

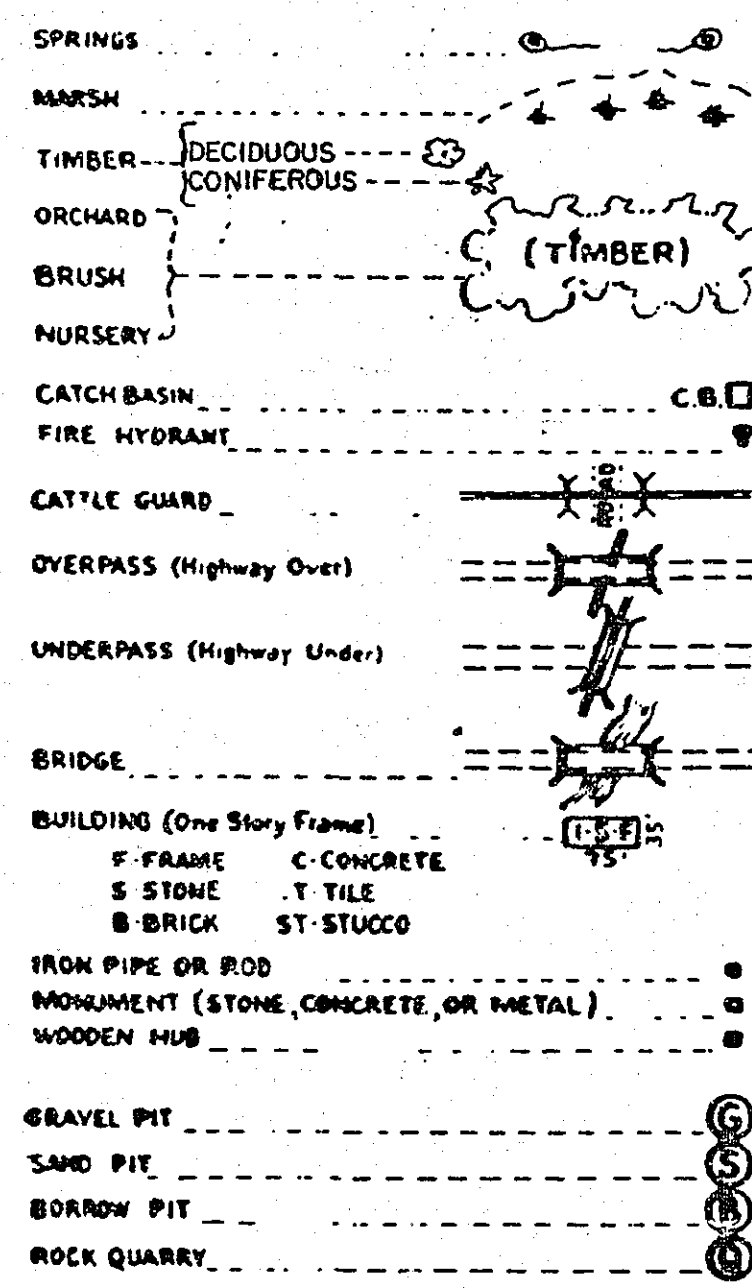
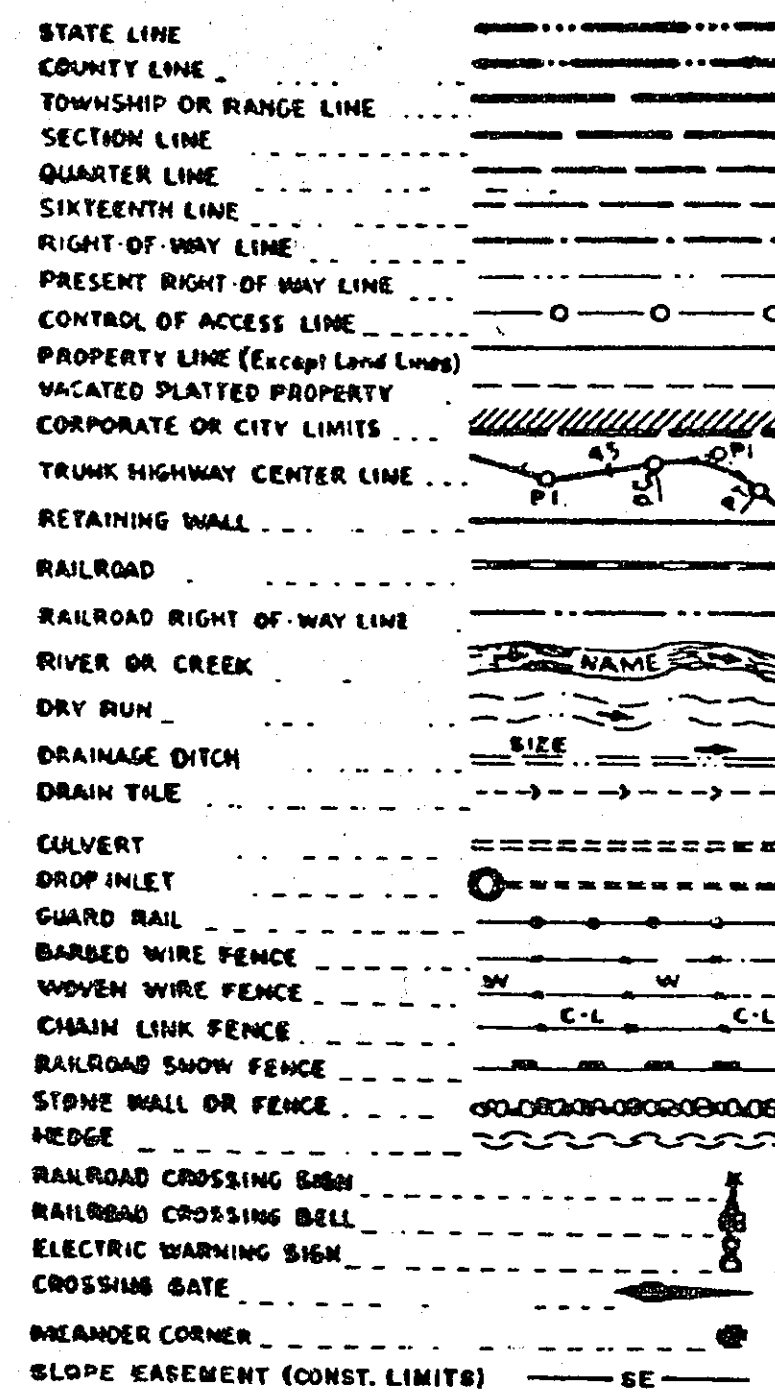
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DRAWING NUMBER
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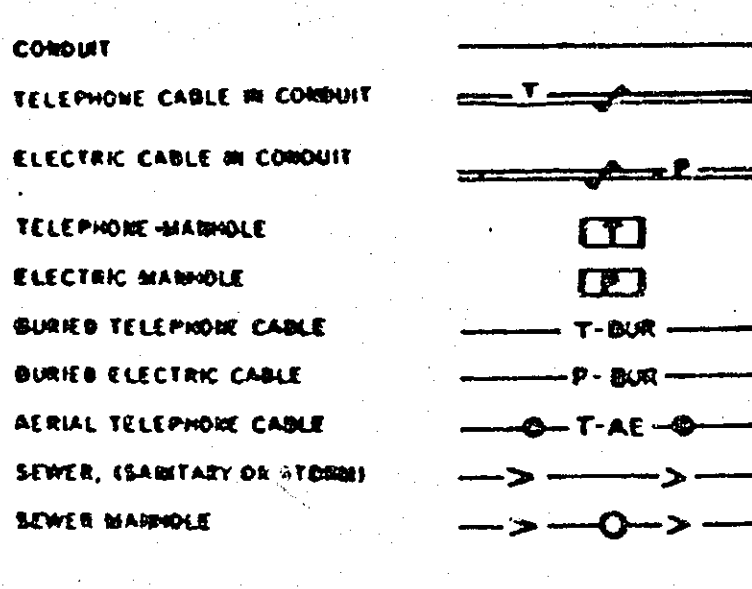
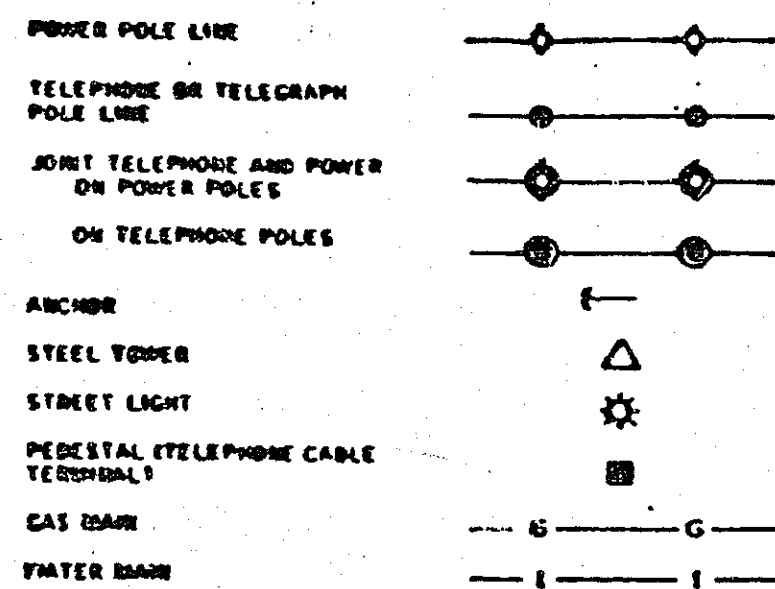
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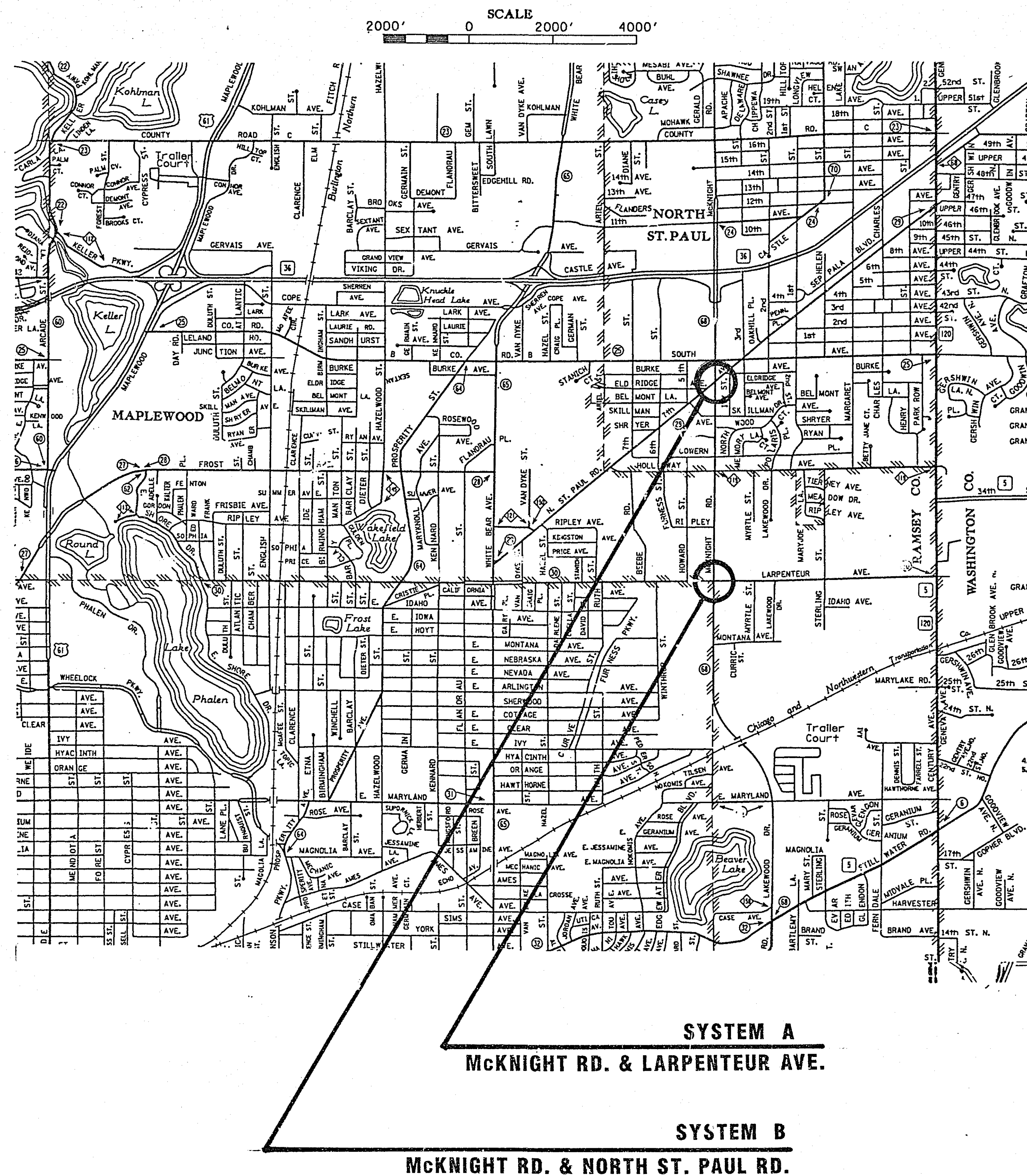
PLANS SYMBOLS



