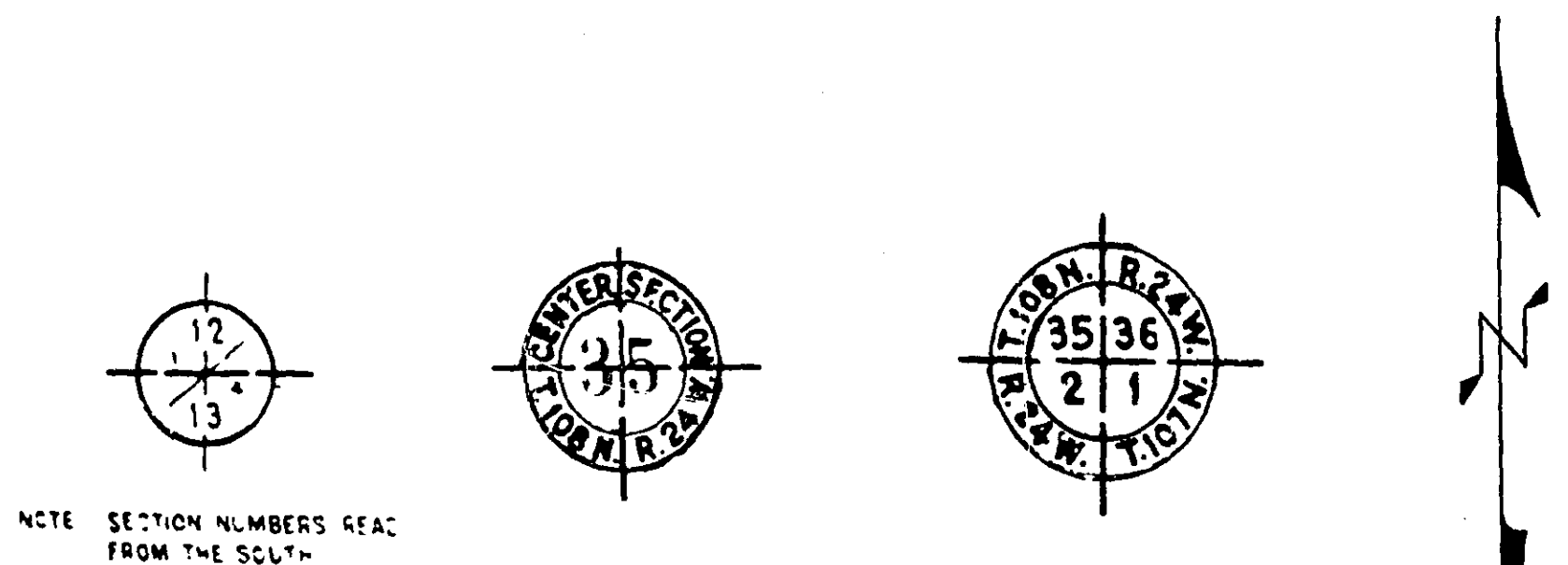


STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT-OF-WAY LINE
PRESENT RIGHT-OF-WAY LINE
CONTROL OF ACCESS LINE
PROPERTY LINE (Except Land Lines)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
RETAINING WALL
RAILROAD
RAILROAD RIGHT-OF-WAY LINE
RIVER OR CREEK
DRY RUN
DRAINAGE DITCH
DRAIN TILE
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN 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-SHED
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

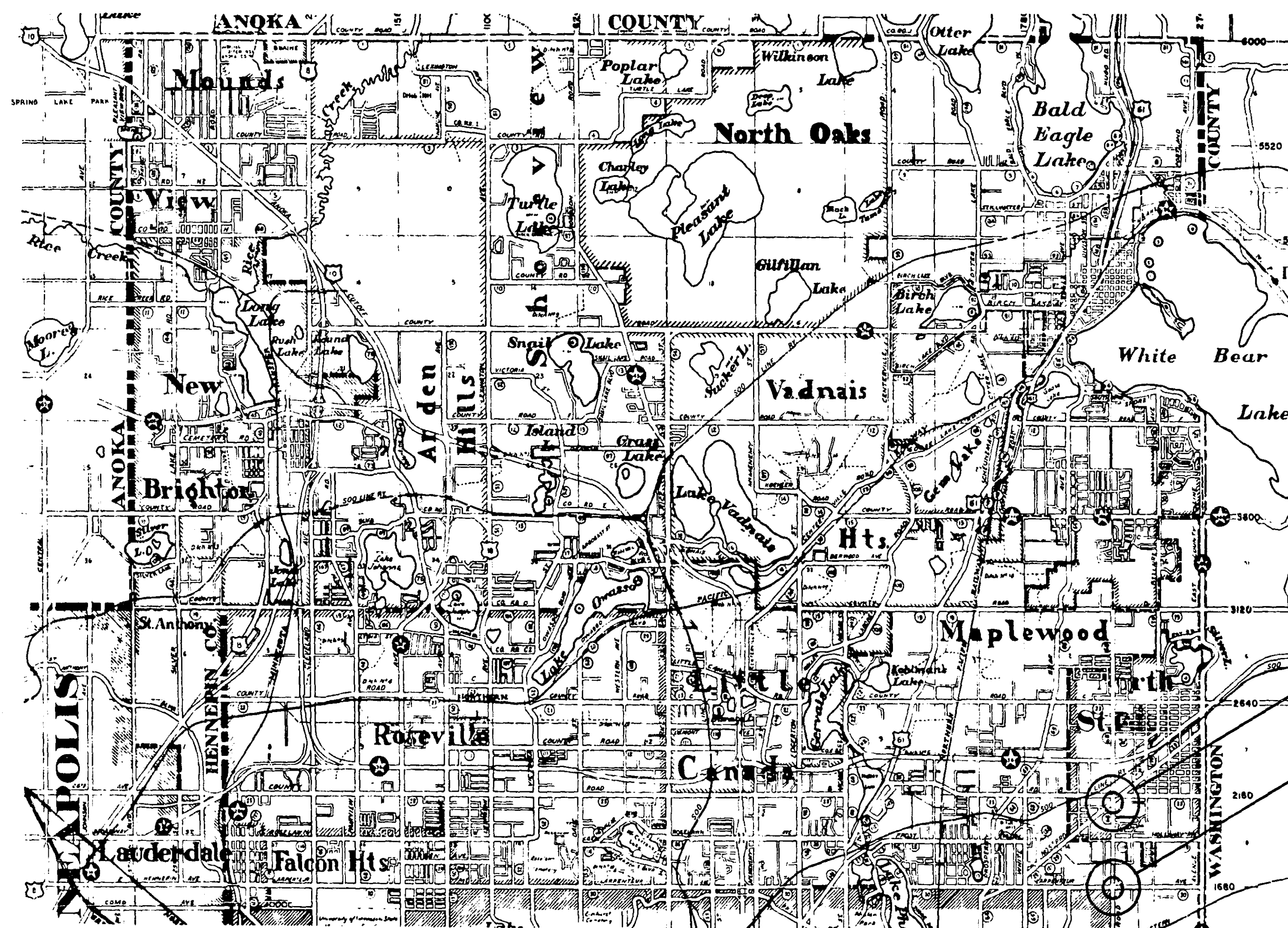
0 100 FEET

POWER POLE LINE		CONDUIT	
TELEPHONE OR TELEGRAPH POLE LINE		TELEPHONE CABLE IN CONDUIT	
JOINT TELEPHONE AND POWER ON POWER POLES		ELECTRIC CABLE IN CONDUIT	
ON TELEPHONE POLES		TELEPHONE-MANHOLE	
ANCHOR		ELECTRIC MANHOLE	
STEEL TOWER		BURIED TELEPHONE CABLE	
STREET LIGHT		BURIED ELECTRIC CABLE	
PEDESTAL (TELEPHONE CABLE TERMINAL)		ADJACENT TELEPHONE CABLE	
GAS MAIN		SEWER, (SANITARY OR STORM)	
WATER MAIN		SEWER MANHOLE	



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

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



OFFICE OF COUNTY ENGINEER
RAMSEY COUNTY
PLAN OF TRAFFIC CONTROL SYSTEM FOR THE INTERSECTIONS OF
NO. ST. PAUL RD. & McKNIGHT RD.
AND
LARPENTEUR AVE. & McKNIGHT RD.

