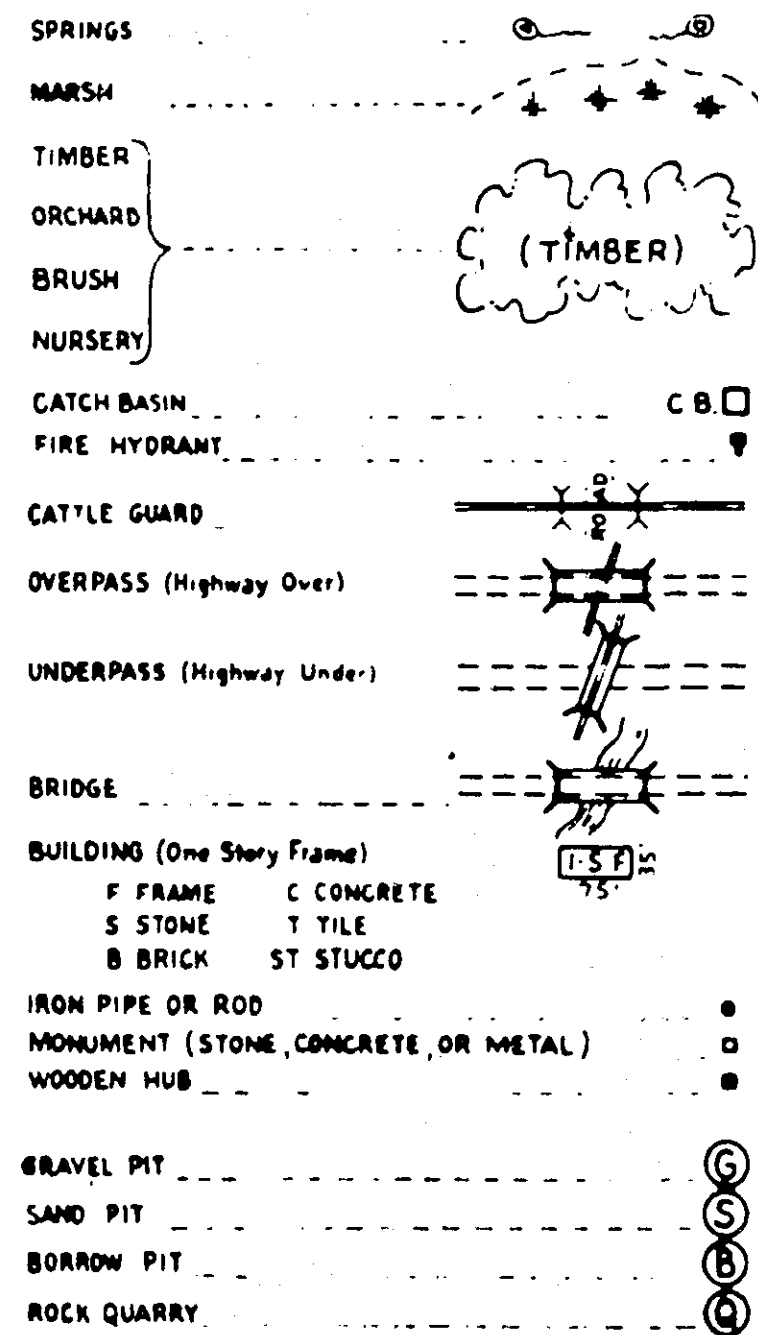
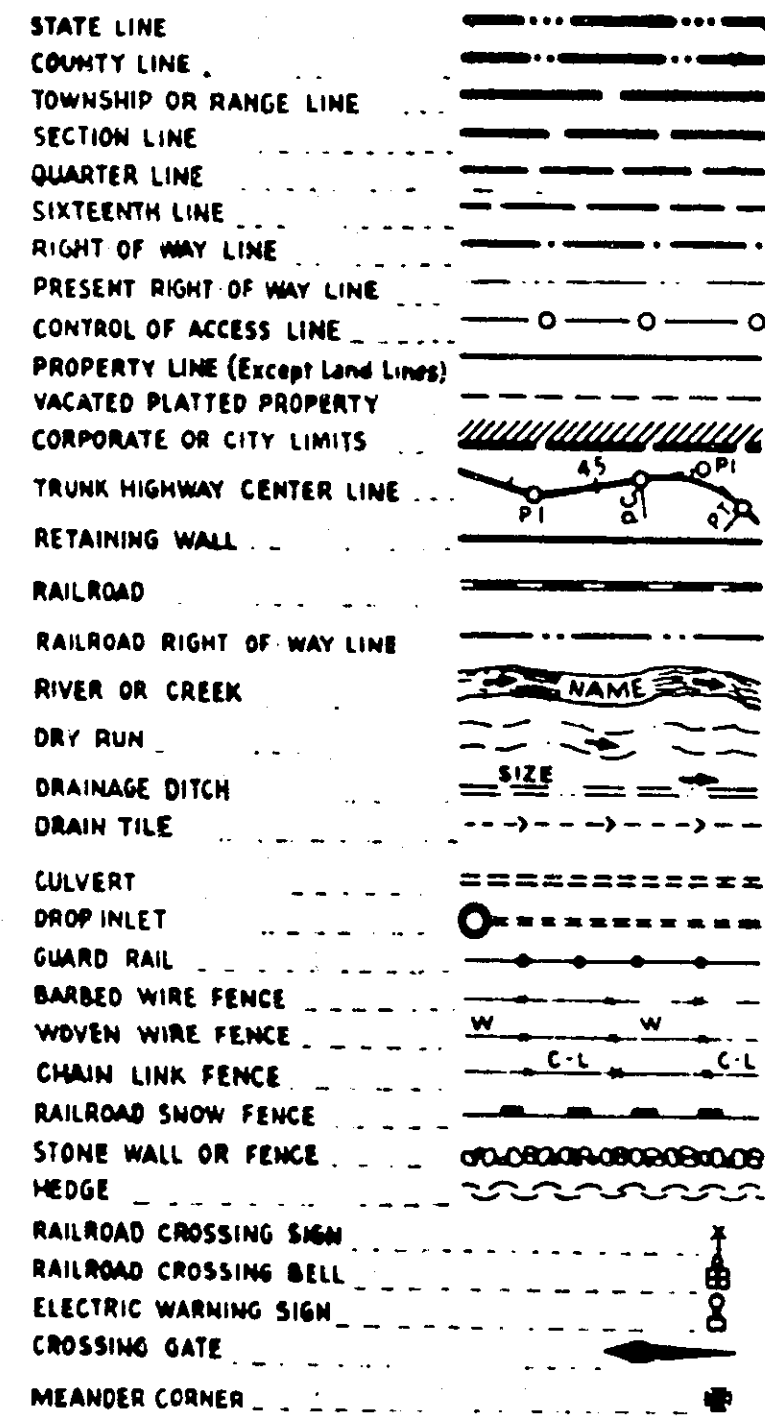
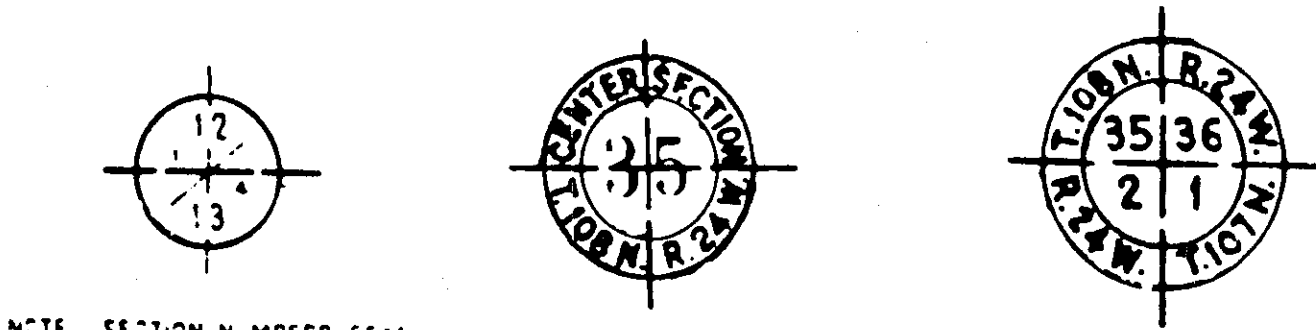
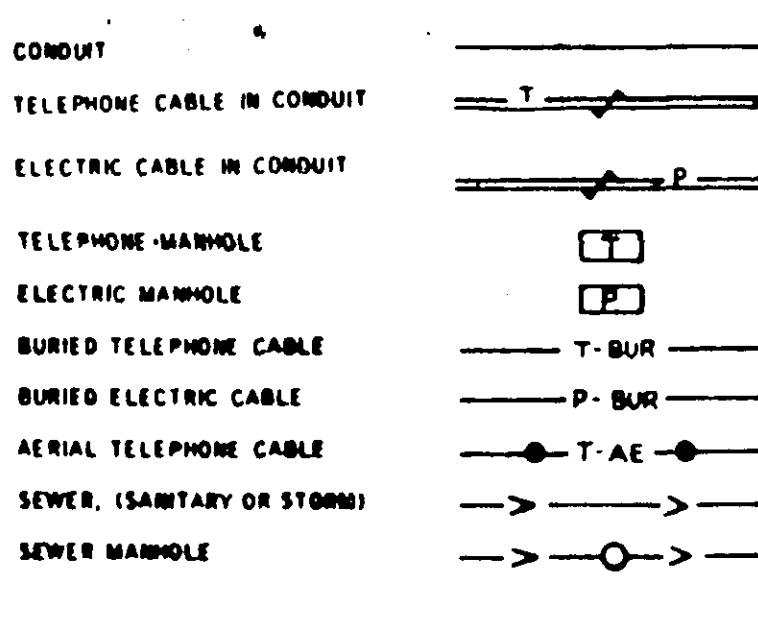
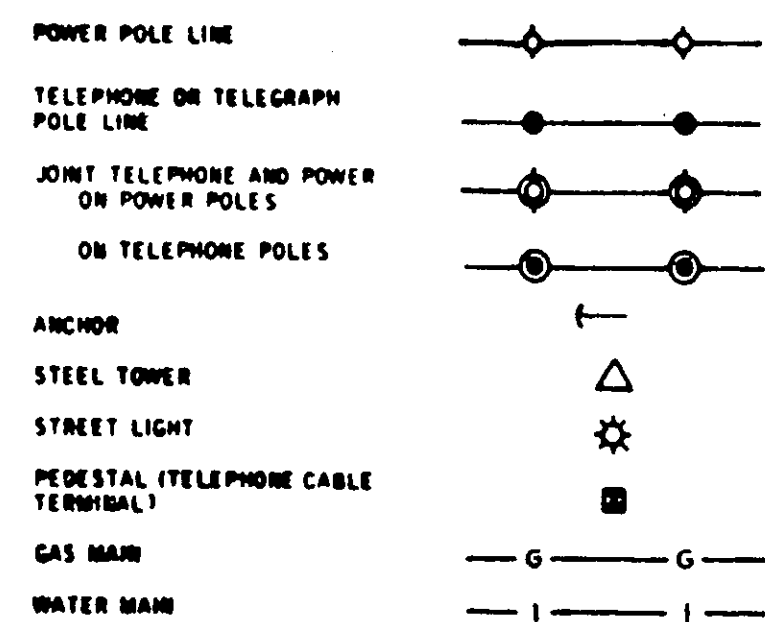


PLANS SYMBOLS



UTILITIES SYMBOLS



NOTE: SECTION NUMBERS RELATIVE TO THE CENTERLINE OF THE ROAD.

PIT DATA

PIT NO. _____ Located in _____
Dead Haul

PIT NO. _____ Located in _____
Dead Haul

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

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

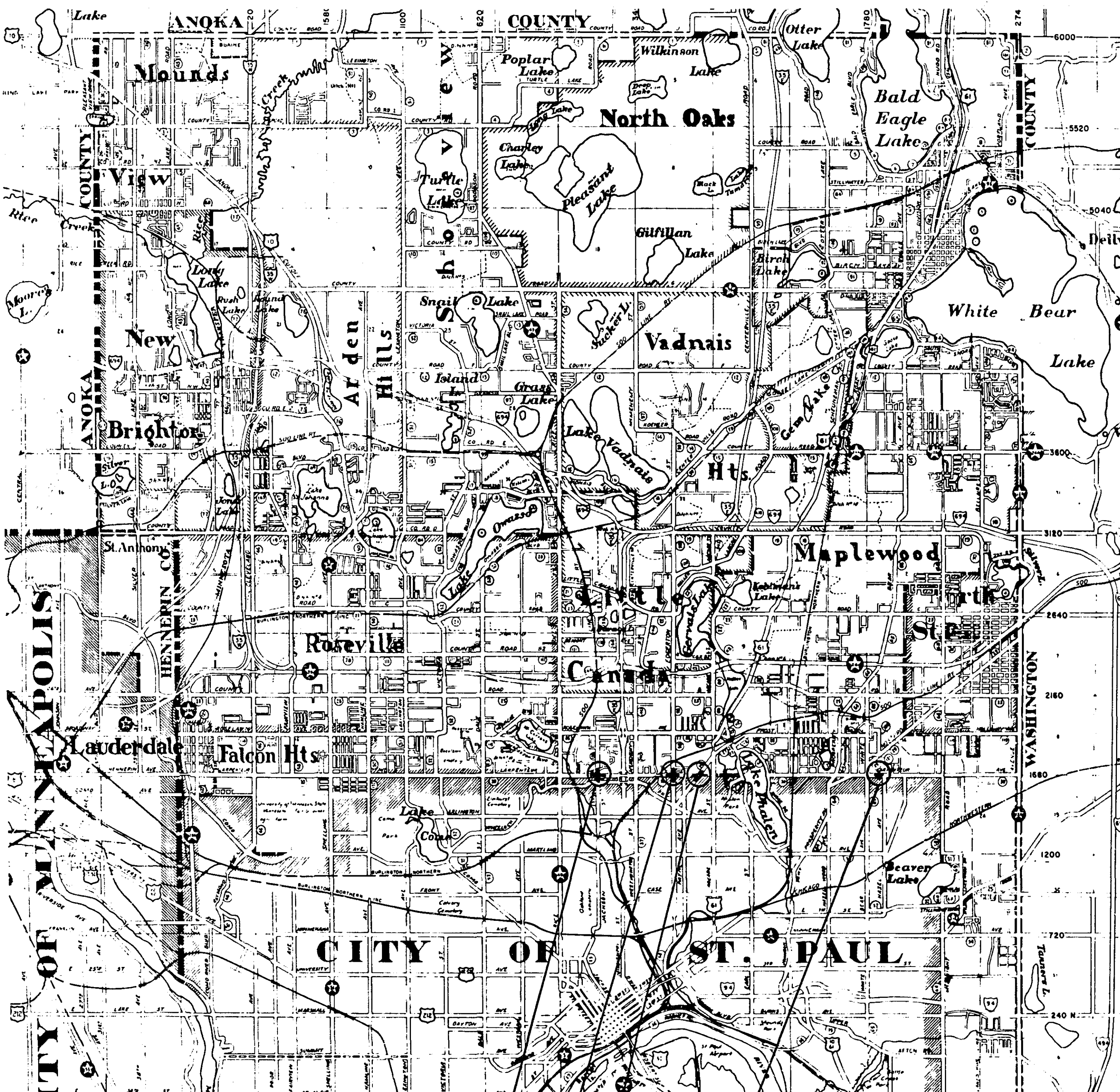
CONDUCTOR COLOR CODING

DNL - DOWNLIGHT
P.E.C. - PHOTOELECTRIC CELL
ST. LHT. - STREET LIGHT
CH. - CHECK
S.O.P. - SOURCE OF POWER
E.Q.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

R
O
BL
WH
R/BLK
O/BLK
BL/BLK
WH/BLK
BLK
BLK/WH
G/BLK
G



LARPENTEUR AVE. & JACKSON ST.
SYSTEM "A"

LARPENTEUR AVE. & EDGERTON ST.
SYSTEM "B"

LARPENTEUR AVE. & PARKWAY DR.
SYSTEM "C"

LARPENTEUR AVE. & VAN DYKE ST.
SYSTEM "D"

RAMSEY COUNTY DEPARTMENT OF PUBLIC WORKS

CONSTRUCTION PLAN FOR TRAFFIC SIGNAL REVISIONS AT THE INTERSECTIONS OF

LARPENTEUR AVE. & JACKSON ST.
CO. PROJ. NO. TRF. 525-T3I SYSTEM "A"

LARPENTEUR AVE. & EDGERTON ST.
CO. PROJ. NO. TRF. 526-T3I SYSTEM "B"

LARPENTEUR AVE. & PARKWAY DR.
CO. PROJ. NO. TRF. 527-T3I SYSTEM "C"

LARPENTEUR AVE. & VAN DYKE ST.
CO. PROJ. NO. TRF. 529-T3I SYSTEM "D"

INDEX	
SHEET NO.	DESCRIPTION
1	TITLE
2-13	INTERSECTION LAYOUTS & FIELD WIRING DIAGRAMS

STATEMENT OF ESTIMATED QUANTITIES

PROJECT NO.	ITEM NO.	ITEM	UNIT	QUANT.
TRF. 525-T3I	565.604	EMERGENCY VEHICLE PRE-EMPTION SYSTEM A	SYSTEM	1
TRF. 526-T3I	565.604	EMERGENCY VEHICLE PRE-EMPTION SYSTEM B	SYSTEM	1
TRF. 527-T3I	565.604	EMERGENCY VEHICLE PRE-EMPTION SYSTEM C	SYSTEM	1
TRF. 529-T3I	565.604	EMERGENCY VEHICLE PRE-EMPTION SYSTEM D	SYSTEM	1

DESIGN SQUAD R. Urban DATE 11-12-80
DRAWN BY R.E.L. DATE 11-14-80
CHECKED BY _____ DATE _____

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 11-13-80 REG. NO. 12703 ENGR. Paul J. Kibler

RECOMMENDED FOR APPROVAL PK DATE 11-13-80

RECOMMENDED FOR APPROVAL Ken H. Smith DATE 11-18-80

RECOMMENDED FOR APPROVAL DJS DATE 11-14-80

APPROVED Robert J. O'Neil DATE 12/8/80

RECOMMENDED FOR APPROVAL MJS DATE 11-14-80

APPROVED William J. Bette DATE 11-20-80

RECOMMENDED FOR APPROVAL BRA DATE 11-17-80

APPROVED _____ DATE _____

RECOMMENDED FOR APPROVAL LKF DATE 11-17-80

MINNESOTA DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR APPROVAL JAP DATE 11-17-80

RECOMMENDED FOR APPROVAL _____ DATE _____

APPROVED William J. Bette DATE 11-18-80

RECOMMENDED FOR APPROVAL _____ DATE _____

DISTRICT STATE AID ENGINEER

APPROVAL _____ DATE _____

PLAN REVISIONS		
DATE	SHEET NO.	BY

CO. PROJ. NO. TRF. 525-T3I ETC.

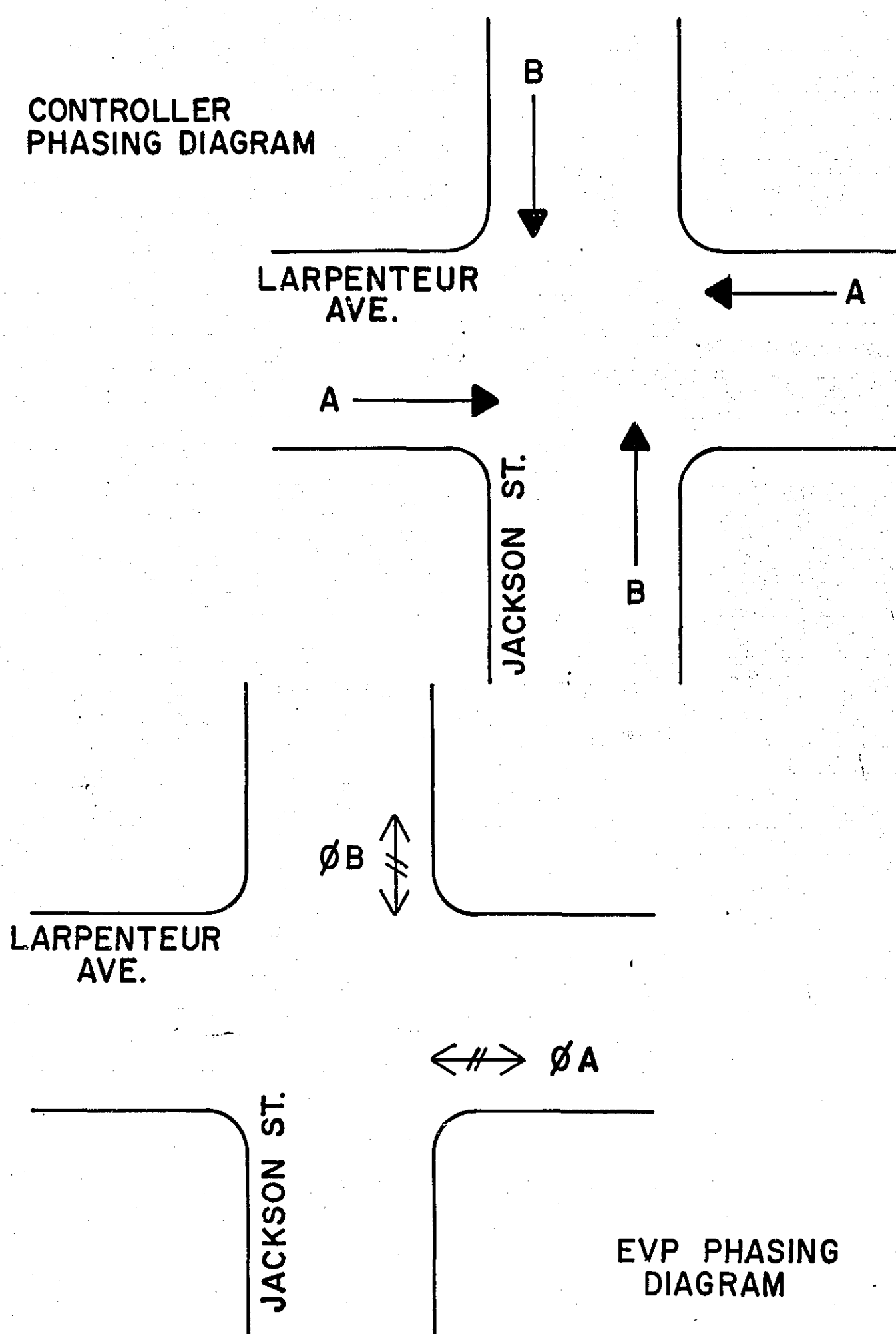
Sheet No. 1 of 13 Sheets

MICROFILMED
RAMSEY CO. ENGR.