UTILITIES SYMBOLS

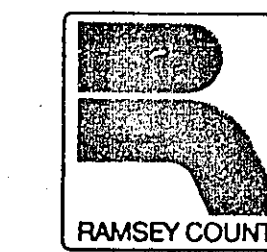
NOTE SECTION NUMBERS READ
FROM THE SOUTH

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



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS

DONE BY: JPH
DATE: 1-27-94



RAMSEY COUNTY DEPARTMENT OF PUBLIC WORKS

CONSTRUCTION PLAN FOR TRAFFIC CONTROL SIGNAL SYSTEMS

LOCATED AT:

McKNIGHT RD. & LARPENTEUR AVE. SYSTEM A

McKNIGHT RD. & NORTH ST. PAUL RD. SYSTEM B

S.A.P. NO. 62-668-35

INDEX

SHEET NO.	DESCRIPTION
1	TITLE
2-3	DETAILS
4-6	SYSTEM A
7-9	SYSTEM B
10-11	UTILITIES

DESIGN SQUAD: Rubin DATE: 11/22/90
DRAWN BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____

RAMSEY COUNTY
RECOMMENDED FOR APPROVAL: JES DATE: 2/19/91
TRAFFIC ENGINEER
RECOMMENDED FOR APPROVAL: KMR DATE: 2/12/91
ENV. ENGR.
RECOMMENDED FOR APPROVAL: DEA DATE: 1/18/91
MAINT. ENGR.
RECOMMENDED FOR APPROVAL: RPL/KF DATE: 9/19/91
CONST. ENGR.
RECOMMENDED FOR APPROVAL: DLR DATE: 1/9/91
DESIGN ENGR.
RECOMMENDED FOR APPROVAL: DRP DATE: 2-20-91
MAINT. ENGR.
RECOM'D: Wendy DATE: 2-14-91
ASSISTANT TRAFFIC ENGINEER
RECOM'D: Fair DATE: 2/22/91
ASSISTANT TRAFFIC ENGINEER

DATE	SHEET NO.	BY
2/13/91	4, 5, 7, 10	PER STATE BOARD RWN
5-17-91	4, 5+6, Split & Revision	JPH

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: 2/19/91 REG. NO. 20452 ENGR. Daniel C. Soler
RECOMMENDED FOR APPROVAL: Fair DATE: _____
KENNETH E. WELTZIN, COUNTY ENGINEER
APPROVED: A.A. Ungard DATE: 8/6/91
CHAIR OF THE RAMSEY COUNTY BOARD
APPROVED: Ron Roberson DATE: 3/22/91
CITY OF ST. PAUL
APPROVED: David L. Kotilink DATE: 3/28/91
CITY OF NORTH ST. PAUL
MINNESOTA DEPARTMENT OF TRANSPORTATION
RECOMMENDED FOR APPROVAL: David Skallman DATE: 6/3/91
STATE AID ENGINEER
RECOMMENDED FOR APPROVAL: Wendy DATE: 5/14/91
DISTRICT STATE AID ENGINEER
RECOMMENDED FOR APPROVAL: M.L. D.P. DATE: 5/30/91
TRAFFIC ENGINEER
APPROVED: Daniel C. Soler DATE: 5-3-91
STATE AID ENGINEER

S.A.P. No. 62-668-35

Sheet No. 1 of 11 Sheets

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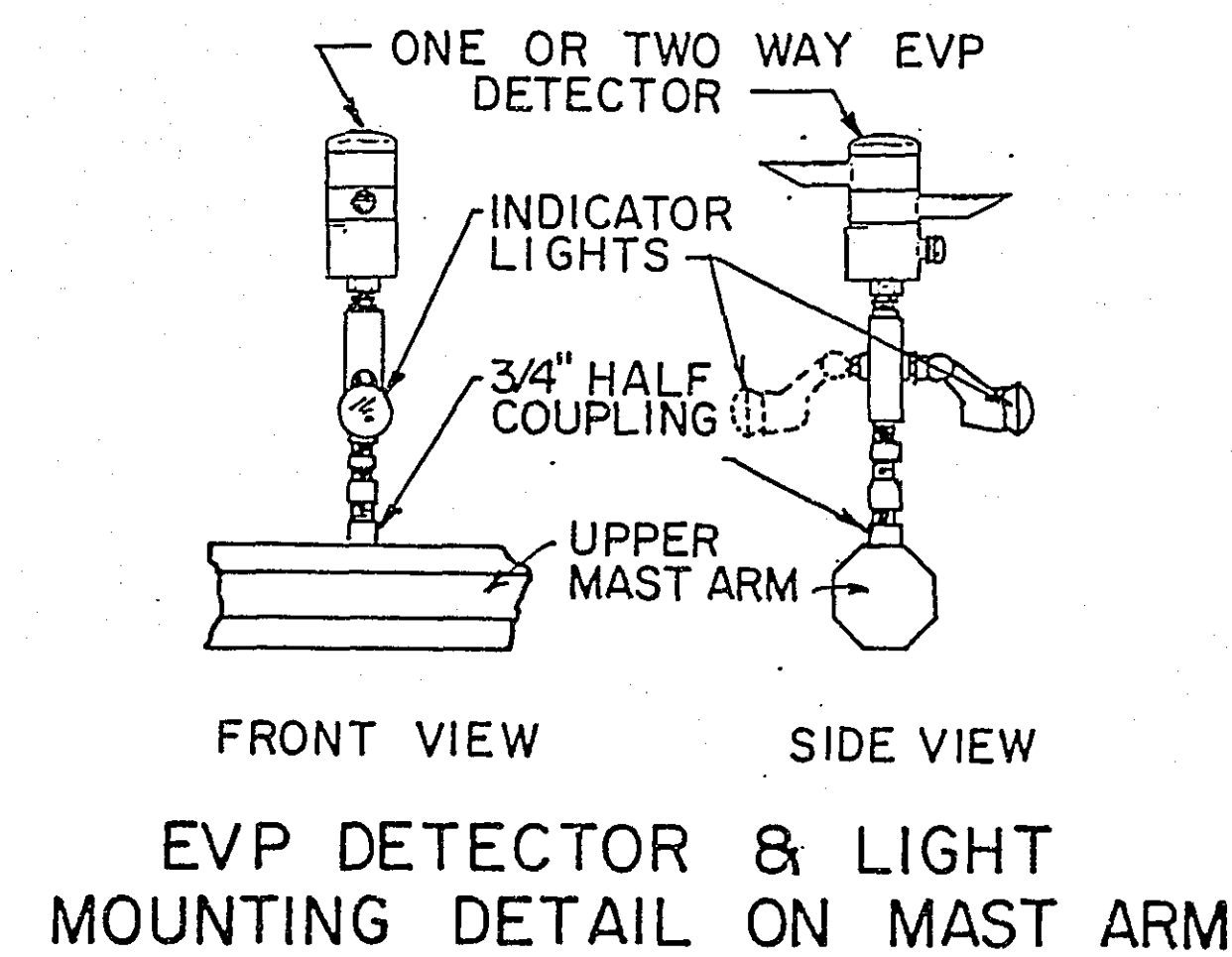
23-151 McKnight Rd & Larpenteur Ave
McKnight Rd & North St. Paul Rd

1-11

24X

ABBREVIATIONS

YEL	- YELLOW
GRN	- GREEN
WLK	- WALK
NEU	- NEUTRAL
DNK	- DON'T WALK
LUM	- LUMINAIRE
DNL	- DOWNLIGHT
SW	- SWITCH
SWD	- SWITCHED
CH.SW.	- CHECK SWITCH
H.H.	- HANDHOLE
J.B.	- JUNCTION BOX
GR.R.	- GROUND ROD
SERV.	- SERVICE
THA	- THRU ARROW
LTA	- LEFT TURN ARROW
RTA	- RIGHT TURN ARROW
~~RTA~~	~~- THRU AND RIGHT ARROW~~
~~RTA (EG)~~	~~- THRU ARROW - RED~~
GLTA (EG)	- LEFT TURN ARROW - GREEN
YRTA (EG)	- RIGHT TURN ARROW - YELLOW
P1-1 (EG)	- PEDESTRIAN INDICATIONS - PHASE "1"
PB2-2 (EG)	- PUSH BUTTON - PHASE "2"
3-2 (EG)	- SIGNAL HEADS - PHASE "3"
DI-2	- DETECTOR - PHASE "1"
P.E.C.	- PHOTOELECTRIC CELL
ST.LHT.	- STREET LIGHT
S.O.P.	- SOURCE OF POWER
EGG	- EQUIPMENT GROUND
SPR	- SPARE CONDUCTORS
R.S.C.	- RIGID STEEL CONDUIT
N.M.C.	- NON METALLIC CONDUIT
E.V.P.	- EMERGENCY VEHICLE PRE-EMPTION
TDW	- TELEPHONE DROP WIRE
F&I	- FURNISH AND INSTALL
R&S	- REMOVE AND SALVAGE
FL	- FLASH/FLASHING
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
CLR.	- CLEAR
BR.GR.	- BARE GROUND
H.P.S.	- HIGH PRESSURE SODIUM
	- EVP DETECTOR DIRECTION
	- SIGNAL BASE NO.
	- SIGNAL FACE NO.
	- LUMINAIRE NO.



STANDARD PLATES

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT.

PLATE NO.	DESCRIPTION
* 0005 A	SPECIFICATION REFERENCE TO STANDARD PLATES
7020 J	CONCRETE CURB
* 7035 J	CONCRETE WALK & CURB RETURNS AT ENTRANCES
* 7036 C	PEDESTRIAN CURB RAMP
7100 F	CONCRETE CURB AND GUTTERS
* 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 HANDHOLE
8118 C	SERVICE EQUIPMENT & POLE, TRAFFIC CONTROL SIGNALS
8119 C	GROUND MOUNTED CABINET FOUNDATION
* 8120 H	POLE FOUNDATION (P-80 & P-90)
* 8121 B	TRANSFORMER BASE WITH POLE BASE PLATE
8222 C	PEDESTAL AND PEDESTAL BASE
* 8123 B	POLE AND MAST ARM (LUMINAIRE AND TRAFFIC LIGHTS)
* 8124 D	MAST ARM SIGNAL HEAD MOUNTS
8126 C	P-100 POLE FOUNDATION
* 8130 D	SAW CUT LOOP DETECTORS

* STANDARD PLATES APPLICABLE TO THIS PROJECT.

