

PLAN 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 | --- |
| WOODEN 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 | --- |

UTILITY SYMBOLS

| | |
|--|-----|
| POWER POLE LINE | --- |
| TELEPHONE OR TELEGRAPH POLE LINE | --- |
| JOINT TELEPHONE AND POWER ON POWER POLES | --- |
| ON TELEPHONE POLES | --- |
| ANCHOR | --- |
| STEEL TOWER | --- |
| WIRELESS TOWER | --- |
| PEDESTAL (TELEPHONE CABLE TERMINAL) | --- |
| GAS MAIN | --- |
| WATER MAIN | --- |
| CONDUIT | --- |
| TELEPHONE CABLE IN CONDUIT | --- |
| ELECTRIC CABLE IN CONDUIT | --- |
| TELEPHONE MANHOLE | --- |
| ELECTRIC MANHOLE | --- |
| BURIED COMMUNICATION CABLE | --- |
| BURIED TELEPHONE CABLE | --- |
| BURIED ELECTRIC CABLE | --- |
| SEWER (SANITARY) | --- |
| SEWER (STORM) | --- |
| SEWER MANHOLE | --- |
| HANDHOLE | --- |
| CATCH BASIN | --- |

SCALE

INDEX MAP 0.9 km

GENERAL LAYOUT (SIGNALS) 5 m

GENERAL LAYOUT (ROAD WORK) 10 m

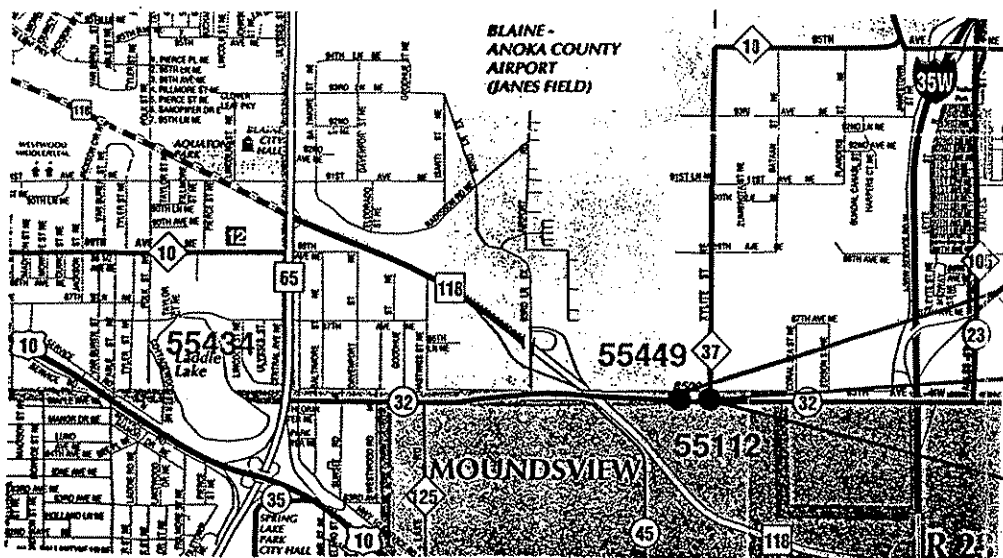
**MINNESOTA DEPARTMENT OF TRANSPORTATION
ANOKA AND RAMSEY COUNTIES, MINNESOTA
CITIES OF BLAINE AND MOUNDS VIEW**



**CONSTRUCTION PLAN FOR ONE (1) FULL TRAFFIC ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM,
TURN LANE CONSTRUCTION, AND RADIUS RECONSTRUCTION**

**LOCATED ON 85TH AVENUE NE (ANOKA CO. CSAH 32)/RAMSEY COUNTY ROAD J (RAMSEY CO. CSAH 1)
AT XYLITE STREET NORTHEAST**

**ANOKA COUNTY PROJECT NO. 97-58-32
STATE AID PROJECT NOS. 62-601-09 & 106-020-16
STATE AID PROJECT NOS. 106-131-03 & 146-020-10**



TURN LANE CONSTRUCTION

| | |
|---------------------|-----------------------------------|
| STATE AID PROJ. NO. | 62-601-09, 106-020-16, 146-020-10 |
| GROSS LENGTH | 178.51 METERS |
| BRIDGES-LENGTH | 0 METERS |
| EXCEPTIONS-LENGTH | 0 METERS |
| NET LENGTH | 178.51 METERS |

BEGIN TURN LANE CONSTRUCTION
STATION 1 + 648.39
ANOKA COUNTY PROJECT NO. 97-58-32
S.A.P. 62-601-09
S.A.P. 106-020-16 & 146-020-10

TRAFFIC SIGNAL SYSTEM
85TH AVENUE NE (CSAH 32)/
COUNTY ROAD J (CSAH 1) AT
XYLITE STREET NORTHEAST
ANOKA COUNTY PROJECT NO. 97-58-32
S.A.P. 62-601-09 & 106-020-16
S.A.P. 106-131-03 & 146-020-10

END TURN LANE CONSTRUCTION
STATION 1 + 826.90
ANOKA COUNTY PROJECT NO. 97-58-32
S.A.P. 62-601-09
S.A.P. 106-020-16 & 146-020-10

STATEMENT OF ESTIMATED QUANTITIES

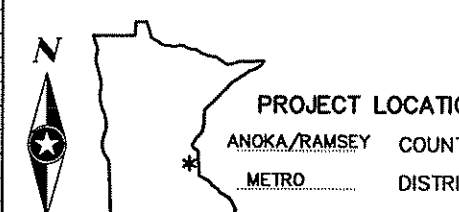
| ITEM NUMBER | ITEM | UNIT | TOTAL ESTIMATED QUANTITIES | PARTICIPATION | | | | |
|-------------|---|----------------|----------------------------|---------------------|------------------|-------------------|-------------------|-------------------|
| | | | | ANOKA C.P. 97-58-32 | S.A.P. 62-601-09 | S.A.P. 106-020-16 | S.A.P. 106-131-03 | S.A.P. 146-020-10 |
| 2104.501 | REMOVE CONCRETE CURB AND GUTTER | m | 180 | 90 | 90 | 0 | 0 | 0 |
| 2104.509 | REMOVE CATCH BASIN | EACH | 2 | 1 | 1 | 0 | 0 | 0 |
| 2104.513 | SAWING BITUMINOUS PAVEMENT (FULL DEPTH) | m | 230 | 115 | 115 | 0 | 0 | 0 |
| 2105.501 | COMMON EXCAVATION | m ³ | 600 | 300 | 300 | 0 | 0 | 0 |
| 2105.535 | SALVAGE TOPSOIL (C.V.) | m ³ | 80 | 40 | 40 | 0 | 0 | 0 |
| 2211.501 | AGGREGATE BASE, CLASS 5, 100% CRUSHED | t | 220 | 110 | 110 | 0 | 0 | 0 |
| 2340.508 | TYPE 47, WEARING COURSE MIXTURE | t | 72 | 36 | 36 | 0 | 0 | 0 |
| 2340.510 | TYPE 47, BINDER COURSE MIXTURE | t | 72 | 36 | 36 | 0 | 0 | 0 |
| 2340.514 | TYPE 31, BASE COURSE MIXTURE | t | 128 | 64 | 64 | 0 | 0 | 0 |
| 2357.502 | BITUMINOUS MATERIAL FOR TACK COAT | l | 112 | 56 | 56 | 0 | 0 | 0 |
| 2503.541 | 375 mm RCP SEWER, CLASS 5, DESIGN 3006 | m | 6.60 | 3.30 | 3.30 | 0 | 0 | 0 |
| 2503.602 | CONNECT TO EXISTING STORM SEWER | EACH | 2 | 1 | 1 | 0 | 0 | 0 |
| 2504.604 | 100 mm RIGID INSULATION | m ² | 12 | 6 | 6 | 0 | 0 | 0 |
| 2506.502 | CONSTRUCT DRAINAGE STRUCTURE, DESIGN SPECIAL | EACH | 3 | 1.50 | 1.50 | 0 | 0 | 0 |
| 2506.602 | CASTING ASSEMBLY, DESIGN SPECIAL | EACH | 3 | 1.50 | 1.50 | 0 | 0 | 0 |
| 2521.501 | 100 mm CONCRETE WALK | m ² | 36 | 18 | 18 | 0 | 0 | 0 |
| 2531.501 | CONCRETE CURB AND GUTTER, DESIGN B624 | m | 180 | 90 | 90 | 0 | 0 | 0 |
| 2531.604 | 225 mm CONCRETE VALLEY GUTTER | m ² | 48 | 24 | 24 | 0 | 0 | 0 |
| 2564.531 | SIGN PANELS--TYPE "C" | m ² | 7.02 | 2.67 | 2.67 | 0.84 | 0 | 0.84 |
| 2564.531 | SIGN PANELS--TYPE "D" | m ² | 5.20 | 1.30 | 1.30 | 1.30 | 0 | 1.30 |
| 2564.602 | PAVEMENT MESSAGE (LEFT ARROW)--EPOXY | EACH | 4 | 2 | 2 | 0 | 0 | 0 |
| 2564.602 | PAVEMENT MESSAGE (RIGHT ARROW)--EPOXY | EACH | 2 | 1 | 1 | 0 | 0 | 0 |
| 2564.603 | 100 mm SOLID LINE WHITE--EPOXY | m | 240 | 120 | 120 | 0 | 0 | 0 |
| 2564.603 | 100 mm BROKEN LINE WHITE--EPOXY | m | 110 | 55 | 55 | 0 | 0 | 0 |
| 2564.603 | 100 mm DOUBLE SOLID LINE YELLOW--EPOXY | m | 900 | 450 | 450 | 0 | 0 | 0 |
| 2564.603 | 600 mm SOLID LINE WHITE--EPOXY | m | 40 | 11.50 | 11.50 | 8 | 0 | 9 |
| 2564.603 | 600 mm SOLID LINE YELLOW--EPOXY | m | 270 | 135 | 135 | 0 | 0 | 0 |
| 2564.604 | CROSSWALK MARKING--EPOXY | m ² | 75 | 22 | 22 | 13 | 0 | 18 |
| 2565.511 | FULL-TRAFFIC-ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM | SIG.SYS. | 1 | 0.125 | 0.25 | 0.125 | 0.25 | 0.25 |
| 2565.601 | EMERGENCY VEHICLE PREEMPTION SYSTEM | LUMP SUM | 1 | 0 | 0 | 0.25 | 0.25 | 0.50 |
| 2575.505 | SODDING, TYPE LAWN | m ² | 500 | 250 | 250 | 0 | 0 | 0 |

PLAN REVISIONS

| DATE | SHEET NO. | APPROVED BY |
|------|-----------|-------------|
| | | |
| | | |
| | | |
| | | |

ATTENTION: THIS IS A METRIC PLAN.

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MMUTCD, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS--JANUARY 1998".



FEDERAL PROJECT NO.

GOVERNING SPECIFICATIONS
THE 1995 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION", SHALL GOVERN.

INDEX

| SHEET NO. | DESCRIPTION |
|-----------|-----------------------------|
| 1 | TITLE SHEET |
| 2 | DETAILS AND STANDARD PLATES |
| 3 | DETAILS |
| 4 | INTERSECTION LAYOUT |
| 5 | FIELD WIRING DIAGRAM |
| 6 | TYPICAL SECTION & DETAILS |
| 7 | TURN LANE & STORM SEWER |
| 8-11 | SIGNING AND STRIPING |
| 12 | UTILITIES |

THIS PLAN CONTAINS 12 SHEETS.

DESIGN ENGINEER: 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.

John M. Gray
DATE 11/12/98 REG. NO. 22457

SIGNAL DESIGN ENGINEER: I HEREBY CERTIFY THAT THESE SIGNAL PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, THAT THIS PLAN CONFORMS TO THE MMUTCD (EXCEPT WHERE A VARIANCE HAS BEEN GRANTED), AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

John M. Gray
DATE 11/12/98 REG. NO. 22457

APPROVED *Charles L. Litch* DATE 11/12/98
CITY OF BLAINE ENGINEER

APPROVED *Steve Campbell* DATE 11/12/98
CITY OF MOUNDS VIEW ENGINEER

APPROVED *John M. Gray* DATE 11/12/98
ANOKA COUNTY ENGINEER

APPROVED *John M. Gray* DATE 11/12/98
RAMSEY COUNTY ENGINEER

APPROVED *Rob Ungert* DATE 11/13/98
METRO ASSISTANT DIVISION ENGINEER-STATE AID; REVIEWED BY METRO DISTRICT ENGINEER AND POLICE

APPROVED *Rob Ungert* DATE 11/13/98
APPROVED FOR STATE AID FUNDING; STATE AID ENGINEER

GEOMETRICS DESIGN DESCRIPTION

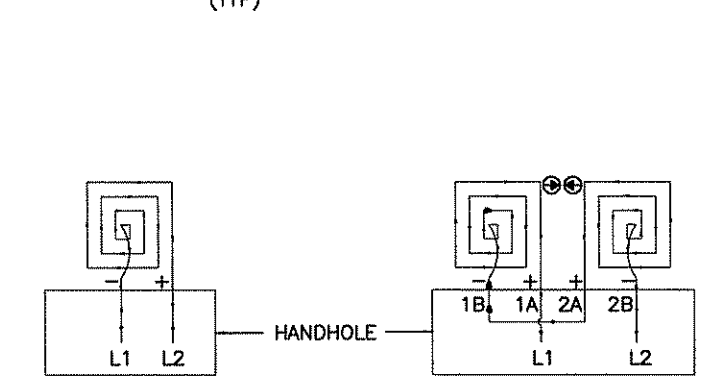
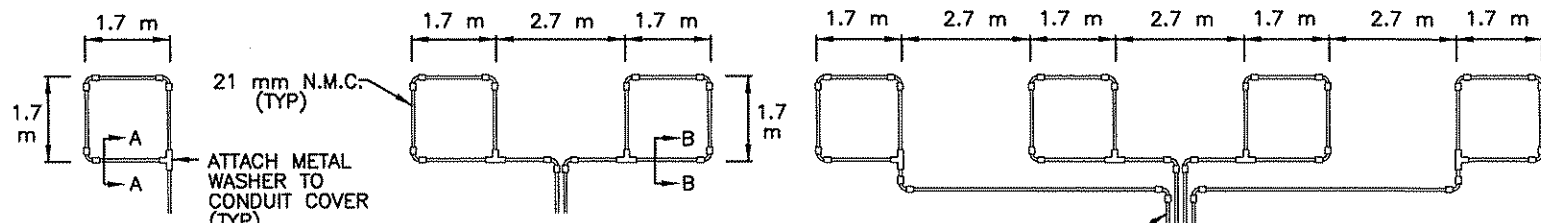
| | | |
|---------------------------|--------------------------------|----------------|
| | 85TH AVE NE/ RAMSEY CO.RD.J | XYLITE ST NE |
| DESIGN SPEED | 45 MPH/70 KMH | 30 MPH/50 KMH |
| EXISTING A.D.T. (1998) | 13,100 | 2,000 |
| PROJECTED A.D.T. (2018) | 19,500 | 3,000 |
| FUNCTIONAL CLASSIFICATION | ARTERIAL/HIGH | COLLECTOR/HIGH |
| NO. OF TRAFFIC LANES | 5 | 3 |
| NO. OF PARKING LANES | 0 | 0 |

