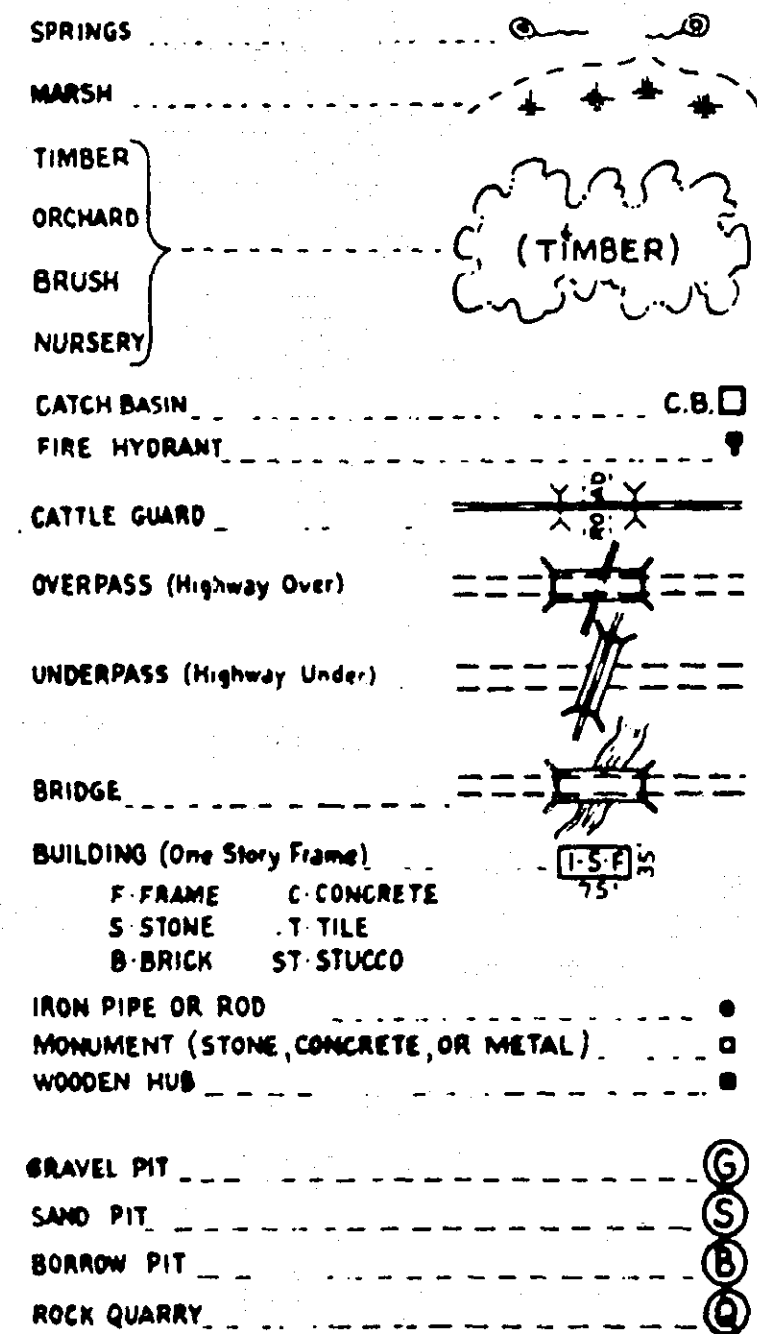
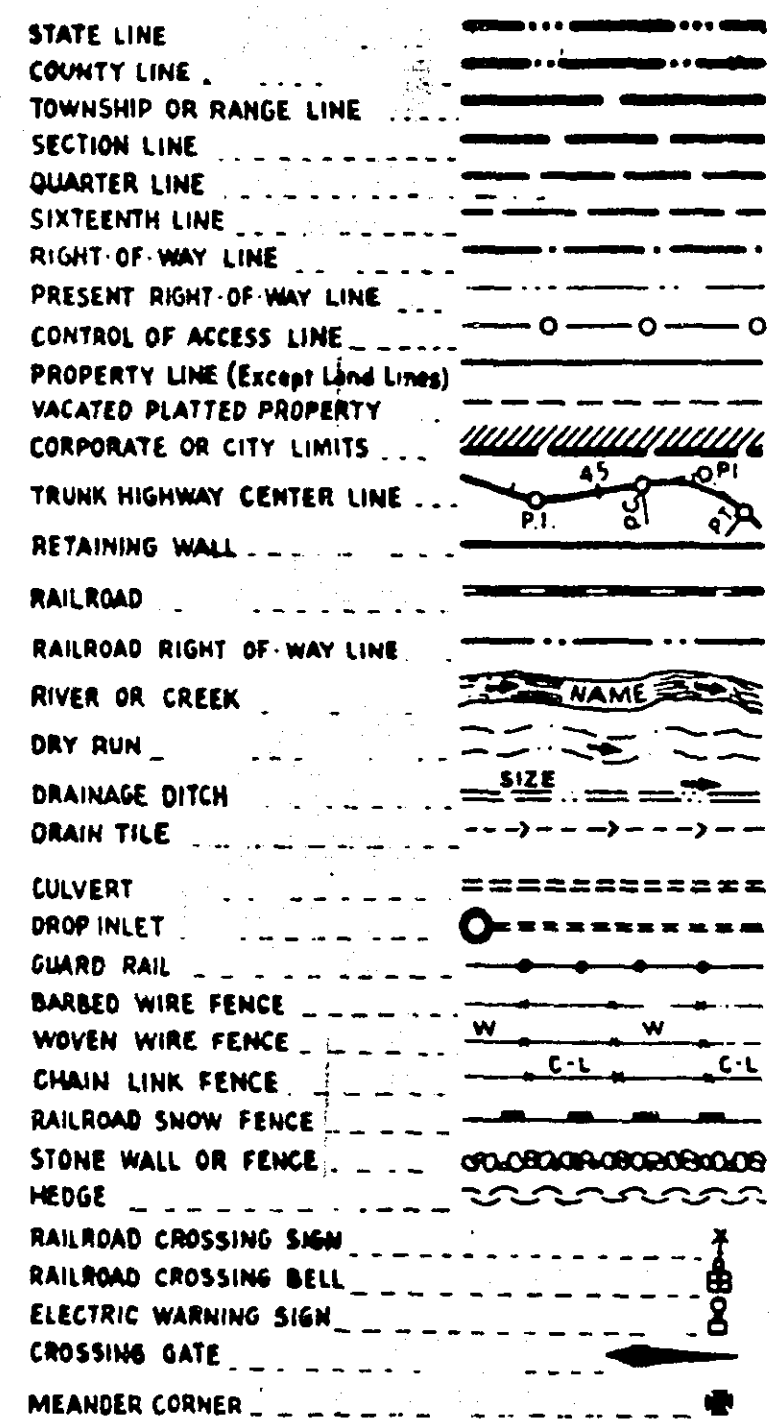
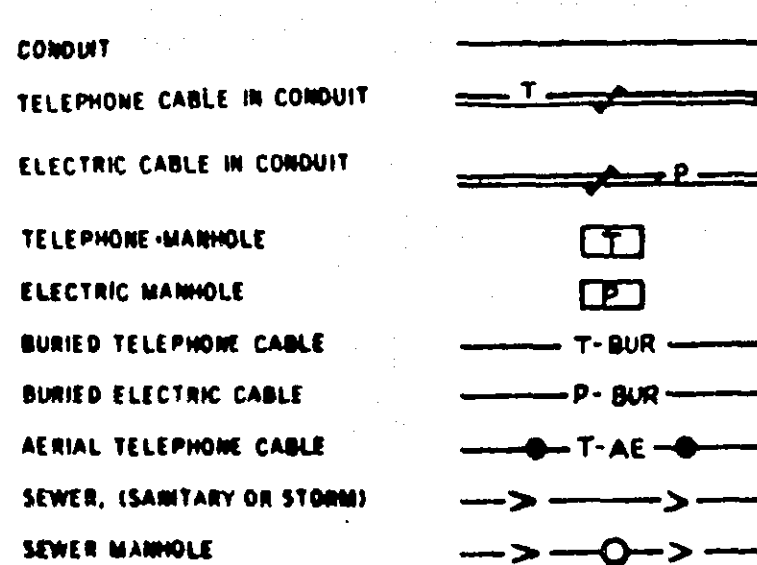
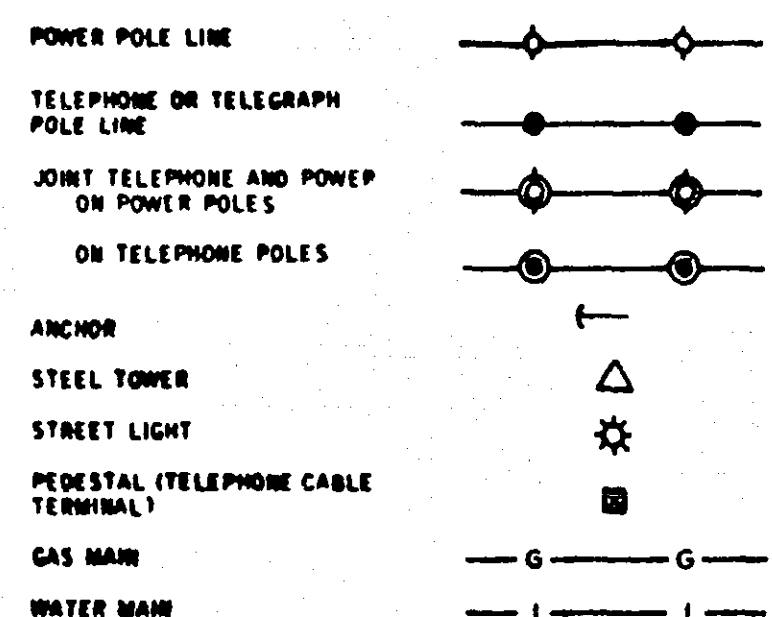


PLANS SYMBOLS



UTILITIES SYMBOLS



NOTE: SECTION NUMBERS REF. FROM "THE SCL"

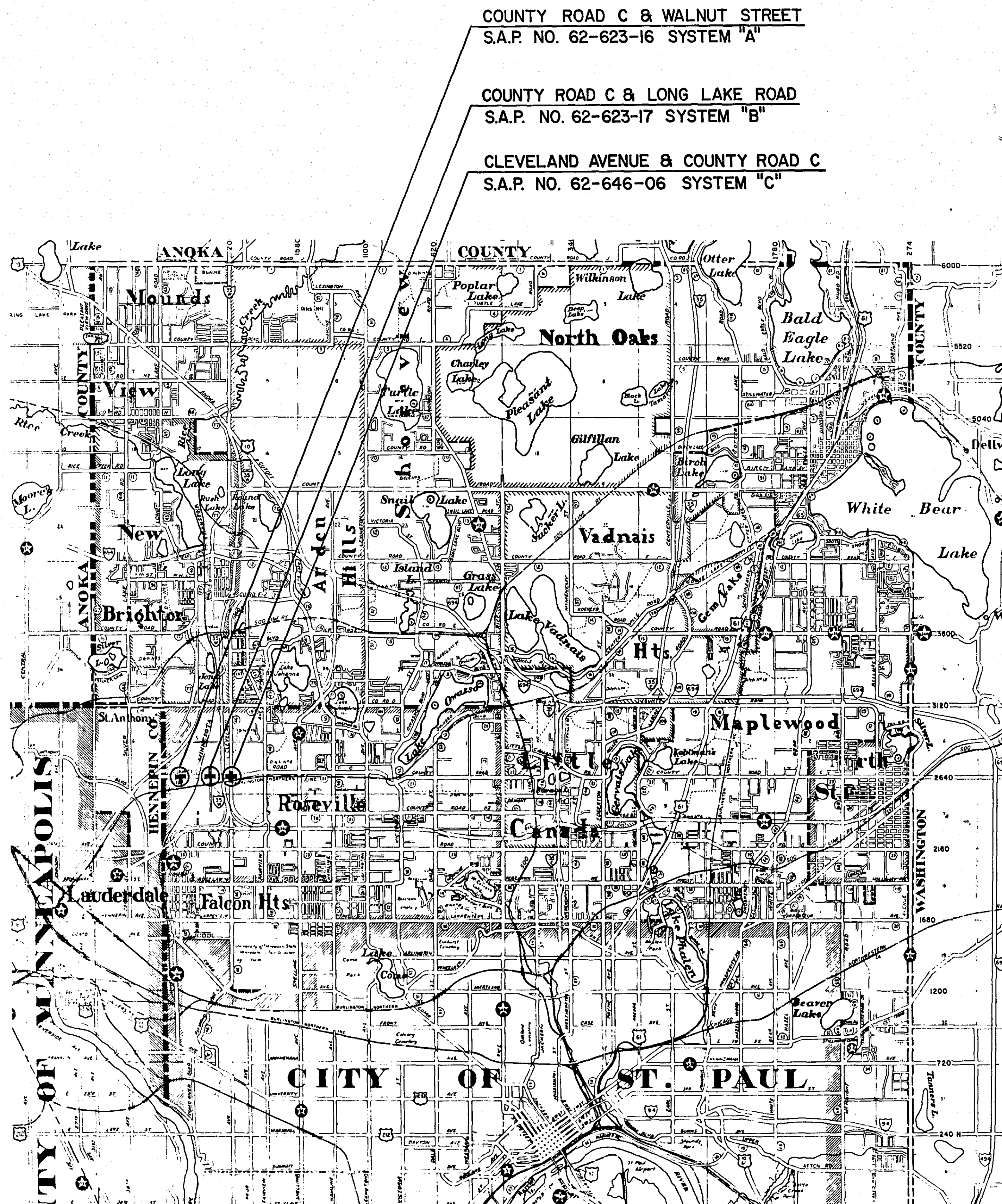
PIT DATA

PIT NO. _____ Located in _____

PIT NO. _____ Located in _____

SPECIFICATION REFERENCE

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



OFFICE OF COUNTY ENGINEER RAMSEY COUNTY

PLAN OF TRAFFIC CONTROL SYSTEM FOR THE INTERSECTIONS OF

COUNTY ROAD C & WALNUT STREET
S.A.P. NO. 62-623-16 SYSTEM "A"

AND

COUNTY ROAD C & LONG LAKE ROAD
S.A.P. NO. 62-623-17 SYSTEM "B"

AND

CLEVELAND AVENUE & COUNTY ROAD C
S.A.P. NO. 62-646-06 SYSTEM "C"

INDEX

SHEET NO.	DESCRIPTION
1	TITLE
2-4	DETAILS
5-8	SYSTEM "A"
9-12	SYSTEM "B"
13-17	SYSTEM "C"

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. Kohnert
Date 10-16-78 Reg. No. 12703

RECOMMENDED FOR APPROVAL *Paul J. Kohnert* DATE 10-16-78
TRAFFIC ENGINEER

RECOMMENDED FOR APPROVAL *Paul J. Kohnert* DATE 10-16-78
COUNTY ENGINEER

APPROVED *Robert J. Oath* DATE 10-9-79
CHAIRMAN OF THE RAMSEY COUNTY BOARD

APPROVED *June K. Kohnert* DATE _____
MAYOR, CITY OF ROSEVILLE

APPROVED _____ DATE _____

MINNESOTA DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR APPROVAL *Robert J. Oath* DATE 9-11-79

RECOMMENDED FOR APPROVAL *Robert J. Oath* DATE 7/9/79

APPROVAL *Robert J. Oath* DATE 9/12/79
DIRECTOR, OFFICE OF STATE AID

RECOMMENDED FOR APPROVAL *Paul J. Kohnert* DATE 10/18/78
ENV. ENGR.

RECOMMENDED FOR APPROVAL *Paul J. Kohnert* DATE 10-18-78
MAINT. ENGR.

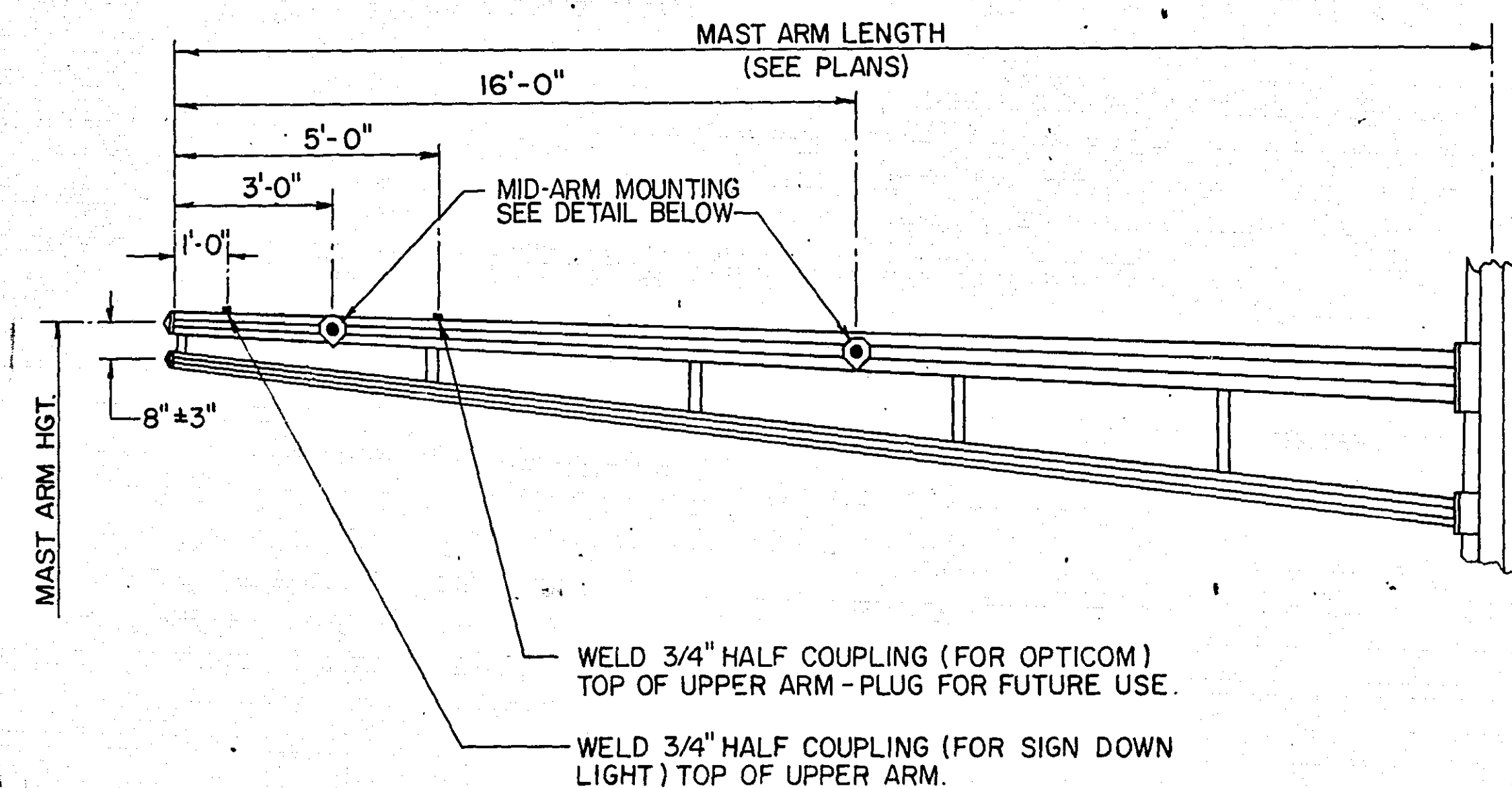
RECOMMENDED FOR APPROVAL *Paul J. Kohnert* DATE 10-18-78
CONST. ENGR.

