

CONVENTIONAL SYMBOLS

- Section Line \_\_\_\_\_
- Quarter Line \_\_\_\_\_
- Sixteenth Line \_\_\_\_\_
- Property Line \_\_\_\_\_
- R/W Boundary R/W \_\_\_\_\_
- Existing D.O.T. R/W Line \_\_\_\_\_
- And Other Road R/W's \_\_\_\_\_
- Railroad R/W \_\_\_\_\_
- Private Easement \_\_\_\_\_
- Temporary Easement T.E. \_\_\_\_\_
- Building Removal Easement B.R.E. \_\_\_\_\_
- R/W Parcel Number 33 \_\_\_\_\_
- Access Control \_\_\_\_\_
- Access Opening \_\_\_\_\_
- Cast Iron Monument or 2"x2" D.O.T. Iron Pipe with Aluminum Cap \_\_\_\_\_
- 3/4" D.O.T. Iron Pin \_\_\_\_\_
- Other Iron Monument \_\_\_\_\_
- Concrete or Stone Monument \_\_\_\_\_
- R/W Boundary Corner \_\_\_\_\_

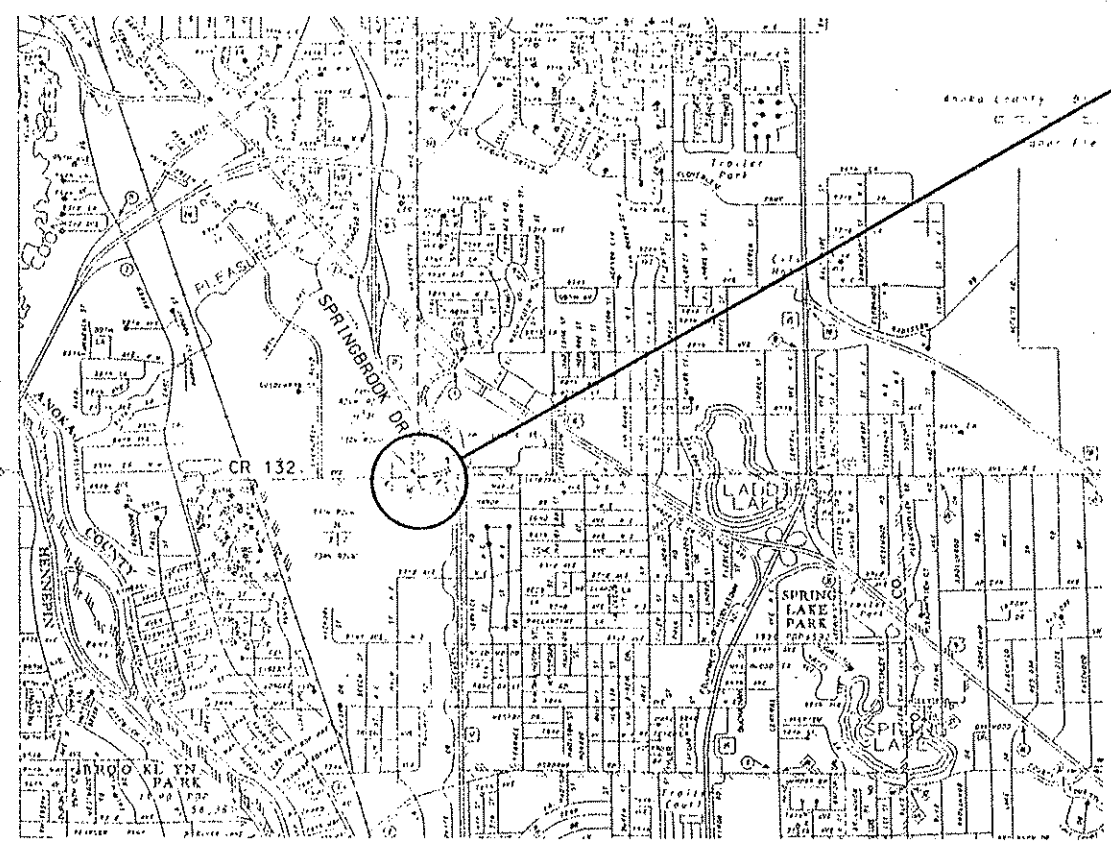
UTILITY SYMBOLS

- POWER POLE LINE \_\_\_\_\_
- TELEPHONE OR TELEGRAPH POLE LINE \_\_\_\_\_
- JOINT TELEPHONE AND POWER ON POWER POLE \_\_\_\_\_
- ON TELEPHONE POLES \_\_\_\_\_
- ANCHOR \_\_\_\_\_
- STREET LIGHT \_\_\_\_\_
- PEDESTAL (TELEPHONE CABLE TERMINAL)  PED. \_\_\_\_\_
- 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 \_\_\_\_\_



# CONSTRUCTION OF FULL TRAFFIC ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM IN THE CITIES OF FRIDLEY, COON RAPIDS, & BLAINE, ANOKA COUNTY, MINNESOTA AT COUNTY ROAD 132 AND SPRINGBROOK DRIVE

SYMBOLS		INDEX	
	- EOG CONNECTION	PAGE	DESCRIPTION
	- EVP DETECTOR DIRECTION	1	TITLE SHEET
	- LUMINAIRE NO.	2	UTILITY LOCATIONS AND SIGNS
	- SIGNAL BASE NO.	3	INTERSECTION LAYOUT
	- SIGNAL FACE NO.	4	WIRING DIAGRAM
	- SPLICE	5	SERVICE EQUIPMENT PAD AND CONTROLLER PAD DETAILS
		6	MISC. DETAILS AND STANDARD PLATES



PROJECT LOCATION  
 C.P. 93-06-132  
 M.S.A.P. 114-130-02 (COON RAPIDS)  
 M.S.A.P. 127-341-03 (FRIDLEY)  
 COUNTY ROAD 132 &  
 SPRINGBROOK DRIVE

