

PLANS SYMBOLS

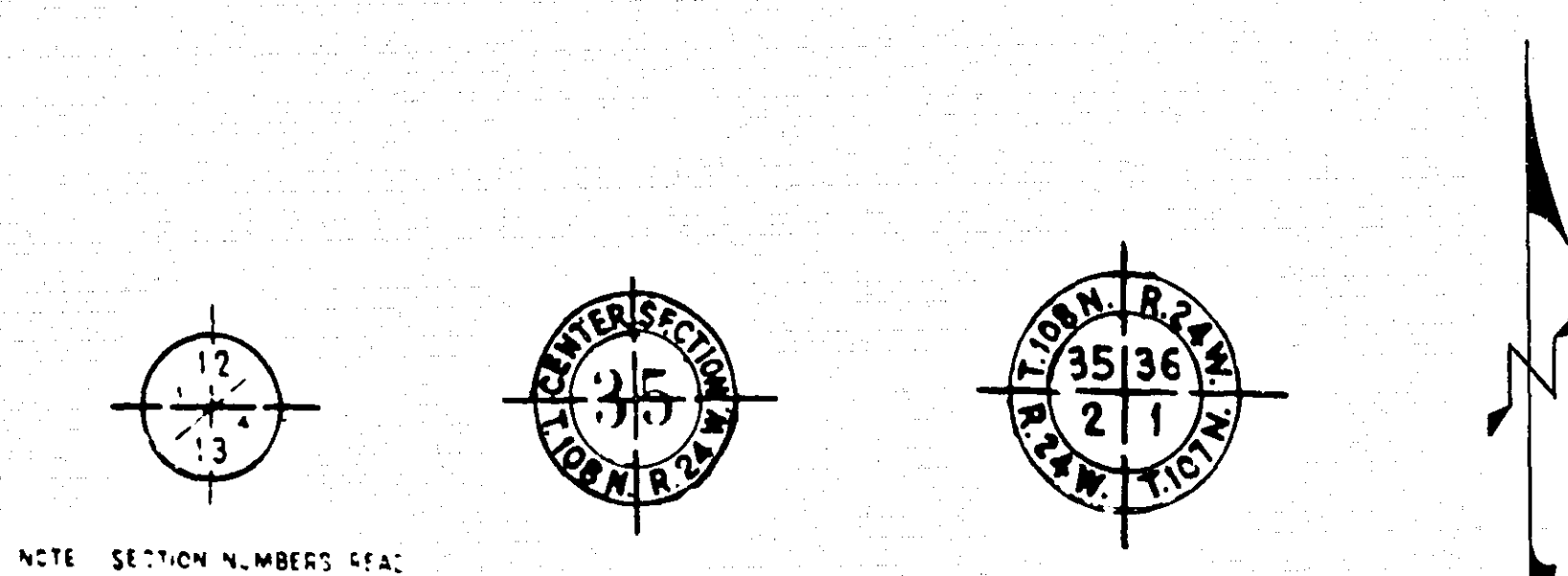
STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT OF WAY LINE
PRESENT RIGHT OF WAY LINE
CONTROL OF ACCESS LINE
PROPERTY LINE (Except Land Lines)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
RETAINING WALL
RAILROAD
RAILROAD RIGHT 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
S STONE
B BRICK
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

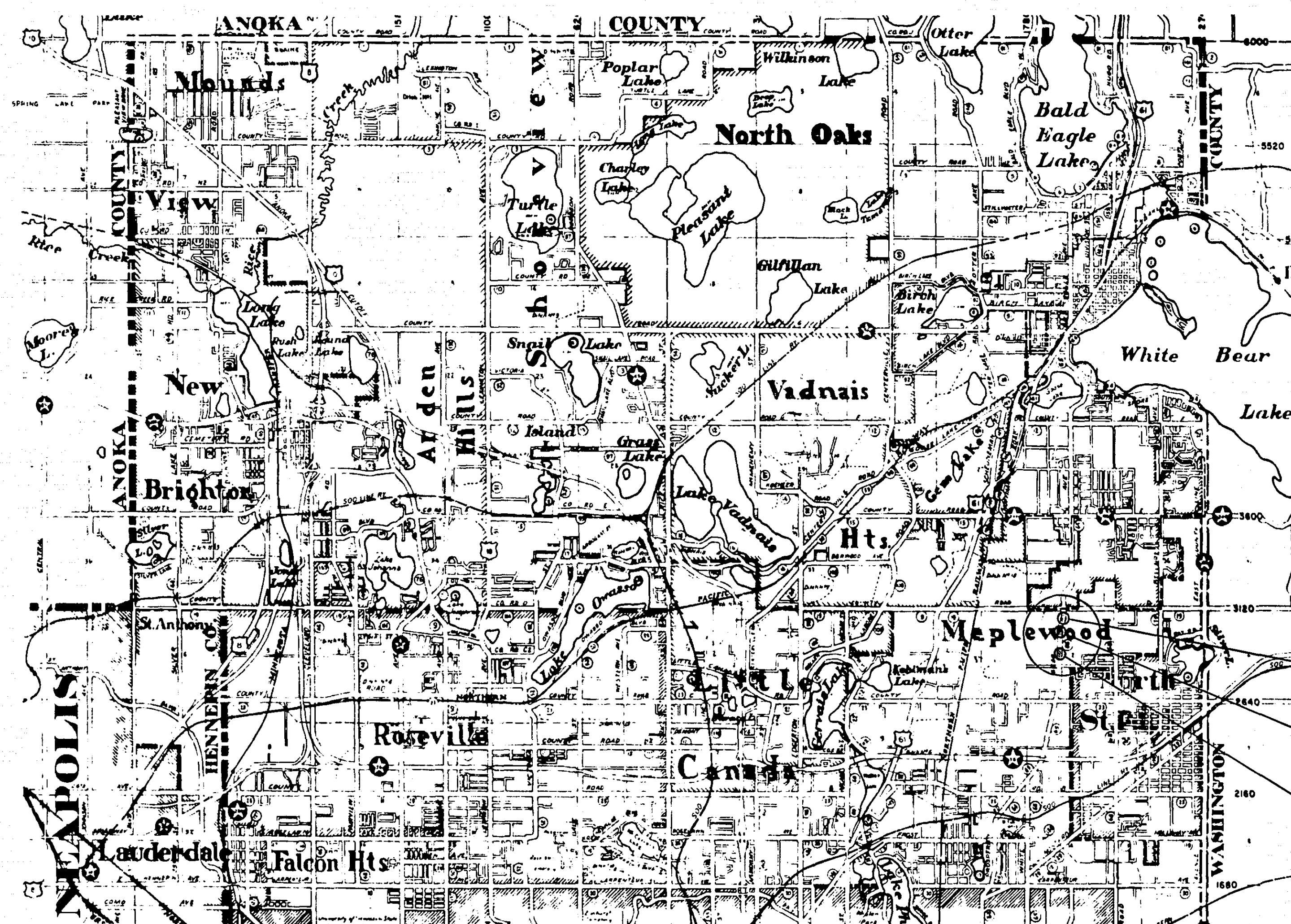
THE "MINNESOTA HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION" DATED JANUARY 1, 1972 AS AMENDED BY "SUPPLEMENTAL SPECIFICATIONS" DATED JANUARY 1, 1974 SHALL GOVERN.

OFFICE OF COUNTY ENGINEER RAMSEY COUNTY

PLAN OF TRAFFIC CONTROL SYSTEM FOR THE INTERSECTIONS OF

WHITE BEAR AVE. & BEAM AVE. - SYSTEM A
WHITE BEAR AVE. & LYDIA AVE. - SYSTEM B
WHITE BEAR AVE. & TOWER AVE. - SYSTEM C

CO. PROJ. NO. 1974-65-S



CITY OF ST. PAUL

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	DETAILS
3	INTERSECTION LAYOUT - SYSTEM A
4	FIELD WIRING DIAGRAM - SYSTEM A
5	INTERSECTION LAYOUT - SYSTEM B
6	FIELD WIRING DIAGRAM - SYSTEM B
7	INTERSECTION LAYOUT - SYSTEM C
8	FIELD WIRING DIAGRAM - 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.

