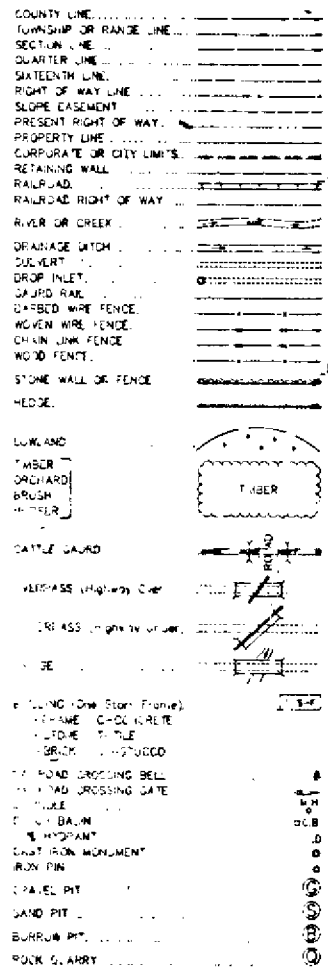
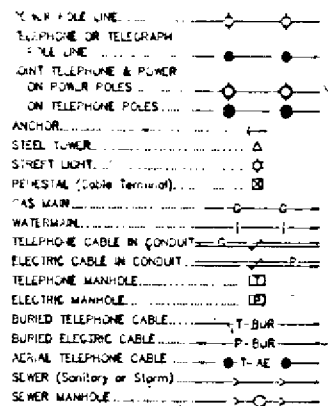


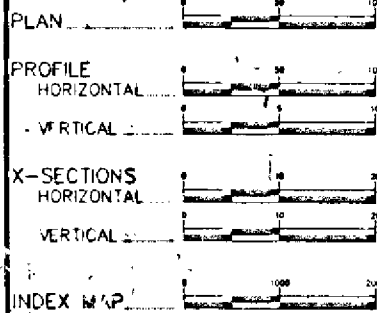
PLAN SYMBOLS



UTILITY SYMBOLS



SCALES



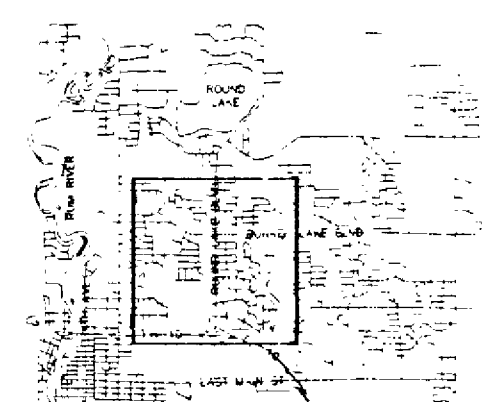
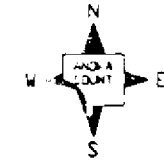
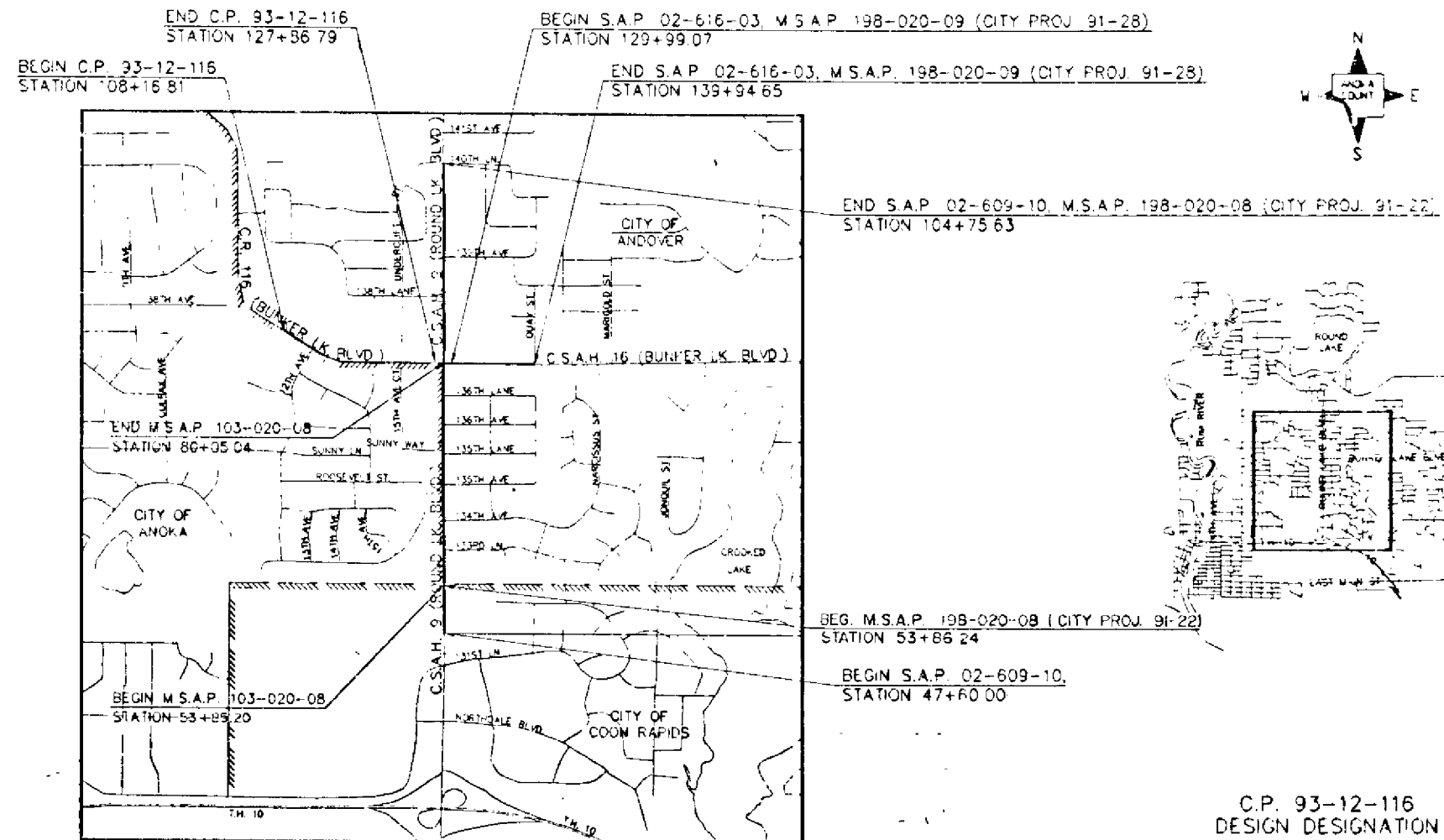
MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

CONSTRUCTION PLAN FOR GRADING, AGGREGATE BASE, BITUMINOUS SURFACING, CURB & GUTTER, UTILITIES AND SIGNAL SYSTEMS

LOCATED ON CSAH 9 BETWEEN 131ST LANE AND 140TH LANE (Geographic Description)  
 LOCATED ON CR 116/CSAH 16 BETWEEN 38TH AVENUE AND QUAY STREET (Geographic Description)

STATE AID PROJ. NO. 02-609-10, MSAP 198-020-08	STATE AID PROJ. NO. 02-616-03, MSAP 198-020-09	COUNTY PROJ. NO. 93-12-116
GROSS LENGTH 5715.63 FEET 1.083 MILES	GROSS LENGTH 995.58 FEET 0.189 MILES	GROSS LENGTH 1969.98 FEET 0.373 MILES
BRIDGES-LENGTH 0.00 FEET 0.000 MILES	BRIDGES-LENGTH 0.00 FEET 0.000 MILES	BRIDGES-LENGTH 0.00 FEET 0.000 MILES
EXCEPTIONS-LENGTH 0.00 FEET 0.000 MILES	EXCEPTIONS-LENGTH 0.00 FEET 0.000 MILES	EXCEPTIONS-LENGTH 0.00 FEET 0.000 MILES
NET LENGTH 5715.63 FEET 1.083 MILES	NET LENGTH 995.58 FEET 0.189 MILES	NET LENGTH 1969.98 FEET 0.373 MILES



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

GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION WITH THE MOST RECENT SUPPLEMENTAL SPECIFICATIONS, DATED JANUARY 1992, SHALL GOVERN.

INDEX

SHEET NO	DESCRIPTION
1	TITLE SHEET
2-4	STATEMENT OF ESTIMATED QUANTITIES
5-8	TABULATION CHARTS
9	EARTHWORK SUMMARY
10	CONSTRUCTION NOTES AND STANDARD DETAILS
11	EROSION CONTROL DETAILS
12-13	PROFILES
14-15	ALIGNMENT PLAN AND TABULATION
16-22	RELOCATED PLAN
23-24	PLAN AND PROFILE SHEETS
25	SURVEILLATION DIAGRAM
26-27	PLANNING PLAN AND TABULATION
28	WETLANDS MITIGATION
29-30	TRAFFIC SIGNALS AND INTERSECTION DETAILS
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37-38	TRAFFIC CONTROL PLANS

THIS PLAN CONTAINS 133 SHEETS

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

DATE 4/2/93 REG. NO. 20235 ENGR. *David J. Thibault*  
 DESIGN SQUAD M. GABRICK  
 Recommended for Approval *Michael P. Kelly* 4/26/93  
 Recommended for Approval *James G. Kelly* 4/26/93  
 Recommended for Approval *John S. Chom* 4/26/93  
 Approved 4/26/93 *David J. Thibault*  
 Approved 5/11/93 *David J. Thibault*  
 Approved 5/10/93 *David J. Thibault*  
 Approved 5/10/93 *David J. Thibault*  
 Approved 5/9/93 *David J. Thibault*  
 Recommended for Approval *David J. Thibault* 5/12/93  
 Recommended for Approval *David J. Thibault* 5/25/93  
 Approved 5/25/93 *David J. Thibault*

S.A.P. 02-609-10 DESIGN DESIGNATION	S.A.P. 02-616-03 DESIGN DESIGNATION	C.P. 93-12-116 DESIGN DESIGNATION
EN18 <sub>20</sub> 3,082,000	EN18 <sub>20</sub> 2,273,000	EN18 <sub>20</sub> 1,848,000
R VALUE 70	R VALUE 70	R VALUE 50
ADT (1993)= 22,200	ADT (1993)= 12,700	ADT (1993)= 10,400
Proj. ADT (2013)= 37,800	Proj. ADT (2013)= 21,700	Proj. ADT (2013)= 17,600
Proj. HCADT (2013)= 2,800	Proj. HCADT (2013)= 1,600	Proj. HCADT (2013)= 1,300
Soil Factor N/A	Soil Factor N/A	Soil Factor N/A
Shoulder Width 12'	Shoulder Width 12'	Shoulder Width 1.5'
Functional Classification HIGH DENSITY ARTERIAL	Functional Classification HIGH DENSITY ARTERIAL	Functional Classification HIGH DENSITY ARTERIAL
No. of Traffic Lanes 4 No. of Parking Lanes 0	No. of Traffic Lanes 4 No. of Parking Lanes 0	No. of Traffic Lanes 4 No. of Parking Lanes 0
Design Speed 45 MPH	Design Speed 50 MPH	Design Speed 45 MPH
Based on Stopping Sight Distance	Based on Stopping Sight Distance	Based on Stopping Sight Distance
Height of eye 3.5' Height of object 0.5'	Height of eye 3.5' Height of object 0.5'	Height of eye 3.5' Height of object 0.5'
Design Speed not achieved at: N/A	Design Speed not achieved at: N/A	Design Speed not achieved at: N/A









CLEARING AND GRUBBING (A)					
STATION - STATION	LOCATION	TYPE	CLEARING TREE	GRUBBING TREE	ACRE
C.S.A.H. 9					
53+39	23 RT LNB	DEC	1		
54+23	42 LT LNB	DEC	3		
54+51	43 RT LNB	DEC	1		
54+74	44 LT LNB	DEC	1		
56+46	43 RT LNB	EVERG	1		
56+50	24 RT LNB	DEC	1		
57+57	41 LT LNB	DEC	1		
57+55	39 LT LNB	EVERG	1		
57+57	19 RT LNB	DEC	1		
58+16	41 RT LNB	EVERG	1		
58+141	42 RT LNB	EVERG	1		
58+171	16 RT LNB	DEC	1		
59+03	13 RT LNB	DEC	1		
59+61	43 LT LNB	EVERG	1		
59+55	3 RT LNB	DEC	1		
59+78	42 LT LNB	EVERG	1		
60+07	12 RT LNB	DEC	1		
60+20	8 RT LNB	DEC	1		
60+23	43 LT LNB	EVERG	1		
60+29	10 RT LNB	DEC	1		
60+50	9 RT LNB	DEC	1		
60+54	44 LT LNB	EVERG	1		
61+26	45 LT LNB	EVERG	1		
61+26	44 RT LNB	EVERG	1		
61+47	44 LT LNB	EVERG	1		
61+70	12 RT LNB	DEC	1		
61+72	10 RT LNB	DEC	1		
61+91	17 RT LNB	STUMP			
61+20	17 RT LNB	STUMP			
62+00	13 RT LNB	DEC	1		
62+00	14 RT LNB	DEC	1		
62+16	11 RT LNB	DEC	1		
62+29	14 RT LNB	DEC	1		
62+35	16 RT LNB	DEC	1		
62+40	13 RT LNB	DEC	1		
62+43	11 RT LNB	DEC	1		
62+57	10 RT LNB	DEC	1		
62+71	6 RT LNB	DEC	1		
62+71	40 RT LNB	DEC	1		
63+10	9 RT LNB	DEC	1		
63+54	10 RT LNB	STUMP			
63+52	10 RT LNB	STUMP			
64+07	10 RT LNB	STUMP			
64+61	10 RT LNB	STUMP			
64+84	11 LT LNB	STUMP			
65+28	11 LT LNB	STUMP			
65+49	11 LT LNB	STUMP			
65+59	57 RT LNB	DEC	1		
65+59	15 RT LNB	DEC	1		
65+94	1 RT LNB	DEC	1		
65+95	45 LT LNB	DEC	1		
67+30	12 RT LNB	DEC	1		
67+52	5 LT LNB	DEC	1		
67+52	5 LT LNB	DEC	1		
67+53	9 RT LNB	STUMP			
67+55	10 RT LNB	STUMP			
69+23	19 RT LNB	DEC	1		
69+25	9 LT LNB	STUMP			
69+25	24 RT LNB	EVERG	1		
70+38	8 RT LNB	STUMP			
70+54	0 RT LNB	DEC	1		
70+60	31 LT LNB	DEC	1		
71+31	45 RT LNB	DEC	1		
71+45	14 RT LNB	STUMP			
71+56	35 RT LNB	DEC	1		
71+51	16 RT LNB	DEC	1		
72+04	49 RT LNB	DEC	1		
72+07	29 RT LNB	EVERG	1		
72+25	21 RT LNB	EVERG	1		
72+29	16 RT LNB	EVERG	1		
72+37	18 RT LNB	STUMP			
72+41	21 RT LNB	EVERG	1		
72+42	49 RT LNB	EVERG	1		
72+60	55 RT LNB	DEC	1		
72+61	28 RT LNB	DEC	1		

DEC=DECIDUOUS  
EVERG=EVERGREEN  
WOODS=WOODS  
STUMP=STUMP

FENCE CONSTRUCTION (D)					
STATION - STATION	LOCATION	DESCRIPTION	SALVAGE LIN. FT.	INSTALL LIN. FT.	REMOVE LIN. FT.
65+00 TO 65+88	17-18 RT LNB	WOOD		88	
83+43	15-25 RT LNB	WOOD		88	11
75+20 TO 75+15	33-25 RT LNB	WOOD			127
74+28 TO 75+17	21-34 RT LNB	CHAIN LINK	5	77	13
75+77 TO 76-20	21-45 RT LNB	CHAIN LINK	43	43	29
TOTAL			209	208	180

(D) INSTALL FENCE ALONG NEW R.W.

CLEARING AND GRUBBING (CONT.) (A)						
STATION - STATION	LOCATION	TYPE	CLEARING TREE	GRUBBING TREE	ACRE	
72+15	19 RT LNB	EVERG	1			
72+42	34 RT LNB	DEC	1			
72+73	40 RT LNB	DEC	1			
72+80	28 RT LNB	STUMP				
72+96	23 RT LNB	EVERG	1			
72+97	42 RT LNB	EVERG	1			
74+27	28 RT LNB	EVERG	1			
74+25	29 RT LNB	DEC	1			
74+44	24 RT LNB	DEC	1			
75+51	32 LT LNB	DEC	1			
75+23	31 LT LNB	DEC	1			
75+40	21 LT LNB	DEC	1			
75+72	20 LT LNB	DEC	1			
75+98	20 LT LNB	DEC	1			
77+88	31 LT LNB	DEC	1			
77+48	21 LT LNB	DEC	1			
79+37	41 LT LNB	DEC	1			
79+58	63 LT LNB	DEC	1			
84+26	22 LT LNB	STUMP				
85+24	26 RT LNB	STUMP				
C.R. 116						
110+77 TO 115+72		WOODS	45		42	
118+18	28 RT LNB	EVERG	1			
118+85	26 RT LNB	EVERG	1			
119+26	22 RT LNB	EVERG	2			
119+28	20 RT LNB	EVERG	1			
119+26	25 RT LNB	EVERG	1			
119+40	21 RT LNB	EVERG	1			
120+20	20 RT LNB	EVERG	1			
120+11	20 RT LNB	EVERG	1			
120+14	35 RT LNB	EVERG	1			
120+16	21 RT LNB	EVERG	1			
120+20	26 RT LNB	DEC	1			
122+22	59 RT LNB	EVERG	1			
122+58	55 RT LNB	EVERG	1			
122+87	23 RT LNB	EVERG	1			
123+15	51 RT LNB	EVERG	1			
123+97	20 RT LNB	STUMP				
124+50	29 RT LNB	EVERG	1			
124+92	37 RT LNB	EVERG	1			
125+22	26 RT LNB	EVERG	1			
125+44	30 RT LNB	DEC	1			
126+20	29 RT LNB	DEC	1			
126+34	28 RT LNB	DEC	1			
127+09	27 RT LNB	DEC	1			
127+21	27 RT LNB	DEC	1			
127+52	27 RT LNB	DEC	1			
C.S.A.H. 16						
127+75	26 RT LNB	DEC	1			
131+68	31 RT LNB	DEC	1			
TOTALS			126	40	125	40

BITUMINOUS REMOVAL (B)			
STATION - STATION	LOCATION	DESCRIPTION	SQ. YDS.
C.S.A.H. 9			
46+00 TO 135+00		MAINLINE	3740
84+50 TO 93+82		SERVICE ROAD	2406
65+50 TO 69+00	LEFT	BITUMINOUS SIDEWALK BIKE PATH	221
71+78	LEFT	COMMERCIAL ENTRANCE	159
74+46	RIGHT	COMMERCIAL ENTRANCE	234
77+46	LEFT	COMMERCIAL ENTRANCE	158
82+74	LEFT	COMMERCIAL ENTRANCE	61
84+21	RIGHT	COMMERCIAL ENTRANCE	321
87+89	RIGHT	COMMERCIAL ENTRANCE	162
91+72	RIGHT	COMMERCIAL ENTRANCE	231
COUNTY ROAD 116			
126+00 TO 127+38		MAINLINE	11998
126+12	LEFT	COMMERCIAL ENTRANCE	322
126+65	RIGHT	COMMERCIAL ENTRANCE	215
C.S.A.H. 16			
129+73 TO 140+00		MAINLINE	6276
135+50 TO 139+20	RIGHT	SERVICE ROAD	852
129+72	LEFT	COMMERCIAL ENTRANCE	254
135+24	RIGHT	CHURCH ENTRANCE	254
137+50	LEFT	COMMERCIAL ENTRANCE	328
TOTAL			61931

SAWING BITUMINOUS PAVEMENT (C)		
STATION - STATION	LOCATION	LIN. FT.
C.S.A.H. 9		
47+62	14 RT-14 LT LNB	28
48+42	15 LT-15 RT LNB	40
57+49 TO 57+77	114 RT LNB	29
61+26 TO 61+45	87 RT LNB	29
65+25 TO 65+53	26 LT LNB	27
65+35 TO 65+55	107 RT LNB	31
69+11 TO 69+47	80 LT LNB	35
69+15 TO 69+44	113 RT LNB	27
71+45 TO 71+72	67 LT LNB	26
72+59 TO 72+88	74 LT LNB	42
72+76 TO 72+84	56 RT LNB	27
73+83 TO 74+13	61 LT LNB	30
74+13	38 LT-61 LT LNB	23
76+38 TO 76+67	26 RT LNB	29
77+75 TO 77+98	25 LT LNB	27
82+62 TO 82+92	41 LT LNB	29
83+75 TO 84+37	49 RT-81 RT LNB	121
84+82 TO 84+96	64 LT LNB	14
85+54 TO 85+85	60 LT LNB	32
85+85 TO 85+94	58 LT LNB	20
87+55 TO 87+81	25 RT LNB	26
87+76 TO 87+96	58 LT LNB	12
87+74 TO 88+19	37 RT LNB	25
88+25 TO 89+11	77 LT LNB	31
88+37 TO 89+63	79 LT LNB	27
89+32 TO 89+39	28 LT LNB	16
92+07 TO 92+25	58 LT LNB	18
91+52 TO 91+80	79 RT LNB	20
91+57 TO 91+77	59 LT LNB	12
92+25 TO 92+45	59 LT LNB	12
93+22 TO 93+70	88 RT LNB	31
101+26	12 LT-46 RT LNB	58
101+26 TO 104+73	12 LT LNB	347
104+77	12 LT-42 RT LNB	54
C.R. 116		
112+06 TO 117	12 RT-57 LT LNB	69
112+24 TO 112+71	79 RT LNB	37
123+24 TO 123+64	62 RT LNB	29
123+62 TO 123+88	64 RT LNB	26
126+22 TO 126+44	90 LT LNB	35
126+48 TO 126+95	42 RT LNB	37
C.S.A.H. 16		
132+77 TO 134+19	46 LT LNB	42
133+77 TO 134+12	76 RT LNB	35
135+74	270-205 RT LNB	33
135+74 TO 135+97	270 RT LNB	23
137+34	155-280 RT LNB	125
137+27 TO 137+53	51 LT LNB	36
139+23	15-42 RT LNB	26
139+82	75 LT-7 RT LNB	38
TOTALS		2076

(C) INCLUDES 15' CONCRETE PAVEMENT SAWING (INCIDENTAL)

TABULATION CHARTS

CLEARING AND GRUBBING  
BITUMINOUS REMOVALS  
SAW BIT. PAVEMENT  
FENCE CONSTRUCTION



CONCRETE CURB AND GUTTER (H)				
STATION - STATION	LOCATION	B-612 C&G LIN FT	B-613 C&G LIN FT	REMARKS
C.S.A.H. NO 9				
47+61 - 57+45	26' RT LNB		1,259	INCLUDES STREET APPR
48+38 - 55+24	26' LT LSB		1,238	INCLUDES STREET APPR
47+61 - 57+35	LT LNB		1,827	MEDIAN
57+77 - 61+02	26' RT LNB		451	INCLUDES STREET APPR
58+08 - 64+90	LT LNB		1,384	MEDIAN
61+32 - 65+33	26' RT LNB		529	INCLUDES STREET APPR
65+64 - 69+10	26' LT LSB		410	INCLUDES STREET APPR
65+65 - 69+14	26' RT LNB		484	INCLUDES STREET APPR
65+95 - 68+02	LT LNB		422	MEDIAN
69+45 - 72+75	26' RT LNB		421	INCLUDES STREET APPR
69+50 - 72+67	26' LT LSB		384	INCLUDES ENT
73+11 - 73+41	LT LNB		452	MEDIAN
73+07 - 73+35	26' RT LNB		362	INCLUDES STREET APPR
73+03 - 73+70	26' LT LSB		532	INCLUDES ENT
73+50 - 79+68	LT LNB		1,257	MEDIAN
76+67 - 79+74	26' - 32' RT LNB		350	INCLUDES STREET APPR
78+00 - 79+79	26' LT LSB		235	INCLUDES STREET APPR
79+52 - 79+85	RT LNB		138	MEDIAN
80+86 - 82+60	26' LT LSB		289	INCLUDES ENT
80+88 - 83+86	26' RT LNB		344	INCLUDES ENT
80+97 - 87+91	LT LNB	1,413		MEDIAN
82+90 - 88+31	14' - 24' LT LSB		939	INCLUDES SERVICE RD
84+22 - 88+30	26' RT LNB		452	INCLUDES ENT
86+57 - 88+30	52' RT LNB	1188		SEE PLAN & PROF CH
86+67 - 93+06	14' - 24' LT LSB		915	INCLUDES SERVICE RD
88+90 - 91+00	26' RT LNB		291	INCLUDES ENT
89+12 - 93+22	LT LNB		835	MEDIAN
93+01 - 96+76	26' LT LSB		380	INCLUDES STREET APPR
91+24 - 93+36	26' RT LNB		276	INCLUDES STREET APPR
93+72 - 96+77	26' RT LNB		355	INCLUDES STREET APPR
94+02 - 96+77	LT LNB		360	MEDIAN
C.R. NO. 116				
118+17 - 118+23	LT LNB		820	MEDIAN
118+97 - 123+24	LT LNB		2,073	MEDIAN
123+55 - 126+49	26' RT LNB		312	INCLUDES STREET APPR
123+88 - 126+10	26' LT LNB		251	INCLUDES STREET APPR
124+15 - 128+26	LT LNB		838	MEDIAN
126+44 - 127+88	26' LT LNB		156	INCLUDES ENT
126+86 - 127+87	26' RT LNB		189	INCLUDES ENT
C.S.A.H. NO. 16				
129+76 - 137+03	LT LNB		1,471	MEDIAN
129+97 - 133+73	26' LT LNB		396	INCLUDES ENT
129+99 - 133+76	26' RT LNB		398	INCLUDES ENT
134+18 - 137+42	26' RT LNB		263	INCLUDES STREET APPR
134+20 - 137+23	26' LT LNB		245	INCLUDES ENT
137+70 - 139+95	26' LT LNB		249	INCLUDES STREET APPR
PROPOSED CITY STREET (ANDOVER)				
10+80 - 12+04	26' RT		204	
12+83 - 12+04	16' LT		204	
12+04 - 12+99	16' LT		95	
52+16 - 52+00	14' RT		182	
52+25 - 52+00	14' LT		202	
	TOTALS	188	29,083	

CONCRETE SIDEWALK (I)				
STATION - STATION	LOCATION	4' CONC WALK SQ FT.	5' CONC WALK SQ FT.	CONC PED. RAMP SQ FT.
C.S.A.H. NO. 9				
53+88 - 55+25	26' - 41' RT LNB	686		
55+25 - 55+41	36' - 41' RT LNB		96	
55+41 - 57+29	36' - 41' RT LNB	242		
57+37	36' - 41' RT LNB			64
57+84	36' - 41' RT LNB			64
57+92 - 62+86	36' - 41' RT LNB	1,474		
62+93	36' - 41' RT LNB			64
61+42	36' - 41' RT LNB			64
61+49 - 65+32	36' - 41' RT LNB	1,767		
65+12	36' - 41' RT LNB			64
65+19	35' - 40' LT LNB			64
65+78	35' - 40' LT LNB			64
65+85	36' - 41' RT LNB			64
65+95 - 68+99	36' - 41' RT LNB	1,513		
69+00	35' - 40' LT LNB			64
69+06	36' - 41' RT LNB			64
69+54	36' - 41' RT LNB			64
69+59	35' - 40' LT LNB			64
69+61 - 72+59	36' - 41' RT LNB	1,487		
69+66 - 72+51	35' - 40' LT LNB	1,424		
72+58	35' - 40' LT LNB			64
72+66	36' - 41' RT LNB			64
72+15	36' - 41' RT LNB			64
73+22 - 75+50	36' - 41' RT LNB	1,138		
75+50 - 75+67	36' - 41' RT LNB		85	
75+67 - 76+20	36' - 41' RT LNB	263		
76+26	36' - 41' RT LNB			64
76+76	36' - 41' RT LNB			64
76+83 - 79+54	36' - 41' RT LNB	1,352		
79+58	35' - 40' LT LNB			64
79+62	35' - 40' LT LNB			64
79+67	16' RT LNB			64
79+70	124' RT LNB			64
79+90	36' RT LNB			64
81+01	45' - 40' LT LNB			64
81+03	36' - 41' RT LNB			64
C.S.A.H. NO. 16				
129+71 - 130+61	26' - 41' RT LNB	1,958		
132+72	36' - 41' RT LNB			64
134+22	36' - 41' RT LNB			64
134+29 - 137+27	36' - 41' RT LNB	1,408		
137+34	36' - 41' RT LNB			64
	TOTALS	25,478	181	1,729

BITUMINOUS CURB AND WALK (J)				
STATION - STATION	LOCATION	BIT CURB LIN FT	BIT WALK SQ YD	REMARKS
C.S.A.H. NO 9				
65+89 - 68+94	35' - 40' LT LNB		169	BITUMINOUS WALK
68+32 - 69+31	LT LNB		66	BITUMINOUS MEDIAN
68+22 - 69+01	LT LNB	232		MEDIAN
69+27 - 70+11	LT LNB		116	BITUMINOUS MEDIAN
69+27 - 70+11	LT LNB	184		MEDIAN
76+75 - 92+45	LT LNB		242	BITUMINOUS MEDIAN
76+75 - 92+45	LT LNB	549		MEDIAN
C.R. NO 116				
122+75 - 123+28	26' RT LNB	71		INCLUDES STREET APPR
C.S.A.H. NO 16				
134+78 - 137+42	14' RT LNB	351		INCLUDES STREET APPR
137+70 - 139+95	14' LT LNB	247		INCLUDES STREET APPR
	TOTALS	1,674	593	

DRIVEWAY CONSTRUCTION (K)									
STATION/LDC	ADDRESS	REMARKS	EXIST WIDTH	REMOVE		CONC PAVEMENT DRIVEWAY SQ YD WIDTH (FEET) NEW	BIT. PAVEMENT DRIVEWAY SQ YD WIDTH (FEET) NEW	AGGREGATE ENTRANCE WIDTH (CU YD)	
				CONC SQ YD	BIT SQ YD				
C.S.A.H. 9									
54+00 RT	13308	RESIDENTIAL ENT	20		59			16	
55+47 RT	13311	RESIDENTIAL ENT	17		45			16	
57+53 LT		SAND	11					18	
62+92 RT	13427/13427	RESIDENTIAL ENT	19	140	99				
63+24 RT	13433	RESIDENTIAL ENT	17		45				
66+18 RT	13511	RESIDENTIAL ENT	9		32				
75+08 RT	13624	RESIDENTIAL ENT	17		38			13	
84+89 LT	13748	RESIDENTIAL ENT	12		44				
85+85 LT	13762	RESIDENTIAL ENT	32		38				
86+86 LT	13768	RESIDENTIAL ENT	20		38				
87+96 LT	13808	RESIDENTIAL ENT	19		39				
89+03 LT	13828	RESIDENTIAL ENT	17		33				
90+28 LT	13836	RESIDENTIAL ENT	19		31				
91+75 LT	13844	RESIDENTIAL ENT	20		32				
92+44 LT	13852	RESIDENTIAL ENT	19		34				
CITY PD 18 & 111									
121+48 LT	PARK ENT		20						
	TOTALS			140	569	19	206	191	50

(I) PAID FOR AS 2" THICK WEARING COURSE PLACED

TABULATION CHARTS  
CONCRETE CURB AND GUTTER  
CONCRETE SIDEWALK  
BITUMINOUS CURB AND WALK  
DRIVEWAY CONSTRUCTION

CULVERT TABULATION <span style="float: right;">(L)</span>							
STATION	LOC.	INPLACE	REMARKS	REMOVE CULV. PIPE		F&I CULVERT 15' CMP	
				LN. FT.	APR.	LN. FT.	APR.
C.S.A. NO 9							
84+00	20 RT LNB	45 15' CMP		45			
91+12	20 RT LNB	56 15' CMP		56			
93+31	20 RT LNB	37 15' CMP		37			
93+54	20 RT LNB	66 15' CMP		66			
C.R. NO 116							
117+53	17 RT LEB	89 36" ARCH PIPE		89			
117+08	10 RT LWB	61 15' CMP		61	40	2	
121+70	22 LT LWB	45 15' CMP	PELDCATE 32 LT LWB	45			
122+88	24 LT LWB	61 15' CMP		61			
125+27	18 LT LWB	64 15' CMP		64			
125+56	17 RT LWB	50 15' CMP		50			
C.S.A. NO 16							
133+96	5 RT LEB	60 15' CMP		60			
133+31	10 RT LEB	32 15' CMP		32			
TOTALS				664		40	2

TURF ESTABLISHMENT <span style="float: right;">(M)</span>						
STATION - STATION	LOCATION	SOD SQ YDS	ROADSIDE SEEDING ACRES	SEED MIXTURE 700 POUNDS	SEEDING WETLAND ACRES	SEED MIXTURE SPECIAL POUNDS
C.S.A. NO 9						
47+61 - 73+24	RT LNB	6,252	0.43	14.7		
48+38 - 73+29	LT LNB	5,644	0.34	11.2		
80+88 - 101+25	RT LNB	3,262	0.27	9.4		
80+25 - 104+75	LT LNB	3,836	0.30	12.5		
C.R. NO 116						
128+17 - 127+17	RT LEB	1,473	0.44	15.4		
128+17 - 127+28	LT LWB	1,822	0.51	17.9		
129+33 - 132+35	RT LEB	2,255	0.15	5.2		
129+37 - 132+35	LT LWB	2,672				
TOTALS		27,072	2.43	94.9	0.91	13.0

SANITARY SEWER MODIFICATIONS <span style="float: right;">(O)</span>							
STATION	LOCATION	ITEM INPLACE	OWNERSHIP	INPLACE ELEVATION	PROPOSED ELEVATION	ADJUST EACH	RECONST EACH
54+70	3 RT LNB	MANHOLE	ANDOVER	874.31	874.35		
55+66	10 LT LSB	MANHOLE	U.S. WEST	873.45	873.29		
55+70	10 LT LSB	MANHOLE	U.S. WEST	873.45	875.33		
57+58	7 LT LNB	MANHOLE	ANDOVER	874.67	876.50		
59+36	7 LT LNB	MANHOLE	ANDOVER	874.91	876.27		
61+17	4 LT LNB	MANHOLE	ANDOVER	875.10	875.24		
63+19	1 RT LNB	MANHOLE	ANDOVER	876.33	876.09		
63+79	15 LT LSB	MANHOLE	U.S. WEST	876.45	875.41		
69+29	47 RT LNB	MANHOLE	ANDOVER	FIELD VERIFY	875.01		
71+95	5 LT LSB	MANHOLE	U.S. WEST	876.36	876.49		
72+90	70 RT LNB	MANHOLE	ANDOVER	FIELD VERIFY	FIELD VERIFY		
76+50	66 RT LNB	MANHOLE	ANDOVER	877.08	FIELD VERIFY		
82+69	27 LT LSB	MANHOLE	ANDOVER	879.42	FIELD VERIFY		
85+51	8 RT LT	MANHOLE	ANDOVER	877.54	878.00		
88+53	1 RT LT	MANHOLE	ANDOVER	876.53	878.84		
91+00	0 LT LT	MANHOLE	ANDOVER	876.50	876.51		
93+47	37 LT LSB	MANHOLE	ANDOVER	877.49	877.91		
93+55	45 RT LNB	MANHOLE	ANDOVER	NO CONST			
104+90	60 RT LNB	MANHOLE	ANDOVER	NO CONST			
104+91	35 LT LSB	MANHOLE	ANDOVER	NO CONST			
109+63	31 RT LEB	MANHOLE	ANDY A	FIELD VERIFY	FIELD VERIFY		
112+52	32 RT LEB	MANHOLE	ANDY A	868.93	876.79		
TOTALS						18	1

TABULATION CHARTS  
 CULVERT TABULATION  
 TURF ESTABLISHMENT  
 SANITARY SEWER MODIFICATIONS

REVISIONS			
DATE	BY	DATE	BY

S.A.P. 02-609-10 103-020-08  
 02-616-03 M.S.A.P. 198-020-08, 198-020-09 C.P. 93-12-116



**C.S.A.H. 9 - MAINLINE**

**EXCAVATION:**

COMMON	46,679 CU YDS	SUBCUT	19,490 CU YDS	TOPSOIL	4,369 CU YDS
			REGULAR		27,189 CU YDS
				PAVEMENT	6,333 CU YDS

MUCK: 0 CU YDS  
SPECIAL: 0 CU YDS

**EMBANKMENT (CV):**

REGULAR	3,916 CU YDS
TOPSOIL DRESSING	1,468 CU YDS

**BALANCE:**

EXCESS	9,148 C Y (EV)
TOPSOIL BORROW	2,936 C Y (LV)

**C.S.A.H. 16 - MAINLINE**

**EXCAVATION:**

COMMON	9,445 CU YDS	SUBCUT	4,558 CU YDS	TOPSOIL	1,139 CU YDS
			REGULAR		4,887 CU YDS
				PAVEMENT	993 CU YDS

MUCK: 0 CU YDS  
SPECIAL: 0 CU YDS

**EMBANKMENT (CV):**

REGULAR	528 CU YDS
TOPSOIL DRESSING	305 CU YDS

**BALANCE:**

EXCESS	1,671 C Y (EV)
TOPSOIL BORROW	610 C Y (LV)

**C.S.A.H. 16 / PRIVATE DRIVE**

**EXCAVATION:**

COMMON	700 CU YDS	SUBCUT	470 CU YDS	TOPSOIL	164 CU YDS
			REGULAR		230 CU YDS
				PAVEMENT	126 CU YDS

MUCK: 0 CU YDS  
SPECIAL: 0 CU YDS

**EMBANKMENT (CV):**

REGULAR	89 CU YDS
TOPSOIL DRESSING	41 CU YDS

**BALANCE:**

GRADING MATERIAL REQUIRED 172 C Y (EV) FROM C.S.A.H. 16 GRADING EXCESS  
TOPSOIL BORROW 82 C Y (LV)

**C.S.A.H. 9 - SERVICE ROAD**

**EXCAVATION:**

COMMON	1,885 CU YDS	SUBCUT	809 CU YDS	TOPSOIL	104 CU YDS
			REGULAR		1,076 CU YDS
				PAVEMENT	131 CU YDS

MUCK: 0 CU YDS  
SPECIAL: 0 CU YDS

**EMBANKMENT (CV):**

REGULAR	0 CU YDS
TOPSOIL DRESSING	94 CU YDS

**BALANCE:**

EXCESS	675 C Y (EV)
TOPSOIL BORROW	188 C Y (LV)

**C.S.A.H. 16 - SERVICE ROAD**

**EXCAVATION:**

COMMON	396 CU YDS	SUBCUT	128 CU YDS	TOPSOIL	109 CU YDS
			REGULAR		268 CU YDS
				PAVEMENT	0 CU YDS

MUCK: 0 CU YDS  
SPECIAL: 0 CU YDS

**EMBANKMENT (CV):**

REGULAR	57 CU YDS
TOPSOIL DRESSING	39 CU YDS

**BALANCE:**

EXCESS	149 C Y (EV)
TOPSOIL BORROW	78 C Y (LV)

**PROJECT TOTALS**

**EXCAVATION:**

COMMON	60,168 CU YDS	SUBCUT	7,481 CU YDS	TOPSOIL	7,481 CU YDS
			REGULAR		31,531 CU YDS
				SUBCUT	30,474 CU YDS

MUCK: 3,088 CU YDS \*  
SPECIAL: 3,748 CU YDS \*

**EMBANKMENT (CV):**

REGULAR	11,641 CU YDS
TOPSOIL DRESSING	2,593 CU YDS

**BORROW (LV):**

SELECT GRANULAR	6,176 CU YDS *
TOPSOIL	5,186 CU YDS *

**EXCESS:**

MUCK	764 CU YDS (EV) (2)
GRADING MATERIAL	7,094 CU YDS (EV)

**C.R. 116 - MAINLINE**

**EXCAVATION:**

COMMON	10,081 CU YDS	SUBCUT	5,019 CU YDS	TOPSOIL	1,157 CU YDS
			REGULAR		5,362 CU YDS
				PAVEMENT	1,745 CU YDS

MUCK: 3,088 CU YDS  
SPECIAL: 0 CU YDS

**EMBANKMENT (CV):**

REGULAR	6,451 CU YDS
TOPSOIL DRESSING	646 CU YDS

**BALANCE:**

SELECT GRAN BORROW	6,176 C Y (LV) (FOR MUCK EXCAVATED FILL)
GRADING MATERIAL REQUIRED	8,469 C Y (EV) FROM C.S.A.H. 9 GRADING EXCESS
MUCK EXCESS	764 C Y (EV)
TOPSOIL BORROW	1,292 C Y (LV)

**MITIGATION SITE**

**EXCAVATION:**

SPECIAL	3,748 CU YDS
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**EMBANKMENT (CV):**

1.5 MUCK HOLDDOWN	1,859 CU YDS
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**BALANCE:**

EXCESS GRADING MATERIAL	3,748 C Y (EV)
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\* SIGNIFIES PAY ITEM  
(1) INCLUDES 9,318 CU YDS PAVEMENT REMOVAL  
(2) TO BE APPLIED TO SLOPES OF C.R. 116 WITHIN RIGHT-OF-WAY LIMITS

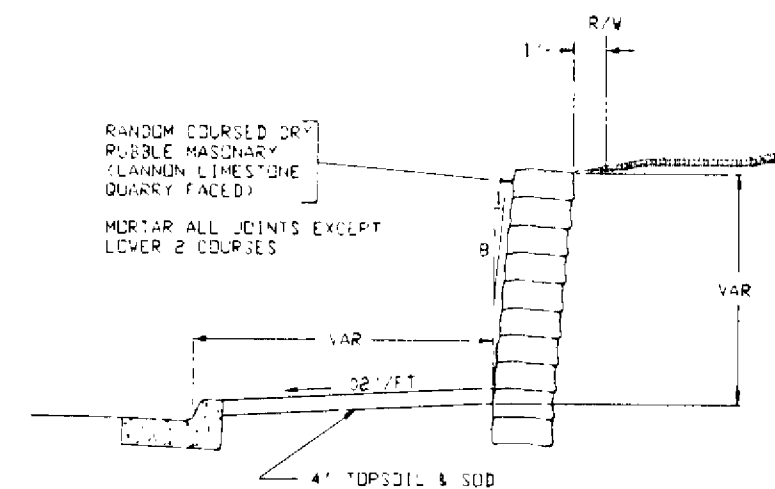
**EARTHWORK SUMMARY**

**SOILS AND CONSTRUCTION NOTES**

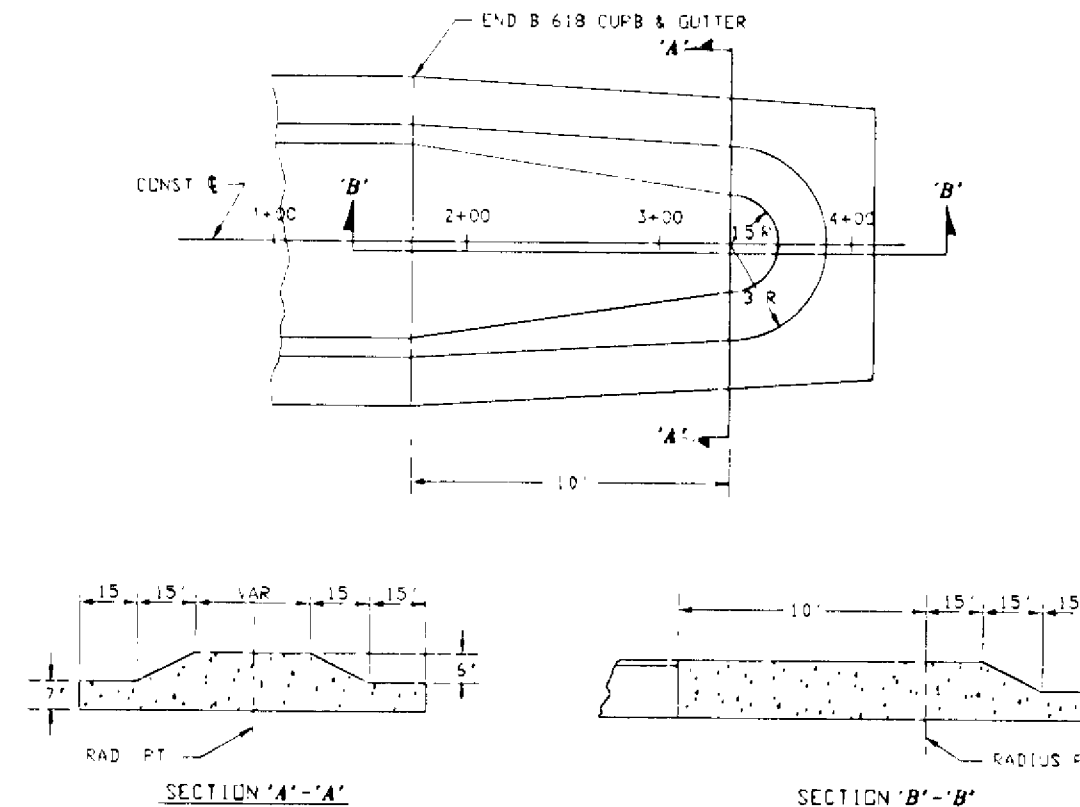
1. TOP OF GRADING SUBGRADE IS DEFINED AS THE BOTTOM OF THE AGGREGATE BASE
2. IN FILL AREAS, THE SUBGRADE SHALL BE CONSTRUCTED WITH SELECTED GRADING MATERIAL
3. SELECTED GRADING MATERIALS SHALL CONSIST OF GRANULAR MATERIALS, OF WHICH THE UPPER 1.0 FOOT OF THE SUBGRADE SHALL CONSIST OF SELECT GRANULAR MATERIALS.
4. GRANULAR MATERIAL, REGARDLESS OF SOURCE, SHALL MEET THE REQUIREMENTS OF SPEC 3149 2A
5. SELECT GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF SPEC 3149 2B
6. COMPACTION OF THE GRADING PORTION OF THIS PROJECT SHALL BE BY THE "SPECIFIED DENSITY METHOD".
7. SELECT GRANULAR MATERIAL SHALL BE UTILIZED IN AREAS BELOW THE WATER TABLE (MUCK EXCAVATION AREAS)
8. TEST ROLLING WILL NOT BE REQUIRED
9. BITUMINOUS AND/OR CONCRETE ITEMS REMOVED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL EITHER BE RECYCLED OR DISPOSED OF OFF THE PROJECT LIMITS, WITH NO DIRECT COMPENSATION MADE THEREFORE
10. DISPOSITION OF EXCAVATED MATERIAL SHALL BE IN ACCORDANCE WITH SPEC 2105 3D WITH NO DIRECT COMPENSATION MADE THEREFORE
11. WHERE MATCHING INTO THE INPLACE ROADWAY AT THE ENDS OF CONSTRUCTION, CUT VERTICALLY TO THE TOP OF THE GRADING SUBGRADE AND THEN AT A 20:1 TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION
12. WHERE CONNECTING NEW SURFACING TO AN INPLACE PAVEMENT, THE EXCAVATION SHALL BE BACKFILLED PROMPTLY TO AVOID UNDERMINING THE INPLACE PAVEMENT.
13. USE TACK COAT BETWEEN ALL BITUMINOUS MIXTURES PRIOR TO PLACING BITUMINOUS MIXTURES AND PRIOR TO PLACING ANY BITUMINOUS MIXTURES ON EXISTING CONCRETE OR BITUMINOUS SURFACES. THE BITUMINOUS TACK COAT MATERIAL SHALL BE APPLIED AT A UNIFORM RATE OF 0.03 TO 0.05 GALLONS PER SQUARE YARD BETWEEN BITUMINOUS LAYERS. THE APPLICATION RATES ARE FOR UNDILUTED EMULSIONS (AS SUPPLIED FROM THE REFINERY). ASPHALT EMULSION MAY BE FURTHER DILUTED IN THE FIELD IN ACCORDANCE WITH SPEC 2357
14. COMPACTION OF THE BITUMINOUS BASE AND BINDER SHALL BE BY THE "SPECIFIED DENSITY METHOD". COMPACTION OF THE TYPE 41 WEAR SHALL BE BY THE "ORDINARY COMPACTION METHOD"
15. COMPACTION OF THE AGGREGATE BASE LAYERS SHALL BE BY THE "SPECIFIED DENSITY METHOD"
16. IN AREAS TO BE DISTURBED BY CONSTRUCTION, STRIP ALL TOPSOIL AND INPLACE SLOPE DRESSING REFER TO THE CROSS-SECTIONS FOR THE LIMITS OF TOPSOIL STRIPPING. GENERAL DEPTHS OF TOPSOIL LAYER ARE ASSUMED TO BE 6"-4"
17. SLOPE DRESSING ON THIS PROJECT IS DEFINED AS THE TOPSOIL OR OTHER SOIL PLACED DURING PRIOR CONSTRUCTION TO PROVIDE A MEDIUM FOR ESTABLISHING TURF
18. PLACE A MINIMUM OF 3 INCHES TOPSOIL OR SLOPE DRESSING ON ALL AREAS DISTURBED BY CONSTRUCTION AND SCHEDULED FOR PERMANENT TURF ESTABLISHMENT. FERTILIZE WITH COMMERCIAL FERTILIZER, ANALYSIS 10-10-10, AT A RATE OF 450 POUNDS PER ACRE, OR EQUIVALENT
19. ON UNDEVELOPED DISTURBED AREAS, USE MIXTURE 700 SEED WITH TYPE 1 MULCH, AND DISC ANCHORING. RE-USE SALVAGED TOPSOIL ON AREAS TO BE SEEDED
20. SOD ALL PERMANENT BOULEVARD AREAS, AND DISTURBED LAWNS. TOPSOIL BORROW MEETING THE REQUIREMENTS OF SPEC 3877 2A SHALL BE USED ON AREAS TO BE SOEDED, UNLESS OTHERWISE DIRECTED BY THE ENGINEER
21. ALL SOD UTILIZED WITHIN THE PROJECT LIMITS SHALL MEET THE REQUIREMENTS OF SPEC 3878 2A (LAWN AND BOULEVARD SOD).
22. EXCESS TOPSOIL AND MUCK EXC MAY BE USED IN EMBANKMENT CONSTRUCTION IN AREAS OUTSIDE OF A 1 1/2:1 SLOPE FROM THE GRADING SHOULDER PT
23. EXISTING STABILIZED SUBGRADE MUST BE PULVERIZED PRIOR TO USE AS EMBANKMENT MATERIAL
24. SHRINKAGE FACTORS  
 25% FOR REGULAR GRADING AND SUBCUTS (EV TO CV)  
 50% FOR TRUCK HAUL BORROW (LV TO CV)  
 20% FOR MUCK FILL (EV TO CV)
25. BITUMINOUS REMOVAL QUANTITIES ARE BASED ON THE FOLLOWING ASSUMED MAT THICKNESS:  
 CSAH 9 (50 OF 15) - 6 1/2"  
 CSAH 9 (NO OF 16) - 5 1/2"  
 CR 115 - 4"  
 CSAH 15 - 1 1/2" MAT  
 6" STAB BASE  
 THE CONTRACTOR SHALL INVESTIGATE AND MAKE THEIR OWN DETERMINATION OF ACTUAL PAVEMENT DEPTH.

Fed. Project No. \_\_\_\_\_

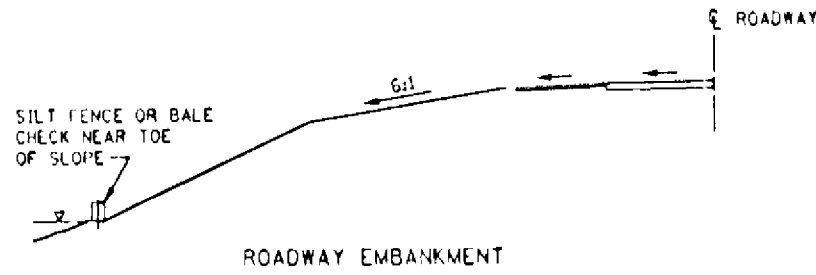
**RETAINING WALL DETAIL**



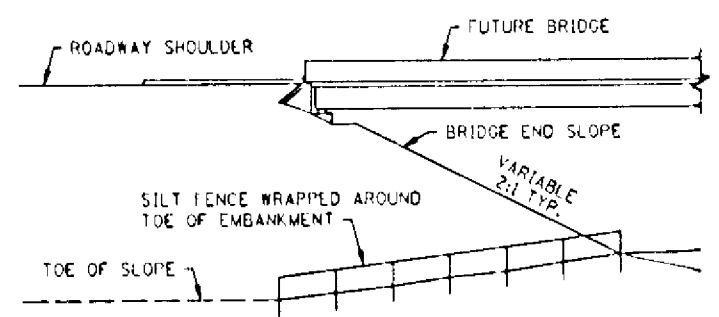
**MEDIAN NOSE DETAIL**



CONSTRUCTION NOTES AND STANDARD DETAILS

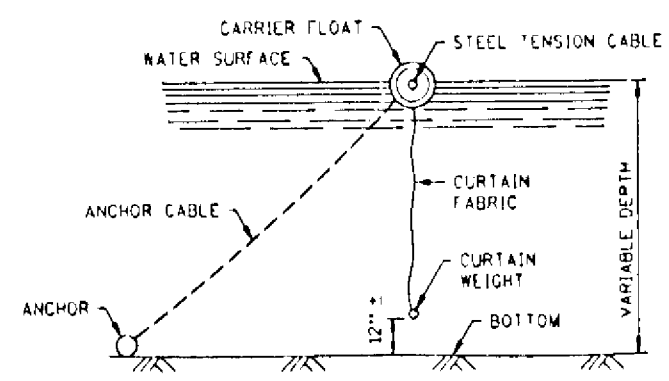


ROADWAY EMBANKMENT

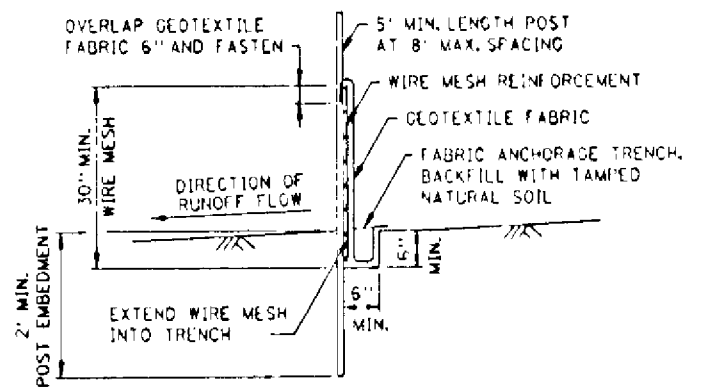


BRIDGE ABUTMENT

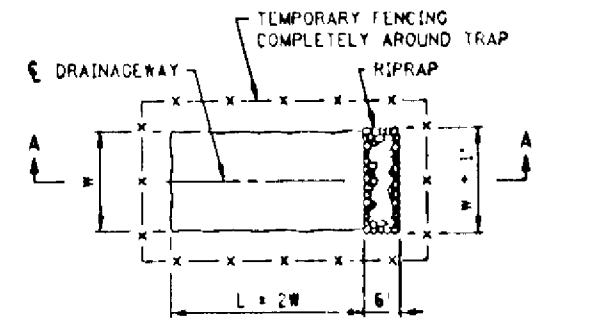
SILT FENCE OR BALE CHECK TO PROTECT ADJACENT CRITICAL AREAS



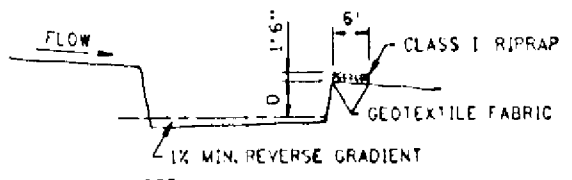
FLOATATION SILT CURTAIN



SILT FENCE DETAIL



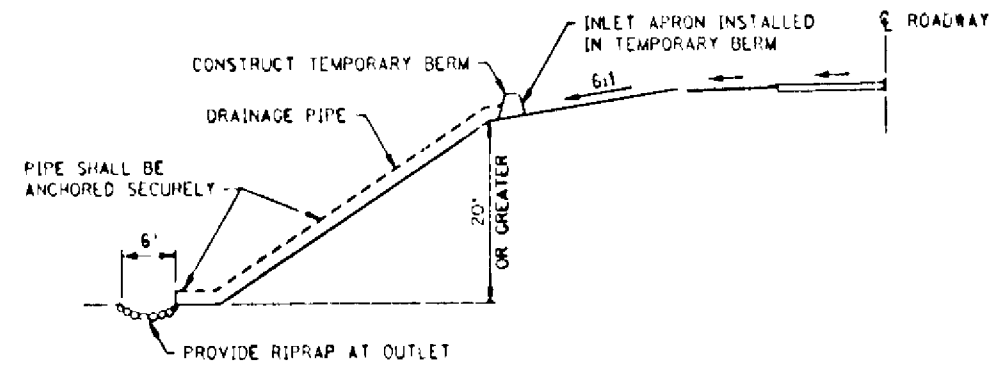
PLAN



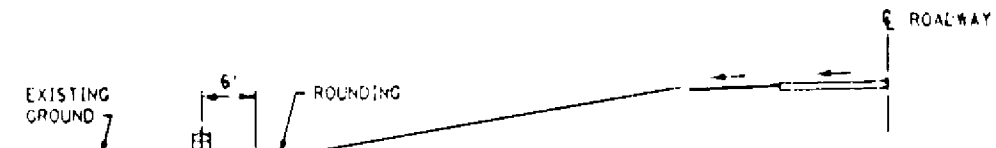
NOTE:  
D = 3 MIN., 6' MAX.  
W = 10' MIN., 20' MAX.

SECTION A-A

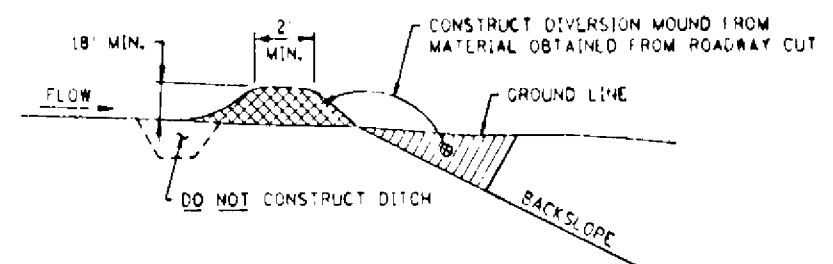
TEMPORARY SEDIMENT TRAP



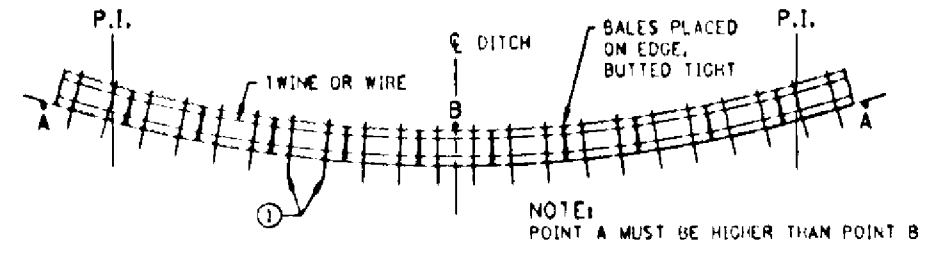
TEMPORARY DRAIN ON FILL SLOPE



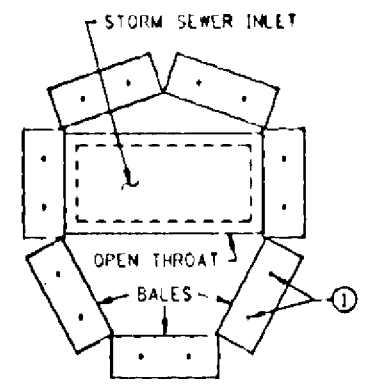
BALE DIVERSION



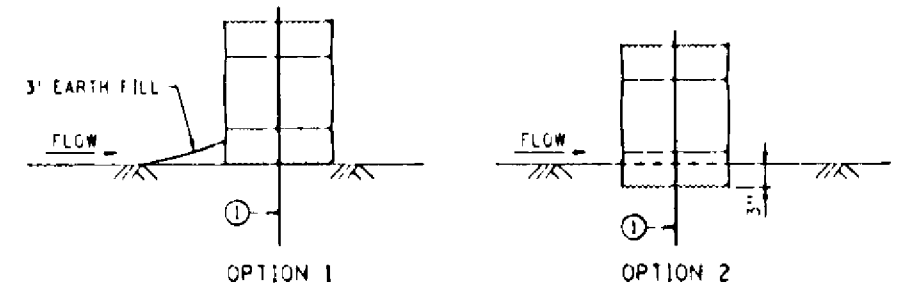
DIVERSION MOUND



BALE DITCH CHECK



BALE CHECK TO PROTECT STORM SEWER INLETS

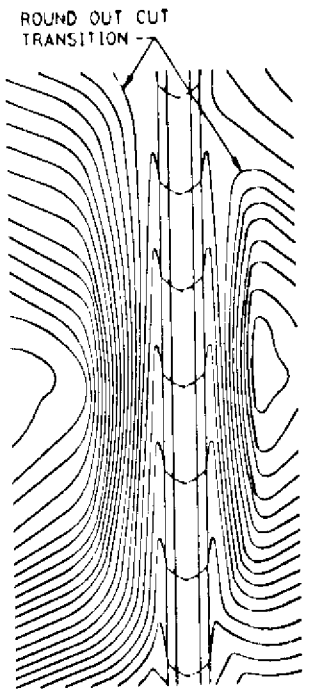


BALE CHECK DETAILS

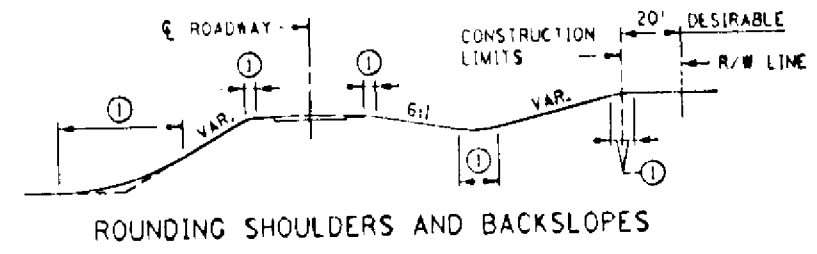
NOTE:  
① TWO 2" X 2" WOOD STAKES OR REINFORCING BARS IN EACH BALE AND EMBEDDED IN THE GROUND 10" MINIMUM.

MAX780 05/43/[45,100] FILE NAME S405L90.SPN

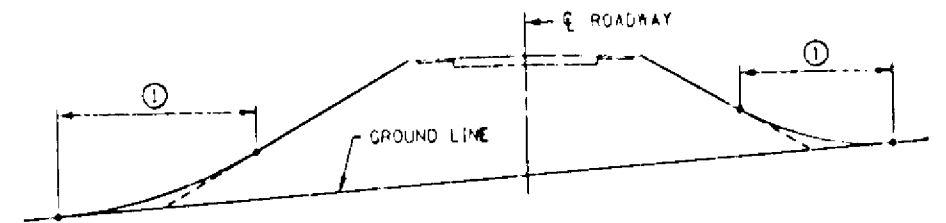
STANDARD SHEET NO. <b>5-297,405</b>	TITLE: <b>TEMPORARY EROSION CONTROL</b>
STANDARD APPROVAL DECEMBER 19, 1990	
STATE PROJ. NO. S.A.P. 02-616-03 M.S.A.P. 105-020-08 02-609-10 105-020-08 198-020-08 C.P.93-12-116 SHEET NO. 11 OF 130 SHEETS	



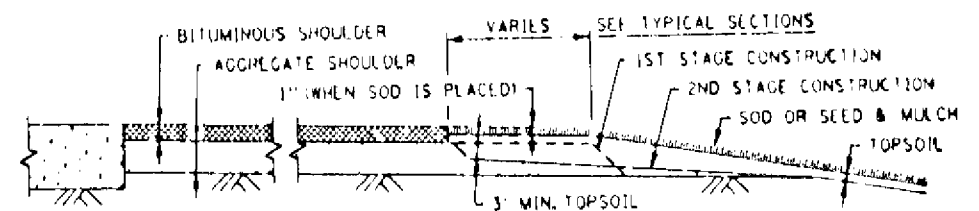
CONTOURING ROAD CUTS



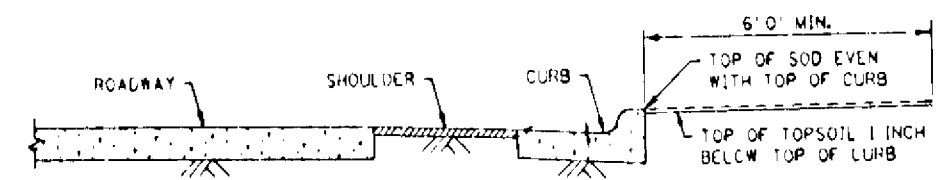
ROUNDING SHOULDERS AND BACKSLOPES



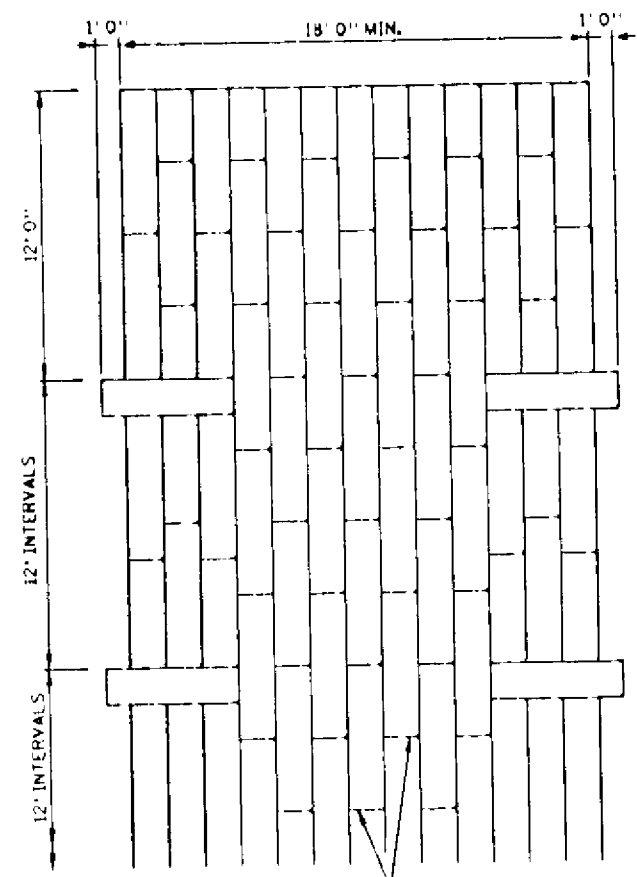
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



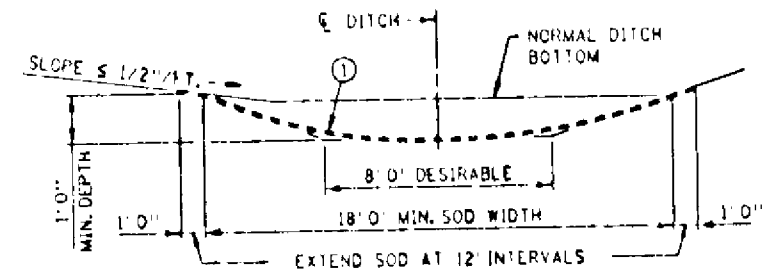
SHAPING AND TOPSOILING INSLOPES



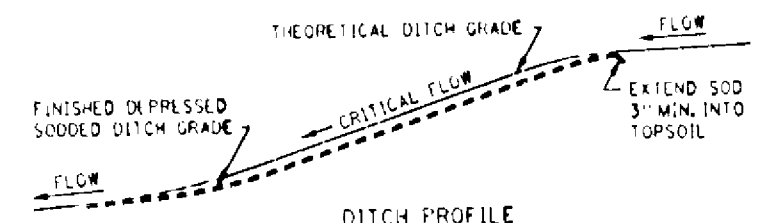
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



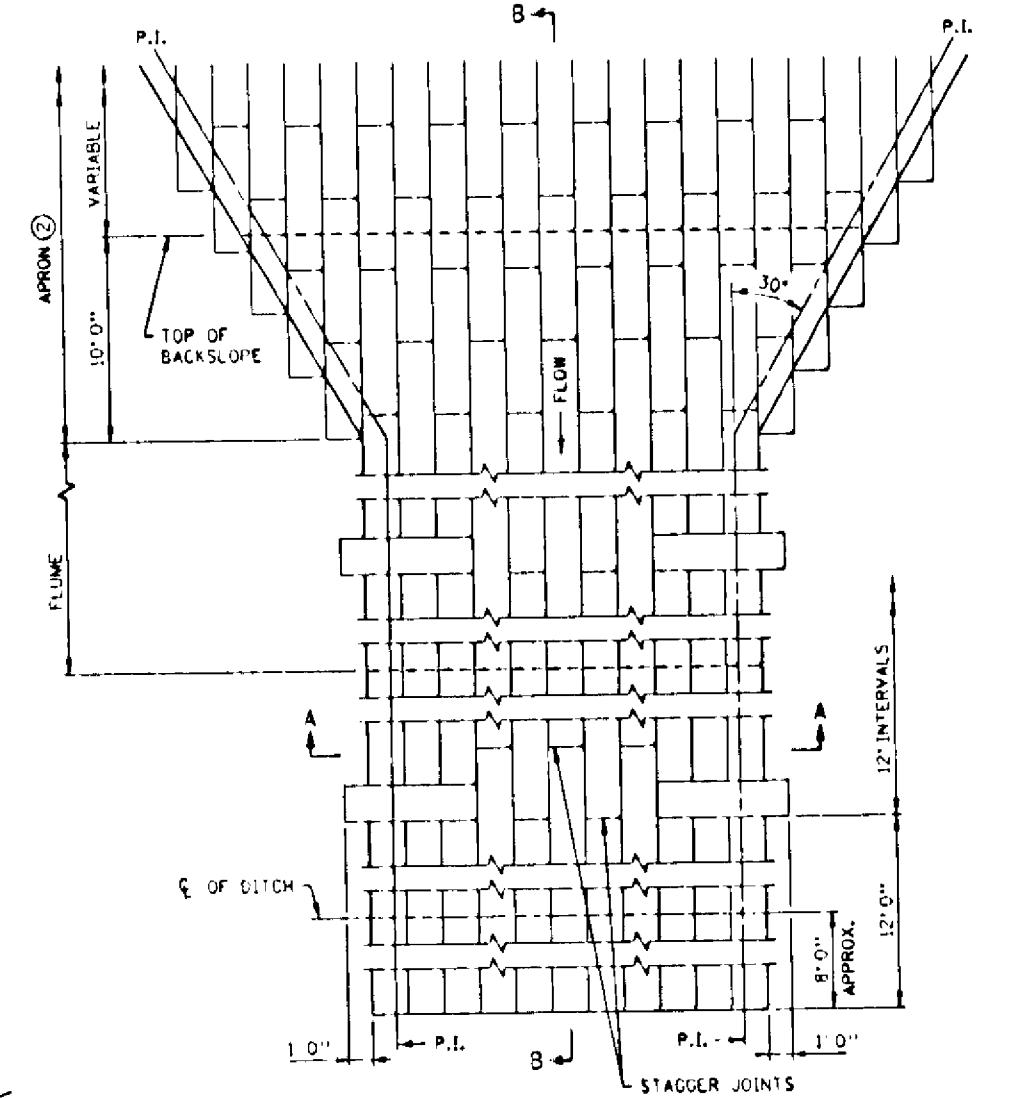
STAGGER JOINTS  
PLAN VIEW



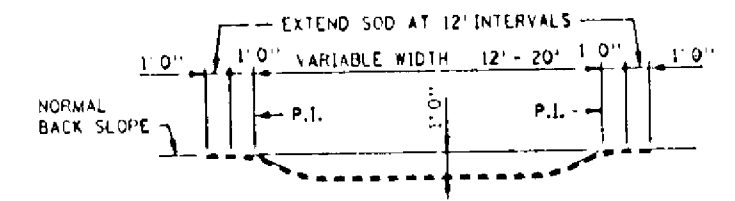
SODDED DITCH CROSS SECTION  
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2% FT.), FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



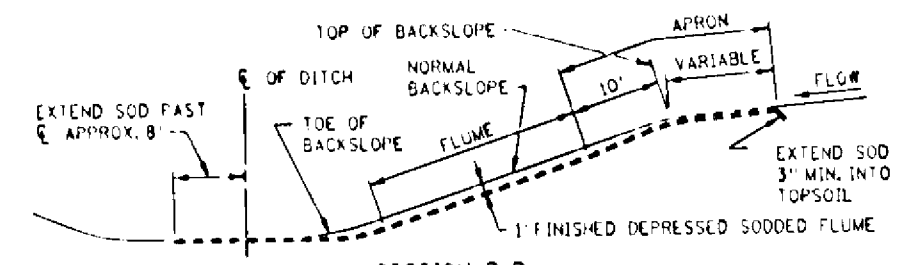
DITCH PROFILE  
SODDED DITCH DETAILS



STAGGER JOINTS  
PLAN VIEW



SECTION A-A



SECTION B-B  
SODDED FLUME DETAILS

- NOTES:  
 SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.  
 ① FOR ROUNDING, SEE ROAD DESIGN MANUAL.  
 ② CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

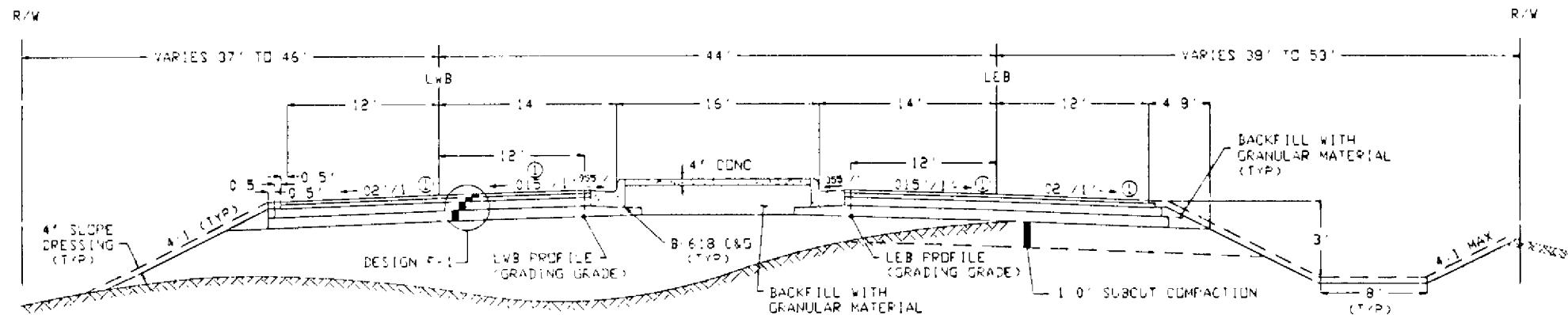
STANDARD SHEET NO. 5-297,404	TITLE PERMANENT EROSION CONTROL ALONG ROADWAYS, DITCHES AND FLUMES
VIANGARD APPROVED DECEMBER 19, 1990	
STATE PROJ. NO. SA-P 02-616-03MSAP	103-020-08 02-609-10 99-020-08 199-020-09
SHEET NO. 12 OF 133 SHEETS	

VAX780 USA 3145.1001 FILE NAME S404190.SPN



**BUNKER LAKE BLVD. (C.R. 116) MAINLINE**

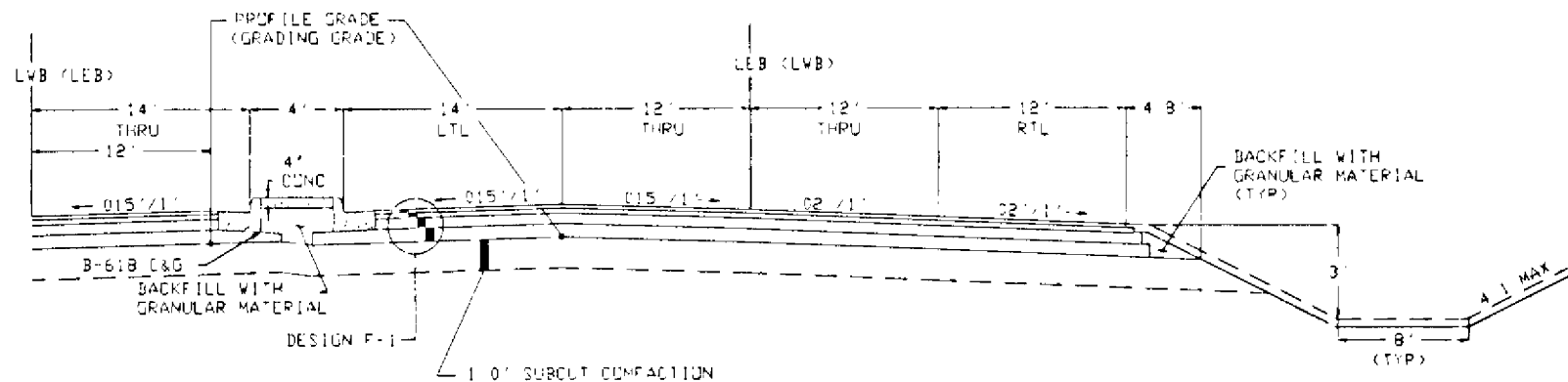
LWB STA 108+17 TO STA 112+23  
 STA 117+77 TO STA 123+75  
 LEB STA 112+97 TO STA 116+45



- ① SEE SUPER ELEVATION CHART FOR VAR CROSS SLOPES & LOCATIONS
- ② TEMPORARY MEDIAN, CONSTRUCT BIT CURB AND BACKFILL WITH TOPSOIL, SEED AND MULCH LWB STA 137+70 TO 139+90 LT, LEB STA 134+14 TO 137+40 RT

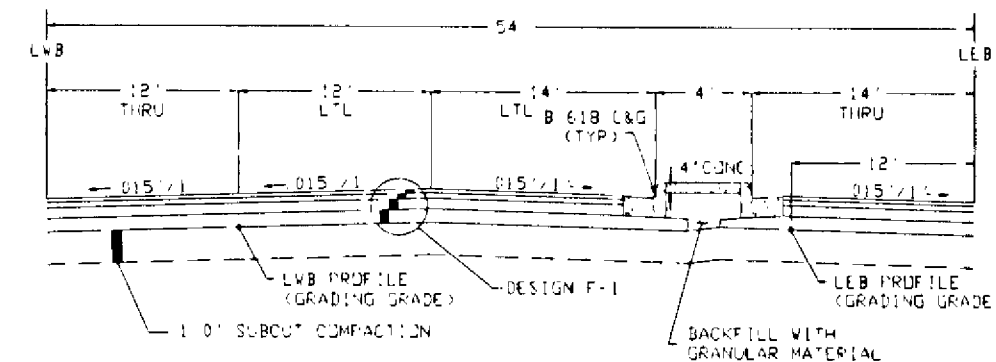
**C.R. 116 - LEFT & RIGHT TURN LANES**

LWB STA 112+97 TO STA 117+77  
 LEB STA 108+17 TO STA 112+23  
 STA 118+45 TO STA 123+24



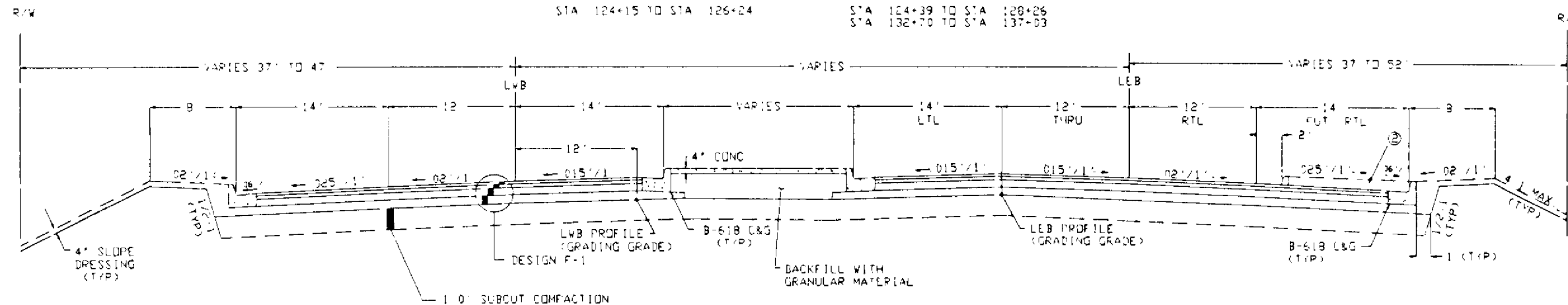
**C.S.A.H. 16 - DOUBLE LEFT TURN LANES**

LWB STA 129+76 TO STA 135+09



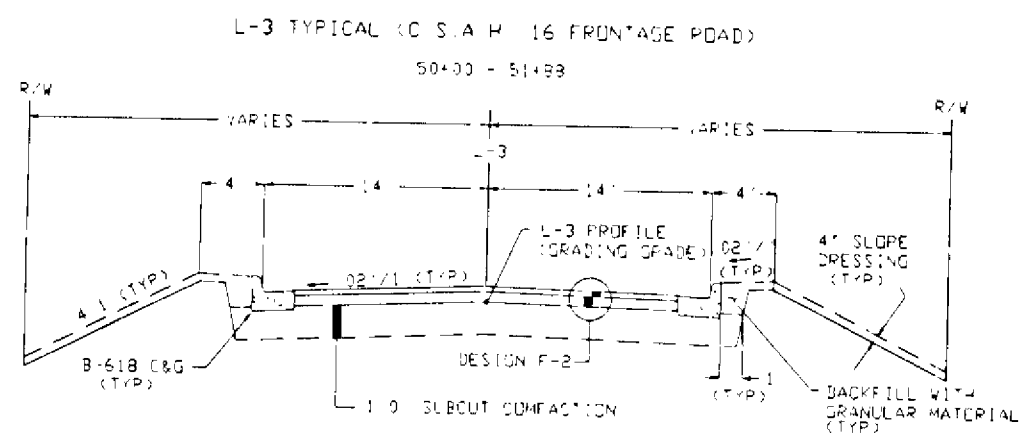
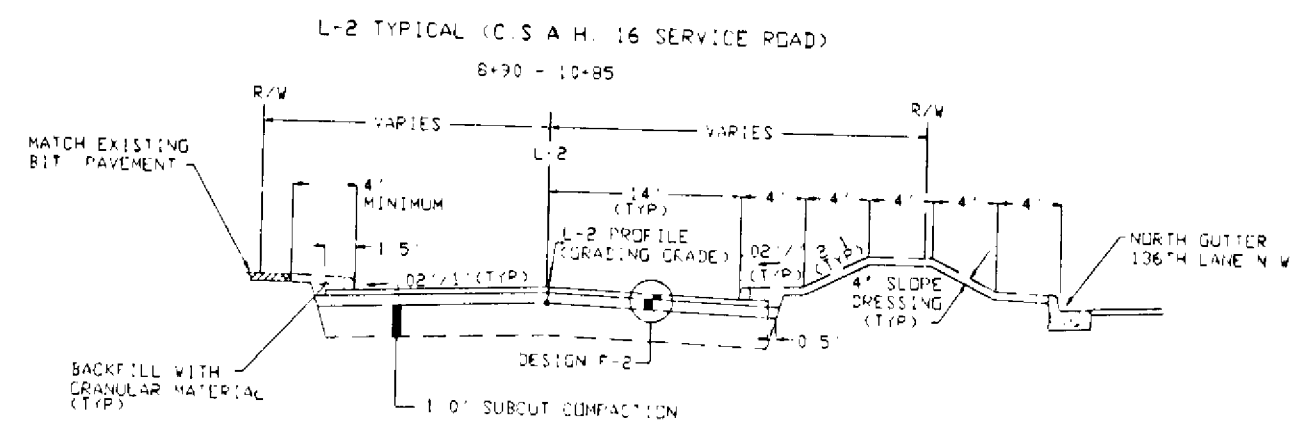
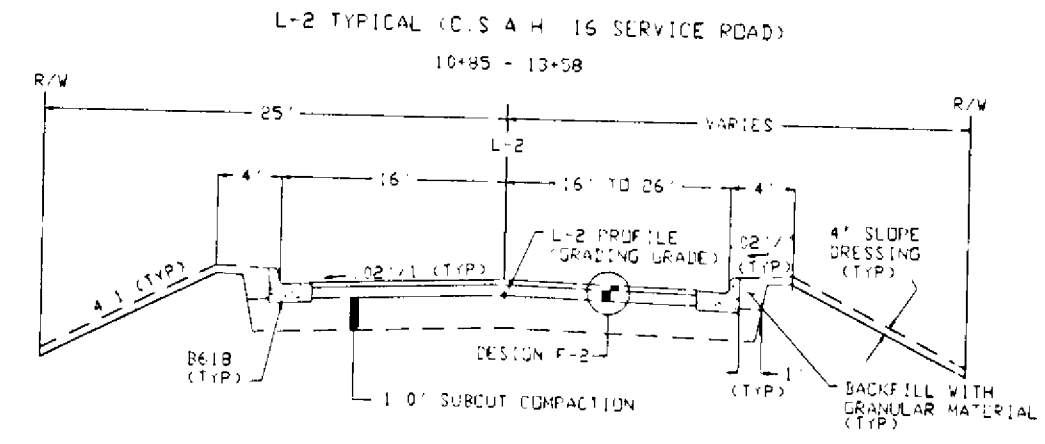
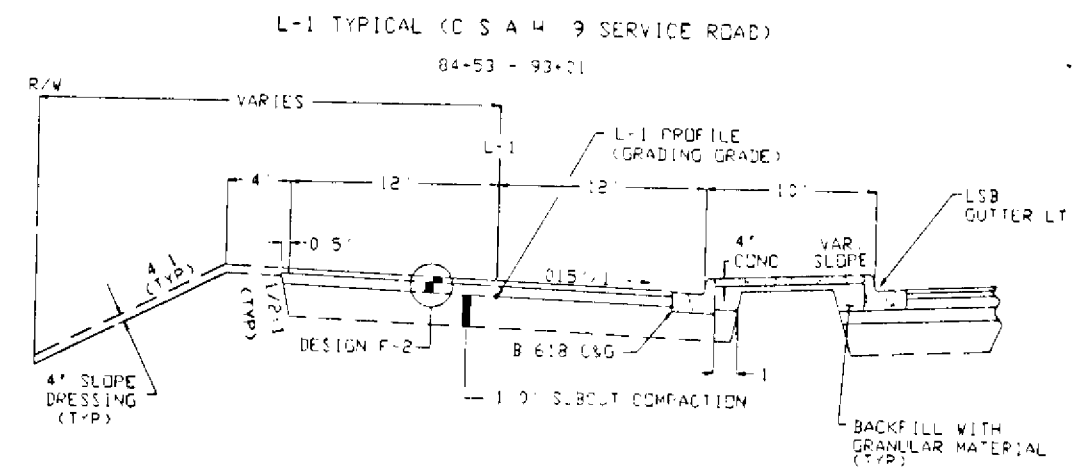
**BUNKER LAKE BLVD (C.R. 116 & C.S.A.H. 16) - LEFT TURN LANES**

LWB STA 124+15 TO STA 126+24  
 LEB STA 124+39 TO STA 128+26  
 STA 132+70 TO STA 137+03

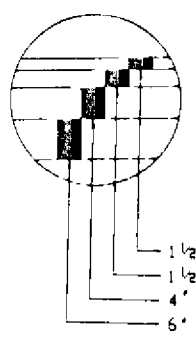


TYPICAL SECTIONS  
 C.R. 116 - C.S.A.H. 16





**DESIGN F-1**

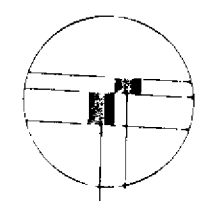


- 1 1/2" TYPE 41 WEARING COURSE-SPEC 2340
- 1 1/2" TYPE 31 BINDER COURSE-SPEC 2340
- 4" TYPE 31 BASE COURSE-SPEC 2340
- 6" AGG. BASE CL-5A

TACK COAT-SPEC 2357, TO BE APPLIED BETWEEN ALL BITUMINOUS LIFTS

4" BASE COURSE TO BE CONSTRUCTED WITH TWO 2" LIFTS.

