

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

MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

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

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

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2-4	STATEMENT OF ESTIMATED QUANTITIES
5-8	TABULATION CHARTS
9	EARTHWORK SUMMARY
10	CONSTRUCTION NOTES AND STANDARD DETAILS
11-12	FROST CONTROL DETAILS
13-15	TYPICAL SECTIONS
16-17	ALIGNMENT PLAN AND TABULATION
18-22	REMOVALS PLAN
23-29	PLAN AND PROFILE SHEETS
30	SUPERELEVATION DIAGRAM
31-43	DRAINAGE PLAN AND TABULATION
44	WETLANDS MITIGATION
45-65	TRAFFIC SIGNALS AND INTERCONNECT PLANS
69-75	SIGNING AND STRIPING PLANS AND TABULATION
76-99	CROSS-SECTION SHEETS
100-107	CONSTRUCTION STAGING PLANS
108-133	TRAFFIC CONTROL PLANS

PLAN SYMBOLS

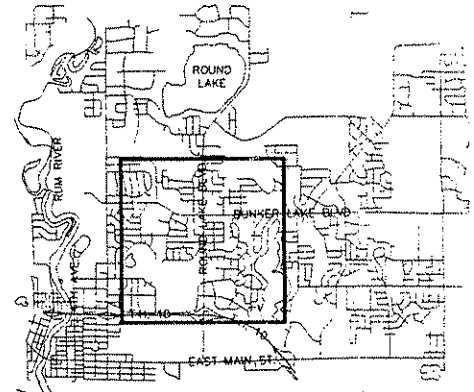
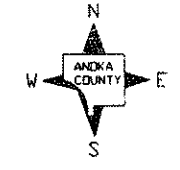
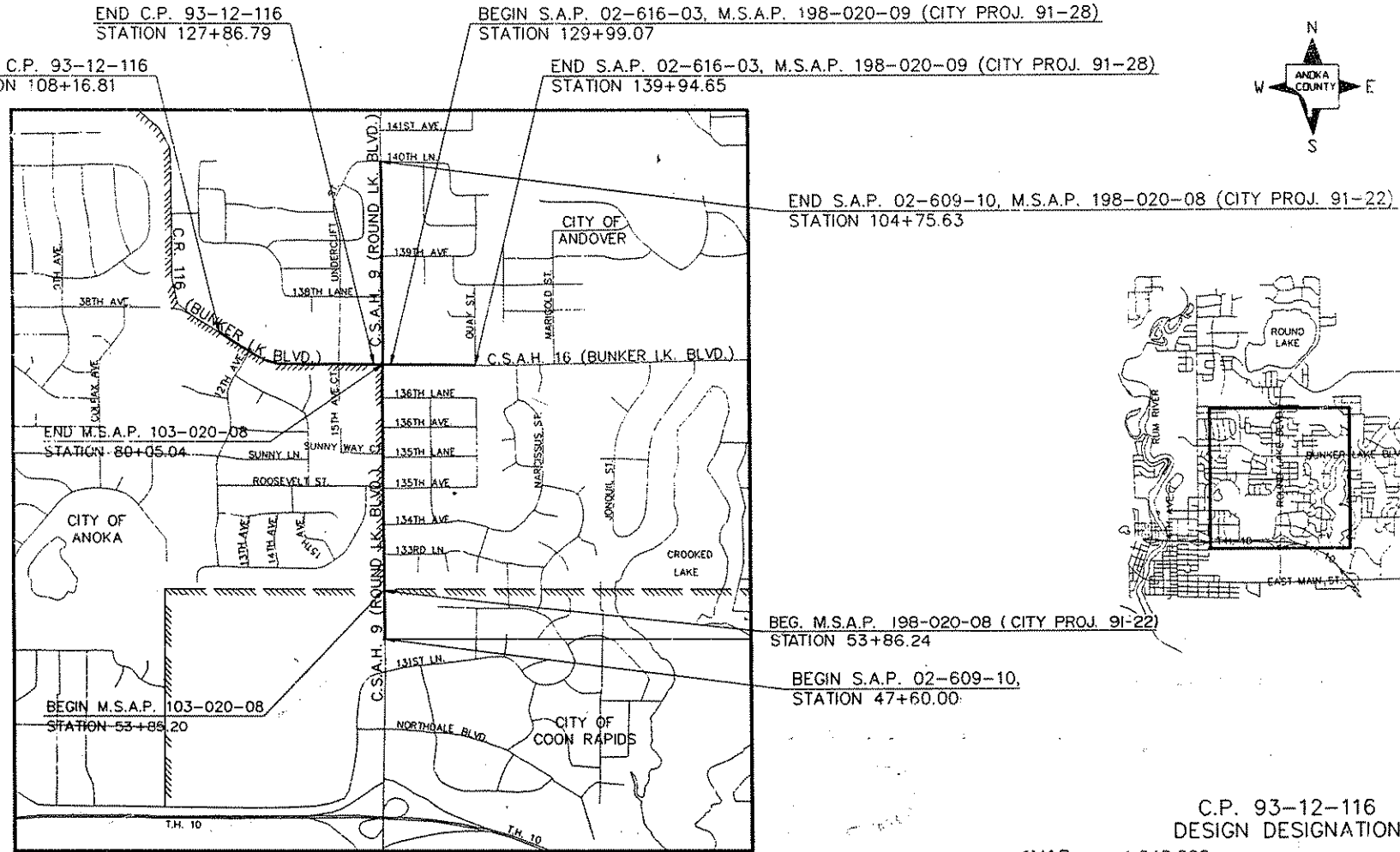
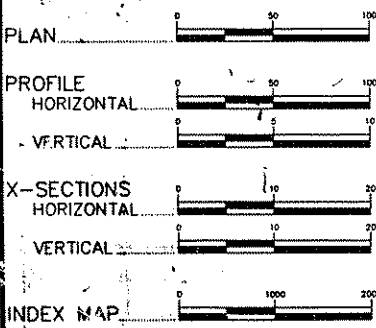
- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- RIGHT OF WAY LINE
- SLOPE EASEMENT
- PRESENT RIGHT OF WAY
- PROPERTY LINE
- CORPORATE OR CITY LIMITS
- RETAINING WALL
- RAILROAD
- RAILROAD RIGHT OF WAY
- RIVER OR CREEK
- DRAINAGE DITCH
- CULVERT
- DROP INLET
- GAIRD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

- LOWLAND
- TIMBER ORCHARD
- BRUSH
- MITTERS
- CATTLE GAIRD
- OVERPASS (Highway Over)
- OVERPASS (Highway Under)
- RAILROAD
- BUILDING (One Story Frame)
- FRAME C-CONCRETE
- STONE T-TILE
- BRICK STUCCO
- RAILROAD CROSSING BELL
- RAILROAD CROSSING GATE
- WHOLE
- CASTER BASIN
- LINE HYDRANT
- CAST IRON MONUMENT
- IRON PIN
- GRAVEL PIT
- SAND PIT
- BORROW PIT
- ROCK CARRY

UTILITY SYMBOLS

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

SCALES



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

S.A.P. 02-616-03 DESIGN DESIGNATION	S.A.P. 02-609-10 DESIGN DESIGNATION
EN18 ₂₀ 1,848,000	EN18 ₂₀ 1,848,000
R VALUE 50	R VALUE 50
ADT (1993)= 10,400	ADT (1993)= 10,400
Proj. ADT (2013)= 17,600	Proj. ADT (2013)= 17,600
Proj. HCA DT (2013)= 1,300	Proj. HCA DT (2013)= 1,300
Soil Factor N/A	Soil Factor N/A
10 TON DESIGN	10 TON DESIGN
Shoulder Width 1.5'	Shoulder Width 1.5'
Functional Classification HIGH DENSITY ARTERIAL	Functional Classification HIGH DENSITY ARTERIAL
No. of Traffic Lanes 4 No. of Parking Lanes 0	No. of Traffic Lanes 4 No. of Parking Lanes 0
Design Speed 45 MPH	Design Speed 45 MPH
Based on Stopping Sight Distance	Based on Stopping Sight Distance
Height of eye 3.5' Height of object 0.5'	Height of eye 3.5' Height of object 0.5'
Design Speed not achieved at: N/A	Design Speed not achieved at: N/A

C.P. 93-12-116
DESIGN DESIGNATION

EN18 ₂₀ 1,848,000
R VALUE 50
ADT (1993)= 10,400
Proj. ADT (2013)= 17,600
Proj. HCA DT (2013)= 1,300
Soil Factor N/A
10 TON DESIGN
Shoulder Width 1.5'
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

THIS PLAN CONTAINS 133 SHEETS

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

DATE 4/2/93 REG. NO. 20235 ENGR *David R. Timmer*
DESIGN SQUAD M. GABRICK

Recommended for Approval *Michael R. Kelly* 4/26/1993
Recommended for Approval *James Heath* 4/26/1993
Recommended for Approval *Jan S. Olson* 4/26/1993
Approved 4/26/1993 *David R. Timmer*
Approved 5/11/1993 *John H. Olson*
Approved 5/10/1993 *John H. Olson*
Approved 5/10/1993 *John H. Olson*
Approved 5/12/1993 *John H. Olson*
Recommended for Approval *John H. Olson* 5/12/1993
Recommended for Approval *John H. Olson* 5/25/1993
Approved 5/25/1993 *John H. Olson*

STATEMENT OF ESTIMATED QUANTITIES

CHART NO.	NOTE	ITEM NO.	ITEM	UNIT	ANOKA COUNTY						CITY OF ANDOVER						CITY OF ANOKA				CITY OF COON RAPIDS				STORM SEWER (1)		TOTALS			
					SAP 02-609-10		SAP 02-616-03		CP 93-12-116		MSAP 198-020-08		MSAP 198-020-09		NON-PARTICIPATING		MSAP 103-020-08		NON-PARTICIPATING		NON-PARTICIPATING		EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
					EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL		
M		2575.501	SEEDING	ACRE	1.33	0.15	1.76																			3.24				
M		2575.502	SEED MIXTURE 700	PDLND	46.5	5.2	33.2																			84.9				
M		2575.505	SEED MIXTURE SPECIAL	PDLND			13.0																			13.0				
M		2575.505	SODDING TYPE LAWN & BOULEVARD	SQ YD	18852	5927	2293																			27072				
		2575.511	MULCH MATERIAL TYPE 1	TON	2.7	0.3	1.9																			4.9				
		2575.519	DISK ANCHORING	ACRE	1.33	0.15	0.95																			2.43				
		2575.531	COMMERCIAL FERT. ANALYSIS 10-10-10	TON	1.3	0.3	0.4																			2.0				
	(2)	2580.501	TEMPORARY LANE MARKING	RD STA	170	20	40																			230				
S 108		2581.501	REMOVABLE PREFORMED PLASTIC MARKING	LIN FT	14055	5860	12630																			32545				

NOTES:

- (1) STORM SEWER COST PARTICIPATION TO BE BASED ON STATE AID HYDRAULICS LETTER.
- (2) FOR APPLICATION ON BITUMINOUS WEAR COURSE PRIOR TO PLACEMENT OF PERMANENT LANE MARKINGS.

THE FOLLOWING STANDARD PLATES AS APPROVED BY THE FHWA SHALL APPLY ON THIS PROJECT.

PLATE NO.	DESCRIPTION
0005 A	SPECIFICATION REFERENCE TO STANDARD PLATES
3000 L	REINFORCED CONCRETE PIPE
3006 F	GASKET JOINT FOR R.C. PIPE
3040 F	CORRUGATED METAL PIPE CULVERT
3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3123 I	METAL APRON FOR C.S. PIPE
3124 B	METAL APRON CONNECTION
3133 B	RIPRAP AT RCP OUTLETS
3145 E	CONCRETE PIPE TIES
3221 C	CORRUGATED STEEL PIPE COUPLING BAND
4000 I	MANHOLE OR CATCH BASIN (DESIGN A)
4002 E	MANHOLE OR CATCH BASIN (DESIGN C)
4005 K	MANHOLE OR CATCH BASIN (DESIGN F)
4006 K	MANHOLE OR CATCH BASIN (DESIGN H)
4006 K	MANHOLE OR CATCH BASIN (DESIGN G)
4010 G	CONCRETE SHORT CONE & ADJUSTING RING
4011 D	PRECAST CONCRETE BASE
4101 C	RING CASTING FOR MANHOLE OR CATCH BASIN
4020 E	MANHOLE OR CATCH BASIN
4110 F	COVER CASTING FOR MANHOLE
4126 F	CATCH BASIN FRAME CASTING
4149 C	GRATE CASTING FOR CATCH BASIN
4161 F	CURB BOX CASTING FOR CATCH BASIN
4180 H	MANHOLE OR CATCH BASIN STEP
7035 J	CONCRETE WALK & CURB RETURNS AT ENTRANCES
7036 D	PEDESTRIAN CURB RAMP
7065 C	BITUMINOUS CURB
7100 F	CONCRETE CURB AND GUTTERS (DESIGN B)
7110 E	CURB AND GUTTER CONSTRUCTION AT CATCH BASIN
7111 G	INSTAL. & REINFORCEMENT OF CATCH BASIN CASTINGS
8000 I	STANDARD BARRICADES
9102 D	SODDING AT PIPE CULVERT ENDS

CHART	SHEET NO.	DESCRIPTION
A	5	CLEARING & GRUBBING
B	5	BITUMINOUS REMOVAL
C	5	SAW BITUMINOUS PAVEMENT
D	5	FENCE CONSTRUCTION
E	6	CONCRETE REMOVALS
F	6	PRIVATE UTILITIES
G	6	HYDRANT & VALVE MODIFICATIONS
H	7	CONCRETE CURB AND GUTTER
I	7	CONCRETE SIDEWALK
J	7	BITUMINOUS CURB AND SIDEWALK
K	7	DRIVEWAY CONSTRUCTION
L	8	CULVERT TABULATION
M	8	TURF ESTABLISHMENT
N	17	ALIGNMENT TABULATION
O	31-33	DRAINAGE TABULATION
P	31	DRAINAGE CASTING SCHEDULE
Q	8	SANITARY SEWER MODIFICATIONS
	69	PERMANENT SIGNING
	69	RELOCATE SIGNS
	108	TRAFFIC DEVICES

- BASIS OF PLANNED QUANTITIES
- 2340 TYPE 31 AND 41 BITUMINOUS COURSE MIXTURE 110LBS/SQ YD/1 IN. THICKNESS
 - 2357 BITUMINOUS MAT'L FOR TACK COAT: 0.05 GALS/SQ YD/ LIFT APPLIED
 - 2575 MULCH MAT'L: 2 TONS PER ACRE
 - 2575 COMMERCIAL FERTILIZER: ANALYSIS 10-10-10 500LBS/ACRE ON ALL SEED AND SOD AREAS
 - 2575 ROADSIDE SEEDING: BASED ON HORIZONTAL MEASURE +10%.
 - 2575 SEED MIXTURE NO. 700: 35LBS/ACRE
 - 2575 SEED MIXTURE SPECIAL: 16LBS/ACRE

STATEMENT OF ESTIMATED QUANTITIES

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. LSB		1,738	INCLUDES STREET APPR.
47+61 - 57+05	LT. LNB		1,821	MEDIAN
57+77 - 61+02	26' RT. LNB		451	INCLUDES STREET APPR.
58+08 - 64+90	LT. LNB		1,384	MEDIAN
61+32 - 65+33	26' RT. LNB		509	INCLUDES STREET APPR.
65+64 - 69+10	26' LT. LSB		410	INCLUDES STREET APPR.
65+65 - 69+14	26' RT. LNB		484	INCLUDES STREET APPR.
65+95 - 68+02	LT. LNB		422	MEDIAN
69+46 - 72+75	26' RT. LNB		421	INCLUDES STREET APPR.
69+50 - 72+67	26' LT. LSB		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. LSB		532	INCLUDES ENT.
73+50 - 79+68	LT. LNB		1,267	MEDIAN
76+67 - 79+74	26' RT. LNB		350	INCLUDES STREET APPR.
78+00 - 79+79	26' LT. LSB		226	INCLUDES STREET APPR.
79+52 - 79+85	RT. LNB		138	MEDIAN
80+86 - 82+60	26' LT. LSB		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. LSB		939	INCLUDES SERVICE RD.
84+22 - 88+30	26' RT. LNB		463	INCLUDES ENT.
86+57 - 88+30	52' RT. LNB	188		SEE PLAN & PROF. SH.
88+67 - 93+06	14' - 24' LT. LSB		916	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. LSB		380	INCLUDES STREET APPR.
91+24 - 93+36	26' RT. LNB		276	INCLUDES STREET APPR.
93+72 - 96+77	26' RT. LNB		355	INCLUDES STREET APPR.
94+02 - 96+77	LT. LNB		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		313	INCLUDES STREET APPR.
123+88 - 126+10	26' LT. LWB		251	INCLUDES STREET APPR.
124+15 - 128+26	LT. LEB		838	MEDIAN
126+44 - 127+88	26' LT. LWB		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. LWB		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. LWB		345	INCLUDES ENT.
137+70 - 139+95	26' LT. LWB		248	INCLUDES STREET APPR.
PROPOSED CITY STREET (AND/OVER)				
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 (I)				
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		
60+93	36' - 41' RT. LNB			64
61+42	36' - 41' RT. LNB			64
61+49 - 65+02	36' - 41' RT. LNB	1,767		
65+12	36' - 41' RT. LNB			64
65+18	35' - 40' LT. LSB			64
65+79	35' - 40' LT. LSB			64
65+85	36' - 41' RT. LNB			64
65+95 - 68+99	36' - 41' RT. LNB	1,519		
69+00	35' - 40' LT. LSB			64
69+06	36' - 41' RT. LNB			64
69+54	36' - 41' RT. LNB			64
69+59	35' - 40' LT. LSB			64
69+61 - 72+59	36' - 41' RT. LNB	1,487		
69+66 - 72+51	35' - 40' LT. LSB	1,424		
72+58	35' - 40' LT. LSB			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		
75+50 - 75+67	36' - 41' RT. LNB		85	
75+67 - 76+20	36' - 41' RT. LNB	263		
76+26	36' - 41' RT. LNB			64
76+76	36' - 41' RT. LNB			64
76+83 - 79+54	36' - 41' RT. LNB	1,352		
79+58	35' - 40' LT. LSB			64
79+63	35' - 40' LT. LSB			64
79+67	16' RT. LNB			64
79+70	24' RT. LNB			64
79+90	36' RT. LNB			64
81+01	35' - 40' LT. LSB			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		
137+34	36' - 41' RT. LEB			64
	TOTALS	15,498	181	1,728

BITUMINOUS CURB AND WALK (J)				
STATION - STATION	LOCATION	BIT. CURB LIN.FT.	BIT. WALK SQ.YD.	REMARKS
C.S.A.H. NO. 9				
65+89 - 68+94	35' - 40' LT. LSB		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/LOC.	ADDRESS	REMARKS	EXIST. WIDTH	REMOVE		CONC. PAVEMENT DRIVEWAY SQ.YD.		BIT. PAVEMENT DRIVEWAY SQ.YD.		AGGREGATE ENTRANCE		
				CONC. SQ.YD.	BIT. SQ.YD.	WIDTH	REPLMT. NEW	WIDTH	REPLMT. NEW	WIDTH	CU.YD.	
C.S.A.H. 9												
54+00 LT	13308	RESIDENTIAL ENT.	20		59						16	4
55+47 RT	13311	RESIDENTIAL ENT.	17		45					16	18	
57+53 LT		SAND	11									
62+94 RT	13421/13427	RESIDENTIAL ENT.	19	140	99							
63+64 RT	13433	RESIDENTIAL ENT.	11		45						13	
66+16 LT	13511	RESIDENTIAL	8		32					17	19	
75+58 RT	13625	RESIDENTIAL ENT.	17		38					13	25	
84+89 LT	13748	RESIDENTIAL ENT.	12		24					32	46	
85+83 LT	13752	RESIDENTIAL ENT.	32		70					21	20	
86+86 LT	13758	RESIDENTIAL ENT.	20		38					20	19	
87+96 LT	13808	RESIDENTIAL ENT.	19		29					19	21	
89+09 LT	13828	RESIDENTIAL ENT.	17		23	19	19			18	15	
90+28 LT	13836	RESIDENTIAL ENT.	19		21					19	23	
91+76 LT	13844	RESIDENTIAL ENT.	20		22					19	22	
92+44 LT	13852	RESIDENTIAL ENT.	19		24							
CTY 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	LOC.	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 LSB	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-51' R LWB	61' CMP		61	40	2	
121+70	22' LT LWB	45' 15" CMP	RELOCATE 32' LT LWB	45			
123+68	24' LT LWB	61' 15" CMP		61			
126+27	18' LT LWB	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	SOD SQ. YDS.	ROADSIDE SEEDING ACRES	SEED MIXTURE 700 POUNDS	SEEDING WETLAND ACRES	SEED MIXTURE SPECIAL POUNDS
C.S.A.H. NO. 9						
47+61 - 79+74	RT. LNB	6.050	0.42	14.7		
48+38 - 79+79	LT. LSB	5.644	0.34	11.9		
80+88 - 101+25	RT. LNB	3.262	0.27	9.4		
80+86 - 104+75	LT. LSB	3.896	0.30	10.5		
C.R. NO. 116						
108+17 - 127+17	RT. LEB	1.473	0.44	15.4		
108+17 - 127+88	LT. LWB	820	0.51	17.8	0.81	13.0
MITIGATION SITE						
C.S.A.H. NO. 16						
129+99 - 139+85	RT. LEB	3.255	0.15	5.2		
129+97 - 139+95	LT. LWB	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 LSB	MANHOLE	U.S. WEST	873.45	875.29	1	
55+73	10' LT LSB	MANHOLE	U.S. WEST	873.45	875.33	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 LSB	MANHOLE	U.S. WEST	876.45	875.41	1	
69+29	47' RT LNB	MANHOLE	ANDOVER	FIELD VERIFY	875.01	1	
71+95	5' LT LSB	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 LSB	MANHOLE	ANDOVER	879.42	FIELD VERIFY	1	
85+51	8' RT LI	MANHOLE	ANDOVER	877.54	878.00	1	
88+53	1' RT LI	MANHOLE	ANDOVER	876.59	875.84	1	
91+00	C/L LI	MANHOLE	ANDOVER	876.50	876.51	1	
93+47	37' LT LSB	MANHOLE	ANDOVER	877.49	877.91	1	
93+55	46' RT LNB	MANHOLE	ANDOVER	NO CONST.			
104+90	60' RT LNB	MANHOLE	ANDOVER	NO CONST.			
104+91	35' LT LSB	MANHOLE	ANDOVER	NO CONST.			
109+68	31' RT LEB	MANHOLE	ANOKA	FIELD VERIFY	FIELD VERIFY	1	
112+52	32' RT LEB	MANHOLE	ANOKA	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)

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:	1,885 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.	[	TOPSOIL:	7,481 CU.YDS.
			REGULAR:	31,531 CU.YDS. (1)		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)

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.
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EMBANKMENT (CV):

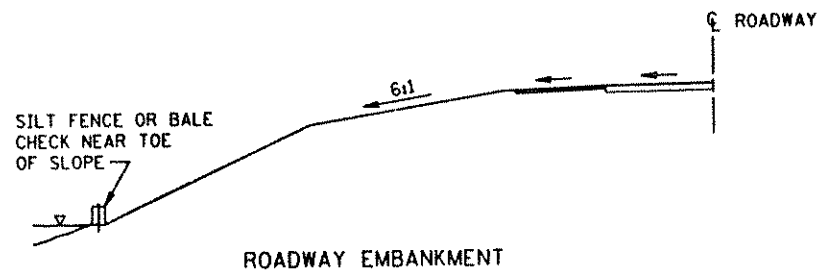
1.5' MUCK HOLDDOWN:	1,859 CU.YDS.
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BALANCE:

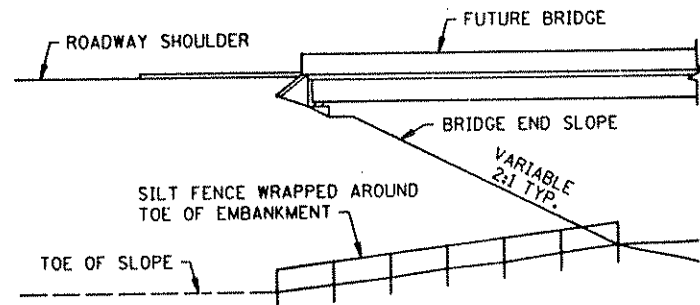
EXCESS GRADING MATERIAL:	3,748 C.Y. (EV)
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* SIGNIFIES PAY ITEM.
(1) INCLUDES 9,318 CU.YDS. PAVEMENT REMOVAL.
(2) TO BE APPLIED TO SLOPES OF C.R. 116 WITHIN RIGHT-OF-WAY LIMITS.

EARTHWORK SUMMARY

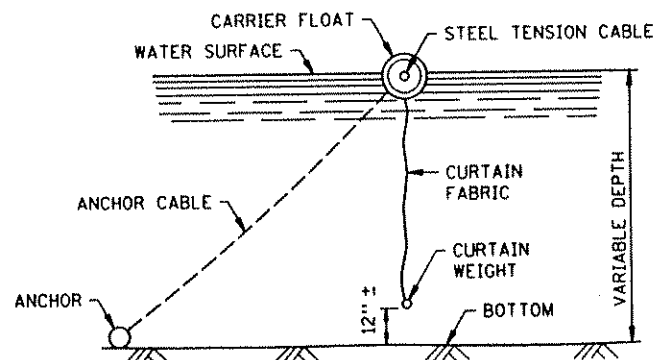


ROADWAY EMBANKMENT

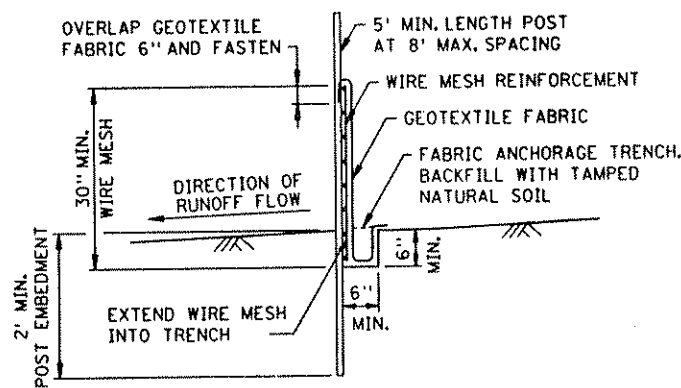


BRIDGE ABUTMENT

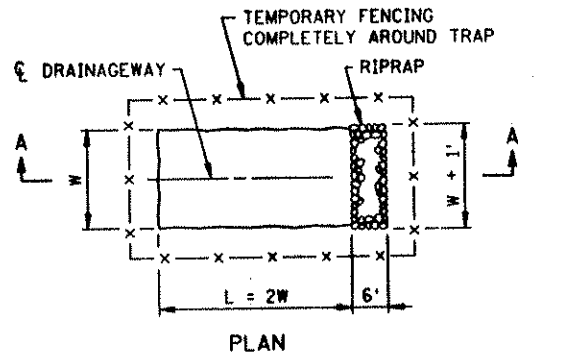
SILT FENCE OR BALE CHECK TO PROTECT ADJACENT CRITICAL AREAS



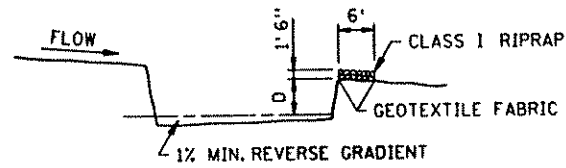
FLOATATION SILT CURTAIN



SILT FENCE DETAIL



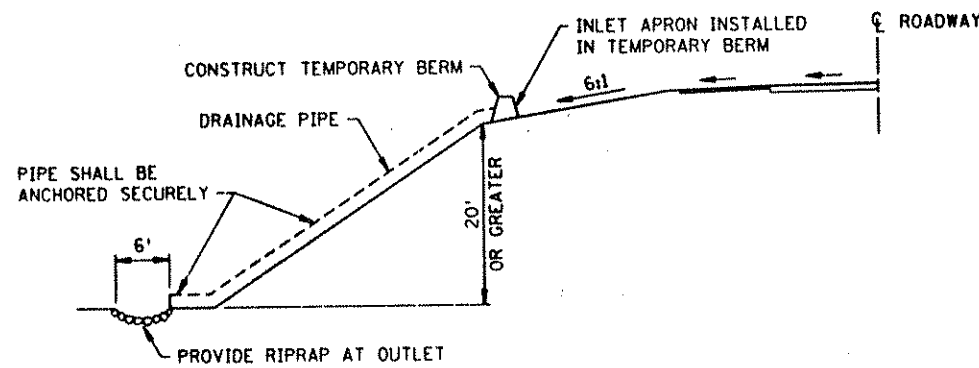
PLAN



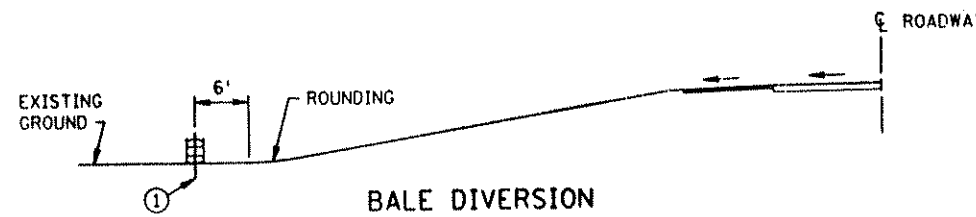
NOTE:
D = 3' MIN., 6' MAX.
W = 10' MIN., 20' MAX.

SECTION A-A

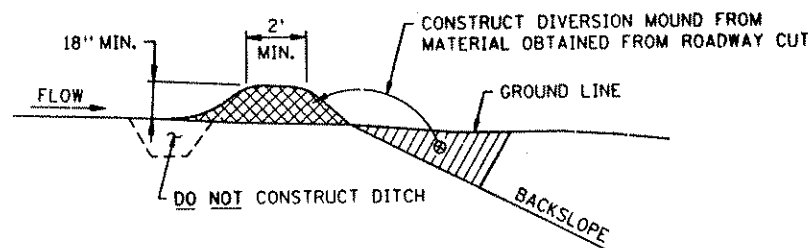
TEMPORARY SEDIMENT TRAP



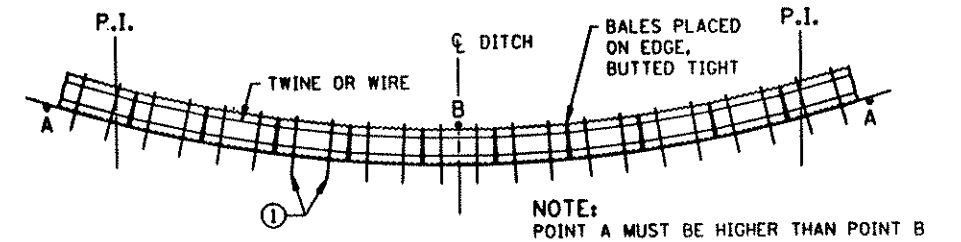
TEMPORARY DRAIN ON FILL SLOPE



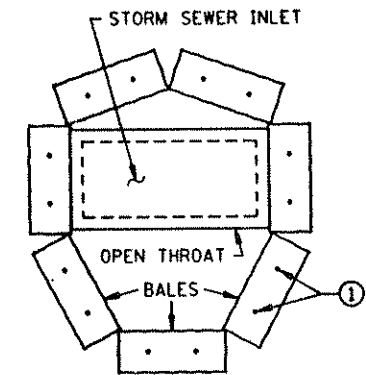
BALE DIVERSION



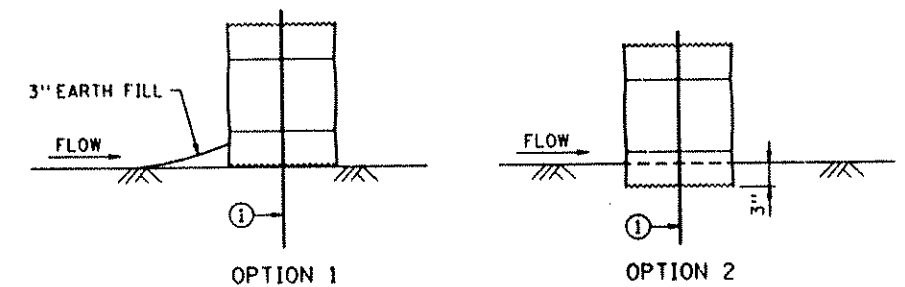
DIVERSION MOUND



BALE DITCH CHECK



BALE CHECK TO PROTECT STORM SEWER INLETS

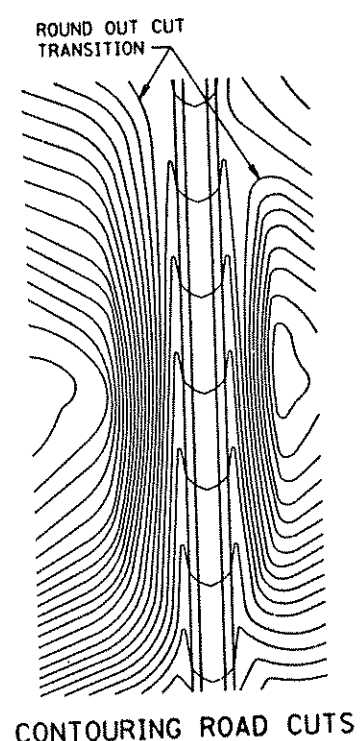


BALE CHECK DETAILS

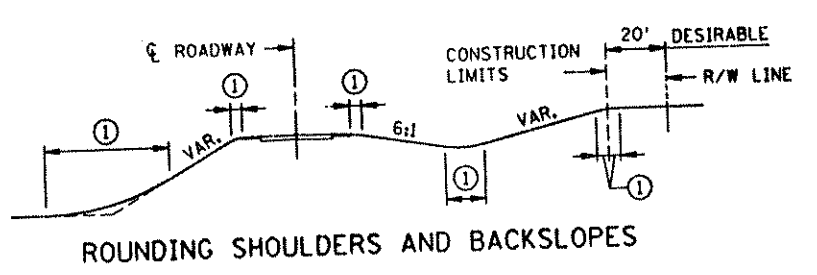
NOTE:
① TWO 2" X 2" WOOD STAKES OR REINFORCING BARS IN EACH BALE AND EMBEDDED IN THE GROUND 10" MINIMUM.

VAX780 Q5A43145.1001 FILE NAME S405L90.SPN

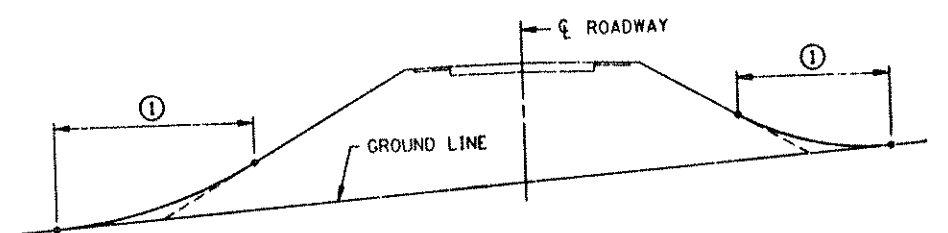
STANDARD SHEET NO. 5-297,405	TITLE: TEMPORARY EROSION CONTROL
STANDARD APPROVED: DECEMBER 19, 1990	
STATE PROJ. NO.S.A.P. 02-609-10 02-616-03 M.S.A.P. 103-020-08 198-020-08 198-020-09 C.P.93-12-116 SHEET NO. 11 OF 130 SHEETS	



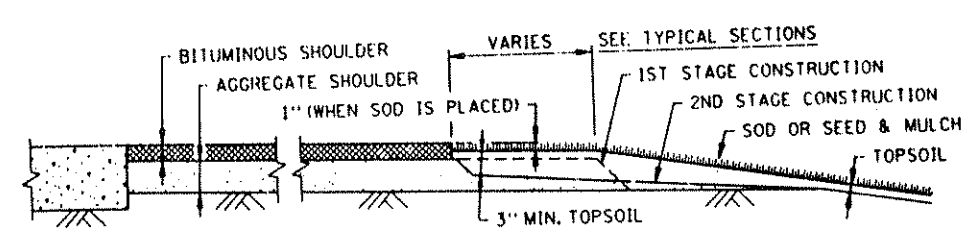
CONTOURING ROAD CUTS



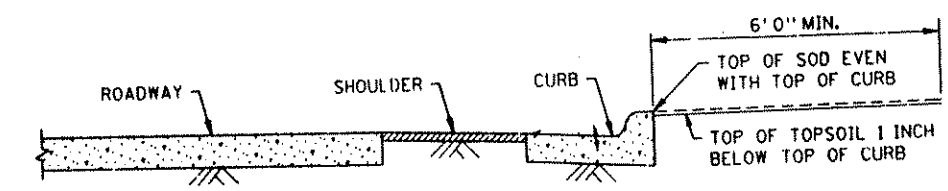
ROUNDING SHOULDERS AND BACKSLOPES



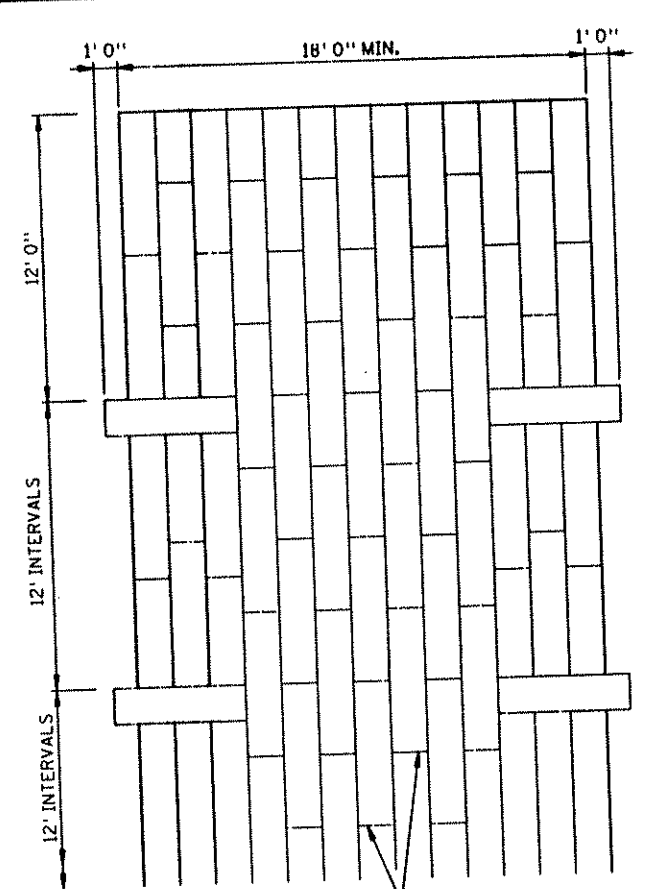
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



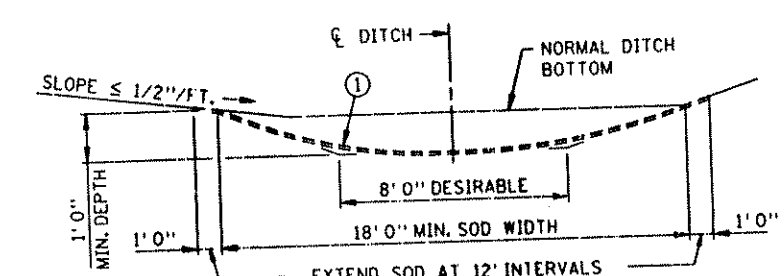
SHAPING AND TOPSOILING INSLOPES



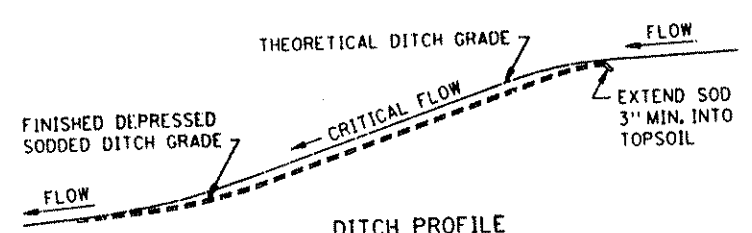
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



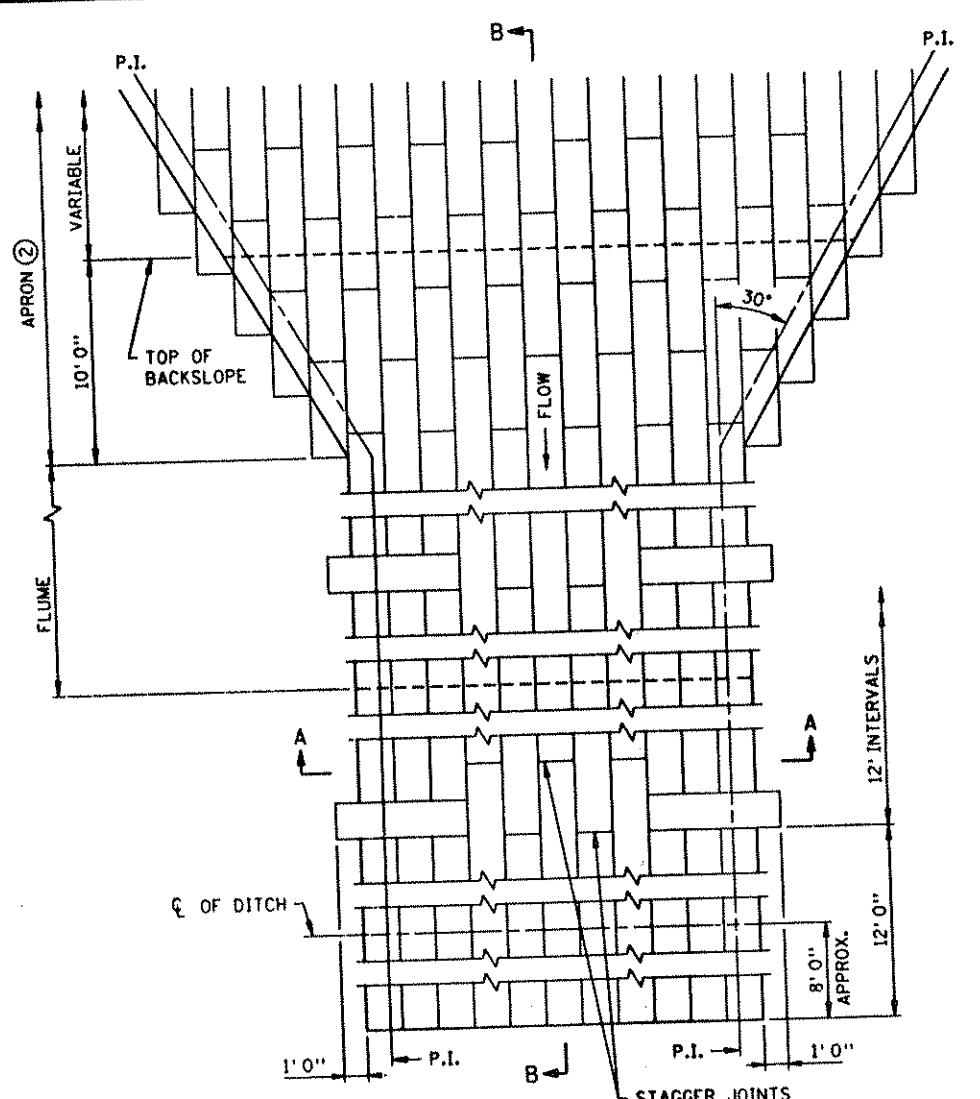
PLAN VIEW



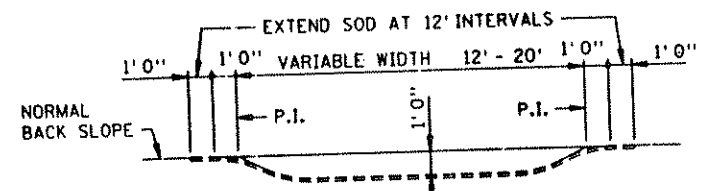
SODDED DITCH CROSS SECTION
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.).
FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



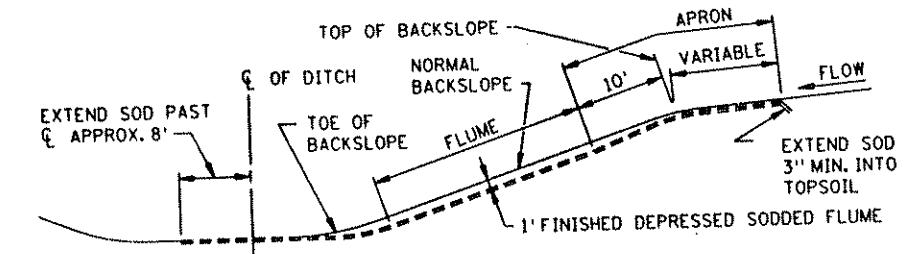
DITCH PROFILE
SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A



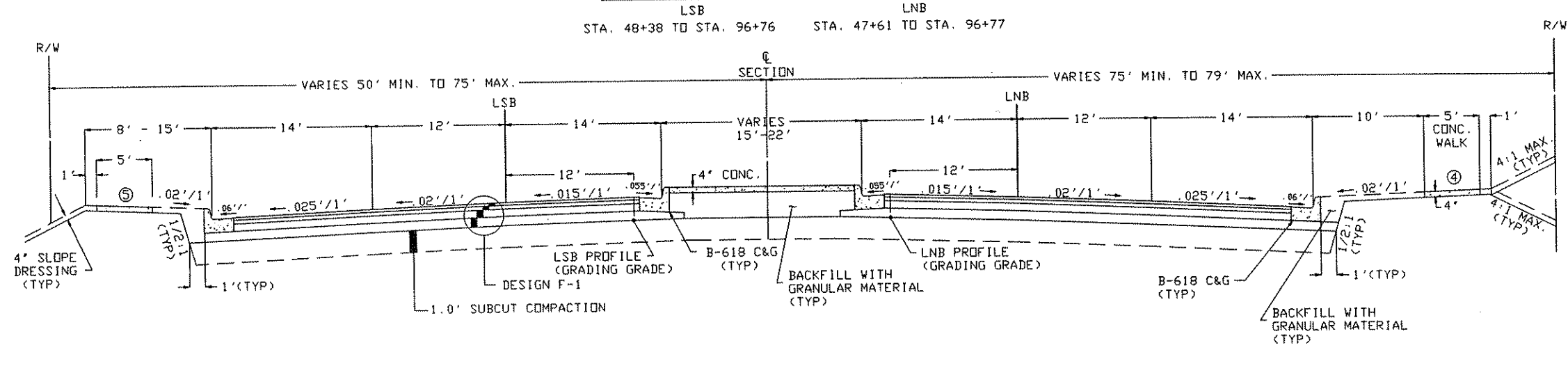
SECTION B-B
SODDED FLUME DETAILS

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

STANDARD SHEET NO. 5-297.404	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS, DITCHES AND FLUMES
STANDARD APPROVED DECEMBER 19, 1990	STATE PROJ. NO. S.A.P. 02-609-10 02-616-03 M.S.A.P. 103-020-08 198-020-08 C.P.93-12-116 SHEET NO. 12 OF 133 SHEETS

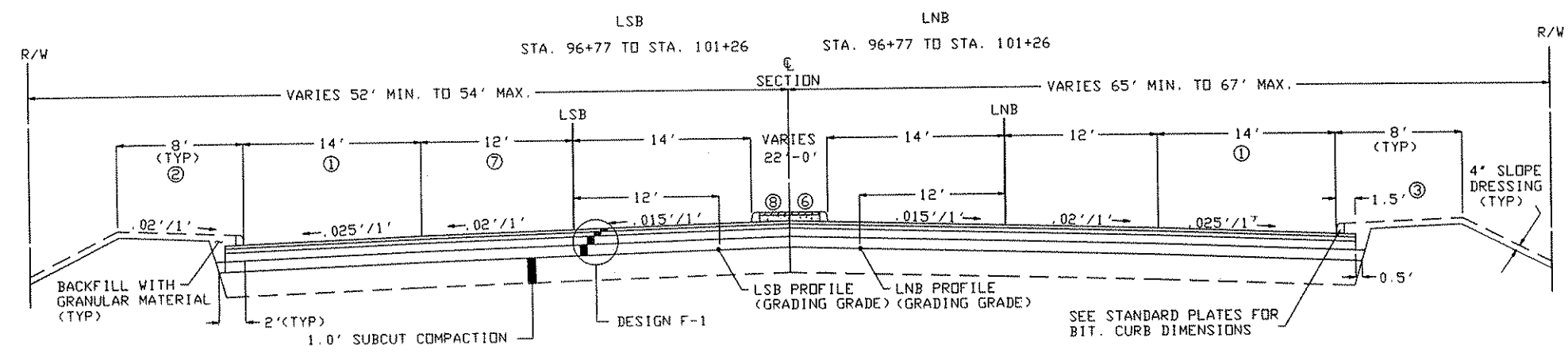
X780 Q5A33(45,100) FILE NAME S404L90.SPN

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

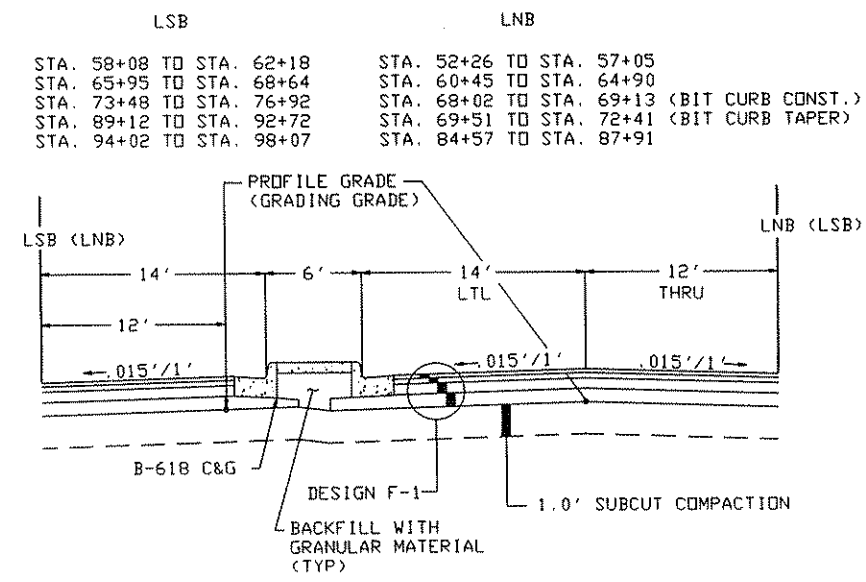


- NOTES
- END 14' .025'/1' SHOULDER LANE @ LNB STA. 101+15 RT. - LSB STA. 98+57 LT.
 - END BERM SECTION LSB STA. 100+00 LT.
 - NO HORIZONTAL STAGGERING OF LIFTS IN BERM AREAS
 - LNB STA. 53+88 TO STA. 79+58 RT
 - 4" CONCRETE WALK ON GRADE, LSB STA. 69+56 TO STA. 72+62 LT. 2" TYPE WEAR ON 3" AGG. BASE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

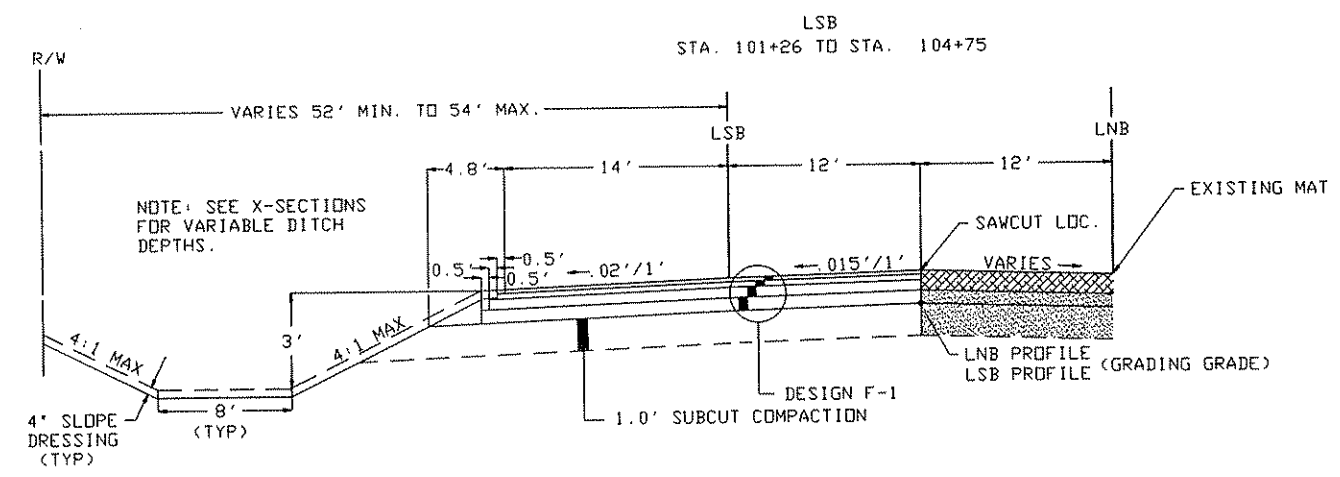
ROUND LAKE BLVD. (C.S.A.H. 9)-TRANSITION CONNECTION



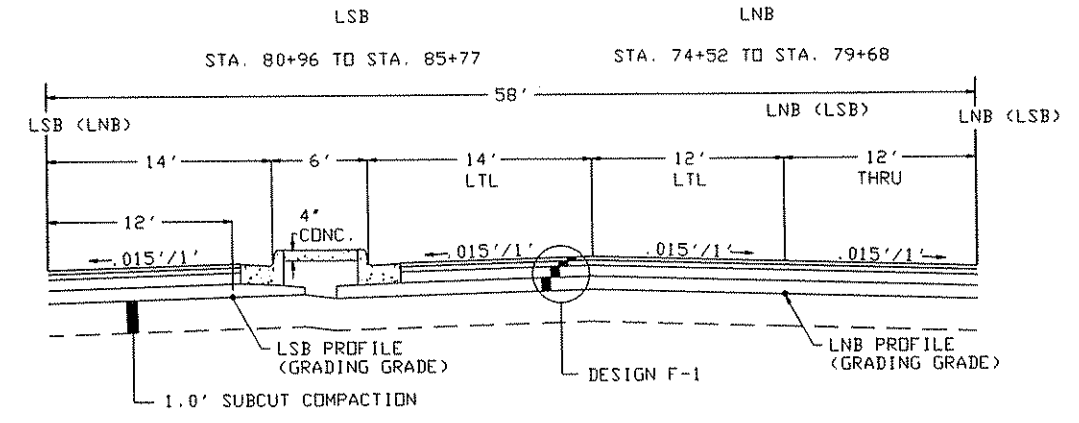
C.S.A.H. 9 - LEFT TURN LANES



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

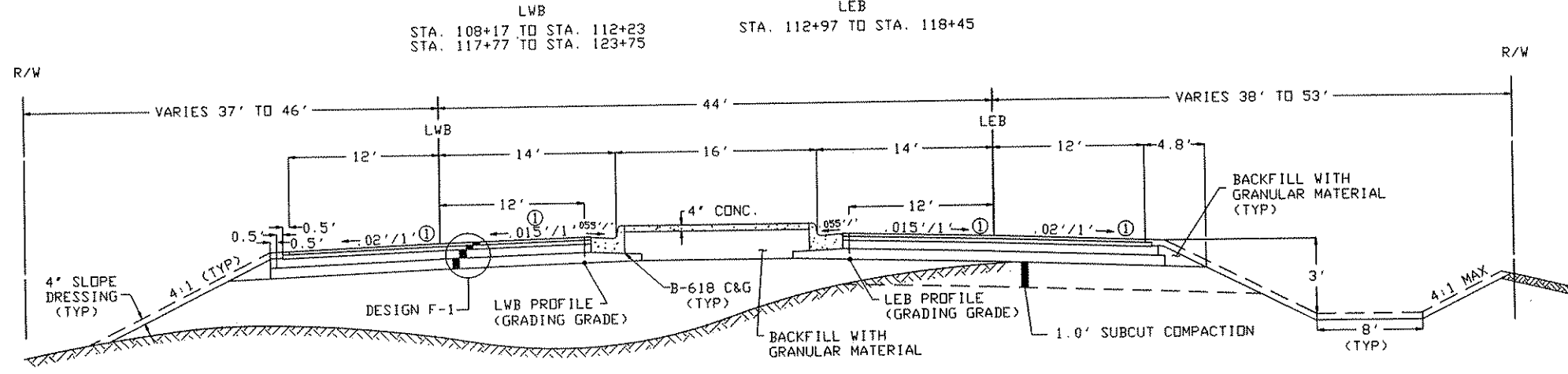


C.S.A.H. 9 - DOUBLE LEFT TURN LANES



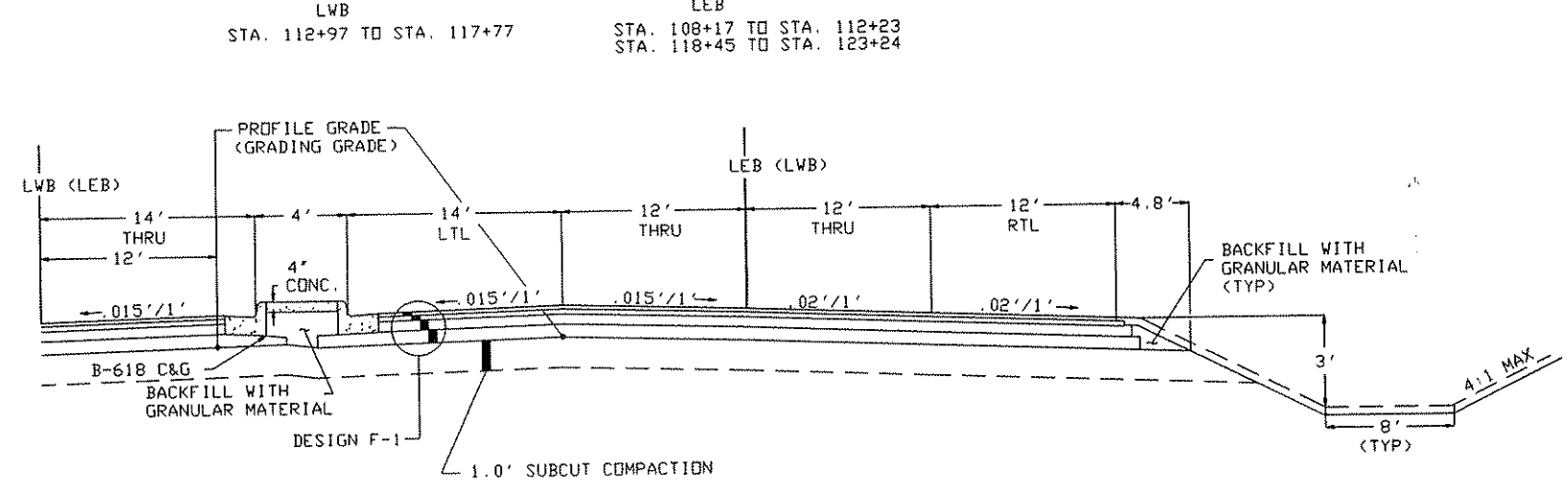
TYPICAL SECTIONS
C.S.A.H. 9

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

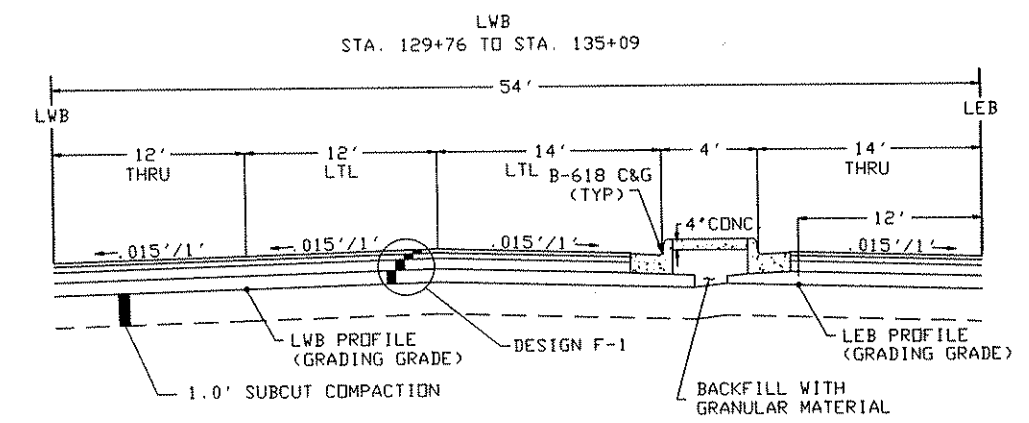


- ① SEE SUPER ELEVATION CHART FOR VAR. CROSS SLOPES & LOCATIONS
- ② TEMPORARY MEDIAN; CONSTRUCT BIT. CURB AND BACKFILL WITH TOPSOIL; SEED AND MULCH LWB STA 137+70 TO 139+90 LT., LEB STA 134+14 TO 137+40 RT.

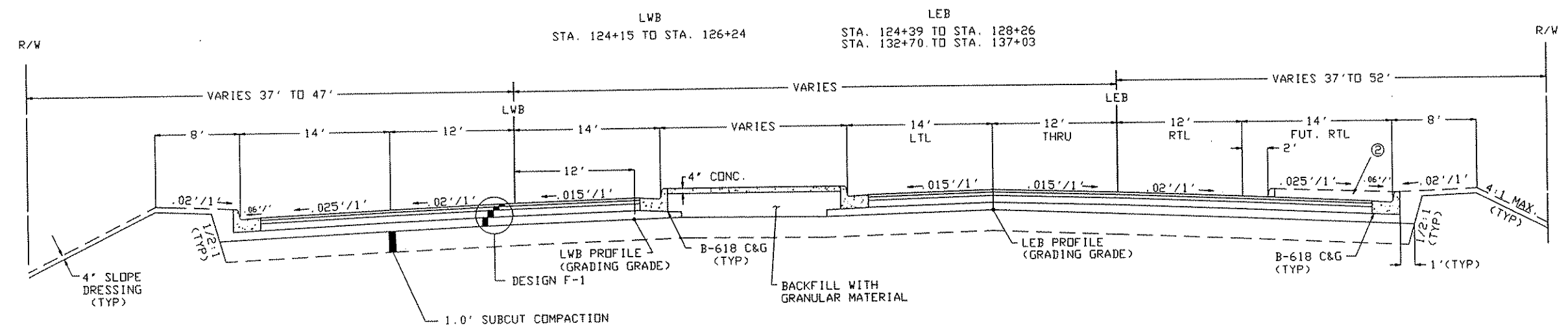
C.R. 116 - LEFT & RIGHT TURN LANES



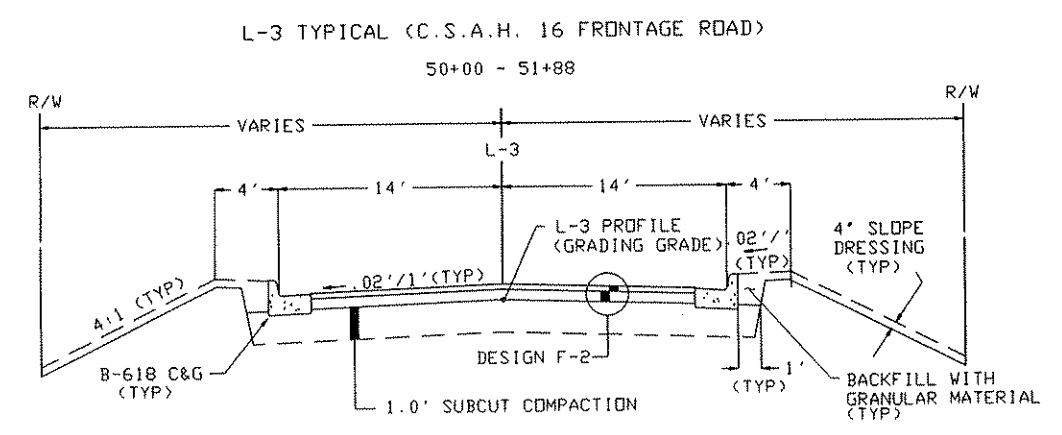
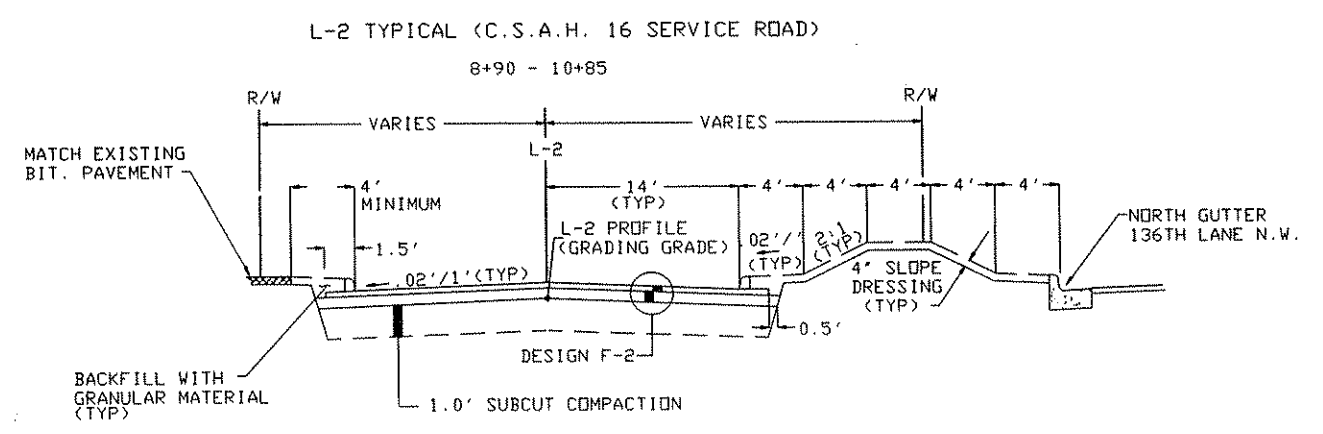
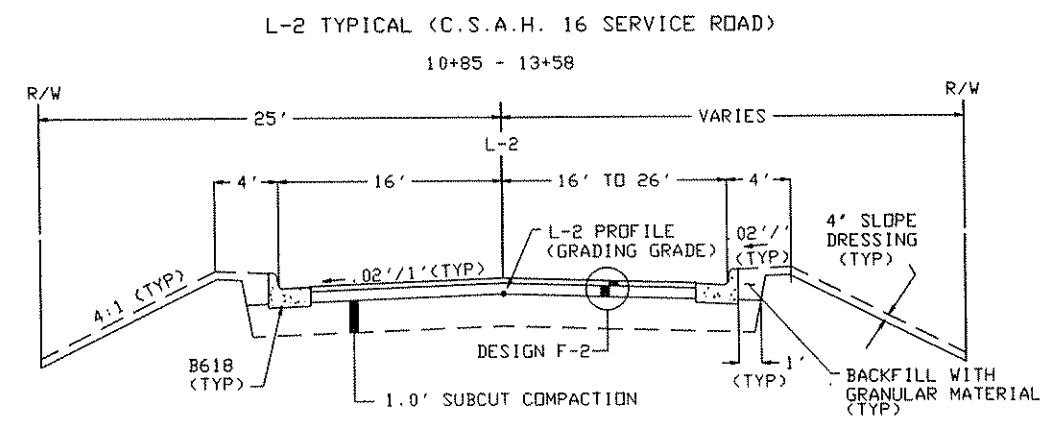
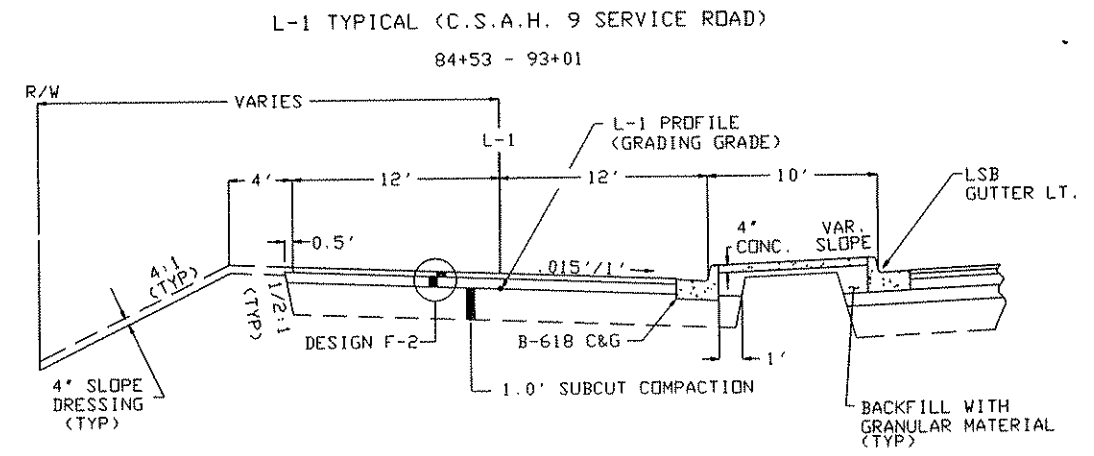
C.S.A.H. 16 - DOUBLE LEFT TURN LANES



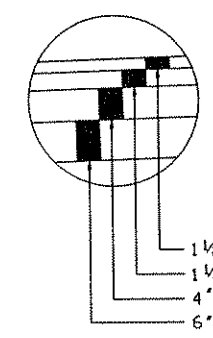
BUNKER LAKE BLVD. (C.R.116 & C.S.A.H. 16) - LEFT TURN LANES



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



DESIGN F-1

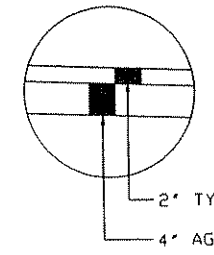


- 1 1/2" TYPE 41 WEARING COURSE-SPEC.2340
- 1 1/2" TYPE 31 BINDER COURSE-SPEC.2340
- 4" TYPE 31 BASE COURSE-SPEC.2340
- 6" AGG. BASE CL.-5A

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

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

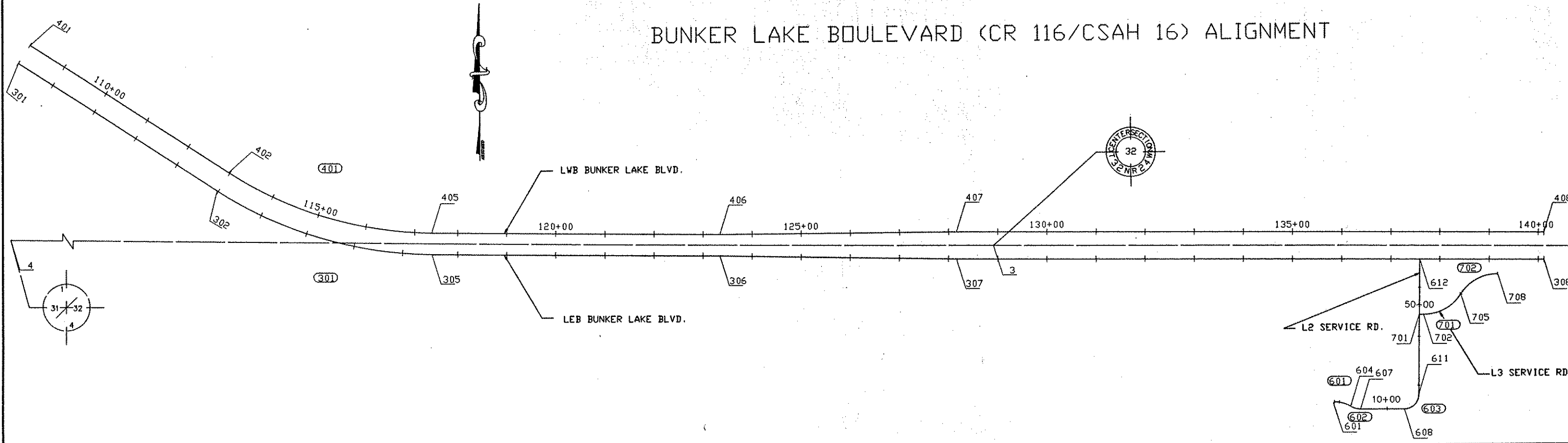
DESIGN F-2



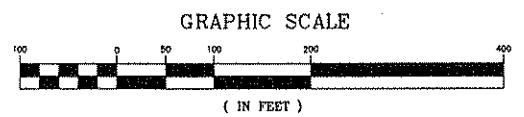
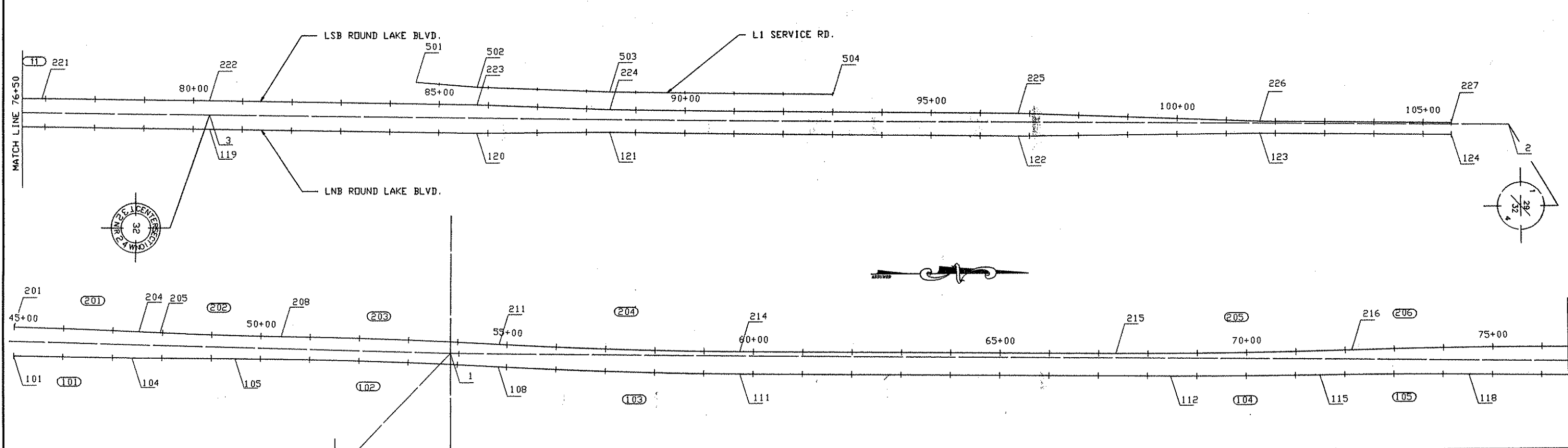
- 2" TYPE 41 WEARING COURSE-SPEC.2340
- 4" AGG. BASE CL.-5-A

TYPICAL SECTIONS SERVICE DRIVES DESIGN INSETS

BUNKER LAKE BOULEVARD (CR 116/CSAH 16) ALIGNMENT



ROUND LAKE BOULEVARD (CSAH 9) ALIGNMENT



ALIGNMENT PLAN

ALIGNMENT TABULATION

(N)

