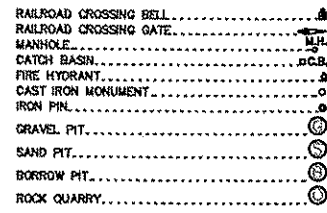
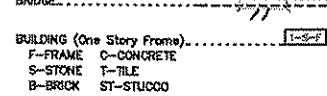
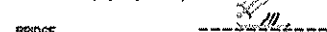
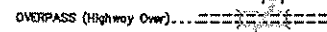
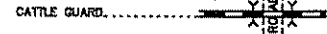
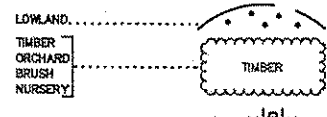
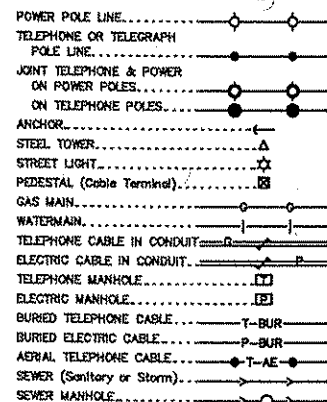


PLAN SYMBOLS

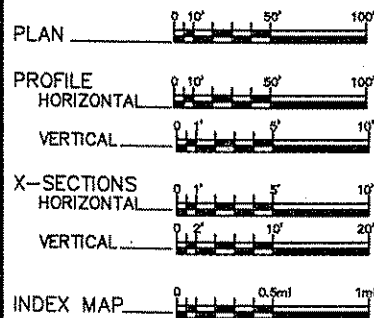
- COUNTY LINE.....
- TOWNSHIP OR RANGE LINE.....
- SECTION LINE.....
- QUARTER LINE.....
- SIXTEENTH LINE.....
- RIGHT OF WAY LINE.....
- SLOPE EASEMENT.....
- EXISTING RIGHT OF WAY.....
- PROPERTY LINE.....
- CORPORATE OR CITY LIMITS.....
- RETAINING WALL.....
- RAILROAD.....
- RAILROAD RIGHT OF WAY.....
- 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.....



UTILITY SYMBOLS



SCALES



MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

CONSTRUCTION PLAN FOR

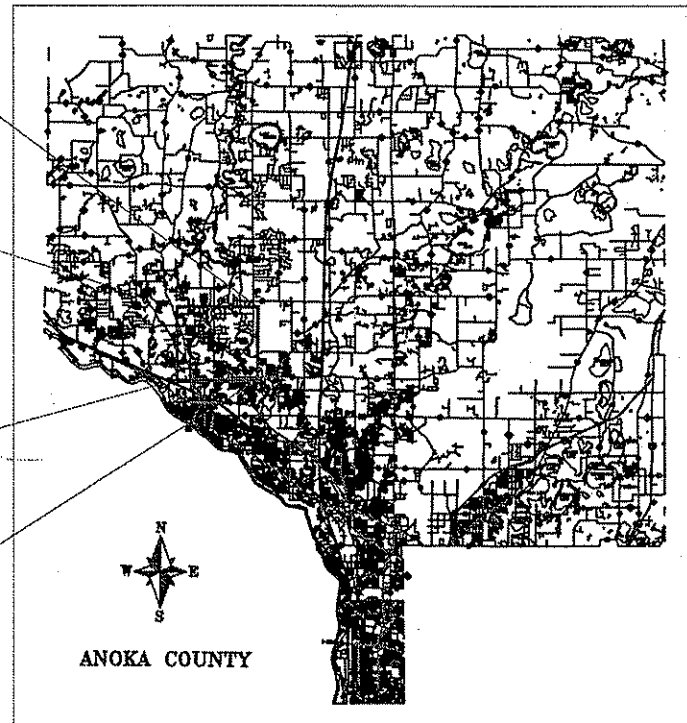
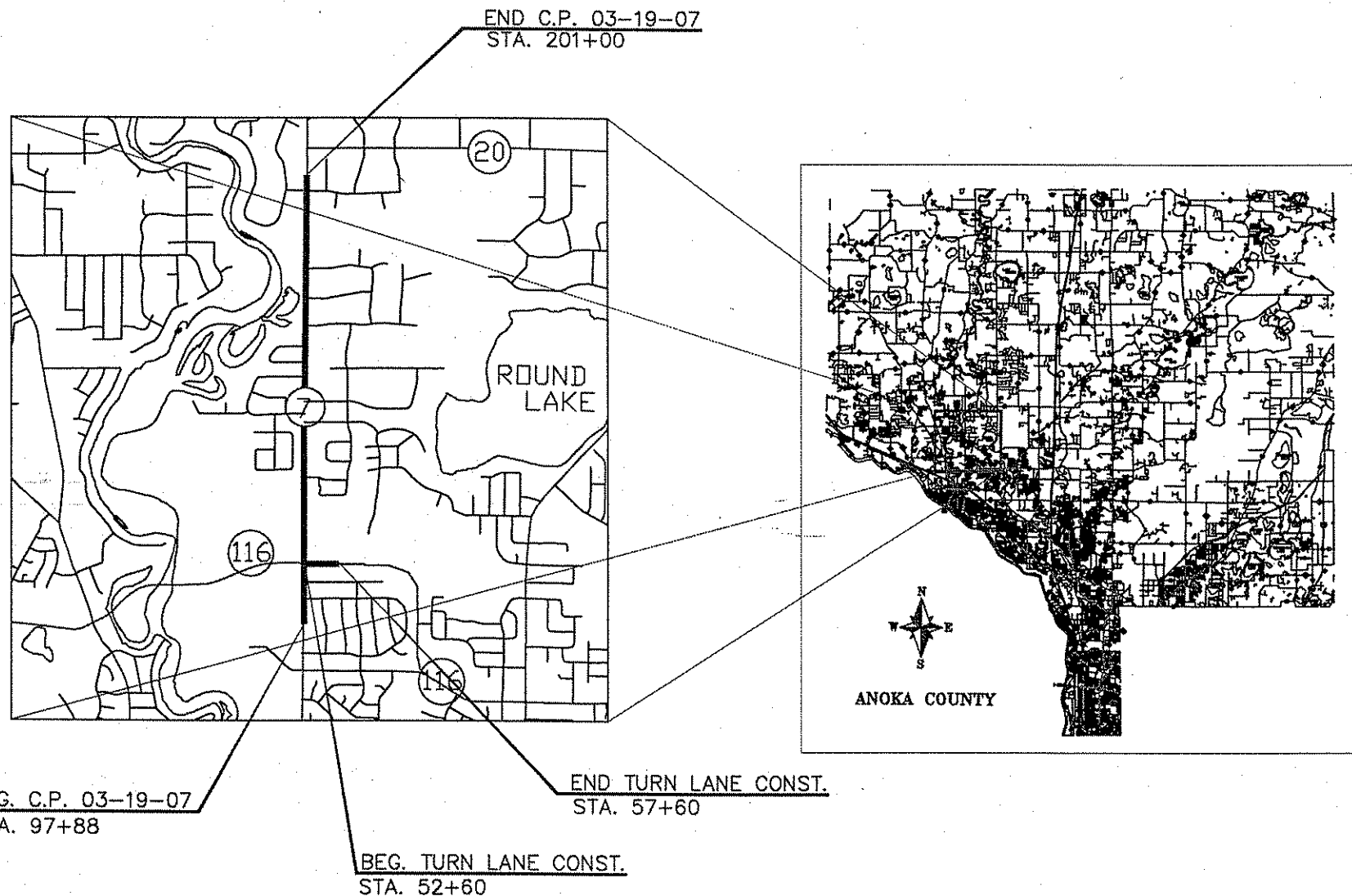
GRADING, AGG.BASE, BITUMINOUS SURFACING, DRAINAGE, CURB AND GUTTER, SUBSURFACE DRAIN.

LOCATED ON CSAH 7 FROM 40TH LANE TO 450' S. OF CSAH 20

COUNTY PROJ. NO. 03-19-07

C.S.A.H. 7

GROSS LENGTH	<u>10312.00</u> FEET	<u>1.953</u> MILES
BRIDGES-LENGTH	<u>0.00</u> FEET	<u>0.000</u> MILES
EXCEPTIONS-LENGTH	<u>0.00</u> FEET	<u>0.000</u> MILES
NET LENGTH	<u>10312.00</u> FEET	<u>1.953</u> MILES



MINN. PROJ. NO. _____
MINN. PROJ. NO. _____

GOVERNING SPECIFICATIONS

THE 2000 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MMUTCD, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY, 2001."

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3-5	TABULATIONS
6	DRAINAGE TABULATIONS
7	SUBSURFACE DRAIN DETAILS
8-9	MISCELLANEOUS DETAILS
10	TYPICALS
11-15	STAGE 1 TRAFFIC CONTROL
16	REMOVALS
17-21	PLAN SHEETS
22-26	PERMANENT STRIPING
27-33	SIGNAL SYSTEM DETAILS
34-35	CROSS SECTIONS

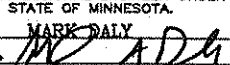
THIS PLAN CONTAINS 35 SHEETS

DESIGN DESIGNATION

ESAL ₂₀	<u>2,166,850</u>
R VALUE	<u>60</u>
ADT (2002) =	<u>16164</u>
Proj. ADT (2022) =	<u>25862</u>
Proj. HCADT (2022) =	<u>1526</u>
Soil Factor	<u>NA</u>
TON DESIGN	

Functional Classification MINOR ARTERIAL B'S
 No. of Traffic Lanes 2 No. of Parking Lanes 0
 Design Speed 45/55 MPH
 Based on Stopping Sight Distance
 Height of eye 3.5' Height of object 0.5'
 Design Speed not achieved at:
 STA. _____ TO STA. _____ MPH
 STA. _____ TO STA. _____ MPH
 STA. _____ TO STA. _____ MPH

Approved 6/4/2003 
 ANOKA COUNTY ENGINEER

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: MARK DALY
 SIGNATURE: 
 DATE: 6/4/2003 LICENSE NO. 21763

DRAWN BY: J.E. DATE 6/2/03
 DESIGN BY: H.G. DATE 6/2/03
 CHECKED BY: _____ DATE _____



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 03-19-07

TITLE SHEET

Sheet 1 of 35 Sheets

NO.	DATE	BY	CHKD	APPR	REVISION

A. STATEMENT OF ESTIMATED QUANTITIES					
TAB NO.	SPEC. NO.	ITEM	NOTE NO.	UNIT	ESTIMATED QUANTITY
	2013.602	CELLULAR MOBILE TELEPHONE		EACH	2
	2021.501	MOBILIZATION		LUMP SUM	1
	2031.501	FIELD OFFICE, TYPE D		EACH	1
	2102.501	PAVEMENT MARKING REMOVAL		SQ FT	363
	2102.502	PAVEMENT MARKING REMOVAL		LIN FT	1264
J	2104.501	REMOVE CURB & GUTTER		LIN FT	420
S	2104.507	REMOVE BITUMINOUS PAVEMENT, FULL DEPTH		SQ YD	1489
W	2104.507	REMOVE CONCRETE DRIVEWAY PAVMENT		SQ YD	28
A-A	2104.509	REMOVE RC PIPE APRON		EACH	3
	2104.509	REMOVE HANDHOLE		EACH	7
V	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)		LIN FT	25
U	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)		LIN FT	1994
A-A	2104.523	SALVAGE CASTING		EACH	2
	2104.523	SALVAGE SIGN TYPE C		EACH	34
	2105.501	COMMON EXCAVATION (P)	1	CU YD	1455
	2105.522	SELECT GRANULAR BORROW (LV)	2	CU YD	967
	2105.525	TOPSOIL BORROW (LV)	3	CU YD	50
	2105.600	SPECIAL EXCAVATION	4	HOUR	75
	2123.503	MOTOR GRADER		HOUR	40
	2123.509	DOZER	5	HOUR	40
	2123.521	PNEUMATIC-TIRED ROLLER		HOUR	40
	2130.501	WATER		M-GAL	50
H	2211.501	AGGREGATE BASE CLASS-5	6	TON	2050
I	2221.501	AGGREGATE SHOULDERING CLASS-7B	6	TON	1219
O	2232.501	MILL BITUMINOUS SURFACE (2"), ROADWAY		SQ YD	2401
Q	2232.501	MILL BITUMINOUS SURFACE, APPROACH TAPERS		SQ YD	195
R	2331.601	BITUMINOUS PAVEMENT RECLAMATION		SQ YD	49157
	2350.604	BITUMINOUS PAVING FOR TRENCH RESTORATION	9	SQ YD	37
E	2350.609	TYPE MV3 WEARING COURSE MIXTURE (C)	7	TON	6766
F	2350.609	TYPE MV3 NON-WEARING COURSE MIXTURE (C)	7	TON	8005
G	2350.609	TYPE LV4 WEARING COURSE MIXTURE, STREET APP. & ENT	7	TON	227
	2350.609	TYPE LV 4 WEARING COURSE FOR PATCHING	8	TON	11
N	2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GALLON	2328
A-A	2501.515	15" RC PIPE APRON		EACH	2
A-A	2501.525	22" SPAN RC PIPE-ARCH APRON		EACH	1
	2502.501	4" PRECAST CONCRETE HEADWALL, DESIGN 3131C		EACH	4
	2502.541	4" PERFORATED PE PIPE DRAIN (WITH SOCK)		LIN FT	2250
	2502.541	4" STRAIGHT TP PIPE DRAIN		LIN FT	48
A-A	2503.511	15" RCP PIPE SEWER CLASS V		LIN FT	96
A-A	2503.521	22" SPAN RC PIPE-ARCH SEWER CLASS II		LIN FT	8
A-A	2503.602	CONNECT TO EXISTING STORM SEWER PIPE		EACH	1
A-A	2503.602	CONNECT TO EXISTING DRAINAGE STRUCTURE		EACH	1
	2504.602	ADJUST GATE VALVE AND BOX		EACH	1
A-A	2506.501	CONST DRAINAGE STRUCTURE, DESIGN H		LIN FT	9
A-A	2506.501	CONSTRUCT DRAINAGE STRUCTURE, DESIGN 48-4020		LIN FT	4
A-A	2506.501	RECONSTRUCT DRAINAGE STRUCTURE		LIN FT	3
B-B	2506.516	CASTING ASSEMBLY		EACH	6
A-A	2506.522	ADJUST FRAME & RING CASTING		EACH	2
	2506.522	ADJUST FRAME & RING CASTING (SANITARY)		EACH	1

TAB NO.	SPEC. NO.	ITEM	NOTE NO.	UNIT	ESTIMATED QUANTITY
K	2531.501	CONCRETE CURB & GUTTER, DESIGN B624		LIN FT	1250
P	2531.507	6" CONCRETE DRIVEWAY PAVMENT		SQ YD	28
L	2535.501	BITUMINOUS CURB	10	LIN FT	1547
T	2540.602	INSTALL MAILBOX SUPPORT	11	EACH	20
	2563.601	TRAFFIC CONTROL, STAGE 1		LUMP SUM	1
	2563.601	TRAFFIC CONTROL, STAGE 2		LUMP SUM	1
	2563.604	CONSTRUCTION SIGN SPECIAL (DIAMOND GRADE)		SQ FT	224
	2563.610	POLICE OFFICER	12	HOUR	15
	2563.611	PORTABLE CHANGEABLE MESSAGE SIGN	13	DAY	12
	2564.602	PAVT MSSG (RIGHT-THRU ARROW) PREF THERMOPLASTIC		EACH	4
	2564.602	PAVT MSS (LEFT ARROW) PREFORMED THERMOPLASTIC		EACH	4
	2564.602	PAVT MSS (RIGHT ARROW) PREFORMED THERMOPLASTIC		EACH	2
	2564.603	4" SOLID LINE WHITE-EPOXY		LIN FT	24112
	2564.603	4" SOLID LINE YELLOW-EPOXY		LIN FT	398
	2564.603	4" DOUBLE SOLID LINE YELLOW-EPOXY		LIN FT	4252
	2564.603	4" BROKEN LINE WHITE-EPOXY		LIN FT	630
	2564.603	24" SOLID LINE YELLOW - EPOXY		LIN FT	398
	2564.603	24" STOP LINE WHITE-PREFORMED THERMOPLASTIC		LIN FT	194
	2564.604	ZEBRA CROSSWALK- WHITE PREFORMED THERMOPLASTIC		SQ FT	1098
	2565.601	SALVAGE SIGNAL SYSTEM		LUMP SUM	1
	2565.616	TEMPORARY SIGNAL SYSTEM		SYSTEM	1
	2573.502	SILT FENCE, TYPE PREASSEMBLED	14	LIN FT	150
X	2575.501	SEEDING		ACRE	1
	2575.502	SEED MIXTURE 50B		LB	26
Z	2575.505	SODDING TYPE SALT RESISTANT		SQ YD	1387
Y	2575.523	EROSION CONTROL BLANKET (2S)		SQ YD	2497
	2575.532	COMMERCIAL FERTILIZER, ANAL. 22-5-10 (SLOW RELEASE)		LB	255
	2580.501	TEMPORARY LANE MARKING	15	LIN FT	3672

B. BASIS OF ESTIMATED QUANTITIES	
SPEC NO.	RATE
	TYPE MV3 WEARING COURSE MIXTURE, (MVWE35035C)
	TYPE MV3 NON-WEARING COURSE MIXTURE, BASE (MVNW35035C)
2350	TYPE LV4 WEARING COURSE MIXTURE, ST. & ENT. (LVWE45030C)
	110 LBS * SQ YD * INCH / 2000 = TONS
2357	BITUMINOUS MATERIAL FOR TACK COAT 0.05 GAL. / SQ YD / PER LIFT APPLIED
2575	SEED MIXTURE 50 B APPLICATION RATE = 50 LBS / ACRE
2575	FERTILIZER 22-5-10 APPLICATION RATE = 500 LBS / ACRE

C. CONSTRUCTION NOTES	
NOTE NO.	
1	CSAH 7 = 996 CY (229 CY TOPSOIL) CSAH 116 = 459 CY (213 CY TOPSOIL)
2	CSAH 7 = 763 CY (LV) CSAH 116 = 204 CY (LV)
3	FOR BITUMINOUS CURB BOULEVARD AREAS
4	SEE TYPICALS FOR SPECIAL EXCAVATION LOCATION
5	TO BE USED FOR TOPSOIL REMOVAL & PLACEMENT IN WIDENING AREAS AS DIRECTED BY THE ENGINEER
6	RECYCLED GLASS NOT ALLOWED
7	QUANTITIES INCLUDE 1/4" ADDITIONAL THICKNESS
8	FOR PATCH WORK IN 2" MILL AREA AS DIRECTED BY ENGINEER 5" BITUMINOUS DEPTH - 6" AGG. BASE CL. 5
9	FOR STORM SEWER TRENCH PAVEMENT FROM STR. 201- STR. 202 & STR. 201 - STR. 203
10	INTEGRATED BITUMINOUS CURB DESIGN
11	MAILBOX SUPPORTS FURNISHED BY ANOKA COUNTY HIGHWAY DEPARTMENT
12	POLICE OFFICER TO BE USED DURING SIGNAL OUTAGE PERIOD
13	TO BE PLACED 3 DAYS PRIOR TO START OF SCHEDULED CONSTRUCTION
14	FOR USE AS DIRECTED BY THE ENGINEER TO CONTROL EROSION
15	1500' OF 4' CENTERLINE SKIPS (BASE & WEAR) FROM 106+75 - 20100. SEE STAGE ONE TRAFFIC CONTROL FOR REMAINDER OF QUANTITIES AND LOCATIONS
16	FOR DUST CONTROL AS DIRECTED BY THE ENGINEER

D. MN DOT STANDARD PLATES	
PLATE NO.	
4006L	MANHOLE OR CATCH BASIN PRECAST - DESIGNS G AND H
4020I	MANHOLE OR CATCH BASIN COVER (FOR USE WITH OR WITHOUT TRAFFIC LOADS
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4126F	CATCH BASIN FRAME CASTING - CASTING NO. 810
4149C	GRATE CASTING FOR CATCH BASIN - CASTING NO. 810
4161F	CURB BOX CASTING FOR CATCH BASIN
7100G	CONCRETE CURB AND GUTTER
7111J	INSTALLATION OF CATCH BASIN CASTING (CONCRETE CURB AND GUTTER)
9102D	TURF ESTABLISHMENT AREAS

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 LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: MARK DALY

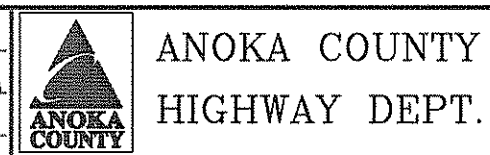
SIGNATURE: [Signature]

DATE: 6/12/2003 LICENSE NO. 21789

DRAWN BY: J.E. DATE 5/12/03

DESIGN BY: H.G. DATE 5/12/03

CHECKED BY: _____ DATE _____



STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

CITY PROJECT NO. _____

COUNTY PROJECT NO. 03-19-07


STATEMENT OF ESTIMATED QUANTITIES

Sheet 2 of 35 Sheets

E. TYPE MV3 WEARING COURSE 2.25" (110LBS/IN/SY)						
	STA.	STA.	LOC.	L'	W'	SQ. YDS.
	97+88.00	106+62.50	C/L	874.00	AUTO CAD	4429.90
	RTL W.B. 116 @ 7				AUTO CAD	730.38
	106+62.50	117+46.84	C/L		AUTO CAD	6677.43
LNB	117+46.84	122+06.61	RT	459.77	22.00	1123.88
	122+06.61	127+41.51	RT	534.90	24.00	1426.40
	127+41.51	135+18.76	RT	777.25	22.00	1899.94
	135+18.76	145+57.42	RT	1038.66	24.00	2769.76
	145+57.42	147+50.00	RT	192.58	22.00	470.75
	147+50.00	157+14.00	RT	964.00	24.00	2570.66
	157+14.00	158+26.71	RT	112.71	22.00	275.51
	158+26.71	170+12.96	RT	1186.25	24.00	3163.33
	170+12.96	171+70.30	RT	157.34	22.00	384.60
	171+70.30	177+18.96	RT	548.66	24.00	1463.09
	177+18.96	190+64.04	RT	1345.08	22.00	3287.97
	190+64.04	196+02.99	RT	538.95	24.00	1437.20
	196+02.99	201+00.00	RT	497.01	22.00	1214.91
LSB	117+46.84	124+46.10	LT	699.26	22.00	1709.30
	124+46.10	130+66.20	LT	620.10	24.00	1653.60
	130+66.20	141+76.54	LT	1110.34	22.00	2714.16
	141+76.54	147+26.37	LT	549.83	24.00	1466.21
	147+26.37	150+65.75	LT	339.38	22.00	829.59
	150+65.75	162+20.82	LT	1155.07	24.00	3080.18
	162+20.82	167+15.90	LT	495.08	22.00	1210.19
	167+15.90	180+28.96	LT	1313.06	24.00	3501.49
	180+28.96	195+12.39	LT	1483.43	22.00	3626.16
	195+12.39	200+48.94	LT	536.55	24.00	1430.80
	200+48.94	201+00.00	LT	51.06	22.00	124.81
						SQ YDS = 54672.20
						TONS = 6765.68

F. TYPE MV3 NON-WEARING COURSE 3.25" (110LBS/IN/SY)						
	STA.	STA.	LOC.	L'	W'	SQ. YDS.
	97+88.00	105+73.90	LT		AUTO CAD	1285.80
	101+85.00	105+92.08	RT		AUTO CAD	742.66
	RTL W.B. 116 @ 7				AUTO CAD	760.00
LNB	106+62.50	117+47.06	RT	1084.56	AUTO CAD	2966.41
	117+47.06	122+06.61	RT	459.55	12.50	638.26
	122+06.61	127+41.51	RT	534.90	24.50	1456.11
	127+41.51	135+18.76	RT	777.25	12.50	1079.51
	135+18.76	145+57.42	RT	1038.66	24.50	2827.46
	145+57.42	147+50.00	RT	192.58	12.50	267.47
	147+50.00	157+14.00	RT	964.00	24.50	2624.22
	157+14.00	158+26.71	RT	112.71	12.50	156.54
	158+26.71	170+12.96	RT	1186.25	24.50	3229.23
	170+12.96	171+70.30	RT	157.34	12.50	218.52
	171+70.30	177+18.96	RT	548.66	24.50	1493.57
	177+18.96	190+64.04	RT	1345.08	12.50	1868.16
	190+64.04	196+02.99	RT	538.95	24.50	1467.14
	196+02.99	201+00.00	RT	497.01	12.50	690.29
LSB	106+62.50	117+47.06	LT	1084.56	AUTO CAD	3844.99
	117+47.06	124+46.10	LT	699.04	12.50	970.88
	124+46.10	130+66.20	LT	620.10	24.50	1688.05
	130+66.20	141+76.54	LT	1110.34	12.50	1542.13
	141+76.54	147+26.37	LT	549.83	24.50	1496.75
	147+26.37	150+65.75	LT	339.38	12.50	471.36
	150+65.75	162+20.82	LT	1155.07	24.50	3144.35
	162+20.82	167+15.90	LT	495.08	12.50	687.61
	167+15.90	180+28.96	LT	1313.06	24.50	3574.44
	180+28.96	195+12.39	LT	1483.43	12.50	2060.31
	195+12.39	200+48.99	LT	536.60	24.50	1460.74
	200+48.99	201+00.00	LT	51.01	12.50	70.84
						SQ YDS = 44783.80
						TONS = 8005.10

G. TYPE LV4 WEAR COURSE ST. APPR. & ENT. 2.25" (110LBS/IN/SY)				
	STREETS	LOC.	SQ FT	SQ. YDS.
	145TH AVE.	RT	683.0	76.0
	147TH AVE.	RT	583.0	65.0
	147TH LN.	LT	832.0	92.0
	147TH LN.	RT	679.0	75.0
	148TH LN.	LT	777.0	86.0
	149TH AVE.	LT	630.0	70.0
	149TH LN.	LT	638.0	71.0
	151ST AVE.	RT	731.0	81.0
	152ND AVE.	RT	656.0	73.0
	153RD AVE.	RT	821.0	91.0
	155TH AVE.	LT	633.0	70.0
	155TH AVE.	RT	908.0	101.0
	DRIVEWAYS	LOC.	SQ FT	SQ. YDS.
	# 14523	RT	270.0	30.0
	# 14523	RT	240.0	26.6
	# 14532	LT	250.0	27.7
	# 14533	RT	180.0	20.0
	# 14547	RT	320.0	35.5
	# 14607	RT	330.0	36.6
	# 14633	RT	280.0	31.1
	# 14633	RT	310.0	34.4
	# 14649	RT	290.0	32.2
	# UNKNOWN	RT	320.0	35.5
	# 14760	LT	300.0	33.3
	# 14832	LT	380.0	42.2
	# 14853	RT	280.0	31.1
	# 14853	RT	280.0	31.1
	# 14913	RT	280.0	31.1
	# 14947	RT	250.0	27.7
	# 15032	LT	300.0	33.3
	# 15202	LT	360.0	40.0
	# 15202	LT	290.0	32.2
	# 15208	LT	260.0	28.8
	# 15212	LT	330.0	36.6
	# 15238	LT	290.0	32.2
	# 15308	LT	250.0	27.7
	# 15349	RT	370.0	41.1
	# 15364	LT	330.0	36.6
	# UNKNOWN	RT	360.0	40.0
	# UNKNOWN	LT	290.0	32.2
			TOTAL SQ YDS = 1837.8	
			TONS = 227.42	

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: <u>MARCO DALY</u> SIGNATURE: <u>[Signature]</u> DATE: <u>6/19/03</u> LICENSE NO. <u>21763</u>					DRAWN BY: <u>J.F.</u> DATE <u>6/2/03</u> DESIGN BY: <u>H.G.</u> DATE <u>6/2/03</u> CHECKED BY: _____ DATE _____		 ANOKA COUNTY HIGHWAY DEPT.		STATE PROJECT NO. _____ STATE AID PROJECT NO. _____ CITY PROJECT NO. _____ COUNTY PROJECT NO. <u>03-19-07</u>		TABULATION CHARTS Sheet <u>3</u> of <u>35</u> Sheets	
NO	DATE	BY	CKD	APPR	REVISION							
NAME: T:\LIB\Draw_template\Plan-Tab Sheet.dwg 03/25/2003 07:43:37 AM CST												

X. SEEDING / SEED MIXTURE 50B							
STA.	TO	STA.	LOC.	LIN FT	WIDTH	SQ YDS	
117+12		119+00	RT	188.0	5.0	104.44	
121+75		126+75	RT	500.0	5.0	277.77	
127+15		134+00	RT	685.0	5.0	380.55	
153+97		154+37	LT	40.0	5.0	22.22	
154+76		156+10	LT	134.0	5.0	74.44	
RTL. W.B. 116						1289.32	
S.B. 7 SOUTH OF ICE ARENA						348.13	
SEED AREA SQ YDS =						2496.89	
ACRES =						0.515	
(50 LBS PER ACRE) LBS =						25.75	