MINNESOTA DEPARTMENT OF TRANSPORTATION
ANOKA & RAMSEY COUNTIES, MINNESOTA
CITIES OF BLAINE & MOUNDS VIEW

TITLE SHEET

ES&H

| | |
|--|----------------------------------|
| SIGNAL SYSTEM, TURN LANE CONSTRUCTION, AND RADIUS RECONSTRUCTION 85TH AVENUE NE (CSAH 32)/COUNTY ROAD J (CSAH 1) AT XYLITE STREET NORTHEAST ANOKA COUNTY PROJECT NO. 97-58-32 S.A.P. 62-601-09 & 106-020-16 S.A.P. 106-131-03 & 146-020-10 | FILE NO. ANOKC9708 1 12 |
|--|----------------------------------|

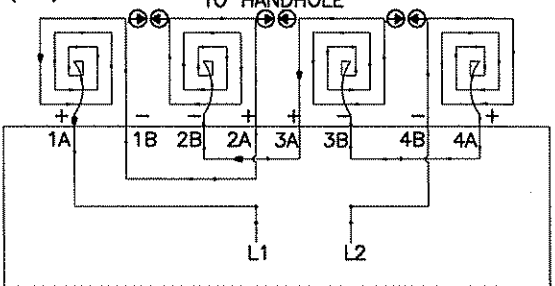
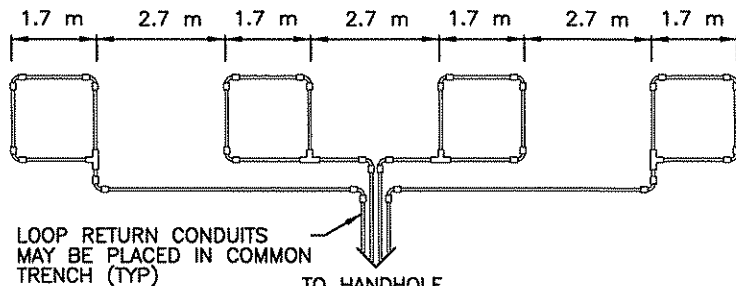


LOOP DETECTOR DETAIL 'A'
(LOOP PHASING FOR SINGLE CONNECTION)

LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

- L1 TO 1A
- 1B TO 2A
- 2B TO L2

LOOP DETECTOR DETAIL 'B'
(LOOP PHASING FOR SERIES CONNECTION)

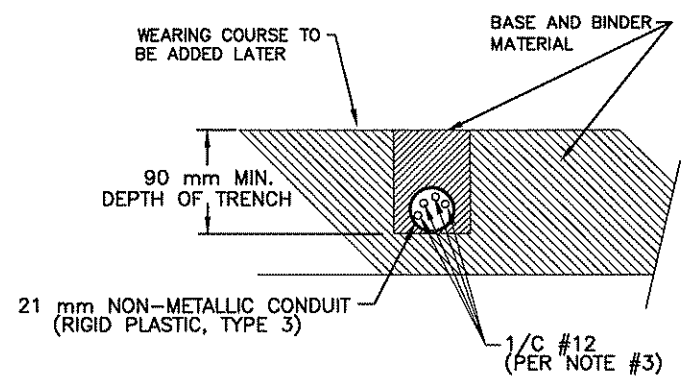


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

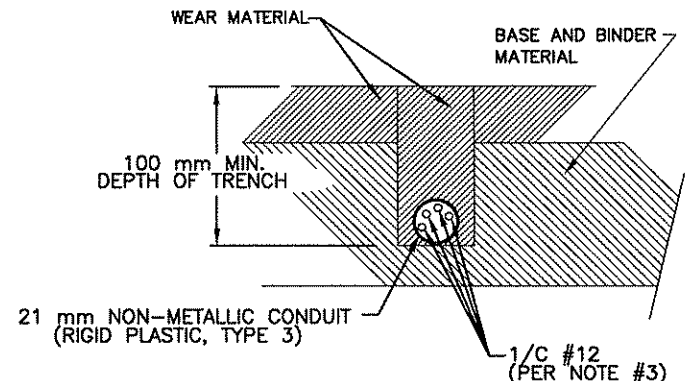
- L1 TO 1A
- 1B TO 2A
- 2B TO 3A
- 3B TO 4A
- 4B TO L2

SPLICE CONTROL CABLE TO L1 & L2 IN HANDHOLE. ALL CONDUCTORS SHALL BE TAGGED IN HANDHOLE (1A, 1B, ECT)

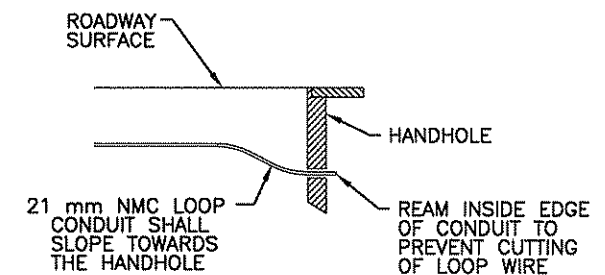
LOOP DETECTOR DETAIL 'C'
(LOOP PHASING FOR SERIES CONNECTION)



SECTION A-A
DETAIL FOR LOOP INSTALLATION IN NEW ROADWAY



SECTION B-B
DETAIL FOR LOOP INSTALLATION IN EXISTING ROADWAY



DRAINAGE DETAIL

LOOP DETECTOR WIRING

- 1) ALL CORNERS SHALL BE 90° CONDUIT BENDS.
- 2) CONNECT WIRES IN HANDHOLES USING SPLICE KIT METHOD DESCRIBED IN THE SPECIAL PROVISIONS.
- 3) LOOP DETECTOR WIRES SHALL BE #12 AWG CROSSED LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.
- 4) LOOP LEAD IN WIRES SHALL BE TWISTED A MIN. OF (5) TURNS PER 0.3 METER (1 FOOT) THROUGH THE CONDUIT TO THE HANDHOLE.
- 5) NMC DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
- 6) LOOPS 1.7 m x 1.7 m THRU 1.7 m x 4.3 m SHALL HAVE (4) TURNS.
- 7) LOOPS 1.7 m x 4.6 m AND LARGER SHALL HAVE (2) TURNS.

LEGEND OF SYMBOLS

| | |
|---|---|
| CONTROLLER AND SERVICE EQUIP. NO's | ⊙ |
| SIGNAL BASE NO. | ⊙ |
| SIGNAL FACE NO. | ⊙ |
| LUMINAIRE NO. | ⊙ |
| CONTROLLER AND CABINET | ⊙ |
| CONTROLLER AND CABINET - IN PLACE | ⊙ |
| HANDHOLE | ⊙ |
| HANDHOLE - IN PLACE | ⊙ |
| RIGID STEEL CONDUIT (RSC) | — |
| RIGID STEEL CONDUIT (RSC) - IN PLACE | — |
| SIGNAL FACE WITH BACKGROUND SHIELD | → |
| SIGNAL FACE W/O BACKGROUND SHIELD | → |
| SIGNAL FACE - IN PLACE | → |
| PEDESTRIAN INDICATORS | → |
| PEDESTRIAN INDICATORS - IN PLACE | → |
| PEDESTRIAN PUSH BUTTONS 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 - IN PLACE | → |
| STREET LIGHT POLE AND LUMINAIRE | → |
| STREET LIGHT POLE AND LUMINAIRE - IN PLACE | → |
| MAST ARM AND LUMINAIRE | → |
| MAST ARM AND LUMINAIRE - INPLACE | → |
| WOOD POLE | → |
| WOOD POLE - IN PLACE | → |
| SOURCE OF POWER | → |
| RAILROAD SIGNAL - IN PLACE | → |
| RIGHT OF WAY LINE | → |
| CENTERLINE | → |
| EDGE OF ROADWAY | → |
| SHOULDERLINE | → |
| CURB LINE | → |
| STOP BAR | → |

ABBREVIATIONS

| | | | |
|----------|--------------------------------|-----------|---|
| 3-1(EG) | SIGNAL HEAD PHASE "3" - NO "1" | P2-1(EG) | PEDESTRIAN INDICATION PHASE "2" - NO. "1" |
| BR. GR. | BARE GROUND | PB | PUSH BUTTON |
| CH. SW. | CHECK SWITCH | PB2-1(EG) | PUSH BUTTON PHASE "2" - NO. "1" |
| CLR | CLEAR | PEC | PHOTOELECTRIC CELL |
| D2-1(EG) | DETECTOR PHASE "2" - NO. "1" | PED | PEDESTRIAN |
| DWK | DON'T WALK | R | RED |
| EQG | EQUIPMENT GROUND | R&S | REMOVE AND SALVAGE |
| EVP | EMERGENCY VEHICLE PRE-EMPTION | RLTA | RED LEFT TURN ARROW |
| F&I | FURNISH AND INSTALL | RRTA | RED RIGHT TURN ARROW |
| FL | FLASH/FLASHING | RSC | RIGID STEEL CONDUIT |
| G | GREEN | SOP | SOURCE OF POWER |
| GLTA | GREEN LEFT TURN ARROW | SPR | SPARE |
| GRN | GREEN | ST. LHT | STREET LIGHT |
| GR. R | GROUND ROD | STA | STATION |
| GRTA | GREEN RIGHT TURN ARROW | SW | SWITCH |
| GTHA | GREEN THRU ARROW | SWD | SWITCHED |
| HH | HANDHOLE | TDW | TELEPHONE DROP WIRE |
| HPS | HIGH PRESSURE SODIUM | WLK | WALK |
| JB | JUNCTION BOX | YEL | YELLOW |
| LUM | LUMINAIRE | YLTA | YELLOW LEFT TURN ARROW |
| NEU | NEUTRAL | YRTA | YELLOW RIGHT TURN ARROW |
| NMC | NONMETALLIC CONDUIT | YTHA | YELLOW THRU ARROW |

CONDUCTOR COLOR CODE

| | |
|--------|--------------------------|
| 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
THESE STANDARD PLATES AS APPROVED BY FHWA SHALL APPLY:

| PLATE NO. | DESCRIPTION |
|-----------|--|
| * M3000 L | REINFORCED CONCRETE PIPE |
| * M3006 G | GASKET JOINT FOR R.C. PIPE |
| * M4011 E | PRECAST CONCRETE BASE |
| * M7035 K | CONCRETE WALK AND CURB RETURNS AT ENTRANCES |
| * M7036 D | PEDESTRIAN CURB RAMP |
| * M7100 G | CONCRETE CURB AND GUTTER |
| * M8000 I | STANDARD BARRICADES |
| * M8110 D | TRAFFIC SIGNAL BRACKETING - POLE MOUNTED |
| * M8111 C | TRAFFIC SIGNAL BRACKETING - PEDESTAL MOUNTED |
| * M8112 C | PEDESTAL FOUNDATION |
| * M8114 A | PVC HANDHOLE/PULLBOX |
| M8115 D | PEDESTRIAN PUSH BUTTON INSTALLATION |
| * M8118 C | SERVICE EQUIPMENT AND POLE-TRAFFIC CONTROL SIGNALS |
| * M8119 C | GROUND MOUNTED CABINET FOUNDATION |
| M8120 K | PA85 POLE FOUNDATION |
| * M8121 D | TRANSFORMER BASE AND POLE BASE PLATE |
| * M8122 C | PEDESTAL AND PEDESTAL BASE |
| * M8123 D | POLE AND MAST ARM |
| * M8124 E | MAST ARM SIGNAL HEAD MOUNTS |
| * M8126 F | PA90 AND PA100 POLE FOUNDATION |

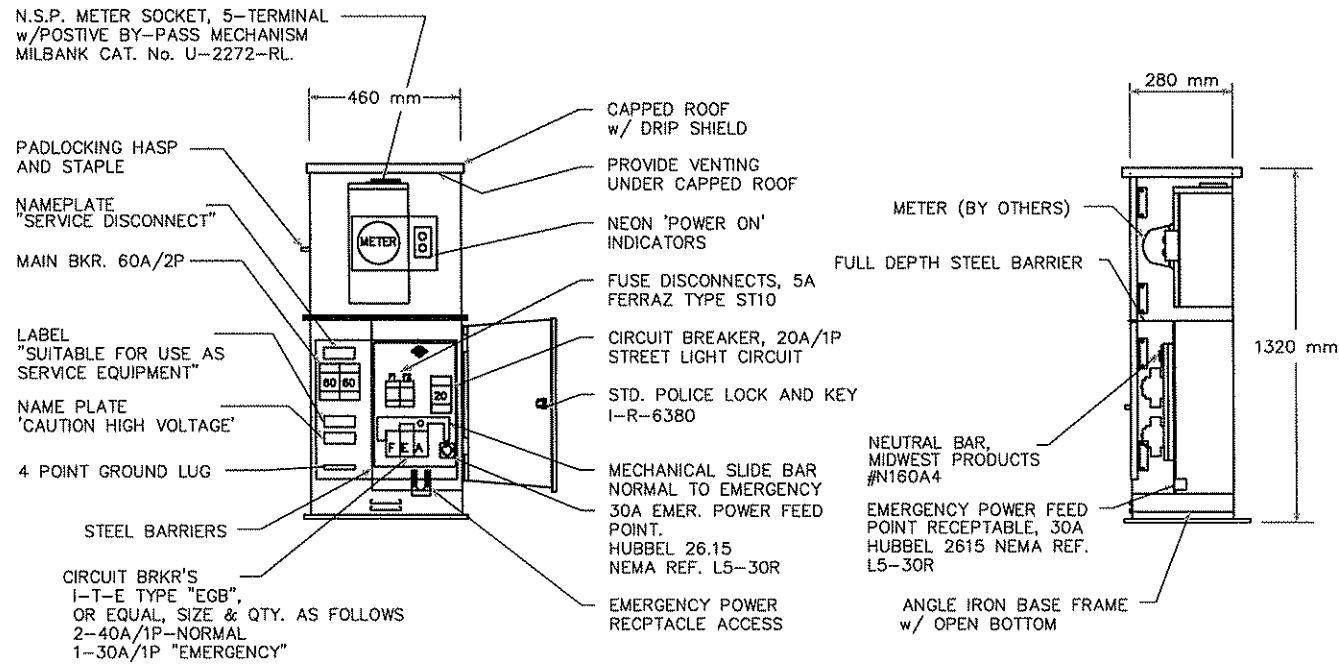
* - APPLIES TO THIS PROJECT

| | | | | | | | | | | | |
|-----|-----|------|---------------------|------|--------|---------|------|----------|--|--|--|
| 1 | JMG | 11/5 | PER MN/DOT COMMENTS | | | | | | | | |
| NO. | BY | DATE | REVISIONS | ITEM | DESIGN | CHECKED | DATE | REG. NO. | | | |

| | | | | |
|--|--|---|--|---------|
| | ANOKA COUNTY, MINNESOTA CITIES OF BLAINE & MOUNDS VIEW ANOKA COUNTY PROJECT NO. 97-58-32 S.A.P. 62-601-09 & 106-020-16 S.A.P. 106-131-03 & 146-020-10 | TRAFFIC SIGNAL SYSTEM DETAILS & STANDARD PLATES 85TH AVE NE (CSAH 32)/COUNTY ROAD J (CSAH 1) AT XYLITE STREET NORTHEAST | FILE NO. ANOKC9708 DATE 9/14/98 | 2 12 |
| | 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. <i>[Signature]</i> Date: 11/12/98 Reg. No. 22457 | | | |



