

DRAWING NUMBER

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ABBREVIATIONS

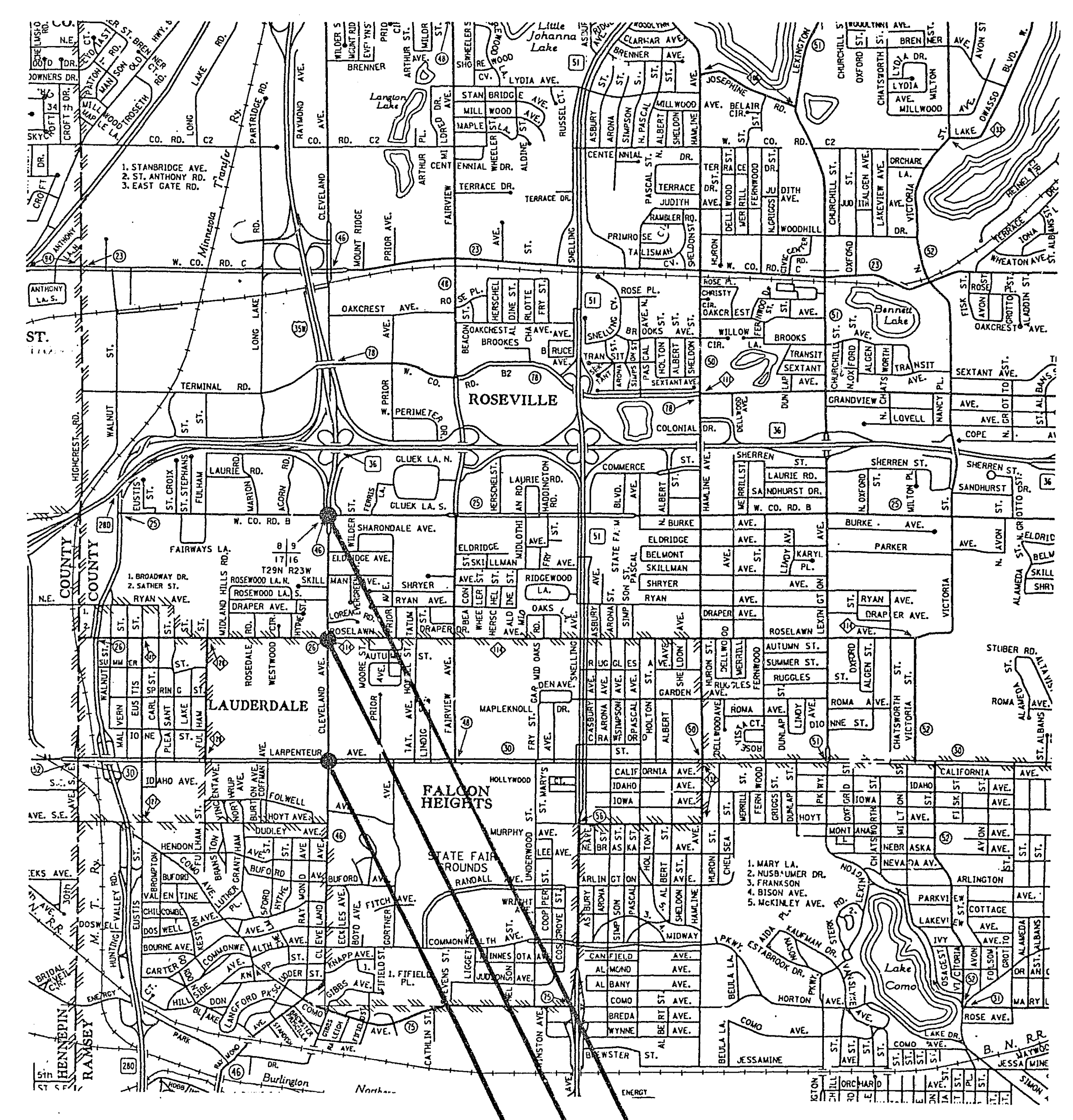
- 3-1 (e.g.) - SIGNAL HEAD PHASE "3", NO. "1"
- BL - BLUE
- BLK - BLACK
- BLK/WH - BLACK WITH WHITE TRACER
- BL/BLK - BLUE WITH BLACK TRACER
- BR. GR. - BARE GROUND
- CH. SW. - CHECK SWITCH
- CLR - CLEAR
- D2-1 (e.g.) - DETECTOR PHASE "2", NO. "1"
- DNL - DOWNLIGHT
- DWK - DON'T WALK
- EQG - EQUIPMENT GROUND
- EVP - EMERGENCY VEHICLE PRE-EMPTION
- F & I - FURNISH AND INSTALL
- FL - FLASH / FLASHING
- G - GREEN
- GLTA - GREEN LEFT TURN ARROW
- GRN - GREEN
- GRTA - GREEN RIGHT TURN ARROW
- GR.R. - GROUND ROD
- GTHA - GREEN THROUGH ARROW
- G/BLK - GREEN WITH BLACK TRACER
- HPS - HIGH PRESSURE SODIUM
- H.H. - HANDHOLE
- IMC - INTERMEDIATE METAL CONDUIT
- J.B. - JUNCTION BOX
- LTA - LEFT TURN ARROW
- LUM - LUMINAIRE
- MV - MERCURY VAPOR
- NEU - NEUTRAL
- NMC - NON-METALLIC CONDUIT
- O - ORANGE
- O/BLK - ORANGE WITH BLACK TRACER
- P1-1 (e.g.) - PEDESTRIAN INDICATION PHASE "1", NO. "1"
- PB - PUSH BUTTON
- PB2-1 (e.g.) - PUSH BUTTON PHASE "2", NO. "1"
- PED - PEDESTRIAN
- P.E.C. - PHOTOELECTRIC CELL
- R - RED
- R & S - REMOVE AND SALVAGE
- RSC - RIGID STEEL CONDUIT
- RTA - RIGHT TURN ARROW
- R/BLK - RED WITH BLACK TRACER
- SPR - SPARE
- STA - STATION
- ST. LHT. - STREET LIGHT
- SW - SWITCH
- SWD - SWITCHED
- S.O.P. - SOURCE OF POWER
- TDW - TELEPHONE DROP WIRE
- WH - WHITE
- WH/BLK - WHITE WITH BLACK TRACER
- WLK - WALK
- YEL - YELLOW
- YLTA - YELLOW LEFT TURN ARROW
- YRTA - YELLOW RIGHT TURN ARROW
- YTHA - YELLOW THROUGH ARROW

FOR PLANS AND UTILITIES SYMBOLS SEE MN/DOT TECHNICAL MANUAL.

-GOVERNING SPECIFICATIONS-

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

2000' 0 SCALE 2000' 4000'

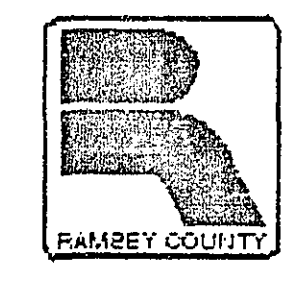


SYSTEM A
CLEVELAND AVE & LARPENTEUR AVE

SYSTEM B
CLEVELAND AVE & ROSELAWN AVE

SYSTEM C
CLEVELAND AVE (I35W RAMP TERM.)
& COUNTY RD B

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: JPH
DATE: 2-13-95



RAMSEY COUNTY
DEPARTMENT OF PUBLIC WORKS

CONSTRUCTION PLAN FOR TRAFFIC CONTROL SIGNAL SYSTEM

S.A.P. No. 62-646-11

- CLEVELAND AVE & LARPENTEUR AVE SYSTEM A
- CLEVELAND AVE & ROSELAWN AVE SYSTEM B
- CLEVELAND AVE (I35W RAMP TERM.) & COUNTY RD B. SYSTEM C

INDEX

SHEET NO.	DESCRIPTION
1	TITLE
2-3	ESTIMATED QUANTITIES & DETAILS
4-8	SYSTEM A
9-11	SYSTEM B
12-15	SYSTEM C
16-19	PROPOSED ROAD CONSTRUCTION (INFORMATION ONLY)

DESIGN SQUAD R. Weber DATE 9/9/91 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.
DRAWN BY _____ DATE _____
CHECKED BY _____ DATE _____ Daniel E. Sohn REG. NO. 20452 DATE 3/12/92

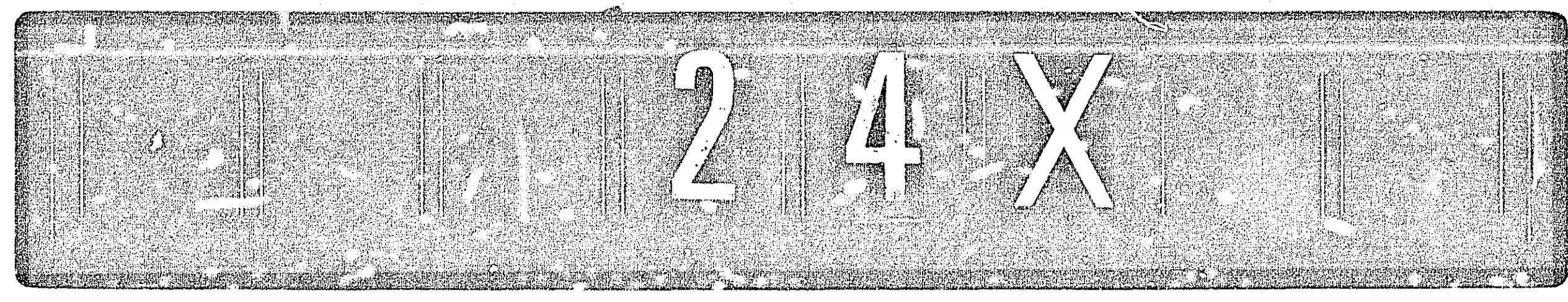
RAMSEY COUNTY

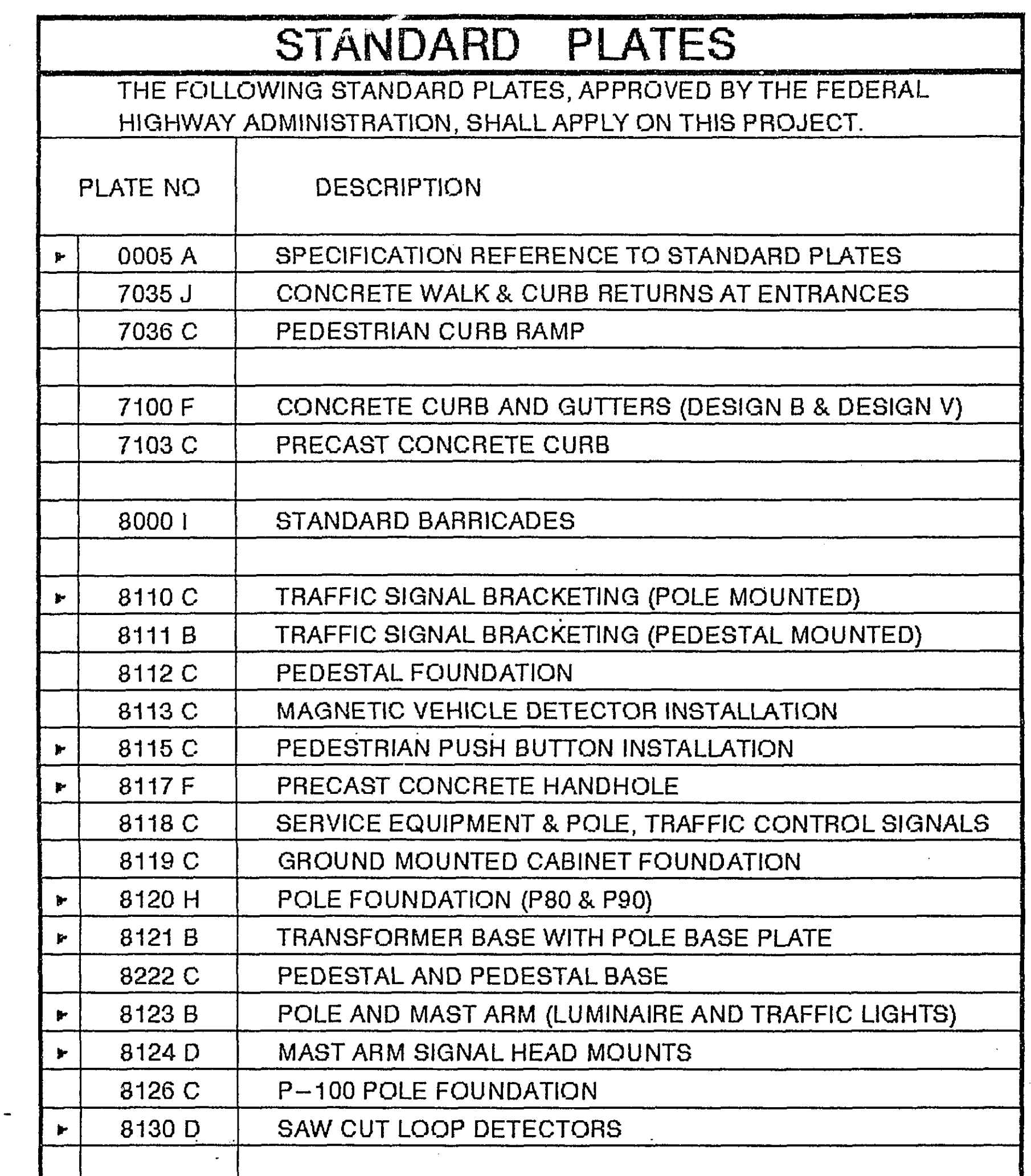
RECOMMENDED FOR APPROVAL LKF DATE 3-10-92 RECOMMENDED FOR APPROVAL Paul Kibbey DATE 3/9/92
CONST. ENGR. COUNTY ENGINEER
RECOMMENDED FOR APPROVAL DLR DATE 3-9-92 APPROVED Harold A. Wingard DATE 6/18/92
DESIGN ENGR. CHAIR OF THE RAMSEY COUNTY BOARD
RECOMMENDED FOR APPROVAL DDJ DATE 3-9-92 APPROVED Lucy McManis DATE 4/13/92
MAINT. ENGR. CITY OF FALCON HEIGHTS
RECOMMENDED FOR APPROVAL TAM DATE 3-9-92 APPROVED Steve D. Nordin DATE 4-9-92
PLANNER CITY OF ROSEVILLE
RECOMMENDED FOR APPROVAL JAB DATE 3-9-92 APPROVED _____ DATE _____
R.O.W. ENGR. CITY OF _____
RECOMMENDED FOR APPROVAL KMR DATE 3-9-92 APPROVED _____ DATE _____
MAINT. ENGR. CITY OF _____
RECOMMENDED W. J. Korman DATE 3-9-92 APPROVED _____ DATE _____
COORDINATING ENGR.
RECOMMENDED Sam E. Loman DATE 3/9/92 APPROVED _____ DATE _____
PROGRAM ENGR.

MINNESOTA DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR APPROVAL M. J. Dink DATE 5/27/92
STATE AID PLANS & SPEC. ENGR.
RECOMMENDED FOR APPROVAL Ed M. M... DATE 9/2
TRAFFIC ENGINEER
RECOMMENDED FOR APPROVAL Michael R. P... DATE 5/29/92
TRAFFIC ENGINEER
APPROVED Dennis C. Carlson DATE 5/24/92
STATE AID ENGINEER

23-153 Cleveland Ave & Larpenteur system A
SAP Cleveland Ave & Roselawn Ave system B
62-646-11 " " & Co Rd B 1-19



[illegible]

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: JPH
DATE: 2-13-95

ESTIMATED QUANTITIES & DETAILS

Sheet No. 2 of 19 Sheets

73-153
SAP
62-646-11

Cleveland Avenue & Carpenter
Cleveland Avenue & Rosemary Ave
" " " " & Co Rd B

System A
System A

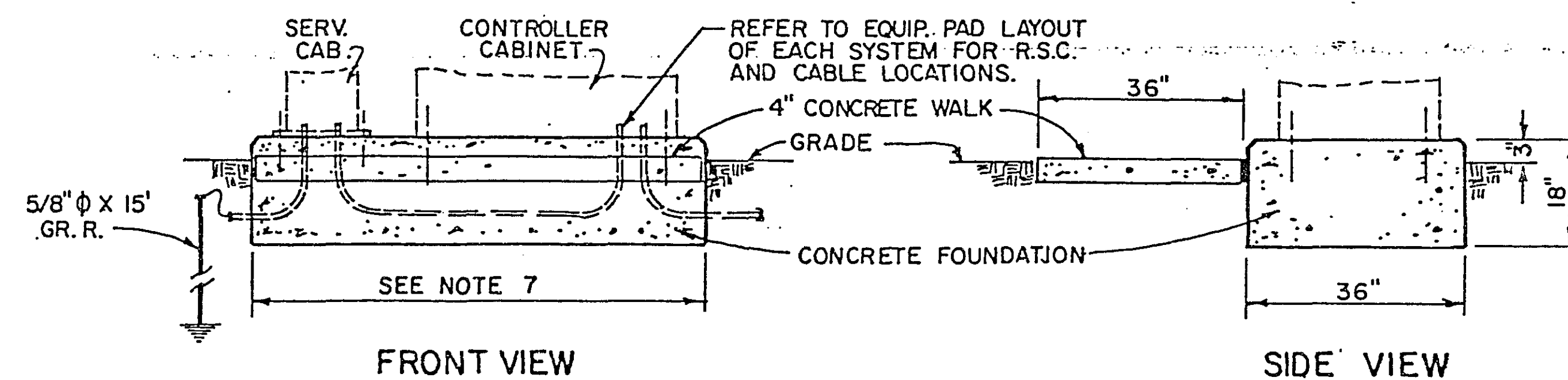
1-19

2-4-X

EQUIPMENT PAD FOUNDATION

NOTES:

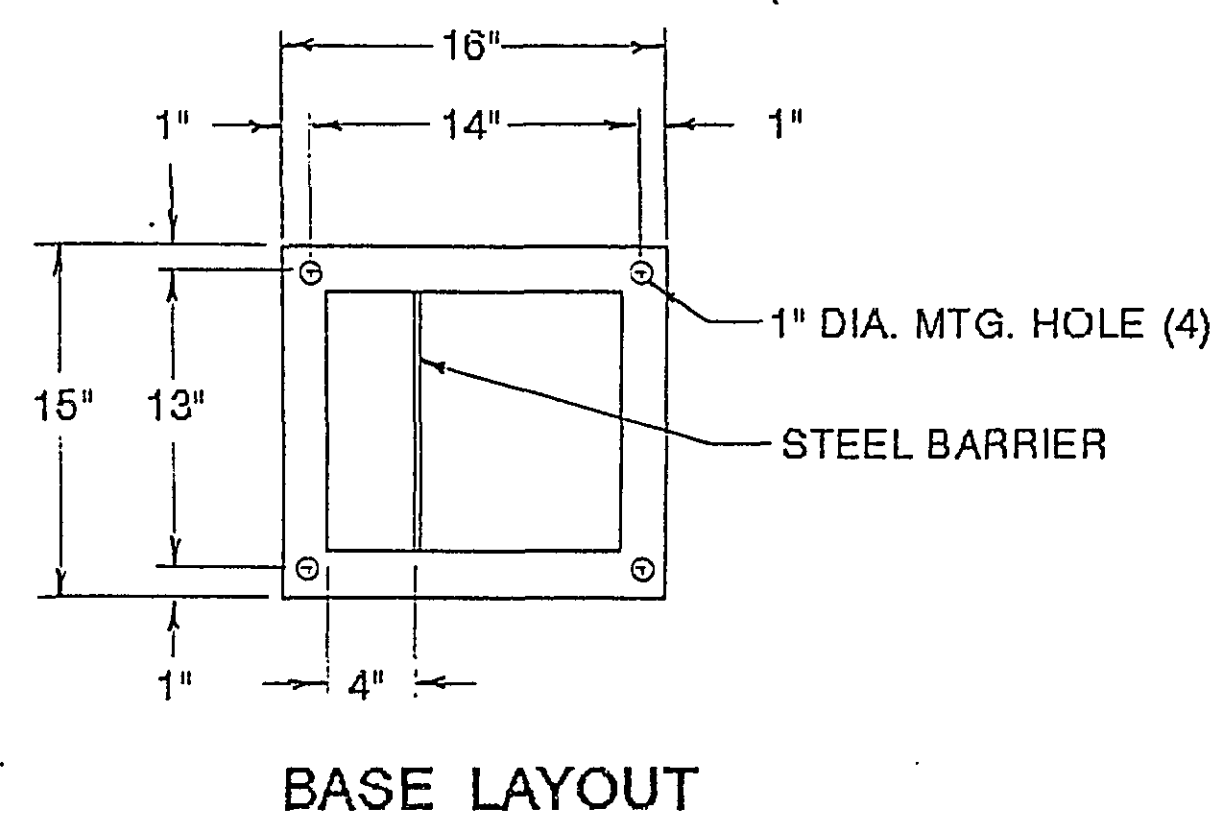
- ANCHOR RODS, NUTS AND WASHERS PER MN/DOT 3385 OR APPROVED EQUAL SET AS RECOMMENDED BY CABINET MANUFACTURER (NUMBER, SIZE AND LENGTH OF ANCHOR RODS) SHALL BE AS REQUIRED BY THE CABINET (MANUFACTURER.)
- UPPER PART OF FOUNDATION SHALL BE BEVELED OR CHAMFERED IN A NEAT MANNER AS DIRECTED BY THE ENGINEER IN THE FIELD.
- 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.)
- CONCRETE MIX 3A32 OR EQUAL SHALL BE USED FOR FOUNDATION AND CONCRETE WALK.
- CONDUITS WHICH HAVE BOTH ENDS TERMINATING WITHIN THE PAD SHALL NOT BE INSTALLED BELOW THE CONCRETE.
- EXACT LOCATIONS OF CONDUIT WITHIN THE PAD SHALL BE AS DETERMINED BY THE ENGINEER IN THE FIELD.
- REFER TO EQUIPMENT PAD LAYOUT OF EACH SYSTEM FOR FOUNDATION SIZE, CONDUIT PLACEMENT AND EQUIPMENT TO BE INSTALLED.



FRONT VIEW

SIDE VIEW

SERVICE CABINET DETAILS

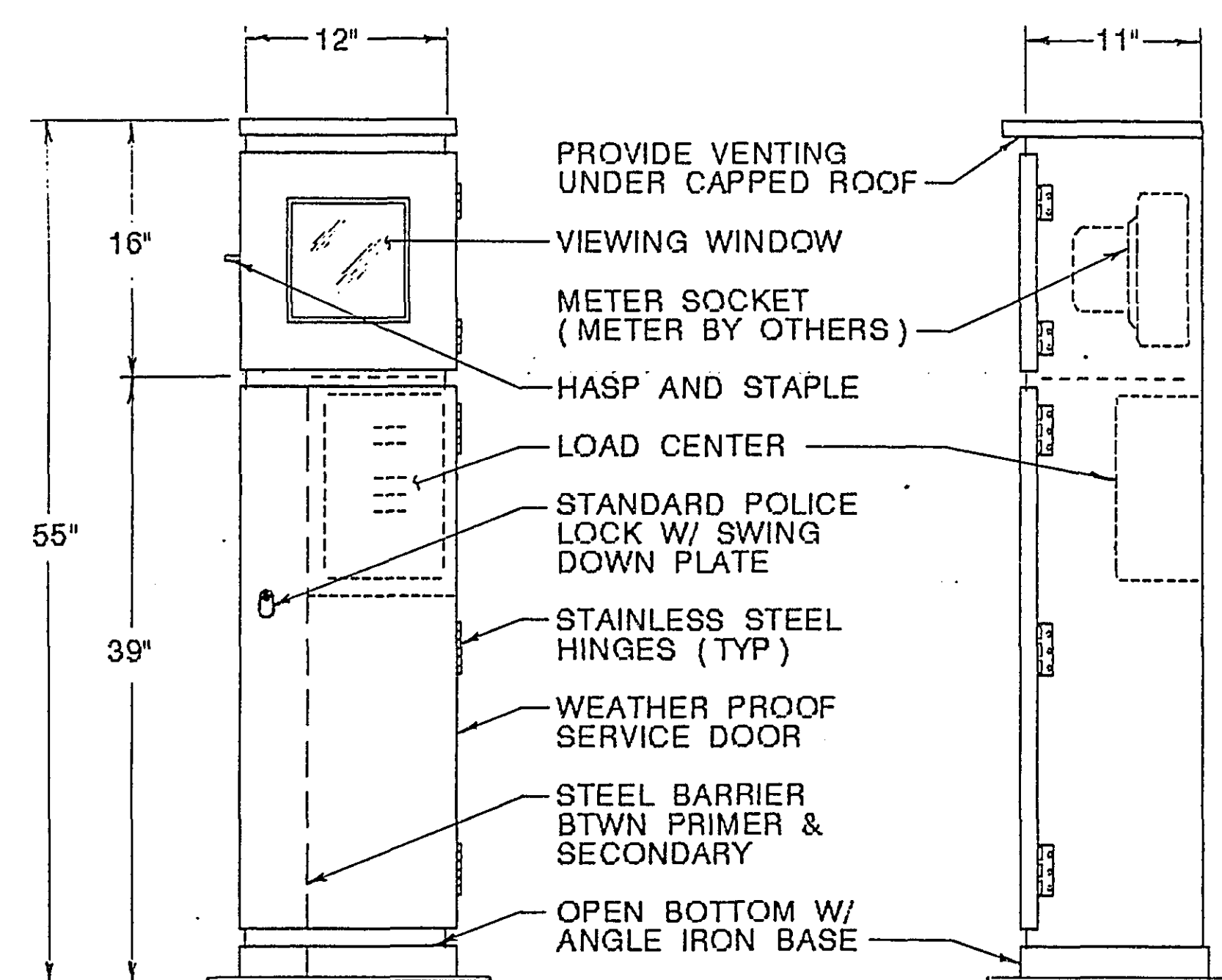


BASE LAYOUT

NOTES:

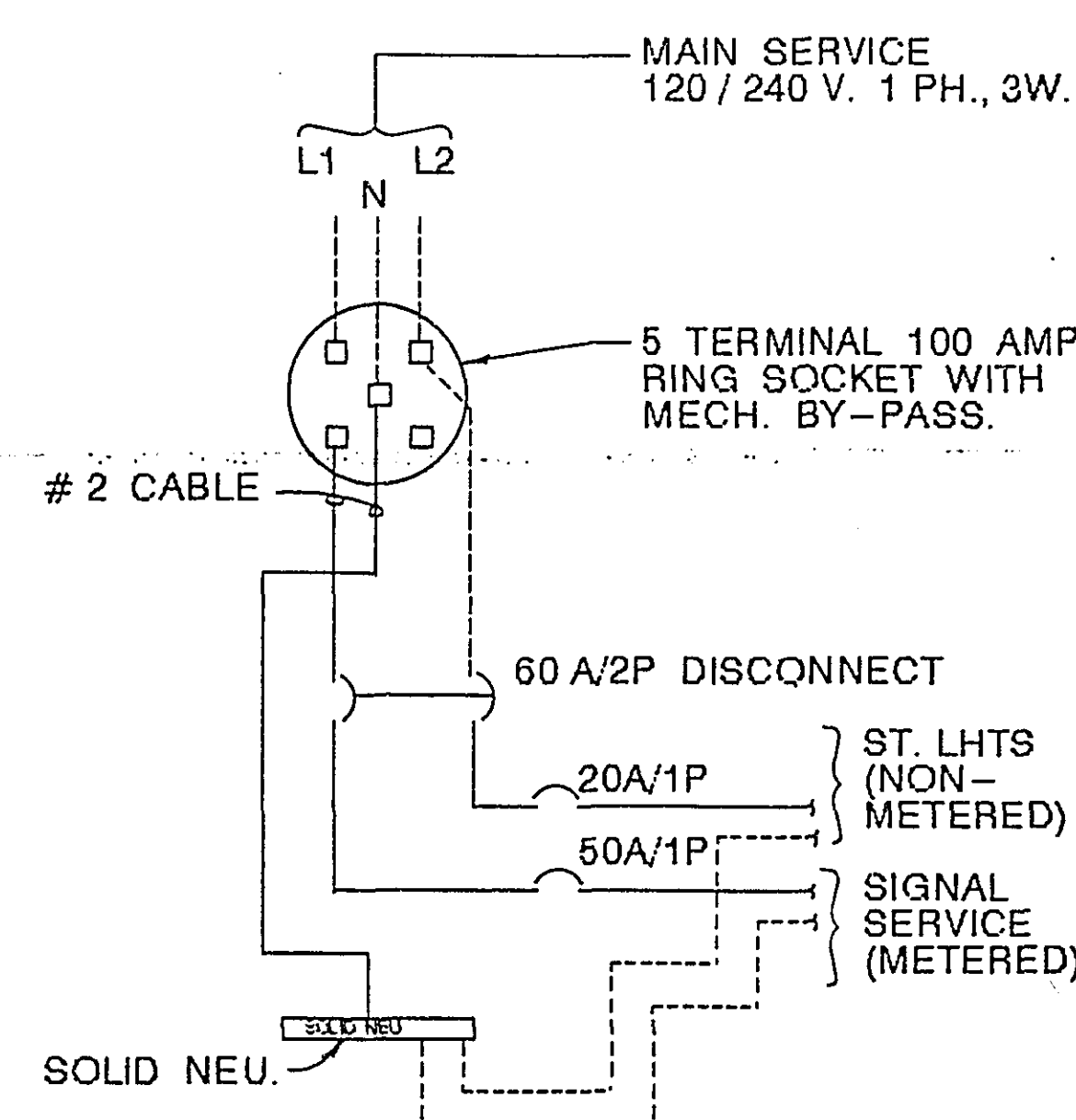
- PEDESTAL SHALL BE FABRICATED FROM NO. 12 GA. ALL FORMED AND WELDED COLD ROLD STEEL FOR USE AS OUTDOOR WEATHER PROOF SERVICE.
- DOOR OPENINGS SHALL BE SEALED WITH NEOPRENE GASKET.
- ALL HINGES, HINGE PINS AND LOCKS SHALL BE OF NON-CORRODING CONSTRUCTION.
- THE VIEWING WINDOW SHALL BE LEXAN MATERIAL - 7\"/>

ANCHOR RODS, NUTS & WASHERS-SEE EQUIP. PAD NOTE #1.



