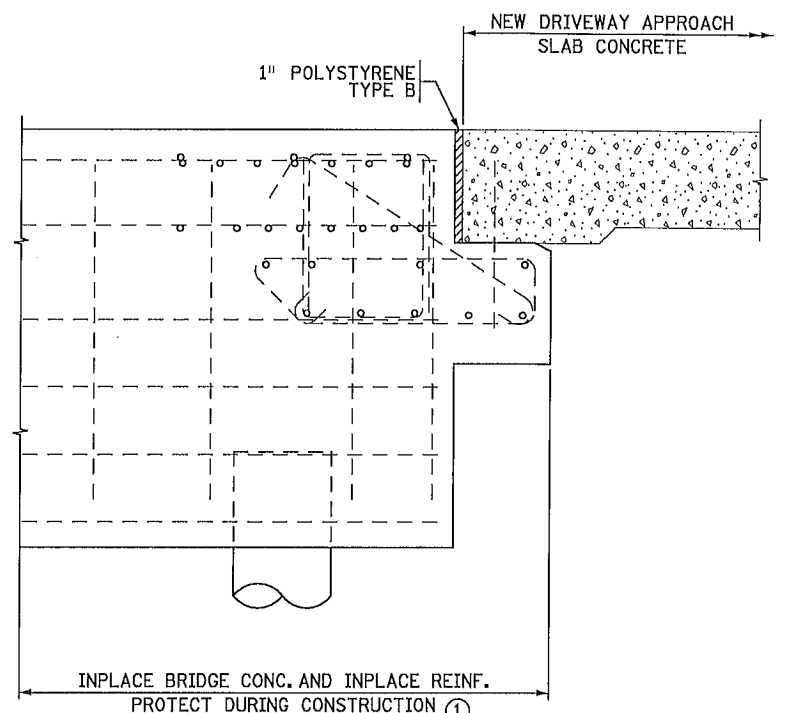
**SECTION A-A**

DRIVEWAY APPROACH SLAB  
NOT SHOWN FOR CLARITY



**SECTION B-B**

DRIVEWAY APPROACH SLAB  
NOT SHOWN FOR CLARITY

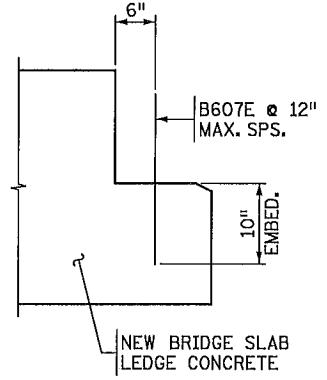


**SECTION C-C**

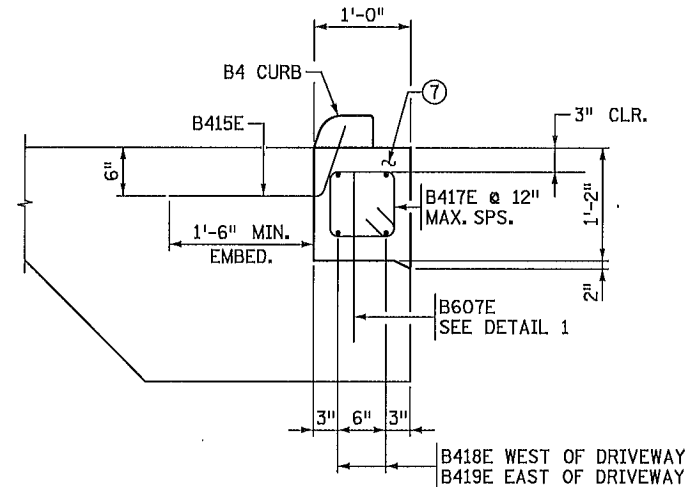
INPLACE BRIDGE CONC. AND INPLACE REINF.  
PROTECT DURING CONSTRUCTION ①

**NOTES:**

- ① IF INPLACE APPROACH SLAB LEDGE WAS UNSOUND, REMOVE CONCRETE AND SALVAGE EXISTING REINFORCEMENT, CLEAN AND STRAIGHTEN. ENSURE LONGITUDINAL BARS MAINTAIN A 6'-9" MIN. LAP SPLICE FOR #9 TOP BARS, 5'-4" MIN. LAP SPLICE FOR #8 BOTTOM BARS, & 2'-6" MIN. LAP FOR #4 BARS.
- ② D801E SHALL HAVE A 5'-4" MIN. LAP SPLICE W/ EXISTING REINFORCEMENT.
- ③ D402E SHALL HAVE A 2'-6" MIN. LAP SPLICE W/ EXISTING REINFORCEMENT.
- ④ D903E SHALL HAVE A 6'-9" MIN. LAP SPLICE W/ EXISTING REINFORCEMENT.
- ⑤ SEE EXPANSION JOINT 4 CONSTRUCTION DETAILS.
- ⑥ SEE DETAIL 2.
- ⑦ CONCRETE TO FILL IN PREVIOUS DRIVEWAY LEDGE. INCLUDED IN "CONCRETE DRIVEWAY APPROACH PANELS".