RECOMMENDED FOR APPROVAL *Paul J. Kohnert* DATE 10-18-78
DESIGN ENGR.

RECOMMENDED FOR APPROVAL *Paul J. Kohnert* DATE 10-18-78
S.A.P. ENGR.

APPROVED *Paul J. Kohnert* DATE 10-24-78
COORDINATING ENGR.

MAST ARM DETAILS
SYSTEM A - POLES 1 & 3
SYSTEM B - POLES 1 & 3



STANDARD PLATES	
PLATE NO.	TITLE
* 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
* 8116 C	STEEL GUARD POST
* 8117 E	PRECAST CONCRETE HANDHOLE
* 8118 C	SERVICE EQUIPMENT & POLE, TRAFFIC CONTROL SIGNALS
* 8119 C	GROUND MOUNTED CABINET FOUNDATION
* 8120 F	MAST ARM POLE FOUNDATION
* 8122 C	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 D	SAW CUT LOOP DETECTORS

* STANDARD PLATES APPLICABLE TO THIS PROJECT

STATEMENT OF ESTIMATED QUANTITIES				
PROJECT NO.	ITEM NO.	ITEM	UNIT	QUANT.
62-623-16	2565.501	FULL TRAFFIC ACTUATED TRAFFIC CONTROL SYSTEM "A"	SIGNAL SYSTEM	1
62-623-17	2565.501	FULL TRAFFIC ACTUATED TRAFFIC CONTROL SYSTEM "B"	SIGNAL SYSTEM	1
62-623-17	2564.531	FURNISH AND INSTALL SIGN PANELS, TYPE "D"	SQUARE FOOT	100.5
62-646-06	0565.604	REVISE SIGNAL SYSTEM "C"	SYSTEM	1
62-646-06	2564.531	FURNISH AND INSTALL SIGN PANELS, TYPE "D"	SQUARE FOOT	78

ABBREVIATIONS

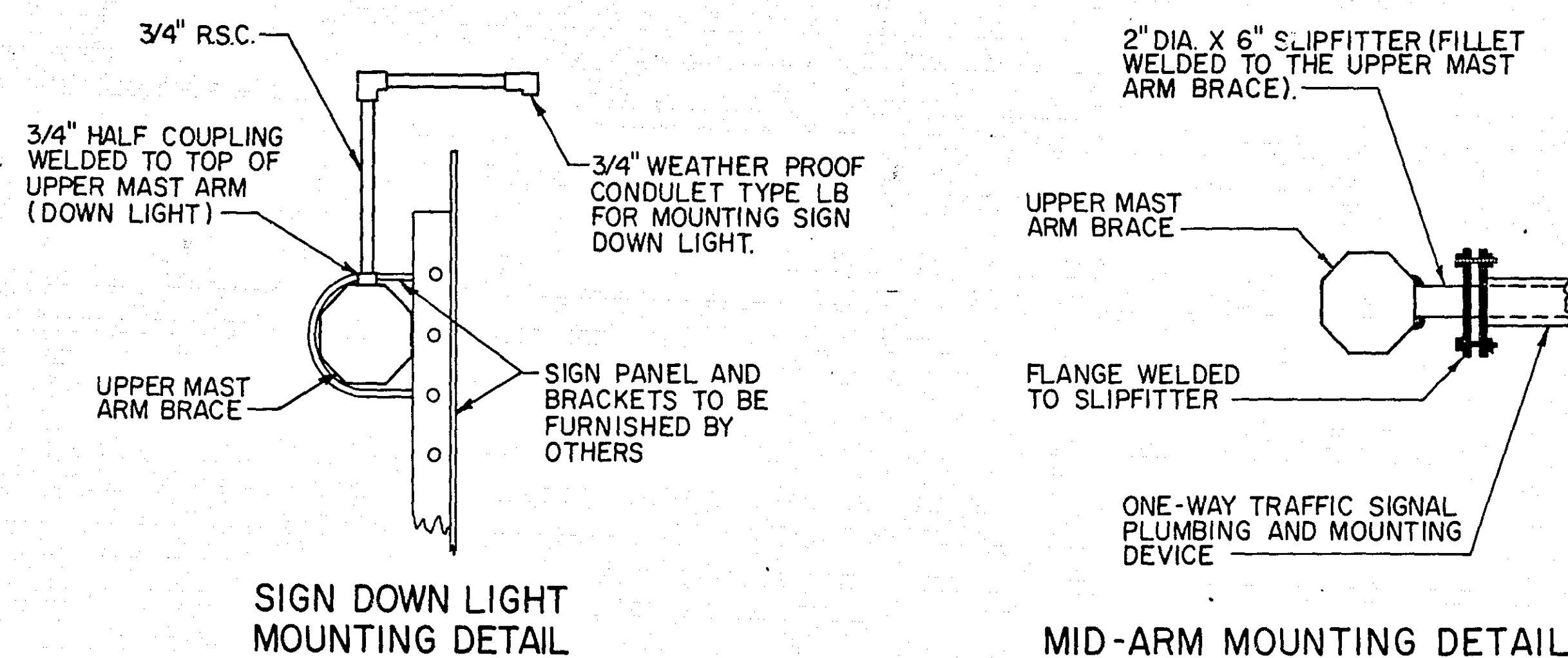
EQUIPMENT & INDICATIONS

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
PA1(eg) - PEDESTRIAN INDICATION - "A" PHASE
PBB2(eg) - PUSH BUTTON - "B" PHASE
C3(eg) - SIGNAL HEAD - "C" PHASE
DA4(eg) - DETECTOR - "A" PHASE
H.H. - HANDHOLE
GR.R - GROUND ROD
SERV - SERVICE
EVP - EMERGENCY VEHICLE PRE-EMPTION

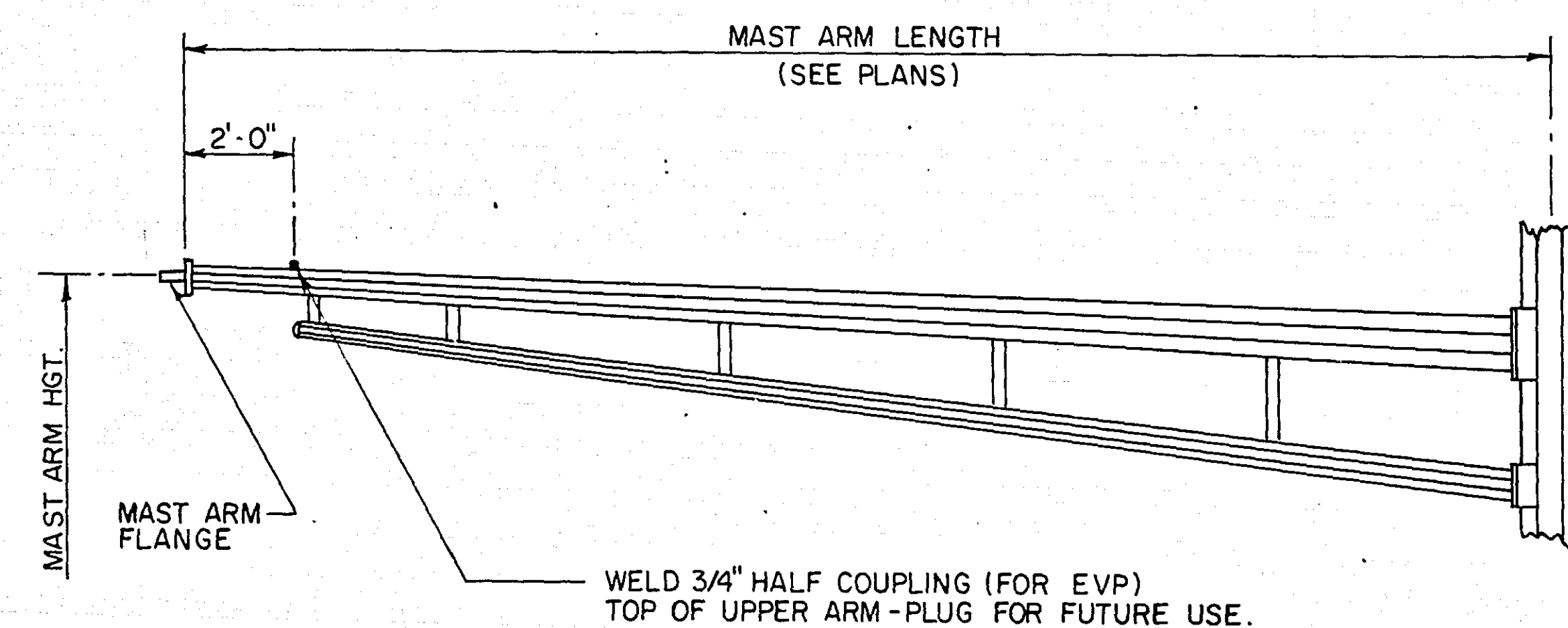
DNL - DOWNLIGHT
PE.C. - PHOTOELECTRIC CELL
ST. LHT. - STREET LIGHT
CH - CHECK
S.O.P. - SOURCE OF POWER
EQ.G. - EQUIPMENT GROUND
SPR - SPARE CONDUCTOR

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



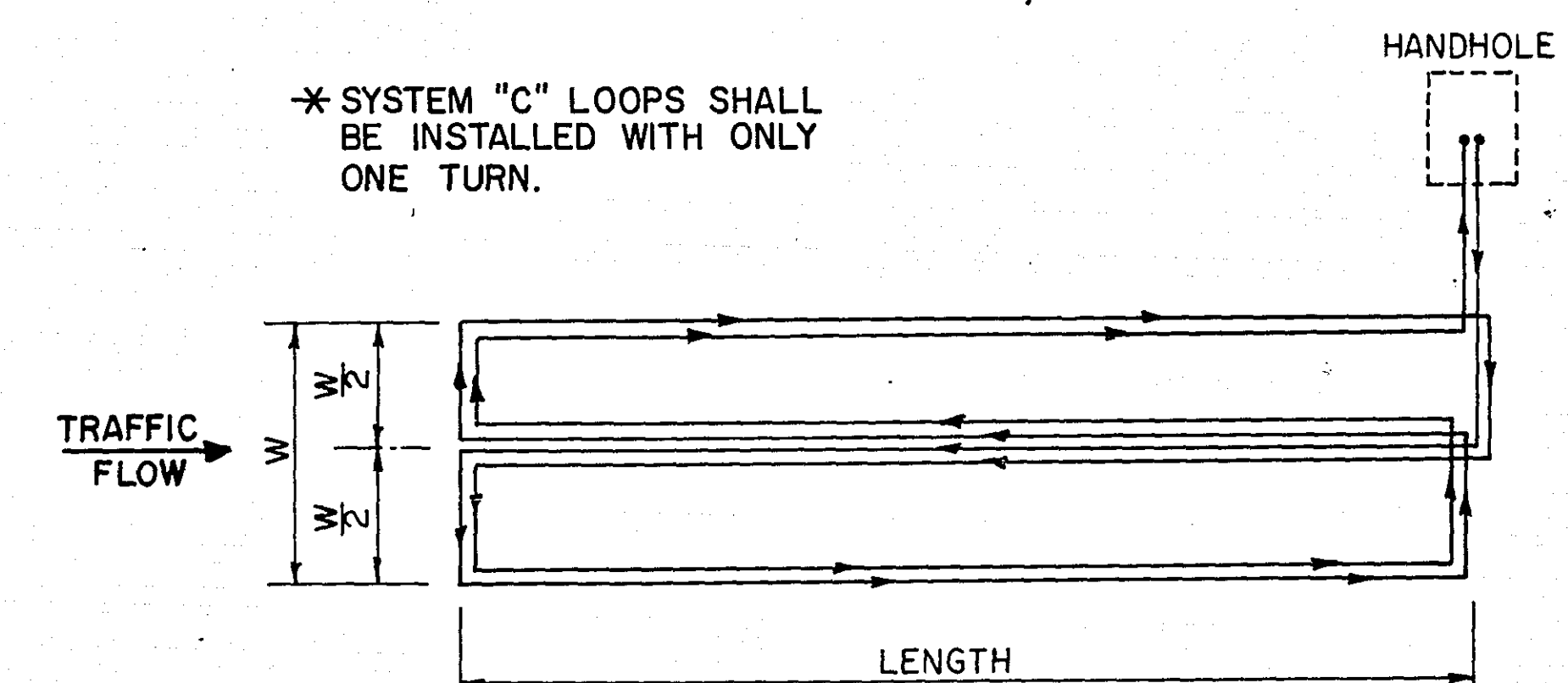
MAST ARM DETAILS
SYSTEM B - POLES 2 & 4



LOOP CONFIGURATION

SYSTEM "A" - D1-1
SYSTEM "B" - D1-1, D5-1
* SYSTEM "C" - DB3-1, DB4-1

* SYSTEM "C" LOOPS SHALL BE INSTALLED WITH ONLY ONE TURN.



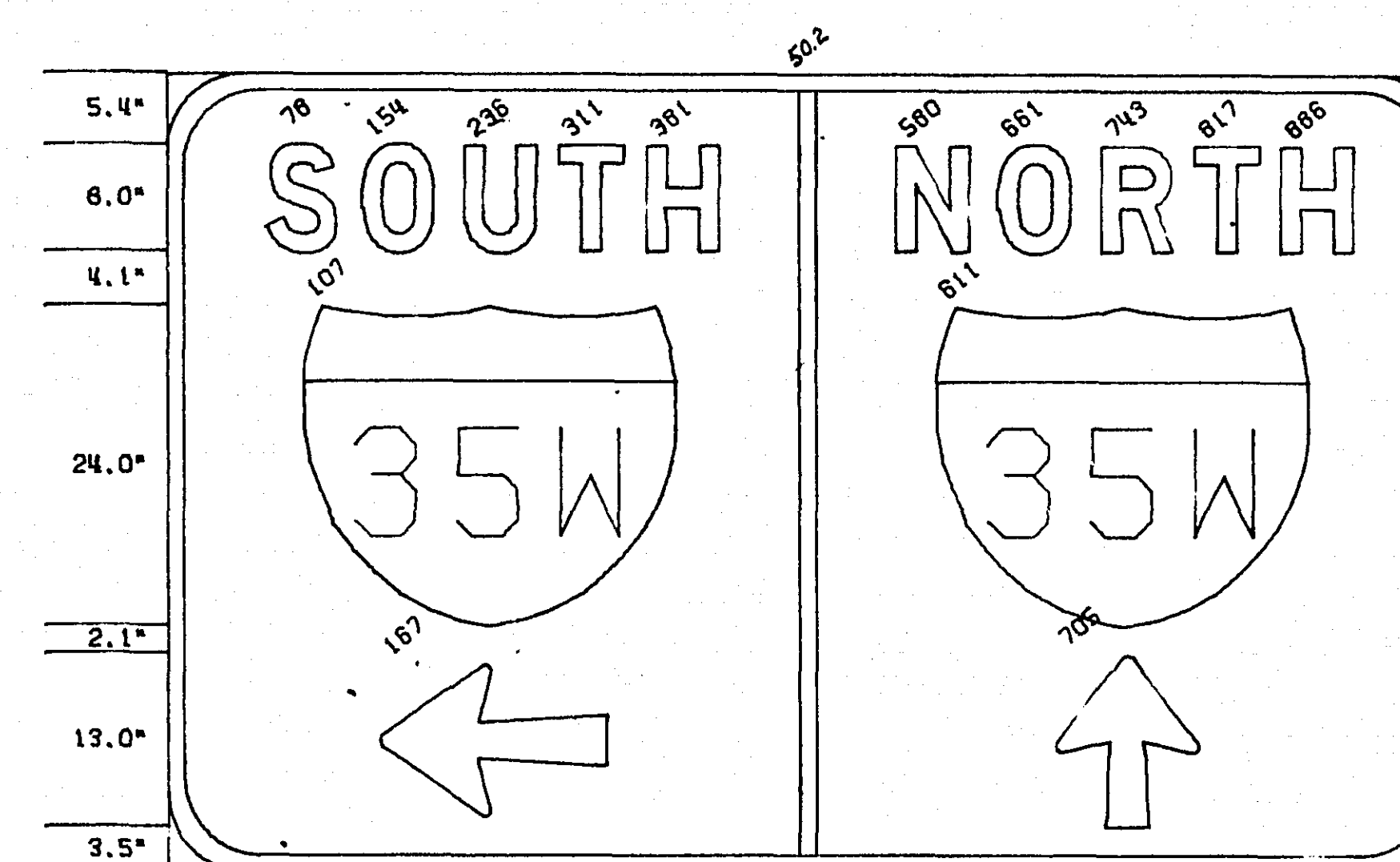
ASBUILT PLAN
CONFORMING TO
CONST. RECORDS

DONE BY: R. Miller
DATE: 11-17-80

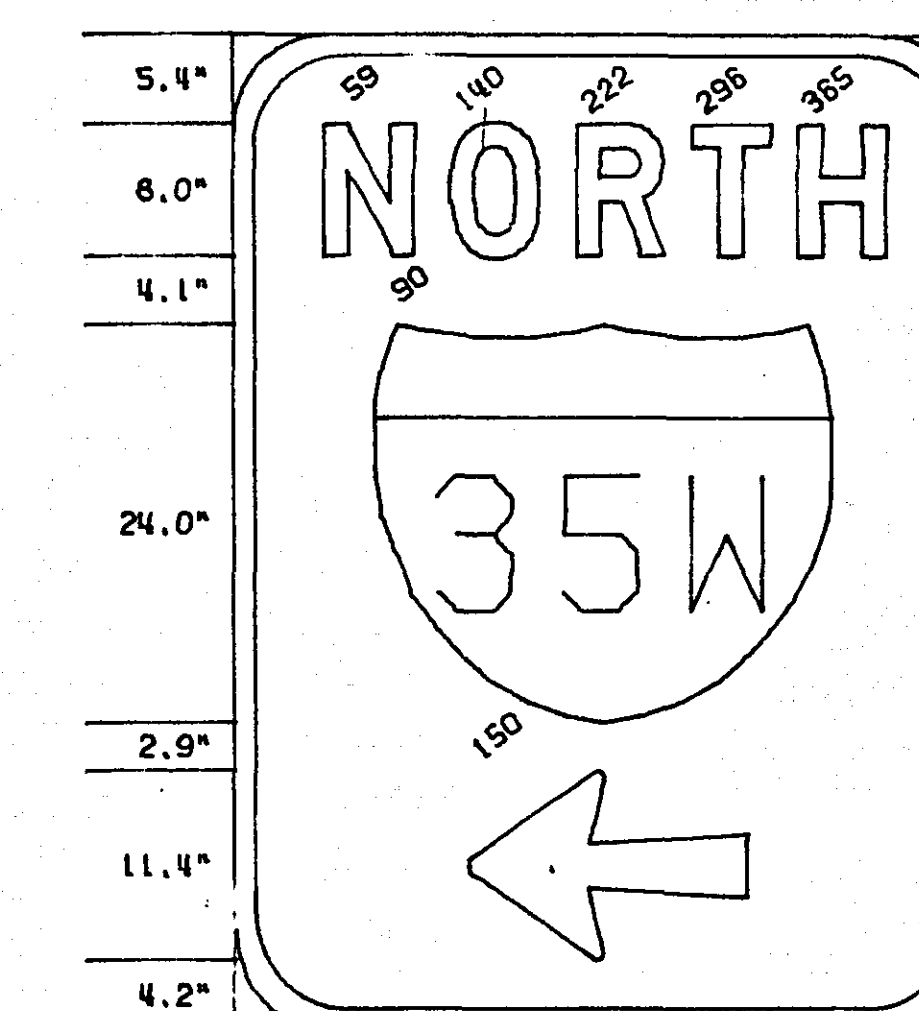
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 10-16-78 Reg. No. 12703

