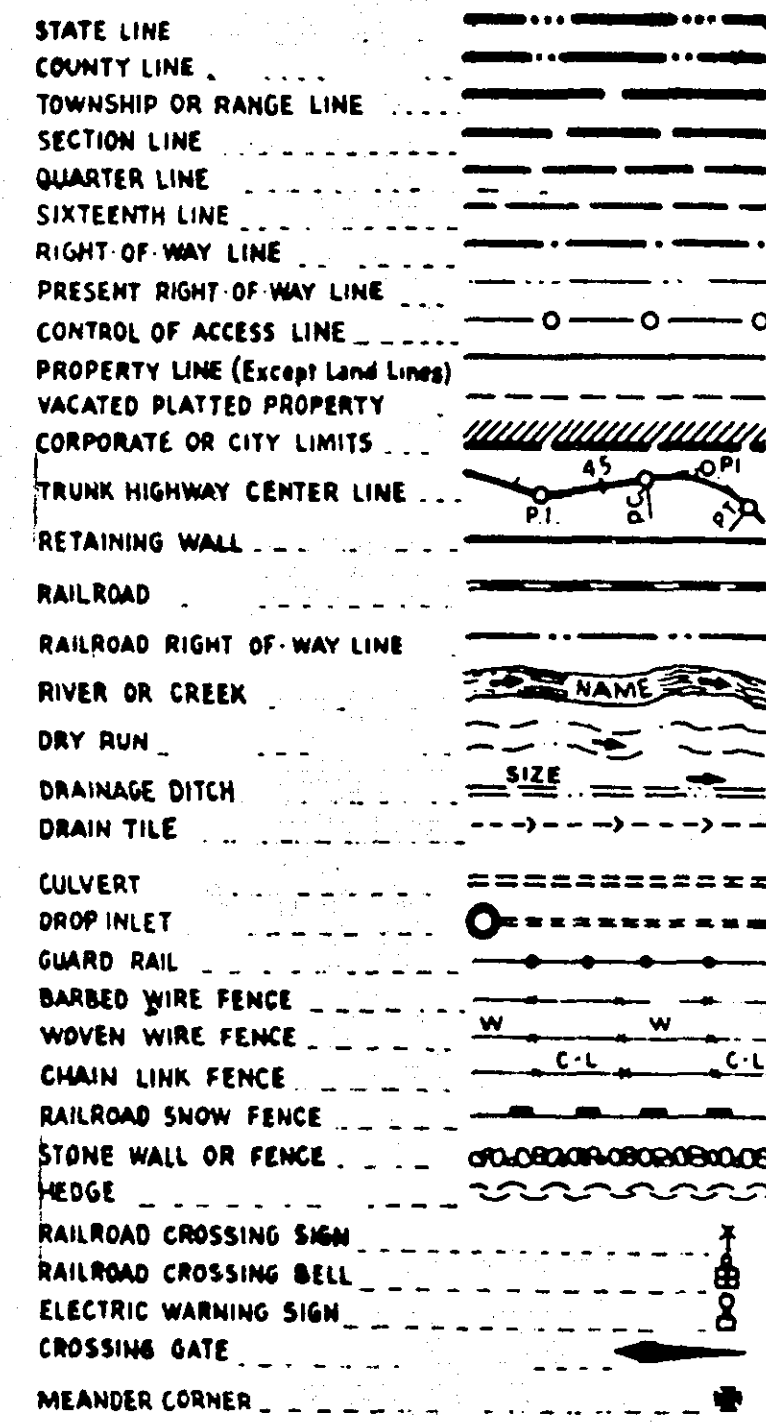
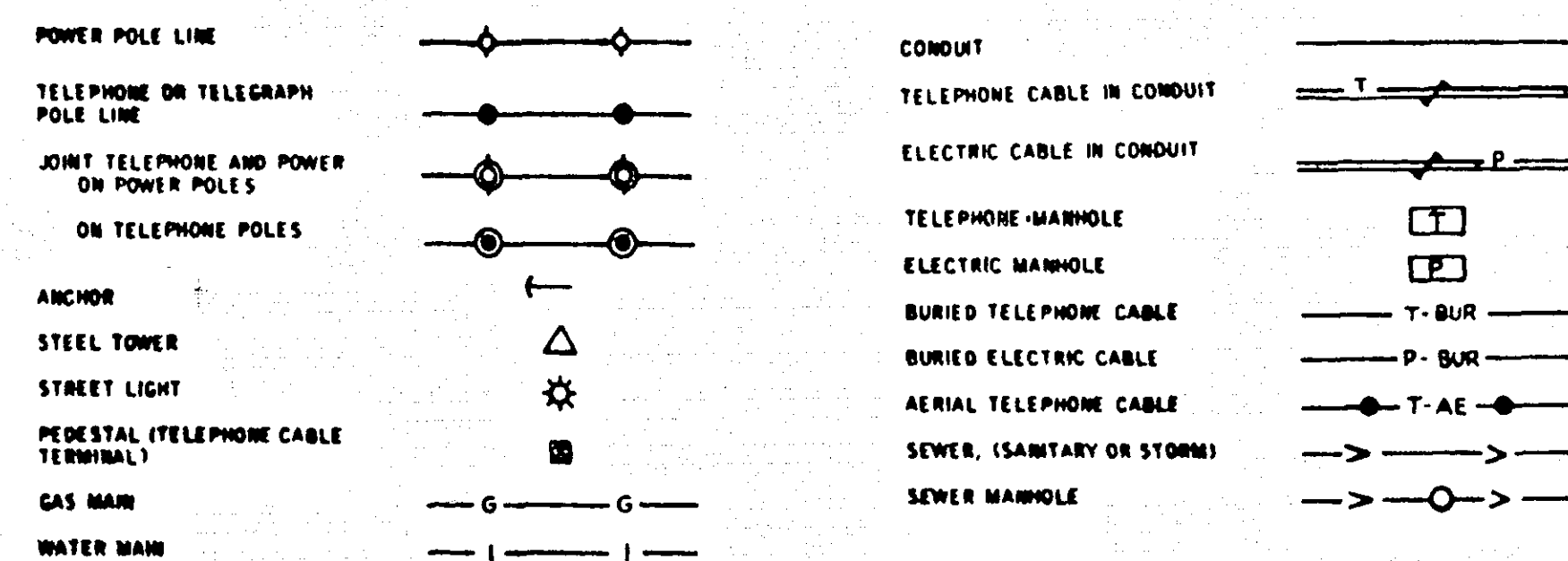


PLANS SYMBOLS



UTILITIES SYMBOLS



PIT DATA

PIT NO. _____ Located in _____
 PIT NO. _____ Located in _____

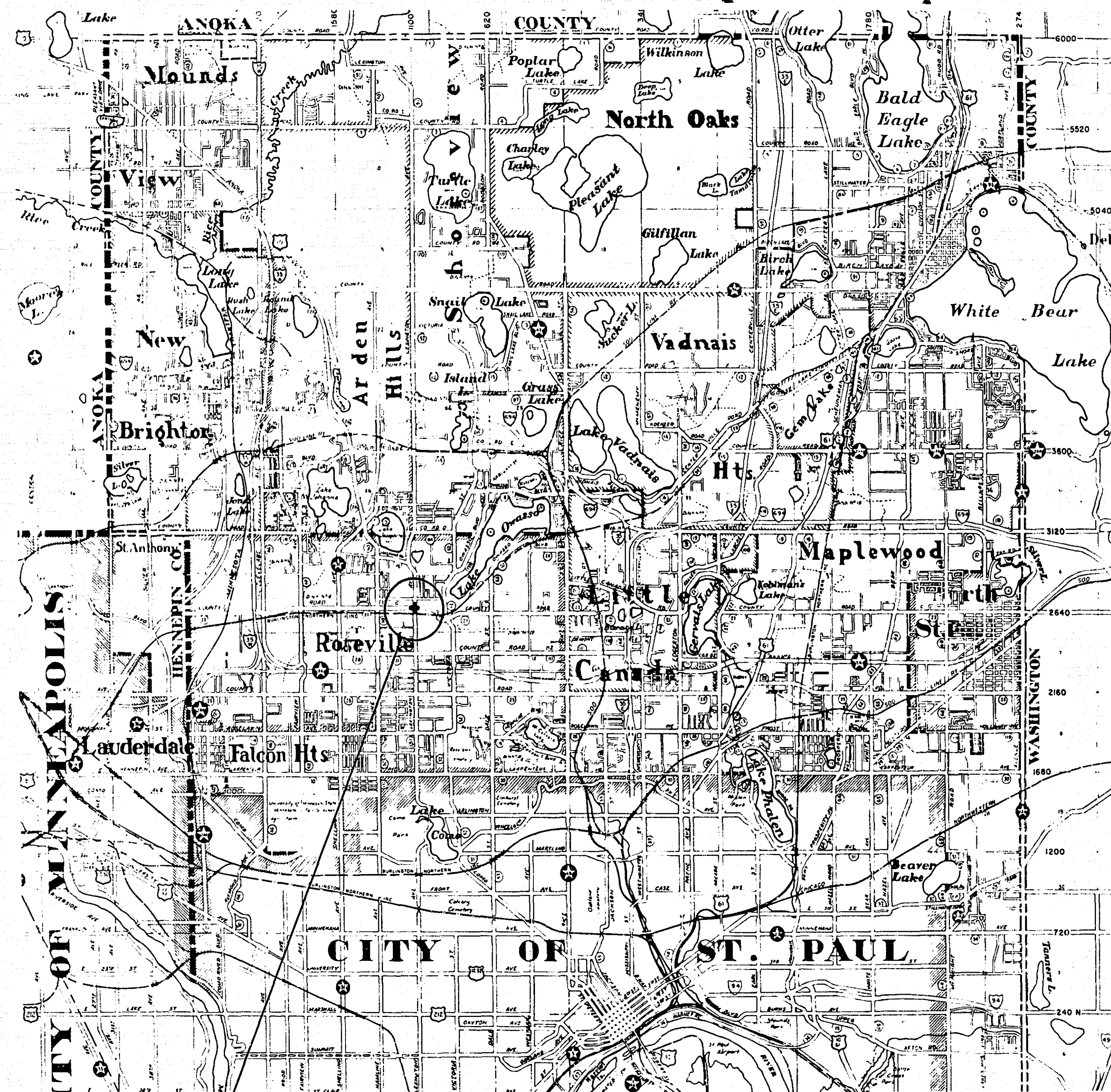
THE 1978 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION" SHALL GOVERN.

