

PLAN SYMBOLS

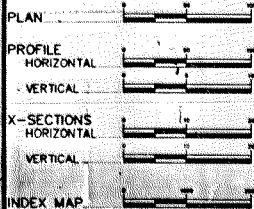
- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- RIGHT OF WAY LINE
- SLOPE EASEMENT
- PRESENT RIGHT OF WAY
- PROPERTY LINE
- CORPORATE OR CITY LIMITS
- RETAINING WALL
- RAILROAD
- RAILROAD RIGHT OF WAY
- RIVER OR CREEK
- DRAINAGE DITCH
- CULVERT
- DROP INLET
- GAUARD RAIL
- BARBED WIRE FENCE
- WOODEN WIRE FENCE
- CHAIN LINK FENCE
- WOOD FENCE
- STONE WALL OR FENCE
- HEDGE

- LOWLAND
- TIMBER
- ORCHARD
- BROUSH
- MURSPRY
- CATTLE GAUD
- OVERPASS (Highway Over)
- UNDERPASS (Highway Under)
- BRIDGE
- BUILDING (One Story Frame)
- F-FRAME C-CONCRETE
- S-STONE T-TILE
- B-BRICK ST-STUCCO
- RAILROAD CROSSING BELL
- RAILROAD CROSSING GATE
- MANHOLE
- CATCH BASIN
- FIRE HYDRANT
- CAST IRON MONUMENT
- IRON PIN
- GRAVEL PIT
- SAND PIT
- BORROW PIT
- ROCK QUARRY

UTILITY SYMBOLS

- POWER POLE LINE
- TELEPHONE OR TELEGRAPH POLE LINE
- JOINT TELEPHONE & POWER ON POWER POLES
- ON TELEPHONE POLES
- ANCHOR
- STEEL TOWER
- STREET LIGHT
- PEDESTAL (Cabin Terminal)
- GAS MAN
- WATERMAN
- TELEPHONE CABLE IN CONDUIT
- ELECTRIC CABLE IN CONDUIT
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- BURIED TELEPHONE CABLE
- BURIED ELECTRIC CABLE
- AERIAL TELEPHONE CABLE
- SEWER (Sanitary or Storm)
- SEWER MANHOLE

SCALES



MINNESOTA DEPARTMENT OF TRANSPORTATION

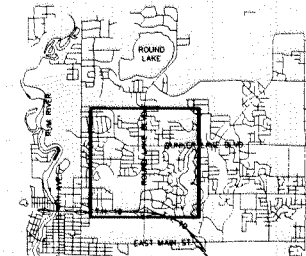
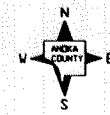
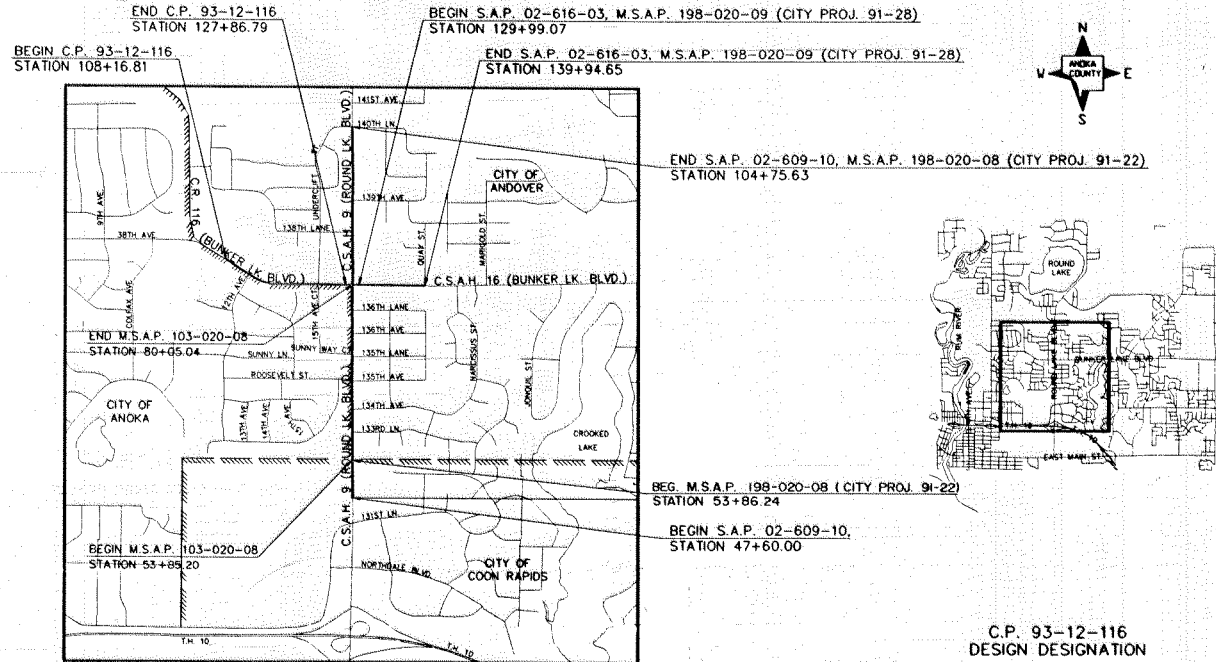
ANOKA COUNTY

CONSTRUCTION PLAN FOR 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 103-020-08	198-020-08	STATE AID PROJ. NO. 02-616-03, MSAP 198-020-09	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



S.A.P. 02-609-10
DESIGN DESIGNATION

EN18₂₀ 3,082,000
R VALUE 70
ADT (1993)= 22,200
Proj. ADT (2013)= 37,800
Proj. HCADT (2013)= 2,800
Soil Factor N/A

Shoulder Width 12'
Functional Classification HIGH DENSITY ARTERIAL
No. of Traffic Lanes 4 No. of Parking Lanes 0
Design Speed 45 MPH
Based on Stopping Sight Distance
Height of eye 3.5' Height of object 0.5'
Design Speed not achieved at: N/A

S.A.P. 02-616-03
DESIGN DESIGNATION

EN18₂₀ 2,273,000
R VALUE 70
ADT (1993)= 12,700
Proj. ADT (2013)= 21,700
Proj. HCADT (2013)= 1,600
Soil Factor N/A

Shoulder Width 12'
Functional Classification HIGH DENSITY ARTERIAL
No. of Traffic Lanes 4 No. of Parking Lanes 0
Design Speed 50 MPH
Based on Stopping Sight Distance
Height of eye 3.5' Height of object 0.5'
Design Speed not achieved at: N/A

C.P. 93-12-116
DESIGN DESIGNATION

EN18₂₀ 1,848,000
R VALUE 50
ADT (1993)= 10,400
Proj. ADT (2013)= 17,600
Proj. HCADT (2013)= 1,300
Soil Factor N/A

10' TON DESIGN
Shoulder Width 15'
Functional Classification HIGH DENSITY ARTERIAL
No. of Traffic Lanes 4 No. of Parking Lanes 0
Design Speed 45 MPH
Based on Stopping Sight Distance
Height of eye 3.5' Height of object 0.5'
Design Speed not achieved at: N/A

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

GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AS AMENDED BY SUPPLEMENTAL SPECIFICATIONS, DATED JANUARY 2, 1991 SHALL GOVERN.

INDEX

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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. *Michael P. Kelly*
DESIGN SQUAD M. GABRICK

Recommended for Approval *Michael P. Kelly* 4/26 1993
Recommended for Approval *John J. Kelly* 4/26 1993
Recommended for Approval *John J. Kelly* 4/26 1993
Approved 4/26 1993
Approved 5/11 1993
Approved 5/11 1993
Approved 5/11 1993
Approved 5/11 1993
Recommended for Approval *John J. Kelly* 5/2 1993
Recommended for Approval *John J. Kelly* 5/2 1993
Approved 5/25 1993

CLEARING AND GRUBBING (A)

STATION - STATION	LOCATION	TYPE	CLEARING TREE ACRE	GRUBBING TREE ACRE
C.S.A.H. 9				
53+89	20' RT LNB DEC	1	1	
54+23	42' LT LNB DEC	3	3	
54+51	42' RT LNB DEC	1	1	
54+74	44' LT LNB DEC	1	1	
56+46	43' LT LNB EVERG	1	1	
56+63	24' RT LNB DEC	1	1	
57+67	41' LT LNB DEC	1	1	
57+90	39' LT LNB EVERG	1	1	
57+97	18' RT LNB DEC	1	1	
58+16	41' LT LNB EVERG	1	1	
58+41	42' LT LNB EVERG	1	1	
58+71	16' RT LNB DEC	1	1	
59+03	13' RT LNB DEC	1	1	
59+61	43' LT LNB EVERG	1	1	
59+66	8' RT LNB DEC	1	1	
59+78	42' LT LNB EVERG	1	1	
60+07	10' RT LNB DEC	1	1	
60+30	8' RT LNB DEC	1	1	
60+23	43' LT LNB EVERG	1	1	
60+39	10' RT LNB DEC	1	1	
60+50	9' RT LNB DEC	1	1	
60+64	44' LT LNB EVERG	1	1	
61+06	45' LT LNB EVERG	1	1	
61+26	44' LT LNB EVERG	1	1	
61+47	44' LT LNB EVERG	1	1	
61+70	12' RT LNB DEC	1	1	
61+72	10' RT LNB DEC	1	1	
61+81	17' RT LNB STUMP	1	1	
61+90	17' RT LNB STUMP	1	1	
62+00	12' RT LNB DEC	1	1	
62+00	14' RT LNB DEC	1	1	
62+16	11' RT LNB DEC	1	1	
62+29	14' RT LNB DEC	1	1	
62+36	16' RT LNB DEC	1	1	
62+46	13' RT LNB DEC	1	1	
62+43	11' RT LNB DEC	1	1	
62+57	10' RT LNB DEC	1	1	
62+71	6' RT LNB DEC	1	1	
62+71	8' RT LNB DEC	1	1	
63+10	8' RT LNB DEC	1	1	
63+54	10' LT LNB STUMP	1	1	
63+72	10' LT LNB STUMP	1	1	
64+07	10' LT LNB STUMP	1	1	
64+61	10' LT LNB STUMP	1	1	
64+84	11' LT LNB STUMP	1	1	
65+08	11' LT LNB STUMP	1	1	
65+1E	11' LT LNB STUMP	1	1	
65+89	57' LT LNB DEC	1	1	
65+90	15' RT LNB DEC	1	1	
65+94	17' LT LNB DEC	1	1	
65+95	45' LT LNB DEC	1	1	
67+36	12' RT LNB DEC	1	1	
67+56	5' LT LNB DEC	1	1	
67+62	5' LT LNB DEC	1	1	
67+63	5' LT LNB DEC	1	1	
67+63	5' LT LNB DEC	1	1	
67+65	16' RT LNB DEC	1	1	
69+63	14' RT LNB DEC	1	1	
69+65	9' LT LNB STUMP	1	1	
69+90	34' RT LNB EVERG	1	1	
70+38	8' LT LNB STUMP	1	1	
70+54	07' RT LNB DEC	1	1	
70+60	31' LT LNB DEC	1	1	
71+31	45' RT LNB DEC	1	1	
71+46	14' RT LNB STUMP	1	1	
71+56	46' RT LNB DEC	1	1	
71+91	16' RT LNB DEC	1	1	
72+04	48' RT LNB DEC	1	1	
72+07	29' RT LNB EVERG	1	1	
72+25	31' RT LNB EVERG	1	1	
72+29	46' RT LNB EVERG	1	1	
72+37	18' RT LNB STUMP	1	1	
72+41	31' RT LNB EVERG	1	1	
72+42	48' RT LNB EVERG	1	1	
72+60	55' RT LNB DEC	1	1	
72+61	28' RT LNB DEC	1	1	

① DEC=DECIDUOUS
EVERG=EVERGREEN
WOODS=WOODS
STUMP=STUMP

CLEARING AND GRUBBING (CONT.) (A)

STATION - STATION	LOCATION	TYPE	CLEARING TREE ACRE	GRUBBING TREE ACRE
73+15	19' RT LNB EVERG	1	1	
73+42	34' RT LNB DEC	1	1	
73+79	40' RT LNB DEC	1	1	
73+80	28' RT LNB STUMP	1	1	
73+96	22' RT LNB EVERG	1	1	
73+97	42' RT LNB EVERG	1	1	
74+07	28' RT LNB EVERG	1	1	
74+25	29' RT LNB DEC	1	1	
74+44	24' RT LNB DEC	1	1	
74+51	32' LT LNB DEC	1	1	
75+79	31' LT LNB DEC	1	1	
76+40	31' LT LNB DEC	1	1	
76+70	30' LT LNB DEC	1	1	
76+98	30' LT LNB DEC	1	1	
77+28	31' LT LNB DEC	1	1	
77+48	31' LT LNB DEC	1	1	
79+37	41' LT LNB DEC	1	1	
79+68	63' LT LNB DEC	1	1	
84+06	22' LT LNB STUMP	1	1	
84+24	36' RT LNB STUMP	1	1	
C.R. 116				
110+77 TO 115+72		WOODS	40	40
118+18	26' RT LEB. EVERG	1	1	
118+85	26' RT LEB. EVERG	1	1	
119+06	29' RT LEB. EVERG	2	2	
119+20	30' RT LEB. EVERG	1	1	
119+35	25' RT LEB. EVERG	1	1	
119+40	27' RT LEB. EVERG	1	1	
120+03	30' RT LEB. EVERG	1	1	
120+11	30' RT LEB. EVERG	1	1	
120+14	35' RT LEB. EVERG	1	1	
120+16	31' RT LEB. EVERG	1	1	
120+30	36' RT LEB. DEC	1	1	
122+00	59' RT LEB. EVERG	1	1	
122+58	55' RT LEB. EVERG	1	1	
122+67	53' RT LEB. EVERG	1	1	
123+15	51' RT LEB. EVERG	1	1	
123+97	30' RT LEB. STUMP	1	1	
124+30	39' RT LEB. EVERG	1	1	
124+92	37' RT LEB. EVERG	1	1	
125+22	36' RT LEB. EVERG	1	1	
125+44	30' RT LEB. DEC	1	1	
125+90	29' RT LEB. DEC	1	1	
126+34	28' RT LEB. DEC	1	1	
127+09	27' RT LEB. DEC	1	1	
127+31	27' RT LEB. DEC	1	1	
127+52	27' RT LEB. DEC	1	1	
C.S.A.H. 16				
127+75	26' RT LEB. DEC	1	1	
127+68	91' RT LEB. DEC	1	1	
TOTALS			106	40

BITUMINOUS REMOVAL (B)

STATION - STATION	LOCATION	DESCRIPTION	SQ. YDS.
C.S.A.H. 9			
45+00 TO 105+00		MAINLINE	37401
64+53 TO 83+82		SERVICE ROAD	2456
65+50 TO 69+00	LEFT	BITUMINOUS SIDEWALK/BIKE PATH	201
71+78	LEFT	COMMERCIAL ENTRANCE	159
74+46	RIGHT	COMMERCIAL ENTRANCE	239
77+46	LEFT	COMMERCIAL ENTRANCE	198
82+74	LEFT	COMMERCIAL ENTRANCE	61
84+01	RIGHT	COMMERCIAL ENTRANCE	321
87+89	RIGHT	COMMERCIAL ENTRANCE	162
91+12	RIGHT	COMMERCIAL ENTRANCE	237
COUNTY ROAD 116			
108+00 TO 127+88		MAINLINE	11998
128+12	LEFT	COMMERCIAL ENTRANCE	322
126+65	RIGHT	COMMERCIAL ENTRANCE	215
C.S.A.H. 16			
129+98 TO 140+00		MAINLINE	6276
136+50 TO 139+20	RIGHT	SERVICE ROAD	852
129+72	LEFT	COMMERCIAL ENTRANCE	254
136+24	RIGHT	CHURCH ENTRANCE	254
137+50	LEFT	COMMERCIAL ENTRANCE	308
TOTAL			61934

SAWING BITUMINOUS PAVEMENT (C)

STATION - STATION	LOCATION	LIN. FT.
C.S.A.H. 9		
47+60	14' RT-14' LT LNB	28
48+40	15' LT-25' LT LNB	40
57+49 TO 57+77	114' RT LNB	29
61+06 TO 61+32	82' RT LNB	29
65+25 TO 65+63	36' LT LNB	37
65+35 TO 65+65	107' RT LNB	31
69+11 TO 69+47	80' LT LNB	35
69+16 TO 69+44	113' RT LNB	27
71+45 TO 71+72	67' LT LNB	26
72+59 TO 73+08	74' LT LNB	49
72+76 TO 73+04	56' RT LNB	27
73+83 TO 74+13	61' LT LNB	32
74+13	38' LT-61' LT LNB	23
76+38 TO 76+67	56' RT LNB	29
77+75 TO 77+98	55' LT LNB	27
82+62 TO 82+90	41' LT LNB	28
83+75 TO 84+37	49' RT-81' RT LNB	101
84+82 TO 84+96	64' LT LNB	14
85+54 TO 85+85	60' LT LNB	32
85+65 TO 86+84	58' LT LNB	20
87+50 TO 87+81	35' RT LNB	26
87+76 TO 87+96	58' LT LNB	19
87+94 TO 88+19	37' RT LNB	25
88+25 TO 89+11	77' LT LNB	91
88+37 TO 88+63	79' LT LNB	27
88+92 TO 89+09	58' LT LNB	18
90+07 TO 90+26	58' LT LNB	18
91+00 TO 91+20	72' RT LNB	20
91+57 TO 91+77	58' LT LNB	19
92+25 TO 92+45	59' LT LNB	19
93+29 TO 93+70	86' RT LNB	31
101+26	12' LT-46' RT LNB	58
101+26 TO 104+73	12' LT LNB	47
104+77	12' LT-42' RT LNB	54
C.R. 116		
(112)08+17	12' RT-57' LT LNB	69
112+24 TO 112+71	79' RT LEB.	27
123+24 TO 123+64	62' RT LEB.	29
123+60 TO 123+88	64' LT LNB	26
126+09 TO 126+44	90' LT LNB	35
126+48 TO 126+85	43' RT LEB.	37
C.S.A.H. 16		
133+77 TO 134+19	46' LT LNB	42
133+77 TO 134+12	56' RT LNB	35
135+74	270'-305' RT LEB.	33
135+74 TO 135+97	270' RT LEB.	23
137+84	155'-280' RT LEB.	125
137+27 TO 137+63	51' LT LNB	36
139+29	16'-46' RT LEB.	26
139+82	75' LT-7' RT LEB.	88
TOTALS		2076

(1) INCLUDES 16' CONCRETE PAVEMENT SAWING (INCIDENTAL)

FENCE CONSTRUCTION (D)					
STATION - STATION	LOCATION	DESCRIPTION	SALVAGE LIN. FT.	INSTALL LIN. FT. (1)	REMOVE LIN. FT.
60+00 TO 60+86	17'-12' RT LNB	WOOD	86	86	
63+43	15'-26' RT LNB	WOOD			11
70+20 TO 71+10	33'-25' RT LNB	WOOD		127	
74+72 TO 75+47	21'-34' RT LNB	CHAIN LINK	77	77	13
75+77 TO 76+20	21'-46' RT LNB	CHAIN LINK	43	43	29
TOTAL			208	208	180

(1) INSTALL FENCE ALONG NEW R/W

TABULATION CHARTS

CLEARING AND GRUBBING
BITUMINOUS REMOVALS
SAV. BIT. PAVEMENT
FENCE CONSTRUCTION

CONCRETE REMOVALS				
STATION-STATION	LOCATION	C&G LIN.FT.	MEDIAN SQ. YD.	SIDEWALK SQ. YD.
C.S.A.H. 9				
57+44	LNB-55' RT LNB	55		
57+74	LNB-56' RT LNB	56		
61+02	LNB-62' RT LNB	62		
61+32	LNB-56' RT LNB	56		
65+14 TO 65+26	27' LT-60' LT LSB	40		
65+15	26' LT-56' LT LSB			136
65+33	3' LT-77' RT LNB	80		
65+64	36' LT-71' LT LSB	36		
65+64	5' LT-76' RT LNB	81		
69+11	47' LT-57' LT LSB	22		
69+15	9' RT-58' RT LNB	49		
69+44	7' RT-56' RT LNB	49		
69+49	47' LT-57' LT LSB	10		
69+55 TO 72+62	35' LT LSB			971
71+37 TO 71+44	16' LT-75' LT LSB	88		
71+72 TO 71+75	17' LT-75' LT LSB	82		
72+61 TO 73+07	50' LT LSB			
72+75	18' RT-55' RT LNB	37		
73+07	18' RT-56' RT LNB	38		
73+76 TO 73+81	13' LT-65' LT LSB	70		
74+17 TO 74+19	13' LT-46' LT LSB	42		
74+43 TO 79+85	29' RT-37' RT LNB	1091	3080	
76+36	27' RT-54' RT LNB	57		
77+67 TO 77+68	16' LT-51' LT LSB	36		
77+99 TO 78+03	17' LT-54' LT LSB	28		
80+80 TO 80+18	20' LT-26' LT LNB	1079	3083	
82+38 TO 82+59	2' LT-40' LT LSB	39		
82+90 TO 83+08	1' LT-41' LT LSB	40		
83+89	31' RT-46' RT LNB	15		
84+16	32' RT-47' RT LNB	16		
86+57 TO 87+55	49' RT-36' RT LNB	135		
87+59	80' RT-26' RT LNB	365	1436	
87+82 TO 87+96	21' RT-37' RT LNB	237	1884	
87+89	21' RT LNB	249	1723	
88+14 TO 88+23	15' RT-28' RT LNB	94		
88+18 TO 88+28	10' RT-135' RT LNB	91	302	
88+19 TO 88+29	38' RT-53' RT LNB	15		
88+23 TO 88+27	15' RT-176' RT LNB	15		
88+27 TO 88+44	18' RT LNB	17		
88+28 TO 88+80	52' RT LNB	52		
91+01	38' RT-51' RT LNB	13		
93+35	36' RT-65' RT LNB	49		
93+70	35' RT-85' RT LNB	50		
C.R. 116				
123+31	28' RT-45' RT LNB	17		
123+62	27' RT-48' RT LNB	35		
126+10	33' LT-46' LT LWB	13		
126+45	33' LT-46' LT LWB	14		
126+48	10' RT-34' RT LNB	26		
126+64	10' RT-35' RT LNB	29		
C.S.A.H. 16				
133+80	32' LT-46' LT LWB	14		
134+18	32' LT-50' LT LWB	15		
136+51 TO 139+16	5' RT-43' RT LNB	281		
137+30	32' LT-49' LT LWB	35		
137+69	32' LT-42' LT LWB	10		
139+94	21' LT-42' LT LWB	21		
TOTALS		5346	11518	1107

FOR ADDITIONAL CONCRETE REMOVALS SEE CHART 'K' DRIVEWAY CONSTRUCTION

PRIVATE UTILITIES						
STATION - STATION	LOCATION	INPLACE ITEM	CONSTRUCTION LIMITS		OWNER	
			WITHIN LIN.FT.	OUTSIDE LIN.FT.		
45+00 TO 47+65	44' LT-37' LT LSB	BURIED	269		US WEST	
45+00 TO 47+65	38' RT LNB	BURIED	269		US WEST	
47+65 TO 79+86	77' LT-22' LT LSB	BURIED	3218		US WEST	
50+12	71' LT-8' RT LNB	BURIED	80		US WEST	
57+13 TO 57+55	8' RT LNB	BURIED	42		US WEST	
57+56	8' RT LNB	BURIED	106	139	US WEST	
80+76 TO 105+56	0' RT LNB	BURIED	2460		US WEST	
108+20 TO 121+25	38' LT-5.5' RT LNB	BURIED	1305		US WEST	
121+25 TO 128+66	8' RT-19' RT LNB	BURIED	741		US WEST	
121+31 TO 129+21	5' RT-10.5' RT LNB	BURIED	790		US WEST	
121+55 TO 123+67	2' RT - 5' RT LNB	BURIED	242		US WEST	
123+68	6' RT-34' RT LNB	BURIED	112	234	US WEST	
125+35 TO 125+91	17' RT-19' RT LNB	BURIED	1091	157	US WEST	
129+20 TO 140+11	15' LT-12' LT LWB	BURIED	27		US WEST	
53+79	13' RT-56' RT LNB	BURIED	29	13	AEC	
53+79 TO 56+98	13' RT-2' LT LNB	BURIED	318		AEC	
53+82	28' RT-54' RT LNB	BURIED	14	13	AEC	
53+88 TO 79+68	28' RT-30' RT LNB	BURIED	2987		AEC	
56+98 TO 57+28	2' LT-26' RT LNB	BURIED	44		AEC	
57+57 TO 80+05	3' LT-29' RT LNB	BURIED	2246		AEC	
57+26 TO 57+57	25' RT-3' LT LNB	BURIED	39		AEC	
79+69 TO 83+17	31' RT-41' RT LNB	BURIED	1348		AEC	
81+83 TO 82+21	66' RT-2' RT LNB	BURIED	57		AEC	
82+20 TO 82+77	28' RT LNB	BURIED	57		AEC	
88+15	50' RT-290' RT LNB	BURIED		241	AEC	
88+15 TO 88+73	49' RT-47' RT LNB	BURIED	57		AEC	
88+73 TO 88+79	47' RT-33' RT LNB	BURIED	15		AEC	
88+90 TO 96+72	34' RT-33' RT LNB	BURIED	582		AEC	
93+73	40' LT-231' LT LWB	BURIED		192	AEC	
96+61 TO 96+71	55' RT-32' RT LNB	BURIED	25		AEC	
108+18 TO 119+31	25' LT-22' LT LWB	BURIED	1113		AEC	
122+05 TO 123+45	22' LT-24' LT LWB	BURIED		139	AEC	
123+45 TO 123+57	54' LT-23' LT LWB	BURIED		234	AEC	
126+07 TO 125+05	23' LT-134' LT LWB	BURIED	39	112	AEC	
126+09 TO 126+16	23' LT-174' LT LWB	BURIED	67	84	AEC	
129+50 TO 140+10	24' LT-18' LT LWB	BURIED	1061		AEC	
135+14 TO 136+25	50' LT LWB	BURIED	112		AEC	
136+25	50' LT-45' RT LNB	BURIED	95		AEC	
138+09 TO 138+20	7' LT-51' LT LWB	BURIED	37		AEC	
138+20 TO 139+57	33' LT LWB	BURIED	133		AEC	
139+57	33' LT-121' LT LWB	BURIED	88		AEC	
45+00 TO 53+89	46' RT-52' RT LNB	BURIED	95		MIDWEST GAS	
44+00 TO 80+05	6' RT-19' LT LSB	BURIED	3185		MIDWEST GAS	
53+87	5' RT-2' RT LNB	BURIED			MIDWEST GAS	
53+87 TO 80+57	5' RT-7' LT LNB	BURIED	2670		MIDWEST GAS	
57+23 TO 57+40	5' LT-36' RT LNB	BURIED	47.5		MIDWEST GAS	
57+40 TO 57+46	36' RT-209' RT LNB	BURIED	66	164	MIDWEST GAS	
64+52	16' LT-186' RT LNB	BURIED	76	134	MIDWEST GAS	
72+45 TO 72+71	8' LT-19' RT LNB	BURIED	36		MIDWEST GAS	
72+71	19' RT-186' RT LNB	BURIED	26	143	MIDWEST GAS	
76+18 TO 76+30	7' LT-186' RT LNB	BURIED	49	179	MIDWEST GAS	
76+30	33' RT-229' RT LNB	BURIED	16	180	MIDWEST GAS	
80+05 TO 80+84	19' LT-25' LT LSB	BURIED	75		MIDWEST GAS	
80+05 TO 105+55	7' LT-7' RT LNB	BURIED	2498		MIDWEST GAS	
80+84 TO 84+16	25' LT-17' LT LSB	BURIED	377		MIDWEST GAS	
84+16 TO 105+55	17' LT-21' LT LSB	BURIED	2094		MIDWEST GAS	
90+83 TO 90+86	1' LT - 212' RT LNB	BURIED	37	176	MIDWEST GAS	
93+37	45' RT-142' LT LSB	BURIED	189		MIDWEST GAS	
105+09	48' LT-214' LT LSB	BURIED	166		MIDWEST GAS	
105+32	25' LT-46' LT LWB	BURIED	21		MIDWEST GAS	
105+33 TO 105+09	46' LT-48' LT LWB	BURIED	24		MIDWEST GAS	
108+17 TO 112+28	17' LT-11' LWB	BURIED	411		MIDWEST GAS	
112+28 TO 128+18	17' LT-11' LT LWB	BURIED	1590		MIDWEST GAS	
123+28	18' LT-296' RT LWB	BURIED		126	MIDWEST GAS	
123+28 TO 123+54	38' RT-180' RT LNB	BURIED	142		MIDWEST GAS	
123+95	38' LT-130' LT LWB	BURIED	32	66	MIDWEST GAS	
123+95 TO 124+12	31' LT-17' LT LWB	BURIED	22		MIDWEST GAS	
125+39	15' LT-91' RT LWB	BURIED	106		MIDWEST GAS	
125+41 TO 126+08	41' RT-243' RT LNB	BURIED	202		MIDWEST GAS	
126+18 TO 129+13	11' RT-4' RT LWB	BURIED	96		MIDWEST GAS	
129+13 TO 140+10	4' RT LWB	BURIED	1097		MIDWEST GAS	
55+56 TO 64+89	2' LT-15' LT LNB	BURIED	933		CATV N. CENTRAL	
64+89 TO 65+03	15' LT-9' LT LNB	BURIED	15		CATV N. CENTRAL	
65+03 TO 80+06	9' LT-17' RT LNB	BURIED	1503		CATV N. CENTRAL	
67+41	8' LT-15' LT LNB	BURIED	18		CATV N. CENTRAL	
67+41 TO 67+23	15' LT-16' LT LNB	BURIED	18		CATV N. CENTRAL	
67+22	16' LT-119' LT LNB	BURIED	27	76	CATV N. CENTRAL	
80+06 TO 81+07	17' RT-20' RT LNB	BURIED	141		CATV N. CENTRAL	
81+07 TO 83+67	16' RT-13' RT LNB	BURIED	260		CATV N. CENTRAL	
83+67 TO 84+32	13' RT-21' RT LNB	BURIED	10		CATV N. CENTRAL	
83+74 TO 84+32	20' RT LNB	BURIED	58		CATV N. CENTRAL	
84+32 TO 84+42	20' RT-13' RT LNB	BURIED	12		CATV N. CENTRAL	
84+42 TO 104+18	13' RT-30' RT LNB	BURIED	1976		CATV N. CENTRAL	
88+74 TO 89+69	30' RT-246' LT LNB	BURIED	276		CATV N. CENTRAL	
129+40 TO 140+10	46' LT-42' LT LWB	BURIED	27	1043	CATV N. CENTRAL	

HYDRANT & VALVE MODIFICATIONS						
STATION	LOCATION	ITEM INPLACE	ADJUST EACH	RELOCATE EACH	OWNER	
C.S.A.H. 9						
54+01	19' RT LNB	GV-W			ANDOVER	
54+02	25' RT LNB	HYDRANT			ANDOVER	
57+29	91' RT LNB	WSD			ANDOVER	
57+46	5' RT LNB	GV-W			ANDOVER	
57+49	6' RT LNB	GV-W			ANDOVER	
57+86	103' RT LNB	WSD			ANDOVER	
59+02	3' LT LNB	GV-W			ANDOVER	
59+03	4' RT LNB	HYDRANT			ANDOVER	
60+88	47' RT LNB	WSD			ANDOVER	
61+24	17' RT LNB	GV-W			ANDOVER	
61+26	3' RT LNB	GV-W			ANDOVER	
61+48	42' RT LNB	GV-W			ANDOVER	
62+54	9' RT LNB	WSD			ANDOVER	
63+24	7' RT LNB	WSD			ANDOVER	
63+31	0.6' LT LNB	HYDRANT			ANDOVER	
63+31	37' LT LNB	GV-W			ANKKA	
64+26	32' LT LSB	GV-W			ANKKA	
67+10	36' LT LSB	GV-W			ANKKA	
69+42	49' LT LSB	GV-W			ANKKA	
69+54	51' LT LSB	GV-W			ANKKA	
69+56	51' LT LSB	HYDRANT			ANKKA	
69+71	33' LT LSB	GV-W			ANKKA	
73+10	41' LT LSB	GV-W			ANKKA	
74+50	24' LT LSB	HYDRANT			ANKKA	
74+50	30' LT LSB	GV-W			ANKKA	
75+65	38' LT LSB	GV-W			ANKKA	
79+34	54' LT LSB	HYDRANT			ANKKA	
79+36	54' LT LSB	GV-W			ANKKA	
80+57	7' LT LNB	GV-G			ANDOVER	
80+84	25' LT LSB	GV-W			ANDOVER	
81+04	67' LT LSB	GV-W			ANDOVER	
81+06	67' LT LNB	HYDRANT			ANDOVER	
81+29	46' RT LNB	GV-W			ANDOVER	
81+32	47' RT LNB	GV			ANDOVER	
83+58	43' RT LNB	GV-W			ANDOVER	
83+58	51' RT LNB	HYDRANT			ANDOVER	
84+27	19' LT LNB	GV-G			ANDOVER	
86+78	45' RT LNB	GV-W			ANDOVER	
87+00	53' RT LNB	HYDRANT			ANDOVER	
87+00	44' RT LNB	GV-W			ANDOVER	
90+19	48' RT LNB	GV-W			ANDOVER	
90+40	48' RT LNB	GV-W			ANDOVER	
90+40	58' RT LNB	HYDRANT			ANDOVER	
93+43	42' RT LNB	GV-W			ANDOVER	
93+47	39' RT LNB	GV-W			ANDOVER	
93+50	43' RT LNB	GV-W				

CONCRETE CURB AND GUTTER (H)				
STATION - STATION	LOCATION	B-612 C&G LIN.FT.	B-618 C&G LIN.FT.	REMARKS
C.S.A.H. NO. 9				
47+61 - 57+45	26' RT LNB		1,059	INCLUDES STREET APPR.
48+38 - 65+24	26' LT LNB		1,238	INCLUDES STREET APPR.
47+61 - 57+05	LT LNB		1,821	MEDIAN
57+77 - 61+06	26' RT LNB		451	INCLUDES STREET APPR.
58+08 - 64+90	LT LNB		1,384	MEDIAN
61+32 - 65+33	26' RT LNB		509	INCLUDES STREET APPR.
65+64 - 69+10	26' LT LNB		410	INCLUDES STREET APPR.
65+65 - 69+14	26' RT LNB		484	INCLUDES STREET APPR.
65+95 - 68+05	LT LNB		422	MEDIAN
69+46 - 72+75	26' RT LNB		421	INCLUDES STREET APPR.
69+50 - 72+67	26' LT LNB		384	INCLUDES ENT
70+11 - 72+41	LT LNB		469	MEDIAN
72+07 - 76+35	26' RT LNB		362	INCLUDES STREET APPR.
73+03 - 77+70	26' LT LNB		532	INCLUDES ENT
73+50 - 79+68	LT LNB		1,267	MEDIAN
76+67 - 79+74	26' - 32' RT LNB		350	INCLUDES STREET APPR.
78+00 - 79+79	26' LT LNB		226	INCLUDES STREET APPR.
79+52 - 79+85	RT LNB		138	MEDIAN
80+86 - 82+60	26' LT LNB		209	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 LNB		939	INCLUDES SERVICE RD.
84+22 - 88+30	26' RT LNB		463	INCLUDES ENT
86+57 - 88+30	52' RT LNB	188	916	SIC PLAN & PROF. SH.
88+67 - 93+06	14' - 24' LT LNB		291	INCLUDES SERVICE RD.
88+80 - 91+00	26' RT LNB		291	INCLUDES ENT
89+12 - 93+22	LT LNB		835	MEDIAN
93+01 - 96+76	26' LT LNB		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		560	MEDIAN
C.R. NO. 116				
108+17 - 112+23	LT LEB		820	MEDIAN
112+97 - 123+24	LT LEB		2,073	MEDIAN
123+65 - 126+48	26' RT LEB		319	INCLUDES STREET APPR.
123+88 - 126+10	26' LT LEB		251	INCLUDES STREET APPR.
124+15 - 128+26	LT LEB		838	MEDIAN
126+44 - 127+88	26' LT LEB		156	INCLUDES ENT
126+86 - 127+87	26' RT LEB		109	INCLUDES ENT
C.S.A.H. NO. 16				
129+76 - 137+03	LT LEB		1,471	MEDIAN
129+97 - 133+78	26' LT LEB		396	INCLUDES ENT
129+99 - 133+76	26' RT LEB		398	INCLUDES ENT
134+18 - 137+42	26' RT LEB		363	INCLUDES STREET APPR.
134+20 - 137+28	26' LT LEB		345	INCLUDES ENT
137+70 - 139+95	26' LT LEB		248	INCLUDES STREET APPR.
PROPOSED CITY STREET (ANDOVER)				
10+80 - 12+04	26' RT		204	
10+80 - 12+04	16' LT		204	
12+04 - 12+99	16' LT		95	
50+16 - 52+00	14' RT		189	
50+25 - 52+00	14' LT		202	
TOTALS		188	28,083	

CONCRETE SIDEWALK (D)				
STATION - STATION	LOCATION	4' CONC. WALK SQ.FT.	6' CONC. WALK SQ.FT.	CONC. PED. RAMP SQ.FT.
C.S.A.H. NO. 9				
53+88 - 55+25	36' - 41' RT LNB	686		
55+25 - 55+41	36' - 41' RT LNB		96	
55+41 - 57+29	36' - 41' RT LNB	942		
57+37	36' - 41' RT LNB			64
57+84	36' - 41' RT LNB			64
57+92 - 60+86	36' - 41' RT LNB	1,474		64
60+93	36' - 41' RT LNB			64
61+42	36' - 41' RT LNB			64
61+49 - 65+02	36' - 41' RT LNB	1,767		64
65+12	36' - 41' RT LNB			64
65+18	35' - 40' LT LNB			64
65+79	35' - 40' LT LNB			64
65+85	36' - 41' RT LNB			64
65+95 - 68+99	36' - 41' RT LNB	1,519		64
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		64
69+66 - 72+51	35' - 40' LT LNB	1,424		64
72+58	35' - 40' LT LNB			64
72+66	36' - 41' RT LNB			64
73+15	36' - 41' RT LNB			64
73+22 - 75+50	36' - 41' RT LNB	1,138		64
75+50 - 75+67	36' - 41' RT LNB			64
75+67 - 76+20	36' - 41' RT LNB	263	85	64
76+26	36' - 41' RT LNB			64
76+76	36' - 41' RT LNB			64
76+83 - 79+54	36' - 41' RT LNB	1,252		64
79+58	35' - 40' LT LNB			64
79+63	35' - 40' LT LNB			64
79+67	16' RT LNB			64
79+70	24' RT LNB			64
79+90	36' RT LNB			64
81+01	35' - 40' LT LNB			64
81+03	36' - 41' RT LNB			64
C.S.A.H. NO. 16				
129+71 - 133+63	36' - 41' RT LEB	1,958		
133+70	36' - 41' RT LEB			64
134+22	36' - 41' RT LEB			64
134+29 - 137+27	36' - 41' RT LEB	1,488		64
137+34	36' - 41' RT LEB			64
TOTALS		15,498	181	1,728

BITUMINOUS CURB AND WALK (C)				
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+02 - 69+01	LT LNB		66	BITUMINOUS MEDIAN
68+02 - 69+01	LT LNB	232		MEDIAN
69+27 - 70+11	LT LNB		116	BITUMINOUS MEDIAN
69+27 - 70+11	LT LNB		184	MEDIAN
96+76 - 99+45	LT LNB		242	BITUMINOUS MEDIAN
96+76 - 99+45	LT LNB	549		MEDIAN
C.R. NO. 116				
122+75 - 123+28	26' RT LEB	71		INCLUDES STREET APPR.
C.S.A.H. NO. 16				
134+18 - 137+42	14' RT LEB	391		INCLUDES STREET APPR.
137+70 - 139+95	14' LT LWB	247		INCLUDES STREET APPR.
TOTALS		1,674	593	

DRIVEWAY CONSTRUCTION (K)										
STATION/LDC.	ADDRESS	REMARKS	EXIST WIDTH	REMOVE		CONC. PAVEMENT DRIVEWAY		BIT. PAVEMENT DRIVEWAY		AGGREGATE ENTRANCE
				CONC. SQ.YD.	BIT. SQ.YD.	WIDTH	REPLMT. NEW	WIDTH	REPLMT. NEW	
C.S.A.H. 9										
54+00 LT	13308	RESIDENTIAL ENT.	20		59					
55+47 RT	13311	RESIDENTIAL ENT.	17		45			16	18	16 4
57+53 LT		SAND	11							
65+94 RT	13421/13427	RESIDENTIAL ENT.	19	140	99					
63+64 RT	13433	RESIDENTIAL ENT.	11		45					
66+16 LT	13511	RESIDENTIAL ENT.	8		32			12	13	
75+58 RT	13625	RESIDENTIAL ENT.	17		36			17	19	
84+89 LT	13748	RESIDENTIAL ENT.	12		24			13	25	
85+85 LT	13752	RESIDENTIAL ENT.	32		70			32	46	
86+86 LT	13758	RESIDENTIAL ENT.	20		36			21	20	
87+96 LT	13808	RESIDENTIAL ENT.	19		39			20	19	
89+09 LT	13828	RESIDENTIAL ENT.	17		23	19	19	19	21	
90+28 LT	13836	RESIDENTIAL ENT.	19		21			16	15	
91+76 LT	13844	RESIDENTIAL ENT.	20		22			19	23	
92+44 LT	13852	RESIDENTIAL ENT.	19		24			19	22	
CITY RD 16 & 116										
121+48 LT	PARK ENT		20							
TOTALS				140	569	19		206	191	50 16 4

Ⓚ PAID FOR AS 2" THICK WEARING COURSE PLACED

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

CULVERT TABULATION (L)

STATION	LDC	INPLACE	REMARKS	REMOVE CULV. PIPE		F&I CULVERT 15' CMP	
				LN.FT.	APR.	LN.FT.	APR.
C.S.A.H. 9							
84+00	20' RT LNB	45' 12" CMP		45			
91+12	20' RT LNB	56' 15" CMP		56			
93+31	21' LT LNB	37' 15" CMP		37			
93+54	20' RT LNB	66' 15" CMP		66			
C.R. 116							
112+53	37' RT LEB	89' 36" ARCH PIPE		89			
117+08	10' L-S' R LVB	61' CMP		61	40	2	
121+70	22' LT LVB	45' 15" CMP	RELOCATE 32' LT LVB	45			
123+68	24' LT LVB	61' 15" CMP		61			
126+27	18' LT LVB	54' 15" CMP		54			
126+66	17' RT LEB	50' 15" CMP		50			
C.S.A.H. 16							
133+96	5' RT LEB	60' 15" CMP		60			
139+31	10'-40' LEB	32' 15" CMP					
TOTALS				624	40	2	

TURF ESTABLISHMENT (M)

STATION - STATION	LOCATION	SDD SO. YDS.	ROADSIDE SEEDING ACRES	SEED MIXTURE 700 POUNDS	SEEDING WETLAND ACRES	SEED MIXTURE SPECIAL #POUNDS
47+61 - 79+74	RT. LNB	6,050	0.42	14.7		
48+38 - 79+79	LT. LNB	6,644	0.34	11.9		
80+88 - 101+25	RT. LNB	3,262	0.27	9.4		
80+86 - 104+75	LT. LNB	3,896	0.30	10.5		
C.R. ND. 116						
108+17 - 127+17	RT. LEB	1,473	0.44	15.4		
108+17 - 127+88	LT. LVB	820	0.51	17.8	0.81	13.0
MITIGATION SITE						
C.S.A.H. ND. 16						
129+99 - 139+85	RT. LEB	3,255	0.15	5.2		
129+97 - 139+95	LT. LVB	2,672				
TOTALS		27,072	2.43	84.9	0.81	13.0

SANITARY SEWER MODIFICATIONS (Q)

STATION	LOCATION	ITEM INPLACE	OWNERSHIP	INPLACE ELEVATION	PROPOSED ELEVATION	ADJUST EACH	RECONST. EACH
54+70	8' RT LNB	MANHOLE	ANDOVER	874.61	874.85	1	
55+66	10' LT LNB	MANHOLE	U.S. WEST	873.45	875.29	1	
55+73	10' LT LNB	MANHOLE	U.S. WEST	873.45	875.53	1	
57+58	3' LT LNB	MANHOLE	ANDOVER	874.67	876.50	1	
59+36	7' LT LNB	MANHOLE	ANDOVER	874.91	876.07	1	
61+17	4' LT LNB	MANHOLE	ANDOVER	875.10	875.24	1	
63+18	1' RT LNB	MANHOLE	ANDOVER	876.39	875.09		1
63+79	15' LT LNB	MANHOLE	ANDOVER	876.45	875.41	1	
69+29	47' RT LNB	MANHOLE	ANDOVER	FIELD VERIFY	875.01	1	
71+95	5' LT LNB	MANHOLE	U.S. WEST	876.06	876.49	1	
72+90	70' RT LNB	MANHOLE	ANDOVER	FIELD VERIFY	FIELD VERIFY	1	
76+50	66' RT LNB	MANHOLE	ANDOVER	877.08	FIELD VERIFY	1	
82+69	29' LT LNB	MANHOLE	ANDOVER	879.42	FIELD VERIFY	1	
85+31	8' RT L1	MANHOLE	ANDOVER	877.54	878.00	1	
88+53	1' RT L1	MANHOLE	ANDOVER	876.59	875.84	1	
91+00	C/L L1	MANHOLE	ANDOVER	876.50	876.51	1	
93+47	37' LT LNB	MANHOLE	ANDOVER	877.49	877.91	1	
93+55	46' RT LNB	MANHOLE	ANDOVER	ND CNST.			
104+90	60' RT LNB	MANHOLE	ANDOVER	ND CNST.			
104+91	35' LT LNB	MANHOLE	ANDOVER	ND CNST.			
109+68	31' RT LEB	MANHOLE	ANDKA	FIELD VERIFY	FIELD VERIFY	1	
112+52	32' RT LEB	MANHOLE	ANDKA	868.83	870.09	1	
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: 4,869 CU.YDS.
 REGULAR: 27,189 CU.YDS. REGULAR: 15,997 CU.YDS.
 PAVEMENT: 6,323 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. REGULAR: 2,755 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: 104 CU.YDS.
 REGULAR: 230 CU.YDS. REGULAR: 0 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: 1,865 CU.YDS. SUBCUT: 809 CU.YDS. TOPSOIL: 104 CU.YDS.
 REGULAR: 1,076 CU.YDS. REGULAR: 841 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: 108 CU.YDS.
 REGULAR: 268 CU.YDS. REGULAR: 160 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.
 REGULAR: 31,531 CU.YDS. (1)
 PAVEMENT: 30,474 CU.YDS.

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

EMBANKMENT (CV):

REGULAR: 11,041 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)

* 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.

C.R. 116 - MAINLINE

EXCAVATION:

COMMON: 10,381 CU.YDS. SUBCUT: 5,019 CU.YDS. TOPSOIL: 1,157 CU.YDS.
 REGULAR: 5,362 CU.YDS. REGULAR: 2,460 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.

EMBANKMENT (CV):

1.5' MUCK HOLDDOWN: 1,859 CU.YDS.

BALANCE:

EXCESS GRADING MATERIAL: 3,748 C.Y. (EV)

EARTHWORK
 SUMMARY

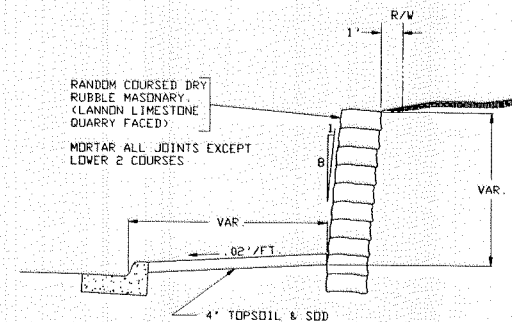
SOILS AND CONSTRUCTION NOTES

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 0" - 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 SODDED, 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 P.I.
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:
 C.S.A.H. 9 (SO. OF 16) - 6 1/2"
 C.S.A.H. 9 (NO. OF 16) - 5 1/2"
 C.R. 116 - 4"
 C.S.A.H. 16 - 1 1/2" MAT
 6" STAB. BASE
 THE CONTRACTOR SHALL INVESTIGATE AND MAKE THEIR OWN DETERMINATION OF ACTUAL PAVEMENT DEPTH.

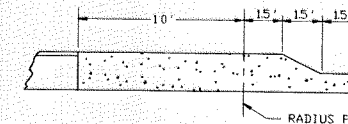
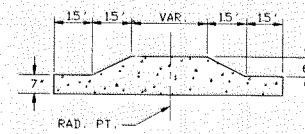
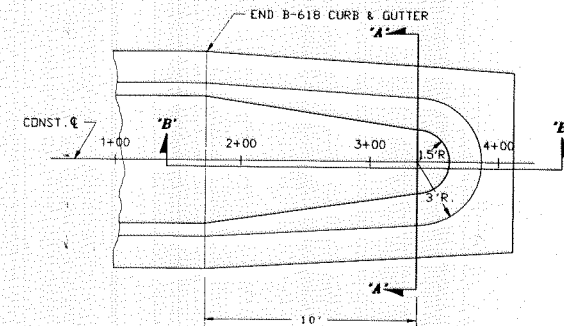
ALL TRAFFIC CONTROL SIGNING AND DEVICES SHALL CONFORM TO THE MUTED, INCLUDING APPENDIX B, DATED NOVEMBER 1992.

Fed. Project No. _____

RETAINING WALL DETAIL



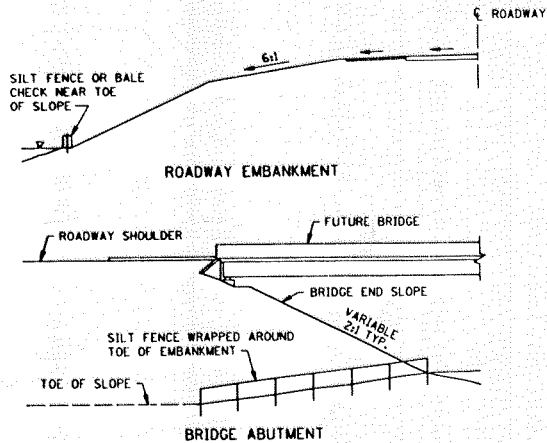
MEDIAN NOSE DETAIL



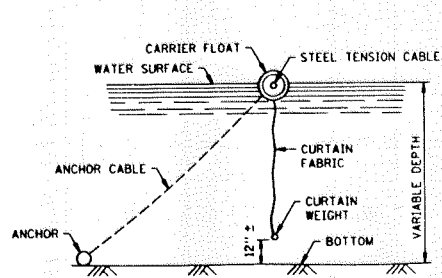
SECTION "A-A"

SECTION "B-B"

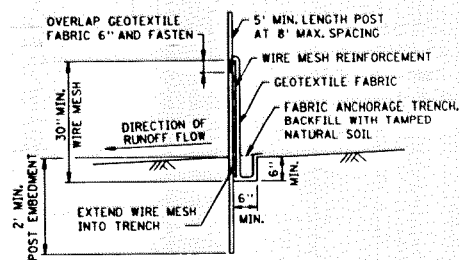
CONSTRUCTION NOTES AND STANDARD DETAILS



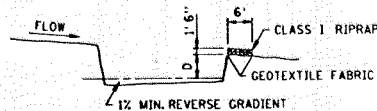
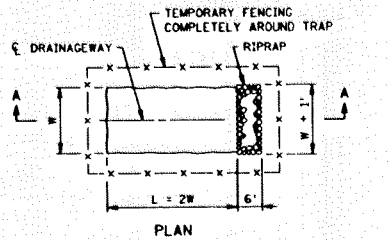
SILT FENCE OR BALE CHECK TO PROTECT ADJACENT CRITICAL AREAS



FLOATATION SILT CURTAIN

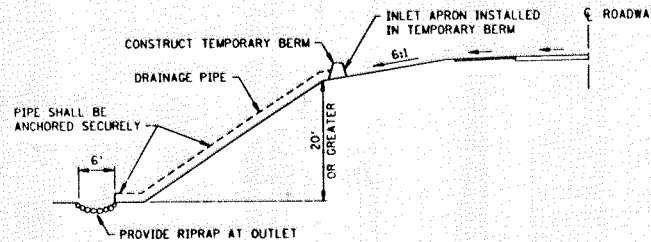


SILT FENCE DETAIL



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

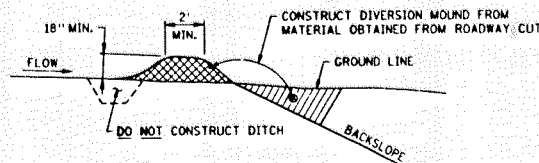
SECTION A-A
TEMPORARY SEDIMENT TRAP



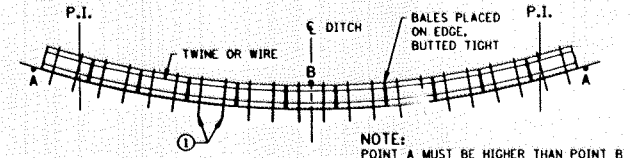
TEMPORARY DRAIN ON FILL SLOPE



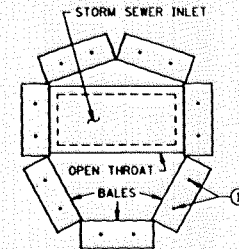
BALE DIVERSION



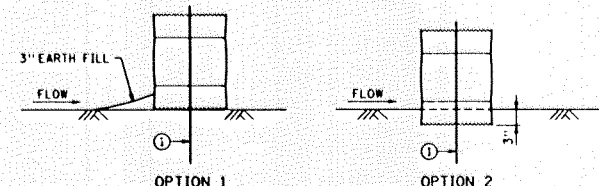
DIVERSION MOUND



BALE DITCH CHECK



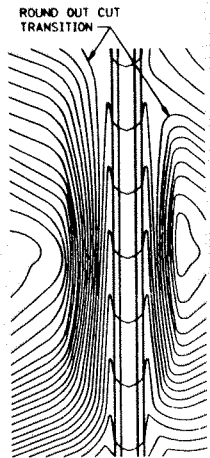
BALE CHECK TO PROTECT STORM SEWER INLETS



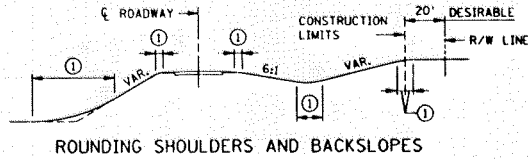
BALE CHECK DETAILS

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

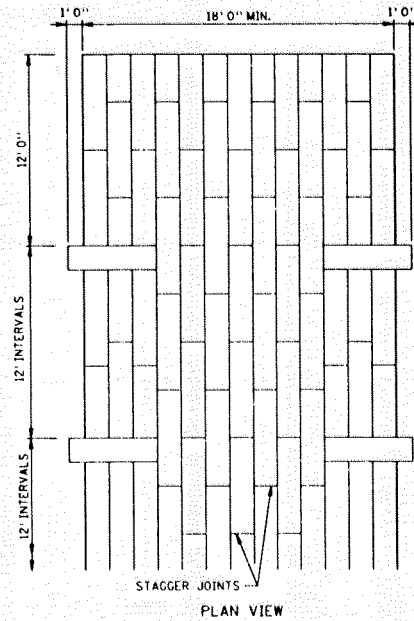
STANDARD SHEET NO. 5-297.405	TITLE: TEMPORARY EROSION CONTROL
STANDARD APPROVED: DECEMBER 19, 1990	
STATE PROJ. NO.S.A.P. 02-616-03 M.S.A.P. 03-020-08 CP:93-12-116 SHEET NO. 11 OF 130 SHEETS	



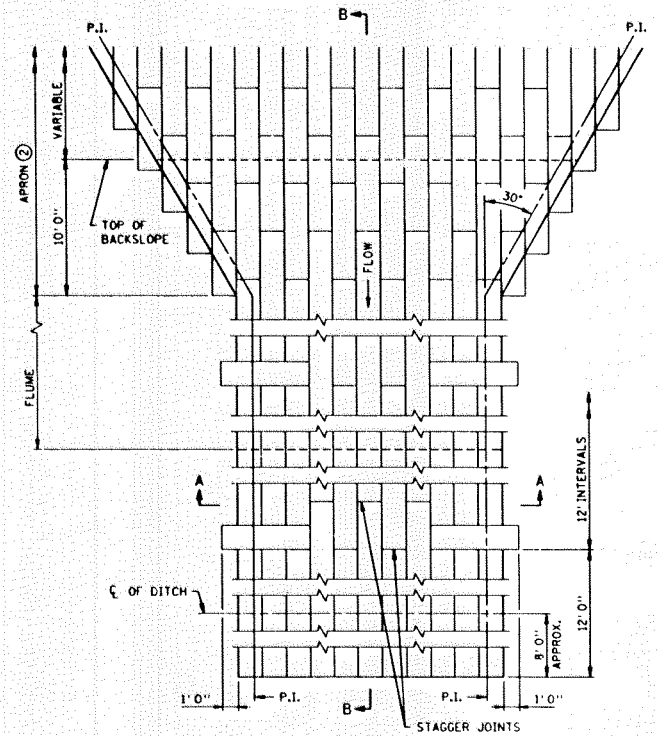
CONTOURING ROAD CUTS



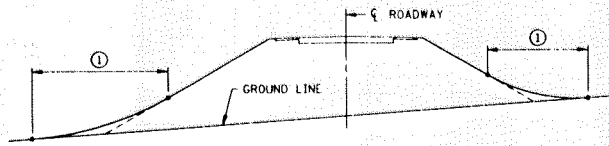
ROUNDING SHOULDERS AND BACKSLOPES



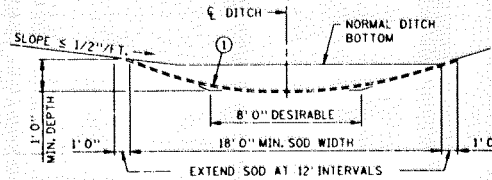
PLAN VIEW



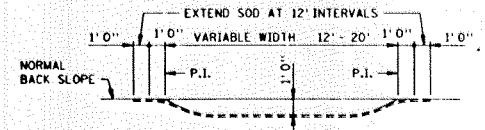
PLAN VIEW



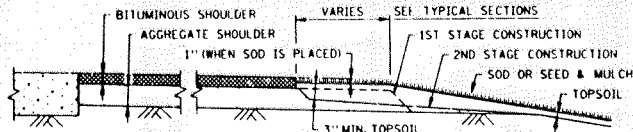
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



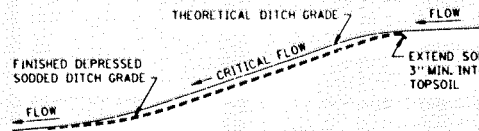
SODDED DITCH CROSS SECTION
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.), FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