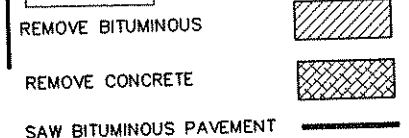
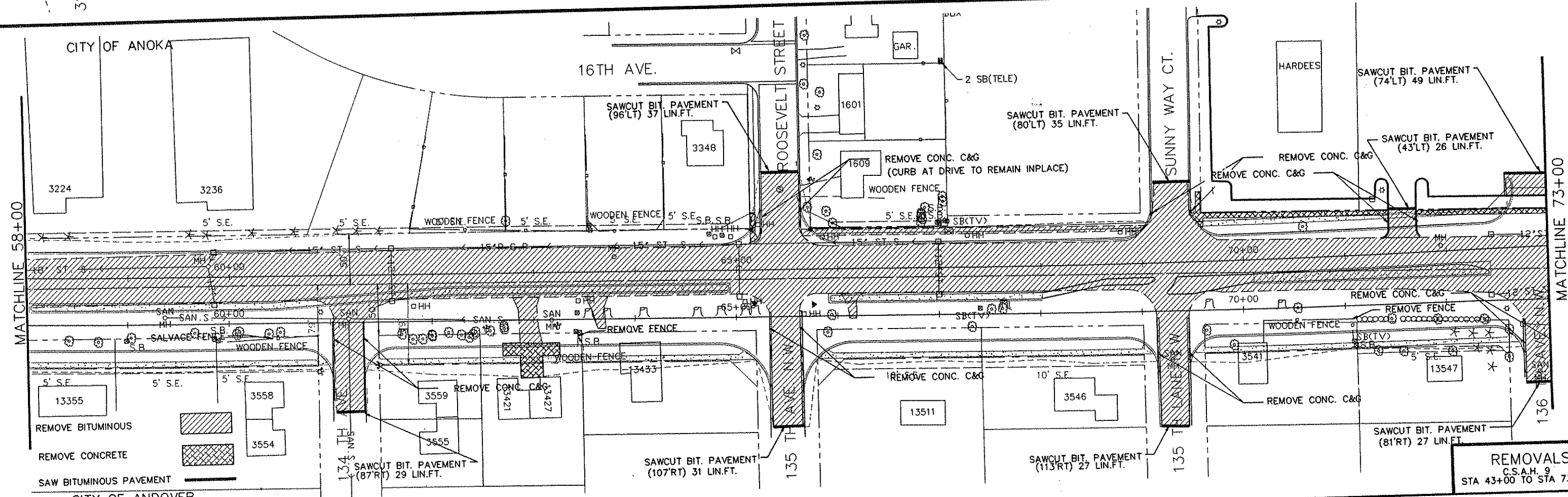
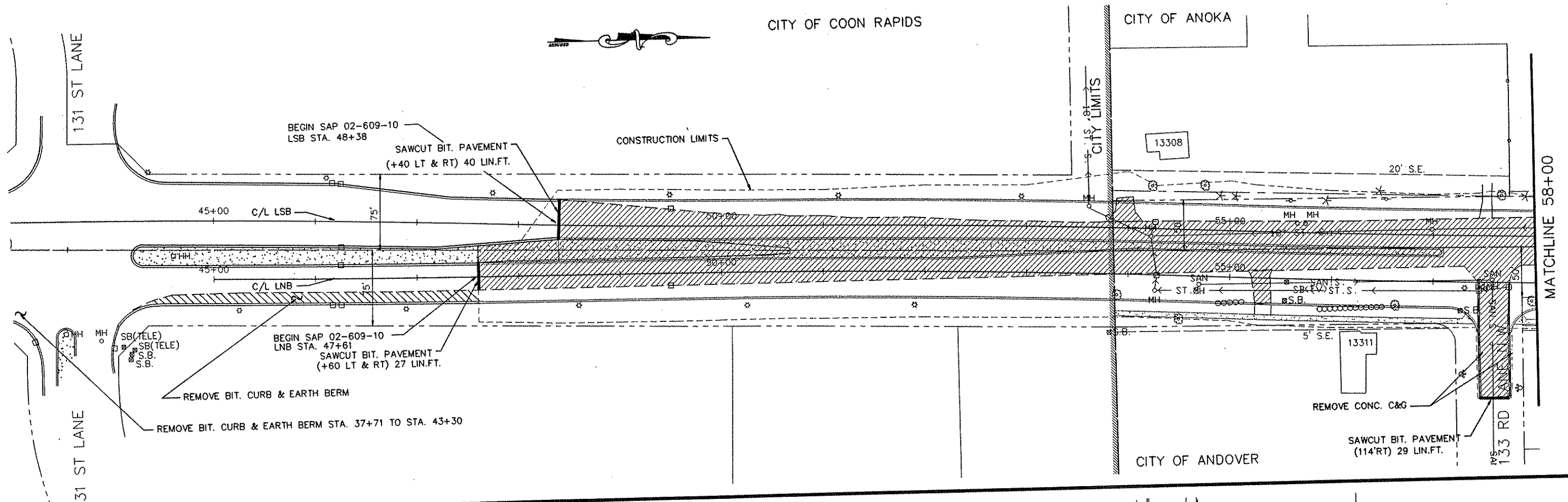
CURVE POINT NO.	POINT TYPE	LOCATION	CURVE DATA			COORDINATES		AZIMUTH		
			DELTA	DEGREE	RADIUS	TANGENT LENGTH	NORTH		EAST	
SECTION CORNERS										
1	2	S 1/4 SEC 32				5286.98	6383.4286	3777.9923	00° 42' 38"	
3	4	N 1/4 SEC 32					11670.004	3843.5484	00° 42' 38"	
5		CENTER SEC 32					9030.3136	2810.8150		
		E 1/4 SEC 32					9009.4665	6423.2907		
		W 1/4 SEC 32					9051.2808	1181.2732	90° 27' 25"	
NORTH BOUND ROUND LAKE BOULEVARD										
101	101	45+00 PC	01° 11' 49" LI	00° 30' 00"	11459.16	239.37	5497.3587	3782.3932	01° 41' 02"	
101	102	46+19.69 PI					5616.9948	3785.2101		
101	103	47+39.37 A PT 27.09' RT OF & PERP. TO N. - S. 1/4					5834.0775	-7671.8146		
101	104	49+48.31 LINE 646.24' S. OF N 1/4 SEC 5					5736.6783	3786.9274	00° 29' 13"	
102	105	52+15.69 PI	02° 40' 24" RT	00° 30' 00"	11459.16	534.68	5945.6101	3788.7034	00° 29' 13"	
102	106	54+82.98 RP					6212.2870	3790.9761		
102	107	57+28.01 PI					5848.2109	15247.4454		
102	108	59+72.97 PC					6479.9670	3805.2174	03° 09' 37"	
102	109	68+46.72 RP					6724.6240	3819.2261		
102	110	69+98.12 PI					7111.7230	-7636.0107	00° 42' 38"	
102	111	71+49.50 PC	02° 27' 00" LI	00° 30' 00"	11459.16	489.98	6962.6348	3822.2644		
102	112	73+00.90 PI					7843.3190	3833.0985	00° 42' 38"	
102	113	74+52.29 RP					7994.7086	3834.9758		
102	114	80+33.54 PI	01° 30' 50" LI	00° 30' 00"	11459.16	302.78	7985.4072	-7663.1266	359° 11' 48"	
102	115	85+76.81 PC					8146.0949	3832.8528		
102	116	88+46.88 RP	01° 30' 50" RT	00° 30' 00"	11459.16	302.78	8297.4811	3830.7297		
102	117	96+76.80 PI					8306.7825	15290.8821	00° 42' 38"	
102	118	101+67.88 PC	00° 10' 47" RT				8448.8707	3832.6070		
102	119	105+57.26 RP					9030.0823	3839.8143	00° 42' 38"	
102	120	108+46.88 PI	01° 16' 23" LI				9573.6324	3848.2612	00° 53' 25"	
102	121	117+47.11 PC	01° 16' 23" RT				9843.6931	3846.4373	359° 37' 02"	
102	122	123+34.33 RP	01° 05' 09" LI				829.57	10673.1639	00° 53' 25"	
102	123	128+16.14 PI	00° 59' 52" RT				491.32	11164.5494	3857.6706	359° 48' 16"
102	124	140+11.30 PC					389.08	11553.5867	3863.1183	00° 48' 08"
SOUTH BOUND ROUND LAKE BOULEVARD										
201	201	45+00 PC	01° 15' 35" RT	00° 30' 00"	11459.16	125.98	5498.9841	3724.1741	01° 32' 26"	
201	202	46+25.98 PI					5624.9216	3727.5612		
201	203	47+51.96 A PT 26.49' LI OF & PERP. TO N. - S. 1/4					5190.9006	15179.1878		
201	204	49+18.13 LINE 633.67' S. OF N 1/4 SEC 5					5750.7542	3783.7162	02° 48' 01"	
202	205	47+95.04 PC	01° 50' 46" LI	00° 45' 00"	7639.44	246.16	5793.7880	3735.8212	02° 48' 01"	
202	206	49+18.13 PI					5916.7316	3741.8350		
202	207	50+41.20 PC					6167.0238	-3894.4928		
202	208	52+61.84 RP	02° 12' 22" RT	00° 30' 00"	11459.16	441.23	6039.8051	3743.8848	00° 57' 15"	
202	209	54+82.44 PC					6261.3071	3747.5740		
202	210	57+27.47 RP					5848.3769	15201.4558		
202	211	59+72.42 PI	02° 27' 00" LI	00° 30' 00"	11459.16	245.03	6480.7282	3759.7235	03° 09' 37"	
202	212	67+34.83 PC					6756.1779	-7682.0088		
202	213	69+74.24 RP					6970.3913	3776.2702	00° 42' 38"	
202	214	72+13.59 PC					7722.7430	3785.7238	00° 42' 38"	
202	215	74+53.01 PI	02° 23' 38" LI	00° 30' 00"	11459.16	239.42	7972.1422	3788.6924		
202	216	76+92.36 RP					7874.8311	-7672.5513		
202	217	80+32.76 PC	02° 23' 38" RT	00° 30' 00"	11459.16	239.42	8211.4564	3781.6523	358° 19' 00"	
202	218	85+76.81 RP					8450.7707	15635.8698		
202	219	88+46.88 PC	02° 23' 38" RT	00° 30' 00"	11459.16	239.42	8548.0818	3777.5948	00° 42' 38"	
202	220	96+76.80 PI					8690.1699			
202	221	101+67.88 PC					9030.5448	3781.8156	00° 42' 38"	
202	222	105+56.95 RP	00° 10' 47" RT				9544.05	3790.2693	00° 53' 25"	
202	223	108+46.88 PI	01° 16' 23" RT				9707.9844	3800.6639	02° 09' 48"	
202	224	117+47.11 PC	01° 16' 23" LI				829.57	10673.8787	00° 53' 25"	
202	225	123+34.33 RP	01° 28' 46" RT				491.43	11164.8854	00° 22' 11"	
202	226	128+16.14 PI	01° 34' 03" LI				389.08	11553.9228	3839.1207	00° 48' 08"
202	227	140+11.30 PC								
EAST BOUND BUNKER LAKE BOULEVARD										
301	301	108+16.81 PI					9406.8699	1824.8791		
301	302	112+97.27 PC	32° 13' 02" LI	06° 58' 13"	822	237.39	9147.4891	2229.3069	122° 40' 27"	
301	303	115+37.66 RP					9019.3300	2429.1333		
301	304	117+47.11 EQ. STA. BACK: 117+59.48 AHEAD: 117+47.11					9892.4110	2673.0727	90° 27' 25"	
301	305	A PT 22' LI OF & PERP. TO E. - W. 1/4					9017.4372	2666.5185		
301	306	LINE 1485.47' E. OF V 1/4 SEC 32								
301	307	123+34.33 PI								
301	308	128+16.14 PC								
301	309	140+11.30 PI								
WEST BOUND BUNKER LAKE BOULEVARD										
401	401	108+16.81 PI					9443.9071	1848.6329		
401	402	112+97.27 PC	32° 13' 02" LI	07° 21' 52"	778	224.69	9184.5263	2253.0608	122° 40' 27"	
401	403	115+21.95 RP					9063.2273	2442.1908		
401	404	117+47.11 EQ. STA. BACK: 117+34.73 AHEAD: 117+47.11					9839.4110	2673.0727		
401	405	A PT 22' LI OF & PERP. TO E. - W. 1/4					9061.4958	2866.8693	90° 27' 25"	
401	406	LINE 1485.47' E. OF V 1/4 SEC 32								
401	407	123+34.33 PI								
401	408	128+16.14 PC								
401	409	140+11.30 PI								
L1 - SERVICE ROAD										
501	501	84+53.00 PC					9451.4756	3744.0683		
501	502	85+77.64 RP					9375.6925	3754.2903	04° 42' 16"	
501	503	88+47.35 PI					263.71	9445.2116	02° 09' 48"	
501	504	93+01.16 PC					453.81	10298.9673	371.5230	00° 53' 25"
501	505	8+90.28 PC								
501	506	9+07.93 RP								
501	507	9+24.68 PC	31° 47' 18" RT	92° 24' 45"	62.00	17.65	8705.8826	4501.8122	90° 18' 37"	
501	508	9+56.58 PI					8643.8835	4501.4764		
501	509	9+45.76 RP	31° 47' 18" LI	150° 46' 42"	38.00	10.82	8696.4058	4534.4219	122° 09' 55"	
501	510	10+34.94 PC					8690.6561	4543.5882		
501	511	10+64.62 PI					8728.9969	4554.6143		
501	512	10+81.74 RP					8690.5975	4554.4084	90° 18' 37"	
501	513	13+57.54 PC								
501	514	50+00.00 PI								
501	515	50+08.71 PC								
501	516	50+58.10 PI	58° 31' 25" LI	65° 00' 01"	88.15	49.39	8882.1793	4284.4472	90° 54' 58"	
501	517	50+98.75 PC					8971.1047	4686.4743		
501	518	51+47.73 RP	58° 06' 52" RT	65° 00' 01"	88.15	48.98	8923.8830	4760.9055	32° 23' 33"	
501	519	51+88.15 PI					8876.6613	4734.4472		
501	520						8964.8049	4836.1163	90° 30' 25"	

ALIGNMENT TABULATION

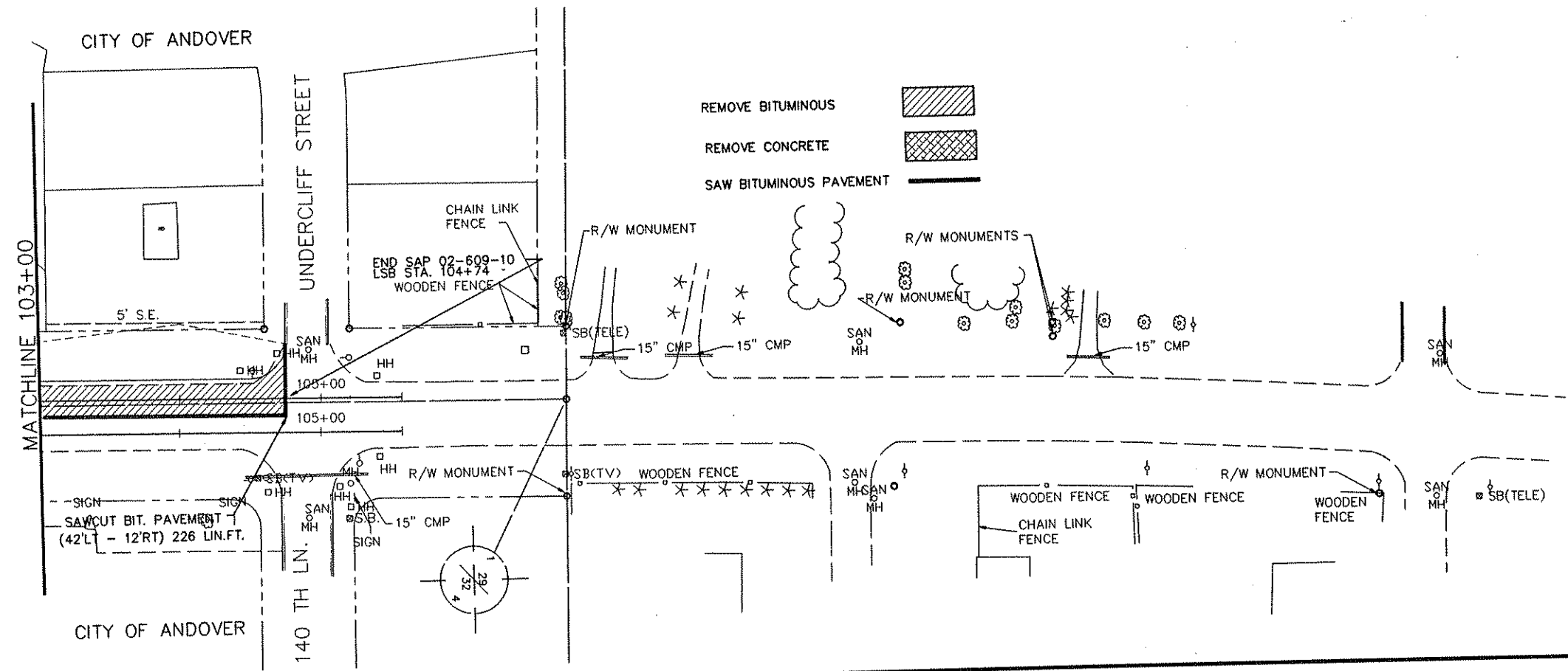
CITY OF COON RAPIDS

CITY OF ANOKA

CITY OF ANDOVER

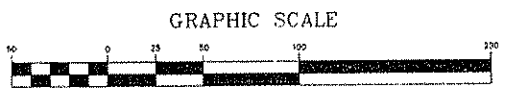
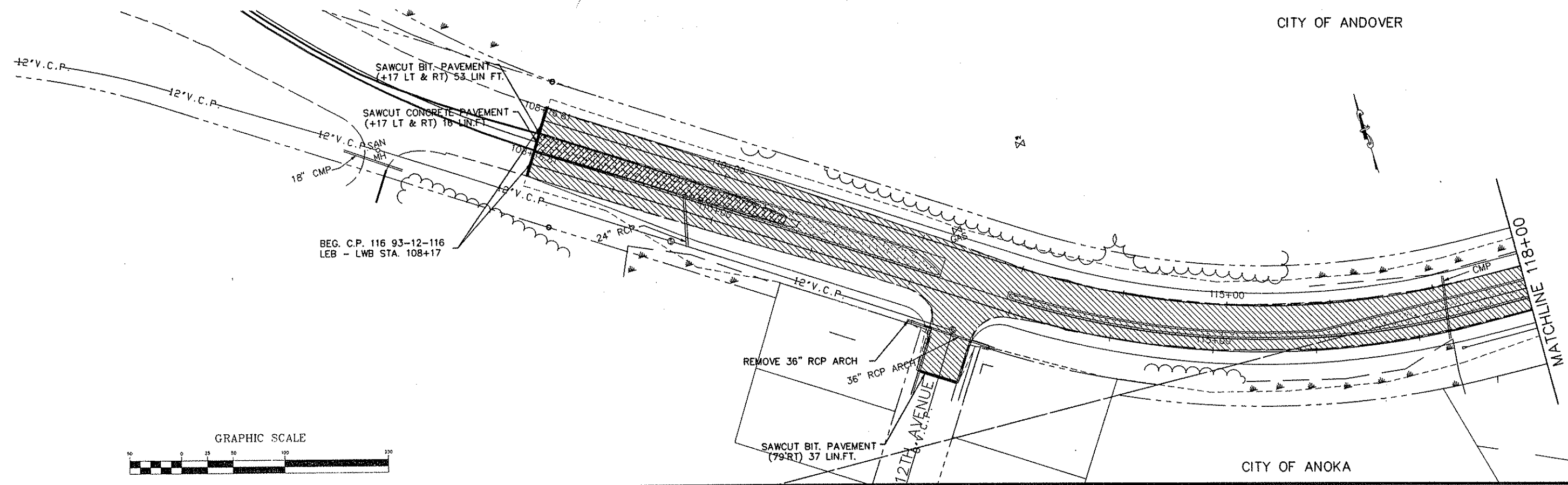


REMOVALS
C.S.A.H. 9
STA 43+00 TO STA 73+00

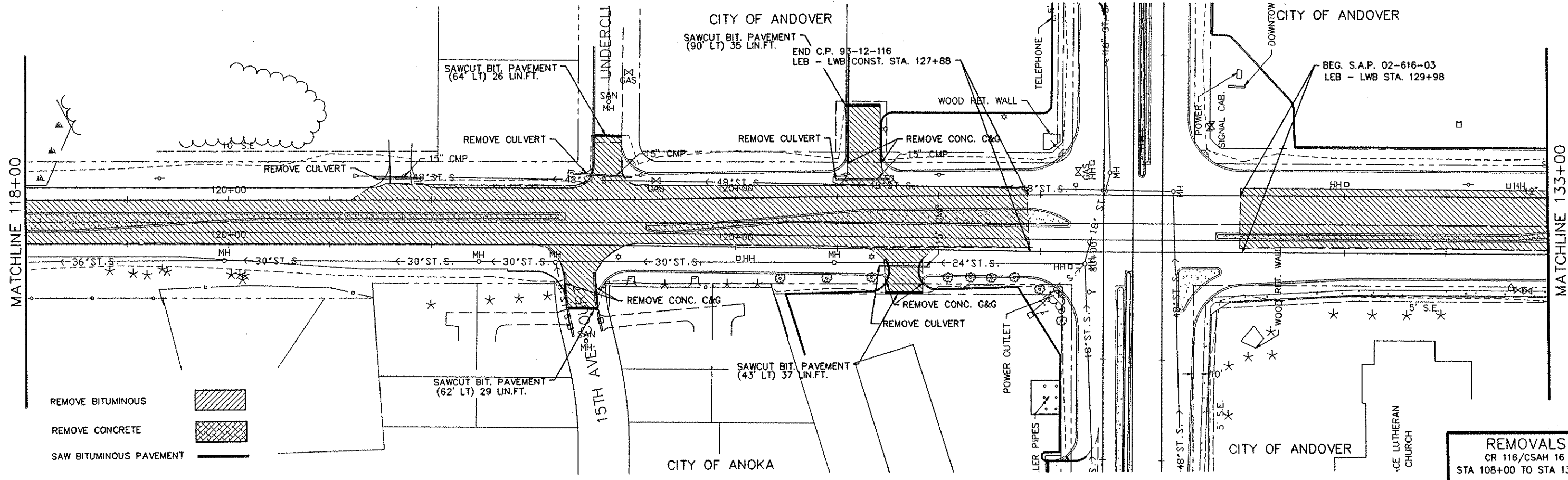


REMOVALS
CSAH 9
STA 103+00 TO STA 106+00

CITY OF ANDOVER

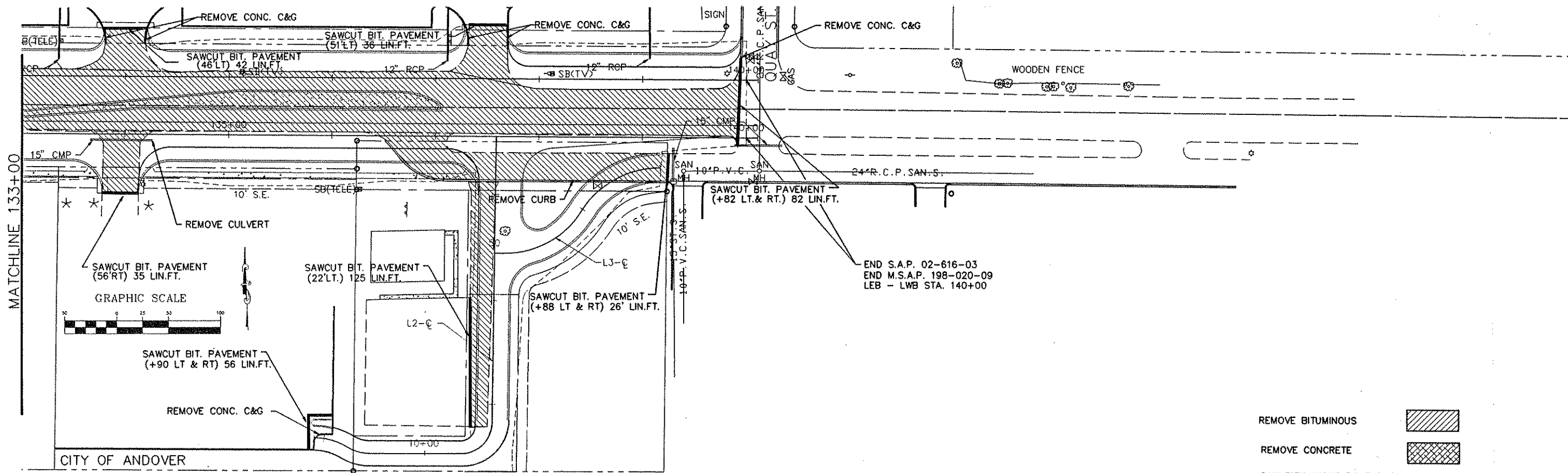



CITY OF ANOKA





- REMOVE BITUMINOUS
- REMOVE CONCRETE
- SAW BITUMINOUS PAVEMENT

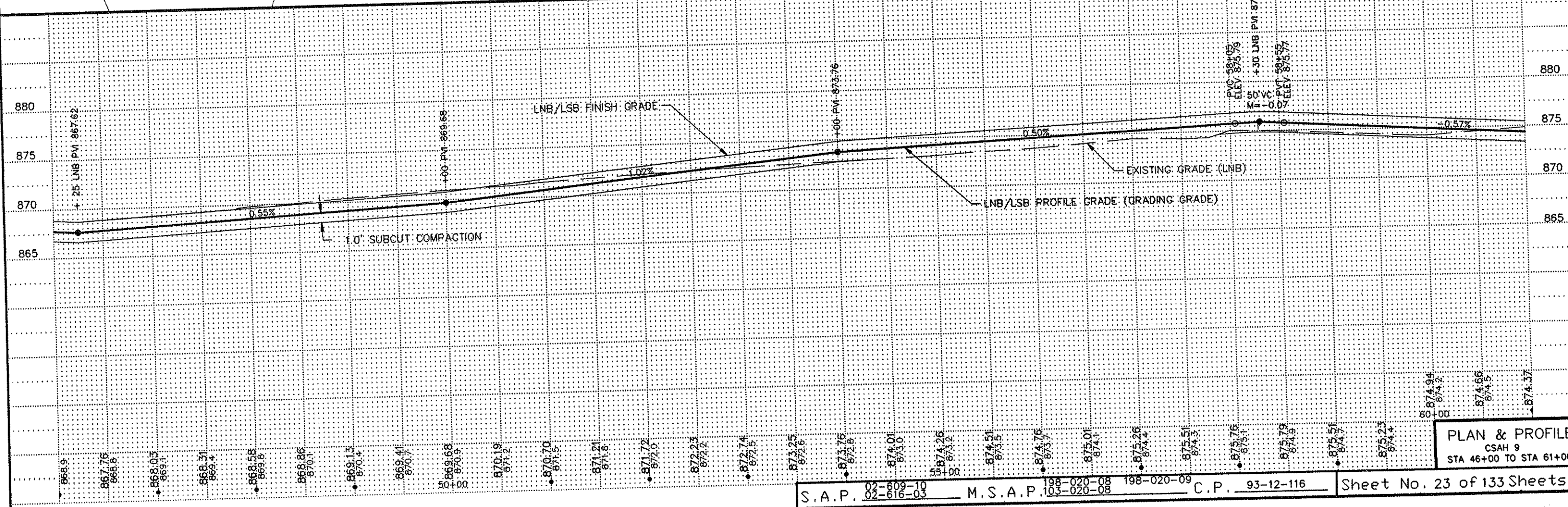
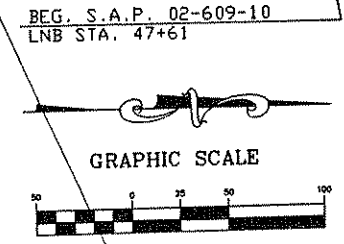
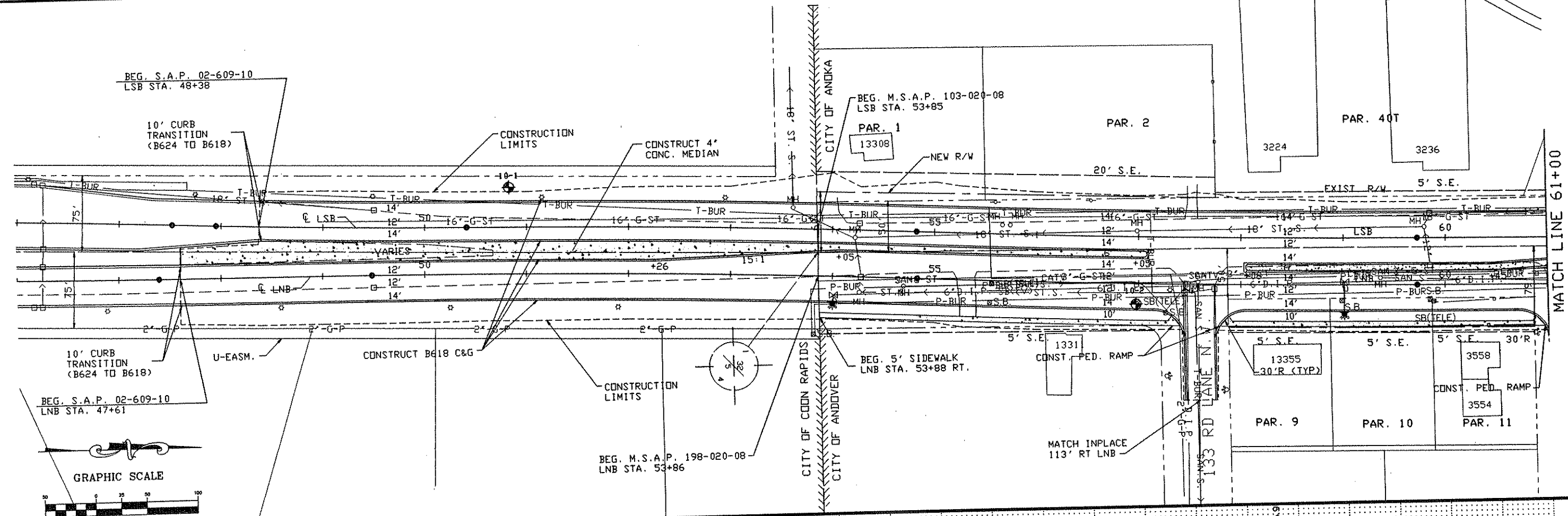
REMOVALS
CR 116/CSAH 16
STA 108+00 TO STA 133+00



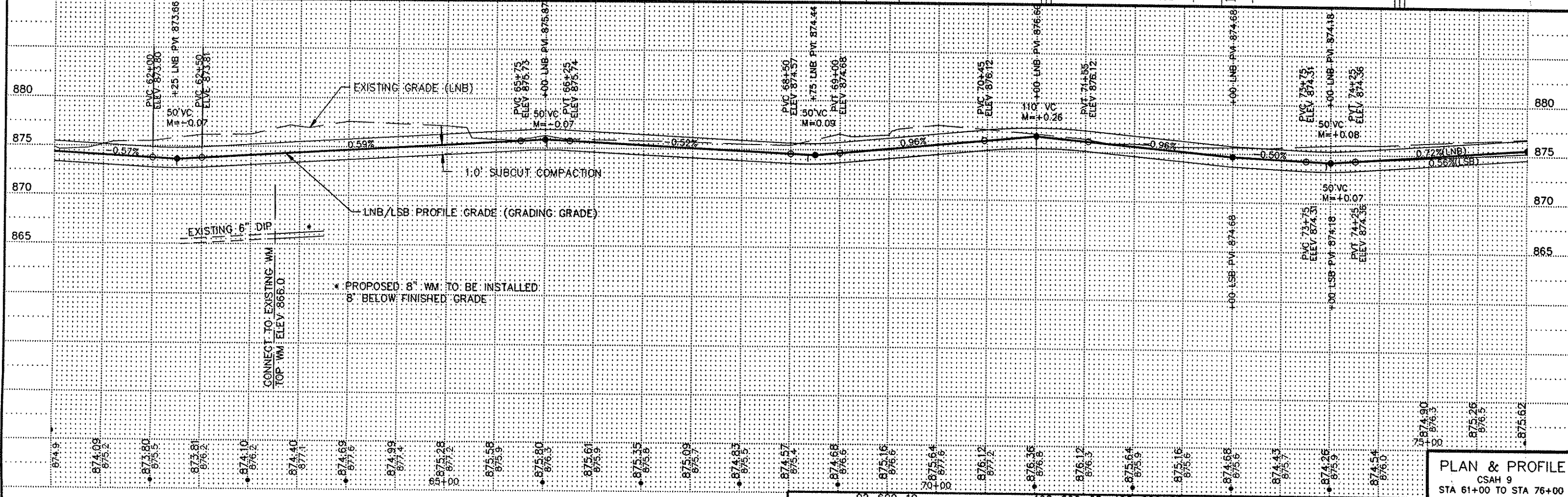
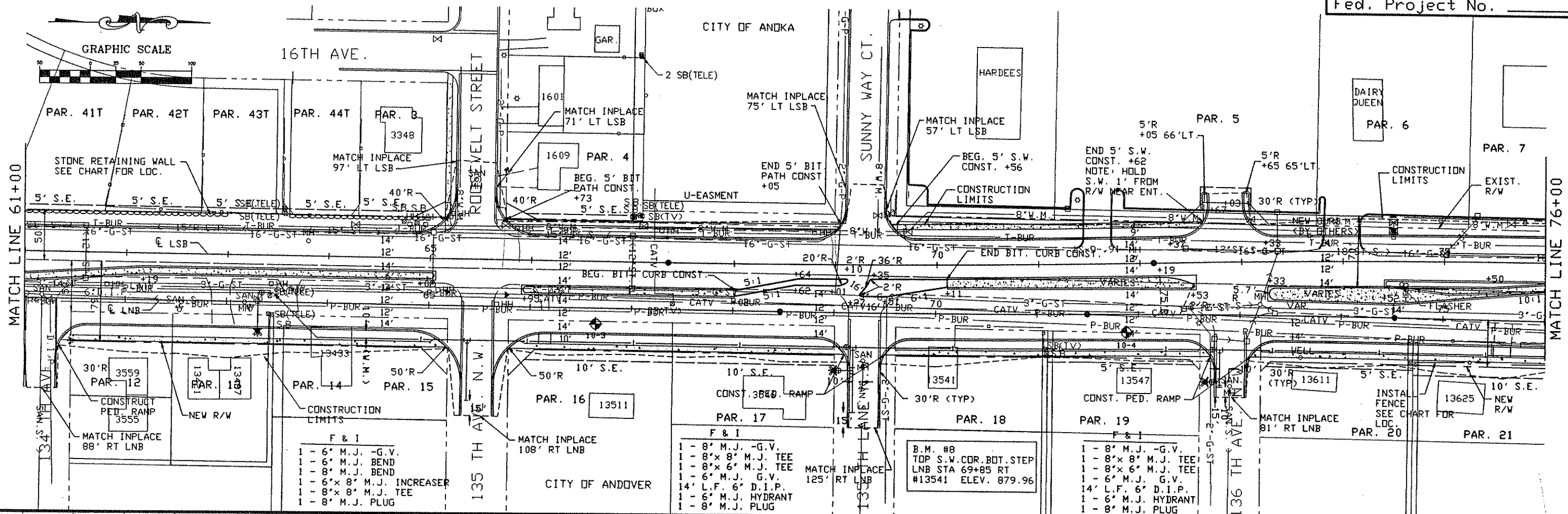
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REMOVE CONCRETE 

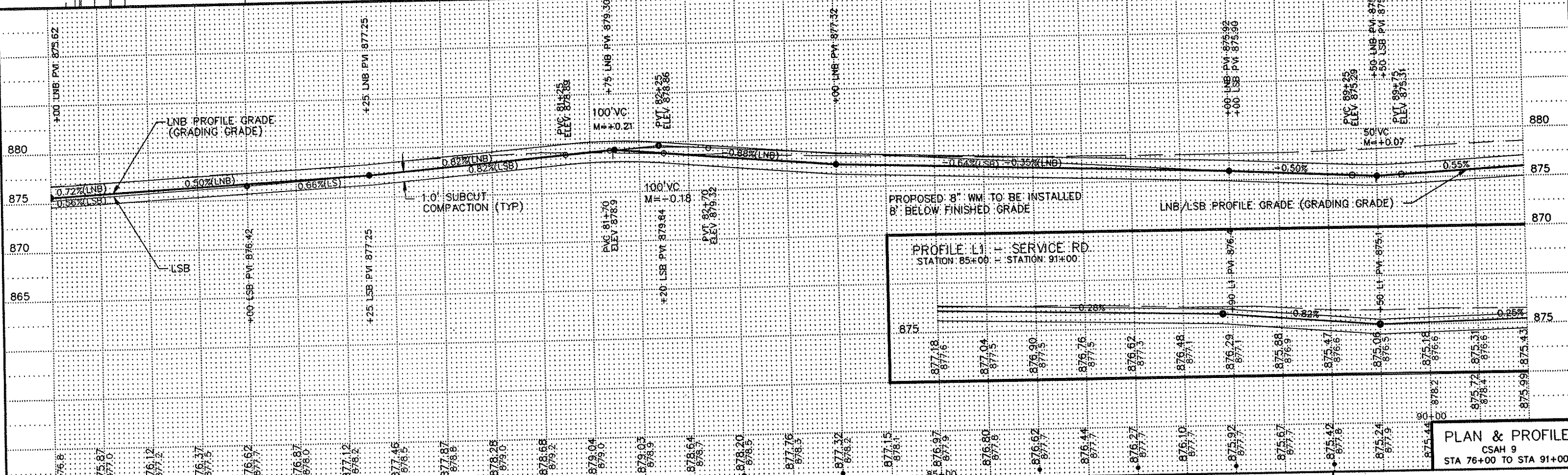
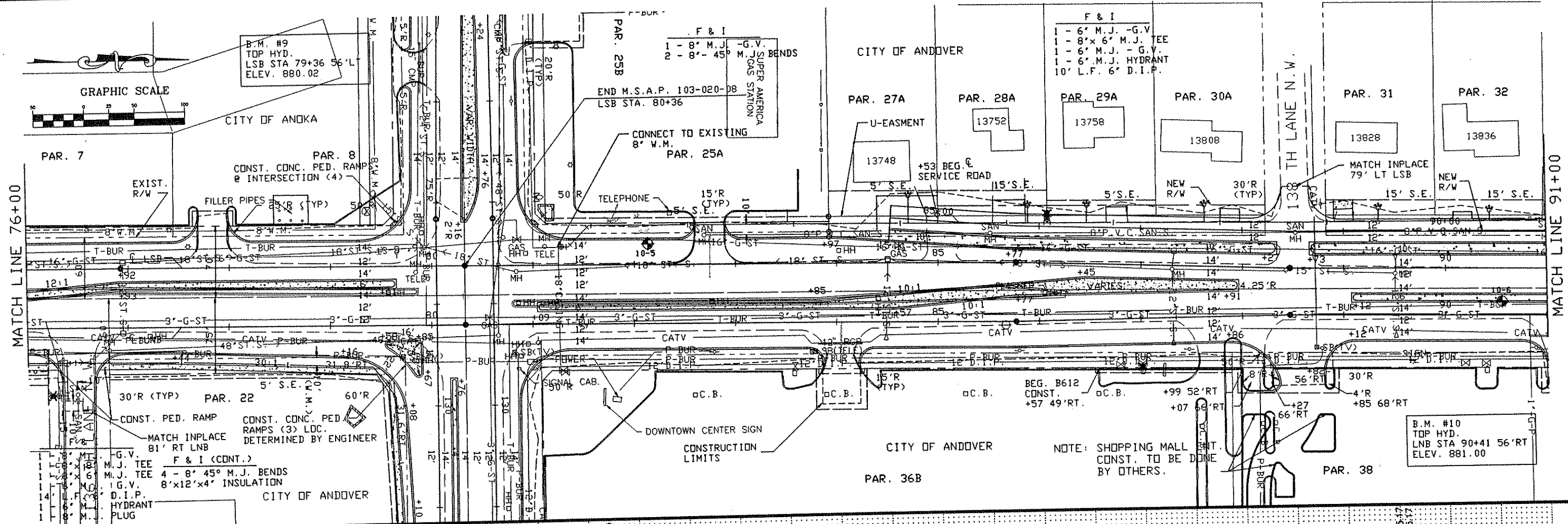
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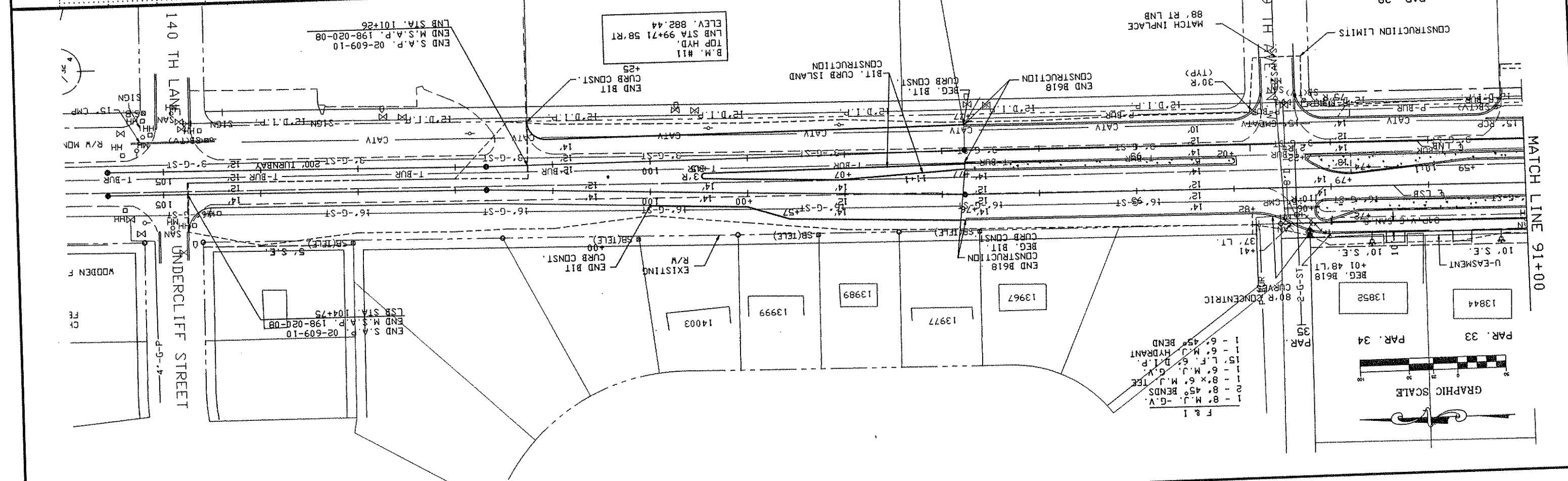
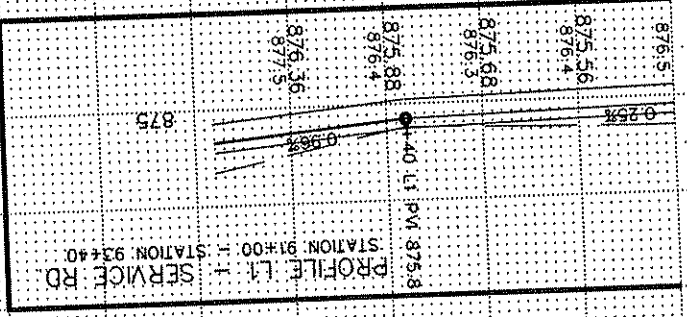
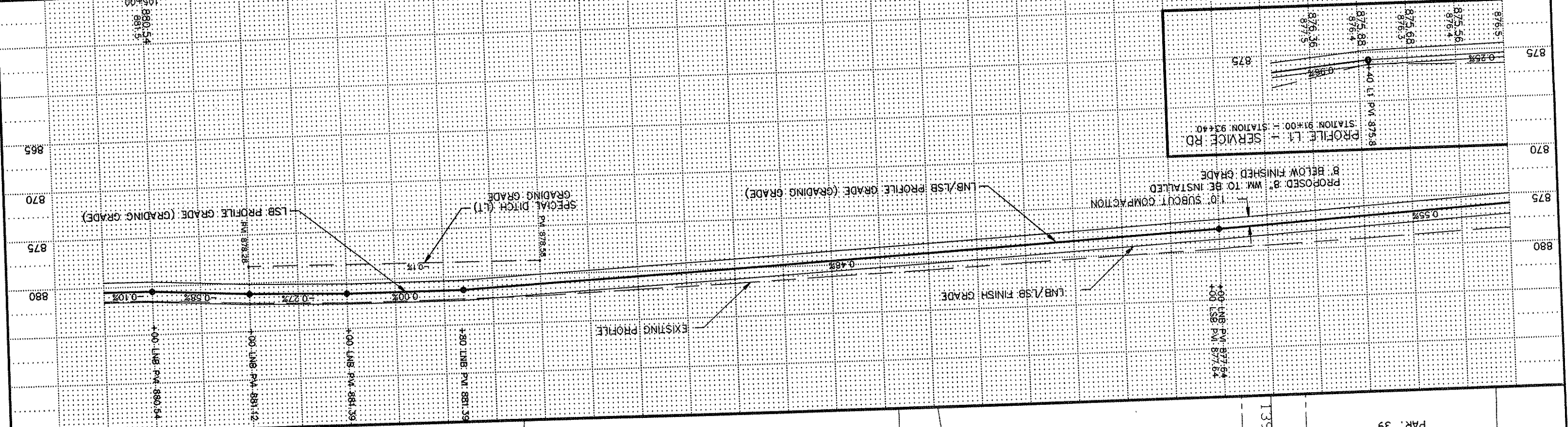


PLAN & PROFILE
CSAH 9
STA 46+00 TO STA 61+00

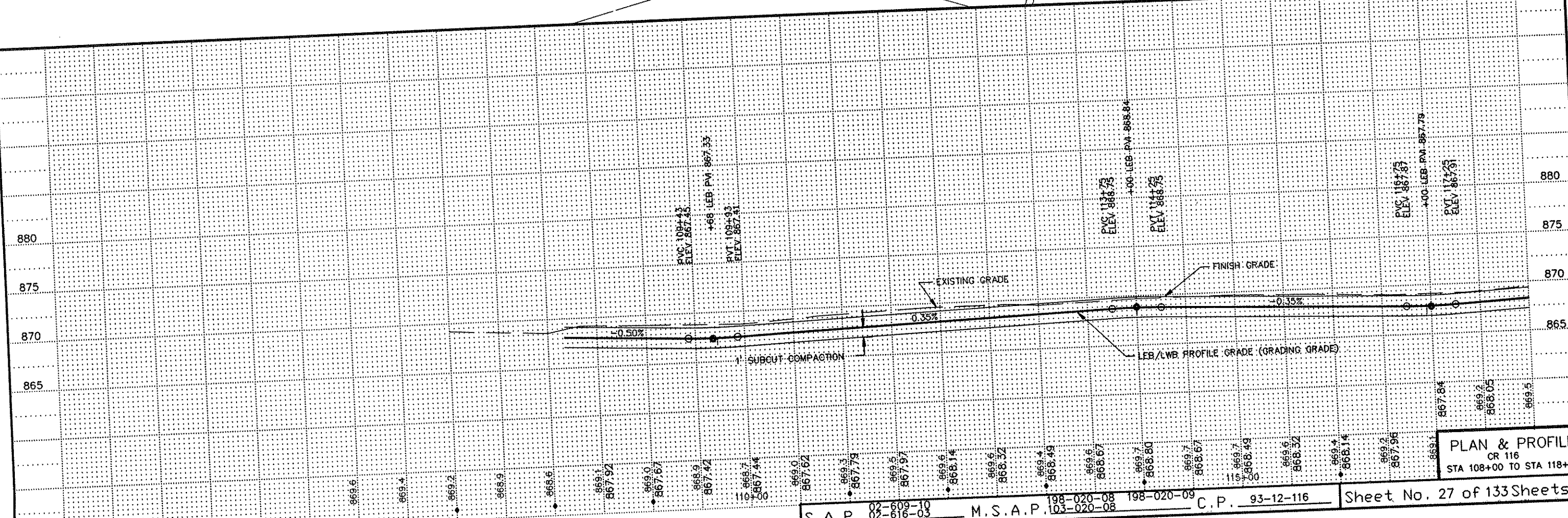
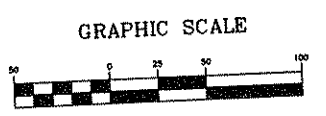
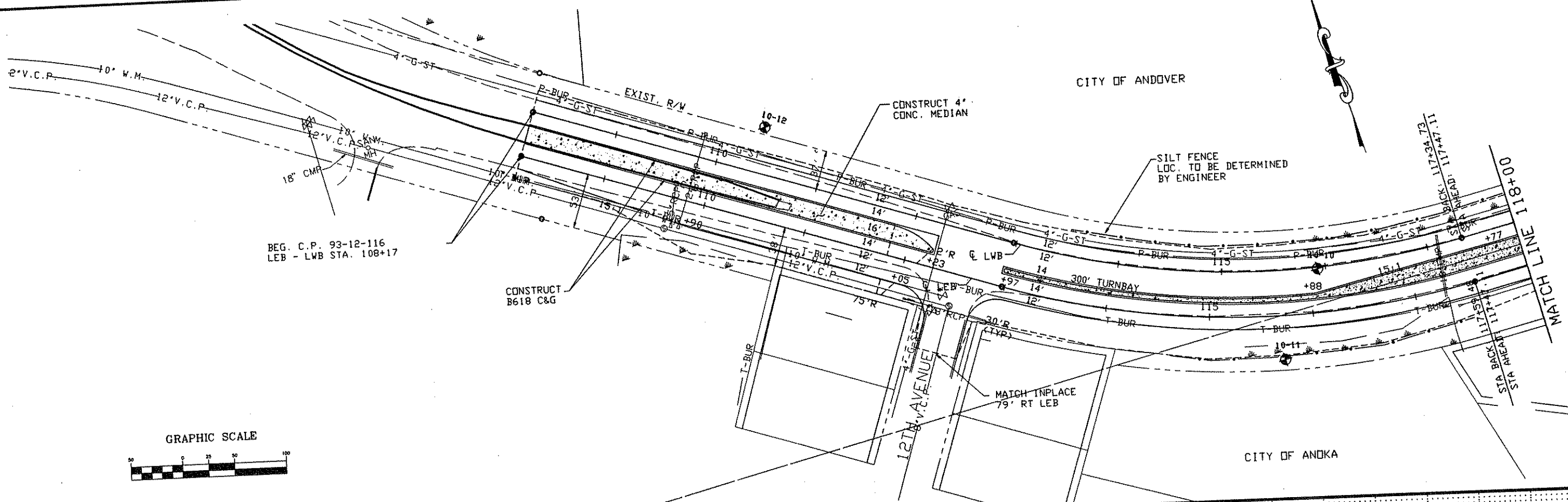


PLAN & PROFILE
CSAH 9
STA 61+00 TO STA 76+00





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



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

CITY OF ANDOVER

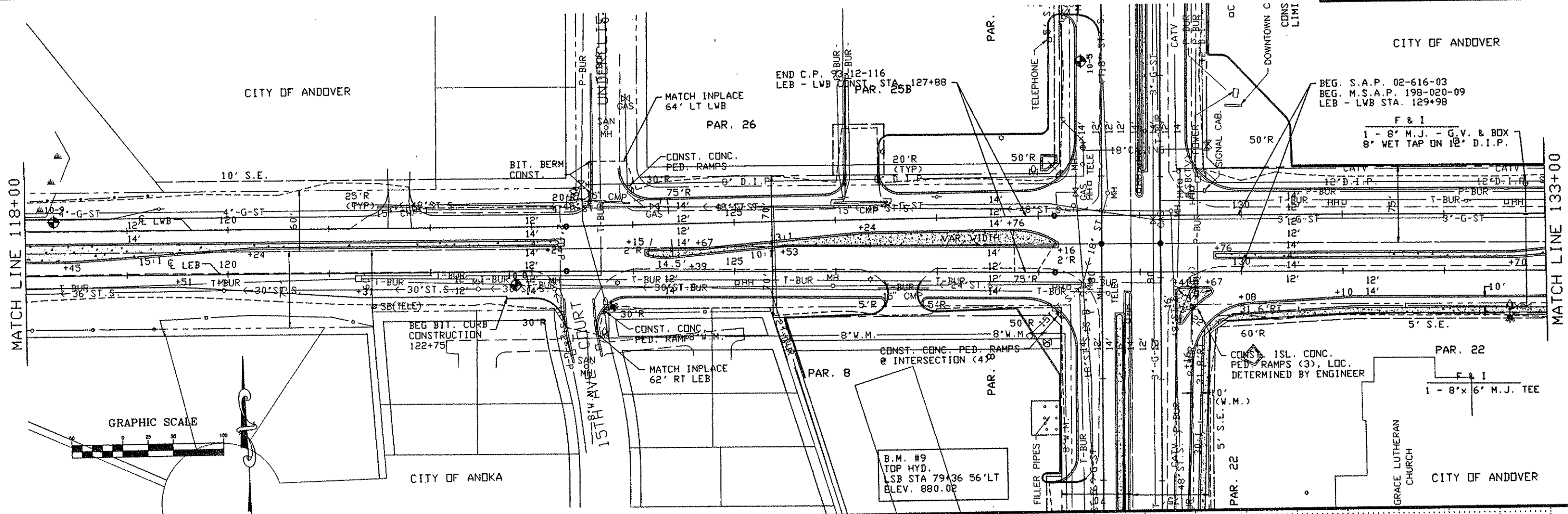
CITY OF ANDOVER

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

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

MATCH LINE 118+00

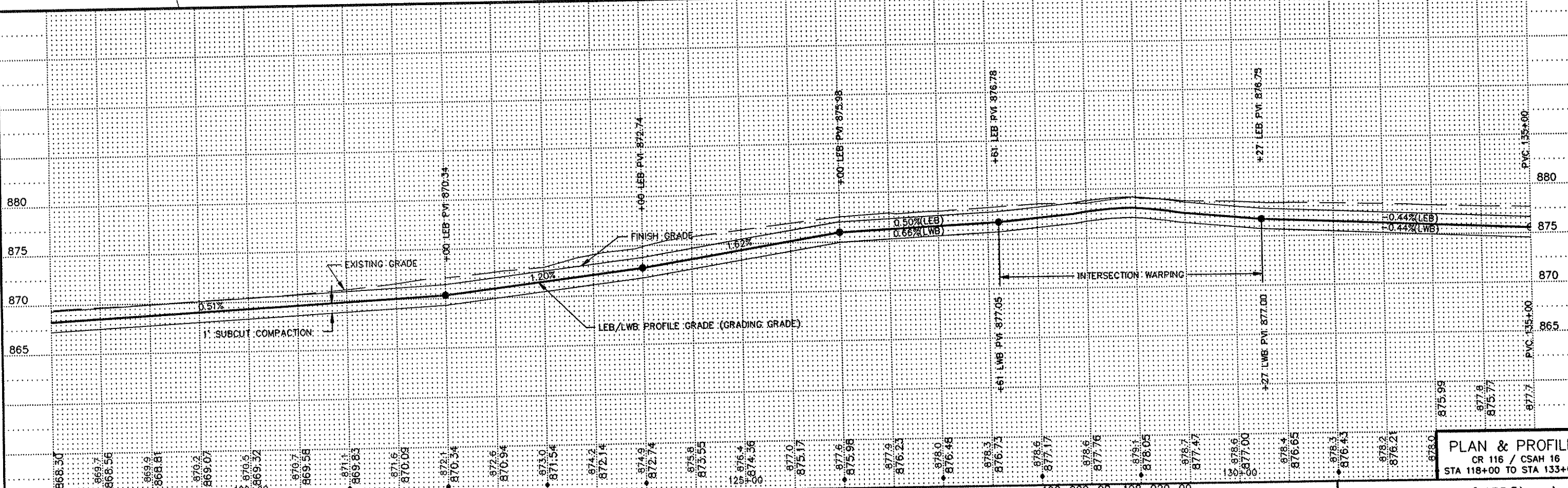
MATCH LINE 133+00



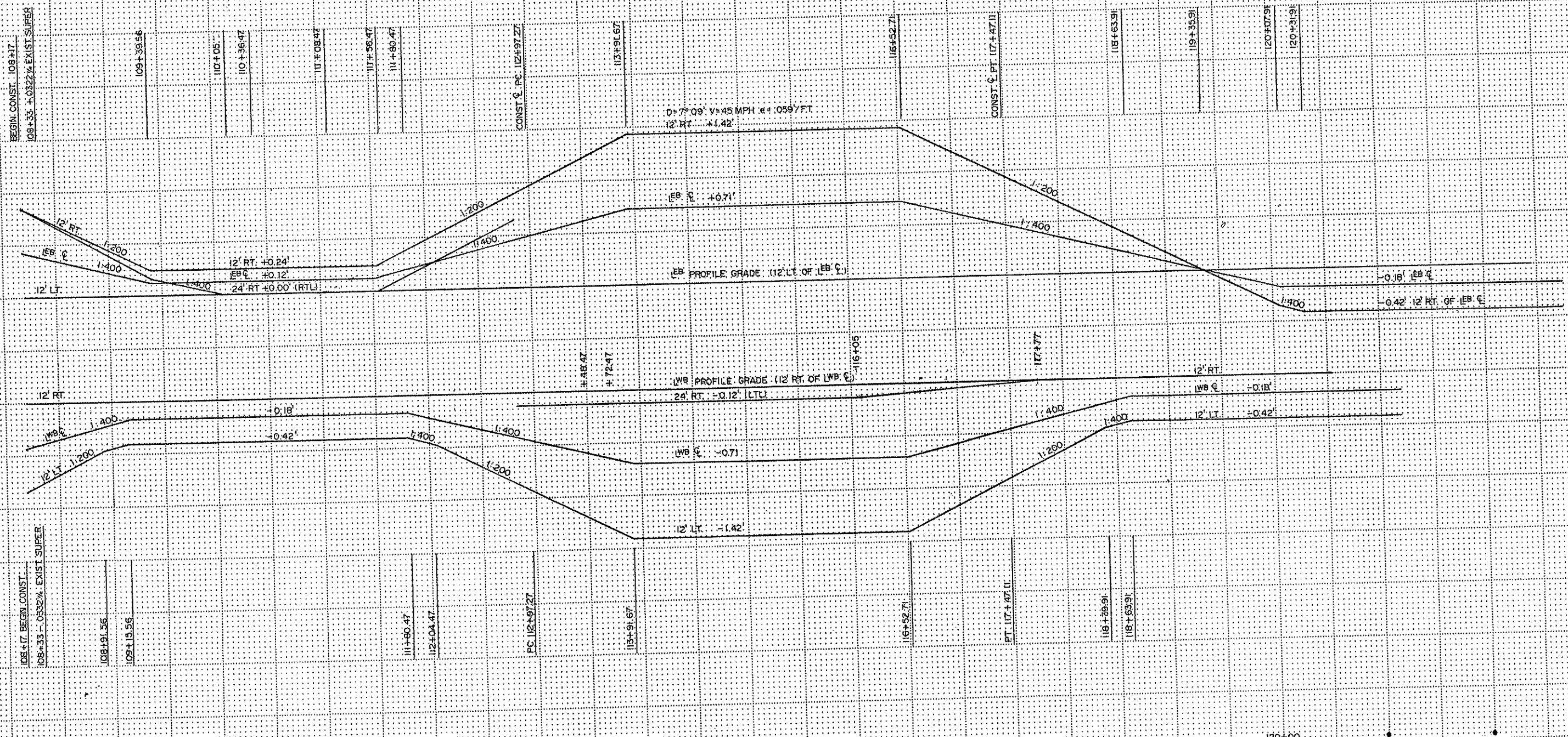
CITY OF ANOKA

GRACE LUTHERAN CHURCH
CITY OF ANDOVER

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



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



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

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

D=7'09' V=45 MPH K=0.59/FT
12' RT. +1.42'

EB PROFILE GRADE (12' LT. OF EB C.)

LWB PROFILE GRADE (12' RT. OF LWB C.)

SCALE:
HORIZ. 1" = 50'
VERT. 1" = 0.5'

SUPERELEVATION
COUNTY ROAD 116
STA: 108+17 TO STA: 120+32

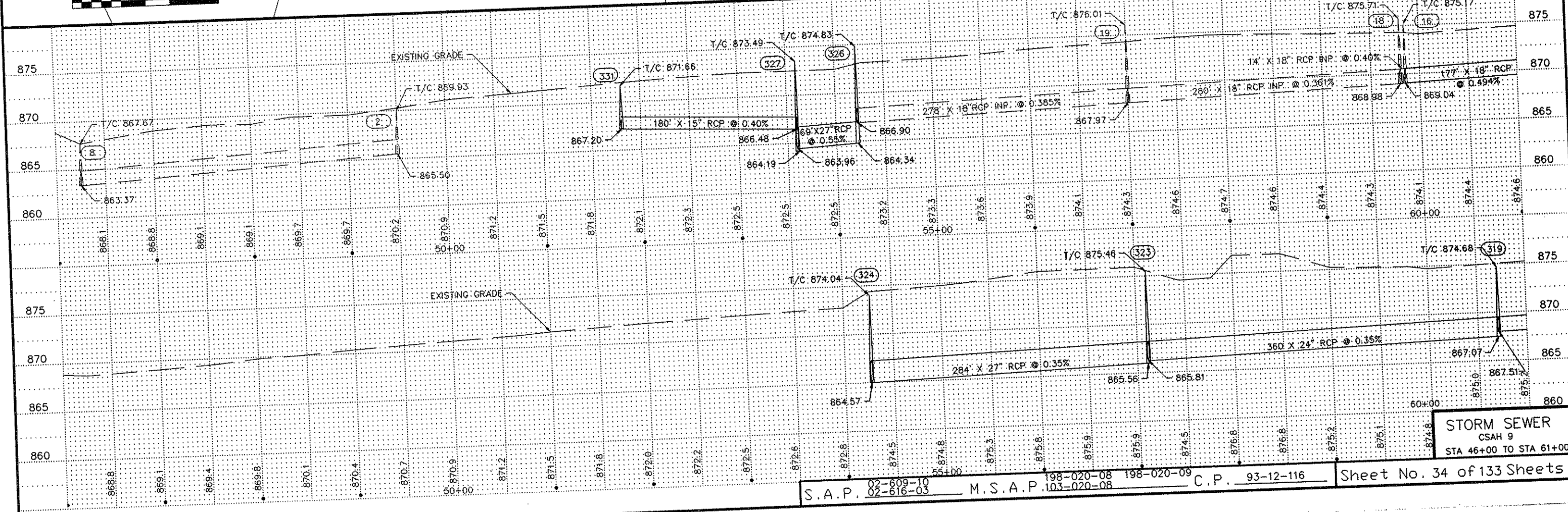
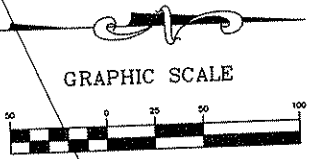
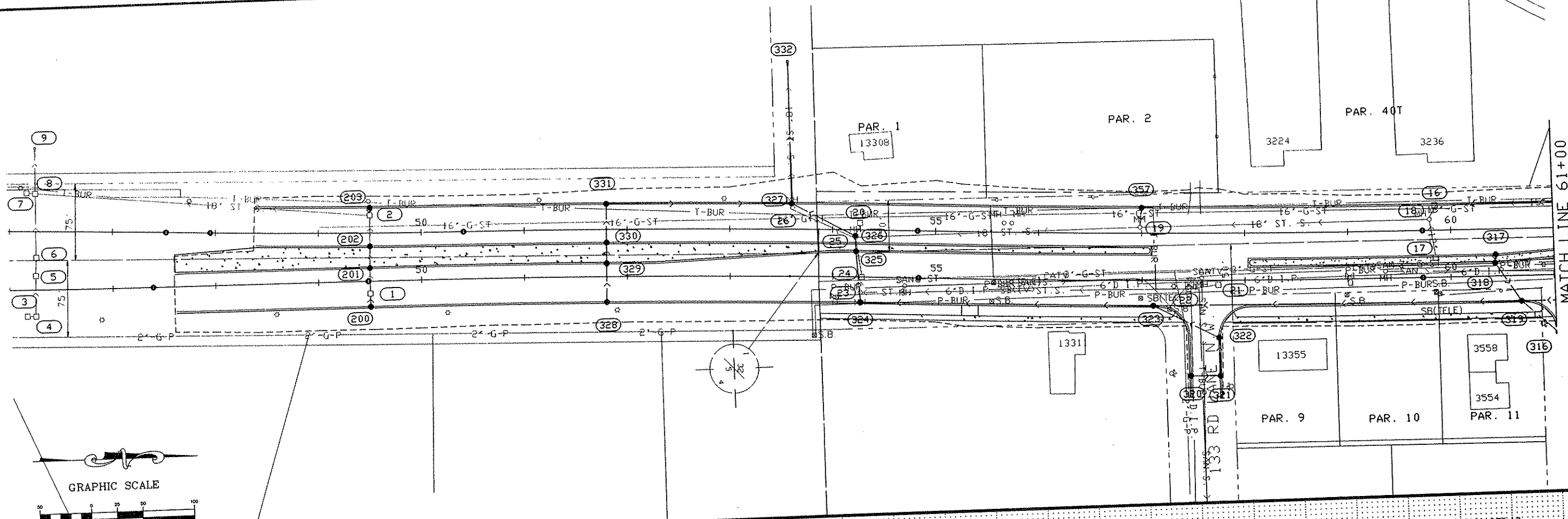
DRAINAGE TABULATION

FURNISH AND INSTALL

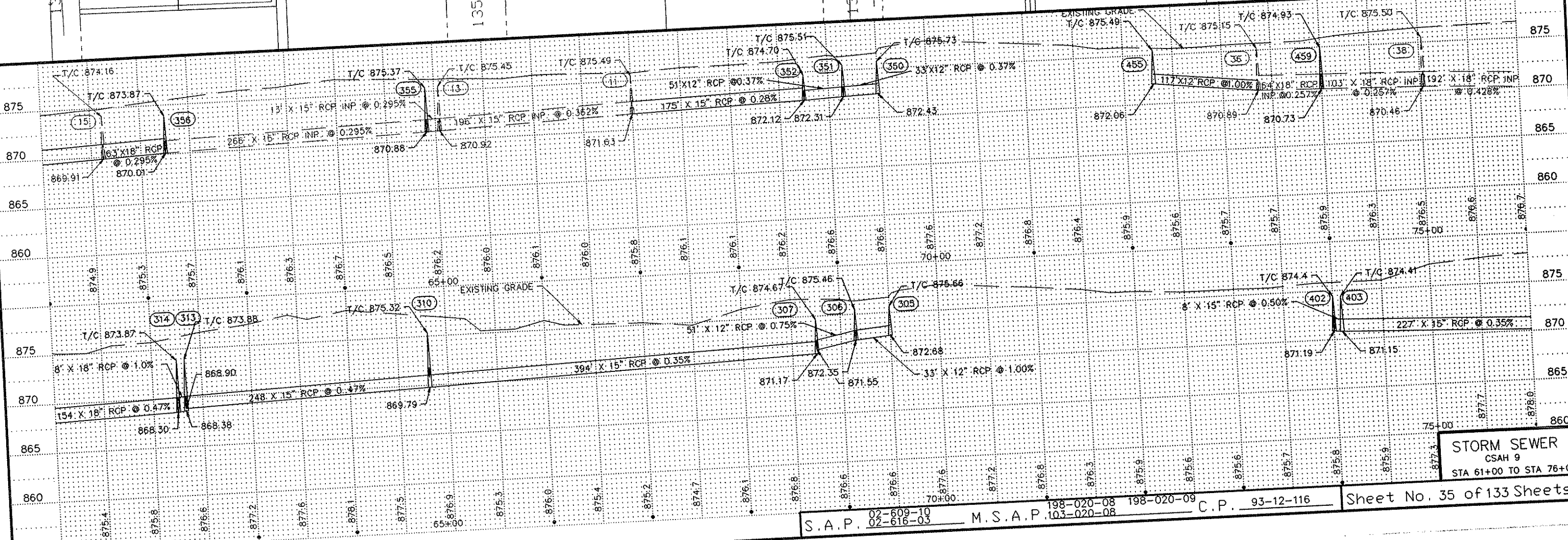
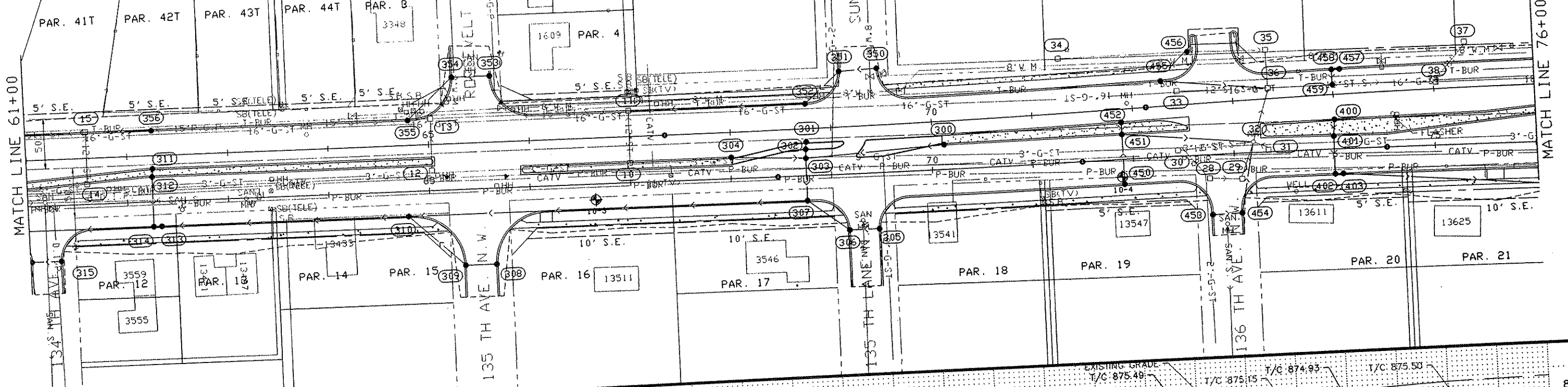
STRUCT. NO.	STATION	LOCATION	REMARKS	DRAINS TO	REMOVE				SALVAGE		INSTALL		ADJUST/RECONSTRUCT		STRUCTURE CONSTRUCTION				FURNISH AND INSTALL							STRUCT. NO.
					DRAIN STRUCT. EACH	PIPE SEWER LIN.FT.	CONC. APRON EACH	CAS. ASS'Y EACH	PIPE SEWER LIN.FT.	CAS. ASS'Y EACH	PIPE SEWER LIN.FT.	ADJ. CAS. EACH	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.
203	49+50	24.9' LT LSB	(2)	303																						203
300	70+13	24.9' LT LNB		302																						300
301	68+75	12.9' RT LSB		303																						301
302	68+75	24.9' LT LNB		307																						302
303	68+75	24.9' LT LNB		303																						303
304	68+00	24.9' RT LSB		306																						304
305	69+50	56.0' RT LNB		310																						305
306	69+15	56.0' RT LNB		309																						306
307	68+75	24.9' RT LNB		310																						307
308	65+70	76.0' RT LNB		313																						308
309	65+35	76.0' RT LNB		312																						309
310	64+81	24.9' RT LNB		314																						310
311	62+25	12.9' RT LSB		314																						311
312	62+25	24.9' LT LNB		319																						312
313	62+33	24.9' RT LNB		316																						313
314	62+25	24.9' RT LNB		316																						314
315	61+35	56.0' RT LNB		319																						315
316	61+05	56.0' RT LNB		318																						316
317	60+43	24.9' RT LSB		319																						317
318	60+43	12.9' LT LNB		323																						318
319	60+71	24.9' RT LNB		321																						319
320	57+45	93.0' RT LNB		322																						320
321	57+78	93.0' RT LNB		323																						321
322	57+78	56.0' RT LNB		324																						322
323	57+11	24.9' RT LNB		325																						323
324	54+27	24.9' RT LNB		326																						324
325	54+22	24.9' LT LNB	(1)	327																						325
326	54+22	6.0' RT LSB		332																						326
327	53+60	24.9' LT LSB		329																						327
328	51+80	24.9' RT LNB		330																						328
329	51+80	12.9' LT LNB		331																						329
330	51+80	12.9' RT LSB		327																						330
331	51+80	24.9' LT LSB		351																						331
332	53+60	+160' LT LSB	8.3 CU YD CL. III RANDOM RIPRAP	351																						332
350	69+50	56.0' LT LSB		352																						350
351	69+15	56.0' LT LSB		11																						351
352	68+75	24.9' LT LSB		354																						352
353	65+70	66.0' LT LSB		355																						353
354	65+35	66.0' LT LSB	CONST. STRUCT OVER INPLACE RCP (3)	356																						354
355	64+91	24.9' LT LSB	CONST. STRUCT OVER INPLACE RCP (2)	15																						355
356	62+25	24.9' LT LSB		19																						356
357	57+00	24.9' LT LSB		401																						357
400	74+00	24.9' RT LSB		402																						400
401	74+00	12.9' LT LNB		403																						401
402	74+00	24.9' RT LNB		404																						402
403	74+08	24.9' RT LNB		461																						403
404	76+34	43.7' RT LNB		406																						404
405	77+54	25.2' RT LNB		404																						405
406	76+69	43.7' RT LNB		451																						406
450	71+90	24.9' RT LNB		32																						450
451	71+90	24.9' LT LNB		451																						451
452	71+90	12.9' RT LSB		454																						452
453	72+76	60.0' RT LNB		32																						453
454	73+06	60.0' RT LNB		36																						454
455	72+30	24.9' LT LSB		35																						455
456	72+45	52.0' LT LNB	CONST. STRUCT OVER INPL. PIPE (3)	458																						456
457	74+00	24.9' LT LSB		459																						457
458	74+08	24.9' LT LSB	CONST. STRUCT OVER INPL. PIPE (3)	38																						458
459	74+00	9.7' LT LSB		462																						459
460	76+95	24.9' LT LSB		462																						460
461	76+95	36.9' LT LNB		463		1	300																			461
462	76+95	6.0' LT LSB		464		1	105																			462
463	79+94	19.0' LT LSB		57																						463
464	124+97	14.0' RT LNB		501																						464
500	139+70	24.9' LT LWB		502																						500
501	137+03	24.9' LT LWB		503																						501
502	137+00	22.4' RT LWB		504																						502
503	136+99	24.9' LT LWB		509																						503
504	137+12	24.9' RT LWB		506																						504
505	134+22	31.4' LT LWB		507																						505
506	133+25	24.9' RT LWB		508																						506
507	133+25	31.4' LT LWB		509																						507
508	133+25	17.5' LT LWB		513																						508
509	133+25	24.9' RT LWB		511																						509
510	131+12	24.9' LT LWB																								510

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. III RANDOM RIPRAP
 (6) PAYMENT FOR REMOVAL SHALL BE MADE FOR PLUGGING AND GROUT FILLING ABANDONED PIPE.