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	DETAILS
3	INTERSECTION LAYOUT
4	FIELD WIRING DIAGRAM
	NO. ST. PAUL RD. & McKNIGHT RD.
5	INTERSECTION LAYOUT
6	FIELD WIRING DIAGRAM
	LARPENITEUR AVE. & McKNIGHT RD.

LARPEN TEUR AVE. &
McKNIGHT RD.

DESIGNED BY _____ DATE _____
DIRECTOR OF SAFETY

RECOMMENDED FOR APPROVAL _____ DATE _____
COUNTY ENGINEER

APPROVED _____ DATE _____
CHAIRMAN OF THE RAMSEY COUNTY BOARD

APPROVED _____ DATE _____

APPROVED _____ DATE _____

MINNESOTA STATE HIGHWAY DEPARTMENT

RECOMMENDED FOR APPROVAL _____ DATE _____

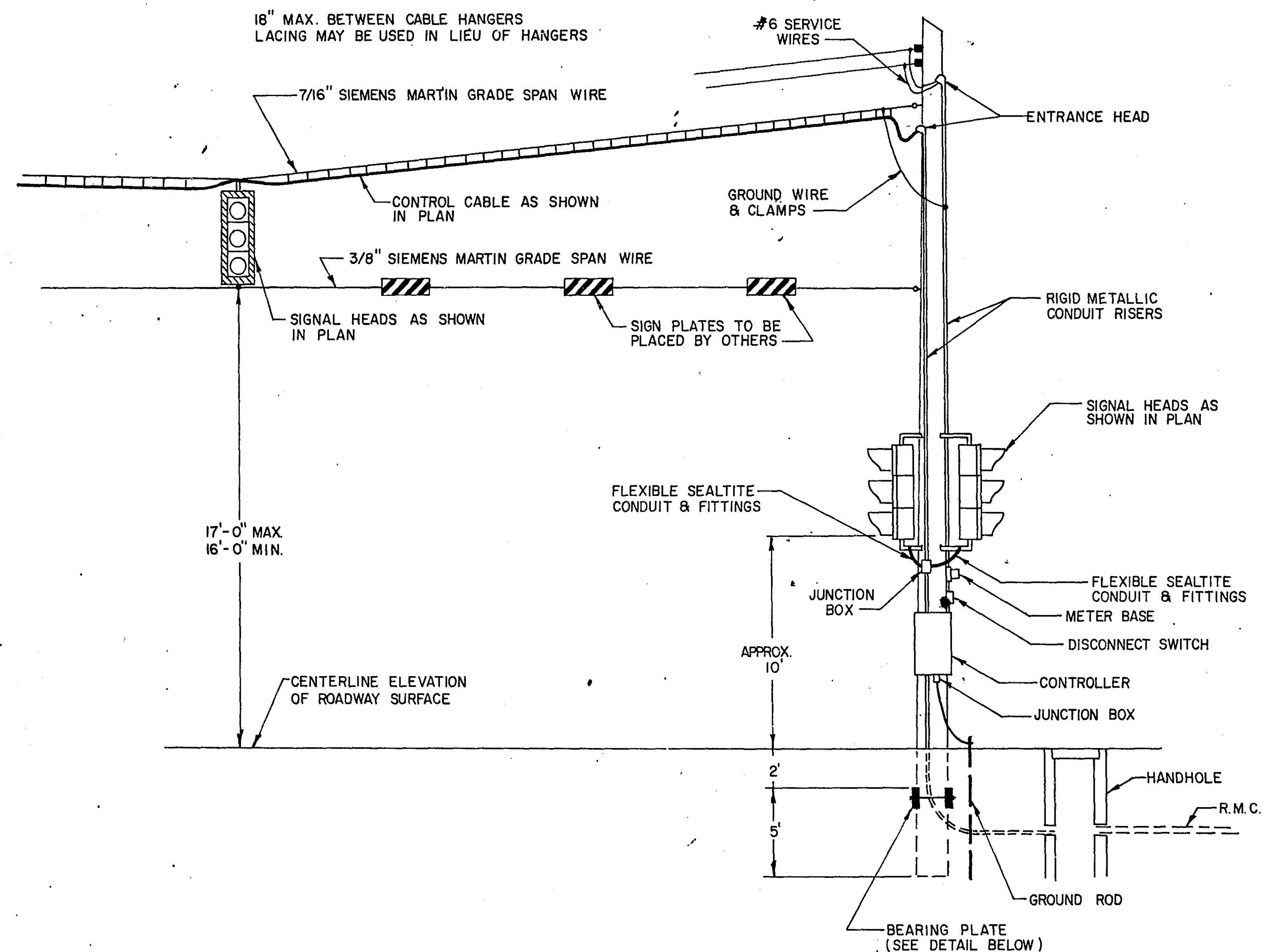
RECOMMENDED FOR APPROVAL _____ DATE _____
DISTRICT STATE AID ENGINEER

APPROVAL _____ DATE _____
STATE AID ENGINEER