FRONT ELEVATION

SIDE ELEVATION



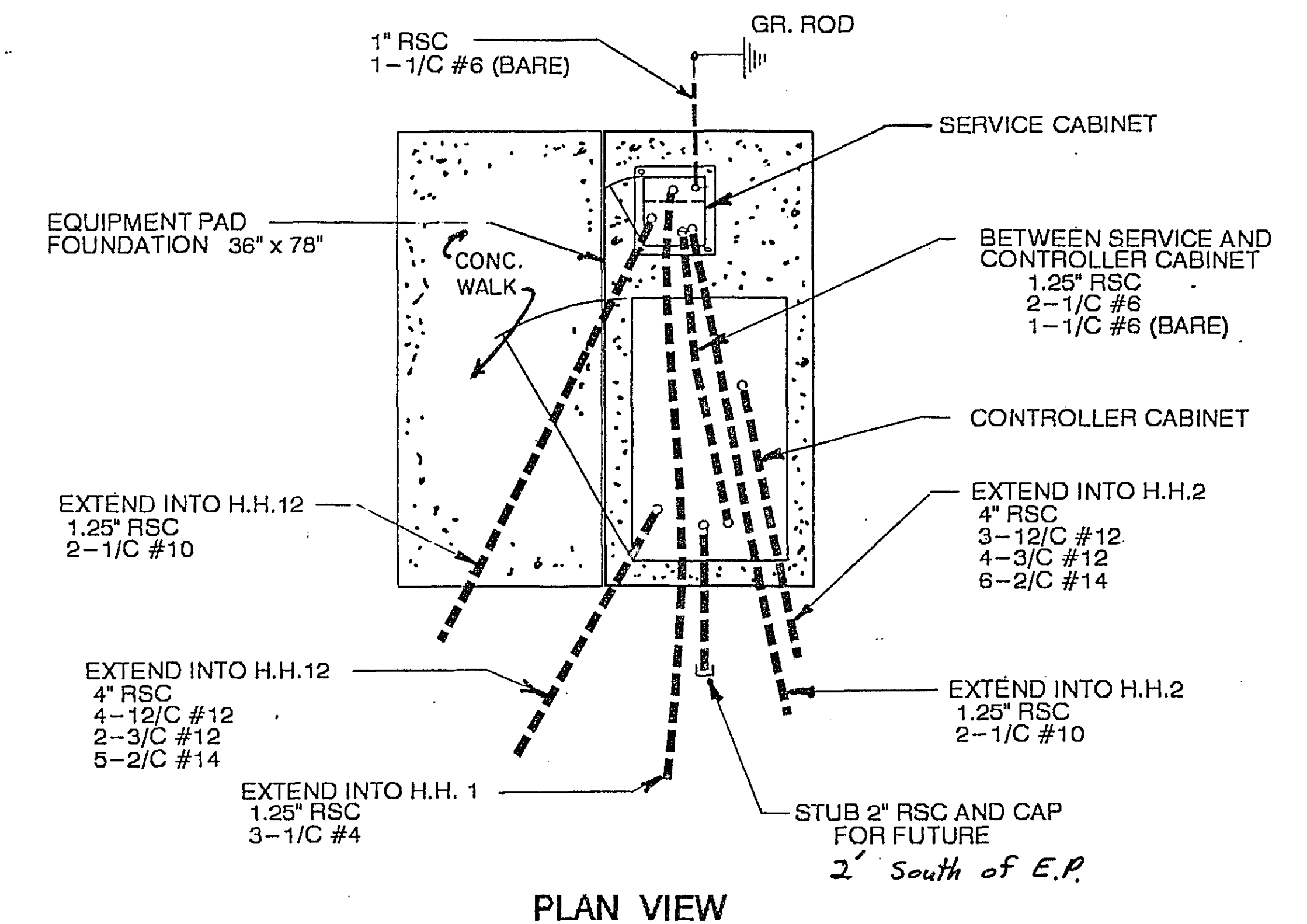
WIRING DIAGRAM

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. Sales

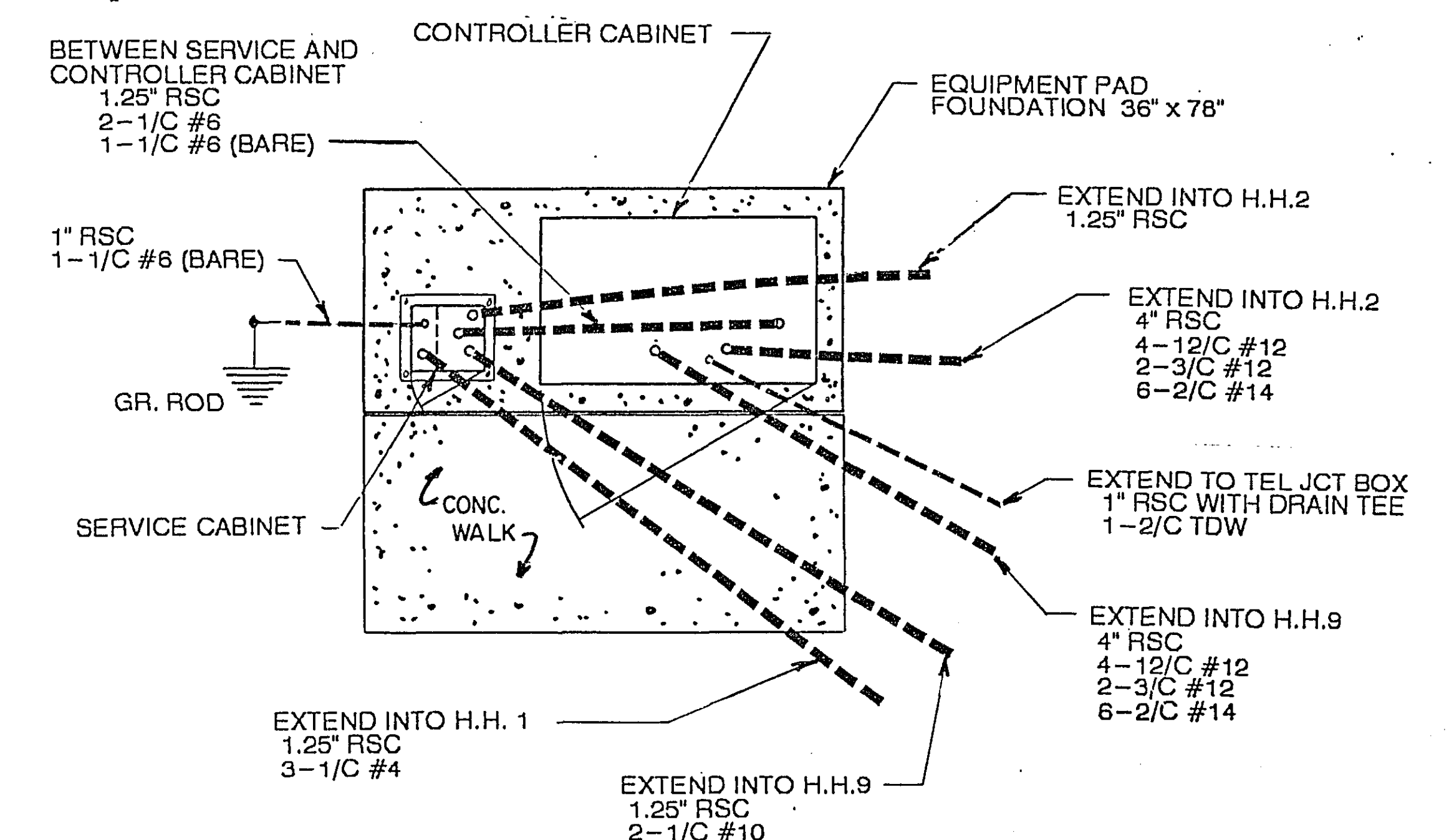
Date 3/12/92 Reg. No. 20452

CLEVELAND AVE & LARPENTEUR AVE SYSTEM A



PLAN VIEW

CLEVELAND AVE & ROSELAWN AVE SYSTEM B



PLAN VIEW

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *JPH*
DATE: 2-13-95

EQUIPMENT PAD LAYOUTS

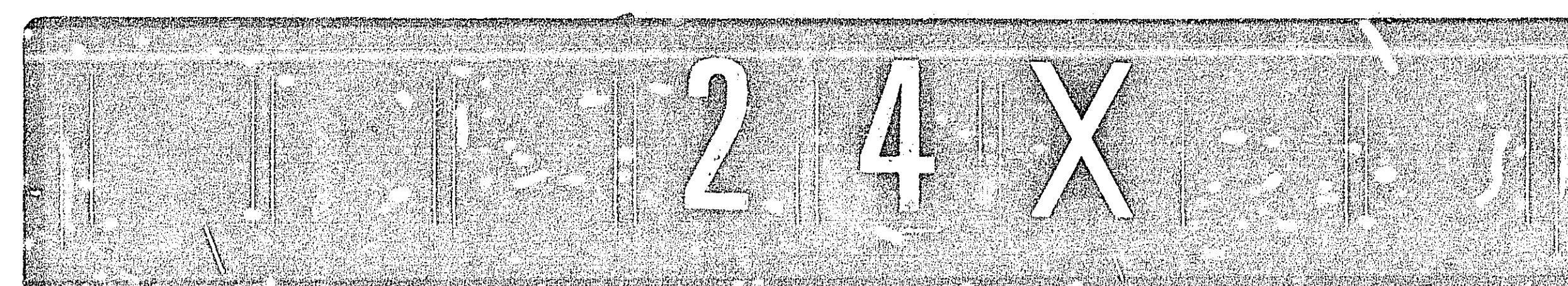
S.A.P. No. 62-646-11

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23-153

23-153 Cleveland Ave & Larpenteur System A
SAP Cleveland Ave & Roselawn System B
62-646-11 " " & Co Rd B

1-19



LEGEND OF SYMBOLS

SIGNAL BASE NO.	
SIGNAL FACE NO.	
CONTROLLER AND CABINET	
CONTROLLER AND CABINET - INPLACE	
HANDHOLE	
HANDHOLE - INPLACE	
CONDUIT	
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	

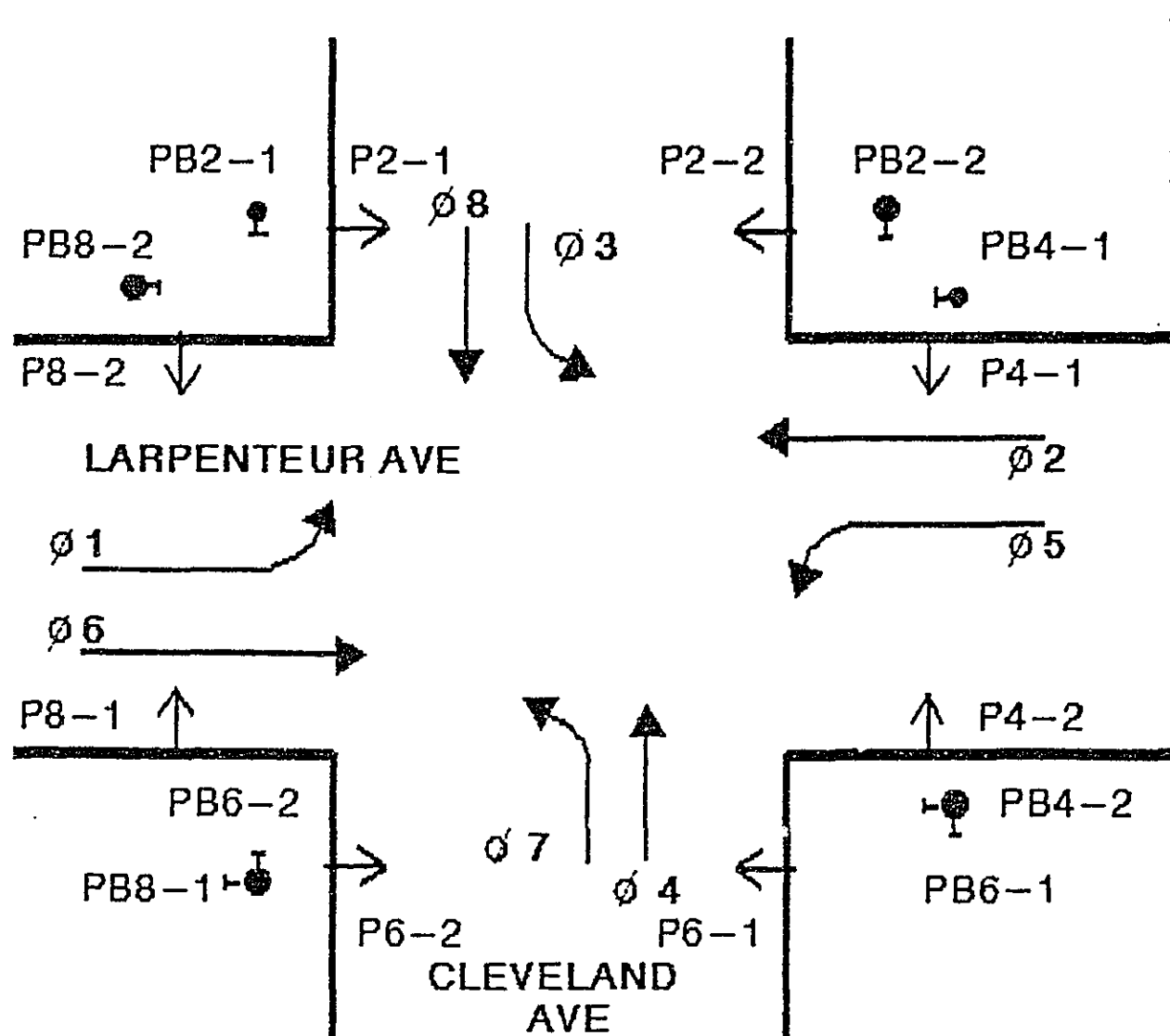
INPLACE

SIGNAL INDICATION CHART

FACE	PHASE	R	Y	G	<-Y	<-G
1-1	1	12"	12"			12"
2-1	2	12"	12"	12"		
2-2	2	12"	12"	12"		
3-1	3	12"	12"			12"
4-1	4	12"	12"	12"		
4-2	4	12"	12"	12"		
5-1	5	12"	12"			12"
6-1	6	12"	12"	12"		
6-2	6	12"	12"	12"		
7-1	7	12"	12"			12"
8-1	8	12"	12"	12"		
8-2	8	12"	12"	12"		

FLASH MODE = ALL RED

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



VEHICLE DETECTION			
NO.	SIZE	OPERATION	LOC.
D1-1	6"x40"	C & E	0'
D2-1	6"x19"	C & E	110'
D3-1	2'-6"x15"	C & E (TD)	0'
D3-2	6"x25"	E	80'
D4-1	2'-6"x6"	C & E	110'
D5-1	6"x40"	C & E	0'
D6-1	6"x19"	C & E	110'
D7-1	6"x40"	C & E	0'
D8-1	2'-6"x6"	C & E	205'
D8-2	2'-6"x6"	C & E	100'
D8-3	2'-6"x15"	C & E (TD)	0'

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

- ④ A100-A-35-T30-15, INPLACE, R&S LUMINAIRE, 400 WATT MERCURY INPLACE, R&S F&I LUMINAIRE, 200 WATT HPS REMOVE A100 POLE FOUNDATION F&I A100 POLE FOUNDATION INSTALL SALVAGED POLE WITH 2 INPLACE ONE-WAY SIGNALS OVERHEAD & TYPE 10C POLE MTD 2 PEDESTRIAN PUSH BUTTONS INPLACE, R&S 1 PED. PUSH BUTTON. EXTEND INTO H.H.15
3" RSC
2-12/C #12
2-3/C #12
2-1/C #10

- PEDESTRIAN PUSH BUTTON STATION (4" RSC)
1 - PEDESTRIAN PUSH BUTTON EXTEND INTO H.H. 15
1.25" RSC
1-3/C #12

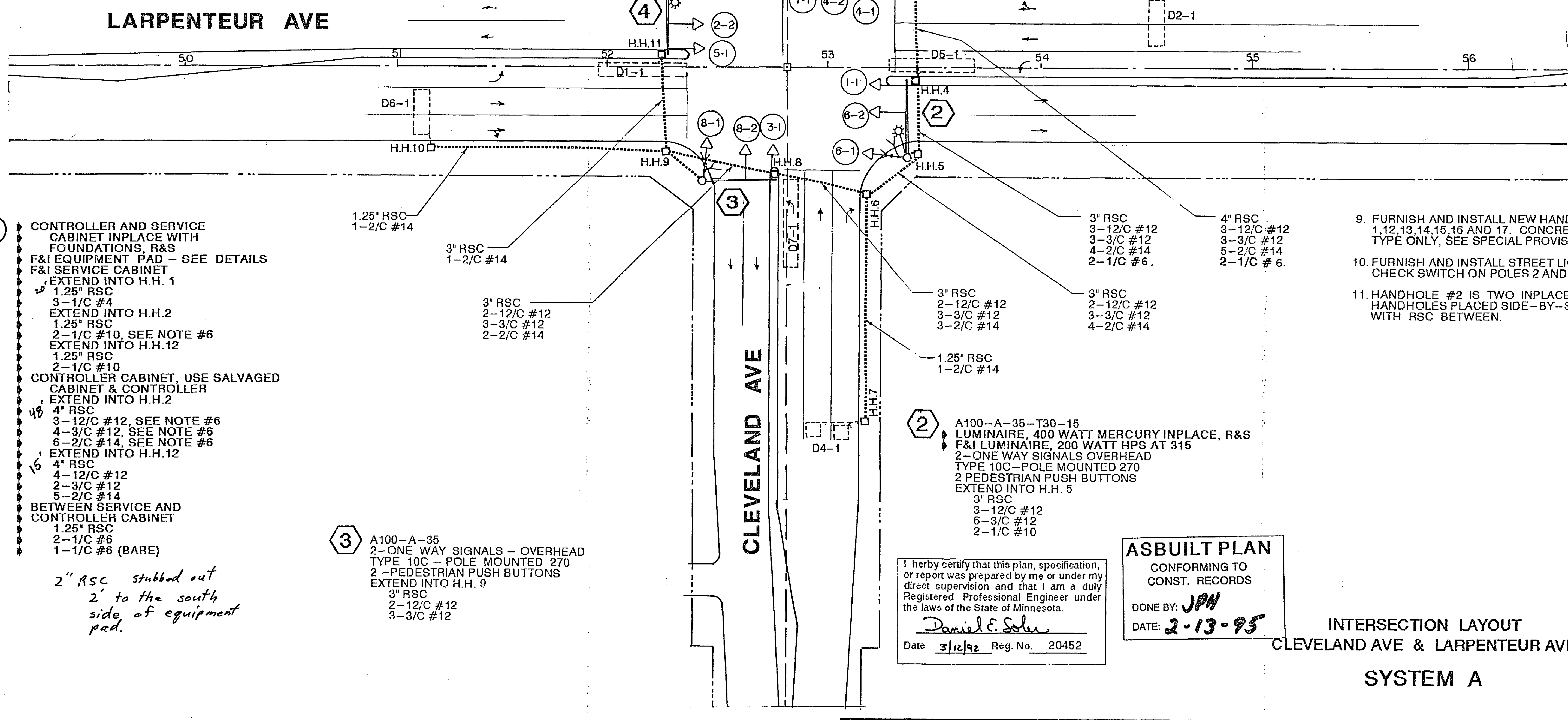
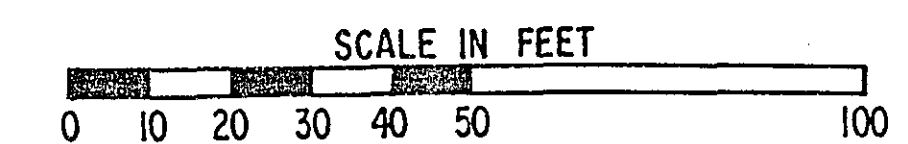
- ① A100-A-35 INPLACE, R&S REMOVE A100 POLE FOUNDATION F&I A100 POLE FOUNDATION REUSE SALVAGED POLE TO A100-A-30 AND INSTALL 2-ONE WAY SIGNALS, OVERHEAD, R&S AND INSTALL ON REVERSED POLE. TYPE 10C POLE MOUNTED 270, INPLACE, REINSTALL WITH POLE. 2- PEDESTRIAN PUSH BUTTONS INPLACE, R&S ONE PEDESTRIAN PUSH BUTTON. EXTEND INTO H.H.12
3" RSC
2-12/C #12
1-3/C #12

- S.O.P. - (POWER POLE INPLACE)
1.25" RSC RISER WITH WEATHER HEAD INPLACE, R&S 1.25" RSC RISER WITH WEATHER HEAD EXTEND INTO H.H. 1
1.25" RSC
3-1/C #4

- PEDESTRIAN PUSH BUTTON STATION (4" RSC)
1 - PEDESTRIAN PUSH BUTTON EXTEND INTO H.H. 2
1.25" RSC
1-3/C #12

NOTES:

- ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE USED INPLACE UNLESS OTHERWISE NOTED WITH A (DENOTES WORK TO BE DONE THIS SHEET ONLY).
- POLE AND DETECTOR LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE TRAFFIC ENGINEER PRIOR TO INSTALLATION.
- A 3/4 INCH HALF COUPLING SHALL BE FURNISHED APPROX. 2 FT. AND 4 FT. FROM END OF THE MAST ON POLE #1 PER MN/DOT 3831.2C
- A MID ARM MOUNT SHALL BE FURNISHED AND INSTALLED 12 FEET FROM THE END OF MAST ARM ON POLE #1.
- REMOVE AND SALVAGE INPLACE SIGNAL ITEMS AS DIRECTED BY THE ENGINEER. SEE SPECIAL PROVISIONS AND SHEETS 7 AND 8 FOR EXISTING SYSTEM.
- FURNISH AND INSTALL NEW CONTROL CABLE FROM CONTROLLER CABINET TO H.H.2 AND MAKE WATER PROOF SPLICES TO ALL CABLE RUNS TO HANDHOLES 3 AND 4. ALL REMAINING CONTROL CABLE FROM CONTROLLER CABINET TO H.H. 1 AND 12 SHALL BE NEW. SEE FIELD WIRING DIAGRAM.
- PAINT REVISED SIGNAL SYSTEM (SEE SPECIAL PROVISIONS).
- TEMPORARY ALL RED FLASHING OPERATION DURING REVISION WORK. (SEE SPECIAL PROVISIONS)



- ① CONTROLLER AND SERVICE CABINET INPLACE WITH FOUNDATIONS, R&S F&I EQUIPMENT PAD - SEE DETAILS F&I SERVICE CABINET EXTEND INTO H.H. 1
1.25" RSC
3-1/C #4
EXTEND INTO H.H.2
1.25" RSC
2-1/C #10, SEE NOTE #6
EXTEND INTO H.H.12
1.25" RSC
2-1/C #10
CONTROLLER CABINET, USE SALVAGED CABINET & CONTROLLER EXTEND INTO H.H.2
4" RSC
3-12/C #12, SEE NOTE #6
4-3/C #12, SEE NOTE #6
6-2/C #14, SEE NOTE #6
EXTEND INTO H.H.12
4" RSC
4-12/C #12
2-3/C #12
5-2/C #14
BETWEEN SERVICE AND CONTROLLER CABINET
1.25" RSC
2-1/C #6
1-1/C #6 (BARE)

2" RSC stubbed out 2' to the south side of equipment pad.