DRAINAGE
TABULATION



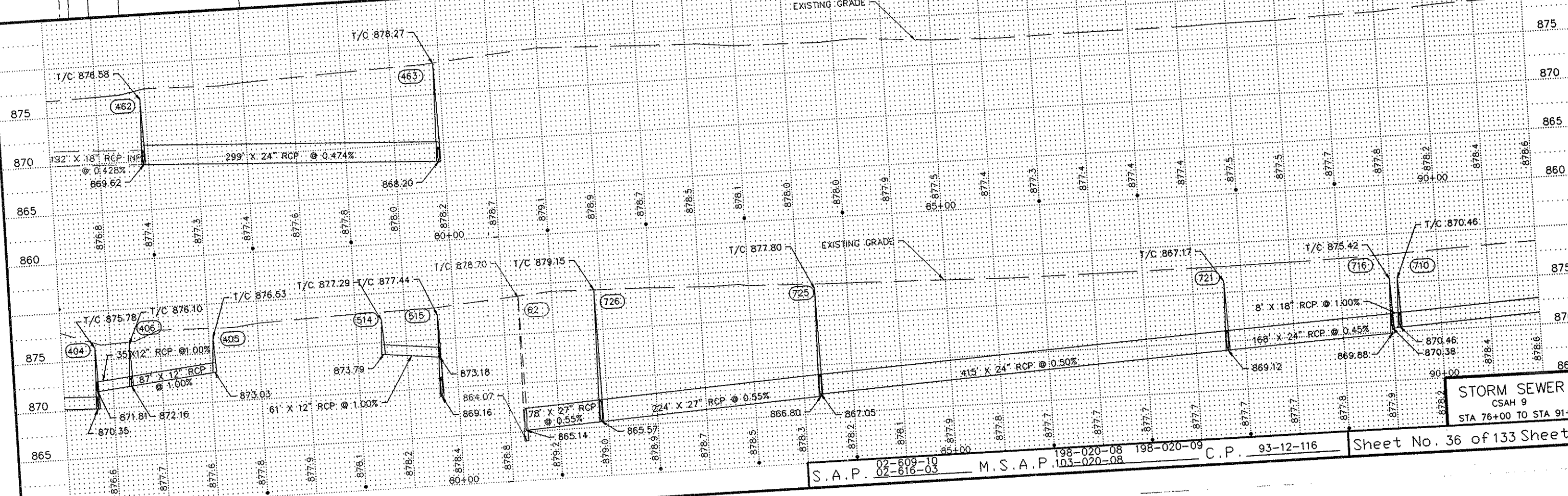
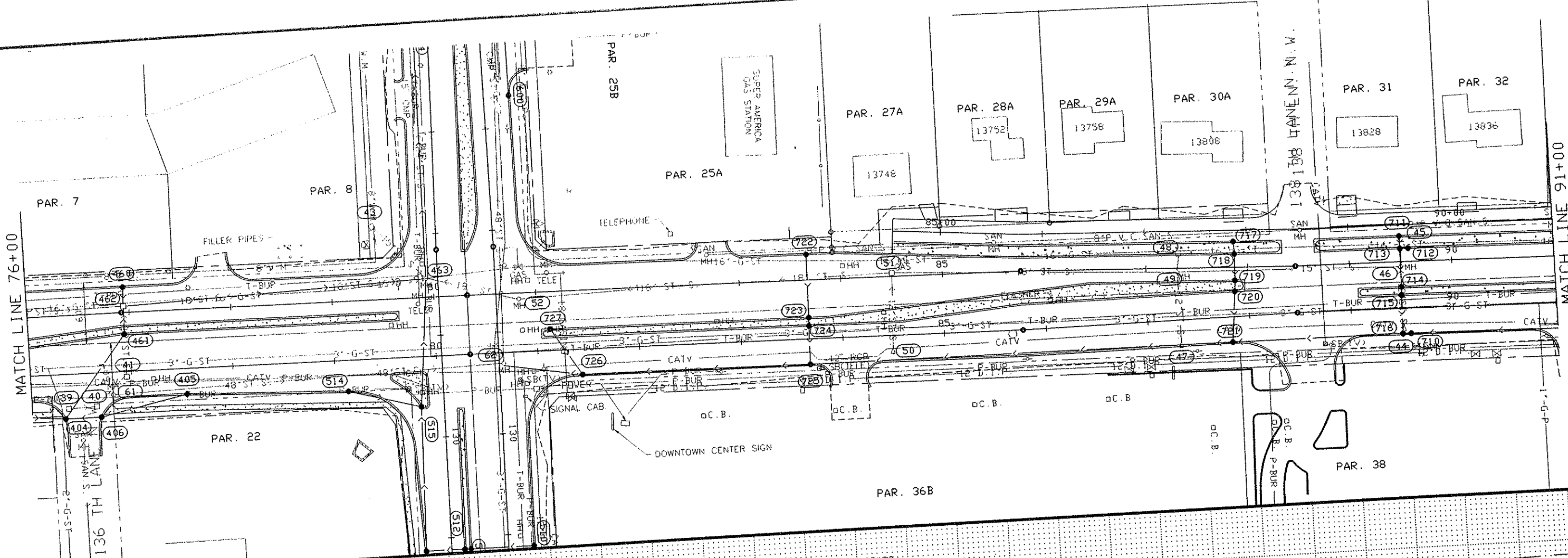
STORM SEWER
CSAH 9
STA 46+00 TO STA 61+00



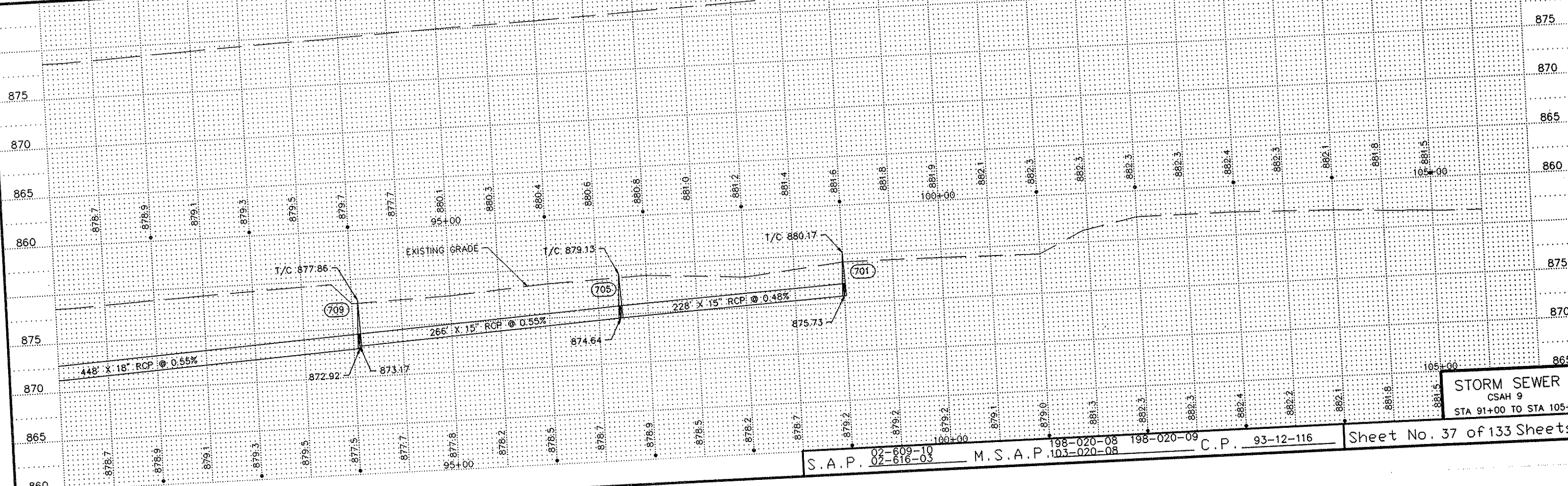
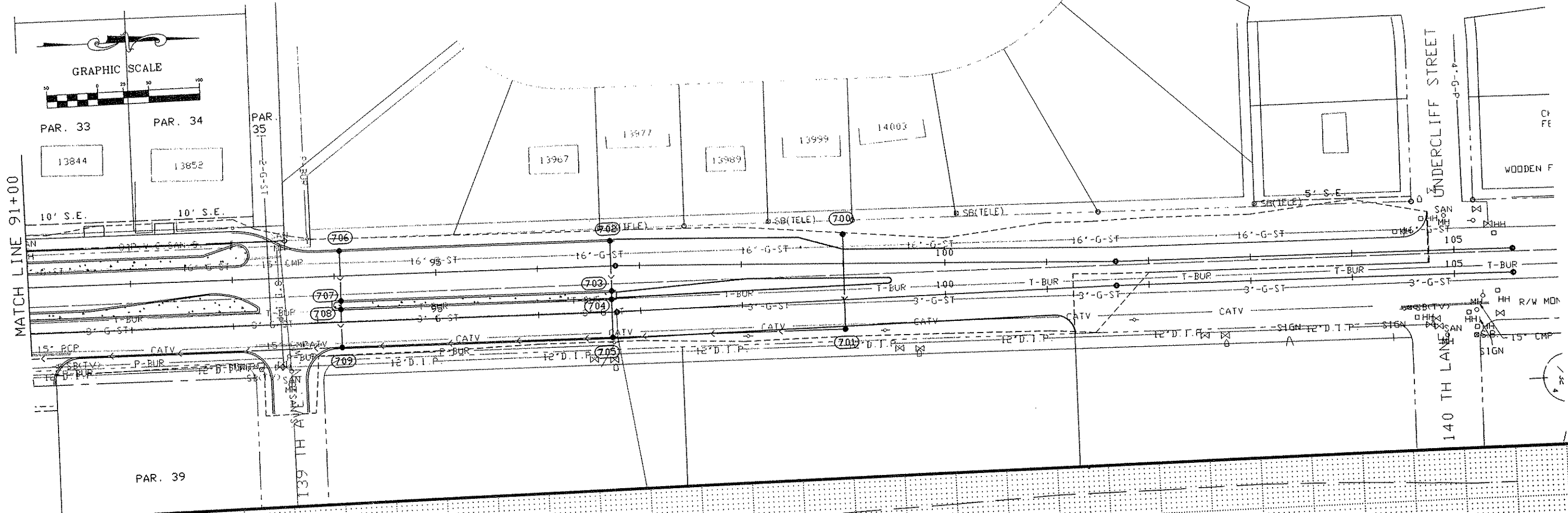
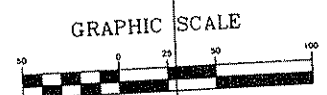
STORM SEWER
CSAH 9
STA 61+00 TO STA 76+00

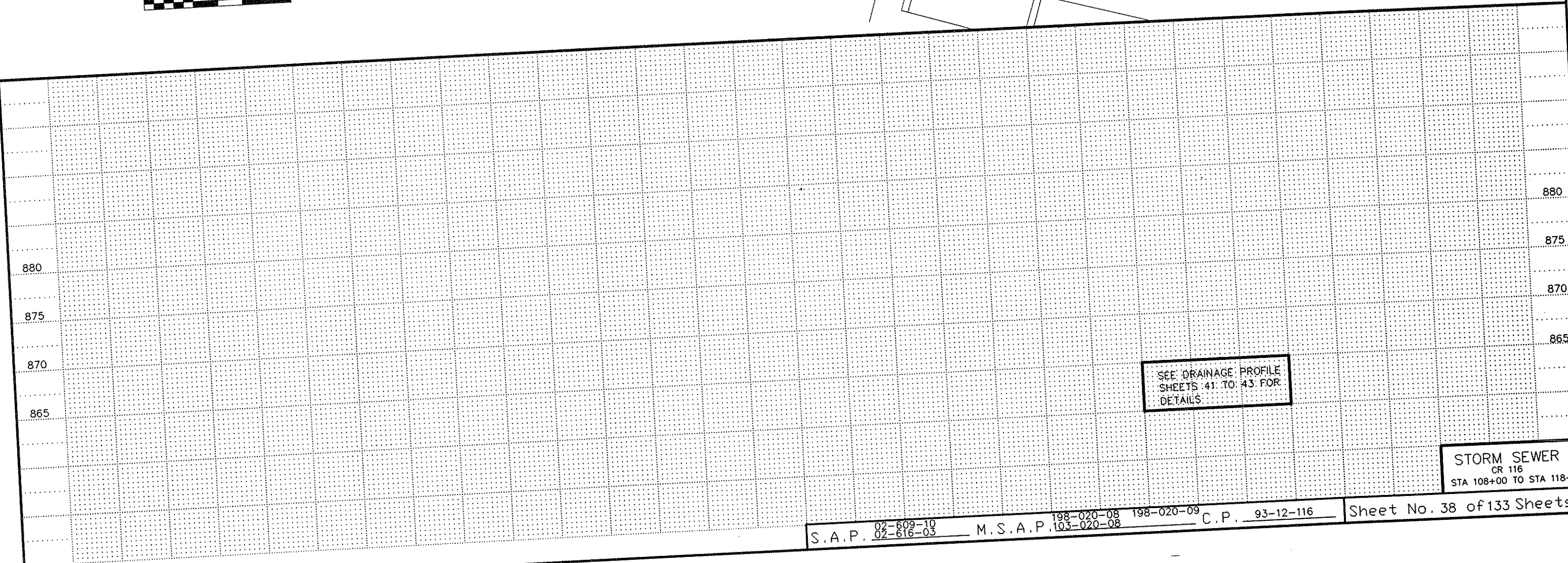
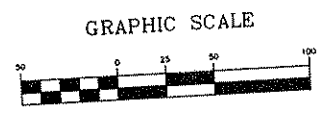
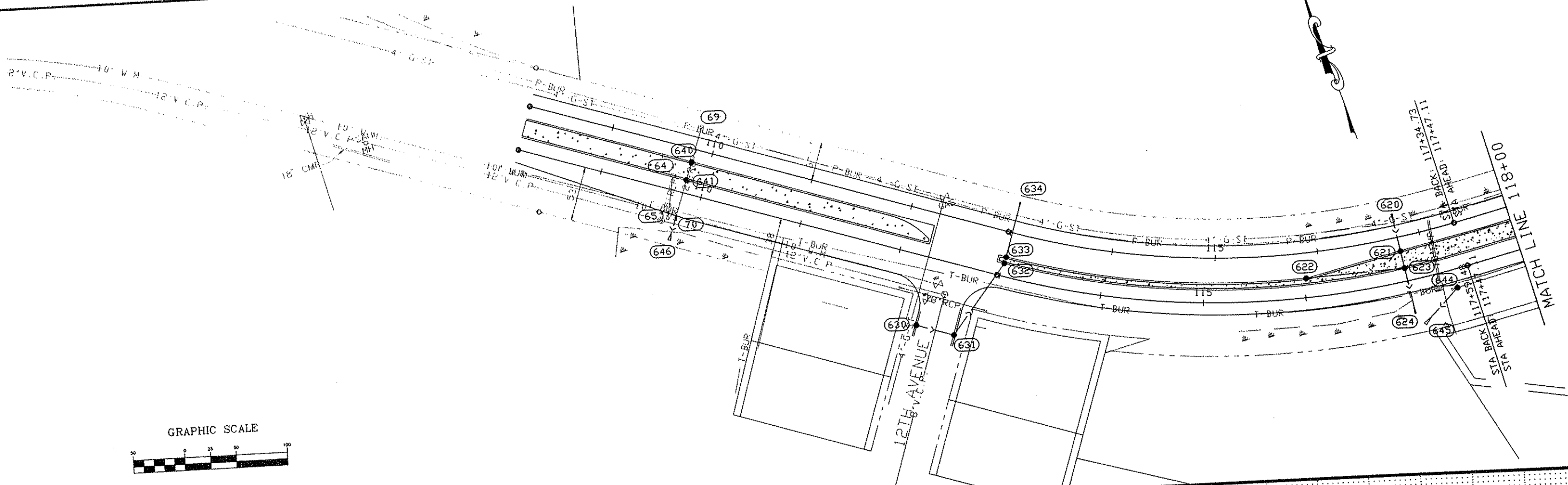
MATCH LINE 76+00

MATCH LINE 91+00



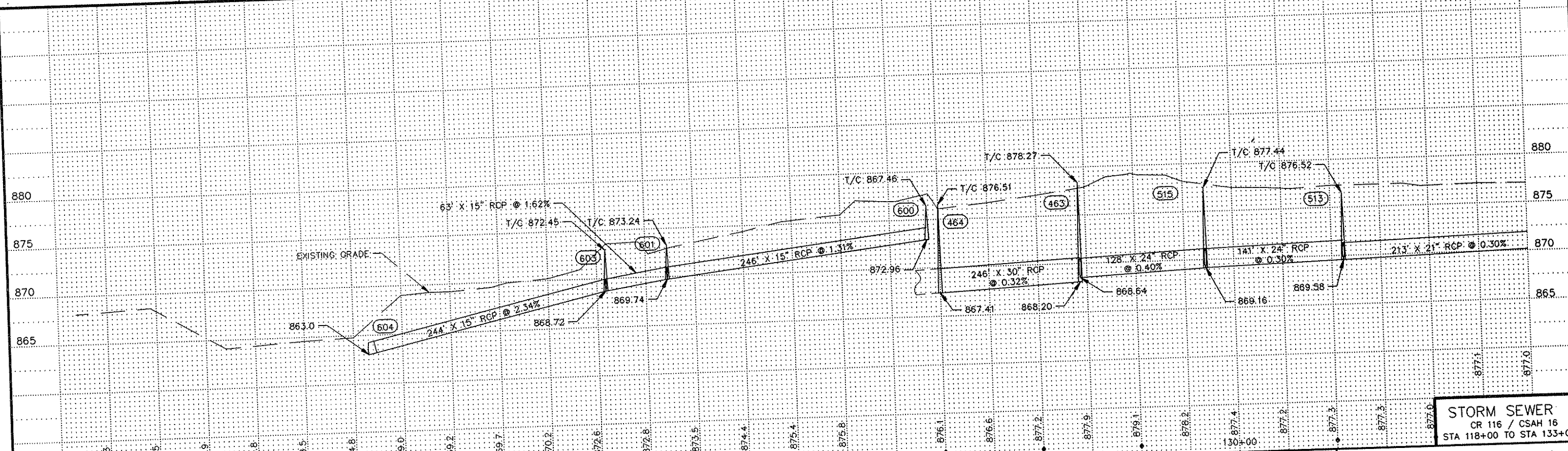
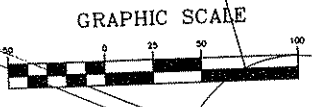
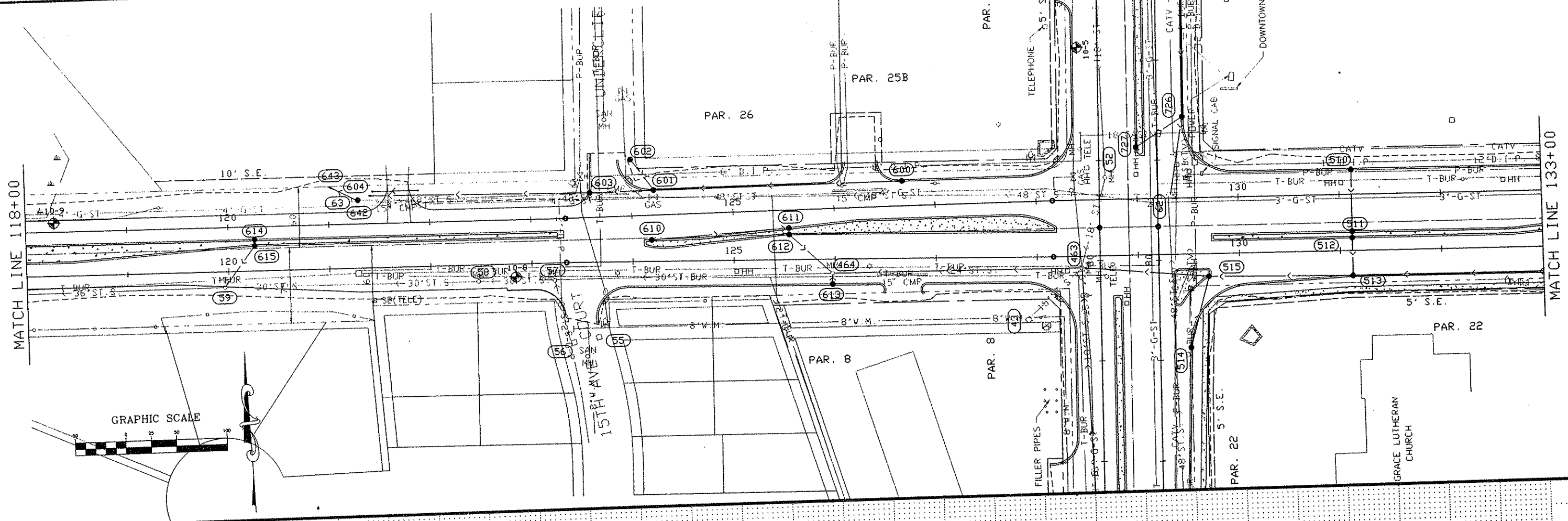
STORM SEWER
 CSAH 9
 STA 76+00 TO STA 91+00

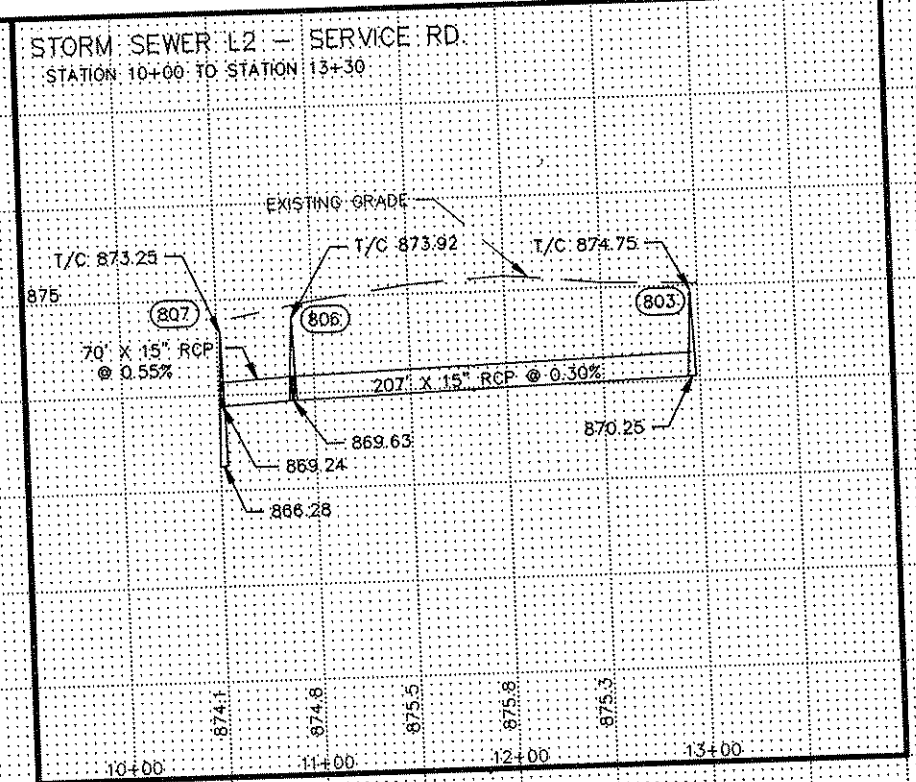
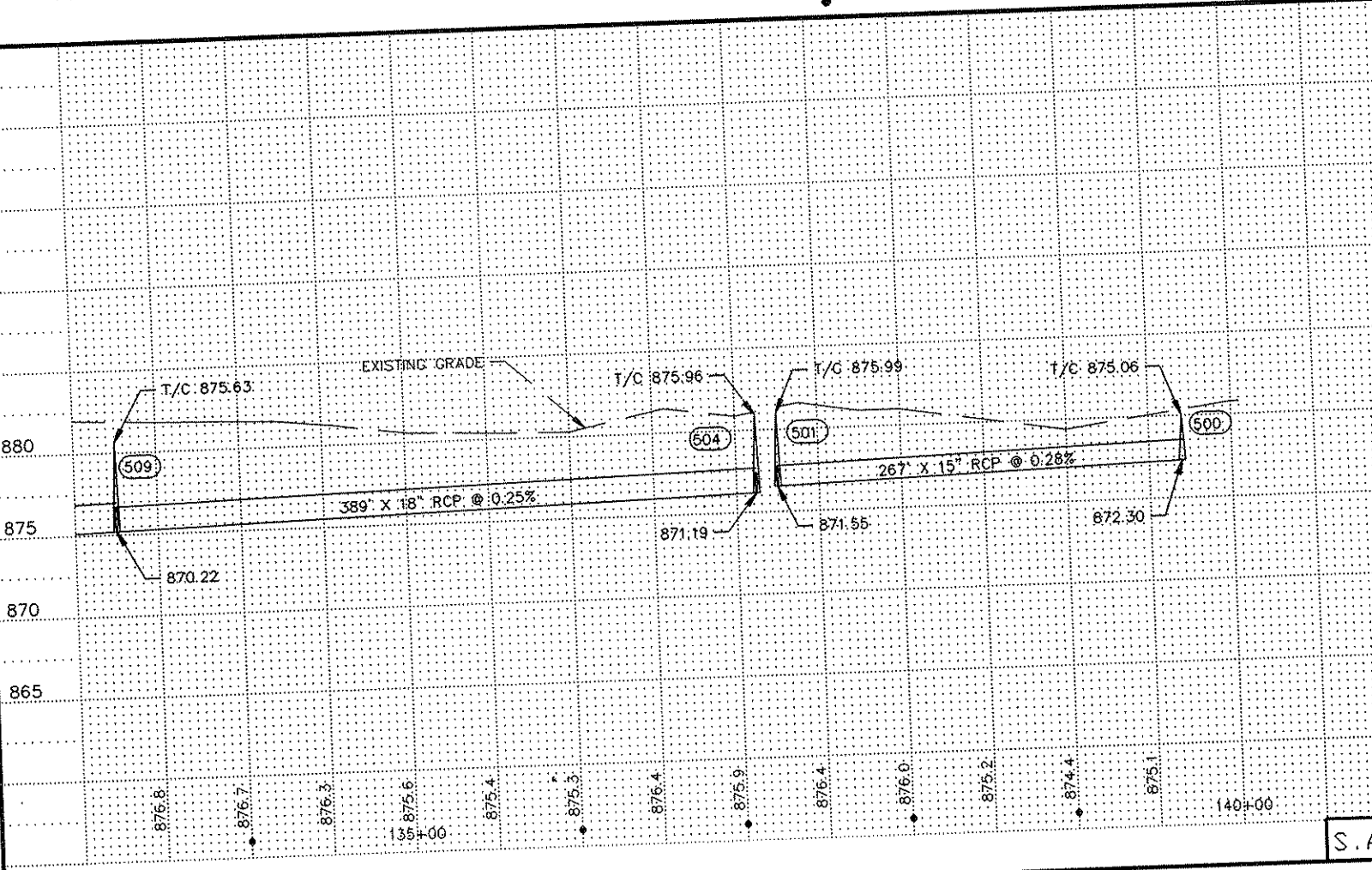
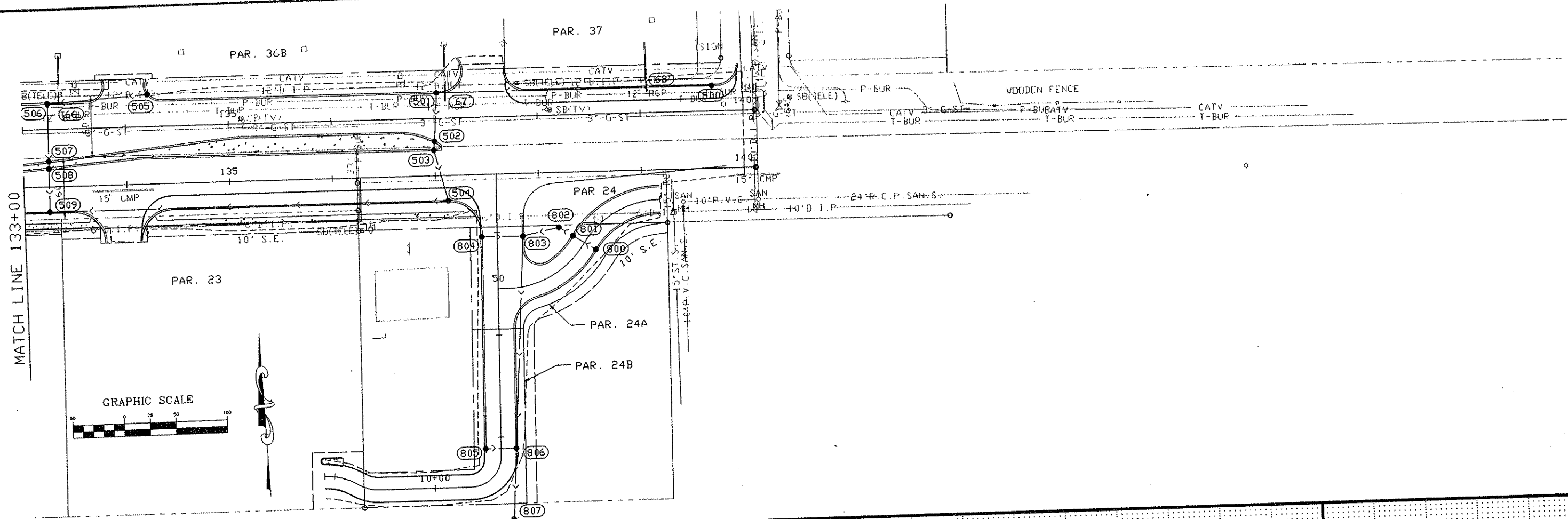




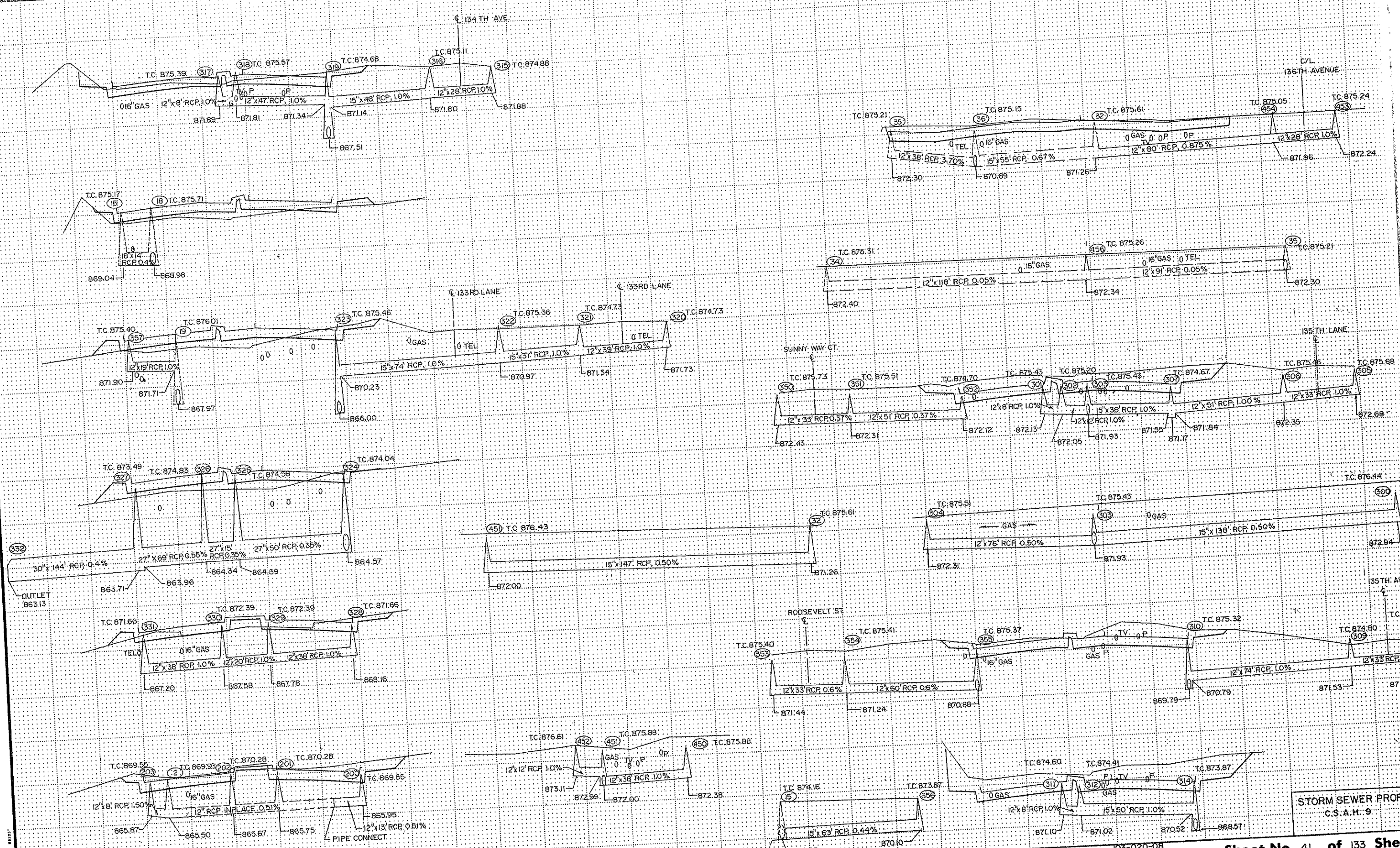
SEE DRAINAGE PROFILE SHEETS 41 TO 43 FOR DETAILS.

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

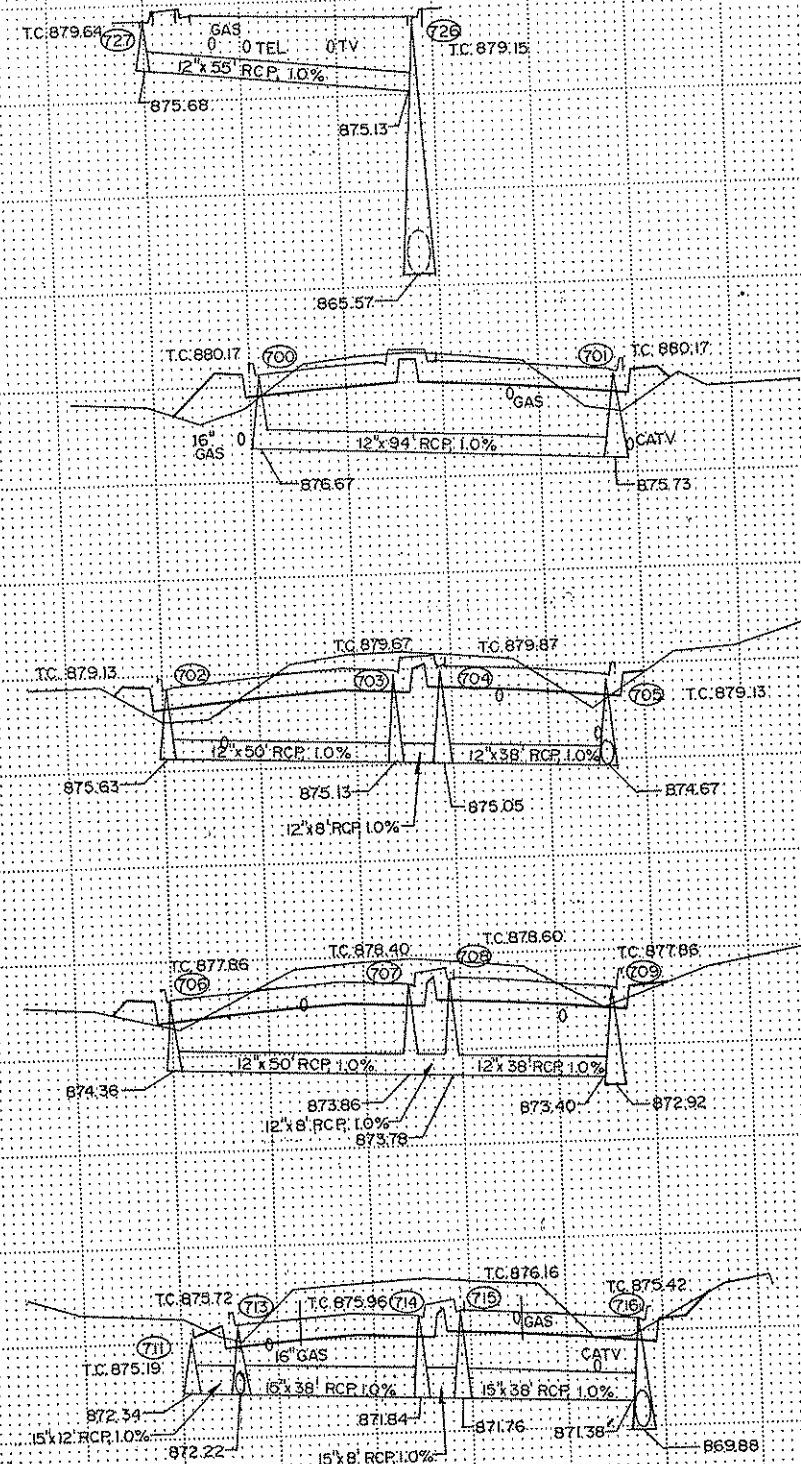
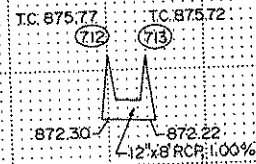
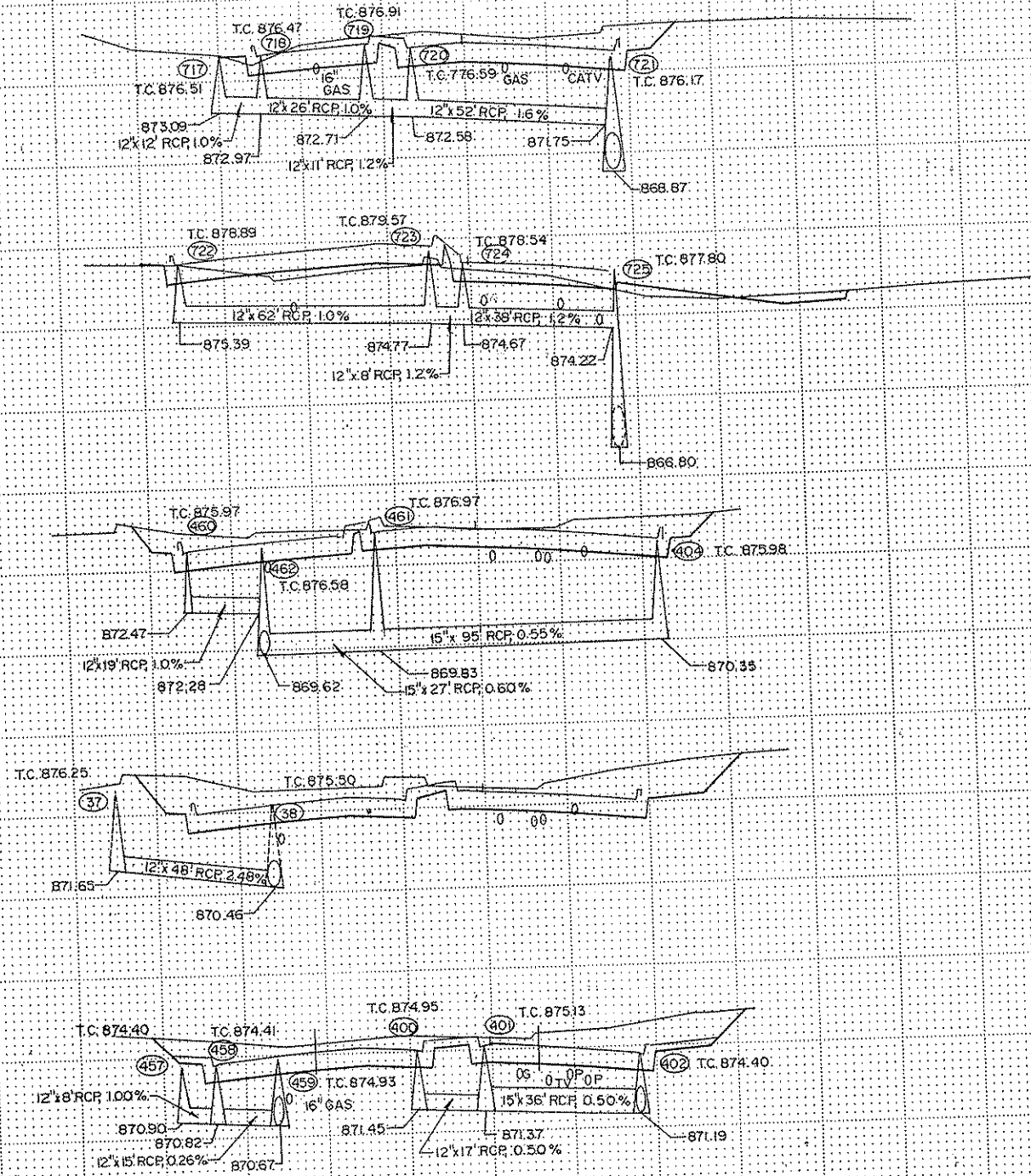




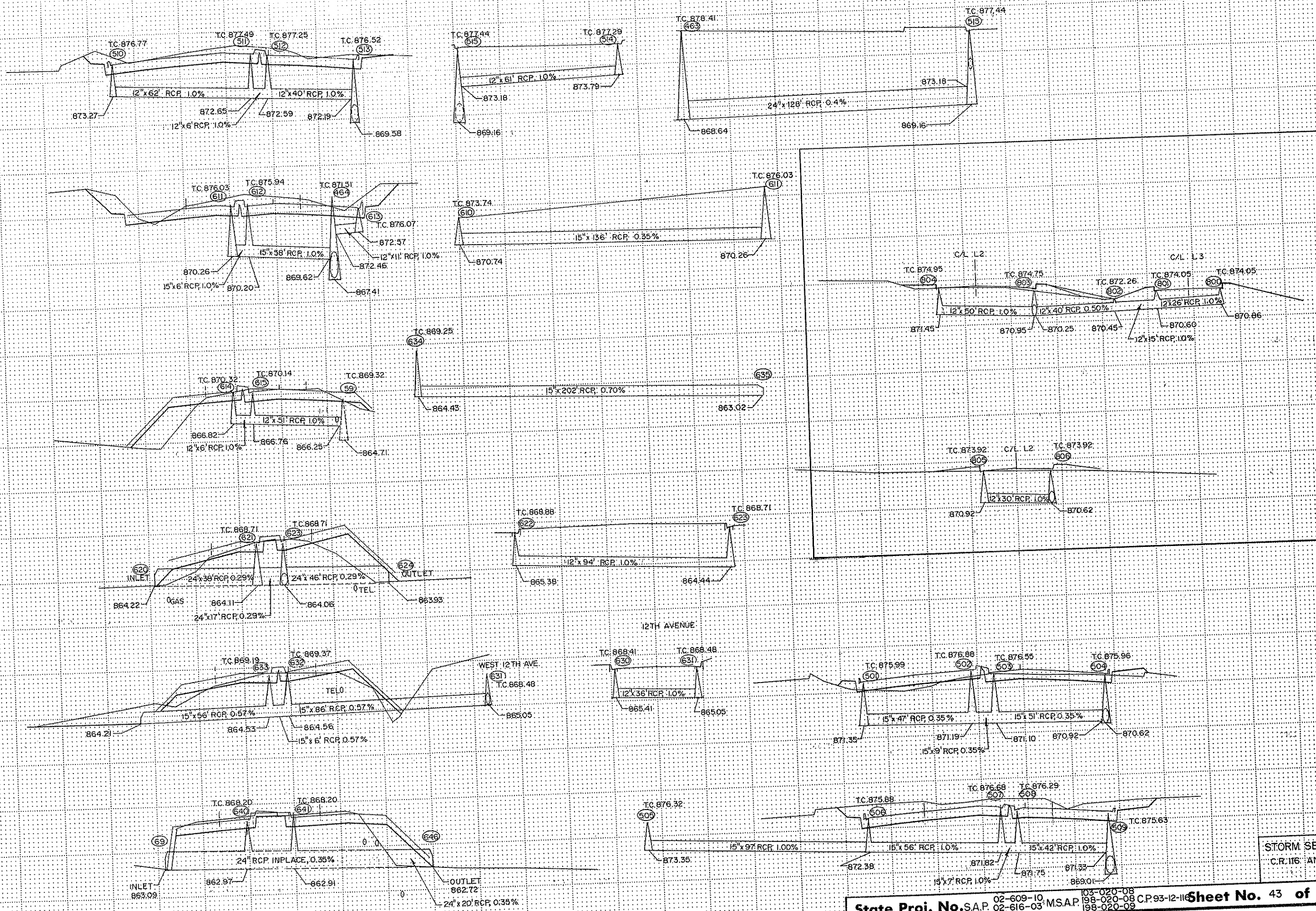
STORM SEWER
CSAH 16
STA 133+00 TO STA 140+00



STORM SEWER PROFILE
C.S.A.M.: 9



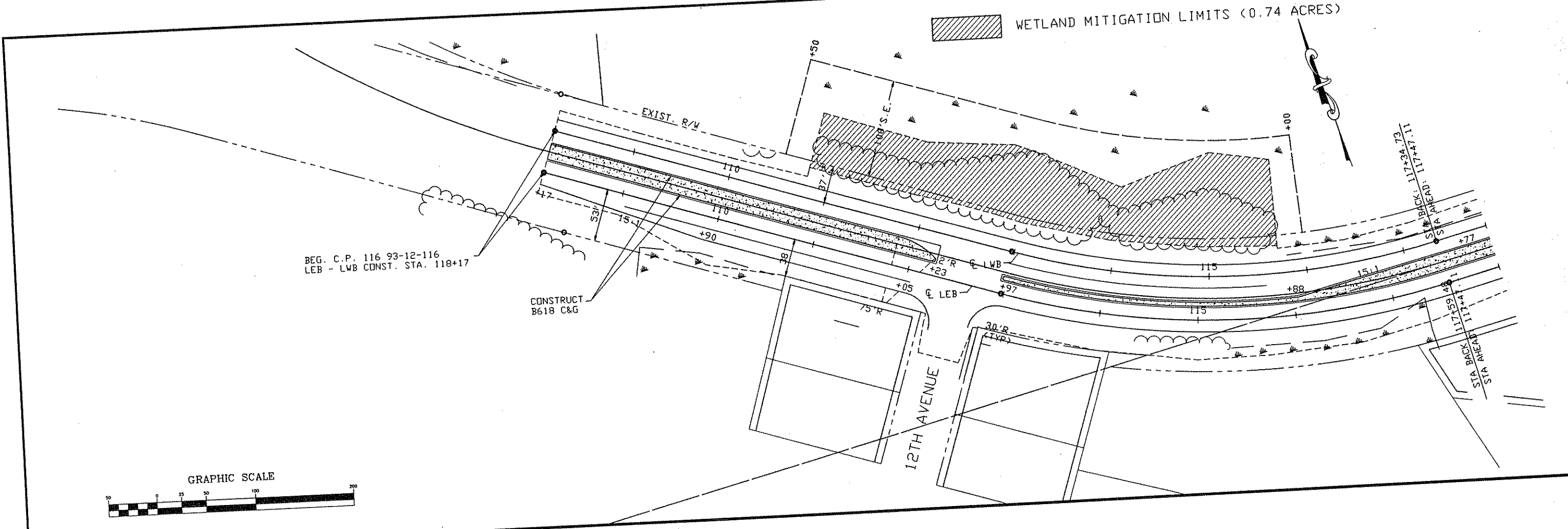
STORM SEWER PROFILE
C.S.A.H. 9



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

Equipment Form #1

WETLAND MITIGATION LIMITS (0.74 ACRES)



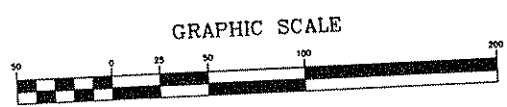
BEG. C.P. 116 93-12-116
LEB - LWB CONST. STA. 118+17

CONSTRUCT
B618 C&G

12TH AVENUE

STA BACK: 117+34.73
STA AHEAD: 117+47.11

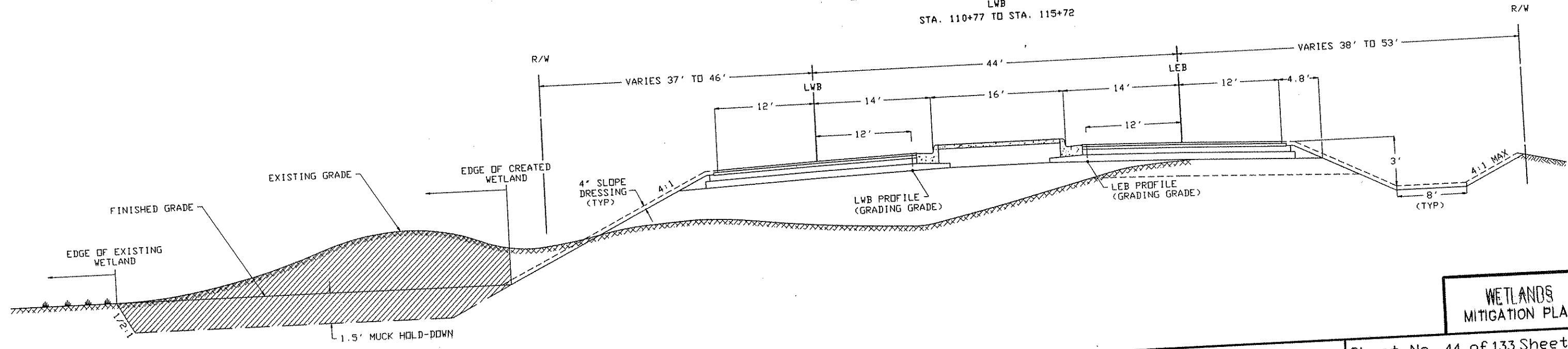
STA BACK: 117+39.41
STA AHEAD: 117+44.11



WETLAND MITIGATION LIMITS

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

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



WETLANDS
MITIGATION PLAN

BASE OVERLAY NO.

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

(4) INSTALL TYPE A100-A-50-D40-9 (DAVT AT 350') (FURNISHED BY COUNTY)

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

(5) INSTALL TYPE 1C (FURNISHED BY COUNTY)

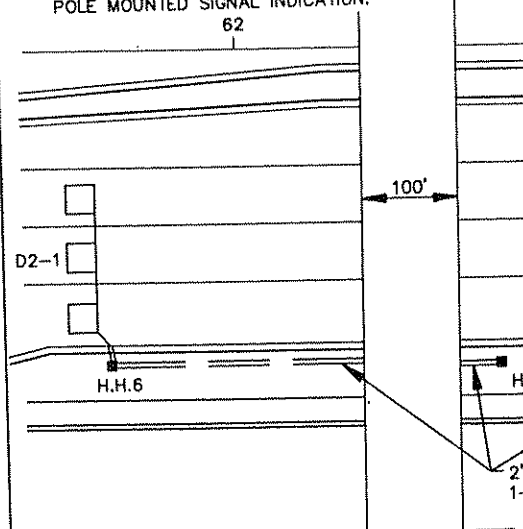
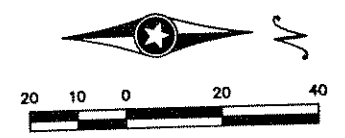
10' PEDESTAL POLE AND BASE
 PEDESTAL FOUNDATION
 2-PEDESTRIAN PUSH BUTTONS
 EXTEND INTO H.H.9:
 2"R.S.C.
 1-12/c#12
 1-3/c#12

INSTALL 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.13:
 3"R.S.C.
 2-12/c#12
 1-3/c#12

(B) SERVICE CABINET
 CABINET FOUNDATION
 EXTEND INTO H.H.17:
 2"R.S.C.

(FOR SERVICE BY AEC)
 EXTEND INTO H.H.16:
 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.11:
 2"R.S.C.
 2-1/c#10

(A) 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)



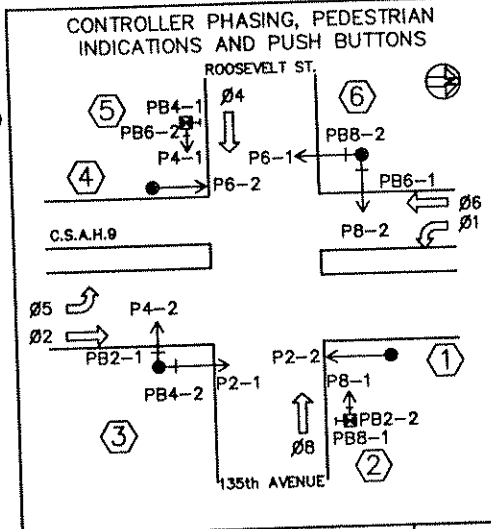
LOOP DETECTORS			
NUMBER	SIZE (FT)	LOCATION	FUNCTION
D1-1	2-6x6	20'	1
D1-2	2-6x6	5'	1
D2-1	3-6x6	330'	1
D4-1	6x6	120'	3,8
D4-2	6x6	5'	7
D4-3	2-6x6	5'	1
D5-1	2-6x6	20'	1
D5-2	2-6x6	5'	1
D6-1	3-6x6	300'	1
D8-1	6x6	120'	3,8
D8-2	6x6	5'	7
D8-3	2-6x6	5'	1

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

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

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

(2) INSTALL TYPE 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.
Robert A. Elmer
 Date: 4/2/93 Reg. No. 5859

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



ANOKA COUNTY, MINNESOTA
 CITIES OF ANDOVER AND ANOKA

TRAFFIC SIGNAL SYSTEM "A"
 INTERSECTION LAYOUT
 ROUND LAKE BLVD. (CSAH 9) AT 135th AVE./ROOSEVELT ST.
 FILE NO. 92219
 DATE 4/2/93

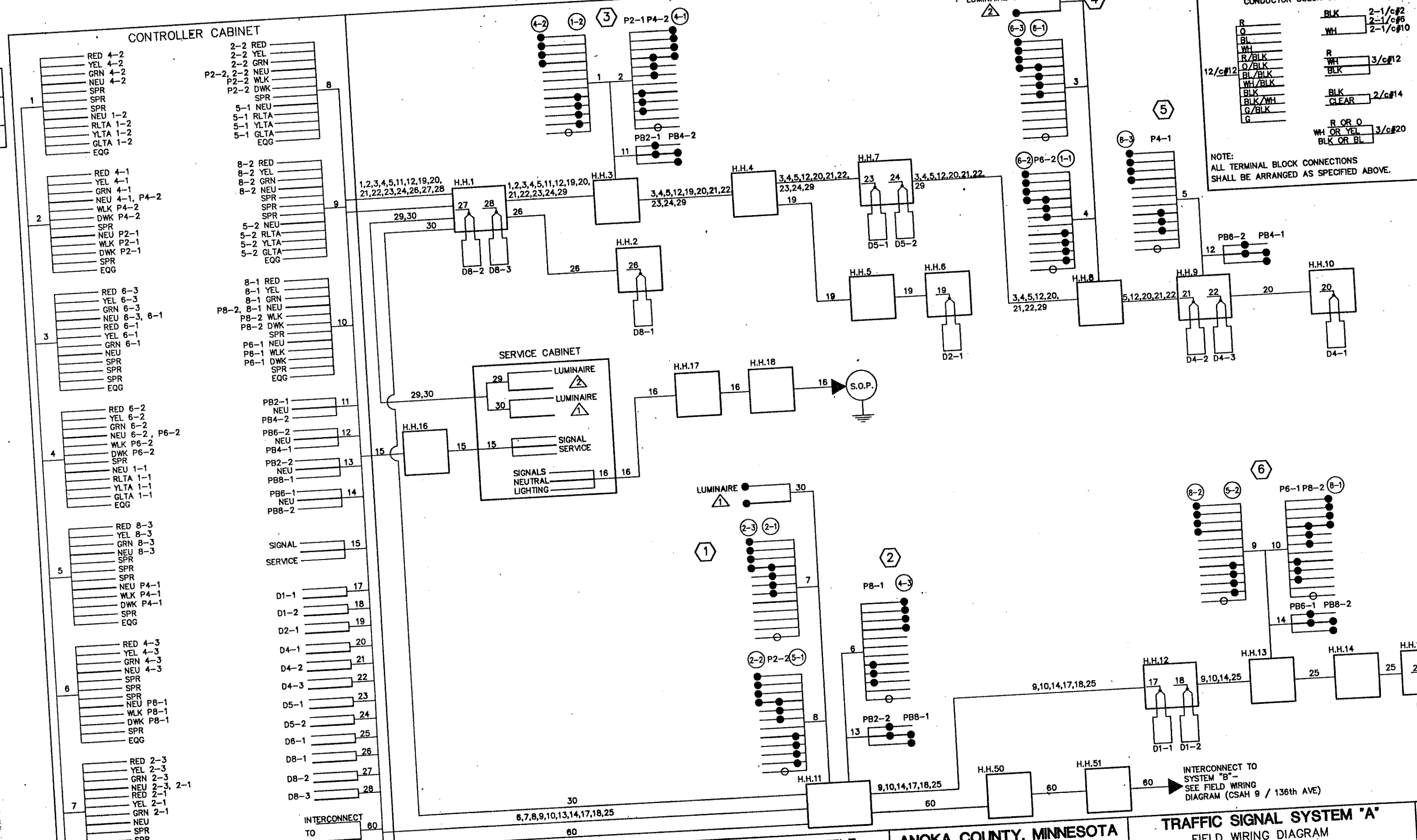
S.A.P. 02-609-10 S.P. _____ C.P. _____

Sheet No. 45 of 133 Sheets

CONDUCTOR COLOR CODING

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

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



BASE OVERLAY NO.

"ELECTRICAL ENGINEER CERTIFICATION"
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
Robert D. Elton
Date: 4/2/93 Reg. No. 5859

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



ANOKA COUNTY, MINNESOTA
CITIES OF ANDOVER AND ANOKA

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

S.A.P. 02-609-10

S.P. _____ C.P. _____

Sheet No. 46 of 133 Sheets

FILE NO. 92211
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 (1-1), (1-2), (5-1) AND (5-2) SHALL BE 12"-3 SECTION RLTA-YLTA-GLTA.
- 3) SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- 4) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
- 5) EACH PEDESTRIAN INDICATION SHALL BE 12"x12".
- 6) SEE SPECIAL PROVISIONS AND DETAILS FOR ANOKA COUNTY SERVICE CABINET INFORMATION.
- 7) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
- 8) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 1"N.M.C. SEE SPECIAL PROVISIONS AND DETAILS.
- 9) EACH HANDHOLE SHALL BE CONCRETE HANDHOLE WITH A 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.

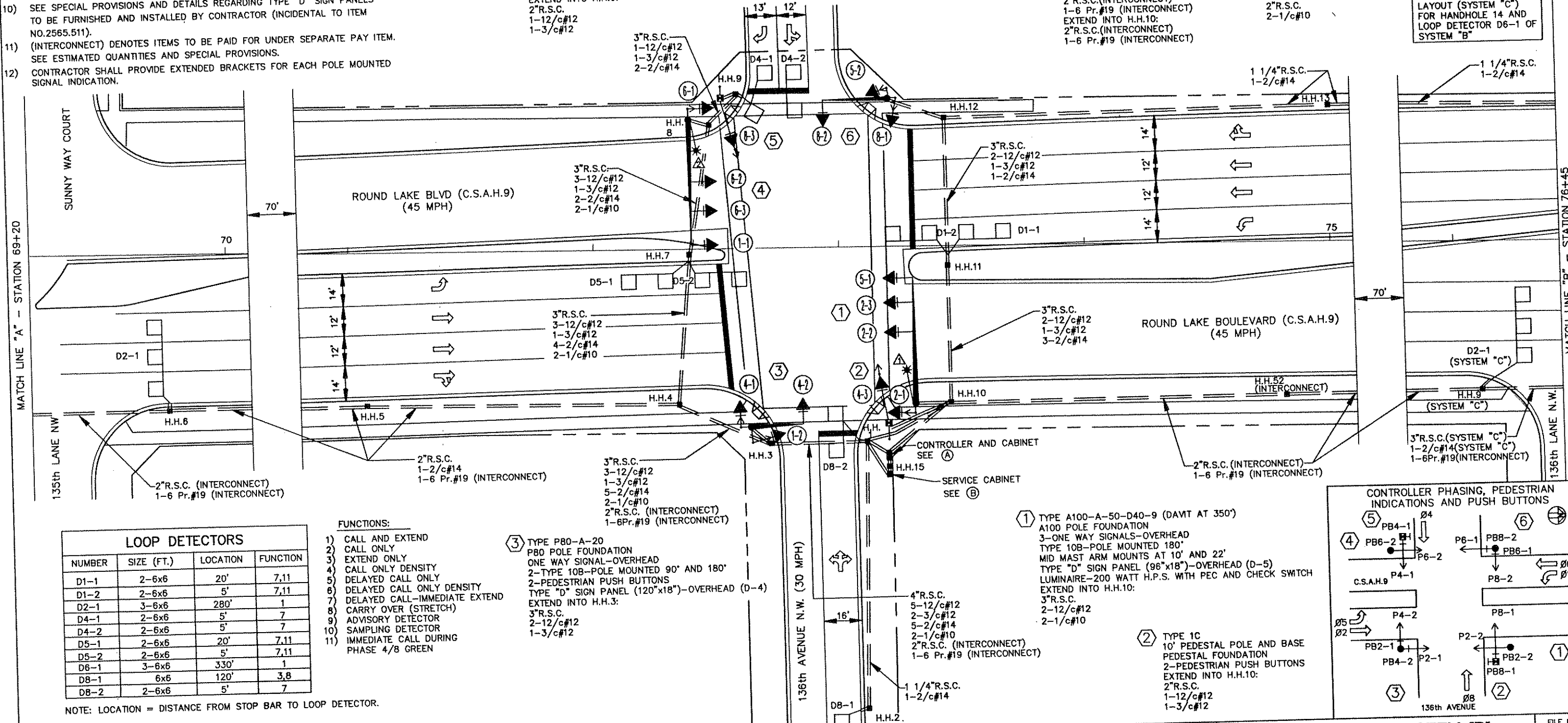
- ④ TYPE A100-A-50-D40-9 (DAVIT AT 350°)
 A100 POLE FOUNDATION
 3-ONE WAY SIGNALS-OVERHEAD
 TYPE 10B-POLE MOUNTED 180°
 MID MAST ARM MOUNTS AT 14' AND 26'
 TYPE "D" SIGN PANEL (96"x18")-OVERHEAD (D-6)
 LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH
 EXTEND INTO H.H.8:
 3"R.S.C.
 2-12/c#12
 2-1/c#10

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

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

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

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



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

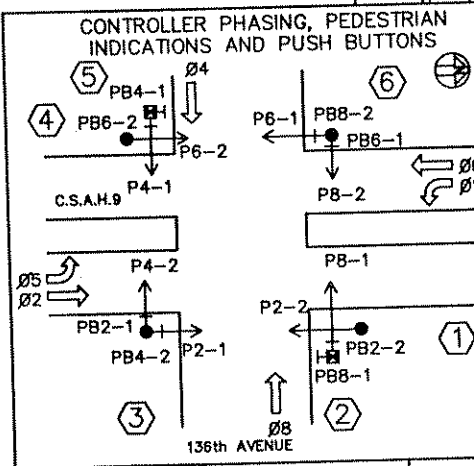
NOTE: LOCATION = DISTANCE FROM STOP BAR TO LOOP DETECTOR.

- 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) IMMEDIATE CALL DURING PHASE 4/8 GREEN

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

- ① TYPE A100-A-50-D40-9 (DAVIT 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



"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. 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

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

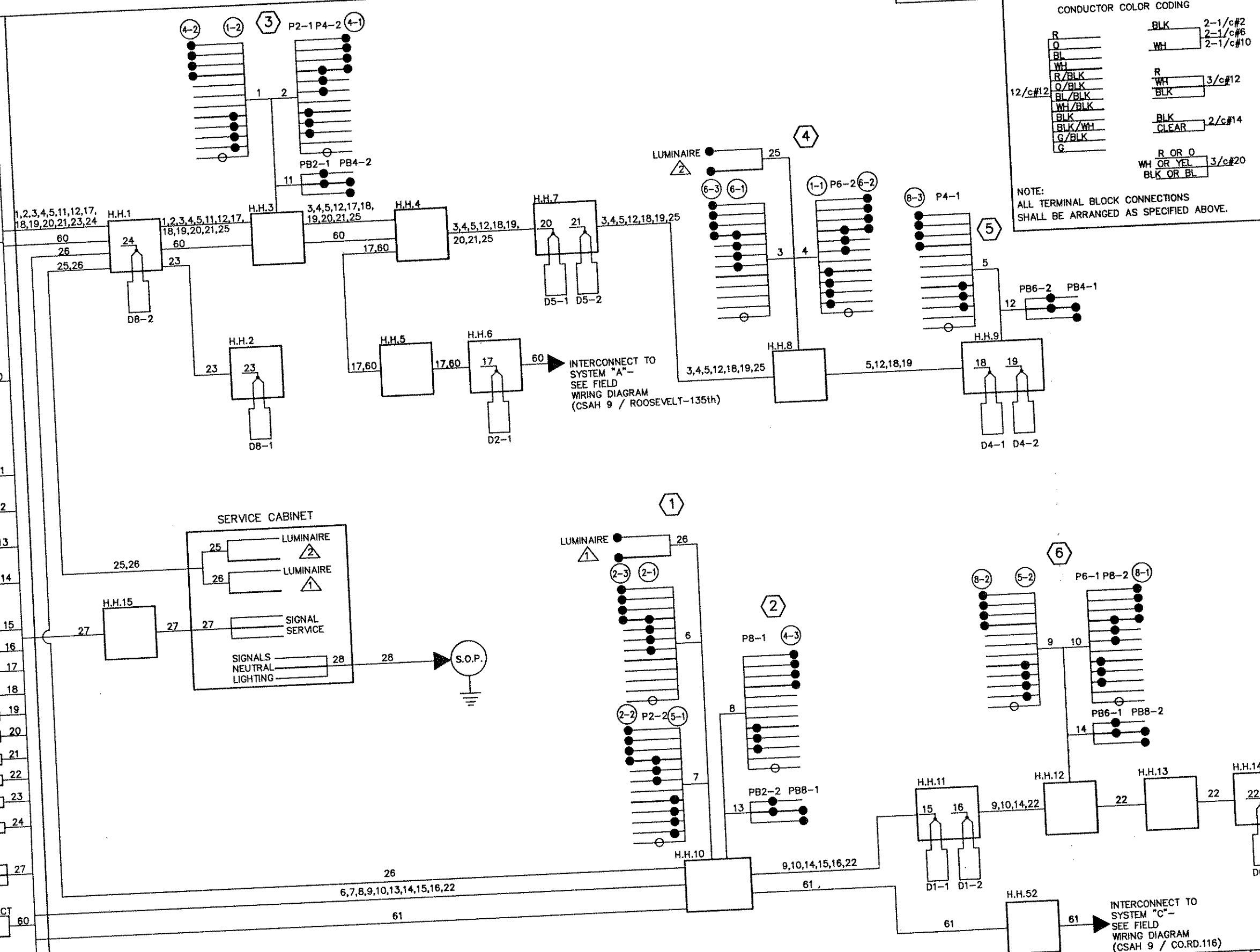
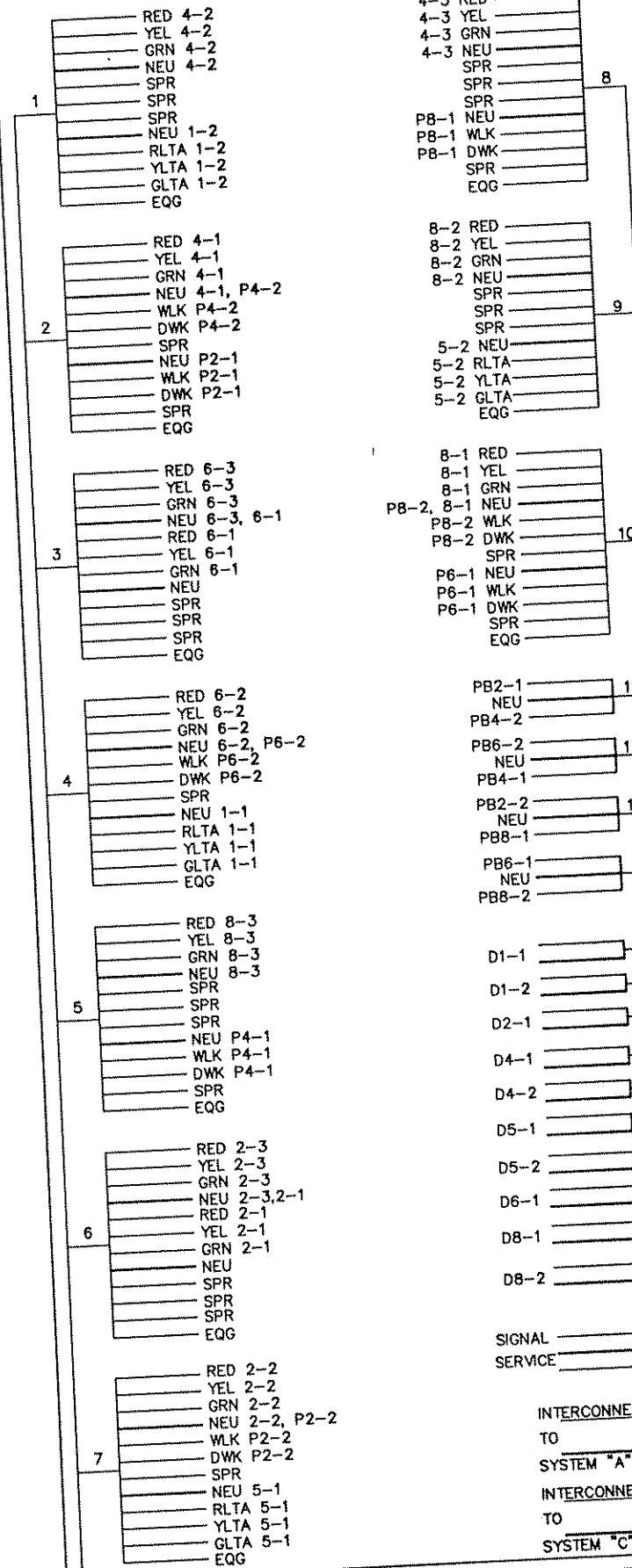
FILE NO. 92219
 DATE 4/2/93

CONDUCTOR COLOR CODING

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

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

CONTROLLER CABINET



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Robert A. Ellor
Date: 4/2/93 Reg. No. 5859

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John M. Gray
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 C.P. _____

TRAFFIC SIGNAL SYSTEM "B"
FIELD WIRING DIAGRAM
ROUND LAKE BLVD.(CSAH 9) AT 136th AVENUE N.W.
Sheet No. 48 of 133 Sheets
FILE NO. 92219
DATE 4/2/93



- NOTES:
- 1) LOCATION OF CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS, POLE BASES AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - 2) EACH SIGNAL FACE SHALL BE 12"-3 SECTION R-Y-G, EXCEPT THAT SIGNAL FACES (1), (2), (3), (4), (5) AND (6) 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) 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 24' ON POLES (1) AND (4) AS APPROVED BY THE ENGINEER.
 - 15) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED SIGNAL INDICATION.
 - 16) HANDHOLES 1 AND 16 SHALL BE DOUBLE HANDHOLES.

- (4) INSTALL TYPE A100-A-45-D40-9 (DAVIT AT 350') (FURNISHED BY COUNTY)
 A100 POLE FOUNDATION
 INSTALL 2-ONE WAY SIGNALS-OVERHEAD (FURNISHED BY COUNTY)
 INSTALL 2-TYPE 10B-POLE MOUNTED 90' AND 180' (FURNISHED BY COUNTY)
 MID MAST ARM MOUNT AT 12' AND 24'
 2-PEDESTRIAN PUSH BUTTONS
 TYPE "D" SIGN PANEL (126"x18")-OVERHEAD (D-8)
 LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH
 EXTEND INTO H.H.11:
 3"R.S.C.
 1-2/c#14

- (6) INSTALL TYPE A100-A-45-D40-9(DAVIT AT 350') (FURNISHED BY COUNTY)
 A100 POLE FOUNDATION
 INSTALL 2-ONE WAY SIGNALS-OVERHEAD (FURNISHED BY COUNTY)
 INSTALL 2-TYPE 10B-POLE MOUNTED 90' AND 270' (FURNISHED BY COUNTY)
 INSTALL TYPE 10A-POLE MOUNTED 180' (FURNISHED BY COUNTY)
 MID MAST ARM MOUNT AT 12'
 2-PEDESTRIAN PUSH BUTTONS
 TYPE "D" SIGN PANEL (120"x18")-OVERHEAD (D-7)
 LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH
 EXTEND INTO H.H.18:
 3"R.S.C.
 2-12/c#12
 2-3/c#12
 2-1/c#10

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

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

- (7) 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

- (2) INSTALL TYPE A100-A-50-D40-9 (DAVIT AT 350') (FURNISHED BY COUNTY)
 A100 POLE FOUNDATION
 INSTALL 3-ONE WAY SIGNALS-OVERHEAD (FURNISHED BY COUNTY)
 INSTALL 2-TYPE 10B-POLE MOUNTED 90' AND 270' (FURNISHED BY COUNTY)
 INSTALL TYPE 10A-POLE MOUNTED 180' (FURNISHED BY COUNTY)
 MID MAST ARM MOUNTS AT 5' AND 23'
 2-PEDESTRIAN PUSH BUTTONS
 TYPE "D" SIGN PANEL (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

- (1) INSTALL TYPE A100-A-50-D40-9(DAVIT AT 350') (FURNISHED BY COUNTY)
 A100 POLE FOUNDATION
 INSTALL 2-ONE WAY SIGNALS-OVERHEAD (FURNISHED BY COUNTY)
 INSTALL 2-TYPE 10B-POLE MOUNTED 90' AND 270' (FURNISHED BY COUNTY)
 INSTALL TYPE 10A-POLE MOUNTED 180' (FURNISHED BY COUNTY)
 MID MAST ARM MOUNT AT 12' AND 24'
 2-PEDESTRIAN PUSH BUTTONS
 TYPE "D" SIGN PANEL (126"x18")-OVERHEAD (D-8)
 LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH
 EXTEND INTO H.H.16:
 3"R.S.C.
 2-12/c#12
 2-3/c#12
 2-1/c#10

SEE NEXT SHEET FOR CONTROLLER CABINET AND SERVICE CABINET NOTES.

