

PLAN SYMBOLS

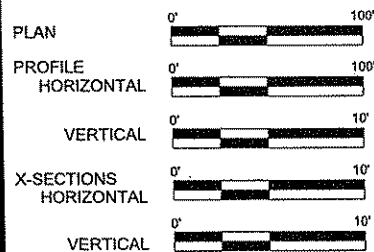
- COUNTY LINE _____
- TOWNSHIP OR RANGE LINE _____
- SECTION LINE _____
- QUARTER LINE _____
- SIXTEENTH LINE _____
- RIGHT OF WAY LINE _____
- SLOPE EASEMENT _____
- EXISTING RIGHT OF WAY _____
- PROPERTY LINE _____
- CORPORATE OR CITY LIMITS _____
- RETAINING WALL _____
- RAILROAD _____
- RAILROAD 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 OVERLAY AND CONSTRUCT RIGHT TURN LANES
LOCATED ON CR 74 & CR 15 BETWEEN CR 15 TO 217 TH AND 217 TH TO CSAH 26

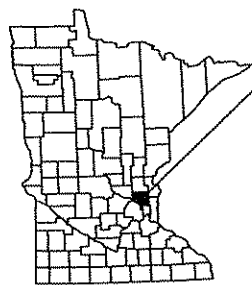
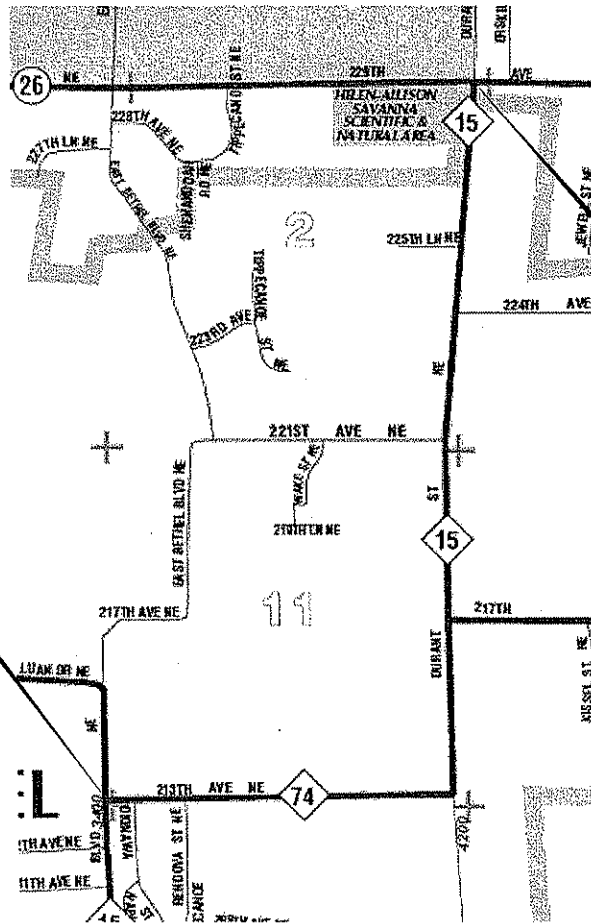
COUNTY PROJ. NO. C.P. 13-14-15
CR 74 & CR 15

GROSS LENGTH	16075 FEET	3.044 MILES
BRIDGES-LENGTH	0.00 FEET	0.000 MILES
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	16075 FEET	3.044 MILES

BEGIN C.P. 13-14-15
CR 15 STA. 10+00

CITY OF
EAST BETHEL

END C.P. 13-14-15
CR 15 STA. 170+75



PROJECT LOCATION
CITY OF EAST BETHEL
ANOKA COUNTY
MN/DOT TRANSPORTATION DISTRICT - METRO
SECTION 11
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."

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3	CALCULATIONS FOR RIGHT TURN LANES
4-6	TYPICAL SECTIONS
7-10	MISCELLANEOUS DETAILS
11-16	CONSTRUCTION PLAN
17	PERMANENT MARKING TABULATION
18-23	TEMP. SIGNING, PERM STRIPING, AND PAVE. MESSAGES
24	TRAFFIC CONTROL QUANTITIES
25-26	SIGNING & STRIPING PLAN DETAILS

THIS PLAN CONTAINS 26 SHEETS
DESIGN DESIGNATION

ESAL 20	_____
R VALUE	_____
ADT (2012) =	1300
Proj. ADT (2032) =	1800
Proj. HCAADT (2032) =	110
Soil Factor	NA
<u>9</u> TON DESIGN	

Functional Classification MAJOR COLLECTOR
 No. of Traffic Lanes 2 No. of Parking Lanes 0
 Design Speed _____ MPH _____ N/A
 Based on Stopping Sight Distance
 Height of eye 3.5' Height of object 2.0'
 Design Speed not achieved at:
 STA. _____ TO STA. _____ MPH _____

Approved 3/14/2013
ANOKA COUNTY ENGINEER

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\13-01-00\CR_15_(CR74-CR26)\Plan\Title.dgn 02/25/2013 9:52:58 AM

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: 3/13 LICENSE NO. 42757

DRAWN BY KPR DATE 2/1/2013
 DESIGN BY KPR DATE 2/1/2013
 CHECKED BY DF DATE _____

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 13-14-15

TITLE SHEET
Sheet 1 of 26 Sheets

CSAH 15		STATEMENT OF ESTIMATED QUANTITIES		
ITEM NO.	ITEM	NOTE NO.	UNIT	TOTAL EST. QUANT.
2021.501	MOBILIZATION		LUMP SUM	1
2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT	2	SQ YD	33
2104.505	REMOVE BITUMINOUS PAVEMENT	15	SQ YD	30
2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	1,2	LIN FT	18
2104.513	SAWING BIT PAVEMENT (FULL DEPTH)	1,2	LIN FT	1526
2104.523	SALVAGE SIGN TYPE C		EACH	13
2105.525	TOPSOIL BORROW (LV)	1	CU YD	111
2105.602	CONSTRUCT TURN LANE (P) (RTL CR 74 NORTH)	5	EACH	1
2105.602	CONSTRUCT TURN LANE (P) (RTL CR 74 EAST)	5	EACH	1
2105.602	CONSTRUCT TURN LANE (P) (RTL CR 24 EAST)	5	EACH	1
2130.501	WATER		M-GAL	12
2221.501	AGGREGATE SHOULDERING CLASS 5	3,8	TON	869
2232.501	MILL BITUMINOUS SURFACE (2") (JOINTS)	1	SQ YD	503
2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GALLON	2246
2360.501	TYPE SP 12.5 WEARING COURSE MIX (4,B)	2,4,8	TON	89
2360.501	TYPE SP 12.5 WEARING COURSE MIX (4,E)		TON	5547
2511.501	RANDOM RIPRAP CLASS II	14	CU YD	7
2531.507	6" CONCRETE DRIVEWAY PAVEMENT	2,3	SQ YD	33
2535.501	BITUMINOUS CURB	11,12	LIN FT	50
2540.602	INSTALL MAIL BOX SUPPORT	9	EACH	39
2563.601	TRAFFIC CONTROL	7	LUMP SUM	1
2563.613	PORTABLE MESSAGE SIGN	13	UNIT DAY	14
2564.531	SIGN PANELS TYPE C		SQ FT	54.75
2564.537	INSTALL SIGN TYPE C		EACH	11
2573.502	SILT FENCE, TYPE MACHINE SLICED		LIN FT	1560
2573.508	BITUMINOUS LINED FLUME	1	SQ YD	7
2575.523	EROSION CONTROL BLANKET CATEGORY 00	10	SQ YD	1429
2581.501	REMOVABLE PREFORMED PLASTIC MARKING	6	LIN FT	643
2582.502	4" SOLID LINE WHITE - EPOXY	8	LIN FT	32558
2582.502	4" SOLID LINE YELLOW-EPOXY	8	LIN FT	5012
2582.502	4" BROKEN LINE YELLOW-EPOXY	8	LIN FT	3090
2582.502	4" DOUBLE SOLID LINE YELLOW-EPOXY	8	LIN FT	500

NOTES:

- 1 LOCATION TO BE DETERMINED BY ENGINEER.
- 2 CONTRACTORS RESPONSIBILITY TO CONTACT OWNER 48 HOURS BEFORE STARTING OPERATION.
- 3 SHOULDERING CLASS 5 FOR FINISHED GRAVEL SHOULDER, GRAVEL ENTRANCES, AND GRAVEL BASE FOR CONCRETE DRIVEWAYS.
- 4 OVERLAY STREET APPROACH/ DRWY BITUMINOUS 2" (SPWEB440B) PAVED IN SEPARATE OPERATION THEN MAINLINE PAVING.
- 5 INCLUDES ALL TIME AND MATERIAL TO CONSTRUCT ITEM AS SHOWN IN PLAN AND AS DIRECTED BY ENGINEER. COMMON EXCAVATION, TOPSOIL, SELECT GRANULAR, AND AGGREGATE BASE CLASS 5.
- 6 YELLOW CENTERLINE SKIPS TO BE APPLIED AS SOON AS POSSIBLE ON EACH LIFT (MUST BE APPLIED BEFORE THE CONTRACTOR LEAVES FOR THE DAY). CONTRACTOR TO REMOVE PRIOR TO FINAL PAINT STRIPING.
- 7 "ALL TRAFFIC CONTROL METHODS SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES." DO NOT PASS, PASS WITH CARE, AND NO CENTER STRIPE.
- 8 SHALL BE INSTALLED WITHIN 72 HOURS OF FINAL MAINLINE PAVING.
- 9 MAILBOXES TO BE INSTALLED AT THE EXISTING MAILBOX LOCATION. MAILBOX REMOVAL / INSTALLATION, INCIDENTAL TO ITEM. CONTRACTOR RESPONSIBLE TO COORDINATE WITH THE LOCAL POSTAL AUTHORITY.
- 10 ITEM INCLUDES SEEDING, FERTILIZER, AND SEED.
- 11 SHALL BE INSTALLED WITH SAME OPERATION AS MAINLINE BITUMINOUS WEAR COURSE.
- 12 BITUMINOUS TONS TO CREATE BIT CURB SHALL BE PAID UNDER 2360.501 WEARING COURSE MIX (4,E).
- 13 2 - MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT WILL BE INSTALLED 7 -DAYS PRIOR TO ANY CONSTRUCTION. REFERENCE "TEMPORARY SIGNING,PERMANENT SIGNING, STRIPING AND PAVEMENT MESSAGES" SECTION OF THIS PLAN FOR DETAILS.
- 14 USED AT BITUMINOUS FLUMES. PLACEMENT OF GEOTEXTILE FABRIC TYPE IV INCIDENTAL.
- 15 FOR THE REMOVAL OF THE EXISTING RADIUS EFFECTED BY THE PROPOSED RIGHT TURN LANE CONSTRUCTION.

BASIS OF PLANNED QUANTITIES

2211.501	AGGREGATE BASE CLASS 5	CU YDS (CV) * 1.8 = TONS
2221.501	AGGREGATE SHOULDERING CLASS 5	CU YDS (CV) * 1.8 = TONS
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	.05 GAL / SQ YD
2360.501	TYPE SP 12.5 WEARING COURSE (SPWEB440E)	115 LBS/SQYD/IN THICKNESS
2581.501	REMOVABLE PREFORM PLASTIC MARKINGS	2' AT 50' INTERVALS FOR SKIPS

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\13-01-00\CR_15_(CR74-CR26)\Plan\seq.dgn 02/25/2013 10:08:30 AM

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: 3/7/13 LICENSE NO. 42757

DRAWN BY: KPR DATE: 2/1/2013

DESIGN BY: KPR DATE: 2/1/2013

CHECKED BY: DFF DATE: _____



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

CITY PROJECT NO. _____

COUNTY PROJECT NO. 13-14-15

STATEMENT OF
ESTIMATED QUANTITIES

Sheet 2 of 26 Sheets

ESTIMATED AVERAGE DEPTH FOR RT. TURN LANES USING ELEVATION AT EDGE OF MAT, SHOULDER PI, AND DITCH BOTTOM.

CR 15 AND CR 74		
EM	SH PI	BOTTOM
926.76	926.30	924.44
926.87	926.67	924.78
927.26	926.56	925.10
927.02	926.72	925.20
927.02	926.86	925.50
4634.93	4633.11	4625.02
926.99	926.62	925.00
AVERAGE DEPTH		1.98
minus 0.5'		1.48

CR 15 AND CR 74 (EAST)		
EM	SH PI	BOTTOM
916.77	916.47	912.27
916.17	915.87	914.37
916.56	916.26	915.16
916.14	915.84	914.74
915.90	915.60	913.50
4581.54	4580.04	4570.04
916.31	916.01	914.01
AVERAGE DEPTH		2.30
minus 0.5'		1.80

CR 15 AND CR 26		
EM	SH PI	BOTTOM
936.14	935.79	927.48
936.49	936.10	932.59
935.51	935.52	937.17
933.41	932.41	930.03
933.41	930.26	927.36
4674.96	4670.08	4654.63
934.99	934.02	930.93
AVERAGE DEPTH		4.07
minus 0.5'		3.57

NEW RTL LOCATIONS BY THE EACH

STREET	STA.	DIR	RTL	WIDTH	LENGTH	COMMON EXCAVATION 2105.501 (CUYD)	TOPSOIL BORROW (LV) 2105.525 (CU YD)	SELECT GRANULAR BORROW (CV) 2105.522 (CU YD)	AGG BASE CLASS 5 (CV) 2211.501 (TON)
CR 74 (NORTH)	10+00 - 14+80	WB	RTL	12	480	159	53	421	223
CR 74 (EAST)	10+00 - 14+80	NB	RTL	12	480	171	64	512	223
CR 26 (EAST)	10+00 - 14+80	NB	RTL	12	480	234	64	1016	223

NOTE: RIGHT TURN LANES ARE SUBJECT TO ELIMINATION. CHECK WITH ENGINEER BEFORE CONSTRUCTION.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\13-01-00\CR_15_(CR74-CR26)\Plan\seq.dgn 02/25/2013 10:09:28 AM

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: 3/7/13 LICENSE NO. 42757

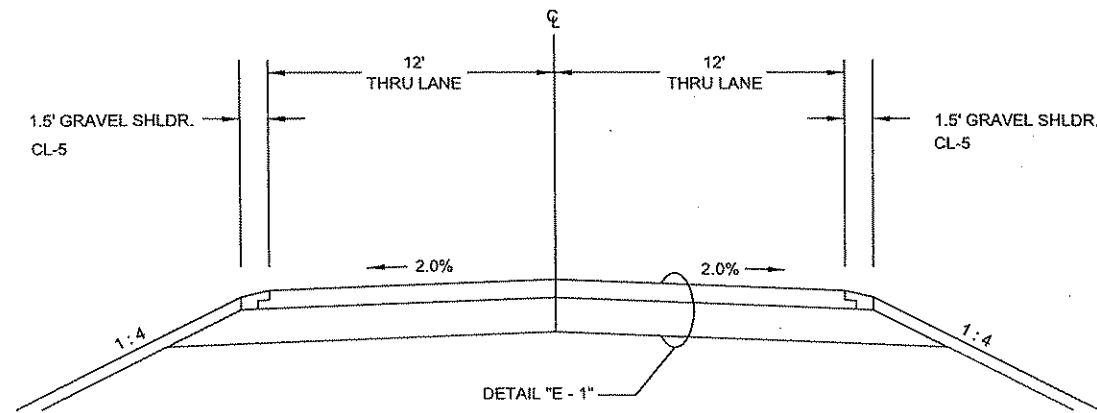
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 DESIGN BY: KPR DATE: 2/1/2013
 CHECKED BY: DFF DATE: _____