John R. Ambler
Date 2/28/74 Reg. No. 5031

DESIGNED *Wm. V. Chermant* DATE 2/27/74
DIRECTOR OF SAFETY

RECOMMENDED FOR APPROVAL *John R. Ambler* DATE 2/28/74
COUNTY ENGINEER

APPROVED *Sandra J. Cohen* DATE 3/22/74
CHAIRMAN OF THE RAMSEY COUNTY BOARD

RECOMMENDED FOR APPROVAL *Wm. V. Chermant* DATE 2/27/74
DIRECTOR OF SAFETY

RECOMMENDED FOR APPROVAL *John R. Ambler* DATE 2/28/74
COUNTY ENGINEER

RECOMMENDED FOR APPROVAL *Wm. V. Chermant* DATE 2/27/74
CONSTRUCTION ENGINEER

RECOMMENDED FOR APPROVAL _____ DATE _____

RECOMMENDED FOR APPROVAL _____ DATE _____

APPROVED _____ DATE _____
COUNTY ENGINEER

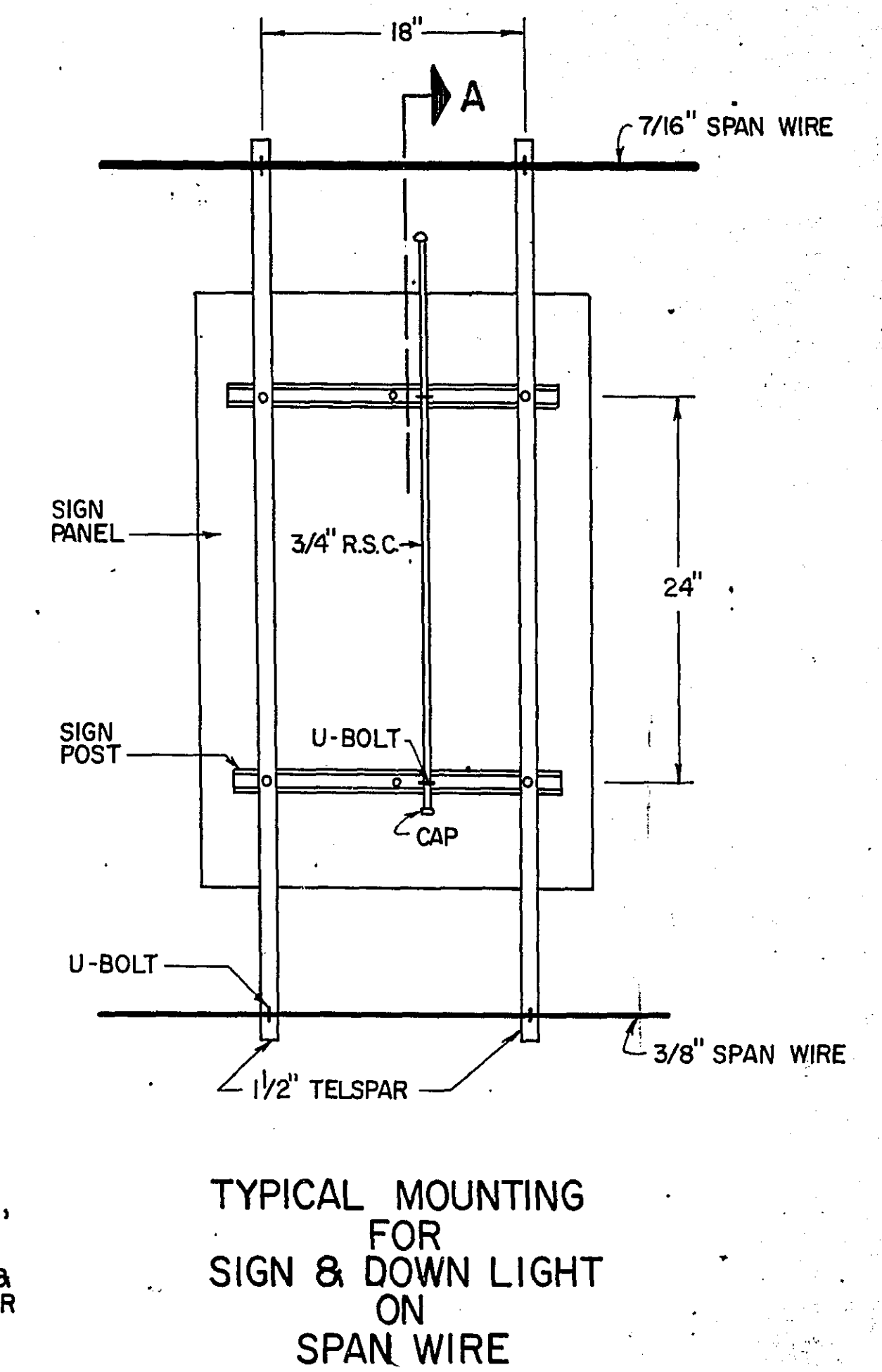
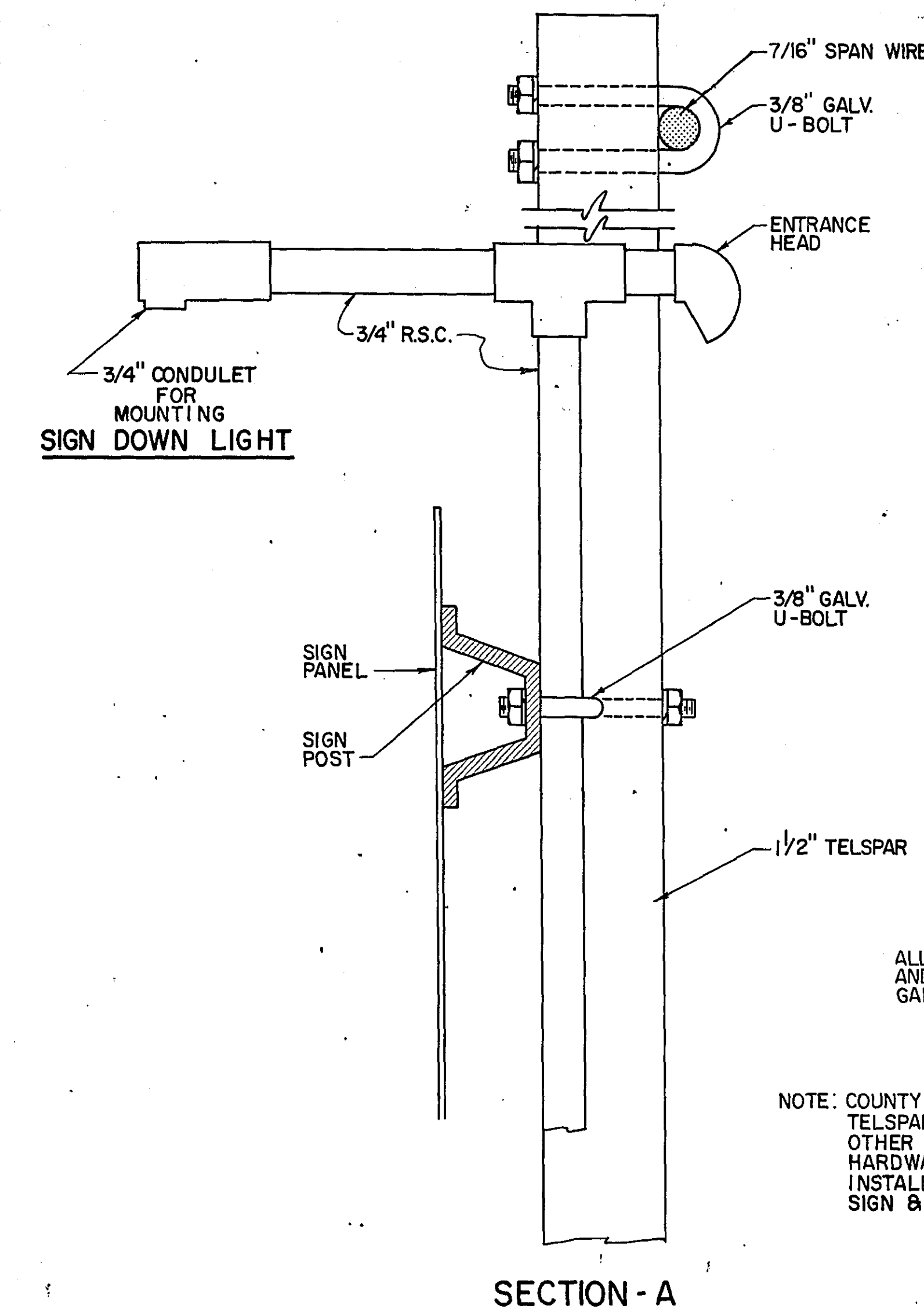
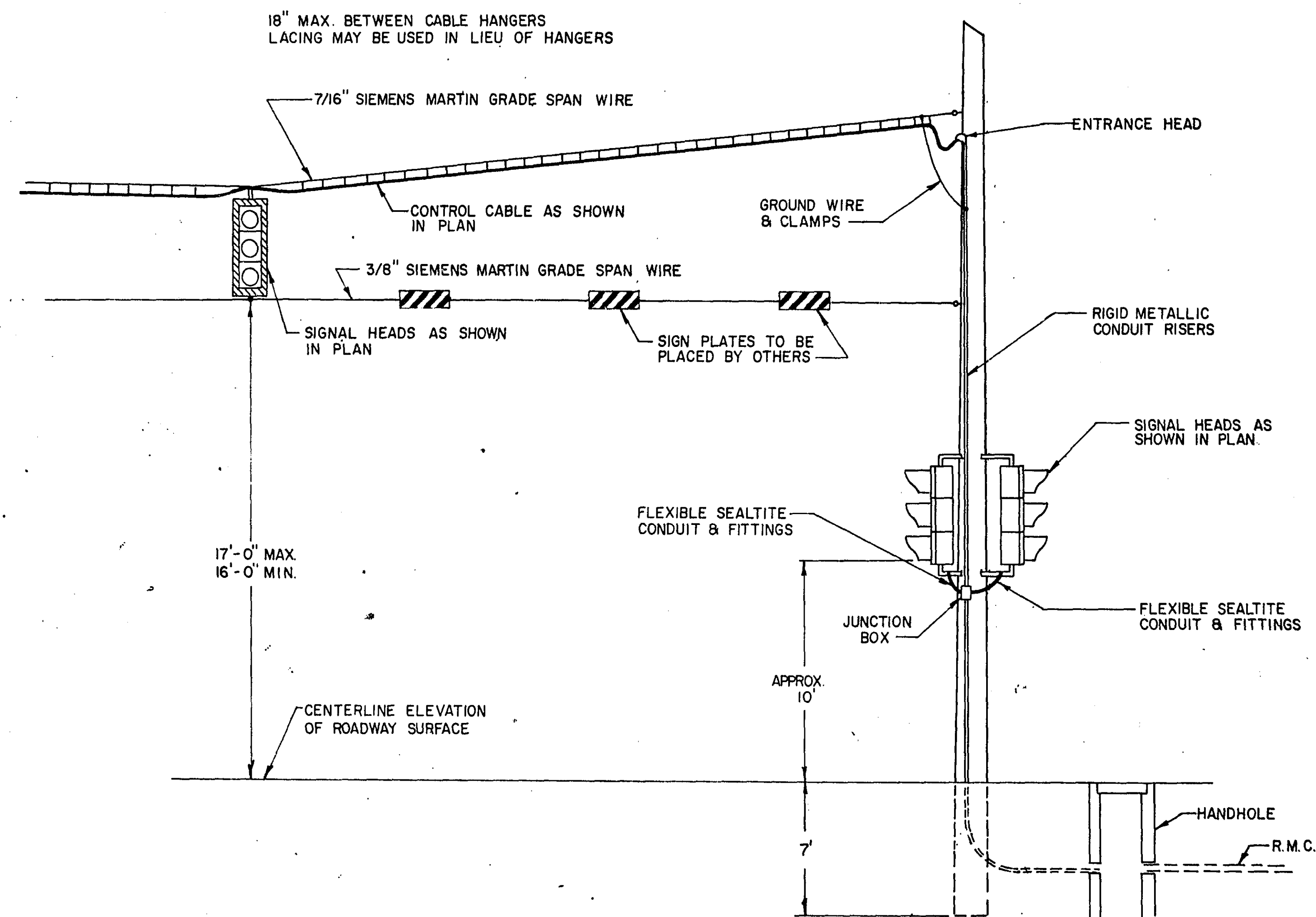
MINNESOTA STATE HIGHWAY DEPARTMENT

