

PLANS SYMBOLS

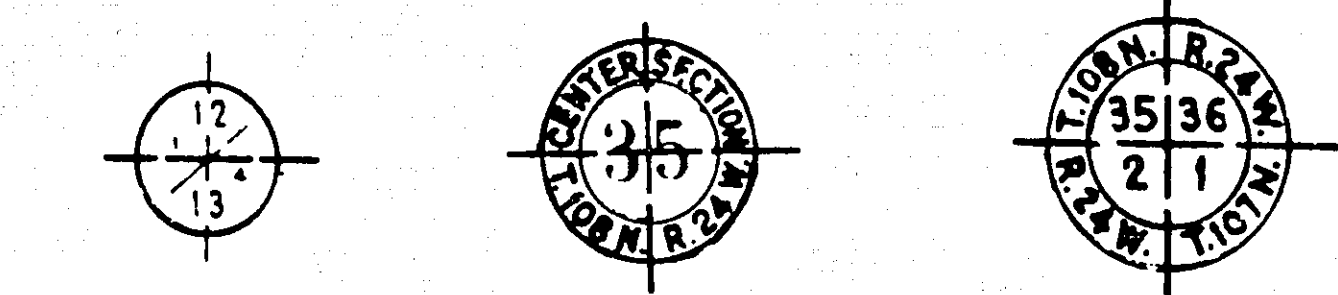
STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT-OF-WAY LINE
PRESENT RIGHT-OF-WAY LINE
CONTROL OF ACCESS LINE
PROPERTY LINE (Easement Line)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
RETAINING WALL
RAILROAD
RAILROAD RIGHT-OF-WAY LINE
RIVER OR CREEK
DRY RUN
DRAINAGE DITCH
DRAIN TILE
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOODEN WIRE FENCE
CHAIN LINK FENCE
RAILROAD SNOW FENCE
STONE WALL OR FENCE
HEDGE
RAILROAD CROSSING SIGN
RAILROAD CROSSING BELL
ELECTRIC WARNING SIGN
CROSSING GATE
MEANDER CORNER

SPRINGS
MARSH
TIMBER
ORCHARD
BRUSH
NURSERY
CATCH BASIN
FIRE HYDRANT
CATTLE GUARD
OVERPASS (Highway Over)
UNDERPASS (Highway Under)
BRIDGE
BUILDING (One Story Frame)
F. FRAME C. CONCRETE
S. STONE T. TILE
B. BRICK ST. STUCCO
IRON PIPE OR ROD
MONUMENT (STONE, CONCRETE, OR METAL)
WOODEN HUB
GRAVEL PIT
SAND PIT
BORROW PIT
ROCK QUARRY

UTILITIES SYMBOLS

POWER POLE LINE
TELEPHONE OR TELEGRAPH
POLE LINE
JOINT TELEPHONE AND POWER
ON POWER POLES
ON TELEPHONE POLES
ANCHOR
STEEL TOWER
STREET LIGHT
PEDESTAL TELEPHONE CABLE
TERMINAL
GAS MAIN
WATER MAIN

CONDUIT
TELEPHONE CABLE IN CONDUIT
ELECTRIC CABLE IN CONDUIT
TELEPHONE MANHOLE
ELECTRIC MANHOLE
BURIED TELEPHONE CABLE
BURIED ELECTRIC CABLE
AERIAL TELEPHONE CABLE
SEWER, (SANITARY OR STORM)
SEWER MANHOLE



NOTE SECTION NUMBERS READ FROM THE SOUTH

PIT DATA

PIT NO. Located in Dead Haul
PIT NO. Located in Dead Haul

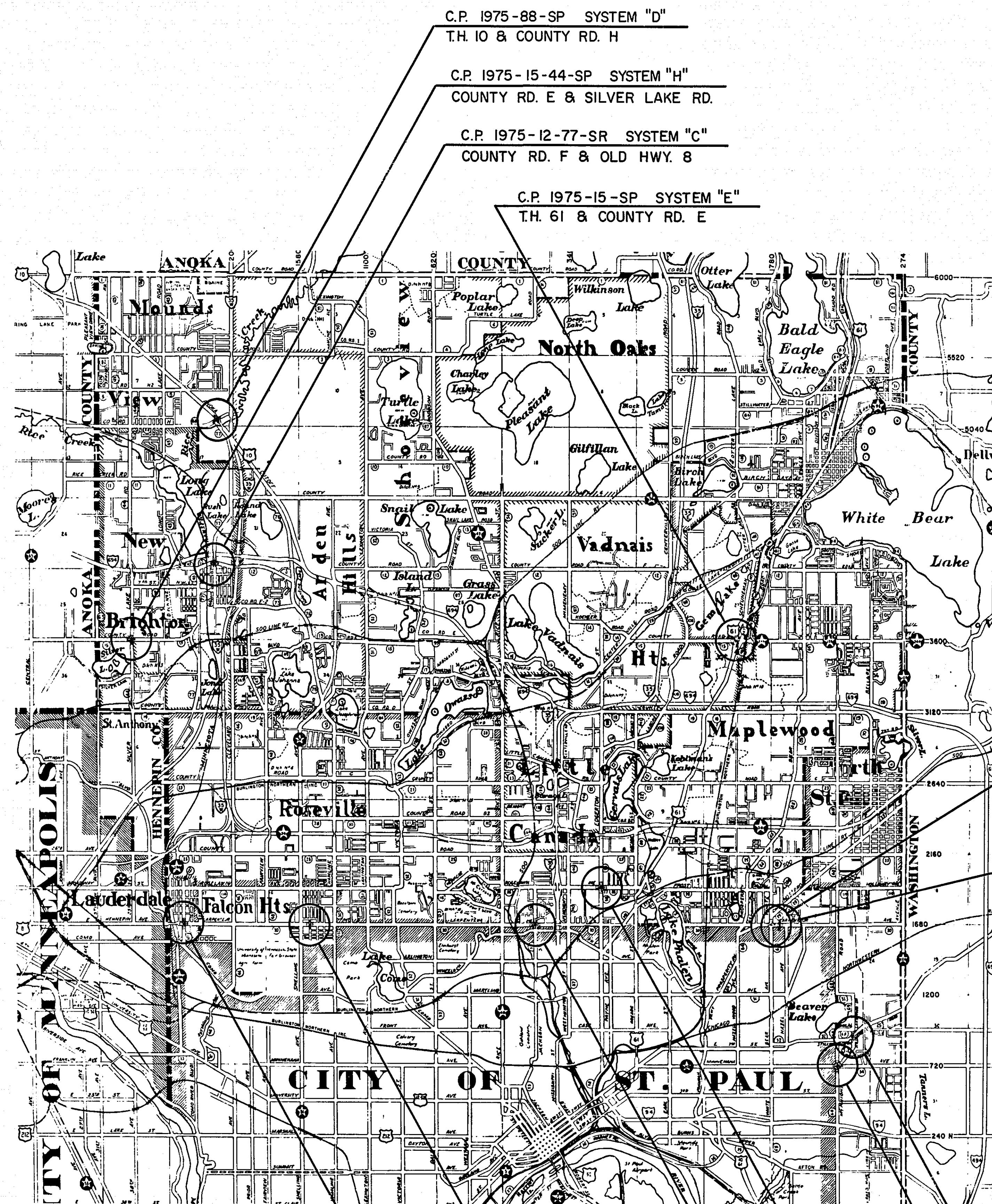
THE "MINNESOTA HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION" DATED JANUARY 1, 1972 AS AMENDED BY "SUPPLEMENTAL SPECIFICATIONS" DATED JANUARY 1, 1974 SHALL GOVERN.

OFFICE OF COUNTY ENGINEER RAMSEY COUNTY

PLAN OF TRAFFIC CONTROL SYSTEM REVISIONS AND PAINTING FOR THE INTERSECTIONS OF

LARPEN TEUR AVE. & EUSTIS ST. SYSTEM "A"
ROSELAWN AVE. & EDGERTON ST. SYSTEM "B"
COUNTY RD. F & OLD HWY. 8 SYSTEM "C"
T.H. 10 & COUNTY RD. H SYSTEM "D"
T.H. 61 & COUNTY RD. E SYSTEM "E"
T.H. 212 & LAKEWOOD DR. SYSTEM "F"
T.H. 212 & MCKNIGHT RD. & MINNEHAHA AVE. SYSTEM "G"
COUNTY RD. E & SILVER LAKE RD. SYSTEM "H"
LARPEN TEUR AVE. & ARONA AVE. SYSTEM "J"
LARPEN TEUR AVE. & JACKSON ST. SYSTEM "K"
LARPEN TEUR AVE. & WHITE BEAR AVE. SYSTEM "L"
LARPEN TEUR AVE. & VAN DYKE ST. SYSTEM "M"

INDEX
SHEET NO.
1 TITLE
2 ESTIMATED QUANTITIES & DETAILS
3-20 INTERSECTION LAYOUTS
AND FIELD WIRING DIAGRAMS



C.P. 1975-30-65-SP SYSTEM "L"
LARPEN TEUR AVE. & WHITE BEAR AVE.

C.P. 1975-30-SP SYSTEM "M"
LARPEN TEUR AVE. & VAN DYKE ST.

C.P. 1975-30-127-SR SYSTEM "A"
LARPEN TEUR AVE. & EUSTIS ST.

C.P. 1975-30-SP SYSTEM "J"
LARPEN TEUR AVE. & ARONA AVE.

C.P. 1975-30-138-SP SYSTEM "K"
LARPEN TEUR AVE. & JACKSON ST.

C.P. 1975-26-58-SR SYSTEM "B"
ROSELAWN AVE. & EDGERTON ST.

C.P. 1975-34-68-SP SYSTEM "G"
T.H. 212 & MCKNIGHT RD. & MINNEHAHA AVE.

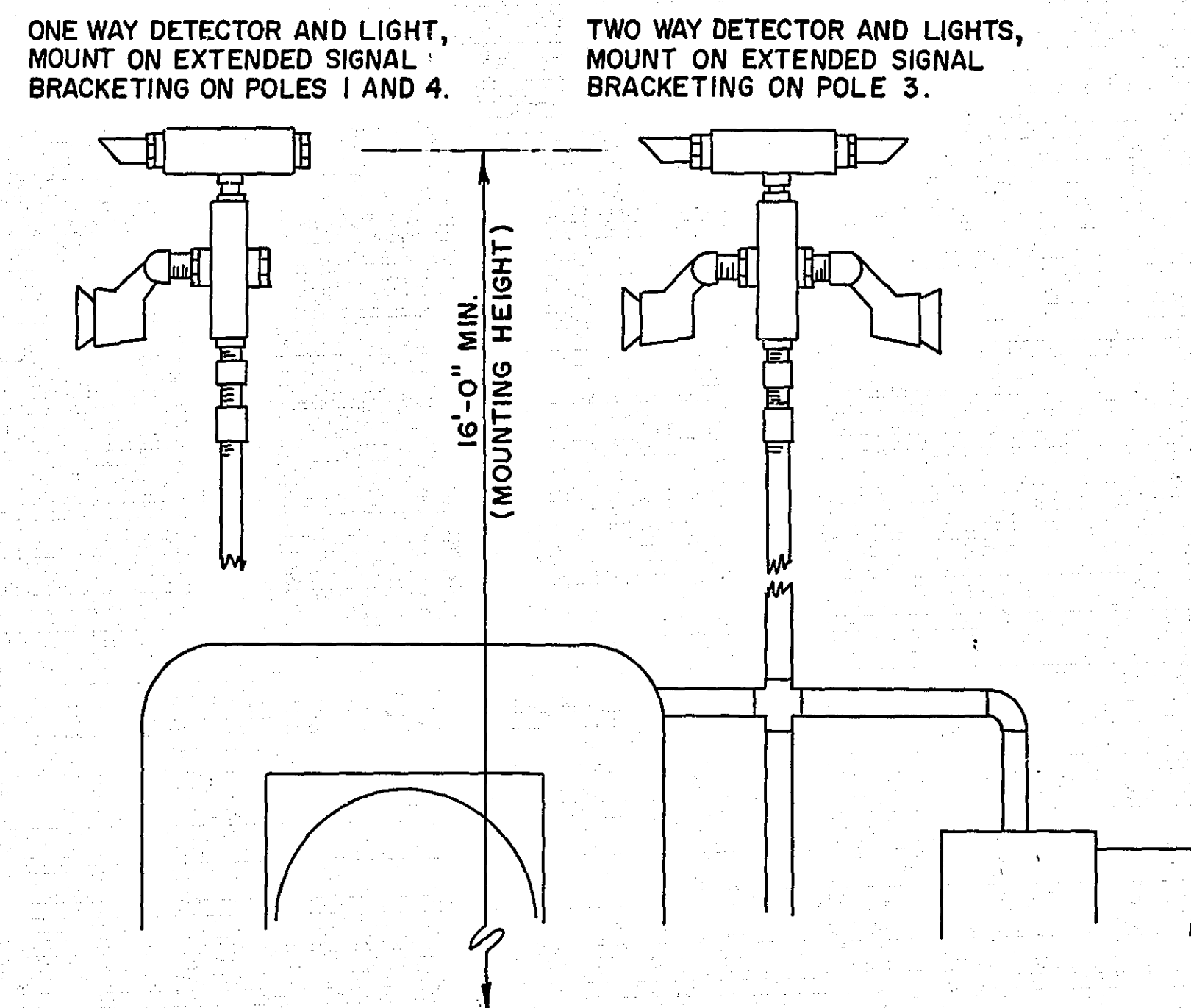
C.P. 1975-69-SP SYSTEM "F"
T.H. 212 & LAKEWOOD DR.

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.
Dean K. Arnold
Date 9-23-75 Reg. No. 5031

RECOMMENDED FOR APPROVAL *PLK* DATE 9-23-75
RECOMMENDED FOR APPROVAL *MDK* DATE 9-23-75
RECOMMENDED FOR APPROVAL *KEW* DATE 9-23-75
RECOMMENDED FOR APPROVAL *WHL* DATE 9-23-75
RECOMMENDED FOR APPROVAL *JAB* DATE 9-23-75
APPROVED *PLK* DATE 9-23-75
APPROVED *MDK* DATE 9-23-75
APPROVED *KEW* DATE 9-23-75
APPROVED *WHL* DATE 9-23-75
APPROVED *JAB* DATE 9-23-75

RECOMMENDED FOR APPROVAL *Paul K. Arnold* DATE 9-23-75
RECOMMENDED FOR APPROVAL *Dean K. Arnold* DATE 9-23-75
APPROVED *John T. Finley* DATE 10-31-75
CHAIRMAN OF THE RAMSEY COUNTY BOARD

MINNESOTA STATE HIGHWAY DEPARTMENT
RECOMMENDED FOR APPROVAL _____ DATE _____
RECOMMENDED FOR APPROVAL _____ DATE _____
APPROVAL _____ DATE _____
STATE AID ENGINEER



EMERGENCY VEHICLE PRE-EMPTION SYSTEM
MOUNTING DETAILS
SYSTEM "B"
ROSELAWN AVE. & EDGERTON ST.

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

* STANDARD PLATES APPLICABLE TO THIS PROJECT

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

ESTIMATED QUANTITIES				
	PROJECT NO.	ITEM NO.	ITEM	UNIT
(1)	1975-30-127-SR	0565.610	REVISE SIGNAL SYSTEM "A"	SYSTEM
(2)	1975-26-58-SR	0565.610	REVISE SIGNAL SYSTEM "B"	SYSTEM
(3)	1975-12-77-SR	0565.610	REVISE SIGNAL SYSTEM "C"	SYSTEM
(4)	1975-88-SP	0565.613	PAINT SIGNAL SYSTEM "D"	SYSTEM
(5)	1975-15-SP	0565.613	PAINT SIGNAL SYSTEM "E"	SYSTEM
(6)	1975-69-SP	0565.613	PAINT SIGNAL SYSTEM "F"	SYSTEM
(7)	1975-34-68-SP	0565.613	PAINT SIGNAL SYSTEM "G"	SYSTEM
(8)	1975-15-44-SP	0565.613	PAINT SIGNAL SYSTEM "H"	SYSTEM
(9)	1975-30-SP	0565.613	PAINT SIGNAL SYSTEM "J"	SYSTEM
(10)	1975-30-138-SP	0565.613	PAINT SIGNAL SYSTEM "K"	SYSTEM
(11)	1975-30-65-SP	0565.613	PAINT SIGNAL SYSTEM "L"	SYSTEM
(12)	1975-30-SP	0565.613	PAINT SIGNAL SYSTEM "M"	SYSTEM

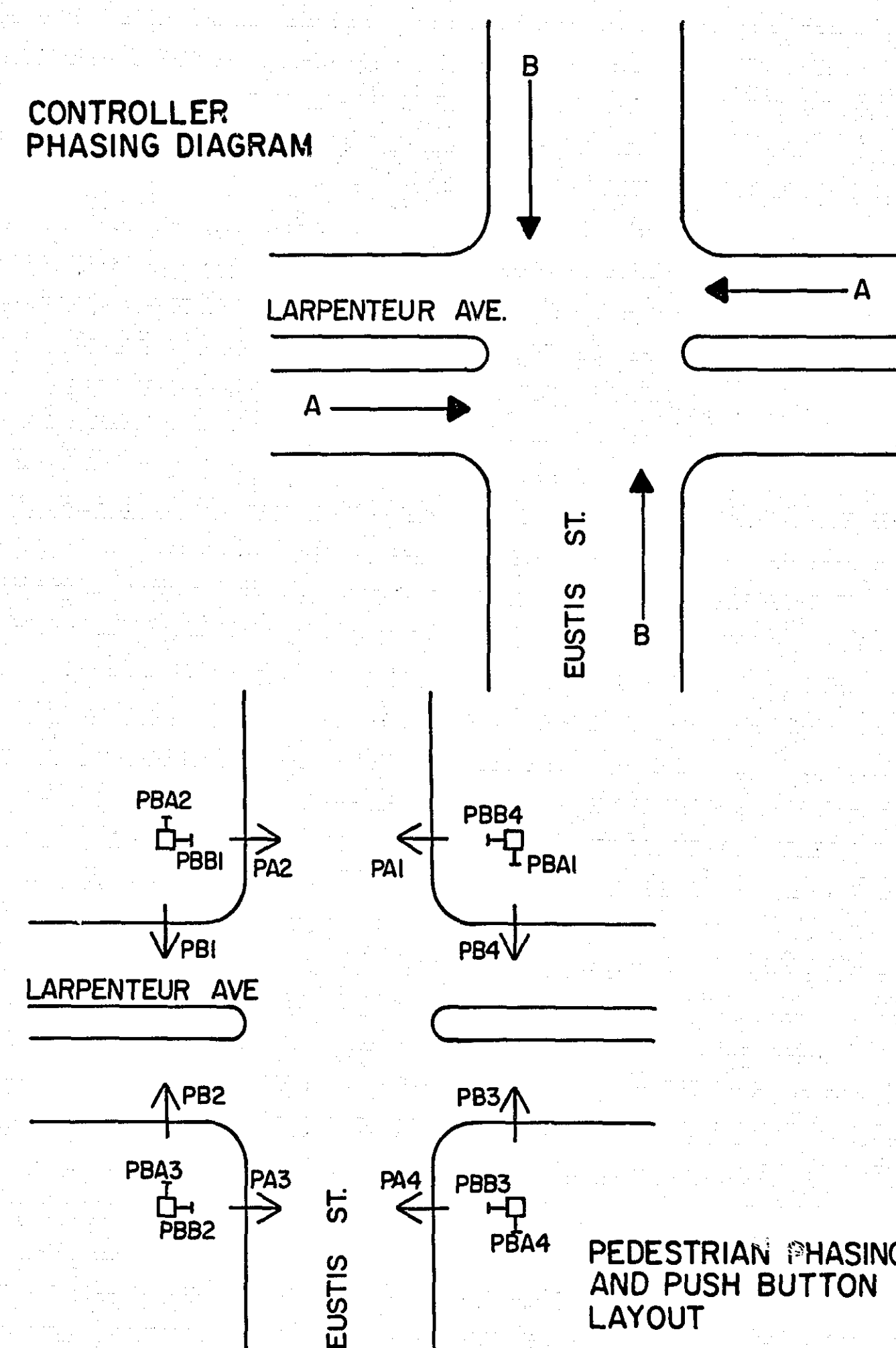
CO. PROJ. NO.	LOCATION	SYSTEM	SHEET NO.
(1) 1975-30-127-SR	LARPEUTEUR AVE. & EUSTIS ST.	SYSTEM "A"	3,4, and 5
(2) 1975-26-58-SR	ROSELAWN AVE. & EDGERTON ST.	SYSTEM "B"	6,7, and 8
(3) 1975-12-77-SR	COUNTY RD. F & OLD HWY 8	SYSTEM "C"	9,10, and 11
(4) 1975-88-SP	T.H. 10 & COUNTY RD. H	SYSTEM "D"	12
(5) 1975-15-SP	T.H. 61 & COUNTY RD. E	SYSTEM "E"	13
(6) 1975-69-SP	T.H. 212 & LAKEWOOD DR.	SYSTEM "F"	14
(7) 1975-34-68-SP	T.H. 212 & MCKNIGHT RD. & MINNEHAHA AVE	SYSTEM "G"	15
(8) 1975-15-44-SP	COUNTY RD. E & SILVER LAKE RD.	SYSTEM "H"	16
(9) 1975-30-SP	LARPEUTEUR AVE. & ARONA AVE.	SYSTEM "J"	17
(10) 1975-30-138-SP	LARPEUTEUR AVE. & JACKSON ST.	SYSTEM "K"	18
(11) 1975-30-65-SP	LARPEUTEUR AVE. & WHITE BEAR AVE.	SYSTEM "L"	19
(12) 1975-30-SP	LARPEUTEUR AVE. & VAN DYKE ST.	SYSTEM "M"	20

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.

Dean K. Goble
Date 9-23-75 Reg. No. 5031

MICROFILMED
RAMSEY CO. ENGR.