Z. SODDING						
STA.	TO	STA.	LOC.	AUTO CAD SQ FT	SQ YDS	
97+50		101+43	LT	3133.20	348.13	
101+85		105+72	LT	7295.68	810.63	
101+85		104+20	RT	603.35	67.03	
104+50		105+80	RT	316.61	35.17	
				SQ YDS = 1260.96		
				(X 1.1 FOR SLOPE)		
				SQ YDS = 1387.05		

Y. EROSION CONTROL BLANKET							
STA.	TO	STA.	LOC.	LIN FT	WIDTH	SQ YDS	
117+12		119+00	RT	188.0	5.0	104.44	
121+75		126+75	RT	500.0	5.0	277.77	
127+15		134+00	RT	685.0	5.0	380.55	
153+97		154+37	LT	40.0	5.0	22.22	
154+76		156+10	LT	134.0	5.0	74.44	
RTL. W.B. 116						1289.32	
S.B. 7 SOUTH OF ICE ARENA						348.13	
BLANKET SQ YDS =						2496.89	

NO	DATE	BY	CHKD	APPR	REVISION

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: MARK DALY

SIGNATURE: [Signature]

DATE: 6/19/2003 LICENSE NO. 21763

DRAWN BY J.F. DATE 6/2/03

DESIGN BY H.G. DATE 6/2/03

CHECKED BY _____ DATE _____



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

CITY PROJECT NO. _____

COUNTY PROJECT NO. 03-19-07

TABULATION CHARTS

Sheet 5 of 35 Sheets

A-A


FLOWS FROM: STR. OR APRON INLET POINT NO.	STA	OFFSET FT	L/R	TOP OF CASTING FT	PIPE SIZE INCH	INV ELEV FROM FT	PIPE SLOPE FT/FT	INV ELEV TO FT	FLOWS TO: STR. OR APRON OUTLET	DRAINAGE TABULATION								FOOTNOTES	
										NEW STRUCTURE CONSTRUCTION				EXISTING STRUCTURE			DRAINAGE PIPE RCP DESIGN 3006		
										DESIGN	PAY HEIGHT L.F.	CASTING ASSEMBLY TYPE	SALV./ADJUST CASTING EACH	RE-CONST. L.F.	F&I CASTING EACH	22" SPAN ARCH CL II	15" CL V L.F.		
100	98+18	24.0	L	865.57													BLOCK RECONSTRUCTION		
101	101+85	49.0	R	875.09													REMOVE / REPLACE EXIST. CASTING		
102	101+81	25.0	L	876.01		868.91											EXISTING STORM MANHOLE		
103	106+99	17.0	L	876.11					102								EXISTING STORM MANHOLE		
104	106+97	55.0	L	APRON	15"				103	15" RCP APRON						8	REMOVE / REPLACE APRON		
105	106+99	43.0	R	APRON	15"	900.19	0.0060	899.30	103	15" RCP APRON						8	REMOVE / REPLACE APRON		
106	53+50	23.0	L	APRON	22"-SPAN					22" SPAN APRON						8	REMOVE / REPLACE APRON		
200	101+90	41.1	L	875.84	15"	872.19	0.0200	871.83	102	H	3.1	A				18	CONNECT TO EXISTING STORM M.H.		
201	105+32	19.7	L	875.94		871.12	EXISTING		102	48"-4020	4.4	B					CONNECT TO EXISTING STORM PIPE		
202	105+29	36.9	L	875.36	15"	871.71	0.0347	871.12	201	H	3.1	A				17			
203	105+41	24.9	R	875.89	15"	872.24	0.0250	871.12	201	H	3.0	A				45			
TOTALS											13.6		2	3	2	8	96		

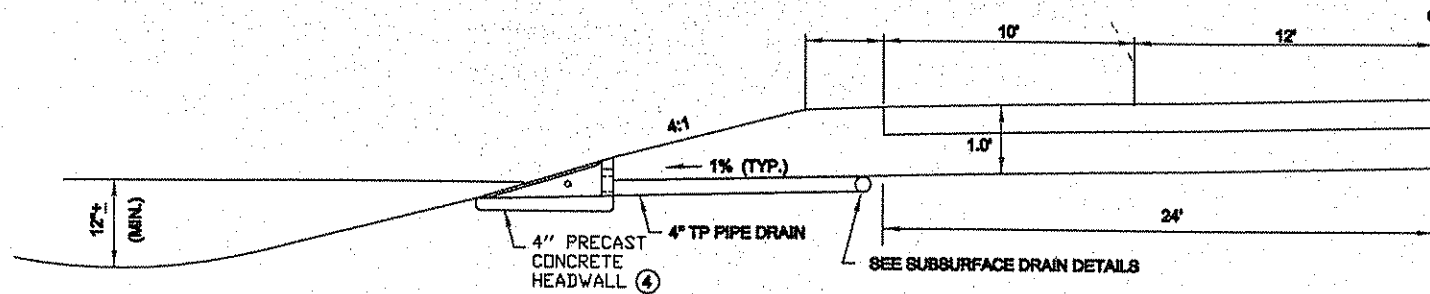
B-B

CASTING ASSEMBLIES SUMMARY						
ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING	CURB BOX	STANDARD PLATE NO.	QUANTITY	REMARKS
A	805			4132	4	CATCHBASIN
		816	NONE	4149		
B	700-7			4101	1	MANHOLE
		715		4110		
C	NEENAH R-3246				1	CATCHBASIN
PROJECT TOTALS:					6	

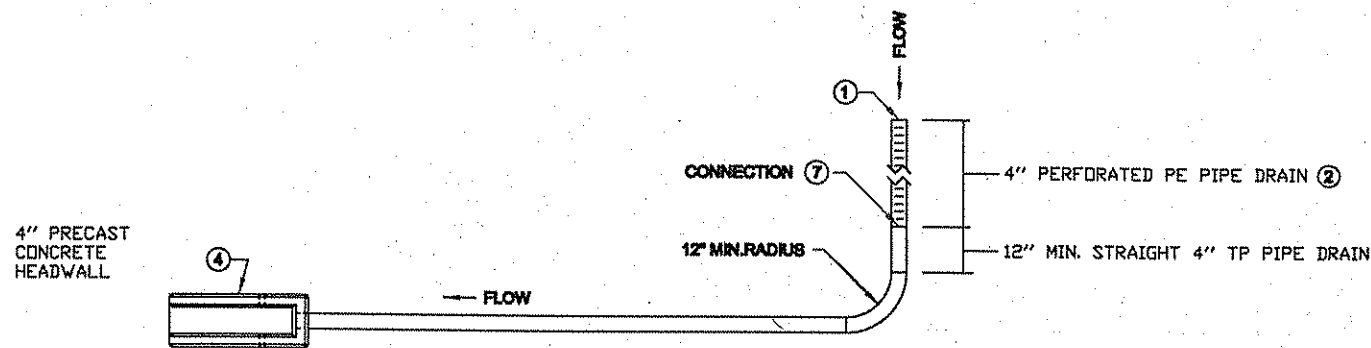
NOTES:

- (A) STATIONS, OFFSETS, AND TOP OF CASTING ELEVATIONS ARE GIVEN TO CENTER OF CASTING. SUMP DEPTH IS 0.10' FOR CATCH BASINS.
- (B) ALL POTENTIAL CONFLICTS WITH PUBLIC AND PRIVATE UTILITIES SHALL BE FIELD VERIFIED PRIOR TO INSTALLATION OF STORM SEWER.
- (C) FURNISHING AND INSTALLING STEPS CONSIDERED INCIDENTAL.
- (D) ALL CONNECTIONS TO EXISTING STORM SEWERS SHALL BE FIELD VERIFIED FOR LOCATION & ELEVATION. CONNECTION TO EXISTING STORM SEWER SHALL BE SAWED AS NEEDED AND SHALL BE CONSIDERED INCIDENTAL.
- (E) ALL PROPOSED JOINTS TO BE TIED. FURNISH & INSTALL PIPE TIES CONSIDERED INCIDENTAL.
- (F) SILT FENCE SHALL BE USED ON ALL CB'S BEFORE THE ROAD IS PAVED TO MINIMIZE INFILTRATION. (CONSIDERED INCIDENTAL TO STORM SEWER STRUCTURE)

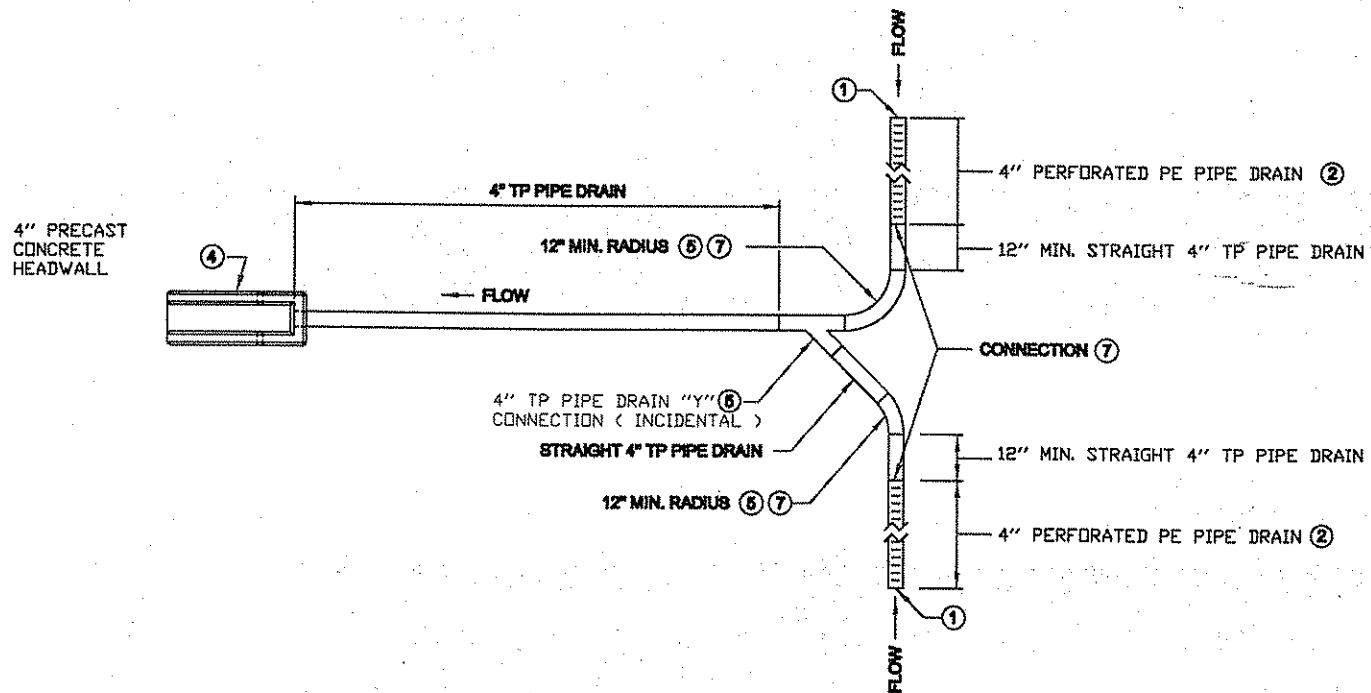
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: <u>MARK DALY</u> SIGNATURE: <u>[Signature]</u> DATE: <u>6/4/2003</u> LICENSE NO. <u>21763</u>					DRAWN BY: <u>J.E.</u> DATE <u>6/2/03</u> DESIGN BY: <u>H.G.</u> DATE <u>6/2/03</u> CHECKED BY: _____ DATE _____	 ANOKA COUNTY HIGHWAY DEPT.	STATE PROJECT NO. _____ STATE AID PROJECT NO. _____ CITY PROJECT NO. _____ COUNTY PROJECT NO. <u>03-19-07</u>	DRAINAGE TABULATIONS Sheet <u>6</u> of <u>35</u> Sheets
--	--	--	--	--	---	---	--	---



SECTION VIEW
TYPICAL EDGE DRAIN AND DISCHARGE CROSS SECTION ⑦
 (SEE TABULATION ON THIS SHEET FOR LOCATIONS)



TYPICAL PLAN VIEW (SINGLE DISCHARGE) ⑦
 (SEE TABULATION ON THIS SHEET FOR LOCATIONS)



TYPICAL PLAN VIEW (LOW POINT "Y" DISCHARGE)
 (SEE TABULATION ON THIS SHEET FOR LOCATIONS)

NOTES:

- ① THE UPSTREAM ENDS OF THE PERFORATED PIPE SHALL BE CAPPED AS APPROVED BY THE PROJECT ENGINEER, AND CAPS SHALL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS. PLACE PERFORATED PIPE WITH THE PERFORATIONS DOWN.
- ② MAXIMUM LENGTH 500 FT., EXCEPT 300 FT. MAXIMUM FOR GRADES LESS THAN 0.2%. LENGTH INCLUDED AND PAID FOR AS ITEM 2502.541, 4" PERFORATED PE PIPE DRAIN.
- ④ PRECAST CONCRETE HEADWALL, STANDARD PLATE 3131, PAID FOR AS 2502.501 4" PRECAST CONCRETE HEADWALL.
- ⑥ DETAILS OF CONNECTION AND COUPLING TO PE PIPE TO BE APPROVED BY THE ENGINEER. PAYMENT FOR "Y" AND EXTRA CONNECTION, 12" TP PIPE AND COUPLING TO BE INCIDENTAL TO ITEM 2502.521, 4" TP PIPE DRAIN.
- ⑧ SEE ROADWAY TYPICAL SECTIONS FOR ADDITIONAL INFORMATION.
- ⑦ SEE SPECIAL PROVISIONS FOR MATERIAL AND CONSTRUCTION DETAILS.

PROPOSED SUBSURFACE DRAIN LOCATIONS						
STA. TO	STA.	LOC.	4" PE PIPE L.F.	4" TP PIPE L.F.	PRECAST HEADWALL EACH	REMARKS
183+00	- 184+00	LT	150			
183+00	- 184+00	RT	150			
184+50		LT		12	1	
184+50		RT		12	1	
184+50	- 189+50	LT	500			
184+50	- 189+50	RT	500			
189+50		LT		12	1	
189+50		RT		12	1	
189+50	- 194+50	LT	500			
189+50	- 194+00	RT	450			
TOTAL			2250	48	4	

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: MARK DALY
 SIGNATURE: [Signature]
 DATE: 6/19/2003 LICENSE NO. 21763

DRAWN BY: J.E. DATE: 6/2/03
 DESIGN BY: H.G. DATE: 6/2/03
 CHECKED BY: _____ DATE: _____

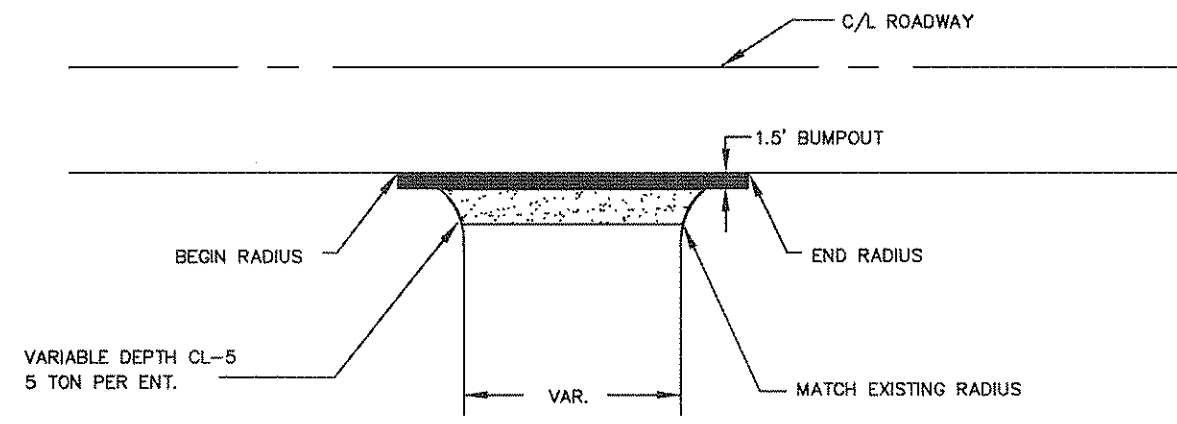


ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
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 COUNTY PROJECT NO. 03-19-07

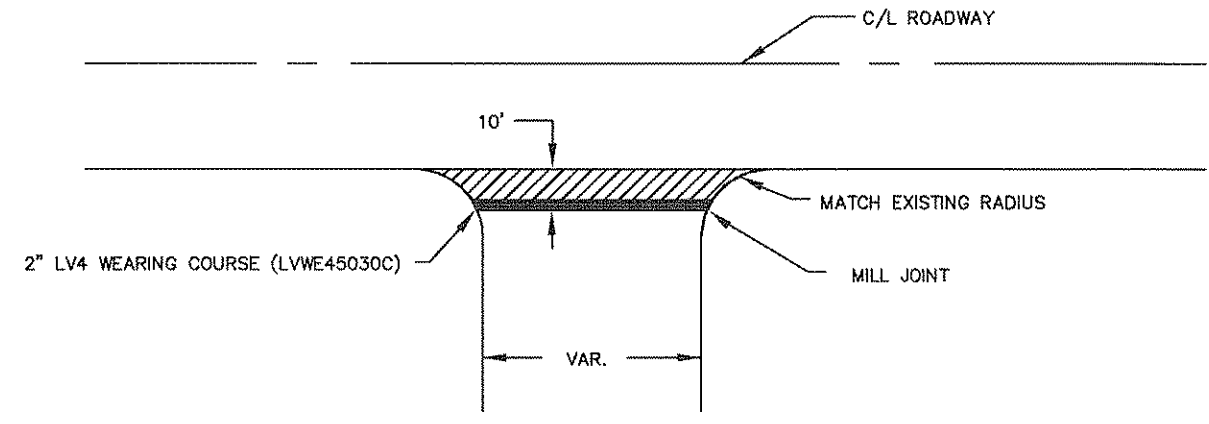
SUBSURFACE DRAIN
DETAILS

FIELD APPROACHES / UNPAVED DRIVEWAYS

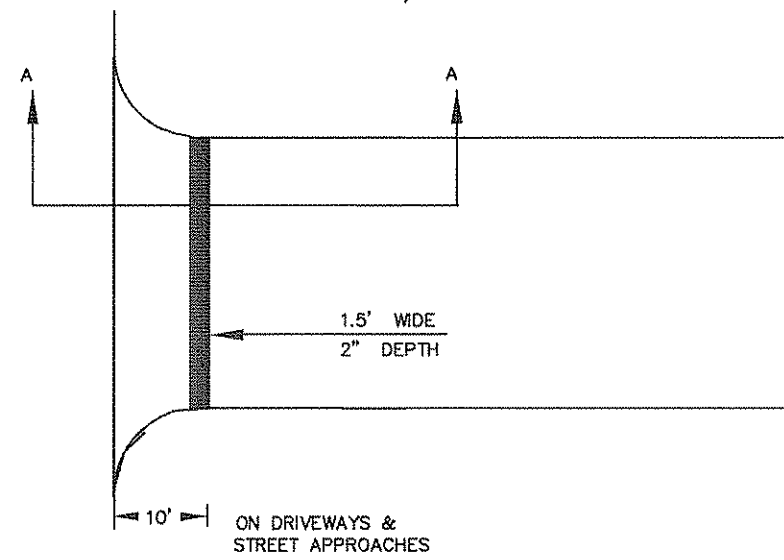


NOTE: PAID FOR AS ITEM NO. 2211.501
AGGREGATE BASE CL 5 (TON)

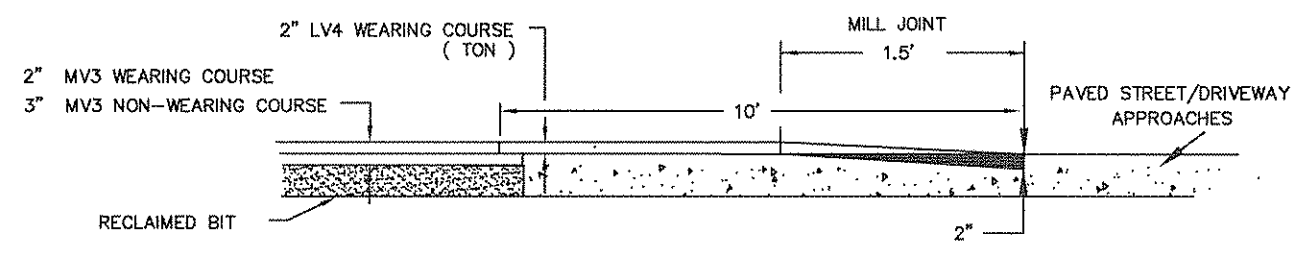
PAVED DRIVEWAYS/PAVED STREET APPROACHES



JOINT DETAILS
DRIVEWAYS/STREET APPROACHES



JOINT DETAILS
DRIVEWAYS/STREET APPROACHES
A - A



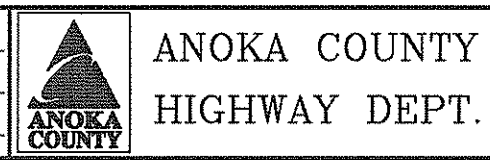
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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: MARK DALY
SIGNATURE: [Signature]
DATE: 6/12/2003 LICENSE NO. 21793

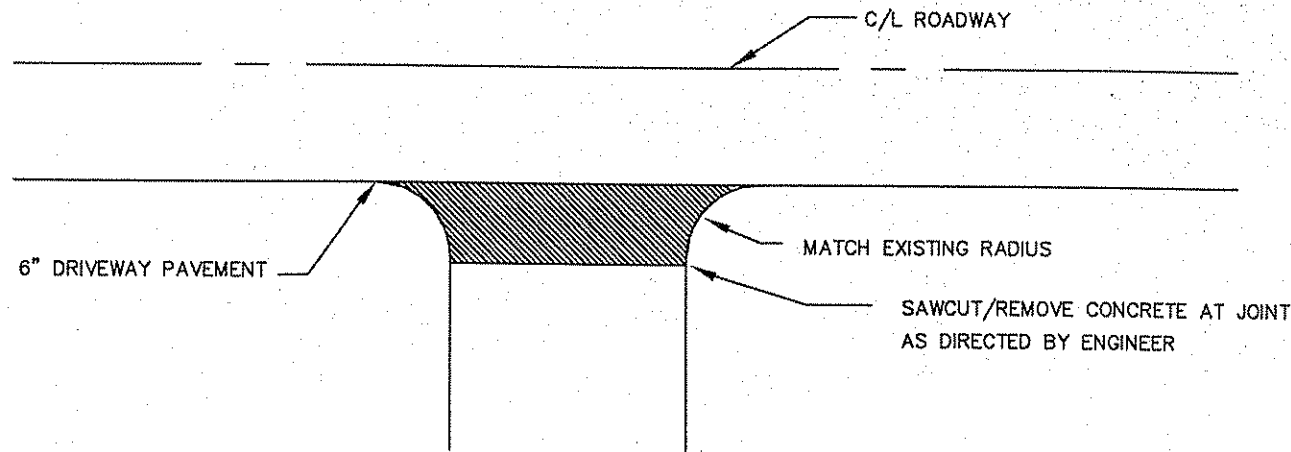
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DESIGN BY: H.G. DATE: 8/12/03
CHECKED BY: _____ DATE: _____



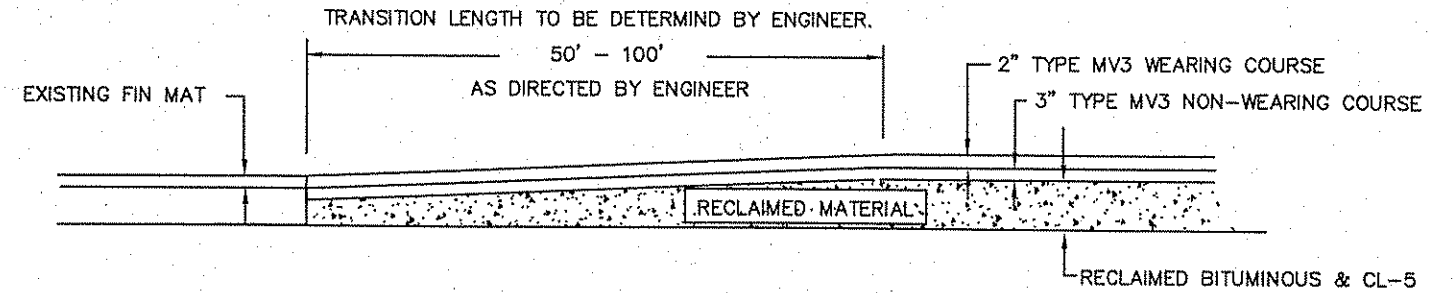
STATE PROJECT NO. _____
STATE AID PROJECT NO. _____
CITY PROJECT NO. _____
COUNTY PROJECT NO. 03-19-07

MISCELLANEOUS
DETAILS
Sheet 8 of 35 Sheets

CONCRETE DRIVEWAY (#15308)



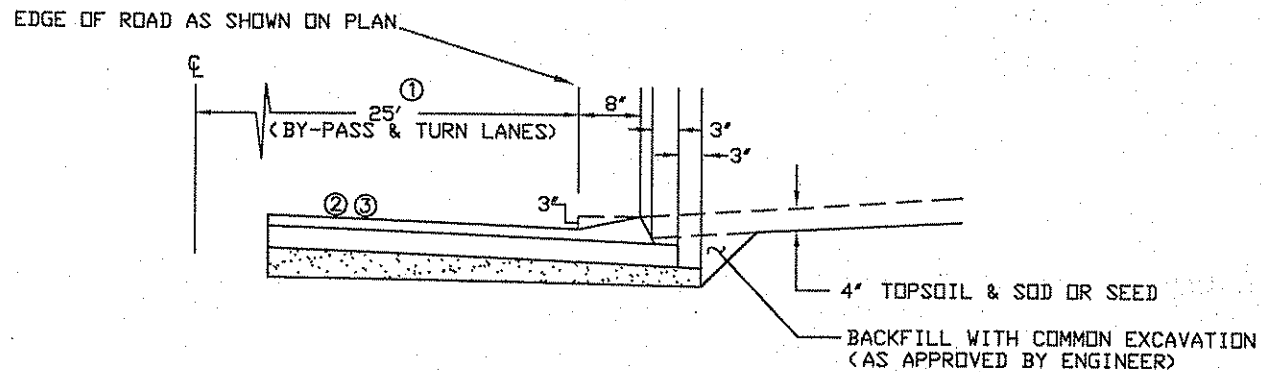
TRANSITION DETAIL
STA. 106+60 & 201+00



* NOTE- TRANSITION TO BE PAID AS EQUIP. HRS FOR MOTOR GRADER & ROLLER TO MOVE AND COMPACT RECLAIMED MATERIAL FOR JOINT.

INTEGRAL BITUMINOUS CURB DETAIL

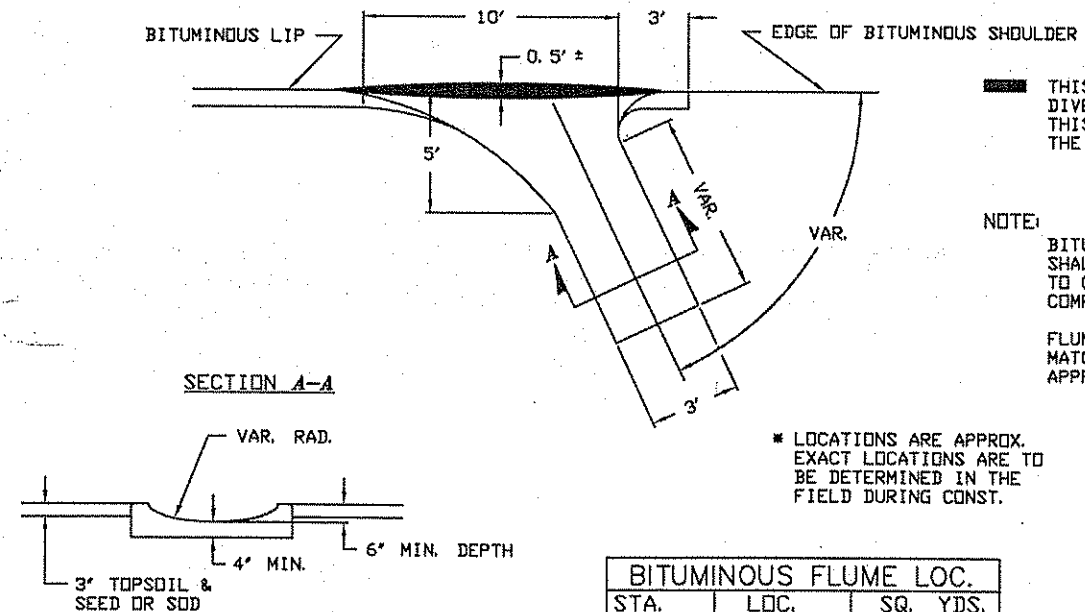
(USE IN BERM LOCATIONS)



- ① 22' IN NORMAL SHOULDER LOCATIONS
- ② PAVING DESIGN F-2 IN 10' SHOULDER AREAS
- ③ PAVING DESIGN F-3 IN TURN-LANE/BY-PASS BERM AREAS

PROP. BITUMINOUS CURB LOC.			
STA TO STA	LOC.	LIN. FT.	
117+12	119+00 RT.	188	
121+75	126+75 RT.	500	
127+15	134+00 RT.	685	
153+97	154+37 LT.	40	
154+76	156+10 LT.	134	
		TOTAL LIN FT = 1547	

TYPICAL BITUMINOUS FLUME



THIS AREA OF INCREASED SLOPE TO DIVERT WATER FLOW INTO FLUME. THIS MUST BE ACCOMPLISHED DURING THE SHOULDER PAVING OPERATION.