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

SEE INTERSECTION LAYOUT (SYSTEM "B") FOR HANDHOLE 9 AND LOOP DETECTOR D2-1 OF SYSTEM "C"

MATCH LINE "B" - STATION 76+45

MATCH LINE "C" - STATION 84+25

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

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

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

"ELECTRICAL ENGINEER CERTIFICATION"
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Robert D. Elton
 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"
INTERSECTION LAYOUT
ROUND LAKE BLVD.(CSAH 9) AT BUNKER LAKE BLVD.(CO.RD. 116)

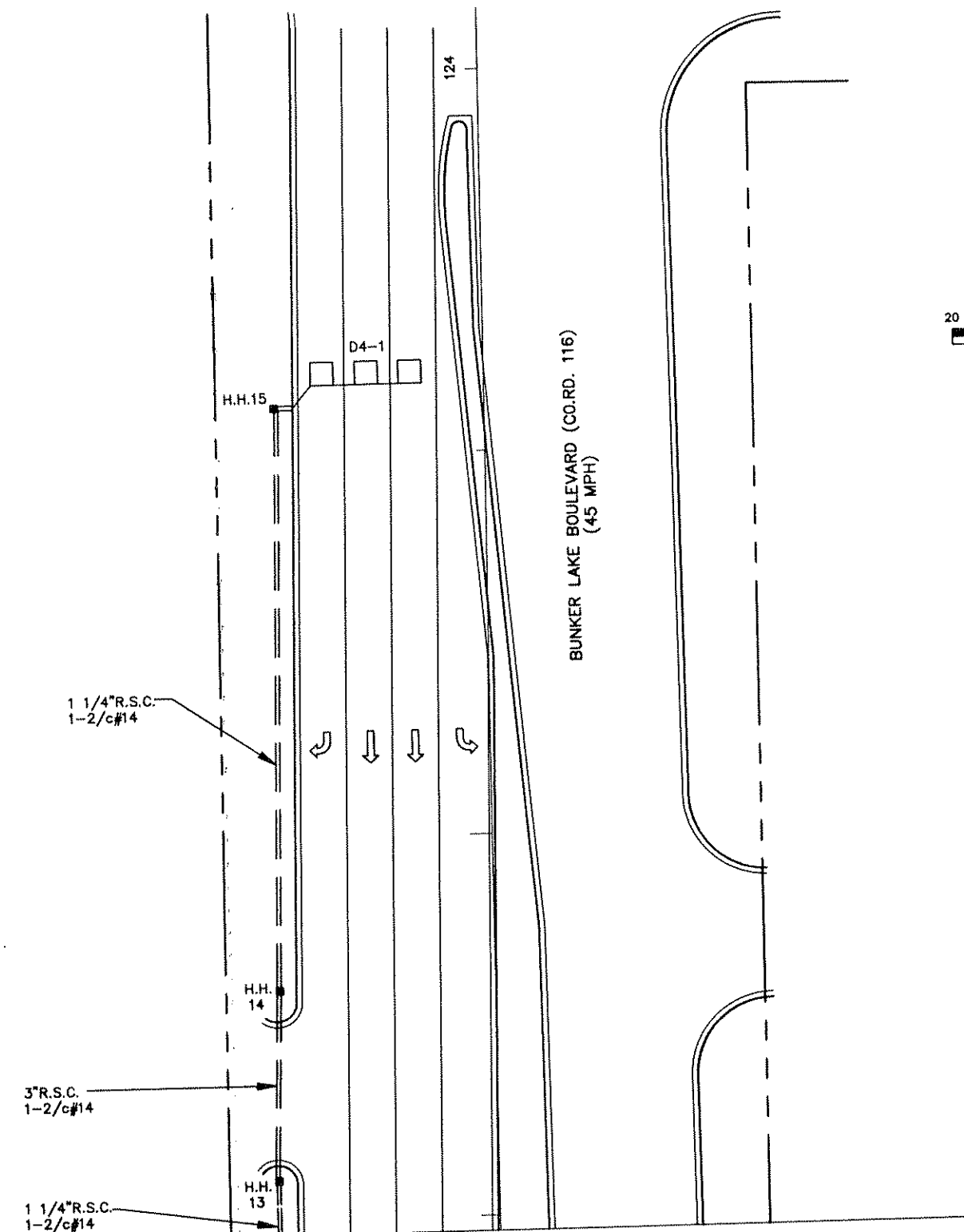
FILE NO. 92219
DATE 4/2/93

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

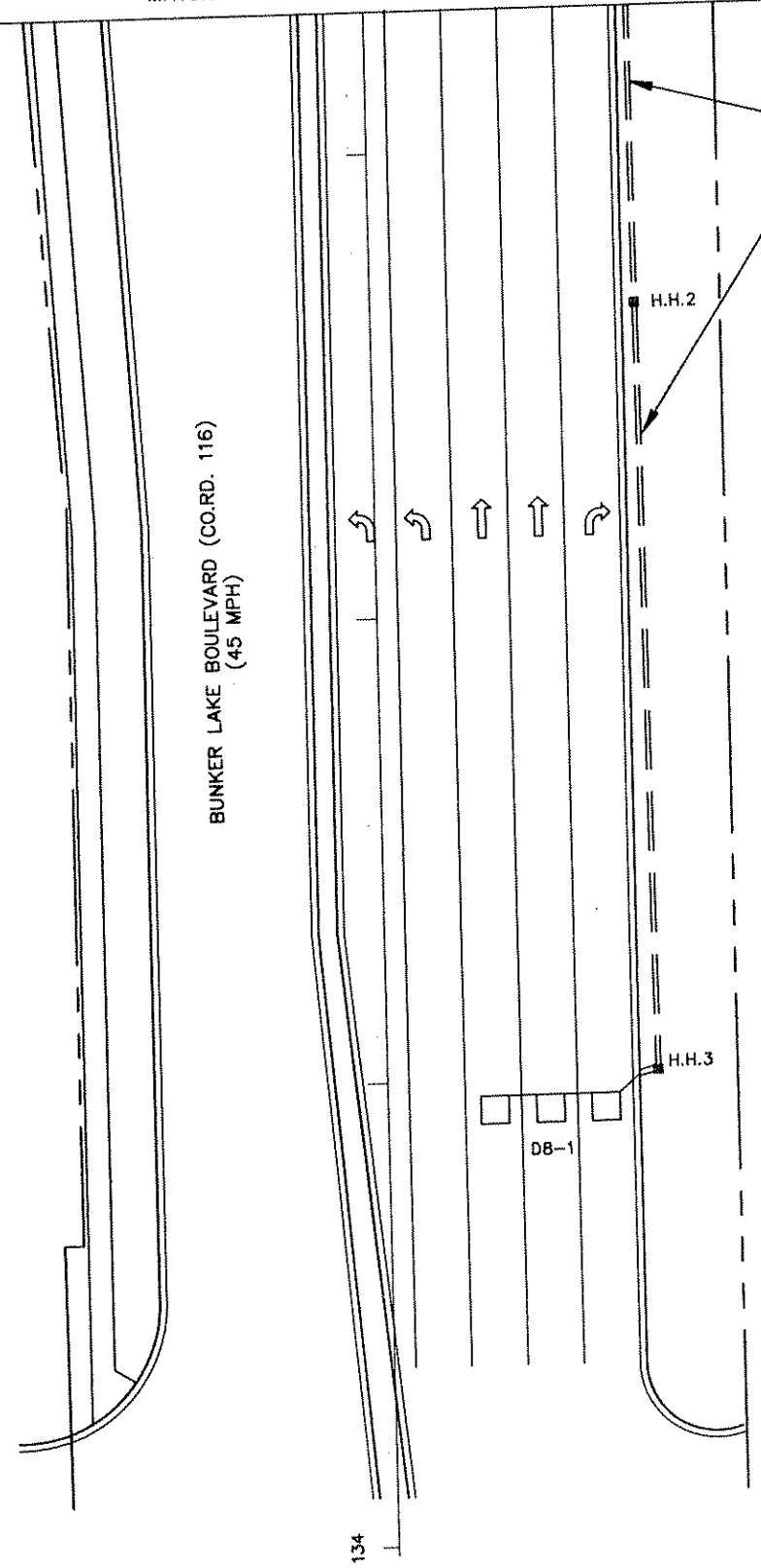
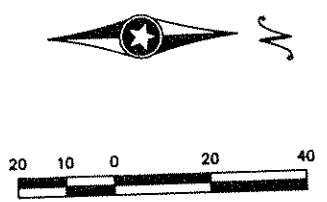
C.P. 93-12-116

Sheet No. 49 of 133 Sheets

MATCH LINE "G" - STATION 130+70



MATCH LINE "F" - STATION 127+04



- (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

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Robert A. Eller
 Date: 4/2/93 Reg. No. 5859

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John M. Hayes
 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)

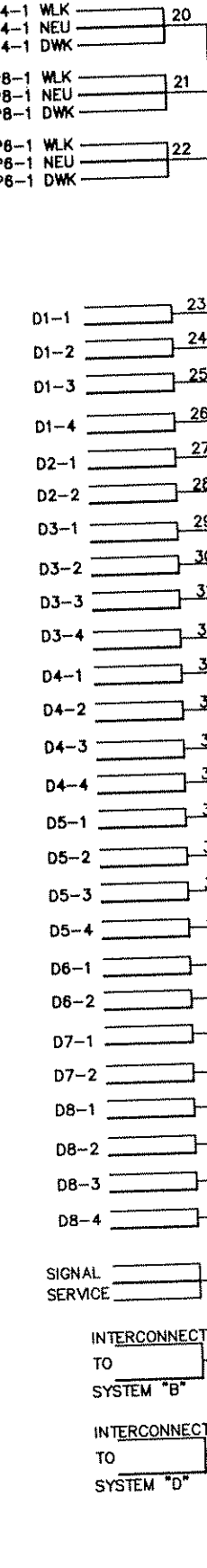
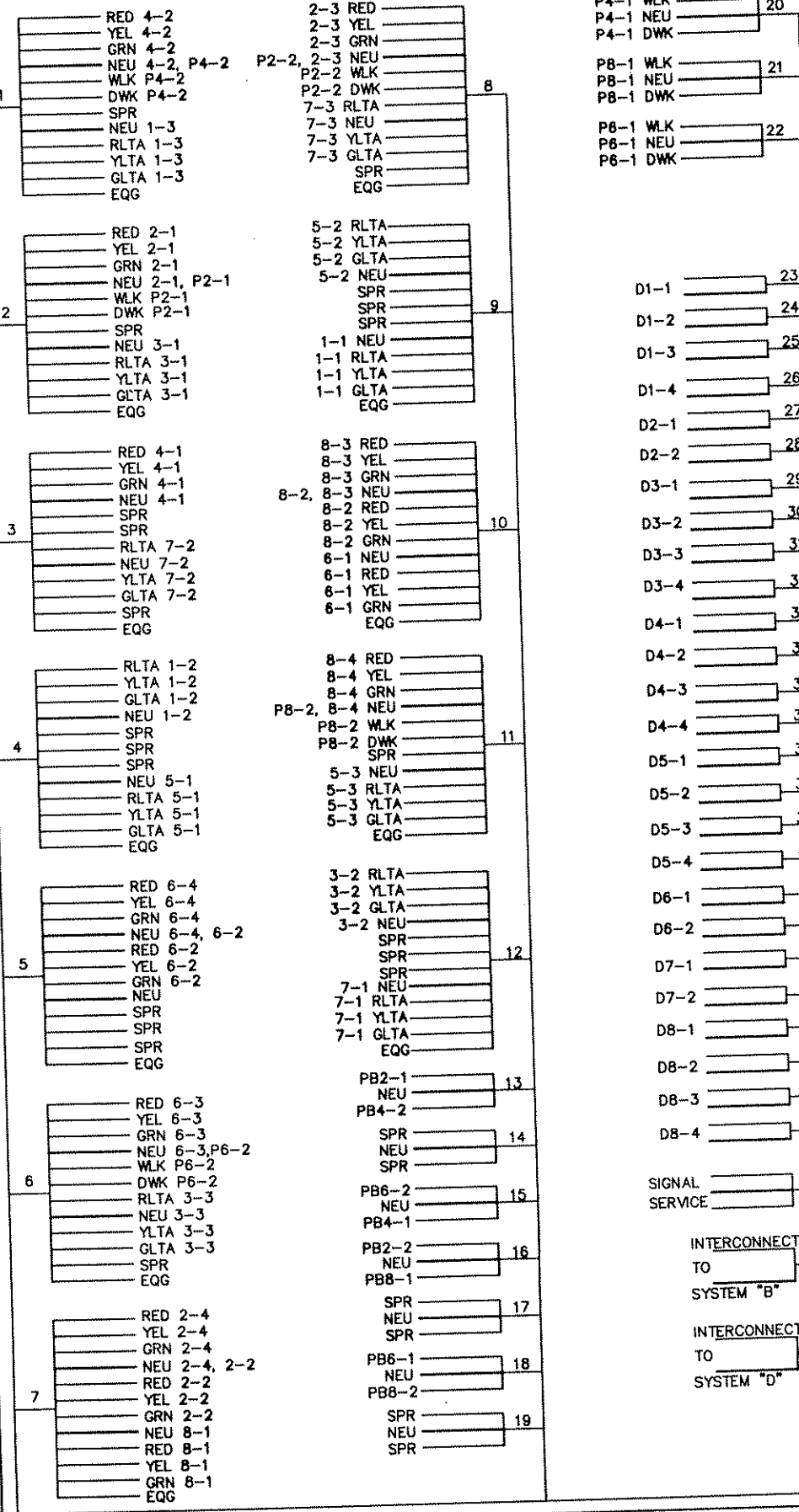
FILE NO.
92219
DATE
4/2/93

S.A.P. 02-609-10 ,02-616-03 S.P. _____ C.P. 93-12-116

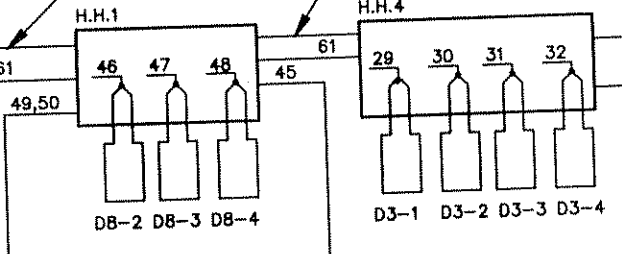
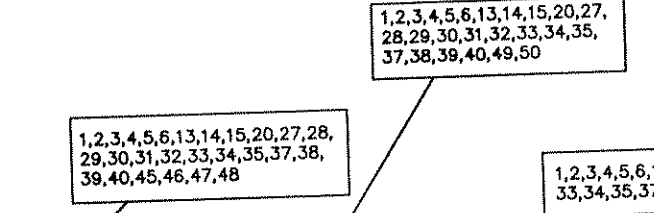
Sheet No. 50 of 133 Sheets

CONTROLLER CABINET

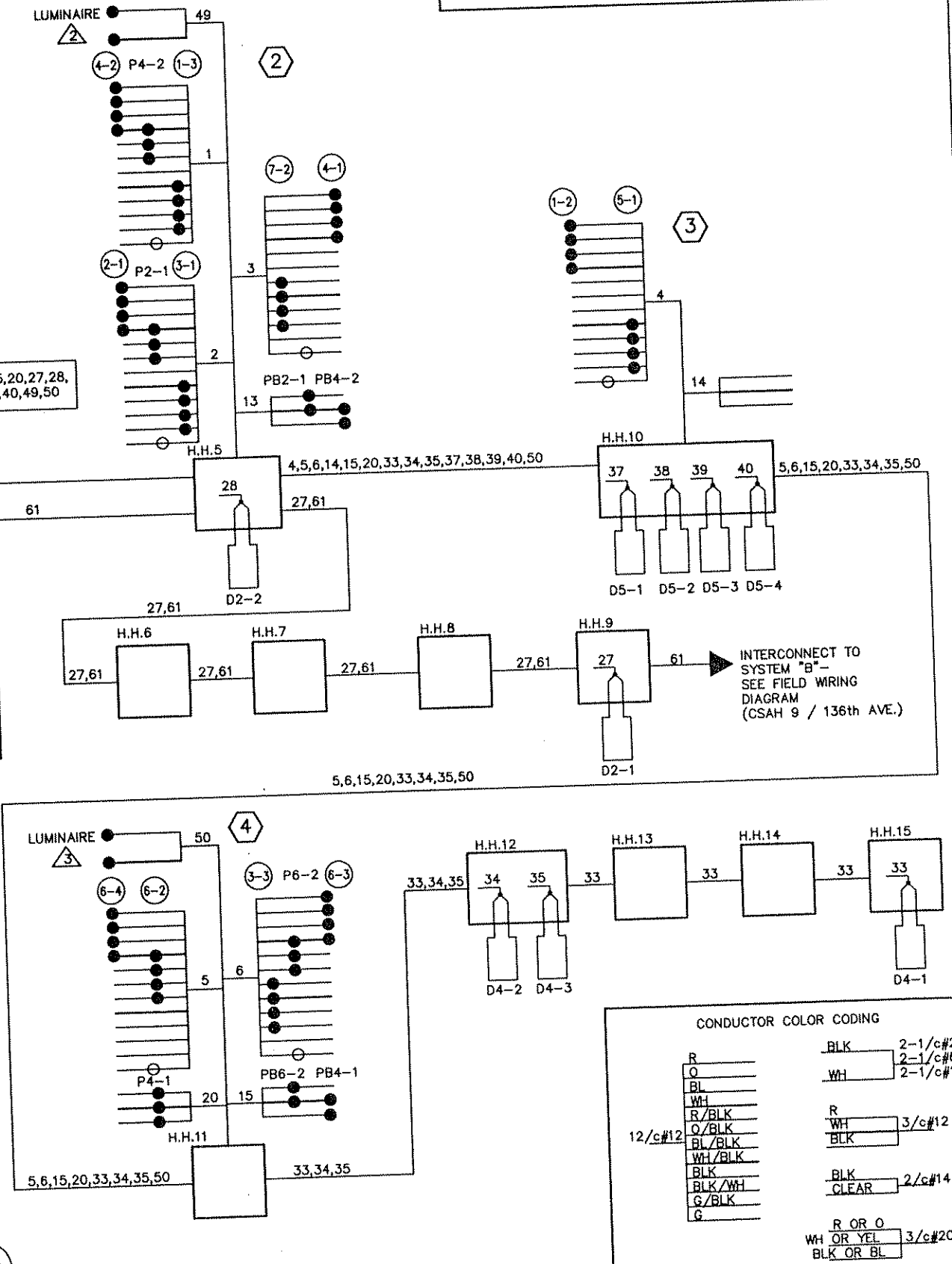
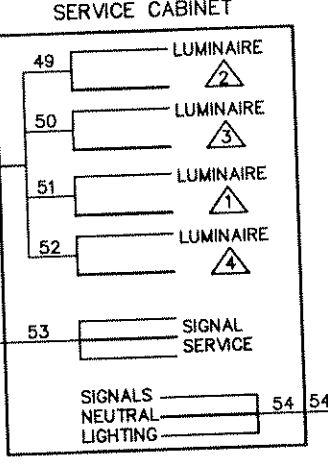
BASE OVERLAY (DRG. NO.)



7,8,9,10,11,12,16,17,18,19,21,22,23,24,25,26,36,41,42,43,44
TO H.H.16 SEE NEXT SHEET



TO H.H.16 SEE NEXT SHEET



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

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

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

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

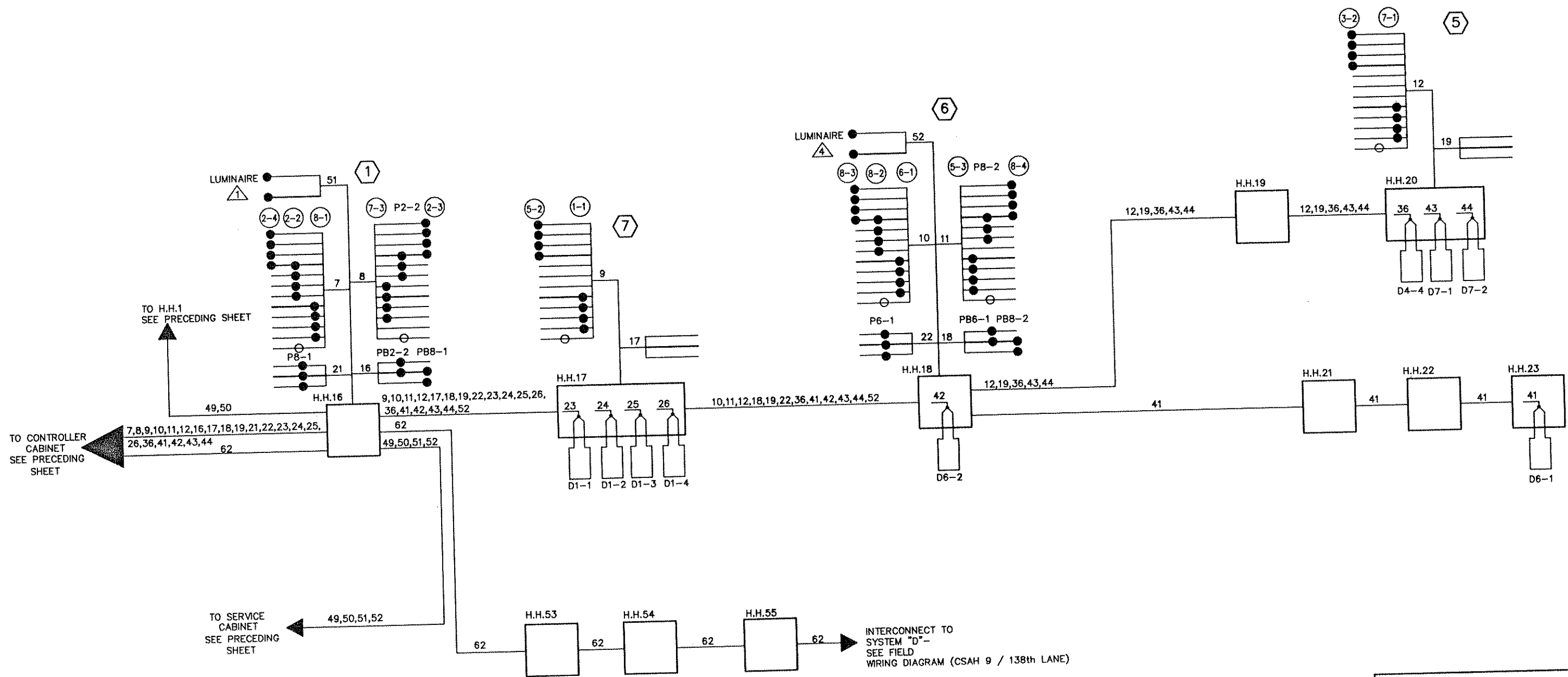


ANOKA COUNTY, MINNESOTA
CITIES OF ANDOVER AND ANOKA

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

BASE OVERLAY (DKG. N2)



TO H.H.1
SEE PRECEDING SHEET

TO CONTROLLER
CABINET
SEE PRECEDING
SHEET

TO SERVICE
CABINET
SEE PRECEDING
SHEET

INTERCONNECT TO
SYSTEM "D"-
SEE FIELD
WIRING DIAGRAM (CSAH 9 / 138th LANE)

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

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

NO.	BY	DATE	REVISIONS

"ELECTRICAL ENGINEER CERTIFICATION"
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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

S.A.P. 02-609-10, 02-616-03 S.P. _____ C.P. 93-12-116

Sheet No. 52 of 133 Sheets

NOTES:

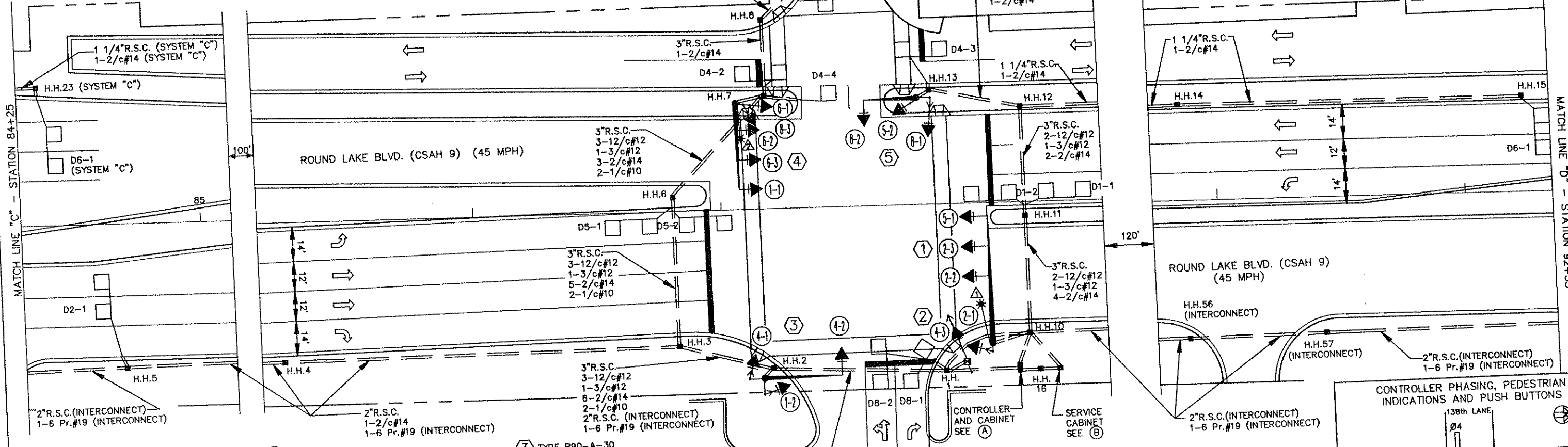
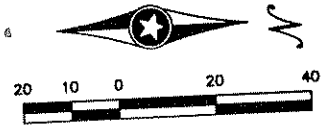
- 1) LOCATION OF CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS, POLE BASES AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) EACH SIGNAL FACE SHALL BE 12"-3 SECTION R-Y-G, EXCEPT THAT SIGNAL FACES (1-1), (1-2), (5-1) AND (5-2) SHALL BE 12"-3 SECTION RLTA-YLTA-GLTA.
- 3) SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- 4) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
- 5) EACH PEDESTRIAN INDICATION SHALL BE 12"x12".
- 6) SEE SPECIAL PROVISIONS AND DETAILS FOR ANOKA COUNTY SERVICE CABINET INFORMATION.
- 7) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
- 8) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 1"N.M.C. SEE SPECIAL PROVISIONS AND DETAILS.
- 9) EACH HANDHOLE SHALL BE 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 (DAVIT 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

- A) 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)

- B) 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
BETWEEN H.H.1 AND H.H.10:
2"R.S.C.
2-1/c#10



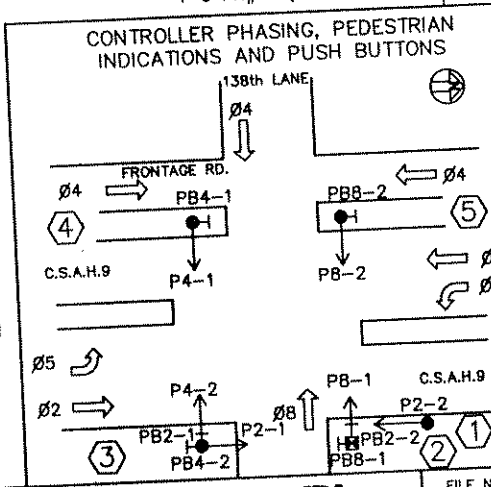
LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-6x6	20'	7,11
D1-2	2-6x6	5'	7,11
D2-1	2-6x6	330'	1
D4-1	2-6x6	5'	7
D4-2	2-6x6	5'	7
D4-3	2-6x6	5'	7
D4-4	6x6	5'	7
D5-1	2-6x6	20'	7,11
D5-2	2-6x6	5'	7,11
D6-1	2-6x6	330'	1
DB-1	2-6x6	5'	7
DB-2	2-6x6	5'	7

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

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

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

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



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

"ELECTRICAL ENGINEER CERTIFICATION"
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
Robert A. 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. Shay
Date: 4/2/93 Reg. No. 22457

ESEH
ENGINEERS ARCHITECTS PLANNERS
S.A.P. 02-609-10

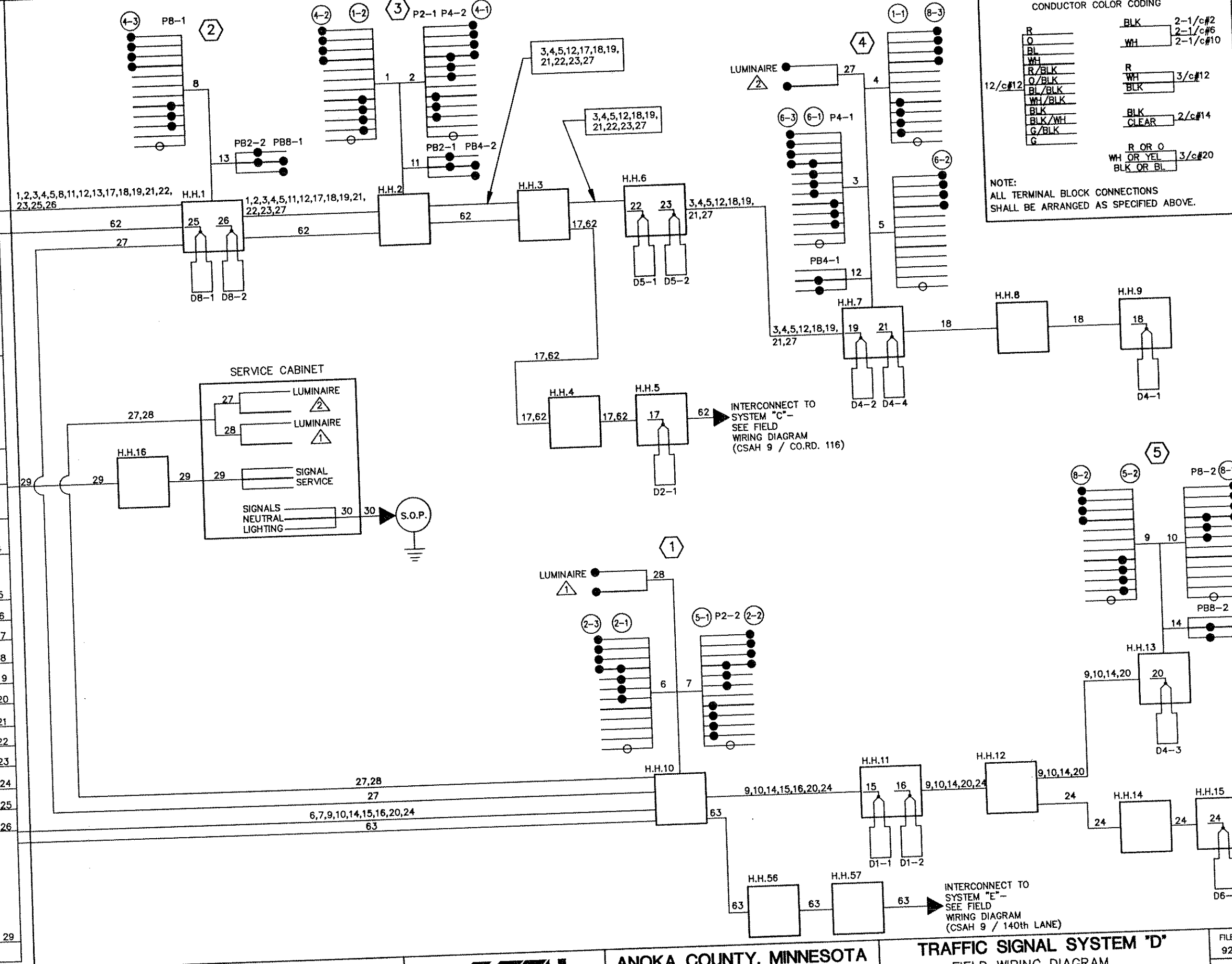
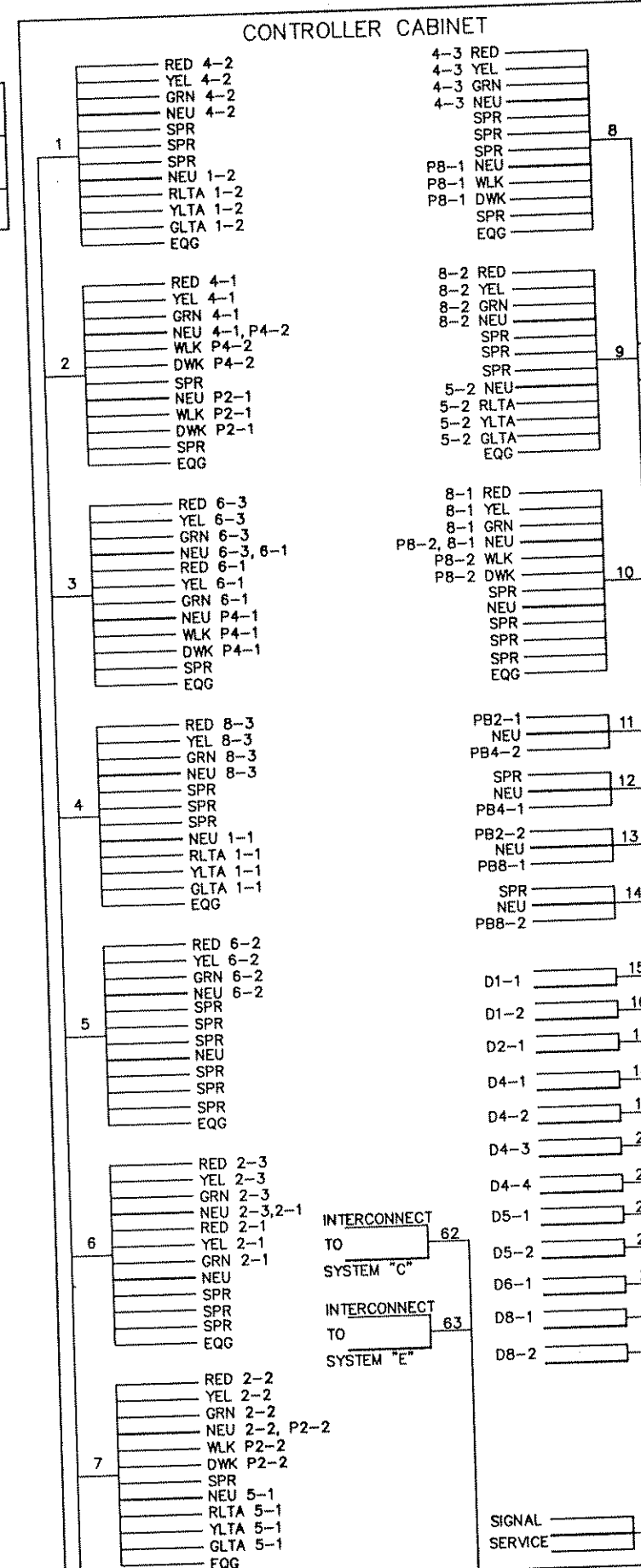
ANOKA COUNTY, MINNESOTA
CITY OF ANDOVER
S.P. _____ C.P. _____

TRAFFIC SIGNAL SYSTEM "D"
INTERSECTION LAYOUT
ROUND LAKE BLVD.(CSAH 9) AT 138th LANE N.W.
Sheet No. 53 of 133 Sheets
FILE NO. 92219
DATE 4/2/93

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

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



"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

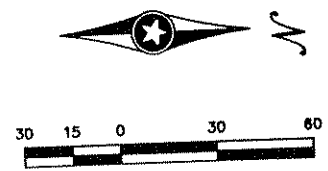
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
John M. Gray
Date: 4/2/93 Reg. No. 22457



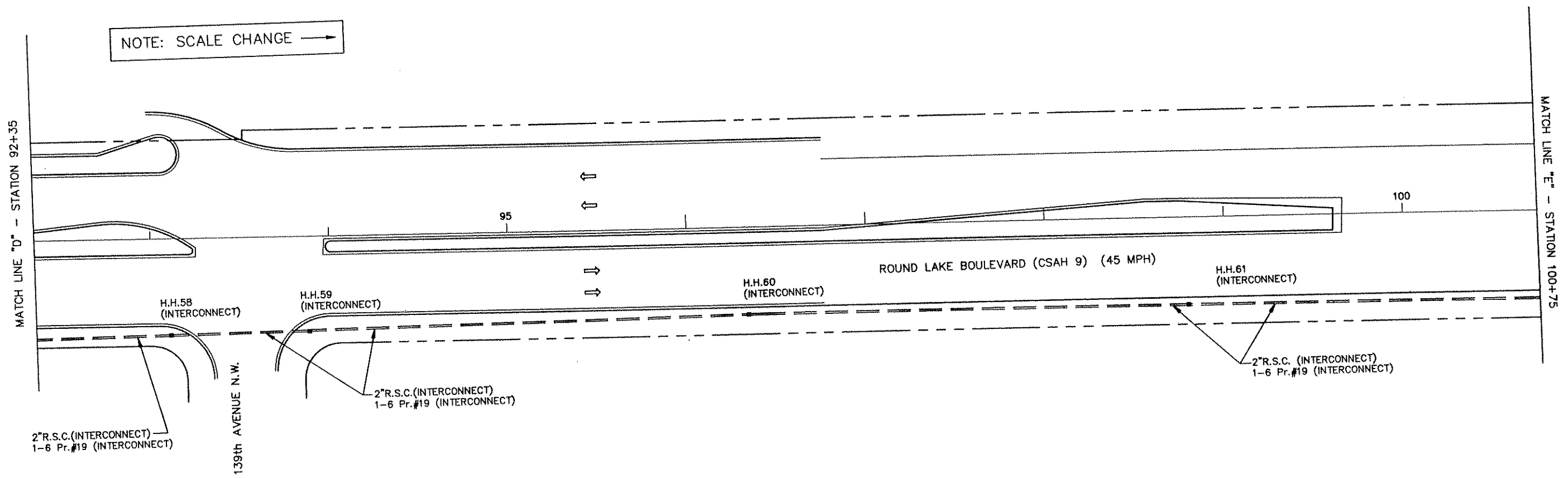
ANOKA COUNTY, MINNESOTA
CITY OF ANDOVER

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

FILE NO. 92219
DATE 4/2/93



NOTE: SCALE CHANGE →



BASE OVERLAY DRC. NO.

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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

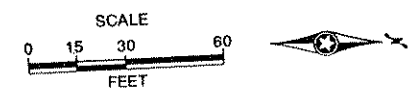
TRAFFIC SIGNAL INTERCONNECT
 ROUND LAKE BOULEVARD (CSAH 9)

FILE NO.
 92219
 DATE
 4/2/93

S.A.P. 02-609-10

S.P. _____ C.P. _____

Sheet No. 55 of 133 Sheets



- 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 INPLACE AND SHALL BE REUSED INPLACE, 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.

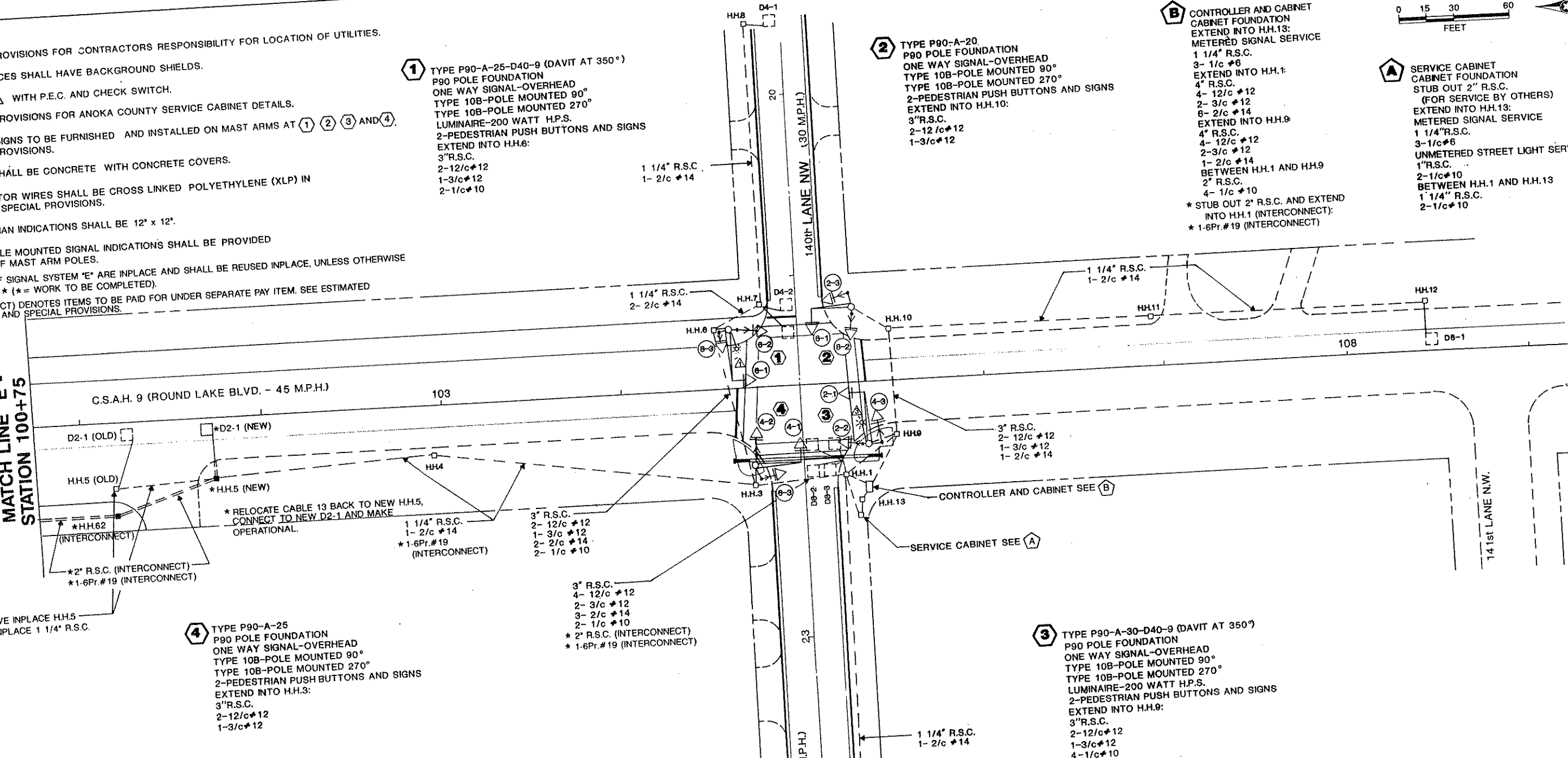
① TYPE P90-A-25-D40-9 (DAVIT AT 350°)
 P90 POLE FOUNDATION
 ONE WAY SIGNAL-OVERHEAD
 TYPE 10B-POLE MOUNTED 90°
 TYPE 10B-POLE MOUNTED 270°
 LUMINAIRE-200 WATT H.P.S.
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS
 EXTEND INTO H.H.6:
 3" R.S.C.
 2-12/c #12
 1-3/c #12
 2-1/c #10

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
 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



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

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

* REMOVE INPLACE H.H.5
 AND INPLACE 1 1/4" R.S.C.

* RELOCATE CABLE 13 BACK TO NEW H.H.5,
 CONNECT TO NEW D2-1 AND MAKE
 OPERATIONAL.

* 2" R.S.C. (INTERCONNECT)
 * 1-6Pr.#19 (INTERCONNECT)

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

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

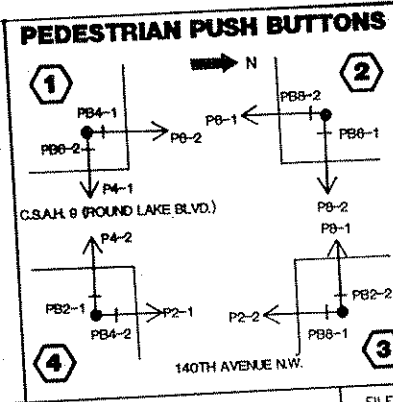
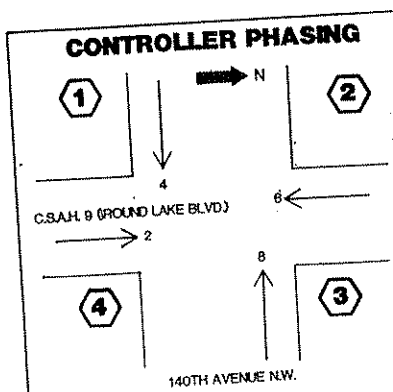
LOOP DETECTOR FUNCTIONS:

- 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

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 INPLACE.

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	



ANOKA COUNTY, MINNESOTA
 CITY OF ANDOVER

TRAFFIC SIGNAL SYSTEM "E"
 INTERSECTION LAYOUT
 ROUND LAKE BLVD (CSAH 9) AT 140TH LANE NW

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



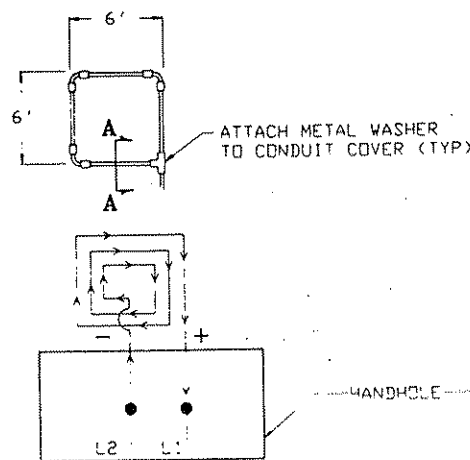
S.A.P. 02-609-10

S.P. _____ C.P. _____

FILE NO. 9221
 DATE 4/2/93

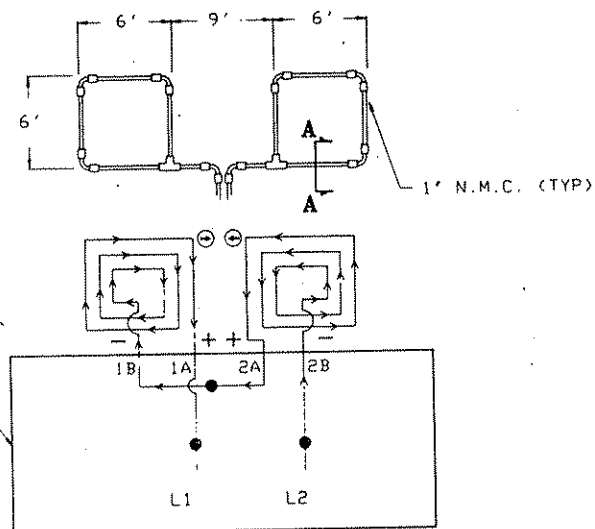
LOOP DETECTOR DETAIL 'A'

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



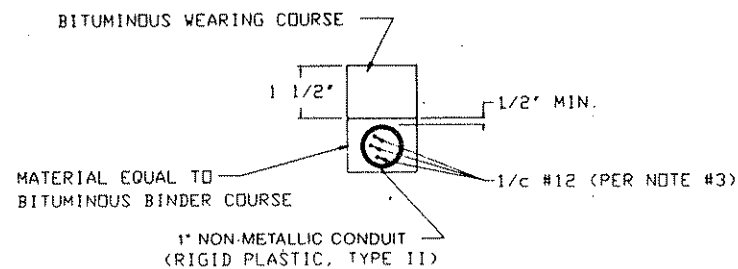
LOOP DETECTOR DETAIL 'B'

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

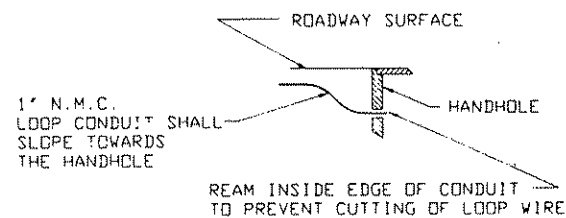


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:
L1 TO 1A, 1B TO 2A, AND 2B TO L2.

CROSS SECTION A-A



DRAINAGE DETAIL



LOOP DETECTOR WIRING

NOTES:

- 1) ALL CORNERS SHALL BE 90° CONDUIT BENDS
- 2) CONNECT WIRES IN HANDHOLES USING SPLICE KIT METHOD DESCRIBED IN THE SPECIAL PROVISIONS.
- 3) LOOP DETECTOR WIRES SHALL BE # 12 AVG CROSSED LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.
- 4) LOOP LEAD IN WIRES SHALL BE TWISTED A MIN. OF (5) TURNS PER FOOT THROUGH THE CONDUIT TO THE HANDHOLE.
- 5) N.M.C. DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
- 6) LOOPS 6' x 6' THRU 6' x 10' SHALL HAVE (4) TURNS.
- 7) LOOPS 6' x 10' THRU 6' x 14' SHALL HAVE (3) TURNS.
- 8) LOOPS 6' x 15' AND LARGER SHALL HAVE (2) TURNS.
- 9) 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
* 8110 C	TRAFFIC SIGNAL BRACKETING - POLE MOUNTED
* 8111 B	TRAFFIC SIGNAL BRACKETING - PEDESTAL MOUNTED
* 8112 C	PEDESTAL FOUNDATION
* 8113 C	MAGNETIC VEHICLE DETECTOR INSTALLATION
* 8115 C	PEDESTRIAN PUSH BUTTON INSTALLATION
* 8117 F	PRECAST CONCRETE HAND HOLE
* 8118 C	SERVICE EQUIPMENT AND POLE
* 8119 C	GROUND MOUNTED CABINET FOUNDATION
* 8120 H	P-80 AND P-90 POLE FOUNDATION
* 8121 B	TRANSFORMER BASE WITH POLE BASE PLATE
* 8122 C	PEDESTAL AND PEDESTAL BASE
* 8123 B	POLE AND MAST ARM
* 8124 D	SIGNAL HEAD MOUNTS
* 8126 C	P-100 POLE FOUNDATION
* 8130 D	SAW CUT LOOP DETECTORS
* 0005 A	SPECIFICATION REFERENCE TO STANDARD PLATES
* 3124 B	METAL APRON CONNECTION
* 3221 C	CORRUGATED STEEL PIPE COUPLING BAND
* 7035 J	CONCRETE WALK AND CURB RETURNS AT ENTRANCES
* 7036 D	PEDESTRIAN CURB RAMP
* 7100 F	CONCRETE CURB AND GUTTERS

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

ABBREVIATIONS

- EQUIPMENT AND INDICATIONS
- RED - RED
 - YEL - YELLOW
 - GRN - GREEN
 - WLK - WALK
 - NEU - NEUTRAL
 - DWK - DON'T WALK
 - LUM - LUMINAIRE
 - DNL - DOWNLIGHT
 - H.H. - HANDHOLE
 - EGG - EQUIPMENT GROUND
 - R.S.C. - RIGID STEEL CONDUIT
 - GLTA - GREEN LEFT TURN ARROW
 - YRTA - YELLOW RIGHT TURN ARROW
 - D2-1(eg) - DETECTOR-PHASE '2'
 - GR.R - GROUND ROD
 - SER. - SERVICE
 - P2 - 2 PEDESTRIAN INDICATIONS
 - 2-1(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
 - W.P. - WOOD POLE
 - P.E.C. - PHOTOELECTRIC CELL

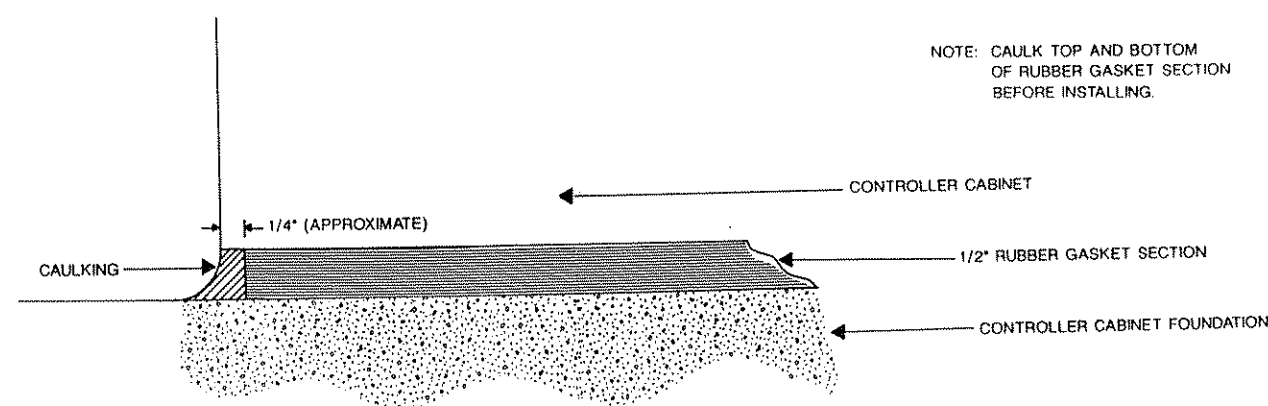
LEGEND OF SYMBOLS

- CONTROLLER AND SERVICE EQPT 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/D 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



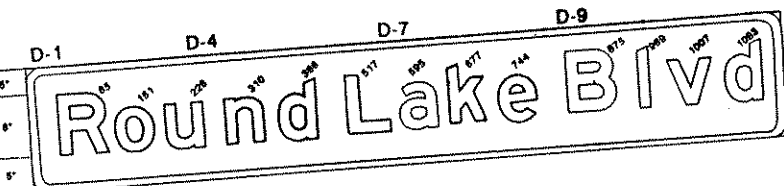
SIGN DETAILS

TYPE "D" SIGNS

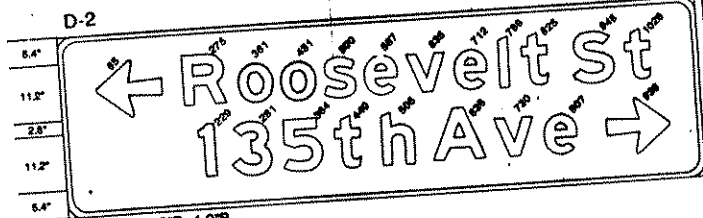
SYSTEM	SIGN PANEL	SIZE	NO. REQ.	NO. POSTS PER SIGN	POST SPACING	SQ. FT. PER SIGN	POLE NO.	Ø
SYSTEM "A"	D-1	120x18	2	3	45"	15.00	3	4"
	D-2	114x36	1	3	45"	28.50	1	28"
	D-3	114x36	1	3	45"	15.00	3	4"
SYSTEM "B"	D-4	120x18	2	3	54"	12.00	1	28"
	D-5	96x18	1	2	54"	12.00	4	30"
SYSTEM "C"	D-6	96x18	1	2	45"	15.00	2	18"
	D-7	120x18	2	3	45"	15.75	1	28"
	D-8	126x18	2	3	45"	15.00	2	4"
SYSTEM "D"	D-9	120x18	2	3	45"	12.75	1	28"
	D-10	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.



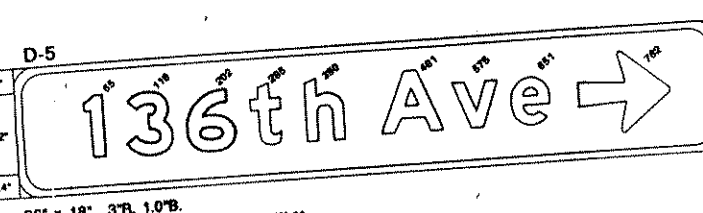
120" x 18", 3"R. 1.0"B.
LINE 1 106.9 : 8"-8" E MOD.



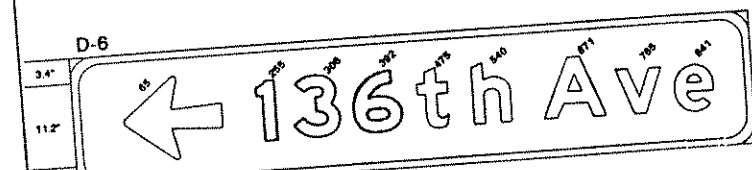
114" x 36", 3"R. 1.0"B.
LINE 1 100.3 : 5--13 ARROW-180°, 8"-8" E MOD.
LINE 2 83.9 : 8"-8" E MOD., 5--13 ARROW-0°



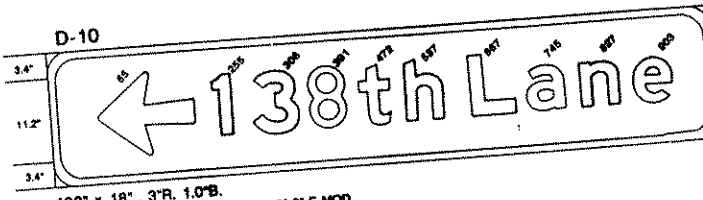
114" x 36", 3"R. 1.0"B.
LINE 1 83.9 : 5--13 ARROW-180°, 8"-8" E MOD.
LINE 2 100.9 : 8"-8" E MOD., 5--13 ARROW-0°



96" x 18", 3"R. 1.0"B.
LINE 1 82.7 : 8"-8" E MOD., 5--13 ARROW-0°



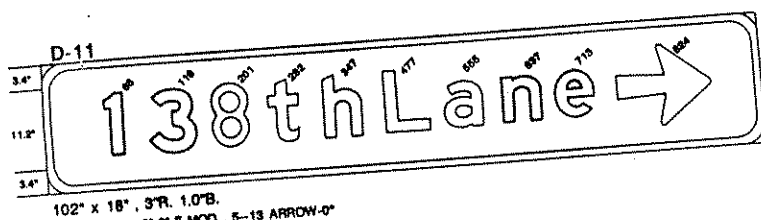
96" x 18", 3"R. 1.0"B.
LINE 1 82.7 : 5--13 ARROW-180°, 8"-8" E MOD.



102" x 18", 3"R. 1.0"B.
LINE 1 88.9 : 5--13 ARROW-180°, 8"-8" E MOD.

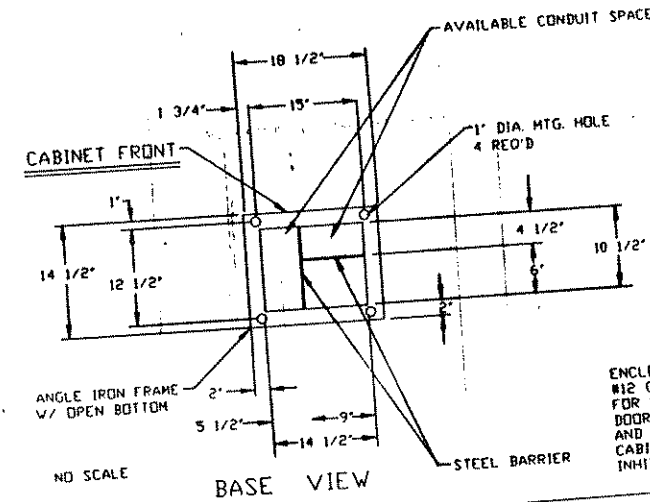
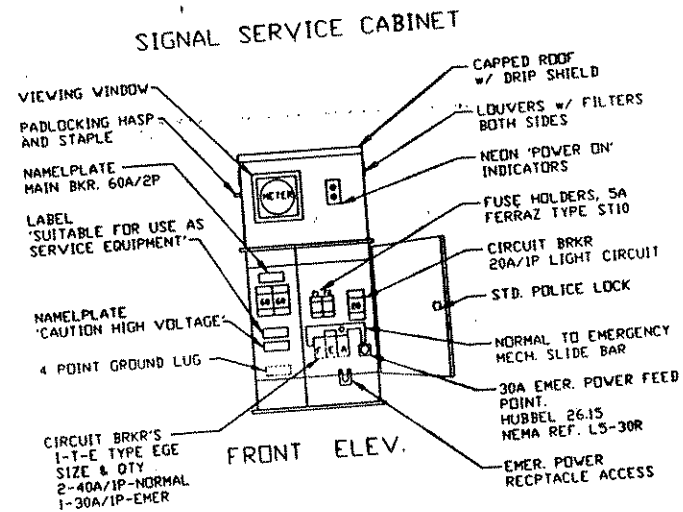


126" x 18", 3"R. 1.0"B.
LINE 1 113.7 : 8"-8" E MOD.

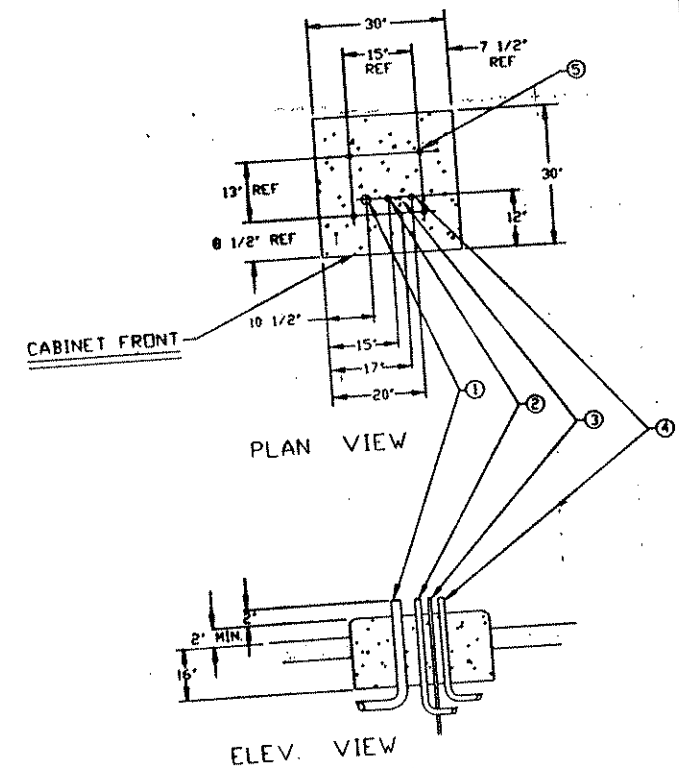


102" x 18", 3"R. 1.0"B.
LINE 1 88.9 : 8"-8" E MOD., 5--13 ARROW-0°

SIGNAL SERVICE CABINET DETAIL



SERVICE CABINET FOUNDATION

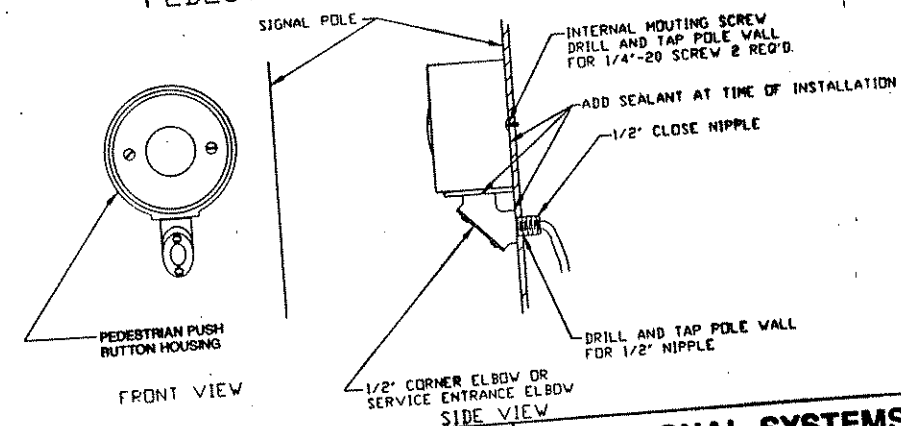


CONSTRUCTION NOTES

ENCLOSURE SHALL BE FABRICATED FROM #12 GA. ALL WELDED COLD ROLLED 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 MM/DOT #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.
Robert L. Eller
Date: 4/2/93 Reg. No. 5859

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



ANOKA COUNTY, MINNESOTA
CITIES OF ANDOVER AND ANOKA

SIGNAL SYSTEMS "A"- "E"
DETAILS

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

C.P. 93-12-116

Sheet No. 59 of 133 Sheets



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" N.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.

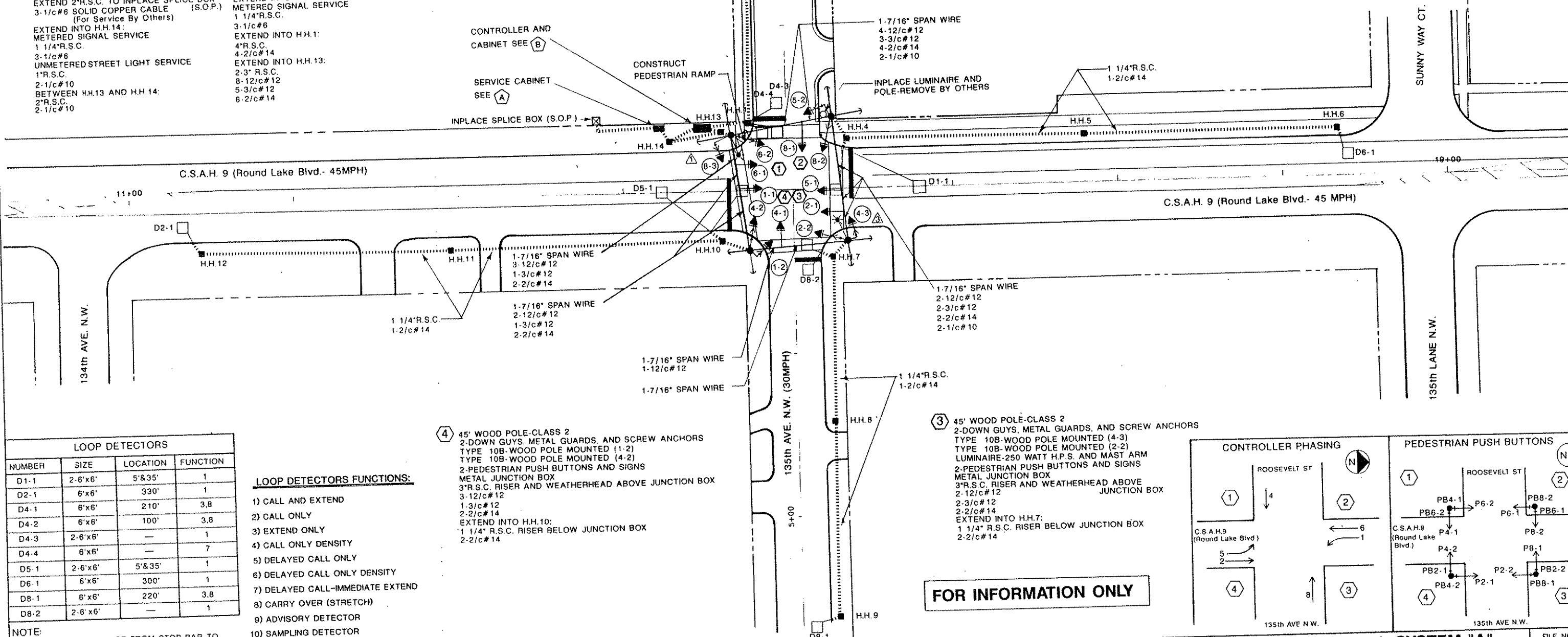
A SERVICE CABINET
 CABINET FOUNDATION
 EXTEND 2" R.S.C. TO INPLACE SPLICE BOX
 3-1/c#6 SOLID COPPER CABLE (S.O.P.)
 (For Service By Others)
 EXTEND INTO H.H.14:
 METERED SIGNAL SERVICE
 1 1/4" R.S.C.
 3-1/c#6
 UNMETERED STREET LIGHT SERVICE
 1" R.S.C.
 2-1/c#10
 BETWEEN H.H.13 AND H.H.14:
 2" R.S.C.
 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.1:
 4" R.S.C.
 4-2/c#14
 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 (6-2)
 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
 8-12/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



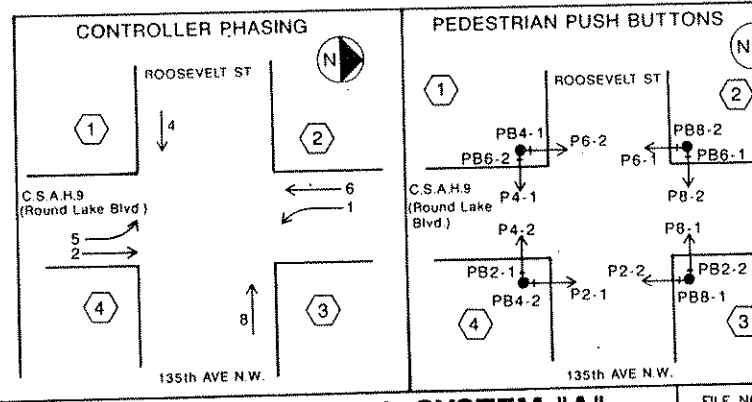
LOOP DETECTORS			
NUMBER	SIZE	LOCATION	FUNCTION
D1-1	2-6'x6'	5'&35'	1
D2-1	6'x6'	330'	1
D4-1	6'x6'	210'	3,8
D4-2	6'x6'	100'	3,8
D4-3	2-6'x6'	—	1
D4-4	6'x6'	—	7
D5-1	2-6'x6'	5'&35'	1
D6-1	6'x6'	300'	1
D8-1	6'x6'	220'	3,8
D8-2	2-6'x6'	—	1

- 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
 2-3/c#12
 2-2/c#14
 2-1/c#10
 EXTEND INTO H.H.7:
 1 1/4" R.S.C. RISER BELOW JUNCTION BOX
 2-2/c#14

FOR INFORMATION ONLY



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

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

FILE NO.
 92219
 DATE
 4/2/93

S.A.P. 02-609-10

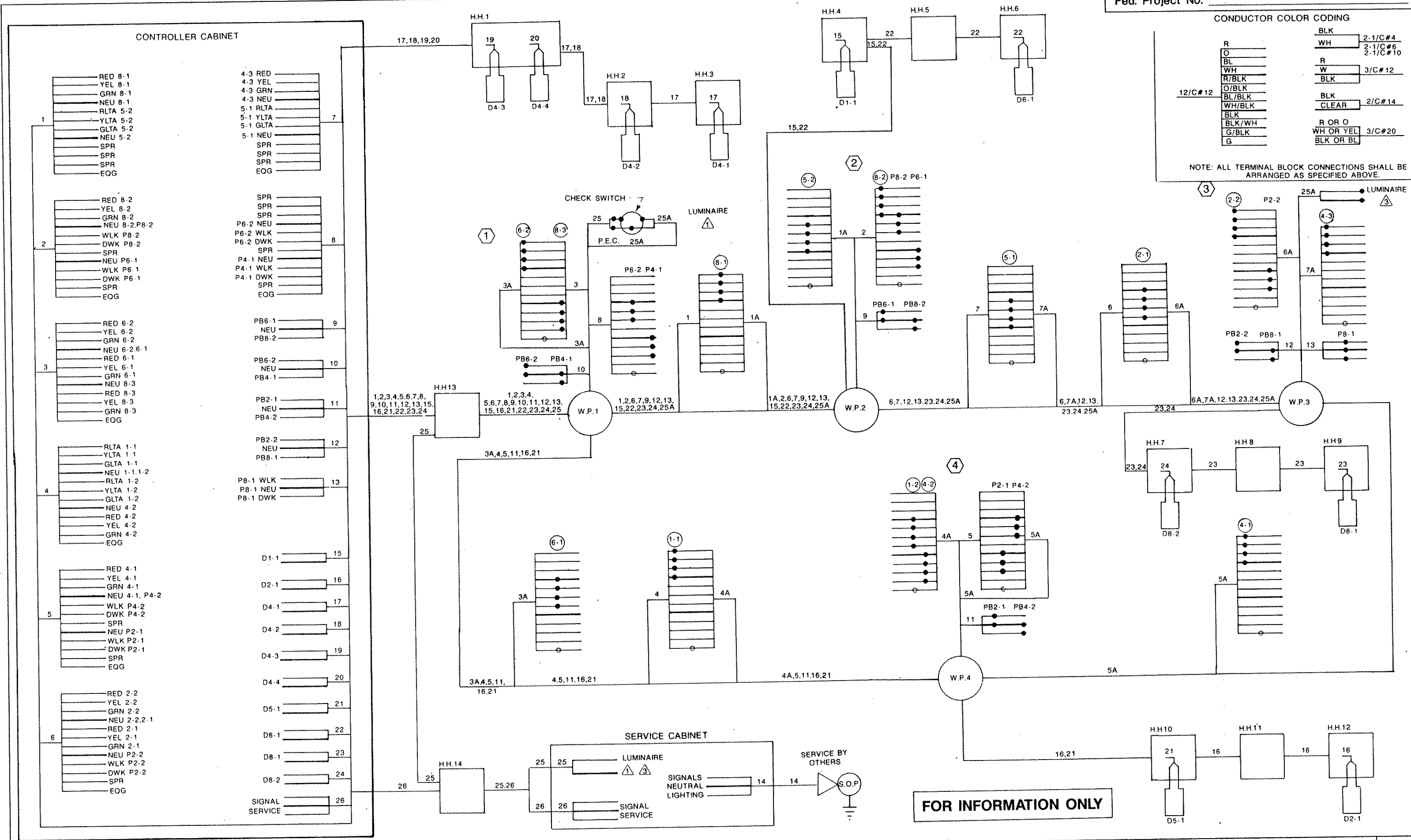
S.P. _____ C.P. _____

Sheet No. 60 of 133 Sheets

CONDUCTOR COLOR CODING

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

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



BASE OVERLAY (DRC. IN)

NO.	BY	DATE	REVISIONS

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

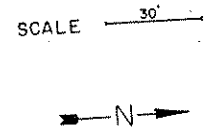
SEH
 ENGINEERS ARCHITECTS PLANNERS
 S.A.P. 02-609-10

ANOKA COUNTY, MINNESOTA
 CITIES OF ANDOVER AND ANOKA
 S.P. _____ C.P. _____

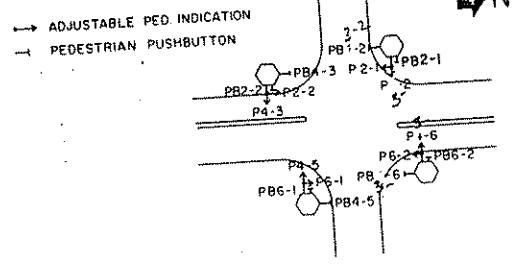
INPLACE SIGNAL SYSTEM "A"
 FIELD WIRING DIAGRAM
 ROUND LAKE BLVD (CSAH 9) AT 135TH AVE/ROOSEVELT ST
 Sheet No. 61 of 133 Sheets
 FILE NO. 92219
 DATE 4/2/93

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.



SYMBOLS

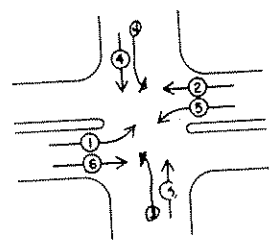


A 35-D 30-12 LUMINAIRE (APPROX. 315°)
 2 - ONE WAY SIGNALS (OVERHEAD MTD.)
 1 - SIGN DOWN LIGHT (OVERHEAD MTD.)
 1 - TWO WAY SIGNAL TYPE 20C POLE MTD. 270°
 2 - SETS PEDESTRIAN INDICATIONS
 2 - PED. PUSH BUTTONS
 EXTEND INTO H.H. #4. 3" R.S.C. - 2 - 12/C #12, 4 - 3/C #12, 1 - PR. 1/C #10

INPLACE CONDUIT SYSTEM
 INSTALL 1-3/C #12, EXTEND TO HAZARD IDENTIFICATION BEACON AT END OF MEDIAN ISLAND (SEE SHEET 9)

(INPLACE)
 D6-1, 8'x8' LOOP
 300' FROM STOP LINE

SIGNAL PHASING



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"
4-1	4	R	12"	12"	12"	12"
4-2	4	R	12"	12"	12"	12"
5-1	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

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 John M. Gray
 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

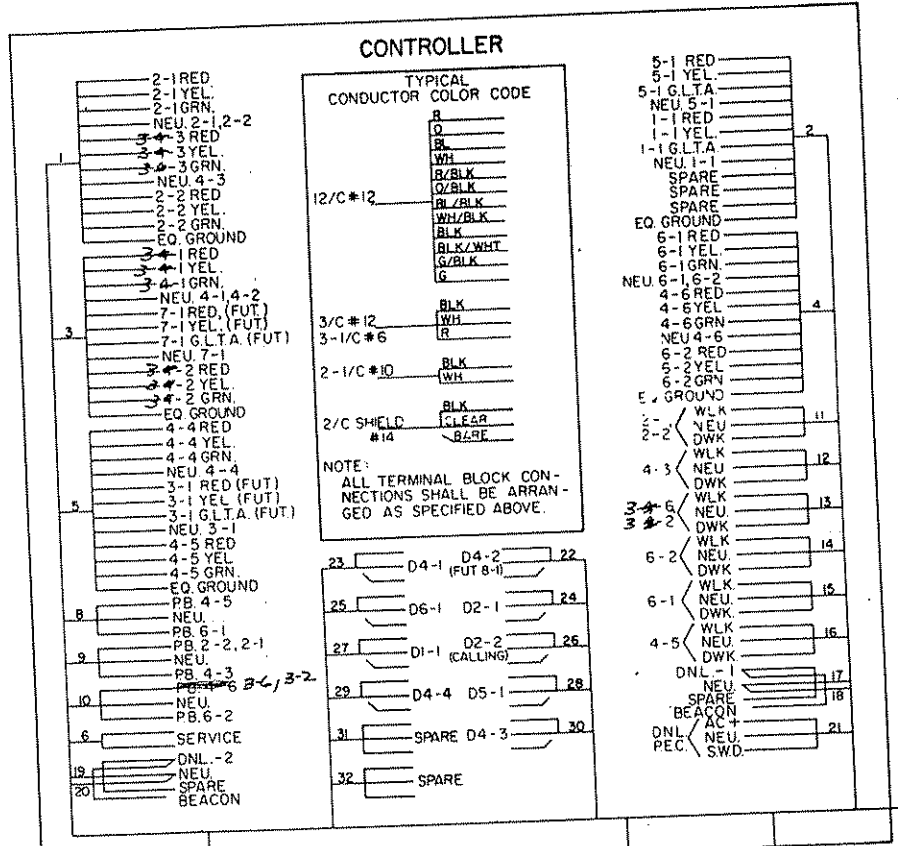
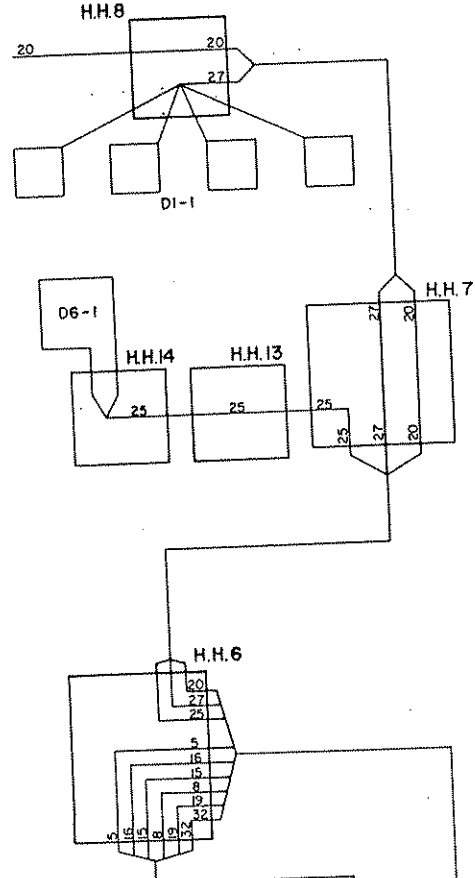
FOR INFORMATION ONLY

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

C.P. 93-12-116

Sheet No. 62 of 133 Sheets

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

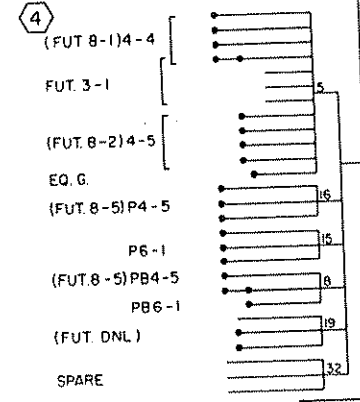
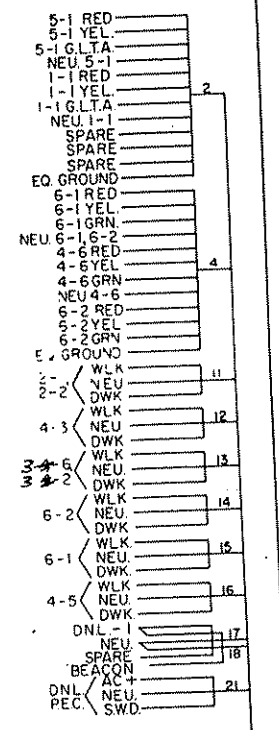


TYPICAL CONDUCTOR COLOR CODE

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

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

23	D4-1	D4-2	22
25	D6-1	D2-1	24
27	DI-1	D2-2 (CALLING)	25
29	D4-4	D5-1	28
31	SPARE	D4-3	30
32	SPARE		



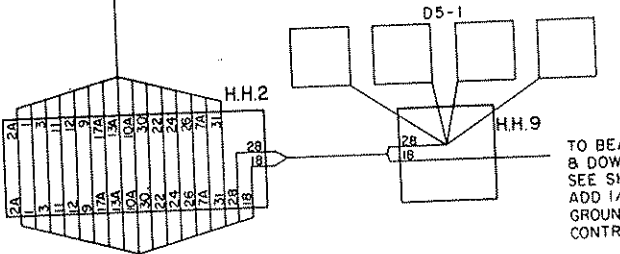
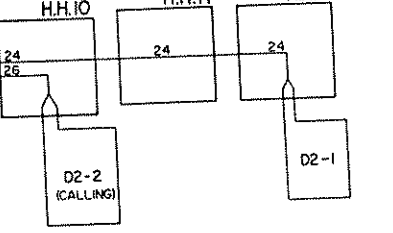
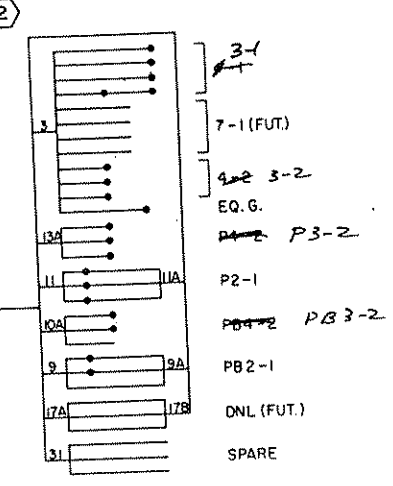
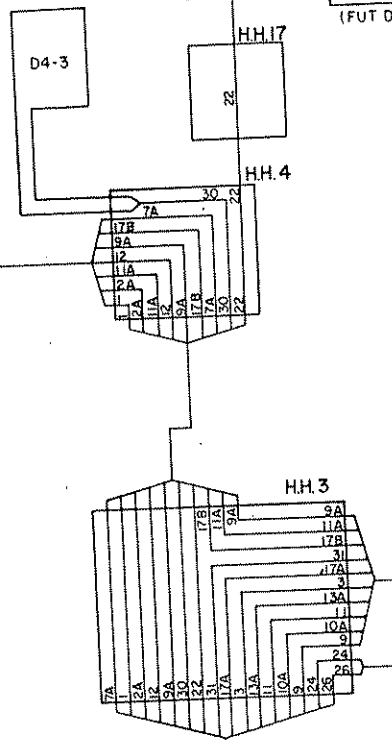
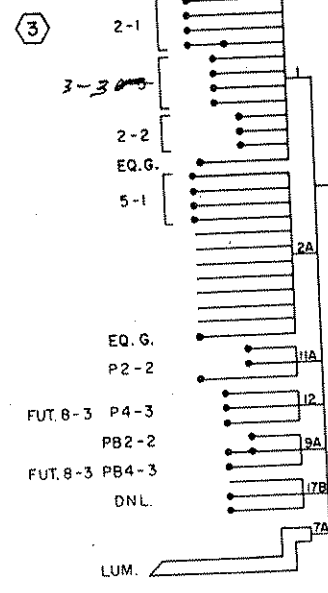
CONDUCTOR COLOR CODE

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

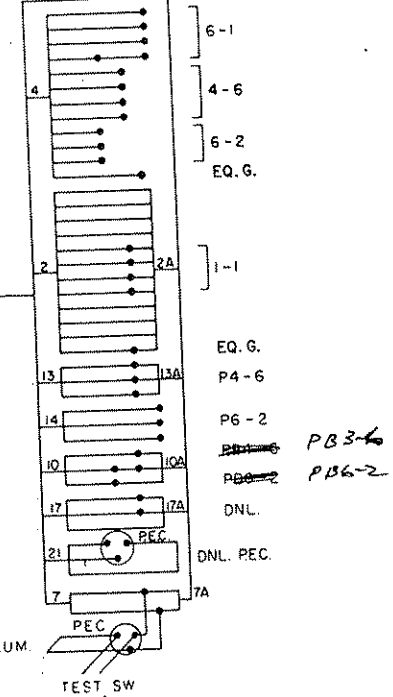
EQUIPMENT AND INDICATIONS

RED	RED	83 (cg)	SIGNAL HEAD - PHASE "B"
YEL	YELLOW	DA - 4(cg)	DETECTOR - PHASE "A"
GRN	GREEN	H.H.	HANDHOLE
LTA	LEFT TURN ARROW	GRR	GROUND ROD
RTA	RIGHT TURN ARROW	SERV.	SERVICE
WLK	WALK	ST. LHT.	STREET LIGHT
NEU	NEUTRAL	SOP	SOURCE OF POWER
DWK	DON'T WALK	SPR	SPARE CONDUCTOR
LUM.	LUMINARE	←	SPLICE
SWD	SWITCHED	PEC	PHOTOELECTRIC CELL
DNL	DOWNLIGHT	CG	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).