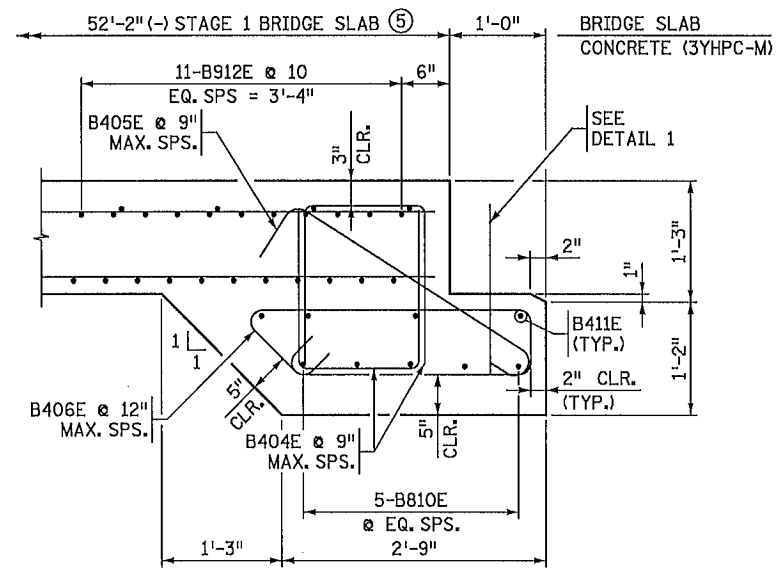


**DETAIL 1**



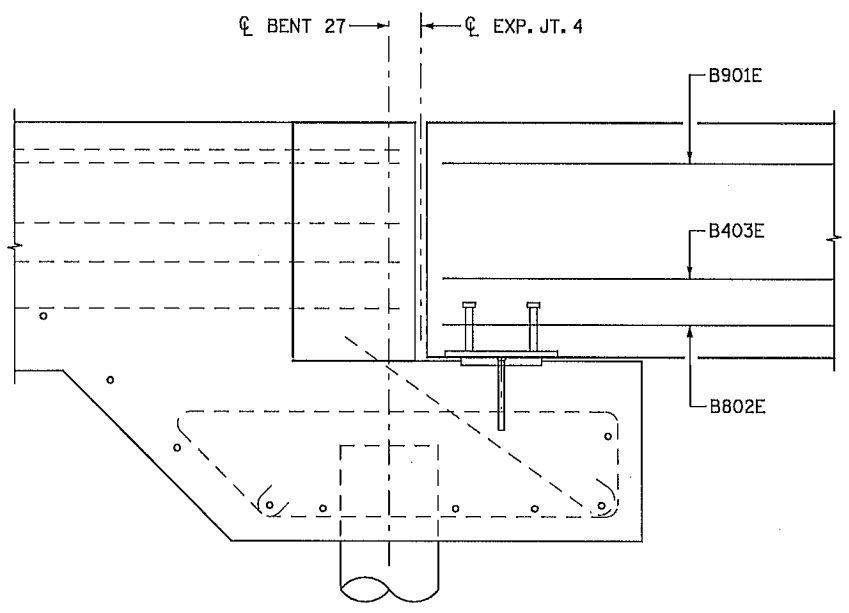
**DETAIL 2**

BENT REIN. NOT SHOWN FOR CLARITY



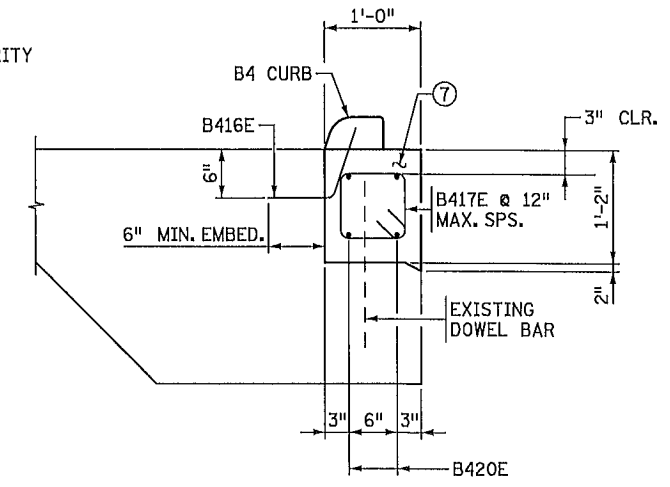
**SECTION D-D**

DRIVEWAY APPROACH SLAB  
NOT SHOWN FOR CLARITY



**SECTION E-E**

NEW SLAB REINFORCEMENT NOT SHOWN.  