STATEMENT OF ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	ESTIMATED QUANTITY	PARTICIPATION (%)		
				C.S.A.H. 62-668-35	CITY MAPLEWOOD	CITY NORTH ST. PAUL
2565.511	FULL T ACT T CONTROL SIGNAL SYSTEM A	SIG SYS	1.00	100	0	0
2565.511	FULL T ACT T CONTROL SIGNAL SYSTEM B	SIG SYS	1.00	100	0	0
0565.601	EMERGENCY VEHICLE PRE-EMPTION SYSTEM A	L. SUM	1.00	0	100	0
0565.601	EMERGENCY VEHICLE PRE-EMPTION SYSTEM B	L. SUM	1.00	0	0	100

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS

DONE BY: JPH
DATE: 1-27-94

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.
Daniel E. Salas
Date: 2/19/94 Reg. No. 20452

ESTIMATED QUANTITIES
& DETAILS

S.A.P. No. 62-668-35

Sheet No. 2 of 11 Sheets

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23-151 McKnight Rd & Carpenter Ave
McKnight Rd & North St Paul Rd

1-11

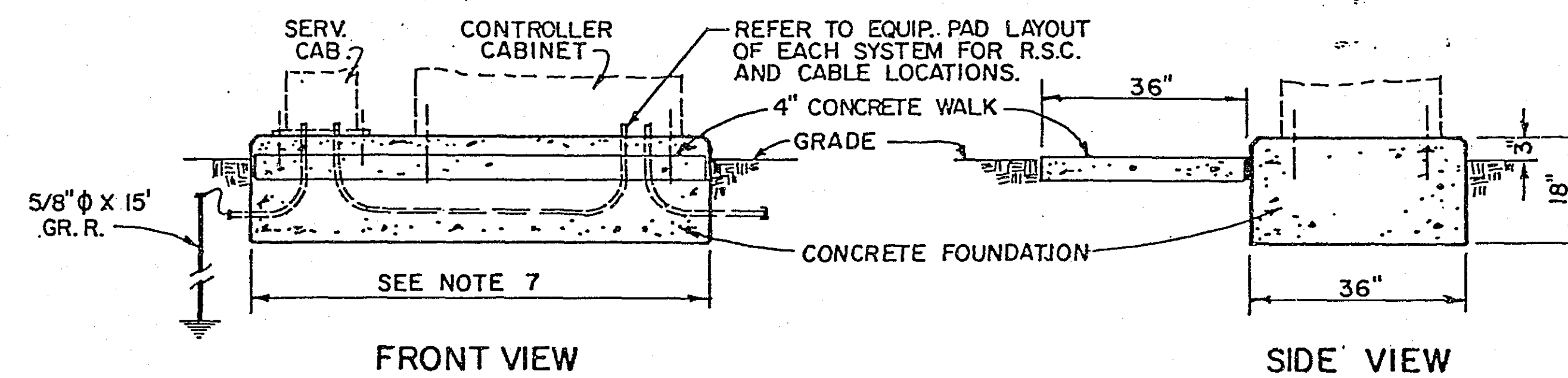
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EQUIPMENT PAD FOUNDATION

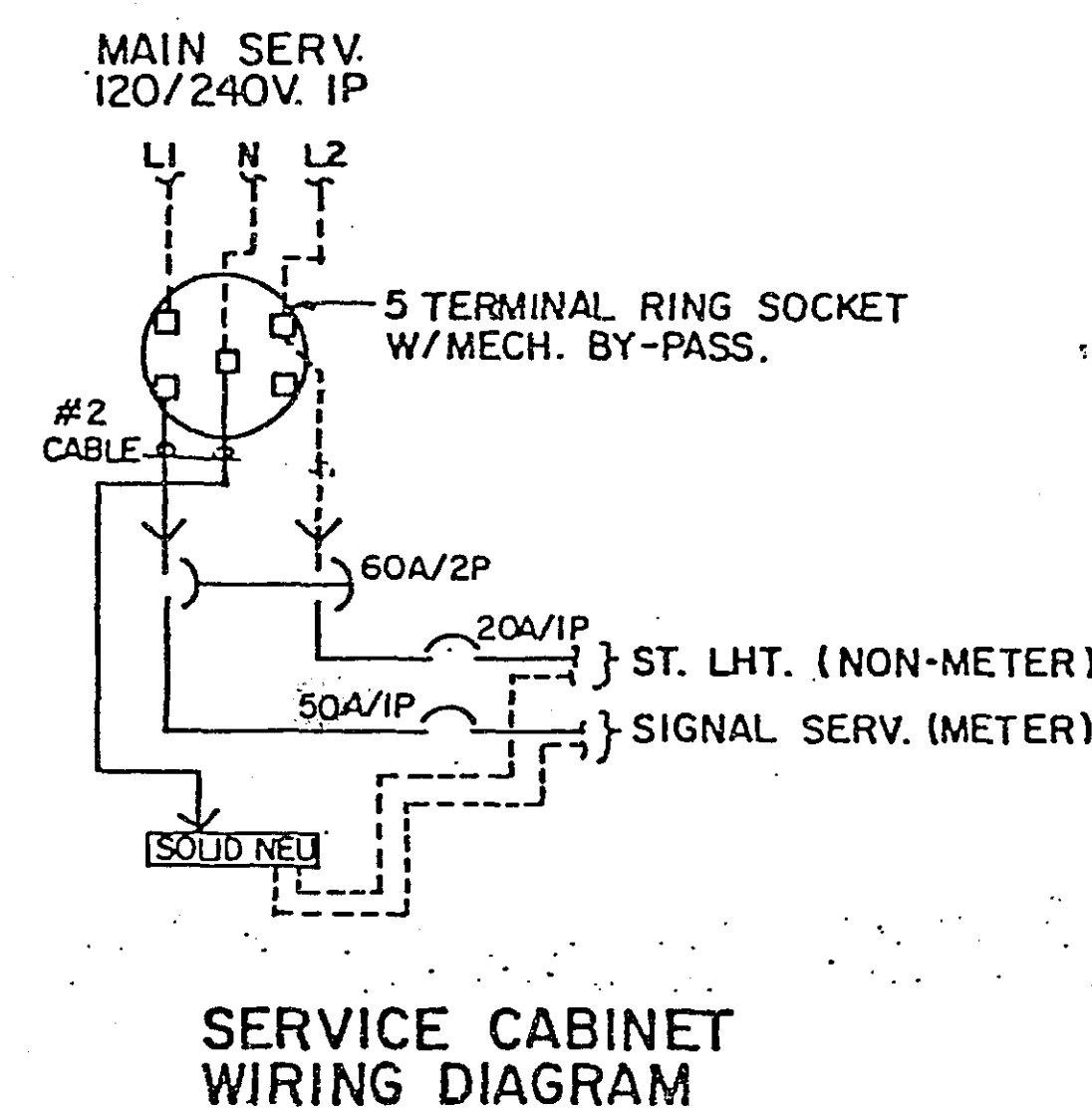
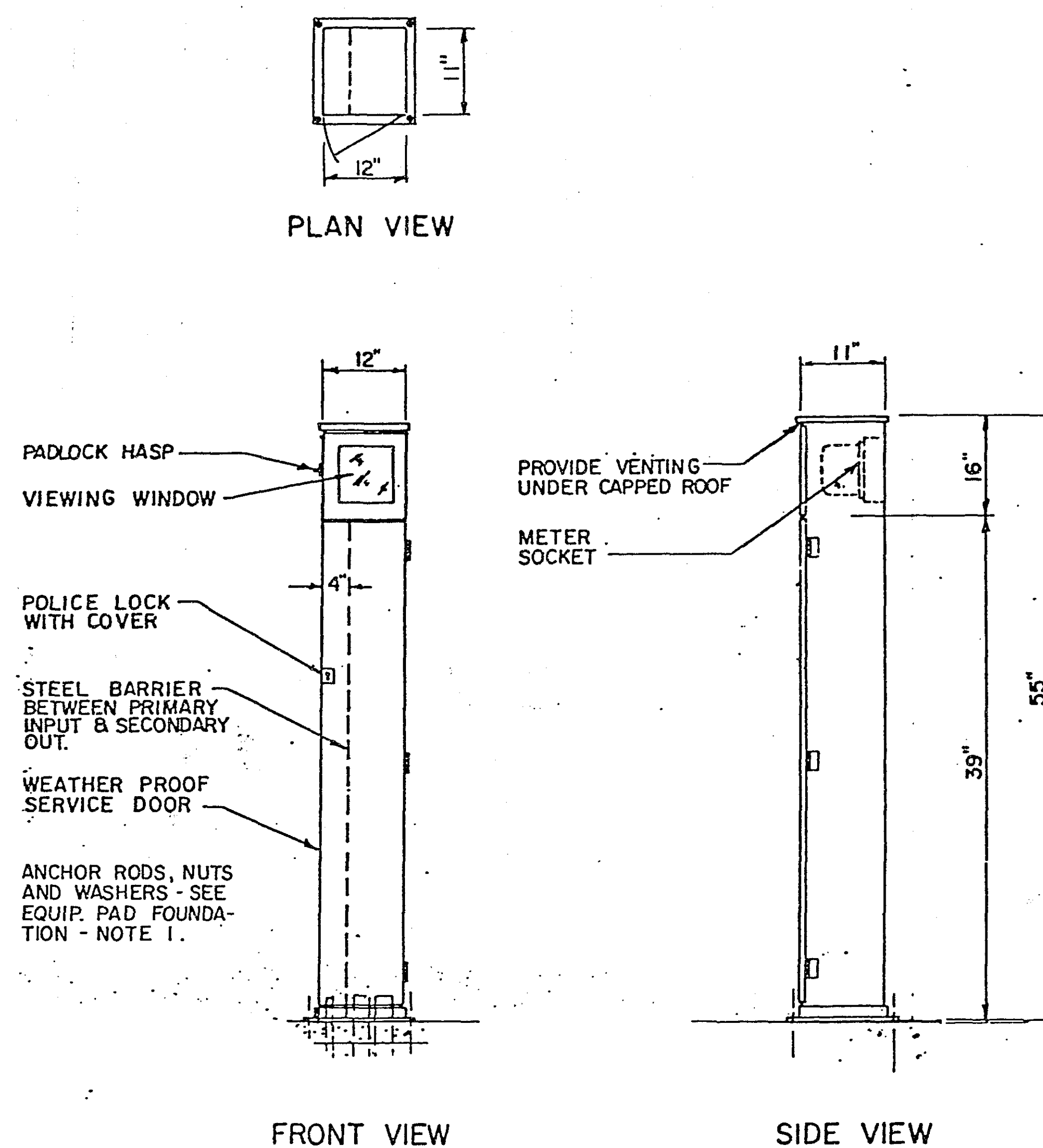
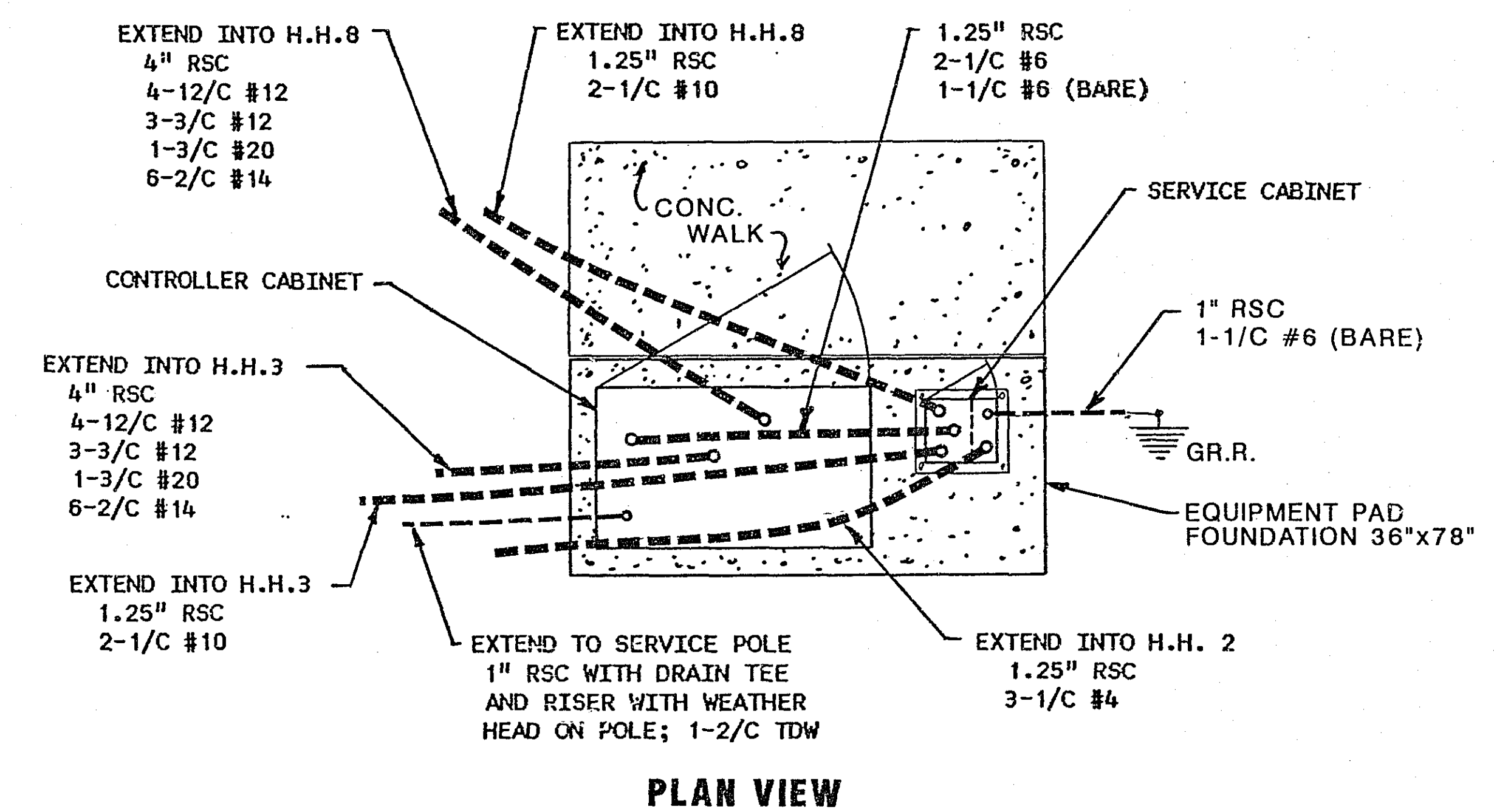
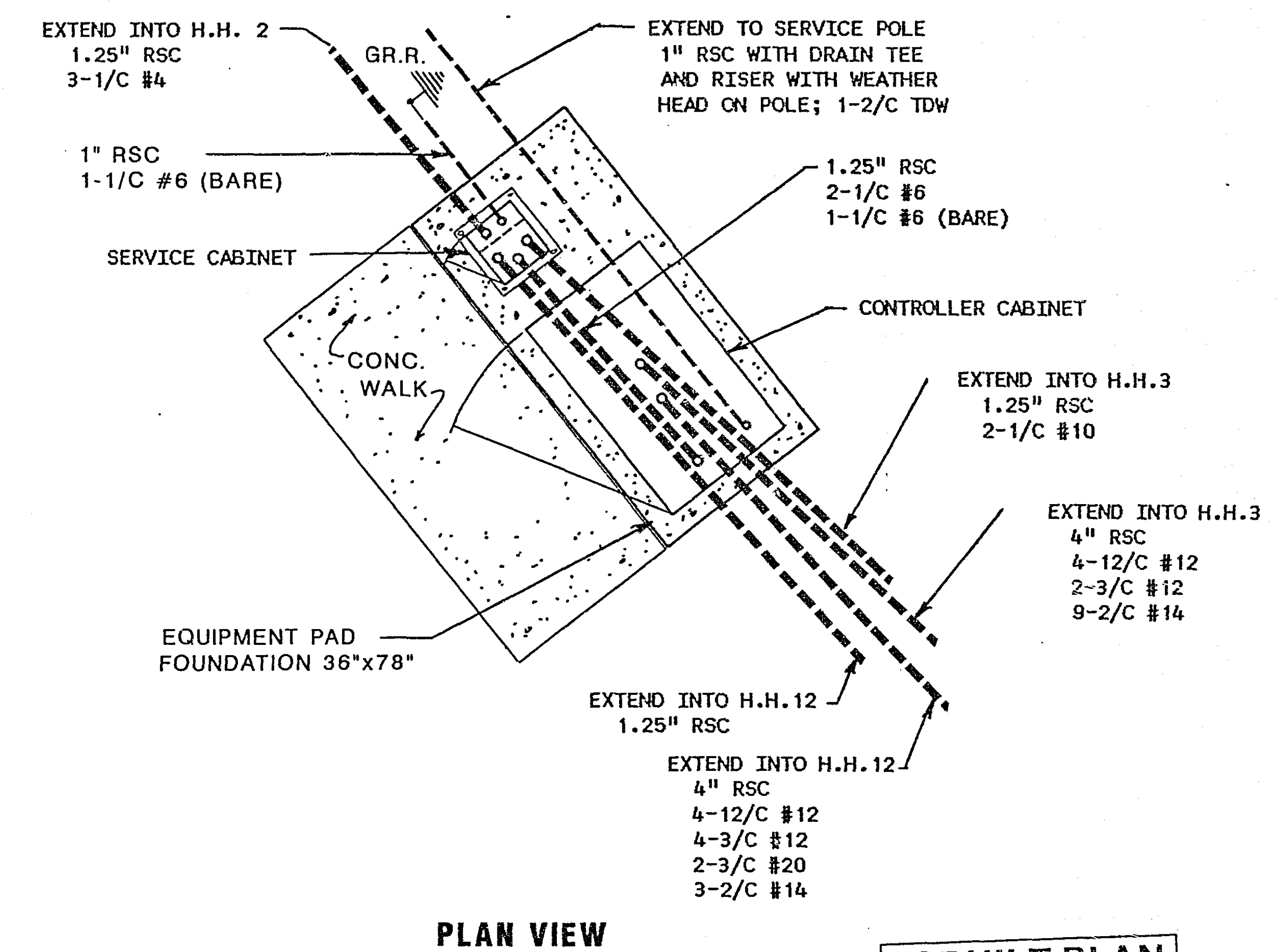
NOTES:

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.
7. REFER TO EQUIPMENT PAD LAYOUT OF EACH SYSTEM FOR FOUNDATION SIZE, CONDUIT PLACEMENT AND EQUIPMENT TO BE INSTALLED.



SERVICE CABINET DETAILS

McKNIGHT ROAD & LARPEUR AVE.
SYSTEM AMcKNIGHT ROAD & NORTH ST. PAUL RD.
SYSTEM B

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: JPH
DATE: 1-27-94

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.
Daniel E. Schu
Date: 2/19/91 Reg. No. 20452

S.A.P. No. 62-668-35

Sheet No. 3 of 11 Sheets

23-151

23-151 McKnight Rd & Larpeur Ave
McKnight Rd & North St Paul Rd

1-11

24X

LEGEND OF SYMBOLS

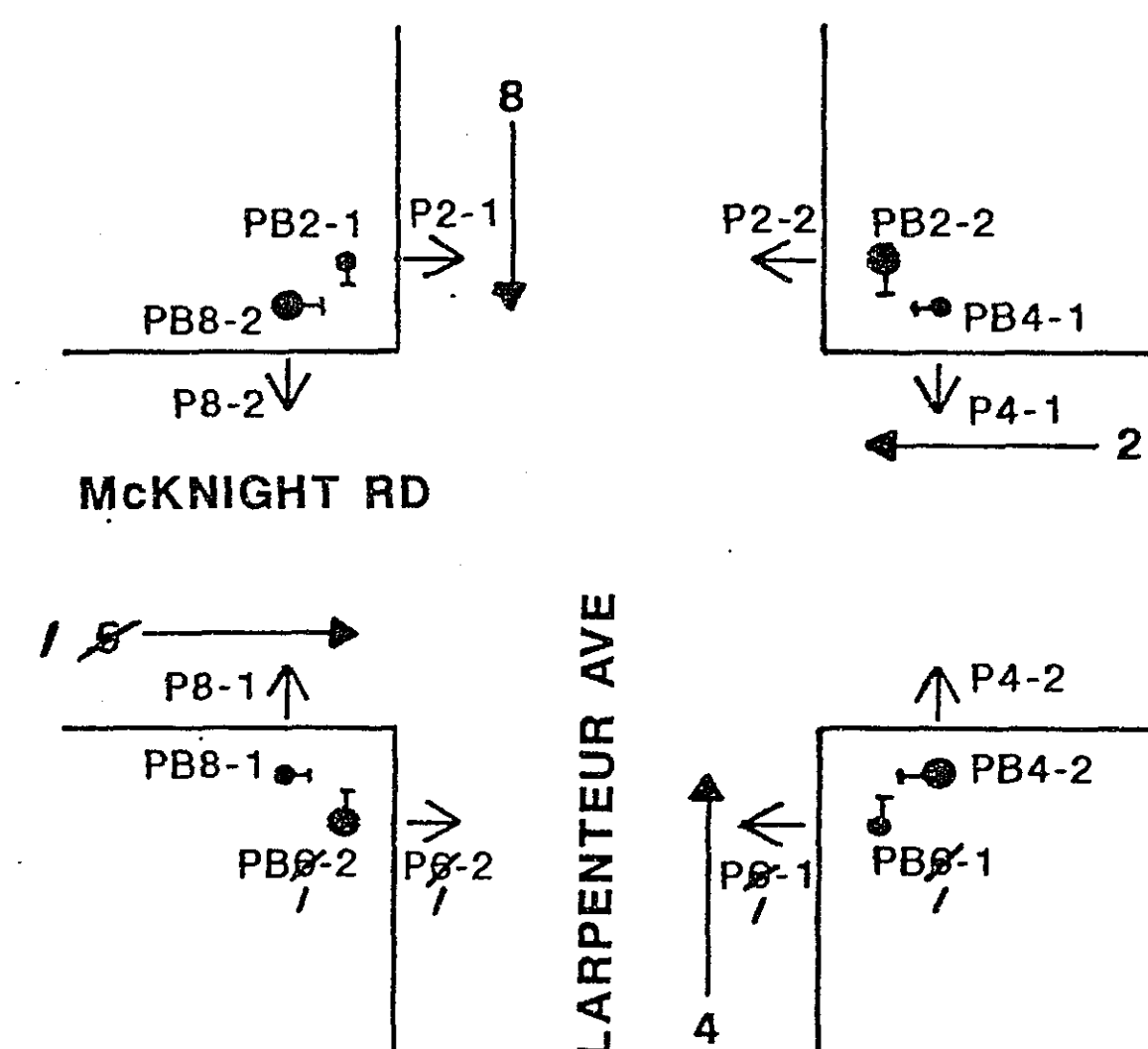
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SIGNAL FACE NO.	12
CONTROLLER AND CABINET	
CONTROLLER AND CABINET - INPLACE	
HANDHOLE	
HANDHOLE - INPLACE	
CONDUIT	
CONDUIT - INPLACE	
SIGNAL FACE WITH BACKGROUND SHIELD	
SIGNAL FACE - INPLACE	
PEDESTRIAN INDICATIONS	
PEDESTRIAN INDICATIONS - INPLACE	
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	

SIGNAL INDICATION CHART

FACE	PHASE	INDICATION SIZE					
		R	Y	G	←Y	←G	
2-1	2	12"	12"	12"			
2-2	2	12"	12"	12"		12"	
2-3	2	12"	12"	12"		12"	
4-1	4	12"	12"	12"			
4-2	4	12"	12"	12"			
4-3	4	12"	12"	12"			
1-1	1	12"	12"	12"			
1-2	1	12"	12"	12"		12"	
1-3	1	12"	12"	12"		12"	
8-1	8	12"	12"	12"			
8-2	8	12"	12"	12"			
8-3	8	12"	12"	12"			

FLASH MODE = ALL RED

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



VEHICLE DETECTION

NO	SIZE	OPERATION	LOC
D2-1	6'X 6'	C&E	260'
D2-2	6'X 6'	C&E	260'
D2-3	2-6'X 8'	C	0'
D4-1	6'X 6'	C&E	205'
D4-2	6'X 6'	C&E	FUTURE
D4-3	2-6'X 8'	C	0'
D6-1	6'X 6'	C&E	260'
D6-2	6'X 6'	C&E	260'
D6-3	2-6'X 8'	C	0'
D8-1	6'X 6'	C&E	205'
D8-2	6'X 6'	C&E	FUTURE
D8-3	2-6'X 8'	C	0'