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



FOR INFORMATION ONLY

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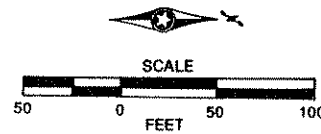
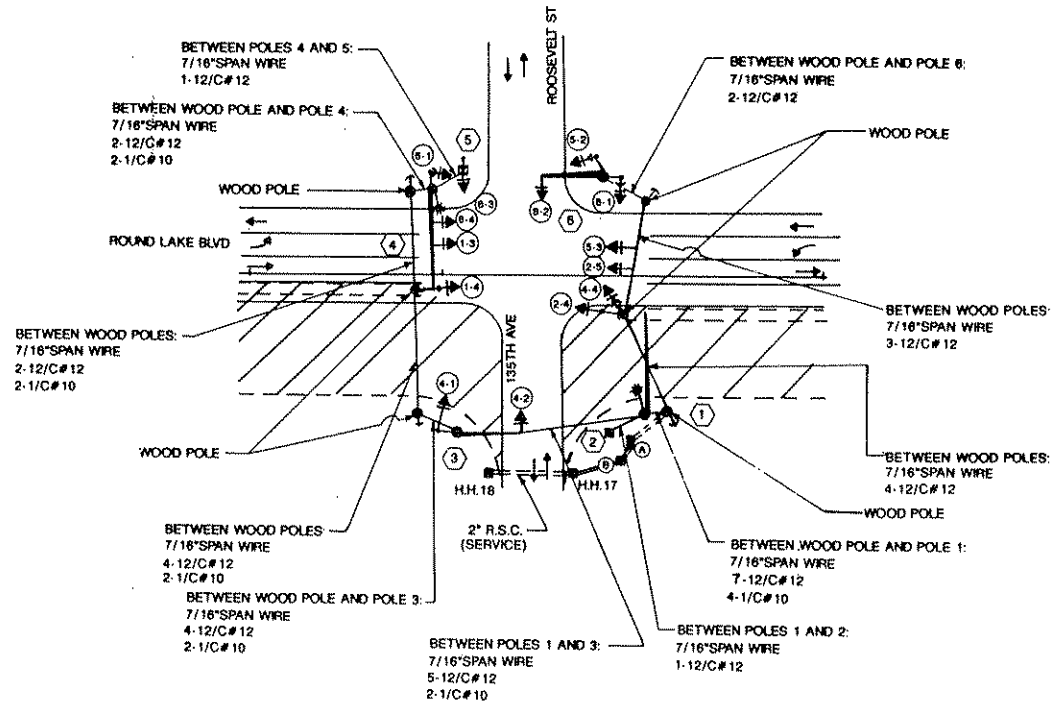


ANOKA COUNTY, MINNESOTA
CITIES OF ANDOVER AND ANOKA

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

CONSTRUCTION STAGES 1 AND 2

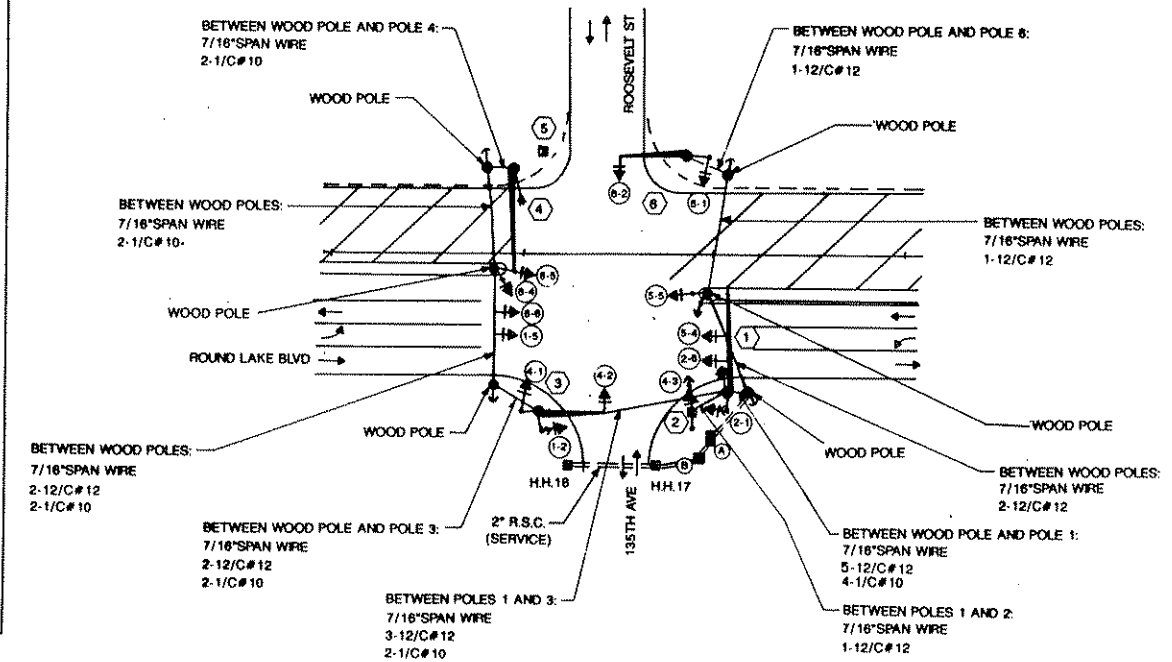


GENERAL NOTES:

- 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.

Fed. Project No. _____

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 luminaire, all as per permanent signal plan. Place luminaire into operation. Cover all vehicle and pedestrian signal indications and do not place these indications into operation during this stage. Furnish and install two (2) 7/16" span wires, one each between poles (1) and (2), and between poles (1) and (3), and extend traffic signal cables to each pole via the span wires.
- Pole (2)** - Furnish and install pedestal pole and base, and install all vehicle and pedestrian signal indications and Type 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 bracketing (furnished by County), all as per permanent signal plan. Place all signal indications into operation (except for (1-2), 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 luminaire, all as per permanent signal plan. Provide 12" RLTA-YLTA-GLTA lenses for signal indication (6-2) and place this signal indication into operation (noted as (1-3) above) as the left turn indication. Locate signal indication (6-3) onto mid mount at 36' (denoted as (6-4) above) and place this signal indication into operation. Place all other vehicle and pedestrian signal indications and luminaire into operation (except for (1-1), which shall be covered). Furnish and install one (1) 7/16" span wire, between poles (4) and (5), and extend traffic signal cables to pole (5) via the span wire.
- Pole (5)** - Furnish and install pedestal pole and base, and install all vehicle and pedestrian signal indications and Type 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 (2-3) (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 (2-3) and (5-3), and span wire brackets (furnished by County) overhead as shown above and make operational.

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 (5-4) 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 (6-6), and span wire brackets (furnished by County) overhead as shown above and make operational.
- Maintain 40' Wood Pole on the nose of the future south median as installed during previous stage, except as follows: Provide 12" R-Y-G lenses for signal indication (1-4) and place this signal indication into operation (denoted as (6-5) above); install a Type 10A bracketing (with signal indication (8-4) (furnished by County), and make signal indication (8-4) operational; relocate R9-3a (No Ped 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.
- 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 bracketing (furnished by County), all as per permanent signal plan. Place all vehicle and pedestrian signal indications into operation. Do not install pedestrian push buttons.
- Pole (4)** - Maintain as installed during previous stage, except as follows: Turn off and cover all vehicle and pedestrian signal indications, remove and salvage span wire between poles (4) and (5), relocate signal indication (6-3) back to mid mount at 12', and remove and salvage RLTA-YLTA-GLTA lenses from signal indication (6-2).
- Pole (5)** - Maintain as installed during previous stage, except as follows: Turn off and cover all vehicle and pedestrian signal faces, and relocate R9-3a (No Ped 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).

"ELECTRICAL ENGINEER CERTIFICATION"

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
 Robert A. Eller
 Date: 4/2/93 Reg. No. 5859

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



ANOKA COUNTY, MINNESOTA
 CITIES OF ANDOVER AND ANOKA

TRAFFIC SIGNAL SYSTEM "A"
 SIGNAL OPERATION DURING ROAD WORK
 ROUND LAKE BLVD (CSAH 9) AT 135TH AVE/ROOSEVELT ST

FILE NO.
 92219
 DATE
 4/2/93

NO.	BY	DATE	REVISIONS

S.A.P. 02-609-10

S.P.

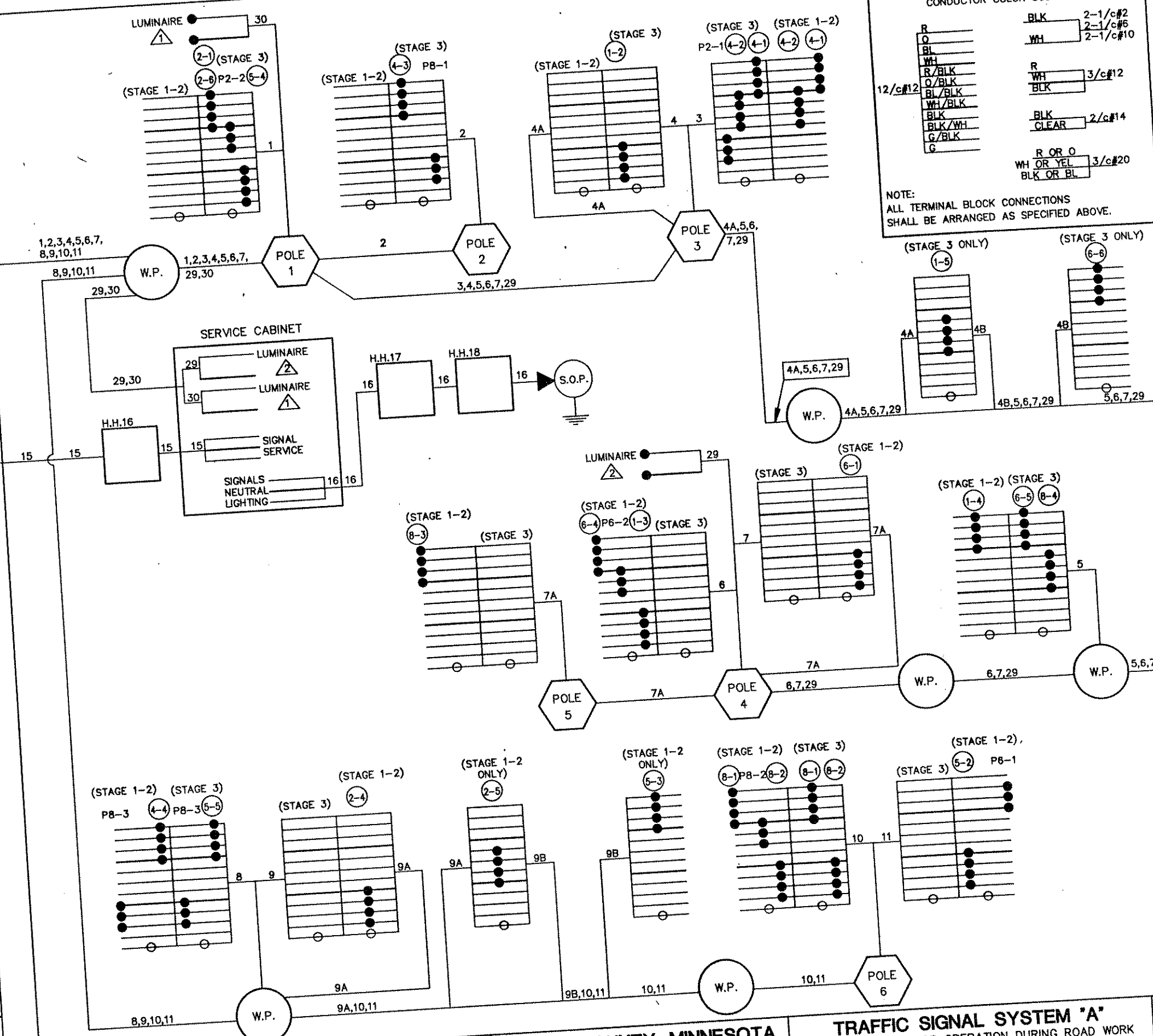
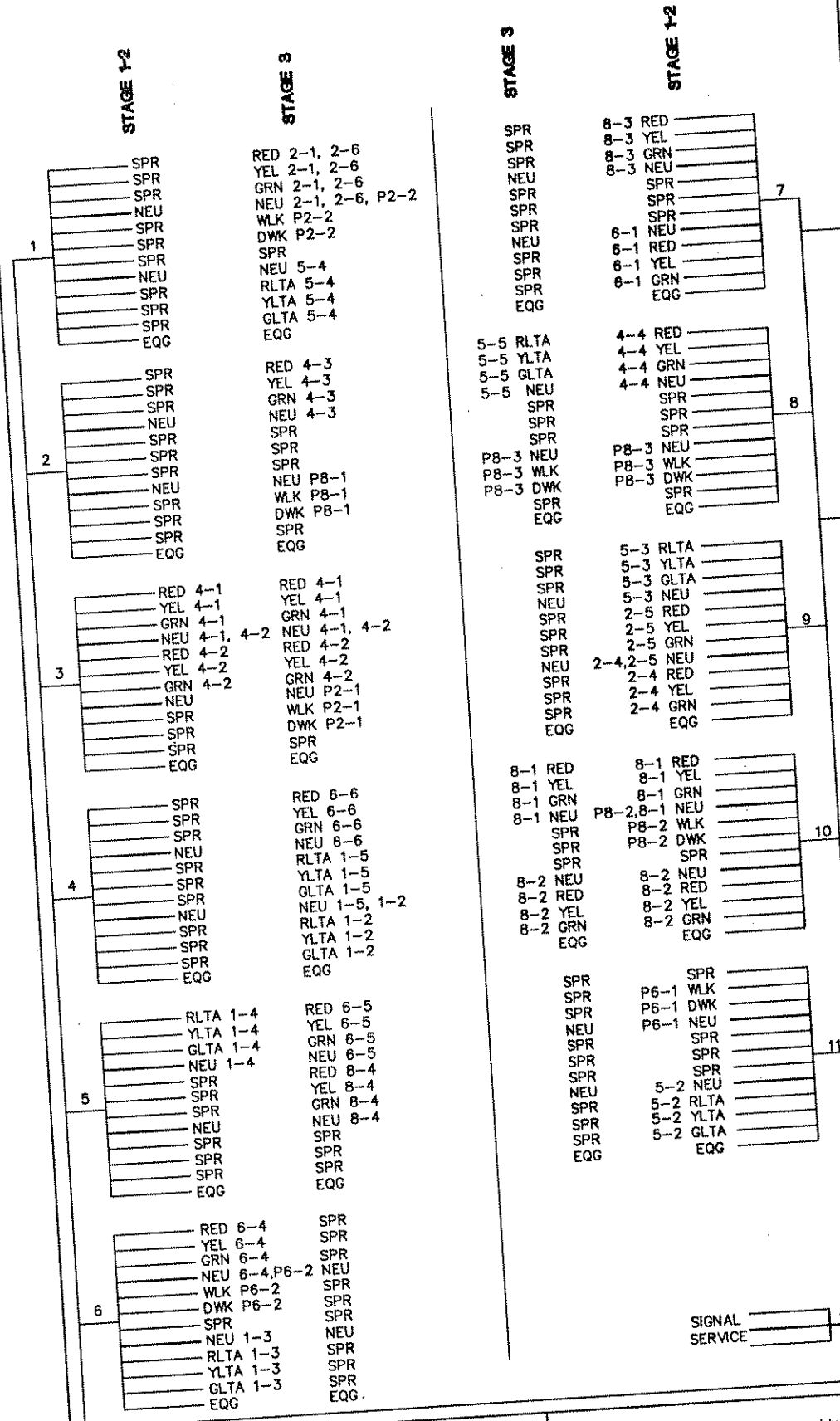
C.P.

CONDUCTOR COLOR CODING

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

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

CONTROLLER CABINET



I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
Robert D. Ellen
Date: 4/2/93 Reg. No. 5859

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

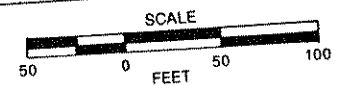


ANOKA COUNTY, MINNESOTA
CITIES OF ANDOVER AND ANOKA

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

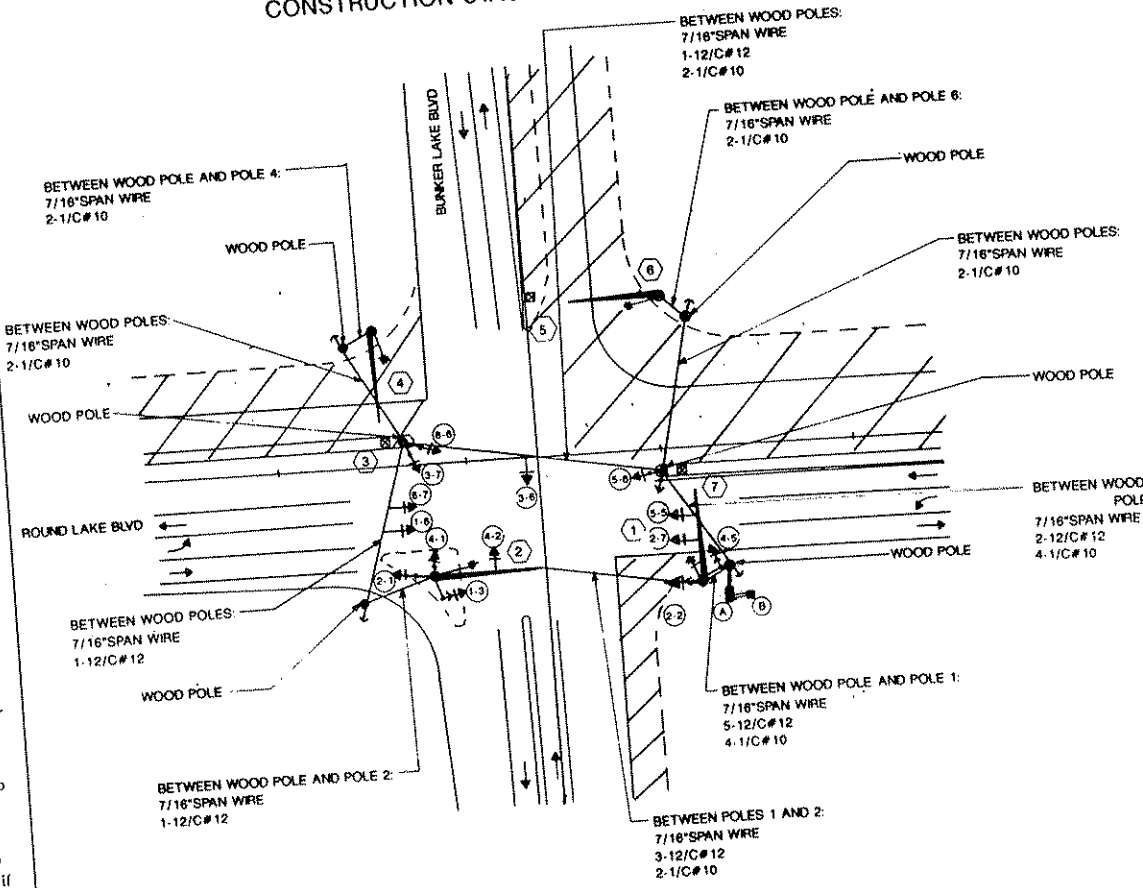
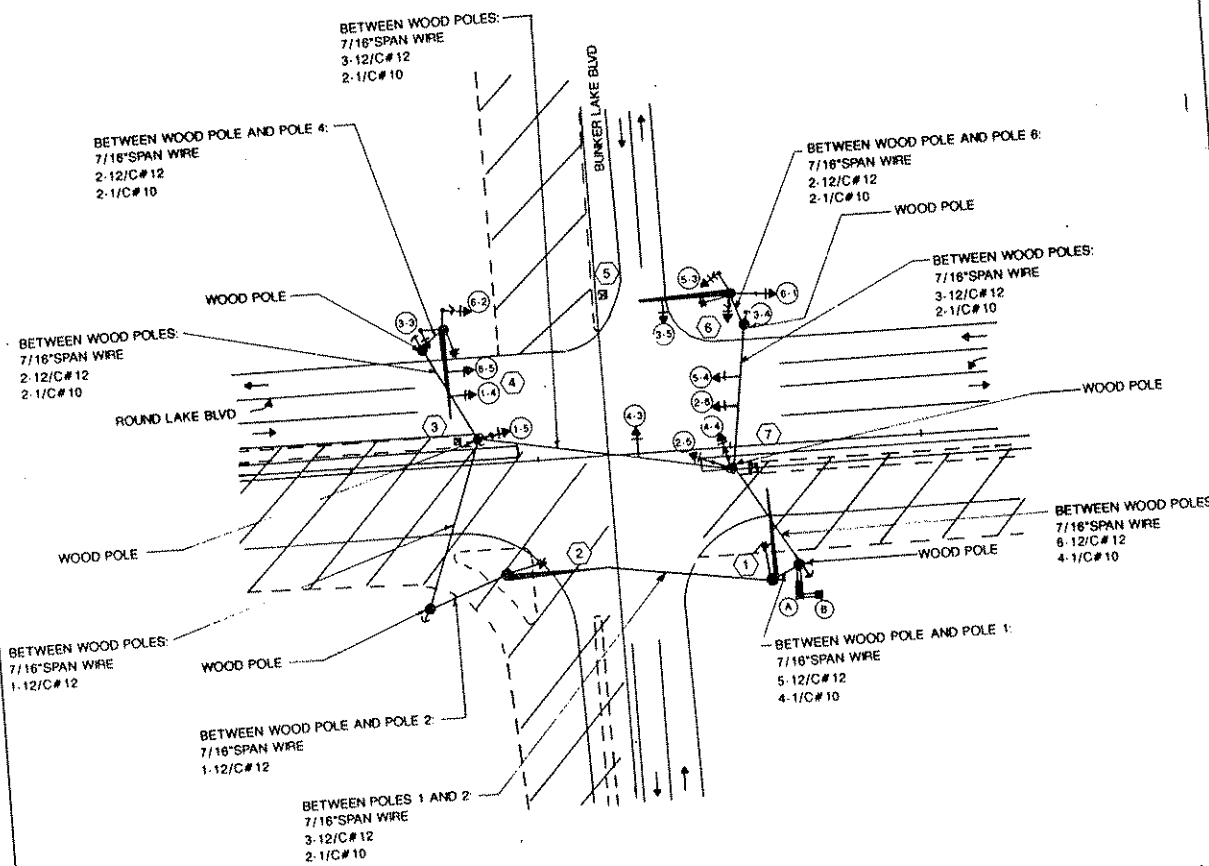
CONSTRUCTION STAGES 2A AND 3

CONSTRUCTION STAGES 1 AND 2



GENERAL NOTES:

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



STAGE 1 - 2 ACTIONS:

- 1. Service Cabinet - Furnish and install as per permanent signal plan. Furnish and install new handhole 24, and extend new service cables into controller cabinet...
2. 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...
3. Install one (1) 40' Wood Pole (Class 2 - furnished by County) near the controller cabinet...
4. Pole (1) - Install pole, mast arm, all vehicle and pedestrian signal indications, Type 10A and Type 10B bracketings...
5. Pole (2) - Install pole, mast arm, all vehicle and pedestrian signal indications, Type 10A and Type 10B bracketings...
6. Install one (1) 40' Wood Pole (Class 2 - furnished by County) near pole (2)...
7. Install one (1) 40' Wood Pole (Class 2 - furnished by County) on the nose of the future south median...
8. Install one (1) 40' Wood Pole (Class 2 - furnished by County) near pole (4)...
9. Pole (4) - Install pole, mast arm, all vehicle and pedestrian signal indications, and the Type 10B bracketings...
10. Install one (1) 40' Wood Pole (Class 2 - furnished by County) on the nose of the future north median...
11. Install one (1) 40' Wood Pole (Class 2 - furnished by County) near pole (6)...

STAGE 2A - 3 ACTIONS:

- 1. Service Cabinet - Maintain as installed during previous stage.
2. Controller Cabinet - Maintain as installed during previous stage.
3. Maintain 40' Wood Pole near controller cabinet as installed during previous stage.
4. Pole (1) - Maintain as installed during previous stage, except as follows: Locate signal indication (2-4) onto mid mount at 24'...
5. Pole (2) - Maintain as installed during previous stage, except as follows: Uncover and place all vehicle and pedestrian signal indications into operation...
6. Maintain 40' Wood Pole near pole (2) as installed during previous stage...
7. Maintain 40' Wood Pole on the south median nose as installed during previous stage...
8. Maintain 40' Wood Pole near pole (4) as installed during previous stage.
9. Pole (6) - Install pole, mast arm, all vehicle and pedestrian signal indications, Type 10A and Type 10B bracketings...

- 9. Pole (4) - Maintain as installed during previous stage, except as follows: Turn off and cover all vehicle and pedestrian signal indications...
10. Maintain 40' Wood Pole on the north median nose as installed during previous stage...
11. Maintain 40' Wood Pole near pole (6) as installed during previous stage.
12. Pole (6) - Maintain as installed during previous stage, except as follows: Turn off and cover all vehicle and pedestrian signal indications...

STAGE 4 - COMPLETION OF FINAL PERMANENT SIGNAL CONSTRUCTION:

- 1. Place all permanent vehicle and pedestrian signal indications into operation as per permanent signal plan.
2. Remove and salvage all temporary traffic signal cables, span wires, wood poles, signal lenses, signal indications, signs, and all other miscellaneous equipment...
3. Cap additional 4" R.S.C. in cabinet. Cut off 4" R.S.C. approximately 10 feet from cabinet...
4. Make provisions for capping additional mid-mast arm mounts on poles (1) and (4) as directed by Engineer.
5. Furnish and install pedestrian push buttons and place into operation.
6. Relocate signal indication (2-4) back to end mount on mast arm, remove and salvage RLTA-YLTA-GLTA lenses from signal indication (2-3)...

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
CITIES OF ANDOVER AND ANOKA

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

C.P. 93-12-116

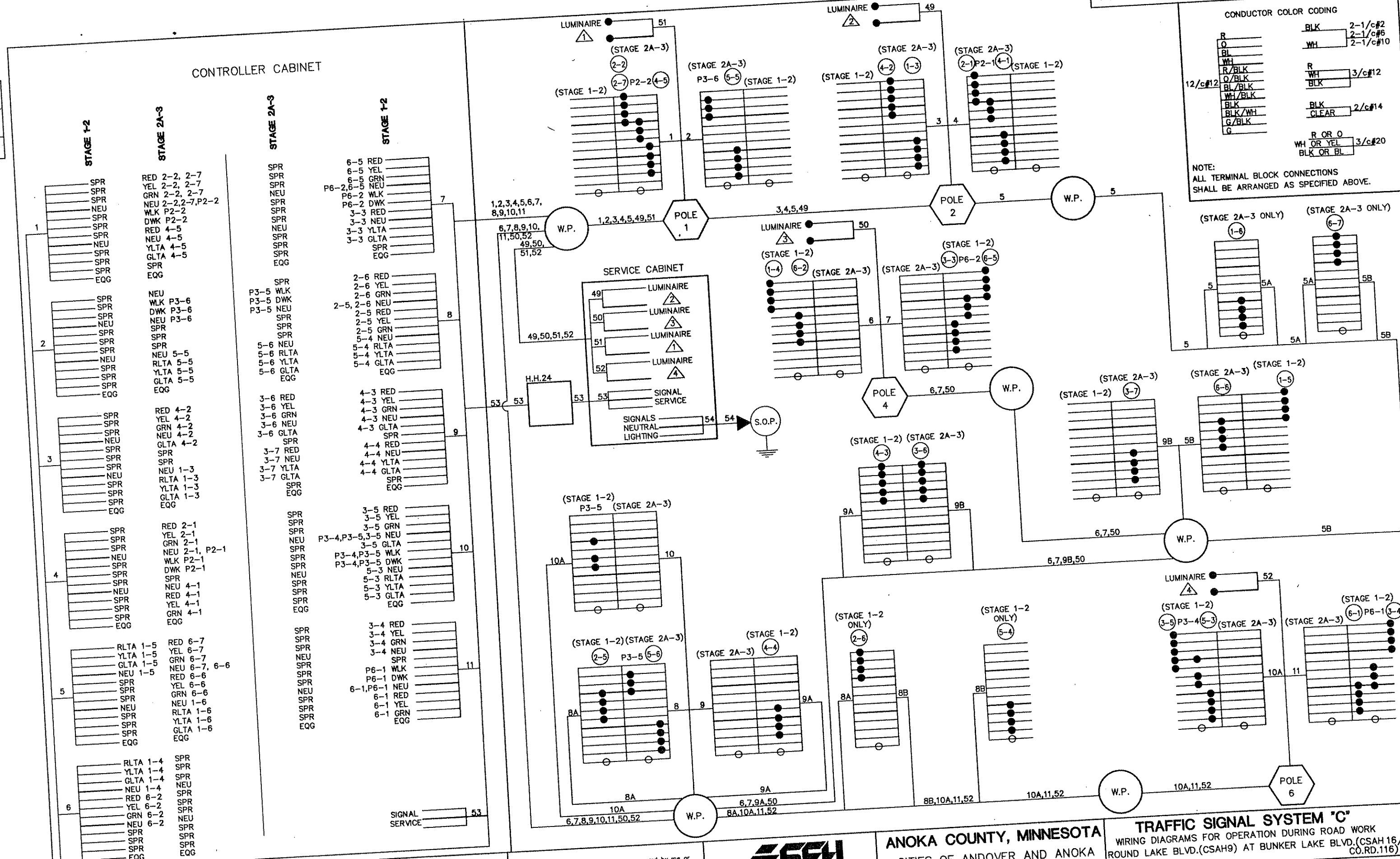
Sheet No. 66 of 133

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

CONDUCTOR COLOR CODING

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

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



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Robert A. Ellen
Date: 4/2/93 Reg. No. 5859

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



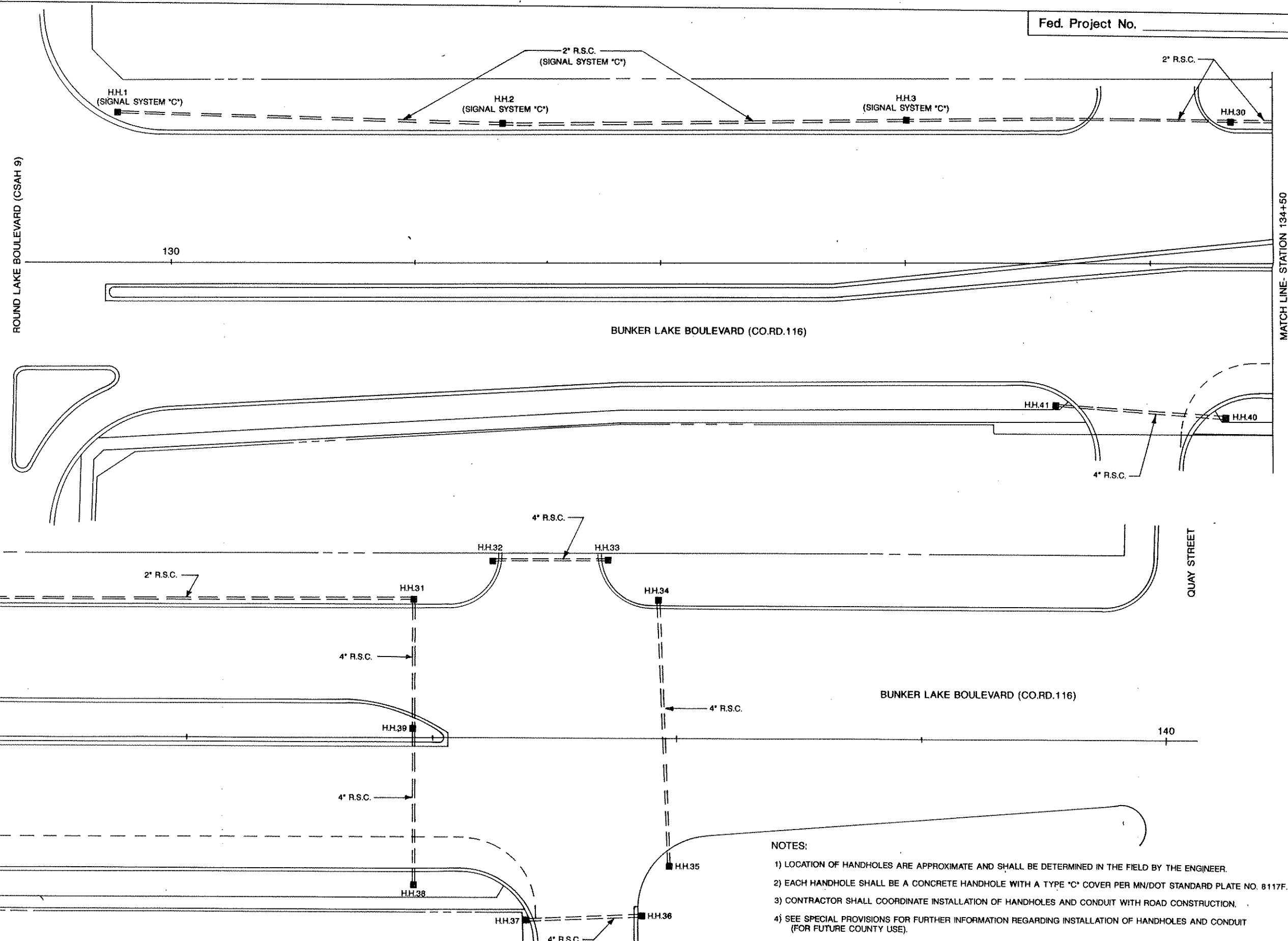
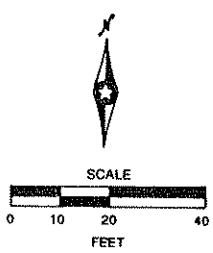
ANOKA COUNTY, MINNESOTA
CITIES OF ANDOVER AND ANOKA

TRAFFIC SIGNAL SYSTEM 'C'
WIRING DIAGRAMS FOR OPERATION DURING ROAD WORK
ROUND LAKE BLVD.(CSAH9) AT BUNKER LAKE BLVD.(CSAH16/CO.RD.116)

S.A.P. 02-609-10 02-616-03 S.P. _____ C.P. 93-12-116

BASE OVERLAY DRG. NO.

Fed. Project No. _____



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

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



ANOKA COUNTY, MINNESOTA
CITY OF ANDOVER

CONDUIT AND HANDHOLES
(FOR FUTURE USE)

FILE NO.
92219
DATE
4/2/93

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

PERMANENT SIGN QUANTITIES (F & I - TYPE C)

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

PERMANENT SIGN QUANTITIES (F & I - TYPE C)

M.U.T.C.D. CODE	PANEL SIZE (INCHES)	PANEL AREA (SQ. FT.)	# OF GROUND POST MOUNTED INSTALLATIONS	# OF ISLAND OR SIGNAL POLE MOUNTED INSTALLATIONS	SIGN PANEL LEGEND	# OF POSTS PER INSTALLATION	MOUNTING HEIGHT
X4-4L	12x36	3.00	0	1	CLEARANCE MARKER	1	4.0'
X4-4R	12x36	3.00	0	7	CLEARANCE MARKER	1	4.0'
X4-11	18x18	2.25	2	0	END OF ROADWAY MARKER	1	4.0'

RELOCATE SIGNS - TYPE D

M.U.T.C.D. CODE	PANEL SIZE (INCHES)	PANEL AREA (SQ. FT.)	# OF GROUND POST MOUNTED INSTALLATIONS	# OF ISLAND OR SIGNAL POLE MOUNTED INSTALLATIONS	SIGN PANEL LEGEND	# OF POSTS PER INSTALLATION	MOUNTING HEIGHT
12-3	-	-	1	0	TOWN NAME MARKER	②	7.0'
12-3	-	-	1	0	TOWN NAME MARKER	②	7.0'
-	-	-	1	0	JCT T.H. 10/47	②	7.0'
-	-	-	1	0	ADOPT A HIGHWAY	②	7.0'
-	-	-	1	0	ADOPT A HIGHWAY	②	7.0'
-	-	-	1	0	ADOPT A HIGHWAY	②	7.0'
-	-	-	1	0	ADOPT A HIGHWAY	②	7.0'

SPECIFIC NOTES

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

GENERAL NOTES

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

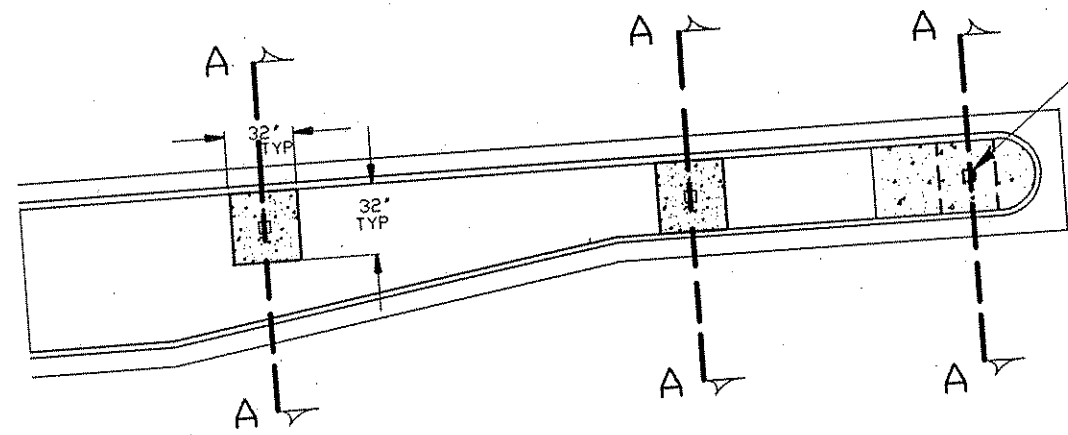
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
Thomas A. Schweitzer



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

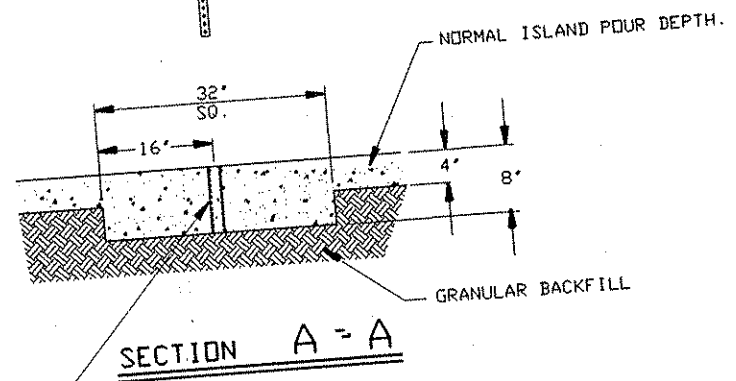
CSAH 9/ CSAH 16/ CO. RD. 116
SIGN TABULATIONS

FILE NO. 93145 69
DATE 4/2/93

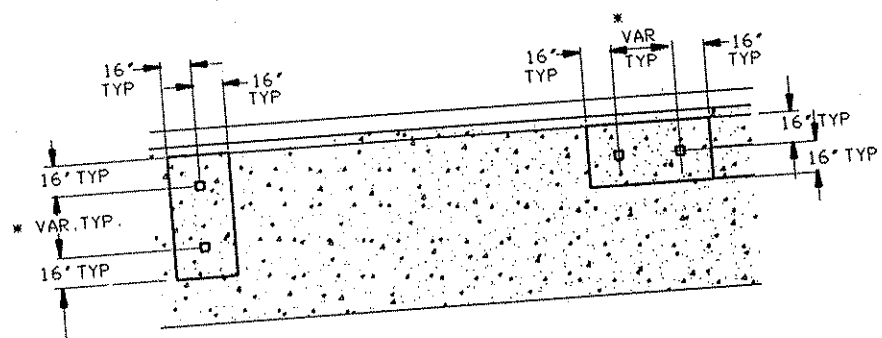


INSTALL 1 3/4" x 1 3/4" x 8' SOLID GALVANIZED SQUARE TUBING IN ISLAND NOSE DURING CONCRETE POUR, PLUMB AS REQUIRED. TAPE BOTTOM OF TUBING TO PREVENT CONCRETE FROM ENTERING TUBING.

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.



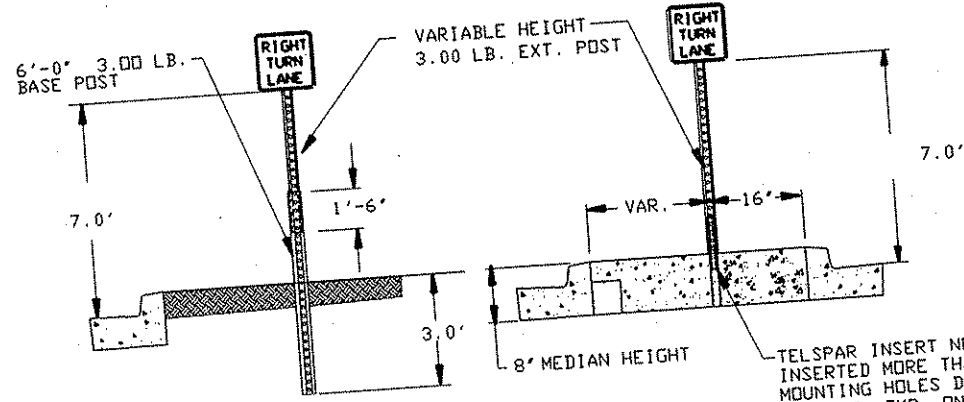
INSTALL 1 3/4" x 1 3/4" x 8' SOLID WALL GALVANIZED SQUARE TUBING. TAPE BOTTOM OF TUBING TO PREVENT CONCRETE FROM ENTERING TUBE. PLUMB AND ALIGN AT TIME OF POUR AS REQUIRED. TYPICAL.



DOUBLE POST FOOTINGS

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

GROUND POST MOUNT SIGN INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN POST INSTALLATION TYPICAL

(L)	(W)	(S)
WIDTH OF INSIDE LANE	WIDTH OF PAINTED AREAS	WIDTH OF SPACE
9'	2.0'	2.5'
10'	2.5'	2.5'
11'	2.5'	3.0'
12'	3.0'	3.0'
13'	3.0'	3.5'

NOTES:

- 1.) PAINTED AREAS ARE TO BE CENTERED ON CENTER AND LANE LINES, EVEN IF INTERSECTION IS NOT ALIGNED.
- 2.) ZEBRA CROSSWALKS AND STOP BARS.
- 3.) LOCATION OF ZEBRA CROSSWALKS AND STOP BARS, SIGNAL LOOPS AND PED RAMPS ARE APPROXIMATE. FINAL LOCATIONS ARE TO BE DETERMINED AND FIELD VERIFIED DURING CONSTRUCTION BY THE FIELD ENGR.
- 4.) ZEBRA CROSSWALKS ARE TO BE PARALLEL TO THE DRIVING LANE OR LANES, EVEN IF THE STREET IS ON AN ANGLE TO THE INTERSECTION.
- 5.) A MIN. OF 1.5' CLEAR DISTANCE MUST BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS AREA, IT MUST BE OMITTED.
- 6.) ON TWO LANE STREETS, USE SPACING SHOWN FOR AN 11' INSIDE LANE.

NOTES:

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

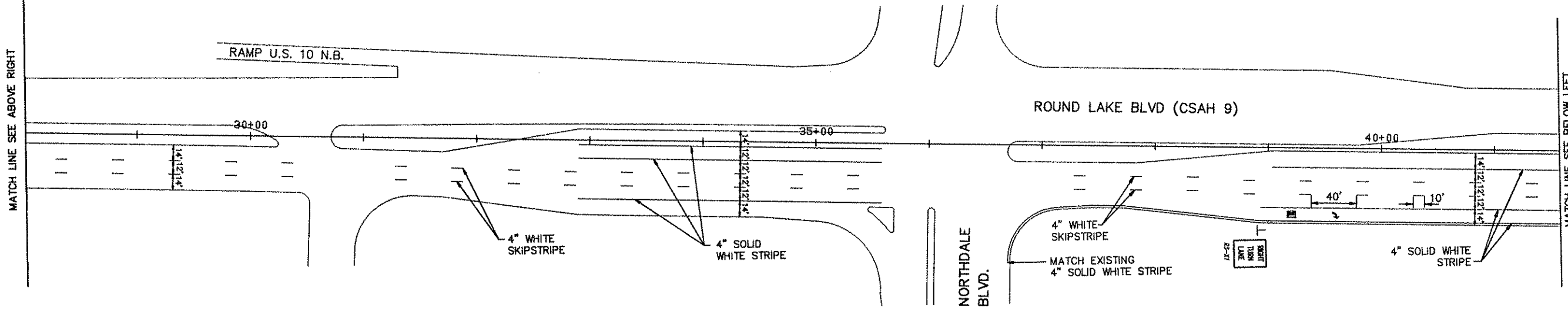
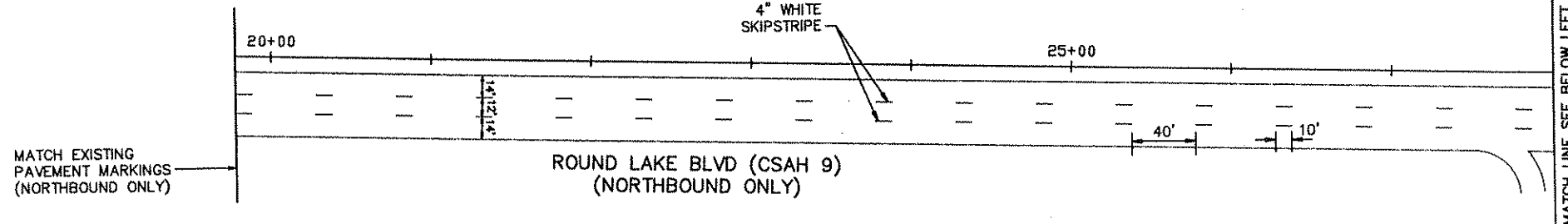
SIGNING and STRIPING DETAILS

REVISIONS			
DATE	BY	DATE	BY

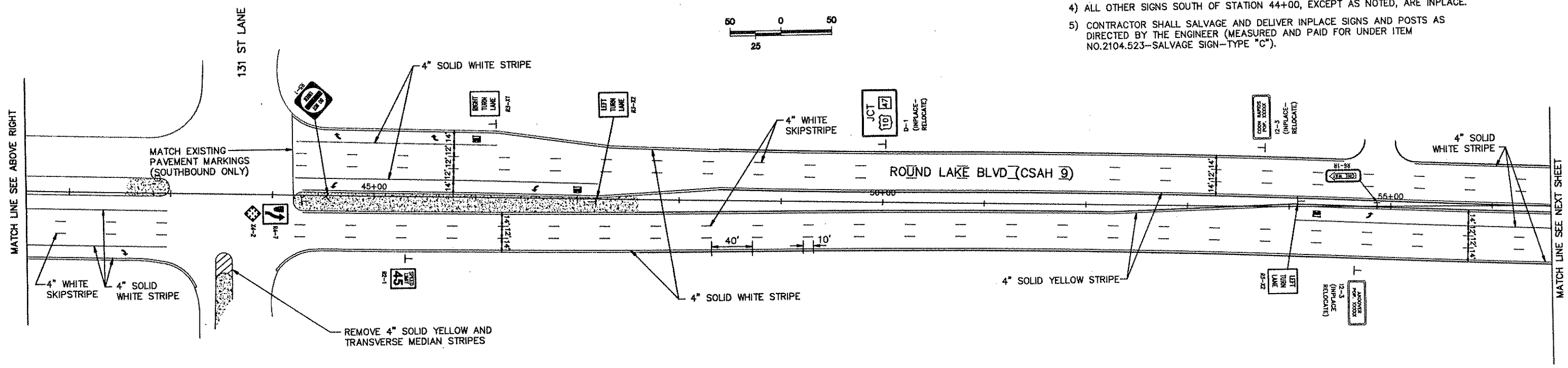
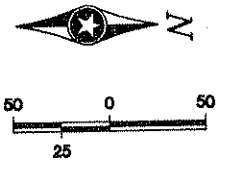
S.A.P.

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

BASE OVERLAY (PRG. 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").



83745/3145CS91

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

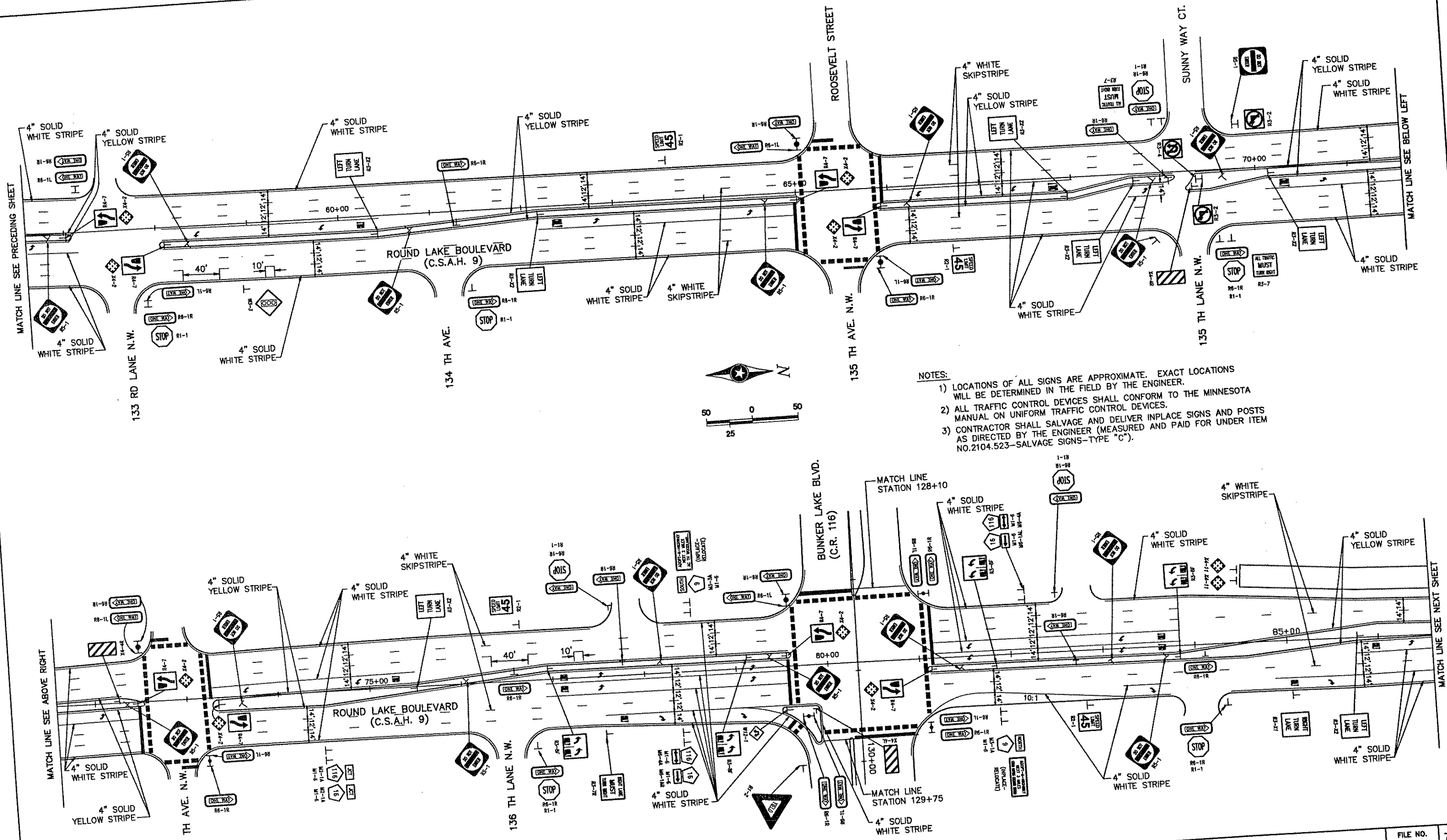
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
Thomas A. Schweidt
 Date: 4/2/93 Reg. No. 20943



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

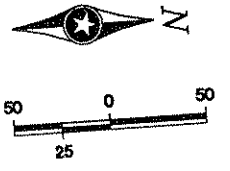
SIGNING & STRIPING PLAN
 ROUND LAKE BLVD. (CSAH 9)

FILE NO. 93145	70
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) 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").



1. (INSTALL APPROX. 300' FROM STOP BAR)

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

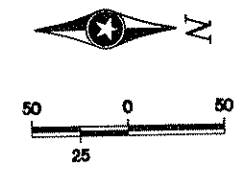
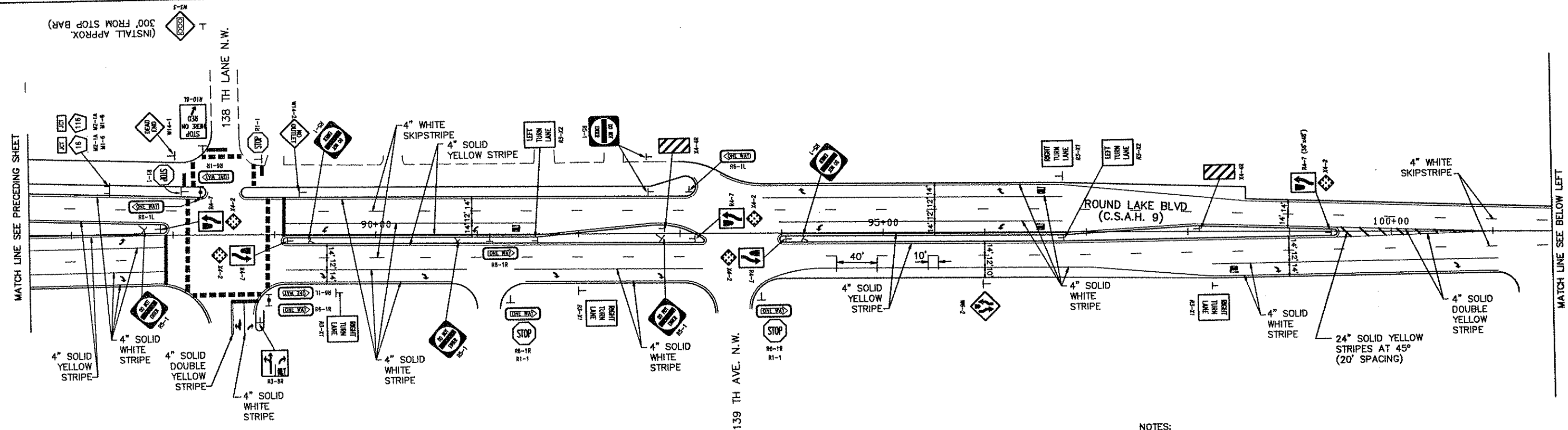


ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10, S.A.P. 02-616-03,
 C.P. 93-12-116

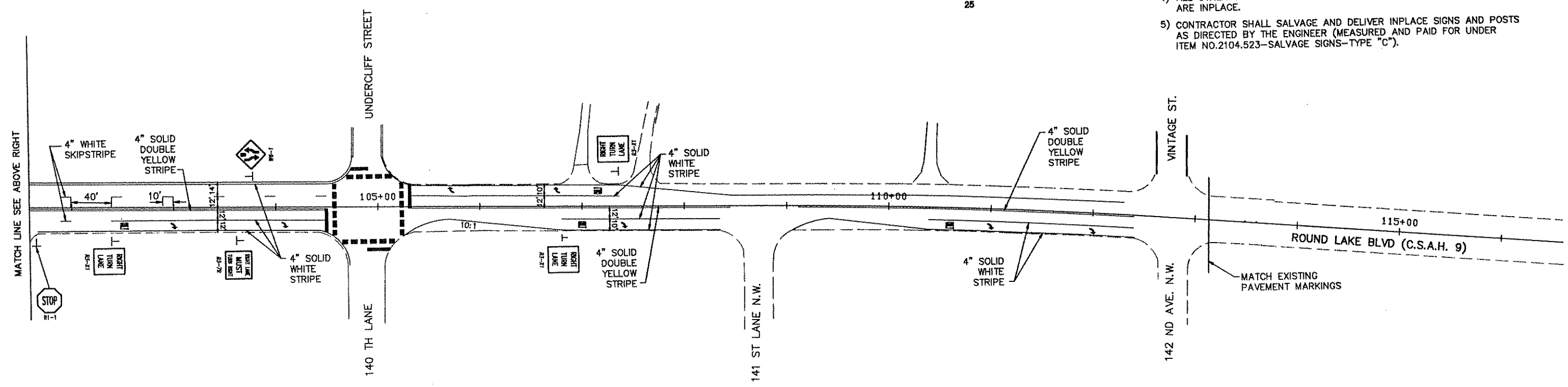
SIGNING & STRIPING PLAN
ROUND LAKE BLVD. (CSAH 9)

FILE NO.	93145	71
DATE	4/2/93	13

BASE	OVERLAY	DRG. 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 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").



93145 3/4/93

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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

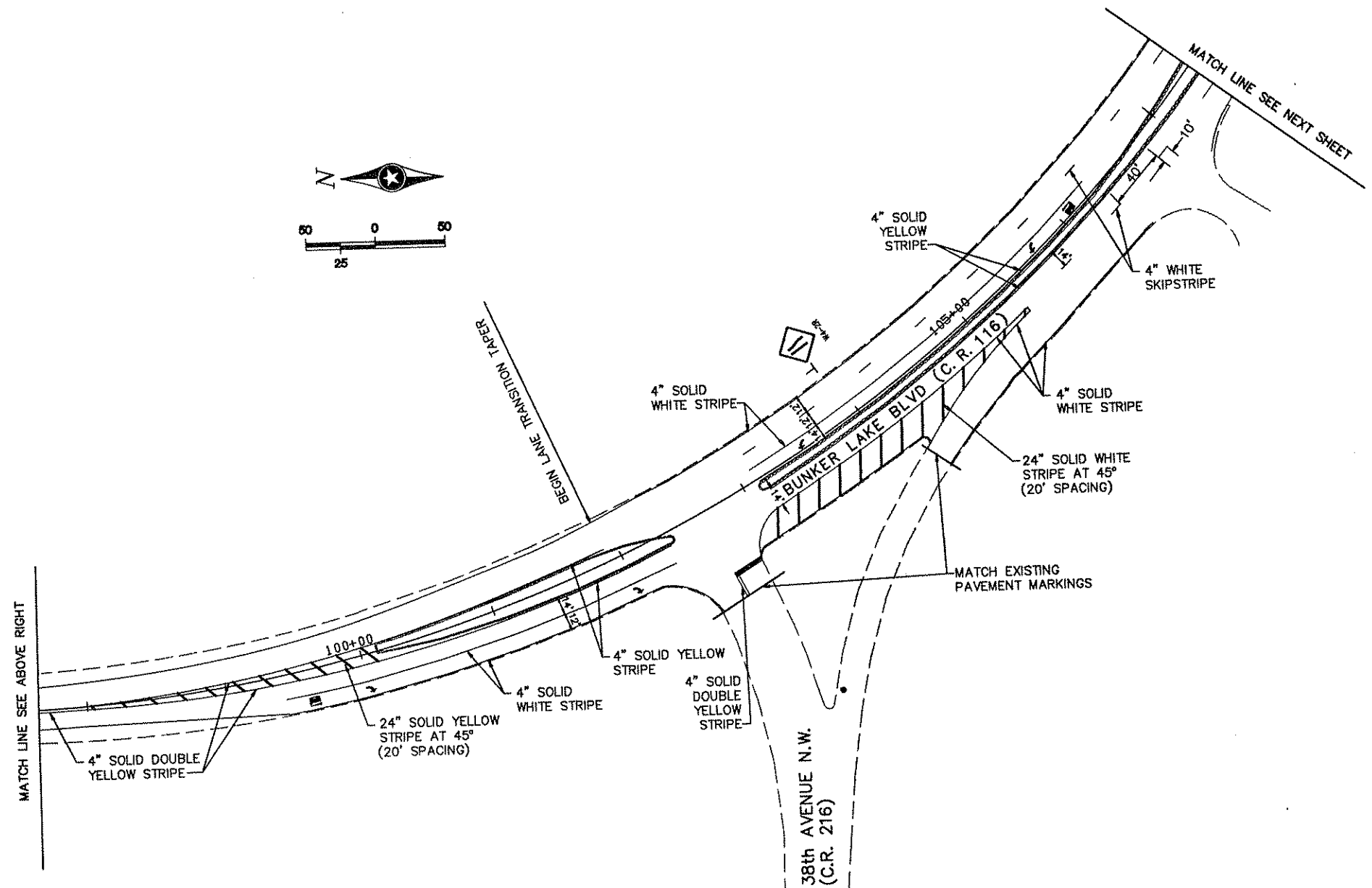
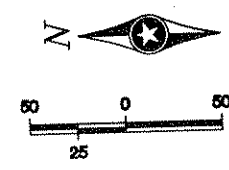
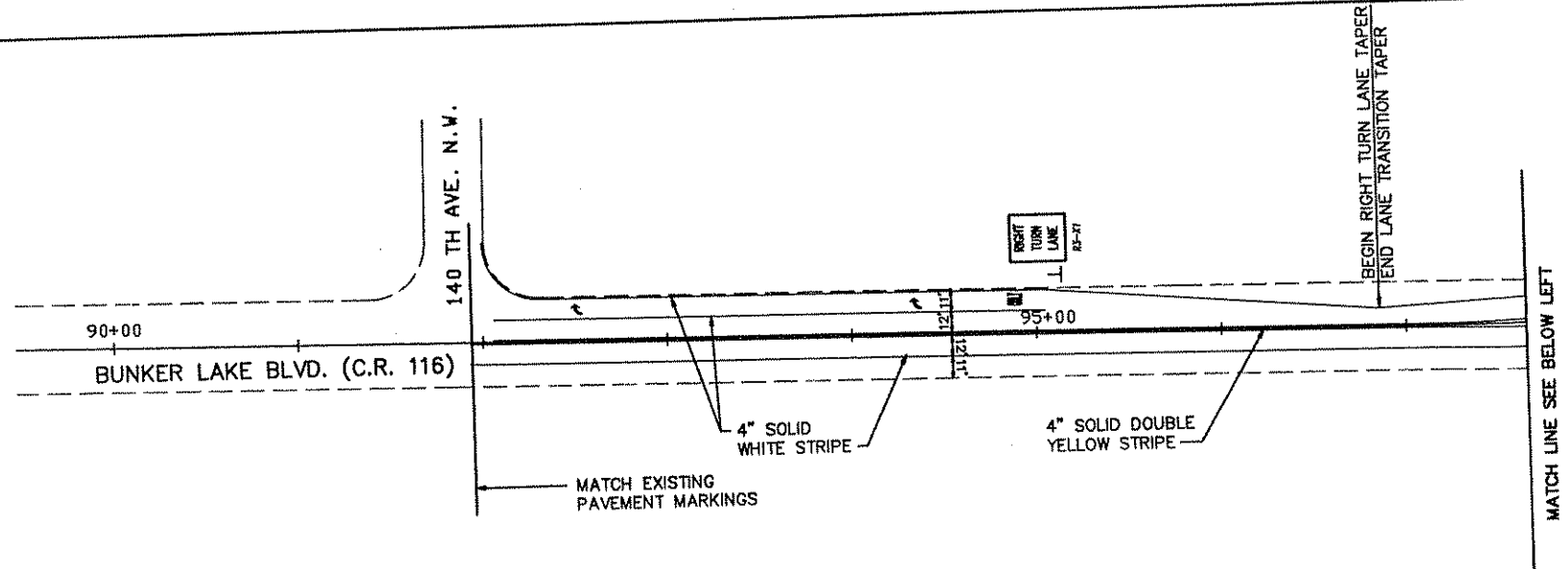


ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10, S.A.P. 02-616-03,
 C.P. 93-12-116

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

FILE NO.	72
93145	
DATE	133
4/2/93	

BASE OVERLAY ORIG. 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 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").

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 P. Schwedt
 4/2/93 Reg. No. 20943

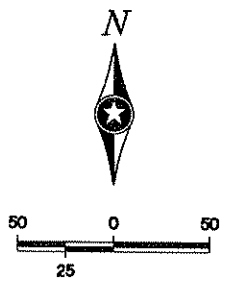
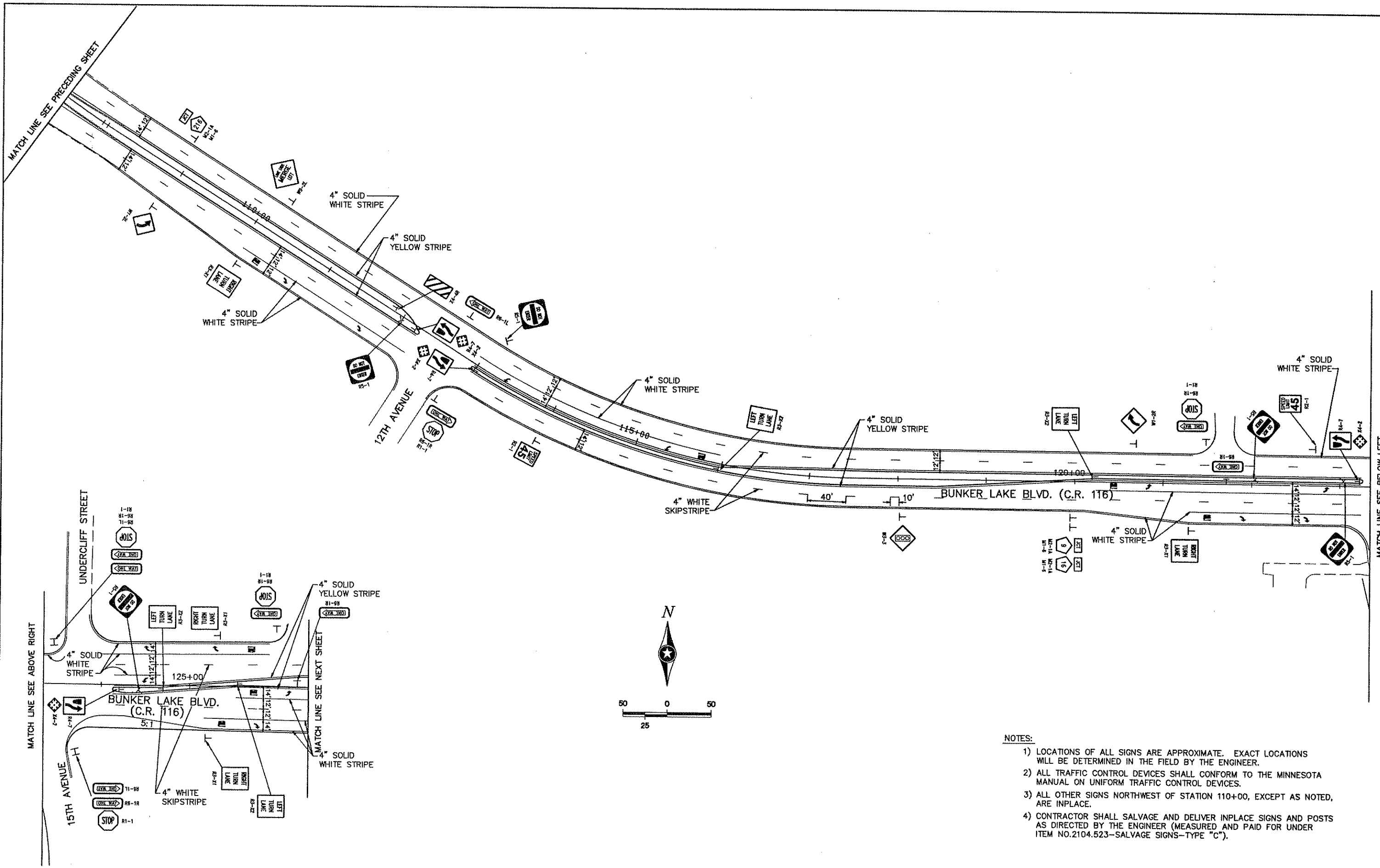


ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10, S.A.P. 02-616-03,
 C.P. 93-12-116

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

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

BASE OVERLAY/DRG. 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) ALL OTHER SIGNS NORTHWEST OF STATION 110+00, EXCEPT AS NOTED, ARE INPLACE.
 - 4) CONTRACTOR SHALL SALVAGE AND DELIVER INPLACE SIGNS AND POSTS AS DIRECTED BY THE ENGINEER (MEASURED AND PAID FOR UNDER ITEM NO.2104.523--SALVAGE SIGNS--TYPE "C").

11-11-92 9:30 AM

83145/3145CSNS

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

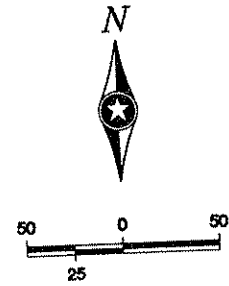
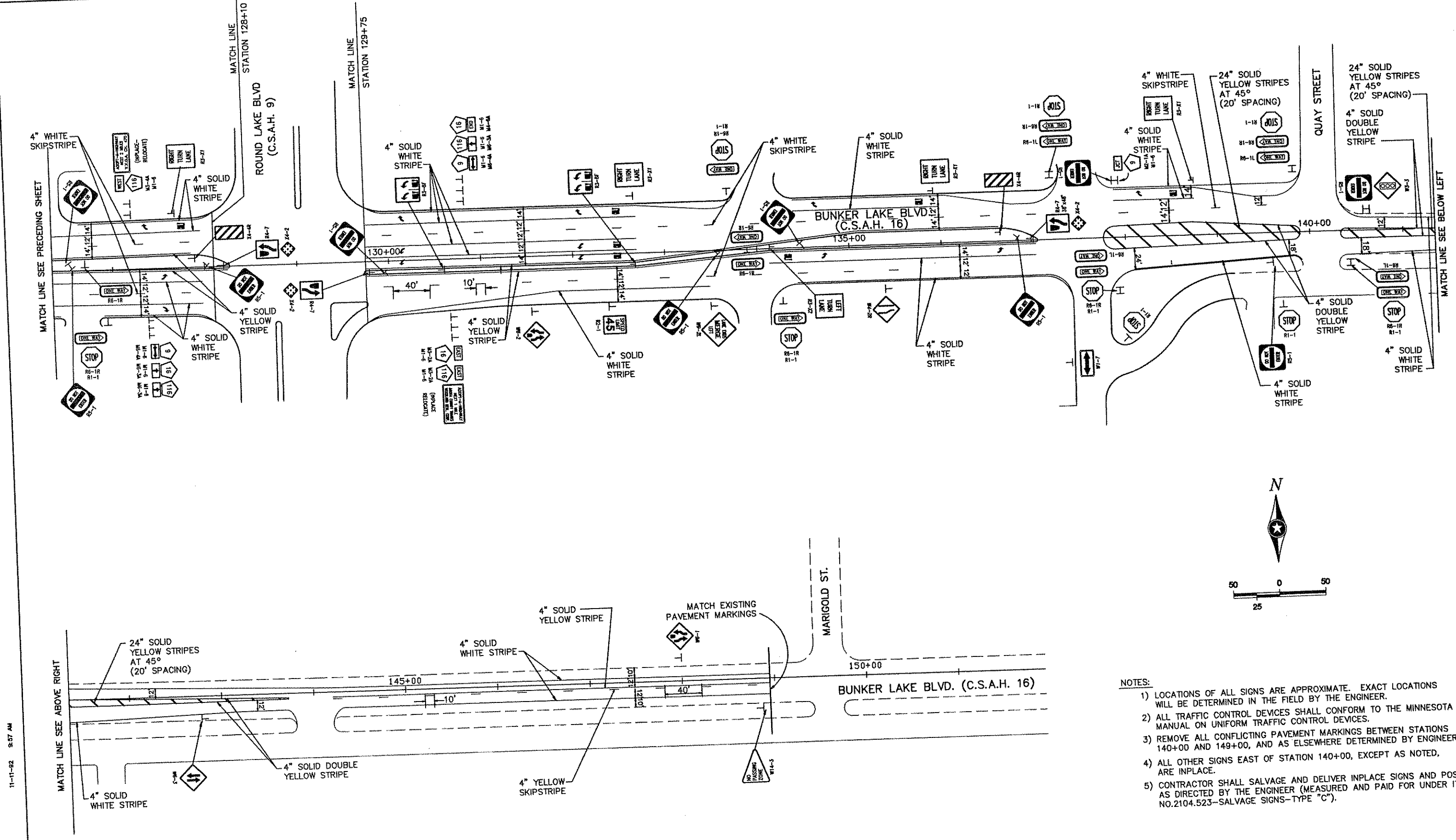


ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10, S.A.P.02-616-03,
 C.P. 93-12-116

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

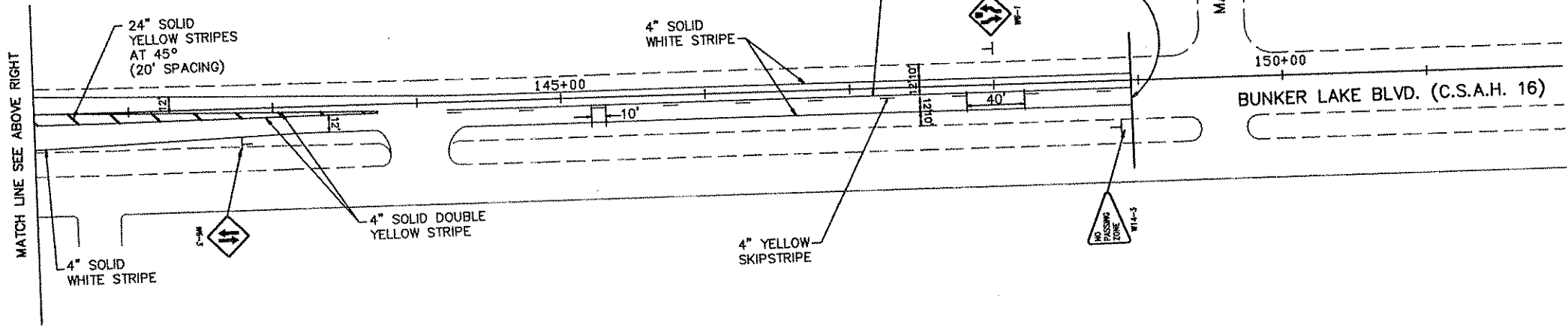
FILE NO.	74
93145	
DATE	133
4/2/93	

BASE OVERLAY DRG. 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 140+00 AND 149+00, AND AS ELSEWHERE DETERMINED BY ENGINEER.
 - 4) ALL OTHER SIGNS EAST OF STATION 140+00, EXCEPT AS NOTED, ARE INPLACE.
 - 5) CONTRACTOR SHALL SALVAGE AND DELIVER INPLACE SIGNS AND POSTS AS DIRECTED BY THE ENGINEER (MEASURED AND PAID FOR UNDER ITEM NO.2104.523--SALVAGE SIGNS--TYPE "C").

11-11-92 9:57 AM



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



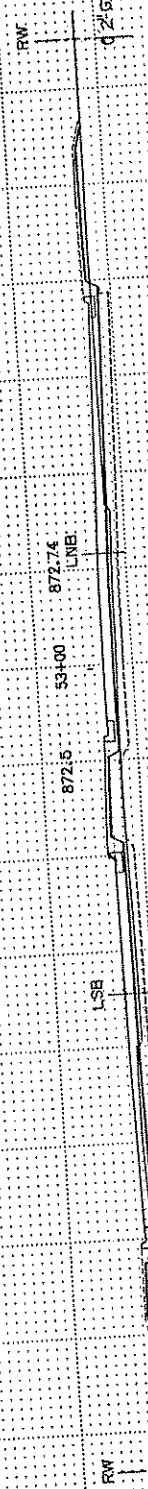
ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10, S.A.P. 02-616-03,
 C.P. 93-12-116

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

FILE NO.	93145	75
DATE	4/2/93	13

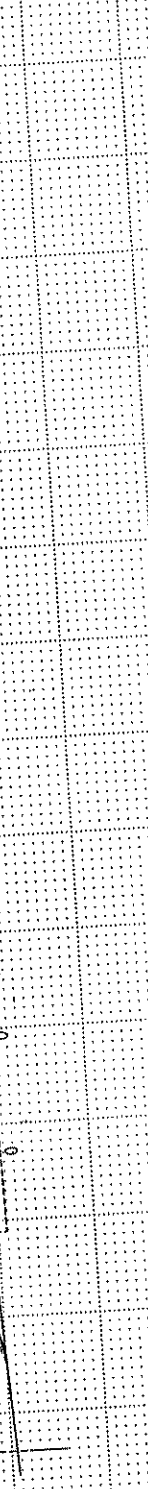
EXCAVATION EMBANKMENT
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.