NOTE: BITUMINOUS FLUME CONSTRUCTION SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION AND NO ADDITIONAL COMPENSATION SHALL BE MADE.

FLUME DESIGN MAY BE MODIFIED TO MATCH EXISTING CONDITIONS UPON APPROVAL OF THE ENGINEER.

* LOCATIONS ARE APPROX. EXACT LOCATIONS ARE TO BE DETERMINED IN THE FIELD DURING CONST.

BITUMINOUS FLUME LOC.		
STA.	LOC.	SQ. YDS.
119+00	RT.	5.5
121+75	RT.	5.5
134+00	RT.	5.5
154+37	LT.	17.7
		TOTAL SQ YDS = 34.2

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: **MARK DALY**
SIGNATURE: *[Signature]*
DATE: **6/12/03** LICENSE NO. **21763**

DRAWN BY: J.E. DATE: 6/2/03
DESIGN BY: H.G. DATE: 6/2/03
CHECKED BY: _____ DATE: _____



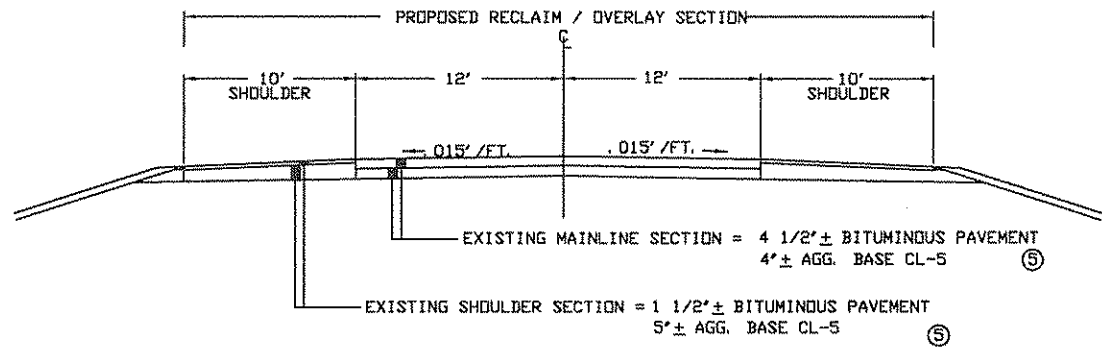
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. _____
CITY PROJECT NO. _____
COUNTY PROJECT NO. **03-19-07**

MISCELLANEOUS
DETAILS

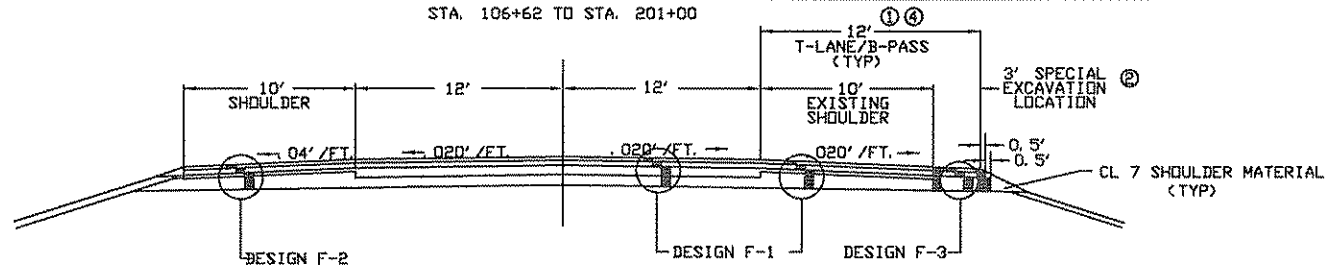
EXISTING C. S. A. H. 7 SECTION

STA. 106+62 TO STA. 201+00

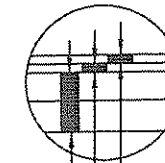


C. S. A. H. 7 RECLAMATION & SHOULDER CONSTRUCTION TYPICAL

STA. 106+62 TO STA. 201+00

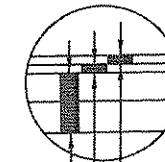


DESIGN F-1



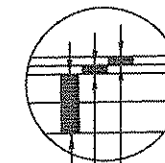
2' TYPE MV 3 WEARING COURSE MIXTURE-SPEC. 2350
BITUMINOUS MIXTURE DESIGNATION: MVWE35035C
3' TYPE MV 3 NON-WEARING COURSE MIXTURE-SPEC. 2350
BITUMINOUS MIXTURE DESIGNATION: MVNW35035C
PROPOSED RECLAMATION 8 1/2" ± (MAINLINE) 6 1/2" ± (SHOULDER)

DESIGN F-2



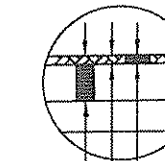
2' TYPE MV 3 WEARING COURSE MIXTURE-SPEC. 2350
BITUMINOUS MIXTURE DESIGNATION: MVWE35035C
3' AGGREGATE BASE CLASS 5
6 1/2" ± SALVAGE PAVEMENT SECTION

DESIGN F-3



2' TYPE MV 3 WEARING COURSE MIXTURE-SPEC. 2350
BITUMINOUS MIXTURE DESIGNATION: MVWE35035C
3' TYPE MV 3 NON-WEARING COURSE MIXTURE-SPEC. 2350
BITUMINOUS MIXTURE DESIGNATION: MVNW35035C
6" AGG. BASE CL 5 (T) AND/OR SALVAGED RECLAMATION

DESIGN F-4



2' TYPE MV 3 WEARING COURSE MIXTURE-SPEC. 2350
BITUMINOUS MIXTURE DESIGNATION: MVWE35035C
2' BITUMINOUS MILL
EXISTING BITUMINOUS SECTION

NOTES:

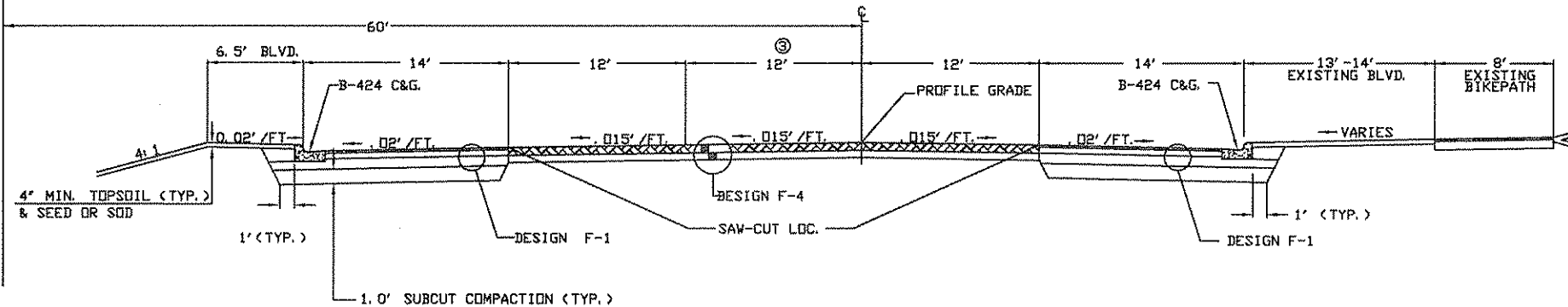
- ① SEE PLAN & PROFILE SHEETS FOR TURN/BY-PASS LOCATIONS
- ② SPECIAL EXCAVATION TO OCCUR IN TURN-LANE/BY-PASS WIDENING AREAS AFTER RECLAMATION OF ROADWAY
- ③ 0' @ 97+88 TO 12' @ 102+74
- ④ 13' IN RTL/BY-P BERM LOCATIONS
- ⑤ EXISTING BITUMINOUS & AGG. BASE DEPTHS ARE APPROXIMATE DEPTHS.

R/W

C. S. A. H. 7

STA. 97+88 TO STA. 106+62

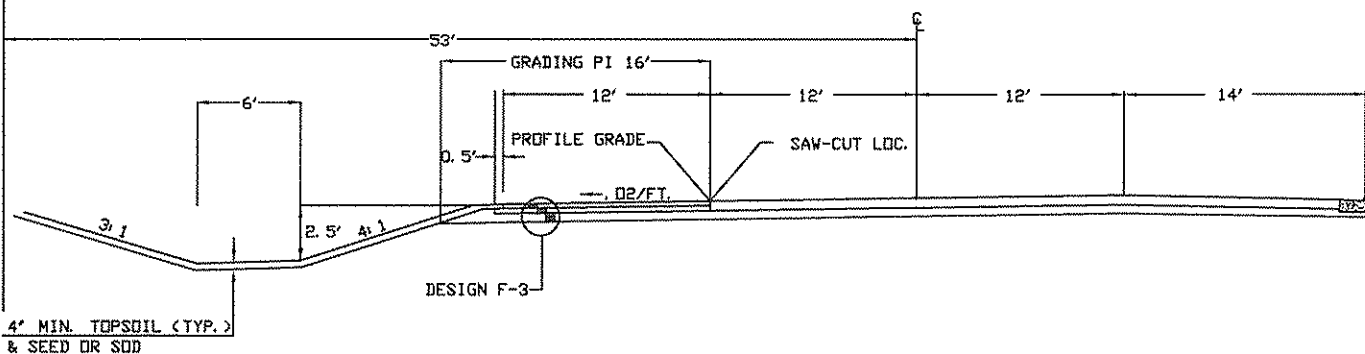
R/W



R/W

C. S. A. H. 116

STA. 52+60 TO 57+60



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 LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: MARY DALY
 SIGNATURE: *Mary Daly*
 DATE: 6/4/2003 LICENSE NO. 21763

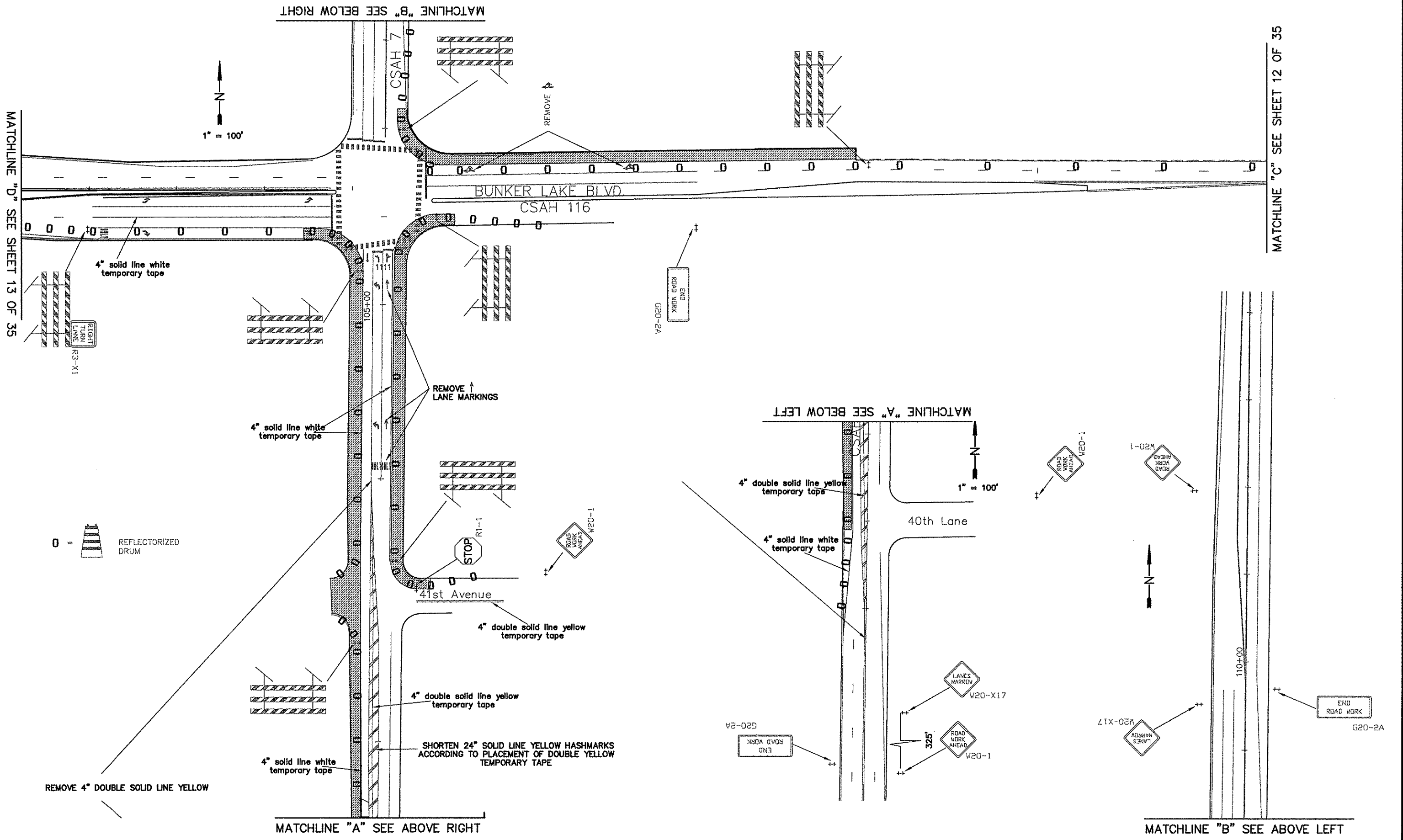
DRAWN BY: J.E. DATE: 8/2/03
 DESIGN BY: H.G. DATE: 6/2/03
 CHECKED BY: _____ DATE: _____



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
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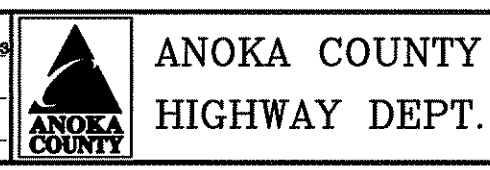
TYPICALS



NO	DATE	BY	CHKD	APPR	REVISION

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: MARK DADY
 SIGNATURE: *[Signature]*
 DATE: 6/19/2003 LICENSE NO. 21763

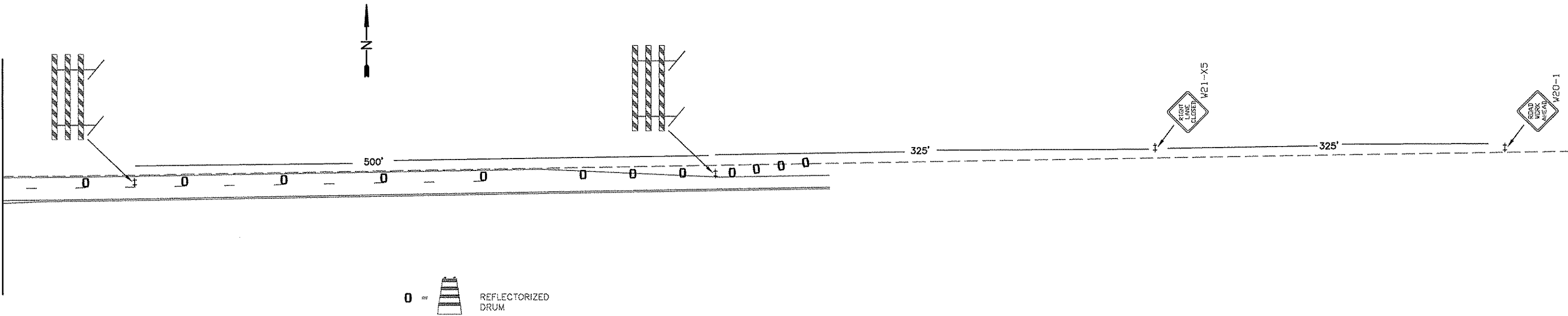
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 DESIGN BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____



STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 03-19-07

STAGE 1
 TRAFFIC CONTROL
 Sheet 11 of 35 Sheets

MATCHLINE "C" SEE PAGE 11 OF 35



O = REFLECTORIZED DRUM

C.S.A.H. 116

NO	DATE	BY	CHKD	APPR	REVISION

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: MARK DALY
 SIGNATURE: *[Signature]*
 DATE: 6/14/03 LICENSE NO. 21763

DRAWN BY: S.T. DATE: 05/27/03
 DESIGN BY: DATE: _____
 CHECKED BY: DATE: _____



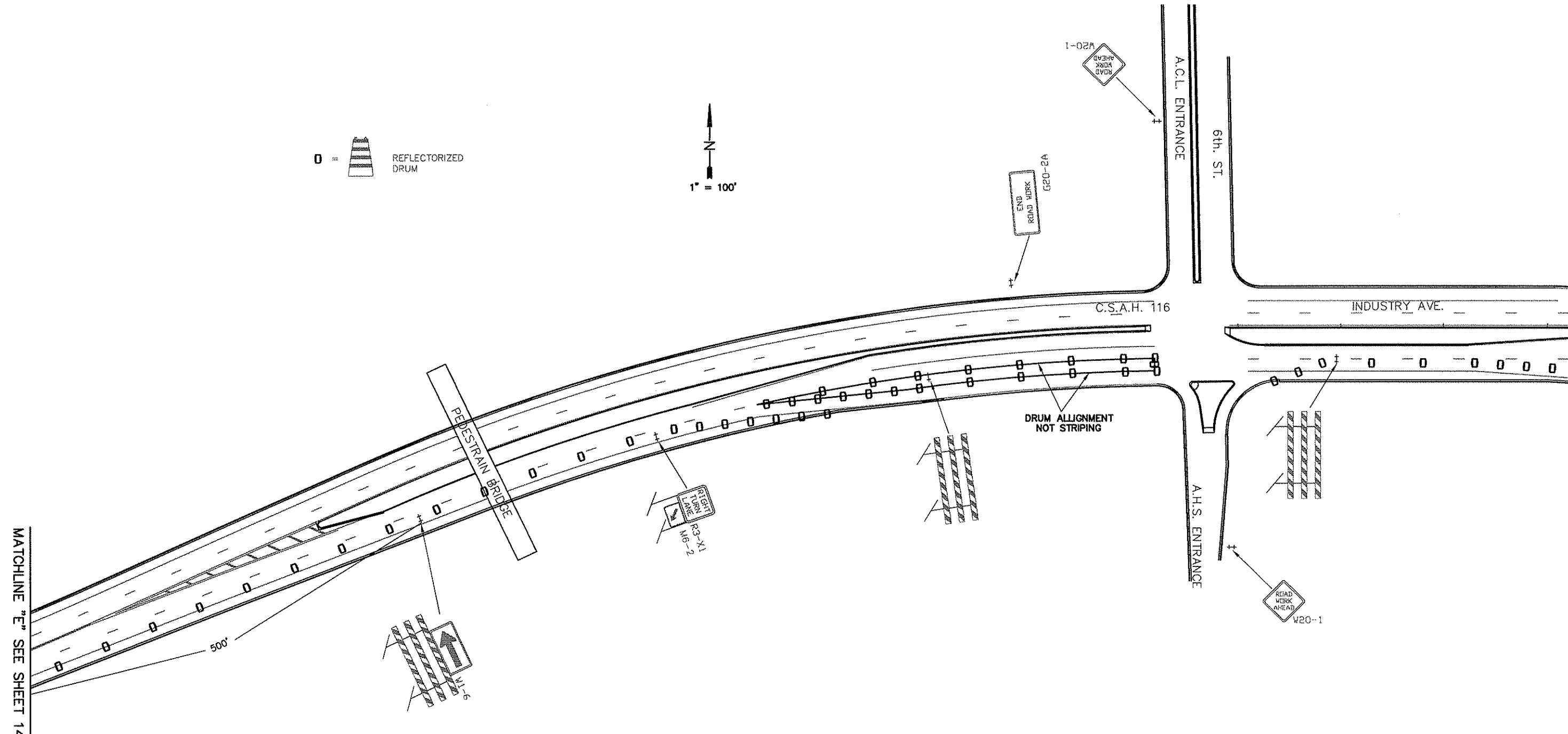
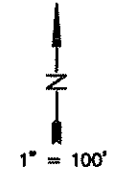
**ANOKA COUNTY
 HIGHWAY DEPT.**

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 03-19-07

**STAGE 1
 TRAFFIC CONTROL**
 Sheet 12 of 35 Sheets

MATCHLINE "E" SEE SHEET 14 OF 35

MATCHLINE "D" SEE SHEET 11 OF 35



C.S.A.H. 116

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: MARK DADY SIGNATURE: [Signature] DATE: 6/14/2003 LICENSE NO. 21763

DRAWN BY: S.T. DATE: 05/27/03 DESIGN BY: DATE: CHECKED BY: DATE:



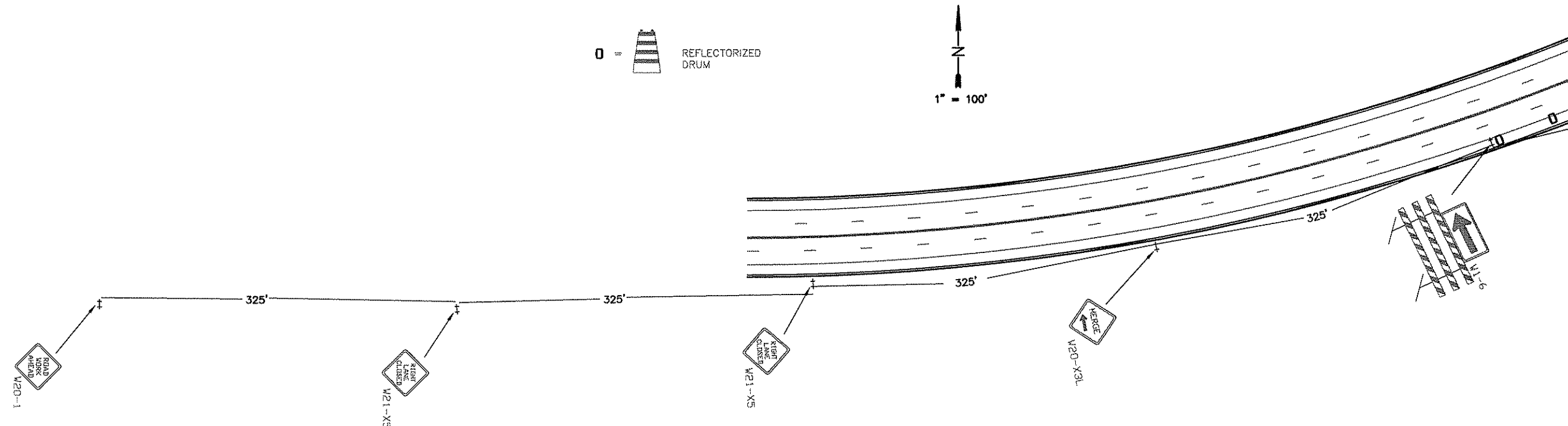
ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. STATE AID PROJECT NO. STATE AID PROJECT NO. COUNTY PROJECT NO. 03-19-07

STAGE 1 TRAFFIC CONTROL Sheet 13 of 35 Sheets

Table with columns: NO, DATE, BY, CKD, APPR, REVISION

MATCHLINE "E" SEE SHEET 13 OF 35



C.S.A.H. 116

NO	DATE	BY	CHKD	APPR	REVISION

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: MARK DALY
 SIGNATURE: *Mark Daly*
 DATE: 6/14/2003 LICENSE NO. 21763

DRAWN BY S.T. DATE 05/27/03
 DESIGN BY _____ DATE _____
 CHECKED BY _____ DATE _____



**ANOKA COUNTY
 HIGHWAY DEPT.**

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 03-19-07

**STAGE 1
 TRAFFIC CONTROL**
 Sheet 14 of 35 Sheets

M. U. T. C. D. CODE	SIZE	INSERT	QTY. STG. 1	SQ. FT.	TOTAL SQ. FT.
R1-1	36" x 36"		1	9.00	9.00
R3-X1	30" x 30"		1	6.25	6.25
M6-2	21" x 15"		1	2.1875	2.1875
W20-1	48" x 48"		8	16.00	128.00
W20-X3R	48" x 48"		1	16.00	16.00
W21-X5	48" x 48"		3	16.00	48.00
R3-X1	30" x 30"		1	8.00	6.25
TYPE III	8 FOOT				
W1-6	48" x 24"		2	8.00	16.00
TYPE III	8 FOOT				
TYPE III	8 FOOT		10		
G20-2a	48" x 24"		4	8.00	32.00
REFLECTORIZED REBOUNDABLE DRUM			142		
W20-X17	48" x 48"		2	16.00	32.00

STAGE 1 PAVEMENT MARKING QUANTITIES

REMOVALS

STRIPING		LANE MARKINGS				
UNIT	4" DOUBLE YELLOW	24" SOLID YELLOW	UNIT	↑	ONLY	↗
LIN. FT.	632		EACH	2	1	2
SQ. FT.		276				

TEMPORARY TAPE

UNIT	4" DOUBLE YELLOW	4" SOLID WHITE
LIN. FT.	730	1,442

TYPE 'C' SIGNS

UNIT	SALVAGE
EACH	35

NOTES:

- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 2001.
- 2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M. U. T. C. D.

