

STATEMENT OF ESTIMATED QUANTITIES					Average	HARDRIVES INC.		C.S. McCROSSAN		ALEXANDER CONST		ARCON CONST.		C.W. HouLE CONST.		SHAFFER CONTRACT.		BITUMINOUS ROADWAYS	
ITEM NO.	ITEM	UNIT	ESTIMATED QUANTITIES	ENGINEER ESTIMATE	3 LOW BIDDERS	UNIT PRICE	AMOUNT	UNIT PRICE	AMOUNT	UNIT PRICE	AMOUNT	UNIT PRICE	AMOUNT	UNIT PRICE	AMOUNT	UNIT PRICE	AMOUNT	UNIT PRICE	AMOUNT
2021.501	MOBILIZATION	L.S.	1	7500.00	2833.33	5,000.00	5,000.00	2,500.00	2,500.00	5,000.00	5,000.00	5,790.00	5,790.00	6,500.00	6,500.00	3,000.00	3,000.00	3,000.00	3,000.00
2104.501	REMOVE CONCRETE CURB & GUTTER	L.F.	2755	1.25	1.00	1.00	2,755.00	1.50	4,132.50	1.75	4,821.25	1.25	3,443.75	1.10	3,050.50	1.25	3,443.75	.90	2,479.50
2104.503	REMOVE CONCRETE SIDEWALK	S.F.	210	1.00	.28	.75	367.50	.25	52.50	.50	105.00	.20	42.00	.50	105.00	.50	105.00	.40	84.00
2104.509	REMOVE CATCH BASINS	EA.	4	135.00	84.33	84.00	336.00	300.00	1,200.00	100.00	400.00	95.00	380.00	100.00	400.00	75.00	300.00	83.00	332.00
2104.521	SALVAGE FENCE	L.F.	329	1.50	1.10	1.12	368.48	1.10	361.90	1.50	493.50	1.50	493.50	1.10	361.90	1.70	558.30	1.10	361.90
2105.501	COMMON EXCAVATION	C.Y.	7731	2.90	2.47	2.75	21,260.25	2.50	19,327.50	2.50	19,327.50	2.44	18,863.64	2.50	19,327.50	2.75	21,260.25	2.48	19,172.88
2130.501	WATER	(M) GAL.	25	6.50	7.33	10.00	250.00	7.00	175.00	9.00	225.00	15.00	375.00	7.50	187.50	7.50	187.50	8.00	200.00
2211.501	AGGREGATE BASE, CLASS 5	TON	1583	3.50	3.22	3.95	6,252.85	3.15	4,986.45	3.50	5,540.50	3.60	5,698.80	3.70	5,587.10	3.00	4,749.00	4.20	6,648.60
2211.501	AGGREGATE BASE, CLASS 4	TON	2681	3.10	3.12	3.60	9,651.60	3.15	8,445.15	3.20	8,579.20	3.20	8,579.20	3.70	9,919.70	3.00	8,043.00	4.15	11,126.15
2331.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	18	93.50	79.00	84.00	1,512.00	82.00	1,476.00	80.00	1,440.00	85.00	1,530.00	75.00	1,350.00	90.00	1,620.00	90.00	1,620.00
2331.514	BASE COURSE MIXTURE	TON	398	7.30	8.70	9.45	3,740.10	14.00	5,572.00	9.00	3,582.00	8.60	3,422.80	8.50	3,383.00	9.00	3,582.00	11.30	4,497.40
2341.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	45	93.50	79.00	84.00	3,780.00	82.00	3,690.00	80.00	3,600.00	85.00	3,825.00	75.00	3,375.00	90.00	4,050.00	90.00	4,050.00
2341.508	WEARING COURSE MIXTURE	TON	353	8.70	8.88	10.55	3,724.15	16.00	5,648.00	9.00	3,177.00	8.90	3,141.70	8.75	3,088.75	9.35	3,300.55	10.45	3,688.85
2341.510	BINDER COURSE MIXTURE	TON	409	8.70	8.82	9.87	4,036.83	15.00	6,135.00	9.00	3,681.00	8.70	3,558.30	8.75	3,578.75	9.15	3,742.35	10.45	4,274.05
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL.	306	63	57	60	183.60	1.00	306.00	1.00	306.00	.60	183.60	.50	153.00	.65	198.90	1.00	306.00
2358.501	BITUMINOUS MATERIAL FOR PRIME COAT	GAL.	996	63	53	60	597.60	.75	747.00	.55	547.80	.55	547.80	.50	498.00	.60	597.60	.60	597.60
2501.511	18" C.S. PIPE CULVERT, 16 GAUGE	L.F.	336	12.00	12.02	13.60	4,569.60	12.00	4,032.00	11.50	3,864.00	12.55	4,216.80	14.85	4,989.60	14.00	4,704.00	12.75	4,284.00
2503.511	15" R.C. PIPE SEWER CLASS IV	L.F.	68	14.00	11.50	16.25	1,105.00	11.00	748.00	11.50	782.00	17.60	1,196.80	12.90	877.20	12.00	816.00	15.25	1,037.00
2503.511	18" R.C. PIPE SEWER CLASS II	L.F.	72	16.00	12.17	17.65	1,270.80	12.00	864.00	11.50	828.00	28.75	2,070.00	13.55	975.60	13.00	936.00	16.55	1,191.60
2506.508	CONSTRUCT MANHOLE, DESIGN A or F	EA.	1	500.00	516.67	560.00	560.00	650.00	650.00	525.00	525.00	500.00	500.00	650.00	650.00	600.00	600.00	525.00	525.00
2506.509	CONSTRUCT CATCH BASINS DESIGN RC-2	EA.	9	400.00	418.33	588.00	5,292.00	600.00	5,400.00	480.00	4,320.00	375.00	3,375.00	700.00	6,300.00	400.00	3,600.00	555.00	4,995.00
2506.516	CASTING ASSEMBLIES	EA.	2	160.00	127.42	157.00	314.00	175.00	350.00	160.00	320.00	132.25	264.50	150.00	300.00	100.00	200.00	150.00	300.00
2506.521	INSTALL CASTINGS	EA.	2	50.00	65.67	62.00	124.00	100.00	200.00	75.00	150.00	75.00	150.00	125.00	250.00	75.00	150.00	60.00	120.00
2506.522	ADJUST FRAME & RING CASTING	EA.	3	75.00	71.67	75.00	225.00	100.00	300.00	75.00	225.00	95.00	285.00	125.00	375.00	75.00	225.00	65.00	195.00
2521.501	4" CONCRETE SIDEWALK	S.F.	4392	1.30	.97	1.02	4,479.84	1.20	5,270.40	.90	3,952.80	1.00	4,392.00	1.12	4,919.04	1.00	4,392.00	1.02	4,479.84
2531.501	CONCRETE CURB & GUTTER DESIGN B618	L.F.	5086	3.25	3.25	3.67	18,165.62	3.85	19,581.70	3.00	15,258.00	3.60	18,309.60	3.15	16,020.90	3.60	18,309.60	3.65	18,563.90
2531.501	CONCRETE CURB & GUTTER DESIGN V	L.F.	100	3.75	3.97	4.48	448.00	3.85	385.00	4.50	450.00	4.40	440.00	4.50	450.00	4.40	440.00	3.65	365.00
2535.501	BITUMINOUS CURB	L.F.	20	1.50	2.58	10.00	200.00	2.00	40.00	5.00	100.00	5.00	100.00	2.75	55.00	5.50	110.00	3.00	60.00
2575.505	SODDING	S.Y.	3001	.75	.81	.84	2,520.84	.85	2,550.85	.80	2,480.80	.80	2,400.80	1.00	3,001.00	.85	2,550.85	.82	2,460.82
2575.531	COMMERCIAL FERTILIZER ANALYSIS 12-12-12	TON	0.2	275.00	326.67	448.00	89.60	400.00	80.00	320.00	66.00	350.00	70.00	400.00	80.00	350.00	70.00	300.00	60.00
2575.551	TOPSOIL BORROW	C.Y.	210	4.40	4.88	5.32	1,117.20	5.50	1,155.00	5.28	1,108.80	5.00	1,050.00	5.50	1,155.00	5.25	1,102.00	4.40	924.00
504.679	ADJUST VALVE BOX	BOX.	8	62.00	51.67	75.00	600.00	50.00	400.00	55.00	440.00	95.00	760.00	60.00	480.00	65.00	520.00	50.00	400.00
557.604	INSTALL CHAIN LINK FENCE	L.F.	329	3.05	1.85	2.52	829.08	2.45	806.05	2.00	658.00	1.75	575.75	2.35	773.15	1.80	592.80	2.40	789.60
565.606	RELOCATE HANDHOLE	HANDHOLE	1	400.00	220.00	235.00	235.00	230.00	230.00	231.00	231.00	210.00	210.00	265.00	265.00	220.00	220.00	427.00	427.00
565.610	REVISE SIGNAL SYSTEM	SYSTEM	1	5,000.00	4,006.67	4,278.00	4,278.00	4,200.00	4,200.00	4,202.00	4,202.00	3,820.00	3,820.00	4,500.00	4,500.00	4,000.00	4,000.00	4,648.00	4,648.00
565.628	LOOP DETECTOR 8'x10'	DETECTOR	2	280.00	230.00	426.00	852.00	210.00	420.00	418.00	836.00	190.00	380.00	320.00	640.00	400.00	800.00	290.00	580.00
						111,811.54		112,417.40		101,543.15		104,441.34		108,081.19		103,143.15		108,844.69	

PLANS SYMBOLS

STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT-OF-WAY LINE
PRESENT RIGHT-OF-WAY LINE
CONTROL OF ACCESS LINE
PROPERTY LINE (Except Land Lines)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
RETAINING WALL
RAILROAD
RAILROAD RIGHT-OF-WAY LINE
RIVER OR CREEK
DRY RUN
DRAINAGE DITCH
DRAIN TILE
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
RAILROAD SNOW FENCE
STONE WALL OR FENCE
HEDGE
RAILROAD CROSSING SIGN
RAILROAD CROSSING BELL
ELECTRIC WARNING SIGN
CROSSING GATE
MEANER CORNER

SPRINGS
MARSH
TIMBER
ORCHARD
BRUSH
NURSERY
CATCH BASIN
FIRE HYDRANT
CATTLE GUARD
OVERPASS (Highway Over)
UNDERPASS (Highway Under)
BRIDGE
BUILDING (One Story Frame)
F. FRAME C. CONCRETE
S. STONE T. TILE
B. BRICK ST. STUCCO
IRON PIPE OR ROD
MONUMENT (STONE, CONCRETE, OR METAL)
WOODEN HUB
GRAVEL PIT
SAND PIT
BORROW PIT
ROCK QUARRY

SILVER LAKE RD. GROSS LENGTH 1553.79 FEET = 0.2943 MILES
BRIDGES - LENGTH FEET = MILES
EXCEPTIONS - LENGTH FEET = MILES
NET LENGTH 1553.79 FEET = 0.2943 MILES

PLAN, 1 INCH = 30 FEET
PROFILE, HORZ. 1 INCH = 30 FEET VERT. 1 INCH = 5 FEET
CROSS-SECTIONS, 1 INCH = 5 FEET
LAYOUT, 0.75 INCH = 5280 FEET

UTILITIES SYMBOLS

POWER POLE LINE
TELEPHONE OR TELEGRAPH
POLE LINE
JOINT TELEPHONE AND POWER
ON POWER POLES
ON TELEPHONE POLES
ANCHOR
STEEL TOWER
STREET LIGHT
PEDESTAL TELEPHONE CABLE
TERMINAL
GAS MAIN
WATER MAIN