REGULAR 141 122
SUBCUT 307 35
TOPSOIL

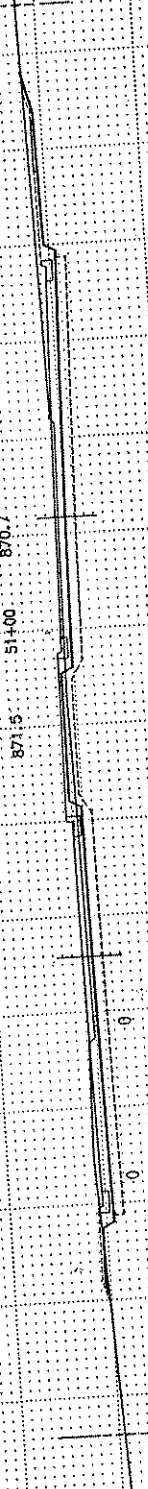


872.74
LINE

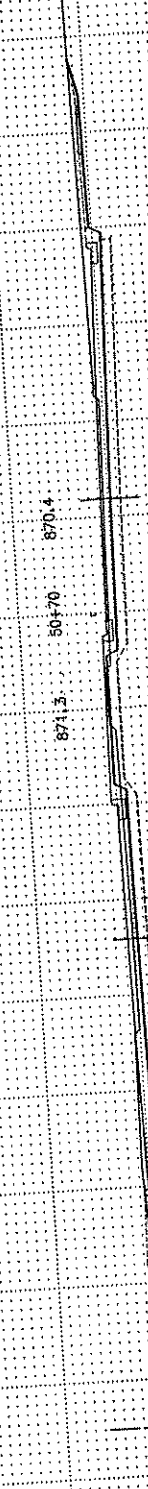
872.5 53+00



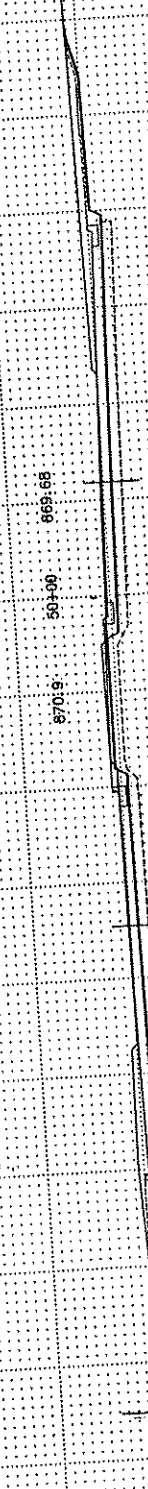
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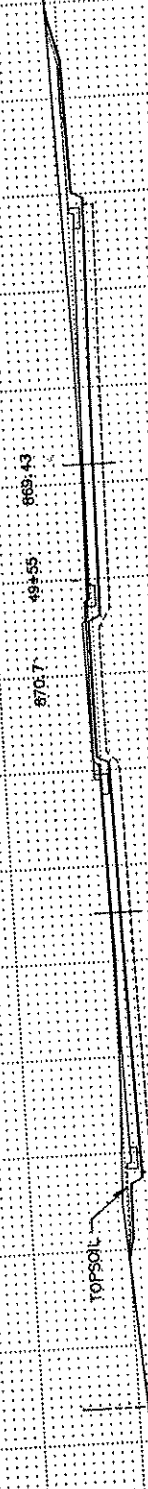
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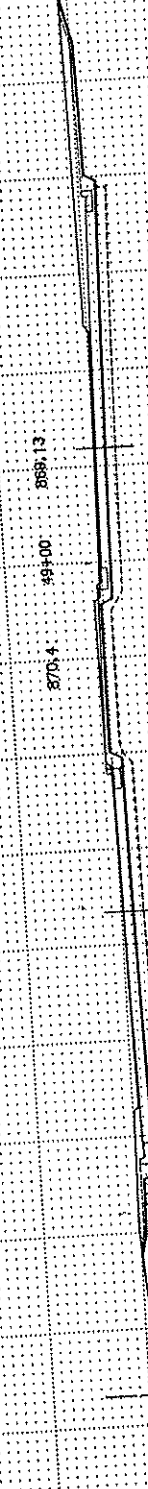
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870.9 50+00 869.66



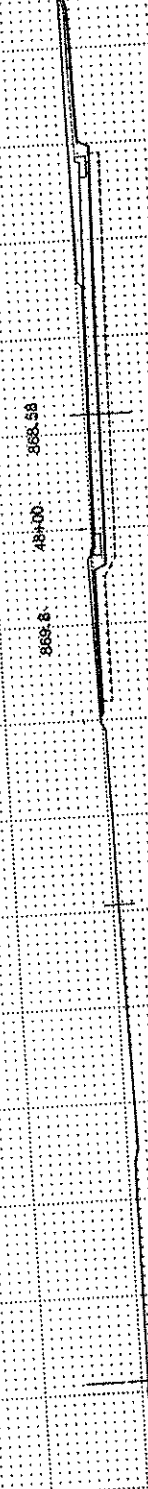
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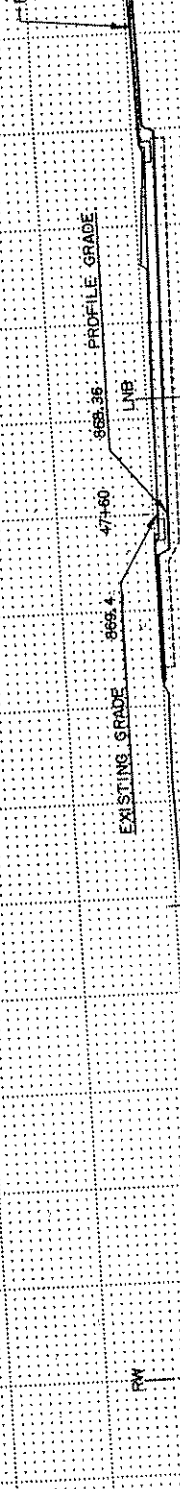
870.4 49+00 868.13



870.0 48+40 868.8



868.8 48+00 868.58



868.4 47+60 868.36 PROFILE GRADE
EXISTING GRADE

298 52
337 31

118 5
107 8

342 5
258 19

262 0
169 14

323 0
213 17

343 0
238 18

176 0
122 13

116 0
84 14

NOTE:
UTILITY ELEVATIONS ASSUMED
NOT ACTUAL

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

EXCAVATION EMBANKMENT

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

REGULAR 92 126 REGULAR
SUBCUT 87 15 TOPSOIL

42 58
65 9

65 122
136 7

73 131
140 15

150 239
202 35

104 217
136 31

22 90
39 12

51 245
119 31

16 80
43 11

61 241
213 43

Fed. Proj. No.

133RD. LANE
+0.55% TO 126

133RD. LANE
+0.44% TO 126

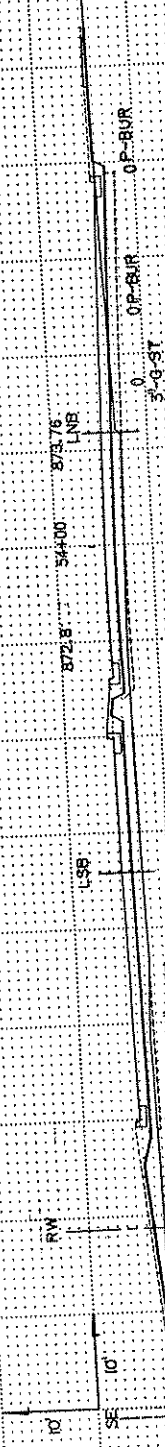
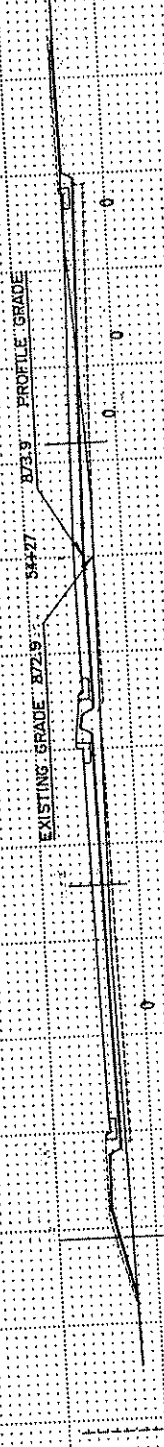
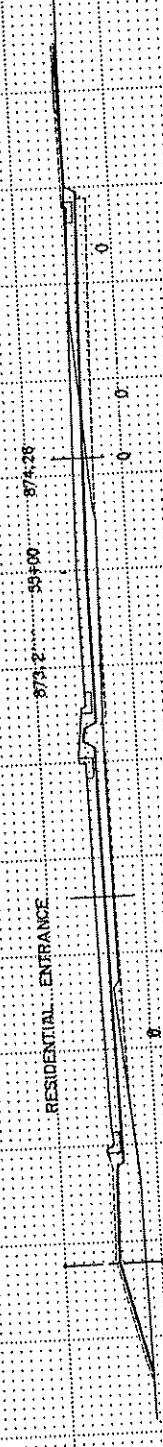
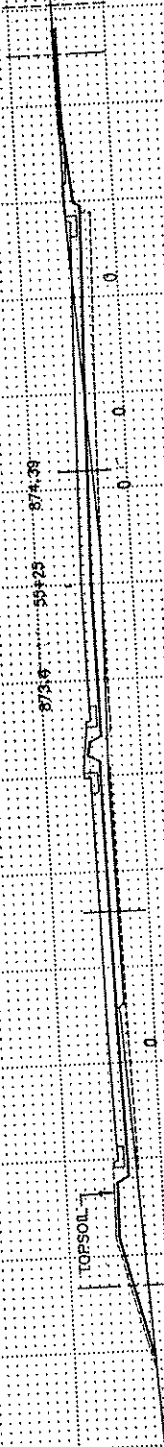
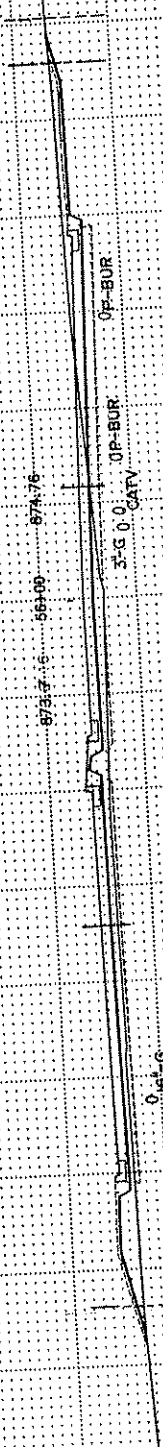
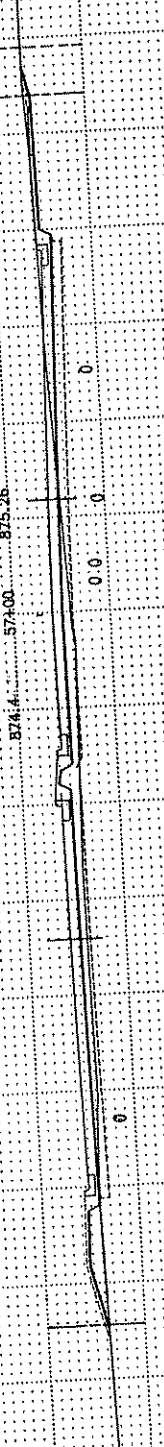
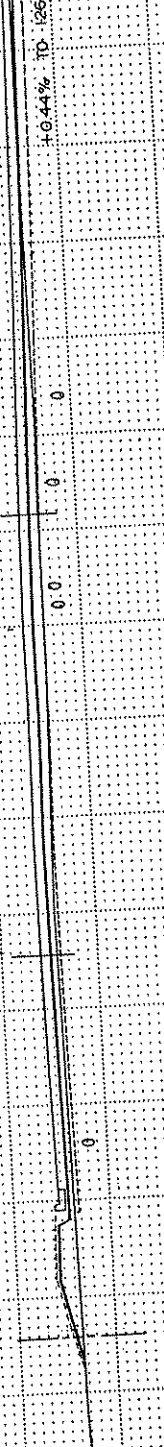
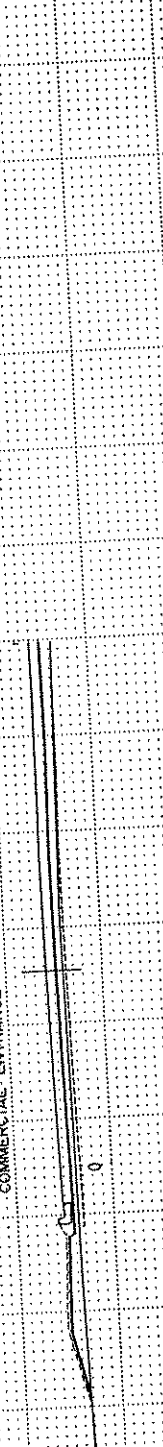
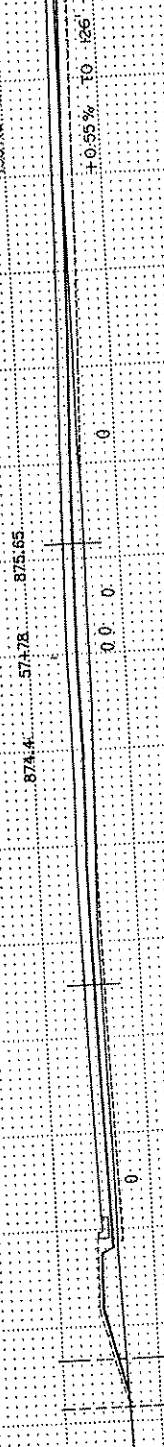
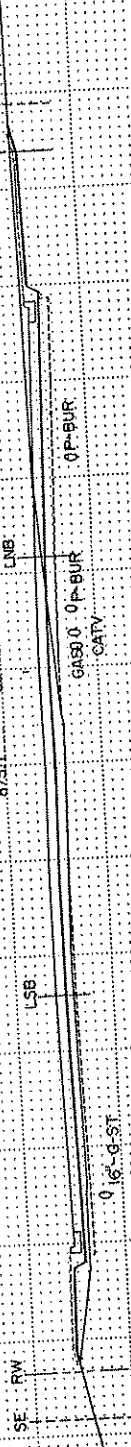
EXISTING GRADE 872.9
54+27 873.9 PROFILE GRADE

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

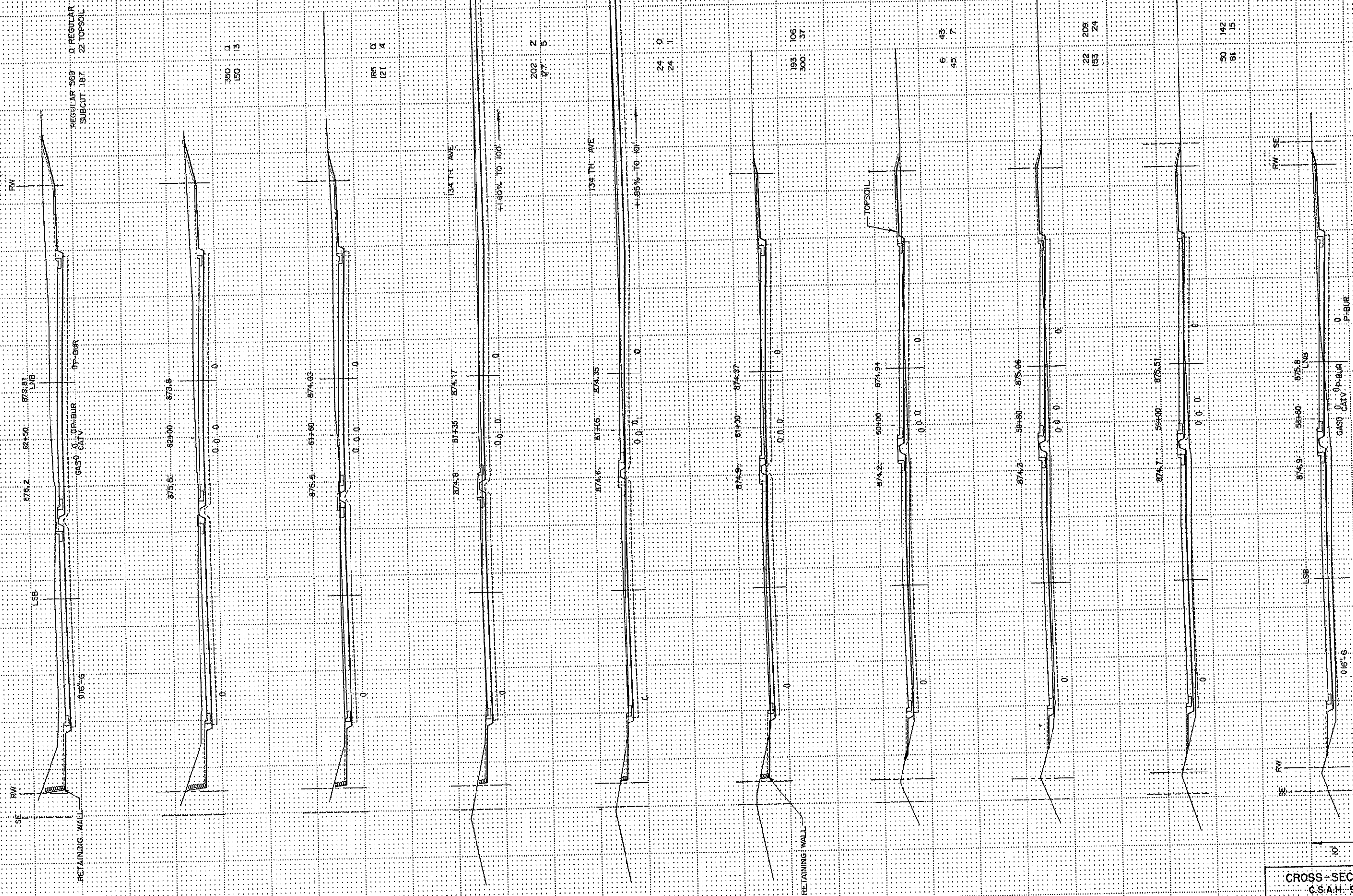
State Proj. No. S.A.P. 02-609-10

Sheet No. 77 of 133 Sheets

NOTE: BEGIN SIDEWALK CONST.
AT STA. 55+66



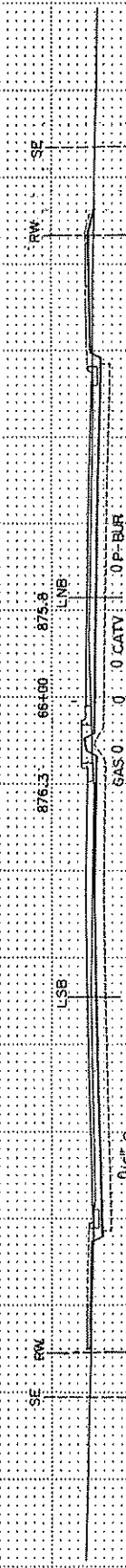
EXCAVATION EMBANKMENT
SUB-TOTALS CU YDS. SUB-TOTALS CU YDS.



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

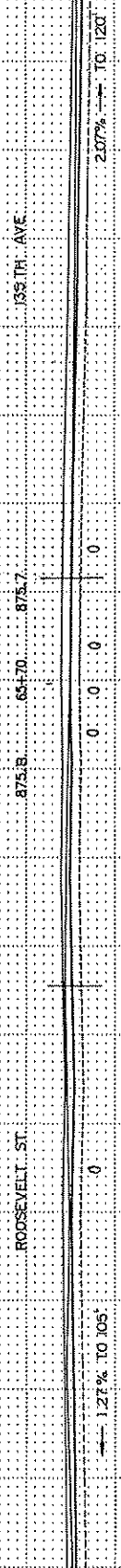
NOTE: UTILITY ELEVATIONS ASSUMED
NOT ACTUAL

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

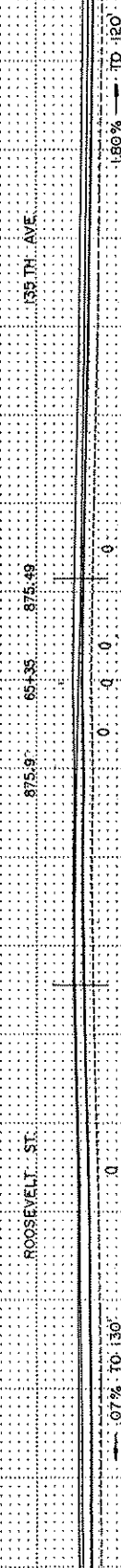


REGULAR 10.3
SUBROUT 179
9 TOPSOIL

BEGIN BIKE PATH CONST.
STA. 85+73



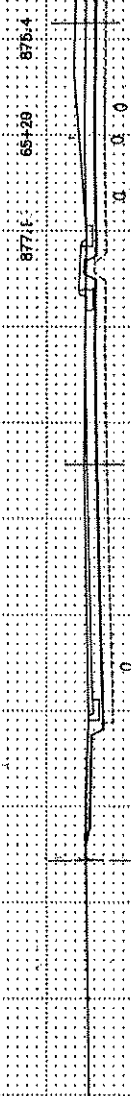
224 0
305 8



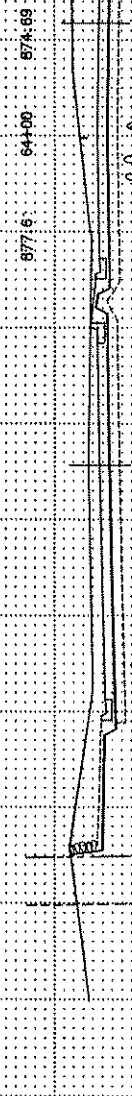
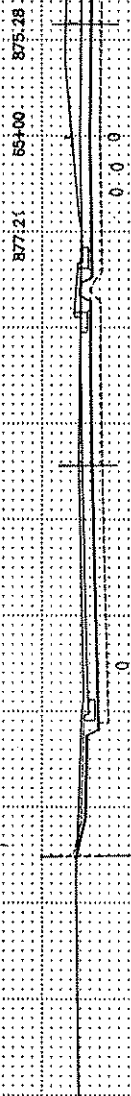
111 0
97 4



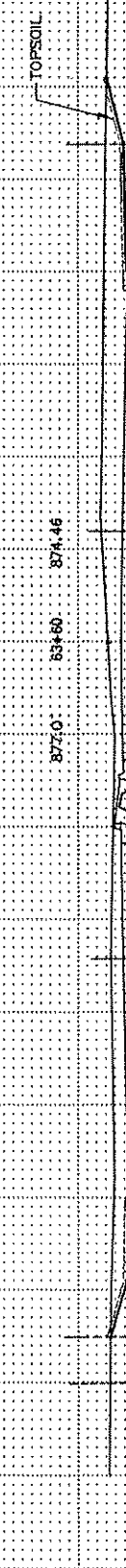
158 0
75 8



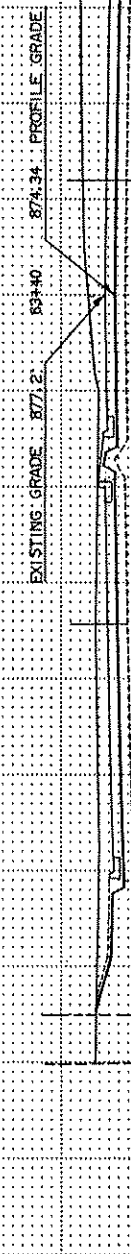
1056 0
374 31



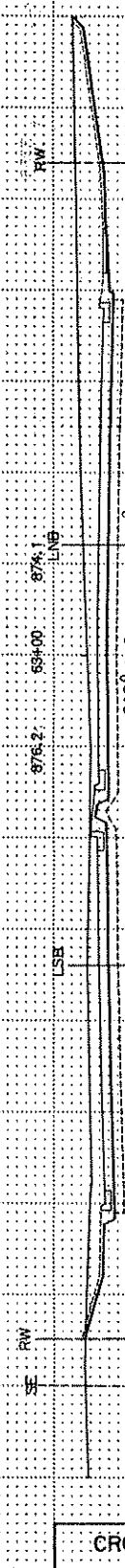
516 0
150 15



257 0
75 7



531 0
150 16



846 0
187 22

NOTE
UTILITY ELEVATIONS ASSUMED
NOT ACTUAL

Fed. Proj. No.

City Engineer Form 51

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

Fed. Proj. No.

REGULAR 507
SUBCUT 212
TOPSOIL 10

494 0
290 0

192 0
93 3

494 0
189 7

407 0
188 15

256 19
186 17

161 29
185 18

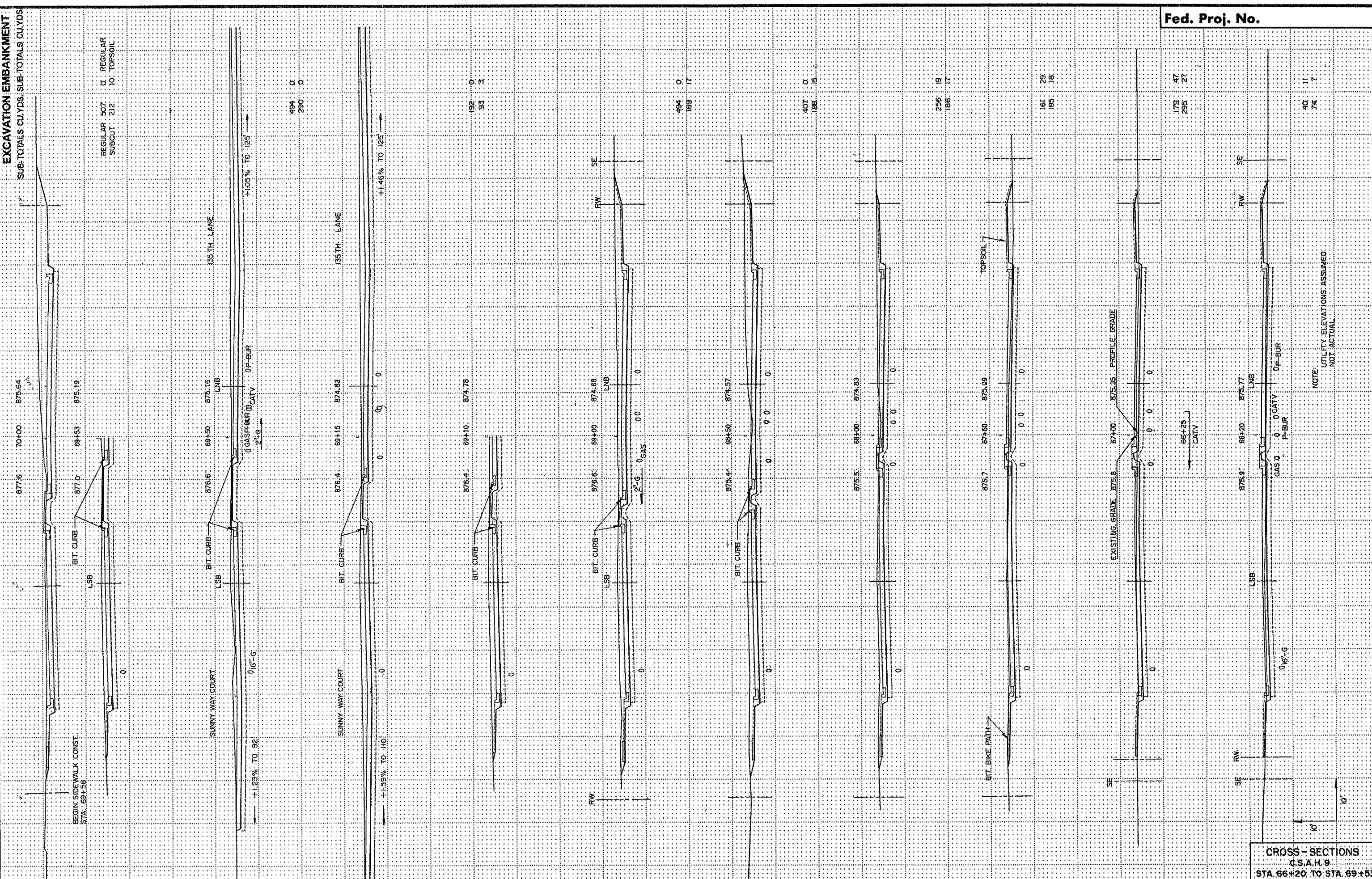
179 47
295 27

40 11
74 7

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

State Proj. No. S.A.P. 02-609-10

Sheet No. 80 of 133 Sheets

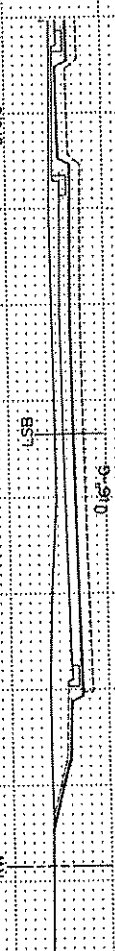


NOTE: UTILITY ELEVATIONS ASSUMED.
NOT ACTUAL.

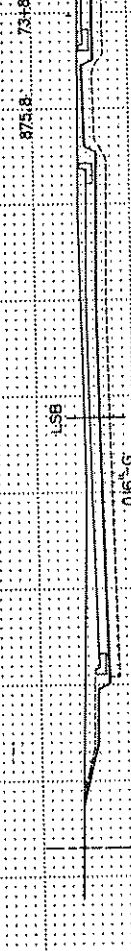
EXCAVATION EMBANKMENT

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

876.0 744.15 874.27

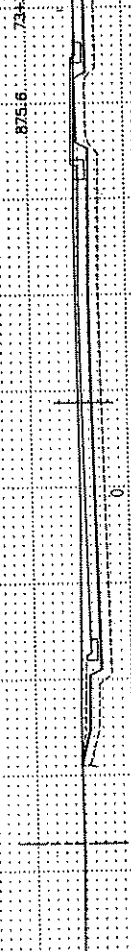


873.8 734.80 874.23



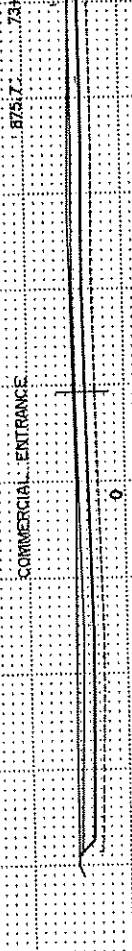
REGULAR 379 0 REGULAR
SUBCUT 181 15 TOPSOIL

875.6 734.35 874.51



201 0
122 4

875.7 734.08 874.64

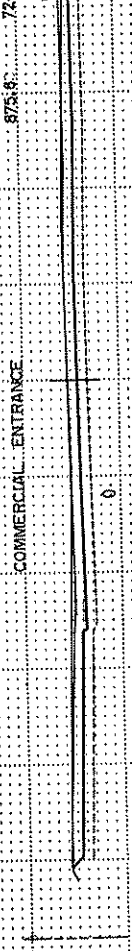


56 TH. AVE

+1.62% TO 89'

230 0
164 0

875.8 724.75 874.92



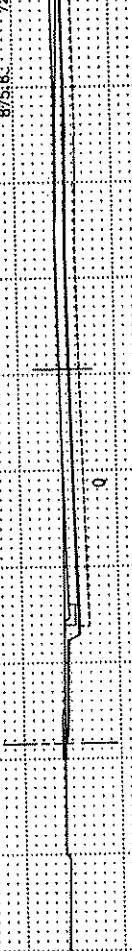
56 TH. AVE

+1.62% TO 91'

184 1
124 5

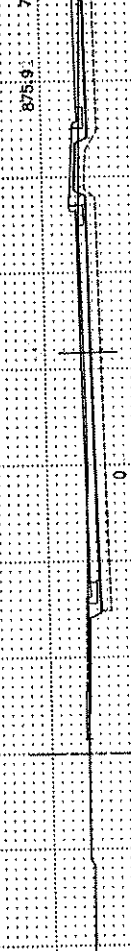
END SIDEWALK CONST.
STA. 72+62

875.6 724.47 875.19

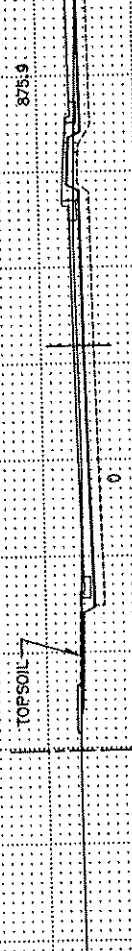


242 3
182 14

875.9 724.00 875.64

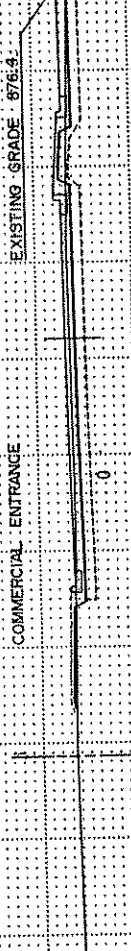


875.9 714.75 875.88



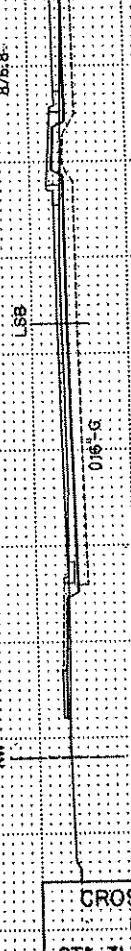
213 8
156 14

876.4 714.48 876.14



155 11
180 15

876.8 714.00 875.36



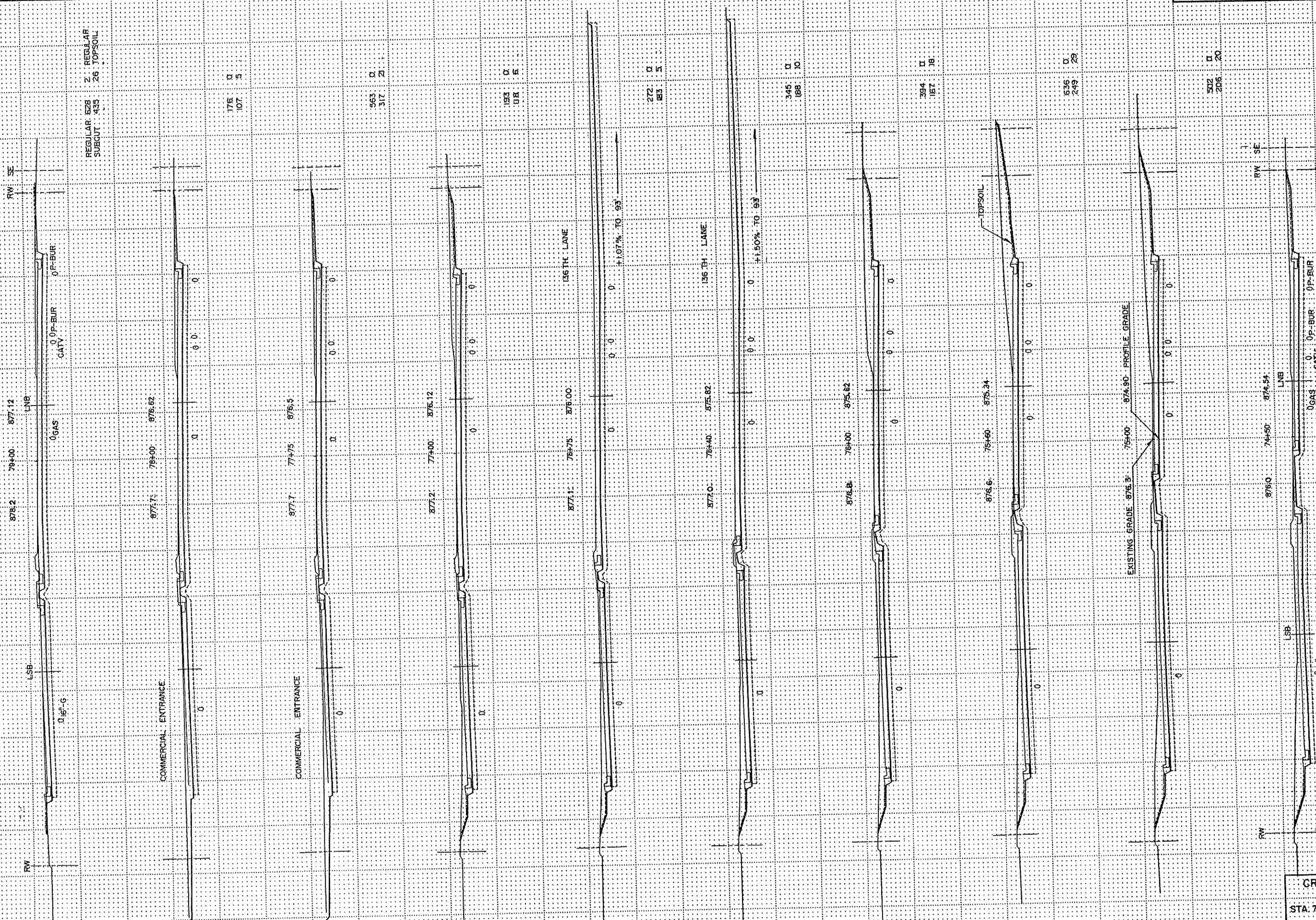
576 11
378 59

NOTE: UTILITY ELEVATIONS ASSUMED
NOT ACTUAL

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

EXCAVATION EMBANKMENT

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



REGULAR 628 2. REGULAR
SUBCUT 439 26 TOPSOIL

COMMERCIAL ENTRANCE

COMMERCIAL ENTRANCE

136 TH LANE

136 TH LANE

EXISTING GRADE 876+00 874+90 PROFILE GRADE

NOTE: UTILITY ELEVATIONS ASSUMED NOT ACTUAL

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

EXCAVATION EMBANKMENT

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

REGULAR 102 55 REGULAR
SUBCUT 241 14 TOPSOIL

107 86
289 79

58 35
128 5

118 104
288 14

52 87
137 8

37 170
158 13

176 135
406 22

587 17
739 13

523 5
481 12 D



COMMERCIAL ENTRANCE

COMMERCIAL ENTRANCE

EXISTING GRADE 878.2 81+00 878.88 PROFILE GRADE

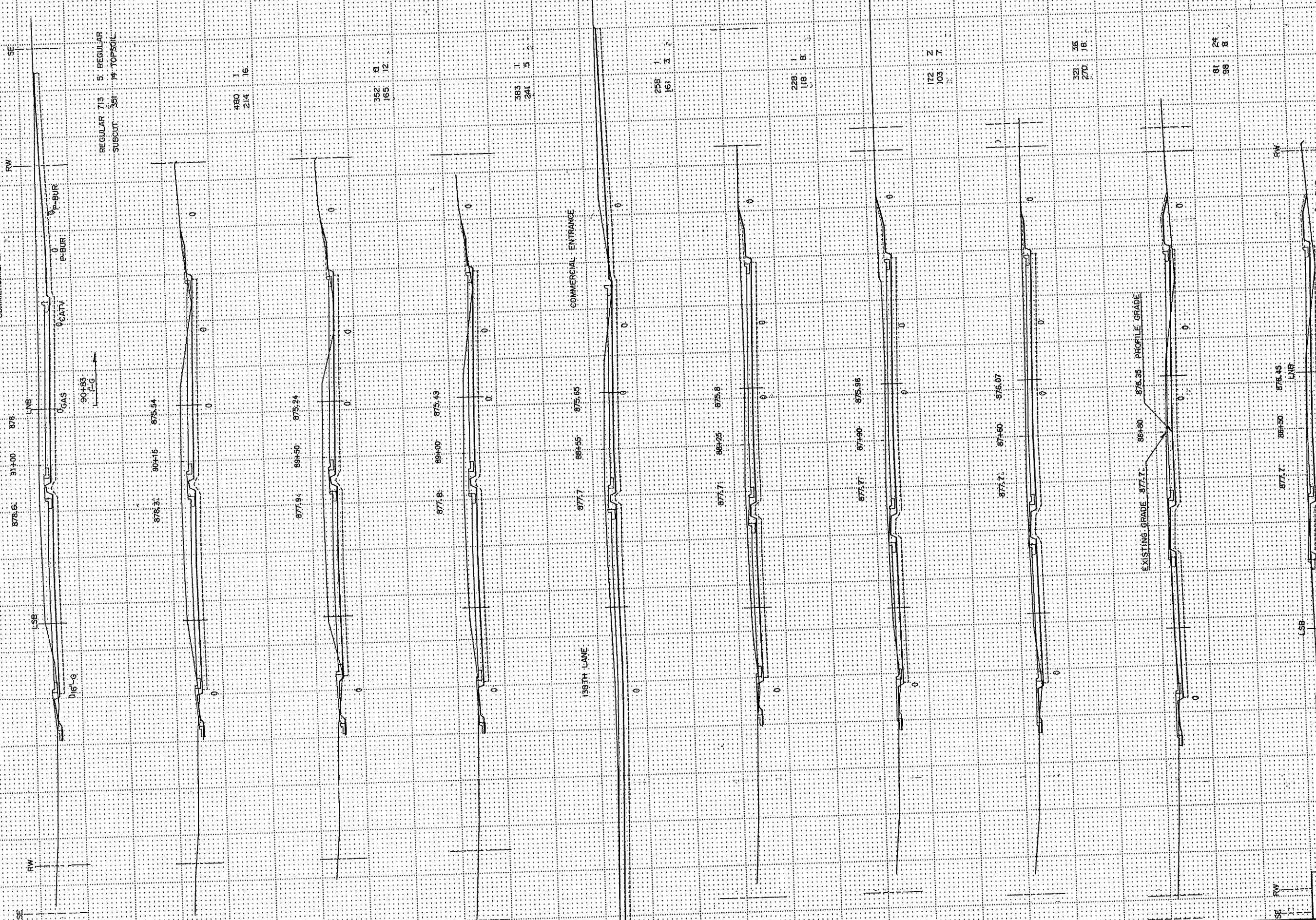
NOTE: UTILITY ELEVATIONS ASSUMED NOT ACTUAL

CROSS-SECTIONS
C.S.A.H. 9
STA. 78+83 TO STA. 85+00

EXCAVATION EMBANKMENT

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

Fed. Proj. No.



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. YDS.

REGULAR 333
SUBCUT 293

105 REGULAR
22 TOPSOIL

NOTE:
CHANGE FROM B618 TO
BIT. CURB
STA. 96+76

NOTE:
CHANGE FROM B618 TO
BIT. CURB STA. 96+77

NOTE:
UTILITY ELEVATIONS ASSUMED
NOT ACTUAL

0 CATY

0 GAS

LSB

0 16'-G

881.2 98+00 879.57
880.8 97+00 879.09

880.4 96+00 878.61

0 16'-G

0 GAS

0 CATY

0 P-BUR

880.1 95+00 878.13

879.7 94+00 877.65

139TH AVE

879.6 93+80 877.54

SERVICE ROAD ENTRANCE

139TH AVE

879.5 93+40 877.32

2'-G
93+37

881 5
409 13

878.1 92+40 876.77

EXISTING GRADE 878.8 91+70 876.39 PROFILE GRADE

0 P-BUR

0 CATY

0 OF-BUR

SERVICE ROAD

0 GAS

LSB

LNB

COMMERCIAL ENTRANCE

RW

SE

377 6
206 3

411 12
231 18

CROSS-SECTIONS
CS:AH. 9
STA. 91+20 TO STA. 98+00

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

REGULAR 0 0
SUBCUT 0 0
TOPSOIL 0 0

7 0
2 0

146 0
74 14

250 0
115 33 0

189 0
115 26 0

168 0
100 13 0

169 23
114 15 0

315 100
256 37 0

285 133
252 31 0

287 159
263 30 0

Fed. Proj. No.

881.5 105+08 879.53

881.7 104+75 880.73

140 TH. LANE

881.7 104+70 880.7

882.1 104+00 881.12

882.8 103+00 881.39

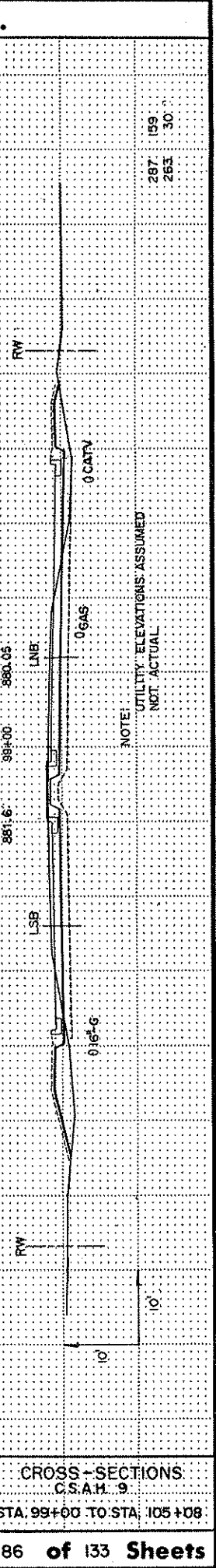
882.5 102+00 881.38

882.5 101+45 881.23

882.5 101+00 881.91

EXISTING GRADE 881.9 100+00 880.53

881.6 99+00 880.05

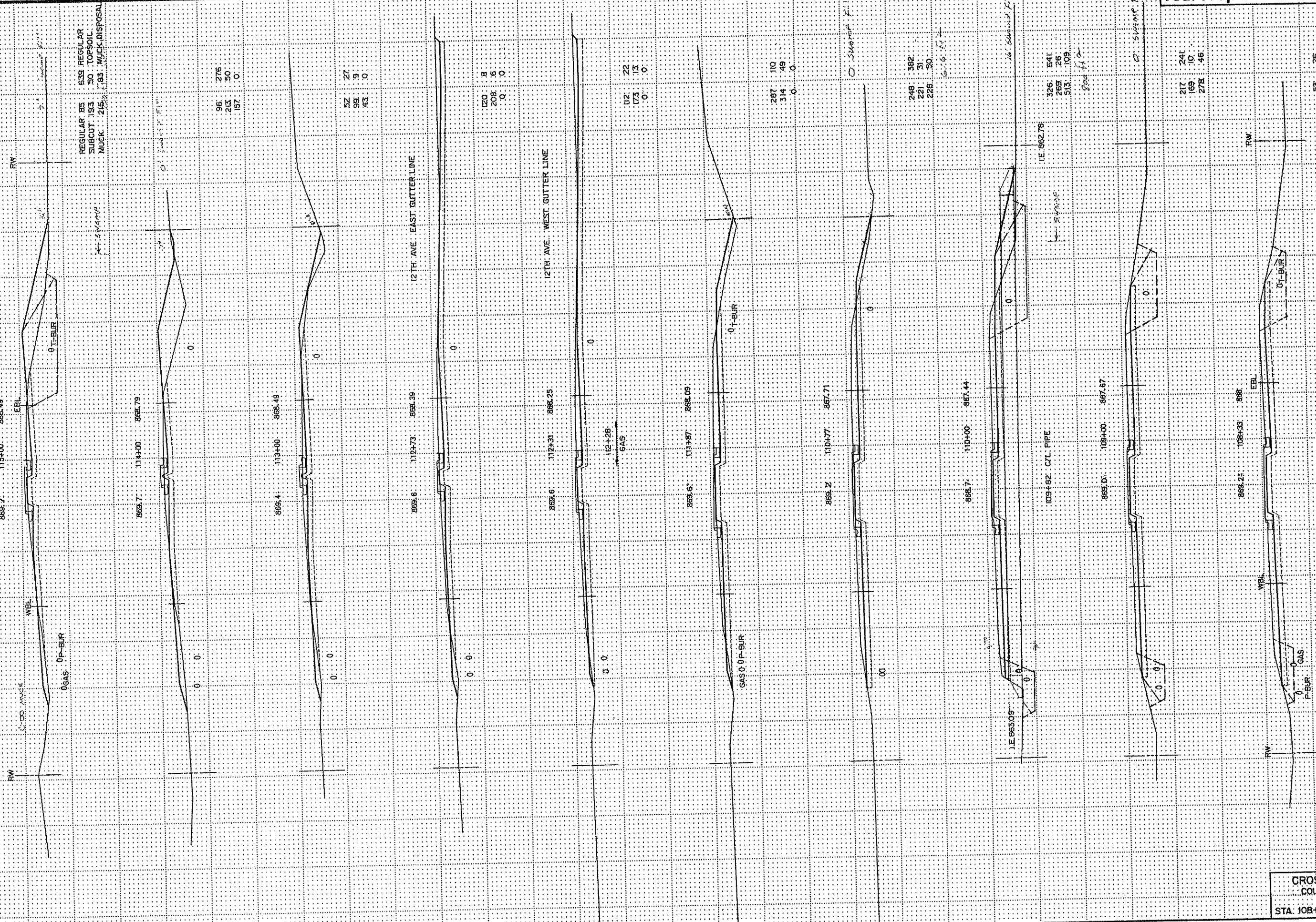


CROSS-SECTIONS:
C.S.A.H. 9
STA. 99+00 TO STA. 105+08

EXCAVATION EMBANKMENT

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

Fed. Proj. No.



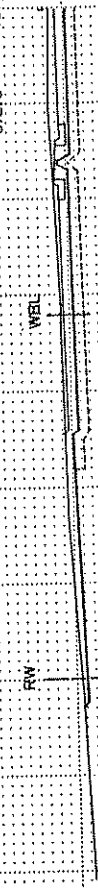
NOTE: UTILITY ELEVATIONS ASSUMED. NOT ACTUAL.

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

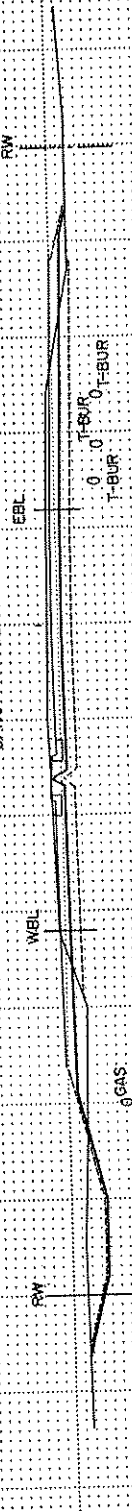
EXCAVATION EMBANKMENT
 SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.

Fed. Proj. No.

872.0 121+79 870.23

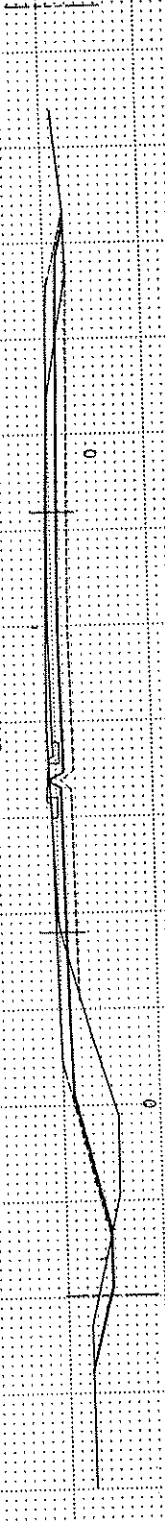


871.6 121+50 870.08



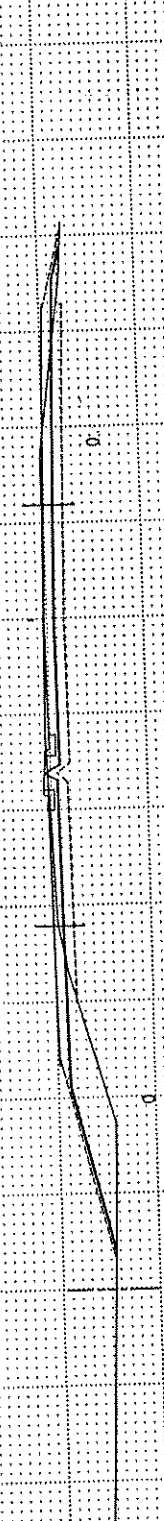
REGULAR 93
 SUBCUT 25
 MUCK 0

871.1 121+00 869.63



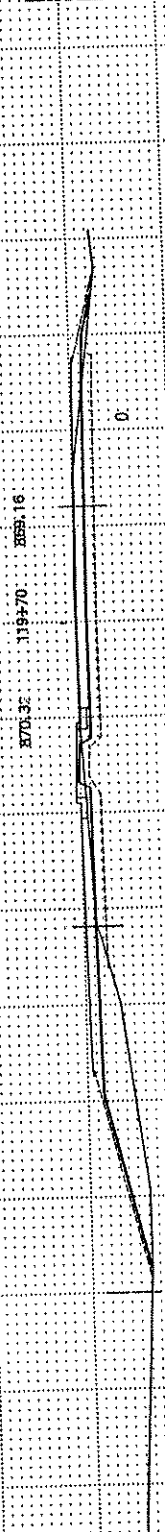
135 122
 130 22
 0 0

870.7 120+50 869.57



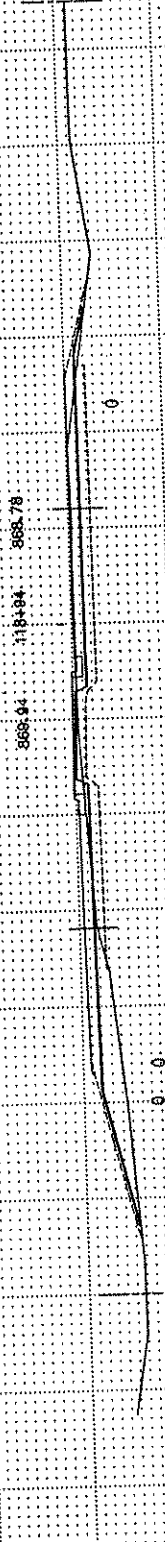
155 200
 131 31
 0 0

870.3 119+70 869.16



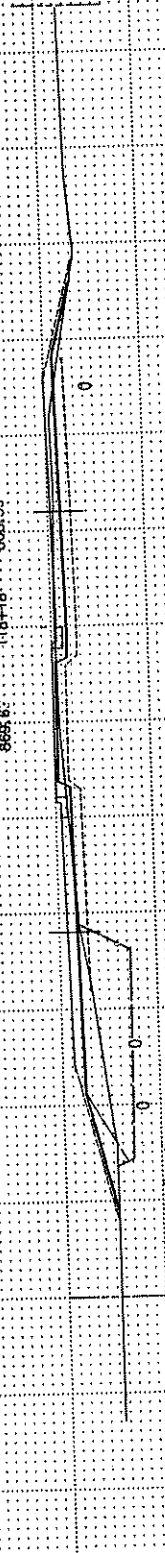
107 169
 163 30
 0 0

869.4 118+84 868.78



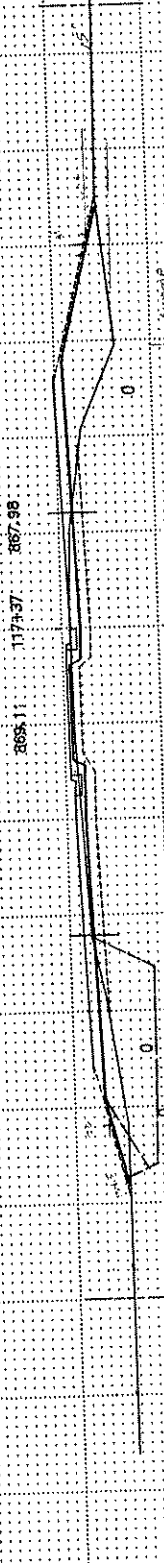
87 274
 162 28
 104 15

869.5 118+18 868.99



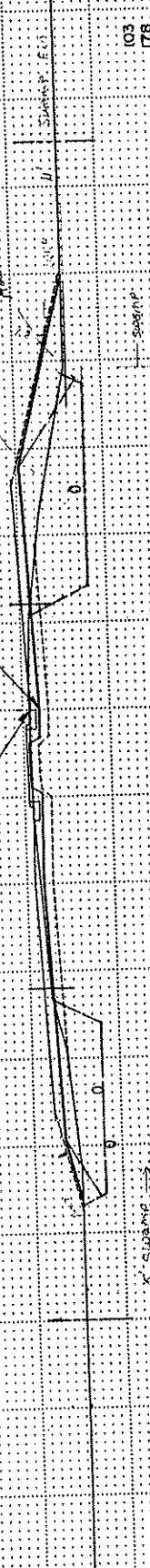
74 530
 162 32
 239 30

868.1 117+37 867.96

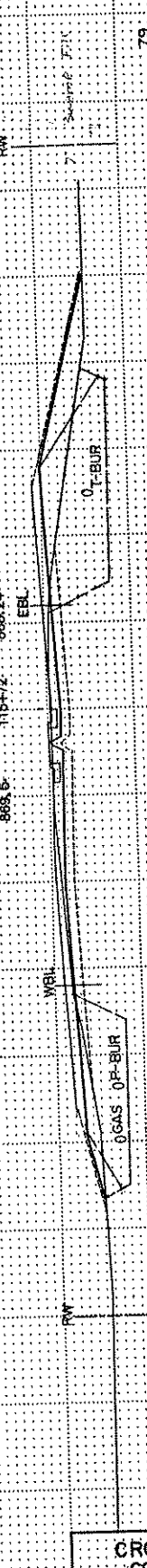


67 739
 142 32
 374 75

EXISTING GRADE 868.1 116+62 867.92 PROFILE GRADE



868.6 115+72 868.24



103 1095
 178 92
 547 165

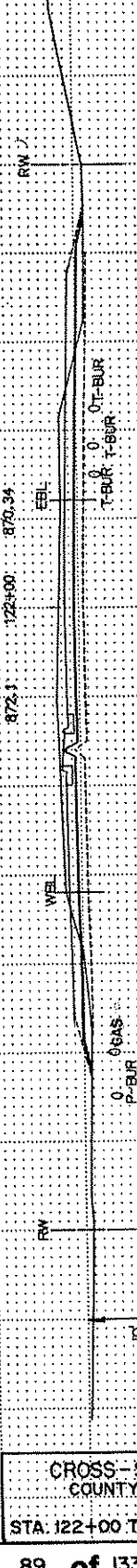
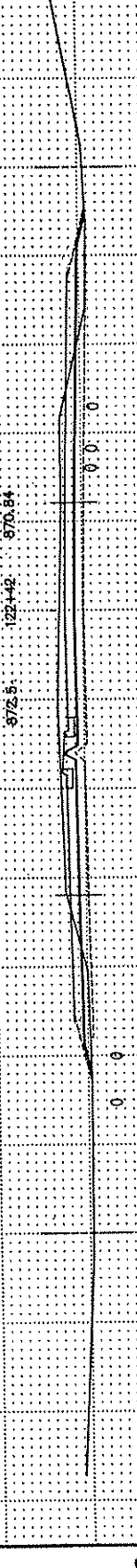
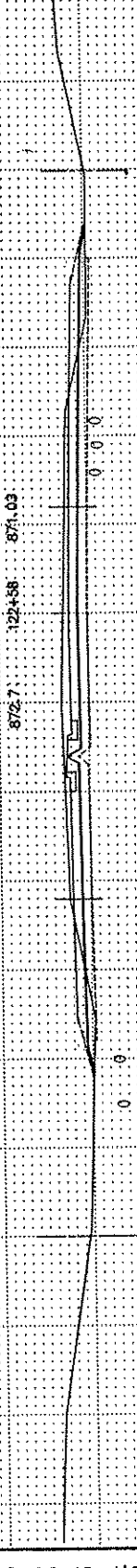
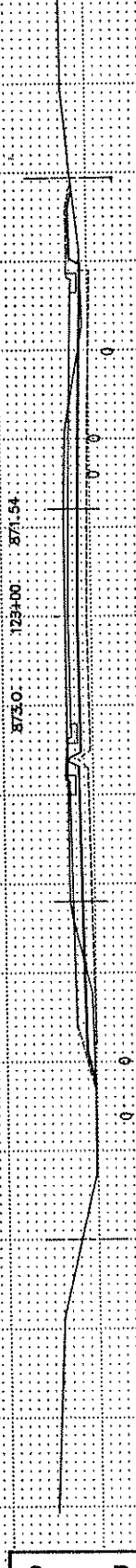
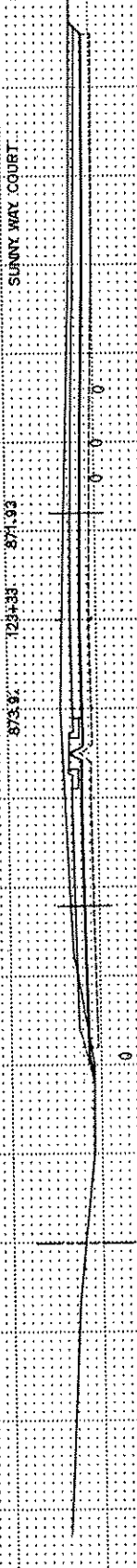
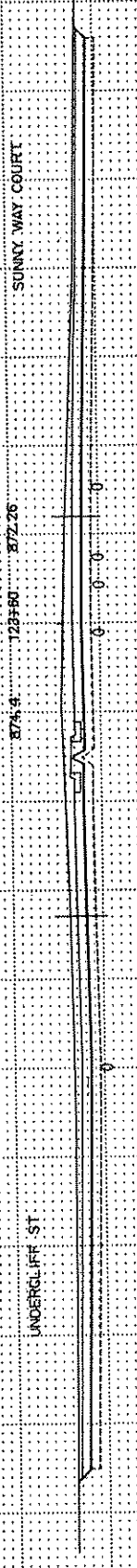
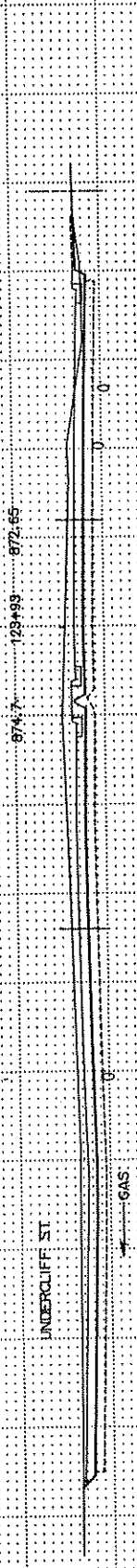
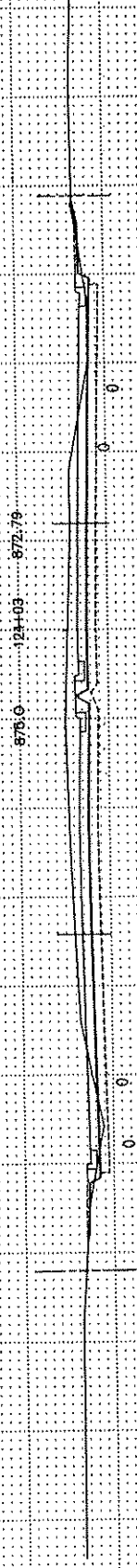
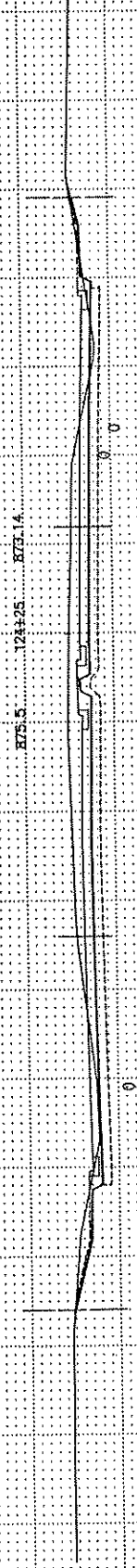
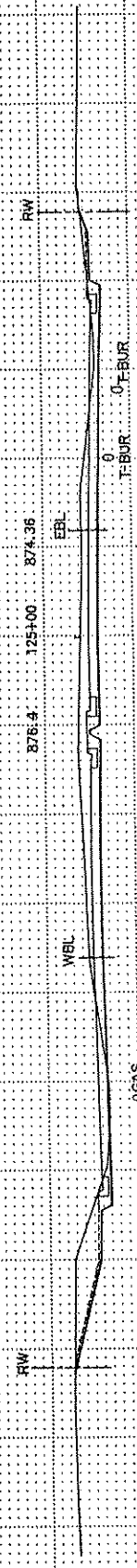
NOTE
 UTILITY ELEVATIONS ASSUMED
 NOT ACTUAL

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

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

Fed. Proj. No.

REGULAR 496 3 REGULAR
SUBCLUT 279 28 TOP SOIL



133 2

81 6

74 1

43 1

319 1

180 0

235 1

138 2

159 3

119 6

151 21

124 9

62 9

45 3

163 26

117 8

216 35

138 17

NOTE
UTILITY ELEVATIONS ASSUMED
NET ACTUAL

CROSS-SECTIONS
COUNTY ROAD 116
STA. 122+00 TO STA. 125+00

EXCAVATION EMBANKMENT

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

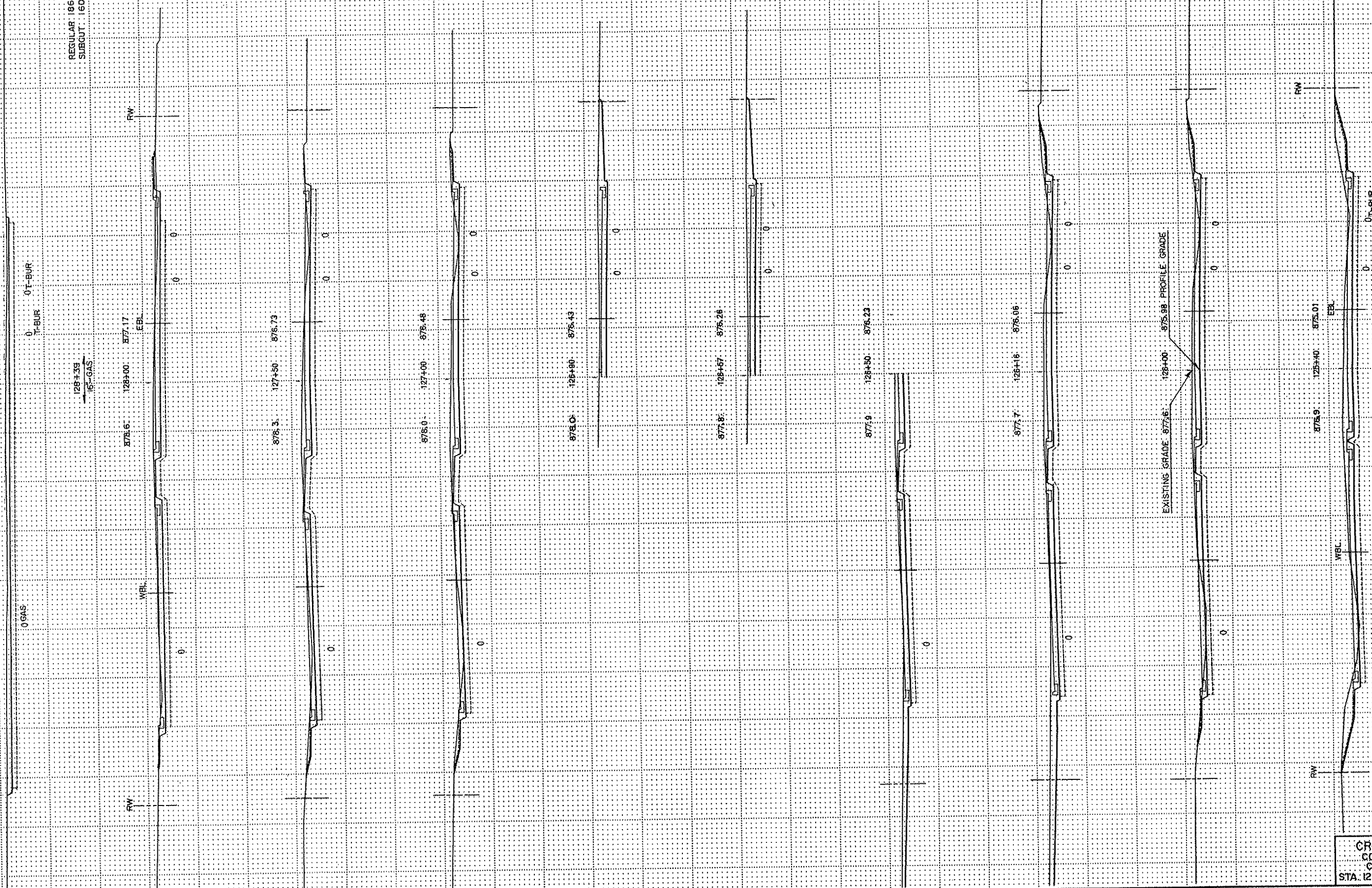
Fed. Proj. No.

REGULAR: 186.0
SUBCUT: 160.4
TOPSOIL

100.0
62.4

348.2
229.22

281.1
150.17



EXISTING GRADE 877.6
128+00 875.98 PROFILE GRADE

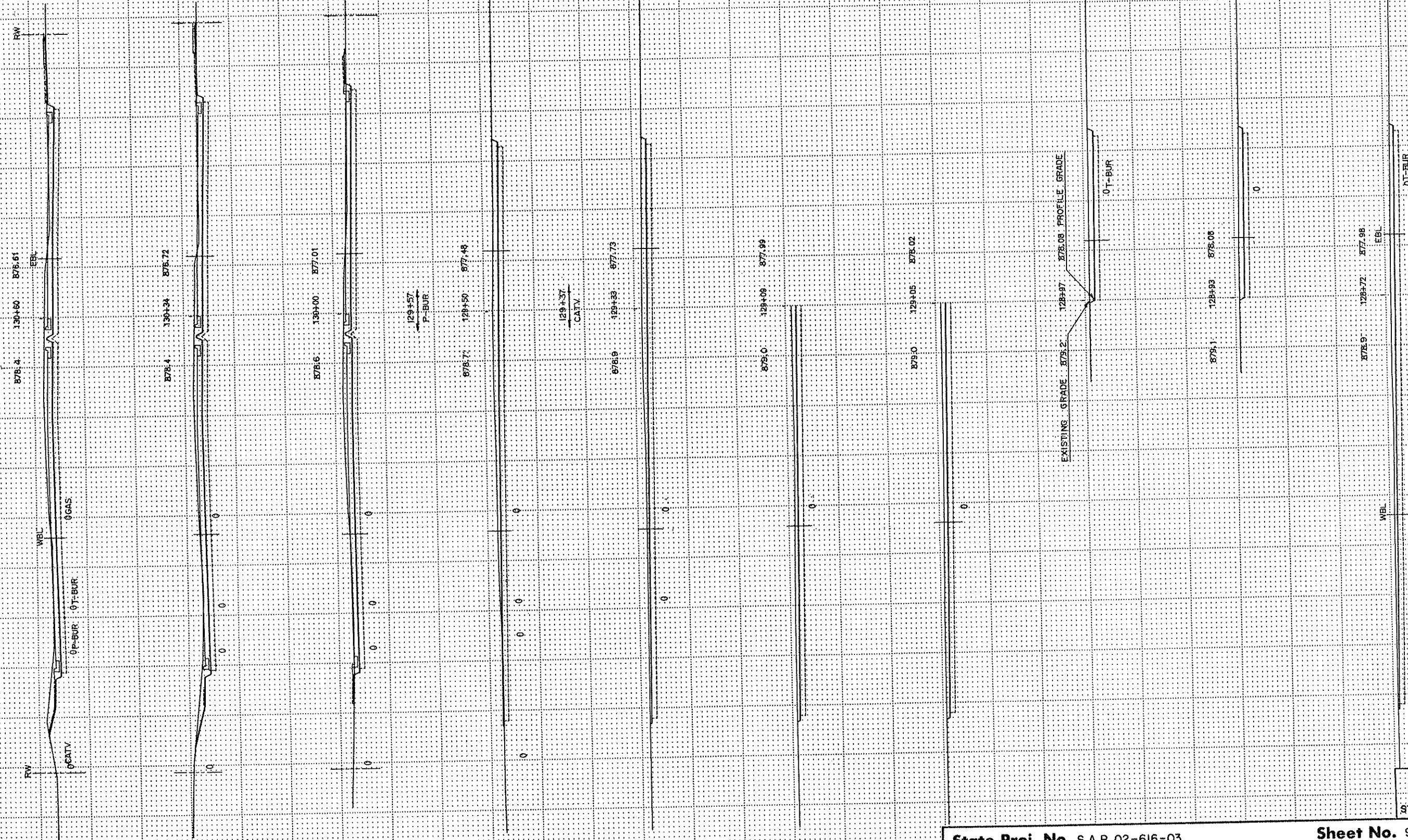
NOTE:
UTILITY ELEVATIONS ASSUMED
NOT ACTUAL

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

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

Fed. Proj. No.

City Engineer's Form #1



REGULAR 164
 SUBCUT 109
 0 REGULAR
 12 TOPSOIL

200 2
 145 11

221 3
 213 6

57 2
 12 0

191 0
 260 0

59 0
 94 0

EXISTING GRADE 878.2 128+97 878.08 PROFILE GRADE

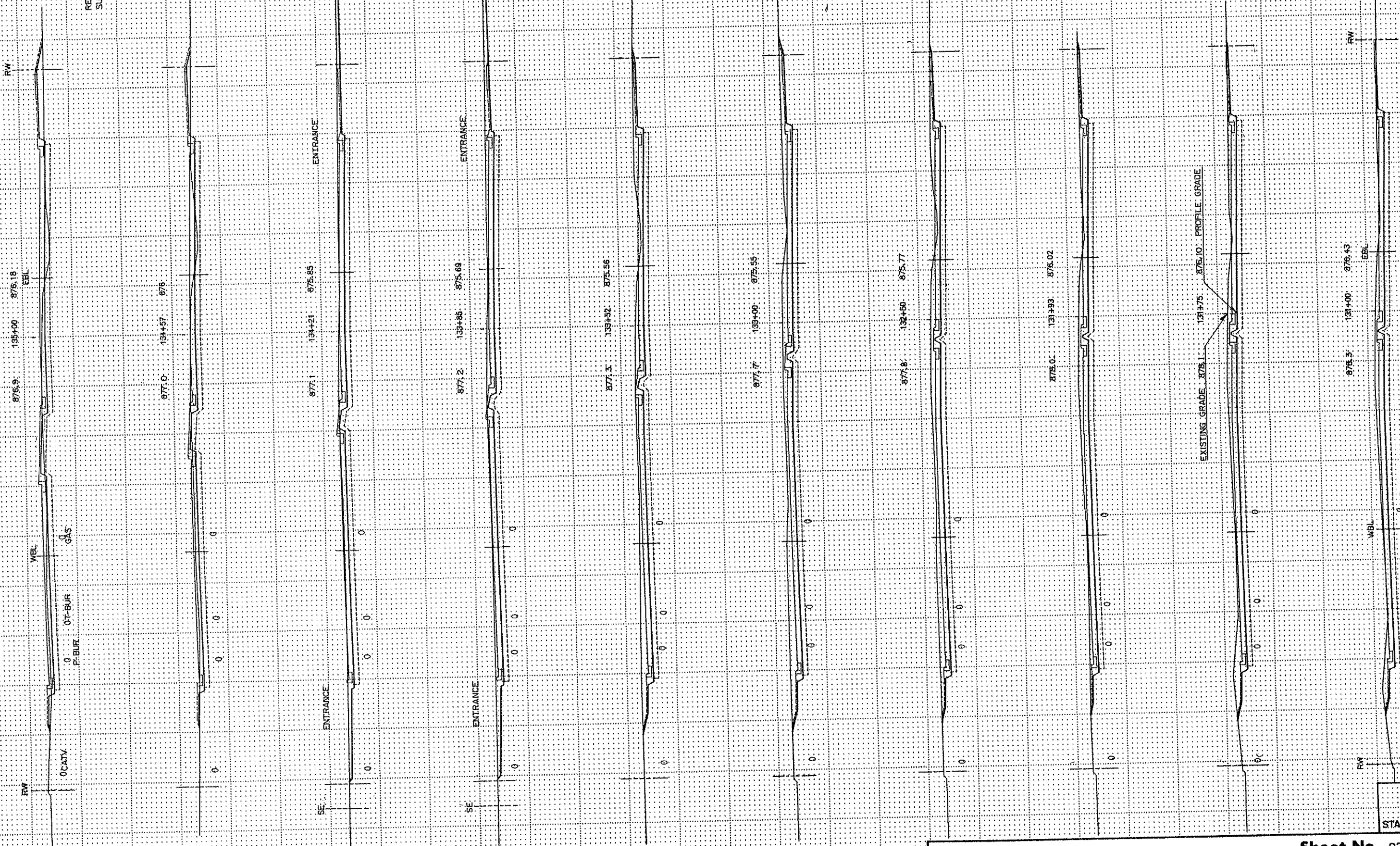
CROSS-SECTIONS:
 C.S.A.H. 16
 STA: 128+72 TO STA: 130+60

NOTE:
 UTILITY ELEVATIONS ASSUMED
 NOT ACTUAL

EXCAVATION EMBANKMENT

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

Fed. Proj. No.



REGULAR .95
SUBCUT .60 40 REGULAR
16 TOPSOIL

157 .9
144 .7

243 .0
147 .0

250 .0
134 .6

433 .0
212 .20

424 .0
204 .19

425 .0
232 .19

131 .0
73 .7

528 .0
307 .33

257 .0
169 .19

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

NOTE
UTILITY ELEVATIONS ASSUMED
NOT ACTUAL

EXCAVATION EMBANKMENT

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

Fed. Proj. No.

REGULAR 289 39 REGULAR
SUBCUT 313 7 TOPSOIL

874.81 160+00 874.81

875.16 139+00 875.16

875.51 138+00 875.51

875.8 137+75 875.8

875.73 137+39 875.73

875.86 137+00 875.86

876.01 136+57 876.01

876.21 136+00 876.21

876.34 135+50 876.34

0 CATV
0 P-BUR
0 DT-BUR
0 T-BUR
0 GAS

0 CATV
0 P-BUR
0 DT-BUR
0 T-BUR
0 GAS

0 CATV
0 P-BUR
0 DT-BUR
0 T-BUR
0 GAS

0 CATV
0 P-BUR
0 DT-BUR
0 T-BUR
0 GAS

0 CATV
0 P-BUR
0 DT-BUR
0 T-BUR
0 GAS

0 CATV
0 P-BUR
0 DT-BUR
0 T-BUR
0 GAS

0 CATV
0 P-BUR
0 DT-BUR
0 T-BUR
0 GAS

0 CATV
0 P-BUR
0 DT-BUR
0 T-BUR
0 GAS

0 CATV
0 P-BUR
0 DT-BUR
0 T-BUR
0 GAS

170.83
322.31

58.8
112.6

98.6
202.0

90.22
181.7

63.43
152.16

55.94
185.22

55.11
155.21

80.88
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

EXCAVATION EMBANKMENT

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

Fed. Proj. No.

R/W 878.31 90+40 876.74 SERVICE ROAD ENTRANCE LSB

933.38
2'-6" ST.

REGULAR 107 0
SUBCUT 96 13
TOPSOIL

SE 876.2 92+40 875.78

94 0
87 8

876.4 94+70 875.61

50 0
48 6

876.5 94+20 875.48

22 0
19 2

EXISTING GRADE 876.5 91+00 875.43 PROFILE GRADE

142 0
82 9

R/W 874.61 90+15 875.22

0'6" GAS

NOTE: UTILITY ELEVATIONS ASSUMED
NOT ACTUAL

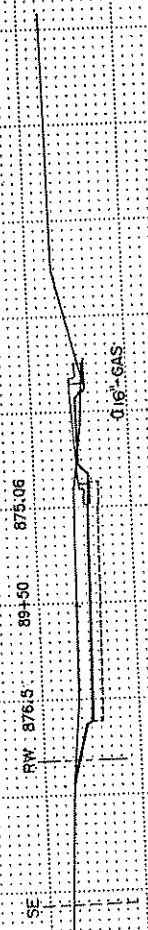
10'
10'

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

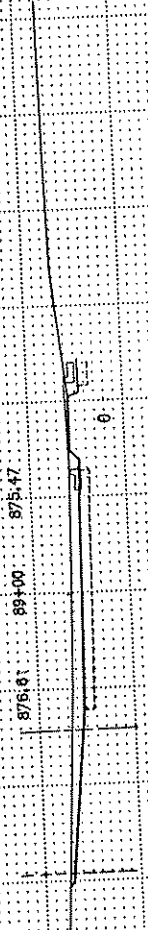
EXCAVATION EMBANKMENT

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

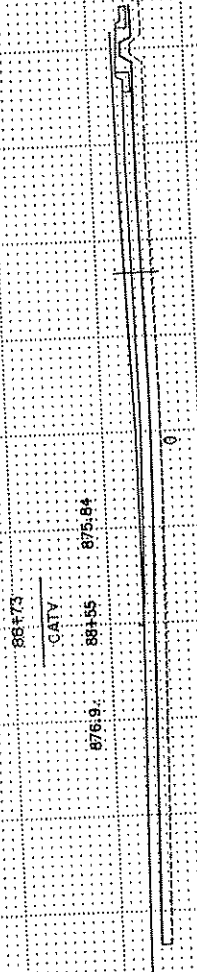
Fed. Proj. No.