RECOMMENDED FOR APPROVAL _____ DATE _____

RECOMMENDED FOR APPROVAL _____ DATE _____
DISTRICT STATE AID ENGINEER

APPROVAL _____ DATE _____
STATE AID ENGINEER

TEMPORARY WOOD POLE TRAFFIC SIGNAL



NOTE: COUNTY TO FURNISH SIGN POSTS, TELSPAR, AND SIGN PANEL. ALL OTHER EQUIPMENT AND MISC. HARDWARE TO BE FURNISHED & INSTALLED BY CONTRACTOR FOR SIGN & DOWN LIGHT MOUNTING

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
 G.R.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

STANDARD PLATES *

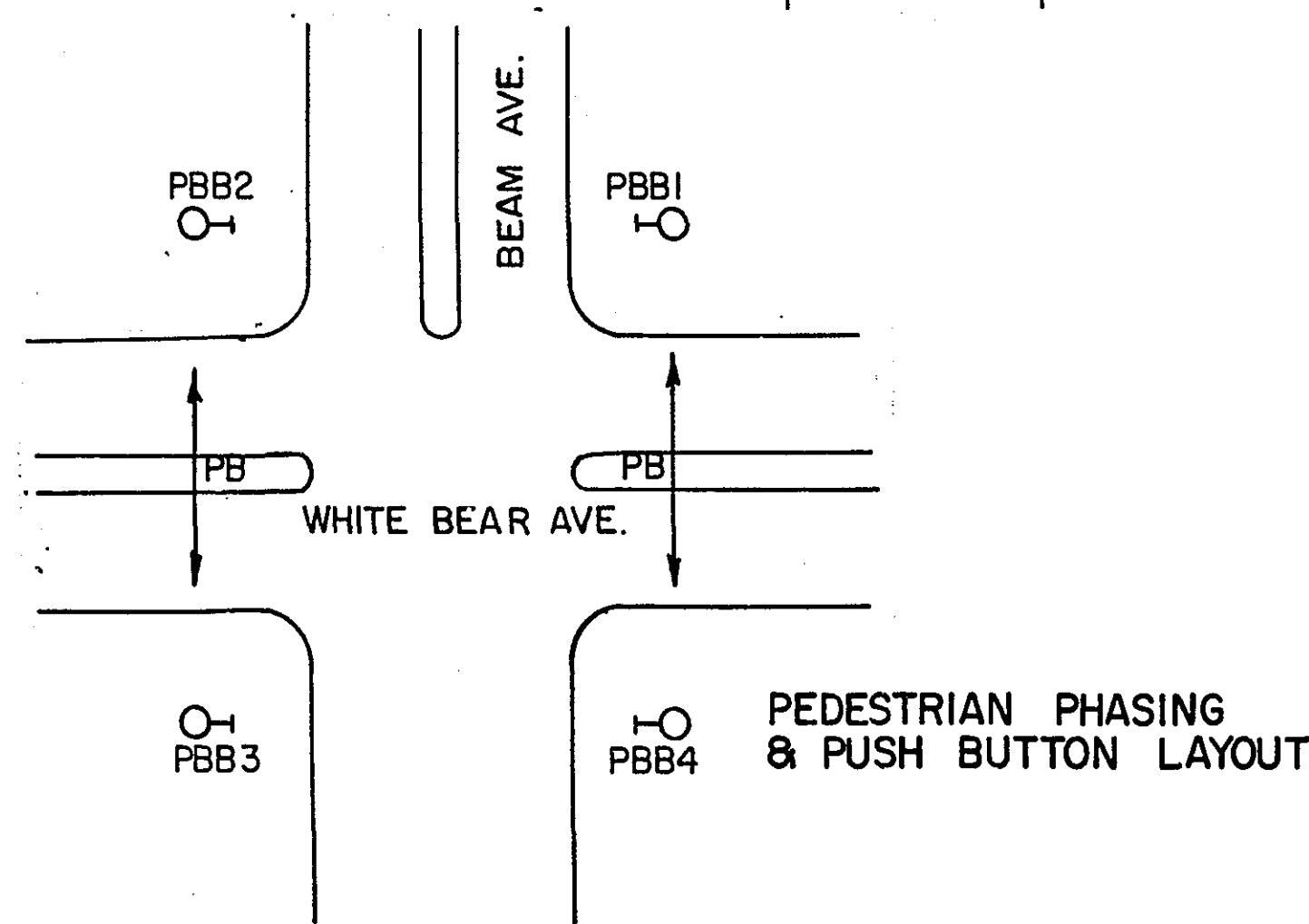
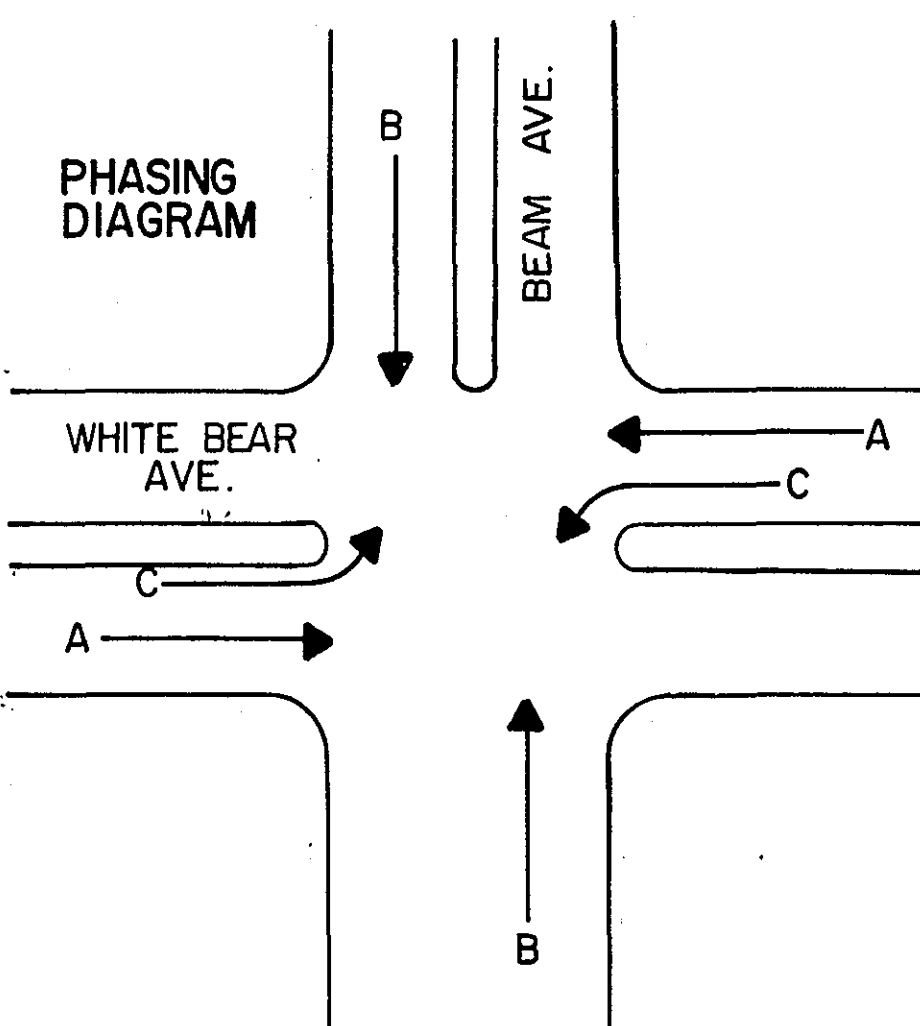
PLATE NO.	DESCRIPTION
8115B	PEDESTRIAN PUSH BUTTON INSTALLATION
8116C	STEEL GUARD POSTS
8117E	PRECAST CONCRETE HANDHOLE (OR PULLBOX)
8118B	SERVICE EQUIPMENT & POLE TRAFFIC CONTROL SIGNALS
8119B	GROUND MOUNTED CABINET FOUNDATION
8130B	SAW CUT LOOP DETECTORS

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

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 Date 2/28/74 Reg. No. 5031

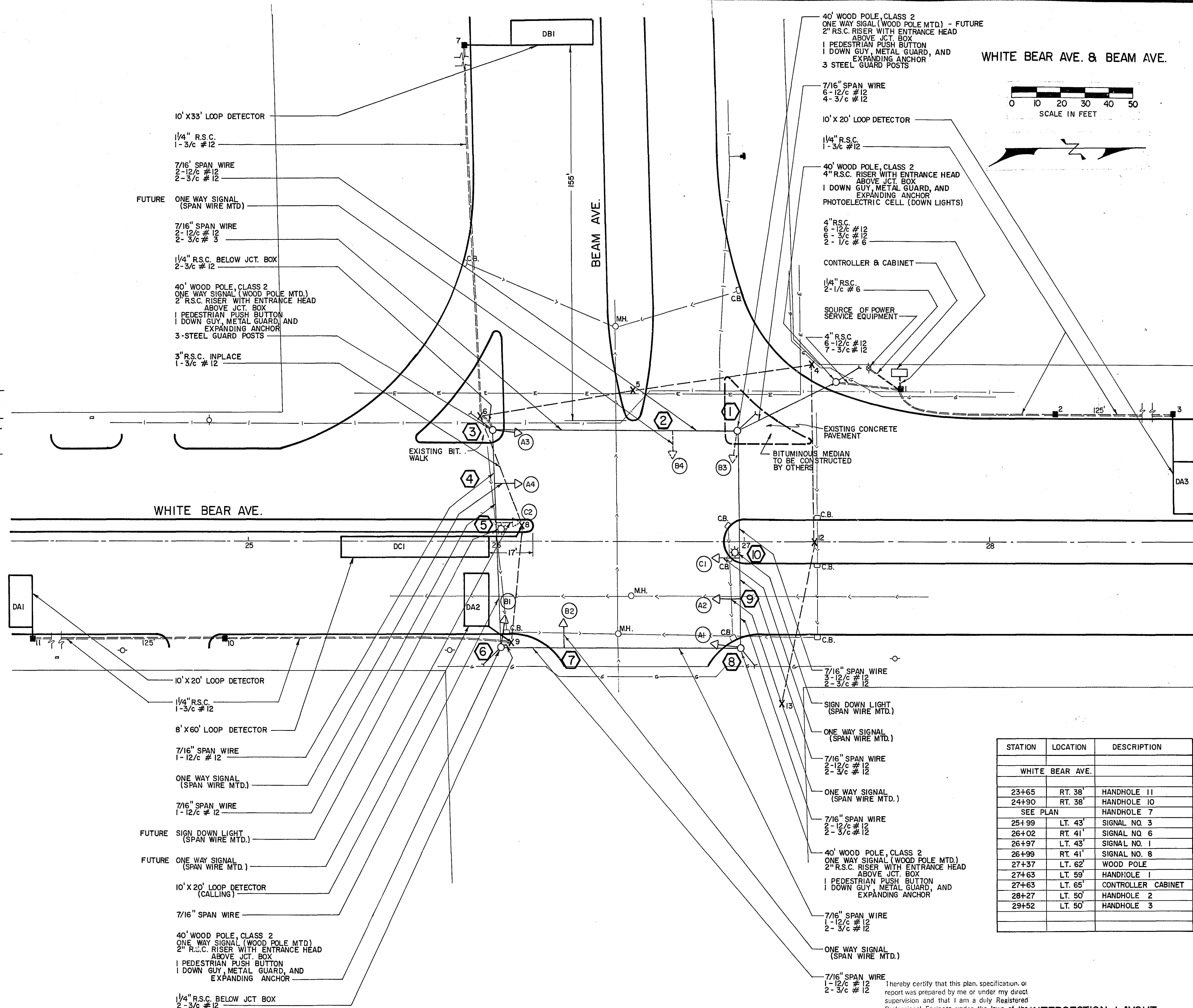
LEGEND OF SYMBOLS	
	CONTROLLER
	PEDESTAL
	HANDHOLE (PULLBOX)
	RIGID STEEL CONDUIT (R.S.C.)
	MAST ARM & POLE
	SIGNAL FACE
	SIGNAL FACE WITH BACKGROUND SHIELD
	MAST ARM & LUMINAIRE
	PEDESTRIAN INDICATION
	SOURCE OF POWER (S.O.P.)
	HANDHOLE (PULLBOX) INPLACE
	RIGID STEEL CONDUIT (R.S.C.) INPLACE
	WOOD POLE
	FUTURE SIGNAL FACE
	SIGN DOWN LIGHT