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 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 13-14-15

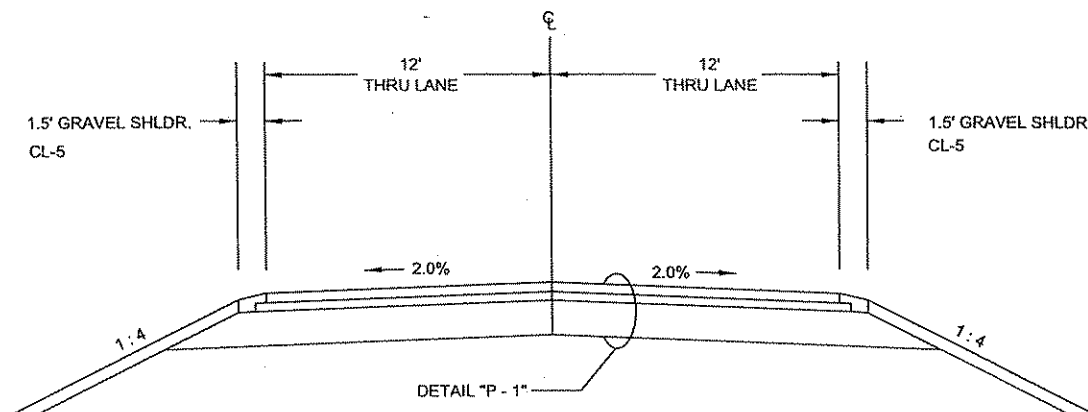
EXISTING TYPICAL SECTION (OVERLAY)

STA. 10+00 - STA. 150+50, STA. 155+30 - STA. 170+75

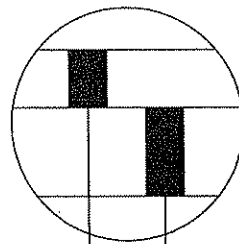


PROPOSED TYPICAL SECTION (OVERLAY)

STA. 14+80 - STA. 84+50, STA. 89+30 - STA. 150+50, STA. 155+30 - STA. 165+95

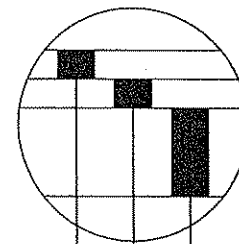


DETAIL "E - 1"



EXISTING BITUMINOUS
EXISTING BASE

DETAIL "P - 1"



2" TYPE SP 12.5 WEARING COURSE (SPWEB440E)
EXISTING BITUMINOUS
EXISTING BASE

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:113-01-001CR_15_CR74-CR261Plan1.dgn					
02/25/2013 10:19:11 AM					

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: 3/13 LICENSE NO. 42757

DRAWN BY: KPR DATE: 2/1/2013
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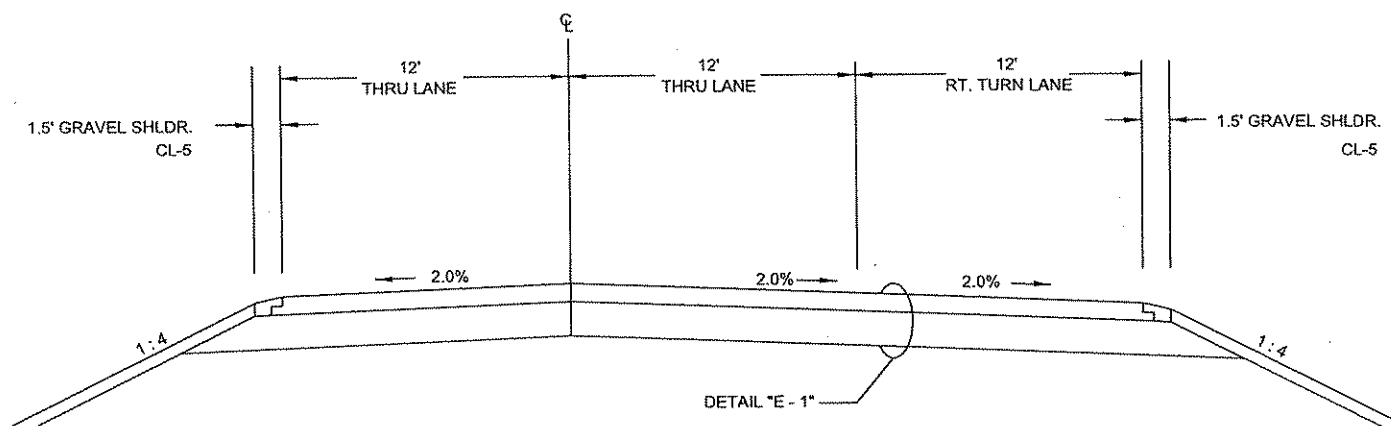
**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. _____
STATE AID PROJECT NO. _____
CITY PROJECT NO. _____
COUNTY PROJECT NO. 13-14-15

TYPICAL SECTIONS

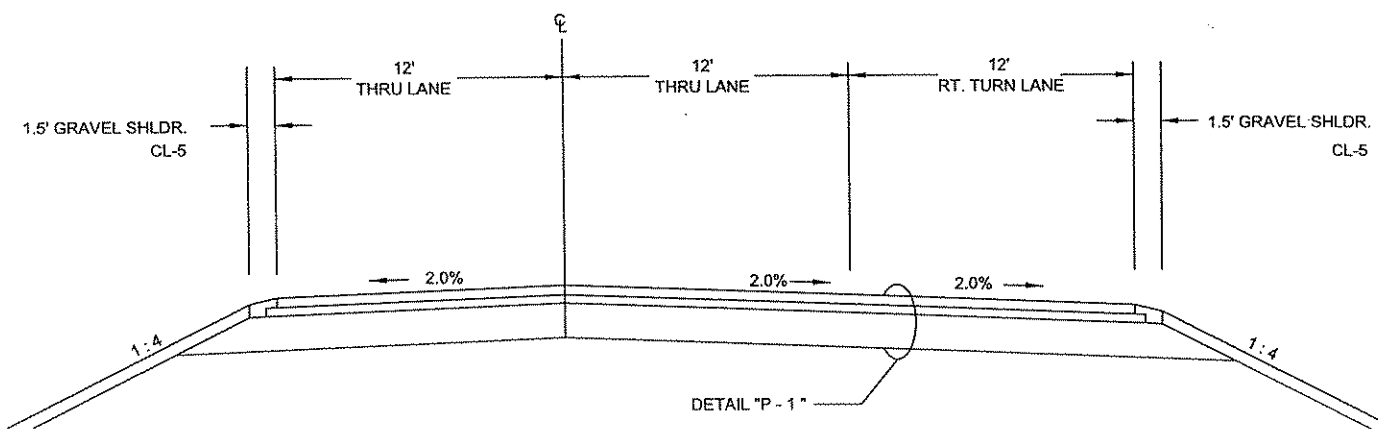
EXISTING TYPICAL SECTION (RT. TURN LANE OVERLAY)

STA. 150+50 - STA. 155+30



PROPOSED TYPICAL SECTION (RT. TURN LANE OVERLAY)

STA. 150+50 - STA. 155+30



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\13-01-00\CR_15_(CR74-CR26)\Plan\typ.dgn 10:19:58 AM

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DRAWN BY KPR DATE 2/1/2013
 DESIGN BY KPR DATE 2/1/2013
 CHECKED BY DFF DATE



ANOKA COUNTY
 HIGHWAY DEPT.

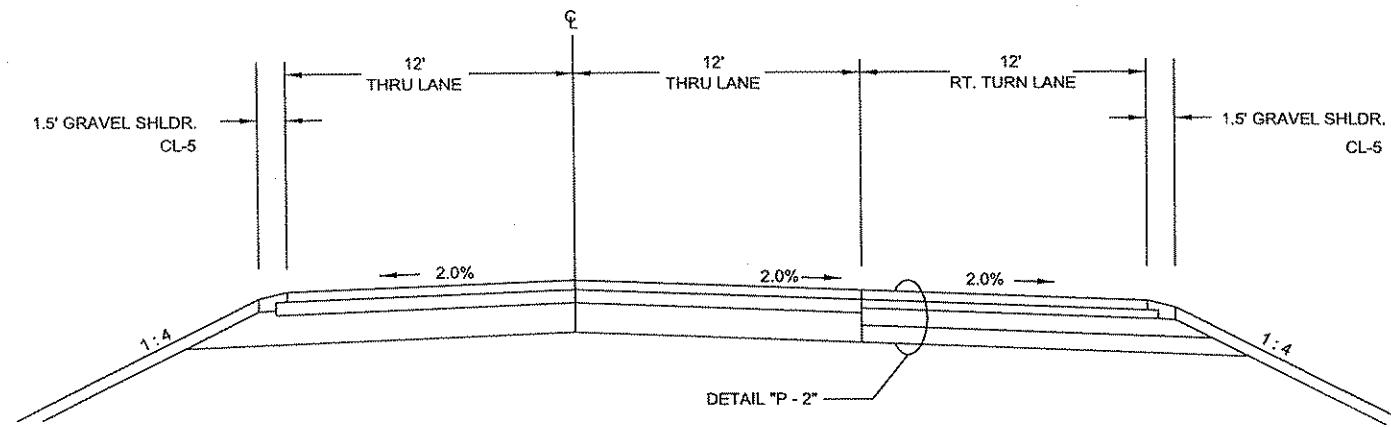
STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 13-14-15

TYPICAL SECTIONS

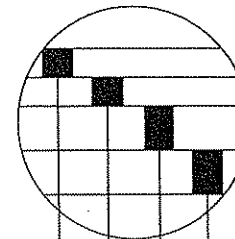
Sheet 5 of 26 Sheets

PROPOSED TYPICAL SECTION (NEW RT. TURN LANE)

STA. 10+00 - 14+80, STA. 84+50 - STA. 89+30, STA. 165+95 - STA. 170+75



DETAIL "P - 2"



- 2" TYPE SP 12.5 WEARING COURSE (SPWEB440E)
- 2" TYPE SP 12.5 WEARING COURSE (SPWEB440E)
- 6" AGG. BASE CLASS 5
- GRANULAR MATERIAL

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\13-01-00\CR_15_(CR74-CR26)\Plan\typ.dgn 02/25/2013 10:20:19 AM

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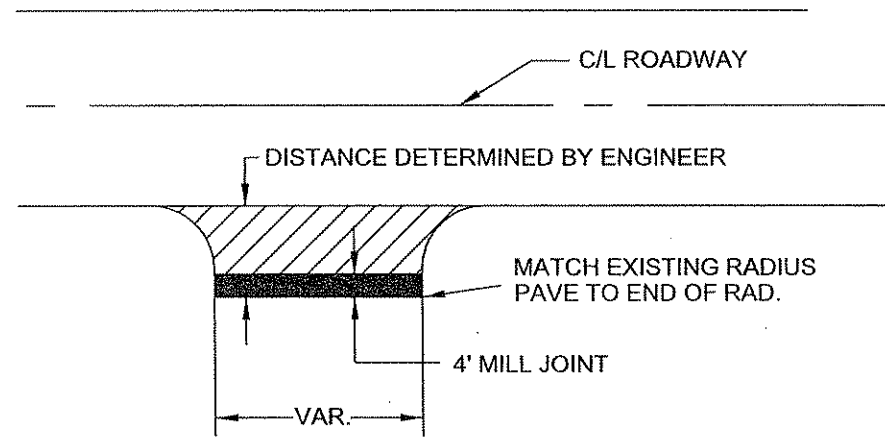
PRINT NAME: ANDREW WITTER
 SIGNATURE: *Andrew Witter*
 DATE: 3/7/13 LICENSE NO. 42757

DRAWN BY: KPR DATE: 2/1/2013
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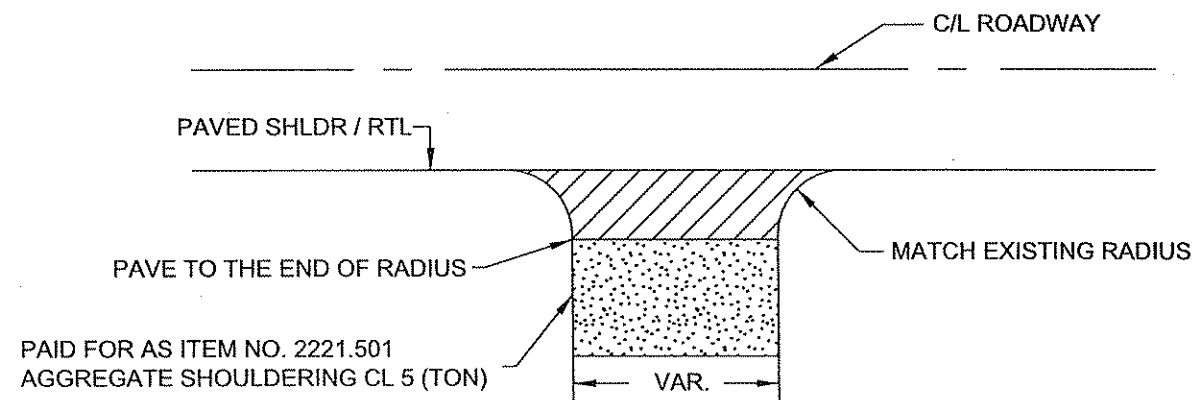


STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 13-14-15

PAVED STREET APPROACHES



UN-PAVED STREET APPROACHES



UNPAVED STREET APPROACHES, PAVED SEPRATE FROM MAINLINE, PAID AS STREET APPROACHES.

NOT TO SCALE

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\13-01-00\CR_15 (CR74-CR26)\Plantdet.dgn					
10:27:55 AM					

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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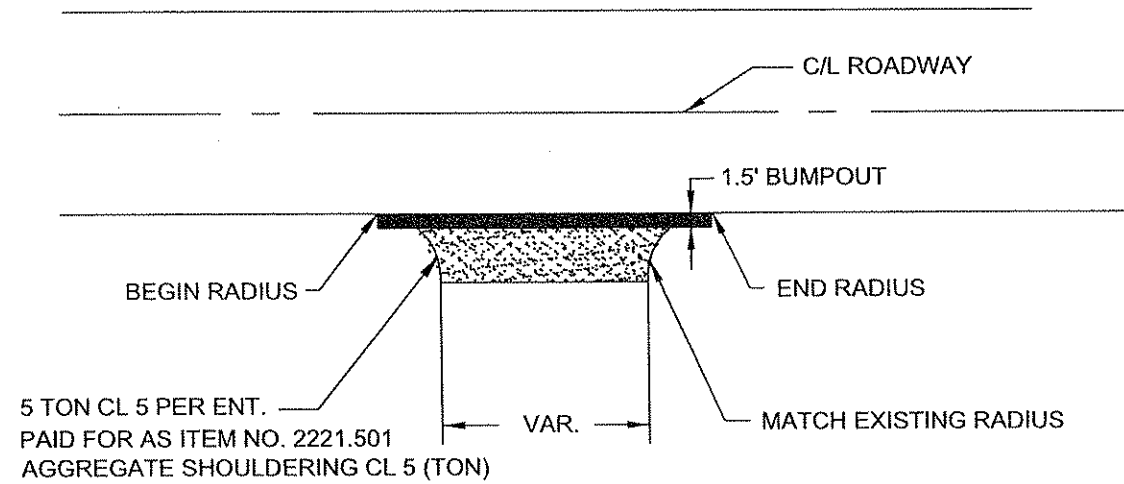


ANOKA COUNTY
 HIGHWAY DEPT.

