

PLAN SYMBOLS

- COUNTY LINE \_\_\_\_\_
- TOWNSHIP OR RANGE LINE \_\_\_\_\_
- SECTION LINE \_\_\_\_\_
- QUARTER LINE \_\_\_\_\_
- SIXTEENTH LINE \_\_\_\_\_
- RIGHT OF WAY LINE \_\_\_\_\_
- SLOPE ASSESSMENT \_\_\_\_\_
- EXISTING RIGHT OF WAY \_\_\_\_\_
- PROPERTY LINE \_\_\_\_\_
- CORPORATE OR CITY LIMITS \_\_\_\_\_
- RETAINING WALL \_\_\_\_\_
- RAILROAD \_\_\_\_\_
- RAILROAD RIGHT OF WAY \_\_\_\_\_
- RIVER OR CREEK \_\_\_\_\_
- DRAINAGE DITCH \_\_\_\_\_
- CULVERT \_\_\_\_\_
- DROP INLET \_\_\_\_\_
- GUARD RAIL \_\_\_\_\_
- BARBED WIRE FENCE \_\_\_\_\_
- WOVEN WIRE FENCE \_\_\_\_\_
- CHAIN LINK FENCE \_\_\_\_\_
- WOOD FENCE \_\_\_\_\_
- STONE WALL OR FENCE \_\_\_\_\_
- HEDGE \_\_\_\_\_

- LOWLAND \_\_\_\_\_
- TIMBER \_\_\_\_\_
- ORCHARD \_\_\_\_\_
- BRUSH \_\_\_\_\_
- NURSERY \_\_\_\_\_

- CATTLE GUARD \_\_\_\_\_
- OVERPASS (Highway Over) \_\_\_\_\_
- UNDERPASS (Highway Under) \_\_\_\_\_
- BRIDGE \_\_\_\_\_

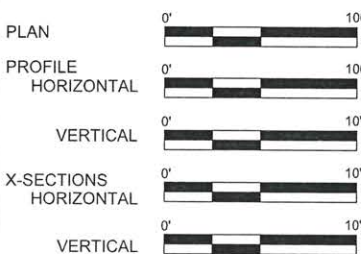
- BUILDING (One Story Frame) \_\_\_\_\_
- F-FRAME C-CONCRETE \_\_\_\_\_
- S-STONE T-TILE \_\_\_\_\_
- B-BRICK ST-STUCCO \_\_\_\_\_

- RAILROAD CROSSING BELL \_\_\_\_\_
- RAILROAD CROSSING GATE \_\_\_\_\_
- MANHOLE \_\_\_\_\_
- CATCH BASIN \_\_\_\_\_
- FIRE HYDRANT \_\_\_\_\_
- CAST IRON MONUMENT \_\_\_\_\_
- IRON PIN \_\_\_\_\_
- GRAVEL PIT \_\_\_\_\_
- SAND PIT \_\_\_\_\_
- BORROW PIT \_\_\_\_\_
- ROCK QUARRY \_\_\_\_\_

UTILITY SYMBOLS

- POWER POLE LINE \_\_\_\_\_
- TELEPHONE OR TELEGRAPH POLE LINE \_\_\_\_\_
- JOINT TELEPHONE & POWER ON POWER POLES \_\_\_\_\_
- ON TELEPHONE POLES \_\_\_\_\_
- ANCHOR \_\_\_\_\_
- STEEL TOWER \_\_\_\_\_
- STREET LIGHT \_\_\_\_\_
- PEDESTAL (Cable Terminal) \_\_\_\_\_
- GAS MAIN \_\_\_\_\_
- WATERMAIN \_\_\_\_\_
- TELEPHONE CABLE IN CONDUIT \_\_\_\_\_
- ELECTRIC CABLE IN CONDUIT \_\_\_\_\_
- TELEPHONE MANHOLE \_\_\_\_\_
- ELECTRIC MANHOLE \_\_\_\_\_
- BURIED TELEPHONE CABLE \_\_\_\_\_
- BURIED ELECTRIC CABLE \_\_\_\_\_
- SEWER (Sanitary or Storm) \_\_\_\_\_
- SEWER MANHOLE \_\_\_\_\_

SCALES



# MINNESOTA DEPARTMENT OF TRANSPORTATION

## ANOKA COUNTY

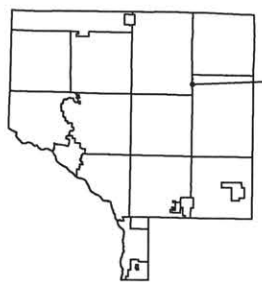
CONSTRUCTION PLAN FOR BITUMINOUS SURFACING AND CULVERT REPLACEMENT

LOCATED ON C.S.A.H. 17 BETWEEN 292' SOUTH OF LEVER ST. AND VIKING BLVD.

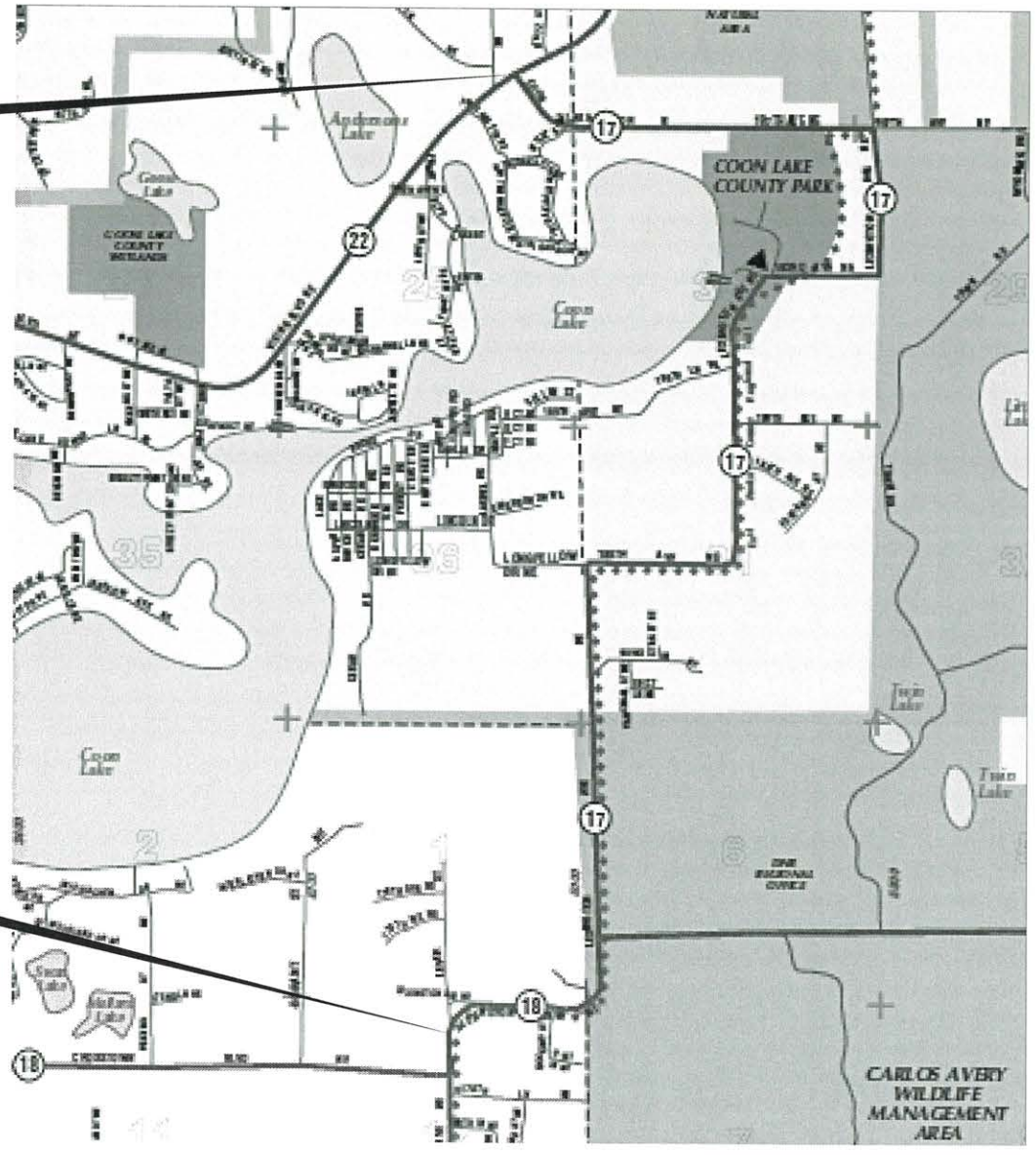
	C.S.A.H. 17		
GROSS LENGTH	29,789 FEET	5.64 MILES	
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES	
NET LENGTH	29,789 FEET	5.64 MILES	

END C.P. 14-48-17  
C.S.A.H. 17 STA. 309+34

BEGIN C.P. 14-48-17  
C.S.A.H. 17 STA. 11+45



PROJECT LOCATION  
CITY OF COLUMBUS  
CITY OF EAST BETHEL  
CITY OF HAM LAKE  
TOWNSHIP OF LINWOOD  
ANOKA COUNTY  
MN/DOT TRANSPORTATION DISTRICT - METRO  
SECTION 19  
TOWNSHIP 33 NORTH  
RANGE 23 WEST



GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MNMUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3 - 4	TYPICAL SECTIONS
5 - 6	MISCELLANEOUS DETAILS
7 - 18	CONSTRUCTION PLAN
19 - 20	CSAH 17 DETOUR
21	PERMANENT MARKING TABULATION
22 - 33	TEMPORARY SIGNING, PERMANENT SIGNING, AND STRIPING
34	TRAFFIC CONTROL QUANTITY

THIS PLAN CONTAINS 34 SHEETS

Approved: ANOKA COUNTY ENGINEER 4/21/2014

NO	DATE	BY	CKD	APPR	REVISION
	04/28/2014				10:10:19 AM

NAME: P:\14-01-00\CSAH\_17\_(No\CSAH18-CSAH22)\Base\PROPOSED\PLAN.dgn

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.

PRINT NAME: ANDREW WITTER

SIGNATURE:

DATE: 4/21/14 LICENSE NO. 42757

DRAWN BY: KPR DATE: 04/28/2014

DESIGN BY: KPR DATE: 04/28/2014

CHECKED BY: DFF DATE: 04/28/2014



**ANOKA COUNTY**  
**HIGHWAY DEPT.**

COUNTY PROJECT 14-48-17

TITLE SHEET

Sheet 1 of 34 Sheets



STATEMENT OF ESTIMATED QUANTITIES				
ITEM NO.	ITEM	NOTES	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED
2021.501	MOBILIZATION		LUMP SUM	1
2101.501	CLEARING		ACRE	0.10
2101.502	CLEARING		TREE	21
2101.506	GRUBBING		ACRE	0.40
2101.507	GRUBBING		TREE	21
2104.501	REMOVE PIPE CULVERTS		LIN FT	550
2104.505	REMOVE BITUMINOUS PAVEMENT		SQ YD	622
2104.509	REMOVE PIPE APRON		EACH	18
2104.513	SAWING BIT PAVEMENT (FULL DEPTH)		LIN FT	528
2123.503	MOTOR GRADER	1	HOUR	16
2211.501	AGGREGATE BASE CLASS 5	2	TON	179
2221.501	SHOULDER BASE AGGREGATE CLASS 5	3	TON	1408
2232.501	MILL BITUMINOUS SURFACE (2.0")	4	SQ YD	208
2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GALLON	4593
2360.501	TYPE SP 12.5 WEARING COURSE MIX (4,E)		TON	10565
2360.501	TYPE SP 12.5 WEARING COURSE MIX (4,E)	5	TON	341
2501.511	18" PC-CS PIPE CULVERT		LIN FT	316
2501.511	24" PC-CS PIPE CULVERT		LIN FT	58
2501.511	36" PC-CS PIPE CULVERT		LIN FT	60
2501.511	48" PC-CS PIPE CULVERT		LIN FT	42
2501.511	60" PC-CS PIPE CULVERT		LIN FT	82
2501.515	18" PC-CS PIPE APRON		EACH	10
2501.515	24" PC-CS PIPE APRON		EACH	2
2501.515	36" PC-CS PIPE APRON		EACH	2
2501.515	48" PC-CS PIPE APRON		EACH	2
2501.515	60" PC-CS PIPE APRON		EACH	2
2540.602	INSTALL MAIL BOX SUPPORT	6	EACH	89
2563.601	TRAFFIC CONTROL	7,8,9	LUMP SUM	1
2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	10	UNIT DAY	14
2573.502	SILT FENCE, TYPE MS		LIN FT	540
2575.523	EROSION CONTROL BLANKETS CATEGORY 0	12	SQ YD	2300
2581.501	REMOVABLE PREFORMED PAVEMENT MARKING TAPE	11	LIN FT	1192
2582.502	4" SOLID LINE WHITE-EPOXY	13	LIN FT	59642
2582.502	4" BROKEN LINE WHITE-EPOXY	13	LIN FT	40
2582.502	4" SOLID LINE YELLOW-EPOXY	13	LIN FT	20840
2582.502	4" BROKEN LINE YELLOW-EPOXY	13	LIN FT	4380
2582.502	4" DOUBLE SOLID LINE YELLOW-EPOXY	13	LIN FT	7846

CONSTRUCTION NOTES	
1	INCLUDES TIME AND EQUIPMENT.
2	GRAVEL BASE FOR CONCRETE, BITUMINOUS STREET APPROACHES, DRIVEWAYS, AND CULVERT PATCHES.
3	ITEM INCLUDES 5 TONS FOR EACH GRAVEL ENTRANCE.
4	ITEM INCLUDES 2" DEEP MILL AT BEGINNING AND END OF PROJECT, ALL PAVED ST APPROACHES, AND DRIVEWAYS; SEE DETAILS FOR DIMENSIONS
5	TO BE USED FOR STREET APPROACHES AND CULVERT PATCHES.
6	MAILBOXES ARE TO BE INSTALLED AT THE EXISTING MAILBOX LOCATION OR AS DIRECTED BY THE LOCAL POSTAL AUTHORITY.
7	ALL TRAFFIC CONTROL METHODS SHALL CONFORM TO THE CURRENT "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
8	DO NOT PASS, PASS WITH CARE AND NO CENTER STRIPE SIGNS TO BE INPLACE DURING MILLING, RECLAIMING OR PAVING OPERATIONS.
9	"DETOUR IS PAID UNDER THE TRAFFIC CONTROL ITEM."
10	2 MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT WILL BE INSTALLED 7 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
11	CENTERLINE SKIPS TO BE APPLIED AS SOON AS POSSIBLE ON EACH NEW LIFT OF PAVEMENT; TO BE INPLACE BEFORE CONTRACTOR LEAVES FOR THE DAY. CONTRACTOR IS TO REMOVE PRIOR TO FINAL PAINT STRIPING.
12	SEEDING, TYPE 4 FERTILIZER, 240 SEED AND PLACEMENT OF TOPSOIL ARE INCIDENTAL TO BLANKET.
13	FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING.

BASIS OF PLANNED QUANTITIES	
2357.502	BITUMINOUS MATERIAL FOR TACK COAT .05 GAL / SQ YD
2211.501	AGGREGATE BASE CLASS 5 1.8 TON / CU YD
2360.501	ALL BITUMINOUS PAVEMENT 115 LB / SQ YD / IN. THICKNESS

NO	DATE	BY	CKD	APPR	REVISION	
	04/17/2014					7:37:03 AM

NAME: P:\14-01-00\CSAH\_17\_(No\CSAH18-CSAH22)\Base\PROPOSED\PLAN.dgn

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PRINT NAME: ANDREW WITTERS


SIGNATURE: *[Signature]*

DATE: 4/28/14 LICENSE NO. 42757

DRAWN BY: KPR DATE: 2/03/2014

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CHECKED BY: DFF DATE: 04/17/2014

 ANOKA COUNTY  
HIGHWAY DEPT.

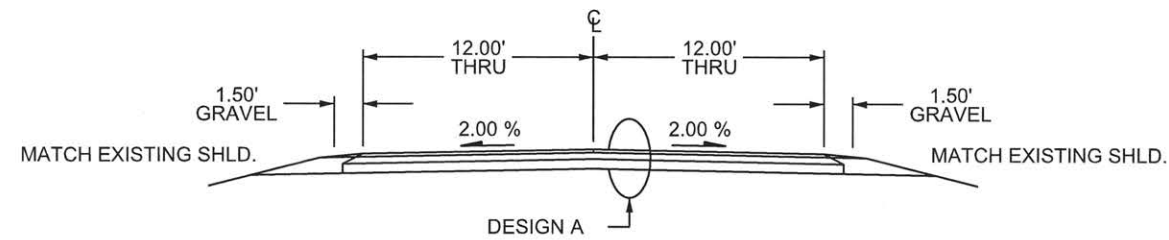
COUNTY PROJECT 14-48-17

STATEMENT OF ESTIMATED QUANTITIES

Sheet 2 of 34 Sheets

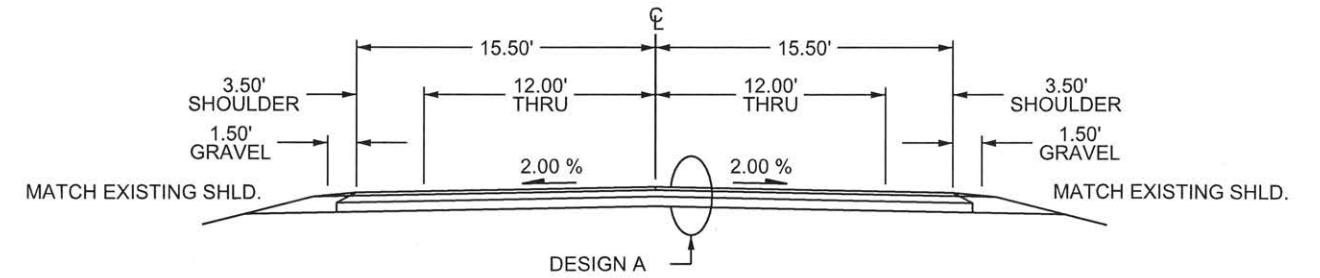
LEXINGTON AVE (CSAH 17)  
PROPOSED

STA 55+01 - 137+27  
 STA 146+97 - 180+67  
 STA 187+49 - 191+72  
 STA 200+15 - 216+70  
 STA 219+60 - 243+47  
 STA 245+13 - 309+34

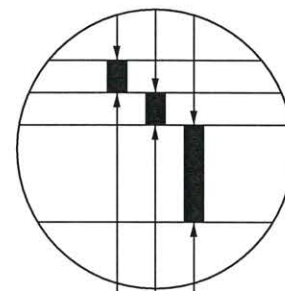


LEXINGTON AVE (CSAH 17)  
PROPOSED

STA 137+27 - 146+97  
 STA 180+67 - 187+49  
 STA 191+72 - 200+15  
 STA 216+70 - 219+60  
 STA 243+47 - 245+13



DESIGN A  
OVERLAY SECTION



2.0" BITUMINOUS WEAR (SPWEB440E)  
 EXISTING BITUMINOUS  
 EXISTING BASE

NO	DATE	BY	CKD	APPR	REVISION	TIME
	04/17/2014					7:37:08 AM

NAME: P:\14-01-00\CSAH\_17 (No\CSAH18-CSAH22)\Base\PROPOSED\PLAN.dgn

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**ANOKA COUNTY**  
**HIGHWAY DEPT.**

COUNTY PROJECT 14-48-17

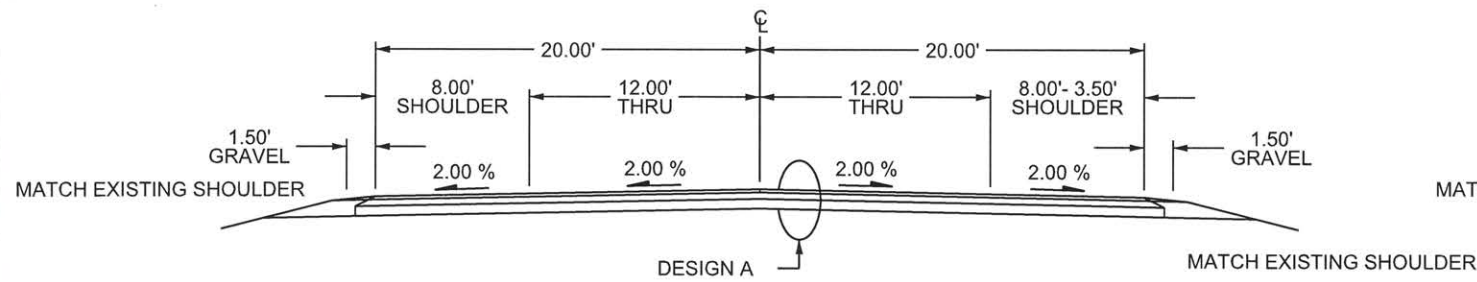
TYPICAL SECTIONS  
 Sheet 3 of 34 Sheets