ANOKA COUNTY  
 HIGHWAY DEPARTMENT

DESIGN DESIGNATION	DESIGN DESIGNATION
M.S.A.S. 130 (SPRINGBROOK DR.) M.S.A.P. 114-130-02	M.S.A.S. 341 (SPRINGBROOK DR.) M.S.A.P. 127-341-03
ADT 1994 * 5,600 ADT 2014 * 8,400 4 LANES 0 PARKING DESIGN SPEED * 30 MPH COLLECTOR - HIGH DENSITY	ADT 1994 * 4,700 ADT 2014 * 7,050 2 LANES 2 PARKING LANES DESIGN SPEED * 30 MPH COLLECTOR - HIGH DENSITY
DESIGN DESIGNATION	
COUNTY ROAD 132 (85TH AVENUE) C.P. 93-06-132, M.S.A.P. 114-130-02, M.S.A.P. 127-341-03	
R _____ NA _____ ADT (Current Year) 1994 = 9,352 ADT (Future Year) 2014 = 15,802 DHV (Design Hr. Vol.) = NA D (Directional Distr.) = 50/50 % T (Heavy Commercial) = NA % SOIL FACTOR _____ NA _____	EN18 (20) _____ NA _____ Design Speed 40 MPH Based on NA Sight Distance Height of eye NA Height of object NA Design Speed not achieved at: NA Functional Classification Arterial-High Density No. of Traffic Lanes 4 No. of Parking Lanes 0 Ton Design NA

ESTIMATED QUANTITIES			
ITEM NO.		UNIT	TOTAL
2565.511	FULL TRAFFIC ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM	SIGNAL SYSTEM	1 #
0564.602	SIGN PANELS INTERNALLY ILLUMINATED	EACH	* *

SPECIFICATIONS  
 THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AS AMENDED BY THE JANUARY 2, 1991 SUPPLEMENTAL SPECIFICATION SHALL GOVERN.

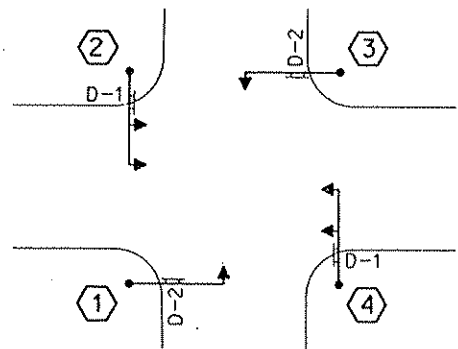
- Approved William R. Othman CITY OF COON RAPIDS ENGINEER DATE 2/11/94
- Approved John F. ... CITY OF FRIDLEY ENGINEER DATE 2/4/94
- Approved Charles ... CITY OF BLAINE ENGINEER DATE 2/11/94
- Approved Paul K. ... ANOKA COUNTY ENGINEER DATE 2/11/94
- Recommended for Approval Mary L. ... METRO ASSISTANT DIVISION ENGINEER STATE AID DATE 1/5/94
- Recommended for Approval \_\_\_\_\_ STATE AID PLANS AND SPECS ENGINEER DATE \_\_\_\_\_
- Approved Julia Stallman STATE AID ENGINEER DATE 4/8/94

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

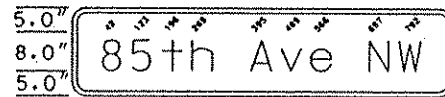
\* - FUNDING SPLIT: 25% C.P. 93-06-132, (ANOKA COUNTY LOCAL FUNDS) 25% M.S.A.P. 114-130-02, 25% M.S.A.P. 127-341-03, 25% LOCAL FUNDS (12.5% Fridley, 8.25% Coon Rapids, 8.25% Blaine)  
 \* - FUNDING SPLIT: 50% FRIDLEY LOCAL FUNDS, 50% COON RAPIDS LOCAL FUNDS

REVISION NO. _____ DATE _____	EXPLANATION _____ _____ _____	SCALE: AS NOTED PLAN BY: _____ CHK: _____ CHECKED BY: _____ DESIGNED BY: _____ COMMAND: _____ DATE: _____	TITLE SHEET COUNTY ROAD 132 (85TH AVE NW) AND SPRINGBROOK DRIVE C.P. 93-06-132 FRIDLEY/COON RAPIDS/BLAINE, MN
Orr Schelen & Associates, Inc. Engineers - Architects - Planners - Surveyors 300 Park Place Center # 3770 Wayzata Boulevard Minneapolis, MN 55416-1228 ■ 612-968-3775			
PLAN NO. <b>1</b>			