SEE SHEET 13 FOR SLAB REINFORCEMENT.



**SECTION F-F**

BENT REIN. NOT SHOWN FOR CLARITY

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 tkda.com

**CSAH 14 EAST OF COON CREEK BLVD.  
 COON RAPIDS, MINNESOTA  
 S.P. NO. 002-614-044**

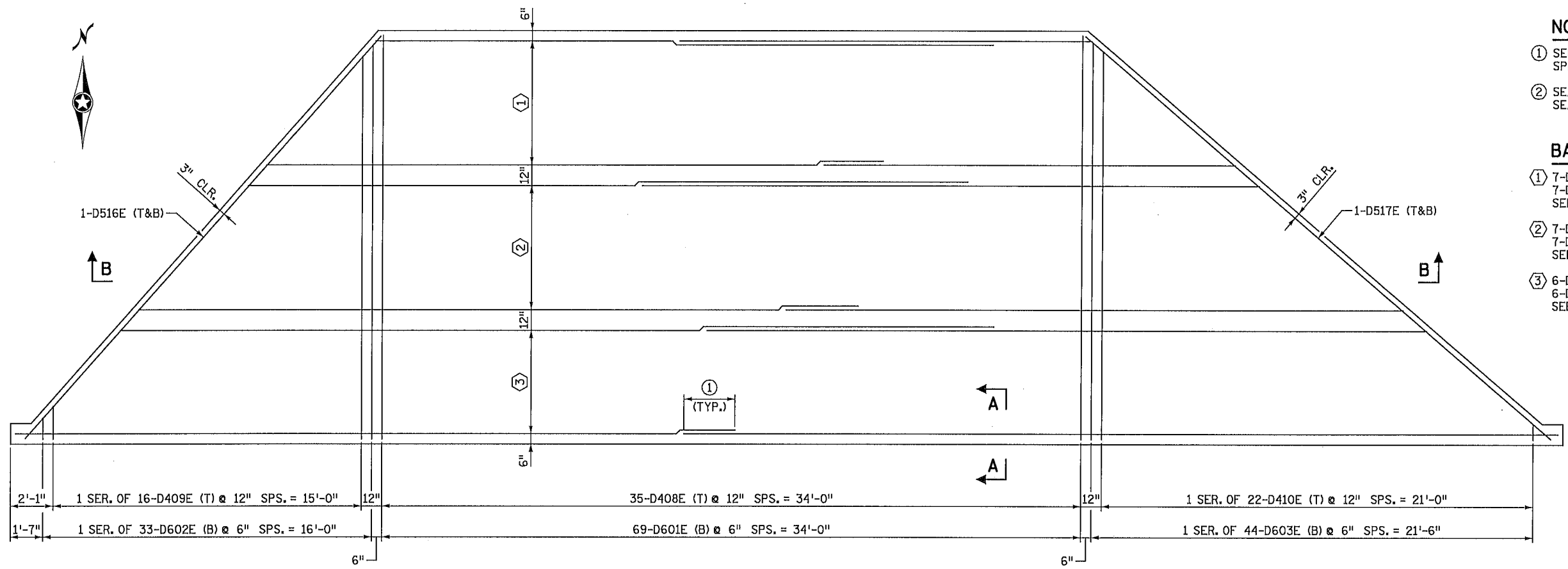
TITLE: **DRIVEWAY CONSTRUCTION DETAILS**