PHASING DIAGRAM

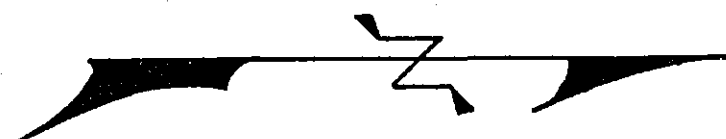
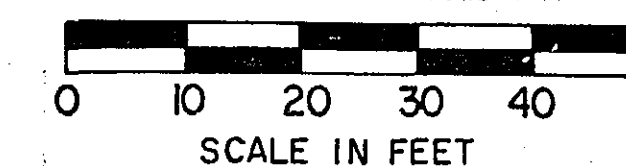


FACE	PHASE	FLASH	INDICATION SIZE					
			R	Y	G	←	↑	→
A1	A	R	12"	12"	12"	-	-	-
A2	A	R	12"	12"	12"	-	-	-
A3	A	R	12"	12"	12"	-	-	-
A4	A	R	12"	12"	12"	-	-	-
B1	B	R	12"	12"	12"	-	-	-
B2	B	R	12"	12"	12"	-	-	-
* B3	B	R	12"	12"	12"	-	-	-
* B4	B	R	12"	12"	12"	-	-	-
C1	C	R	12"	12"	-	12"	-	-
* C2	C	R	12"	12"	-	12"	-	-

* FUTURE SIGNAL FACE



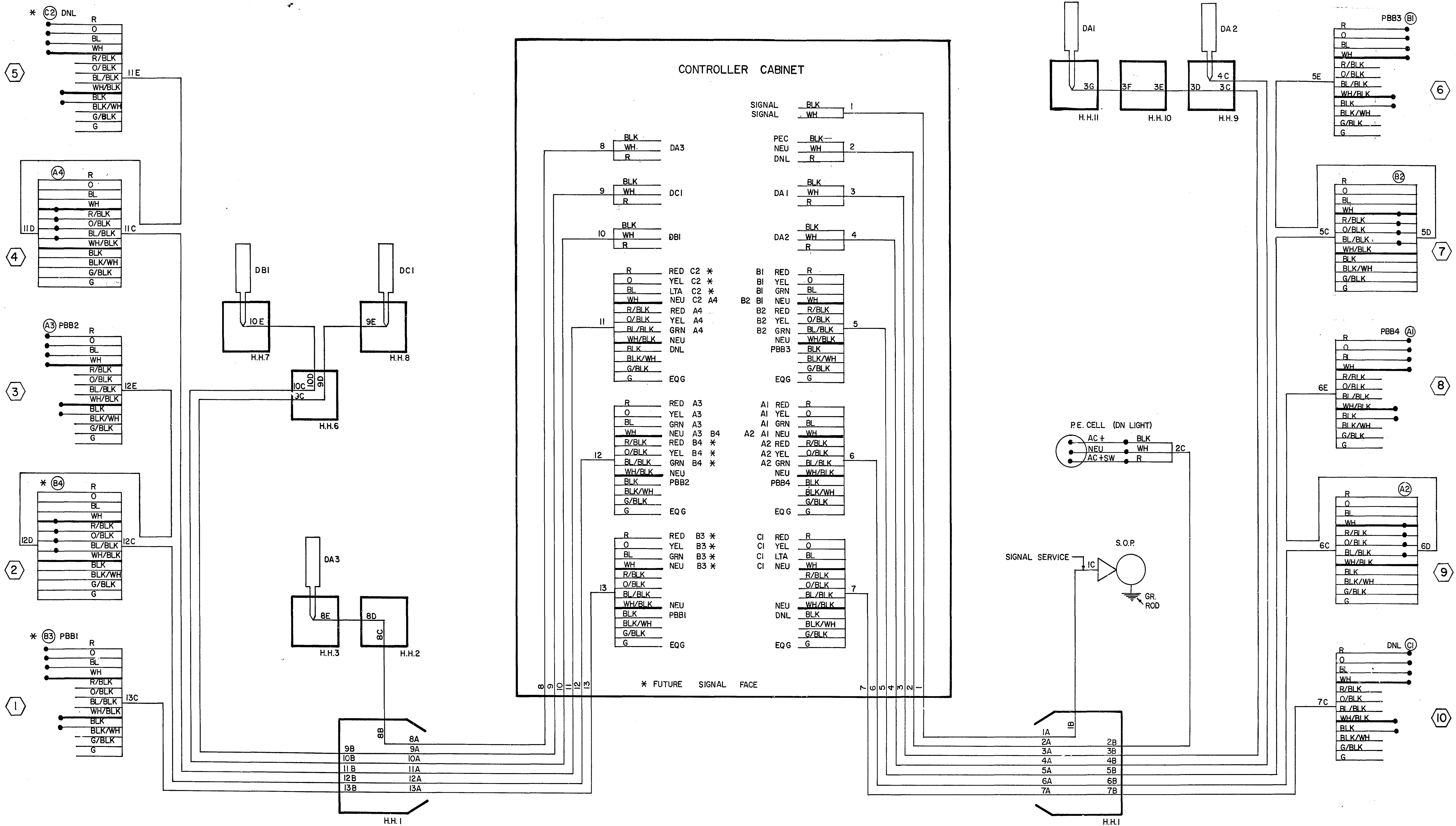
WHITE BEAR AVE. & BEAM AVE.



STATION	LOCATION	DESCRIPTION
WHITE BEAR AVE.		
23+65	RT. 38'	HANDHOLE 11
24+90	RT. 38'	HANDHOLE 10
SEE PLAN		
25+99	LT. 43'	SIGNAL NO. 3
26+02	RT. 41'	SIGNAL NO. 6
26+97	LT. 43'	SIGNAL NO. 1
26+99	RT. 41'	SIGNAL NO. 8
27+37	LT. 62'	WOOD POLE
27+63	LT. 59'	HANDHOLE 1
27+63	LT. 65'	CONTROLLER CABINET
28+27	LT. 50'	HANDHOLE 2
29+52	LT. 50'	HANDHOLE 3

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Diana R. Apple
 Date 2/26/74 Reg. No. 5031