DETAILS

MICROFILMED
RAMSEY CO. ENGR

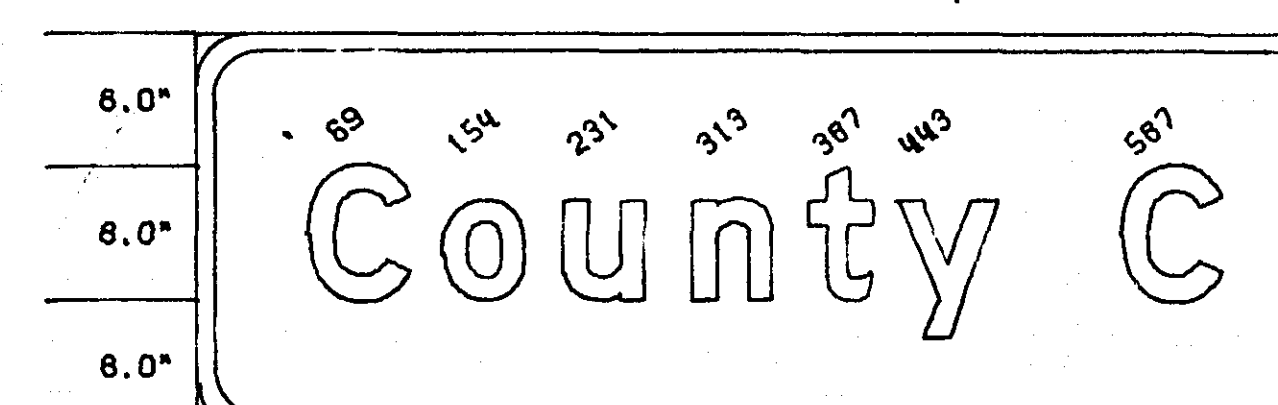


102"X 60", 6" R. D 3
 LINE 1 86.5 : 8" D MOD., 1.2"
 LINE 2 80.4 : 30"X24" --10" NUM., 30"X24" --10" NUM.
 LINE 3 65.0 : 14--18 ARROW-180, 5--13 ARROW-90

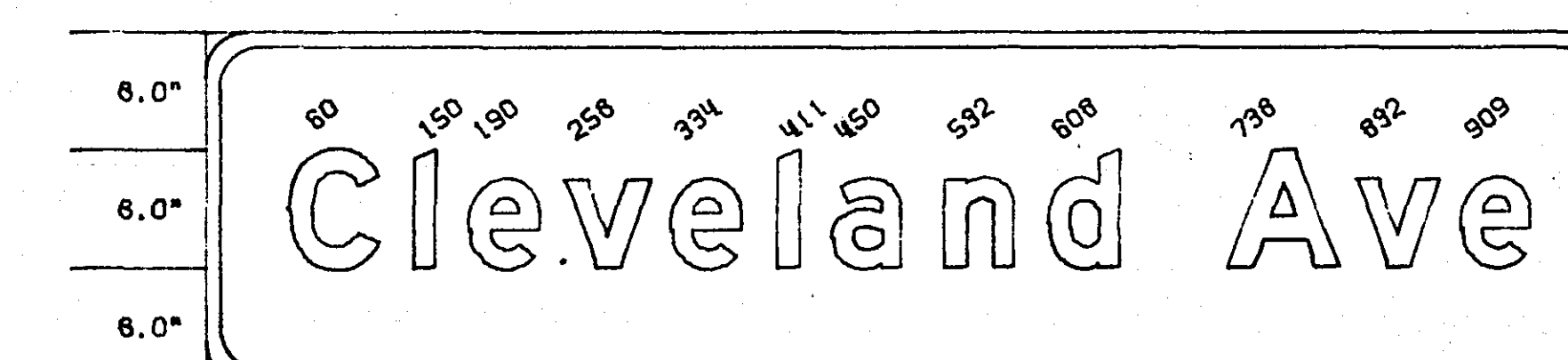


48"X 60", 6" R. D 5
 LINE 1 38.2 : 8" D MOD.
 LINE 2 30.0 : 30"X24" --10" NUM.
 LINE 3 18.0 : 14--18 ARROW-180

FOR ADDITIONAL DETAILS SEE SHEET 4



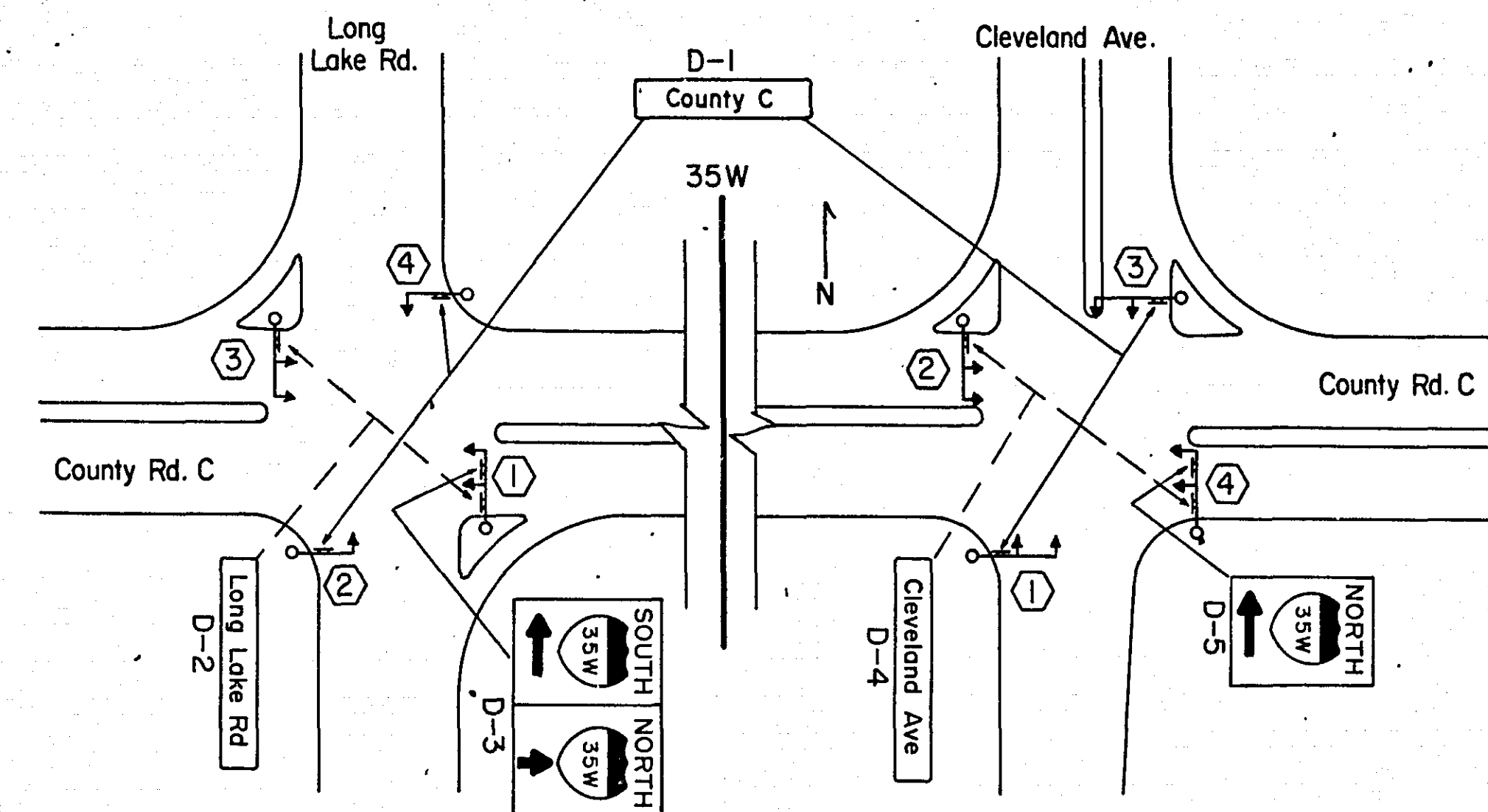
72"X 24", 3" R. D 1
 LINE 1 58.2 : 8"-6" E MOD.



102"X 24", 3" R. D 4
 LINE 1 90.0 : 8"-6" E MOD.

TYPE "D" SIGN DATA

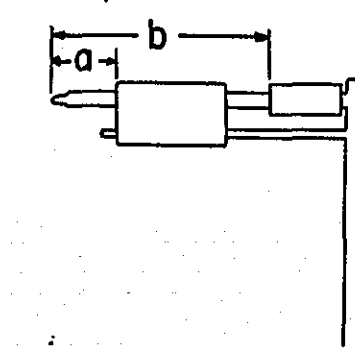
State Proj. No. 62-623-17 Sheet No. 3 of 17 Sheets



TYPE "D" SIGNS

Sign Panel	Size	No. Req.	No. Posts	Post Spacing	Sq. Ft.	a	b
D-1	72" x 24"	4	2°	42" °	12.0	22' 12"	20'
D-2	102" x 24"	2	3°	39" °	17.0	42.5'	19'
D-3	102" x 60"	1	3	39" °	42.5	5.5'	17.0
D-4	102" x 24"	2	3°	39" °	17.0	7'	
D-5	48" x 60"	1	2	30"	20.0		

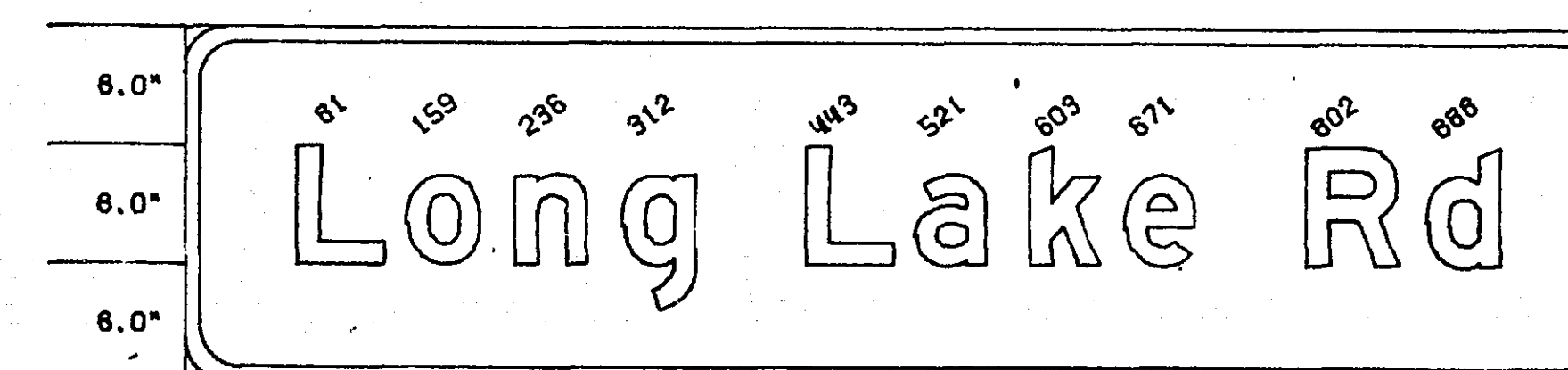
* Brackets used.
 * At Cleveland Ave.
 + At Long Lake Rd.



OVERLAYS

Code No.	Quan.	Size	Legend	Sq. Ft.
MI-1A	3	30" x 24"	1-35W	5.0

FOR ADDITIONAL DETAILS SEE SHEET 3



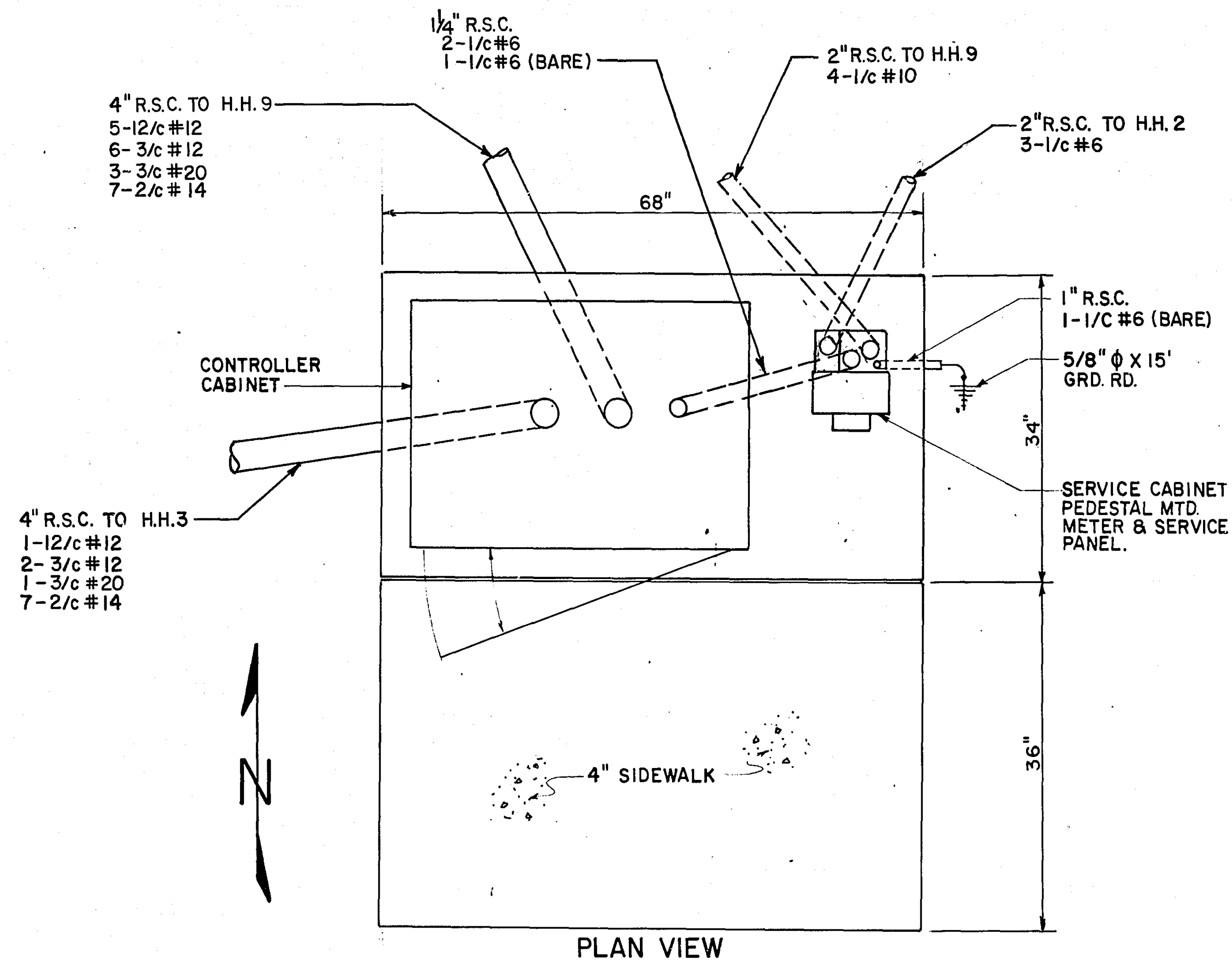
102" X 24", 3" R. D 2
 LINE 1 85.7 : 6"-6" E MOD.

- NOTES: 1. Color—white legend and border on green background, fully reflectorized.
 2. Corners extending beyond the border shall not be trimmed.
 3. Borders shall be 1.25" for D-3 & D-5; 1.0" for D-1, D-2, & D-4.
 4. See Standard Signs Manual for arrow and overlay details.
 5. For structural details, Type D signs, see Standard Signs Manual, pages 105A & B.
 6. For Type D Stringer and Panel-Joint Detail, see Standard Signs Manual.