**LEXINGTON AVE (CSAH 17)**

PROPOSED ROAD

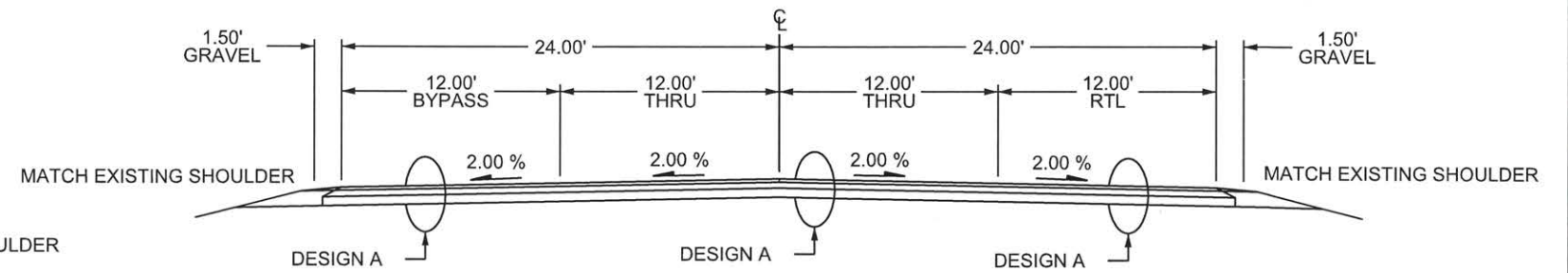
STA 11+45 - 46+35



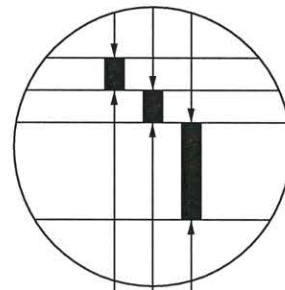
**LEXINGTON AVE (CSAH 17)**

RIGHT TURN & BYPASS LANE

STA 46+53 - 55+01



**DESIGN A  
OVERLAY SECTION**



2.0" BITUMINOUS WEAR(SPWEB440E)  
EXISTING BITUMINOUS  
EXISTING BASE

NO	DATE	BY	CKD	APPR	REVISION	04/17/2014	7:37:21 AM
NAME: P:\14-01-00\CSAH_17_(No\CSAH18-CSAH22)\Base\PROPOSED\PLAN.dgn							

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PRINT NAME: ANDREW WITTER  
SIGNATURE: *[Signature]*  
DATE: 4/28/14 LICENSE NO. 42757

DRAWN BY: KPR DATE: 2/03/2014  
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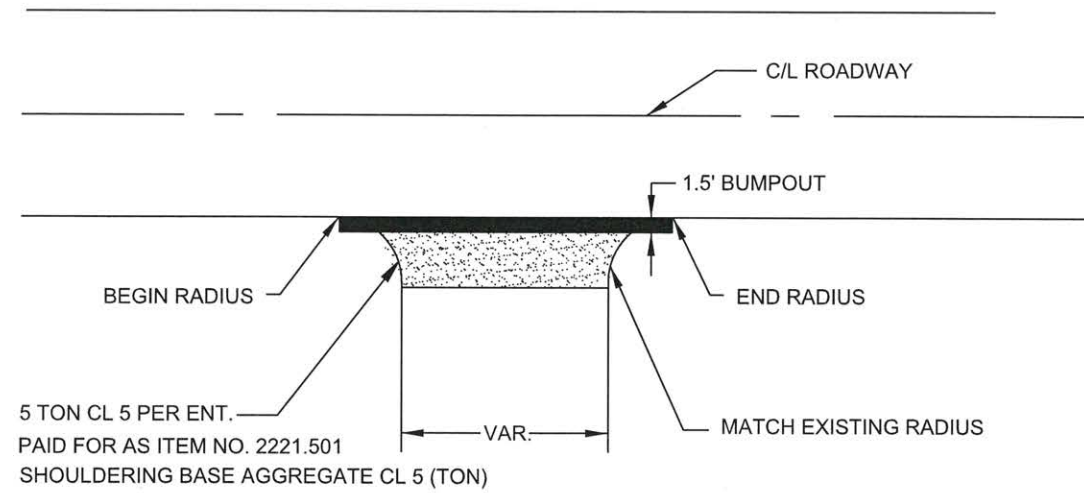
**ANOKA COUNTY  
HIGHWAY DEPT.**

COUNTY PROJECT 14-48-17

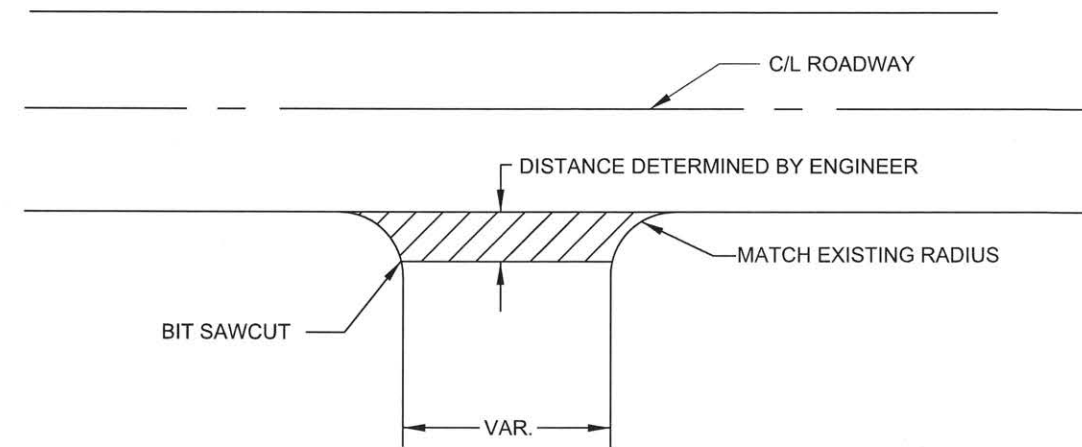
TYPICAL SECTIONS  
Sheet 4 of 34 Sheets



GRAVEL DRIVEWAYS, FIELD ENTRANCES, AND STREET APPROACHES



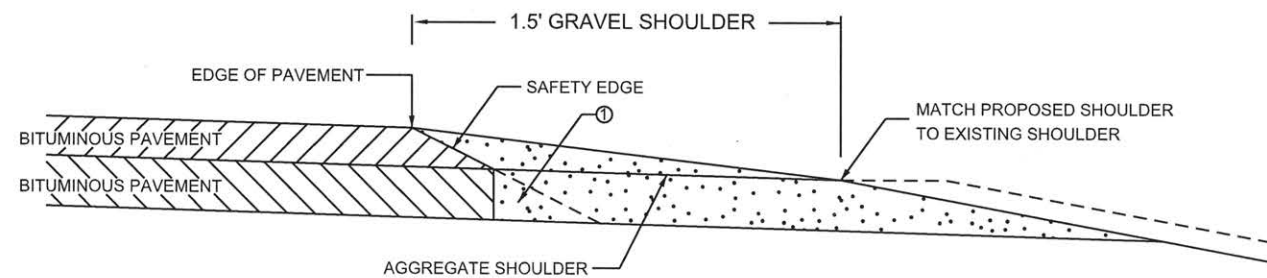
PAVED DRIVEWAYS AND STREET APPROACHES



DRIVEWAYS AND STREET APPROACHES BUMPOUT AND PAVED WITH MAINLINE PAID AS MAINLINE.

SHOULDER DETAIL

BITUMINOUS SAFETY EDGE  
GRAVEL SHOULDER



SAFETY EDGE TO BE USED IN ALL NON-CURB AREAS ON SHOULDER.

① OPTIONAL DESIGN EXTENDS SAFETY EDGE DEEPER THAN 6" AND WIDER THAN 10.5".

NOT TO SCALE

NO	DATE	BY	CKD	APPR	REVISION	04/17/2014	7:37:25 AM
NAME: P:\14-01-00\CSAH_17_(No\CSAH18-CSAH22)\Base\PROPOSED\PLAN.dgn							

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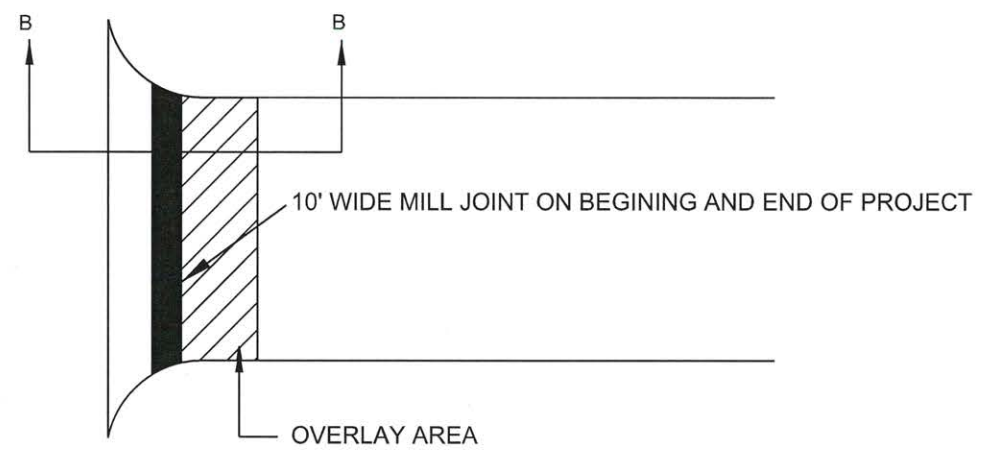
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 DESIGN BY: KPR DATE: 2/03/2014  
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**ANOKA COUNTY**  
**HIGHWAY DEPT.**

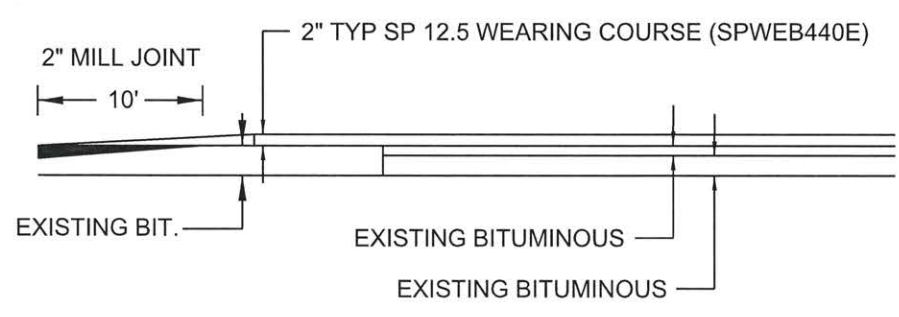
COUNTY PROJECT 14-48-17

MISCELLANEOUS DETAILS  
 Sheet 5 of 34 Sheets

MAINLINE  
JOINT DETAILS



JOINT DETAILS B - B



NOT TO SCALE

NO	DATE	BY	CKD	APPR	REVISION	DATE	TIME

NAME: P:\14-01-00\CSAH\_17\_(No\CSAH18-CSAH22)\Base\PROPOSED\PLAN.dgn

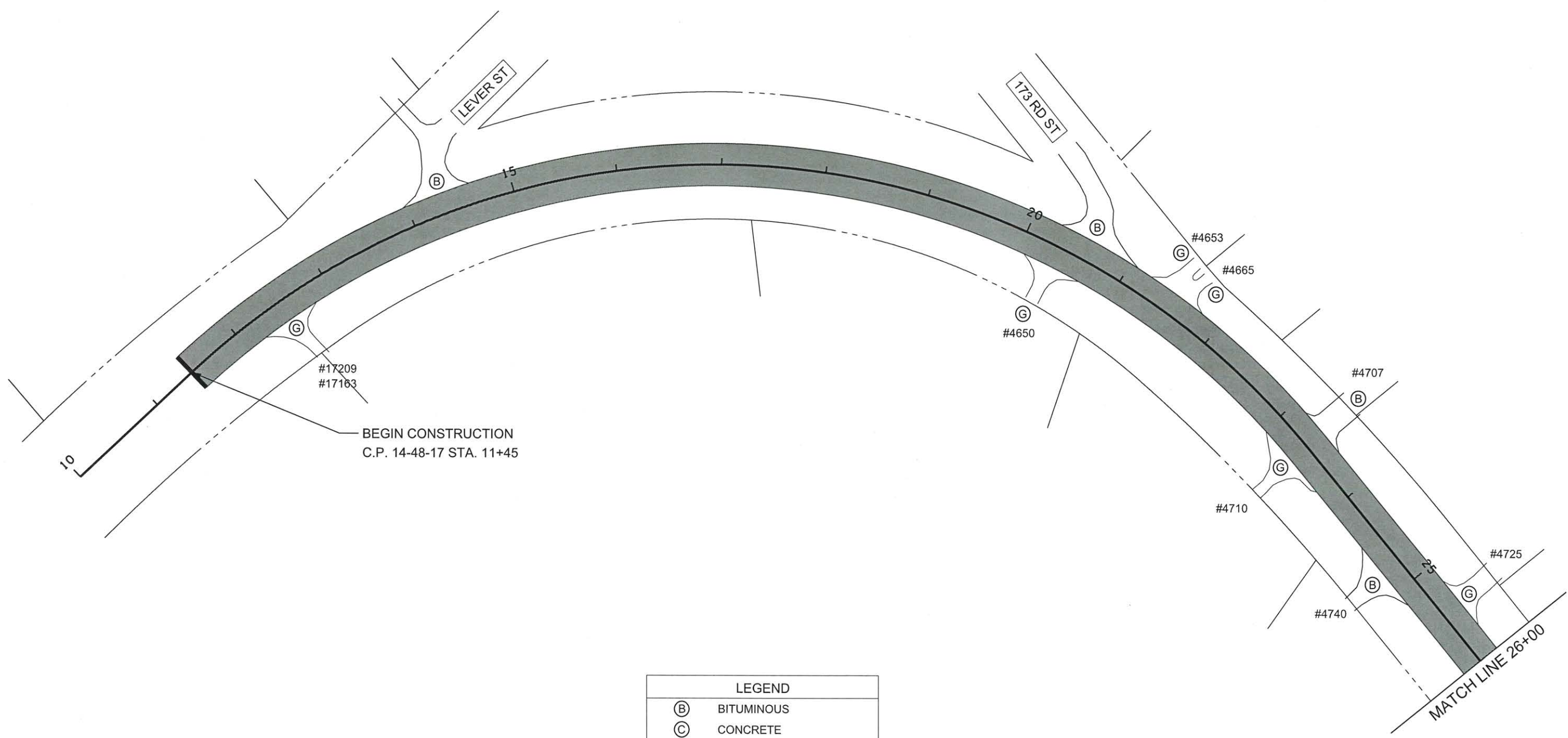
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 PRINT NAME: ANDREW WITTER  
 SIGNATURE: *Andrew Witter*  
 DATE: 4/28/14 LICENSE NO. 42757

DRAWN BY: KPR DATE: 2/03/2014  
 DESIGN BY: KPR DATE: 2/03/2014  
 CHECKED BY: DFF DATE: 04/17/2014

COUNTY PROJECT 14-48-17

MISCELLANEOUS DETAILS  
 Sheet 6 of 34 Sheets





LEGEND	
(B)	BITUMINOUS
(C)	CONCRETE
(G)	GRAVEL
	STREET APPROACH
	MAINLINE (OVERLAY)
	SAWCUT
	R/W

NO	DATE	BY	CKD	APPR	REVISION	DATE	TIME
	04/17/2014						7:37:38 AM

NAME: P:\14-01-00\CSAH\_17\_(No\CSAH18-CSAH22)\Base\PROPOSED\PLAN.dgn

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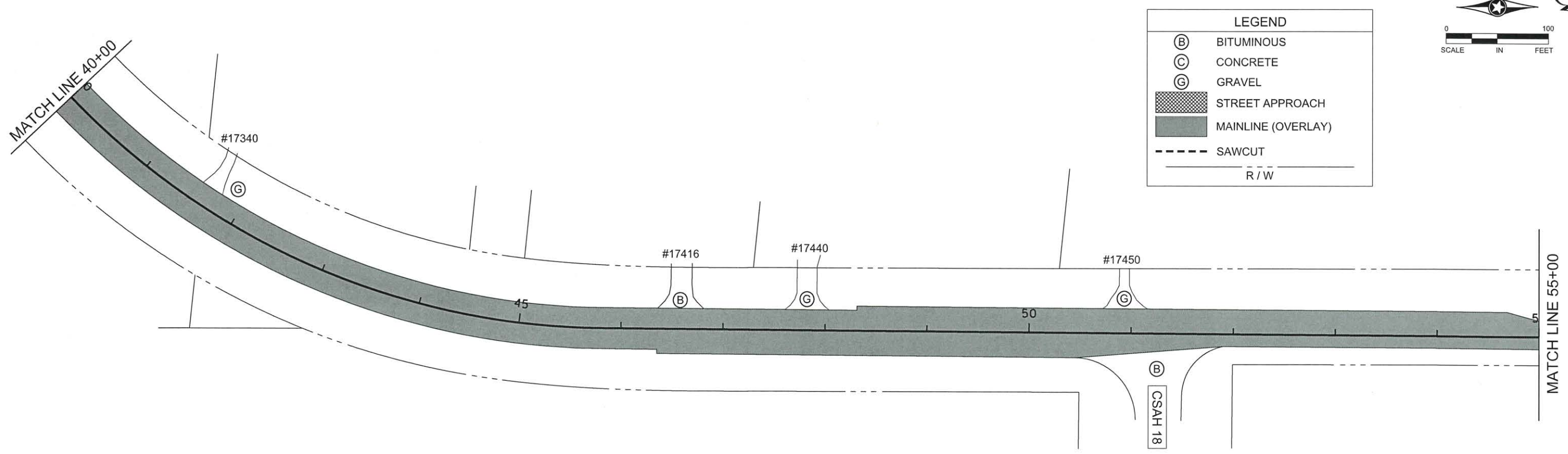
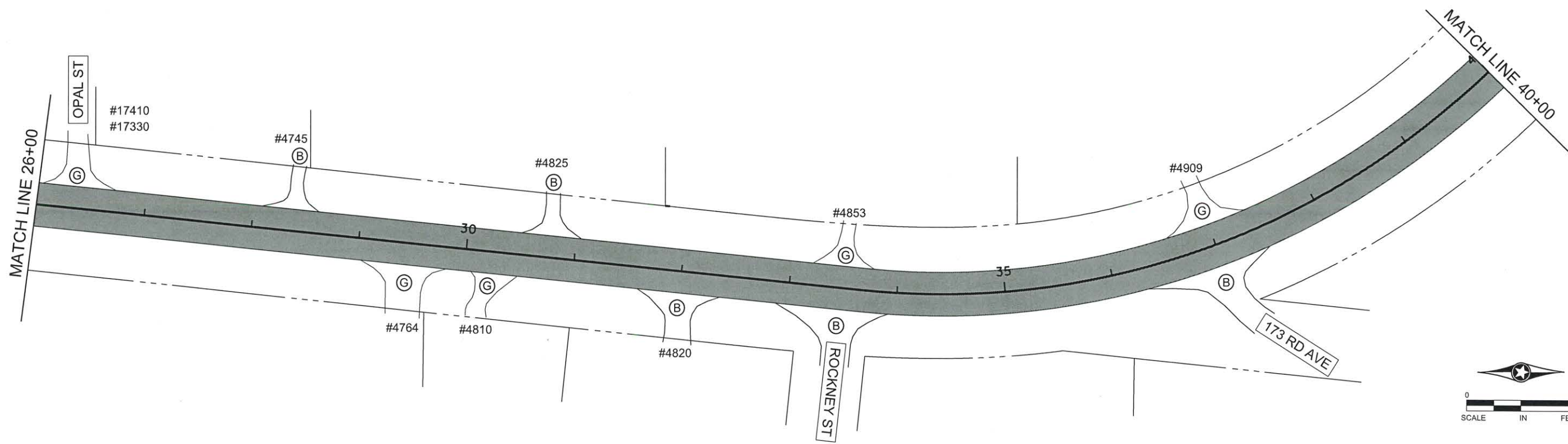
DESIGN BY: KPR DATE: 2/03/2014

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ANOKA COUNTY HIGHWAY DEPT.