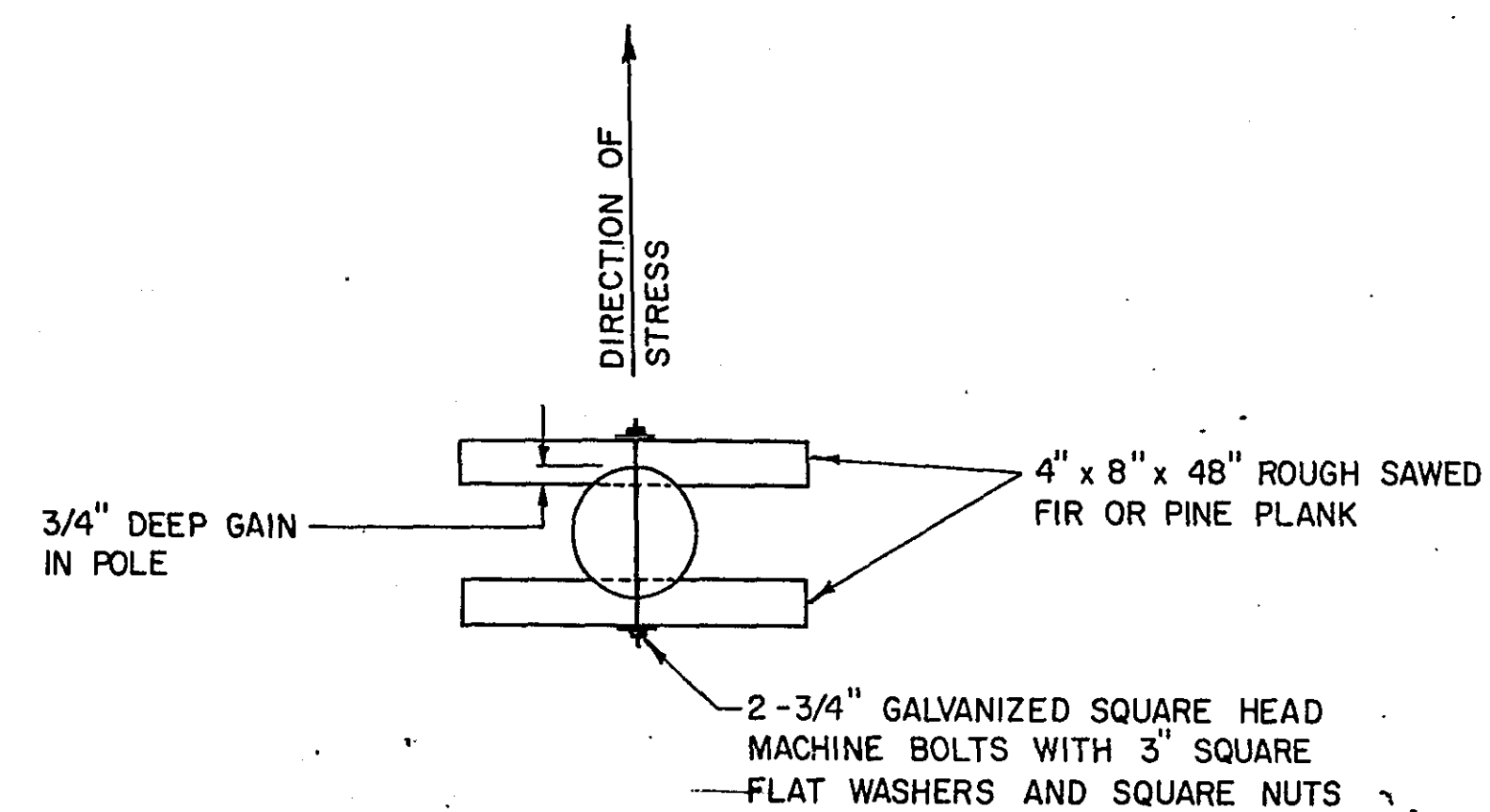
Not Built

MICROFILMED
MMSE 15 PAGE

TEMPORARY WOOD POLE TRAFFIC SIGNAL



BEARING PLATE DETAIL



STANDARD PLATES *

PLATE NO.	DESCRIPTION
8113A	MAGNETIC VEHICLE DETECTOR INSTALLATION
8117B	PRECAST CONCRETE HANDHOLE
8118A	SERVICE EQUIPMENT & POLE TRAFFIC CONTROL SIGNALS

* STATE OF MINNESOTA DEPT. OF HIGHWAYS
STANDARD PLATES MANUAL 5-296

ABBREVIATIONS

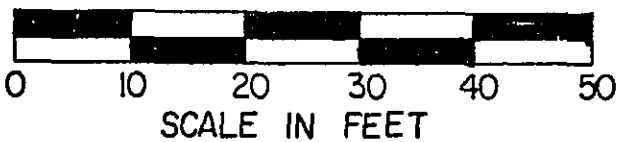
EQUIPMENT & INDICATIONS

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

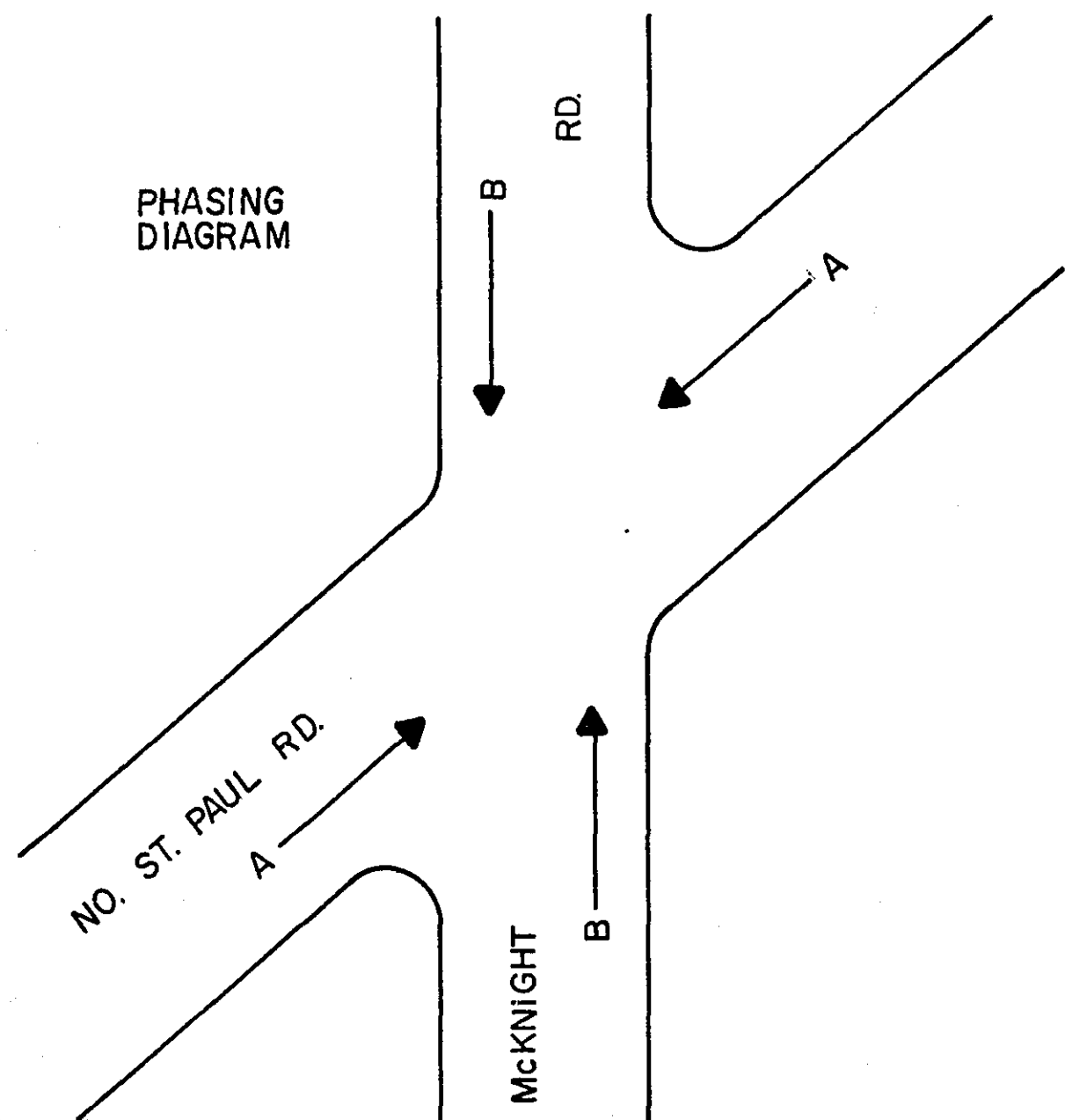
DNL - DOWNLIGHT
P.E.C. - PHOTOELECTRIC CELL
ST. LHT. - STREET LIGHT
CH. - CHECK
S.O.P. - SOURCE OF POWER
E.Q.G. - EQUIPMENT GROUND
SPR - SPARE CONDUCTOR