SIGNAL SERVICE CABINET

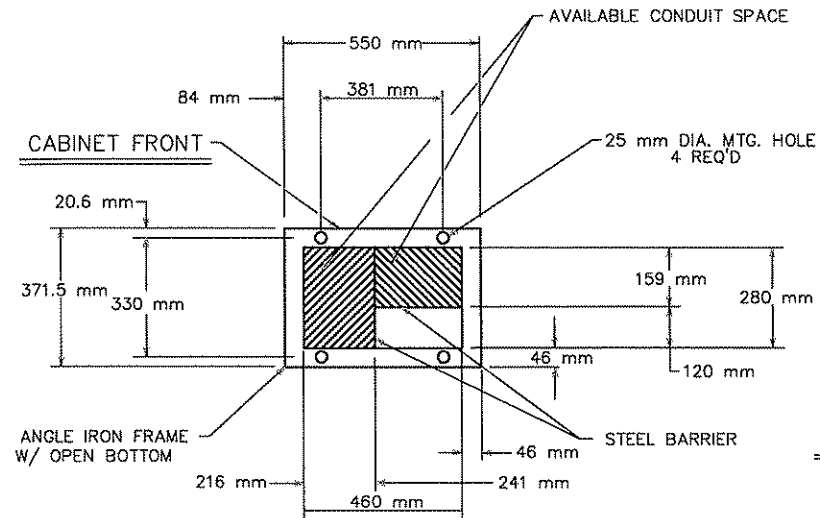


FRONT ELEV.

RIGHT SIDE ELEV.

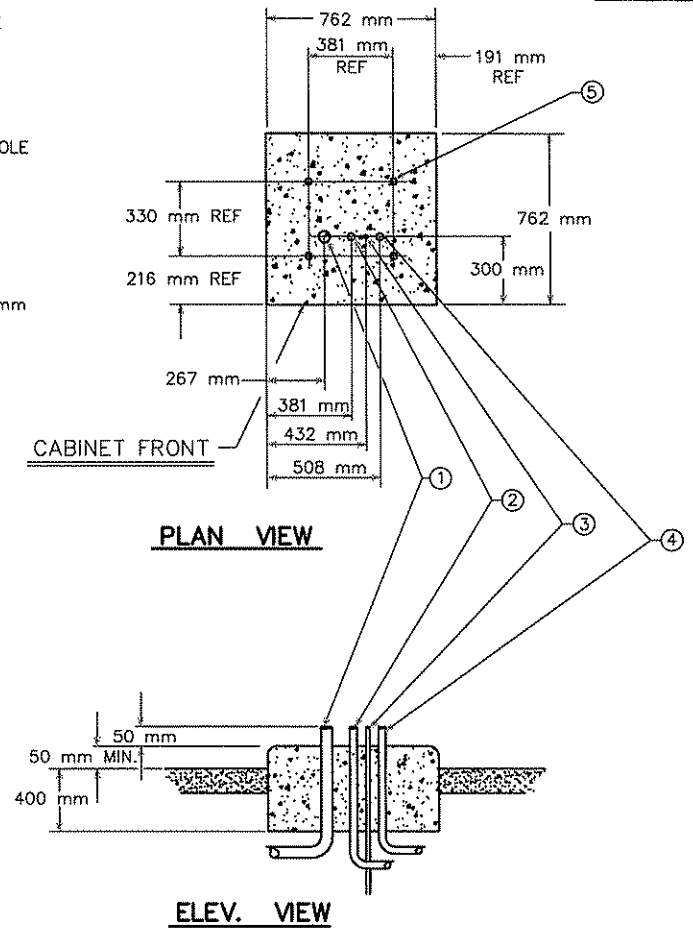
CONSTRUCTION NOTES

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 INHIBITING PRIMER. FINISH PER MN/DOT #3527. ENCLOSURE SHALL BE 'UL' APPROVED

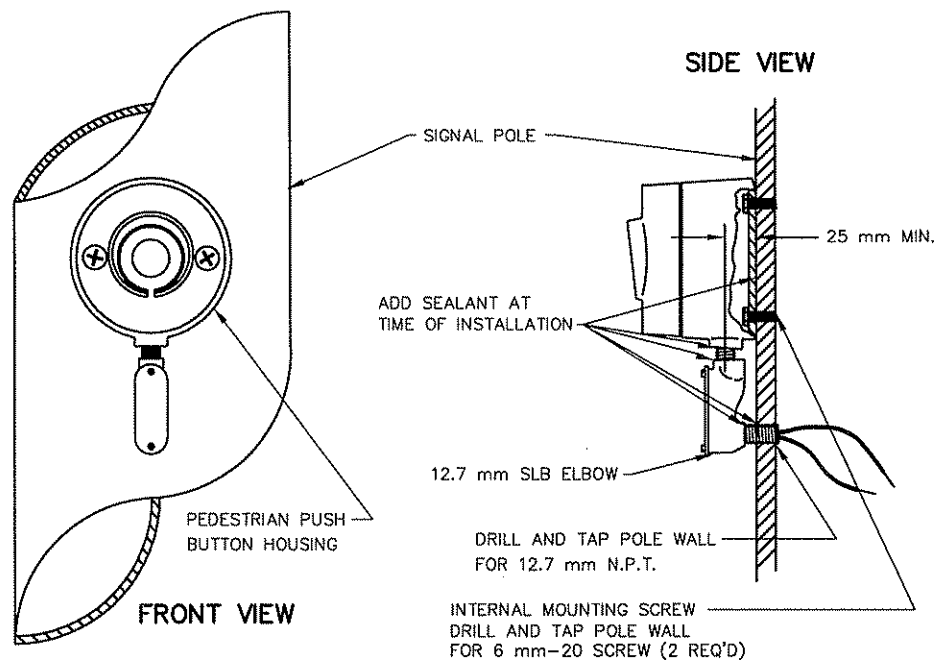


BASE VIEW

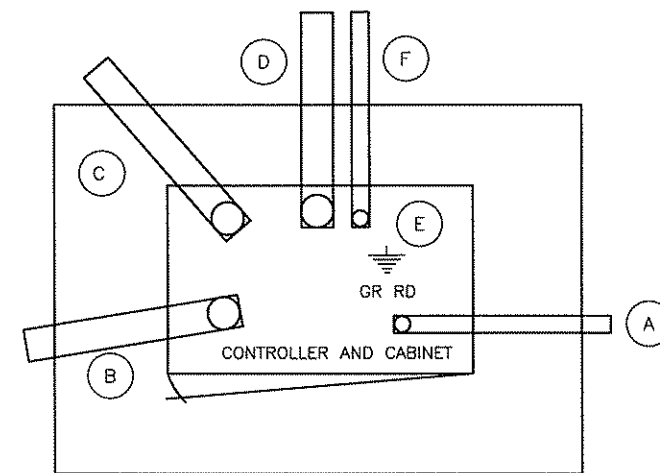
SERVICE CABINET FOUNDATION



MAST ARM POLE PEDESTRIAN PUSH BUTTON DETAIL



- (A) 53 mm R.S.C. FOR SERVICE CONNECTION (VIA HH 14)
- (B) 103 mm R.S.C. TO HH 1
- (C) 103 mm R.S.C. TO HH 13
- (D) 78 mm R.S.C. STUBOUT, THREAD & CAP BOTH ENDS (FOR FUTURE USE).
- (E) 15.8 mm DIA X 4.6 m GROUND ROD
- (F) 53 mm R.S.C. STUBOUT, THREAD & CAP BOTH ENDS (FOR FUTURE USE).



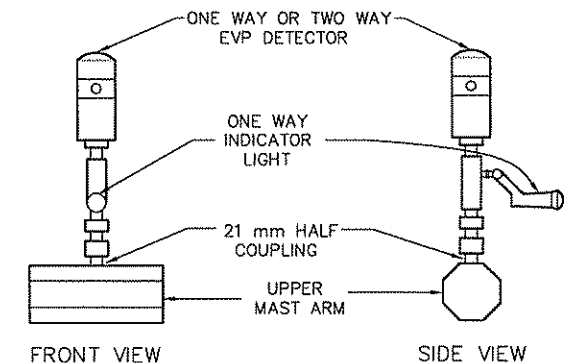
CONCRETE FOUNDATION
SEE MN/DOT STANDARD PLATE NO. M8119C FOR DIMENSIONS.

SEE INTERSECTION LAYOUT FOR CONDUIT & CABLE INFORMATION

TYPICAL CONTROLLER CABINET PAD LAYOUT

NO SCALE

EVP DETECTOR AND LIGHT MOUNTING DETAIL ON MAST ARM



| | | | | | |
|-----|----------|---------------------|-----------|------|--------|
| 1 | JMG 11/9 | PER MN/DOT COMMENTS | | | |
| NO. | BY | DATE | REVISIONS | ITEM | DESIGN |

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.

John M. Amy
Date: 11/12/98 Reg. No. 22457



ANOKA COUNTY, MINNESOTA
CITIES OF BLAINE & MOUNDS VIEW
ANOKA COUNTY PROJECT NO. 97-58-32
S.A.P. 62-601-09 & 106-020-16
S.A.P. 106-131-03 & 146-020-10

TRAFFIC SIGNAL SYSTEM DETAILS
85TH AVE NE (CSAH 32)/COUNTY ROAD J (CSAH 1) AT XYLITE STREET NORTHEAST

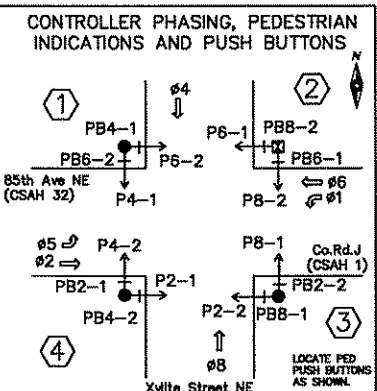
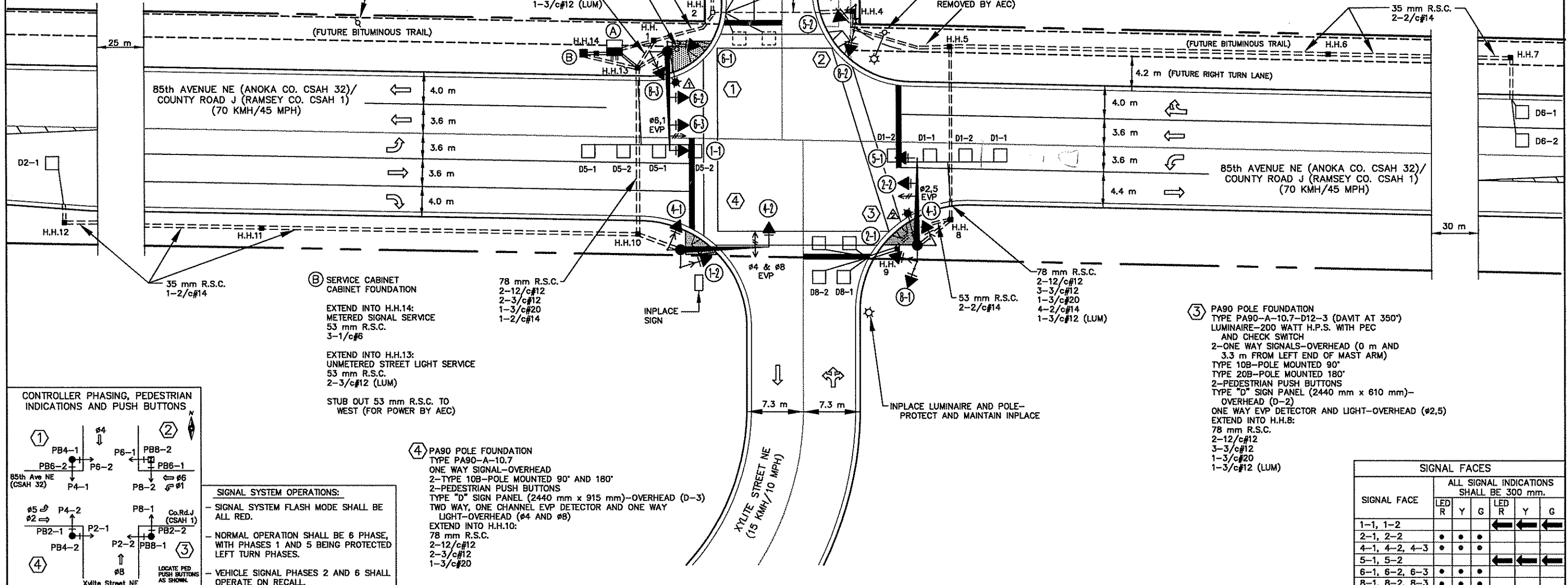
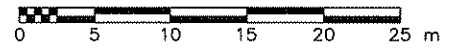
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| FILE NO. | ANOKC9708 | 3 |
| DATE | 9/14/98 | 12 |

- NOTES:**
- 1) LOCATION OF POLES, CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - 2) SEE SPECIAL PROVISIONS FOR ANOKA COUNTY FURNISHED MATERIALS.
 - 3) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 21 mm N.M.C. SEE SPECIAL PROVISIONS AND DETAILS.
 - 4) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS, PER Mn/DOT STANDARD PLATE NO. M8114A.
 - 5) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
 - 6) EACH PEDESTRIAN INDICATION SHALL BE A ONE SECTION HAND/WALKING PERSON INDICATION. SEE SPECIAL PROVISIONS.
 - 7) ALL "RED" VEHICLE SIGNAL INDICATIONS AND ALL "HAND" PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED. SEE SPECIAL PROVISIONS.
 - 8) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED VEHICLE SIGNAL FACE.
 - 9) A 21 mm HALF COUPLING, 21 mm PIPE NIPPLE AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED APPROX. 1.8 m FROM THE LEFT END OF MAST ARMS 1 AND 4, AND APPROX. 4.0 m FROM THE LEFT END OF MAST ARM 3 (FOR EVP).
 - 10) SEE SPECIAL PROVISIONS, DETAILS AND REMAINDER OF PLANS FOR INFORMATION REGARDING SIGN PANELS, STRIPING AND CONCRETE WALKWAY TO BE FURNISHED AND INSTALLED BY CONTRACTOR.
 - 11) SEE SHEETS 6 AND 7, SPECIAL PROVISIONS AND ESTIMATED QUANTITIES REGARDING RECONSTRUCTION OF SOUTHEAST RADIUS OF INTERSECTION, AND CONSTRUCTION OF EASTBOUND RIGHT TURN LANE (TO BE MEASURED AND PAID FOR SEPARATELY FROM ITEM NO. 2565.511 FOR THIS INTERSECTION).

| LOOP DETECTORS | | | |
|----------------|-------------|-------------|----------|
| NUMBER | SIZE (m) | LOCATION | FUNCTION |
| D1-1 | 2-1.7 x 1.7 | 3 m & 12 m | 1 |
| D1-2 | 2-1.7 x 1.7 | 0 m & 7.5 m | 1 |
| D2-1 | 1.7 x 1.7 | 100 m | 1 |
| D4-1 | 1.7 x 1.7 | INPLACE | 3,8 |
| D4-2 | 2-1.7 x 1.7 | INPLACE | 7 |
| D4-3 | 2-1.7 x 1.7 | INPLACE | 7 |
| D5-1 | 2-1.7 x 1.7 | 3 m & 12 m | 1 |
| D5-2 | 2-1.7 x 1.7 | 0 m & 7.5 m | 1 |
| D6-1 | 1.7 x 1.7 | 100 m | 1 |
| D6-2 | 1.7 x 1.7 | 100 m | 1 |
| D8-1 | 2-1.7 x 1.7 | 1.5 m | 7 |
| D8-2 | 2-1.7 x 1.7 | 1.5 m | 7 |

NOTE: LOCATION=DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.