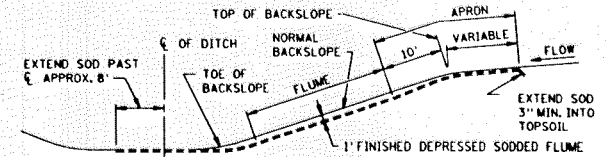
SECTION A-A



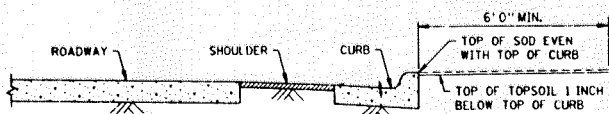
SHAPING AND TOPSOILING INSLOPES



DITCH PROFILE
SODDED DITCH DETAILS



SECTION B-B
SODDED FLUME DETAILS

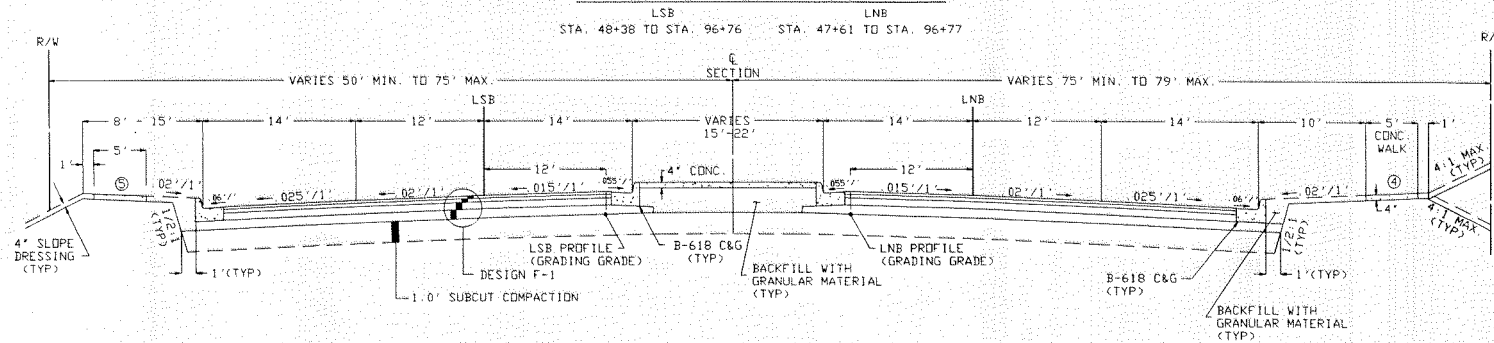


SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED

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

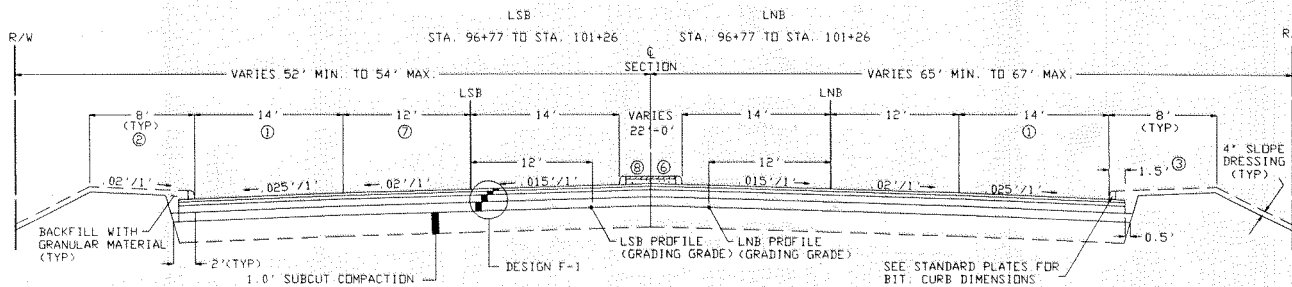
STANDARD SHEET NO. 5-297.404	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS, DITCHES AND FLUMES
STANDARD APPROVED: DECEMBER 19, 1990	
STATE PROJ. NO. SAP 02-616-03MSAP	103-020-08 198-020-08 198-020-08 CP93-12-116
SHEET NO. 12 OF 133 SHEETS	

ROUND LAKE BLVD. (C.S.A.H. 9)-MAINLINE

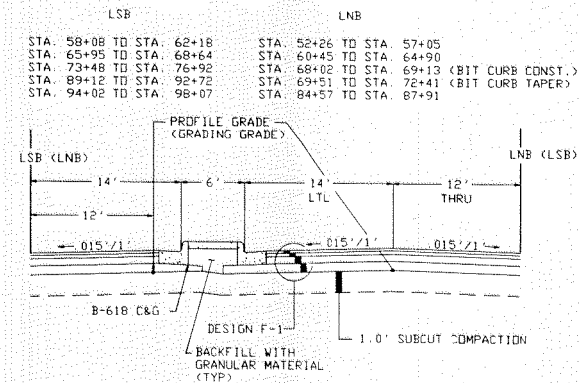


- NOTES
- ① END 14' - 025'/1' SHOULDER LANE @ LNB STA. 101+15 RT - LSB STA. 98+57 LT.
 - ② END BERM SECTION LSB STA. 100+00 LT.
 - ③ NO HORIZONTAL STAGGERING OF LIFTS IN BERM AREAS
 - ④ LNB STA. 53+88 TO STA. 79+58 RT
 - ⑤ 4' CONCRETE WALK ON GRADE. LSB STA. 69+56 TO STA. 72+62 LT. 2' TYPE WEAR ON 3' AGG. BASE CLASS 5-A. LSB STA. 65+73 TO STA. 69+05 LT
 - ⑥ 2' TYPE WEAR ON 3' AGG. BASE CL-5A LNB - LSB STA. 96+76 - 99+14
 - ⑦ 14' LANE WIDTH FROM 98+50 TO 104+75
 - ⑧ DEPRESS MEDIAN PAVING TO PREVENT RUNOFF OVER CURB

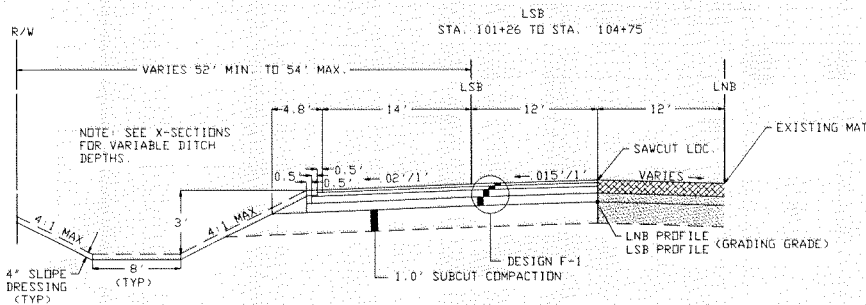
ROUND LAKE BLVD. (C.S.A.H. 9)-TRANSITION CONNECTION



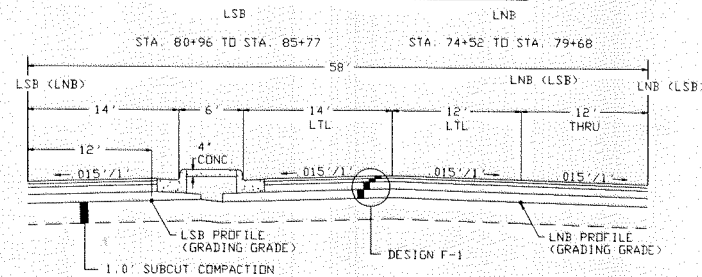
C.S.A.H. 9 - LEFT TURN LANES



ROUND LAKE BLVD. (C.S.A.H. 9)-TRANSITION CONNECTION



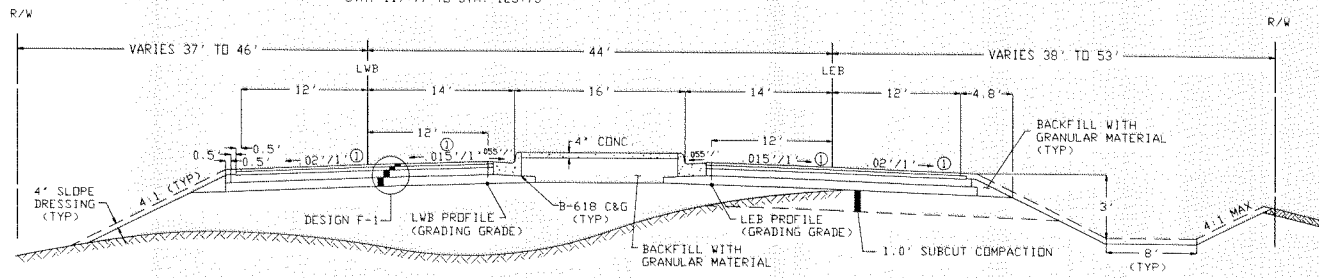
C.S.A.H. 9 - DOUBLE LEFT TURN LANES



TYPICAL SECTIONS
C.S.A.H. 9

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

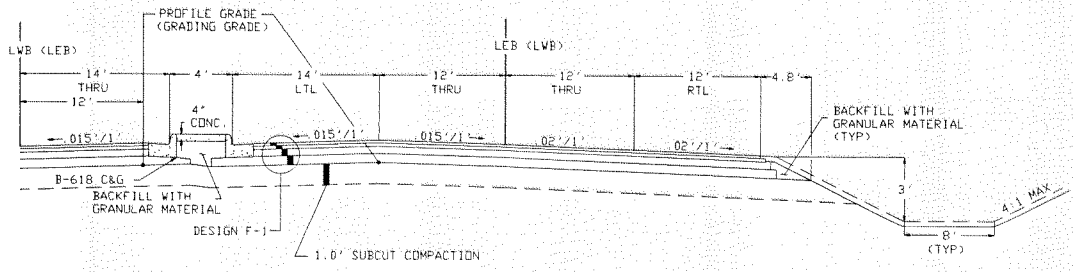
LWB STA. 108+17 TO STA. 112+23
 STA. 117+77 TO STA. 123+75
 LEB STA. 112+97 TO STA. 118+45



- ① SEE SUPER ELEVATION CHART FOR VAR. CROSS SLOPES & LOCATIONS
- ⊕ 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.

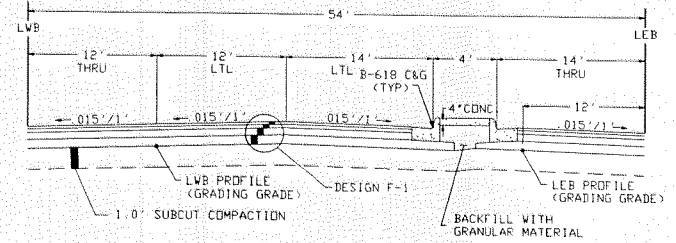
C.R. 116 - LEFT & RIGHT TURN LANES

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



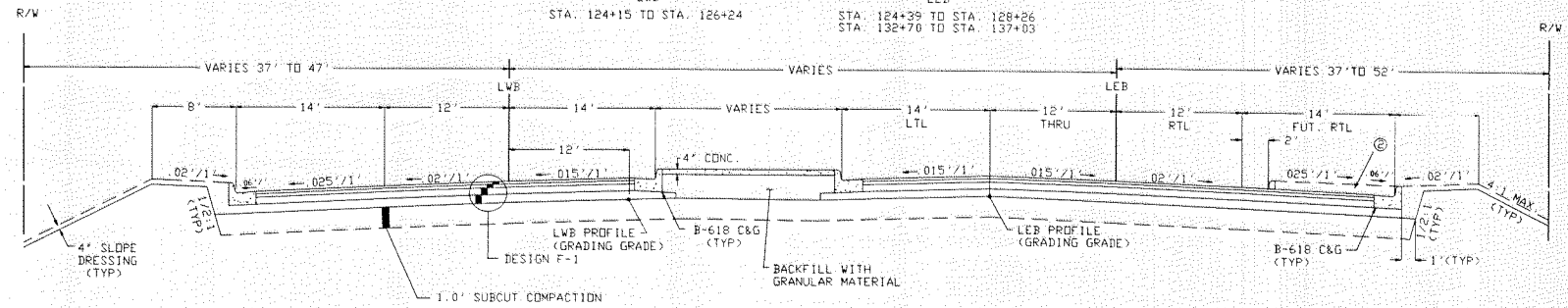
C.S.A.H. 16 - DOUBLE LEFT TURN LANES

LWB STA. 129+76 TO STA. 135+09

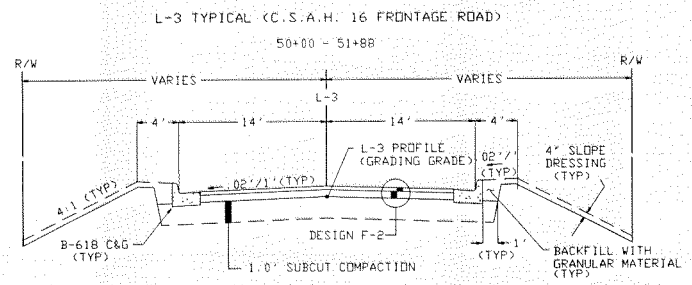
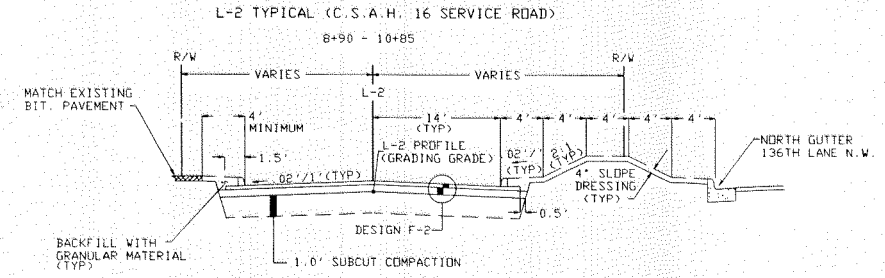
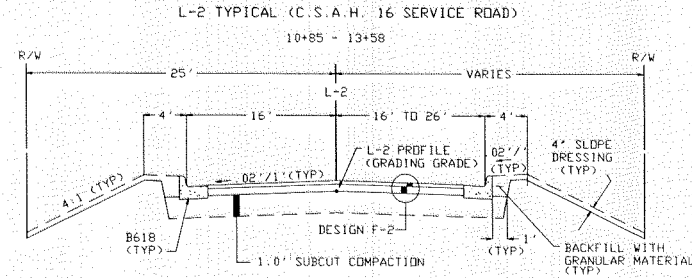
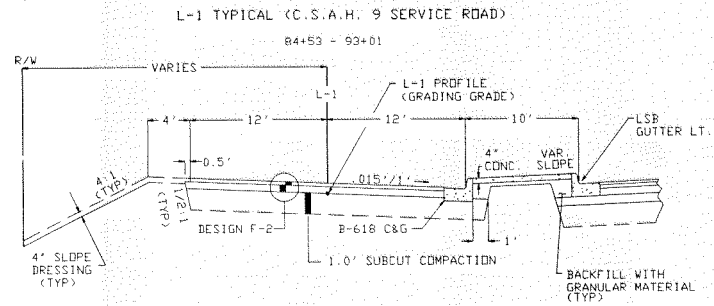


BUNKER LAKE BLVD. (C.R.116 & C.S.A.H. 16) - LEFT TURN LANES

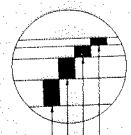
LWB STA. 124+15 TO STA. 126+24
 LEB STA. 124+39 TO STA. 128+26
 STA. 132+70 TO STA. 137+03



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



DESIGN F-1

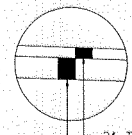


- 1 1/2" TYPE 41 WEARING COURSE-SPEC. 2340
- 1 1/2" TYPE 31 BINDER COURSE-SPEC. 2340
- 4" TYPE 31 BASE COURSE-SPEC. 2340
- 6" AGG. BASE CL.-5A

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

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

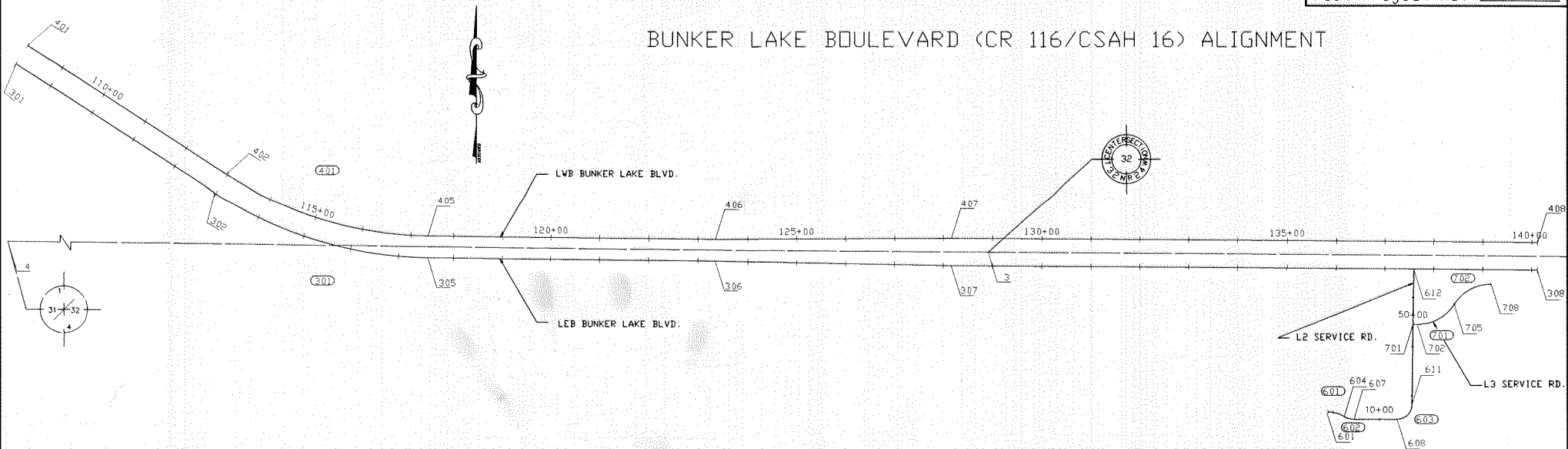
DESIGN F-2



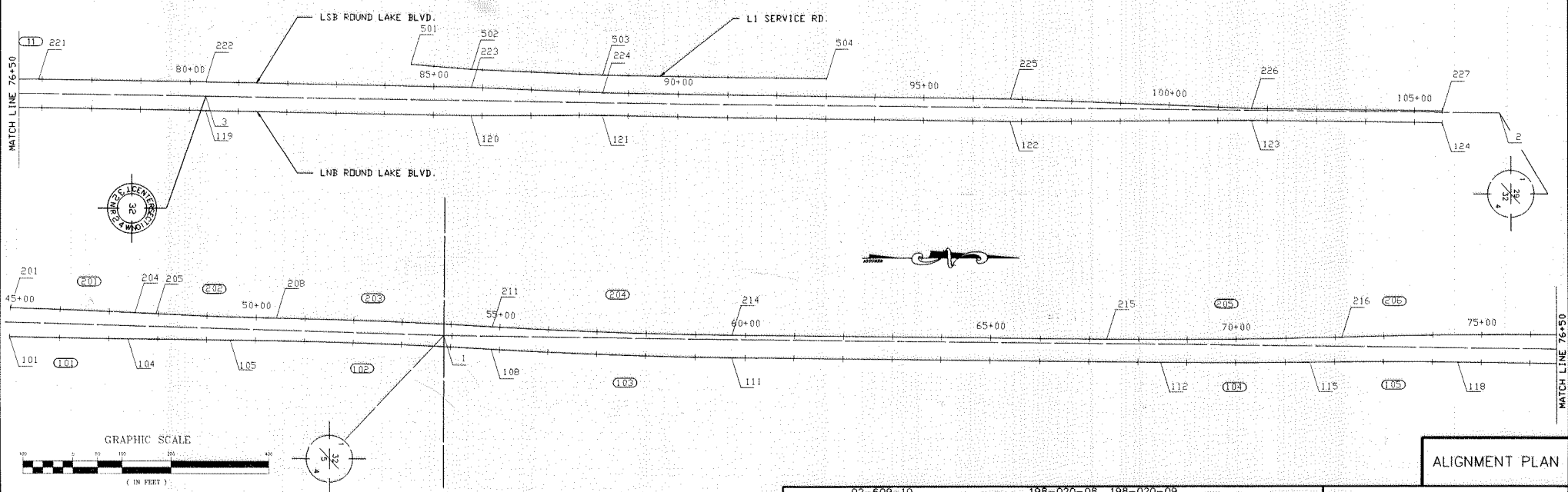
- 2" TYPE 41 WEARING COURSE-SPEC. 2340
- 4" AGG. BASE CL.-5A

TYPICAL SECTIONS
SERVICE DRIVES
DESIGN INSETS

BUNKER LAKE BOULEVARD (CR 116/CSAH 16) ALIGNMENT



ROUND LAKE BOULEVARD (CSAH 9) ALIGNMENT



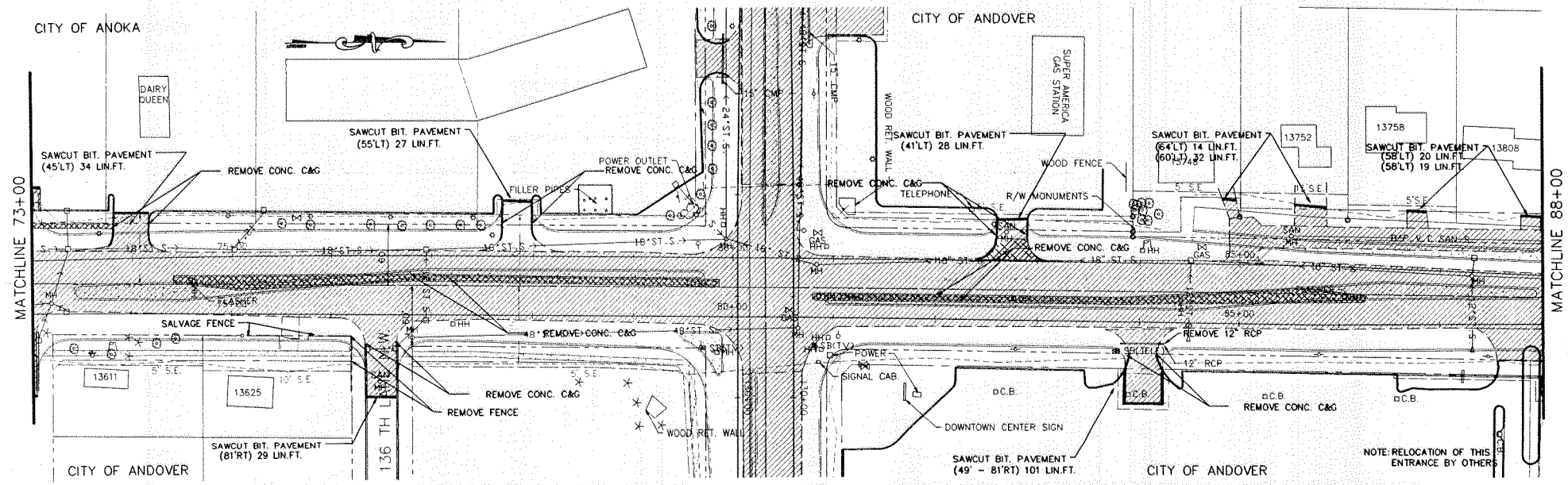
ALIGNMENT PLAN

ALIGNMENT TABULATION

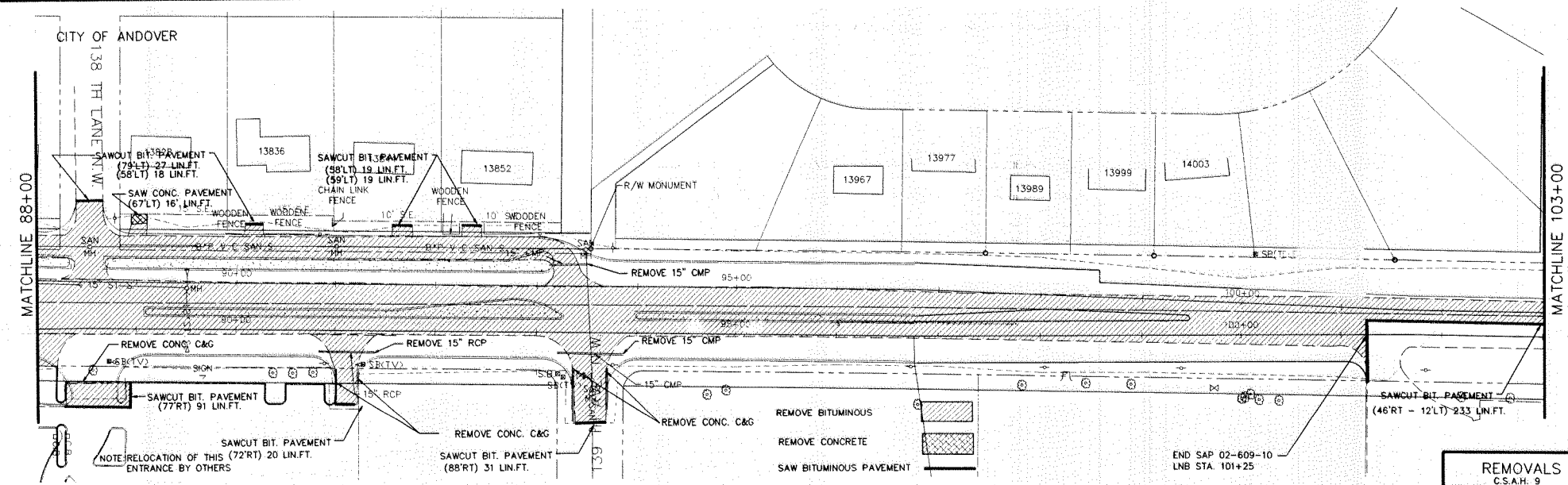
CURVE POINT NO.	POINT TYPE	LOCATION	CURVE DATA			COORDINATES		AZIMUTH	
			DELTA	DEGREE	RADIUS	TANGENT LENGTH	NORTH		EAST
SECTION CORNERS									
1		S 1/4 SEC 32					5383.4286	3777.9923	
2		N 1/4 SEC 32					11670.004	3843.5484	00° 42' 38"
3		E 1/4 SEC 32					3030.3136	2810.8150	
4		S 1/4 SEC 32					5081.2608	1161.5282	90° 27' 25"
NORTH BOUND ROUND LAKE BOULEVARD									
101	PC	45+00	01° 11' 49" L	00° 30' 00"	11459.16	119.69	5497.3887	3782.3932	01° 41' 02"
102	PT	46+25.99					5616.9948	3789.5101	
103	PP	47+39.37	A.P.T. 27.09' RT OF & PERP. TO N. - S 1/4				5756.6783	3786.9274	00° 29' 13"
LINE 646.24' S. OF N 1/4 SEC 5									
105	PC	49+48.31	06° 40' 24" R	00° 30' 00"	11459.16	267.39	5945.6104	3788.7034	00° 29' 13"
106	PT	50+13.49					5616.9948	3789.5101	
107	PP	51+28.98					5749.9670	3805.7174	03° 09' 37"
108	PRC	54+88.98					5724.6240	3819.2661	
109	PI	57+28.01	06° 27' 00" L	00° 30' 00"	11459.16	245.03	7111.7230	3836.0107	
110	PT	59+73.97					8889.6348	3882.6844	00° 42' 38"
111	PP						7843.3190	3833.9968	
112	PC	68+46.72	01° 30' 50" L	00° 30' 00"	11459.16	151.4	7294.7896	3934.9758	00° 42' 38"
113	PT	69+98.12					8122.0942	3852.6958	
114	PP	71+49.90					8297.4811	3830.7897	05° 11' 48"
115	PRC	73+00.90					8306.7825	15520.6821	
116	PI		01° 30' 50" R	00° 30' 00"	11459.16	151.4	8448.8707	3832.6070	00° 42' 38"
117	PT	74+52.89					8448.8707	3832.6070	
118	PP						8820.0823	3833.9143	00° 42' 38"
119	PC	80+33.94	00° 10' 47" R				543.52	5573.6324	00° 53' 25"
120	PT	85+77.16					270.07	3846.4573	00° 53' 25"
121	PP	88+47.63	01° 16' 23" R				861.37	3859.3774	00° 53' 25"
122	PRC	91+08.19					861.37	3859.3774	00° 53' 25"
123	PI	101+08.19	00° 59' 36" R				3991.08	3863.1183	00° 48' 08"
124	PT	109+57.26							
SOUTH BOUND ROUND LAKE BOULEVARD									
201	PC	45+00	01° 15' 35" R	00° 30' 00"	11459.16	125.98	5498.9841	3724.1741	01° 32' 26"
202	PT	46+25.99					5624.9216	3727.5616	
203	PP	47+51.96	A.P.T. 26.49' LT OF & PERP. TO N. - S 1/4				5756.6783	3733.7186	02° 48' 01"
LINE 633.67' S. OF N 1/4 SEC 5									
205	PC	47+99.04	01° 50' 46" L	00° 45' 00"	7639.44	123.09	5793.7880	3735.8812	02° 48' 01"
206	PT	49+19.13					5916.7316	3741.8950	
207	PP	50+41.20					5176.0638	3924.3628	
208	PRC	52+16.84					6631.3071	3747.5740	00° 57' 15"
209	PI	52+16.84	02° 12' 22" R	00° 30' 00"	11459.16	220.64	5848.9769	15261.4558	
210	PP	54+59.44					5480.7582	3759.7235	03° 09' 37"
211	PRC	57+16.47					5745.4792	3769.2689	
212	PI		02° 27' 00" L	00° 30' 00"	11459.16	245.03	5910.3313	3776.2702	00° 42' 38"
213	PT	59+72.42					7732.7430	3785.7238	00° 42' 38"
214	PP						7672.5511	3792.5511	
215	PC	67+34.93	02° 23' 38" R	00° 30' 00"	11459.16	239.42	8211.4564	3771.6593	03° 09' 37"
216	PT	69+74.84					8450.7707	3774.6561	03° 09' 37"
217	PP	72+13.59					8548.0218	15273.8698	
218	PRC	74+53.01					8650.1639	3777.5948	00° 42' 38"
219	PI								
220	PC	76+92.36					9030.5448	3781.8156	00° 42' 38"
221	PT	80+32.76	00° 10' 47" R				544.05	5974.5337	00° 53' 25"
222	PP	85+76.80	01° 16' 23" R				820.97	3809.4639	00° 53' 25"
223	PRC	88+47.63					820.97	3809.4639	00° 53' 25"
224	PI	98+76.45	01° 28' 42" R				491.43	11164.8954	02° 22' 11"
225	PP	101+57.88					389.08	15553.9628	00° 48' 08"
226	PI	104+56.95							
227	PT								
EAST BOUND BUNKER LAKE BOULEVARD									
301	PT	108+16.81					9146.8629	1824.8791	
302	PC	112+97.27	32° 13' 02" L	05° 58' 13"	882	237.39	9147.4891	3289.0659	122° 40' 27"
303	PT	115+21.95					9019.3300	2469.1333	
304	PP						9839.4110	2673.0727	
305	PRC	117+47.11	E.O. STA. BACK 117+59.48	AHEAD 117+47.11			9017.4372	2666.5185	90° 27' 25"
LINE 1485.47' E. OF N 1/4 SEC 32									
306	PI	123+34.33					9012.7550	3853.7171	90° 27' 25"
307	PT	128+16.14	A.P.T. 22' LT OF & PERP. TO E. - W 1/4				9002.9137	3795.4338	91° 10' 13"
308	PP	131+16.14					1195.15	8993.3842	49° 30' 47"
309	PRC	134+16.14							
310	PI	140+16.14					9443.9071	1848.6329	
WEST BOUND BUNKER LAKE BOULEVARD									
401	PC	112+97.27	32° 13' 02" L	07° 21' 52"	778	224.69	9184.5663	2253.1606	122° 40' 27"
402	PT	115+21.95					9063.2273	2442.1908	
403	PP						9639.4110	2673.0727	
404	PRC	117+47.11	E.O. STA. BACK 117+24.73	AHEAD 117+47.11			9061.4258	2666.8693	90° 27' 25"
LINE 1485.47' E. OF N 1/4 SEC 32									
405	PI	123+34.33					9056.7536	3254.0679	90° 27' 25"
406	PT	128+16.14	A.P.T. 22' LT OF & PERP. TO E. - W 1/4				9002.9137	3795.4338	91° 10' 13"
407	PP	131+16.14					1195.15	8993.3842	49° 30' 47"
408	PRC	134+16.14							
L1 - SERVICE ROAD									
501	PI	84+53.00					9451.4756	3744.0583	
502	PT	85+77.64					9575.6925	3754.2903	04° 42' 16"
503	PP	88+47.35					9845.2116	3764.4715	02° 09' 48"
504	PRC	93+01.15					10238.9673	3771.5230	00° 53' 25"
L2 - SERVICE ROAD									
601	PI	9+00.20	31° 47' 18" R	92° 24' 45"	62.00	17.65	8705.8826	4501.8122	90° 18' 37"
602	PT	9+07.53					8643.8820	4519.4764	
603	PP						8656.4058	4534.4219	122° 05' 55"
604	PRC	9+24.58					8650.6561	4543.9882	
605	PI	9+56.58	31° 47' 18" L	150° 46' 42"	38.00	10.82	8728.5952	4554.6143	90° 19' 37"
606	PT	9+45.76					8890.9973	4554.0981	
L3 - SERVICE ROAD									
608	PC	10+74.94	89° 23' 39" L	190° 59' 09"	30	29.68	8630.1155	4643.9936	90° 18' 37"
609	PT	10+64.22					8720.1140	4643.7451	
610	PP						8719.6344	4673.7423	00° 54' 58"
611	PRC	10+81.74					8995.9683	4678.1517	
612	PI	13+57.84							
L4 - SERVICE ROAD									
701	PI	50+00.00					8883.1082	4676.3562	
702	PT	50+08.71					8882.5690	4665.0511	90° 54' 58"
703	PP	50+58.10	58° 31' 25" L	165° 00' 01"	88.15	49.39	8882.7293	4734.4472	
704	PRC						8921.8807	4696.4753	
705	PI	50+98.75					8882.5690	4665.0511	92° 23' 33"
706	PT	51+47.73	58° 06' 52" R	155° 00' 01"	88.15	48.98	8882.7293	4734.4472	
707	PP						8876.6513	4835.3671	
708	PRC	51+88.15					8954.8043	4836.1163	90° 30' 25"

CITY OF ANOKA

CITY OF ANDOVER

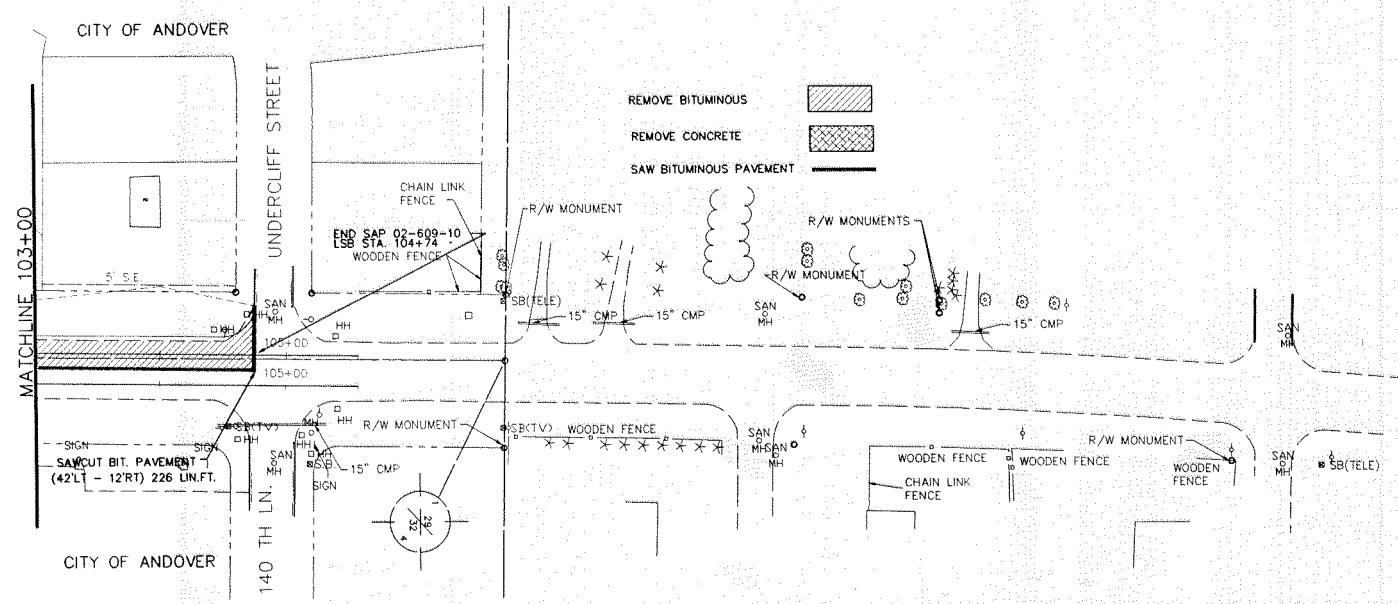


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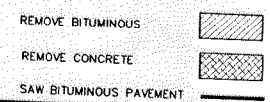
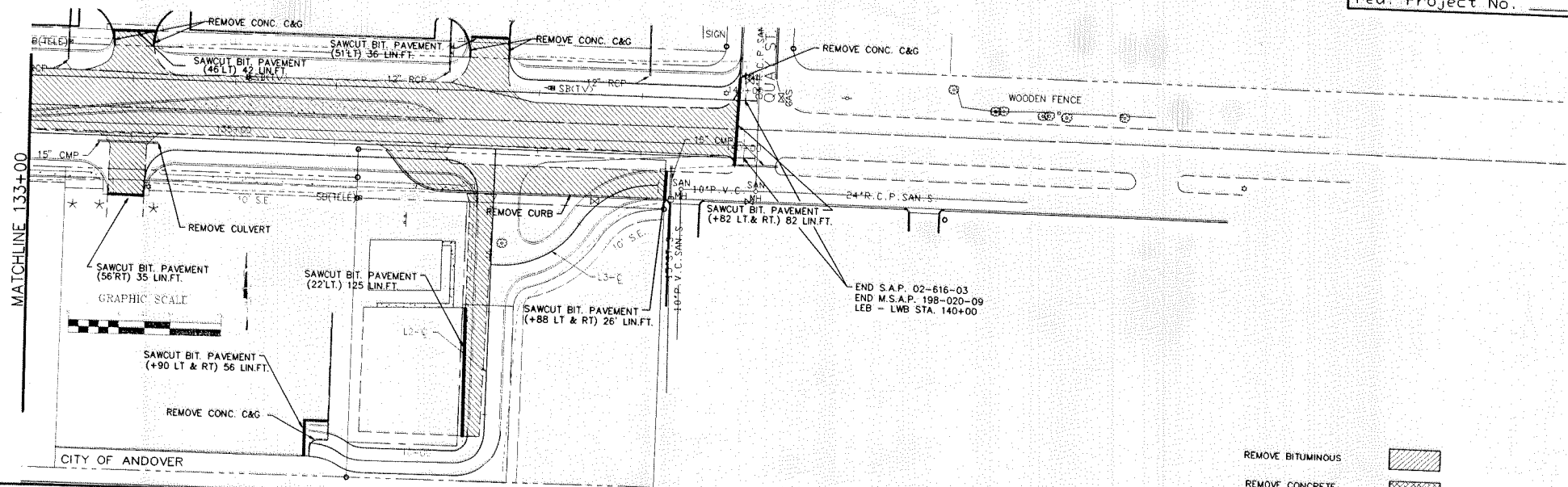


REMOVALS
 C.S.A.H. 9
 STA 73+00 TO STA 103+00

END SAP 02-609-10
 LNB STA 101+25

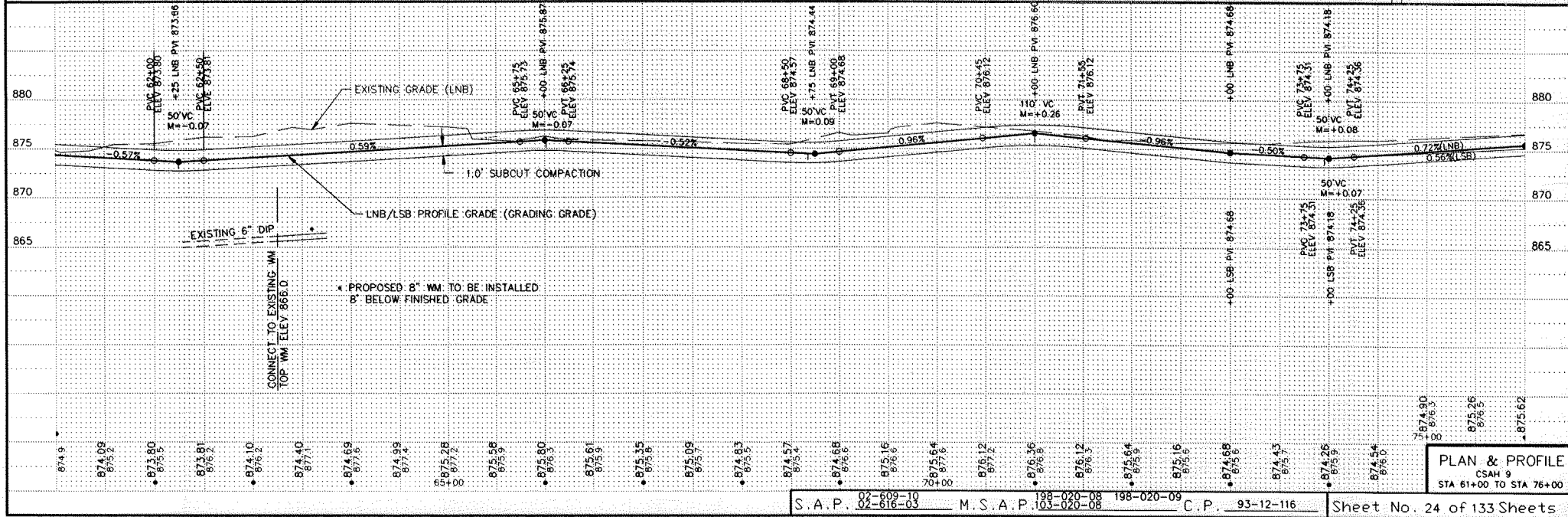
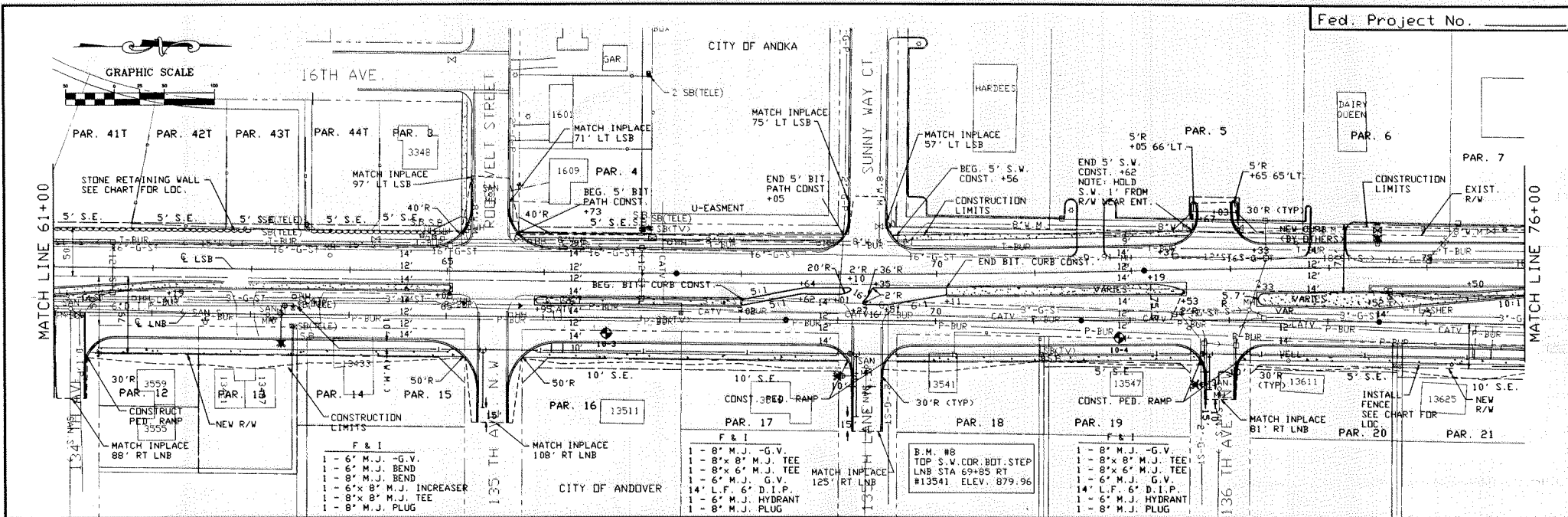


REMOVALS
C.S.A.H. 9
STA 103+00 TO STA 106+00

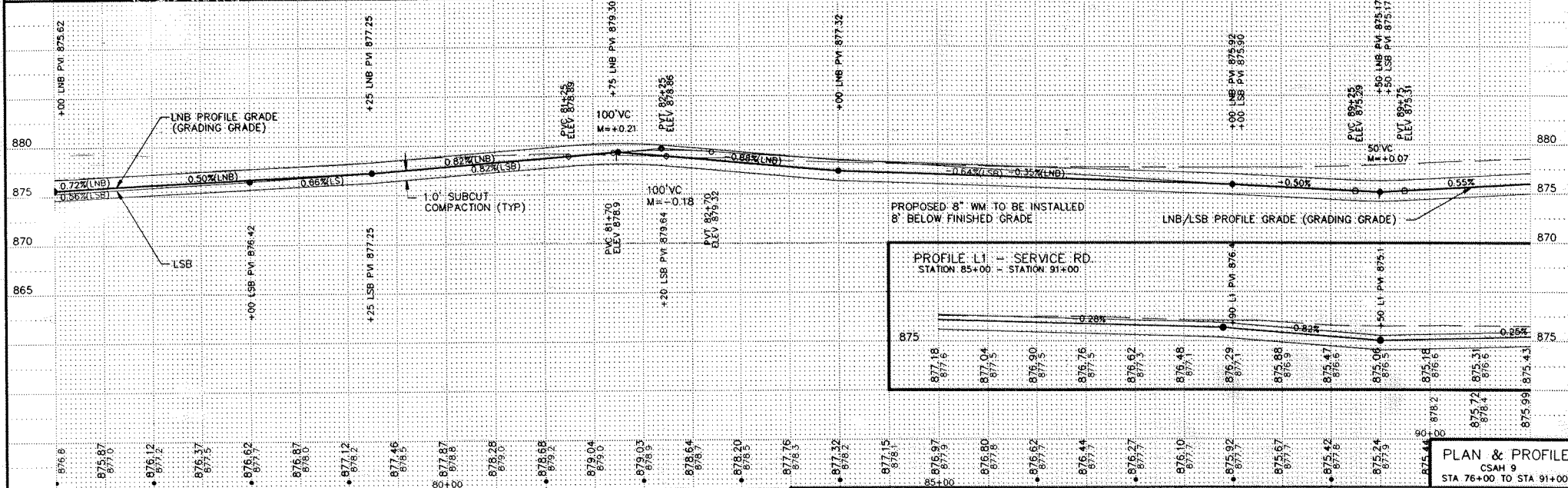
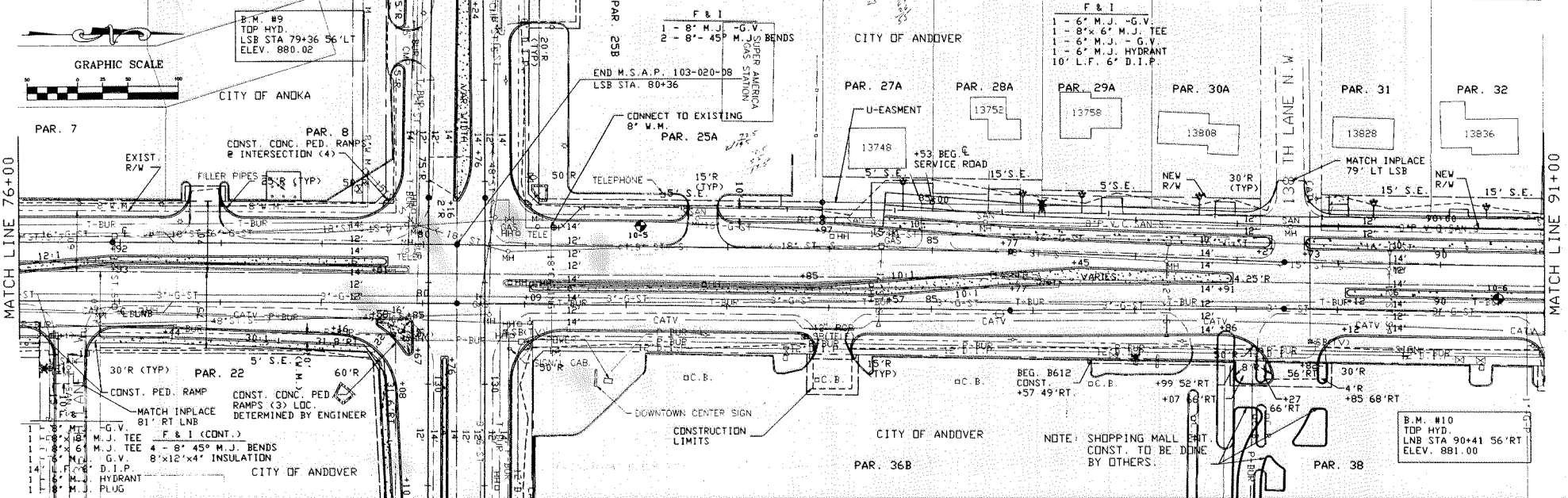


END S.A.P. 02-616-03
 END M.S.A.P. 198-020-09
 LEB - LWB STA. 140+00

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

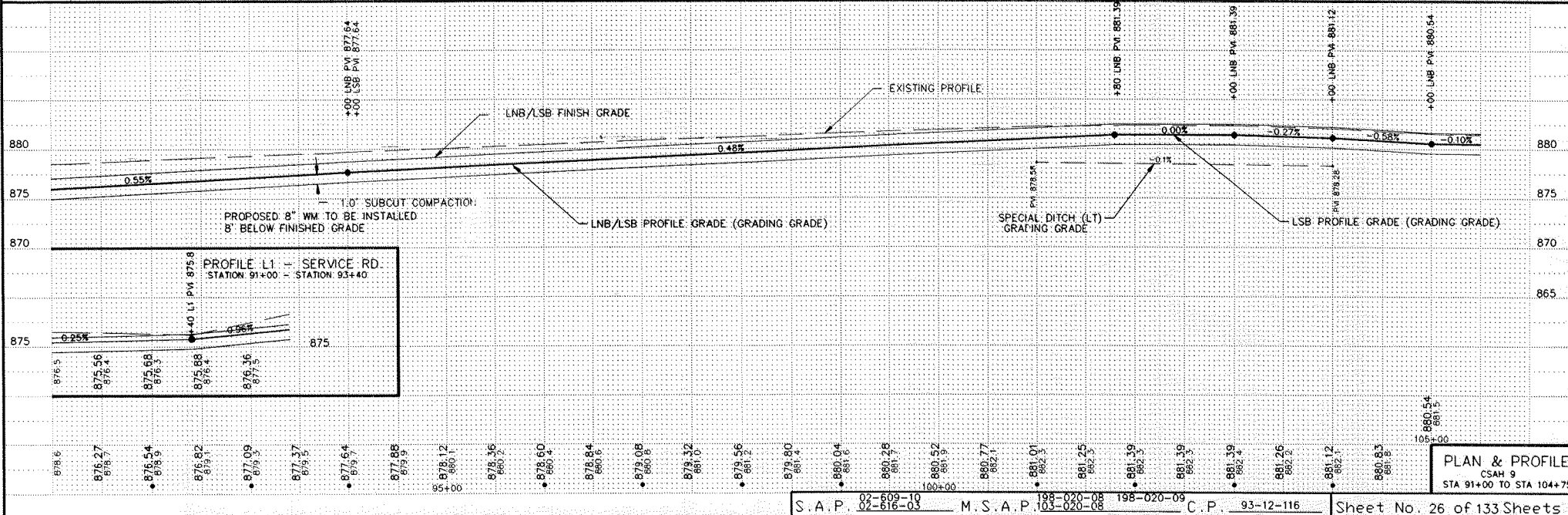
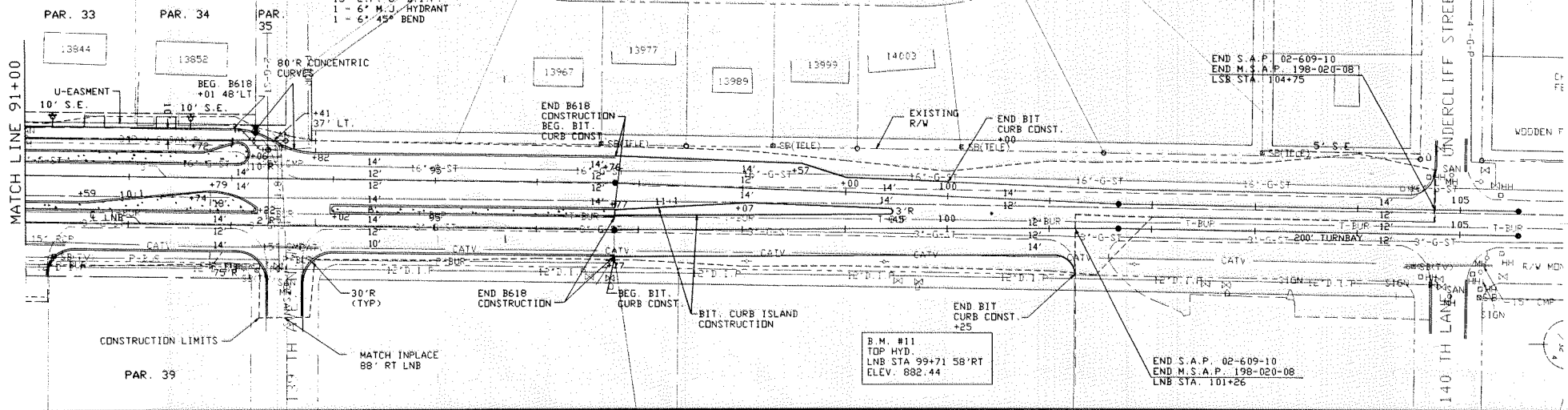


PLAN & PROFILE
CSAH 9
STA 613.00 TO STA 76+00

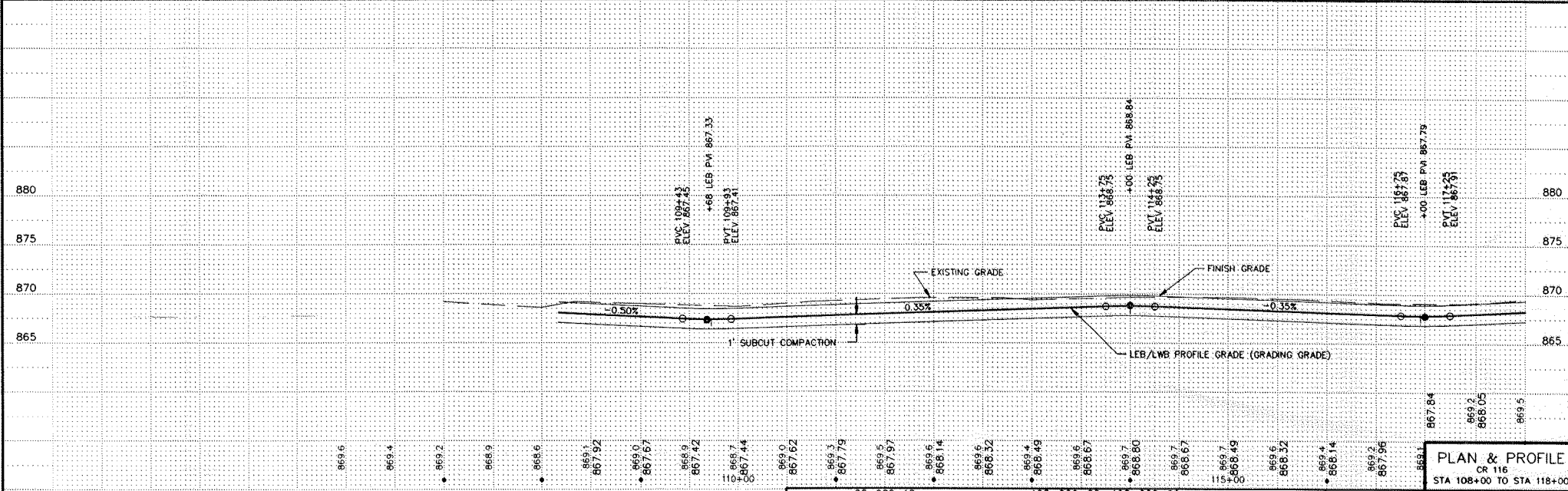
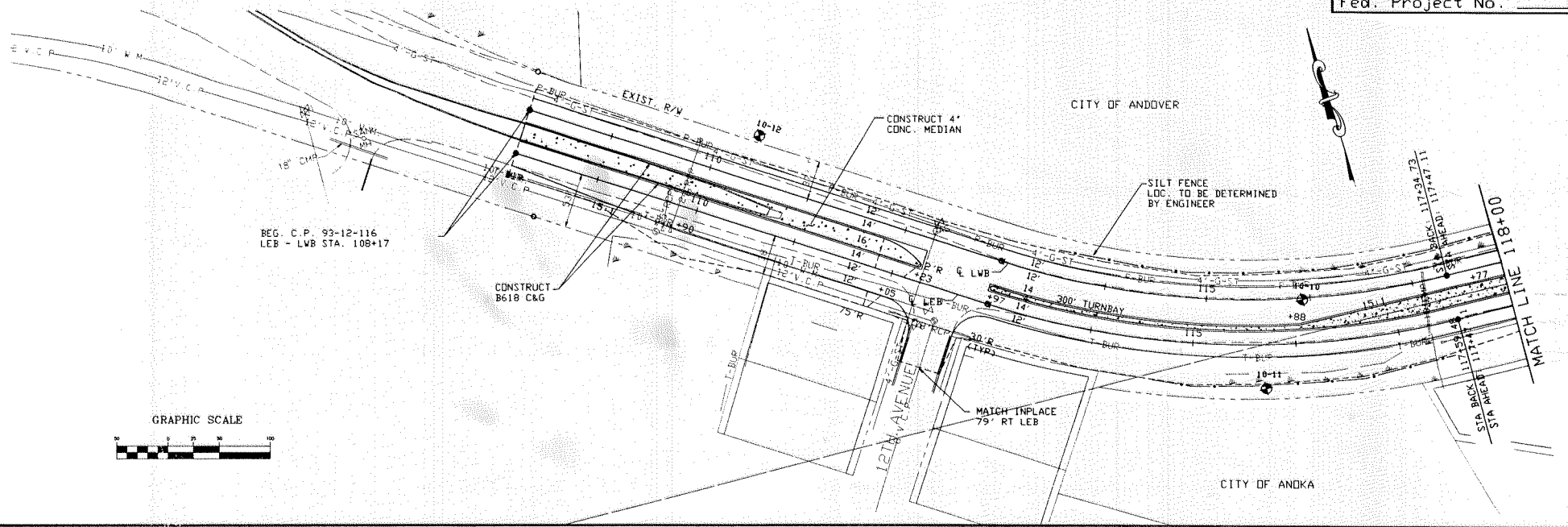