COLOR CODING OF CONDUCTORS

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



LEGEND OF SYMBOLS	
	CONTROLLER
	HANDHOLE (PULLBOX)
	RIGID METALLIC CONDUIT (R.M.C.)
	NON-METALLIC CONDUIT (N.M.C.)
	SIGNAL FACE
	SIGNAL FACE WITH BACKGROUND SHIELD
	SOURCE OF POWER (S.O.P.)
	WOOD POLE



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

7/16" SPAN WIRE
1-12/c #12

7/16" SPAN WIRE
2-12/c #12
1-3/c #12

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

40' WOOD POLE, CLASS 2
1- ONE WAY SIGNAL (WOOD POLE MTD.)
SERVICE EQUIPMENT
CONTROLLER CABINET (WOOD POLE MTD.)
3" R.M.C. RISER WITH ENTRANCE HEAD
1/4" R.M.C. RISER WITH ENTRANCE HEAD
1- DOWN GUY, METAL GUARD, AND
EXPANDING ANCHOR

SOURCE OF POWER

1- FOUR WAY SIGNAL
(SPAN WIRE MTD.)

40' WOOD POLE, CLASS 2
1- ONE WAY SIGNAL (WOOD POLE MTD.)
2- ROUGH SAWED PLANKS
3" R.M.C. RISER WITH ENTRANCE HEAD
ABOVE JCT. BOX

7/16" SPAN WIRE
1-12/c #12
1-3/c #12

40' WOOD POLE, CLASS 2
1- ONE WAY SIGNAL (WOOD POLE MTD.)
3" R.M.C. RISER WITH ENTRANCE HEAD
ABOVE JCT. BOX
1 DOWN GUY, METAL GUARD, AND
EXPANDING ANCHOR

7/16" SPAN WIRE
1-12/c #12

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

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

40' WOOD POLE, CLASS 2
1- ONE WAY SIGNAL (WOOD POLE MTD.)
2- ROUGH SAWED PLANKS
3" R.M.C. RISER WITH ENTRANCE HEAD
ABOVE JCT. BOX

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
NO. ST. PAUL RD. STA. 3+00 = 6 McKNIGHT RD.		
2+60	RT. 19'	SIGNAL NO. 1
2+77	RT. 59'	PULLBOX 2
2+80	LT. 22'	SIGNAL NO. 4
3+18	LT. 62'	PULLBOX 1
3+19	RT. 18'	SIGNAL NO. 2
3+50	LT. 22'	SIGNAL NO. 5