- DETECTOR FUNCTIONS:**
- 1) CALL AND EXTEND
 - 2) CALL ONLY
 - 3) EXTEND ONLY
 - 4) CALL ONLY DENSITY
 - 5) DELAYED CALL ONLY
 - 6) DELAYED CALL ONLY DENSITY
 - 7) DELAYED CALL-IMMEDIATE EXTEND
 - 8) CARRY OVER (STRETCH)
 - 9) ADVISORY DETECTOR
 - 10) SAMPLING DETECTOR
 - 11) SPECIAL DETECTOR



- SIGNAL SYSTEM OPERATIONS:**
- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
 - NORMAL OPERATION SHALL BE 6 PHASE, WITH PHASES 1 AND 5 BEING PROTECTED LEFT TURN PHASES.
 - VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

- 4) PA90 POLE FOUNDATION**
 TYPE PA90-A-10.7
 ONE WAY SIGNAL-OVERHEAD
 2-TYPE 10B-POLE MOUNTED 90° AND 180°
 2-PEDESTRIAN PUSH BUTTONS
 TYPE "D" SIGN PANEL (2440 mm x 915 mm)-OVERHEAD (D-3)
 TWO WAY, ONE CHANNEL EVP DETECTOR AND ONE WAY LIGHT-OVERHEAD (#4 AND #8)
 EXTEND INTO H.H.10:
 78 mm R.S.C.
 2-12/c#12
 2-3/c#12
 1-3/c#20

- 1) PA100 POLE FOUNDATION**
 TYPE PA100-A-12.2-D12-3 (DAVIT AT 350°)
 LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH
 3-ONE WAY SIGNALS-OVERHEAD (0 m, 3.3 m AND 6.9 m FROM LEFT END OF MAST ARM)
 2-TYPE 10B-POLE MOUNTED 90° AND 180°
 2-PEDESTRIAN PUSH BUTTONS
 TYPE "D" SIGN PANEL (2440 mm x 610 mm)
 OVERHEAD (D-1)
 ONE WAY EVP DETECTOR AND LIGHT-OVERHEAD (#6,1)
 EXTEND INTO H.H.13:
 78 mm R.S.C.
 2-12/c#12
 3-3/c#12
 1-3/c#20
 1-3/c#12 (LUM)

- 2) PEDESTAL FOUNDATION**
 4.6 m PEDESTAL POLE AND BASE
 TYPE 2C
 2-PEDESTRIAN PUSH BUTTONS
 ONE WAY EVP INDICATOR LIGHT ONLY-MOUNT ON TOP OF PEDESTAL POLE (#8)
 EXTEND INTO H.H.4:
 78 mm R.S.C.
 2-12/c#12
 2-3/c#12

- A) INSTALL CONTROLLER AND CABINET**
 (FURNISHED BY ANOKA COUNTY)
 CABINET FOUNDATION

- EXTEND INTO H.H.14:
 METERED SIGNAL SERVICE
 53 mm R.S.C.
 3-1/c#6

- EXTEND INTO H.H.1:
 103 mm R.S.C.
 4-12/c#12
 5-3/c#12
 1-3/c#20
 9-2/c#14

- EXTEND INTO H.H.13:
 103 mm R.S.C.
 4-12/c#12
 5-3/c#12
 2-3/c#20
 3-2/c#14

STUB OUT 1-53 mm R.S.C. AND 1-78 mm R.S.C. FROM CABINET TO SOUTH (THREAD AND CAP BOTH ENDS-FOR FUTURE USE)

- 3) PA90 POLE FOUNDATION**
 TYPE PA90-A-10.7-D12-3 (DAVIT AT 350°)
 LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH
 2-ONE WAY SIGNALS-OVERHEAD (0 m AND 3.3 m FROM LEFT END OF MAST ARM)
 TYPE 10B-POLE MOUNTED 90°
 TYPE 20B-POLE MOUNTED 180°
 2-PEDESTRIAN PUSH BUTTONS
 TYPE "D" SIGN PANEL (2440 mm x 610 mm)-OVERHEAD (D-2)
 ONE WAY EVP DETECTOR AND LIGHT-OVERHEAD (#2,5)
 EXTEND INTO H.H.8:
 78 mm R.S.C.
 2-12/c#12
 3-3/c#12
 1-3/c#20
 1-3/c#12 (LUM)

| SIGNAL FACES | | | | | | |
|---|-------|---|---|-------|---|---|
| ALL SIGNAL INDICATIONS SHALL BE 300 mm. | | | | | | |
| SIGNAL FACE | LED R | | | LED Y | | |
| | R | Y | G | R | Y | G |
| 1-1, 1-2 | | | | ← | ← | ← |
| 2-1, 2-2 | • | • | • | | | |
| 4-1, 4-2, 4-3 | • | • | • | | | |
| 5-1, 5-2 | | | | ← | ← | ← |
| 6-1, 6-2, 6-3 | • | • | • | | | |
| 8-1, 8-2, 8-3 | • | • | • | | | |

| NO. | BY | DATE | REVISIONS | ITEM | DESIGN | CHECKED |
|-----|-----|------|-----------|------|--------|---------|
| 1 | JMG | 11/9 | | | | |

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 Date: 11/12/98 Reg. No. 22457

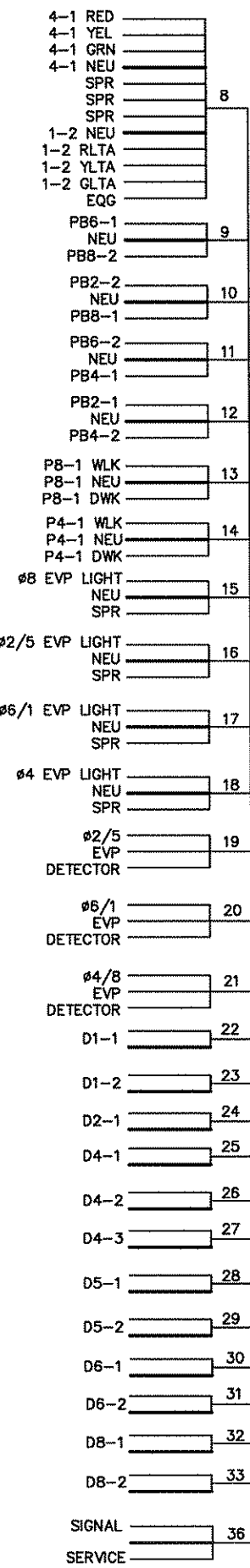
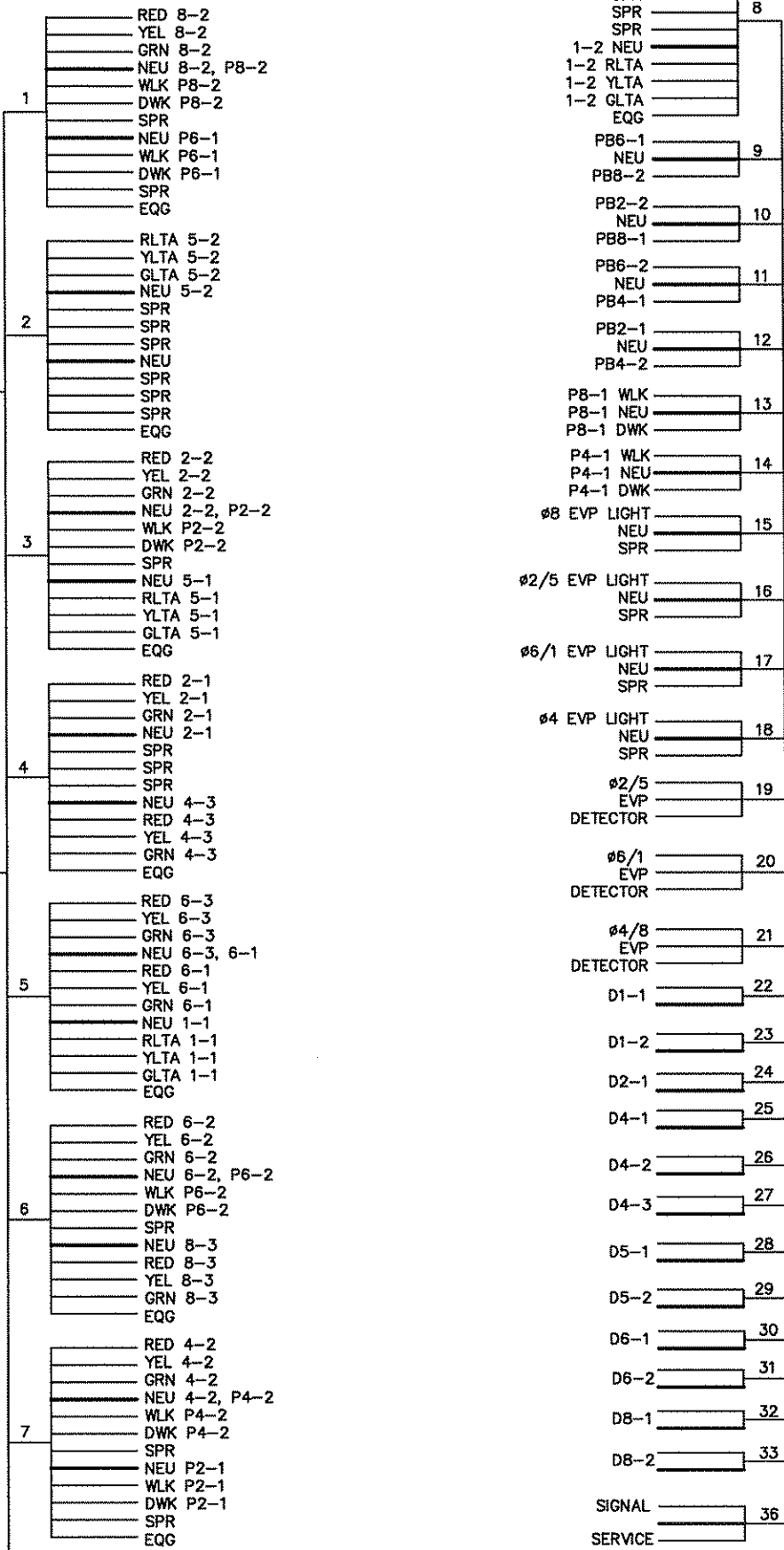


ANOKA COUNTY, MINNESOTA
CITIES OF BLAINE & MOUNDS VIEW
 ANOKA COUNTY PROJECT NO. 97-58-32
 S.A.P. 62-601-09 & 106-020-16
 S.A.P. 106-131-03 & 146-020-10

TRAFFIC SIGNAL SYSTEM
INTERSECTION LAYOUT
 85TH AVE NE (CSAH 32)/COUNTY ROAD J (CSAH 1) AT XYLITE STREET NORTHEAST

| | |
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| FILE NO. | ANOKC9708 |
| DATE | 9/14/98 |
| | 4 |
| | 12 |