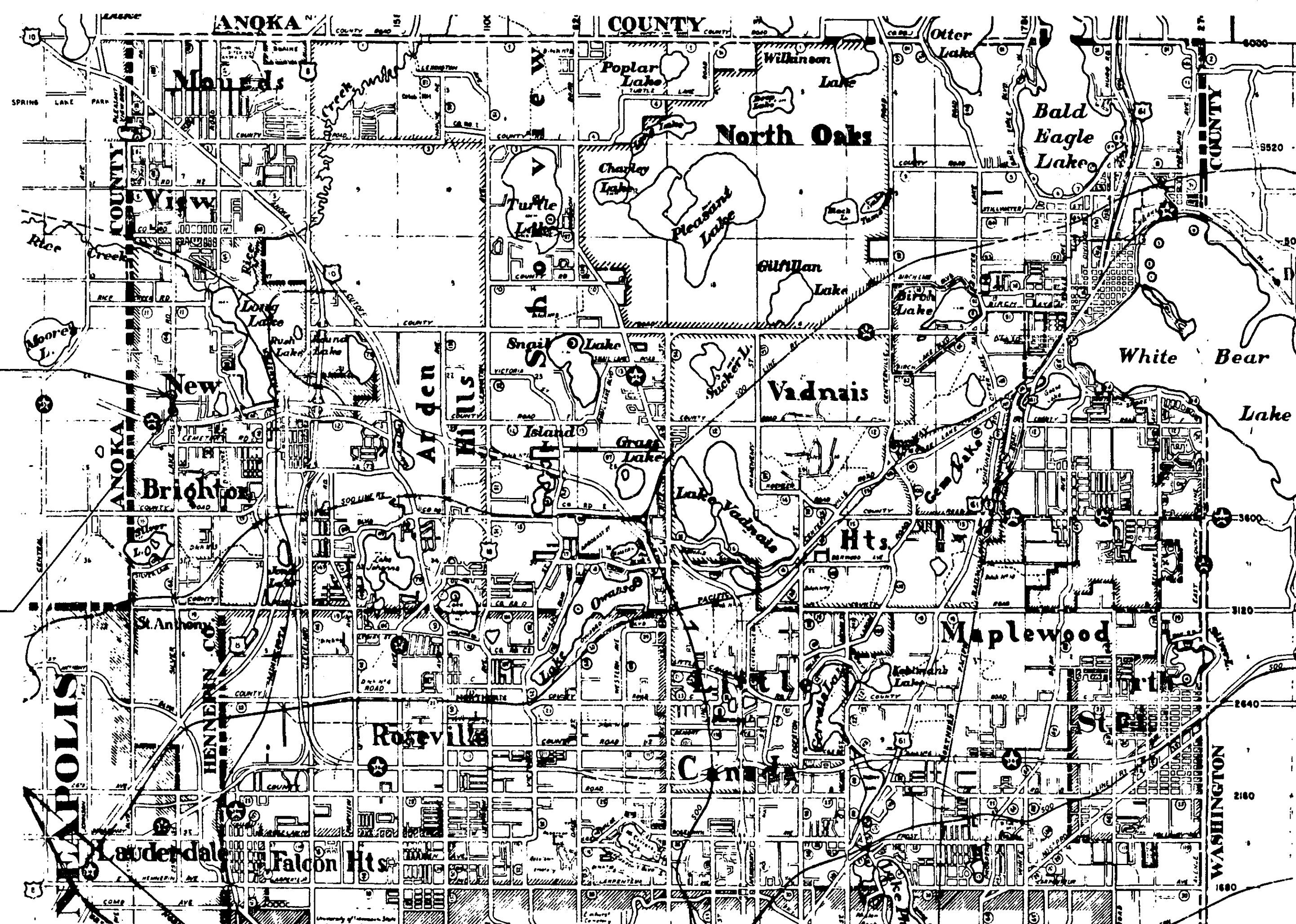
CONDUIT
TELEPHONE CABLE IN CONDUIT
ELECTRIC CABLE IN CONDUIT
TELEPHONE MANHOLE
ELECTRIC MANHOLE
BURIED TELEPHONE CABLE
BURIED ELECTRIC CABLE
AERIAL TELEPHONE CABLE
SEWER (SANITARY OR STORM)
SEWER MANHOLE



NOTE: SECTION NUMBERS READ
FROM THE SOUTH

PIT DATA

PIT NO. Located in
Dead Haul
PIT NO. Located in
Dead Haul



CITY OF ST. PAUL

OFFICE OF COUNTY ENGINEER RAMSEY COUNTY

SILVER LAKE ROAD

S.A.P. NO. 62-644-08

CONSTRUCTION PLAN FOR: BITUMINOUS RESURFACING,
WIDENING, AND CHANNELIZATION.

BETWEEN: I 694 AND: 13 TH. ST. N.W.

FROM: A POINT 417.90 FEET NORTH OF THE SOUTH
1/4 CORNER OF SECTION 19, T.30N., R.23W.

TO: A POINT 1971.69 FEET NORTH OF THE SOUTH
1/4 CORNER OF SECTION 19, T.30N., R.23W.

DESIGN DESIGNATION

ADT 1975 = 17,000
ADT 1985 = 20,000
T (HEAVY COMMERCIAL) = 7%
DESIGN LOAD = 9 TON
SOIL FACTOR = 100%
DESIGN SPEED = 40 m.p.h.

INDEX

SHEET NO. DESCRIPTION
1 TITLE SHEET
2 TYPICAL SECTION & DRAINAGE CHART
3 ESTIMATED QUANTITIES & DETAILS
4&5 PLAN & PROFILE
6-15 CROSS-SECTIONS
16 SIGNAL REVISIONS
17-18 SIGNAL PLANS (INFORMATIONAL ONLY)

RECOMMENDED FOR APPROVAL DATE
RECOMMENDED FOR APPROVAL DATE 6/15/75
RECOMMENDED FOR APPROVAL DATE 6/15/75
RECOMMENDED FOR APPROVAL DATE 6-5-75
RECOMMENDED FOR APPROVAL DATE 6-5-75
APPROVED DATE 10-20-75

RECOMMENDED FOR APPROVAL DATE 6-5-75
APPROVED DATE 10-20-75
APPROVED DATE 6-10-75
APPROVED DATE

MINNESOTA STATE HIGHWAY DEPARTMENT

RECOMMENDED FOR APPROVAL DATE 9-5-75
RECOMMENDED FOR APPROVAL DATE 8-14-75
APPROVED DATE 9/5/75

I hereby certify that this plan, specification, or
report 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 June 5, 1975 Reg. No. 5782

CONFORMING TO
CONST. RECORDS

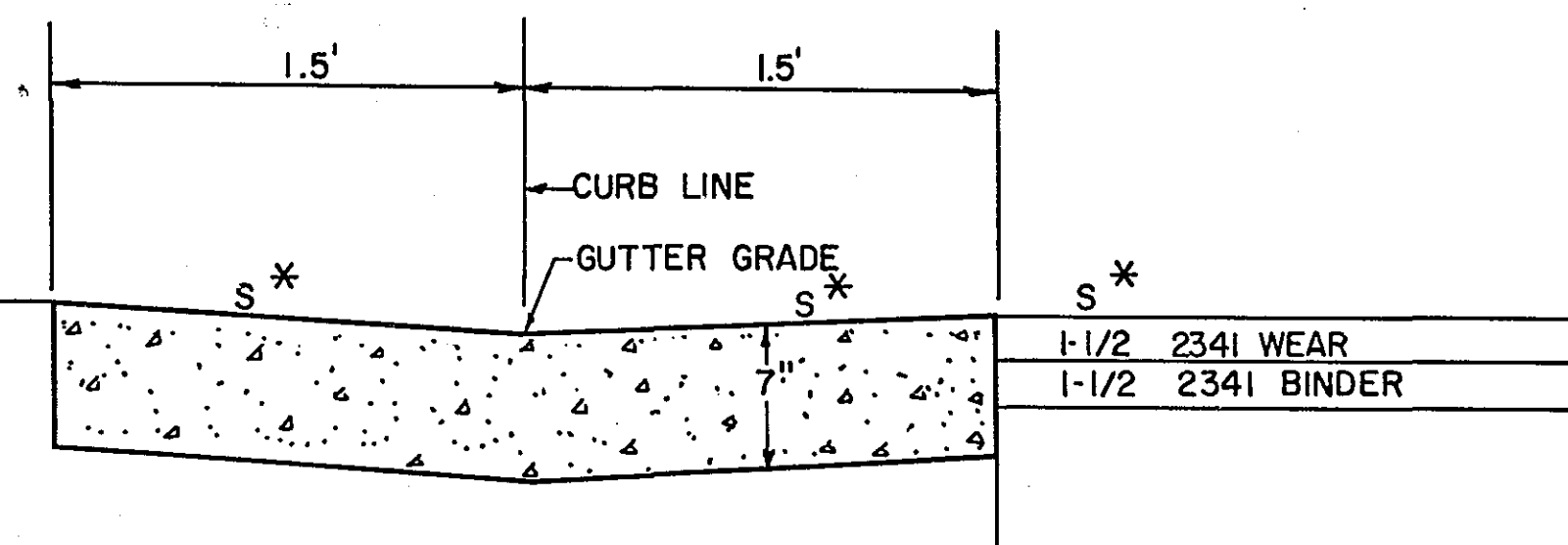
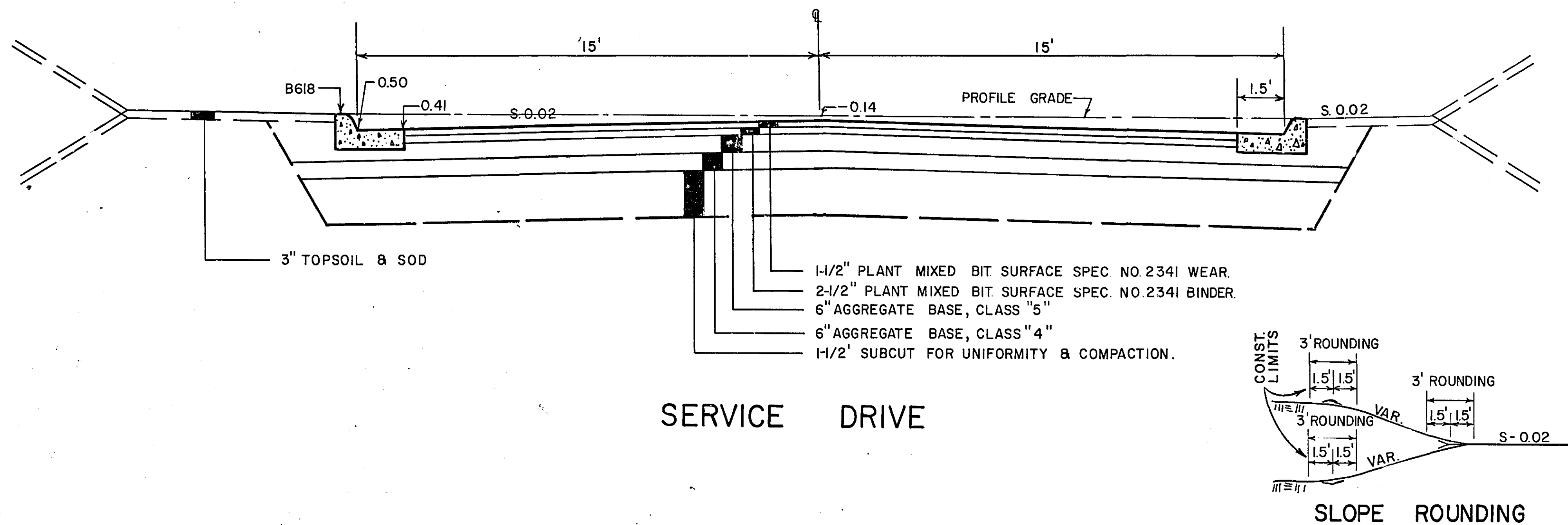
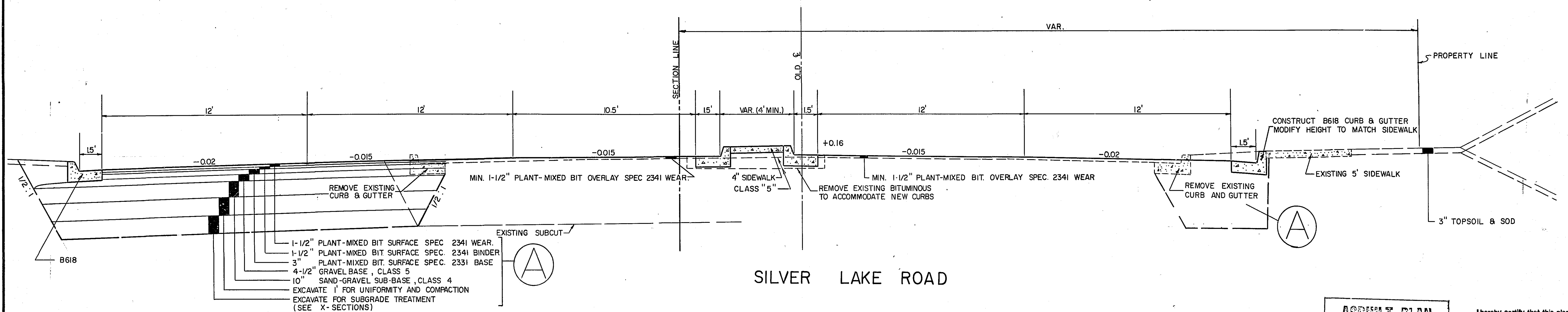
DONE BY: JA K6
DATE: 1-27-77