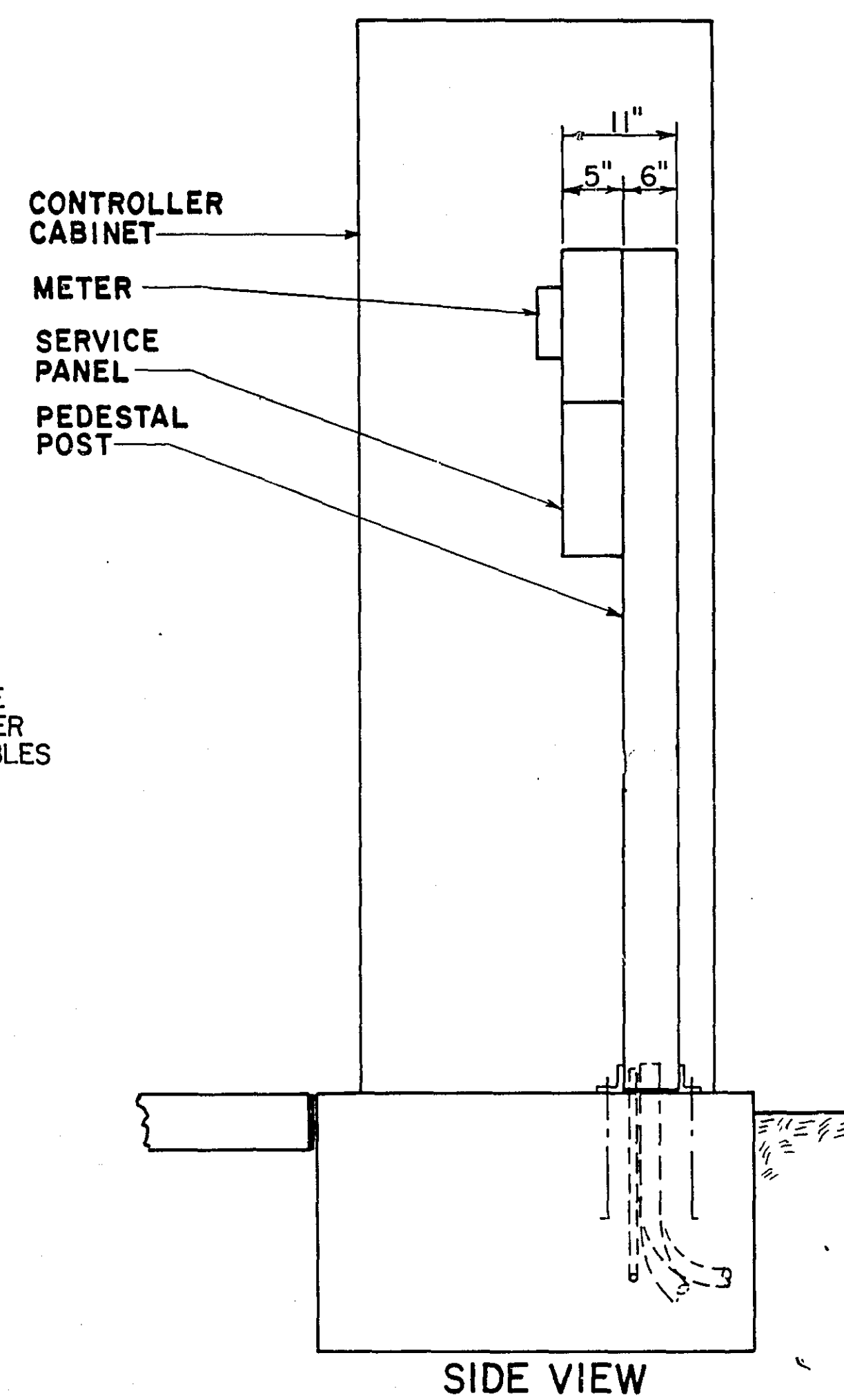
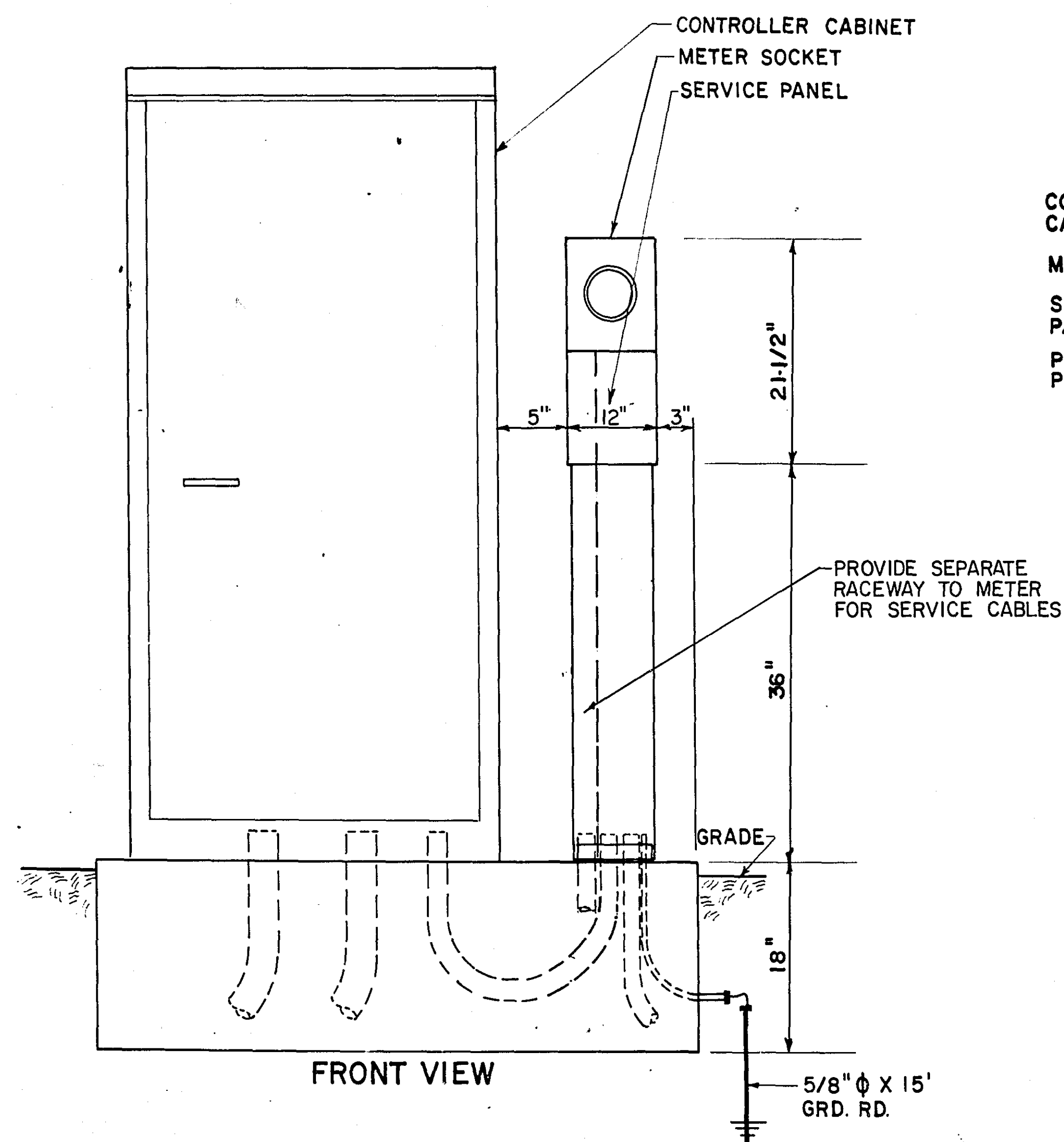
TYPE "D" SIGN DATA

State Proj. No. 62-623-17 Sheet No. 4 of 17 Sheets

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.



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. Kishner

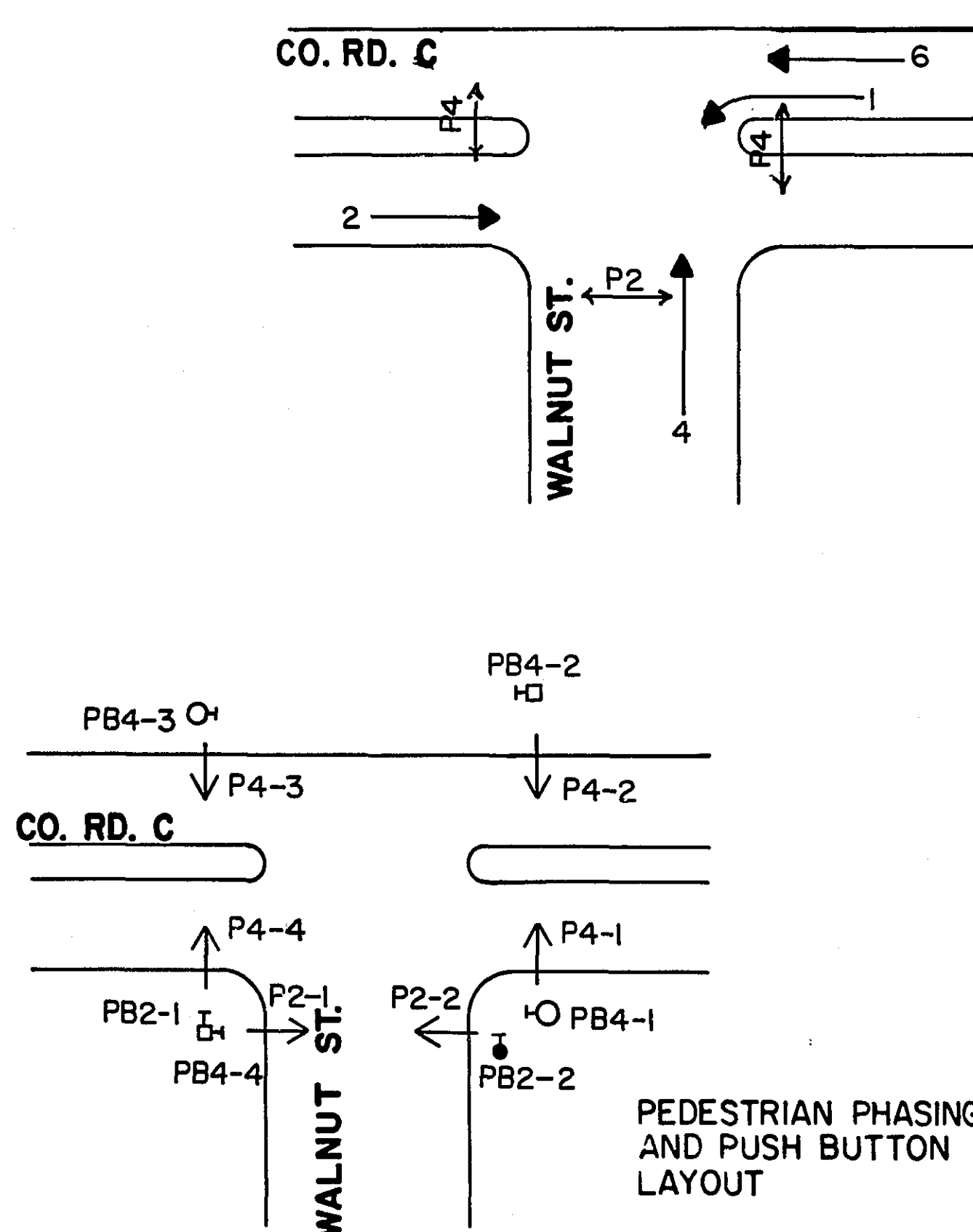
Date 10-16-78 Reg. No. 12703

EQUIPMENT PAD DETAILS
COUNTY RD C & WALNUT ST.
SYSTEM "A"

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 _____	
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	←G →
* 1-1	1	Y	12"	12"	-	12"
* 2-1	2	Y	12"	12"	12"	-
2-2	2	Y	12"	12"	12"	-
* 2-3	2	Y	12"	12"	12"	-
4-1	4	R	12"	12"	12"	-
4-2	4	R	12"	12"	12"	-
* 6-1	6	Y	12"	12"	12"	-
6-2	6	Y	12"	12"	12"	-

* SPECIAL SIGNAL FACES (SEE SPECIAL PROVISIONS)

VEHICLE DETECTION		
NUMBER	SIZE	OPERATION
* DI-1	6' X 20'	CALL & EXTEND
DI-2	2-6' X 20'	CALL & EXTEND
D2-1	6' X 6'	CALL & EXTEND
D2-2	6' X 6'	CALL & EXTEND
D2-3	8' X 18'	CALL ONLY
① D4-1	8' X 16'	CALL & EXTEND
D4-2	8' X 16'	CALL & EXTEND
D6-1	6' X 6'	CALL & EXTEND
D6-2	6' X 6'	CALL & EXTEND
D6-3	8' X 18'	CALL ONLY

* SEE DETAIL - SHEET NO. 2
① TIME DELAYED

FUTURE VEHICLE DETECTION	
NUMBER	OPERATION
D4-3	CALL & EXTEND (TIME DELAYED)
D4-4	CALL & EXTEND
D5-1	CALL & EXTEND
D5-2	CALL & EXTEND

+LOCATION CHART		
STATION	LOCATION	DESCRIPTION
3+25	RT. 34'	H.H. 7
4+50	RT. 35'	H.H. 6
5+77	LT. 48'	POLE NO. 3
5+77.92	RT. 41'	POLE NO. 2
6+65	LT. 48'	POLE NO. 4
6+70	RT. 42'	PED. STA.
6+86	RT. 33'	POLE NO. 1
7+00	RT. 42'	EQUIP. PAD.
8+30	LT. 47'	H.H. 12
9+30	LT. 47'	H.H. 13

+ NOTE: ALL LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE TRAFFIC ENGR. PRIOR TO INSTALLATION..

- TYPE A-35-T40-8
- LUMINAIRE - 250 WATT HIGH PRESSURE SODIUM (APPROX. 350°)
- 2- ONE WAY SIGNALS (OVERHEAD MTD.)
- TWO WAY SIGNAL (TYPE 20B - POLE MTD. 270°)
- 1-SET PEDESTRIAN INDICATION (12")
- 1-PEDESTRIAN PUSH BUTTON (MTD. 270°)
- SIGN DOWN LIGHT (OVERHEAD MTD.)
- 2-STEEL GUARD POSTS
- EXTENDED INTO H.H. 14

- 3" R.S.C.
- 2-12/C #12
- 2-3/C #12
- 1-3/C #20
- 2-1/C #10

- 3" R.S.C. INPLACE
- 2-12/C #12
- 2-3/C #12
- 1-3/C #20
- 2-2/C #14
- 2-1/C #10

- S.O.P. (N.S.P. POLE INPLACE)
- 2" R.S.C. RISER WITH WEATHER HEAD.
- EXTENDED INTO H.H. I
- 2" R.S.C.
- 3-1/C #6

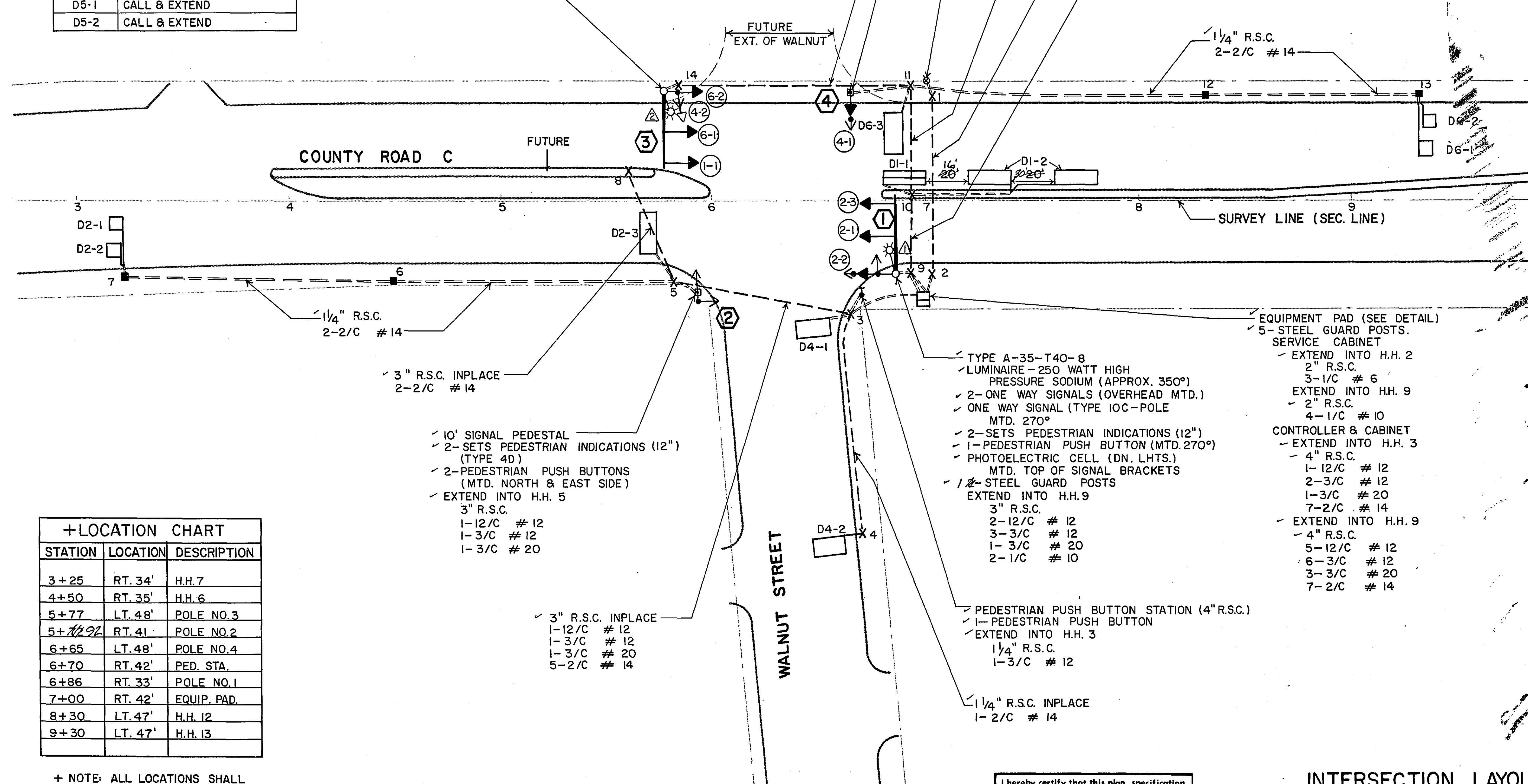
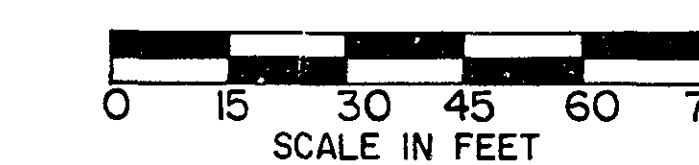
- ONE-WAY SIGNAL (TYPE 1C)
- 1-SET PEDESTRIAN INDICATIONS (12")
- 1-PEDESTRIAN PUSH BUTTON (MTD. 270° SIDE)
- EXTENDED INTO H.H. II
- 3" R.S.C.
- 1-12/C #12
- 1-3/C #12
- 1-3/C #20

- 4" R.S.C. INPLACE
- 3-12/C #12
- 3-3/C #12
- 2-3/C #20
- 5-2/C #14
- 2-1/C #10

- 2" R.S.C. INPLACE
- 3-1/C #6

- 4" R.S.C. INPLACE
- 3-12/C #12
- 3-3/C #12
- 2-3/C #20
- 7-2/C #14
- 2-1/C #10

- NOTES:
- ALL ITEMS NOTED INPLACE SHALL BE USED INPLACE.
 - LOOP DETECTOR LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE TRAFFIC ENGINEER PRIOR TO INSTALLATION.
 - SUFFICIENT 3/C NO. 20 TO REACH THE END OF MAST ARM SHALL BE INSTALLED IN POLES 1&3. POLES 2&4 SHALL CONTAIN 20 FEET OF 3/C NO.20 COILED IN BASE. (EVP CABLES)
 - COIL 125 FEET OF 2/C NO.14 (CABLE NO.19) IN HANDHOLE 14. SEE WIRING DIAGRAM.