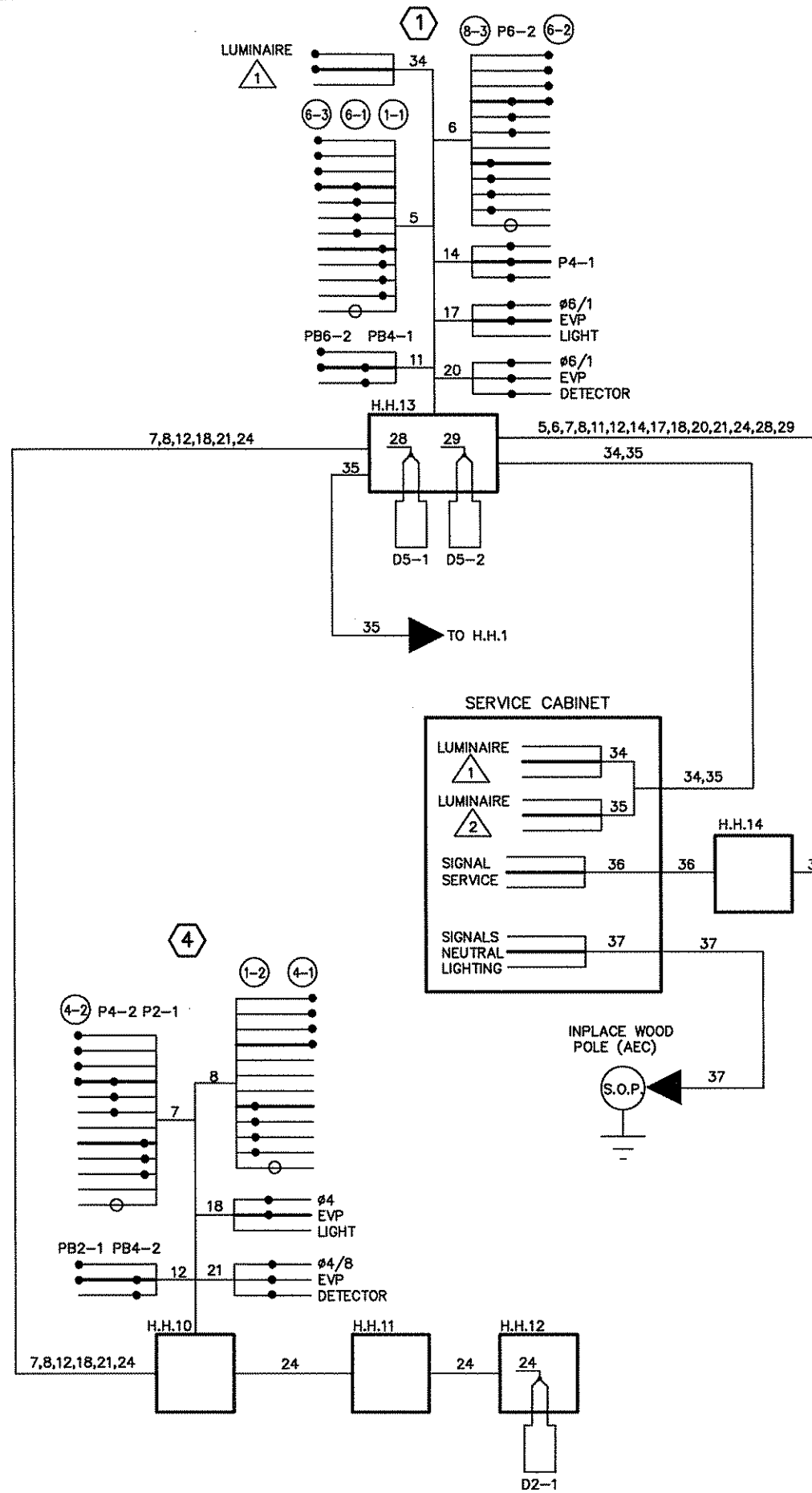
CONTROLLER CABINET



CONDUCTOR COLOR CODING

| | | |
|-----------|-------|---------|
| R | BLK | 2-1/c#6 |
| O | WH | |
| BL | | |
| WH | R | 3/c#12 |
| R/BLK | WH | |
| O/BLK | BLK | |
| BL/BLK | | |
| WH/BLK | BLK | 2/c#14 |
| BLK/WH | CLEAR | |
| G/BLK | | |
| G | | |
| R OR O | | 3/c#20 |
| WH OR YEL | | |
| BLK OR BL | | |

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



| | | | | | | |
|-----|-----|------|---------------------|------|--------|---------|
| 1 | JMG | 11/9 | PER MN/DOT COMMENTS | | | |
| NO. | BY | DATE | REVISIONS | ITEM | DESIGN | CHECKED |

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John M. Johnson
Date: 11/21/98 Reg. No. 22457



ANOKA COUNTY, MINNESOTA
CITIES OF BLAINE & MOUNDS VIEW
ANOKA COUNTY PROJECT NO. 97-58-32
S.A.P. 62-601-09 & 106-020-16
S.A.P. 106-131-03 & 146-020-10

TRAFFIC SIGNAL SYSTEM
FIELD WIRING DIAGRAM
85TH AVE NE (CSAH 32)/COUNTY ROAD J
(CSAH 1) AT XYLITE STREET NORTHEAST

| | | |
|----------|-----------|----|
| FILE NO. | ANOKC9708 | 5 |
| DATE | 9/14/98 | 12 |

SAWCUT BIT. AND MATCH
EXISTING PAVEMENT SECTION

3.600 m

EXISTING B624 CONC.
C&G TO BE REMOVED

B624 CONC. C&G

150 mm

2%

MATCH
EXIST.

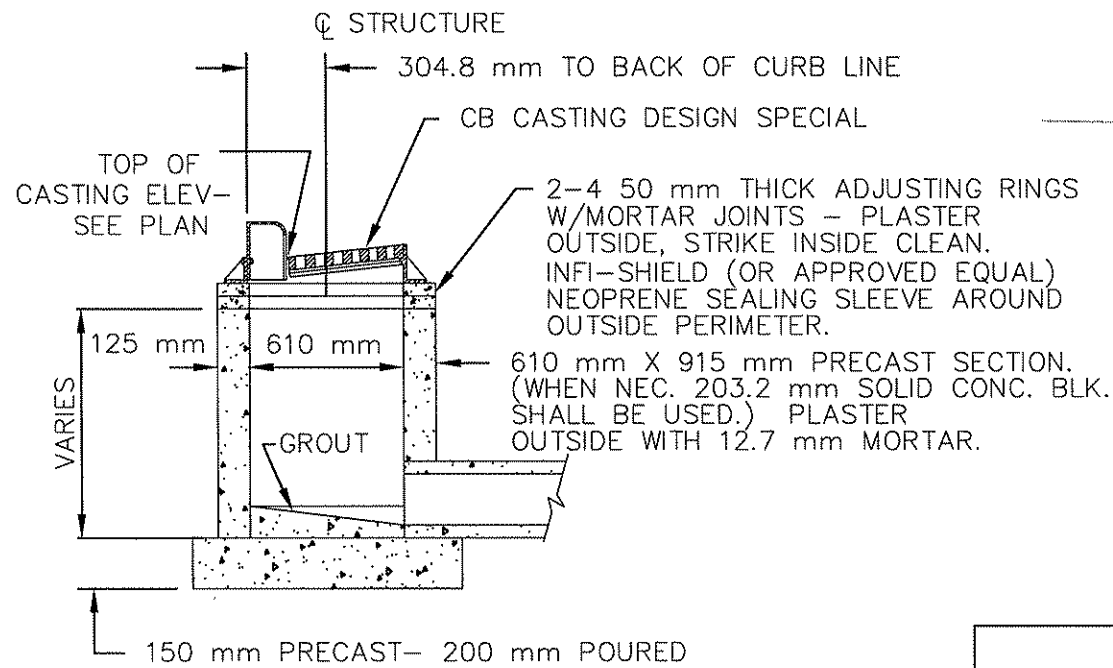
2%

1:1

100 mm
TOPSOIL
& SOD (ALL
DISTURBED
AREAS)

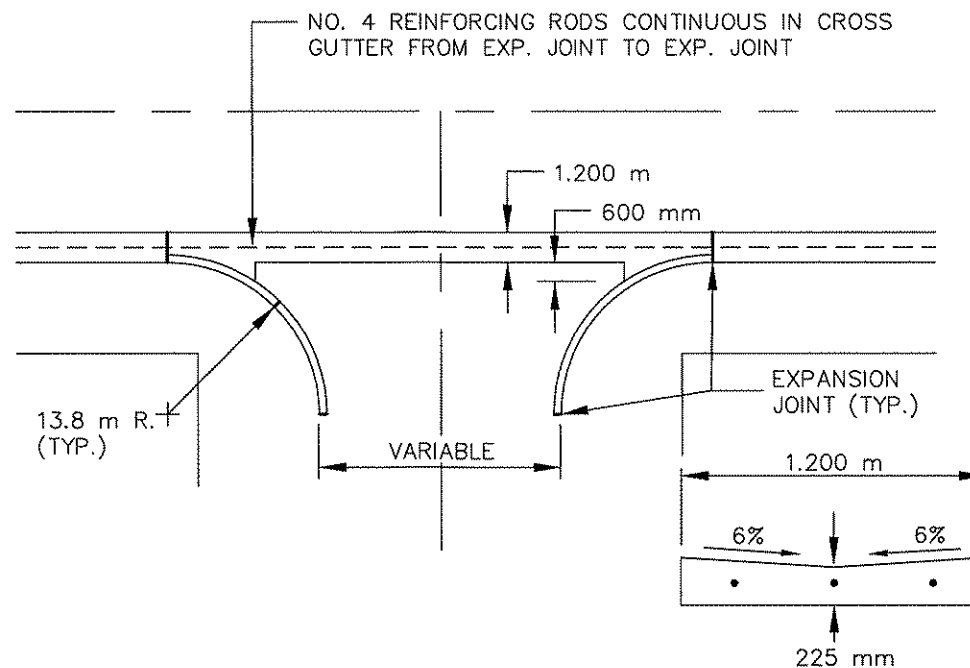
- 50 mm 2340 TYPE 47WEA50070 *
- 2357 TACK COAT
- 50 mm 2340 TYPE 47BIB50070 *
- 2357 TACK COAT
- 90 mm 2340 TYPE 31BBB50000 *
- 150 mm 2211 AGGREGATE BASE, CLASS ~~X~~ 5
(100% CRUSHED)
- 600 mm 3149 SELECT GRANULAR BORROW
- * PG 58-28

**TYPE "SPECIAL" CATCH BASIN
(RECTANGULAR)**

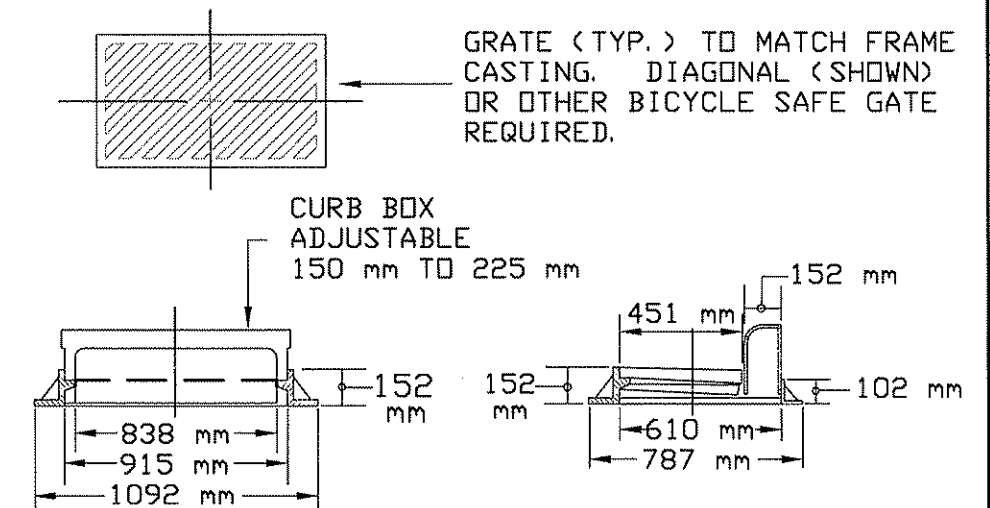


TYPICAL SECTION

CONCRETE VALLEY GUTTER



C. B. CASTING DETAIL DESIGN SPECIAL



NOTE:
TO BE USED WITH TYPE "SPECIAL" CATCH BASIN DESIGN

| | | | | | | |
|-----|----------|---------------------|-----------|------|--------|---------|
| 1 | JMG 11/9 | PER MN/DOT COMMENTS | | | | |
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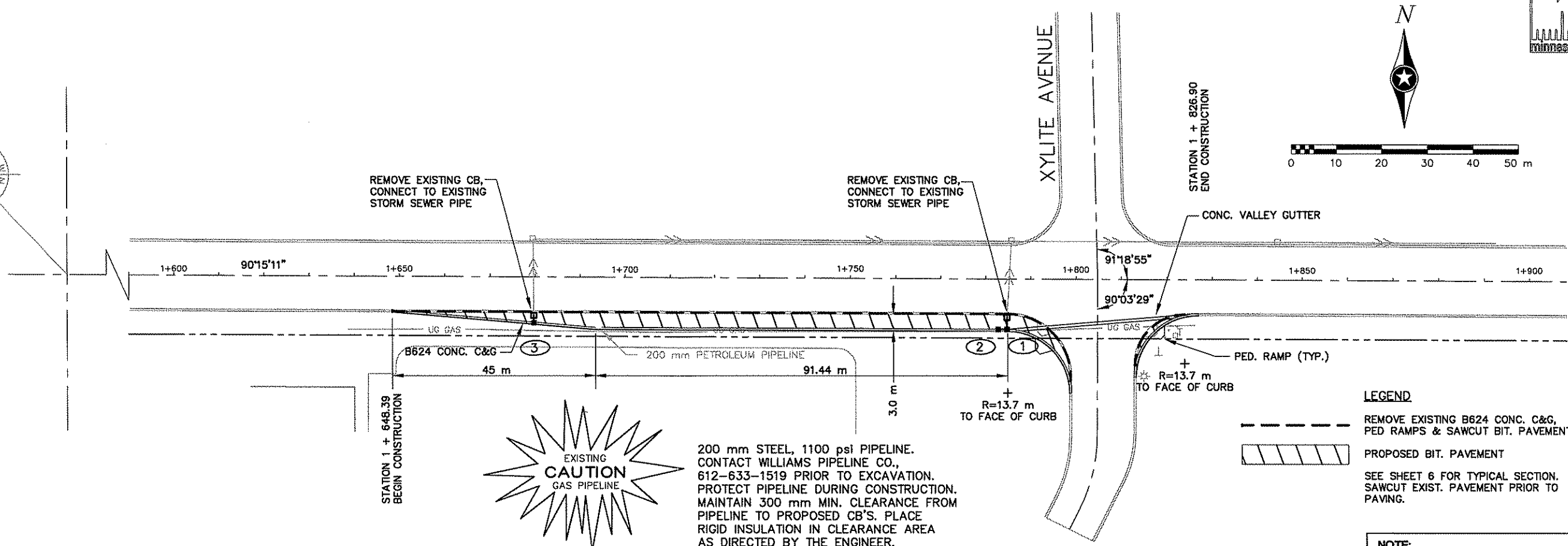
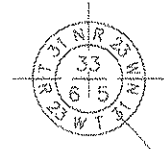
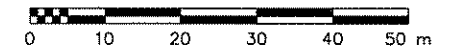
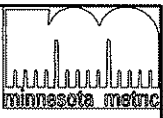
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[Signature] 22457
Date: 11/12/98 Reg. No. 22457



ANOKA COUNTY, MINNESOTA
CITIES OF BLAINE & MOUNDS VIEW
ANOKA COUNTY PROJECT NO. 97-58-32
S.A.P. 62-601-09 & 106-020-16
S.A.P. 106-131-03 & 146-020-10

85TH AVENUE/CO.RD.J
TYPICAL SECTION & DETAILS
85TH AVE NE (CSAH 32)/COUNTY ROAD J
(CSAH 1) AT XYLITE STREET NORTHEAST

| | | |
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| DATE | 9/14/98 | 12 |

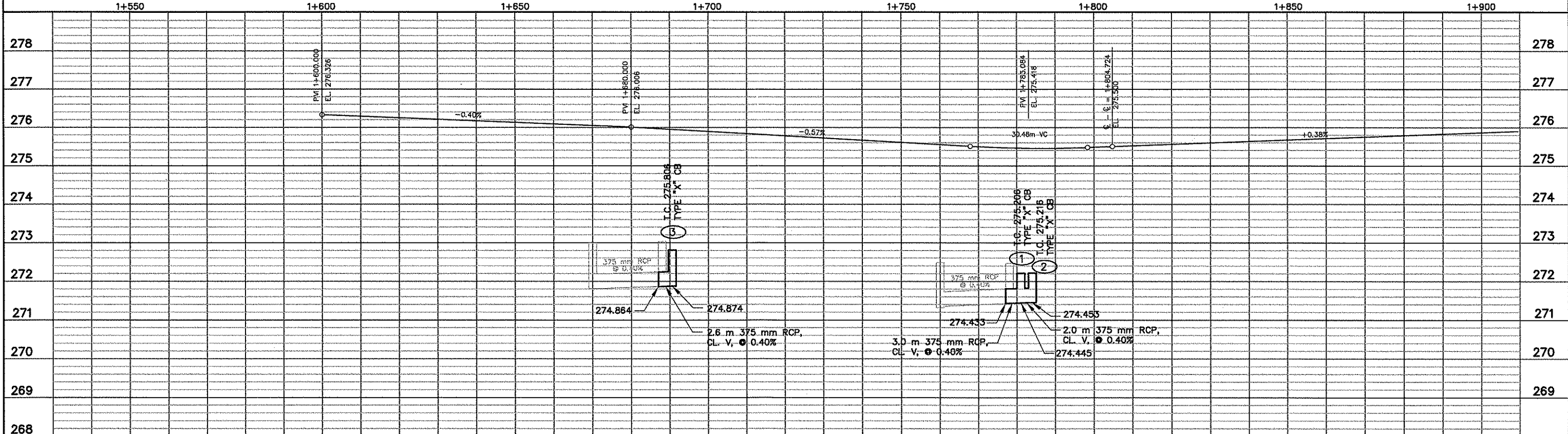


200 mm STEEL, 1100 psi PIPELINE.
 CONTACT WILLIAMS PIPELINE CO.,
 612-633-1519 PRIOR TO EXCAVATION.
 PROTECT PIPELINE DURING CONSTRUCTION.
 MAINTAIN 300 mm MIN. CLEARANCE FROM
 PIPELINE TO PROPOSED CB'S. PLACE
 RIGID INSULATION IN CLEARANCE AREA
 AS DIRECTED BY THE ENGINEER.