23-123

LEGEND OF SYMBOLS

SIGNAL BASE NO. 3	(5)
SIGNAL FACE NO. 3	(4-2)
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	

[illegible]

20
3/C #20

EVP
CABLE
Ø A

21
3/C #20

EVP
CABLE
Ø B

22
3/C #12

NEU
EVP LHT. Ø A

23
3/C #12

NEU
EVP LHT. Ø B

20E

EVP CABLE

21G

EVP CABLE

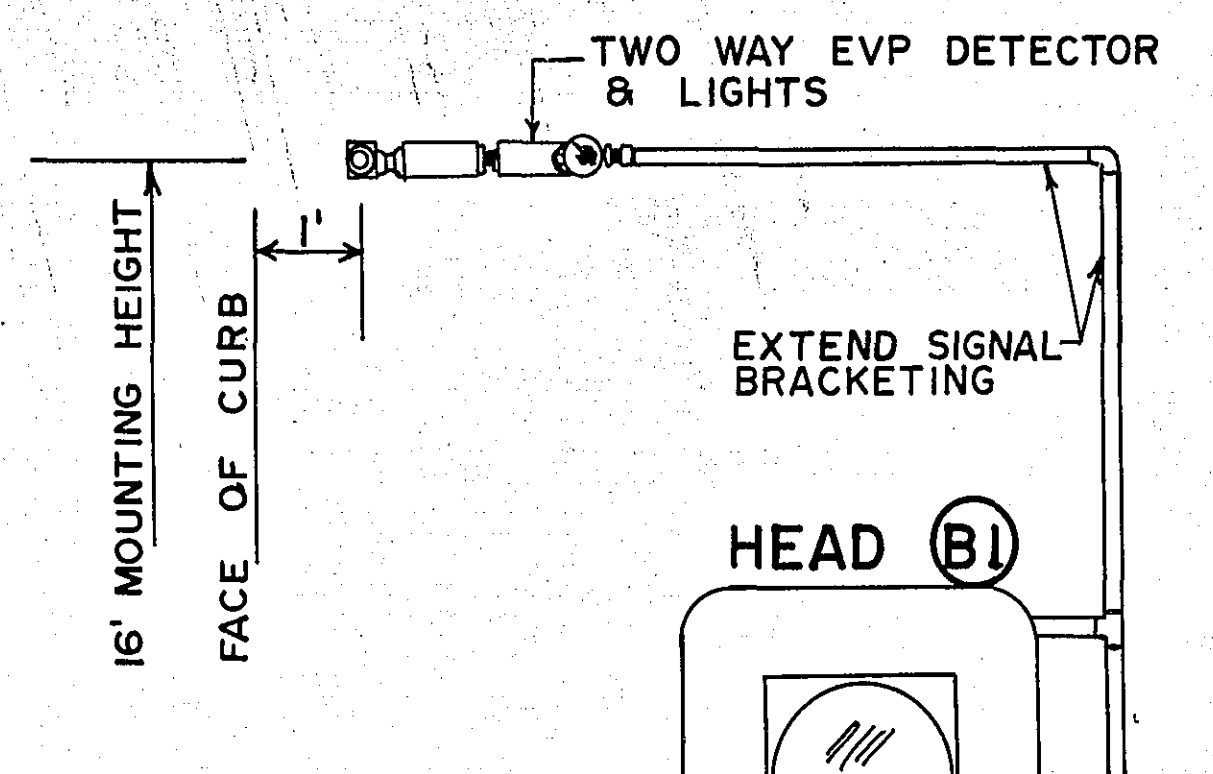
22E

EVP LHT ØA

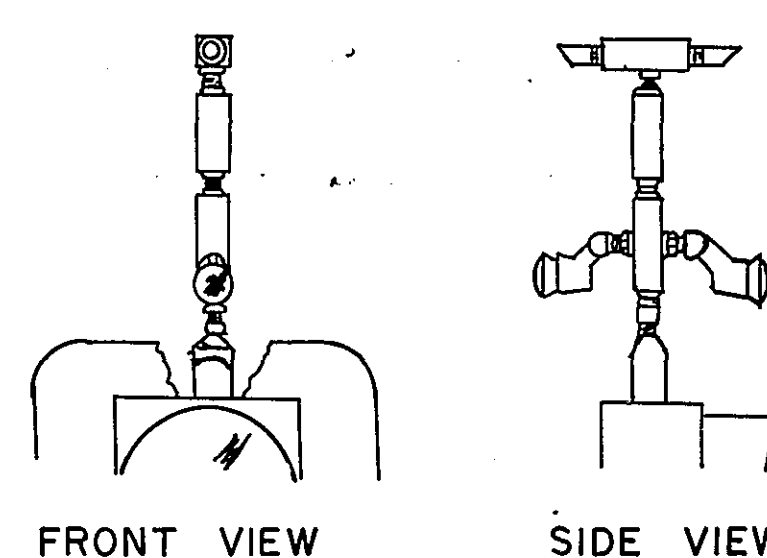
23G

EVP LHT ØB

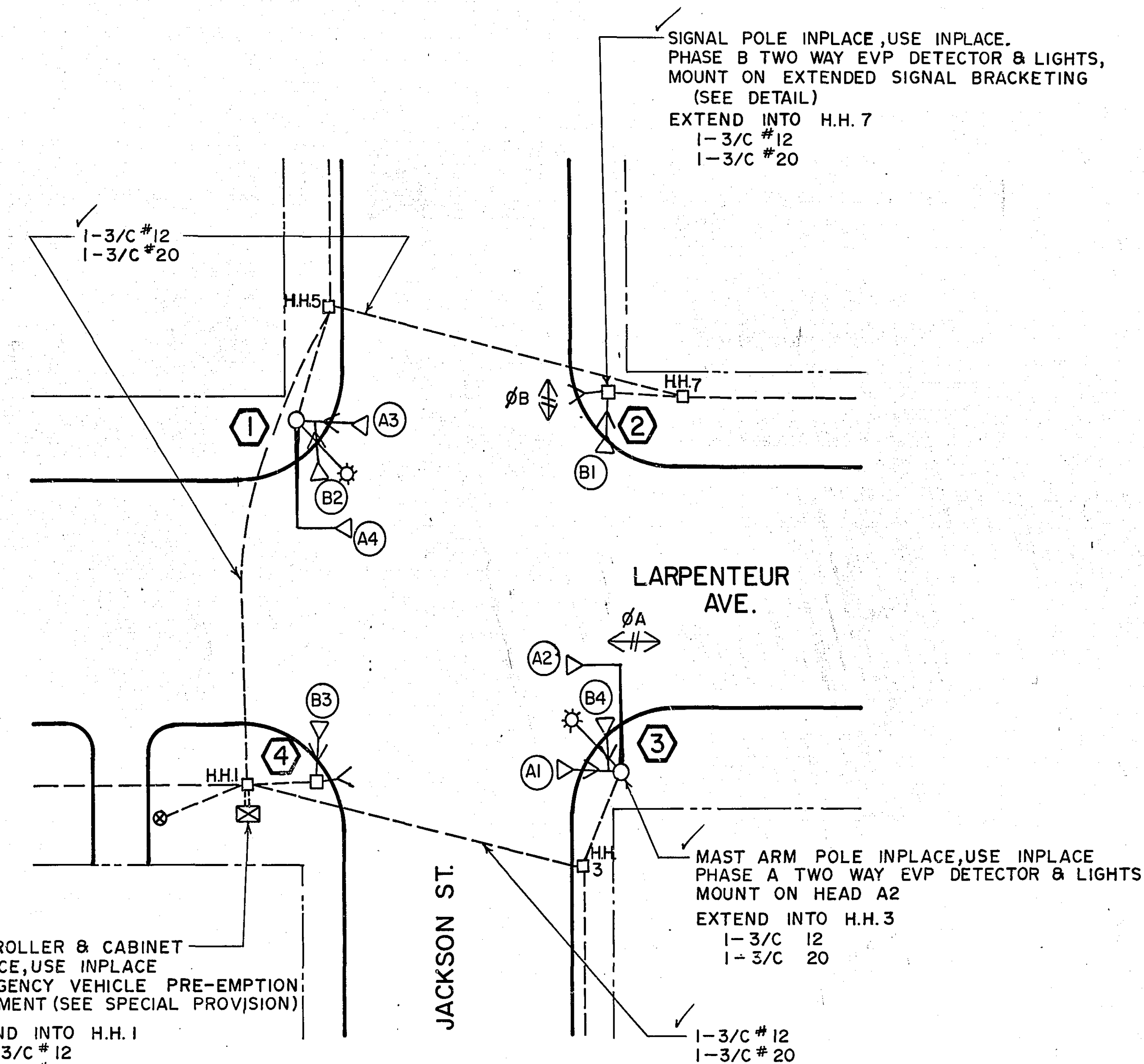
LABEL CABLE IN HANDHOLES AS
DIRECTED BY ENGINEER.



TWO WAY EVP DETECTOR &
LIGHTS MOUNTED ON EXTENDED
SIGNAL BRACKETING - POLE 2



TWO WAY EVP DETECTOR & LIGHTS
MOUNTED TOP SIGNAL HEAD (A2)



INTERSECTION LAYOUT
LARPEN TEUR AVE. & JACKSON ST.
SYSTEM "A"

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS

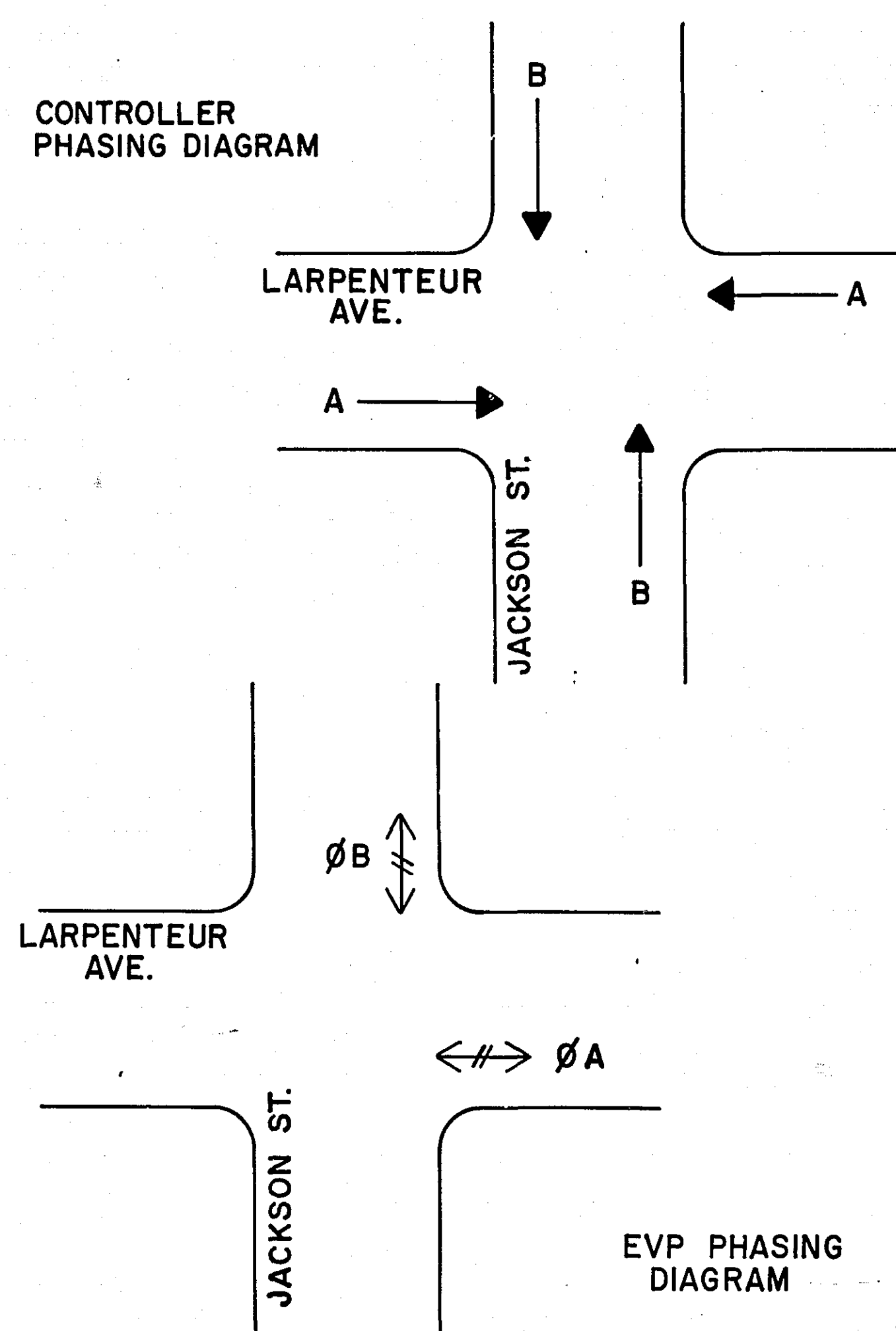
DONE BY: R Weber
DATE: 10-8-81

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.

Fred R. Kuebel

Date: 11-13-80 Reg. No. 12703

SIGNAL BASE NO.	(5)
SIGNAL FACE NO.	(4-2)
CONTROLLER AND CABINET	[Symbol]
CONTROLLER AND CABINET-INPLACE	[Symbol]
HANDHOLE	[Symbol]
HANDHOLE -INPLACE	[Symbol]
RIGID STEEL CONDUIT (R.S.C.)	[Symbol]
RIGID STEEL CONDUIT (R.S.C.)-INPLACE	[Symbol]
SIGNAL FACE	[Symbol]
SIGNAL FACE WITH BACKGROUND SHIELD	[Symbol]
SIGNAL FACE - INPLACE	[Symbol]
PEDESTRIAN INDICATIONS	[Symbol]
PEDESTRIAN INDICATIONS - INPLACE	[Symbol]
PEDESTRIAN PUSH BUTTON ON PEDESTAL OR POLE	[Symbol]
PEDESTRIAN PUSH BUTTON STATION	[Symbol]
TRAFFIC SIGNAL PEDESTAL	[Symbol]
TRAFFIC SIGNAL PEDESTAL - INPLACE	[Symbol]
TRAFFIC SIGNAL POLE AND MAST ARM	[Symbol]
TRAFFIC SIGNAL POLE AND MAST ARM -INPLACE	[Symbol]
MAST ARM AND LUMINAIRE	[Symbol]
MAST ARM AND LUMINAIRE -INPLACE	[Symbol]
WOOD POLE	[Symbol]
WOOD POLE -INPLACE	[Symbol]
SOURCE OF POWER	[Symbol]
EMERGENCY VEHICLE PRE-EMPTION DETECTOR LOCATION	[Symbol]

[illegible]

20
3/C #20

EVP
CABLE
Ø A

3

21
3/C #20

EVP
CABLE
Ø B

2

22
3/C #12

NEU
EVP LHT Ø A

3

23
3/C #12

NEU
EVP LHT Ø B

2

ALL THE ABOVE CABLES ARE NEW TO
BE INSTALLED BY THE CONTRACTOR.

SEE SHEET 4 FOR INPLACE WIRING

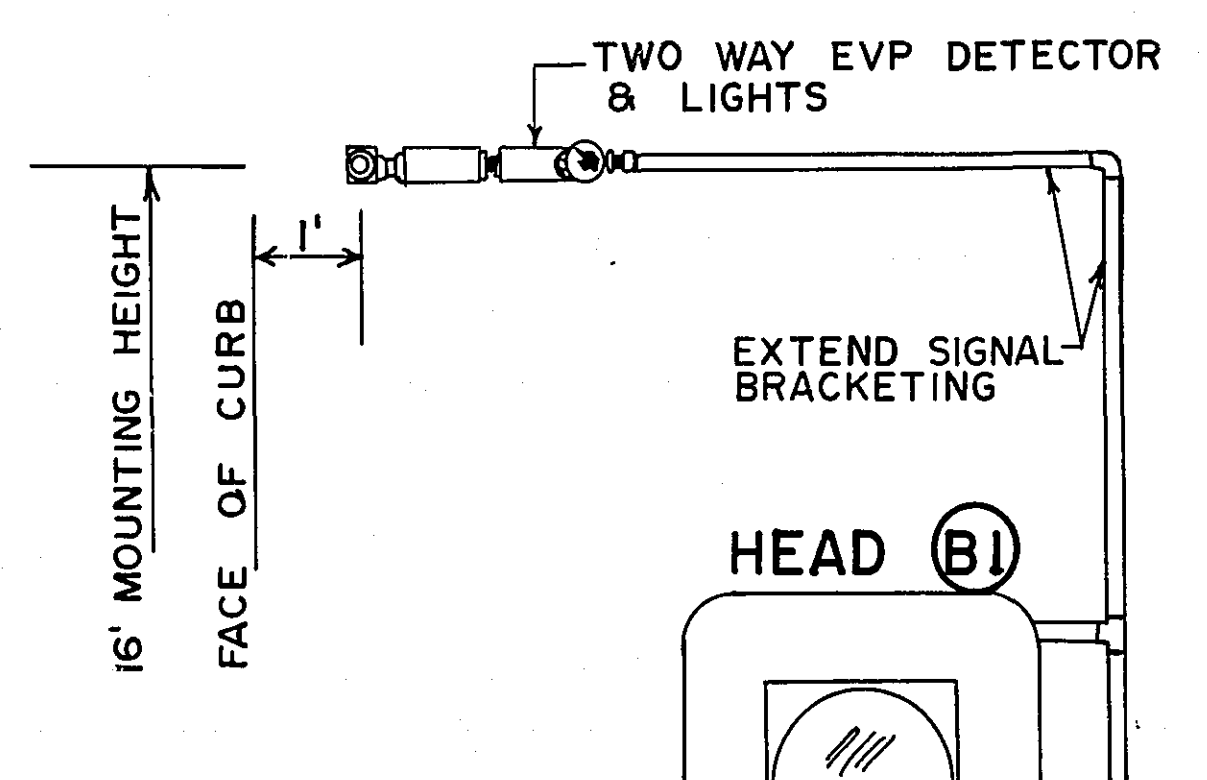
20 E EVP CABLE 3

21 G EVP CABLE 2

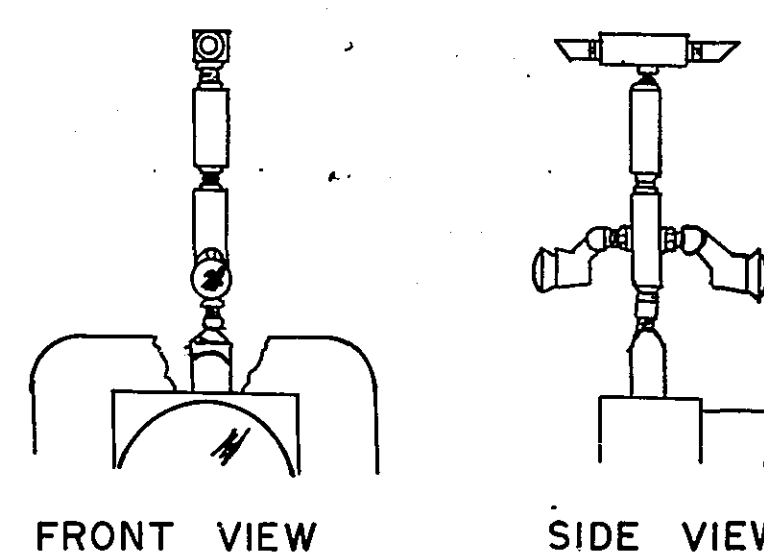
22 E EVP LHT ØA 3

23 G EVP LHT ØB 2

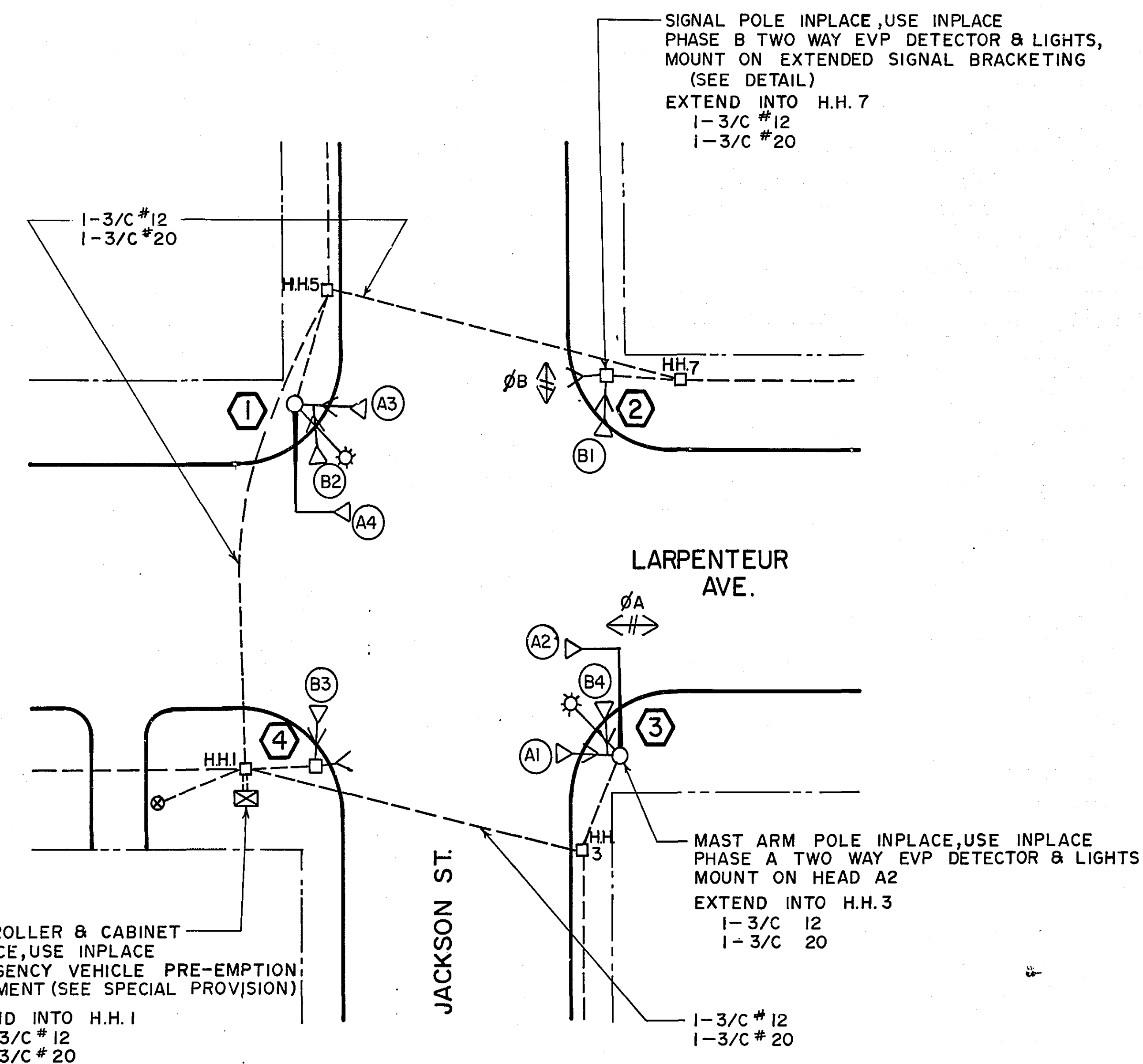
LABEL CABLE IN HANDHOLES AS
DIRECTED BY ENGINEER.