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

[illegible]

3" N.N.C. INPLACE
MAGNETIC DETECTOR INPLACE
(USE INPLACE)

1" R.S.C. INPLACE
1- 2/c #14

6' X 15' LOOP DETECTOR
(CALLING)

2-PRESSURE SENSITIVE DETECTORS INPLACE
(REMOVE & DISPOSE)

10' PEDESTAL INPLACE ONE WAY SIGNAL INPLACE 1- PEDESTRIAN PUSH BUTTON INPLACE USE INPLACE FOUNDATION	REMOVE 8 SALVAGE
---	------------------------

10' PEDESTAL
TWO WAY SIGNAL (TYPE 2C)
2-SETS SIGNAL INDICATIONS
2-PEDESTRIAN PUSH BUTTONS
EXTEND INTO H.H.2
2" R.S.C. INPLACE
1- 12/c #12
5- 3/c #12

3" R.S.C. INPLACE
1-12/c #12
3- 3/c #12
3 2/c #14 _____

1" R.S.C. INPLACE
2-2/c #14 _____

3" N.M.C. INPLACE
2-MAGNETIC DETECTORS INPLACE
(USE INPLACE) _____

6' x 18' LOOP DETECTOR
(CALLING)

2 - PRESSURE SENSITIVE DETECTORS INPLACE
(REMOVE & DISPOSE)

3 - STEEL GUARD POSTS INPLACE

10' PEDESTAL INPLACE REMOVE
FOUR WAY SIGNAL INPLACE & SALVAGE
1 - PEDESTRIAN PUSH BUTTON INPLACE
USE INPLACE FOUNDATION
10' PEDESTAL
ONE WAY SIGNAL (TYPE 1A)
EXTEND INTO H.H. 4
2' R.S.C. INPLACE
2 - 12/c # 12

3" R.S.C. INPLACE
1 - 12/c # 12
3 - 3/c # 12

PEDESTRIAN PUSH BUTTON STATION INPLACE
(REMOVE & SALVAGE)

10' PEDESTAL & FOUNDATION
ONE WAY SIGNAL (TYPE 1D)

2 - SETS PEDESTRIAN INDICATIONS
2 - PEDESTRIAN PUSH BUTTONS
EXTEND INTO H.H. 6
3' R.S.C.
1 - 12/c # 12
3 - 3/c # 12

— 3" R.S.C. INPLACE
2-12/c # 12
4- 3/c # 12
5- 2/c # 14

CONTROLLER & CABINET INPLACE
(REMOVE & SALVAGE)
REMOVE INPLACE FOUNDATION
CONTROLLER & CABINET
EXTEND INTO H.H.I
4" R.S.C
4- 12/c # 12
8- 3/c # 12
10- 2/c # 14

— PEDESTRIAN PUSH BUTTON STATION INPLACE
(REMOVE & SALVAGE)
10' PEDESTAL & FOUNDATION
ONE WAY SIGNAL (TYPE ID)
2- SETS PEDESTRIAN INDICATIONS
2- PEDESTRIAN PUSH BUTTONS
EXTEND INTO H.H. I
3' R.S.C.
2- 12/c # 12
5- 3/c # 12

— 1" RSC. INPLACE
2-1/c #6

SOURCE OF POWER
WOOD POLE INPLACE
SERVICE EQUIPMENT INPLACE (USE INPLACE)

— 3" RSC. INPLACE
2- 12/c # 12
3- 3/c # 12
5- 2/c # 14

—2-PRESSURE SENSITIVE DETECTORS INPLACE
(REMOVE & DISPOSE)

— 6' X 18' LOOP DETECTOR
(CALLING)

3" N.M.C. INPLACE
2 - MAGNETIC DETECTORS INPLACE
(USE INPLACE) _____

1" R.S.C. INPLACE
2- 2/c #14

3-STEEL GUARD POSTS INPLACE
10' PEDESTAL INPLACE
FOUR WAY SIGNAL INPLACE
1-PEDESTRIAN PUSH BUTTON INPLACE
USE INPLACE FOUNDATION
10' PEDESTAL
ONE WAY SIGNAL (TYPE 1A)
EXTEND INTO H.H. 7
2" R.S.C. INPLACE
1-12/C #12

3" R.S.C. IN PLACE
1 - 12/c # 12
3 - 3/c # 12
2 - 2/c # 14

10' PEDESTAL INPLACE
ONE WAY SIGNAL INPLACE
1- PEDESTRIAN PUSH BUTTON INPLACE
USE INPLACE FOUNDATION
10' PEDESTAL
TWO WAY SIGNAL (TYPE 2C)
2- SETS PEDESTRIAN INDICATIONS
2- PEDESTRIAN PUSH BUTTON
EXTEND INTO H.H. 9
2" R.S.C. INPLACE
1- 12/6 # 12
3- 3/6 # 12

— 6' X 15' LOOP DETECTOR
(CALLING)

— 2- PRESSURE SENSITIVE DETECTORS INPLACE
(REMOVE & DISPOSE)

— 1" R.S.C. IN PLACE
- 2/c # 14

— 3" N.M.C. INPLACE
MAGNETIC DETECTOR INPLACE
(USE INPLACE)

ADJUST INPLACE HANDHOLE 10 TO
BLVD. GRADE.

0 10 20 30 40 50
SCALE IN FEET

NOTES:

1. REMOVE AND SALVAGE EXISTING SIGNAL SYSTEM AS DIRECTED BY THE ENGINEER
(SEE SHEET NO.5 FOR EXISTING SIGNAL SYSTEM)
2. USE INPLACE 1" R.S.C. TO PRESSURE DETECTORS FOR LOOP LEAD-IN WIRES WHERE POSSIBLE.
3. LOOP DETECTOR LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE TRAFFIC ENGINEER PRIOR TO INSTALLATION.
4. ALL ITEMS NOTED INPLACE SHALL BE USED INPLACE UNLESS OTHERWISE NOTED.
5. PROVIDE NEW SIGNAL BRACKETING AT POLE 1,2, 3,4,5, AND 6

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.

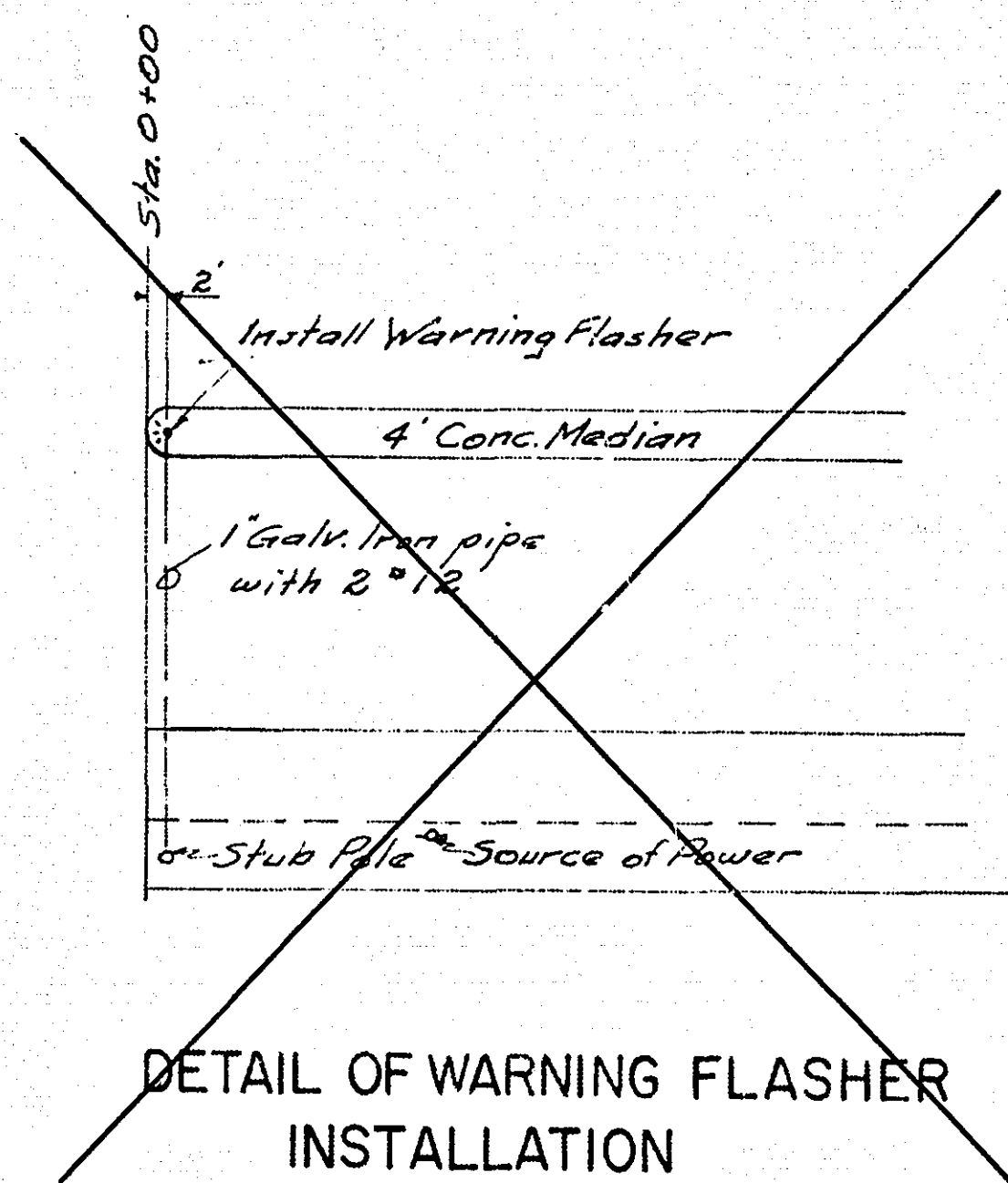
State of Minnesota.
Deane K. Ambler
Date 9-23-75 Reg. No. 5031

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

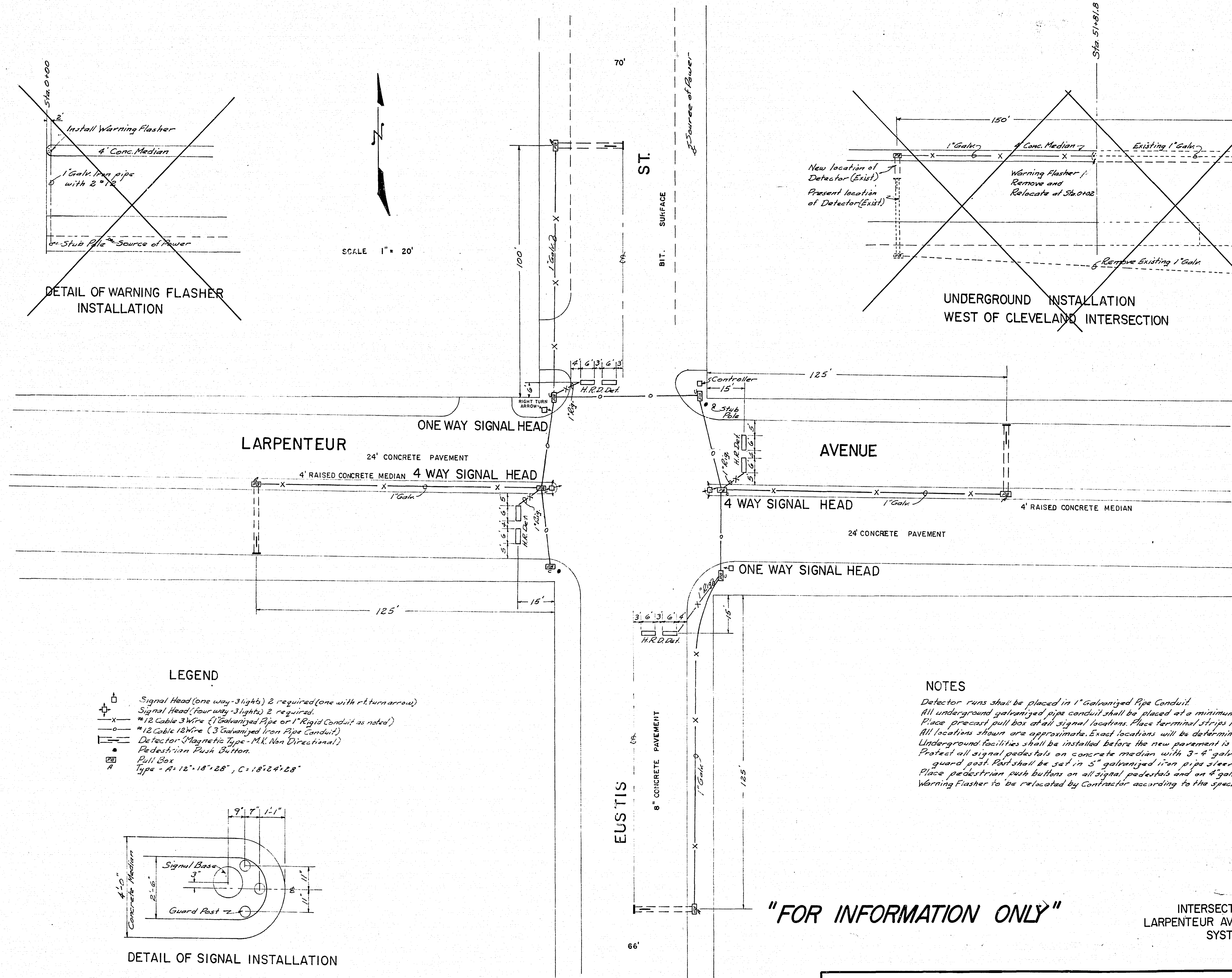
MICROFILMED
RAMSEY CO. ENGR.

CO. PROJ. NO. 1975-30-127-SR

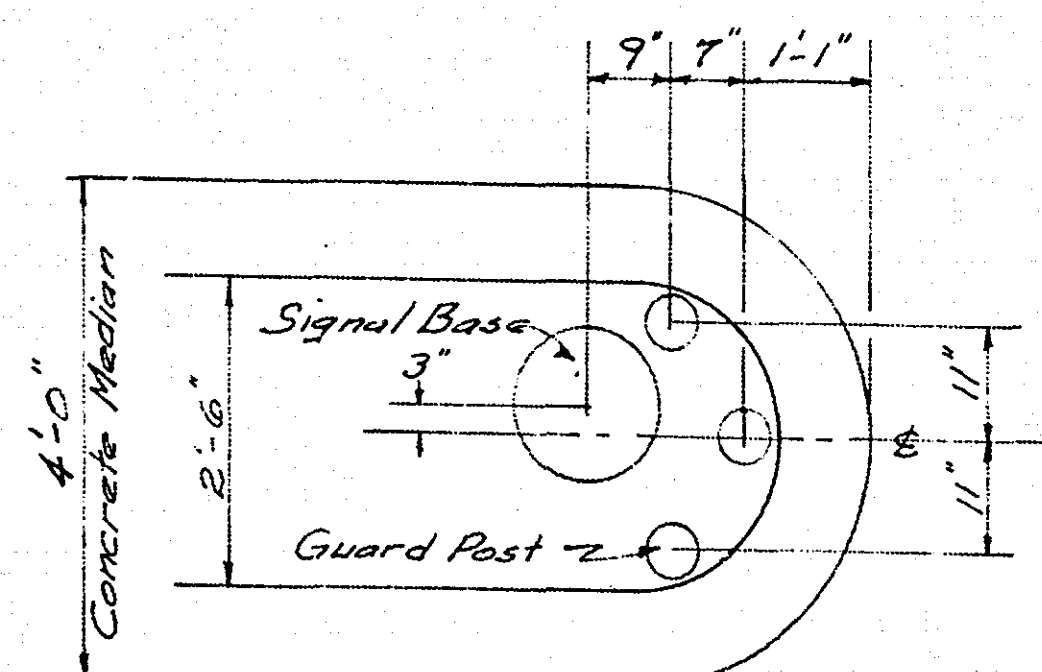
SHEET NO. 3 OF 20 SHEETS



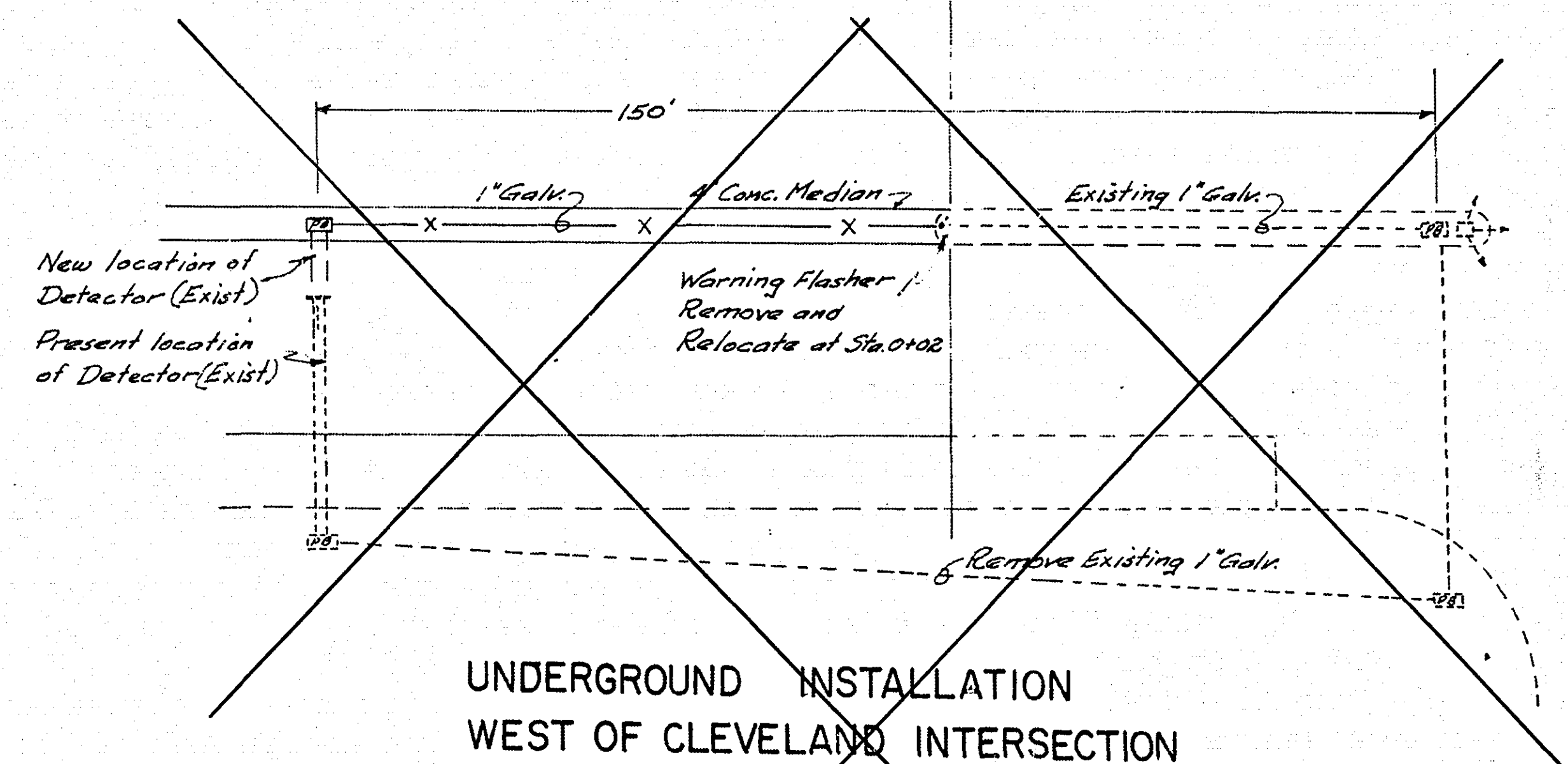
SCALE 1" = 20'



- LEGEND**
- Signal Head (one way - 3 lights) 2 required (one with r-l turn arrow)
 - Signal Head (four way - 3 lights) 2 required
 - * 12 Cable 3 Wire (1" Galvanized Pipe or 1" Rigid Conduit as noted)
 - * 12 Cable 12 Wire (3" Galvanized Iron Pipe Conduit)
 - Detector (Magnetic Type - M.K. Non Directional)
 - Pedestrian Push Button
 - Pull Box
 - A Type - A: 12" x 18" x 28", C: 18" x 24" x 28"



DETAIL OF SIGNAL INSTALLATION



NOTES

Detector runs shall be placed in 1" Galvanized Pipe Conduit.
 All underground galvanized pipe conduit shall be placed at a minimum depth of 18"
 Place precast pull box at all signal locations. Place terminal strips in all pull boxes.
 All locations shown are approximate. Exact locations will be determined in the field.
 Underground facilities shall be installed before the new pavement is constructed.
 Protect all signal pedestals on concrete median with 3-4" galvanized iron pipe (7' lg. with 4' exp.)
 guard post. Post shall be set in 5" galvanized iron pipe sleeves sealed with sulfur.
 Place pedestrian push buttons on all signal pedestals and on 4" galvanized post at open corners.
 Warning Flasher to be relocated by Contractor according to the special provisions.

"FOR INFORMATION ONLY"

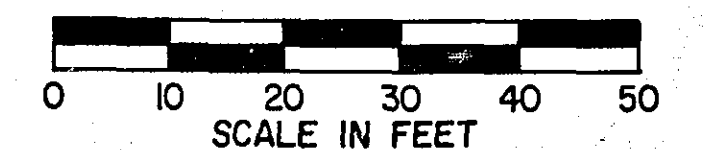
INTERSECTION LAYOUT
 LARPENUEUR AVE. & EUSTIS ST.
 SYSTEM "A"

MICROFILMED
 RAMSEY CO. ENGR.

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	

[illegible]

ROSELAWN AVE. & EDGERTON ST.



1. REMOVE AND SALVAGE EXISTING SIGNAL SYSTEM AS DIRECTED BY THE ENGINEER (SEE SHEET NO. 8 FOR EXISTING SIGNAL SYSTEM)
2. EMERGENCY VEHICLE PRE-EMPTION EQUIPMENT WILL BE FURNISHED BY THE COUNTY AND INSTALLED BY THE CONTRACTOR AS SHOWN IN THE PLANS AND SPEC.
3. ALL ITEMS NOTED INPLACE SHALL BE USED INPLACE UNLESS OTHERWISE NOTED.
4. PROVIDE NEW SIGNAL BRACKETING AT POLES 1,2,3, AND 4

LOCATION CHART		
STATION	LOCATION	DESCRIPTION
ROSELAWN		
24+44	RT. 19'	H.H. 4
25+83	LT. 26'	CONTROLLER CABINET
25+87	LT. 23'	SIGNAL NO. 1
25+88	RT. 22'	H.H. 3
25+91	LT. 27'	H.H. 1
25+97	RT. 31'	SIGNAL NO. 3
26+43	RT. 34'	H.H. 5
26+43	LT. 32'	SIGNAL NO. 2
26+49	LT. 26'	H.H. 7
26+52.5	RT. 22.5'	SIGNAL NO. 4
27+94	LT. 18'	H.H. 8
EDGERTON		
24+37	RT. 28'	H.H. 6
28+04	LT. 18'	H.H. 2

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.