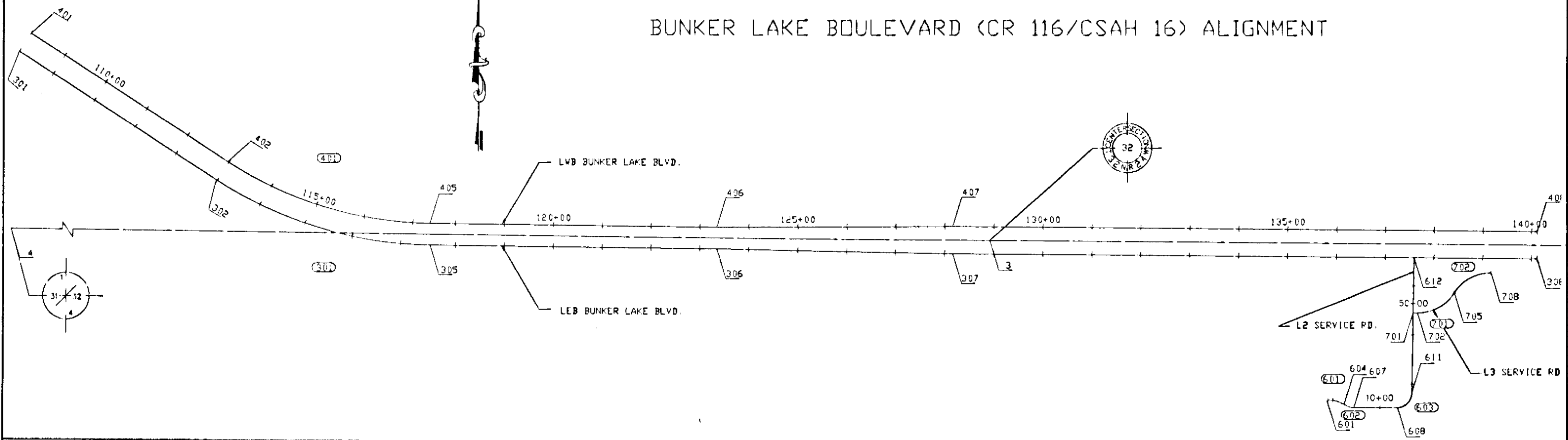
**DESIGN F-2**



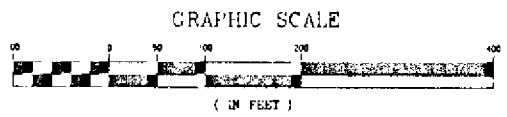
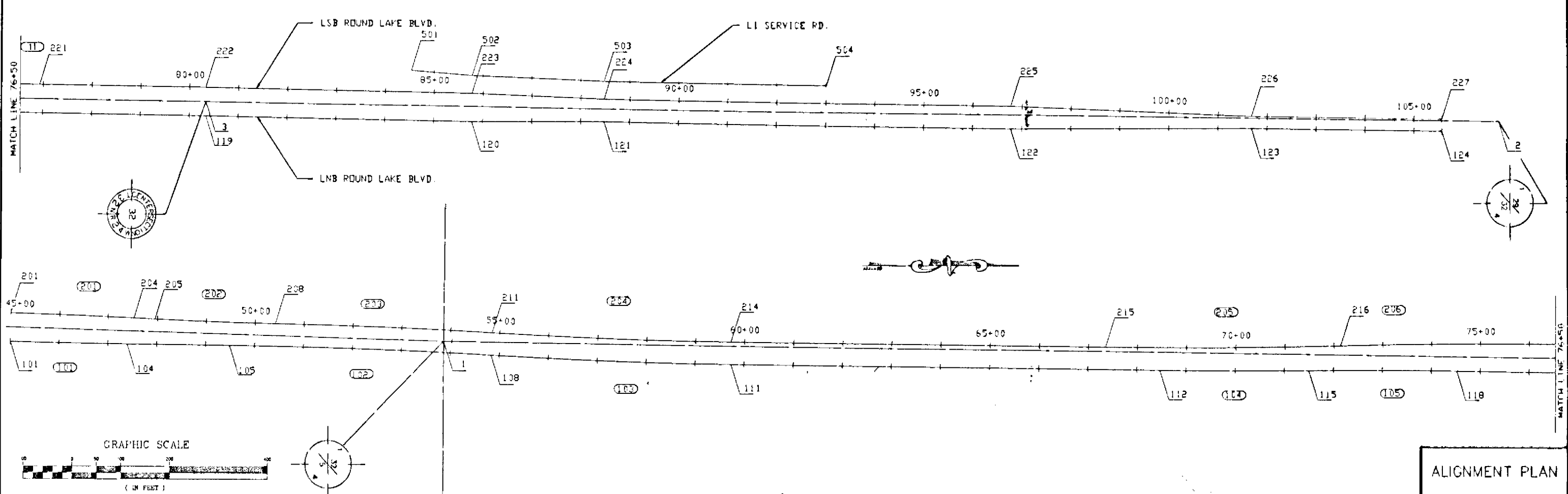
- 2" TYPE 41 WEARING COURSE-SPEC 2340
- 4" AGG. BASE CL-5A

TYPICAL SECTIONS  
SERVICE DRIVES  
DESIGN INSETS

# BUNKER LAKE BOULEVARD (CR 116/CSAH 16) ALIGNMENT



# ROUND LAKE BOULEVARD (CSAH 9) ALIGNMENT



ALIGNMENT PLAN

(N)

ALIGNMENT TABULATION

CURVE POINT NO.	POINT TYPE	LOCATION	CURVE DATA			COORDINATES		AZIMUTH	
			DELTA	DEGREE	RADIUS	TANGENT LENGTH	NORTH		EAST
SECTION CORNERS									
1		S 1/4 SEC 34				6363.4186	2277.9923	00° 42' 38"	
2		N 1/4 SEC 34				11670.004	3843.5484	00° 42' 38"	
3		CENTER SEC 32				9030.3136	3810.8100		
4		E 1/4 SEC 32				9039.4865	8425.6807		
5		E 1/4 SEC 34				9051.1808	1181.2732	90° 27' 25"	
NORTH BOUND ROUND LAKE BOULEVARD									
101	PC	45+00	01° 11' 49" RI	00° 30' 00"	11459.16	5497.3587	3782.3932	01° 41' 02"	
102	PI	46+13.62				5616.9848	3785.9101		
103	RP					5734.9775	7671.6146		
104	PT	47+39.27	A PT. 27.09' RI OF & PERP. TO N. S. 1/4 LANE 646.24' S. OF N 1/4 SEC 3			5746.8782	2786.3274	00° 29' 12"	
105	PC	49+48.31	02° 40' 24" RI	00° 30' 00"	11459.16	5945.6101	3788.7034	00° 29' 12"	
106	PI	52+15.69				6212.9870	3790.9761		
107	RP					5848.6109	15247.4454		
108	PT	54+82.98				6479.9670	3805.7174	03° 09' 37"	
109	PC	57+58.91	02° 27' 00" RI	00° 30' 00"	11459.16	7111.7230	7636.0107		
110	PI	59+74.97				6969.6248	3822.6044	00° 42' 38"	
111	RP					7843.3190	3835.0985		
112	PT	68+46.72				7994.7886	3834.9758		
113	PC	62+98.12	01° 30' 50" RI	00° 30' 00"	11459.16	7982.4072	7665.1768		
114	PI					8146.0942	3832.8538	329° 11' 48"	
115	RP	71+49.50				8297.4811	3830.7227		
116	PT	73+00.90				8306.7862	15299.8821		
117	PC	74+52.49				8448.8797	3835.9076	00° 42' 38"	
118	PI					9039.0823	3839.8143	00° 42' 38"	
119	RP	80+33.24				9574.5337	3790.6693	00° 53' 25"	
120	PT	92+77.19				9844.4078	3800.4639	00° 09' 48"	
121	PC	88+47.23	01° 16' 23" RI	00° 30' 00"	11459.16	929.57	10675.8787	00° 53' 25"	
122	PI					491.29	11164.5494	3837.6706	00° 42' 38"
123	RP	96+76.86				1101.6819	3832.1182	00° 42' 38"	
124	PT	101+68.19				1153.5867	3832.1182	00° 42' 38"	
SOUTH BOUND ROUND LAKE BOULEVARD									
201	PC	45+00	01° 12' 35" RI	00° 30' 00"	11459.16	5498.2841	3782.1741	01° 24' 30"	
202	PI	46+25.98				5664.5216	3787.5612		
203	RP					5790.9006	15179.1878		
204	PT	47+51.26	A PT. 25.49' LI OF & PERP. TO N. S. 1/4 LANE 603.67' S. OF N 1/4 SEC 5			5790.7542	3733.7162	02° 48' 01"	
205	PC	47+95.04	01° 50' 46" RI	00° 45' 00"	7639.44	5793.7880	3795.8612	02° 48' 01"	
206	PI	49+18.13				5916.7316	3741.8950		
207	RP					6167.0238	3694.4318		
208	PT	50+41.29				6039.8051	3743.8848	00° 57' 45"	
209	PC	52+61.84	02° 12' 22" RI	00° 30' 00"	11459.16	6261.3071	3747.2740		
210	PI					6480.2882	3759.7815	03° 09' 37"	
211	RP	54+82.44				6748.1779	3773.2419		
212	PT	57+27.47				7114.5792	7682.0988		
213	PC	59+72.42	02° 27' 00" RI	00° 30' 00"	11459.16	6970.3213	3715.2702	00° 42' 38"	
214	PI					7732.7430	3785.7238	00° 42' 38"	
215	RP	67+34.83				7972.1422	3788.6964		
216	PT	69+74.24				8211.4564	3781.6593	358° 19' 00"	
217	PC	72+13.59	02° 23' 38" RI	00° 30' 00"	11459.16	8450.7707	3774.8261		
218	PI					8548.0818	15255.8628		
219	RP	74+53.91				8690.1629	3777.5948	00° 42' 38"	
220	PT	76+92.26				9030.4	3781.8156	00° 42' 38"	
221	PC	80+32.76	00° 10' 47" RI	00° 30' 00"	11459.16	9574.5337	3790.6693	00° 53' 25"	
222	PI	85+76.81				9844.4078	3800.4639	00° 09' 48"	
223	RP	88+47.23	01° 16' 23" RI	00° 30' 00"	11459.16	929.57	10675.8787	00° 53' 25"	
224	PT	96+76.86				1101.6819	3832.1182	00° 42' 38"	
225	PC	101+68.19	01° 24' 03" RI	00° 30' 00"	11459.16	1153.5867	3832.1182	00° 42' 38"	
226	PI					1223.3433			
227	RP	108+16.81				1187.1614			
228	PT	112+97.27				1152.6126			
EAST BOUND BUNKER LAKE BOULEVARD									
301	PC	108+16.81	32° 13' 02" LI	06° 58' 12"	882	9446.8692	1824.8791		
302	PI	112+97.27				9147.4691	2229.2069	122° 40' 27"	
303	RP	115+31.92				9019.3300	1494.1255		
304	PT	117+47.11				9659.4110	5673.0727		
305	PC	117+47.11	CG STA. BACK 117+59.48 AHEAD 117+47.11 A PT. 22.81' OF & PERP. TO E. W. 1/4 LANE 1485.47' E. OF E 1/4 SEC 34			9017.4212	2868.5182	90° 27' 25"	
306	PI	123+34.33				9012.7550	3653.7171	90° 27' 25"	
307	RP	128+16.14				9002.9137	3735.4528	91° 10' 13"	
308	PT	133+34.33				8993.2824	4932.2474	92° 47' 25"	
WEST BOUND BUNKER LAKE BOULEVARD									
401	PC	108+16.81				9443.9071	1824.8791		
402	PI	112+97.27				9184.2663	2229.2069	122° 40' 27"	
403	RP	115+31.92				9063.6273	1494.1255		
404	PT	117+47.11				9839.4110	5673.0727		
405	PC	117+47.11	CG STA. BACK 117+34.73 AHEAD 117+47.11 A PT. 22.81' OF & PERP. TO E. W. 1/4 LANE 1485.47' E. OF E 1/4 SEC 34			9061.4328	2066.8624	90° 27' 25"	
406	PI	123+34.33				9056.7526	3654.6679	90° 27' 25"	
407	RP	128+16.14				9038.9130	3735.4528	89° 44' 36"	
408	PT	133+34.33				8993.2824	4932.2474	92° 47' 25"	
LI - SERVICE ROAD									
501	PC	84+53.00				9451.4726	3744.0683		
502	PI	85+77.64				9575.6255	3754.3903	04° 42' 36"	
503	RP	86+47.32				9647.32	764.4715	02° 09' 48"	
504	PT	87+51.16				9628.2672	772.2434	00° 27' 25"	
L2 - SERVICE ROAD									
601	PC	8+98.28	31° 47' 18" RI	92° 24' 45"	62.00	8795.8826	4501.8122	90° 18' 37"	
602	PI	9+07.93				8705.7876	4519.4693		
603	RP					8643.8875	4503.4764		
604	PT	9+24.66				8636.4028	4534.4819	122° 09' 35"	
605	PC	9+56.58	31° 47' 18" RI	150° 46' 40"	36.00	8690.6361	4743.2882		
606	PI					8718.3269	4554.6143		
607	RP	9+45.76				8690.3972	4524.4384	90° 18' 37"	
608	PT					8698.1145	4643.5676	90° 18' 37"	
609	PC	10+34.94	89° 22' 39" RI	139° 59' 09"	30	8689.9537	4672.1877		
610	PI	10+64.62				8700.1140	4643.7461		
611	RP	10+81.74				8719.6344	4672.7423	00° 54' 38"	
612	PT	10+57.24				8225.2362	3078.1217		
L3 - SERVICE ROAD									
701	PC	50+00.00				8883.1082	4676.3562		
702	PI	50+08.71				8883.9690	4665.0651	20° 54' 38"	
703	RP	50+38.10				8861.7792	4734.4416		
704	PT					8771.1047	4686.3743		
705	PC	50+98.75	58° 06' 52" RI	62° 00' 01"	68.15	8423.8030	4760.9055	32° 23' 23"	
706	PI	51+47.72				8882.1743	4734.4474		
707	RP					8876.6813	4835.3967		
708	PT	51+66.15				8724.6449	4836.1163	20° 00' 00"	

ALIGNMENT TABULATION

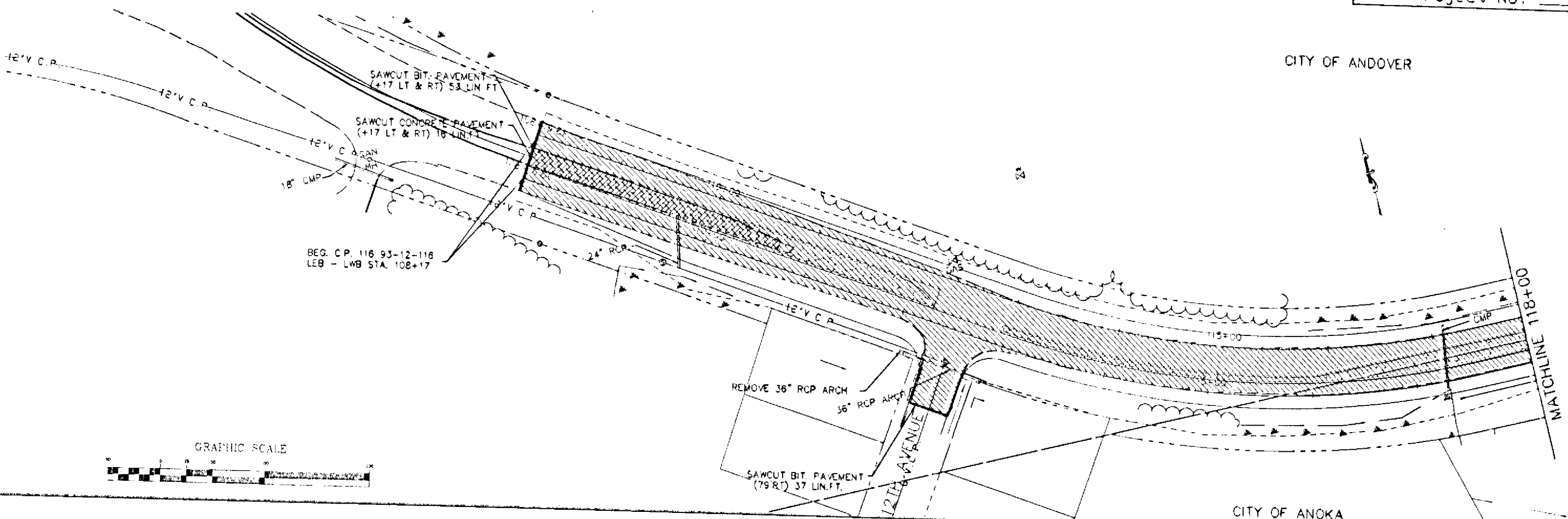




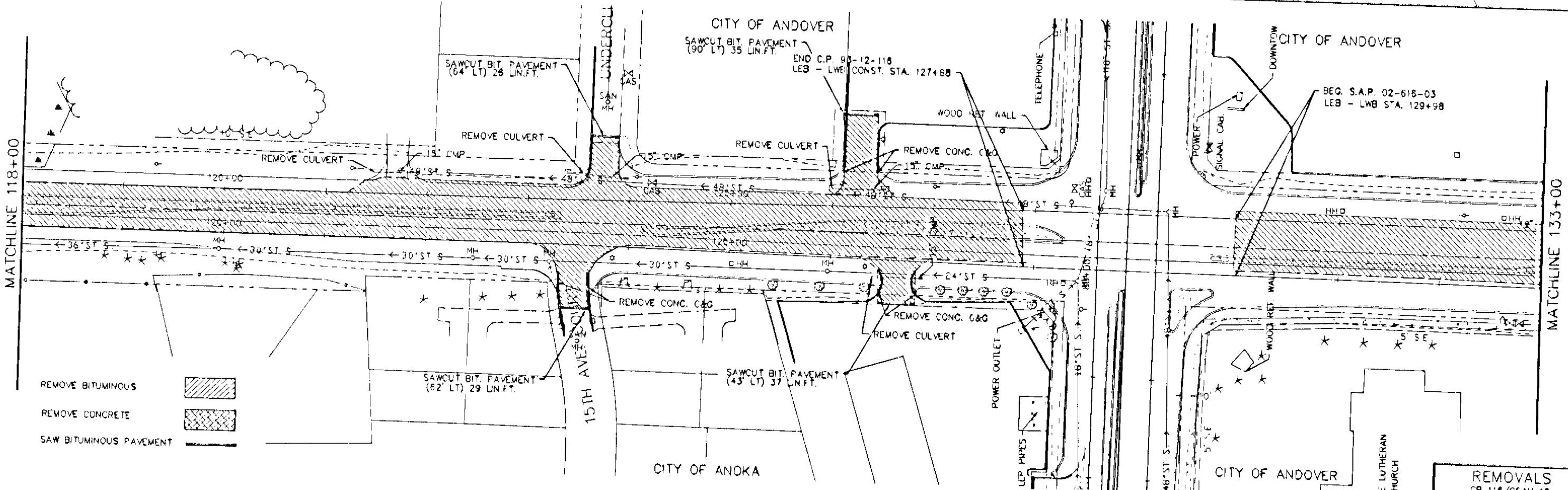




CITY OF ANDOVER

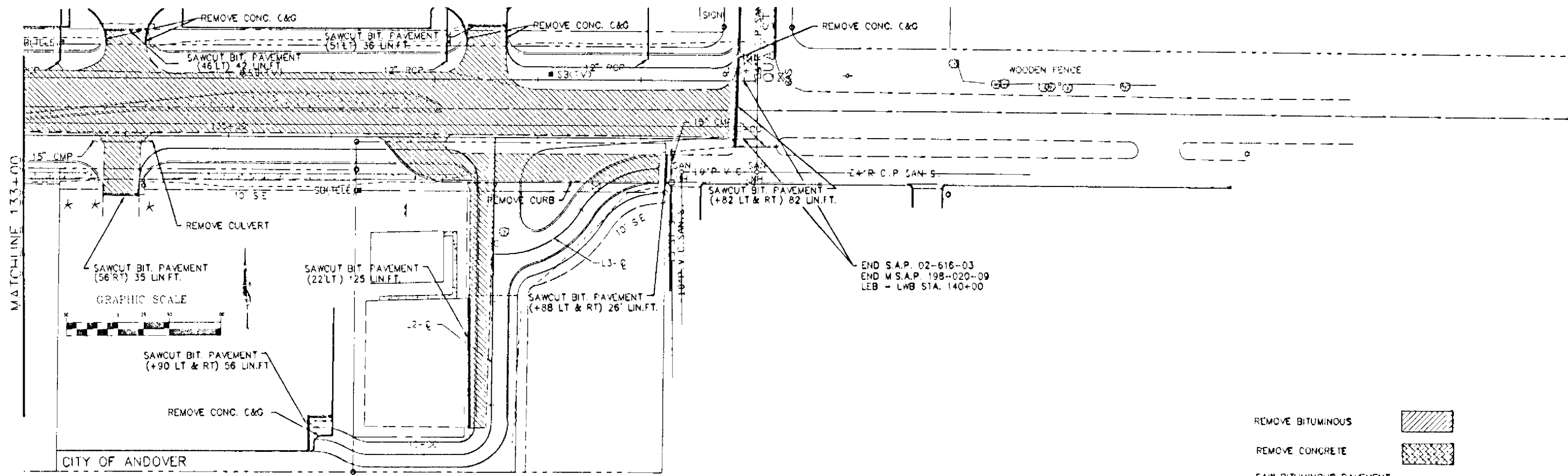


CITY OF ANOKA



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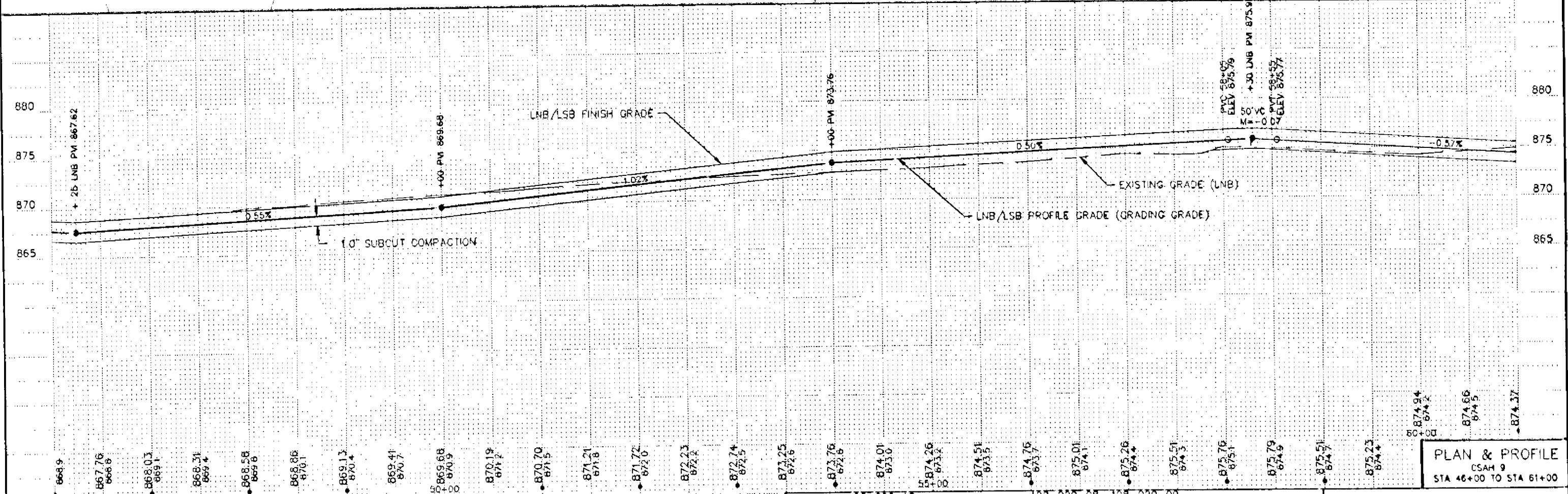
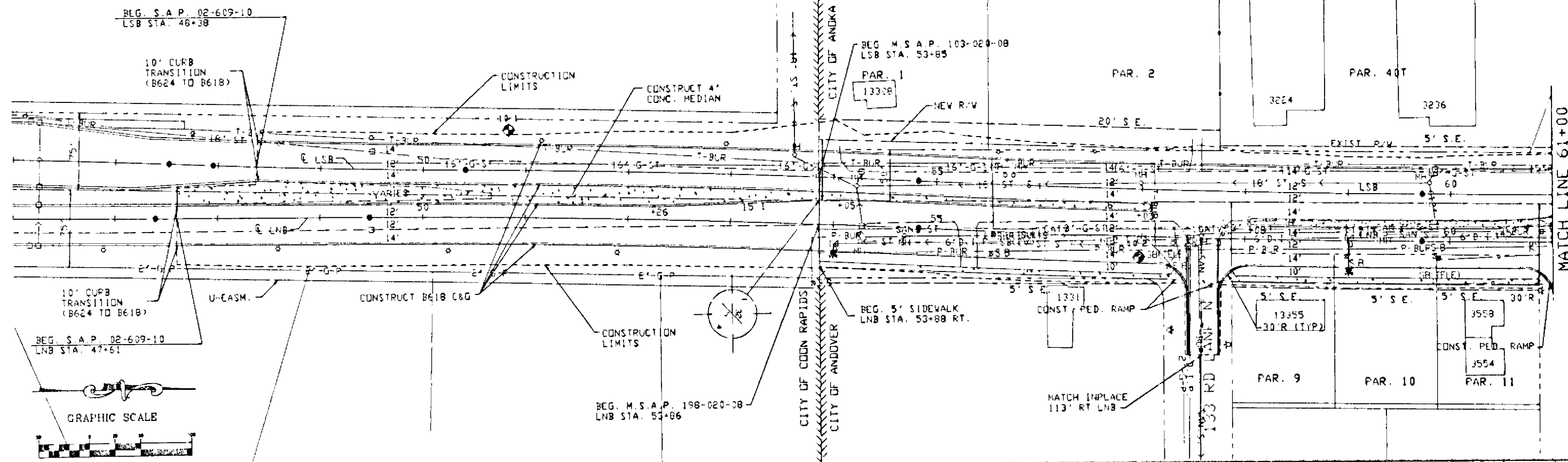
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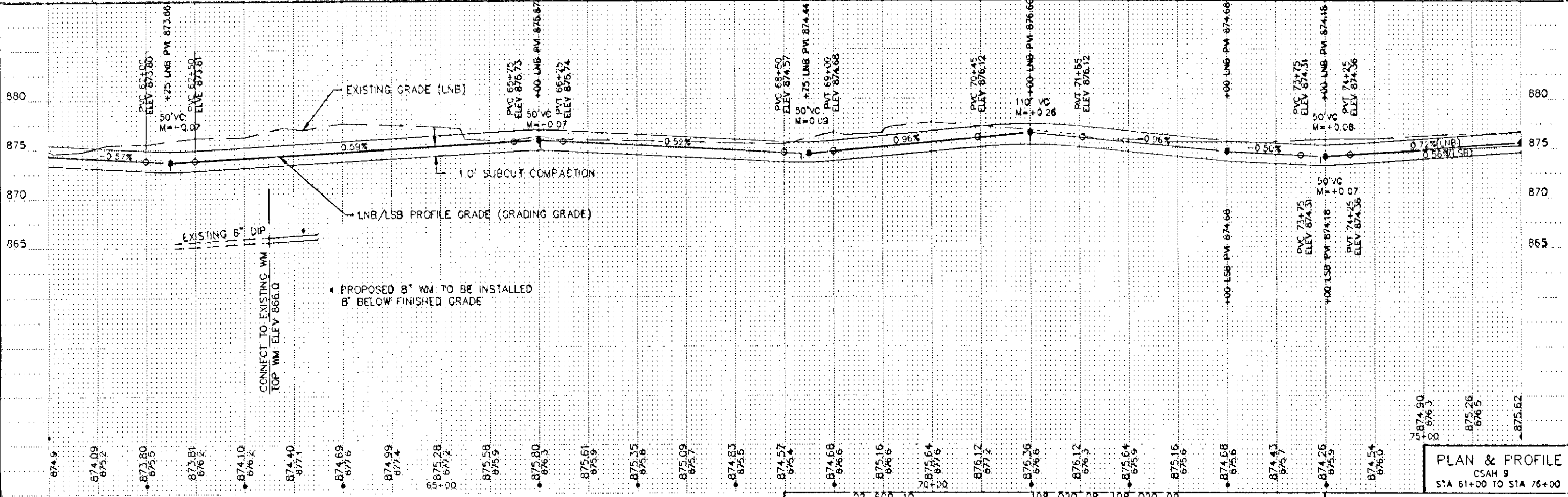
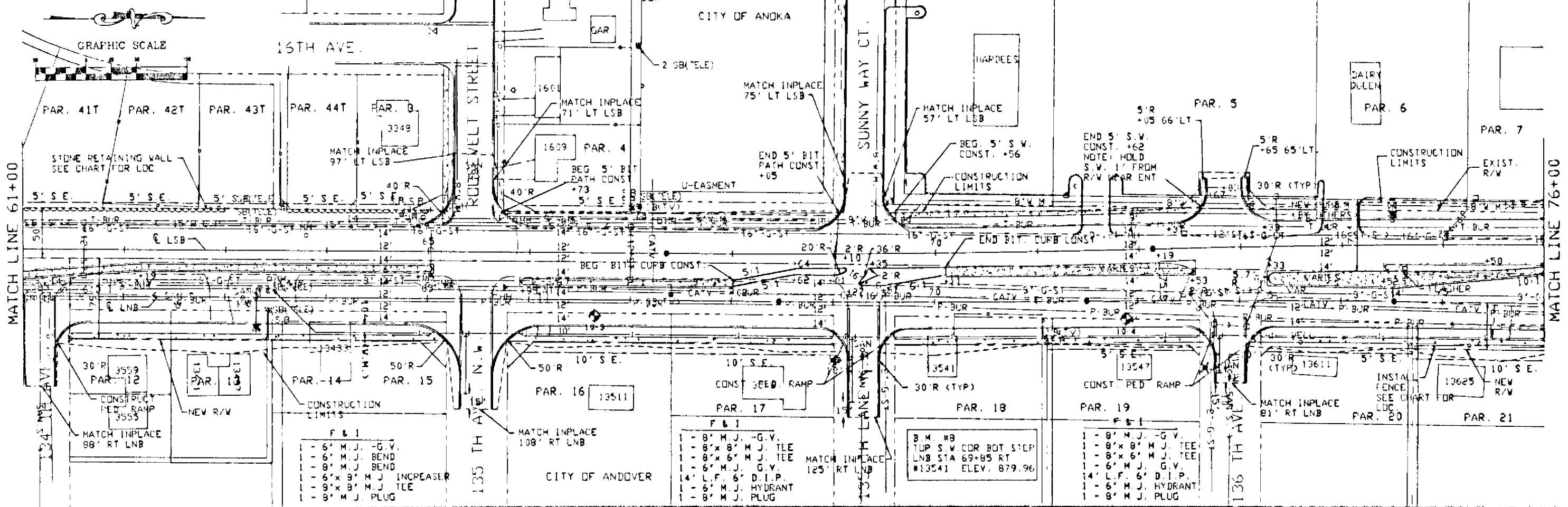
END S.A.P. 02-616-03  
 END M.S.A.P. 198-020-09  
 LEB - LWB STA. 140+00

- REMOVE BITUMINOUS
- REMOVE CONCRETE
- SAW BITUMINOUS PAVEMENT

REMOVALS  
 CSAH 16  
 STA 133+00 TO STA 140+00



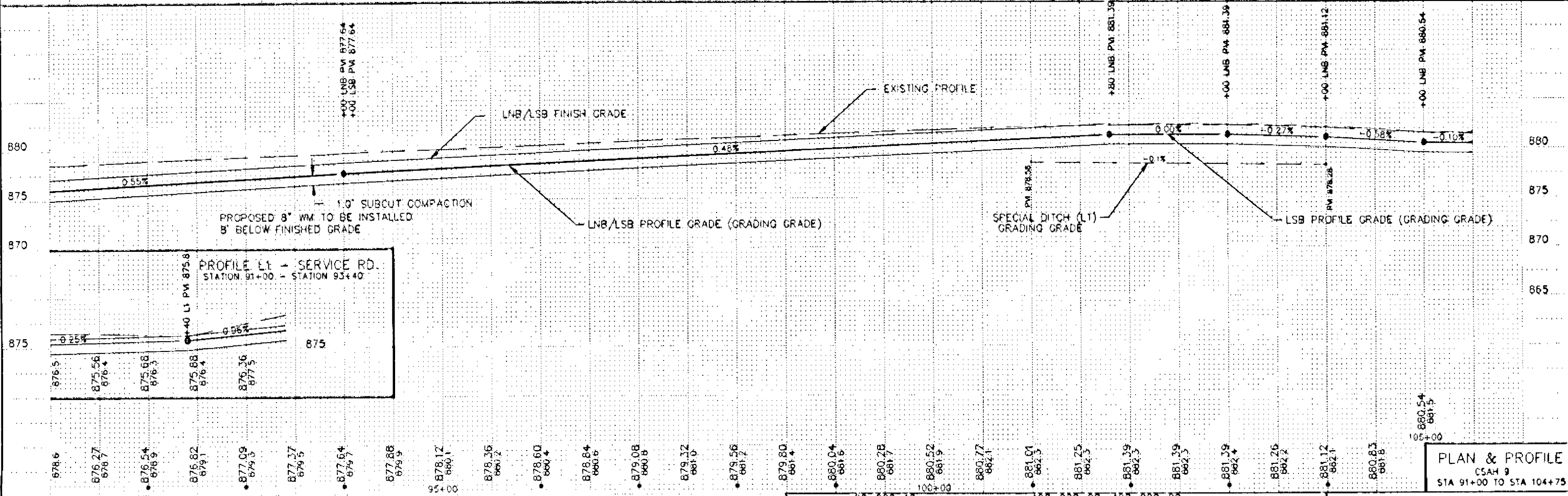
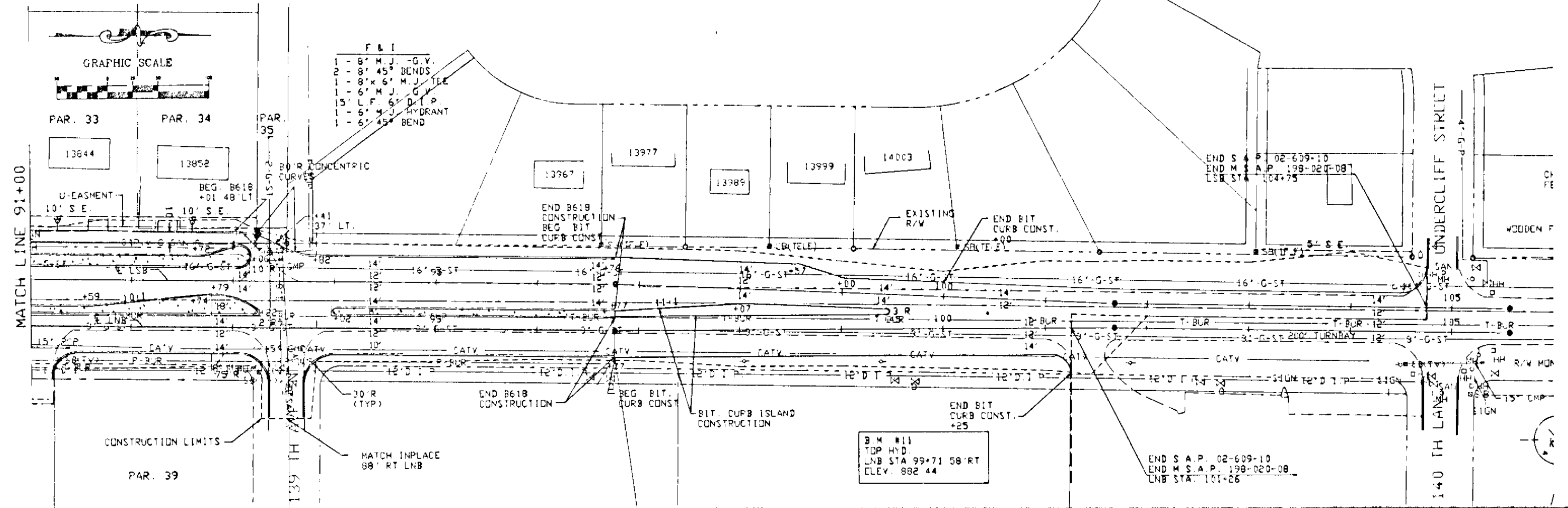
PLAN & PROFILE  
CSAM 9  
STA 46+00 TO STA 61+00



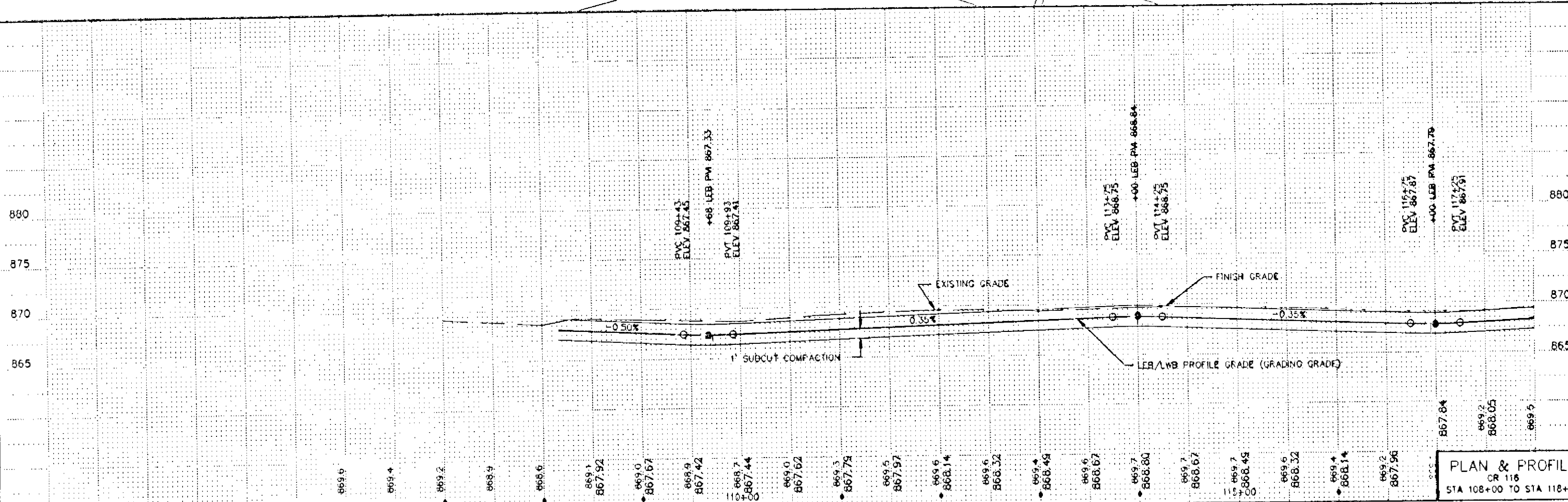
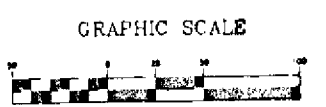
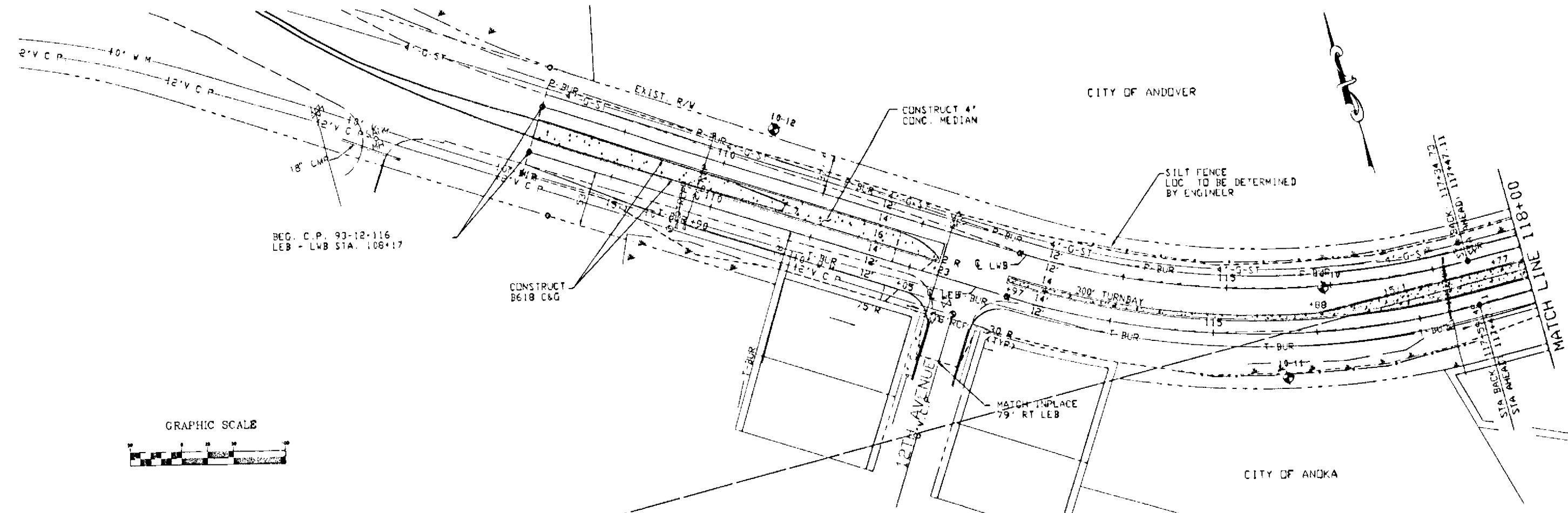
**PLAN & PROFILE**  
CSAH 9  
STA 61+00 TO STA 76+00











PLAN & PROFILE  
CR 116  
STA 108+00 TO STA 118+00

BEG. S.A.P. 02-616-03  
BEG. M.S.A.P. 198-020-09  
LEB - LWB STA. 129+98

F & I  
1 - 8' M.J. - G.V. & BOX  
8" MET TAP ON 12" D.I.P.

ISL. CONC.  
PED. RAMPS (3), LDC.  
DETERMINED BY ENGINEER

PAR. 22

F & I  
1 - 8' x 6' M.J. TEE

GRACE LUTHERAN CHURCH

END C.P. 93-12-116  
LEB - LWB STA. 127+88

MATCH INPLACE  
64' LT LWB  
PAR. 26

CONST. CONC.  
PED. RAMPS

MATCH INPLACE  
62' RT LWB

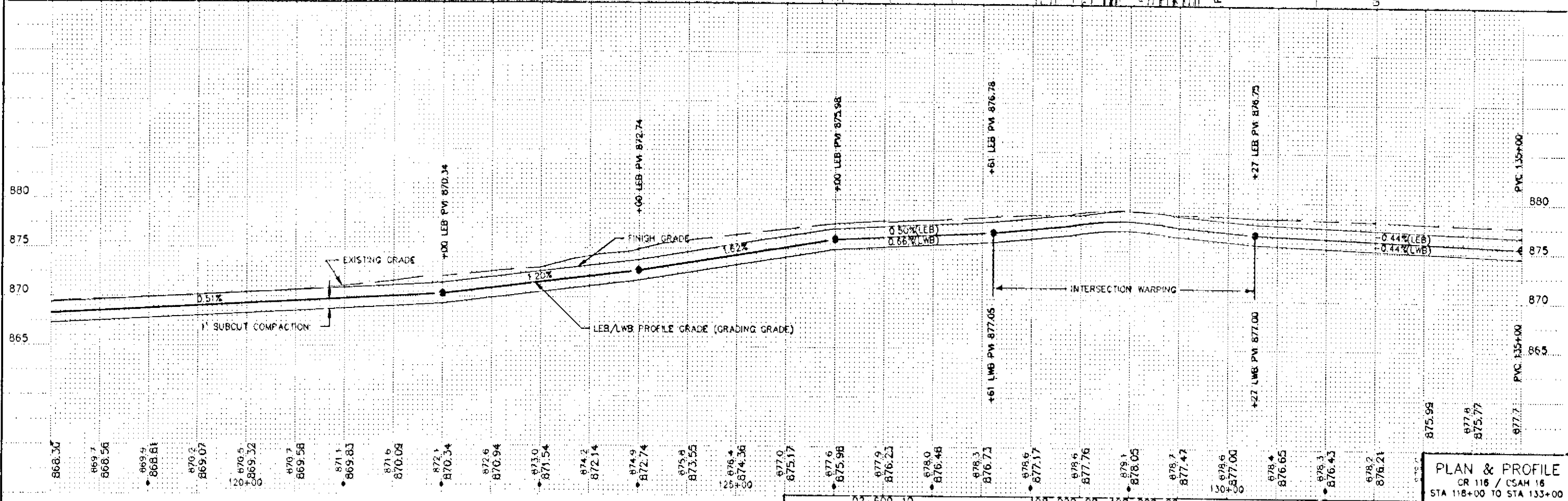
PAR. 8

B.M. #9  
TOP HYD.  
LWB STA 79+36 56' LT  
ELEV 880.02

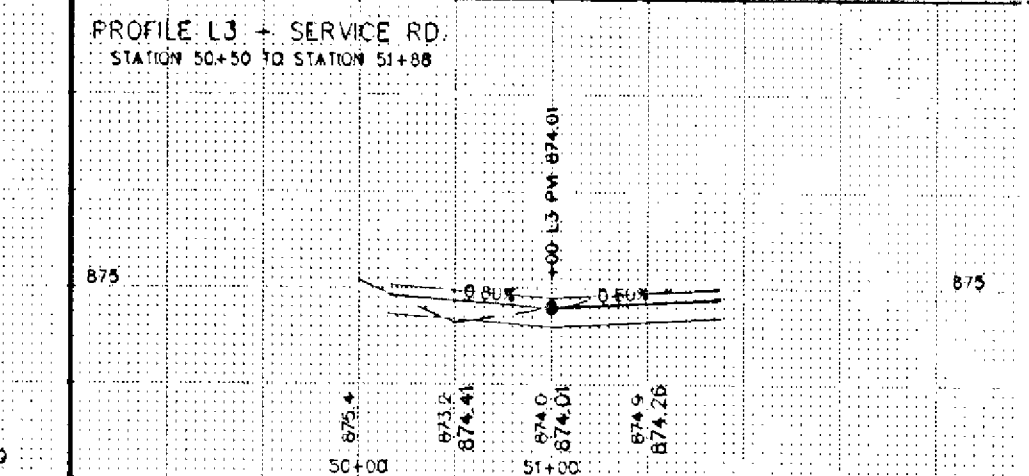
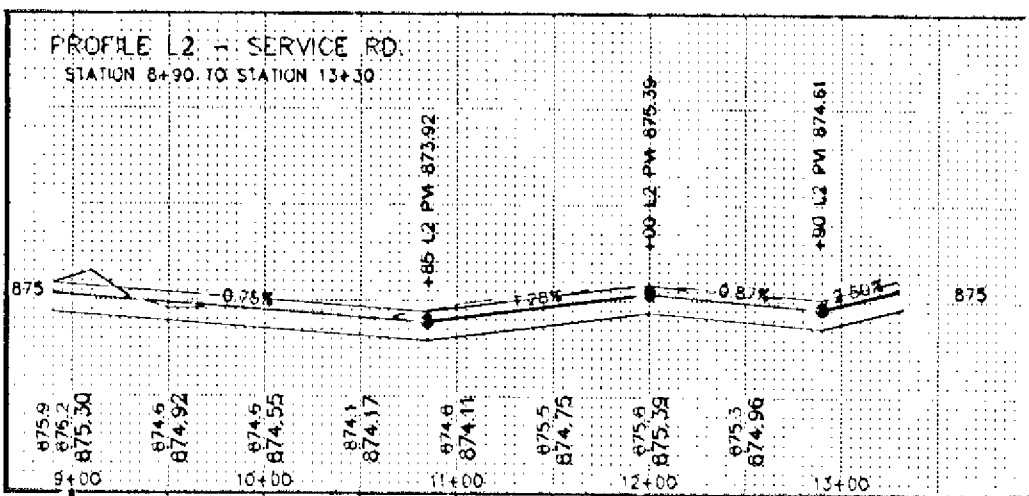
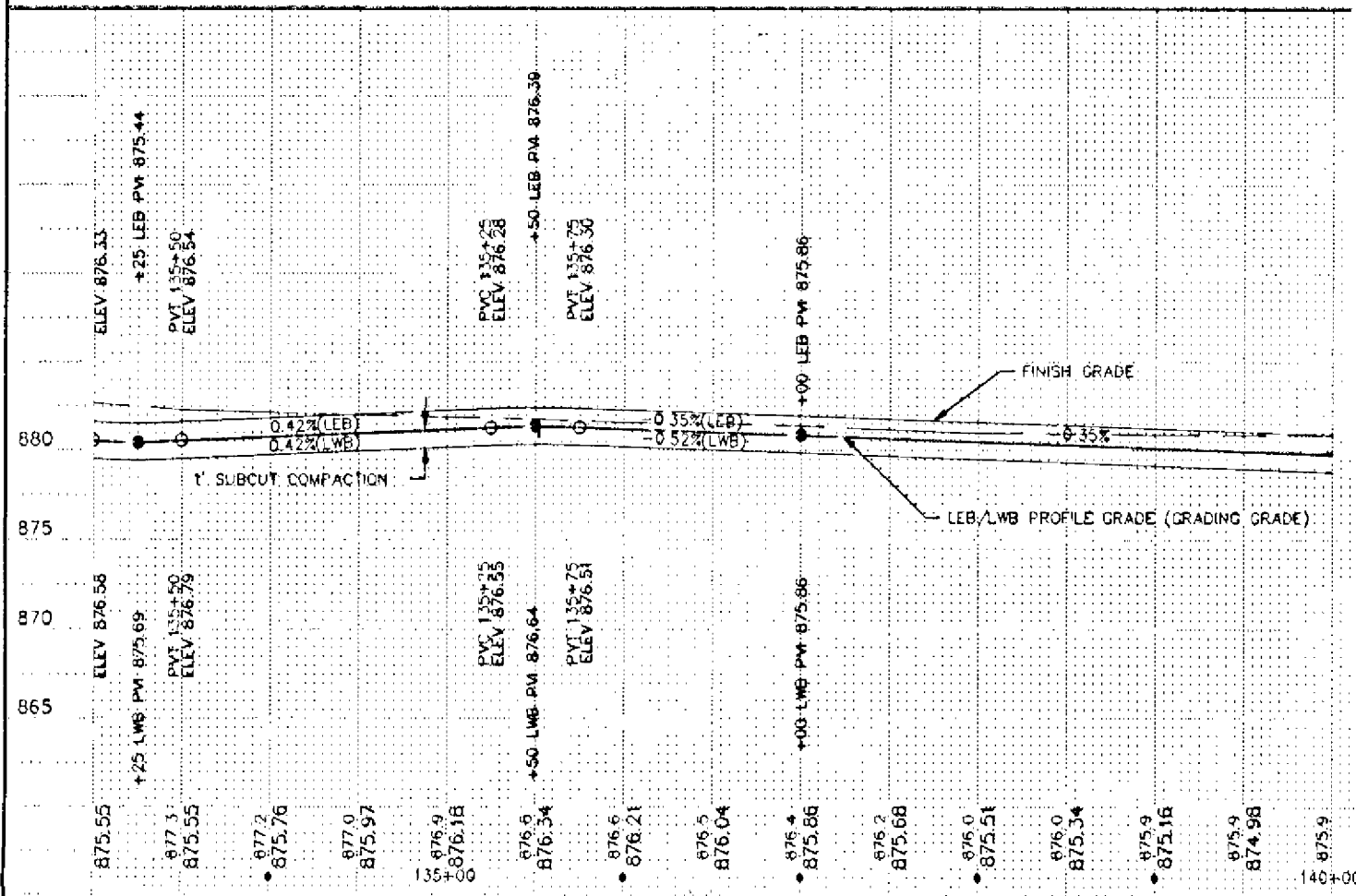
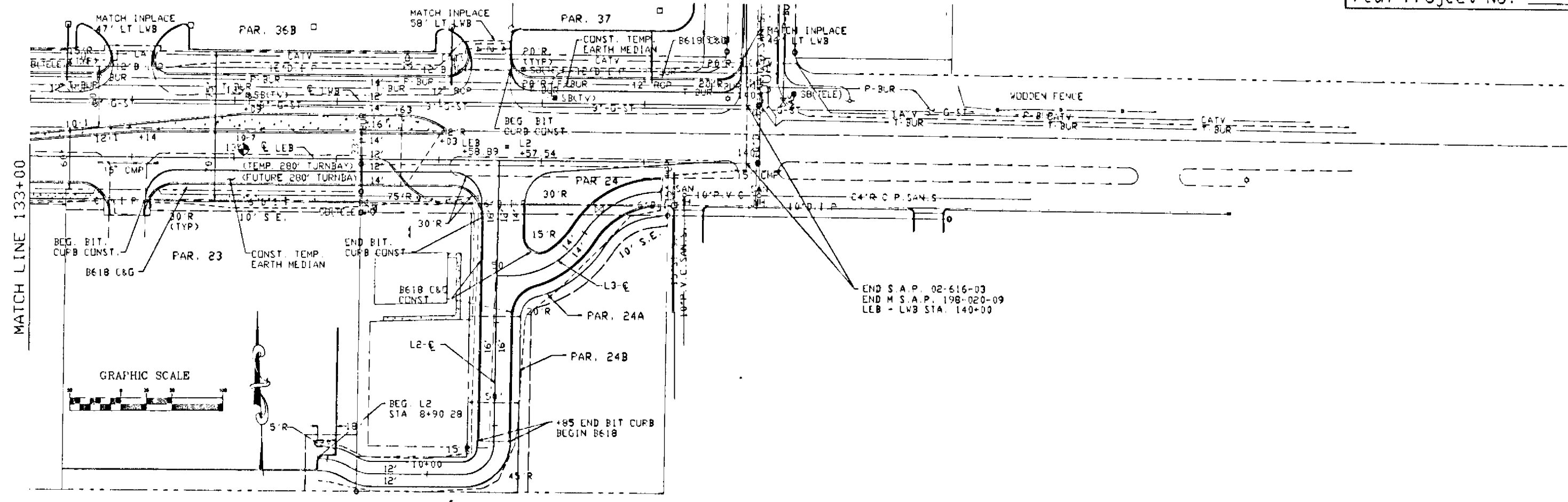
MATCH LINE 118+00

MATCH LINE 133+00

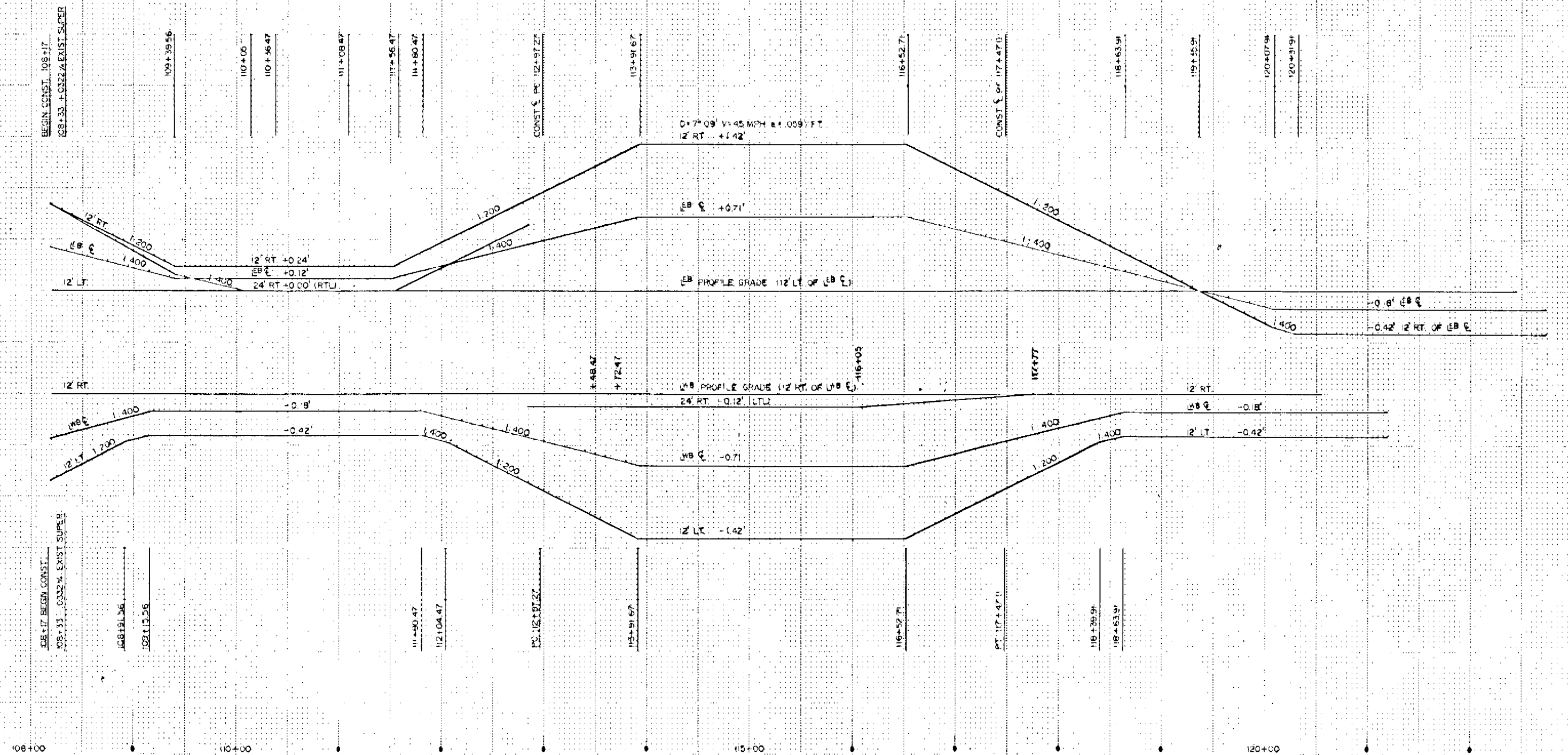
GRAPHIC SCALE



PLAN & PROFILE  
CR 116 / CSAM 16  
STA 118+00 TO STA 133+00



PLAN & PROFILE  
CSAH 16  
STA 133+00 TO STA 140+00



BEGIN CONST. 108+17  
108+33 + 0.32% EXIST SUPER

108+33 - 0.32% EXIST SUPER

D=7°09' V=45 MPH e=.0387 FT.  
12' RT. +1.42'

SCALE:  
HORIZ. 1" = 50'  
VERT. 1" = 5'

SUPERELEVATION  
COUNTY ROAD 118  
STA. 108+17 TO STA. 120+32

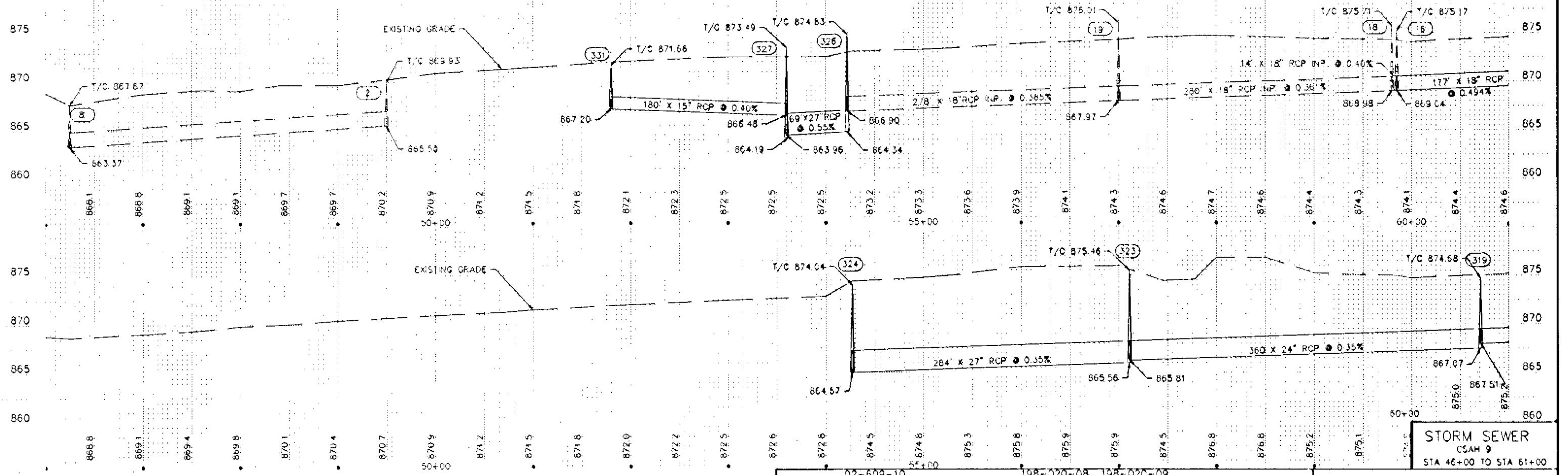
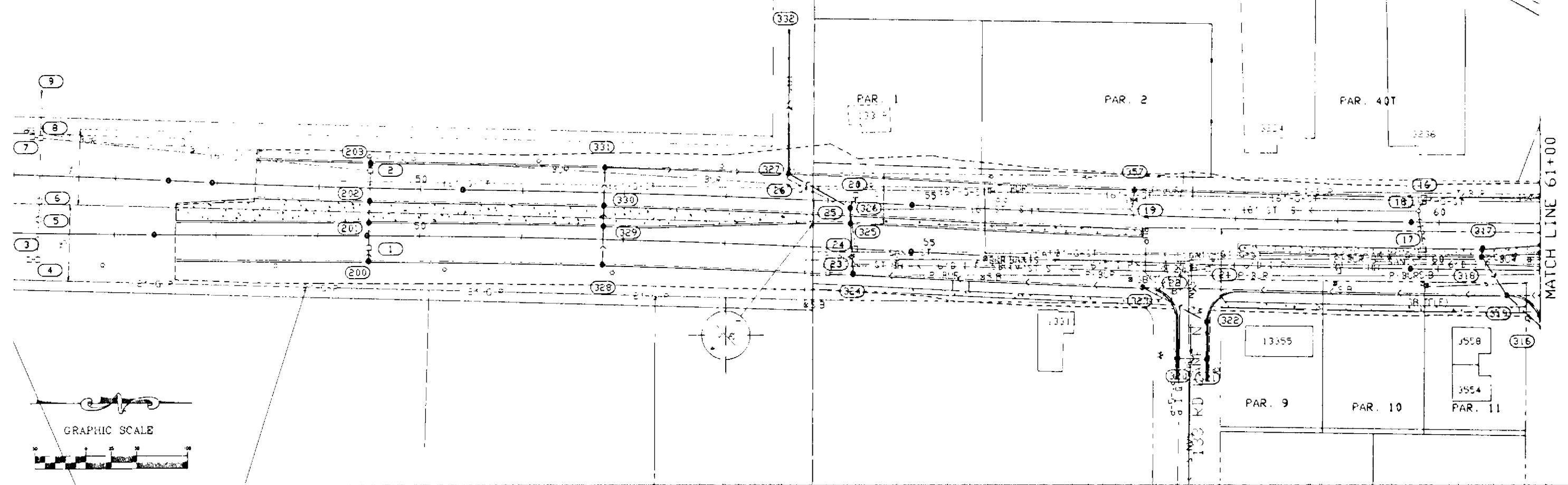






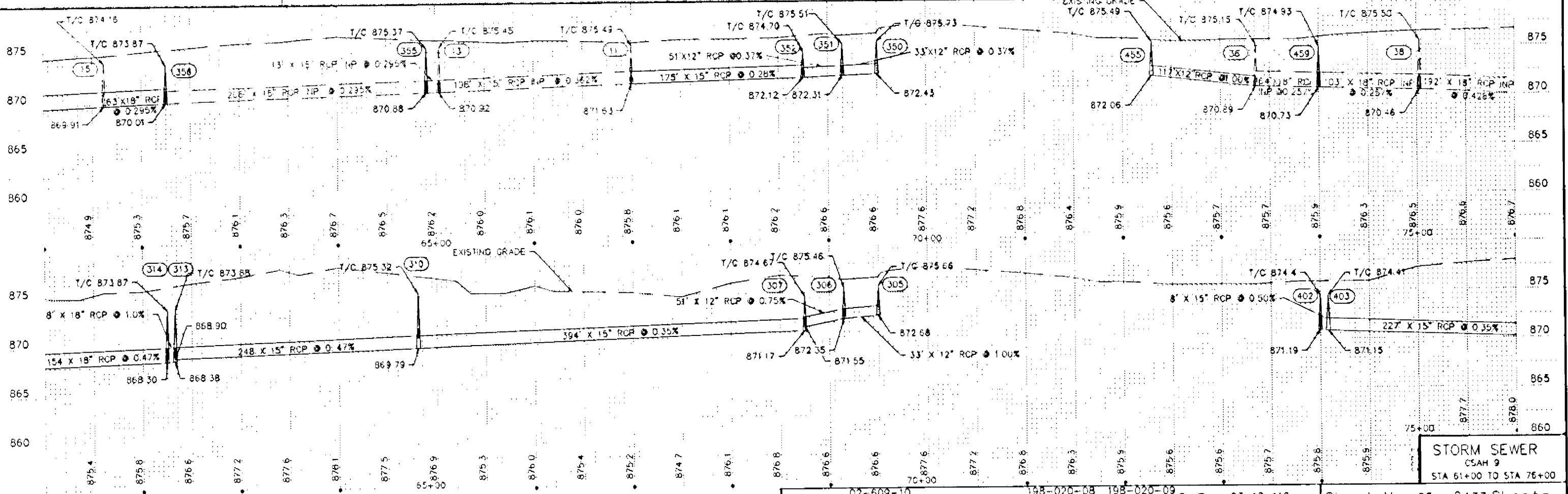
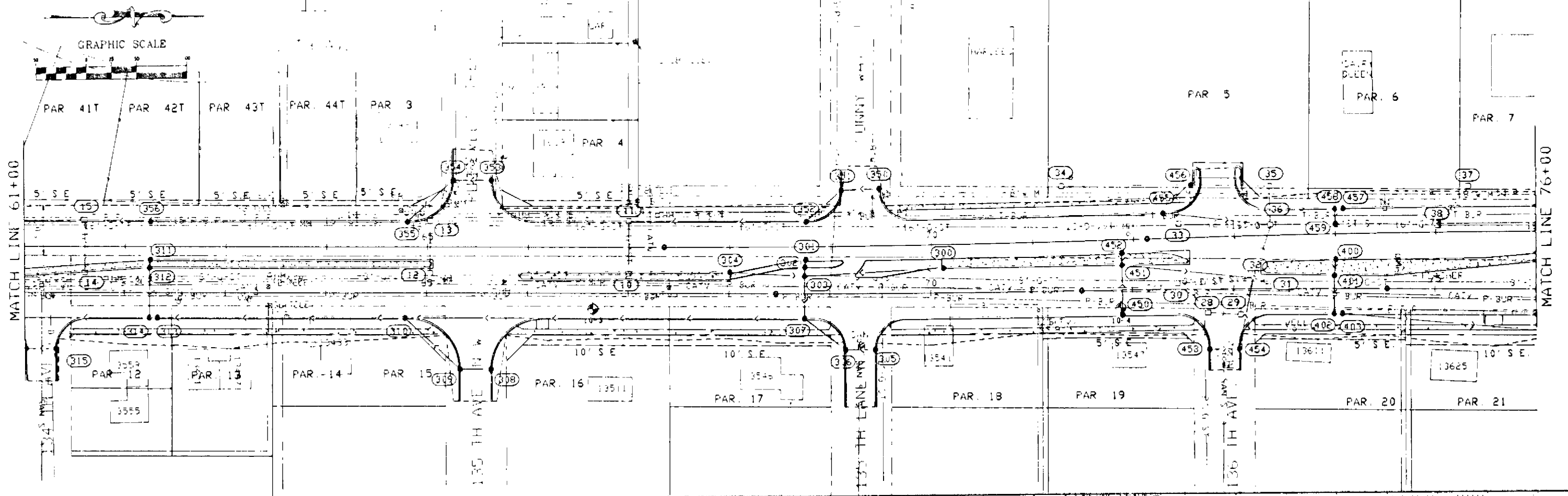




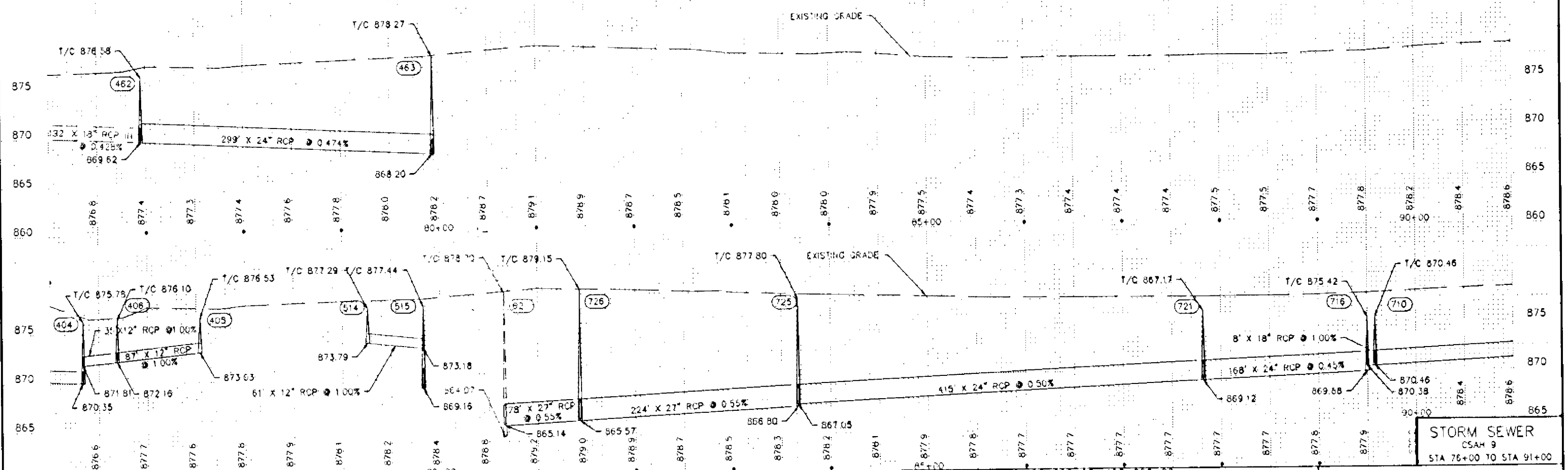
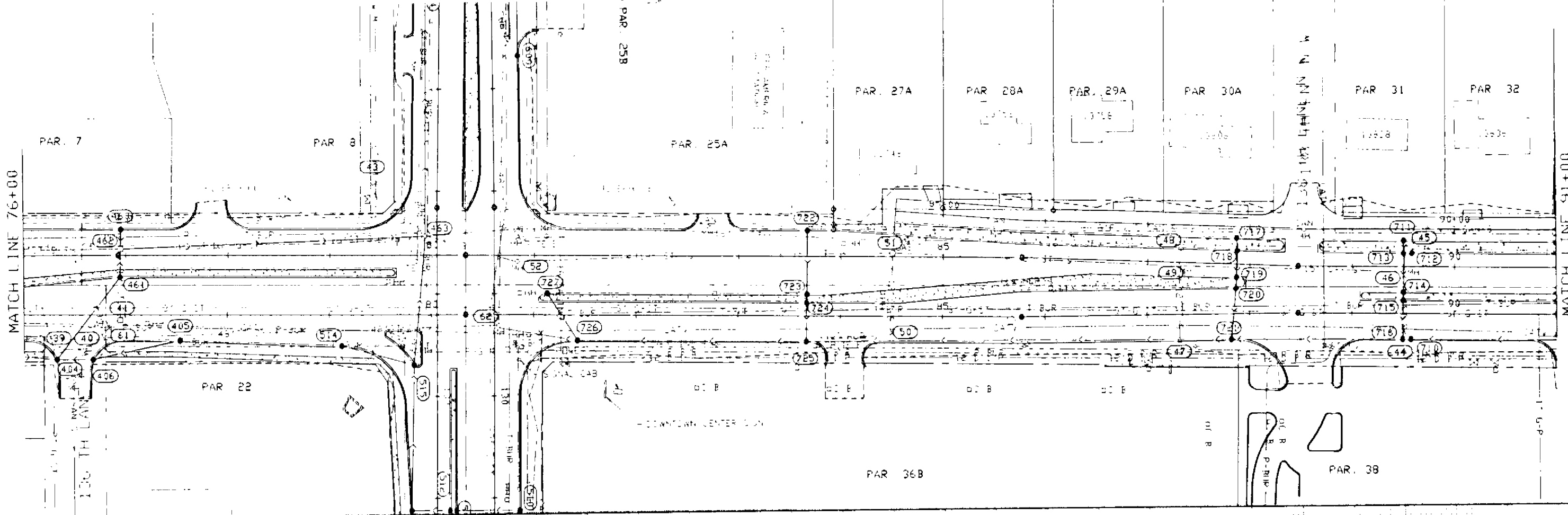


STORM SEWER  
CSAH 9  
STA 46+00 TO STA 61+00

GRAPHIC SCALE

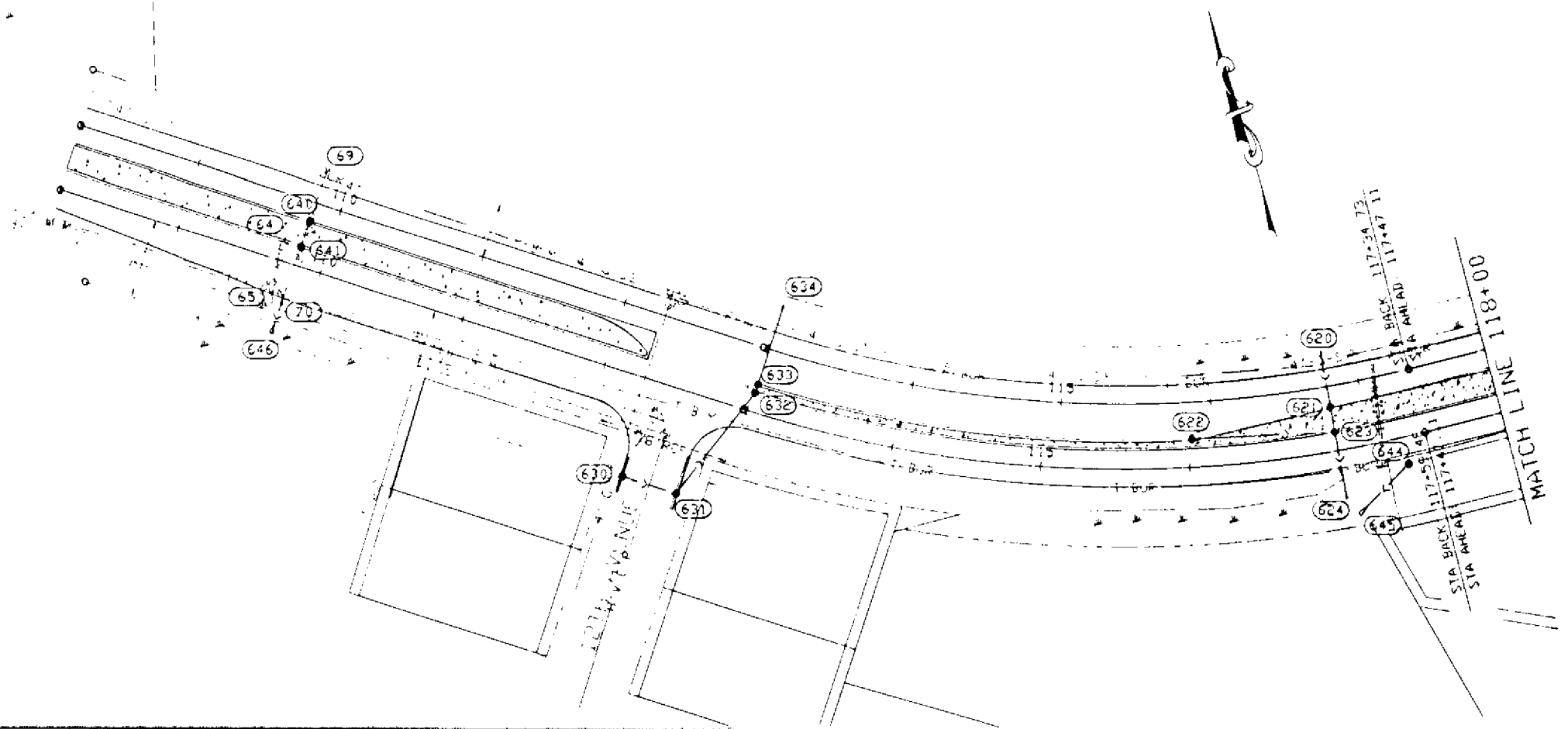
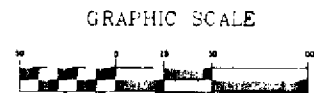


STORM SEWER  
CSAH 9  
STA 61+00 TO STA 76+00



**STORM SEWER**  
 CSAH 9  
 STA 76+00 TO STA 91+00





880  
875  
870  
865

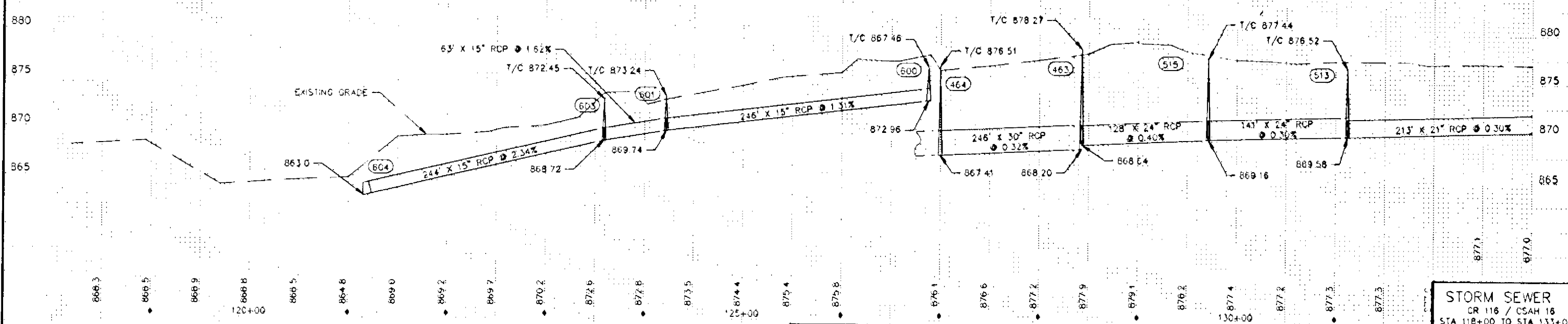
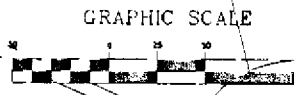
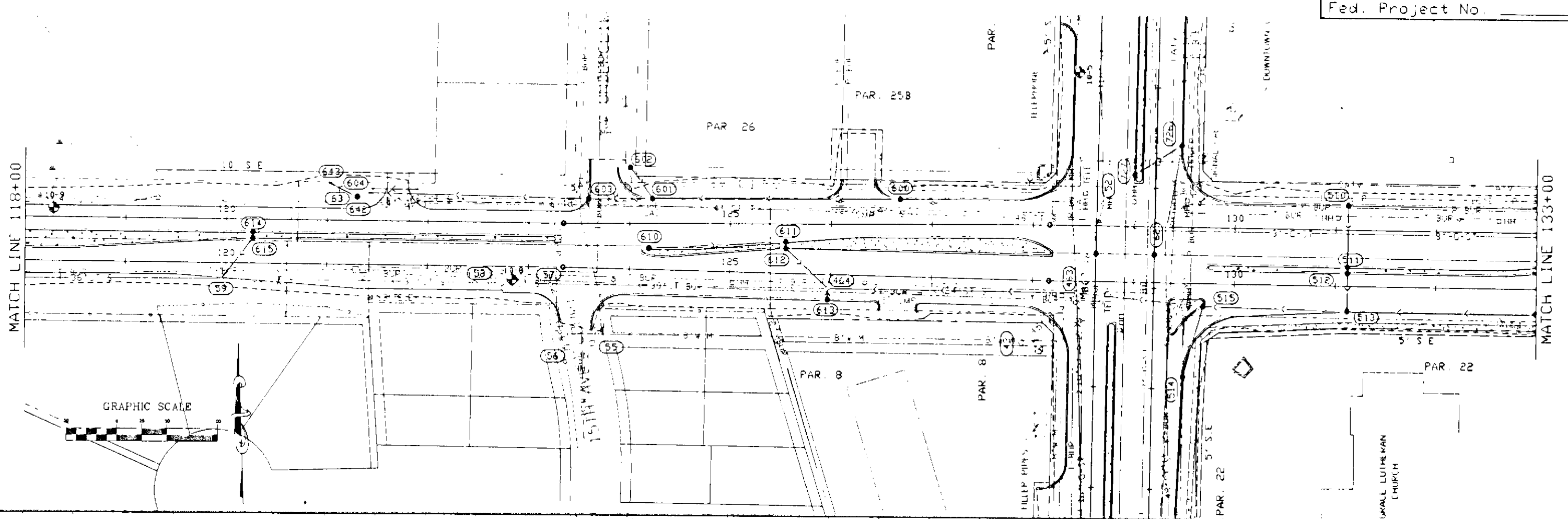
880  
875  
870  
865

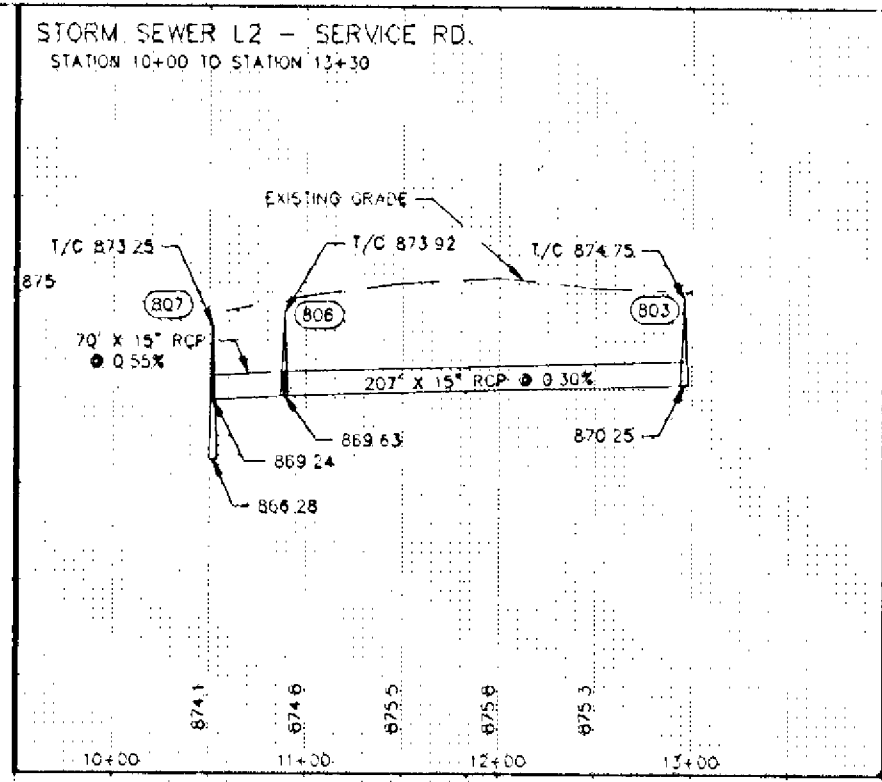
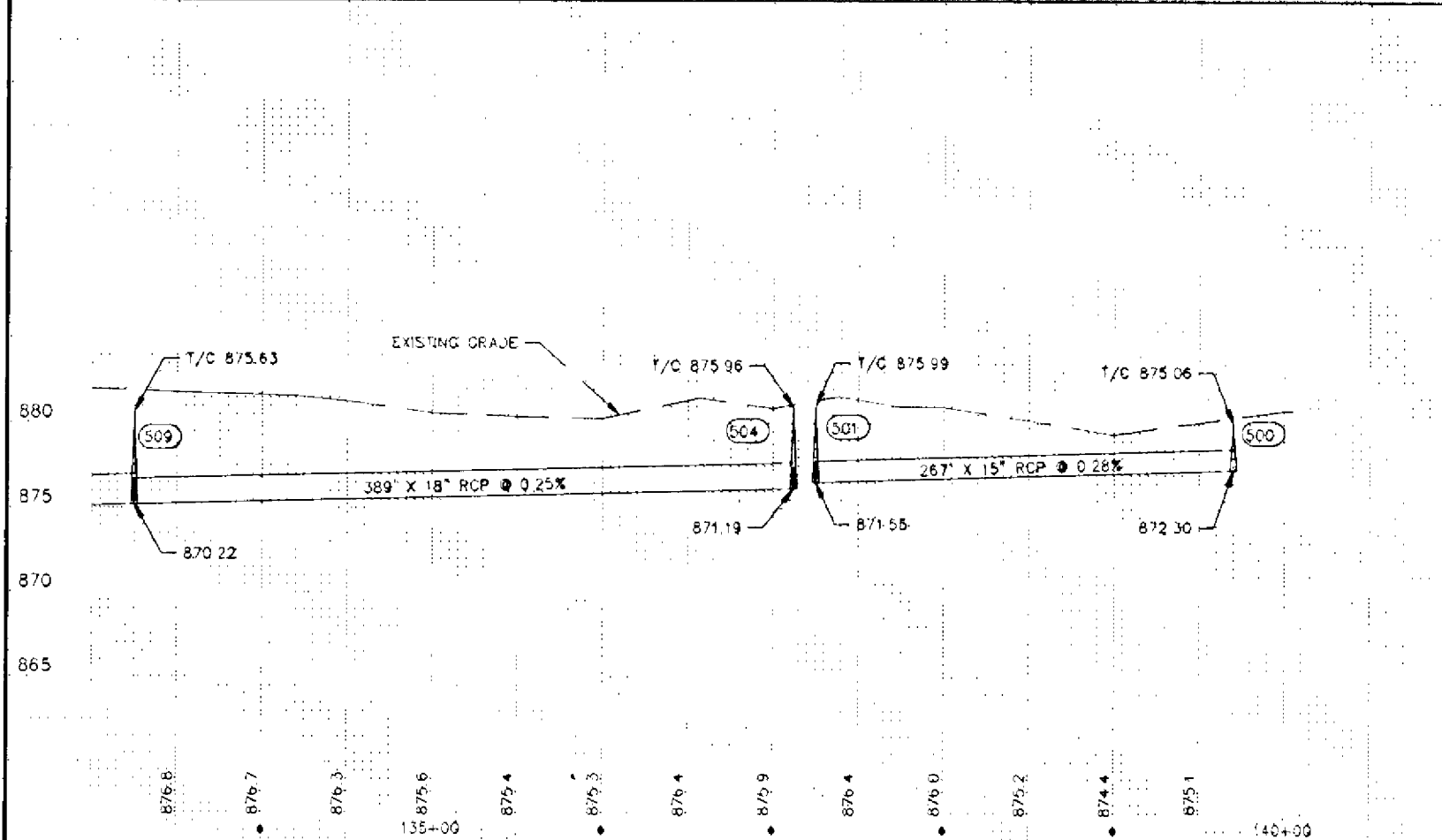
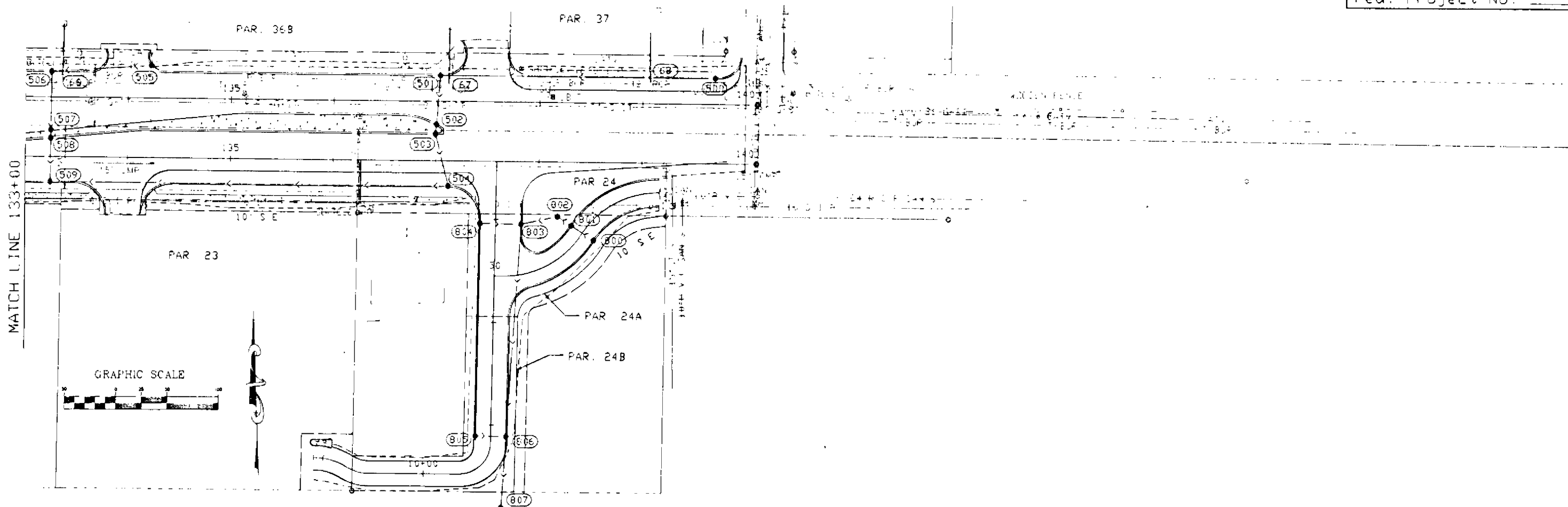
SEE DRAINAGE PROFILE  
SHEETS 41 TO 43 FOR  
DETAILS