- LEGEND**
- REMOVE EXISTING B624 CONC. C&G, PED RAMPS & SAWCUT BIT. PAVEMENT.
 - PROPOSED BIT. PAVEMENT
 - SEE SHEET 6 FOR TYPICAL SECTION. SAWCUT EXIST. PAVEMENT PRIOR TO PAVING.

NOTE:
 CONTRACTOR TO VERIFY ALL UTILITY ELEVATIONS WHEN CONNECTING TO EXISTING FACILITIES

COUNTY ROAD J



| NO. | BY | DATE | REVISIONS | ITEM | DESIGN | CHECKED |
|-----|-----|------|---------------------|------|--------|---------|
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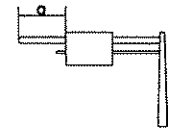
ANOKA COUNTY, MINNESOTA
 CITIES OF BLAINE & MOUNDS VIEW
 ANOKA COUNTY PROJECT NO. 97-58-32
 S.A.P. 62-601-09 & 106-020-16
 S.A.P. 106-131-03 & 146-020-10

85TH AVENUE/CO.RD.J
 TURN LANE & STORM SEWER
 85TH AVE NE (CSAH 32)/COUNTY ROAD J
 (CSAH 1) AT XYLITE STREET NORTHEAST

| | |
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| FILE NO. | 7 |
| DATE | 9/14/98 |
| | 12 |

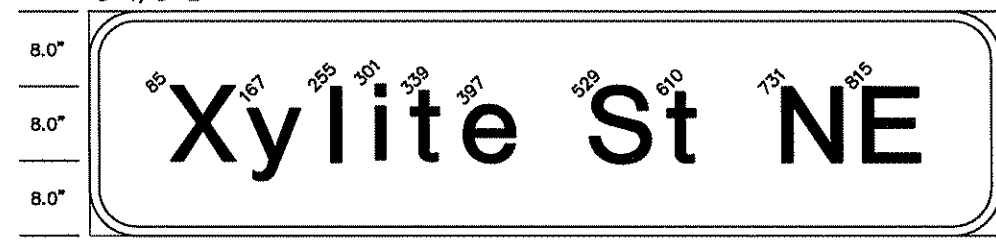
| TYPE "D" SIGNS - F & I | | | | | | | | |
|--------------------------|---------------|---------------|----------|--------------------|-------------------|---------------------------|----------|-------|
| SIGN PANEL | SIZE (Inches) | SIZE (meters) | NO. REQ. | NO. POSTS PER SIGN | POST SPACING (mm) | AREA (sq.meters) PER SIGN | POLE NO. | Ø |
| D-1 | 96x24 | 2.44x0.61 | 1 | 2 | 1375 | 1.49 | 1 | 8.5 m |
| D-2 | 96x24 | 2.44x0.61 | 1 | 2 | 1375 | 1.49 | 3 | 6.0 m |
| D-3 | 96x36 | 2.44x0.91 | 1 | 2 | 1375 | 2.23 | 4 | 2.5 m |
| TYPE "C" SIGNS - F & I | | | | | | | | |
| R3-8G (mod) | 48x30 | 1.22x0.76 | 1 | 2U-1A | - | 0.93 | - | - |
| R3-8H | 54x30 | 1.37x0.76 | 1 | 2U-1A | - | 1.05 | - | - |
| W3-3 | 36x36 | 0.91x0.91 | 4 | 2-U | - | 0.84 | - | - |
| W4-2L | 36x36 | 0.91x0.91 | 1 | 2-U | - | 0.84 | - | - |
| W9-1L | 36x36 | 0.91x0.91 | 1 | 2-U | - | 0.84 | - | - |
| TYPE "C" SIGNS - SALVAGE | | | | | | | | |
| R1-1 | 30x30 | 0.76x0.76 | 1 | 1-U | - | - | - | - |
| R1-1 | 36x36 | 0.91x0.91 | 1 | 2-U | - | - | - | - |

NOTE: ALL DIMENSIONS OF DETAILED SIGN PANELS ARE IN INCHES



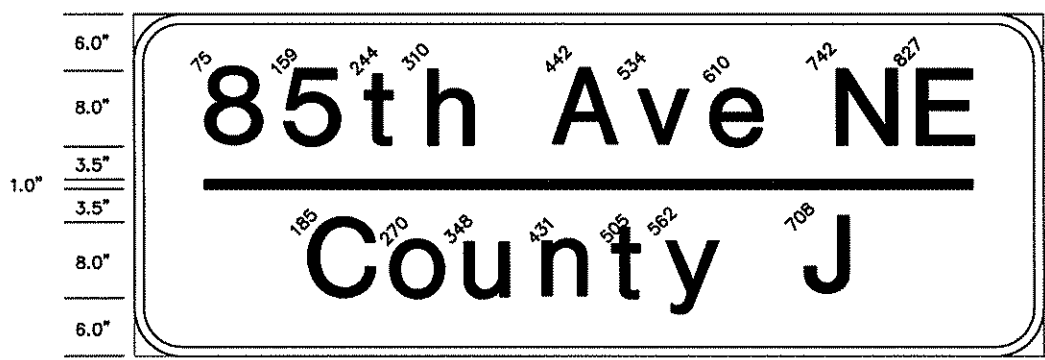
- NOTES:
- 1) TYPE "D" SIGN COLOR-WHITE LEGEND AND BORDER ON GREEN BACKGROUND, FULLY REFLECTORIZED.
 - 2) CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
 - 3) FOR STRUCTURAL DETAILS, TYPE "C" AND "D" SIGNS, SEE DETAILS AND STANDARD SIGNS MANUAL.
 - 4) FOR TYPE "D" STRINGER AND PANEL-JOINT DETAIL, SEE DETAILS AND STANDARD SIGNS MANUAL.
 - 5) TYPE "C" AND "D" SIGN PANELS SHALL BE FURNISHED AND INSTALLED BY SIGNAL CONTRACTOR UNDER SEPARATE PAY ITEMS FROM ITEM NO. 2565,511. SEE SPECIAL PROVISIONS AND ESTIMATED QUANTITIES.
 - 6) SIGN PANELS TO BE SALVAGED BY SIGNAL CONTRACTOR WILL BE CONSIDERED INCIDENTAL TO SIGN PANELS -TYPE "C". SEE SPECIAL PROVISIONS FOR FURTHER INFORMATION.
 - 7) LOCATION OF ALL SIGNS AND PAVEMENT MARKINGS SHOWN ON SHEET 9 ARE APPROXIMATE AND SHALL BE LOCATED BY THE ENGINEER IN THE FIELD PRIOR TO INSTALLATION.
 - 8) SEE STANDARD SIGNS MANUAL FOR DETAILED DRAWINGS OF TYPE "C" SIGN PANELS.
 - 9) PUNCHING CODES FOR TYPE "C" SIGNS SHALL BE GOVERNED BY THE NUMBER OF SIGN POSTS SPECIFIED ON THE PLANS AT EACH LOCATION (NOT BY WHAT IS SHOWN ON THE DETAILED DRAWINGS IN THE STANDARD SIGNS MANUAL). DIMENSIONS SHALL BE AS SPECIFIED ON PAGES 108-111 OF THE STANDARD SIGNS MANUAL.
 - 10) MOUNTING HEIGHTS OF SIGN PANELS SHALL CONFORM TO STANDARDS SET FORTH IN SPECIAL PROVISIONS.
 - 11) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL, DATED JANUARY 1998.
 - 12) CONTRACTOR SHALL PROVIDE SKETCH OF ALL MODIFIED SIGN PANELS TO ENGINEER, SHOWING ALL PERTINENT DIMENSIONS, PRIOR TO THESE SIGNS BEING FABRICATED.

D-1, D-2



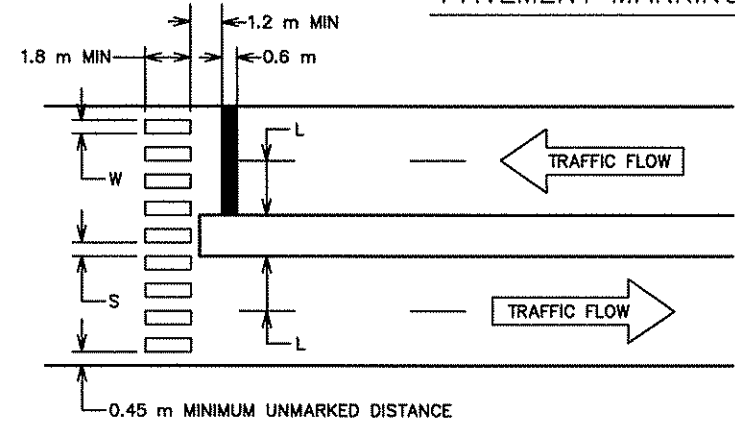
96"x24", 3"R, 1.0"B.
Line 1 82.0: 8"-6" E MOD.

D-3



96"x36", 3"R, 1.0"B.
Line 1 81.1: 8"-6" E MOD.
Line 2 81.1: 1 INCH LINE
Line 3 58.3: 8"-6" E MOD.

PAVEMENT MARKINGS DETAIL



| WIDTH OF INSIDE LANE (L) | WIDTH OF MARKED AREA (W) | WIDTH OF SPACE (S) |
|--------------------------|--------------------------|--------------------|
| 2.7 m | 0.6 m | 0.75 m |
| 3.0 m | 0.75 m | 0.75 m |
| 3.3 m | 0.75 m | 0.9 m |
| 3.6 m | 0.9 m | 0.9 m |
| 3.9 m | 0.9 m | 1.05 m |

- NOTES:
1. CROSSWALK AREAS TO BE CENTERED AND ALIGNED ON CENTER LINE AND LANE LINES.
 2. A MINIMUM OF 0.45 m CLEAR DISTANCE MUST BE LEFT ADJACENT TO CURB. IF LAST MARKED AREA FALLS INTO THIS DISTANCE, IT MUST BE OMITTED.

| NO. | BY | DATE | REVISIONS | ITEM | DESIGN | CHECKED |
|-----|-----|------|---------------------|------|--------|---------|
| 1 | JMG | 11/9 | PER MN/DOT COMMENTS | | | |

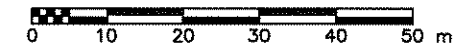
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ANOKA COUNTY, MINNESOTA
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S.A.P. 62-601-09 & 106-020-16
S.A.P. 106-131-03 & 146-020-10

TRAFFIC SIGNAL SYSTEM
SIGNING & STRIPING DETAILS
85TH AVE NE (CSAH 32)/COUNTY ROAD J
(CSAH 1) AT XYLITE STREET NORTHEAST

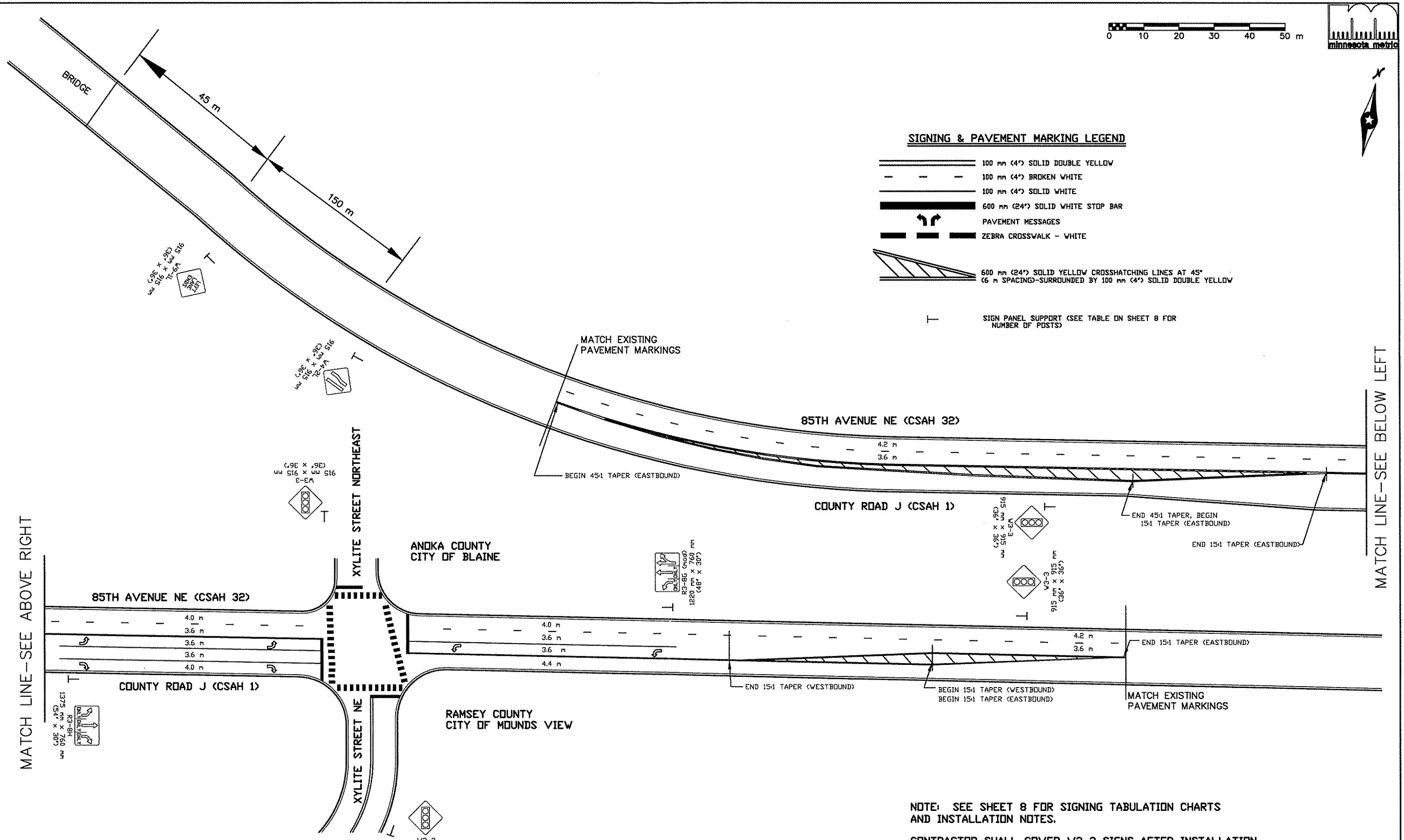
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| FILE NO. | ANOKC9708 | 8 |
| DATE | 9/14/98 | 12 |