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS

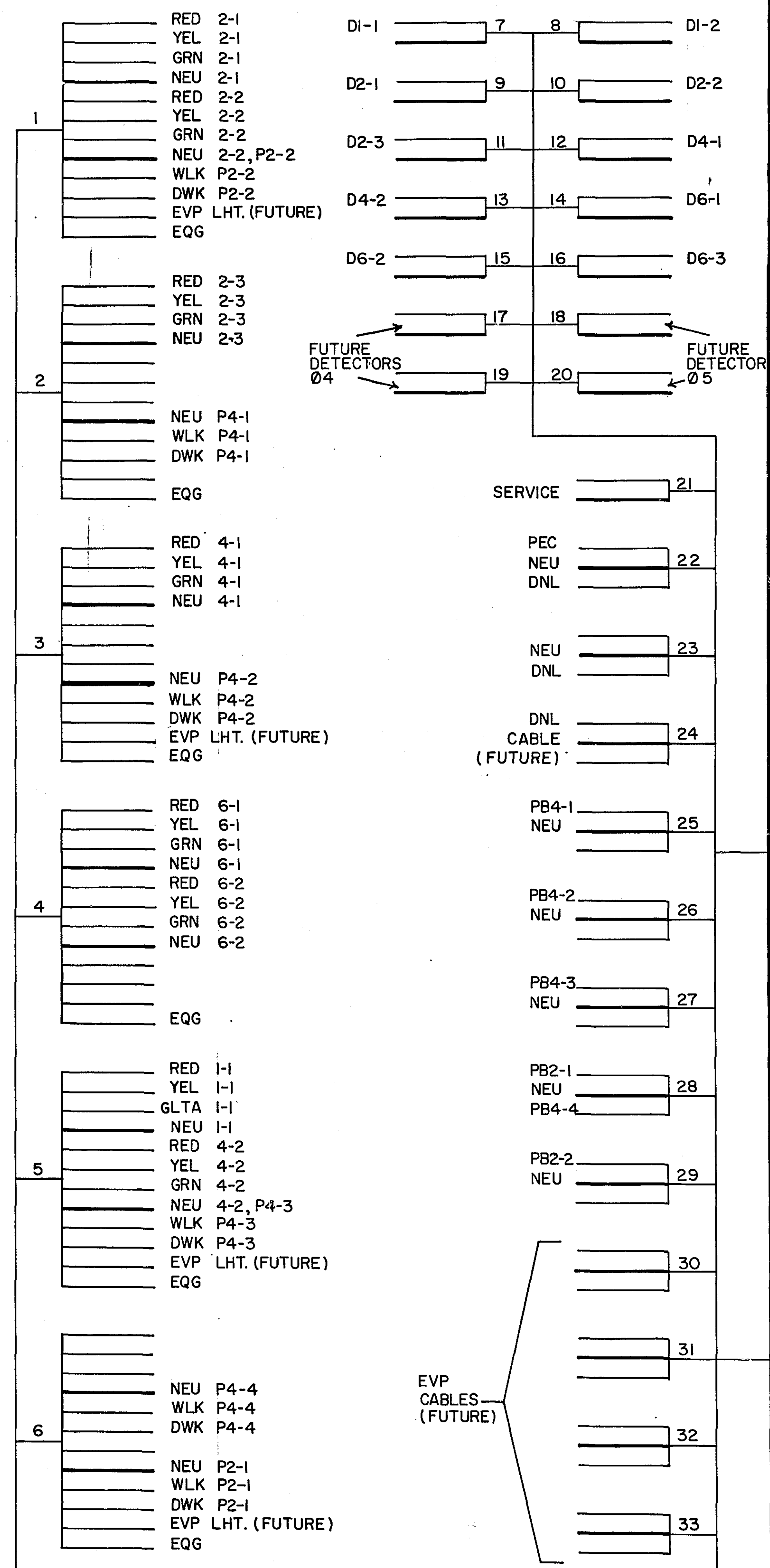
DONE BY: R. Usher
DATE: 11-17-80

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 J. Kucharski
Date 12-16-78 Reg. No. 12703

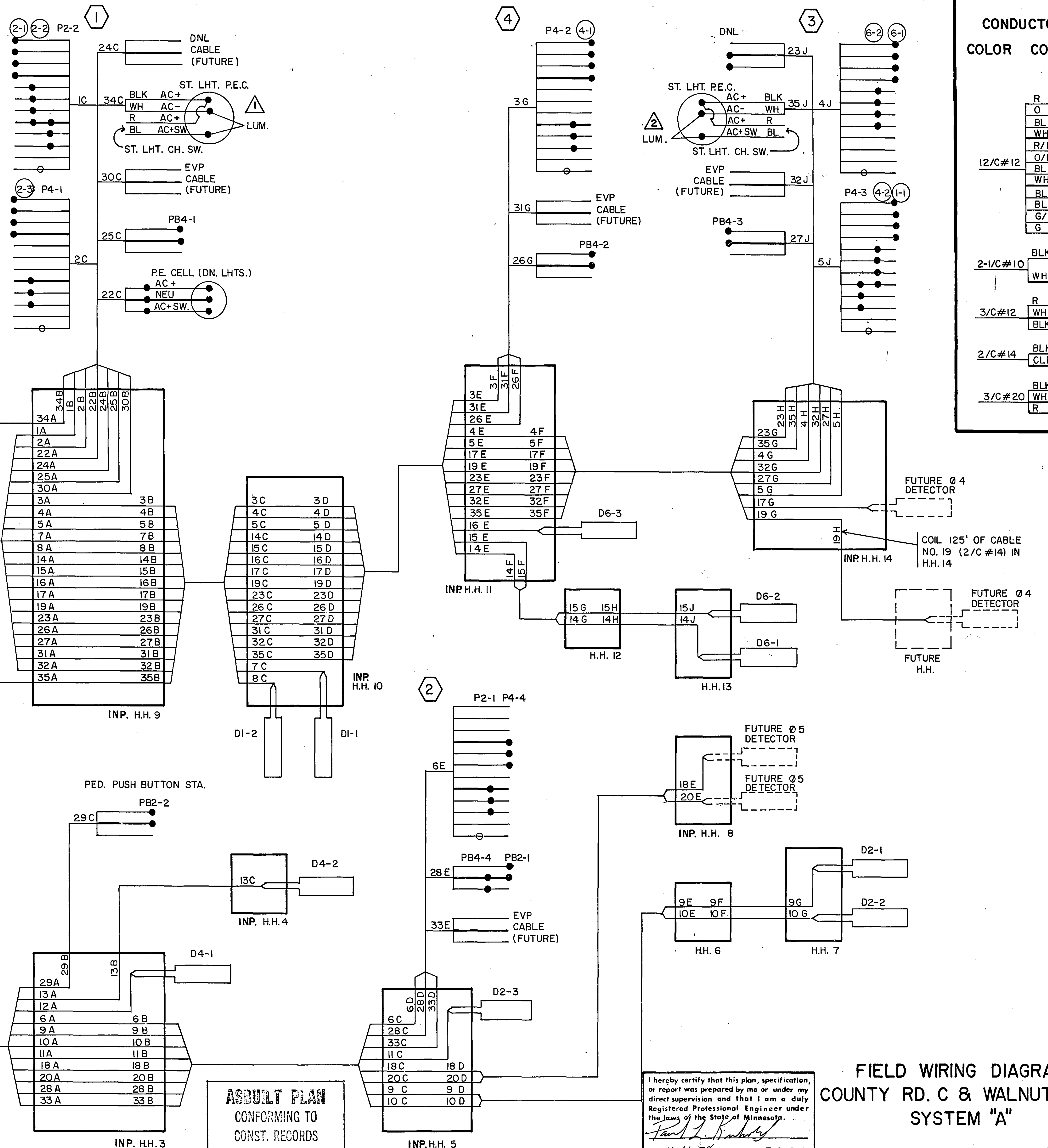
INTERSECTION LAYOUT COUNTY RD. C & WALNUT ST. SYSTEM "A"

CONTROLLER CABINET



SERVICE CABINET

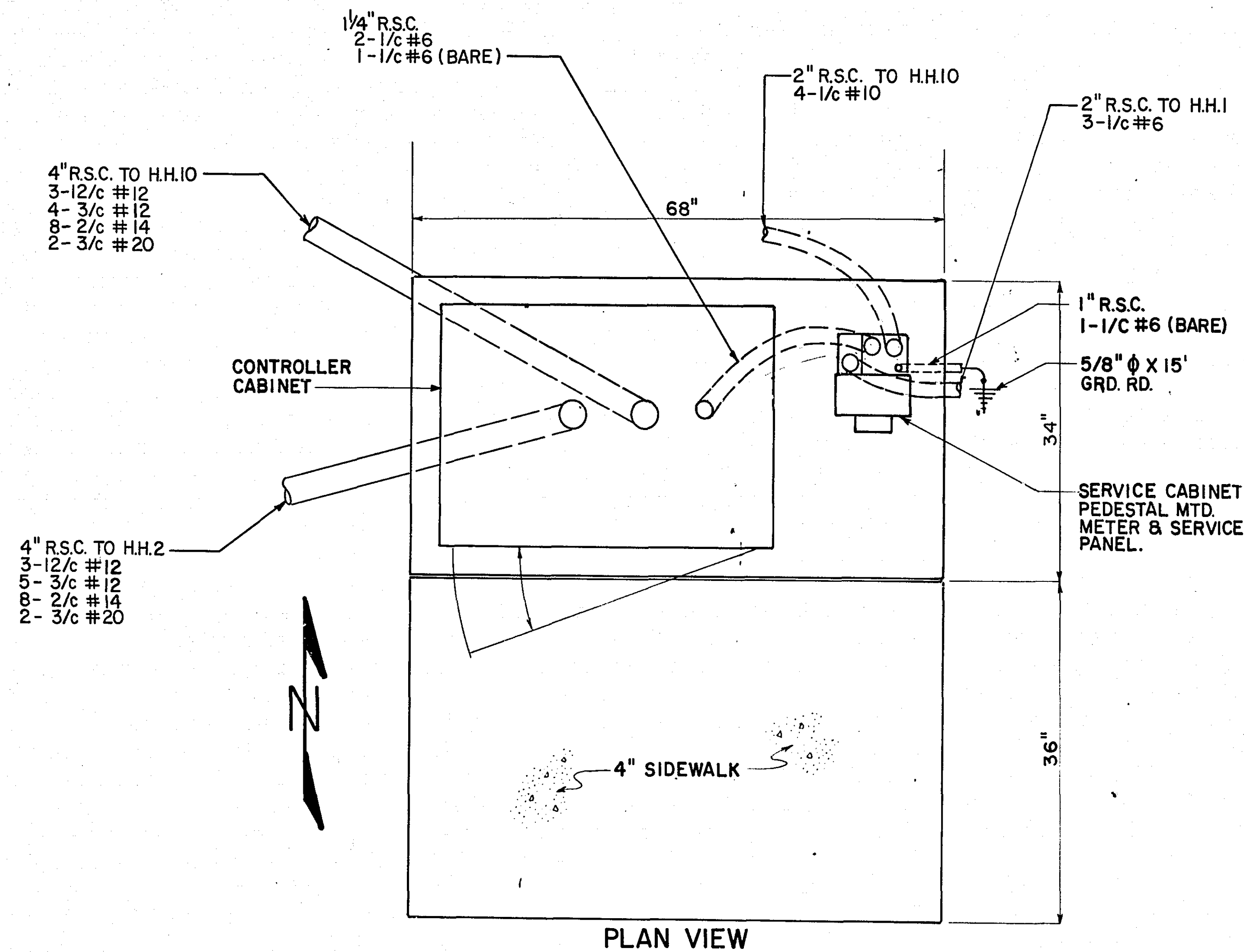
SIGNAL SERVICE 21
STREET LIGHT 34
STREET LIGHT 35



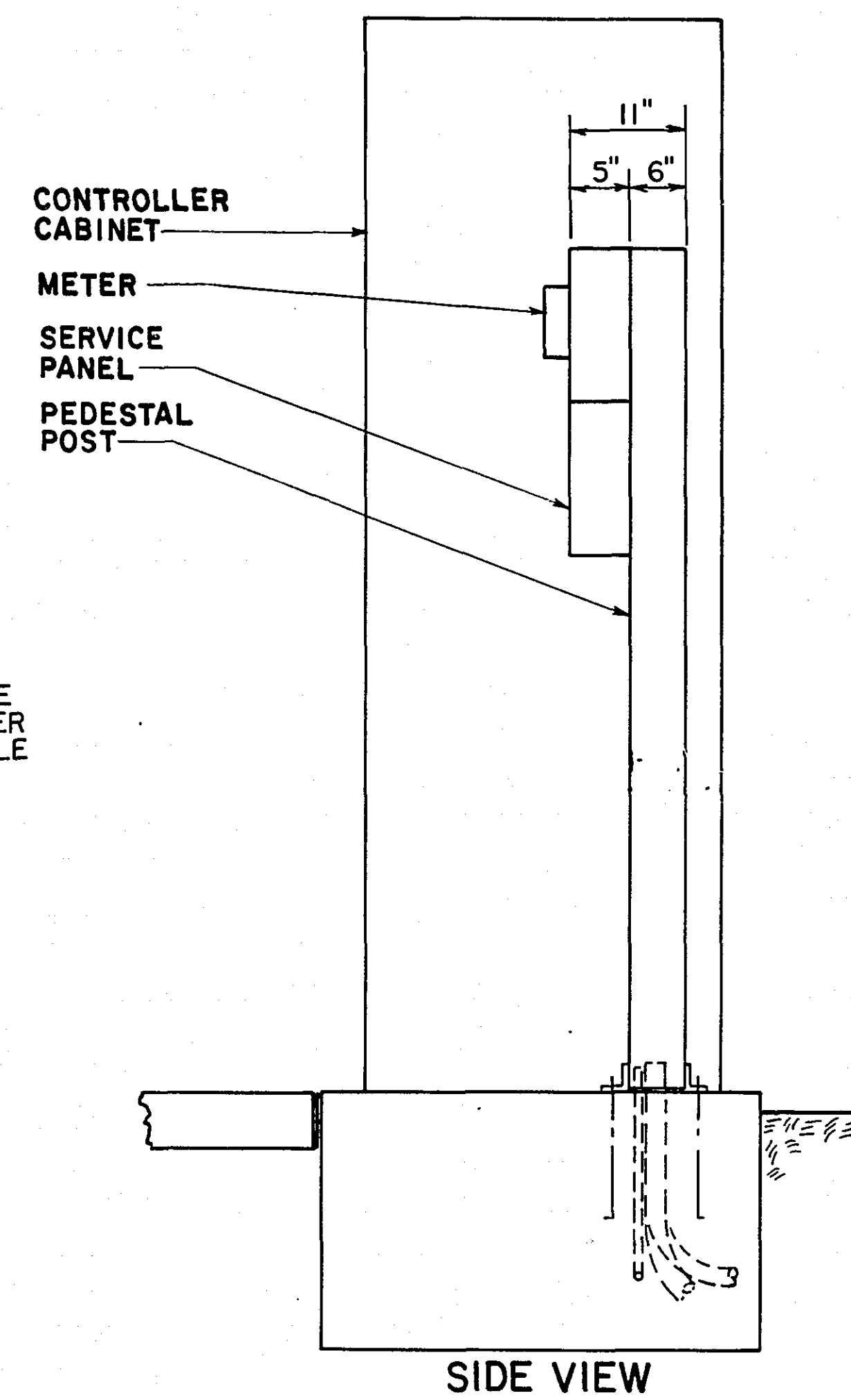
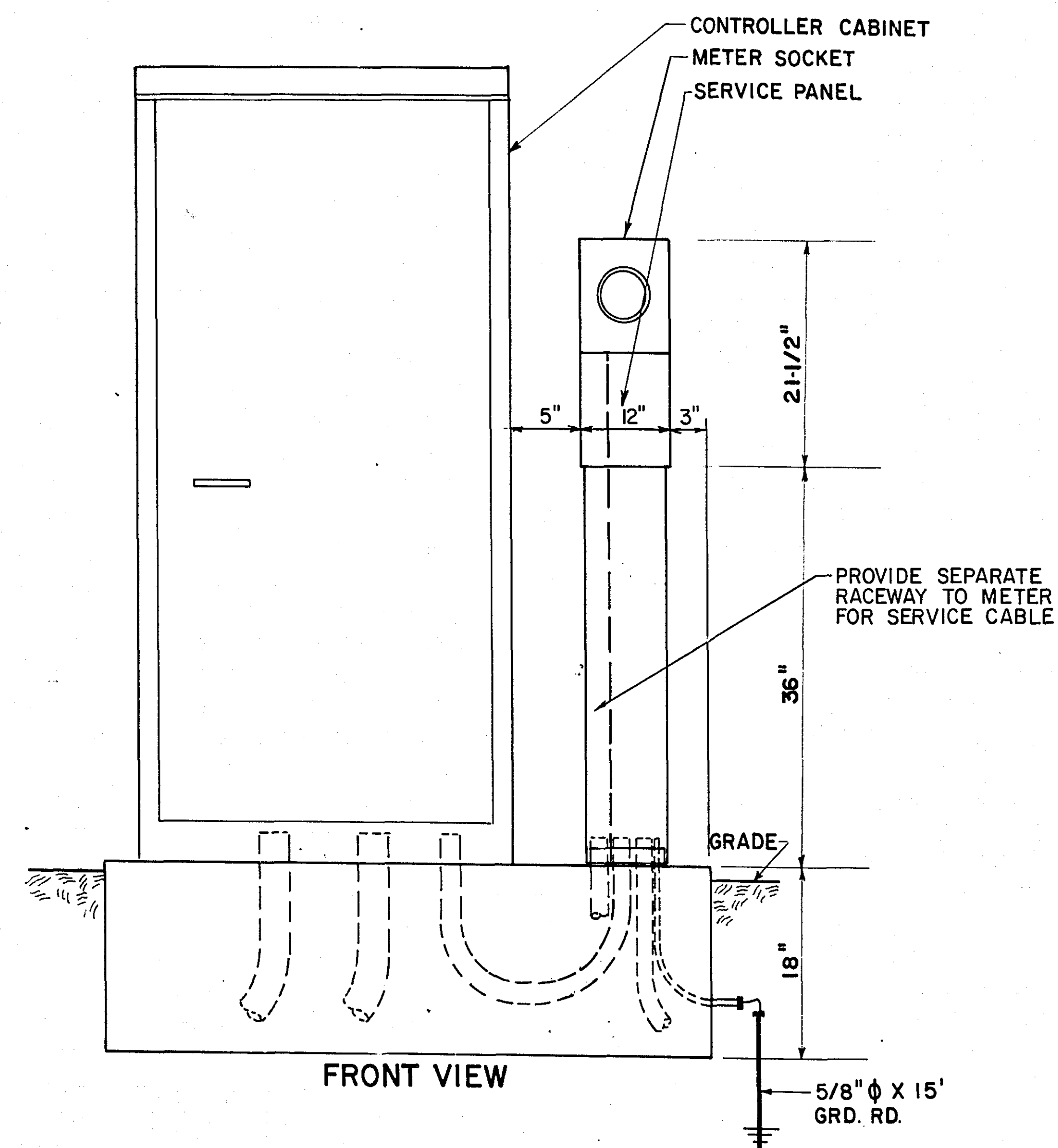
S.A.P. NO. 62-623-16

Sheet No. 7 of 17 Sheets

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).
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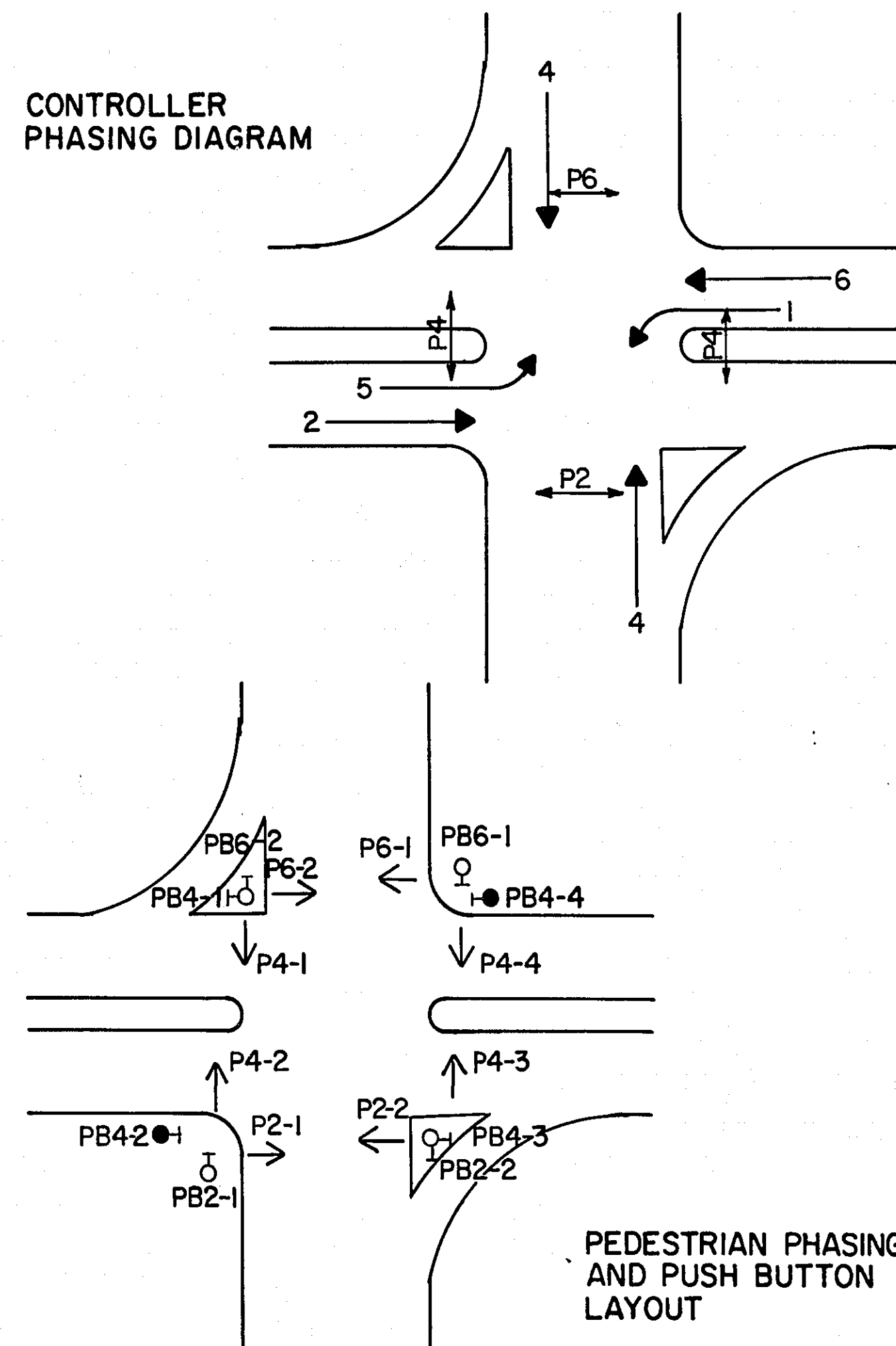
EQUIPMENT PAD DETAILS
COUNTY RD. C & LONG LAKE RD.
SYSTEM "B"

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 D. Schuch
Date 10-16-78 Reg. No. 12703

MINNESOTA
RAMSEY CO. ENGR.