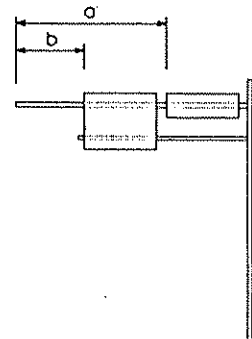
SIGN PANEL LAYOUT



106" X 18", 3" R, 1.0" B, D-1  
LINE 1 96.1 : 8"-6" E MOD



92" X 18", 3" R, 1.0" B, D-2  
LINE 1 83.65 : 8"-6" E MOD



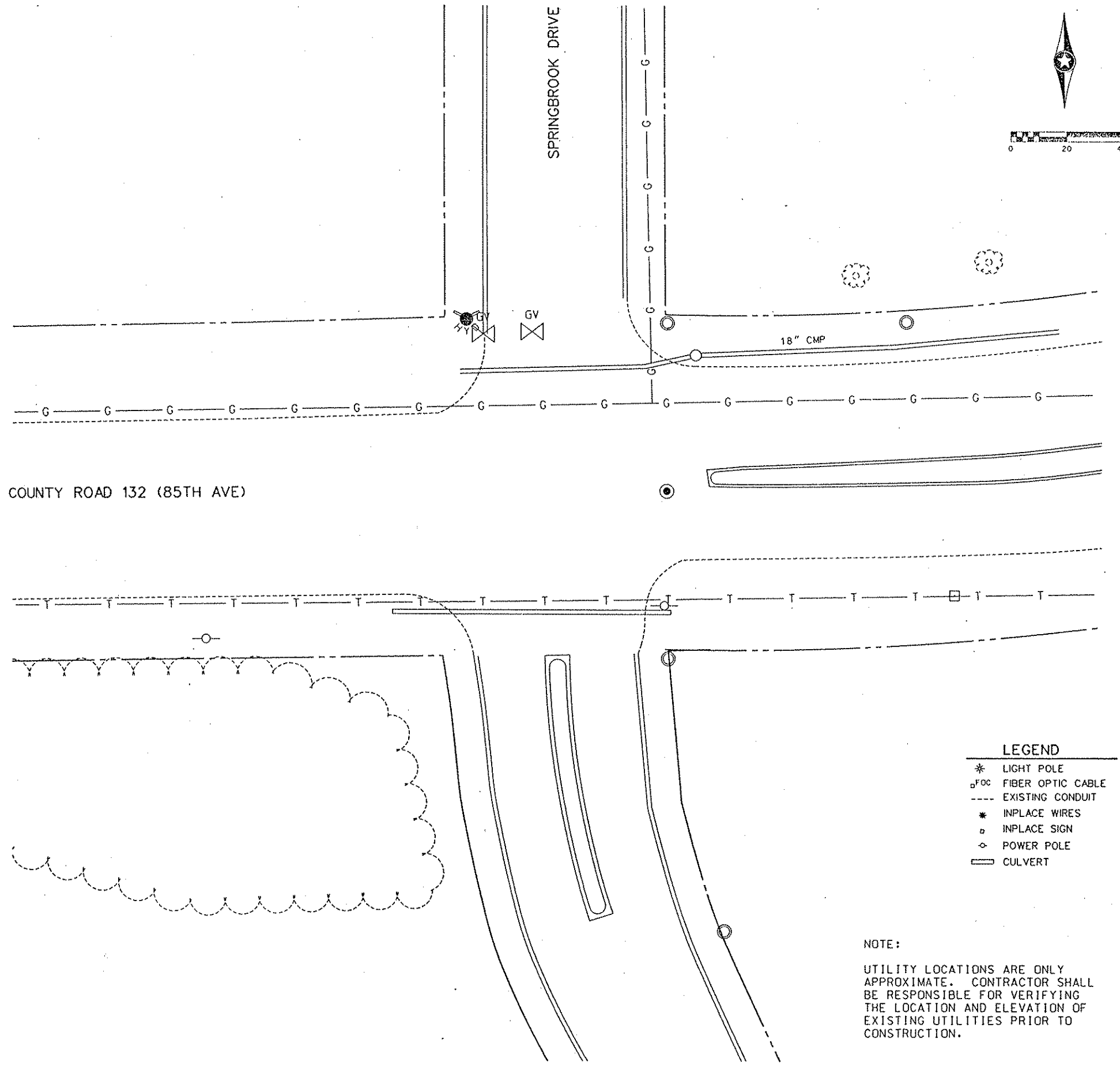
INTERNALLY ILLUMINATED SIGN

Sign Panel	Size	No. Req.	No. Posts per Sign	Post Spacing	Sq. Ft. per Sign	Pole No.	Location on Mastarm ①	
							a	b
D-1	106"x18"	2	SEE NOTE 2	SEE NOTE 2	13.25	2	16	
D-2	92"x18"	2	SEE NOTE 2	SEE NOTE 2	11.5	1	14	

① SEE DETAIL

GENERAL NOTES

- Color - White legend and border on green background, fully reflectorized.
- INTERNALLY ILLUMINATED SIGN - SEE SPECIAL PROVISIONS FOR STRUCTURAL AND MOUNTING DETAILS, WIRING DETAILS, ECT.



LEGEND

- \* LIGHT POLE
- o<sub>FOC</sub> FIBER OPTIC CABLE
- EXISTING CONDUIT
- \* INPLACE WIRES
- o INPLACE SIGN
- ◇ POWER POLE
- ▭ CULVERT

NOTE:  
UTILITY LOCATIONS ARE ONLY APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

ENGINEER'S CERTIFICATION: THIS DESIGN IS THE PROPERTY OF CS&M ASSOCIATES, INC. AND 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: 01/20/24  
 SIGNATURE: RONALD S. BRAY

REVISION NO.	DATE	EXPLANATION

SCALE: AS NOTED  
 PLAN BY: CS&M  
 CHK: CS&M  
 CHECKED BY: CS&M  
 RECD COPY BY: DATE

**SIGNING AND UTILITIES SHEET**  
**COUNTY ROAD 132 (85TH AVE NW)**  
**AND SPRINGBROOK DRIVE**  
 C.P. 93-06-132  
**FRIDLEY/COON RAPIDS/BLAINE, MN**

**CS&M**  
 ORT Schelen  
 Mayerson &  
 Associates, Inc.  
 Engineers - Architects - Planners - Surveyors  
 300 Park Place Center # 3775 Wayzata Boulevard  
 Minneapolis, MN 55416-1228 # 612-396-8775

PLAN NO. 2

LOOP DETECTORS			
NUMBER	SIZE	FUNCTION	LOCATION
D1-1	6' X 6'	10	5'
D1-2	6' X 24'	3	AS SHOWN
D2-1	6' X 6'	1	370'
D2-2	6' X 6'	1	370'
D4-1	6' X 6'	3/8	120'
D4-2	6' X 6'	3/8	120'
D4-3	6' X 6'	7	5'
D4-4	6' X 6'	1	5'
D5-1	6' X 6'	10	5'
D5-2	6' X 24'	3	AS SHOWN
D6-1	6' X 6'	1	260'
D6-2	6' X 6'	1	260'
D8-1	6' X 6'	3/8	120'
D8-2	6' X 6'	3/8	120'
D8-3	6' X 6'	7	5'
D8-4	6' X 6'	1	5'

LOCATION-DISTANCE FROM STOP LINE TO DETECTOR

- FUNCTIONS:
- 1 - CALL AND EXTEND
  - 2 - CALL ONLY
  - 3 - EXTEND ONLY
  - 4 - CALL ONLY DENS
  - 5 - DLY CALL ONLY
  - 6 - DLY CALL ONLY DENSITY
  - 7 - DLY CALL IMMED EXTEND
  - 8 - CARRY OVER
  - 9 - ADVISORY
  - 10 - CALL ONLY DURING Ø4 AND Ø8 GREEN