DES: SEM DR: SEM APPROVED  
 CHK: MAV CHK: MAV  
**SHEET NO. B32 OF B34 SHEETS**

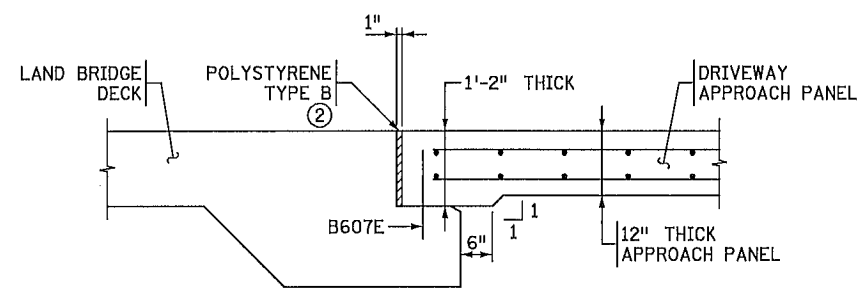
BRIDGE NO. **02015**



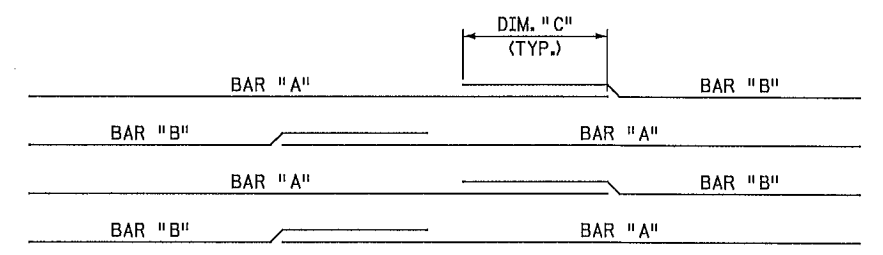
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**DRIVEWAY REINFORCEMENT - PLAN VIEW**