- ③ A100-A-35 2-ONE WAY SIGNALS - OVERHEAD TYPE 10C - POLE MOUNTED 270 2 -PEDESTRIAN PUSH BUTTONS EXTEND INTO H.H. 9
3" RSC
2-12/C #12
3-3/C #12

- ② A100-A-35-T30-15 LUMINAIRE, 400 WATT MERCURY INPLACE, R&S F&I LUMINAIRE, 200 WATT HPS AT 315 2-ONE WAY SIGNALS OVERHEAD TYPE 10C - POLE MOUNTED 270 2 PEDESTRIAN PUSH BUTTONS EXTEND INTO H.H. 5
3" RSC
3-12/C #12
6-3/C #12
2-1/C #10

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 3/12/92 Reg. No. 20452

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: JPH
DATE: 2-13-95

INTERSECTION LAYOUT
CLEVELAND AVE & LARPENTEUR AVE
SYSTEM A

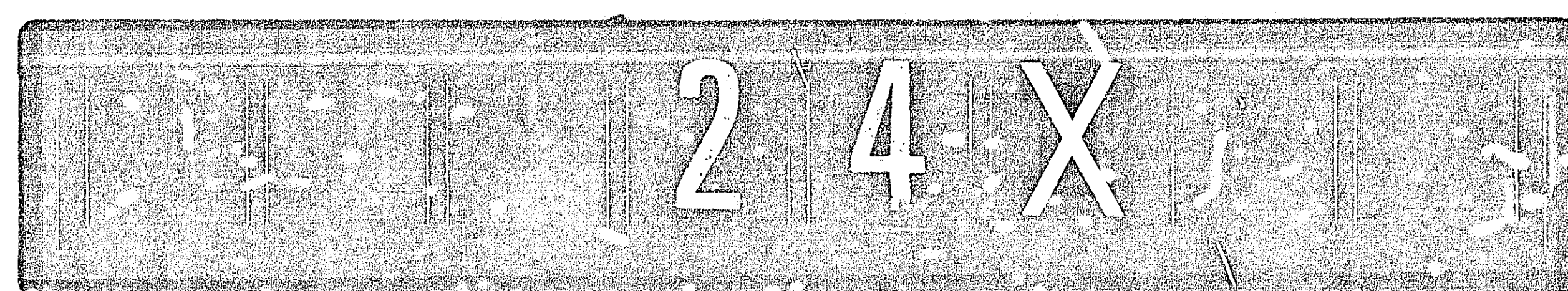
S.A.P. No. 62-646-11

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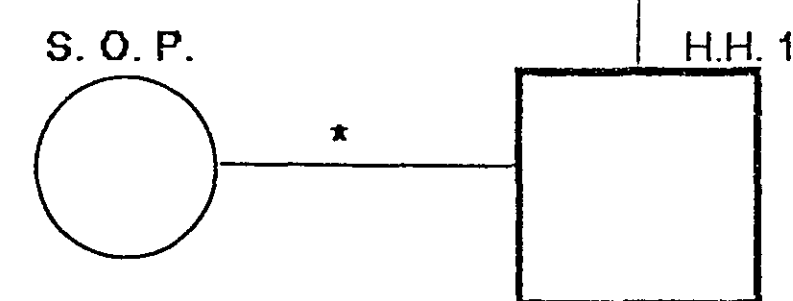
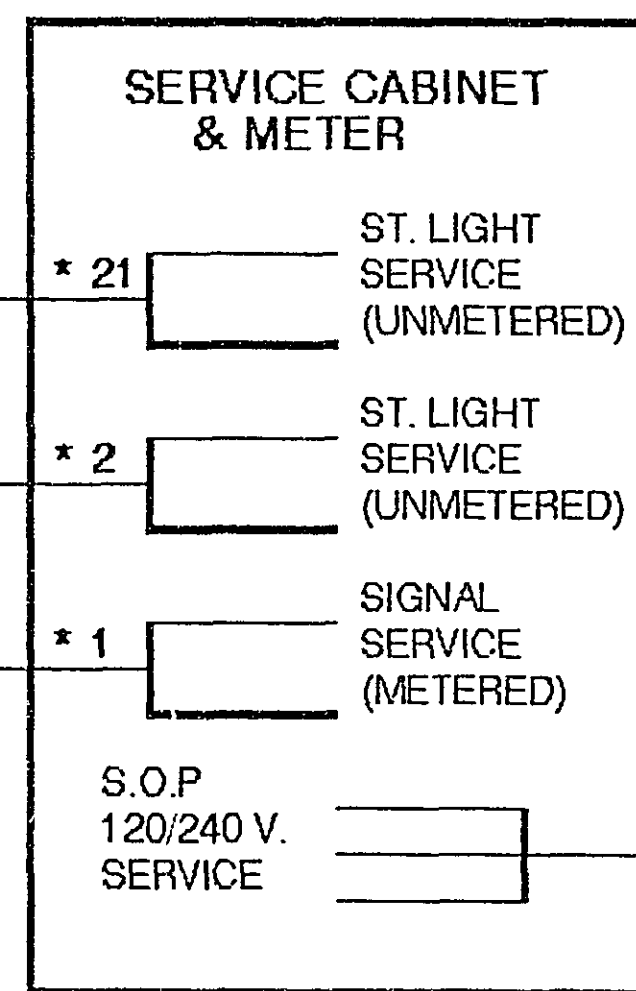
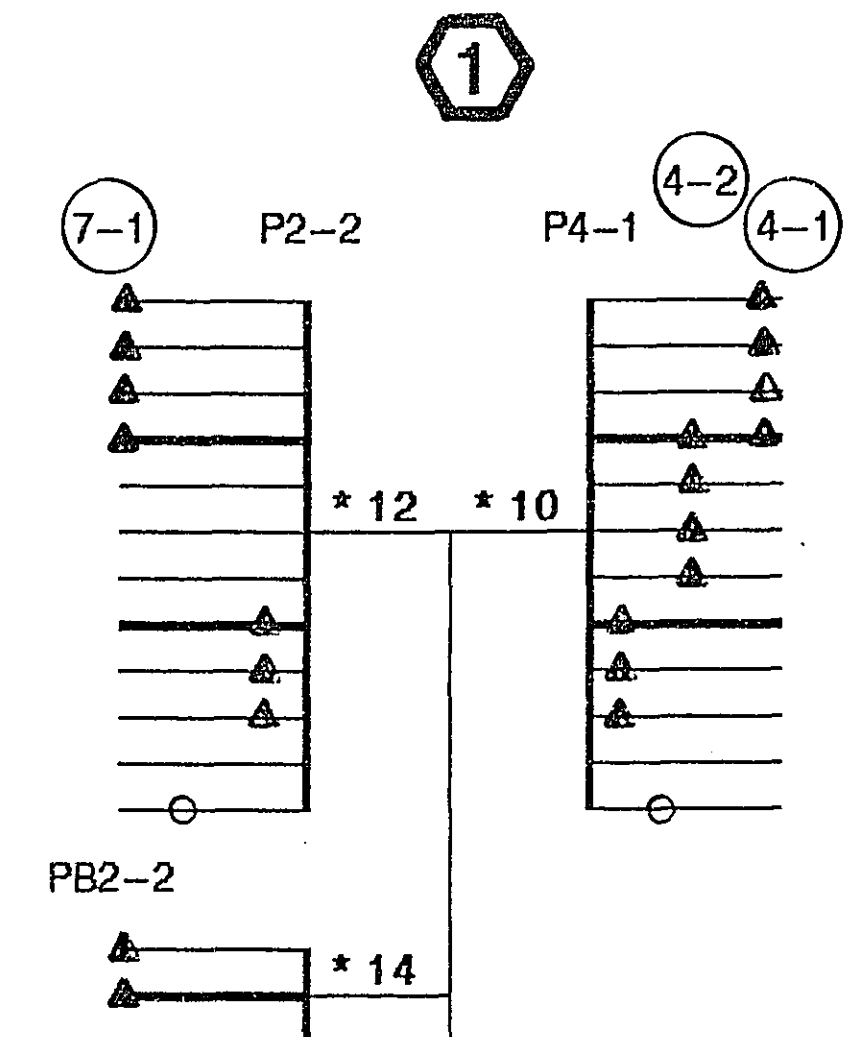
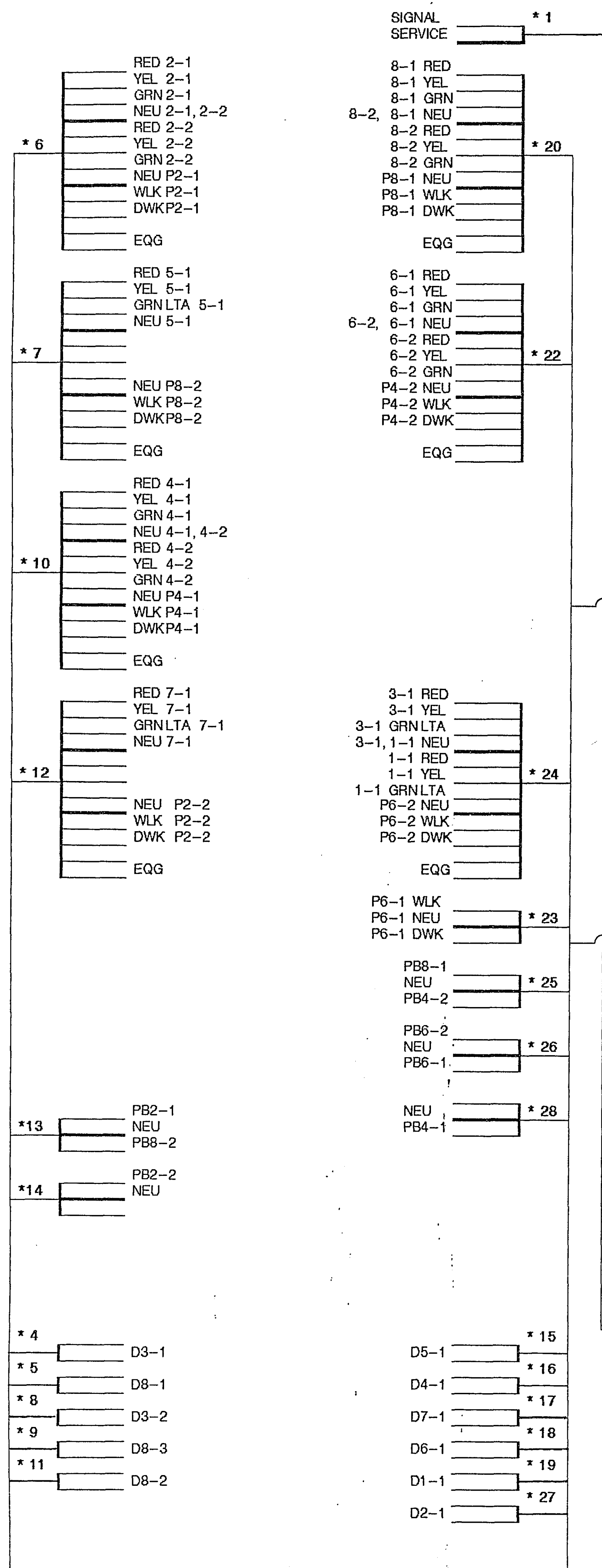
23-153

23-153
SAP
62-646-11
Cleveland Ave & Larpenteur Ave System A
Cleveland Ave & Larpenteur Ave System B
& Co Rd B

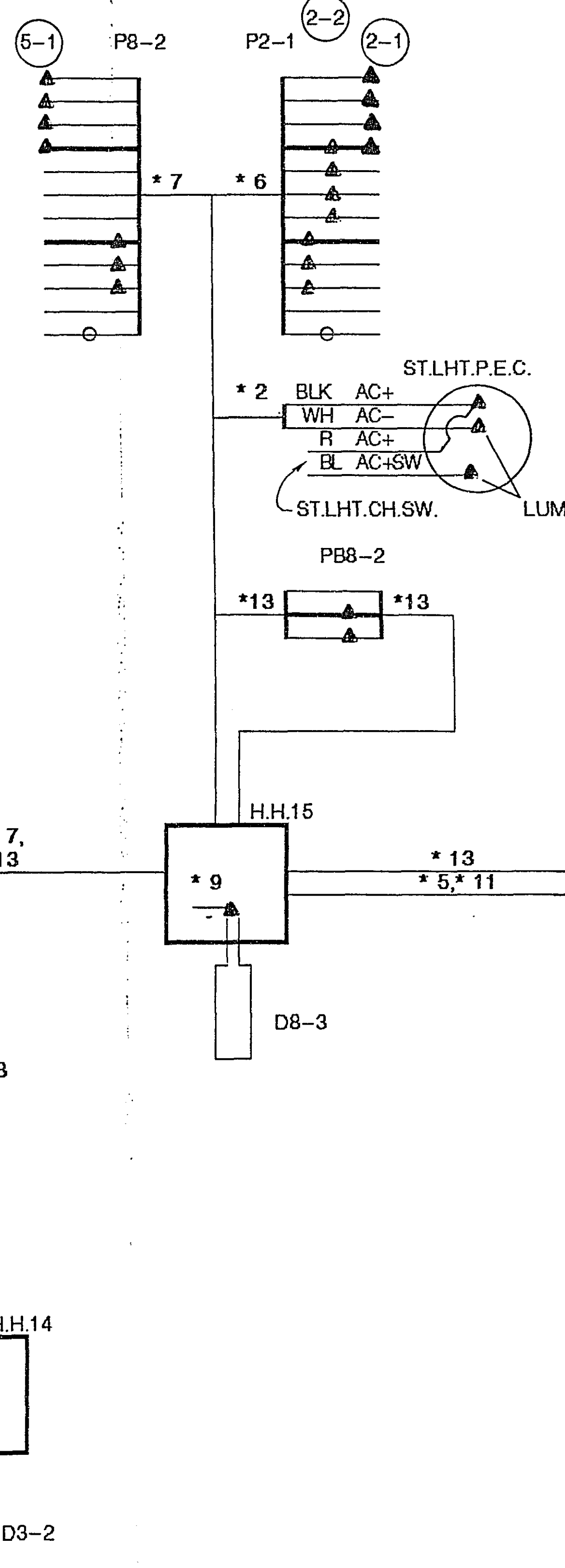
1-19



CONTROLLER CABINET



4



NOTES:

- REMOVE AND SALVAGE INPLACE CONTROL CABLE NOT UTILIZED IN THE REVISED FIELD WIRING.
- * DENOTES NEW CABLE. (ALL REMAINING CABLES ARE INPLACE)
- ▲ DENOTES NEW CONNECTION