OFFICE OF COUNTY ENGINEER RAMSEY COUNTY

PLAN OF TRAFFIC CONTROL SYSTEM FOR THE INTERSECTION OF

LEXINGTON AVE. & COUNTY RD. C

S.A.P. 62-651-14 C.T.B.



INDEX

SHEET NO.	DESCRIPTION
1	TITLE
2	DETAILS & QUANTITIES
3	INTERSECTION LAYOUT
4-5	FIELD WIRING DIAGRAM
6	INFORMATION

RECOMMENDED FOR APPROVAL *DEB* DATE 11-1-78
 ENV. ENGR.
 RECOMMENDED FOR APPROVAL *max* DATE 11-1-78
 MAINT. ENGR.
 RECOMMENDED FOR APPROVAL *gab* DATE 11-1-78
 CONST. ENGR.
 RECOMMENDED FOR APPROVAL *LKE* DATE 11-1-78
 DESIGN ENGR.
 RECOMMENDED FOR APPROVAL *gab* DATE 11-1-78
 CIVIL ENGR.
 APPROVED *Robert J. Bath* DATE 11-6-78
 COORDINATING ENGR.

RECOMMENDED FOR APPROVAL *Paul J. Kuhn* DATE 11-1-78
 TRAFFIC ENGINEER
 RECOMMENDED FOR APPROVAL *Robert J. Bath* DATE 11-3-78
 COUNTY ENGINEER
 APPROVED *Robert J. Bath* DATE 4-10-79
 CHAIRMAN OF THE RAMSEY COUNTY BOARD
 APPROVED *James J. Benson* DATE _____
 MAYOR, CITY OF ROSEVILLE
 APPROVED _____ DATE _____

MINNESOTA STATE HIGHWAY DEPARTMENT
 RECOMMENDED FOR APPROVAL *Oliver P. Otfeldahl* DATE 3-6-79
 DISTRICT STATE AID ENGINEER
 RECOMMENDED FOR APPROVAL *James J. Benson* DATE 2-4-79
 DISTRICT STATE AID ENGINEER
 APPROVAL *James J. Benson* DATE 3-1-79
 STATE AID ENGINEER

LEXINGTON AVE. & COUNTY RD. C
 S.A.P. NO. 62-651-14 C.T.B.

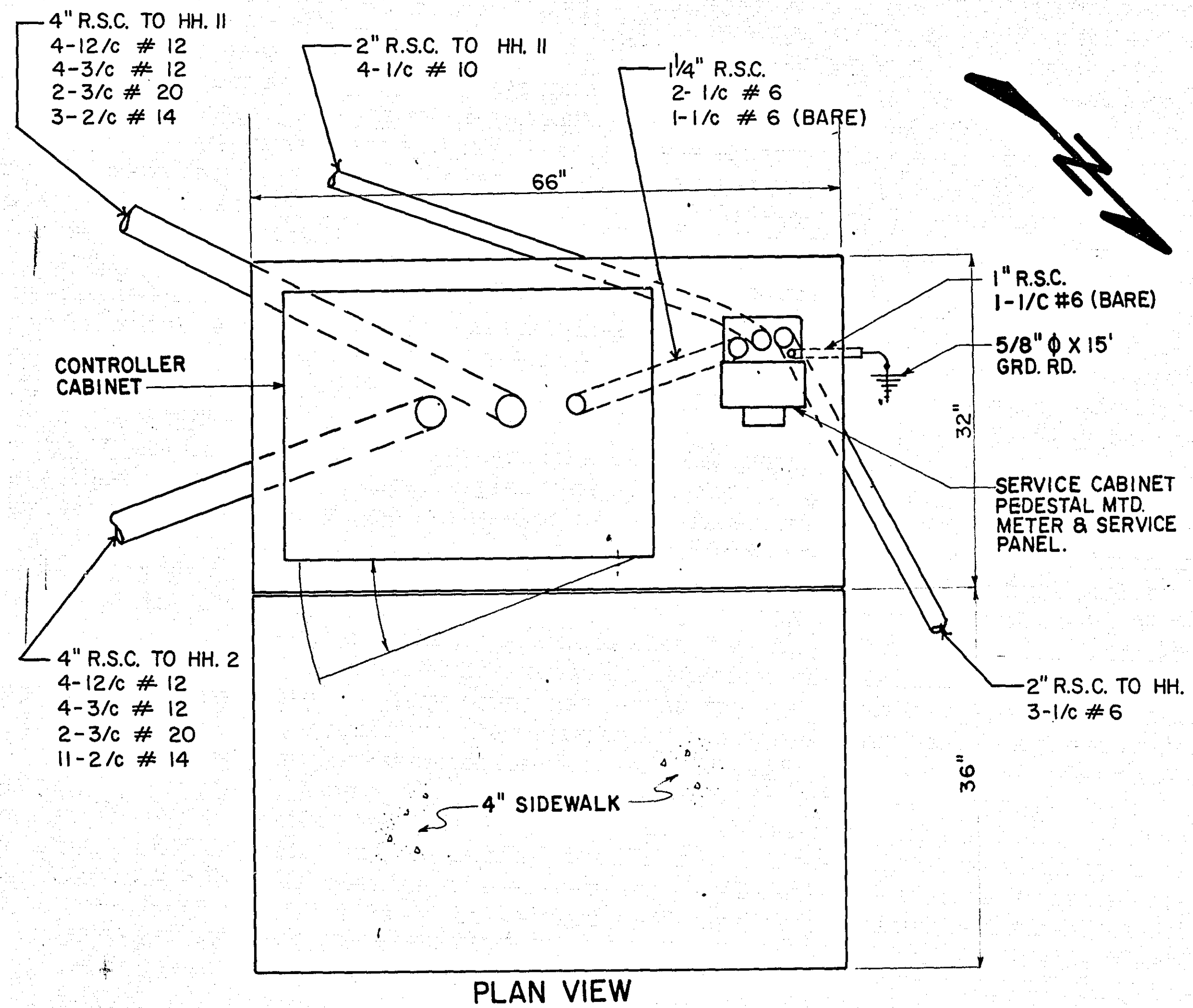
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Paul J. Kuhn
 Date 11-1-78 Reg. No. 12703

S.A.P. NO. 62-651-14 C.T.B.