Dana K. Orville

Date 9-23-75 Reg. No. 5031

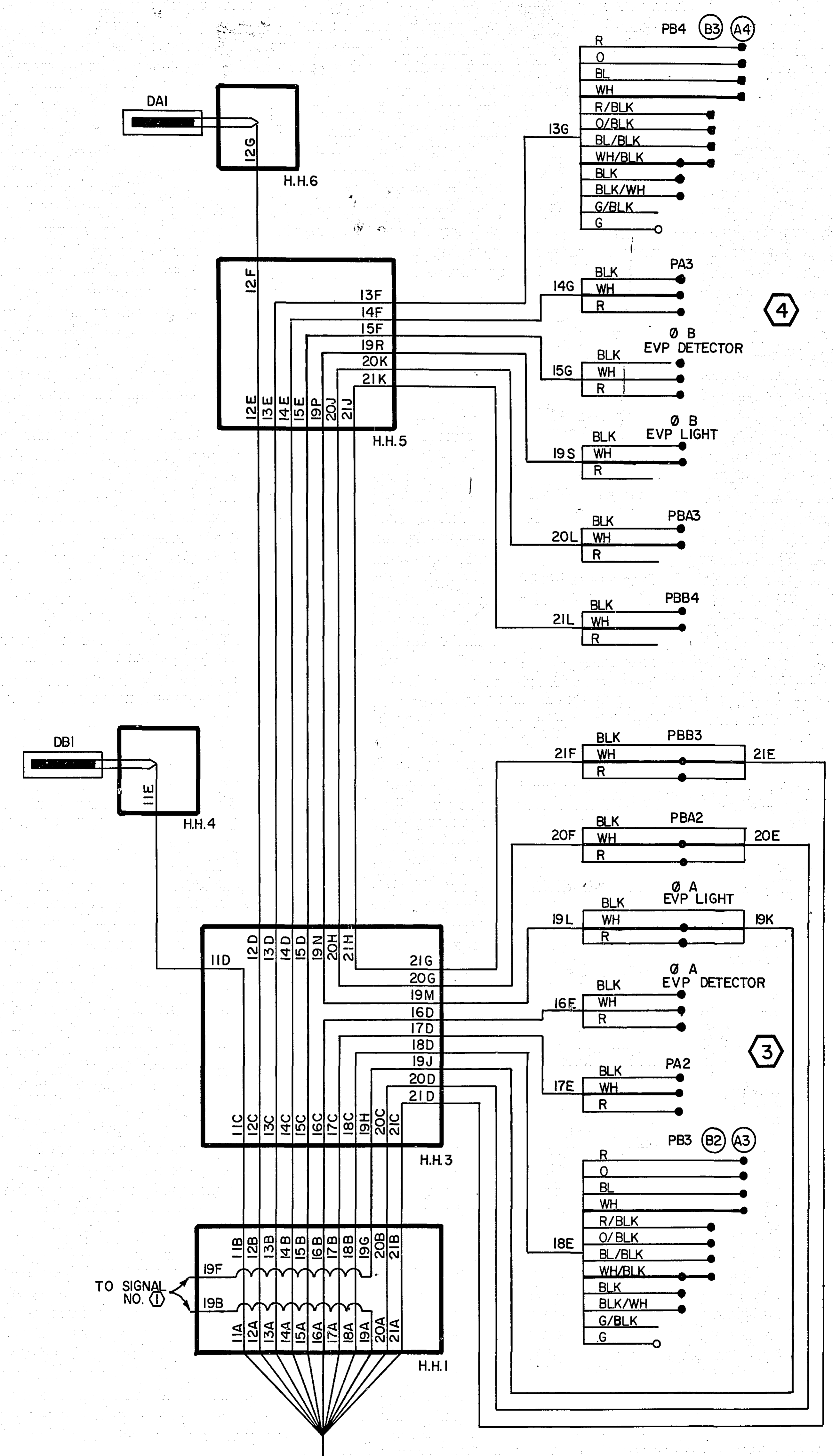
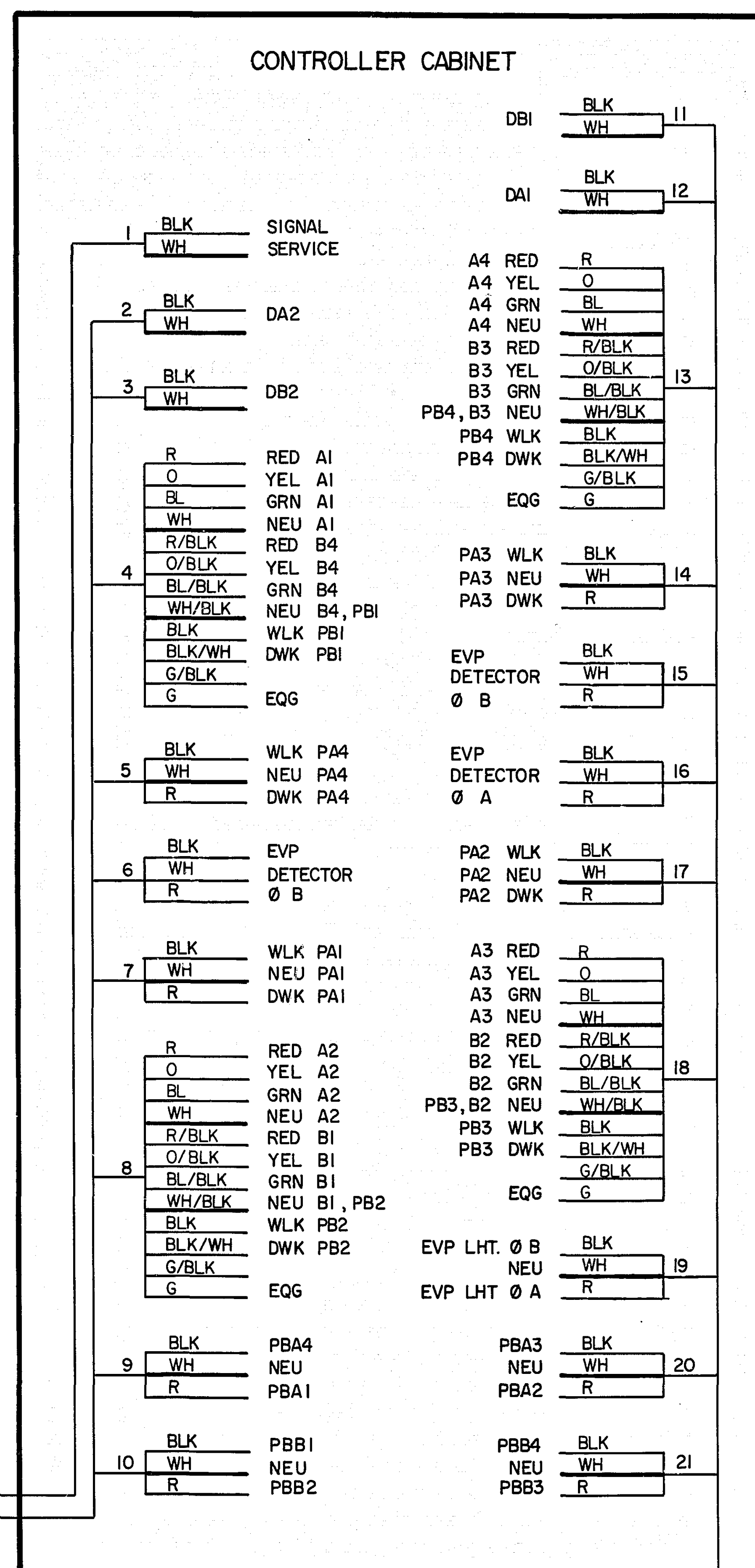
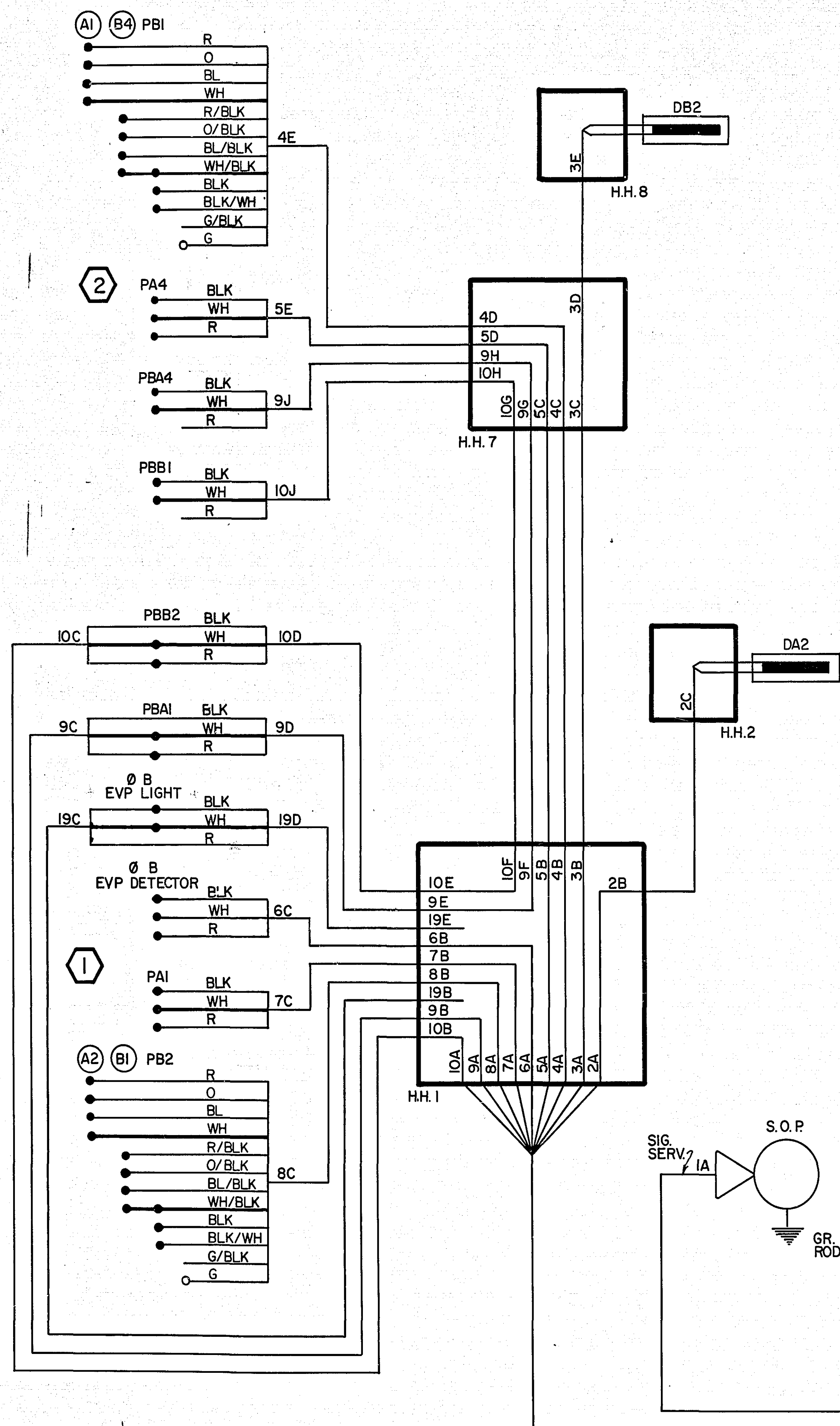
INTERSECTION LAYOUT
ROSELAWN AVE. & EDGERTON ST.
SYSTEM "B"

MICROFILMED
RANNEY CO. ENGR.

CO. PROJ. NO. 1975-26-58-SR

SHEET NO. 6 OF 20 SHEETS

23-102

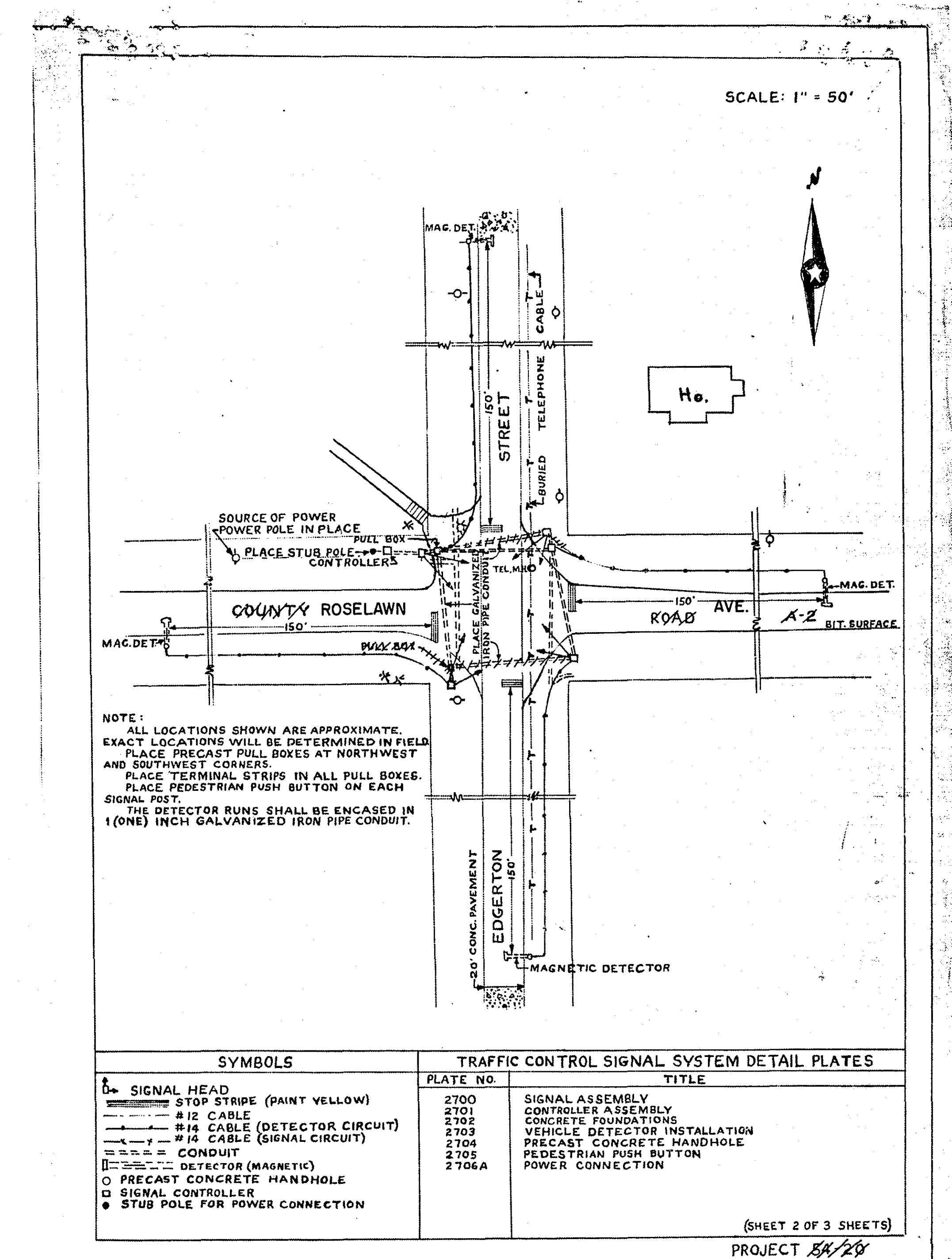


NOTES:
1. H.H. 1 IS SHOWN AS TWO HANDHOLES

2. ALL CABLES SHALL BE NEW.

Thereby 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.
James K. Gable
Date 7-23-75 Reg. No. 5031

FIELD WIRING DIAGRAM
ROSELAWN AVE. & EDGERTON ST.
SYSTEM "B"



"FOR INFORMATION ONLY"

INTERSECTION LAYOUT
ROSELAWN AVE. & EDGERTON ST.
SYSTEM "B"

MICROFILMED
RAMSEY CO. ENGR.

0 10 20 30 40 50
SCALE IN FEET

1. REMOVE AND SALVAGE EXISTING SIGNAL SYSTEM AS DIRECTED BY THE FIELD ENGINEER (SEE SHEET NO. 11 FOR EXISTING SIGNAL SYSTEM)
2. LOOP DETECTOR LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE TRAFFIC ENGINEER PRIOR TO INSTALLATION
3. USE INPLACE 1" R.S.C. TO PRESSURE DETECTORS FOR LOOP LEAD-IN WIRES WHERE POSSIBLE.
4. REPLACE CONCRETE COVERS ON HANDHOLES 4 & 6 (APPROX. COVER SIZE 20 1/2" X 26 1/2" X 3")
5. REPLACE HANDHOLES 1 AND 2
6. ALL ITEMS NOTED INPLACE SHALL BE USED INPLACE UNLESS OTHERWISE NOTED.
7. PROVIDE NEW SIGNAL BRACKETING AT POLES 1,2,3, AND 4

MICROFILMED
SAMSEY CO. ENGE

Date 9-23-75 Reg. No. 503

SHEET NO. 9 OF 20 SHEETS

LEGEND OF SYMBOLS

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 _____

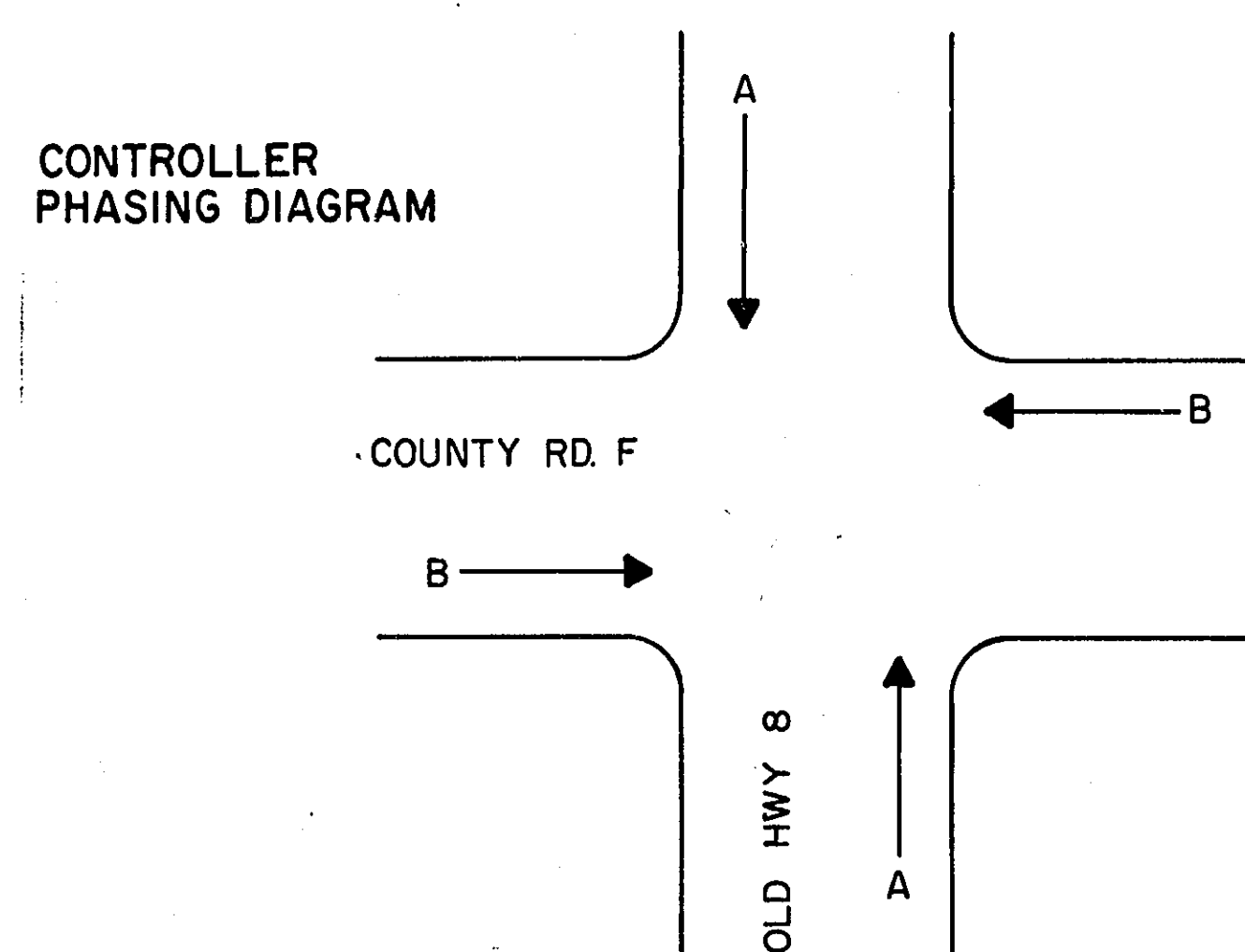
MAST ARM AND LUMINAIRE -INPLACE _____

WOOD POLE _____

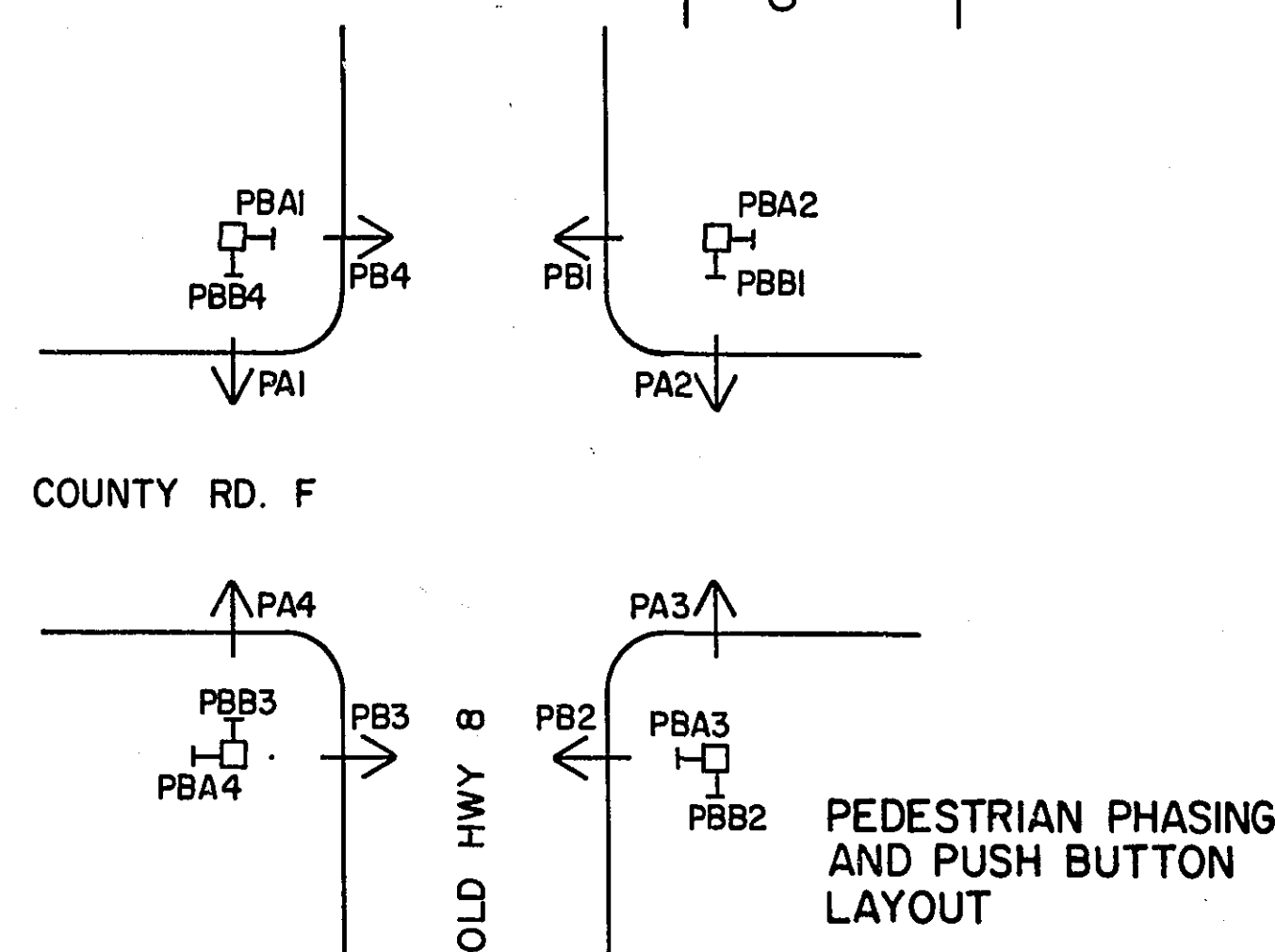
WOOD POLE -INPLACE _____

SOURCE OF POWER _____

CONTROLLER PHASING DIAGRAM



COUNTY RD. F



SIGNAL INDICATION CHART

[illegible]