TWO WAY EVP DETECTOR &
LIGHTS MOUNTED ON EXTENDED
SIGNAL BRACKETING - POLE 2



TWO WAY EVP DETECTOR & LIGHTS
MOUNTED TOP SIGNAL HEAD (A2)

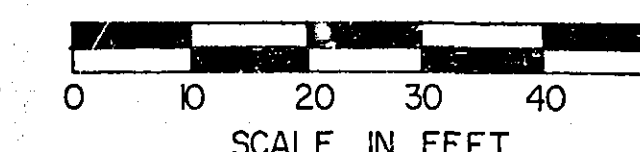


INTERSECTION LAYOUT
LARPEN TEUR AVE. & JACKSON ST.
SYSTEM "A"

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

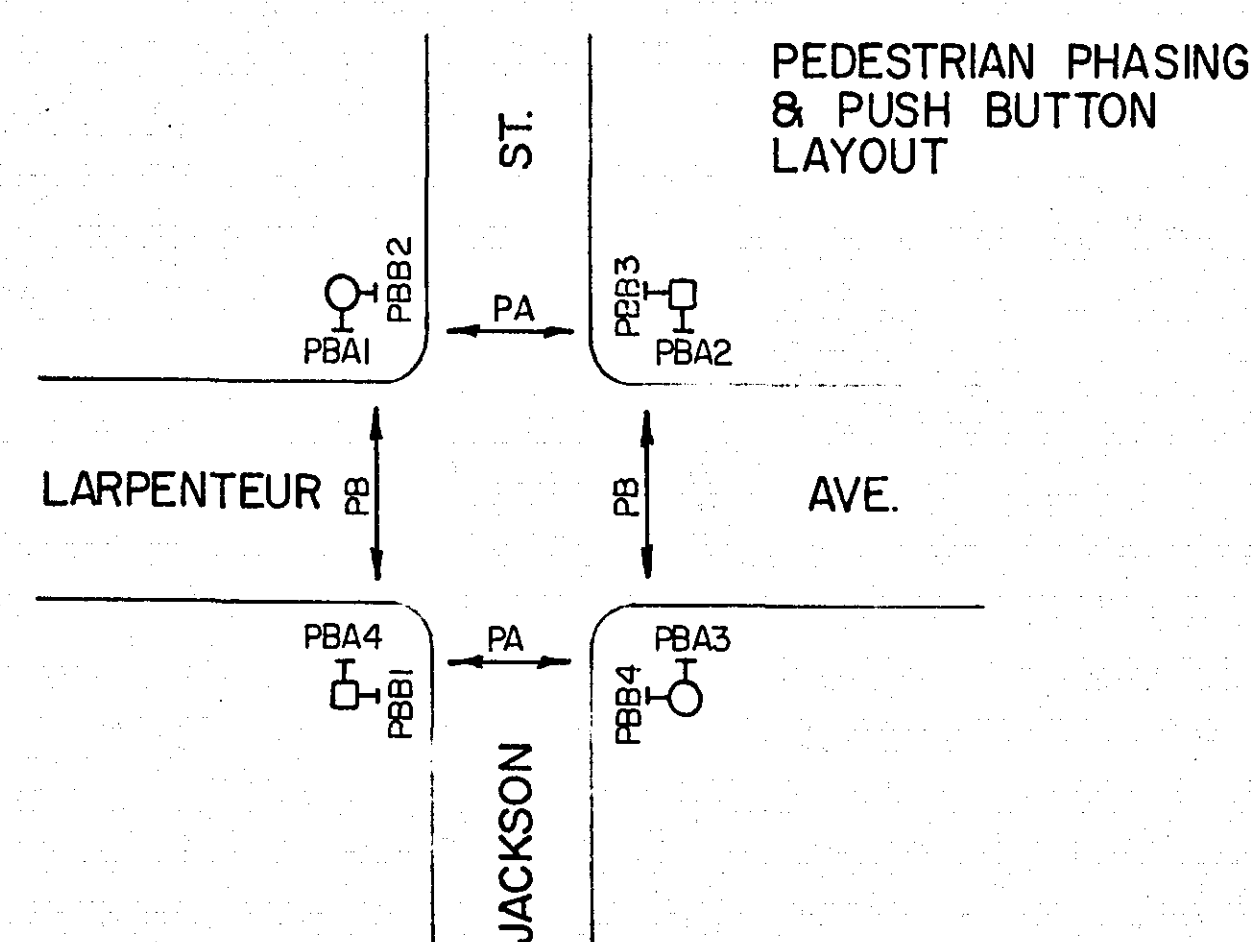
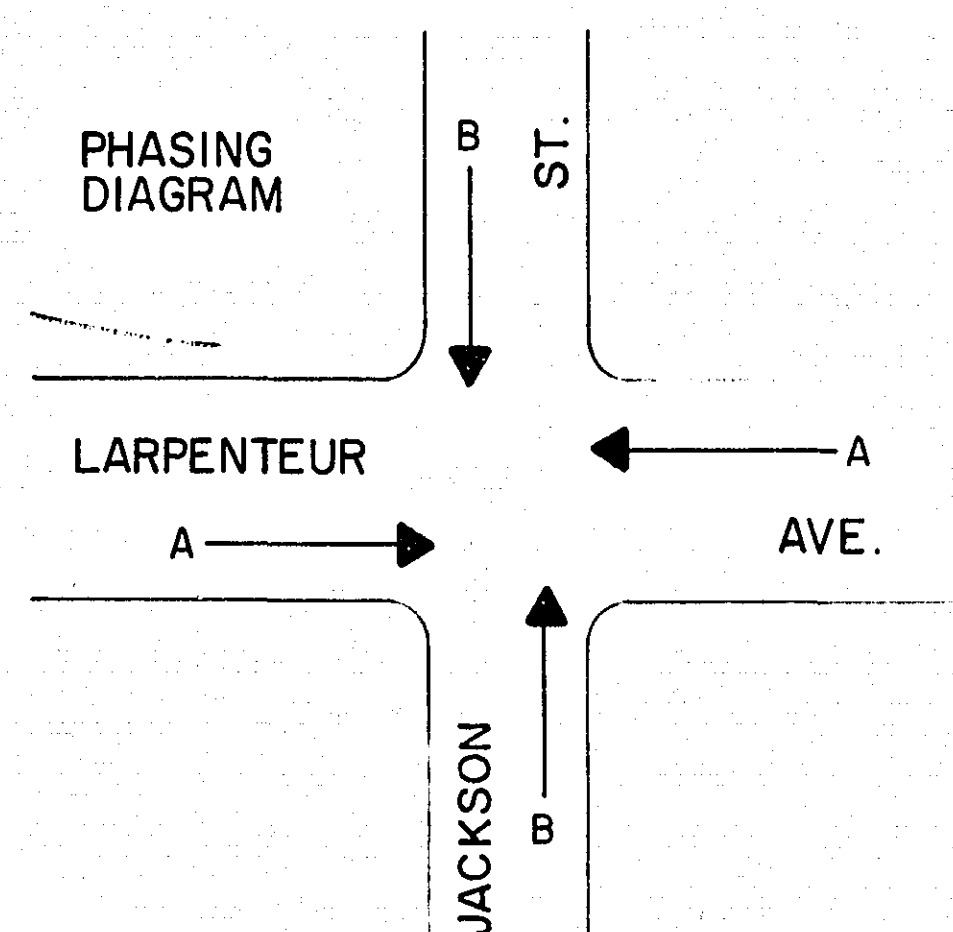
Paul R. Kuchel

Date: 11-13-80 Reg No: 2703

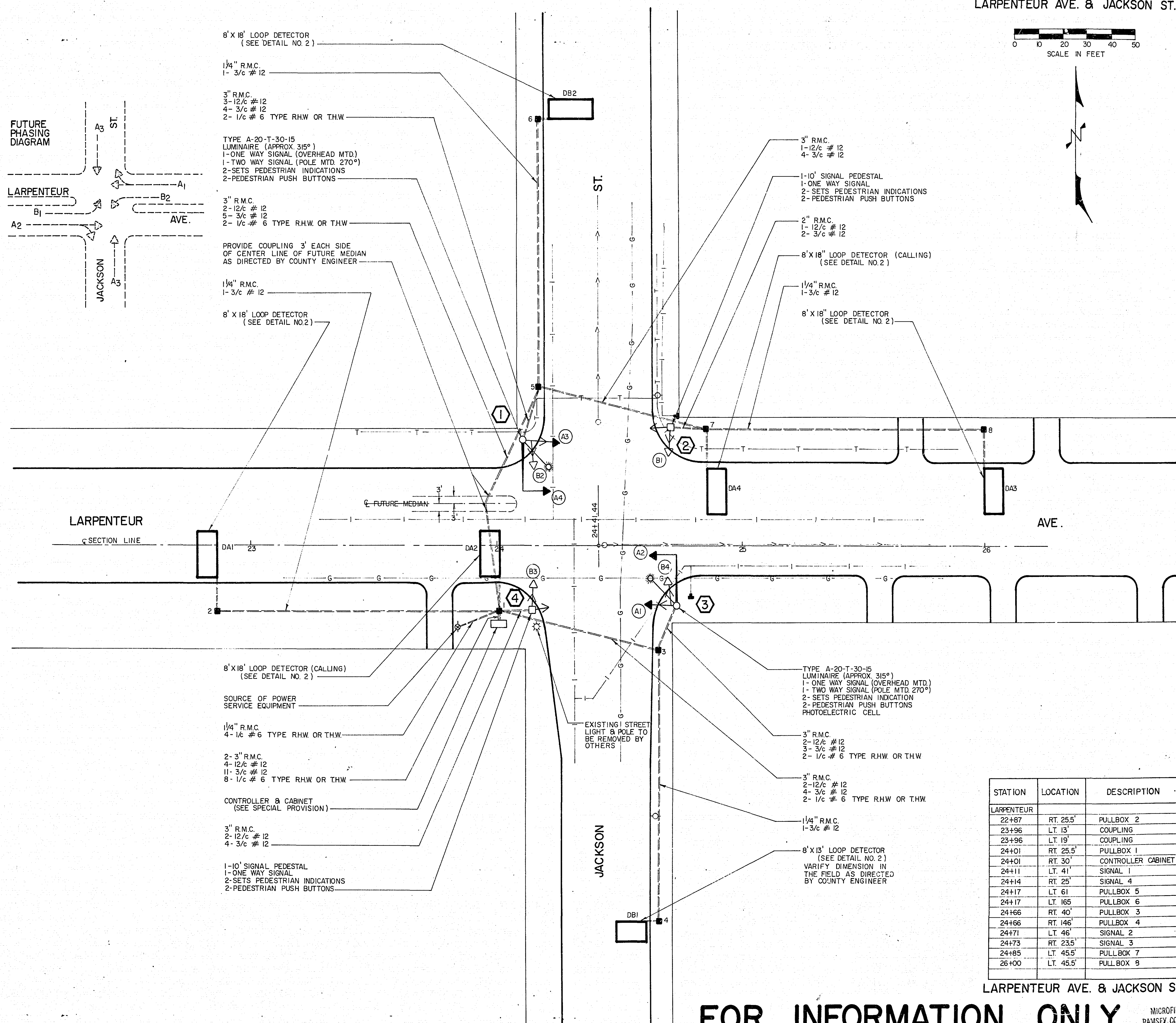
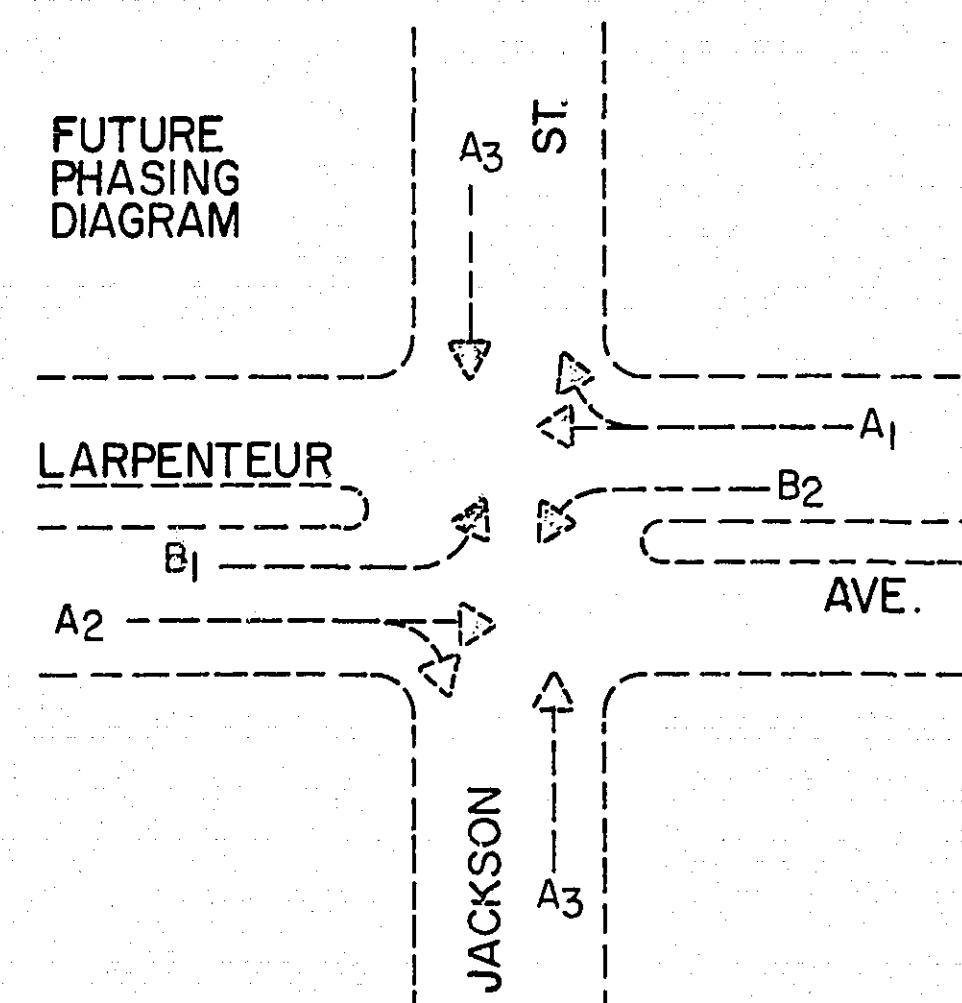


LEGEND OF SYMBOLS

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



FACE	PHASE	FLASH	INDICATION SIZE					
			R	Y	G	←	↑	→
A1	A	R	12"	12"	12"	-	-	-
A2	A	R	12"	12"	12"	-	-	-
A3	A	R	12"	12"	12"	-	-	-
A4	A	R	12"	12"	12"	-	-	-
B1	B	R	12"	12"	12"	-	-	-
B2	B	R	12"	12"	12"	-	-	-
B3	B	R	12"	12"	12"	-	-	-
B4	B	R	12"	12"	12"	-	-	-

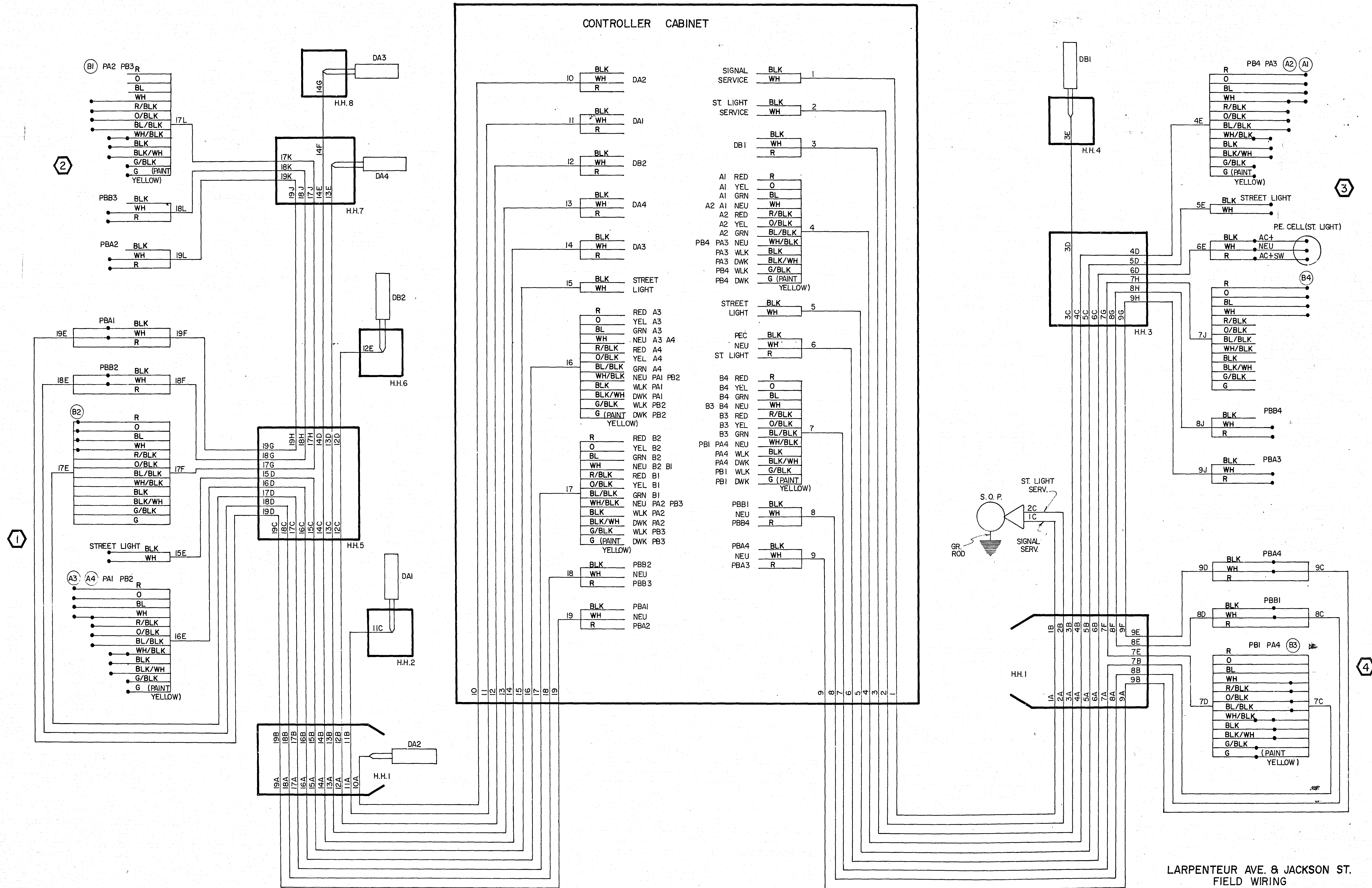


STATION	LOCATION	DESCRIPTION
LARPEN TEUR		
22+87	RT. 25.5'	PULLBOX 2
23+96	LT. 13'	COUPLING
23+96	LT. 19'	COUPLING
24+01	RT. 25.5'	PULLBOX 1
24+01	RT. 30'	CONTROLLER CABINET
24+11	LT. 41'	SIGNAL 1
24+14	RT. 25'	SIGNAL 4
24+17	LT. 61'	PULLBOX 5
24+17	LT. 165'	PULLBOX 6
24+66	RT. 40'	PULLBOX 3
24+66	RT. 146'	PULLBOX 4
24+71	LT. 46'	SIGNAL 2
24+73	RT. 23.5'	SIGNAL 3
24+85	LT. 45.5'	PULLBOX 7
26+00	LT. 45.5'	PULLBOX 8

LARPEN TEUR AVE. & JACKSON ST.