STORM SEWER  
CR 116  
STA 108+00 TO STA 118+00

MATCH LINE 118+00

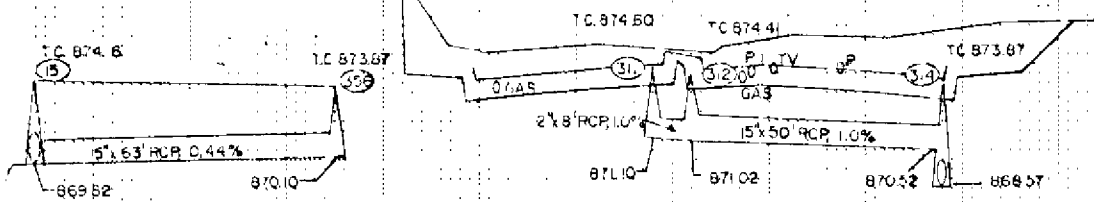
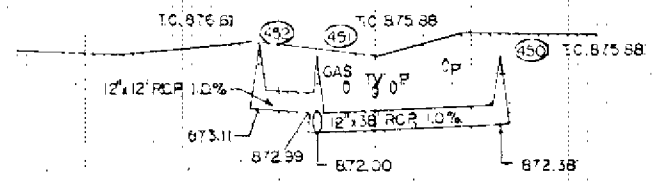
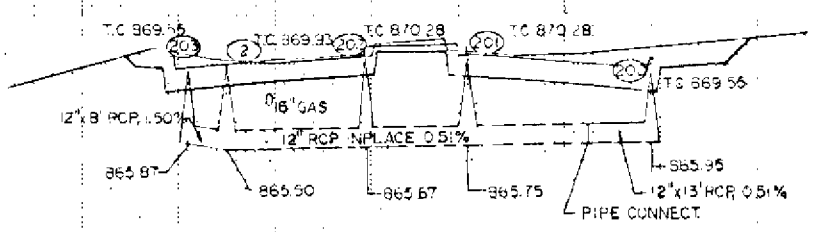
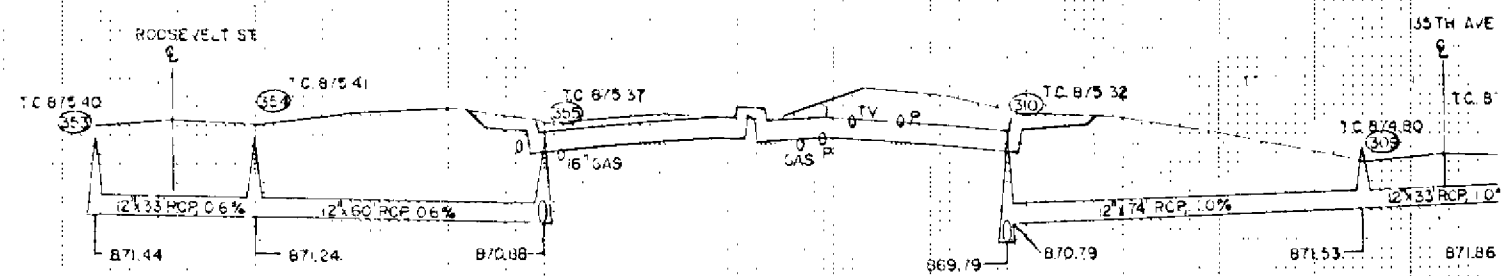
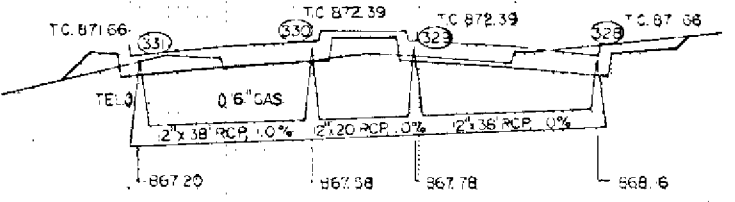
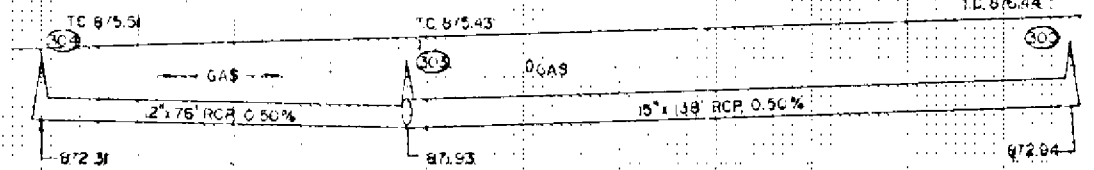
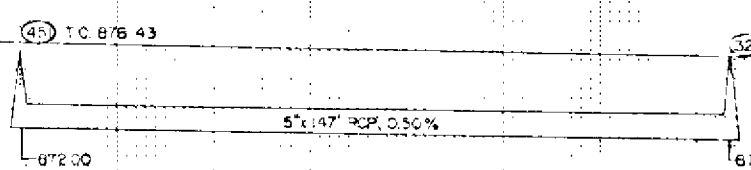
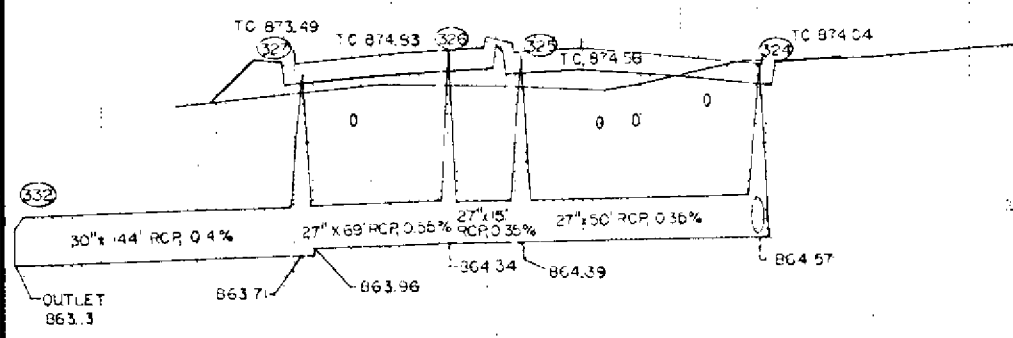
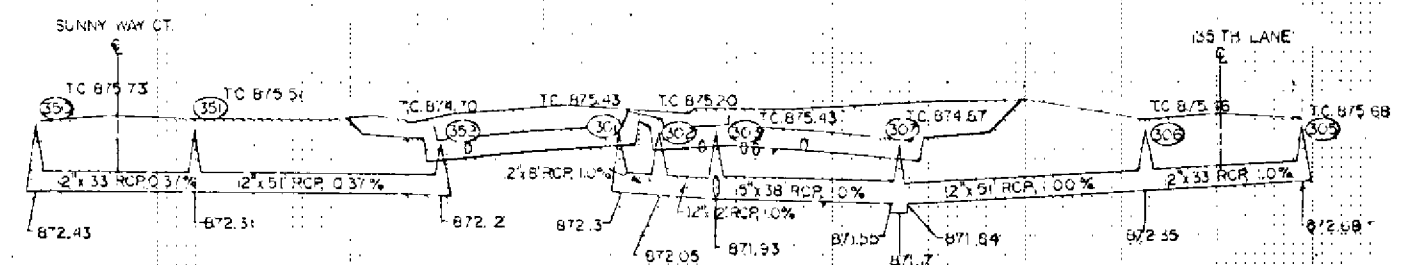
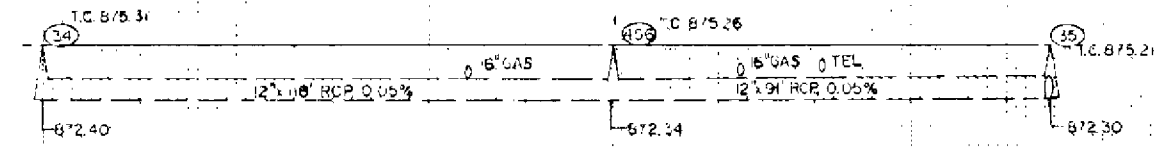
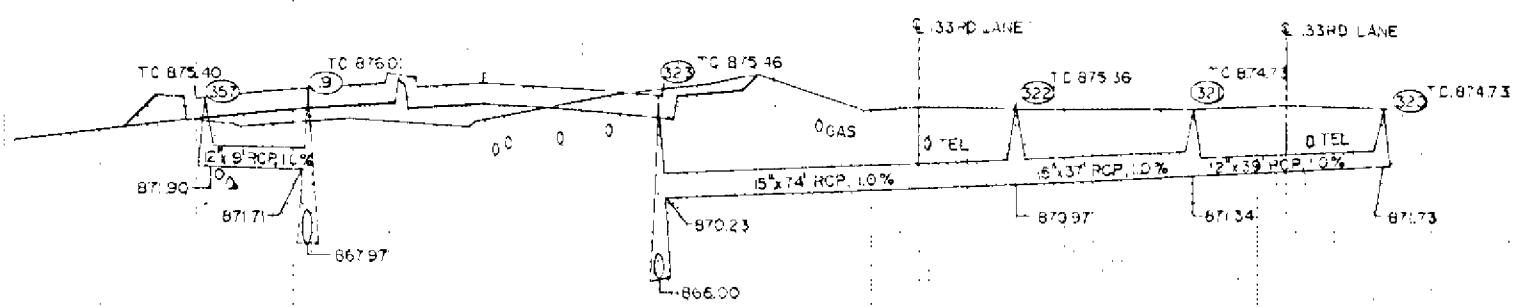
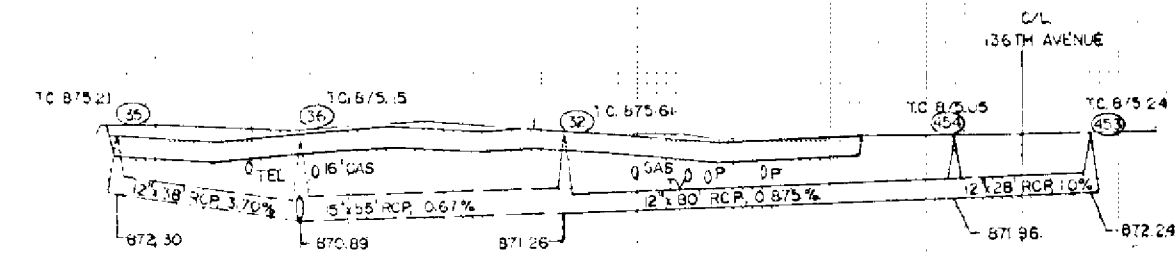
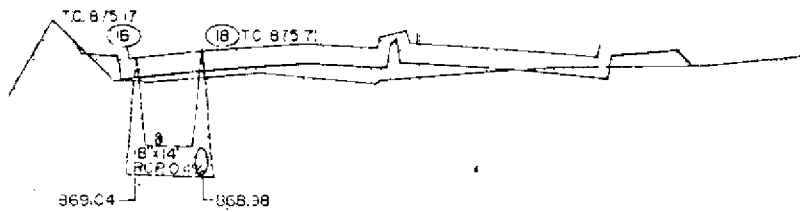
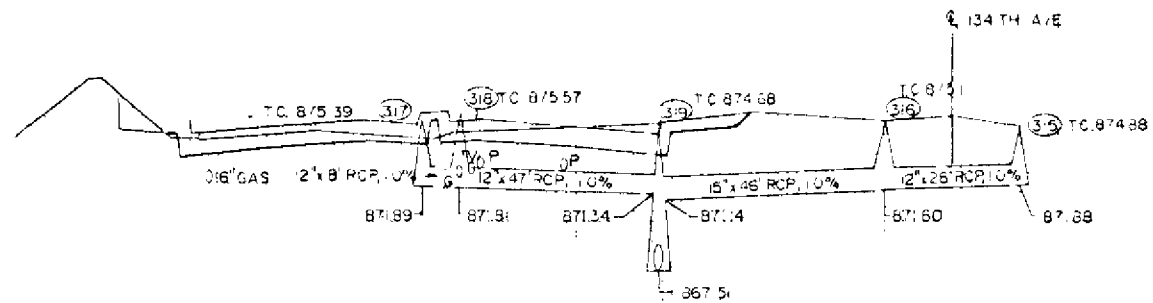
MATCH LINE 133+00





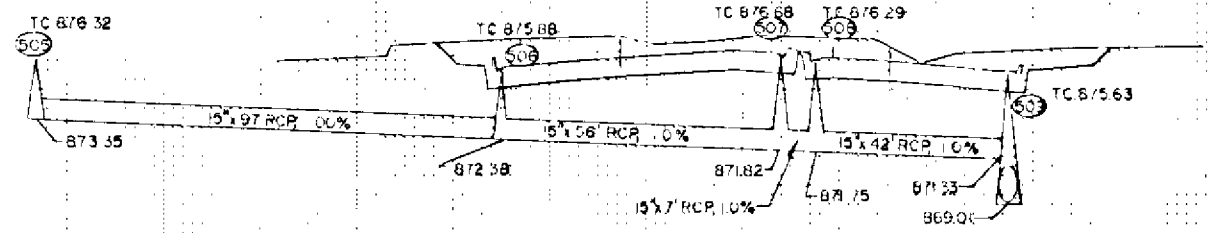
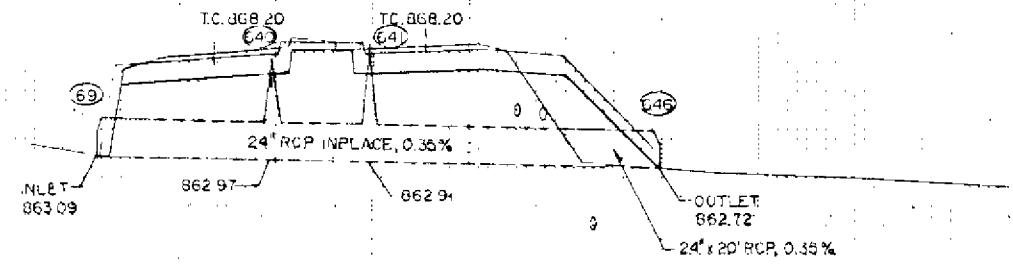
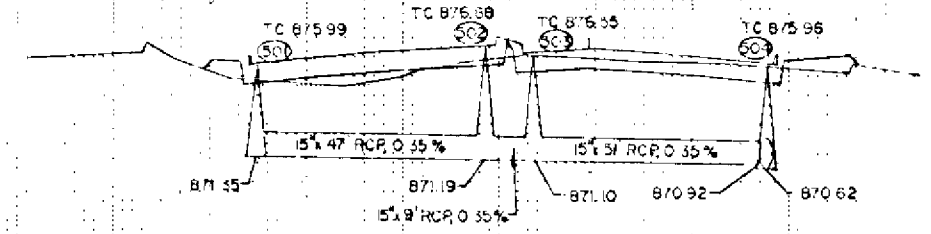
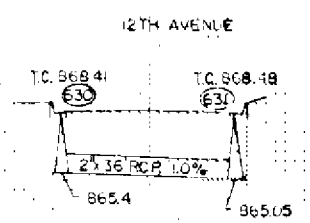
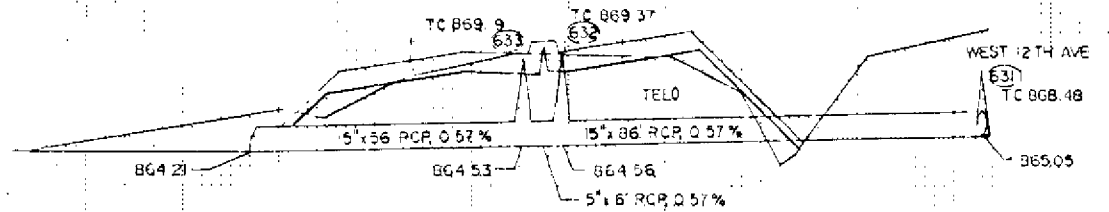
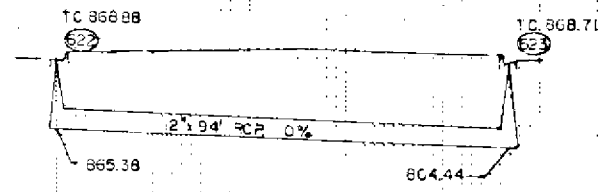
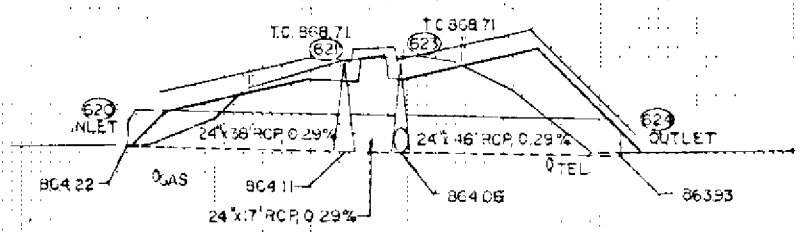
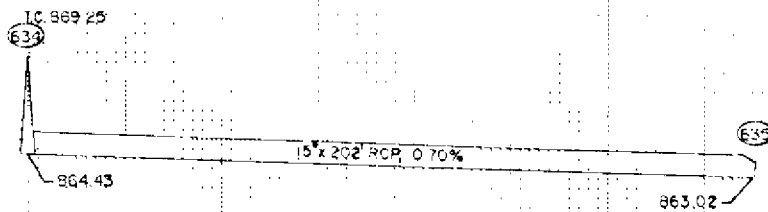
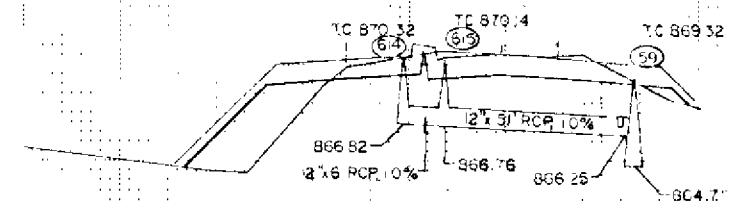
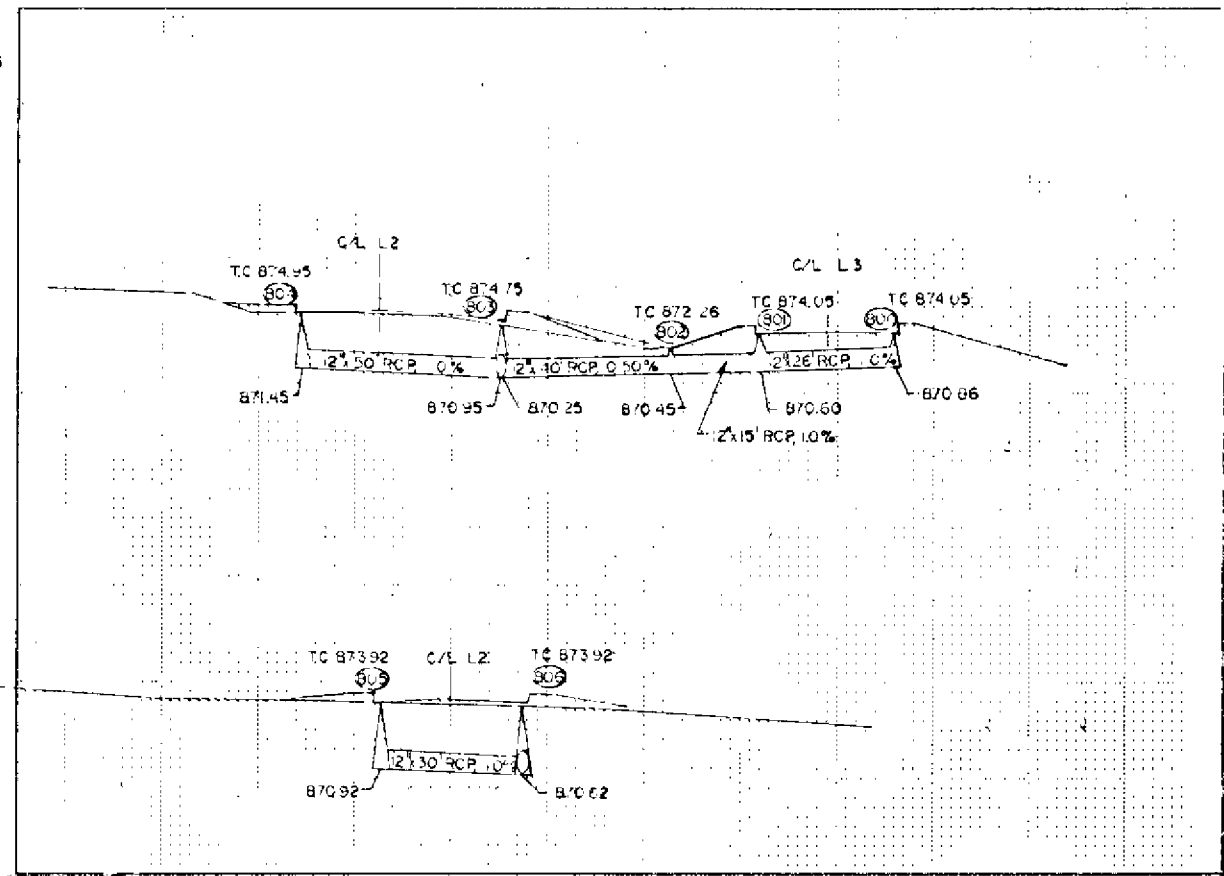
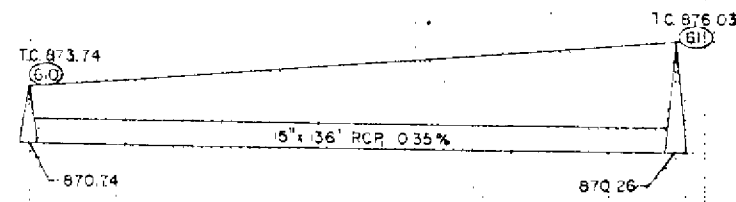
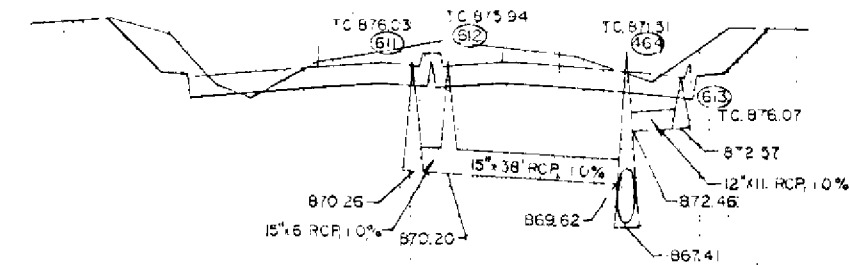
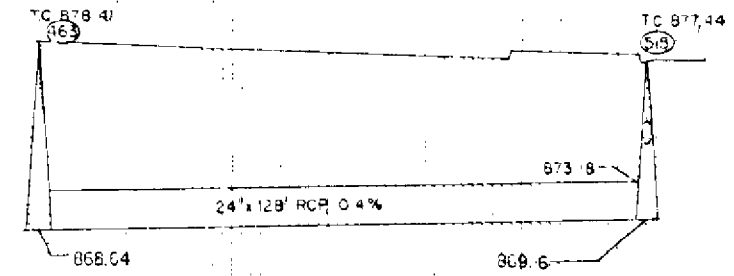
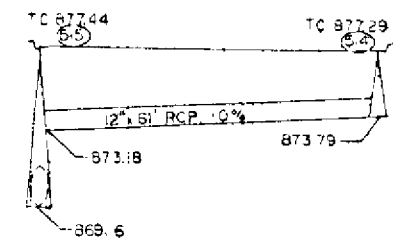
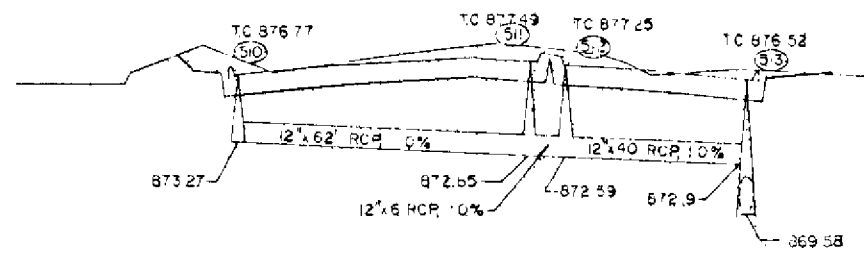
STORM SEWER  
CSAH 16  
STA 133+00 TO STA 140+00





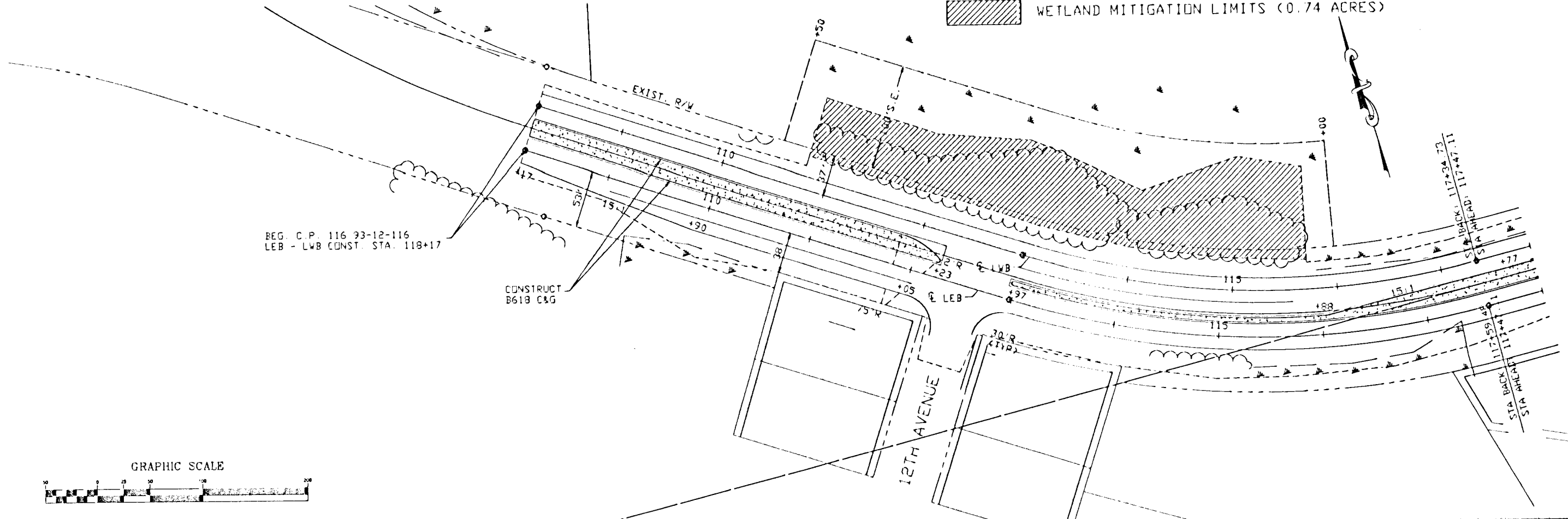
STORM SEWER PROFILE  
C.S.A.H. 9





STORM SEWER PROFILE  
C.R. 116 AND C.S.A.H. 16

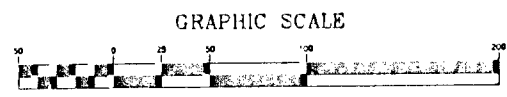
WETLAND MITIGATION LIMITS (0.74 ACRES)



BEG. C.P. 116 93-12-116  
LEB - LWB CONST. STA. 118+17

CONSTRUCT  
B618 C&G

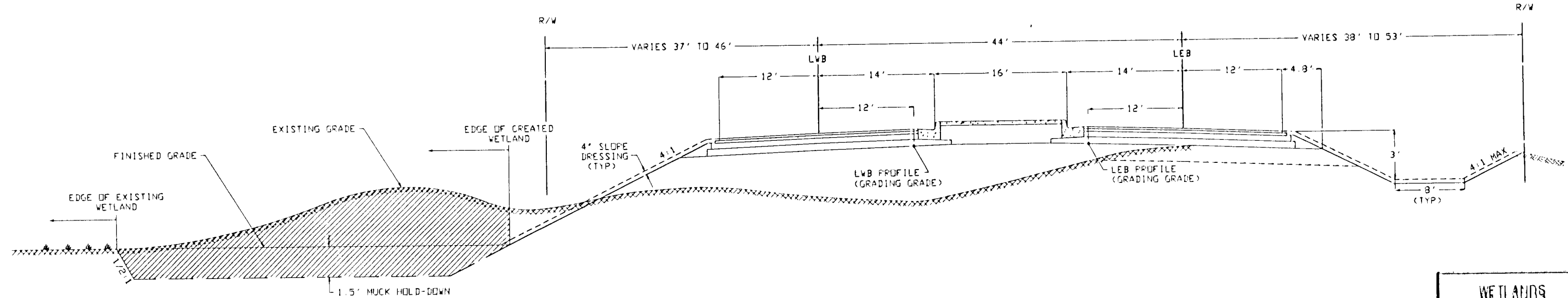
12TH AVENUE



WETLAND MITIGATION LIMITS

BUNKER LAKE BLVD. (C.R. 116) MAINLINE

LWB  
STA. 110+77 TO STA. 115+72



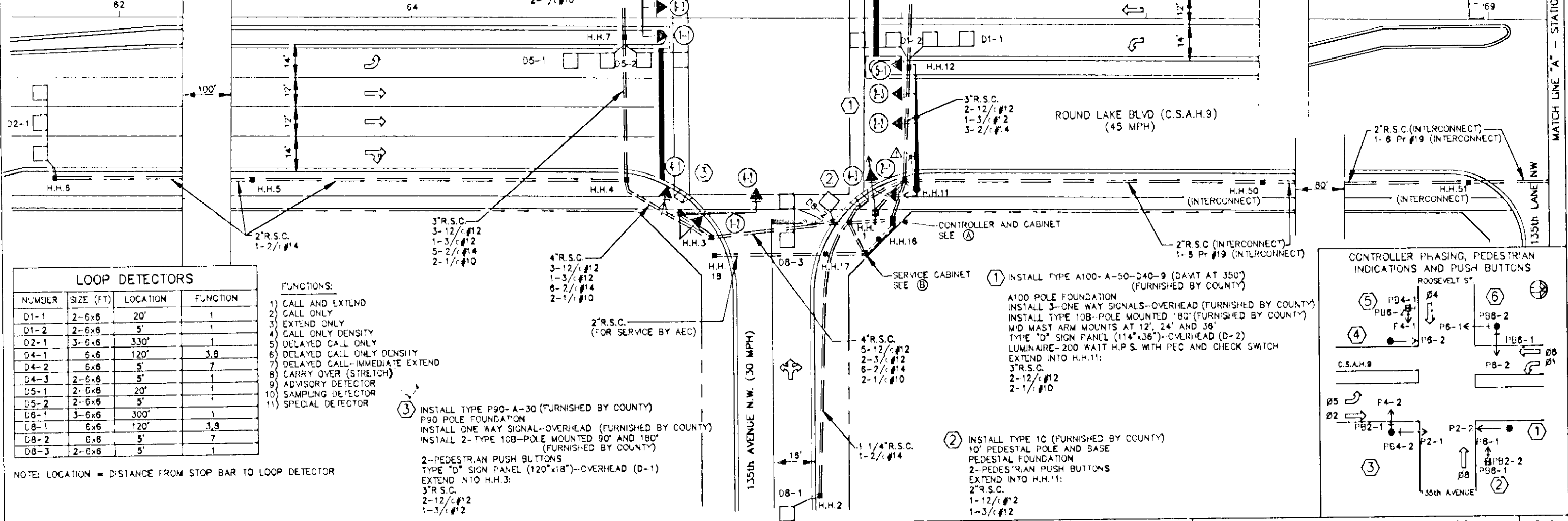
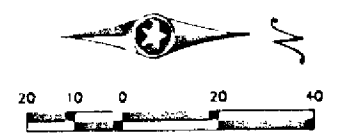
WETLANDS  
MITIGATION PLAN

- 2) EACH SIGNAL FACE SHALL BE 12"-3 SECTION R-Y-G, EXCEPT THAT SIGNAL FACES (1-1), (1-2), (5-1) AND (5-2) SHALL BE 12"-3 SECTION RLTA-YLTA-GLTA.
- 3) SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- 4) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
- 5) EACH PEDESTRIAN INDICATION SHALL BE 12"x12".
- 6) SEE SPECIAL PROVISIONS AND DETAILS FOR ANOKA COUNTY SERVICE CABINET INFORMATION.
- 7) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
- 8) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 1" N.M.C. SEE SPECIAL PROVISIONS AND DETAILS.
- 9) EACH HANDHOLE SHALL BE A CONCRETE HANDHOLE WITH TYPE "C" COVER PER Mn/DOT STANDARD PLATE NO. 8117F.
- 10) SEE SPECIAL PROVISIONS AND DETAILS REGARDING TYPE "D" SIGN PANELS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (INCIDENTAL TO ITEM NO. 2565.511).
- 11) SEE SPECIAL PROVISIONS REGARDING REMOVAL AND SALVAGING OF INPLACE SIGNAL SYSTEM (INCIDENTAL TO ITEM NO. 2565.511).
- 12) (INTERCONNECT) DENOTES ITEMS TO BE PAID FOR UNDER SEPARATE PAY ITEM. SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 13) SEE SPECIAL PROVISIONS AND PLAN SHEETS REGARDING TEMPORARY OPERATION OF SIGNAL SYSTEM DURING ROAD CONSTRUCTION.
- 14) CAP ADDITIONAL MID MAST ARM MOUNTS AT 36" ON POLES (1) AND (4) AS APPROVED BY THE ENGINEER.
- 15) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED SIGNAL INDICATION.

- (4) INSTALL TYPE A100-A-50-D40-9 (DAVT AT 350') (FURNISHED BY COUNTY)  
A100 POLE FOUNDATION  
INSTALL 3-ONE WAY SIGNALS-OVERHEAD (FURNISHED BY COUNTY)  
INSTALL TYPE 10B-POLE MOUNTED 180" (FURNISHED BY COUNTY)  
MID MAST ARM MOUNTS AT 12', 24' AND 36"  
TYPE "D" SIGN PANEL (114"x36")-OVERHEAD (D-3)  
LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH  
EXTEND INTO H.H.8:  
3" R.S.C.  
2-12/c #12  
2-1/c #10
- (5) INSTALL TYPE 10 (FURNISHED BY COUNTY)  
10' PEDESTAL POLE AND BASE  
PEDESTAL FOUNDATION  
2-PEDESTRIAN PUSH BUTTONS  
EXTEND INTO H.H.9:  
2" R.S.C.  
1-12/c #12  
1-3/c #12

- (B) SERVICE CABINET  
CABINET FOUNDATION  
EXTEND INTO H.H.17:  
2" R.S.C.  
(FOR SERVICE BY AEC)  
EXTEND INTO H.H.18:  
METERED SIGNAL SERVICE  
1 1/4" R.S.C.  
3-1/c #8  
EXTEND INTO H.H.1:  
UNMETERED STREET LIGHT SERVICE  
1 1/4" R.S.C.  
4-1/c #10  
BETWEEN H.H.1 AND H.H.11:  
2" R.S.C.  
2-1/c #10

- CABINET FOUNDATION  
EXTEND INTO H.H.16:  
METERED SIGNAL SERVICE  
1 1/4" R.S.C.  
3-1/c #8  
EXTEND INTO H.H.1:  
4" R.S.C.  
5-12/c #12  
2-3/c #12  
9-2/c #14  
EXTEND INTO H.H.11:  
4" R.S.C.  
5-12/c #12  
2-3/c #12  
3-2/c #14  
EXTEND INTO H.H.11:  
2" R.S.C. (INTERCONNECT)  
1-8 Pr #19 (INTERCONNECT)  
EXTEND INTO H.H.1:  
2" R.S.C. (FOR FUTURE USE)



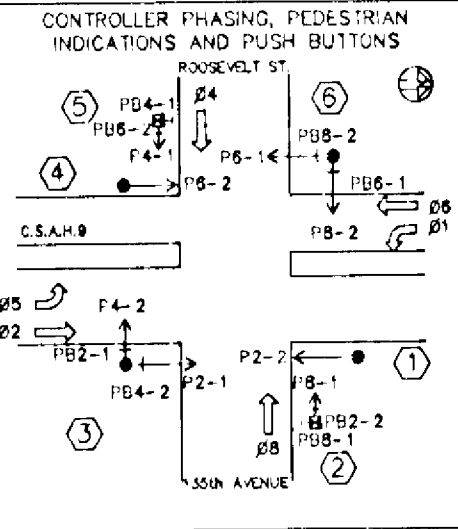
LOOP DETECTORS			
NUMBER	SIZE (FT)	LOCATION	FUNCTION
D1-1	2-6x6	20'	1
D1-2	2-6x6	5'	1
D2-1	3-6x6	330'	1
D4-1	6x6	120'	3,8
D4-2	6x6	5'	7
D4-3	2-6x6	5'	1
D5-1	2-6x6	20'	1
D5-2	2-6x6	5'	1
D6-1	3-6x6	300'	1
D8-1	6x6	120'	3,8
D8-2	6x6	5'	7
D8-3	2-6x6	5'	1

- 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

- (3) INSTALL TYPE P90-A-30 (FURNISHED BY COUNTY)  
P90 POLE FOUNDATION  
INSTALL ONE WAY SIGNAL-OVERHEAD (FURNISHED BY COUNTY)  
INSTALL 2-TYPE 10B-POLE MOUNTED 90" AND 180" (FURNISHED BY COUNTY)  
2-PEDESTRIAN PUSH BUTTONS  
TYPE "D" SIGN PANEL (120"x18")-OVERHEAD (D-1)  
EXTEND INTO H.H.3:  
3" R.S.C.  
2-12/c #12  
1-3/c #12

- (1) INSTALL TYPE A100-A-50-D40-9 (DAVT AT 350') (FURNISHED BY COUNTY)  
A100 POLE FOUNDATION  
INSTALL 3-ONE WAY SIGNALS-OVERHEAD (FURNISHED BY COUNTY)  
INSTALL TYPE 10B-POLE MOUNTED 180" (FURNISHED BY COUNTY)  
MID MAST ARM MOUNTS AT 12', 24' AND 36"  
TYPE "D" SIGN PANEL (114"x36")-OVERHEAD (D-2)  
LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH  
EXTEND INTO H.H.11:  
3" R.S.C.  
2-12/c #12  
2-1/c #10

- (2) INSTALL TYPE 10 (FURNISHED BY COUNTY)  
10' PEDESTAL POLE AND BASE  
PEDESTAL FOUNDATION  
2-PEDESTRIAN PUSH BUTTONS  
EXTEND INTO H.H.11:  
2" R.S.C.  
1-12/c #12  
1-3/c #12



NO	BY	DATE	REVISIONS

"ELECTRICAL ENGINEER CERTIFICATION"  
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.  
*Robert J. [Signature]*  
Date: 4/2/93 Reg. No. 5859

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.  
*Robert M. [Signature]*  
Date: 4/2/93 Reg. No. 22457

**ASEA**  
ENGINEER, ARCHITECT, PLANNERS

S.A.P. 02-609-10

ANOKA COUNTY, MINNESOTA  
CITIES OF ANDOVER AND ANOKA

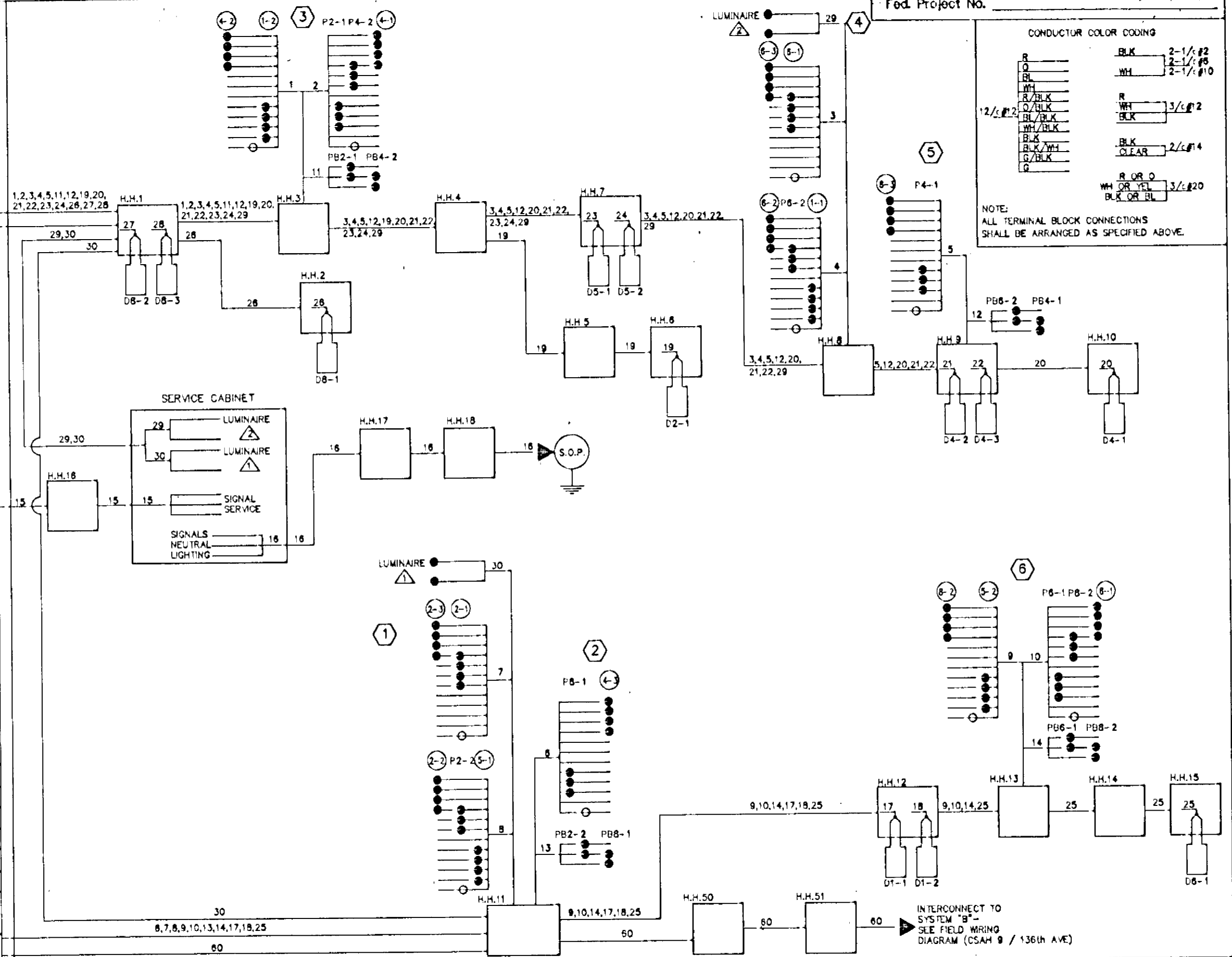
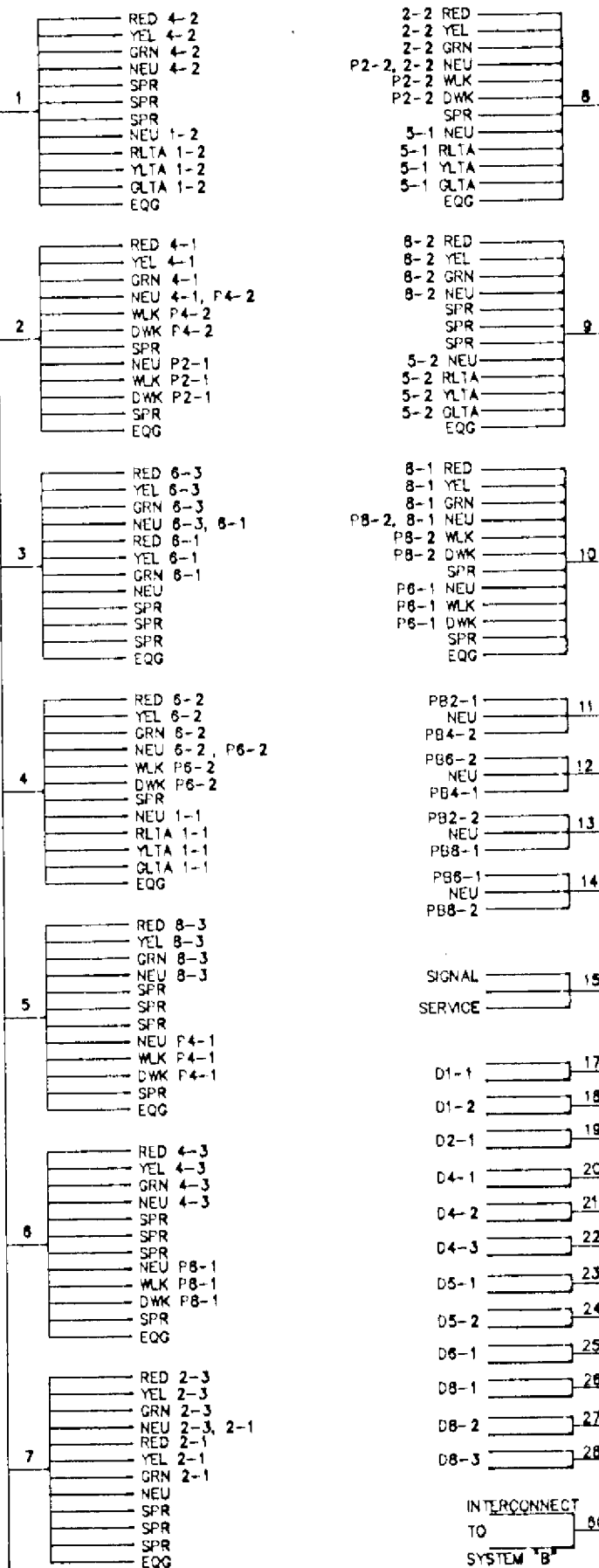
S.P. \_\_\_\_\_ C.P. \_\_\_\_\_

TRAFFIC SIGNAL SYSTEM "A"  
INTERSECTION LAYOUT  
ROUND LAKE BLVD. (CSAH 9) AT 135th AVE/ROOSEVELT ST.

FILE NO. 92219  
DATE 4/2/93

Sheet No. 45 of 133 Sheets

CONTROLLER CABINET

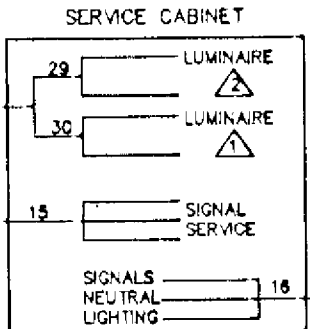


Fed. Project No. \_\_\_\_\_

CONDUCTOR COLOR CODING

R	BLK	2-1/c #2
O	WH	2-1/c #8
BL	WH	2-1/c #10
WH	R	3/c #2
R/BLK	WH	3/c #2
O/BLK	BLK	3/c #2
BL/BLK	BLK	3/c #2
WH/BLK	BLK	3/c #2
BLK	BLK	2/c #4
BLK/WH	CLEAR	2/c #4
G/BLK	R OR O	3/c #20
G	WH OR YEL	3/c #20
	BLK OR BL	3/c #20

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



"ELECTRICAL ENGINEER CERTIFICATION"  
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.  
*Robert D. Elmer*  
Date: 4/2/93 Reg. No. 5859

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.  
*John M. Gray*  
Date: 4/2/93 Reg. No. 22457



ANOKA COUNTY, MINNESOTA  
CITIES OF ANDOVER AND ANOKA

TRAFFIC SIGNAL SYSTEM "A"  
FIELD WIRING DIAGRAM  
ROUND LAKE BLVD. (CSAH 9) AT 135th ST./ROOSEVELT ST.

FILE NO. 92219  
DATE 4/2/93

S.A.P. 02-609-10

S.P. \_\_\_\_\_ C.P. \_\_\_\_\_

Sheet No. 46 of 133 Sheets

NO	BY	DATE	REVISIONS

NOTES:

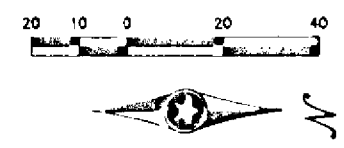
- LOCATION OF CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS, POLE BASES AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- EACH SIGNAL FACE SHALL BE 12"-3 SECTION R-Y-G, EXCEPT THAT SIGNAL FACES (1-1), (1-2), (5-1) AND (5-2) SHALL BE 12"-3 SECTION RL1A-YL1A-GL1A.
- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
- EACH PEDESTRIAN INDICATION SHALL BE 12"x12".
- SEE SPECIAL PROVISIONS AND DETAILS FOR ANOKA COUNTY SERVICE CABINET INFORMATION.
- SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
- LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 1" N.M.C. SEE SPECIAL PROVISIONS AND DETAILS.
- EACH HANDHOLE SHALL BE CONCRETE HANDHOLE WITH A TYPE "C" COVER PER M6/DOT STANDARD PLATE NO. B117F.
- SEE SPECIAL PROVISIONS AND DETAILS REGARDING TYPE "D" SIGN PANELS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (INCIDENTAL TO ITEM NO 2565.511).
- (INTERCONNECT) DENOTES ITEMS TO BE PAID FOR UNDER SEPARATE PAY ITEM. SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED SIGNAL INDICATION.

- ④ TYPE A100-A-50-D40-9 (DAVT AT 350')  
 A100 POLE FOUNDATION  
 3--ONE WAY SIGNALS--OVERHEAD  
 TYPE 10B--POLE MOUNTED 180"  
 MID MAST ARM MOUNTS AT 14' AND 26'  
 TYPE "D" SIGN PANEL (96"x18")--OVERHEAD (D-6)  
 LUMINAIRE--200 WATT H.P.S. WITH PEC AND CHECK SWITCH  
 EXTEND INTO H.H.8:  
 3"R.S.C.  
 2-12/c#12  
 2-1/c#10

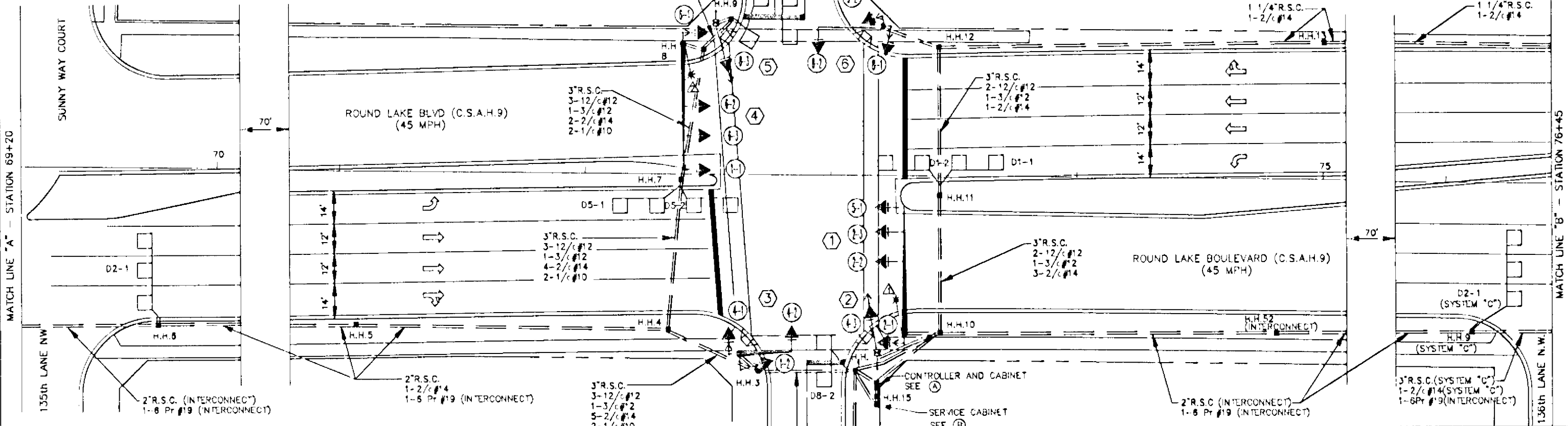
- ⑥ TYPE P80-A-25  
 P80 POLE FOUNDATION  
 ONE WAY SIGNAL--OVERHEAD  
 2--TYPE 10B--POLE MOUNTED 90" AND 180"  
 2--PEDESTRIAN PUSH BUTTONS  
 TYPE "D" SIGN PANEL (120"x18")--OVERHEAD (D-4)  
 EXTEND INTO H.H.12:  
 3"R.S.C.  
 2-12/c#12  
 1-3/c#12

- Ⓐ INSTALL CONTROLLER AND CABINET (FURNISHED BY COUNTY)  
 CABINET FOUNDATION  
 EXTEND INTO H.H.15:  
 METERED SIGNAL SERVICE  
 1 1/4"R.S.C.  
 3-1/c#6  
 EXTEND INTO H.H.1:  
 4"R.S.C.  
 5-12/c#12  
 2-3/c#2  
 7-2/c#4  
 EXTEND INTO H.H.10:  
 4"R.S.C.  
 5-12/c#12  
 2-3/c#2  
 3-2/c#4  
 EXTEND INTO H.H.1:  
 2"R.S.C.(INTERCONNECT)  
 1-6 Pr #19 (INTERCONNECT)  
 EXTEND INTO H.H.10:  
 2"R.S.C.(INTERCONNECT)  
 1-6 Pr #19 (INTERCONNECT)

- Ⓑ SERVICE CABINET  
 CABINET FOUNDATION  
 STUB OUT 2"R.S.C.  
 (FOR SERVICE BY AEC)  
 EXTEND INTO H.H.15:  
 METERED SIGNAL SERVICE  
 1 1/4"R.S.C.  
 3-1/c#6  
 EXTEND INTO H.H.1:  
 UNMETERED STREET LIGHT SERVICE  
 1 1/4"R.S.C.  
 4-1/c#10  
 BETWEEN H.H.1 AND H.H.10:  
 2"R.S.C.  
 2-1/c#10



SEE INTERSECTION LAYOUT (SYSTEM "C") FOR HANDHOLE 14 AND LOOP DETECTOR D6-1 OF SYSTEM "B"



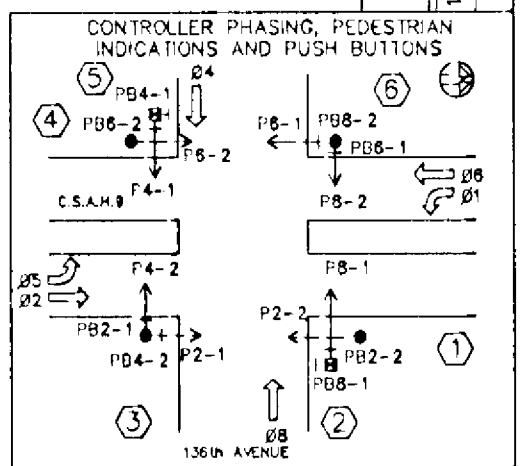
LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-6x6	20'	7,11
D1-2	2-6x6	5'	7,11
D2-1	3-6x6	280'	1
D4-1	2-6x6	5'	7
D4-2	2-6x6	5'	7
D5-1	2-6x6	20'	7,11
D5-2	2-6x6	5'	7,11
D6-1	3-6x6	330'	1
D8-1	6x6	120'	3,8
D8-2	2-6x6	5'	7

- FUNCTIONS:
- CALL AND EXTEND
  - CALL ONLY
  - EXTEND ONLY
  - CALL ONLY DENSITY
  - DELAYED CALL ONLY
  - DELAYED CALL ONLY DENSITY
  - DELAYED CALL--IMMEDIATE EXTEND
  - CARRY OVER (STRETCH)
  - ADVISORY DETECTOR
  - SAMPLING DETECTOR
  - IMMEDIATE CALL DURING PHASE 4/8 GREEN

- ③ TYPE P80-A-20  
 P80 POLE FOUNDATION  
 ONE WAY SIGNAL--OVERHEAD  
 2--TYPE 10B--POLE MOUNTED 90" AND 180"  
 2--PEDESTRIAN PUSH BUTTONS  
 TYPE "D" SIGN PANEL (120"x18")--OVERHEAD (D-4)  
 EXTEND INTO H.H.3:  
 3"R.S.C.  
 2-12/c#12  
 1-3/c#12

- ① TYPE A100-A-50-D40-9 (DAVT AT 350')  
 A100 POLE FOUNDATION  
 3--ONE WAY SIGNALS--OVERHEAD  
 TYPE 10B--POLE MOUNTED 180"  
 MID MAST ARM MOUNTS AT 10' AND 22'  
 TYPE "D" SIGN PANEL (96"x18")--OVERHEAD (D-5)  
 LUMINAIRE--200 WATT H.P.S. WITH PEC AND CHECK SWITCH  
 EXTEND INTO H.H.10:  
 3"R.S.C.  
 2-12/c#12  
 2-1/c#10

- ② TYPE 1C  
 10' PEDESTAL POLE AND BASE  
 PEDESTAL FOUNDATION  
 2--PEDESTRIAN PUSH BUTTONS  
 EXTEND INTO H.H.10:  
 2"R.S.C.  
 1-12/c#12  
 1-3/c#12



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

"ELECTRICAL ENGINEER CERTIFICATION"  
 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.  
*Robert A. Allen*  
 Date: 4/2/93 Reg. No. 5859

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.  
*John M. Hayes*  
 Date: 4/2/93 Reg. No. 22457



ANOKA COUNTY, MINNESOTA  
 CITIES OF ANDOVER AND ANOKA

TRAFFIC SIGNAL SYSTEM "B"  
 INTERSECTION LAYOUT  
 ROUND LAKE BLVD.(CSAH 9) AT 136th AVENUE N.W.  
 SHEET NO. 47 OF 133 SHEETS  
 FILE NO. 92219  
 DATE 4/2/93







- NOTES:**
- 1) LOCATION OF CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS, POLE BASES AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
  - 2) EACH SIGNAL FACE SHALL BE 12"-3 SECTION R-Y-G, EXCEPT THAT SIGNAL FACES (D-1), (D-2), (D-3), (D-4), (D-5) AND (D-6) SHALL BE 12"-3 SECTION R-Y-G.
  - 3) SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
  - 4) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
  - 5) EACH PEDESTRIAN INDICATION SHALL BE 12"x12".
  - 6) SEE SPECIAL PROVISIONS AND DETAILS FOR ANOKA COUNTY SERVICE CABINET INFORMATION.
  - 7) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
  - 8) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 1" N.W.C. SEE SPECIAL PROVISIONS AND DETAILS.
  - 9) EACH HANDHOLE SHALL BE CONCRETE HANDHOLE WITH TYPE "C" COVER PER Mn/DOT STANDARD PLATE NO 8117F.
  - 10) SEE SPECIAL PROVISIONS AND DETAILS REGARDING TYPE "D" SIGN PANELS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (INCIDENTAL TO ITEM NO 2565.5'1').
  - 11) SEE SPECIAL PROVISIONS REGARDING REMOVAL AND SALVAGING OF INPLACE SIGNAL SYSTEM (INCIDENTAL TO ITEM NO 2565.5'1').
  - 12) (INTERCONNECT) DENOTES ITEMS TO BE PAID FOR UNDER SEPARATE PAY ITEM. SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
  - 13) SEE SPECIAL PROVISIONS AND PLAN SHEETS REGARDING TEMPORARY OPERATION OF SIGNAL SYSTEM DURING ROAD CONSTRUCTION.
  - 14) CAP ADDITIONAL MID MAST ARM MOUNTS AT 24" ON POLES (1) AND (4) AS APPROVED BY THE ENGINEER.
  - 15) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED SIGNAL INDICATION.
  - 16) HANDHOLES 1 AND 16 SHALL BE DOUBLE HANDHOLES.

- ④ INSTALL TYPE A100-A-45-D40-9 (DAVT AT 350')  
(FURNISHED BY COUNTY)  
A100 POLE FOUNDATION  
INSTALL 2-ONE WAY SIGNALS-OVERHEAD  
(FURNISHED BY COUNTY)  
INSTALL 2-TYPE 10B-POLE MOUNTED 90° AND 180°  
(FURNISHED BY COUNTY)  
MID MAST ARM MOUNT AT 12' AND 24'  
2-PEDESTRIAN PUSH BUTTONS  
TYPE "D" SIGN PANEL (126"x18")-OVERHEAD (D-8)  
LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH  
EXTEND INTO H.H.11:  
3" R.S.C.  
2-12/c #12  
2-3/c #2  
2-1/c #10

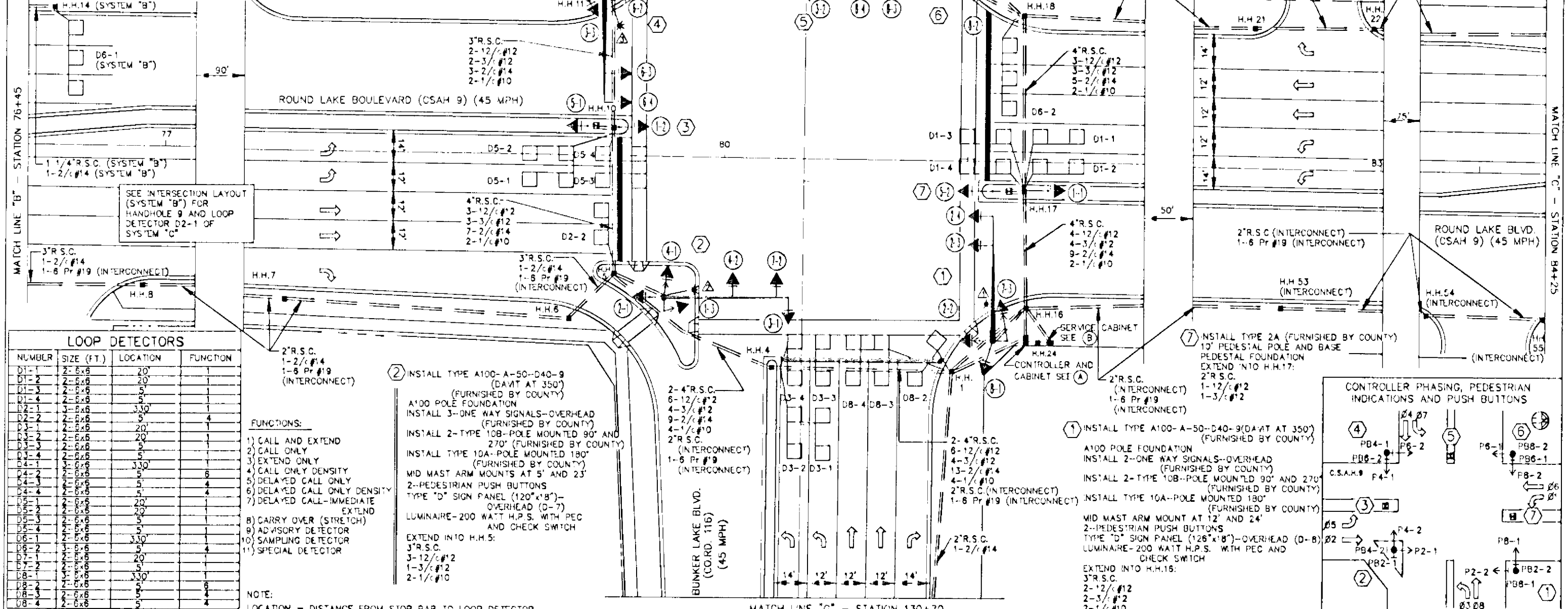
- ③ INSTALL TYPE 2A (FURNISHED BY COUNTY)  
10' PEDESTAL POLE AND BASE  
PEDESTAL FOUNDATION  
EXTEND INTO H.H.10:  
2" R.S.C.  
1-12/c #12  
1-3/c #2

- ⑥ INSTALL TYPE A100-A-45-D40-9 (DAVT AT 350')  
(FURNISHED BY COUNTY)  
A100 POLE FOUNDATION  
INSTALL 2-ONE WAY SIGNALS-OVERHEAD (FURNISHED BY COUNTY)  
INSTALL 2-TYPE 10B-POLE MOUNTED 90° AND 270° (FURNISHED BY COUNTY)  
INSTALL TYPE 10A-POLE MOUNTED 180° (FURNISHED BY COUNTY)  
MID MAST ARM MOUNT AT 12'  
2-PEDESTRIAN PUSH BUTTONS  
TYPE "D" SIGN PANEL (126"x18")-OVERHEAD (D-7)  
LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH  
EXTEND INTO H.H.18:  
3" R.S.C.  
2-12/c #12  
2-3/c #2  
2-1/c #10

- ⑤ INSTALL TYPE 2A (FURNISHED BY COUNTY)  
10' PEDESTAL POLE AND BASE  
PEDESTAL FOUNDATION  
EXTEND INTO H.H.20:  
2" R.S.C.  
1-12/c #12  
1-3/c #2

SEE NEXT SHEET FOR CONTROLLER CABINET AND SERVICE CABINET NOTES.

SEE INTERSECTION LAYOUT (SYSTEM "D") FOR HANDHOLE 23 AND LOOP DETECTOR D6-1 OF SYSTEM "C"



**LOOP DETECTORS**

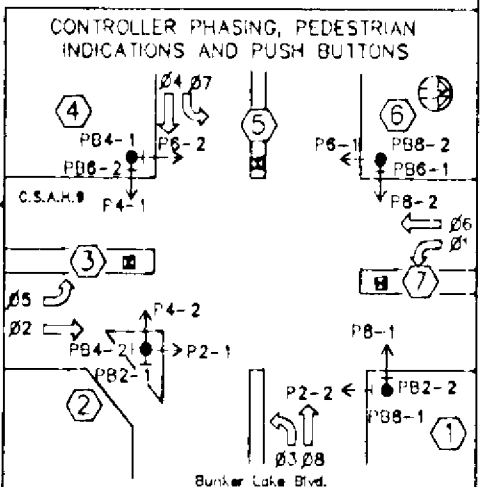
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-6x6	20'	1
D1-2	2-6x6	20'	1
D1-3	2-6x6	5'	1
D1-4	2-6x6	5'	1
D2-1	3-6x6	330'	1
D2-2	2-6x6	5'	4
D3-1	2-6x6	20'	1
D3-2	2-6x6	20'	1
D3-3	2-6x6	5'	1
D3-4	2-6x6	5'	1
D4-1	3-6x6	330'	1
D4-2	2-6x6	5'	6
D4-3	2-6x6	5'	4
D4-4	2-6x6	5'	4
D5-1	2-6x6	20'	1
D5-2	2-6x6	20'	1
D5-3	2-6x6	5'	1
D5-4	2-6x6	5'	1
D6-1	2-6x6	330'	1
D6-2	3-6x6	5'	4
D6-3	2-6x6	20'	1
D6-4	2-6x6	20'	1
D7-1	2-6x6	20'	1
D7-2	2-6x6	5'	1
D8-1	3-6x6	330'	1
D8-2	2-6x6	5'	6
D8-3	2-6x6	5'	4
D8-4	2-6x6	5'	4

- 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

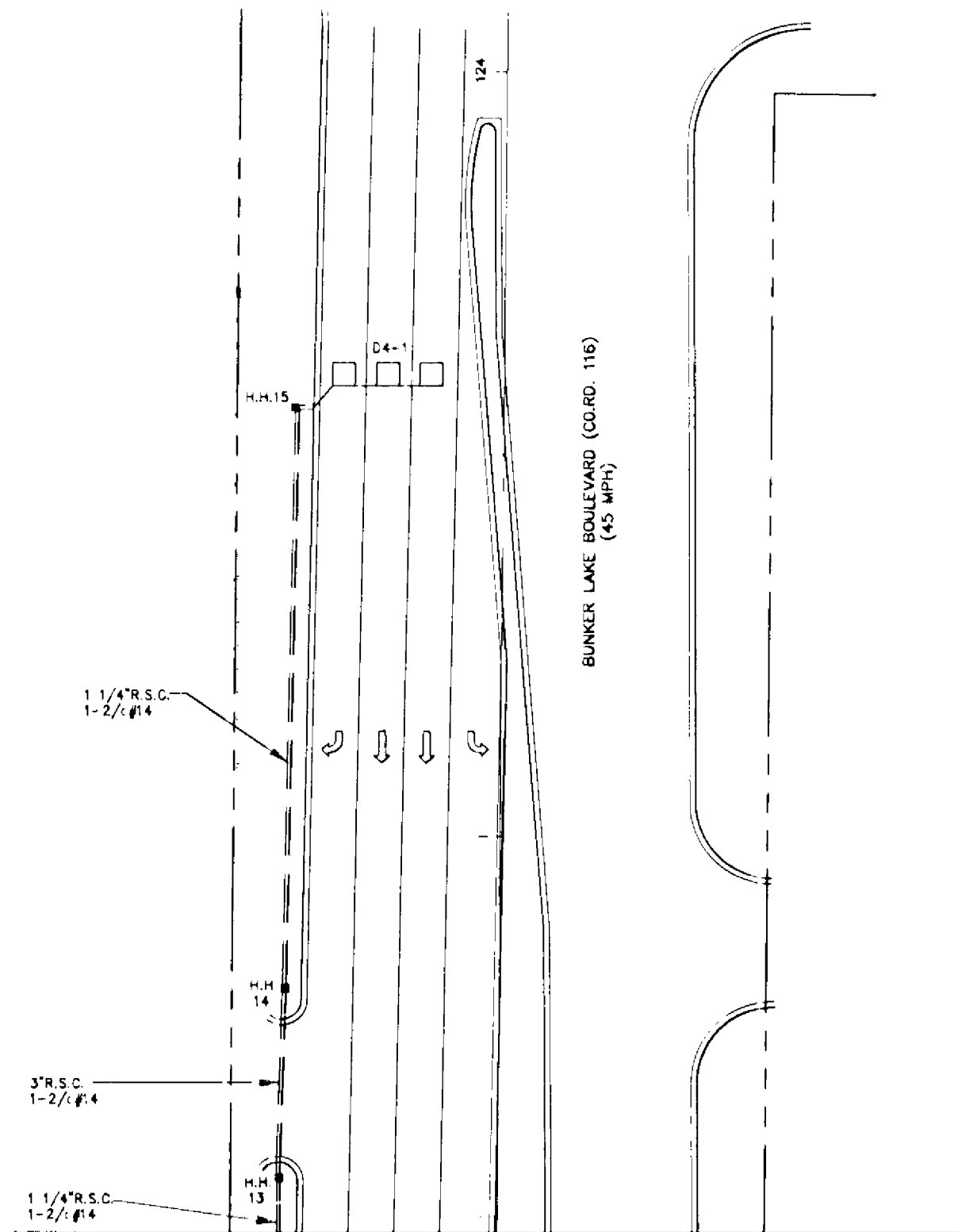
NOTE:  
LOCATION = DISTANCE FROM STOP BAR TO LOOP DETECTOR.

- ② INSTALL TYPE A100-A-50-D40-9 (DAVT AT 350')  
(FURNISHED BY COUNTY)  
A100 POLE FOUNDATION  
INSTALL 3-ONE WAY SIGNALS-OVERHEAD  
(FURNISHED BY COUNTY)  
INSTALL 2-TYPE 10B-POLE MOUNTED 90° AND 270° (FURNISHED BY COUNTY)  
INSTALL TYPE 10A-POLE MOUNTED 180° (FURNISHED BY COUNTY)  
MID MAST ARM MOUNTS AT 5' AND 23'  
2-PEDESTRIAN PUSH BUTTONS  
TYPE "D" SIGN PANEL (126"x18")-OVERHEAD (D-7)  
LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH  
EXTEND INTO H.H.5:  
3" R.S.C.  
3-12/c #12  
1-3/c #2  
2-1/c #10

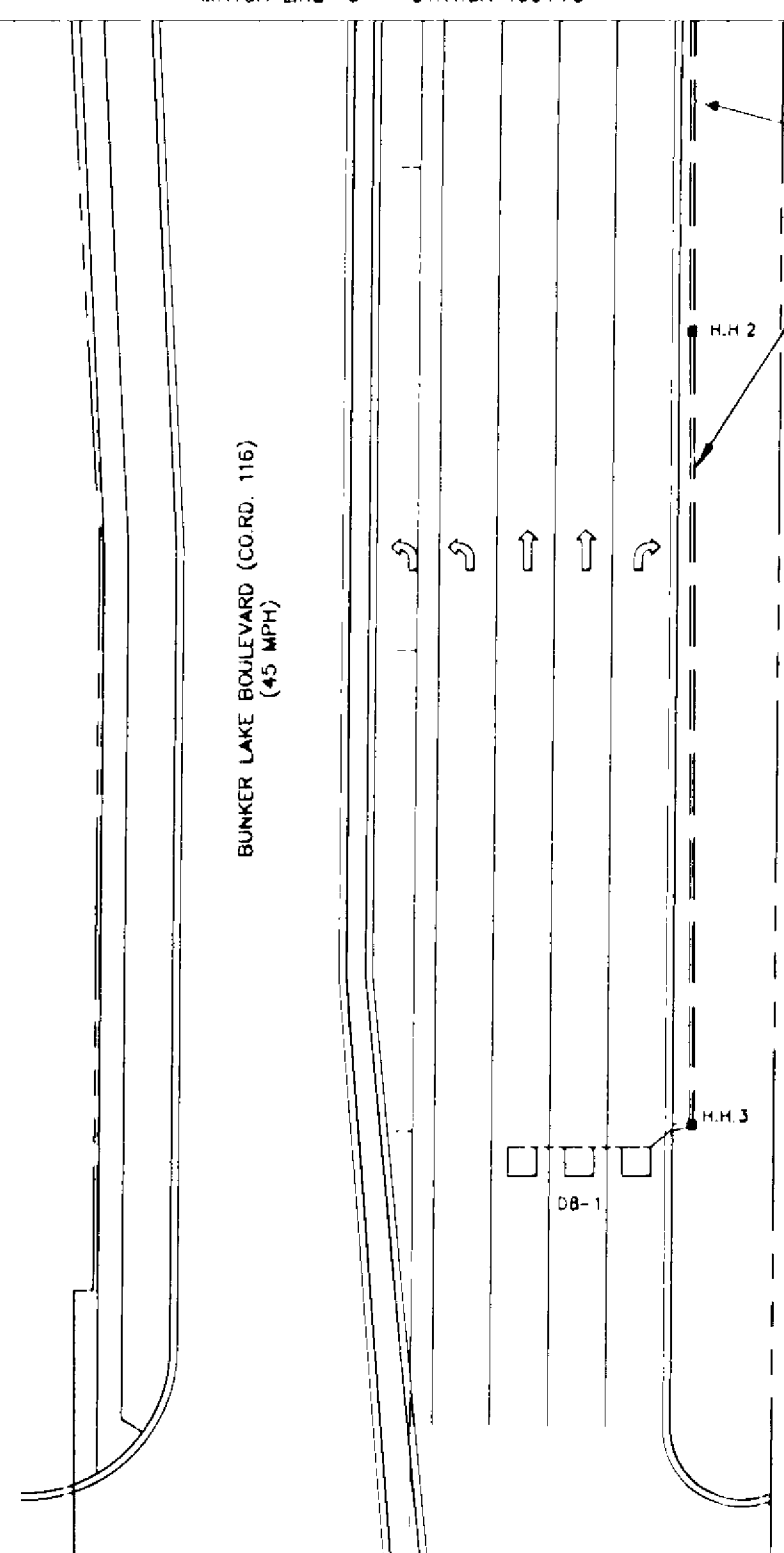
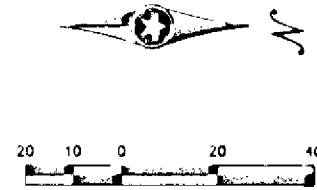
- ① INSTALL TYPE A100-A-50-D40-9 (DAVT AT 350')  
(FURNISHED BY COUNTY)  
A100 POLE FOUNDATION  
INSTALL 2-ONE WAY SIGNALS-OVERHEAD  
(FURNISHED BY COUNTY)  
INSTALL 2-TYPE 10B-POLE MOUNTED 90° AND 270° (FURNISHED BY COUNTY)  
INSTALL TYPE 10A-POLE MOUNTED 180° (FURNISHED BY COUNTY)  
MID MAST ARM MOUNT AT 12' AND 24'  
2-PEDESTRIAN PUSH BUTTONS  
TYPE "D" SIGN PANEL (126"x18")-OVERHEAD (D-8)  
LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH  
EXTEND INTO H.H.15:  
3" R.S.C.  
2-12/c #12  
2-3/c #2  
2-1/c #10



MATCH LINE "G" - STATION 130+70



MATCH LINE "F" - STATION 127+04



- 2" R.S.C.  
1-2/c #14
- H.H. 2
- (A) INSTALL CONTROLLER AND CABINET  
(FURNISHED BY COUNTY)  
CABINET FOUNDATION  
EXTEND INTO H.H. 24:  
METERED SIGNAL SERVICE  
1 1/4" R.S.C.  
3-1/c #6  
EXTEND INTO H.H. 1:  
2-4" R.S.C.  
8-12/c #12  
4-3/c #12  
17-2/c #14  
EXTEND INTO H.H. 16:  
2-4" R.S.C.  
5-12/c #12  
5-3/c #12  
9-2/c #14  
EXTEND INTO H.H. 1:  
2" R.S.C. (INTERCONNECT)  
1-8 Pr #19 (INTERCONNECT)  
EXTEND INTO H.H. 16:  
2" R.S.C. (INTERCONNECT)  
1-8 Pr #19 (INTERCONNECT)

- (B) SERVICE CABINET  
CABINET FOUNDATION  
STUB OUT 2" R.S.C.  
(FOR SERVICE BY AEC)  
EXTEND INTO H.H. 24:  
METERED SIGNAL SERVICE  
1 1/4" R.S.C.  
3-1/c #6  
EXTEND INTO H.H. 16:  
UNMETERED STREET LIGHT SERVICE  
2" R.S.C.  
8-1/c #10  
BETWEEN H.H. 1 AND H.H. 16:  
2" R.S.C.  
4-1/c #10

NO	BY	DATE	REVISIONS

"ELECTRICAL ENGINEER CERTIFICATION"  
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.  
*Robert A. Ellen*  
Date: 4/2/93 Reg. No. 5859

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.  
*John A. Gray*  
Date: 4/2/93 Reg. No. 22457

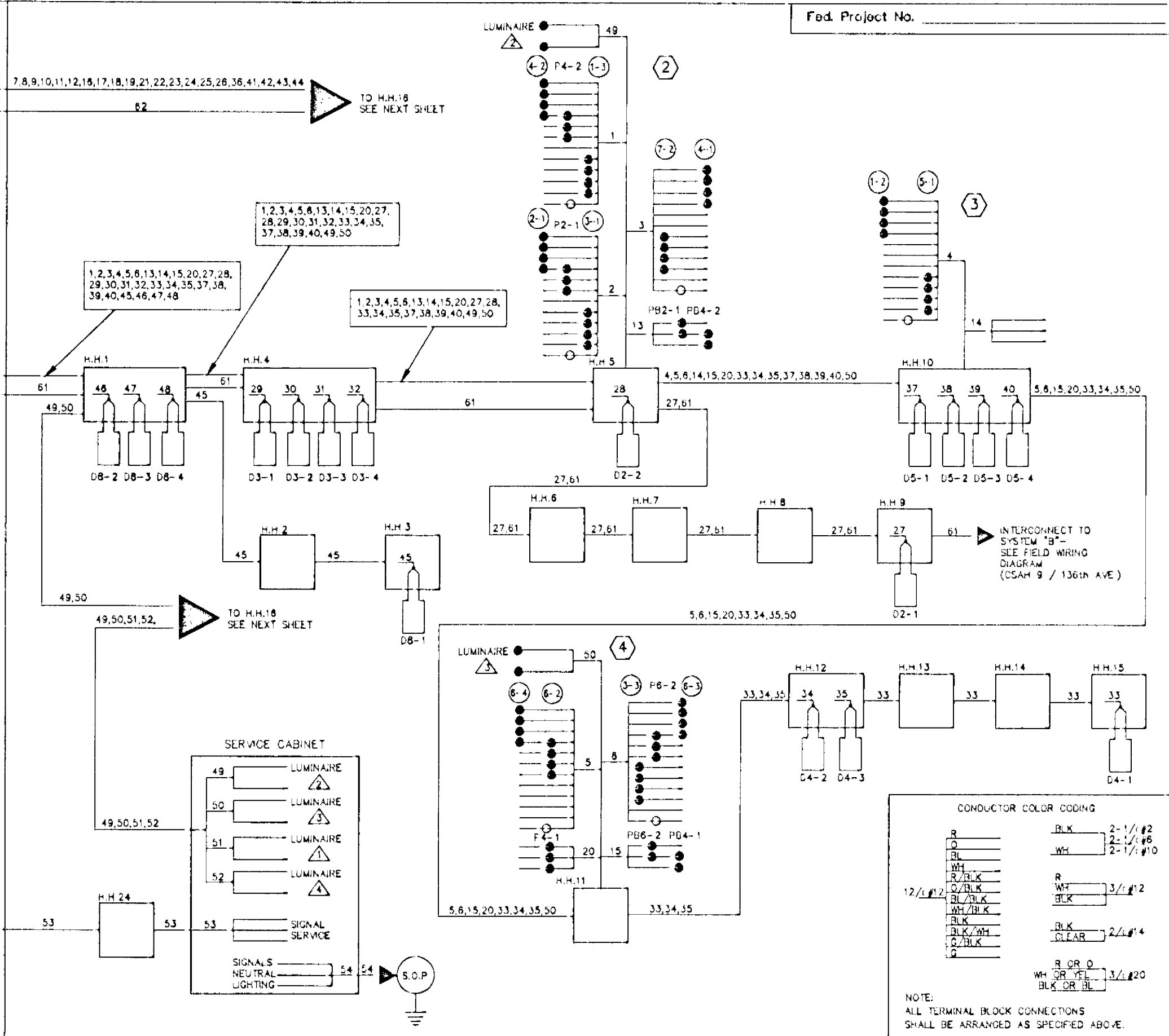
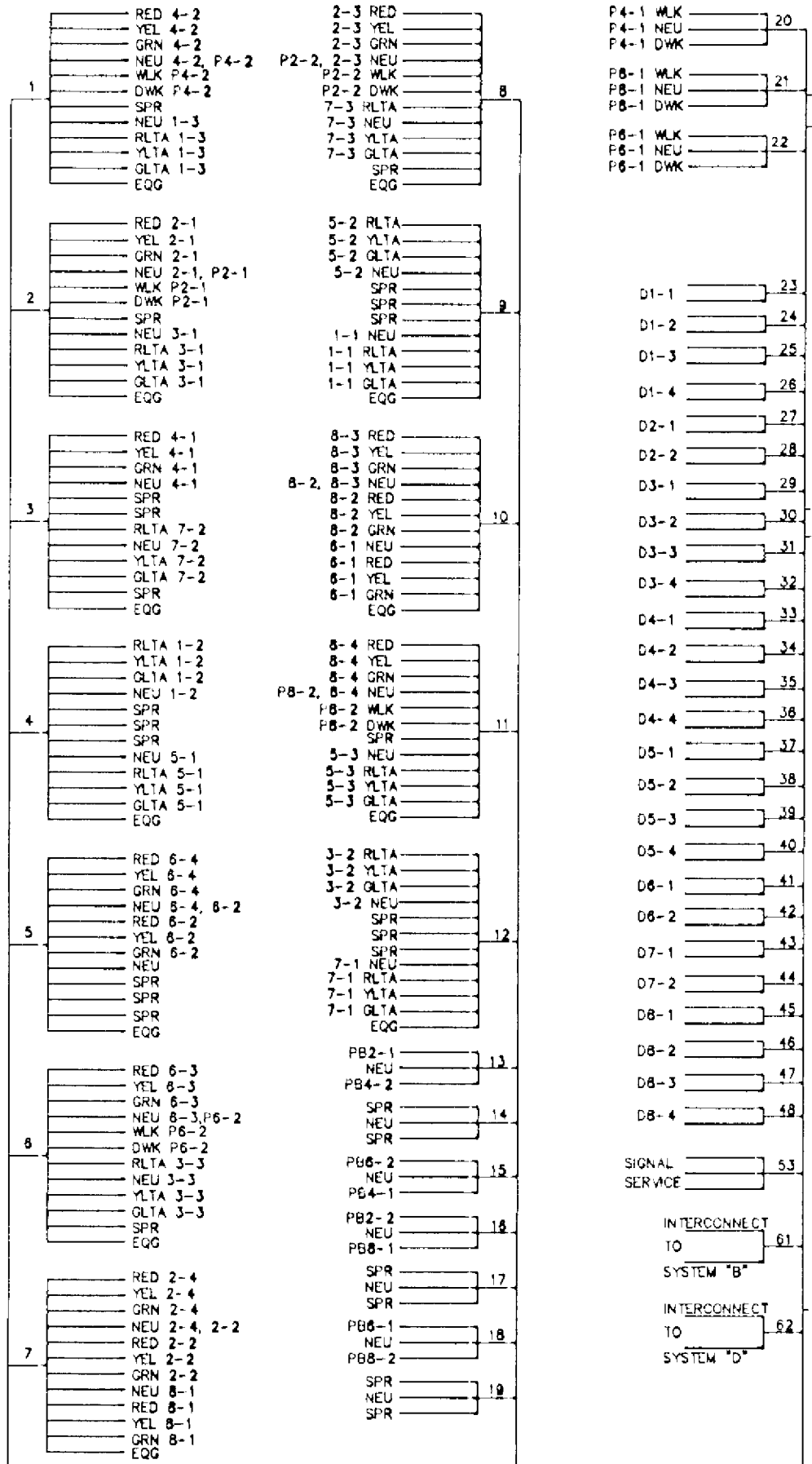


ANOKA COUNTY, MINNESOTA  
CITIES OF ANDOVER AND ANOKA

TRAFFIC SIGNAL SYSTEM "C"  
INTERSECTION LAYOUT  
ROUND LAKE BLVD (CSAH 9) AT BUNKER LAKE BLVD (CO. RD. 116)

FILE NO.  
92219  
DATE  
4/2/93

**CONTROLLER CABINET**



**"ELECTRICAL ENGINEER CERTIFICATION"**  
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*Robert A. Ellen*  
 Date: 4/2/93 Reg. No. 5859

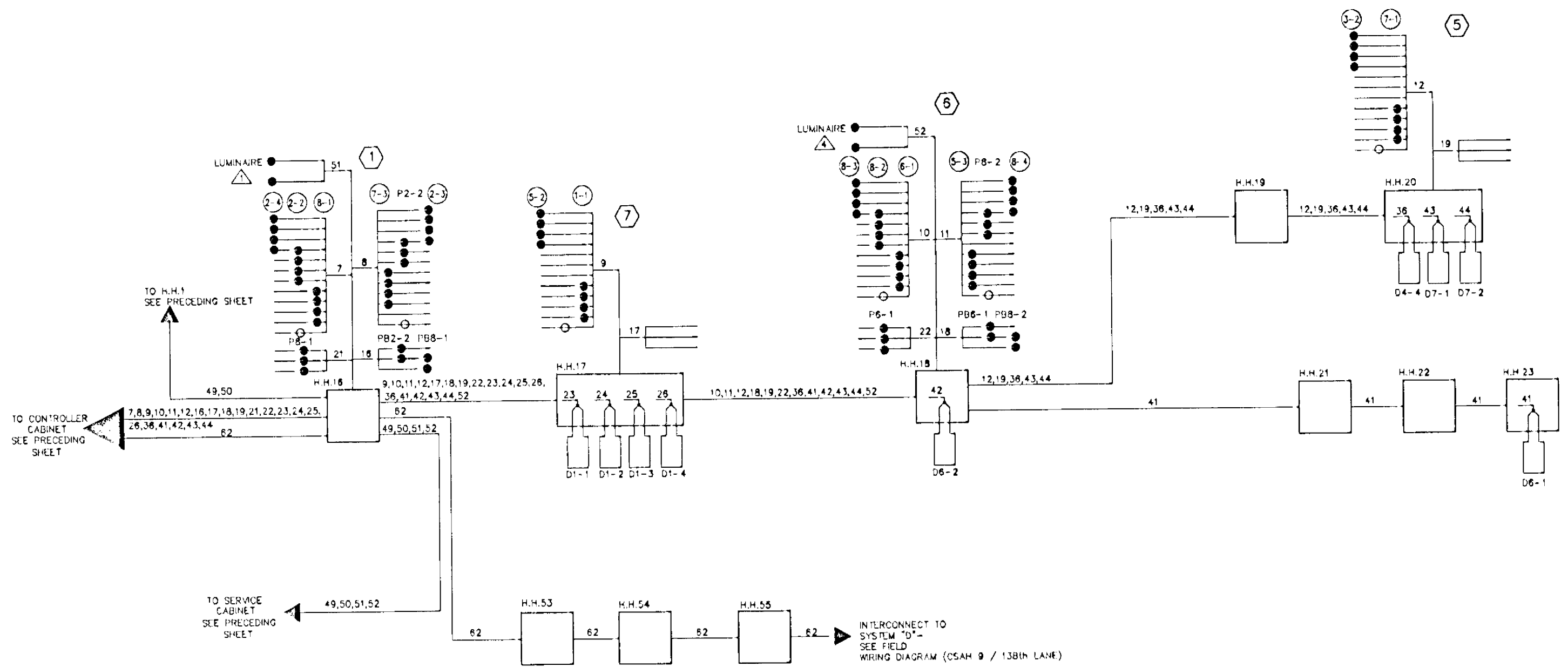
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.  
*John M. Gray*  
 Date: 4/2/93 Reg. No. 22457



**ANOKA COUNTY, MINNESOTA**  
 CITIES OF ANDOVER AND ANOKA

**TRAFFIC SIGNAL SYSTEM "C"**  
 FIELD WIRING DIAGRAM  
 ROUND LAKE BLVD (CSAH 9) AT BUNKER LAKE BLVD. (CO. RD. 116)  
 FILE NO. 92219  
 DATE 4/2/93  
 Sheet No. 51 of 133 Sheets

NO	BY	DATE	REVISIONS



CONDUCTOR COLOR CODING

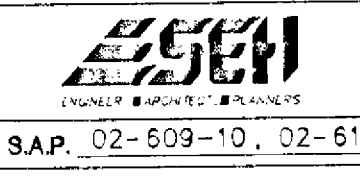
R	BLK	2-1/c #2
O	WH	2-1/c #6
BL	WH	2-1/c #10
WH	R	
R/BLK	WH	3/c #12
O/BLK	BLK	
BL/BLK	BLK	
WH/BLK	BLK	
BLK	BLK	2/c #14
BLK/WH	CLEAR	
G/BLK		
G		
R OR O	WH OR YEL	3/c #20
WH OR YEL	BLK OR BL	

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

NO.	BY	DATE	REVISIONS

"ELECTRICAL ENGINEER CERTIFICATION"  
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.  
*Robert R. Elger*  
Date: 4/2/93 Reg. No. 5859

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.  
*John M. Gray*  
Date: 4/2/93 Reg. No. 22457



ANOKA COUNTY, MINNESOTA  
CITIES OF ANDOVER AND ANOKA

TRAFFIC SIGNAL SYSTEM 'C'  
FIELD WIRING DIAGRAM  
ROUND LAKE BLVD (CSAH 9) AT BUNKER LAKE BLVD.  
(CO. RD. 116)

FILE NO. 92219  
DATE 4/2/93

NOTES:

- 1) LOCATION OF CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS, POLE BASES AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) EACH SIGNAL FACE SHALL BE 12"-3 SECTION R-Y-G, EXCEPT THAT SIGNAL FACES (1-2), (1-3), (5-2) AND (5-3) SHALL BE 12"-3 SECTION RLTA-YLTA-GLTA.
- 3) SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- 4) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
- 5) EACH PEDESTRIAN INDICATION SHALL BE 12"x12".
- 6) SEE SPECIAL PROVISIONS AND DETAILS FOR ANOKA COUNTY SERVICE CABINET INFORMATION.
- 7) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
- 8) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 1" M.C. SEE SPECIAL PROVISIONS AND DETAILS.
- 9) EACH HANDHOLE SHALL BE CONCRETE HANDHOLE WITH TYPE "C" COVER PER Mn/DOT STANDARD PLATE NO B117F.
- 10) SEE SPECIAL PROVISIONS AND DETAILS REGARDING TYPE "D" SIGN PANELS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (INCIDENTAL TO ITEM NO 2565 511)
- 11) (INTERCONNECT) DENOTES ITEMS TO BE PAID FOR UNDER SEPARATE PAY ITEM. SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 12) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED SIGNAL INDICATION.