THE "MINNESOTA HIGHWAY DEPARTMENT STANDARD
SPECIFICATIONS FOR HIGHWAY CONSTRUCTION"
DATED JANUARY 1, 1972 AS AMENDED BY "SUPPLEMENTAL
SPECIFICATIONS" DATED JANUARY 1, 1974 SHALL GOVERN.

S.A.P. NO. 62-644-08

Sheet No. 1 of 18 Sheets

TYPICAL SECTIONS



V TYPE GUTTER FOR ENTRANCE
STA. 3+65 LEFT 35'
SHALL BE PAID AS ITEM NO. 2531.501 CONC.
CURB & GUTTER DESIGN B618.

CASTING B = NEENAH INLET FRAME, GRADE & CURB BOX NO. R3067 OR
EQUAL (INCLUDE WITH STRUCTURE, NOT SEPARATE PAY
ITEM.)
CASTING C = RING CASTING M.H.D. NO. 700-7, COVER CASTING NO. 712
NOTE: ALL GRATE OR RING ELEVATIONS SHALL BE VERIFIED IN
FIELD AFTER STAKING.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS

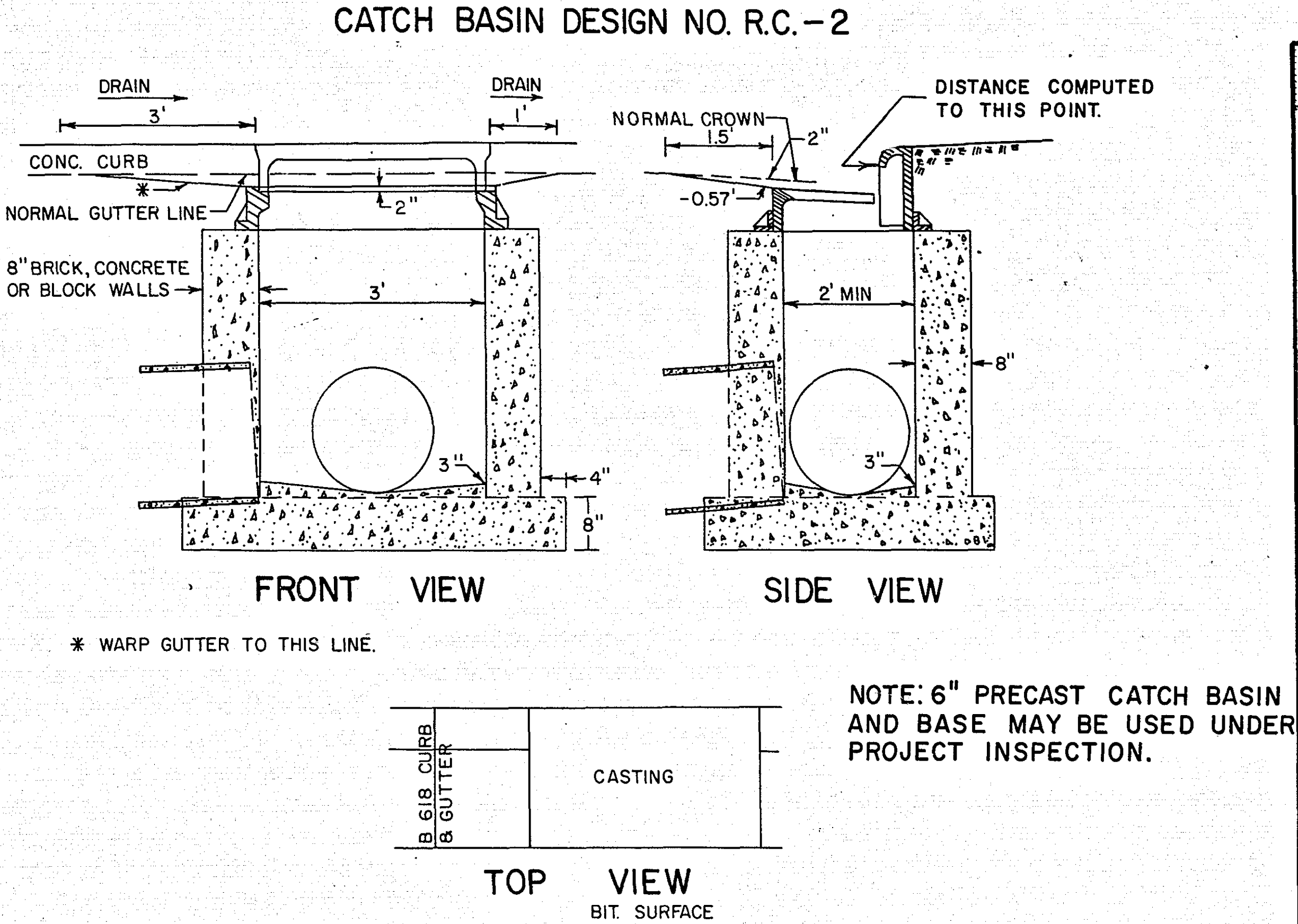
DONE BY: JA KG
DATE: 1-27-77

I hereby certify that this plan, specification, or
report 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 1/25/77 Reg. No. 5702

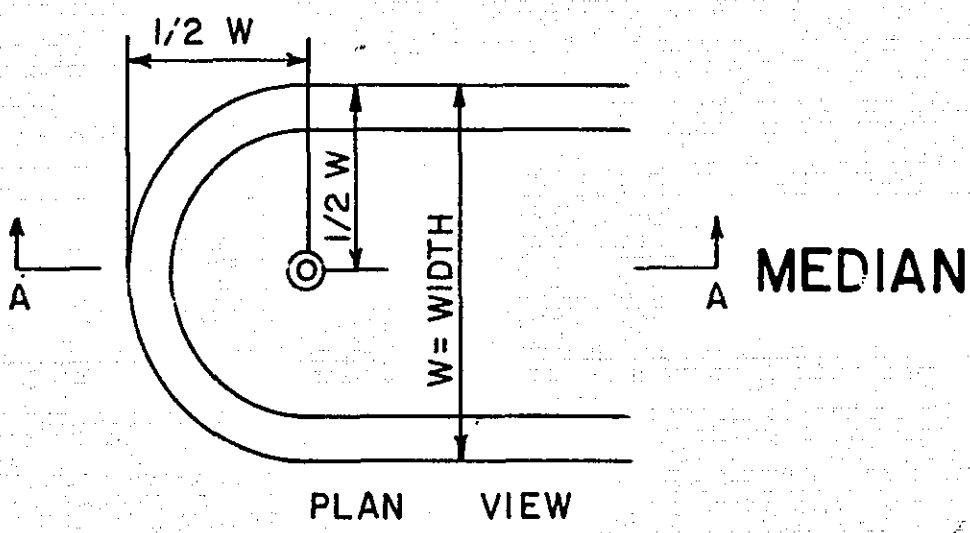
DRAINAGE CHART

STATION	LOCATION	NO.	TYPE	DESIGN	CONST. HEIGHT LIN. FT.	CASTING ASSEMBLY	CURB GR. PROFILE RT.	ELEVATION ORIGINAL GRATE OR RING	ELEVATION NEW GRATE OR RING	C.B. or M.H. INVERT	ADJUST CASTING ASSEMBLY	15" R.C.P.	18" R.C.P.	18" C.S.P.	REMARKS
2+99	RT. 62'	1	C.B.					939.68							O.K. LEAVE
4+10	RT. 20'	2	C.B.	M.H.		C	936.57	936.52		933.37					REPLACE CASTING
4+10	LT. 21'	3	C.B.	M.H.		C	936.86	936.61		933.00					REPLACE CASTING
8+00	RT. 42'	4	M.H.							932.92					O.K. LEAVE
8+08	RT. 47'	5	M.H.					930.79							O.K. LEAVE
8+06	LT. 20'	6	M.H.				930.48	930.94	930.71	822.84	I				
8+03	LT. 49'	7	M.H.					930.93							O.K. LEAVE
8+22	RT. 63'	8	C.B.					930.17							REMOVE
8+24	RT. 49'	9	M.H.				930.27	930.35							O.K. LEAVE
8+44	LT. 37'	10	M.H.				930.18	930.54							O.K. LEAVE
8+45	LT. 1'	11	M.H.					930.52	930.75		I				
8+68	RT. 50'	12	C.B.					930.06		925.26					REMOVE
9+59	RT. 31'	13	C.B.							926.15					REMOVE
9+59	LT. 20'	14	C.B.							925.65					REMOVE
9+59	LT. 49'	15	M.H.					930.20							O.K. LEAVE
11+55	LT. 59'	16	M.H.												O.K. LEAVE
11+57	RT. 38'	17	M.H.	BELL TELE.				931.09							O.K. LEAVE
11+75	RT. 1'	18	M.H.					930.95	931.20		I				
4+10	RT. 27.05'	19	C.B.	R.C.-2	3.7	B	936.31	937.22	934.14	933.30			5		
4+10	LT. 34.88'	20	C.B.	R.C.-2	3.7	B	937.35	937.00	933.10	926.26			11		
7+82	LT. 35'	21	C.B.	R.C.-2	4.5	B	929.32	931.08	926.82	925.76			30		TO M.H. 6 AT 926.6
8+22	RT. 70'±	22	C.B.	R.C.-2	4.5±	B	930.67	930.17	930.00	925.24			8		CONNECT TO EXISTING PIPE
3+36	LT. 40'	26	M.H.	A or F	5.9	C	930.80	940.95	935.11	925.27				336	
8+70	RT. 49'±	23	C.B.	R.C.-2	5.2	B	930.17	930.55	925.22	925.22			2		
9+59	RT. 33.5'	24	C.B.	R.C.-2	3.7	B	930.17	930.08	926.82	925.76			2		
9+59	LT. 33'	25	C.B.	R.C.-2	3.9	B	929.87	929.85	925.75	925.75			14		
3+36±	LT. 78'	27	C.B.	R.C.-2	3.5	B	930.0	939.0	935.30	925.22			38'		
3+50	LT. 102'±	28	C.B.	R.C.-2	3.2	B	939.09	939.0	935.50	925.22			30'		