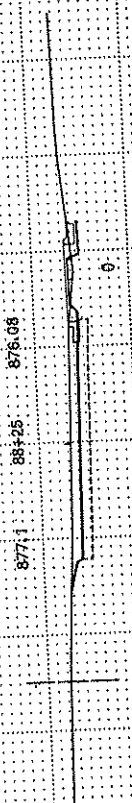
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SUBCUT 48 6 TOPSOIL



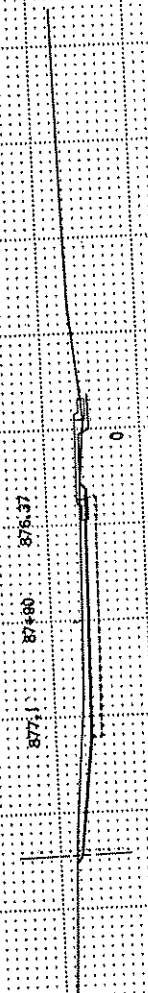
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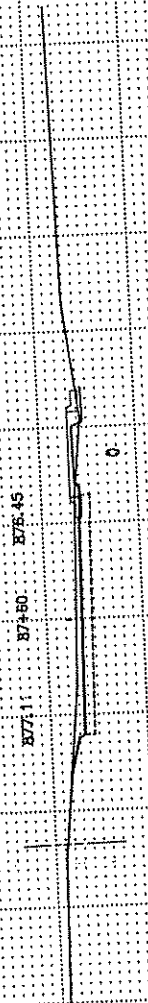
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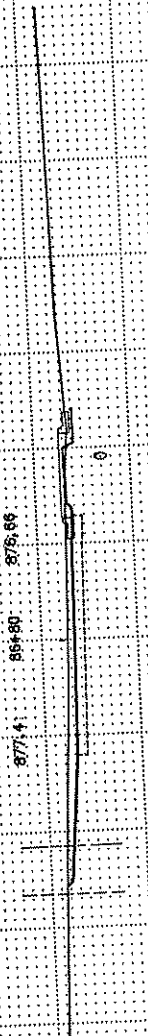
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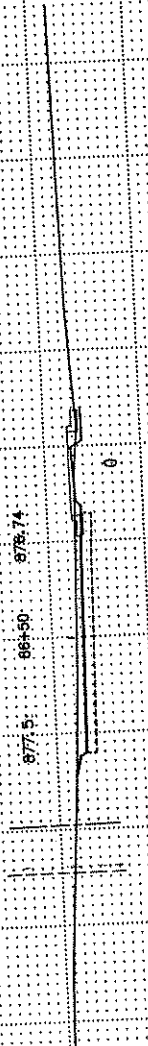
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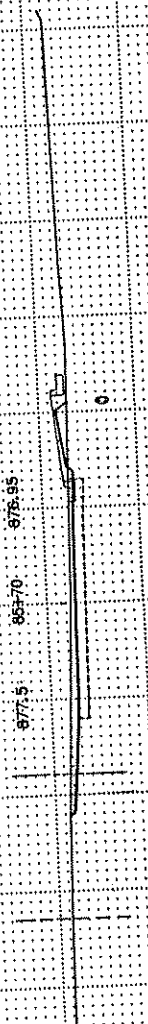
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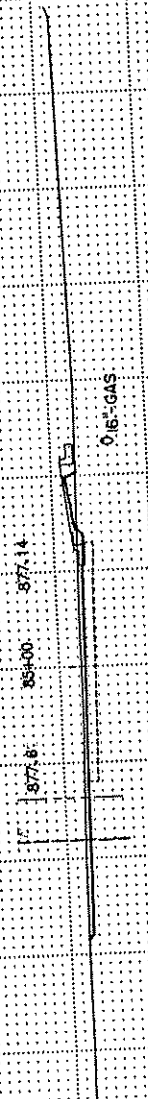
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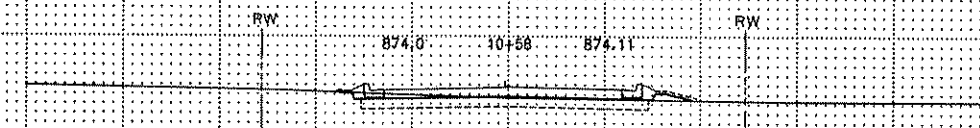


NOTE
UTILITY ELEVATIONS ASSUMED
NOT ACTUAL

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

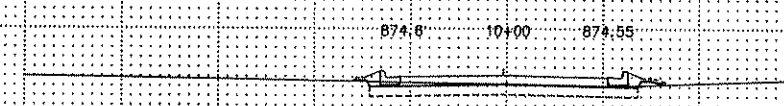
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 SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.

Fed. Proj. No.
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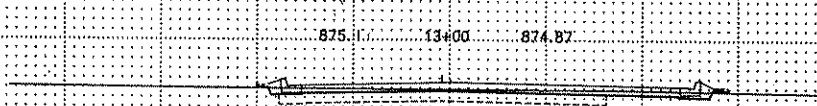
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 SUBCUT 63

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 4 TOPSOIL



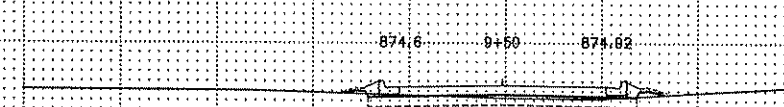
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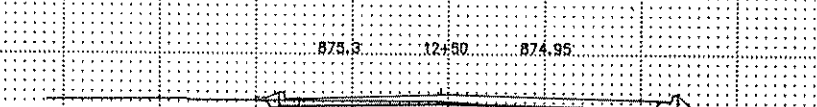
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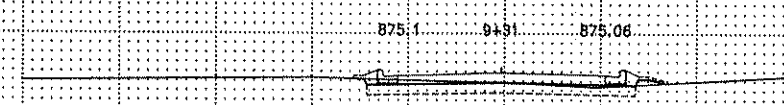
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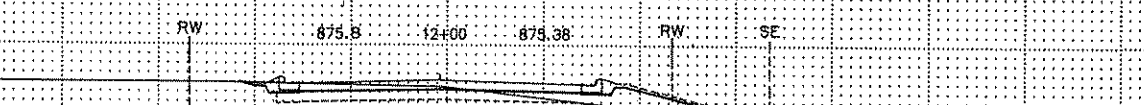
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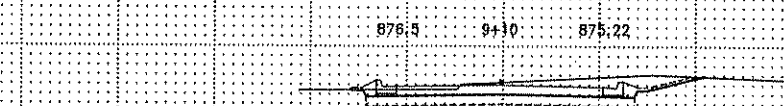
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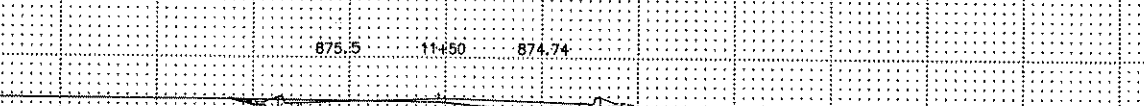
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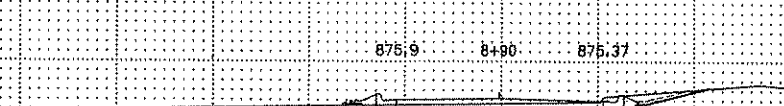
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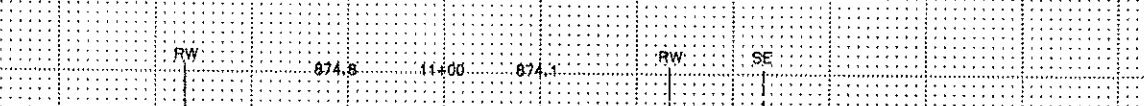
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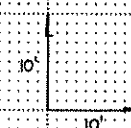
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26
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3
 4

NOTE:
 UTILITY ELEVATIONS ASSUMED
 NOT ACTUAL



CROSS-SECTIONS
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 ALIGNMENT L2
 STA. 8+90 TO STA. 13+00

City of Houston Form #1

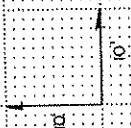
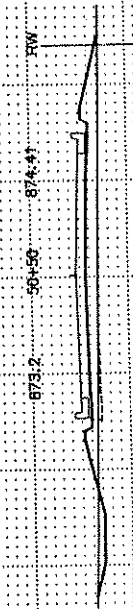
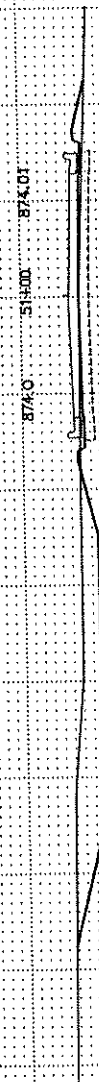
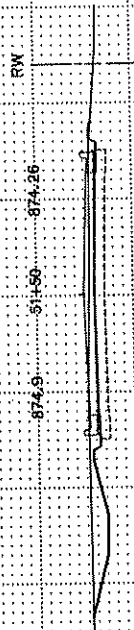
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SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.

REGULAR .44 1. REGULAR
SUBCUT .44 8. TOPSOIL

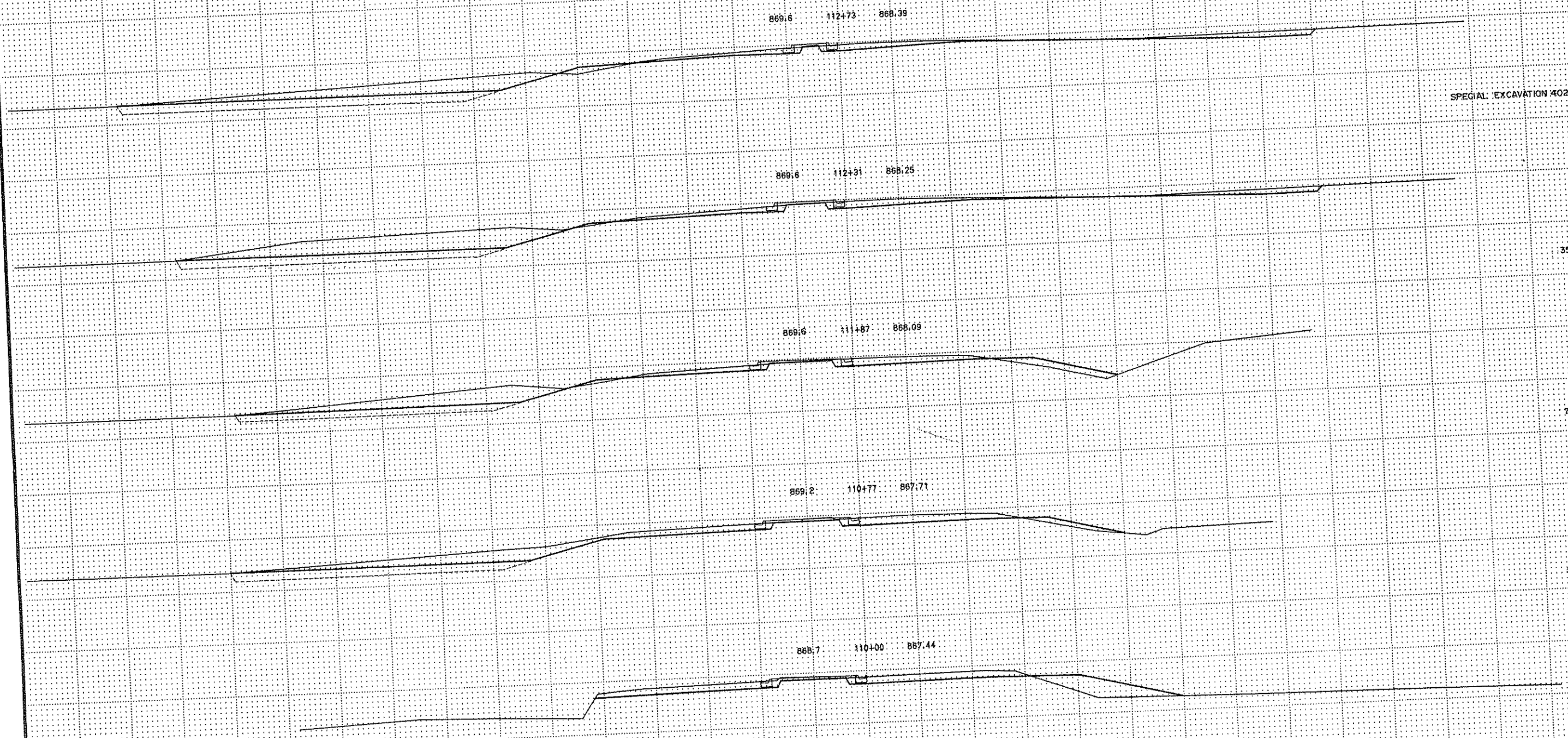
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Fed. Proj. No.



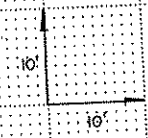
CROSS-SECTIONS
C.S.A.H. 16
ALIGNMENT L3
STA. 50+50 TO STA. 51+88



SPECIAL EXCAVATION 402 163. MUCK/FILL

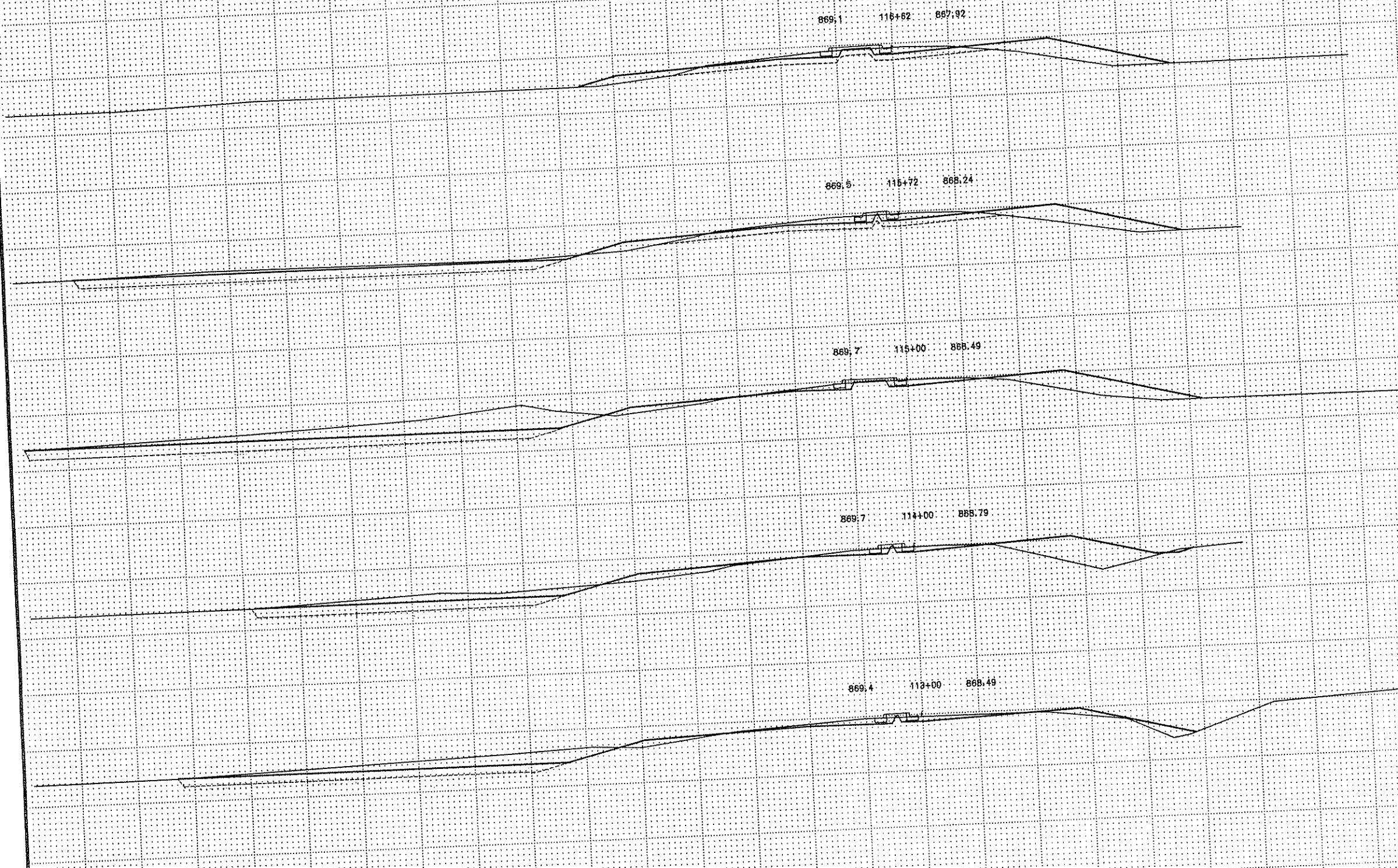
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772 373



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

811327

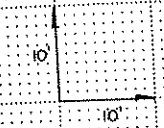


SPECIAL EXCAVATION 627' 376' MUCK FILL

834 417

548 298

212 106



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

81037
 Improvement Form 4

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.

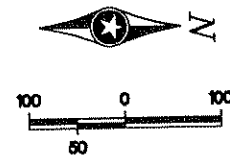
CONSTRUCTION: CONSTRUCT TEMPORARY PAVEMENT WIDENING.

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.



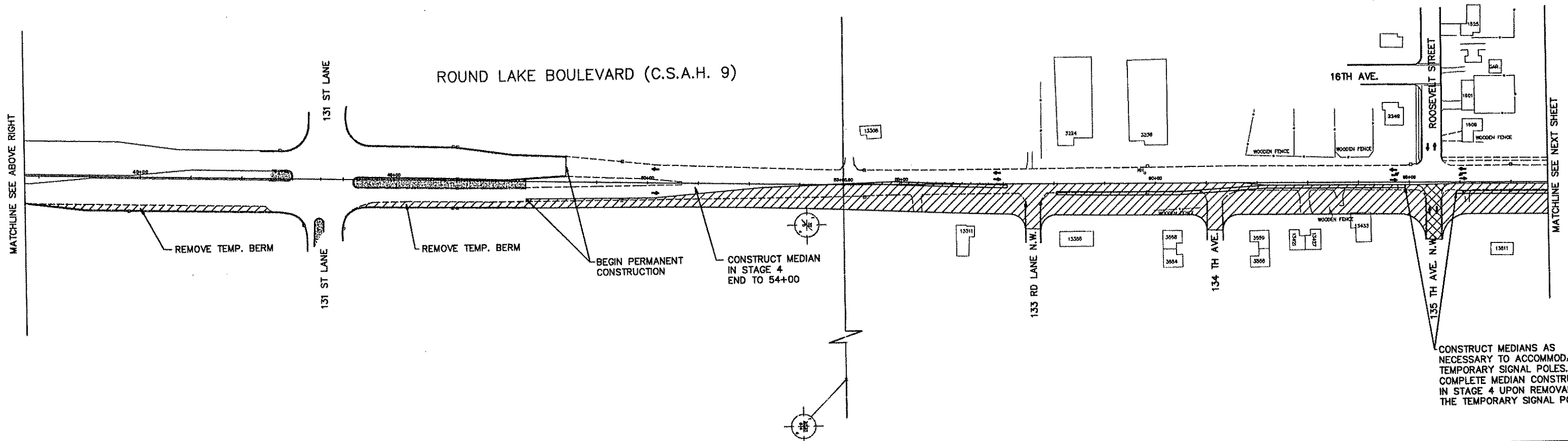
LEGEND

- ↑↑ INPLACE TRAFFIC
- [Stippled Box] STAGE 1 - TEMPORARY PAVEMENT
- [Hatched 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



04-01-93 2:02 PM

CAD/CP/AD/33145/314657A

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.

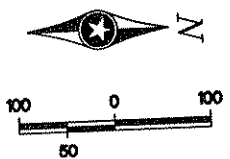
Thomas A. Schwandt
 Date: 4/2/93 Reg. No. 20943



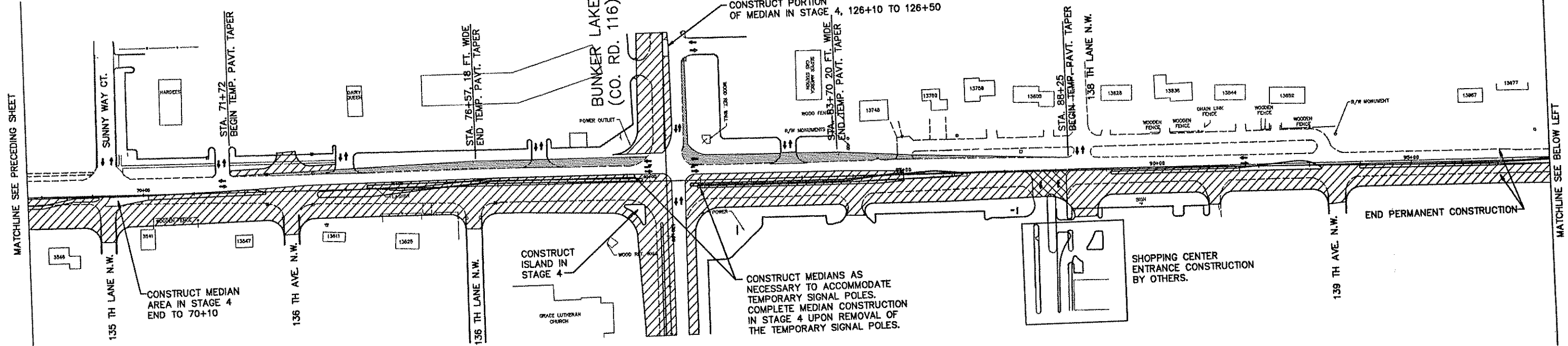
ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10
 S.A.P. 02-616-03 C.P. 93-12-116

STAGE 1 & STAGE 2
 CONSTRUCTION STAGING

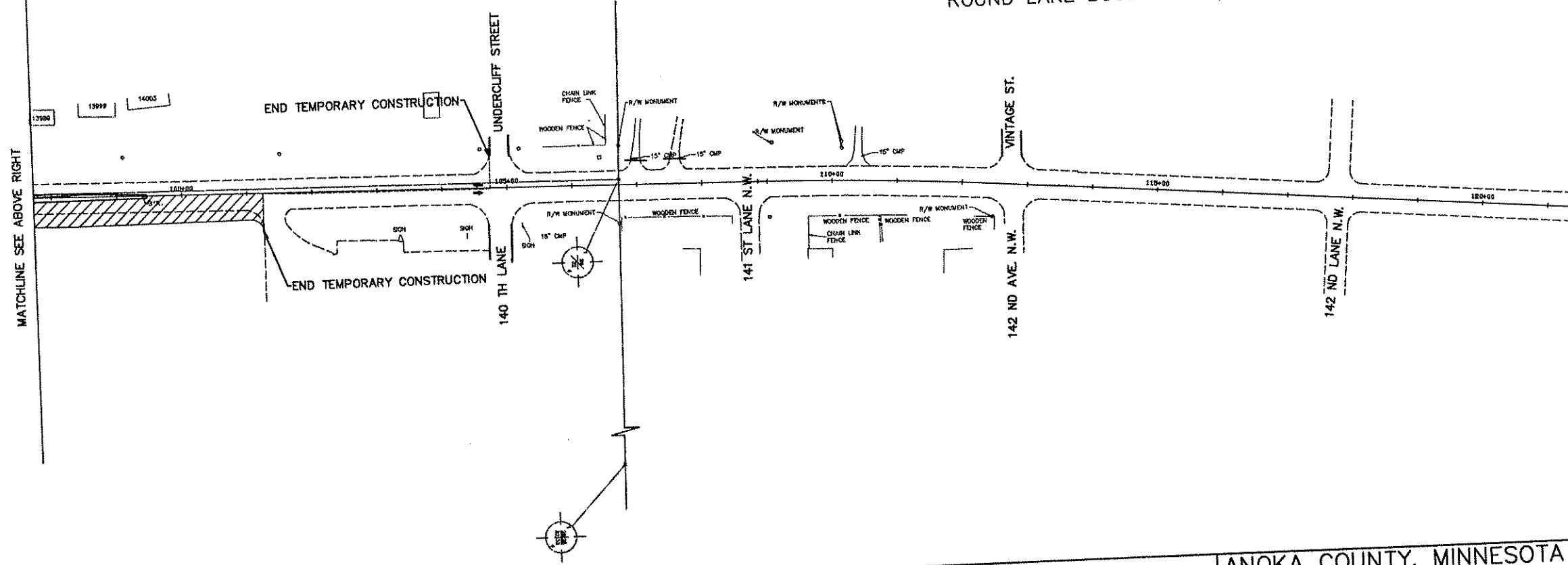
FILE NO.	100
93145	
DATE	133
4/2/93	



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



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



STAGE 1 CONSTRUCTION

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

STAGE 2 CONSTRUCTION

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

LEGEND

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

04-01-83 2:08 PM

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



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

STAGE 1 & STAGE 2
 CONSTRUCTION STAGING

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

MATCHLINE SEE NEXT SHEET

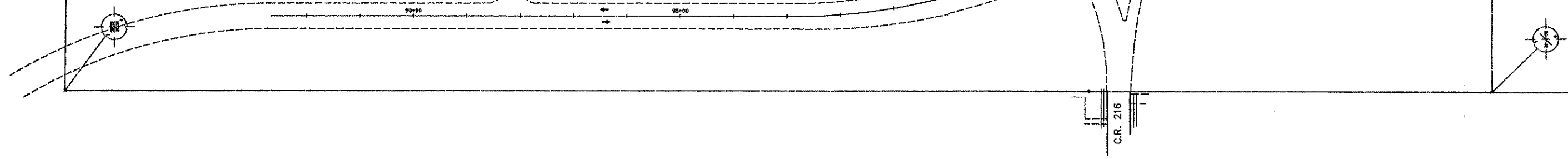
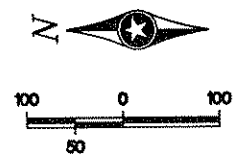
STA. 113+04 12 FT. WIDE
END TEMP. PAVT. TAPER

STA. 109+14
BEGIN TEMP. PAVT. TAPER

12TH AVENUE

BUNKER LAKE BLVD. (C.R. 116)

140 TH AVE. N.W.



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.

04-01-93 2:11 PM /CAD/CP/140/93145/2145033A

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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



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

STAGE 1 & STAGE 2
 CONSTRUCTION STAGING

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

BUNKER LAKE BLVD. (C.R. 116)

BUNKER LAKE BLVD. (C.R. 116)

STAGE 1 CONSTRUCTION

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

STAGE 2 CONSTRUCTION

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

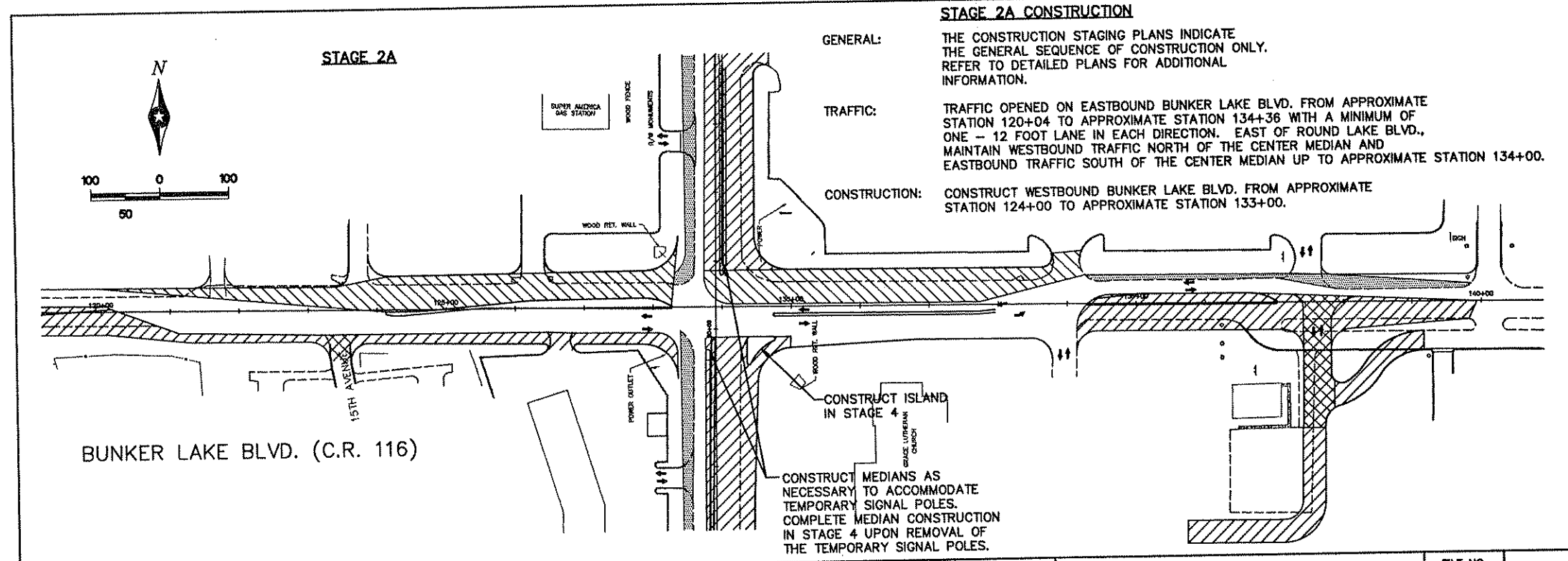
STAGE 2A CONSTRUCTION

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

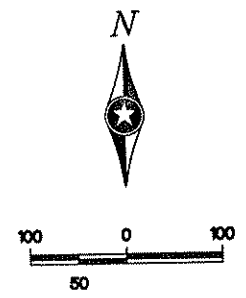
LEGEND

- ⇄ INPLACE TRAFFIC
- ▨ STAGE 1 - TEMPORARY PAVEMENT
- ▧ STAGE 2 - CONSTRUCTION
- ▩ STAGE 2A - CONSTRUCTION
- ▤ CONSTRUCTION UNDER TRAFFIC

STAGE 2A



MATCHLINE SEE PRECEDING SHEET



04-01-93 2:31 PM
 7/AD/CP/140/83145/31450054

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

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

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

STAGE 3 CONSTRUCTION

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

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

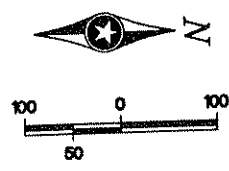
CONSTRUCTION: CONSTRUCT SOUTHBOUND ROUND LAKE BLVD. AND WESTBOUND BUNKER LAKE BLVD.

STAGE 4 CONSTRUCTION

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

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

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



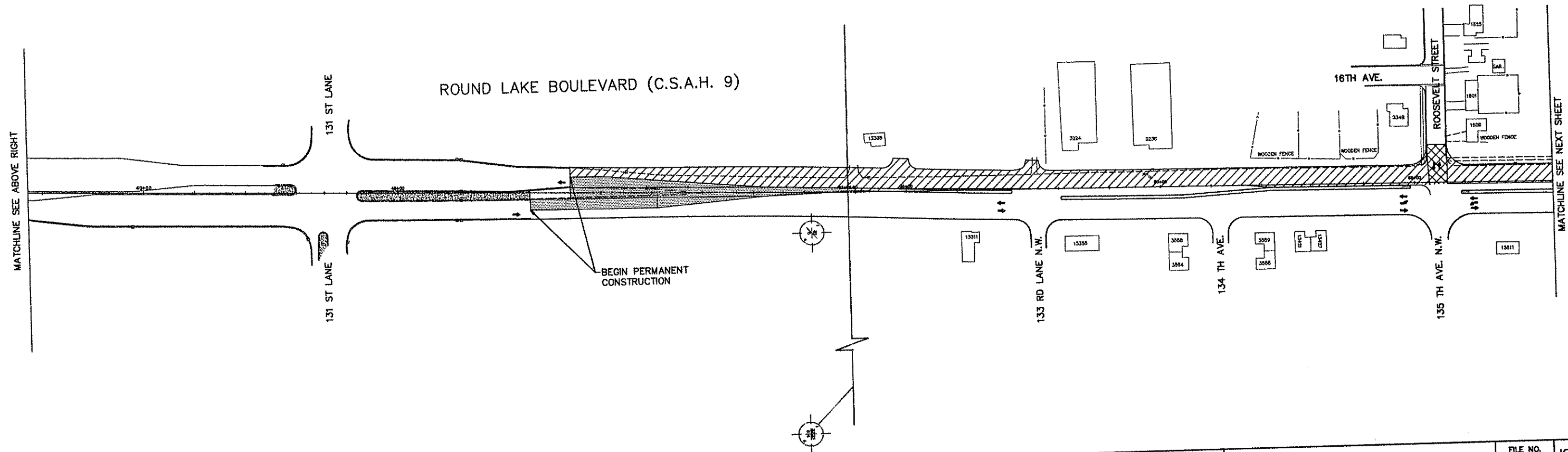
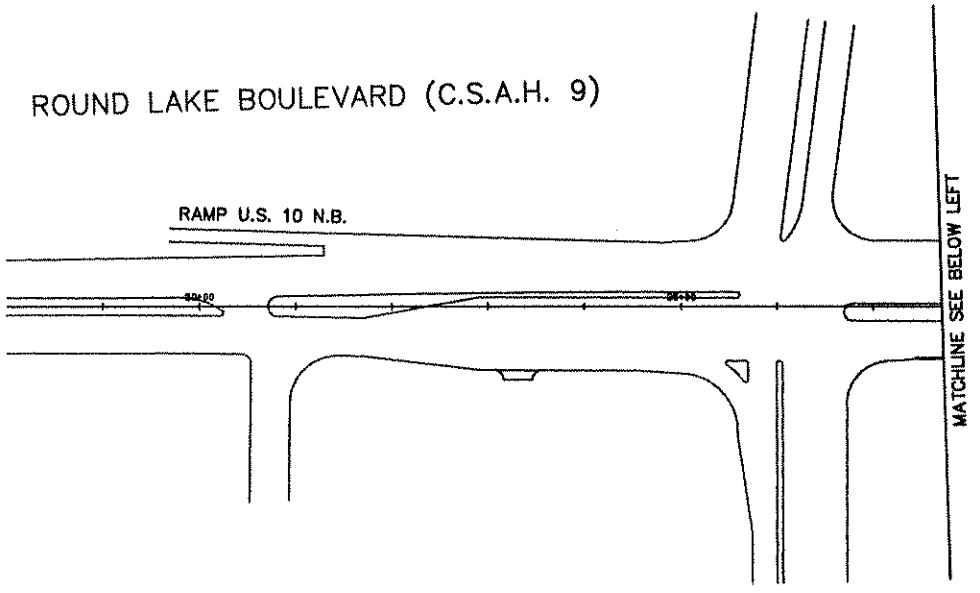
LEGEND

⇄ INPLACE TRAFFIC

STAGE 3 - CONSTRUCTION

STAGE 4 - CONSTRUCTION

CONSTRUCTION UNDER TRAFFIC



04-01-03 2:36 PM

JAD/CPW/93145/314651B

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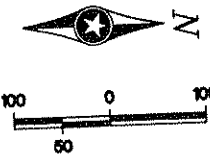
Thomas A. Schweick
Date: 4/2/93 Reg. No. 20943



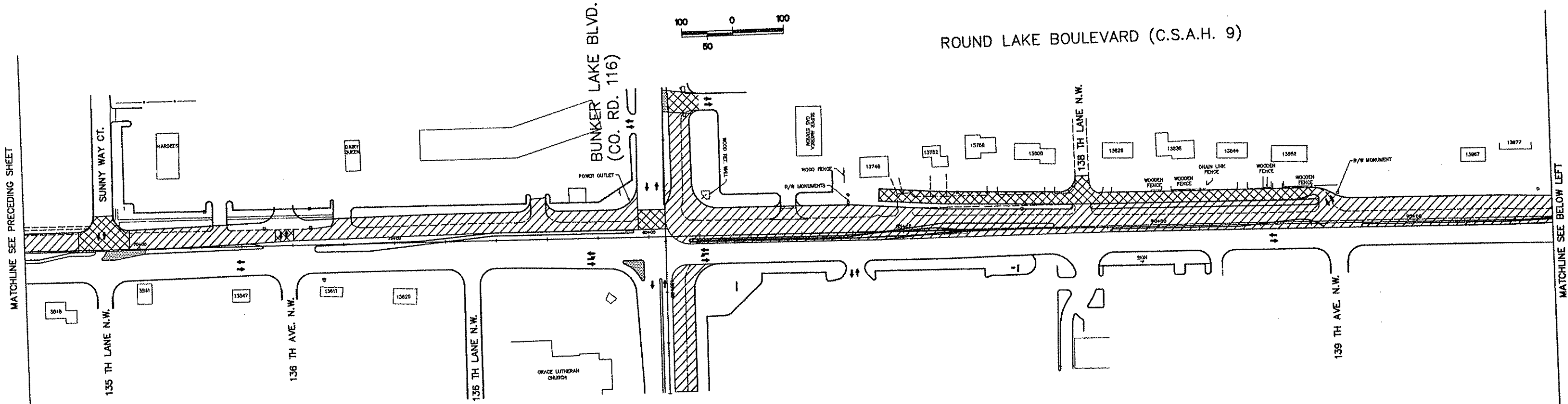
ANOKA COUNTY, MINNESOTA
S.A.P. 02-609-10
S.A.P. 02-616-03 C.P. 93-12-116

STAGE 3 & STAGE 4
CONSTRUCTION STAGING

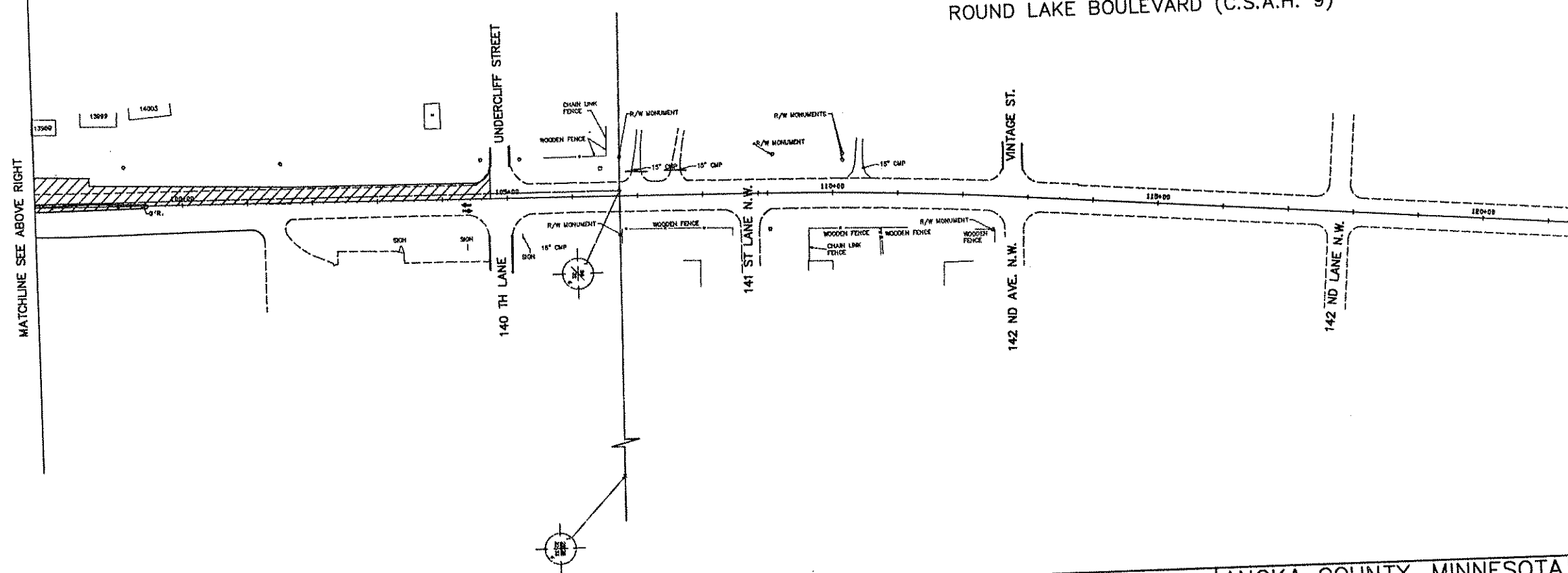
FILE NO.	104
93145	
DATE	133
4/2/93	



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



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



STAGE 3 CONSTRUCTION

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

STAGE 4 CONSTRUCTION

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

LEGEND

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

04-01-93 2:41 PM

AD/CPV/40/93/145/314525B

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

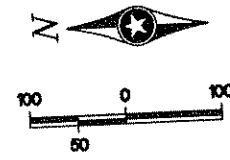


ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10
 S.A.P. 02-616-03 C.P. 93-12-116

STAGE 3 & STAGE 4
 CONSTRUCTION STAGING

FILE NO.	105
93145	
DATE	133
4/2/93	

MATCHLINE SEE NEXT SHEET



BUNKER LAKE BLVD. (C.R. 116)

140 TH AVE. N.W.

12TH AVENUE

C.R. 216

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

04-07-93 2:45 pm

040/CP/40/83145/21460338

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.

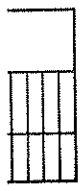
Thomas A. Schweeds
Date: 4/2/93 Reg. No. 20943



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

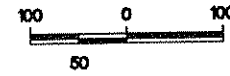
STAGE 3 & STAGE 4
CONSTRUCTION STAGING

FILE NO.	93145	106
DATE	4/2/93	
		133

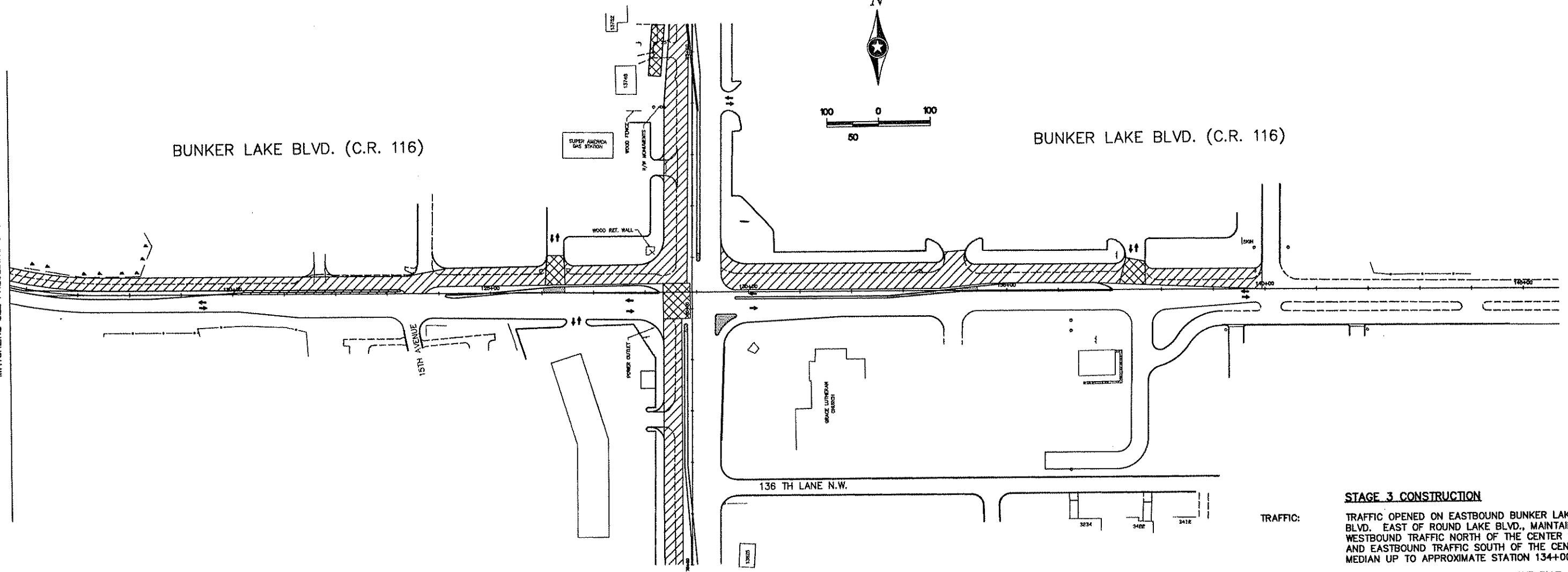


MATCHLINE SEE PRECEDING SHEET

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

LEGEND

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

04-01-93 4:17 pm

JAD/30940/93145/31400033

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.	107
DATE	4/2/93
	133

CSAH 9/CSAH 16/CO.RD.116 TRAFFIC CONTROL							
MMUTCD CODE	SIZE (IN)	INSERT	STAGE 1 QTY.	STAGE 2 QTY.	STAGE 2A QTY.	STAGE 3 QTY.	STAGE 4 QTY.
R1-1	36 x 36			10		6	
R1-2	36 x 36 x 36					1	1
R2-1	24 x 30			23		23	
R2-5a	24 x 30			5		5	
R2-6A	24 x 30			5		5	
R2-X6P	24 x 18			23		23	
R3-1	24 x 24			9	1	4	1
R3-2	24 x 24			8	1	4	
R3-7R	30 x 30					2	1
R3-8R	30 x 30			4		4	
R3-X1	30 x 30			2		3	3
R3-X2	30 x 30					2	12
R4-7	30 x 36					5	2
R5-1	30 x 30			1	2	1	
R11-2	48 x 30			17	1	8	1
R11-4	60 x 30					1	
W1-3L	48 x 48				2		
W1-3R	48 x 48				2	1	1
W1-4L	48 x 48			4		4	
W1-4R	48 x 48			4		2	
W1-6L	48 x 24			6			3
W1-6R	48 x 24					6	14

CSAH 9/CSAH 16/CO.RD.116 TRAFFIC CONTROL								
MMUTCD CODE	SIZE (IN)	INSERT	STAGE 1 QTY.	STAGE 2 QTY.	STAGE 2A QTY.	STAGE 3 QTY.	STAGE 4 QTY.	
W4-2L	48 x 48					2	3	
W4-2R	48 x 48			2			2	
W6-1	48 x 48			1		1		
W6-2	48 x 48					2		
W6-3	48 x 48			12		13		
W13-1	24 x 24				4	1	1	
W20-3	48 x 48			7		2	1	
W20-X3	48 x 48			3		2	4	
W20-X6	48 x 48			8	4	6		
W20-X13L	48 x 48					2		
W20-X13R	48 x 48			2				
W21-4	48 x 48		7	29		31	25	
W21-X1	48 x 48		5					
W21-X6L	48 x 48						5	
W21-X6R	48 x 48						5	
M6-2	21 x 15					1		
G20-2	60 x 24		4	4		4	4	
TYPE III BARRICADE (L)	8 FT.			10		15	14	
TYPE III BARRICADE (R)	8 FT.			49	3	19	8	
REBOUNDABLE NON-METALLIC REFLECTORIZED DRUM-LIKE CHANNELIZERS			95	599	89	559	478	
TYPE A FLASHING WARNING LIGHT			5	20		20	16	

CSAH 9/CSAH 16/CO.RD.116 TRAFFIC CONTROL							
MMUTCD CODE	SIZE (IN)	INSERT	STAGE 1 QTY.	STAGE 2 QTY.	STAGE 2A QTY.	STAGE 3 QTY.	STAGE 4 QTY.
—	108x108 (approx)		5	5		5	5
—	108x108 (approx)		3	3		3	3
ORANGE WARNING FLAG				36		43	17
4" SOLID WHITE PAINT (FT)				18580	2280	12300	8060
4" SOLID YELLOW PAINT (FT)						1180	8200
4" SOLID DOUBLE YELLOW PAINT (FT)				9820	700	8640	
24" SOLID YELLOW PAINT (FT)				910		770	
4" SOLID WHITE REMOVABLE LANE TAPE (FT)				8780		6395	170
4" SOLID YELLOW REMOVABLE LANE TAPE (FT)						2400	950
4" SOLID DOUBLE YELLOW REMOVABLE LANE TAPE (FT)				3305		3120	
LEFT TURN ARROW-WHITE PAINT				8		8	
TEMPORARY RAISED PAVEMENT MARKERS				4514	310	3671	
REMOVE PAVEMENT MARKINGS (FT)				14580	1880	8550	

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. Schewe
 Date 4/2/93 Reg No. 20943

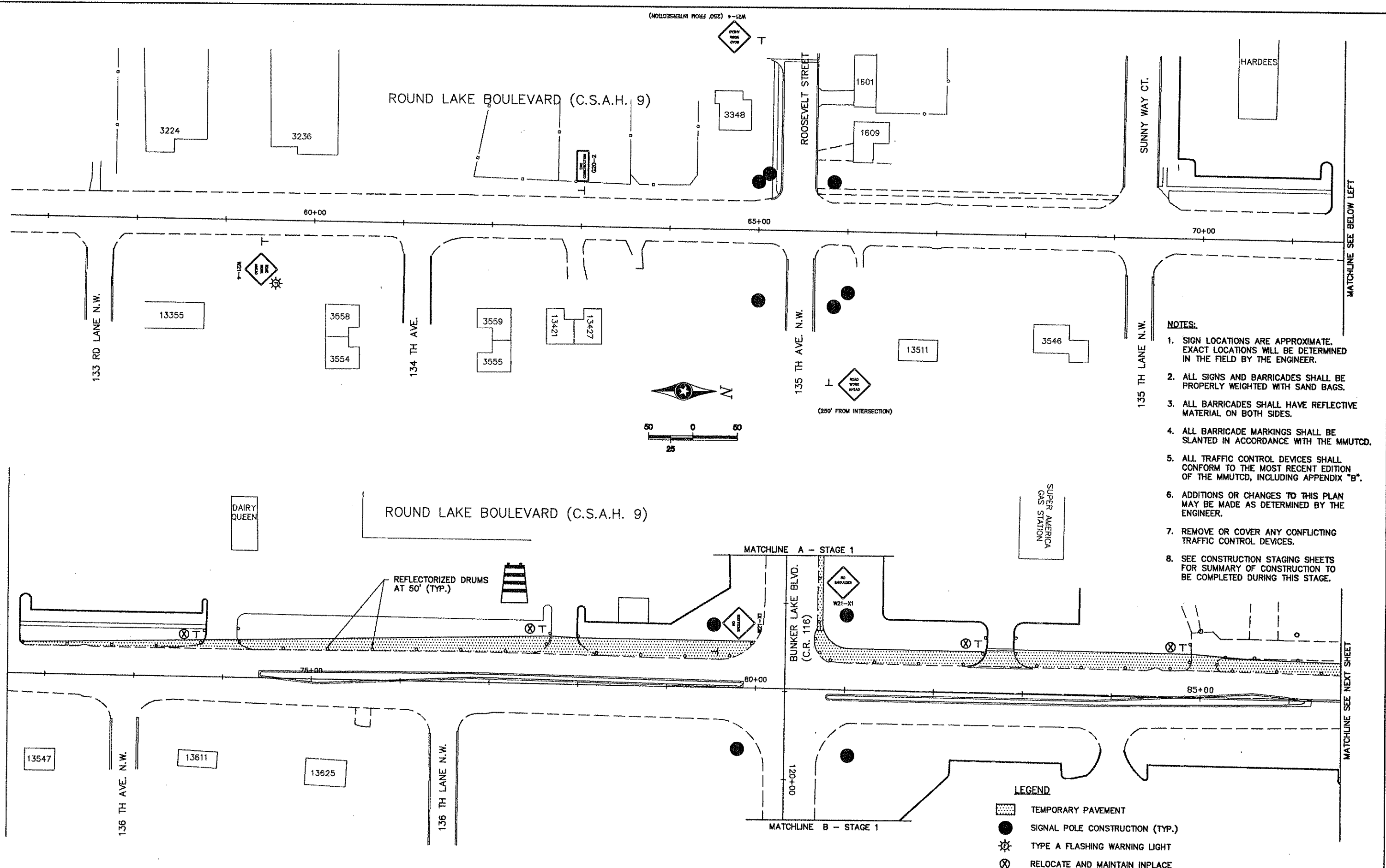


ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10
 S.A.P. 02-616-03 C.P. 93-12-116

TRAFFIC CONTROL SIGNING AND PAVEMENT MARKING TABULATIONS

FILE NO. 93145	108
DATE 4/2/93	
133	

EAST OVERLAY DRC. NO.



- 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

04-01-93 11:14 am
/CAD/05040/03145/1451201

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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

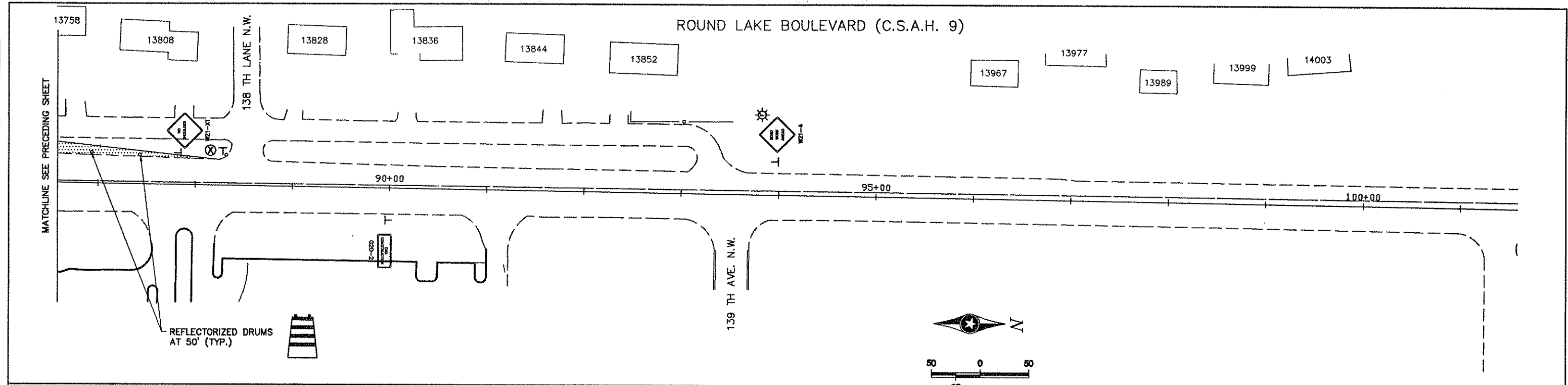


ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10
 S.A.P. 02-616-03 C.P. 93-12-116

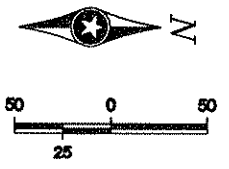
TRAFFIC CONTROL
 STAGE 1

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

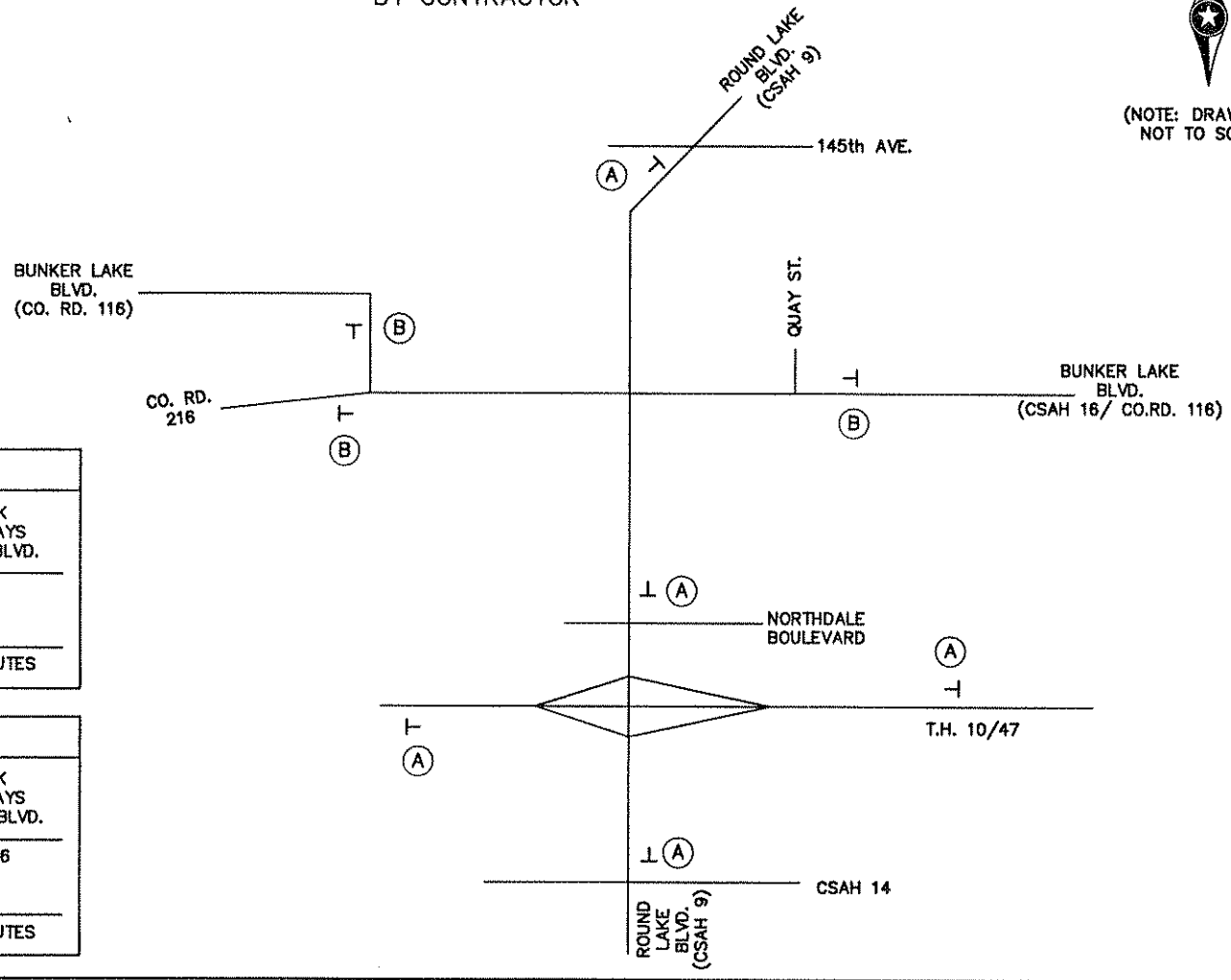
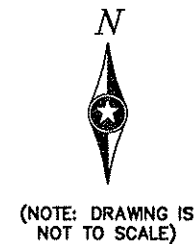
BASE OVERLAY DRG. NO.



REFLECTORIZED DRUMS AT 50' (TYP.)



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



NOTES:

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LEGEND

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

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

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

04-01-93 11:34 am

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

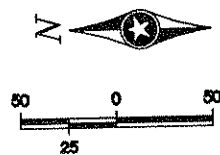
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
Thomas A. Schweitzer
 Date: 4/2/93 Reg. No. 20943



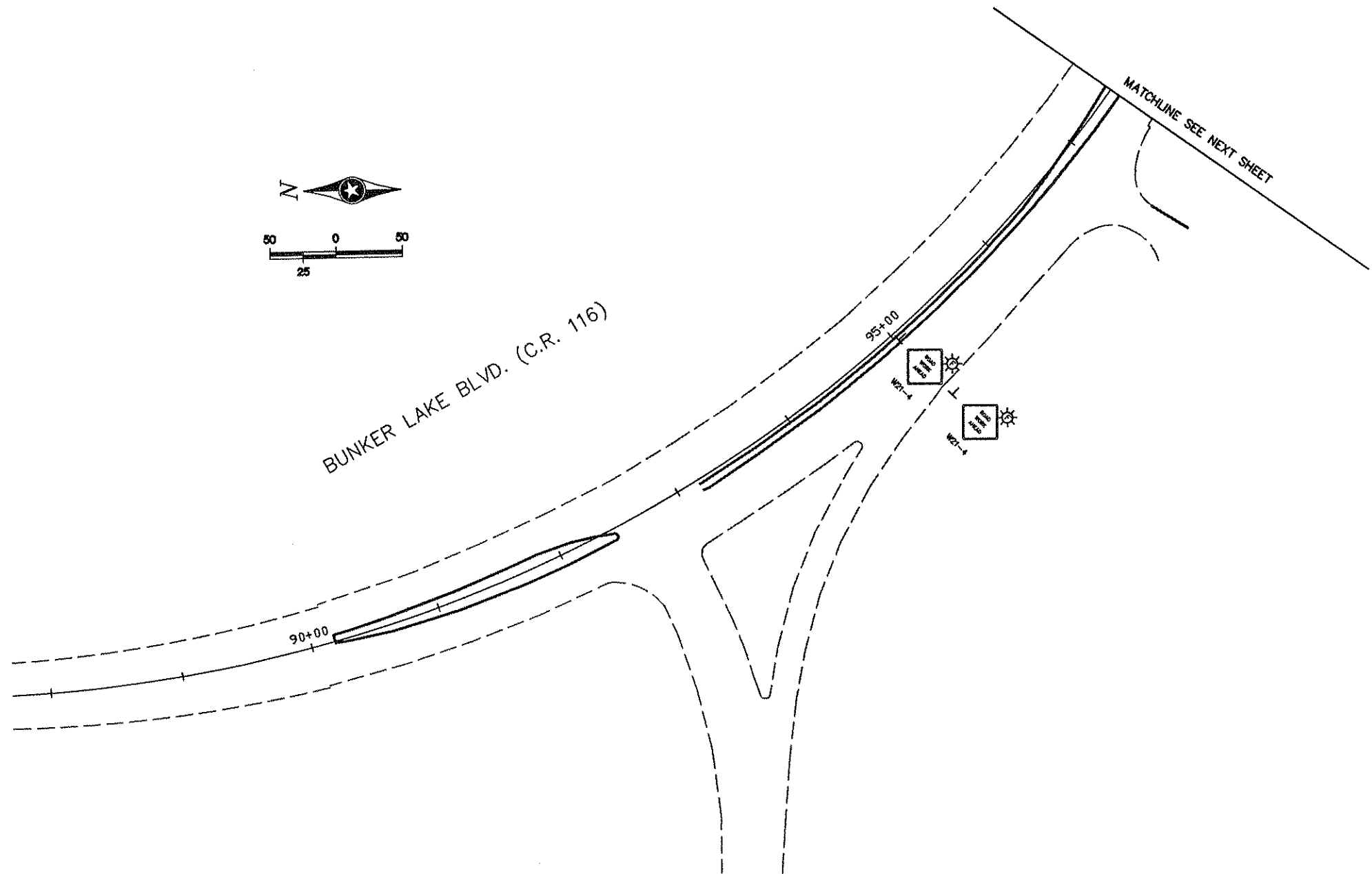
ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10
 S.A.P. 02-616-03 C.P. 93-12-116

TRAFFIC CONTROL
 STAGE 1

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



BUNKER LAKE BLVD. (C.R. 116)



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

- NOTES:**
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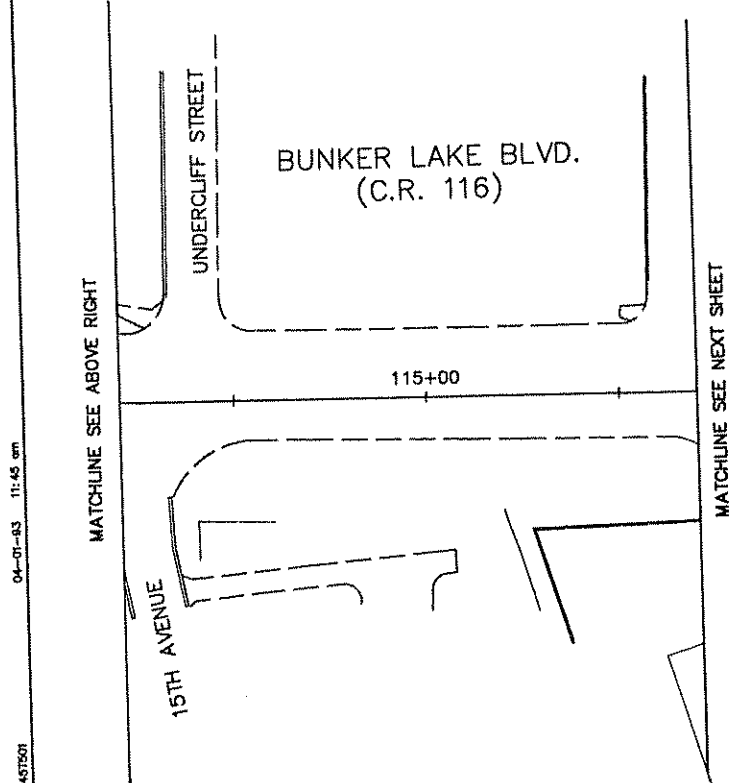
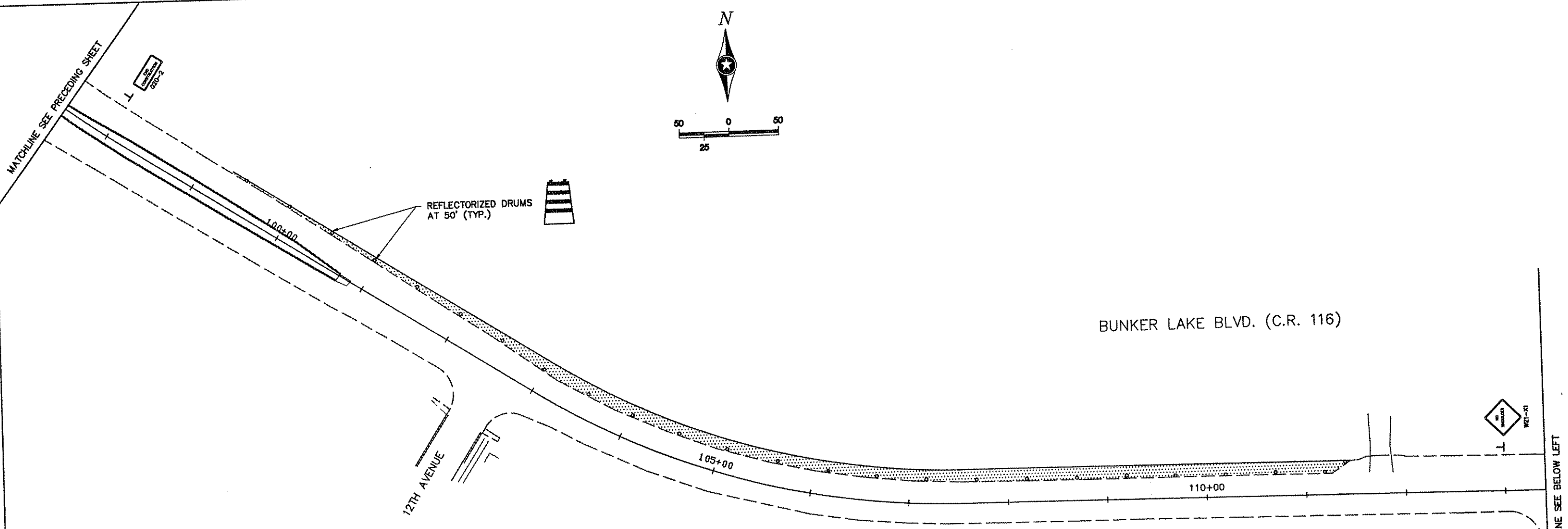
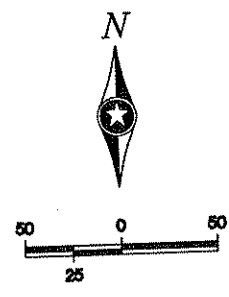
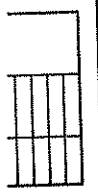
04-01-93 11:38 am
2/25/94/93145/21451401

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. Shwartz
 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	111
		DATE 4/2/93		133



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

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 8. SEE CONSTRUCTION STAGING SHEETS FOR SUMMARY OF CONSTRUCTION TO BE COMPLETED DURING THIS STAGE.

04-01-83 11:45 am
04/07/93 14:57/21:45/507

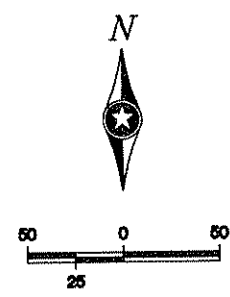
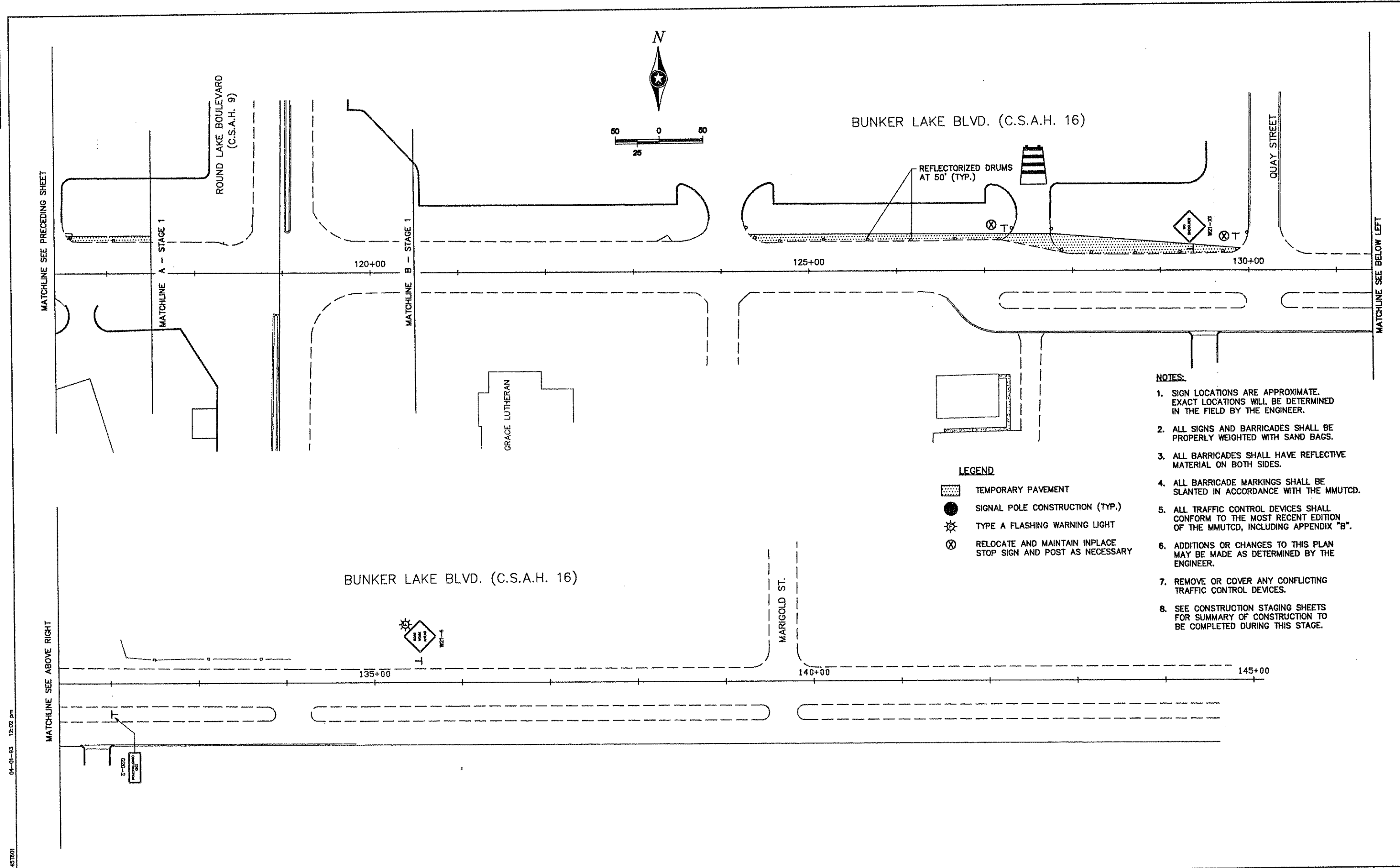
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
Thomas A. Schwandt
Date: 4/2/93 Reg. No. 20943



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

TRAFFIC CONTROL STAGE 1		FILE NO. 93145	112
		DATE 4/2/93	133

LEASER: JUVENALIS, INC.



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

REFLECTORIZED DRUMS AT 50' (TYP.)

NOTES:

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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. (C.S.A.H. 16)

04-01-93 12:02 pm

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



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

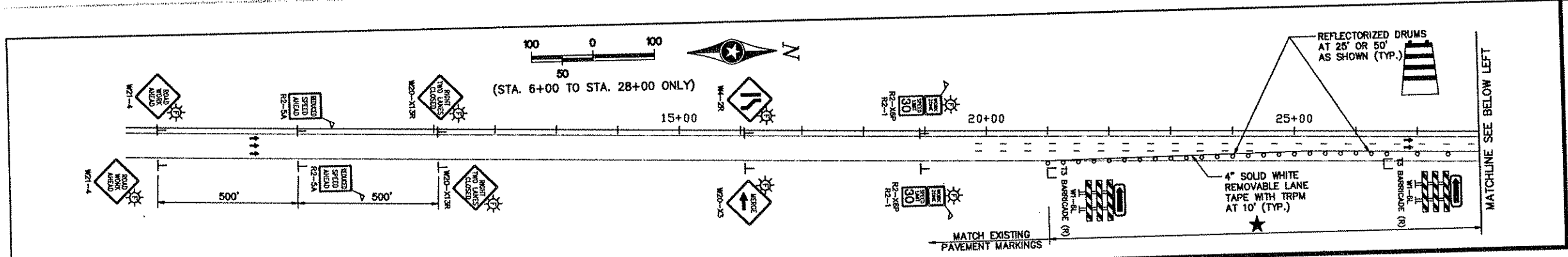
TRAFFIC CONTROL
 STAGE 1

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

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

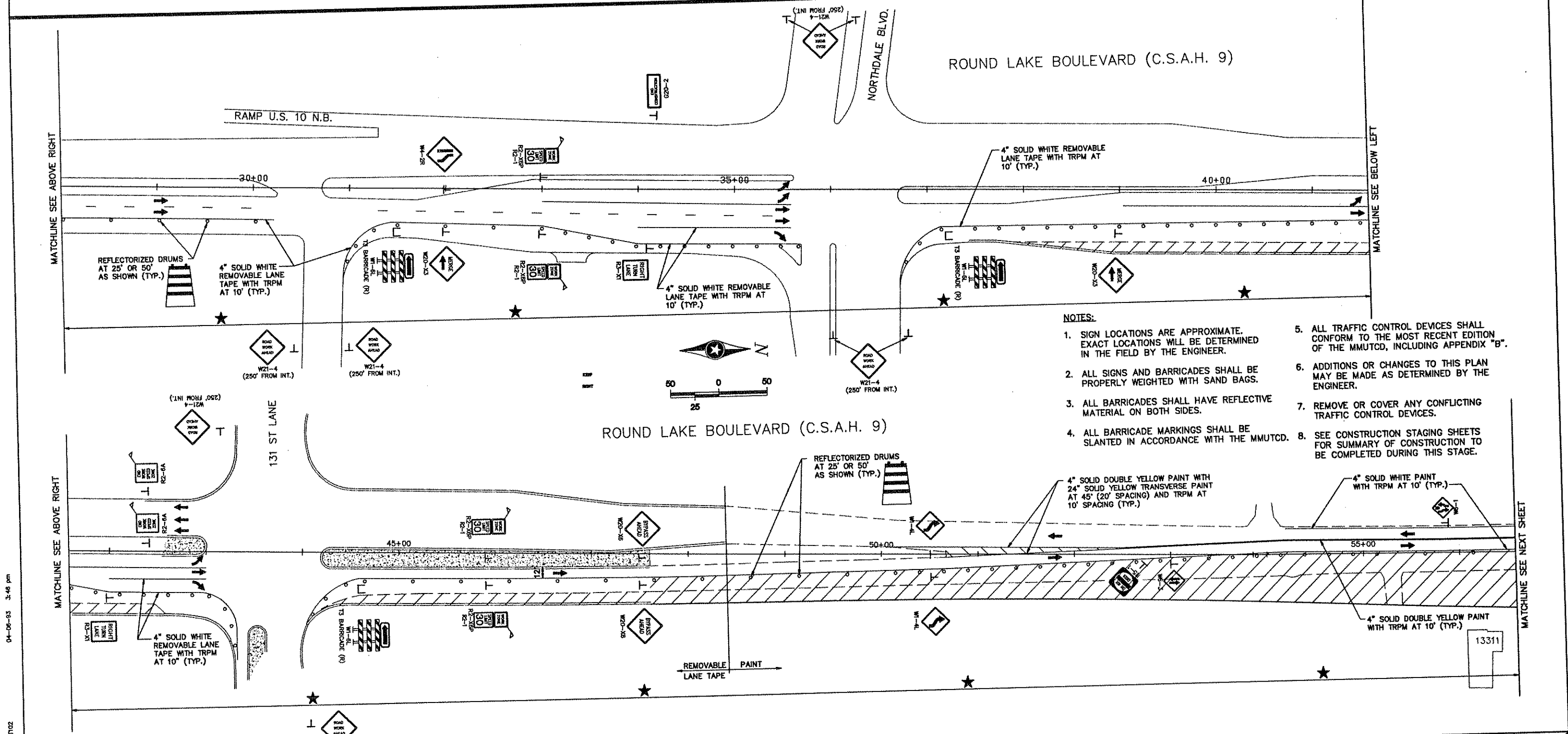
04-06-93 3:46 pm

/DAD/CP/40/93145/2145102



LEGEND

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



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

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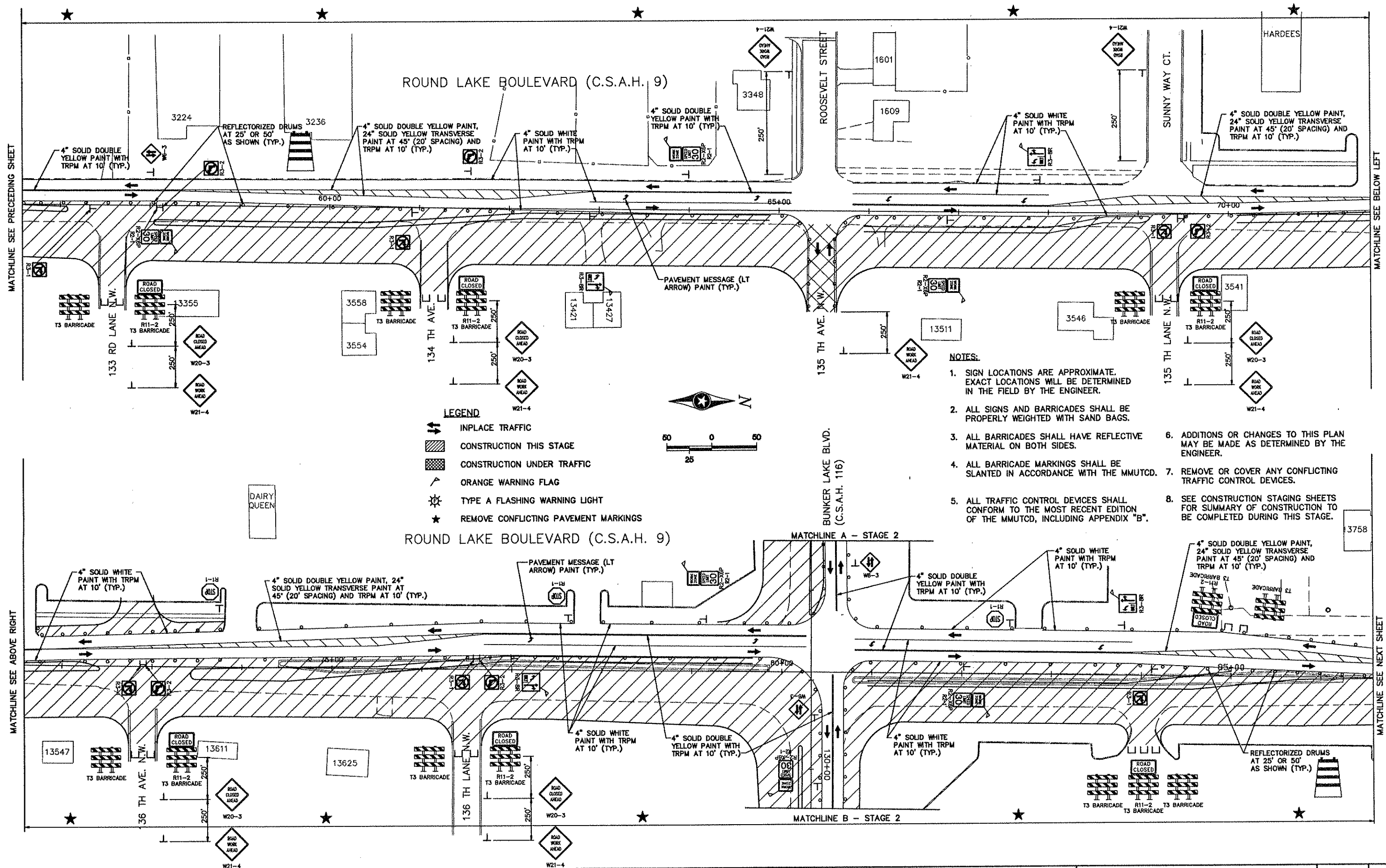
Thomas R. Schwerts
 Date: 4/2/93 Reg. No. 20943



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

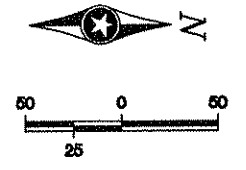
TRAFFIC CONTROL STAGE 2	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">FILE NO. 93145</td> <td style="width: 50%; text-align: center;">114</td> </tr> <tr> <td>DATE 4/2/93</td> <td style="text-align: center;">133</td> </tr> </table>	FILE NO. 93145	114	DATE 4/2/93	133
FILE NO. 93145	114				
DATE 4/2/93	133				

BASE OVERLAY (DRG. NO.)	