COUNTY PROJECT 14-48-17

CONSTRUCTION PLAN  
STA 11+45 TO 26+00  
Sheet 7 of 34 Sheets



LEGEND	
(B)	BITUMINOUS
(C)	CONCRETE
(G)	GRAVEL
[Hatched Box]	STREET APPROACH
[Dark Grey Box]	MAINLINE (OVERLAY)
[Dashed Line]	SAWCUT
[Solid Line]	R/W

NO	DATE	BY	CKD	APPR	REVISION	DATE	TIME

NAME: P:\14-01-00\CSAH\_17\_(No\CSAH18-CSAH22)\Base\PROPOSED\PLAN.dgn

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**HIGHWAY DEPT.**

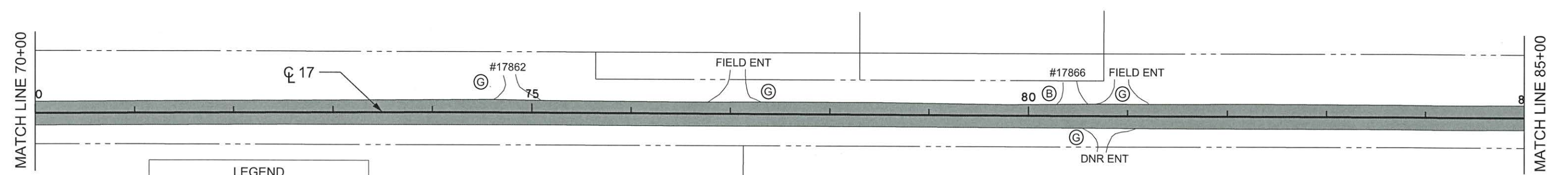
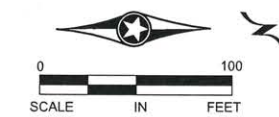
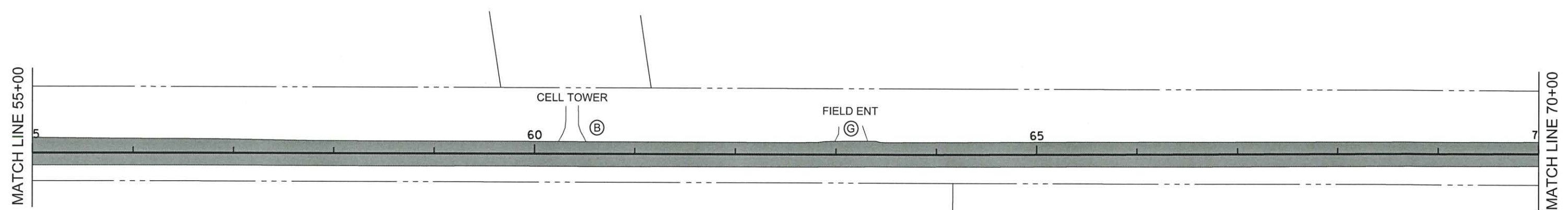
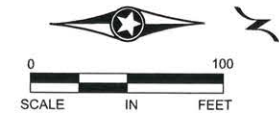
COUNTY PROJECT 14-48-17

CONSTRUCTION PLAN

STA 26+00 TO 55+00

Sheet 8 of 34 Sheets





LEGEND	
(B)	BITUMINOUS
(C)	CONCRETE
(G)	GRAVEL
	STREET APPROACH
	MAINLINE (OVERLAY)
	SAWCUT
	R/W

NO	DATE	BY	CKD	APPR	REVISION	04/17/2014	7:37:52 AM

NAME: P:\14-01-00\CSAH\_17\_(NotCSAH18-CSAH22)\Base\PROPOSED\PLAN.dgn

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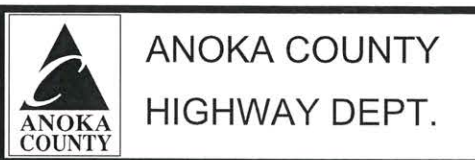
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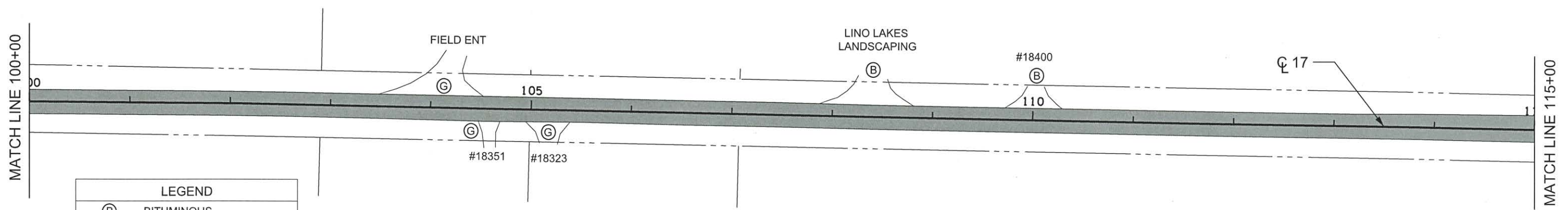
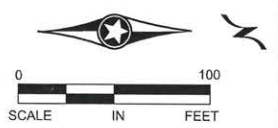
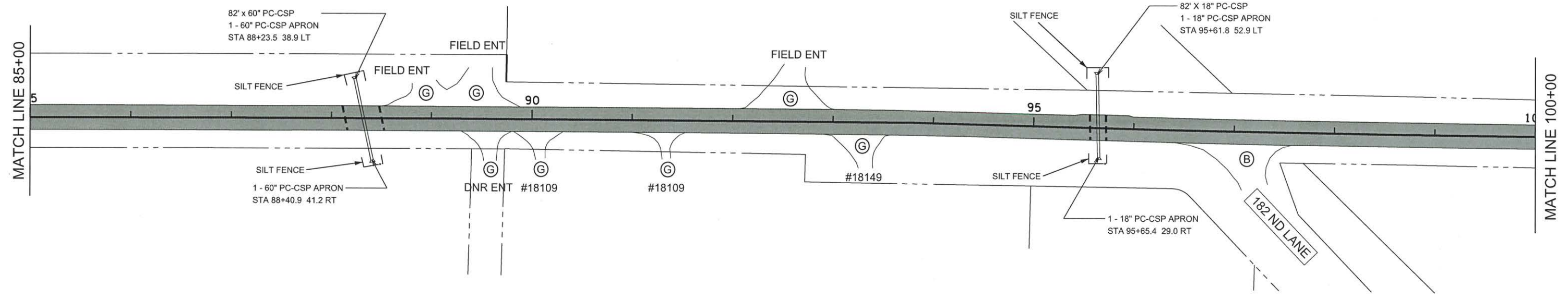
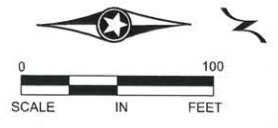


COUNTY PROJECT 14-48-17

CONSTRUCTION PLAN

STA 55+00 TO 85+00

Sheet 9 of 34 Sheets

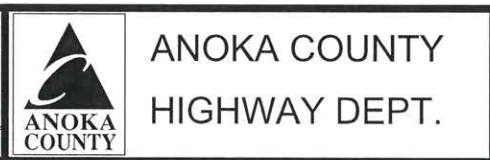


LEGEND	
(B)	BITUMINOUS
(C)	CONCRETE
(G)	GRAVEL
	STREET APPROACH
	MAINLINE (OVERLAY)
	SAWCUT
	R / W

NO	DATE	BY	CKD	APPR	REVISION	04/17/2014	7:37:56 AM
NAME: P:\14-01-00\CSAH_17_(No\CSAH18-CSAH22)\Base\PROPOSED\PLAN.dgn							

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.  
 PRINT NAME: ANDREW WITTER  
 SIGNATURE: *Andrew Witter*  
 DATE: 4/17/14 LICENSE NO. 42757

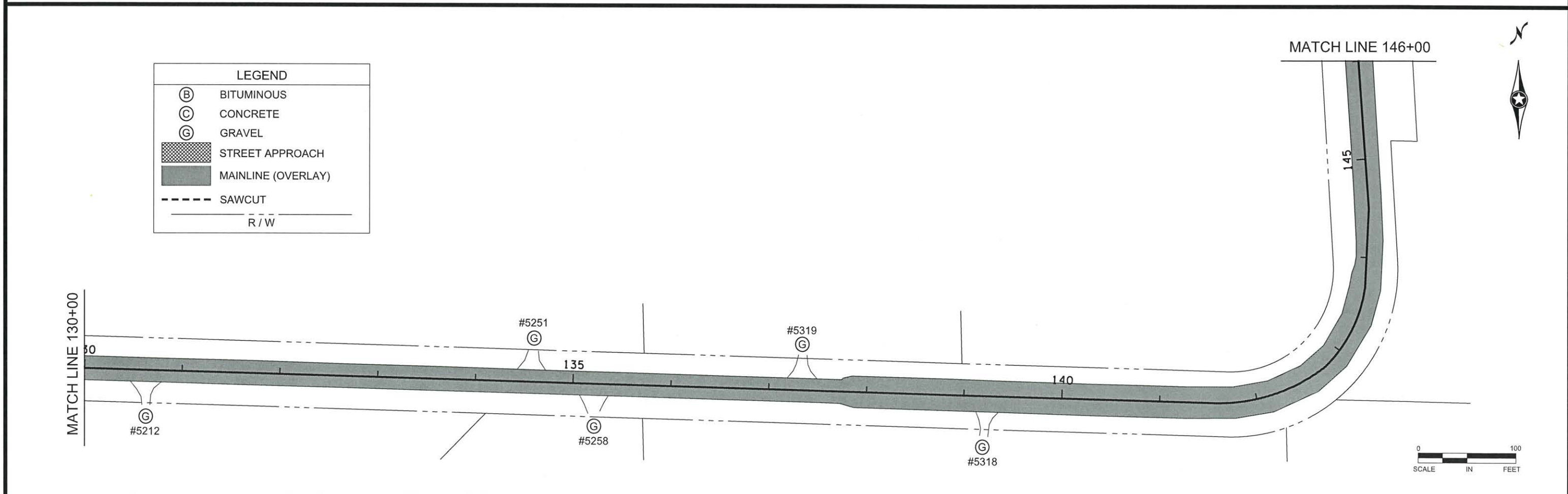
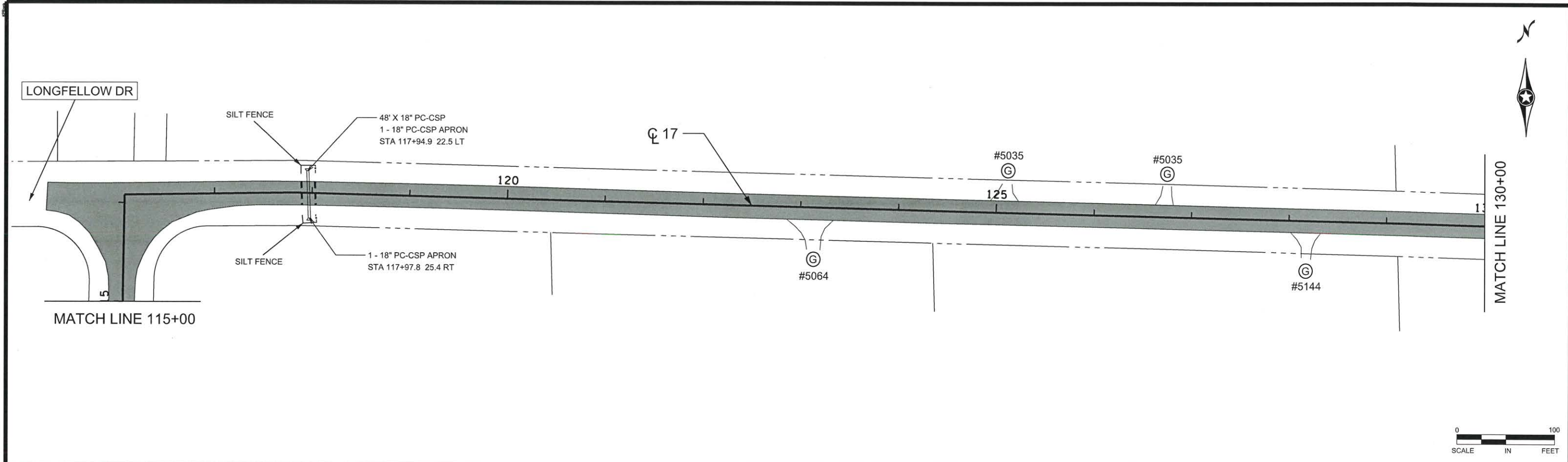
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 DESIGN BY: KPR DATE: 2/03/2014  
 CHECKED BY: DFF DATE: 04/17/2014



ANOKA COUNTY  
 HIGHWAY DEPT.  
 COUNTY PROJECT 14-48-17

CONSTRUCTION PLAN  
 STA 85+00 TO 115+00  
 Sheet 10 of 34 Sheets





NO	DATE	BY	CKD	APPR	REVISION	04/17/2014	7:38:00 AM
NAME: P:\14-01-00\CSAH_17 (No\CSAH18-CSAH22)\Base\PROPOSED\PLAN.dgn							

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.

PRINT NAME: ANDREW WITTER

SIGNATURE: *Andrew Witter*

DATE: 4/28/14 LICENSE NO. 42757

DRAWN BY: KPR DATE: 2/03/2014

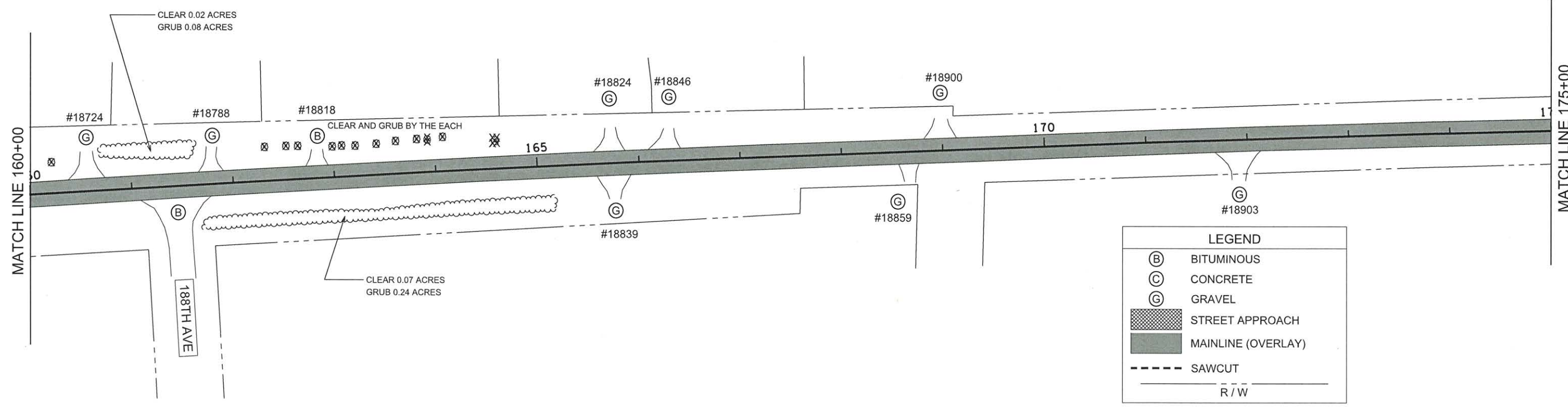
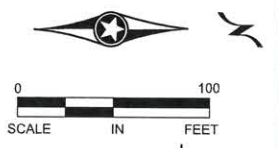
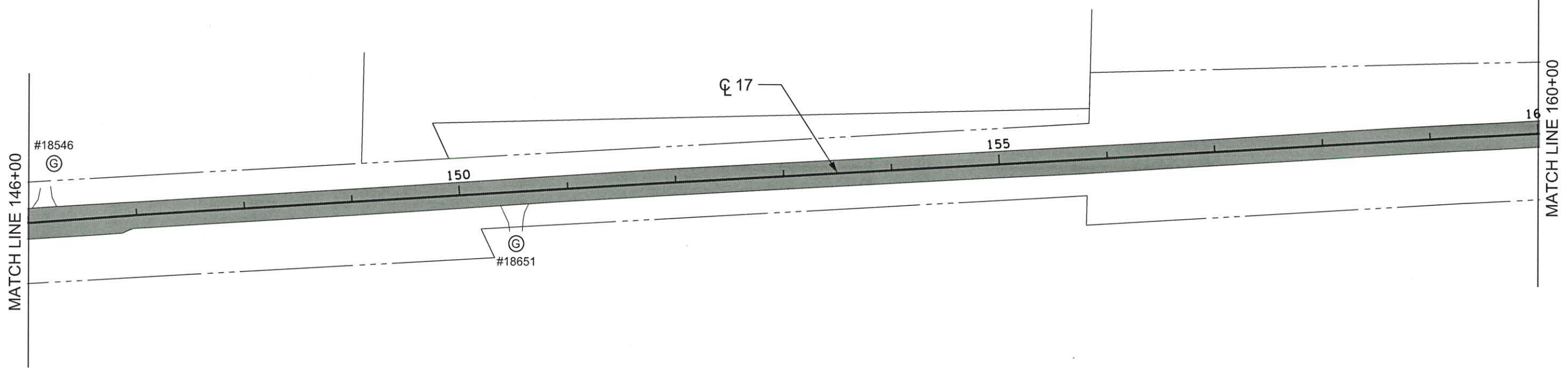
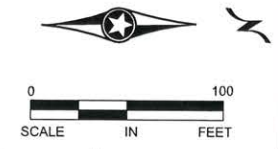
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CHECKED BY: DFF DATE: 04/17/2014

**ANOKA COUNTY**  
HIGHWAY DEPT.

COUNTY PROJECT 14-48-17

CONSTRUCTION PLAN  
STA 115+00 TO 146+00  
Sheet 11 of 34 Sheets



LEGEND	
(B)	BITUMINOUS
(C)	CONCRETE
(G)	GRAVEL
	STREET APPROACH
	MAINLINE (OVERLAY)
	SAWCUT
	R/W

NO	DATE	BY	CKD	APPR	REVISION	DATE	TIME

NAME: P:\14-01-00\CSAH\_17 (No\CSAH18-CSAH22)\Base\PROPOSED\PLAN.dgn

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.

PRINT NAME: ANDREW WITTER

SIGNATURE: *Andrew Witter*

DATE: 4/28/14 LICENSE NO. 42757

DRAWN BY: KPR DATE: 2/03/2014

DESIGN BY: KPR DATE: 2/03/2014

CHECKED BY: DFF DATE: 04/17/2014

ANOKA COUNTY HIGHWAY DEPT.