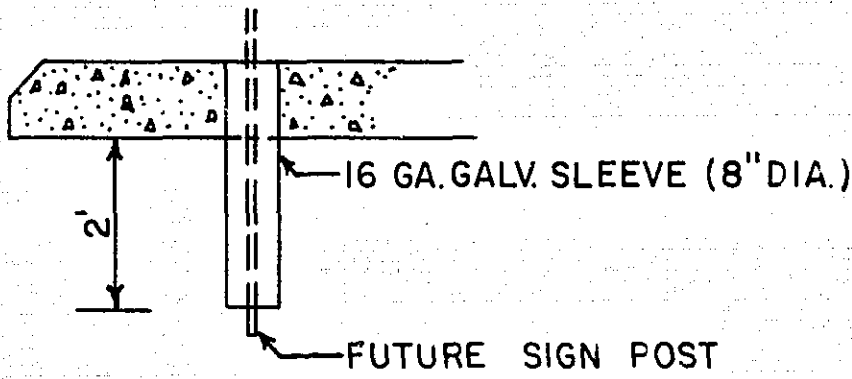
STATEMENT OF ESTIMATED QUANTITIES				
ITEM NO.	ITEM	UNIT	ESTIMATED QUANTITIES	FINAL ESTIMATED QUANTITIES
2021.501	MOBILIZATION	L.S.	1	
2104.501	REMOVE CONCRETE CURB & GUTTER	L.F.	2755	
2104.503	REMOVE CONCRETE SIDEWALK	S.F.	210	
2104.509	REMOVE CATCH BASINS	EA.	4	
2104.521	SALVAGE FENCE	L.F.	329	
2105.501	COMMON EXCAVATION	C.Y.	7731	
2130.501	WATER	(M) GAL.	25	
2211.501	AGGREGATE BASE, CLASS 5	TON	1583	
2211.501	AGGREGATE BASE, CLASS 4	TON	2681	
2331.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	18	
2331.514	BASE COURSE MIXTURE	TON	398	
2341.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	45	
2341.508	WEARING COURSE MIXTURE	TON	353	
2341.510	BINDER COURSE MIXTURE	TON	409	
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL.	306	
2358.501	BITUMINOUS MATERIAL FOR PRIME COAT	GAL.	996	
2501.511	18" C.S. PIPE CULVERT, 16 GAUGE	L.F.	336	
2503.511	15" R.C. PIPE SEWER CLASS IV	L.F.	68	
2503.511	18" R.C. PIPE SEWER CLASS II	L.F.	72	
2506.508	CONSTRUCT MANHOLE, DESIGN A or F	EA.	1	
2506.509	CONSTRUCT CATCH BASINS DESIGN RC-2	EA.	9	
2506.516	CASTING ASSEMBLIES	EA.	2	
2506.521	INSTALL CASTINGS	EA.	2	
2506.522	ADJUST FRAME & RING CASTING	EA.	3	
2521.501	4" CONCRETE SIDEWALK	S.F.	4392	
2531.501	CONCRETE CURB & GUTTER DESIGN B618	L.F.	5086	
2531.501	CONCRETE CURB & GUTTER DESIGN V	L.F.	100	
2535.501	BITUMINOUS CURB	L.F.	20	
2575.505	SODDING	S.Y.	3001	
2575.531	COMMERCIAL FERTILIZER ANALYSIS 12-12-12	TON	0.2	
2575.551	TOPSOIL BORROW	C.Y.	210	
504.679	ADJUST VALVE BOX	BOX.	8	
557.604	INSTALL CHAIN LINK FENCE	L.F.	329	
565.606	RELOCATE HANDHOLE	HANDHOLE	1	
565.610	REVISE SIGNAL SYSTEM	SYSTEM	1	
565.628	LOOP DETECTOR 8' x 10'	DETECTOR	2	



STANDARD DETAIL PLATES	
0002A	SPECIFICATIONS REFERENCE TO STANDARD PLATES
3000F	REINFORCED CONCRETE PIPE
3006A	GASKET JOINT FOR R.C. PIPE
4000G	MANHOLE OR CATCH BASIN
4005I	MANHOLE OR CATCH BASIN
4010D	CONCRETE SHORT CONE & ADJUSTING RINGS
4101B	RING CASTING FOR MANHOLES OR CATCH BASIN
4110D	COVER CASTING FOR MANHOLE
4180F	MANHOLE STEP CASTING
7035H	CONCRETE WALK & CURB RETURNS AT ENTRANCES
7036A	PEDESTRIAN CURB RAMP
7065C	BITUMINOUS CURB
7100D	CONCRETE CURB & GUTTERS
7102F	CONCRETE CURB & GUTTERS
8000F	STANDARD BARRICADES
8130B	SAW CUT LOOP DETECTORS
9322E	CHAIN LINK FENCE