Sheet No. 1 of 6 Sheets

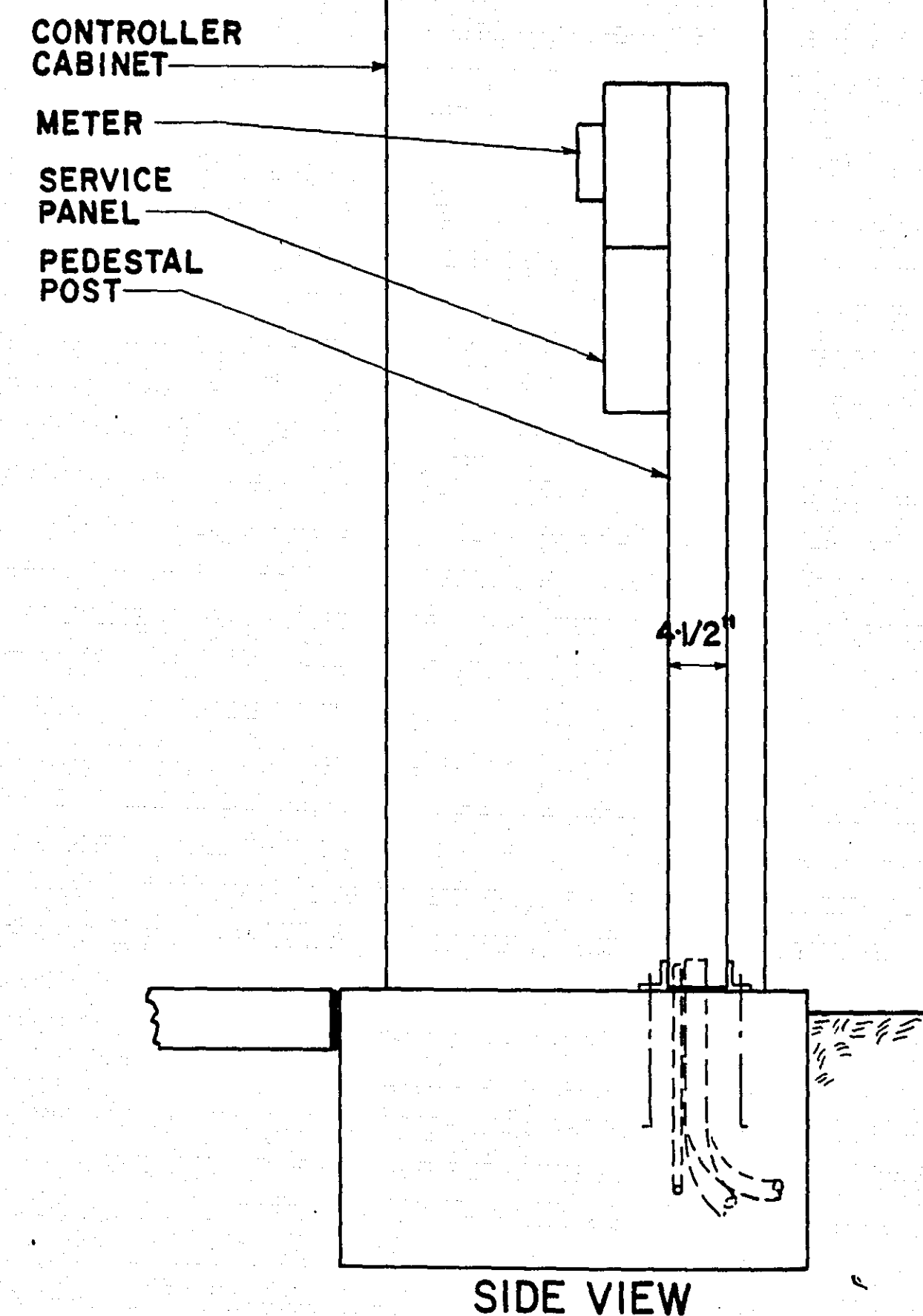
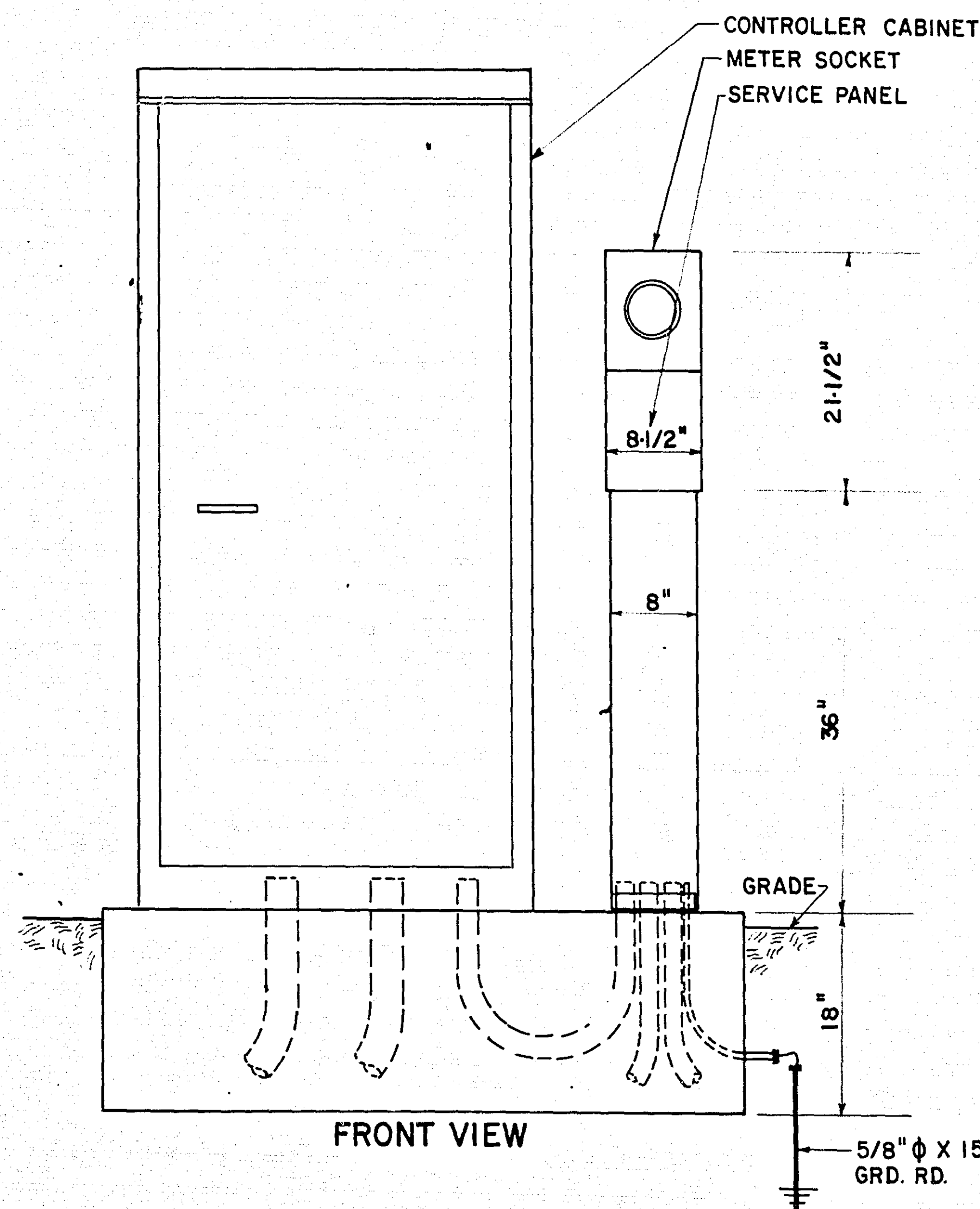
23-117

EQUIPMENT PAD DETAILS

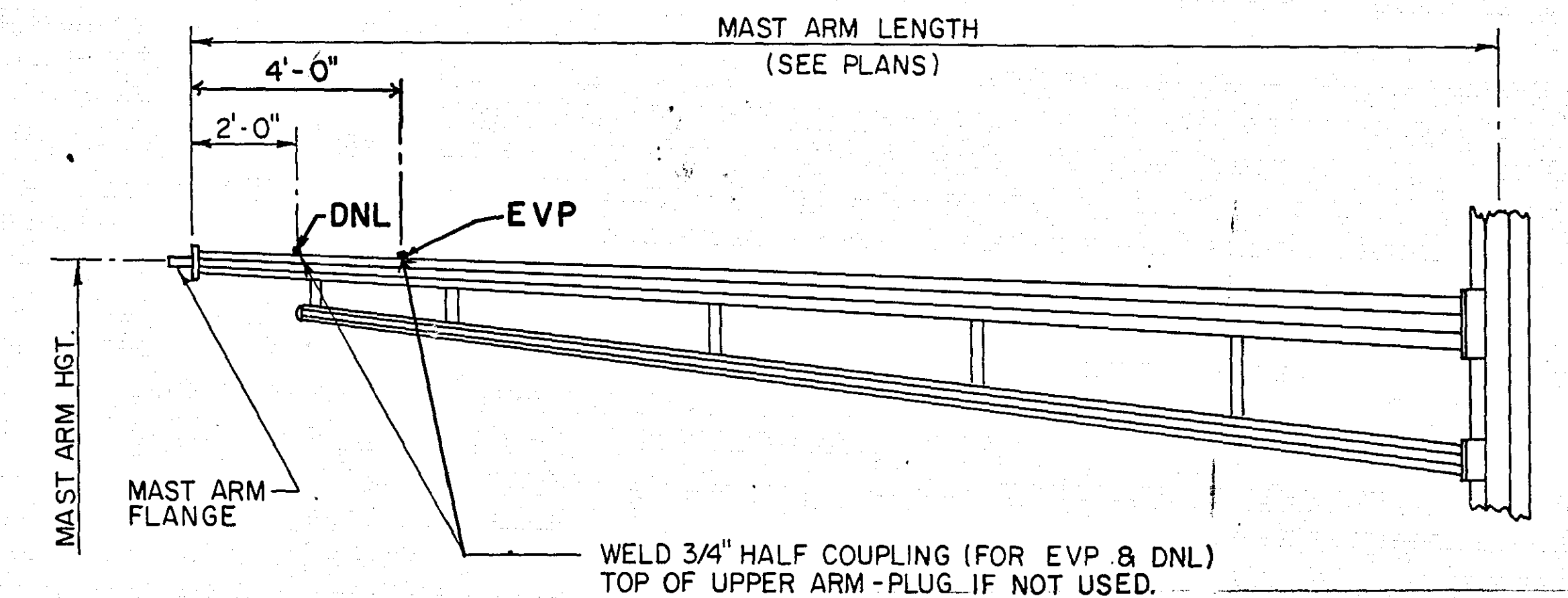


1. ANCHOR RODS, NUTS AND WASHERS PER MN/DOT 3385 OR APPROVED EQUAL SET AS RECOMMENDED BY CABINET MANUFACTURER (NUMBER, SIZE AND LENGTH OF ANCHOR RODS SHALL BE AS REQUIRED BY THE CABINET (MANUFACTURER).
2. UPPER PART OF FOUNDATION SHALL BE BEVELED OR CHAMFERED IN A NEAT MANNER AS DIRECTED BY THE ENGINEER IN THE FIELD.
3. TOP OF CONDUITS SHALL BE THREADED AND CAPPED AFTER INSTALLATION (UNTIL CABLES ARE INSTALLED) CONDUIT SHALL PROJECT A MINIMUM OF 2" ABOVE CONCRETE AND SHALL BE LOCATED INSIDE THE CABINET WHERE DIRECTED BY THE ENGINEER BUT SHALL NOT INTERFERE WITH CABINET FUNCTIONS. (SUPPORTING MEMBERS, ETC.)
4. CONCRETE MIX 3A32 OR EQUAL SHALL BE USED FOR FOUNDATION AND CONCRETE WALK.
5. CONDUITS WHICH HAVE BOTH ENDS TERMINATING WITHIN THE PAD SHALL NOT BE INSTALLED BELOW THE CONCRETE.
6. EXACT LOCATIONS OF CONDUIT WITHIN THE PAD SHALL BE AS DETERMINED BY THE ENGINEER IN THE FIELD.