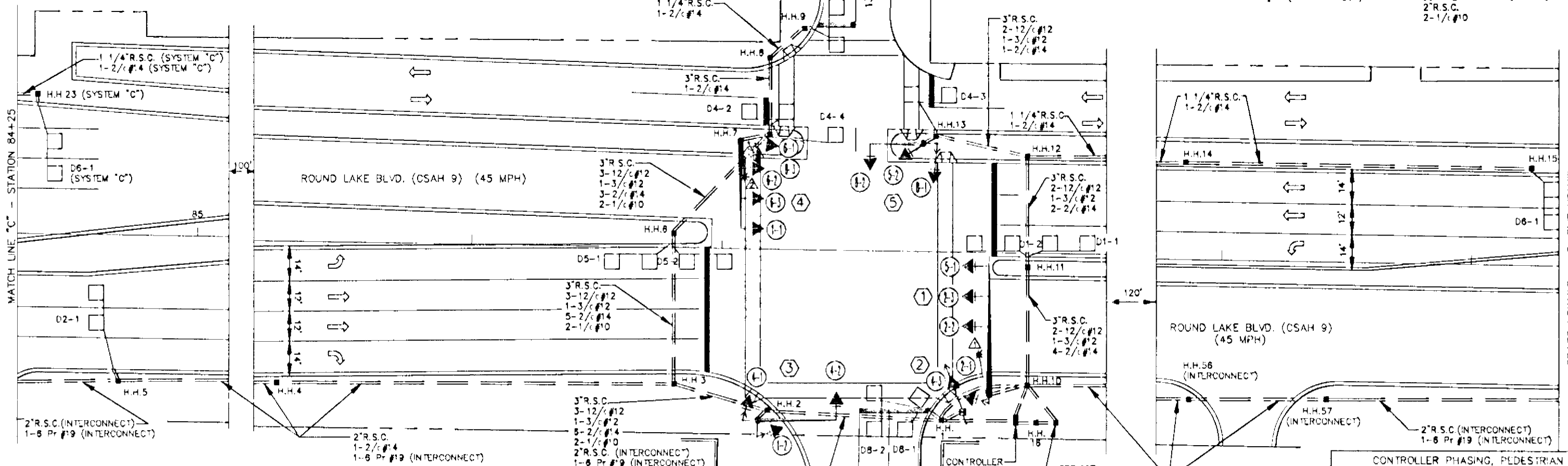
Fed. Project No. \_\_\_\_\_



- 4) TYPE P100-A-35-D40-9 (DAVT AT 350')  
P100 POLE FOUNDATION  
3-ONE WAY SIGNALS-OVERHEAD  
TYPE 20B-POLE MOUNTED 270'  
MID MAST ARM MOUNTS AT 12' AND 24'  
1-PEDESTRIAN PUSH BUTTON  
TYPE "D" SIGN PANEL (102"x18")-OVERHEAD (D-1)  
R9-3a SIGN PANEL (18"x18")-POLE MOUNTED 270'  
LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH  
EXTEND INTO H.H.7:  
3"R.S.C.  
3-12/c #12  
1-3/c #2  
2-1/c #10

- 5) TYPE P80-A-20  
P80 POLE FOUNDATION  
ONE WAY SIGNAL-OVERHEAD  
TYPE 10A-POLE MOUNTED 0'  
TYPE 10B-POLE MOUNTED 180'  
1-PEDESTRIAN PUSH BUTTON  
TYPE "D" SIGN PANEL (120"x18")-OVERHEAD (D-9)  
R9-3a SIGN PANEL (18"x18")-POLE MOUNTED 0'  
EXTEND INTO H.H.13:  
3"R.S.C.  
2-12/c #12  
1-3/c #2  
1-2/c #14

- INSTALL CONTROLLER AND CABINET (FURNISHED BY COUNTY)  
CABINET FOUNDATION  
EXTEND INTO H.H.16:  
METERED SIGNAL SERVICE  
1 1/4"R.S.C.  
3-1/c #8  
EXTEND INTO H.H.1:  
4"R.S.C.  
6-12/c #12  
3-3/c #12  
8-2/c #14  
EXTEND INTO H.H.10:  
4"R.S.C.  
4-12/c #12  
1-3/c #12  
4-2/c #14  
EXTEND INTO H.H.1:  
2"R.S.C. (INTERCONNECT)  
1-6 Pr #19 (INTERCONNECT)  
EXTEND INTO H.H.10:  
2"R.S.C. (INTERCONNECT)  
1-6 Pr #19 (INTERCONNECT)
- SERVICE CABINET  
CABINET FOUNDATION  
STUB OUT 2"R.S.C.  
(FOR SERVICE BY AEC)  
EXTEND INTO H.H.15:  
METERED SIGNAL SERVICE  
1 1/4"R.S.C.  
3-1/c #8  
EXTEND INTO H.H.10:  
UNMETERED STREET LIGHT SERVICE  
1 1/4"R.S.C.  
4-1/c #10  
BETWEEN H.H.1 AND H.H.10:  
2"R.S.C.  
2-1/c #10

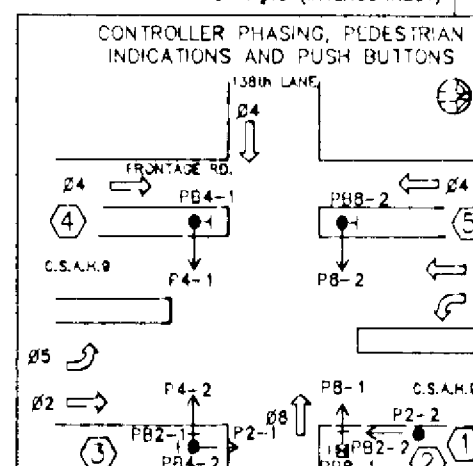


LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-6x6	20'	7,11
D1-2	2-6x6	5'	7,11
D2-1	2-6x6	330'	1
D4-1	2-6x6	5'	7
D4-2	2-6x6	5'	7
D4-3	2-6x6	5'	7
D4-4	6x6	5'	7
D5-1	2-6x6	20'	7,11
D5-2	2-6x6	5'	7,11
D6-1	2-6x6	330'	1
D6-2	2-6x6	5'	7

- 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) IMMEDIATE CALL DURING PHASE 4/8 GREEN

- 3) TYPE P90-A-30  
P90 POLE FOUNDATION  
ONE WAY SIGNAL-OVERHEAD  
2-TYPE 10B-POLE MOUNTED 90' AND 180'  
2-PEDESTRIAN PUSH BUTTONS  
TYPE "D" SIGN PANEL (120"x18")-OVERHEAD (D-9)  
EXTEND INTO H.H.2:  
3"R.S.C.  
2-12/c #12  
1-3/c #2
- 2) TYPE 1C  
10' PEDESTAL POLE AND BASE  
PEDESTAL FOUNDATION  
2-PEDESTRIAN PUSH BUTTONS  
EXTEND INTO H.H.1:  
2"R.S.C.  
1-12/c #12  
1-3/c #12

- 1) TYPE A100-A-50-D40-9 (DAVT AT 350')  
A100 POLE FOUNDATION  
3-ONE WAY SIGNALS-OVERHEAD  
TYPE 10B-POLE MOUNTED 180'  
MID MAST ARM MOUNTS AT 12' AND 24'  
TYPE "D" SIGN PANEL (102"x18")-OVERHEAD (D-10)  
LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH  
EXTEND INTO H.H.10:  
3"R.S.C.  
2-12/c #12  
2-1/c #10



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

ELECTRICAL ENGINEER CERTIFICATION  
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.  
*Robert J. Ellen*  
Date: 4/2/93 Reg. No. 5859

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*John M. Hays*  
Date: 4/2/93 Reg. No. 22457

**ASEH**  
ENGINEERS • ARCHITECTS • PLANNERS

ANOKA COUNTY, MINNESOTA  
CITY OF ANDOVER

TRAFFIC SIGNAL SYSTEM "D"  
INTERSECTION LAYOUT  
ROUND LAKE BLVD. (CSAH 9) AT 138th LANE N.W.

FILE NO.  
92219  
DATE  
4/2/93

NO	BY	DATE	REVISIONS

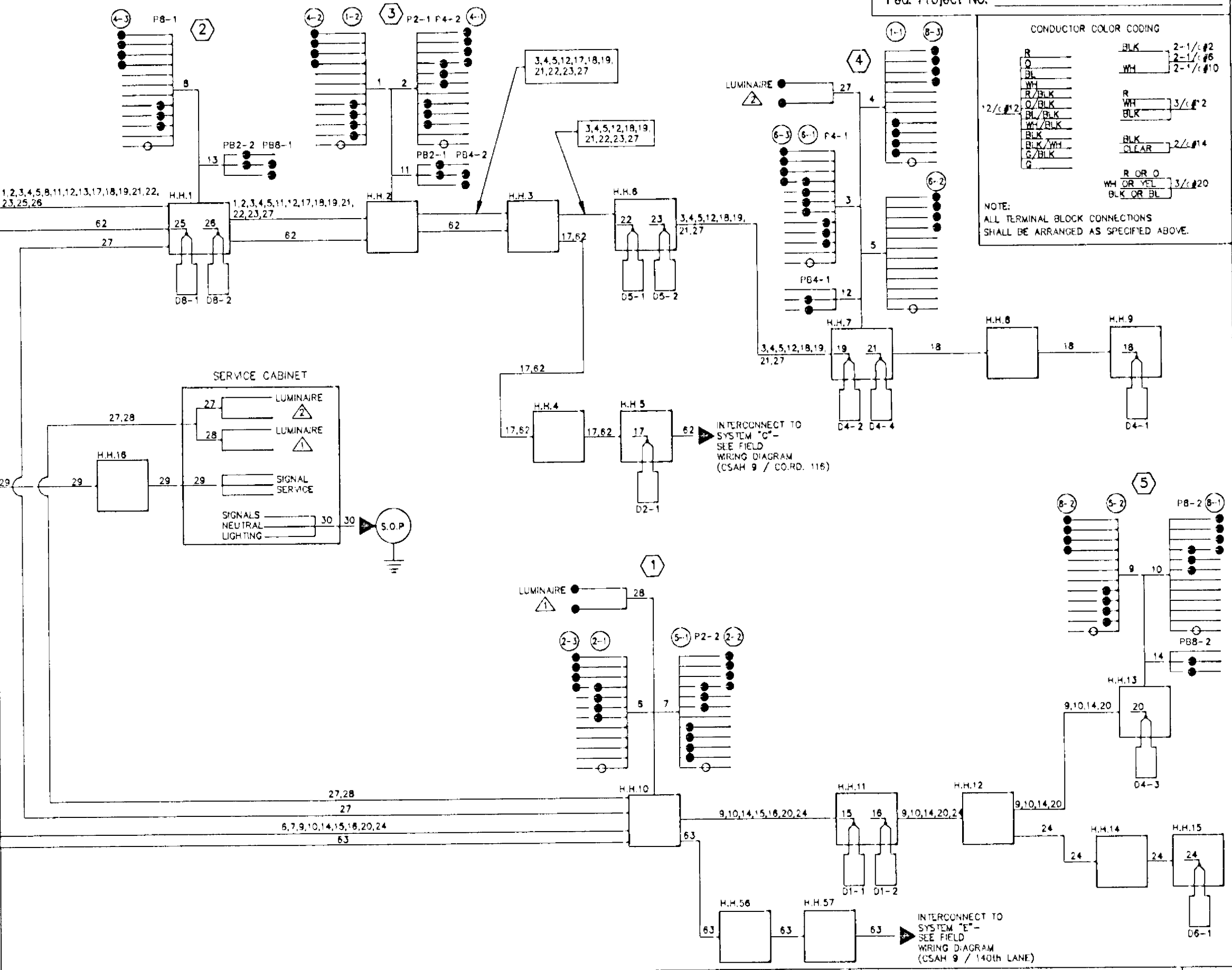
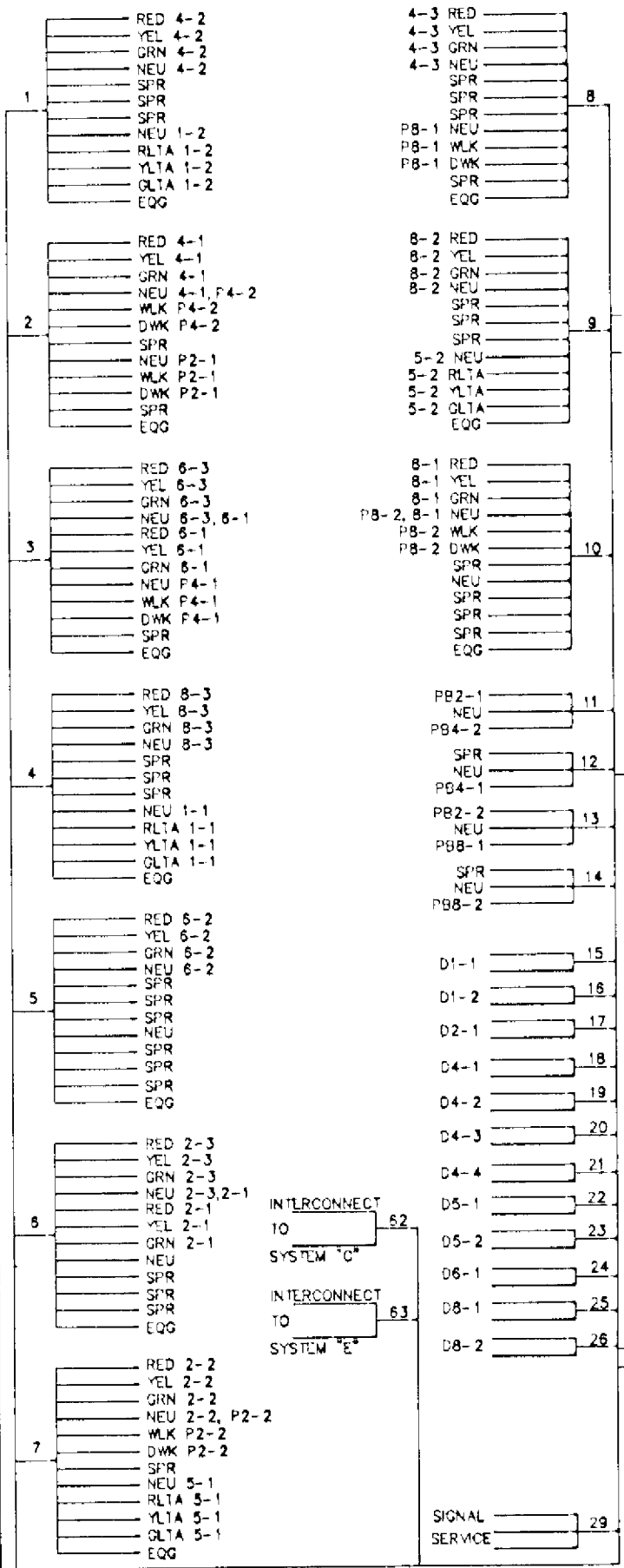
S.A.P. 02-609-10

S.P.

C.P.

Sheet No. 53 of 133 Sheets

CONTROLLER CABINET



CONDUCTOR COLOR CODING

R	BLK	2-1/c#2
O	WH	2-1/c#6
BL	WH	2-1/c#10
WH	R	3/c#2
R/BLK	WH	3/c#2
O/BLK	BLK	2/c#14
BL/BLK	BLK	2/c#14
WH/BLK	BLK	2/c#14
BLK	R OR O	3/c#20
BLK/WH	WH OR YEL	3/c#20
G/BLK	BLK OR BL	3/c#20
G		

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

"ELECTRICAL ENGINEER CERTIFICATION"  
 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.  
 Date: 4/2/93 Reg. No. 5859

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.  
 Date: 4/2/93 Reg. No. 22457



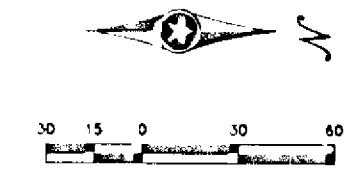
ANOKA COUNTY, MINNESOTA  
 CITY OF ANDOVER

TRAFFIC SIGNAL SYSTEM "D"  
 FIELD WIRING DIAGRAM  
 ROUND LAKE BLVD. (CSAH 9) AT 138TH LANE N.W.

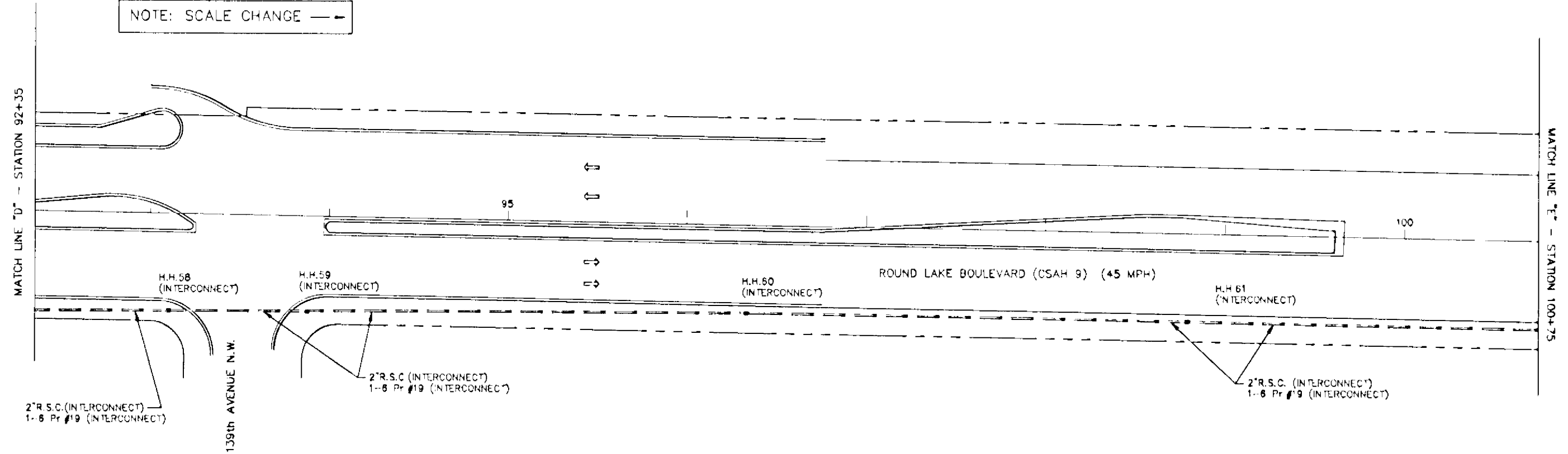
FILE NO. 92219  
 DATE 4/2/93

NO	BY	DATE	REVISIONS





NOTE: SCALE CHANGE —→



NO.	BY	DATE	REVISIONS

**ELECTRICAL ENGINEER CERTIFICATION**  
 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.  
*Robert A. Eller*  
 Date: 4/2/93 Reg. No. 5859

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.  
*John M. Gray*  
 Date: 4/2/93 Reg. No. 22457



**ANOKA COUNTY, MINNESOTA**  
 CITY OF ANDOVER  
 S.A.P. 02-609-10 S.P. \_\_\_\_\_ C.P. \_\_\_\_\_

**TRAFFIC SIGNAL INTERCONNECT**  
 ROUND LAKE BOULEVARD (CSAH 9)

FILE NO. 92219  
 DATE 4/2/93

**NOTES:**

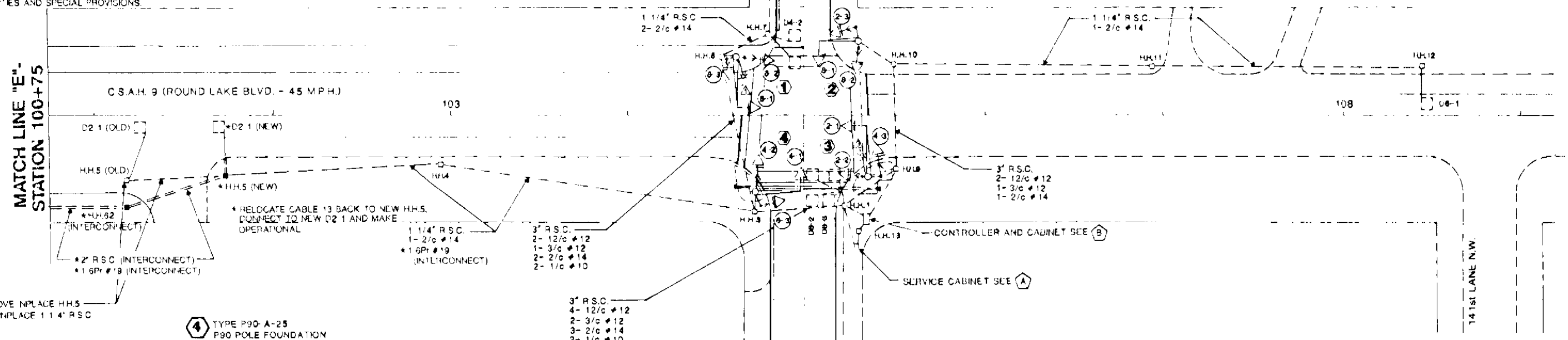
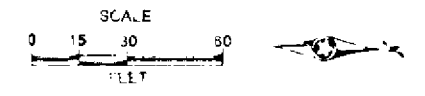
- 1) SEE SPECIAL PROVISIONS FOR CONTRACTORS RESPONSIBILITY FOR LOCATION OF UTILITIES
- 2) ALL SIGNAL FACES SHALL HAVE BACKGROUND SHIELDS
- 3) LUMINAIRE  $\Delta$  WITH P.E.C AND CHECK SWITCH.
- 4) SEE SPECIAL PROVISIONS FOR ANOKA COUNTY SERVICE CABINET DETAILS.
- 5) DIRECTIONAL SIGNS TO BE FURNISHED AND INSTALLED ON MAST ARMS AT ① ② ③ AND ④ SEE SPECIAL PROVISIONS.
- 6) HANDHOLES SHALL BE CONCRETE WITH CONCRETE COVERS.
- 7) LOOP DETECTOR WIRES SHALL BE CROSS LINKED POLYETHYLENE (XLP) IN 1" N.M.C. SEE SPECIAL PROVISIONS.
- 8) ALL PEDESTRIAN INDICATIONS SHALL BE 12" x 12"
- 9) HUBS FOR POLE MOUNTED SIGNAL INDICATIONS SHALL BE PROVIDED ON 4 SIDES OF MAST ARMS POLES
- \* 10) ALL ITEMS OF SIGNAL SYSTEM "E" ARE IN PLACE AND SHALL BE REUSED IN PLACE, UNLESS OTHERWISE DENOTED BY \* (\* = WORK TO BE COMPLETED)
- \* 11) INTERCONNECT: DENOTES FILMS TO BE PAID FOR UNDER SEPARATE PAY ITEM. SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.

① TYPE P90-A-25-D40-9 (DAVIT AT 350")  
 P90 POLE FOUNDATION  
 ONE WAY SIGNAL-OVERHEAD  
 TYPE 10B-POLE MOUNTED 90°  
 TYPE 10B-POLE MOUNTED 270°  
 LUMINAIRE-200 WATT H.P.S.  
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS  
 EXTEND INTO H.H.8:  
 3'R.S.C.  
 2-12/c #12  
 1-3/c #12  
 2-1/c #10

② TYPE P90-A-20  
 P90 POLE FOUNDATION  
 ONE WAY SIGNAL-OVERHEAD  
 TYPE 10B-POLE MOUNTED 90°  
 TYPE 10B-POLE MOUNTED 270°  
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS  
 EXTEND INTO H.H.10:  
 3'R.S.C.  
 2-12/c #12  
 1-3/c #12

③ CONTROLLER AND CABINET  
 CABINET FOUNDATION  
 EXTEND INTO H.H.13:  
 METERED SIGNAL SERVICE  
 1 1/4" R.S.C.  
 3- 1/c #6  
 EXTEND INTO H.H.1:  
 4" R.S.C.  
 4- 12/c #12  
 2- 3/c #12  
 6- 2/c #14  
 EXTEND INTO H.H.9:  
 4" R.S.C.  
 4- 12/c #12  
 2- 3/c #12  
 1- 2/c #14  
 BETWEEN H.H.1 AND H.H.9  
 1" R.S.C.  
 2" R.S.C.  
 4- 1/c #10  
 \* STUB OUT 2" R.S.C. AND EXTEND INTO H.H.1 (INTERCONNECT)  
 \* 1 6Pr #19 (INTERCONNECT)

④ SERVICE CABINET  
 CABINET FOUNDATION  
 STUB OUT 2" R.S.C.  
 (FOR SERVICE BY OTHERS)  
 EXTEND INTO H.H.9:  
 METERED SIGNAL SERVICE  
 1 1/4" R.S.C.  
 3- 1/c #6  
 UNMETERED STREET LIGHT SERVICE  
 1" R.S.C.  
 2- 1/c #10  
 BETWEEN H.H.1 AND H.H.13  
 1 1/4" R.S.C.  
 2- 1/c #10



\* REMOVE IN PLACE H.H.5 AND IN PLACE 1 1/4" R.S.C.

④ TYPE P90-A-25  
 P90 POLE FOUNDATION  
 ONE WAY SIGNAL-OVERHEAD  
 TYPE 10B-POLE MOUNTED 90°  
 TYPE 10B-POLE MOUNTED 270°  
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS  
 EXTEND INTO H.H.3:  
 3'R.S.C.  
 2-12/c #12  
 1-3/c #12

3" R.S.C.  
 4- 12/c #12  
 2- 3/c #12  
 3- 2/c #14  
 2- 1/c #10  
 \* 2" R.S.C. (INTERCONNECT)  
 \* 1 6Pr #19 (INTERCONNECT)

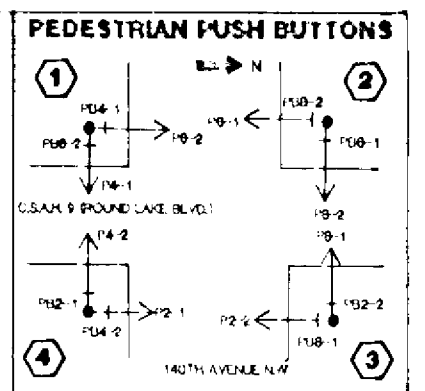
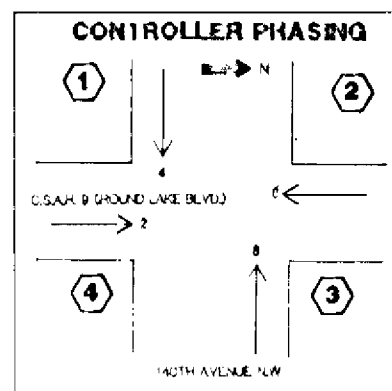
③ TYPE P90-A-30-D40-9 (DAVIT AT 350")  
 P90 POLE FOUNDATION  
 ONE WAY SIGNAL-OVERHEAD  
 TYPE 10B-POLE MOUNTED 90°  
 TYPE 10B-POLE MOUNTED 270°  
 LUMINAIRE-200 WATT H.P.S.  
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS  
 EXTEND INTO H.H.9:  
 3'R.S.C.  
 2-12/c #12  
 1-3/c #12  
 4- 1/c #10

LOOP DETECTORS			
NUMBER	SIZE	LOCATION	FUNCTION
* D2-1	8'X8'	290'	1
D4-1	8'X8'	150'	3,8
D4-2	2-8'X8'	-	7
D6-1	8'X8'	300'	1
D8-1	8'X8'	130'	3,8
D8-2	2-8'X8'	-	1
D8-3	2-8'X8'	-	7

- LOOP DETECTOR 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 LINE TO DETECTOR  
 \* ALL LOOP DETECTORS, EXCEPT FOR D2-1, ARE IN PLACE

SIGNAL INDICATIONS					
FACE	PHASE	FLASH	R	Y	G
2-1	2	R	12	12	12
2-2	2	R	12	12	12
2-3	2	R	12	12	12
4-1	4	R	12	12	12
4-2	4	R	12	12	12
4-3	4	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
8-1	8	R	12	12	12
8-2	8	R	12	12	12
8-3	8	R	12	12	12



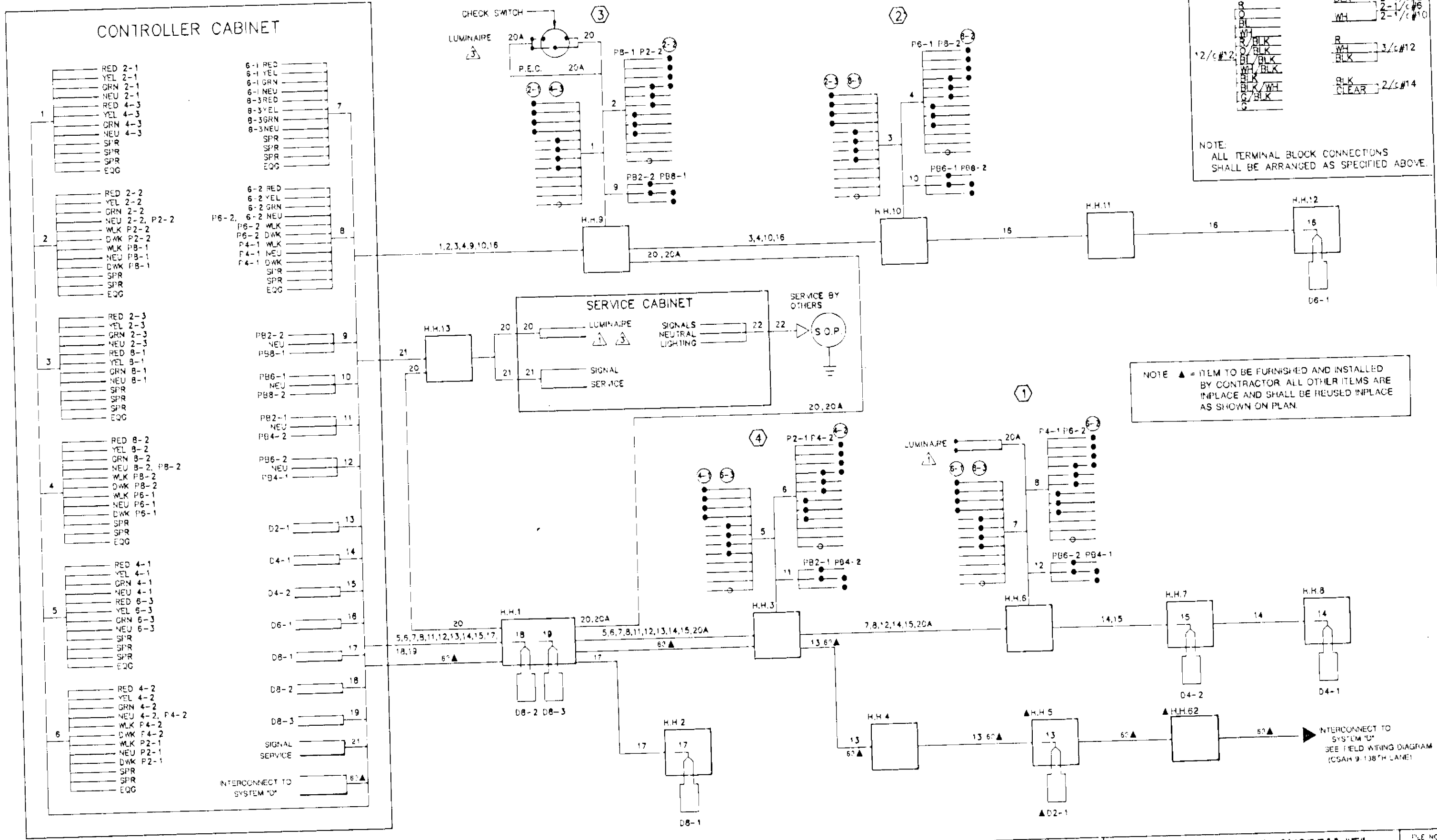
<p>ELECTRICAL ENGINEER CERTIFICATION</p> <p>I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.</p> <p><i>Robert A. Allen</i>                  Date: 4/2/99 Reg. No. 5859</p>	<p>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.</p> <p><i>John M. Gray</i>                  Date: 4/2/99 Reg. No. 22457</p>	<p><b>ANOKA COUNTY, MINNESOTA</b>                  CITY OF ANDOVER</p>	<p><b>TRAFFIC SIGNAL SYSTEM "E"</b>                  INTERSECTION LAYOUT                  ROUND LAKE BLVD (CSAH 9) AT 140TH LANE NW</p>	FILE NO 92219
				DATE 4/2/99
S.A.P. 02-609-10		C.P. _____		Sheet No. 56 of 133 Sheets

CONDUCTOR COLOR CODING

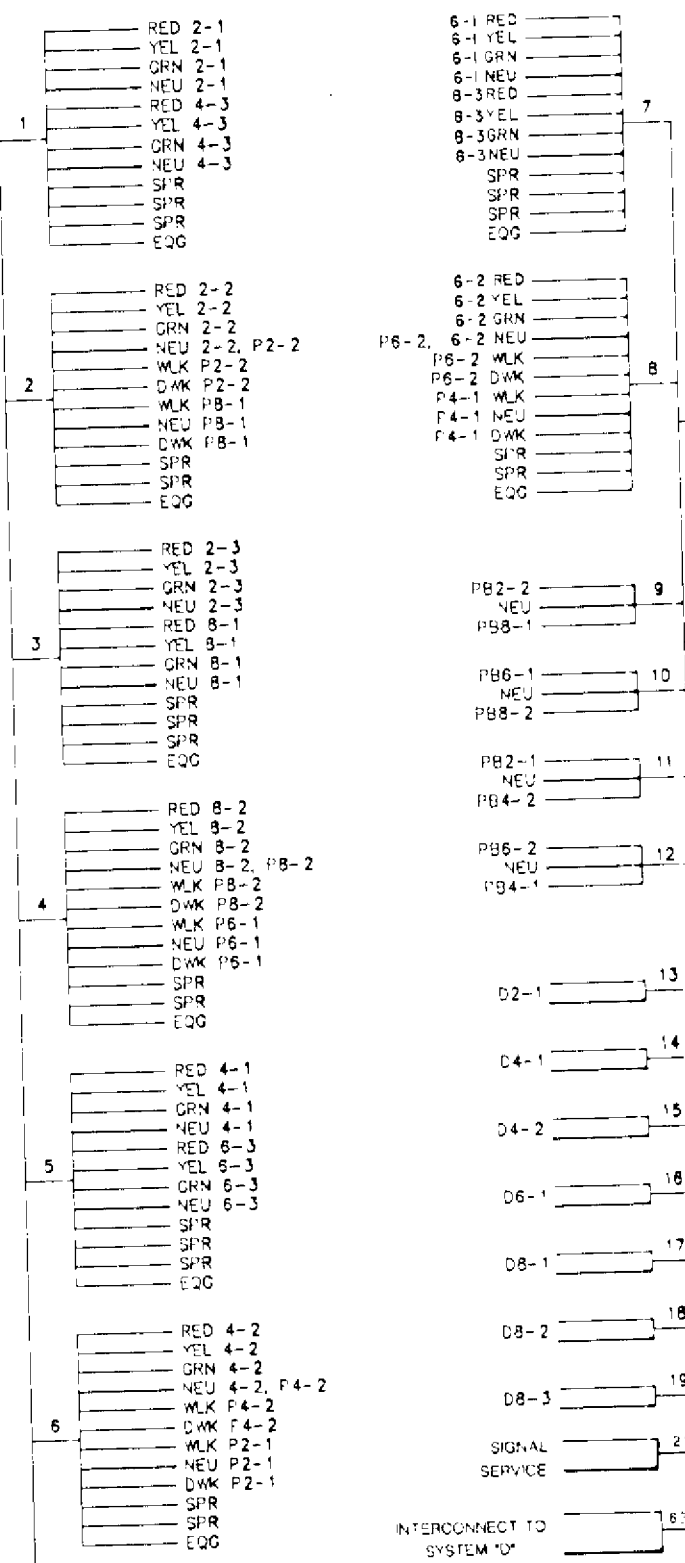
BLK	2-1/c#2
WH	2-1/c#5
BLK	2-1/c#10
R	3/c#12
WH	3/c#12
BLK	3/c#12
BLK	2/c#14
CLEAR	2/c#14

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

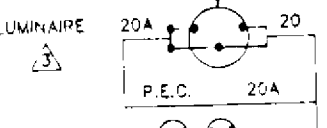
NOTE ▲ = ITEM TO BE FURNISHED AND INSTALLED BY CONTRACTOR. ALL OTHER ITEMS ARE IN PLACE AND SHALL BE REUSED IN PLACE AS SHOWN ON PLAN.



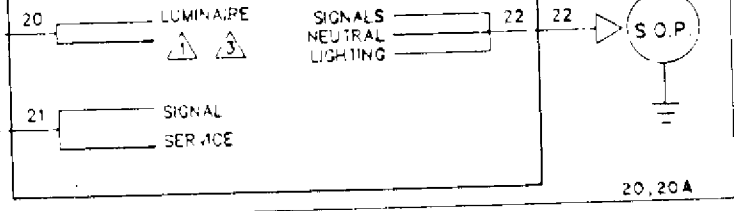
CONTROLLER CABINET



CHECK SWITCH



SERVICE CABINET



ELECTRICAL ENGINEER CERTIFICATION

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.  
 Robert A. Allen  
 Date 4.2.93 Reg. No. 9869

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.

John M. Gray  
 Date 4.2.93 Reg. No. 22457



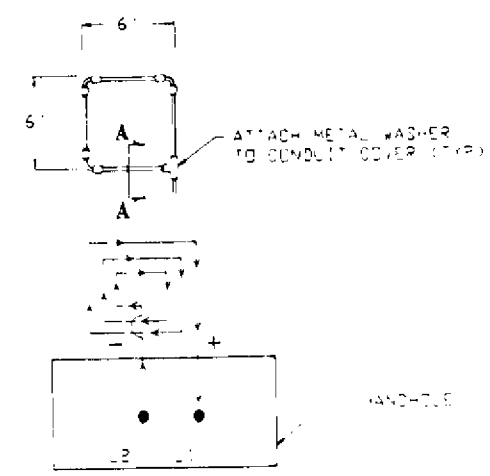
ANOKA COUNTY, MINNESOTA  
 CITY OF ANDOVER

TRAFFIC SIGNAL SYSTEM "E"

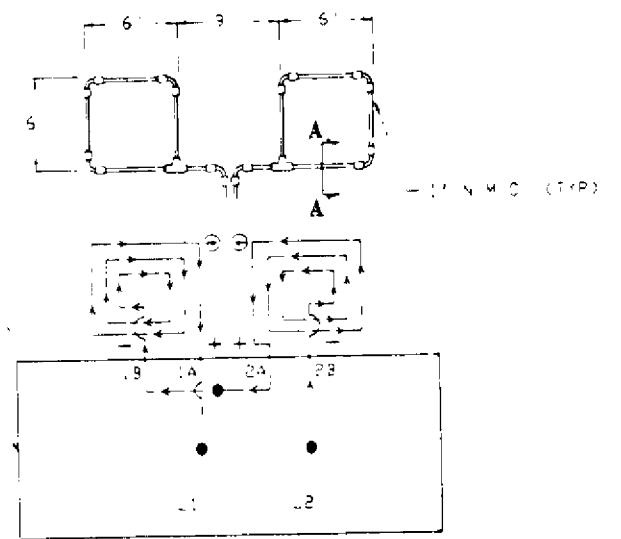
FIELD WIRING DIAGRAM  
 ROUND LAKE BLVD (CSAH 9) AT 140TH LANE N.W.

FILE NO. 92219  
 DATE 4.2.93

**LOOP DETECTOR DETAIL 'A'**  
 PLAN VIEW (NOT TO SCALE)  
 (LOOP PHASING FOR SINGLE CONNECTION)

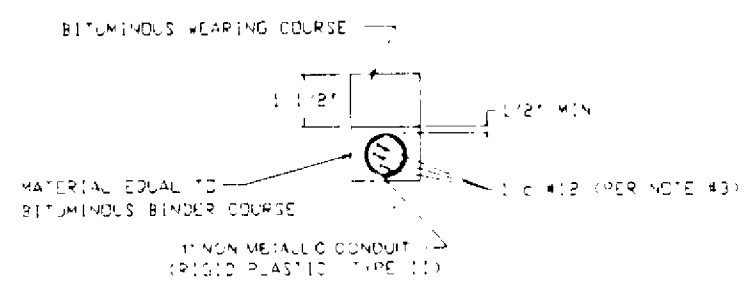


**LOOP DETECTOR DETAIL 'B'**  
 PLAN VIEW (NOT TO SCALE)  
 (LOOP PHASING FOR SERIES CONNECTION)

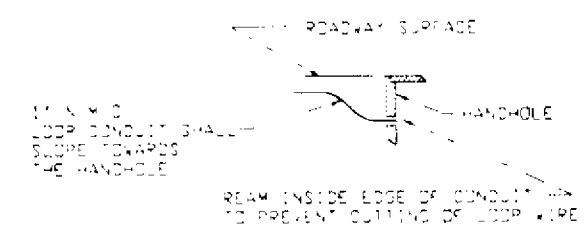


LOOP CONNECTIONS SHALL BE LABELED AND SPliced IN THE HANDHOLE AS FOLLOWS:  
 L1 TO 1A, L3 TO 2A, AND 2B TO L2

**CROSS SECTION A-A**



**DRAINAGE DETAIL**



**LOOP DETECTOR WIRING**

- NOTES:**
- ALL CORNERS SHALL BE 90° CONDUIT BENDS
  - CONNECT WIRES IN HANDHOLES USING SPLICE KIT METHOD DESCRIBED IN THE SPECIAL PROVISIONS
  - LOOP DETECTOR WIRES SHALL BE # 12 AWG CROSSED LINKED POLYETHYLENE (XLP) SEE SPECIAL PROVISIONS
  - LOOP LEAD IN WIRES SHALL BE TWISTED A MIN. OF (5) TURNS PER FOOT THROUGH THE CONDUIT TO THE HANDHOLE
  - N.M.C. DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
  - LOOPS 6' x 6' THRU 6' x 10' SHALL HAVE (4) TURNS
  - LOOPS 8' x 10' THRU 6' x 14' SHALL HAVE (3) TURNS
  - LOOPS 8' x 15' AND LARGER SHALL HAVE (2) TURNS
  - A CLOSED CELL FOAM BACKER ROD SHALL BE FURNISHED AND INSTALLED WITH THE LAST TURN OF WIRE IN THE 1 1/2\"/>

PLATE NO	DESCRIPTION
B110 C	TRAFFIC SIGNAL BRACKETING - POLE MOUNTED
B111 B	TRAFFIC SIGNAL BRACKETING - PEDESTAL MOUNTED
B112 C	PEDESTAL FOUNDATION
B113 C	MAGNETIC VEHICLE DETECTOR INSTALLATION
B115 C	PEDESTRIAN PUSH BUTTON INSTALLATION
B117 F	PRECAST CONCRETE HAND HOLE
B118 C	SERVICE EQUIPMENT AND POLE
B119 C	GROUND MOUNTED CABINET FOUNDATION
B120 H	P-80 AND P-90 POLE FOUNDATION
B121 B	TRANSFORMER BASE WITH POLE BASE PLATE
B122 C	PEDESTAL AND PEDESTAL BASE
B123 B	POLE AND MAST ARM
B124 D	SIGNAL HEAD MOUNTS
B126 C	P-130 POLE FOUNDATION
B130 D	SAW CUT LOOP DETECTORS
3315 A	SPECIFICATION REFERENCE TO STANDARD PLATES
3124 B	METAL APRON CONNECTION
3221 C	CORRUGATED STEEL PIPE COUPLING BAND
7035 J	CONCRETE WALK AND CURB RETURNS AT ENTRANCES
7036 D	PEDESTRIAN CURB RAMP
7100 F	CONCRETE CURB AND GUTTERS

\* THESE STANDARD PLATES, AS APPROVED BY THE FHWA, SHALL APPLY.

**ABBREVIATIONS**  
 EQUIPMENT AND INDICATIONS

- RED - RED
- YEL - YELLOW
- GRN - GREEN
- WALK - WALK
- NEU - NEUTRAL
- DWK - DARK WALK
- LUM - LUMINAIRE
- DNL - DOWNLIGHT
- H - HANDHOLE
- EGG - EQUIPMENT GROUND
- R S C - RIGID STEEL CONDUIT
- G L T A - GREEN LEFT TURN ARROW
- Y R T A - YELLOW RIGHT TURN ARROW
- D2-1 (P) - DETECTOR-PHASE 1
- GR R - GROUND ROD
- SER - SERVICE
- P2 - 2 PEDESTRIAN INDICATIONS
- 2 (L) (R) - SIGNAL HEADS-PHASE 1/2
- SIR - SPARE CONNECTORS
- N.M.C. - NON METALLIC CONDUIT
- E.V.P. - EMERGENCY VEHICLE PRE-EMPTION
- V.B. - VEHICLE BODY
- W.P. - WOOD POLE
- P.E.C. - PHOTOELECTRIC CELL

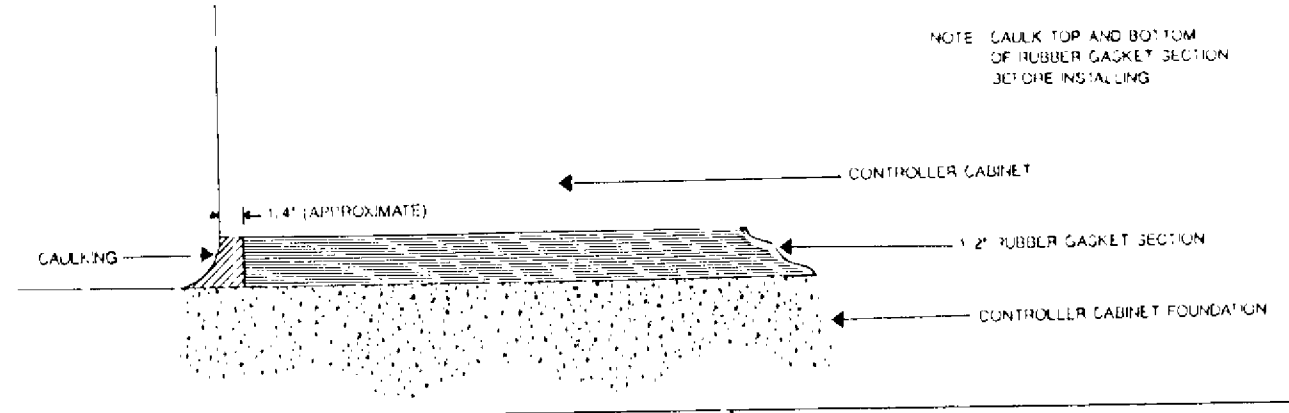
**LEGEND OF SYMBOLS**

- CONTROLLER AND SERVICE LIGHT NOS \_\_\_\_\_
- SIGNAL BASE NO \_\_\_\_\_
- SIGNAL FACE NO \_\_\_\_\_
- LUMINAIRE NO \_\_\_\_\_
- CONTROLLER AND CABINET \_\_\_\_\_
- CONTROLLER AND CABINET IN PLACE \_\_\_\_\_
- HANDHOLE \_\_\_\_\_
- HANDHOLE IN PLACE \_\_\_\_\_
- RIGID STEEL CONDUIT (R S C) \_\_\_\_\_
- RIGID STEEL CONDUIT (R S C) IN PLACE \_\_\_\_\_
- SIGNAL FACE WITH BACKGROUND SHIELD \_\_\_\_\_
- SIGNAL FACE W/O BACKGROUND SHIELD \_\_\_\_\_
- SIGNAL FACE IN PLACE \_\_\_\_\_
- PEDESTRIAN INDICATORS \_\_\_\_\_
- PEDESTRIAN INDICATORS IN PLACE \_\_\_\_\_
- PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE \_\_\_\_\_
- PEDESTRIAN PUSH BUTTON STATION \_\_\_\_\_
- TRAFFIC SIGNAL PEDESTAL \_\_\_\_\_
- TRAFFIC SIGNAL PEDESTAL IN PLACE \_\_\_\_\_
- TRAFFIC SIGNAL POLE AND MAST ARM \_\_\_\_\_
- TRAFFIC SIGNAL POLE AND MAST ARM IN PLACE \_\_\_\_\_
- STREET LIGHT POLE AND LUMINAIRE \_\_\_\_\_
- STREET LIGHT POLE AND LUMINAIRE IN PLACE \_\_\_\_\_
- MAST ARM AND LUMINAIRE \_\_\_\_\_
- MAST ARM AND LUMINAIRE IN PLACE \_\_\_\_\_
- WOOD POLE \_\_\_\_\_
- WOOD POLE IN PLACE \_\_\_\_\_
- SOURCE OF POWER \_\_\_\_\_
- RAILROAD SIGNAL IN PLACE \_\_\_\_\_
- RIGHT OF WAY LINE \_\_\_\_\_
- CENTERLINE \_\_\_\_\_
- EDGE OF ROADWAY \_\_\_\_\_
- SHOULDERLINE \_\_\_\_\_
- CURB LINE \_\_\_\_\_
- STOP BAR \_\_\_\_\_

**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 CABINET CAULKING DETAIL**



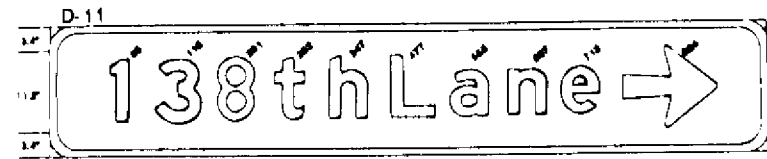
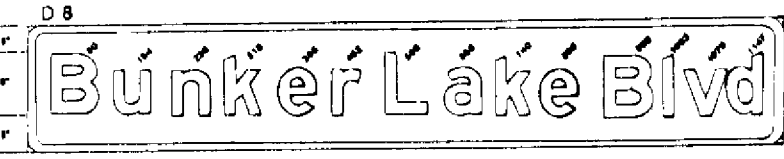
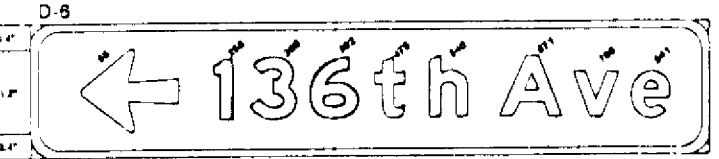
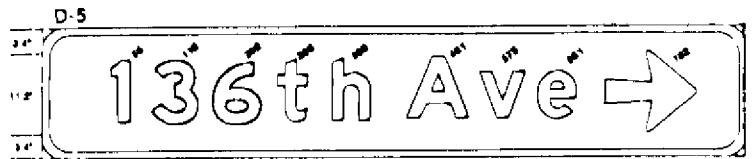
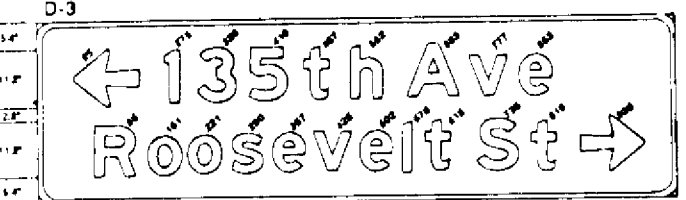
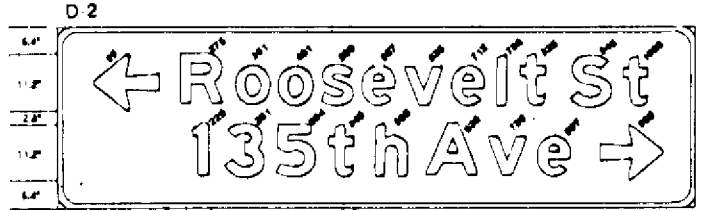
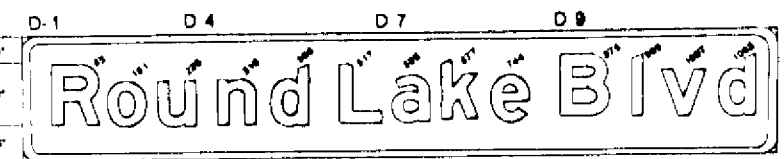
NOTE: CAULK TOP AND BOTTOM OF RUBBER GASKET SECTION BEFORE INSTALLING

**SIGN DETAILS**

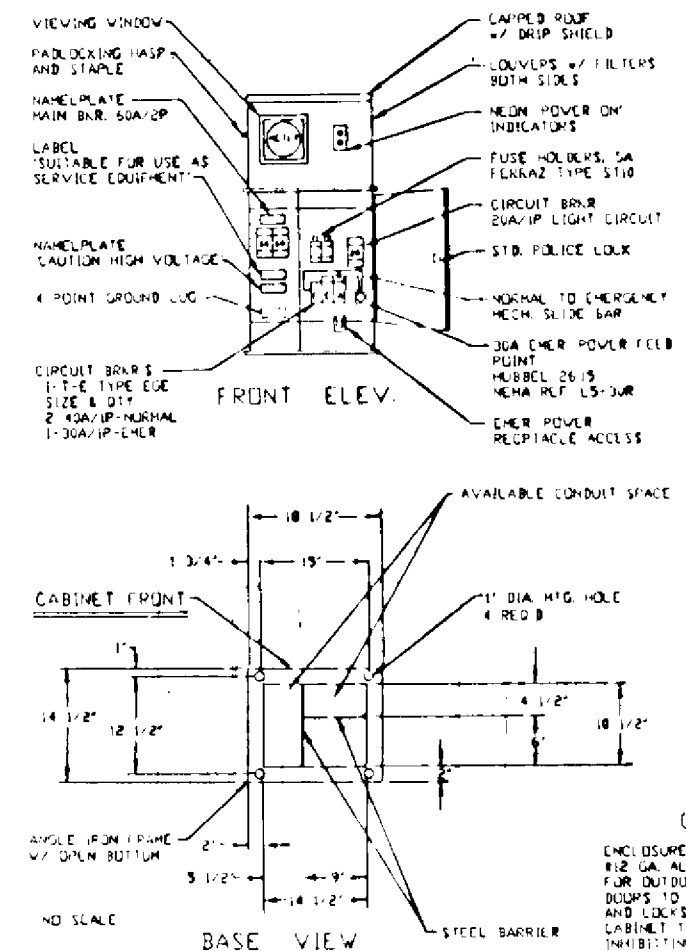
**TYPE "D" SIGNS**

SIGN PANEL	SIZE	NO REQ	NO POSTS PER SIGN	POST SPACING	SQ FT PER SIGN	POLE NO	B
D 1	120x18	2	3	45"	15.00	1	28"
D 2	114x36	1	3	45"	28.50	1	28"
D 3	114x36	1	3	45"	28.50	4	28"
D 4	120x18	2	3	45"	15.00	1	28"
D 5	96x18	1	2	54"	12.00	1	28"
D 6	96x18	1	2	54"	12.00	4	30"
D 7	120x18	2	3	45"	15.00	1	28"
D 8	126x18	2	3	45"	15.75	1	28"
D 9	120x18	2	3	45"	15.00	1	28"
D 10	102x18	1	3	45"	12.75	1	28"
D 11	102x18	1	3	45"	12.75	4	28"

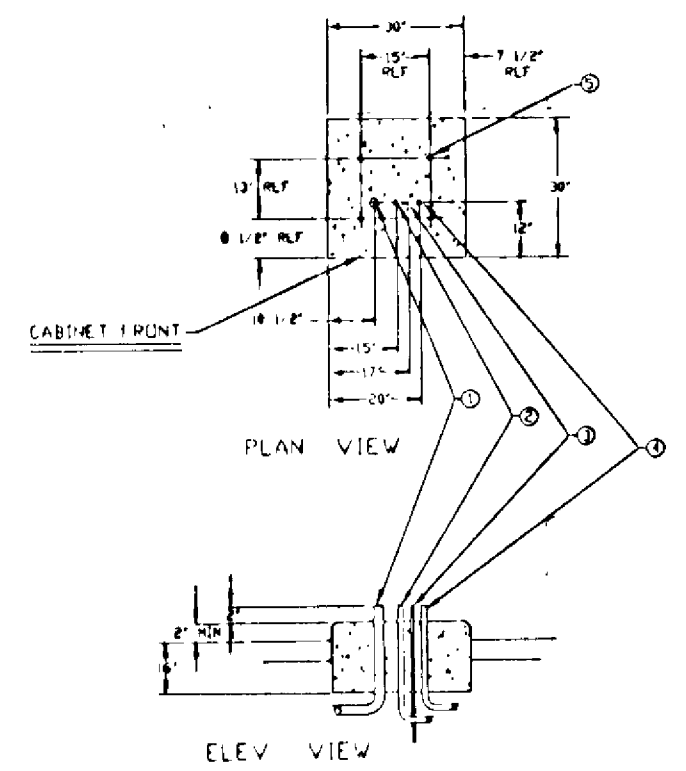
- NOTES:
- 1) COLOR- WHITE LEGEND AND BORDER ON GREEN BACKGROUND, FULLY REFLECTORIZED.
  - 2) CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED
  - 3) FOR STRUCTURAL DETAILS, TYPE D SIGNS, SEE STANDARD SIGNS MANUAL, PAGE 105A AND B
  - 4) FOR TYPE D STRINGER AND PANEL JOINT DETAIL, SEE STANDARD MANUAL.
  - 5) SIGN PANELS TO BE FURNISHED AND INSTALLED INCIDENTAL TO ITEM NO 2565 511
  - 6) SEE STANDARD SIGNS MANUAL FOR ARROW DETAILS.



**SIGNAL SERVICE CABINET**

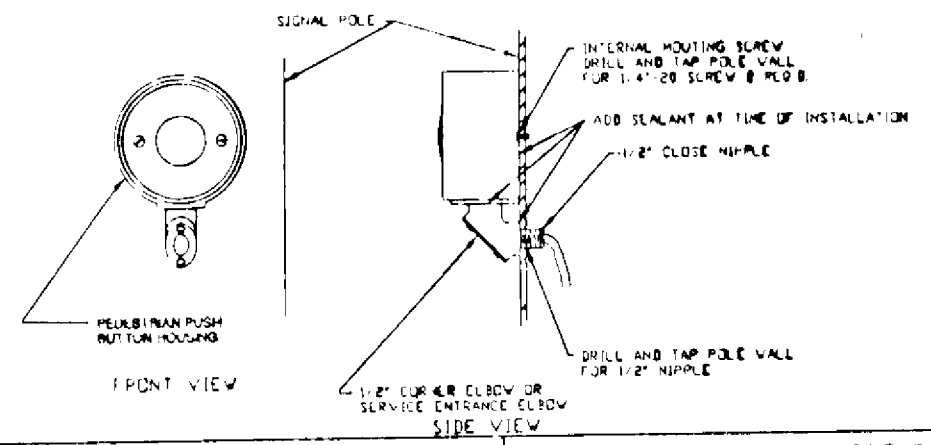


**SERVICE CABINET FOUNDATION**



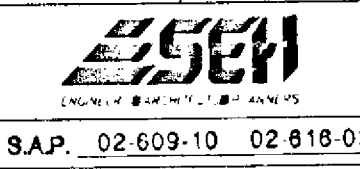
- CONSTRUCTION NOTES
- 1) ENCLOSURE SHALL BE FABRICATED FROM #12 GA. ALL WELDED COLD ROLLED STEEL FOR OUTDOOR WEATHER PROOF SERVICE. DOORS TO BE GASKETED, ALL HINGE PINS AND LOCKS TO BE OF NON CORRODING CONSTRUCTION. CABINET TO BE PRIMED INSIDE AND OUT WITH RUST INHIBITING PRIMER FINISH PULV. #4027.
  - 1) 2" RSC FROM SOURCE OF POWER
  - 2) 1 1/4" RSC TO CONTROLLER CABINET (VIA HANDHOLE)
  - 3) GROUNDING ROD
  - 4) 1 1/4" RSC TO HANDHOLE (STREET LIGHTING)
  - 5) ANCHOR BOLT LOCATIONS (4 REQ'D)

**PEDESTRIAN PUSH BUTTON DETAIL**



“ELECTRICAL ENGINEER CERTIFICATION”  
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.  
*Robert A. Miller*  
Date: 4/2/93 Reg. No. 5859

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.  
*John M. Gray*  
Date: 4/2/93 Reg. No. 22457



**ANOKA COUNTY, MINNESOTA**  
CITIES OF ANDOVER AND ANOKA

**SIGNAL SYSTEMS "A"- "E"**  
DETAILS

FILE NO. 92219  
DATE 4/2/93

S.A.P. 02-609-10 02-618-03 S.P. C.P. 93-12-118

Sheet No. 59 of 133 Sheets

NO. BY DATE REVISIONS

**NOTES**

- 1) SEE SPECIAL PROVISIONS FOR CONTRACTORS RESPONSIBILITY FOR THE LOCATION OF UTILITIES
- 2) ALL SIGNAL FACES SHALL HAVE BACKGROUND SHIELDS
- 3) LUMINAIRE WITH P.E.C. AND CHECK SWITCH
- 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 (XLPE) IN 1" M.C. SEE SPECIAL PROVISIONS AND DETAILS
- 7) PEDESTRIAN INDICATIONS P2, P2.1, P2.2, P5.1 AND P5.2 SHALL BE 9"x9" ALL OTHER PEDESTRIAN INDICATIONS SHALL BE 12"x12"
- 8) SEE SPECIAL PROVISIONS FOR DETAILS ON WOOD POLE ANCHORS
- 9) SEE DETAIL SHEET 6 FOR WOOD POLE SPAN WIRE MOUNTING AND PEDESTRIAN PUSH BUTTON DETAILS

- A** SERVICE CABINET  
CABINET FOUNDATION  
EXTEND 2" R.S.C. TO INPLACE SPLICE BOX  
3 1/2" R.S.C. SOLID COPPER CABLE (S.O.P.)  
(For Service By Others)  
EXTEND INTO HH 14  
METERED SIGNAL SERVICE  
1 1/4" R.S.C.  
3 1/2" R.S.C.  
UNMETERED STREET LIGHT SERVICE  
1" R.S.C.  
2 1/2" R.S.C.  
BETWEEN HH 13 AND HH 14  
2" R.S.C.  
2 1/2" R.S.C.

- B** CONTROLLER AND CABINET  
CABINET FOUNDATION  
EXTEND INTO HH 14  
METERED SIGNAL SERVICE  
1 1/4" R.S.C.  
3 1/2" R.S.C.  
EXTEND INTO HH 1  
4" R.S.C.  
4 2" R.S.C.  
EXTEND INTO HH 13  
8 1/2" R.S.C.  
2 3/4" R.S.C.  
5 3/4" R.S.C.  
6 2" R.S.C.

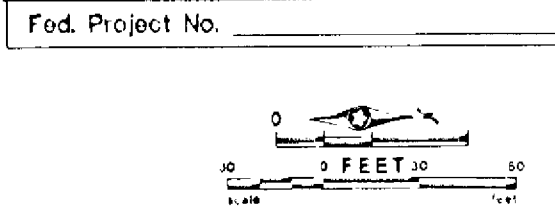
- 1** 45' WOOD POLE CLASS 2  
2 DOWN GUYS, METAL GUARDS AND SCREW ANCHORS  
TYPE 10B WOOD POLE MOUNTED (8 3)  
TYPE 10B WOOD POLE MOUNTED (8 2)  
LUMINAIRE 250 WATT H.P.S. AND MAST ARM  
2 PEDESTRIAN PUSH BUTTONS AND SIGNS  
METAL JUNCTION BOX  
2" R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX  
1 1/2" R.S.C.  
EXTEND INTO HH 13  
2" R.S.C. RISER BELOW JUNCTION BOX  
2 1/2" R.S.C.  
1 3/4" R.S.C.  
EXTEND INTO HH 13  
2 3/4" R.S.C. RISERS AND WEATHERHEADS  
6 1/2" R.S.C.  
4 3/4" R.S.C.  
6 2" R.S.C.  
2 1/2" R.S.C.

- 4** 45' WOOD POLE CLASS 2  
2 DOWN GUYS, METAL GUARDS AND SCREW ANCHORS  
TYPE 10B WOOD POLE MOUNTED (1 2)  
TYPE 10B WOOD POLE MOUNTED (4 2)  
2 PEDESTRIAN PUSH BUTTONS AND SIGNS  
METAL JUNCTION BOX  
3" R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX  
3 1/2" R.S.C.  
1 3/4" R.S.C.  
2 2" R.S.C.  
EXTEND INTO HH 10  
1 1/4" R.S.C. RISER BELOW JUNCTION BOX  
2 2" R.S.C.

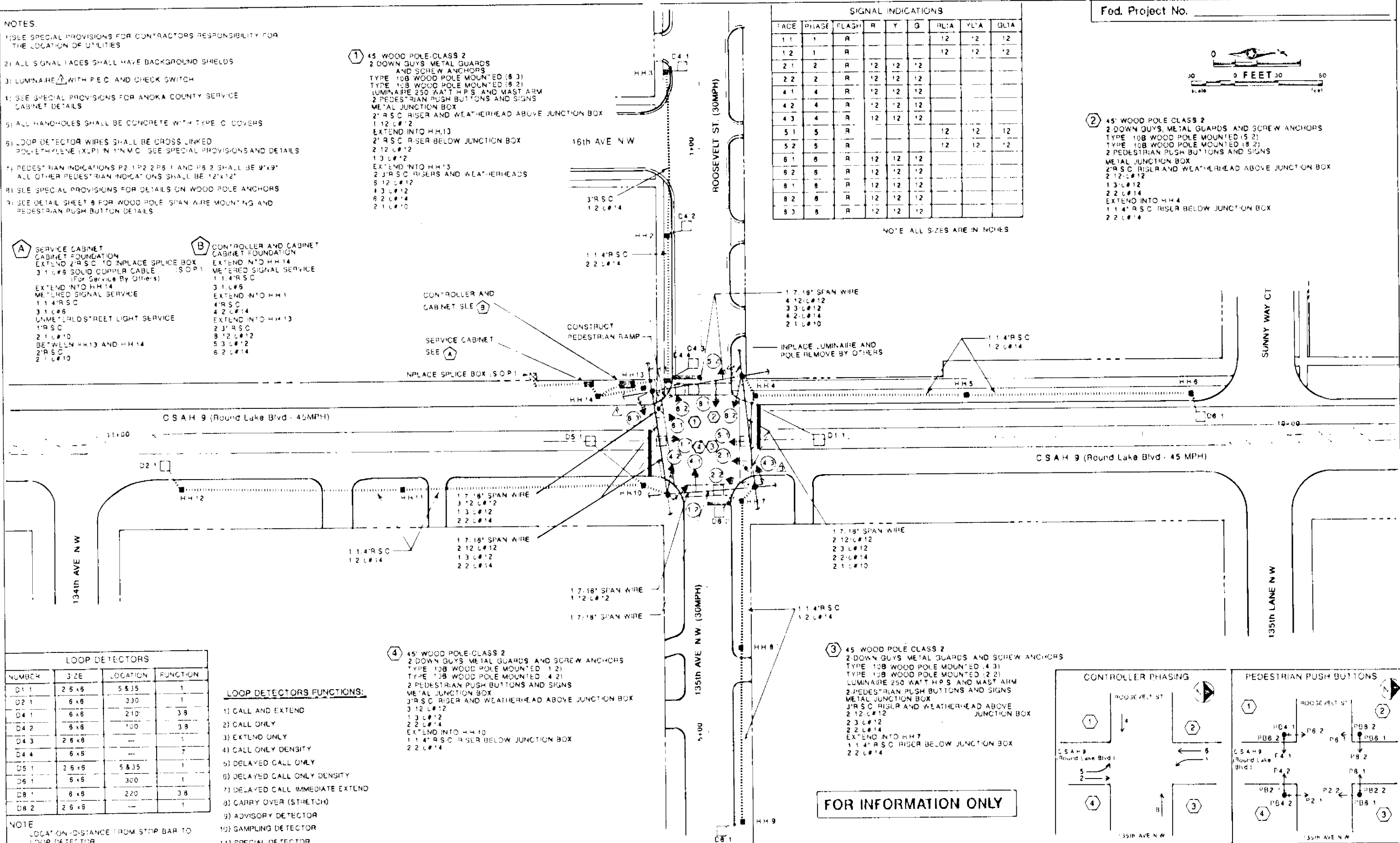
- 3** 45' WOOD POLE CLASS 2  
2 DOWN GUYS, METAL GUARDS AND SCREW ANCHORS  
TYPE 10B WOOD POLE MOUNTED (4 3)  
TYPE 10B WOOD POLE MOUNTED (2 2)  
LUMINAIRE 250 WATT H.P.S. AND MAST ARM  
2 PEDESTRIAN PUSH BUTTONS AND SIGNS  
METAL JUNCTION BOX  
3" R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX  
2 1/2" R.S.C.  
2 3" R.S.C.  
2 2" R.S.C.  
EXTEND INTO HH 7  
1 1/4" R.S.C. RISER BELOW JUNCTION BOX  
2 2" R.S.C.

SIGNAL INDICATIONS								
FACE	PHASE	FLASH	R	Y	G	RL/A	YL/A	GL/A
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			
4 1	4	R	12	12	12			
4 2	4	R	12	12	12			
4 3	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			
8 1	8	R	12	12	12			
8 2	8	R	12	12	12			
8 3	8	R	12	12	12			

NOTE ALL SIZES ARE IN INCHES



- 2** 45' WOOD POLE CLASS 2  
2 DOWN GUYS, METAL GUARDS AND SCREW ANCHORS  
TYPE 10B WOOD POLE MOUNTED (5 2)  
TYPE 10B WOOD POLE MOUNTED (8 2)  
2 PEDESTRIAN PUSH BUTTONS AND SIGNS  
METAL JUNCTION BOX  
2" R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX  
2 1/2" R.S.C.  
1 3/4" R.S.C.  
2 2" R.S.C.  
EXTEND INTO HH 4  
1 1/4" R.S.C. RISER BELOW JUNCTION BOX  
2 2" R.S.C.