NO	DATE	BY	CHKD	APPR	REVISION

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: MARK DAY

SIGNATURE: [Signature]

DATE: 6/14/2002 LICENSE NO. 21783

DRAWN BY: S.T. DATE: 06/27/02

DESIGN BY: _____ DATE: _____

CHECKED BY: _____ DATE: _____



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

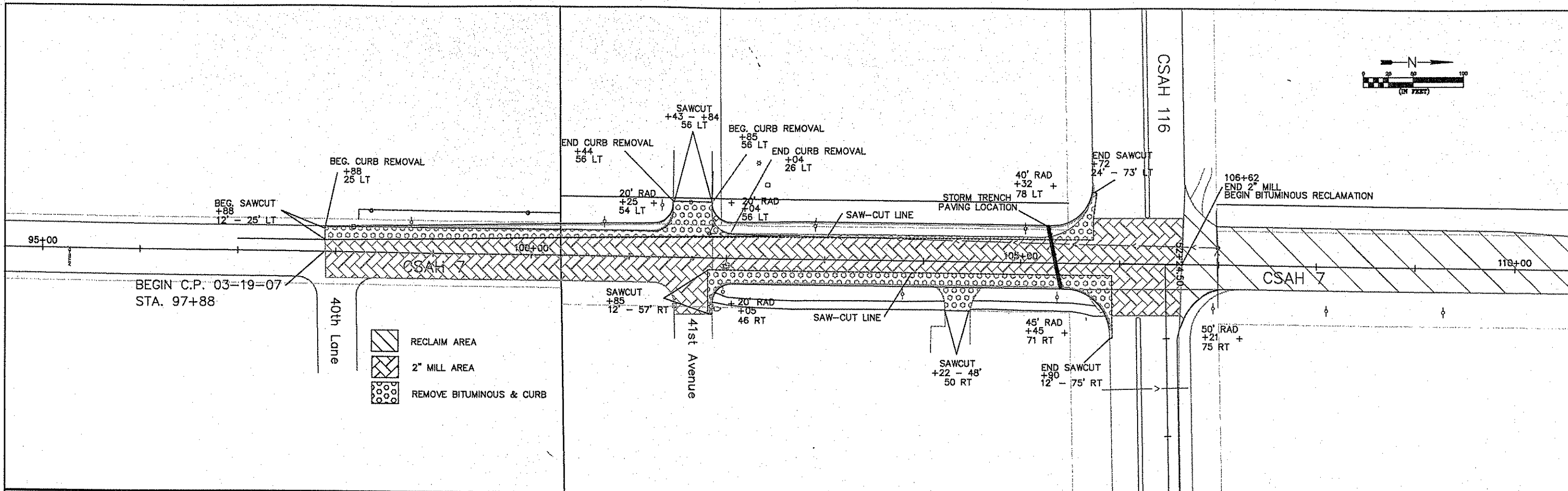
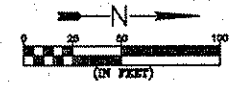
STATE AID PROJECT NO. _____

STATE AID PROJECT NO. _____

COUNTY PROJECT NO. 03-19-07

STAGE 1
TRAFFIC CONTROL

Sheet 15 of 35 Sheets



NO	DATE	BY	CHKD	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: MARK DALY
 SIGNATURE: [Signature]
 DATE: 6/19/03 REG. NO. 21763

DRAWN BY: J.F. DATE: 6/2/03
 DESIGN BY: H.G. DATE: 6/2/03
 CHECKED BY: _____ DATE: _____



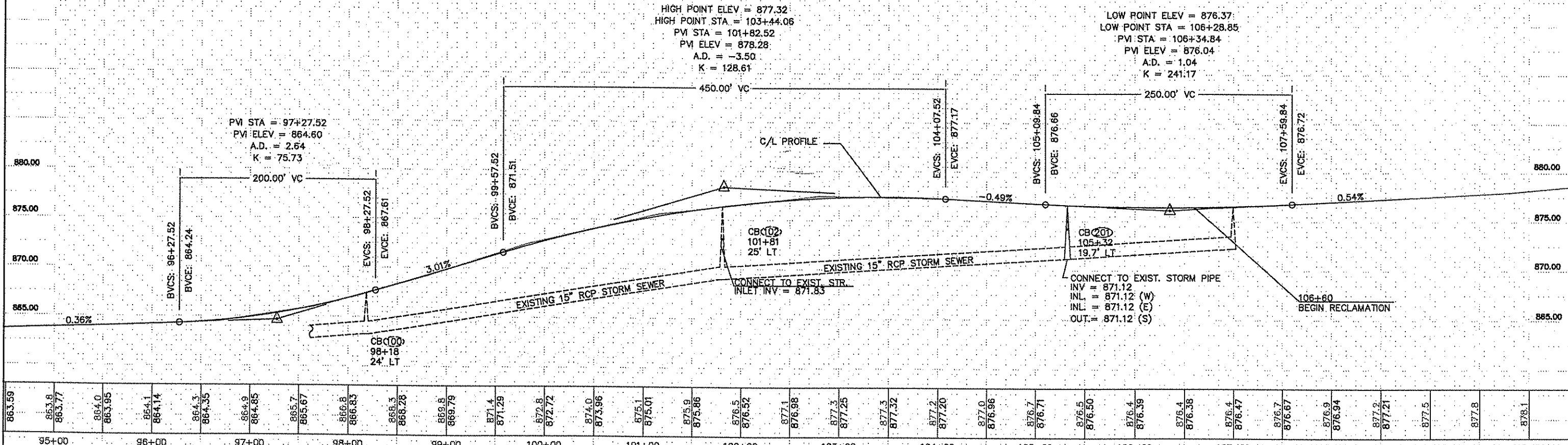
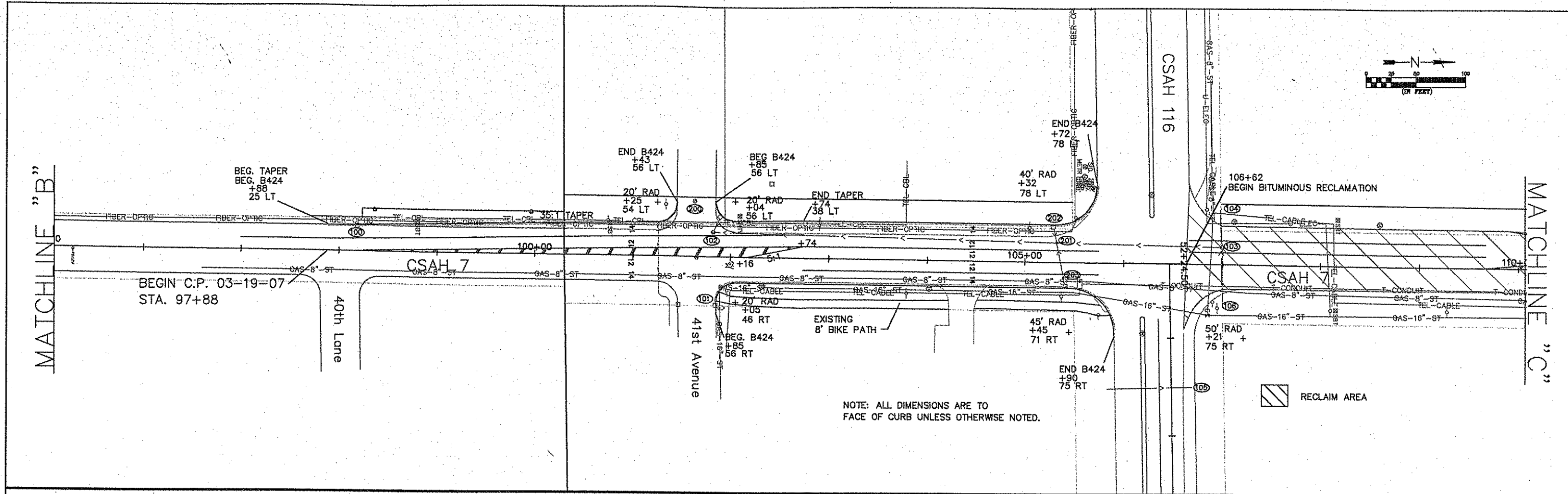
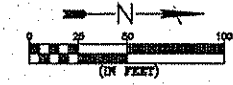
**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 03-19-07

REMOVALS
 STA 94+50 TO 110+50
 Sheet 16 of 35 Sheets

MATCHLINE "B"

MATCHLINE "C"



NO	DATE	BY	CHKD	APPR	REVISION
CSAH #7					

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: MARK DALY
SIGNATURE:

DATE: 6/14/03 REG. NO. 21763

DRAWN BY: J.E. DATE: 6/2/03

DESIGN BY: H.G. DATE: 6/2/03

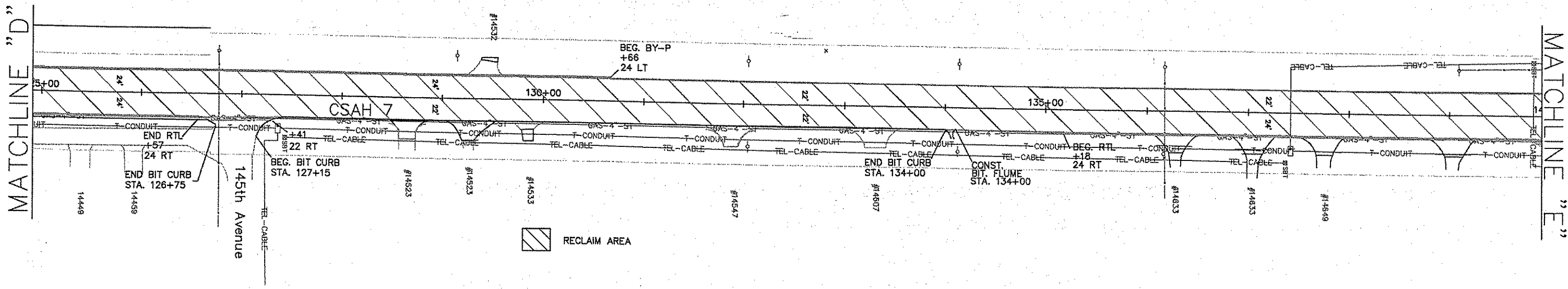
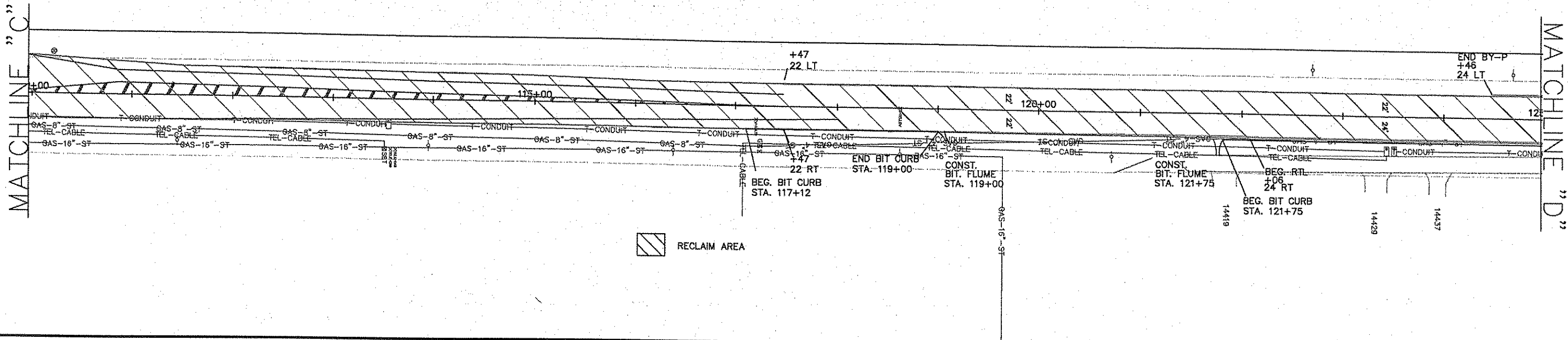
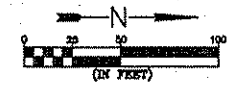
CHECKED BY: _____ DATE: _____



ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. _____
STATE AID PROJECT NO. _____
COUNTY PROJECT NO. 03-19-07

PLAN SHEET
STA 95+00 TO 110+00
Sheet 17 of 35 Sheets

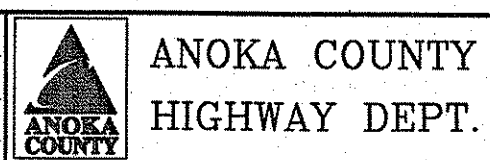


CSAH #7				
NO	DATE	BY	CKD	APPR
REVISION				
NAME: S:\2525PROJ\000000\000000\028000.DWG				

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.

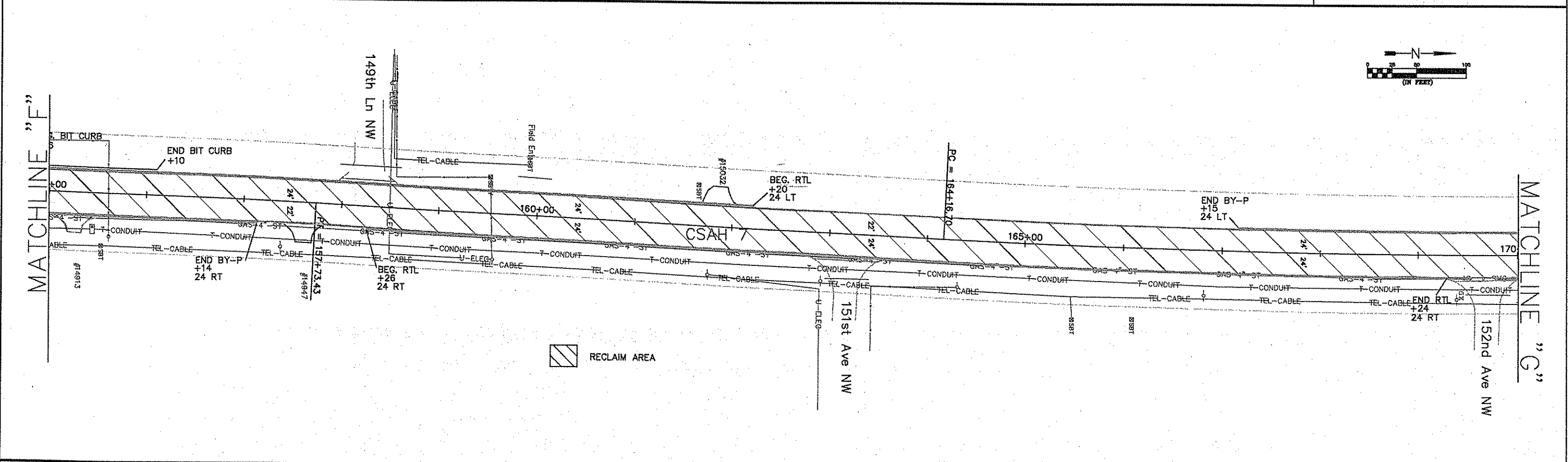
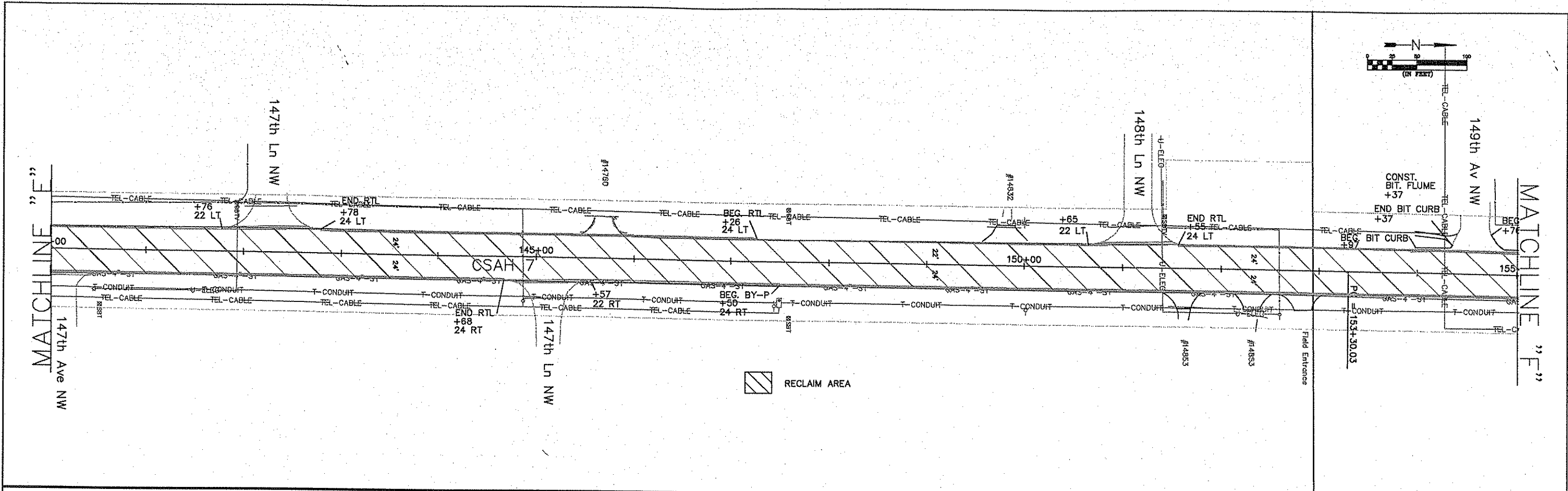
PRINT NAME: **MARK DAILY**
 SIGNATURE: *[Signature]*
 DATE: **6/14/2005** REG. NO. **21783**

DRAWN BY: J.E. DATE: 8/2/03
 DESIGN BY: H.G. DATE: 8/2/03
 CHECKED BY: DATE:



STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. **03-19-07**

PLAN SHEET
 STA 110+00 TO 140+00
 Sheet 18 of 35 Sheets



CSAH #7				
NO	DATE	BY	CKD	APPR
REVISION				
NAME: S:\SD\KPRD\000000\000000\028000.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.

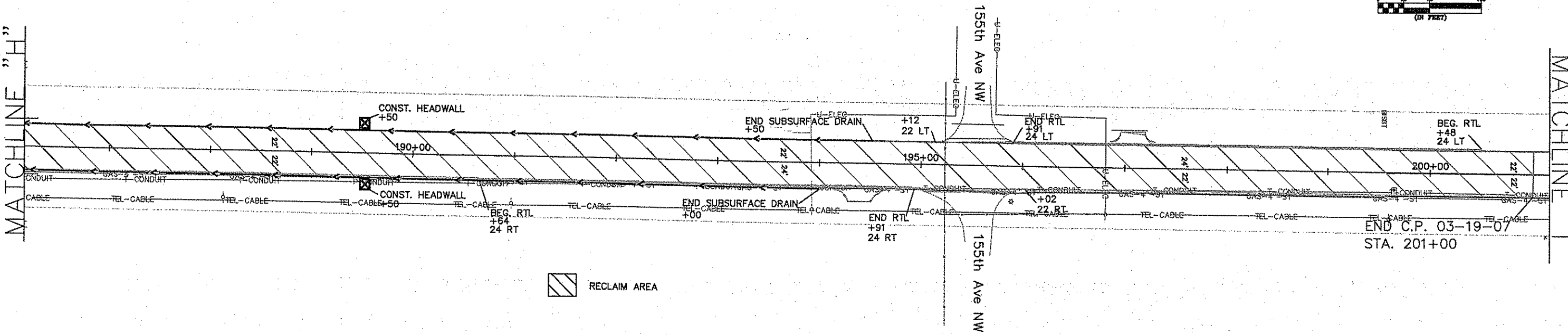
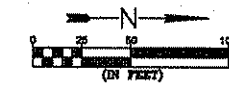
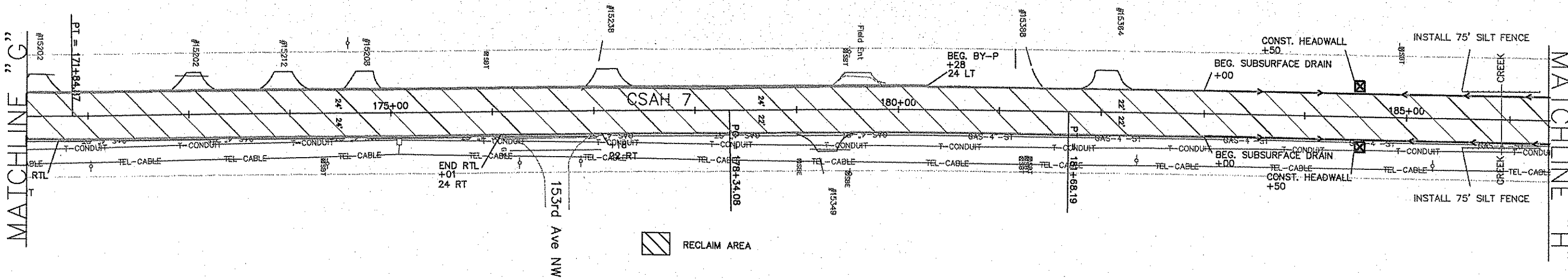
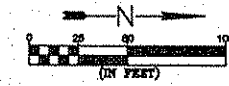
PRINT NAME: MARK DALY
 SIGNATURE: *Mark Daly*
 DATE: 6/19/03 REG. NO. 21763

DRAWN BY: J.E. DATE: 6/2/03
 DESIGN BY: H.G. DATE: 6/2/03
 CHECKED BY: _____ DATE: _____

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 03-19-07

PLAN SHEET
 STA 140+00 TO 170+00
 Sheet 19 of 35 Sheets

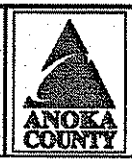


CSAH #7				
NO	DATE	BY	CHKD	APPR
REVISION				
NAME: S:\SD\KPRO\000000\000000\028000.DWG				

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: **MARK DALY**
 SIGNATURE: *[Signature]*
 DATE: **6/4/2003** REG. NO. **21763**

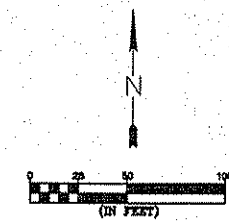
DRAWN BY: **J.E.** DATE **8/2/03**
 DESIGN BY: **H.G.** DATE **8/2/03**
 CHECKED BY: _____ DATE _____



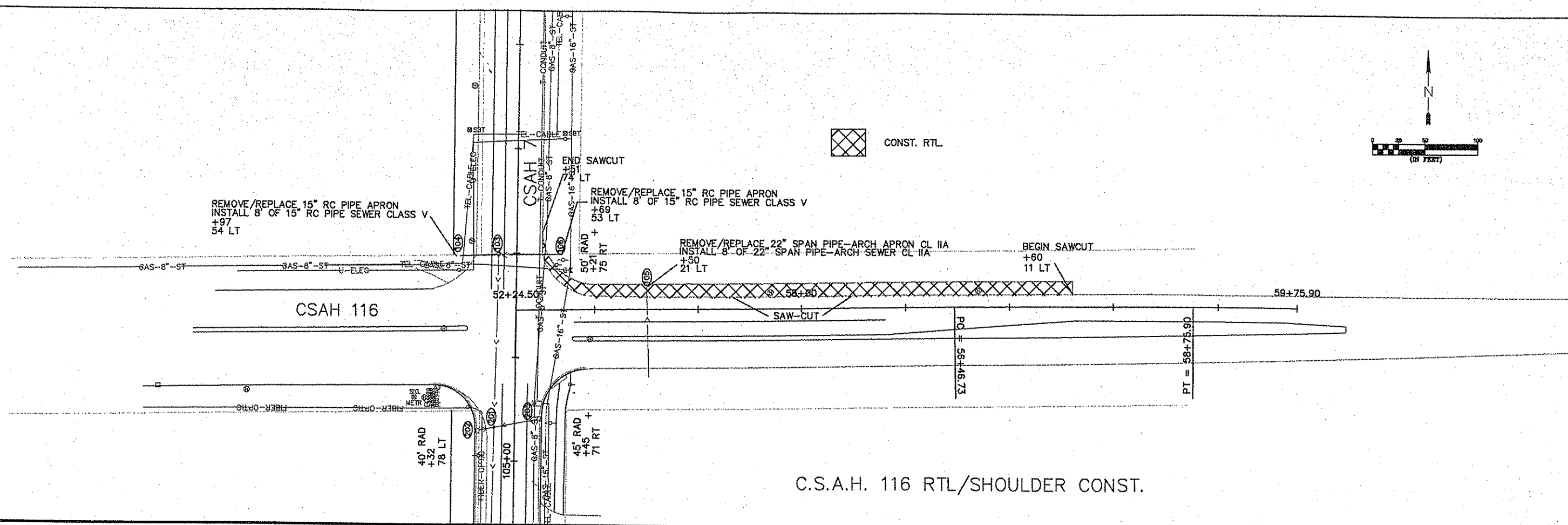
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. **03-19-07**

PLAN SHEET
 STA 170+00 TO 201+00
 Sheet **20** of **35** Sheets



CONST. RTL



NO	DATE	BY	CHKD	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: **MARK DALY**
SIGNATURE: *[Signature]*
DATE: **6/14/2005** REG. NO. **21763**

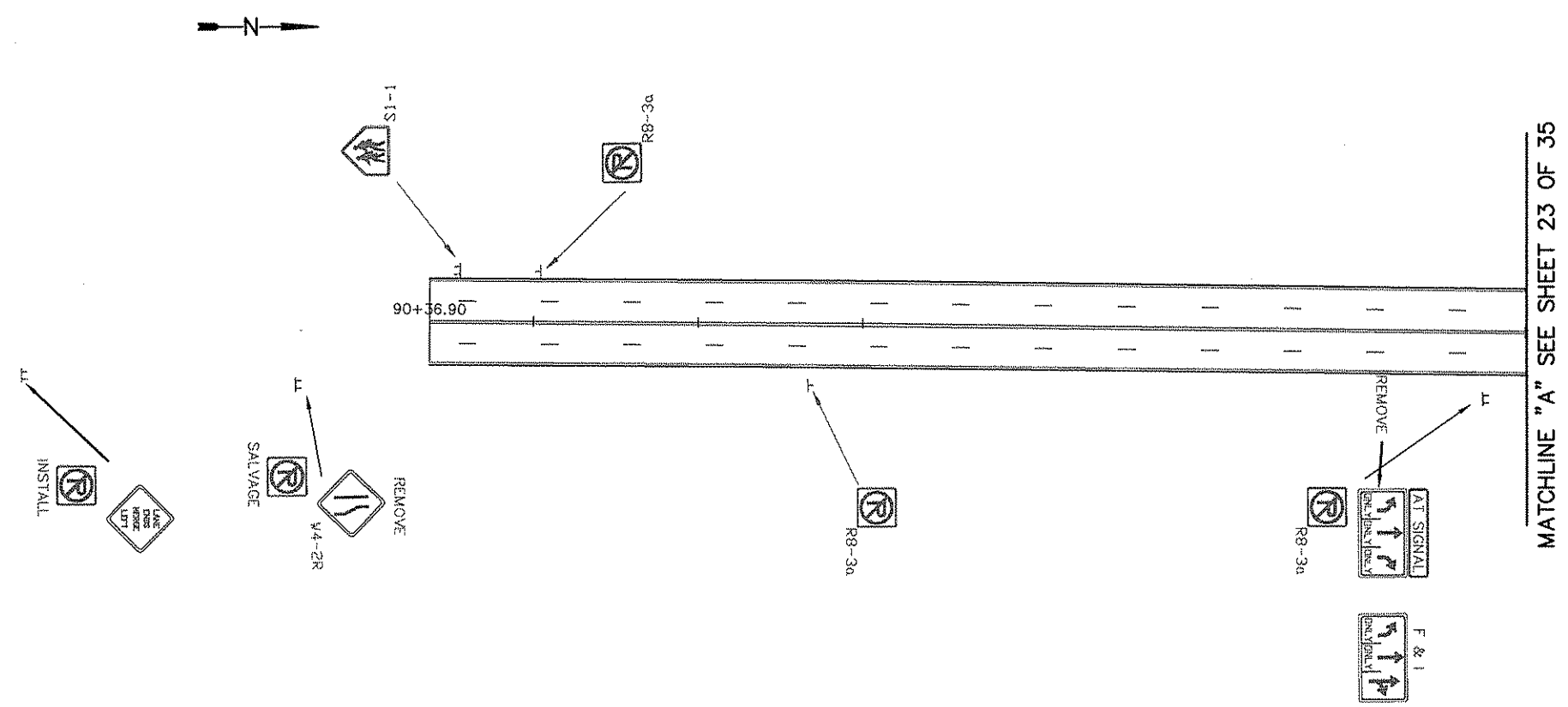
DRAWN BY: **LE** DATE: **8/2/03**
DESIGN BY: **H.G.** DATE: **8/2/03**
CHECKED BY: _____ DATE: _____



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. _____
STATE AID PROJECT NO. _____
COUNTY PROJECT NO. **03-19-07**

PLAN SHEET
CSAH 116
STA. 52+24 TO 59+75
Sheet **21** of **35** Sheets



03-19-07

C.S.A.H. 7 7th AVE.

PAVEMENT MARKING QUANTITIES

EPOXY

	4"	4"	4"	24"	4"	4"
	SOLID YELLOW	DOUBLE YELLOW	SKIP YELLOW	SOLID YELLOW	SOLID WHITE	SKIP WHITE
TOTAL	4,886	4,252	1,400	398	24,112	630

THERMOPLASTIC

	X-WALK 3' x 6'	STOP BAR 2' x XX'	ARROW RIGHT	ARROW LEFT	ARROW THRU/RIGHT
EACH			2	4	4
SQ. FT.	1,098				
LIN. FT.		194			

- NOTES: ① SIGN INSTALLATION (SALVAGED & PROPOSED) TO BE DONE BY ANOKA COUNTY
 ② PERMANENT STRIPING ON CSAH 7 (SOUTH OF CSAH 116) AND CSAH 116 (EAST OF CSAH 7) TO BE COMPLETED PRIOR TO RECLAMATION CONSTRUCTION.