NOTE: RIGID STEEL INSULATION NEAR EQUIPMENT PAD SHALL BE PLACED IN A MANNER TO ACCOMMODATE INSTALLATION OF GUARD POSTS.



MAST ARM DETAILS



ABBREVIATIONS

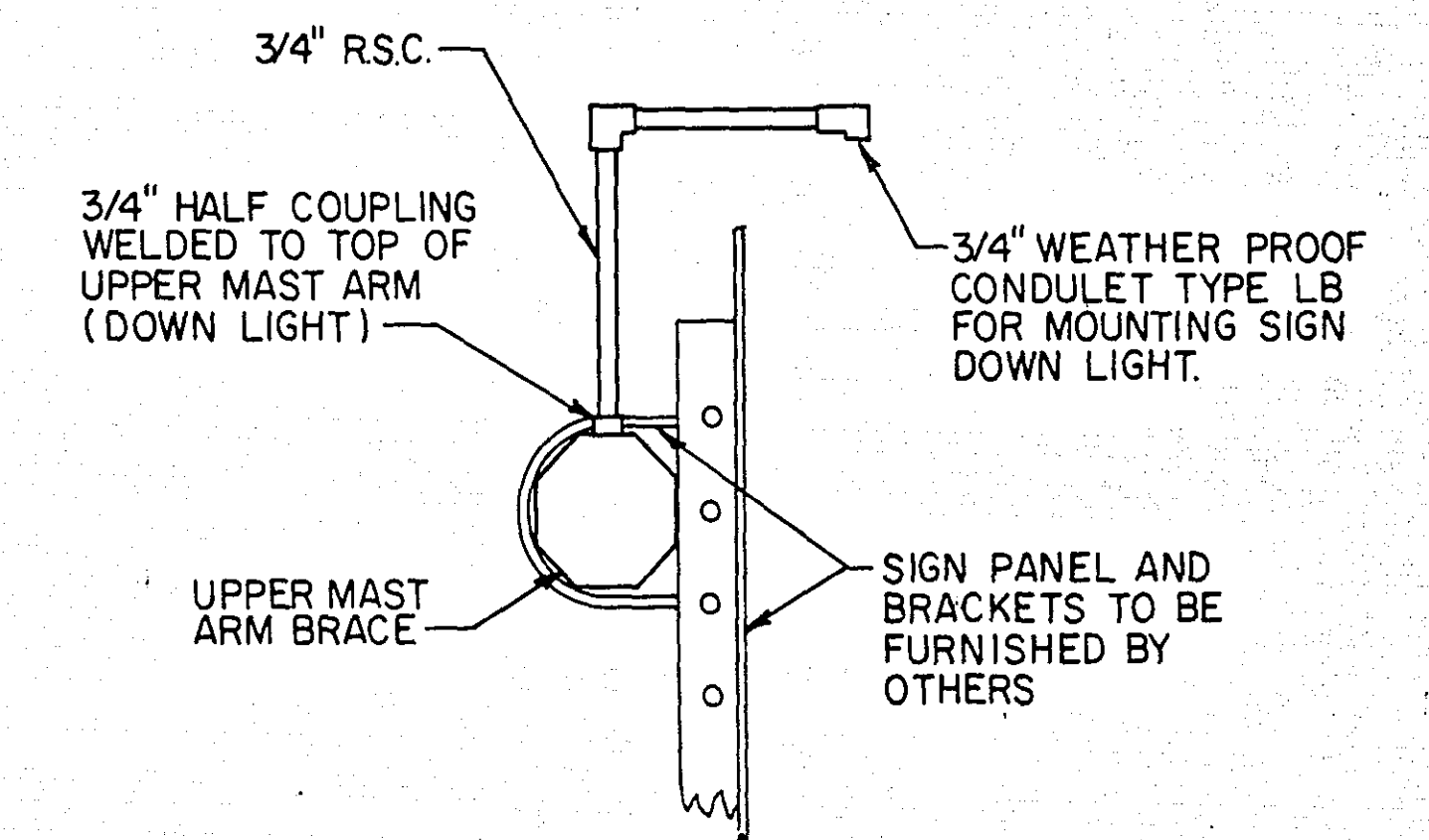
EQUIPMENT & INDICATIONS

RED - RED
YEL - YELLOW
GRN - GREEN
LTA - LEFT TURN ARROW
THA - THRU ARROW
RTA - RIGHT TURN ARROW
TRA - THRU AND RIGHT ARROW
WLK - WALK
NEU - NEUTRAL
DWK - DON'T WALK
SW - SWITCH
SWD - SWITCHED
LUM - LUMINAIRE
P2-1(eg) - PEDESTRIAN INDICATION - "2" PHASE
PB4-2(eg) - PUSH BUTTON - "4" PHASE
2-2(eg) - SIGNAL HEAD - "2" PHASE
D2-4(eg) - DETECTOR - "2" PHASE
H.H. - HANDHOLE
GR.R. - GROUND ROD
SERV. - SERVICE
EVP - EMERGENCY VEHICLE PRE-EMPTION

DNL - DOWNLIGHT
P.E.C. - PHOTOELECTRIC CELL
ST. LHT. - STREET LIGHT
CH. - CHECK
S.O.P. - SOURCE OF POWER
EQ.G. - EQUIPMENT GROUND
SPR - SPARE CONDUCTOR

COLOR CODING OF CONDUCTOR

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



SIGN DOWN LIGHT MOUNTING DETAIL

STANDARD PLATES

PLATE NO.	TITLE
* 8110 C	TRAFFIC SIGNAL BRACKETING (POLE MOUNTED)
* 8111 B	TRAFFIC SIGNAL BRACKETING (PEDESTAL MOUNTED)
8112 B	PEDESTAL FOUNDATION
8113 B	MAGNETIC VEHICLE DETECTOR INSTALLATION
* 8115 B	PEDESTRIAN PUSH BUTTON INSTALLATION
* 8116 C	STEEL GUARD POST
* 8117 E	PRECAST CONCRETE HANDHOLE
* 8118 B	SERVICE EQUIPMENT & POLE, TRAFFIC CONTROL SIGNALS
* 8119 B	GROUND MOUNTED CABINET FOUNDATION
8120 D	MAST ARM POLE FOUNDATION
8122 B	PEDESTAL AND PEDESTAL BASE
* 8123 A	POLE AND MAST ARM (LUMINAIRES AND TRAFFIC LIGHTS)
* 8124 B	SIGNAL HEAD MOUNTS
* 8125 A	SWING-AWAY HINGE (FOR TRAFFIC SIGNAL ARM MAST)
* 8130 B	SAW CUT LOOP DETECTORS

* STANDARD PLATES APPLICABLE TO THIS PROJECT

STATEMENT OF ESTIMATED QUANTITIES

PROJECT NO.	ITEM NO.	ITEM	UNIT	QUANT.
62-651-14	2565.501	FULL TRAFFIC ACTUATED TRAFFIC CONTROL SYSTEM	SIGNAL SYSTEM	1
TRF 547-31	565.604	EMERGENCY VEHICLE PRE-EMPTION SYSTEM	SYSTEM	1