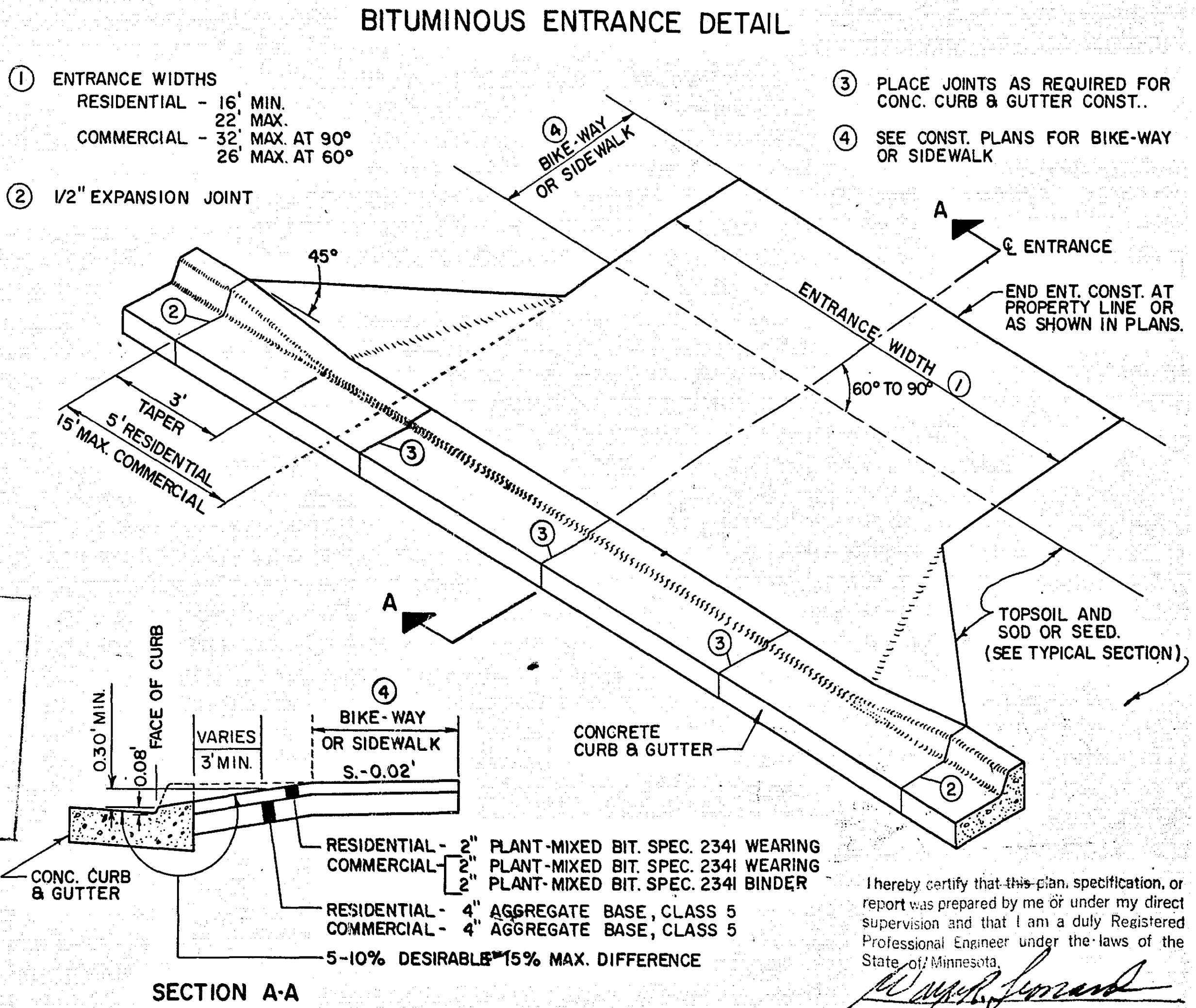
PLAN VIEW

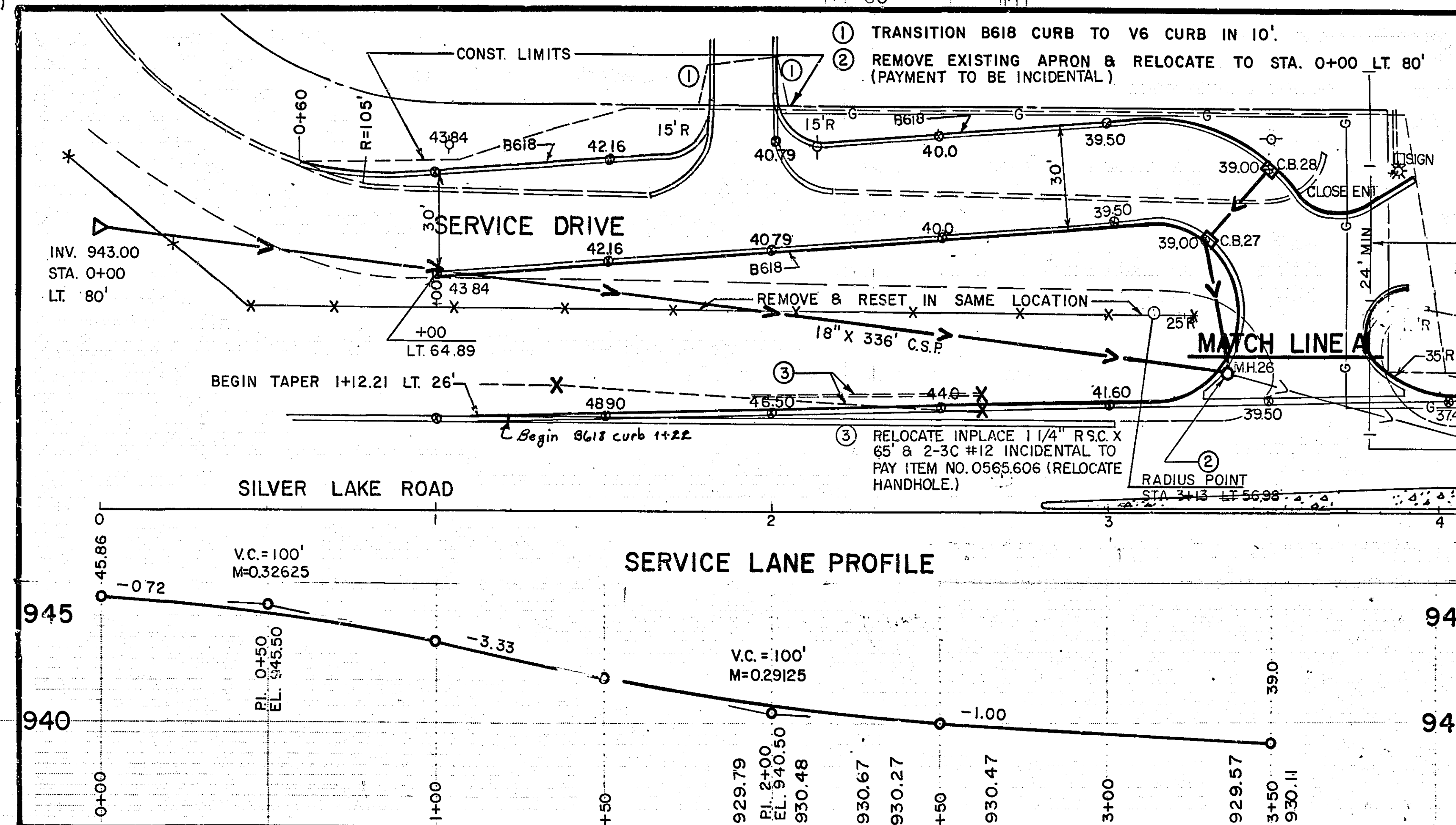
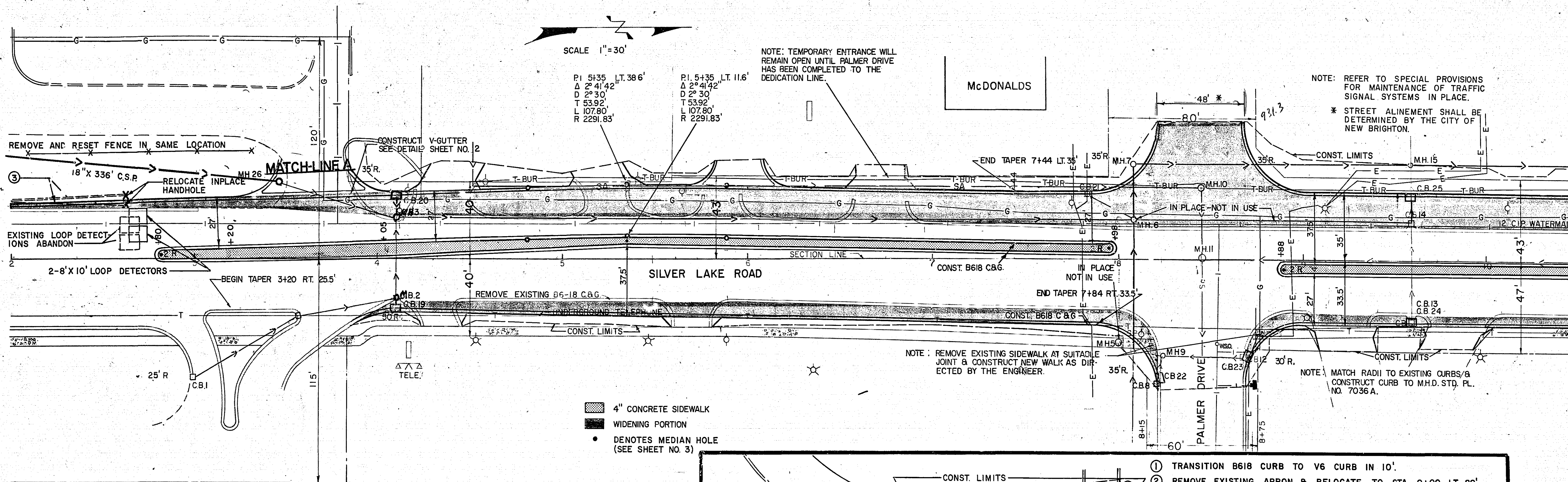


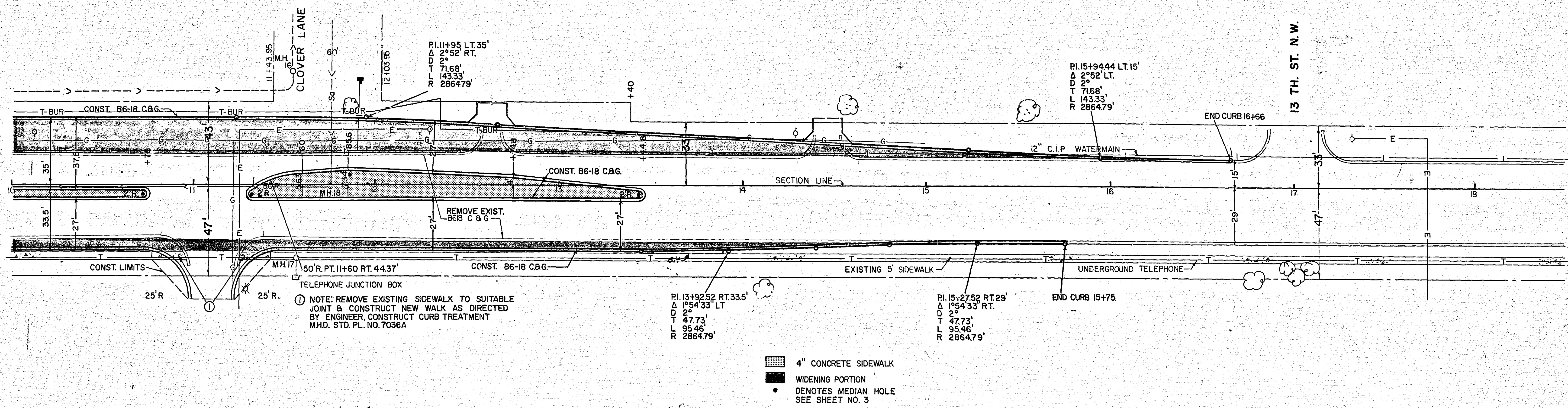
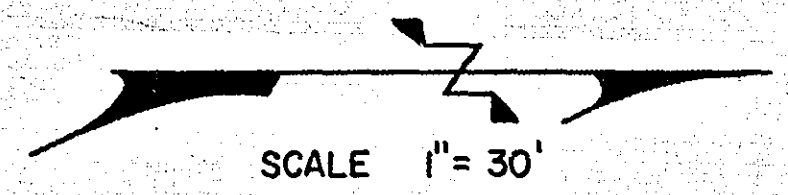
NOTES:

- PAYMENT FOR SLEEVE TO BE INCIDENTAL AND INCLUDED IN ITEM NO. 2521.501 CONCRETE WALK.
- WHERE CONCRETE MEDIAN IS PLACED ON EXISTING CONCRETE PAVEMENT, THE EXISTING PAVEMENT SHALL BE BROKEN OUT TO ACCOMMODATE SLEEVE, PAYMENT SHALL BE INCIDENTAL TO ITEM NO. 2521.501
- DENOTES PLACEMENT OF MEDIAN HOLES ON CONSTRUCTION PLAN.
- LOCATIONS SHALL BE VERIFIED BY THE TRAFFIC ENGINEER PRIOR TO MEDIAN PLACEMENT.

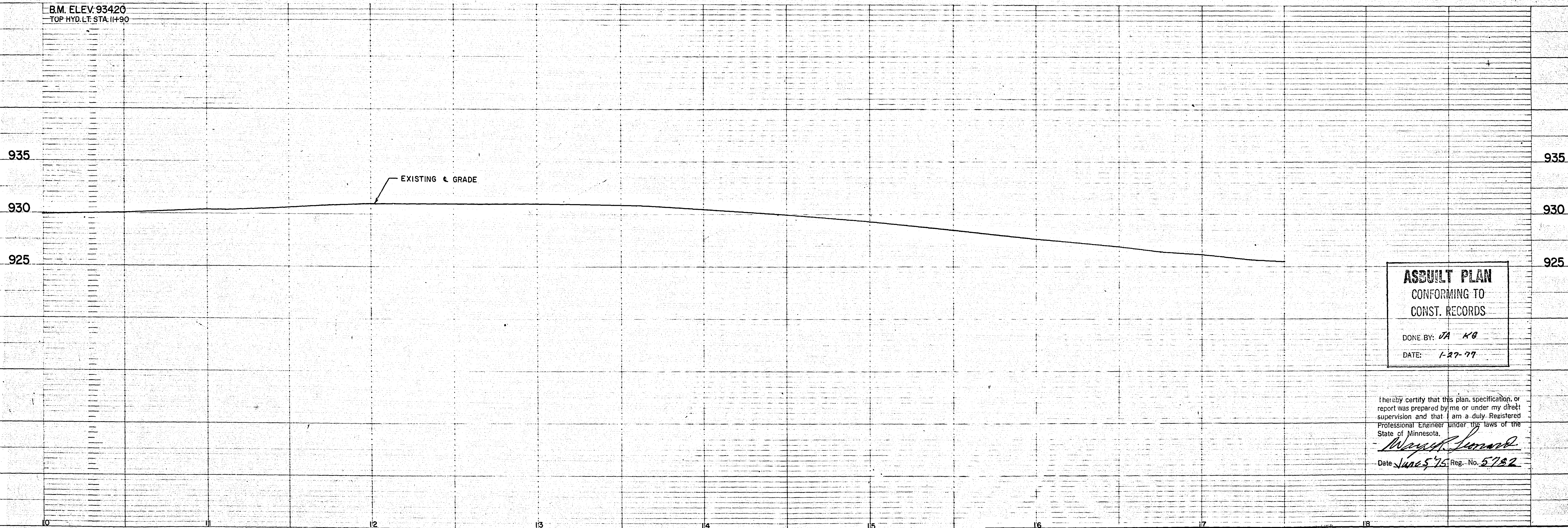
ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *JA KG*
DATE: *1-27-77*







B.M. ELEV. 934.20
TOP HYD. LT. STA. 11+90



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS

DONE BY: JA AB
DATE: 1-27-77

I hereby certify that this plan, specification, or report 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.
Wayne J. Leonard
Date: Jan 25 '75 Reg. No. 5782

EXCAVATION EMBANKMENT
SUB TOTALS CU. YDS. SUB TOTALS

Fed. Proj. No.

137 163

SILVER LAKE ROAD

2+00

46.50

SERVICE DRIVE

RAISE FENCE

3:1

CONST. 18" C.S.P.

137 169

±50

46.68

3:1

FE

134 210

±50

51.18

3:1

60 217

SILVER LAKE ROAD

±50

53.48

RAISE FENCE

3:1

SERVICE DRIVE

S=0.02

0 122

0+00

956.13

SERVICE DRIVE

4' SHOULDER

BIT.

5:1

FE.

CONST. 18" C.S.P.

I hereby certify that this plan, specification, or report 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.
Wm. H. Loomis
Date June 5, 1955 Reg. No. 5702

S.A.P. NO. 62-644-08

MICROFILMED
RAMSEY CO. ENGR. Sheet No. 6 of 18 Sheets

20-109

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

Fed. Proj. No.

STATION-ELEVATION

2

48 0

ENT. LT.

+70 38.67

292 13

+50 39.59

256 113

3+00 41.79

158 197

2+50 943.99

I hereby certify that this plan, specification, or report 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: June 5, 1955 Reg. No. 5722

MICROFILMED
RAMSEY CO. ENGR.

S.A.P. NO. 62-644-08

Sheet No. 7 of 18 Sheets

20-109

FUNCTIONAL CROSS SECTION - OPEN DOTTED
R. A. ROSS CO. - MINNEAPOLIS 31, PAUL

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

Fed. Proj. No. 25 XPK

77 31

SEE X-SECTION SHEET NO. 7

4+00 237.5

3+50 336

42 48

SEE X-SECTION SHEET NO. 7

3+00 418

41 57

SEE X-SECTION SHEET NO. 7

2+50 440

32 44

SEE X-SECTION SHEET NO. 6

2+00 946.5

I hereby certify that this plan, specification, or report 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.

Wendell J. Somak
Date June 5, 1955 Reg. No. 5782

S.A.P. NO.

62-644-08

MICROFILMED
RAMSEY CO. ENGR.

Sheet No. 8 of 18 Sheets

20-109

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

Fed. Proj. No.