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 LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: MARK DALY
 SIGNATURE: *[Signature]*
 DATE: 6/9/2007 LICENSE NO. 21763

DRAWN BY: D.M. DATE: 03/13/03
 DESIGN BY: DATE:
 CHECKED BY: DATE:
 ANOKA COUNTY



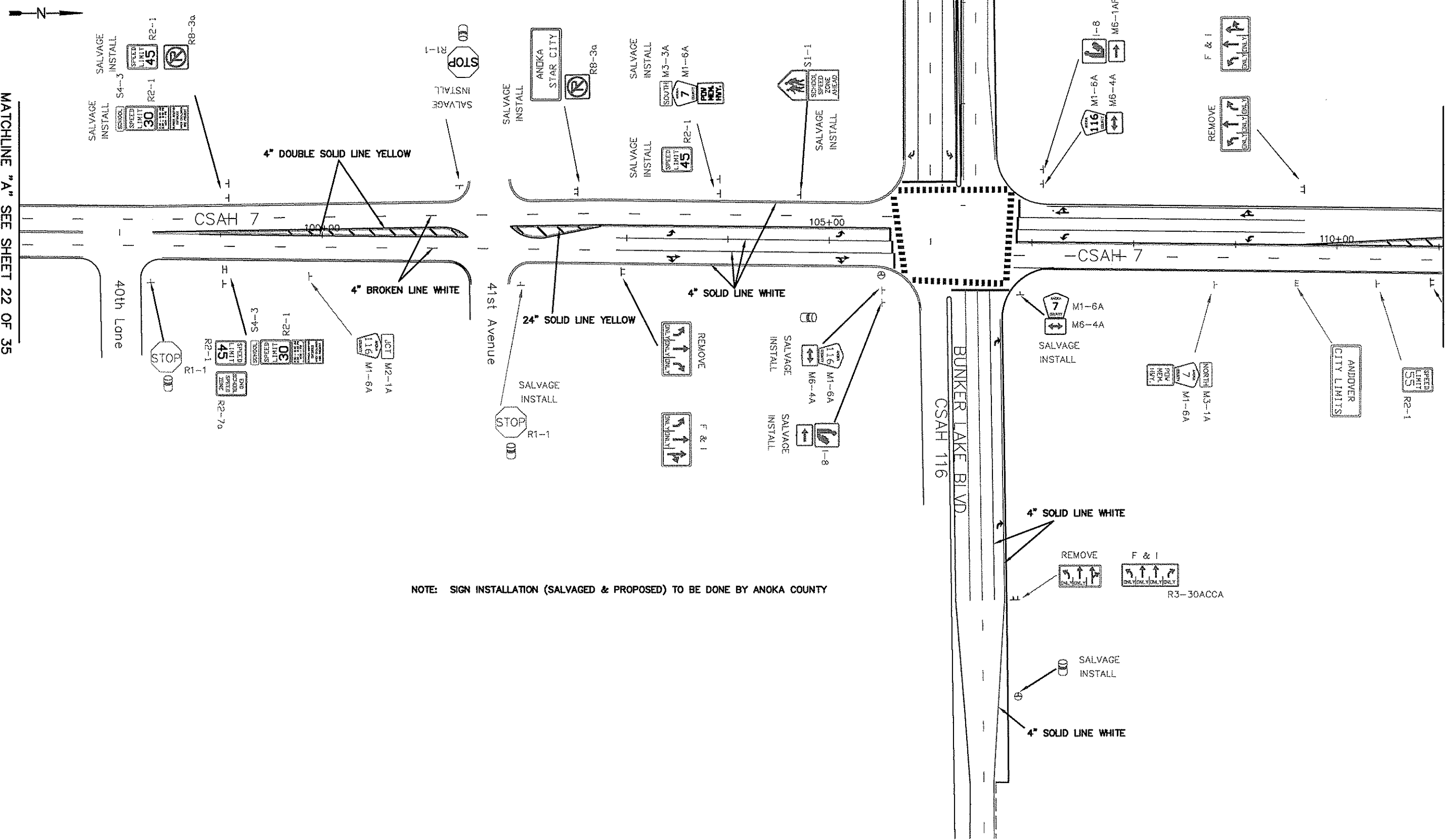
ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 03-19-07

C.S.A.H. 7
 PERMANENT STRIPING
 Sheet 22 of 35 Sheets

MATCHLINE "A" SEE SHEET 22 OF 35

MATCHLINE "B" SEE PAGE 24 OF 35



NOTE: SIGN INSTALLATION (SALVAGED & PROPOSED) TO BE DONE BY ANOKA COUNTY

NO	DATE	BY	CHKD	APPR	REVISION

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: MARK DALY
 SIGNATURE: *[Signature]*
 DATE: 6/4/2005 LICENSE NO. 21763

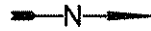
DRAWN BY: D.M. DATE: 03/13/03
 DESIGN BY: DATE: _____
 CHECKED BY: DATE: _____



**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 03-19-07

C.S.A.H.7 & C.S.A.H.116
 PERMANENT STRIPING
 Sheet 23 of 35 Sheets

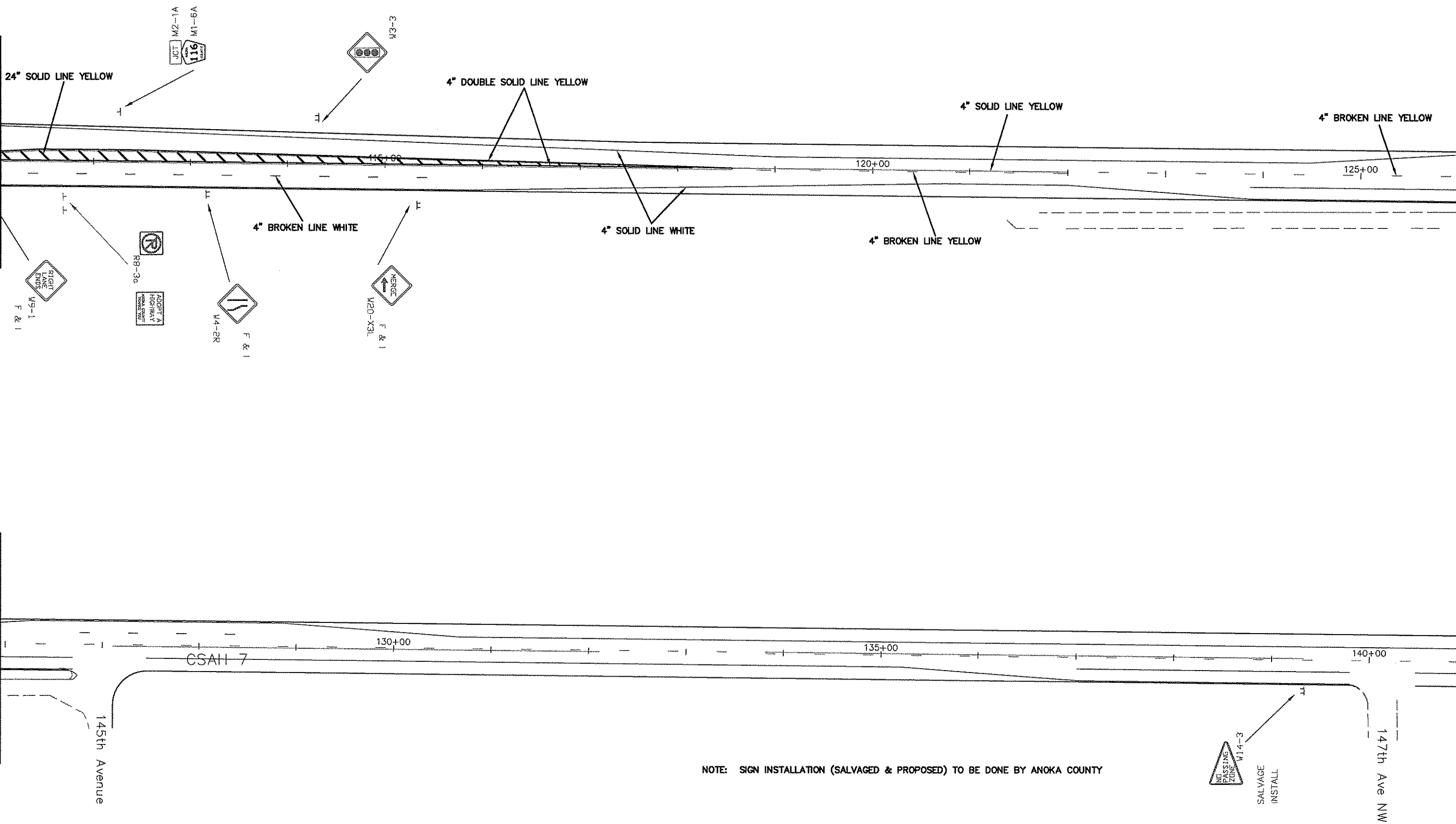


MATCHLINE "B" SEE SHEET 23 OF 35

MATCHLINE "C" SEE BELOW LEFT

MATCHLINE "C" SEE ABOVE RIGHT

MATCHLINE "D" SEE SHEET 25 OF 35



NOTE: SIGN INSTALLATION (SALVAGED & PROPOSED) TO BE DONE BY ANOKA COUNTY

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: MARK DALY
 SIGNATURE: *Mark Daly*
 DATE: 6/4/2007 LICENSE NO. 21763

DRAWN BY: D.M. DATE: 09/19/09
 DESIGN BY: DATE: _____
 CHECKED BY: DATE: _____



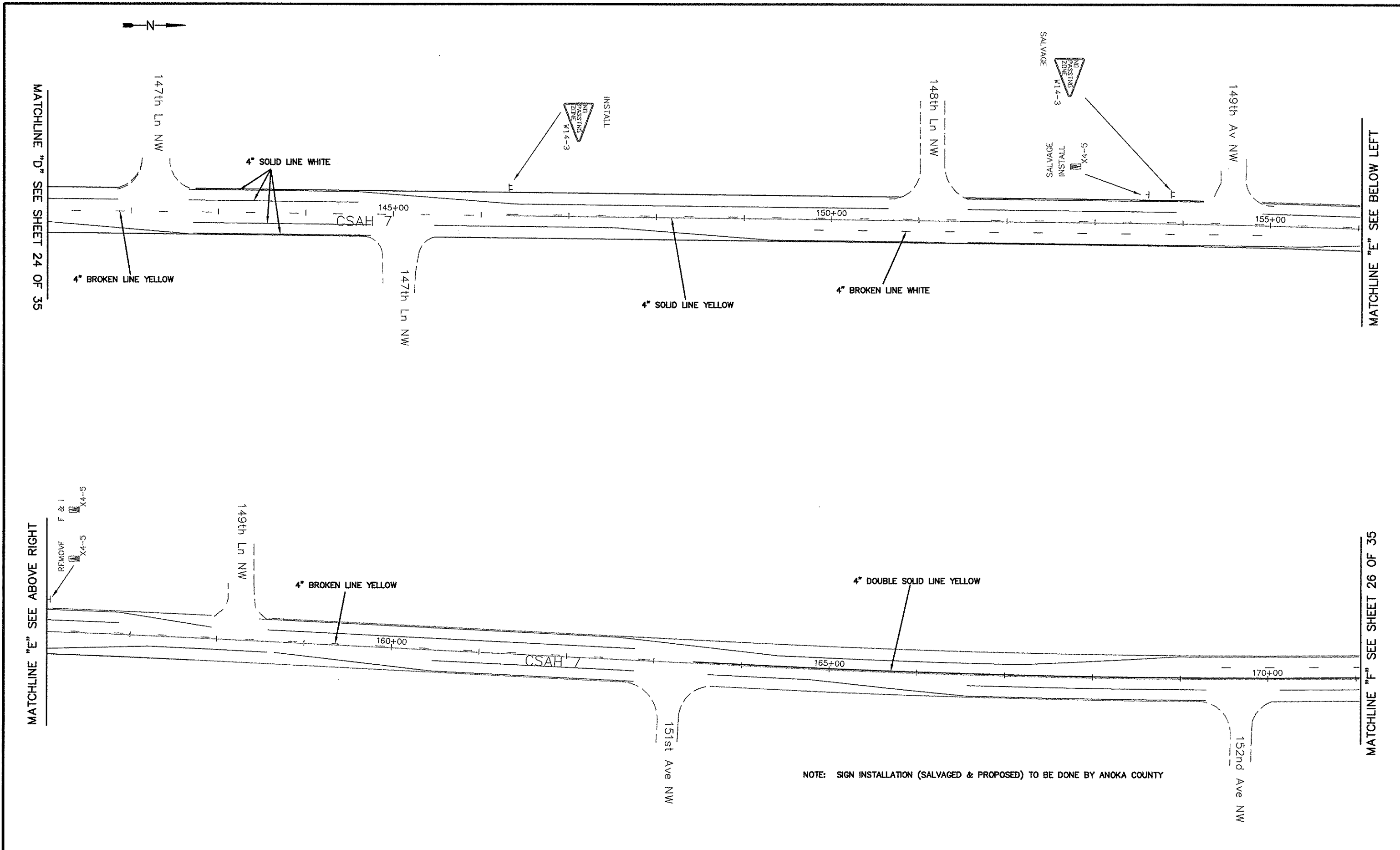
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 03-19-07

C.S.A.H. 7
 PERMANENT STRIPING
 Sheet 24 of 35 Sheets

NO	DATE	BY	CKD	APPR	REVISION

NAME: S:\SDSKPRO\A\000000\000000\026000.DWG

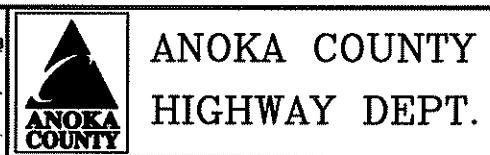


NOTE: SIGN INSTALLATION (SALVAGED & PROPOSED) TO BE DONE BY ANOKA COUNTY

NO	DATE	BY	CKD	APPR	REVISION

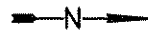
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: MARK DALY
 SIGNATURE: *[Signature]*
 DATE: 6/19/00 LICENSE NO. 21763

DRAWN BY: D.M. DATE: 09/19/09
 DESIGN BY: DATE: _____
 CHECKED BY: DATE: _____



STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 03-19-07

C.S.A.H. 7
 PERMANENT STRIPING
 Sheet 25 of 35 Sheets



MATCHLINE "F" SEE SHEET 25 OF 35

4" DOUBLE SOLID LINE YELLOW

4" BROKEN LINE WHITE

4" SOLID LINE YELLOW

4" SOLID LINE WHITE

4" BROKEN LINE YELLOW

MATCHLINE "G" SEE BELOW LEFT

175+00

CSAH 7

180+00

185+00

153rd Ave NW

MATCHLINE "G" SEE ABOVE RIGHT

4" BROKEN LINE YELLOW

190+00

CSAH 7

195+00

200+00

155th Ave NW

155th Ave NW

END C.P. 03-19-07
STA. 201+00

NOTE: SIGN INSTALLATION (SALVAGED & PROPOSED) TO BE DONE BY ANOKA COUNTY

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 LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: MARK DALY
 SIGNATURE: *Mark Daly*
 DATE: 6/14/2005 LICENSE NO. 21763

DRAWN BY: D.M. DATE: 09/19/09
 DESIGN BY: DATE: _____
 CHECKED BY: DATE: _____

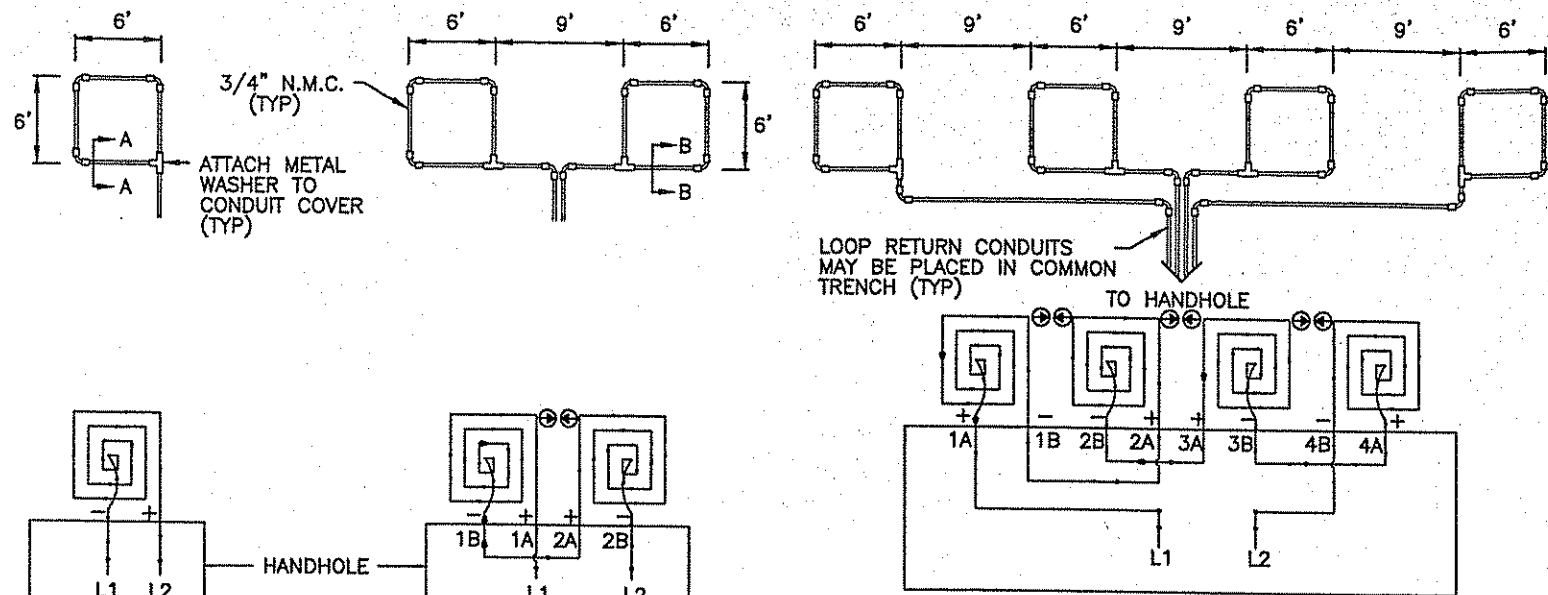


ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 03-19-07

C.S.A.H. 7
PERMANENT STRIPING

Sheet 26 of 35 Sheets



LOOP DETECTOR
DETAIL 'A'
(LOOP PHASING FOR
SINGLE CONNECTION)

LOOP CONNECTIONS SHALL BE
LABELED AND SPLICED IN THE
HANDHOLE AS FOLLOWS:

L1 TO 1A
1B TO 2A
2B TO L2

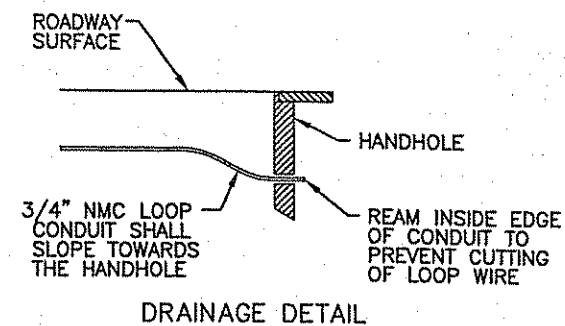
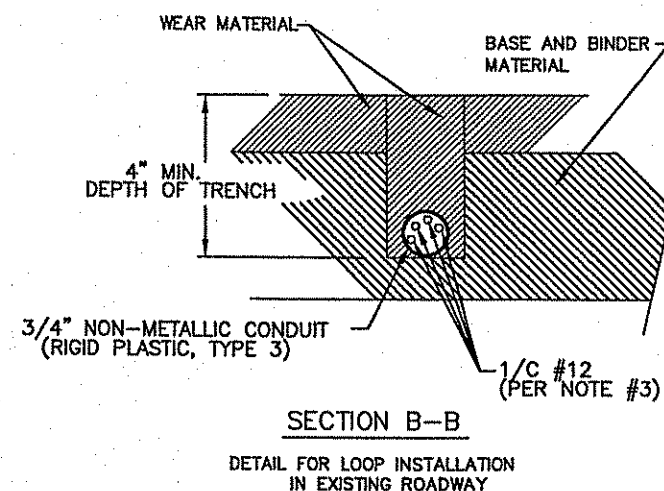
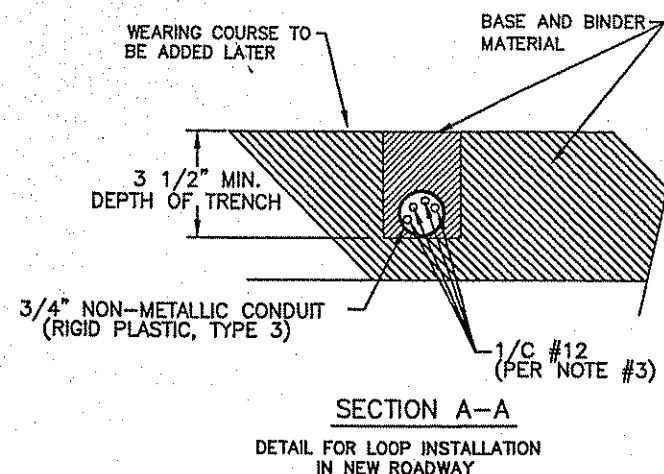
LOOP DETECTOR
DETAIL 'B'
(LOOP PHASING FOR
SERIES CONNECTION)

LOOP CONNECTIONS SHALL BE LABELED AND SPLICED
IN THE HANDHOLE AS FOLLOWS:

L1 TO 1A 3B TO 4A
1B TO 2A 4B TO L2
2B TO 3A

SPLICE CONTROL CABLE TO L1 & L2 IN HANDHOLE.
ALL CONDUCTORS SHALL BE TAGGED IN HANDHOLE
(1A, 1B, ECT)

LOOP DETECTOR
DETAIL 'C'
(LOOP PHASING FOR
SERIES CONNECTION)



LOOP DETECTOR WIRING

- 1) ALL CORNERS SHALL BE 90° CONDUIT BENDS.
- 2) CONNECT WIRES IN HANDHOLES USING SPLICE KIT METHOD DESCRIBED IN THE SPECIAL PROVISIONS.
- 3) LOOP DETECTOR WIRES SHALL BE #12 AWG CROSSED LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.
- 4) LOOP LEAD IN WIRES SHALL BE TWISTED A MIN. OF (5) TURNS PER FOOT THROUGH THE CONDUIT TO THE HANDHOLE.
- 5) NMC DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
- 6) LOOPS 6' x 6' THRU 6' x 14' SHALL HAVE (4) TURNS.
- 7) LOOPS 6' x 15' AND LARGER SHALL HAVE (2) TURNS.

LEGEND OF SYMBOLS

STANDARD PLATES	
THESE STANDARD PLATES AS APPROVED BY FHWA SHALL APPLY:	
PLATE NO.	DESCRIPTION
* 8110 D	TRAFFIC SIGNAL BRACKETING - POLE MOUNTED
8111 C	TRAFFIC SIGNAL BRACKETING - PEDESTAL MOUNTED
8112 C	PEDESTAL FOUNDATION
* 8114 A	PVC HANDHOLE/PULLBOX
8115 D	PEDESTRIAN PUSH BUTTON INSTALLATION
8118 C	SERVICE EQUIPMENT AND POLE-TRAFFIC CONTROL SIGNALS
8119 C	GROUND MOUNTED CABINET FOUNDATION
8120 K	PA85 POLE FOUNDATION
8121 D	TRANSFORMER BASE AND POLE BASE PLATE
8122 C	PEDESTAL AND PEDESTAL BASE
8123 E	POLE AND MAST ARM
8124 E	MAST ARM SIGNAL HEAD MOUNTS
8126 F	PA90 AND PA100 POLE FOUNDATION

* - APPLIES TO THIS PROJECT

CONDUCTOR COLOR CODE

R	RED
O	ORANGE
BL	BLUE
WH	WHITE
R/BLK	RED WITH BLACK TRACER
O/BLK	ORANGE WITH BLACK TRACER
BL/BLK	BLUE WITH BLACK TRACER
WH/BLK	WHITE WITH BLACK TRACER
BLK	BLACK
BLK/WH	BLACK WITH WHITE TRACER
G/BLK	GREEN WITH BLACK TRACER
G	GREEN

CONTROLLER AND SERVICE EQUIP. NO'S	(A)
SIGNAL BASE NO.	(B)
SIGNAL FACE NO.	(C)
LUMINAIRE NO.	(D)
CONTROLLER AND CABINET	(E)
CONTROLLER AND CABINET - IN PLACE	(F)
HANDHOLE	(G)
HANDHOLE - IN PLACE	(H)
RIGID STEEL CONDUIT (RSC)	(I)
RIGID STEEL CONDUIT (RSC) - IN PLACE	(J)
SIGNAL FACE WITH BACKGROUND SHIELD	(K)
SIGNAL FACE W/O BACKGROUND SHIELD	(L)
SIGNAL FACE - IN PLACE	(M)
PEDESTRIAN INDICATORS	(N)
PEDESTRIAN INDICATORS - IN PLACE	(O)
PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE	(P)
PEDESTRIAN PUSH BUTTON STATION	(Q)
TRAFFIC SIGNAL PEDESTAL	(R)
TRAFFIC SIGNAL PEDESTAL - INPLACE	(S)
TRAFFIC SIGNAL POLE AND MAST ARM	(T)
TRAFFIC SIGNAL POLE AND MAST ARM - IN PLACE	(U)
STREET LIGHT POLE AND LUMINAIRE	(V)
STREET LIGHT POLE AND LUMINAIRE - IN PLACE	(W)
MAST ARM AND LUMINAIRE	(X)
MAST ARM AND LUMINAIRE - INPLACE	(Y)
WOOD POLE	(Z)
WOOD POLE - IN PLACE	(AA)
SOURCE OF POWER	(AB)
RAILROAD SIGNAL - IN PLACE	(AC)
RIGHT OF WAY LINE	(AD)
CENTERLINE	(AE)
EDGE OF ROADWAY	(AF)
SHOULDERLINE	(AG)
CURB LINE	(AH)
STOP BAR	(AI)
EMERGENCY VEHICLE PREEMPTION DETECTOR	(AJ)

ABBREVIATIONS

3-1(EG)	SIGNAL HEAD PHASE "3" - NO "1"	P2-1(EG)	PED INDICATION PHASE "2" - NO. "1"
BR. GR.	BARE GROUND	PB	PUSH BUTTON
CH. SW.	CHECK SWITCH	PB2-1(EG)	PUSH BUTTON PHASE "2" - NO. "1"
CLR	CLEAR	PEC	PHOTOELECTRIC CELL
D2-1(EG)	DETECTOR PHASE "2" - NO. "1"	PED	PEDESTRIAN
DWK	DON'T WALK	R	RED
EQG	EQUIPMENT GROUND	R&S	REMOVE AND SALVAGE
EVP	EMERGENCY VEHICLE PRE-EMPTION	RLTA	RED LEFT TURN ARROW
F&I	FURNISH AND INSTALL	RRTA	RED RIGHT TURN ARROW
FL	FLASH/FLASHING	RSC	RIGID STEEL CONDUIT
G	GREEN	SOP	SOURCE OF POWER
GLTA	GREEN LEFT TURN ARROW	SPR	SPARE
GRN	GREEN	ST. LHT	STREET LIGHT
GR. R	GROUND ROD	STA	STATION
GRTA	GREEN RIGHT TURN ARROW	SW	SWITCH
GTHA	GREEN THRU ARROW	SWD	SWITCHED
HH	HANDHOLE	S&R	SALVAGE AND REINSTALL
HPS	HIGH PRESSURE SODIUM	TDW	TELEPHONE DROP WIRE
JB	JUNCTION BOX	WLK	WALK
LUM	LUMINAIRE	YEL	YELLOW
NEU	NEUTRAL	YLTA	YELLOW LEFT TURN ARROW
NMC	NONMETALLIC CONDUIT	YRTA	YELLOW RIGHT TURN ARROW
		YTHA	YELLOW THRU ARROW

W:\E\A\K\K\010400\7118507.DWG

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DESIGNER: JMG
CHECKED BY: JMG

DESIGN TEAM NO. BY DATE REVISIONS

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John M. Gray, P.E.
2002

SEH
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3535 VADNAIS CENTER DR.