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Paul J. Ramsey

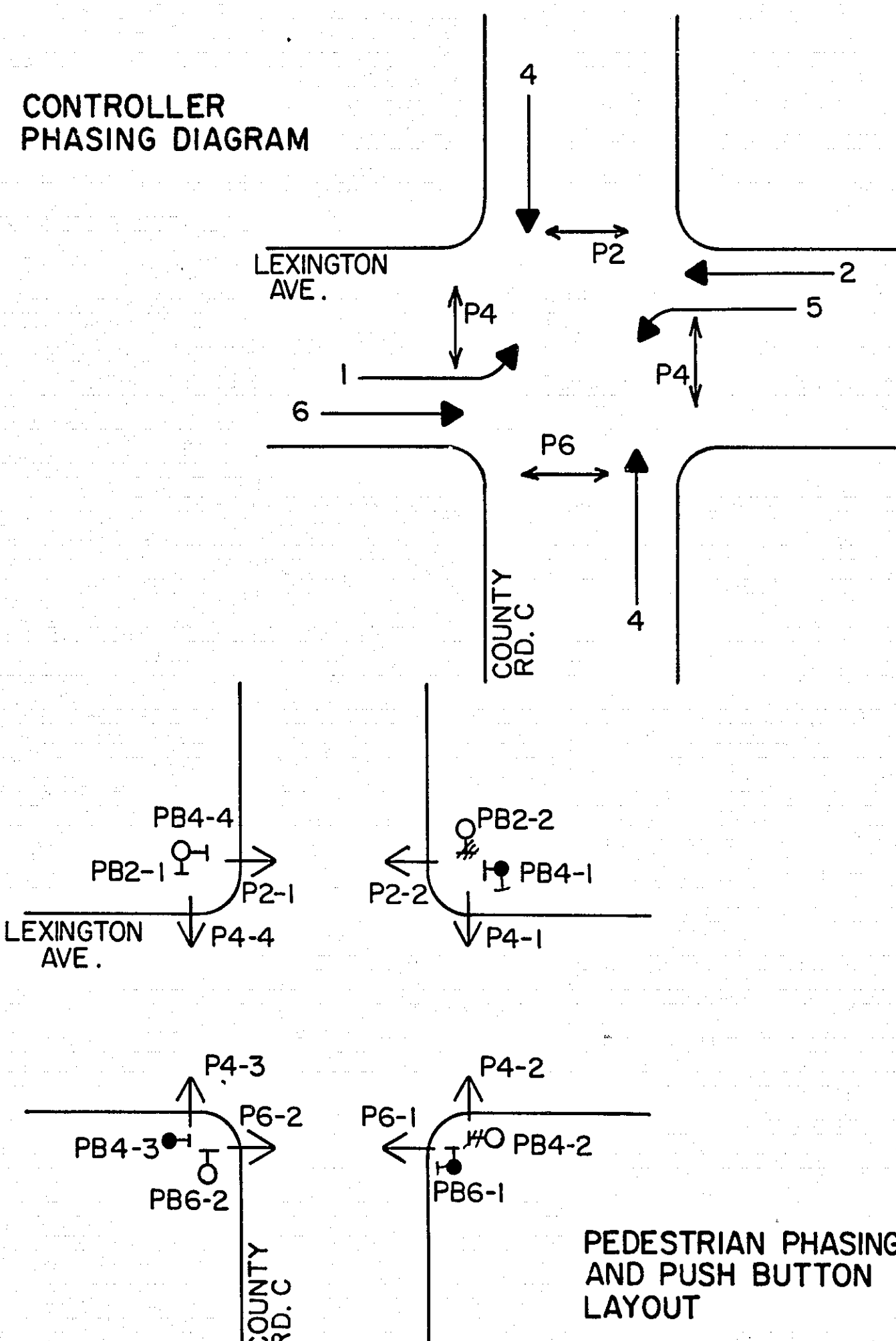
Date: 11-1-78 Reg. No. 12703

DETAILS
LEXINGTON AVE. & COUNTY RD. C

LEGEND OF SYMBOLS

SIGNAL BASE No. 1	5
SIGNAL FACE No. 2	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	
EMERGENCY VEHICLE PRE-EMPTION DETECTOR LOCATION	

CONTROLLER PHASING DIAGRAM



PEDESTRIAN PHASING AND PUSH BUTTON LAYOUT

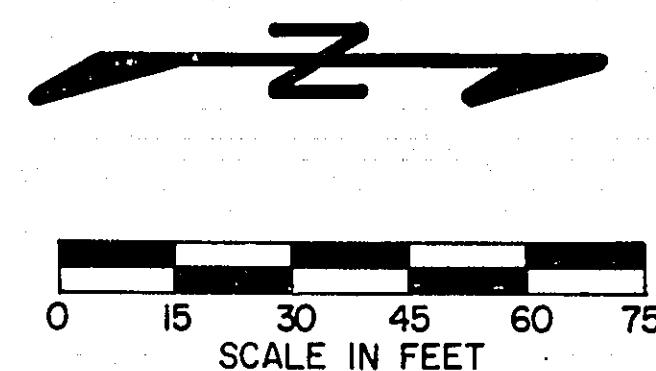
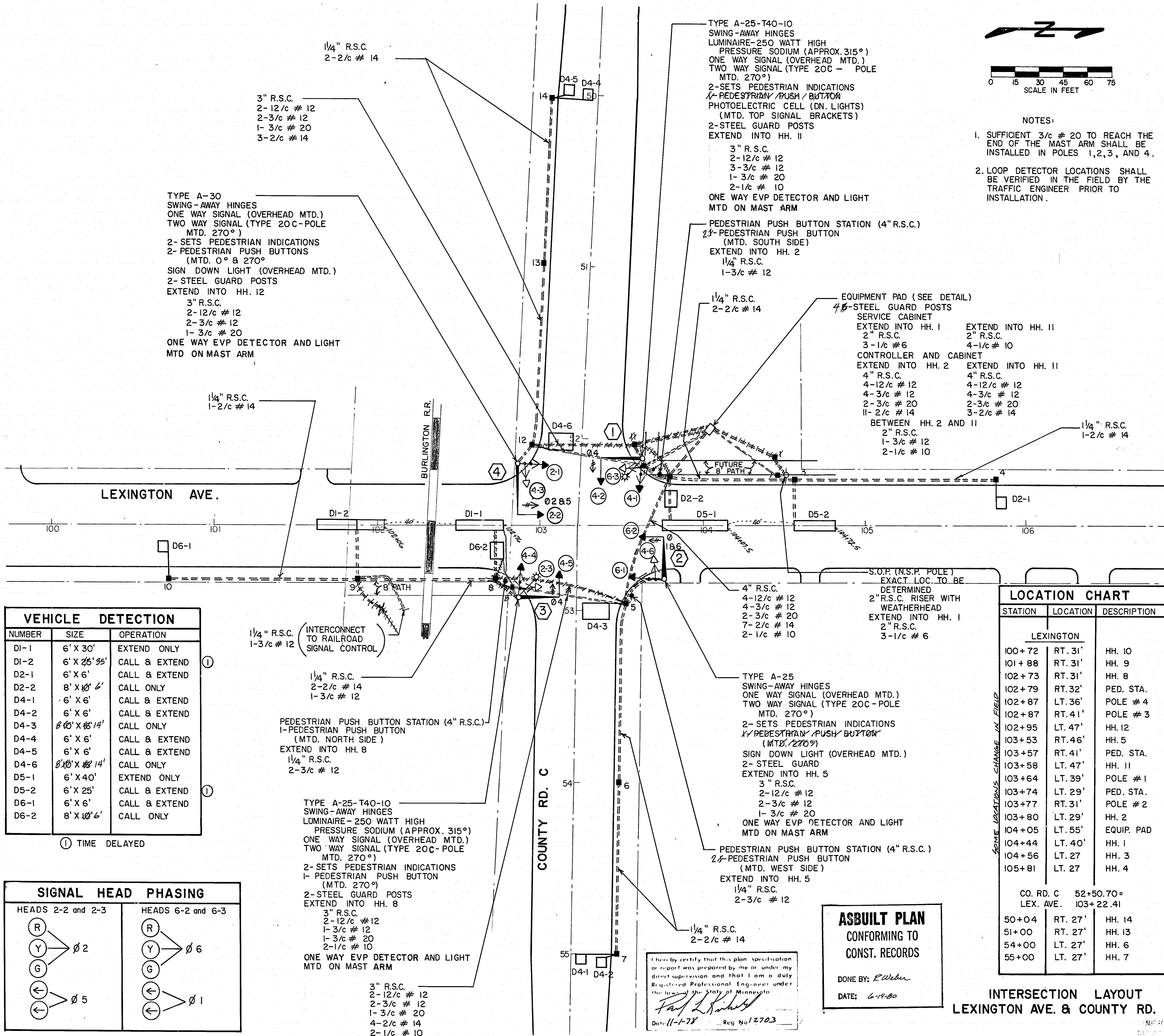
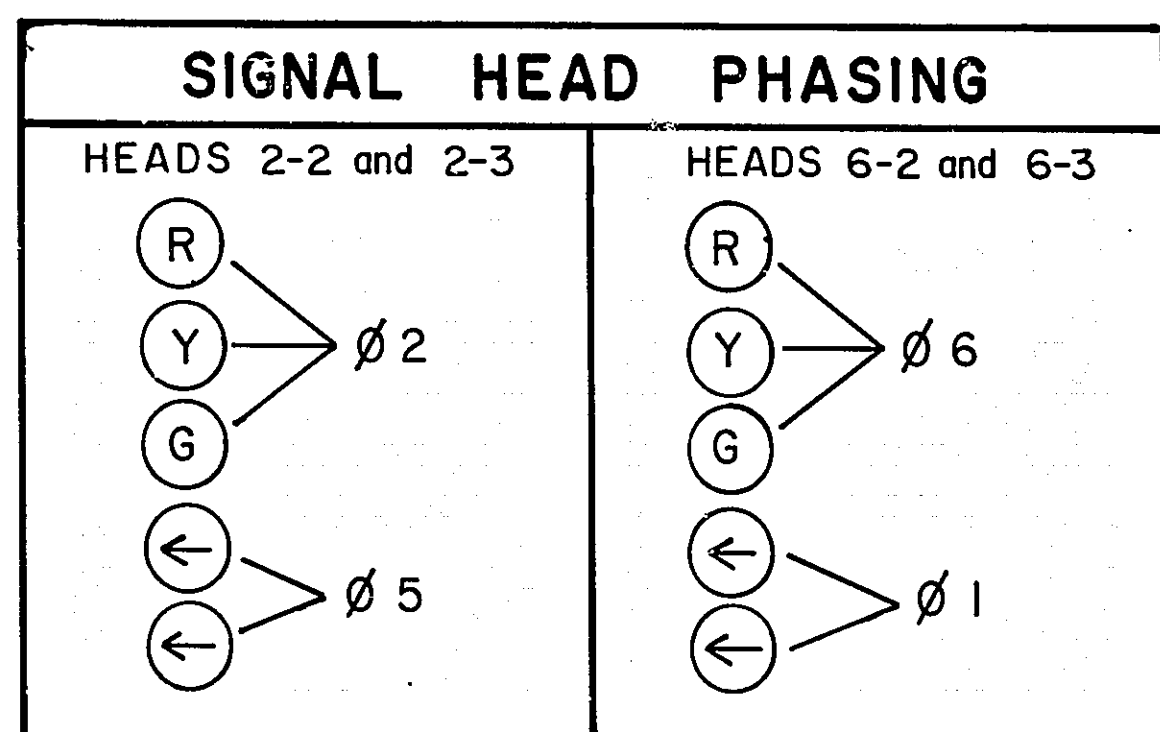
SIGNAL INDICATION CHART