NOTE: ALL INDICATIONS ARE NEW

3" N.M.C. INPLACE
2 - MAGNETIC DETECTORS INPLACE
(USE INPLACE) _____

1" R.S.C. IN PLACE
2-2/c #12 —

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

10' PEDESTAL INPLACE	REMOVE
TWO WAY SIGNAL INPLACE	8
1-PEDESTRIAN PUSH BUTTON INPLACE	SALVAGE

REPLACE FOUNDATION
10' PEDESTAL
TWO WAY SIGNAL (TYPE-2C)
2-SETS PEDESTRIAN INDICATIONS
2-PEDESTRIAN PUSH BUTTONS
EXTEND INTO H.H. 5

3" R.S.C.
1 - 12/c # 12
3- 3/c # 12

1" R.S.C. IN PLACE
1 - 2/c # 14 —

6' X 18' LOOP DETECTOR

2- PRESSURE SENSITIVE
DETECTORS INPLACE
(REMOVE & DISPOSE)

10' PEDESTAL INPLACE	REMOVE & SALVAGE
TWO WAY SIGNAL INPLACE	
1 - PEDESTRIAN PUSH BUTTON INPLACE	

USE INPLACE FOUNDATION
10' PEDESTAL
TWO WAY SIGNAL (TYPE 2C)
2-SETS PEDESTRIAN INDICATIONS
2-PEDESTRIAN PUSH BUTTONS
EXTEND INTO H H 3

2" R.S.C. IN PLACE
1 - 12/c #12
3 - 3/c #12 —

10' PEDESTAL, INPLACE	REMOVE & SALVAGE
TWO WAY SIGNAL INPLACE	
1- PEDESTRIAN PUSH BUTTON INPLACE	

USE INPLACE FOUNDATION
10 PEDESTAL
TWO WAY SIGNAL (TYPE 2C)
2-SETS PEDESTRIAN INDICATIONS
2-PEDESTRIAN PUSH BUTTONS
EXTEND INTO H.H. I
2" R.S.C. INPLACE
1 - 12/c #12
5 - 3/c #12

CONTROLLER & CABINET INPLACE
(REMOVE & SALVAGE
REPLACE FOUNDATION
CONTROLLER & CABINET
EXTEND INTO H.H. I
4" R.S.C.
4 - 12/c # 12
8 - 3/c # 12
7 - 2/c # 14

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

SOURCE OF POWER
WOOD POLE INPLACE
SERVICE EQUIPMENT INPLACE (USE INPLACE)

1" R.S.C. INPLACE
1-2/c #14

6' X 18' LOOP DETECTOR

2-PRESSURE SENSITIVE
DETECTORS INPLACE
(REMOVE & DISPOSE

2" R.S.C. INPLACE, ABANDON
3" R.S.C.
2 - 12/c # 12
4 - 3/c # 12
3 - 2/c # 14

10' PEDESTAL INPLACE	REMOVE & SALVAGE
TWO WAY SIGNAL INPLACE	
1-PEDESTRIAN PUSH BUTTON INPLACE	

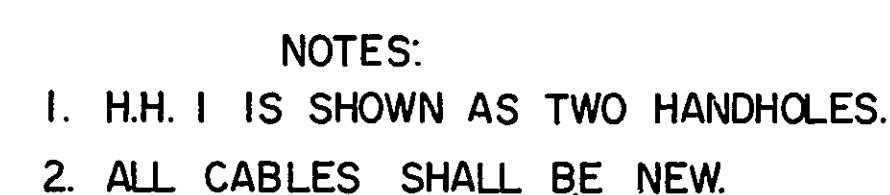
USE INPLACE FOUNDATION
10 PEDESTAL
TWO WAY SIGNAL (TYPE 2C)
2-SETS PEDESTRIAN INDICATIONS
2-PEDESTRIAN PUSH BUTTONS
EXTEND INTO H.H. 3
2" R.S.C. INPLACE
1- 12/c # 12
5- 3/c # 12

6' X 18' LOOP DETECTOR
(CALLING)

1" R.S.C. IN PLACE
2 - 2/c # 14

3" N.M.C. INPLACE
2 - MAGNETIC DETECTORS INPLACE
(USE INPLACE)

DAI

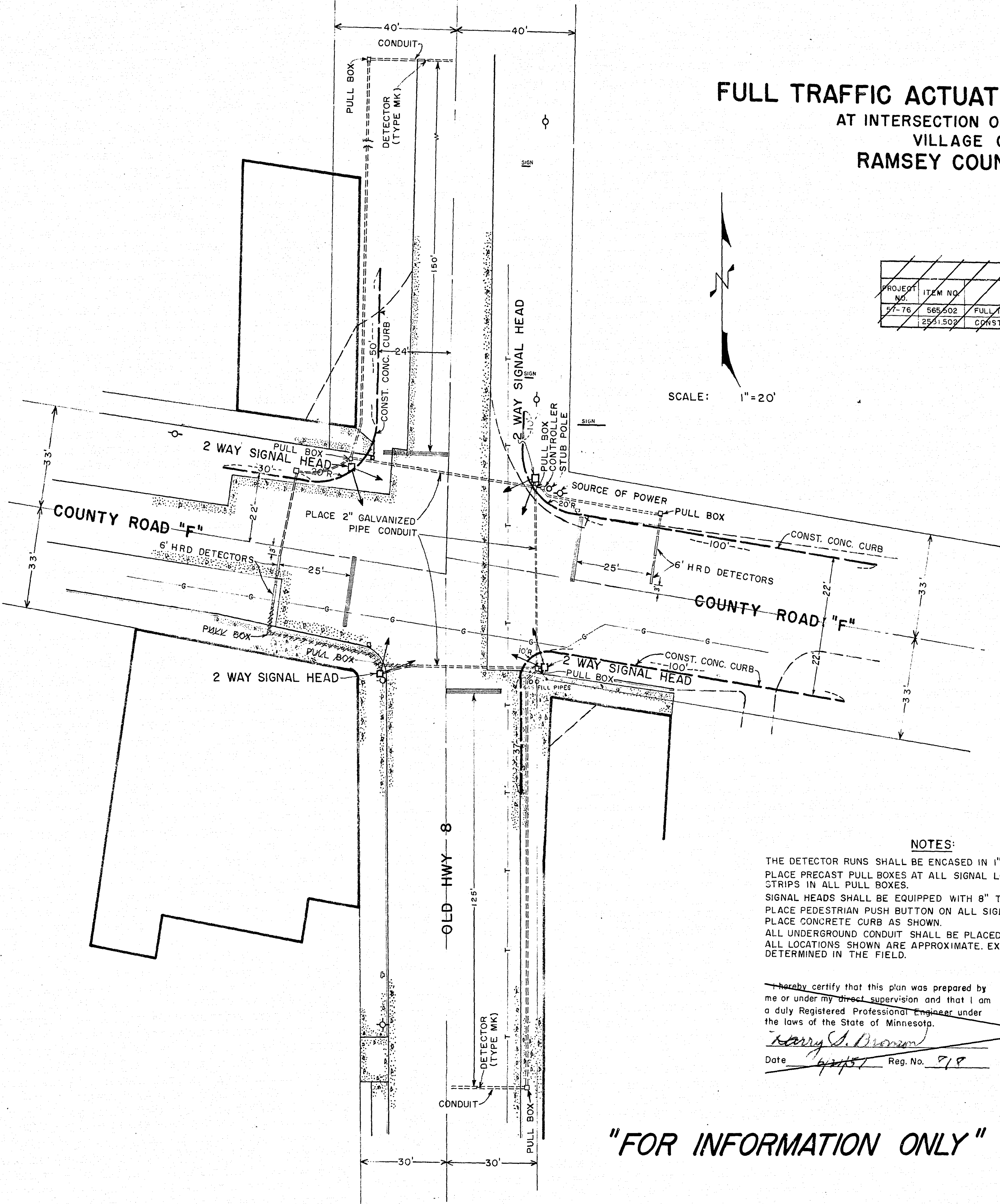


Date 9-23-75 Reg. No. 5031

MICROFILMED
RAMSEY CO. ENGR

FULL TRAFFIC ACTUATED TRAFFIC SIGNAL SYSTEM AT INTERSECTION OF T.H. 8 & COUNTY ROAD F VILLAGE OF NEW BRIGHTON RAMSEY COUNTY PROJECT NO. 57-76

		ESTIMATED QUANTITIES			
PROJECT NO.	ITEM NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES	
57-76	565.502	FULL TRAFFIC ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM	SIGNAL SYSTEM		
	253.502	CONSTRUCT CONCRETE CURB DESIGN V-5	LINEAR FOOT	405	



NOTES:
 THE DETECTOR RUNS SHALL BE ENCASED IN 1" GALVANIZED PIPE CONDUIT.
 PLACE PRECAST PULL BOXES AT ALL SIGNAL LOCATIONS. PLACE TERMINAL STRIPS IN ALL PULL BOXES.
 SIGNAL HEADS SHALL BE EQUIPPED WITH 8" TUNNEL VISORS.
 PLACE PEDESTRIAN PUSH BUTTON ON ALL SIGNAL PEDESTALS.
 PLACE CONCRETE CURB AS SHOWN.
 ALL UNDERGROUND CONDUIT SHALL BE PLACED AT A MINIMUM DEPTH OF 18".
 ALL LOCATIONS SHOWN ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD.

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 4/27/57 Reg. No. 918
 APPROVED [Signature] DATE 6-21-1957
 DIRECTOR OF SAFETY
 APPROVED [Signature] DATE 6-21-1957
 RAMSEY COUNTY ENGINEER
 APPROVED [Signature] DATE 7-1-1961
 CHAIRMAN RAMSEY COUNTY BOARD
 APPROVED [Signature] DATE 6-21-1957
 TRAFFIC ENGINEER, MINN. HWY. DEPT.

"FOR INFORMATION ONLY"

INTERSECTION LAYOUT
 COUNTY RD. F & OLD HWY 8
 SYSTEM "C"

LEGEND OF SYMBOLS

	CONTROLLER
	PEDESTAL
	HANDHOLE (PULLBOX)
	RIGID METALLIC CONDUIT (R.M.C.)
	NON-METALLIC CONDUIT (N.M.C.)
	MAST ARM & POLE
	SIGNAL FACE
	SIGNAL FACE WITH BACKGROUND SHIELD
	MAST ARM & LUMINAIRE
	RIGID METALLIC CONDUIT (R.M.C.) (INPLACE)
	NON-METALLIC CONDUIT (N.M.C.) (INPLACE)
	SOURCE OF POWER (S.O.P.)
	WOOD POLE (INPLACE)
	DIRECT BURIAL CABLE
	OVERHEAD SIGN (INPLACE)

1/4" R.M.C.
2-1/c #12 TYPE USE (STRANDED)
TWISTED 3 TURNS PER FOOT

1/4" R.M.C.
2-3/c #12

3" R.M.C.
1-12/c #12
2-1/c #10

35' MAST ARM AND POLE
TWO WAY SIGNAL (OVERHEAD)
ONE WAY SIGNAL (POLE MOUNTED 0°)
ONE WAY SIGNAL (POLE MOUNTED 90°)
ONE WAY SIGNAL (POLE MOUNTED 270°)
5 METAL GUARD POSTS
SIGN DOWN LIGHT
PHOTO ELECTRIC CELL (SIGN DOWNLIGHTS)

MAG DET
3" N.M.C.
GRANULAR ENCASEMENT

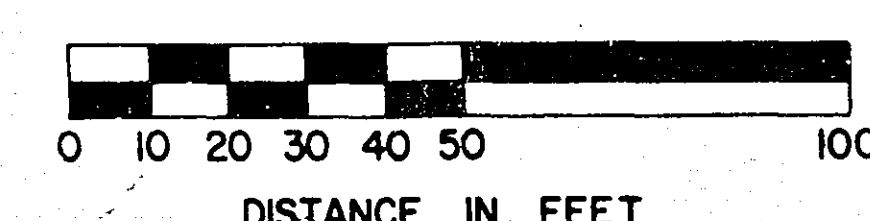
(F) LOOP DETECTOR (CALLING)
(SEE DETAIL)

✓ LIGHTING POLE, MAST ARM, AND LUMINAIRE INPLACE, REMOVE & SALVAGE
CONCRETE FOUNDATION INPLACE, REMOVE
25' MAST ARM AND POLE WITH SHAFT EXTENSION
15' MAST ARM AND LUMINAIRE (355°) (30' MTG. HT.)
ONE WAY SIGNAL (OVERHEAD)
ONE WAY SIGNAL (POLE MOUNTED 270°)
4 METAL GUARD POSTS

✓ THREE WAY SIGNAL
1- SIGN DOWN LIGHT
4 METAL GUARD POSTS

3" R.M.C.
1-12/c #12
1-3/c #12

LOOP DETECTOR
(F) (SEE DETAIL)

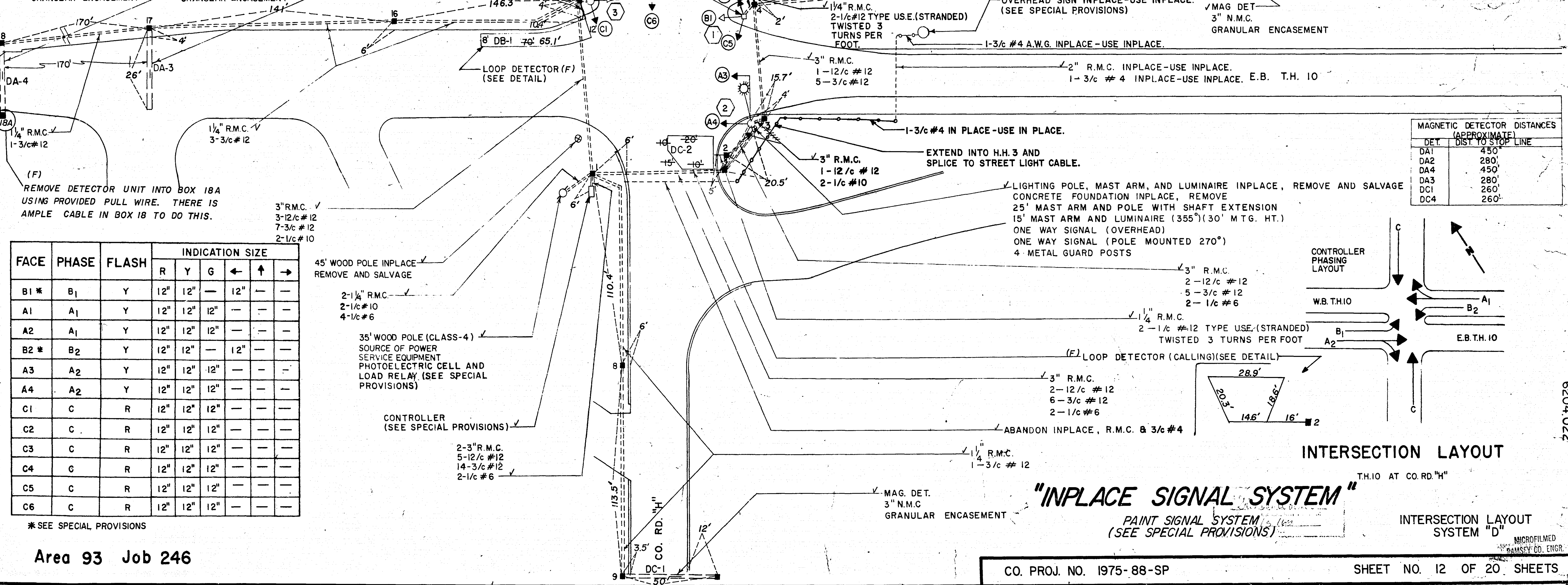


W.B. T.H. 10

1/4" R.M.C.
2-1/c #12 TYPE USE (STRANDED)
TWISTED 3 TURNS PER FOOT

MAG. DET.
3" N.M.C.
GRANULAR ENCASEMENT

MAG. DET.
3" N.M.C.
GRANULAR ENCASEMENT



FACE	PHASE	FLASH	INDICATION SIZE					
			R	Y	G	←	↑	→
B1 *	B ₁	Y	12"	12"	—	12"	—	—
A1	A ₁	Y	12"	12"	12"	—	—	—
A2	A ₁	Y	12"	12"	12"	—	—	—
B2 *	B ₂	Y	12"	12"	—	12"	—	—
A3	A ₂	Y	12"	12"	12"	—	—	—
A4	A ₂	Y	12"	12"	12"	—	—	—
C1	C	R	12"	12"	12"	—	—	—
C2	C	R	12"	12"	12"	—	—	—
C3	C	R	12"	12"	12"	—	—	—
C4	C	R	12"	12"	12"	—	—	—
C5	C	R	12"	12"	12"	—	—	—
C6	C	R	12"	12"	12"	—	—	—

* SEE SPECIAL PROVISIONS

Area 93 Job 246

45' WOOD POLE INPLACE
REMOVE AND SALVAGE

2-1/4" R.M.C.
2-1/c #10
4-1/c #6

35' WOOD POLE (CLASS-4)
SOURCE OF POWER
SERVICE EQUIPMENT
PHOTOELECTRIC CELL AND
LOAD RELAY (SEE SPECIAL
PROVISIONS)

CONTROLLER
(SEE SPECIAL PROVISIONS)

2-3" R.M.C.
5-12/c #12
14-3/c #12
2-1/c #6

EXTEND INTO H.H. 3 AND
SPlice TO STREET LIGHT CABLE.

✓ LIGHTING POLE, MAST ARM, AND LUMINAIRE INPLACE, REMOVE AND SALVAGE
CONCRETE FOUNDATION INPLACE, REMOVE
25' MAST ARM AND POLE WITH SHAFT EXTENSION
15' MAST ARM AND LUMINAIRE (355°) (30' MTG. HT.)
ONE WAY SIGNAL (OVERHEAD)
ONE WAY SIGNAL (POLE MOUNTED 270°)
4 METAL GUARD POSTS

3" R.M.C.
2-12/c #12
5-3/c #12
2-1/c #6

1/4" R.M.C.
2-1/c #12 TYPE USE (STRANDED)
TWISTED 3 TURNS PER FOOT

(F) LOOP DETECTOR (CALLING) (SEE DETAIL)

3" R.M.C.
2-12/c #12
6-3/c #12
2-1/c #6

ABANDON INPLACE, R.M.C. 8 3/c #4

1/4" R.M.C.
1-3/c #12

MAG. DET.
3" N.M.C.
GRANULAR ENCASEMENT

MAGNETIC DETECTOR DISTANCES (APPROXIMATE)	
DET.	DIST. TO STOP LINE
DA1	450'
DA2	280'
DA4	450'
DA3	280'
DC1	260'
DC4	260'

CONTROLLER
PHASING
LAYOUT

W.B. T.H. 10

A₁

B₂

A₂

E.B. T.H. 10

INTERSECTION LAYOUT

T.H. 10 AT CO. RD. "H"

"INPLACE SIGNAL SYSTEM"

PAINT SIGNAL SYSTEM
(SEE SPECIAL PROVISIONS)

INTERSECTION LAYOUT
SYSTEM "D"

INPLACE									REVISED								
FACE	PHASE	FLASH	INDICATION SIZE						FACE	PHASE	FLASH	INDICATION SIZE					
			R	Y	G	←	↑	→				R	Y	G	←	↑	→
1	Cy	R	8"	8"	—	12"	—	—	B2	B2	R	*8"	*8"	—	12"	—	—
2	Cx	R	8"	8"	—	12"	—	—	B1	B1	R	*8"	*8"	—	12"	—	—
3	A	R	12"	12"	—	—	12"	12"	A3	A2	R	12"	12"	12"	—	—	—
3	A	R	12"	12"	—	—	12"	12"	A4	A2	R	12"	12"	12"	—	—	—
4	A	R	12"	12"	—	—	12"	12"	A1	A1	R	12"	12"	12"	—	—	—
4A	A	R	12"	12"	—	—	12"	12"	A2	A1	R	12"	12"	12"	—	—	—
5	B	R	12"	8"	8"	—	—	—	C3	C	R	12"	8"	8"	—	—	—
5A	B	R	12"	8"	8"	—	—	—	C5	C	R	12"	8"	8"	—	—	—
5B	B	R	12"	12"	12"	—	—	—	C1	C	R	12"	12"	12"	—	—	—
6	B	R	12"	8"	8"	—	—	—	C6	C	R	12"	8"	8"	—	—	—
6A	B	R	12"	8"	8"	—	—	—	C2	C	R	12"	8"	8"	—	—	—
6B	B	R	12"	12"	12"	—	—	—	C4	C	R	12"	12"	12"	—	—	—
									*C7	C	R	12"	12"	12"	—	—	—

*PROVIDE 8" SIGNAL ADAPTERS
 **SIGNAL HEAD C7 IS NEW HEAD, ALL OTHERS INPLACE

ONE WAY SIGNAL (TYPE 1A) INPLACE, REVISE TO TWO WAY SIGNAL (TYPE 2A)
 REVISE SIGNAL FACE A2 (SEE INDICATION CHART)
 PROVIDE NEW BACKGROUND SHIELD ON SIGNAL FACE A2
 EXTEND INTO H.H. 1:
 2" R.S.C. INPLACE, USE INPLACE
 2-12/C#12 INPLACE, USE INPLACE
 1-12/C#12