FOR INFORMATION ONLY

MICROFILMED
RAMSEY CO. ENGR.



FOR INFORMATION ONLY

CO. PROJ. NO. TRF. 525-T31

SHEET NO. 4 OF 13 SHEETS

MICROFILMED
RAMSEY CO. ENGR.

LARPEN TEUR AVE. & JACKSON ST.
FIELD WIRING
DIAGRAM

23-123

SIGNAL BASE NO.	5	4-2
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		

20
3/C #20

EVP
CABLE
Ø A

4

21
3/C #20

EVP
CABLE
Ø B

1

22
3/C #12

NEU
EVP LHT. Ø A

4

23
3/C #12

NEU
EVP LHT. Ø B

1

20 E
 3/C #20

EVP CABLE ØA

21 C
 3/C #20

EVP CABLE ØB

22 E
 3/C #12

EVP LHT ØA

23 C
 3/C #12

EVP LHT ØB

The diagram illustrates a four-way intersection of Larpenteur Ave. and Edgerton St. The top half shows the physical intersection with traffic flow arrows: Larpenteur Ave. has eastbound (A) and westbound (B) traffic; Edgerton St. has northbound (B) and southbound (A) traffic. The bottom half shows two phasing diagrams. The left phasing diagram shows a protected left-turn phase for southbound traffic on Edgerton St. (indicated by a double-headed arrow and 'Ø B') and a protected right-turn phase for westbound traffic on Larpenteur Ave. (indicated by a double-headed arrow and 'Ø A'). The right phasing diagram is labeled 'EVP PHASING DIAGRAM'.

[illegible]

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

Paul R. Kowalski

Date: 11-15-80 Reg. No: 12703

LEGEND OF SYMBOLS

SIGNAL BASE No.	5
SIGNAL FACE No.	4-2
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 CABINET WIRING REVISIONS

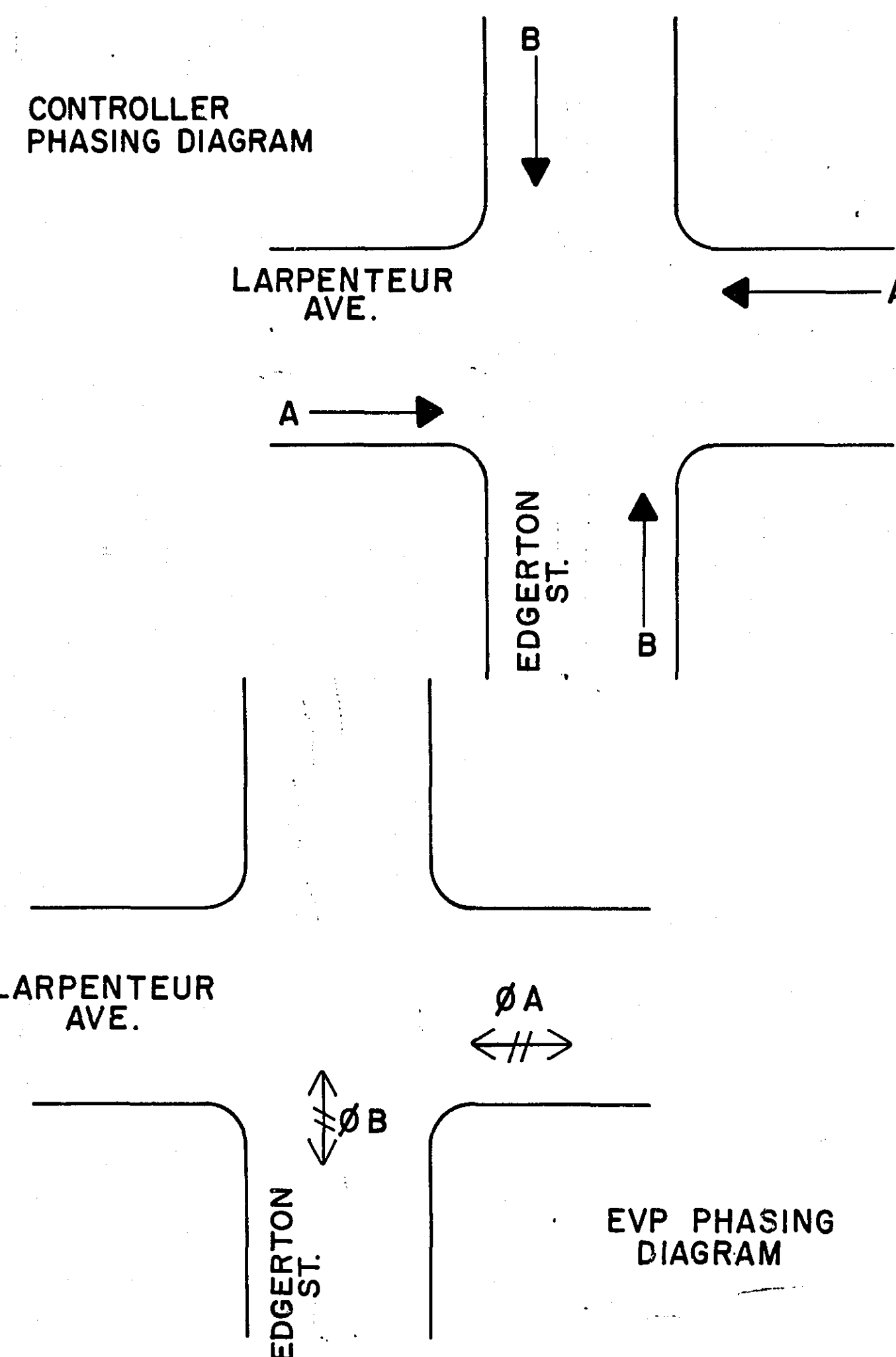
20	EVP CABLE ØA	4
3/C#20		
21	EVP CABLE ØB	1
3/C#20		
22	NEU EVP LHT. ØA	4
3/C#12		
23	NEU EVP LHT. ØB	1
3/C#12		

FIELD WIRING REVISIONS

20E	EVP CABLE ØA	4
3/C#20		
21C	EVP CABLE ØB	1
3/C#20		
22E	EVP LHT ØA	4
3/C#12		
23C	EVP LHT ØB	1
3/C#12		

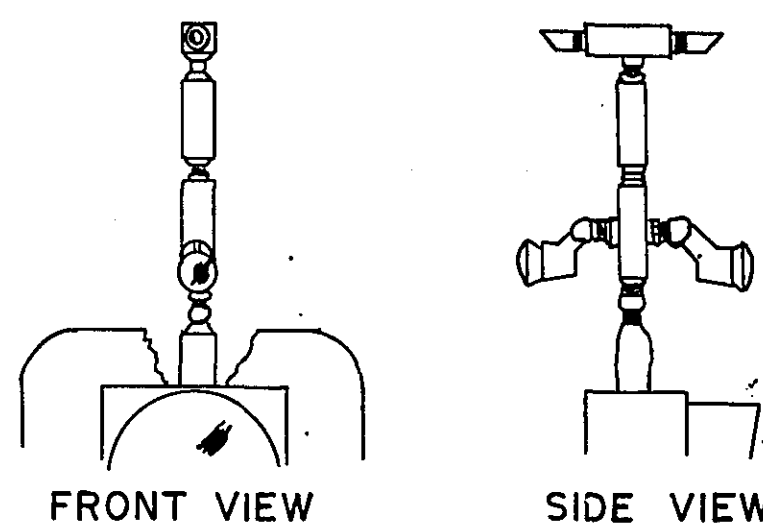
ALL THE ABOVE CABLES ARE NEW TO BE INSTALLED BY CONTRACTOR.
SEE SHEET 7 FOR INPLACE WIRING

LABEL CABLE IN HANDHOLES AS DIRECTED BY ENGINEER.

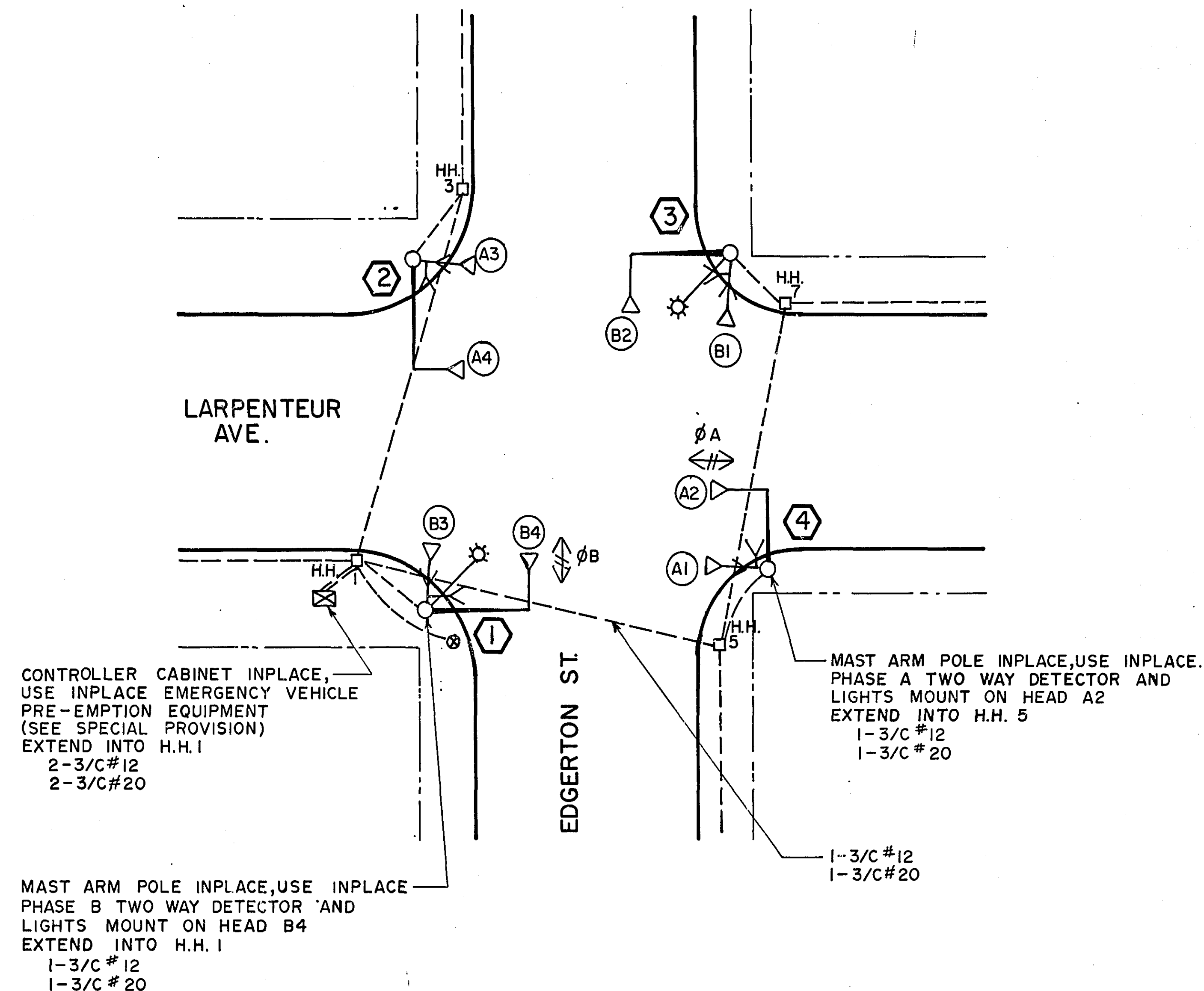


SIGNAL INDICATION CHART (INPLACE)

FACE	PHASE	FLASH	INDICATION SIZE			←	↑	→
			R	Y	G			
A1	A	R	12"	12"	12"	-	-	-
A2	A	R	12"	12"	12"	-	-	-
A3	A	R	12"	12"	12"	-	-	-
A4	A	R	12"	12"	12"	-	-	-
B1	B	R	12"	12"	12"	-	-	-
B2	B	R	12"	12"	12"	-	-	-
B3	B	R	12"	12"	12"	-	-	-
B4	B	R	12"	12"	12"	-	-	-



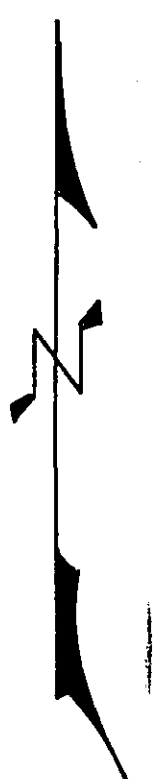
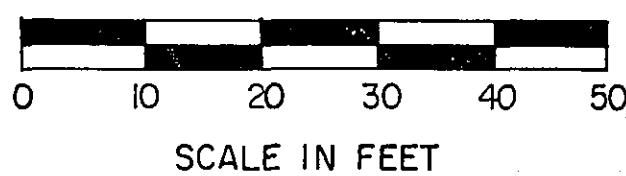
TWO WAY EVP DETECTOR & LIGHTS MOUNTED TOP SIGNAL HEADS A2 & B4



**INTERSECTION LAYOUT
LARPENNEUR AVE. & EDGERTON ST.
SYSTEM "B"**

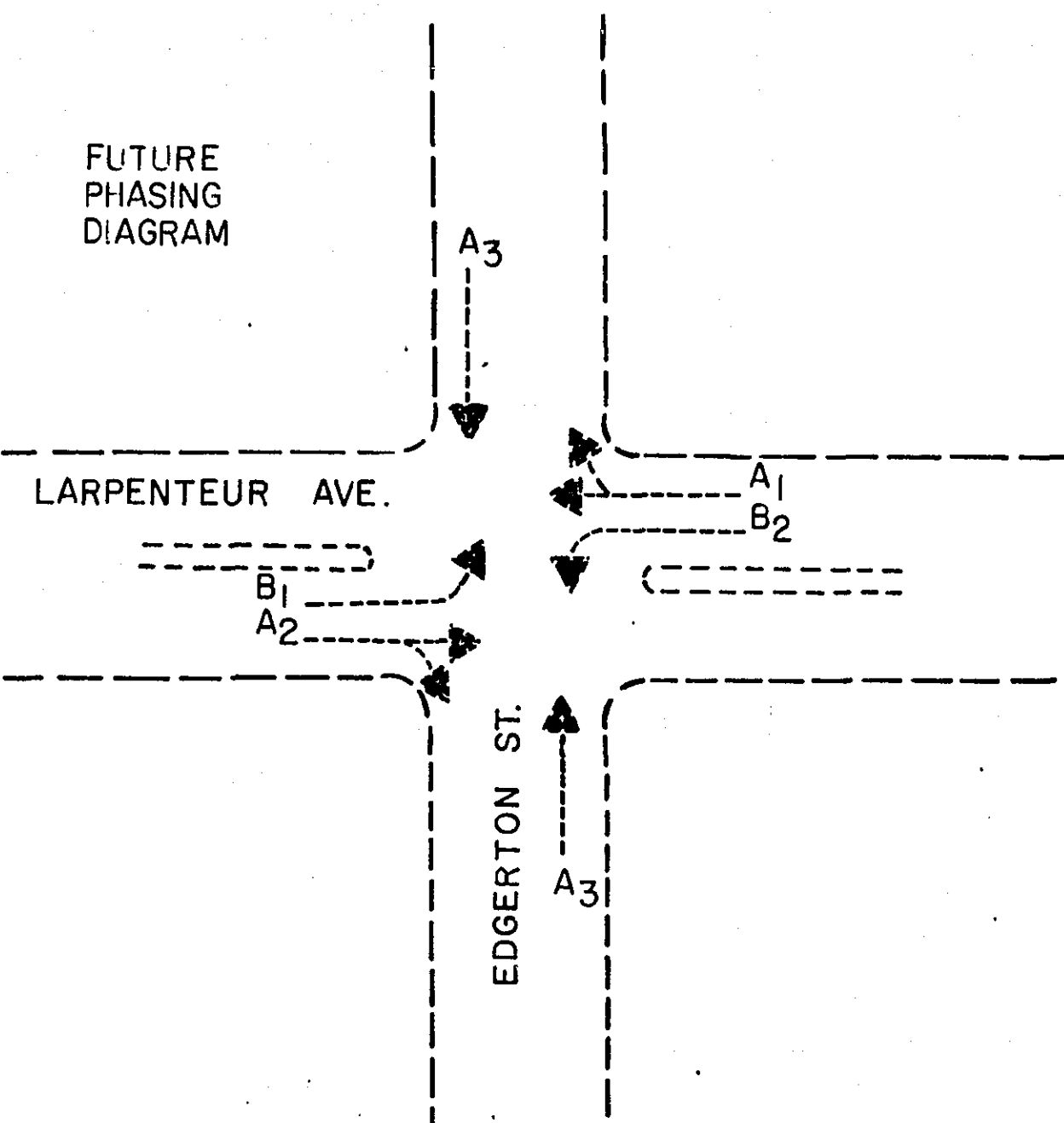
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date: 11-15-80 Reg. No. 2703

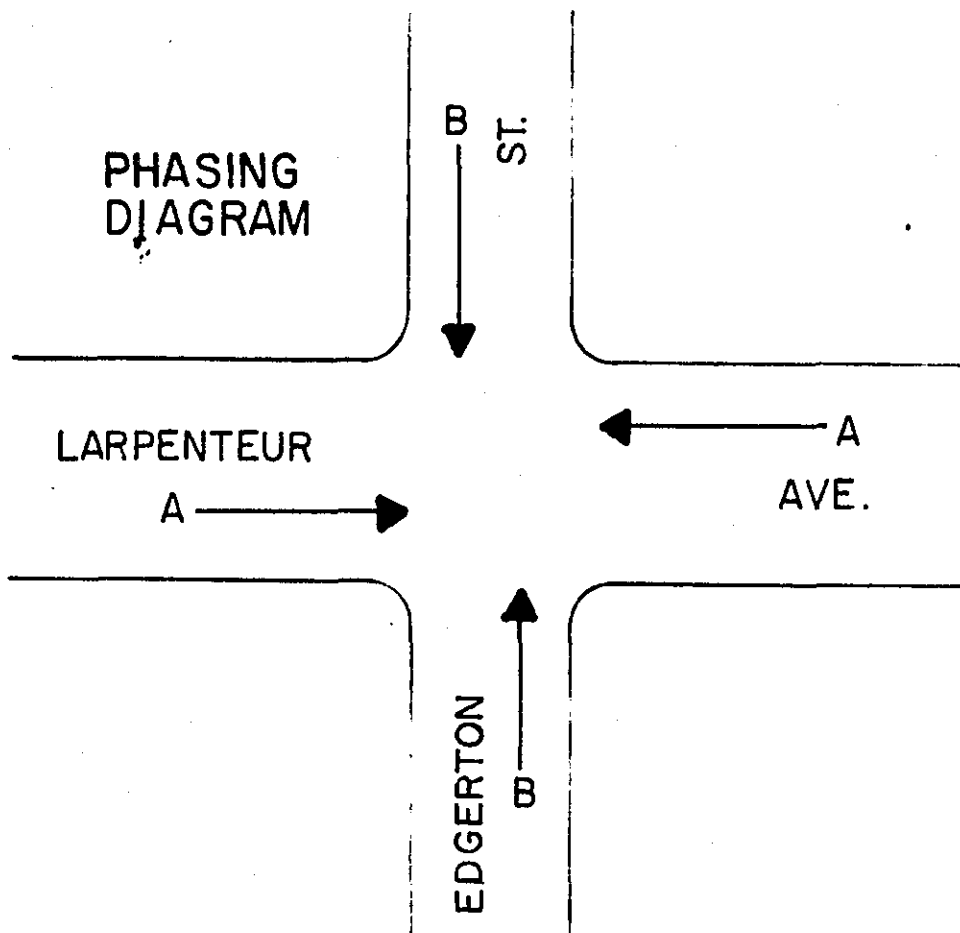


LEGEND OF SYMBOLS	
[Symbol]	CONTROLLER AND CABINET
[Symbol]	HANDHOLE (PULLBOX)
[Symbol]	RIGID METALLIC CONDUIT (R.M.C.)
[Symbol]	MAST ARM & POLE
[Symbol]	SIGNAL FACE
[Symbol]	SIGNAL FACE WITH BACKGROUND SHIELD
[Symbol]	MAST ARM & LUMINAIRE
[Symbol]	PEDESTRIAN INDICATION
[Symbol]	SOURCE OF POWER (S.O.P.) WOOD POLE INPLACE
[Symbol]	HANDHOLE (PULLBOX) INPLACE
[Symbol]	RIGID METALLIC CONDUIT (R.M.C.) INPLACE