NOTES:

- 1) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
- 2) EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
- 3) EACH LUMINAIRE SHALL HAVE A PEC AND CHECK SWITCH.
- 4) SEE SHEET NO. 5 AND SPECIAL PROVISIONS FOR SERVICE CABINET DETAILS.
- 5) DIRECTIONAL SIGNS (TYPE D) TO BE FURNISHED AND INSTALLED ON MAST ARMS AT POLES 1, 2, 3 AND 4 AND SHALL BE CONSIDERED INCIDENTAL.
- 6) SEE SPECIAL PROVISIONS FOR HANDHOLE TYPE.
- 7) SEE SPECIAL PROVISIONS FOR CONTRACTORS RESPONSIBILITY FOR LOCATION OF UTILITIES.
- 8) ALL PEDESTRIAN INDICATIONS SHALL BE 12" X 12".
- 9) ALL SIGNAL FACES SHALL BE 12 INCH 3 SECTION R-Y-G, EXCEPT FACES (2-3) (2-4) (6-3) (6-4) WHICH SHALL BE 12 INCH 5 SECTION R-Y-G-YLTA-GLTA.
- 10) ALL VEHICLE SIGNAL INDICATIONS SHALL USE GLASS LENSES.
- 11) BIT. PED RAMPS SHALL BE CONSTRUCTED IN ALL QUADRANTS AS SHOWN ON PLAN AND SHALL BE CONSIDERED INCIDENTAL TO SIGNAL SYSTEM CONSTRUCTION.
- 12) EVP TO BE FURNISHED BY THE CITY OF FRIDLEY AND INSTALLED BY THE CONTRACTOR (SEE SPECIAL PROVISIONS).

- ② TYPE PA90-A30-D40-9 (DAVIT AT 350°)  
 PA90 POLE FOUNDATION  
 2-ONEWAY SIGNALS OVERHEAD (0' AND 12' FROM END OF MAST ARM)  
 R10-12 (24x30) MOUNTED AT 3' FROM END OF MAST ARM  
 ONEWAY EVP LIGHT  
 TYPE 10B - AT 0°  
 TYPE 10B - AT 270°  
 LUMINAIRE 250 WATT HPS  
 2-PEDESTRIAN PUSH BUTTONS  
 EXTEND TO HH 5  
 3" RSC  
 2-12/C #12  
 4-3/C #12  
 1-3/C #12 (LUM)

- ③ TYPE PA90-A25  
 PA90 POLE FOUNDATION  
 ONEWAY SIGNAL OVERHEAD  
 ONEWAY EVP DETECTOR AND LIGHT (6' FROM END OF MAST ARM)  
 TYPE 10B - AT 0°  
 TYPE 10B - AT 270°  
 2-PEDESTRIAN PUSH BUTTONS  
 EXTEND INTO HH 8  
 3" RSC  
 2-12/C #12  
 2-3/C #12  
 1-3/C #20