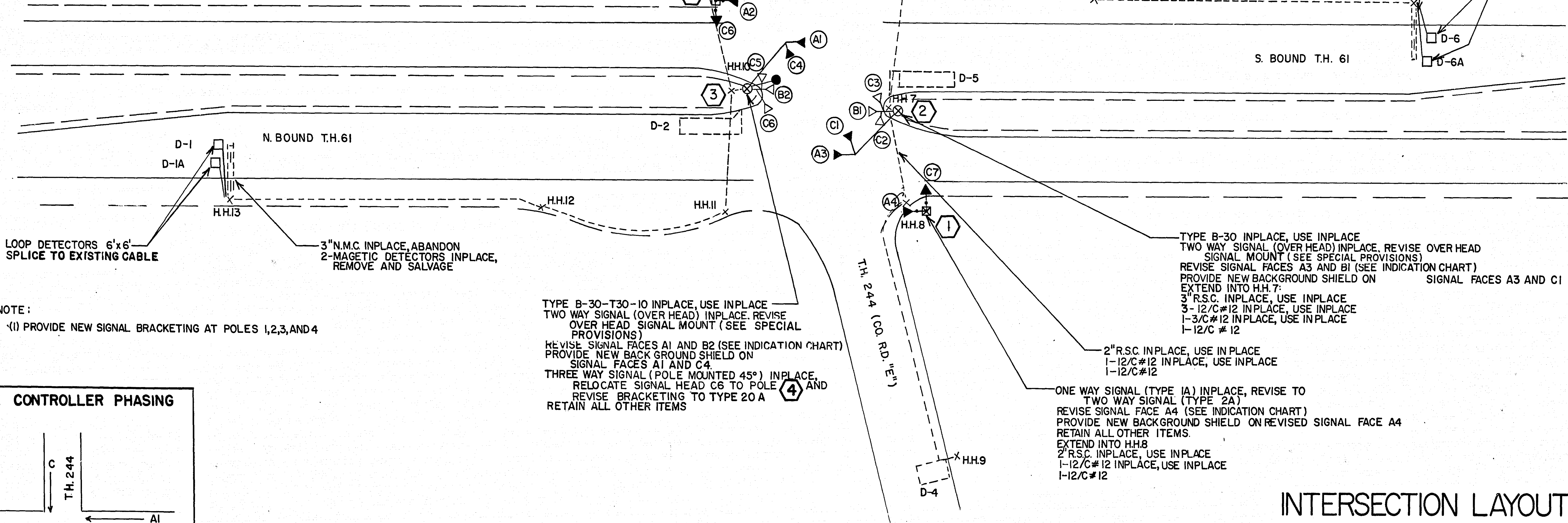
CONTROLLER AND CABINET INPLACE, USE INPLACE
 EXTEND INTO H.H. 1:
 2-3" R.S.C. INPLACE, USE INPLACE
 4-12/C#12 INPLACE, USE INPLACE
 10-3/C#12 INPLACE, USE INPLACE
 2-1/C#6 INPLACE, USE INPLACE
 2-12/C#12

WOOD POLE (STATE FURNISHED)
 SERVICE EQUIPMENT
 EXTEND INTO H.H. 2; 2-1 1/4" R.S.C.
 2-1/C#6 (SALVAGED)
 2-1/C#10 (SALVAGED)

WOOD POLE INPLACE - REMOVE AND SALVAGE
 REMOVE SERVICE EQUIPMENT
 RELAY EXISTING SERVICE CABLES TO NEW SERVICE EQUIPMENT

3" N.M.C. INPLACE, ABANDON
 2-MAGNETIC DETECTORS INPLACE,
 REMOVE AND SALVAGE

6'x6' LOOP DETECTORS
 SPLICE TO EXISTING CABLE



LOOP DETECTORS 6'x6'
 SPLICE TO EXISTING CABLE

3" N.M.C. INPLACE, ABANDON
 2-MAGNETIC DETECTORS INPLACE,
 REMOVE AND SALVAGE

NOTE:
 (1) PROVIDE NEW SIGNAL BRACKETING AT POLES 1,2,3, AND 4

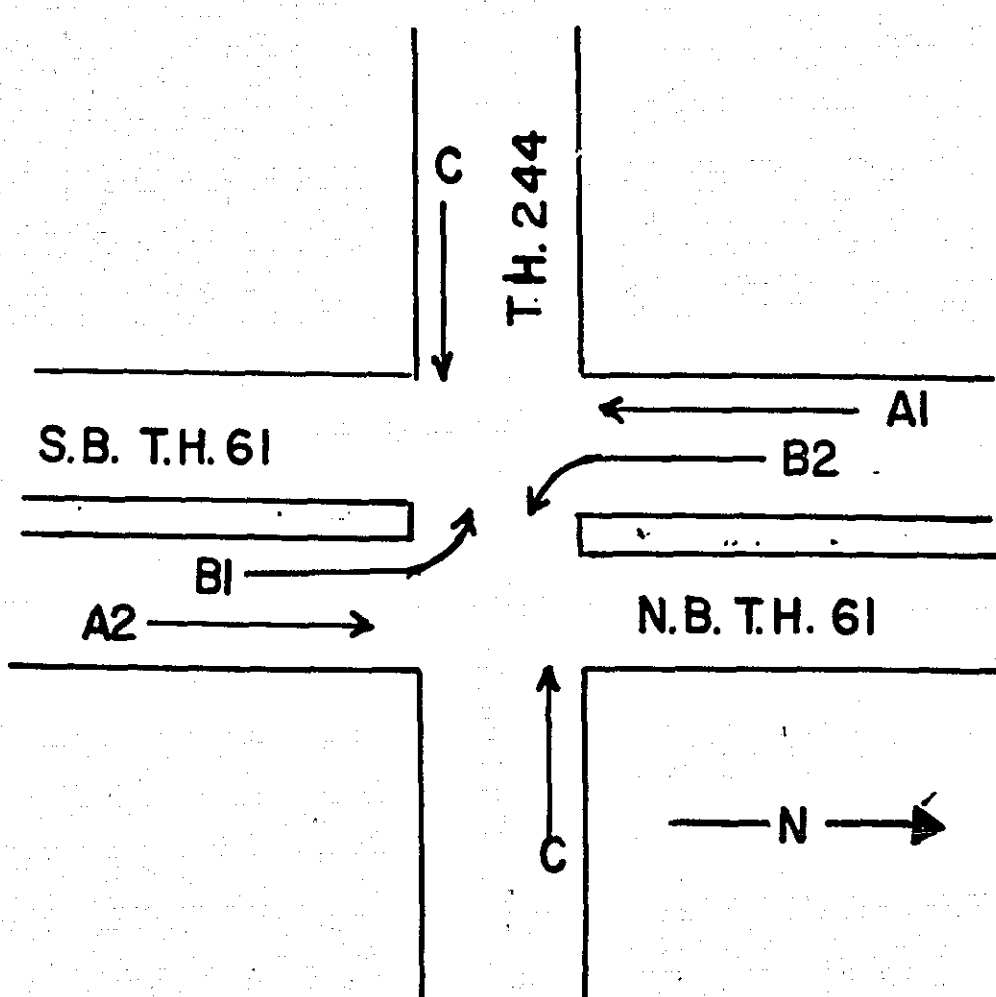
TYPE B-30-T30-10 INPLACE, USE INPLACE
 TWO WAY SIGNAL (OVER HEAD) INPLACE, REVISE OVER HEAD SIGNAL MOUNT (SEE SPECIAL PROVISIONS)
 REVISE SIGNAL FACES A1 AND B2 (SEE INDICATION CHART)
 PROVIDE NEW BACKGROUND SHIELD ON SIGNAL FACES A1 AND C4
 THREE WAY SIGNAL (POLE MOUNTED 45°) INPLACE, RELOCATE SIGNAL HEAD C6 TO POLE 4 AND REVISE BRACKETING TO TYPE 20 A
 RETAIN ALL OTHER ITEMS

TYPE B-30 INPLACE, USE INPLACE
 TWO WAY SIGNAL (OVER HEAD) INPLACE, REVISE OVER HEAD SIGNAL MOUNT (SEE SPECIAL PROVISIONS)
 REVISE SIGNAL FACES A3 AND B1 (SEE INDICATION CHART)
 PROVIDE NEW BACKGROUND SHIELD ON SIGNAL FACES A3 AND C1
 EXTEND INTO H.H. 7:
 3" R.S.C. INPLACE, USE INPLACE
 3-12/C#12 INPLACE, USE INPLACE
 1-3/C#12 INPLACE, USE INPLACE
 1-12/C#12

2" R.S.C. INPLACE, USE IN PLACE
 1-12/C#12 INPLACE, USE INPLACE
 1-12/C#12

ONE WAY SIGNAL (TYPE 1A) INPLACE, REVISE TO TWO WAY SIGNAL (TYPE 2A)
 REVISE SIGNAL FACE A4 (SEE INDICATION CHART)
 PROVIDE NEW BACKGROUND SHIELD ON REVISED SIGNAL FACE A4
 RETAIN ALL OTHER ITEMS
 EXTEND INTO H.H. 8:
 2" R.S.C. INPLACE, USE INPLACE
 1-12/C#12 INPLACE, USE INPLACE
 1-12/C#12

INPLACE CONTROLLER PHASING



INTERSECTION LAYOUT T.H. 61 AND T.H. 244 (CO. RD. "E")

"INPLACE SIGNAL SYSTEM"

PAINT SIGNAL SYSTEM
 (SEE SPECIAL PROVISIONS)

INTERSECTION LAYOUT
 SYSTEM "E"

Area 94 Job 930

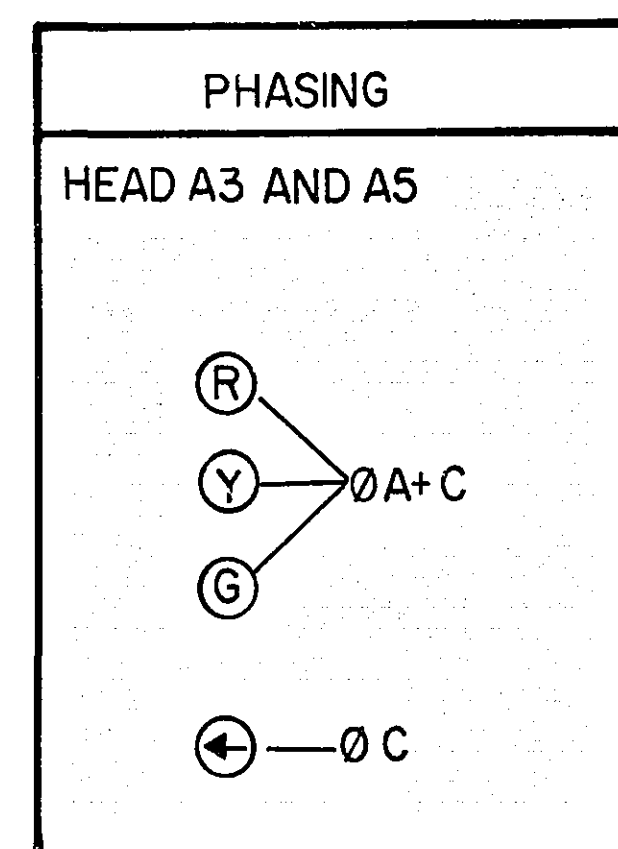
62020061*144450*

CO. PROJ. NO. 1975-15-SP

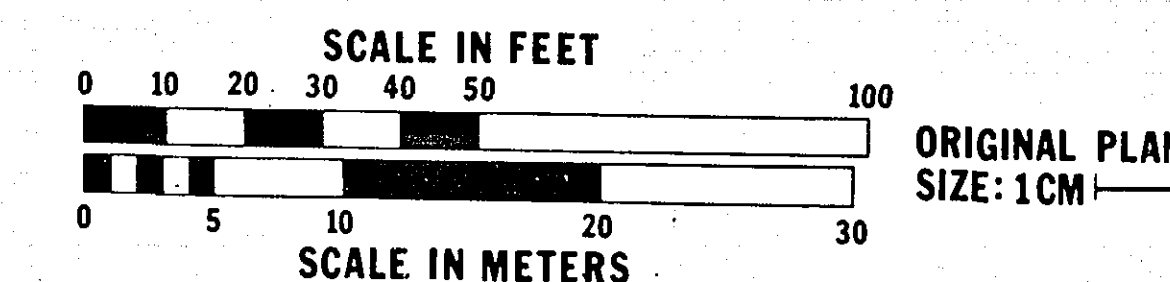
SHEET NO. 13 OF 20 SHEETS

23-102

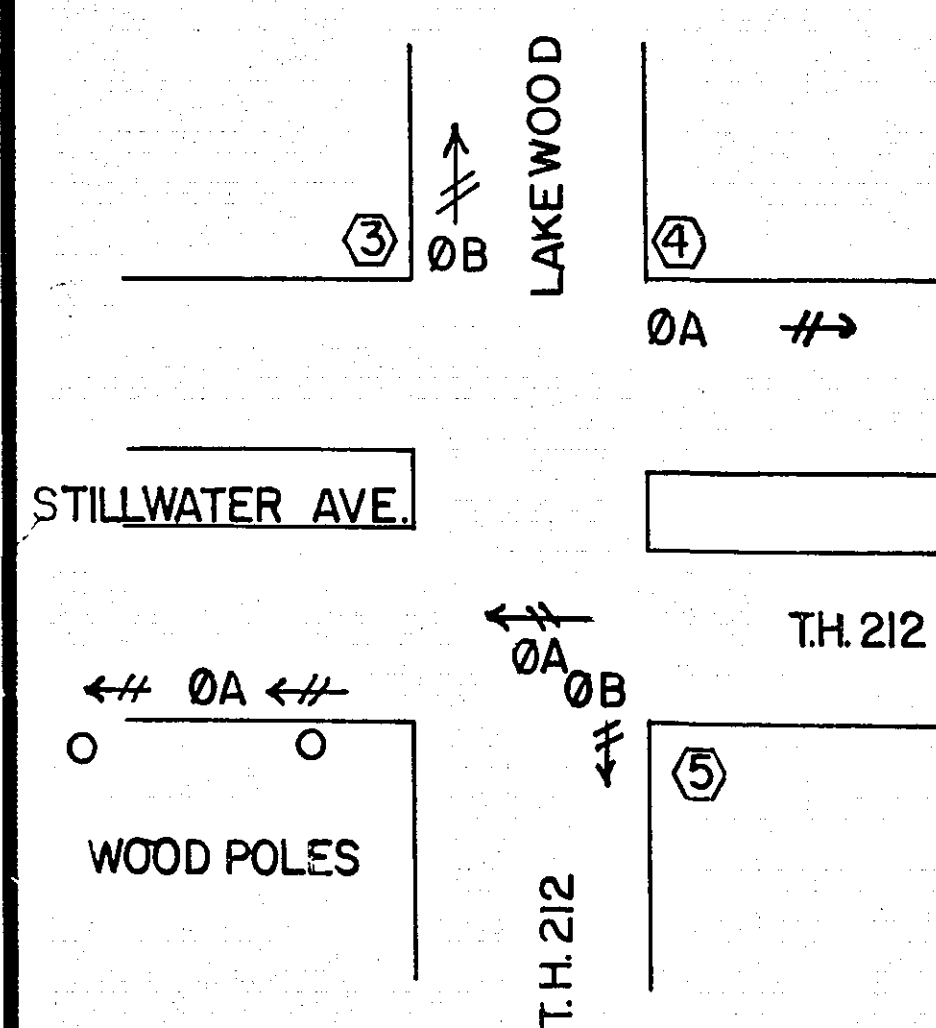
FACE	PHASE	FLASH	INDICATION SIZE					
			R	Y	G	←	↑	→
A1	A	Y	12"	12"	12"	—	—	—
A2	A	Y	12"	8"	8"	—	—	—
A3	A+C	Y	12"	12"	12"	12"	—	—
A4	A	Y	12"	8"	8"	—	—	—
A5	A+C	Y	12"	12"	12"	12"	—	—
B1	B	R	12"	12"	12"	—	—	—
B2	B	R	12"	12"	12"	—	—	—
B3	B	R	12"	8"	8"	—	—	—
B4	B	R	12"	8"	8"	—	—	—



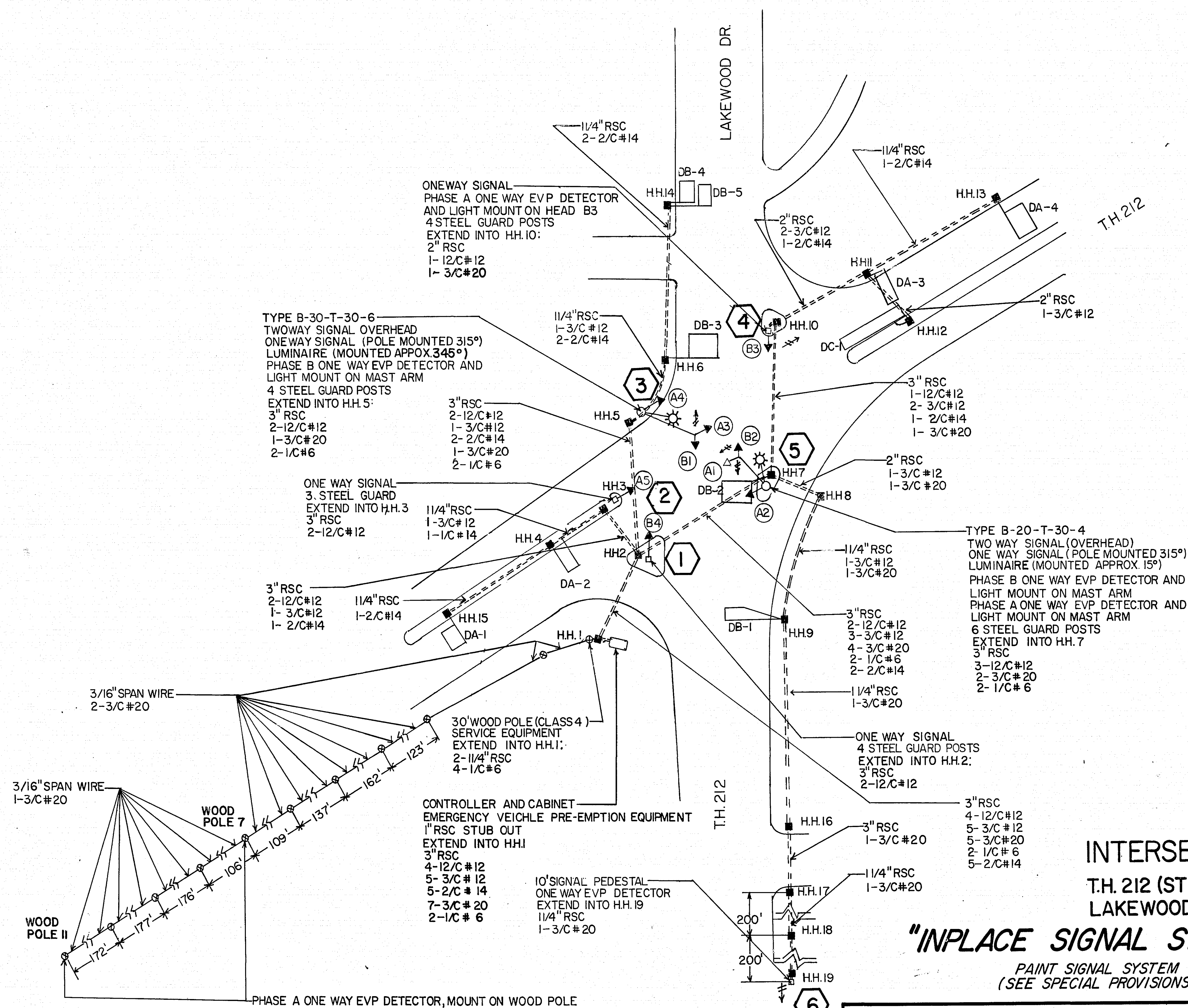
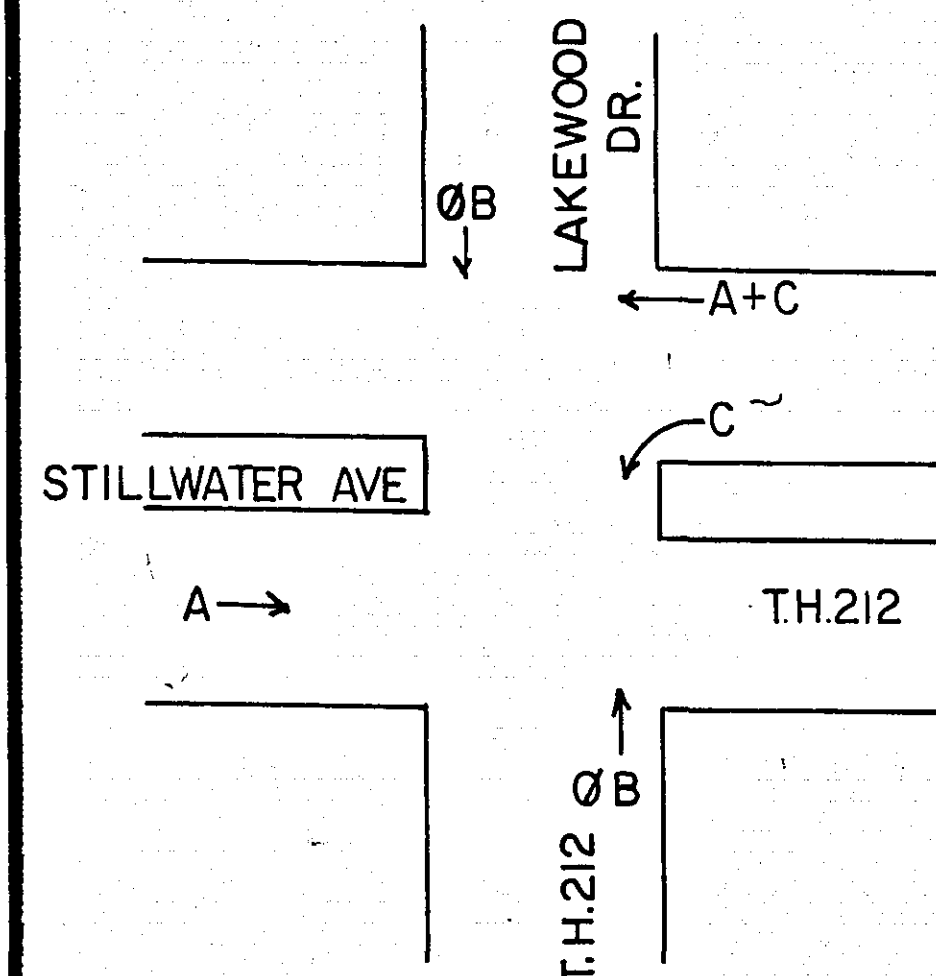
Fed. Proj. No.



EVP PHASING DIAGRAM



CONTROLLER PHASING



NOTE: (1) SPLICE 2-1/C#6 IN H.H. 2 FOR STEEL LIGHTS
(2) INCLUDES EMERGENCY VEHICLE PRE-EMPTION REVISIONS OF THIS CONTRACT.

INTERSECTION LAYOUT T.H. 212 (STILLWATER RD.) AND LAKEWOOD DR.

"INPLACE SIGNAL SYSTEM"

PAINT SIGNAL SYSTEM
(SEE SPECIAL PROVISIONS)

INTERSECTION LAYOUT
SYSTEM "F" MICROFILMED
RAMSEY CO. ENGR.