SIGNING & PAVEMENT MARKING LEGEND

- 100 mm (4') SOLID DOUBLE YELLOW
- 100 mm (4') BROKEN WHITE
- 100 mm (4') SOLID WHITE
- 600 mm (24') SOLID WHITE STOP BAR
- PAVEMENT MESSAGES
- ZEBRA CROSSWALK - WHITE
- 600 mm (24') SOLID YELLOW CROSSHATCHING LINES AT 45° (6 m SPACING)-SURROUNDED BY 100 mm (4') SOLID DOUBLE YELLOW

— T — SIGN PANEL SUPPORT (SEE TABLE ON SHEET 8 FOR NUMBER OF POSTS)



NOTE: SEE SHEET 8 FOR SIGNING TABULATION CHARTS AND INSTALLATION NOTES.

CONTRACTOR SHALL COVER W3-3 SIGNS AFTER INSTALLATION, AND SIGNS SHALL REMAIN COVERED UNTIL SIGNAL IS TURNED ON.

| | | | | | |
|-----|----------|---------------------|-----------|------|--------|
| 1 | JMG 11/9 | PER MN/DOT COMMENTS | | | |
| NO. | BY | DATE | REVISIONS | ITEM | DESIGN |

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.

John M. Gray
 Date: 11/12/98 Reg. No. 22457



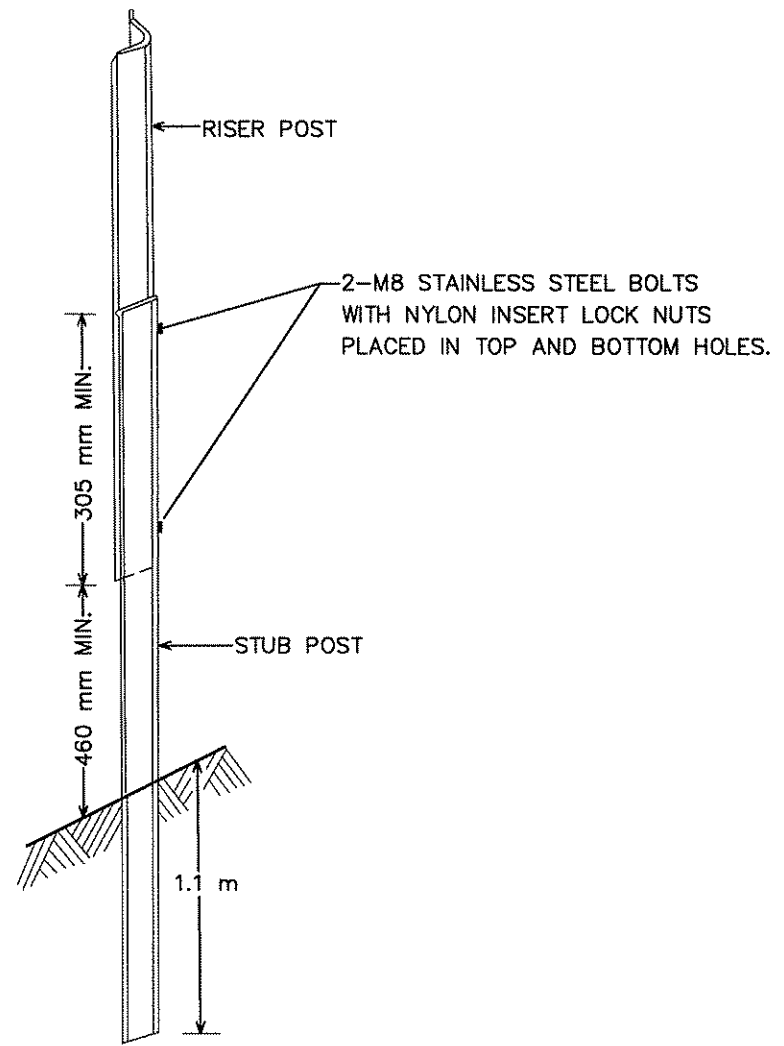
ANKA COUNTY, MINNESOTA
CITIES OF BLAINE & MOUNDS VIEW
 ANKA COUNTY PROJECT NO. 97-58-32
 S.A.P. 62-601-09 & 106-020-16
 S.A.P. 106-131-03 & 146-020-10

SIGNING AND STRIPING LAYOUT
 85TH AVE NE (CSAH 32)/COUNTY ROAD J (CSAH 1) AT XYLITE STREET NORTHEAST

| | | |
|----------|-----------|----|
| FILE NO. | ANDKC9708 | 9 |
| DATE | 9/14/98 | 12 |

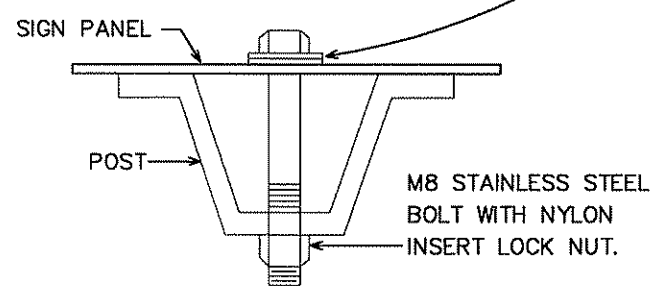


TYPE "C" & "D" POST

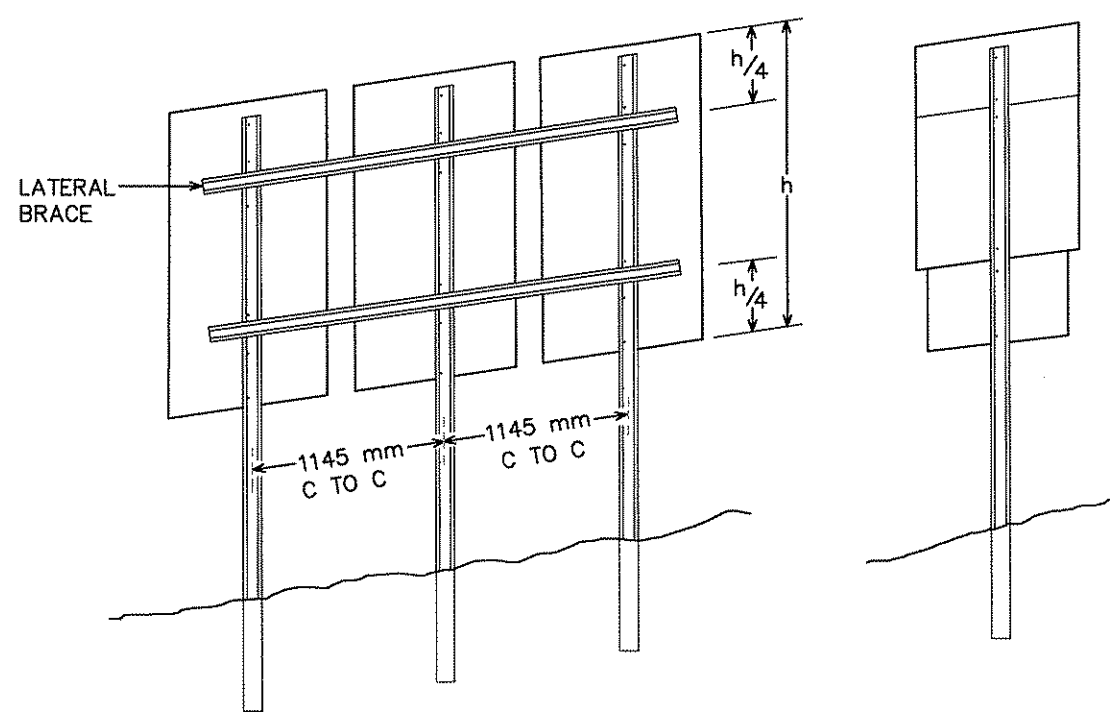


"U POST" SPLICE

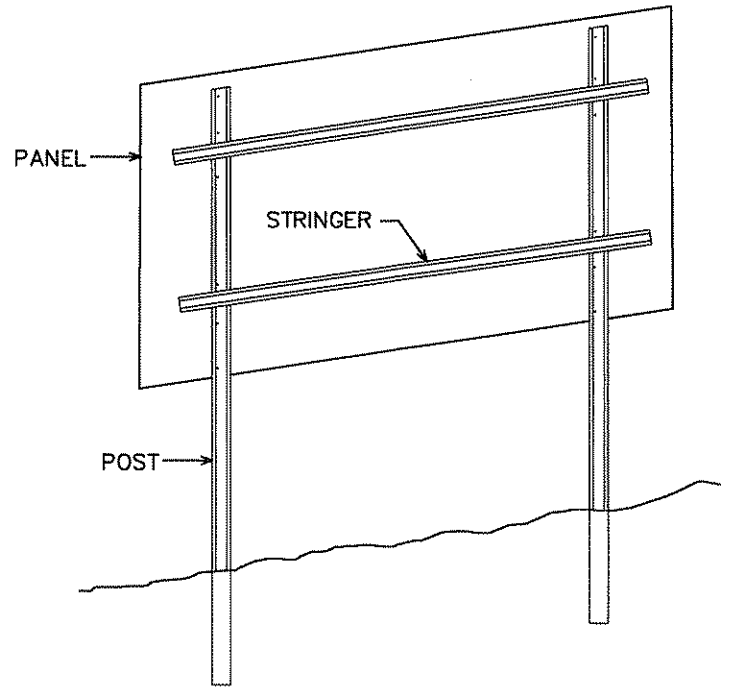
STAINLESS STEEL WASHER AND NYLON WASHER
(T= 1 mm MIN., I.D.= 9.5 mm MAX., O.D.= 22 mm MAX.)



"U POST" MOUNTING
TYPE "C" SIGNS



TYPICAL TYPE "C" INSTALLATIONS



TYPICAL TYPE "D" INSTALLATIONS

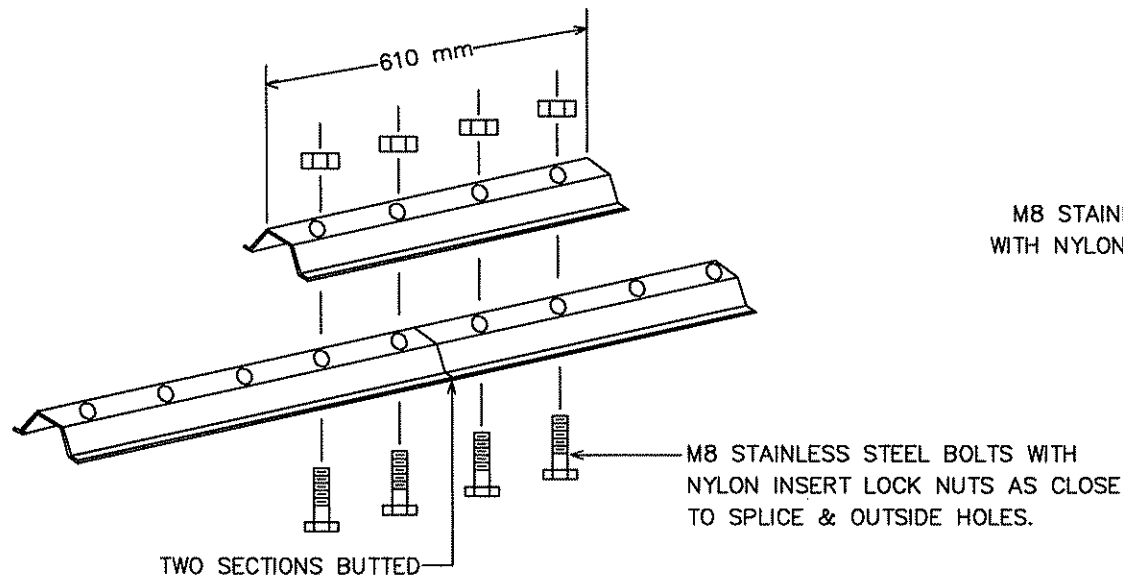
NOTES:

1. USE 4.45 kg/m STUB POSTS, RISER POSTS, STRINGERS, KNEE BRACES, LATERAL BRACES AND KNEE BRACE STUB POSTS. ALL SHALL CONFORM TO MN/DOT 3401.
2. FOR TYPE "D" SIGN POST LENGTHS AND SPACINGS, SEE SIGN DATA SHEET.
3. TYPE "D" SIGN PANELS SHALL BE BOLTED TO STRINGERS AT 610 mm MAXIMUM INTERVALS IN ACCORDANCE WITH TYPE "D" STRINGER AND PANEL-JOINT DETAIL (SEE STANDARD SIGNS MANUAL).
4. MOUNTING (PUNCHING CODE) FOR TYPE "C" AND TYPE "D" SIGN PANELS SHALL BE AS INDICATED IN THE STANDARD SIGNS MANUAL UNLESS OTHERWISE NOTED.
5. ALL RISER (VERTICAL) "U POSTS" SHALL BE SPLICED. DRIVEN STUB POSTS SHALL BE AT LEAST 2.2 m LONG.
6. USE STAINLESS STEEL M8 BOLTS, WASHERS, AND NYLON INSERT LOCK NUTS AS SHOWN FOR ALL GROUND MOUNTED AND OVERHEAD MOUNTED SIGNS.
7. STAINLESS STEEL WASHER WITH SAME DIMENSIONS SHALL BE PROVIDED BETWEEN ALL NYLON WASHERS AND BOLT HEADS.
8. BRACING STUBS SHALL BE NO MORE THAN 100 mm ABOVE GROUND AND EMBEDDED AT LEAST 1.1 m.
9. A-FRAME BRACKET SHALL BE STEEL CONFORMING TO MN/DOT 3306 AND GALVANIZED IN ACCORDANCE WITH MN/DOT 3394.
10. COLLARS SHALL BE USED TO SHIM OVERLAYS AND DEMOUNTABLE LEGEND AWAY FROM PANEL WHERE INTERFERENCE WITH BOLT HEADS IS ENCOUNTERED. MN/DOT 3352.2A7.
11. MULTIPLE POST INSTALLATIONS SHALL BE REINFORCED WITH AT LEAST ONE LATERAL BRACE. INSTALLATIONS WHERE THE TOTAL PANEL HEIGHT IS 1525 mm OR MORE SHALL HAVE TWO LATERAL BRACES LOCATED APPROXIMATELY AT THE QUARTER POINTS.
12. WHERE 2 OR MORE SINGLE POST SIGNS (TYPE "C") ARE MOUNTED SIDE BY SIDE, THEY SHALL BE REINFORCED Laterally BY AT LEAST 2 POST SECTIONS, BOLTED AT EACH POST AND LOCATED APPROXIMATELY AT THE QUARTER POINTS AS SHOWN IN SKETCH.