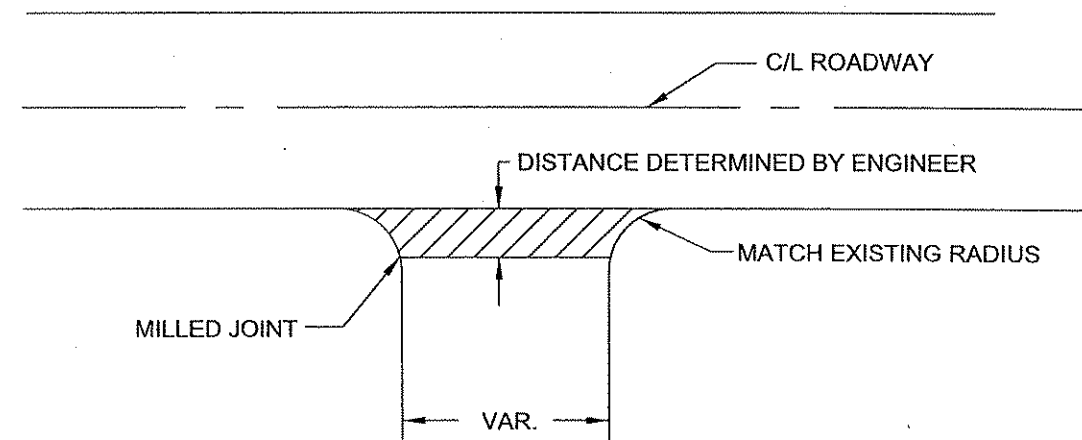
STATE PROJECT NO. _____
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 COUNTY PROJECT NO. 13-14-15

MISCELLANEOUS DETAILS
 Sheet 7 of 26 Sheets

GRAVEL DRIVEWAYS AND FEILD ENTRANCES



PAVED DRIVEWAYS



DRIVEWAYS BUMPOUT AND PAVED WITH MAINLINE PAID AS MAINLINE.
DRIVEWAYS PAVED IN DIFFERENT OPERATION FROM MAIN LINE PAVING PAID AS ST./DR. APPROACH.

CONCRETE DRIVEWAYS

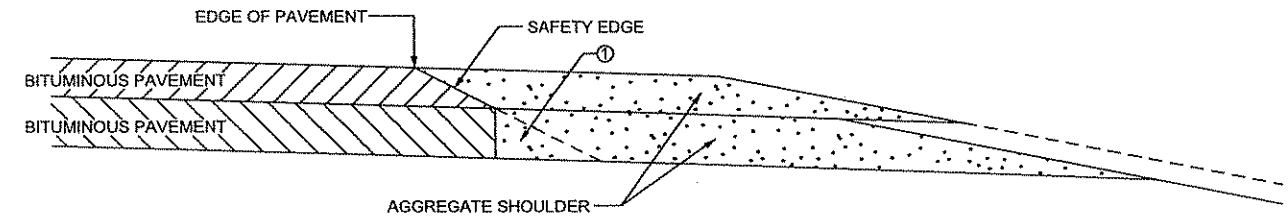
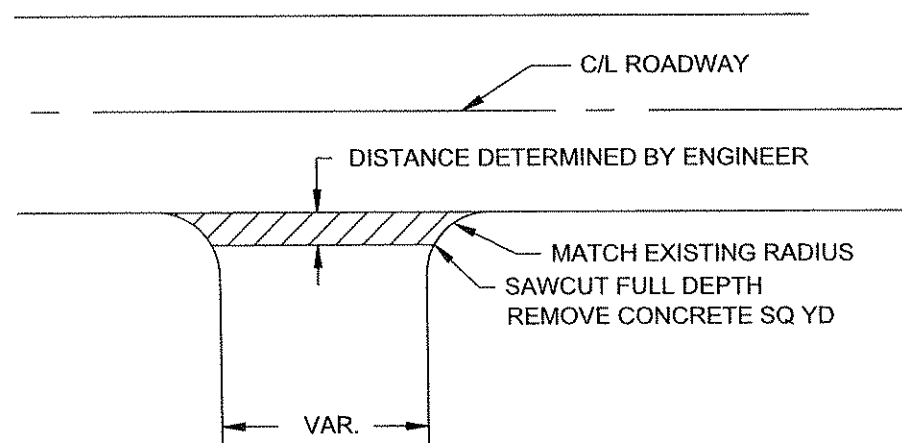


FIGURE B
BITUMINOUS PAVEMENT
SAFETY EDGE TO BE USED IN ALL NON-CURB AREAS ON SHOULDER.
① OPTIONAL DESIGN EXTENDS SAFETY EDGE DEEPER THAN 6" AND WIDER THAN 10.5". SEE SPECIAL PROVISIONS.

NOT TO SCALE

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\13-01-00\CR_15_(CR74-CR26)\Plan\def.dgn 02/25/2013 10:23:32 AM

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: 3/7/13 LICENSE NO. 42757

DRAWN BY: KPR DATE: 2/1/2013
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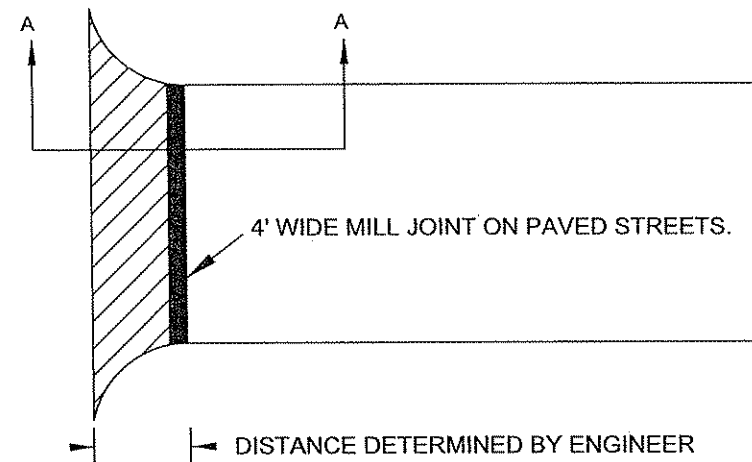
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. _____
CITY PROJECT NO. _____
COUNTY PROJECT NO. 13-14-15

MISCELLANEOUS DETAILS
Sheet 8 of 26 Sheets

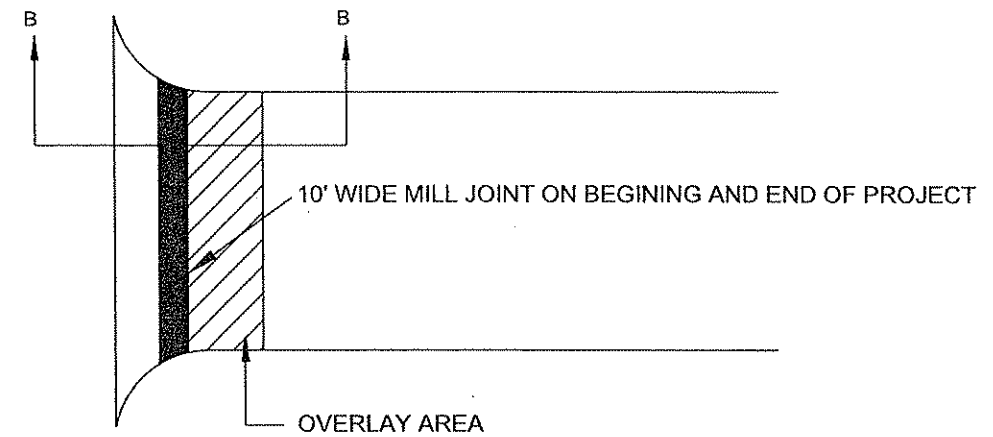
PAVED STREET APPROACHES

JOINT DETAILS



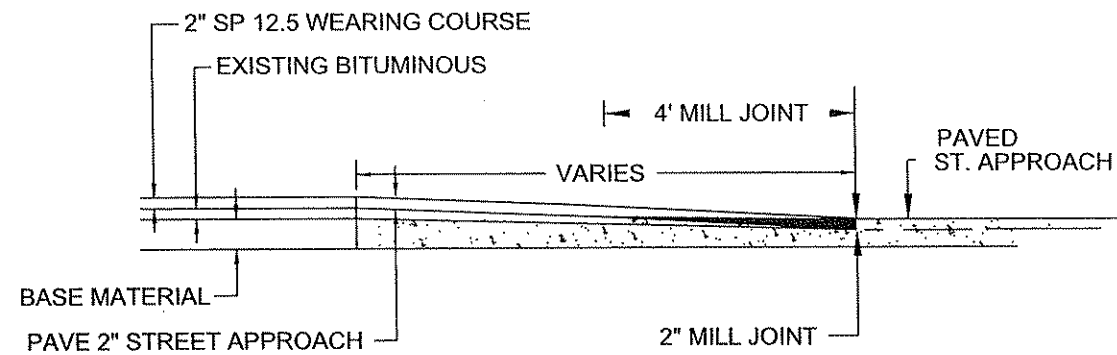
MAINLINE

JOINT DETAILS

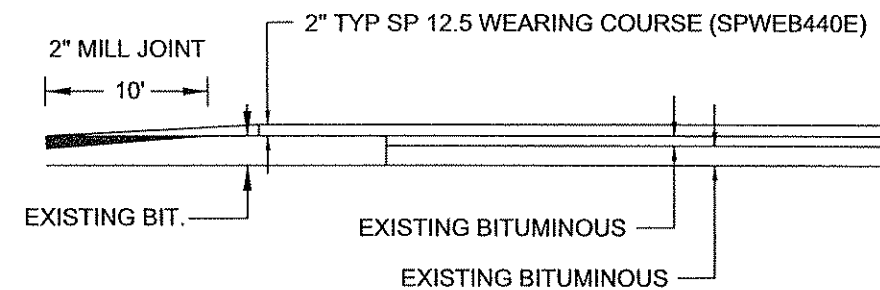


DRIVEWAYS BUMPED OUT TO BE PAVED WITH MAINLINE, PAID AS MAINLINE.
 DRIVEWAYS PAVED IN DIFFERENT OPERATION FROM MAIN LINE PAVING PAID AS ST./DR. APPROACH.
 STREETS PAID AS ST./DR. APPROACH.

PAVED STREET APPROACH JOINT DETAILS A - A



JOINT DETAILS B - B



NOT TO SCALE

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\13-01-00\CR_15_(CR74-CR26)\Plan\det.dgn					
02/25/2013 10:23:58 AM					

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: 3/7/13 LICENSE NO. 42757

DRAWN BY: KPR DATE: 2/1/2013
 DESIGN BY: KPR DATE: 2/1/2013
 CHECKED BY: DFF DATE:

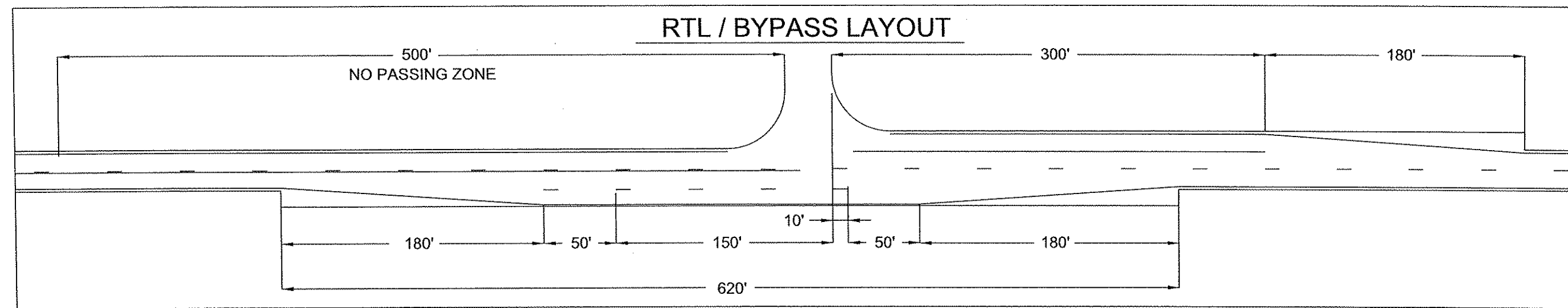
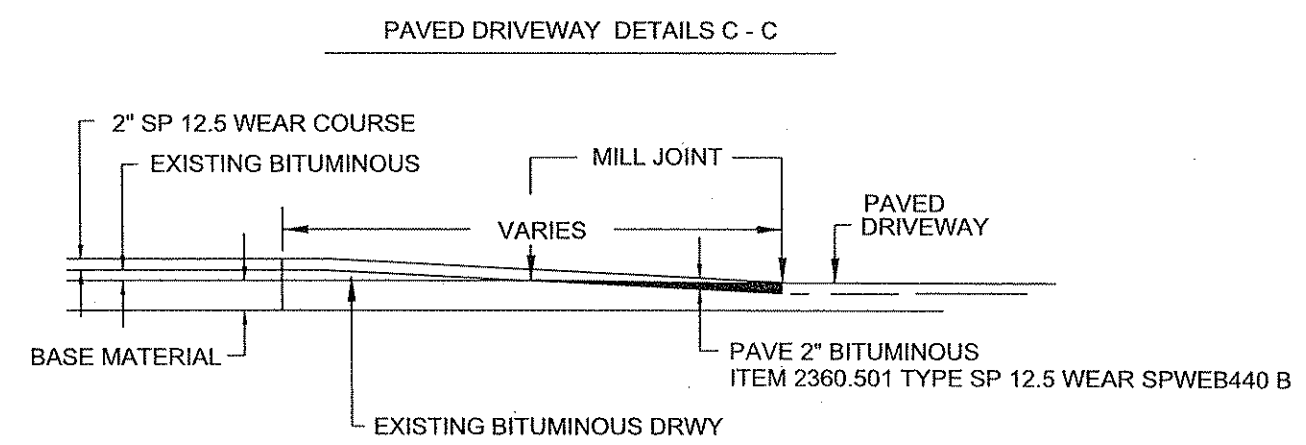
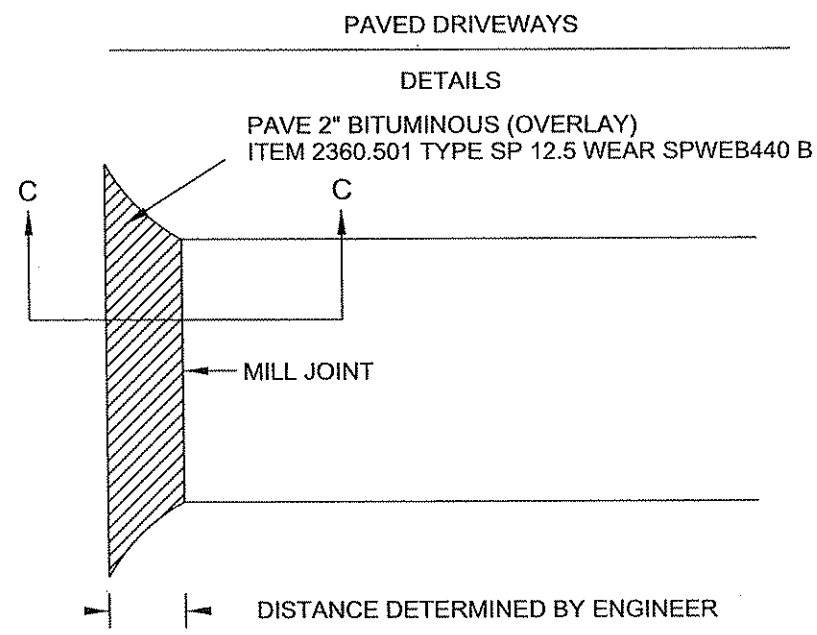


ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 13-14-15

MISCELLANEOUS DETAILS

Sheet 9 of 26 Sheets



NOT TO SCALE

NO	DATE	BY	CKD	APPR	REVISION

NAME: PA13-01-001CR_15_(CR74-CR26)Plan1det.dgn 02/25/2013 10:24:24 AM

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: 3/1/13 LICENSE NO. 42757

DRAWN BY: KPR DATE: 2/1/2013

DESIGN BY: KPR DATE: 2/1/2013

CHECKED BY: DFF DATE: _____



STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

CITY PROJECT NO. _____

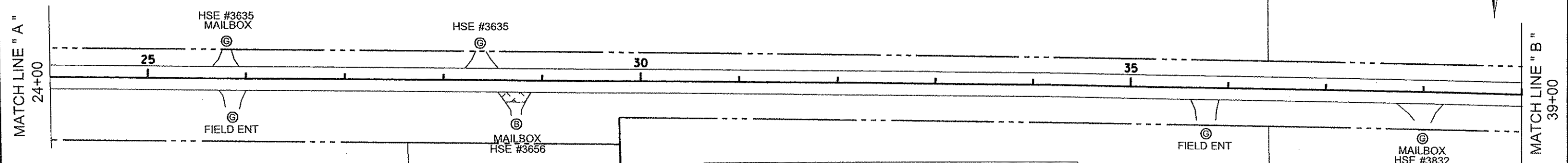
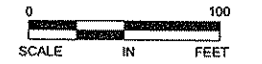
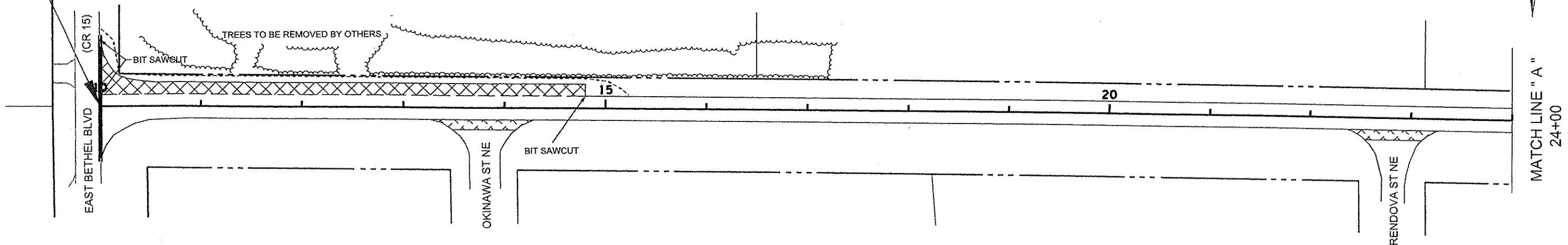
COUNTY PROJECT NO. 13-14-15

MISCELLANEOUS DETAILS

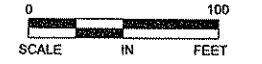
Sheet 10 of 26 Sheets



BEGIN PROJECT C.P. 13-14-15 STA. 10+10



CONSTRUCT RIGHT TURN LANE	
OVERLAY STREET APPROACHES	
REMOVE CONCRETE DRIVEWAY	
SILT FENCE	
BITUMINOUS DRIVEWAY	Ⓟ
GRAVEL DRIVEWAY	Ⓞ
CONCRETE DRIVEWAY	Ⓞ



1 OF 6

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\13-01-00\CR_15_(CR74-CR26)\Plan\plan 1.dgn 02/25/2013 10:32:02 AM

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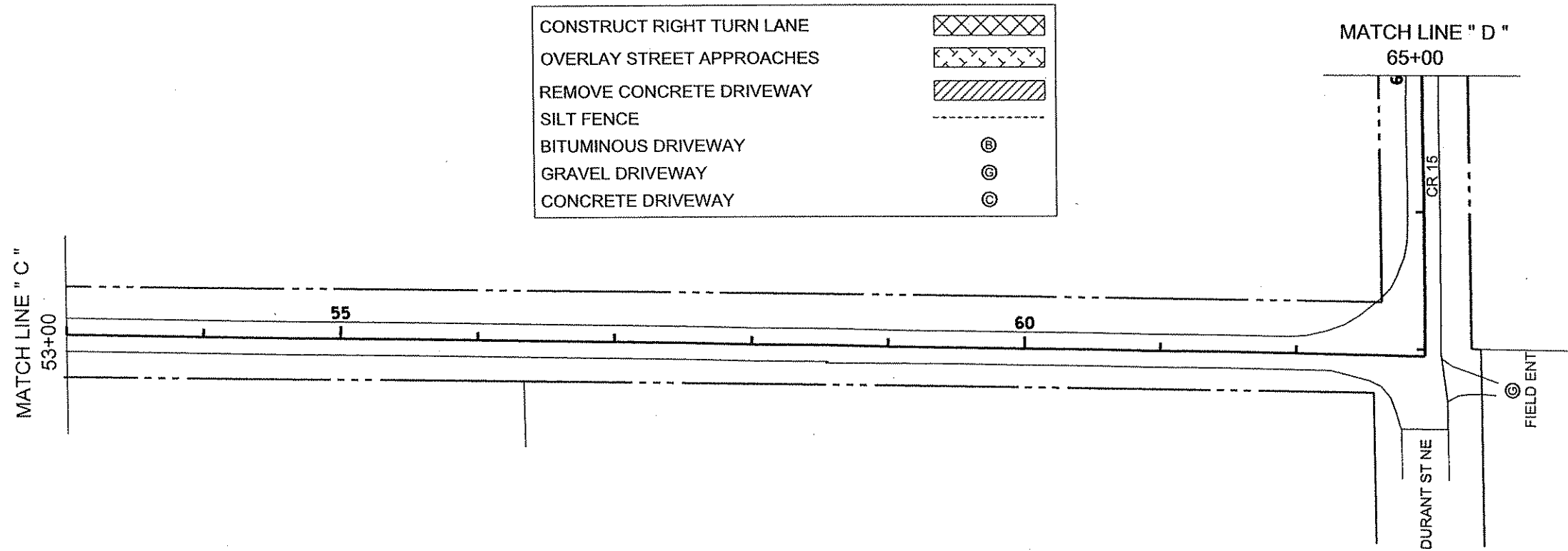
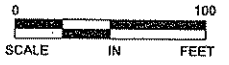
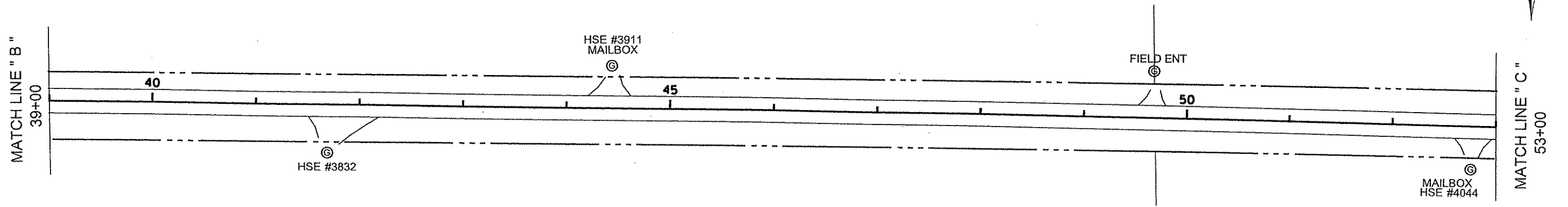
PRINT NAME: ANDREW WITTER
 SIGNATURE:
 DATE: 3/7/13 LICENSE NO. 42757

DRAWN BY: KPR DATE: 2/1/2013
 DESIGN BY: KPR DATE: 2/1/2013
 CHECKED BY: DFF DATE: _____

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 13-14-15

CONSTRUCTION PLAN
 STA 10+00 TO 39+00
 Sheet 11 of 26 Sheets



CONSTRUCT RIGHT TURN LANE	
OVERLAY STREET APPROACHES	
REMOVE CONCRETE DRIVEWAY	
SILT FENCE	
BITUMINOUS DRIVEWAY	
GRAVEL DRIVEWAY	
CONCRETE DRIVEWAY	



2 OF 6

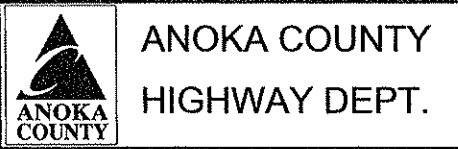
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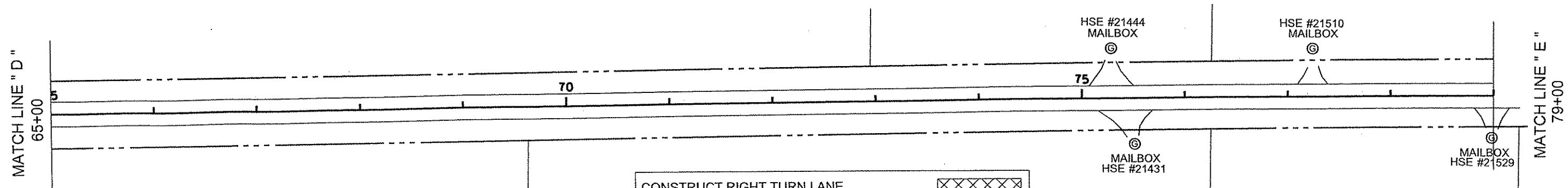
PRINT NAME: ANDREW WITTER
 SIGNATURE: *[Signature]*
 DATE: 2/13/13 LICENSE NO. 42757

DRAWN BY: KPR DATE: 2/1/2013
 DESIGN BY: KPR DATE: 2/1/2013
 CHECKED BY: DFF DATE: _____

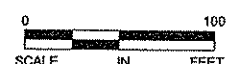
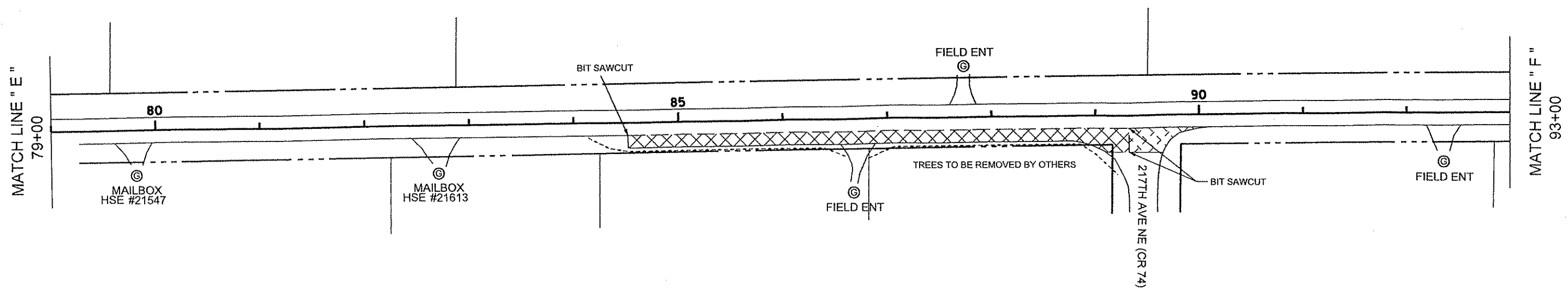
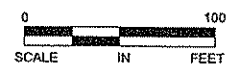


STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 13-14-15

CONSTRUCTION PLAN
 STA 39+00 TO 65+00
 Sheet 12 of 26 Sheets



CONSTRUCT RIGHT TURN LANE	
OVERLAY STREET APPROACHES	
REMOVE CONCRETE DRIVEWAY	
SILT FENCE	
BITUMINOUS DRIVEWAY	
GRAVEL DRIVEWAY	
CONCRETE DRIVEWAY	



3 OF 6

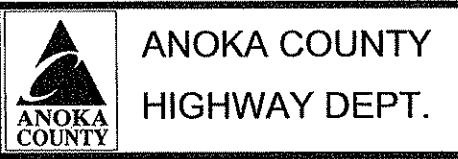
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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

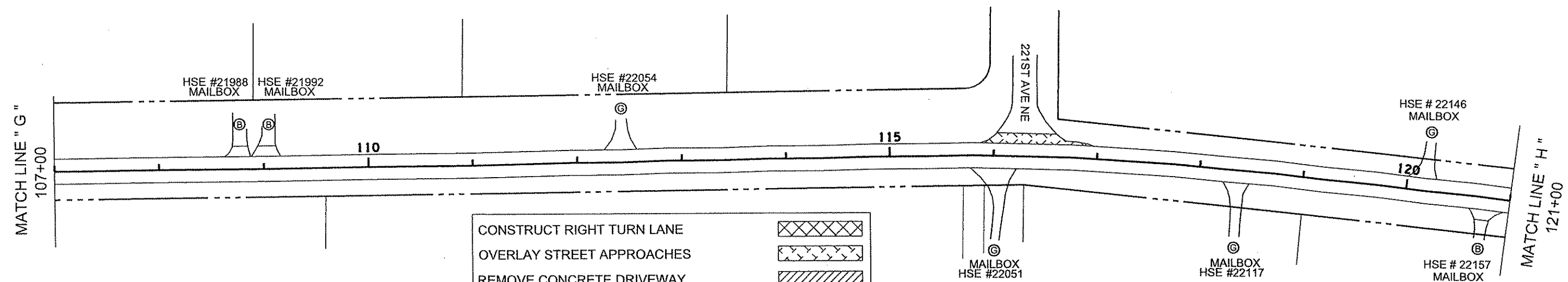
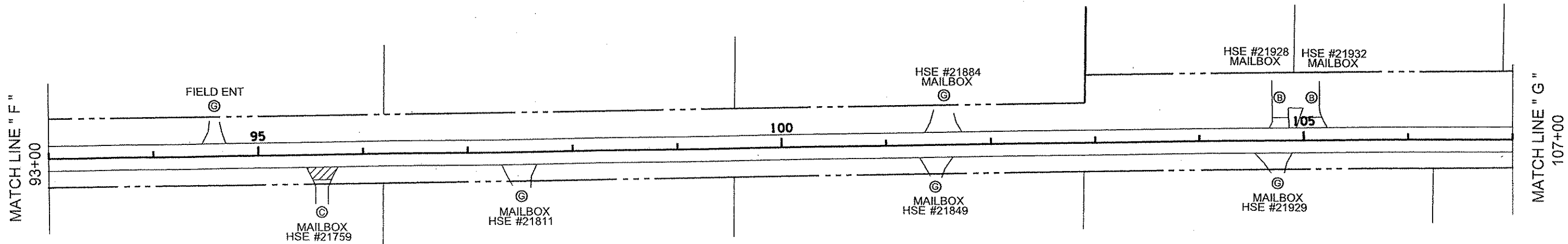
PRINT NAME: ANDREW WITTER
 SIGNATURE:
 DATE: 2/13/13 LICENSE NO. 42757

DRAWN BY: KPR DATE: 2/1/2013
 DESIGN BY: KPR DATE: 2/1/2013
 CHECKED BY: DFF DATE: _____



STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 13-14-15

CONSTRUCTION PLAN
 STA 65+00 TO 93+00
 Sheet 13 of 26 Sheets



CONSTRUCT RIGHT TURN LANE	
OVERLAY STREET APPROACHES	
REMOVE CONCRETE DRIVEWAY	
SILT FENCE	
BITUMINOUS DRIVEWAY	
GRAVEL DRIVEWAY	
CONCRETE DRIVEWAY	



4 OF 6

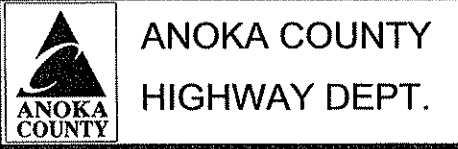
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\13-01-00\CR_15_(CR74-CR26)\Plan\plan 4.dgn 02/25/2013 10:35:36 AM

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.