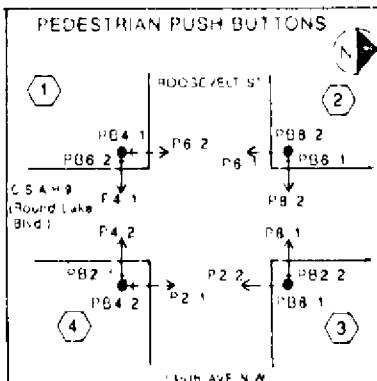
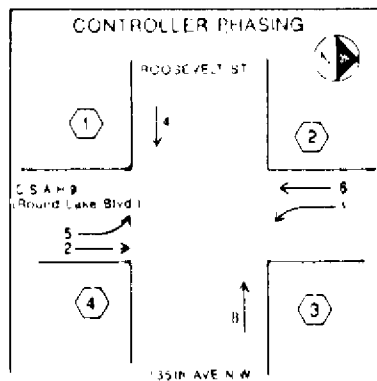


LOOP DETECTORS			
NUMBER	SIZE	LOCATION	FUNCTION
D1 1	2 6 x 6	5 & 35	1
D2 1	6 x 6	300	1
D4 1	6 x 6	210'	3 8
D4 2	6 x 6	100'	3 8
D4 3	2 6 x 6	---	1
D4 4	6 x 6	---	7
D5 1	2 6 x 6	5 & 35	1
D6 1	6 x 6	300	1
D8 1	6 x 6	220	3 8
D8 2	2 6 x 6	---	1

- 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 LOOP DETECTOR

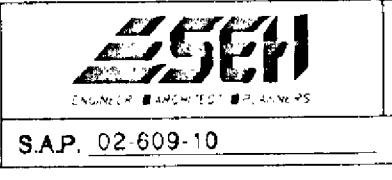
FOR INFORMATION ONLY



NO.	BY	DATE	REVISIONS

ELECTRICAL ENGINEER CERTIFICATION  
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.  
*Robert A. Ellen*  
Date: 4-2-93 Reg. No. 3859

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.  
*John M. Davis*  
Date: 4-2-93 Reg. No. 22457



ANOKA COUNTY, MINNESOTA  
CITIES OF ANDOVER AND ANOKA

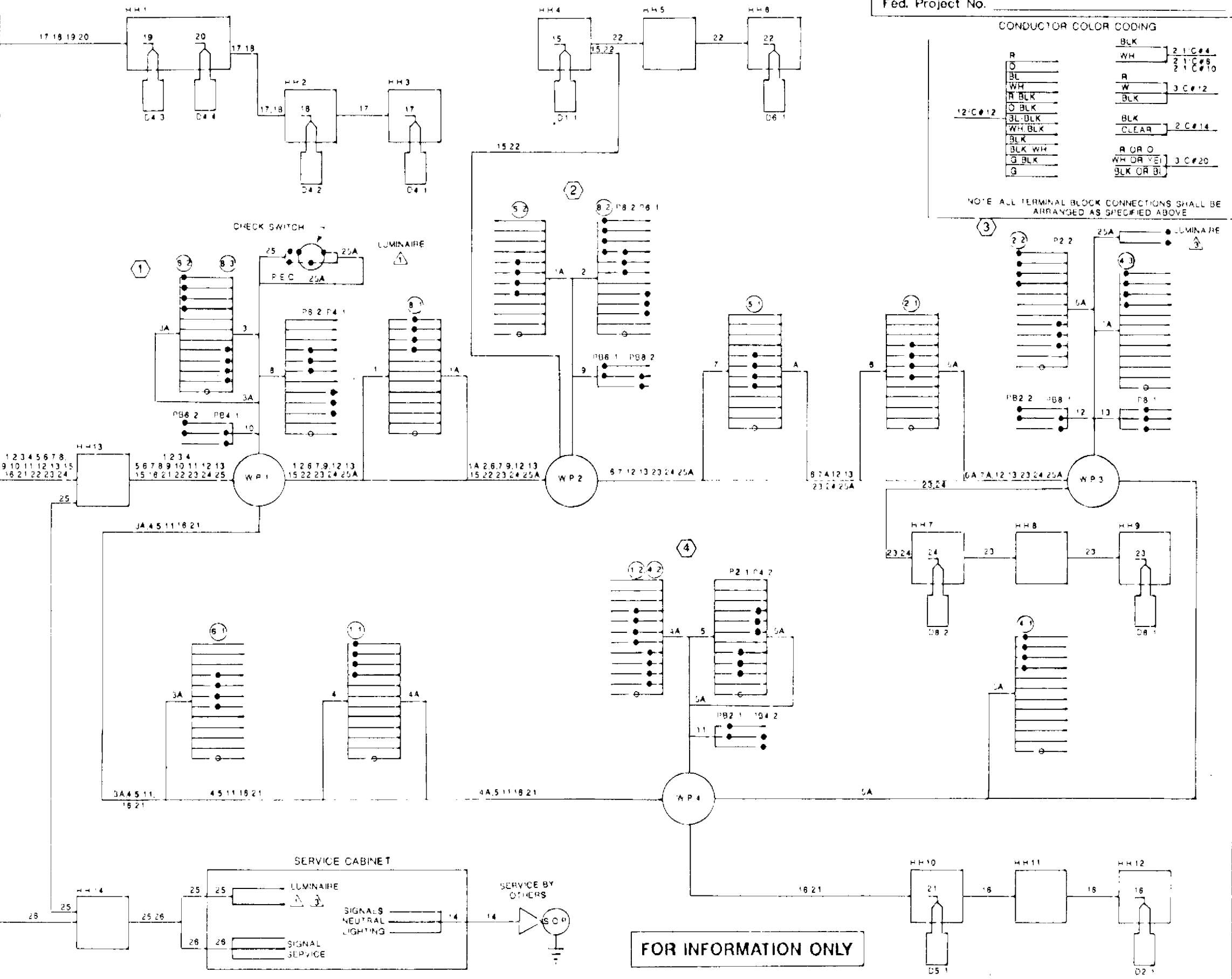
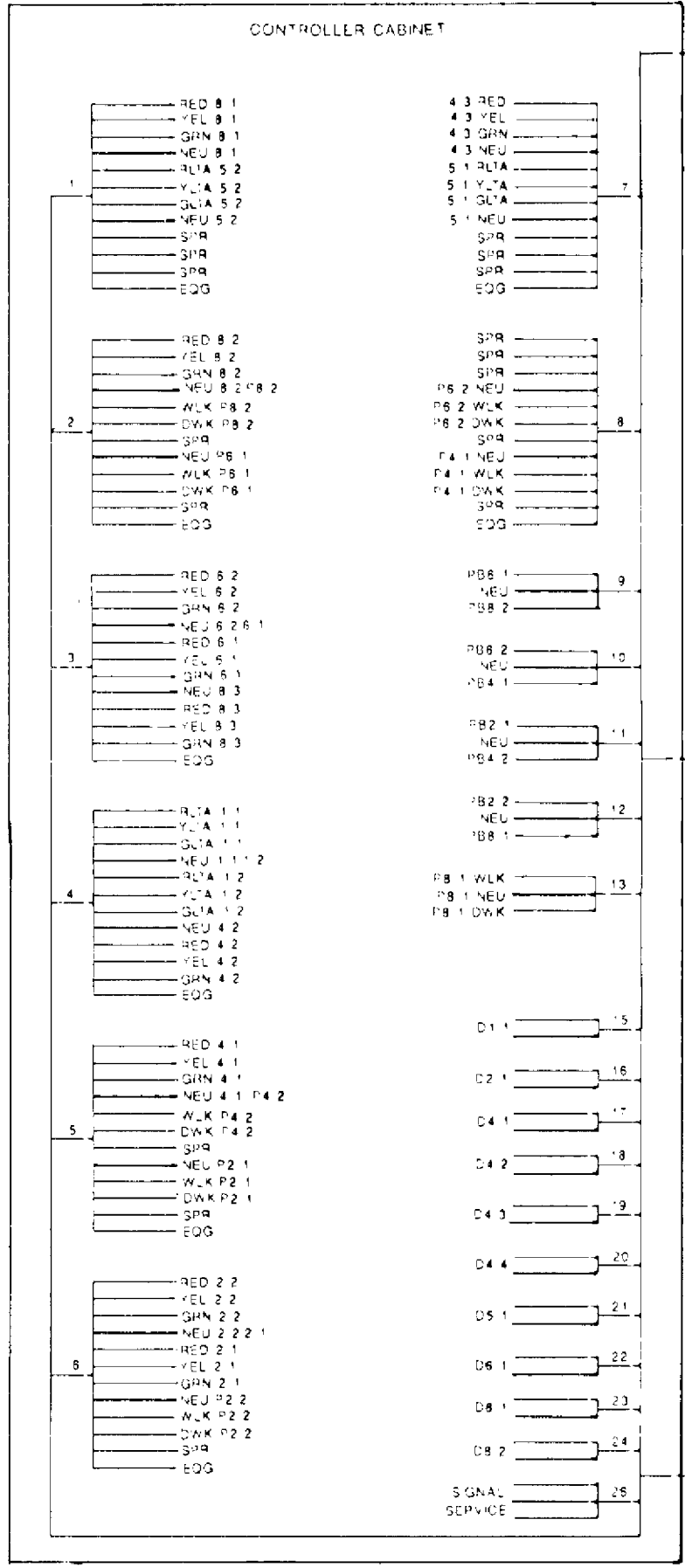
INPLACE SIGNAL SYSTEM "A"  
INTERSECTION LAYOUT  
ROUND LAKE BLVD (CSAH 9) AT 135TH AVE. ROOSEVELT ST

FILE NO. 92219  
DATE 4-2-93

CONDUCTOR COLOR CODING

BLK	2 1 C#4
WH	2 1 C#8
R	2 1 C#10
BL	
WH	
R	3 C#12
W	3 C#12
BLK	
BLK	2 C#14
CLEAR	2 C#14
R OR O	3 C#20
WH OR VEI	3 C#20
BLK OR BI	

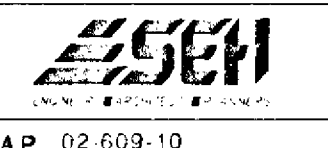
NOTE ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE



FOR INFORMATION ONLY

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*Robert A. Ellis*  
 Date 4.2.93 Reg. No. 3839

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.  
*John M. Miller*  
 Date 4.2.93 Reg. No. 22457



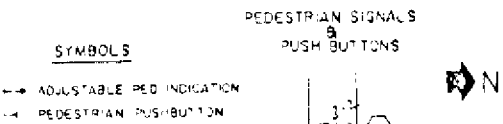
ANOKA COUNTY, MINNESOTA  
 CITIES OF ANDOVER AND ANOKA

INPLACE SIGNAL SYSTEM "A"  
 FIELD WIRING DIAGRAM  
 ROUND LAKE BLVD (CSAH 9) AT 135TH AVE ROOSEVELT ST

FILE NO. 92219  
 DATE 4.2.93

NO.	BY	DATE	REVISIONS





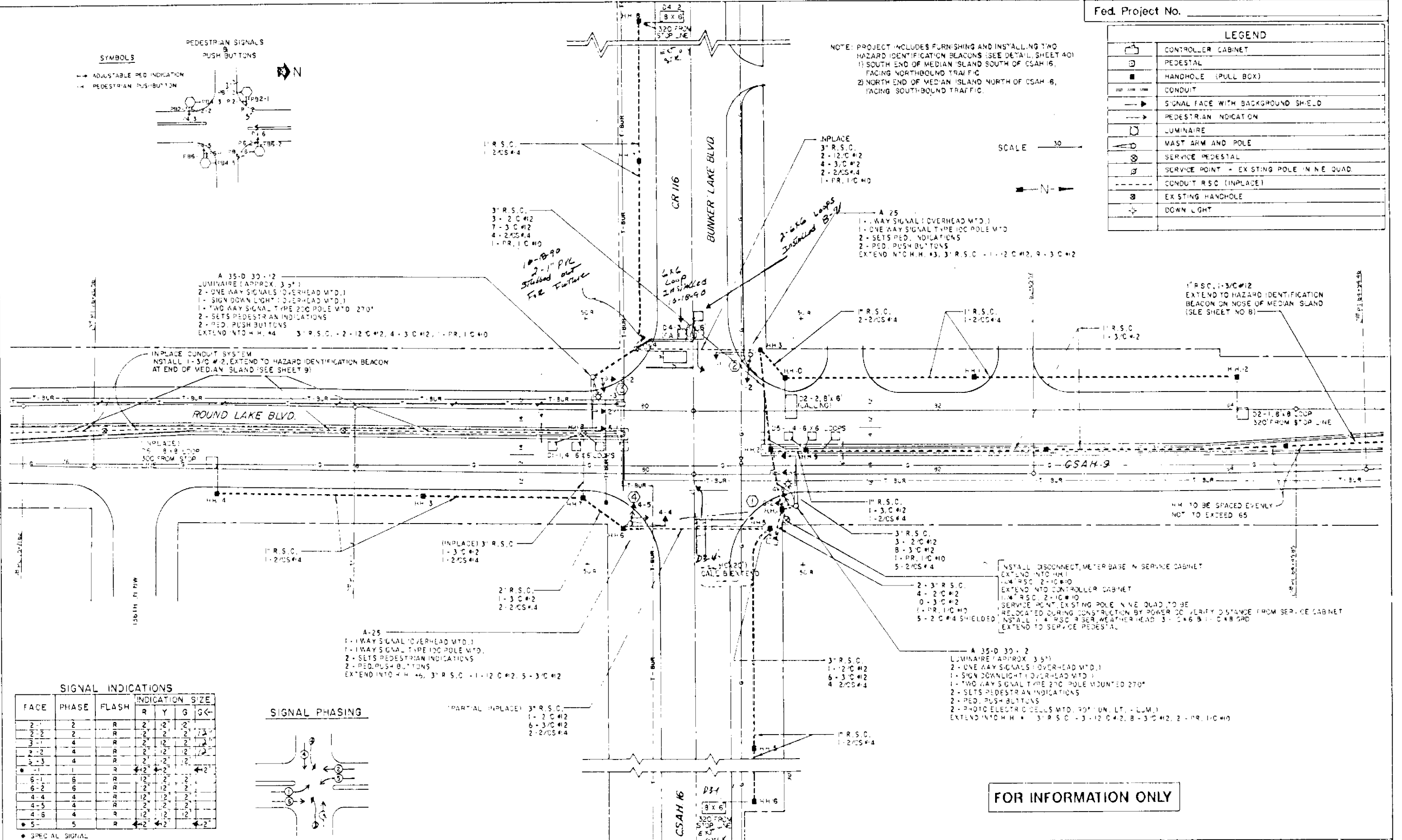
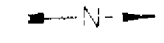
**LEGEND**

	CONTROLLER CABINET
	PEDESTAL
	HANDHOLE (PULL BOX)
	CONDUIT
	SIGNAL FACE WITH BACKGROUND SHIELD
	PEDESTRIAN INDICATION
	LUMINAIRE
	MAST ARM AND POLE
	SERVICE PEDESTAL
	SERVICE POINT - EXISTING POLE IN NE QUAD
	CONDUIT RSC (INPLACE)
	EXISTING HANDHOLE
	DOWN LIGHT

NOTE: PROJECT INCLUDES FURNISHING AND INSTALLING TWO HAZARD IDENTIFICATION BEACONS (SEE DETAIL, SHEET 401)

- 1) SOUTH END OF MEDIAN ISLAND SOUTH OF CSAH 16, FACING NORTHBOUND TRAFFIC
- 2) NORTH END OF MEDIAN ISLAND NORTH OF CSAH 9, FACING SOUTHBOUND TRAFFIC

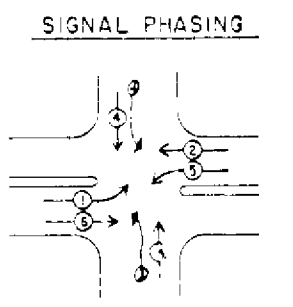
SCALE 30'



**SIGNAL INDICATIONS**

FACE	PHASE	FLASH	INDICATION SIZE			
			R	Y	G	←
2-1	2	R	2'	12"	2'	13"
2-2	2	R	2'	12"	2'	13"
3-1	4	R	2'	12"	2'	13"
3-2	4	R	2'	12"	2'	13"
3-3	4	R	2'	12"	2'	13"
4-1	1	R	2'	12"	2'	13"
6-1	6	R	12"	2'	2'	13"
6-2	6	R	12"	2'	2'	13"
4-4	4	R	12"	12"	2'	13"
4-5	4	R	12"	12"	2'	13"
4-6	4	R	12"	12"	12"	13"
5-	5	R	2'	12"	2'	13"

◆ SPECIAL SIGNAL



**FOR INFORMATION ONLY**

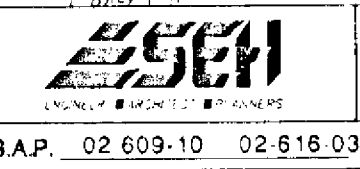
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*Robert D. Ellen*  
Date: 4.2.93 Reg. No. 3859

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*John M. Gray*  
Date: 4.2.93 Reg. No. 22457



**ANOKA COUNTY, MINNESOTA**  
CITIES OF ANDOVER AND ANOKA

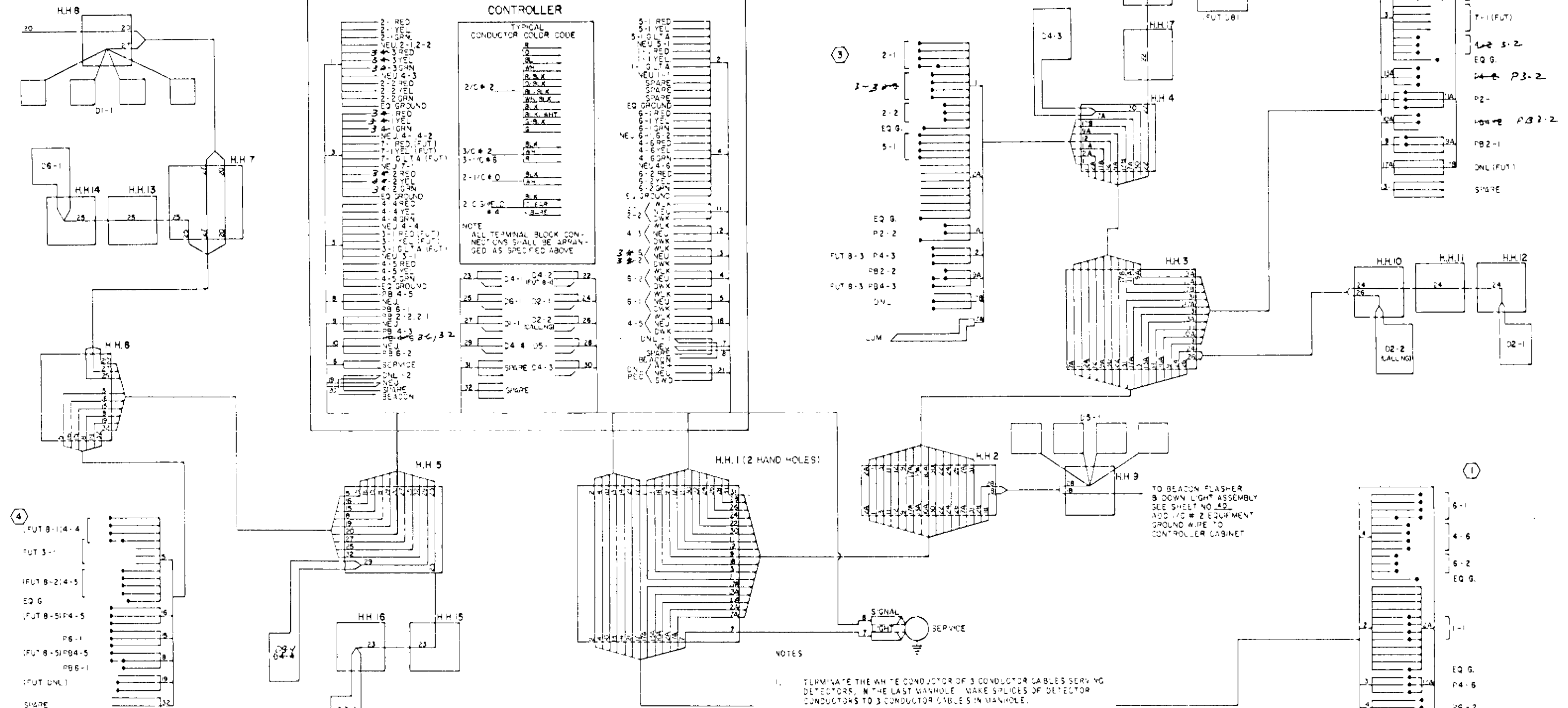
**INPLACE SIGNAL SYSTEM "C"**  
INTERSECTION LAYOUT  
ROUND LAKE BLVD (CSAH 9) AT BUNKER LAKE BLVD (CSAH 116)

FILE NO 92219  
DATE 4.2.93

NO. BY DATE REVISIONS

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TO BEACON  
FLASHER &  
DOWN LIGHT  
ASSEMBLY  
SEE SHEET NO. 40  
ADD #2 EQUIPMENT  
GROUND WIRE  
TO CONTROLLER  
CABINET



**CONTROLLER**

CONDUCTOR	COLOR	CODE
2/C # 2	BLK	
3/C # 2	BLK	
2-1/C # 0	BLK	
2-C SHIELD	BLK	

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

**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
B K	BLACK
B K WH	BLACK WITH WHITE TRACER
G BLK	GREEN WITH BLACK TRACER
G	GREEN

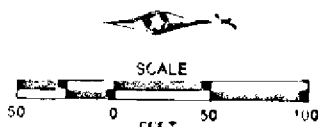
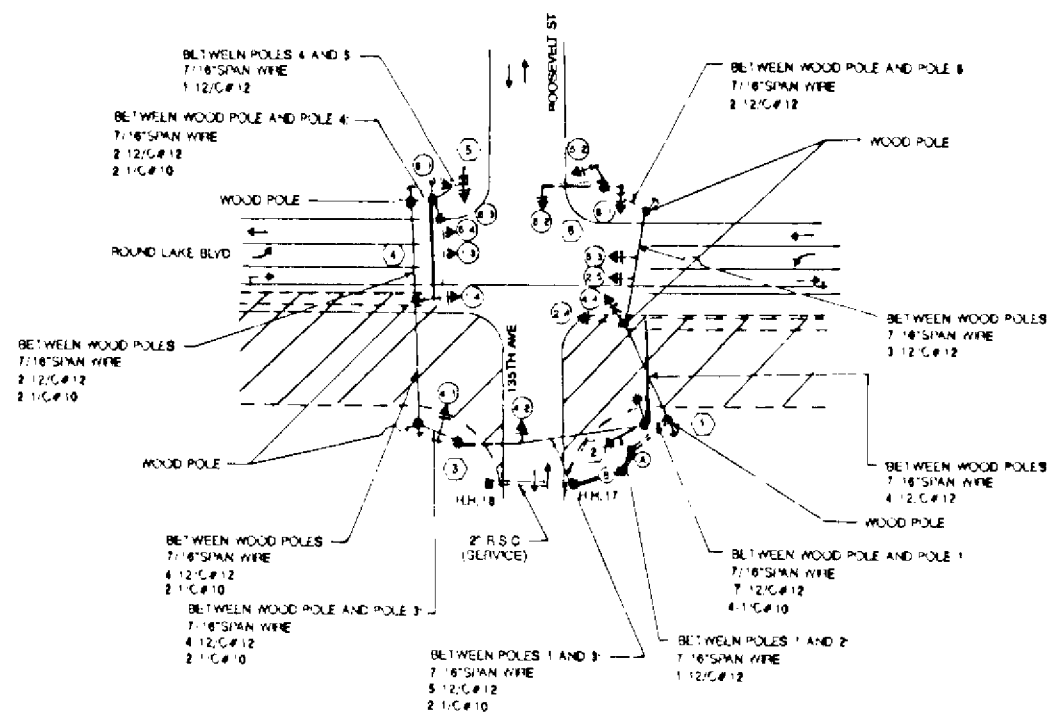
**EQUIPMENT AND INDICATIONS**

RED	RED	B3 (4) - SIGNAL HEAD - PHASE B
YEL	YELLOW	DA (4) - DETECTOR - PHASE A
GRN	GREEN	H H - HANDHOLE
LTA	LEFT TURN ARROW	GRR - GROUND ROD
RTA	RIGHT TURN ARROW	SERV - SERVICE
WALK	WALK	ST LHT - STREET LIGHT
NEU	NEUTRAL	SOP - SOURCE OF POWER
DWK	DOWN WALK	SPR - SPARE CONDUCTOR
FUT	FUMARE	SPLT - SPLIT
SND	SWITCHED	REC - PHOTOELECTRIC CELL
DNL	DOWN LIGHT	EQ G - EQUIPMENT GROUND

- NOTES**
1. TERMINATE THE WHITE CONDUCTOR OF 3 CONDUCTOR CABLES SERVING DETECTORS IN THE LAST MANHOLE. MAKE SPLICES OF DETECTOR CONDUCTORS TO 3 CONDUCTOR CABLES IN MANHOLE.
  2. PROVIDE TERMINAL STRIPS IN THE BASE OF ALL STANDARDS WITH TERMINALS FOR ALL CONDUCTORS IN STANDARD WITH EXCEPTION OF CONDUCTORS FOR STREET LIGHTS.
  3. NO SPLICES ARE TO BE MADE IN HANDHOLES EXCEPT FOR DETECTOR CONNECTIONS.
  4. PROVIDE N-1 NEUTRAL USES IN BASE OF EACH STANDARD FOR STREET LIGHTS.
  5. GROUND CONDUCTORS ARE NOT SHOWN. INSTALL GROUND WIRE AS SPECIFIED.
  6. ALL DETECTOR LOOPS TO BE INSTALLED IN 1" NMC (SEE APPROPRIATE DETAIL OR SHEET NO 41)

**FOR INFORMATION ONLY**

CONSTRUCTION STAGES 1 AND 2

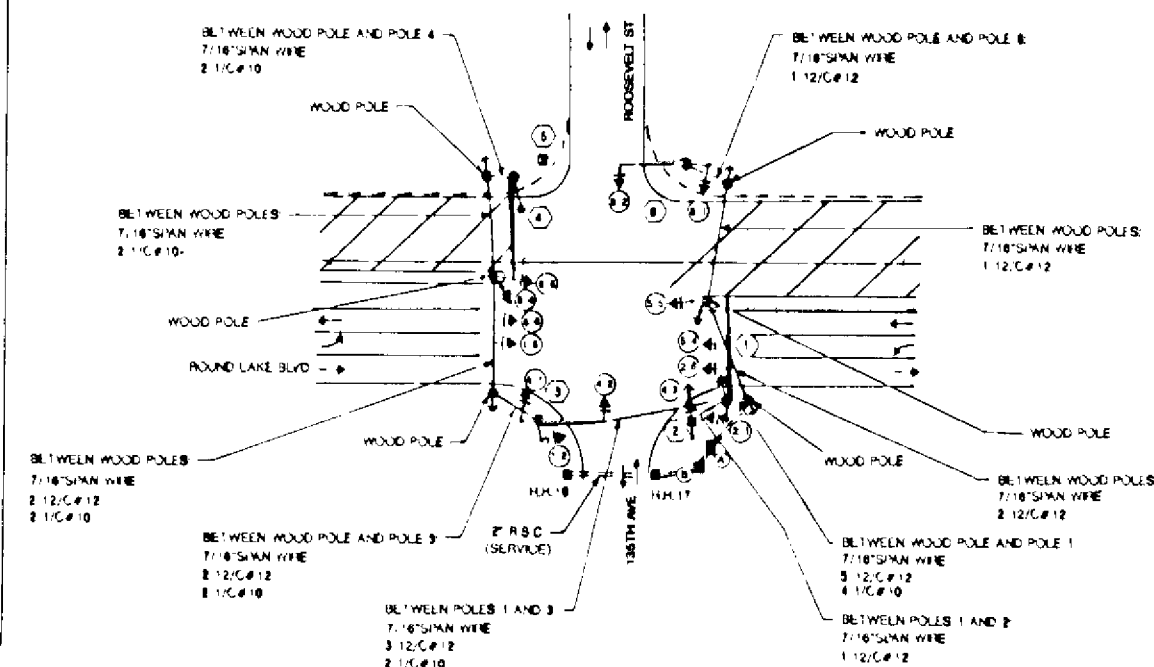


GENERAL NOTES:

- Locations of all signal equipment shall be determined in the field by the Engineer.
- Contractor shall furnish and install all other permanent signal equipment (hand-holes, conduit, loop detectors, etc.) as road and signal construction staging requires or allows.
- Temporary wiring of traffic signals during construction shall be approved by Engineer but as a minimum shall be similar to the enclosed temporary signal wiring diagram, and as noted on this plan sheet.
- Contractor shall furnish and install four (4) 24" X 36" R10-6L "Stop Here on Red" sign panels and painted 24" solid white stop bars (for all signal stages), at locations determined by Contractor, and four (4) 18" X 18" R9-3a "No Ped King" sign panels at the locations noted below.
- denotes road construction to be completed during this stage.
- ||||| denotes roadway under construction and closed to traffic.
- Minimum span wire clearance over roadway shall be 23 feet.
- Pedestrian phases 2 and 4 (Stage 1 - 2) and pedestrian phases 4 and 6 (Stage 3) shall not be activated during the related construction stage. All other pedestrian phases shall be placed on recall.
- Phase 2, 4, 6 and 8 vehicle signal indications shall be 12" - 3 section R-Y-G; Phase 1 and 5 vehicle signal indications shall be 12" - 3 section RLTA YLTA-GLTA.
- Phasing for Round Lake Blvd shall be 1-5 followed by 2-6; phasing for Roosevelt St / 135th Ave shall be 4-5.

Fed. Project No. \_\_\_\_\_

CONSTRUCTION STAGE 3



STAGE 1 ACTIONS:

- Service Cabinet** - Furnish and install as per permanent signal plan. Furnish and install new handholes 16, 17 and 18, and 2" R.S.C. between handholes 16, 17 and 17-18. Extend new service cables into controller cabinet (via handhole 16). Make all arrangements with Anoka Electric Company regarding permanent service and complete installation.
- Controller Cabinet** - Install as per permanent signal plan. Furnish and install additional 4" R.S.C. from cabinet foundation and extend to adjacent wood pole. Furnish and install all temporary traffic signal cables from cabinet to wood pole via the new 4" R.S.C.
- Install one (1) 40' Wood Pole (Class 2 - furnished by County) near the controller cabinet. Furnish and install a 4" R.S.C. riser and weatherhead for temporary traffic signal cables on the wood pole. Furnish and install two (2) 7/16" span wires, one each between this wood pole and pole (1), and between this wood pole and the wood pole to be installed on the future north median. Extend traffic signal cables to each pole via the span wires. Furnish and install one (1) down guy, guy guard and screw anchor.
- Pole (1)** - Install pole, mast arm, all vehicle and pedestrian signal indications, and Type 10B bracketing (furnished by County), and furnish and install luminaire, all as per permanent signal plan. Place luminaire into operation. Cover all vehicle and pedestrian signal indications and do not place these indications into operation during this stage. Furnish and install two (2) 7/16" span wires, one each between poles (1) and (2), and between poles (1) and (3), and extend traffic signal cables to each pole via the span wires.
- Pole (2)** - Furnish and install pedestal pole and base, and install all vehicle and pedestrian signal indications and Type 10C bracketing (furnished by County), all as per permanent signal plan. Cover all vehicle and pedestrian signal indications and do not place these indications into operation during this stage. Do not install pedestrian push buttons.
- Pole (3)** - Install pole, mast arm, all vehicle and pedestrian signal indications, and Type 10B bracketing (furnished by County), all as per permanent signal plan. Place all signal indications into operation (except for (12), (12-1) and (12-2), which shall be covered). Do not install pedestrian push buttons. Furnish and install one (1) 7/16" span wire between pole (3) and the wood pole adjacent to pole (3), and extend traffic signal cables to wood pole via the span wire.
- Install one (1) 40' Wood Pole (Class 2 - furnished by County) near pole (3). Furnish and install one (1) 7/16" span wire between this wood pole and the wood pole to be installed on the future south median, and one (1) down guy, guy guard and screw anchor. Extend traffic signal cables to south median wood pole via the span wire.

- Install one (1) 40' Wood Pole (Class 2 - furnished by County) on the nose of the future south median. Furnish and install a metal junction box, and a 2" R.S.C. riser and weatherhead. Install a Type 10A bracketing (with signal indication (1-4) (furnished by County), and make signal indication (1-4) operational. Furnish and install two (2) R9-3a "No Ped King" signs, one each facing pole (5) and the north median wood pole, and one (1) 7/16" span wire between this wood pole and the wood pole to be installed near pole (4). Extend traffic signal cables between the wood poles via the span wire.
- Install one (1) 40' Wood Pole (Class 2 - furnished by County) near pole (4). Furnish and install one (1) 7/16" span wire between this wood pole and pole (4), and one (1) down guy, guy guard and screw anchor. Extend traffic signal cables to pole (4) via the span wire.
- Pole (4)** - Install pole, mast arm, all vehicle and pedestrian signal indications, and Type 10B bracketing (furnished by County), and furnish and install luminaire, all as per permanent signal plan. Provide 12" RLTA YLTA-GLTA lenses for signal indication (6-2), and place this signal indication into operation (noted as (6-2) above) as the left turn indication. Locate signal indication (6-3) onto mid mount at 36" (denoted as (6-4) above) and place this signal indication into operation. Place all other vehicle and pedestrian signal indications and luminaire into operation (except for (1-1), which shall be covered). Furnish and install one (1) 7/16" span wire between poles (4) and (5), and extend traffic signal cables to pole (5) via the span wire.
- Pole (5)** - Furnish and install pedestal pole and base, and install all vehicle and pedestrian signal indications and Type 10C bracketing (furnished by County), all as per permanent signal plan. Place all vehicle signal indications into operation (except for (1-1), which shall be covered). Do not install pedestrian push buttons. Furnish and install one (1) R9-3a "No Ped King" sign, facing the south median wood pole.
- Install one (1) 40' Wood Pole (Class 2 - furnished by County) on the nose of the future north median. Furnish and install a metal junction box, and a 2" R.S.C. riser and weatherhead. Install a Type 10B bracketing (with signal indication (4-4) and pedestrian indication (18-3) and a Type 10A bracketing (with signal indication (2-4) (furnished by County). Make all vehicle and pedestrian signal indications operational. Furnish and install one (1) R9-3a "No Ped King" sign, facing the south median wood pole, and one (1) 7/16" span wire between this wood pole and the wood pole to be installed near pole (6). Install signal indications (2-3) and (5-3) and span wire brackets (furnished by County) overhead as shown above and make operational.

STAGE 3 ACTIONS:

- Service Cabinet** - Maintain as installed during previous stage.
- Controller Cabinet** - Maintain as installed during previous stage. Reverse temporary traffic signal cables as needed to maintain signal operation.
- Maintain 40' Wood Pole near controller cabinet as installed during previous stage.
- Pole (1)** - Maintain as installed during previous stage, except as follows. Uncover signal indications (2-1) and (12-2) and place into operation, provide 12" RLTA YLTA-GLTA lenses for signal indication (2-2), and make operational (denoted as (5-4) above) as the left turn indication, locate signal indication (2-3) onto mid mount at 36" (denoted as (6-4) above) and place this signal indication into operation.
- Pole (2)** - Maintain as installed during previous stage, except as follows. Uncover and place all vehicle and pedestrian signal indications into operation.
- Pole (3)** - Maintain as installed during previous stage, except as follows. Uncover and place signal indications (1-2) and (12-1) into operation.
- Maintain 40' Wood Pole near pole (3) as installed during previous stage, except as follows. Install signal indications (1-5) and (6-6), and span wire brackets (furnished by County) overhead as shown above and make operational.
- Maintain 40' Wood Pole on the nose of the future south median as installed during previous stage, except as follows. Provide 12" R-Y-G lenses for signal indication (1-4) and place this signal indication into operation (denoted as (6-5) above). Install a Type 10A bracketing (with signal indication (8-4) (furnished by County) and make signal indication (8-4) operational, relocate R9-3a "No Ped King" sign previously facing pole (3) onto side of pole facing pole (3).
- Maintain 40' Wood Pole near pole (4) as installed during previous stage.
- Install one (1) 40' Wood Pole (Class 2 - furnished by County) near pole (6). Furnish and install one (1) 7/16" span wire between this wood pole and pole (5), and extend traffic signal cables to pole (6) via the span wire. Furnish and install one (1) down guy, guy guard and screw anchor.
- Pole (6)** - Install pole, mast arm, all vehicle and pedestrian signal indications, and Type 10B bracketing (furnished by County), all as per permanent signal plan. Place all vehicle and pedestrian signal indications into operation. Do not install pedestrian push buttons.

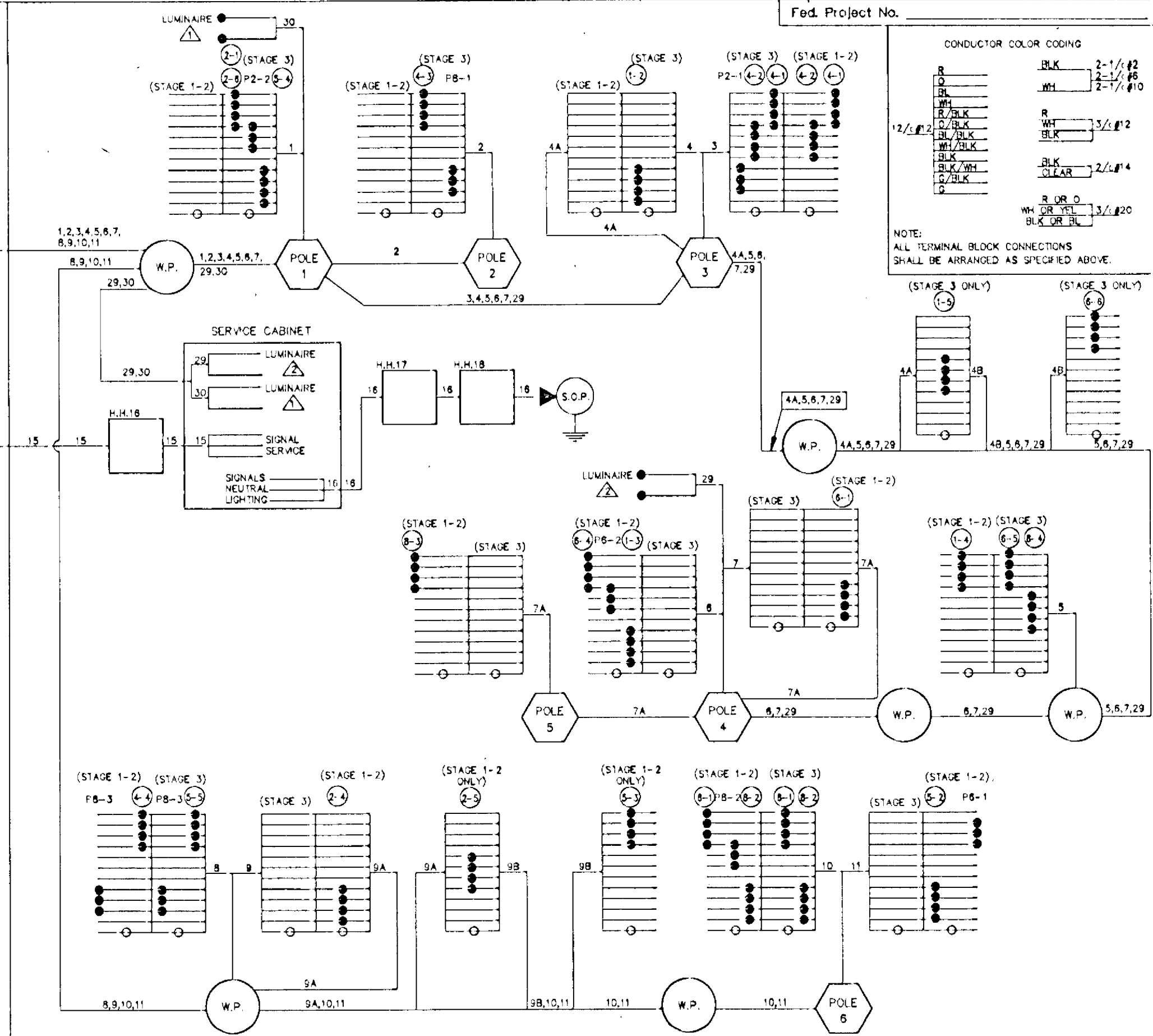
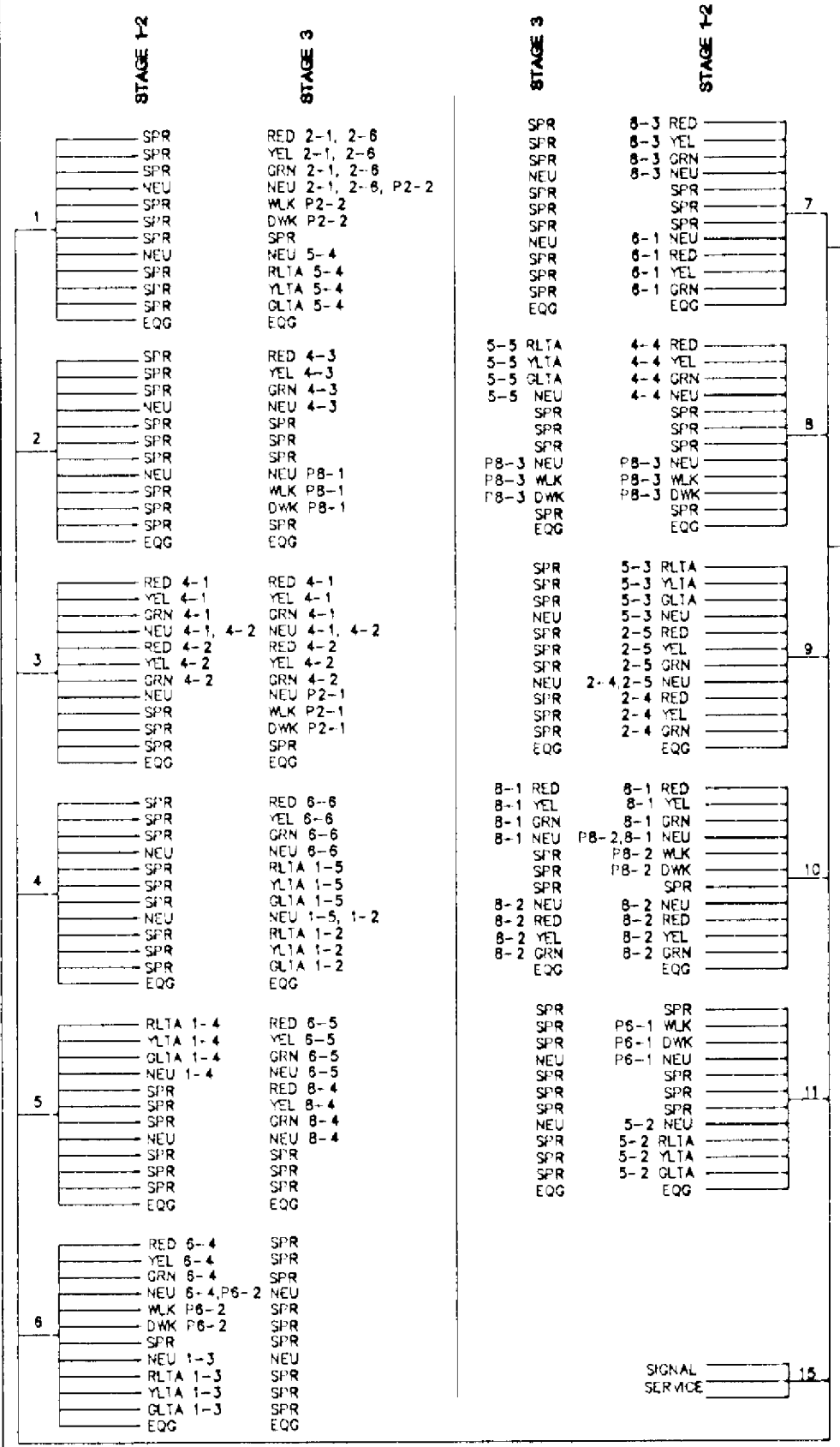
- Pole (4)** - Maintain as installed during previous stage, except as follows. Turn off and cover all vehicle and pedestrian signal indications, remove and salvage span wire between poles (4) and (5), relocate signal indication (6-3) back to mid mount at 12", and remove and salvage RLTA YLTA-GLTA lenses from signal indication (6-2).
- Pole (5)** - Maintain as installed during previous stage, except as follows. Turn off and cover all vehicle and pedestrian signal faces, and relocate R9-3a "No Ped King" sign onto pole (3), facing the south median wood pole.
- Maintain 40' Wood Pole on the nose of the future north median as installed during previous stage, except as follows. Install a Type 30A bracketing (furnished by County), relocate pedestrian indication (18-3) onto east side of pole, and make the pedestrian signal indication operational, provide 12" RLTA YLTA-GLTA lenses for (2-4) and place this signal indication into operation (noted as (5-5) above) as the left turn indication, remove and salvage the Type 10B bracketing (with signal indication (4-4)) overhead signal indications (2-3) and (5-3), and the span wire brackets.
- Maintain 40' Wood Pole near pole (6) as installed during previous stage.
- Pole (6)** - Maintain as installed during previous stage, except as follows. Turn off and cover signal indications (5-2), (18-1) and (18-2).

STAGE 4 - COMPLETION OF FINAL PERMANENT SIGNAL CONSTRUCTION:

- Place all permanent vehicle and pedestrian signal indications into operation as per permanent signal plan.
- Remove and salvage all temporary traffic signal cables, span wires, wood poles, signal lenses, signal indications, signs, and all other miscellaneous equipment not to be reused as part of permanent signal system.
- Cap additional 4" R.S.C. in cabinet. Cut off 4" R.S.C. approximately 10 feet from cabinet and cap (for future use).
- Furnish and install pedestrian push buttons and place into operation.
- Make provisions for capping additional mid mast arm mounts on poles (1) and (4) as directed by Engineer.
- Relocate signal indication (2-3) back to mid mount at 12", and remove and salvage RLTA YLTA-GLTA lenses from signal indication (2-2).

<p>ELECTRICAL ENGINEER CERTIFICATION</p> <p>I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer in the State of Minnesota.</p> <p><i>Robert A. Elmer</i> Date: 4/2/93 Reg. No. 5859</p>		<p>I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer in the State of Minnesota.</p> <p><i>John A. Gray</i> Date: 4/2/93 Reg. No. 22457</p>		<p><b>ANOKA COUNTY, MINNESOTA</b> CITIES OF ANDOVER AND ANOKA</p>		<p><b>TRAFFIC SIGNAL SYSTEM "A"</b> SIGNAL OPERATION DURING ROAD WORK ROUND LAKE BLVD (CSAH 9) AT 135TH AVE/ROOSEVELT ST</p>		<p>FILE NO 92219</p> <p>GATE 4/2/93</p>
NO.	BY	DATE	REVISIONS	S.A.P. 02 609-10		S.P. _____ C.P. _____		Sheet No. 64 of 133 Sheets

CONTROLLER CABINET



**CONDUCTOR COLOR CODING**

R	BLK	2-1/c #2
O	WH	2-1/c #6
BL	WH	2-1/c #10
R/BLK	R	3/c #2
O/BLK	WH	3/c #2
BL/BLK	BLK	2/c #4
WH/BLK	BLK	2/c #4
BLK/WH	R OR O	3/c #20
O/BLK	WH OR YEL	3/c #20
G/BLK	BLK OR BL	3/c #20

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

NO	BY	DATE	REVISIONS

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.

*Robert D. Ellis*

Date: 4/2/93 Reg. No. 5859

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.

*John M. Hoag*

Date: 4/2/93 Reg. No. 22457

**ES&E**  
ENGINEERS ARCHITECTS PLANNERS

S.A.P. 02-609-10

**ANOKA COUNTY, MINNESOTA**  
CITIES OF ANDOVER AND ANOKA

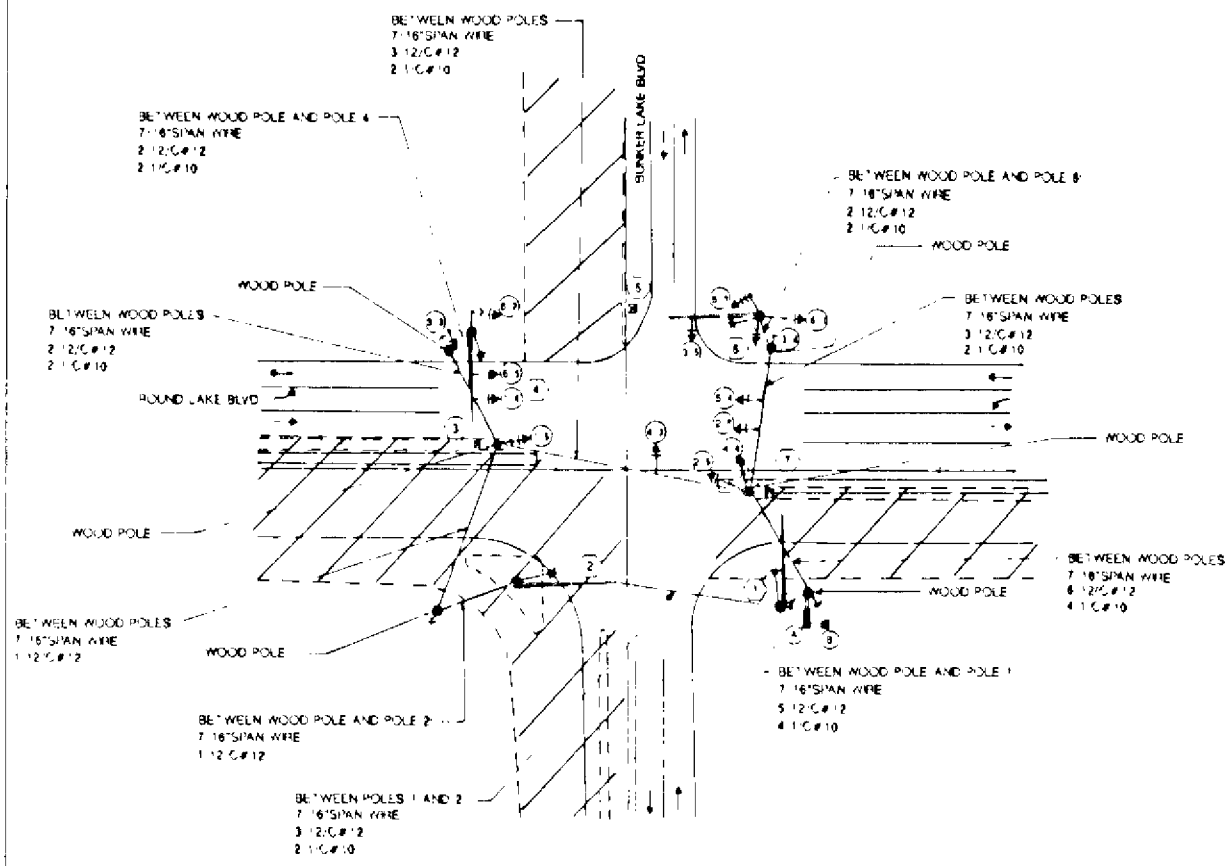
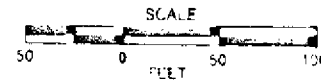
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**TRAFFIC SIGNAL SYSTEM 'A'**  
WIRING DIAGRAMS FOR OPERATION DURING ROAD WORK  
ROUND LAKE BLVD (CSAH 9) AT 135TH AVE/ROSSEVELT ST

Sheet No. 65 of 133 Sheets

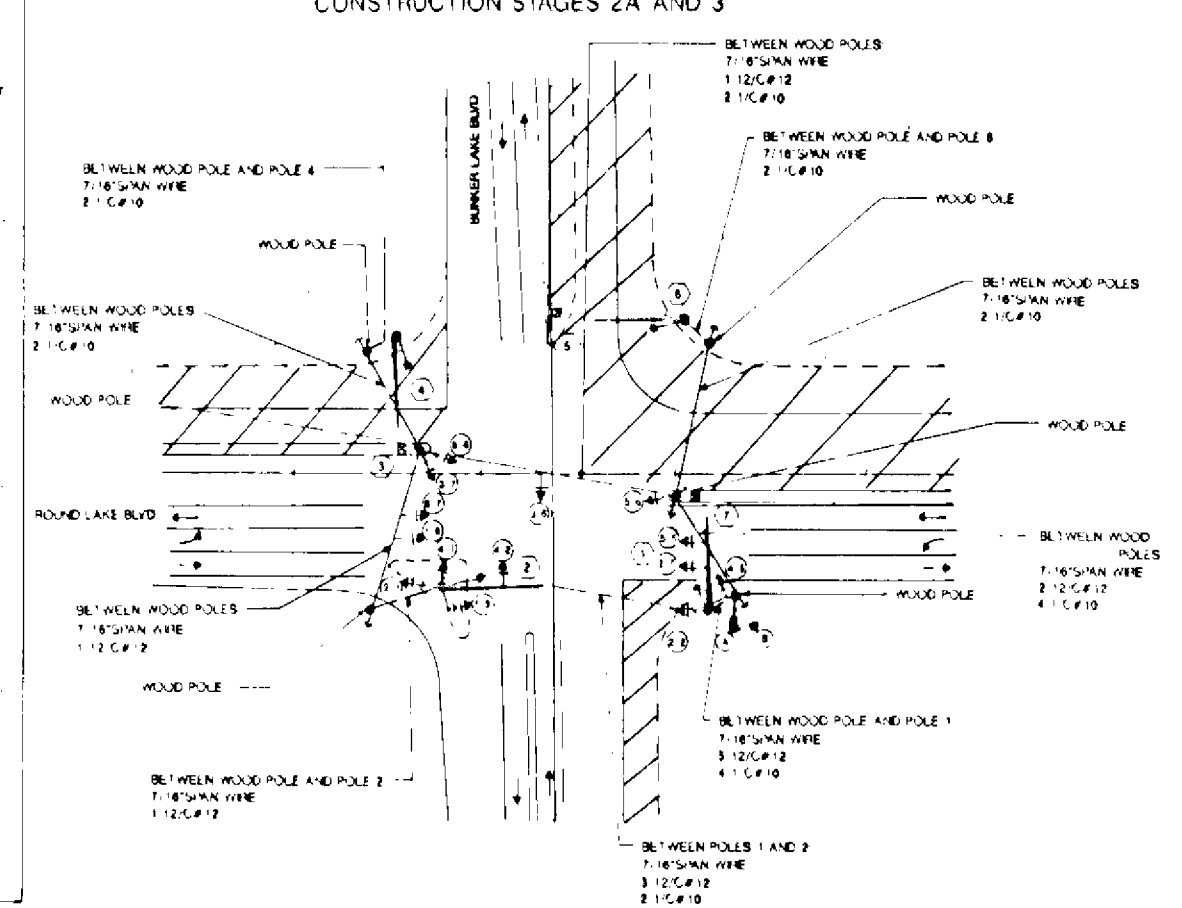
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DATE	4/2/93

922195H3



GENERAL NOTES:

- 1. Locations of all signal equipment shall be determined in the field by the Engineer.
2. Contractor shall furnish and install all other permanent signal equipment...
3. Temporary wiring of traffic signals during construction shall be approved by Engineer...
4. Contractor shall furnish and install four (4) 24" X 36" R10-6L "Stop Here on Red" sign panels...
5. --- denotes road construction to be completed during this stage.
6. --- denotes road under construction and closed to traffic.
7. Minimum span wire clearance over roadway shall be 23 feet.
8. Pedestrian phases 2 and 4 (Stages 1-2) and pedestrian phases 4 and 6 (Stages 2A-3) shall not be initiated during the related construction stage.
9. Phasing for Bunker Lake Blvd traffic shall be split, so that phases 3 and 4 operate separately...
10. Phase 2 and 5 vehicle signal indications (and vehicle signal indications 1 and 4) shall be 12" R-Y-G; Phase 1 and 5 vehicle signal indications shall be 2" R-Y-G-LTA-Y-LTA-G-LTA.
11. Vehicle signal indications 3, 5, 6, 4, 2, 4, 3 shall be 12" 4-section R-Y-G-LTA; vehicle signal indications 3, 1, 3, 2, 4, 4 and 4, 5 shall be 12" 3-section R-Y-LTA-G-LTA.
12. Contractor shall provide all devices (cones, barrels, barricades, etc.) necessary to protect pole.
13. Do not make any of the vehicle signal leads on pedestal poles 1, 5 and 6 as furnished by County operational during construction.



STAGE 1 ACTIONS

- 1. B Service Cabinet - Furnish and install as per permanent signal plan.
2. A Controller Cabinet - Install as per permanent signal plan.
3. Pole 1 - Install pole, mast arm, all vehicle and pedestrian signal indications.
4. Pole 2 - Install pole, mast arm, all vehicle and pedestrian signal indications.
5. Pole 3 - Install pole, mast arm, all vehicle and pedestrian signal indications.
6. Pole 4 - Install pole, mast arm, all vehicle and pedestrian signal indications.

STAGE 2A ACTIONS

- 1. B Service Cabinet - Maintain as installed during previous stage.
2. A Controller Cabinet - Maintain as installed during previous stage.
3. Pole 1 - Maintain as installed during previous stage.
4. Pole 2 - Maintain as installed during previous stage.
5. Pole 3 - Maintain as installed during previous stage.
6. Pole 4 - Maintain as installed during previous stage.
7. Pole 5 - Maintain as installed during previous stage.
8. Pole 6 - Install pole, mast arm, all vehicle and pedestrian signal indications.

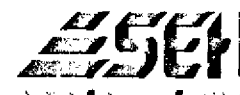
STAGE 4 - COMPLETION OF FINAL PERMANENT SIGNAL CONSTRUCTION

- 1. Place all permanent vehicle and pedestrian signal indications into operation.
2. Remove and salvage all temporary traffic signal cables, span wires, wood poles, signal lenses, signal indications, signs, and all other miscellaneous equipment.
3. Cap additional 4" RSC in cabinet.
4. Make provisions for clipping additional mast arm mounts on poles.
5. Furnish and install pedestrian push buttons.
6. Relocate signal indication 2, 4 back to end of mast arm.

ELECTRICAL ENGINEER CERTIFICATION

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer in the State of Minnesota. Robert A. Eklun, Date: 4.2.93, Exp. No. 3659.

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer in the State of Minnesota. John M. Gray, Date: 4.2.93, Exp. No. 26457.



ANOKA COUNTY, MINNESOTA
CITIES OF ANDOVER AND ANOKA

TRAFFIC SIGNAL SYSTEM "C"
SIGNAL OPERATION DURING ROAD WORK
ROUND LAKE BLVD (CSAH 9) AT BUNKER LAKE BLVD (CSAH 16/CO RD 116)

FILE NO: 92219
DATE: 4.2.93







PERMANENT SIGN QUANTITIES (F & I - TYPE C)							
M.U.T.C.D. CODE	PANEL SIZE (INCHES)	PANEL AREA (SQ. FT.)	# OF GROUND POST MOUNTED INSTALLATIONS	# OF ISLAND OR SIGNAL POLE MOUNTED INSTALLATIONS	SIGN PANEL LEGEND	# OF POSTS PER INSTALLATION	MOUNTING HEIGHT
R1-1	30x30	6.25	26	1	STOP	1	7.0'
R1-2	36x36x36	3.90	1	0	YIELD	1	7.0'
R2-1	36x48	12.00	8	0	SPEED LIMIT 45	2	7.0'
R3-2	24x24	4.00	1	1	NO LEFT TURN	-	①
R3-4	24x24	4.00	0	1	NO U TURN	1	7.0'
R3-7	30x30	6.25	2	0	ALL TRAFFIC MUST TURN RIGHT	1	7.0'
R3-7R	30x30	6.25	2	0	RIGHT LANE MUST TURN RIGHT	1	7.0'
R3-8R	30x30	6.25	1	0	DOUBLE TURN	1	7.0'
R3-8F	36x30	7.50	0	6	DOUBLE LEFT TURN ONLY	2	7.0'
R3-X1	30x30	6.25	19	0	RIGHT TURN LANE	1	7.0'
R3-X2	30x30	6.25	0	16	LEFT TURN LANE	1	7.0'
R4-7	24x30	5.00	0	19	KEEP RIGHT	1	7.0'
	36x48	12.00	0	2			
R5-1	30x30	6.25	5	32	DO NOT ENTER	1	7.0'
			2	1			
R6-1L	36x12	3.00	2	1	ONE WAY (LEFT)	2	7.0'
			7	0		-	④
R6-1R	36x12	3.00	0	10	ONE WAY (RIGHT)	-	③
			23	1		-	⑥
			0	10		-	③
R10-6L	24x36	6.00	1	0	STOP HERE ON RED	1	7.0'
W1-2L	36x36	9.00	1	0	LEFT CURVE	2	7.0'
W1-2R	36x36	9.00	1	0	RIGHT CURVE	2	7.0'
W1-7	48x24	8.00	1	0	LARGE ARROW-DOUBLE HEAD	2	7.0'
W3-3	36x36	9.00	5	0	SIGNAL AHEAD	2	7.0'
W4-2R	36x36	9.00	2	0	LANE REDUCTION	2	7.0'

PERMANENT SIGN QUANTITIES (F & I - TYPE C)							
M.U.T.C.D. CODE	PANEL SIZE (INCHES)	PANEL AREA (SQ. FT.)	# OF GROUND POST MOUNTED INSTALLATIONS	# OF ISLAND OR SIGNAL POLE MOUNTED INSTALLATIONS	SIGN PANEL LEGEND	# OF POSTS PER INSTALLATION	MOUNTING HEIGHT
W6-1	36x36	9.00	2	0	DIVIDED HIGHWAY	2	7.0'
W6-2	36x36	9.00	2	0	DIVIDED HIGHWAY ENDS	2	7.0'
W6-3	36x36	9.00	1	0	TWO WAY TRAFFIC	2	7.0'
W9-2L	36x36	9.00	2	0	LANE ENDS MERGE LEFT	2	7.0'
W12-1	24x24	4.00	0	1	DOUBLE ARROW	1	4.0'
W14-1	30x30	6.25	1	0	DEAD END	1	7.0'
W14-2	30x30	6.25	0	1	NO OUTLET	1	7.0'
W14-3	36x48x48	6.00	1	0	NO PASSING ZONE	2	7.0'
M1-6	24x24	4.00	6	0	COUNTY ROUTE MARKER (C.S.A.H. 9)	1	7.0'
			8	0	COUNTY ROUTE MARKER (C.S.A.H. 16)	1	7.0'
			8	0	COUNTY ROUTE MARKER (CO. RD. 116)	1	7.0'
			1	0	COUNTY ROUTE MARKER (CO. RD. 216)	1	7.0'
M2-1A	21x15	2.19	8	0	JUNCTION MARKER	-	⑦
M3-1A	24x12	2.00	1	0	NORTH CARDINAL DIRECTION MARKER	-	⑦
M3-2A	24x12	2.00	2	0	EAST CARDINAL DIRECTION MARKER	-	⑦
M3-3A	24x12	2.00	1	0	SOUTH CARDINAL DIRECTION MARKER	-	⑦
M3-4A	24x12	2.00	1	0	WEST CARDINAL DIRECTION MARKER	-	⑦
M4-6A	24x12	2.00	1	0	END	-	⑧
M6-1AL	21x15	2.19	1	0	DIRECTIONAL ARROW (LEFT)	-	⑧
M6-1AR	21x15	2.19	1	0	DIRECTIONAL ARROW (RIGHT)	-	⑧
M6-3A	21x15	2.19	3	0	DIRECTIONAL ARROW (VERTICAL)	-	⑧
M6-4A	21x15	2.19	4	0	DIRECTIONAL ARROW (DBL. HEAD)	-	⑧
X4-2	18x18	2.25	0	21	HAZARD MARKER	-	⑤

PERMANENT SIGN QUANTITIES (F & I - TYPE C)							
M.U.T.C.D. CODE	PANEL SIZE (INCHES)	PANEL AREA (SQ. FT.)	# OF GROUND POST MOUNTED INSTALLATIONS	# OF ISLAND OR SIGNAL POLE MOUNTED INSTALLATIONS	SIGN PANEL LEGEND	# OF POSTS PER INSTALLATION	MOUNTING HEIGHT
X4-4L	12x36	3.00	0	1	CLEARANCE MARKER	1	4.0'
X4-4R	12x36	3.00	0	7	CLEARANCE MARKER	1	4.0'
X4-11	18x18	2.25	2	0	END OF ROADWAY MARKER	1	4.0'
RELOCATE SIGNS - TYPE D							
12-3	-	-	1	0	TOWN NAME MARKER	②	7.0'
12-3	-	-	1	0	TOWN NAME MARKER	②	7.0'
-	-	-	1	0	JCT T.H. 10/47	②	7.0'
-	-	-	1	0	ADOPT A HIGHWAY	②	7.0'
-	-	-	1	0	ADOPT A HIGHWAY	②	7.0'
-	-	-	1	0	ADOPT A HIGHWAY	②	7.0'

**SPECIFIC NOTES**

- ① MOUNTED BACK-TO-BACK WITH OTHER SIGN PANEL.
- ② INPLACE SIGN POSTS, RELOCATE WITH SIGN PANELS.
- ③ MOUNTED ON TRAFFIC SIGNAL MAST ARM POLE.
- ④ MOUNTED BACK-TO-BACK WITH OTHER SIGN PANEL AND ABOVE R1-1.
- ⑤ MOUNTED BELOW R4-7.
- ⑥ MOUNTED AS FOLLOWS:
  - a) BACK-TO-BACK WITH OTHER SIGN PANEL AND ABOVE R1-1 (7 TOTAL),
  - b) ALONE ABOVE R1-1 (15),
  - c) BACK-TO-BACK WITH R6-1R AND ON ISLAND (1), OR
  - d) BACK-TO-BACK WITH R6-1L AND GROUND MOUNTED (1).
- ⑦ MOUNTED ABOVE M1-6.
- ⑧ MOUNTED BELOW M1-6.

**GENERAL NOTES**

- ① SEE SIGN DETAIL SHEET FOR INFORMATION REGARDING SIGN POSTS AND THEIR INSTALLATION.
- ② SEE STANDARD SIGNS MANUAL FOR PUNCHING CODES AND DETAILED DRAWINGS OF TYPE 'C' SIGN PANELS.
- ③ MOUNTING HEIGHTS OF SIGN PANELS AS NOTED SHALL BE MINIMUM ABOVE ADJACENT GROUND LINE OR MEDIAN. HOWEVER, WHEN A SECONDARY SIGN PANEL IS MOUNTED BELOW A PRIMARY SIGN PANEL, THE BOTTOM OF THE SECONDARY SIGN PANEL SHALL BE A MINIMUM OF (6) SIX FEET ABOVE THE ADJACENT GROUND LINE OR MEDIAN, OR AS DIRECTED BY THE ENGINEER.
- ④ MOUNTING OF SIGN PANELS ON TRAFFIC SIGNAL MAST ARM POLES (MATERIALS USED, INSTALLATION METHODS, HEIGHT ABOVE GROUND LINE, ETC.) SHALL BE AS APPROVED BY THE ENGINEER PRIOR TO INSTALLATION OF THESE SIGN PANELS.

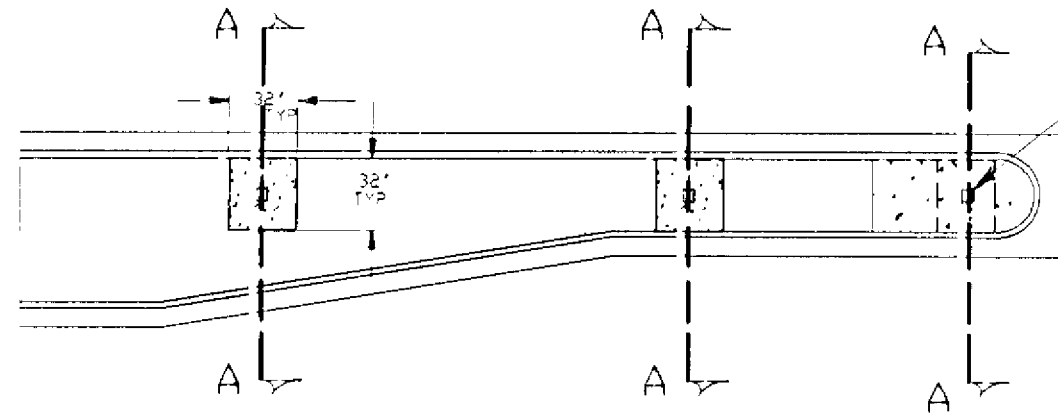
NO	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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.  
 Thomas A. Schwandt  
 Date: 4/2/93 Reg. No. 20643



ANOKA COUNTY, MINNESOTA  
 S.A.P. 02-609-10, S.A.P.02-616-03,  
 C.P. 93-12-116

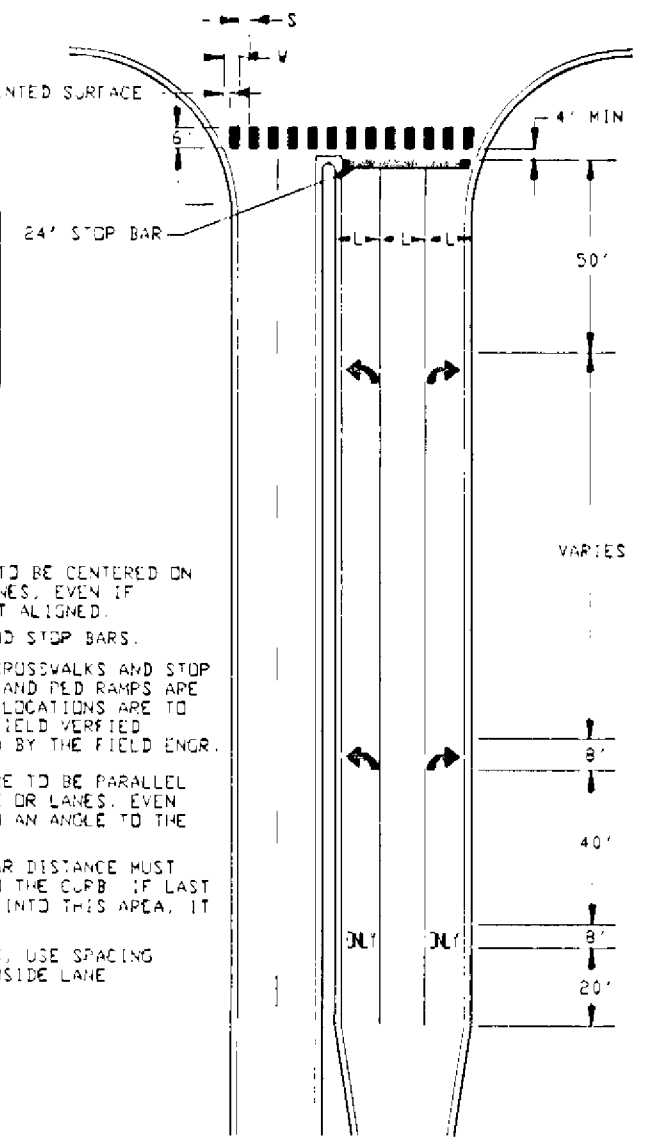
CSAH 9/ CSAH 16/ CO. RD. 116  
 SIGN TABULATIONS



INSTALL 1 3/4" x 1 3/4" x 8' SOLID GALVANIZED SQUARE TUBING IN ISLAND NOSE DURING CONCRETE POUR. PLUMB AS REQUIRED. TAPE BOTTOM OF TUBING TO PREVENT CONCRETE FROM ENTERING TUBING.

1 5" MIN. UNPAINTED SURFACE

( L )	( W )	( S )
WIDTH OF INSIDE LANE	WIDTH OF PAINTED AREAS	WIDTH OF SPACE
9'	2' 0"	2' 5"
10'	2' 5"	2' 5"
11'	2' 5"	3' 0"
12'	3' 0"	3' 0"
13'	3' 0"	3' 5"



NOTES:

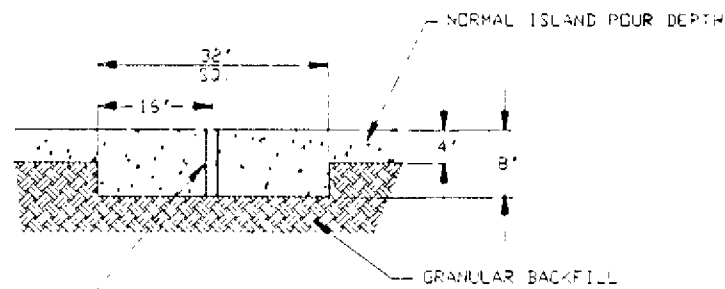
1. PAINTED AREAS ARE TO BE CENTERED ON CENTER AND LANE LINES, EVEN IF INTERSECTION IS NOT ALIGNED.
2. ZEBRA CROSSWALKS AND STOP BARS.
3. LOCATION OF ZEBRA CROSSWALKS AND STOP BARS, SIGNAL LOOPS AND PED RAMPS ARE APPROXIMATE. FINAL LOCATIONS ARE TO BE DETERMINED AND FIELD VERIFIED DURING CONSTRUCTION BY THE FIELD ENGR.
4. ZEBRA CROSSWALKS ARE TO BE PARALLEL TO THE DRIVING LANE OR LANES, EVEN IF THE STREET IS ON AN ANGLE TO THE INTERSECTION.
5. A MIN. OF 1 5" CLEAR DISTANCE MUST BE LEFT ADJACENT TO THE CURB IF LAST PAINTED AREA FALLS INTO THIS AREA, IT MUST BE OMITTED.
6. ON TWO LANE STREETS, USE SPACING SHOWN FOR AN 11' INSIDE LANE.

NOTES:

- CONCRETE FOOTINGS ARE REQUIRED IN ALL MEDIAN AREAS WHERE PAVING BRICKS ARE USED, EXCEPT IN THE MEDIAN NOSE WHEN A SOLID CONCRETE POUR IS USED.
- HEAVY LINES REPRESENT THE APPROXIMATE LIMITS OF CONCRETE FOOTINGS TO BE POURED FOR EACH ISLAND MOUNT SIGN POST INSTALLATION WITHIN SPECIAL MEDIAN AREAS.
- IF THE ISLAND IS LESS THAN 48" WIDE, THE WIDTH OF THE CONCRETE FOOTING WILL EQUAL THE WIDTH OF THE ISLAND. IF MORE THAN ONE POST IS REQUIRED FOR AN INSTALLATION, SEE DETAIL '1'.
- SECTION B-B, THE SOLID GALVANIZED SQUARE TUBING FOR THE 'DO NOT ENTER' SIGNS SHALL BE SET AT THE PROPER ANGLE. REFER TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- FOR PAYMENT OF CONCRETE FOOTINGS REFER TO THE STATEMENT OF ESTIMATED QUANTITIES, ITEM 2564.513 CONCRETE FOOTINGS.
- WHEN THE DISTANCE BETWEEN SIGN POSTS VARIES, REFER TO THE STANDARD SIGNS MANUAL FOR THE SPACING CHART THAT RELATES TO THE SIZE AND SHAPE OF THE INSTALLATION.
- IF THE WIDTH OF THE ISLAND IS LESS THAN THE CONCRETE FOOTING MEASUREMENTS REQUIRED BY THIS DETAIL AND THE SPACING CHART IN THE STANDARD SIGNS MANUAL, THE LENGTH OF THE FOOTING WILL EQUAL THE WIDTH OF THE ISLAND.

EXPANSION MATERIAL WILL BE REQUIRED ON ALL FOOTINGS CONFINED BY THE BACK OF CURB.

1 1/2" x 1 1/2" x 8' SOLID GALVANIZED TUBING WITH 7/16" DIA. HOLES 1" ON CENTER, ON ALL 4 SIDES. WALL THICKNESS GAUGE #12 ( .105 IN ) INSERTED AT TIME OF SIGN INSTALLATION TYPICAL

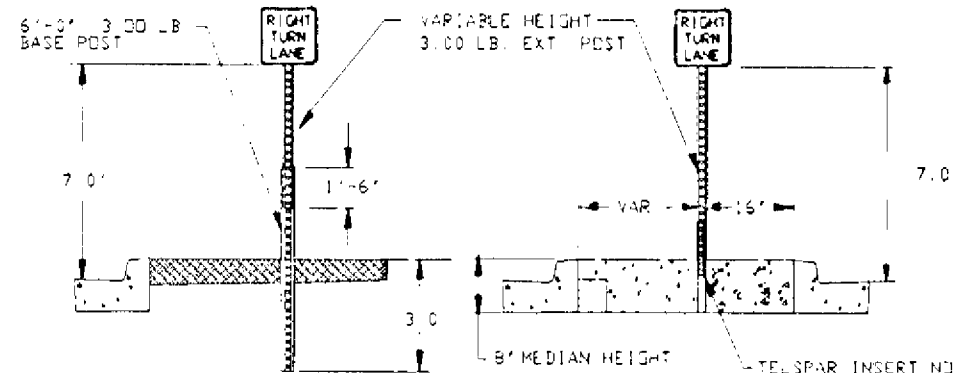


SECTION A-A

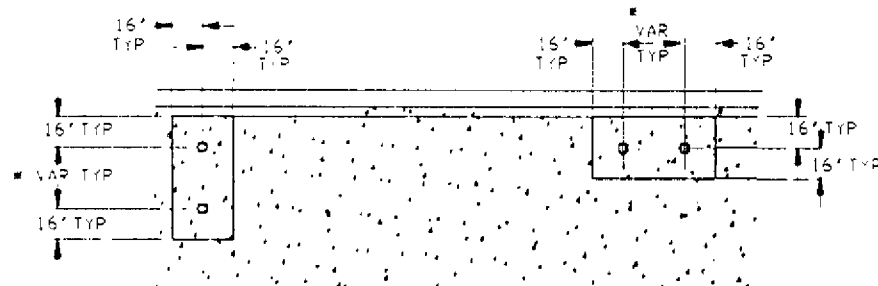
INSTALL 1 3/4" x 1 3/4" x 8' SOLID WALL GALVANIZED SQUARE TUBING TAPE BOTTOM OF TUBING TO PREVENT CONCRETE FROM ENTERING TUBE. PLUMB AND ALIGN AT TIME OF POUR AS REQUIRED. TYPICAL

GROUND POST MOUNT SIGN INSTALLATION TYPICAL

ISLAND MOUNT BREAK-AWAY SIGN POST INSTALLATION TYPICAL



TELSPAR INSERT NOT TO BE INSERTED MORE THAN THREE MOUNTING HOLES DEEP INTO FOOTING, TYP. ON ALL SIGN INSTALLATIONS



DOUBLE POST FOOTINGS

ISLAND MOUNT BREAK-AWAY SIGN POST INSTALLATIONS REQUIRING MORE THAN ONE POST

REVISIONS			
DATE	BY	DATE	BY

SIGNING and STRIPING DETAILS

MATCH EXISTING PAVEMENT MARKINGS (NORTHBOUND ONLY)

ROUND LAKE BLVD (CSAH 9) (NORTHBOUND ONLY)

4" WHITE SKIPSTRIPE

20+00

25+00

MATCH LINE SEE BELOW LEFT

RAMP U.S. 10 N.B.

ROUND LAKE BLVD (CSAH 9)

MATCH LINE SEE ABOVE RIGHT

30+00

35+00

40+00

MATCH LINE SEE BELOW LEFT

4" WHITE SKIPSTRIPE

4" SOLID WHITE STRIPE

NORTHDAL BLVD.

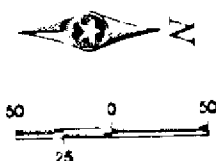
4" WHITE SKIPSTRIPE

MATCH EXISTING 4" SOLID WHITE STRIPE

4" SOLID WHITE STRIPE

NOTES:

- 1) LOCATIONS OF ALL SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- 3) REMOVE ALL CONFLICTING PAVEMENT MARKINGS BETWEEN STATIONS 20+00 AND 48+40, AND AS ELSEWHERE DETERMINED BY ENGINEER.
- 4) ALL OTHER SIGNS SOUTH OF STATION 44+00, EXCEPT AS NOTED, ARE INPLACE.
- 5) CONTRACTOR SHALL SALVAGE AND DELIVER INPLACE SIGNS AND POSTS AS DIRECTED BY THE ENGINEER (MEASURED AND PAID FOR UNDER ITEM NO 2104.523-SALVAGE SIGN-TYPE "C").



131 ST LANE

MATCH LINE SEE ABOVE RIGHT

MATCH EXISTING PAVEMENT MARKINGS (SOUTHBOUND ONLY)

4" SOLID WHITE STRIPE

4" WHITE SKIPSTRIPE

ROUND LAKE BLVD (CSAH 9)

50+00

4" SOLID WHITE STRIPE

4" WHITE SKIPSTRIPE

4" SOLID WHITE STRIPE

REMOVE 4" SOLID YELLOW AND TRANSVERSE MEDIAN STRIPES

4" SOLID WHITE STRIPE

4" SOLID YELLOW STRIPE

MATCH LINE SEE NEXT SHEET

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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.  
*Thomas A. Schweidt*  
 Date: 4/2/93 Reg. No. 20943



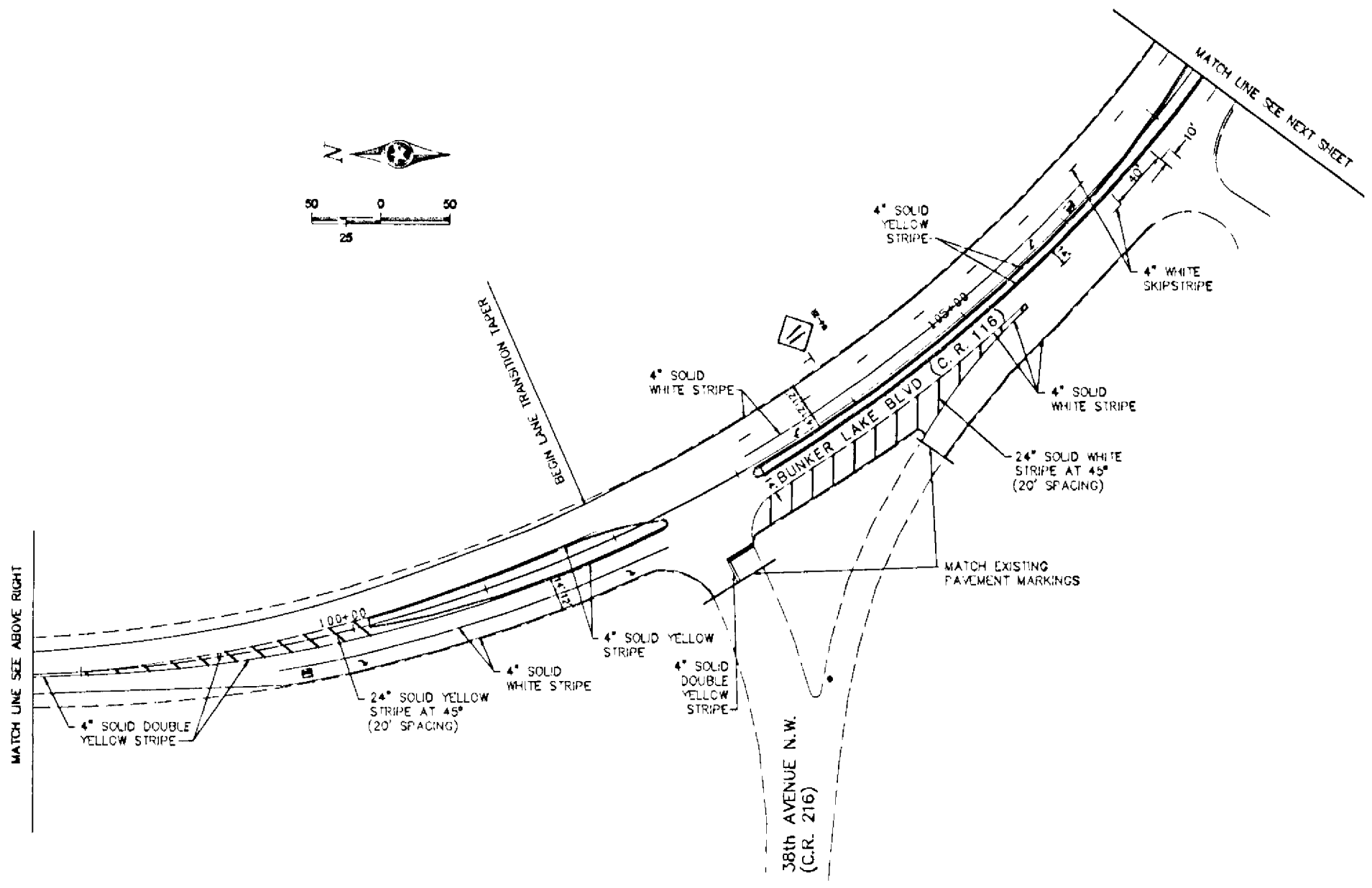
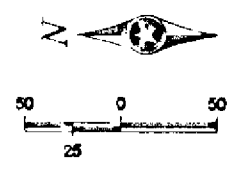
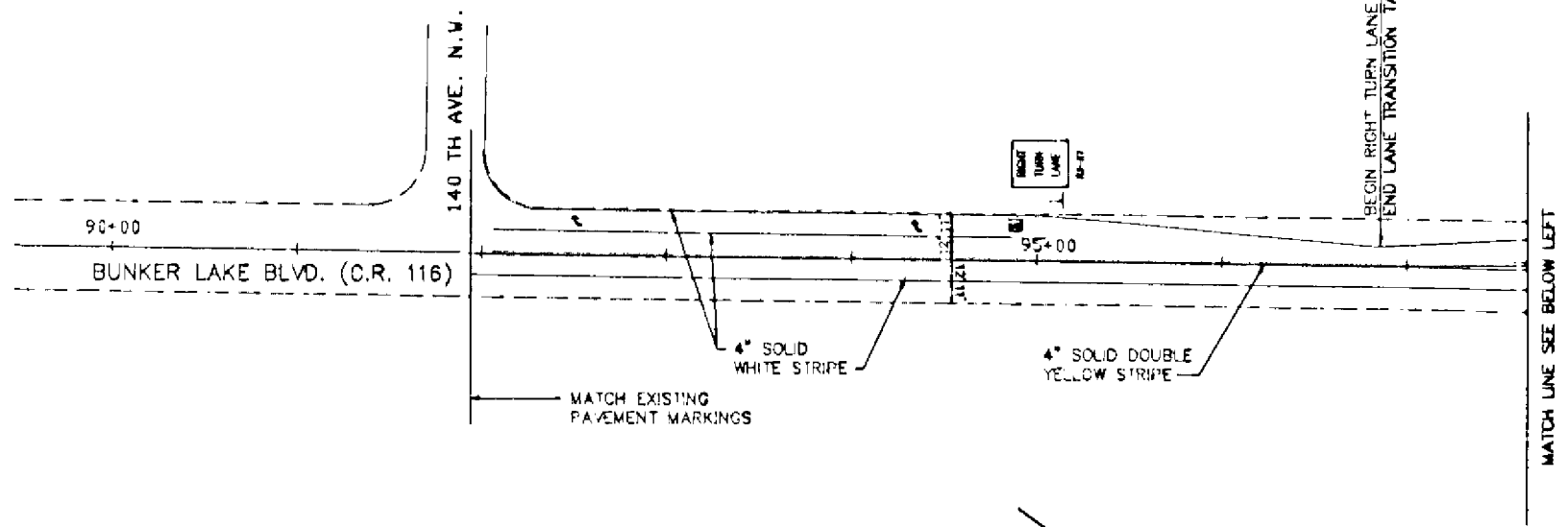
ANOKA COUNTY, MINNESOTA  
 S.A.P. 02-609-10, S.A.P. 02-618-03,  
 C.P. 93-12-118

SIGNING & STRIPING PLAN  
 ROUND LAKE BLVD. (CSAH 9)

FILE NO. 93145  
 GATE 4/2/93  
 70  
 133







**NOTES:**

- 1) LOCATIONS OF ALL SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- 3) REMOVE ALL CONFLICTING PAVEMENT MARKINGS BETWEEN STATIONS 82+00 AND 98+00, AND AS ELSEWHERE DETERMINED BY ENGINEER.
- 4) ALL OTHER SIGNS NORTH OF STATION 107+40, EXCEPT AS NOTED, ARE INPLACE.
- 5) CONTRACTOR SHALL SALVAGE AND DELIVER INPLACE SIGNS AND POSTS AS DIRECTED BY THE ENGINEER (MEASURED AND PAID FOR UNDER ITEM NO 2104 523--SALVAGE SIGNS--TYPE "C").

83145/3140284

NO	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

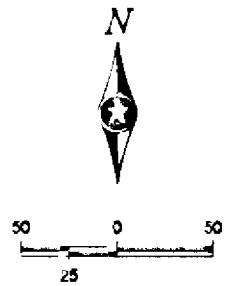
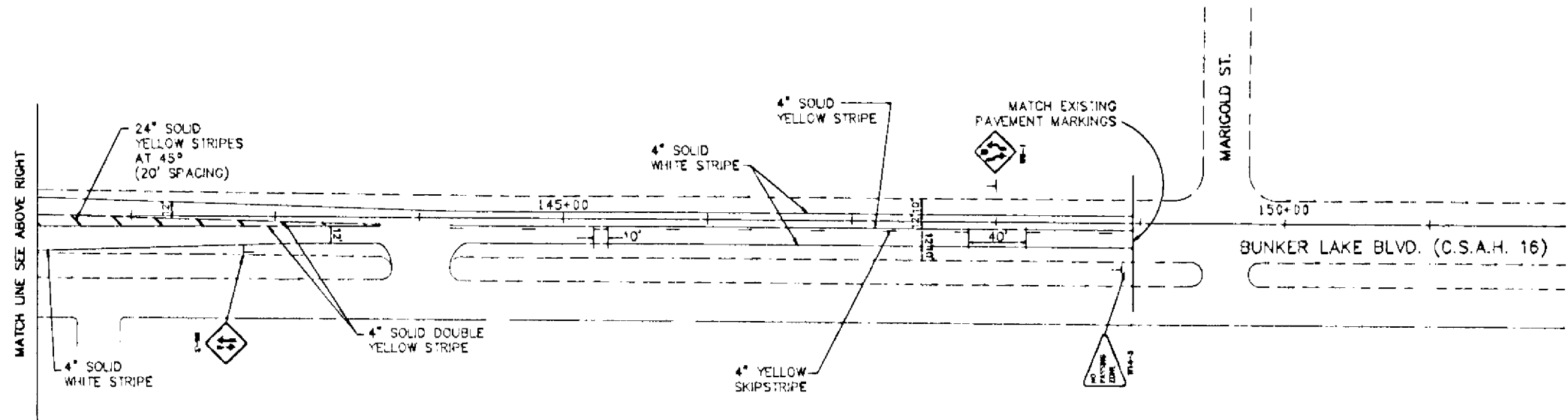
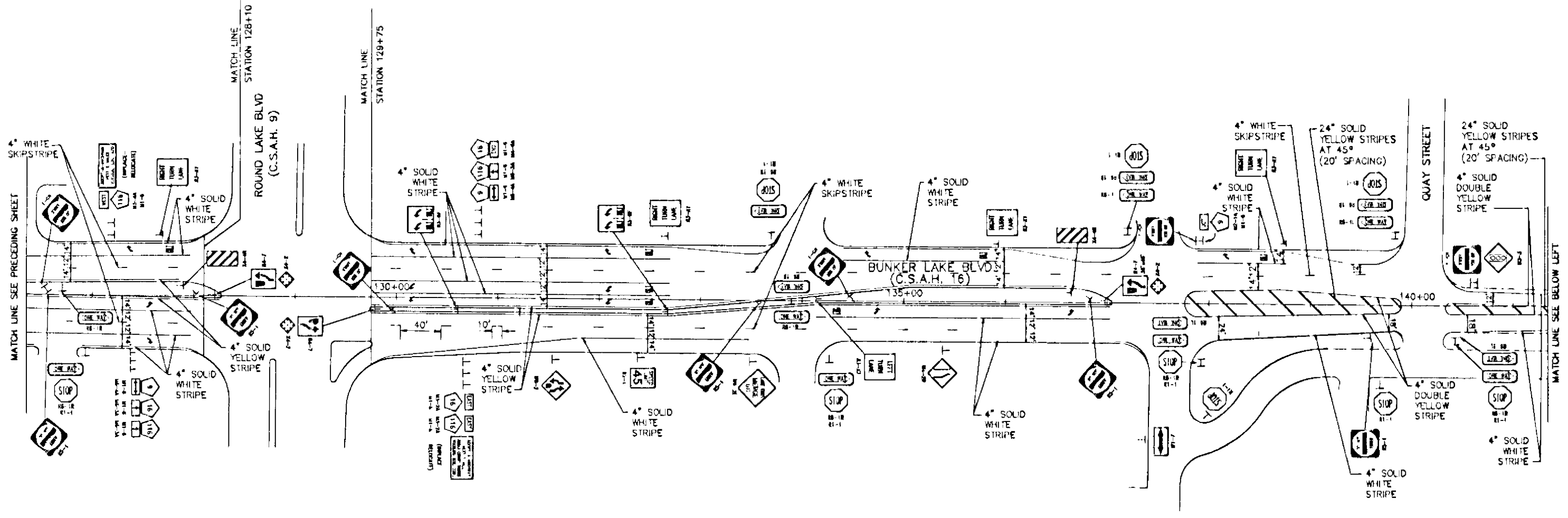
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.  
*Thomas A. Solwoldt*  
 Date: 4/2/93 Reg. No. 20943



**ANOKA COUNTY, MINNESOTA**  
 S.A.P. 02-609-10, S.A.P. 02-618-03,  
 C.P. 93-12-116

**SIGNING & STRIPING PLAN**  
**BUNKER LAKE BLVD. (C.R. 116)**

FILE NO.	73
93145	
DATE	
4/2/93	133



- NOTES:
- 1) LOCATIONS OF ALL SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
  - 2) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
  - 3) REMOVE ALL CONFLICTING PAVEMENT MARKINGS BETWEEN STATIONS 140+00 AND 149+00, AND AS ELSEWHERE DETERMINED BY ENGINEER.
  - 4) ALL OTHER SIGNS EAST OF STATION 140+00, EXCEPT AS NOTED, ARE INPLACE.
  - 5) CONTRACTOR SHALL SALVAGE AND DELIVER INPLACE SIGNS AND POSTS AS DIRECTED BY THE ENGINEER (MEASURED AND PAID FOR UNDER ITEM NO. 2104 523-SALVAGE SIGNS-TYPE "C").

11-11-02 06:27 AM

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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.  
*Thomas J. Schwedt*  
 Date: 4/2/93 Reg. No. 20943



ANOKA COUNTY, MINNESOTA  
 S.A.P. 02-609-10, S.A.P. 02-618-03,  
 C.P. 93-12-116

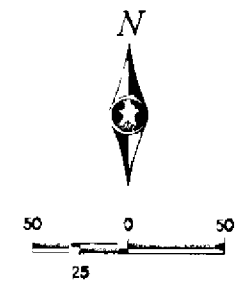
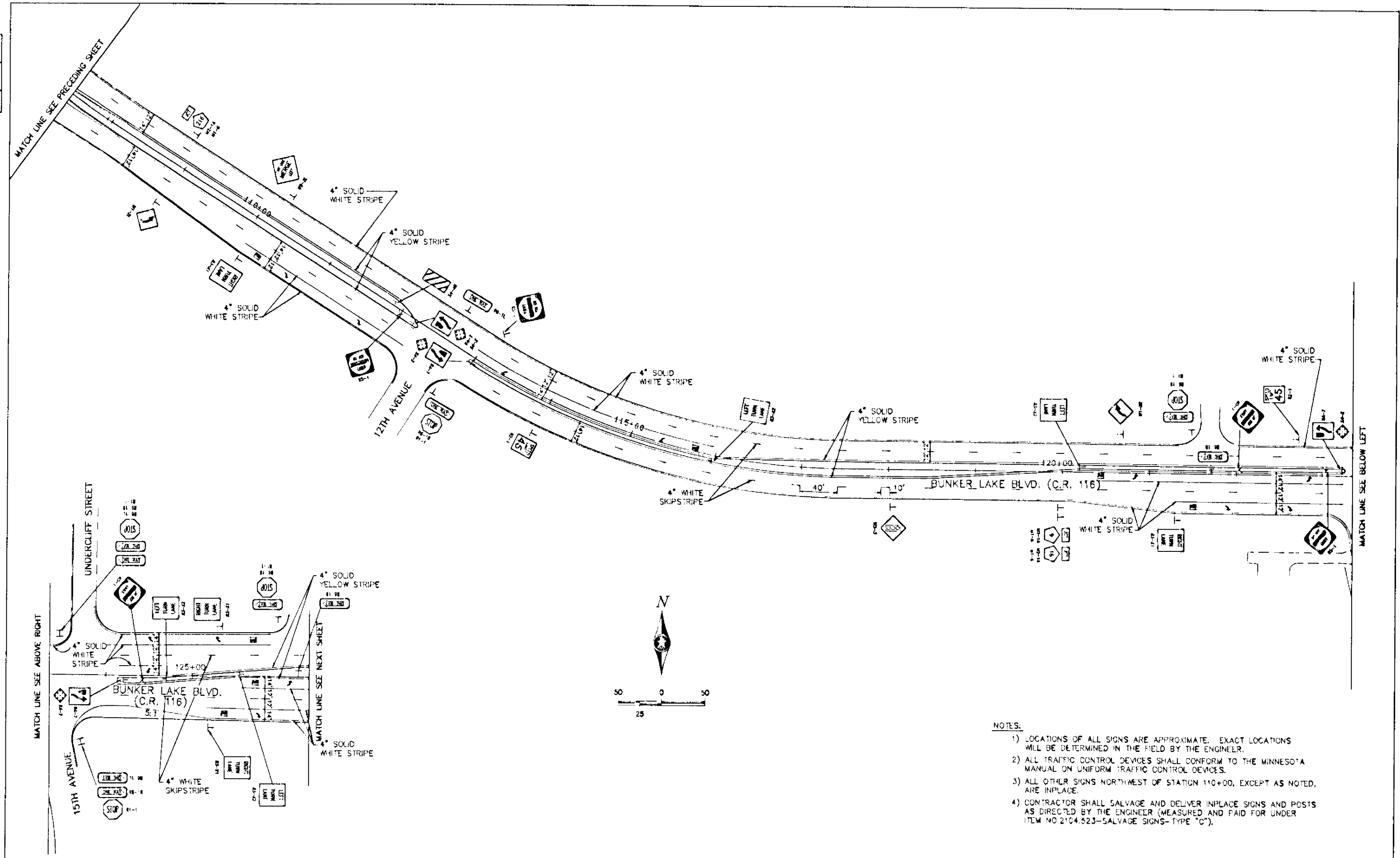
SIGNING & STRIPING PLAN  
 BUNKER LAKE BLVD.  
 (CSAH 16/C.R. 116)

FILE NO. 93145	75
DATE 4/2/93	133



11-11-92 8:30 AM

93145-11-100000



- NOTES:
- 1) LOCATIONS OF ALL SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
  - 2) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
  - 3) ALL OTHER SIGNS NORTHWEST OF STATION 110+00, EXCEPT AS NOTED, ARE INPLACE.
  - 4) CONTRACTOR SHALL SALVAGE AND DELIVER INPLACE SIGNS AND POSTS AS DIRECTED BY THE ENGINEER (MEASURED AND PAID FOR UNDER ITEM NO 2104.523-SALVAGE SIGNS-TYPE "C").