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. Selu

Date 5/12/92 Reg. No. 20452

ASBUILT PLAN

CONFORMING TO CONST. RECORDS

DONE BY: JPH

DATE: 2-13-95

REVISED

FIELD WIRING DIAGRAM

CLEVELAND AVE & LARPEN TEUR AVE

SYSTEM A

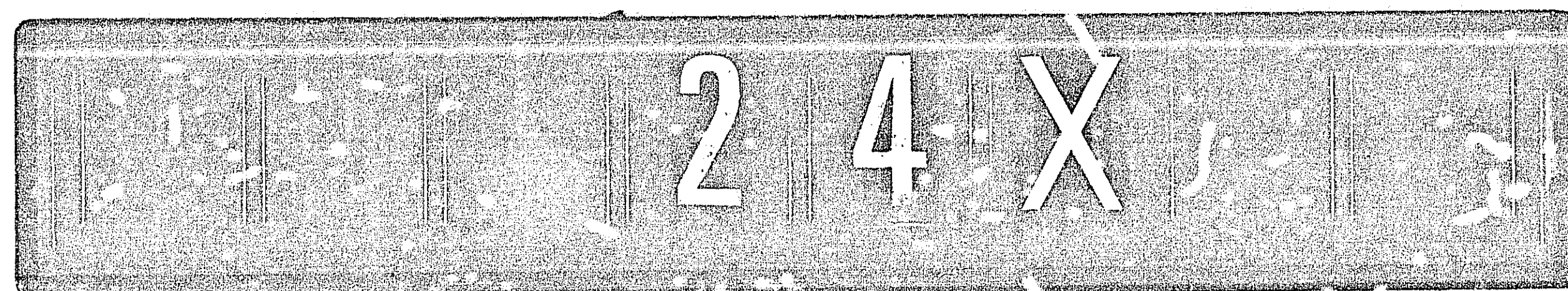
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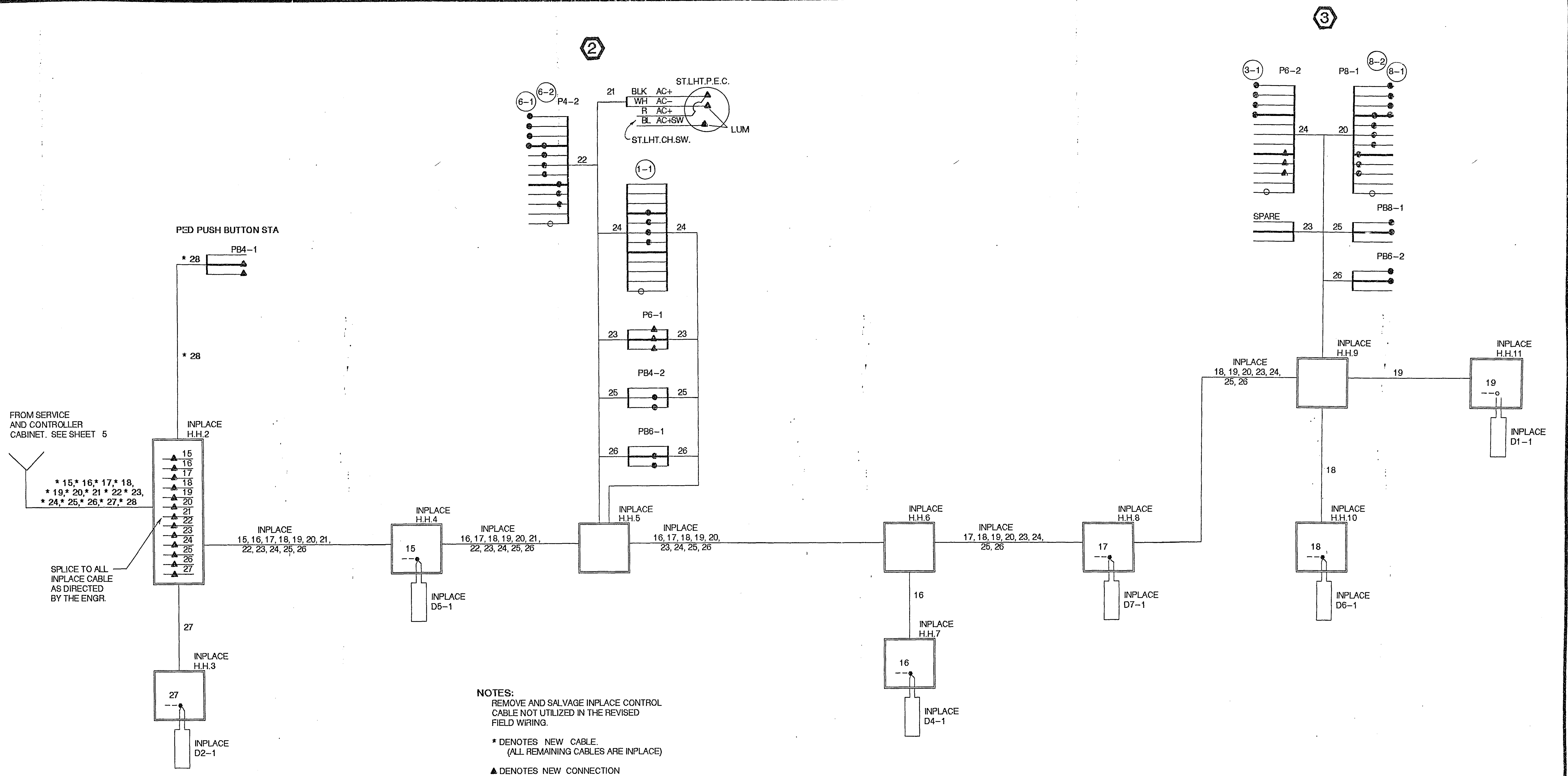
Sheet No. 5 of 19 Sheets

23-153

23-153 Cleveland Ave & Larpenteur System A
SAP Cleveland Ave & Larpenteur System A
62-646-11 " " " & Co Rd B

1-19





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Daniel E. Scher

Date 3/12/92 Reg. No. 20452

ASBUILT PLAN

CONFORMING TO

CONST. RECORDS

DONE BY: *JPH*

DATE: 2-13-95

REVISED

FIELD WIRING DIAGRAM

CLEVELAND AVE & LARPENITEUR AVE

SYSTEM A

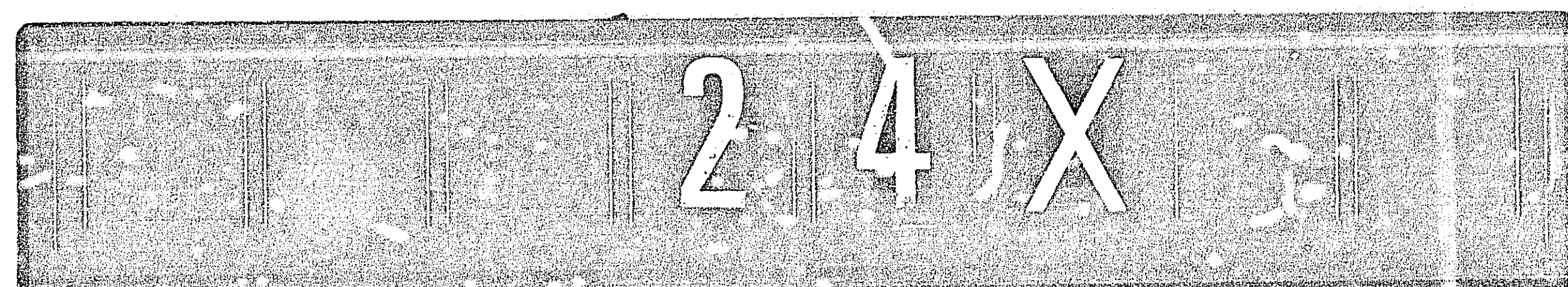
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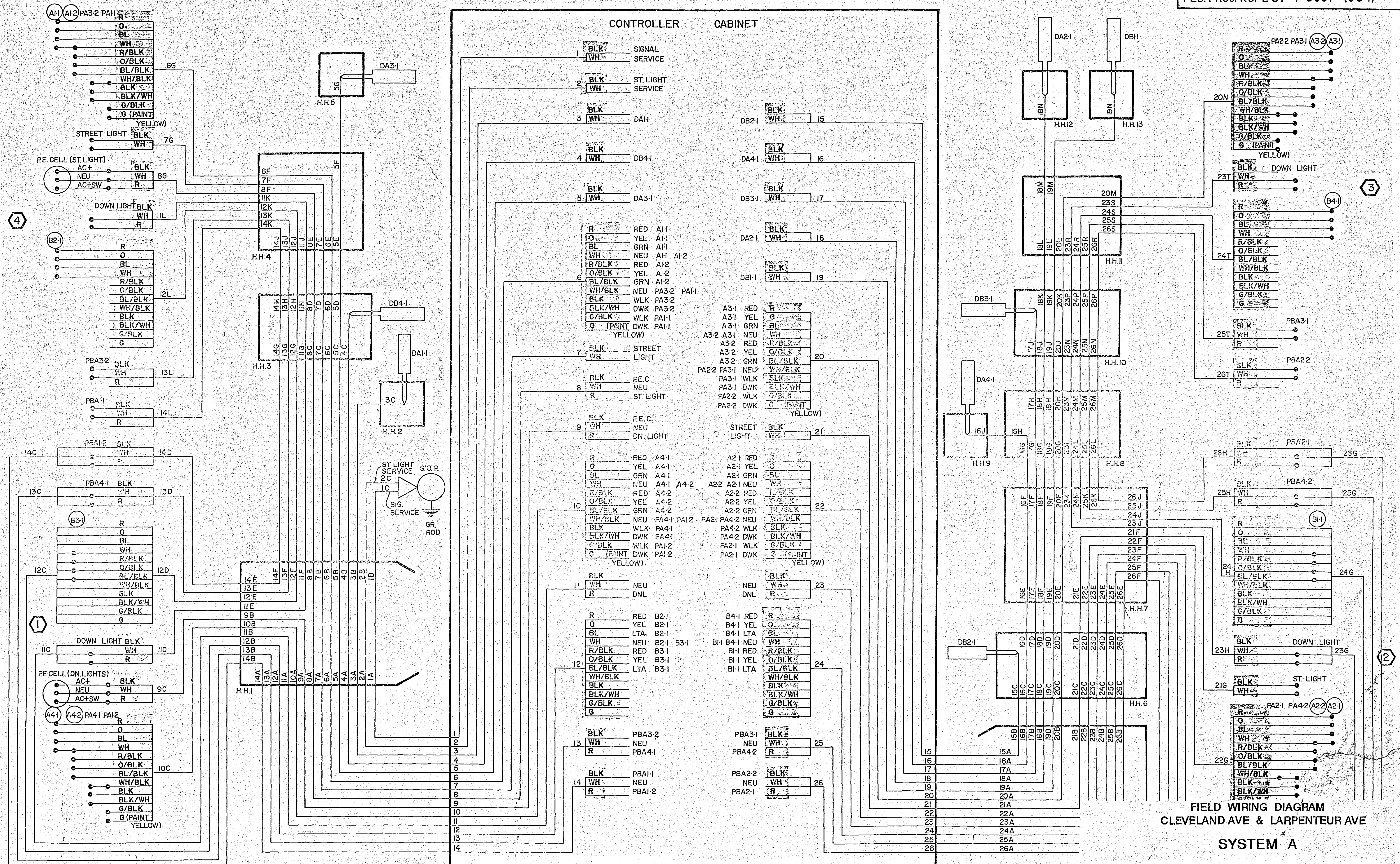
Sheet No. 6 of 19 Sheets

23-153

23-153 Cleveland Ave & Larpenteur System A
SAP Cleveland Ave & Larpenteur System B
62-646-11 " " " & Co Rd B

1-19





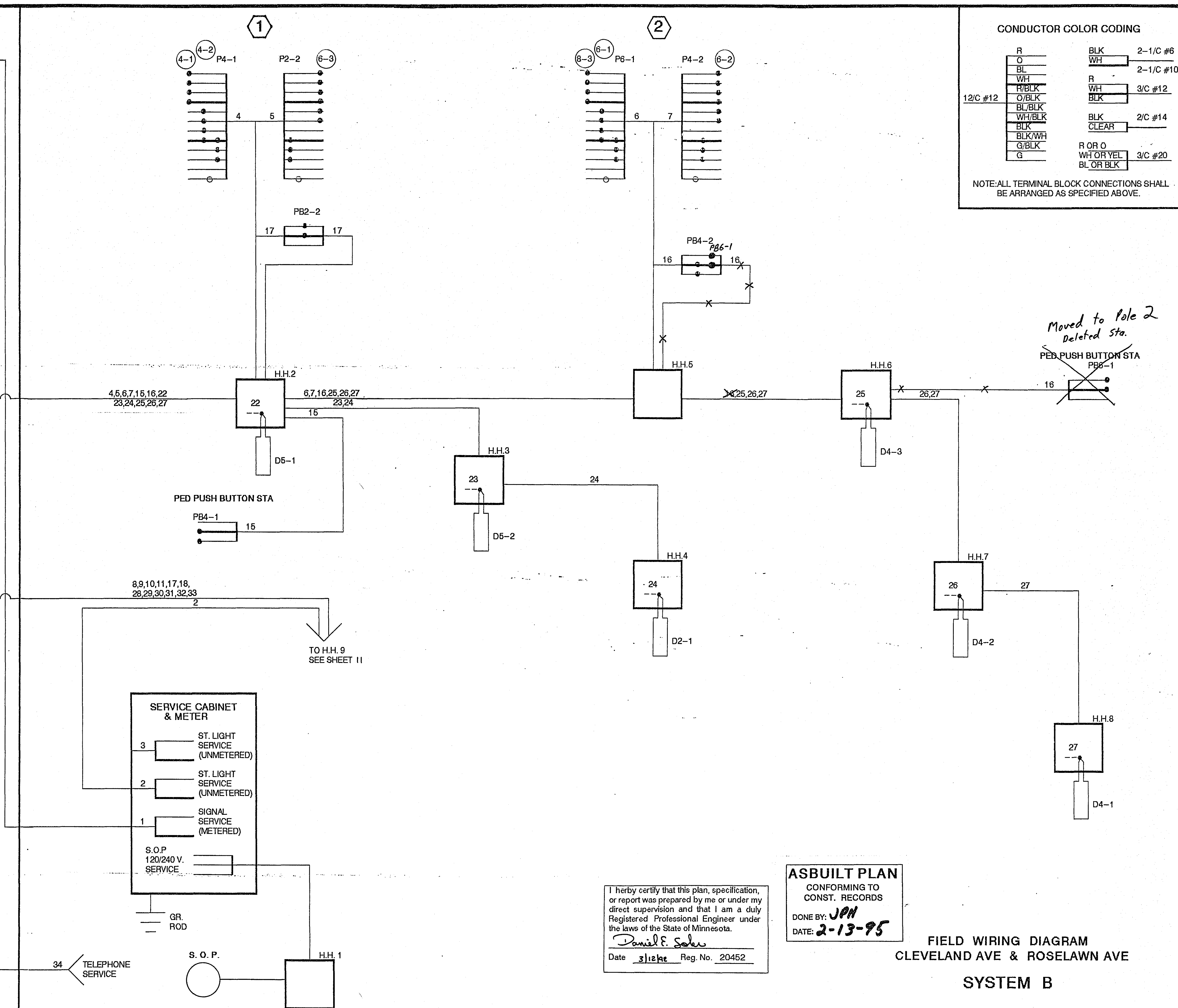
S.A.P. No. 62-646-11

Sheet No. 8 of 19 Sheets

FOR INFORMATION ONLY

23-153 Cleveland Ave & Larpenteur System A
SAP Cleveland Ave & Larpenteur System A
62-646-11 " " & Co Rd B 1-19

		SIGNAL SERVICE		1
4	RED 4-1	4-3 RED		8
	YEL 4-1	4-3 YEL		
	GRN 4-1	4-3 GRN		
	NEU 4-1	4-3 NEU		
	RED 4-2	2-1 RED		
	YEL 4-2	2-1 YEL		
	GRN 4-2	2-1 GRN		
	NEU 4-2, P4-1	P2-1, 2-1 NEU		
	WLK P4-1	P2-1 WLK		
	DWKP4-1	P2-1 DWK		
	EQG	EQG		
5	RED 6-3	2-2 RED		9
	YEL 6-3	2-2 YEL		
	GRN 6-3	2-2 GRN		
	NEU 6-3	2-2 NEU		
	YEL LTA 6-3	2-2 YEL LTA		
	GRN LTA 6-3	2-2 GRN LTA		
	NEU P2-2	P8-2 NEU		
	WLK P2-2	P8-2 WLK		
	DWKP2-2	P8-2 DWK		
	EQG	EQG		
6	RED 8-3	8-1 RED		10
	YEL 8-3	8-1 YEL		
	GRN 8-3	8-1 GRN		
	NEU 8-3	8-1 NEU		
	RED 6-1	8-2 RED		
	YEL 6-1	8-2 YEL		
	GRN 6-1	8-2 GRN		
	NEU 6-1, P6-1	P8-1, 8-2 NEU		
	WLK P6-1	P8-1 WLK		
	DWKP6-1	P8-1 DWK		
	EQG	EQG		
7	RED 6-2	2-3 RED		11
	YEL 6-2	2-3 YEL		
	GRN 6-2	2-3 GRN		
	NEU 6-2	2-3 NEU		
	YEL LTA 6-2	2-3 YEL LTA		
	GRN LTA 6-2	2-3 GRN LTA		
	NEU P4-2	P6-2 NEU		
	WLK P4-2	P6-2 WLK		
	DWKP4-2	P6-2 DWK		
	EQG	EQG		
		PB2-2		15
		NEU		
		PB4-1		
		PB6-1		16
		NEU		
		PB2-1		17
		NEU		
		PB6-2		18
		PB8-1		
		TELEPHONE SERVICE		34
22	D5-1	D8-3		28
23	D5-2	D8-2		29
24	D2-1	D8-1		30
25	D4-3	D1-1		31
26	D4-2	D1-2		32
27	D4-1	D6-1		33



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 F. Sober

Date 3/12/94 Reg. No. 20452

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: **JPH**
DATE: **2-13-95**

FIELD WIRING DIAGRAM
CLEVELAND AVE & ROSELAWN AVE
SYSTEM B

S.A.P. No. 62-646-11

Sheet No. 10 of 19 Sheets

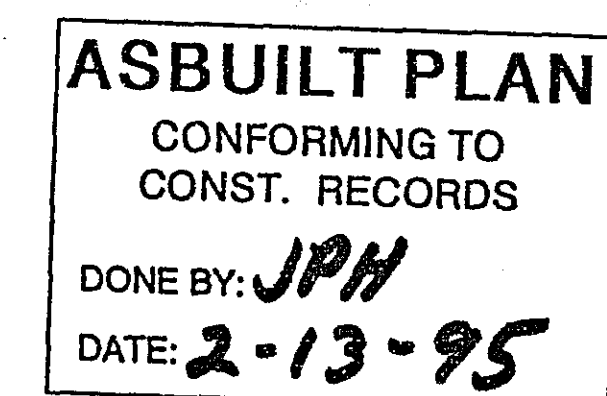
23-153

73-153
SAP
62-646-11

Cleveland Avenue & Carpenter
Cleveland Avenue & Rose Lawn Ave
" " " & Co Rd B

System A
System B

1-19



Daniel E. Soler
Date 3/12/92 Reg. No. 20452

Sheet No. 11 of 19 Sheets

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SAP
62-646-11

Cleveland Avenue & Carpenter
Cleveland Avenue & Roselawn Ave
" " " & Co Rd B

System A
System A

1-19

SIGNAL BASE NO.		③
SIGNAL FACE NO.		②
CONTROLLER AND CABINET		
CONTROLLER AND CABINET - INPLACE		
HANDHOLE		
HANDHOLE - INPLACE		
CONDUIT		
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		

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"		
4-4	4	12"	12"	12"		
6-1	6	12"	12"	12"	12"	12"
6-2	6	12"	12"	12"		
6-3	6	12"	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

SIGNAL HEAD PHASING	
	HEADS 6-1 and 6-3

VEHICLE DETECTION			
NO.	SIZE	OPERATION	LOC.
D1-1	6'x20'	C (TD)	25'
D1-2	6'x15'	E	SEB PLAN
D2-1	6'x 6'	C & E	260'
D4-1	6'x 6'	C & E	160'
D4-2	6'x 6'	C & E	160'
D4-3	6'x15'	C & E (TD)	0'
D4-4	6'x15'	C & E	0'
D4-5	6'x15'	C & E	0'
D6-1	6'x 6'	C & E	210'
D6-2	6'x 6'	C & E	210'
D8-1	2-6'x 6'	C & E	145'
D8-2	6'x15'	C & E (TD)	0'
D8-3	6'x15'	C & E	0'

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

1 A100-A-25-D40-9, R&S
REMOVE A100 POLE FOUNDATION
F&I A100 POLE FOUNDATION
ONE WAY SIGNAL OVERHEAD, R&S
F&I ONE WAY SIGNAL OVERHEAD
INSTALL SALVAGED POLE WITH
IN PLACE
TYPE 20C POLE MOUNTED AT 270,
250 WATT HPS AT 350
2 PEDESTRIAN PUSH BUTTONS
AND STREET SIGN PANEL.
EXTEND INTO H.H. 9
3" RSC
2-12/C #12
1-3/C #12
2-1/C #10

1.25" RSC, INPLACE
~~EXTEND 1.25" RSC~~
~~INTO H.H.10~~
 1-2/C #14

3" RSC, INPLACE -
~~EXTEND 3" RSC~~
~~INTO H.H.10~~
 4-12/C #12
 2-3/C #12
 5-2/C #14
 2-1/C #10

3" RSC —
2-12/C #12
1-3/C #12
2-2/C #14

3" RSC _____
4-12/C #12
2-3/C #12
2-2/C #14
2-1/C #10

3" RSC —
2-12/C #12
1-3/C #12
2-2/C #14

1.25" RSC
1-2/C #14

3" RSC
2-12/C #12
1-3/C #12
1-2/C #14

3" RSC ———
2-12/C #12
1-3/C #12
1-2/C #14

EQUIPMENT PAD
4-STEEL GUARD POSTS, R&S
SERVICE CABINET
EXTEND INTO H.H. 13
2" RSC
3-1/C #1/0
EXTEND INTO H.H. 12
3" RSC
4-1/C #10
CONTROLLER CABINET, R&S
INSTALL CONTROLLER CABINET,
FURNISHED BY MN/DOT.
EXTEND INTO H.H. 1
4" RSC
4-12/C #12
4-3/C #12
2-3/C #20
8-2/C #14
EXTEND INTO H.H. 12
4" RSC
4-12/C #12
2-3/C #12
5-2/C #14
BETWEEN H.H. 1 AND H.H. 12
3" RSC
2-1/C #10
STUB 1" R.S.C. FOR
TEL. SER.