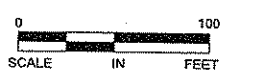
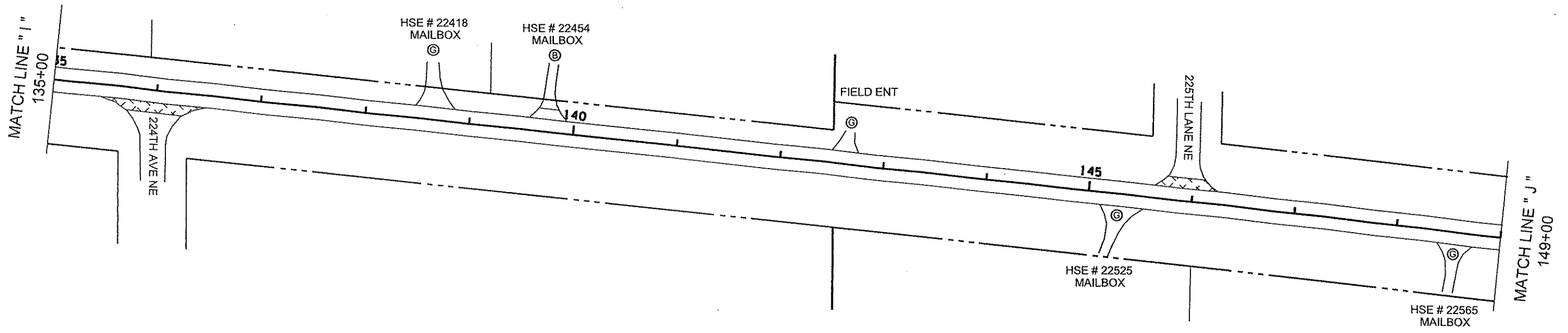
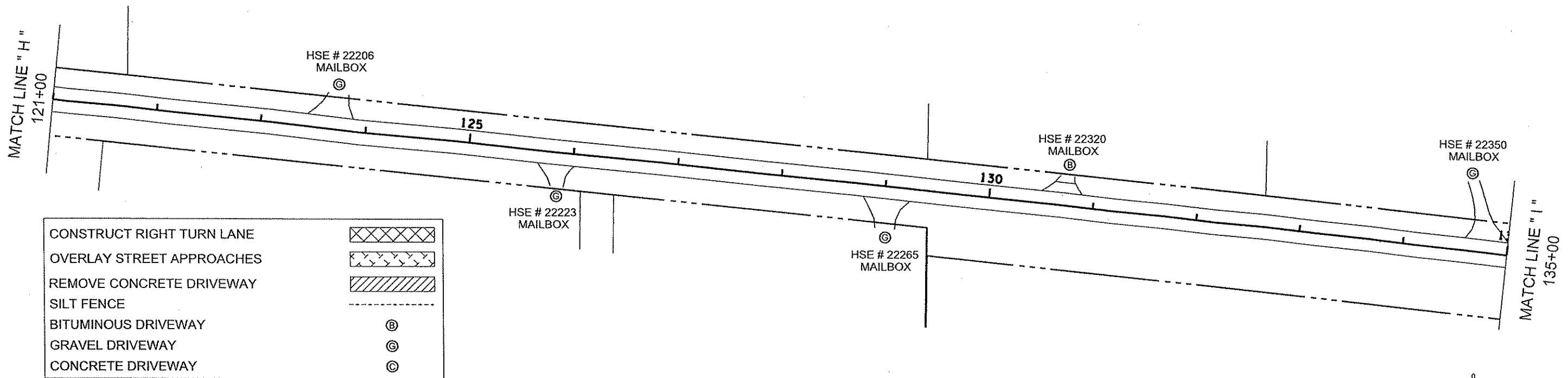
PRINT NAME: ANDREW WITTER
 SIGNATURE:
 DATE: 3/7/13 LICENSE NO. 42757

DRAWN BY: KPR DATE: 2/1/2013
 DESIGN BY: KPR DATE: 2/1/2013
 CHECKED BY: DFF DATE: _____



STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 13-14-15

CONSTRUCTION PLAN
 STA 93+00 TO 121+00
 Sheet 14 of 26 Sheets



5 OF 6

NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\13-01-00\CR_15 (CR74-CR26)\Plantplan 5.dgn 02/25/2013 10:36:03 AM

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.

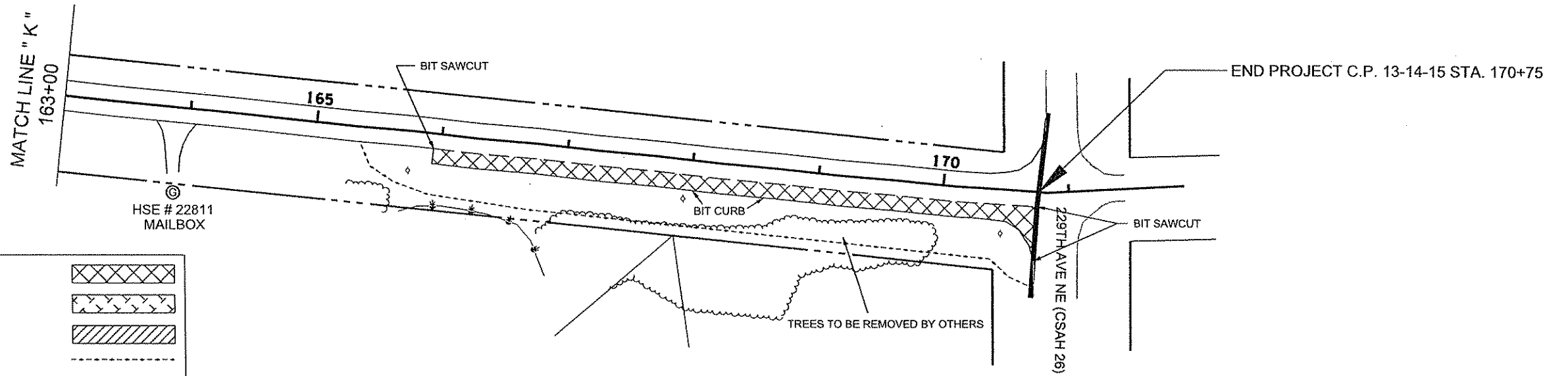
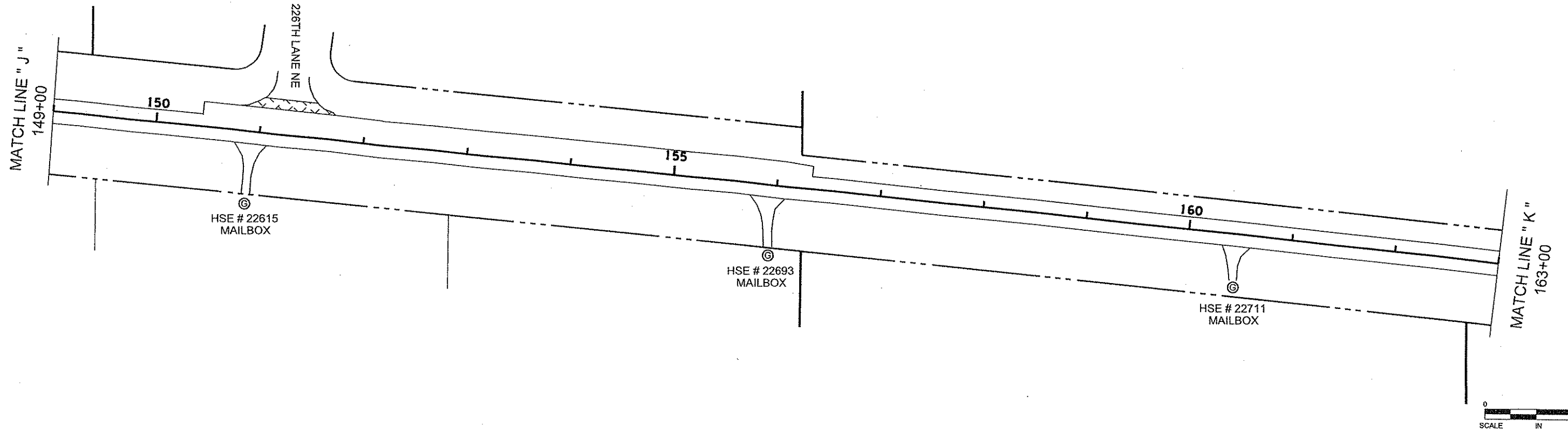
PRINT NAME: ANDREW WITTER
 SIGNATURE: *Andrew Witter*
 DATE: 2/13/13 LICENSE NO. 42757

DRAWN BY: KPR DATE: 2/1/2013
 DESIGN BY: KPR DATE: 2/1/2013
 CHECKED BY: DFF DATE: _____

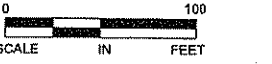


STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 13-14-15

CONSTRUCTION PLAN
 STA 121+00 TO 149+00
 Sheet 15 of 26 Sheets



CONSTRUCT RIGHT TURN LANE	
OVERLAY STREET APPROACHES	
REMOVE CONCRETE DRIVEWAY	
SILT FENCE	
BITUMINOUS DRIVEWAY	
GRAVEL DRIVEWAY	
CONCRETE DRIVEWAY	



6 OF 6

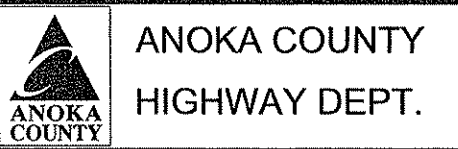
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\13-01-00\CR_15_(CR74-CR26)\Plan\plan 6.dgn 02/25/2013 10:36:39 AM

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: 3/7/13 LICENSE NO. 42757

DRAWN BY: KPR DATE: 2/1/2013
 DESIGN BY: KPR DATE: 2/1/2013
 CHECKED BY: DFF DATE:



STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 13-14-15

CONSTRUCTION PLAN
 STA 149+00 TO 170+75
 Sheet 16 of 26 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 EPOXY 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 FILD 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.

SYMBOLS & MATERIALS LEGEND

■ CROSSWALK BLOCK WHITE PREFORMED THERMOPLASTIC

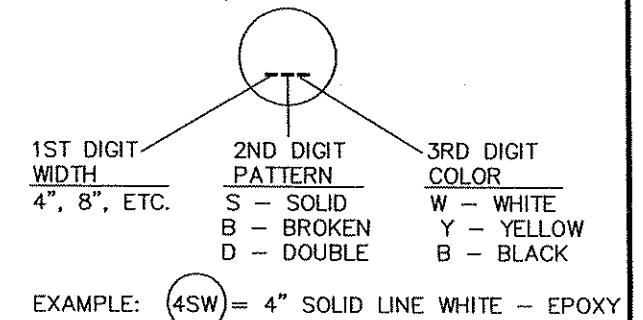
↩ PAVEMENT MESSAGE (LEFT ARROW) PREFORMED THERMOPLASTIC

STRIPING KEY

○ CIRCLE - EPOXY □ SQUARE PREFORMED THERMOPLASTIC

△ TRIANGLE - PAINT

⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



PAVEMENT MARKING QUANTITIES		
Item	Quantity	Units
4" Solid Line White - Epoxy	32558	Lin Ft
4" Solid Line Yellow - Epoxy	5012	Lin Ft
4" Broken Line Yellow - Epoxy (10 ft stripe / 40 ft gap)	3090	Lin Ft
4" Double Solid Line Yellow - Epoxy	500	Lin Ft

NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\13-01-00\CR 15\Baset\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 WITTE
 SIGNATURE: *Andrew Witte*
 DATE: 2/13/12 LICENSE NO. 42757

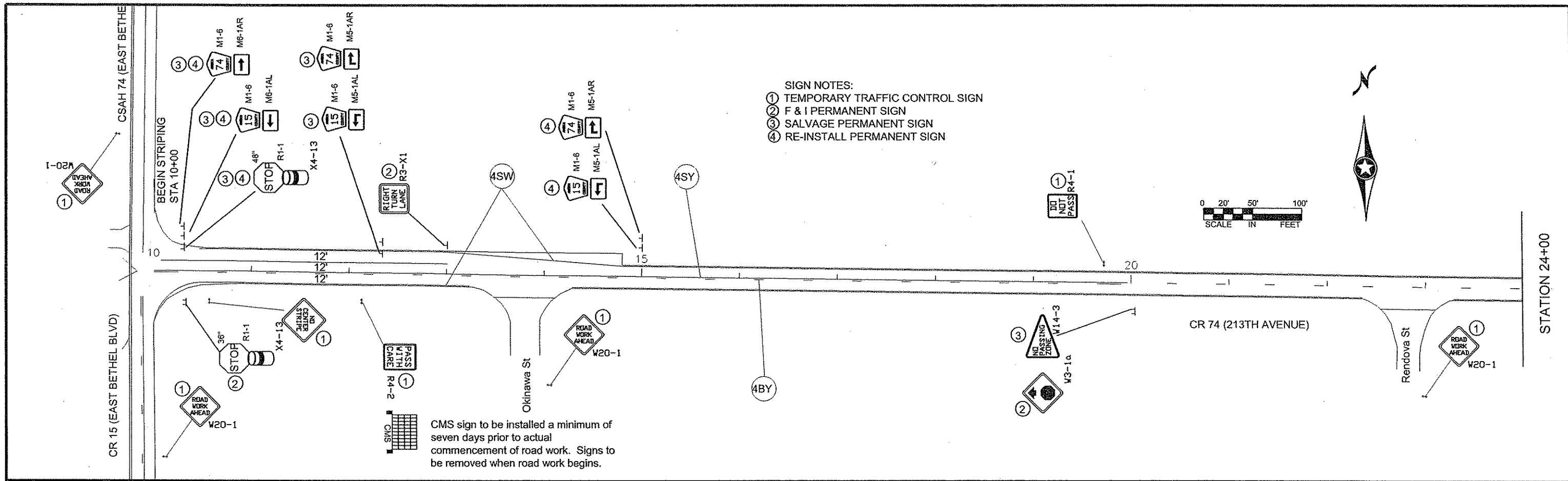
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 CHECKED BY: JR DATE 2/25/2012