5150 9341

93 30

ENT

5436 344

219 100

5700 349

314 134

4760 359

90 32

ENT

4137 9363

ENT

157 56

Hereby certify that this plan, specification or report 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.
Michael J. Donahoe
Date June 5 '75 Reg. No. 57822

S.A.P. NO. 62-644-08

MICROFILMED
RAMSEY CO. ENGINEERS

Sheet No. 9 of 18 Sheets

20-109

EXCAVATION EMBANKMENT
SUB TOTALS CU. YDS. SUB TOTALS

Fed. Proj. No.

8400 9309

175 59

7450 912

156 51

7400 919

81 25

775 922

79 24

7450 926

155 48

6400 933

ENT

91 27

5173 9338

ENT

117 30

I hereby certify that this plan, specification, or report 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.
Walter J. Leland
Date June 5, 1955 Reg. No. 5782

S. A. P. NO. 62-644-08

MICROFILMED
RAMSEY CO. ENGINEERS

Sheet No. 10 of 18 Sheets

20-109

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

Fed. Proj. No.

176 110

9+61 3295

241 157

9+20 3000

123 79

7'4" depth
Extra
28

9+00 3011

227 106

8'4" depth
Extra
9+00 = 8+80
98

9+68 303

187 61

9+45 306

194 65

BLACKTOP 8+30
Abrupt Section
135

8+20 9307 ENTRANCE

112 40

Extra Subject
130

I hereby certify that this plan, specification, or report 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.

W. J. J. J. J.
Date June 5, 1952 No. 5782

S.A.P. NO. 62-644-08

MICROFILMED
RAMSEY CO. ENGINEERS

Sheet No. 11 of 18 Sheets

20-109

EXCAVATION EMBANKMENT
SUB TOTALS CU. YDS. SUB TOTALS

Fed. Proj. No.

272 193

11740 9306

422

112

340 253

11711 304

404

647

170 123

11700 304

420

652

555 384

10450 301

294

10490 ABRUPT SECTION
SAME AS 10450

44

310 224

10400 299

114

50

113 74

9485 9299

11

212

I hereby certify that this plan, specification, or
report 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.
Walter J. Lamm
Date June 5, 75 Reg. No. 5782

S.A.P. NO. 62-644-08

MICROFILMED
RAMSEY CO. ENGR. Sheet No. 12 of 18 Sheets

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

Fed. Proj. No.

73 25

50 22

108 66

286 186

576 365

210 136

13+60 9308

129 310

13+00 310

14+2 310

12+00 310

11+75 9309

I hereby certify that this plan, specification, or report 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.

William R. Thomas
Date June 5, 75 Reg. No. 5180

MICROFILMED
RANNEY CO. ENGR.

S.A.P. NO. 62-644-08

Sheet No. 13 of 18 Sheets

20-109

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

Fed. Proj. No.

14 4

16+50 926.9

16+00 277

15+50 285

32 10

15+00 293

101 32

14+50 300

110 33

14+00 930.5

I hereby certify that this plan, specification, or
report 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.

Michael J. Linn
Date June 5, 75 Reg. No. 5181

MICROFILMED
RAMSEY CO. ENGR.

S.A.P. NO. 62-644-08

Sheet No. 14 of 18 Sheets

20-109

EXCAVATION EMBANKMENT

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

18100 9247

Fed. Proj. No.

150 255

130 257

115 259

17100 262

188 263

16175 9265

I hereby certify that this plan, specification or report 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.

Wayne K. Leonard
Date June 5, 1955 Reg. No. 5722

MICROFILMED
RAMSEY CO. ENGR.

S.A.P. NO. 62-644-08

Sheet No. 15 of 18 Sheets

20-109

0 10 20 30 40
SCALE IN FEET

1. LOOP DETECTOR LOCATIONS SHALL BE VERIFIED IN THE FIELD BY TRAFFIC ENGINEER PRIOR TO INSTALLATION.
2. SUFFICIENT 2½ #14 CABLE IS COILED IN HAND- HOLES 2 AND 11 FOR EXTENSION TO LOOP DETECTORS DA1-1 AND DA2-1.
3. ALL LOOP DETECTORS SHALL BE SPLICED TO INPLACE CABLES
4. EXISTING SIGNAL SYSTEM CONSTRUCTED UNDER CO. PROJECT NO. 1974-44-S.
(SEE SHEET NO'S. 17 AND 18 .
5. LOOP DETECTORS SHALL BE SAWCUT INTO FINAL SURFACE ONLY.

LEGEND OF SYMBOLS

SIGNAL BASE No.	5
SIGNAL FACE No.	A2
CONTROLLER AND CABINET	
CONTROLLER AND CABINET-INPLACE	
HANDHOLE	
HANDHOLE-INPLACE	
RIGID STEEL CONDUIT (R.S.C.)	
RIGID STEEL CONDUIT (R.S.C.)-INPLACE	
SIGNAL FACE	
SIGNAL FACE WITH BACKGROUND SHIELD	
SIGNAL FACE-INPLACE	
PEDESTRIAN INDICATIONS	
PEDESTRIAN INDICATIONS-INPLACE	
PEDESTRIAN PUSH BUTTON ON PEDESTAL OR POLE	
PEDESTRIAN PUSH BUTTON STATION	
TRAFFIC SIGNAL PEDESTAL	
TRAFFIC SIGNAL PEDESTAL-INPLACE	
TRAFFIC SIGNAL POLE AND MAST ARM	
TRAFFIC SIGNAL POLE AND MAST ARM-INPLACE	
MAST ARM AND LUMINAIRE	
MAST ARM AND LUMINAIRE-INPLACE	
WOOD POLE	
WOOD POLE-INPLACE	
SOURCE OF POWER	

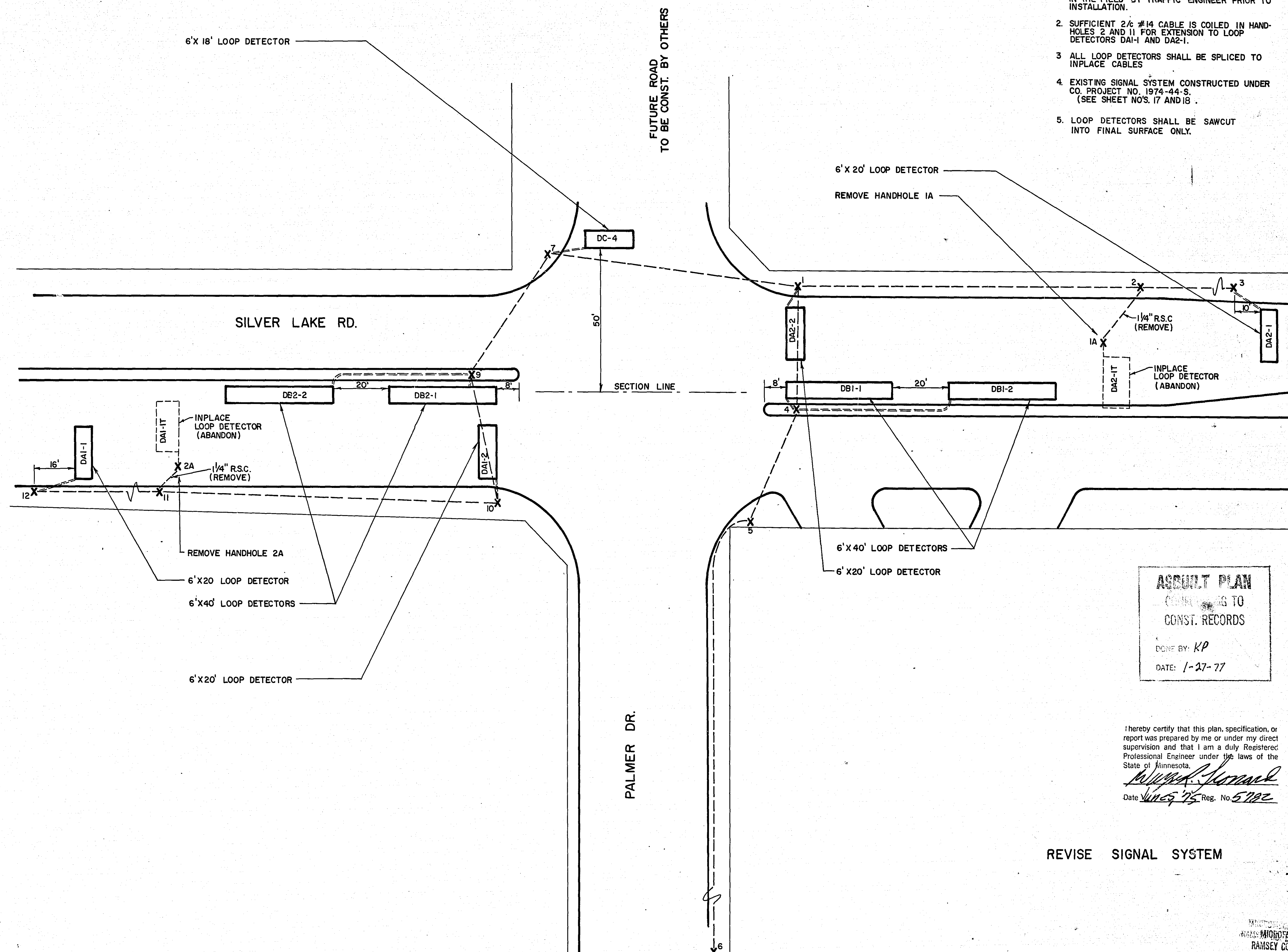
CONTROLLER PHASING DIAGRAM

SILVER LK. RD.

PALMER DR.