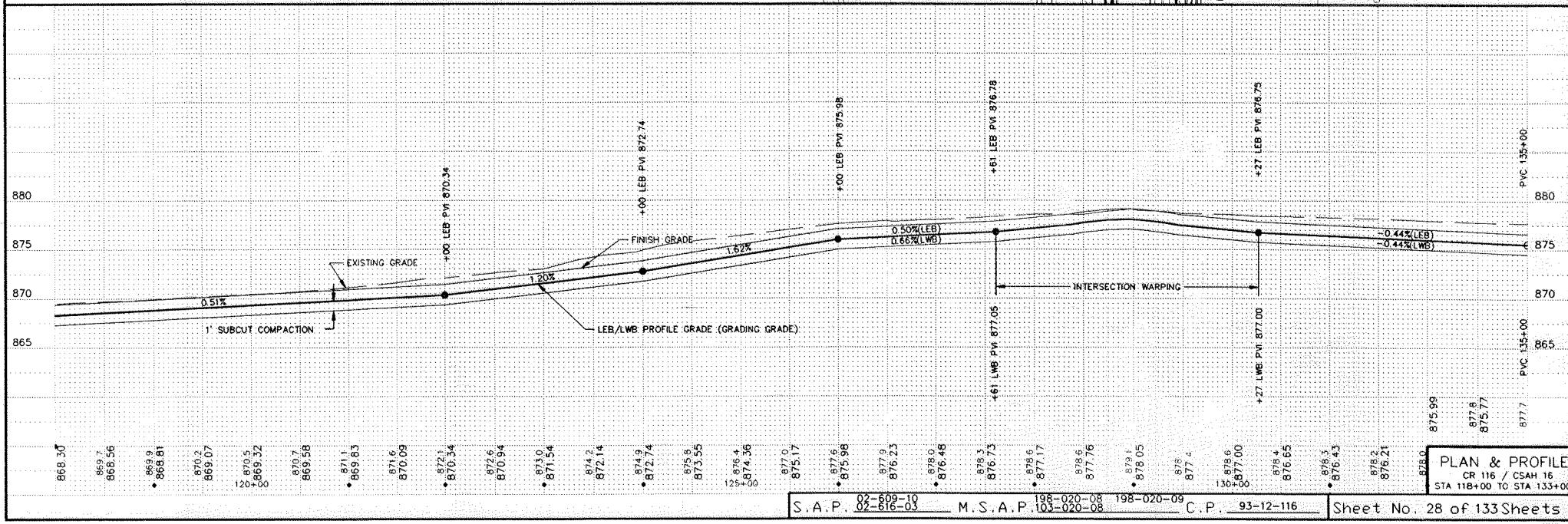
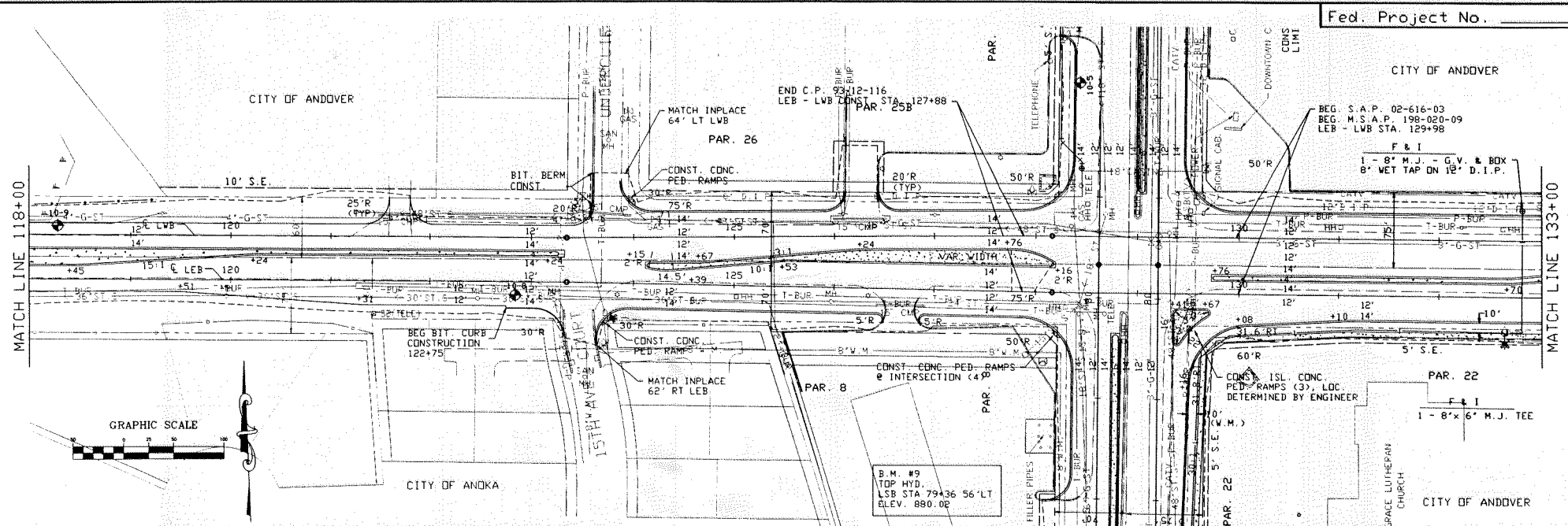


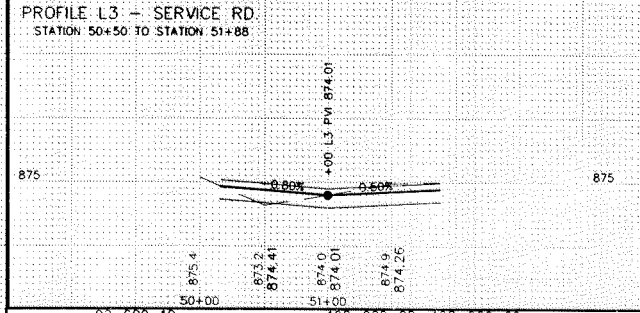
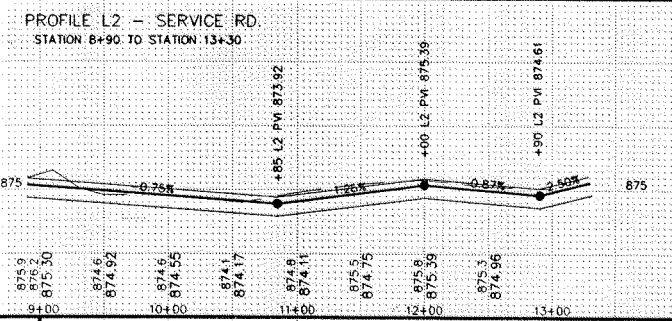
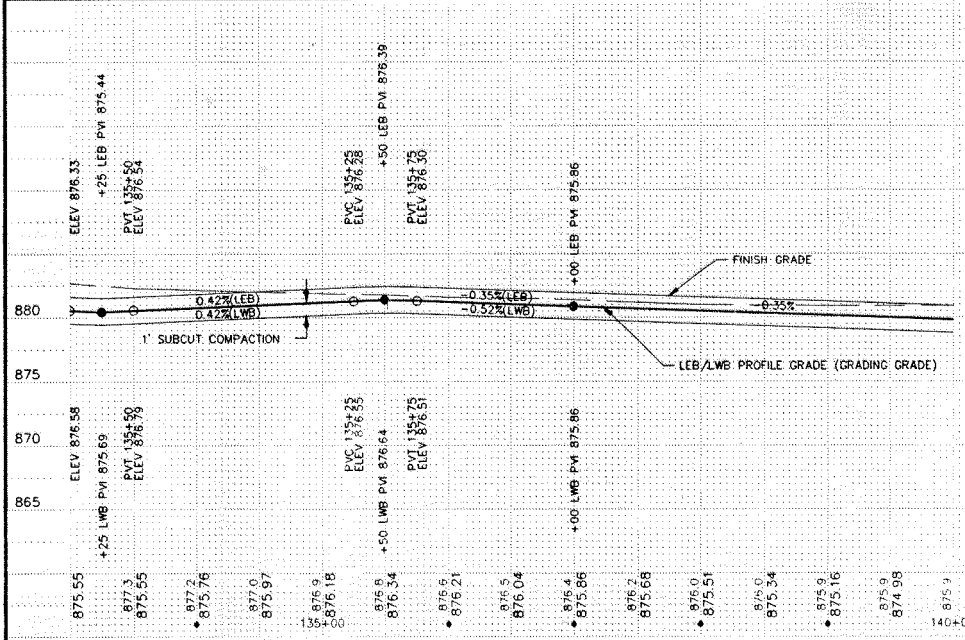
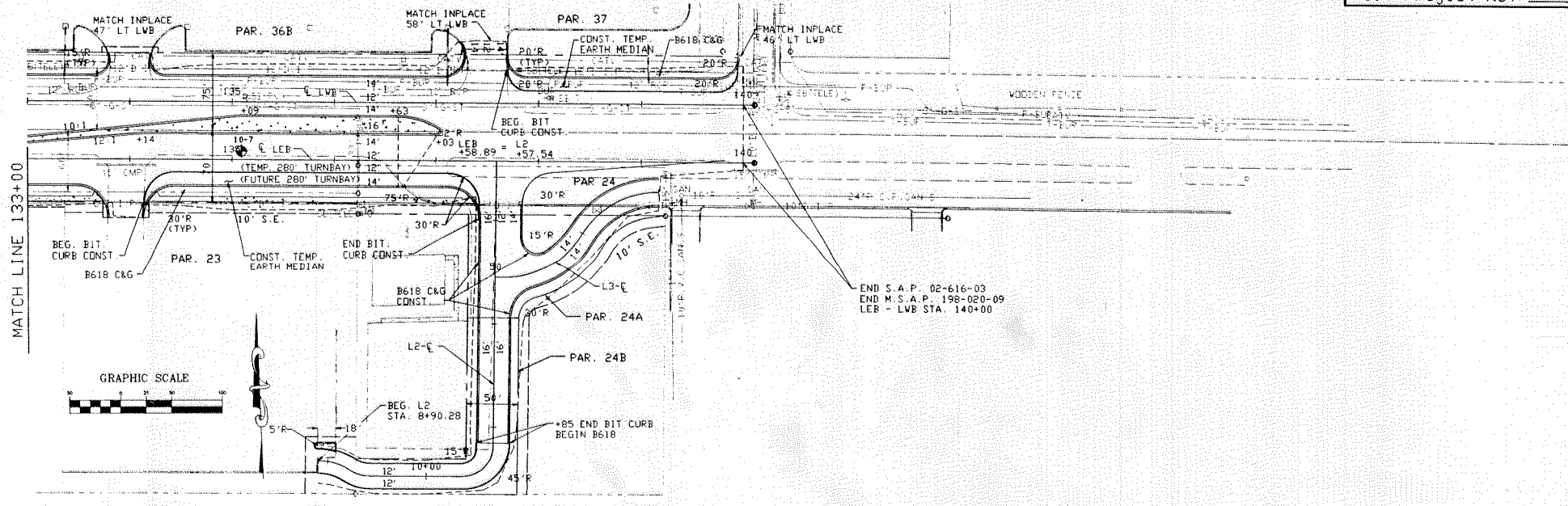
- F & I**
- 1 - 8' M.J. - G.V.
 - 2 - 8' 45° BENDS
 - 1 - 8' x 6' M.J. TEE
 - 1 - 6' M.J. - G.V.
 - 15 - L.F. 6" D.I.P.
 - 1 - 6' M.J. HYDRANT
 - 1 - 6' 45° BEND



PLAN & PROFILE
CSAH 9
STA 91+00 TO STA 104+75







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

DRAINAGE TABULATION

STRUCT. NO.	STATION	LOCATION	REMARKS	DRAINS TO	REMOVE				SALVAGE		INSTALL		ADJUST/RECONSTRUCT		STRUCTURE CONSTRUCTION				FURNISH AND INSTALL				STRUCT. NO.		
					DRAIN STRUCT EACH	PIPE SEWER LIN.FT.	CONC. APRON EACH	CASST ASSY EACH	PIPE SEWER LIN.FT.	CASST ASSY EACH	PIPE SEWER LIN.FT.	ADJ. CASST. EACH	RECON-STRUCT LIN.FT.	DESIGN	TOP CASTING ELEV.	OUTLET ELEV.	PAY HEIGHT LIN.FT.	F&I CASTING ASSY	12" R.C.P. LIN.FT.	15" R.C.P. LIN.FT.	18" R.C.P. LIN.FT.	21" R.C.P. LIN.FT.		24" R.C.P. LIN.FT.	27" R.C.P. LIN.FT.
1	49+50	12 0' RT LNB		2	1											869.80	865.89								1
2	49+51	17 0' LT LSE		2												867.97	864.57								2
3	49+52	25 0' RT LNB		5												868.03	864.03								3
4	49+53	25 0' ST LNB		5												868.69	863.86								4
5	46+25	14 4' LT LNB		6												868.38	863.68								5
6	46+25	24 9' RT LSE		6												867.64	864.44								6
7	46+16	36 9' LT LSE		6												867.67	862.37								7
8	46+25	36 9' LT LSE		6												867.67	862.37								8
9	46+25	**90' LT LSE		SWAMP																					9
10	67+00	20 0' LT LNB		11	1	51										872.13									10
11	67+00	25 0' LT LSE	NEW CASTING, LSR 66+96, 24 9' LT	13						A		2 9			875.43										11
12	65+03	21 0' LT LNB		13	1	51										872.83									12
13	65+04	26 0' LT LSE	SALV CR CAST... INSTALL MH CASTING	25												875.45				B					13
14	61+62	20 0' LT LNB		15	1	51										870.94									14
15	61+62	26 0' LT LSE	NEW CASTING, LSR 61+60, 24 9' LT	16						A	177	3 7			874.51	869.91									15
16	59+85	24 0' LT LSE	NEW CASTING, LSR 59+85, 24 9' LT	18						A		3 8			873.74	869.04									16
17	59+85	19 0' LT LNB		18	1	37										869.61									17
18	59+80	11 0' LT LSE		19												874.20	869.00								18
19	67+00	6 0' LT LSE		20												876.01	869.00								19
20	54+25	53 4' LT LNB		25		14										869.86									20
21	57+76	3 9' RT LNB		22	1	20										871.36									21
22	57+46	7 6' RT LNB		23	1	6				313						871.19									22
23	54+27	15 7' RT LNB		24	1	15										867.81									23
24	54+27	0 3' RT LNB		25	1	24										867.71									24
25	54+28	7 5' RT LSE		26	1	34										866.50									25
26	53+69	20 5' LT LSE		27	1	144										868.53									26
27	53+69	**160' LT LSE		SWAMP												865.61									27
28	72+76	**24' RT LNB		29	1	35										875.26	871.86								28
29	73+06	**26' RT LNB		32	1	36										875.13	871.58								29
30	72+44	14 8' LT LSE		32	1	36										875.47	871.97								30
31	72+25	** 2' LT LNB		32	1	18										875.22	871.42								31
32	72+20	11 0' LT LNB		36						B		3 5				875.61	871.26								32
33	72+46	14 8' LT LSE		36	1	49				42						875.49	871.53								33
34	71+27	**54' LT LSE		40												875.31	872.40								34
35	73+36	45 0' LT LSE		38												875.21	872.30								35
36	73+36	11 7' LT LSE		49												875.15	870.89			R					36
37	75+32	45 0' LT LSE		38												876.25	871.65								37
38	75+03	6 6' LT LSE		462												875.50	870.46			E					38
39	76+37	**34' RT LNB		40	1	36										876.46	871.56								39
40	76+35	**34' RT LNB		41	1	40										876.53	870.98								40
41	76+35	** 6' RT LNB		42	1	69										876.78	870.48								41
42	79+42	71 0' LT LSE		43												875.97	872.77								42
43	89+50	20 0' RT LNB		45		60										874.70									43
44	89+50	12 0' LT LSE		46		18										875.07									44
45	89+50	6 0' RT LSE		49						200						877.83	873.63								45
46	87+35	26 0' RT LNB		49		74										874.58									46
47	87+35	18 0' LT LSE		49	1	17										875.50	873.00								47
48	87+35	3 0' RT LSE		51	1	200										877.50	872.50								48
49	84+50	**25' RT LNB		51	1	27										875.13									49
50	84+50	6 0' LT LSE		52		370										877.70	871.30								50
51	80+83	6 0' RT LSE	(6) ABANDON PIPE	463		93										879.11	868.91								51
52	122+66	74 0' RT LSE		56												871.63									52
53	122+40	80 0' RT LSE		57												871.71									53
54	123+22	17 0' RT LSE		58												873.28									54
55	122+45	17 0' RT LSE		59												871.14									55
56	119+96	16 0' RT LSE		644																					56
57	117+38	18 0' RT LSE		SWAMP																					57
58	76+62	22 9' RT LNB		62												877.46									58
59	80+66	10 0' RT LNB	ROTATE CAST OUT OF WHEEL TRACK	63						R		4 0				878.70									59
60	121+20	22 0' LT LWB		SWAMP																					60
61	109+66	12 5' LT LSE		65	1	40																			61
62	109+74	29 0' RT LSE	REMOVE APRON	SWAMP																					62
63	133+35	16 0' LT LWB	PLUG END (INCIDENTAL)	PRIVATE		20																			63
64	137+12	16 0' LT LWB	PLUG END (INCIDENTAL)	PRIVATE		20																			64
65	139+07	20' LT LWB	PLUG END (INCIDENTAL)	PRIVATE		15																			65
66	109+80	24 3' LT LWB		640																					66
67	109+81	29 0' RT LSE	SALVAGE APRON, EXTEND PIPE	646																					67
68	49+50	24 9' RT LNB	EXTEND INPL 12" RCP TO STRUCT 71	71												869.55	865.95	3 4		A					70
200	49+50	12 9' LT LNB	CONST. STRUCT OVER INPLACE RCP (3)	20E												870.28	865.75	4 4		A					201
201	49+50	12 9' RT LNB	CONST. STRUCT OVER INPL RCP (2)	2												870.28	865.67	4 4		A					202

- NOTES:
 (1) 1 PIPE CONNECT
 (2) 1 STRUCTURE CONNECT
 (3) 2 PIPE CONNECT
 (4) EXTEND INPLACE PIPE INTO STRUCTURE FOR DRAINAGE STAGE 1
 (5) 11 0 CU YD CL. 111 RANDOM RIPRAP
 (6) PAYMENT FOR REMOVAL SHALL BE MADE FOR PLUGGING AND GROUT FILLING ABANDONED PIPE

ASSY TYPE	NO. REQ'D	FRAME CASTING	GRATE CASTING	CURB BOX CASTING	RING CASTING	COVER CASTING
A	120	B01	B10	B21-R	760-7	716
B	11				760-7	0
C	6					

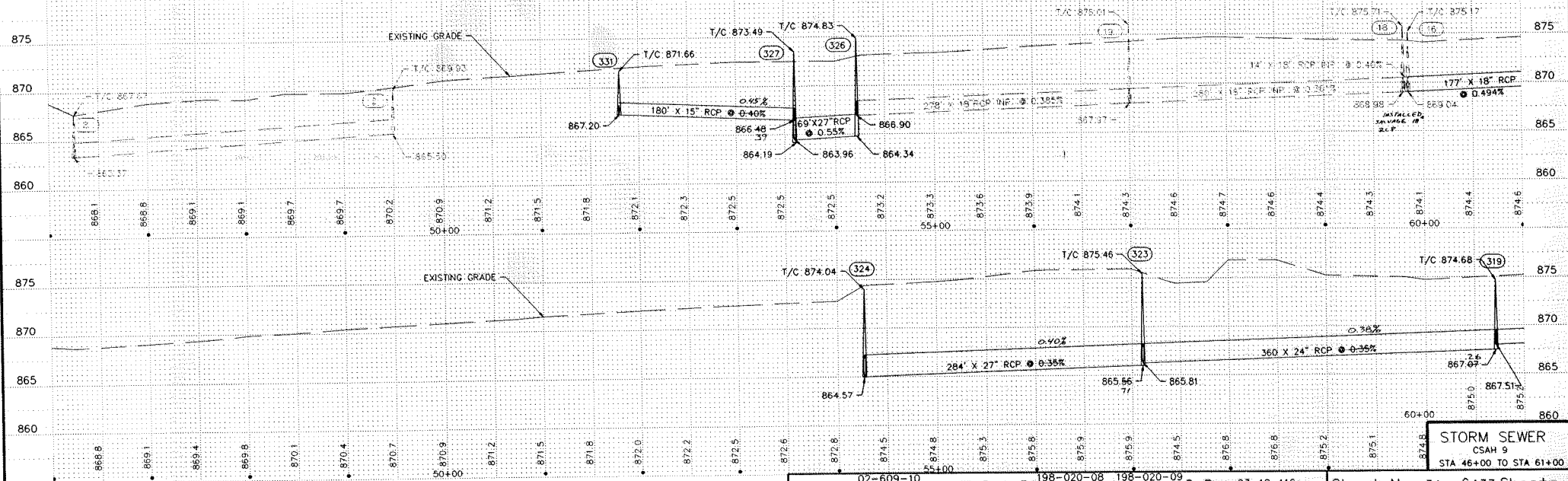
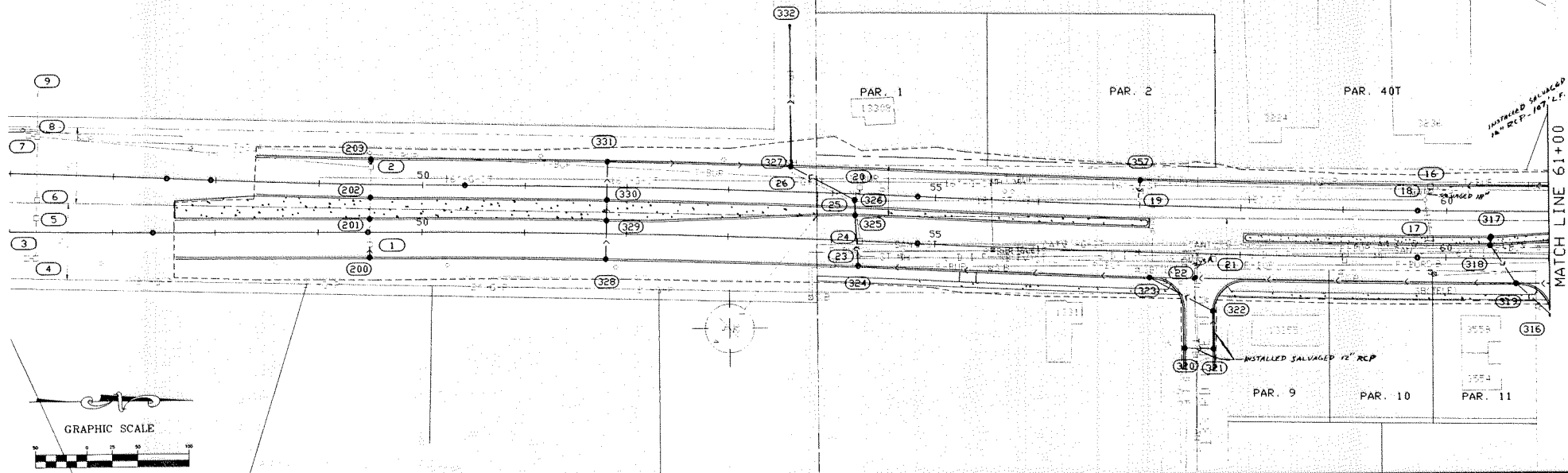
NEENAH FOUNDRY CATALOG NO. R-2560-EA OR EQUIVALENT

DRAINAGE TABULATION

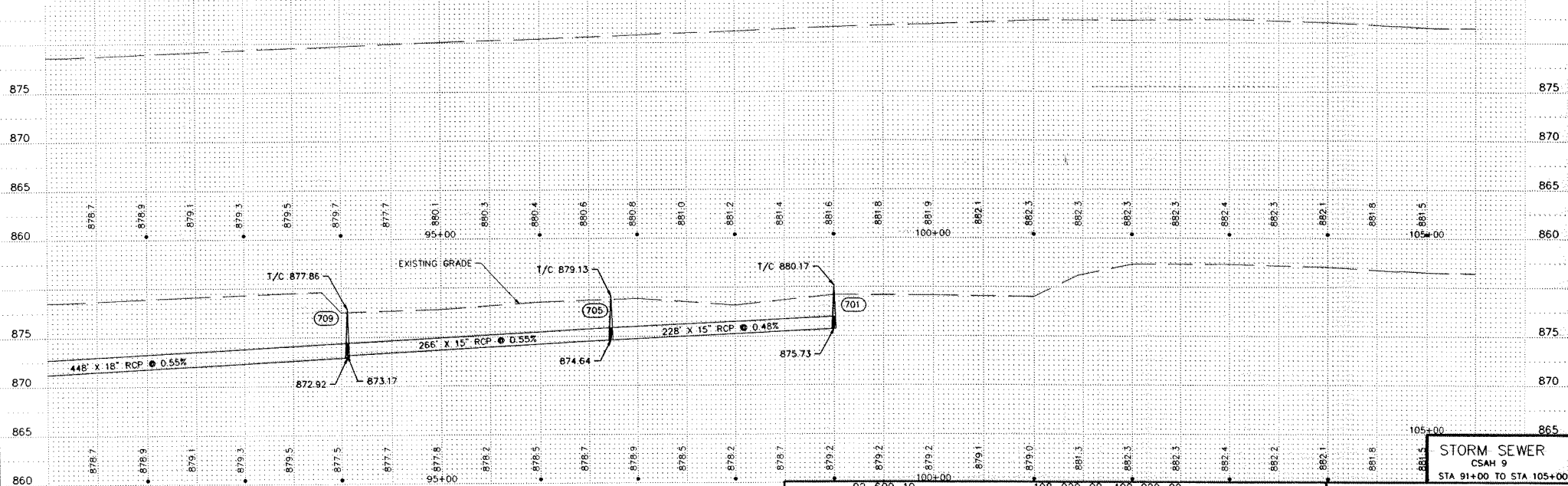
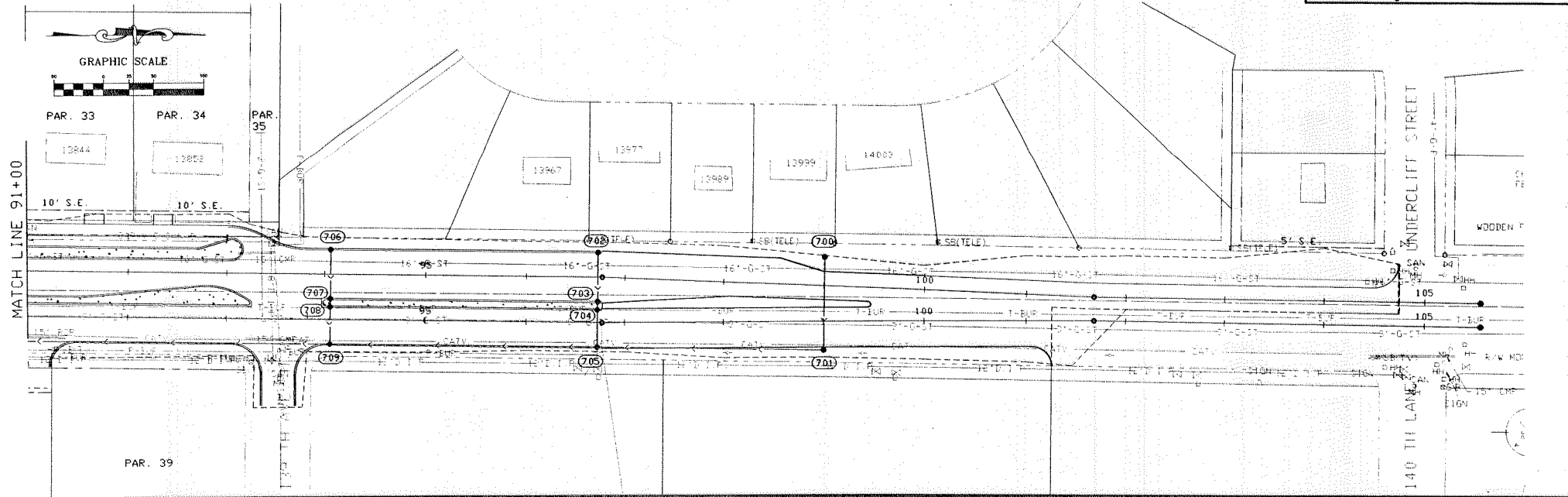
DRAINAGE TABULATION

(C)

STRUCT. NO.	STATION	LOCATION	REMARKS	DRAINS TO	REMOVE		SALVAGE		INSTALL		ADJUST/RECONSTRUCT		STRUCTURE CONSTRUCTION					FURNISH AND INSTALL					STRUCT. NO.					
					DRAIN STRUCT EACH	PIPE SEWER LIN.FT.	CONC. APRON EACH	CAST. ASSY EACH	PIPE SEWER LIN.FT.	CAST. ASSY EACH	PIPE SEWER LIN.FT.	ADJ. CAST. EACH	RECON-STRUCT LIN.FT.	DESIGN	TOP CASTING ELEV.	OUTLET ELEV.	PAY HEIGHT LIN.FT.	F&I CASTING ASS'Y	12" R.C.P. LIN.FT.	15" R.C.P. LIN.FT.	18" R.C.P. LIN.FT.	21" R.C.P. LIN.FT.		24" R.C.P. LIN.FT.	27" R.C.P. LIN.FT.	30" R.C.P. LIN.FT.	36" R.C.P. LIN.FT.	48" R.C.P. LIN.FT.
511	131+12	36.9 RT LWB		512									C DR G	877.49	872.69	4.7	A											511
512	131+12	32.9 RT LEB		513									C DR G	877.25	872.59	4.5	A											512
513	131+12	24.9 RT LEB		514						141			A DR F	876.52	869.56	6.8	A											513
514	79+26	31.0 RT LNB		515									H	877.29	873.79	3.3	A											514
515	129+71	22.6 RT LEB		463									A DR F	877.44	869.16	8.1	A											515
600	125+68	24.9 RT LWB		601									H	876.46	872.96	3.3	A											600
601	124+22	25.0 RT LWB		602									C DR G	873.24	869.74	3.3	A					246						601
602	124+02	24.9 RT LWB		603									H	872.20	870.07	2.3	C					63						602
603	123+59	24.6 RT LNB		604						200			C DR G	872.45	868.72	3.6	A											603
604	121+15	31.0 RT LWB		SWAMP									APRON		863.00													604
610	124+19	24.9 RT LWB		611									H	873.74	870.74	2.8	A											610
611	125+33	18.2 RT LWB		612									A DR F	876.03	870.26	5.6	A											611
612	125+35	24.9 RT LEB		464									A DR F	875.94	870.20	5.6	A											612
613	125+97	24.6 RT LEB		464									H	876.07	872.57	3.3	A											613
614	120+26	32.9 RT LWB		615									H	870.32	866.82	3.3	A											614
615	120+26	24.9 RT LEB		59									C DR G	870.14	866.76	3.2	A											615
620	116+95	23.6 RT LWB		621									APRON		864.22													620
621	116+95	13.9 RT LWB		622									C DR G	869.71	864.11	4.4	A											621
622	113+82	24.9 RT LWB		623									H	868.88	865.38	3.3	A											622
623	116+95	12.9 RT LEB		624									C DR G	868.71	864.06	4.5	A											623
624	116+95	32.6 RT LEB		SWAMP									APRON		863.93													624
630	112+34	25.0 RT LEB		631									H	868.41	865.41	2.8	A											630
631	112+72	25.0 RT LEB		632									C DR G	869.48	865.05	3.3	A											631
632	113+61	12.9 RT LEB		633									C DR G	869.37	864.56	4.6	A											632
633	113+61	24.9 RT LWB		634									C DR G	869.19	864.53	4.5	A											633
634	113+61	31.0 RT LWB		SWAMP									APRON		864.21													634
640	109+82	12.9 RT LWB	CONST. STRUCT. OVER INPLACE RCP (3)	641									A DR F	868.20	862.97	5.1	A											640
641	109+82	12.9 RT LEB	CONST. STRUCT. OVER INPLACE RCP (3)	770									A DR F	868.20	862.91	5.1	A											641
642	121+20	25.0 RT LWB	SALVAGE APRON, CONSTRUCT. STRUCT. (1)	643									4020-72	868.45	862.59	6.0	B											642
643	121+00	25.0 RT LWB	INSTALL SALVAGED APRON	SWAMP											862.57													643
644	117+38	16.0 RT LEB	SALVAGE APRON, CONSTRUCT. STRUCT. (1)	645									4020-54	868.31	863.56	4.9	B											644
645	117+06	45.0 RT LEB	INSTALL SALVAGED APRON, (5)	SWAMP											863.40													645
700	99+00	25.1 RT LSR		701									H	862.72	862.72													700
701	99+00	25.1 RT LNB		702									C DR G	880.17	875.73	4.3	A											701
702	96+72	24.9 RT LSR		703									H	879.13	875.63	3.3	A											702
703	96+72	24.9 RT LSR		704									C DR G	879.67	875.13	4.4	A											703
704	96+72	12.9 RT LNB		705									C DR G	879.87	875.05	4.7	A											704
705	96+72	24.9 RT LNB		709									C DR G	879.13	874.64	4.3	A											705
706	94+06	24.9 RT LEB		707									H	877.86	874.36	3.3	A											706
707	94+06	24.9 RT LEB		708									C DR G	876.40	873.86	4.4	A											707
708	94+06	12.9 RT LNB		709									C DR G	878.60	873.78	4.7	A											708
709	94+06	24.9 RT LNB		710									A DR F	877.86	872.92	4.8	A											709
710	82+26	24.9 RT LNB		715									A DR F	875.47	870.46	4.8	A											710
711	89+50	10.9 RT L1		713									H	875.19	872.34	2.7	A											711
712	89+58	12.9 RT LSR		713									C DR G	875.77	872.30	3.3	A											712
713	89+58	12.9 RT LSR		714									C DR G	875.72	872.22	3.3	A											713
714	89+50	24.9 RT LSR		715									C DR G	875.96	871.84	4.0	A											714
715	89+50	12.9 RT LNB		716									C DR G	874.18	871.75	4.2	A											715
716	89+50	24.9 RT LNB		721									A DR F	875.42	869.88	5.4	A											716
717	87+87	10.9 RT L1		718									H	876.51	873.09	3.3	A											717
718	87+87	12.9 RT LSR		719									C DR G	876.47	872.97	3.3	A											718
719	87+87	12.9 RT LSR		720									C DR G	876.91	872.71	4.0	A											719
720	87+87	24.9 RT LNB		721									C DR G	876.59	872.58	3.8	A											720
721	87+82	24.9 RT LSR		725									A DR F	876.17	869.18	6.5	A											721
722	83+67	24.9 RT LSR		723									H	878.89	875.39	3.3	A											722
723	83+67	36.9 RT LSR		724									C DR G	879.57	874.77	4.6	A											723
724	83+67	12.9 RT LNB		725									C DR G	878.54	874.67	3.7	A											724
725	83+67	24.9 RT LNB		726									A DR F	877.80	866.80	10.8	A											725
726	81+43	24.9 RT LNB		66									A DR F	879.15	865.30	13.4	A											



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

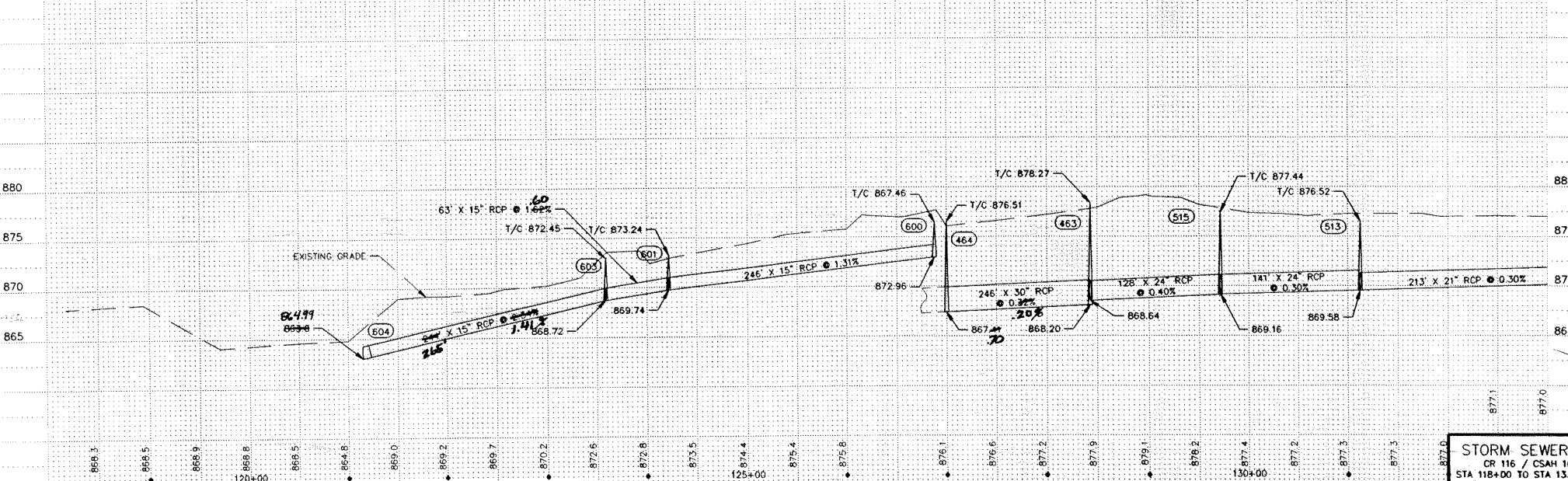
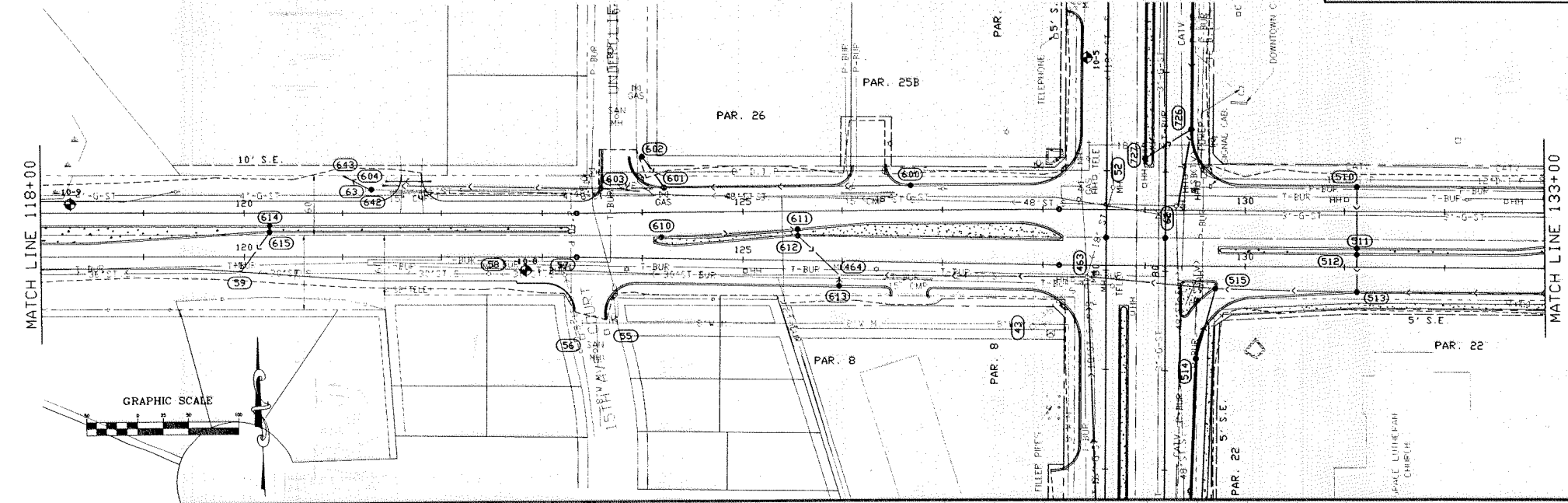


STORM SEWER
 CSAH 9
 STA 91+00 TO STA 105+00

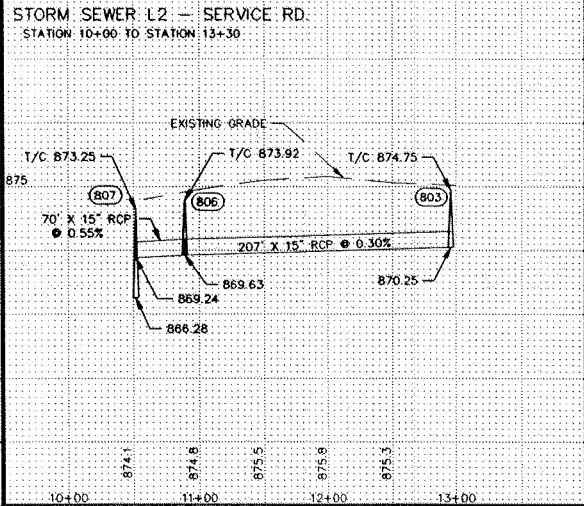
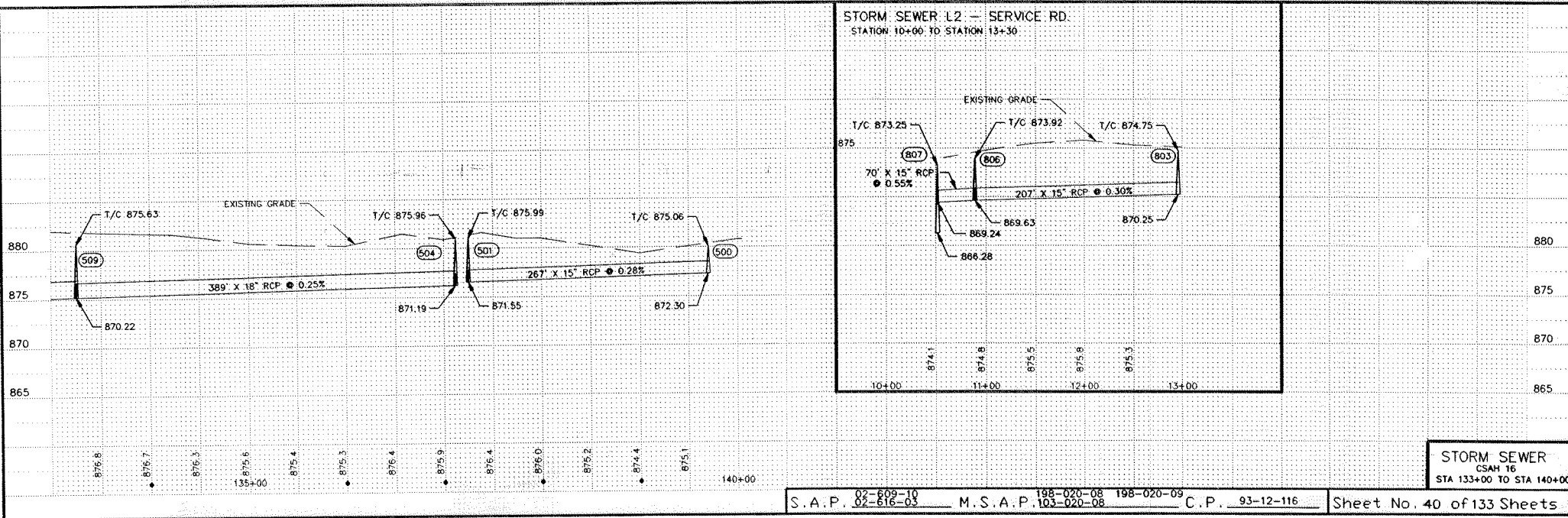
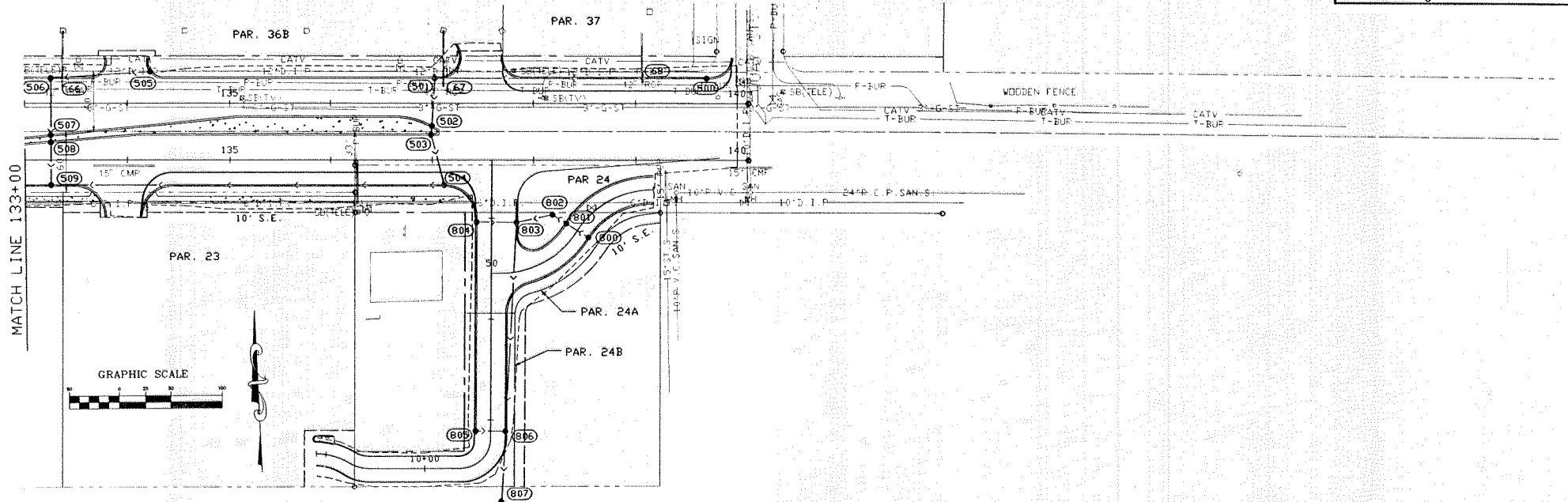
MATCH LINE 118+00

MATCH LINE 133+00

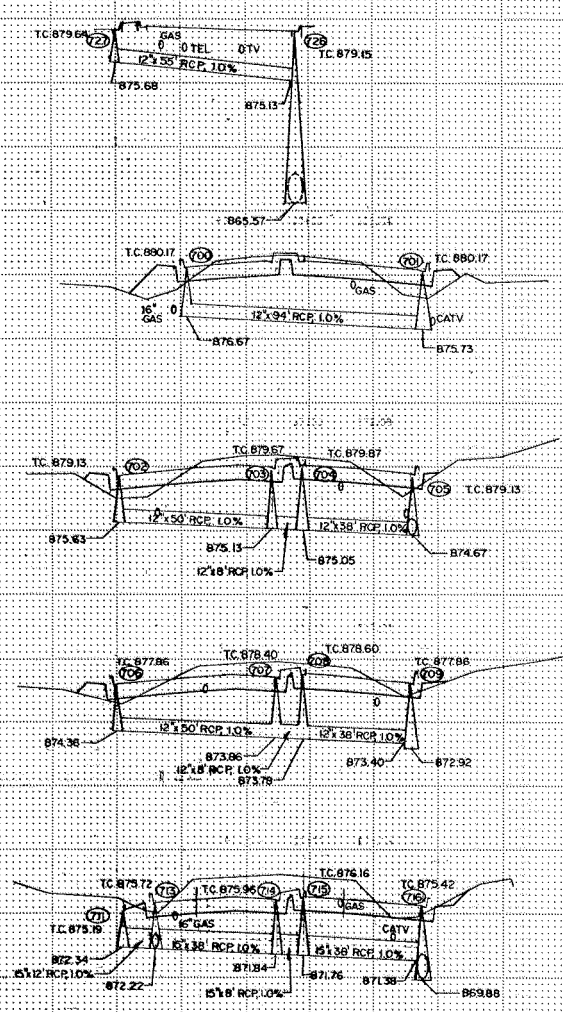
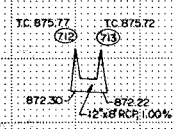
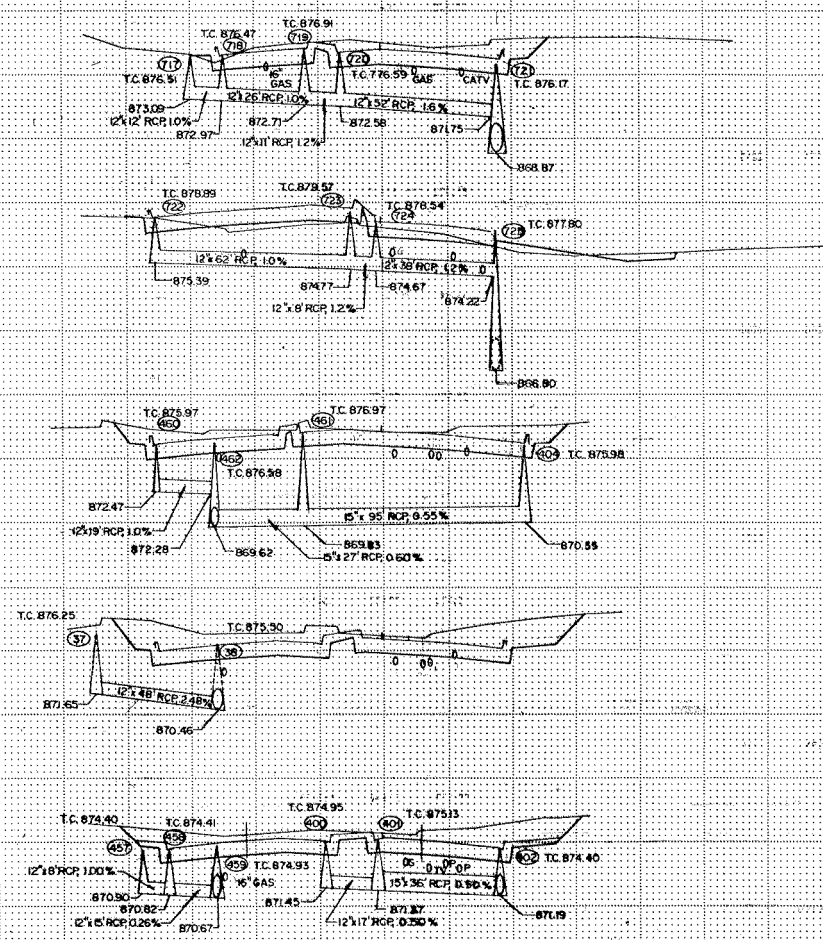
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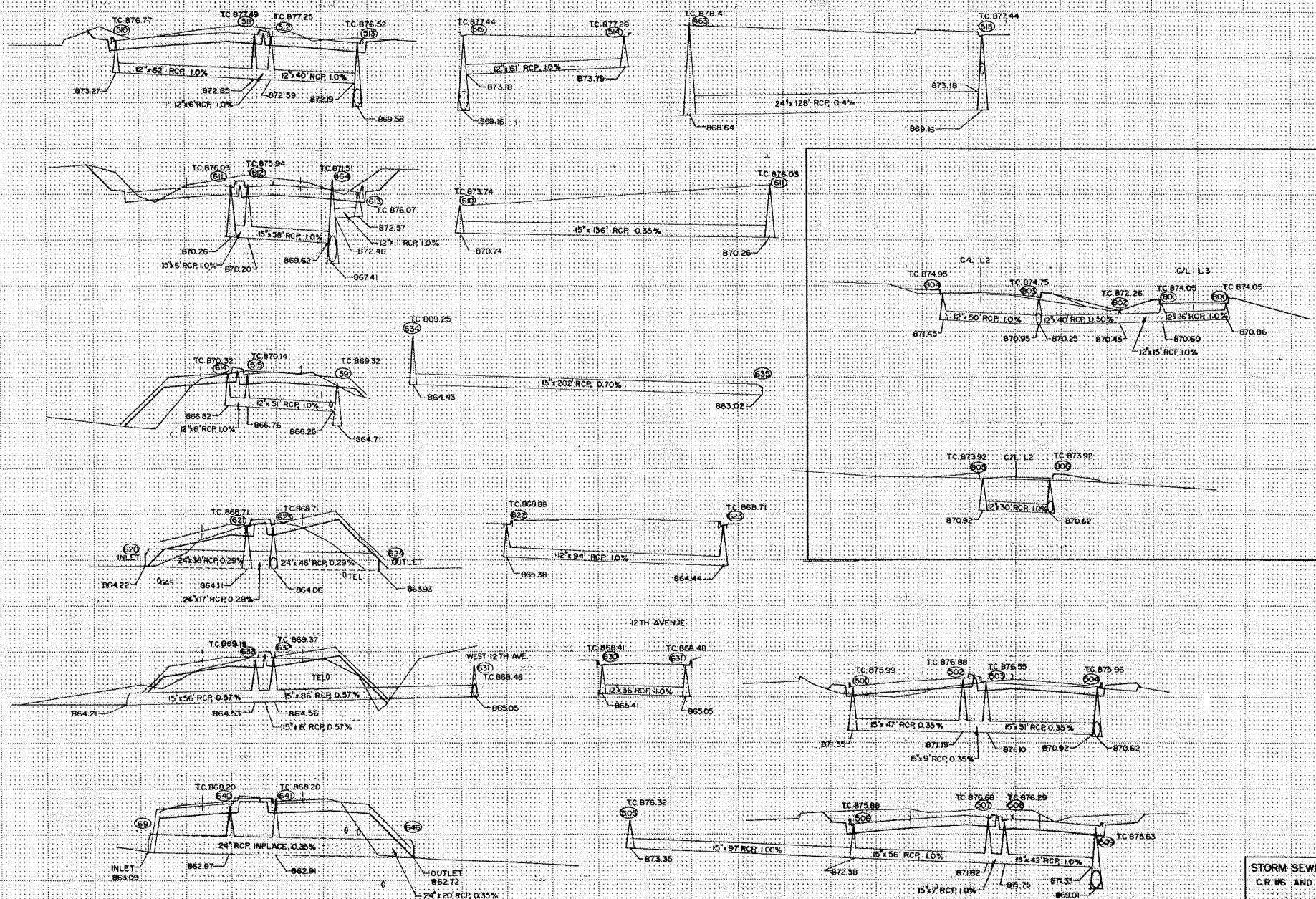
STORM SEWER
CR 116 / CSAH 16
STA 118+00 TO STA 133+00



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



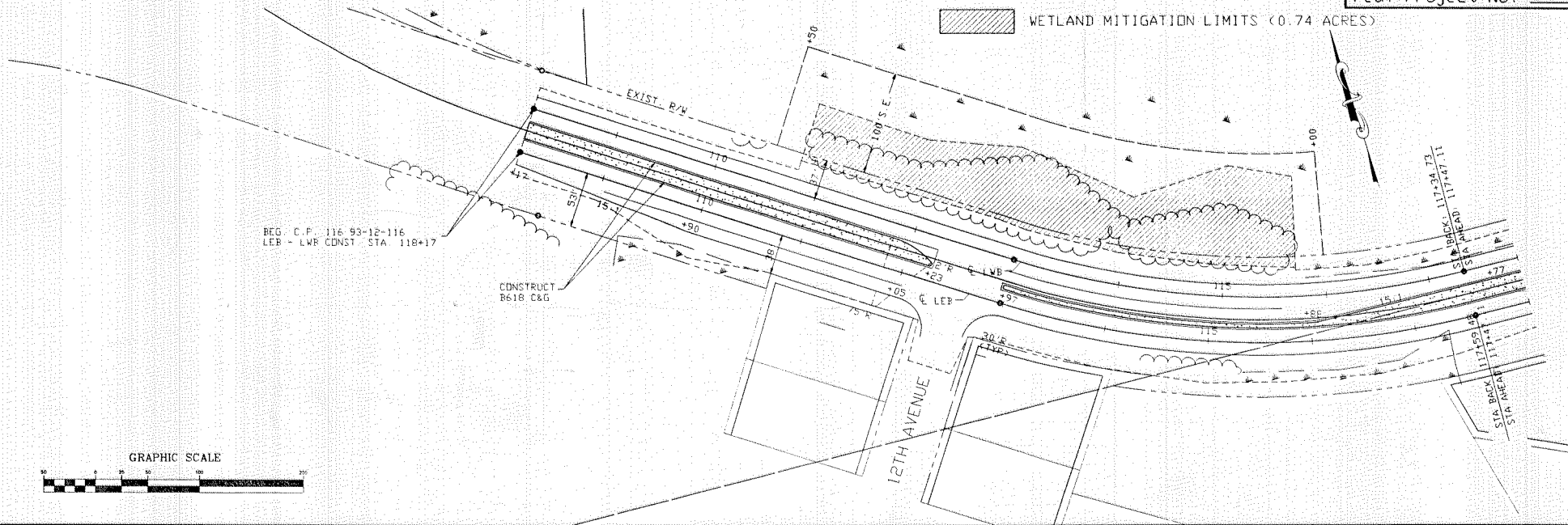
STORM SEWER PROFILE
C.S.M. 9



STORM SEWER PROFILE
C.R. 1/8" AND C.S.A.H. 1/8"

02-609-MD 05-080-08

WETLAND MITIGATION LIMITS (0.74 ACRES)



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

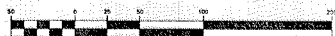
CONSTRUCT
R618 C&G

12TH AVENUE

BEG. C.P. 117-94.73
STA. 117+47.11

STA. BACK 117+59.08
STA. AHEAD 117+11.4

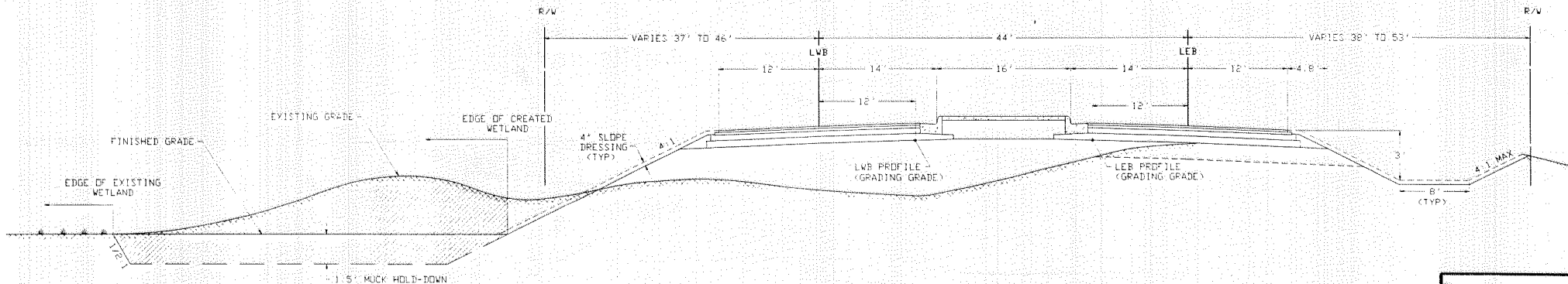
GRAPHIC SCALE



WETLAND MITIGATION LIMITS

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

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



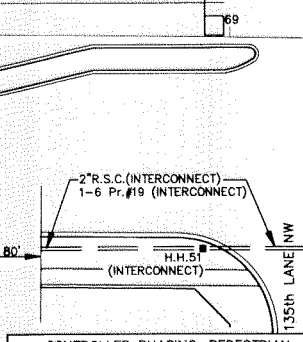
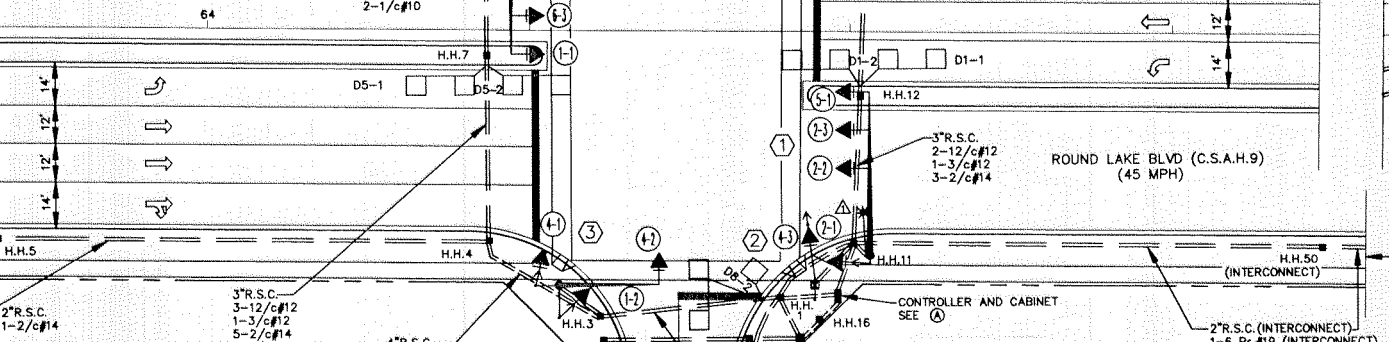
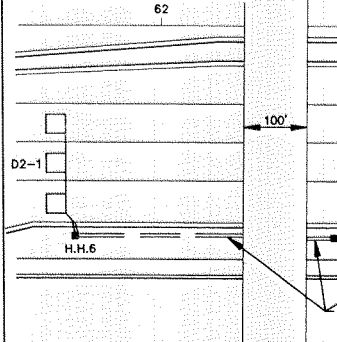
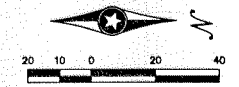
WETLANDS
MITIGATION SHEET

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" x 3" SECTION R-Y-G, EXCEPT THAT SIGNAL FACES (1-1), (1-2), (5-1) AND (5-2) SHALL BE 12" x 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" x 12".
- 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.