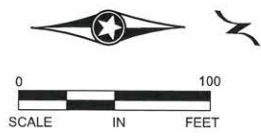
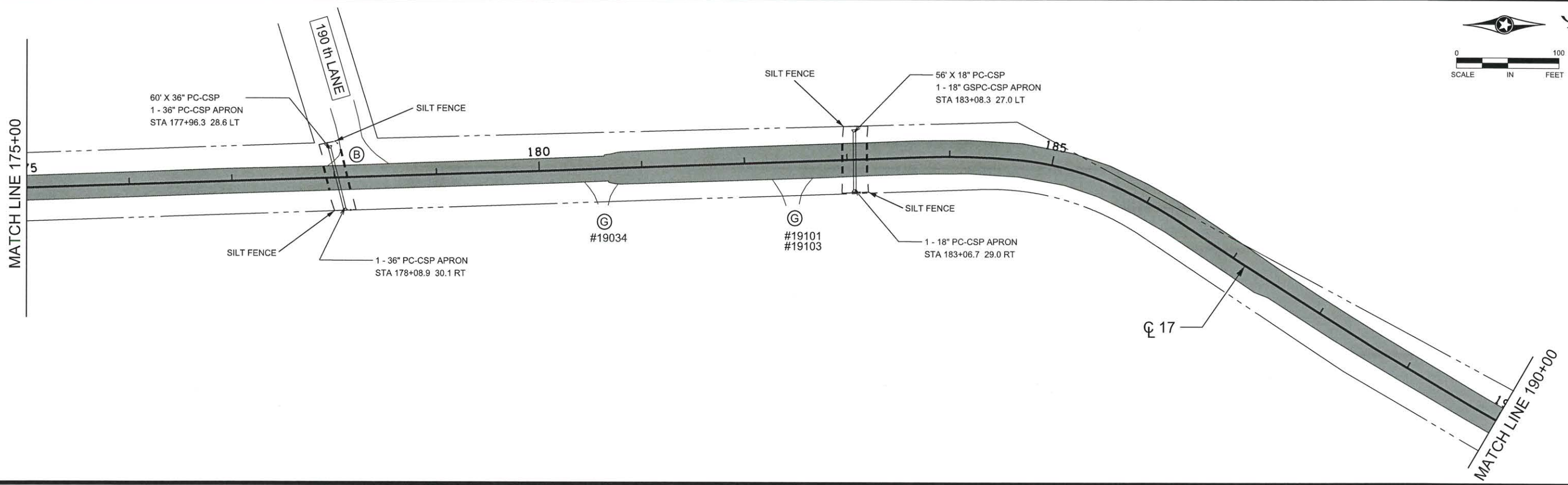
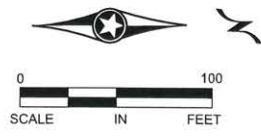
COUNTY PROJECT 14-48-17

CONSTRUCTION PLAN

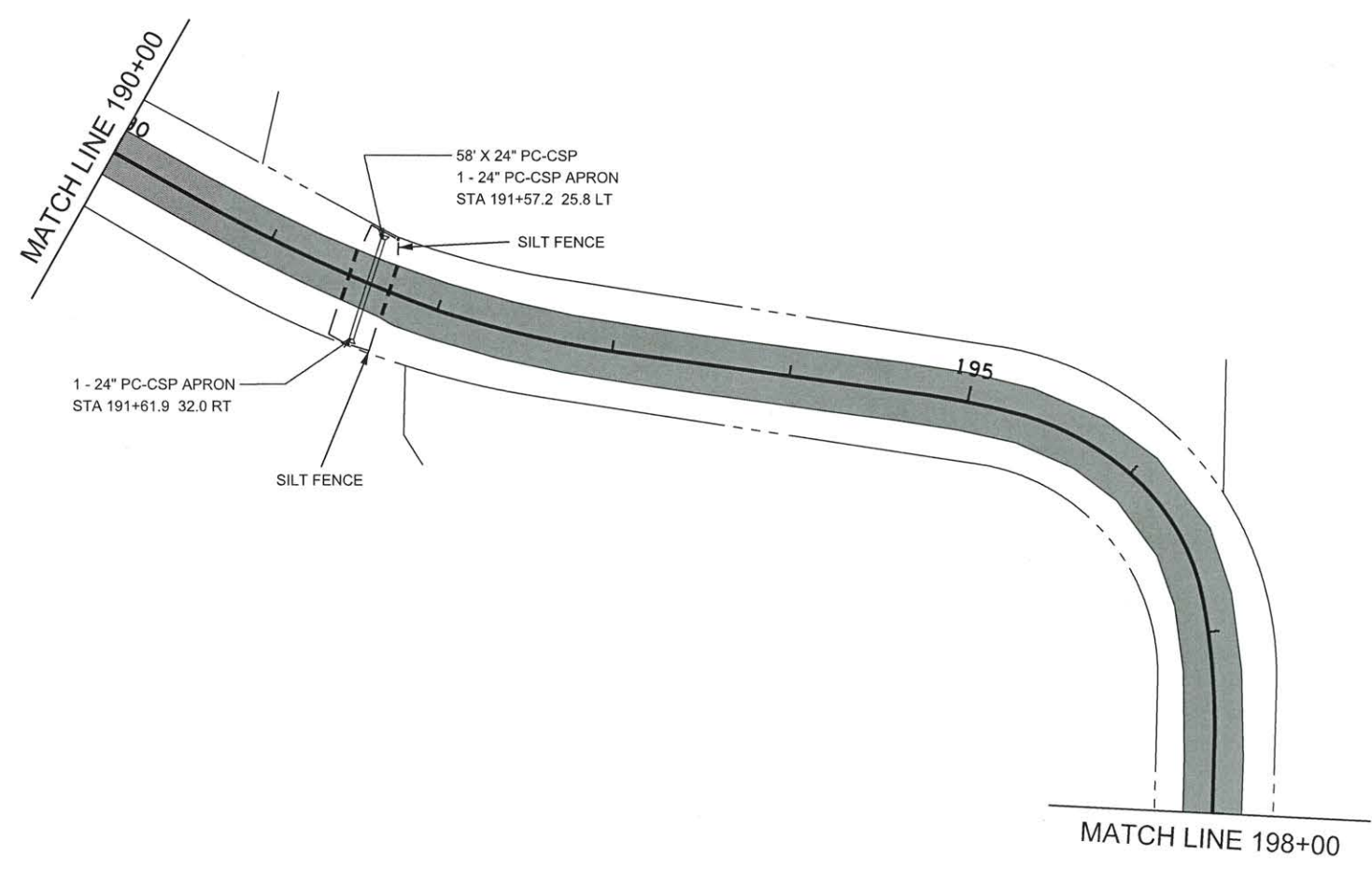
STA 146+00 TO 175+00

Sheet 12 of 34 Sheets





LEGEND	
(B)	BITUMINOUS
(C)	CONCRETE
(G)	GRAVEL
	STREET APPROACH
	MAINLINE (OVERLAY)
	SAWCUT
	R/W



NO	DATE	BY	CKD	APPR	REVISION	04/17/2014	7:38:11 AM
NAME: P:\14-01-00\CSAH_17_(No\CSAH18-CSAH22)\Base\PROPOSED\PLAN.dgn							

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.  
 PRINT NAME: ANDREW WITTE  
 SIGNATURE: *Andrew Witte*  
 DATE: 4/28/14 LICENSE NO. 42757

DRAWN BY: KPR DATE: 2/03/2014  
 DESIGN BY: KPR DATE: 2/03/2014  
 CHECKED BY: DFF DATE: 04/17/2014



COUNTY PROJECT 14-48-17

CONSTRUCTION PLAN  
 STA 175+00 TO 198+00  
 Sheet 13 of 34 Sheets

MATCH LINE 198+00

ANOKA COUNTY  
COON LAKE PARK ENT  
ⓑ

200

205

210

MATCH LINE 213+00



LEGEND	
ⓑ	BITUMINOUS
ⓒ	CONCRETE
ⓓ	GRAVEL
	STREET APPROACH
	MAINLINE (OVERLAY)
	SAWCUT
	R / W

MATCH LINE 221+00

220

SILT FENCE  
42" X 48" PC-CSP  
1 - 48" PC-CSP APRON  
STA 216+58.71 20.8 LT

ⓓ 17

215

SILT FENCE  
1 - 48" PC-CSP APRON  
STA 216+61.6 21.1 RT

MATCH LINE 213+00

ⓒ  
FIELD ENT



NO	DATE	BY	CKD	APPR	REVISION	04/17/2014	7:38:15 AM
NAME: P:\14-01-00\CSAH_17_(No\CSAH18-CSAH22)\Base\PROPOSED\PLAN.dgn							

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 PRINT NAME: ANDREW WITTE  
 SIGNATURE: *Andrew Witte*  
 DATE: 4/28/14 LICENSE NO. 42757

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 CHECKED BY: DFF DATE: 04/17/2014

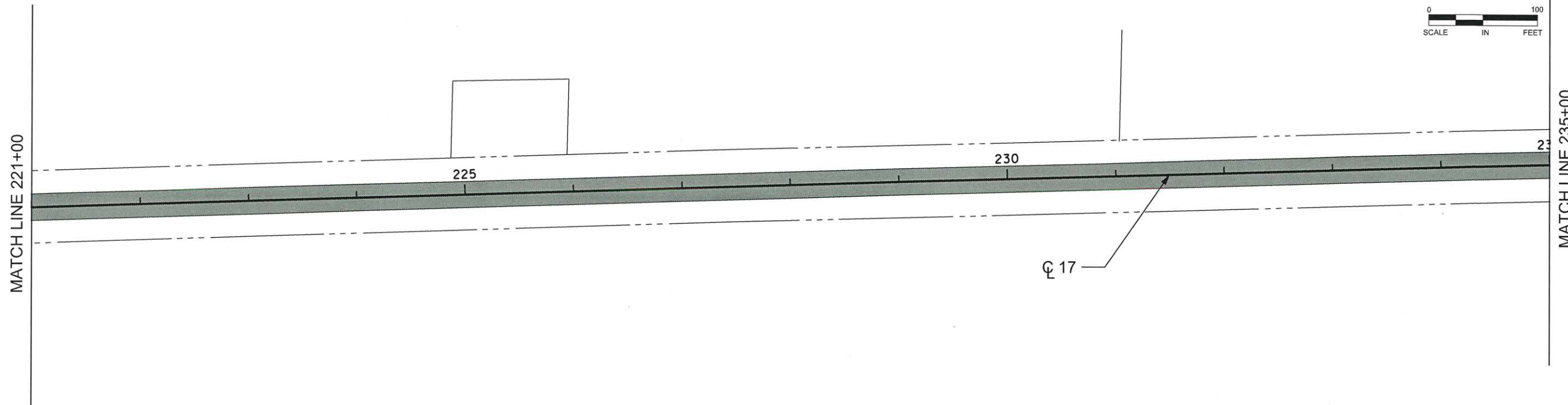
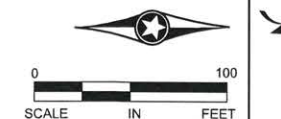


ANOKA COUNTY  
HIGHWAY DEPT.

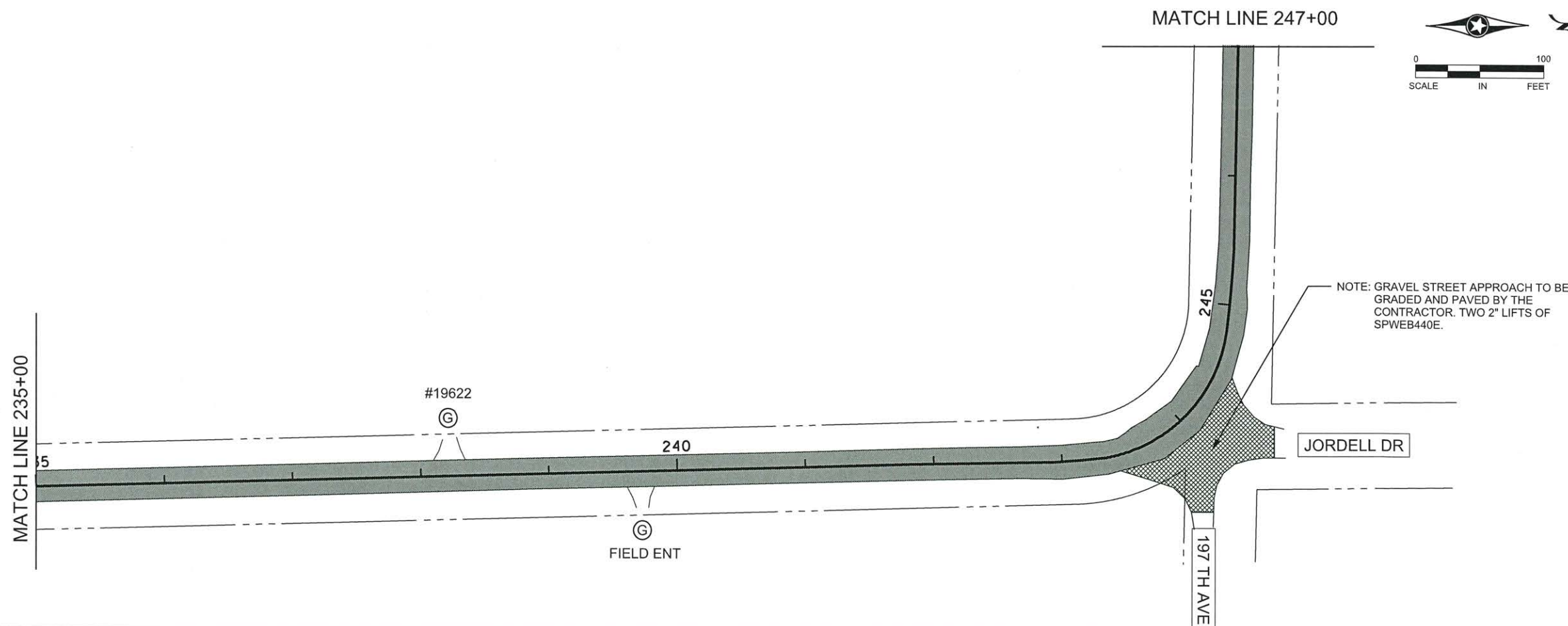
COUNTY PROJECT 14-48-17

CONSTRUCTION PLAN  
STA 198+00 TO 221+00  
Sheet 14 of 34 Sheets





LEGEND	
(B)	BITUMINOUS
(C)	CONCRETE
(G)	GRAVEL
	STREET APPROACH
	MAINLINE (OVERLAY)
	SAWCUT
	R / W



NO	DATE	BY	CKD	APPR	REVISION		
	04/17/2014					7:38:23 AM	

NAME: P:\14-01-00\CSAH\_17\_(No\CSAH18-CSAH22)\Base\PROPOSED\PLAN.dgn

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.

PRINT NAME: ANDREW WITTER

SIGNATURE: *Andrew Witter*

DATE: 4/18/14 LICENSE NO. 42757

DRAWN BY: KPR DATE: 2/03/2014

DESIGN BY: KPR DATE: 2/03/2014

CHECKED BY: DFF DATE: 04/17/2014

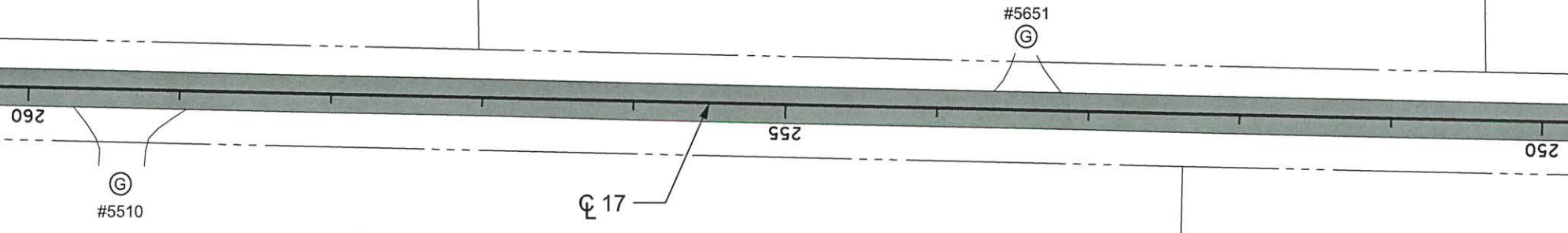
ANOKA COUNTY HIGHWAY DEPT.

COUNTY PROJECT 14-48-17

CONSTRUCTION PLAN  
 STA 221+00 TO 247+00  
 Sheet 15 of 34 Sheets

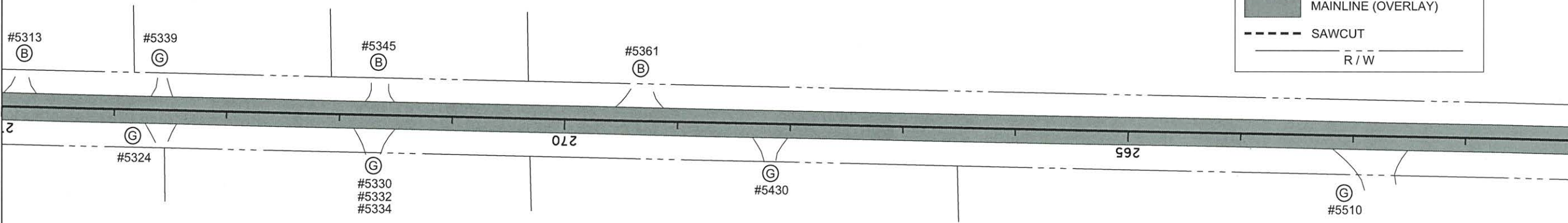
MATCH LINE 261+00

MATCH LINE 247+00



MATCH LINE 275+00

MATCH LINE 261+00



LEGEND	
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(C)	CONCRETE
(G)	GRAVEL
	STREET APPROACH
	MAINLINE (OVERLAY)
	SAWCUT
	R / W



NO	DATE	BY	CKD	APPR	REVISION	DATE	TIME
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NAME: P:\14-01-00\CSAH\_17\_(No\CSAH18-CSAH22)\Base\PROPOSED\PLAN.dgn

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PRINT NAME: ANDREW WITTER

SIGNATURE:

DATE: 4/17/14 LICENSE NO. 42757

DRAWN BY: KPR DATE: 2/03/2014

DESIGN BY: KPR DATE: 2/03/2014

CHECKED BY: DFF DATE: 04/17/2014

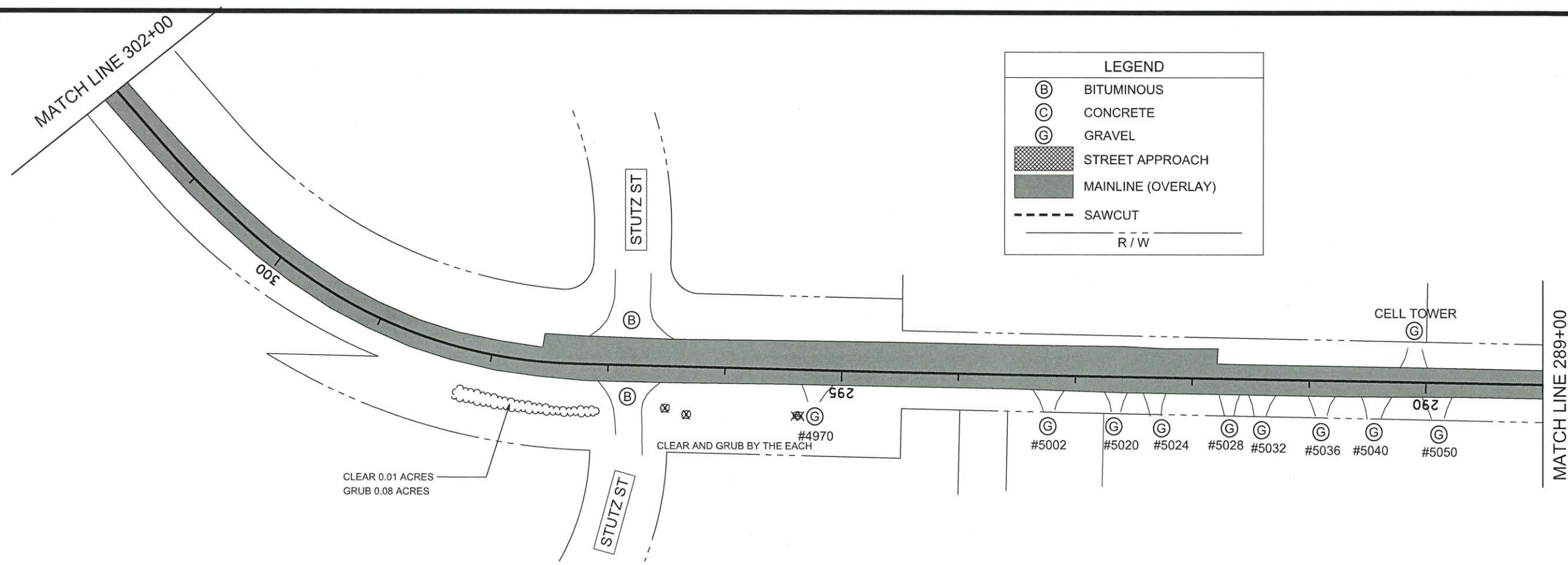
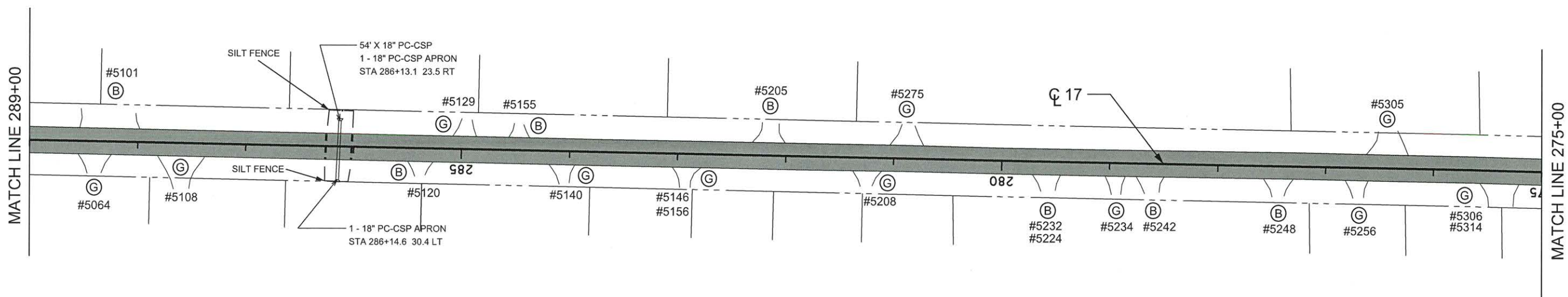


ANOKA COUNTY  
HIGHWAY DEPT.