A100-A-30, R&S
REMOVE A100 POLE FOUNDATION
F&I A100 POLE FOUNDATION
REVISE SALVAGED POLE TO
A100-A-35 AND INSTALL
ONE WAY SIGNAL OVERHEAD, R&S
AND INSTALL ON REVISED POLE.
TYPE 20C POLE MOUNTED 270, INPLACE,
R&S HEAD 6-3 AND F&I NEW 6-3 AND
REINSTALL WITH POLE.
2-PEDESTRIAN PUSH BUTTONS, INPLACE,
REINSTALL WITH POLE.
TYPE D SIGN PANEL OVERHEAD (102"x24"), R&S,
AND INSTALL ON REVISED POLE.
EXTEND INTO H.H. 7
3" RSC
2-12/C #12
1-3/C #12

2

A100-A-20, R&S
REMOVE A100 POLE FOUNDATION
F&I A100 POLE FOUNDATION
REVISE SALVAGED POLE TO
A100-A-30 AND INSTALL, USE
SALVAGED ARM FROM POLE #4.
ONE WAY SIGNAL OVERHEAD, R&S
AND INSTALL ON REVISED POLE.
ONE WAY SIGNAL OVERHEAD, 4-4
F&I MID-ARM MOUNT AT 12 FT.
TYPE 20C - POLE MOUNTED 270, INPLACE,
REINSTALL WITH POLE.
2 - PEDESTRIAN PUSH BUTTONS, INPLACE,
REINSTALL WITH POLE.
TYPE D SIGNAL PANE OVERHEAD (102"x24"), R&S,
AND INSTALL ON REVISED POLE.
F&I TWO WAY EVP DETECTOR
AND LIGHT OVERHEAD ON
EXTENDED 0.75" RSC, 3.5' ABOVE
TO OF MAST ARM.
EXTEND INTO H.H. 1
3" RSC
2 - 12/C #12
2 - 3/C #12
1 - 3/C #20

S.O.P.
45' WOOD POLE
2" RSC RISER WITH WEATHER HEAD
1-DOWN GUY, METAL GUARD AND
EXPANDING ANCHOR
EXTEND INTO H.H. 13
2" RSC
3-1/C #1/0

S.W. SERVICE
RD

H.H.13 /  EQUIP.
P.A.P.

1.25" RSC
2-2/C #14

3" RSC
2-12/C #12
2-3/C #12
5-2/C #14
2-1/C #10
1-3/C #20

3" RSC
1-2/C #14

1.25" RSC
2-2/C #14

(3) A100-A-25-D40-9
 LUMINAIRE 250 WATT HPS AT 350'
 ONE WAY SIGNAL OVERHEAD
 TYPE 20C - POLE MOUNTED 270
 2 - PEDESTRIAN PUSH BUTTONS
 F&I ONE WAY EVP DETECTOR
 AND LIGHT OVERHEAD
 EXTEND INTO H.H. 4
 3" RSC
 2-12/C #12
 2-3/C #12
 1-3/C #20
 2-1/C #10

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 3/12/92 Reg. No. 20452

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS

DONE BY: JPH
DATE: 2-13-95

REVISED
INTERSECTION LAYOUT
CLEVELAND AVE (I35W) & COUNTY RD B
SYSTEM C

S.A.P. No. 62-646-11

Sheet No. 12 of 19 Sheets

23-153

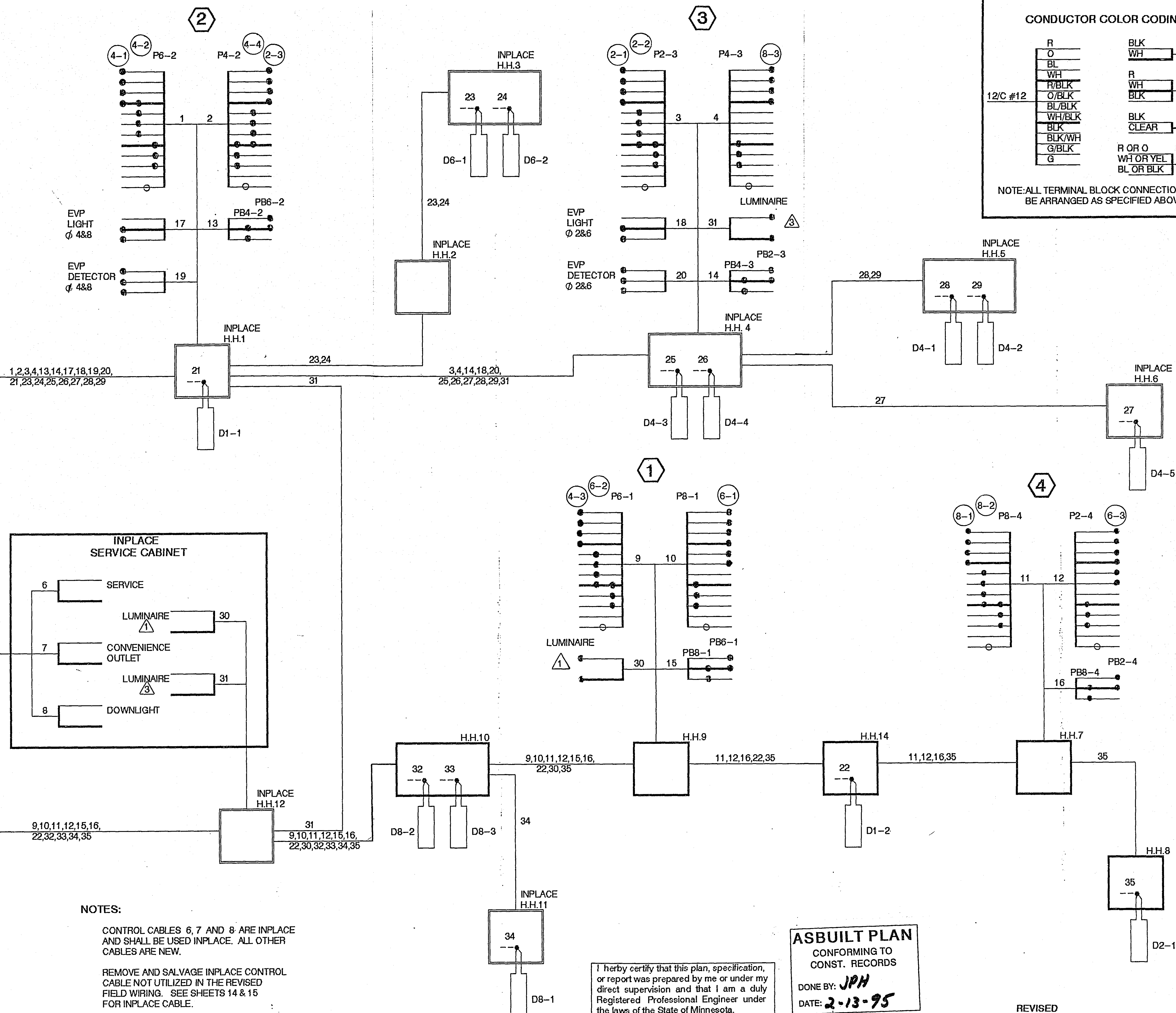
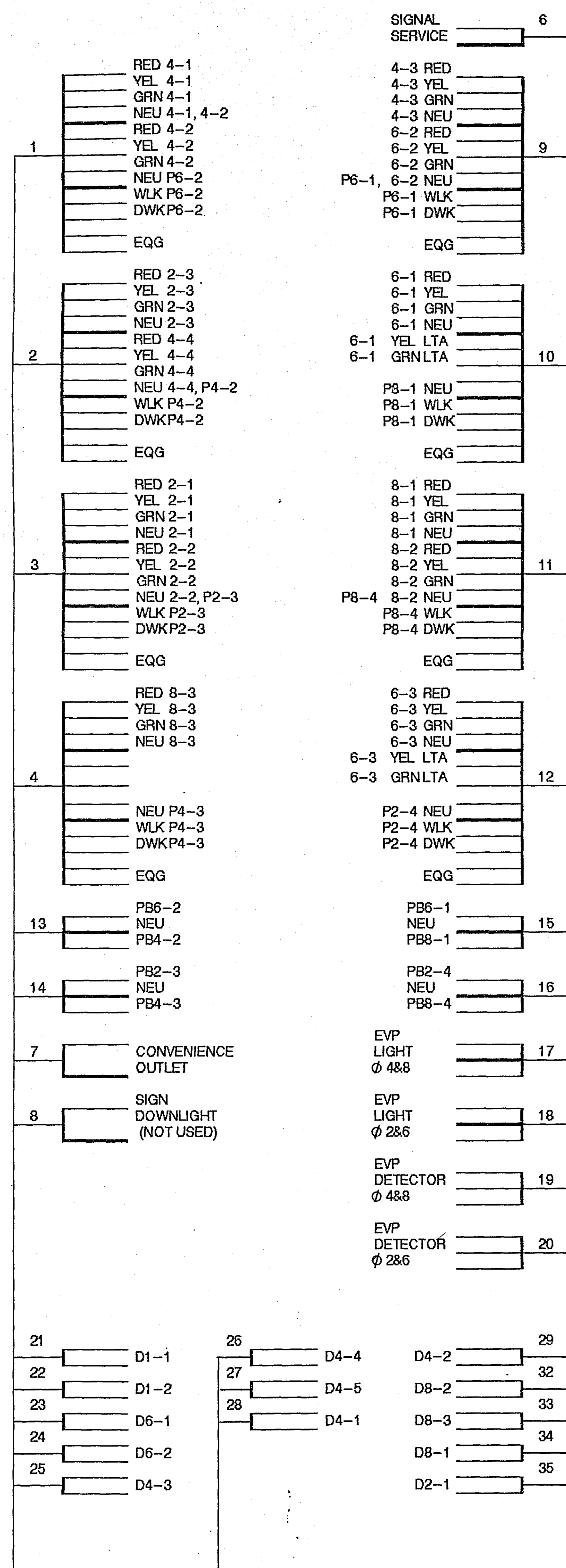
23-153
SAP
62-646-11

Cleveland, Ohio & Larpenteur
Cleveland Avenue, Rockaway Ave
" " & Co Rd B

System A
System B

1-19

CONTROLLER CABINET



NOTES:

CONTROL CABLES 6, 7 AND 8 ARE INPLACE
AND SHALL BE USED INPLACE. ALL OTHER
CABLES ARE NEW

REMOVE AND SALVAGE INPLACE CONTROL
CABLE NOT UTILIZED IN THE REVISED
FIELD WIRING. SEE SHEETS 14 & 15
FOR INPLACE CABLE.

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 3/12/92 Reg. No. 20452

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: **JPH**
DATE: **2-13-95**

REVISED
FIELD WIRING DIAGRAM
CLEVELAND AVE (I35W) & COUNTY RD B
SYSTEM C

S.A.P. No. 62-646-11

Sheet No. 13 of 19 Sheets

23-153

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SAP
62-646-11
Cleveland, Ohio & Carpenter
Cleveland, Ohio & Rockaway Ave
" " & Co Rd B
system A
system B

1-19

FACE	PHASE	FLASH	INDICATION SIZE					
			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"	—	—	—

LOOP DETECTORS	
NUMBER	SIZE
✓ D2-1	6'X6'
✓ D2-2	6'X6'
✓ D4-1	6'X6'
✓ D4-2	6'X6'
✓ D4-3	6'X15'
✓ D4-4	6'X15'
✓ D4-5	6'X50'
✓ D6-1	6'X6'
✓ D6-2	6'X6'
✓ D8-1	2-6'X6'
✓ D8-2	6'X15'
✓ D8-3	6'X50'

3M Test Loop
3M Test Loop
SEE DETAIL
SEE DETAIL
SEE DETAIL
3M Test Loop
SEE DETAIL
SEE DETAIL

- NOTE:
- (1) DISCONNECT THE INPLACE 3/C#4 CABLES GOING TO LIGHTS ^{W6F} 49 AND ^{W6F} 21 IN LIGHTS ^{W6F} 48 AND ^{W6F} 22. THE 3/C#4 CABLES SHALL BE ABANDONED INPLACE.
 - (2) A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE, AND CAPPED UNLET FOR FUTURE EMERGENCY VEHICLE PRE-EMPTION EQUIPMENT SHALL BE FURNISHED AND INSTALLED APPROXIMATELY 2 FEET FROM THE END OF THE MAST ARMS ON POLES 1,2,3,4.
 - (3) SUFFICIENT 3/C#20 AND 1/C#14 TO REACH THE ENDS OF THE MAST ARMS SHALL BE INSTALLED AND LOOPED IN THE UNILETS.
 - (4) TWO 3/4" HALF COUPLINGS AND PLUGS FOR FUTURE DOWNLIGHTS SHALL BE INSTALLED ON THE MAST ARM OF POLE 4, APPROXIMATELY 2' AND 5' FROM THE END.
 - (5) CONTRACTOR SHALL REMOVE AND SALVAGE THE EXISTING SIGNAL SYSTEM.