Fed. Project No.

- 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#6
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)
1-6 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
DB-1	6x6	120'	3,8
DB-2	6x6	5'	7
DB-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
- 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
 - INSTALL TYPE 1C (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
 - INSTALL TYPE A100-A-50-D40-9 (DAVT AT 350")
A100 POLE FOUNDATION (FURNISHED BY COUNTY)
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
 - INSTALL TYPE 1C (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
 - 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-2)
EXTEND INTO H.H.11:
3" R.S.C.
2-12/c#12
2-1/c#10
 - INSTALL TYPE 1C (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

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

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

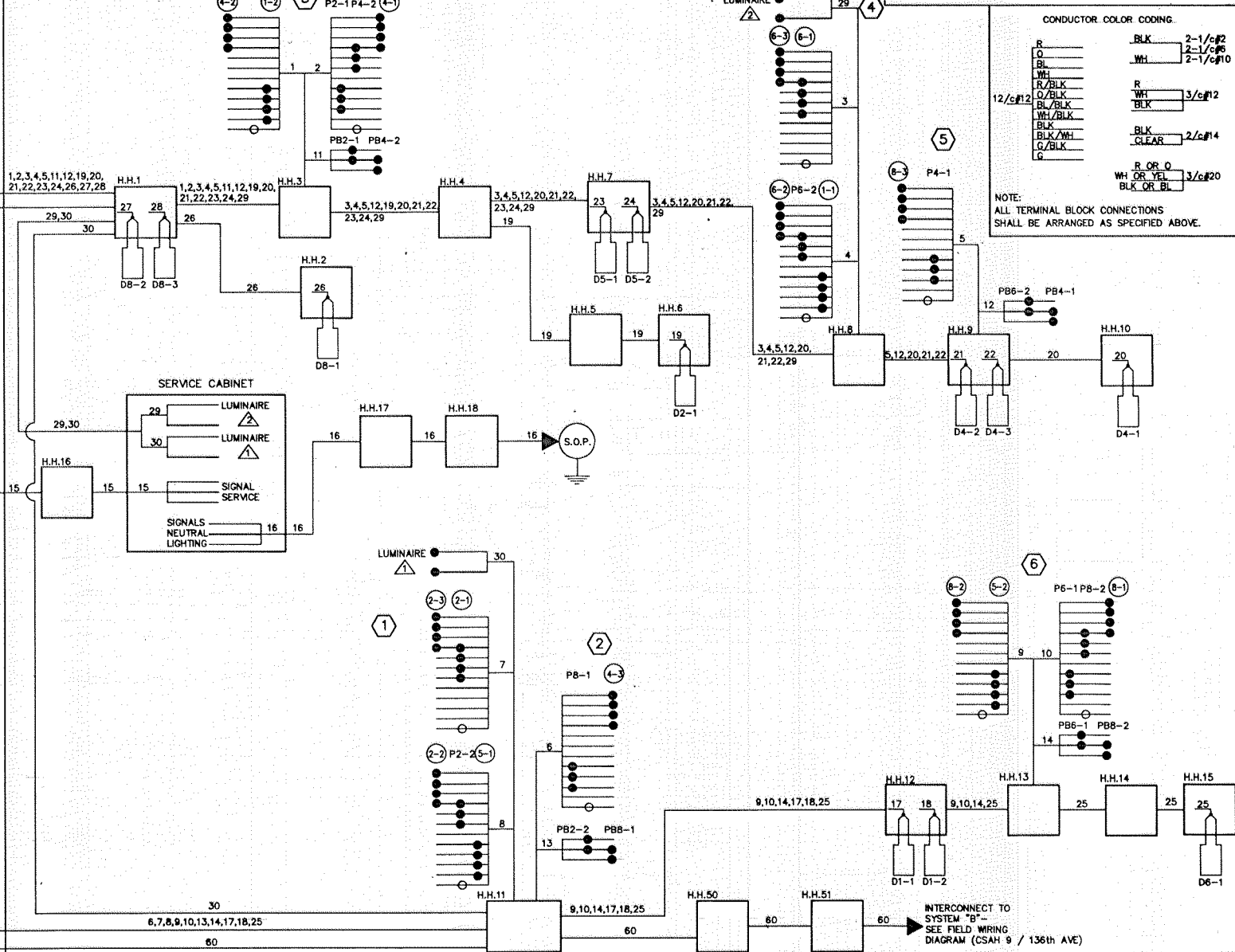
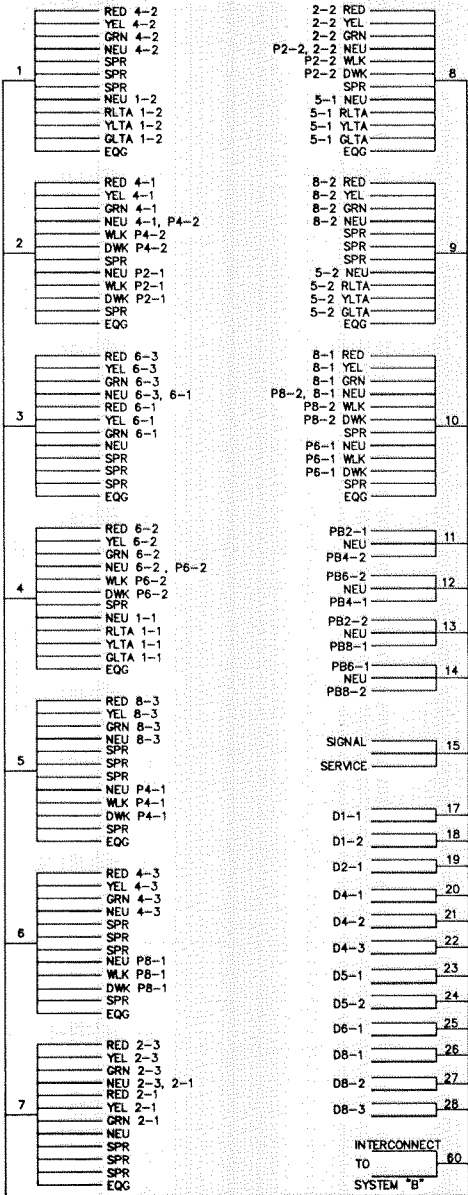


ANOKA COUNTY, MINNESOTA
CITIES OF ANDOVER AND ANOKA

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

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 A. Sloan
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

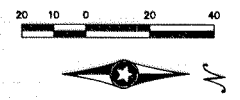


ANOKA COUNTY, MINNESOTA
CITIES OF ANDOVER AND ANOKA

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

FILE NO. 92219
DATE 4/2/93

NO.	BY	DATE	REVISIONS



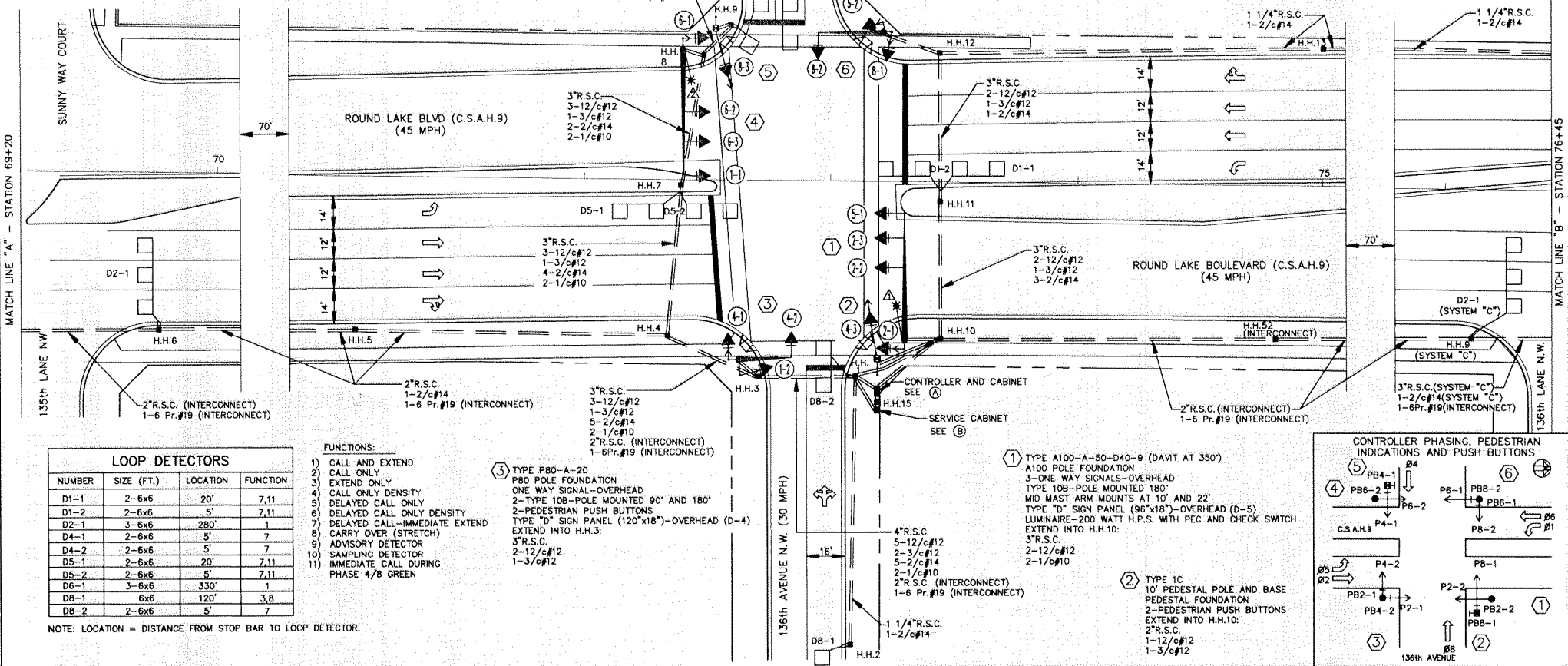
- NOTES:**
- LOCATION OF CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS, POLE BASES AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - EACH SIGNAL FACE SHALL BE 12"-3 SECTION R-Y-G, EXCEPT THAT SIGNAL FACES (1-1), (1-2), (5-1) AND (5-2) SHALL BE 12"-3 SECTION RLTA-YLTA-GLTA.
 - SIGNAL 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 WRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 1"AL.C. SEE SPECIAL PROVISIONS AND DETAILS.
 - EACH HANDHOLE SHALL BE CONCRETE HANDHOLE WITH A TYPE "C" COVER PER Mn/DOT STANDARD PLATE NO.8117F.
 - 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
- (5) TYPE 1C
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

- (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

- (A) 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#12
7-2/c#14
EXTEND INTO H.H.10:
4*R.S.C.
5-12/c#12
2-3/c#12
3-2/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)
- (B) SERVICE CABINET FOUNDATION
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"



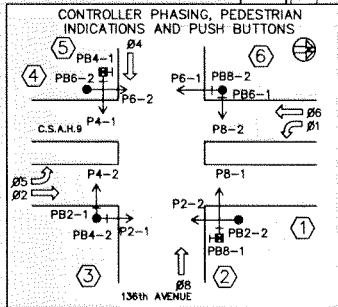
LOOP DETECTORS

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
DB-1	6x6	120'	3,8
DB-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
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.

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

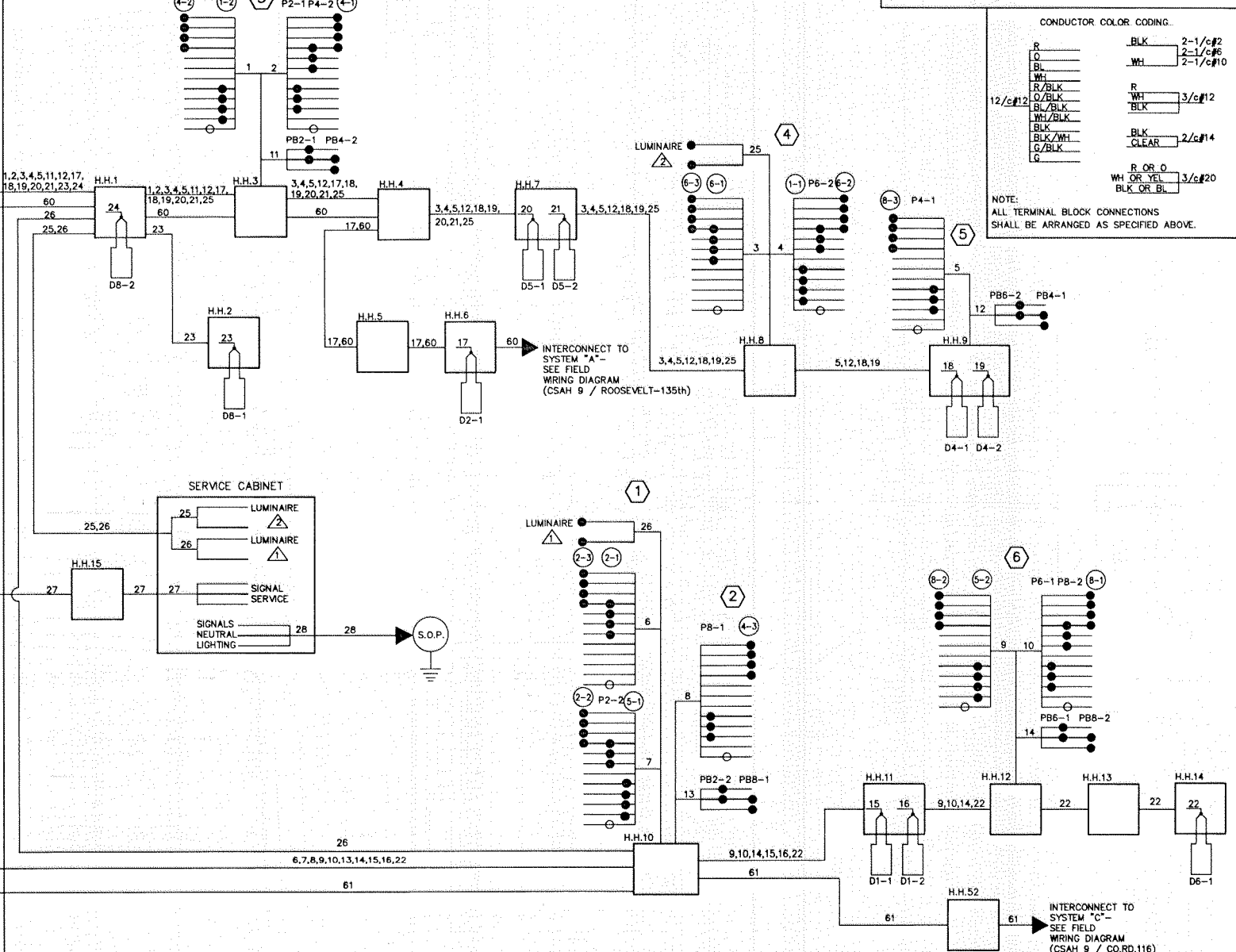
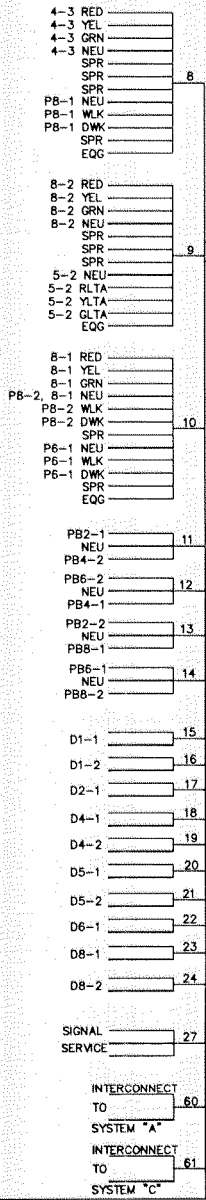
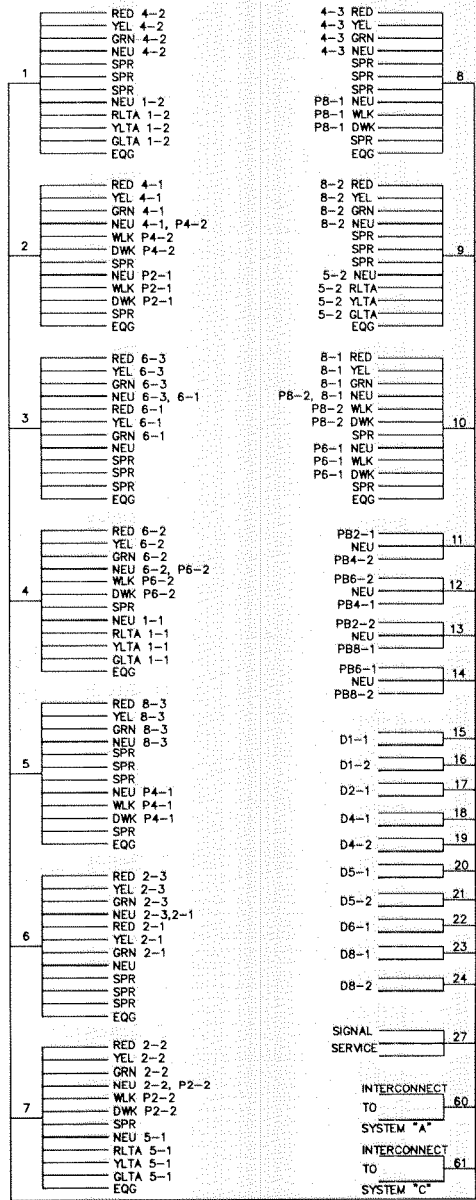


ANOKA COUNTY, MINNESOTA
CITIES OF ANDOVER AND ANOKA

TRAFFIC SIGNAL SYSTEM "B"
INTERSECTION LAYOUT
ROUND LAKE BLVD.(CSAH 9) AT 136TH AVENUE N.W.

FILE NO. 92219
DATE: 4/2/93

CONTROLLER CABINET



CONDUCTOR COLOR CODING.

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

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



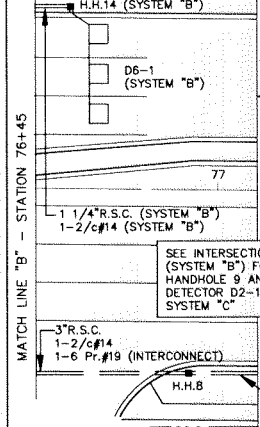
ANOKA COUNTY, MINNESOTA
CITIES OF ANDOVER AND ANOKA

TRAFFIC SIGNAL SYSTEM "B"
FIELD WIRING DIAGRAM
ROUND LAKE BLVD.(CSAH 9) AT 136th AVENUE N.W.

FILE NO. 92219
DATE 4/2/93



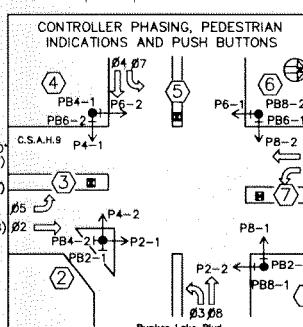
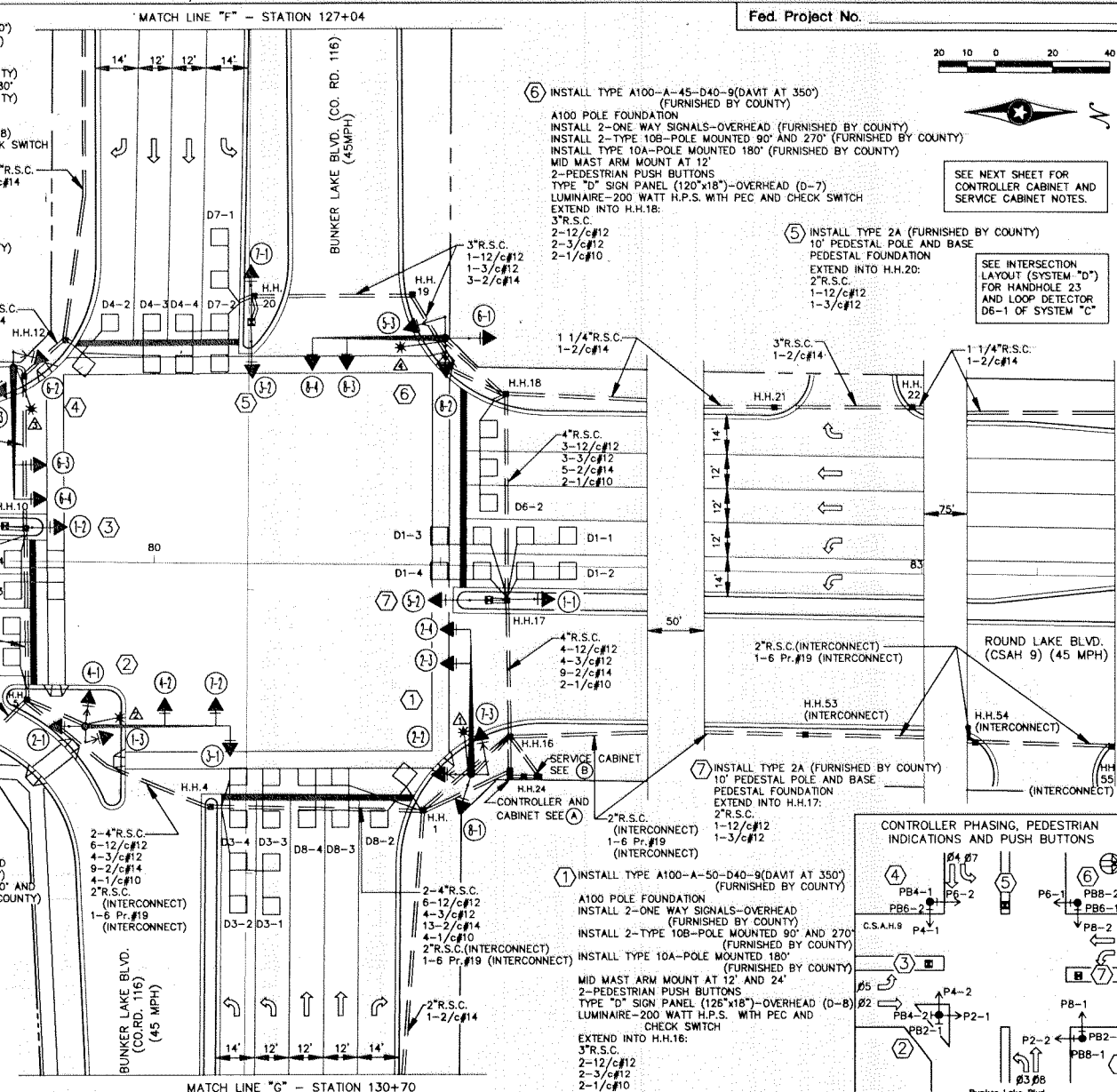
- NOTES:
- LOCATION OF CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS, POLE BASES AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - EACH SIGNAL FACE SHALL BE 12"-3 SECTION R-Y-G, EXCEPT THAT SIGNAL FACES (D), (E), (F), (G) AND (H) SHALL BE 12"-3 SECTION RLTA-YLTA-GLTA.
 - SIGNAL 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 TYPE "C" COVER PER Mn/DOT STANDARD PLATE NO.8117F.
 - SEE SPECIAL PROVISIONS AND DETAILS REGARDING TYPE "D" SIGN PANELS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (INCIDENTAL TO ITEM NO.2565.511).
 - SEE SPECIAL PROVISIONS REGARDING REMOVAL AND SALVAGING OF INPLACE SIGNAL SYSTEM (INCIDENTAL TO ITEM NO.2565.511).
 - (INTERCONNECT) DENOTES ITEMS TO BE PAID FOR UNDER SEPARATE PAY ITEM. SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
 - SEE SPECIAL PROVISIONS AND PLAN SHEETS REGARDING TEMPORARY OPERATION OF SIGNAL SYSTEM DURING ROAD CONSTRUCTION.
 - CAP ADDITIONAL MID MAST ARM MOUNTS AT 24' ON POLES (1) AND (2) AS APPROVED BY THE ENGINEER.
 - CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED SIGNAL INDICATION.
 - HANDHOLES 1 AND 16 SHALL BE DOUBLE HANDHOLES.



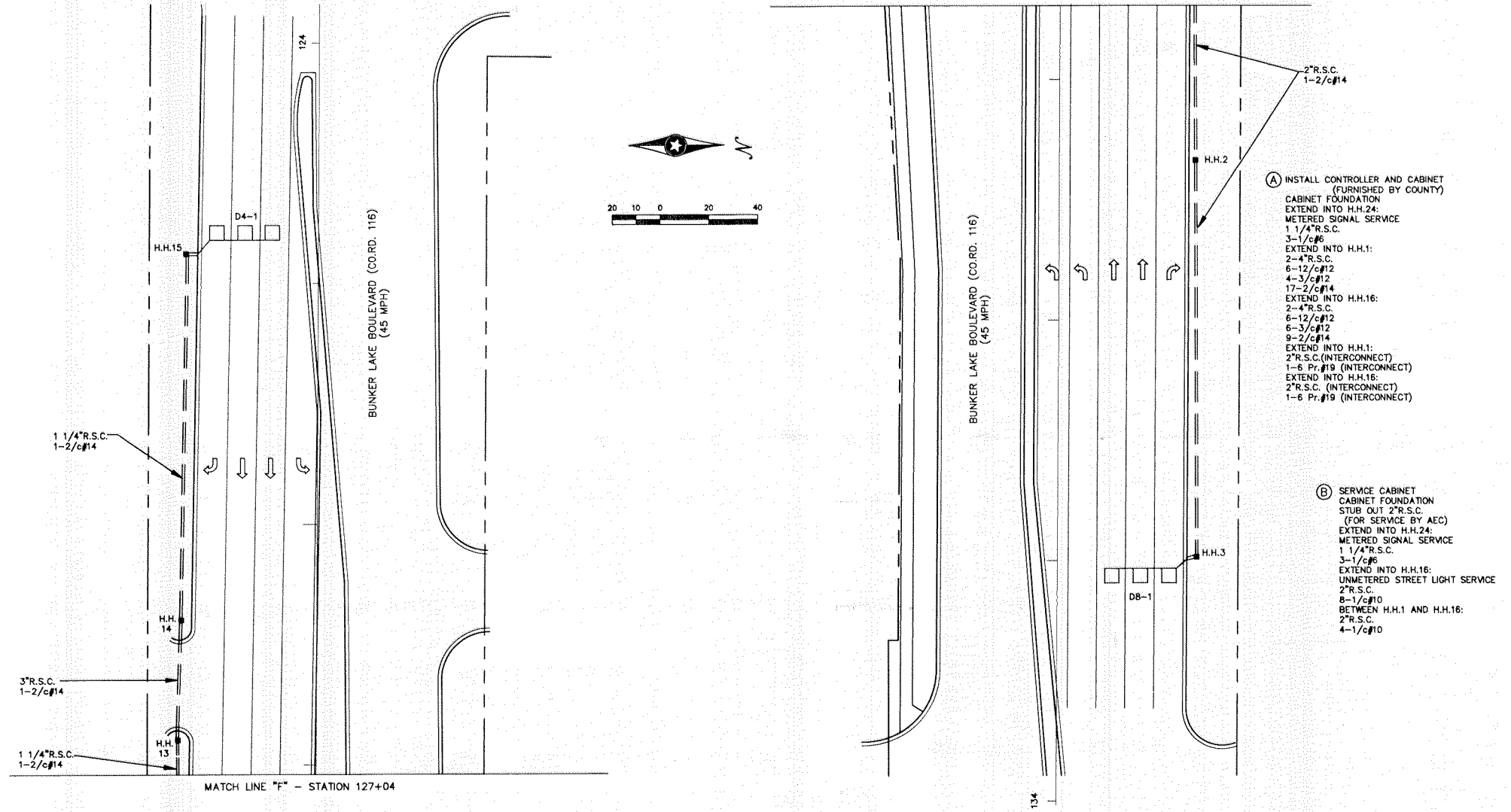
LOOP DETECTORS				
NUMBER	SIZE (FT.)	LOCATION	FUNCTION	
D1-1	2-6x6	20'	1	
D1-2	2-6x6	20'	1	
D1-3	2-6x6	20'	1	
D1-4	2-6x6	5'	1	
D2-1	3-6x6	330'	1	
D2-2	2-6x6	5'	4	
D3-1	2-6x6	20'	1	
D3-2	2-6x6	20'	1	
D3-3	2-6x6	5'	1	
D3-4	2-6x6	5'	1	
D4-1	3-6x6	330'	1	
D4-2	2-6x6	5'	4	
D4-3	2-6x6	5'	4	
D4-4	2-6x6	5'	4	
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	
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:
- 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
 - SPECIAL DETECTOR
- NOTE: LOCATION = DISTANCE FROM STOP BAR TO LOOP DETECTOR.

- INSTALL TYPE A100-A-45-D40-9 (DAVT AT 350')
A100 POLE FOUNDATION (FURNISHED BY COUNTY)
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#12
2-1/c#10
- 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#12
- INSTALL TYPE A100-A-50-D40-9 (DAVT AT 350')
A100 POLE FOUNDATION
INSTALL 3-ONE WAY SIGNALS-OVERHEAD (FURNISHED BY COUNTY) 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 (120"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#12
2-1/c#10
- INSTALL TYPE A100-A-45-D40-9 (DAVT AT 350')
A100 POLE FOUNDATION
INSTALL 2-ONE WAY SIGNALS-OVERHEAD (FURNISHED BY COUNTY)
INSTALL 2-TYPE 10B-POLE MOUNTED 90° AND 270° (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.18:
3" R.S.C.
1-12/c#12
1-3/c#12
3-2/c#14
- 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#12
- INSTALL TYPE A100-A-50-D40-9 (DAVT AT 350')
A100 POLE FOUNDATION
INSTALL 2-ONE WAY SIGNALS-OVERHEAD (FURNISHED BY COUNTY)
INSTALL 2-TYPE 10B-POLE MOUNTED 90° AND 270° (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.16:
3" R.S.C.
2-12/c#12
2-3/c#12
2-1/c#10
- INSTALL TYPE 2A (FURNISHED BY COUNTY)
10' PEDESTAL POLE AND BASE
PEDESTAL FOUNDATION
EXTEND INTO H.H.17:
2" R.S.C.
1-12/c#12
1-3/c#12



MATCH LINE "G" - STATION 130+70



- (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.
 6-12/c#12
 4-3/c#12
 17-2/c#14
 EXTEND INTO H.H.16:
 2-4" R.S.C.
 6-12/c#12
 6-3/c#12
 9-2/c#14
 EXTEND INTO H.H.1:
 2" R.S.C. (INTERCONNECT)
 1-6 Pr. #19 (INTERCONNECT)
 EXTEND INTO H.H.16:
 2" R.S.C. (INTERCONNECT)
 1-6 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

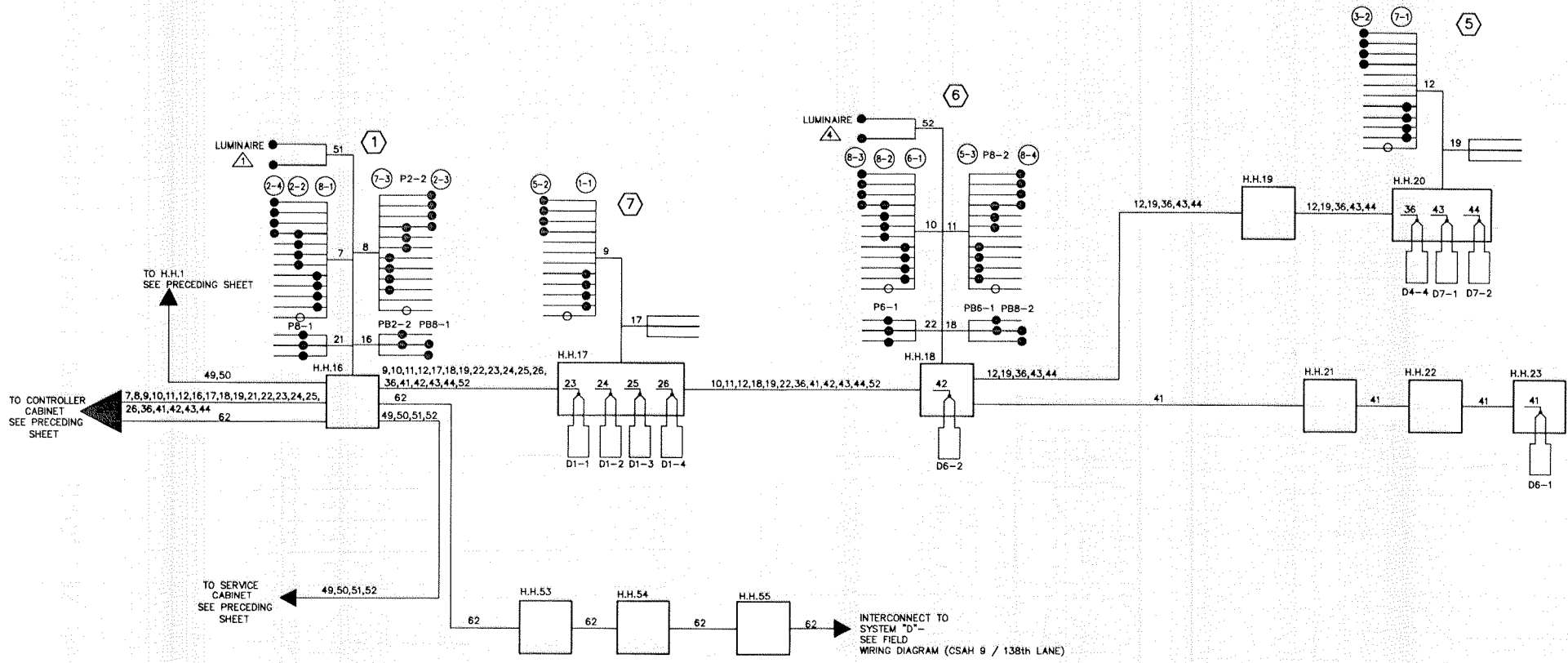
NO.	BY	DATE	REVISIONS

"ELECTRICAL ENGINEER CERTIFICATION"
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Robert J. Egan
 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. Shea
 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
	S.A.P. 02-609-10 ,02-616-03 SP. _____ C.P. 93-12-116	Sheet No. 50 of 133 Sheets	

BASE	DATE	NO.



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#12
R/BLK	WH	3/c#12
O/BLK	BLK	3/c#12
BL/BLK	BLK	3/c#12
WH/BLK	BLK	3/c#12
BLK	BLK	2/c#14
BLK/WH	CLEAR	2/c#14
O/BLK	BLK	3/c#20
L	BLK	3/c#20
R OR O	R OR O	3/c#20
WH OR YEL	WH OR YEL	3/c#20
BLK OR BL	BLK OR BL	3/c#20

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

9221WDG1

NO.	BY	DATE	REVISIONS

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Robert R. Egan
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

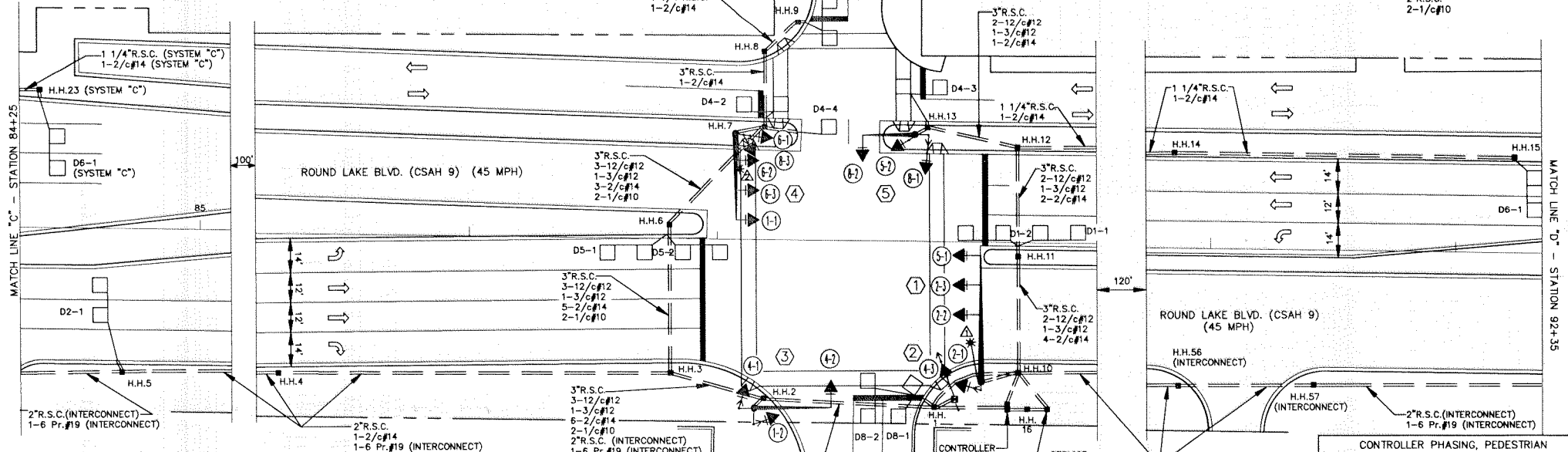
NOTES:

- 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), (3) AND (4) 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 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) (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.

- 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-11)
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#12
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#12
- 6) 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#12
- 7) 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

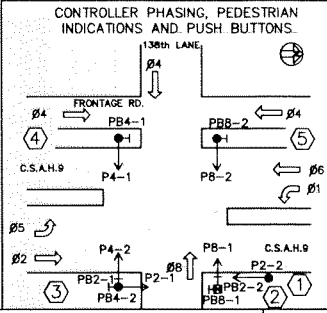


- INSTALL CONTROLLER AND CABINET (FURNISHED BY COUNTY)
CABINET FOUNDATION
EXTEND INTO H.H.16:
METERED SIGNAL SERVICE
1 1/4"R.S.C.
3-1/c#6
EXTEND INTO H.H.1:
4"R.S.C.
6-12/c#12
3-3/c#12
8-2/c#14
EXTEND INTO H.H.10:
4"R.S.C.
4-12/c#12
1-3/c#12
4-2/c#14
EXTEND INTO H.H.1:
2"R.S.C.(INTERCONNECT)
1-6 Pr.#19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



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
D8-1	2-6x6	5'	7
D8-2	2-6x6	5'	7

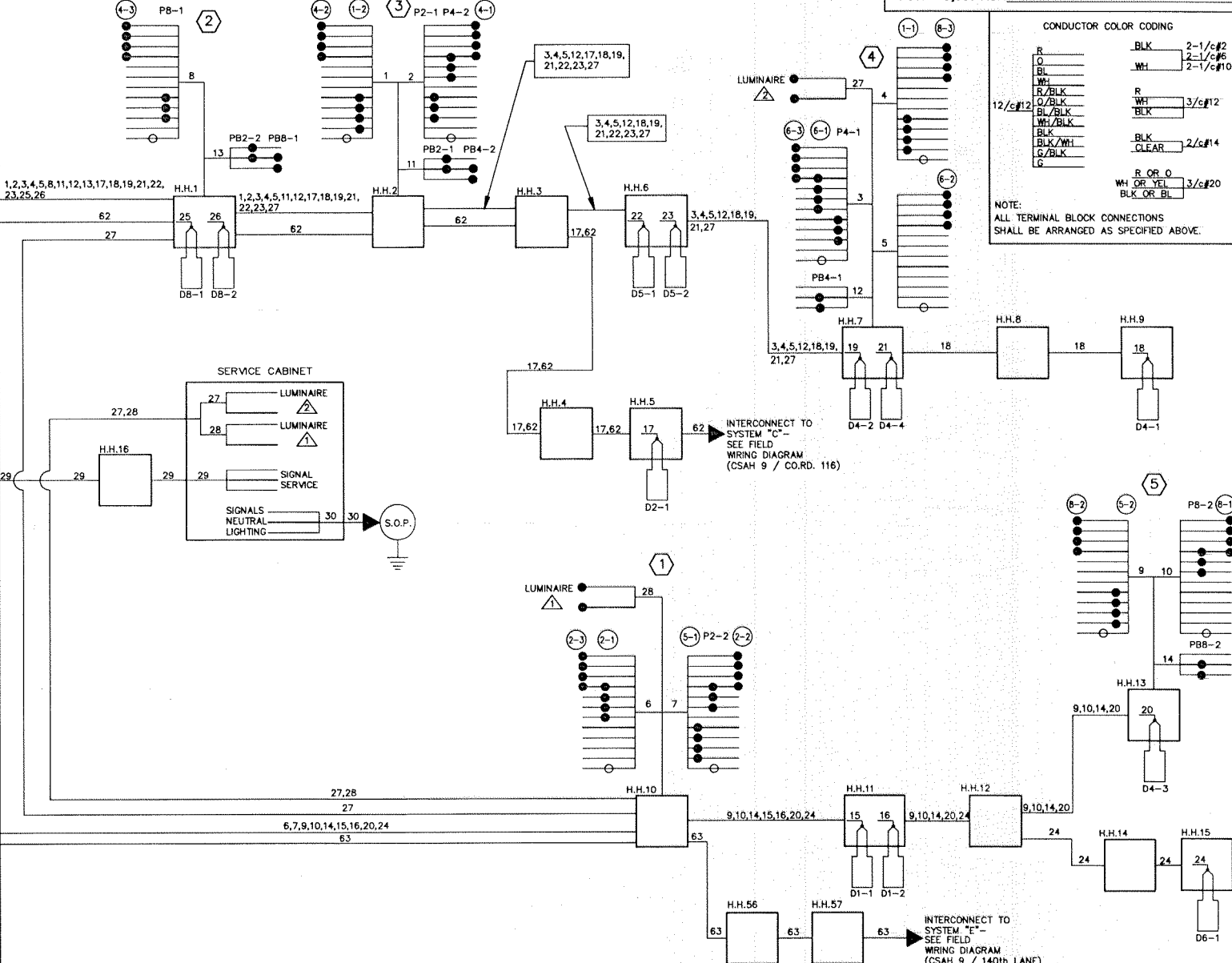
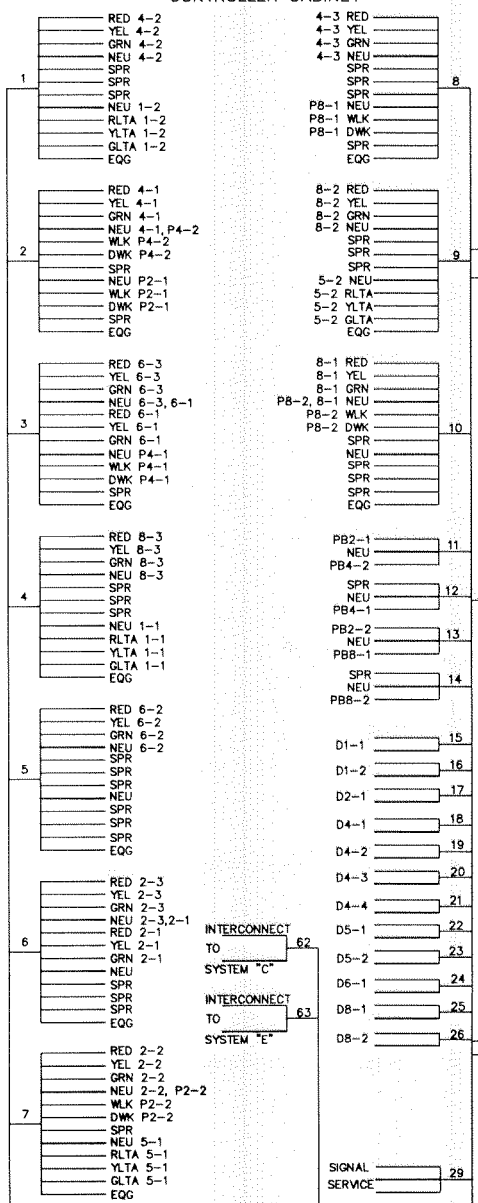
- FUNCTIONS:
- 1) CALL AND EXTEND
 - 2) CALL ONLY
 - 3) EXTEND ONLY
 - 4) CALL ONLY DENSITY
 - 5) DELAYED CALL ONLY
 - 6) DELAYED CALL ONLY DENSITY
 - 7) DELAYED CALL-IMMEDIATE EXTEND
 - 8) CARRY OVER (STRETCH)
 - 9) ADVISORY DETECTOR
 - 10) SAMPLING DETECTOR
 - 11) IMMEDIATE CALL DURING PHASE 4/8 GREEN



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

NO. BY DATE	REVISIONS	<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 L. Ellen</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 under the laws of the state of Minnesota.</p> <p><i>M. Jones</i> Date: 4/2/93 Reg. No. 22457</p>	<p>ESEH ENGINEERS ARCHITECTS PLANNERS</p>	<p>ANOKA COUNTY, MINNESOTA CITY OF ANDOVER</p>	<p>TRAFFIC SIGNAL SYSTEM "D" INTERSECTION LAYOUT ROUND LAKE BLVD.(CSAH 9) AT 138TH LANE N.W.</p>	<p>FILE NO. 92219 DATE 4/2/93</p>
		<p>S.A.P. 02-609-10 S.P. _____ C.P. _____</p>		<p>Sheet No. 53 of 133 Sheets</p>			

CONTROLLER CABINET



Fed. Project No. _____

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#12
R/BLK	BLK	2/c#14
O/BLK	BLK	2/c#14
BL/BLK	BLK	2/c#14
WH/BLK	BLK	2/c#14
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.
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



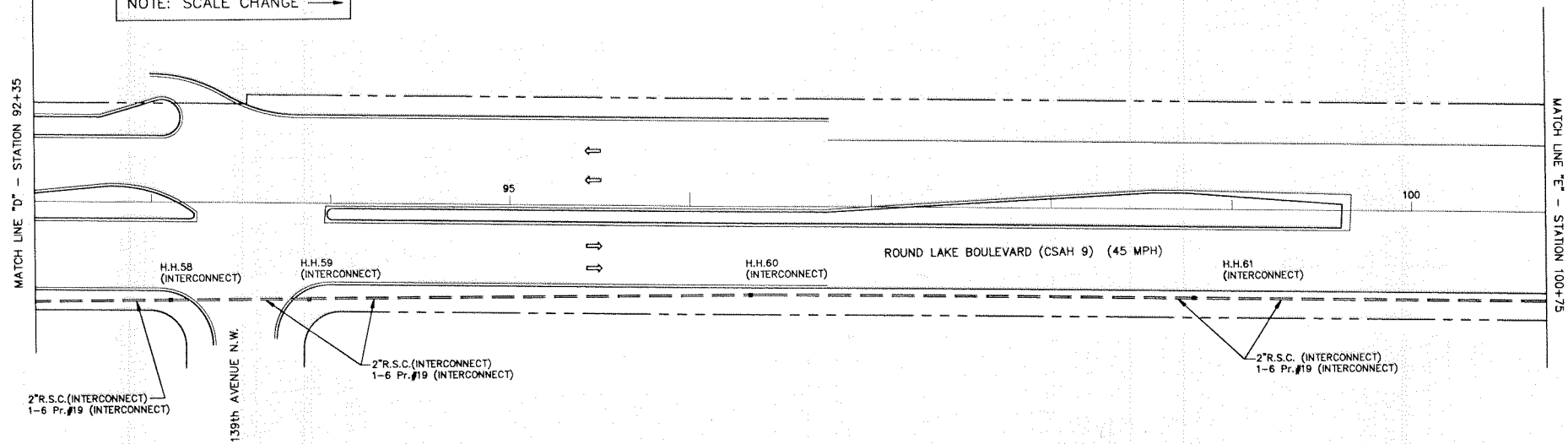
ANOKA COUNTY, MINNESOTA
CITY OF ANDOVER

TRAFFIC SIGNAL SYSTEM 'D'
FIELD WIRING DIAGRAM
ROUND LAKE BLVD.(CSAH 9) AT 138th LANE N.W.
FILE NO. 92219
DATE 4/2/93

BASE OVERLAYS, NO.	



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. Allen
 Date: 4/2/93 Reg. No. 5858

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. Jones
 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)
 Sheet No. 55 of 133 Sheets

FILE NO. 92219
DATE 4/2/93

NOTES:

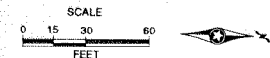
- 1) SEE SPECIAL PROVISIONS FOR CONTRACTORS RESPONSIBILITY FOR LOCATION OF UTILITIES.
- 2) ALL SIGNAL FACES SHALL HAVE BACKGROUND SHIELDS.
- 3) LUMINAIRE Δ WITH P.E.C. AND CHECK SWITCH.
- 4) SEE SPECIAL PROVISIONS FOR ANOKA COUNTY SERVICE CABINET DETAILS.
- 5) DIRECTIONAL SIGNS TO BE FURNISHED AND INSTALLED 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 ARM 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 ITEMS 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.6:
 3" R.S.C.
 2-12/c #12
 1-3/c #12
 2-1/c #10

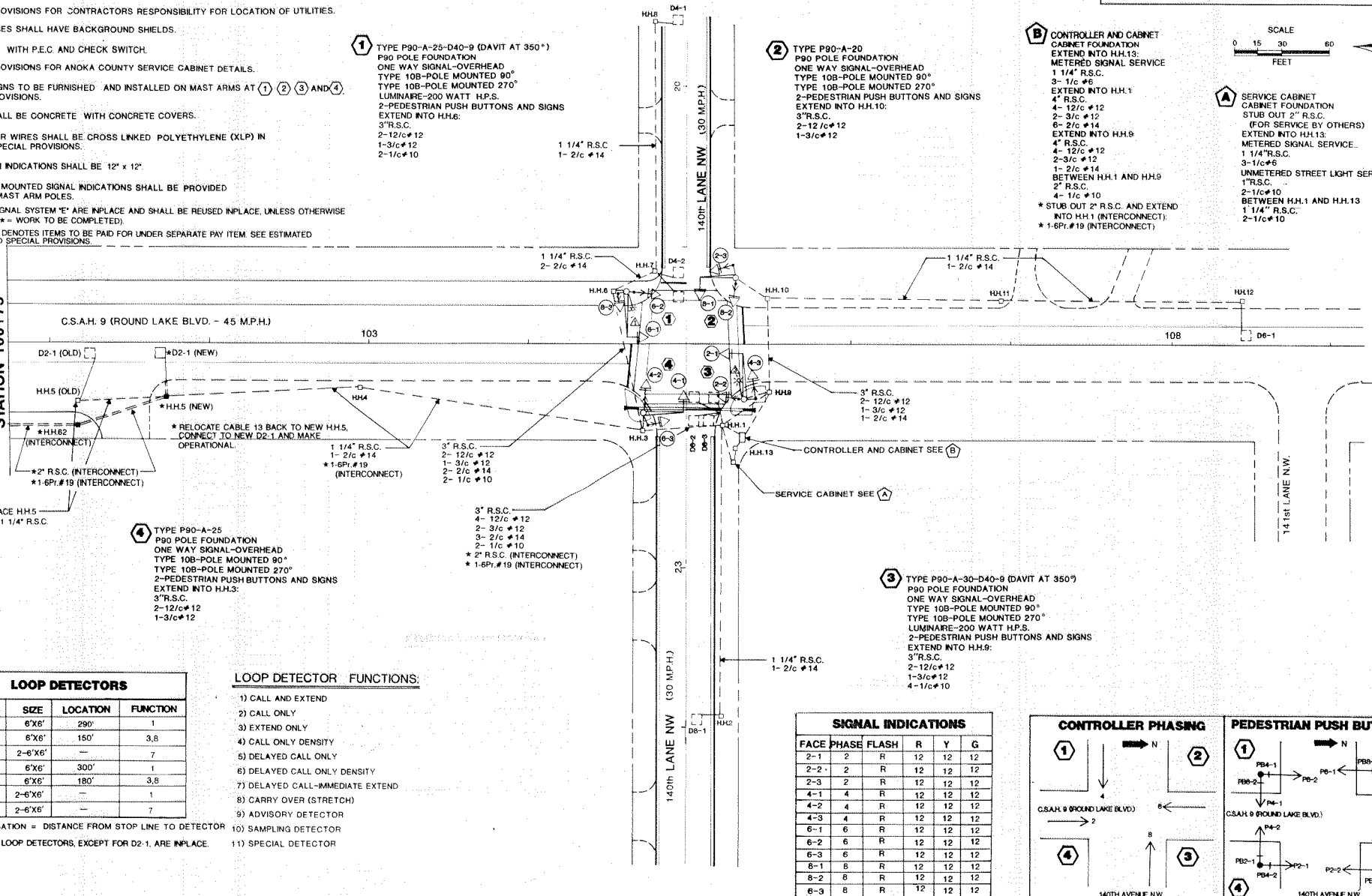
② TYPE P90-A-20
 P90 POLE FOUNDATION
 ONE WAY SIGNAL-OVERHEAD
 TYPE 10B-POLE MOUNTED 90°
 TYPE 10B-POLE MOUNTED 270°
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS
 EXTEND INTO H.H.10:
 3" R.S.C.
 2-12/c #12
 1-3/c #12

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
 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 FOUNDATION
 CABINET FOUNDATION
 STUB OUT 2" R.S.C.
 (FOR SERVICE BY OTHERS)
 EXTEND INTO H.H.13:
 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



MATCH LINE "E" - STATION 100+75



LOOP DETECTORS

NUMBER	SIZE	LOCATION	FUNCTION
*D2-1	6'X6'	290'	1
D4-1	6'X6'	150'	3,8
D4-2	2-6'X6'	---	7
D6-1	6'X6'	300'	1
D8-1	6'X6'	180'	3,8
D8-2	2-6'X6'	---	1
D8-3	2-6'X6'	---	7

NOTE: LOCATION = DISTANCE FROM STOP LINE TO DETECTOR
 * ALL LOOP DETECTORS, EXCEPT FOR D2-1, ARE IN PLACE.