LEGEND OF SYMBOLS	
SIGNAL BASE No.	⑤
SIGNAL FACE No.	Ⓜ
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



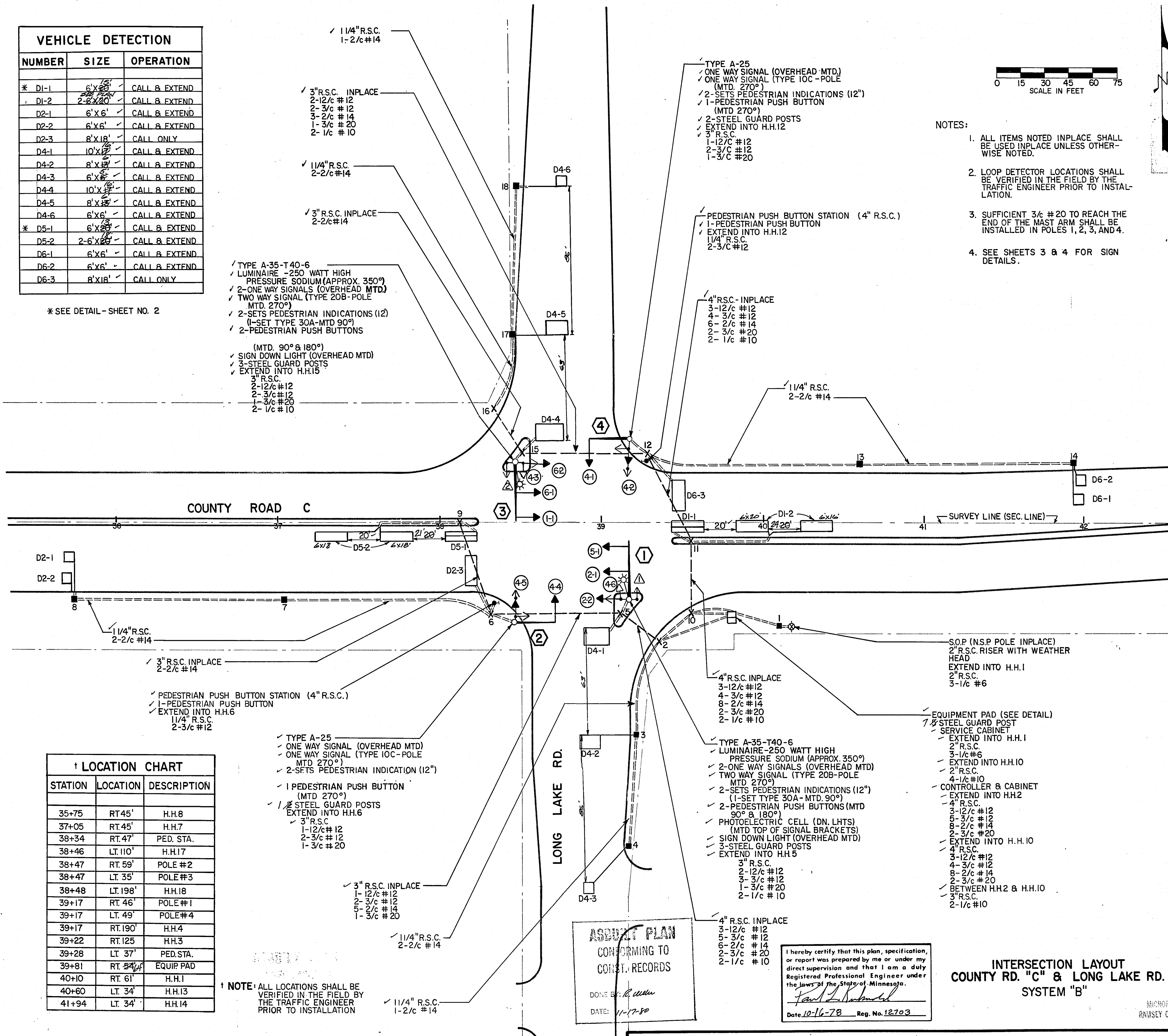
PEDESTRIAN PHASING AND PUSH BUTTON LAYOUT

SIGNAL INDICATION CHART							
FACE	PHASE	FLASH	INDICATION SIZE				
			R	Y	G	←	→
* 1-1	1	R	12"	12"	-	12"	-
* 2-1	2	R	12"	12"	12"	-	-
2-2	2	R	12"	12"	12"	-	-
4-1	4	R	12"	12"	12"	-	-
4-2	4	R	12"	12"	12"	-	-
** 4-3	4	R	8"	8"	8"	-	-
4-4	4	R	12"	12"	12"	-	-
4-5	4	R	12"	12"	12"	-	-
** 4-6	4	R	8"	8"	8"	-	-
* 5-1	5	R	12"	12"	-	12"	-
* 6-1	6	R	12"	12"	12"	-	-
6-2	6	R	12"	12"	12"	-	-

* SPECIAL SIGNAL FACES - (SEE SPECIAL PROVISIONS)
 ** SIGNAL FACES TO BE FURNISHED BY RAMSEY COUNTY AND INSTALLED BY CONTRACTOR.

VEHICLE DETECTION		
NUMBER	SIZE	OPERATION
* D1-1	6'x6'	CALL & EXTEND
D1-2	2-6'x20'	CALL & EXTEND
D2-1	6'x6'	CALL & EXTEND
D2-2	6'x6'	CALL & EXTEND
D2-3	8'x18'	CALL ONLY
D4-1	10'x12'	CALL & EXTEND
D4-2	8'x18'	CALL & EXTEND
D4-3	6'x6'	CALL & EXTEND
D4-4	10'x12'	CALL & EXTEND
D4-5	8'x18'	CALL & EXTEND
D4-6	6'x6'	CALL & EXTEND
* D5-1	6'x6'	CALL & EXTEND
D5-2	2-6'x20'	CALL & EXTEND
D6-1	6'x6'	CALL & EXTEND
D6-2	6'x6'	CALL & EXTEND
D6-3	8'x18'	CALL ONLY

* SEE DETAIL - SHEET NO. 2



LOCATION CHART		
STATION	LOCATION	DESCRIPTION
35+75	RT.45'	H.H.8
37+05	RT.45'	H.H.7
38+34	RT.47'	PED. STA.
38+46	LT.110'	H.H.17
38+47	RT.59'	POLE #2
38+47	LT. 35'	POLE #3
38+48	LT.198'	H.H.18
39+17	RT.46'	POLE #1
39+17	LT. 49'	POLE #4
39+17	RT.190'	H.H.4
39+22	RT.125'	H.H.3
39+28	LT. 37'	PED. STA.
39+81	RT. 34'	EQUIP PAD
40+10	RT. 61'	H.H.1
40+60	LT. 34'	H.H.13
41+94	LT. 34'	H.H.14

* NOTE: ALL LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE TRAFFIC ENGINEER PRIOR TO INSTALLATION

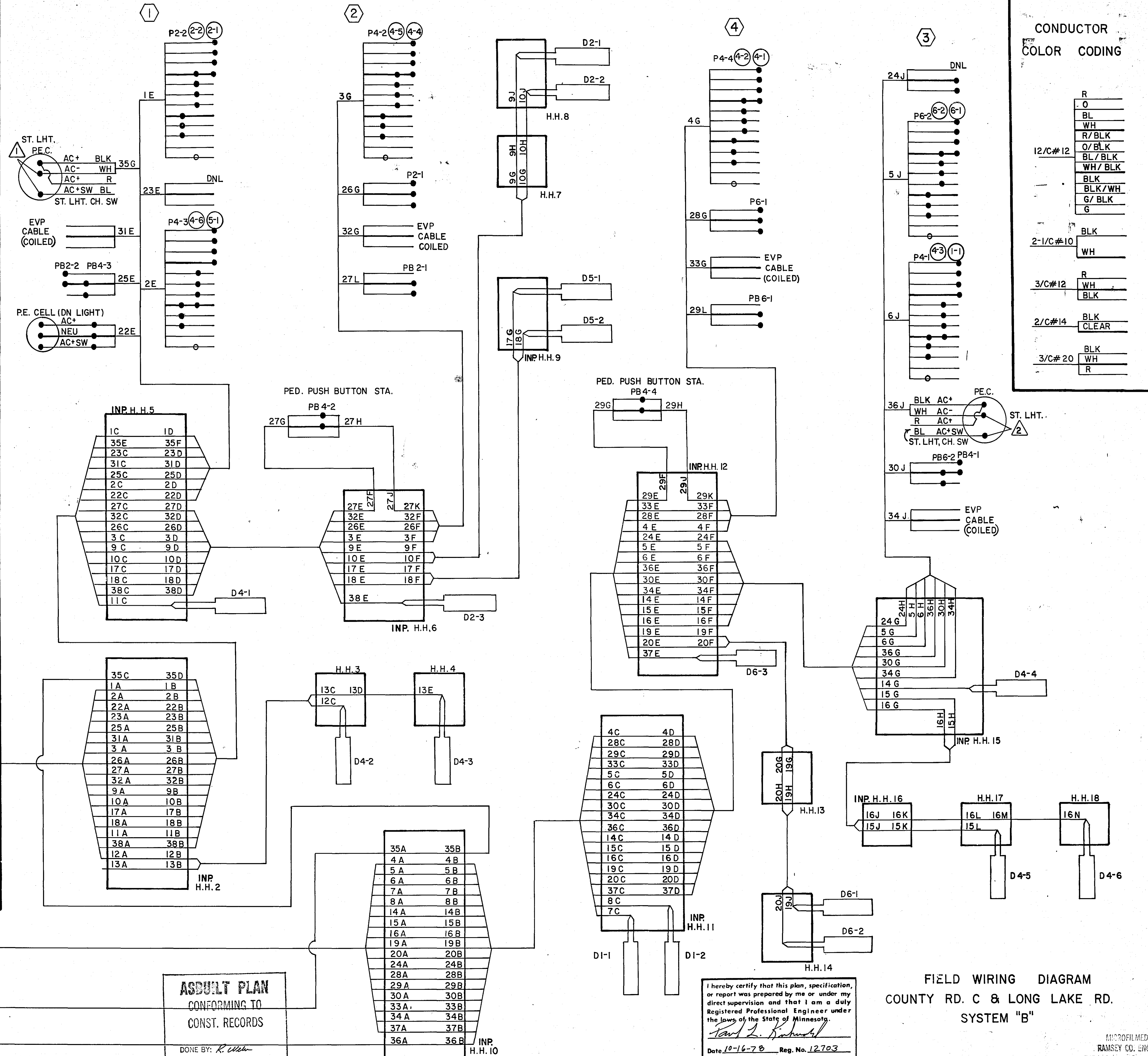
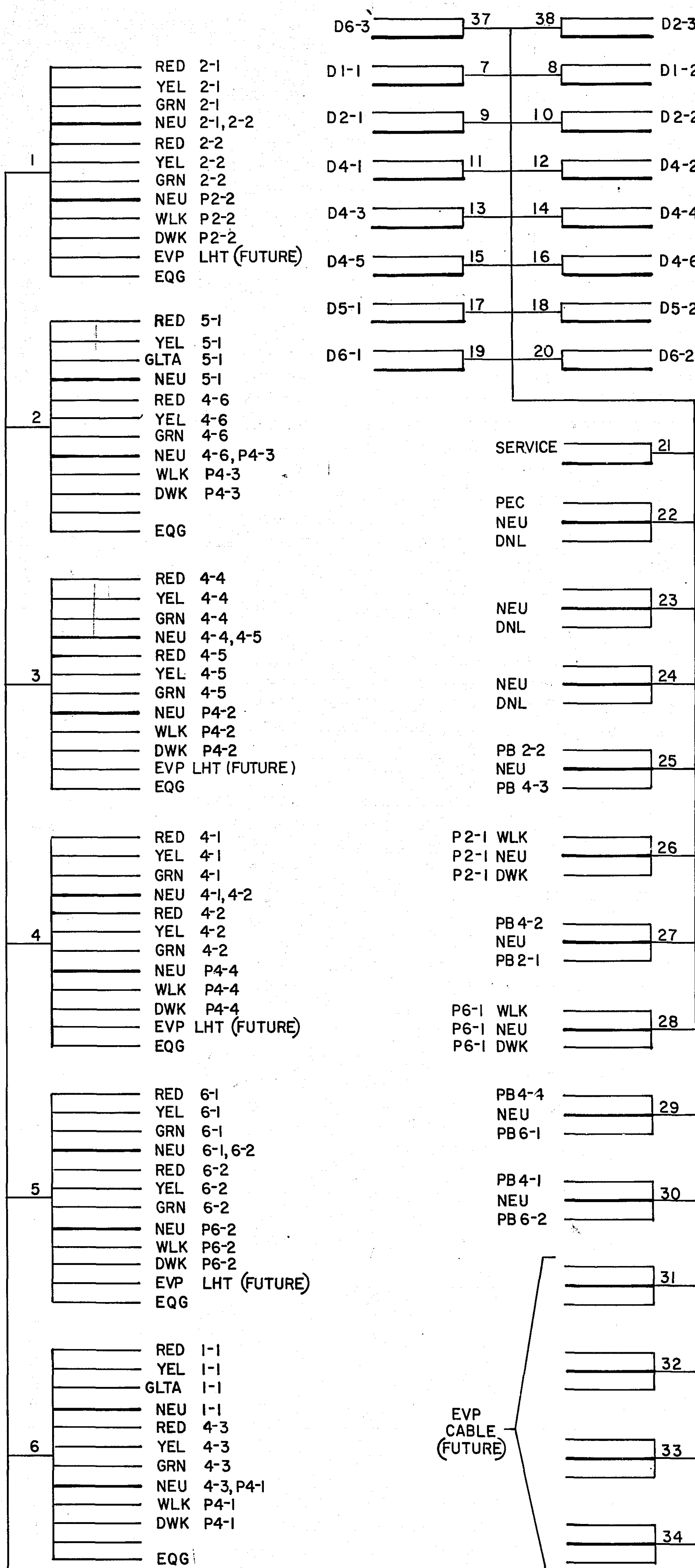
ASBEST PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: R. W. W.
 DATE: 11-17-80

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.
 Date 10-16-78 Reg. No. 12703

INTERSECTION LAYOUT
 COUNTY RD. "C" & LONG LAKE RD.
 SYSTEM "B"

CONTROLLER

CABINET



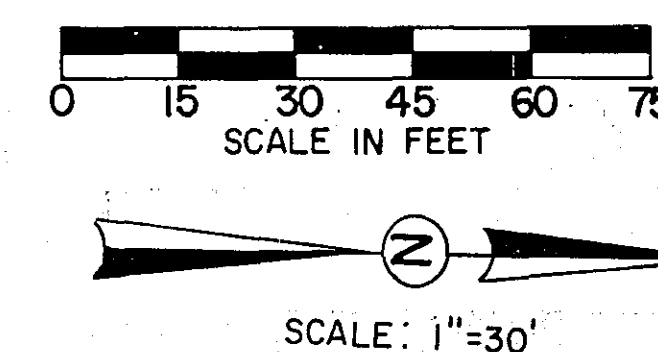
LEGEND OF SYMBOLS	
SIGNAL BASE No. 5	(5)
SIGNAL FACE No. A2	(A2)
CONTROLLER AND CABINET	
CONTROLLER AND CABINET - INPLACE	
HANDHOLE	
HANDHOLE - INPLACE	
RIGID STEEL CONDUIT (R.S.C.)	
RIGID STEEL CONDUIT (R.S.C.) - INPLACE	
SIGNAL FACE	
SIGNAL FACE WITH BACKGROUND SHIELD	
SIGNAL FACE - INPLACE	
PEDESTRIAN 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	

VEHICLE DETECTION		
NUMBER	SIZE	REMARKS
DAI-1	10'x20'	① INPLACE
DAI-2	10'x20'	② INPLACE
DA2-1	10'x20'	① INPLACE
DA2-2	10'x20'	② INPLACE
* DA3-1	8'x18'	CALL & EXTEND
* DA3-2	8'x18'	CALL ONLY
* DA4-1	8'x18'	CALL & EXTEND
* DA4-2	8'x18'	CALL ONLY
DB1-1	8'x40'	① INPLACE
DB2-1	8'x40'	① INPLACE
* DB3-1	6'x40'	CALL & EXTEND
* DB4-1	6'x40'	CALL & EXTEND