COUNTY PROJECT 14-48-17

CONSTRUCTION PLAN  
STA 247+00 TO 261+00  
Sheet 16 of 34 Sheets





LEGEND	
(B)	BITUMINOUS
(C)	CONCRETE
(G)	GRAVEL
	STREET APPROACH
	MAINLINE (OVERLAY)
	SAWCUT
	R / W



NO	DATE	BY	CKD	APPR	REVISION	DATE	TIME
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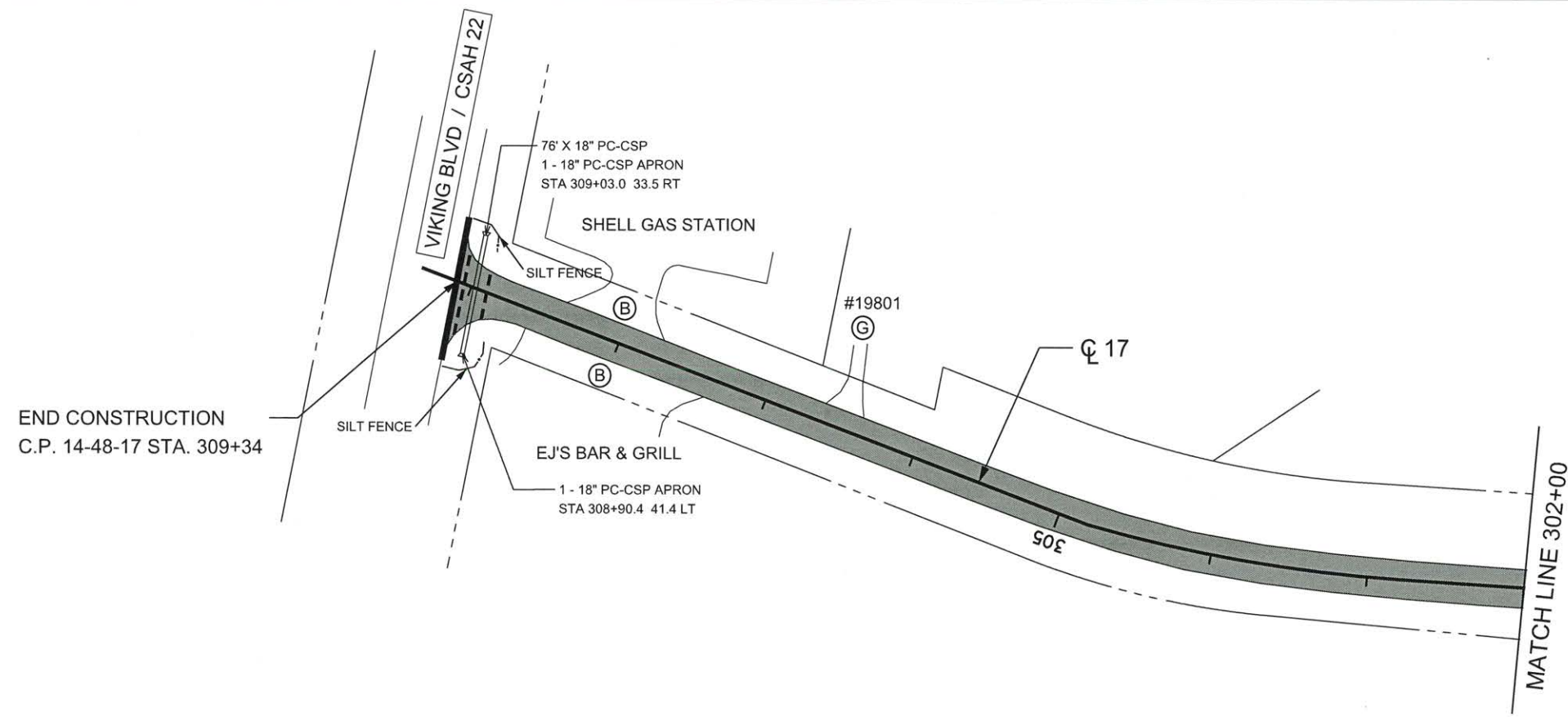
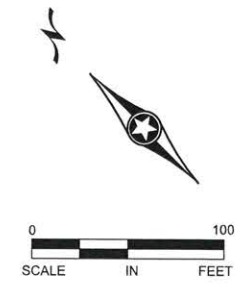
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: ANDREW WITTER  
 SIGNATURE: *Andrew Witter*  
 DATE: 4/17/2014 LICENSE NO. 42757

DRAWN BY: KPR DATE: 2/03/2014  
 DESIGN BY: KPR DATE: 2/03/2014  
 CHECKED BY: DFF DATE: 04/17/2014

ANOKA COUNTY HIGHWAY DEPT.

COUNTY PROJECT 14-48-17

CONSTRUCTION PLAN  
 STA 261+00 TO 289+00  
 Sheet 17 of 34 Sheets



LEGEND	
(B)	BITUMINOUS
(C)	CONCRETE
(G)	GRAVEL
	STREET APPROACH
	MAINLINE (OVERLAY)
	SAWCUT
	R / W

NO	DATE	BY	CKD	APPR	REVISION	TIME
	04/17/2014					7:38:38 AM

NAME: P:\14-01-00\CSAH\_17 (No\CSAH18-CSAH22)\Base\PROPOSED\PLAN.dgn

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.

PRINT NAME: ANDREW WITTER

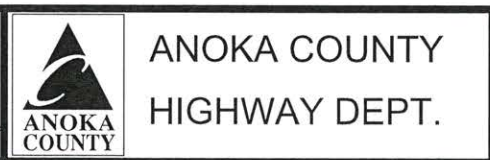
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DRAWN BY: KPR DATE: 2/03/2014

DESIGN BY: KPR DATE: 2/03/2014

CHECKED BY: DFF DATE: 04/17/2014



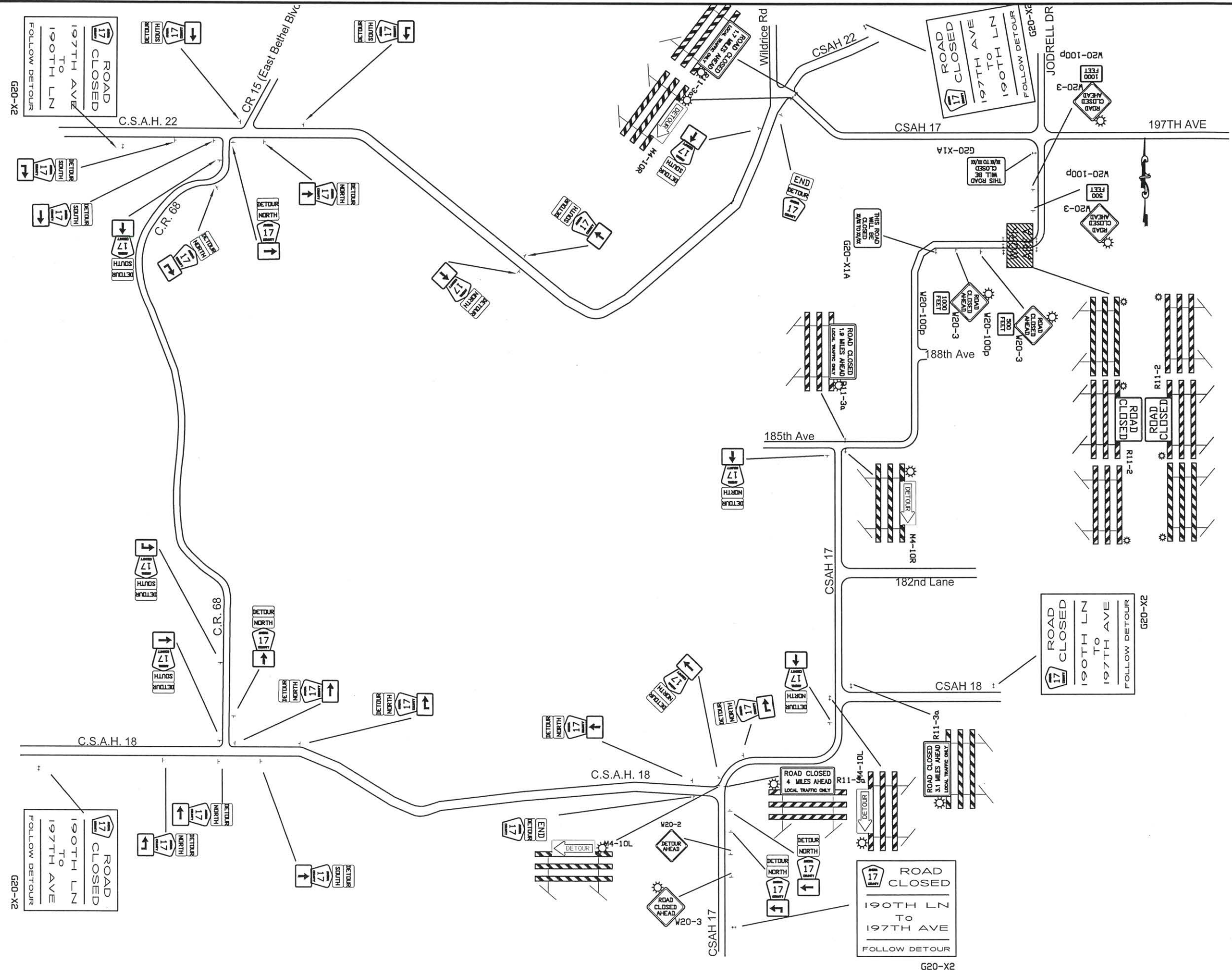
COUNTY PROJECT 14-48-17

CONSTRUCTION PLAN

STA 289+00 TO 309+34

Sheet 18 of 34 Sheets





I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: ANDREW WITTER  
 SIGNATURE: [Signature]  
 DATE: 4/28/14 REG. NO. 42757

DRAWN BY: RLB DATE: 4/10/14  
 DESIGN BY: RLB DATE: 4/10/14  
 CHECKED BY: JR DATE: 4/10/14



ANOKA COUNTY  
 HIGHWAY DEPT.

STATE PROJECT NO. \_\_\_\_\_  
 STATE AID PROJECT NO. \_\_\_\_\_  
 STATE AID PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. 14-48-17

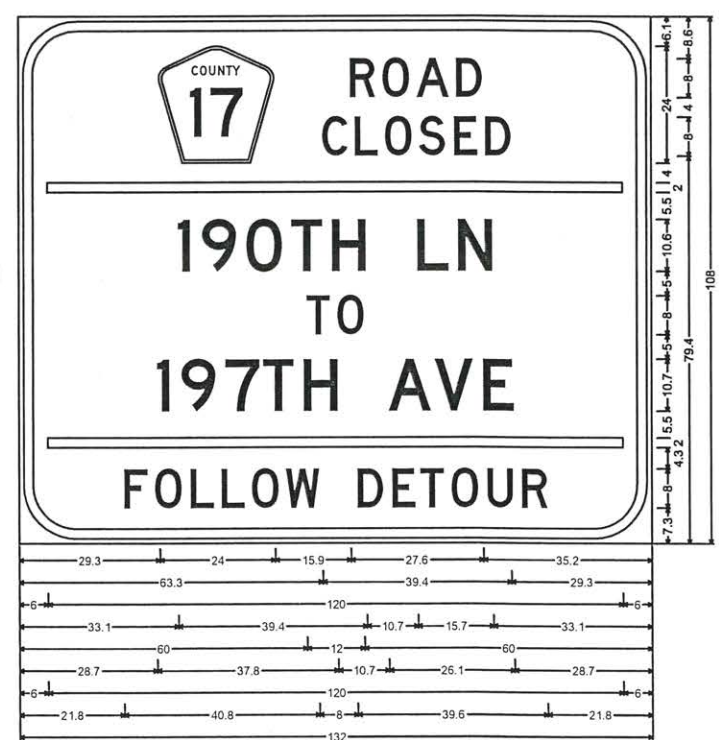
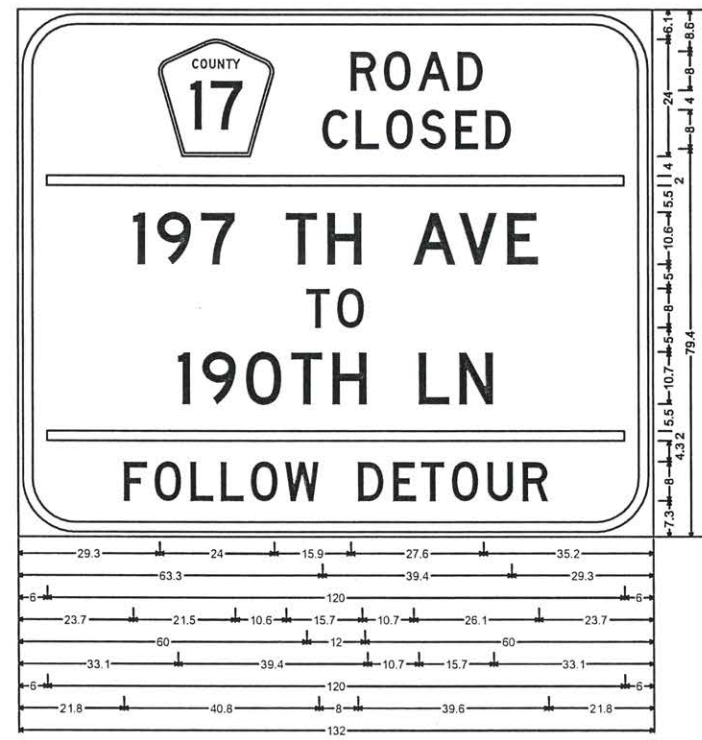
CSAH 17 Detour  
 Culvert Replacement 600 ft  
 South of 182nd Lane  
 Sheet 19 of 34 Sheets

NO	DATE	BY	CKD	APPR	REVISION



M. U. T. C. D. CODE	SIZE	INSERT	QUANTITY	M. U. T. C. D. CODE	SIZE	INSERT	QUANTITY	M. U. T. C. D. CODE	SIZE	INSERT	QUANTITY	
W20-2	48' x 48'		1	R11-3a	48' x 30' 8 FOOT		SEE NOTE ② 1	M4-8A	24' x 12'		M5-1AR	3
W20-3	48' x 48'		5					M3-4A	24' x 12'		M6-1AR	3
W20-100P	24' x 18'		2	R11-3a	48' x 30' 8 FOOT		SEE NOTE ② 1	M1-6A	24' x 24'		M5-1AL	2
W20-100P	24' x 18'		2						21' x 15'		M6-1AL	2
M4-10R	48' x 18'		SEE NOTE ②	R11-3a	48' x 30' 8 FOOT		SEE NOTE ② 1	M4-8A	24' x 12'		M5-1AR	1
TYPE III	8 FOOT		2					M3-2A	24' x 12'		M6-1AR	1
M4-10L	48' x 18'		SEE NOTE ②	R11-3a	48' x 30' 8 FOOT		SEE NOTE ② 1	M1-6A	24' x 24'		M5-1AL	2
TYPE III	8 FOOT		2						21' x 15'		M6-1AL	2
R11-2	48' x 30'		SEE NOTE ②	R11-3a	48' x 30' 8 FOOT		SEE NOTE ② 1	M4-6A	24' x 12'			
TYPE III	8 FOOT		2					M4-8A	24' x 12'			2
								M1-6A	24' x 24'			
TYPE III	8 FOOT		2	G20-X2	132' x 108'		2					
TYPE III	8 FOOT		2	G20-X2	132' x 108'		3					
G20-X1	60' x 48'		2	* SIGN TO BE INSTALLED A MINIMUM OF SEVEN DAYS PRIOR TO ACTUAL CLOSING DATE OF ROAD CLOSURE AND IMPLEMENTATION OF DETOUR SIGNING. SIGNS TO BE REMOVED AT TIME OF DETOUR INSTALLATION.								

NOTES:  
1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" DATED FEBRUARY, 2011  
2. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES, BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MUTCD.



NO	DATE	BY	CKD	APPR	REVISION

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PRINT NAME: ANDREW WITTER  
SIGNATURE:   
DATE: 4/28/14 REG. NO. 42757

DRAWN BY: RLB DATE: 4/10/14  
DESIGN BY: RLB DATE: 4/10/14  
CHECKED BY: JR DATE: 4/10/14

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. \_\_\_\_\_  
STATE AID PROJECT NO. \_\_\_\_\_  
STATE AID PROJECT NO. \_\_\_\_\_  
COUNTY PROJECT NO. 14-48-17

CSAH 17 Detour  
Culvert Replacement 600 ft  
South of 182nd Lane  
Sheet 20 of 34 Sheets



**PERMANENT PAVEMENT MARKING PLAN**  
NOTES AND GUIDELINES

**GENERAL INFORMATION:**

THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. ANOKA COUNTY HIGHWAY DEPARTMENT WILL PLACE NECESSARY "SPOTTING" AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS, LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY A 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 ONE-HALF FOOT 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.

**EPOXY:**

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 TREATMENT AND/OR LAITANCE ON LOW SPEED (SPEED LIMIT 35 MPH OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS. SANDBLAST CLEANING SHALL BE USED FOR ALL EPOXY PAVEMENT MARKINGS.

THE EPOXY MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEANS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE EPOXY RESIN LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

AN EPOLY RESIN LINE 4" WIDE AND 15 MILL THICKNESS (WET), REQUIRES AN APPLICATION RATE OF ONE (1) GALLON OF COMPONENTS FOR 320 FEET OF LINE. GLASS BEADS SHALL BE APPLIED AT A POUND PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.

OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES FAHRENHEIT OR GREATER.

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

**PREFORMED THERMOPLASTIC:**

THE PREFORMED THERMOPLASTIC MARKINGS SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS ON CLEAN AND DRY SURFACES. SEE SPECIAL PROVISIONS FOR PREFORMED THERMOPLASTIC MARKING SPECIFICATIONS.

**PAINT:**

AT THE TIME OF APPLYING THE MARKING MATERIAL, THE APPLICATION AREA SHALL BE FREE OF CONTAMINATION. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE PRIOR TO THE LINE APPLICATION IN A MANNER AND TO THE EXTENT REQUIRED BY THE ENGINEER.

GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE PAINT LINE.

EXCEPT WHEN USED AS A TEMPORARY MARKING, PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR TEMPERATURE IS 50 DEGREES FARHENHEIT OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILM OR DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.

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.

PERMANENT PAVEMENT MARKING QUANTITIES		
ITEM	UNIT	TOTAL QUANTITY
4" Solid Line White - Epoxy	LIN FT	59642
4" Broken White Line - Epoxy (10ft stripe/40 ft gap)	LIN FT	40
4" Solid Line Yellow - Epoxy	EACH	20840
4" Broken Yellow Line - Epoxy (10ft stripe/40 ft gap)	LIN FT	4380
4" Solid Double Yellow Line - Epoxy	LIN FT	7846

**SYMBOLS & MATERIALS LEGEND**

■ CROSSWALK BLOCK WHITE PREFORMED THERMOPLASTIC

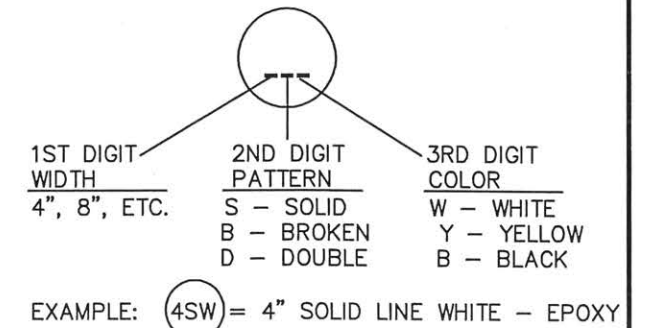
↩ PAVEMENT MESSAGE (LEFT ARROW) PREFORMED THERMOPLASTIC

**STRIPING KEY**

○ CIRCLE - EPOXY    □ SQUARE PREFORMED THERMOPLASTIC

△ TRIANGLE - PAINT

⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\13-01-00\CSAH 18\Base\TRAFFIC\Perm pvmt mrkg guide notes\_guidelines.dwg

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.