CONTROLLER CABINET

SIGNAL BLK 1
SERVICE WH

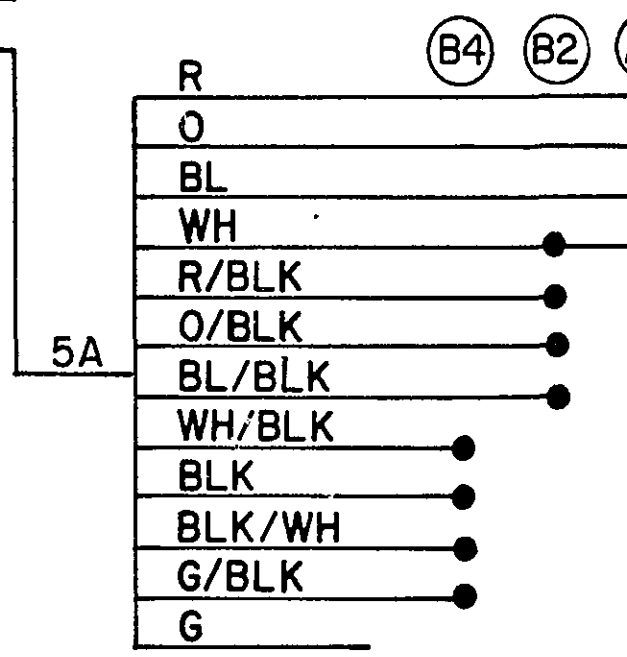
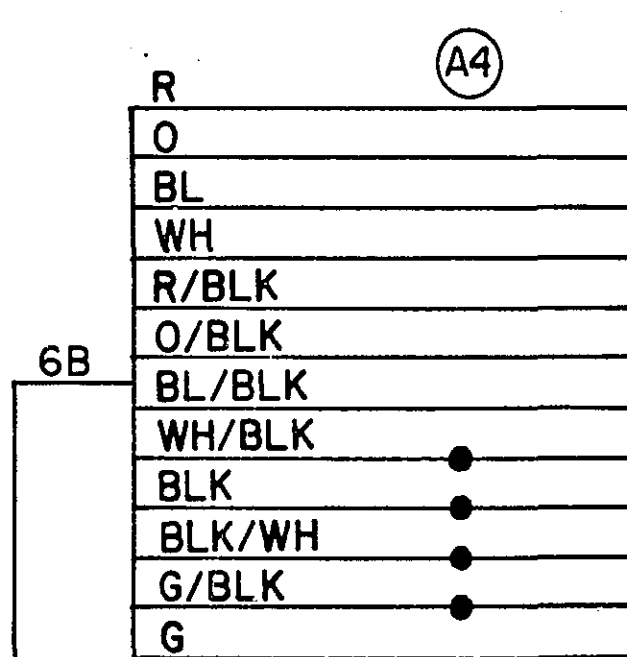
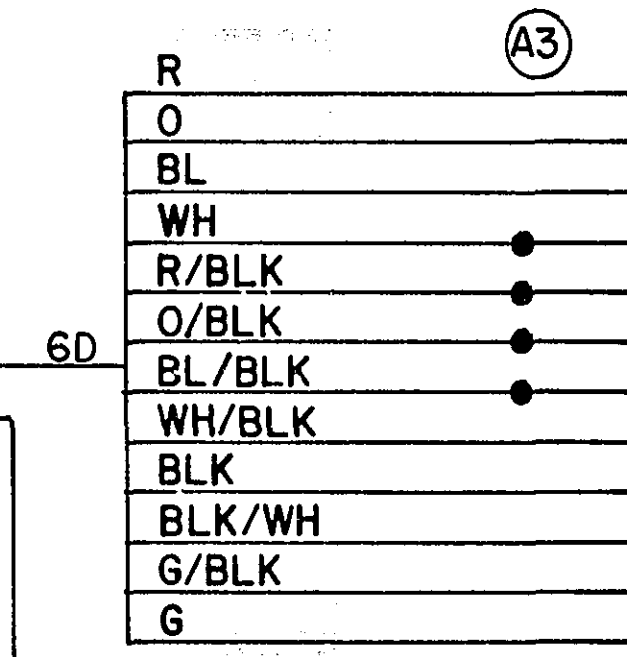
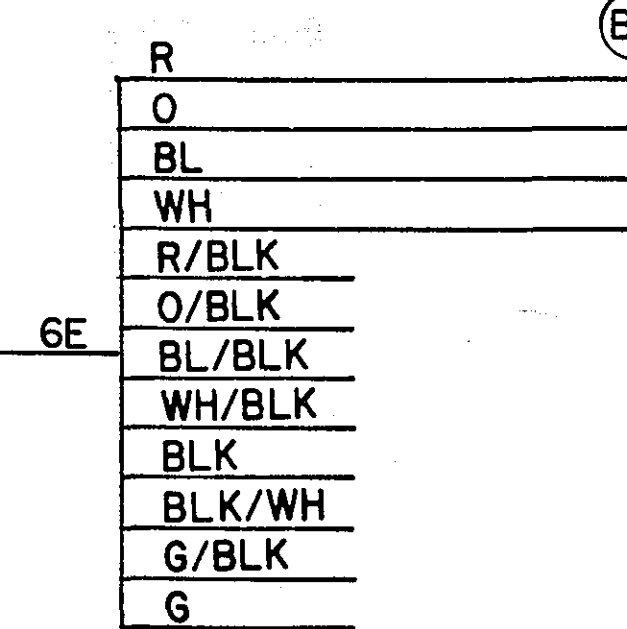
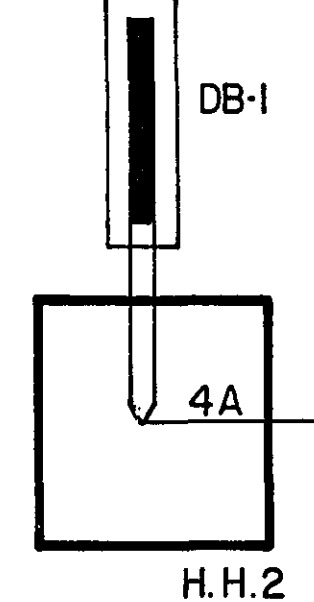
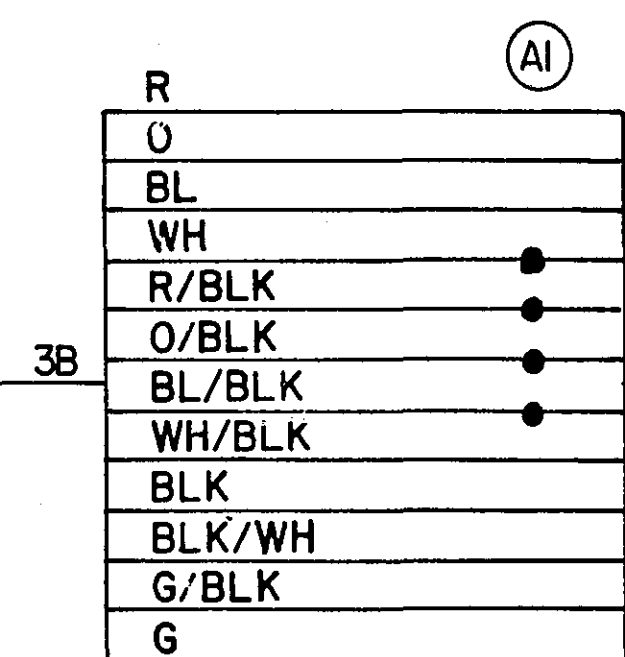
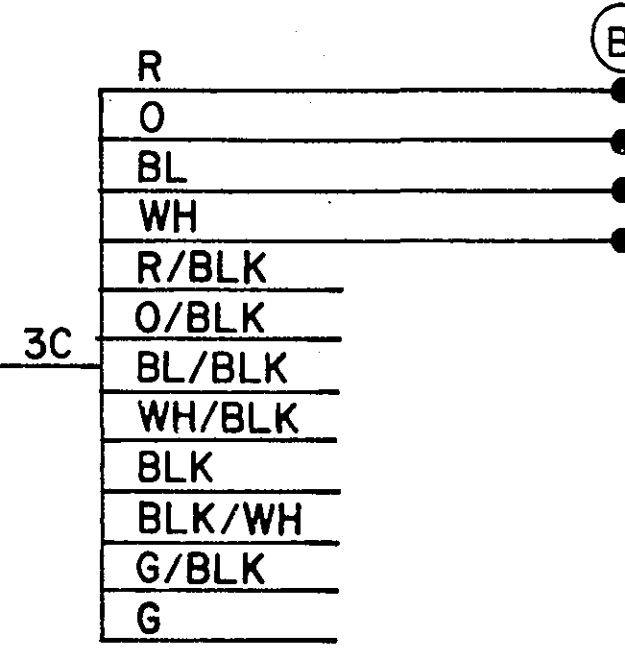
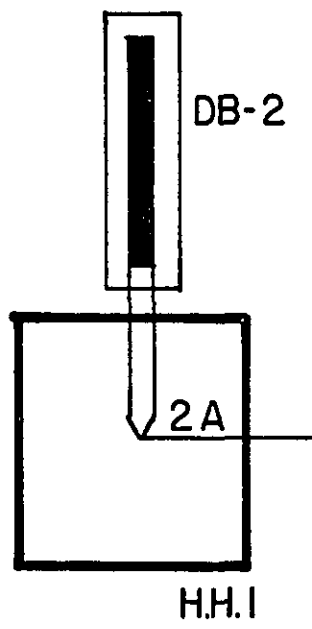
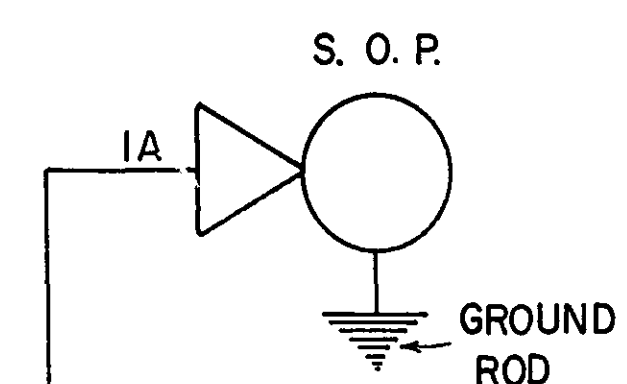
DB-2 BLK 2
WH
R

BI RED R
BI YEL O
BI GRN BL
AI BI NEU WH
AI RED R/BLK
AI YEL O/BLK
AI GRN BL/BLK
WH/BLK
BLK
BLK/WH
G/BLK
EQG G

DB-1 BLK 4
WH
R

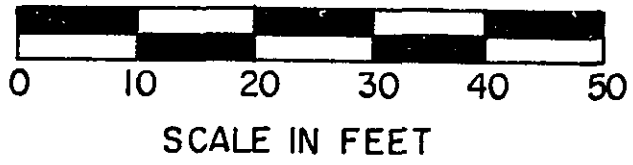
A2 RED R
A2 YEL O
A2 GRN BL
B2 A2 NEU WH
B2 RED R/BLK
B2 YEL O/BLK
B2 GRN BL/BLK
B4 NEU WH/BLK
B4 RED BLK
B4 YEL BLK/WH
B4 GRN G/BLK
EQG G