**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 13-14-15

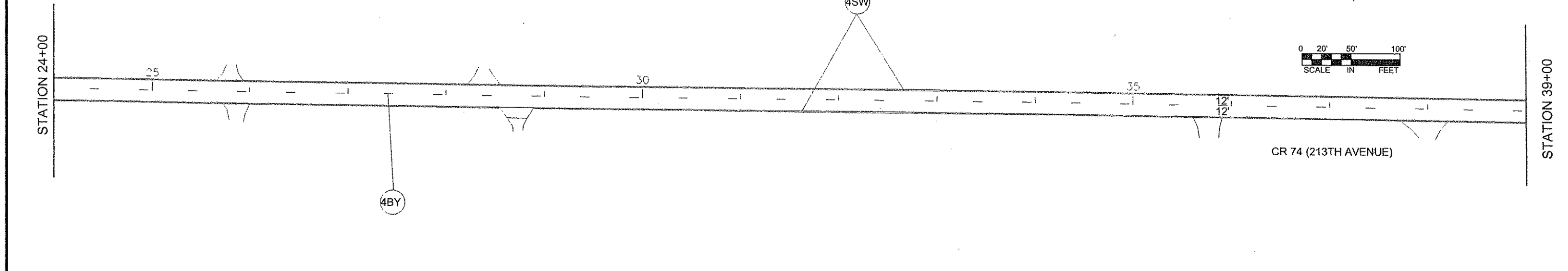
PERMANENT MARKING
TABULATION
 Sheet 17 of 26 Sheets



- SIGN NOTES:
- ① TEMPORARY TRAFFIC CONTROL SIGN
 - ② F & I PERMANENT SIGN
 - ③ SALVAGE PERMANENT SIGN
 - ④ RE-INSTALL PERMANENT 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".
- CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
- LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- CONTRACTOR SHALL SUPPLY AND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) A MINIMUM OF SEVEN DAYS PRIOR TO ACTUAL COMMENCEMENT OF ROAD WORK, TO A LOCATION AS SPECIFIED BY THE ENGINEER. SIGNS TO BE REMOVED WHEN ROAD WORK BEGINS. PAYMENT SHALL BE MADE AS PER ITEM 2563.613 PORTABLE CHANGEABLE MESSAGE SIGN BY THE UNIT/DAY.
- CONTRACTOR SHALL SUPPLY AND ERECT THE TEMPORARY TRAFFIC CONTROL SIGNS AS SHOWN ON THIS DRAWING AND DETAILED IN THE SPECIAL PROVISIONS FROM THE TIME WORK COMMENCES ON THIS ROADWAY UNTIL THIS ROADWAY IS PERMANENTLY STRIPED. ALL NECESSARY TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE PAID FOR AS PART OF TRAFFIC CONTROL LUMP SUM.
- ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
- ANY REQUIRED PERMANENT SIGNING SHALL BE INSTALLED THE SAME DAY AS PERMANENT STRIPING
- ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ALL SALVAGED AND REINSTALLED SIGNS SHALL BE INSTALLED ON TEMPORARY SUPPORTS UNTIL THE PERMANENT INSTALLATION CAN BE MADE. THIS WILL BE CONSIDERED AS INCIDENTAL TO INSTALL SIGN TYPE C.



NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:113-01-001CR 151base1PROPOSEDISIGNING AND STRIPING.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: 3/7/13 REG. NO. 42757

DRAWN BY: MTH DATE: 12/26/2012

DESIGN BY: MTH DATE: 12/26/2012

CHECKED BY: RB DATE: 2/06/2013



ANOKA COUNTY
HIGHWAY DEPT.

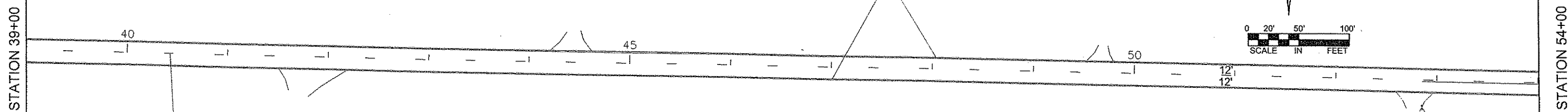
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STATE AID PROJECT NO. _____
STATE AID PROJECT NO. _____
COUNTY PROJECT NO. 13-14-15

TEMPORARY SIGNING
PERMANENT SIGNING, STRIPING
AND PAVEMENT MESSAGES

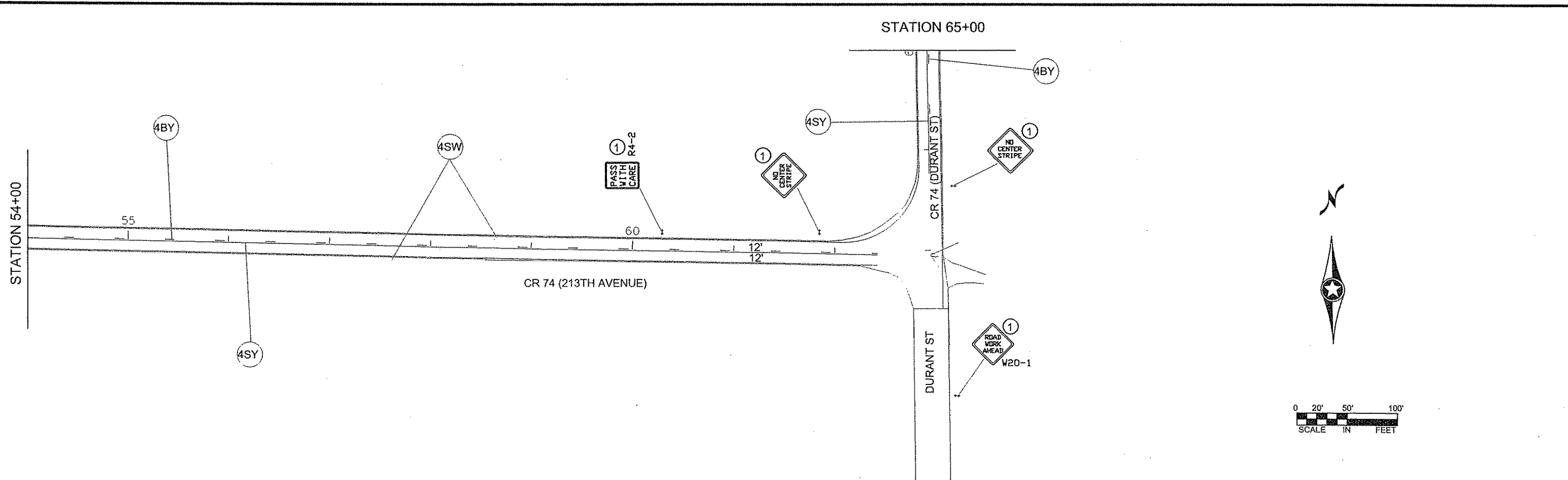
Sheet 18 of 26 Sheets

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".
- CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
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- CONTRACTOR SHALL SUPPLY AND ERECT THE TEMPORARY TRAFFIC CONTROL SIGNS AS SHOWN ON THIS DRAWING AND DETAILED IN THE SPECIAL PROVISIONS FROM THE TIME WORK COMMENCES ON THIS ROADWAY UNTIL THIS ROADWAY IS PERMANENTLY STRIPED. ALL NECESSARY TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE PAID FOR AS PART OF TRAFFIC CONTROL LUMP SUM.
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SIGN NOTES:
 ① TEMPORARY TRAFFIC CONTROL SIGN



NO	DATE	BY	CKD	APPR	REVISION

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 WITNER
 SIGNATURE: *Andrew Witner*
 DATE: 3/1/13 REG. NO. 42757

DRAWN BY: MTH DATE 12/26/2012
 DESIGN BY: MTH DATE 12/26/2012
 CHECKED BY: RB DATE 2/06/2013



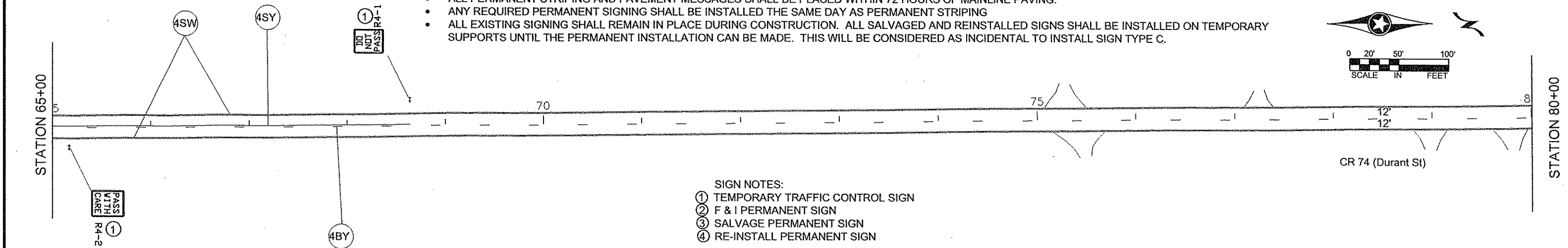
ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 13-14-15

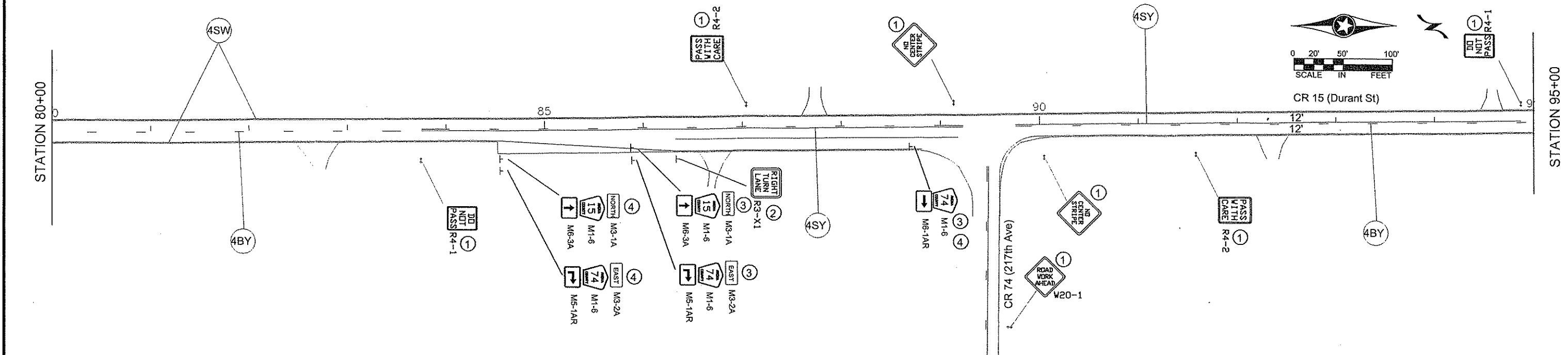
TEMPORARY SIGNING
 PERMANENT SIGNING, STRIPING
 AND PAVEMENT MESSAGES
 Sheet 19 of 26 Sheets

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



NO	DATE	BY	CKD	APPR	REVISION

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PRINT NAME: ANDREW WITTER
 SIGNATURE: *[Signature]*
 DATE: 5/13/13 REG. NO. 42757

DRAWN BY: MTH DATE 12/26/2012
 DESIGN BY: MTH DATE 12/26/2012
 CHECKED BY: RB DATE 2/06/2013



ANOKA COUNTY
 HIGHWAY DEPT.

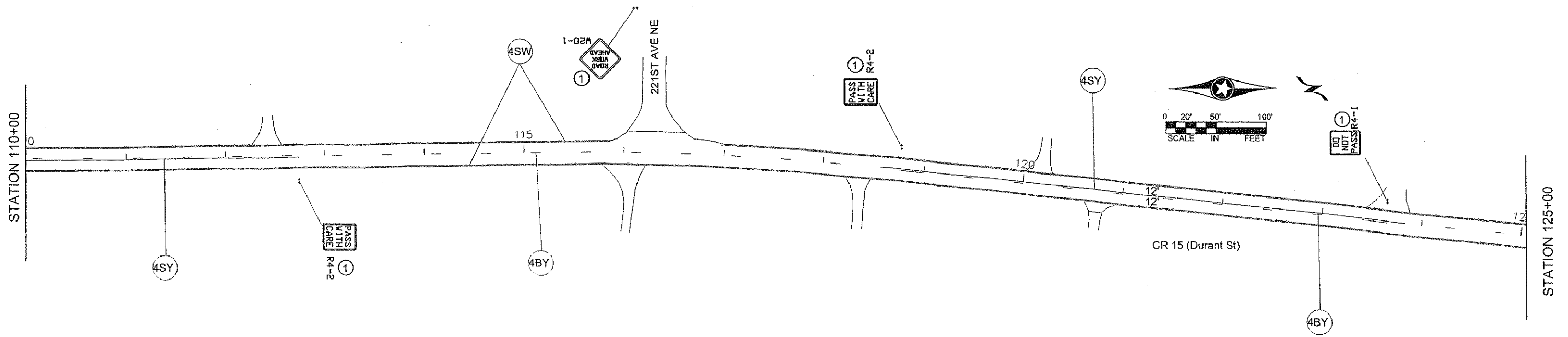
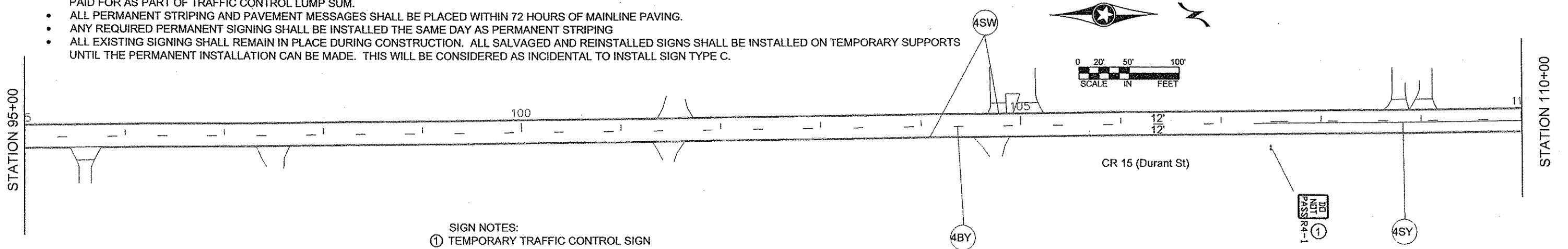
STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 13-14-15