ANOKA COUNTY
CSAH 7 (7TH AVE.)
CP 03-19-07

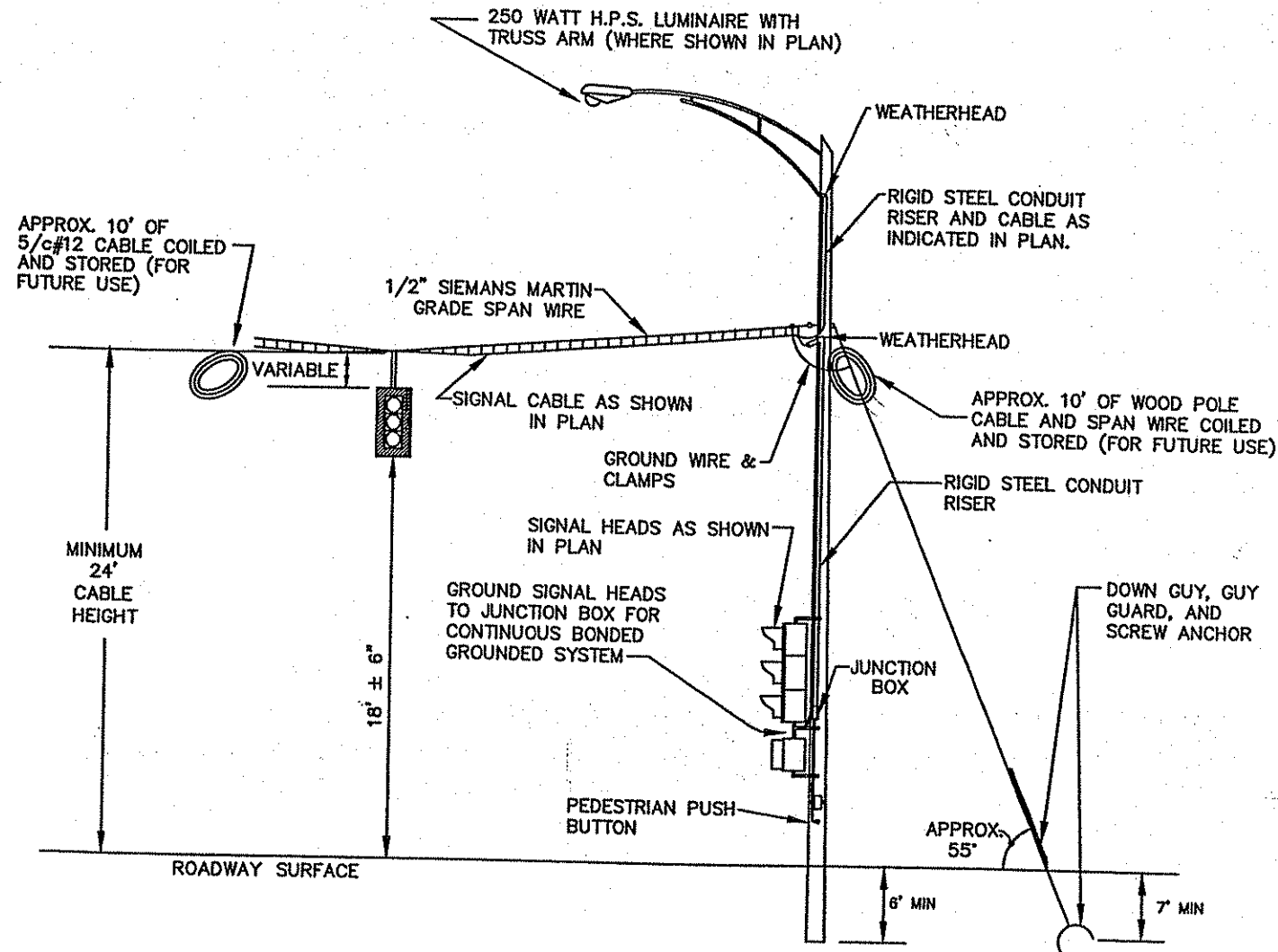
REVISE SIGNAL SYSTEM
DETAILS & STANDARD PLATES
CSAH 7 AT CSAH 48

FILE NO.
ANOKC0104.00
SIGNAL SHEET

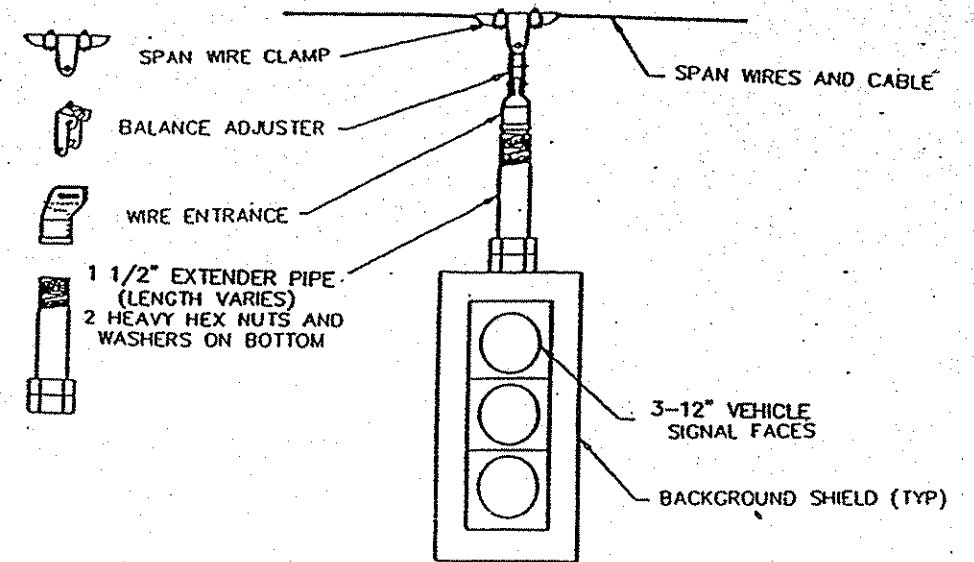
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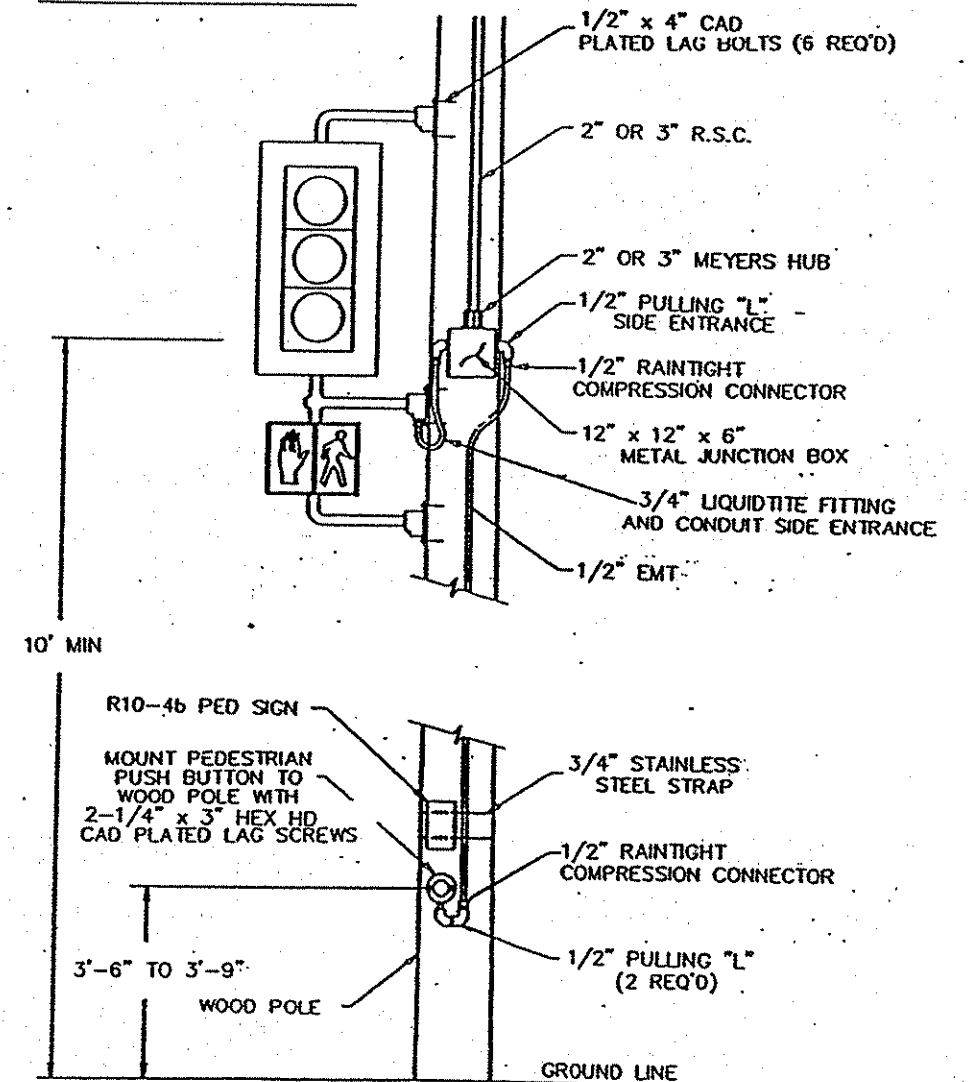
TYPICAL WOOD POLE AND SPAN WIRE MOUNTED TRAFFIC SIGNALS



SPAN WIRE MOUNTING DETAIL



WOOD POLE DETAIL



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JMG
John M. Gray, P.E.
Date: May 5, 2003 Lic. No. 22457

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3535 VADNAIS CENTER DR.
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ANOKA COUNTY
CSAH 7 (7TH AVE.)
CP 03-19-07

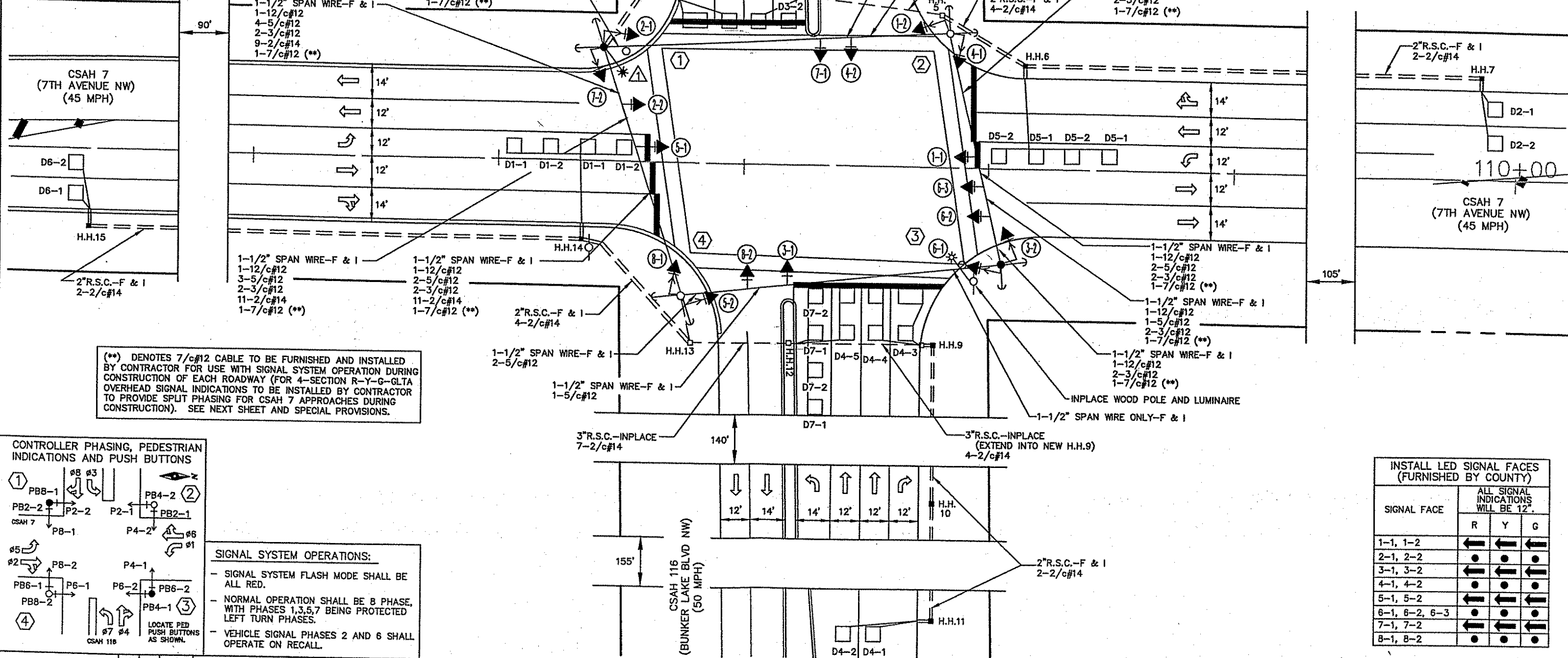
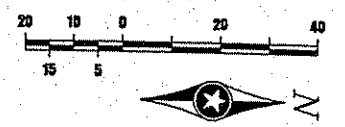
REVISE SIGNAL SYSTEM
TEMPORARY SIGNAL DETAILS
CSAH 7 AT CSAH 116

FILE NO.	28
ANOKC0104.00	
SIGNAL SHEET	35
2 OF 7	

N.M.C. LOOP DETECTORS				
NUMBER	SIZE (FT.)	LOCATION	FUNCTION	STATUS
D1-1	2-6x6	20' & 50'	1	F & I
D1-2	2-6x6	5' & 35'	1	F & I
D2-1	6x6	300'	1	F & I
D2-2	6x6	300'	1	F & I
D3-1	2-6x6	15' & 45'	1	F & I
D3-2	2-6x6	0' & 30'	1	F & I
D4-1	6x6	400'	3,8	F & I
D4-2	6x6	400'	3,8	F & I
D4-3	6x10&6x6	0' & 15'	7	F & I
D4-4	2-6x6	0' & 15'	1	F & I
D4-5	2-6x6	0' & 15'	1	F & I
D5-1	2-6x6	20' & 50'	1	F & I
D5-2	2-6x6	5' & 35'	1	F & I
D6-1	6x6	300'	1	F & I
D6-2	6x6	300'	1	F & I
D7-1	2-6x6	15' & 45'	1	F & I
D7-2	2-6x6	0' & 30'	1	F & I
D8-1	2-6x6	400'	3,8	INPLACE
D8-2	6x10&6x6	0' & 15'	7	F & I
D8-3	2-6x6	0' & 15'	1	F & I
D8-4	2-6x6	0' & 15'	1	F & I

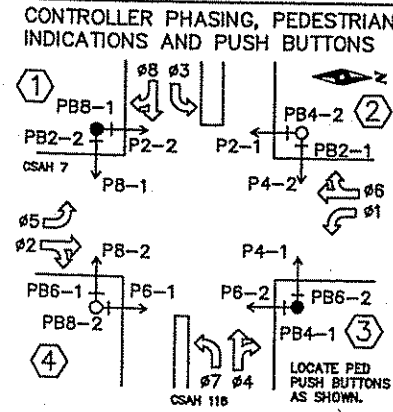
- LOOP DETECTORS FUNCTIONS:
- 1) CALL AND EXTEND
 - 2) CALL ONLY
 - 3) EXTEND ONLY
 - 4) CALL ONLY DENSITY
 - 5) DELAYED CALL ONLY
 - 6) DELAYED CALL ONLY DENSITY
 - 7) DELAYED CALL- IMMEDIATE EXTEND
 - 8) CARRY OVER (STRETCH)
 - 9) ADVISORY DETECTOR
 - 10) SAMPLING DETECTOR
 - 11) SPECIAL DETECTOR

NOTE: LOCATION=DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.



NOTE: SEE NEXT SHEET FOR GENERAL NOTES, EQUIPMENT PAD NOTES, AND INDIVIDUAL POLE NOTES.

(**) DENOTES 7/c#12 CABLE TO BE FURNISHED AND INSTALLED BY CONTRACTOR FOR USE WITH SIGNAL SYSTEM OPERATION DURING CONSTRUCTION OF EACH ROADWAY (FOR 4-SECTION R-Y-G-GLTA OVERHEAD SIGNAL INDICATIONS TO BE INSTALLED BY CONTRACTOR TO PROVIDE SPLIT PHASING FOR CSAH 7 APPROACHES DURING CONSTRUCTION). SEE NEXT SHEET AND SPECIAL PROVISIONS.



- SIGNAL SYSTEM OPERATIONS:
- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
 - NORMAL OPERATION SHALL BE 8 PHASE, WITH PHASES 1,3,5,7 BEING PROTECTED LEFT TURN PHASES.
 - VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

INSTALL LED SIGNAL FACES (FURNISHED BY COUNTY)			
SIGNAL FACE	ALL SIGNAL INDICATIONS WILL BE 12"		
	R	Y	G
1-1, 1-2	←	←	←
2-1, 2-2	•	•	•
3-1, 3-2	←	←	←
4-1, 4-2	•	•	•
5-1, 5-2	←	←	←
6-1, 6-2, 6-3	•	•	•
7-1, 7-2	←	←	←
8-1, 8-2	•	•	•

DESIGNED BY: JMG
 CHECKED BY: JMG
 DATE: 5/05

NO.	BY	DATE	REVISIONS
1	JMG	5/05	REVISED PER COUNTY COMMENTS

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 John M. Gray, P.E.
 May 5, 2003



ANOKA COUNTY
 CSAH 7 (7TH AVE.)
 CP 03-19-07

REVISE SIGNAL SYSTEM INTERSECTION LAYOUT
 FILE NO. ANOKC0104.00
 SIGNAL SHEET 29

NOTES:

- 1) LOCATION OF POLES, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) ALL SIGNAL FACES WILL BE NEW (FURNISHED BY COUNTY AND INSTALLED BY CONTRACTOR) AND WILL HAVE BACKGROUND SHIELDS.
- 3) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
- 4) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS, PER Mn/DOT STANDARD PLATE NO. 8114A.
- 5) SEE DETAILS FOR WOOD POLE, PEDESTRIAN PUSH BUTTON AND SPAN WIRE MOUNTING DETAILS.
- 6) EACH PEDESTRIAN INDICATION WILL BE NEW (FURNISHED BY COUNTY AND INSTALLED BY CONTRACTOR) AND WILL BE A ONE SECTION HAND/WALKING PERSON INDICATION. SEE SPECIAL PROVISIONS.
- 7) ALL VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS WILL BE LED. SEE SPECIAL PROVISIONS.
- 8) ALL TRAFFIC SIGNAL CABLES AND CONDUCTORS, AND SPAN WIRE SHALL BE NEW, FURNISHED AND INSTALLED BY CONTRACTOR, EXCEPT AS OTHERWISE NOTED IN PLANS (REMOVE EXISTING CABLES, CONDUCTORS & SPAN WIRE AS NOTED IN PLANS & SPECIAL PROVISIONS).
- 9) CONTRACTOR SHALL INSTALL EXTENDED BRACKETS FOR EACH POLE MOUNTED VEHICLE AND PEDESTRIAN SIGNAL FACE.
- 10) SEE SPECIAL PROVISIONS REGARDING REMOVAL, SALVAGING AND INSTALLATION OF INPLACE SIGNAL EQUIPMENT.
- 11) INPLACE ITEMS TO BE REUSED INPLACE AS PART OF THE REVISE SIGNAL SYSTEM SHALL BE PROTECTED AND MAINTAINED INPLACE. SEE SPECIAL PROVISIONS.
- 12) CONTRACTOR SHALL MAINTAIN OPERATION OF THE INPLACE SIGNAL SYSTEM, UNTIL OTHERWISE APPROVED BY ENGINEER.
- 13) CONTRACTOR SHALL COORDINATE ALL SIGNAL INSTALLATION WORK WITH ROAD WORK TO BE COMPLETED BY OTHERS AS PART OF THE ENTIRE PROJECT.
- 14) F & I = MATERIALS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR AS PART OF REVISED SIGNAL SYSTEM.
- 15) CONTRACTOR SHALL COIL AND STORE AN ADDITIONAL 10' OF EACH OVERHEAD 5/c#12 CABLE AT EACH OVERHEAD SIGNAL LOCATION (FOR FUTURE USE BY OTHERS).
- 16) CONTRACTOR SHALL COIL AND STORE AN ADDITIONAL 10' OF EACH SPAN WIRE AND EACH CABLE THAT EXTENDS TO EACH WOOD POLE (FOR FUTURE USE BY OTHERS).
- 17) SEE SPECIAL PROVISIONS REGARDING COUNTY FURNISHED MATERIALS.
- 18) DURING ROAD CONSTRUCTION, CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING OPERATION OF THE SIGNAL SYSTEM (INCLUDING INSTALLATION OF 2-4 SECTION R-Y-G-GLTA OVERHEAD SIGNALS FOR CSAH 7 APPROACHES, REVISING SIGNAL OPERATION TO BE SPLIT PHASED FOR CSAH 7 APPROACHES DURING CONSTRUCTION, AND RELOCATING 4 SECTION SIGNALS DURING CONSTRUCTION TO BE OVER APPROPRIATE LANES) (INCIDENTAL TO ITEM NO. 2565.616 FOR THIS SIGNAL SYSTEM). UPON COMPLETION OF ROAD CONSTRUCTION, CONTRACTOR SHALL SALVAGE 4 SECTION SIGNALS, INSTALL ALL OVERHEAD SIGNALS FOR CSAH 7 APPROACHES, REVISE PHASING FOR CSAH 7 APPROACHES TO OPERATE WITH PROTECTED LEFT TURN PHASING, AND MAKE SIGNAL SYSTEM OPERATIONAL.

- ① INPLACE (SALVAGE) 45' WOOD POLE--CLASS 2
2-DOWN GUYS, GUY GUARDS AND SCREW ANCHORS
2-ONE WAY SIGNALS--WOOD POLE MOUNTED
2-SETS PEDESTRIAN INDICATIONS--WOOD POLE MOUNTED
2-PEDESTRIAN PUSH BUTTONS
METAL JUNCTION BOX
- INPLACE (SALVAGE & INSTALL) LUMINAIRE--250 WATT H.P.S. AND 15' MAST ARM WITH PEC
- INPLACE (REMOVE) 2-TYPE 10B BRACKETING--WOOD POLE MOUNTED
2-PEDESTRIAN INSTRUCTION SIGNS (R10-4c)
2*R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX
2-12/c#12
2*R.S.C. RISER BELOW JUNCTION BOX INTO H.H.18
2-12/c#12
1-3/c#12
2-3*R.S.C. RISERS AND WEATHERHEADS (EXTENDED INTO H.H.18)
6-12/c#12
4-3/c#12
8-2/c#14
2-1/c#10 (LUM)
- INSTALL (FURNISHED BY COUNTY) TYPE 10B--WOOD POLE MOUNTED (7-2, P8-1)
TYPE 10B--WOOD POLE MOUNTED (2-1, P2-2)
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)

- F & I 45' WOOD POLE--CLASS 2
2-DOWN GUYS, GUY GUARDS AND SCREW ANCHORS
METAL JUNCTION BOX
EXTEND INTO H.H.18:
2*R.S.C. RISER BELOW JUNCTION BOX
1-12/c#12
2-3/c#12
EXTEND INTO H.H.18:
2-4*R.S.C. RISERS AND WEATHERHEADS
3-12/c#12
9-5/c#12
6-3/c#12
11-2/c#14
1-3/c#12 (LUM)
2-7/c#12 (**)
1*R.S.C. RISER ABOVE SPAN WIRE
1-3/c#12 (LUM)

- ⓑ INPLACE (MAINTAIN INPLACE) CABINET FOUNDATION
2*R.S.C. STUB OUT (FOR SERVICE BY CONNEXUS)
EXTENDED INTO H.H.17:
METERED SIGNAL SERVICE
1 1/4" R.S.C.
3-1/c#6
EXTENDED INTO H.H.18:
UNMETERED STREET LIGHT SERVICE
1 1/4" R.S.C.
- INPLACE (SALVAGE) - SIGNAL SERVICE CABINET
- INPLACE (REMOVE) - 2-1/c#10 (LUM)
- INSTALL (FURNISHED BY COUNTY) - SIGNAL SERVICE CABINET
- F & I - 1-3/c#12 (LUM)

(**) DENOTES 7/c#12 CABLE TO BE FURNISHED AND INSTALLED BY CONTRACTOR FOR USE WITH SIGNAL SYSTEM OPERATION DURING CONSTRUCTION OF EACH ROADWAY (FOR 4-SECTION R-Y-G-GLTA OVERHEAD SIGNAL INDICATIONS TO BE INSTALLED BY CONTRACTOR TO PROVIDE SPLIT PHASING FOR CSAH 7 APPROACHES DURING CONSTRUCTION). SEE PREVIOUS SHEET AND SPECIAL PROVISIONS.

- ② INPLACE (MAINTAIN INPLACE) 45' WOOD POLE--CLASS 2
2-DOWN GUYS, GUY GUARDS AND SCREW ANCHORS
METAL JUNCTION BOX
3*R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX
- INPLACE (SALVAGE) 2-ONE WAY SIGNALS--WOOD POLE MOUNTED
2-SETS PEDESTRIAN INDICATIONS--WOOD POLE MOUNTED
2-PEDESTRIAN PUSH BUTTONS
- INPLACE (REMOVE) 2-TYPE 10B BRACKETING--WOOD POLE MOUNTED
2-PEDESTRIAN INSTRUCTION SIGNS (R10-4c)
3-12/c#12
1-3/c#12
- INSTALL (FURNISHED BY COUNTY) TYPE 10B--WOOD POLE MOUNTED (1-2, P2-1)
TYPE 10B--WOOD POLE MOUNTED (4-1, P4-2)
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
- F & I 1-12/c#12
2-3/c#12

- ③ INPLACE (SALVAGE) 45' WOOD POLE--CLASS 2
2-DOWN GUYS, GUY GUARDS AND SCREW ANCHORS
2-ONE WAY SIGNALS--WOOD POLE MOUNTED
2-SETS PEDESTRIAN INDICATIONS--WOOD POLE MOUNTED
2-PEDESTRIAN PUSH BUTTONS
METAL JUNCTION BOX
- INPLACE (REMOVE) 2-TYPE 10B BRACKETING--WOOD POLE MOUNTED
2-PEDESTRIAN INSTRUCTION SIGNS (R10-4c)
3*R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX
3-12/c#12
2-3/c#12
- INSTALL (FURNISHED BY COUNTY) TYPE 10B--WOOD POLE MOUNTED (3-2, P4-1)
TYPE 10B--WOOD POLE MOUNTED (6-1, P6-2)
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
- F & I 45' WOOD POLE--CLASS 2
2-DOWN GUYS, GUY GUARDS AND SCREW ANCHORS
METAL JUNCTION BOX
3*R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX
1-12/c#12
2-3/c#12

- ④ INPLACE (MAINTAIN INPLACE) 45' WOOD POLE--CLASS 2
2-DOWN GUYS, GUY GUARDS AND SCREW ANCHORS
METAL JUNCTION BOX
3*R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX
2*R.S.C. RISER BELOW JUNCTION BOX INTO H.H.13
- INPLACE (SALVAGE) 2-ONE WAY SIGNALS--WOOD POLE MOUNTED
2-SETS PEDESTRIAN INDICATIONS--WOOD POLE MOUNTED
2-PEDESTRIAN PUSH BUTTONS
- INPLACE (REMOVE) 2-TYPE 10B BRACKETING--WOOD POLE MOUNTED
2-PEDESTRIAN INSTRUCTION SIGNS (R10-4c)
3-12/c#12
1-3/c#12
8-2/c#14
- INSTALL (FURNISHED BY COUNTY) TYPE 10B--WOOD POLE MOUNTED (5-2, P6-1)
TYPE 10B--WOOD POLE MOUNTED (8-1, P8-2)
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
- F & I 1-12/c#12
2-3/c#12
11-2/c#14 (EXTEND INTO H.H.13)

- Ⓐ INPLACE (MAINTAIN INPLACE) CABINET FOUNDATION
EXTENDED INTO H.H.17:
METERED SIGNAL SERVICE
1 1/4" R.S.C.
3-1/c#6
EXTENDED INTO H.H.1:
4" R.S.C.
5-2/c#14

INPLACE (REMOVE) - 4-2/c#14

F & I - 5-2/c#14

INPLACE (SALVAGE) - CONTROLLER AND CABINET

INSTALL (FURNISHED BY COUNTY) - CONTROLLER AND CABINET

INPLACE (MAINTAIN INPLACE) EXTENDED INTO H.H.18:
3" R.S.C.
4" R.S.C.