LOC = DISTANCE FROM STOP LINE
TO DETECTOR
C&E = CALL & EXTEND
C = CALL ONLY
E = EXTEND ONLY
(TD) = TIME DELAY

3

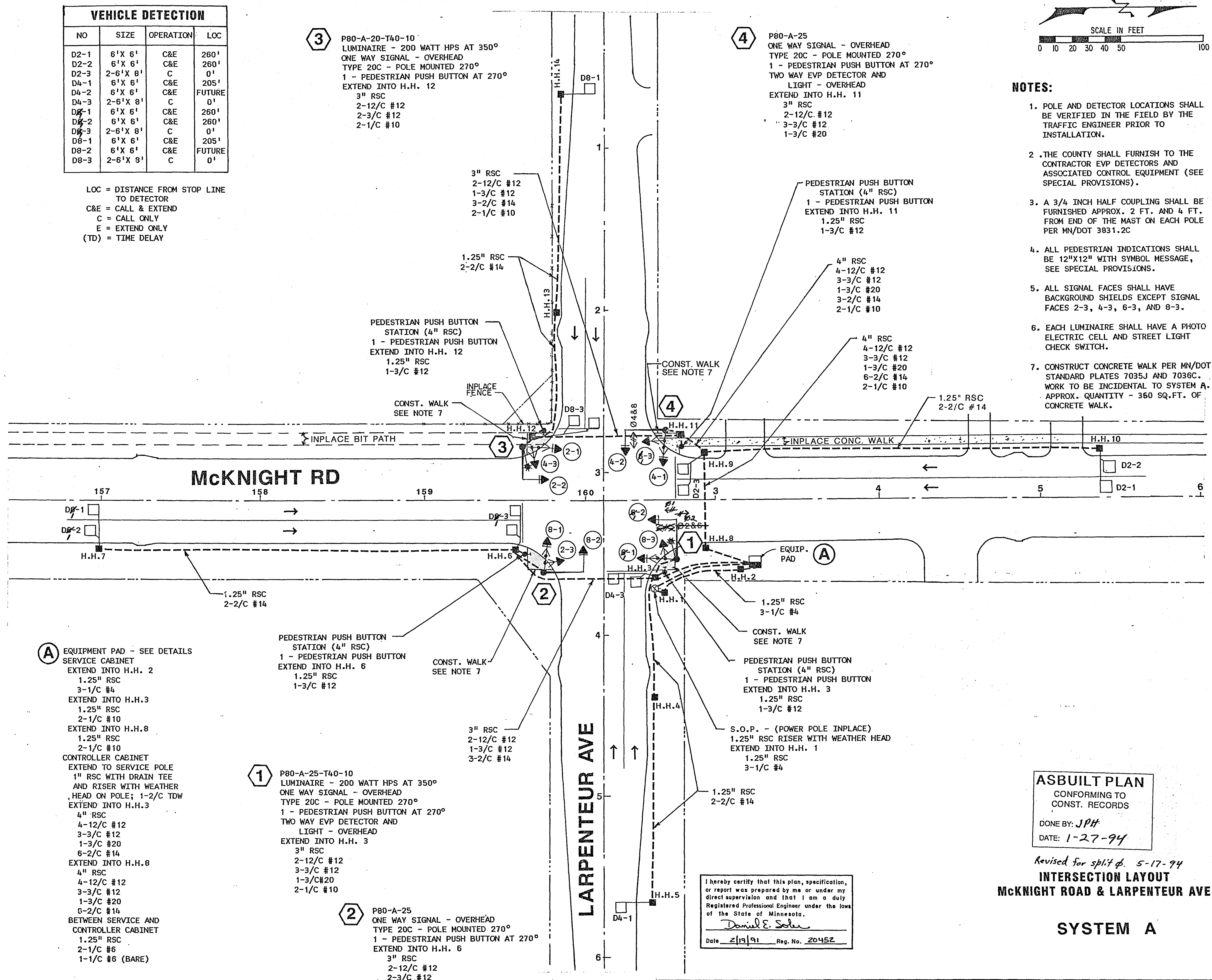
P80-A-20-T40-10
LUMINAIRE - 200 WATT HPS AT 350°
ONE WAY SIGNAL - OVERHEAD
TYPE 20C - POLE MOUNTED 270°
1 - PEDESTRIAN PUSH BUTTON AT 270°
EXTEND INTO H.H. 12
3" RSC
2-12/C #12
2-3/C #12
2-1/C #10

4

P80-A-25
ONE WAY SIGNAL - OVERHEAD
TYPE 20C - POLE MOUNTED 270°
1 - PEDESTRIAN PUSH BUTTON AT 270°
TWO WAY EVP DETECTOR AND
LIGHT - OVERHEAD
EXTEND INTO H.H. 11
3" RSC
2-12/C #12
3-3/C #12
1-3/C #20

NOTES:

- POLE AND DETECTOR LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE TRAFFIC ENGINEER PRIOR TO INSTALLATION.
- THE COUNTY SHALL FURNISH TO THE CONTRACTOR EVP DETECTORS AND ASSOCIATED CONTROL EQUIPMENT (SEE SPECIAL PROVISIONS).
- A 3/4 INCH HALF COUPLING SHALL BE FURNISHED APPROX. 2 FT. AND 4 FT. FROM END OF THE MAST ON EACH POLE PER MN/DOT 3831.2C
- ALL PEDESTRIAN INDICATIONS SHALL BE 12"X12" WITH SYMBOL MESSAGE, SEE SPECIAL PROVISIONS.
- ALL SIGNAL FACES SHALL HAVE BACKGROUND SHIELDS EXCEPT SIGNAL FACES 2-3, 4-3, 6-3, AND 8-3.
- EACH LUMINAIRE SHALL HAVE A PHOTO ELECTRIC CELL AND STREET LIGHT CHECK SWITCH.
- CONSTRUCT CONCRETE WALK PER MN/DOT STANDARD PLATES 7035J AND 7036C. WORK TO BE INCIDENTAL TO SYSTEM A. APPROX. QUANTITY - 360 SQ.FT. OF CONCRETE WALK.



ASBUILT PLAN

CONFORMING TO
CONST. RECORDS

DONE BY: JPH
DATE: 1-27-94

Revised for split ph. 5-17-94
INTERSECTION LAYOUT
McKNIGHT ROAD & LARPENTEUR AVE.

SYSTEM A

S.A.P. No. 62-668-35

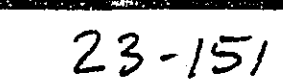
Sheet No. 4 of 11 Sheets

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24X

23-151 McKnight Rd & Larpenteur Ave
McKnight Rd & North St Paul Rd

1-11



DRAWING

PLAN HOLD CORPORATION
DESIGNED BY P.A.

DRAWING NUMBER
23-151

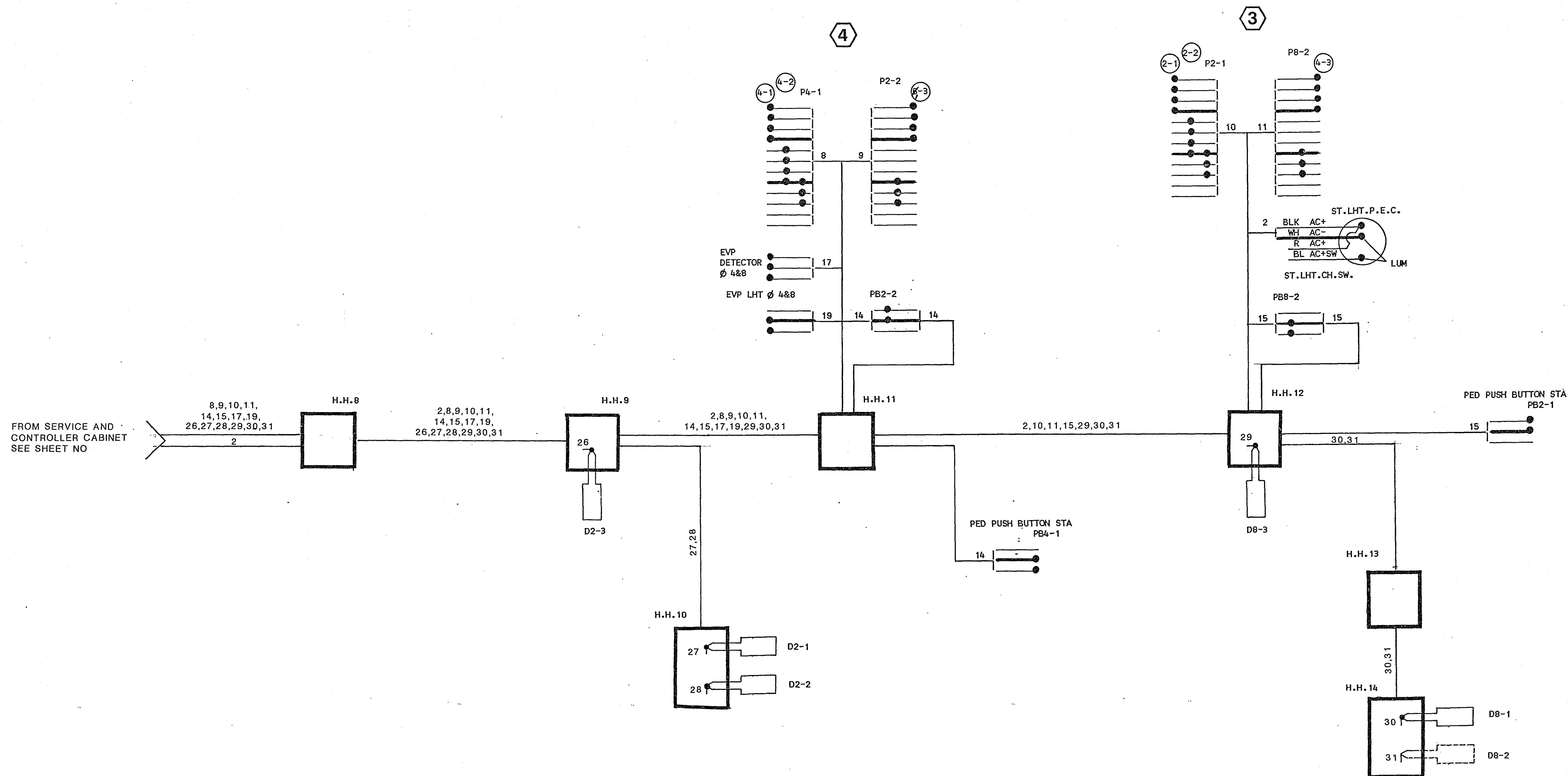
PLAN HOLD CORPORATION • IRVINE, CALIFORNIA
REVISION BY NUMBER/DATE

DRAWING NUMBER

PLAN HOLD CORPORATION • IRVINE, CALIFORNIA
REVISION BY NUMBER/DATE

NUMBER

PLAN HOLD CORPORATION • IRVINE, CALIFORNIA
REVISION BY NUMBER/DATE



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.
Daniel E. Soler
Date 2/19/91 Reg. No. 20452

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: JPH
DATE: 1-27-94

Revised for 4/17/94 5-17-94

FIELD WIRING DIAGRAM
MCKNIGHT ROAD & LARPENTEUR AVE.