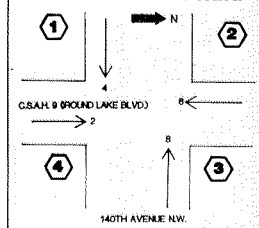
LOOP DETECTOR FUNCTIONS:

- 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

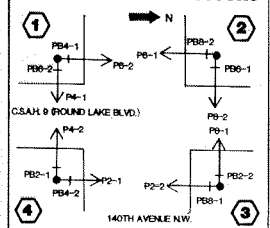
SIGNAL INDICATIONS

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

CONTROLLER PHASING



PEDESTRIAN PUSH BUTTONS



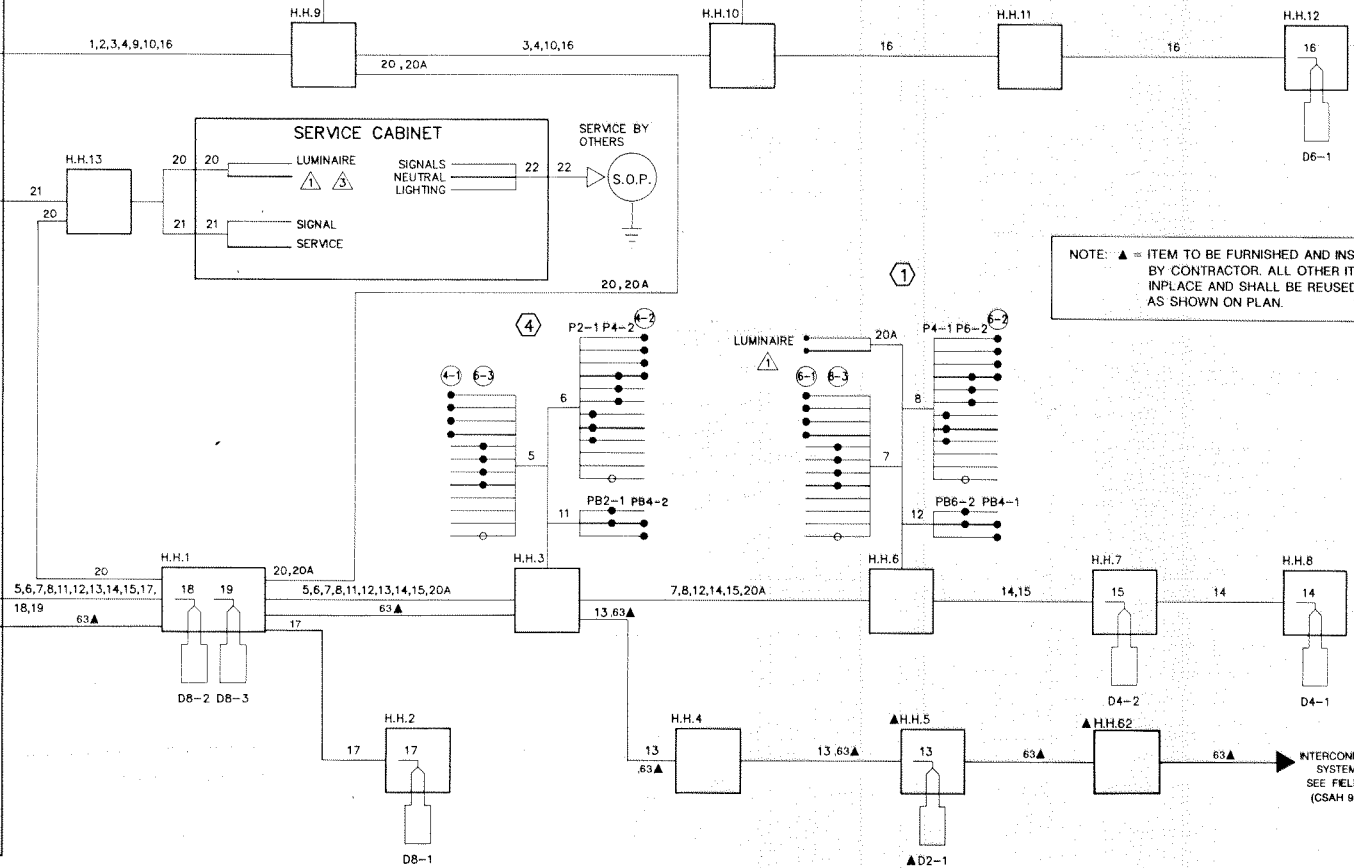
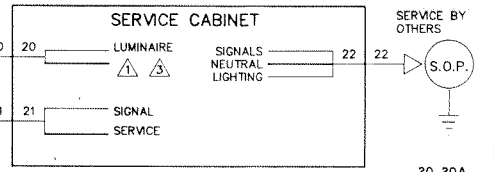
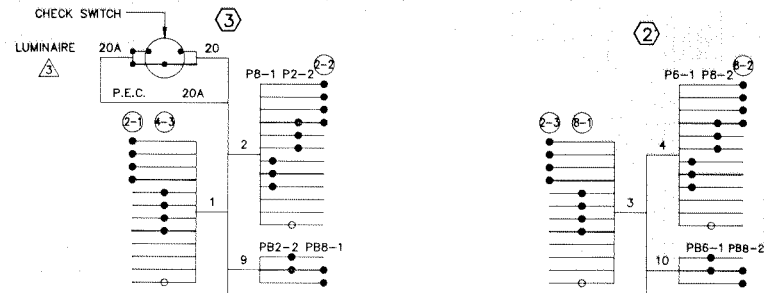
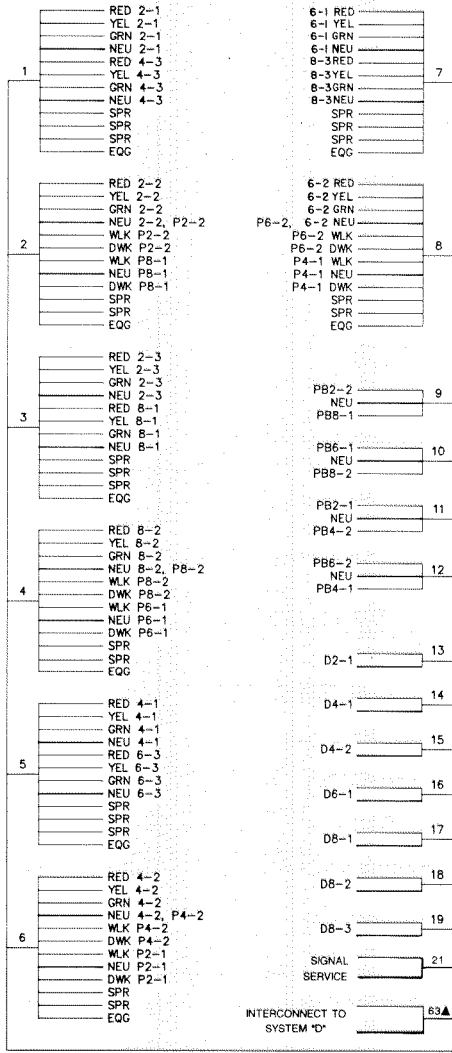
CONDUCTOR COLOR CODING

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

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



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

SEH
ENGINEERS ARCHITECTS PLANNERS

ANOKA COUNTY, MINNESOTA
CITY OF ANDOVER

S.A.P. 02-609-10 S.P. _____ C.P. _____

TRAFFIC SIGNAL SYSTEM "E"
FIELD WIRING DIAGRAM
ROUND LAKE BLVD (CSAH 9) AT 140TH LANE N.W.

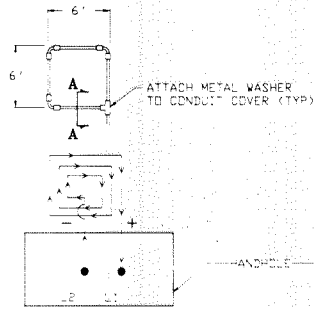
FILE NO. 92219
DATE 4/2/93

Sheet No. 57 of 133 Sheets

NO.	BY	DATE	REVISIONS

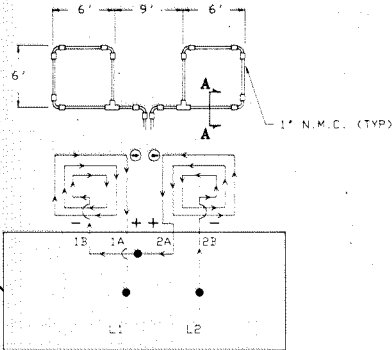
LOOP DETECTOR DETAIL 'A'

PLAN VIEW (NOT TO SCALE)
(LOOP PHASING FOR SINGLE CONNECTION)



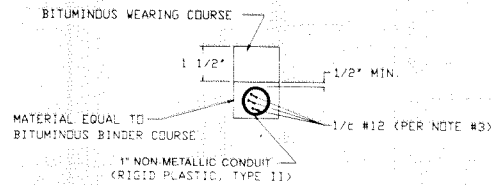
LOOP DETECTOR DETAIL 'B'

PLAN VIEW (NOT TO SCALE)
(LOOP PHASING FOR SERIES CONNECTION)

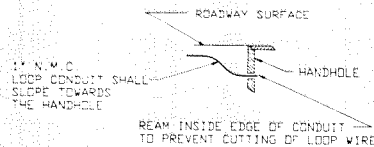


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:
L1 TO 1A, 1B TO 2A, AND 2B TO L2.

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 AND 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'x6' THRU 6'x10' SHALL HAVE (4) TURNS.
- LOOPS 6' x 10' THRU 6' x 14' SHALL HAVE (3) TURNS
- LOOPS 6' 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" N.M.C. ASSEMBLY.

STANDARD PLATES

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-100 POLE FOUNDATION
* B130 D	SAW CUT LOOP DETECTORS
* 0005 A	SPECIFICATION REFERENCE TO STANDARD PLATES
2124 B	METAL APRON CONNECTION
3021 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
- Wlk - WALK
- NEU - NEUTRAL
- DWR - DOWN WALK
- LUM - LUMINAIRE
- DLN - DOWNLIGHT
- H.H. - HANDHOLE
- EGS - EQUIPMENT GROUND
- R.S.C. - RIGID STEEL CONDUIT
- G.T.A. - GREEN LEFT TURN ARROW
- Y.T.A. - YELLOW RIGHT TURN ARROW
- D2-1(eg) - DETECTOR-PHASE "2"
- GR R - GROUND ROD
- SER - SERVICE
- P2 - 2 PEDESTRIAN INDICATIONS
- P2-1(eg) - SIGNAL HEADS-PHASE "2"
- SPR - SPARE CONNECTORS
- N.M.C. - NON METALLIC CONDUIT
- E.V.P. - EMERGENCY VEHICLE PRE-EMPTION
- J.B. - JUNCTION BOX
- * P - WOOD POLE
- P.E.C.C. - PHOTOELECTRIC CELL

LEGEND OF SYMBOLS

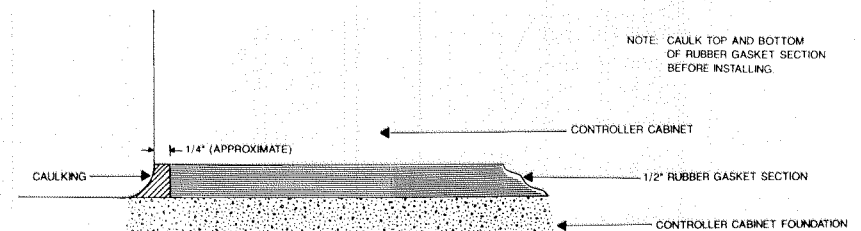
- CONTROLLER AND SERVICE EDPT NOS. _____
- SIGNAL BASE NO. _____
- SIGNAL FACE NO. _____
- LUMINAIRE NO. _____
- CONTROLLER AND CABINET _____
- CONTROLLER AND CABINET IN PLACE _____
- HANDHOLE _____
- HANDHOLE IN PLACE _____
- RIGID STEEL CONDUIT (R.S.C.) _____
- RIGID STEEL CONDUIT (R.S.C.) IN PLACE _____
- 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

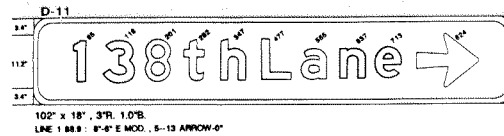
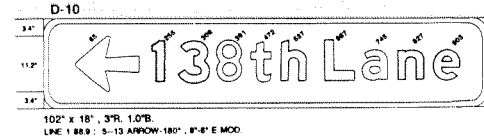
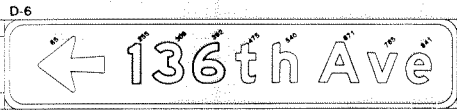
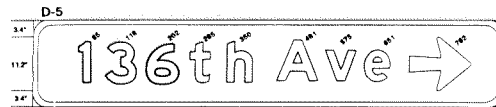
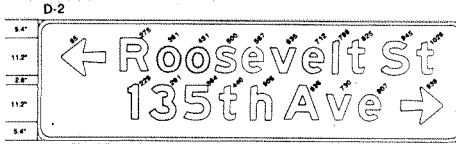


TYPE "D" SIGNS

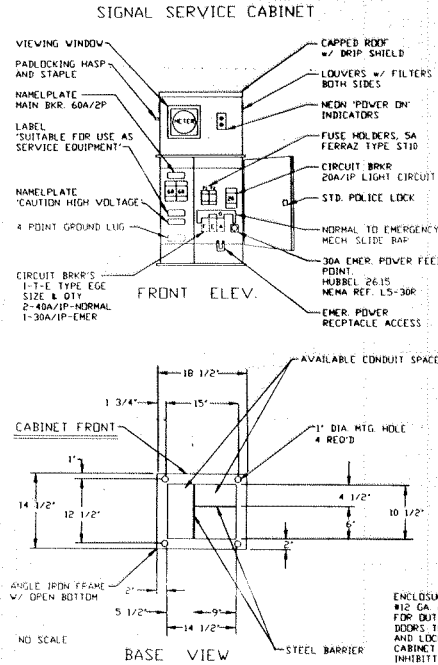
SIGN PANEL	SIZE	NO REQ.	NO POSTS PER SIGN	POST SPACING	SQ.FT. PER SIGN	POLE NO.	a
D-1	120x18	2	3	45"	15.00	3	4'
D-2	114x36	1	3	45"	28.50	1	26'
D-3	114x36	1	3	45"	28.50	4	26'
D-4	120x18	2	3	45"	15.00	3	4'
D-5	96x18	1	2	54"	12.00	1	26'
D-6	96x18	1	2	54"	12.00	4	30'
D-7	120x18	2	3	45"	15.00	2	16'
D-8	126x18	2	3	45"	15.75	1	28'
D-9	120x18	2	3	45"	15.00	3	4'
D-10	102x18	1	3	45"	12.75	1	28'
D-11	102x18	1	3	45"	12.75	4	28'

NOTES:

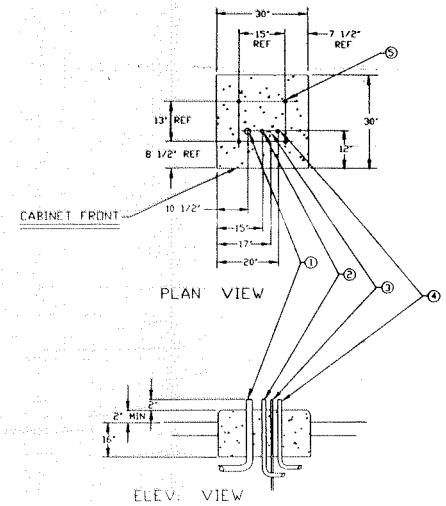
- COLOR: WHITE LEGEND AND BORDER ON GREEN BACKGROUND, FULLY REFLECTORIZED.
- CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
- FOR STRUCTURAL DETAILS, TYPE D SIGNS, SEE STANDARD SIGNS MANUAL, PAGE 105A AND B.
- FOR TYPE D STRINGER AND PANEL-JOINT DETAIL, SEE STANDARD MANUAL.
- SIGN PANELS TO BE FURNISHED AND INSTALLED INCIDENTAL TO ITEM NO. 2565.511.
- SEE STANDARD SIGNS MANUAL FOR ARROW DETAILS.



SIGNAL SERVICE CABINET DETAIL



SERVICE CABINET FOUNDATION

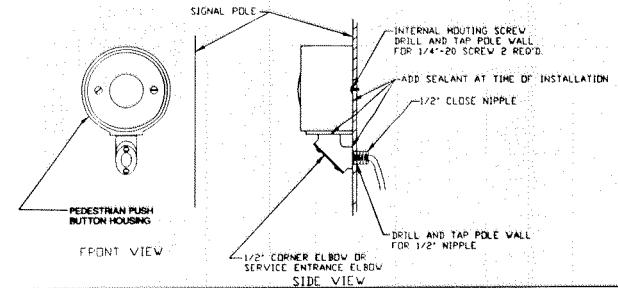


CONSTRUCTION NOTES

ENCLOSURE SHALL BE FABRICATED FROM #12 GA. ALL WELDED COUDED STEEL FOR OUTDOOR WEATHER PROOF SERVICE. DOORS TO BE GASKETED. ALL HINGES, PINS AND LOCKS TO BE OF NON CORRODING CONSTRUCTION. CABINET TO BE PRIMED INSIDE AND OUT WITH RUST INHIBITTING PRIMER. FINISH PER MH/107 #3527

- 2" RSC FROM SOURCE OF POWER
- 1 1/4" RSC TO CONTROLLER CABINET (VIA HANDHOLE)
- GROUNDING ROD
- 1 1/4" RSC TO HANDHOLE (STREET LIGHTING)
- 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.

Date: 4/2/193 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: 4/2/193 Reg. No. 22457



ANOKA COUNTY, MINNESOTA
CITIES OF ANDOVER AND ANOKA

SIGNAL SYSTEMS "A"- "E"
DETAILS

FILE NO. 92219
DATE 4/2/193

S.A.P. 02-609-10 02-616-03 S.P.

C.P. 93-12-116

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 (XLP) IN 1" M.C. SEE SPECIAL PROVISIONS AND DETAILS.
 - 7) PEDESTRIAN INDICATIONS P2-1, P2-2, P6-1 AND P6-2 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.

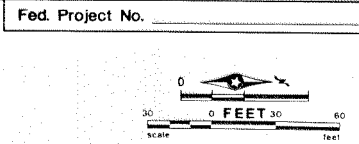
A SERVICE CABINET
CABINET FOUNDATION
EXTEND 2" R.S.C. TO INPLACE SPICE BOX
3-1/c#6 SOLID COPPER CABLE (S.O.P.)
(For Service By Others)
EXTEND INTO H.H. 14
METERED SIGNAL SERVICE
1-1/4" R.S.C.
3-1/c#6
UNMETERED STREET LIGHT SERVICE
1" R.S.C.
2-1/c#10
2-1/c#12
2" R.S.C.
2-1/c#10

B CONTROLLER AND CABINET
CABINET FOUNDATION
EXTEND INTO H.H. 14
METERED SIGNAL SERVICE
1-1/4" R.S.C.
3-1/c#6
EXTEND INTO H.H. 13
2-3" R.S.C.
8-12/c#12
5-3/c#12
6-2/c#14

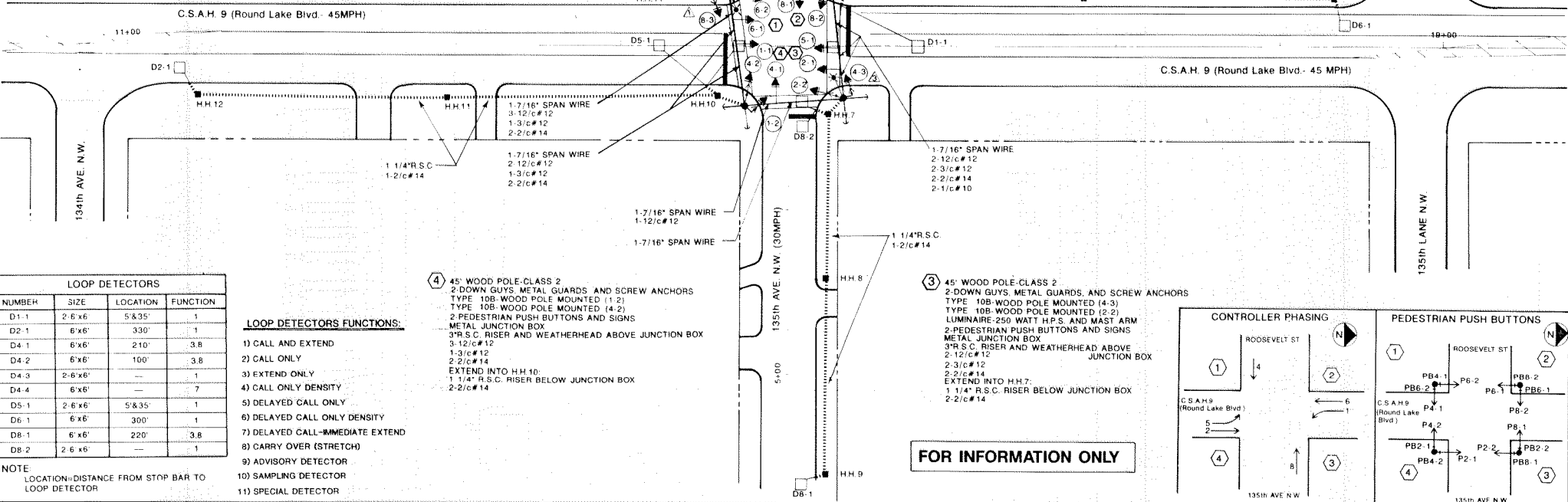
1 45' WOOD POLE-CLASS 2
2-DOWN GUYS, METAL GUARDS,
AND SCREW ANCHORS
TYPE 10B-WOOD POLE MOUNTED (8-3)
TYPE 10B-WOOD POLE MOUNTED (8-2)
LUMINAIRE-250 WATT H.P.S. AND MAST ARM
2-PEDESTRIAN PUSH BUTTONS AND SIGNS
METAL JUNCTION BOX
2" R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX
1-12/c#12
EXTEND INTO H.H.13
2" R.S.C. RISER BELOW JUNCTION BOX
2-12/c#12
1-3/c#12
EXTEND INTO H.H.13
2-3" R.S.C. RISERS AND WEATHERHEADS
6-12/c#12
4-3/c#12
6-2/c#14
2-1/c#10

SIGNAL INDICATIONS								
FACE	PHASE	FLASH	R	Y	G	RLTA	YLTA	GLTA
1-1	1	R				12	12	12
1-2	1	R				12	12	12
2-1	2	R	12	12	12			
2-2	2	R	12	12	12			
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 (8-2)
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
2-12/c#12
1-3/c#12
2-2/c#14
EXTEND INTO H.H.4
1-1/4" R.S.C. RISER BELOW JUNCTION BOX
2-2/c#14

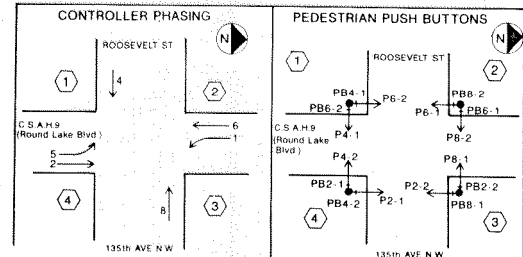


LOOP DETECTORS			
NUMBER	SIZE	LOCATION	FUNCTION
D1-1	2-6'x6'	5'x35'	1
D2-1	6'x6'	330'	1
D4-1	6'x6'	210'	3,8
D4-2	6'x6'	100'	3,8
D4-3	2-6'x6'	---	1
D4-4	6'x6'	---	7
D5-1	2-6'x6'	5'x35'	1
D6-1	6'x6'	300'	1
D8-1	6'x6'	220'	3,8
D8-2	2-6'x6'	---	1

- 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

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
3-12/c#12
1-3/c#12
2-2/c#14
EXTEND INTO H.H.10:
1-1/4" R.S.C. RISER BELOW JUNCTION BOX
2-2/c#14

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
2-12/c#12
2-2/c#14
2-3/c#12
EXTEND INTO H.H.7:
1-1/4" R.S.C. RISER BELOW JUNCTION BOX
2-2/c#14



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

ESEH
ENGINEERS ARCHITECTS PLANNERS

ANOKA COUNTY, MINNESOTA
CITIES OF ANDOVER AND ANOKA

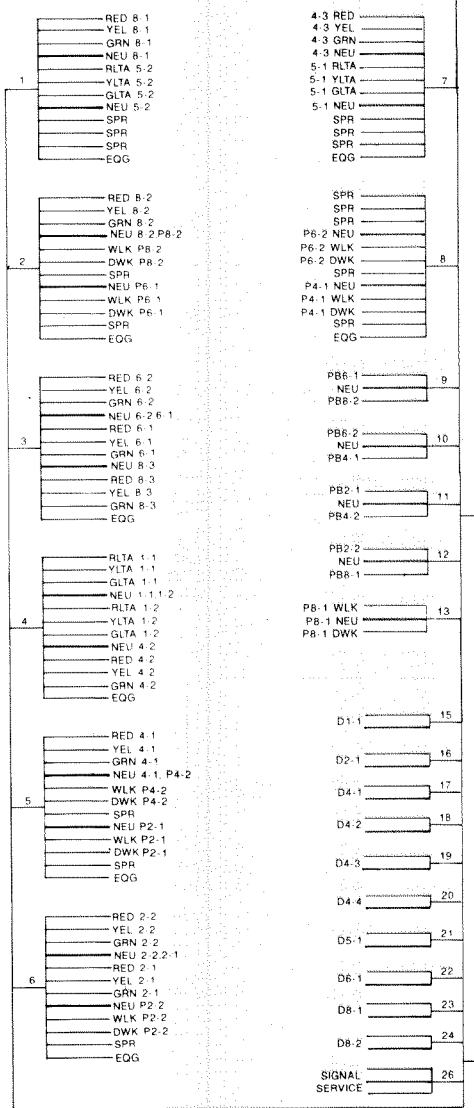
S.A.P. 02-609-10 S.P. _____ C.P. _____

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

FILE NO. 92219
DATE 4/2/93

Sheet No. 60 of 133 Sheets

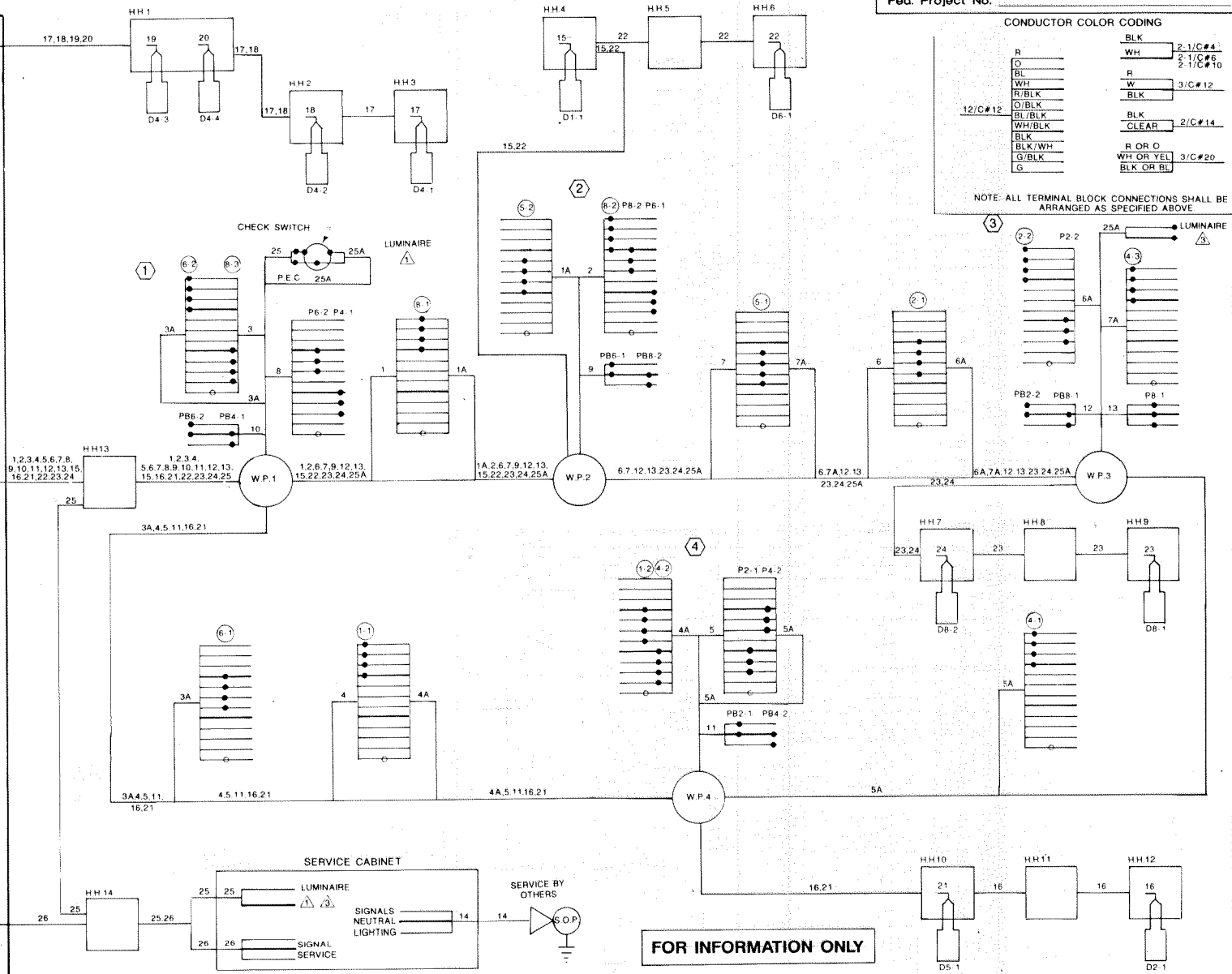
CONTROLLER CABINET



CONDUCTOR COLOR CODING

BLK	2-1/C#4
WH	2-1/C#9
R	3/C#12
BLK	2/C#14
CLEAR	3/C#20
R OR O	WH OR YEL
BLK,WH	BLK OR BL
G/BLK	

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



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Robert A. 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. Hayes
 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

S.A.P. 02-609-10

S.P. _____

C.P. _____

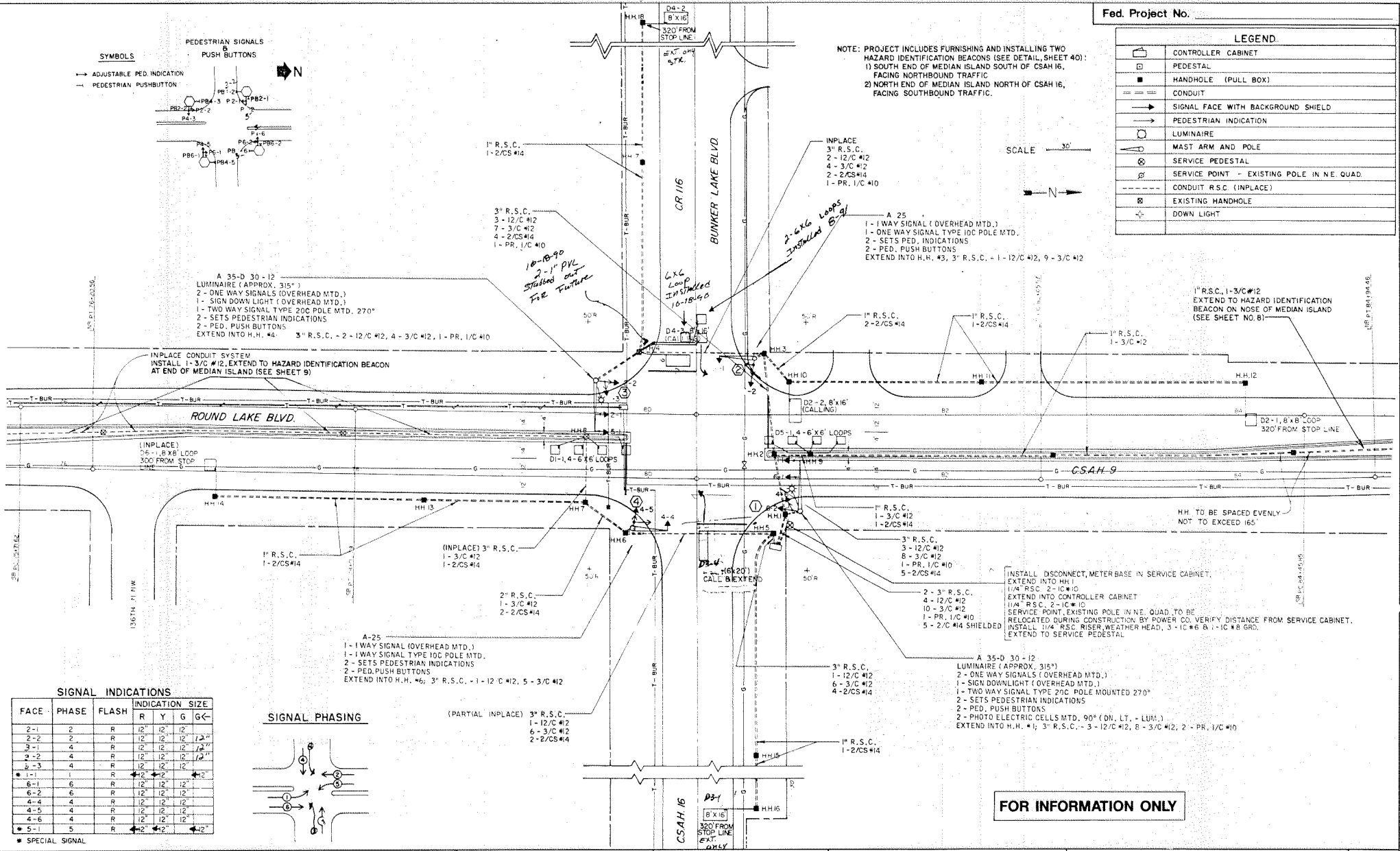
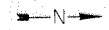
Sheet No. 61 of 133 Sheets

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 N.E. QUAD.
	CONDUIT R.S.C. (INPLACE)
	EXISTING HANDHOLE
	DOWN LIGHT

NOTE: PROJECT INCLUDES FURNISHING AND INSTALLING TWO HAZARD IDENTIFICATION BEACONS (SEE DETAIL, SHEET 40):
 1) SOUTH END OF MEDIAN ISLAND SOUTH OF CSAH 16,
 FACING NORTHBOUND TRAFFIC
 2) NORTH END OF MEDIAN ISLAND NORTH OF CSAH 16,
 FACING SOUTHBOUND TRAFFIC.

SCALE 1" = 30'

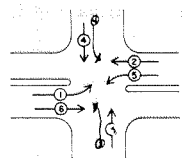


SIGNAL INDICATIONS

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

■ SPECIAL SIGNAL

SIGNAL PHASING



FOR INFORMATION ONLY

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



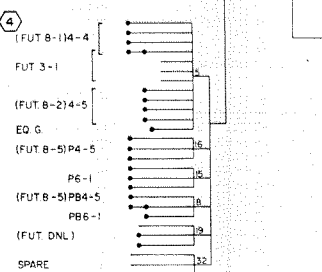
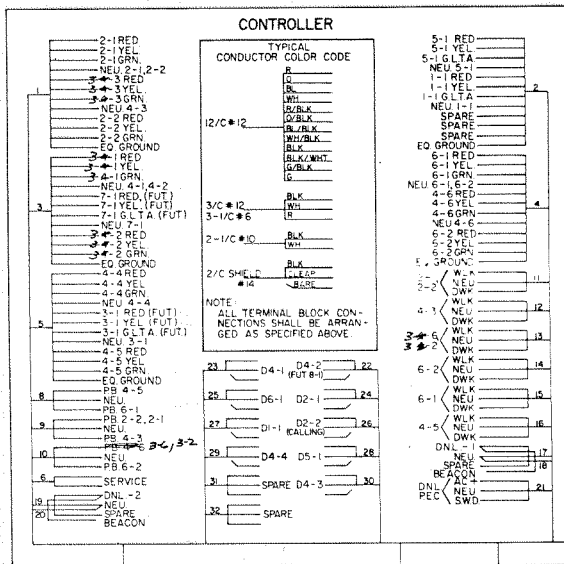
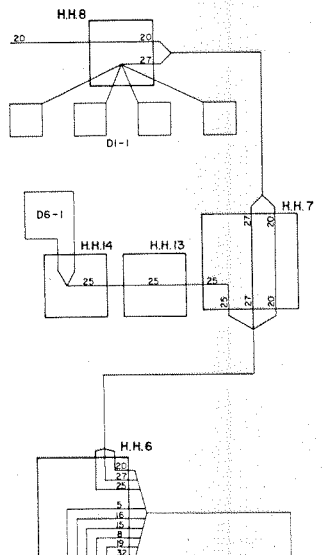
ANOKA COUNTY, MINNESOTA
 CITIES OF ANDOVER AND ANOKA

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

FILE NO. 92219
 DATE 4/2/93

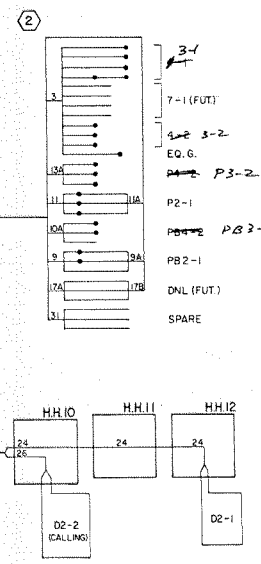
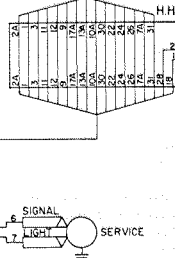
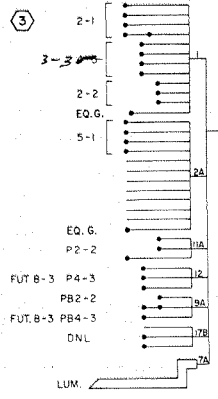
NO.	BY	DATE	REVISIONS

TO BEACON
FLASHER &
DOWN LIGHT
ASSEMBLY
SEE SHEET NO. 40.
ADD 1/2" #12
EQUIPMENT
GROUND WIRE
TO CONTROLLER
CABINET.



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	
BL - BLACK	
BLK WH - BLACK WITH WHITE TRACER	
G BLK - GREEN WITH BLACK TRACER	
G - GREEN	

EQUIPMENT AND INDICATIONS	
RED - RED	
YEL - YELLOW	
GRN - GREEN	
LTA - LEFT TURN ARROW	
RTA - RIGHT TURN ARROW	
WLK - WALK	
NEU - NEUTRAL	
DWIK - DON'T WALK	
UNN - UNNARE	
SWD - SWITCHED	
DNL - DOWNLIGHT	
B3 (eq) - SIGNAL HEAD - PHASE 'B'	
DA - 4 (eq) - DETECTOR PHASE 'A'	
H.H. - HANDHOLE	
CR - GROUND ROD	
SERV - SERVICE	
ST. LHT. - STREET LIGHT	
SOP - SOURCE OF POWER	
SFR - SPARE CONDUCTOR	
SPLC - SPLICE	
PEC - PHOTOELECTRIC CELL	
EQ - 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 IN-LINE FUSES IN BASE OF EACH STANDARD FOR STREET LIGHTS.
 5. GROUND CONDUCTORS ARE NOT SHOWN. INSTALL GROUNDING AS SPECIFIED.
 6. ALL DETECTOR LOOPS TO BE INSTALLED IN 1" NMC (SEE APPROPRIATE DETAIL OR SHEET NO. 41).

FOR INFORMATION ONLY

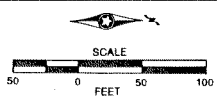
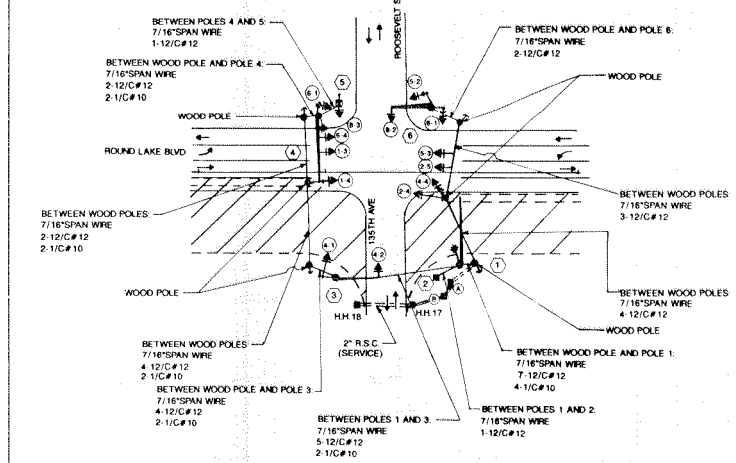
NO.	BY	DATE	REVISIONS

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Robert C. Elder
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. Shaw
Date: 4/2/93 Reg. No. 22457

	ANOKA COUNTY, MINNESOTA CITIES OF ANDOVER AND ANOKA	INPLACE SIGNAL SYSTEM "C" FIELD WIRING DIAGRAM ROUND LAKE BLVD (CSAH 9) AT BUNKER LAKE BLVD (CSAH 116)	FILE NO. 92219. DATE 4/2/93
	S.A.P. 02-609-10 02-616-03 S.P.	C.P. 93-12-116	Sheet No. 63 of 133 Sheets

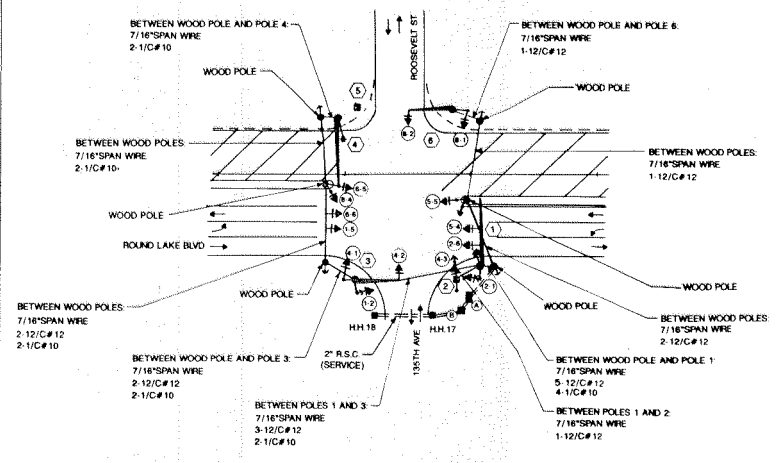
CONSTRUCTION STAGES 1 AND 2



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 Xing" 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 (Stages 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 Avenue shall be 4/8.

CONSTRUCTION STAGE 3



STAGE 1-2 ACTIONS:

- (B) 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 Co-op regarding permanent service, and complete installation.
- (A) 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 luminaires, all as per permanent signal plan. Place luminaires 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 (2) 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 1C 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 bracketings (furnished by County), all as per permanent signal plan. Place all signal indications into operation (except for P2-1 and P4-2, 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 Xing) 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 luminaires, 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 (6-3) above) as the left turn indication. Locate signal indication (6-2) 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 luminaires 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 1C bracketing (furnished by County), all as per permanent signal plan. Place all vehicle signal indications into operation (except for P4-1, which shall be covered). Do not install pedestrian push buttons. Furnish and install one (1) R9-3a (No Ped Xing) 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 P8-3) 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 Xing) 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 (2-5) and (5-3) and span wire brackets (furnished by County) overhead as shown above and make operational.

- 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 (6), 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 bracketings (furnished by County), all as per permanent signal plan. Place all vehicle and pedestrian signal indications into operation. Do not install pedestrian push buttons.

STAGE 3 ACTIONS:

- (B) Service Cabinet** - Maintain as installed during previous stage.
- (A) Controller Cabinet** - Maintain as installed during previous stage. Revise 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 P2-2 and place into operation; provide 12" RLTA-YLTA-GLTA lenses for signal indication (2-2), and make operational (denoted as (6-4) above) as the left turn indication; locate signal indication (2-3) onto mid mount at 36' (denoted as (2-6) 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 P2-1 into operation.
- Maintain 40' Wood Pole near pole (3) as installed during previous stage, except as follows: Install signal indications (1-5) and (4-4), 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 (6-3) 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 Xing) sign previously facing pole (5) onto side of pole facing pole (3).
- Maintain 40' Wood Pole near pole (4) as installed during previous stage.

- 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 Xing) 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 P8-3 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 (2-5) 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), P6-1 and P8-2.

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).

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.
 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

SEH
 ANOKA COUNTY, MINNESOTA
 CITIES OF ANDOVER AND ANOKA
 S.A.P. 02-609-10 S.P. C.P.

Fed. Project No.
CONSTRUCTION STAGE 3
FEDERAL PROJECT NO.
SIGNAL OPERATION DURING ROAD WORK
 ROUND LAKE BLVD (CSAH 9) AT 135TH AVE/ROOSEVELT ST
 Sheet No. 64 of 133 Sheets

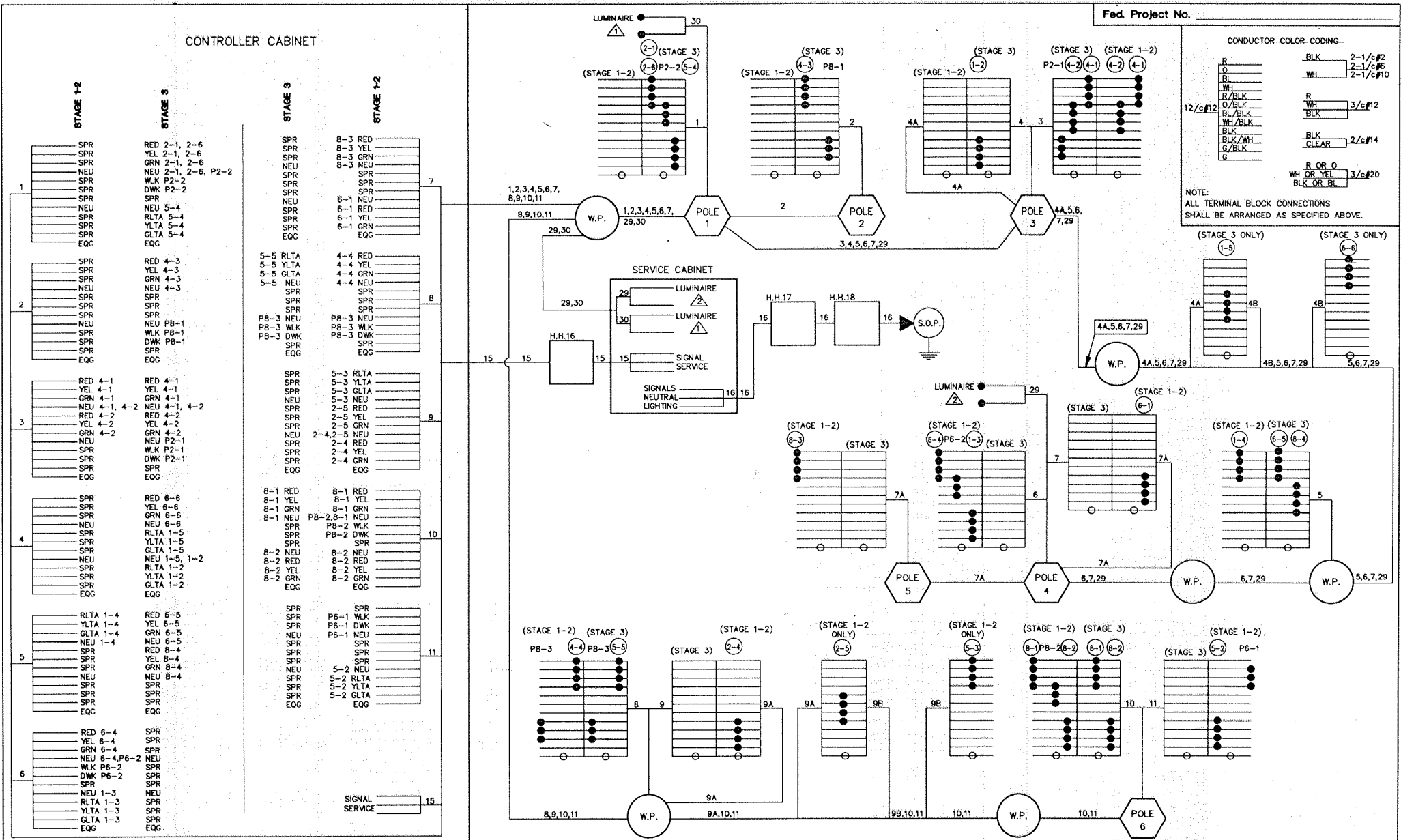
FILE NO	92219
DATE	4/2/93

CONTROLLER CABINET

CONDUCTOR COLOR CODING

R	BLK	2-1/c#2
BL	WH	2-1/c#6
WH	WH	2-1/c#10
R/BLK		
Q/BLK		
BL/BLK		
WL/BLK		
BLK		
BLK/WH		
G/BLK		
L		
R OR O		
WH OR YEL		
BLK OR BL		

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



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
Robert A. Ellen

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
John M. Shays



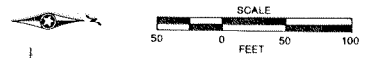
ANOKA COUNTY, MINNESOTA
 CITIES OF ANDOVER AND ANOKA
 S.A.P. 02-609-10 S.P. C.P.

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

FILE NO. 92219
 DATE 4/2/93

NO.	BY	DATE	REVISIONS

CONSTRUCTION STAGES 1 AND 2

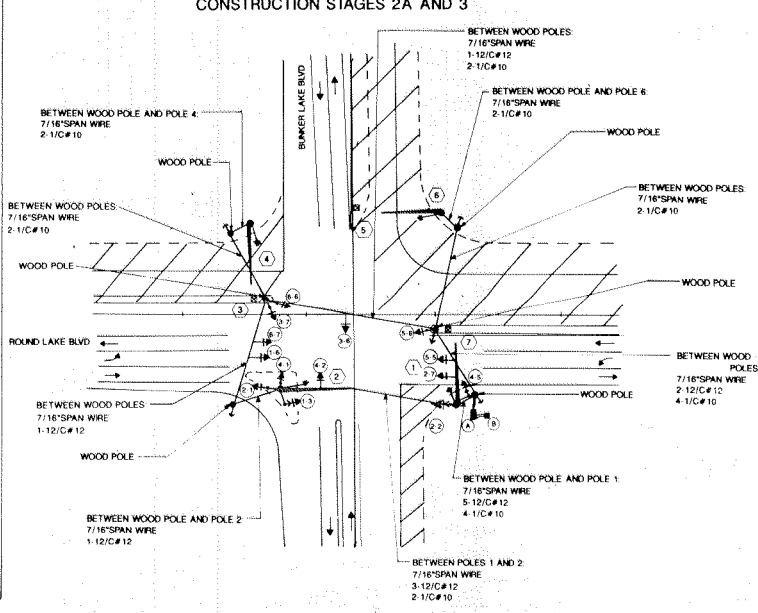
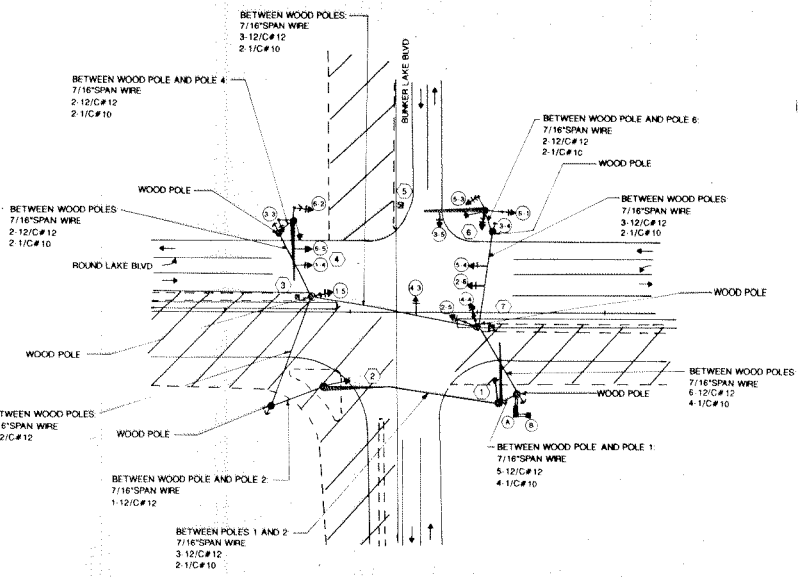


Fed. Project No.

CONSTRUCTION STAGES 2A AND 3

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-holds, 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 Xing" 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 (Stages 1 - 2) and pedestrian phases 4 and 6 (Stages 2A-3) shall not be activated during the related construction stage. All other pedestrian phases shall be placed on recall.
- Phasing for Bunker Lake Blvd. traffic shall be split, so that phases 3 and 4 operate separately. Phase 3 shall be for westbound traffic and Phase 4 for eastbound traffic. Phasing for Round Lake Blvd. shall be 1/5 followed by 2/6.
- Phase 2, and 6 vehicle signal indications (and vehicle signal indication (3,4) and (4,1)) shall be 12" - 3 section R-Y-G, Phase 1 and 5 vehicle signal indications shall be 12" - 3 section R-LTA-YLTA-GLTA.
- Vehicle signal indications (3,5), (3,6), (4,2) and (4,3) shall be 12" - 4 section R-Y-G-GLTA. Vehicle signal indications (3,3), (3,7), (4,4) and (4,5) shall be 12" - 3 section R-YLTA-GLTA.
- Contractor shall provide all devices (cones, barrels, barricades, etc.) necessary to protect pole (2) during construction (until surrounding median can be completed) as approved by Engineer.
- Do not make any of the vehicle signal heads on pedestrian poles (3,5) and (7) (as furnished by County) operational during construction (cover all indications if these indications are installed at this time), except as approved by Engineer.



STAGE 1 - 2 ACTIONS:

- Service Cabinet** - Furnish and install as per permanent signal plan. Furnish and install new handhole 24", and extend new service cables into controller cabinet (via handhole 24). Make all arrangements with Anoka Electric Co-op 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, Type 10A and Type 10B bracketings (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. Do not install pedestrian push buttons. Furnish and install one (1) 7/16" span wire between poles (1) and (2) and extend traffic signal cables to pole (2) via the span wire.
- Pole (2)** - Install pole, mast arm, all vehicle and pedestrian signal indications, Type 10A and Type 10B bracketings (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. Do not install pedestrian push buttons. Furnish and install one (1) 7/16" span wire between pole (2) and the wood pole adjacent to pole (2), and extend traffic signal cables to wood pole via the span wire. Do not install signal indication (3,1).
- Install one (1) 40' Wood Pole (Class 2 - furnished by County) near pole (2). 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 (1,5)) (furnished by County), and make signal indication (1,5) operational. Furnish and install one (1) 7/16" span wire between this wood pole and the wood pole to be installed near pole (4), and extend traffic signal cables between wood poles via the span wire. Furnish and install two (2) R9-3a (No Ped Xing) signs, one each facing pole (4) and the north median wood pole.
- 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 extend traffic signal cables to pole (4) via the span wire. Furnish and install one (1) down guy, guy guard and screw anchor.
- Pole (4)** - Install pole, mast arm, all vehicle and pedestrian signal indications, and the Type 10B bracketings (furnished by County), and furnish and install luminaire, all as per permanent signal plan. Furnish and install one (1) R9-3a (No Ped Xing) sign, facing south median wood pole. Place luminaire and signal indications (6,2), (3,5) and P8-2 into operation. Locate signal indication (4,1) onto mid mount at 24" (denoted as (4,2) above) and place this signal indication into operation. Provide 12" RLTA-YLTA-GLTA lenses for signal indication (4,2) and place this signal indication (denoted as (4,4) above) into operation as left turn indication. Provide 12" solid red lens for signal indication (3,3). Cover pedestrian indication P4-1 and do not place into operation during this stage. Do not install pedestrian push buttons.
- 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, a 2" R.S.C. riser and weatherhead, and two (2) 7/16" span wires, (one each between this wood pole and the south median wood pole and between this wood pole and the wood pole adjacent to pole (6)). Install a Type 10A bracketing (with signal indication (2,5)), a Type 10B bracketing (with signal indication (4,4)) and pedestrian indication (P3-5), overhead signal indications (3,3), (2,6) and (5,4) and span wire brackets for overhead signal mounting (all as furnished by County). Extend traffic signal cables to each pole via the span wires. Make all vehicle and pedestrian signal indications operational. Furnish and install one (1) R9-3a (No Ped Xing) sign, facing south median wood pole.
- 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 (6), and extend traffic signal cables to pole (6) via the span wire. Furnish and install one (1) down guy, guy guard and screw anchor.

STAGE 2A - 3 ACTIONS:

- Service Cabinet** - Maintain as installed during previous stage.
- Controller Cabinet** - Maintain as installed during previous stage. Revise 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: Locate signal indication (3,4) onto mid mount at 24" (denoted as (2,7) above) and make signal indication (3,5) operational, provide 12" RLTA-YLTA-GLTA lenses for signal indication (2,3) and make operational (denoted as (5,5) above) as the left turn indication, and uncover and place all other vehicle and pedestrian signal indications into operation (except for (6,1), which shall remain covered). Provide 12" solid red lens for signal indication (7,3) and designate as (4,5) (as noted above).
- Pole (2)** - Maintain as installed during previous stage, except as follows: Uncover and place all vehicle and pedestrian signal indications into operation (except for (7,2), (4,1) and P4-2 which shall remain covered), not installed, and furnish and install a 12" GLTA signal indication below signal indication (4,2).
- Maintain 40' Wood Pole near pole (2) as installed during previous stage, except as follows: Install signal indications (1,4) and (6,7), and span wire brackets (all as furnished by County) overhead as shown above and make operational.
- Maintain 40' Wood Pole on the south median nose as installed during previous stage, except as follows: Provide 12" R-Y-G lenses for signal indication (1,5) and make operational (denoted as (6,6) above), install Type 10A bracketing with signal indication (3,7) (furnished by County), and make signal indication (3,7) operational, and relocate R9-3a sign (facing pole (4)) onto side of pole facing pole (2).
- Maintain 40' Wood Pole near pole (4) as installed during previous stage.
- Pole (6)** - Install pole, mast arm, all vehicle and pedestrian signal indications, Type 10A and Type 10B bracketings (furnished by County), and furnish and install luminaire, all as per permanent signal plan. Place luminaire and all signal indications into operation (except for (6,4), which shall be covered). Designate signal indication (6,2) as (3,4) and pedestrian indication P8-2 as P3-4 for wiring and operation purposes. Furnish and install a 12" GLTA signal indication below signal indication (6,3), designate signal indication (6,3) as (5,5) (as noted above), and make operational. Do not install pedestrian push buttons.

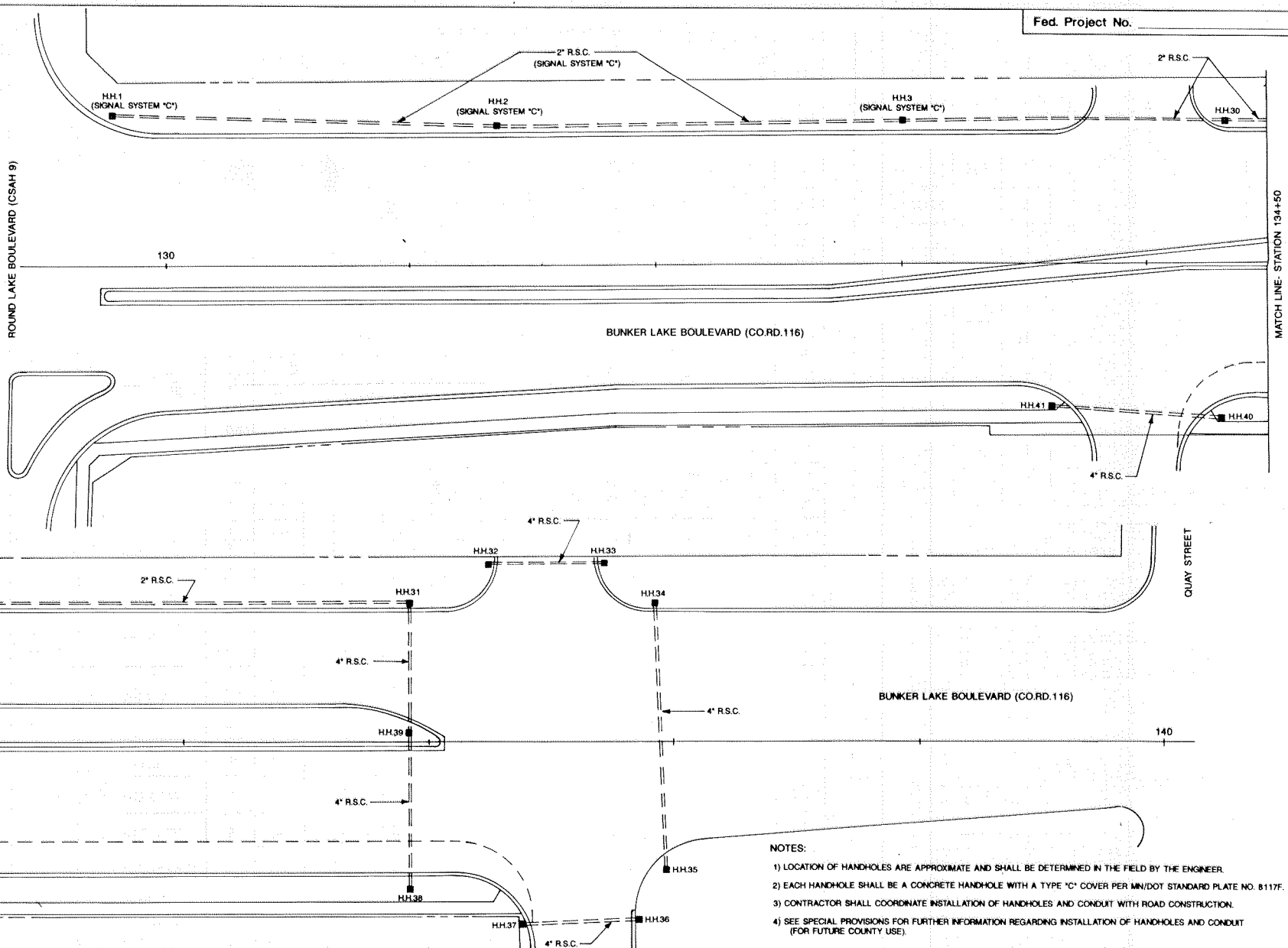
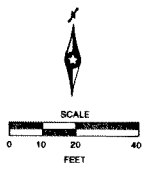
- Pole (4)** - Maintain as installed during previous stage, except as follows: Turn off and cover all vehicle and pedestrian signal indications, relocate R9-3a sign (facing south median wood pole) on to pole (2), facing the south median wood pole, relocate signal indication (6,4) back to end mount on mast arm, remove RLTA-YLTA-GLTA lenses from signal indication (6,3), and remove 12" solid red lens from signal indication (3,3).
- Maintain 40' Wood Pole on the north median nose as installed during previous stage, except as follows: Provide 12" RLTA-YLTA-GLTA lenses for signal indication (2,5) and make operational (denoted as (6,4) above) as the left turn indication, remove and salvage signal indication (4,4), relocate pedestrian indication P3-5 onto east side of pole (using County furnished Type 30A bracketing) and make operational, remove and salvage overhead signal indications (2,4) and (5,4), and relocate signal indication (4,3) overhead as shown (denoted as (4,4) above) and make operational.
- 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 all vehicle and pedestrian signal indications, and remove 12" GLTA indication from signal indication (6,3).