B3 RED R
B3 YEL O
B3 GRN BL
A3 B3 NEU WH
A3 RED R/BLK
A3 YEL O/BLK
A3 GRN BL/BLK
A4 NEU WH/BLK
A4 RED BLK
A4 YEL BLK/WH
A4 GRN G/BLK
EQG G

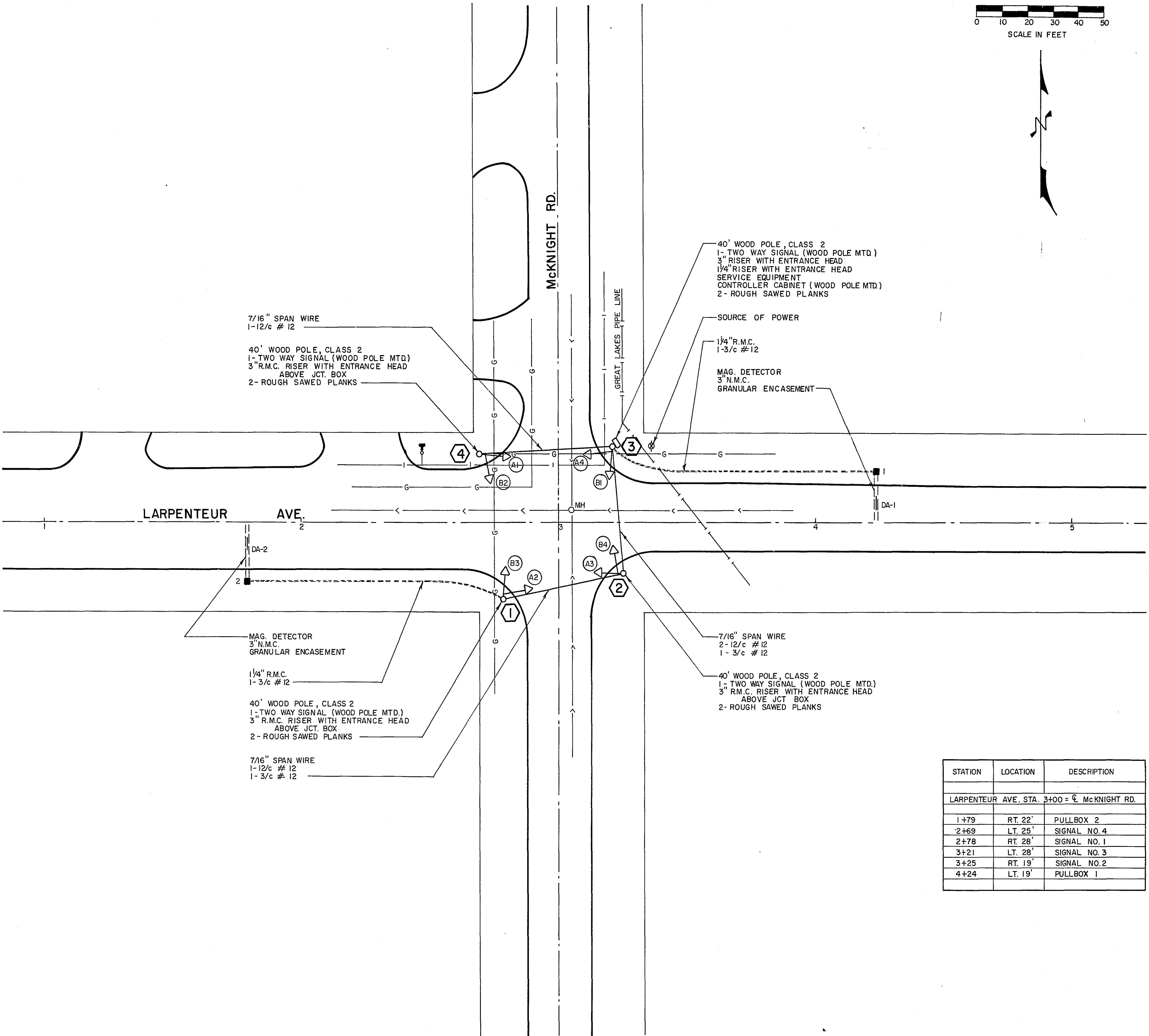
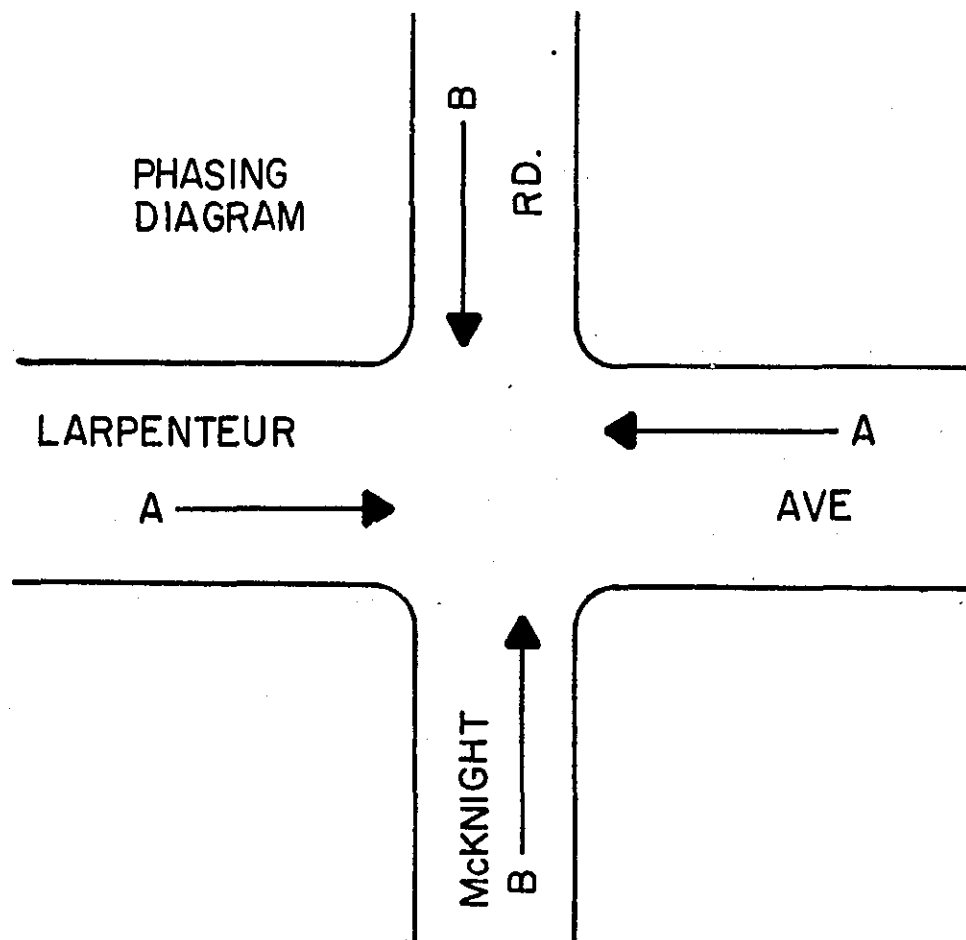


FIELD WIRING
DIAGRAM

NO. ST. PAUL RD. & MCKNIGHT RD.