A₁, B₁, A₂, B₂

PEDESTRIAN PHASING AND PUSH BUTTON LAYOUT

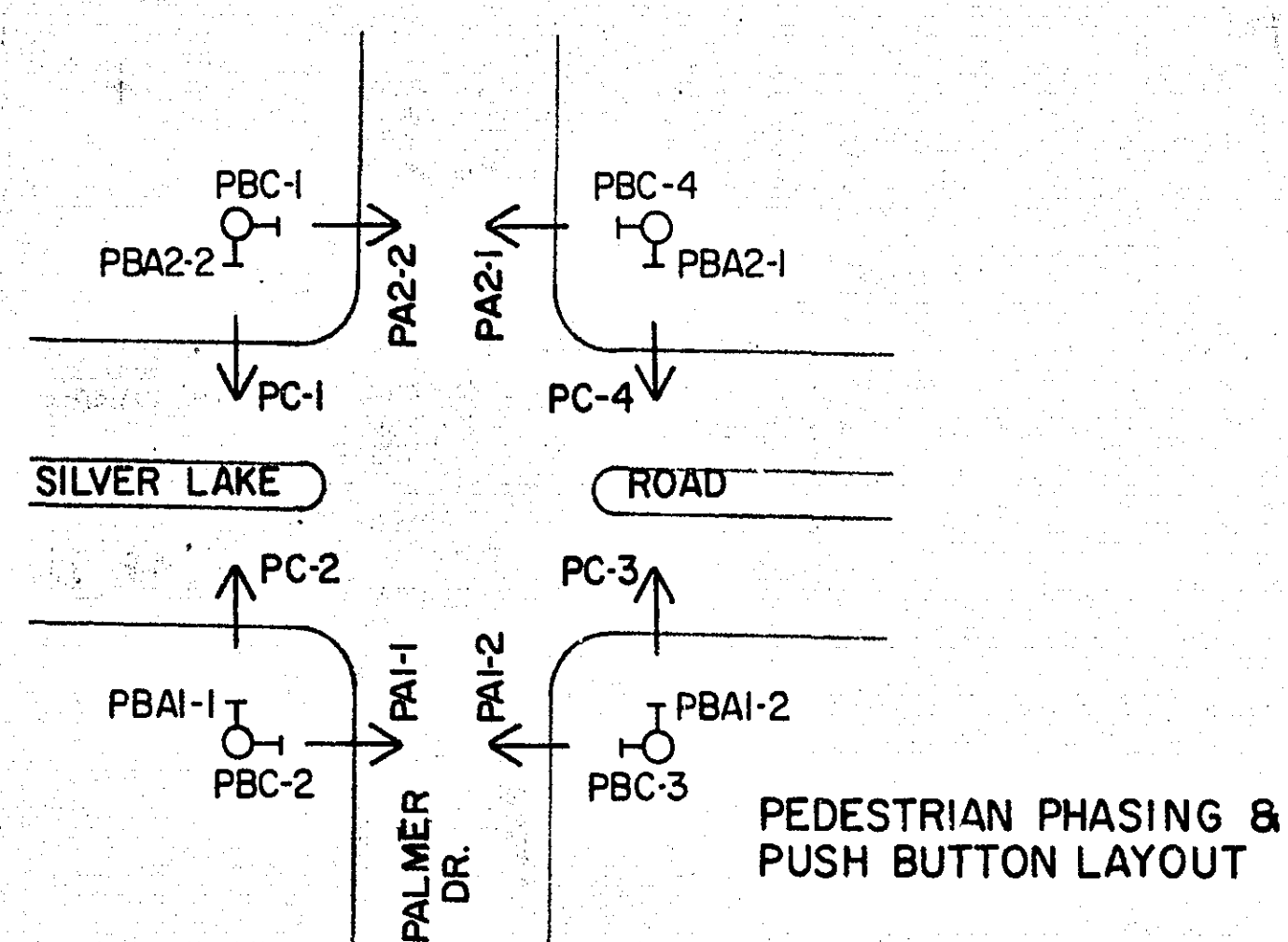
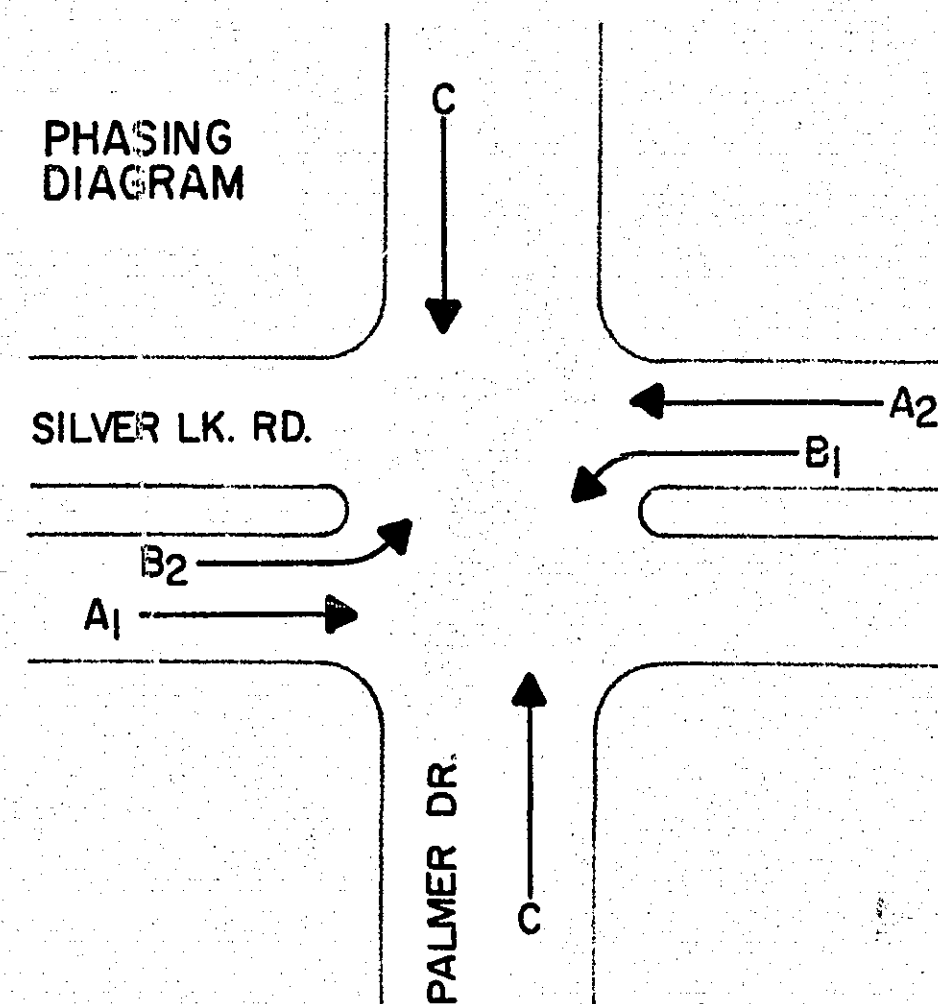
[illegible]

I hereby certify that this plan, specification, or report 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.

Walter A. Hornack

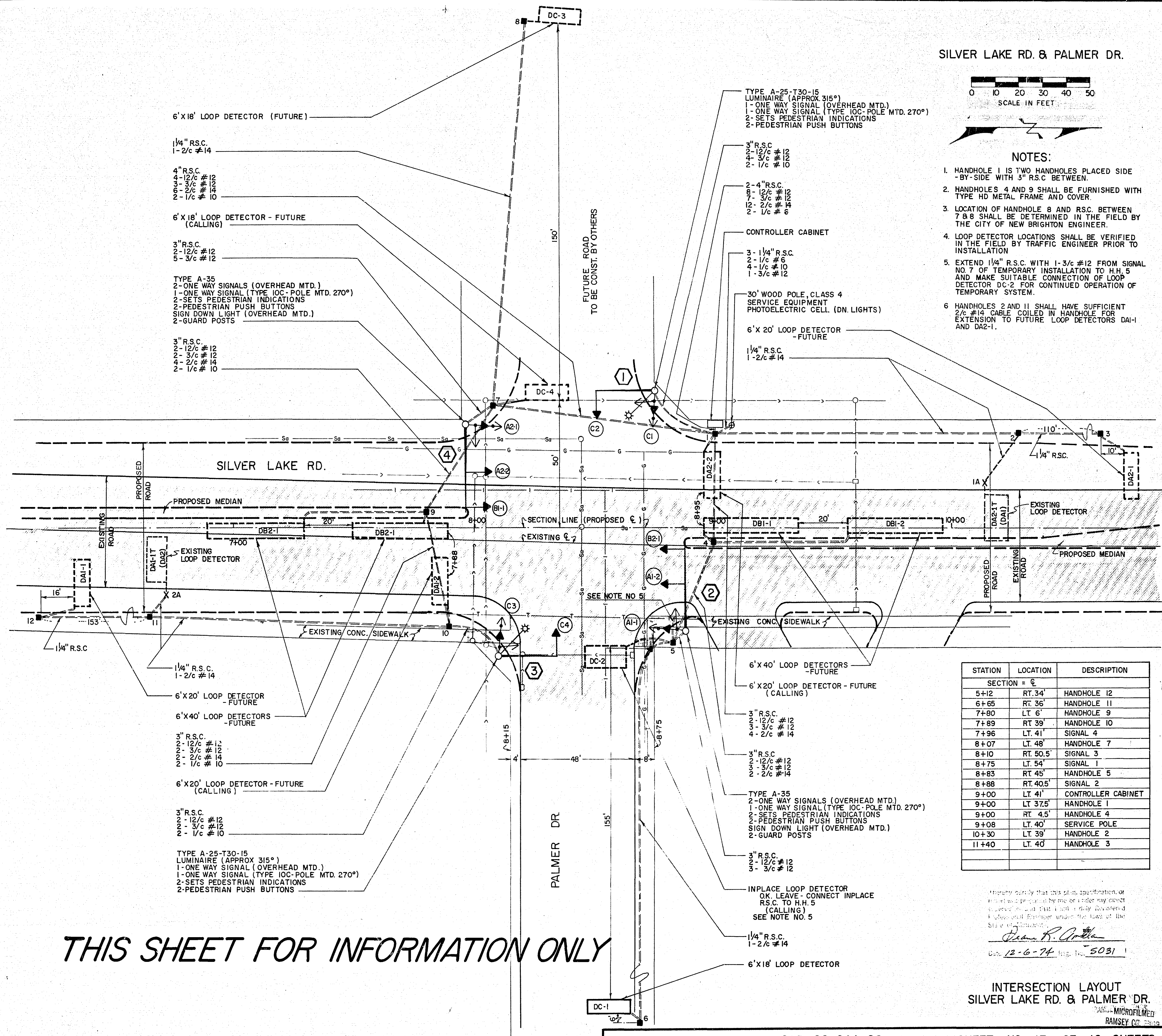
Date JUNE 5 75 Reg. No. 5792

LEGEND OF SYMBOLS	
	CONTROLLER
	PEDESTAL
	HANDHOLE (PULLBOX)
	RIGID STEEL CONDUIT (R.S.C.)
	MAST ARM & POLE
	SIGNAL FACE
	SIGNAL FACE WITH BACKGROUND SHIELD
	MAST ARM & LUMINAIRE
	PEDESTRIAN INDICATION
	SOURCE OF POWER (S.O.P.)
	HANDHOLE (INPLACE)

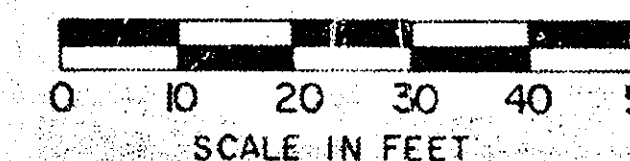


FACE	PHASE	FLASH	INDICATION SIZE					
			R	Y	G	←	↑	→
AI-1	A ₁	Y	12"	12"	12"	-	-	-
* AI-2	A ₁	Y	12"	12"	12"	-	-	-
A2-1	A ₂	Y	12"	12"	12"	-	-	-
* A2-2	A ₂	Y	12"	12"	12"	-	-	-
* BI-1	B ₁	R	12"	12"	-	12"	-	-
* B2-1	B ₂	R	12"	12"	-	12"	-	-
C1	C	R	12"	12"	12"	-	-	-
C2	C	R	12"	12"	12"	-	-	-
C3	C	R	12"	12"	12"	-	-	-
C4	C	R	12"	12"	12"	-	-	-

* SPECIAL SIGNAL FACES
(SEE SPECIAL PROVISIONS)



SILVER LAKE RD. & PALMER DR.



NOTES:

- HANDHOLE 1 IS TWO HANDHOLES PLACED SIDE-BY-SIDE WITH 3" R.S.C. BETWEEN.
- HANDHOLES 4 AND 9 SHALL BE FURNISHED WITH TYPE HD METAL FRAME AND COVER.
- LOCATION OF HANDHOLE 9 AND R.S.C. BETWEEN 7 & 8 SHALL BE DETERMINED IN THE FIELD BY THE CITY OF NEW BRIGHTON ENGINEER.
- LOOP DETECTOR LOCATIONS SHALL BE VERIFIED IN THE FIELD BY TRAFFIC ENGINEER PRIOR TO INSTALLATION.
- EXTEND 1/4" R.S.C. WITH 1-3/c #12 FROM SIGNAL NO. 7 OF TEMPORARY INSTALLATION TO H.H. 5 AND MAKE SUITABLE CONNECTION OF LOOP DETECTOR DC-2 FOR CONTINUED OPERATION OF TEMPORARY SYSTEM.
- HANDHOLES 2 AND 11 SHALL HAVE SUFFICIENT 2/c #14 CABLE COILED IN HANDHOLE FOR EXTENSION TO FUTURE LOOP DETECTORS DAI-1 AND DA2-1.