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).
- Make provisions for capping additional mid-mast arm mounts on poles (1) and (4) as directed by Engineer.
- Furnish and install pedestrian push buttons and place into operation.
- Relocate signal indication (2,4) back to end mount on mast arm, remove and salvage RLTA-YLTA-GLTA lenses from signal indication (2,3), remove and salvage 12" solid red lens from signal indication (7,3), and remove and salvage 12" GLTA indication from signal indication (4,2).

<p>'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. <i>Robert A. Ellen</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 under the laws of the state of Minnesota. <i>John M. Gray</i> Date: 4/2/93 Reg. No. 22457</p>	
NO.	BY DATE	REVISIONS	

		<p>ANOKA COUNTY, MINNESOTA CITIES OF ANDOVER AND ANOKA</p>		<p>TRAFFIC SIGNAL SYSTEM "C" SIGNAL OPERATION DURING ROAD WORK ROUND LAKE BLVD (CSAH 9) AT BUNKER LAKE BLVD (CSAH 16/CO.RD.116)</p>		<p>FILE NO. 92129</p> <p>DATE 4/2/93</p>
<p>S.A.P. 02-609-10 02-616-03 S.P.</p>		<p>C.P. 93-12-116</p>		<p>Sheet No. 66 of 133 Sheets</p>		



- NOTES:**
- 1) LOCATION OF HANDHOLES ARE APPROXIMATE AND SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - 2) EACH HANDHOLE SHALL BE A CONCRETE HANDHOLE WITH A TYPE 'C' COVER PER MN/DOT STANDARD PLATE NO. 8117F.
 - 3) CONTRACTOR SHALL COORDINATE INSTALLATION OF HANDHOLES AND CONDUIT WITH ROAD CONSTRUCTION.
 - 4) SEE SPECIAL PROVISIONS FOR FURTHER INFORMATION REGARDING INSTALLATION OF HANDHOLES AND CONDUIT (FOR FUTURE COUNTY USE).

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

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



ANOKA COUNTY, MINNESOTA
 CITY OF ANDOVER

CONDUIT AND HANDHOLES
 (FOR FUTURE USE)

FILE NO. 92219
 DATE 4/2/93

BASE: DISTRICTAL OFFICE, NO.

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 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	7	0	ONE WAY (LEFT)	-	④		
			0	10					
R6-1R	36x12	3.00	0	12	ONE WAY (RIGHT)	2	7.0'		
			23	1					
			0	10		-	⑥		
						-	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 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	JCT	-	⑦		
M3-1A	24x12	2.00	1	0	NORTH	-	⑦		
M3-2A	24x12	2.00	2	0	EAST	-	⑦		
M3-3A	24x12	2.00	1	0	SOUTH	-	⑦		
M3-4A	24x12	2.00	1	0	WEST	-	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 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

I2-3	-	-	1	0	ANDOVER POP. XXXXX	TOWN NAME MARKER	②	7.0'		
I2-3	-	-	1	0	COON RAPIDS POP. XXXXX	TOWN NAME MARKER	②	7.0'		
-	-	-	1	0	JCT T.H. 10/47	JCT T.H. 10/47	②	7.0'		
-	-	-	1	0	ADOPT A HIGHWAY	ADOPT A HIGHWAY	②	7.0'		
-	-	-	1	0	ADOPT A HIGHWAY	ADOPT A HIGHWAY	②	7.0'		
-	-	-	1	0	ADOPT A HIGHWAY	ADOPT A HIGHWAY	②	7.0'		
-	-	-	1	0	ADOPT A HIGHWAY	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.

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. Schwesed
 Date: 4/2/93 Reg. No. 20943

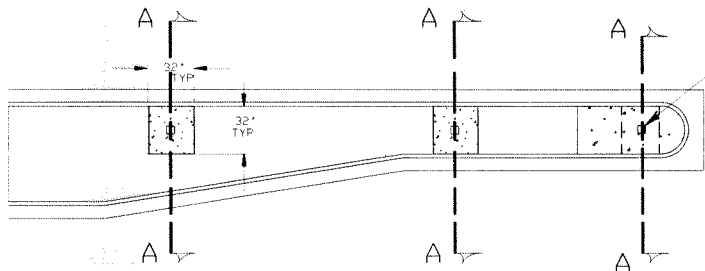


ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10, S.A.P.02-616-03,
 C.P. 93-12-116

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

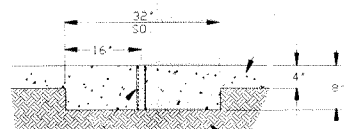
FILE NO. 93145 69
 DATE 4/2/93 133

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED



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

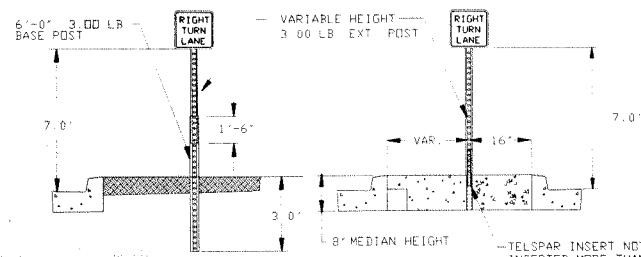
1 1/2" x 1 1/2" x 8" SOLID GALVANIZED TUBING WITH 7/16" DIA. HOLES 1" ON CENTER ON ALL 4 SIDES. WALL THICKNESS GAUGE #12 (.105 IN.) INSERTED AT TIME OF SIGN INSTALLATION TYPICAL



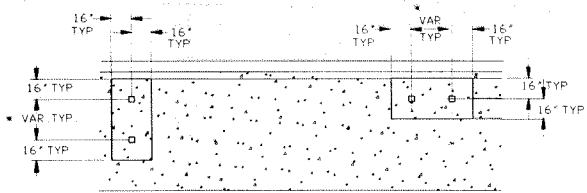
SECTION A-A

GROUND POST MOUNT SIGN INSTALLATION TYPICAL

ISLAND MOUNT BREAK-AWAY SIGN POST INSTALLATION TYPICAL



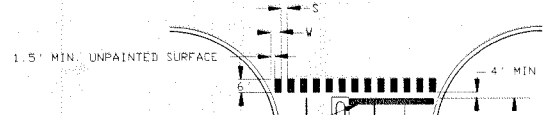
INSTALL 1 3/4" x 1 3/4" x 8" SOLID WALL GALVANIZED SQUARE TUBING. TAPE BOTTOM OF TUBING TO PREVENT CONCRETE FROM ENTERING TUBE. PLUMB AND ALIGN AT TIME OF POUR AS REQUIRED TYPICAL



DOUBLE POST FOOTINGS

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

(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 RAMP 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

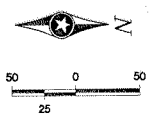
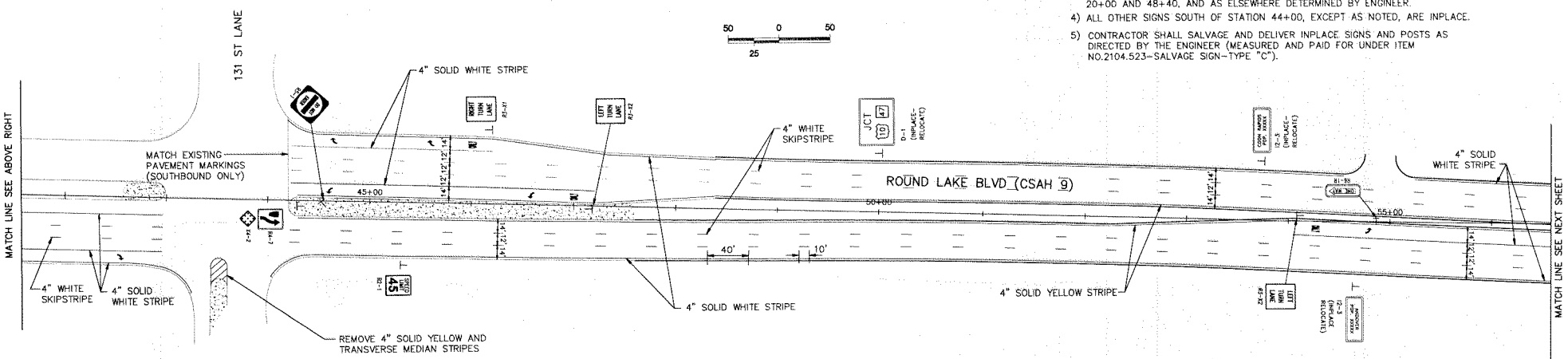
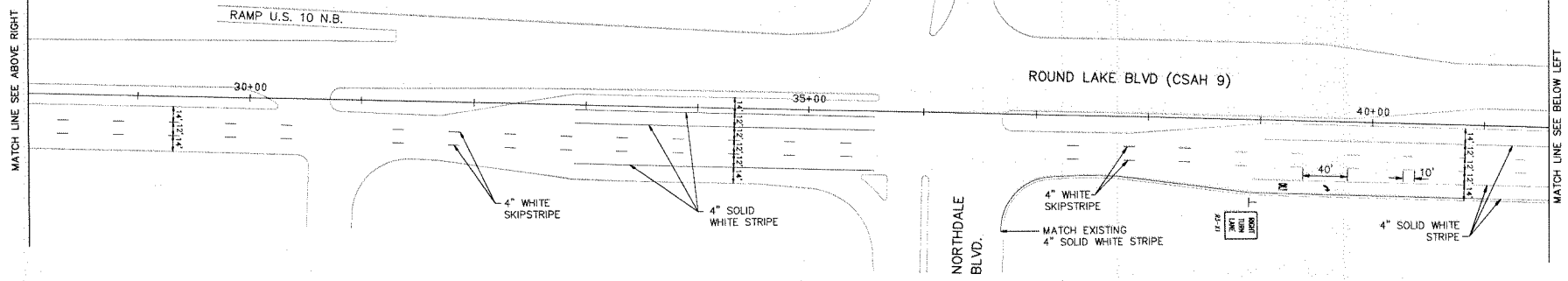
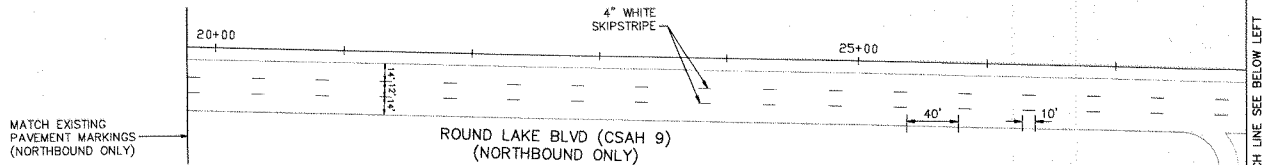
NOTES:

- 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.

SIGNING and STRIPING DETAILS

REVISIONS			
DATE	BY	DATE	BY

BASE	DATE	BY	DIS.	NO.



- 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").

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. Schwind
 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
 ROUND LAKE BLVD. (CSAH 9)

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

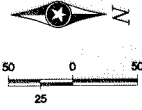
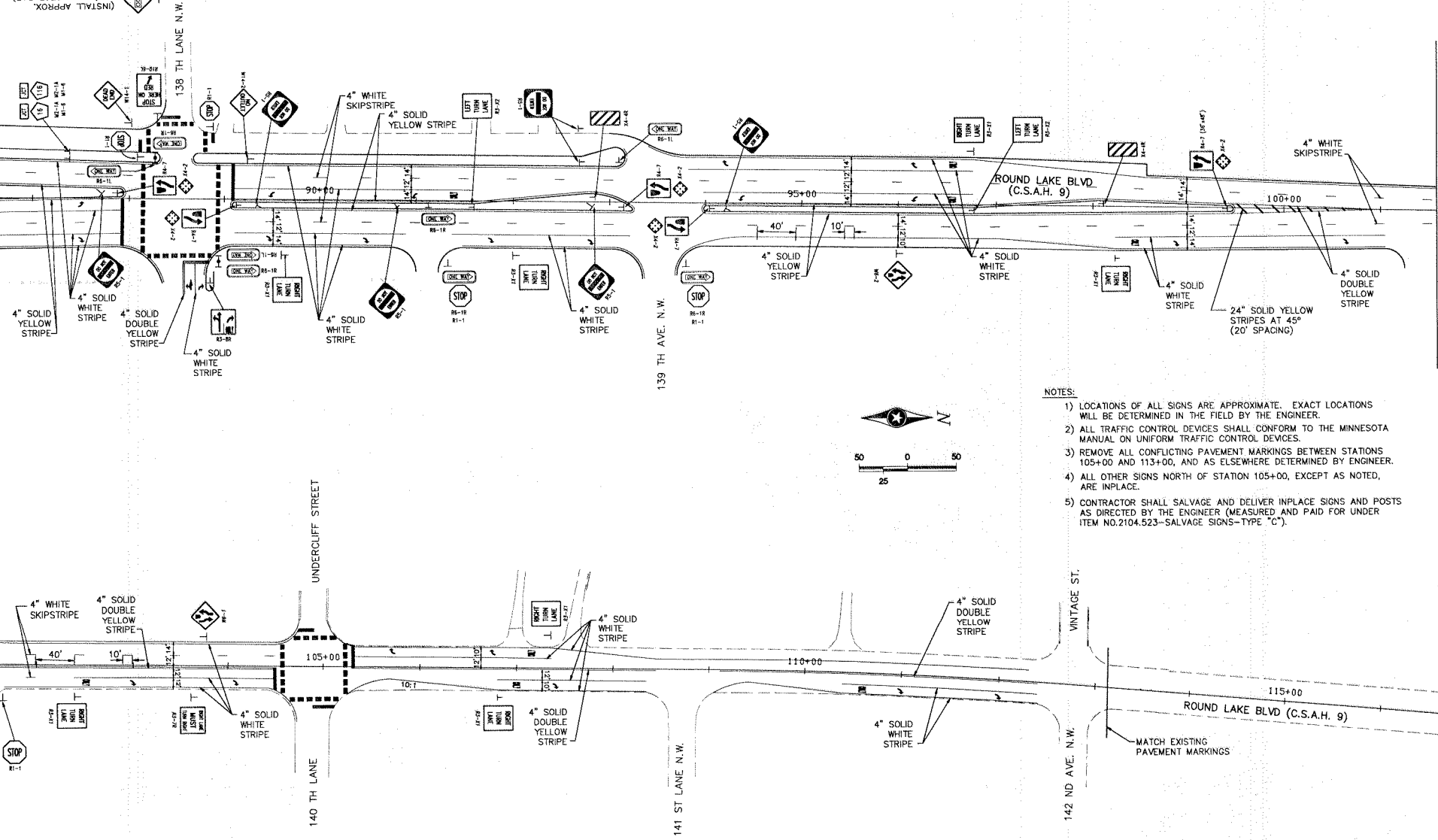
93145/3/93/CSN

(INSTALL APPROX 300' FROM STOP BAR)

MATCH LINE SEE PRECEDING SHEET

MATCH LINE SEE ABOVE RIGHT

MATCH LINE SEE BELOW LEFT



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 105+00 AND 113+00, AND AS ELSEWHERE DETERMINED BY ENGINEER.
- 4) ALL OTHER SIGNS NORTH OF STATION 105+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").

931453145293

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

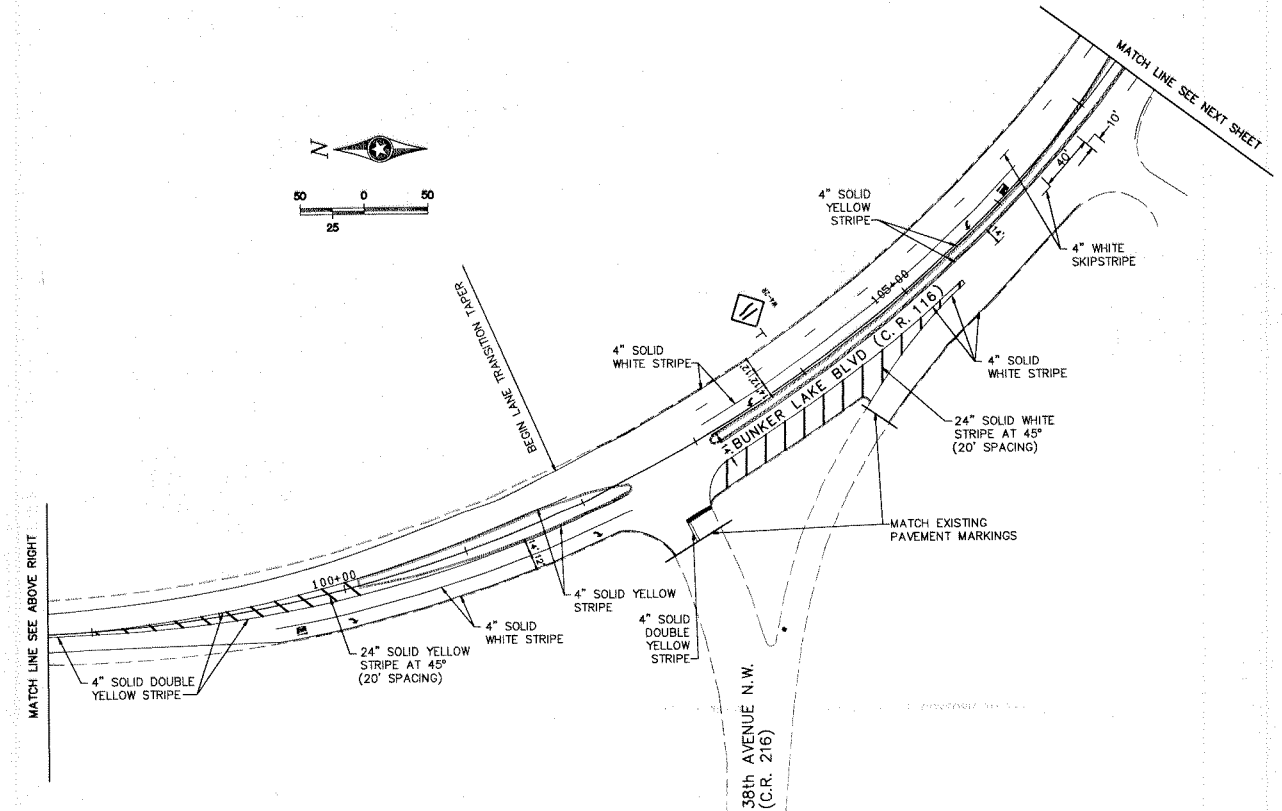
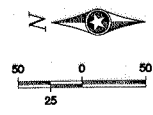
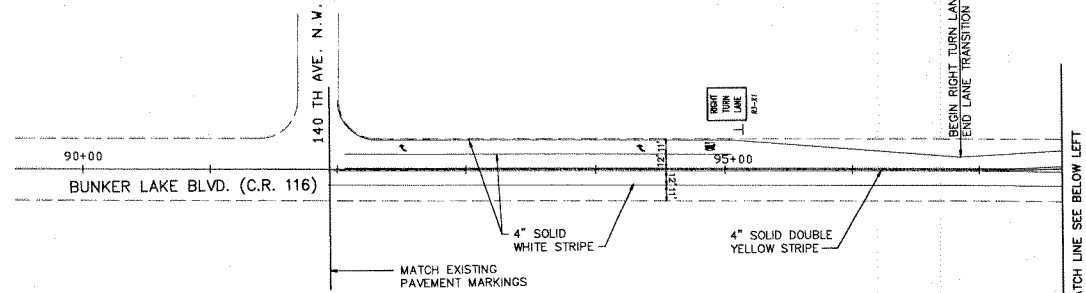
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
Thomas A. Schwendt
 Date: 4/2/93 Reg. No. 20943



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

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

FILE NO.	72
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 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").

2014/3/14/2024

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

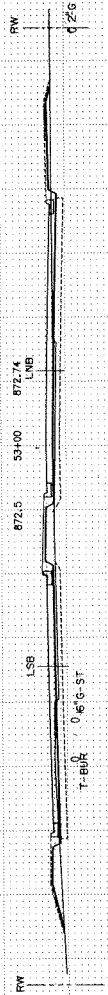


ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10, S.A.P. 02-616-03,
 C.P. 93-12-116

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

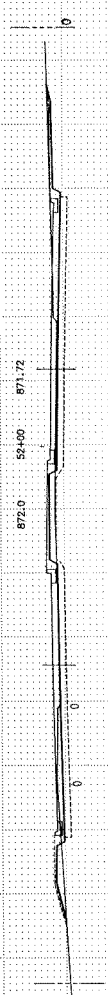
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DATE	133
4/2/93	

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



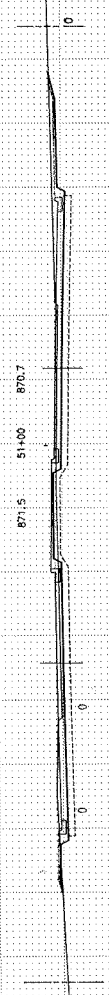
REGULAR 141
 SUBCUT 307

122 REGULAR
 35 TOPSOIL



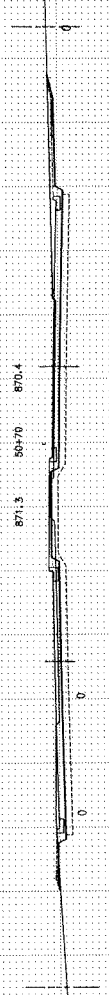
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 537

12
 31



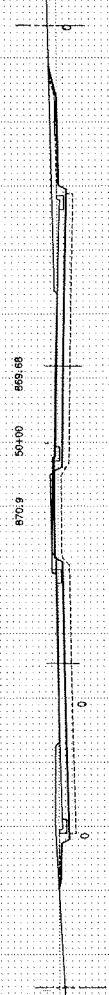
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5
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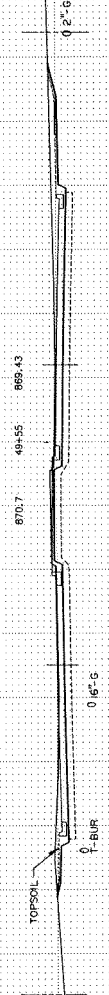
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5
 13



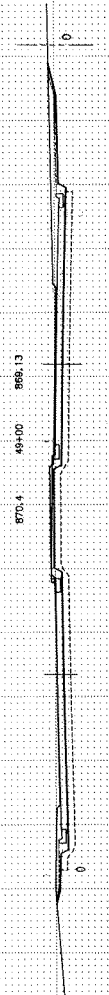
262
 169

0
 14



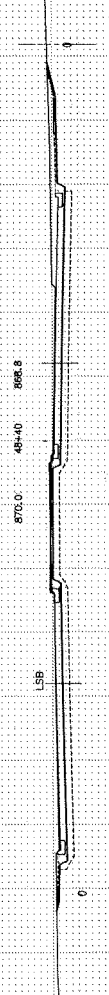
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 213

0
 17



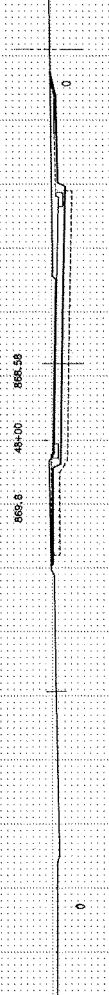
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 238

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 16



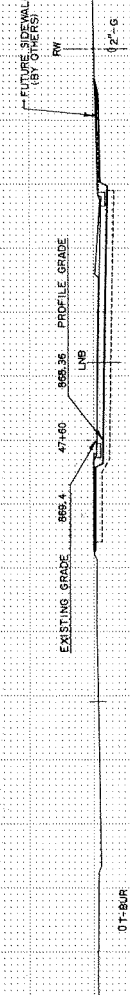
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 122

0
 13



116
 84

0
 14



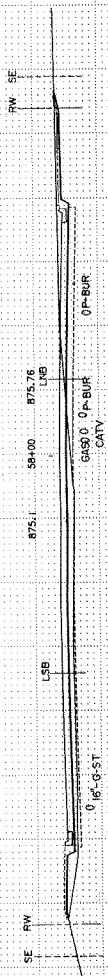
CROSS-SECTIONS
 C.S.A.H. 9
 STA. 47+60 TO STA. 53+00

NOTE: UTILITY ELEVATIONS ASSUMED
 NOT ACTUAL

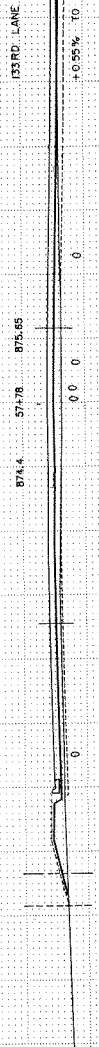


EXCAVATION EMBANKMENT
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.

REGULAR 92 126
SUBCUT 87 15
TOPSOIL

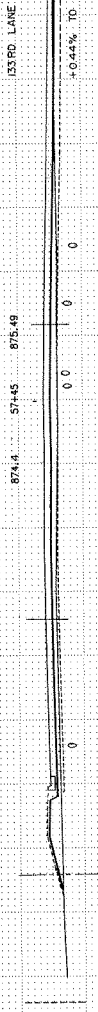


42 68
63 6

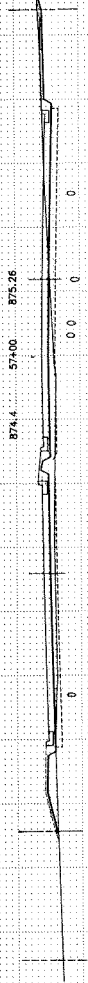


COMMERCIAL ENTRANCE
874.3, 57+55, 875.54

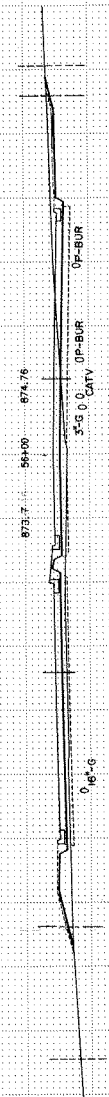
65 122
136 7



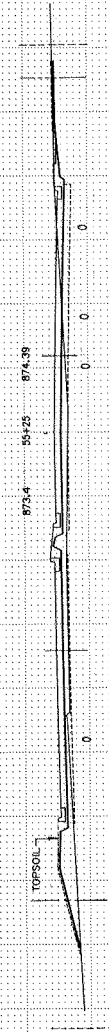
73 131
140 13



150 239
202 35



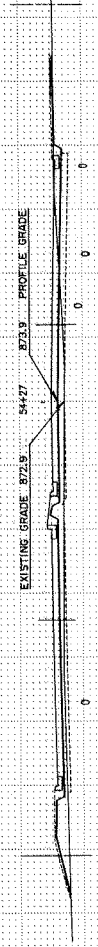
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136 31



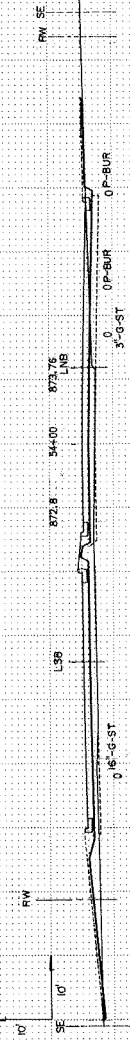
22 90
39 12

RESIDENTIAL ENTRANCE
873.2, 55+00, 874.28

51 245
119 31



15 80
43 11

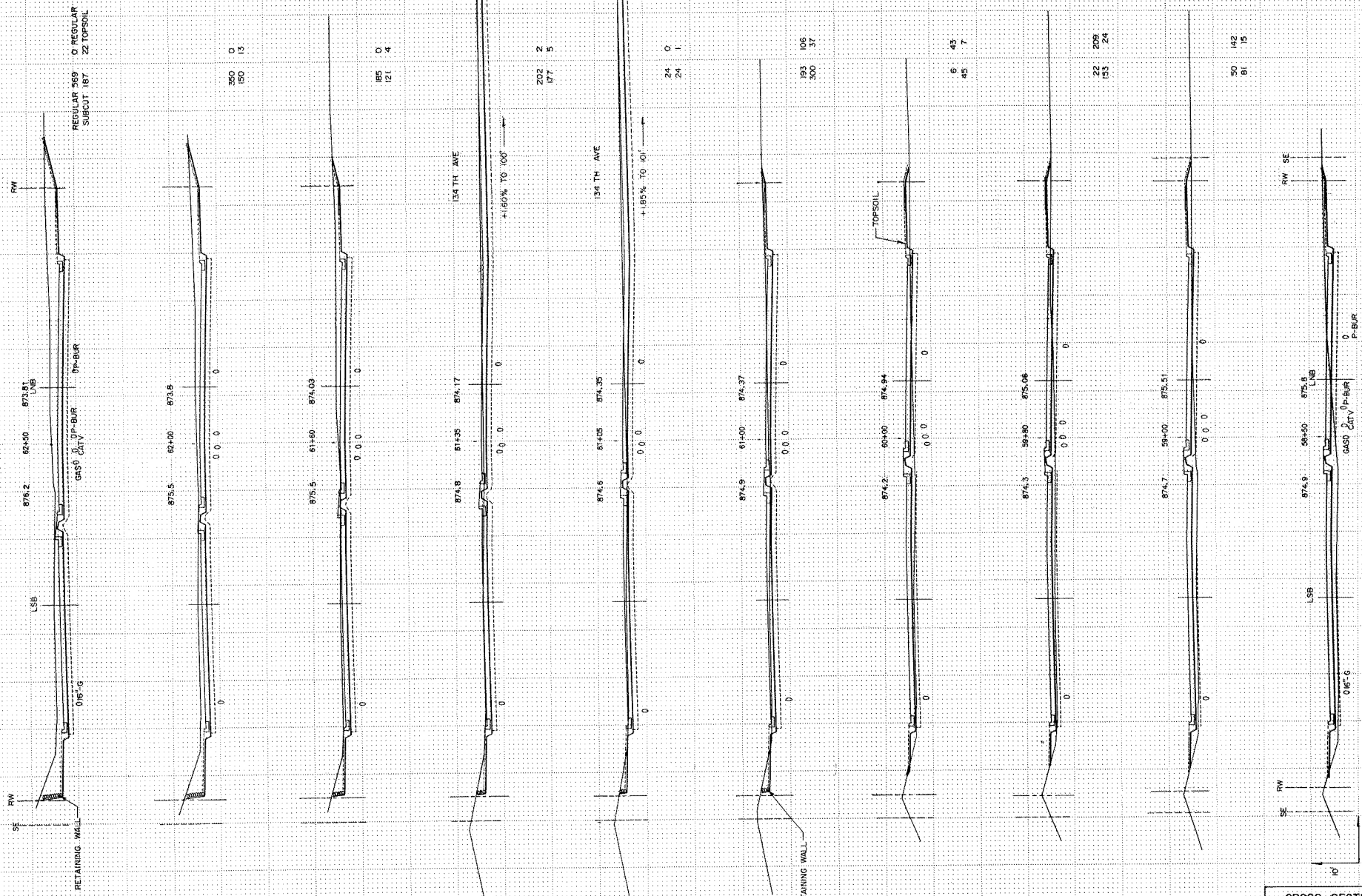


61 241
219 40

NOTE: BEGIN SIDEWALK CONST.
AT STA. 53+86

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

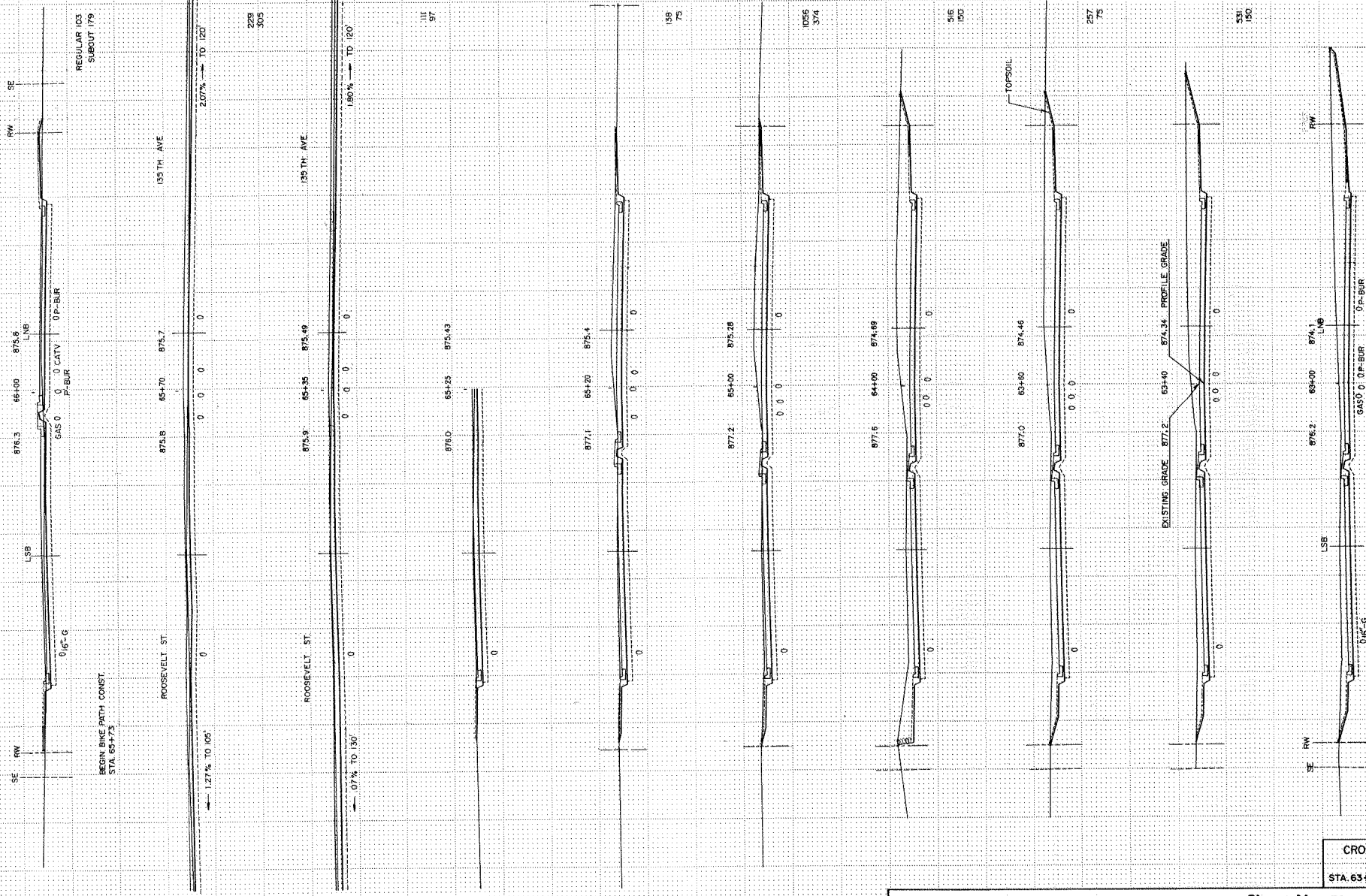
EXCAVATION EMBANKMENT
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.



NOTE: UTILITY ELEVATIONS ASSUMED NOT ACTUAL

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

EXCAVATION EMBANKMENT
SUB-TOTALS CUTS, SUB-TOTALS CUTS



REGULAR 103
SUBROUT 179
TOPSOIL

BEGIN BIKE PATH CONST.
STA. 65+73

ROOSEVELT ST

ROOSEVELT ST

EXISTING GRADE 877.2 874.31 PROFILE GRADE

CROSS-SECTIONS
C.S.A.H. 9
STA. 63+00 TO STA. 66+00

NOTE:
UTILITY ELEVATIONS ASSUMED
NOT ACTUAL

2.07% TO 120

1.80% TO 120

III
5'
4

139
0
75
6

1056
0
374
31

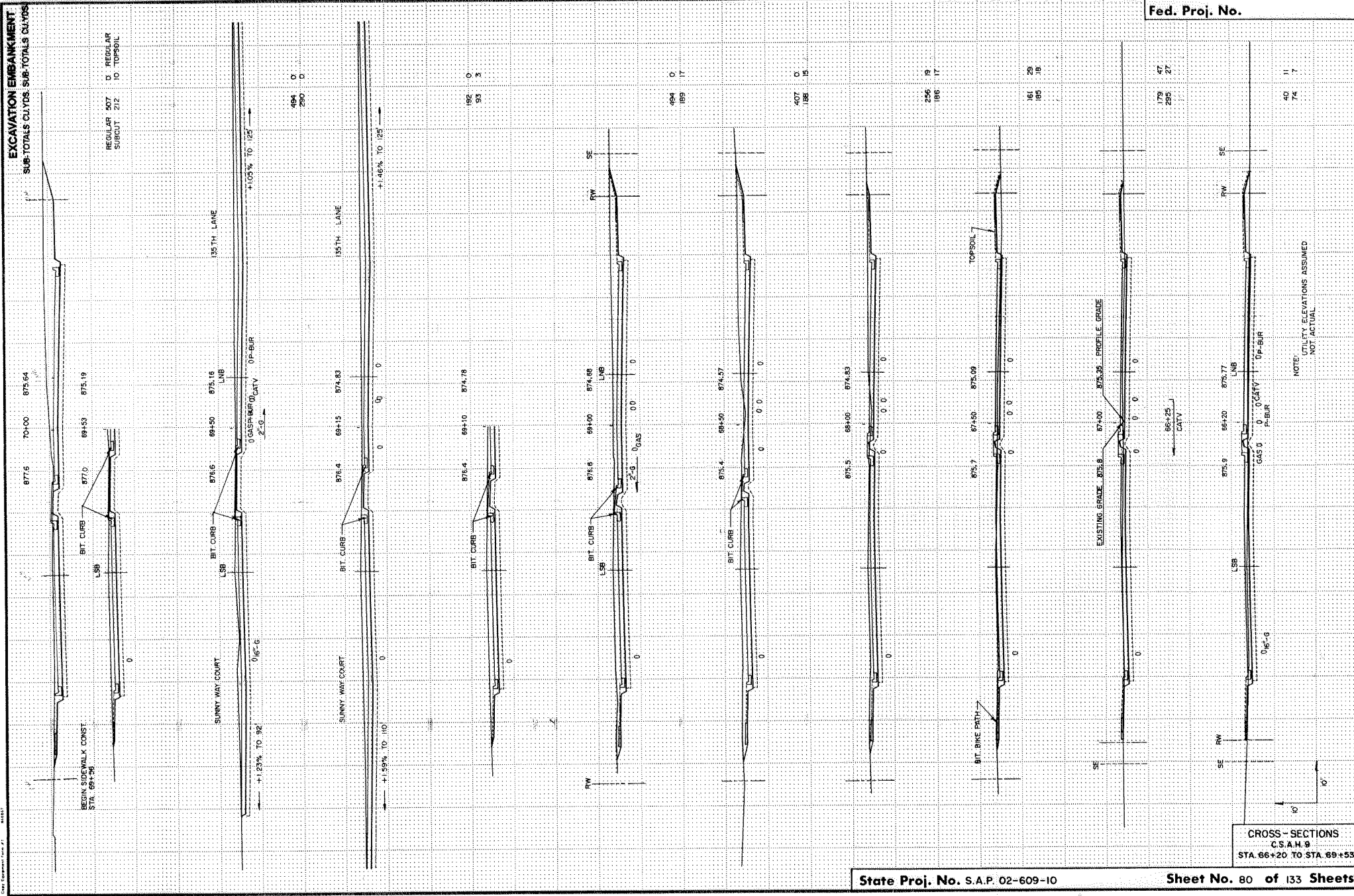
516
0
190
15

257
0
75
7

531
0
150
16

646
0
167
22

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

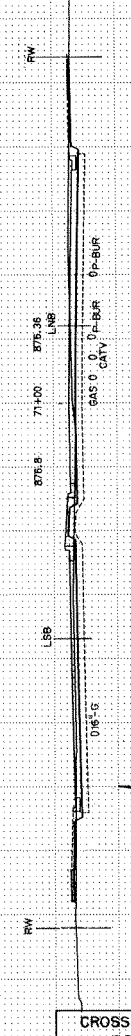
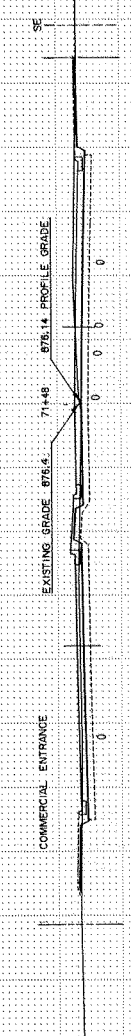
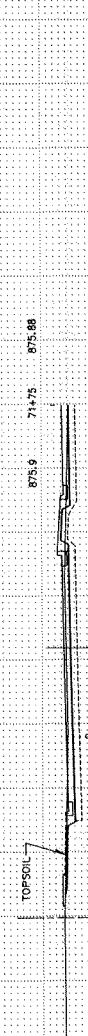
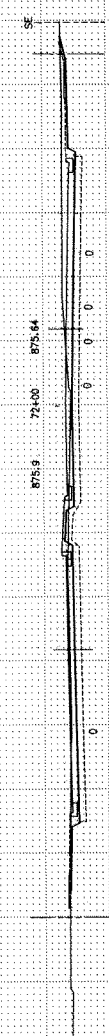
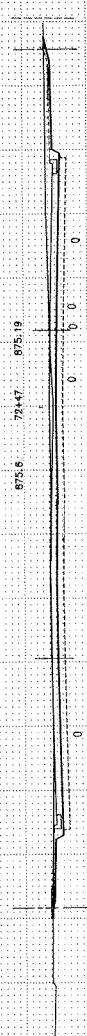
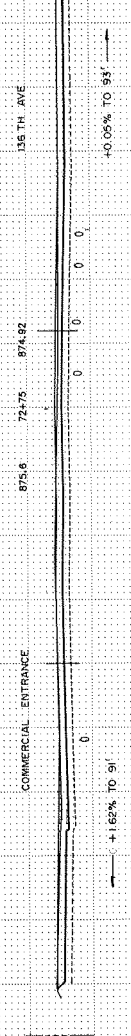
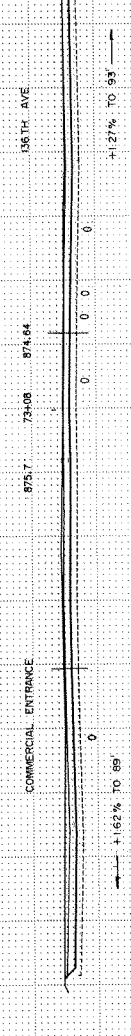
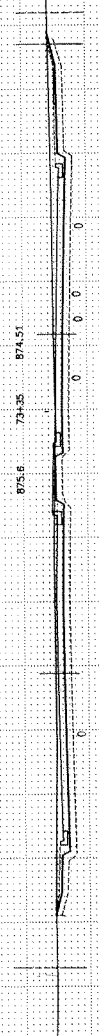
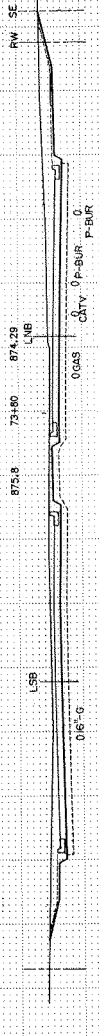
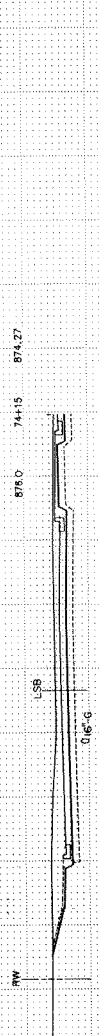


REGULAR 507
SUBCUT 212
TO TOPSOIL

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

NOTE: UTILITY ELEVATIONS ASSUMED
NOT ACTUAL

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



REGULAR SUB	0
REGULAR SUB	18
TOPSOIL	5

REGULAR SUB	20
REGULAR SUB	122
TOPSOIL	4

REGULAR SUB	230
REGULAR SUB	164
TOPSOIL	0

REGULAR SUB	164
REGULAR SUB	124
TOPSOIL	4

REGULAR SUB	242
REGULAR SUB	182
TOPSOIL	14

REGULAR SUB	213
REGULAR SUB	196
TOPSOIL	14

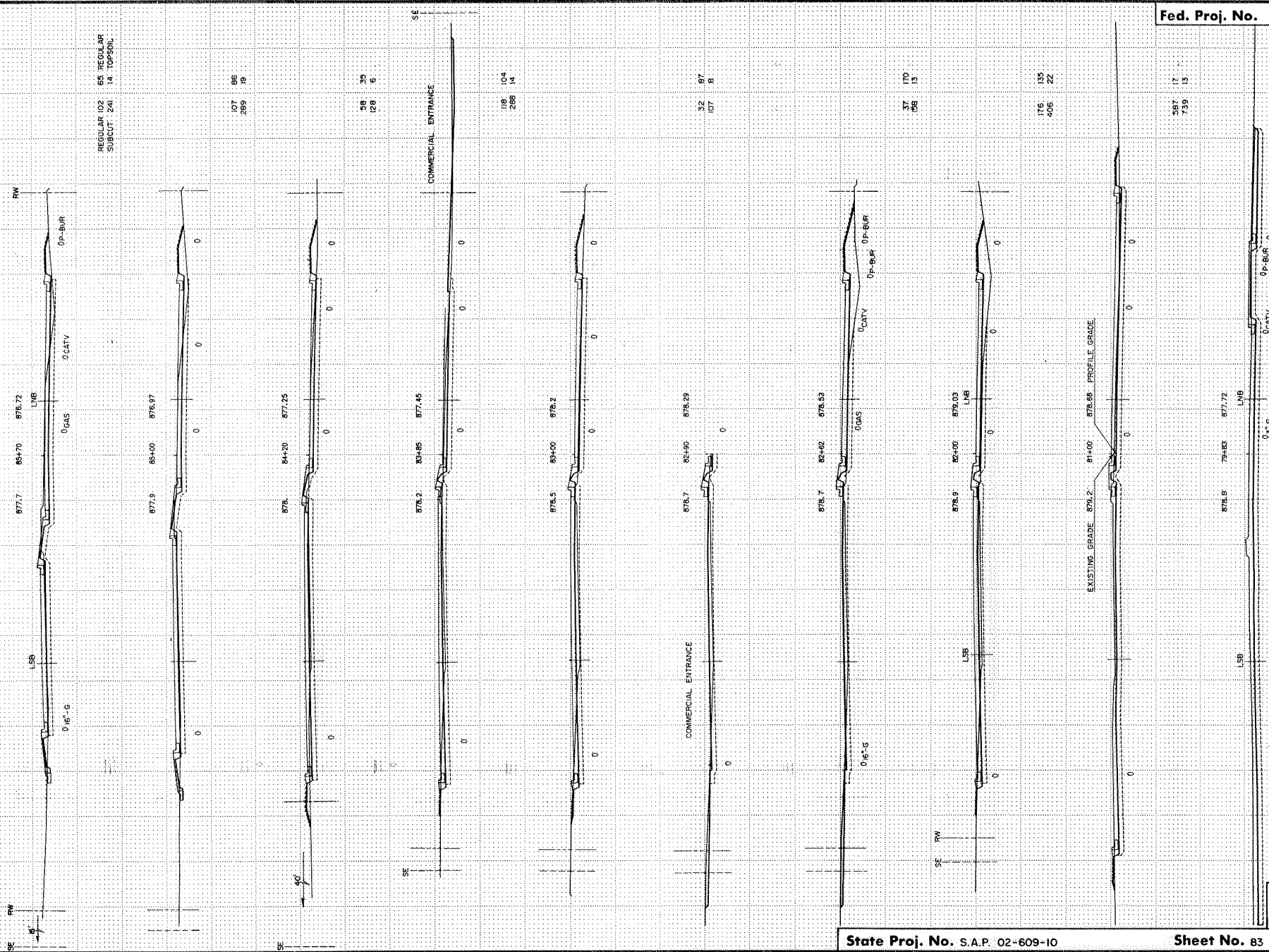
REGULAR SUB	155
REGULAR SUB	180
TOPSOIL	13

REGULAR SUB	576
REGULAR SUB	376
TOPSOIL	59

NOTE: UTILITY ELEVATIONS ASSUMED NOT ACTUAL

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

EXCAVATION EMBANKMENT
SUB-TOTALS CUTS SUB-TOTALS CUTS



REGULAR 02
SUB-CUT 241

65 REGULAR
14 TOPSOIL

107 86
289 19

58 29
129 6

118 104
288 14

32 87
107 8

37 170
158 13

176 135
406 22

587 17
739 13

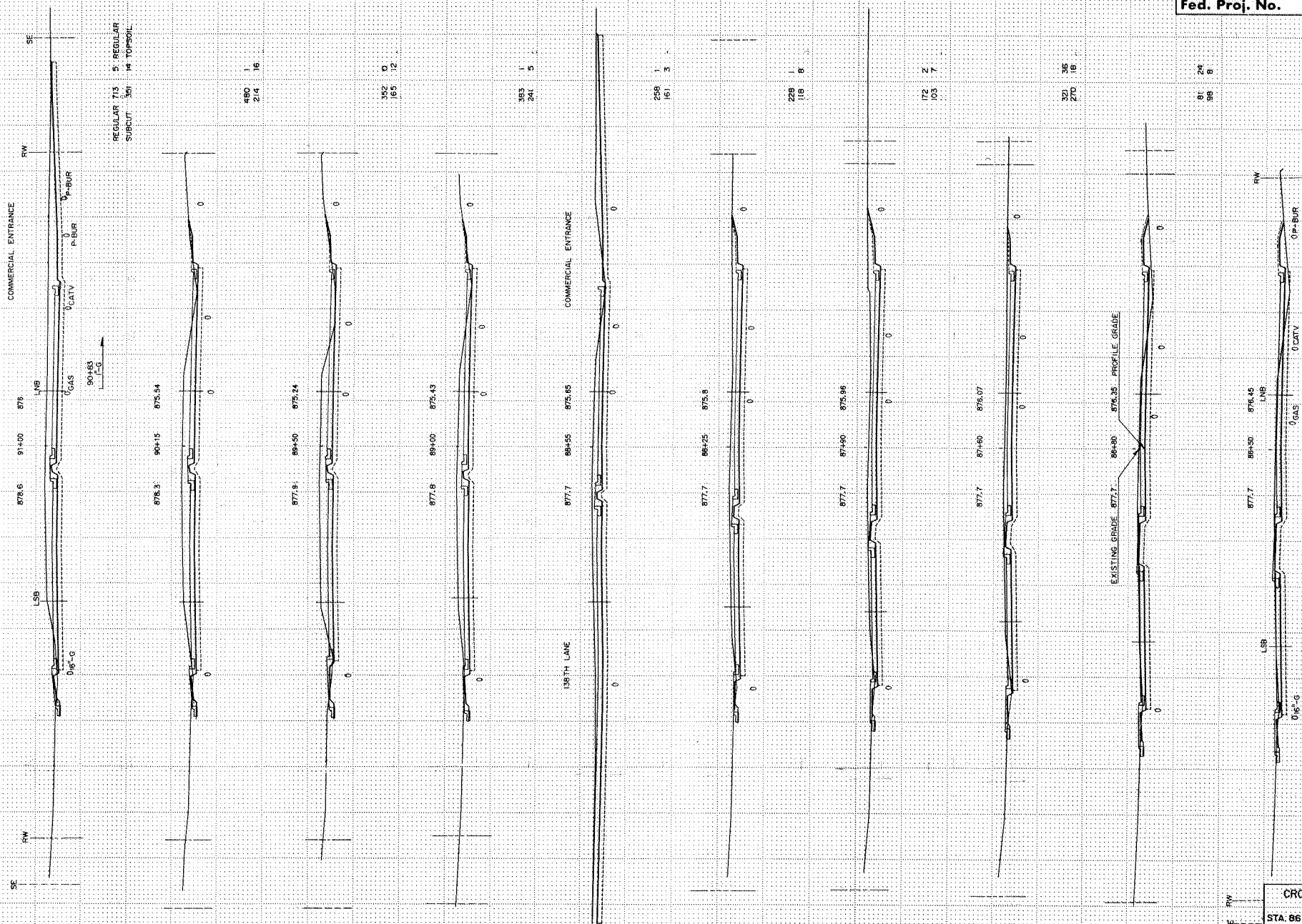
523 2
481 12

NOTE
UTILITY ELEVATIONS ASSUMED
NOT ACTUAL

CROSS-SECTIONS
C.S.A.M. 9
STA. 78+83 TO STA. 85+70

EXCAVATION EMBANKMENT
SUB-TOTALS CUTS SUB-TOTALS CUTS

Fed. Proj. No.



REGULAR 713 5' REGULAR
 SUBCUT 351 14' TOPSOIL

180 1
 214 16

352 0
 165 12

353 1
 241 5

258 1
 161 3

228 10
 118 8

172 2
 103 7

321 35
 270 18

81 24
 98 8

70 65
 257 18

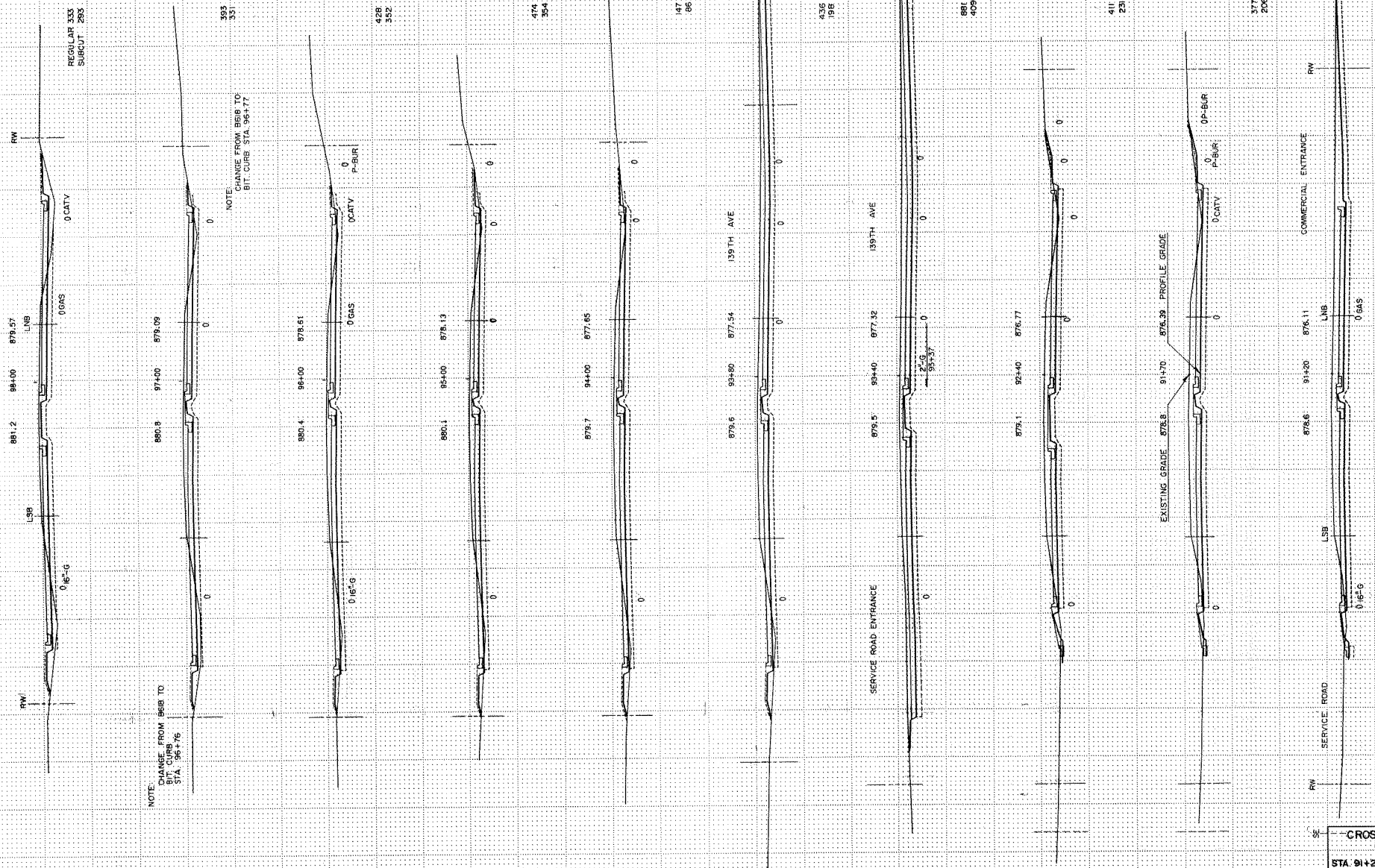
NOTE: UTILITY ELEVATIONS ASSUMED
 NOT ACTUAL

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

EXCAVATION EMBANKMENT

SUB-TOTALS CU-YDS SUB-TOTALS CU-YOY

Fed. Proj. No.