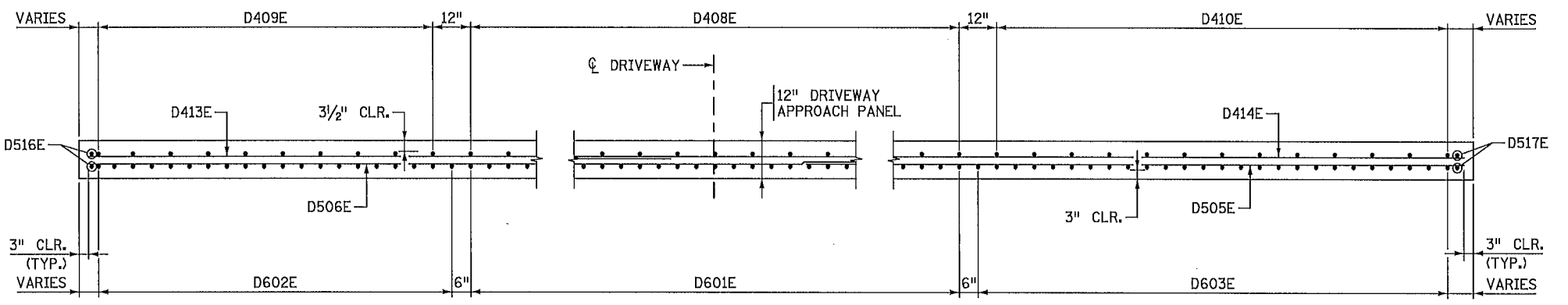


**SECTION A-A**  
 LAND BRIDGE DECK REINF.  
 NOT SHOWN FOR CLARITY



**BAR STAGGER DETAIL**

DRIVEWAY BAR STAGGER DETAIL			
LOCATION	BAR "A"	BAR "B"	DIM. "C"
BOTTOM	D504E	D505E	2'-5"
BOTTOM	D505E	D506E	2'-5"
BOTTOM	D506E	D507E	2'-5"
TOP	D411E	D412E	1'-11"
TOP	D413E	D414E	1'-11"
TOP	D414E	D415E	1'-11"



**SECTION B-B**

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**CSAH 14 EAST OF COON CREEK BLVD.**  
**COON RAPIDS, MINNESOTA**  
 S.P. NO. 002-614-044

TITLE: **DRIVEWAY APPROACH SLAB REINFORCEMENT**

DES: SEM DR: SEM APPROVED  
 CHK: MAV CHK: MAV  
**SHEET NO. B33 OF B34 SHEETS**

BRIDGE NO.  
**02015**

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DATE: 6/25/2018 TIME: 2:13:14 PM  
 FILENAME: K:\r-f\Anp\kcy\16865000\04\_Production\01\_CAD\Bridg\Super\CBR02015\_rep34.dgn

BILL OF REINFORCEMENT - EDGE REPAIR BARLIST				
BAR	TOTAL NO.	LENGTH	SHAPE	LOCATION
B801E	5	35'-9"	—	BOTTOM LONGITUDINAL
B402E	4	35'-9"	—	BOTTOM LONGITUDINAL
B903E	7	35'-9"	—	TOP LONGITUDINAL
B404E	150	4'-8"	□	LEDGE TIE
B405E	75	4'-2"	┌	LEDGE TIE
B406E	57	7'-11"	∩	LEDGE TIE
B607E	57	1'-9"	—	APPROACH SLAB DOWEL
B810E	5	19'-1"	—	BOTTOM LONGITUDINAL
B411E	4	19'-1"	—	BOTTOM LONGITUDINAL
B912E	11	19'-1"	—	TOP LONGITUDINAL
B415E	12	2'-9"	—	CURB TIE
B416E	31	1'-5"	—	CURB DOWEL
B417E	43	3'-5"	□	LEDGE TIE
B418E	4	5'-7"	—	LEDGE LONGITUDINAL
B419E	4	7'-6"	—	LEDGE LONGITUDINAL
B420E	4	31'-5"	—	LEDGE LONGITUDINAL