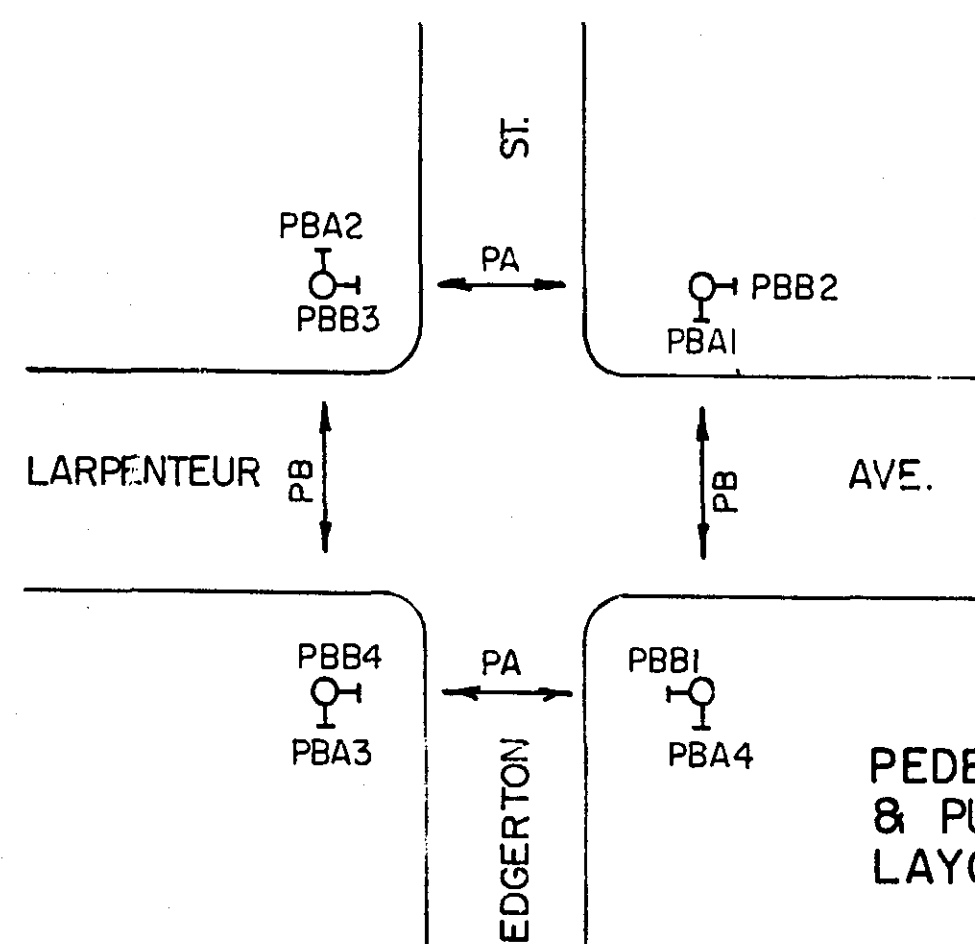
FUTURE PHASING DIAGRAM



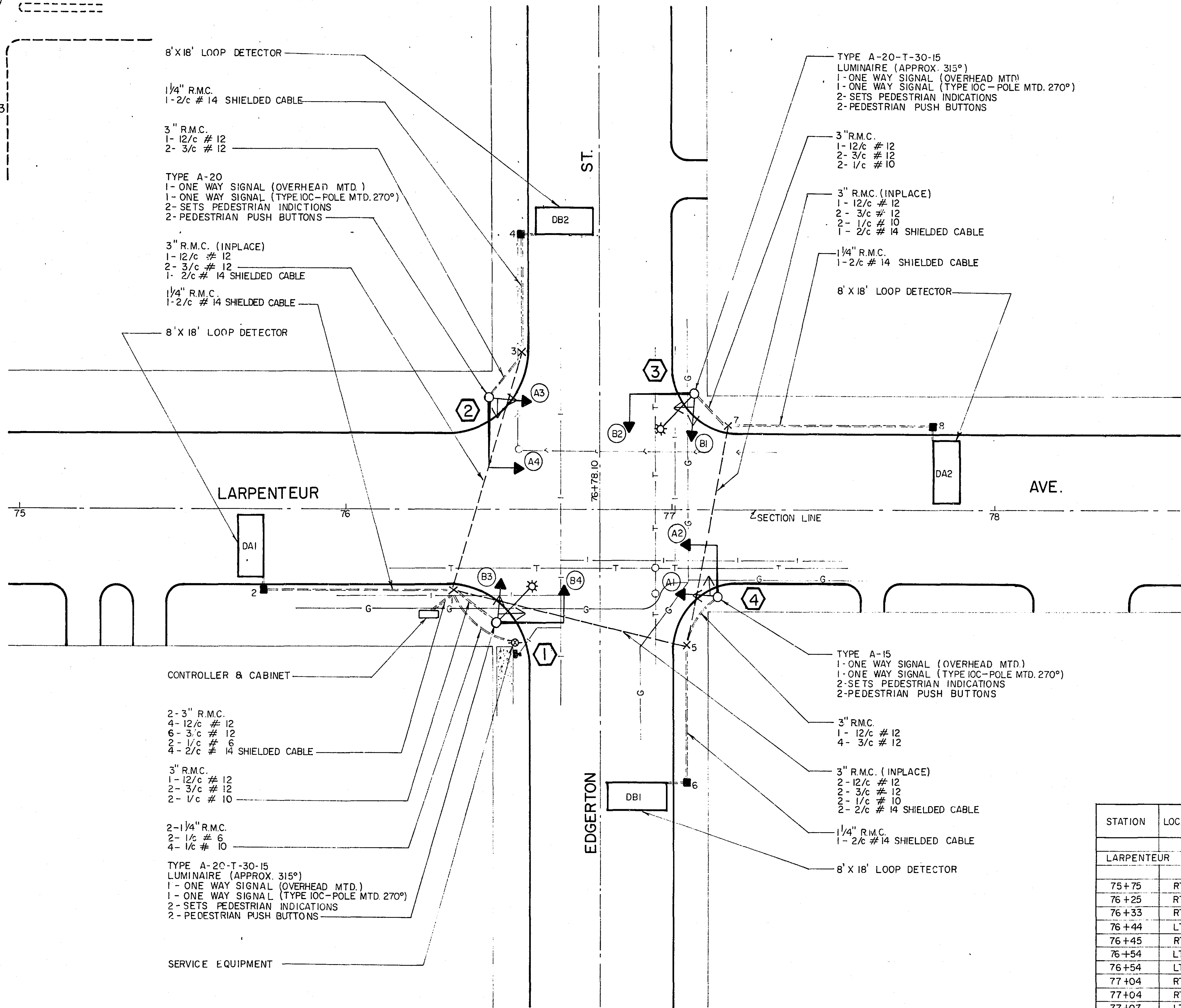
PHASING DIAGRAM



PEDESTRIAN PHASING & PUSH BUTTON LAYOUT

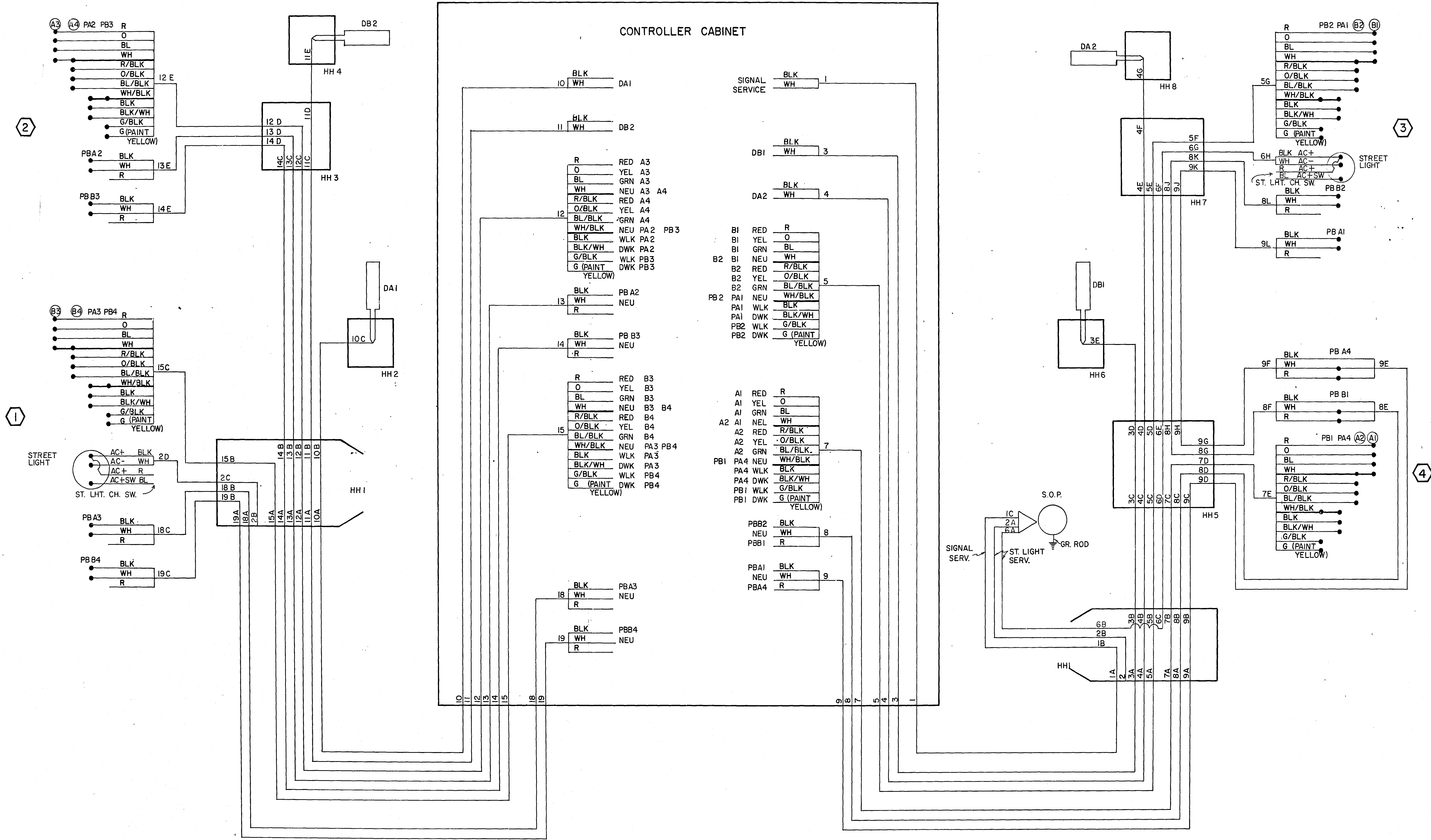


FACE	PHASE	FLASH	INDICATION SIZE					
			R	Y	G	←	↑	→
A1	A	R	12"	12"	12"	-	-	-
A2	A	R	12"	12"	12"	-	-	-
A3	A	R	12"	12"	12"	-	-	-
A4	A	R	12"	12"	12"	-	-	-
B1	B	R	12"	12"	12"	-	-	-
B2	B	R	12"	12"	12"	-	-	-
B3	B	R	12"	12"	12"	-	-	-
B4	B	R	12"	12"	12"	-	-	-



STATION	LOCATION	DESCRIPTION
LARPELVEUR AVE.		
75+75	RT. 26'	PULLBOX 2
76+25	RT. 31'	CONTROLLER CABINET
76+33	RT. 26'	PULLBOX 1
76+44	LT. 33'	SIGNAL NO. 2
76+45	RT. 33'	SIGNAL NO. 1
76+54	LT. 46'	PULLBOX 3
76+54	LT. 80'	PULLBOX 4
77+04	RT. 40'	PULLBOX 5
77+04	RT. 80'	PULLBOX 6
77+07	LT. 34.5'	SIGNAL NO. 3
77+14	RT. 25.5'	SIGNAL NO. 4
77+18	LT. 28'	PULLBOX 7
77+81	LT. 28'	PULLBOX 8

FOR INFORMATION ONLY

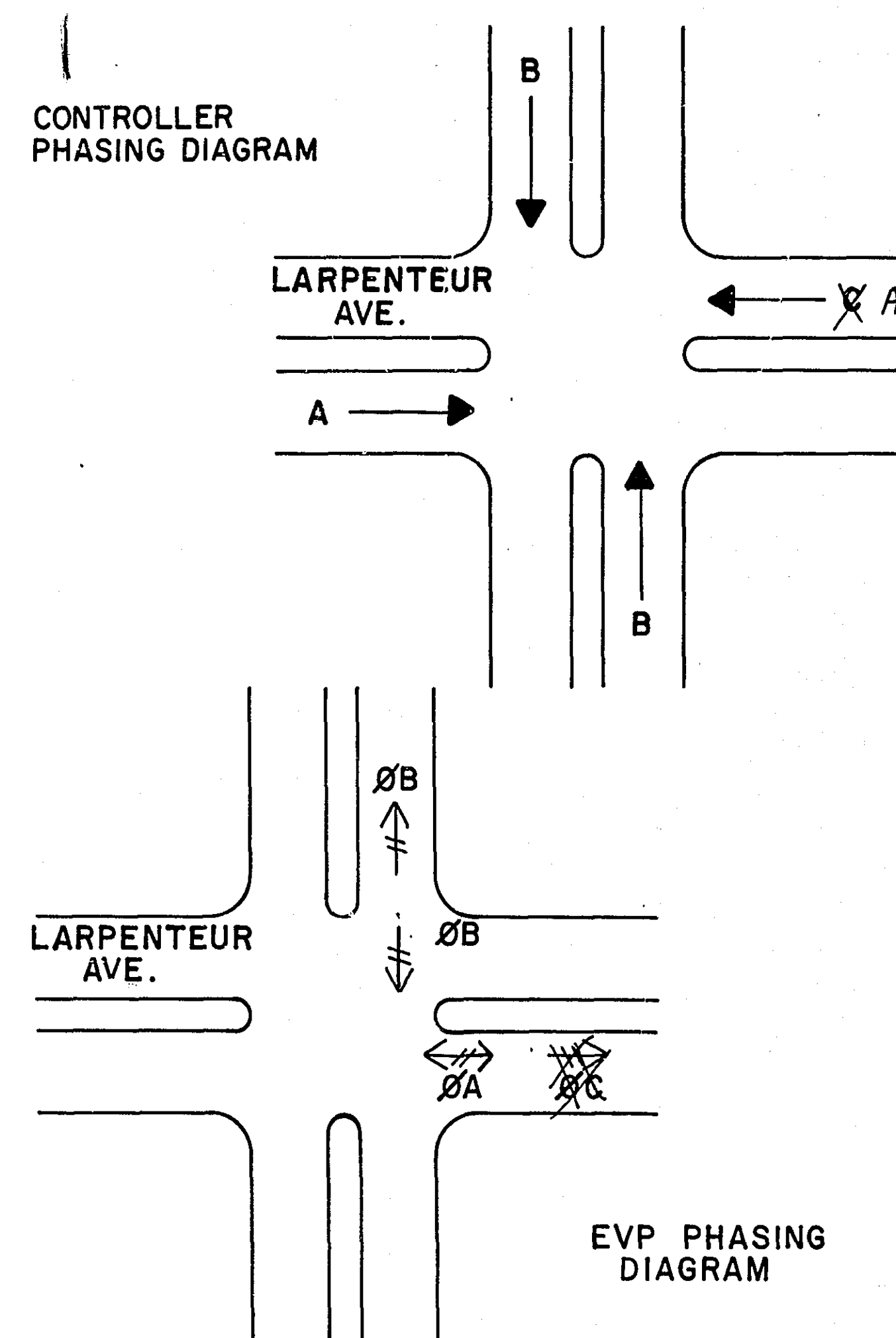


FIELD WIRING
DIAGRAM

FOR INFORMATION ONLY

LARPENTER & EDGERTON

SIGNAL BASE No.	
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	

[illegible]

NOTE: ALL SIGNAL FACES ARE OPTICALLY PROGRAMMED SIGNAL FACES.

24
3/C #20

EVP
CABLE
Ø B

1

25
3/C #20

EVP
CABLE
Ø B

1

26
3/C #20

EVP
CABLE
Ø A

2

27
3/C #20

EVP
CABLE
~~Ø A~~ ~~Ø B~~ FUTURE

2

28
3/C #12

EVP LHT. Ø A
NEU
~~Ø A~~ ~~Ø B~~ ~~Ø C~~

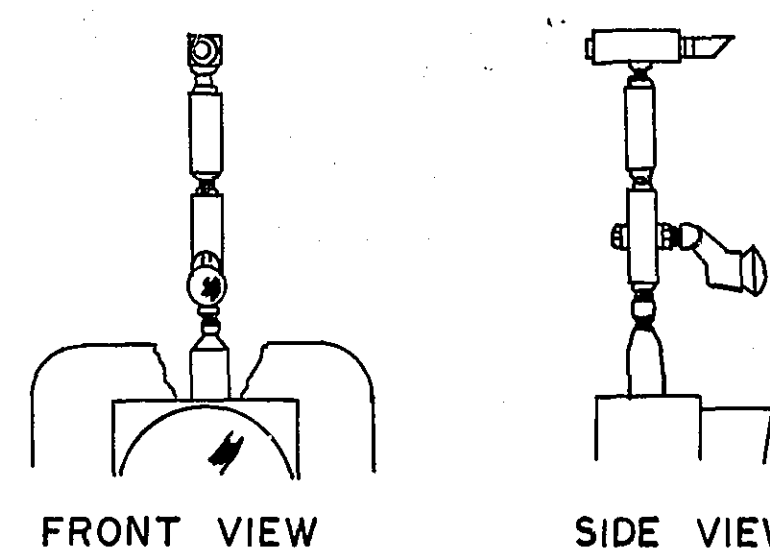
2

29
3/C #12

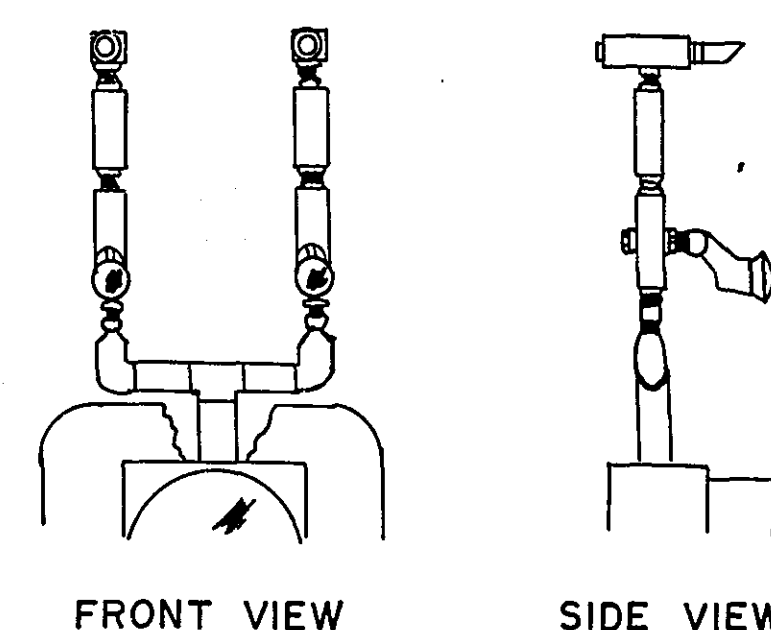
EVP LHT. Ø B
NEU

1

ALL THE ABOVE CABLES ARE NEW
TO BE INSTALLED BY THE CONTRACTOR.
SEE SHEET 10 FOR INPLACE WIRING.



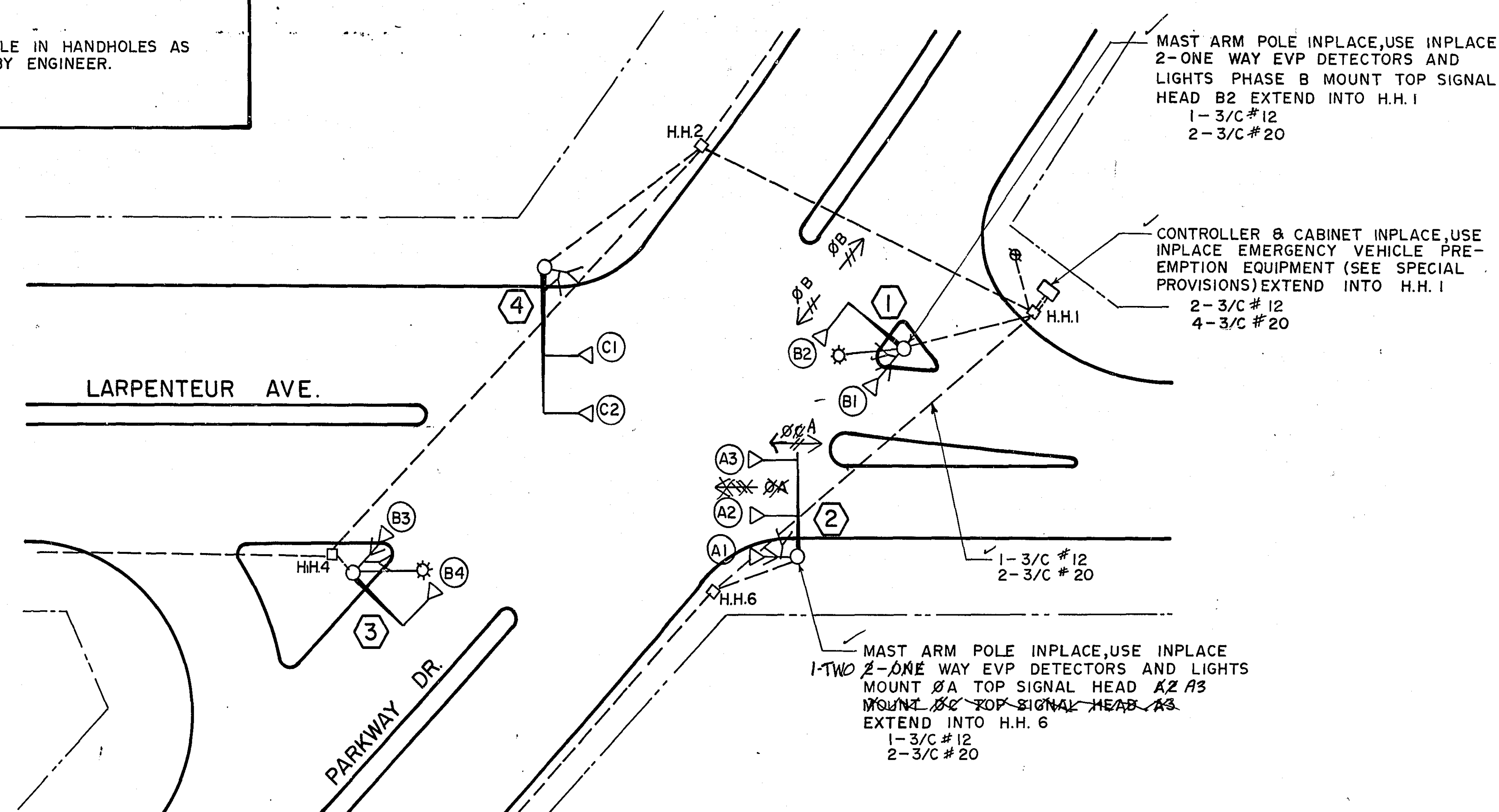
ONE WAY EVP DETECTOR & LIGHT
MOUNTED TOP SIGNAL HEADS (A2) & (A3)



TWO ONE WAY EVP DETECTORS & LIGHTS
MOUNTED TOP SIGNAL HEAD (B2)

[illegible]

LABEL CABLE IN HANDHOLES AS
DIRECTED BY ENGINEER.