INTERSECTION LAYOUT
 SYSTEM A



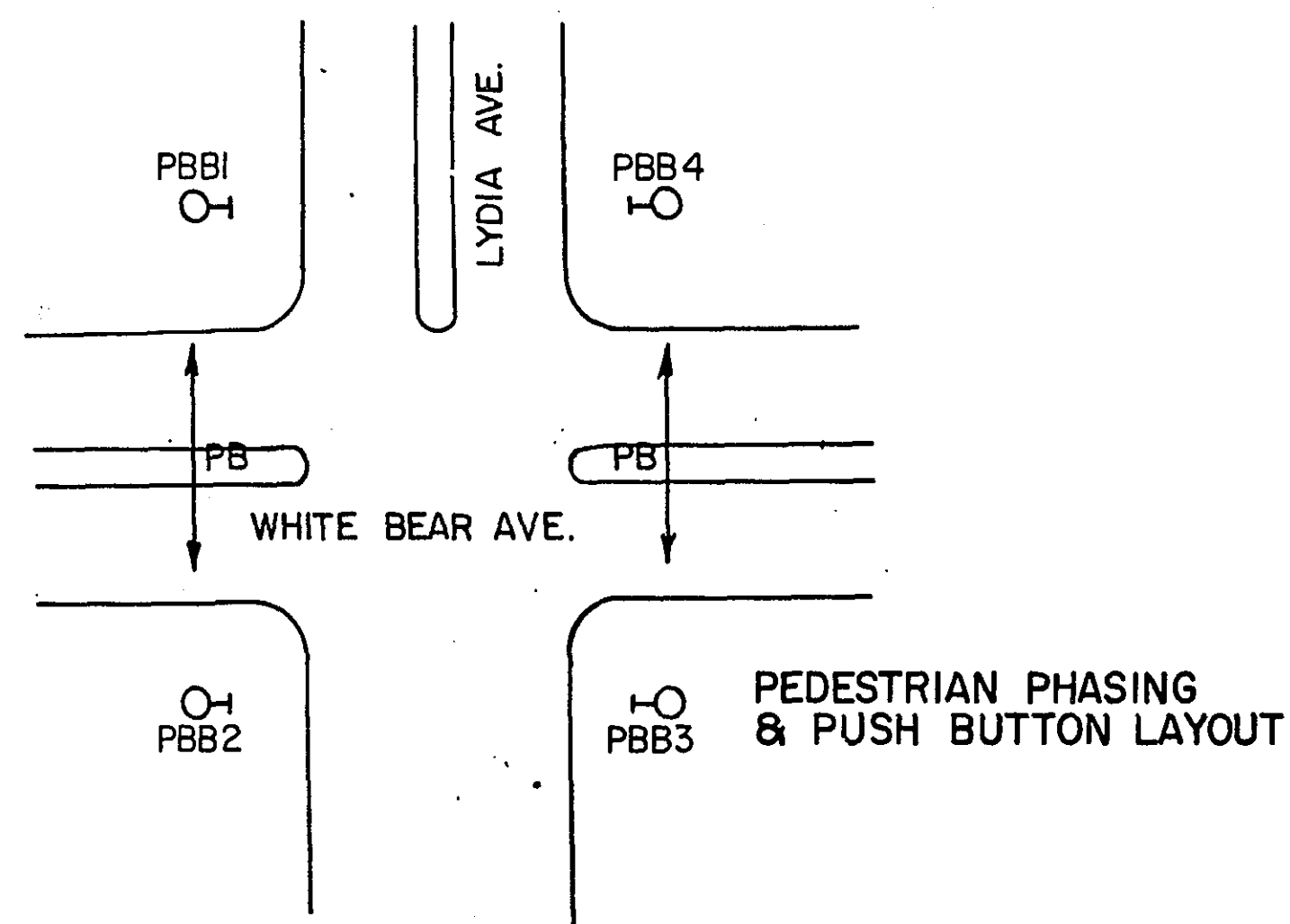
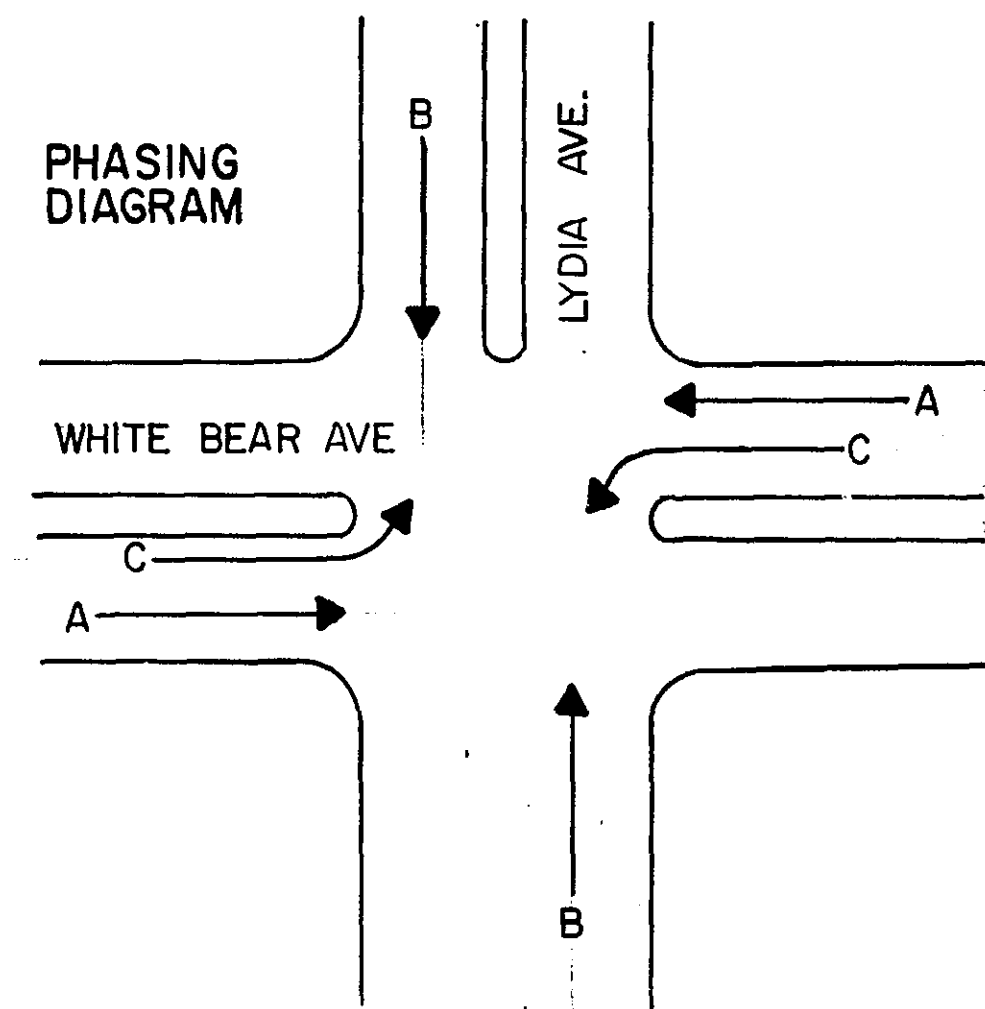
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