SYSTEM A

S.A.P. No. 62-668-35

Sheet No. 6 of 11 Sheets

23-151

23-151 McKnight Rd & Larpenteur Ave
McKnight Rd & North St Paul Rd

1-11

24X

DRAWING

DRAWING NUMBER
23-151

DRAWING NUMBER

NUMBER

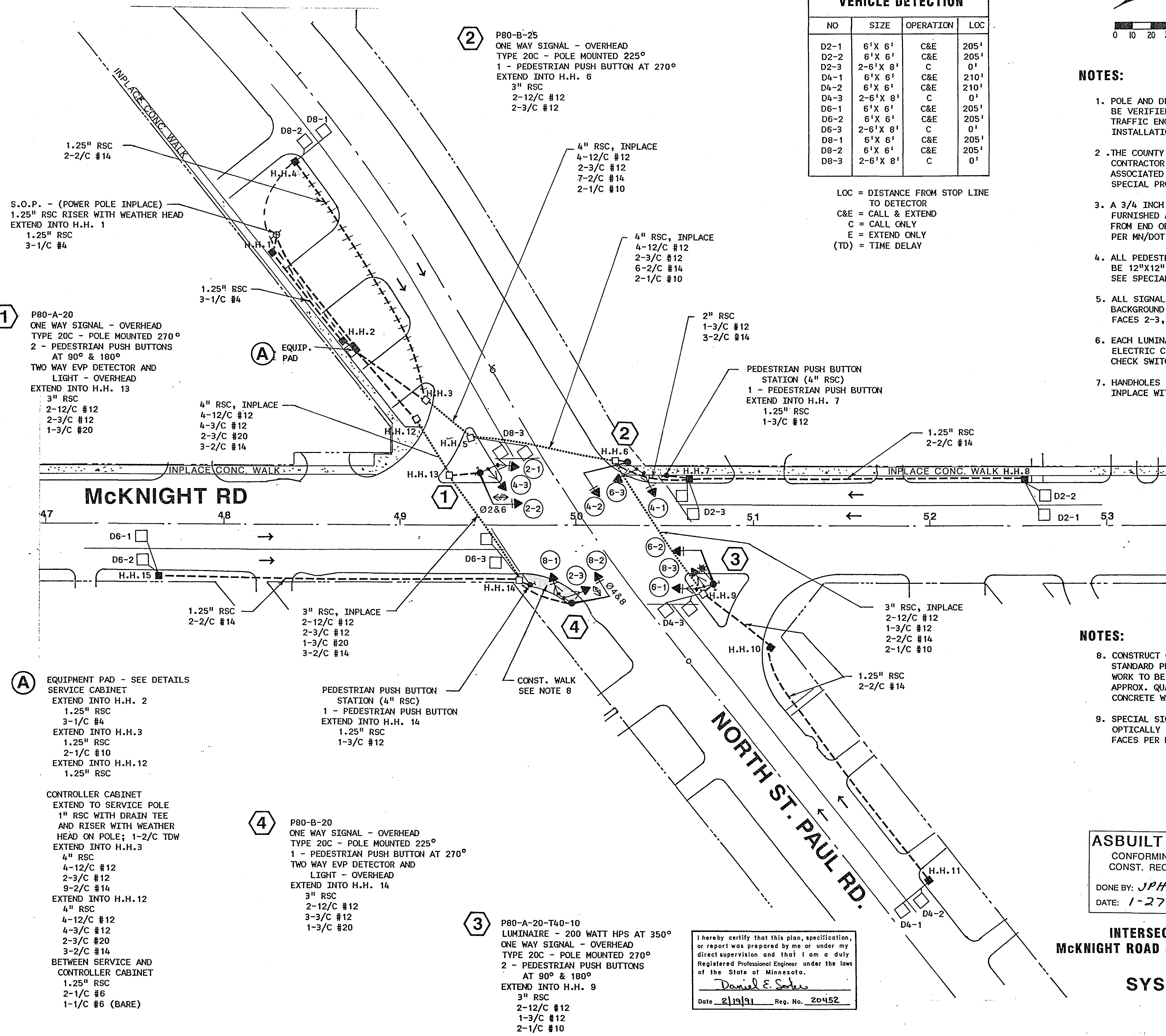
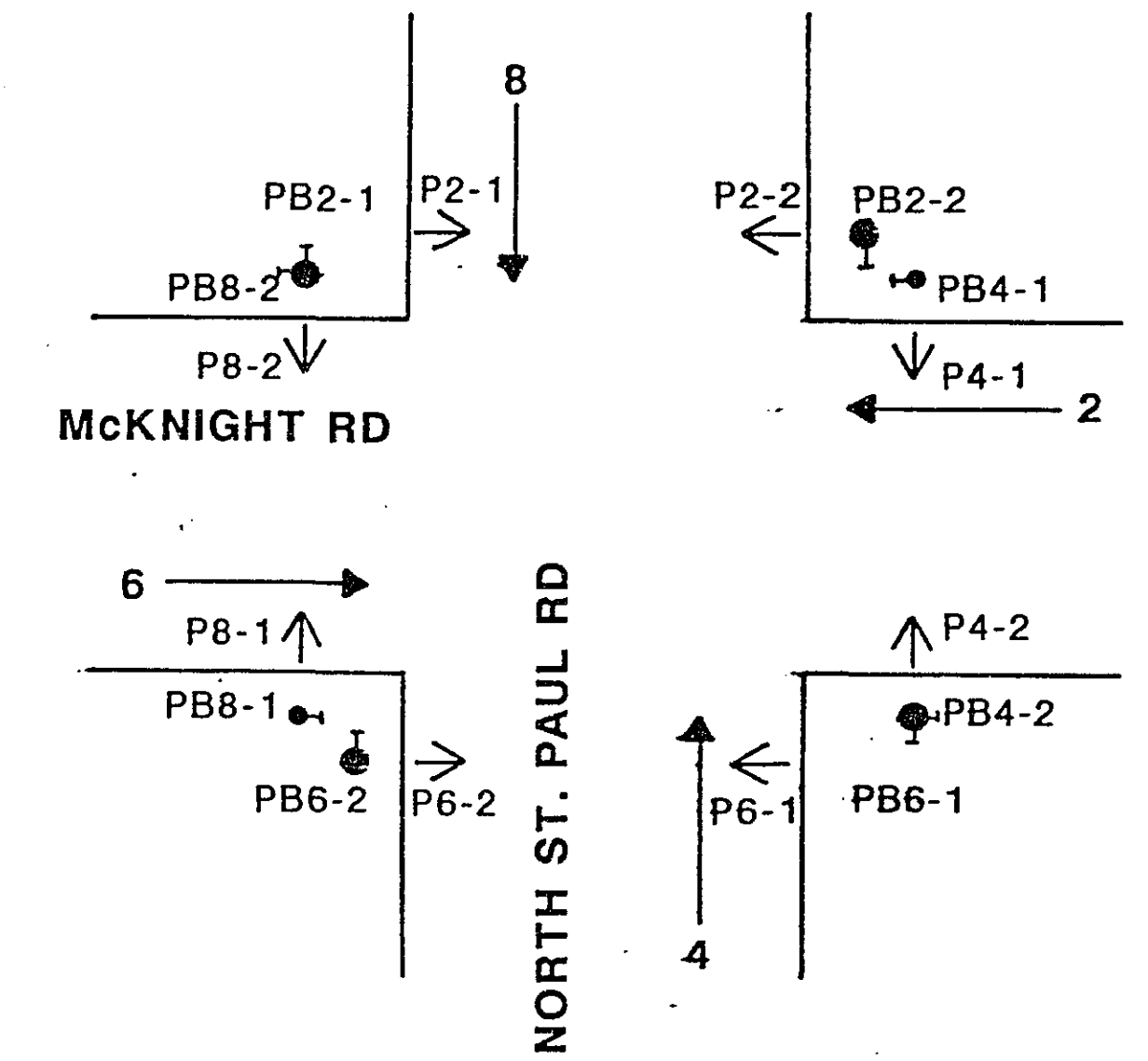
LEGEND OF SYMBOLS

- SIGNAL BASE NO. (5)
- SIGNAL FACE NO. (42)
- CONTROLLER AND CABINET
- CONTROLLER AND CABINET - INPLACE
- HANDHOLE - INPLACE
- CONDUIT - 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

SIGNAL INDICATION CHART									
FACE	PHASE	INDICATION SIZE							
		R	Y	G	←Y	←G			
2-1	2	12"	12"	12"					
2-2	2	12"	12"	12"					
2-3	2	12"	12"	12"					
4-1	4	12"	12"	12"					
4-2	4	12"	12"	12"					
4-3	4	12"	12"	12"					
6-1	6	12"	12"	12"					
6-2	6	12"	12"	12"					
6-3	6	12"	12"	12"					
8-1	8	12"	12"	12"					
8-2	8	12"	12"	12"					
8-3	8	12"	12"	12"					

FLASH MODE = ALL RED
* SPECIAL SIGNAL FACE, SEE NOTE 9

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



VEHICLE DETECTION			
NO	SIZE	OPERATION	LOC
D2-1	6'X 6'	C&E	205'
D2-2	6'X 6'	C&E	205'
D2-3	2-6'X 8'	C	0'
D4-1	6'X 6'	C&E	210'
D4-2	6'X 6'	C&E	210'
D4-3	2-6'X 8'	C	0'
D6-1	6'X 6'	C&E	205'
D6-2	6'X 6'	C&E	205'
D6-3	2-6'X 8'	C	0'
D8-1	6'X 6'	C&E	205'
D8-2	6'X 6'	C&E	205'
D8-3	2-6'X 8'	C	0'

LOC = DISTANCE FROM STOP LINE TO DETECTOR
C&E = CALL & EXTEND
C = CALL ONLY
E = EXTEND ONLY
(TD) = TIME DELAY

NOTES:

- POLE AND DETECTOR LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE TRAFFIC ENGINEER PRIOR TO INSTALLATION.
- THE COUNTY SHALL FURNISH TO THE CONTRACTOR EVP DETECTORS AND ASSOCIATED CONTROL EQUIPMENT (SEE SPECIAL PROVISIONS).
- A 3/4 INCH HALF COUPLING SHALL BE FURNISHED APPROX. 2 FT. AND 4 FT. FROM END OF THE MAST ON EACH POLE PER MN/DOT 3831.2C
- ALL PEDESTRIAN INDICATIONS SHALL BE 12"X12" WITH SYMBOL MESSAGE, SEE SPECIAL PROVISIONS.
- ALL SIGNAL FACES SHALL HAVE BACKGROUND SHIELDS EXCEPT SIGNAL FACES 2-3, 4-3, 6-3, AND 8-3.
- EACH LUMINAIRE SHALL HAVE A PHOTO ELECTRIC CELL AND STREET LIGHT CHECK SWITCH.
- HANDHOLES 3,5,6,9,12,13 & 14 ARE INPLACE WITH R.S.C.. USE INPLACE.

NOTES:

- CONSTRUCT CONCRETE WALK PER MN/DOT STANDARD PLATES 7035J AND 7036C. WORK TO BE INCIDENTAL TO SYSTEM B. APPROX. QUANTITY - 180 SQ.FT. OF CONCRETE WALK.
- SPECIAL SIGNAL FACES - 4-3 AND 8-3. OPTICALLY PROGRAMMED VEHICLE SIGNAL FACES PER MN/DOT 3834.2B.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: JPH
DATE: 1-27-94

INTERSECTION LAYOUT
McKNIGHT ROAD & NORTH ST. PAUL RD.