Ø C DETECTOR NOT INSTALLED
SYSTEM REVISED TO 2 Ø
OPERATION

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS

DONE BY: R. Weber
DATE: 10-8-81

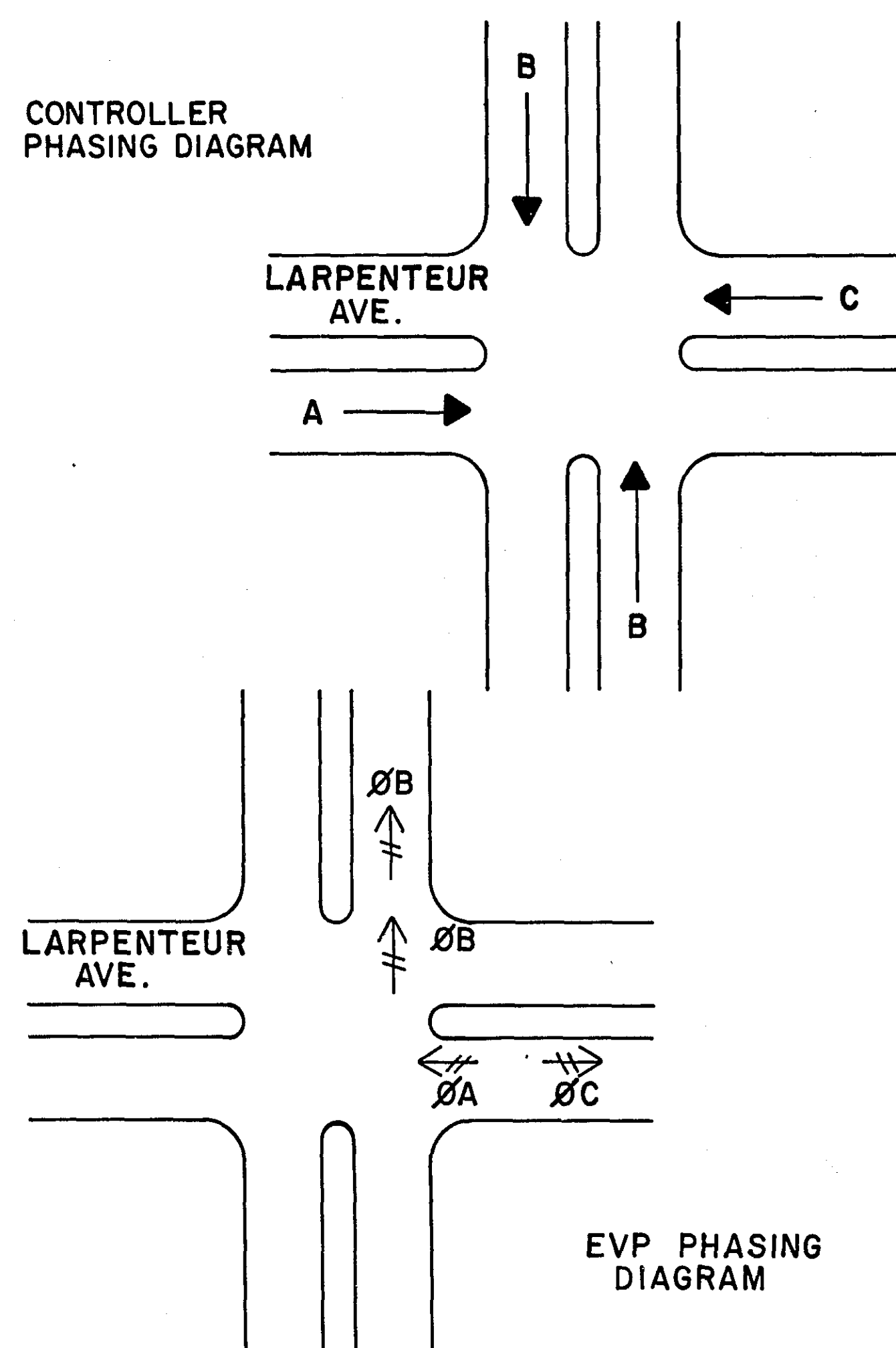
INTERSECTION LAYOUT
LARPEN TEUR AVE. & PARKWAY DR.
SYSTEM "C"

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 R. Rindley

Date 11-15-80 Reg. No. 12703

SIGNAL BASE NO.	5	4-2
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		



SIGNAL INDICATION CHART						
FACE	PHASE	FLASH	INDICATION SIZE			
			R	Y	G	← ↑ →
A1	A	R	12"	12"	12"	
A2	A	R	12"	12"	12"	12"
A3	A	R	12 "	12 "	12 "	12 "
B1	B	R	12"	12"	12"	
B2	B	R	12"	12"	12"	
B3	B	R	12"	12"	12"	
B4	B	R	12"	12"	12"	
C1	C	R	12"	12"	12"	12"
C2	C	R	12"	12"	12"	12"

NOTE: ALL SIGNAL FACES ARE OPTICALLY PROGRAMMED SIGNAL FACES.

24
3/C #20

EVP
CABLE
Ø B

1

25
3/C #20

EVP
CABLE
Ø B

1

26
3/C #20

EVP
CABLE
Ø A

2

27
3/C #20

EVP
CABLE
Ø C

2

28
3/C #12

EVP LHT. Ø A
NEU
EVP LHT. Ø C

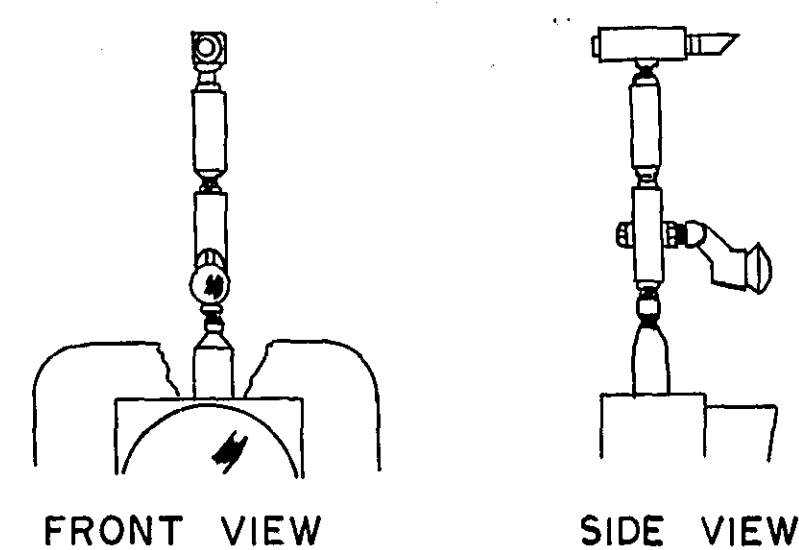
2

29
3/C #12

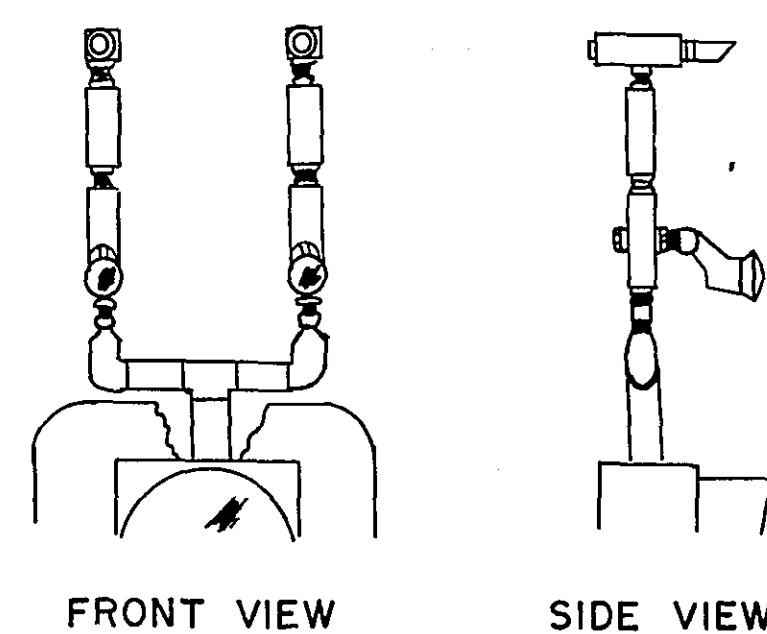
EVP LHT. Ø B
NEU

1

ALL THE ABOVE CABLES ARE NEW
TO BE INSTALLED BY THE CONTRACTOR.
SEE SHEET 10 FOR INPLACE WIRING.



ONE WAY EVP DETECTOR & LIGHT
MOUNTED TOP SIGNAL HEADS (A2) & (A3)

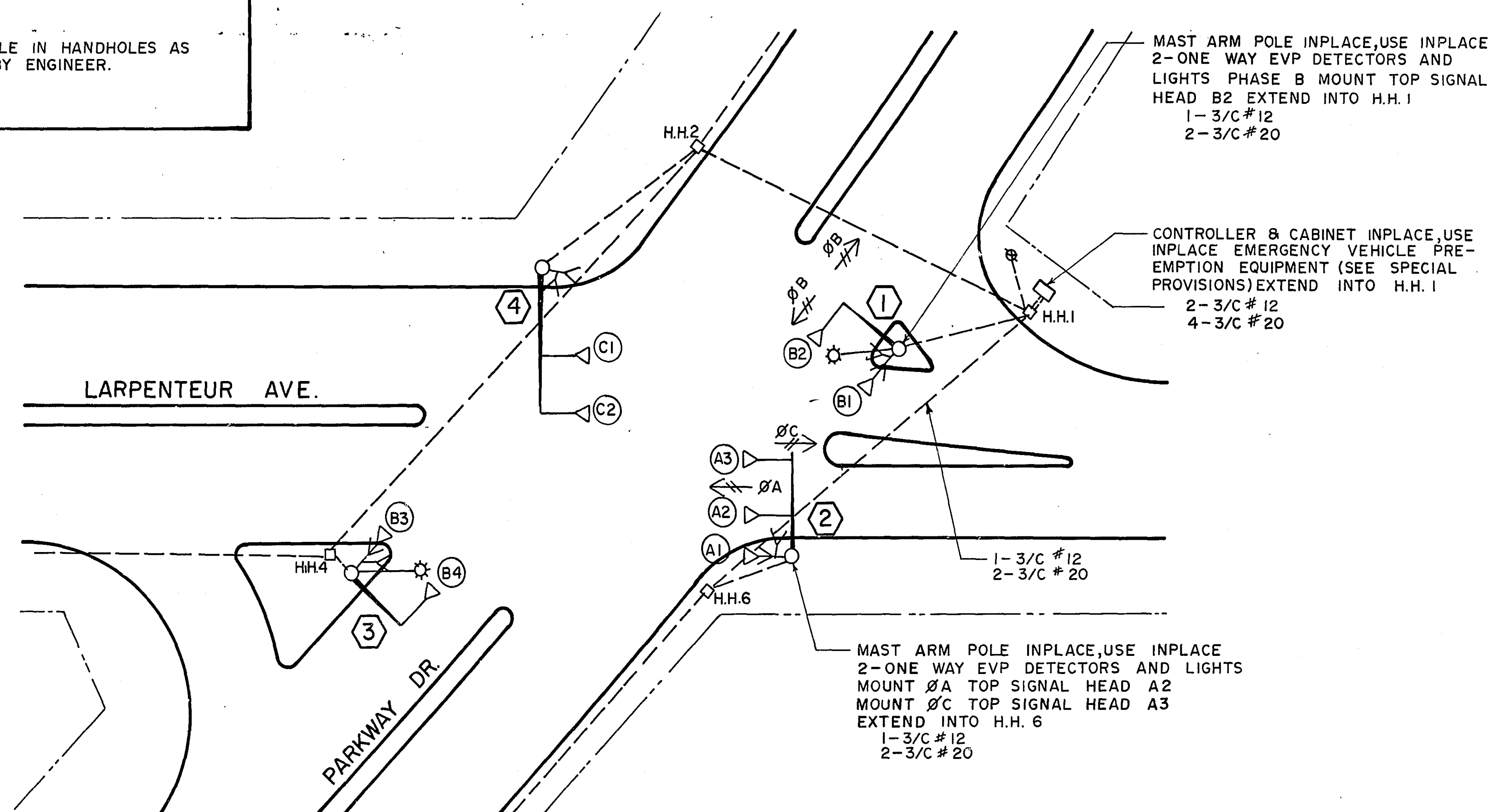


TWO ONE WAY EVP DETECTORS & LIGHTS
MOUNTED TOP SIGNAL HEAD (B2)

Figure 1 shows six cable wiring diagrams for the 1000 Series, arranged in a 2x3 grid. Each diagram consists of a cable line with a label on the left and a destination label on the right. The diagrams are labeled with circled numbers 1 and 2.

- Diagram 1 (Top Left):** Cable 24C (3/C #20) is connected to EVP CABLE ØB.
- Diagram 2 (Top Right):** Cable 25C (3/C #20) is connected to EVP CABLE ØB.
- Diagram 3 (Middle Left):** Cable 26E (3/C #20) is connected to EVP CABLE ØA.
- Diagram 4 (Middle Right):** Cable 27E (3/C #20) is connected to EVP CABLE ØC.
- Diagram 5 (Bottom Left):** Cable 28G (3/C #12) is connected to EVP LHT ØC and EVP LHT ØA.
- Diagram 6 (Bottom Right):** Cable 29C (3/C #12) is connected to EVP LHT ØB.

LABEL CABLE IN HANDHOLES AS
DIRECTED BY ENGINEER.



INTERSECTION LAYOUT
LARPEN TEUR AVE. & PARKWAY DR.
SYSTEM "C"

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.

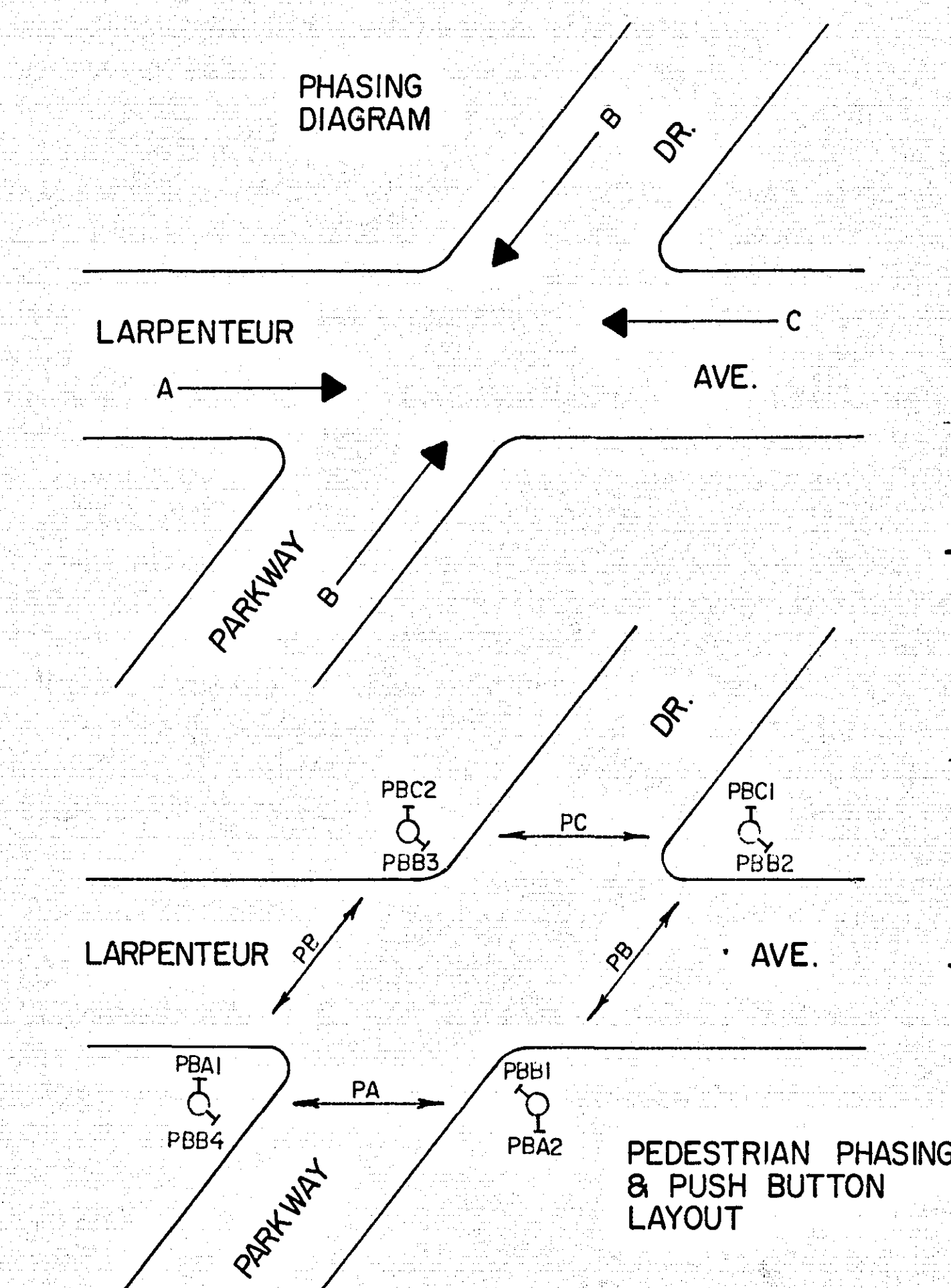
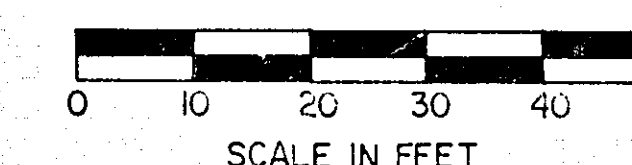
Paul R. Kunkel

Date 11-15-80 Reg. No. 12703

23-123

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

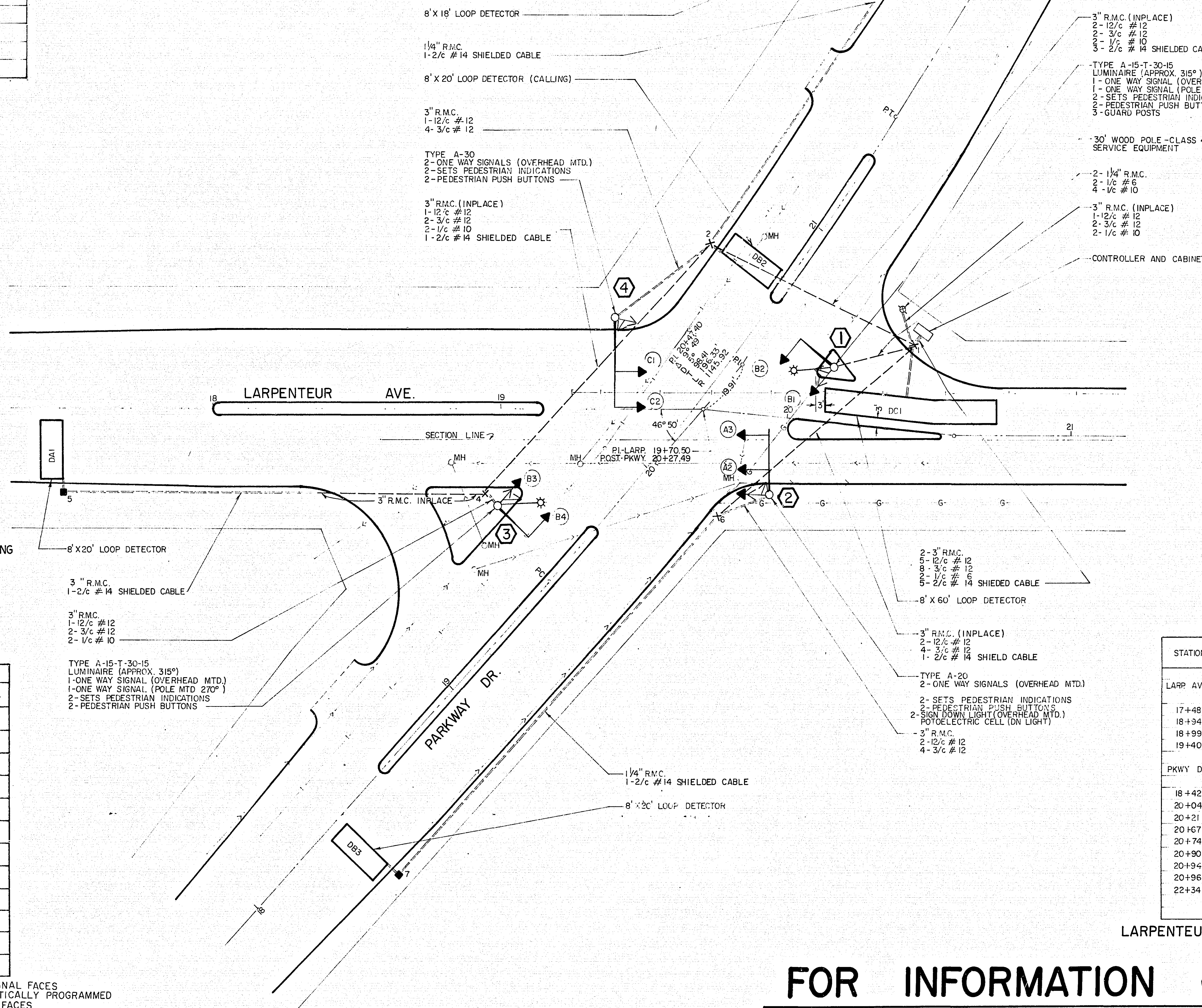
LARPENTEUR AVE. & PARKWAY DR.