INPLACE (REMOVE) 8-12/c#12
5-3/c#12
8-2/c#14

F & I 4-12/c#12
9-5/c#12
8-3/c#12
11-2/c#14
2-7/c#12 (**)

DRAWN BY: JMG	1	JMG	5/05	REVISED PER COUNTY COMMENTS
DESIGNER: JMG				
CHECKED BY: JMG				
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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J.M. Gray
John M. Gray, P.E.
May 5, 2003

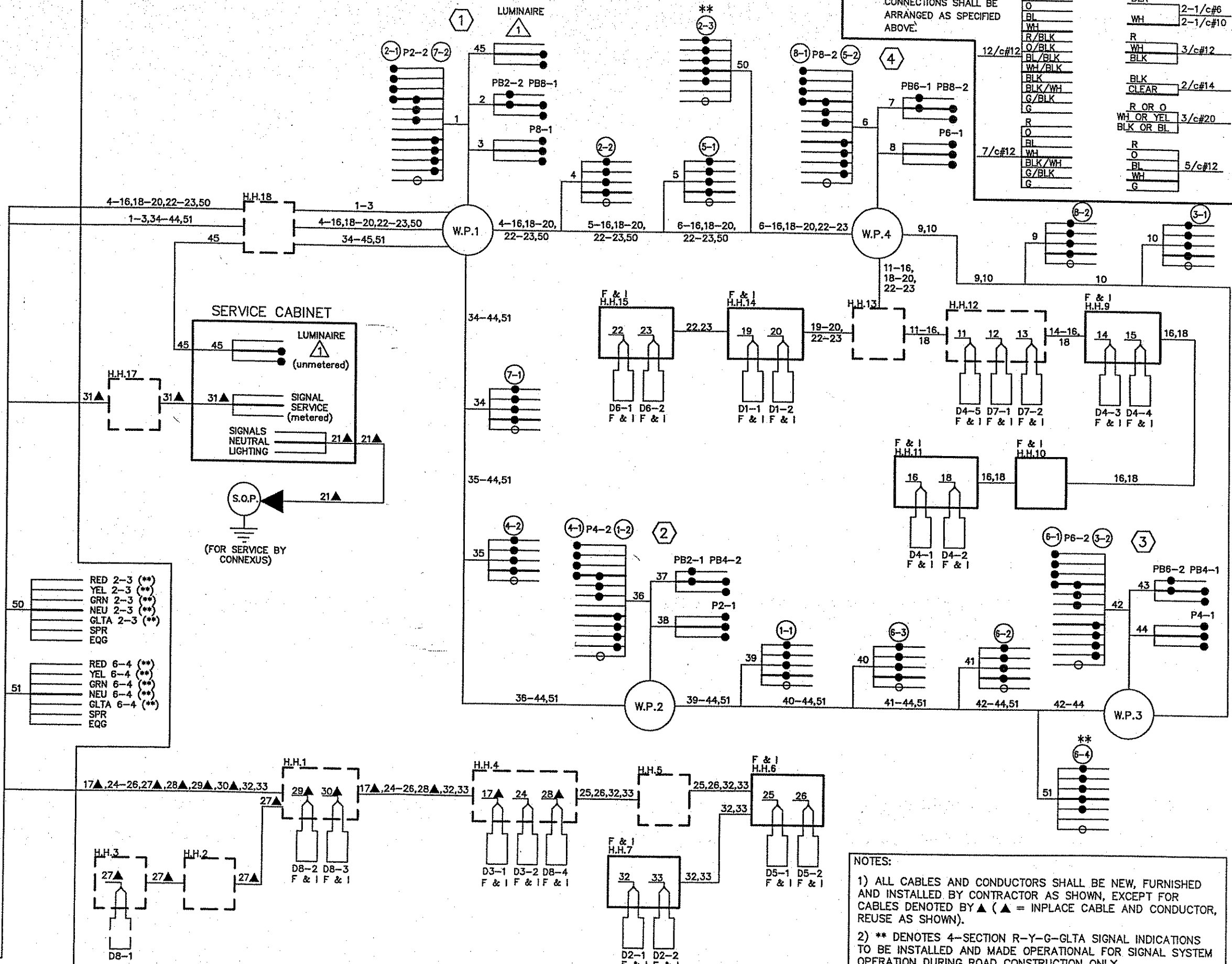
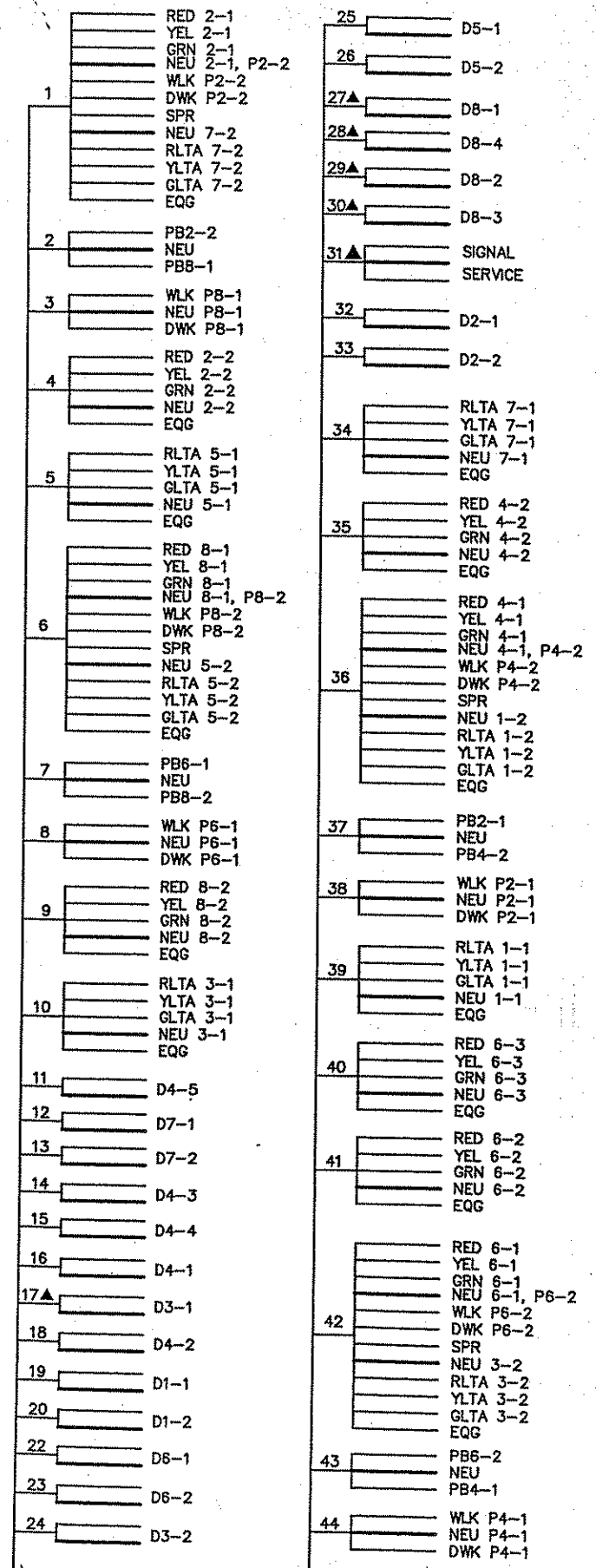


ANOKA COUNTY
CSAH 7 (7TH AVE.)
CP 03-19-07

REVISE SIGNAL SYSTEM
INTERSECTION LAYOUT

FILE NO.
ANOKC0104.00
SIGNAL SHEET

CONTROLLER CABINET



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

CONDUCTOR COLOR CODING	
R	BLK
O	WH 2-1/c#6
BL	WH 2-1/c#10
WH	R
R/BLK	WH 3/c#12
O/BLK	BLK
BL/BLK	BLK CLEAR 2/c#14
WH/BLK	R OR O
BLK	WH OR YEL 3/c#20
BLK/WH	BLK OR BL
G/BLK	R
G	O
R	BL
O	WH 5/c#12
BL	G
BLK/WH	
G/BLK	
G	

NOTES:

- 1) ALL CABLES AND CONDUCTORS SHALL BE NEW, FURNISHED AND INSTALLED BY CONTRACTOR AS SHOWN, EXCEPT FOR CABLES DENOTED BY ▲ (▲ = INPLACE CABLE AND CONDUCTOR, REUSE AS SHOWN).
- 2) ** DENOTES 4-SECTION R-Y-G-GLTA SIGNAL INDICATIONS TO BE INSTALLED AND MADE OPERATIONAL FOR SIGNAL SYSTEM OPERATION DURING ROAD CONSTRUCTION ONLY.

DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

NO.	BY	DATE	REVISIONS
1	JMG	5/05	REVISED PER COUNTY COMMENTS

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John M. Gray
 John M. Gray, P.E.

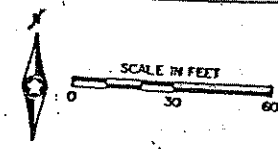


ANOKA COUNTY
 CSAH 7 (7TH AVE.)
 CD 03-10-07

REVISE SIGNAL SYSTEM
 FIELD WIRING DIAGRAM

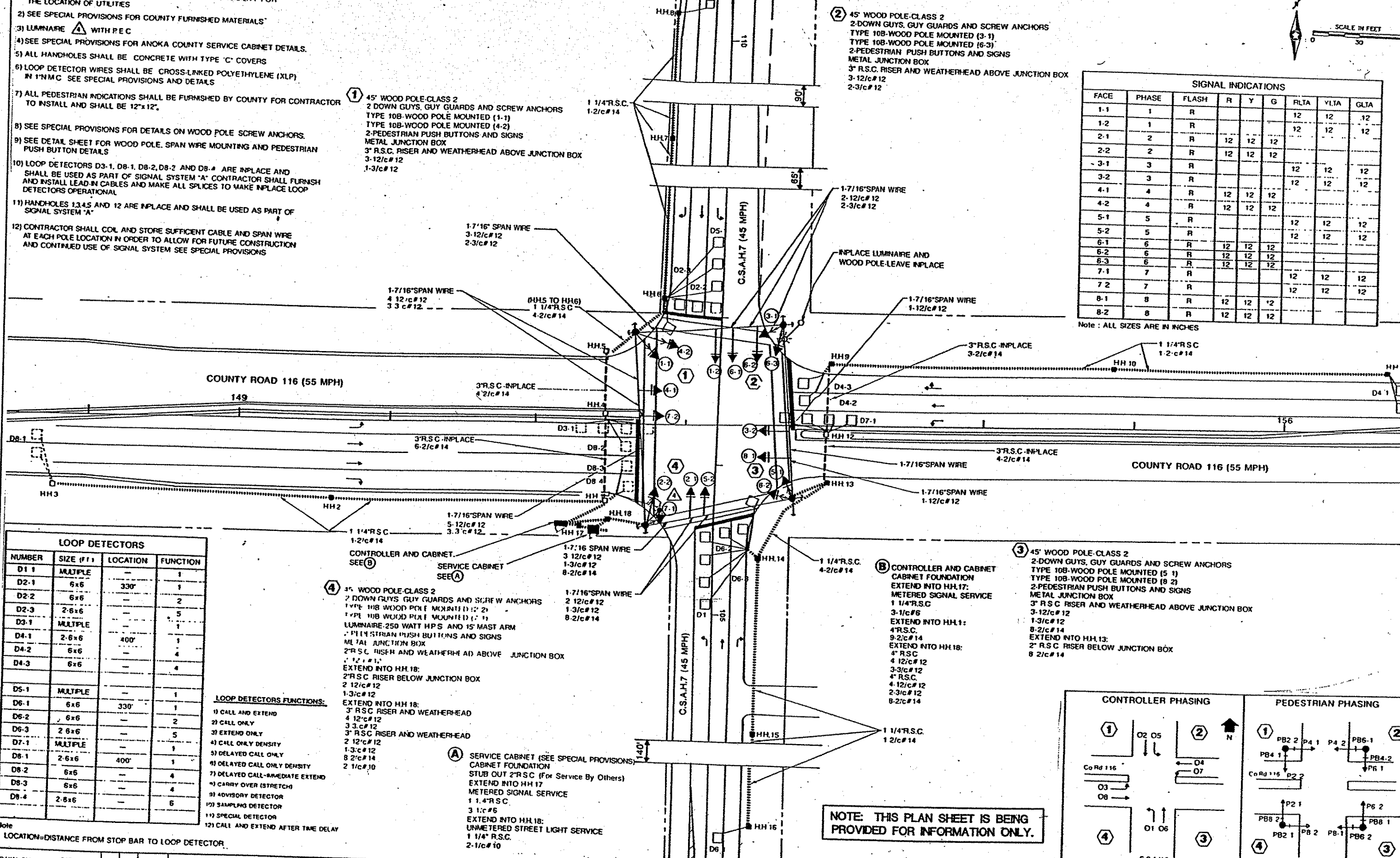
FILE NO. ANOKC0104.00
 SIGNAL SHEET 31

- Notes:
- 1) SEE SPECIAL PROVISIONS FOR CONTRACTOR RESPONSIBILITY FOR THE LOCATION OF UTILITIES
 - 2) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS*
 - 3) LUMINAIRE Δ WITH P.E.C
 - 4) SEE SPECIAL PROVISIONS FOR ANOKA COUNTY SERVICE CABINET DETAILS.
 - 5) ALL HANDHOLES SHALL BE CONCRETE WITH TYPE 'C' COVERS
 - 6) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 1" M.C. SEE SPECIAL PROVISIONS AND DETAILS
 - 7) ALL PEDESTRIAN INDICATIONS SHALL BE FURNISHED BY COUNTY FOR CONTRACTOR TO INSTALL AND SHALL BE 12"x12".
 - 8) SEE SPECIAL PROVISIONS FOR DETAILS ON WOOD POLE SCREW ANCHORS.
 - 9) SEE DETAIL SHEET FOR WOOD POLE SPAN WIRE MOUNTING AND PEDESTRIAN PUSH BUTTON DETAILS
 - 10) LOOP DETECTORS D3-1, D8-1, D8-2, D8-3 AND D8-4 ARE IN PLACE AND SHALL BE USED AS PART OF SIGNAL SYSTEM "A" CONTRACTOR SHALL FURNISH AND INSTALL LEAD-IN CABLES AND MAKE ALL SPLICES TO MAKE IN PLACE LOOP DETECTORS OPERATIONAL
 - 11) HANDHOLES 13, 4, 5 AND 12 ARE IN PLACE AND SHALL BE USED AS PART OF SIGNAL SYSTEM "A"
 - 12) CONTRACTOR SHALL COIL AND STORE SUFFICIENT CABLE AND SPAN WIRE AT EACH POLE LOCATION IN ORDER TO ALLOW FOR FUTURE CONSTRUCTION AND CONTINUED USE OF SIGNAL SYSTEM SEE SPECIAL PROVISIONS



SIGNAL INDICATIONS								
FACE	PHASE	FLASH	R	Y	G	RLTA	YLTA	GLTA
1-1	1	R				12	12	12
1-2	1	R				12	12	12
2-1	2	R	12	12	12			
2-2	2	R	12	12	12			
3-1	3	R				12	12	12
3-2	3	R				12	12	12
4-1	4	R	12	12	12			
4-2	4	R	12	12	12			
5-1	5	R				12	12	12
5-2	5	R				12	12	12
6-1	6	R	12	12	12			
6-2	6	R	12	12	12			
6-3	6	R	12	12	12			
7-1	7	R				12	12	12
7-2	7	R				12	12	12
8-1	8	R	12	12	12			
8-2	8	R	12	12	12			

Note: ALL SIZES ARE IN INCHES



LOOP DETECTORS			
NUMBER	SIZE (FT)	LOCATION	FUNCTION
D1-1	MULTIPLE	-	1
D2-1	6x6	330'	1
D2-2	6x6	-	2
D2-3	2-6x6	-	5
D3-1	MULTIPLE	-	1
D4-1	2-6x6	400'	1
D4-2	6x6	-	4
D4-3	6x6	-	4
D5-1	MULTIPLE	-	1
D6-1	6x6	330'	1
D6-2	6x6	-	2
D6-3	2-6x6	-	5
D7-1	MULTIPLE	-	1
D8-1	2-6x6	400'	1
D8-2	6x6	-	4
D8-3	6x6	-	4
D8-4	2-6x6	-	6

- LOOP DETECTORS FUNCTIONS:
- 1) CALL AND EXTEND
 - 2) CALL ONLY
 - 3) EXTEND ONLY
 - 4) CALL ONLY DENSITY
 - 5) DELAYED CALL ONLY
 - 6) DELAYED CALL ONLY DENSITY
 - 7) DELAYED CALL-IMMEDIATE EXTEND
 - 8) CARRY OVER (STRETCH)
 - 9) ADVISORY DETECTOR
 - 10) SAMPLING DETECTOR
 - 11) SPECIAL DETECTOR
 - 12) CALL AND EXTEND AFTER TIME DELAY

Note: LOCATION=DISTANCE FROM STOP BAR TO LOOP DETECTOR

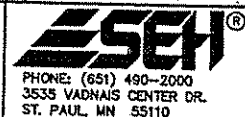
DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

NO.	BY	DATE	REVISIONS

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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.

John M. Gray, P.E.
 Date: May 5, 2003 Lic. No. 22457



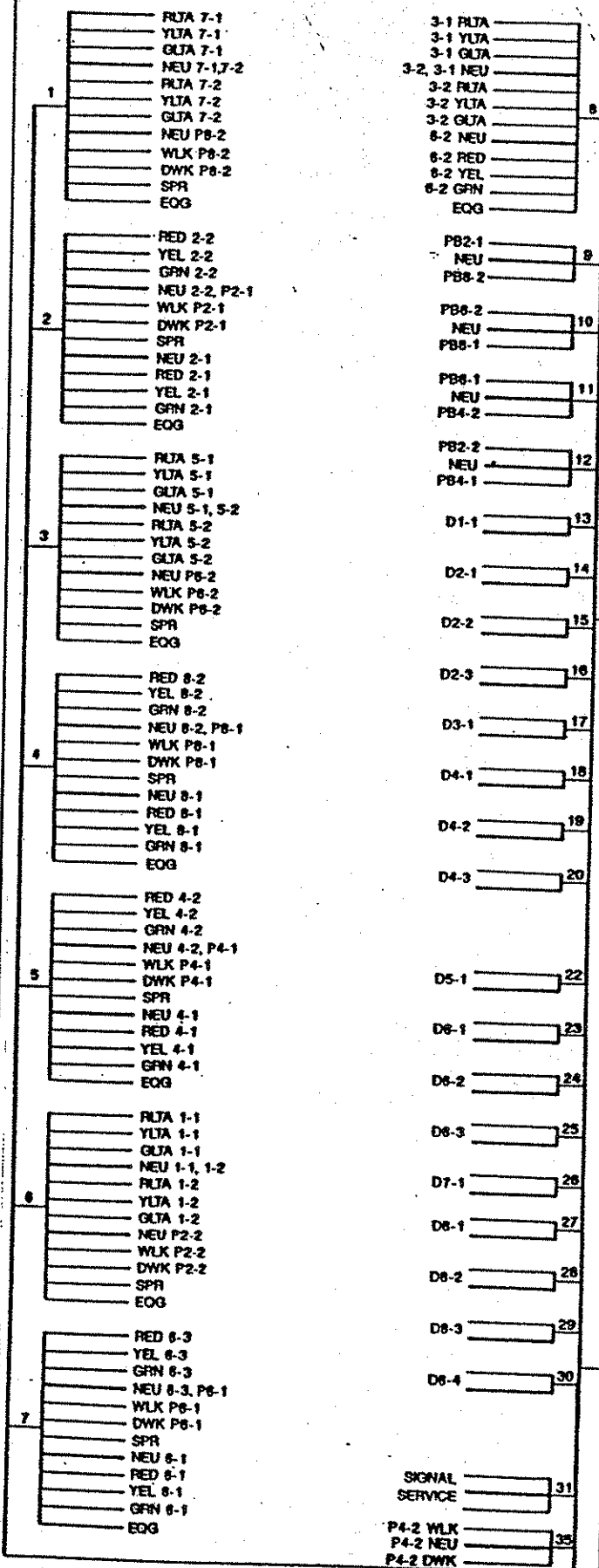
ANOKA COUNTY
 CSAH 7 (7TH AVE.)
 CP 03-19-07

REVISE SIGNAL SYSTEM
 FOR INFORMATION ONLY
 CSAH 7 AT CSAH 116

FILE NO. ANOKC0104.00
 SIGNAL SHEET 6 OF 7
 32
 35

NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATION ONLY.

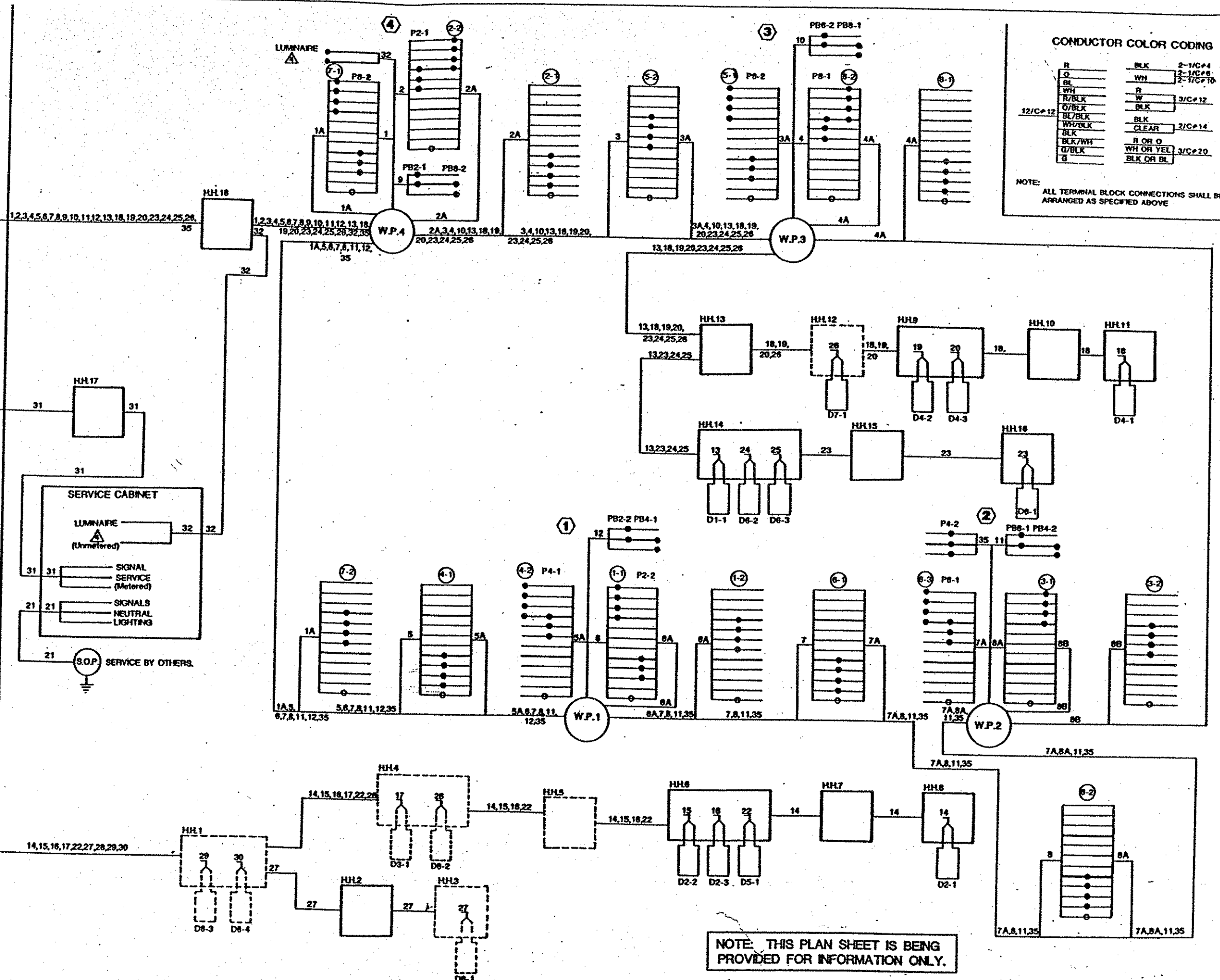
CONTROLLER CABINET



CONDUCTOR COLOR CODING

R	BLK	2-1/C#4
O	WH	2-1/C#6
BL	R	2-1/C#10
R/BLK	W	3/C#12
O/BLK	BLK	
BL/BLK	BLK	2/C#14
WH/BLK	CLEAR	
BLK	R OR O	
BLK/WH	WH OR YEL	3/C#20
O/BLK	BLK OR BL	

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



NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATION ONLY.

DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

DESIGN TEAM	NO.	BY	DATE	REVISIONS

©SHORT ELLIOTT HENDRICKSON 2002. ANY USE OR REUSE OF THIS PLAN/DRAWING AND THE CORRESPONDING COMPUTER AIDED DESIGN/DRAFTING FILES WITHOUT THE EXPRESS WRITTEN CONSENT OF SEH, IS PROHIBITED. SEH SHALL NOT BE RESPONSIBLE FOR ANY UNAUTHORIZED USE OR REUSE OF THESE MATERIALS, OR DAMAGES RESULTING THEREFROM.

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.

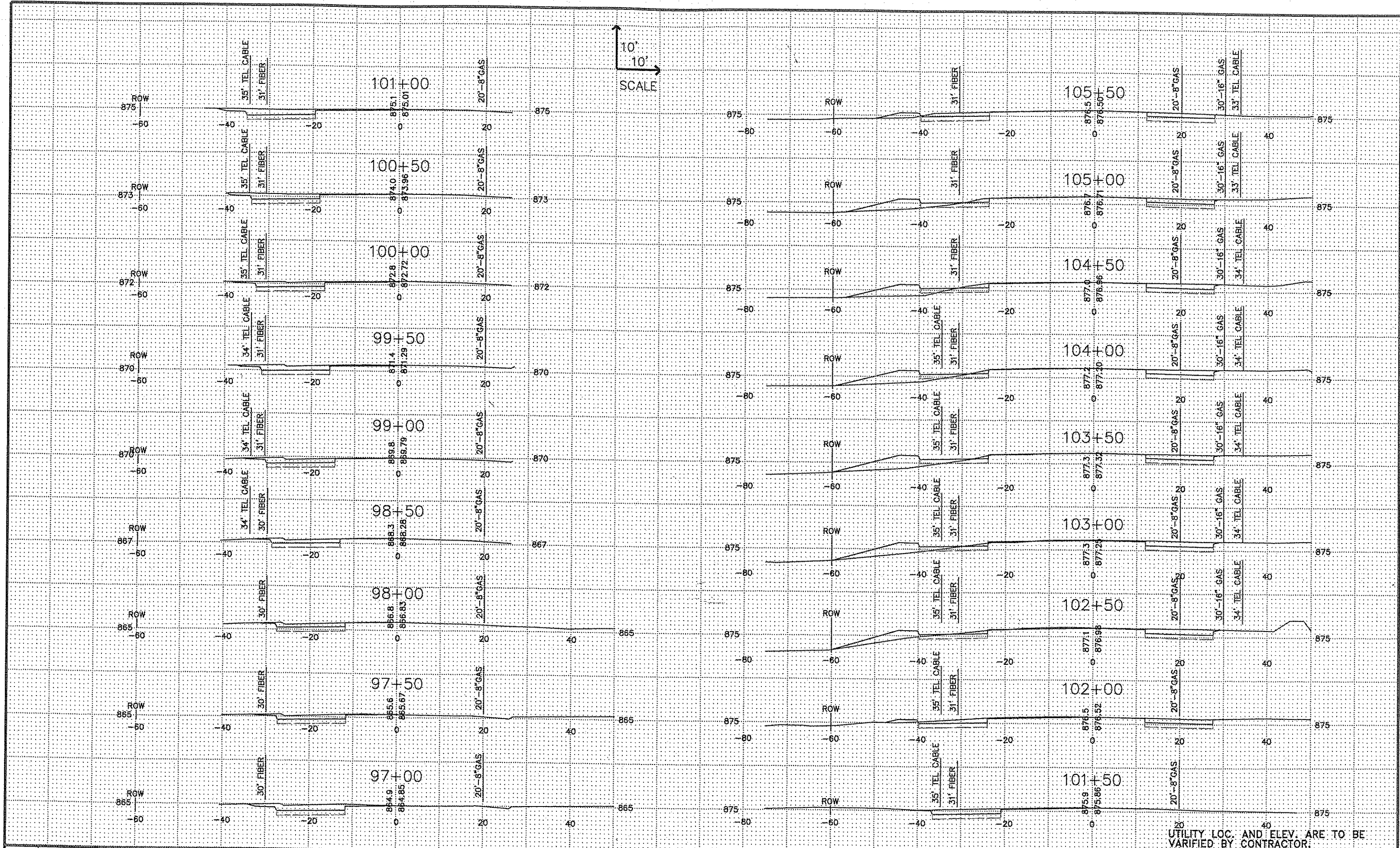
John M. Gray
 John M. Gray, P.E.
 Date: May 5, 2003 Lic. No. 22457



ANOKA COUNTY
 CSAH 7 (7TH AVE.)
 CP 03-19-07

REVISE SIGNAL SYSTEM
 FOR INFORMATION ONLY
 CSAH 7 AT CSAH 116

FILE NO.	33
ANOKC0104.00	
SIGNAL SHEET	35
7 OF 7	



10'
10'
SCALE

UTILITY LOC. AND ELEV. ARE TO BE
VARIFIED BY CONTRACTOR.