FACE	PHASE	FLASH	INDICATION SIZE					
			R	Y	G	YEL	GRN	→
2-1	2	R	12"	12"	12"	12"	12"	12"
2-2	2 and 5	R	12"	12"	12"	12"	12"	12"
2-3	2 and 5	R	12"	12"	12"	12"	12"	12"
4-1	4	R	12"	12"	12"	12"	12"	12"
4-2	4	R	12"	12"	12"	12"	12"	12"
4-3	4	R	12"	12"	12"	12"	12"	12"
4-4	4	R	12"	12"	12"	12"	12"	12"
4-5	4	R	12"	12"	12"	12"	12"	12"
4-6	4	R	12"	12"	12"	12"	12"	12"
6-1	6	R	12"	12"	12"	12"	12"	12"
6-2	6 and 1	R	12"	12"	12"	12"	12"	12"
6-3	6 and 1	R	12"	12"	12"	12"	12"	12"

VEHICLE DETECTION

NUMBER	SIZE	OPERATION
DI-1	6' X 30'	EXTEND ONLY
DI-2	6' X 35'	CALL & EXTEND
D2-1	6' X 6'	CALL & EXTEND
D2-2	8' X 10' 6"	CALL ONLY
D4-1	6' X 6'	CALL & EXTEND
D4-2	6' X 6'	CALL & EXTEND
D4-3	8' X 10' 14'	CALL ONLY
D4-4	6' X 6'	CALL & EXTEND
D4-5	6' X 6'	CALL & EXTEND
D4-6	8' X 10' 14'	CALL ONLY
D5-1	6' X 40'	EXTEND ONLY
D5-2	6' X 25'	CALL & EXTEND
D6-1	6' X 6'	CALL & EXTEND
D6-2	8' X 10' 6"	CALL ONLY

① TIME DELAYED



- NOTES:**
- SUFFICIENT 3/c # 20 TO REACH THE END OF THE MAST ARM SHALL BE INSTALLED IN POLES 1, 2, 3, AND 4.
 - LOOP DETECTOR LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE TRAFFIC ENGINEER PRIOR TO INSTALLATION.

LOCATION CHART

STATION	LOCATION	DESCRIPTION
LEXINGTON		
100+72	RT. 31'	HH. 10
101+88	RT. 31'	HH. 9
102+73	RT. 31'	HH. 8
102+79	RT. 32'	PED. STA.
102+87	LT. 36'	POLE # 4
102+87	RT. 41'	POLE # 3
102+95	LT. 47'	HH. 12
103+53	RT. 46'	HH. 5
103+57	RT. 41'	PED. STA.
103+58	LT. 47'	HH. 11
103+64	LT. 39'	POLE # 1
103+74	LT. 29'	PED. STA.
103+77	RT. 31'	POLE # 2
103+80	LT. 29'	HH. 2
104+05	LT. 55'	EQUIP. PAD
104+44	LT. 40'	HH. 1
104+56	LT. 27'	HH. 3
105+81	LT. 27'	HH. 4
CO. RD. C 52+50.70 = LEX. AVE. 103+22.41		
50+04	RT. 27'	HH. 14
51+00	RT. 27'	HH. 13
54+00	LT. 27'	HH. 6
55+00	LT. 27'	HH. 7

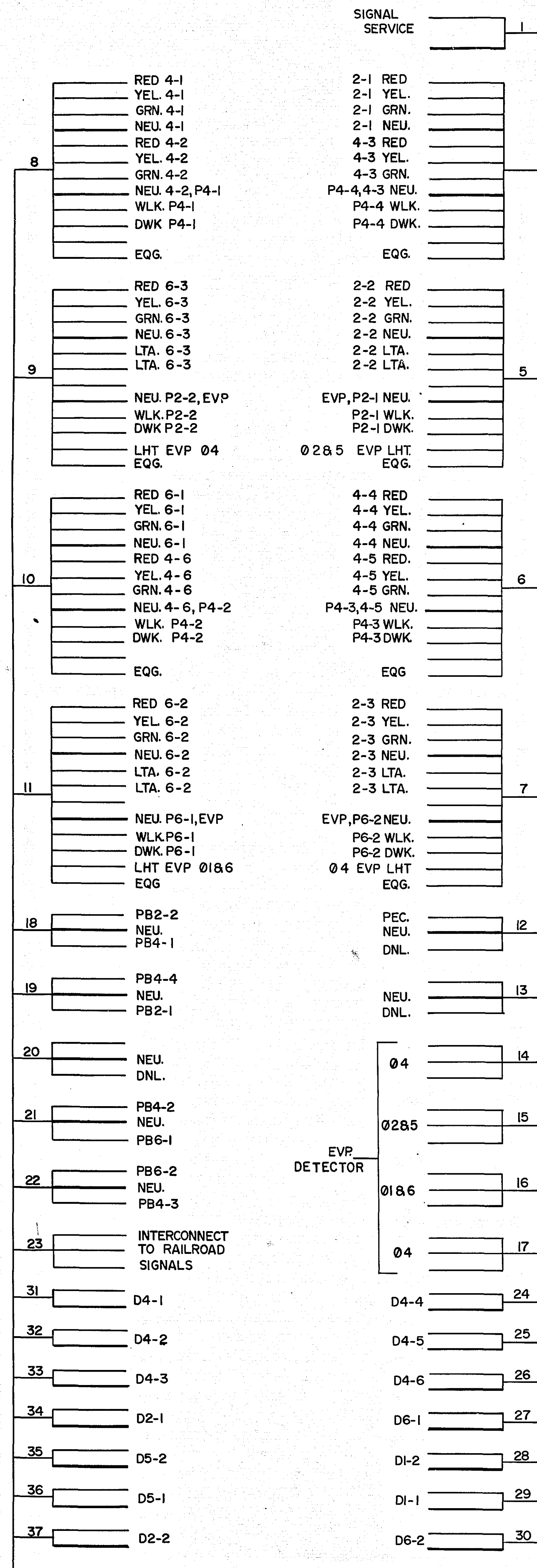
ASBUILT PLAN
CONFORMING TO
CONST. RECORDS

DONE BY: *E. Weber*
DATE: 6-19-80

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.