TEMPORARY SIGNING
 PERMANENT SIGNING, STRIPING
 AND PAVEMENT MESSAGES

Sheet 20 of 26 Sheets

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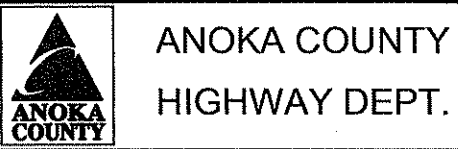
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\113-01-00\CR 15\base\PROPOSED\SIGNING AND STRIPING.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: 5/7/13 REG. NO. 42757

DRAWN BY: MTH DATE: 12/26/2012
 DESIGN BY: MTH DATE: 12/26/2012
 CHECKED BY: RB DATE: 2/06/2013



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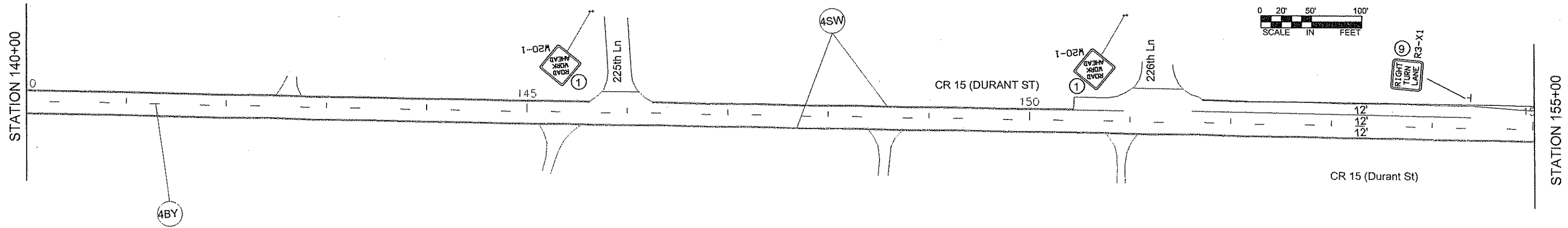
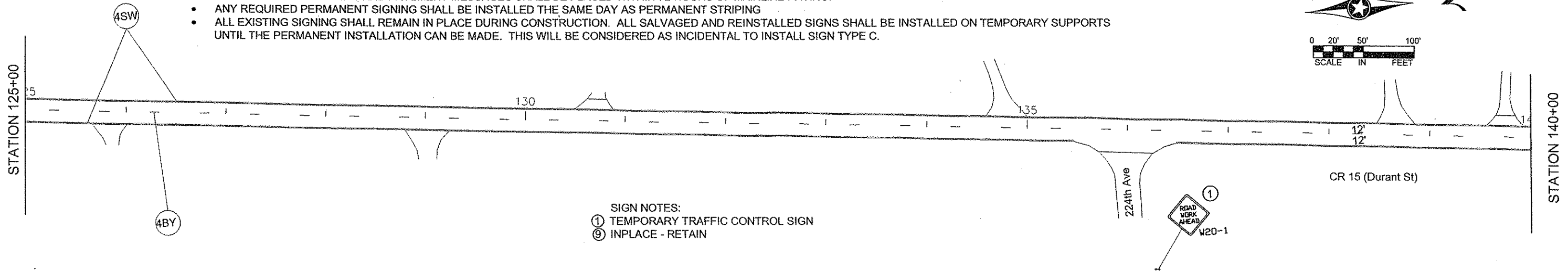
TEMPORARY SIGNING
 PERMANENT SIGNING, STRIPING
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Sheet 21 of 26 Sheets

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SIGN NOTES:
 ① TEMPORARY TRAFFIC CONTROL SIGN
 ② INPLACE - RETAIN



NO	DATE	BY	CKD	APPR	REVISION

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ANOKA COUNTY
 HIGHWAY DEPT.

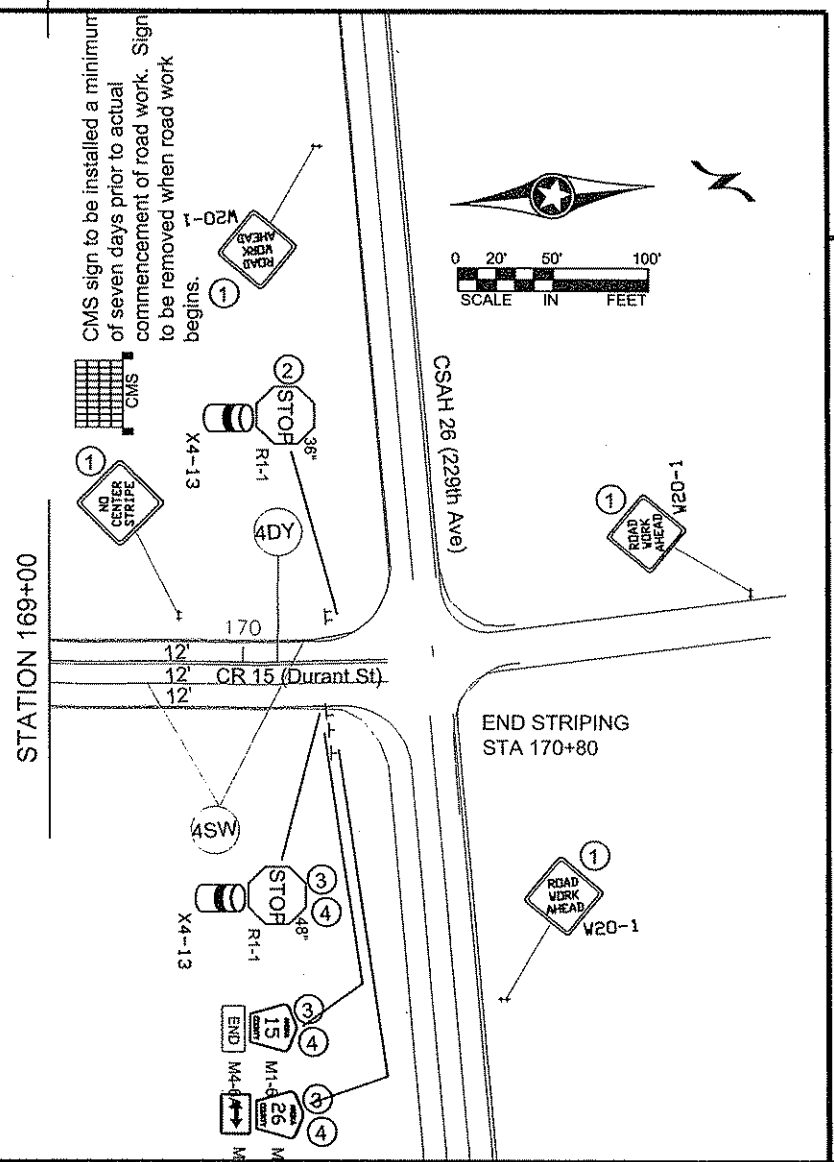
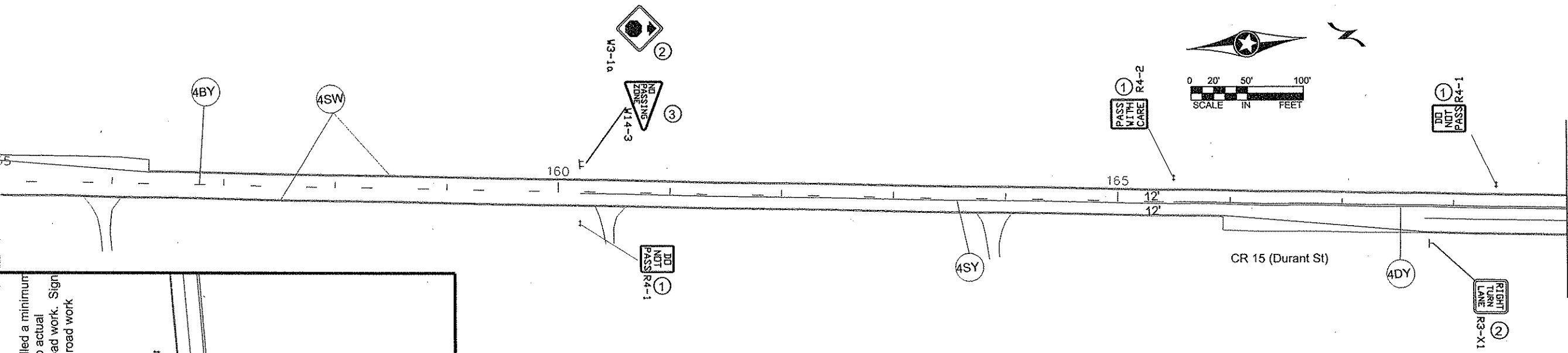
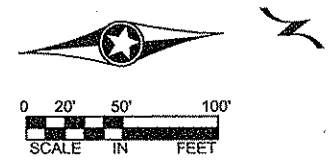
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 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 13-14-15

TEMPORARY SIGNING
 PERMANENT SIGNING, STRIPING
 AND PAVEMENT MESSAGES
 Sheet 22 of 26 Sheets

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

STATION 155+00

STATION 169+00



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NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\13-01-00\CR 15\base\PROPOSED\SIGNING AND STRIPING.DWG					

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PRINT NAME: ANDREW WITTER

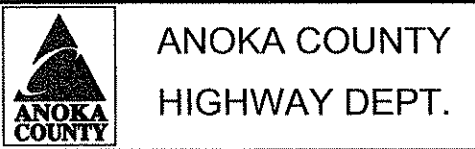
SIGNATURE: *[Signature]*

DATE: 3/13 REG. NO. 42757

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STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

STATE AID PROJECT NO. _____

COUNTY PROJECT NO. 13-14-15

TEMPORARY SIGNING
PERMANENT SIGNING, STRIPING
AND PAVEMENT MESSAGES

Sheet 23 of 26 Sheets

Item	Quantity	Units
SALVAGE SIGN TYPE C	13	EACH
SIGN PANELS TYPE C	54.75	SQ FT
INSTALL SIGN TYPE C	11	EACH

F & I PERMANENT SIGNS						
M.U.T.C.D. CODE	SIZE	PANEL AREA FT. ²	INSERT	QUANTITY	No. POST	MOUNTING HEIGHT TO Pavement Edge FT.
X4-15	4" x 15"			2		
R3-X1	30" x 30"	6.25		3	1	7.0'
W3-1a	36" x 36"	9.00		2	2	7.0'

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
		U	S	E			
		A	L	T			
		R	O	U	T	E	S

TEMPORARY TRAFFIC CONTROL SIGNS						
M.U.T.C.D. CODE	SIZE	PANEL AREA FT. ²	INSERT	QUANTITY	No. POST	MOUNTING HEIGHT TO Pavement Edge FT.
R4-1	24" x 30"	5.00		9	1	7.0'
R4-2	24" x 30"	5.00		8	1	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 13)		
				2		

SALVAGE & REINSTALL SIGN TYPE C				
STATION		SALVAGE SIGN TYPE C	INSTALL SIGN TYPE C	SIGN NUMBER
		EACH	EACH	
10+30	Lt	1	1	R1-1 delineator
10+30	Lt	1	1	M1-6 M6-1AL
10+30	Lt	1	1	M1-6 M6-1AR
12+30	Lt	1		M1-6 M5-1AL
12+30	Lt	1		M1-6 M5-1AR
15+00	Lt		1	M1-6 M5-1AL
15+00	Lt		1	M1-6 M5-1AR
19+75	Rt	1		W14-3 M3-1A
84+50	Rt		1	M1-6 M6-3A
84+50	Rt		1	M3-2A M1-6 M5-1AR
85+80	Rt	1		M3-1A M1-6 M6-3A
85+80	Rt	1		M3-2A M1-6 M5-1AR
89+00	Rt	1	1	M1-6 M5-1AR
160+00	Lt	1		W14-3
170+40	Rt	1	1	R1-1 delineator
170+40	Rt	1	1	M1-6 M4-6A
170+40	Rt	1	1	M1-6 M6-4A
TOTAL		13	11	

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PRINT NAME: ANDREW WITTER
 SIGNATURE:
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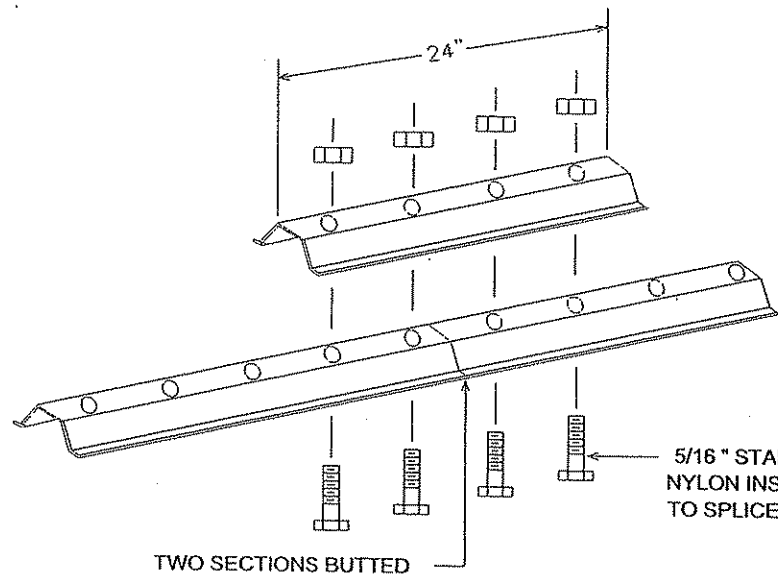


ANOKA COUNTY
HIGHWAY DEPT.