FACE	PHASE	FLASH	INDICATION SIZE					
			R	Y	G	←	↑	→
A1	A	R	12"	12"	12"			
* A2	A	R	12"	12"	12"	12"	-	-
* A3	A	R	12"	12"	12"	12"	-	-
B1	B	R	12"	12"	12"	-	-	-
B2	B	R	12"	12"	12"	-	-	-
B3	B	R	12"	12"	12"	-	-	-
B4	B	R	12"	12"	12"	-	-	-
C1	C	R	12"	12"	12"	12"	-	-
C2	C	R	12"	12"	12"	12"	-	-

* SEE SHEET NO. 3 (SIGNAL NO. 2)

NOTE: ALL SIGNAL FACES ARE OPTICALLY PROGRAMMED SIGNAL FACES.



STATION	LOCATION	DESCRIPTION
LARP AVE.		
17+48	RT 28'	PULLBOX 5
18+34	RT 28'	PULLBOX 4
18+99	RT 32'	SIGNAL NO. 3
19+40	LT 31'	SIGNAL NO. 4
PKWY DR.		
18+42	RT 28'	PULLBOX 7
20+04	RT 29'	PULLBOX 6
20+21	RT 38.5'	SIGNAL NO. 2
20+67	RT 30'	SIGNAL NO. 1
20+74	LT 29'	PULLBOX 2
20+90	RT 48'	PULLBOX 1
20+94	RT 48'	CONTROLLER CABINET
20+96	RT 38'	SOURCE OF POWER
22+34	LT 25'	PULLBOX 3

LARPENTEUR AVE. & PARKWAY DR.

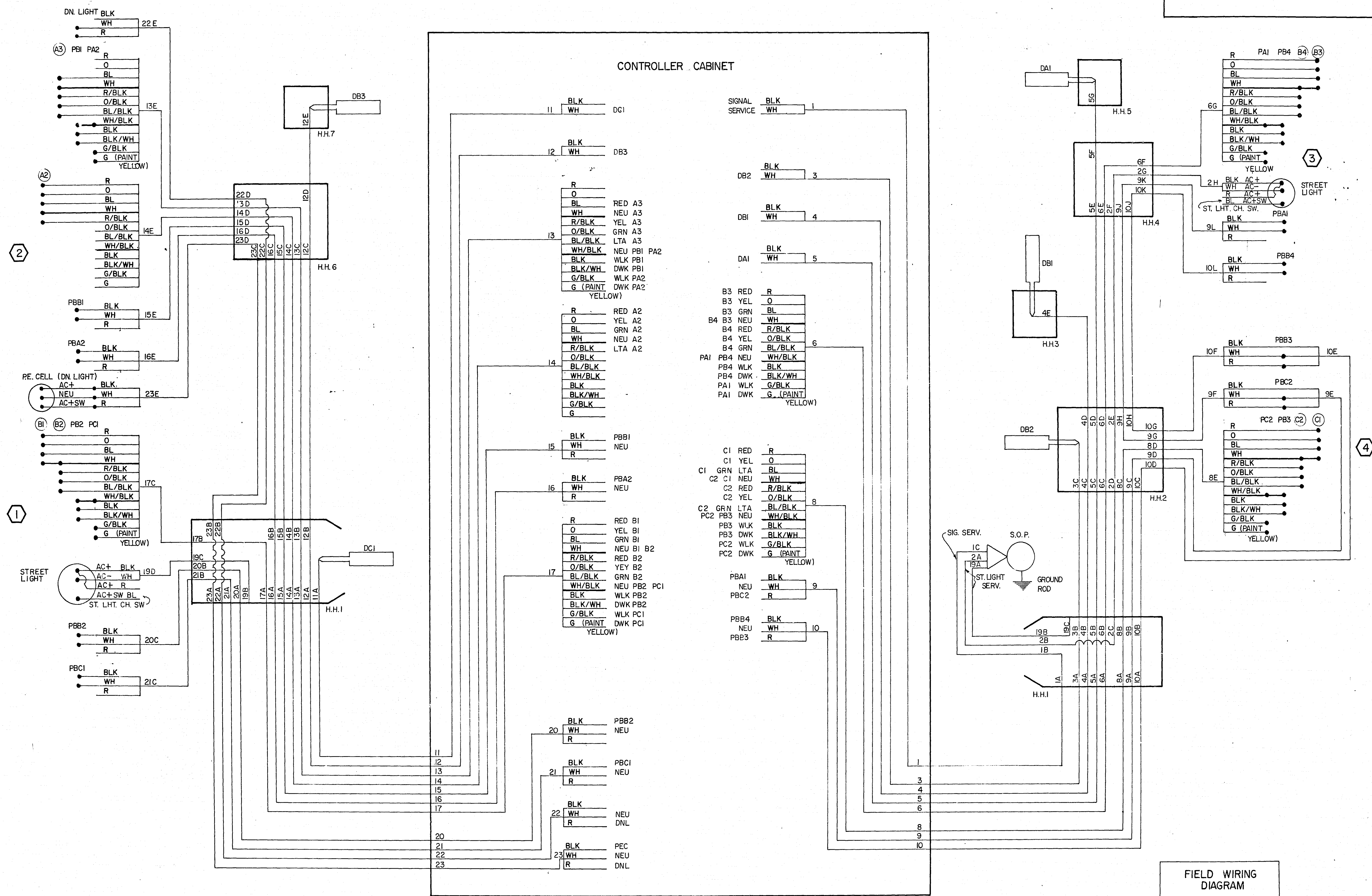
FOR INFORMATION ONLY

CO. PROJ. NO. TRF. 527-T31

SHEET NO. 9 OF 13 SHEETS

MICROFILMED
RAMSEY CO. EN.

23-123



FOR INFORMATION ONLY

LARPENTEUR AVE. & PARKWAY DR.

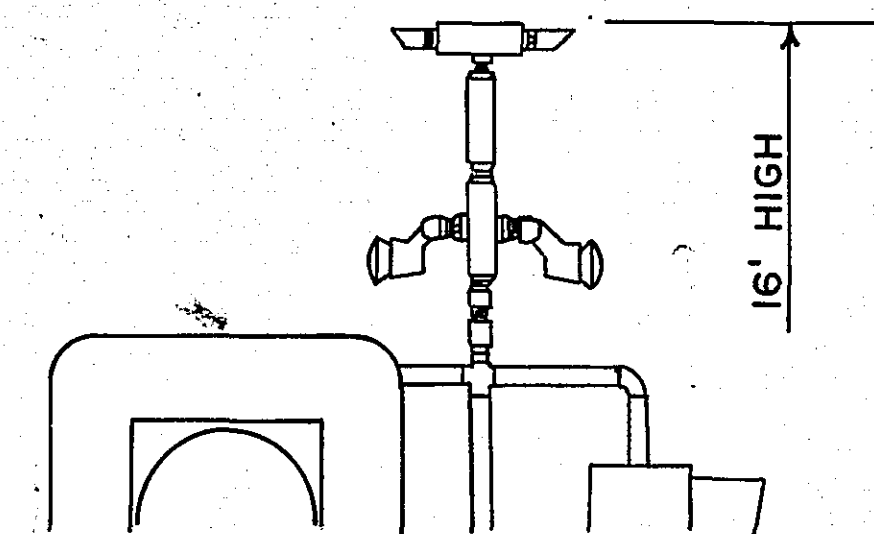
CO. PROJ. NO. TRF. 527-T31

SHEET NO. 10 OF 13 SHEETS

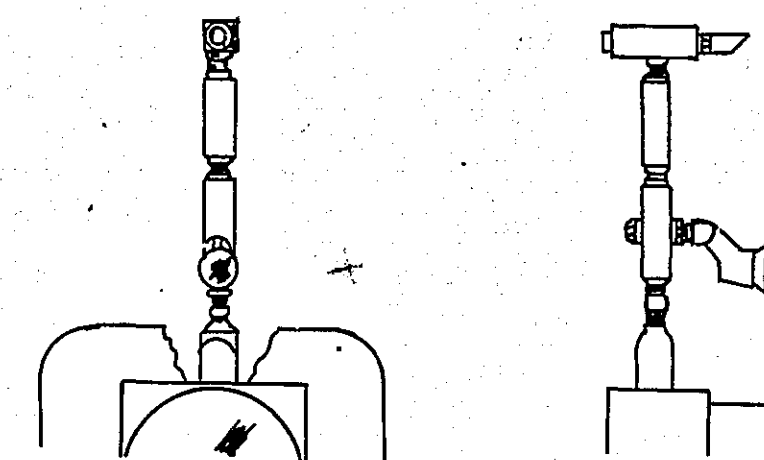
23-123

LEGEND OF SYMBOLS

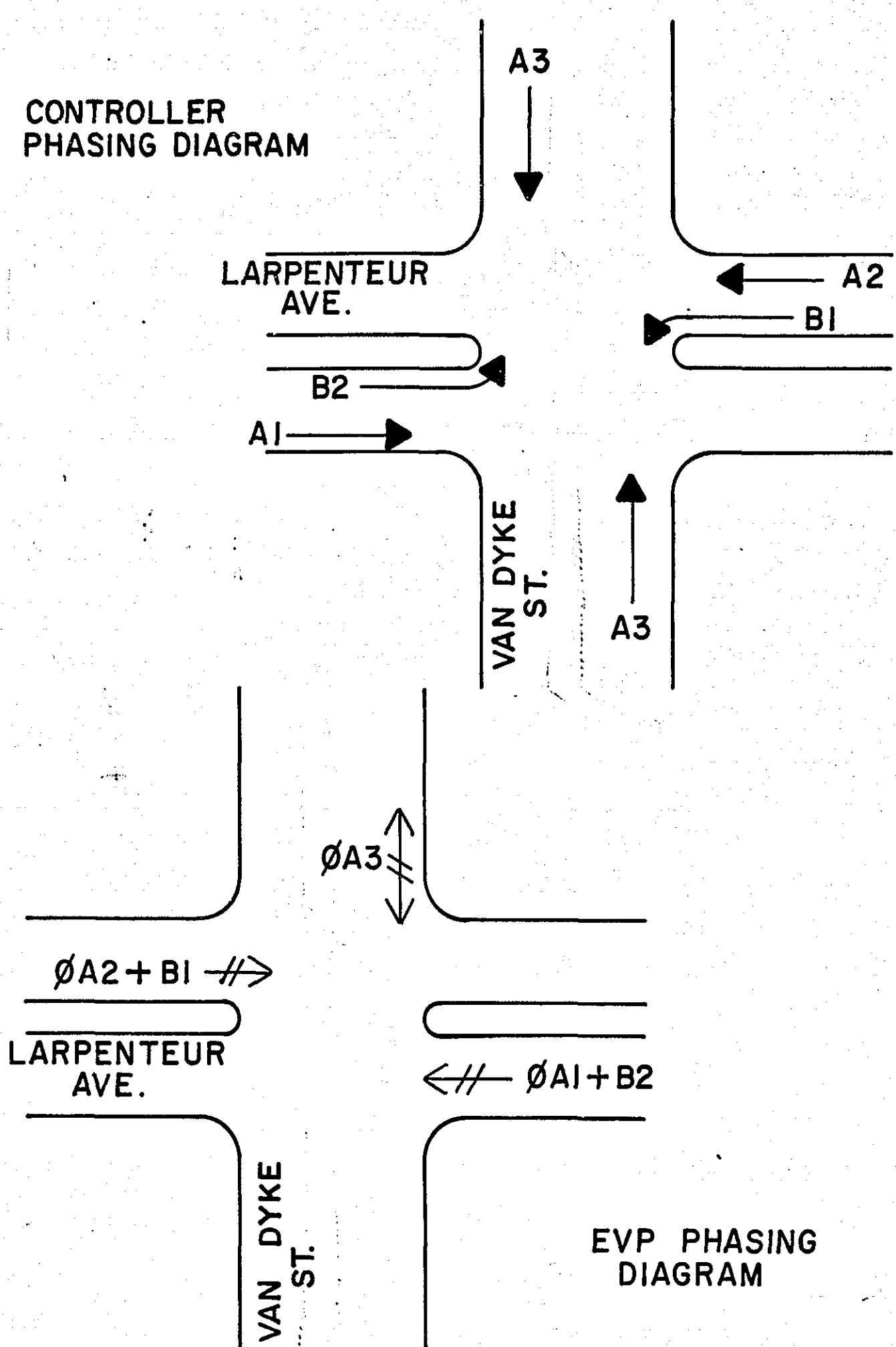
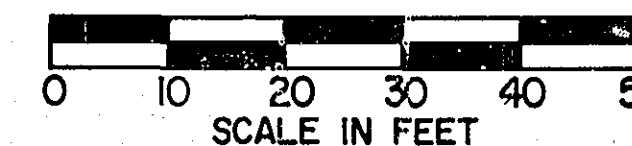
SIGNAL BASE No.	5
SIGNAL FACE No.	4-2
CONTROLLER AND CABINET	
CONTROLLER AND CABINET-INPLACE	
HANDHOLE	
HANDHOLE-INPLACE	
RIGID STEEL CONDUIT (R.S.C.)	
RIGID STEEL CONDUIT (R.S.C.)-INPLACE	
SIGNAL FACE	
SIGNAL FACE WITH BACKGROUND SHIELD	
SIGNAL FACE-INPLACE	
PEDESTRIAN INDICATIONS	
PEDESTRIAN INDICATIONS-INPLACE	
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	



TWO WAY EVP DETECTOR & LIGHTS
MOUNTED ON EXTEND SIGNAL BRACKETING
POLE NO. 2



ONE WAY EVP DETECTOR & LIGHT MOUNTED
TOP SIGNAL HEADS A1-2 & A2-2



FACE	PHASE	FLASH	INDICATION SIZE					
			R	Y	G	←	↑	→
A1-1	A1	R	12"	12"	12"	—	12"	—
A1-2	A1	R	12"	12"	12"	—	12"	—
A2-1	A2	R	12"	12"	12"	—	12"	—
A2-2	A2	R	12"	12"	12"	—	12"	—
A3-1	A3	R	12"	12"	12"	—	—	—
A3-2	A3	R	12"	12"	12"	—	—	—
A3-3	A3	R	12"	12"	12 ^{sk}	—	—	—
A3-4	A3	R	12"	12"	12"	—	—	—
* B1-1	B1	R	12"	12"	—	12"	—	—
* B2-1	B2	R	12"	12"	—	12"	—	—

* SPECIAL SIGNAL FACES

**CONTROLLER CABINET
WIRING REVISIONS**

INPLACE CABLE

RED	A3-1
YEL	A3-1
GRN	A3-1
NEU	A3-1, EVP LHT.
EVP LHT.	(2)
NEU	PA3-1, PA2-2
WLK	PA3-1
DWK	PA3-1
WLK	PA2-2
DWK	PA2-2

INPLACE CABLE

RED	A2-1
YEL	A2-1
THA	A2-1
NEU	A2-1, A2-2
GRN	A2-1
RED	A2-2
YEL	A2-2
NEU	EVP LHT.
THA	A2-2
GRN	A2-2
EVP LHT.	(3)

INPLACE CABLE

RED	A1-1
YEL	A1-1
THA	A1-1
NEU	A1-1, A1-2
GRN	A1-1
RED	A1-2
YEL	A1-2
NEU	EVP LHT.
THA	A1-2
GRN	A1-2
EVP LHT.	(1)

NEW CABLE

27	EVP CABLE	(1)
3/C #20	Ø A1 + B2	

NEW CABLE

28	EVP CABLE	(3)
3/C #20	Ø A2 + B1	

NEW CABLE

29	EVP CABLE	(2)
3/C #20	Ø A3	

SEE SHEET 13 FOR INPLACE WIRING

FIELD WIRING REVISIONS

6E

A3-1	EVP LHT. PA3-1	(2)
------	----------------	-----

10C

A2-1	EVP LHT.	(3)
------	----------	-----

18J

A1-1	EVP LHT.	(1)
------	----------	-----

27J

EVP CABLE	(1)
-----------	-----

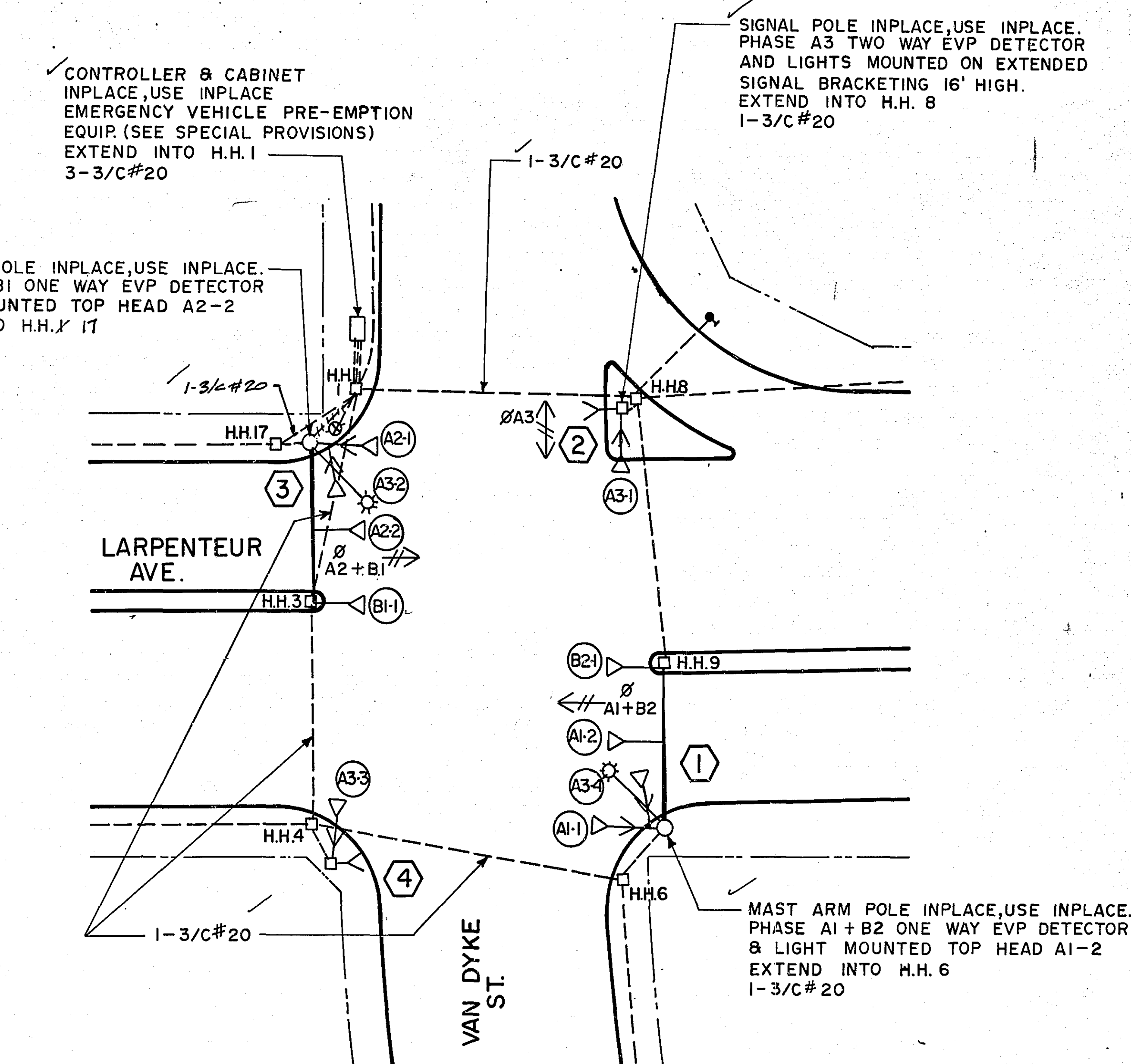
28C

EVP CABLE	(3)
-----------	-----

29E

EVP CABLE	(2)
-----------	-----

LABEL CABLES IN HANDHOLES AS
DIRECTED BY ENGINEER



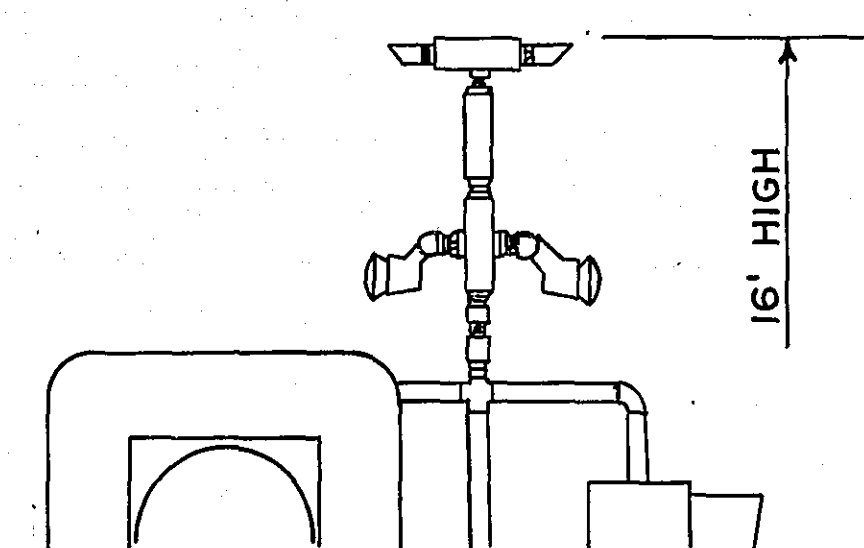
ASBUILT PLAN
CONFORMING TO
CONST. RECORDS

DONE BY: *R. Weber*
DATE: 10-8-81

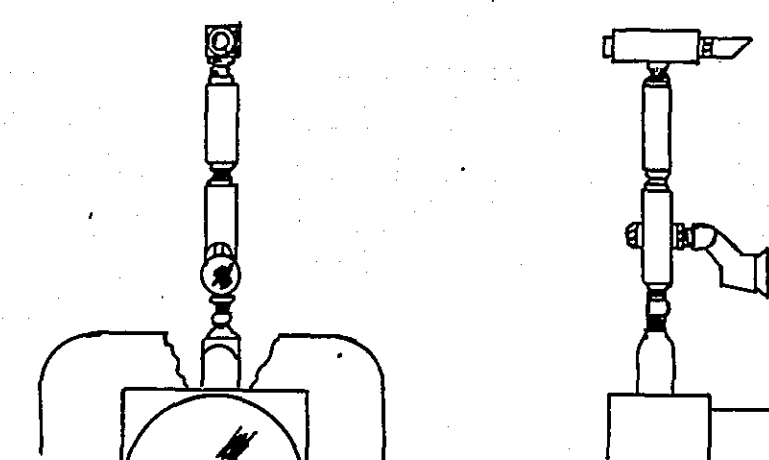
**INTERSECTION LAYOUT
LARPENTEUR AVE. & VAN DYKE ST.
SYSTEM "D"**

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.
Robert K. Weber
Date: 11-13-80 Reg. No. 12703
BAMSEY CO. E.