Paul L. Kuchel
Date: 11-1-78 Reg No: 12703

CONTROLLER CABINET

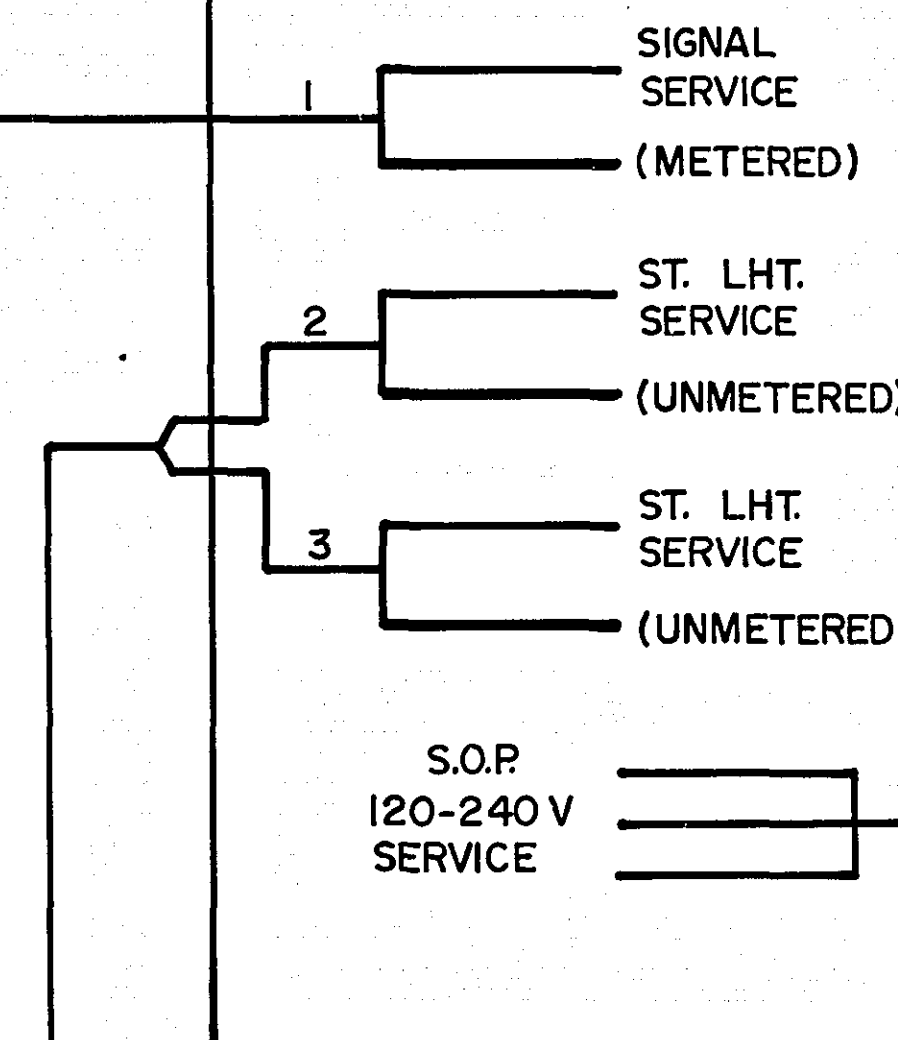


CONDUCTOR COLOR CODING

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

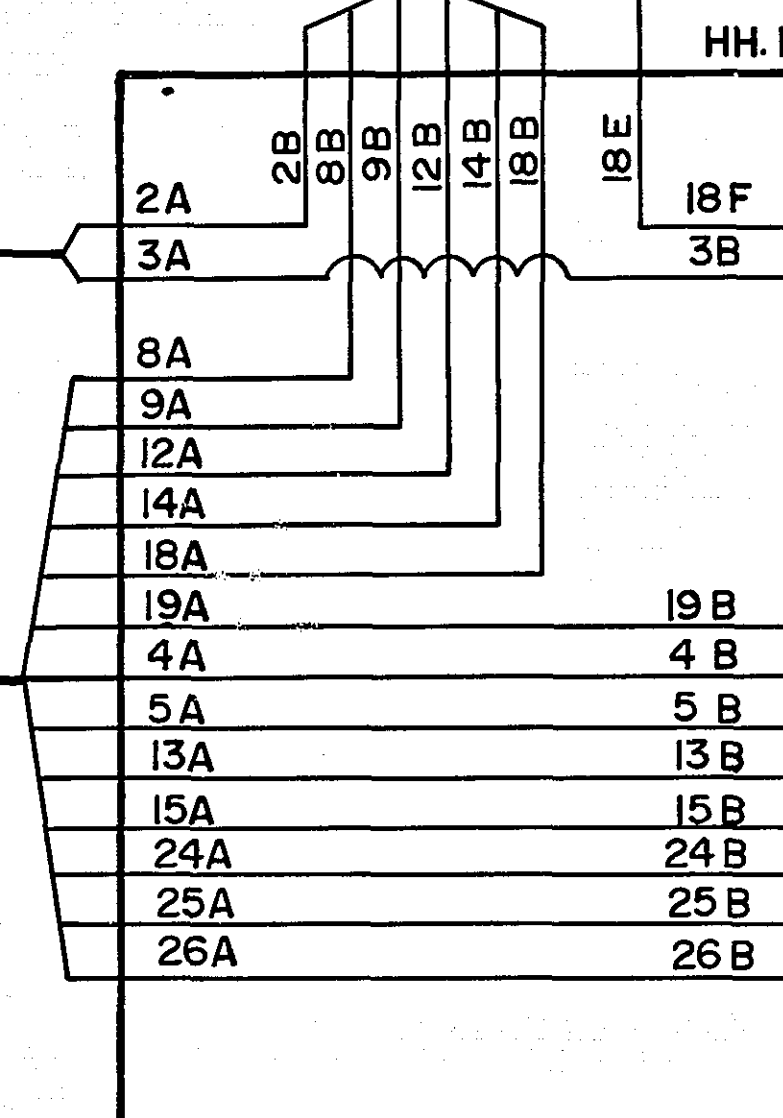
NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

SERVICE CABINET & METER



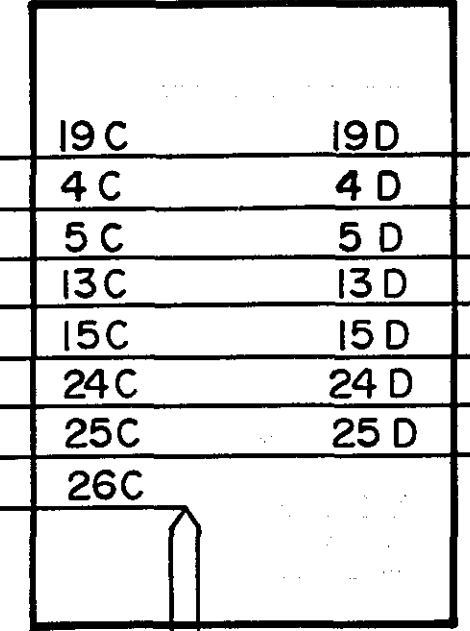
N.S.P. POLE
S.O.P.

HH. I
S.O.P.



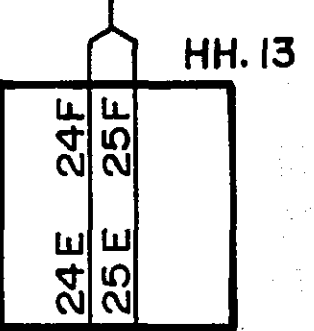
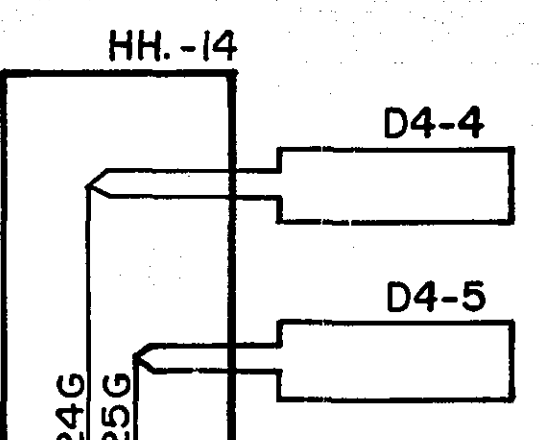
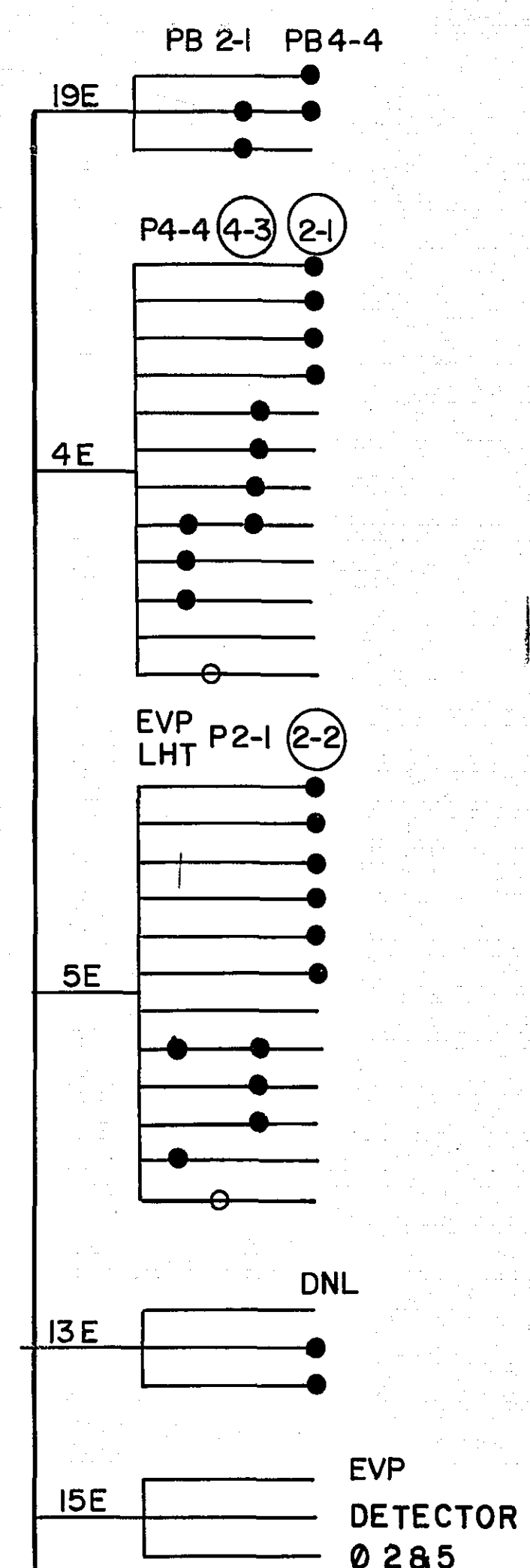
TO PED. STA.
SH. # 5
TO HH. 2
SEE SHEET 5

HH. 12



D4-6

4



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS

DONE BY: R. Weber
DATE: 6-19-80

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Paul L. Kishner
Date: 11-1-78 Reg. No. 12703