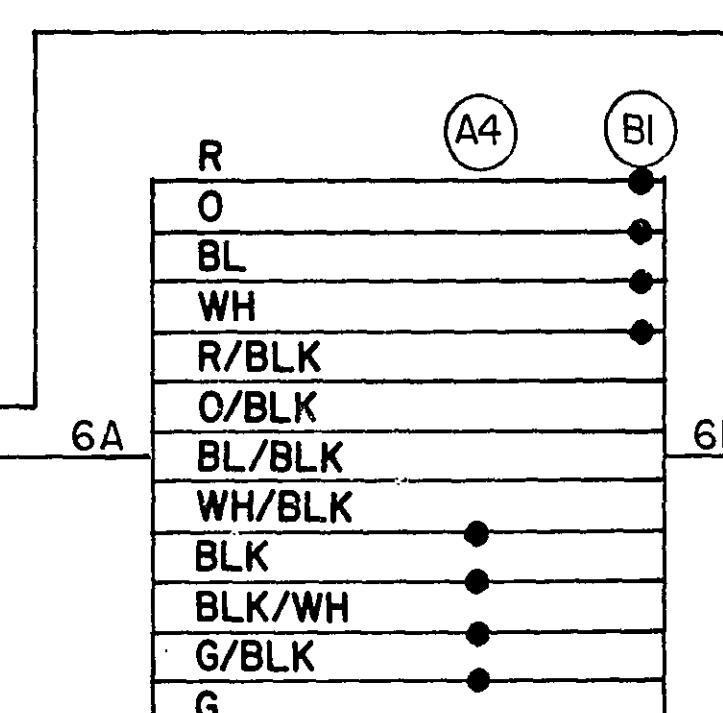
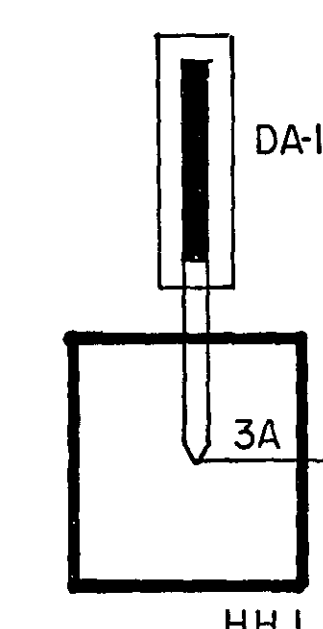
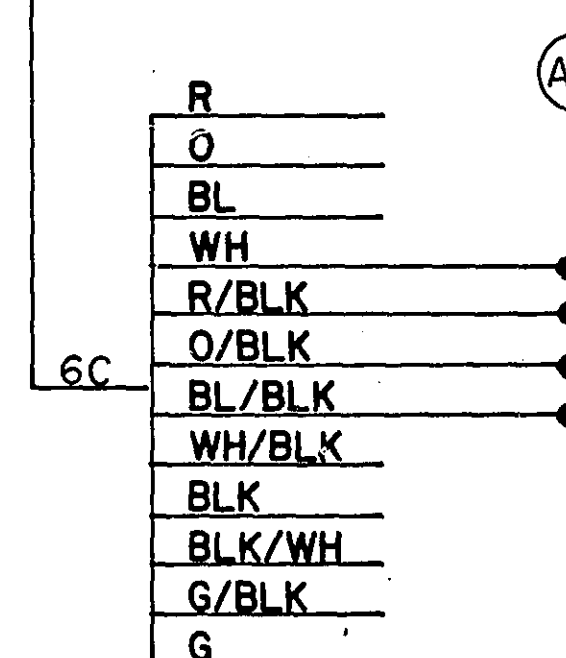
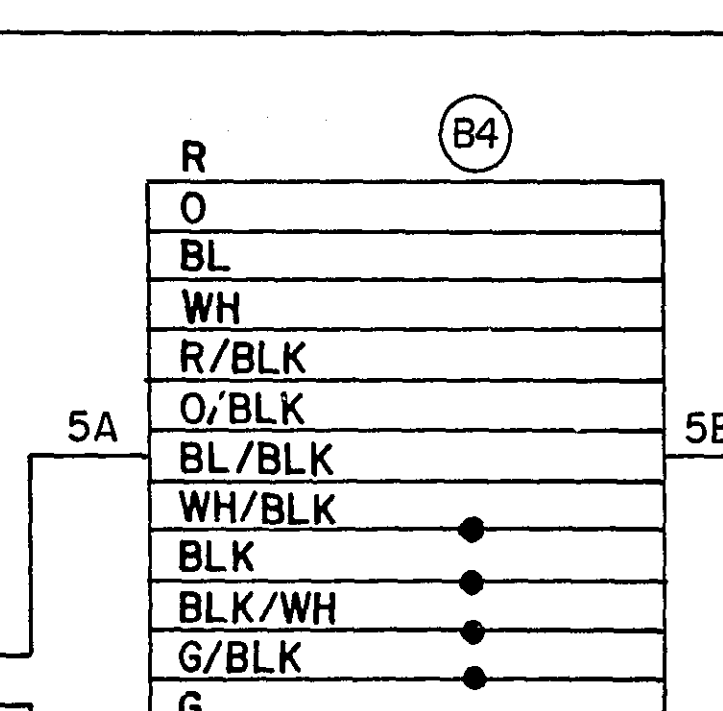
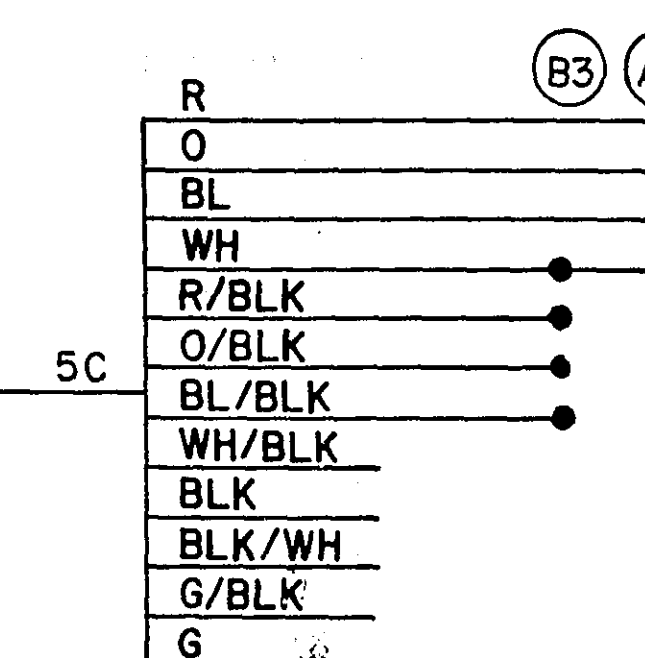
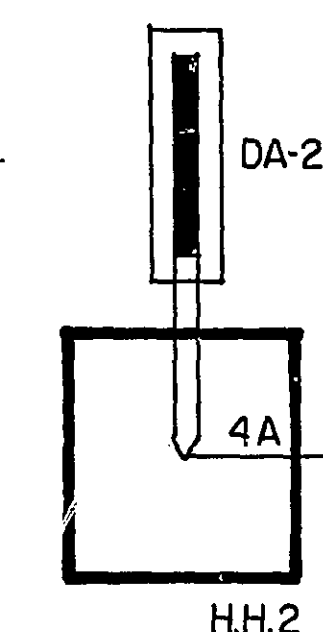
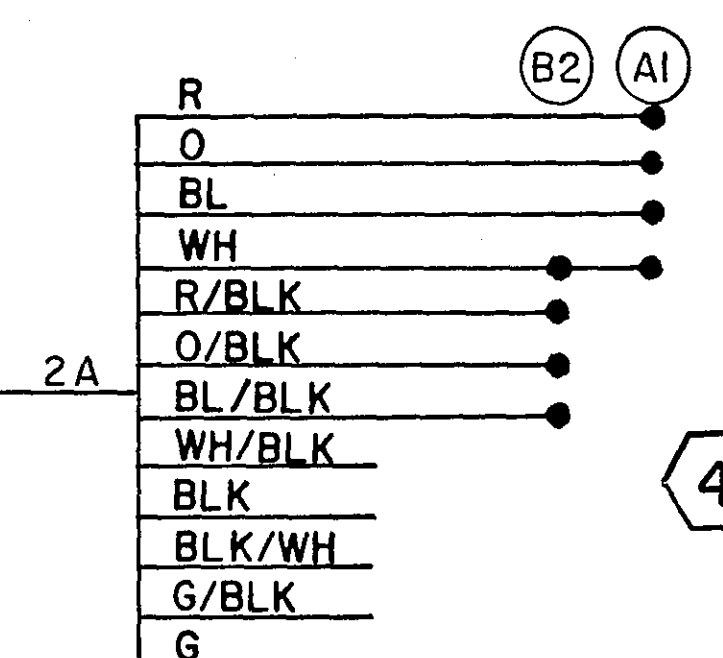
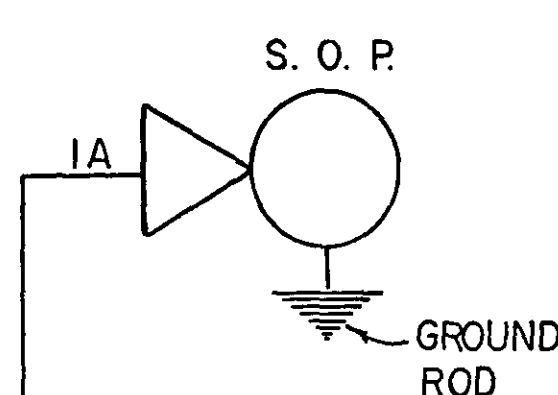
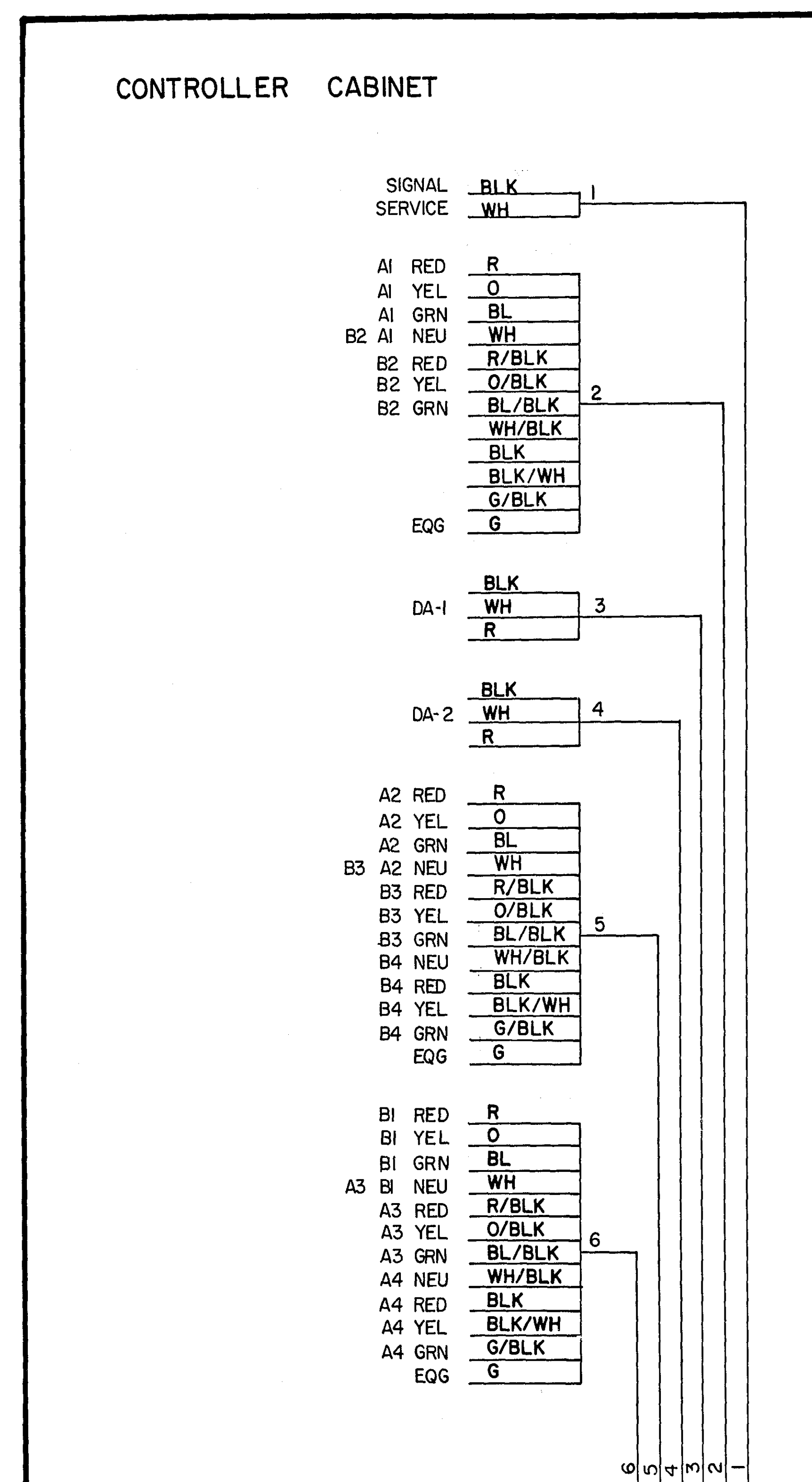


LEGEND OF SYMBOLS	
	CONTROLLER
	HANDHOLE (PULLBOX)
	RIGID METALLIC CONDUIT (R.M.C.)
	NON-METALLIC CONDUIT (N.M.C.)
	SIGNAL FACE
	SOURCE OF POWER (S.O.P.)
	WOOD POLE



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
LARPENITEUR AVE. STA. 3+00 = C. McKNIGHT RD.		
1+79	RT. 22'	PULLBOX 2
2+69	LT. 25'	SIGNAL NO. 4
2+78	RT. 28'	SIGNAL NO. 1
3+21	LT. 28'	SIGNAL NO. 3
3+25	RT. 19'	SIGNAL NO. 2
4+24	LT. 19'	PULLBOX 1



FIELD WIRING
DIAGRAM

LARPEN TEUR AVE & McKNIGHT RD.