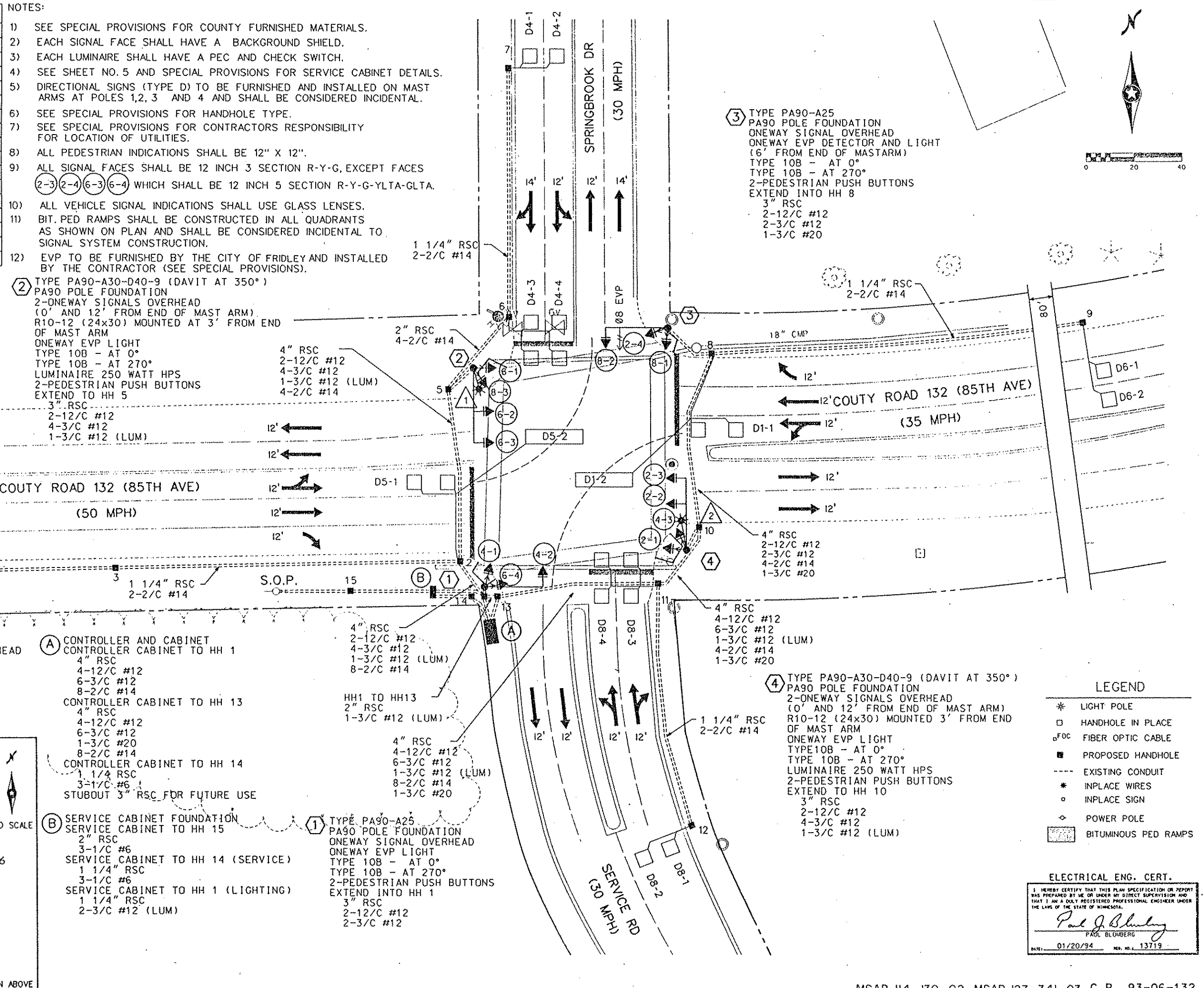
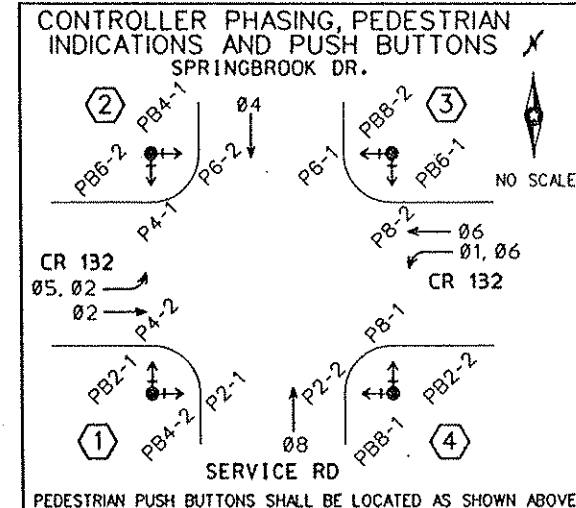
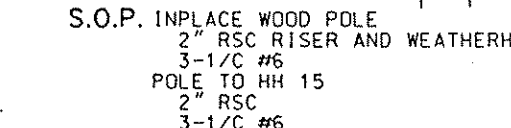
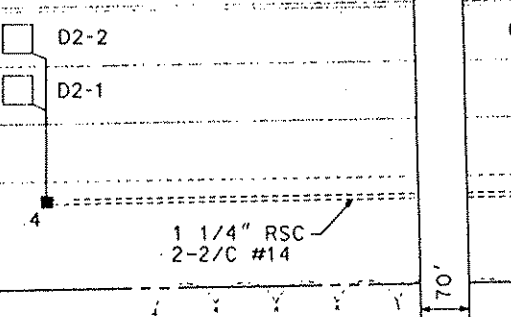
- ④ TYPE PA90-A30-D40-9 (DAVIT AT 350°)  
 PA90 POLE FOUNDATION  
 2-ONEWAY SIGNALS OVERHEAD (0' AND 12' FROM END OF MAST ARM)  
 R10-12 (24x30) MOUNTED 3' FROM END OF MAST ARM  
 ONEWAY EVP LIGHT  
 TYPE 10B - AT 0°  
 TYPE 10B - AT 270°  
 LUMINAIRE 250 WATT HPS  
 2-PEDESTRIAN PUSH BUTTONS  
 EXTEND TO HH 10  
 3" RSC  
 4-12/C #12  
 6-3/C #12  
 1-3/C #12 (LUM)  
 4-2/C #14  
 1-3/C #20

- ⑤ TYPE PA90-A25  
 PA90 POLE FOUNDATION  
 ONEWAY SIGNAL OVERHEAD  
 ONEWAY EVP LIGHT  
 TYPE 10B - AT 0°  
 TYPE 10B - AT 270°  
 2-PEDESTRIAN PUSH BUTTONS  
 EXTEND INTO HH 1  
 3" RSC  
 2-12/C #12  
 2-3/C #12

- ⑥ TYPE PA90-A30-D40-9 (DAVIT AT 350°)  
 PA90 POLE FOUNDATION  
 2-ONEWAY SIGNALS OVERHEAD (0' AND 12' FROM END OF MAST ARM)  
 R10-12 (24x30) MOUNTED 3' FROM END OF MAST ARM  
 ONEWAY EVP LIGHT  
 TYPE 10B - AT 0°  
 TYPE 10B - AT 270°  
 LUMINAIRE 250 WATT HPS  
 2-PEDESTRIAN PUSH BUTTONS  
 EXTEND TO HH 13  
 3" RSC  
 4-12/C #12  
 6-3/C #12  
 1-3/C #12 (LUM)  
 8-2/C #14

- ⑦ TYPE PA90-A25  
 PA90 POLE FOUNDATION  
 ONEWAY SIGNAL OVERHEAD  
 ONEWAY EVP LIGHT  
 TYPE 10B - AT 0°  
 TYPE 10B - AT 270°  
 2-PEDESTRIAN PUSH BUTTONS  
 EXTEND INTO HH 1  
 3" RSC  
 2-12/C #12  
 2-3/C #12

- ⑧ TYPE PA90-A25  
 PA90 POLE FOUNDATION  
 ONEWAY SIGNAL OVERHEAD  
 ONEWAY EVP LIGHT  
 TYPE 10B - AT 0°  
 TYPE 10B - AT 270°  
 2-PEDESTRIAN PUSH BUTTONS  
 EXTEND INTO HH 1  
 3" RSC  
 2-12/C #12  
 2-3/C #12



**LEGEND**

- \* LIGHT POLE
- HANDHOLE IN PLACE
- FIBER OPTIC CABLE
- PROPOSED HANDHOLE
- EXISTING CONDUIT
- \* INPLACE WIRES
- INPLACE SIGN
- ◇ POWER POLE
- BITUMINOUS PED RAMPS

**ELECTRICAL ENG. CERT.**

I HEREBY CERTIFY THAT THIS PLAN SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