REGULAR	333
SUBCUT	293
15' REGULAR	
22' TOPSOIL	

428	35
352	22

NOTE
CHANGE FROM 868 TO
BIT CURB STA 96+76

NOTE
CHANGE FROM 868 TO
BIT CURB STA 96+77

147	9
26	4

474	43
354	26

436	10
196	3

881	9
609	13

411	12
23	18

377	6
206	9

183	2
99	2

NOTE
UTILITY ELEVATIONS ASSUMED
NOT ACTUAL

CROSS-SECTIONS
C.S.A.H. 9
STA. 91+20 TO STA. 98+00

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

881.5 105+08 879.53

881.7 104+75 880.73

881.7 104+70 880.7

882.1 104+00 881.12

882.4 103+00 881.39

882.3 102+00 881.38

882.3 101+45 881.23

882.3 101+00 881.01

881.9 100+00 880.33

881.6 99+00 880.05

REGULAR 0
SUBTOT 0

7 0

146 0

250 0

159 0

156 0

169 23

315 100

288 153

287 159

REGULAR 0

2 0

74 14

115 33

115 26

100 13

114 15

256 37

232 31

263 30

0.15%G

0.6%G

0.15%G

0

0

0

0

0

0

UNDERCULF ST

140TH LANE

RW

RW

RW

RW

COMMERCIAL ENTRANCE

TOPSOIL

EXISTING GRADE 881.9 100+00 880.33 PROFILE GRADE

0 GAS

0 CATV

LSB

LSB

LSB

LSB

LSB

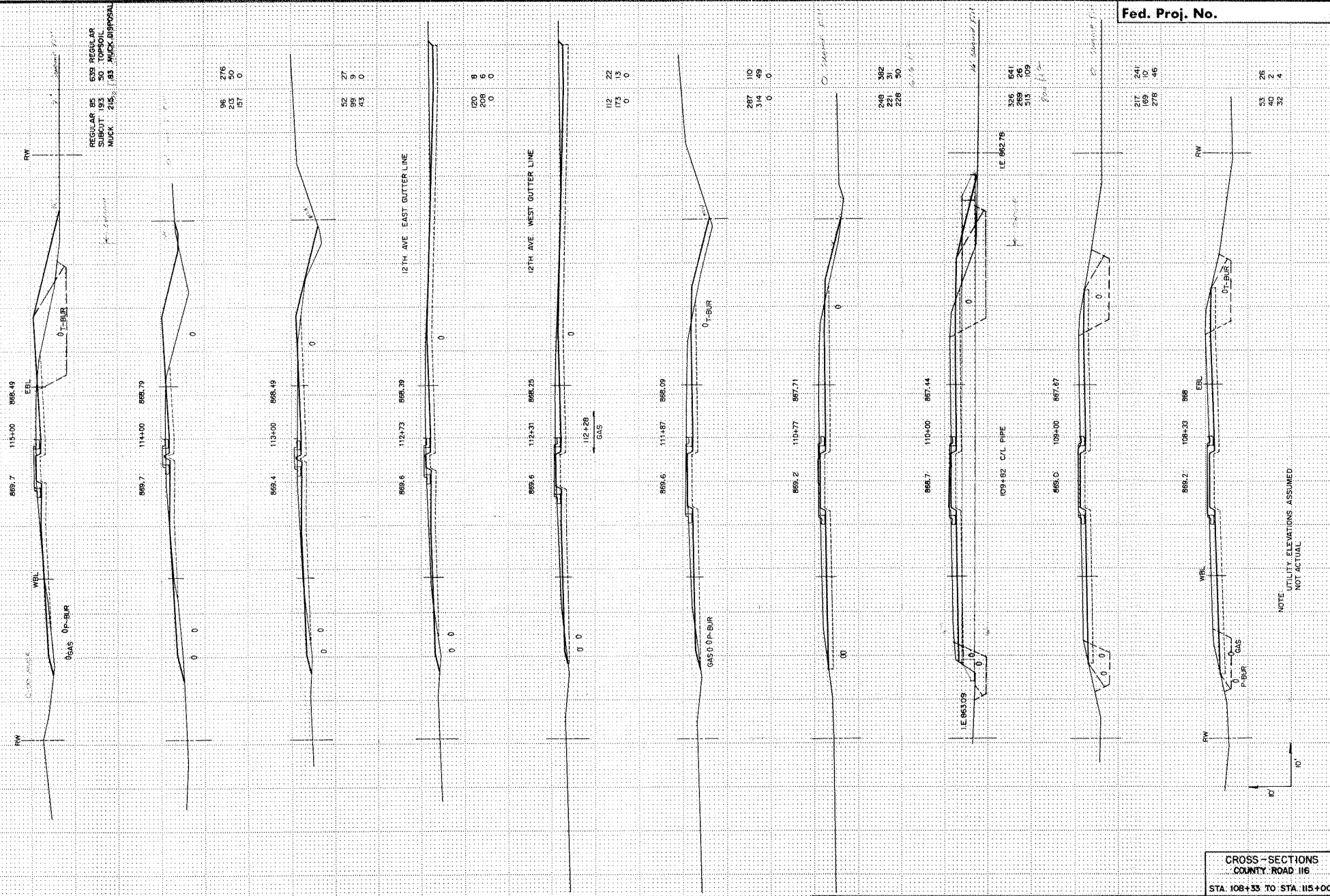
CROSS-SECTIONS
C.S.A.H. 9

STA. 99+00 TO STA. 105+08

NOTE:
UTILITY ELEVATIONS ASSUMED
NOT ACTUAL

City of... 21

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



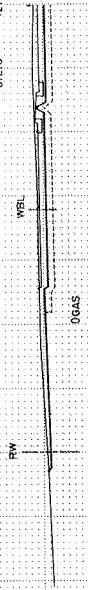
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NOTE: UTILITY ELEVATIONS ASSUMED
NOT ACTUAL

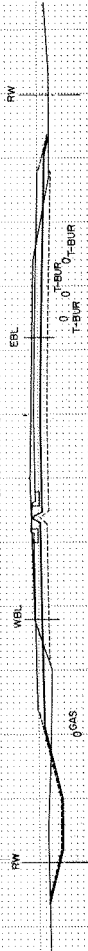
CROSS-SECTIONS
COUNTY ROAD 116
STA. 108+33 TO STA. 115+00

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

872.0 121+79 870.23



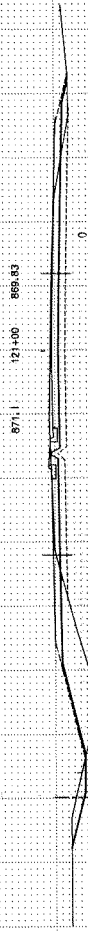
871.6 121+50 870.08



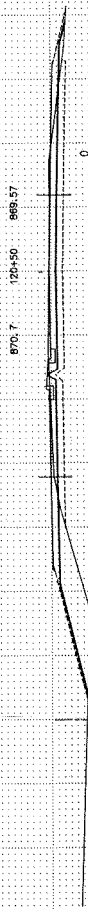
REGULAR 95
SUBCUT 32
MUCK 0

REGULAR 122
TOPSOIL 25
MUCK DISPOSAL 0

871.1 121+00 869.83

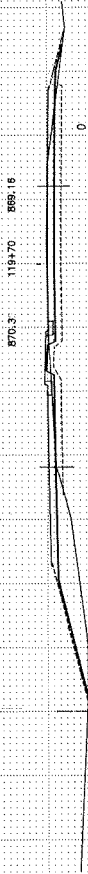


870.7 120+50 869.57



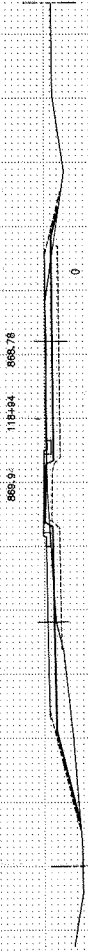
16 200
18 37
0 0

870.3 119+70 869.16



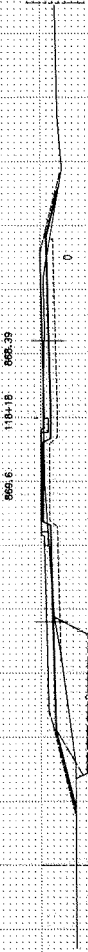
107 169
163 30
0 0

869.9 118+24 868.76



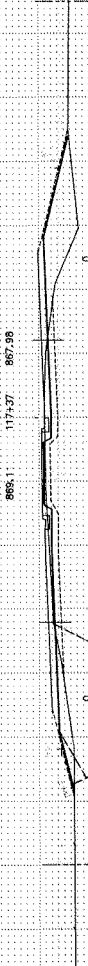
87 274
85 15
104 18

869.6 118+15 868.39



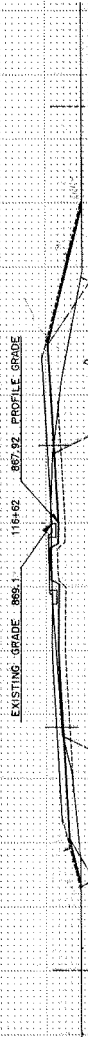
74 330
85 32
239 30

869.1 117+27 867.98



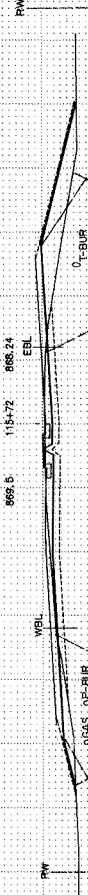
67 749
142 32
374 79

EXISTING GRADE 869.1 867.92 PROFILE GRADE



103 1093
647 169

868.5 115+72 866.24

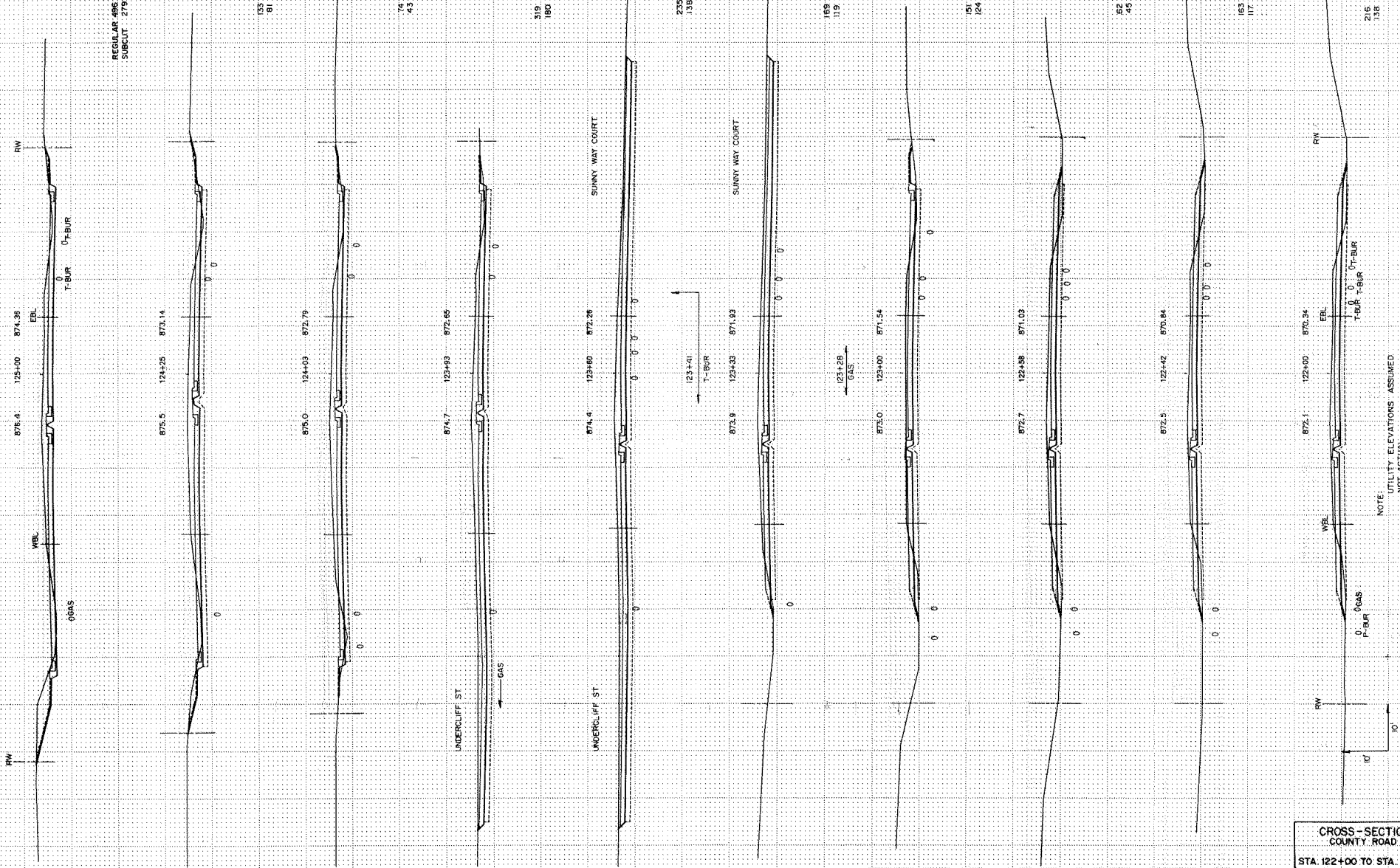


79 761
147 35
427 128

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 456
SUBCUT 279
28 TOPSOIL

03 2
81 6

74 1
43 1

310 1
180 0

235 1
138 2

169 9
119 6

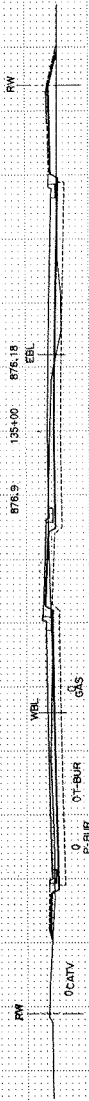
51 21
164 5

62 9
45 3

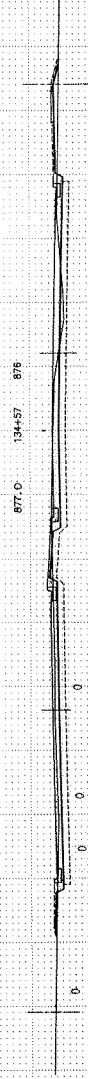
163 26
117 9

216 33
158 17

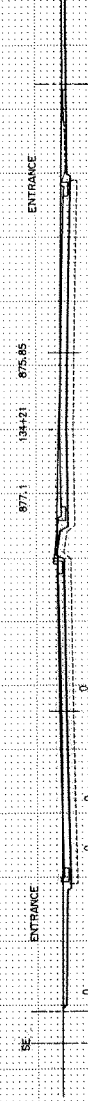
EXCAVATION EMBANKMENT
SUB-TOTALS CU YDS SUB-TOTALS CU YDS



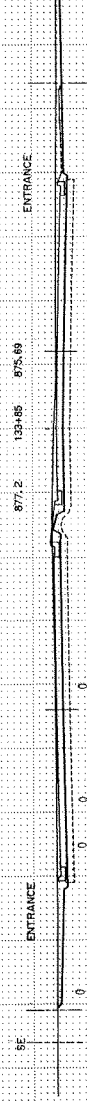
REGULAR	95	40	REGULAR
SUBTUT	160	16	TOPSOIL



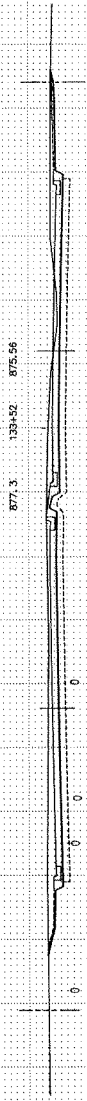
157	9
144	7



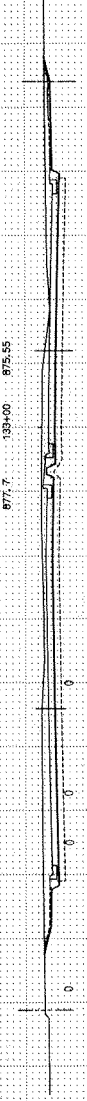
213	0
147	0



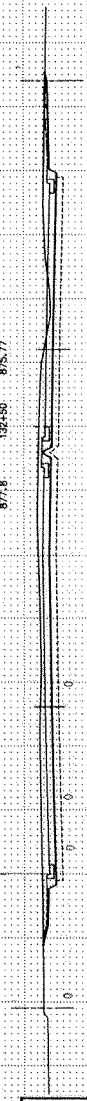
250	0
134	6



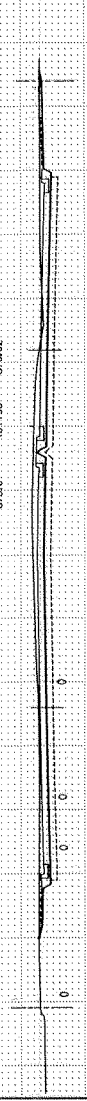
453	0
212	20



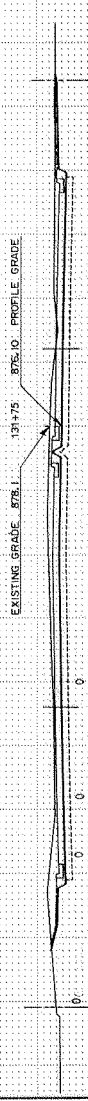
424	0
204	19



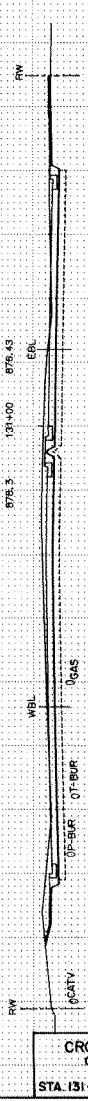
425	0
232	19



131	0
73	7



528	0
307	33

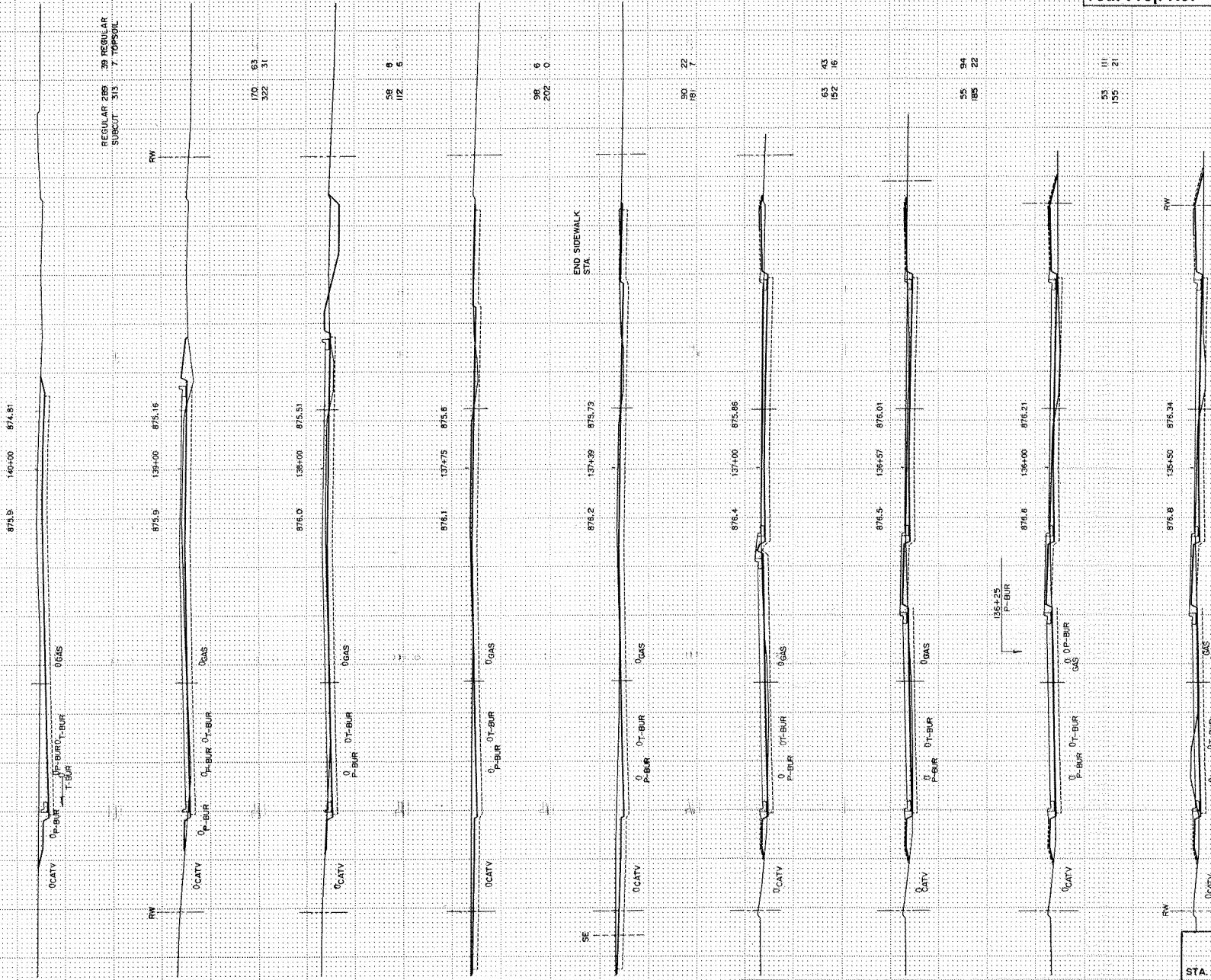


257	0
166	19

NOTE: UTILITY ELEVATIONS ASSUMED
NOT ACTUAL



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



REGULAR 289 39 REGULAR
SUBCUT 313 7 TOPSOIL

170 63
322 31

58 9
102 5

98 6
202 0

90 22
181 7

63 43
152 16

55 94
185 22

53 11
155 21

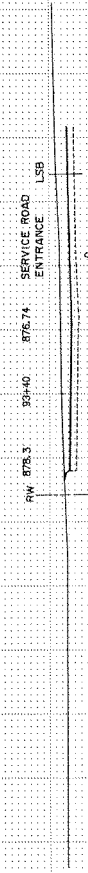
80 68
166 20

END SIDEWALK
STA

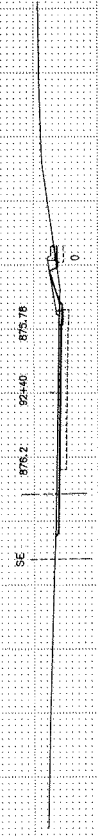
NOTE
UTILITY ELEVATIONS ASSUMED
NOT ACTUAL

CROSS-SECTIONS
C.S.A.H. 16

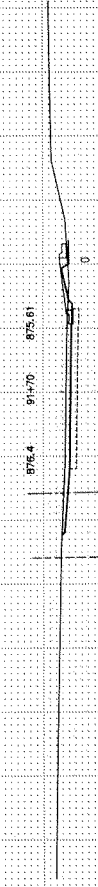
STA. 135+50 TO STA. 140+00



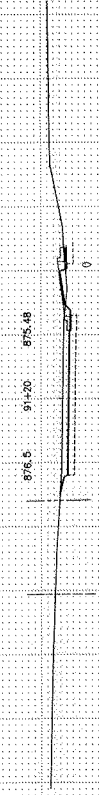
REGULAR 07 0
 SUBCUT 96 13 TOPSOIL



24 0
 87 9



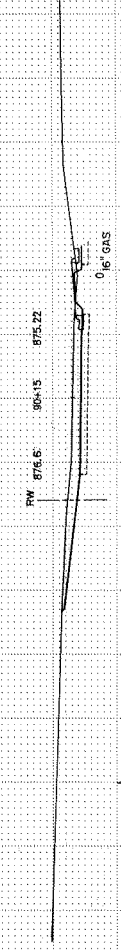
50 0
 28 6



22 0
 19 2



142 0
 82 5



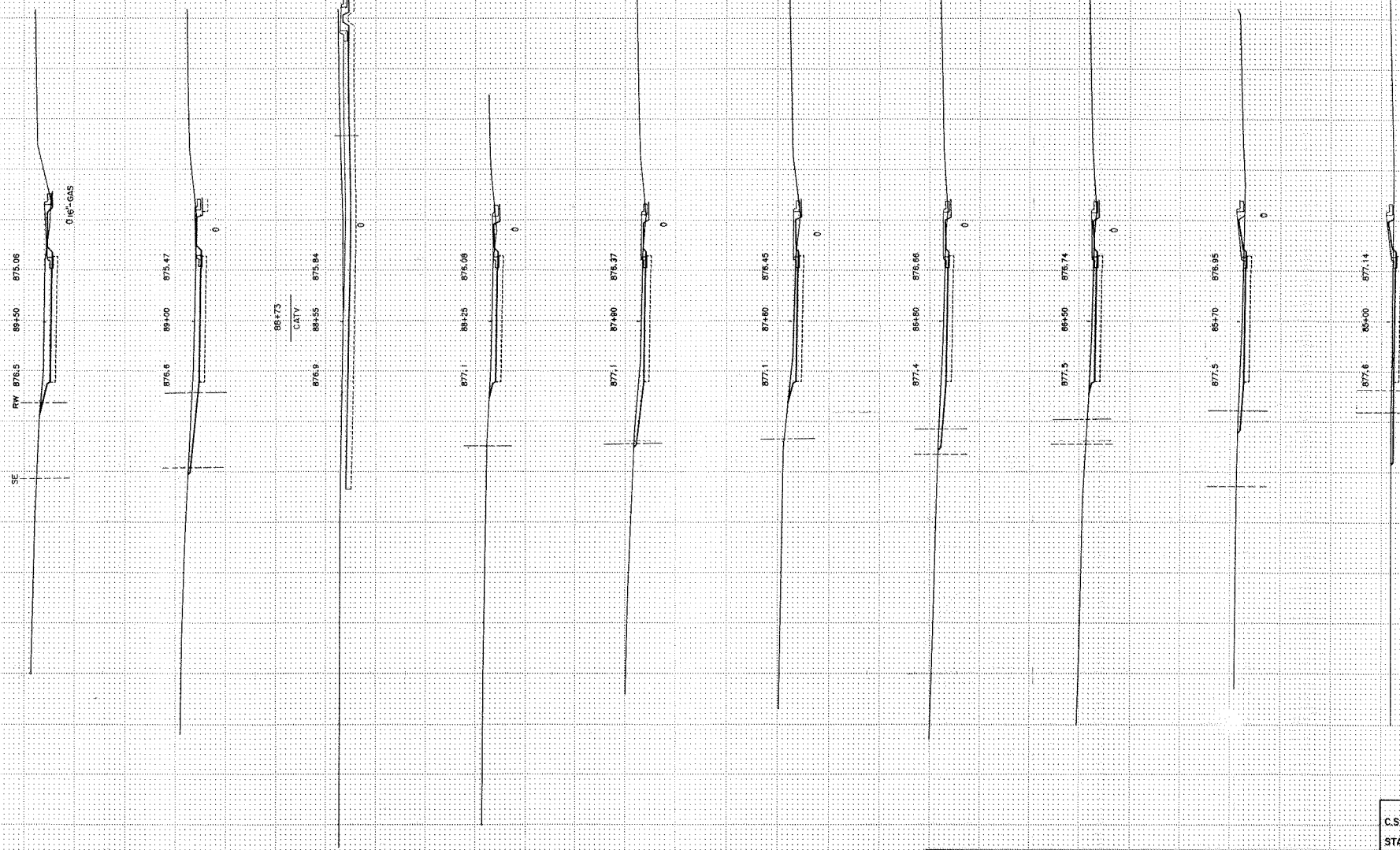
123 0
 63 8

NOTE: UTILITY ELEVATIONS ASSUMED
 NOT ACTUAL



CROSS-SECTIONS
 C.S.A.H. 9 - SERVICE ROAD
 ALIGNMENT L1
 STA. 90+15 TO STA. 93+40

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



REGULAR BZ 0
 SUBCUT 48 6
 REGULAR 5
 TOPSOIL 6

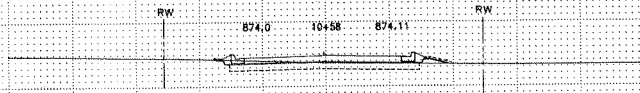
86+73
 C&T

NOTE
 UTILITY ELEVATIONS ASSUMED
 NOT ACTUAL

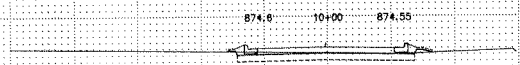


CROSS-SECTIONS
 C.S.A.M. 9 - SERVICE ROAD
 ALIGNMENT 11
 STA. 85+00 TO STA. 89+50

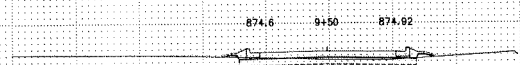
EXCAVATION EMBANKMENT
 SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.



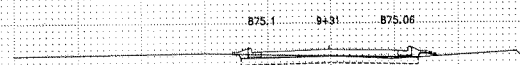
REGULAR 12 3 REGULAR
 SUBCUT 63 4 TOPSOIL



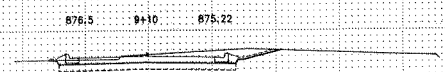
6 6
 4B 4



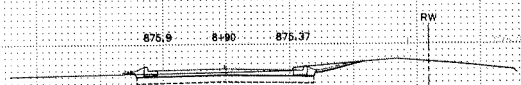
3 2
 1B 1



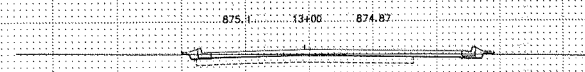
20 1
 21 2



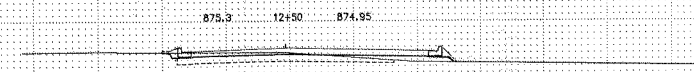
26 0
 21 2



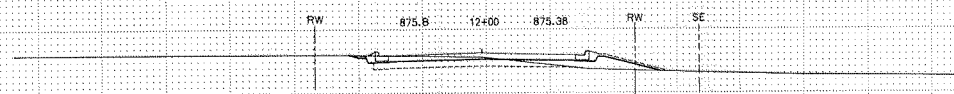
NOTE:
 UTILITY ELEVATIONS ASSUMED
 NOT ACTUAL



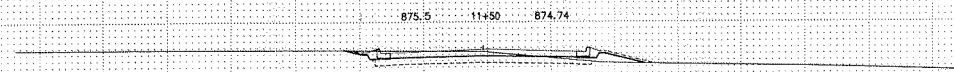
29 9
 72 4



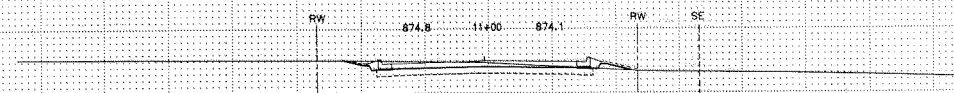
24 28
 55 6



36 27
 56 7



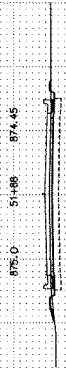
4B 10
 54 5



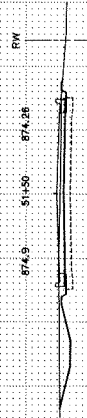
26 3
 52 4



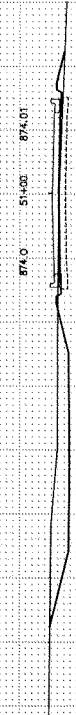
CROSS-SECTIONS
 C.S.A.H. 16
 ALIGNMENT L2
 STA. 8+90 TO STA. 13+00



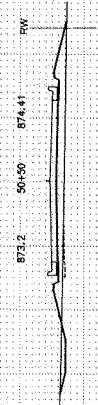
REGULAR 44 1. REGULAR
SUBCUT 44 8. TOPSOIL



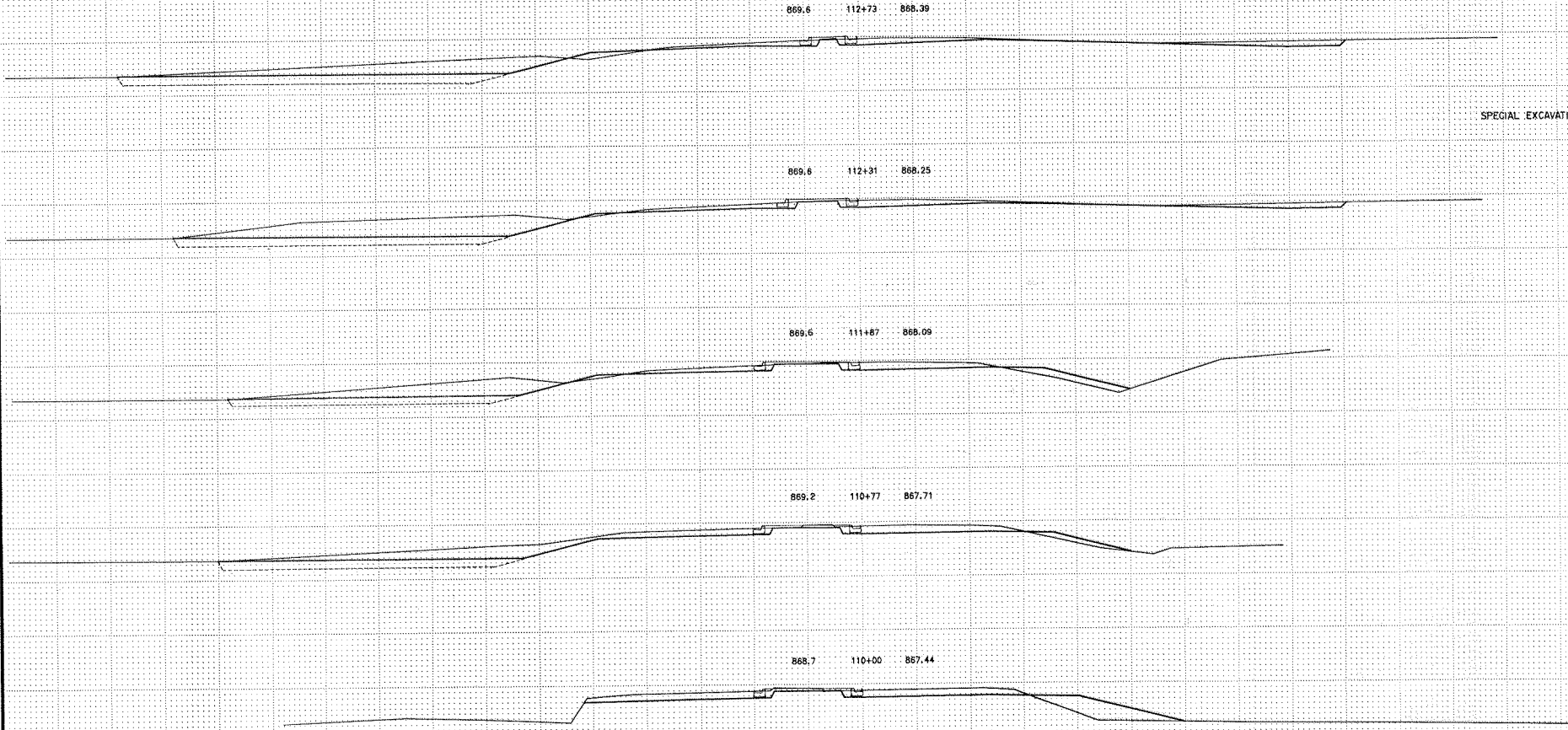
31 6
36 15



34 50
29 17



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



SPECIAL EXCAVATION 402 163 MUCK FILL

353 126

772 373



WETLAND MITIGATION
 COUNTY ROAD 116
 STA. 110+00 TO STA. 112+73

869.1 118+62 867.92

869.5 115+72 868.24

869.7 115+00 868.49

869.7 114+00 868.79

869.4 113+00 868.49

SPECIAL EXCAVATION 627 376 MUCK FILL

834 417

548 298

212 106

10'
 10'

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

BASE PLAN BY DRG. 02

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.

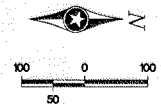
CONSTRUCTION: CONSTRUCT TEMPORARY PAVEMENT WIDENING.

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 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
- [Hatched Box] STAGE 1 - TEMPORARY PAVEMENT
- [Diagonal Lines Box] STAGE 2 - CONSTRUCTION
- [Cross-hatched Box] CONSTRUCTION UNDER TRAFFIC

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

RAMP U.S. 10 N.B.

MATCHLINE SEE BELOW LEFT

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

16TH AVE.

ROOSEVELT STREET

MATCHLINE SEE NEXT SHEET

MATCHLINE SEE ABOVE RIGHT

131 ST LANE

131 ST LANE

REMOVE TEMP. BERM

REMOVE TEMP. BERM

BEGIN PERMANENT CONSTRUCTION

CONSTRUCT MEDIAN IN STAGE 4 END TO 54+00

133 RD LANE N.W.

134 TH AVE.

135 TH AVE. N.W.

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 2:02 pm

7/01/09/02/93/145/31465314

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. Schweitzer
 Date: 4/2/93 Reg. No. 20943

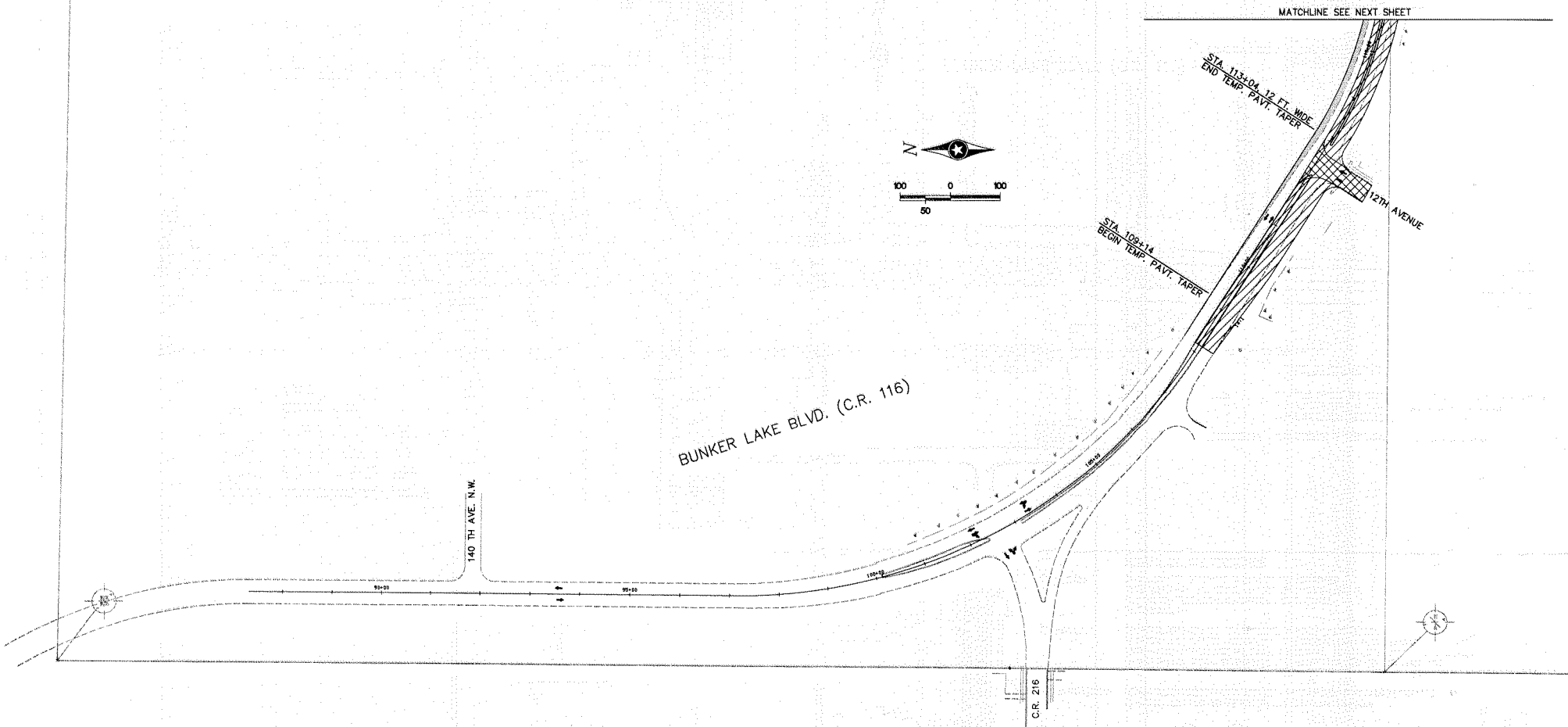
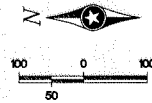


ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10
 S.A.P. 02-616-03 C.P. 93-12-116

STAGE 1 & STAGE 2
 CONSTRUCTION STAGING

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

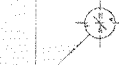
DATE	DESIGNED	DRAWN	CHECKED	APPROVED



BUNKER LAKE BLVD. (C.R. 116)

140 TH AVE. N.W.

C.R. 216



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.

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. 93145	102
DATE 4/2/93	133

7:40 PM 4/10/93 145/1145233A 04-01-93 2:11 PM

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.

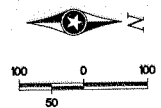
CONSTRUCTION: CONSTRUCT SOUTHBOUND ROUND LAKE BLVD. AND WESTBOUND BUNKER LAKE BLVD.

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+80 TO APPROXIMATE STATION 54+00. CONSTRUCT MEDIAN NOSES AT STATIONS 64+80 AND 66+00.



- LEGEND**
- == INPLACE TRAFFIC
 - [Diagonal hatching] STAGE 3 - CONSTRUCTION
 - [Horizontal hatching] STAGE 4 - CONSTRUCTION
 - [Cross-hatching] CONSTRUCTION UNDER TRAFFIC

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

RAMP U.S. 10 N.B.

MATCHLINE SEE BELOW LEFT

MATCHLINE SEE ABOVE RIGHT

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

131 ST LANE

131 ST LANE

BEGIN PERMANENT CONSTRUCTION

133 RD LANE N.W.

134 TH AVE.

135 TH AVE. N.W.

16TH AVE.

ROOSEVELT STREET

MATCHLINE SEE NEXT SHEET

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

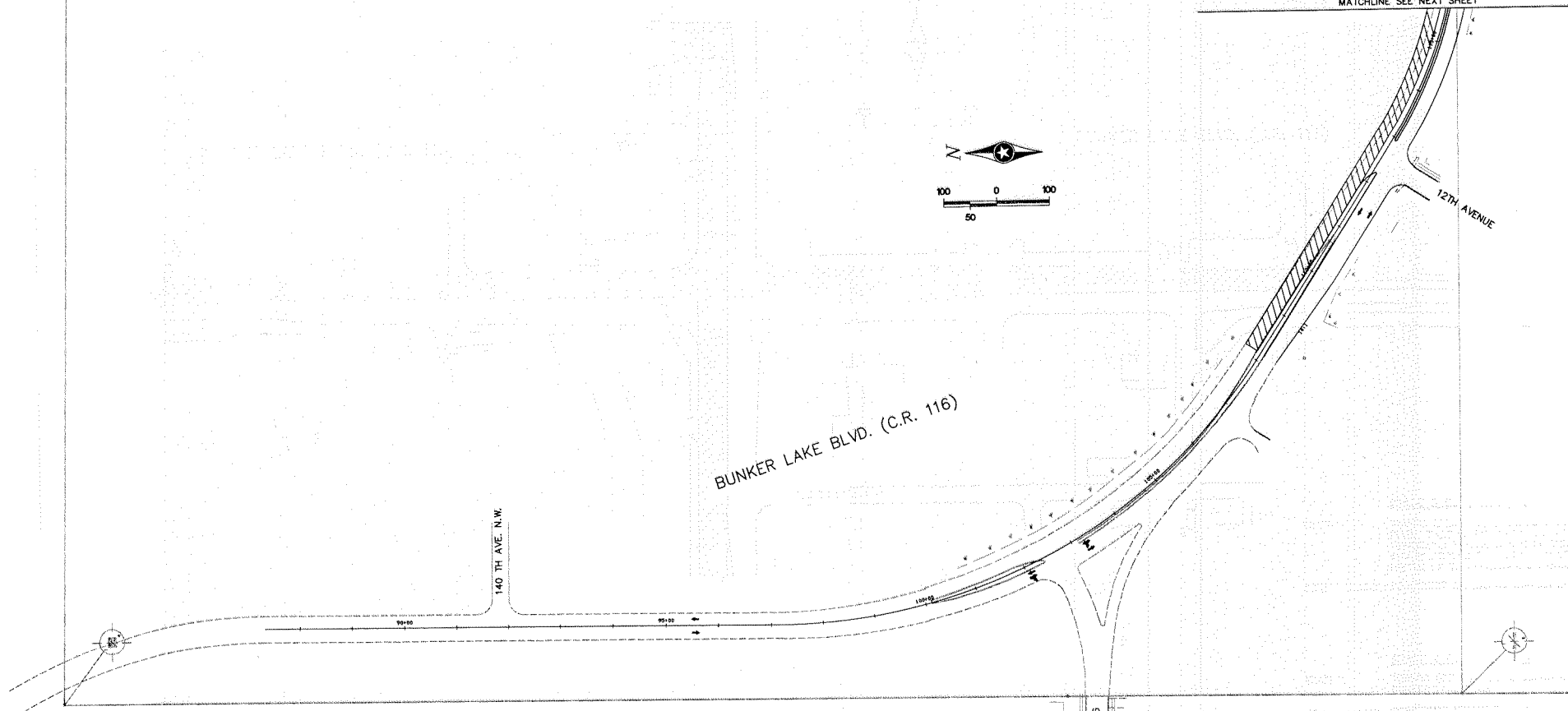
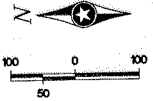
STAGE 3 & STAGE 4
 CONSTRUCTION STAGING

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

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

BASE	DATE	DRAWN	NO.

MATCHLINE SEE NEXT SHEET



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 EASTBOUND BUNKER LAKE BLVD. WITH A MINIMUM ONE - 12 FOOT LANE IN EACH DIRECTION.
- CONSTRUCTION:** CONSTRUCT WESTBOUND BUNKER LAKE BLVD. AND SOUTHBOUND ROUND 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 EASTBOUND AND WESTBOUND BUNKER LAKE BLVD. AND NORTHBOUND AND SOUTHBOUND ROUND LAKE BLVD.
- CONSTRUCTION:** CONSTRUCT MEDIANS, ADJACENT LANES, AND MEDIAN NOSES.

LEGEND

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

04-01-93 5:49 pm
/CAD/CPK/40/93145/0145238

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 3 & STAGE 4
 CONSTRUCTION STAGING**

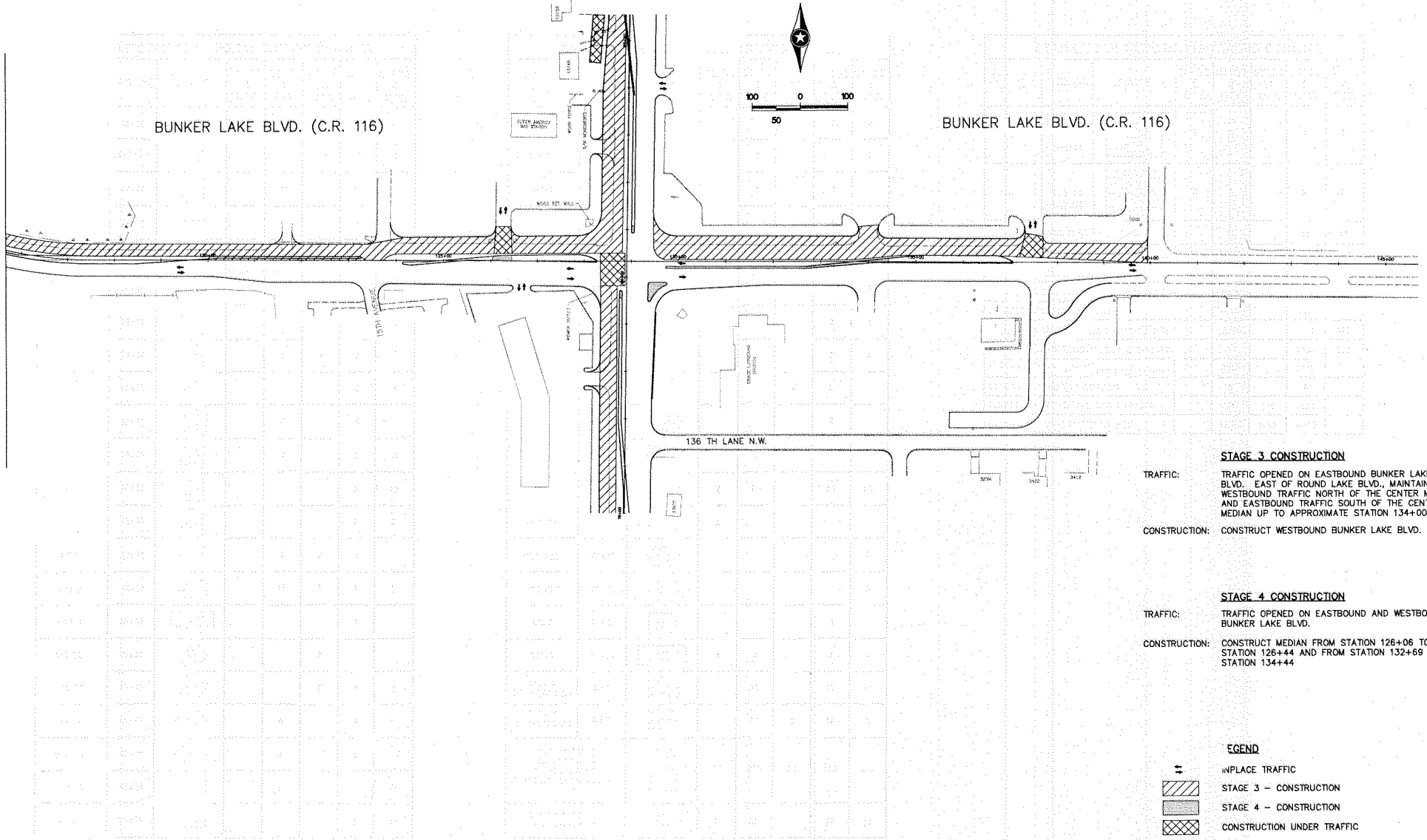
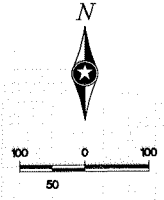
FILE NO.	106
DATE	4/2/93
	133

BASE	DATE	BY	NO.

MATCHLINE SEE PRECEDING SHEET

BUNKER LAKE BLVD. (C.R. 116)

BUNKER LAKE BLVD. (C.R. 116)



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+06 TO STATION 126+44 AND FROM STATION 132+69 TO STATION 134+44

EGEND

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

7/30/2007 09:31:46, 7/31/2007 04:17 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 C. Schwach
 Date: 4/2/93 Reg. No. 20943

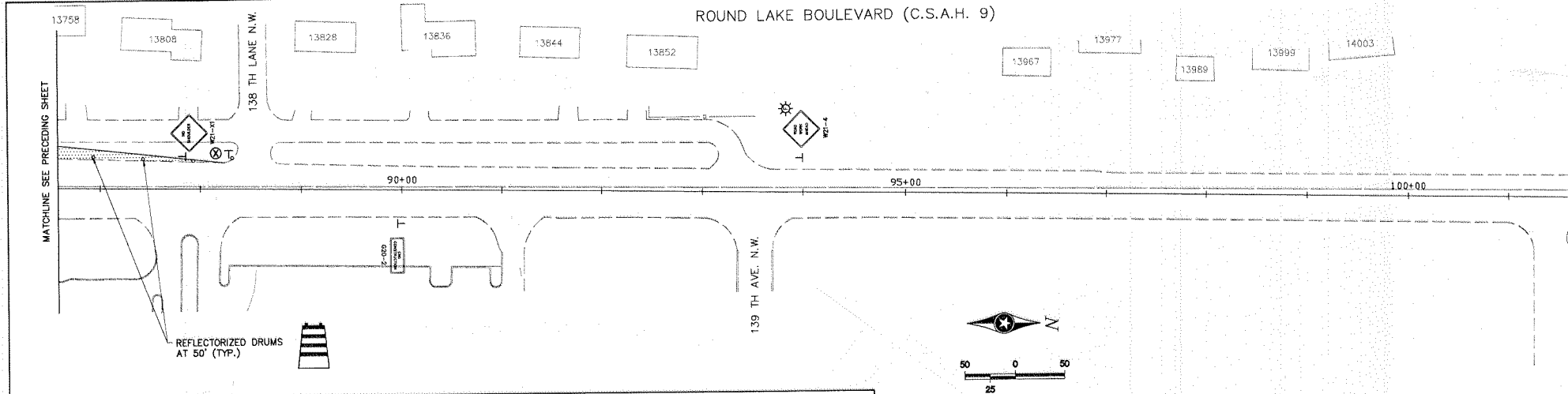


ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10
 S.A.P. 02-616-03 C.P. 93-12-116

STAGE 3 & STAGE 4
 CONSTRUCTION STAGING

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

BASE SHEET NO.



REFLECTORIZED DRUMS AT 50' (TYP.)

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

BUNKER LAKE BLVD. (CO. RD. 116)

CO. RD. 216

ROUND LAKE BLVD. (CSAH 9)

QUAY ST.

NORTHALE BOULEVARD

CSAH 14

T.H. 10/47

BUNKER LAKE BLVD. (CSAH 16/ CO.RD. 116)

(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

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

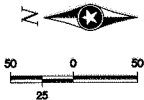


ANOKA COUNTY, MINNESOTA
S.A.P. 02-609-10
S.A.P. 02-616-03 C.P. 93-12-116

TRAFFIC CONTROL
STAGE 1

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

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED



BUNKER LAKE BLVD. (C.R. 116)

MATCHLINE SEE NEXT SHEET

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.
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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.

7/20/02/02/03/145/21/01/1401 04-01-83 11.36 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. Schwede
 Date: 4/2/93 Reg. No. 20943

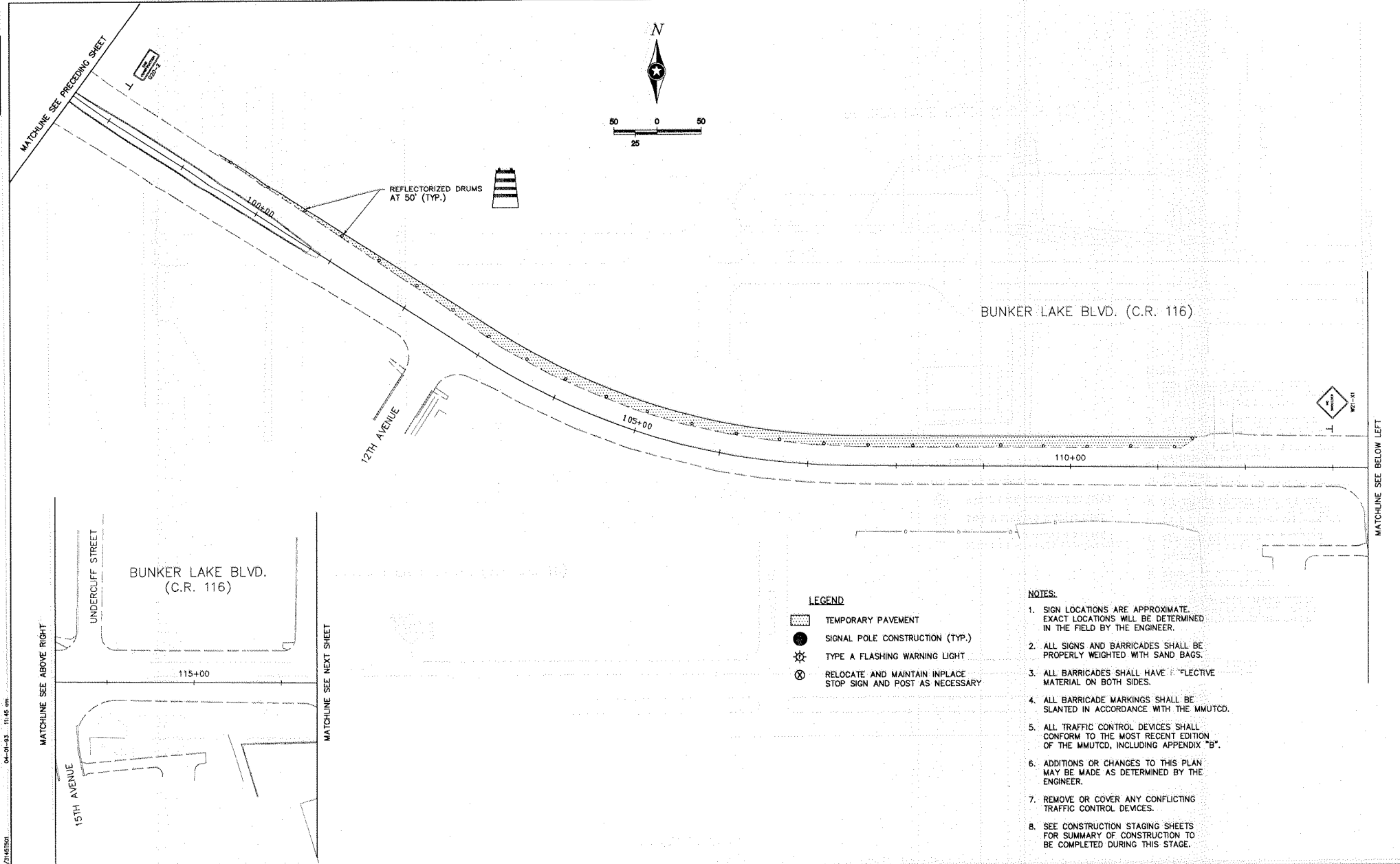


ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10
 S.A.P. 02-616-03 C.P. 93-12-116

TRAFFIC CONTROL
 STAGE 1

FILE NO.	111
93145	
DATE	
4/2/93	133

BASE	DATE	BY	CHK.	NO.



- 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.

04-01-93 11:45 am
 /D:/CP/40/0316/21451601

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.