CO. PROJ. NO. 1975-69-SP

SHEET NO. 14 OF 20 SHEETS

23-102

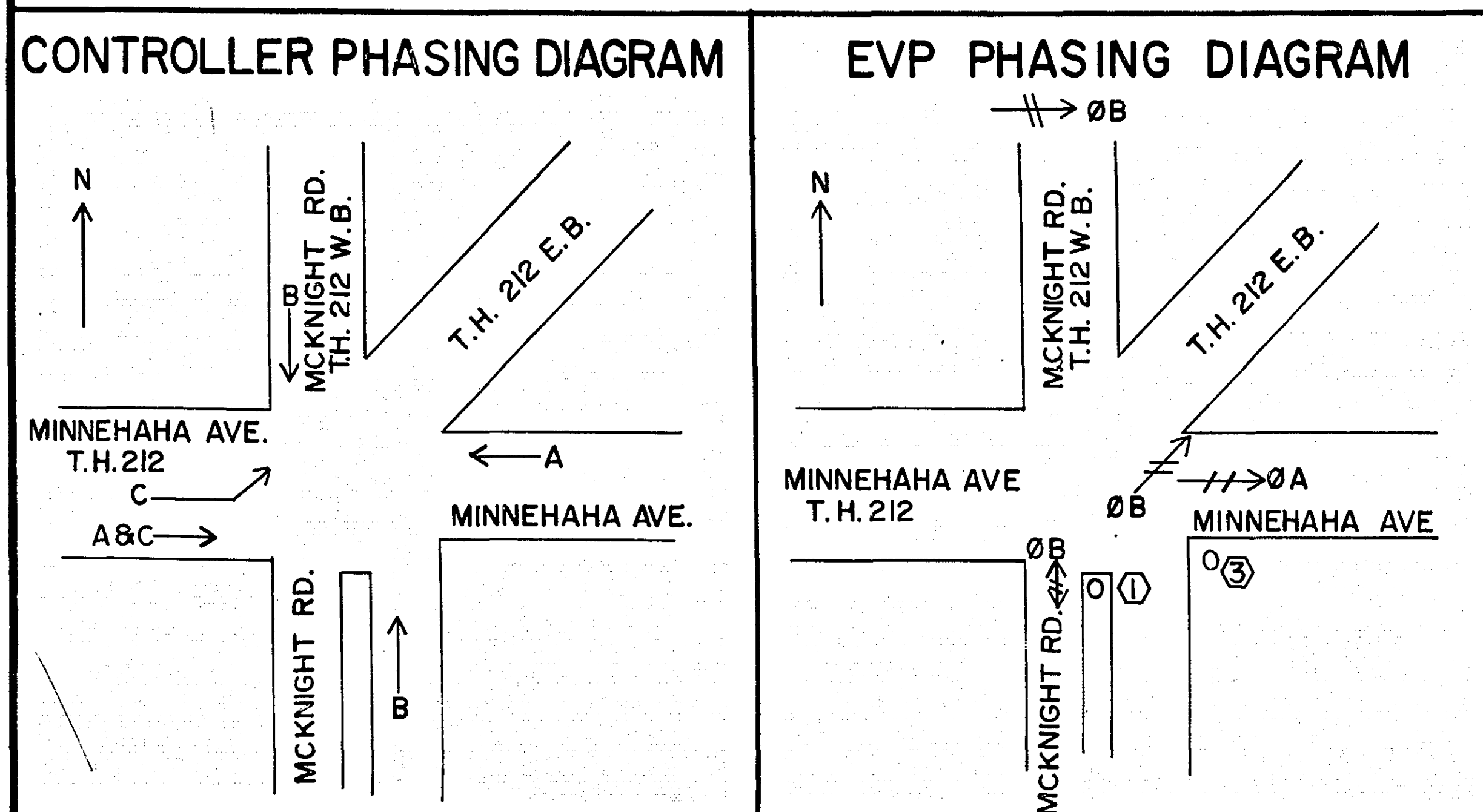
SCALE IN FEET

0 10 20 30 40 50 100

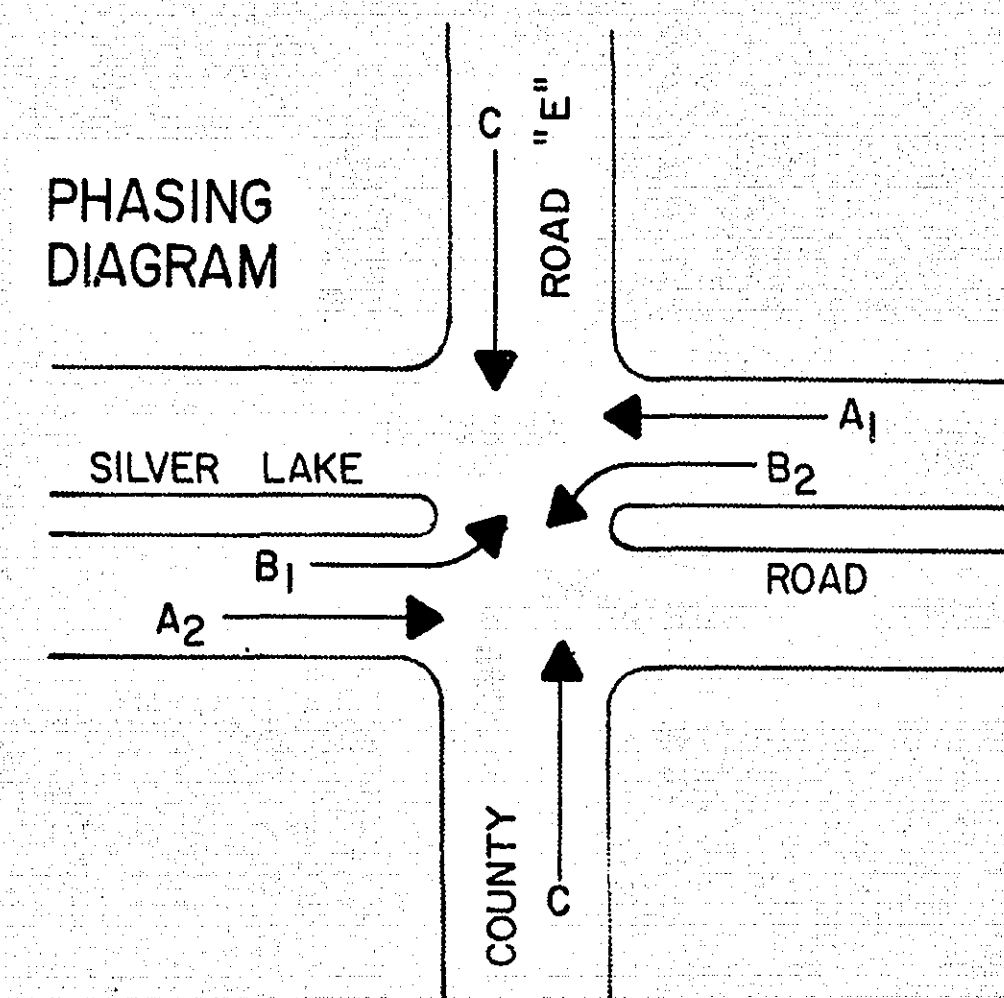
SCALE IN METERS

0 5 10 20 30

ORIGINAL PLAN
SIZE: 1CM

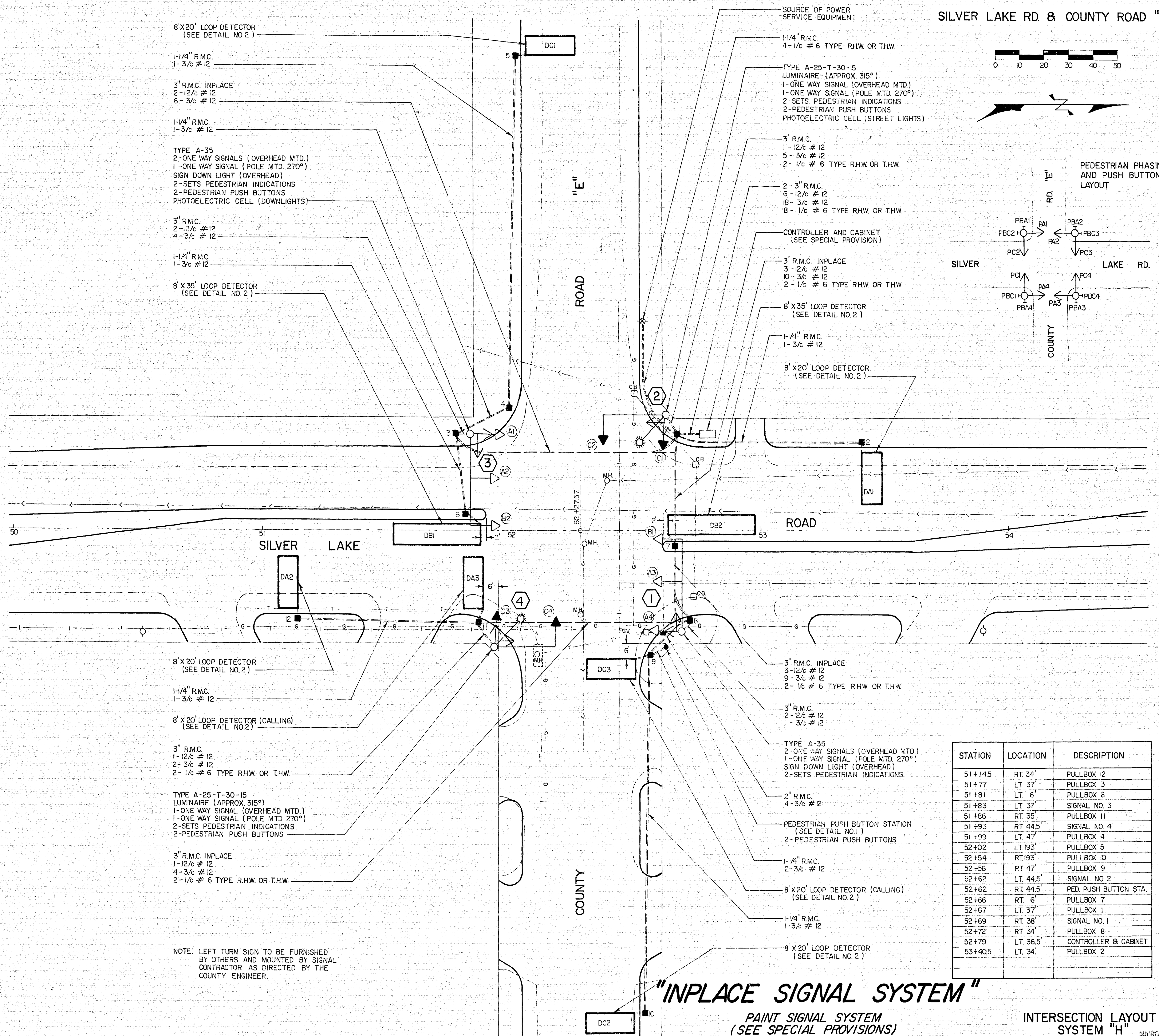


LEGEND OF SYMBOLS	
	CONTROLLER
	HANDHOLE (PULLBOX)
	RIGID METALLIC CONDUIT (R.M.C.)
	MAST ARM & POLE
	SIGNAL FACE
	SIGNAL FACE WITH BACKGROUND SHIELD
	MAST ARM & LUMINAIRE
	PEDESTRIAN INDICATION
	PEDESTRIAN PUSH BUTTON STATION
	SOURCE OF POWER (S.O.P.)
	RIGID METALLIC CONDUIT (R.M.C.) INPLACE

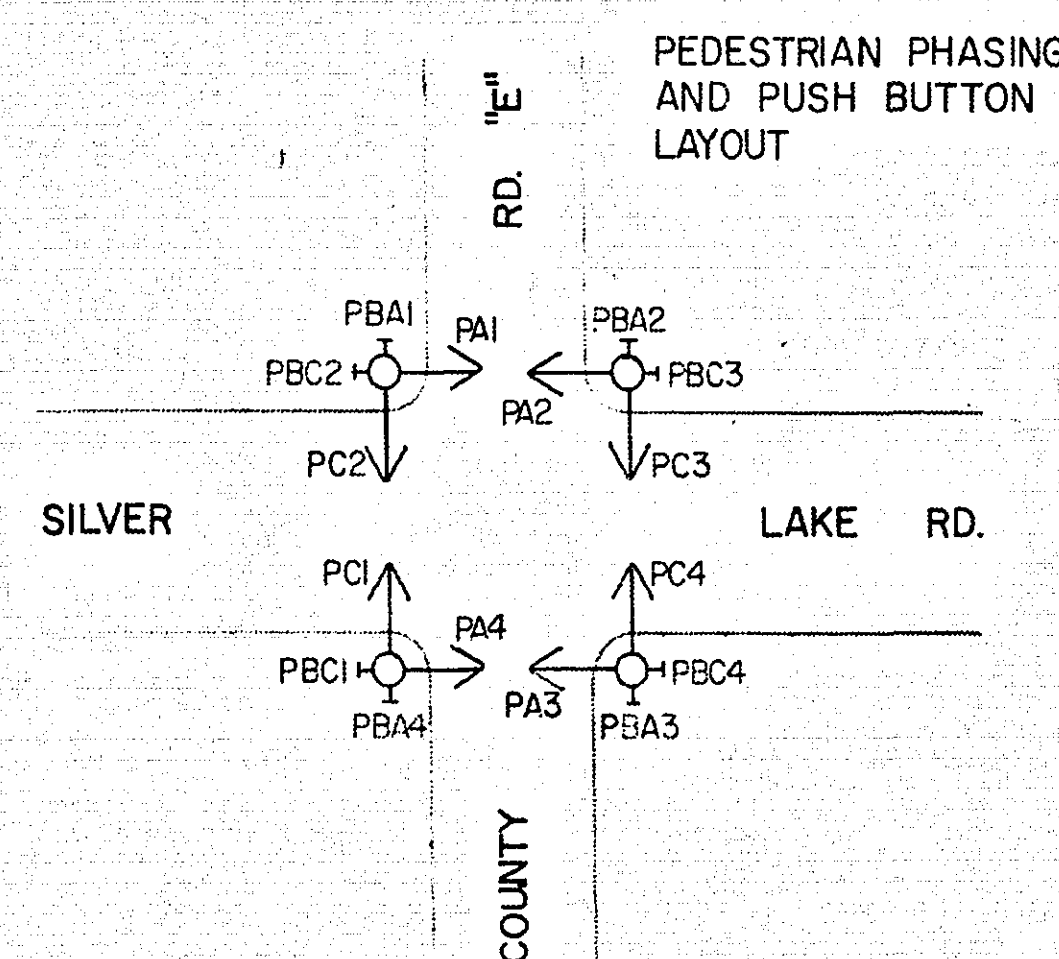
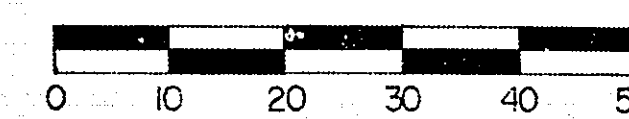


FACE	PHASE	FLASH	INDICATION SIZE					
			R	Y	G	←	↑	→
A1	A1	R	12"	12"	12"	-	12"	-
A2	A1	R	12"	12"	12"	-	12"	-
A3	A1	R	12"	12"	12"	-	12"	-
A4	A1	R	12"	12"	12"	-	12"	-
* B1	B1	R	12"	12"	-	12"	-	-
* B2	B2	R	12"	12"	-	12"	-	-
C1	C	R	12"	12"	12"	-	-	-
C2	C	R	12"	12"	12"	-	-	-
C3	C	R	12"	12"	12"	-	-	-
C4	C	R	12"	12"	12"	-	-	-

* SEE SPECIAL PROVISIONS - PAGE 8 (SPECIAL SIGNAL FACES)



SILVER LAKE RD. & COUNTY ROAD "E"



STATION	LOCATION	DESCRIPTION
51+14.5	RT. 34'	PULLBOX 12
51+77	LT. 37'	PULLBOX 3
51+81	LT. 6'	PULLBOX 6
51+83	LT. 37'	SIGNAL NO. 3
51+86	RT. 35'	PULLBOX 11
51+93	RT. 44.5'	SIGNAL NO. 4
51+99	LT. 47'	PULLBOX 4
52+02	LT. 193'	PULLBOX 5
52+54	RT. 193'	PULLBOX 10
52+56	RT. 47'	PULLBOX 9
52+62	LT. 44.5'	SIGNAL NO. 2
52+62	RT. 44.5'	PED. PUSH BUTTON STA.
52+66	RT. 6'	PULLBOX 7
52+67	LT. 37'	PULLBOX 1
52+69	RT. 38'	SIGNAL NO. 1
52+72	RT. 34'	PULLBOX 8
52+79	LT. 36.5'	CONTROLLER & CABINET
53+40.5	LT. 34'	PULLBOX 2

"INPLACE SIGNAL SYSTEM"
PAINT SIGNAL SYSTEM
(SEE SPECIAL PROVISIONS)

INTERSECTION LAYOUT
SYSTEM "H"

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

8' x 16'
DIRECTIONAL LOOP DETECTOR
MANUFACTURE OF EQUIPMENT SHALL
FURNISH INSTALLATION DIAGRAM
(SEE SPECIAL PROVISIONS)

1" R.M.C.
4-3/c #12

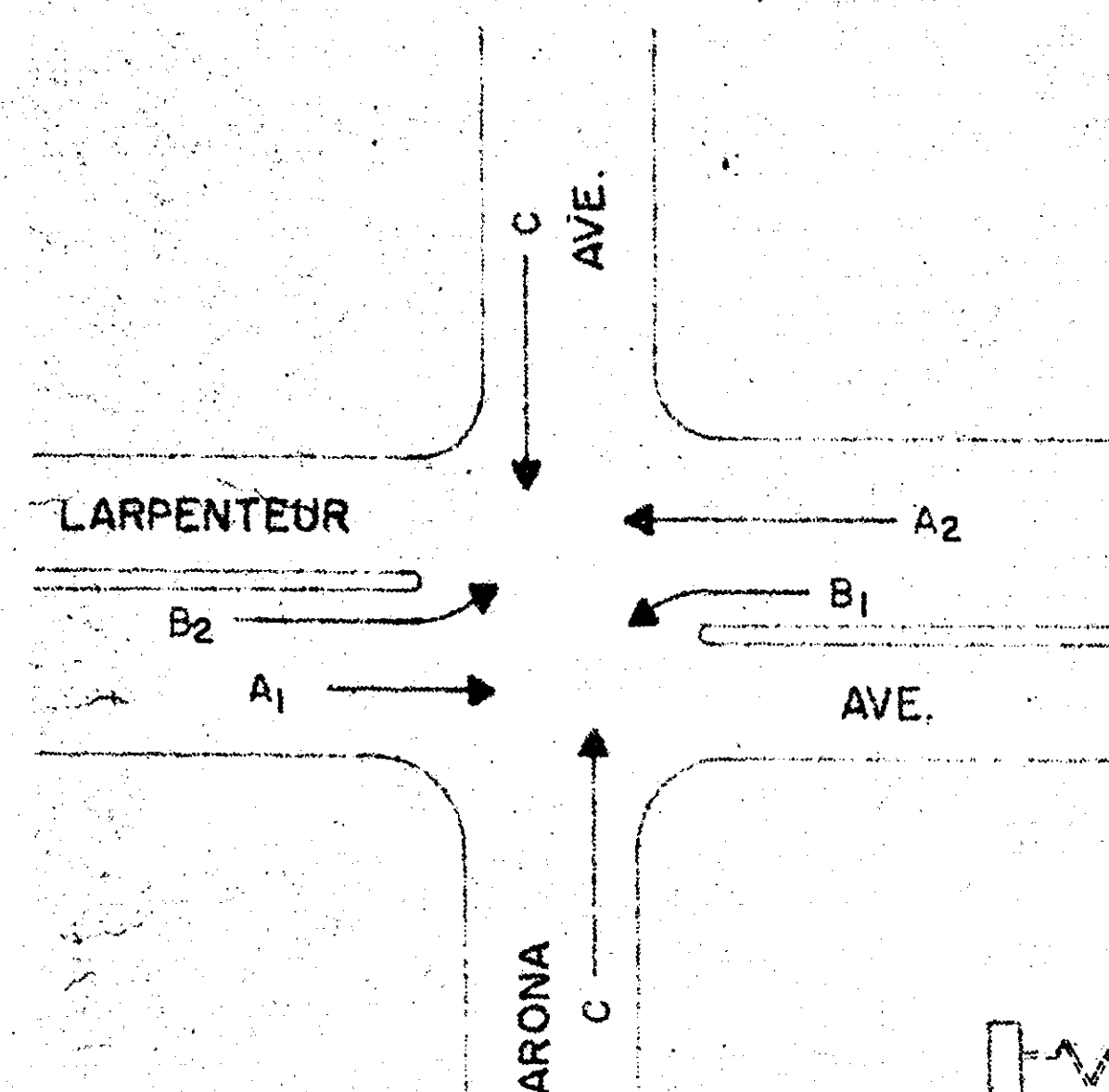
3" R.M.C.
3-12/c #12
1-3/c #12
2-1/c #6 TYPE R.H.W. OR T.H.W.

2-PEDESTRIAN PUSH BUTTONS
(SEE DETAIL NO. 1)

30' MAST ARM AND POLE WITH SHAFT, EXTENSION
15' MAST ARM AND LUMINAIRE (320°)
2-ONEWAY SIGNALS (OVERHEAD)
1-TWOWAY SIGNAL (POLE MTD. 270°)
2-SETS PEDESTRIAN INDICATIONS

3" R.M.C.
2-12/c #12
6-3/c #12
2-1/c #6 TYPE R.H.W. OR T.H.W.

8' x 35'
LOOP DETECTOR
(SEE DETAIL NO. 2)



FACE	PHASE	FLASH	INDICATION SIZE					
			R	Y	G	←	↑	→
B1	B1	Y	8"	8"	-	12"	-	-
B2	B2	Y	8"	8"	-	12"	-	-
A1	A1	R	12"	12"	12"	-	12"	-
A2	A1	R	12"	12"	12"	-	12"	-
A3	A2	R	12"	12"	12"	-	12"	-
A4	A2	R	12"	12"	12"	-	12"	-
C1	C	R	12"	12"	12"	-	-	-
C2	C	R	12"	12"	12"	-	-	-
C3	C	R	12"	12"	12"	-	-	-
C4	C	R	12"	12"	12"	-	-	-

2" R.M.C.
1-3/c #12
1-12/c #12 NO SPLICES
540' FROM CONTROLLER CABINET
AT ARONA AVE. TO CONTROLLER
CABINET AT SNELLING AVE.

8' x 20'
LOOP DETECTOR
(SEE DETAIL NO. 2)

1" R.M.C.
2-1/c #12 TYPE U.S.E. (STRANDED)

CONTROLLER AND CABINET
(SEE SPECIAL PROVISIONS)
4-METAL GUARD POST

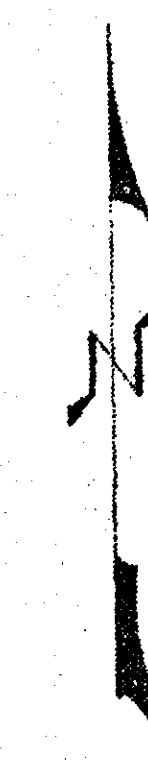
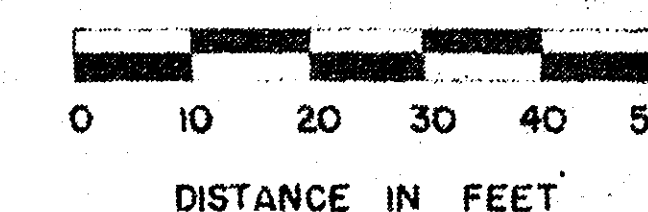
2-3" R.M.C.

4-12/c #12
11-3/c #12
2-1/c #6 TYPE R.H.W. OR T.H.W.