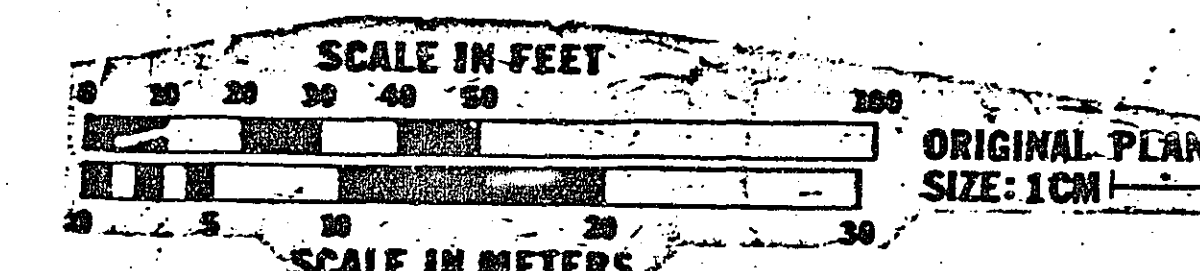
- ✓ TYPE A-25-D40-9
✓ ONE WAY SIGNAL (OVERHEAD)
✓ LUMINAIRE-250 WATT HIGH PRESSURE SODIUM (APPROX. 350°)
✓ TWO WAY SIGNAL (TYPE 20D-POLE MOUNTED 270°)
✓ 2-SETS PEDESTRIAN INDICATIONS
✓ 2-PEDESTRIAN PUSH BUTTONS
✓ 4-STEEL GUARD POSTS
✓ EXTEND INTO H.H.10
✓ 3" RSC
✓ 3-12/C#12
✓ 3-3/C#12
✓ 2-3/C#20
✓ 5-2/C#14
✓ 2-1/C#10

✓ STREET LIGHT INPLACE, REMOVE AND SALVAGE
REMOVE FOUNDATION

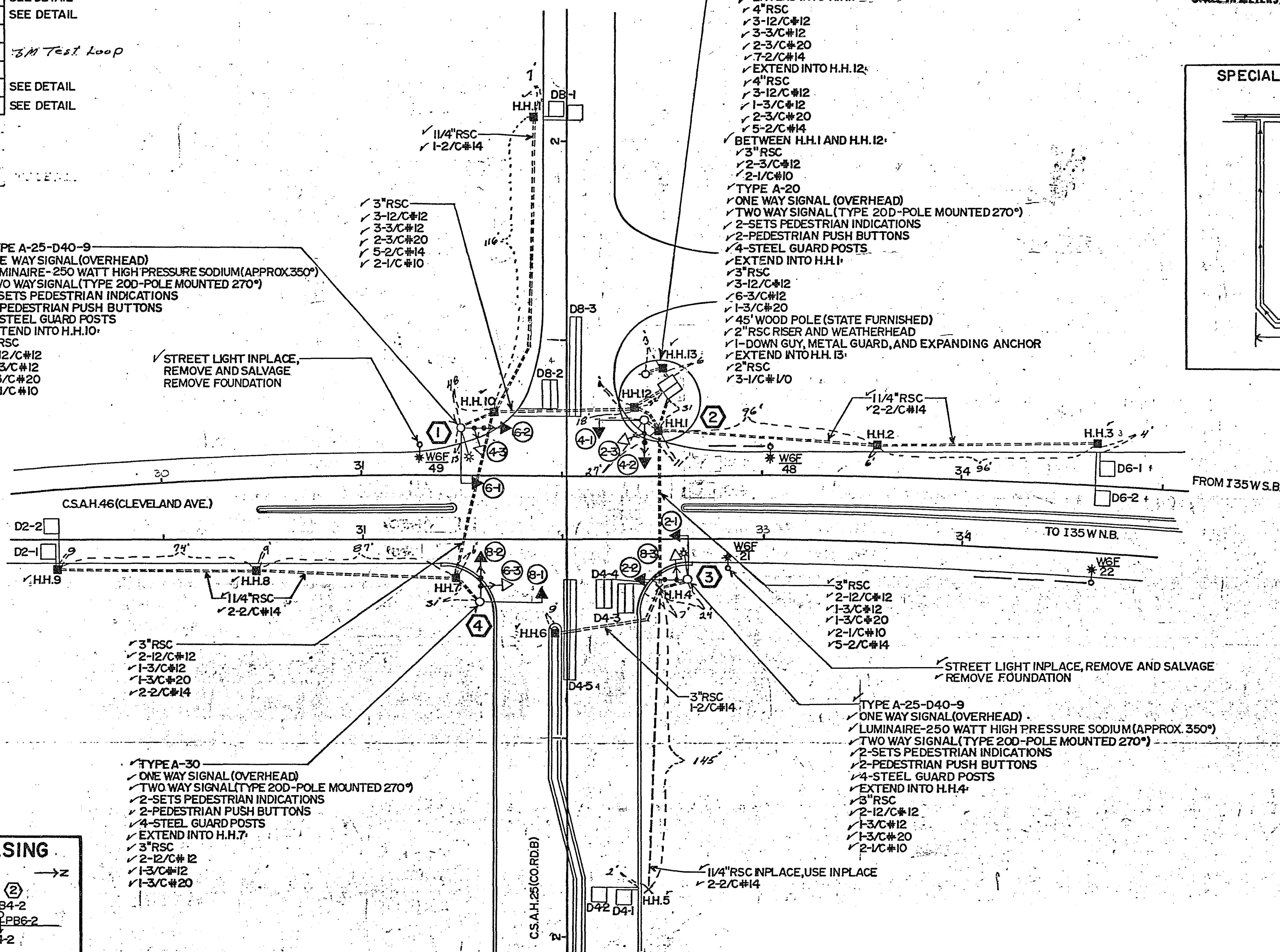
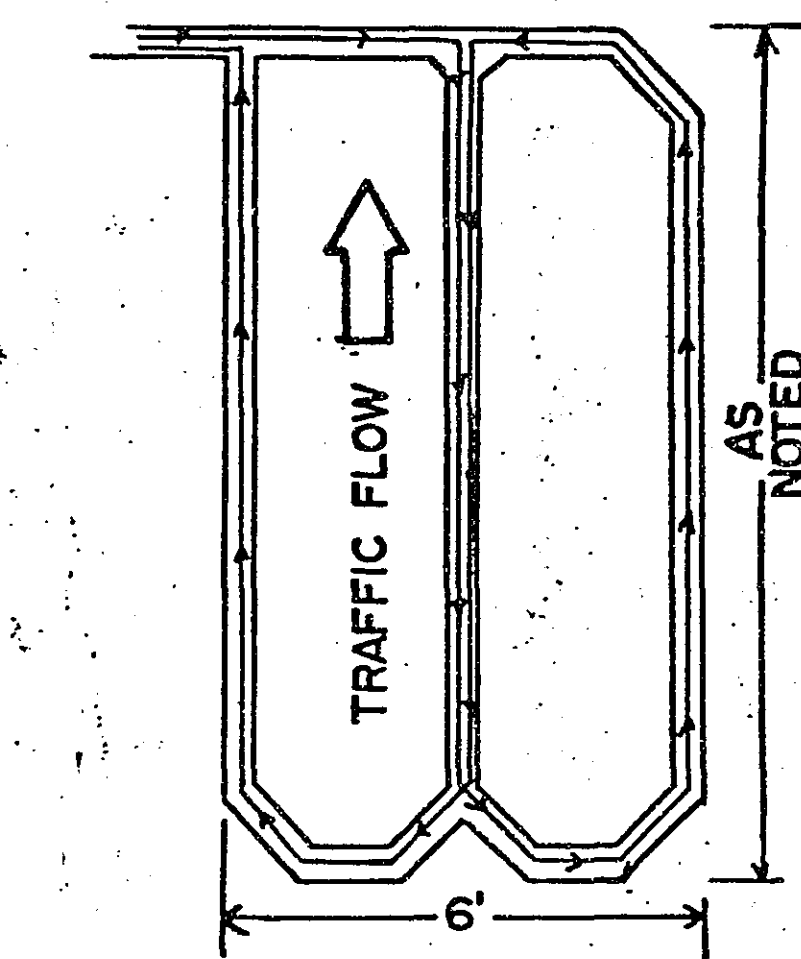
- ✓ 3" RSC
✓ 3-12/C#12
✓ 3-3/C#12
✓ 2-3/C#20
✓ 5-2/C#14
✓ 2-1/C#10

- EQUIPMENT PAD
✓ 8-STEEL GUARD POSTS
✓ SIGNAL SERVICE CABINET
✓ EXTEND INTO H.H.13
✓ 2" RSC (TO METER)
✓ 3-1/C#10
✓ EXTEND INTO H.H.12
✓ 3" RSC
✓ 4-1/C#10
✓ CONTROLLER AND CABINET
✓ EXTEND INTO H.H.1
✓ 4" RSC
✓ 3-12/C#12
✓ 3-3/C#12
✓ 2-3/C#20
✓ 7-2/C#14
✓ EXTEND INTO H.H.12
✓ 4" RSC
✓ 3-12/C#12
✓ 1-3/C#12
✓ 2-3/C#20
✓ 5-2/C#14
✓ BETWEEN H.H.1 AND H.H.12
✓ 3" RSC
✓ 2-3/C#12
✓ 2-1/C#10
✓ TYPE A-20
✓ ONE WAY SIGNAL (OVERHEAD)
✓ TWO WAY SIGNAL (TYPE 20D-POLE MOUNTED 270°)
✓ 2-SETS PEDESTRIAN INDICATIONS
✓ 2-PEDESTRIAN PUSH BUTTONS
✓ 4-STEEL GUARD POSTS
✓ EXTEND INTO H.H.1
✓ 3" RSC
✓ 3-12/C#12
✓ 6-3/C#12
✓ 1-3/C#20
✓ 45' WOOD POLE (STATE FURNISHED)
✓ 2" RSC RISER AND WEATHERHEAD
✓ 1-DOWN GUY, METAL GUARD, AND EXPANDING ANCHOR
✓ EXTEND INTO H.H.13
✓ 2" RSC
✓ 3-1/C#10

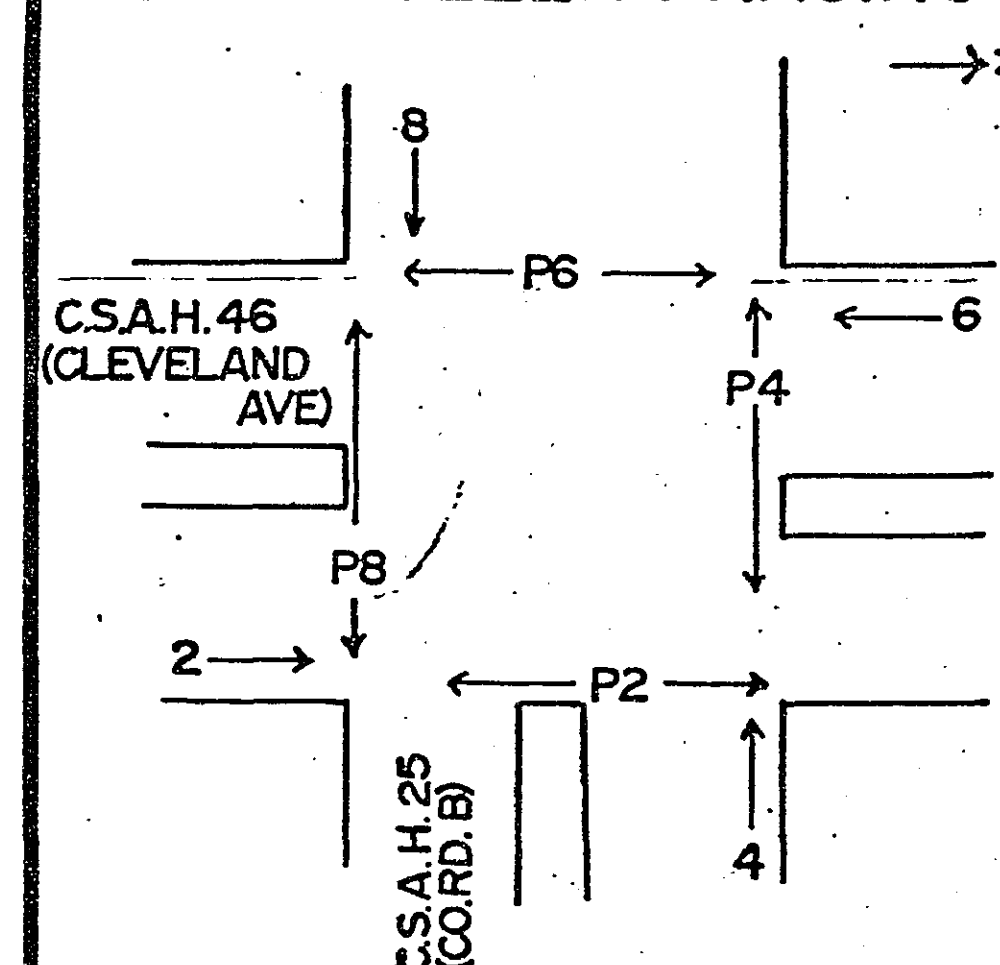
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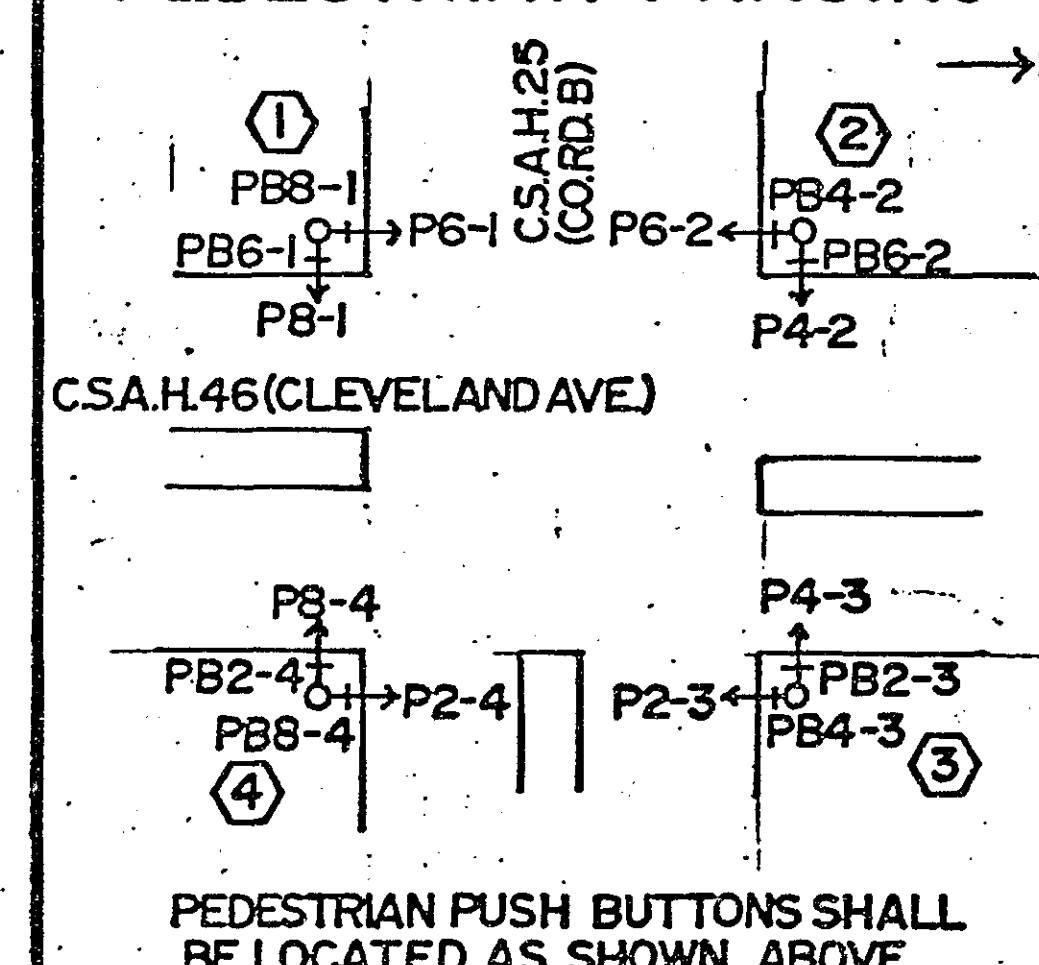
SPECIAL LOOP DETAIL