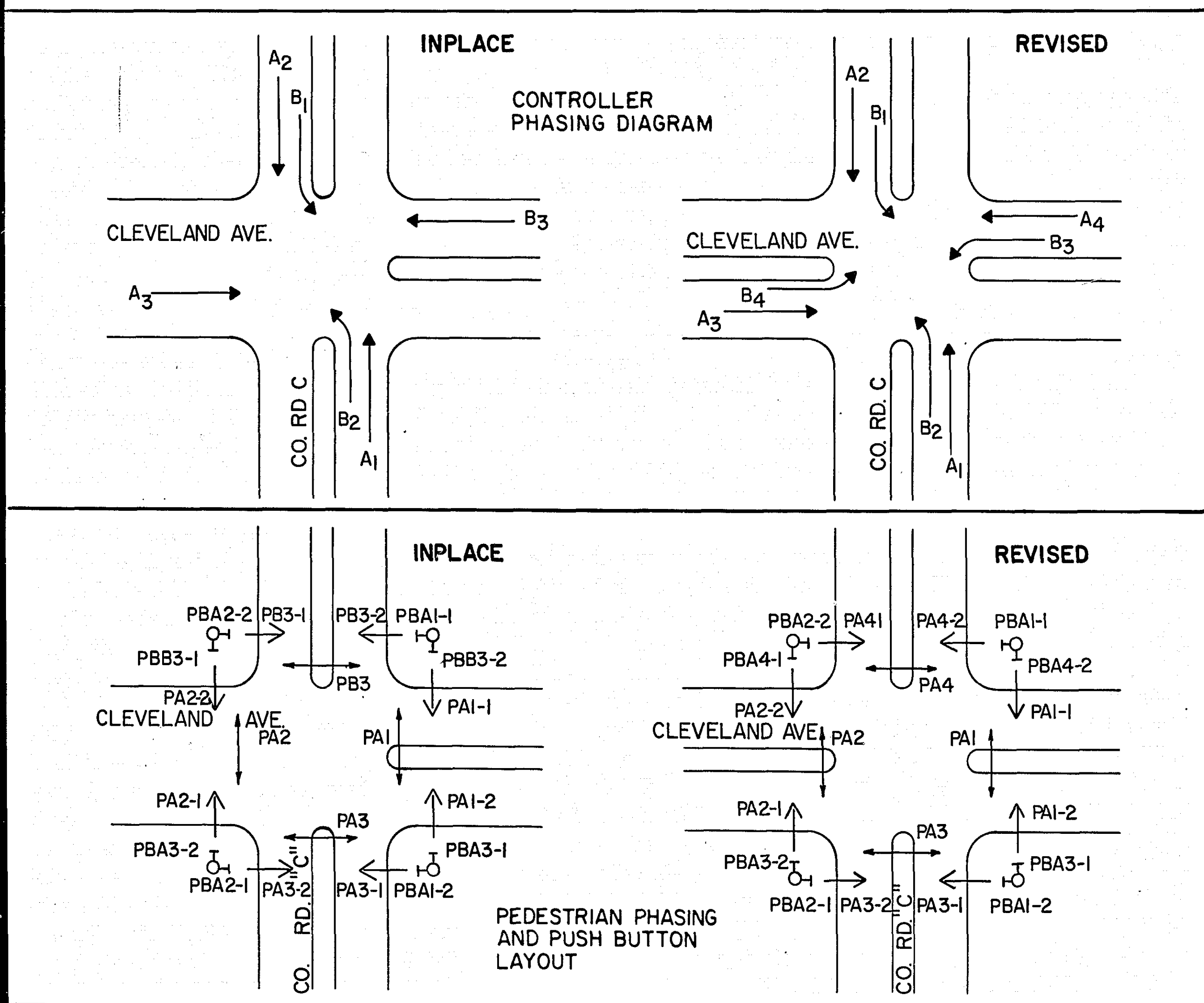
ALL DETECTORS NOTED
INPLACE SHALL REMAIN
INPLACE

① DENOTES-CALL & EXTEND
② DENOTES-CALL ONLY
* DENOTES-NEW DETECTION

SEE DETAIL SHEET NO. 2
SEE DETAIL

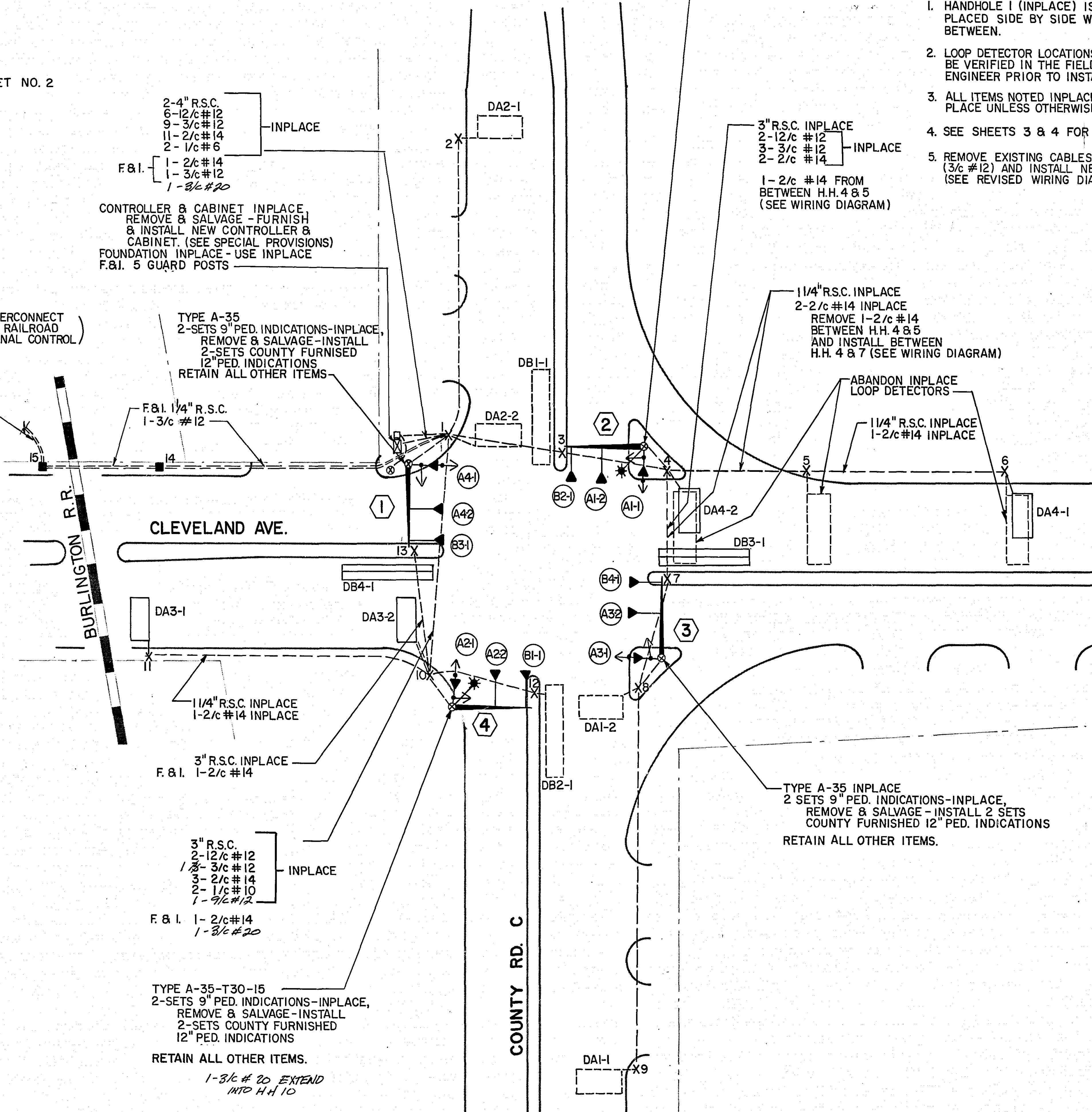


- NOTES:
- HANDHOLE 1 (INPLACE) IS TWO HANDHOLES PLACED SIDE BY SIDE WITH 3" R.S.C. BETWEEN.
 - LOOP DETECTOR LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE TRAFFIC ENGINEER PRIOR TO INSTALLATION.
 - ALL ITEMS NOTED INPLACE SHALL BE USED INPLACE UNLESS OTHERWISE NOTED.
 - SEE SHEETS 3 & 4 FOR SIGN DETAILS.
 - REMOVE EXISTING CABLES NO. 28 & 29 (3/c #12) AND INSTALL NEW 2-3/c #12 (SEE REVISED WIRING DIAGRAM SHEET 15.)



INPLACE											
SIGNAL INDICATION CHART											
FACE	PHASE	FLASH	INDICATION SIZE						FACE	PHASE	FLASH
			R	Y	G	←G	↑	→			
A1-1	A1	R	12"	12"	12"	-	-	-	A1-1	A1	R
A1-2	A1	R	12"	12"	12"	-	-	-	A1-2	A1	R
A2-1	A2	R	12"	12"	12"	-	-	-	A2-1	A2	R
A2-2	A2	R	12"	12"	12"	-	-	-	A2-2	A2	R
* A3-1	A3	R	12"	12"	12"	-	-	-	* A3-1	A3	R
* A3-2	A3	R	12"	12"	12"	-	-	-	* A3-2	A3	R
* A3-3	A3	R	12"	12"	-	12"	-	-	* B4-1	B4	R
* B1-1	B1	R	12"	12"	-	12"	-	-	* B1-1	B1	R
* B2-1	B2	R	12"	12"	-	12"	-	-	* B2-1	B2	R
B3-1	B3	R	12"	12"	12"	-	-	-	A4-1	A4	R
B3-2	B3	R	12"	12"	12"	-	-	-	A4-2	A4	R
* B3-3	B3	R	12"	12"	-	12"	-	-	* B3-1	B3	R

* SPECIAL SIGNAL FACES



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS

DONE BY: *R. Williams*
DATE: 11-17-80

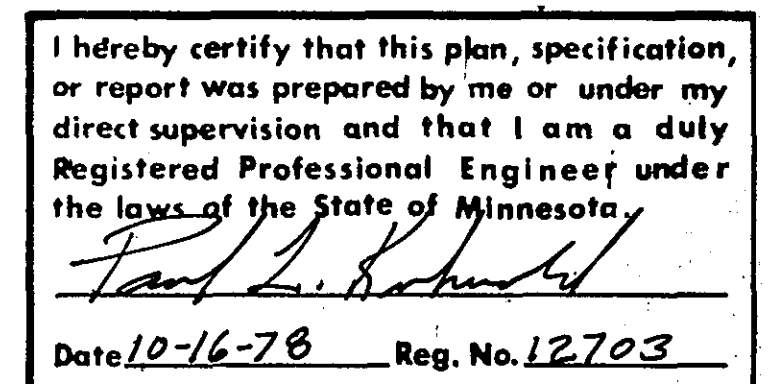
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Paul J. Kishner
Date 10-16-78 Reg. No. 12703

INTERSECTION LAYOUT
CLEVELAND AVE. & COUNTY RD. C
SYSTEM "C"

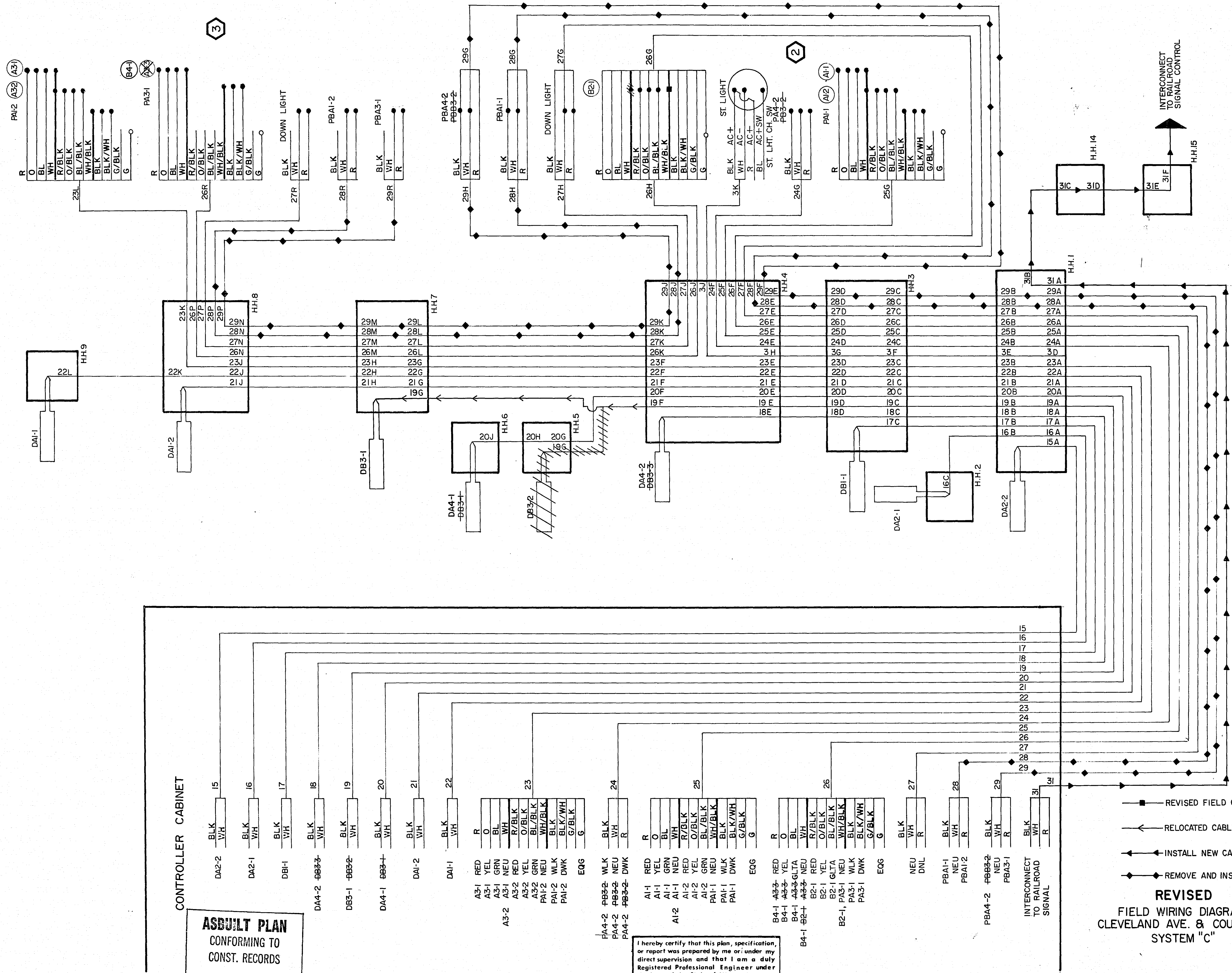
S.A.P. NO. 62-646-06

SHEET NO. 13 OF 17 SHEETS



REVISED
FIELD WIRING DIAGRAM
CLEVELAND AVE. & COUNTY RD."C"
SYSTEM "C"

23-113



CONTROLLER CABINET

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS

DONE BY: *R. Webb*
DATE: 11-17-90

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. Kohn
Date 10-16-78 Reg. No. 12763

S.A.P. NO. 62-646-06

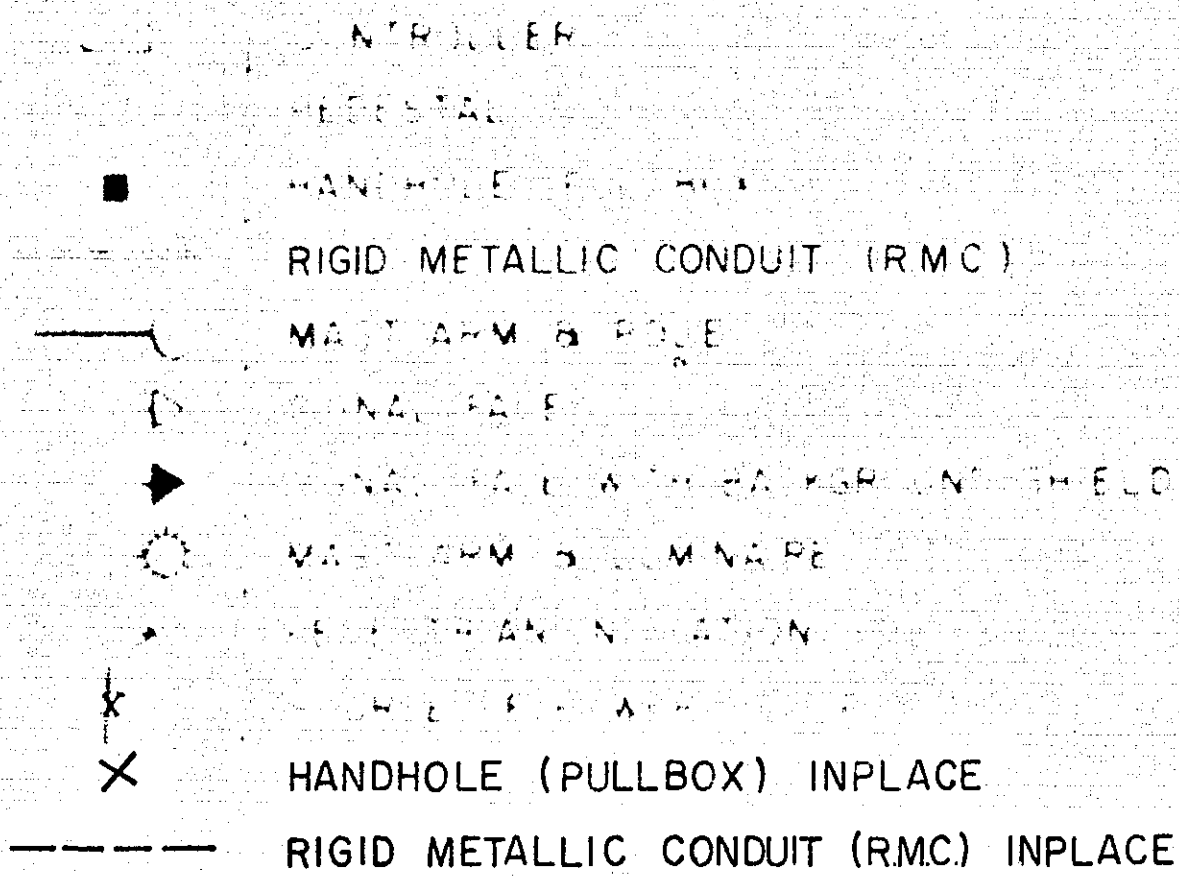
REVISED
FIELD WIRING DIAGRAM
CLEVELAND AVE. & COUNTY RD "C"
SYSTEM "C"