PRINT NAME: ANDREW WITTER  
SIGNATURE: *[Signature]*  
DATE: 4/23/14 LICENSE NO. 42757

DRAWN BY: RLB DATE: 3/31/14  
DESIGN BY: RLB DATE: 3/31/14  
CHECKED BY: JR DATE: 3/31/14



**ANOKA COUNTY**  
**HIGHWAY DEPT.**

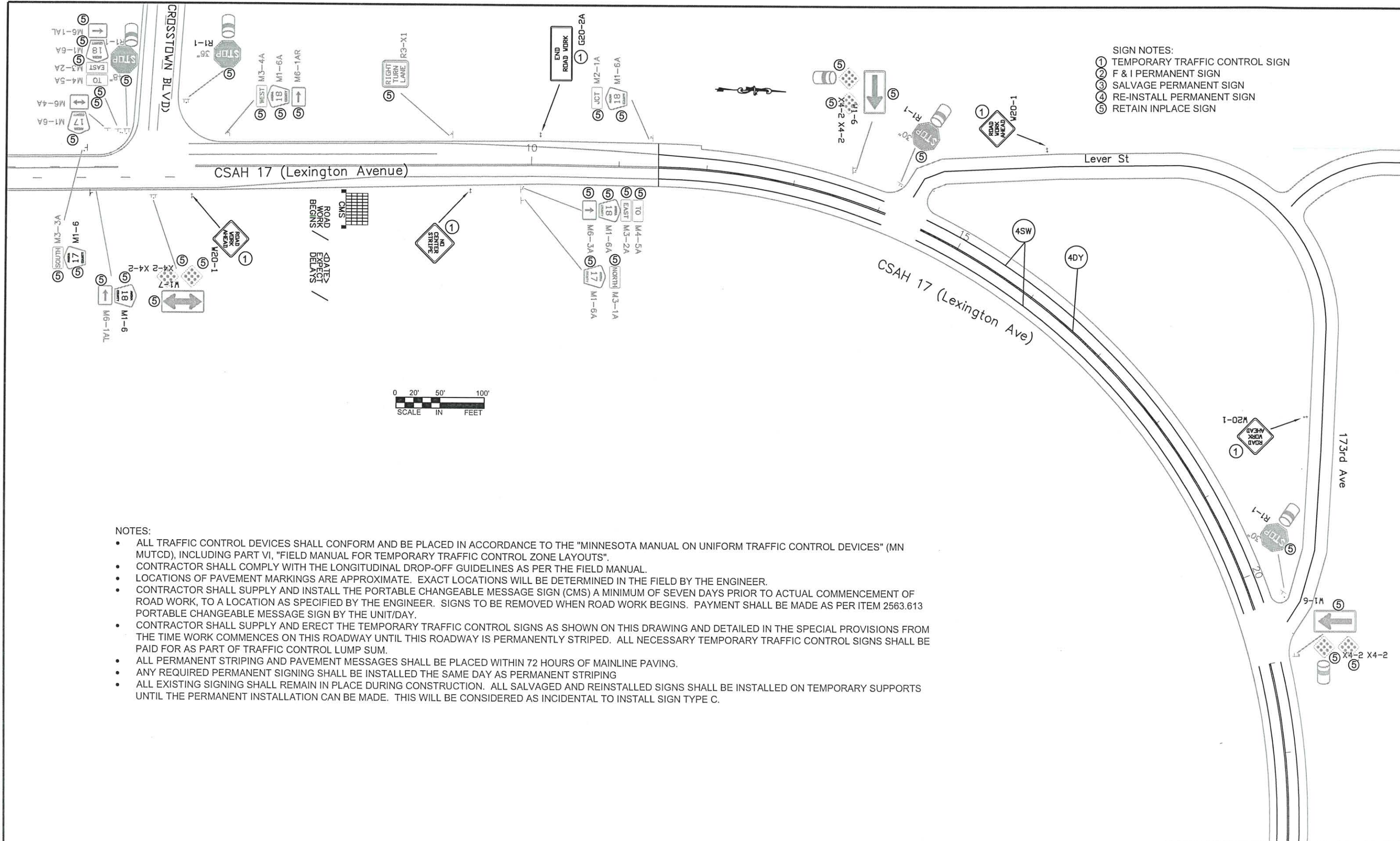
STATE PROJECT NO. \_\_\_\_\_  
STATE AID PROJECT NO. \_\_\_\_\_  
STATE AID PROJECT NO. \_\_\_\_\_  
COUNTY PROJECT NO. 14-48-17

PERMANENT MARKING  
TABULATION

Sheet 21 of 34 Sheets



- SIGN NOTES:
- ① TEMPORARY TRAFFIC CONTROL SIGN
  - ② F & I PERMANENT SIGN
  - ③ SALVAGE PERMANENT SIGN
  - ④ RE-INSTALL PERMANENT SIGN
  - ⑤ RETAIN INPLACE SIGN



- NOTES:
- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
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NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-617-19\base\Traffic\Curves from CSAH 18 to CSAH 22.dwg

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

PRINT NAME: ANDREW WITTER  
 SIGNATURE: *Andrew Witter*  
 DATE: 4/21/14 REG. NO. 42757

DRAWN BY: RLB DATE: 3/28/14  
 DESIGN BY: RLB DATE: 3/28/14  
 CHECKED BY: JR DATE: 3/28/14



ANOKA COUNTY  
HIGHWAY DEPT.

STATE PROJECT NO. \_\_\_\_\_  
 STATE AID PROJECT NO. \_\_\_\_\_  
 STATE AID PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. 14-48-17

TEMPORARY SIGNING  
PERMANENT SIGNING  
AND STRIPING

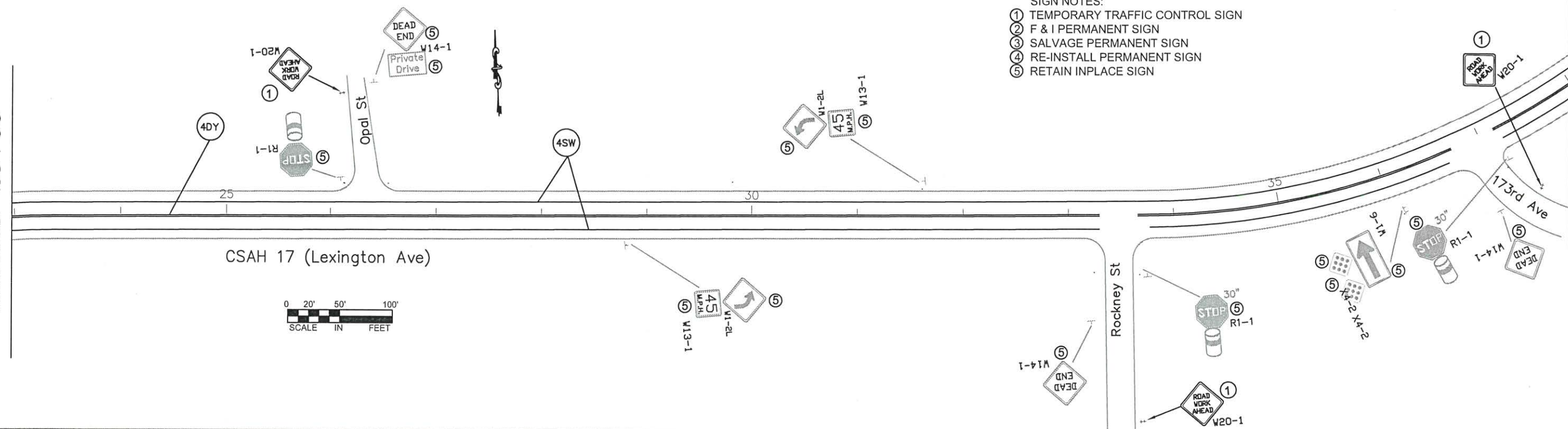
Sheet 22 of 34 Sheets



STATION 23+00

STATION 38+00

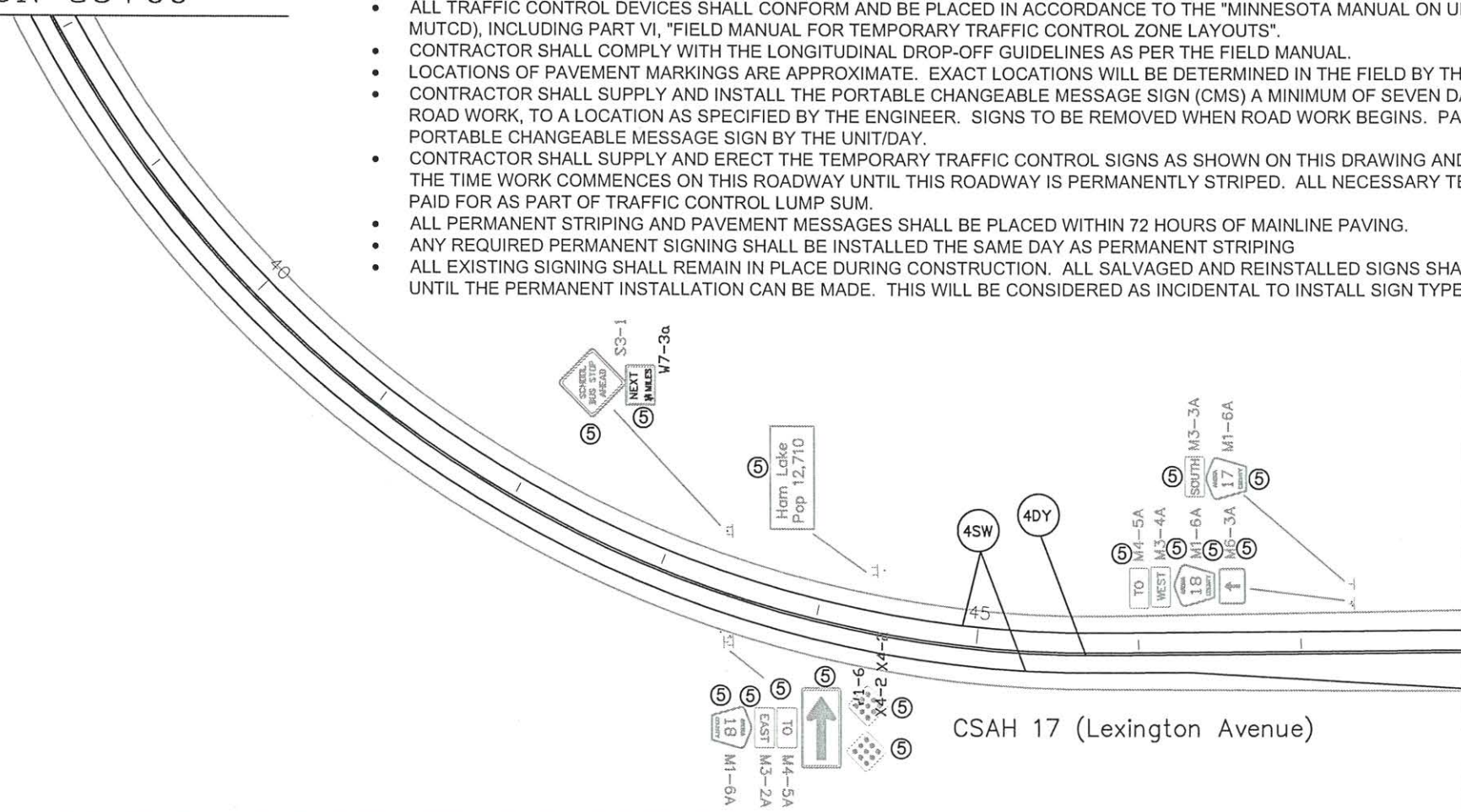
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  - ② F & I PERMANENT SIGN
  - ③ SALVAGE PERMANENT SIGN
  - ④ RE-INSTALL PERMANENT SIGN
  - ⑤ RETAIN INPLACE SIGN



STATION 38+00

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STATION 48+00

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

PRINT NAME: **ANDREW WITTER**

SIGNATURE: *[Signature]*

DATE: **4/28/14** REG. NO. **42757**

DRAWN BY: **RLB** DATE: **3/28/14**

DESIGN BY: **RLB** DATE: **3/28/14**

CHECKED BY: **JR** DATE: **3/28/14**



**ANOKA COUNTY**  
**HIGHWAY DEPT.**

STATE PROJECT NO. \_\_\_\_\_

STATE AID PROJECT NO. \_\_\_\_\_

STATE AID PROJECT NO. \_\_\_\_\_

COUNTY PROJECT NO. **14-48-17**

TEMPORARY SIGNING  
PERMANENT SIGNING  
AND STRIPING

Sheet **23** of **34** Sheets

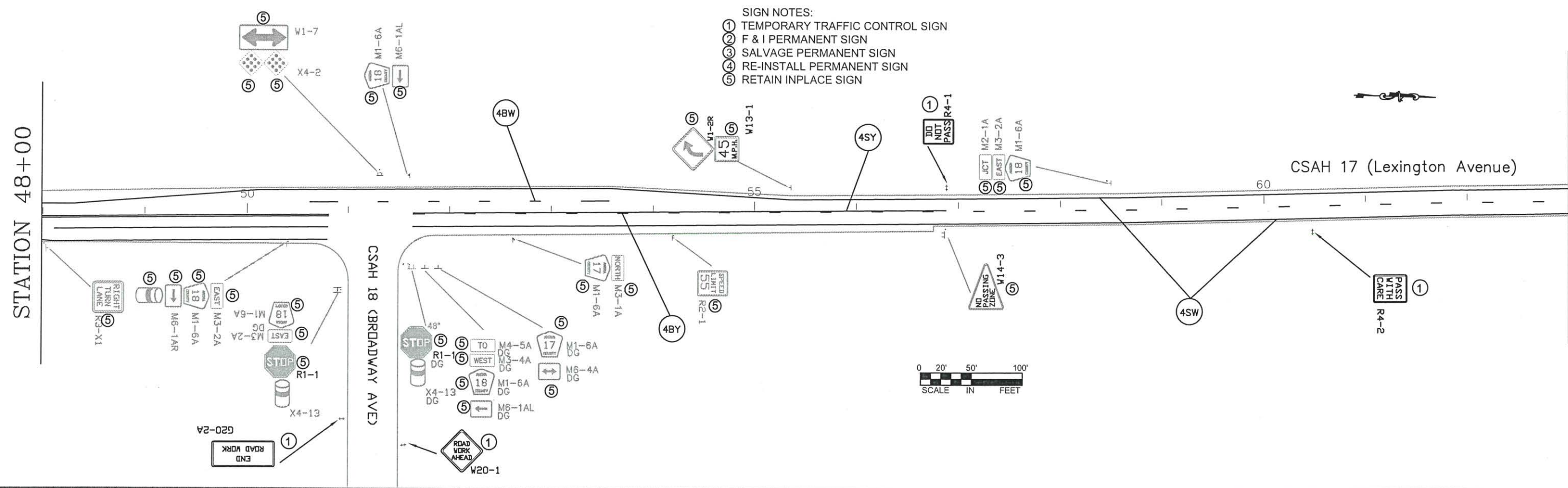
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-617-19\base\Traffic\Curves from CSAH 18 to CSAH 22.dwg



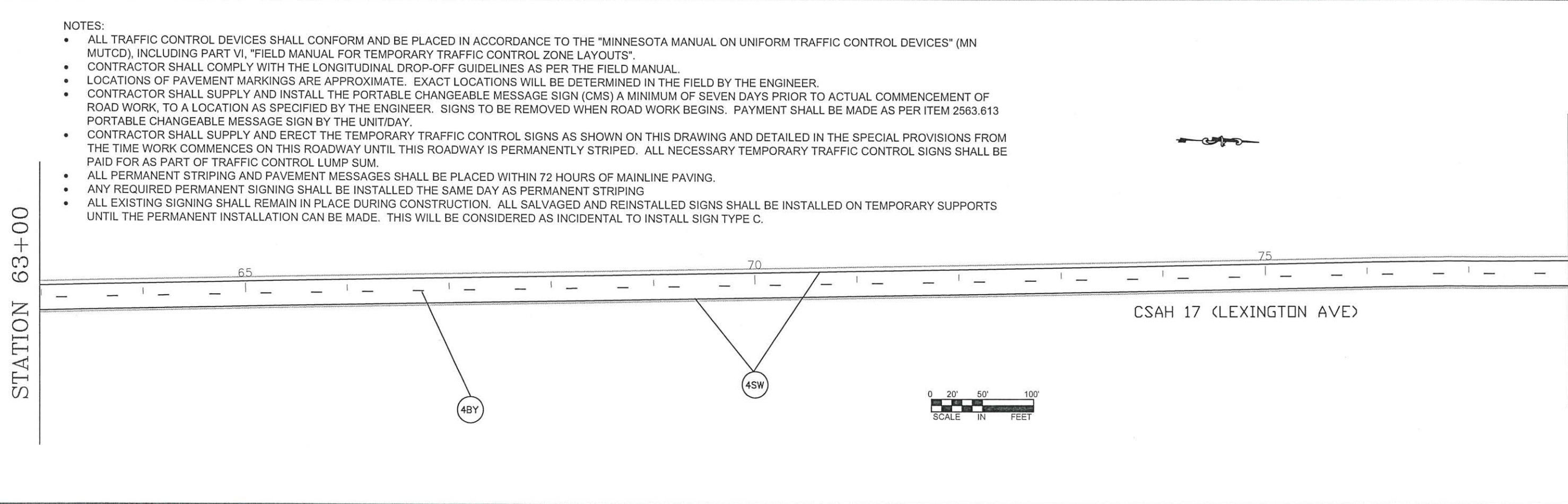
STATION 48+00

STATION 63+00



STATION 63+00

STATION 78+00



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NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-617-19\base\Traffic\Curves from CSAH 18 to CSAH 22.dwg

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

PRINT NAME: ANDREW WITTER

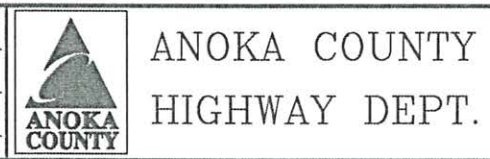
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DATE: 4/28/14 REG. NO. 42757

DRAWN BY: RLB DATE: 3/28/14

DESIGN BY: RLB DATE: 3/28/14

CHECKED BY: JR DATE: 3/28/14



STATE PROJECT NO. \_\_\_\_\_

STATE AID PROJECT NO. \_\_\_\_\_

STATE AID PROJECT NO. \_\_\_\_\_

COUNTY PROJECT NO. 14-48-17

TEMPORARY SIGNING  
PERMANENT SIGNING  
AND STRIPING

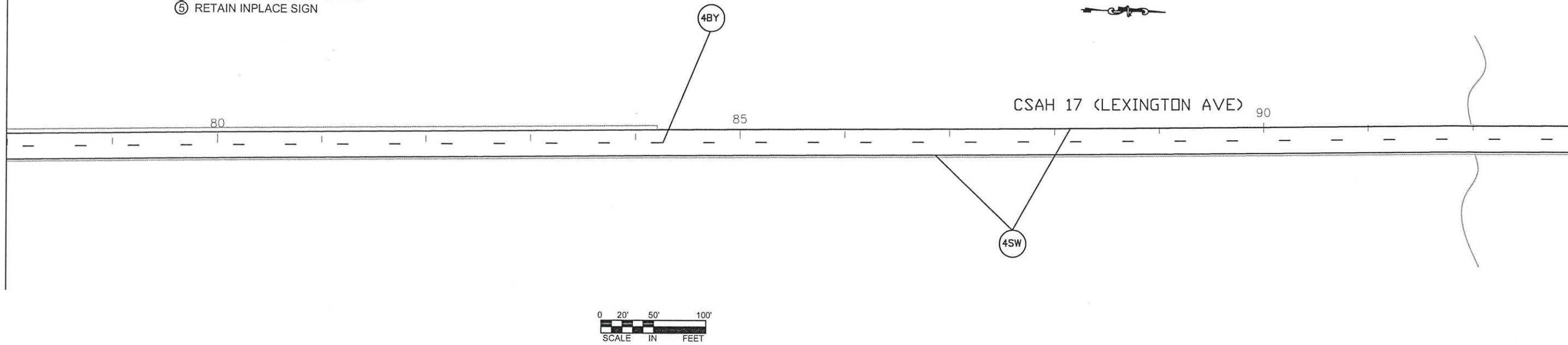
Sheet 24 of 34 Sheets



- SIGN NOTES:
- ① TEMPORARY TRAFFIC CONTROL SIGN
  - ② F & I PERMANENT SIGN
  - ③ SALVAGE PERMANENT SIGN
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STATION 78+00

STATION 93+00

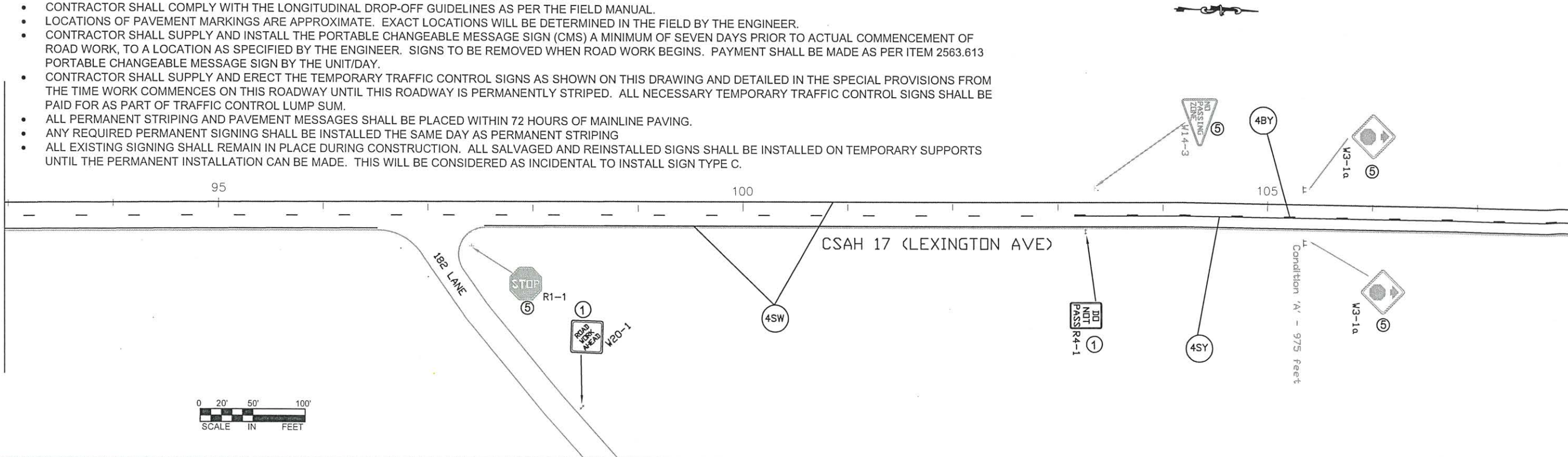


NOTES:

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STATION 93+00

STATION 108+00



NO	DATE	BY	CKD	APPR	REVISION

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PRINT NAME: ANDREW WITTER

SIGNATURE: Andrew Witter

DATE: 4/28/14 REG. NO. 42757

DRAWN BY: RLB DATE: 3/28/14

DESIGN BY: RLB DATE: 3/28/14

CHECKED BY: JR DATE: 3/28/14

**ANOKA COUNTY**  
HIGHWAY DEPT.

STATE PROJECT NO. \_\_\_\_\_

STATE AID PROJECT NO. \_\_\_\_\_

STATE AID PROJECT NO. \_\_\_\_\_

COUNTY PROJECT NO. 14-48-17

TEMPORARY SIGNING  
PERMANENT SIGNING  
AND STRIPING

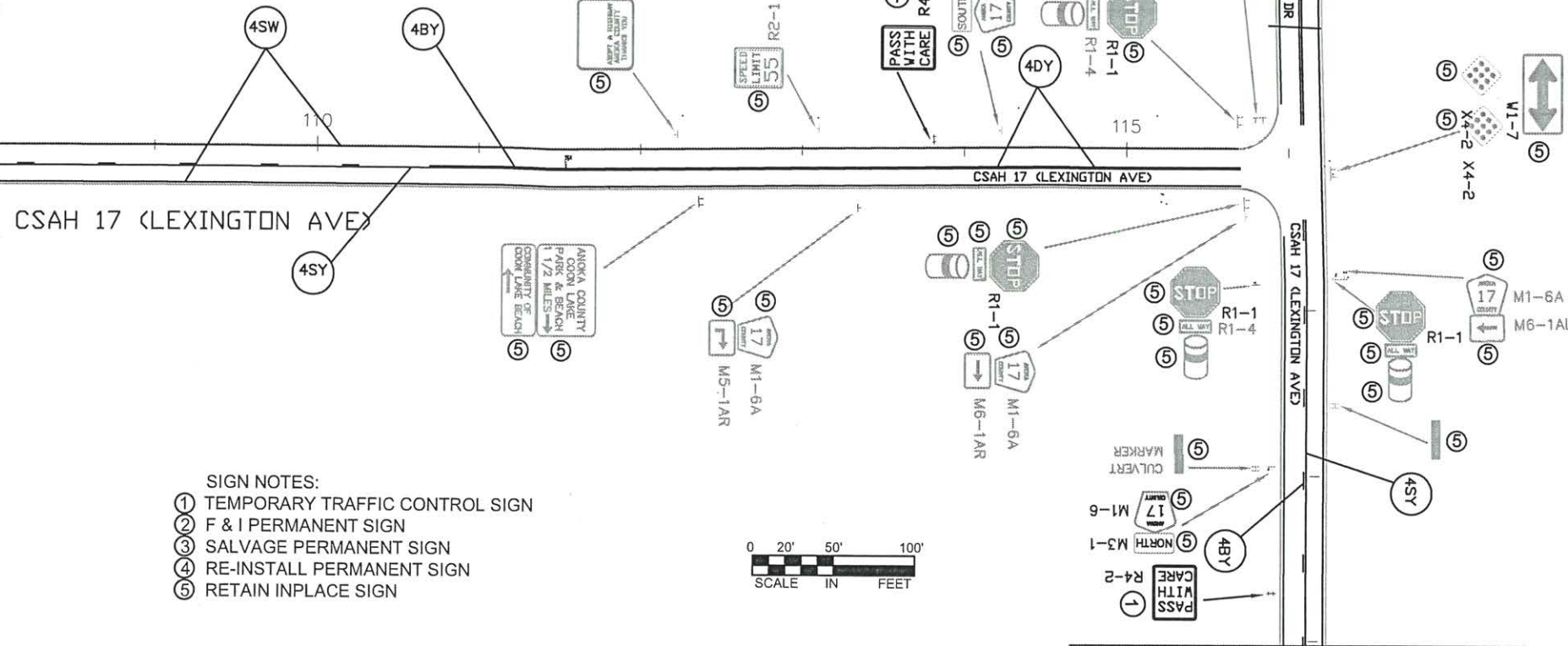
Sheet 25 of 34 Sheets



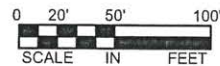
STATION 108+00

STATION 119+00

STATION 134+00



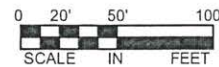
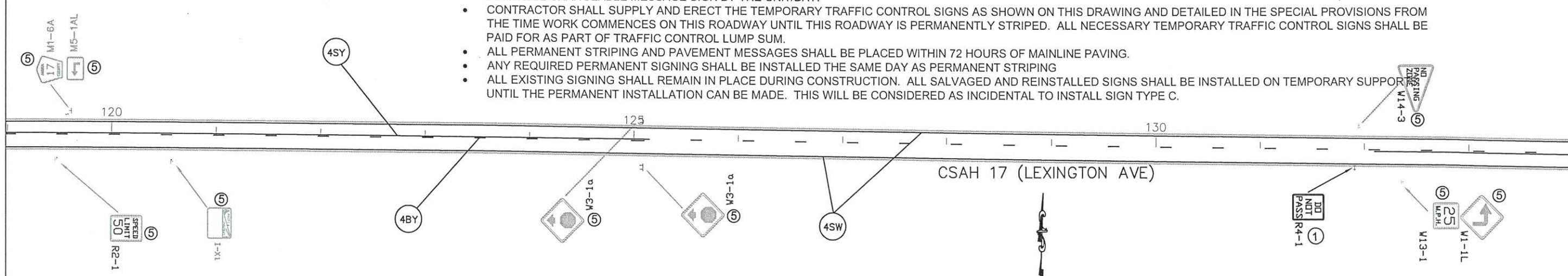
- SIGN NOTES:
- ① TEMPORARY TRAFFIC CONTROL SIGN
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STATION 119+00

NOTES:

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NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-617-19\base\Traffic\Curves from CSAH 18 to CSAH 22.dwg

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

PRINT NAME: ANDREW WITTER

SIGNATURE: [Signature]

DATE: 4/28/14 REG. NO. 42757

DRAWN BY: RLB DATE: 3/28/14

DESIGN BY: RLB DATE: 3/28/14

CHECKED BY: JR DATE: 3/28/14

**ANOKA COUNTY**  
HIGHWAY DEPT.

STATE PROJECT NO. \_\_\_\_\_

STATE AID PROJECT NO. \_\_\_\_\_

STATE AID PROJECT NO. \_\_\_\_\_

COUNTY PROJECT NO. 14-48-17

TEMPORARY SIGNING  
PERMANENT SIGNING  
AND STRIPING

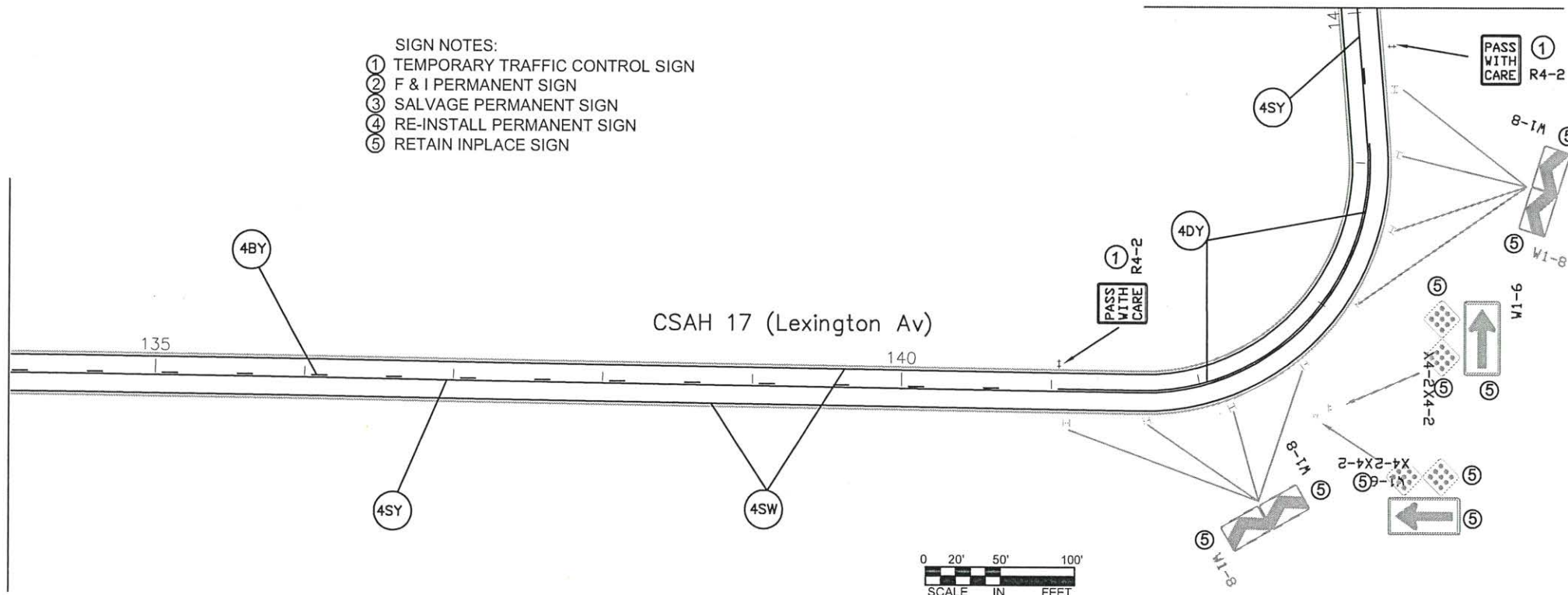
Sheet 26 of 34 Sheets



STATION 134+00

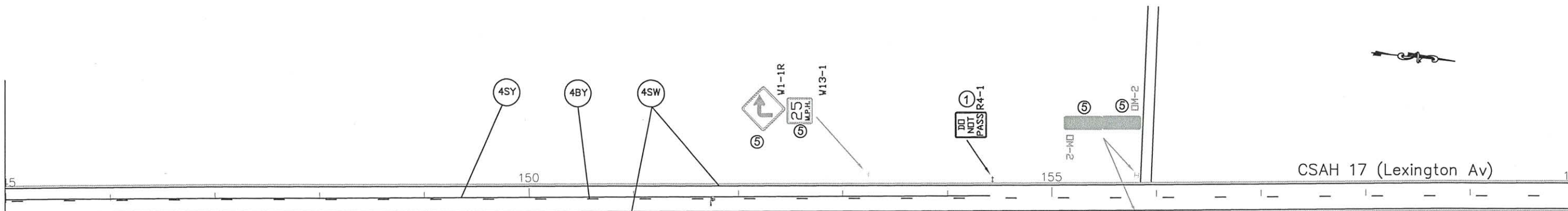
STATION 145+00

- SIGN NOTES:
- ① TEMPORARY TRAFFIC CONTROL SIGN
  - ② F & I PERMANENT SIGN
  - ③ SALVAGE PERMANENT SIGN
  - ④ RE-INSTALL PERMANENT SIGN
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STATION 145+00

STATION 160+00



NOTES:

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: ANDREW WITTER  
 SIGNATURE: *[Signature]*  
 DATE: 4/28/14 REG. NO. 42757

DRAWN BY: RLB DATE: 3/28/14  
 DESIGN BY: RLB DATE: 3/28/14  
 CHECKED BY: JR DATE: 3/28/14



ANOKA COUNTY  
 HIGHWAY DEPT.

STATE PROJECT NO. \_\_\_\_\_  
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 COUNTY PROJECT NO. 14-48-17

TEMPORARY SIGNING  
 PERMANENT SIGNING  
 AND STRIPING

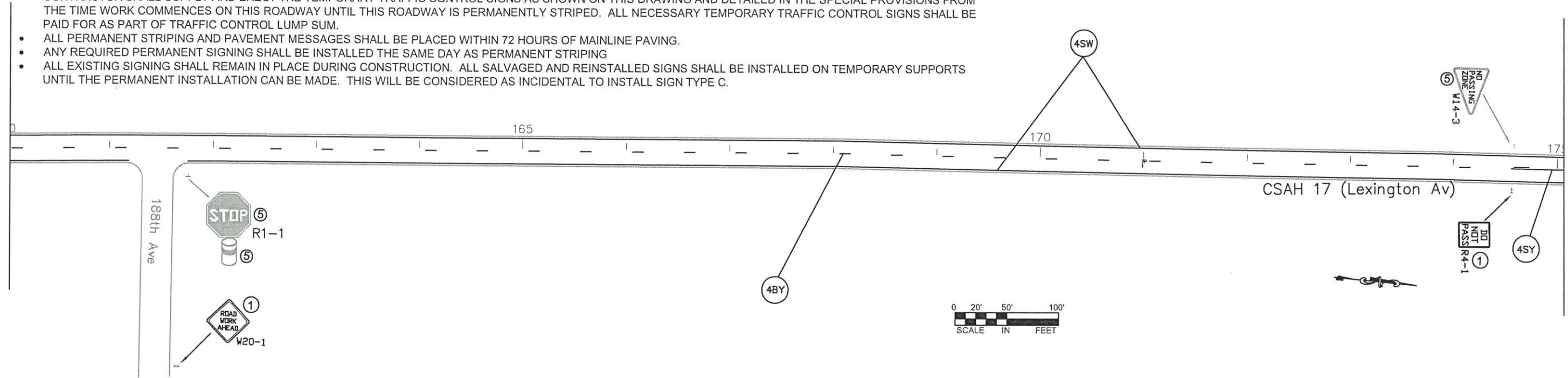
Sheet 27 of 34 Sheets



NOTES:

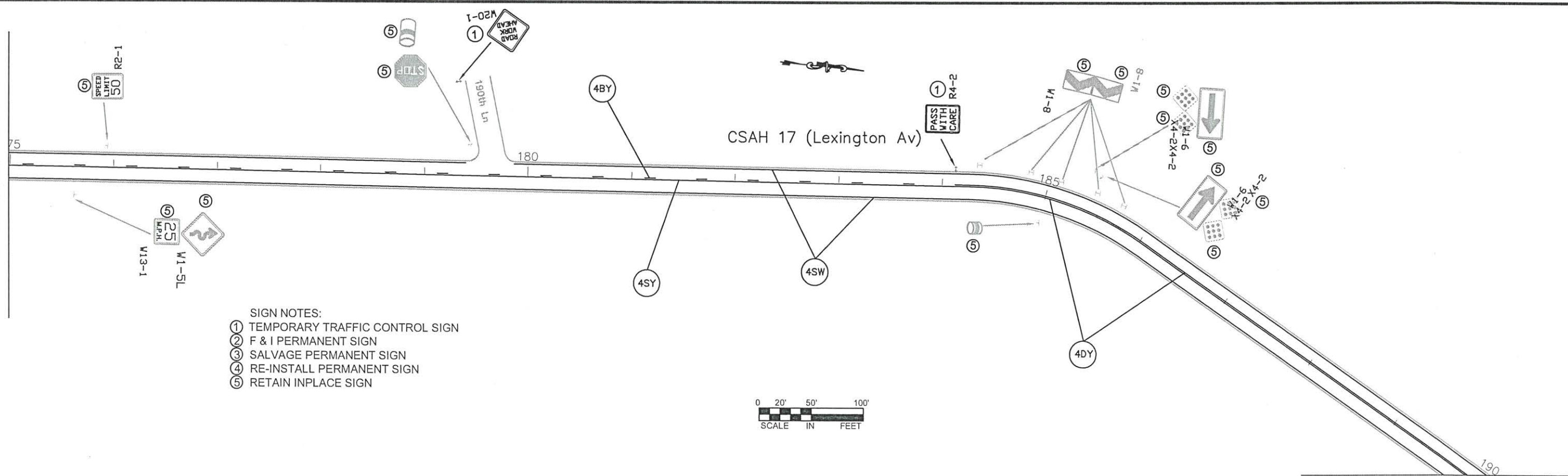
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STATION 160+00



STATION 175+00

STATION 175+00



STATION 190+00

- SIGN NOTES:
- ① TEMPORARY TRAFFIC CONTROL SIGN
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  - ④ RE-INSTALL PERMANENT SIGN
  - ⑤ RETAIN INPLACE SIGN

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 PRINT NAME: ANDREW WITTER  
 SIGNATURE: *Andrew Witter*  
 DATE: 4/28/14 REG. NO. 42757

DRAWN BY: RLB DATE: 3/28/14  
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ANOKA COUNTY  
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 COUNTY PROJECT NO. 14-48-17

TEMPORARY SIGNING  
 PERMANENT SIGNING  
 AND STRIPING  
 Sheet 28 of 34 Sheets

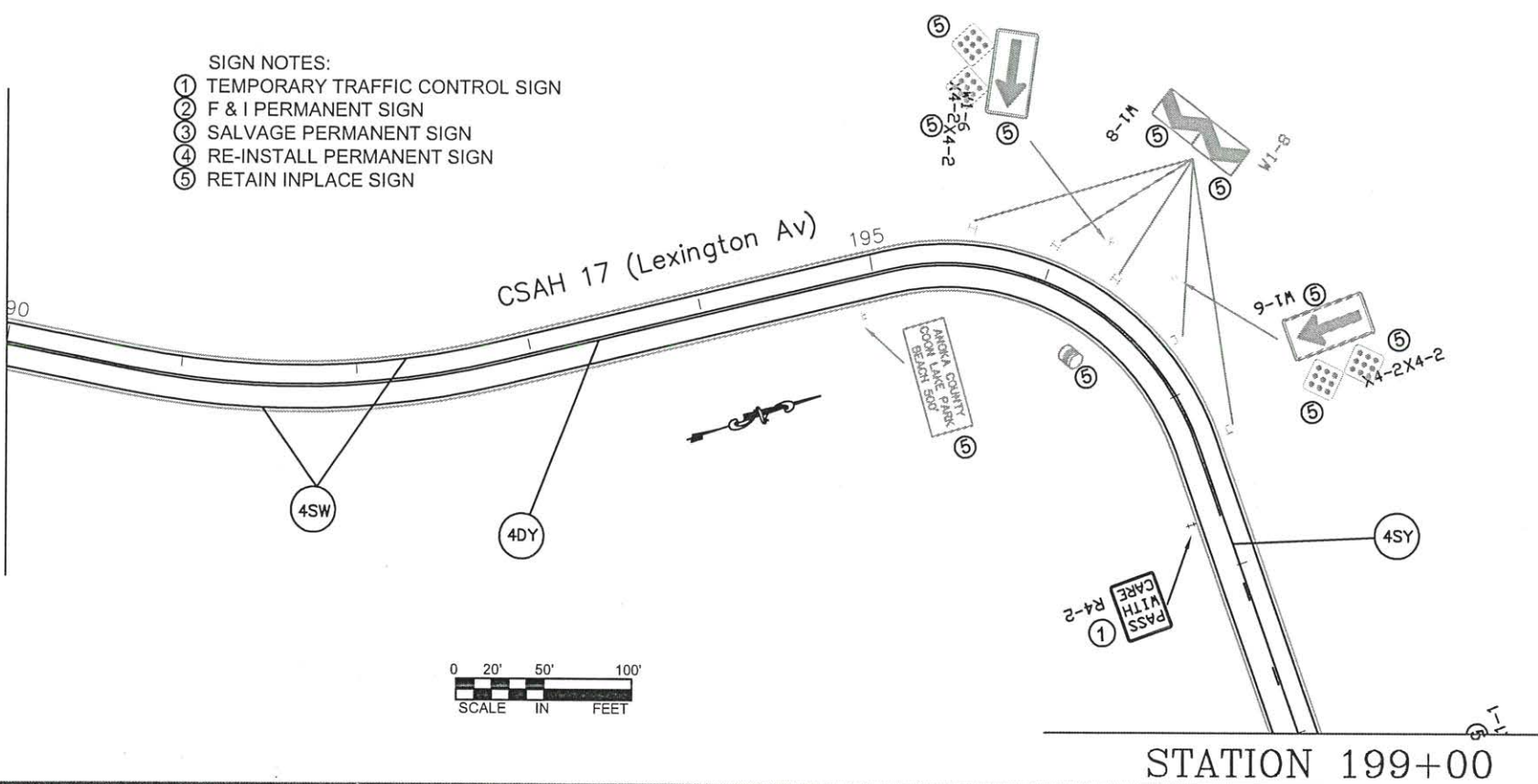
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-617-19\base\Traffic\Curves from CSAH 18 to CSAH 22.dwg



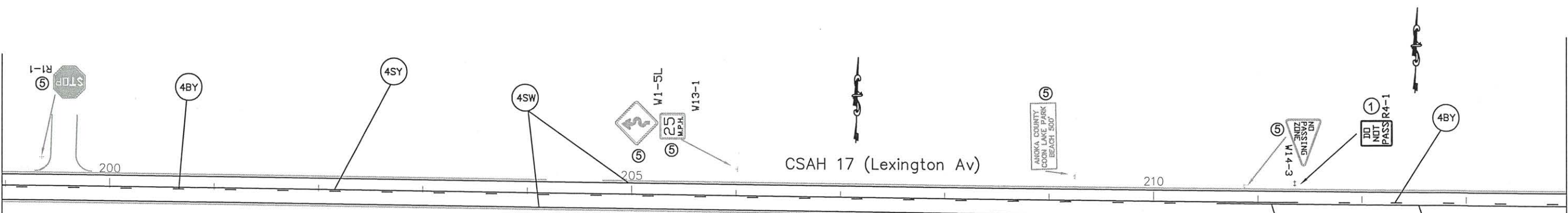
STATION 190+00

- SIGN NOTES:
- ① TEMPORARY TRAFFIC CONTROL SIGN
  - ② F & I PERMANENT SIGN
  - ③ SALVAGE PERMANENT SIGN
  - ④ RE-INSTALL PERMANENT SIGN
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STATION 199+00

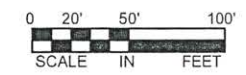
STATION 199+00



STATION 214+00

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NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-617-19\base\Traffic\Curves from CSAH 18 to CSAH 22.dwg					

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

PRINT NAME: **ANDREW WITTER**

SIGNATURE: *[Signature]*

DATE: **4/28/14** REG. NO. 42757

DRAWN BY: **RLB** DATE: **3/28/14**

DESIGN BY: **RLB** DATE: **3/28/14**

CHECKED BY: **JR** DATE: **3/28/14**



ANOKA COUNTY  
HIGHWAY DEPT.