NO	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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.  
*Thomas L. Schweitzer*  
 Date: 4/2/93 Reg. No. 20943

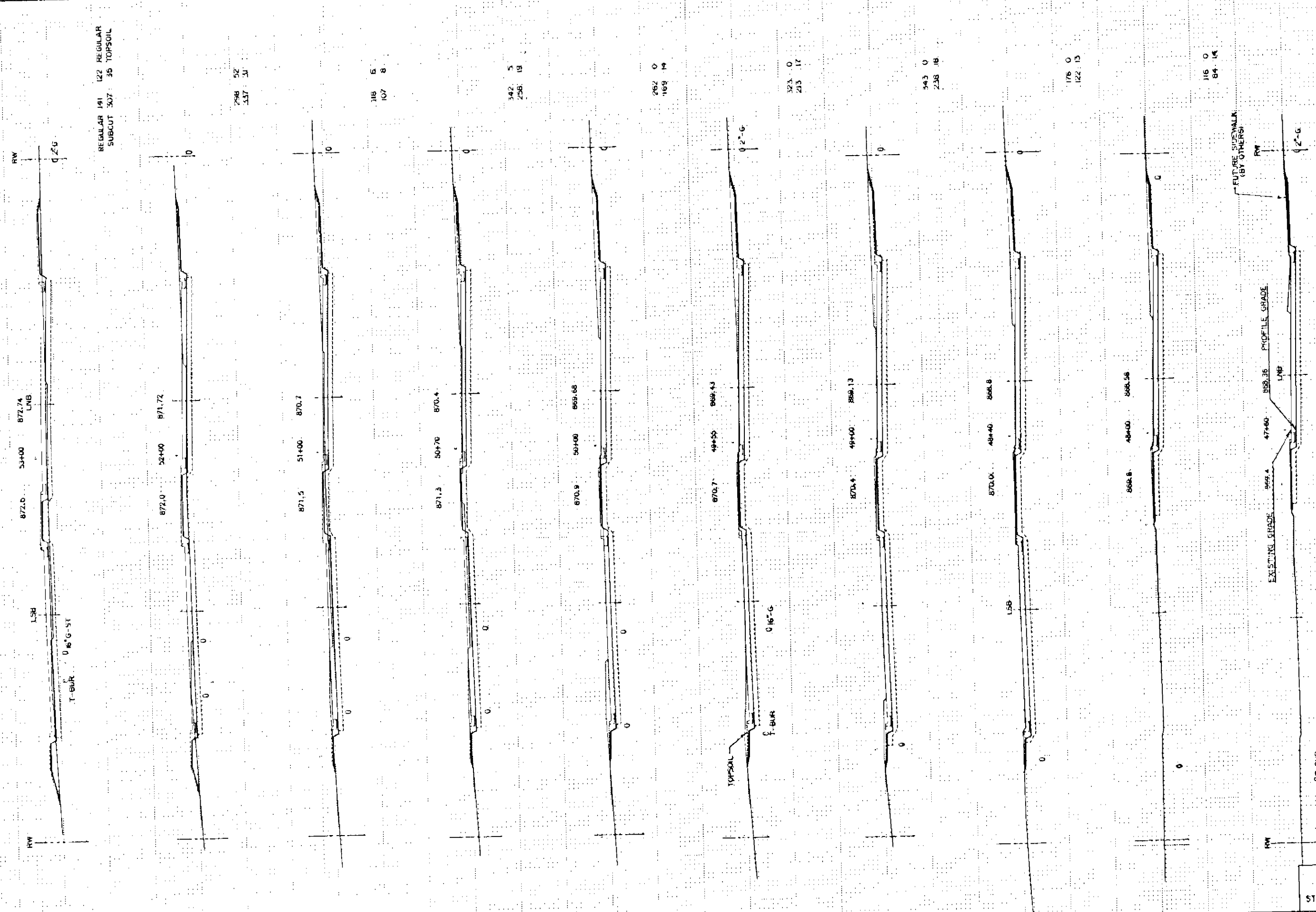


ANOKA COUNTY, MINNESOTA  
 S.A.P. 02-609-10, S.A.P.02-616-03,  
 C.P. 93-12-116

SIGNING & STRIPING PLAN  
 BUNKER LAKE BLVD. (C.R. 116)

FILE NO.	93145	74
DATE	4/2/93	133

EXCAVATION EMBANKMENT  
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.



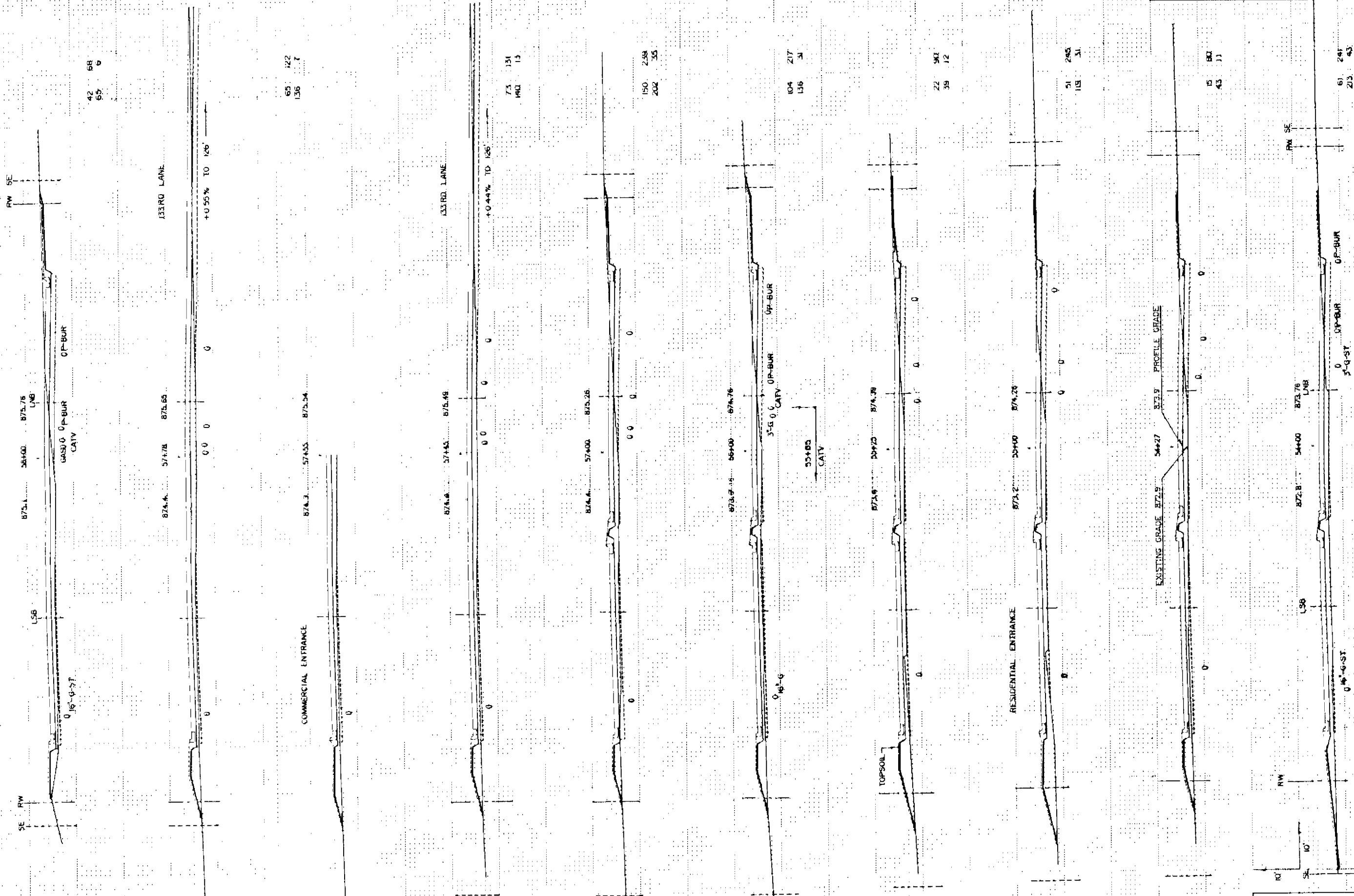
NOTE: VERTICAL ELEVATIONS ASSUMED  
NOT ACTUAL

CROSS-SECTIONS  
C.S.A.H. 9  
STA. 47+60 TO STA. 53+00

**EXCAVATION EMBANKMENT**  
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.

REGULAR 92 126 REGULAR  
SUBCUT 87 15 TOPSOIL

Fed. Proj. No.



42 68  
55 6

65 122  
136 7

73 131  
140 13

150 238  
202 35

104 217  
156 31

22 581  
39 12

51 245  
119 31

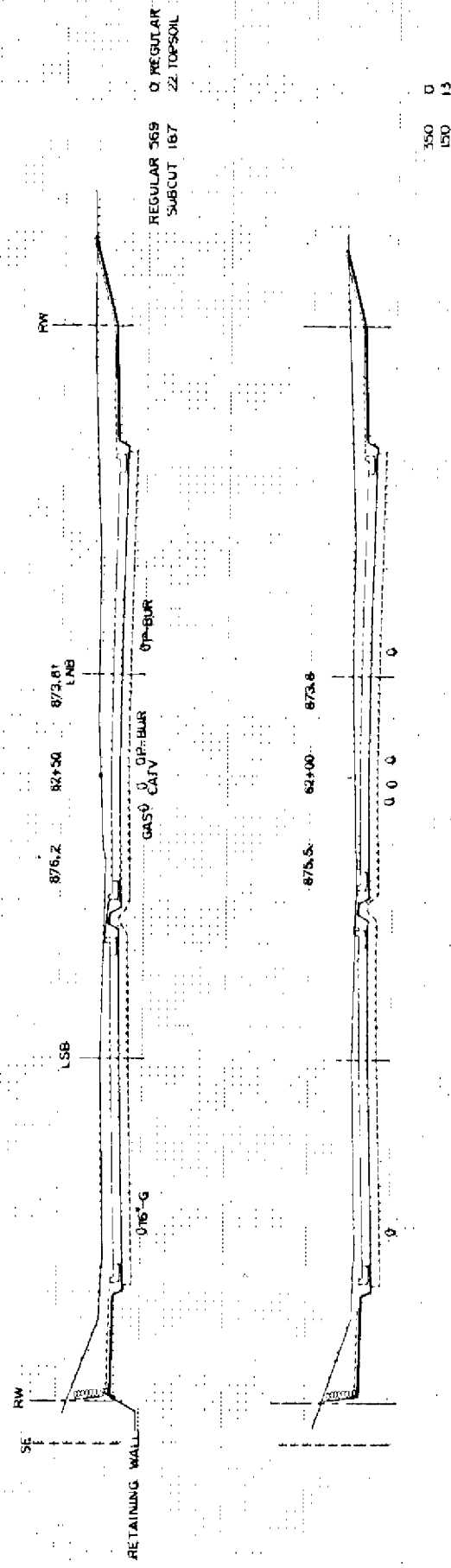
15 80  
43 11

61 241  
213 43

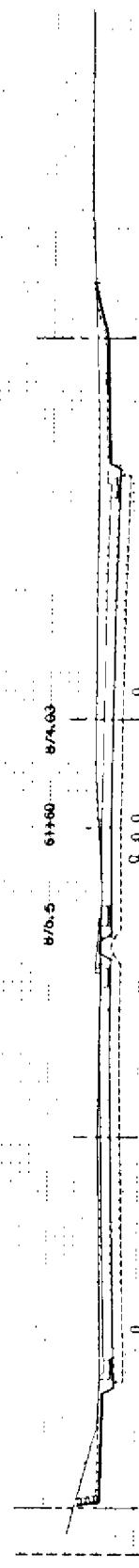
CROSS-SECTIONS  
C.S.A.H. 9  
STA. 54+00 TO STA. 58+00

EXCAVATION EMBANKMENT  
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.

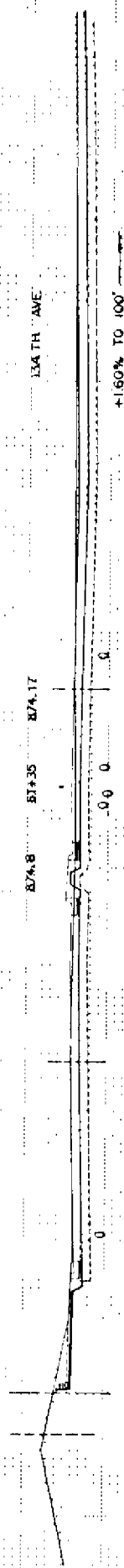
Fed. Proj. No.



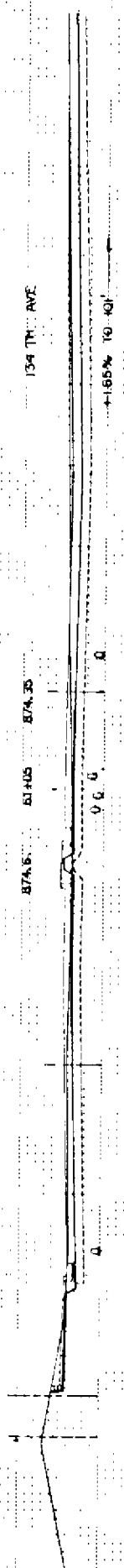
350 0  
150 13



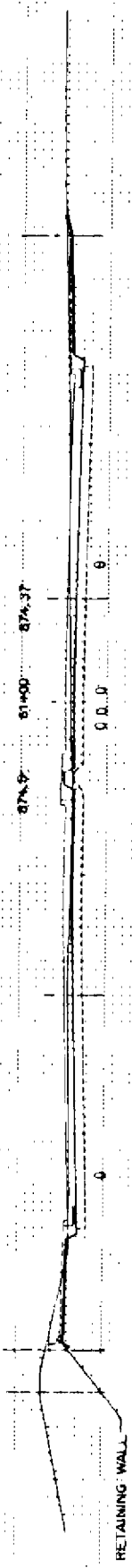
185 0  
121 4



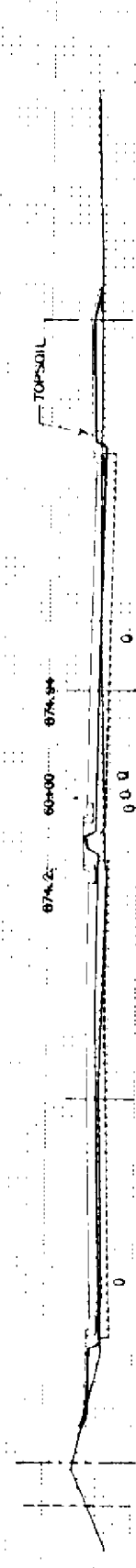
202 2  
177 5



193 106  
500 37



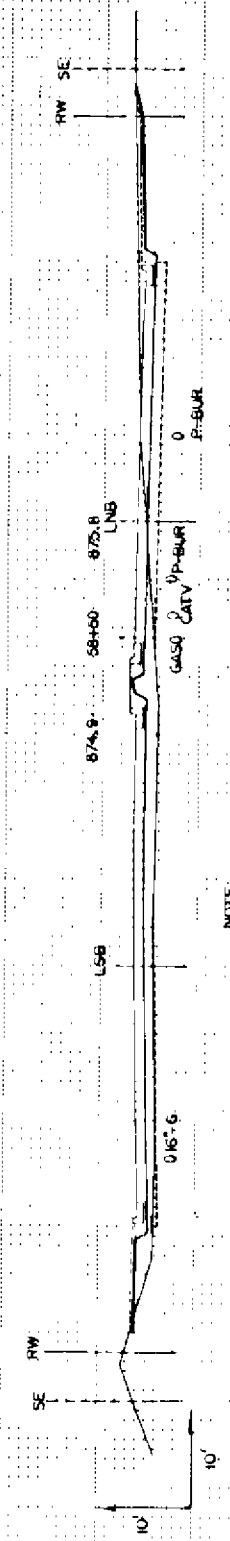
6 43  
45 7



22 209  
133 24



30 142  
81 15



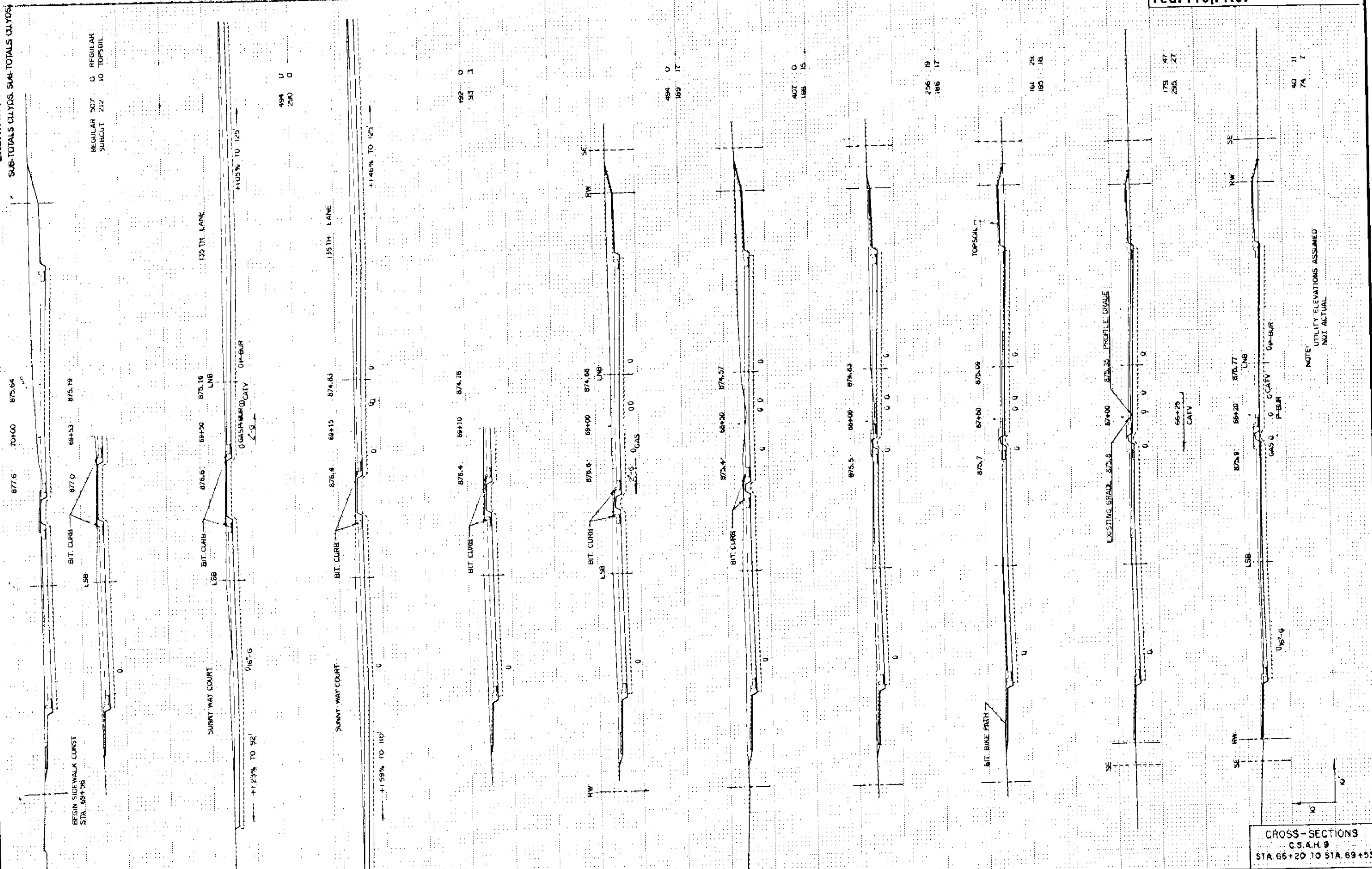
NOTE:  
UTILITY ELEVATIONS ASSUMED  
NOT ACTUAL

CROSS-SECTIONS  
C.S.A.H. 9  
STA. 58+50 TO STA. 62+50



**EXCAVATION EMBANKMENT**

SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.



REGULAR 507 0  
SUBCUT 212 10  
TOPSOIL

494 0  
290 0

192 0  
93 1

494 0  
189 17

407 0  
188 15

256 19  
186 17

161 29  
185 18

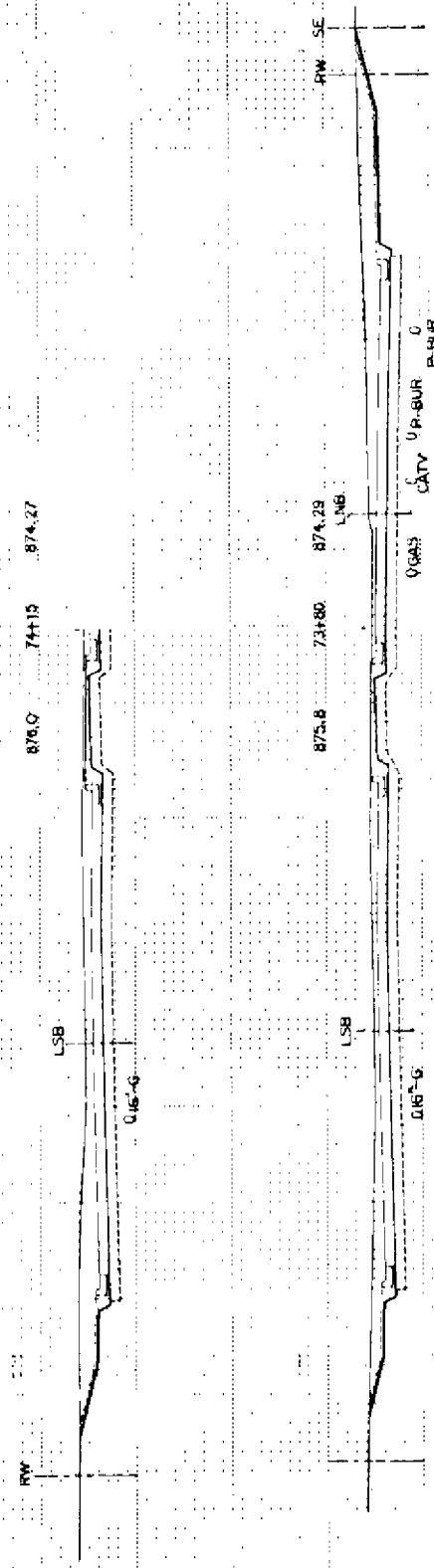
179 47  
294 27

40 11  
74 7

NOTE: UTILITY ELEVATIONS ASSUMED  
NOT ACTUAL

CROSS-SECTIONS  
C.S.A.M. 9  
STA. 66+20 TO STA. 69+53

**EXCAVATION EMBANKMENT**  
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.

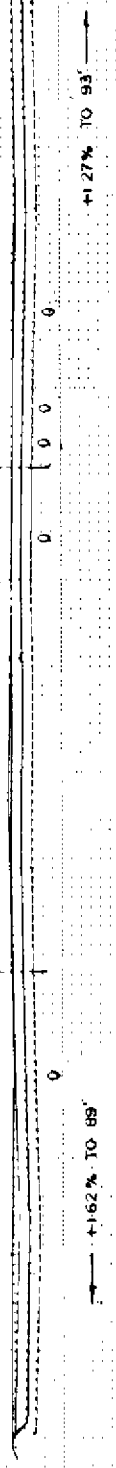


REGULAR 579 0  
SUBCUT 181 15



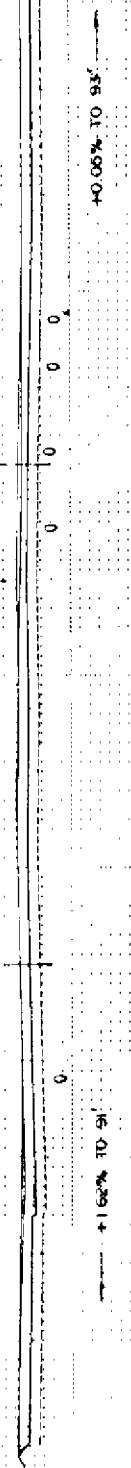
201 0  
122 4

COMMERCIAL ENTRANCE  
156TH AVE



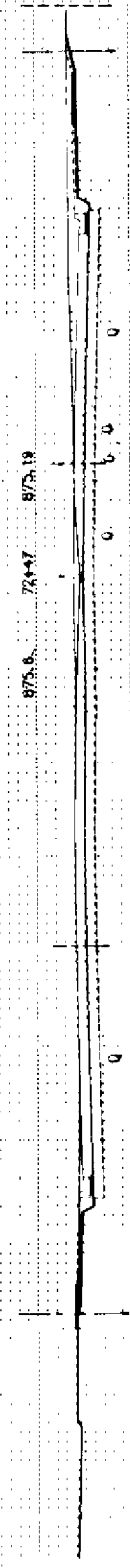
230 0  
164 0

COMMERCIAL ENTRANCE  
156TH AVE

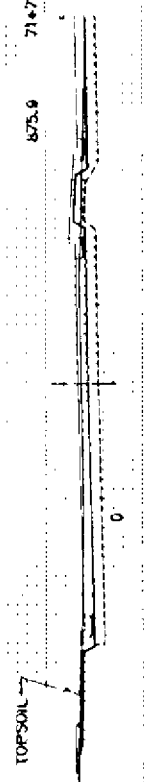


184 1  
124 4

FINI SIDEWALK CONST.  
STA. 72+62



182 3  
182 14

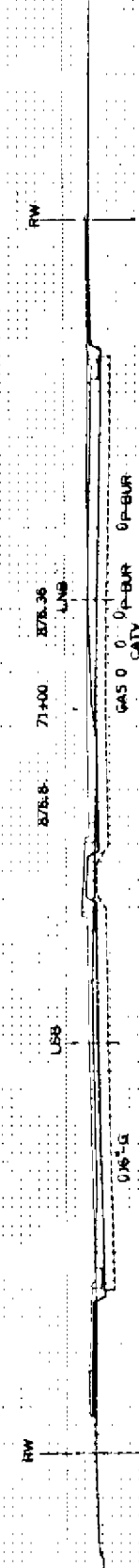


213 8  
156 14

COMMERCIAL ENTRANCE  
EXISTING GRADE 876.4  
875.14 PROFILE GRADE



156 11  
180 13



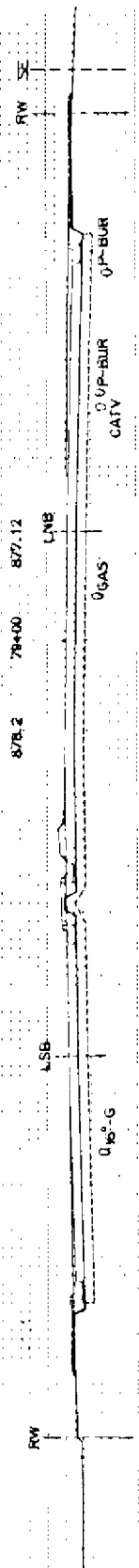
676 11  
378 58

CROSS-SECTIONS  
C.S.A.H. 9  
STA. 71+00 TO STA. 74+15

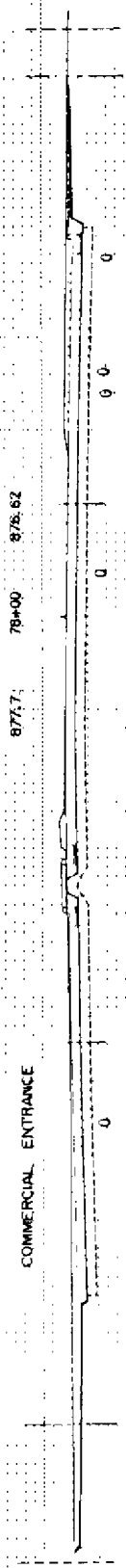


**EXCAVATION EMBANKMENT**

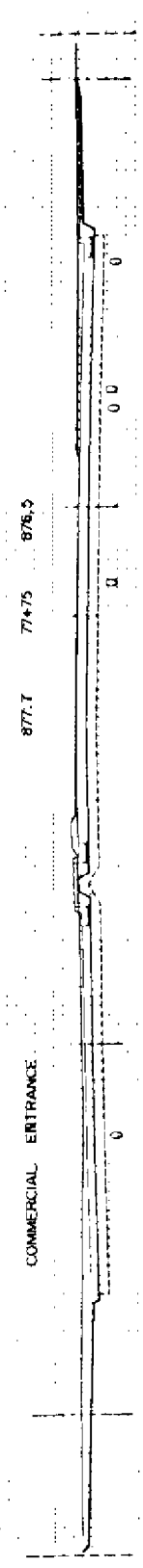
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.



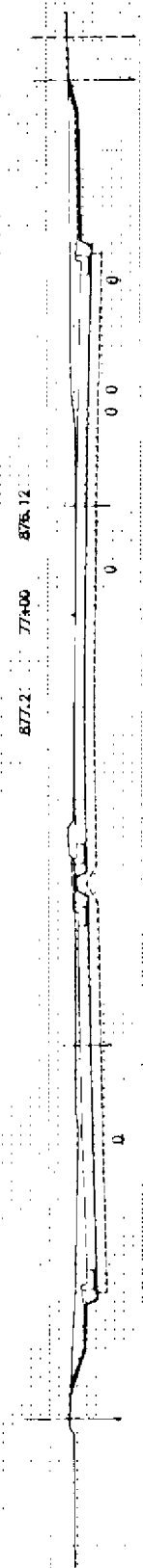
REGULAR 628 2  
SUBCUT 435 26  
TOPSOIL



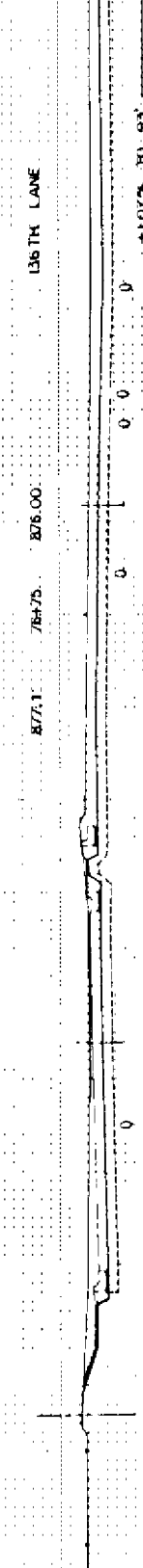
176 0  
107 5



563 0  
317 2

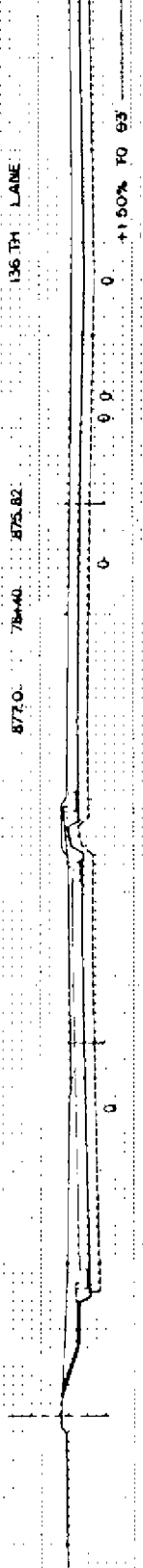


193 0  
UR 5



+107% TO 93'

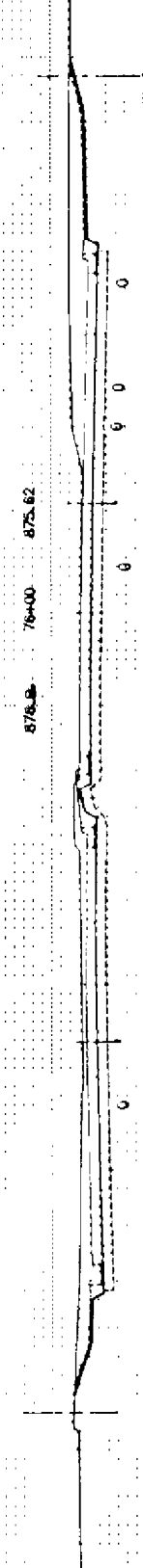
272 0  
83 5



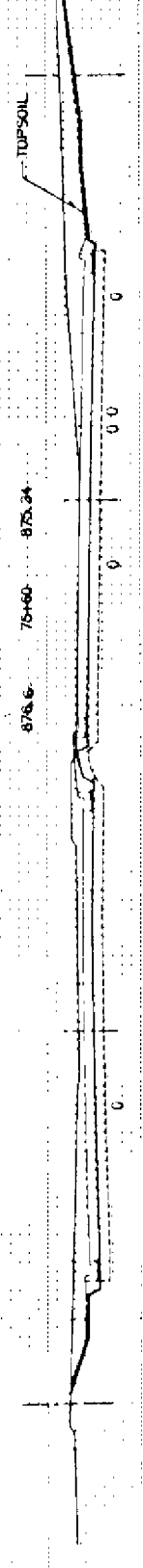
136 TH LANE

+150% TO 93'

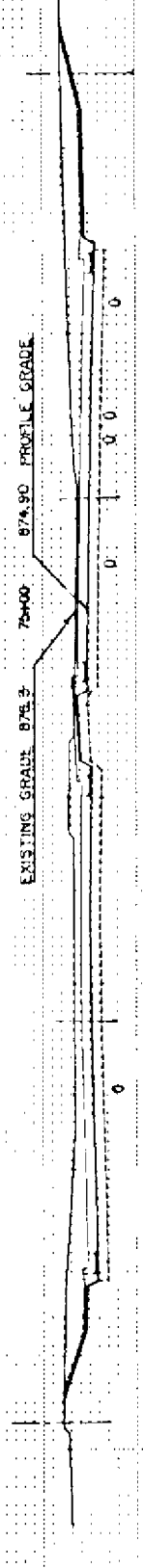
345 0  
168 0



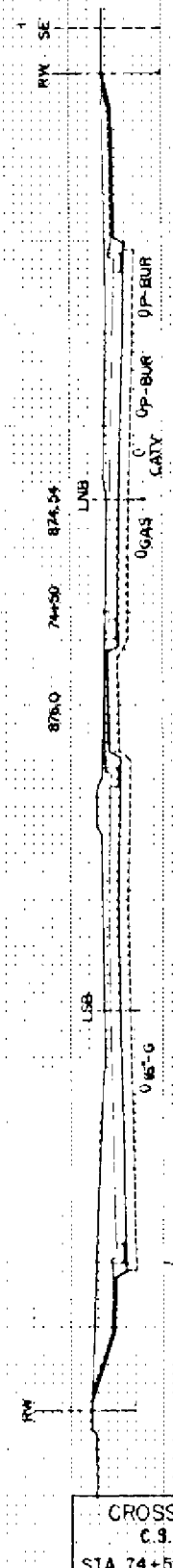
394 0  
157 18



556 0  
249 29



302 0  
206 20



662 0  
285 26

NOTE:  
UTILITY ELEVATIONS ASSUMED  
NOT ACTUAL

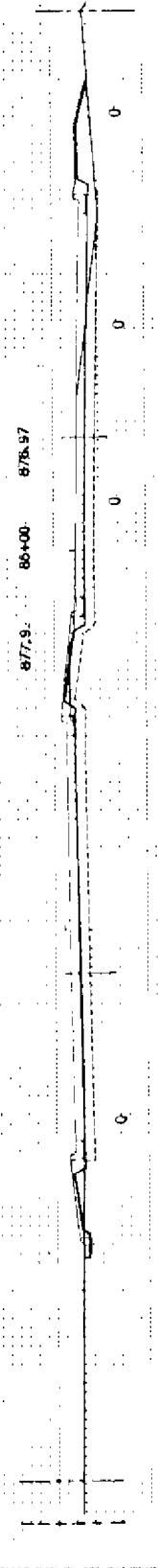
CROSS-SECTIONS  
C.S.A.M. 9  
STA. 74+50 TO STA. 79+00

**EXCAVATION EMBANKMENT**

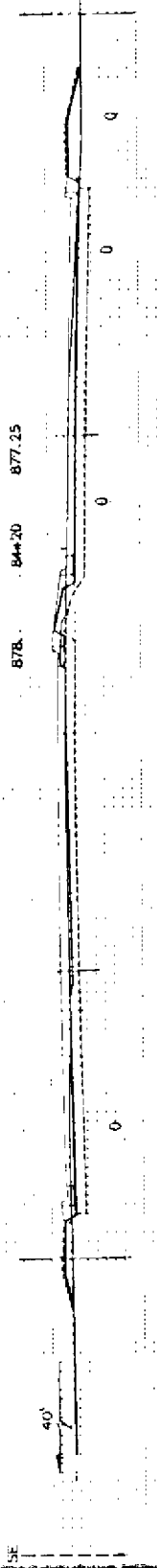
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.



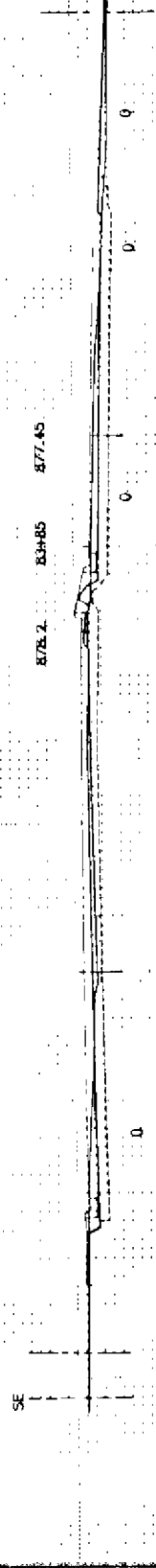
REGULAR 102 53  
SUBCUT 24 14  
TOPSOIL



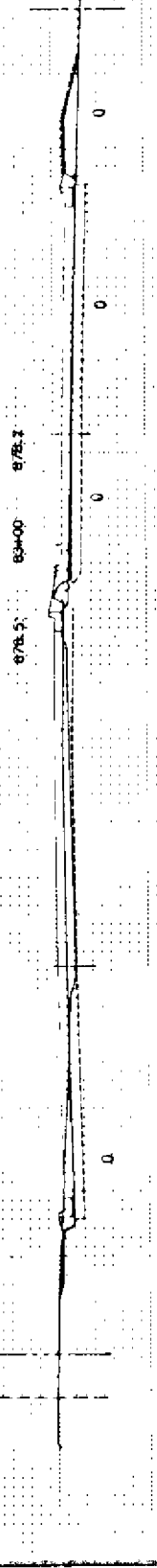
107 86  
289 19



58 35  
128 6

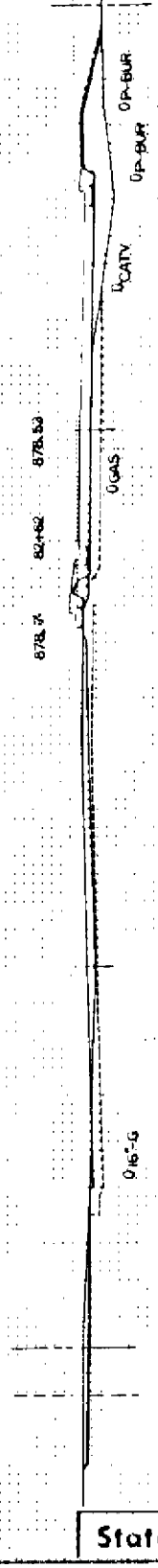


118 104  
288 14

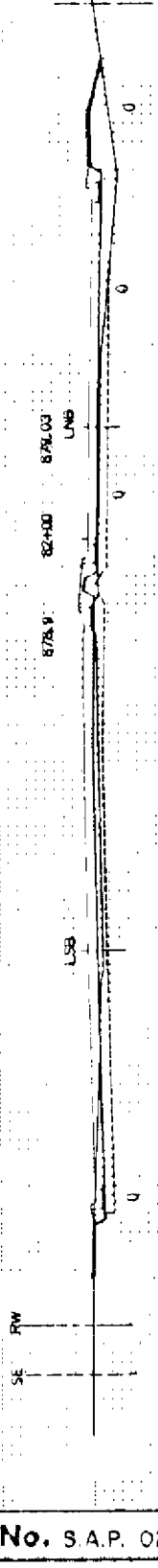


COMMERCIAL ENTRANCE

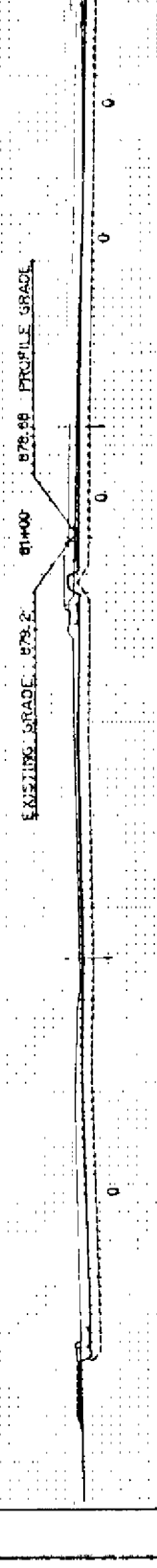
32 87  
107 8



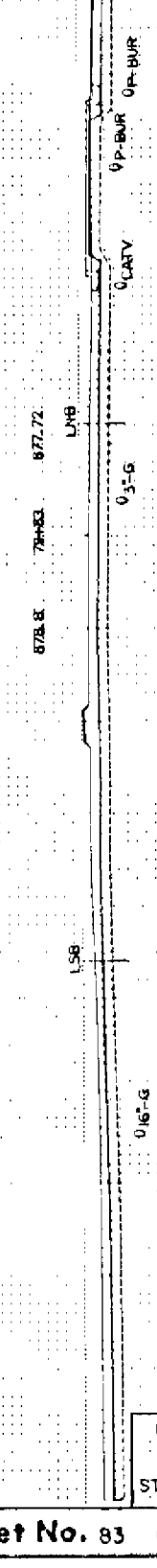
37 170  
158 15



176 135  
406 22



287 17  
739 13



523 3  
481 12 2

Fed. Proj. No.

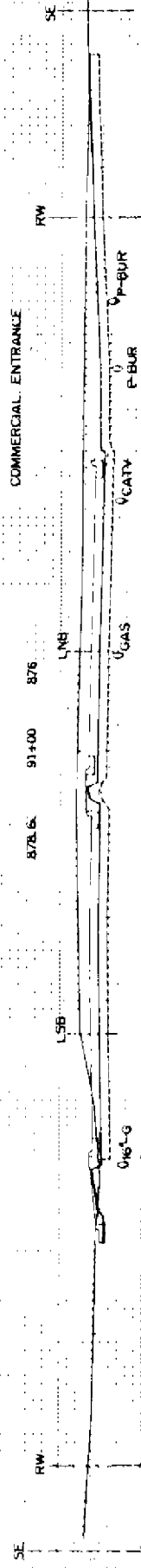
NOTE  
UTILITY ELEVATIONS ASSUMED  
NOT ACTUAL

CROSS-SECTIONS  
C.S.A.H. 9

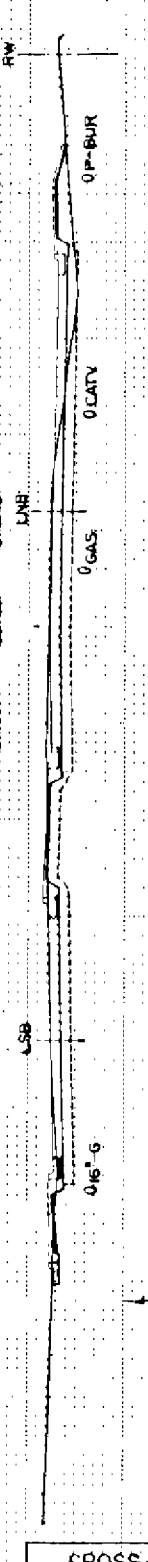
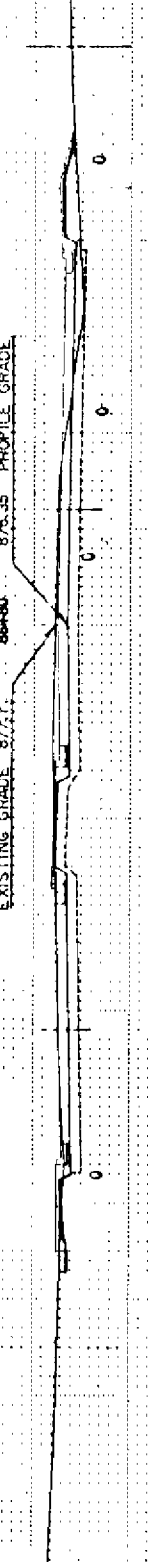
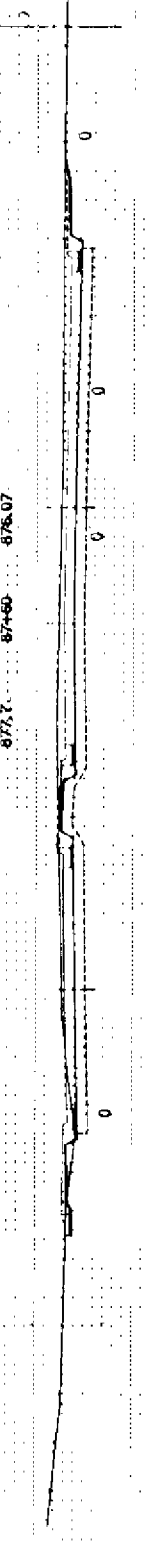
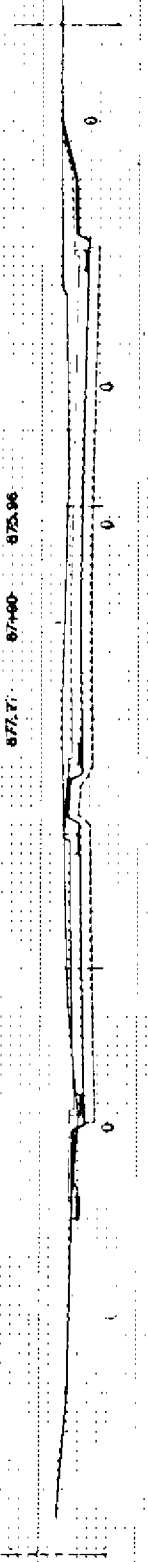
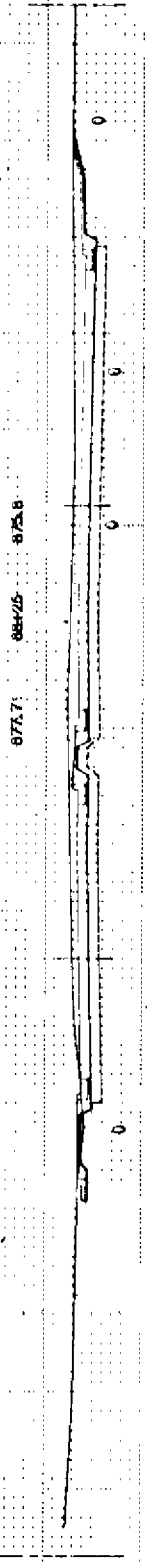
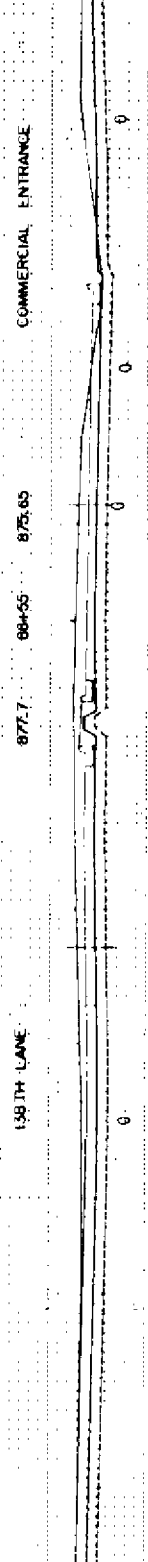
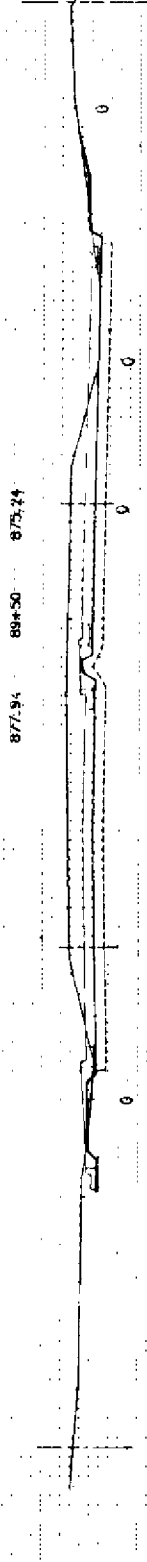
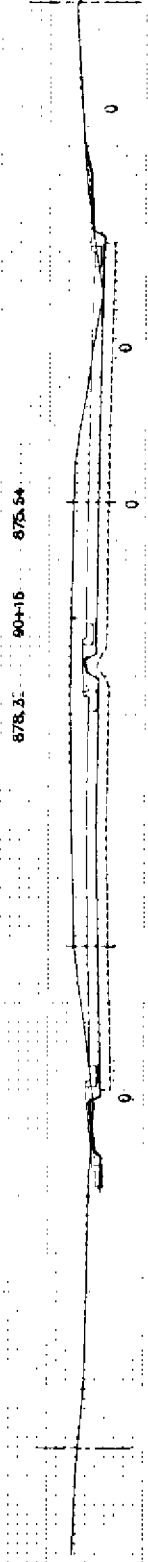
STA. 78+83 TO STA. 85+73

**EXCAVATION EMBANKMENT**

SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.



REGULAR 713 5. REGULAR  
SUBCUT 351 14. TOPSOIL



Fed. Proj. No.

NOTE!  
UTILITY ELEVATIONS ASSUMED  
NOT ACTUAL

CROSS-SECTIONS  
C.S.A.H. 9  
STA. 86+50 TO STA. 91+00



881.5 103+08 879.53

881.7 104+75 880.73

881.7 104+70 880.7

882.1 104+00 881.12

882.6 103+00 881.39

882.3 102+00 881.36

882.3 101+40 881.23

882.3 101+00 881.01

EXISTING GRADE 387.9 100+00 880.53 PROFILE GRADE

881.6 99+00 880.06

REGULAR 0 0 REGULAR  
SUBCUT 0 0 TOPSOIL

7 0  
2 0

146 11  
74 14

250 0  
115 33

189 0  
115 26

168 0  
100 13

169 23  
114 15

315 100  
256 37

285 133  
252 31

287 159  
263 30

140TH LANE

UNDERCLIFF ST

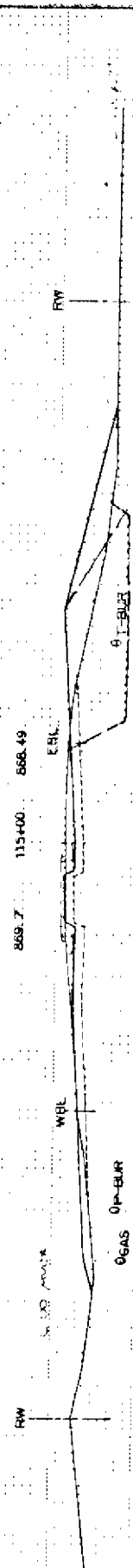
COMMERCIAL ENTRANCE

NOTE:  
UTILITY ELEVATIONS ASSUMED  
NET ACTUAL

CROSS-SECTIONS  
C.S.A. 9  
STA. 99+00 TO STA. 105+08

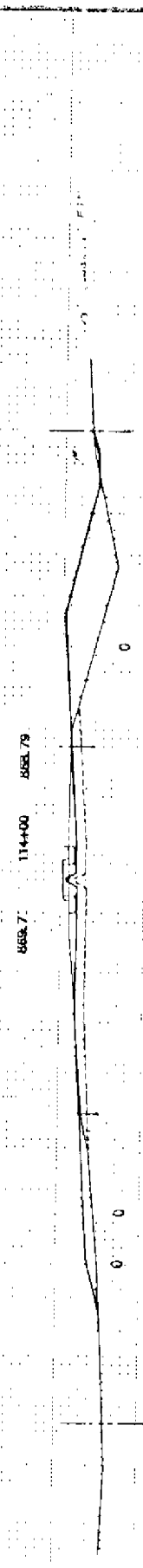
**EXCAVATION EMBANKMENT**

SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.

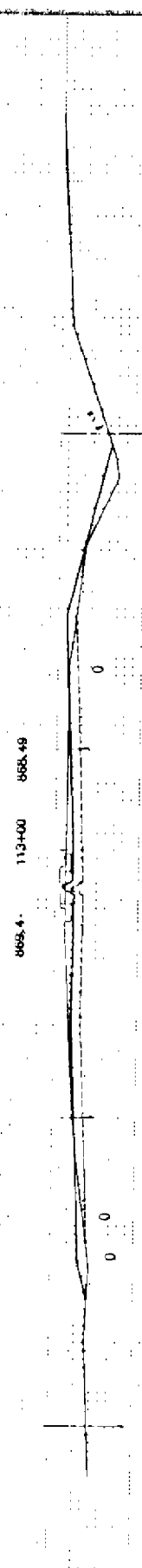


REGULAR 85  
SUBCUT 193  
MUCK 215

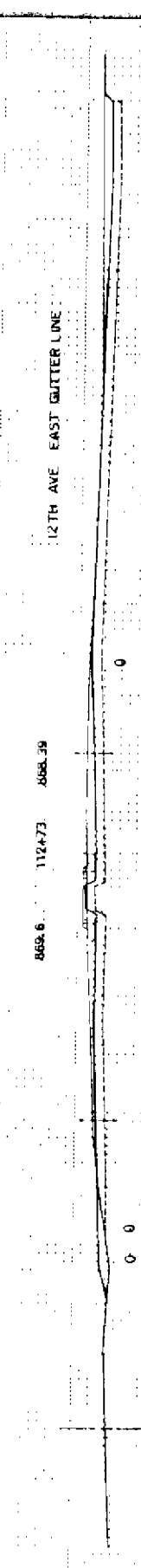
539 REGULAR  
50 TOPSOIL  
183 MUCK DISPOSAL



96 276  
213 50  
157 0



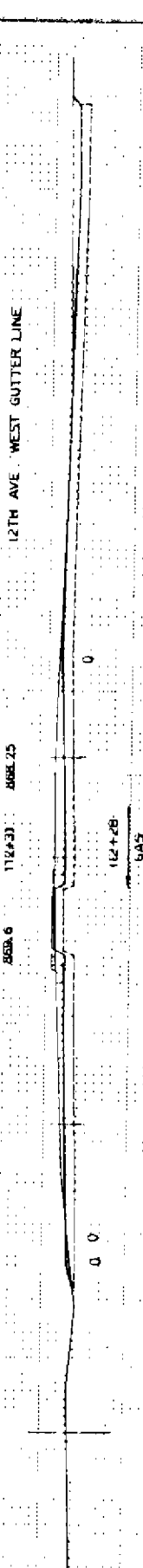
52 27  
59 9  
43 0



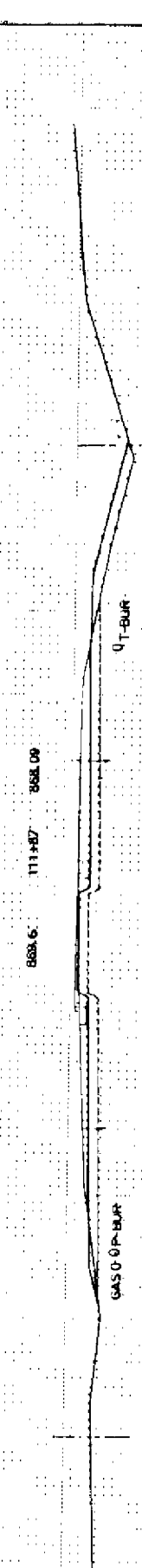
12TH AVE EAST GUTTER LINE



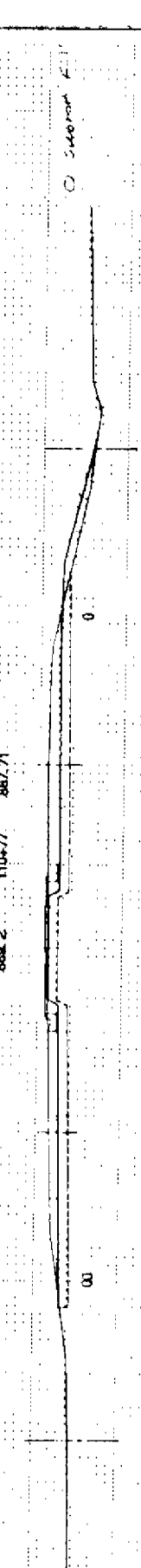
120 8  
208 6  
0 0



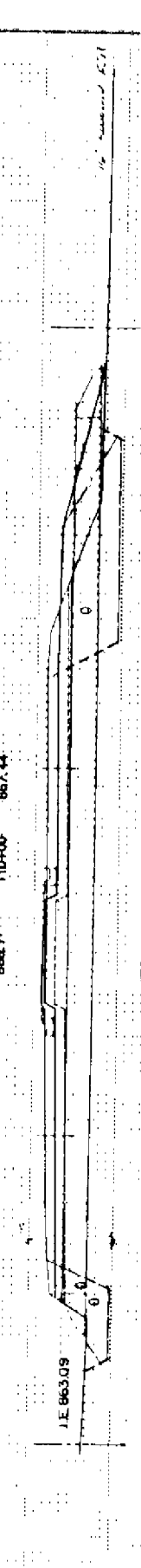
02 22  
073 13  
0 0



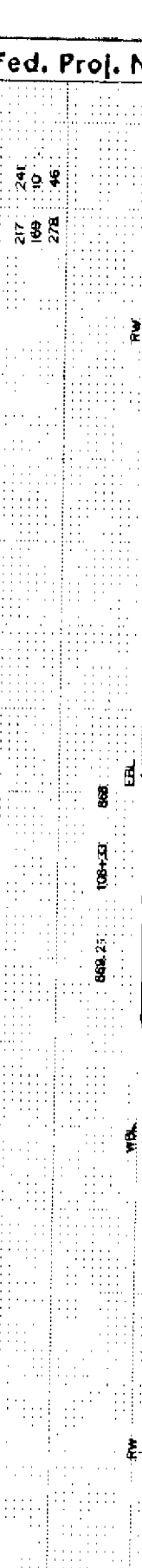
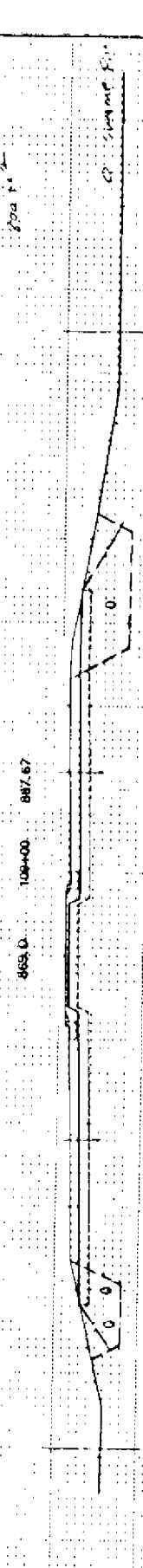
287 110  
314 49  
0 0



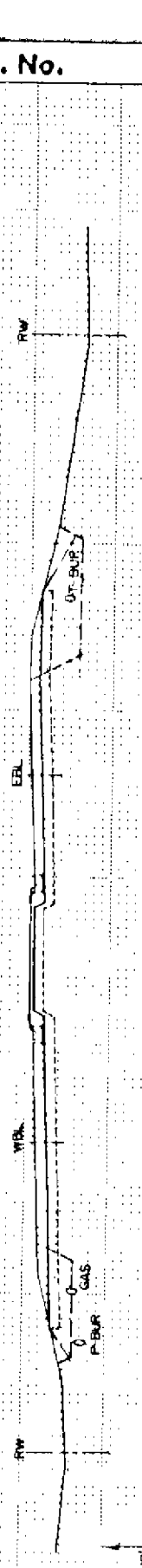
248 382  
221 31  
228 30



326 541  
269 26  
513 109



217 241  
169 10  
278 46



53 26  
40 2  
32 4

Fed. Proj. No.

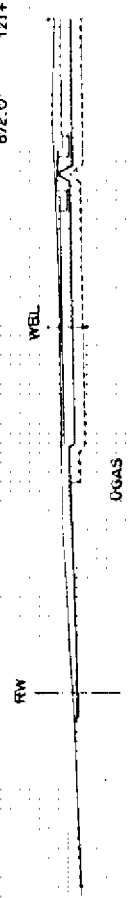
NOTE:  
UTILITY ELEVATIONS ASSUMED.  
NOT ACTUAL.

CROSS-SECTIONS  
COUNTY ROAD 118  
STA. 108+33 TO STA. 115+00

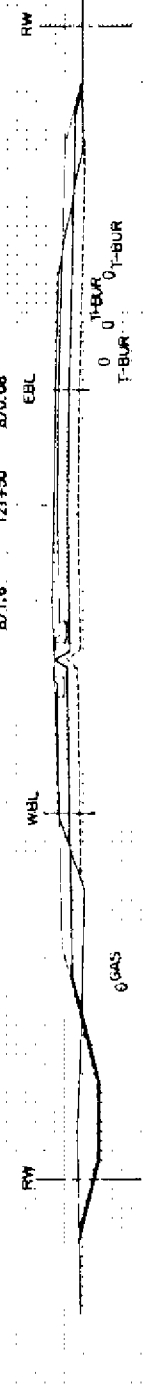
**EXCAVATION EMBANKMENT**  
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.

Fed. Proj. No.

872.0 121+79 870.23



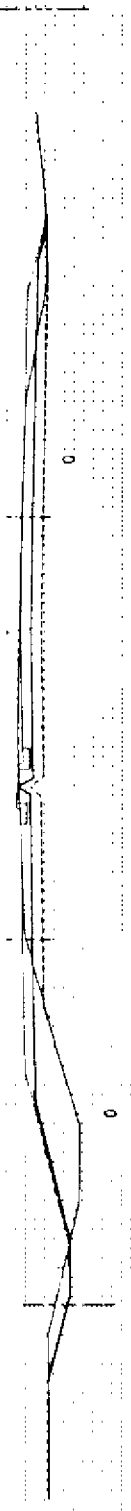
871.6 121+50 870.08



REGULAR 82  
SUBCUT 132  
MUCK 0

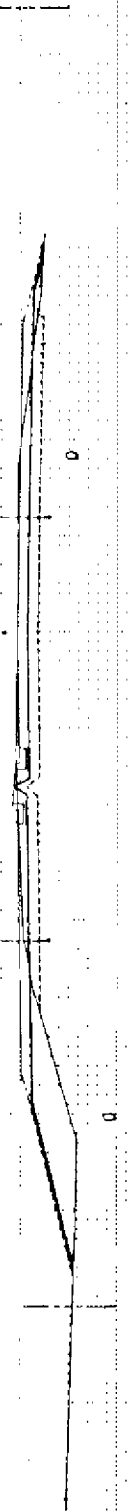
REGULAR 82  
TOPSOIL 25  
MUCK DISPOSAL 0

871.1 121+00 868.83



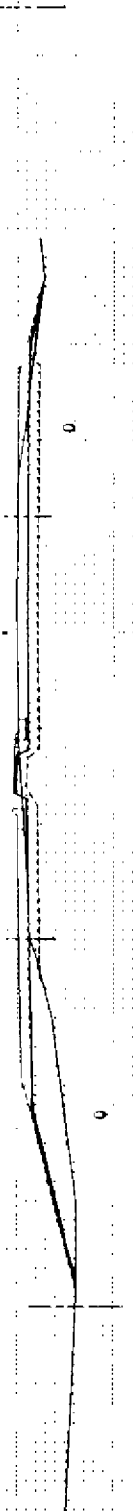
135 122  
130 22  
0 0

870.7 120+50 868.57



156 200  
181 31  
0 0

870.3 119+70 868.16



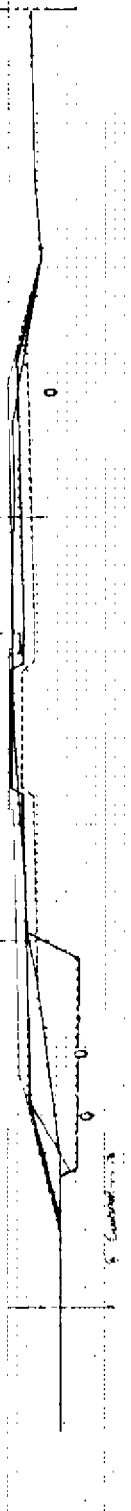
107 169  
163 50  
0 0

868.94 118+04 868.78



87 274  
162 28  
104 15

868.6 116+16 868.30



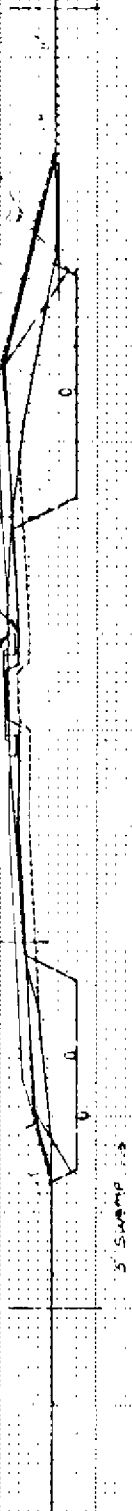
78 530  
62 32  
29 30

868.1 117+37 867.96



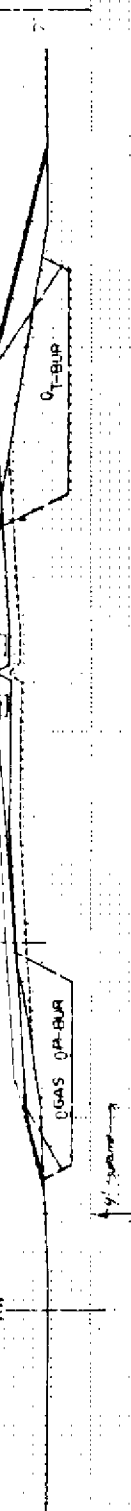
67 739  
142 32  
374 75

868.1 116+64 867.96



103 1093  
178 42  
647 163

868.6 115+72 868.24



79 781  
147 35  
427 128

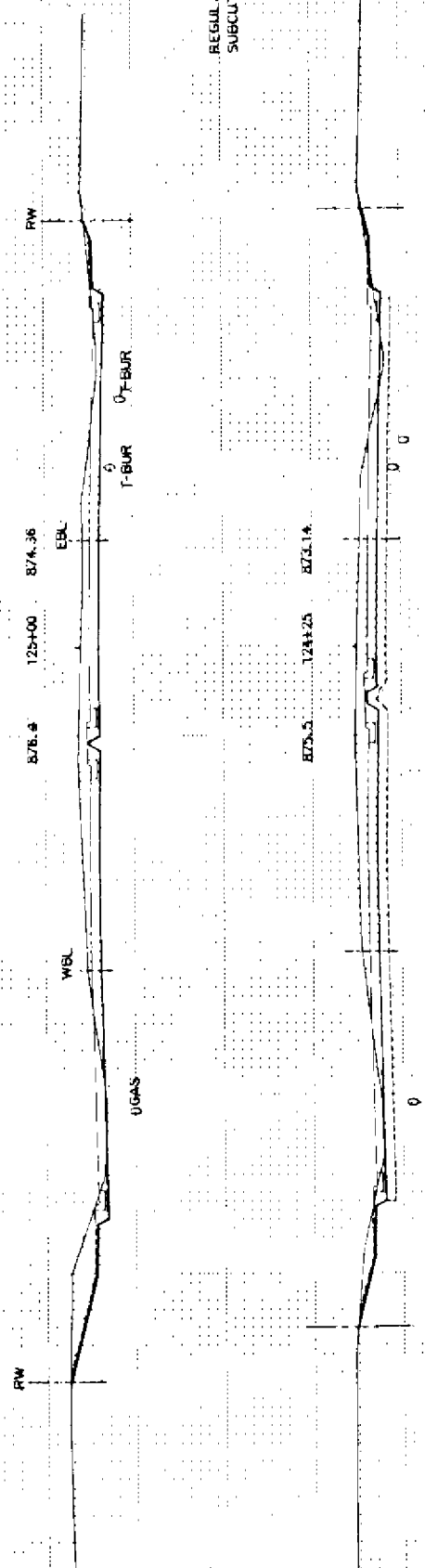
NOTE  
UTILITY ELEVATIONS ASSUMED  
NOT ACTUAL

CROSS-SECTIONS  
COUNTY ROAD 116  
STA. 115+72 TO STA. 121+79

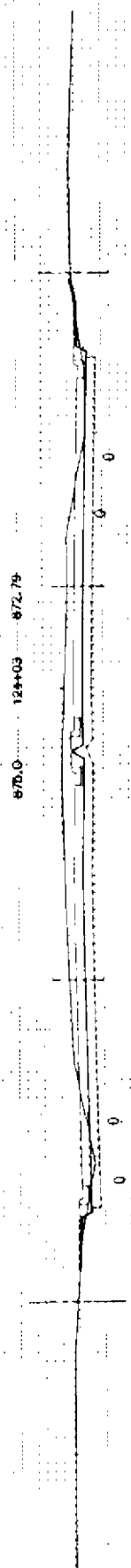


**EXCAVATION EMBANKMENT**  
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.

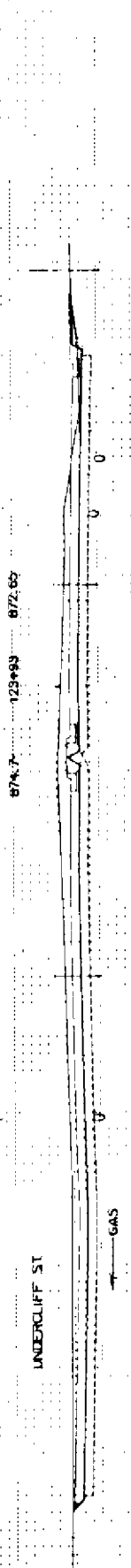
REGULAR 496 3. REGULAR  
SUBCUT 279 28 TOPSOIL



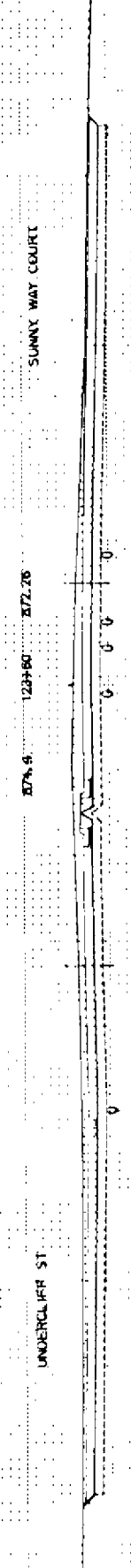
133 2  
81 6



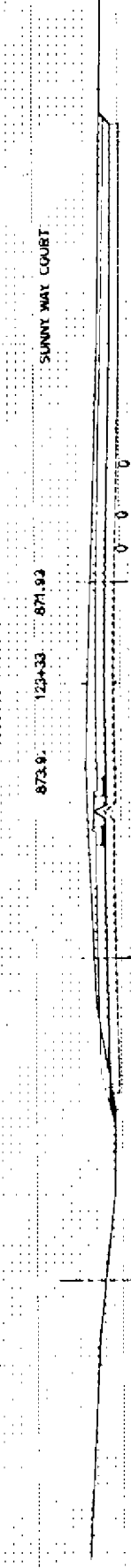
74 1  
45 1



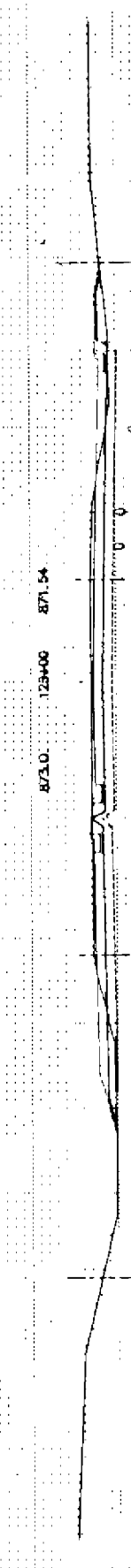
319 1  
180 0



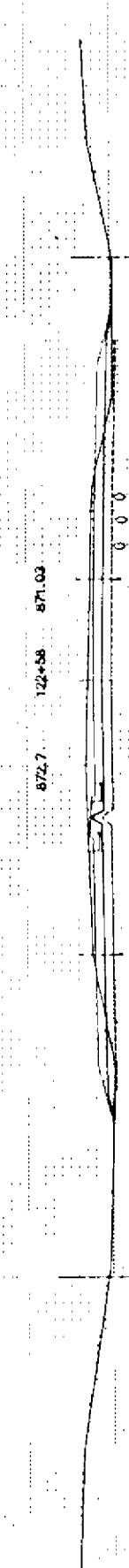
235 1  
138 2



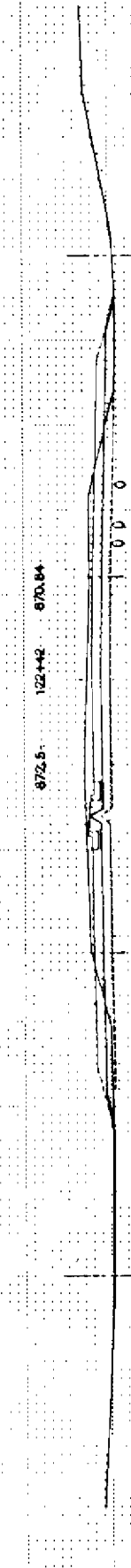
163 9  
119 6



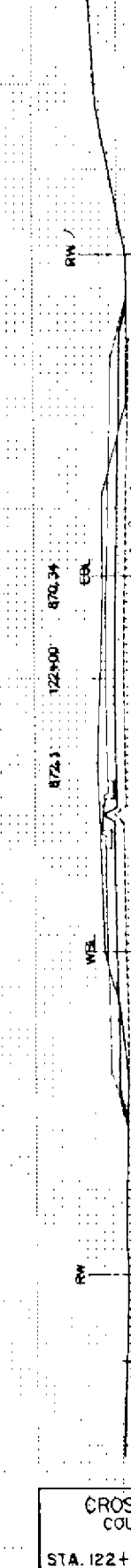
151 21  
124 9



62 9  
45 3



163 26  
117 8



216 33  
138 17

NOTE:  
UTILITY ELEVATIONS ASSUMED  
NOT ACTUAL

CROSS-SECTIONS  
COUNTY ROAD 118  
STA. 122+00 TO STA. 125+00



**EXCAVATION EMBANKMENT**

SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.

REGULAR 186 0 REGULAR  
SUBCUT 160 4 TOPSOIL

878.6 128+50 877.76

0 T-BUR  
0 T-BUR

128+39  
0 GAS

878.6 128+00 877.17

WBL

RW

878.3 127+50 876.73

878.0 127+00 876.48

878.0 126+90 876.43

877.8 126+67 876.26

877.6 126+50 876.23

877.7 126+16 876.06

EXISTING GRADE 877.6 126+00 875.98 PROFILE GRADE

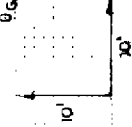
878.9 125+40 875.01

WBL

RW

0 T-BUR  
0 T-BUR

NOTE:  
UTILITY ELEVATIONS ASSUMED  
NOT ACTUAL



100 0  
62 4

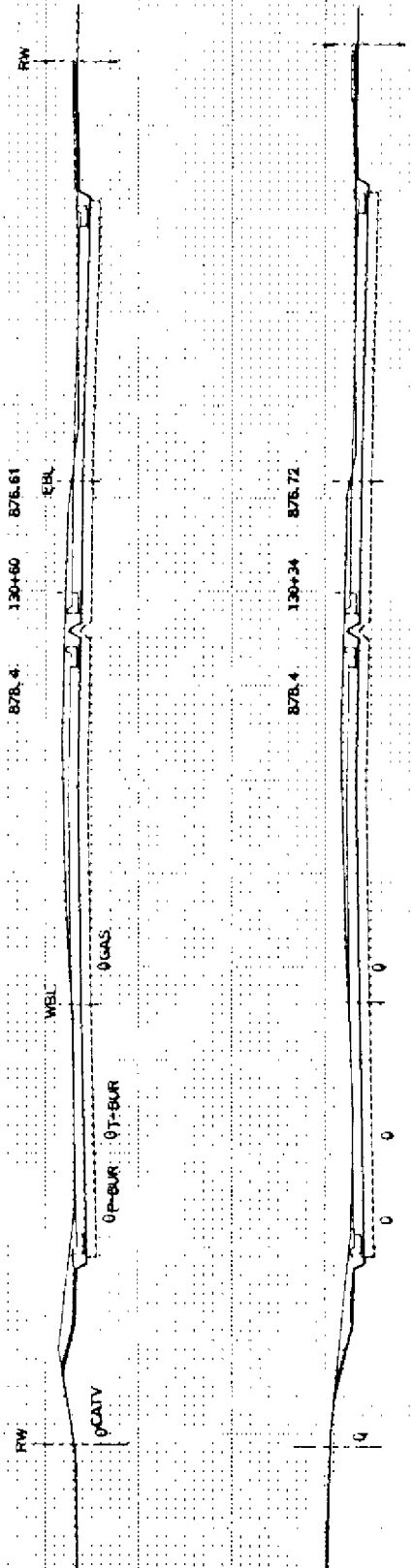
348 2  
223 22

281 1  
190 17

Fed. Proj. No.

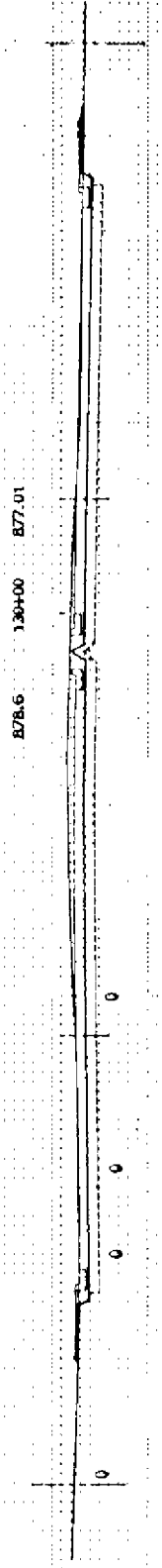
CROSS - SECTIONS  
COUNTY ROAD 116  
C.S.A.H. 16  
STA. 125+40 TO STA. 128+50

EXCAVATION EMBANKMENT  
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS



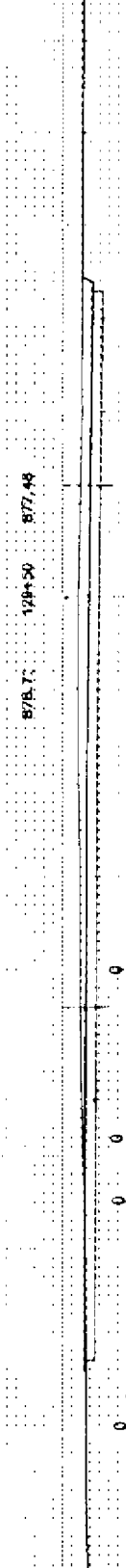
REGULAR 164 0. REGULAR  
SUBCUT 109 12. TOPSOIL

200 2  
145 11



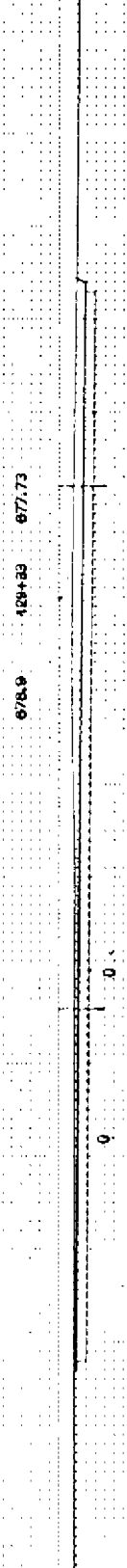
129+57  
P-BUR

221 3  
215 6

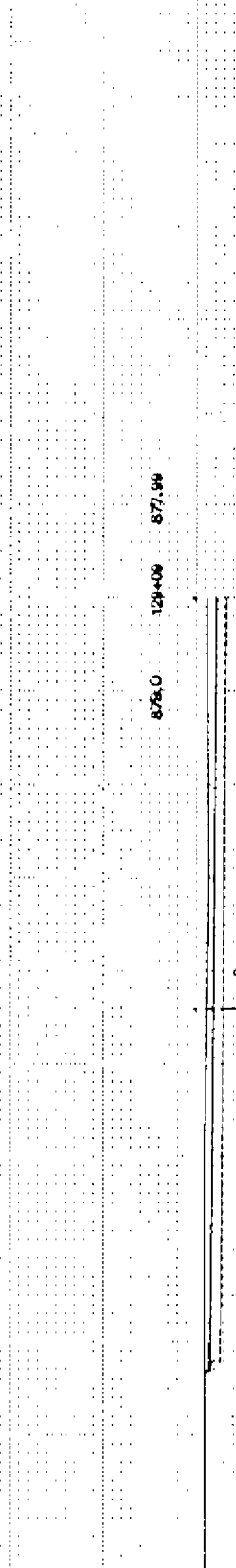


129+37  
CATV

97 0  
72 0

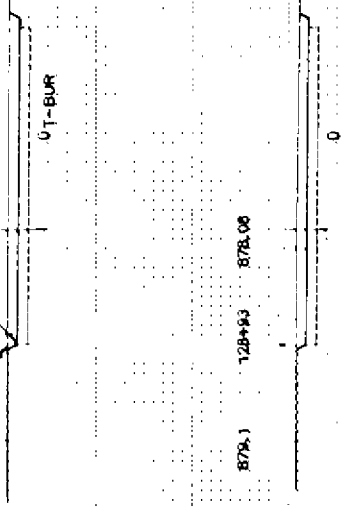


191 0  
260 0

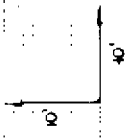
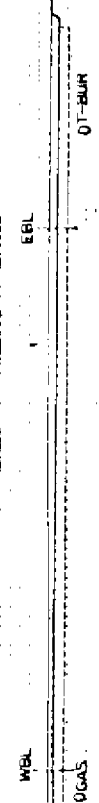


879.0 128+05 878.02

EXISTING GRADE 879.2' 128+87 878.02 PROFILE GRADE



878.9 128+72 877.98



NOTE: UTILITY ELEVATIONS ASSUMED.  
NOT ACTUAL

Fed. Proj. No.

89 D  
94 U

**EXCAVATION EMBANKMENT**  
SUB-TOTALS CUTS. SUB-TOTALS CU.YDS.

Fed. Proj. No.

REGULAR 95  
SUBCUT 150

40 REGULAR  
16 TOPSOIL

157 9  
144 7

243 0  
147 0

250 0  
134 6

433 0  
212 20

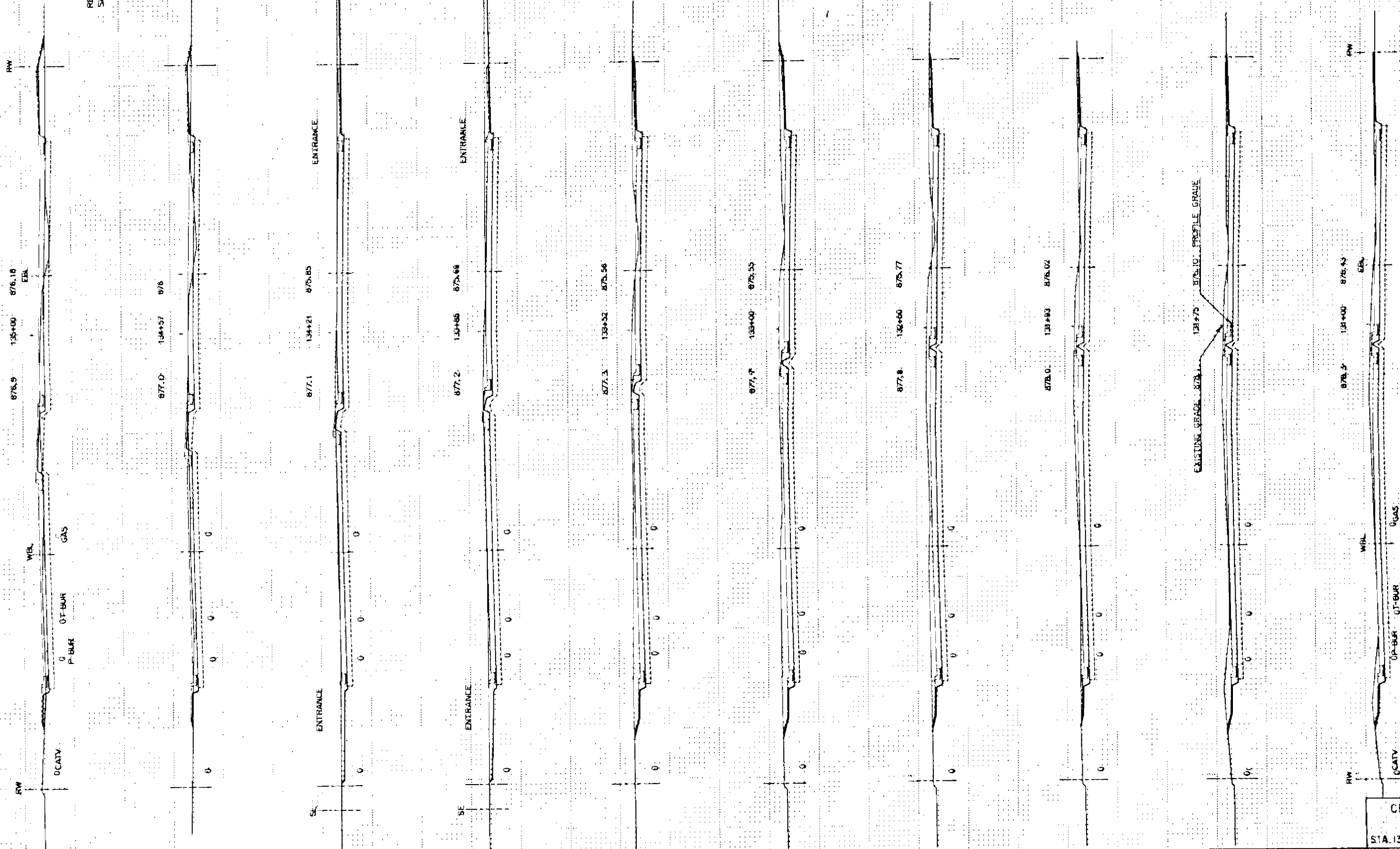
424 0  
204 19

425 0  
232 19

131 0  
73 7

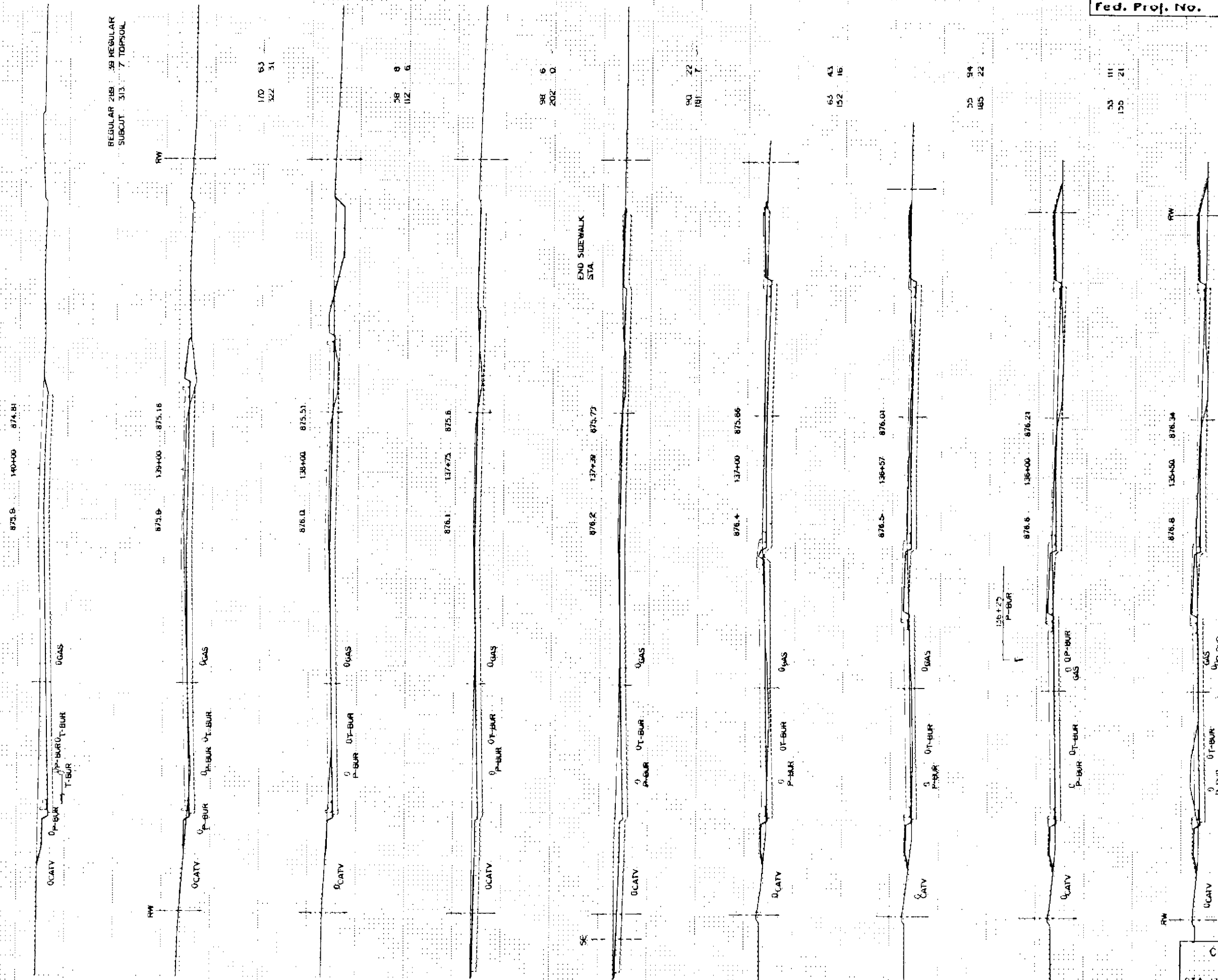
528 0  
307 33

237 0  
166 18



CROSS-SECTIONS  
C.S.A.H. 16  
STA. 131+00 TO STA. 135+00

NOTE:  
UTILITY ELEVATIONS ASSUMED  
NOT ACTUAL



REGULAR 288 .39 REGULAR  
SUBCUT 313 .7 TOPSOIL

170 63  
322 31

38 8  
112 6

98 6  
202 0

90 22  
181 7

63 43  
152 16

55 94  
165 22

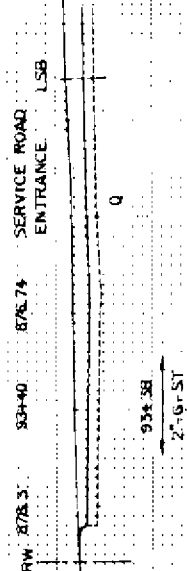
53 111  
155 21

80 88  
166 20

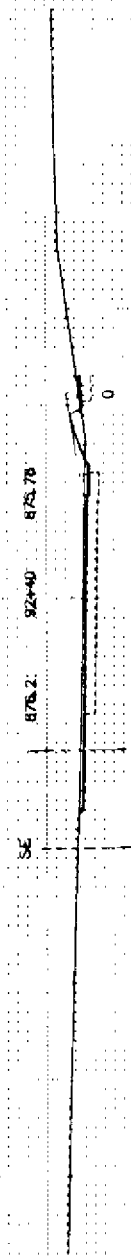
END SIDEWALK  
STA.