CONTROLLER PHASING



PEDESTRIAN PHASING



PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

INTERSECTION LAYOUT
CLEVELAND AVE (I35W RAMP TERM.) & COUNTY RD B

SYSTEM C

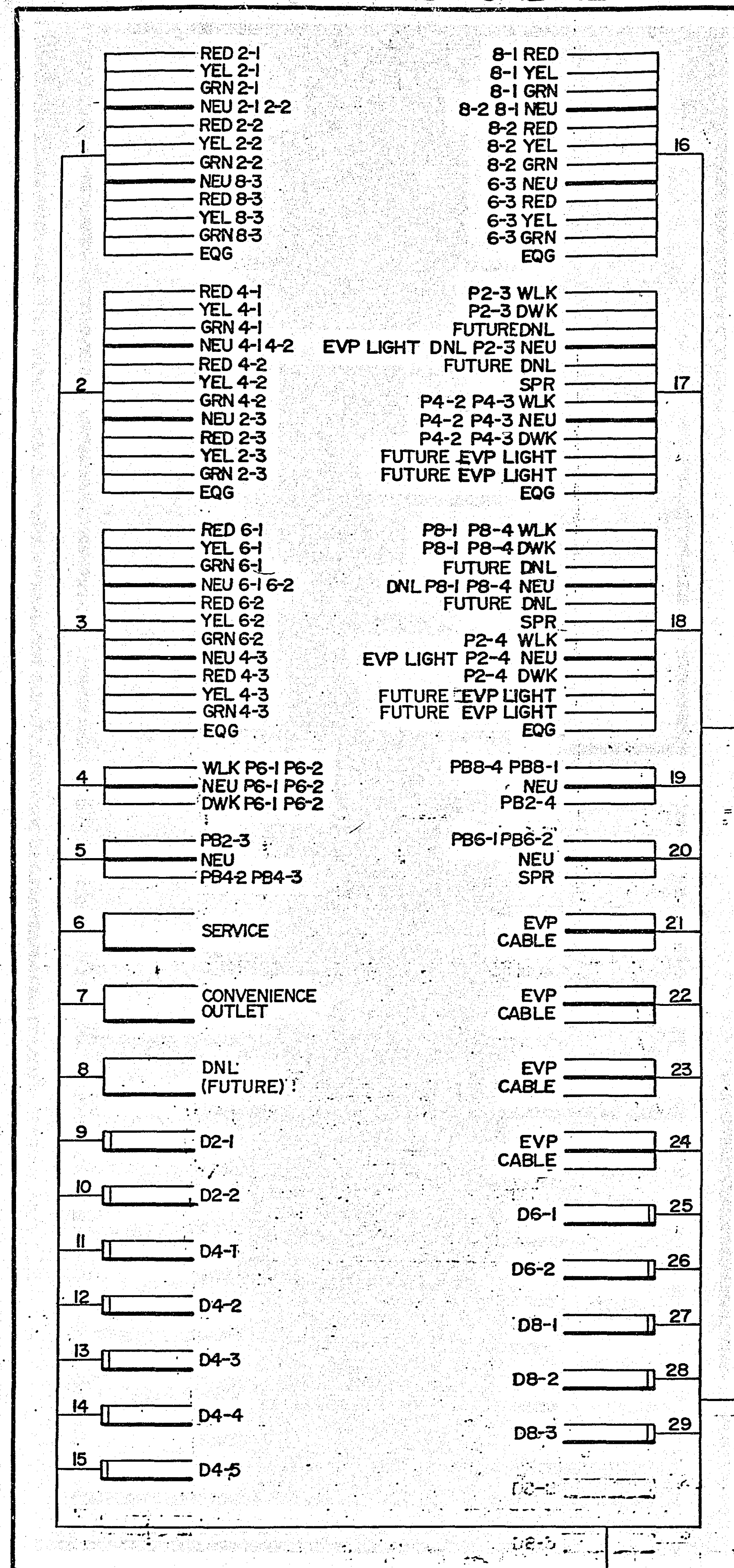
FOR INFORMATION ONLY

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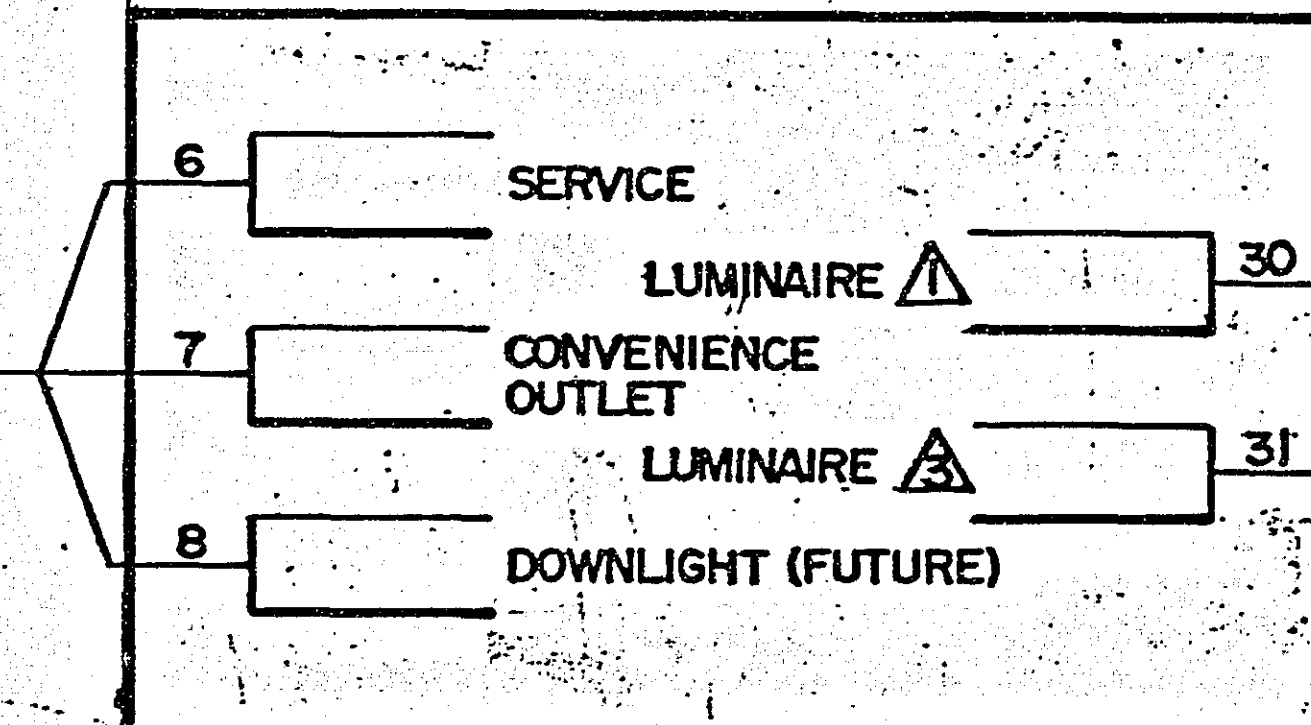
S.A.P. No. 62-646-11

Sheet No. 14 of 19 Sheets

CONTROLLER CABINET



SIGNAL SERVICE CABINET



Fed. Proj. No. CONDUCTOR COLOR CODING

R	BLK	2-1/C#5
O	WH	
BL		
R/BLK	R	3/C#12
O/BLK	WH	3/C#20
BL/BLK	BLK	
WH/BLK	BLK	2/C#4
BLK	CLR	
BLK/WH	R	2-1/C#10
G/BLK		
G	WH	

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

FIELD WIRING DIAGRAM
CLEVELAND AVE (I35W RAMP TERM.) & COUNTY RD B

SYSTEM C

FOR INFORMATION ONLY

Sheet No. 15 of 19 Sheets

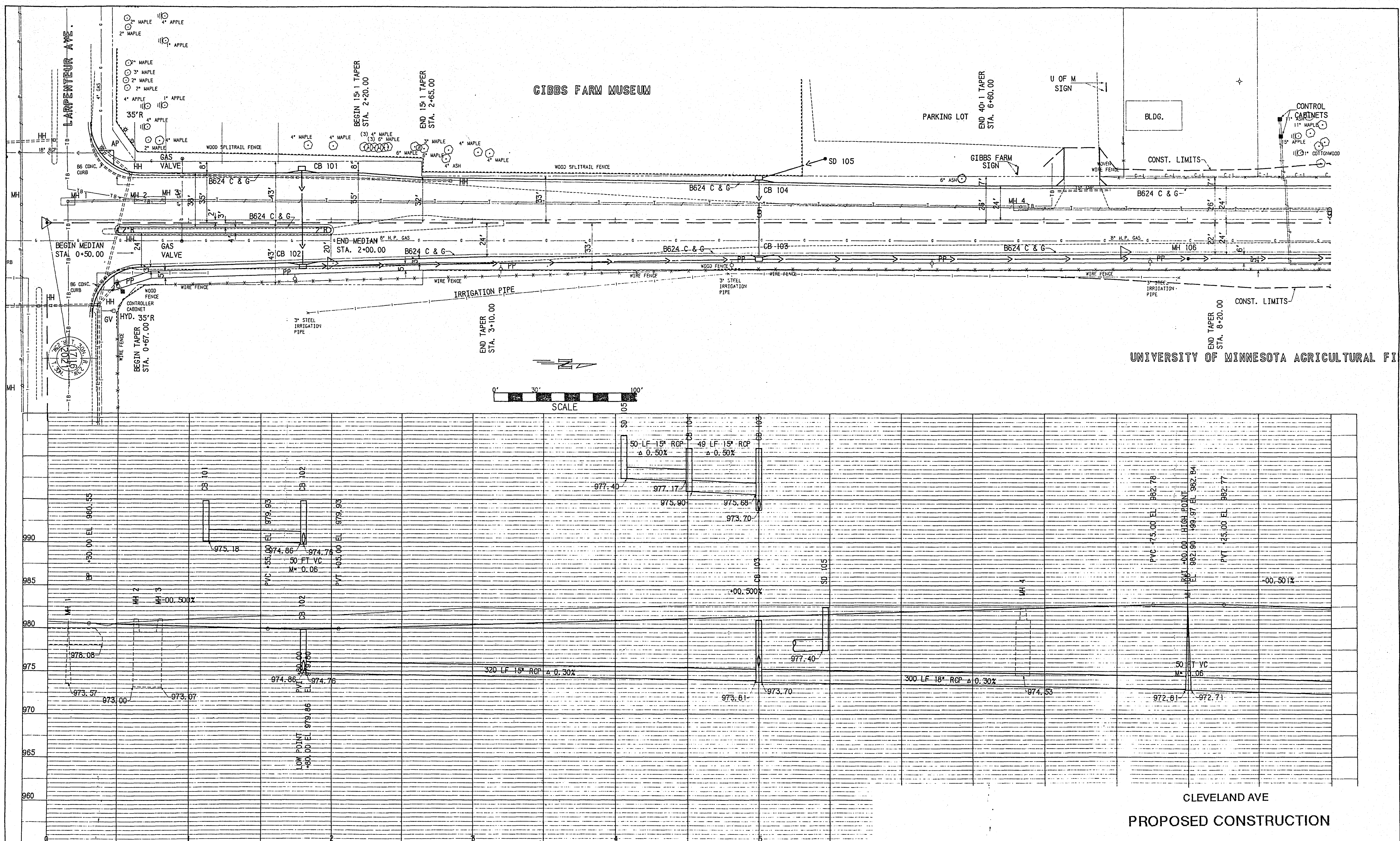
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S.A.P. No. 62-646-11

23-153

23-153 Cleveland Ave & Larpenteur System A
SAP Cleveland Ave & Rosdawn Ave System B
62-646-11 " " & Co Rd B

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FOR INFORMATION ONLY

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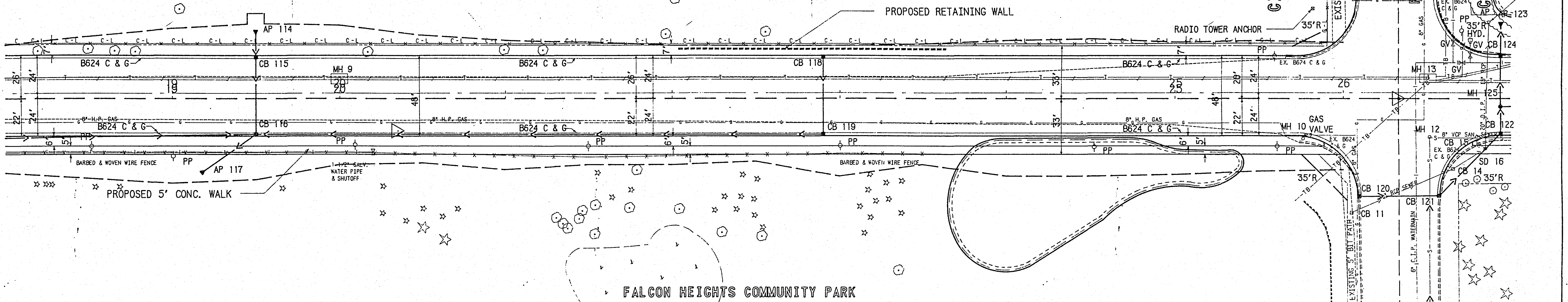
23-153

73-153 Cleveland Avenue & Carpenter system A
SAP Cleveland Avenue & Railroad for system B
62-646-11 " " & Co Rd B

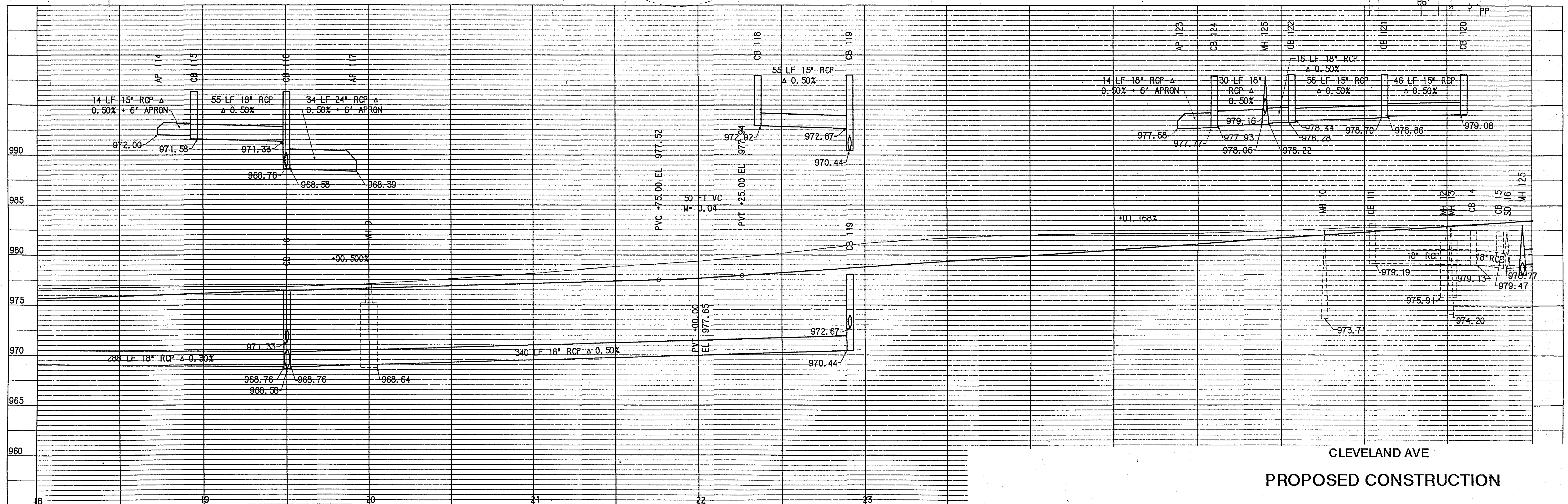
1-19

2 4 X

UNIVERSITY OF MINNESOTA GOLF COURSE



FALCON HEIGHTS COMMUNITY PARK



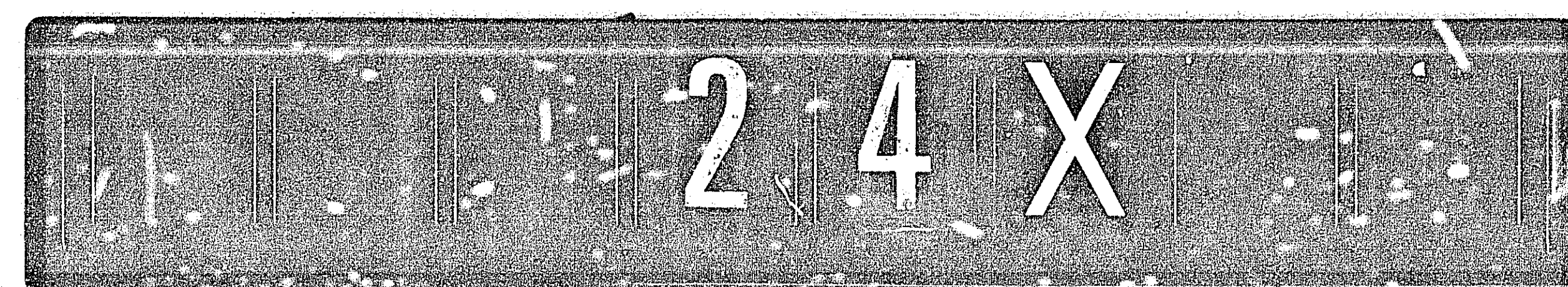
PROPOSED CONSTRUCTION
FOR INFORMATION ONLY

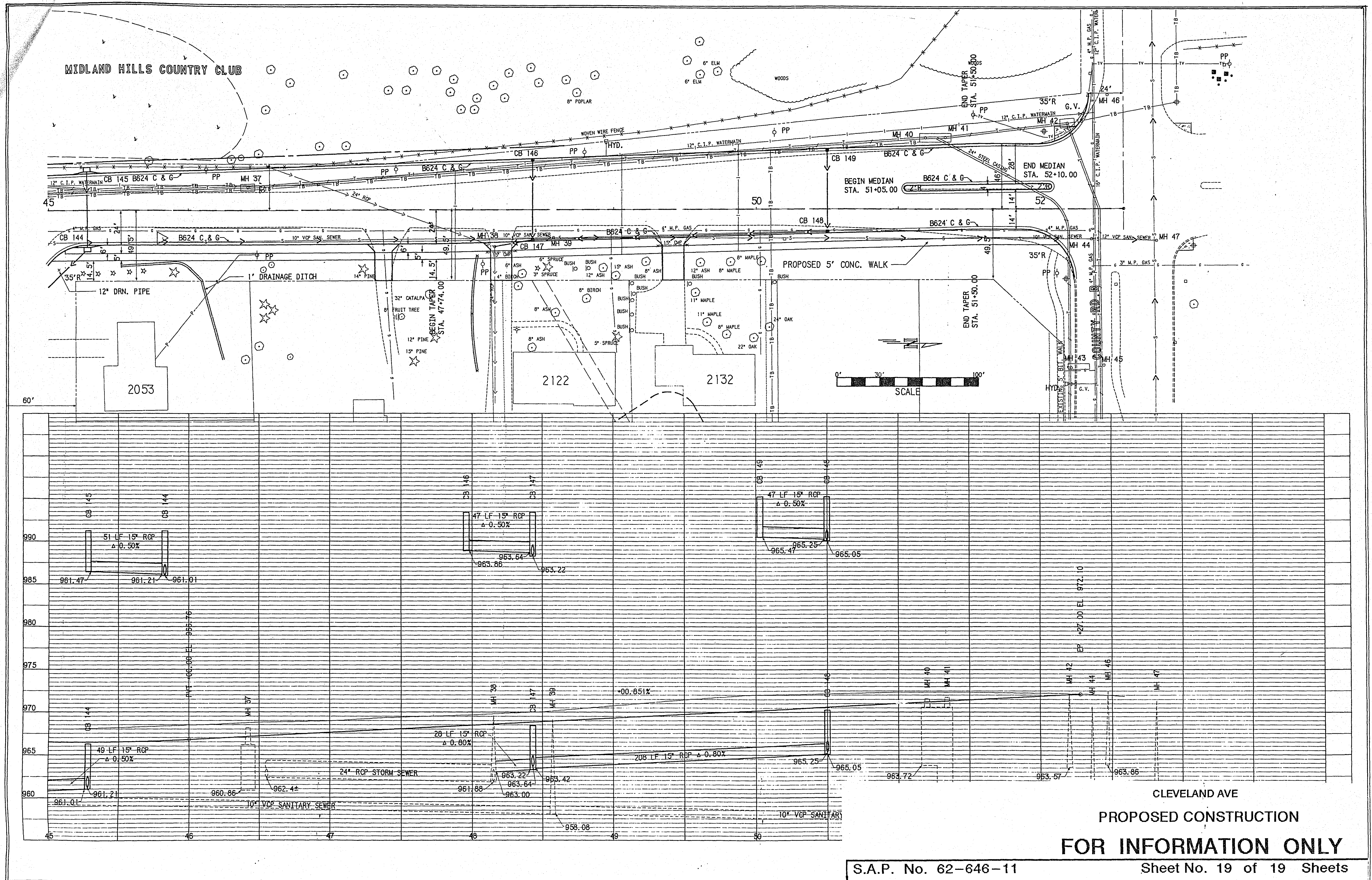
S.A.P. No. 62-646-11

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23-153 Cleveland Ave & Carpenter System A
SAP Cleveland Ave & Roselawn Ave System B
62-646-11 " " & Co Rd B 1-19





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23-153 Cleveland Ave & Carpenter system A
SAP Cleveland Ave & Carpenter system A
12-14-11 " " & Co Rd B

1-19