SYSTEM B

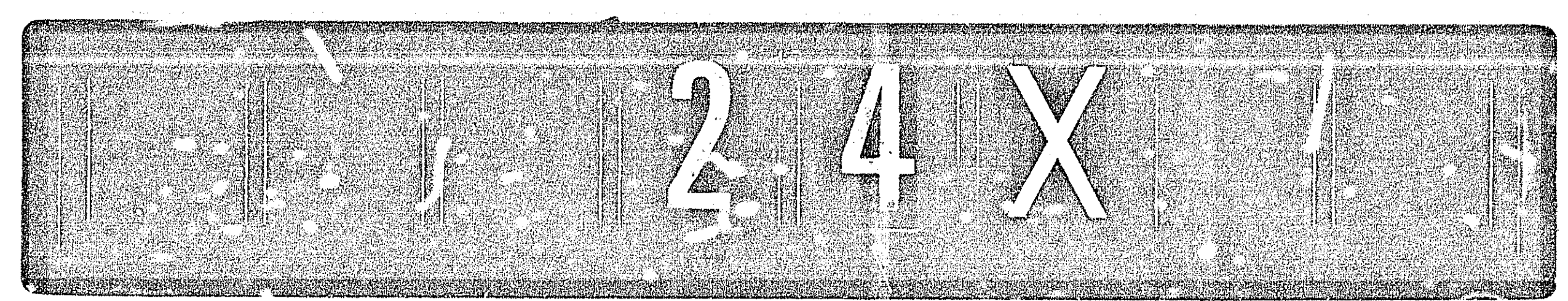
S.A.P. No. 62-668-35

Sheet No. 7 of 11 Sheets

23-151

23-151 McKnight Rd & Carpenter Ave
McKnight Rd & North St Paul Rd

1-11



DRAWING

DRAWING NUMBER
23-151

DRAWING NUMBER

NUMBER

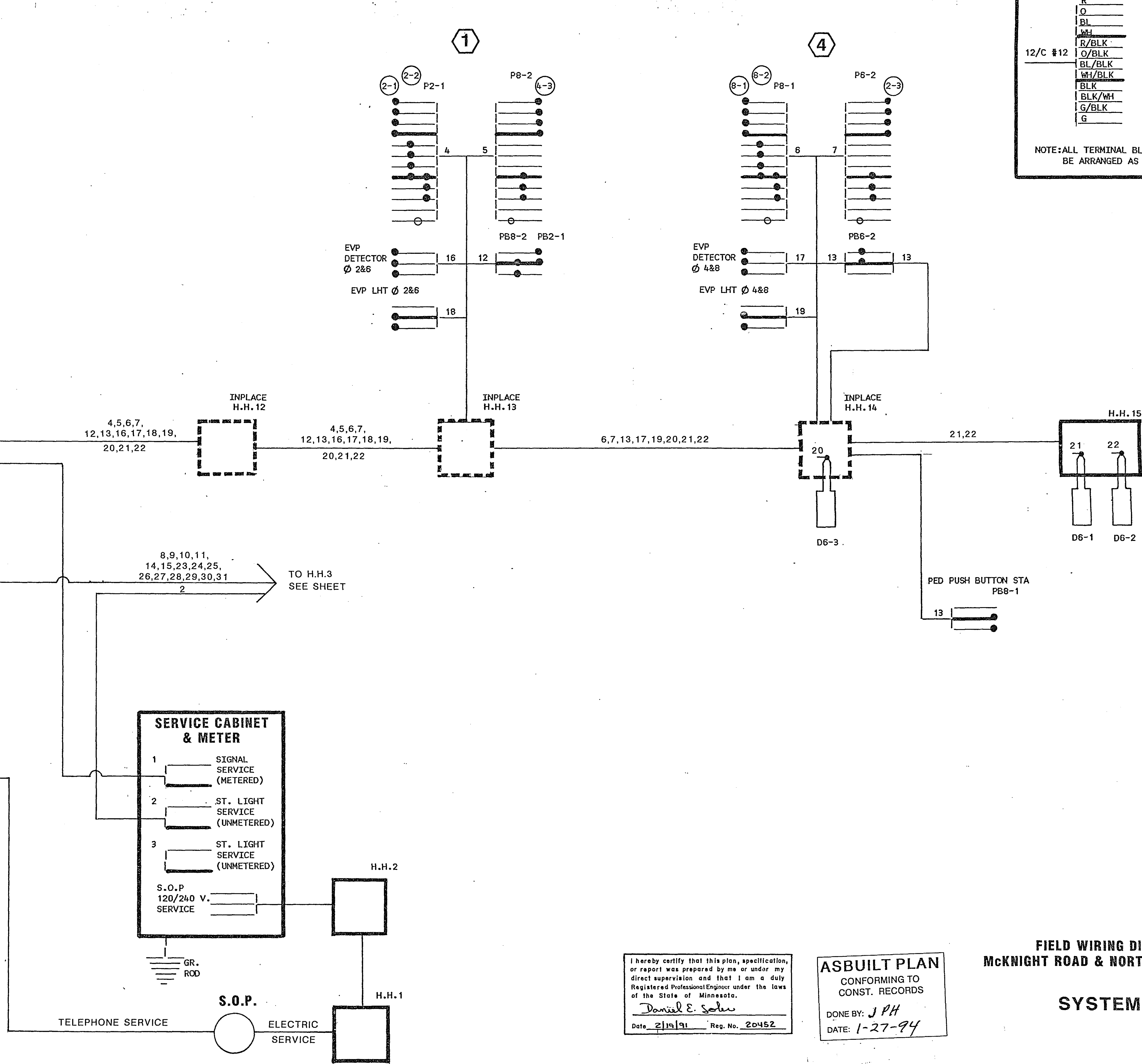
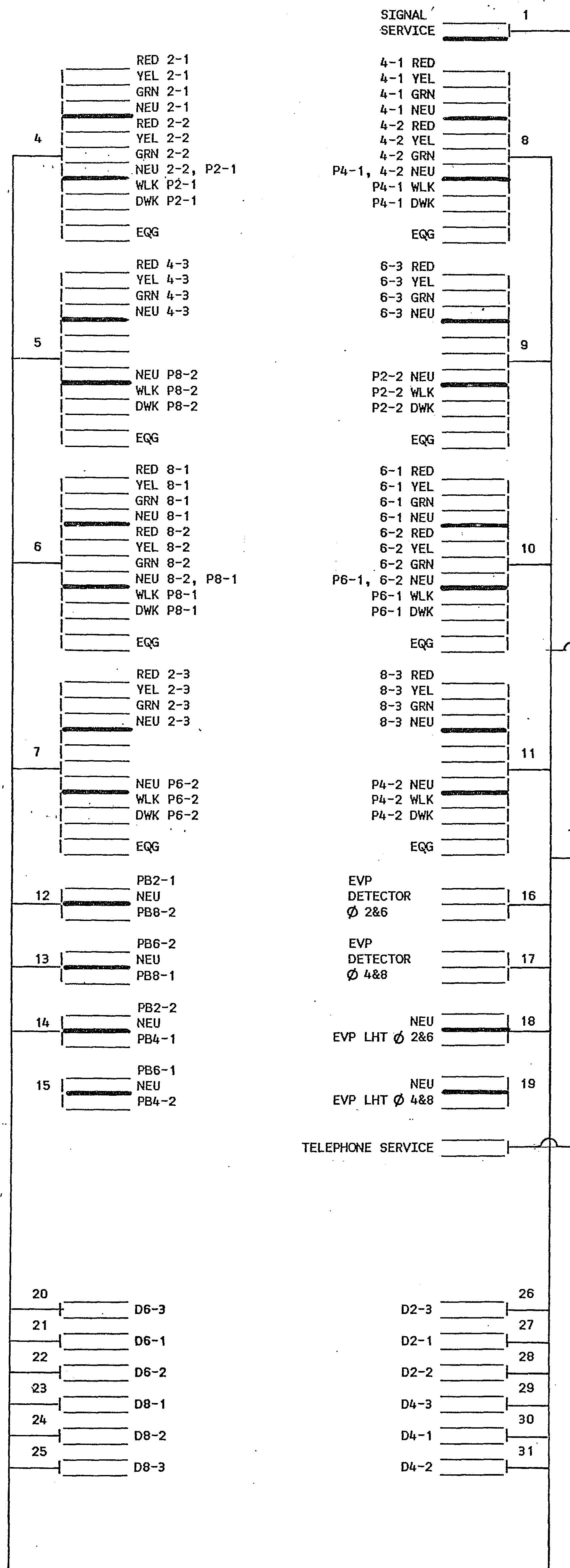
PLAN HOLD CORPORATION • IRVINE, CALIFORNIA
RECORD BY NUMBER 07548

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RECORD BY NUMBER 07548

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RECORD BY NUMBER 07548

CONTROLLER CABINET



CONDUCTOR COLOR CODING

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

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

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.
Daniel E. Sauer
Date 2/19/91 Reg. No. 20452

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: JPH
DATE: 1-27-94

FIELD WIRING DIAGRAM
McKNIGHT ROAD & NORTH ST. PAUL RD.

SYSTEM B

S.A.P. No. 62-668-35

Sheet No. 8 of 11 Sheets

23-151

23-151 McKnight Rd & Carpenter Ave
McKnight Rd & North St Paul Rd

1-11

24X

DRAWING

PLAN HOLD CORPORATION
REGISTERED PROFESSIONAL ENGINEER
MINNESOTA

DRAWING NUMBER
23-151

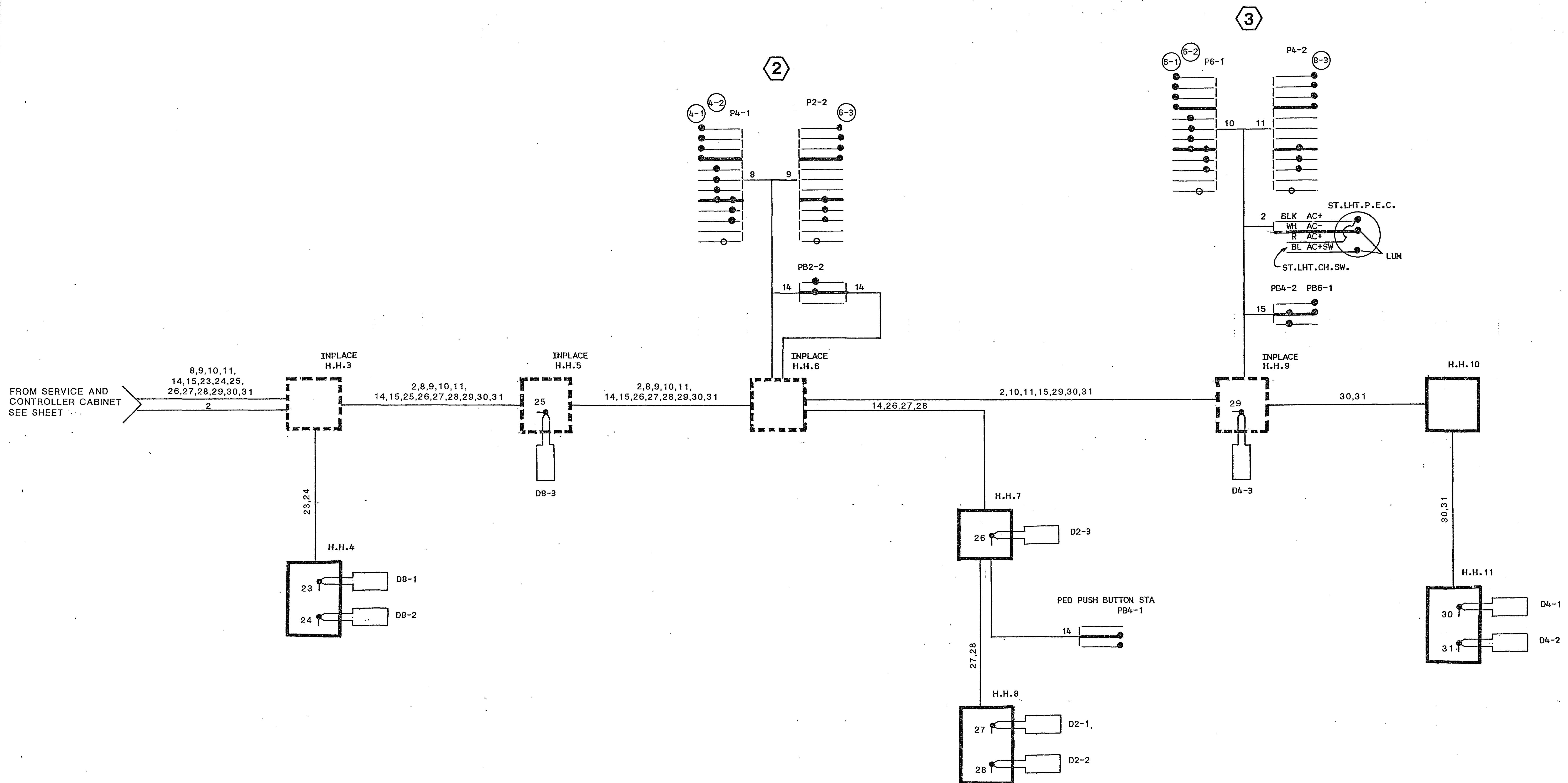
PLAN HOLD CORPORATION • ST. PAUL, CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER
MINNESOTA

DRAWING NUMBER

PLAN HOLD CORPORATION • ST. PAUL, CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER
MINNESOTA

NUMBER

PLAN HOLD CORPORATION
REGISTERED PROFESSIONAL ENGINEER
MINNESOTA



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.
Daniel E. Soler
Date 2/13/91 Reg. No. 20452