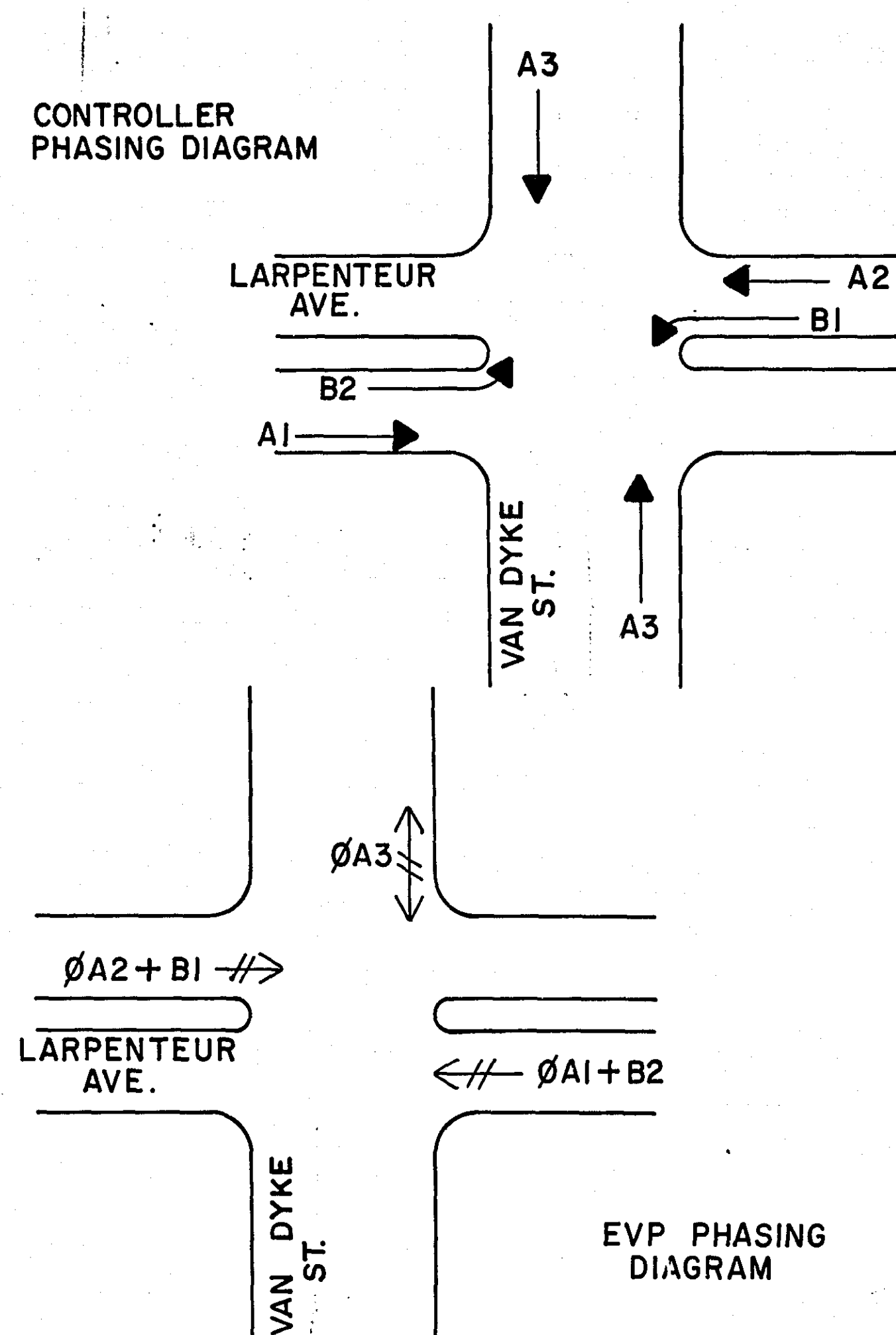
LEGEND OF SYMBOLS	
SIGNAL BASE No.	(5)
SIGNAL FACE No.	(4-2)
SIGNAL CONTROLLER AND CABINET	
CONTROLLER AND CABINET-INPLACE	
HANDHOLE	
HANDHOLE-INPLACE	
RIGID STEEL CONDUIT (R.S.C.)	
RIGID STEEL CONDUIT (R.S.C.)-INPLACE	
SIGNAL FACE	
SIGNAL FACE WITH BACKGROUND SHIELD	
SIGNAL FACE - INPLACE	
PEDESTRIAN 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	



TWO WAY EVP DETECTOR & LIGHTS
MOUNTED ON EXTEND SIGNAL BRACKETING
POLE NO. 2



ONE WAY EVP DETECTOR & LIGHT MOUNTED
TOP SIGNAL HEADS AI-2 & A2-2

[illegible]

* SPECIAL SIGNAL FACES

INPLACE CABLE	RED	A3-1
	YEL	A3-1
	GRN	A3-1
	NEU	A3-1, EVP LHT.
	EVP	LHT. 2
	NEU	PA3-1, PA2-2
	WLK	PA3-1
	DWK	PA3-1
	WLK	PA2-2
	DWK	PA2-2

INPLACE CABLE		
	RED	A2-1
	YEL	A2-1
	THA	A2-1
	NEU	A2-1, A2-2
	GRN	A2-1
	RED	A2-2
	YEL	A2-2
	NEU	EVP LHT.
	THA	A2-2
	GRN	A2-2
	EVP	LHT. (3)

<u>INPLACE CABLE</u>		RED	AI-1
		YEL	AI-1
		THA	AI-1
		NEU	AI-1, AI-2
		GRN	AI-1
18		RED	AI-2
		YEL	AI-2
		NEU	EVP LHT.
		THA	AI-2
		GRN	AI-2
		EVP	LHT. (1)

NEW CABLE
27
3/C#20
EVP
CABLE
ØA1 + B2

NEW CABLE
EVP
CABLE
Ø A2 + B1

NEW CABLE
EVP
CABLE
ØA3

29
3/C # 20

2

SEE SHEET 13 FOR INPLACE WIRING

Diagram illustrating the recording of EVPA2 and LHTPA3-1 on a 10-track tape. The tape is divided into two sections by a 6E marker. The top section contains the EVPA2 recording, and the bottom section contains the LHTPA3-1 recording.

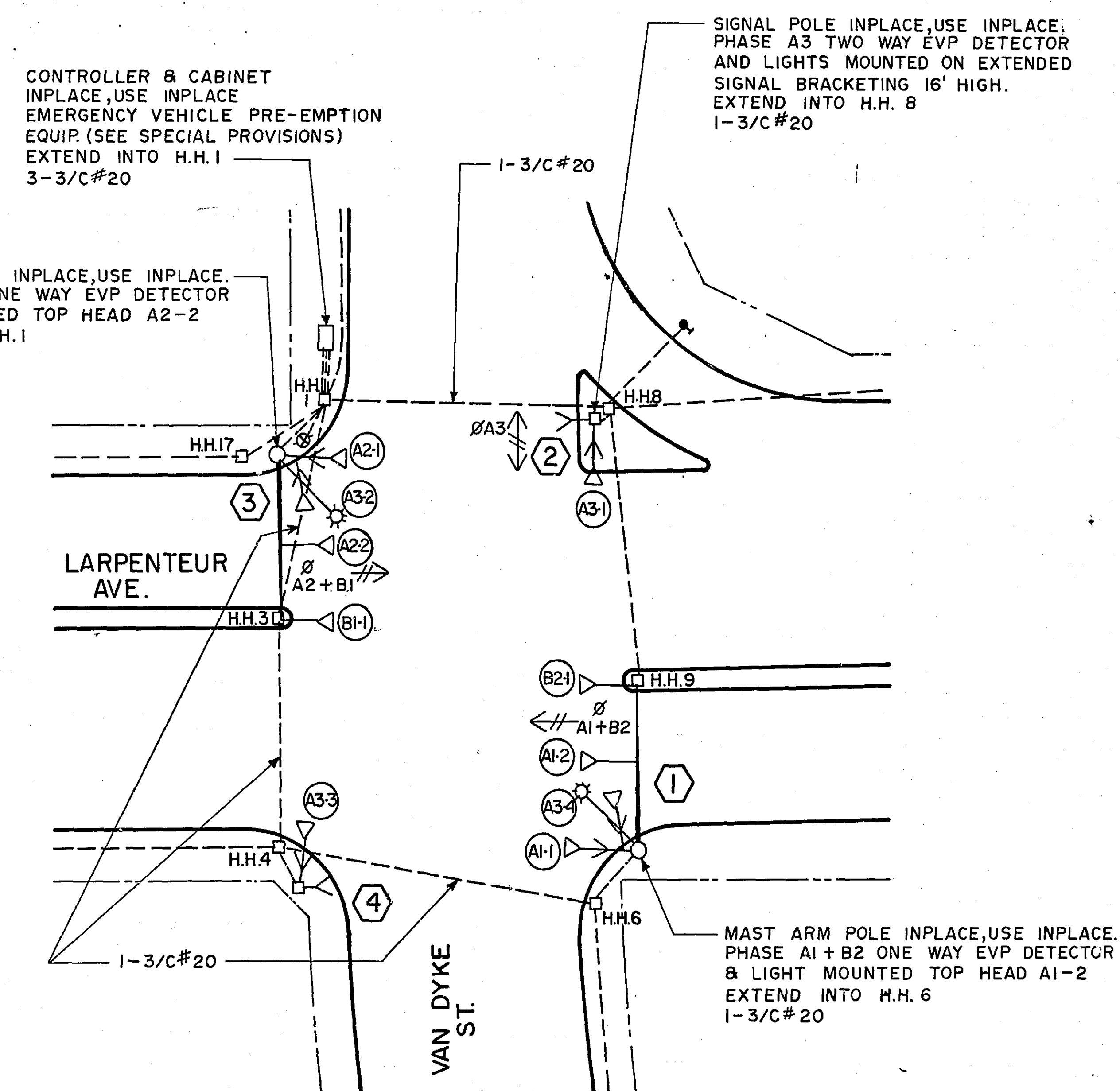
The diagram shows a vertical representation of the 18J chromosome. At the top, two circles are labeled 'A1-1' and 'A1-2'. To the right of these circles, the text 'EYP LHT' is written. Below these labels, a series of horizontal lines represent the chromosome. A vertical line on the left is labeled '18J'. Black dots are placed at various positions along the horizontal lines, indicating the locations of specific genes or markers.

27J	EVP CABLE

28C EVP CABLE

29E EVP CABLE

LABEL CABLES IN HANDHOLES AS
DIRECTED BY ENGINEER

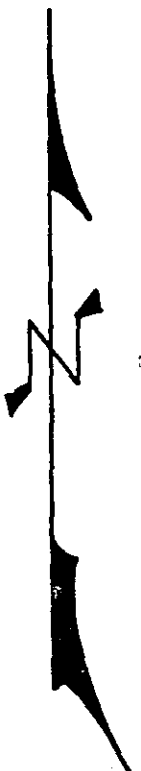
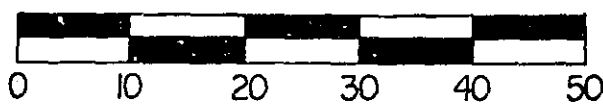


INTERSECTION LAYOUT
LARPEN TEUR AVE. & VAN DYKE ST.
SYSTEM "D"

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.

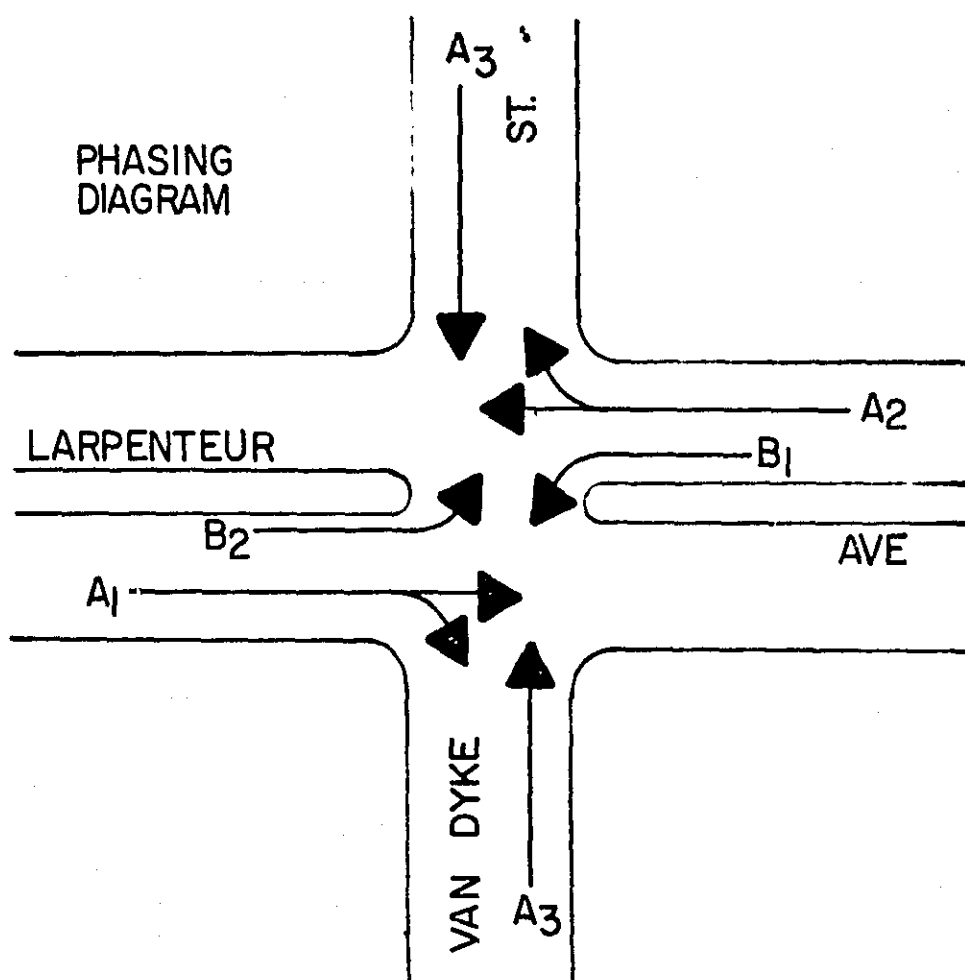
Paul R. Smith

Date 11-13-80 Reg. No. 12703 MINN.



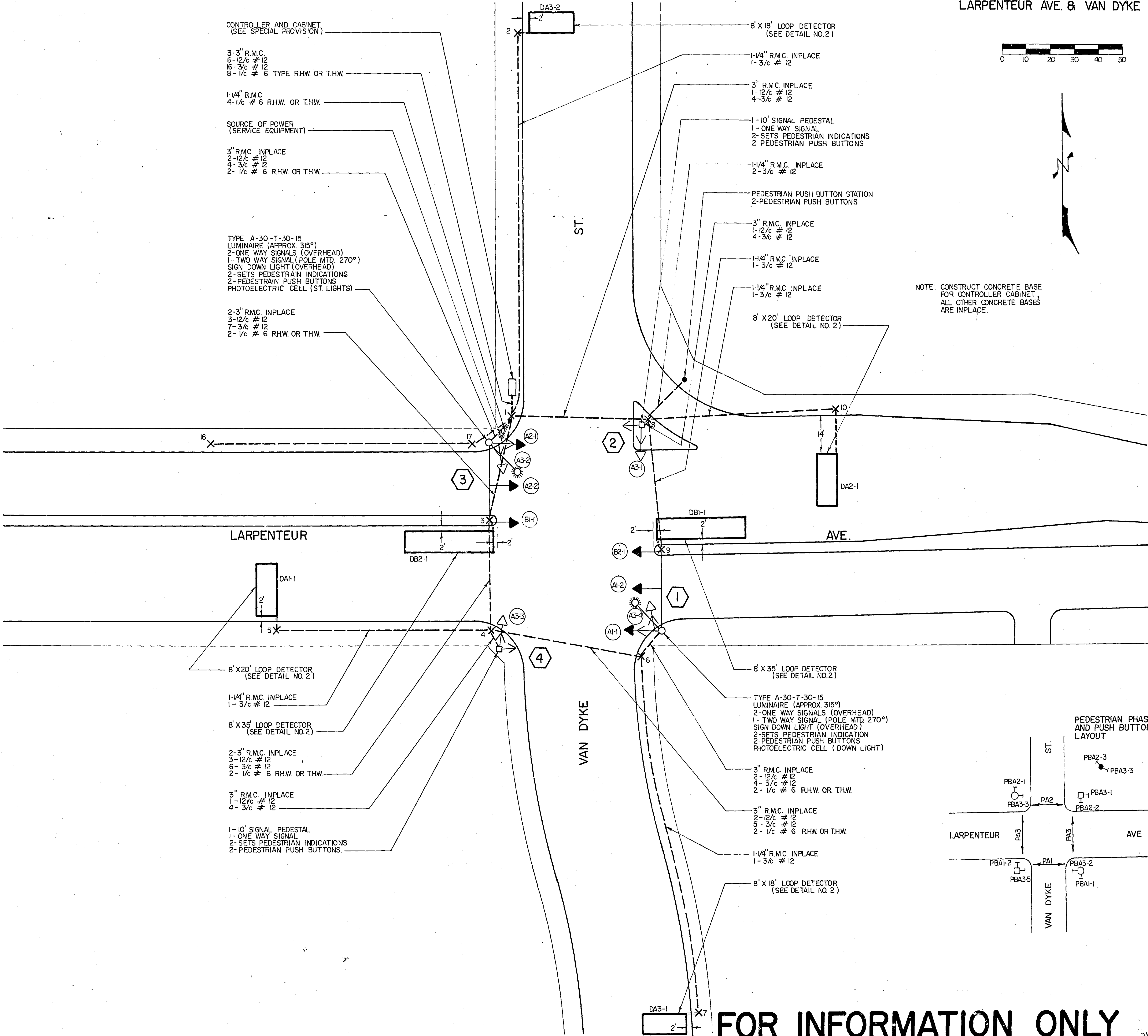
NOTE: CONSTRUCT CONCRETE BASE FOR CONTROLLER CABINET, ALL OTHER CONCRETE BASES ARE INPLACE.

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



FACE	PHASE	FLASH	INDICATION SIZE					
			R	Y	G	←	↑	→
A1-1	A1	R	12"	12"	12"	-	12"	-
A1-2	A1	R	12"	12"	12"	-	12"	-
A2-1	A2	R	12"	12"	12"	-	12"	-
A2-2	A2	R	12"	12"	12"	-	12"	-
A3-1	A3	R	12"	12"	12"	-	-	-
A3-2	A3	R	12"	12"	12"	-	-	-
A3-3	A3	R	12"	12"	12"	-	-	-
A3-4	A3	R	12"	12"	12"	-	-	-
* B1-1	B1	R	12"	12"	-	12"	-	-
* B2-1	B2	R	12"	12"	-	12"	-	-

* SEE SPECIFICATIONS (SPECIAL SIGNAL PHASES)



FOR INFORMATION ONLY