NOTE:  
UTILITY ELEVATIONS ASSUMED  
NOT ACTUAL

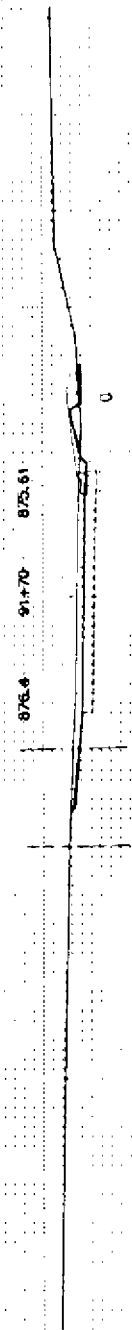
CROSS-SECTIONS  
C.S.A.M. 16  
STA. 135+50 TO STA. 140+00



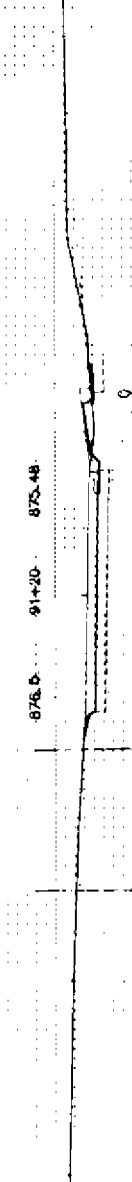
REGULAR 107 0 REGULAR  
 SUBCUT 96 15 TOPSOIL



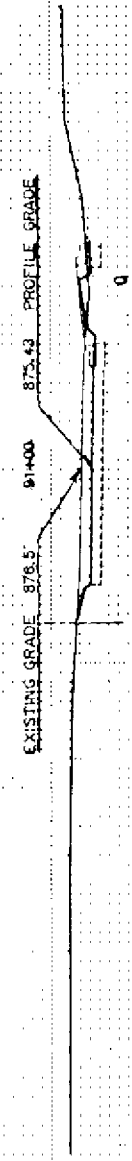
24 0  
 67 6



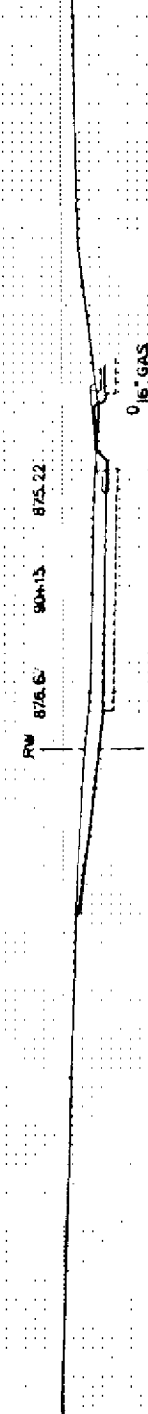
50 0  
 48 6



22 0  
 19 2

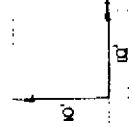


142 0  
 82 5



123 0  
 63 8

NOTE: UTILITY ELEVATIONS ASSUMED.  
 NOT ACTUAL.



Fed. Proj. No.

CROSS-SECTIONS  
 C.S.A.M. 9 - SERVICE ROAD  
 ALIGNMENT L  
 STA. 90+15 TO STA. 93+40

**EXCAVATION EMBANKMENT**  
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.

Fed. Proj. No.

REGULAR B2 0 REGULAR  
SUBCUT 49 6 TOPSOIL

66 0  
43 1

34 0  
29 2

37 0  
34 4

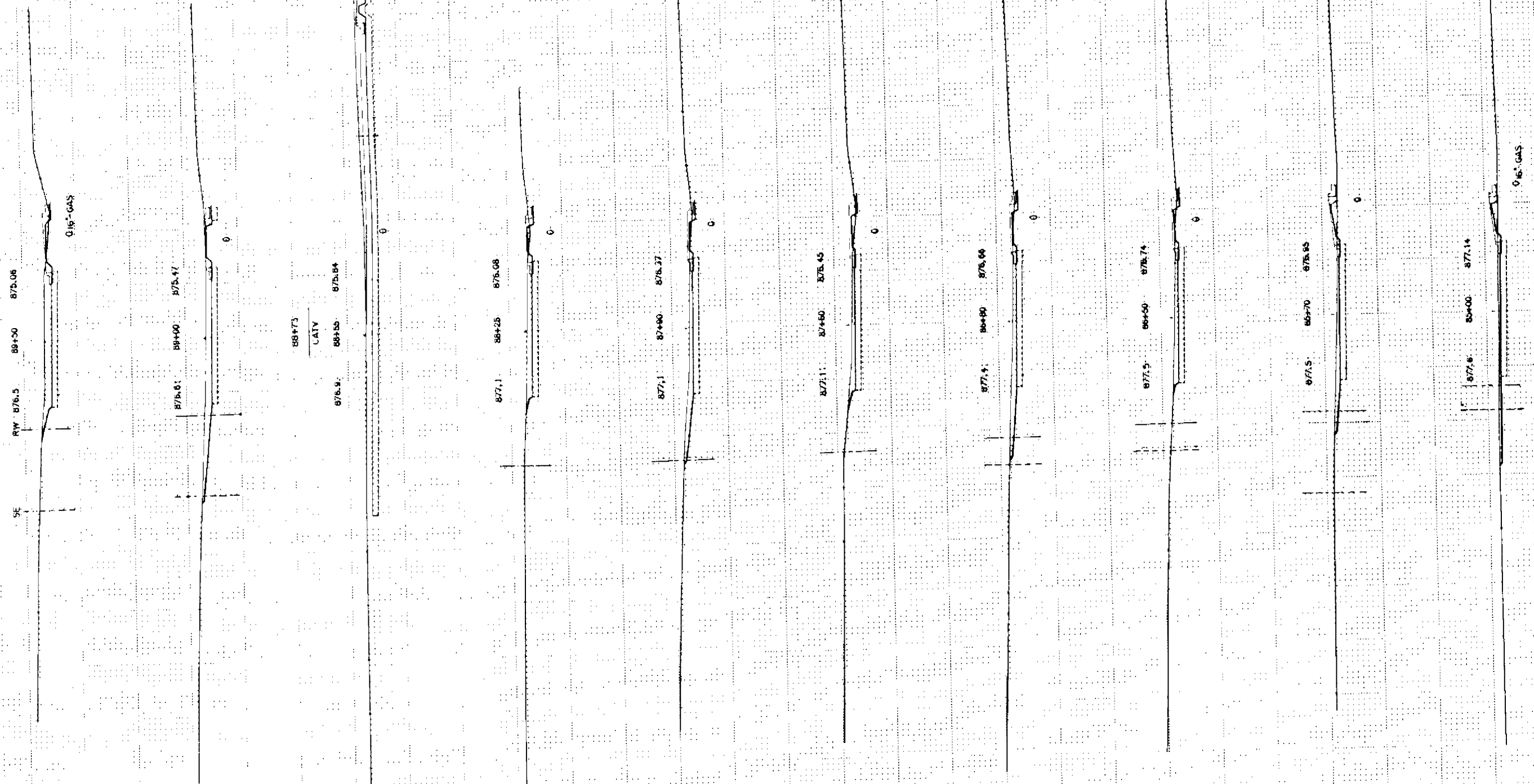
27 0  
29 3

76 0  
77 9

28 0  
23 3

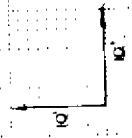
65 0  
77 9

58 0  
57 3



88+73  
CAIV

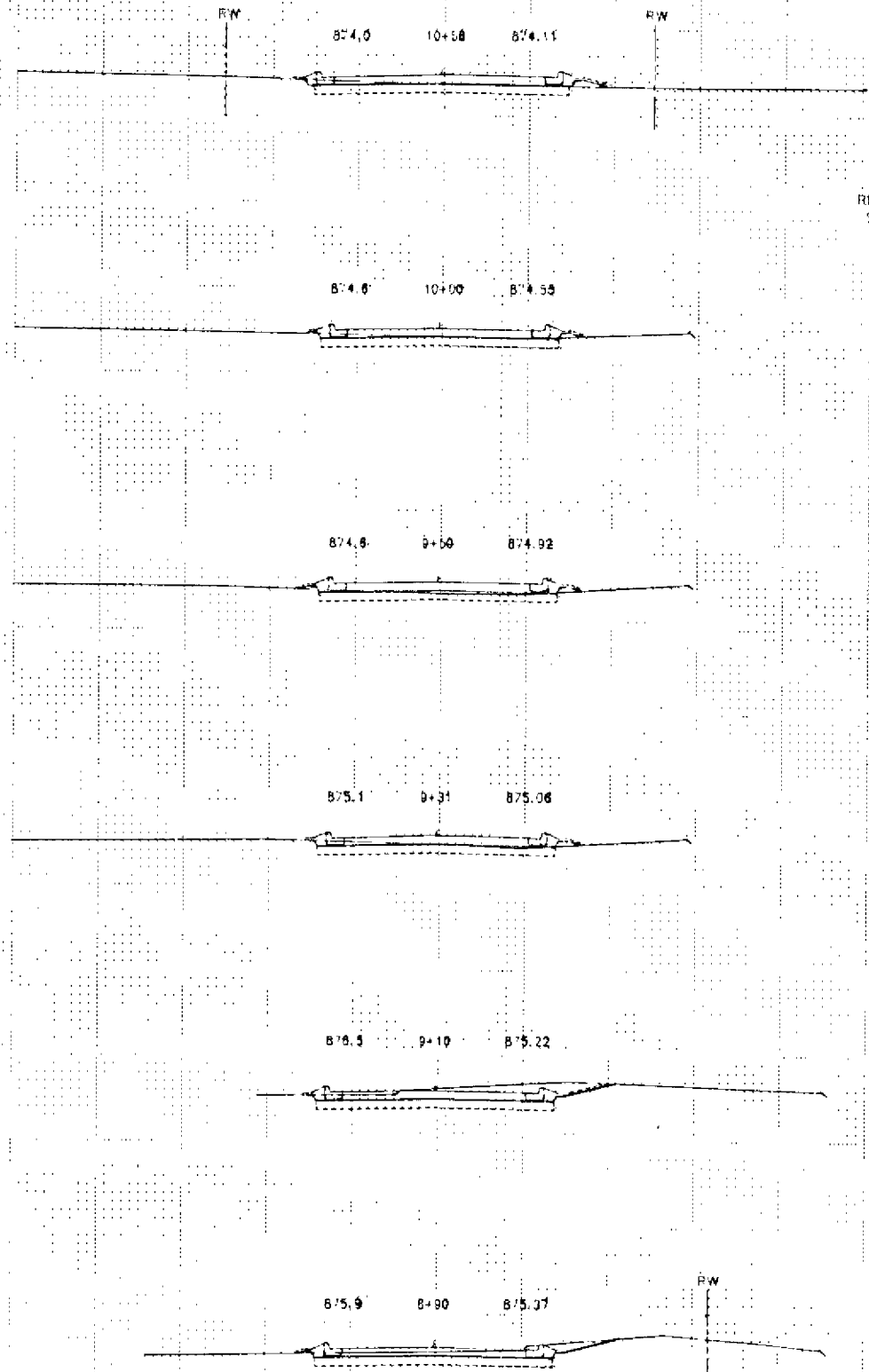
NOTE: UTILITY ELEVATIONS ASSUMED  
NOT ACTUAL



CROSS-SECTIONS:  
C.S.A.M. 9 - SERVICE ROAD  
ALIGNMENT L1  
STA. 85+00 TO STA. 89+50

EXCAVATION EMBANKMENT  
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.

Fed. Proj. No. \_\_\_\_\_  
EXCAVATION EMBANKMENT  
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.



REGULAR 12  
SUBCUT 63

6  
48

3  
8

20  
21

26  
21

3 REGULAR  
4 TOPSOIL

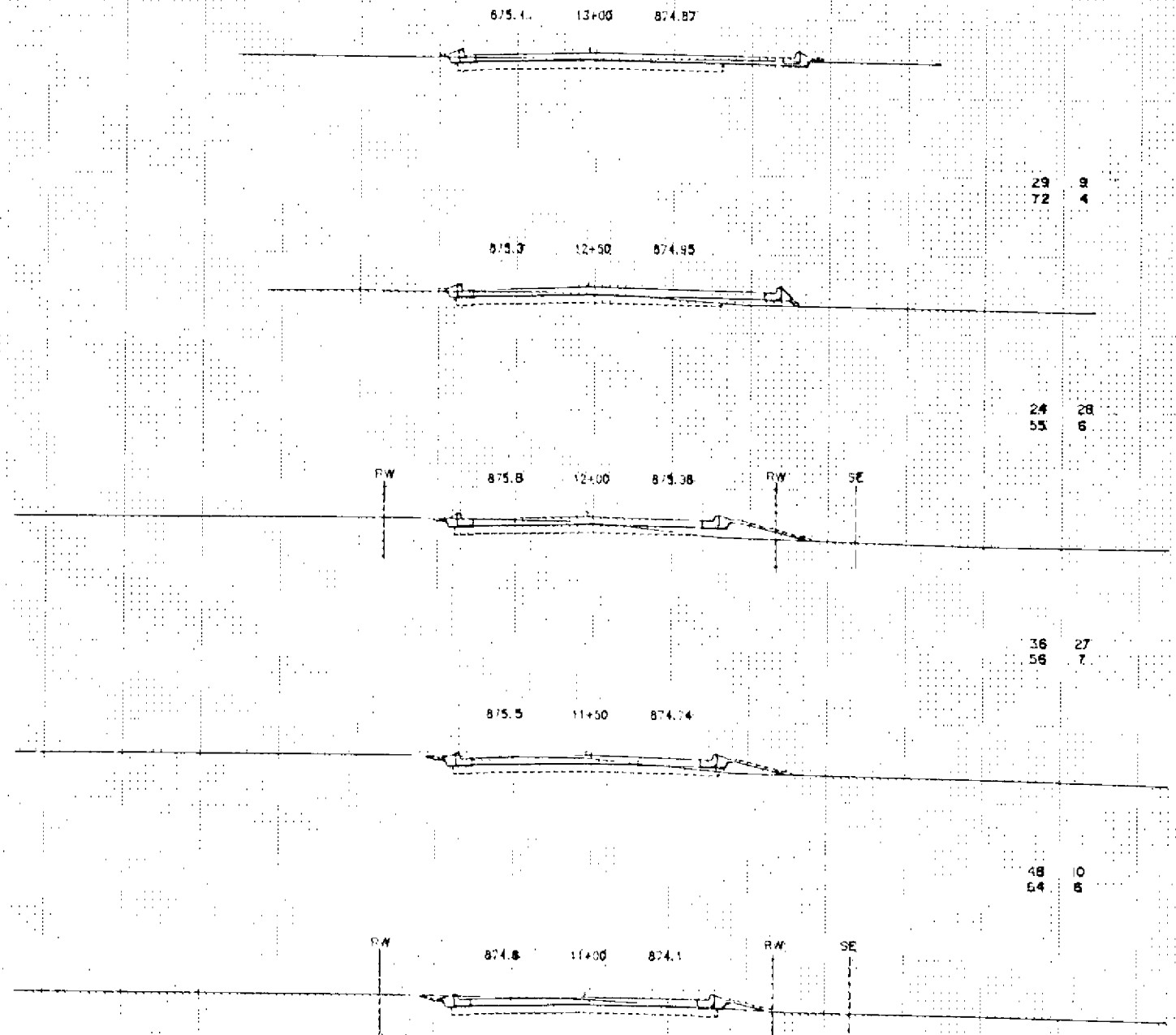
6  
4

2  
1

1  
2

0  
2

NOTE:  
UTILITY ELEVATIONS ASSUMED  
NOT ACTUAL



29  
72

24  
55

36  
56

48  
64

26  
52

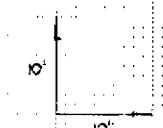
9  
4

28  
6

27  
7

10  
8

3  
4

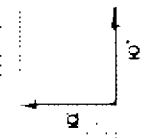
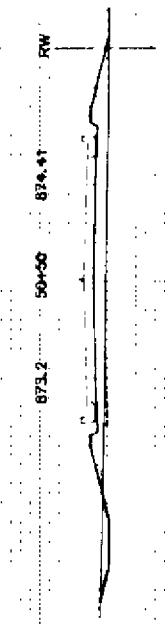
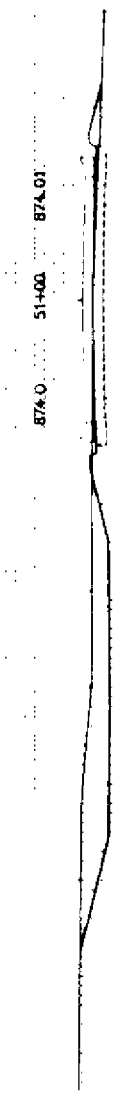
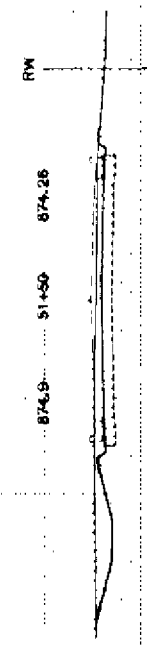


CROSS-SECTIONS  
C.S.A.H. 16  
ALIGNMENT L2  
STA. 8+90 TO STA. 13+00

REGULAR 44 1 REGULAR  
 SUBCUT 44 8 TOPSOIL

131 6  
 56 15

94 30  
 29 17



CROSS-SECTIONS  
 C.S.A.H. 16  
 ALIGNMENT L3  
 STA. 50+50 TO STA. 51+88



869.8 112+73 868.39

869.6 112+31 868.25

869.6 111+87 868.08

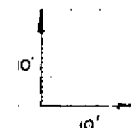
869.2 110+77 867.71

868.7 110+00 867.44

SPECIAL EXCAVATION 402 163. MUCK FILL

553 128

772 373



WETLAND MITIGATION  
 COUNTY ROAD 118  
 STA. 110+00 TO STA. 112+73

869.1    115+62    867.32

869.5    115+72    868.24

869.7    115+00    868.49

869.7    114+00    868.79

869.4    113+00    868.48

SPECIAL EXCAVATION 627    376' MUCK FILL

534    417

548    298

212    105



WETLAND MITIGATION  
 COUNTY ROAD 116  
 STA. 113+00 TO STA. 116+62

**STAGE 1 CONSTRUCTION**

**STAGE 2 CONSTRUCTION**

GENERAL: THE CONSTRUCTION STAGING PLANS INDICATE THE GENERAL SEQUENCE OF CONSTRUCTION ONLY. REFER TO DETAILED PLANS FOR ADDITIONAL INFORMATION.

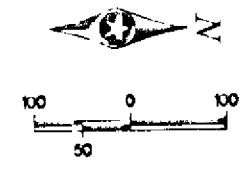
TRAFFIC: TRAFFIC SHALL REMAIN ON INPLACE ROADWAYS.

CONSTRUCTION: CONSTRUCT TEMPORARY PAVEMENT WIDENING.

GENERAL: THE CONSTRUCTION STAGING PLANS INDICATE THE GENERAL SEQUENCE OF CONSTRUCTION ONLY. REFER TO DETAILED PLANS FOR ADDITIONAL INFORMATION.

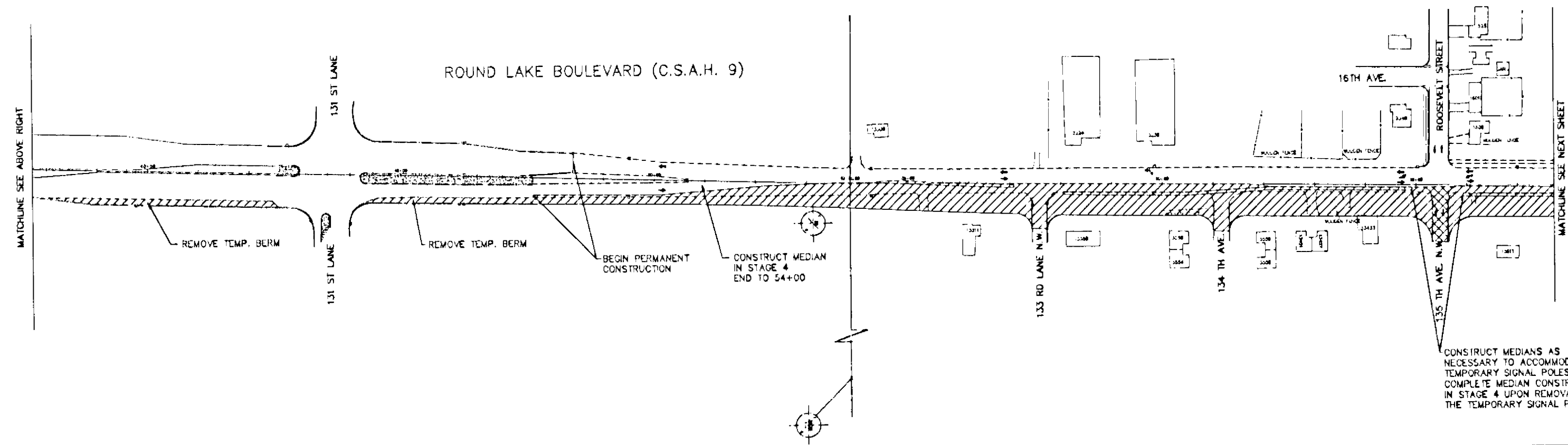
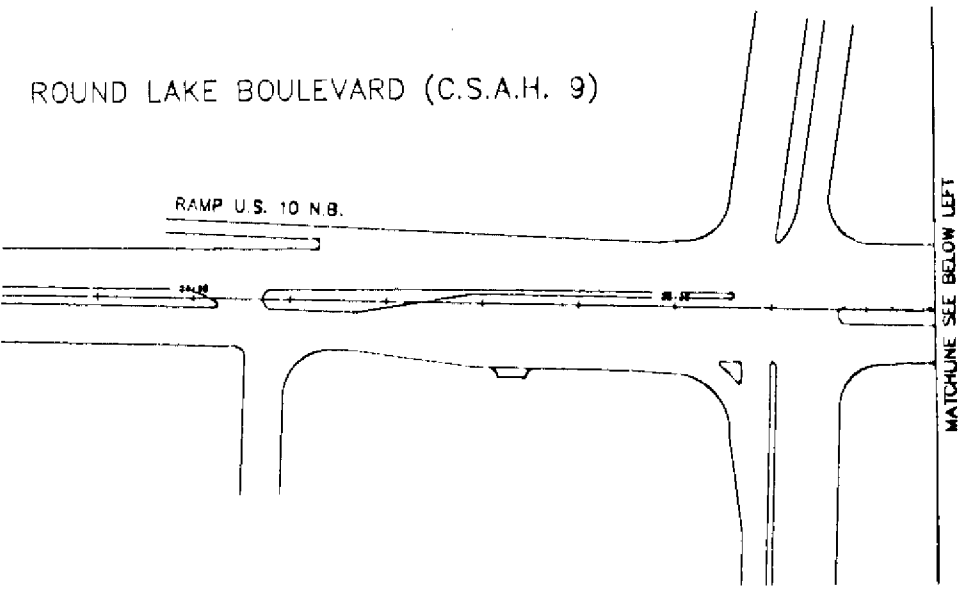
TRAFFIC: TRAFFIC SHALL REMAIN ON INPLACE ROADWAYS WITH A MINIMUM OF ONE - 12 FOOT LANE IN EACH DIRECTION, EXCEPT FOR THREE - 12 FOOT LANES AT ROOSEVELT STREET.

CONSTRUCTION: CONSTRUCT NORTHBOUND ROUND LAKE BLVD. AND EASTBOUND BUNKER LAKE BLVD.



**LEGEND**

- INPLACE TRAFFIC
- STAGE 1 - TEMPORARY PAVEMENT
- STAGE 2 - CONSTRUCTION
- CONSTRUCTION UNDER TRAFFIC



CONSTRUCT MEDIANS AS NECESSARY TO ACCOMMODATE TEMPORARY SIGNAL POLES. COMPLETE MEDIAN CONSTRUCTION IN STAGE 4 UPON REMOVAL OF THE TEMPORARY SIGNAL POLES.

04-01-03 2:02 PM

NO	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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.

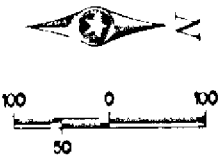
*Thomas A. Schwedt*  
 Date: 4/2/93 Reg. No. 20943



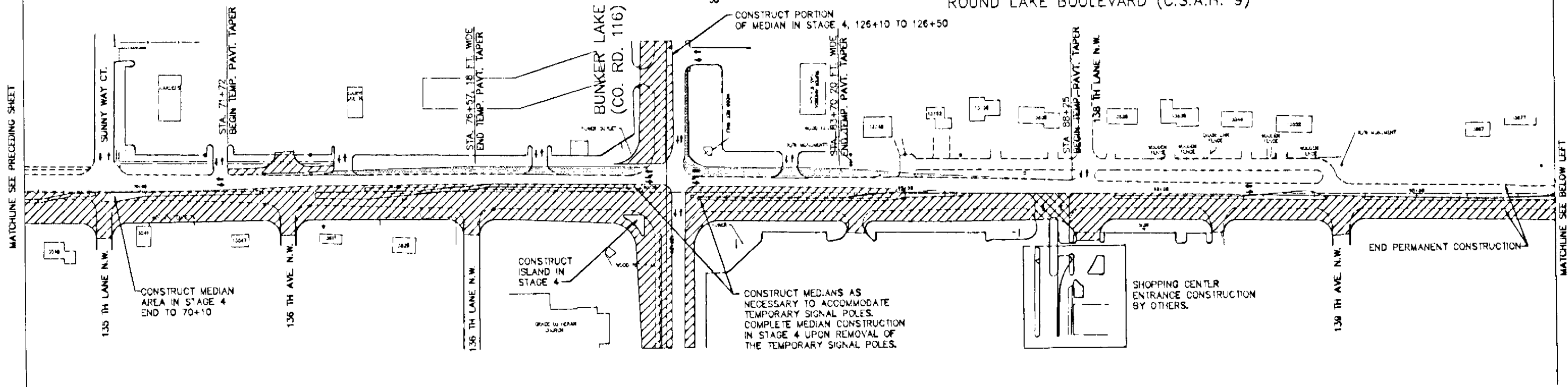
ANOKA COUNTY, MINNESOTA  
 S.A.P. 02-609-10  
 S.A.P. 02-616-03 C.P. 93-12-116

STAGE 1 & STAGE 2  
 CONSTRUCTION STAGING

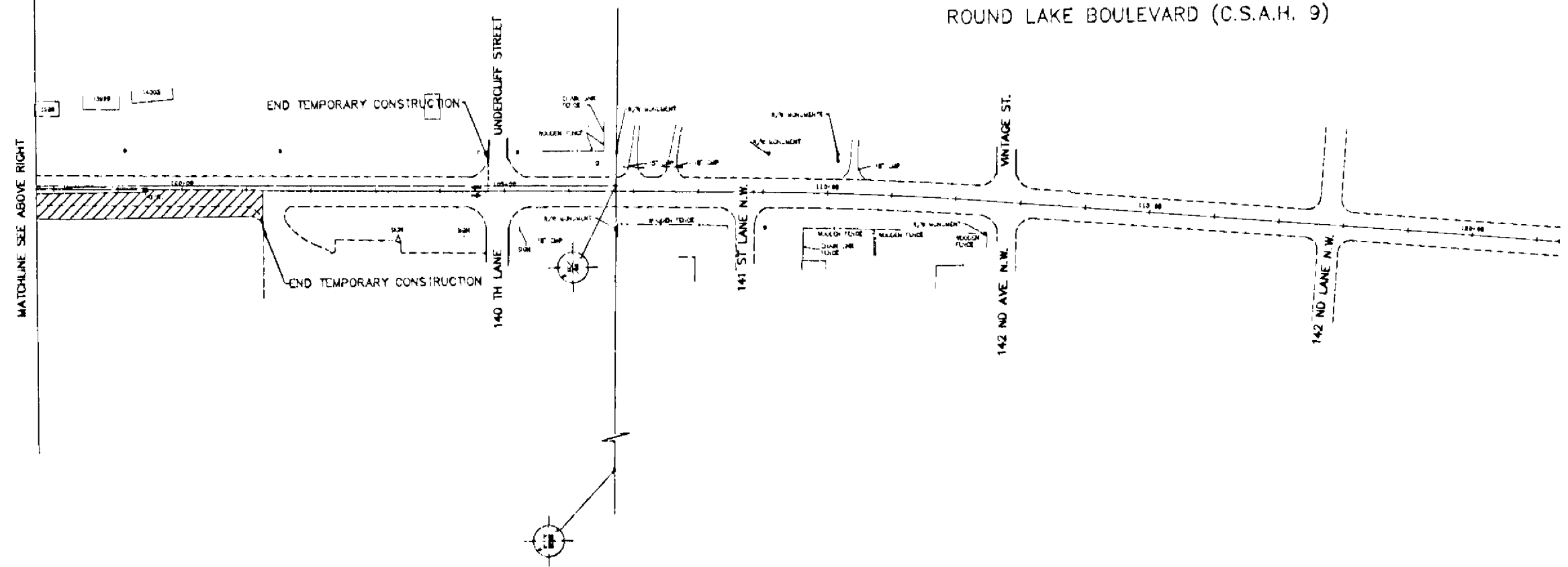
FILE NO.	100
93145	
DATE	
4/2/93	133



ROUND LAKE BOULEVARD (C.S.A.H. 9)



ROUND LAKE BOULEVARD (C.S.A.H. 9)



**STAGE 1 CONSTRUCTION**

TRAFFIC: TRAFFIC SHALL REMAIN ON INPLACE ROADWAYS.  
 CONSTRUCTION: CONSTRUCT TEMPORARY PAVEMENT WIDENING ALONG SOUTHBOUND ROUND LAKE BLVD. OBLITERATE EXISTING DRIVEWAY ENTRANCES AND CONSTRUCT TEMPORARY PAVEMENT SECTION FOR CONSISTENT ROADWAY.

**STAGE 2 CONSTRUCTION**

TRAFFIC: TRAFFIC SHALL BE MAINTAINED ON INPLACE AND WIDENED ROADWAYS WITH A MINIMUM OF ONE - 12 FOOT LANE IN EACH DIRECTION, EXCEPT FOR THREE - 12 FOOT LANES AT BUNKER LAKE BLVD.  
 CONSTRUCTION: CONSTRUCT NORTHBOUND ROUND LAKE BLVD. AND NEW ENTRANCE TO BOULEVARD PLAZA (DAIRY QUEEN).

**LEGEND**

- INPLACE TRAFFIC
- STAGE 1 - TEMPORARY PAVEMENT
- STAGE 2 - CONSTRUCTION
- CONSTRUCTION UNDER TRAFFIC

04-07-93 2:08 PM  
 4/2/93 2:08 PM  
 4/2/93 2:08 PM

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*Thomas A. Schweitzer*  
 Date: 4/2/93 Reg. No. 20943

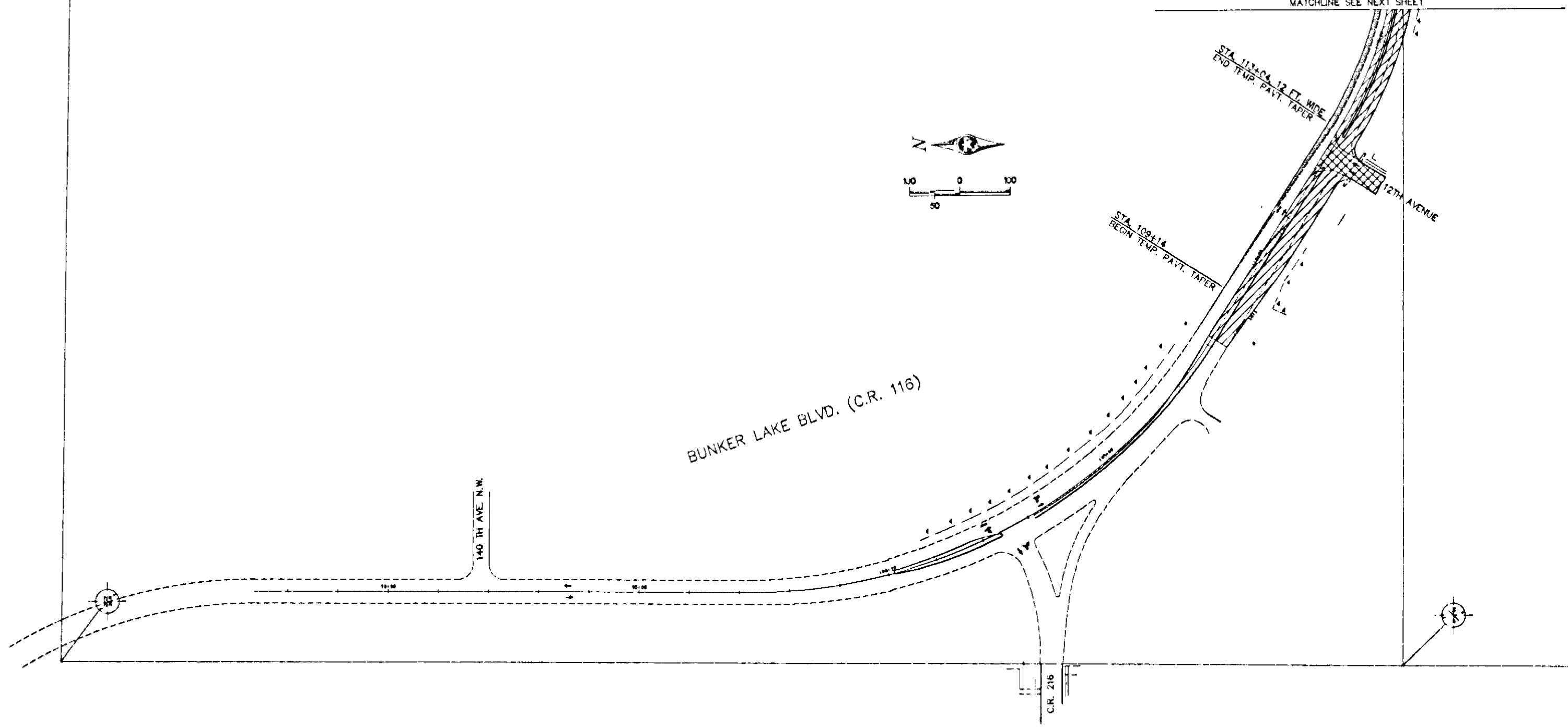


ANOKA COUNTY, MINNESOTA  
 S.A.P. 02-609-10  
 S.A.P. 02-616-03 C.P. 93-12-116

STAGE 1 & STAGE 2  
 CONSTRUCTION STAGING

FILE NO.	101
93145	
DATE	4/2/93
	133

MATCHLINE SEE NEXT SHEET



**LEGEND**

- INPLACE TRAFFIC
- STAGE 1 - TEMPORARY PAVEMENT
- STAGE 2 - CONSTRUCTION
- CONSTRUCTION UNDER TRAFFIC

**STAGE 1 CONSTRUCTION**

- GENERAL: THE CONSTRUCTION STAGING PLANS INDICATE THE GENERAL SEQUENCE OF CONSTRUCTION ONLY. REFER TO DETAILED PLANS FOR ADDITIONAL INFORMATION.
- TRAFFIC: TRAFFIC SHALL REMAIN ON INPLACE ROADWAYS.
- CONSTRUCTION: CONSTRUCT TEMPORARY PAVEMENT WIDENING ALONG WESTBOUND BUNKER LAKE BLVD.

**STAGE 2 CONSTRUCTION**

- GENERAL: THE CONSTRUCTION STAGING PLANS INDICATE THE GENERAL SEQUENCE OF CONSTRUCTION ONLY. REFER TO DETAILED PLANS FOR ADDITIONAL INFORMATION.
- TRAFFIC: TRAFFIC SHALL BE MAINTAINED ON INPLACE AND WIDENED ROADWAYS WITH A MINIMUM OF ONE - 12 FOOT LANE IN EACH DIRECTION.
- CONSTRUCTION: CONSTRUCT EASTBOUND BUNKER LAKE BLVD. AND NORTHBOUND ROUND LAKE BLVD.

DATE PLOTTED: 04/22/93 2:11 PM

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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.  
*Thomas A. Schweitz*  
 Date: 4/2/93 Reg. No. 20943



ANOKA COUNTY, MINNESOTA  
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 S.A.P. 02-616-03 C.P. 93-12-116

STAGE 1 & STAGE 2  
 CONSTRUCTION STAGING

FILE NO.	102
93145	
DATE	
4/2/93	133

BUNKER LAKE BLVD. (C.R. 116)

STA. 128+54, 10 FT. WIDE  
END TEMP. PAVT. TAPER

BUNKER LAKE BLVD. (C.R. 116)

**STAGE 1 CONSTRUCTION**

TRAFFIC: TRAFFIC SHALL REMAIN ON INPLACE ROADWAYS.  
CONSTRUCTION: CONSTRUCT TEMPORARY PAVEMENT WIDENING ALONG WESTBOUND BUNKER LAKE BLVD.

MATCHLINE SEE PRECEDING SHEET

STA. 121+34, 12 FT. WIDE  
END TEMP. PAVT.

CONSTRUCT PORTION  
OF MEDIAN IN STAGE  
126+06 TO 126+44

STA. 126+44, 4 FT. WIDE  
BEGIN TEMP. PAVT. TAPER






CONSTRUCT MEDIANS AS  
NECESSARY TO ACCOMMODATE  
TEMPORARY SIGNAL POLES.  
COMPLETE MEDIAN CONSTRUCTION  
IN STAGE 4 UPON REMOVAL OF  
THE TEMPORARY SIGNAL POLES

STA. 134+24, 10 FT. WIDE  
BEGIN TEMP. PAVT. TAPER

STA. 137+14, 8 FT. WIDE  
TEMP. PAVT.

STA. 137+74, 20 FT. WIDE  
TEMP. PAVT.

STA. 139+84, 8 FT. WIDE  
END TEMP. PAVT.

- LEGEND**
-  INPLACE TRAFFIC
  -  STAGE 1 - TEMPORARY PAVEMENT
  -  STAGE 2 - CONSTRUCTION
  -  STAGE 2A - CONSTRUCTION
  -  CONSTRUCTION UNDER TRAFFIC

**STAGE 2 CONSTRUCTION**

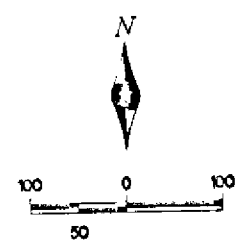
TRAFFIC: TRAFFIC SHALL BE MAINTAINED ON INPLACE AND WIDENED ROADWAYS WITH A MINIMUM OF ONE - 12 FOOT LANE IN EACH DIRECTION.  
CONSTRUCTION: CONSTRUCT EASTBOUND BUNKER LAKE BLVD.

138 TH LANE N.W.

**STAGE 2A CONSTRUCTION**

GENERAL: THE CONSTRUCTION STAGING PLANS INDICATE THE GENERAL SEQUENCE OF CONSTRUCTION ONLY. REFER TO DETAILED PLANS FOR ADDITIONAL INFORMATION.  
TRAFFIC: TRAFFIC OPENED ON EASTBOUND BUNKER LAKE BLVD. FROM APPROXIMATE STATION 120+04 TO APPROXIMATE STATION 134+36 WITH A MINIMUM OF ONE - 12 FOOT LANE IN EACH DIRECTION. EAST OF ROUND LAKE BLVD., MAINTAIN WESTBOUND TRAFFIC NORTH OF THE CENTER MEDIAN AND EASTBOUND TRAFFIC SOUTH OF THE CENTER MEDIAN UP TO APPROXIMATE STATION 134+00.  
CONSTRUCTION: CONSTRUCT WESTBOUND BUNKER LAKE BLVD. FROM APPROXIMATE STATION 124+00 TO APPROXIMATE STATION 133+00.

**STAGE 2A**



BUNKER LAKE BLVD. (C.R. 116)

CONSTRUCT ISLAND  
IN STAGE 4

CONSTRUCT MEDIANS AS  
NECESSARY TO ACCOMMODATE  
TEMPORARY SIGNAL POLES.  
COMPLETE MEDIAN CONSTRUCTION  
IN STAGE 4 UPON REMOVAL OF  
THE TEMPORARY SIGNAL POLES.

04-01-93 2:31 PM  
ROAD/PLANNING/ST-103239

NO	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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.  
*Thomas A. Schwandt*  
Date: 4/2/93 Reg. No. 20943



ANOKA COUNTY, MINNESOTA  
S.A.P. 02-609-10  
S.A.P. 02-616-03 C.P. 93-12-116

STAGE 1, STAGE 2, & STAGE 2A  
CONSTRUCTION STAGING

FILE NO.	103
93145	
DATE	
4/2/93	133

**STAGE 3 CONSTRUCTION**

GENERAL: THE CONSTRUCTION STAGING PLANS INDICATE THE GENERAL SEQUENCE OF CONSTRUCTION ONLY. REFER TO DETAILED PLANS FOR ADDITIONAL INFORMATION.

TRAFFIC: TRAFFIC OPENED ON NORTHBOUND ROUND LAKE BLVD. WITH A MINIMUM ONE - 12 FOOT LANE IN EACH DIRECTION, EXCEPT FOR THREE - 12 FOOT LANES AT ROOSEVELT STREET.

CONSTRUCTION: CONSTRUCT SOUTHBOUND ROUND LAKE BLVD. AND WESTBOUND BUNKER LAKE BLVD.





**STAGE 4 CONSTRUCTION**

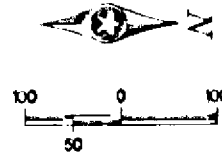
GENERAL: THE CONSTRUCTION STAGING PLANS INDICATE THE GENERAL SEQUENCE OF CONSTRUCTION ONLY. REFER TO DETAILED PLANS FOR ADDITIONAL INFORMATION.

TRAFFIC: TRAFFIC OPENED ON NORTHBOUND AND SOUTHBOUND ROUND LAKE BLVD. AND EASTBOUND AND WESTBOUND BUNKER LAKE BLVD.

CONSTRUCTION: CONSTRUCT MEDIAN AND ADJACENT LANES FROM STATION 47+60 TO APPROXIMATE STATION 54+00. CONSTRUCT MEDIAN NOSES AT STATIONS 64+80 AND 66+00.

**LEGEND**

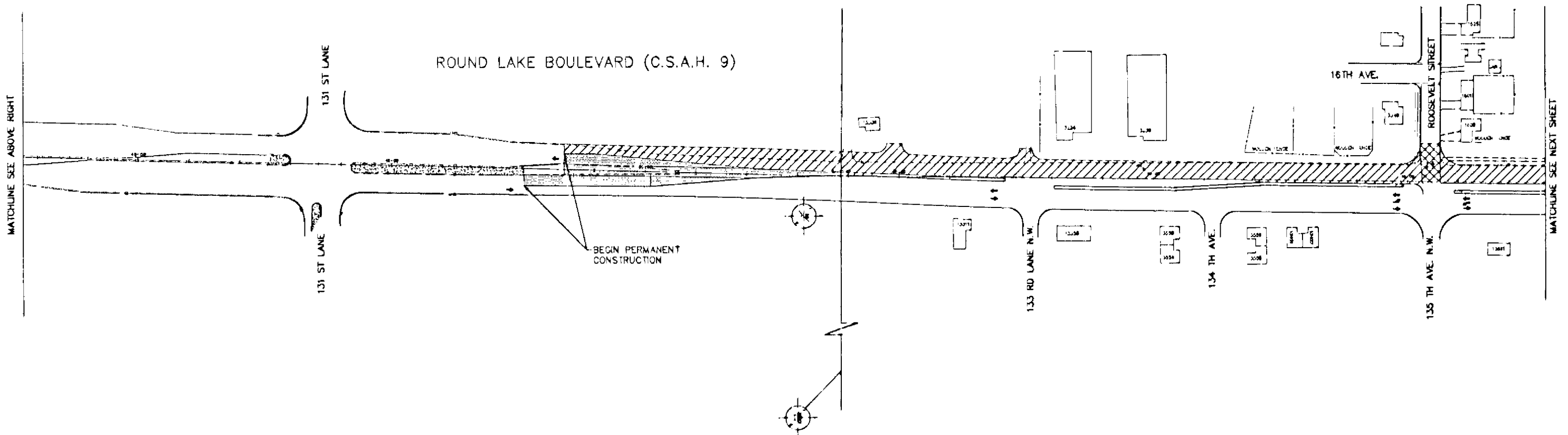
-  INPLACE TRAFFIC
-  STAGE 3 - CONSTRUCTION
-  STAGE 4 - CONSTRUCTION
-  CONSTRUCTION UNDER TRAFFIC



ROUND LAKE BOULEVARD (C.S.A.H. 9)

RAMP U.S. 10 N.B.

MATCHLINE SEE BELOW LEFT



04-01-93 2:38 PM

A:\00\20943\20943.dwg

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

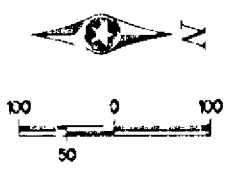
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.  
*Thomas A. Schwert*  
 Date: 4/2/93 Reg. No. 20943



ANOKA COUNTY, MINNESOTA  
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 S.A.P. 02-616-03 C.P. 93-12-116

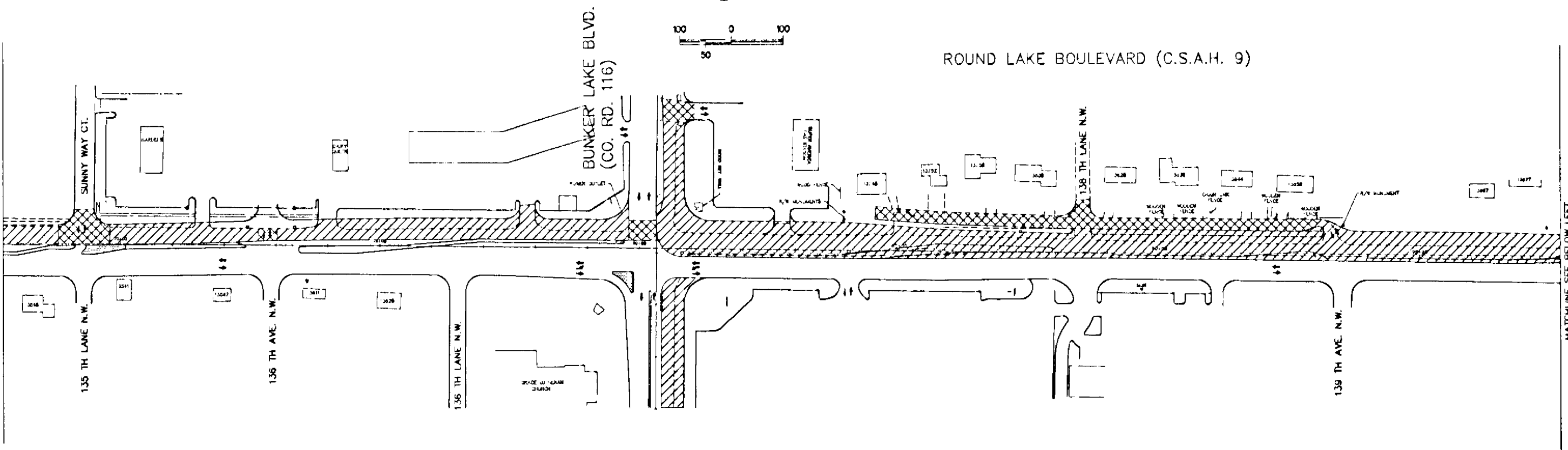
STAGE 3 & STAGE 4  
 CONSTRUCTION STAGING

FILE NO.	104
93145	
DATE	4/2/93
	133

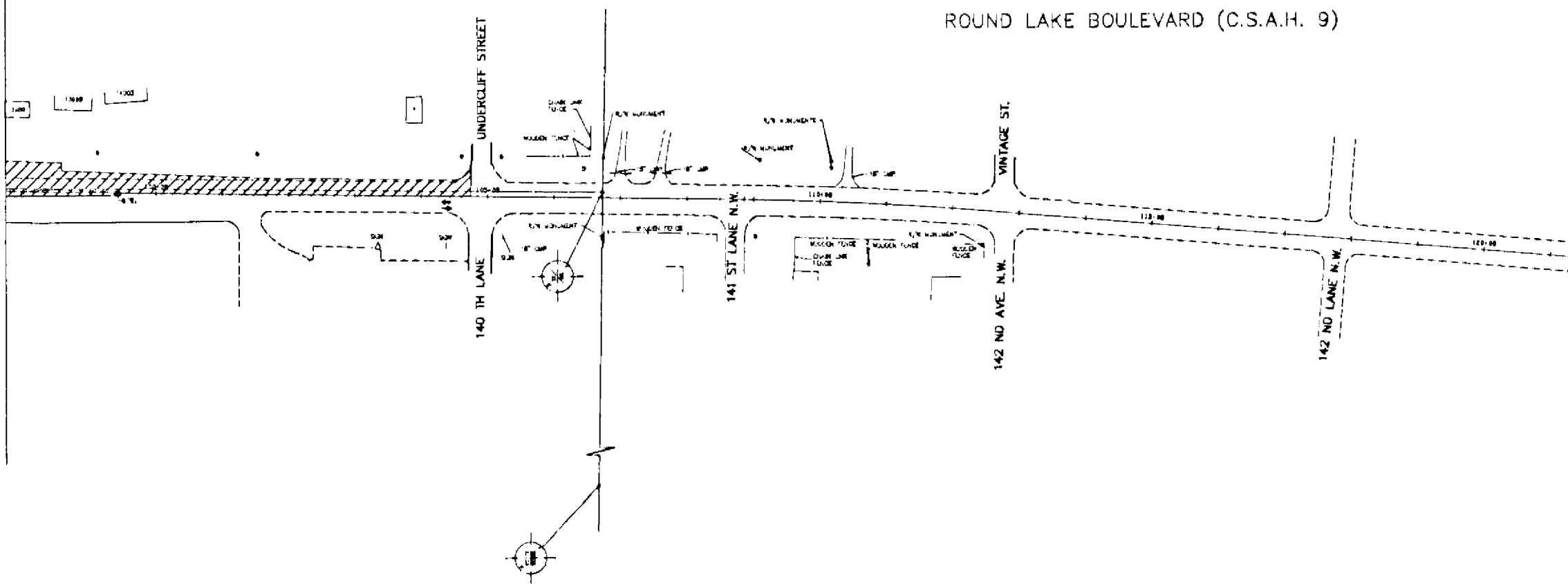


MATCHLINE SEE PRECEDING SHEET

MATCHLINE SEE BELOW LEFT



MATCHLINE SEE ABOVE RIGHT



**STAGE 3 CONSTRUCTION**

- TRAFFIC: TRAFFIC OPENED ON NORTHBOUND ROUND LAKE BLVD. WITH A MINIMUM ONE - 12 FOOT LANE IN EACH DIRECTION, EXCEPT FOR THREE - 12 FOOT LANES AT BUNKER LAKE BLVD.
- CONSTRUCTION: CONSTRUCT SOUTHBOUND ROUND LAKE BLVD. CONSTRUCT FRONTAGE RD. NORTH AND SOUTH OF 138TH LANE N.W.

**STAGE 4 CONSTRUCTION**

- TRAFFIC: TRAFFIC OPENED ON NORTHBOUND AND SOUTHBOUND ROUND LAKE BLVD.
- CONSTRUCTION: CONSTRUCT MEDIAN FROM END TO STATION 70+10. CONSTRUCT ISLAND AT STATION 79+70. CONSTRUCT MEDIAN NOSES AT STATIONS 79+60 AND 81+00.

**LEGEND**

- INPLACE TRAFFIC
- STAGE 3 - CONSTRUCTION
- STAGE 4 - CONSTRUCTION
- CONSTRUCTION UNDER TRAFFIC

04-07-03 2:41 pm

NO	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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*Thomas A. Schweits*  
 Date: 4/2/93 Reg. No. 20843



ANOKA COUNTY, MINNESOTA  
 S.A.P. 02-609-10  
 S.A.P. 02-616-03 C.P. 93-12-116

STAGE 3 & STAGE 4  
 CONSTRUCTION STAGING

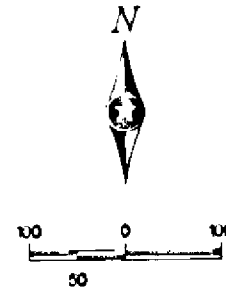
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DATE	4/2/93
	133



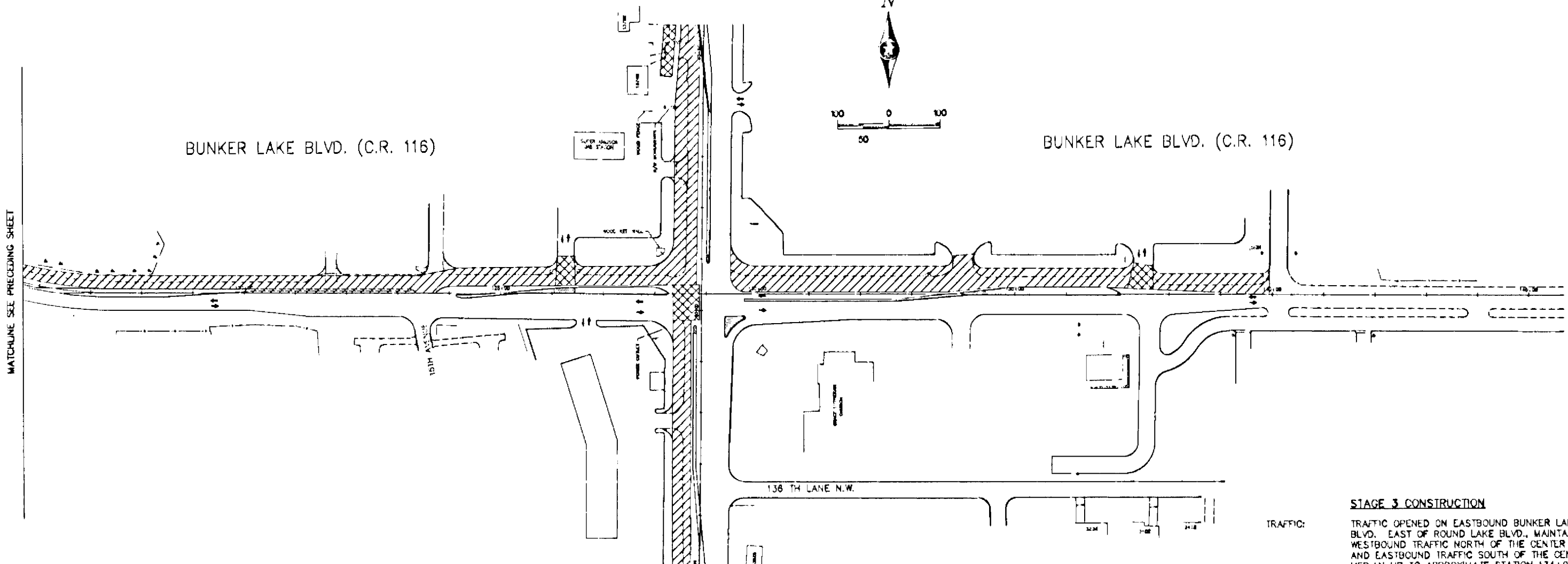


BUNKER LAKE BLVD. (C.R. 116)

BUNKER LAKE BLVD. (C.R. 116)



MATCHLINE SEE PRECEDING SHEET



**STAGE 3 CONSTRUCTION**

TRAFFIC: TRAFFIC OPENED ON EASTBOUND BUNKER LAKE BLVD. EAST OF ROUND LAKE BLVD., MAINTAIN WESTBOUND TRAFFIC NORTH OF THE CENTER MEDIAN AND EASTBOUND TRAFFIC SOUTH OF THE CENTER MEDIAN UP TO APPROXIMATE STATION 134+00.  
 CONSTRUCTION: CONSTRUCT WESTBOUND BUNKER LAKE BLVD.

**STAGE 4 CONSTRUCTION**

TRAFFIC: TRAFFIC OPENED ON EASTBOUND AND WESTBOUND BUNKER LAKE BLVD.  
 CONSTRUCTION: CONSTRUCT MEDIAN FROM STATION 126+08 TO STATION 126+44 AND FROM STATION 132+69 TO STATION 134+44

**LEGEND**

- INPLACE TRAFFIC
- STAGE 3 - CONSTRUCTION
- STAGE 4 - CONSTRUCTION
- CONSTRUCTION UNDER TRAFFIC

04-01-03 4:17 pm  
 1/16/2014 11:16/2140235

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*Thomas A. Schwandt*  
 Date: 4/2/93 Reg. No. 20943



ANOKA COUNTY, MINNESOTA  
 S.A.P. 02-609-10  
 S.A.P. 02-616-03 C.P. 93-12-116

STAGE 3 & STAGE 4  
 CONSTRUCTION STAGING

FILE NO.	107
93145	
DATE	
4/2/93	133

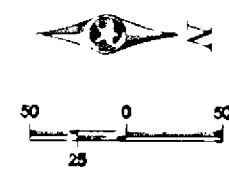
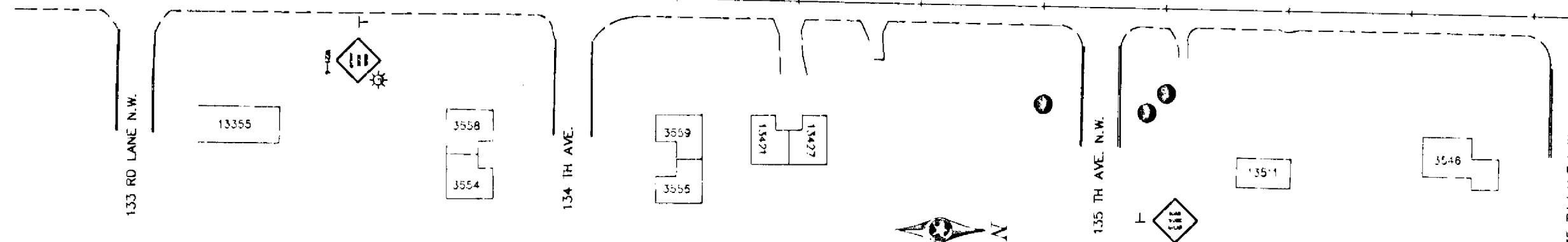
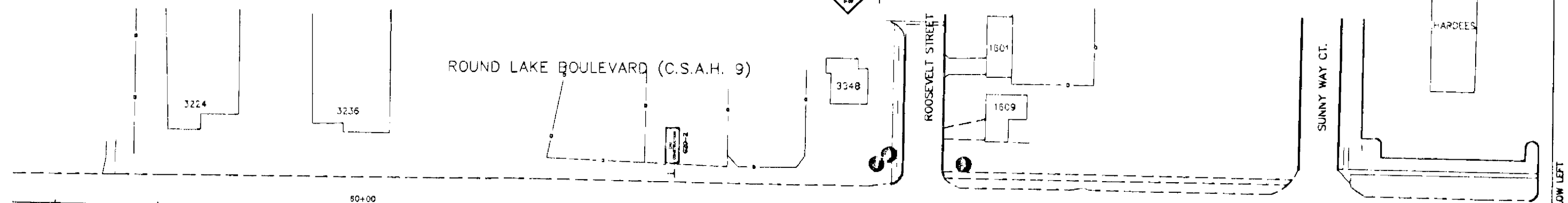
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MMUTCD CODE	SIZE (IN)	INSERT	STAGE 1 QTY.	STAGE 2 QTY.	STAGE 2A QTY.	STAGE 3 QTY.	STAGE 4 QTY.
R1-1	36 x 36			10		8	
R1-2	36 x 36 x 36					1	1
R2-1	24 x 30			23		23	
R2-5a	24 x 30			5		5	
R2-6A	24 x 30			5		5	
R2-XGP	24 x 18			23		23	
R3-1	24 x 24			8	1	4	1
R3-2	24 x 24			8	1	4	
R3-7R	30 x 30					2	1
R3-8R	30 x 30			4		4	
R3-X1	30 x 30			8		3	3
R3-X2	30 x 30					2	12
R4-7	30 x 36					5	2
R5-1	30 x 30			1	2	1	
R11-2	48 x 30			17	1	8	1
R11-4	60 x 30					1	
W1-3L	48 x 48				2		
W1-3R	48 x 48				2	1	1
W1-4L	48 x 48			4		4	
W1-4R	48 x 48			4		2	
W1-6L	48 x 24			8			3
W1-6R	48 x 24					8	14

CSAH 9/CSAH 16/CO.RD.116 TRAFFIC CONTROL							
MMUTCD CODE	SIZE (IN)	INSERT	STAGE 1 QTY.	STAGE 2 QTY.	STAGE 2A QTY.	STAGE 3 QTY.	STAGE 4 QTY.
W4-2L	48 x 48					2	3
W4-2R	48 x 48			2			2
W6-1	48 x 48			1		1	
W6-2	48 x 48					8	
W6-3	48 x 48			12		13	
W13-1	24 x 24				4	1	1
W20-3	48 x 48			7		2	1
W20-X3	48 x 48			3		2	4
W20-X8	48 x 48			8	4	8	
W20-X13L	48 x 48					2	
W20-X13R	48 x 48			2			
W21-4	48 x 48		7	29		31	25
W21-X1	48 x 48		5				
W21-X5L	48 x 48						5
W21-X5R	48 x 48						5
M8-2	21 x 18					1	
G20-2	60 x 24		4	4		4	4
TYPE III BARRICADE (L)	8 FT.			10		15	14
TYPE III BARRICADE (R)	8 FT.			49	3	18	8
REBOUNDCABLE NON METALLIC REFLECTORIZED DRUM-LIKE CHANNELIZERS			95	599	89	559	478
TYPE A FLASHING WARNING LIGHT			5	20		20	18

CSAH 9/CSAH 16/CO.RD.116 TRAFFIC CONTROL							
MMUTCD CODE	SIZE (IN)	INSERT	STAGE 1 QTY.	STAGE 2 QTY.	STAGE 2A QTY.	STAGE 3 QTY.	STAGE 4 QTY.
—	108x108 (approx)		8	5		5	5
—	108x108 (approx)		3	3		3	3
ORANGE WARNING FLAG				36		43	17
4" SOLID WHITE PAINT (FT)				18560	2280	12300	8060
4" SOLID YELLOW PAINT (FT)						1180	9200
4" SOLID DOUBLE YELLOW PAINT (FT)				9620	708	8640	
24" SOLID YELLOW PAINT (FT)				910		770	
4" SOLID WHITE REMOVABLE LANE TAPE (FT)				9780		6395	170
4" SOLID YELLOW REMOVABLE LANE TAPE (FT)						2400	950
4" SOLID DOUBLE YELLOW REMOVABLE LANE TAPE (FT)				3305		3120	
LEFT TURN ARROW WHITE PAINT				8		8	
TEMPORARY RAISED PAVEMENT MARKERS				4514	318	3671	
REMOVE PAVEMENT MARKINGS (FT)				14560	1668	8550	

(MUTCD SIGN FROM 1922) A-10A

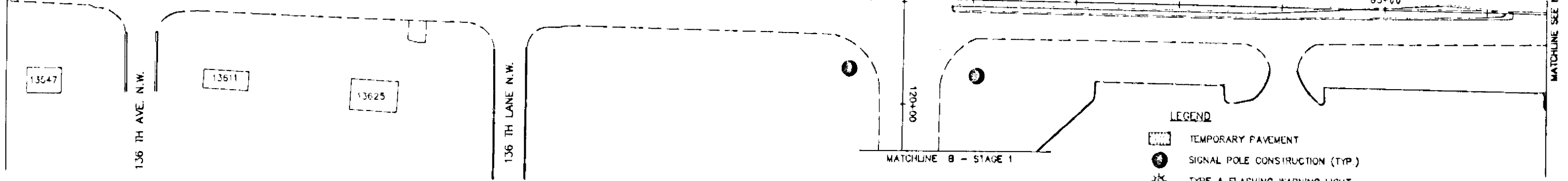
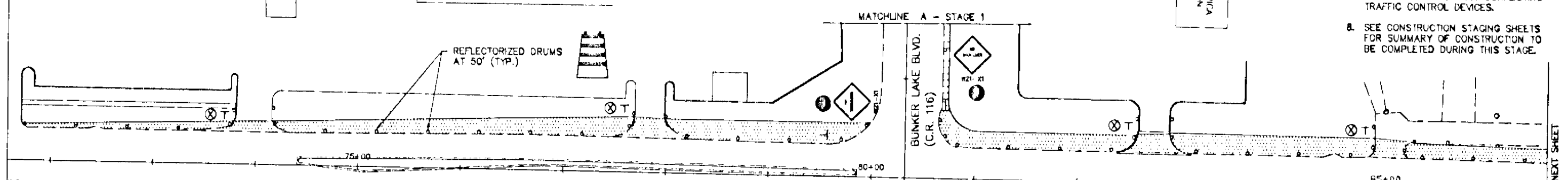
### ROUND LAKE BOULEVARD (C.S.A.H. 9)



#### NOTES:

1. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. ALL SIGNS AND BARRICADES SHALL BE PROPERLY WEIGHTED WITH SAND BAGS.
3. ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
4. ALL BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MUTCD.
5. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MUTCD, INCLUDING APPENDIX "B".
6. ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AS DETERMINED BY THE ENGINEER.
7. REMOVE OR COVER ANY CONFLICTING TRAFFIC CONTROL DEVICES.
8. SEE CONSTRUCTION STAGING SHEETS FOR SUMMARY OF CONSTRUCTION TO BE COMPLETED DURING THIS STAGE.

### ROUND LAKE BOULEVARD (C.S.A.H. 9)



#### LEGEND

- TEMPORARY PAVEMENT
- SIGNAL POLE CONSTRUCTION (TYP.)
- TYPE A FLASHING WARNING LIGHT
- RELOCATE AND MAINTAIN INPLACE STOP SIGN AND POST AS NECESSARY

04-01-03 11:14 am

NO	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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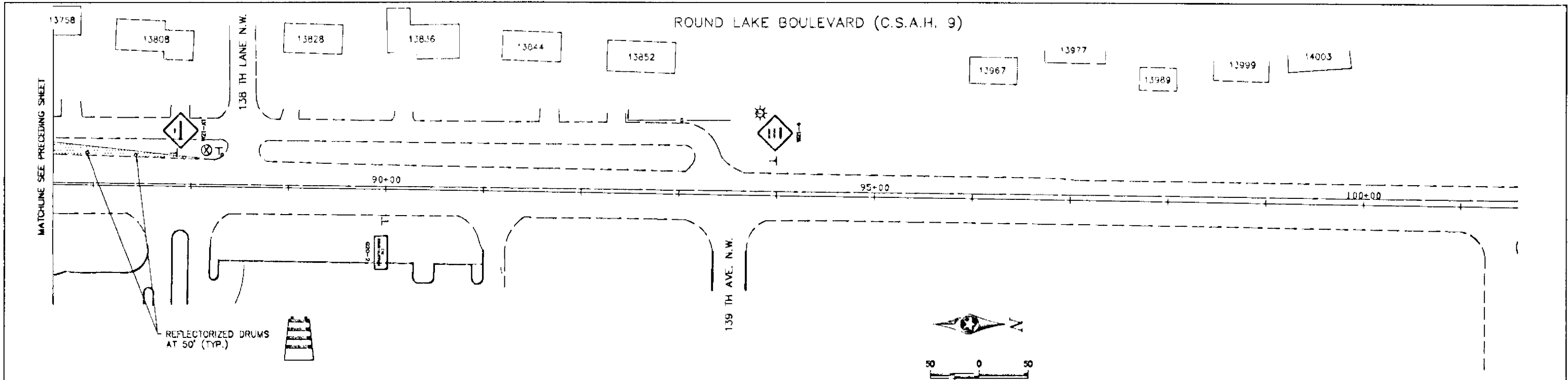
*Thomas A. Schwandt*  
Date: 4/2/93 Reg. No. 20943



ANOKA COUNTY, MINNESOTA  
S.A.P. 02-609-10  
S.A.P. 02-616-03 C.P. 93-12-116

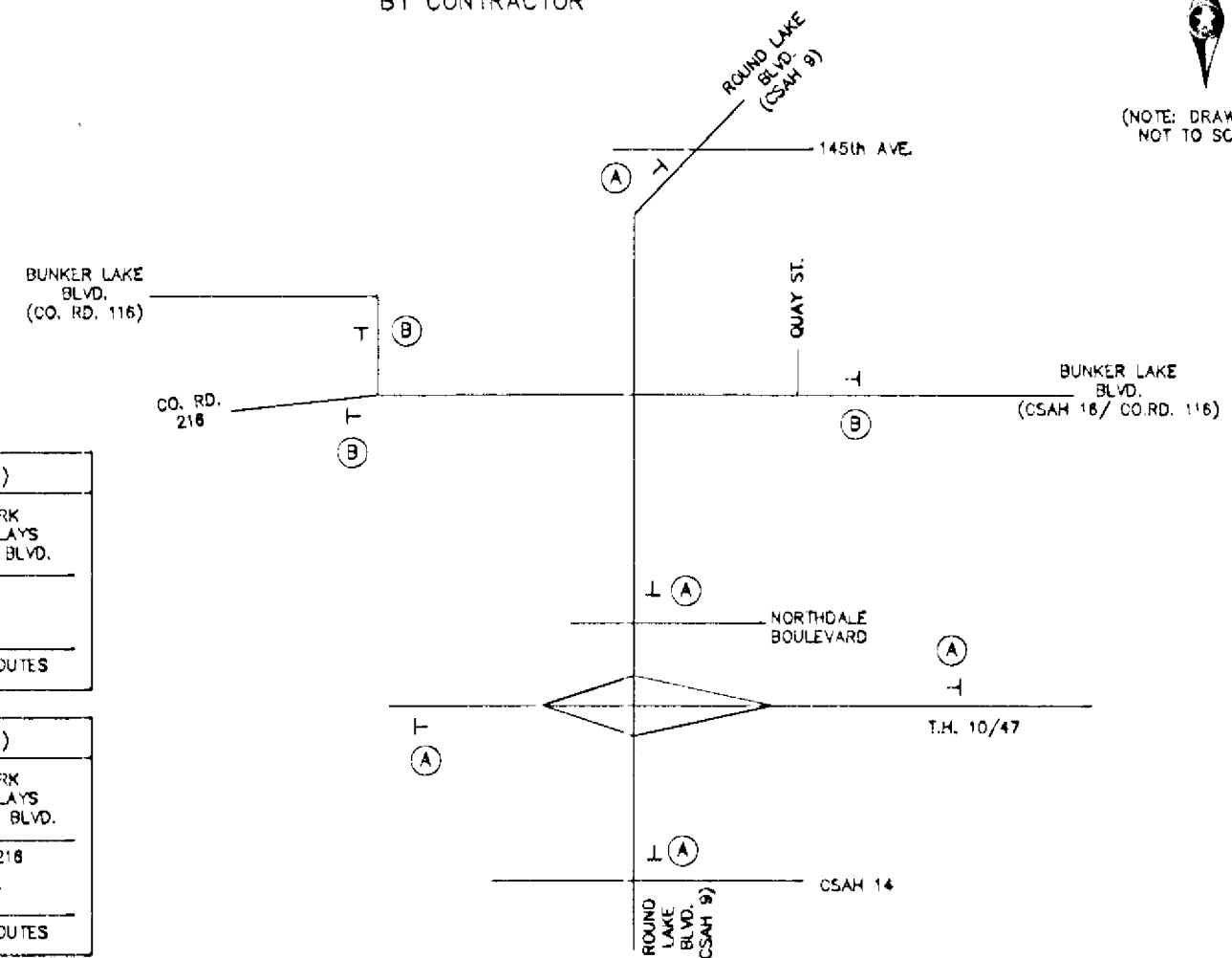
TRAFFIC CONTROL  
STAGE 1

FILE NO. 93145	109
DATE 4/2/93	133



SIGNING TO BE FURNISHED AND INSTALLED DURING STAGE 1 CONSTRUCTION AND MAINTAINED THROUGHOUT STAGES 2-4 BY CONTRACTOR

(NOTE: DRAWING IS NOT TO SCALE)



NOTES:

1. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. ALL SIGNS AND BARRICADES SHALL BE PROPERLY WEIGHTED WITH SAND BAGS.
3. ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
4. ALL BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MMUTCD.
5. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MMUTCD, INCLUDING APPENDIX "B".
6. ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AS DETERMINED BY THE ENGINEER.
7. REMOVE OR COVER ANY CONFLICTING TRAFFIC CONTROL DEVICES.
8. SEE CONSTRUCTION STAGING SHEETS FOR SUMMARY OF CONSTRUCTION TO BE COMPLETED DURING THIS STAGE.

LEGEND

- TEMPORARY PAVEMENT
- SIGNAL POLE CONSTRUCTION (TYP.)
- TYPE A FLASHING WARNING LIGHT
- RELOCATE AND MAINTAIN INPLACE STOP SIGN AND POST AS NECESSARY

**(A)**

BEGINS (DATE)
ROAD WORK TRAFFIC DELAYS ROUND LAKE BLVD.
131st LANE TO 140th LANE
USE ALTERNATE ROUTES

**(B)**

BEGINS (DATE)
ROAD WORK TRAFFIC DELAYS BUNKER LAKE BLVD.
COUNTY ROAD 216 TO QUAY STREET
USE ALTERNATE ROUTES

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

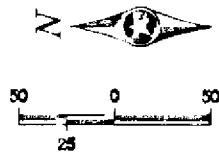
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.  
*Thomas A. Schwedt*  
 Date: 4/2/93 Reg. No. 20943



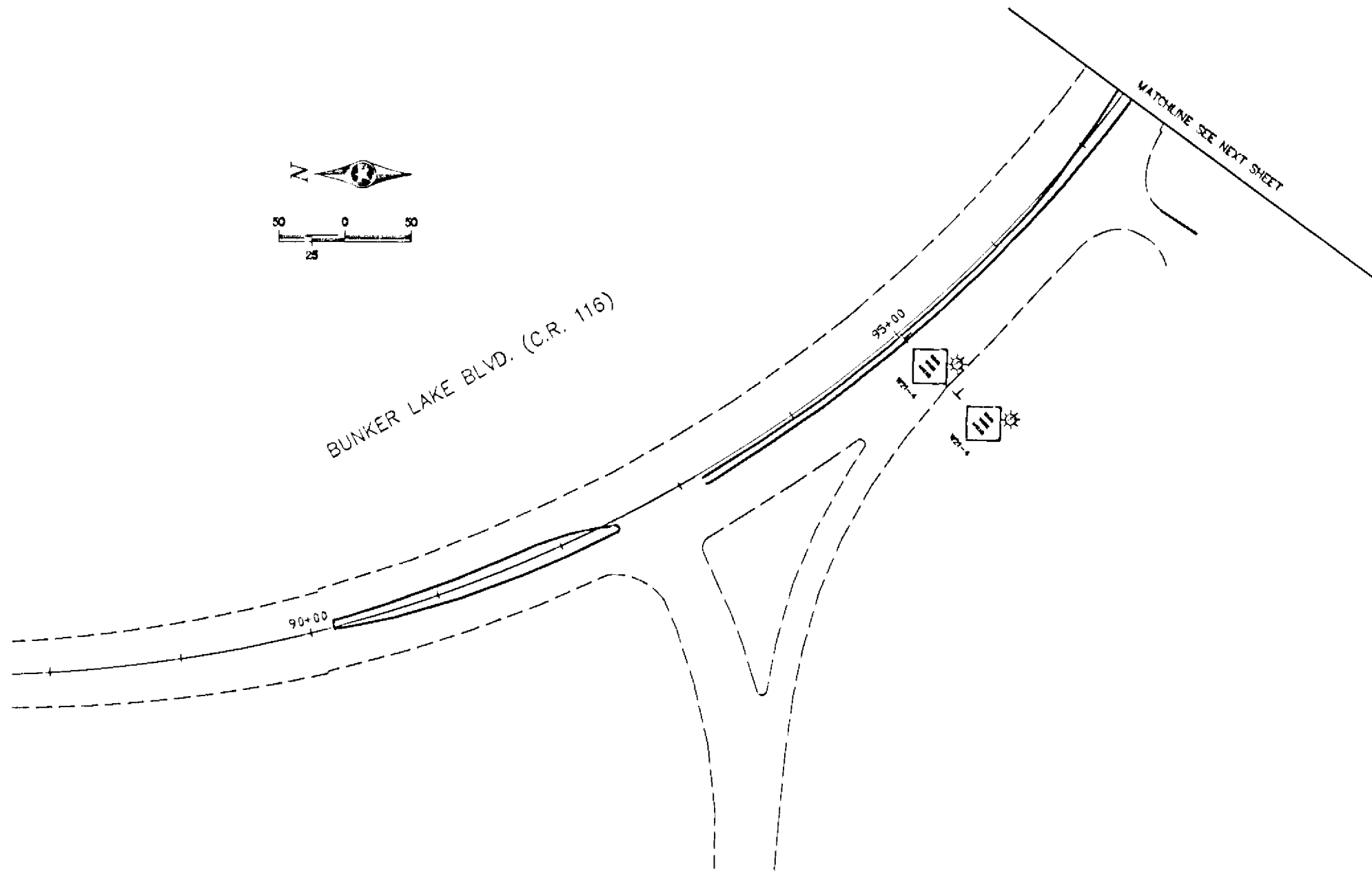
ANOKA COUNTY, MINNESOTA  
 S.A.P. 02-609-10  
 S.A.P. 02-616-03 C.P. 93-12-116

TRAFFIC CONTROL  
 STAGE 1

FILE NO.	110
93145	
DATE	133
4/2/93	



BUNKER LAKE BLVD. (C.R. 116)



LEGEND

- TEMPORARY PAVEMENT
- SIGNAL POLE CONSTRUCTION (TYP.)
- TYPE A FLASHING WARNING LIGHT
- RELOCATE AND MAINTAIN INPLACE STOP SIGN AND POST AS NECESSARY

NOTES:

1. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. ALL SIGNS AND BARRICADES SHALL BE PROPERLY WEIGHTED WITH SAND BAGS.
3. ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
4. ALL BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MMUTCD.
5. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MMUTCD, INCLUDING APPENDIX "B".
6. ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AS DETERMINED BY THE ENGINEER.
7. REMOVE OR COVER ANY CONFLICTING TRAFFIC CONTROL DEVICES.
8. SEE CONSTRUCTION STAGING SHEETS FOR SUMMARY OF CONSTRUCTION TO BE COMPLETED DURING THIS STAGE.

DATE PLOTTED: 4/2/93 11:30 AM

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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.  
*Thomas A. Schweitz*  
 Date: 4/2/93 Reg. No. 20943

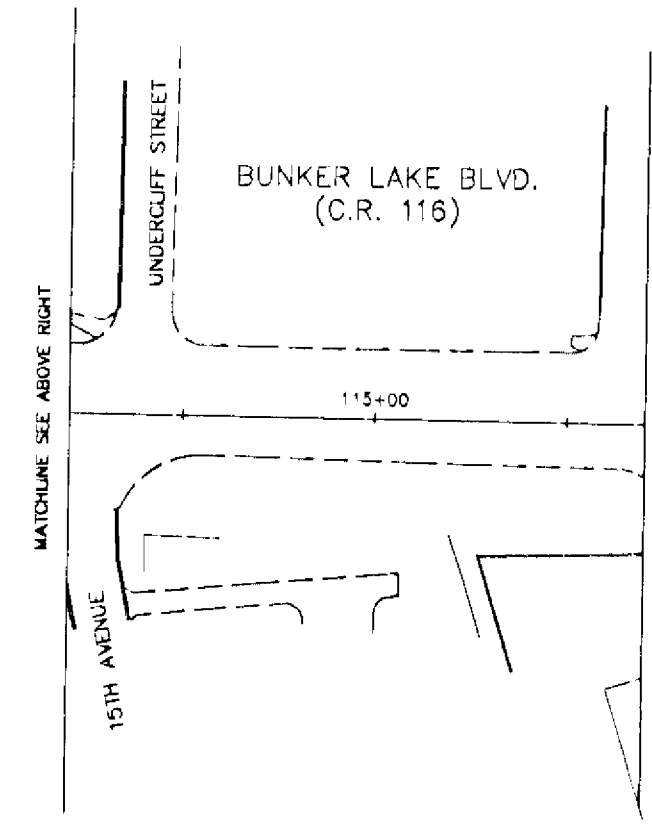
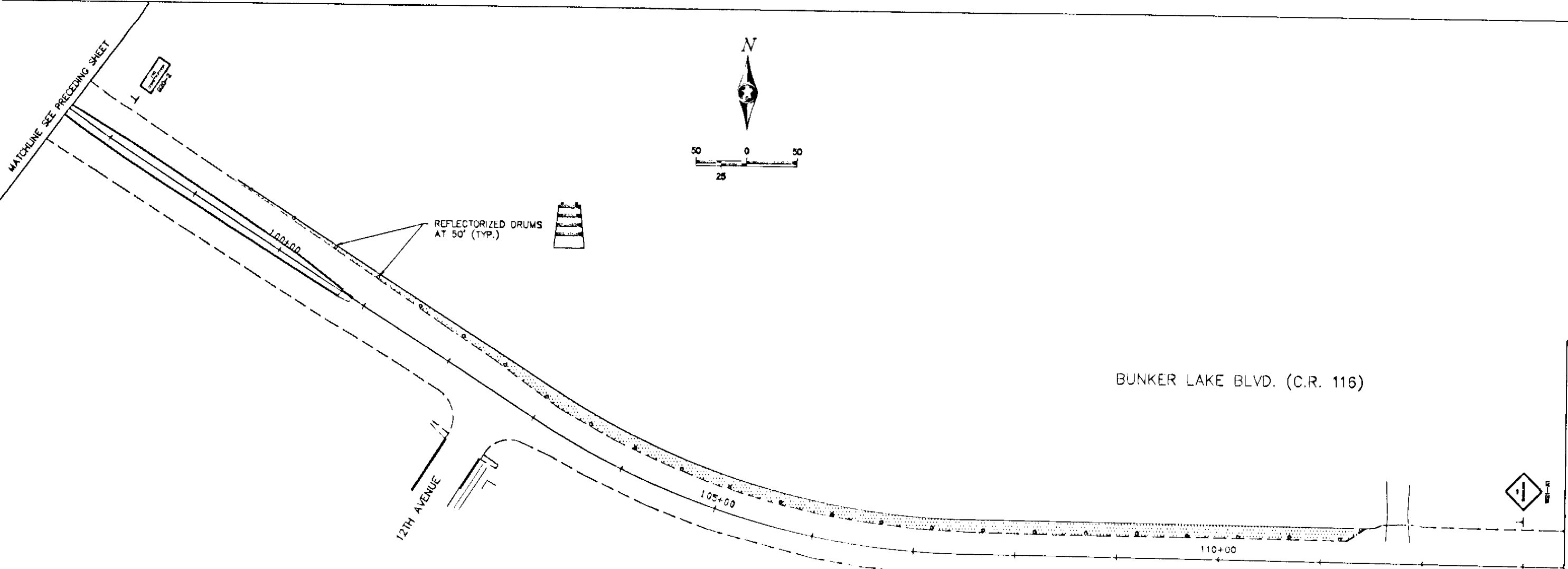
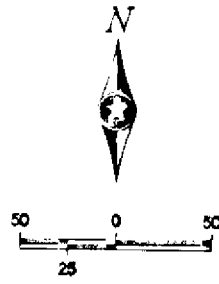


ANOKA COUNTY, MINNESOTA  
 S.A.P. 02-609-10  
 S.A.P. 02-616-03 C.P. 93-12-116

TRAFFIC CONTROL  
 STAGE 1

FILE NO. 93145  
 DATE 4/2/93

111  
 133



BUNKER LAKE BLVD. (C.R. 116)



**LEGEND**

- TEMPORARY PAVEMENT
- SIGNAL POLE CONSTRUCTION (TYP.)
- TYPE A FLASHING WARNING LIGHT
- RELOCATE AND MAINTAIN IN PLACE STOP SIGN AND POST AS NECESSARY

**NOTES:**

1. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. ALL SIGNS AND BARRICADES SHALL BE PROPERLY WEIGHTED WITH SAND BAGS.
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7. REMOVE OR COVER ANY CONFLICTING TRAFFIC CONTROL DEVICES.
8. SEE CONSTRUCTION STAGING SHEETS FOR SUMMARY OF CONSTRUCTION TO BE COMPLETED DURING THIS STAGE.

NO	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

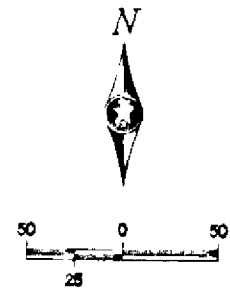
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.  
*Thomas A. Schwandt*  
 Date: 4/2/93 Reg. No. 20943



ANOKA COUNTY, MINNESOTA  
 S.A.P. 02-609-10  
 S.A.P. 02-616-03 C.P. 93-12-116

TRAFFIC CONTROL  
 STAGE 1

FILE NO.	112
93145	
DATE	4/2/93
	133



BUNKER LAKE BLVD. (C.S.A.H. 16)

ROUND LAKE BOULEVARD  
(C.S.A.H. 9)

QUAY STREET

GRACE LUTHERAN

MARIGOLD ST.