2" R.M.C.
4-3/c #12
2-12/c #12

1-10' SIGNAL PEDESTAL (TRANSFORMER BASE)
1-ONEWAY SIGNAL
2-PEDESTRIAN PUSH BUTTONS
2-SETS PEDESTRIAN INDICATIONS

LARPEUR AVE. & ARONA AVE.



3" R.M.C.
3-3/c #12
1-12/c #12

1-10' SIGNAL PEDESTAL (TRANSFORMER BASE)
1-ONEWAY SIGNAL
2-PEDESTRIAN PUSH BUTTONS
2-SETS PEDESTRIAN INDICATIONS

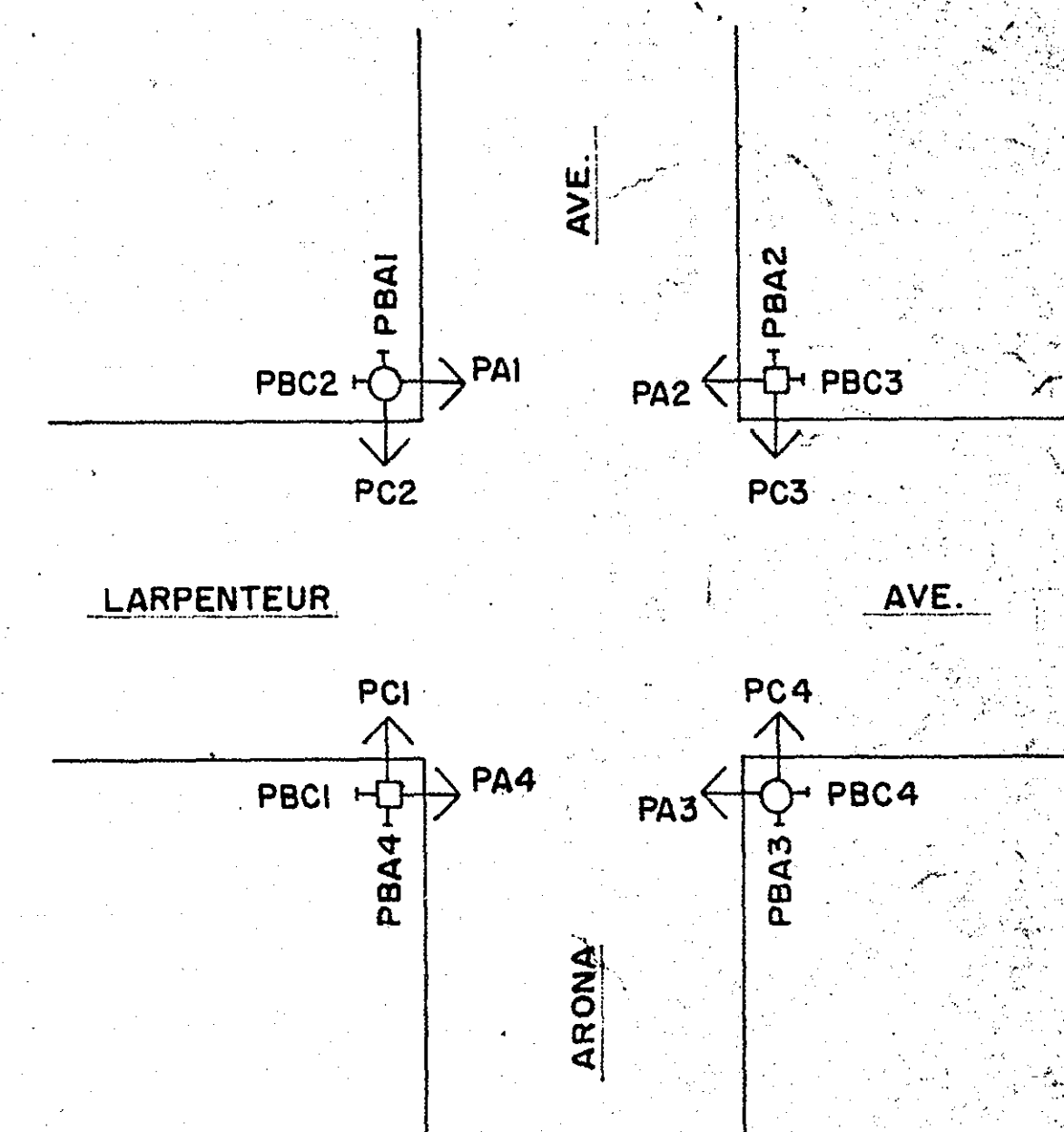
2" R.M.C.
2-3/c #12
1-12/c #12

8' x 35'
LOOP DETECTOR
(SEE DETAIL NO. 2)

1/4" R.M.C.
1-3/c #12

8' x 25'
LOOP DETECTOR
(SEE DETAIL NO. 2)

PED. IND. & PUSHBUTTON
LAYOUT



1" R.M.C.
2-1/c #12 TYPE U.S.E. (STRANDED)

35' MAST ARM AND POLE WITH SHAFT, EXTENSION
15' MAST ARM AND LUMINAIRE (320°)
2-ONEWAY SIGNALS (OVERHEAD)
1-TWOWAY SIGNAL (POLE MTD. 270°)
2-SETS PEDESTRIAN INDICATIONS
2-PEDESTRIAN PUSH BUTTONS
1-PHOTOELECTRIC CELL (DOWNLIGHTS)

3" R.M.C.
2-12/c #12
3-3/c #12
2-1/c #6 TYPE R.H.W. OR T.H.W.

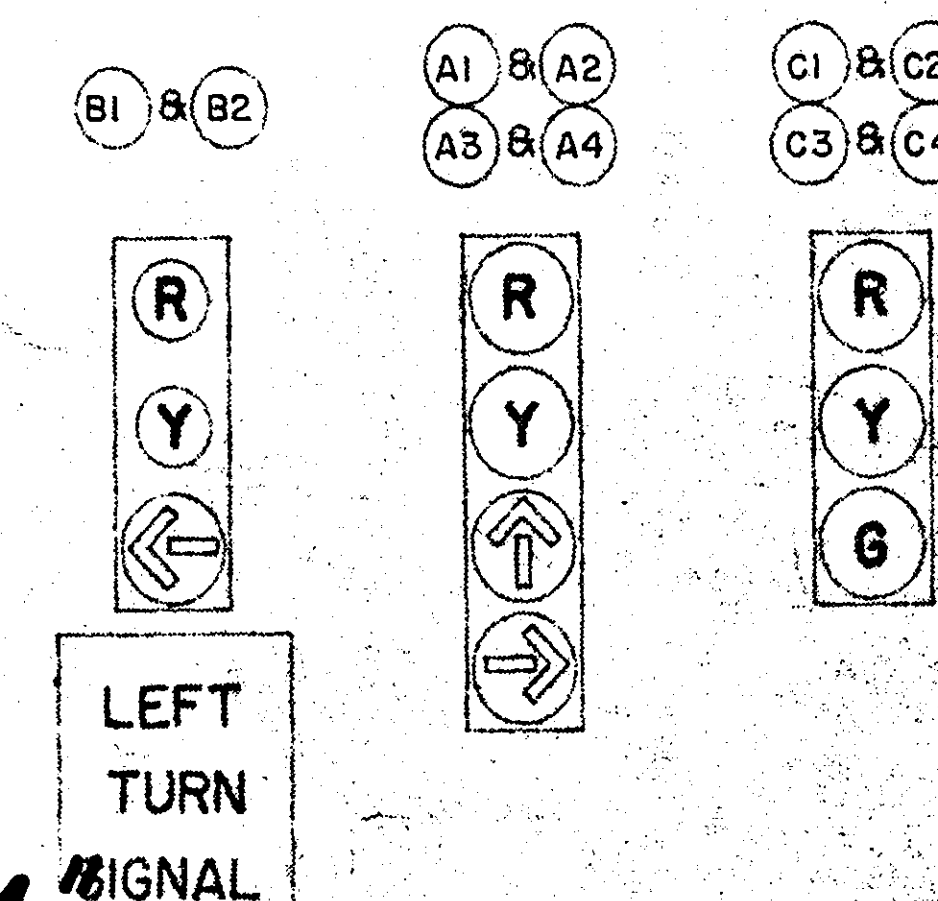
8' x 16'
LOOP DETECTOR
(SEE DETAIL NO. 2)

3" R.M.C.
2-12/c #12
5-3/c #12
2-1/c #6 TYPE R.H.W. OR T.H.W.

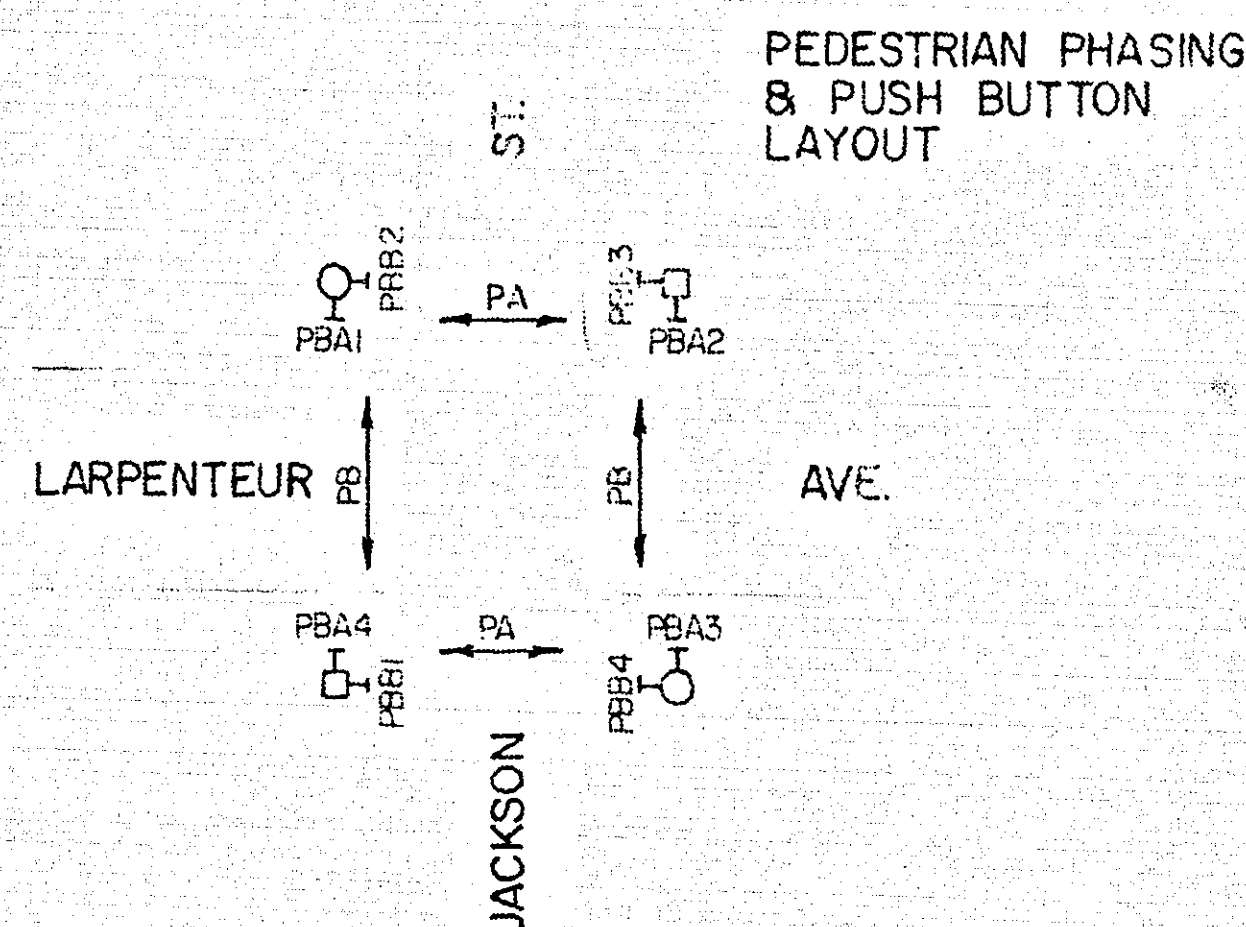
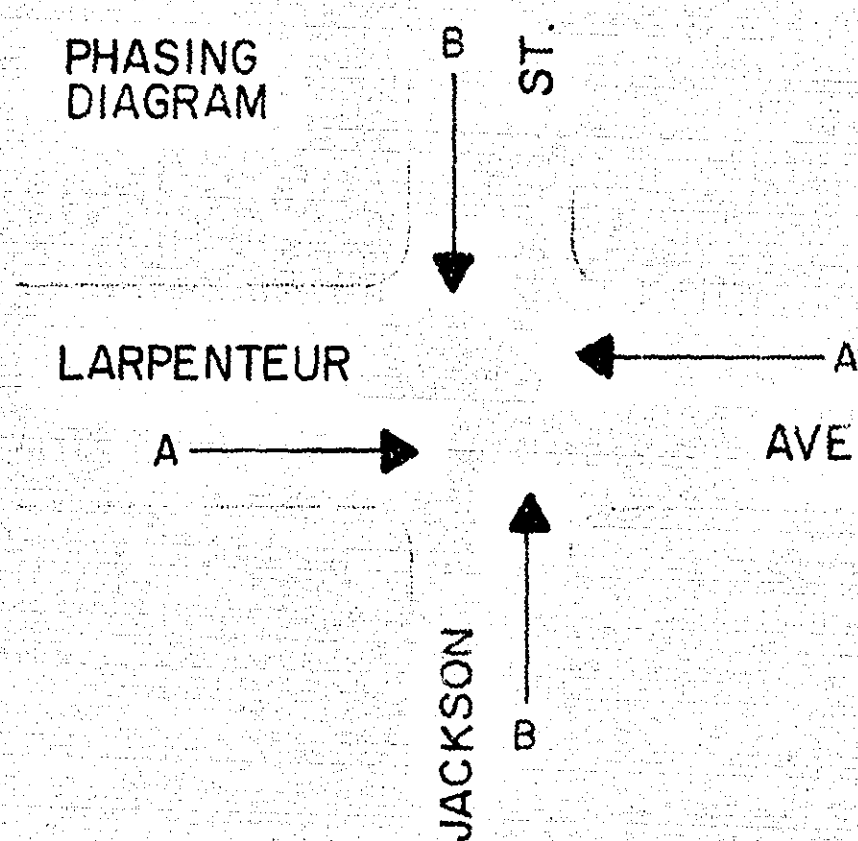
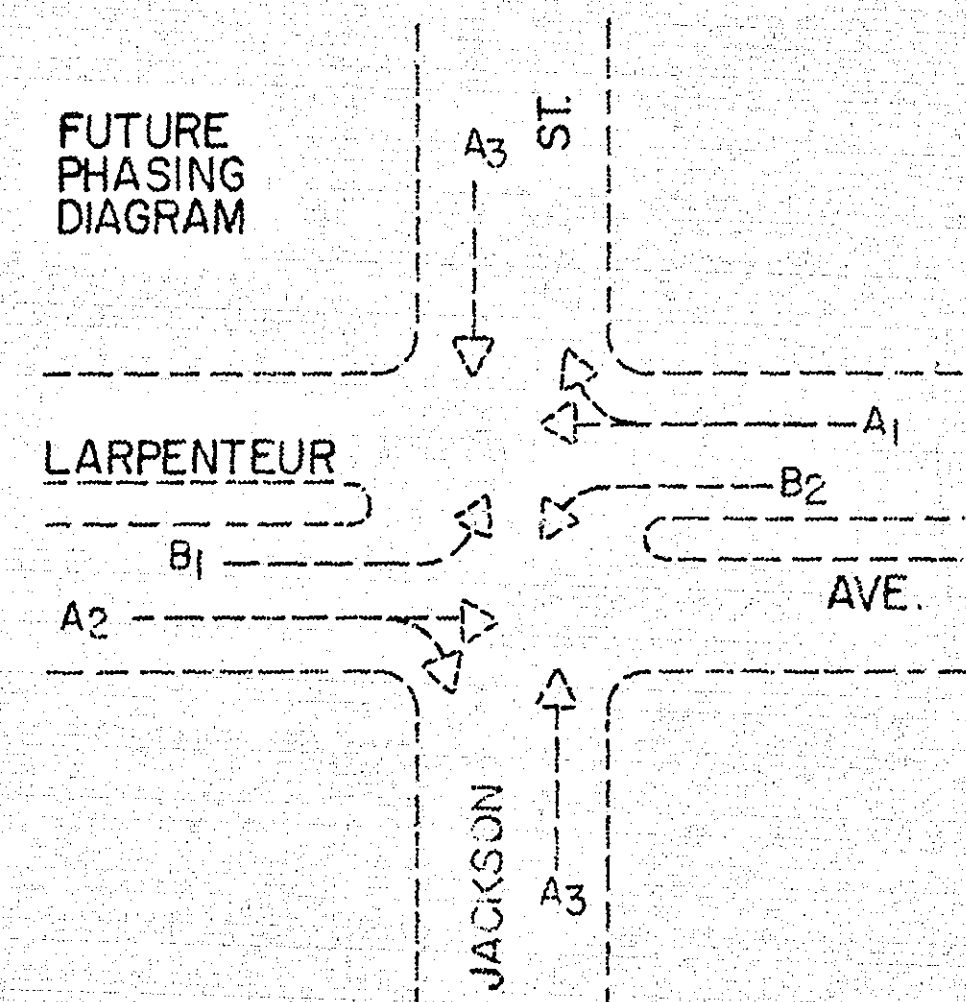
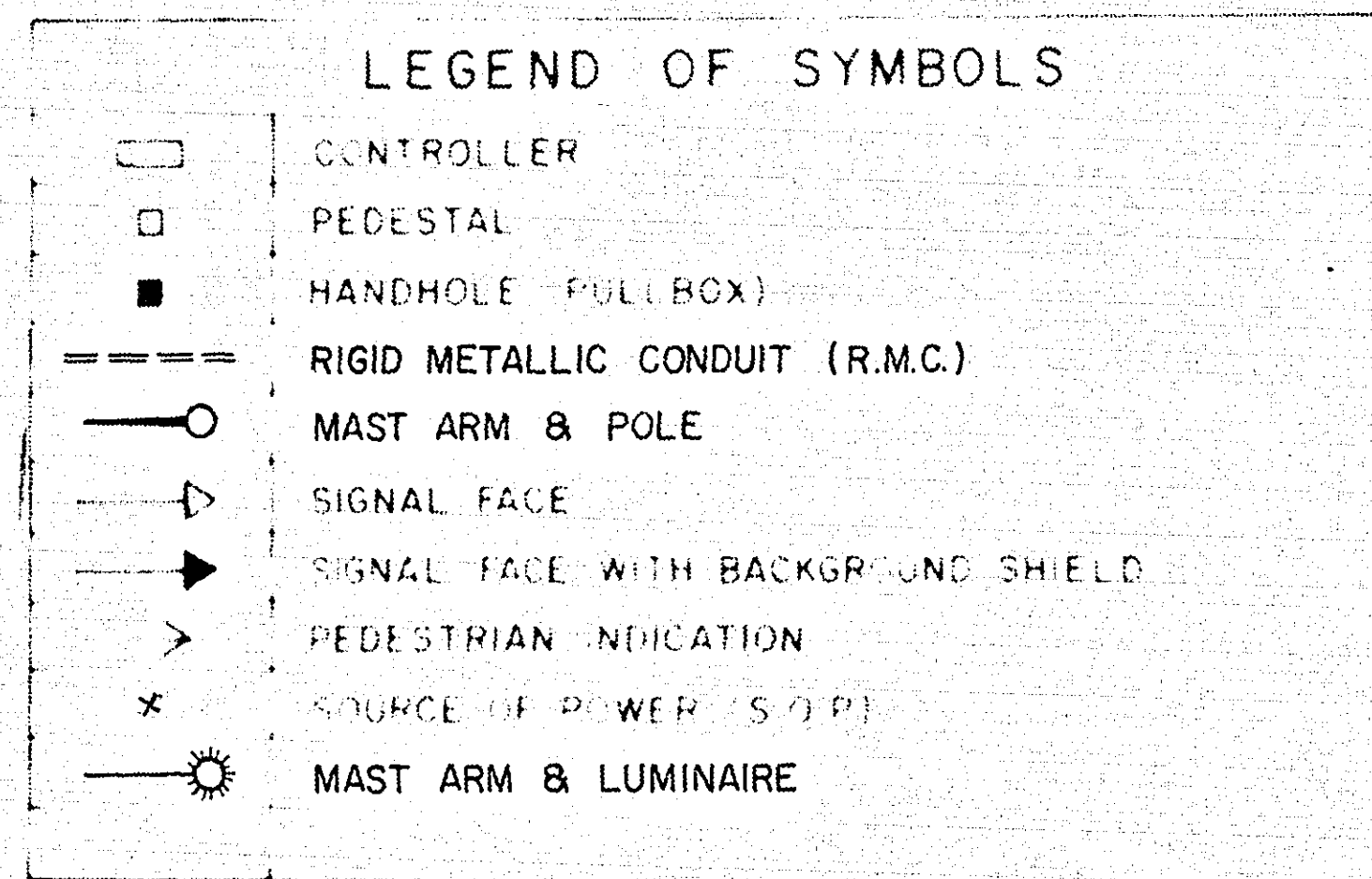
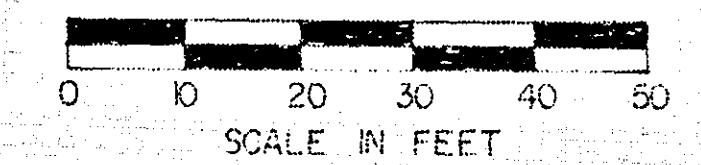
"INPLACE SIGNAL SYSTEM"

PAINT SIGNAL SYSTEM
(SEE SPECIAL PROVISIONS)