NO	DATE	BY	CKD	APPR	REVISION
NAME: T:\LIB\Drawg_template\Layout-XSect.dwt 05/07/2003 03:11:04 PM CDT					

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: MARK DALY
 SIGNATURE: *Mark Daly*
 DATE: 6/12/03 LICENSE NO. 21763

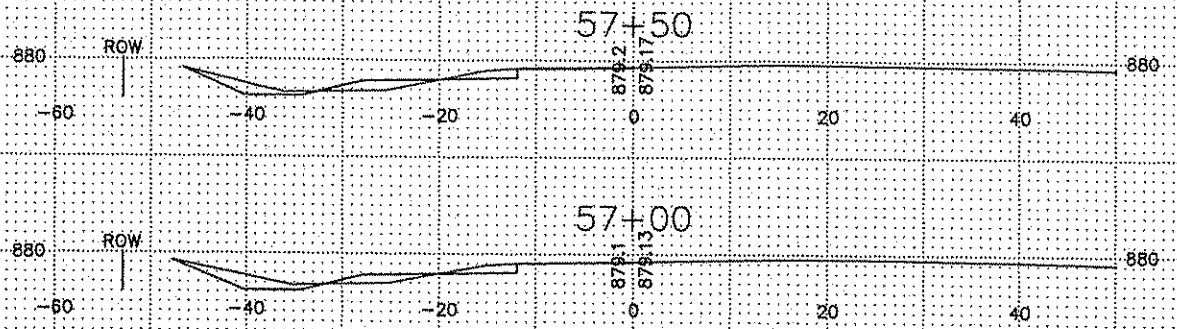
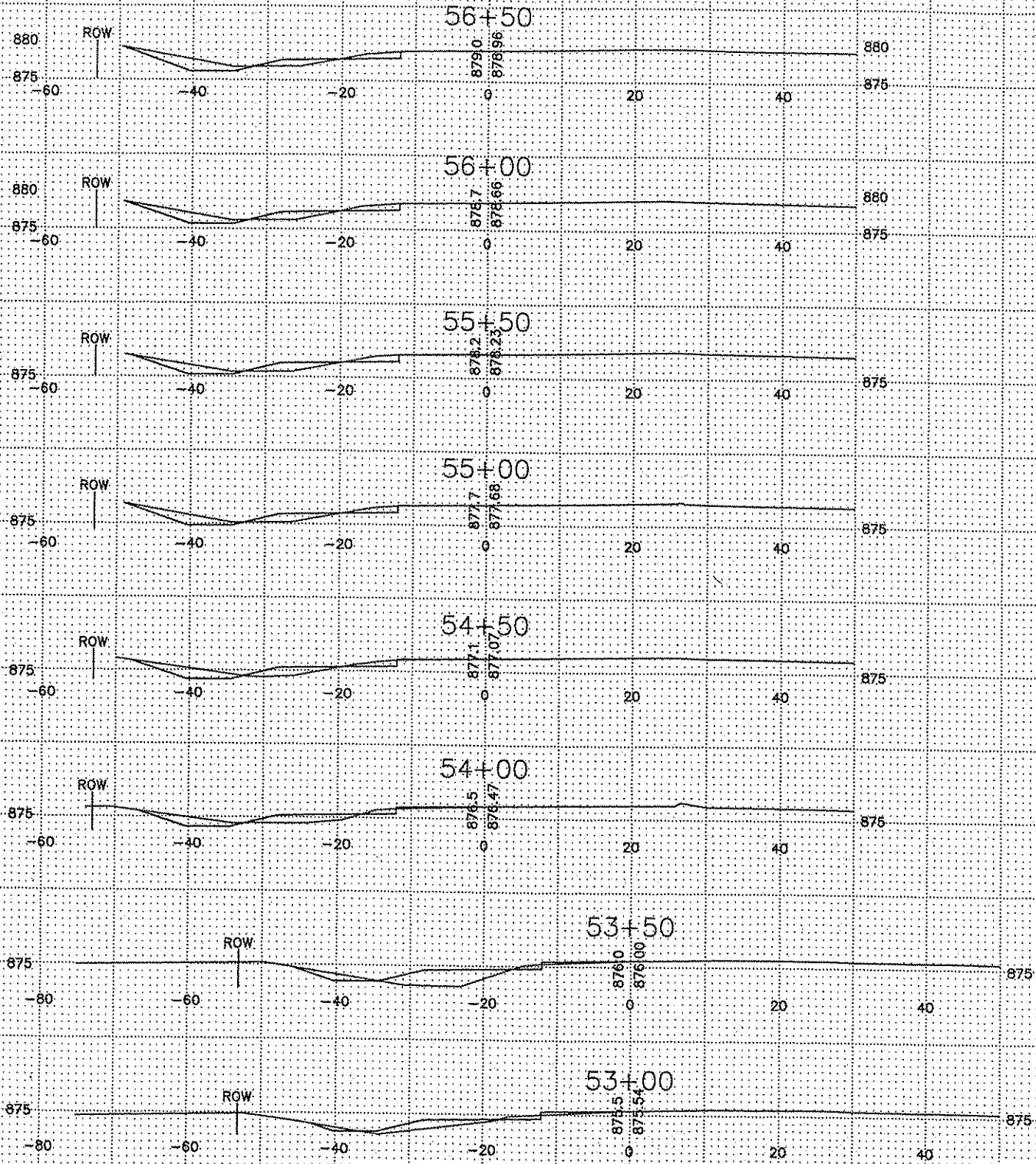
DRAWN BY: J.E. DATE: 5/2/03
 DESIGN BY: H.G. DATE: 5/2/03
 CHECKED BY: _____ DATE: _____



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 03-19-07

CROSS SECTIONS
 STA. 97+00 TO 105+50
 Sheet 34 of 35 Sheets



10'
10'
SCALE

UTILITY LOC. AND ELEV. ARE TO BE
VARIFIED BY CONTRACTOR.

NO	DATE	BY	CKD	APPR	REVISION

NAME: T:\LIB\Draw_template\Layout-XSect.dwt 05/07/2003 03:11:04 PM CBT

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: MARK DALY
SIGNATURE: *Mark Daly*
DATE: 6/4/00 LICENSE NO. 21763

DRAWN BY: J.E. DATE: 6/2/03
DESIGN BY: H.G. DATE: 6/2/03
CHECKED BY: _____ DATE: _____



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. _____
STATE AID PROJECT NO. _____
COUNTY PROJECT NO. 03-19-07

CROSS SECTIONS
CSAH 116
STA. 53+00 TO 57+00
Sheet 35 of 35 Sheets

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.....

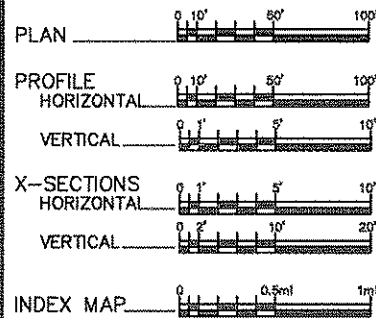
- BUILDING (One Story Frame).....
- F-FRAME C-CONCRETE
- S-STONE T-TILE
- B-BRICK ST-STUCCO

- 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.....
- AERIAL TELEPHONE CABLE.....
- SEWER (Sanitary or Storm).....
- SEWER MANHOLE.....

SCALES



MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

CONSTRUCTION PLAN FOR ISLAND EXTENSION: CURB & GUTTER, 4" MEDIAN WALK.

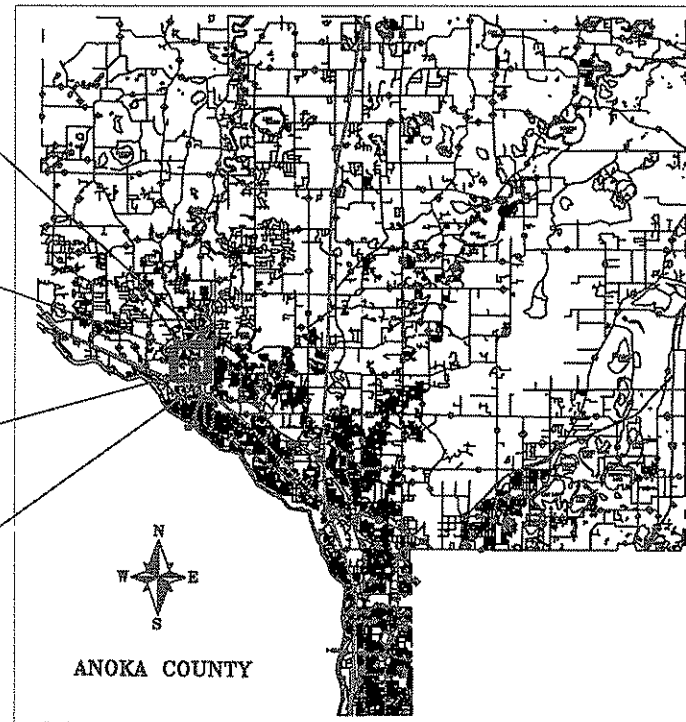
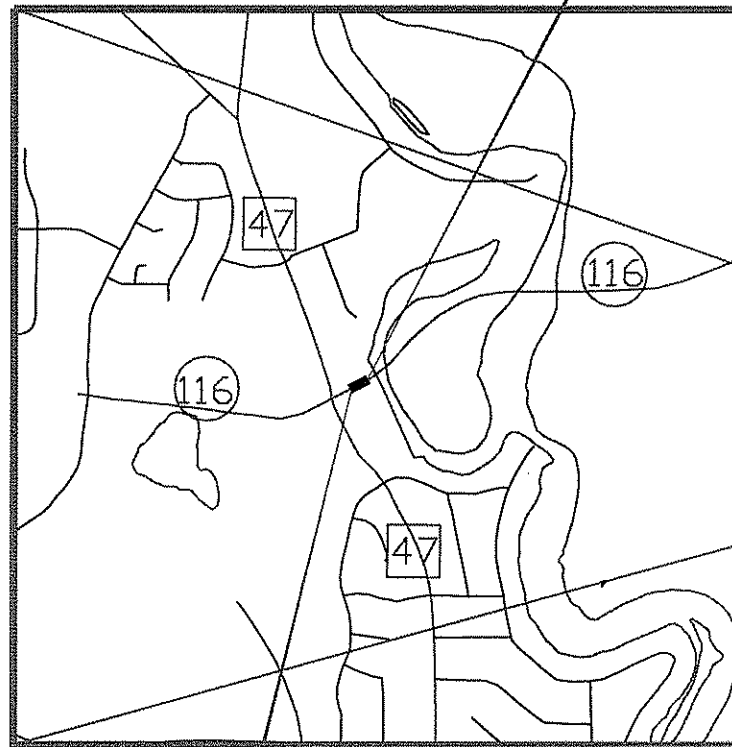
LOCATED ON CSAH 116 FROM 150' EAST OF T.H. 47 TO 252' EAST OF T.H. 47

COUNTY PROJ. NO. 03-25-116

C.S.A.H. 116

GROSS LENGTH	102.00 FEET	0.019 MILES
BRIDGES-LENGTH	0.00 FEET	0.000 MILES
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	102.00 FEET	0.019 MILES

END C.P. 03-25-116
STA. 102+25



BEG. C.P. 03-25-116
STA. 101+23

MINN. PROJ. NO. _____
MINN. PROJ. NO. _____

GOVERNING SPECIFICATIONS

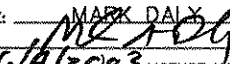
THE 2000 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MMUTCD, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY, 2001."

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	SEQ/PLAN VIEW/DETAILS
3 - 5	TRAFFIC CONTROL

THIS PLAN CONTAINS 5 SHEETS

Approved 6/4, 2003 
ANOKA COUNTY ENGINEER

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: MARK DALY
SIGNATURE: 
DATE: 6/4/2003 LICENSE NO. 21763

DRAWN BY: J.E. DATE: 5/27/03
DESIGN BY: H.G. DATE: 5/27/03
CHECKED BY: _____ DATE: _____

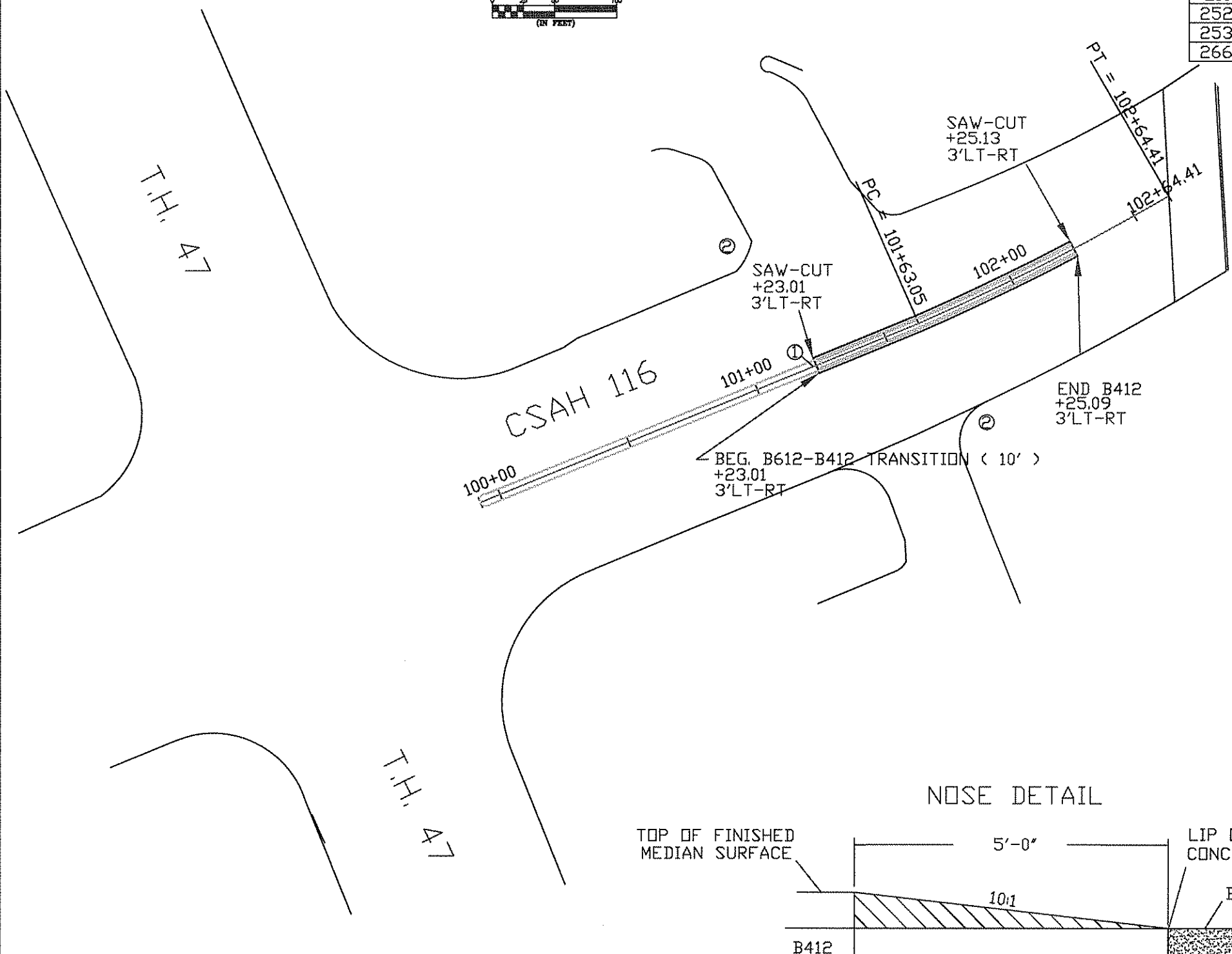
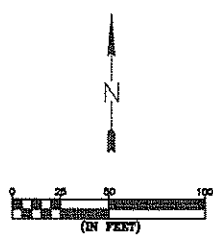


ANOKA COUNTY
HIGHWAY DEPT.

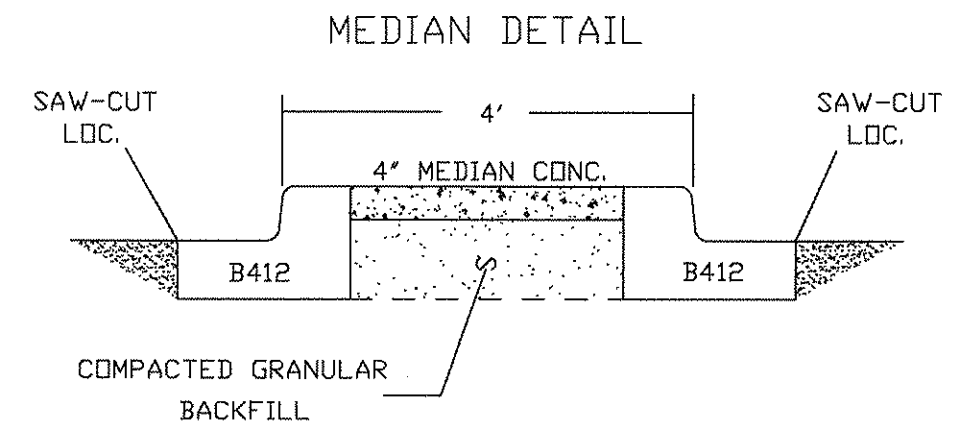
STATE PROJECT NO. _____
STATE AID PROJECT NO. _____
CITY PROJECT NO. _____
COUNTY PROJECT NO. 03-25-116

TITLE SHEET
Sheet 1 of 5 Sheets

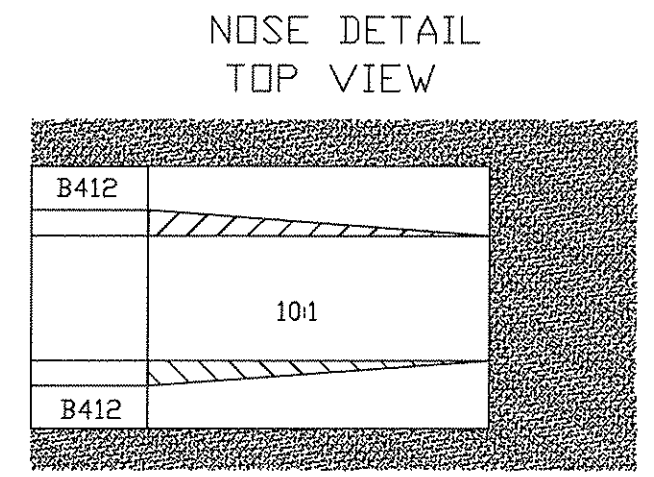
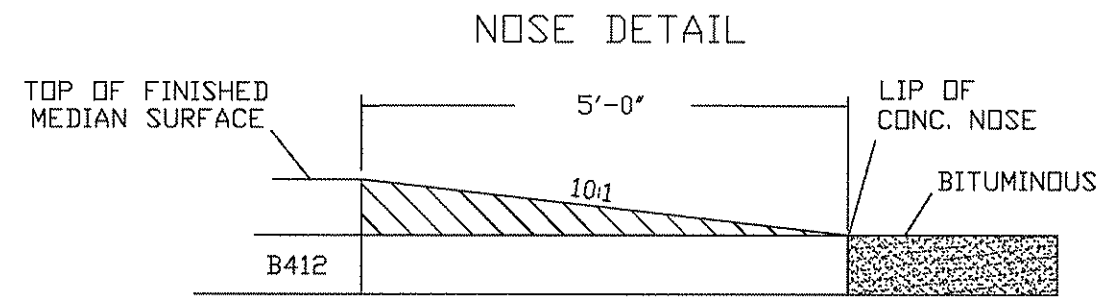
STATEMENT OF ESTIMATED QUANTITIES			
		UNIT	EST. QTY.
2021.501	MOBILIZATION	LUMPSUM	1
2104.501	REMOVE CURB AND GUTTER	LIN FT	8
2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YDS	68
2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	204
2104.523	SALVAGE SIGN TYPE C	EACH	3
2105.521	SELECT GRANULAR BORROW (LV)	TONS	10
2521.501	4' CONC. WALK	SQ FT	272
2531.501	CONCRETE CURB AND GUTTER B412	LIN FT	204
2663.601	TRAFFIC CONTROL	LUMPSUM	1



- ① "KEEP RIGHT" SIGN
- ② "ONE WAY" SIGN



NOTE: SAWCUT LOCATION TO BE USED AS FACE OF GUTTER FORM



NO	DATE	BY	CHKD	APPR	REVISION

NAME: T:\LIB\Draw_template\Plan-Tab_Sheet.dwg 03/25/2003 07:43:37 AM CST

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: MARK DAILY

SIGNATURE: [Signature]

DATE: 6/5/2005 LICENSE NO. 21763

DRAWN BY: J.E. DATE: 5/5/03

DESIGN BY: H.G. DATE: 5/5/03

CHECKED BY: _____ DATE: _____

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

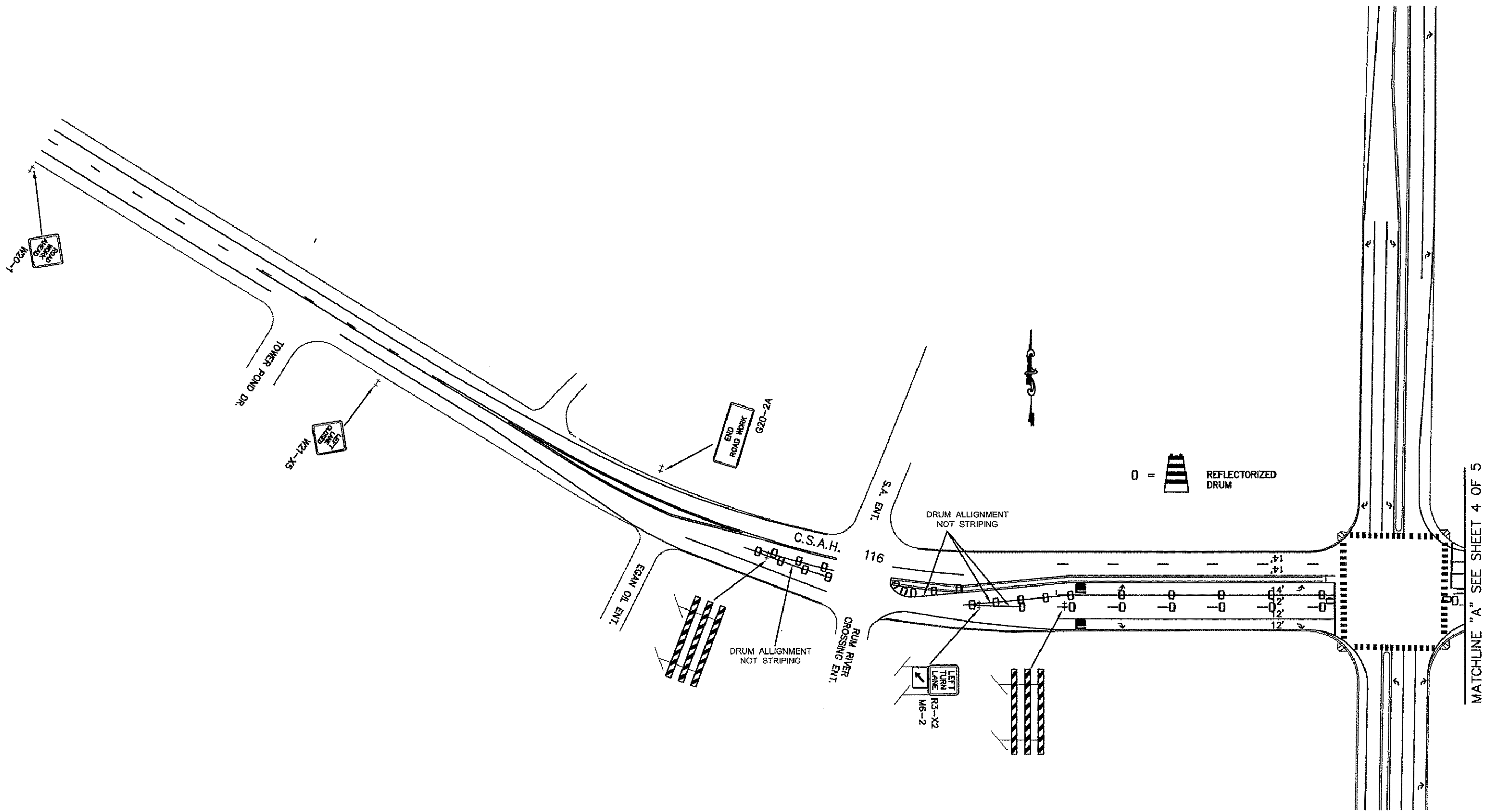
STATE AID PROJECT NO. _____

CITY PROJECT NO. _____

COUNTY PROJECT NO. 03-19-07

PLAN VIEW
CSAH 116 @ TH 47

Sheet 2 of 5 Sheets



NO	DATE	BY	CHKD	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: MARK DALY
 SIGNATURE: *MR ADG*
 DATE: 6/5/2003 REG. NO. 21763

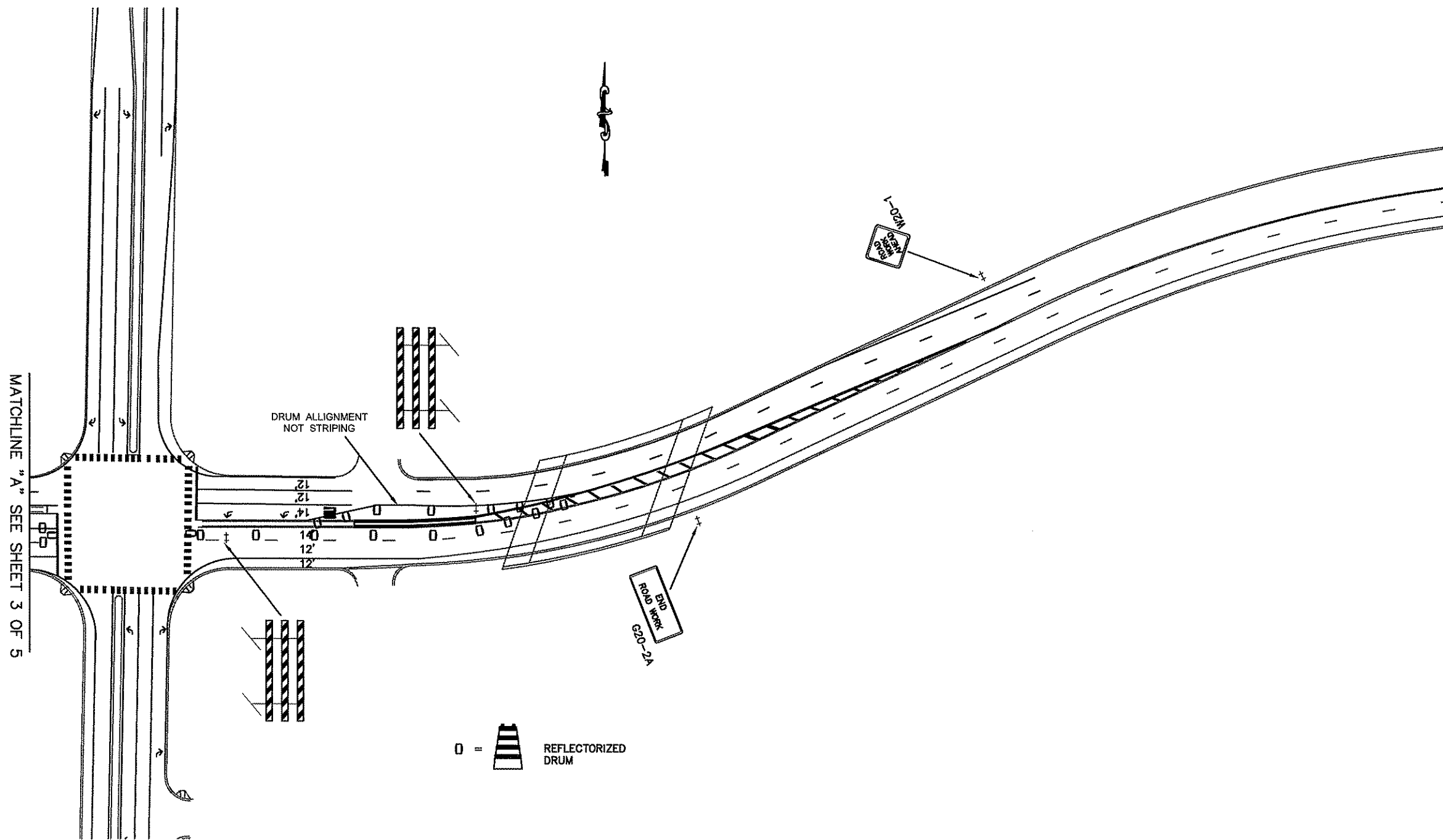
DRAWN BY: S.T. DATE: 6/5/03
 DESIGN BY: DATE: _____
 CHECKED BY: DATE: _____



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 03-25-116

TRAFFIC CONTROL
 Sheet 3 of 5 Sheets



NO	DATE	BY	CHKD	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: MARK DALY

SIGNATURE: *Mark Daly*

DATE: 6/5/2002 REG. NO. 21763

DRAWN BY: S.T. DATE: 6/5/03

DESIGN BY: _____ DATE: _____

CHECKED BY: _____ DATE: _____


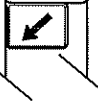





ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

STATE AID PROJECT NO. _____

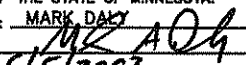
COUNTY PROJECT NO. 03-25-116

M. U. T. C. D. CODE	SIZE	INSERT	QTY. STG. 1	SQ. FT.	TOTAL SQ. FT.
R3-X2	30" x 30"		1	6.25	6.25
M6-2	21" x 15"		1	2.1875	2.1875
W20-1	48" x 48"		2	16.00	32.00
W21-X5	48" x 48"		1	16.00	16.00
TYPE III	8 FOOT		4		
G20-2a	48" x 24"		2	8.00	16.00
REFLECTORIZED REBOUNDABLE DRUM			48		

NOTES:

- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 2001.
- 2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M.U.T.C.D.

NO	DATE	BY	CHKD	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: MARK DAILY
 SIGNATURE: 
 DATE: 6/5/2003 REG. NO. 21763

DRAWN BY: S.T. DATE: 6/5/03
 DESIGN BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 03-25-116

TRAFFIC CONTROL