BUNKER LAKE BLVD. (C.S.A.H. 16)

REFLECTORIZED DRUMS  
AT 50' (TYP.)

NOTES:

1. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. ALL SIGNS AND BARRICADES SHALL BE PROPERLY WEIGHTED WITH SAND BAGS.
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6. ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AS DETERMINED BY THE ENGINEER.
7. REMOVE OR COVER ANY CONFLICTING TRAFFIC CONTROL DEVICES.
8. SEE CONSTRUCTION STAGING SHEETS FOR SUMMARY OF CONSTRUCTION TO BE COMPLETED DURING THIS STAGE.

LEGEND

- TEMPORARY PAVEMENT
- SIGNAL POLE CONSTRUCTION (TYP.)
- TYPE A FLASHING WARNING LIGHT
- RELOCATE AND MAINTAIN INPLACE STOP SIGN AND POST AS NECESSARY

MATCHLINE SEE PRECEDING SHEET

MATCHLINE SEE BELOW LEFT

MATCHLINE SEE ABOVE RIGHT

04-07-93 12:02 PM

ROAD NO. 02-616-03 / 93-12-116

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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.  
*Thomas A. Schweidt*  
 Date: 4/2/93 Reg. No. 20943

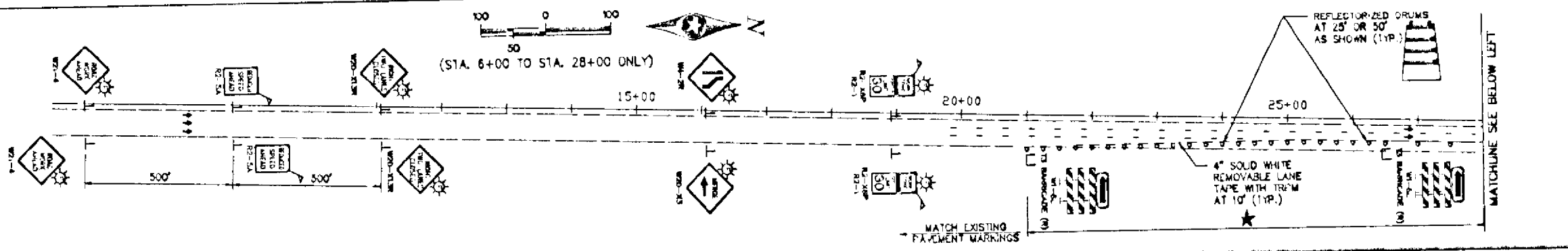


ANOKA COUNTY, MINNESOTA  
 S.A.P. 02-609-10  
 S.A.P. 02-616-03 C.P. 93-12-116

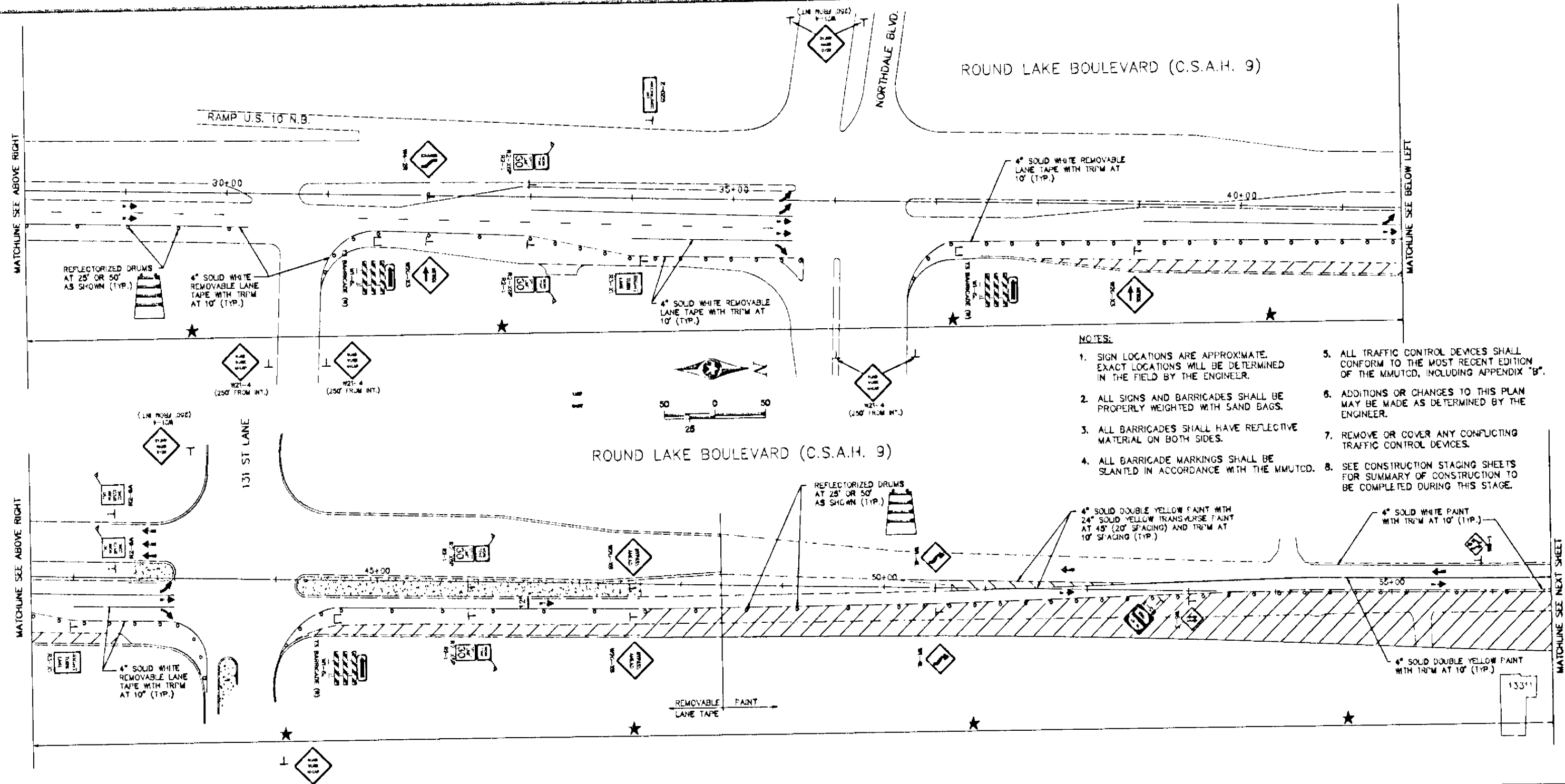
TRAFFIC CONTROL  
 STAGE 1

FILE NO. 93145	113
DATE 4/2/93	133





- LEGEND**
- INPLACE TRAFFIC
  - CONSTRUCTION THIS STAGE
  - CONSTRUCTION UNDER TRAFFIC
  - ORANGE WARNING FLAG
  - TYPE A FLASHING WARNING LIGHT
  - REMOVE CONFLICTING PAVEMENT MARKINGS



- NOTES:**
1. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
  2. ALL SIGNS AND BARRICADES SHALL BE PROPERLY WEIGHTED WITH SAND BAGS.
  3. ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
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  7. REMOVE OR COVER ANY CONFLICTING TRAFFIC CONTROL DEVICES.
  8. SEE CONSTRUCTION STAGING SHEETS FOR SUMMARY OF CONSTRUCTION TO BE COMPLETED DURING THIS STAGE.

04-08-93 3:48 PM  
13311

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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.  
*Thomas J. Schwandt*  
 Date: 4/2/93 Reg. No. 20943

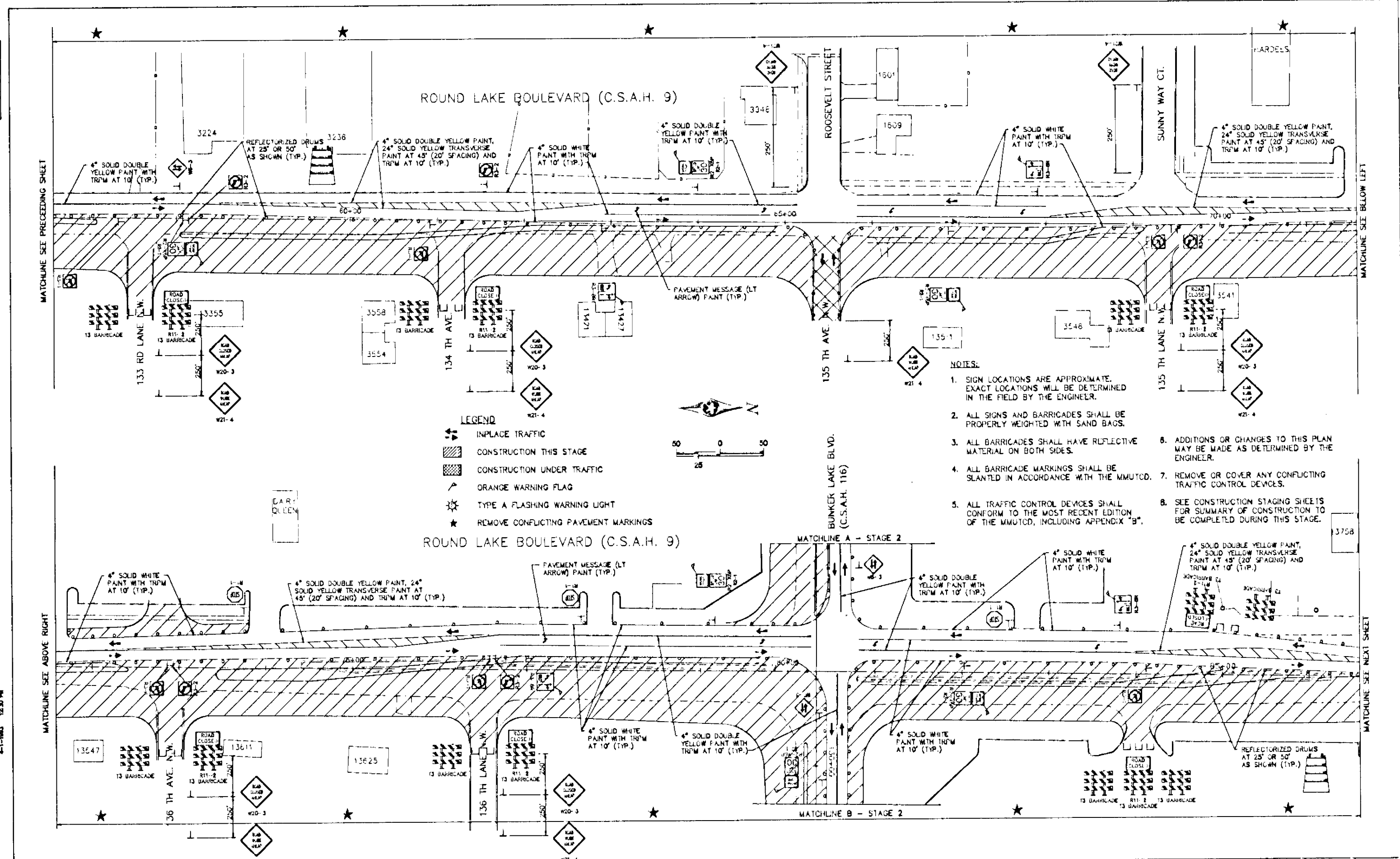


**ANOKA COUNTY, MINNESOTA**  
 S.A.P. 02-609-10, S.A.P. 02-616-03,  
 C.P. 93-12-116

**TRAFFIC CONTROL  
 STAGE 2**

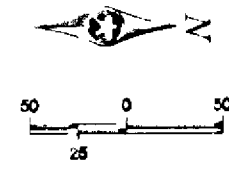
FILE NO. 93145	114
DATE 4/2/93	133

BASIC OVERLAY NO.



- LEGEND**
- INPLACE TRAFFIC
  - CONSTRUCTION THIS STAGE
  - CONSTRUCTION UNDER TRAFFIC
  - ORANGE WARNING FLAG
  - TYPE A FLASHING WARNING LIGHT
  - REMOVE CONFLICTING PAVEMENT MARKINGS

- NOTES:**
1. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
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  7. REMOVE OR COVER ANY CONFLICTING TRAFFIC CONTROL DEVICES.
  8. SEE CONSTRUCTION STAGING SHEETS FOR SUMMARY OF CONSTRUCTION TO BE COMPLETED DURING THIS STAGE.



4/1/1993 12:30 PM

NO	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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*Thomas R. Schwandt*  
 Date: 4/2/93 Reg. No. 20943

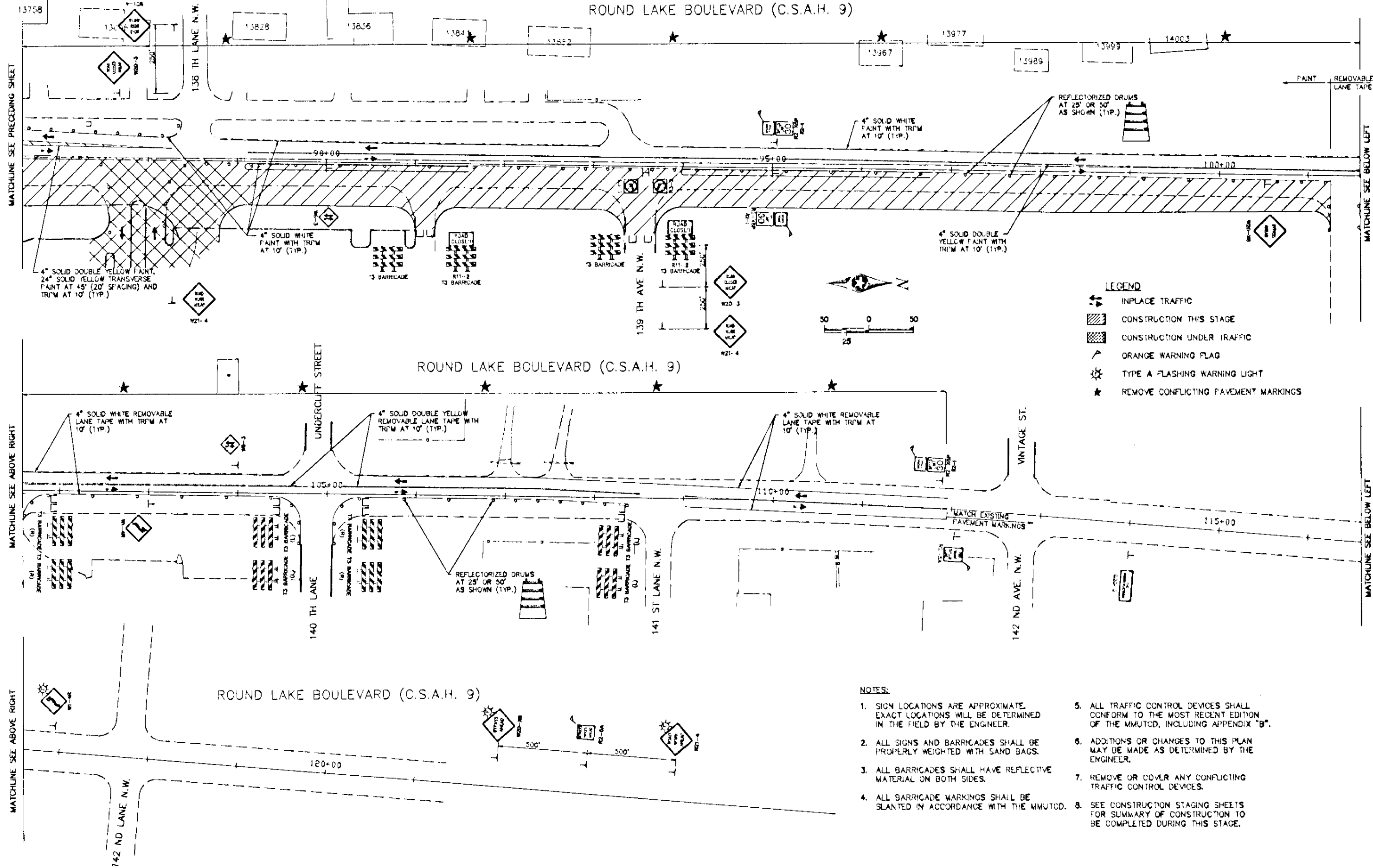


**ANOKA COUNTY, MINNESOTA**  
 S.A.P. 02-609-10, S.A.P. 02-616-03,  
 C.P. 93-12-116

**TRAFFIC CONTROL**  
**STAGE 2**

FILE NO.	115
93145	
DATE	4/2/93
133	

ROUND LAKE BOULEVARD (C.S.A.H. 9)



- LEGEND**
- INPLACE TRAFFIC
  - CONSTRUCTION THIS STAGE
  - CONSTRUCTION UNDER TRAFFIC
  - ORANGE WARNING FLAG
  - TYPE A FLASHING WARNING LIGHT
  - REMOVE CONFLICTING PAVEMENT MARKINGS

- NOTES:**
1. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
  2. ALL SIGNS AND BARRICADES SHALL BE PROPERLY WEIGHTED WITH SAND BAGS.
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  7. REMOVE OR COVER ANY CONFLICTING TRAFFIC CONTROL DEVICES.
  8. SEE CONSTRUCTION STAGING SHEETS FOR SUMMARY OF CONSTRUCTION TO BE COMPLETED DURING THIS STAGE.

4-2-1993 2:10 PM

NO	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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*Thomas A. Schwandt*  
 Date: 4/2/93 Reg. No. 20943



**ANOKA COUNTY, MINNESOTA**  
 S.A.P. 02-609-10, S.A.P. 02-616-03,  
 C.P. 93-12-116

**TRAFFIC CONTROL  
 STAGE 2**

FILE NO. 93145	116
DATE 4/2/93	133

BUNKER LAKE BLVD. (C.R. 116)

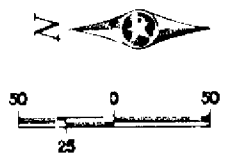
MATCH EXISTING PAVEMENT MARKINGS

140 TH AVE. N.W.

4" SOLID DOUBLE YELLOW REMOVABLE LANE TAPE WITH TRIM AT 10' (TYP.)

4" SOLID WHITE REMOVABLE LANE TAPE WITH TRIM AT 10' (TYP.)

REFLECTORIZED DRUMS AT 25' OR 50' AS SHOWN (TYP.)



BUNKER LAKE BLVD. (C.R. 116)

4" SOLID WHITE REMOVABLE LANE TAPE WITH TRIM AT 10' (TYP.)

4" SOLID DOUBLE YELLOW REMOVABLE LANE TAPE WITH TRIM AT 10' (TYP.)

4" SOLID WHITE REMOVABLE LANE TAPE WITH TRIM AT 10' (TYP.)

REFLECTORIZED DRUMS AT 25' OR 50' AS SHOWN (TYP.)

4" SOLID WHITE REMOVABLE LANE TAPE WITH TRIM AT 10' (TYP.)

**LEGEND**

- IN-PLACE TRAFFIC
- CONSTRUCTION THIS STAGE
- CONSTRUCTION UNDER TRAFFIC
- ORANGE WARNING FLAG
- TYPE A FLASHING WARNING LIGHT
- REMOVE CONFLICTING PAVEMENT MARKINGS

**NOTES:**

1. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
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7. REMOVE OR COVER ANY CONFLICTING TRAFFIC CONTROL DEVICES.
8. SEE CONSTRUCTION STAGING SHEETS FOR SUMMARY OF CONSTRUCTION TO BE COMPLETED DURING THIS STAGE.

4-2-1993 3:25 PM

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

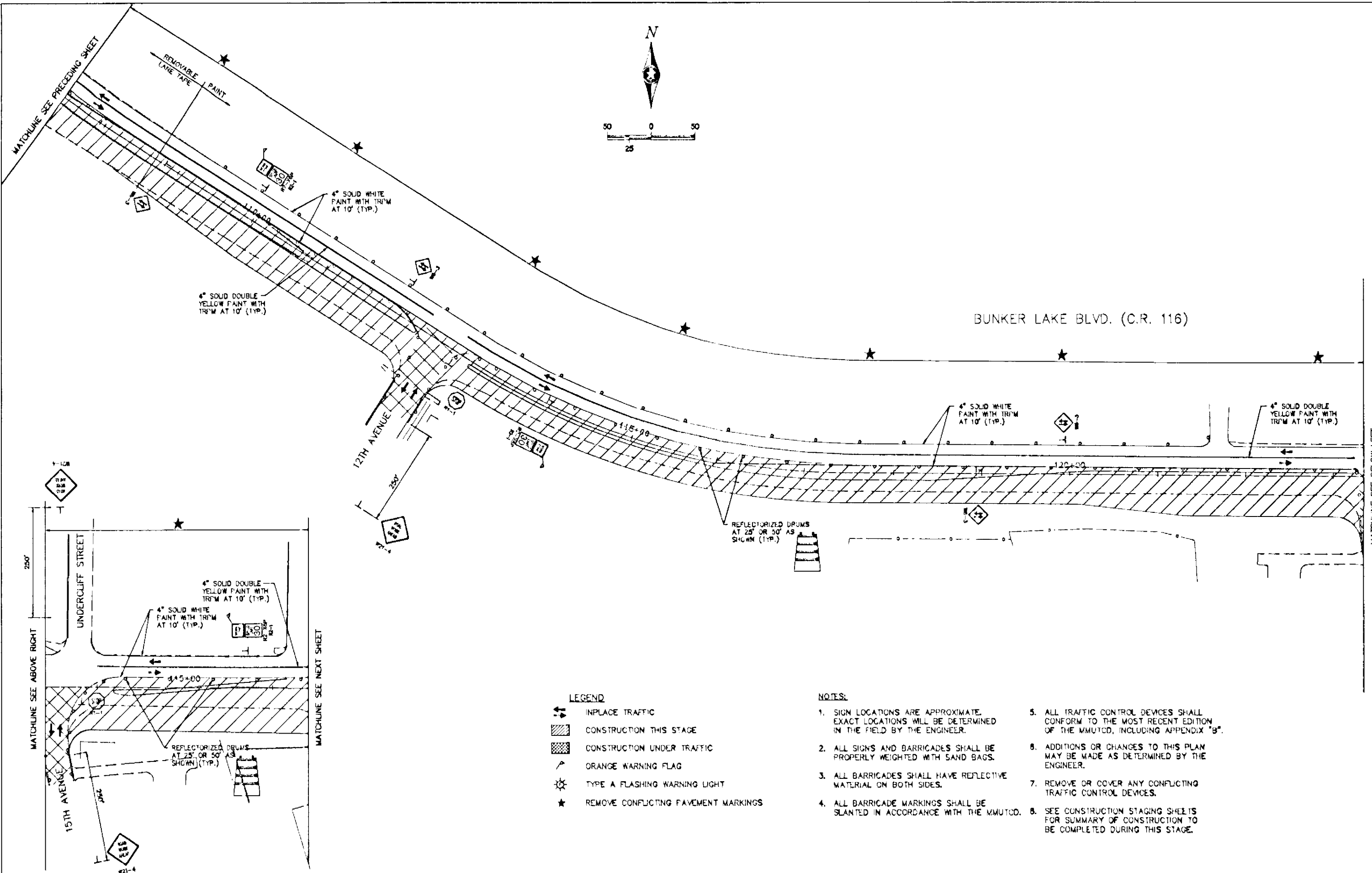
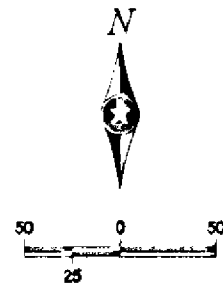
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.  
*Thomas A. Schwandt*  
 Date: 4/2/93 Reg. No. 20943



ANOKA COUNTY, MINNESOTA  
 S.A.P. 02-609-10, S.A.P. 02-616-03,  
 C.P. 93-12-116

TRAFFIC CONTROL  
 STAGE 2

FILE NO. 93145	117
DATE 4/2/93	133



- LEGEND**
- INPLACE TRAFFIC
  - CONSTRUCTION THIS STAGE
  - CONSTRUCTION UNDER TRAFFIC
  - ORANGE WARNING FLAG
  - TYPE A FLASHING WARNING LIGHT
  - REMOVE CONFLICTING PAVEMENT MARKINGS

- NOTES:**
1. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
  2. ALL SIGNS AND BARRICADES SHALL BE PROPERLY WEIGHTED WITH SAND BAGS.
  3. ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
  4. ALL BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MMUTCD.
  5. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MMUTCD, INCLUDING APPENDIX "B".
  6. ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AS DETERMINED BY THE ENGINEER.
  7. REMOVE OR COVER ANY CONFLICTING TRAFFIC CONTROL DEVICES.
  8. SEE CONSTRUCTION STAGING SHEETS FOR SUMMARY OF CONSTRUCTION TO BE COMPLETED DURING THIS STAGE.

4-2-1993 3:20 PM

NO	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

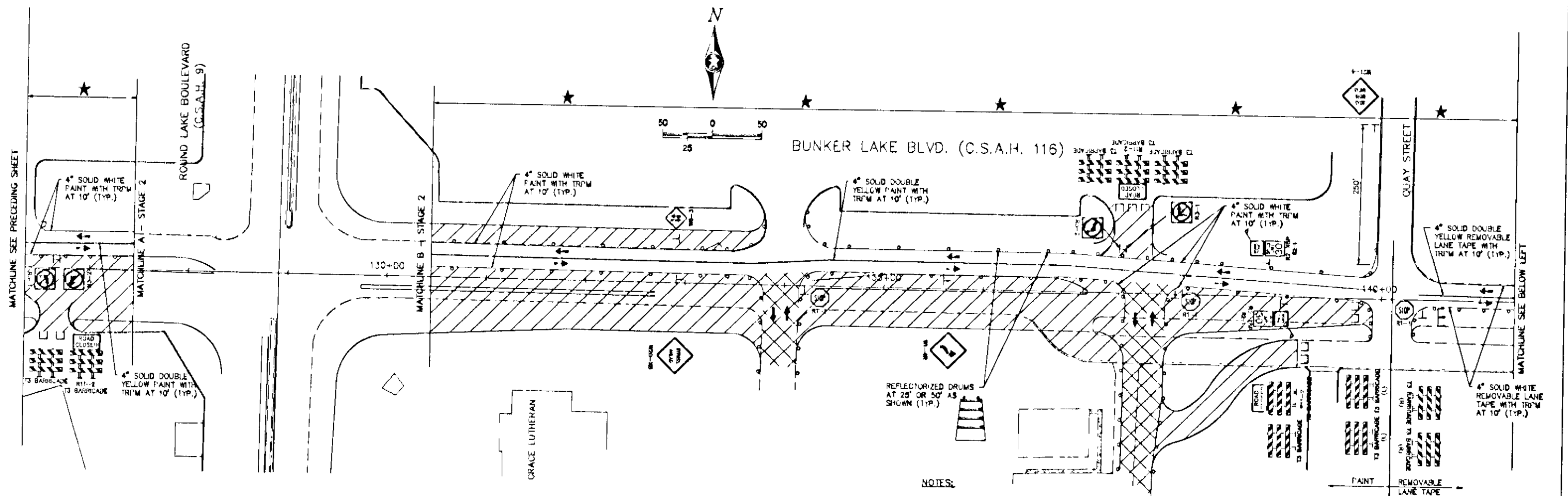
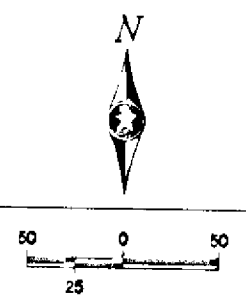
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.  
*Thomas J. Schweitzer*  
 Date: 4/2/93 Reg. No. 20943



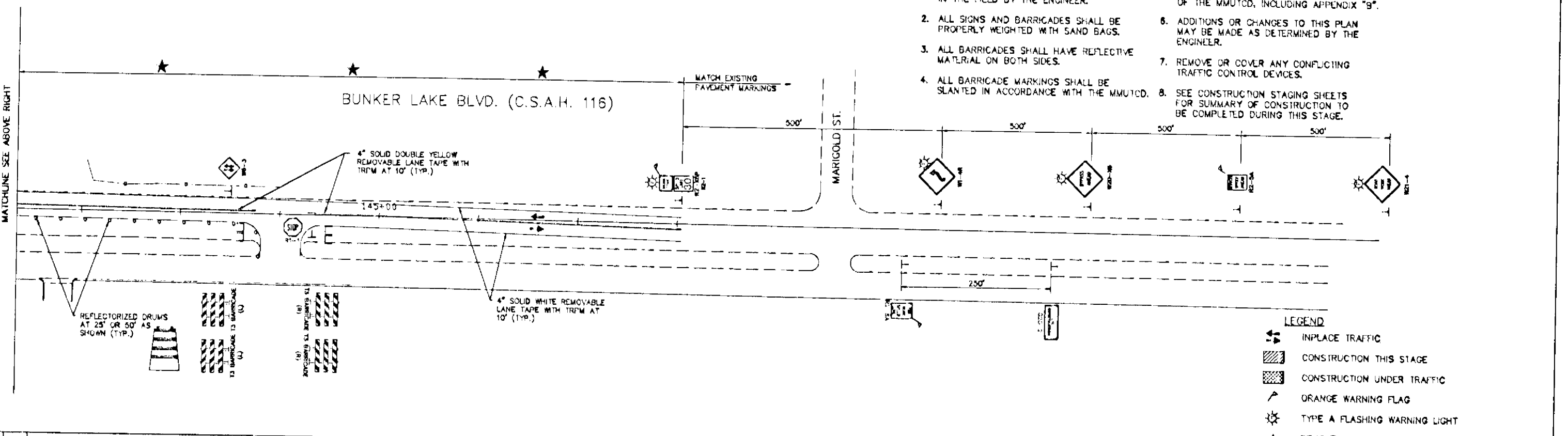
ANOKA COUNTY, MINNESOTA  
 S.A.P. 02-609-10, S.A.P. 02-618-03,  
 C.P. 93-12-116

TRAFFIC CONTROL  
 STAGE 2

FILE NO.	118
93145	
DATE	4/2/93
	133



- NOTES:**
1. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
  2. ALL SIGNS AND BARRICADES SHALL BE PROPERLY WEIGHTED WITH SAND BAGS.
  3. ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
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  7. REMOVE OR COVER ANY CONFLICTING TRAFFIC CONTROL DEVICES.
  8. SEE CONSTRUCTION STAGING SHEETS FOR SUMMARY OF CONSTRUCTION TO BE COMPLETED DURING THIS STAGE.



- LEGEND**
- INPLACE TRAFFIC
  - CONSTRUCTION THIS STAGE
  - CONSTRUCTION UNDER TRAFFIC
  - ORANGE WARNING FLAG
  - TYPE A FLASHING WARNING LIGHT
  - REMOVE CONFLICTING PAVEMENT MARKINGS

NO	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

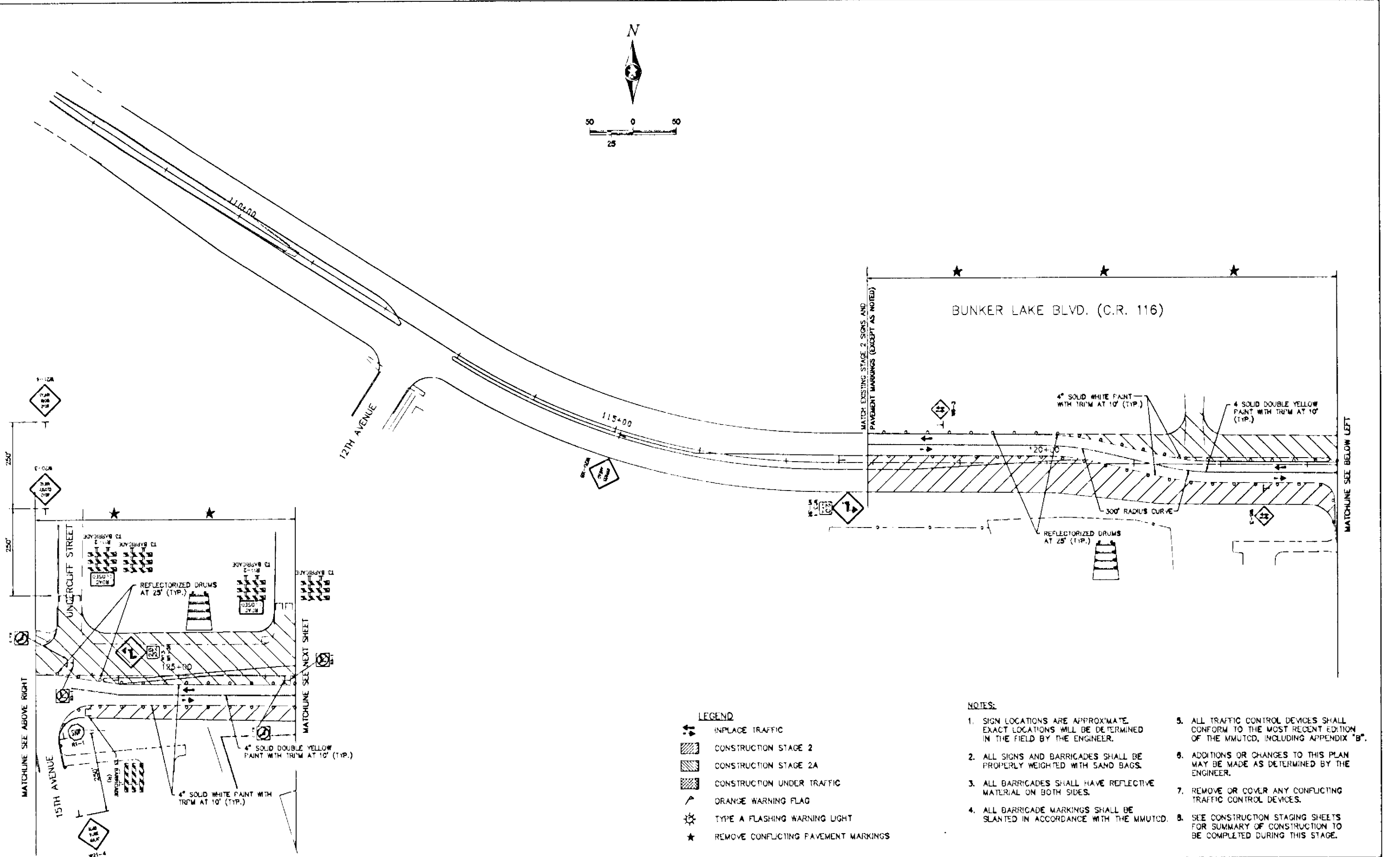
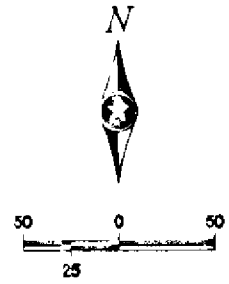
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.  
*Thomas A. Schwendt*  
 Date: 4/2/93 Reg. No. 20943



ANOKA COUNTY, MINNESOTA  
 S.A.P. 02-609-10, S.A.P. 02-616-03,  
 C.P. 93-12-116

TRAFFIC CONTROL  
 STAGE 2

FILE NO. 93145	119
DATE 4/2/93	133



**LEGEND**

- IN-PLACE TRAFFIC
- CONSTRUCTION STAGE 2
- CONSTRUCTION STAGE 2A
- CONSTRUCTION UNDER TRAFFIC
- ORANGE WARNING FLAG
- TYPE A FLASHING WARNING LIGHT
- REMOVE CONFLICTING PAVEMENT MARKINGS

**NOTES:**

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6. ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AS DETERMINED BY THE ENGINEER.
7. REMOVE OR COVER ANY CONFLICTING TRAFFIC CONTROL DEVICES.
8. SEE CONSTRUCTION STAGING SHEETS FOR SUMMARY OF CONSTRUCTION TO BE COMPLETED DURING THIS STAGE.

1-12-1993 8:30 AM

837443/1/4/1025A

NO	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

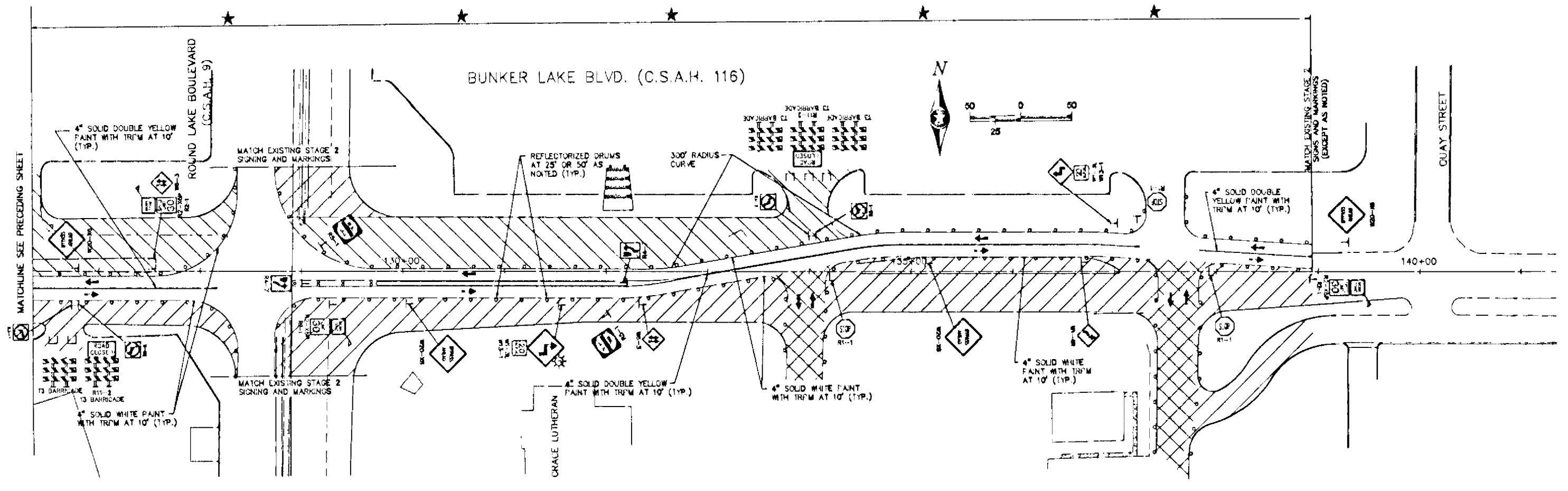
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.  
*Thomas A. Schwedt*  
 Date: 4/2/93 Reg. No. 20943



**ANOKA COUNTY, MINNESOTA**  
 S.A.P. 02-609-10, S.A.P. 02-618-03,  
 C.P. 93-12-116

**TRAFFIC CONTROL  
 STAGE 2A**

FILE NO.	120
93145	
DATE	4/2/93
	133



- NOTES:**
1. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
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  8. SEE CONSTRUCTION STAGING SHEETS FOR SUMMARY OF CONSTRUCTION TO BE COMPLETED DURING THIS STAGE.

- LEGEND**
- INPLACE TRAFFIC
  - CONSTRUCTION STAGE 2
  - CONSTRUCTION STAGE 2A
  - CONSTRUCTION UNDER TRAFFIC
  - ORANGE WARNING FLAG
  - TYPE A FLASHING WARNING LIGHT
  - REMOVE CONFLICTING PAVEMENT MARKINGS

1-6-1993 8:30 AM

NO	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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.  
*Thomas A. Schwab*  
 Date: 4/2/93 Reg. No. 20943



**ANOKA COUNTY, MINNESOTA**  
 S.A.P. 02-609-10, S.A.P.02-616-03,  
 C.P. 93-12-116

**TRAFFIC CONTROL  
 STAGE 2A**

FILE NO.	121
93145	
DATE	4/2/93
133	





ROUND LAKE BOULEVARD (C.S.A.H. 9)

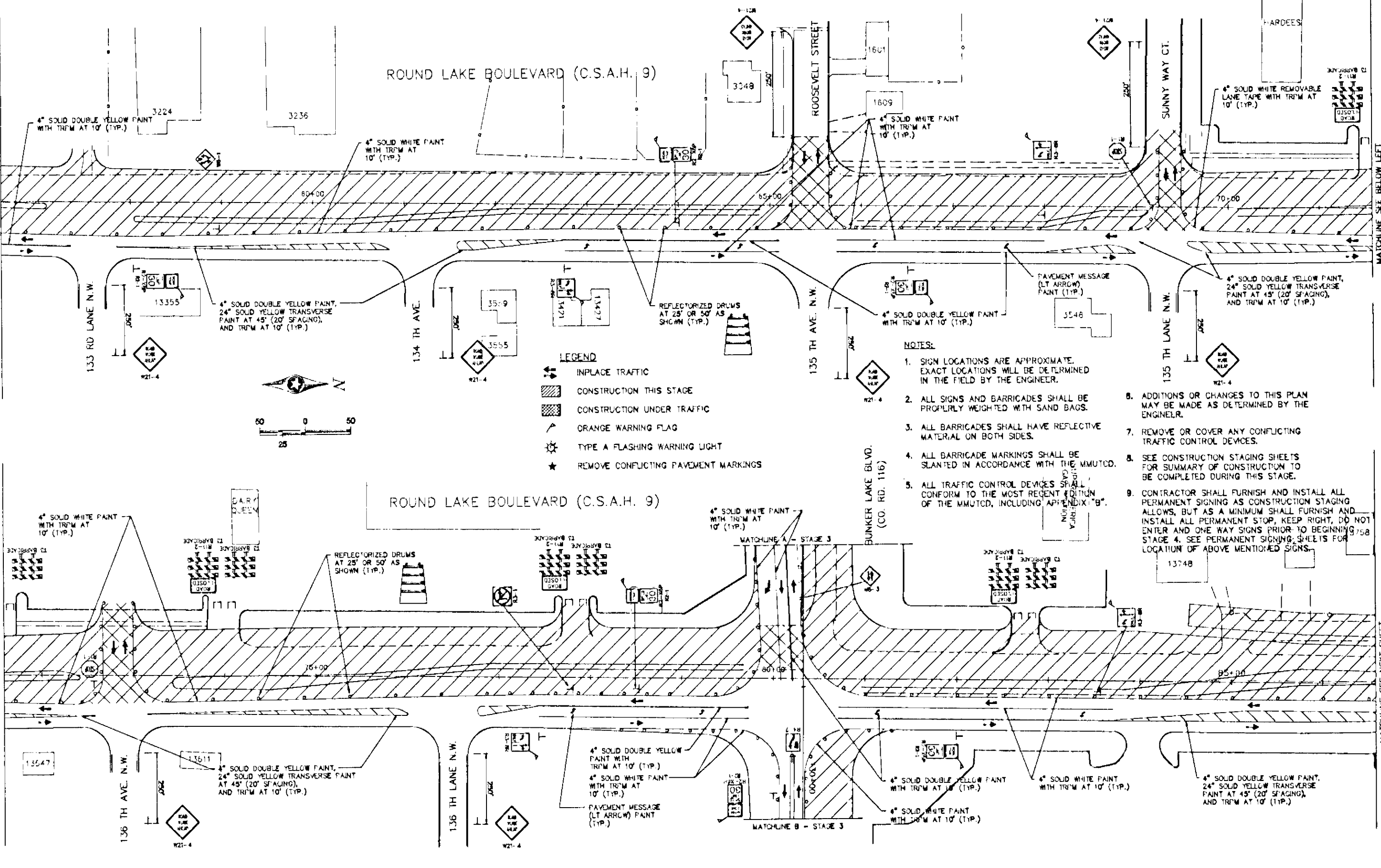
ROUND LAKE BOULEVARD (C.S.A.H. 9)

MATCHLINE SEE PRECEDING SHEET

MATCHLINE SEE BELOW LEFT

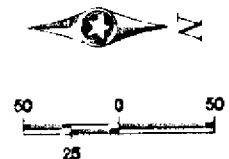
MATCHLINE SEE ABOVE RIGHT

MATCHLINE SEE NEXT SHEET



- LEGEND**
- INPLACE TRAFFIC
  - CONSTRUCTION THIS STAGE
  - CONSTRUCTION UNDER TRAFFIC
  - ORANGE WARNING FLAG
  - TYPE A FLASHING WARNING LIGHT
  - REMOVE CONFLICTING PAVEMENT MARKINGS

- NOTES:**
1. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
  2. ALL SIGNS AND BARRICADES SHALL BE PROPERLY WEIGHTED WITH SAND BAGS.
  3. ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
  4. ALL BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MMUTCD.
  5. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MMUTCD, INCLUDING APPENDIX "B".
  6. ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AS DETERMINED BY THE ENGINEER.
  7. REMOVE OR COVER ANY CONFLICTING TRAFFIC CONTROL DEVICES.
  8. SEE CONSTRUCTION STAGING SHEETS FOR SUMMARY OF CONSTRUCTION TO BE COMPLETED DURING THIS STAGE.
  9. CONTRACTOR SHALL FURNISH AND INSTALL ALL PERMANENT SIGNING AS CONSTRUCTION STAGING ALLOWS, BUT AS A MINIMUM SHALL FURNISH AND INSTALL ALL PERMANENT STOP, KEEP RIGHT, DO NOT ENTER AND ONE WAY SIGNS PRIOR TO BEGINNING STAGE 4. SEE PERMANENT SIGNING SHEETS FOR LOCATION OF ABOVE MENTIONED SIGNS.



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.  
*Thomas A. Schwartz*  
 Date: 4/2/93 Reg. No. 20943



ANOKA COUNTY, MINNESOTA  
 S.A.P. 02-609-10, S.A.P. 02-616-03,  
 C.P. 93-12-116

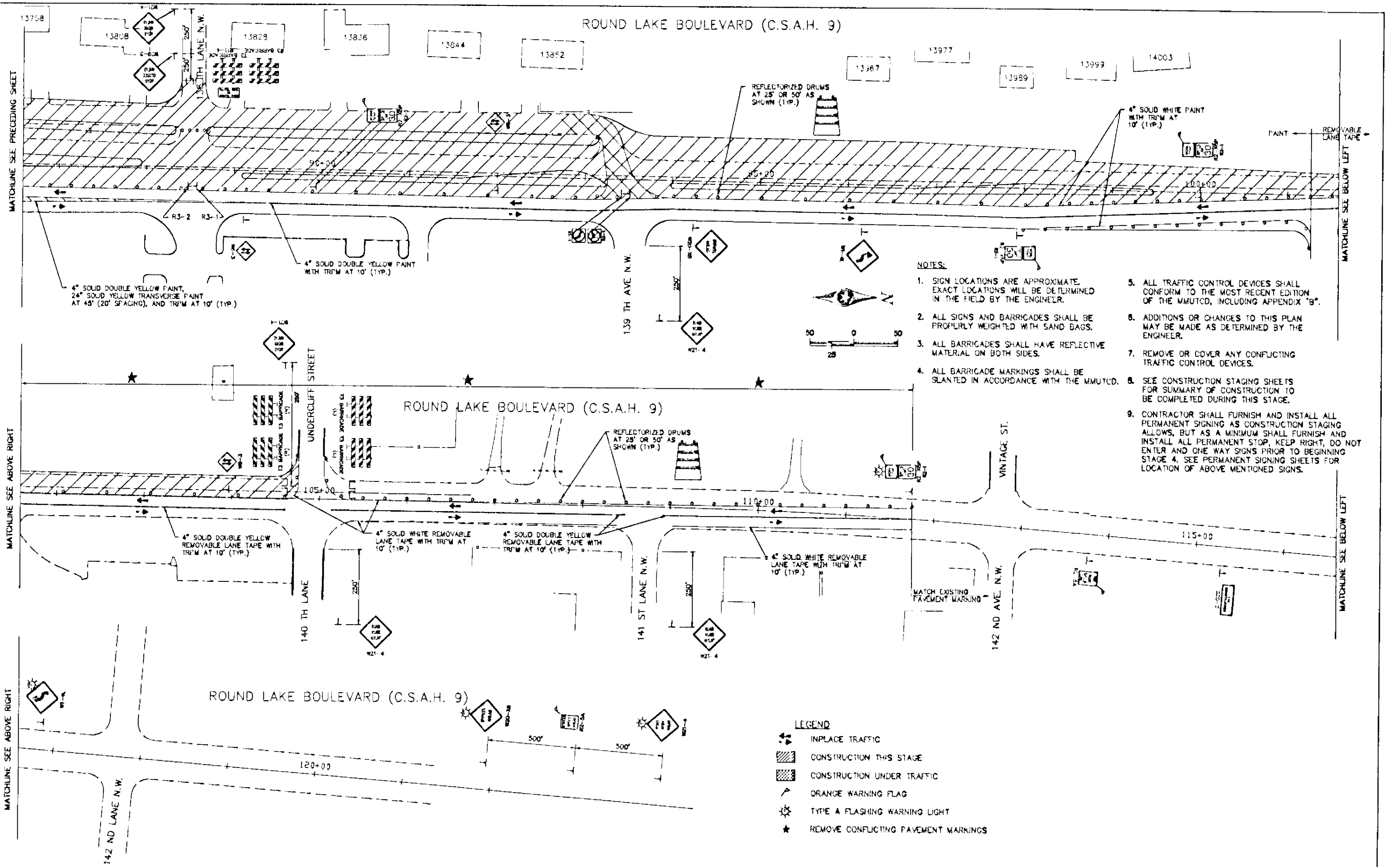
TRAFFIC CONTROL  
 STAGE 3

FILE NO.	123
93145	
DATE	133
4/2/93	

02-08-03 4:14 PM

NO	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

ROUND LAKE BOULEVARD (C.S.A.H. 9)



- NOTES:**
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  9. CONTRACTOR SHALL FURNISH AND INSTALL ALL PERMANENT SIGNING AS CONSTRUCTION STAGING ALLOWS, BUT AS A MINIMUM SHALL FURNISH AND INSTALL ALL PERMANENT STOP, KEEP RIGHT, DO NOT ENTER AND ONE WAY SIGNS PRIOR TO BEGINNING STAGE 4. SEE PERMANENT SIGNING SHEETS FOR LOCATION OF ABOVE MENTIONED SIGNS.

- LEGEND**
- ↔ INPLACE TRAFFIC
  - ▨ CONSTRUCTION THIS STAGE
  - ▩ CONSTRUCTION UNDER TRAFFIC
  - ▲ ORANGE WARNING FLAG
  - ⚡ TYPE A FLASHING WARNING LIGHT
  - ★ REMOVE CONFLICTING PAVEMENT MARKINGS

NO	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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.  
*Thomas A. Schwab*  
 Date: 4/2/93 Reg. No. 20943

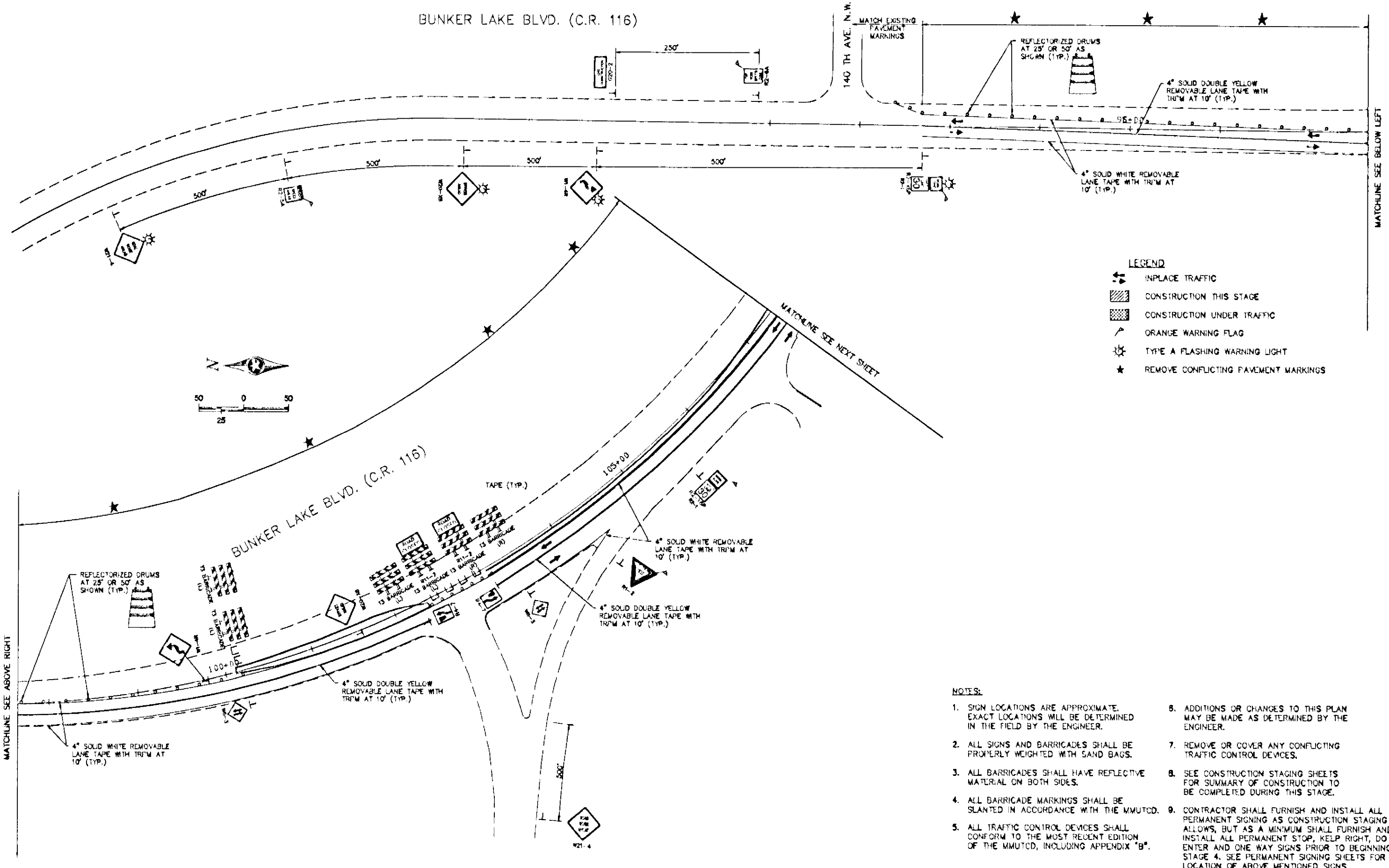


ANOKA COUNTY, MINNESOTA  
 S.A.P. 02-609-10, S.A.P. 02-618-03,  
 C.P. 93-12-118

TRAFFIC CONTROL  
 STAGE 3

FILE NO. 93145	124
DATE 4/2/93	133

BUNKER LAKE BLVD. (C.R. 116)



- LEGEND**
- INPLACE TRAFFIC
  - CONSTRUCTION THIS STAGE
  - CONSTRUCTION UNDER TRAFFIC
  - ORANGE WARNING FLAG
  - TYPE A FLASHING WARNING LIGHT
  - REMOVE CONFLICTING PAVEMENT MARKINGS

- NOTES:**
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NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

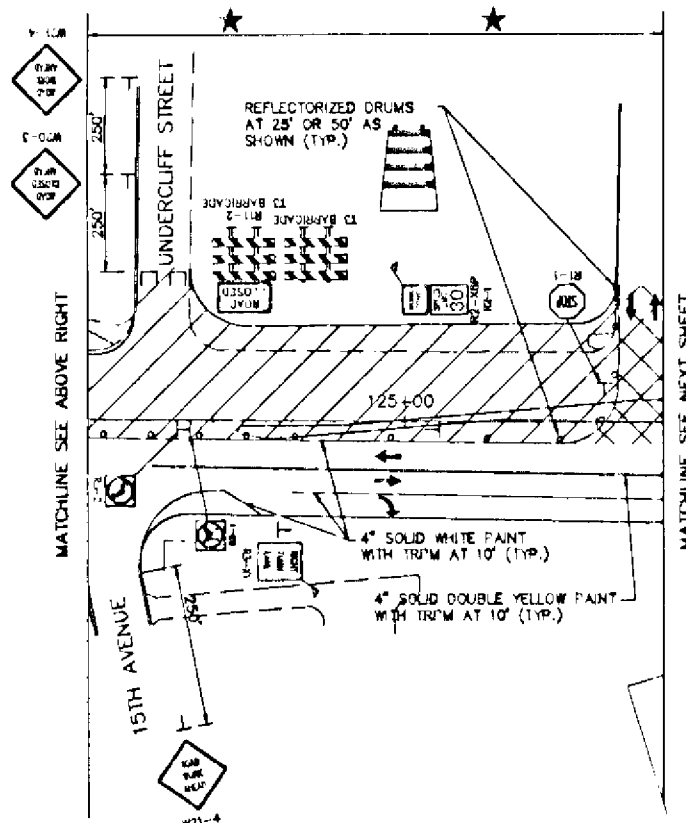
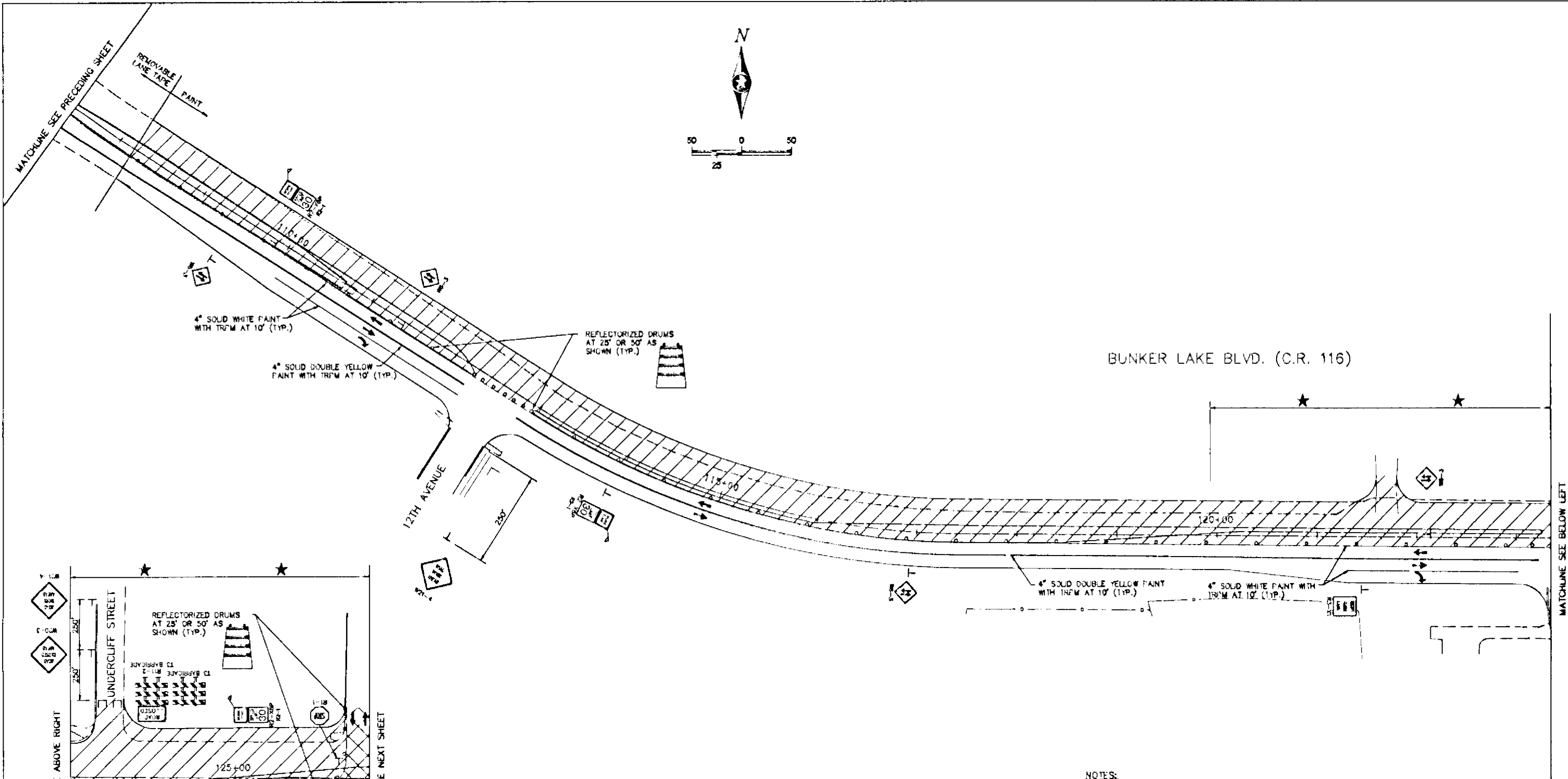
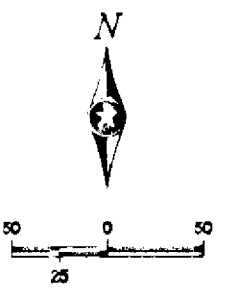
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.  
*Thomas A. Schwedt*  
 Date: 4/2/93 Reg. No. 20943



ANOKA COUNTY, MINNESOTA  
 S.A.P. 02-609-10, S.A.P. 02-616-03,  
 C.P. 93-12-116

TRAFFIC CONTROL  
 STAGE 3

FILE NO.	93145	125
DATE	4/2/93	133



- LEGEND**
- INPLACE TRAFFIC
  - CONSTRUCTION THIS STAGE
  - CONSTRUCTION UNDER TRAFFIC
  - ORANGE WARNING FLAG
  - TYPE A FLASHING WARNING LIGHT
  - REMOVE CONFLICTING PAVEMENT MARKINGS

- NOTES:**
1. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
  2. ALL SIGNS AND BARRICADES SHALL BE PROPERLY WEIGHTED WITH SAND BAGS.
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  4. ALL BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MMUTCD.
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  7. REMOVE OR COVER ANY CONFLICTING TRAFFIC CONTROL DEVICES.
  8. SEE CONSTRUCTION STAGING SHEETS FOR SUMMARY OF CONSTRUCTION TO BE COMPLETED DURING THIS STAGE.
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04-08-83 4:34 pm

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

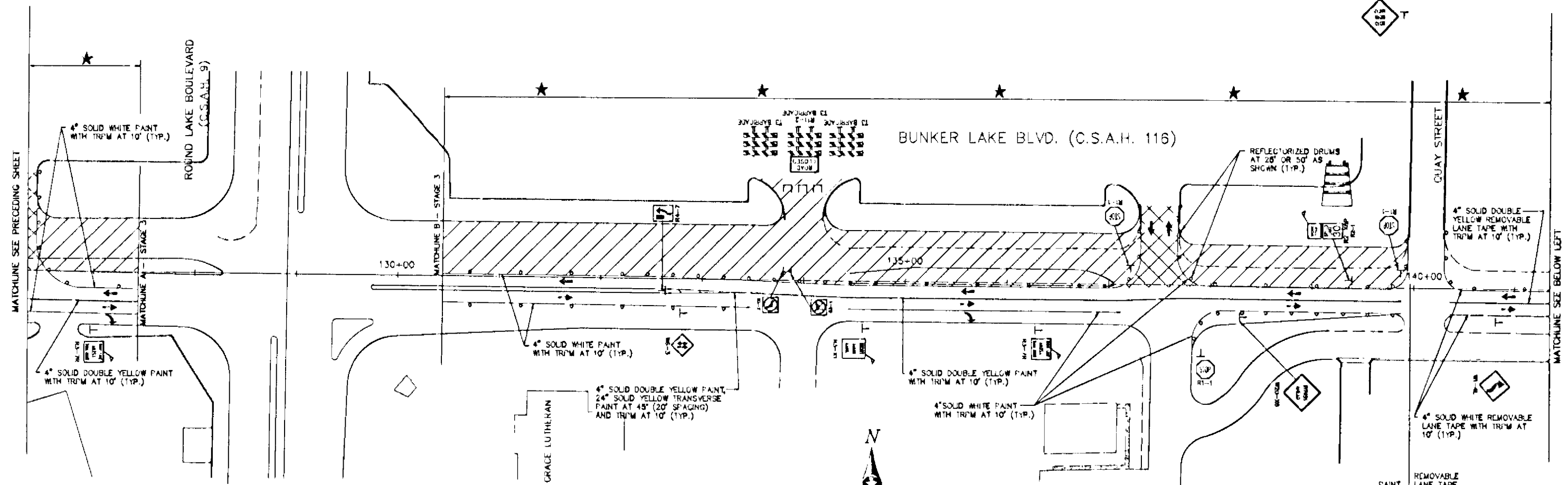
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.  
*Thomas A. Schwedt*  
 Date: 4/2/83 Reg. No. 20943



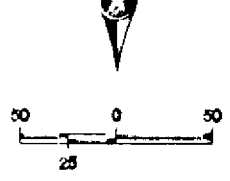
**ANOKA COUNTY, MINNESOTA**  
 S.A.P. 02-609-10, S.A.P. 02-616-03,  
 C.P. 93-12-116

**TRAFFIC CONTROL  
 STAGE 3**

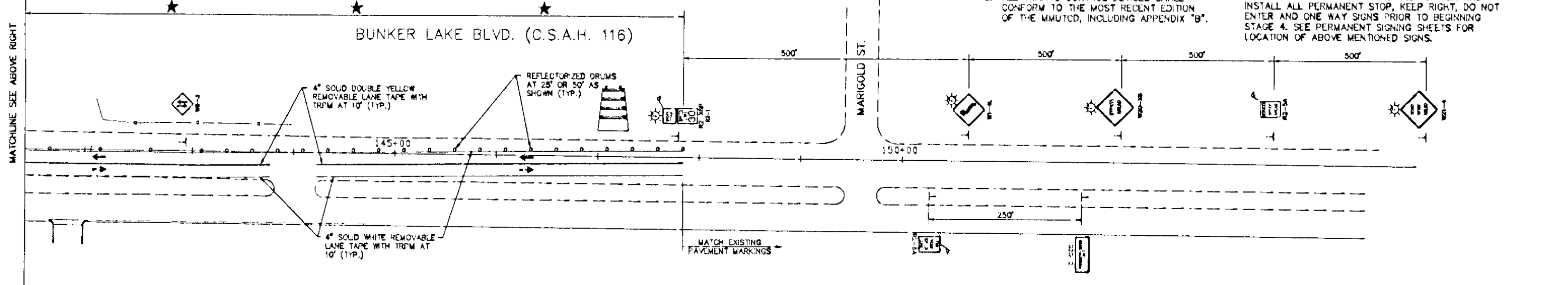
FILE NO. 93145	126
DATE 4/2/83	133



- LEGEND**
- INPLACE TRAFFIC
  - CONSTRUCTION THIS STAGE
  - CONSTRUCTION UNDER TRAFFIC
  - ORANGE WARNING FLAG
  - TYPE A FLASHING WARNING LIGHT
  - REMOVE CONFLICTING PAVEMENT MARKINGS



- NOTES:**
1. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
  2. ALL SIGNS AND BARRICADES SHALL BE PROPERLY WEIGHTED WITH SAND BAGS.
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NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

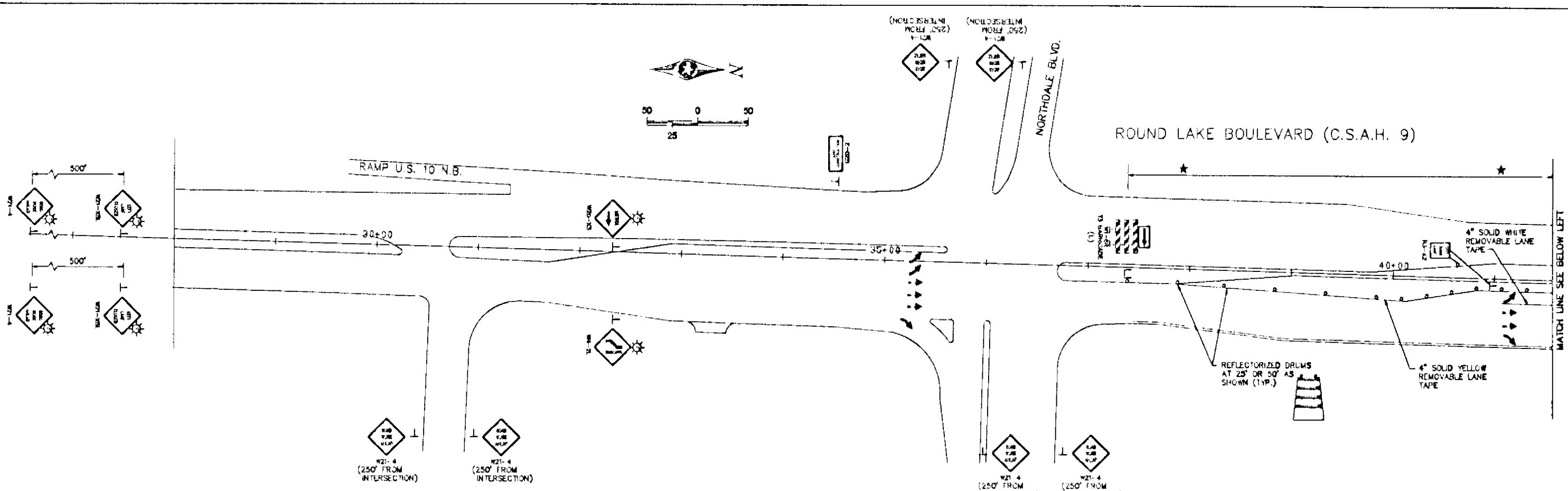
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.  
*Thomas A. Schmidt*  
 Date: 4/2/93 Reg. No. 20943



**ANOKA COUNTY, MINNESOTA**  
 S.A.P. 02-609-10, S.A.P. 02-616-03,  
 C.P. 93-12-116

**TRAFFIC CONTROL  
 STAGE 3**

FILE NO. 93145	127
DATE 4/2/93	133

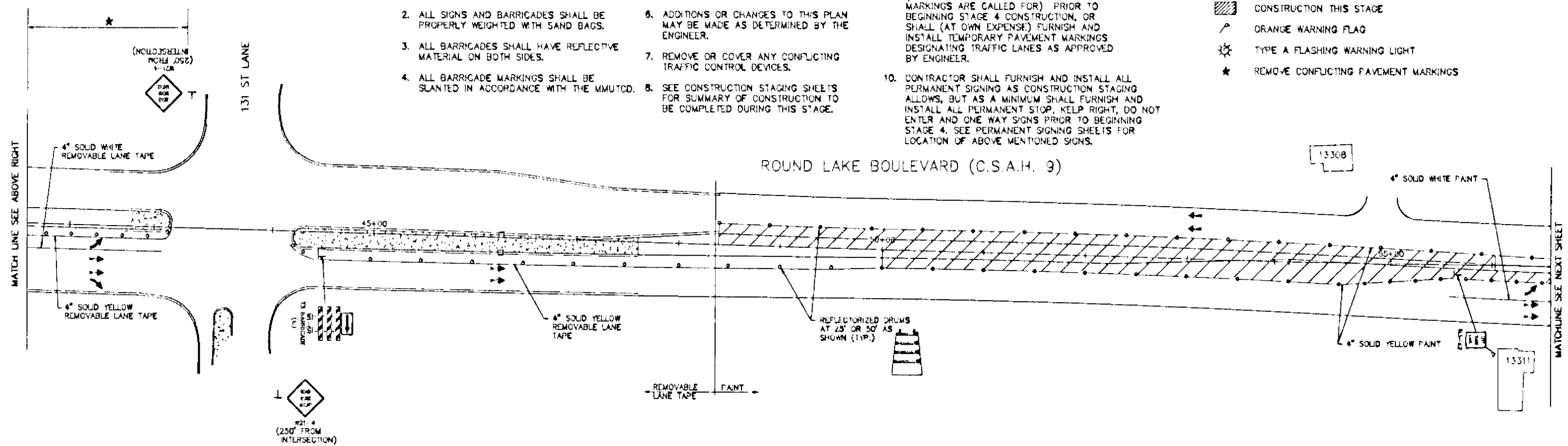


**NOTES:**

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**LEGEND**

- INPLACE TRAFFIC
- CONSTRUCTION THIS STAGE
- ORANGE WARNING FLAG
- TYPE A FLASHING WARNING LIGHT
- REMOVE CONFLICTING PAVEMENT MARKINGS



NO	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

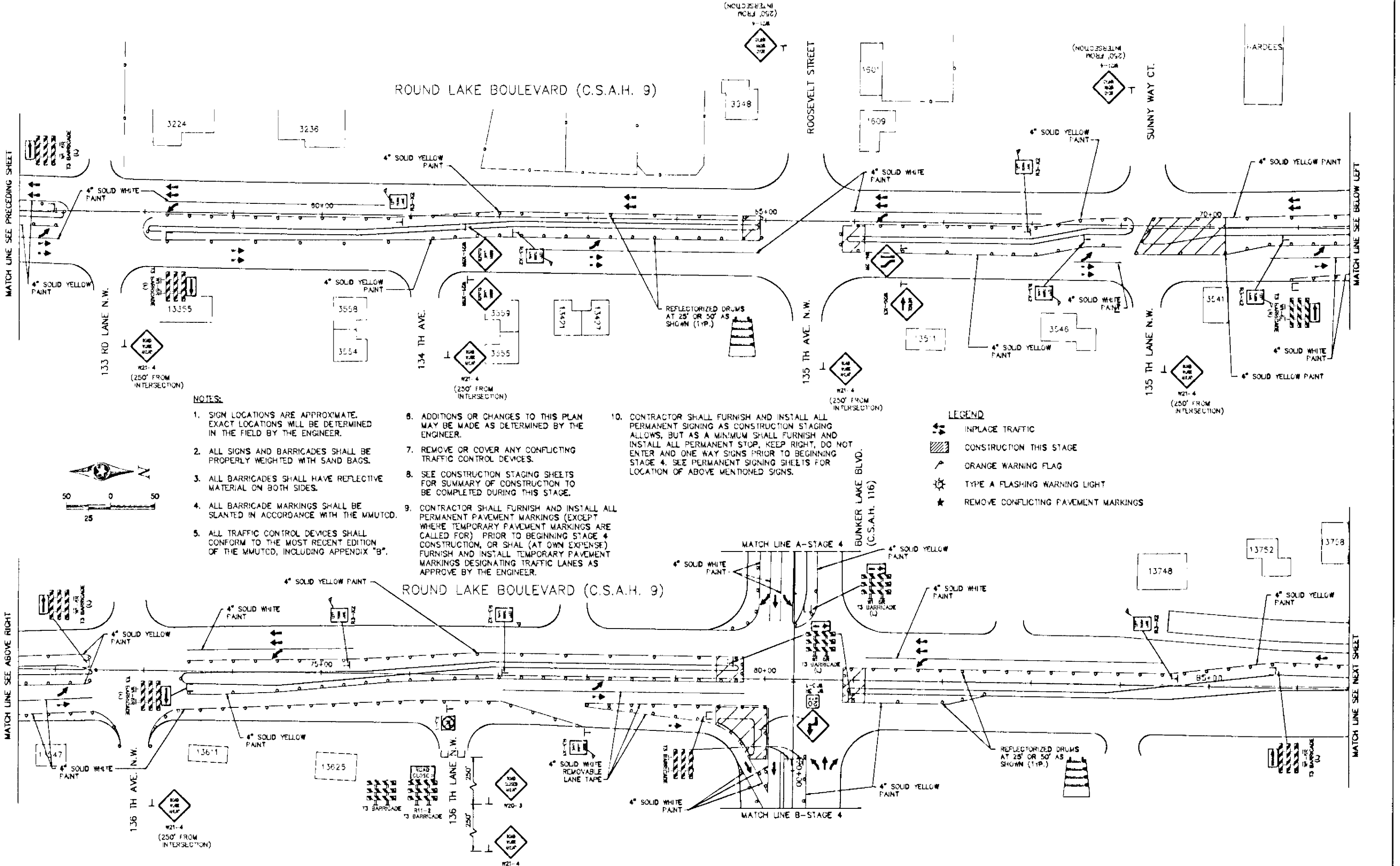
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.  
*Thomas A. Schwedt*  
 Date: 4/2/93 Reg. No. 20943



ANOKA COUNTY, MINNESOTA  
 S.A.P. 02-609-10, S.A.P. 02-616-03,  
 C.P. 93-12-116

TRAFFIC CONTROL  
 STAGE 4

FILE NO.	93145	128
DATE	4/2/93	133

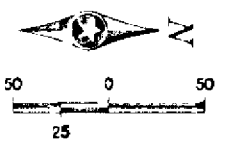


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**LEGEND**

- INPLACE TRAFFIC
- CONSTRUCTION THIS STAGE
- ORANGE WARNING FLAG
- TYPE A FLASHING WARNING LIGHT
- REMOVE CONFLICTING PAVEMENT MARKINGS



NO	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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.  
*Thomas A. Schwedt*  
 Date: 4/2/93 Reg. No. 20943

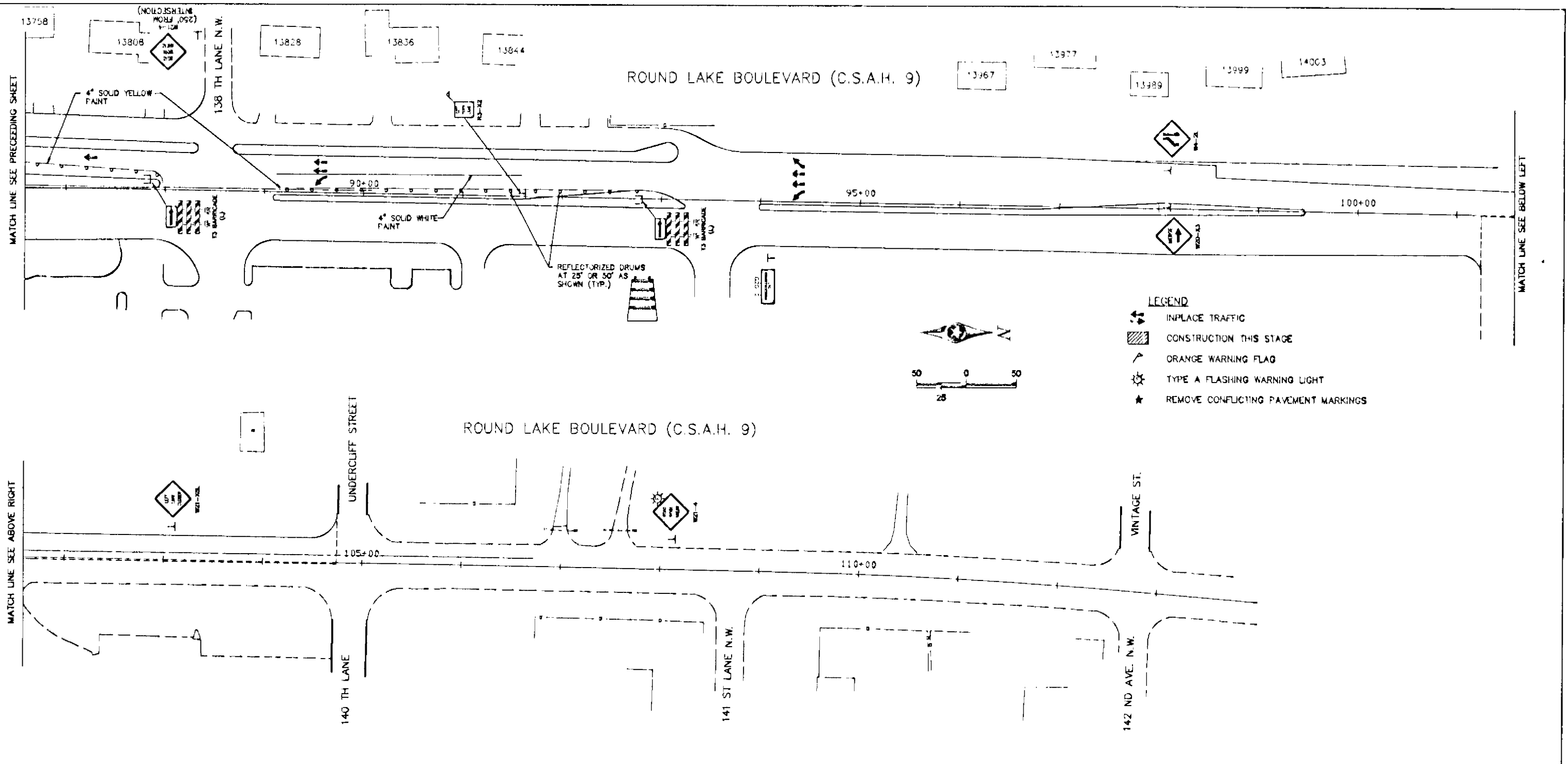


**ANOKA COUNTY, MINNESOTA**  
 S.A.P. 02-609-10, S.A.P. 02-618-03,  
 C.P. 93-12-118

**TRAFFIC CONTROL  
 STAGE 4**

FILE NO.	129
93145	
DATE	4/2/93
	133





- NOTES:**
- SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
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1-15-1993 11:00 AM

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

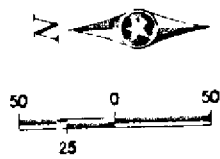
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.  
*Thomas A. Johnson*  
 Date: 4/2/93 Reg. No. 20943



**ANOKA COUNTY, MINNESOTA**  
 S.A.P. 02-609-10, S.A.P. 02-616-03,  
 C.P. 93-12-116

**TRAFFIC CONTROL  
 STAGE 4**

FILE NO. 93145	130
DATE 4/2/93	133



BUNKER LAKE BLVD. (C.R. 116)

MATCH LINE SEE NEXT SHEET

100+00

105+00

- LEGEND**
- INPLACE TRAFFIC
  - CONSTRUCTION THIS STAGE
  - ORANGE WARNING FLAG
  - TYPE A FLASHING WARNING LIGHT
  - REMOVE CONFLICTING PAVEMENT MARKINGS

**NOTES:**

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4/2/93 7:30 PM

NO	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

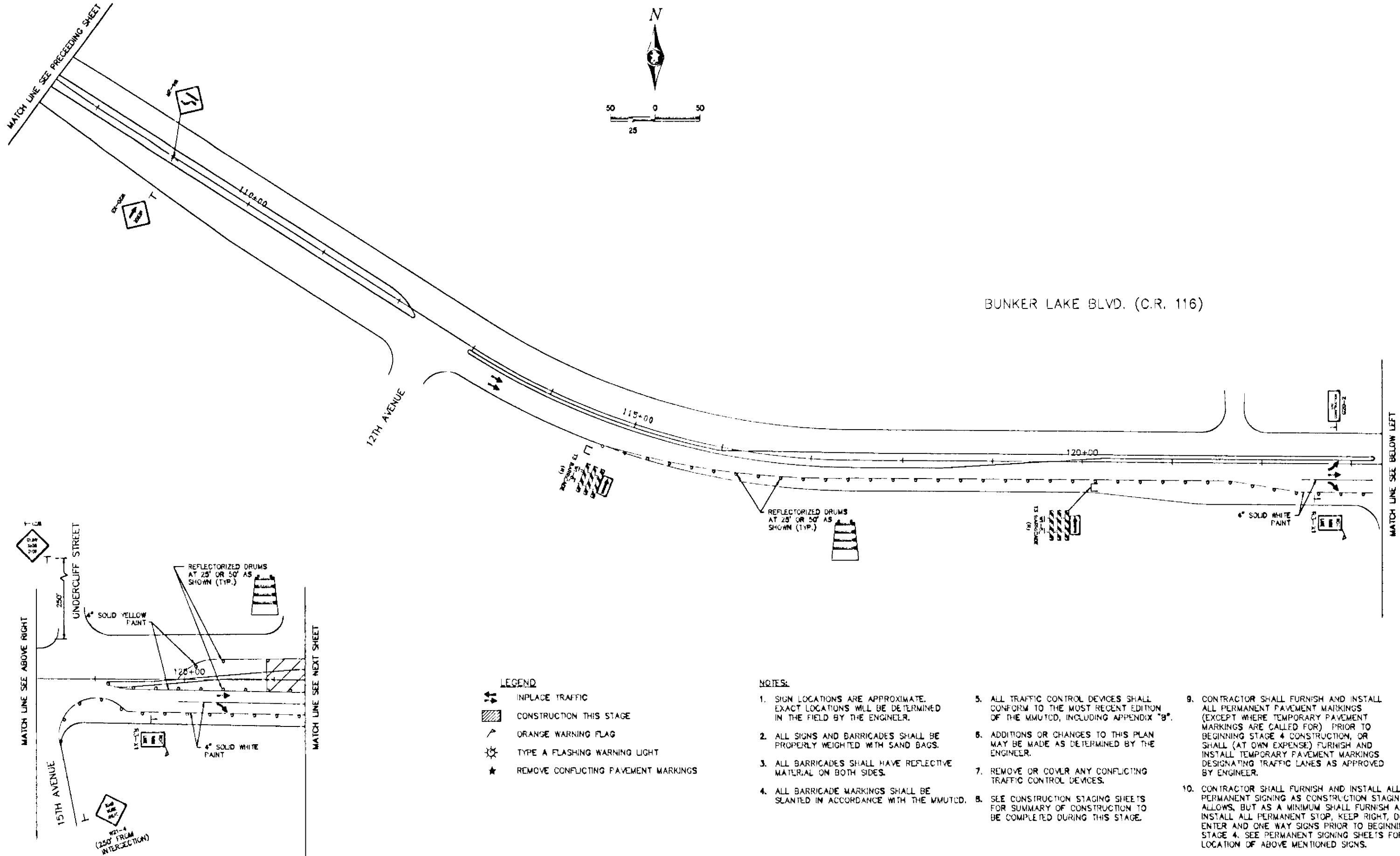
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.  
*Thomas R. Schwede*  
 Date: 4/2/93 Reg. No. 20943



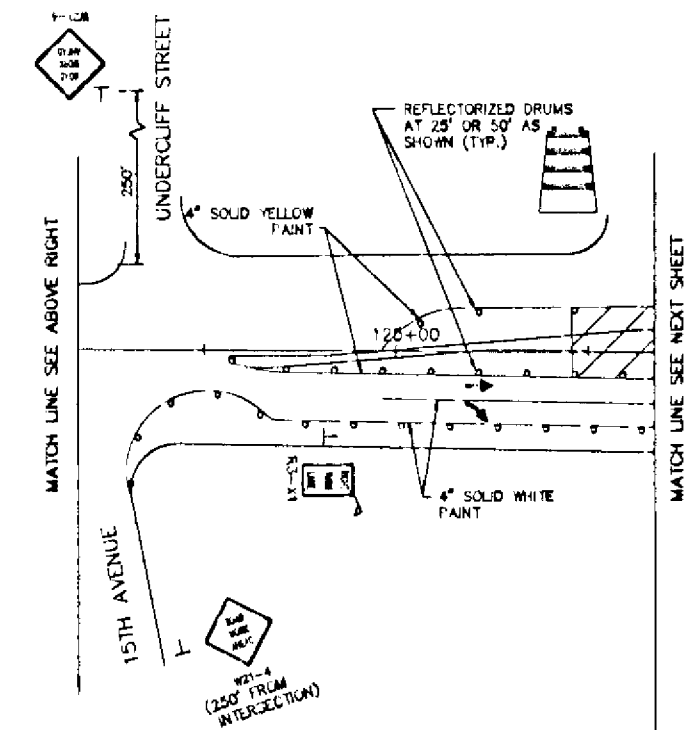
ANOKA COUNTY, MINNESOTA  
 S.A.P. 02-609-10, S.A.P. 02-616-03,  
 C.P. 93-12-116

TRAFFIC CONTROL  
 STAGE 4

FILE NO. 93145	131
DATE 4/2/93	133



BUNKER LAKE BLVD. (C.R. 116)



- LEGEND**
- INPLACE TRAFFIC
  - CONSTRUCTION THIS STAGE
  - ORANGE WARNING FLAG
  - TYPE A FLASHING WARNING LIGHT
  - REMOVE CONFLICTING PAVEMENT MARKINGS

- NOTES:**
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4-1-1993 7:40 PM

NO	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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.

*Thomas A. Schweitzer*  
 Date: 4/2/93 Reg. No. 20943



ANOKA COUNTY, MINNESOTA  
 S.A.P. 02-609-10, S.A.P. 02-616-03,  
 C.P. 93-12-116

TRAFFIC CONTROL  
 STAGE 4

FILE NO.	132
93145	
DATE	4/2/93
	133