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *JPH*
DATE: 1-27-94

FIELD WIRING DIAGRAM
McKNIGHT ROAD & NORTH ST. PAUL RD.
SYSTEM B

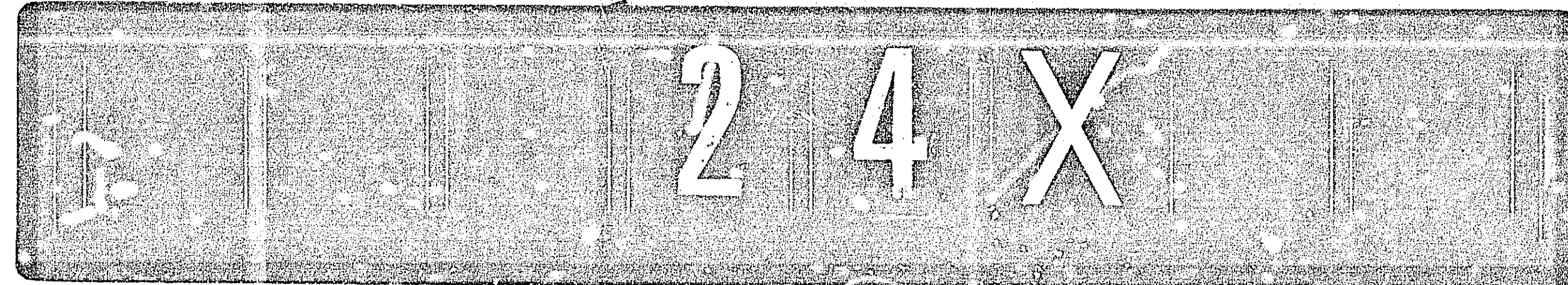
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Sheet No. 9 of 11 Sheets

23-151

23-151 McKnight Rd & Carpenter Ave
McKnight Rd & North St Paul Rd

1-11



DRAWING

DRAWING NUMBER

23-151

DRAWING NUMBER

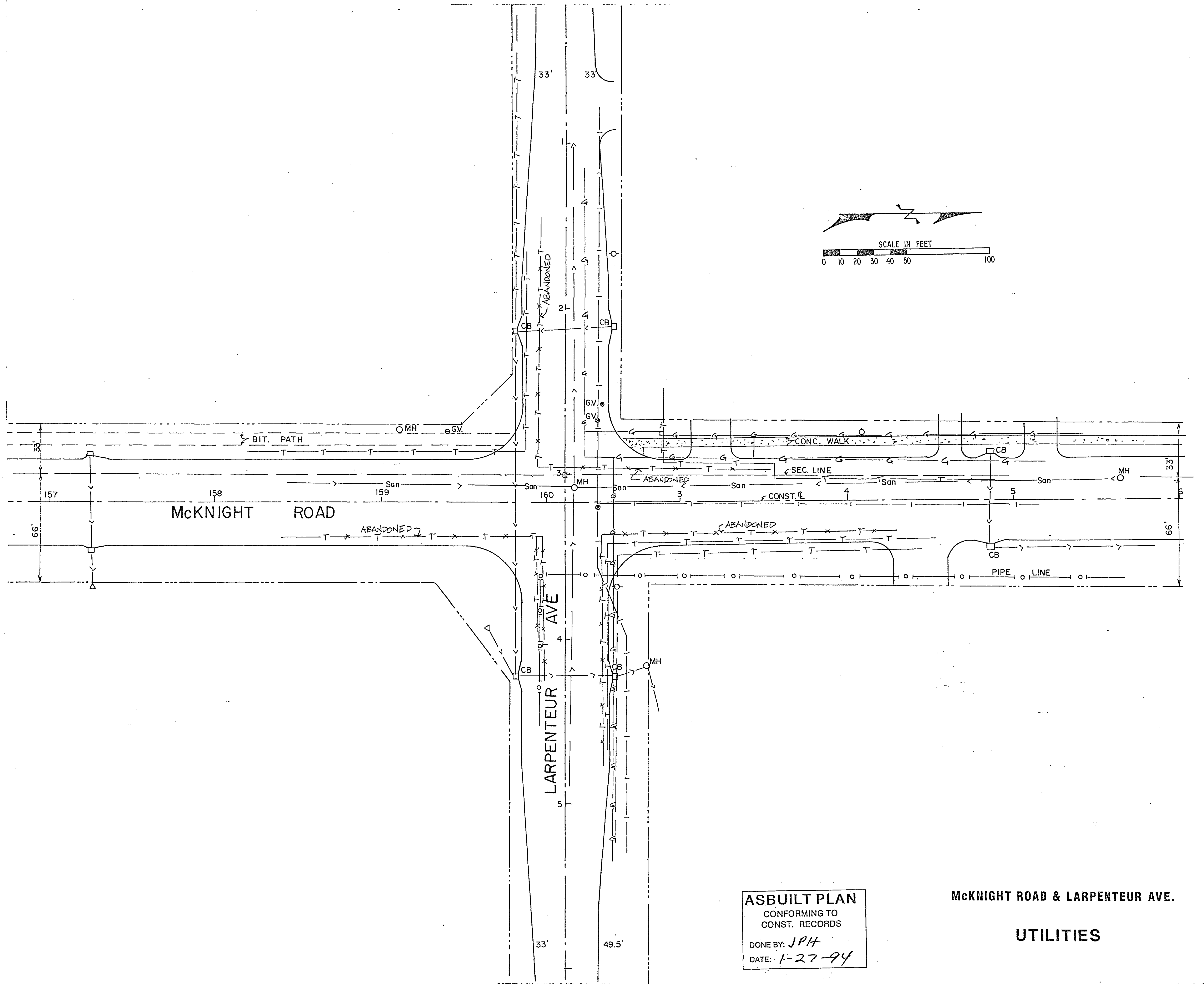
NUMBER

PLAN HOLD CORPORATION
REDUCED BY 1/4"

PLAN HOLD CORPORATION • IRVINE, CALIFORNIA
REDUCED BY NUMBER 0758A

PLAN HOLD CORPORATION • IRVINE, CALIFORNIA
REDUCED BY NUMBER 0758A

PLAN HOLD CORPORATION
MEMBER OF THE



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: JPH
DATE: 1-27-94

McKNIGHT ROAD & LARPEnteUR AVE.

UTILITIES

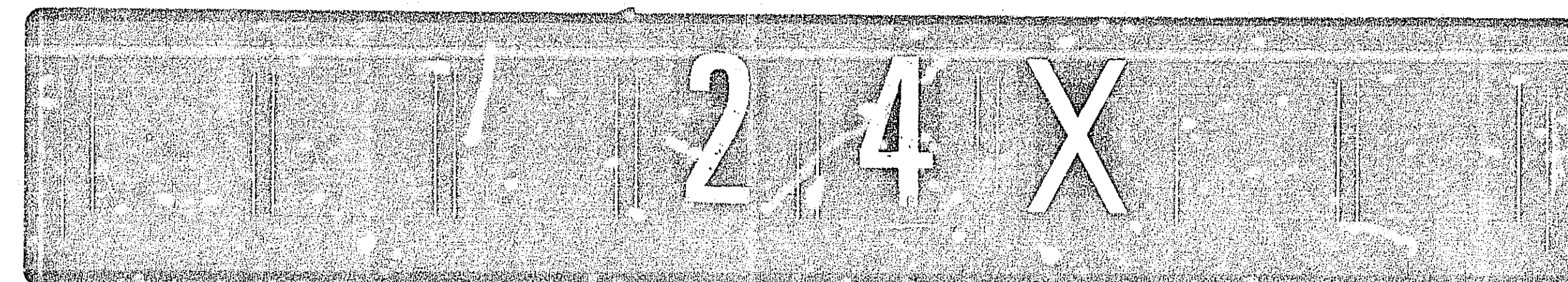
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Sheet No. 10 of 11 Sheets

23-151

23-151 McKnight Rd & Larpenteur Ave
McKnight Rd & North St Paul Rd

1-11



DRAWING

PLAN HOLD CORPORATION
RECORD BY N

DRAWING NUMBER
23-151

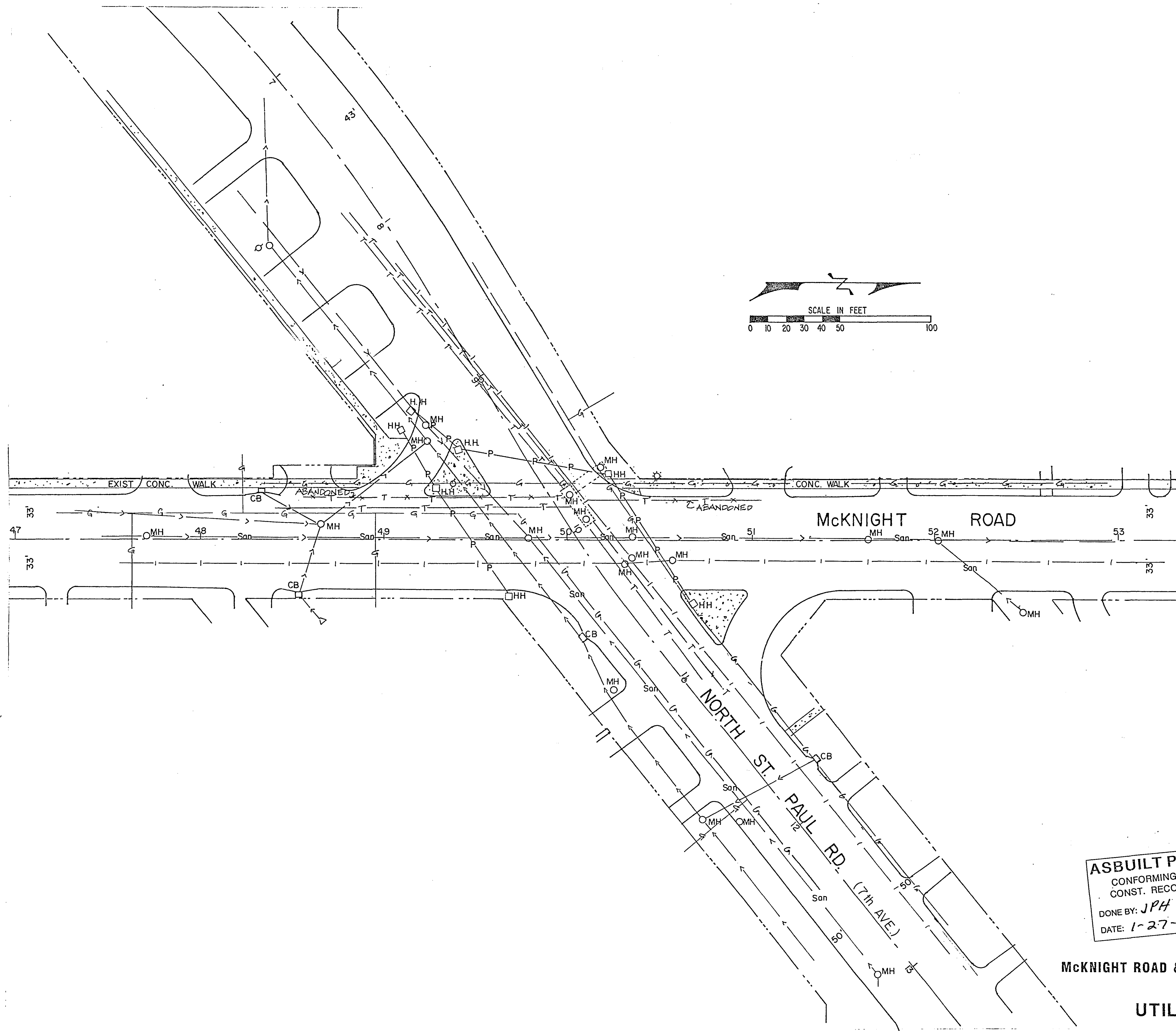
PLAN HOLD CORPORATION • IRVINE, CALIFORNIA
RECORD BY NUMBER 07548

DRAWING NUMBER

PLAN HOLD CORPORATION • IRVINE, CALIFORNIA
RECORD BY NUMBER 07548

NUMBER

IRVINE, CALIFORNIA
18107548



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: JPH
DATE: 1-27-94

McKNIGHT ROAD & NORTH ST. PAUL RD.

UTILITIES

S.A.P. No. 62-668-35

Sheet No. 11 of 11 Sheets

23-151

23-151 McKnight Rd & Carpenter Ave
McKnight Rd & North St. Paul Rd

1-11

24X