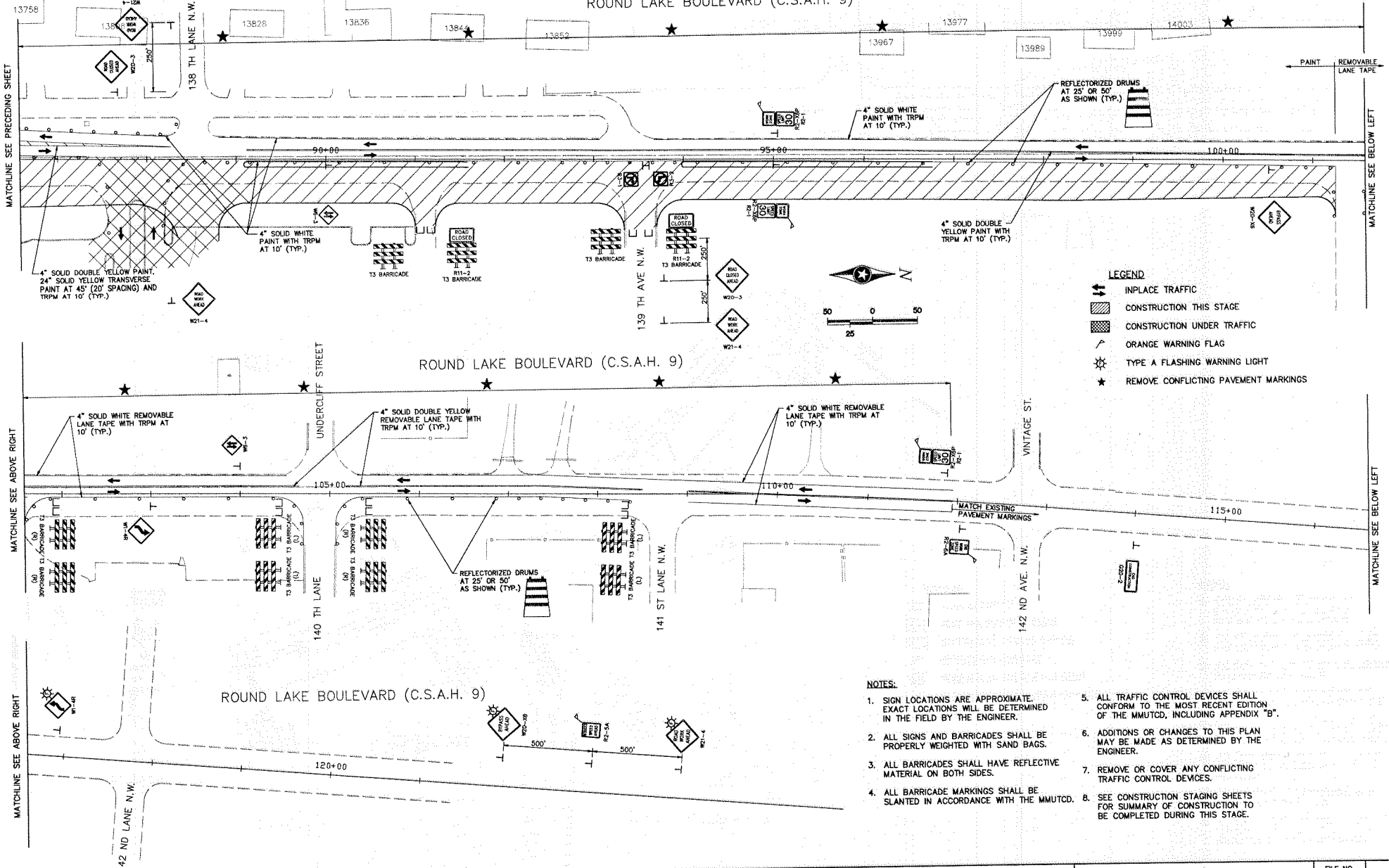
Thomas A. Schwede
 Date: 4/2/93 Reg. No. 20943



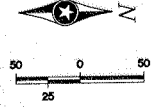
ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10
 S.A.P. 02-616-03 C.P. 93-12-116

TRAFFIC CONTROL STAGE 1	FILE NO. 93145	112
	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.
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.

4-2-1983 2:10 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. Schweich
 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
 DATE 4/2/93
 116
 133

BUNKER LAKE BLVD. (C.R. 116)

MATCH EXISTING PAVEMENT MARKINGS

140 TH AVE. N.W.

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

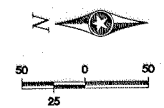
4" SOLID WHITE REMOVABLE LANE TAPE WITH TRPM AT 10' (TYP.)

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

500'

500'

500'



BUNKER LAKE BLVD. (C.R. 116)

MATCHLINE SEE NEXT SHEET

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

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

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

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

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

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 3:25 PM

93145/1451402

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

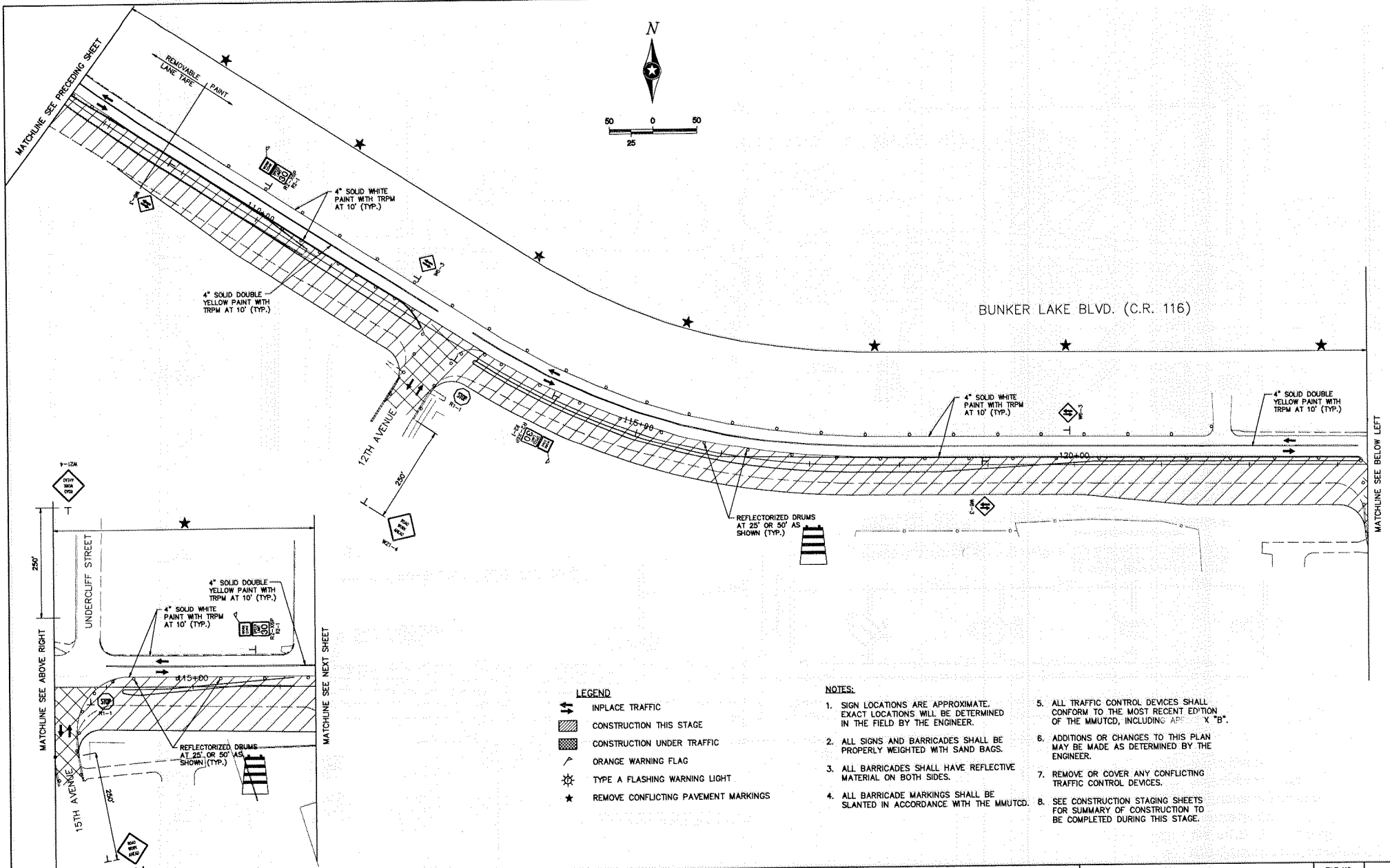
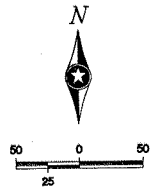
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
Thomas A. Schwaert
 Date: 4/2/93 Reg. No. 20943



ANKA 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 3:50 PM

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

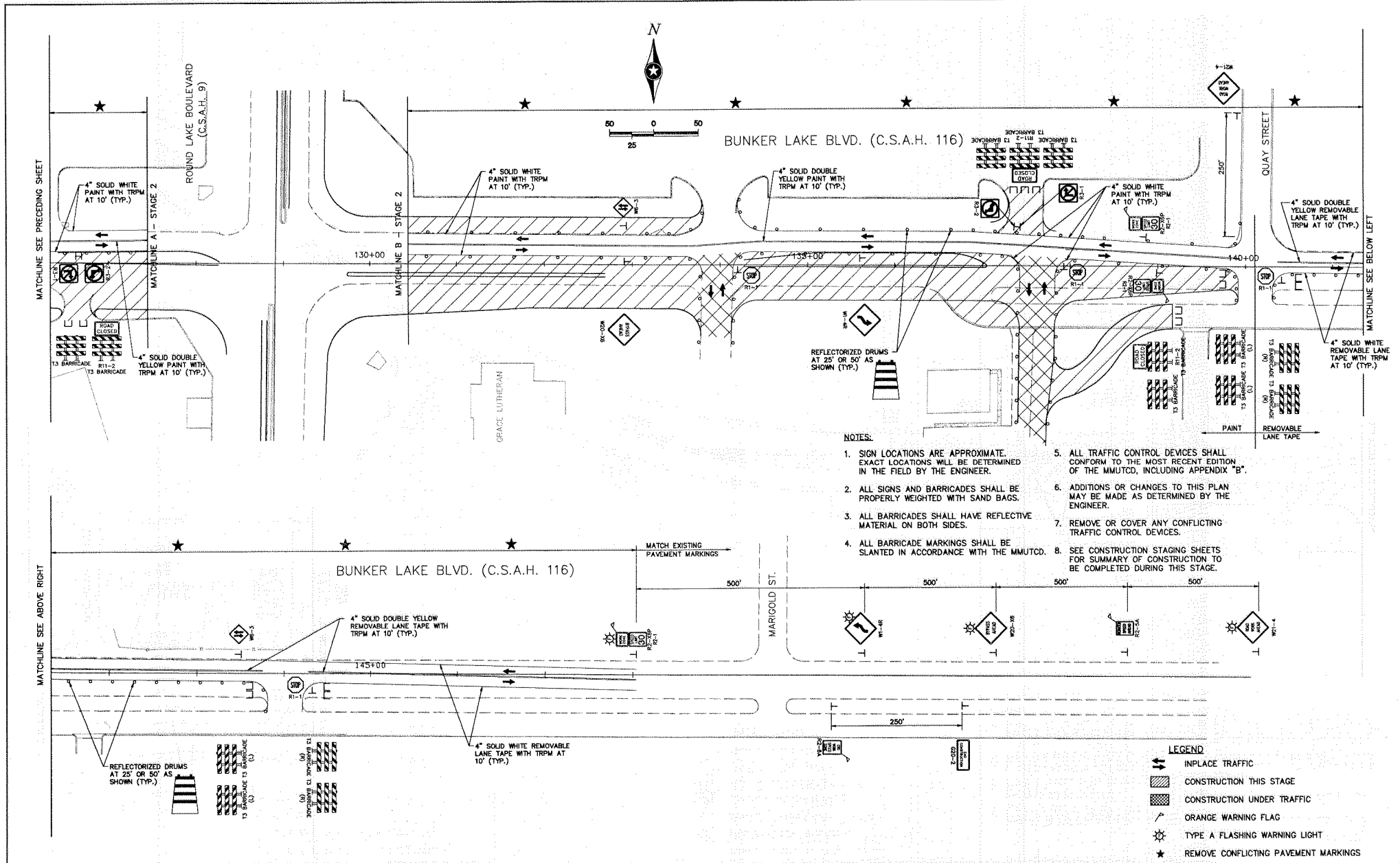
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
Thomas A. Schmitt
 Date: 4/2/93 Reg. No. 20943



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	118 133
DATE 4/2/93	



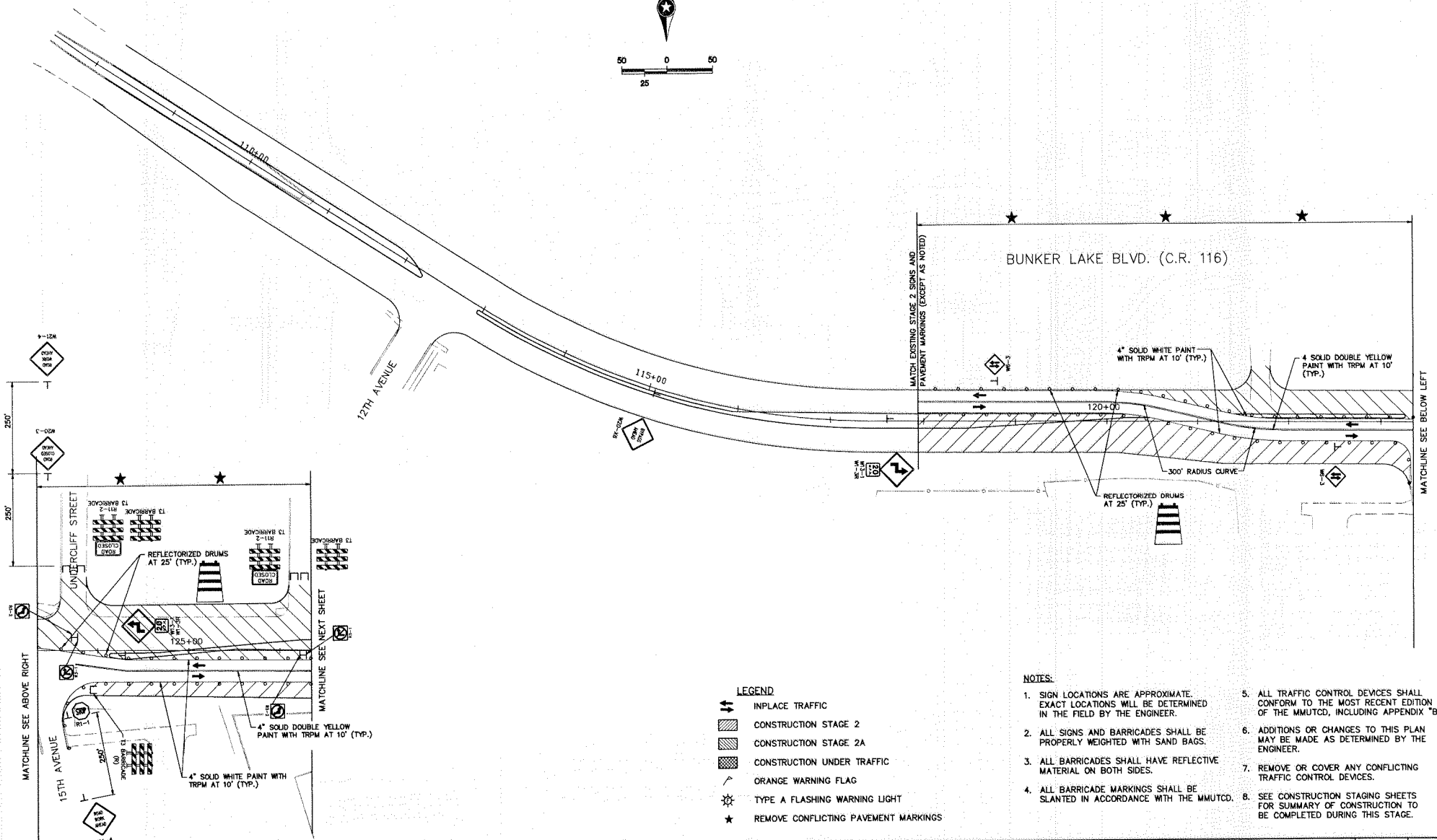
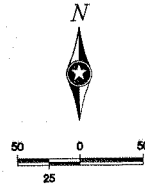
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
Thomas A. Schwend
 Date: 4/2/93 Reg. No. 20943



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

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED



- LEGEND**
- INPLACE TRAFFIC
 - CONSTRUCTION STAGE 2
 - CONSTRUCTION STAGE 2A
 - 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.

1-12-1993 8:30 AM

93145/3146102A

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

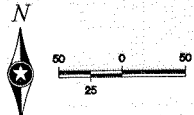
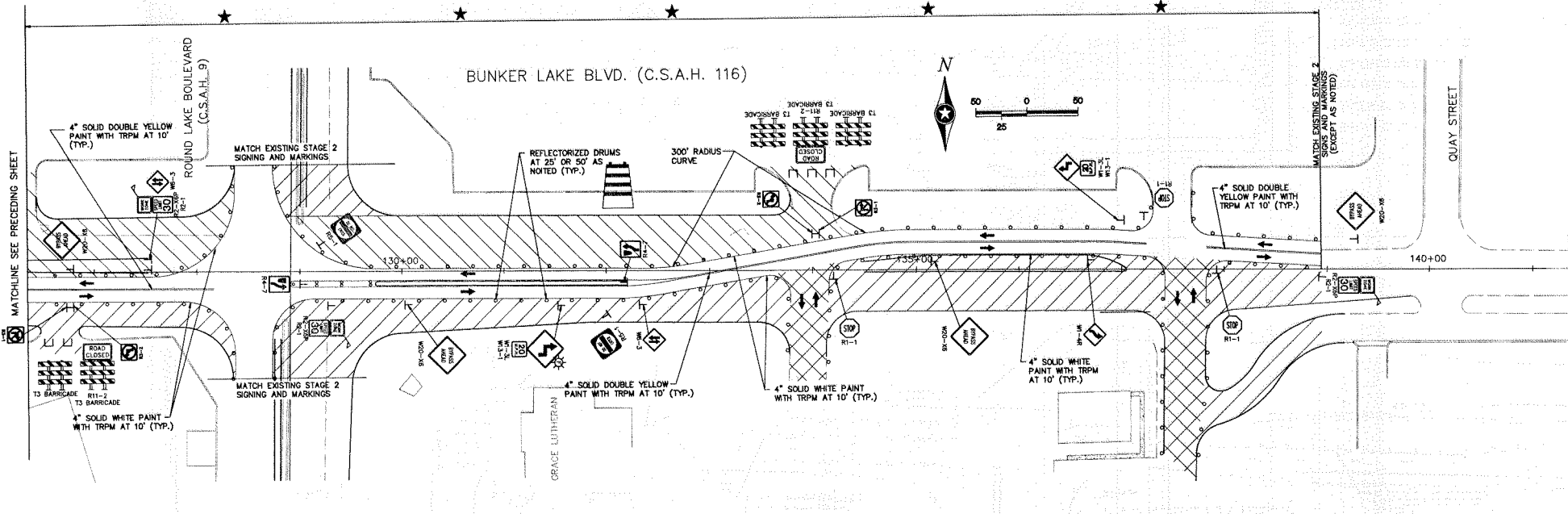
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
Thomas A. Schwandt
 Date: 4/2/93 Reg. No. 20943



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

TRAFFIC CONTROL
 STAGE 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.
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.

LEGEND

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

1-5-1993 9:30 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. Schwandt
 Date: 4/2/93 Reg. No. 20943



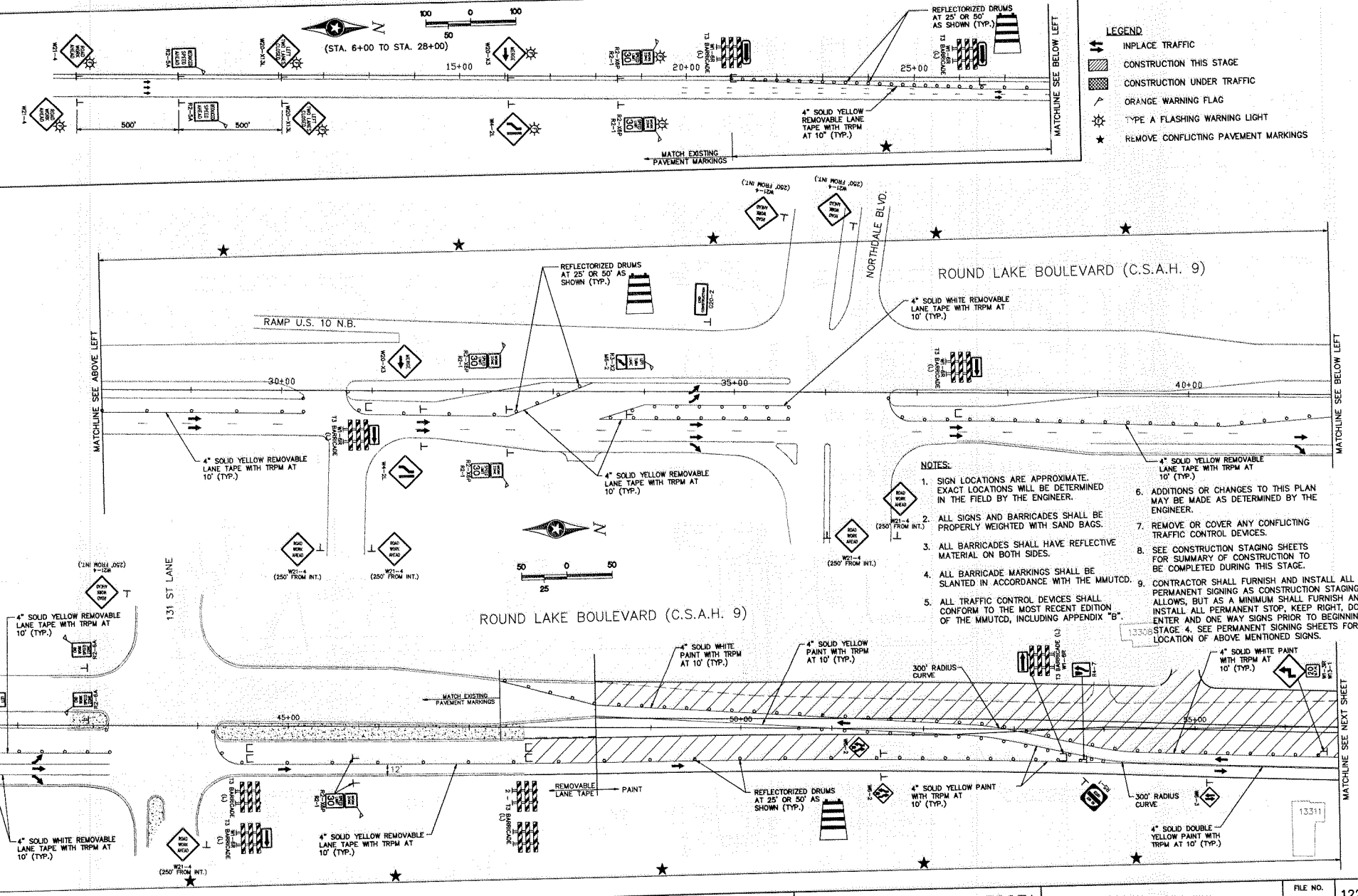
ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10, S.A.P.02-616-03,
 C.P. 93-12-116

**TRAFFIC CONTROL
 STAGE 2A**

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

PLEASE OVERLAY THIS NO.

04-06-93 4:07 PM
 04/06/93 03145/2145103



- 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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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.

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 G. 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 3

FILE NO. 93145	122
DATE 4/2/93	133

DATE	REVISIONS

04-08-93 4:14 pm

/20/2004/20145/141203

MATCHLINE SEE PRECEDING SHEET

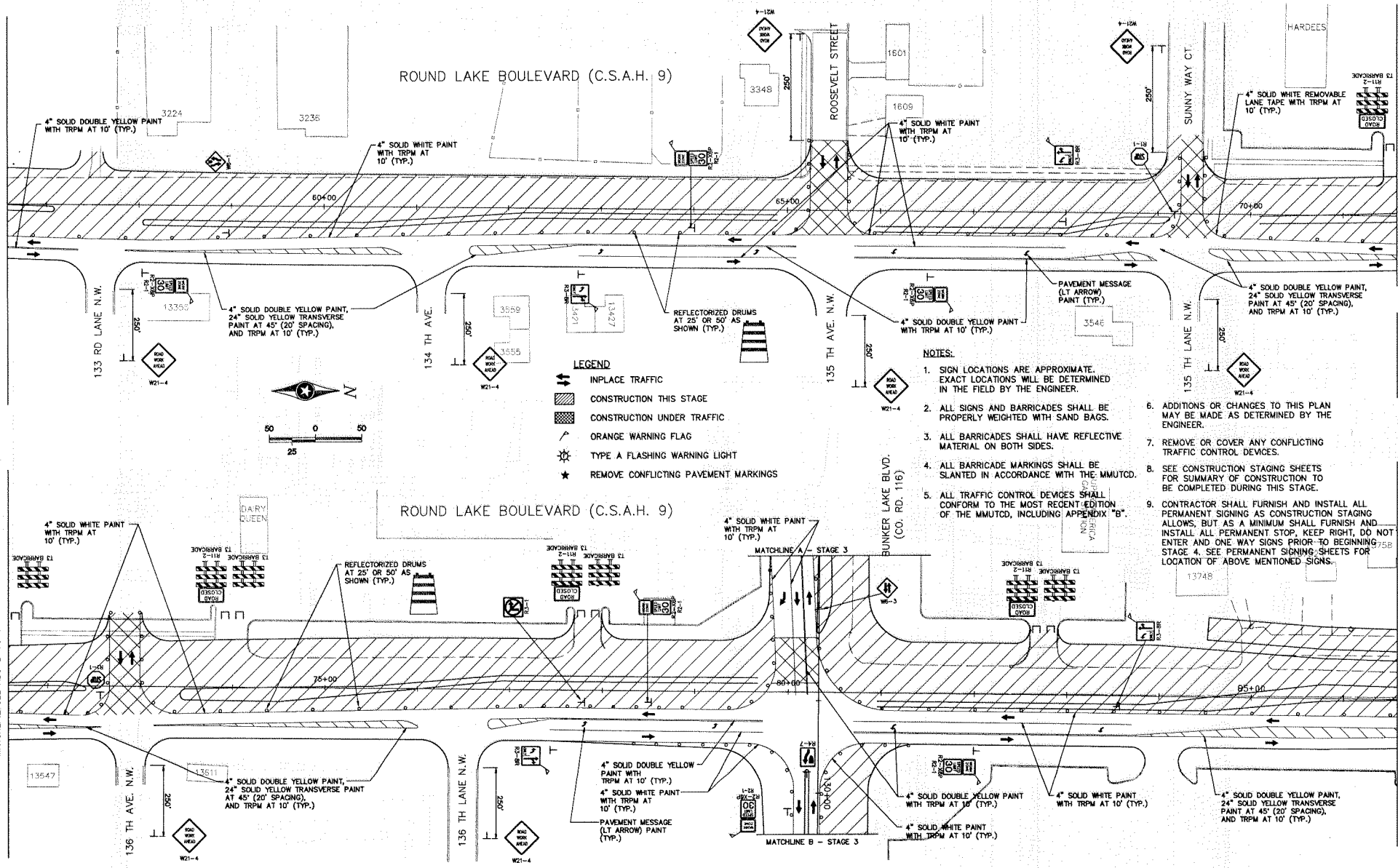
MATCHLINE SEE ABOVE RIGHT

MATCHLINE SEE BELOW LEFT

MATCHLINE SEE NEXT SHEET

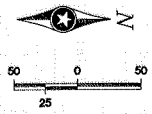
ROUND LAKE BOULEVARD (C.S.A.H. 9)

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.
 3. ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
 4. ALL BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MUTCD.
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I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
Thomas A. Schmitt
 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

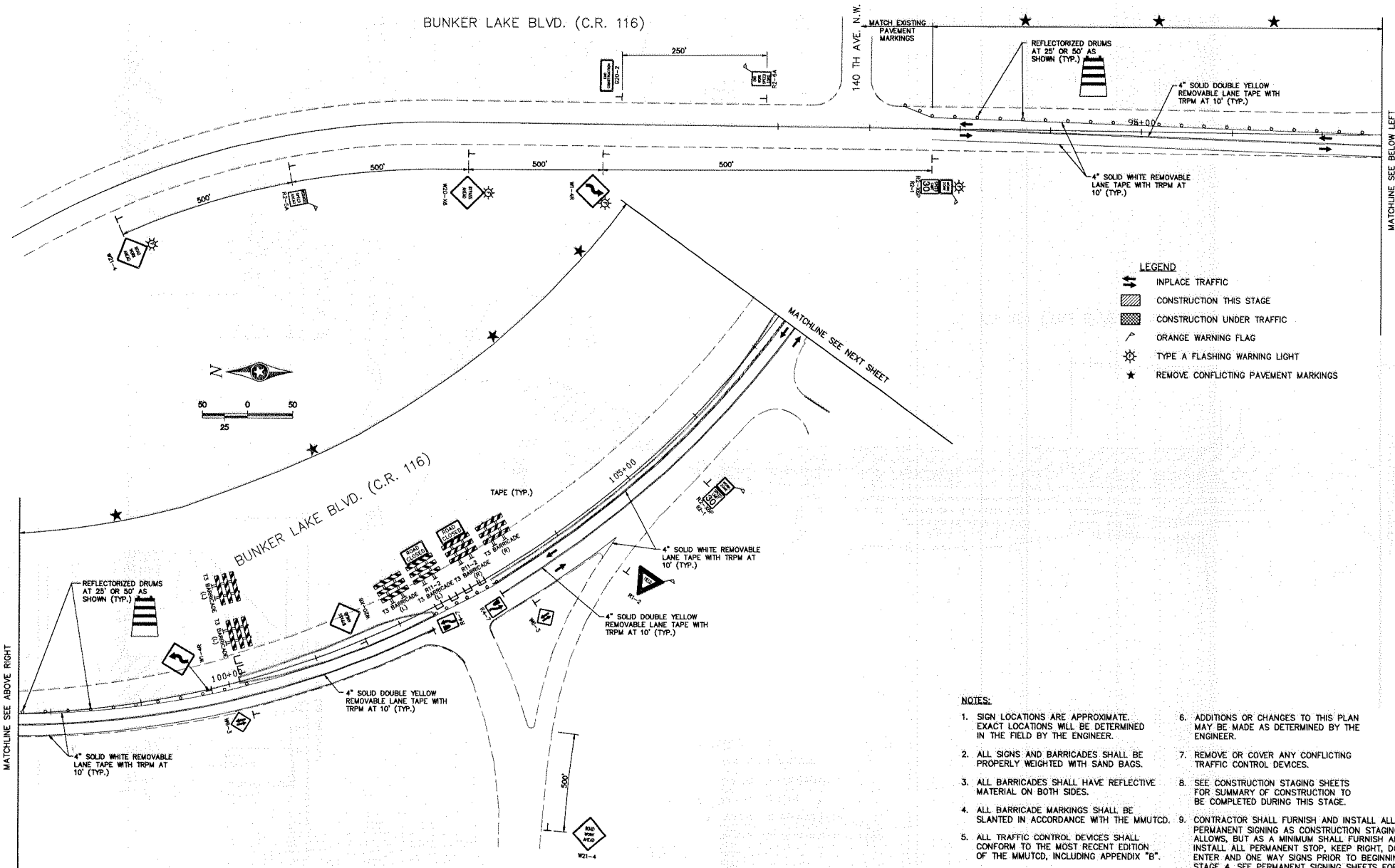
TRAFFIC CONTROL
 STAGE 3

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

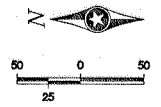
NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

BASE OVERLAY DRGS. NO.

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



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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.

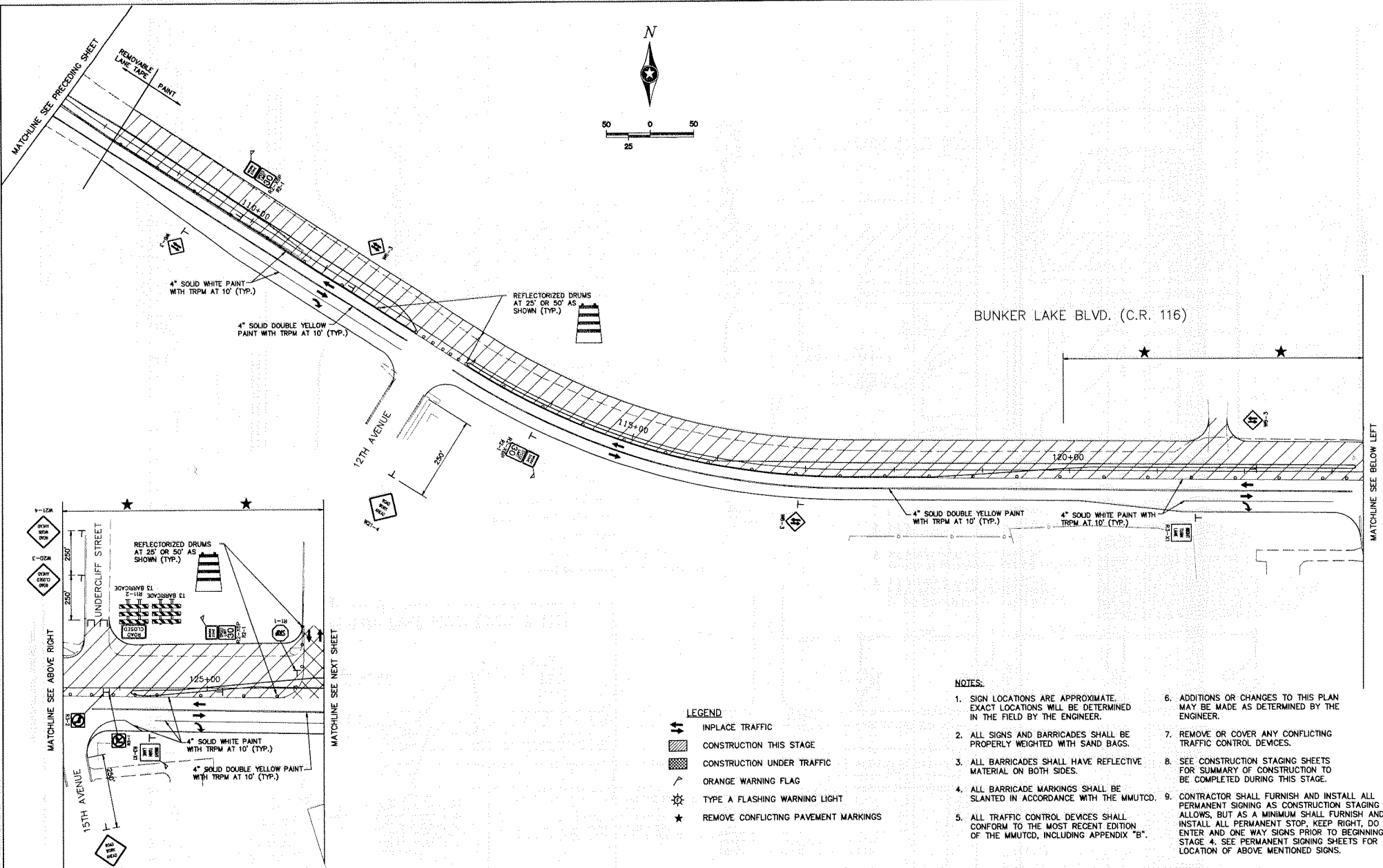
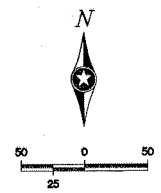
Thomas A. Schneider
 Date: 4/2/93 Reg. No. 20943



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

BASE OVERLAY (REG. NO.)



BUNKER LAKE BLVD. (C.R. 116)

NOTES.

1. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
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LEGEND

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

154-06-93 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. 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 3**

FILE NO. 93145	126
DATE 4/2/93	133

BASE	OVERLAY	NO.

MATCHLINE SEE PRECEDING SHEET

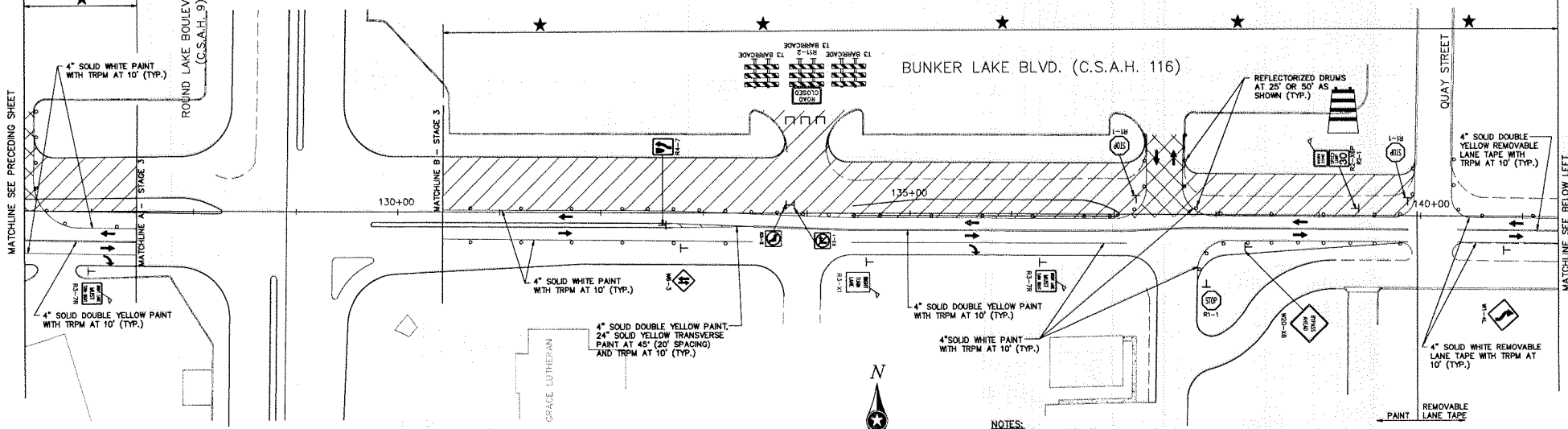
MATCHLINE SEE ABOVE RIGHT

MATCHLINE SEE BELOW LEFT

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

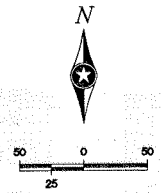
BUNKER LAKE BLVD. (C.S.A.H. 116)

QUAY STREET



LEGEND

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

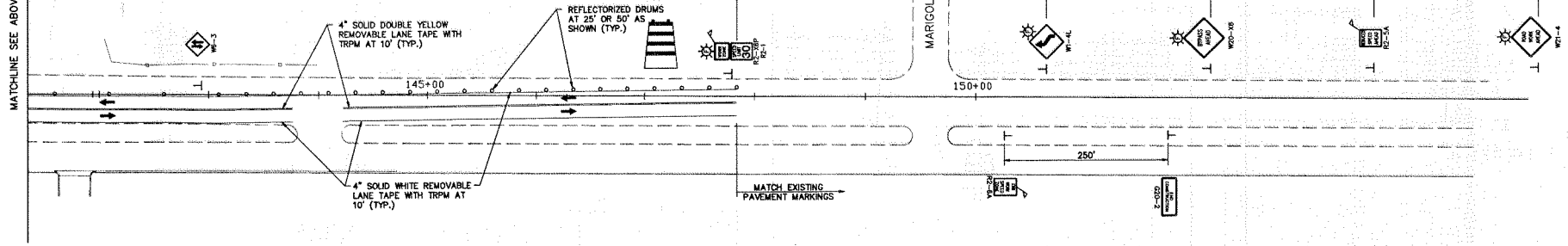


NOTES:

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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.

BUNKER LAKE BLVD. (C.S.A.H. 116)

MARGOLD ST.



04-06-93 4:38 PM

\\SD\PERM\10145\10145.dwg

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

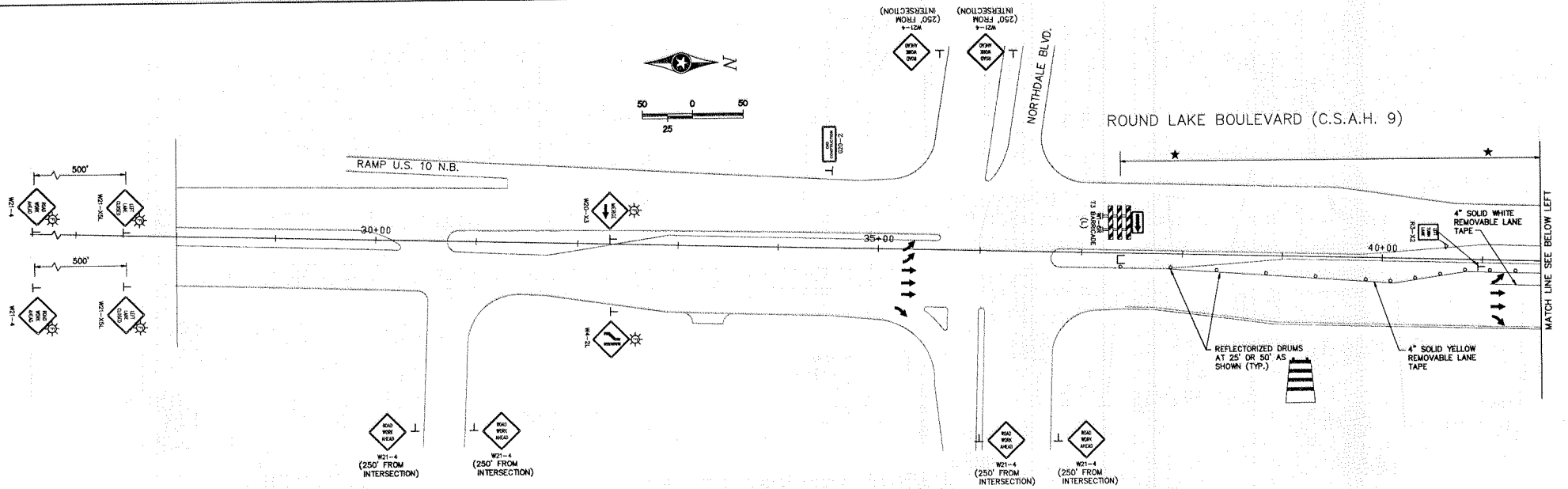
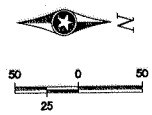
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer, under the laws of the state of Minnesota.
Thomas A. Schmitt
 Date: 4/2/93 Reg. No. 20943



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

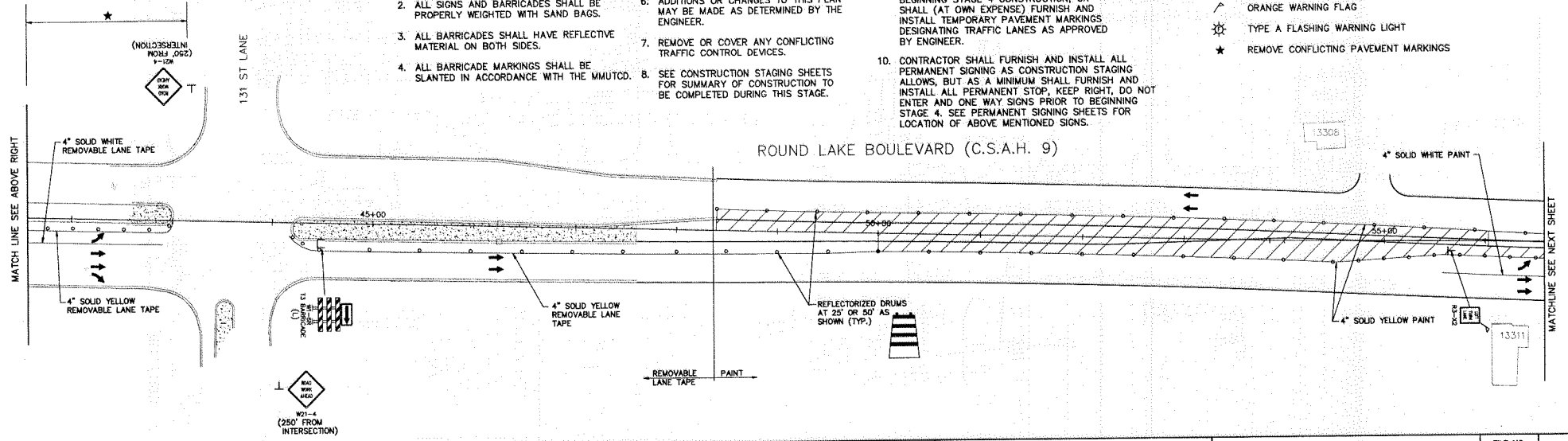


NOTES:

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LEGEND

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



4-1-1993 4:30 PM

03/23/15/15/14

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.



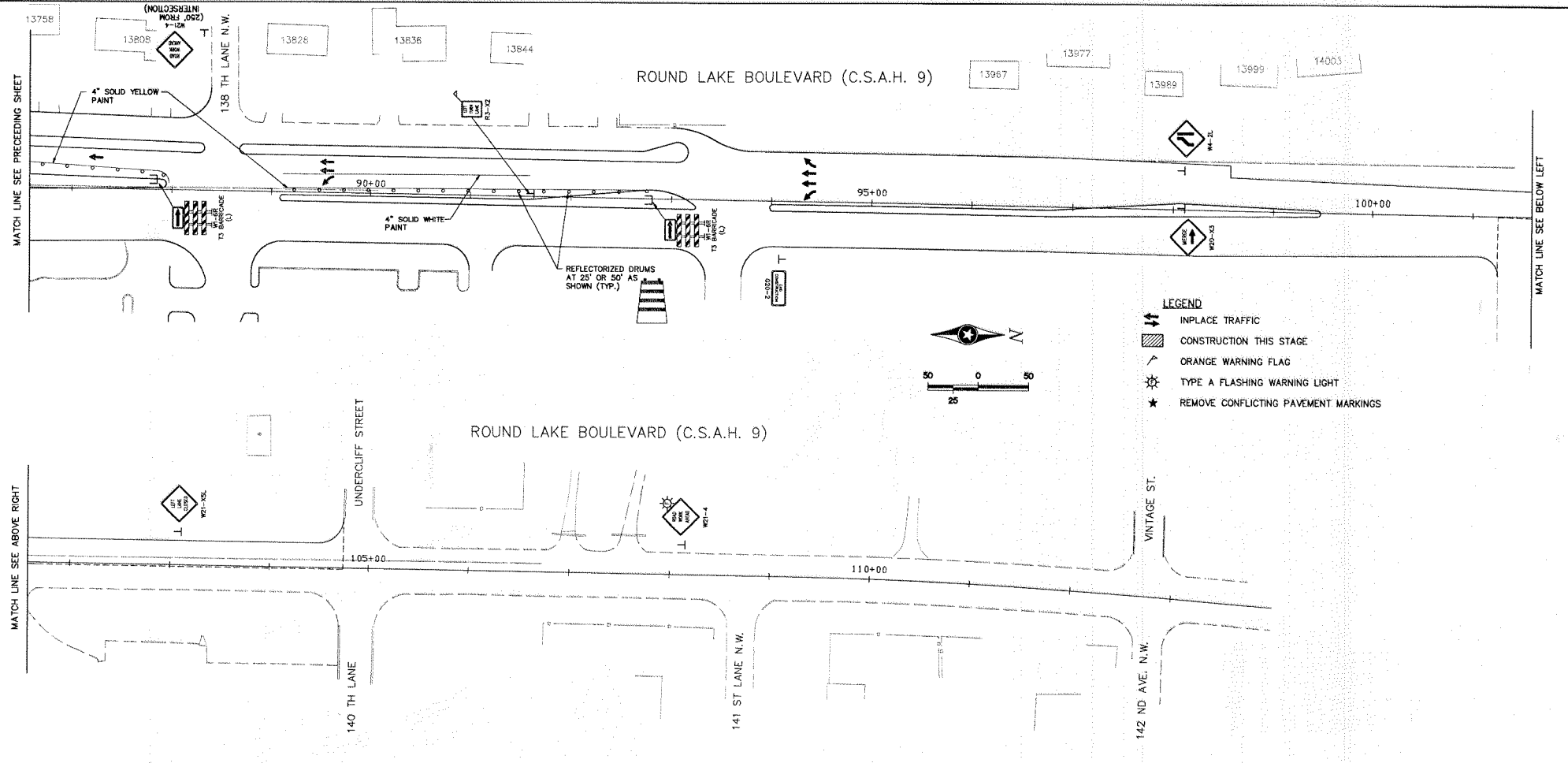
ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10, S.A.P. 02-616-03,
 C.P. 93-12-116

TRAFFIC CONTROL
 STAGE 4

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

1-15-1993 11:00 AM

83145/31451506



NOTES:

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



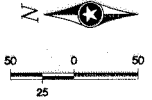
ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10, S.A.P. 02-616-03,
 C.P. 93-12-116

**TRAFFIC CONTROL
 STAGE 4**

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

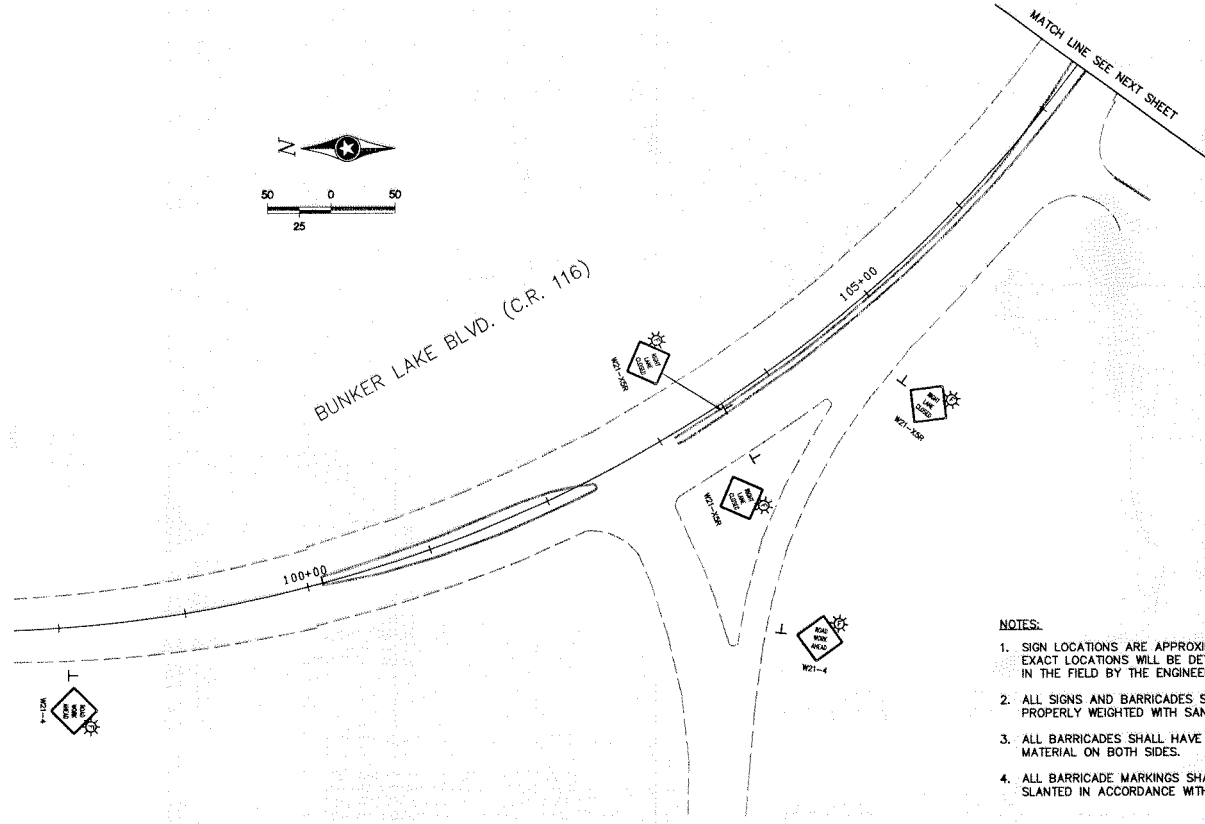
FILE NO.	130
DATE	4/2/93
	133

BASE DESIGN BY DATE: 11/11/93



BUNKER LAKE BLVD. (C.R. 116)

MATCH LINE SEE NEXT SHEET



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 7:30 PM 93145/31457404

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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

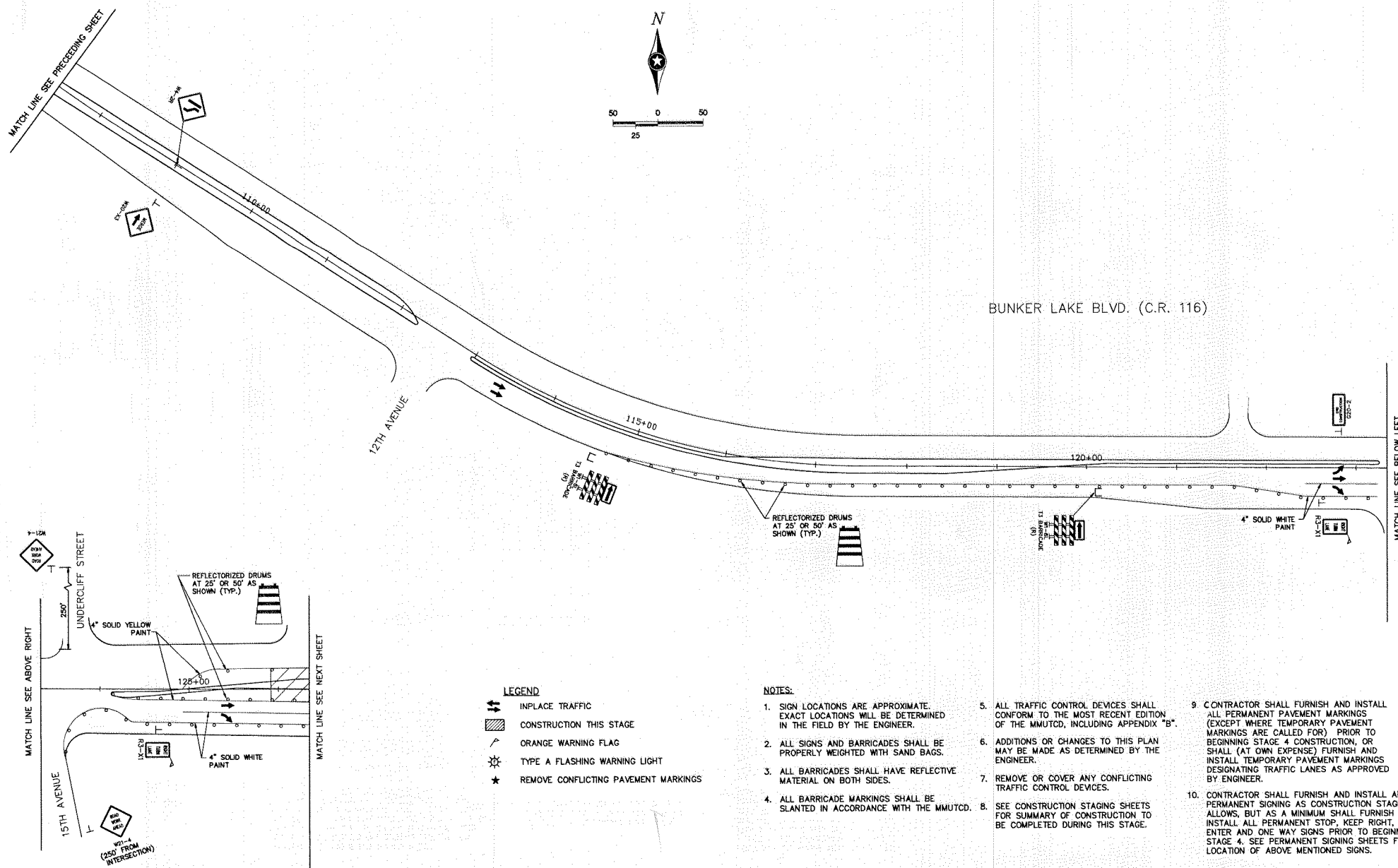
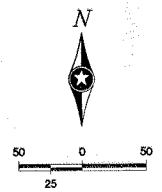


ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10, S.A.P. 02-616-03,
 C.P. 93-12-116

TRAFFIC CONTROL
 STAGE 4

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

BASE OVERLAY (S.S. 102)



BUNKER LAKE BLVD. (C.R. 116)

12TH AVENUE

UNDERCLIFF STREET

15TH AVENUE

LEGEND

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

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4-1-1993 7:45 PM

93145/14/ST04

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. 20843

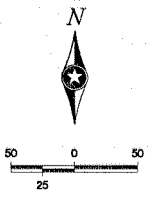
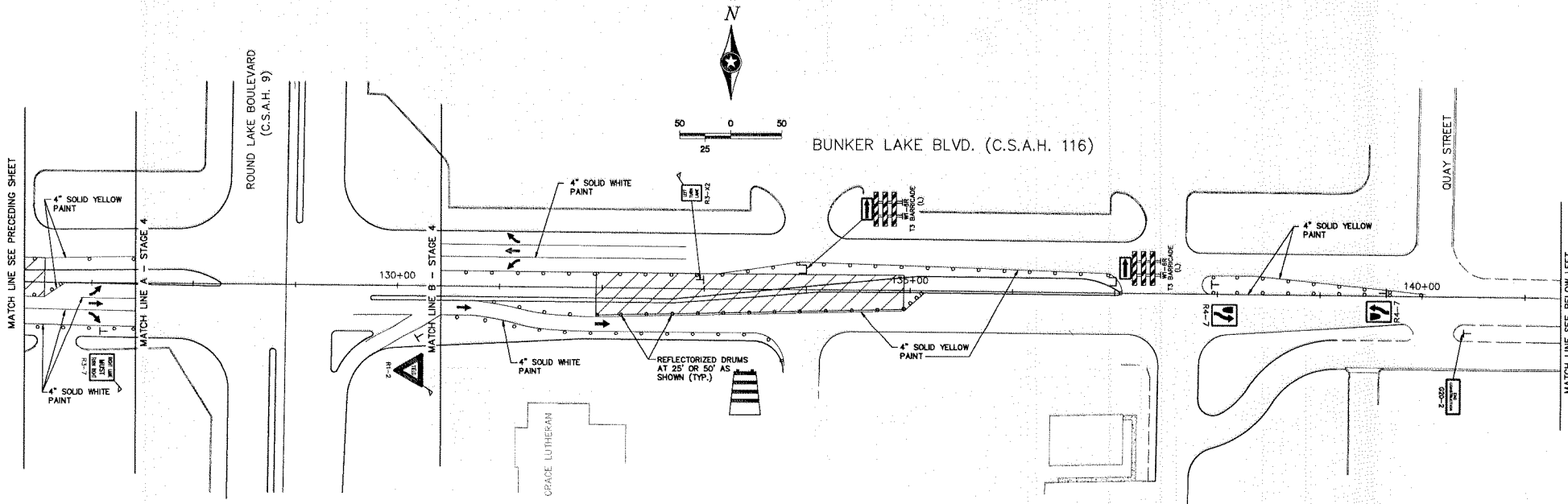


ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10, S.A.P. 02-616-03,
 C.P. 93-12-116

TRAFFIC CONTROL
 STAGE 4

FILE NO.	132
DATE	4/2/93
	133

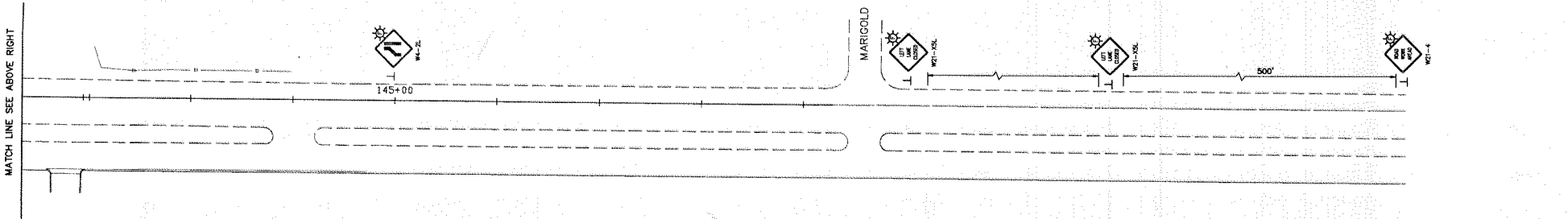
NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED



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

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BUNKER LAKE BLVD. (C.S.A.H. 116)



04-06-93 3.35 pm

7440/20/40/93/45/31457004

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. 93145	133
DATE 4/2/93	133