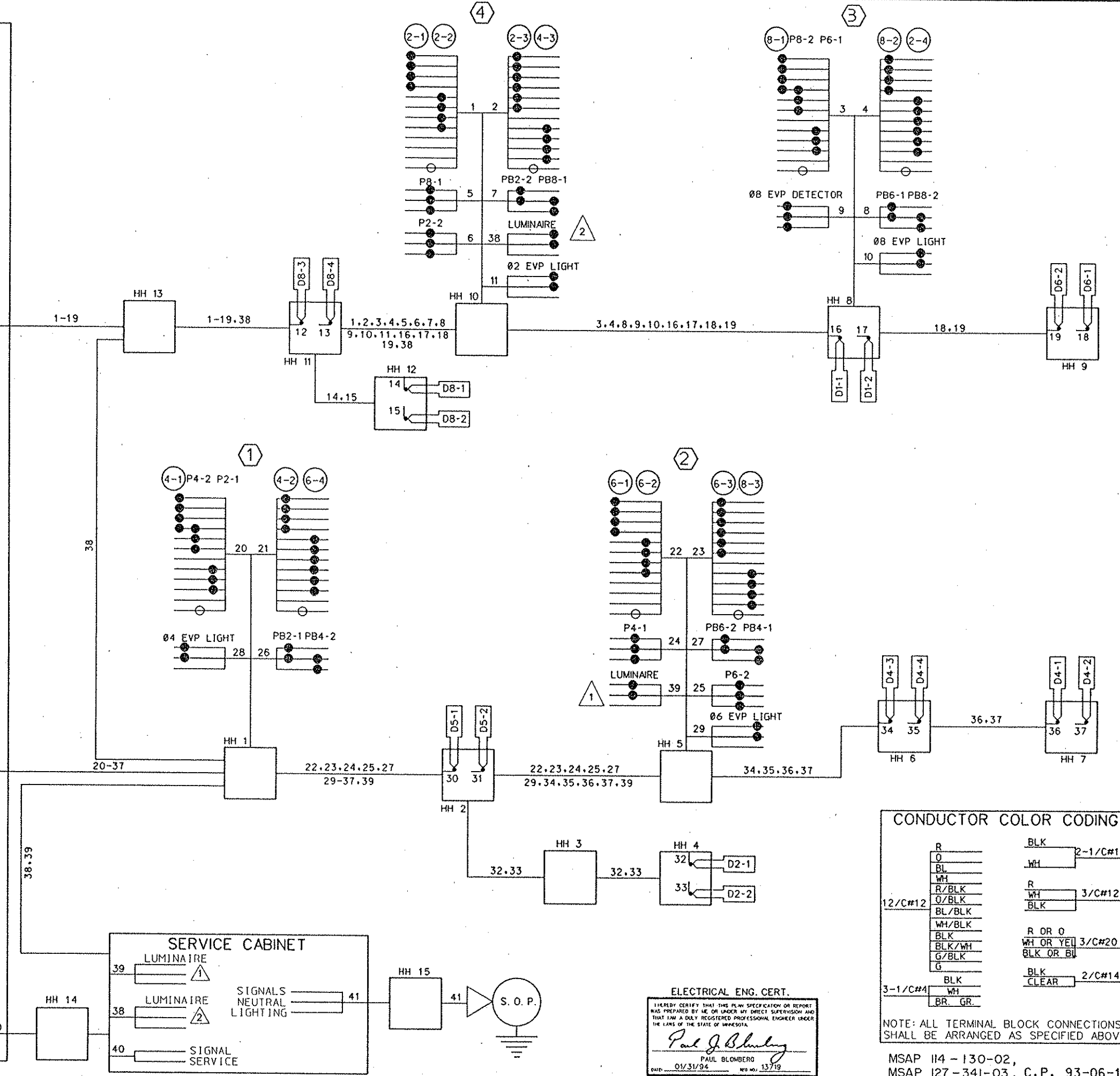
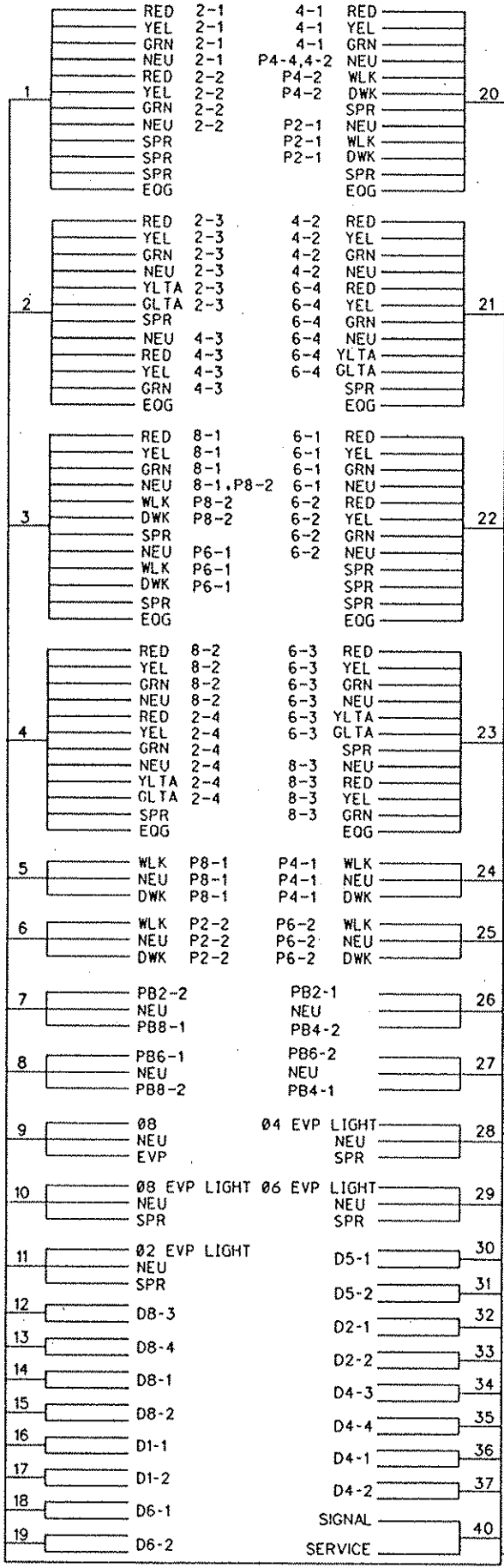
*Paul J. Blumberg*  
 PAUL BLUMBERG  
 DATE: 01/20/94 REG. NO. 13719