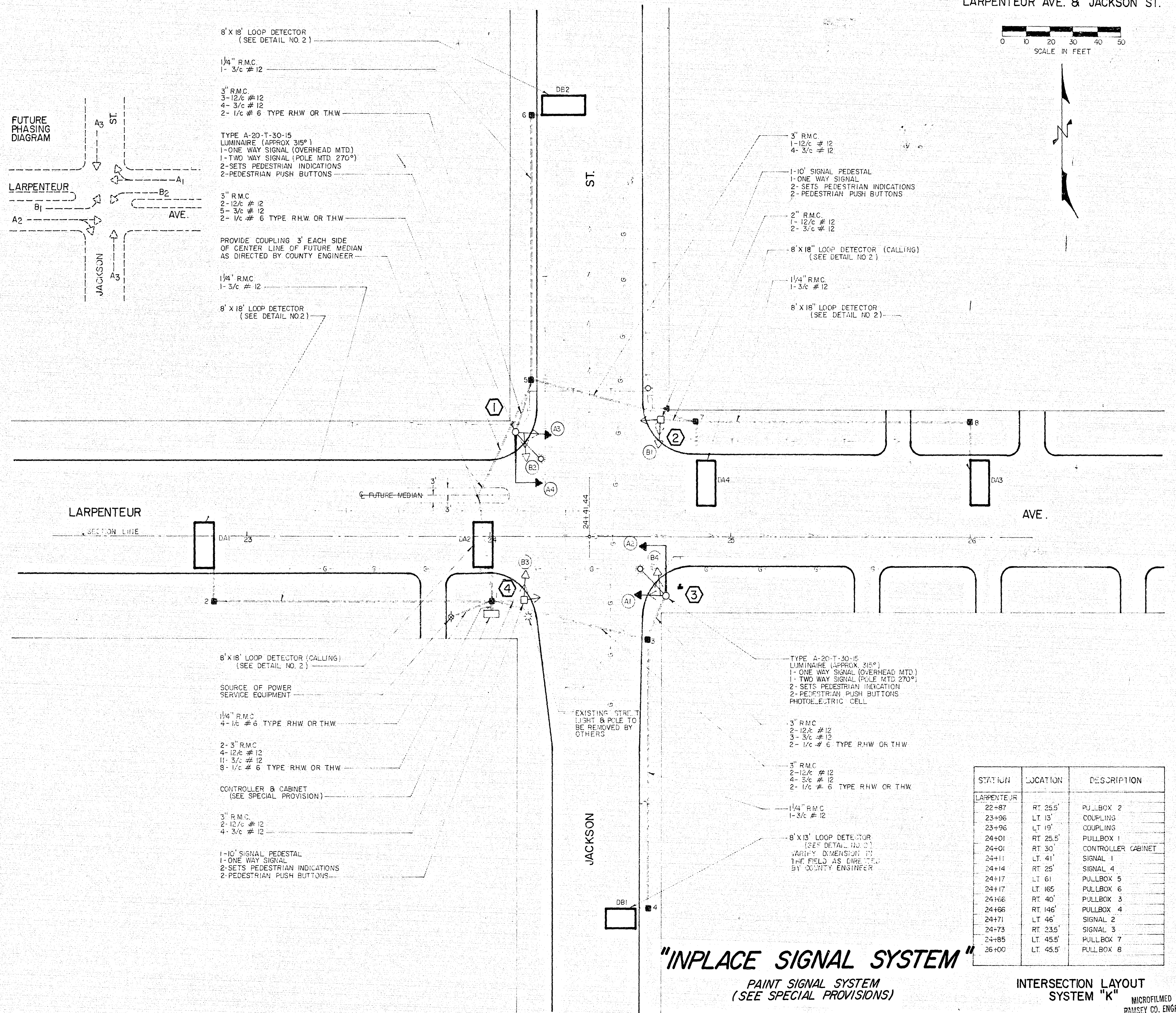
SIGNAL FACE INDICATIONS



INTERSECTION LAYOUT
SYSTEM "J"



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"	-	-	-

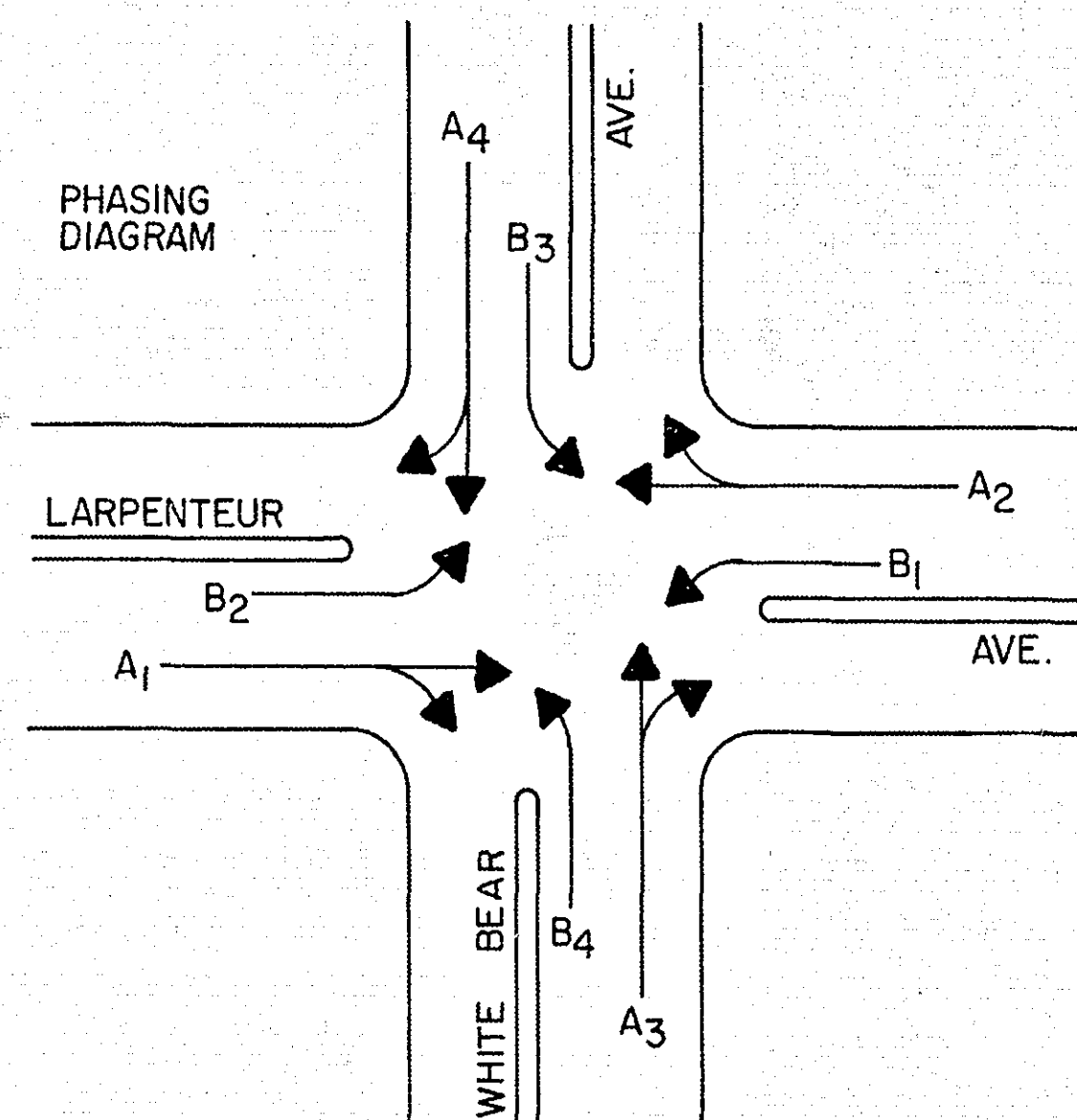


"INPLACE SIGNAL SYSTEM"
PAINT SIGNAL SYSTEM
(SEE SPECIAL PROVISIONS)

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

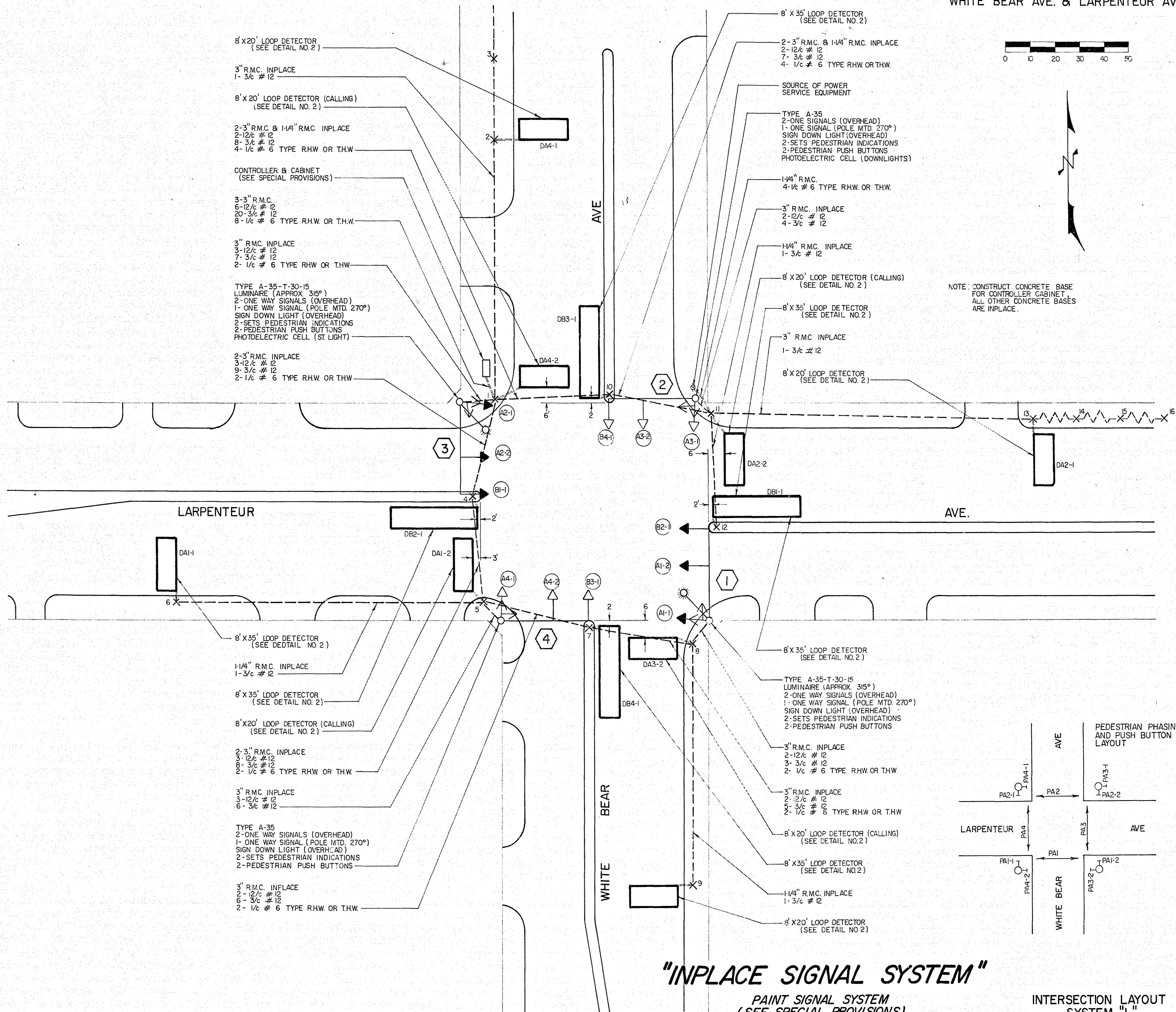
INTERSECTION LAYOUT
SYSTEM "K"
MICROFILMED
RAMSEY CO. ENGR.

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

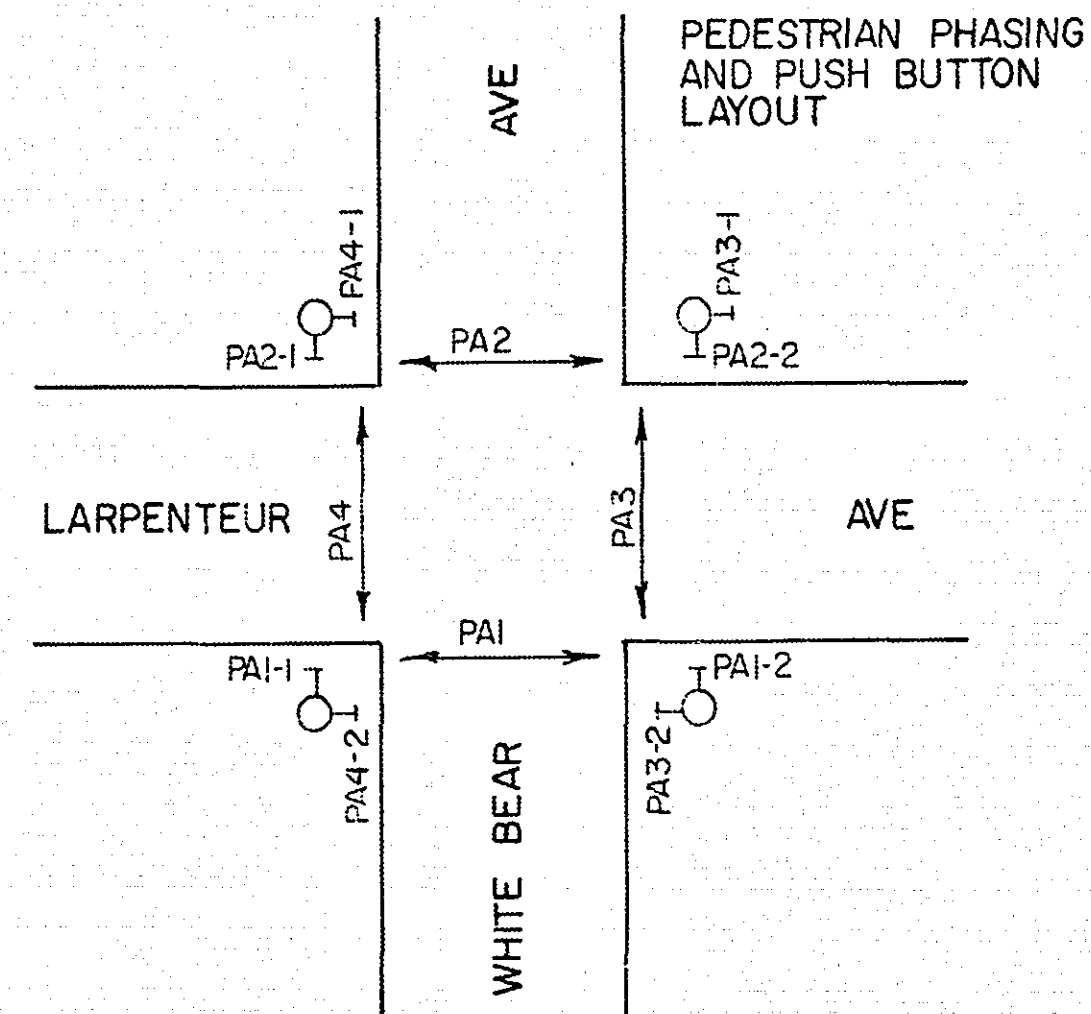


FACE	PHASE	FLASH	INDICATION SIZE					
			R	Y	G	←	↑	→
A1-1	A ₁	R	12"	12"	12"	-	12"	-
A1-2	A ₁	R	12"	12"	12"	-	12"	-
A3-1	A ₃	R	12"	12"	12"	-	12"	-
A3-2	A ₃	R	12"	12"	12"	-	12"	-
A2-1	A ₂	R	12"	12"	12"	-	12"	-
A2-2	A ₂	R	12"	12"	12"	-	12"	-
A4-1	A ₄	R	12"	12"	12"	-	12"	-
* B2-1	B ₂	R	12"	12"	-	12"	-	-
* B4-1	B ₄	R	12"	12"	-	12"	-	-
* B1-1	B ₁	R	12"	12"	-	12"	-	-
* B3-1	B ₃	R	12"	12"	-	12"	-	-

* SEE SPECIFICATIONS (SPECIAL SIGNAL FACES)

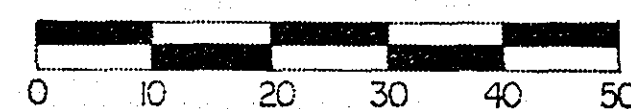


"INPLACE SIGNAL SYSTEM"
PAINT SIGNAL SYSTEM
(SEE SPECIAL PROVISIONS)



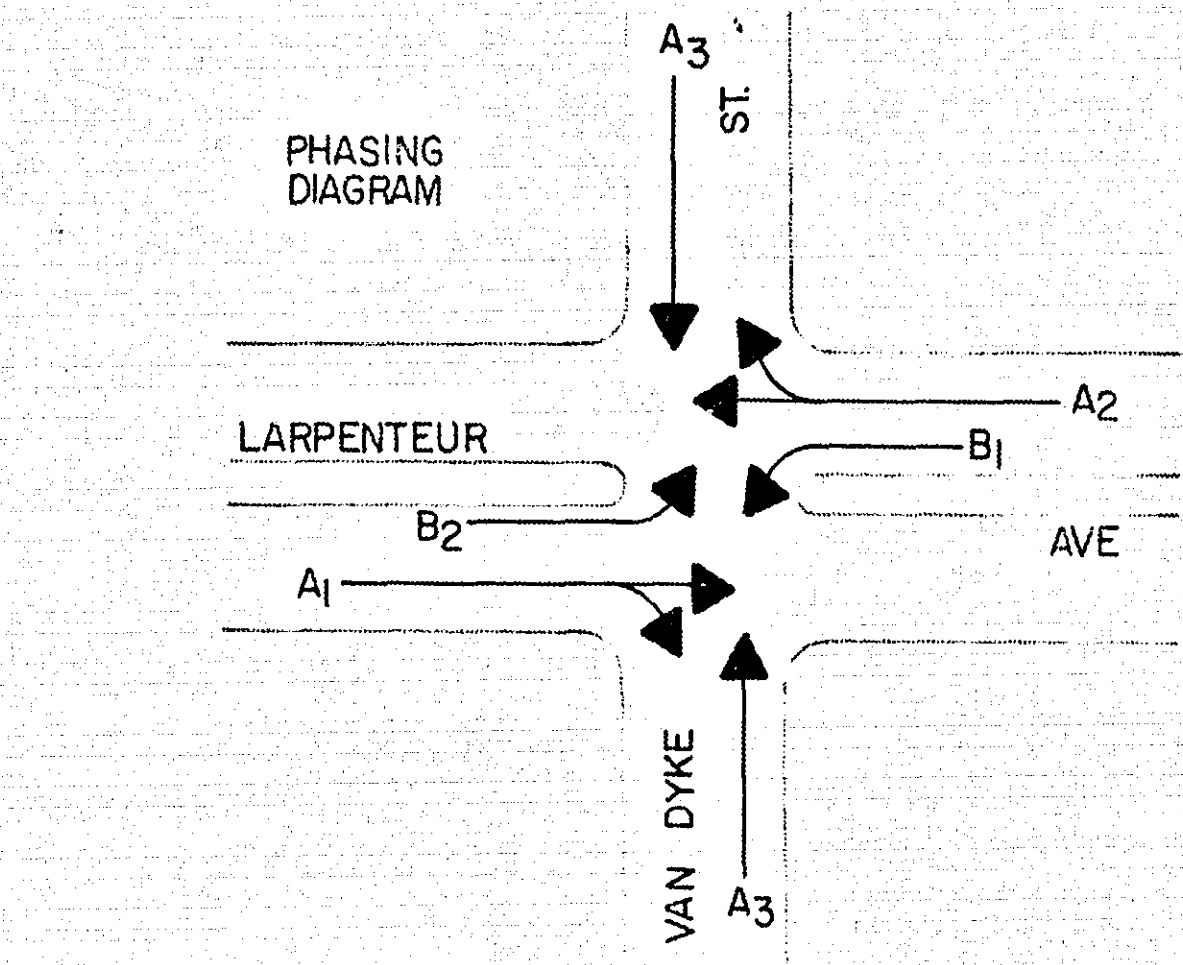
INTERSECTION LAYOUT
SYSTEM "L"

MICROFILMED
RAMSEY CO. ENGR.



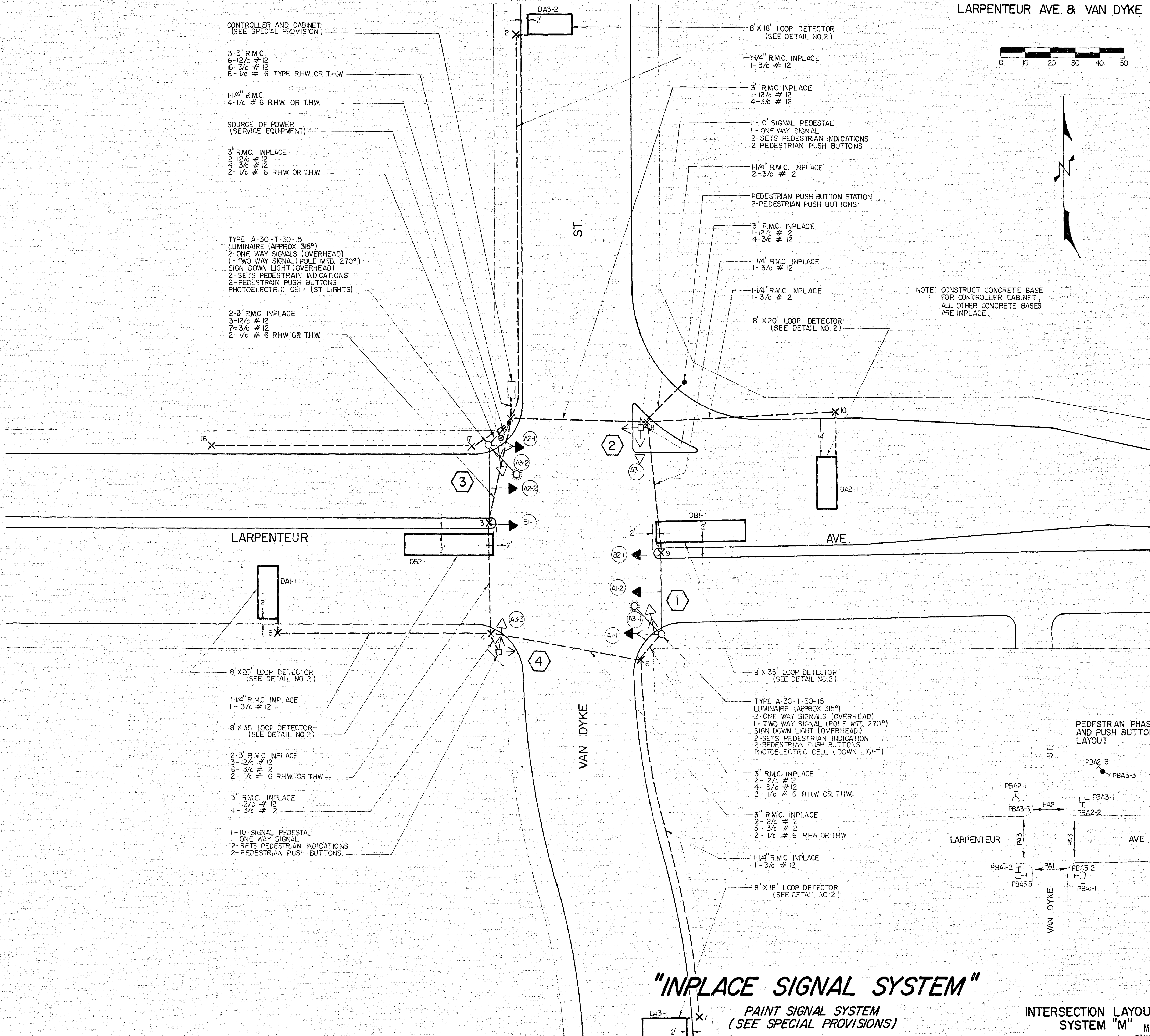
NOTE: CONSTRUCT CONCRETE BASE FOR CONTROLLER CABINET, ALL OTHER CONCRETE BASES ARE INPLACE.

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)



"INPLACE SIGNAL SYSTEM"

PAINT SIGNAL SYSTEM
(SEE SPECIAL PROVISIONS)

INTERSECTION LAYOUT
SYSTEM "M"

MICROFILMED
RAMSEY CO. ENGR.