STATION	LOCATION	DESCRIPTION
SECTION = 6		
5+12	RT. 34'	HANDHOLE 12
6+65	RT. 36'	HANDHOLE 11
7+80	LT. 6'	HANDHOLE 9
7+89	RT. 39'	HANDHOLE 10
7+96	LT. 41'	SIGNAL 4
8+07	LT. 48'	HANDHOLE 7
8+10	RT. 50.5'	SIGNAL 3
8+75	LT. 54'	SIGNAL 1
8+83	RT. 45'	HANDHOLE 5
8+88	RT. 40.5'	SIGNAL 2
9+00	LT. 41'	CONTROLLER CABINET
9+00	LT. 37.5'	HANDHOLE 1
9+00	RT. 45'	HANDHOLE 4
9+08	LT. 40'	SERVICE POLE
10+30	LT. 39'	HANDHOLE 2
11+40	LT. 40'	HANDHOLE 3

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Dean R. Arnold
Date 12-6-74 Reg. No. 5031

INTERSECTION LAYOUT
SILVER LAKE RD. & PALMER DR.

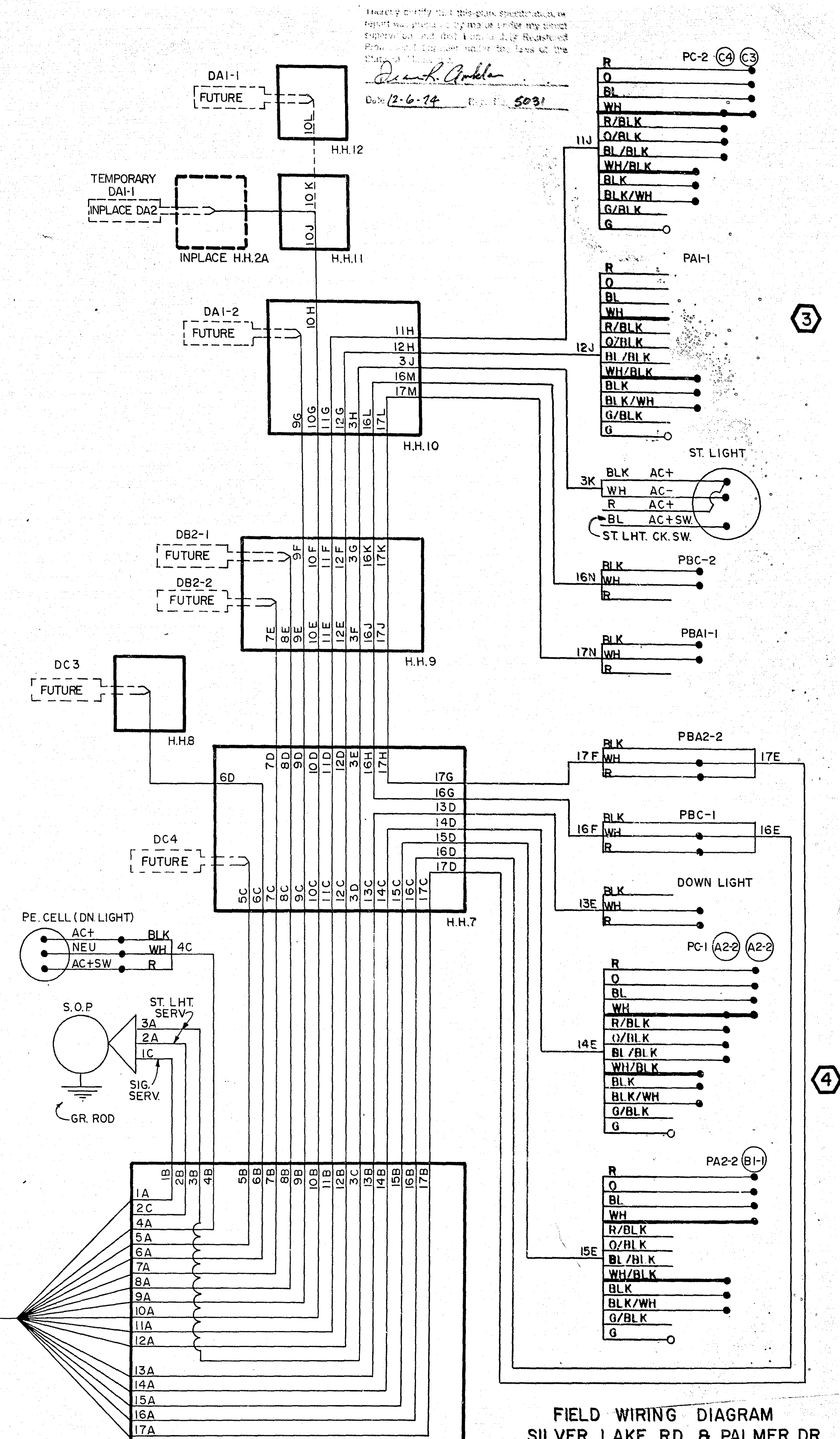
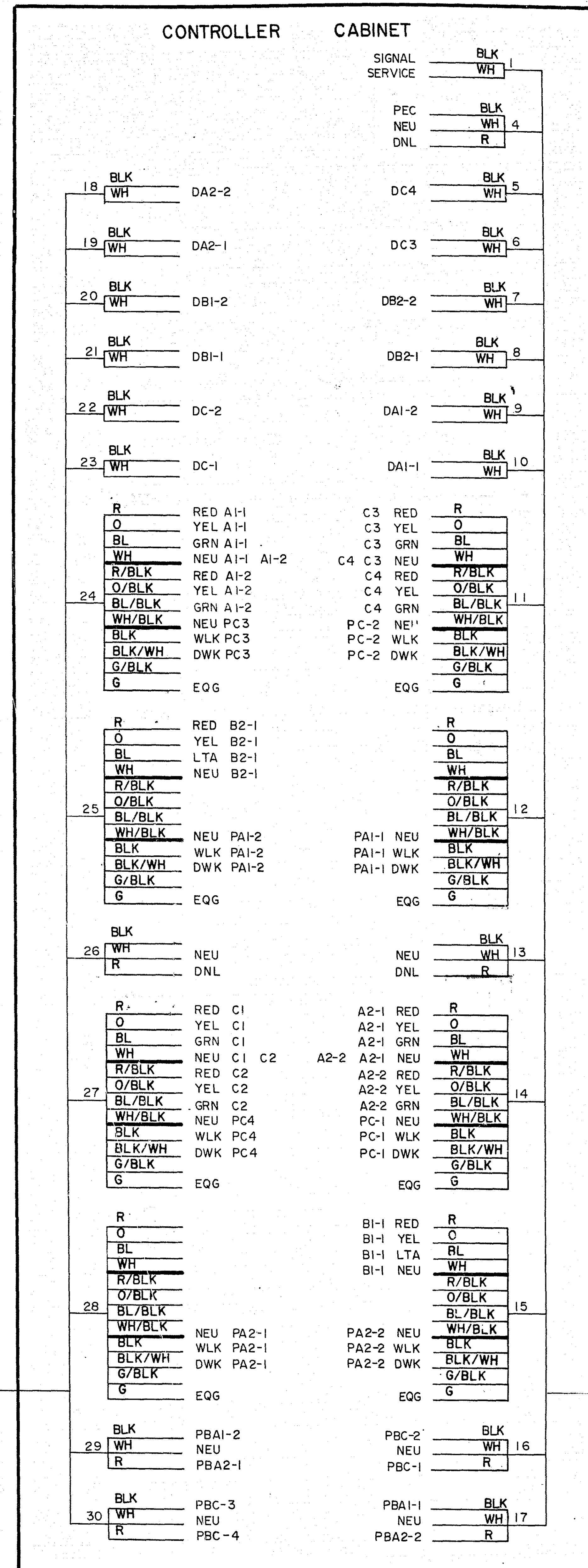
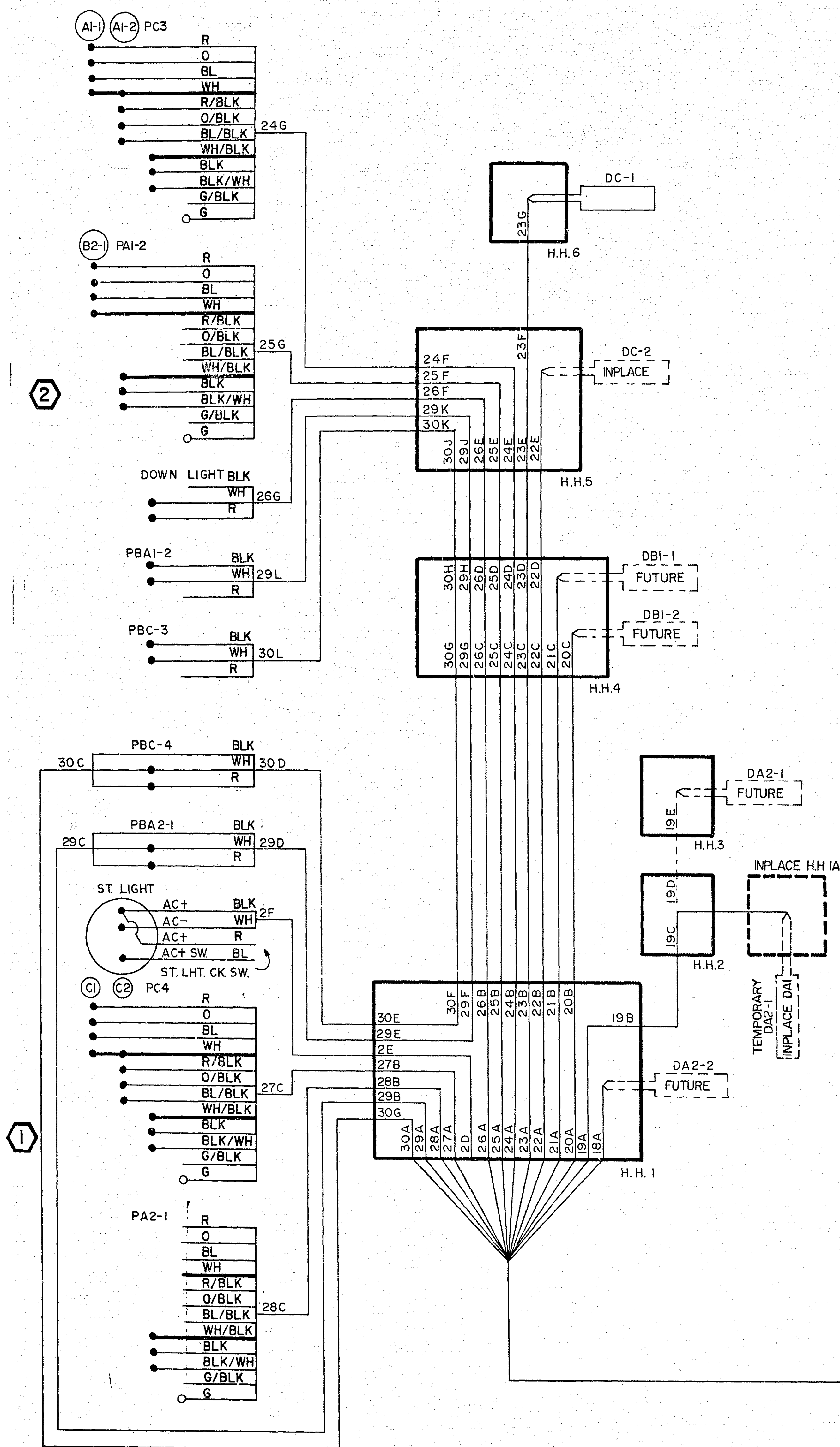
RAMSEY CO. 2302

SAP 62-644-08

SHEET NO. 17 OF 18 SHEETS

20-109

THIS SHEET FOR INFORMATION ONLY



FIELD WIRING DIAGRAM
SILVER LAKE RD. & PALMER DR.

~~THIS SHEET FOR INFORMATION ONLY~~