**INTERSECTION LAYOUT**  
**COUNTY ROAD 132 (85TH AVE) NW**  
**AND SPRINGBROOK DRIVE**  
**C.P. 93-06-132**  
**FRIDLEY/COON RAPIDS/BLAINE, MN**

Orr Schelen  
 Schelen & Associates, Inc.  
 Engineers & Architects • Planners • Surveyors  
 300 Park Place Center • 5775 Wayzata Boulevard  
 Minneapolis, MN 55416-1228 • 612-996-5775

MSAP 114-130-02, MSAP 127-341-03, C.P. 93-06-132

# CONTROLLER CABINET



### CONDUCTOR COLOR CODING

R	BLK	2-1/C#10
O	WH	
BL		
R/WH	R	3/C#12
O/BLK	WH	
BL/BLK	BLK	
WH/BLK		
BLK	R OR O	
BLK/WH	WH OR YEL	3/C#20
G/BLK	BLK OR BL	
G		
BLK	BLK	2/C#14
3-1/C#4	WH	
	BR. GR.	

ELECTRICAL ENG. CERT.  
 I HEREBY CERTIFY THAT THIS PLAN SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
*Paul J. Blomberg*  
 PAUL BLOMBERG  
 DATE: 01/31/94 REG NO: 13719

NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

MSAP 114 - 130-02,  
 MSAP 127 - 341-03, C.P. 93-06-132

WIRING DIAGRAM  
 COUNTY ROAD 182 (85TH AVE NW)  
 AND SPRINGBROOK DRIVE  
 C.P. 93-06-132  
 FRIDLEY/COON RAPIDS/BLAINE, MN

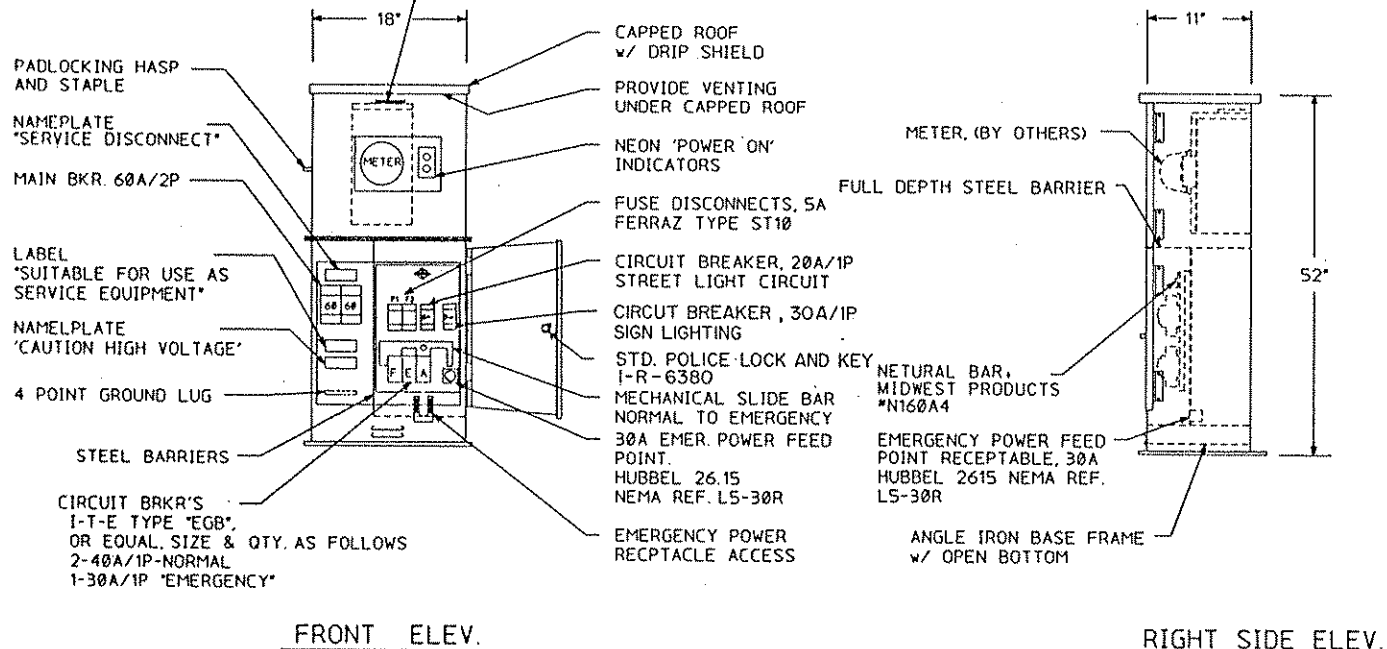
Orff Schelen  
 Mayerson &  
**OSM**  
 Associates, Inc.  
 Engineers - Architects - Planners - Surveyors  
 300 Park Place Center # 3775 Wayzata Boulevard  
 Minneapolis, MN 55418-1228 # 612-596-3775

REVISION NO. \_\_\_\_\_ DATE \_\_\_\_\_  
 SCALE: AS NOTED  
 PLAN BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 RECORD COPY BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