James L. Apple

Date 2/28/74 Reg. No. 5031

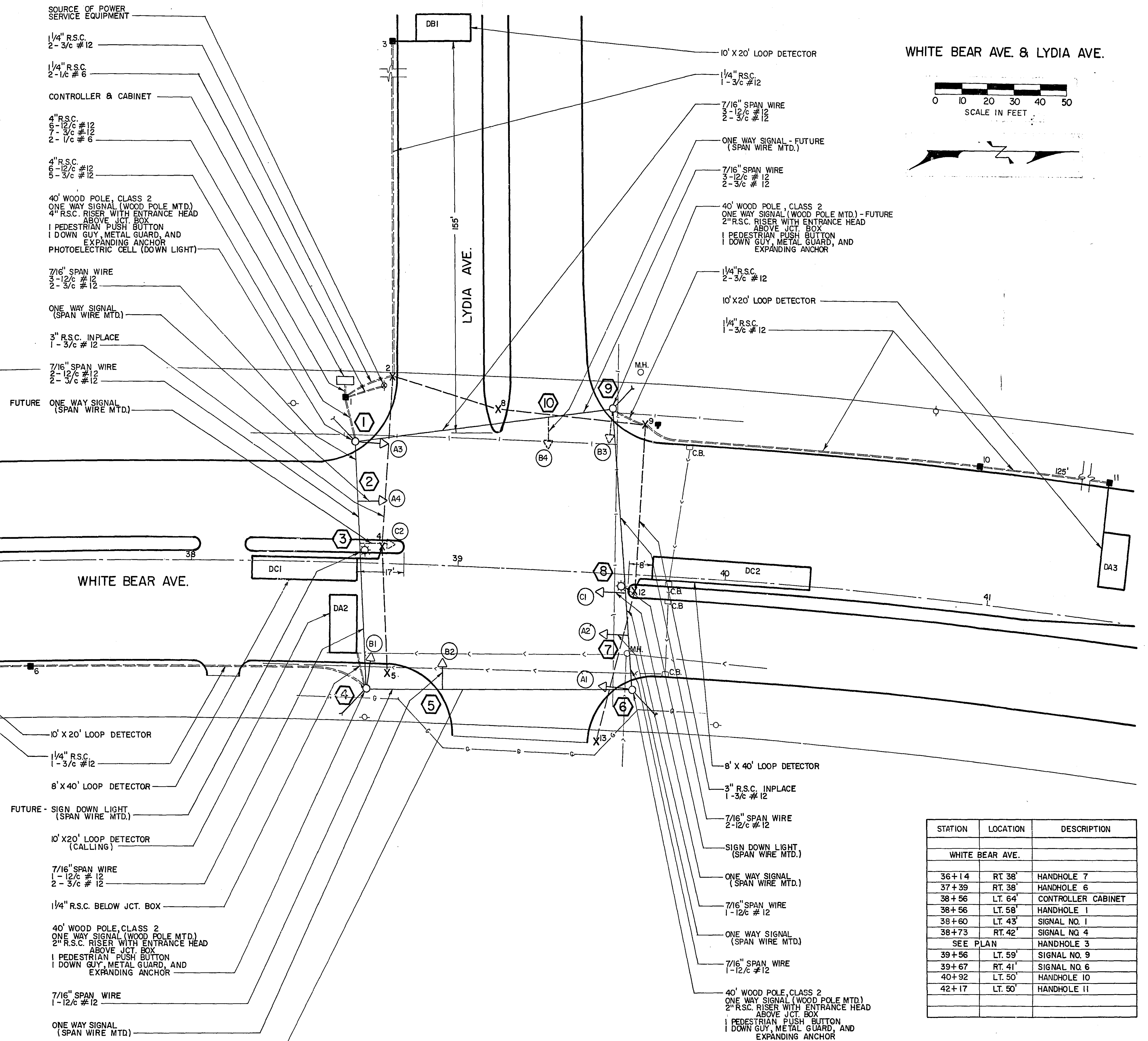
FIELD WIRING DIAGRAM
WHITE BEAR AVE & BEAM AVE
SYSTEM A

LEGEND OF SYMBOLS	
	CONTROLLER
	PEDESTAL
	HANDHOLE (PULLBOX)
	RIGID STEEL CONDUIT (R.S.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 STEEL CONDUIT (R.S.C.) INPLACE
	WOOD POLE
	FUTURE SIGNAL FACE
	SIGN DOWN LIGHT



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"	-	-	-
C1	C	R	12"	12"	-	12"	-	-
* C2	C	R	12"	12"	-	12"	-	-

* FUTURE SIGNAL FACE



WHITE BEAR AVE. & LYDIA AVE.

0 10 20 30 40 50
SCALE IN FEET

STATION	LOCATION	DESCRIPTION
WHITE BEAR AVE.		
36+14	RT. 38'	HANDHOLE 7
37+39	RT. 38'	HANDHOLE 6
38+56	LT. 64'	CONTROLLER CABINET
38+56	LT. 58'	HANDHOLE 1
38+60	LT. 43'	SIGNAL NO. 1
38+73	RT. 42'	SIGNAL NO. 4
SEE PLAN		
39+56	LT. 59'	SIGNAL NO. 9
39+67	RT. 41'	SIGNAL NO. 6
40+92	LT. 50'	HANDHOLE 10
42+17	LT. 50'	HANDHOLE 11

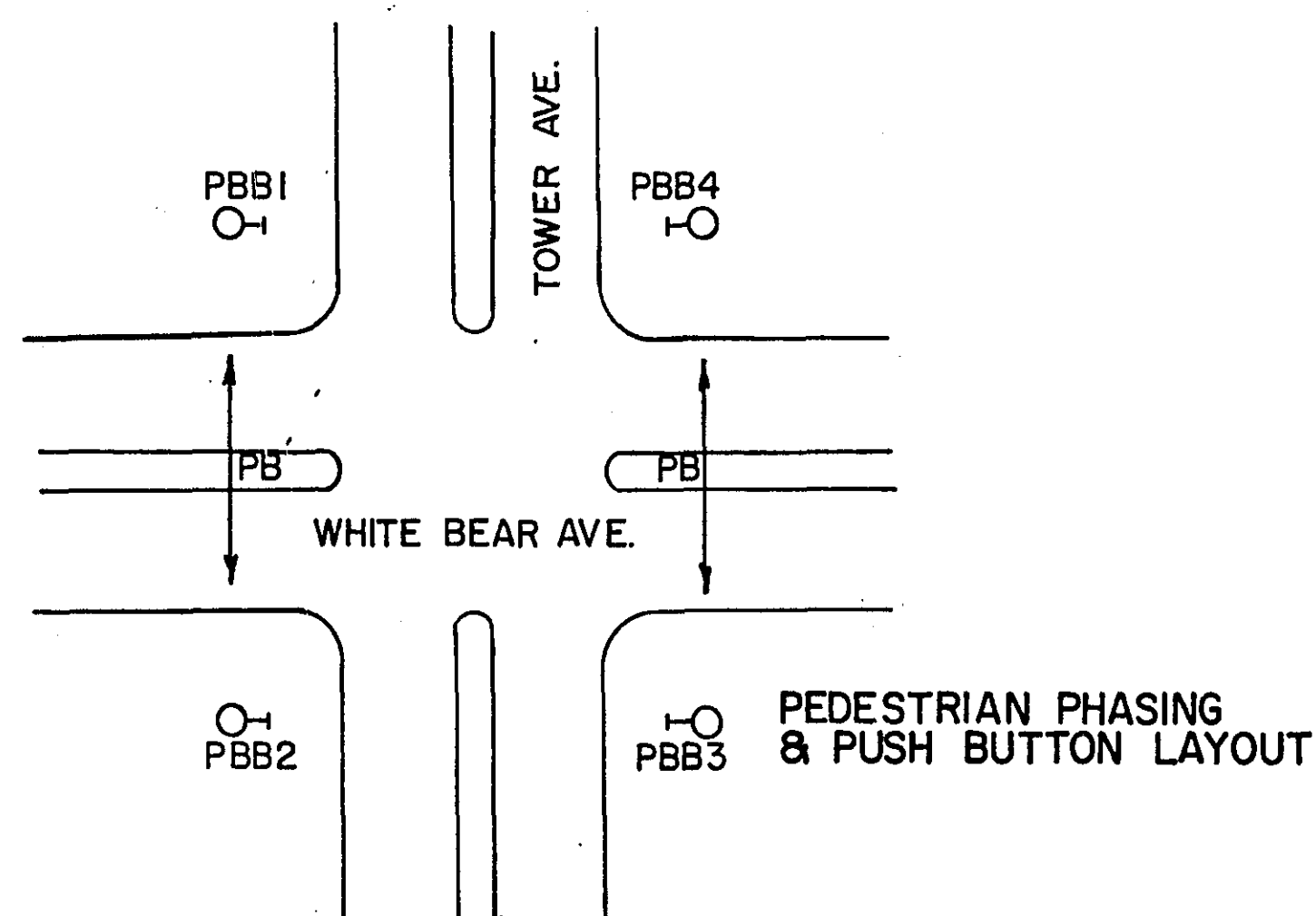
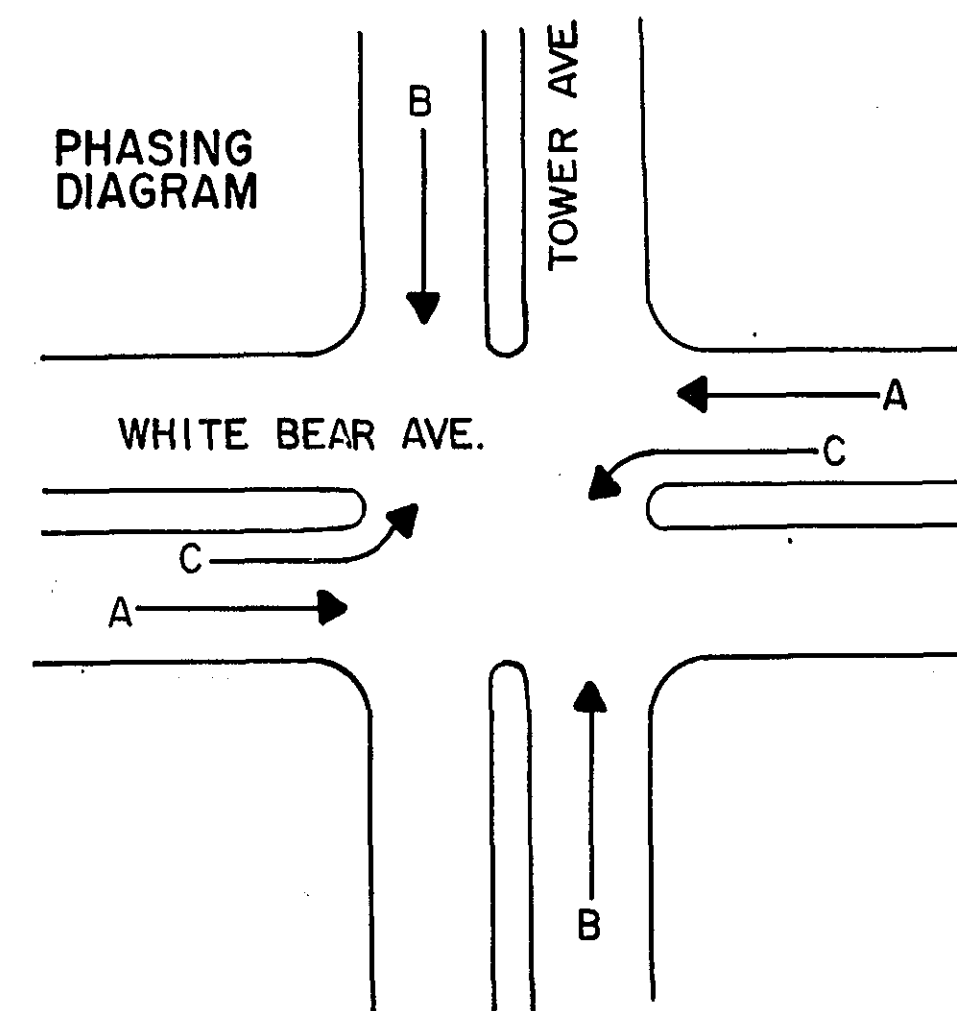
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Dean R. Ambler
Date 2/28/74 Reg. No. 5031