- REVISED FIELD CONNECTION
- RELOCATED CABLE
- INSTALL NEW CABLE
- REMOVE AND INSTALL NEW CABLE

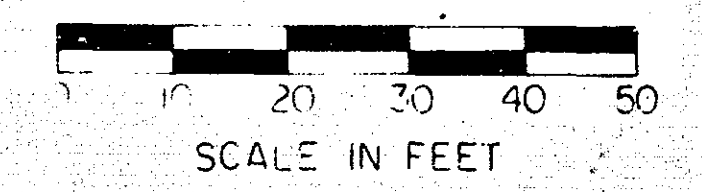
SHEET NO. 15 OF 17 SHEETS

23-113

LEGEND OF SYMBOLS

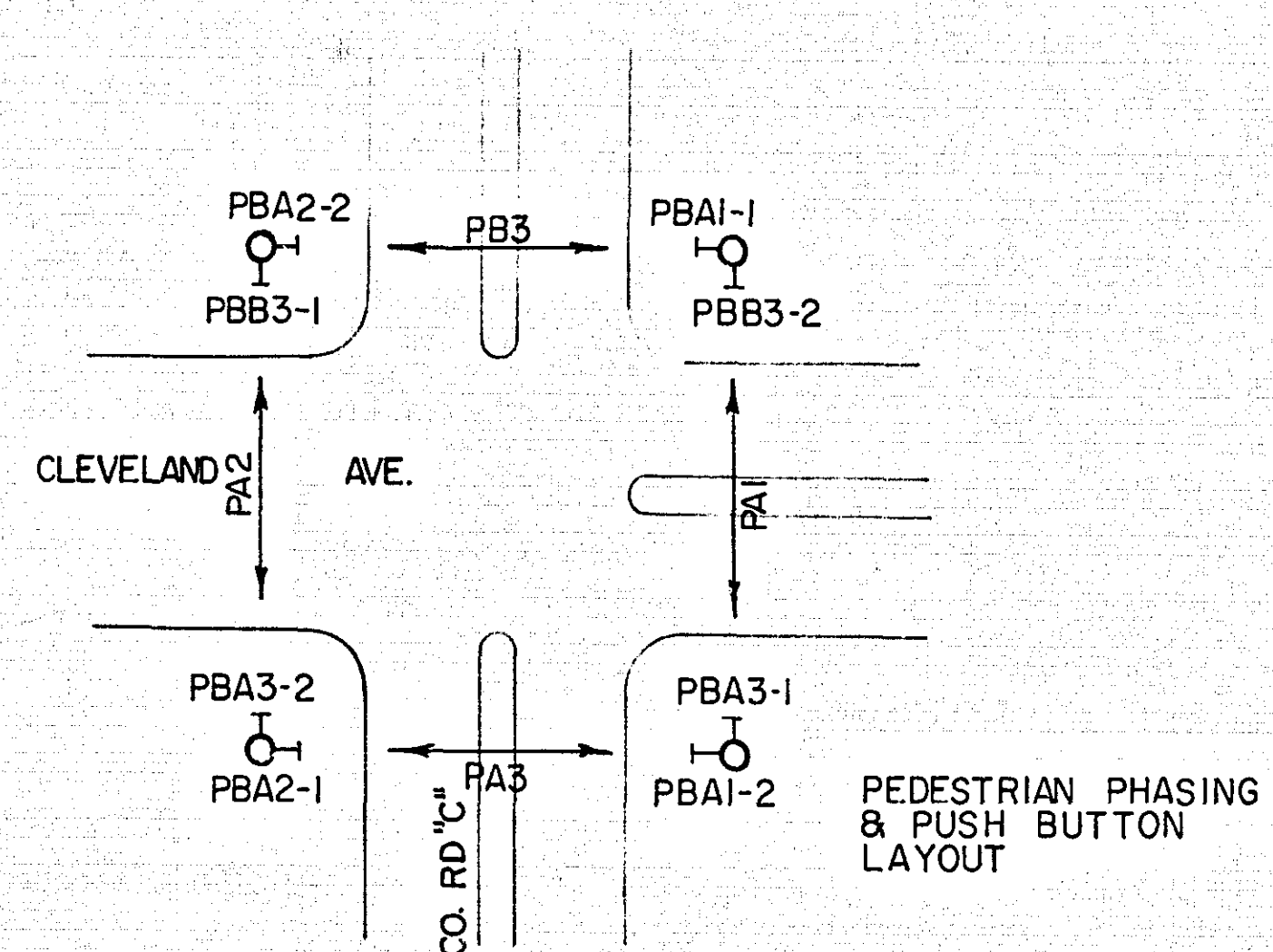
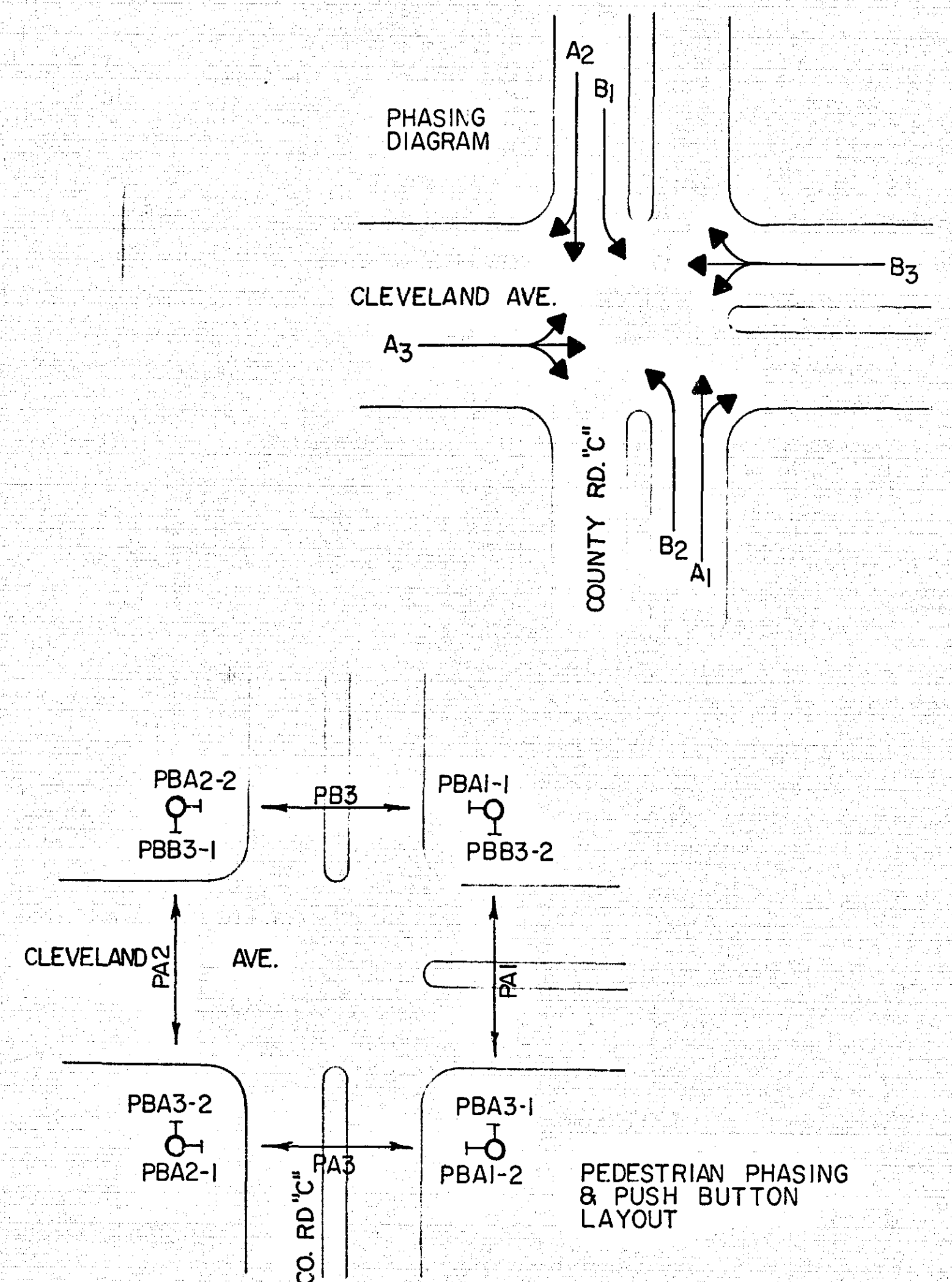
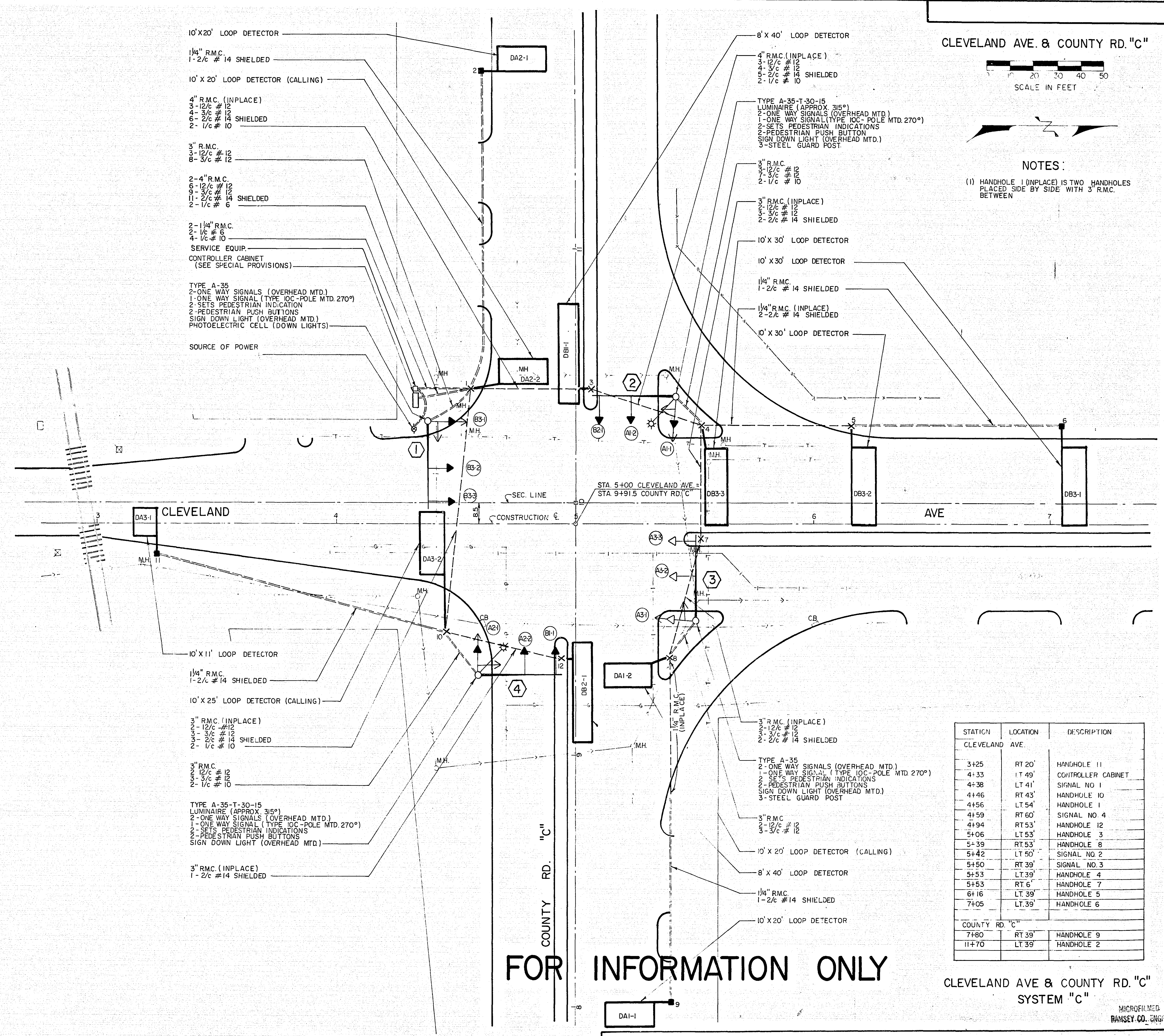


CLEVELAND AVE. & COUNTY RD. "C"



NOTES:

- (1) HANDHOLE 1 (INPLACE) IS TWO HANDHOLES PLACED SIDE BY SIDE WITH 3" R.M.C.



FACE	PHASE	FLASH	INDICATION SIZE					
			R	Y	G	←	↑	→
A1-1	A1	R	12"	12"	12"	-	-	-
A1-2	A1	R	12"	12"	12"	-	-	-
A2-1	A2	R	12"	12"	12"	-	-	-
A2-2	A2	R	12"	12"	12"	-	-	-
* A3-1	A3	R	12"	12"	12"	-	-	-
* A3-2	A3	R	12"	12"	12"	-	-	-
* A3-3	A3	R	12"	12"	-	12"	-	-
* B1-1	B1	R	12"	12"	-	12"	-	-
* B2-1	B2	R	12"	12"	-	12"	-	-
B3-1	B3	R	12"	12"	12"	-	-	-
B3-2	B3	R	12"	12"	12"	-	-	-
* B3-3	B3	R	12"	12"	-	12"	-	-

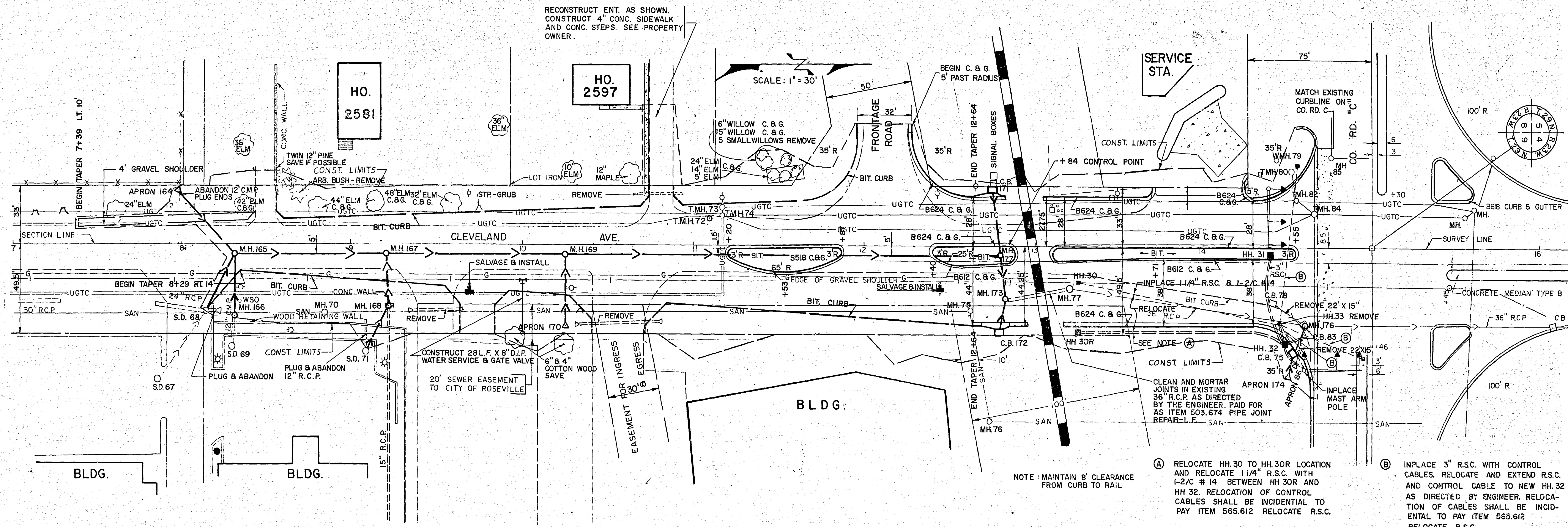
* SEE SPECIAL PROVISIONS (SPECIAL SIGNAL FACES)

FOR INFORMATION ONLY

STATION	LOCATION	DESCRIPTION
CLEVELAND AVE.		
3+25	RT 20'	HANDHOLE 11
4+33	LT 49'	CONTROLLER CABINET
4+38	LT 41'	SIGNAL NO. 1
4+46	RT 43'	HANDHOLE 10
4+56	LT 54'	HANDHOLE 1
4+59	RT 60'	SIGNAL NO. 4
4+94	RT 53'	HANDHOLE 12
5+06	LT 53'	HANDHOLE 3
5+39	RT 53'	HANDHOLE 8
5+42	LT 50'	SIGNAL NO. 2
5+50	RT 39'	SIGNAL NO. 3
5+53	LT 39'	HANDHOLE 4
5+53	RT 6'	HANDHOLE 7
6+16	LT 39'	HANDHOLE 5
7+05	LT 39'	HANDHOLE 6
COUNTY RD. "C"		
7+80	RT 39'	HANDHOLE 9
11+70	LT 39'	HANDHOLE 2

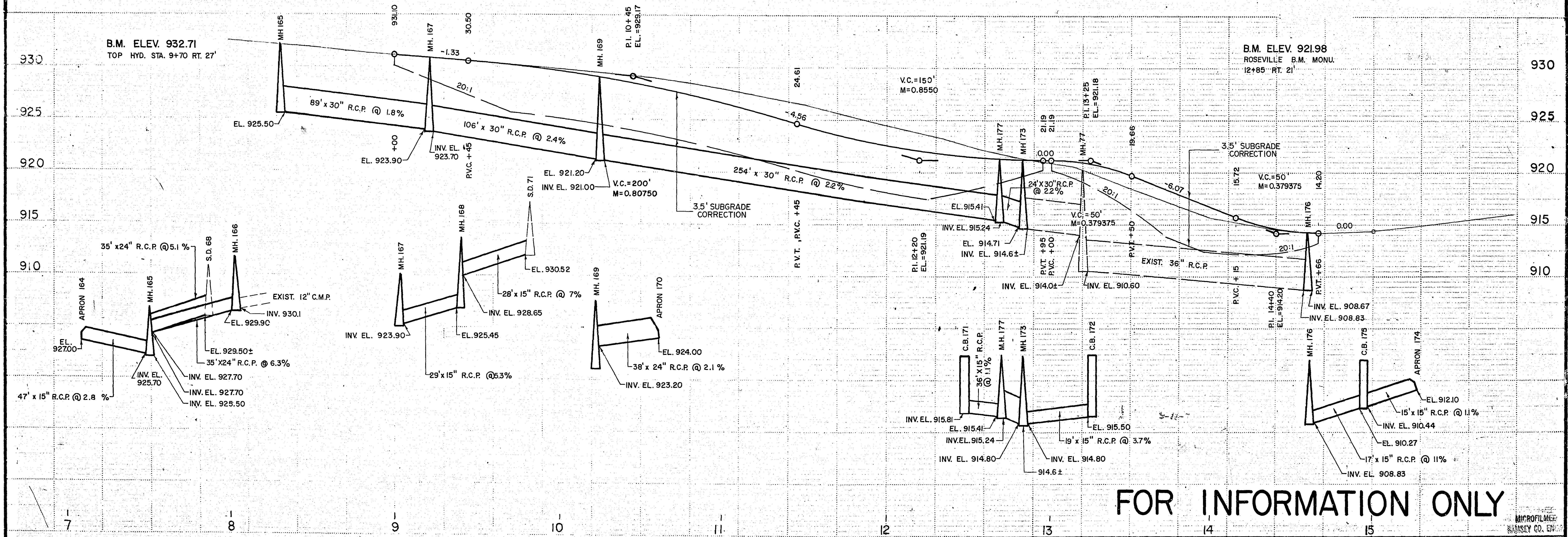
CLEVELAND AVE & COUNTY RD. "C"
SYSTEM "C"

MICROFILMED
RAMSEY CO. ENG.



(A) RELOCATE HH.30 TO HH.30R LOCATION
AND RELOCATE 1 1/4" R.S.C. WITH
1-2/C # 14 BETWEEN HH.30R AND
HH.32. RELOCATION OF CONTROL
CABLES SHALL BE INCIDENTAL TO
PAY ITEM 565.612 RELOCATE R.S.C.

(B) INPLACE 3" R.S.C. WITH CONTROL
CABLES. RELOCATE AND EXTEND R.S.C.
AND CONTROL CABLE TO NEW HH.32
AS DIRECTED BY ENGINEER. RELOCA-
TION OF CABLES SHALL BE INCID-
ENTAL TO PAY ITEM 565.612
RELOCATE R.S.C.



FOR INFORMATION ONLY