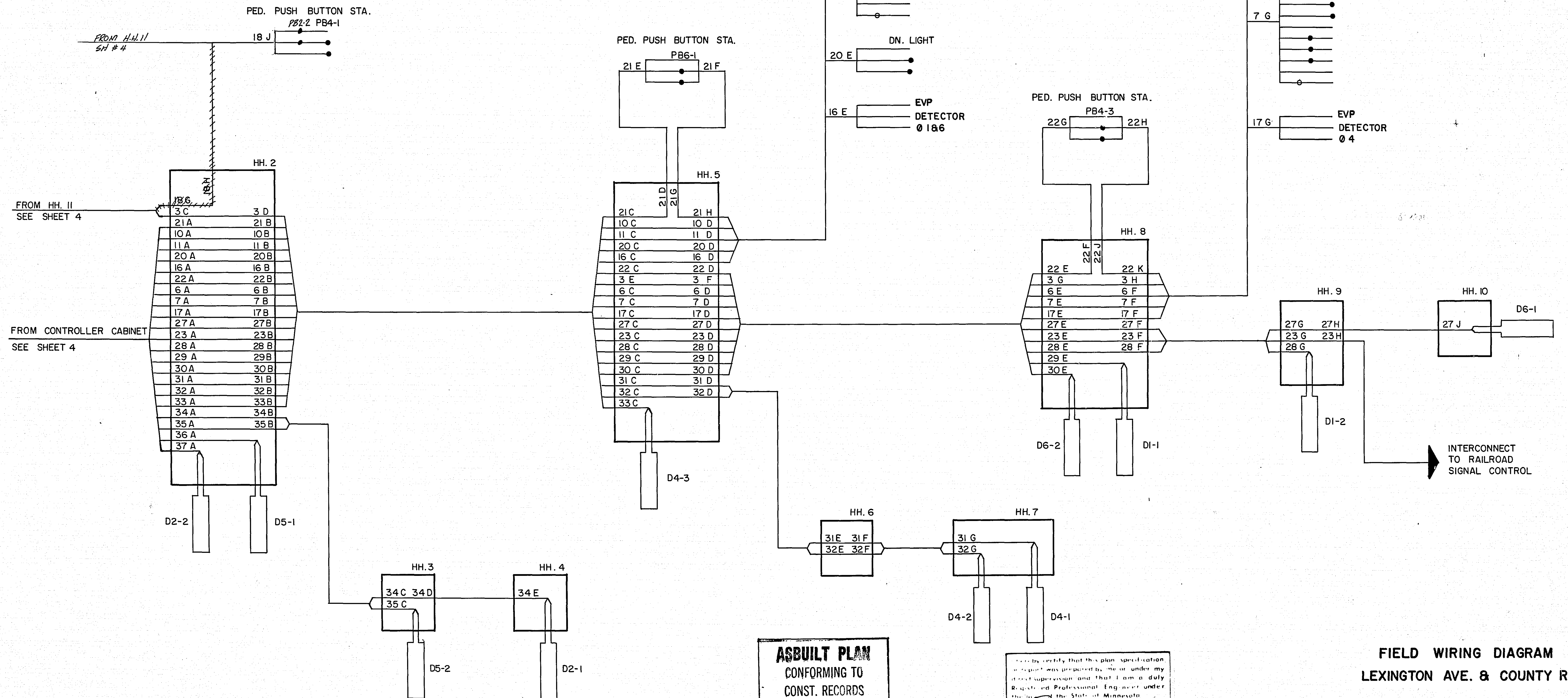
FIELD WIRING DIAGRAM
LEXINGTON & COUNTY ROAD C

S.A.P. NO. 62-651-14 C.T.B.

Sheet No. 4 of 6 Sheets

MICROFILMED
RAMSEY CO. ENGR.

23-117



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS

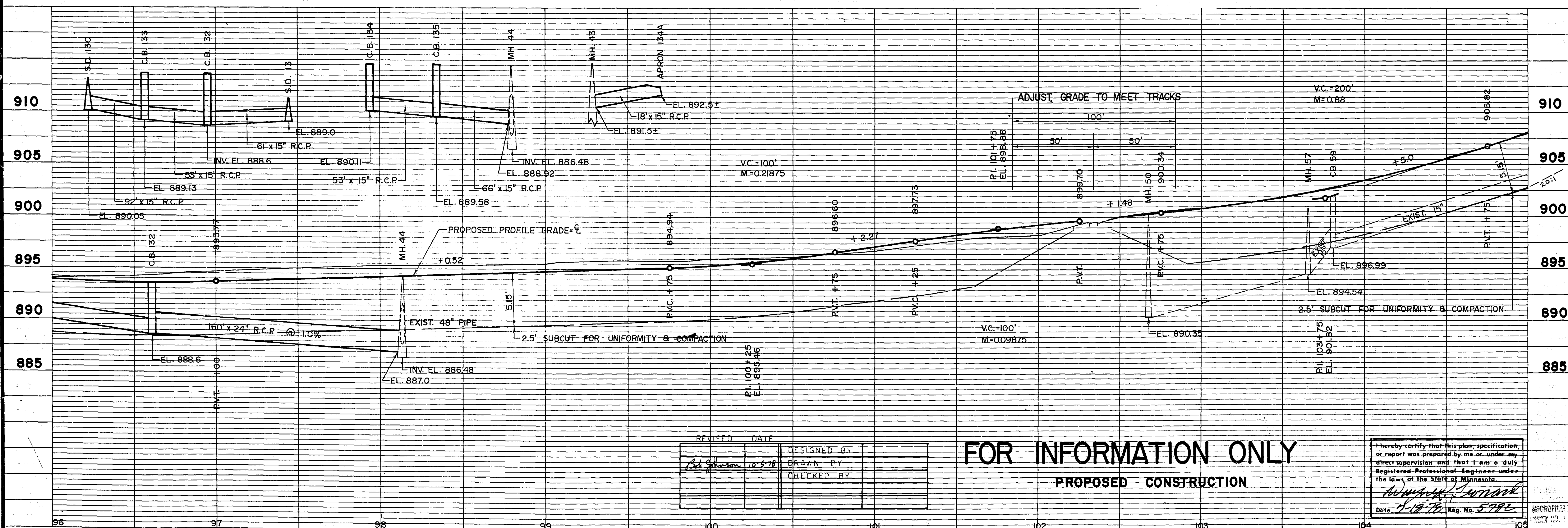
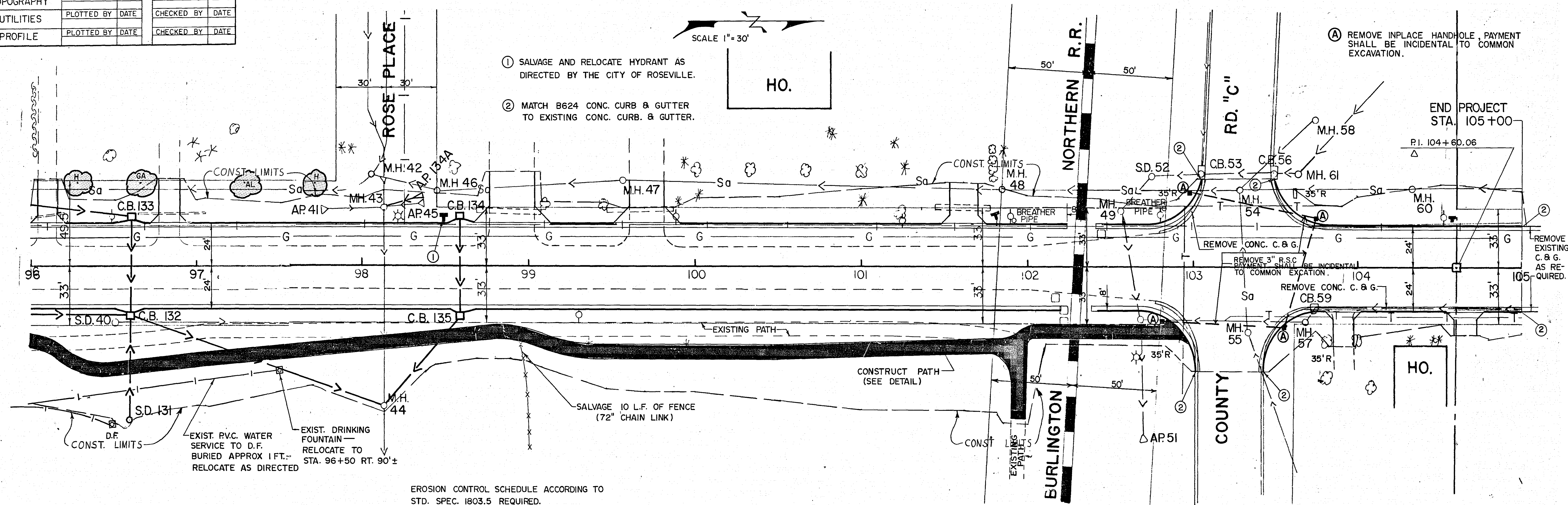
DONE BY: *R. Webb*
DATE: 6-19-80

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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

Paul H. Kuehner
Date: 11-1-78 Reg No: 2703

FIELD WIRING DIAGRAM
LEXINGTON AVE. & COUNTY RD. C

TOPOGRAPHY	PLOTTED BY	DATE	CHECKED BY	DATE
UTILITIES	PLOTTED BY	DATE	CHECKED BY	DATE
PROFILE	PLOTTED BY	DATE	CHECKED BY	DATE



FOR INFORMATION ONLY

PROPOSED CONSTRUCTION

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. J. ... *Wm. J. ...*

Date *4-18-76* Exp. No. *5781*