INTERSECTION LAYOUT
SYSTEM B

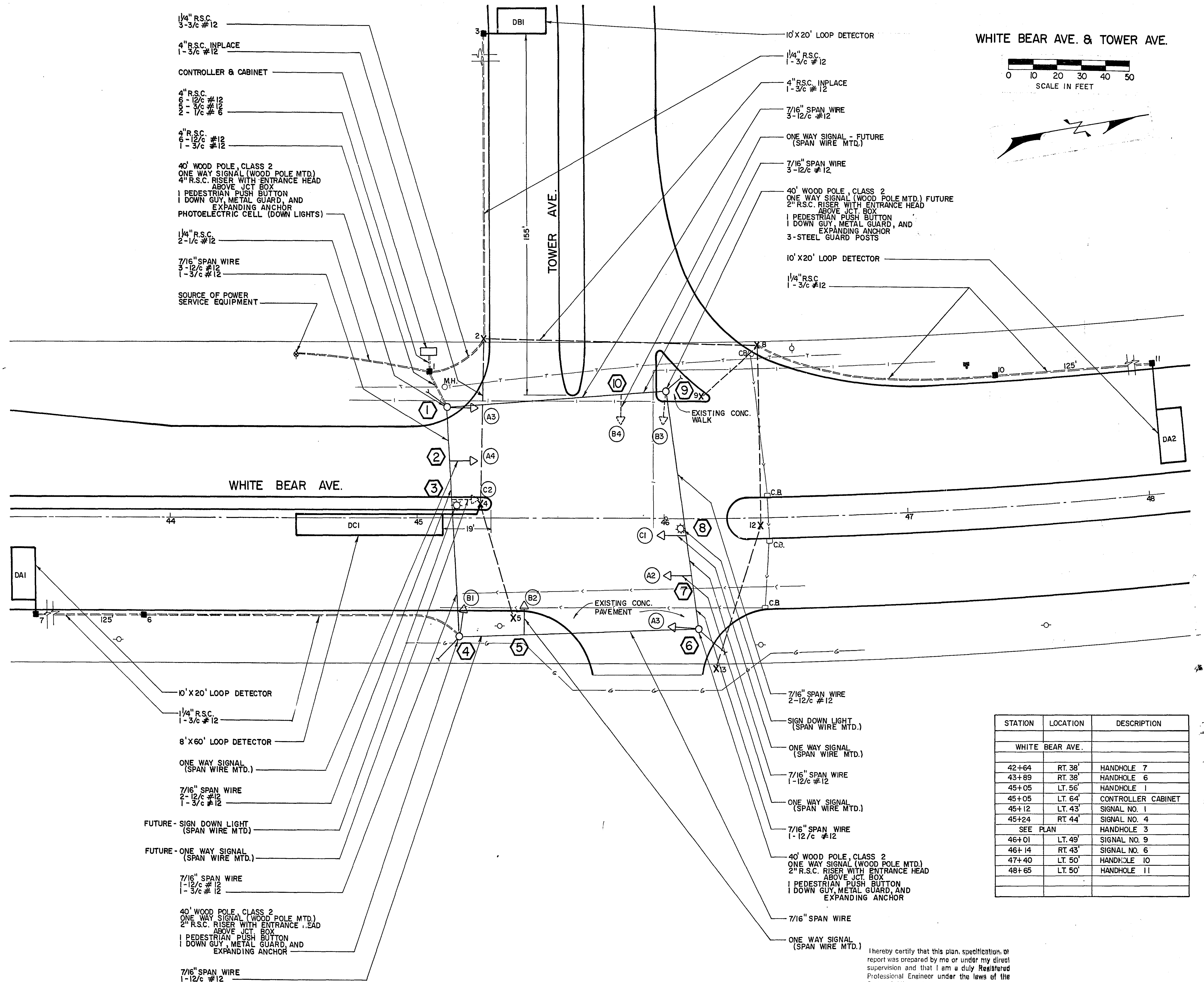


LEGEND OF SYMBOLS	
	CONTROLLER
	PEDESTAL
	HANDHOLE (PULLBOX)
	RIGID STEEL CONDUIT (R.S.C.)
	MAST ARM & POLE
	SIGNAL FACE
	SIGNAL FACE WITH BACKGROUND SHIELD
	MAST ARM & LUMINAIRE
	PEDESTRIAN INDICATION
	SOURCE OF POWER (S.O.P.)
	HANDHOLE (PULLBOX) INPLACE
	RIGID STEEL CONDUIT (R.S.C.) INPLACE
	WOOD POLE
	FUTURE SIGNAL FACE
	SIGN DOWN LIGHT



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"	-	-	-
C1	C	R	12"	12"	-	12"	-	-
* C2	C	R	12"	12"	-	12"	-	-

* FUTURE SIGNAL FACE



WHITE BEAR AVE. & TOWER AVE.
SCALE IN FEET
0 10 20 30 40 50

STATION	LOCATION	DESCRIPTION
WHITE BEAR AVE.		
42+64	RT. 38'	HANDHOLE 7
43+89	RT. 38'	HANDHOLE 6
45+05	LT. 56'	HANDHOLE 1
45+05	LT. 64'	CONTROLLER CABINET
45+12	LT. 43'	SIGNAL NO. 1
45+24	RT. 44'	SIGNAL NO. 4
SEE PLAN		HANDHOLE 3
46+01	LT. 49'	SIGNAL NO. 9
46+14	RT. 43'	SIGNAL NO. 6
47+40	LT. 50'	HANDHOLE 10
48+65	LT. 50'	HANDHOLE 11

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.

James R. Gable
Date 2/20/78 Reg. No. 5031

INTERSECTION LAYOUT
SYSTEM C