②

BILL OF REINFORCEMENT - DRIVEWAY APPROACH SLAB BARLIST ①				
BAR	TOTAL NO.	LENGTH	SHAPE	LOCATION
D601E	69	19'-6"	—	BOTTOM LONGITUDINAL
D602E	33	SER. 1	—	BOTTOM LONGITUDINAL
D603E	44	SER. 2	—	BOTTOM LONGITUDINAL
D504E	7	20'-0"	—	BOTTOM TRANSVERSE
D505E	14	30'-0"	—	BOTTOM TRANSVERSE
D506E	13	35'-0"	—	BOTTOM TRANSVERSE
D507E	6	42'-6"	—	BOTTOM TRANSVERSE
D408E	35	19'-6"	—	TOP LONGITUDINAL
D409E	16	SER. 3	—	TOP LONGITUDINAL
D410E	22	SER. 4	—	TOP LONGITUDINAL
D411E	7	20'-0"	—	TOP TRANSVESRE
D412E	7	29'-2"	—	TOP TRANSVESRE
D413E	7	24'-0"	—	TOP TRANSVESRE
D414E	13	40'-0"	—	TOP TRANSVESRE
D415E	6	37'-0"	—	TOP TRANSVESRE
D516E	2	26'-0"	—	T & B LONGITUDINAL
D517E	2	29'-11"	—	T & B LONGITUDINAL

SER.1 = 1 SERIES OF 33 BARS (19'-0" TO 1'-0")  
 SER.2 = 1 SERIES OF 44 BARS (19'-2" TO 0'-9")  
 SER.3 = 1 SERIES OF 16 BARS (18'-6" TO 1'-7")  
 SER.4 = 1 SERIES OF 22 BARS (18'-9" TO 0'-9")

**NOTES:**

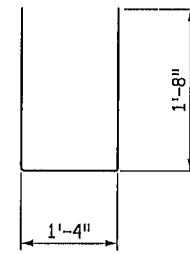
BENT BAR DIMENSIONS GIVEN ARE OUT-TO-OUT. ACTUAL BAR LENGTHS SHALL BE DETERMINED BASED ON THE DETAIL DIMENSIONS SHOWN IN THE BAR BENDING DIAGRAMS.

- \* DENOTES STANDARD STIRRUP HOOK.
- \*\* DENOTES STANDARD 180° HOOK

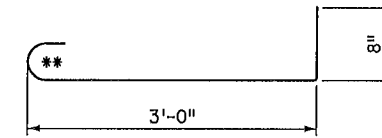
**NOTES:**

- ① DRIVEWAY APPROACH SLAB REINFORCEMENT INCIDENTAL TO "CONCRETE DRIVEWAY APPROACH PANELS".
- ② ADHESIVE ANCHOR INCLUDED IN ITEM "ANCH TYPE REINF BARS (TYPE L)".

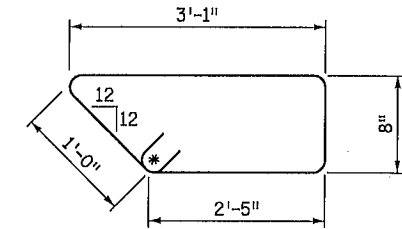
**BAR BENDING DIAGRAMS:**



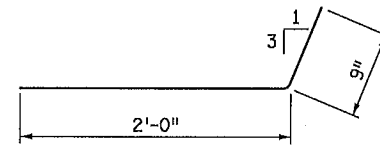
**B404E**



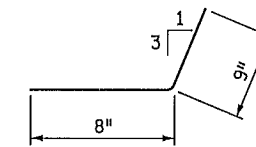
**B405E**



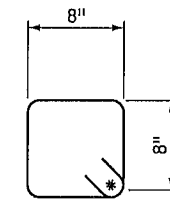
**B406E**



**B415E**



**B416E ②**



**B417E**

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**CSAH 14 EAST OF COON CREEK BLVD.**  
**COON RAPIDS, MINNESOTA**  
 S.P. NO. 002-614-044

TITLE: **DRIVEWAY BARLIST**

DES: SEM	DR: SEM	APPROVED
CHK: MAV	CHK: MAV	

BRIDGE NO. 02015

SHEET NO. B34 OF B34 SHEETS