- NOTES:**
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 - SEE CONSTRUCTION STAGING SHEETS FOR SUMMARY OF CONSTRUCTION TO BE COMPLETED DURING THIS STAGE.

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



4-1-1993 12:30 PM

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

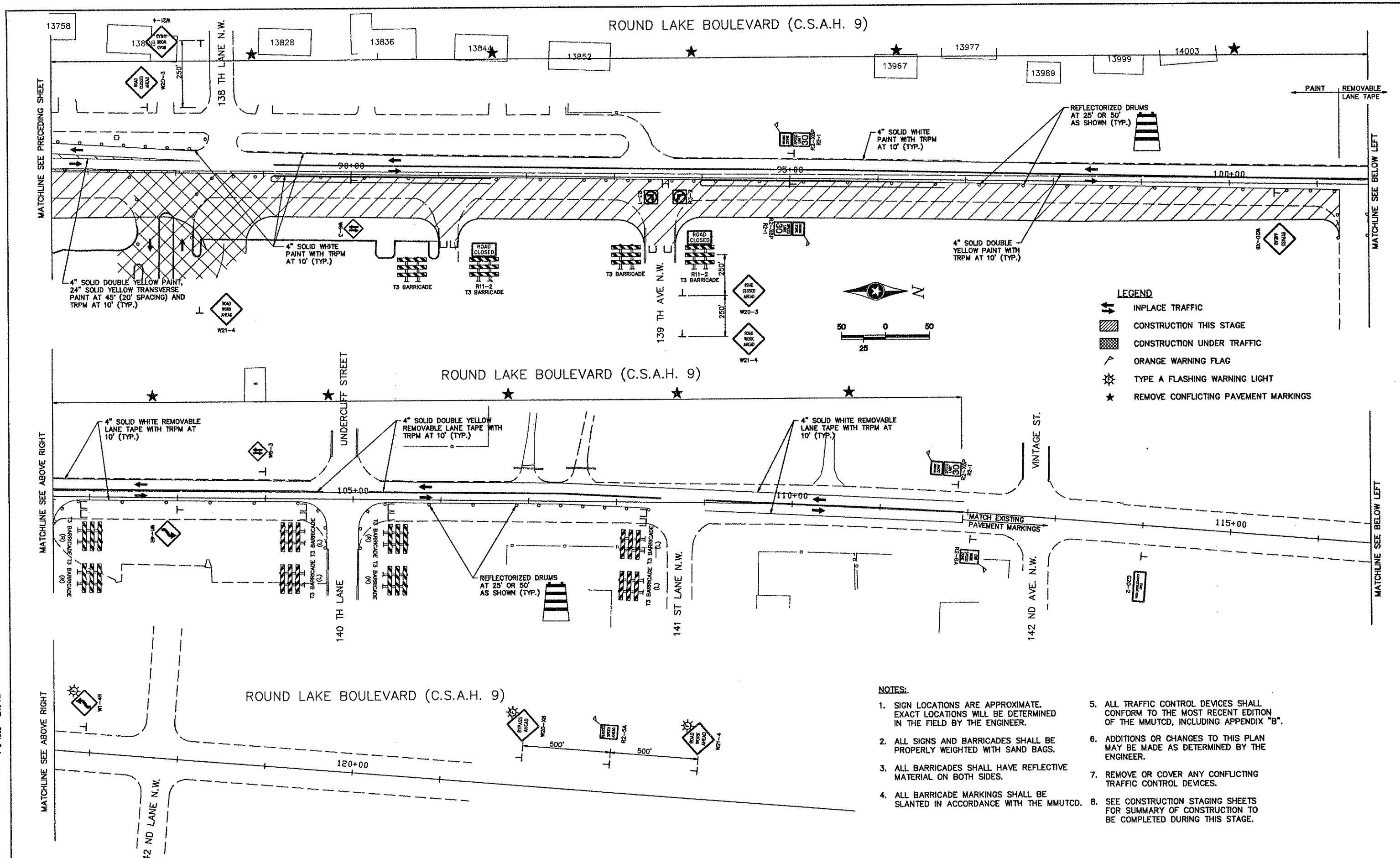
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
Thomas A. Schwartz
 Date: 4/2/93 Reg. No. 20943



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

**TRAFFIC CONTROL
 STAGE 2**

FILE NO.	115
93145	
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

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 8. SEE CONSTRUCTION STAGING SHEETS FOR SUMMARY OF CONSTRUCTION TO BE COMPLETED DURING THIS STAGE.

4-2-1993 2:10 PM

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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



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

**TRAFFIC CONTROL
 STAGE 2**

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

BUNKER LAKE BLVD. (C.R. 116)

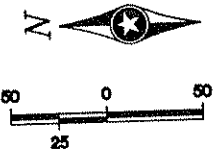
MATCH EXISTING PAVEMENT MARKINGS

140 TH AVE. N.W.

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

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

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



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 3:26 PM

MATCHLINE SEE ABOVE RIGHT

MATCHLINE SEE BELOW LEFT

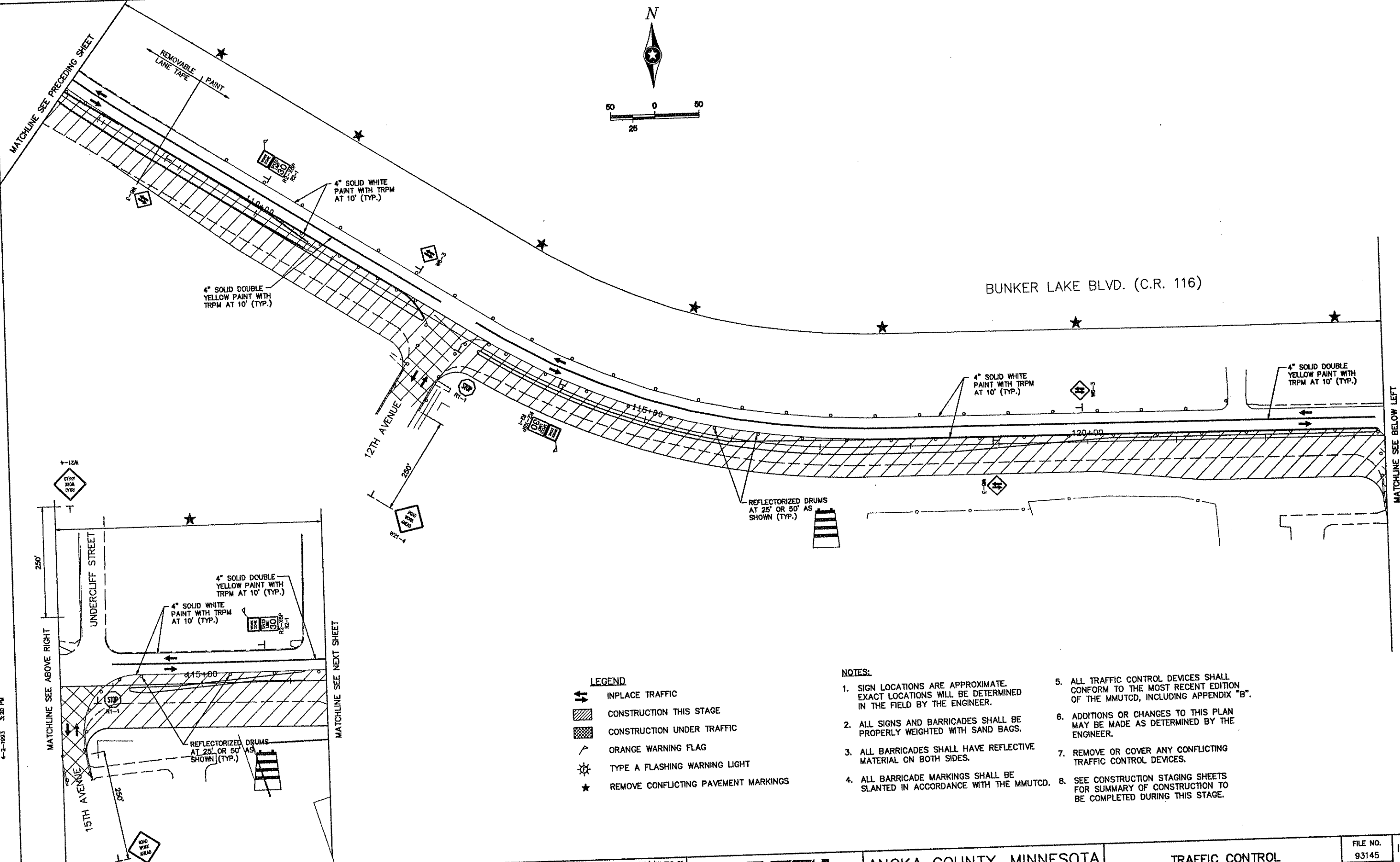
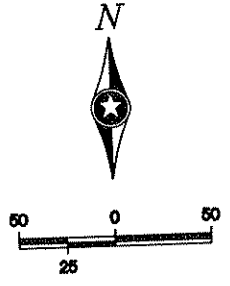
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
Thomas A. Schwandt
 Date: 4/2/93 Reg. No. 20943



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

TRAFFIC CONTROL
 STAGE 2

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



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

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

4-2-1993 3:20 PM

37453145302

ITEM	DESIGN	CHECKED

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.

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



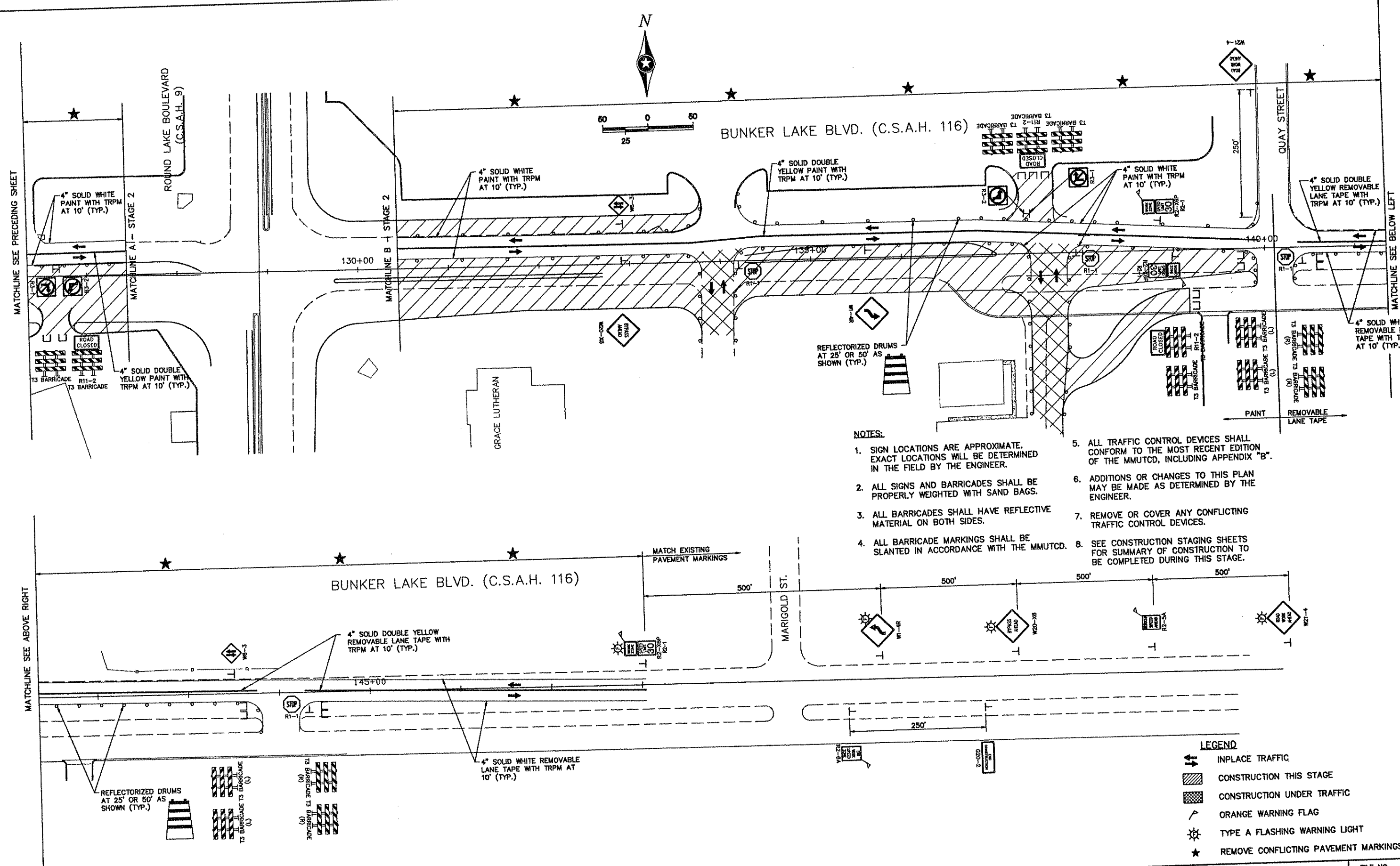
ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10, S.A.P. 02-616-03,
 C.P. 93-12-116

**TRAFFIC CONTROL
 STAGE 2**

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

4-1-1993 2:45 PM

4513427802



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

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

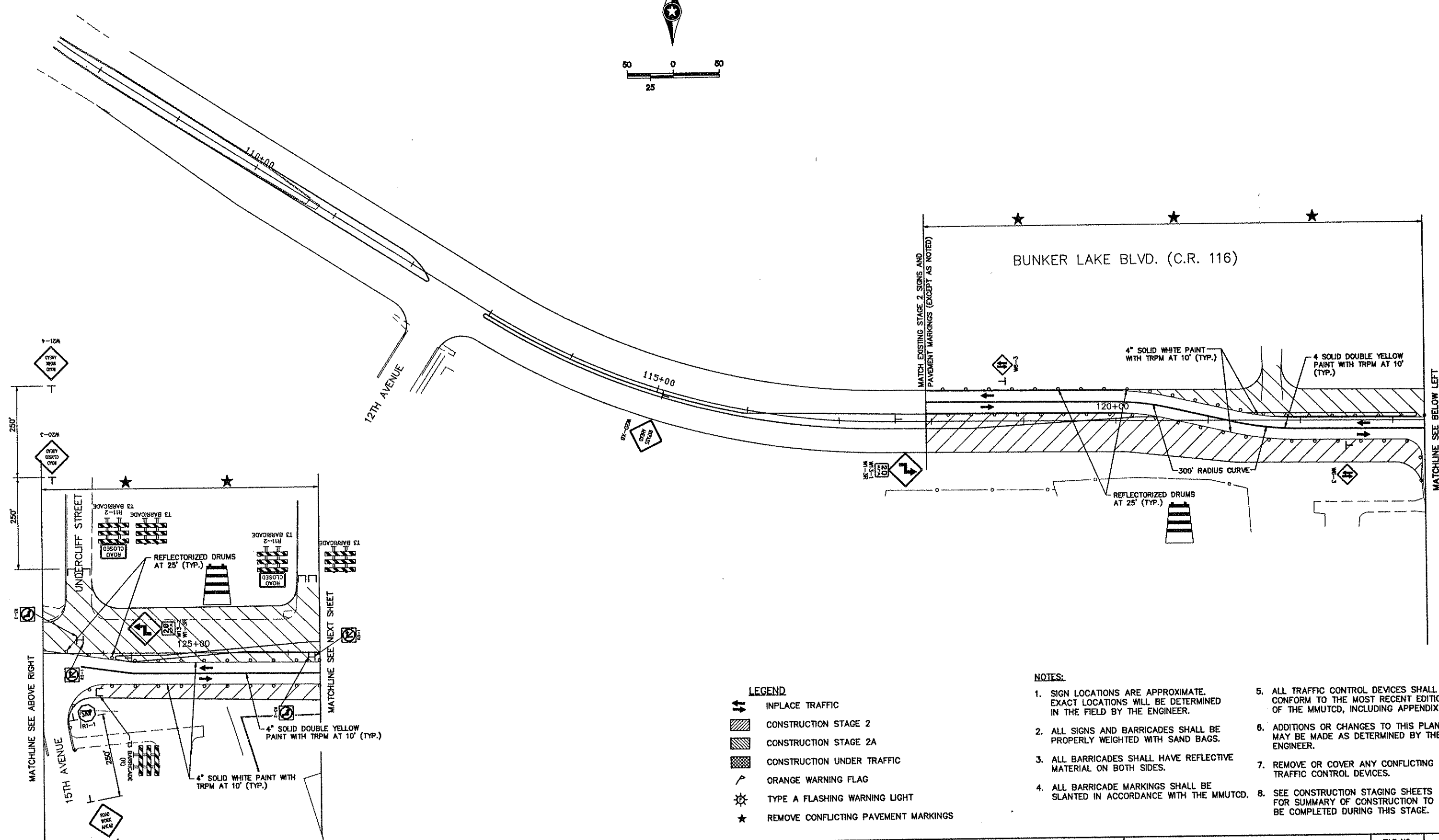
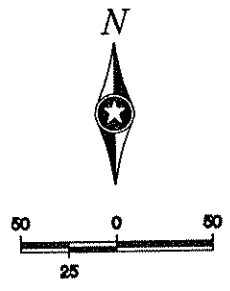
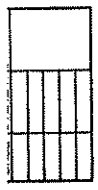
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
Thomas A. Schwendt
 Date: 4/2/93 Reg. No. 20943



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

TRAFFIC CONTROL
 STAGE 2

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



- LEGEND**
- 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
93145/314522A

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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



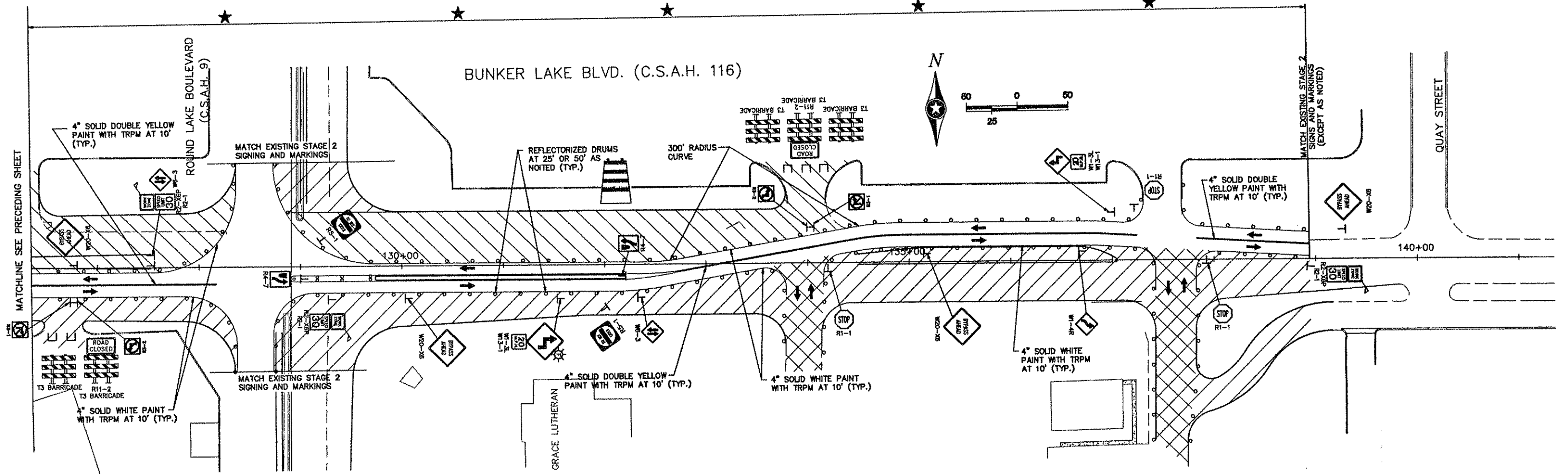
ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10, S.A.P.02-616-03,
 C.P. 93-12-116

TRAFFIC CONTROL
 STAGE 2A

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

1-6-1993 9:30 AM

831453145782A



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

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

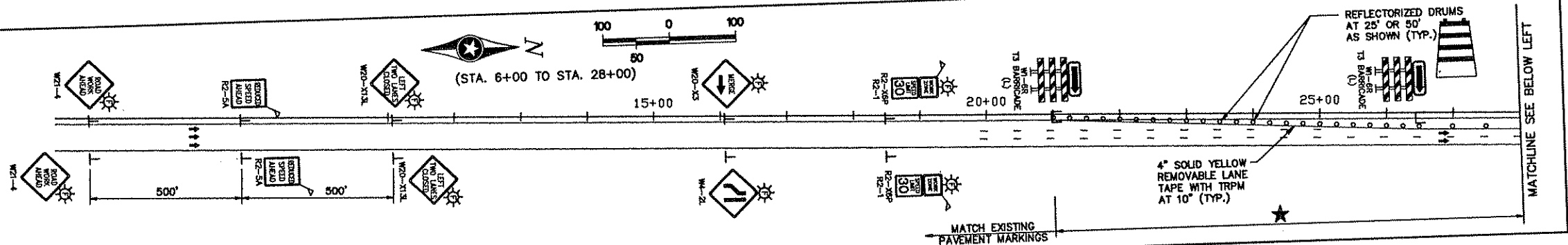
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
Thomas A. Schwerts
 Date: 4/2/93 Reg. No. 20943



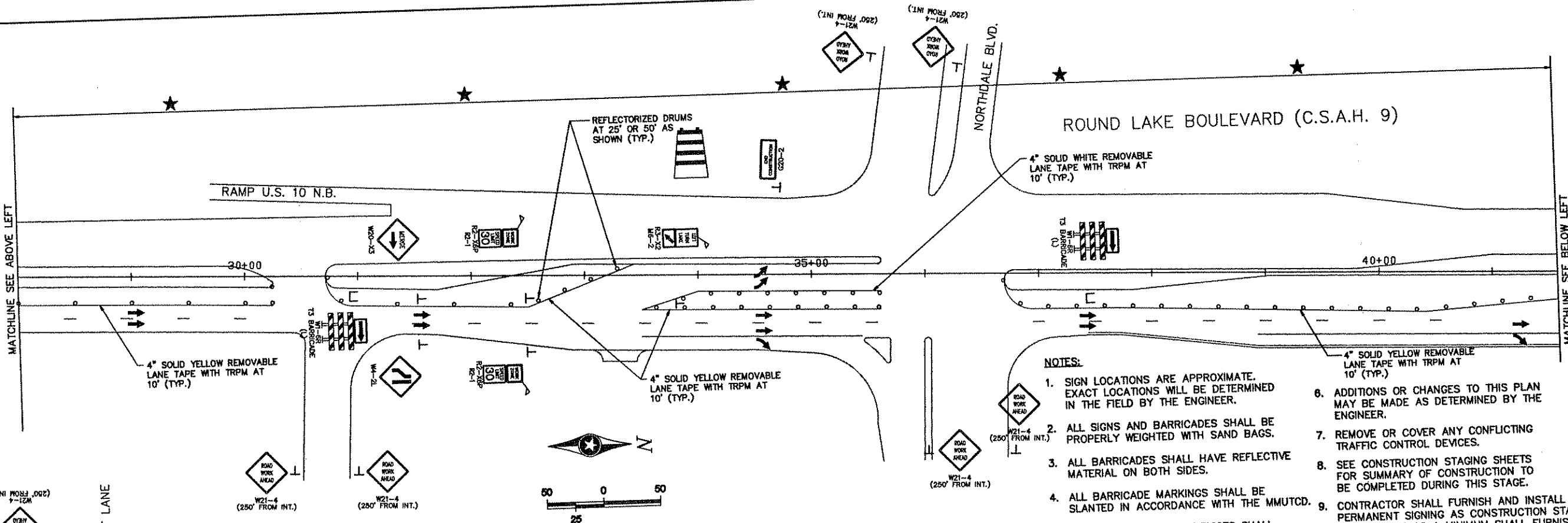
ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10, S.A.P.02-616-03,
 C.P. 93-12-116

TRAFFIC CONTROL
 STAGE 2A

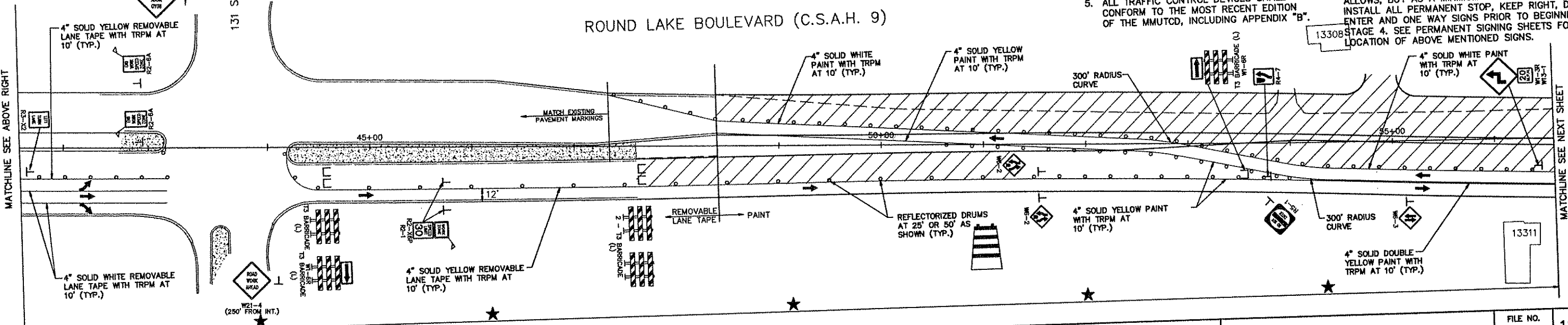
FILE NO.	93145	121
DATE	4/2/93	133



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



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



04-06-83 4:07 pm

040/0940/93145/3145103

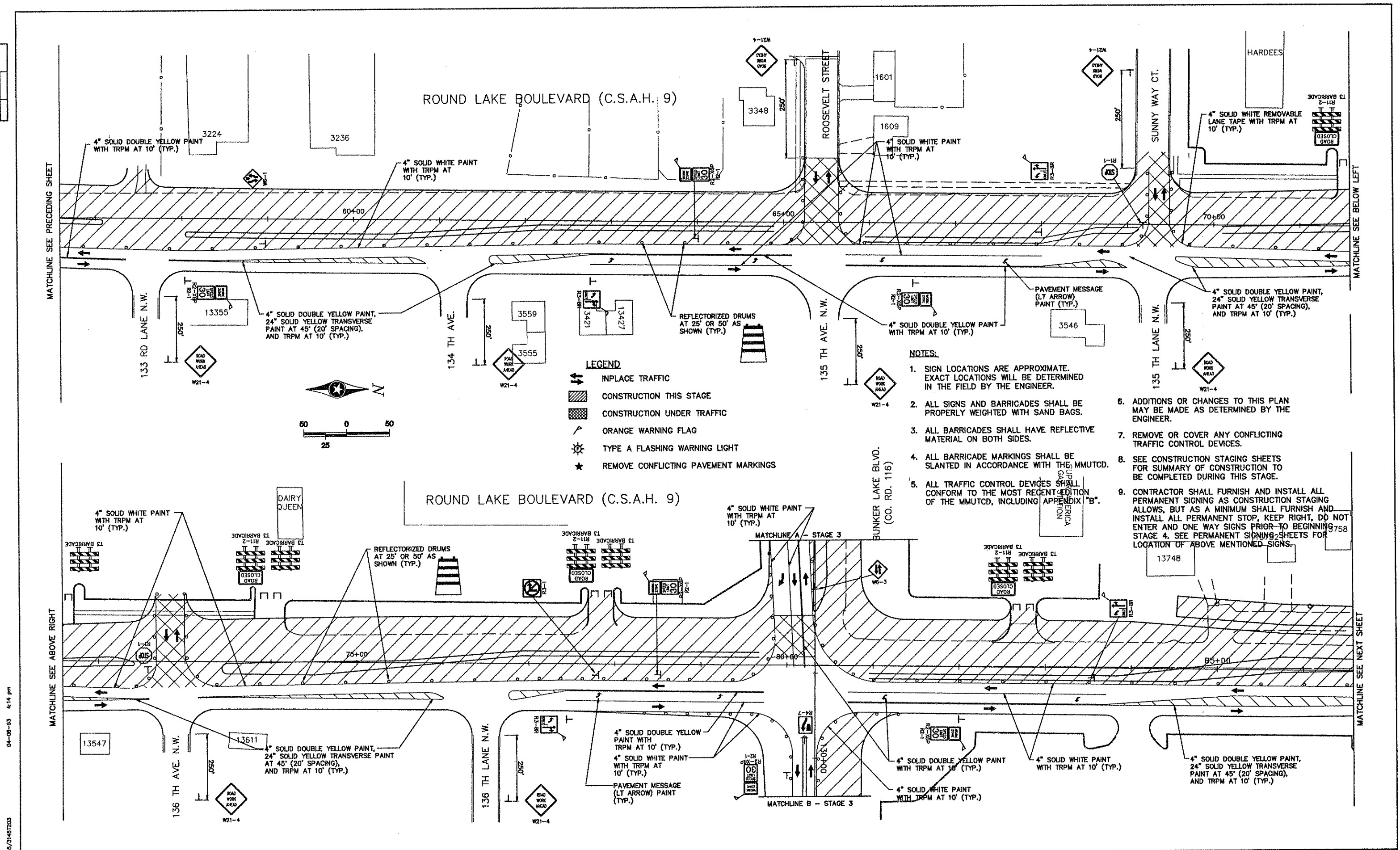
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
Thomas G. Schwendt
 Date: 4/2/93 Reg. No. 20943



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

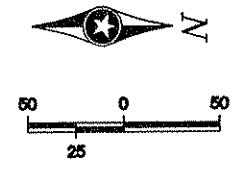
**TRAFFIC CONTROL
 STAGE 3**

FILE NO. 93145	122
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.
 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.



04-06-03 4:14 pm
/00/0040/03145/01457203

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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

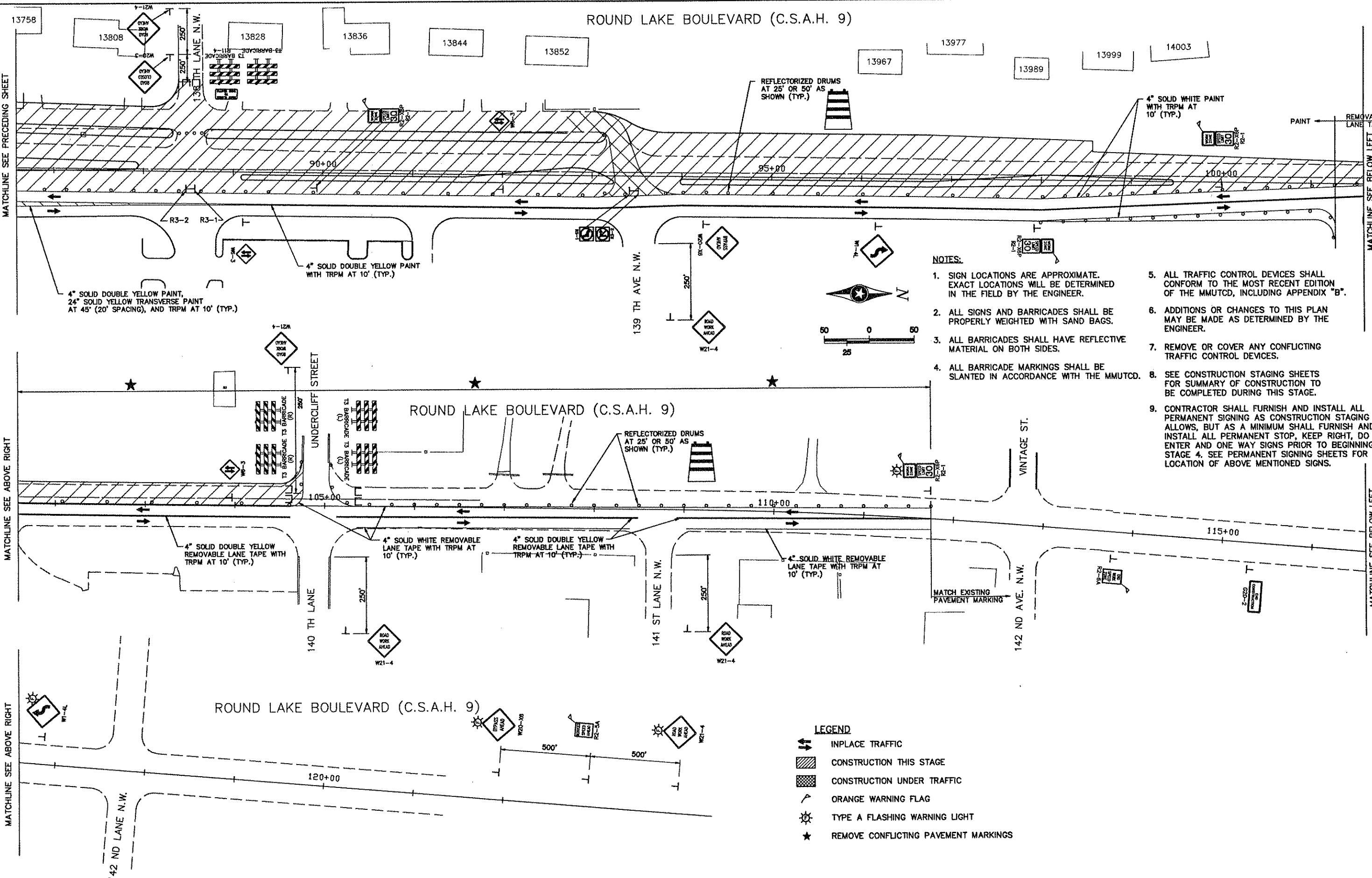


ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10, S.A.P. 02-616-03,
 C.P. 93-12-116

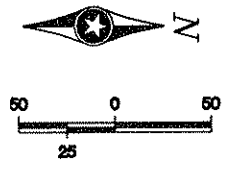
**TRAFFIC CONTROL
 STAGE 3**

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

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



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



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

04-08-93 4:21 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



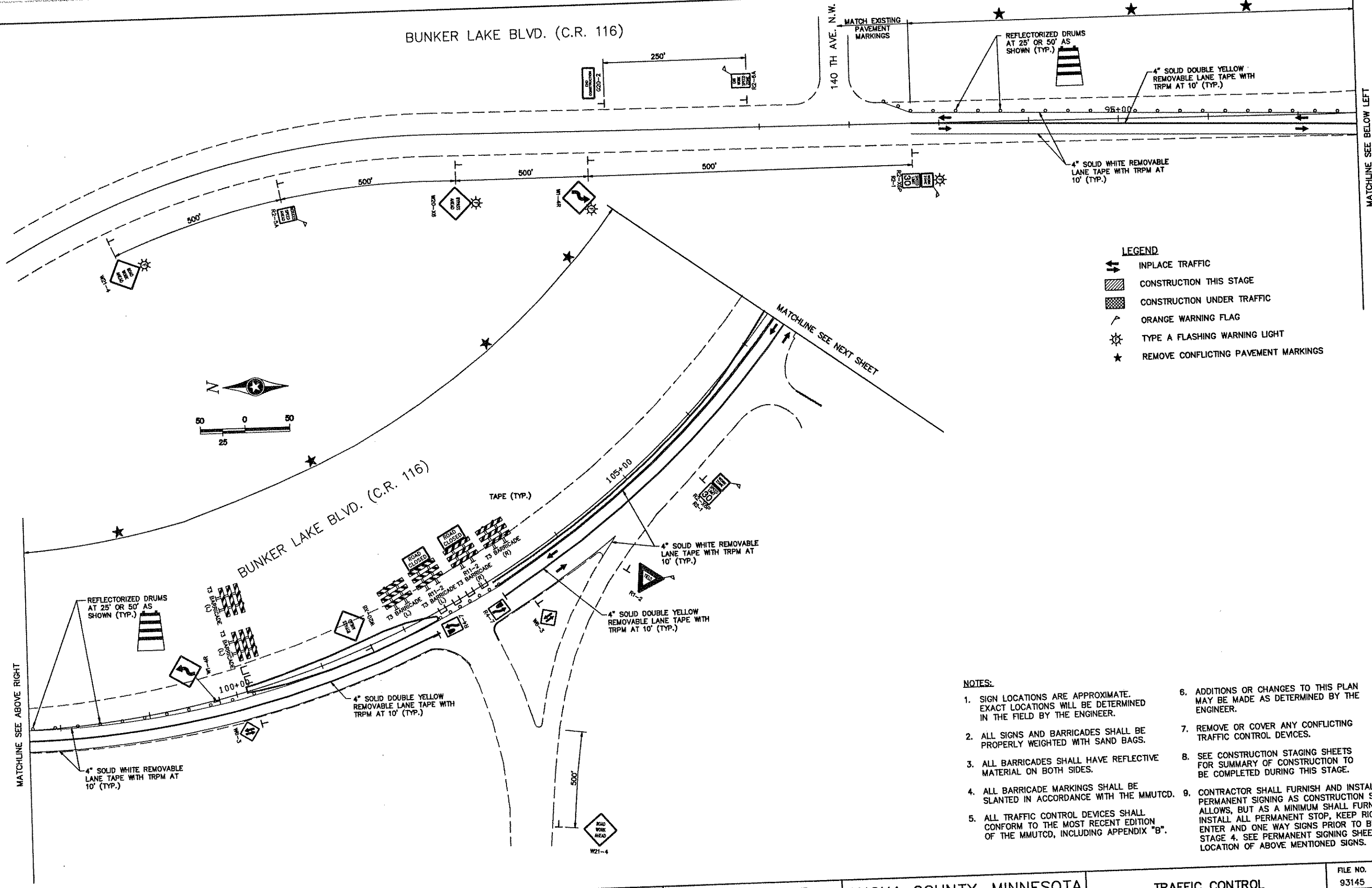
ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10, S.A.P. 02-616-03,
 C.P. 93-12-116

TRAFFIC CONTROL
 STAGE 3

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

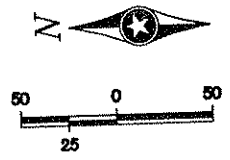
BUNKER LAKE BLVD. (C.R. 116)

140 TH AVE. N.W.



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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8. SEE CONSTRUCTION STAGING SHEETS FOR SUMMARY OF CONSTRUCTION TO BE COMPLETED DURING THIS STAGE.
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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. Schwandt
 1/2/03 Reg. No. 20943



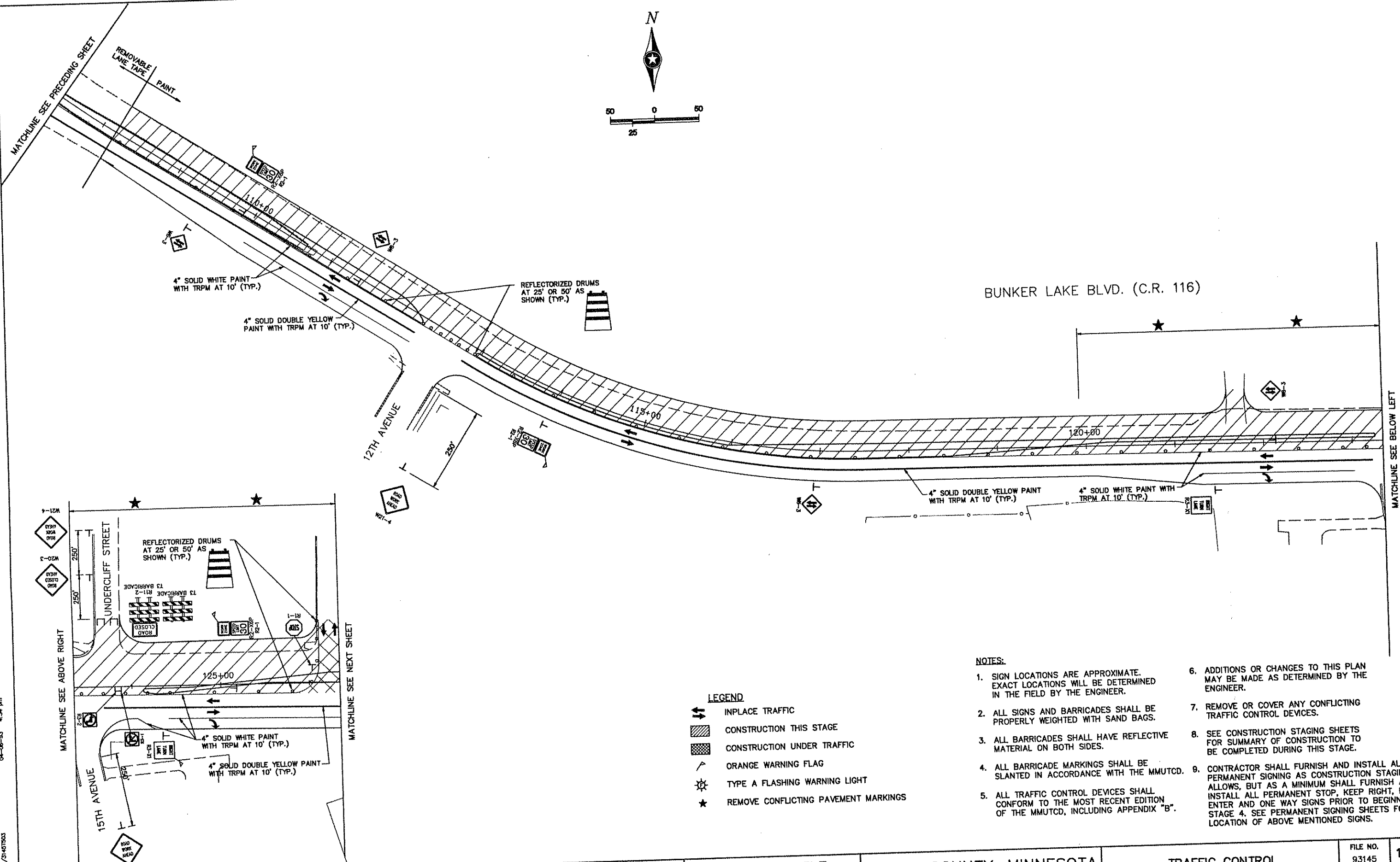
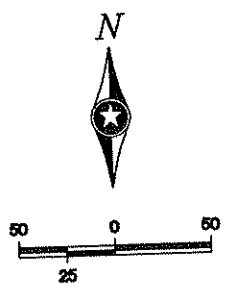
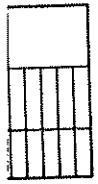
ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10, S.A.P. 02-616-03,
 C.P. 93-12-116

TRAFFIC CONTROL
 STAGE 3

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

04-06-93 4:29 PM

D:\CP\0402\93145\71451403



BUNKER LAKE BLVD. (C.R. 116)

NOTES:

- SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
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- REMOVE OR COVER ANY CONFLICTING TRAFFIC CONTROL DEVICES.
- SEE CONSTRUCTION STAGING SHEETS FOR SUMMARY OF CONSTRUCTION TO BE COMPLETED DURING THIS STAGE.
- CONTRACTOR SHALL FURNISH AND INSTALL ALL PERMANENT SIGNING AS CONSTRUCTION STAGING ALLOWS, BUT AS A MINIMUM SHALL FURNISH AND INSTALL ALL PERMANENT STOP, KEEP RIGHT, DO NOT ENTER AND ONE WAY SIGNS PRIOR TO BEGINNING STAGE 4. SEE PERMANENT SIGNING SHEETS FOR LOCATION OF ABOVE MENTIONED SIGNS.

LEGEND

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

04-08-93 4:34 PM

04/08/93 04:34 PM 04/08/93 04:34 PM

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.

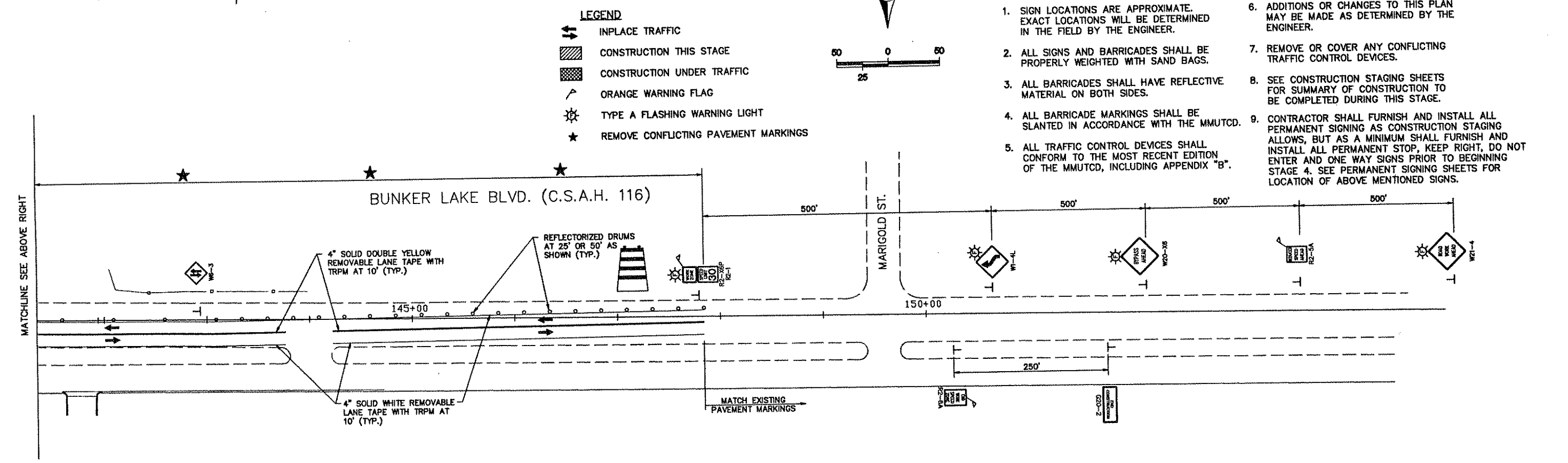
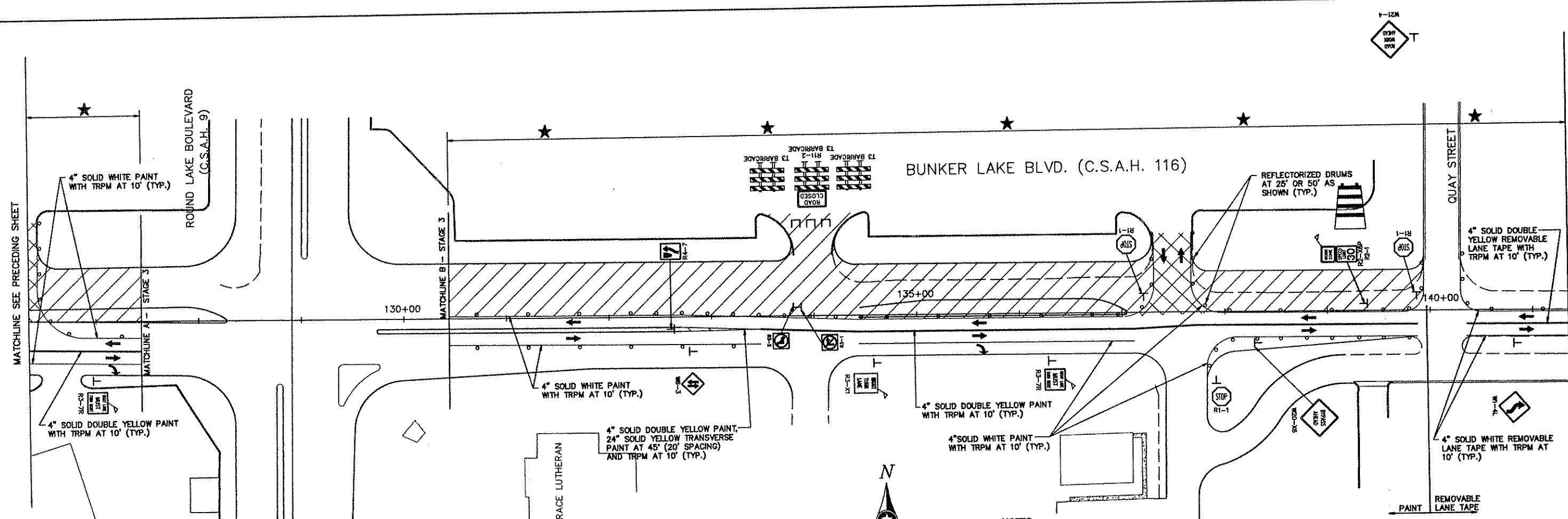
Thomas A. Schweitzer
 Date: 4/2/93 Reg. No. 20943



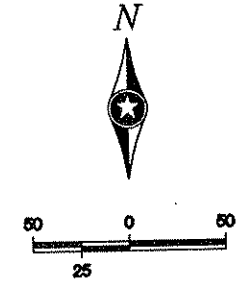
ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10, S.A.P.02-616-03,
 C.P. 93-12-116

TRAFFIC CONTROL
 STAGE 3

FILE NO. 93145	126
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:**
- SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
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 - ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AS DETERMINED BY THE ENGINEER.
 - REMOVE OR COVER ANY CONFLICTING TRAFFIC CONTROL DEVICES.
 - SEE CONSTRUCTION STAGING SHEETS FOR SUMMARY OF CONSTRUCTION TO BE COMPLETED DURING THIS STAGE.
 - 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.

04-06-83 4:39 PM
CAD/CEU/AD/RS/MS/ST/457803

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

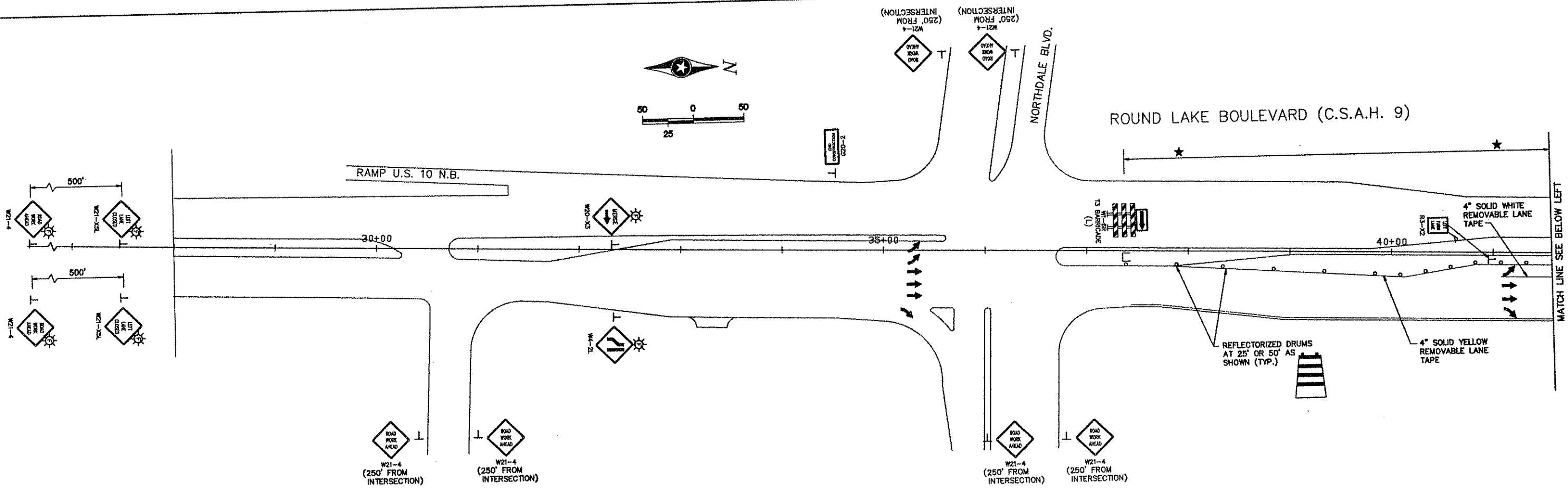
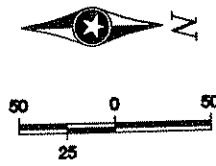
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
Thomas A. Schwedo
 Date: 4/2/93 Reg. No. 20943



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

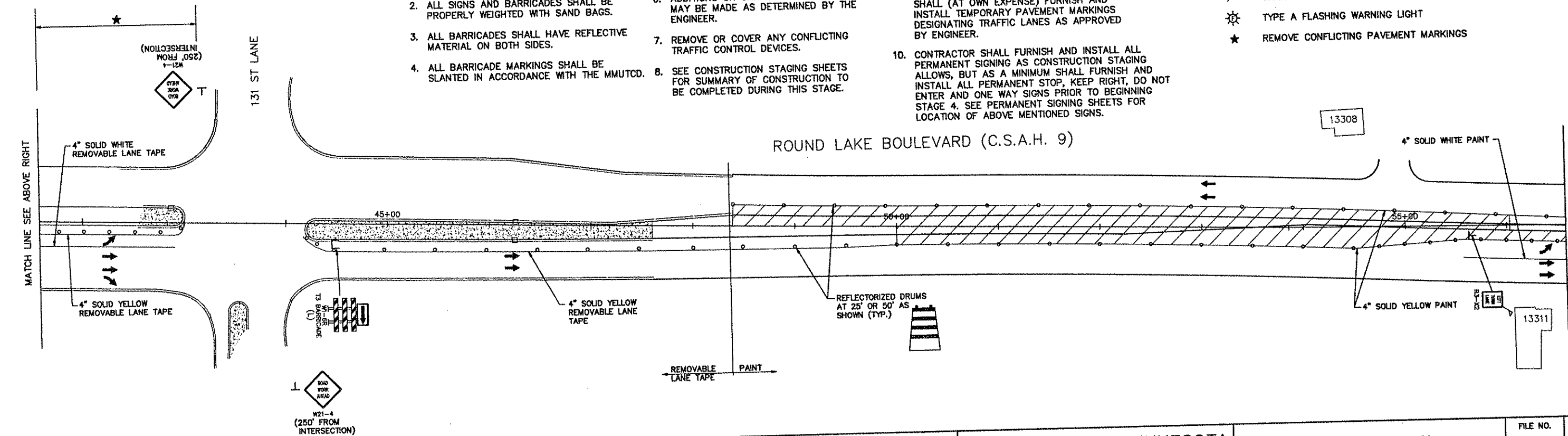


NOTES:

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

LEGEND

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



4-1-1993 4:30 PM

93145/31-45104

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



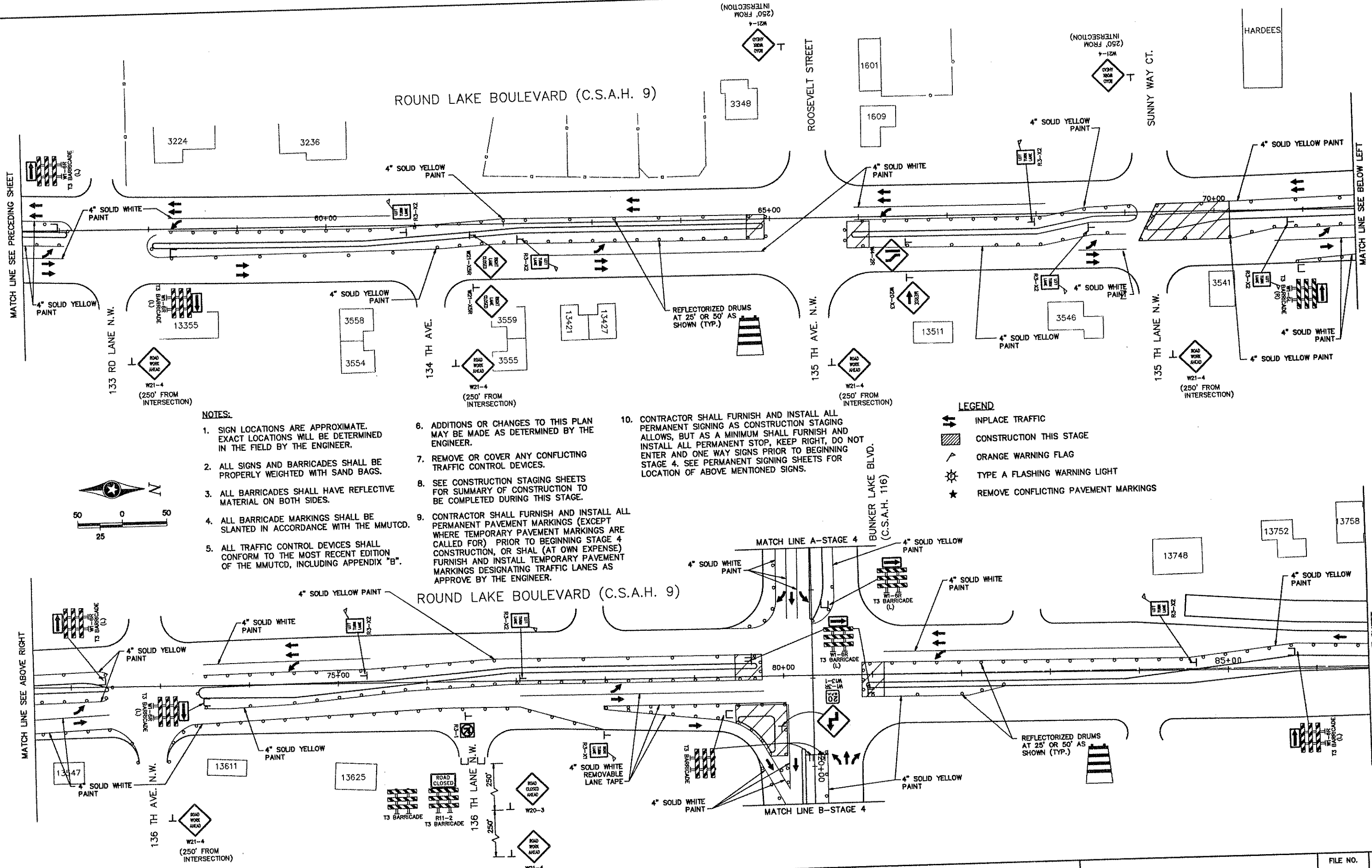
ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10, S.A.P. 02-616-03,
 C.P. 93-12-116

**TRAFFIC CONTROL
 STAGE 4**

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

4-1-1993 5:00 PM

23/3167204

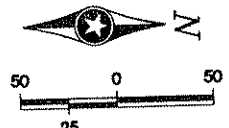


NOTES:

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LEGEND

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



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
 20943



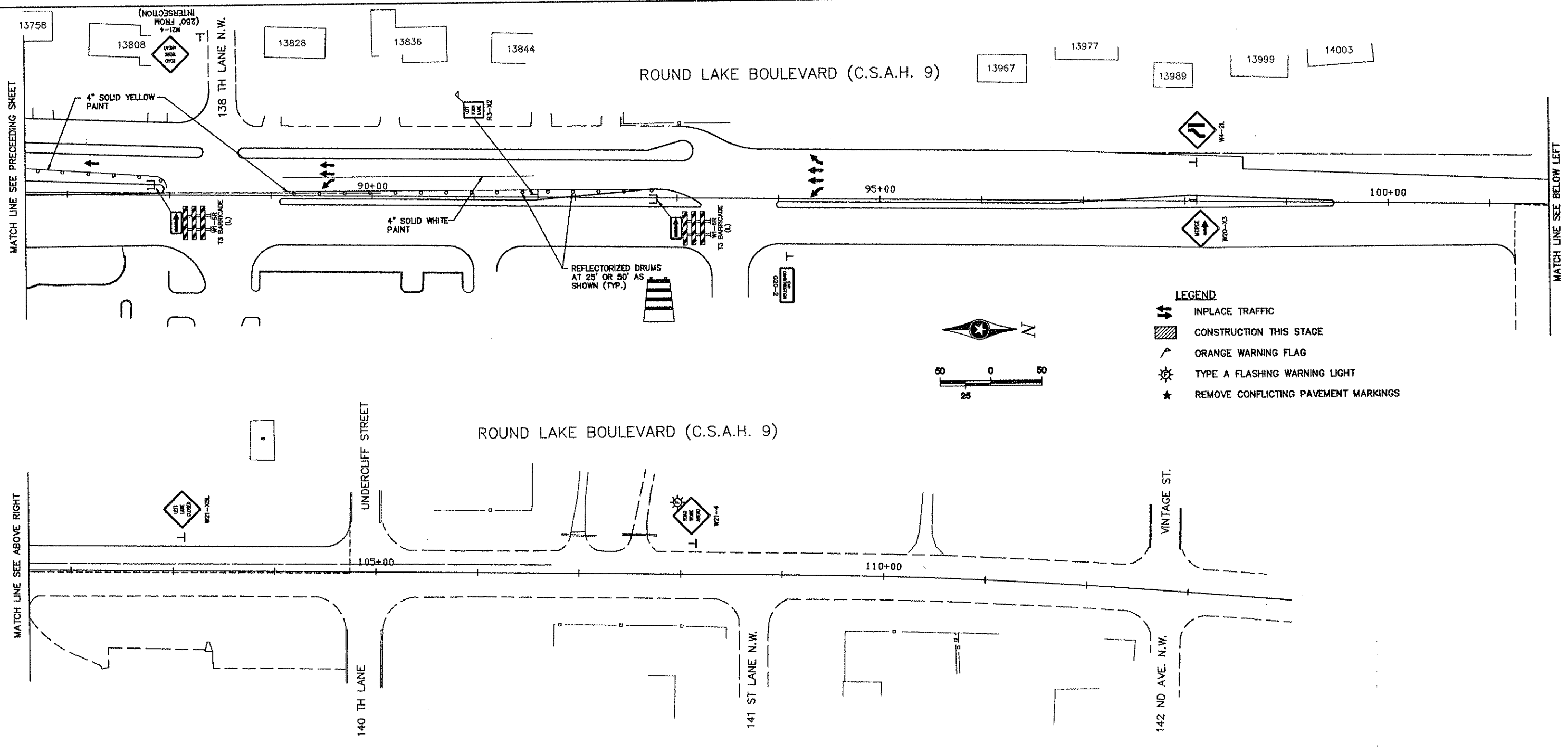
ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10, S.A.P. 02-616-03,
 C.P. 93-12-116

TRAFFIC CONTROL
 STAGE 4

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

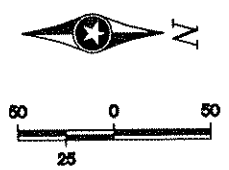
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93-4631-61304



LEGEND

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



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

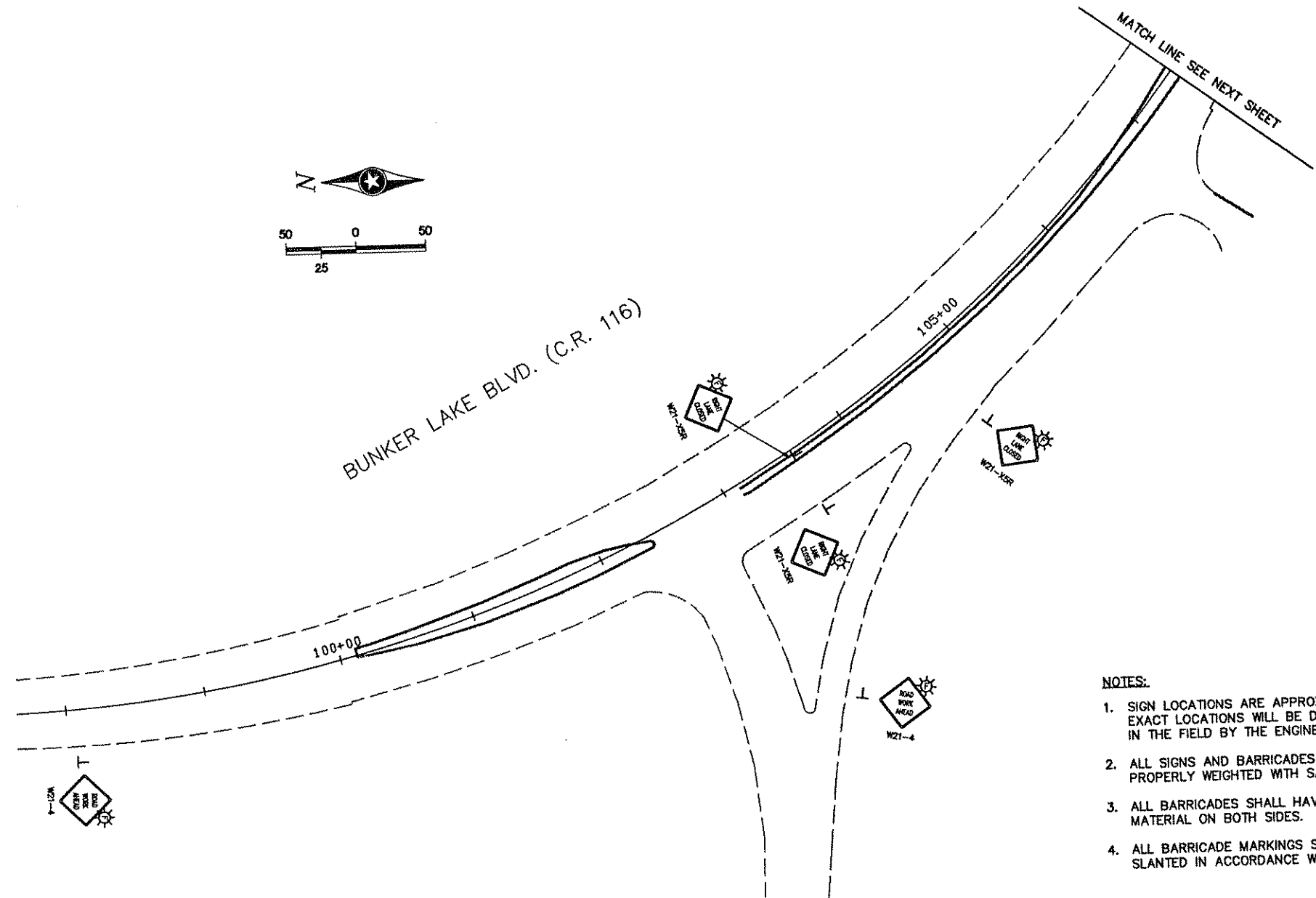
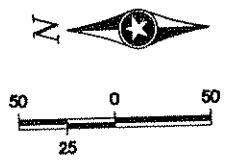


ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10, S.A.P. 02-616-03,
 C.P. 93-12-116

TRAFFIC CONTROL
 STAGE 4

FILE NO.	130
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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4-1-1993 7:30 PM

85145 31457404

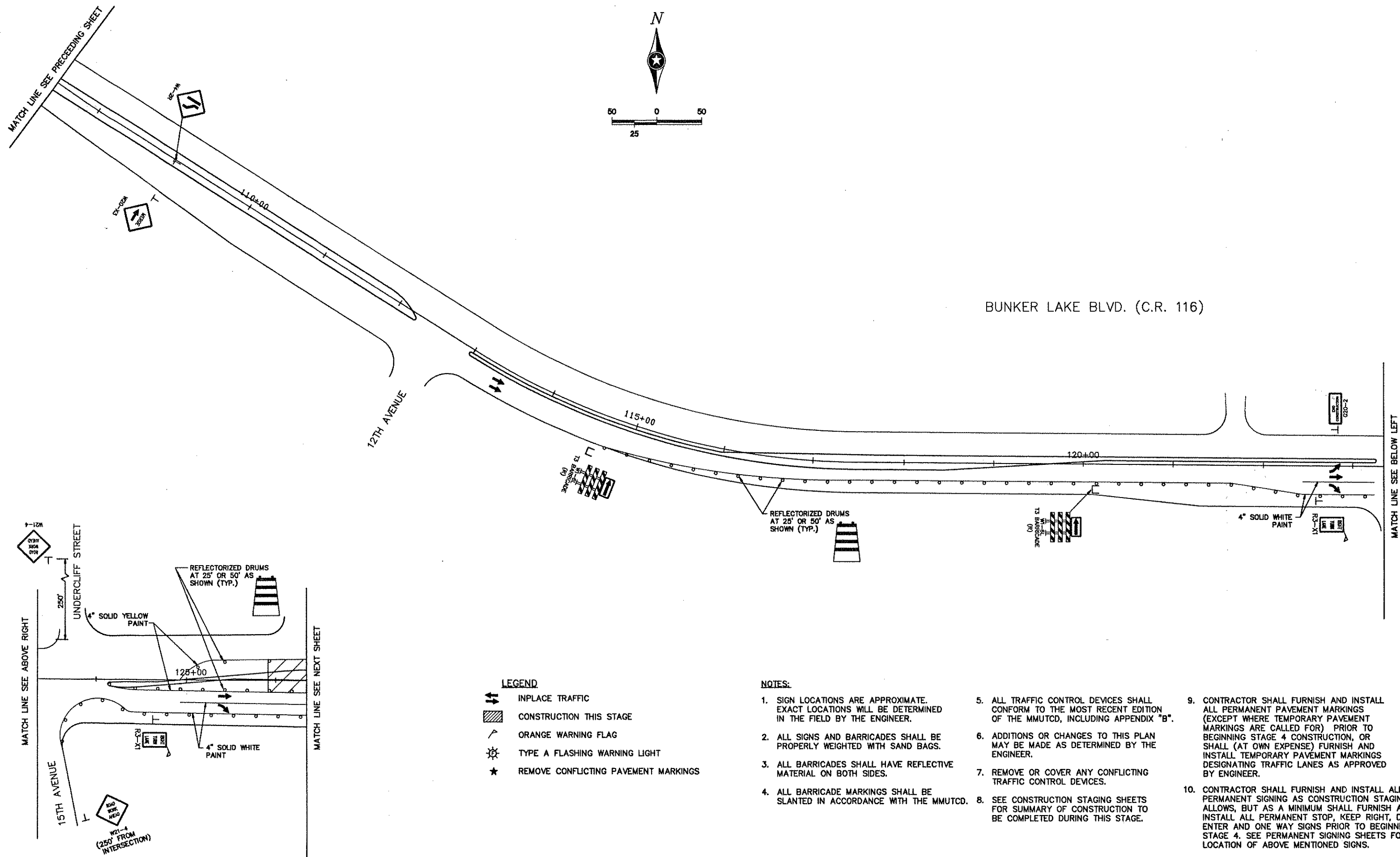
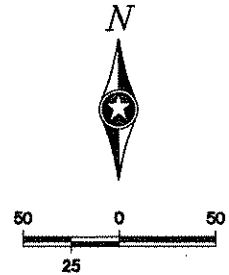
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
Thomas A. Schweidt
 Date: 4/2/93 Reg. No. 20943



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

**TRAFFIC CONTROL
 STAGE 4**

FILE NO. 93145	131
DATE 4/2/93	



BUNKER LAKE BLVD. (C.R. 116)

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

83145/31452504

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

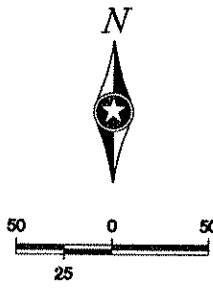
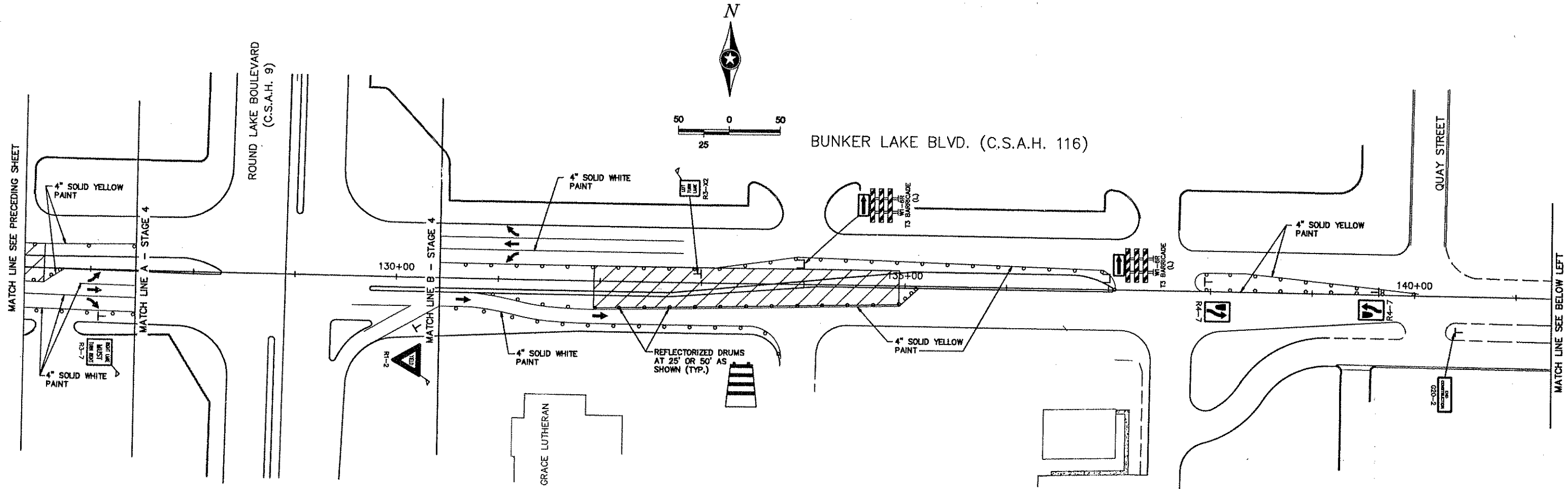


ANOKA COUNTY, MINNESOTA
 S.A.P. 02-609-10, S.A.P. 02-616-03,
 C.P. 93-12-116

TRAFFIC CONTROL
 STAGE 4

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

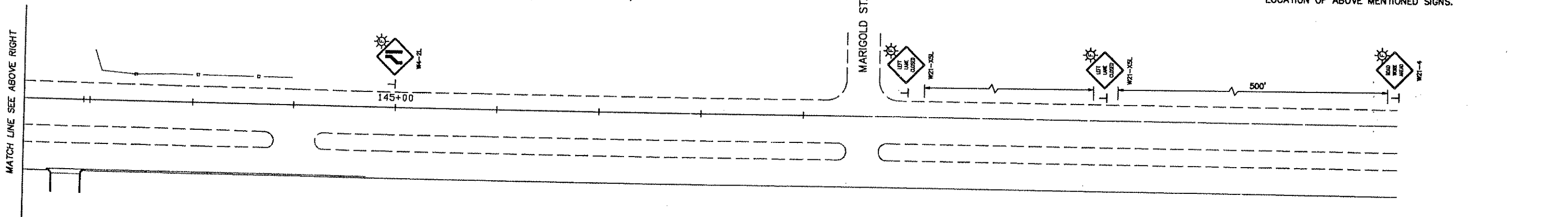
BASE OVERLAY DRG. NO.



- LEGEND**
- INPLACE TRAFFIC
 - CONSTRUCTION THIS STAGE
 - ORANGE WARNING FLAG
 - TYPE A FLASHING WARNING LIGHT
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BUNKER LAKE BLVD. (C.S.A.H. 116)



04-06-93 3:30 pm

7/03/09/040/53145/21457804

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