STATE PROJECT NO. \_\_\_\_\_

STATE AID PROJECT NO. \_\_\_\_\_

STATE AID PROJECT NO. \_\_\_\_\_

COUNTY PROJECT NO. **14-48-17**

TEMPORARY SIGNING  
PERMANENT SIGNING  
AND STRIPING

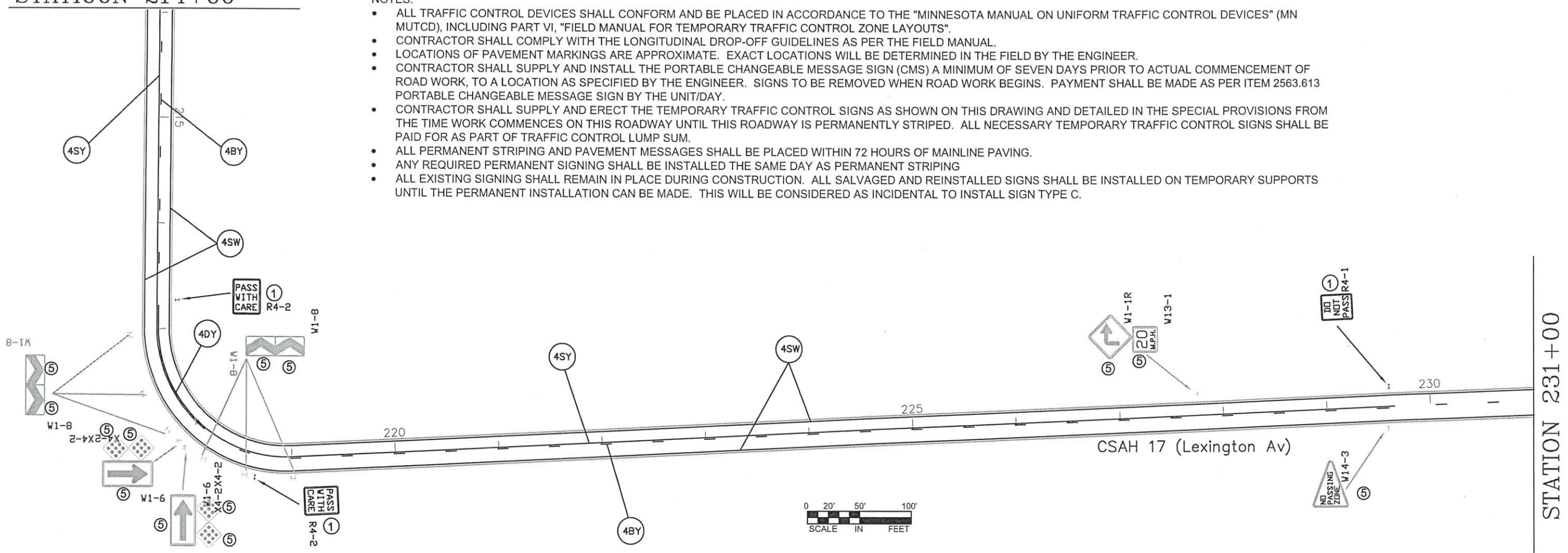
Sheet **29** of **34** Sheets



STATION 214+00

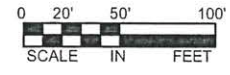
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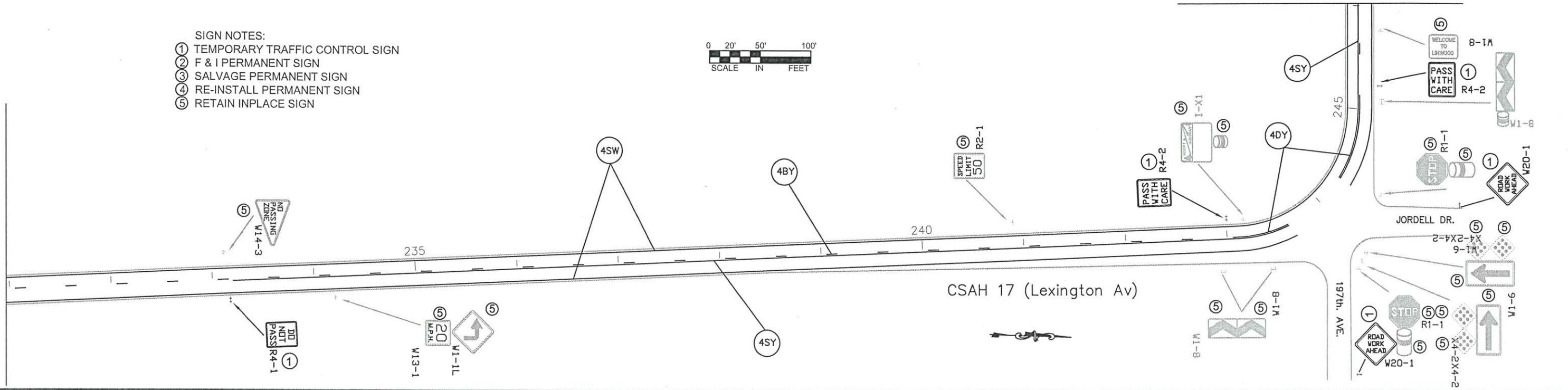


STATION 246+00

- SIGN NOTES:
- ① TEMPORARY TRAFFIC CONTROL SIGN
  - ② F & I PERMANENT SIGN
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STATION 231+00



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SIGNATURE: *Andrew Witter*

DATE: 4/28/14 REG. NO. 42757

DRAWN BY: RLB DATE: 3/28/14

DESIGN BY: RLB DATE: 3/28/14

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**ANOKA COUNTY**  
HIGHWAY DEPT.

STATE PROJECT NO. \_\_\_\_\_

STATE AID PROJECT NO. \_\_\_\_\_

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COUNTY PROJECT NO. 14-48-17

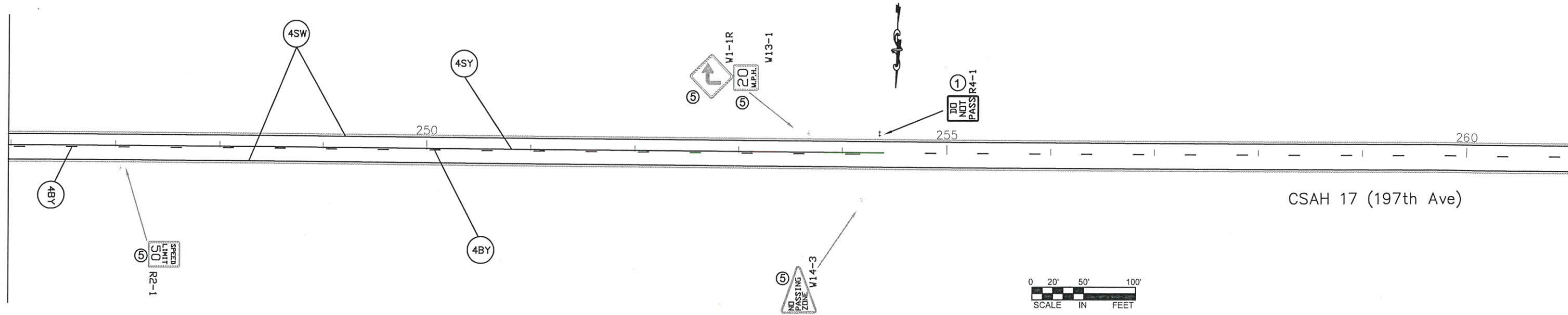
TEMPORARY SIGNING  
PERMANENT SIGNING  
AND STRIPING

Sheet 30 of 34 Sheets



STATION 246+00

STATION 261+00

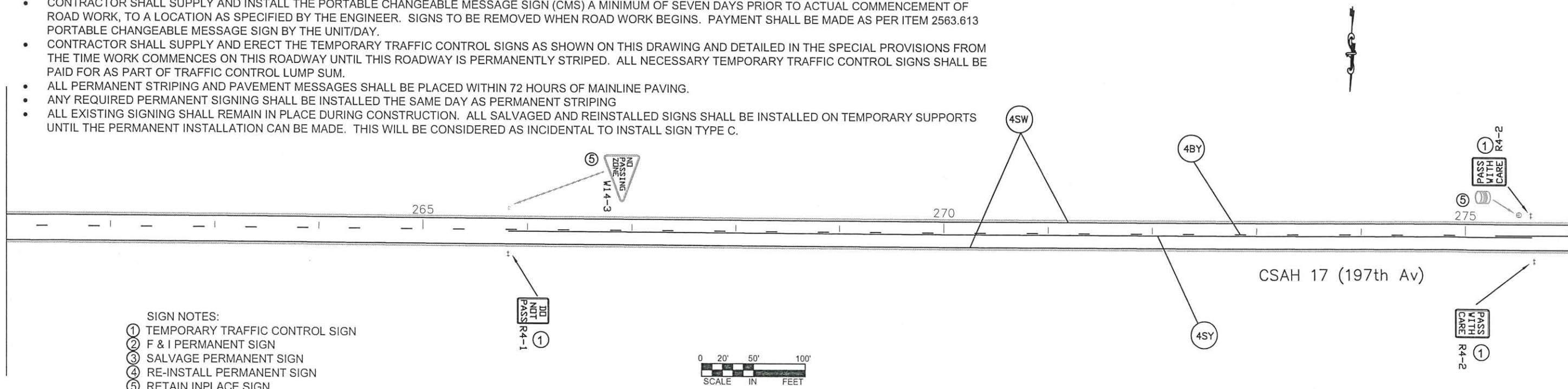


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STATION 261+00

STATION 276+00



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COUNTY PROJECT NO. 14-48-17

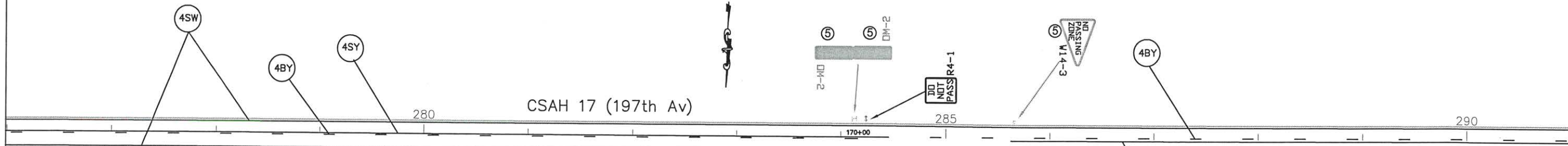
TEMPORARY SIGNING  
PERMANENT SIGNING  
AND STRIPING

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STATION 276+00

STATION 291+00

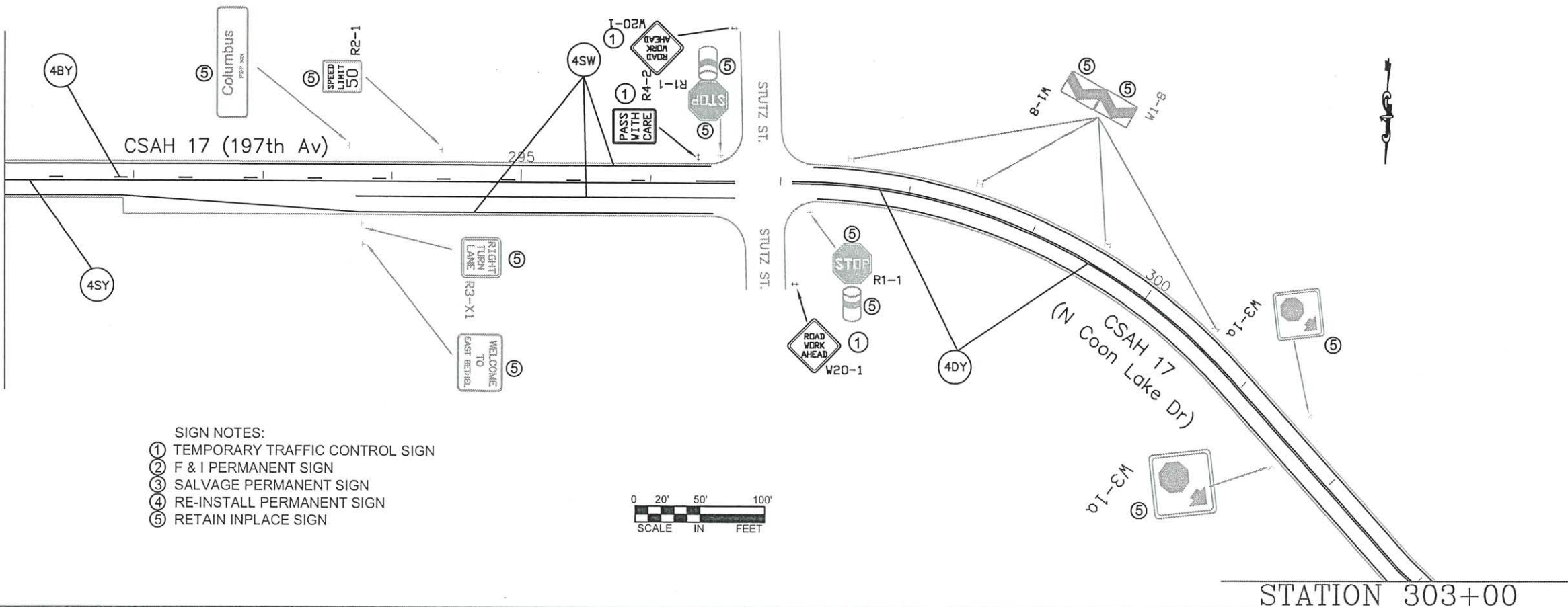


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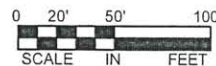
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STATION 291+00



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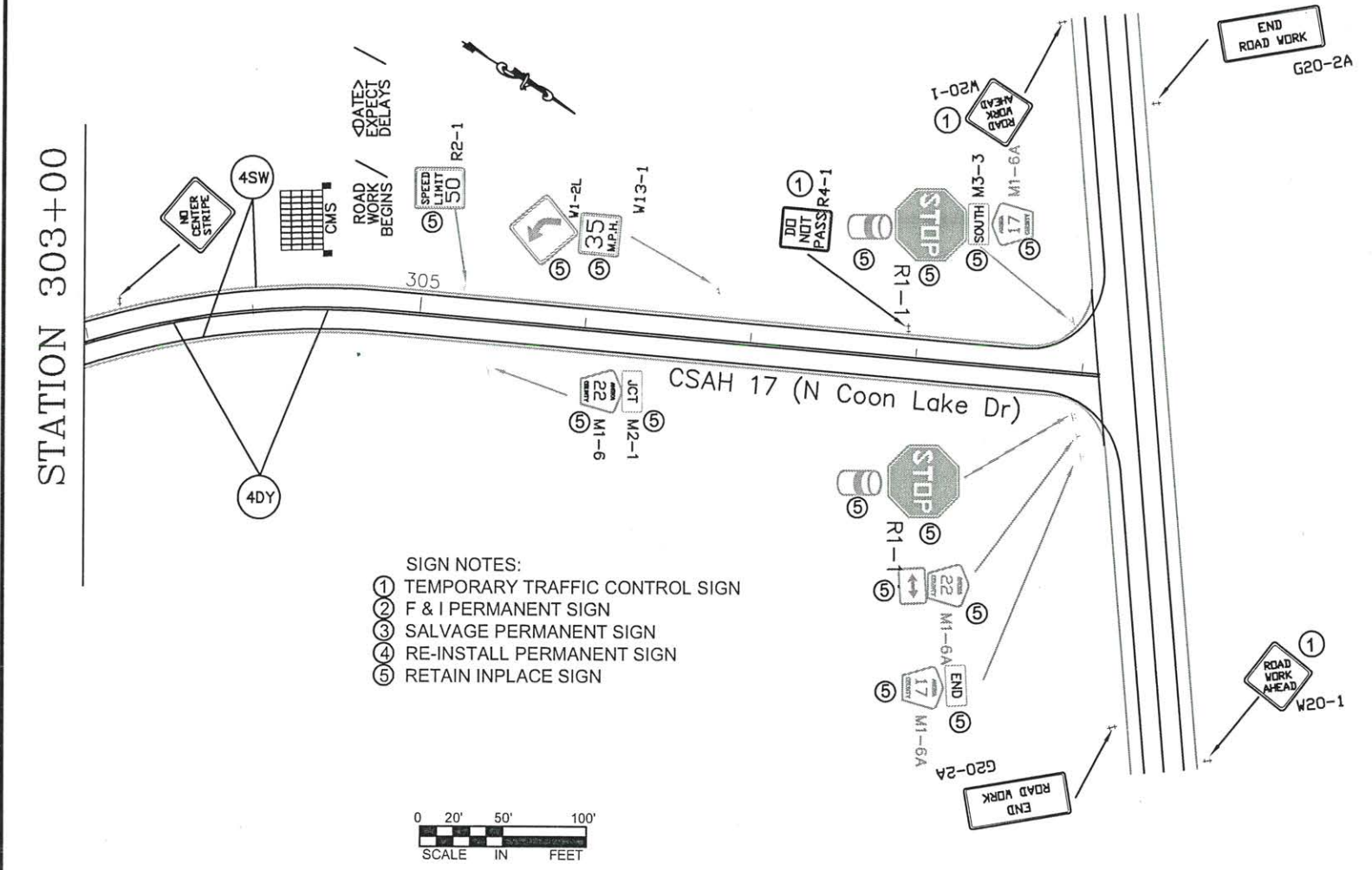
COUNTY PROJECT NO. 14-48-17

TEMPORARY SIGNING  
PERMANENT SIGNING  
AND STRIPING

Sheet 32 of 34 Sheets



STATION 303+00



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ANOKA COUNTY  
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TEMPORARY SIGNING  
PERMANENT SIGNING  
AND STRIPING

Sheet 33 of 34 Sheets



TEMPORARY TRAFFIC CONTROL SIGNS

M.U.T.C.D. CODE	SIZE	PANEL AREA	INSERT	QUANTITY		MOUNTING HEIGHT TO PAVEMENT EDGE
		FT. <sup>2</sup>			No. POST	FT.
W8-12	48" x 48"	16.00		2	2	7.0'
R4-1	24" x 30"	5.00		14	1	7.0'
R4-2	24" x 30"	5.00		14	1	7.0'
G20-2A	48" x 24"	8.00		4	2	7.0'
W8-1A	48" x 48"	16.00		AS NEEDED		
W8-1A	48" x 48"	16.00		AS NEEDED		
W8-8	48" x 48"	16.00		AS NEEDED		
W8-9	48" x 48"	16.00		AS NEEDED		
	48" x 48"	16.00		AS NEEDED		
W8-11	48" x 48"	16.00		AS NEEDED		
W20-1	48" x 48"	16.00		AS NEEDED (ESTIMATED 17)		
CMS sign to be installed a minimum of seven days prior to actual commencement of road work. Signs to be removed when road work begins.				2		

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CHANGEABLE MESSAGE BOARD - MESSAGE SEQUENCE LAYOUT

		R	O	A	D		
		W	O	R	K		
		B	E	G	I	N	S

	<	D	A	T	E	>	
		E	X	P	E	C	T
		D	E	L	A	Y	S

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NAME: P:\02-617-19\base\Traffic\Curves from CSAH 18 to CSAH 22.dwg

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TRAFFIC CONTROL  
 QUANTITY