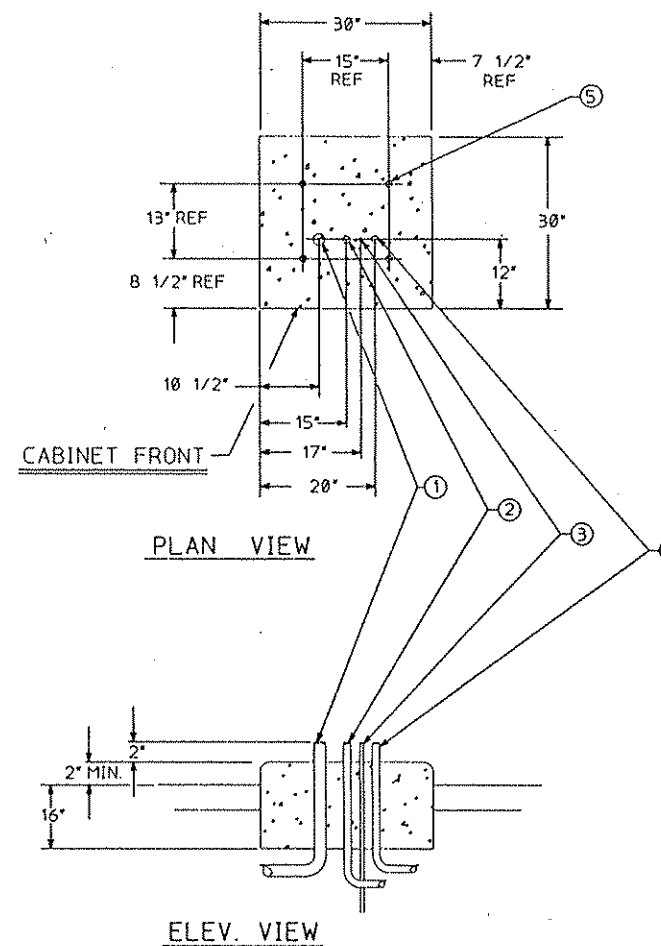
PLAN NO. 4

**SIGNAL SERVICE CABINET**

N.S.P. METER SOCKET, 5-TERMINAL  
w/POSTIVE BY-PASS MECHANISM  
MILBANK CAT. No. U-2272-RL.



**SERVICE CABINET FOUNDATION**

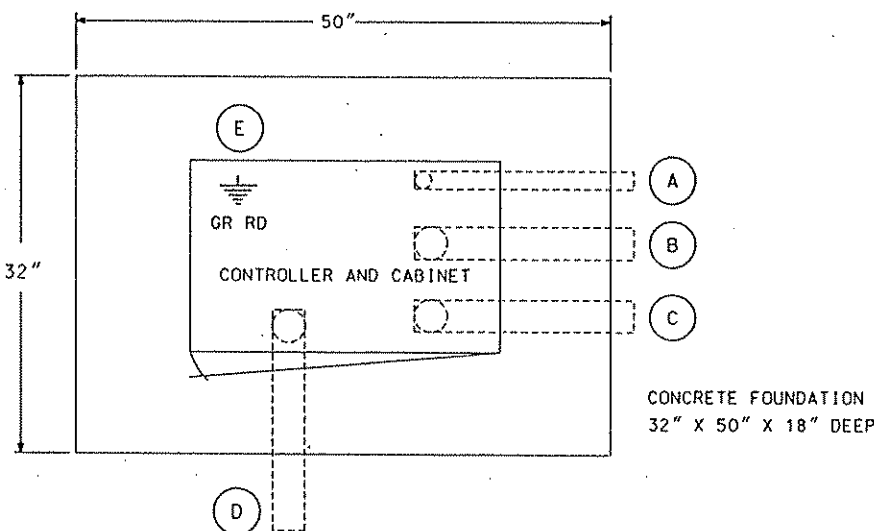


- ① 2" RSC FROM SOURCE OF POWER (VIA HANDHOLE 15)
- ② 1 1/4" RSC TO CONTROLLER CABINET (VIA HANDHOLE 14)
- ③ GROUNDING ROD
- ④ 1 1/4" RSC TO HANDHOLE 1 (STREET LIGHTING)
- ⑤ ANCHOR BOLT LOCATIONS (4 REQUIRED)

**CONSTRUCTION NOTES**

ENCLOSURE SHALL BE FABRICATED FROM #12 GA. ALL WELDED COLD ROLLED STEEL FOR OUTDOOR WEATHER PROOF SERVICE. DOORS TO BE GASKETED. ALL HINGES, PINS AND LOCKS TO BE OF NON CORRODING CONSTRUCTION. CABINET TO BE PRIMED INSIDE AND OUT WITH RUST INHIBITTING PRIMER. FINISH PER MN/DOT #3527

- (A) 1 1/4" R.S.C. FOR SERVICE CONNECTION TO HH 14
- (B) 4" R.S.C. TO HH 1
- (C) 4" R.S.C. TO HH 13
- (D) 3" R.S.C. STUBOUT, THREAD & CAP BOTH ENDS. (FOR FUTURE INTERCONNECT).
- (E) 5/8" DIA X 15' GROUND ROD



SEE INTERSECTION LAYOUT FOR CONDUIT & CABLE INFORMATION

**CONTROLLER CABINET PAD LAYOUT**

NO SCALE

**ELECTRICAL ENG. CERT.**

I HEREBY CERTIFY THAT THIS PLAN SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

*Paul J. Blumberg*  
 PAUL J. BLUMBERG  
 DATE: 01/20/94 REG. NO.: 13719

REVISION NO.	DATE	EXPLANATION
AS NOTED		
SCALE:	DESIGN BY:	
PLAN BY:	CTR:	
CHECKED BY:	CONTR. NO.:	
RECORD COPY BY:	DATE:	

I HEREBY CERTIFY THAT THE PLAN SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
*Paul J. Blumberg*  
 PAUL J. BLUMBERG  
 DATE: 01/20/94 REG. NO.: 13719

**SERVICE EQUIP. AND CONTROLLER PAD**  
 COUNTY ROAD 182 (85TH AVE NW)  
 AND SPRINGBROOK DRIVE  
 C.P. 93-06-182  
 FRIDLEY/COON RAPIDS/BLAINE, MN

**CSM**  
 Orr Schelen Mayeron & Associates, Inc.  
 Engineers - Architects - Planners - Surveyors  
 300 Park Place Center • 3775 Kayata Boulevard  
 Minneapolis, MN 55416-1223 • 612-566-5775