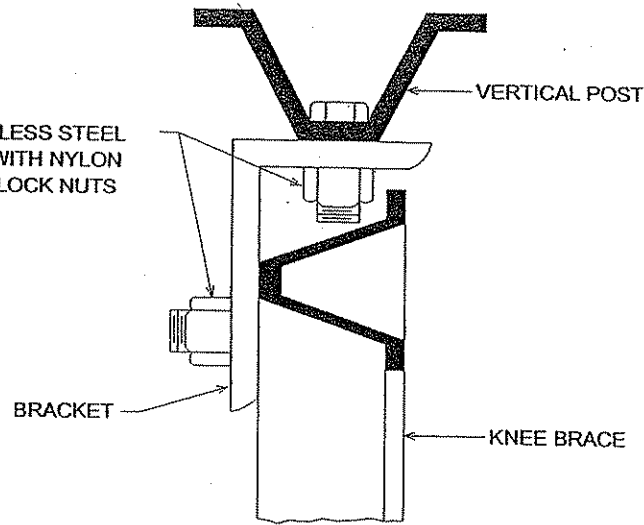
STATE PROJECT NO. _____
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TRAFFIC CONTROL
QUANTITIES

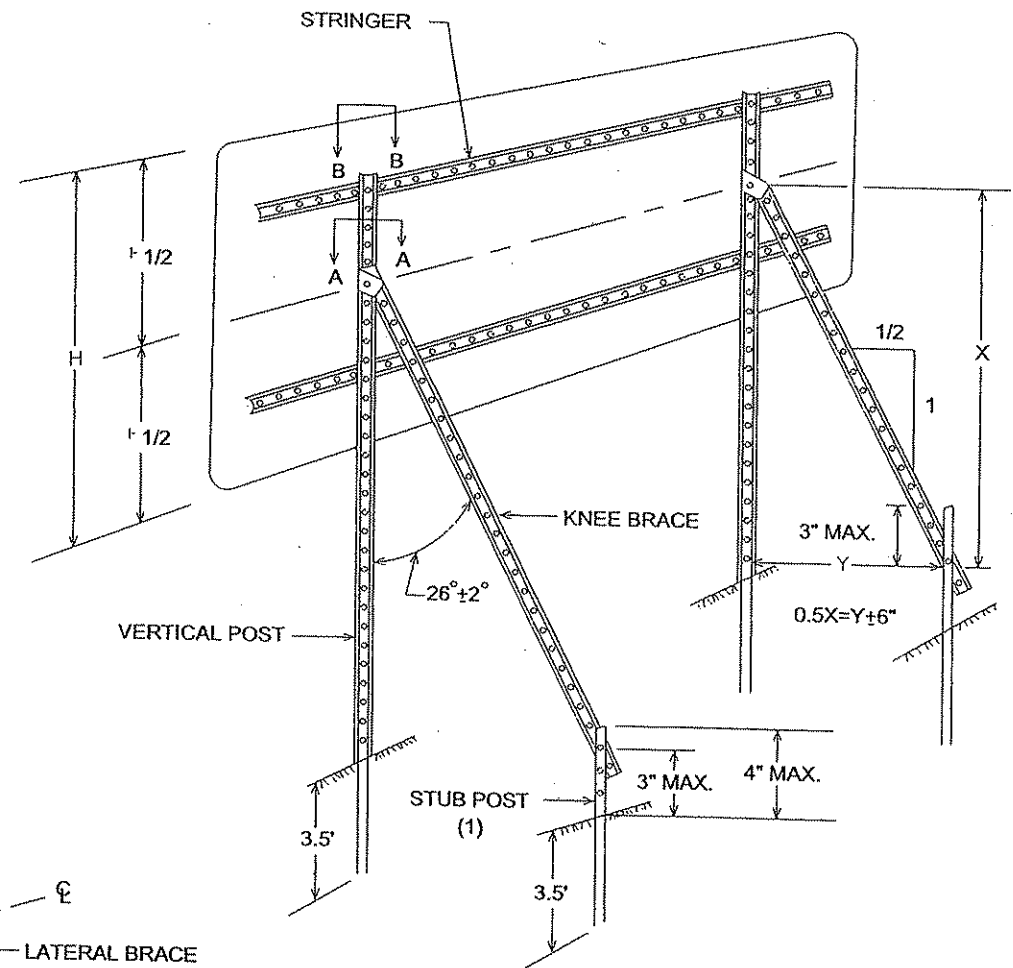
Sheet 24 of 26 Sheets



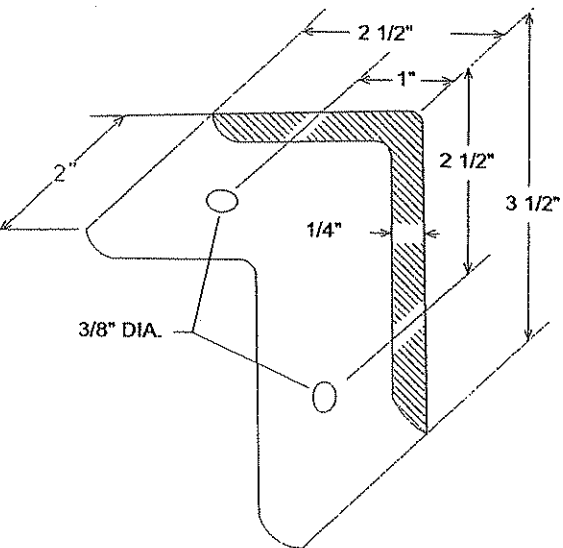
LATERAL BRACE OR STRINGER
SPLICE DETAIL (EXPLODED VIEW)



SECTION A-A

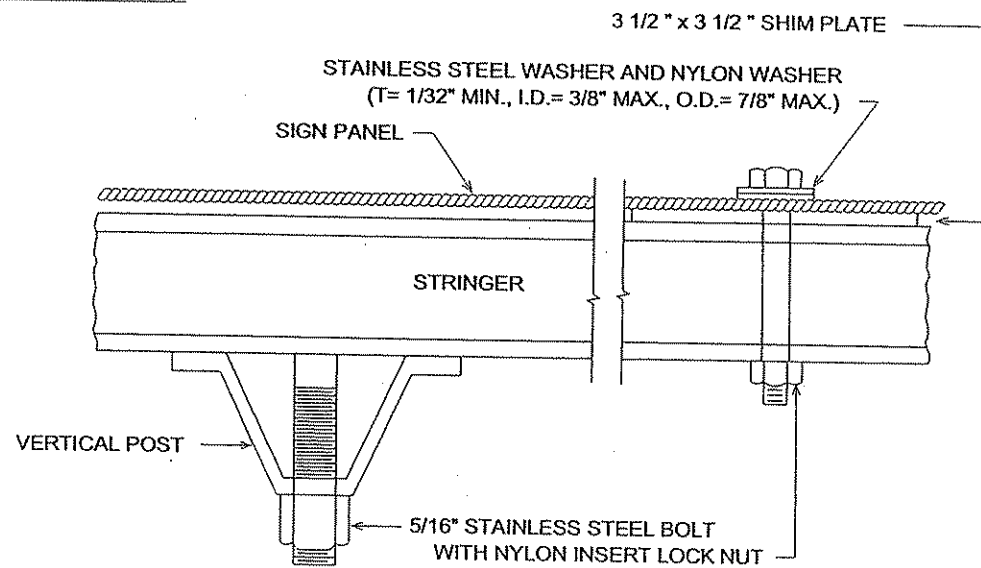


TYPICAL "A-FRAME" INSTALLATION
TYPE "D" SIGNS

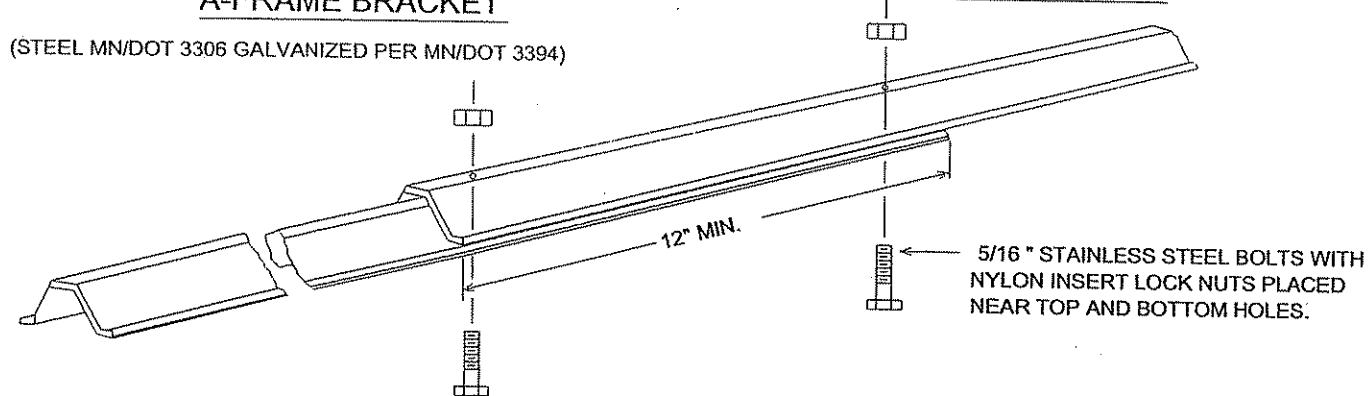


A-FRAME BRACKET

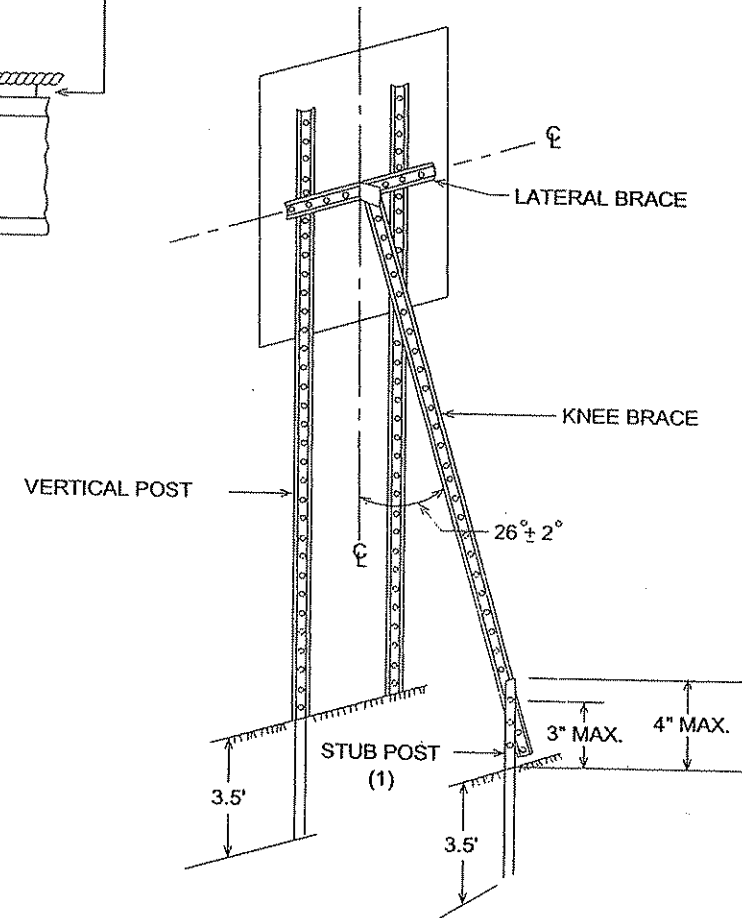
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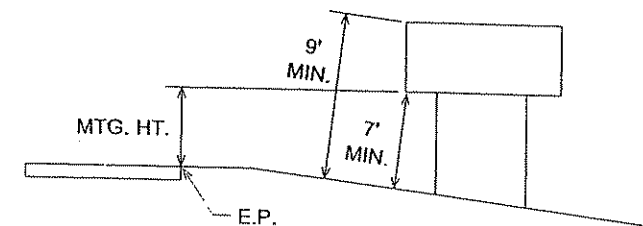
SECTION B-B



KNEE BRACE SPLICE



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



TYPICAL MOUNTING

(1) OFFSET STUB POST 1' TOWARD ROADWAY
RELATIVE TO VERTICAL POST.

TYPE C & D SIGN
STRUCTURAL DETAILS

NO	DATE	BY	CHKD	APPR	REVISION
NAME: P:\13-01-00\CR 15\Bose\TRAFFIC\Sign&Stripe_Details.dwg					

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 PRINT NAME: ANDREW MITTER
 SIGNATURE: *Andrew Mitter*
 DATE: 3/13/13 LICENSE NO. 42757

DRAWN BY MTH DATE 2-05-13
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 CHECKED BY JR DATE 1-21-11

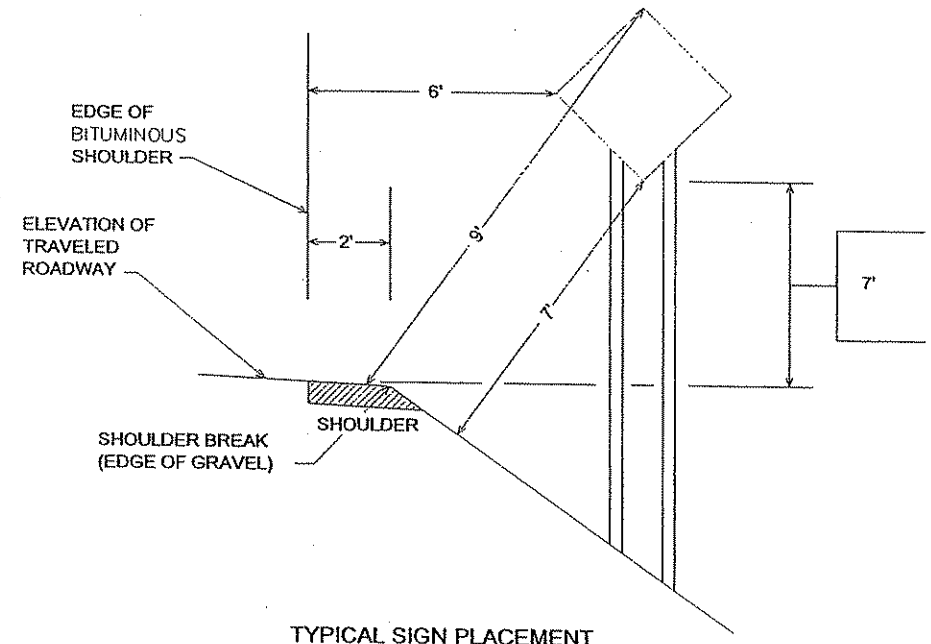


ANOKA COUNTY
HIGHWAY DEPT.

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SIGNING & STRIPING DETAILS

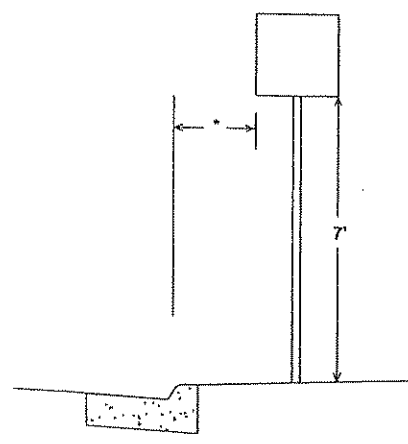
RURAL



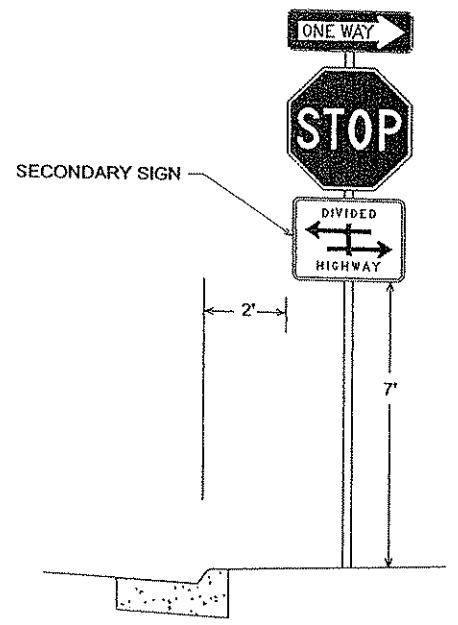
TYPICAL SIGN PLACEMENT

URBAN

2' - NARROW BOULEVARD (< 8' WIDE)
6' - WIDE BOULEVARD



TYPICAL SIGN PLACEMENT



- NOTE:
- ALL DIMENSIONS ARE MINIMUMS
 - MAINTAIN 2' CLEAR FROM SIGNS TO BITUMINOUS TRAIL

NO	DATE	BY	CHKD	APPR	REVISION

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DRAWN BY MTH DATE 2-05-13
 DESIGN BY MTH DATE 2-05-13
 CHECKED BY JR DATE 02-XX-12



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE PROJECT NO. _____
 STATE PROJECT NO. _____
 COUNTY PROJECT NO. 13-14-15

SIGNING & STRIPING DETAILS
 Sheet 26 of 26 Sheets