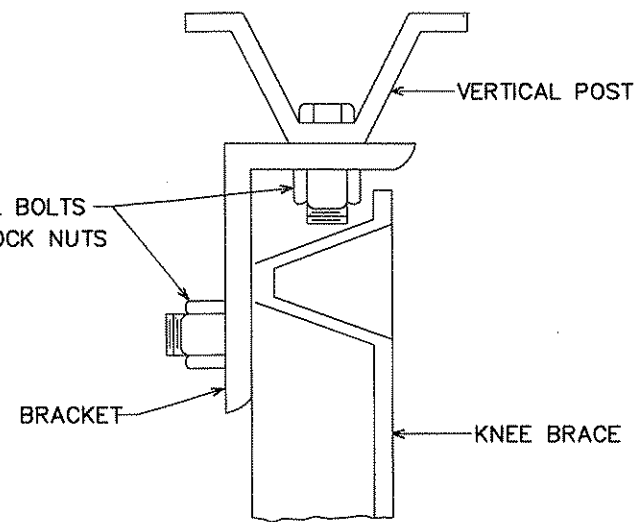
| | | | |
|--------------------------------|----------------|----------------|----------------|
| DRAWN BY: | REVISED BY: | REVISED BY: | AS BUILT BY: |
| CHECKED: DATE: | CHECKED: DATE: | CHECKED: DATE: | CHECKED: DATE: |
| SYSTEM I.D. : | | | |
| METER ADDRESS: | | | |
| S.A.P.: 62-601-09, 106-020-16 | | | |
| S.A.P.: 106-131-03, 146-020-10 | | | |

"C" & "D" SIGN DETAILS
DESIGN A
SHEET 1 OF 2
85TH AVE/COUNTY ROAD J AT XYLITE ST NE
IN BLAINE/MOUNDS VIEW, ANOKA/RAMSEY COUNTY

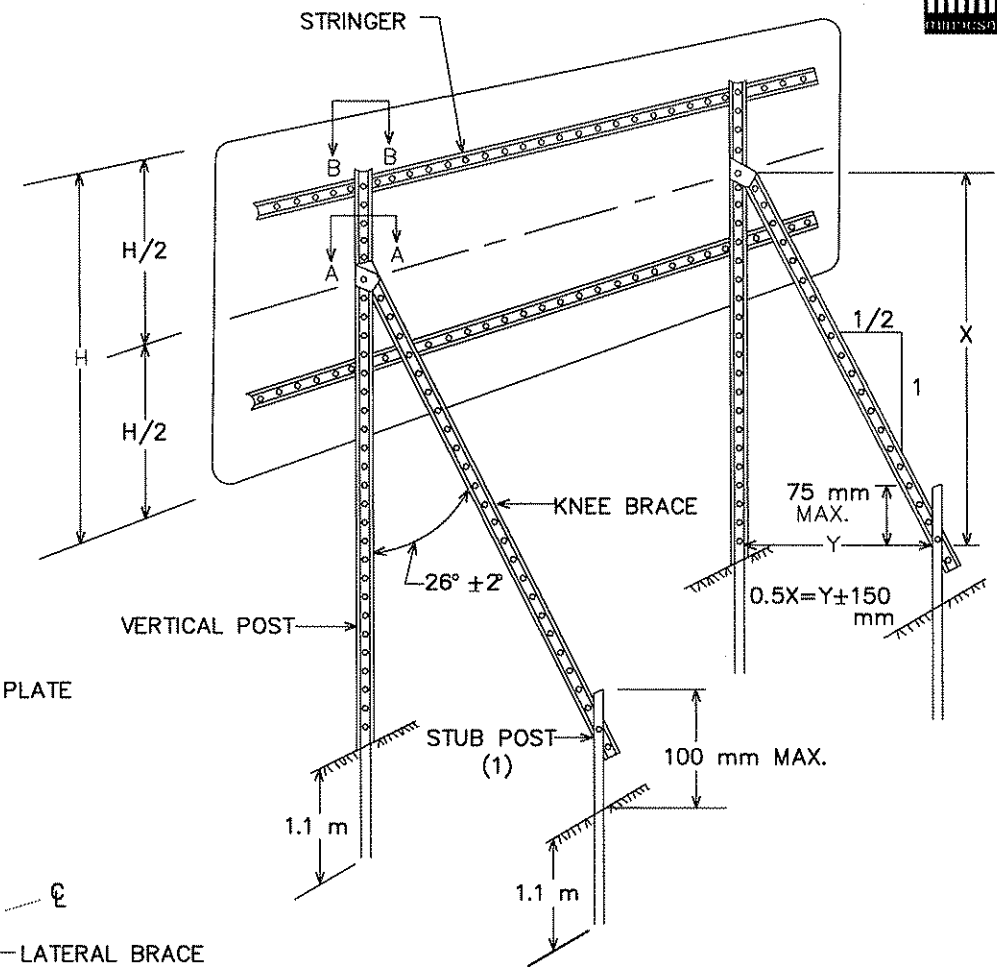
Sheet No. 10 of 12 Sheets



LATERAL BRACE OR STRINGER
SPLICE DETAIL (EXPLODED VIEW)

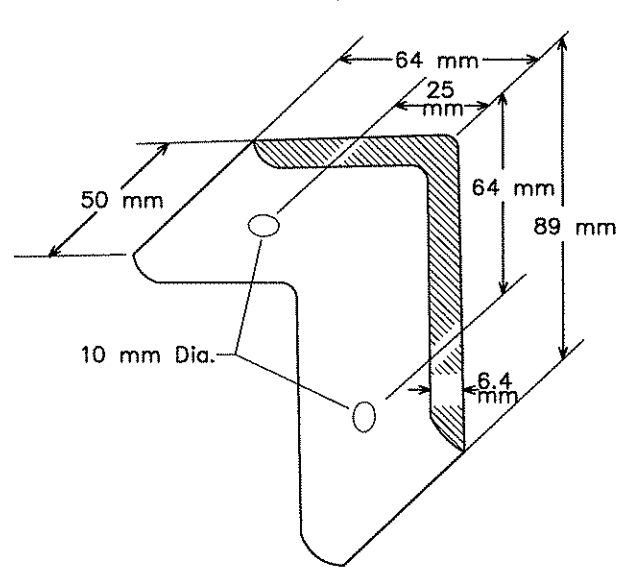


SECTION A-A



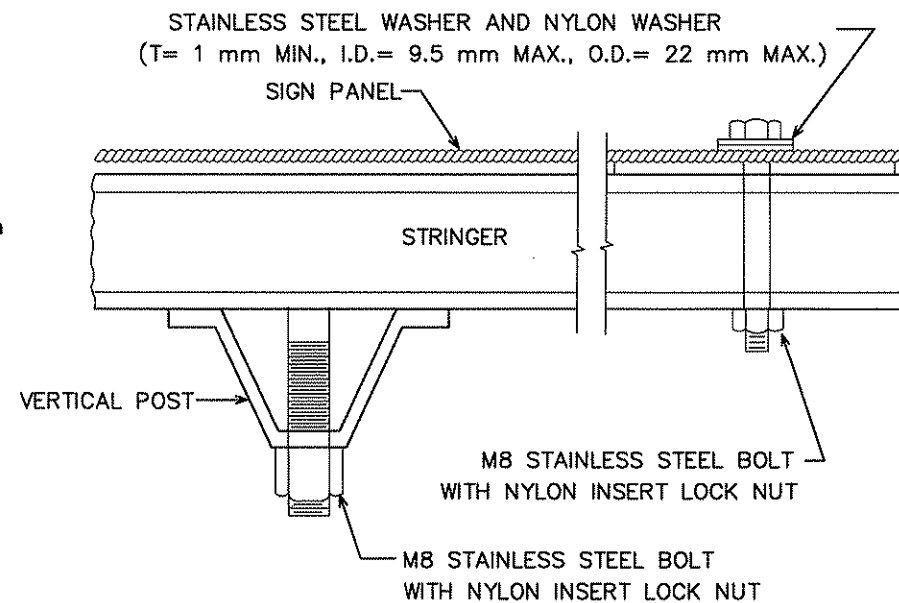
TYPICAL "A-FRAME" INSTALLATION
TYPE "D" SIGNS

(1) OFFSET STUB POST 300 mm TOWARD ROADWAY
RELATIVE TO VERTICAL POST.

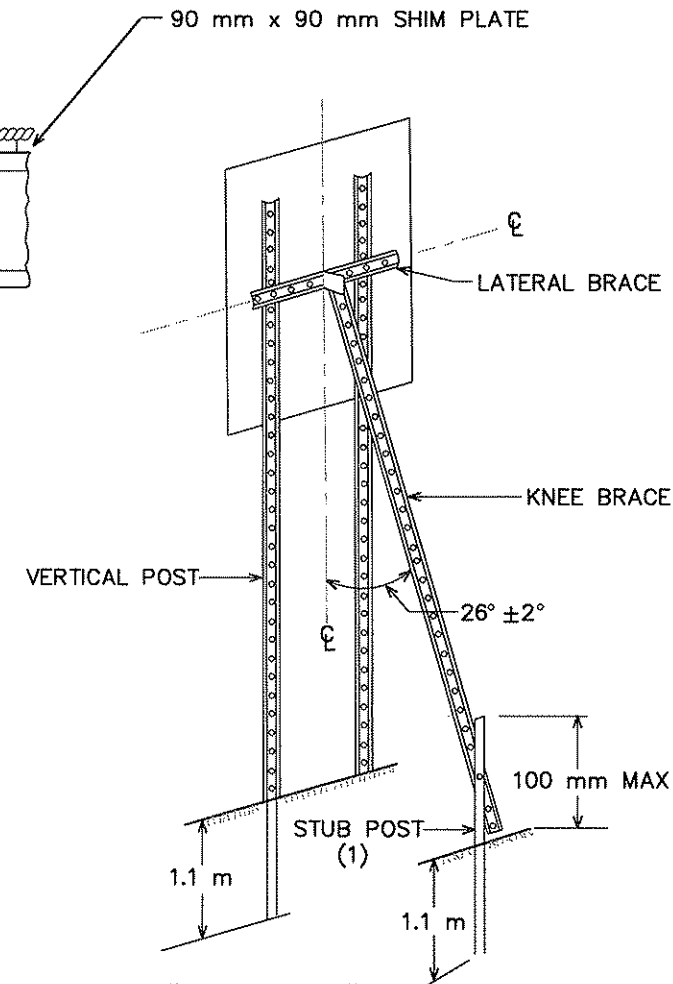


A-FRAME BRACKET

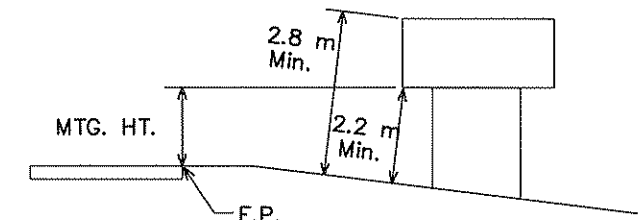
(STEEL Mn/DOT 3306 GALVANIZED PER Mn/DOT 3394)



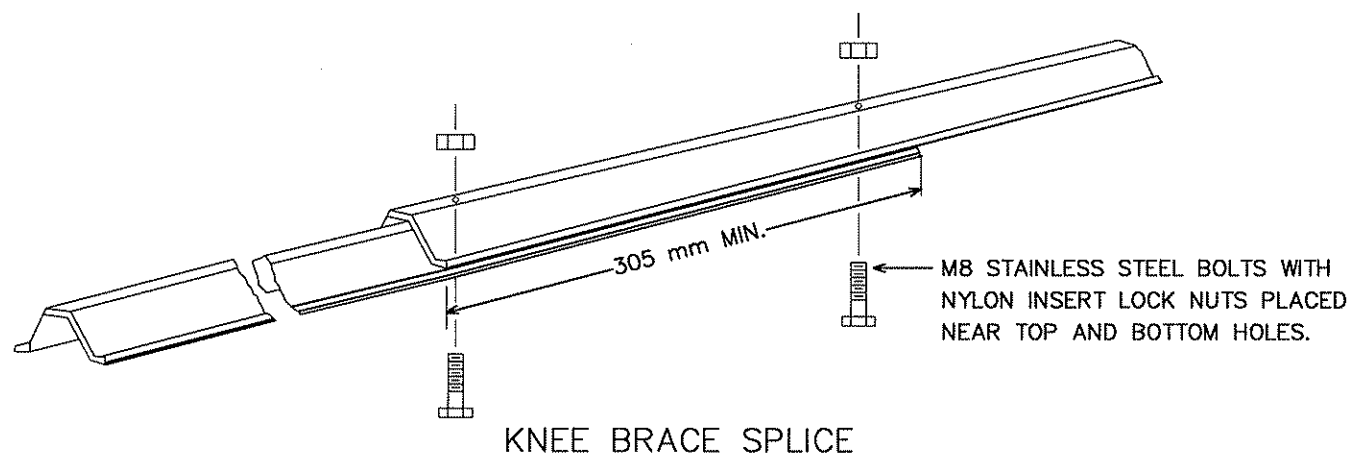
SECTION B-B



TYPICAL "A-FRAME"
INSTALLATION
TYPE "C" SIGNS



TYPICAL MOUNTING



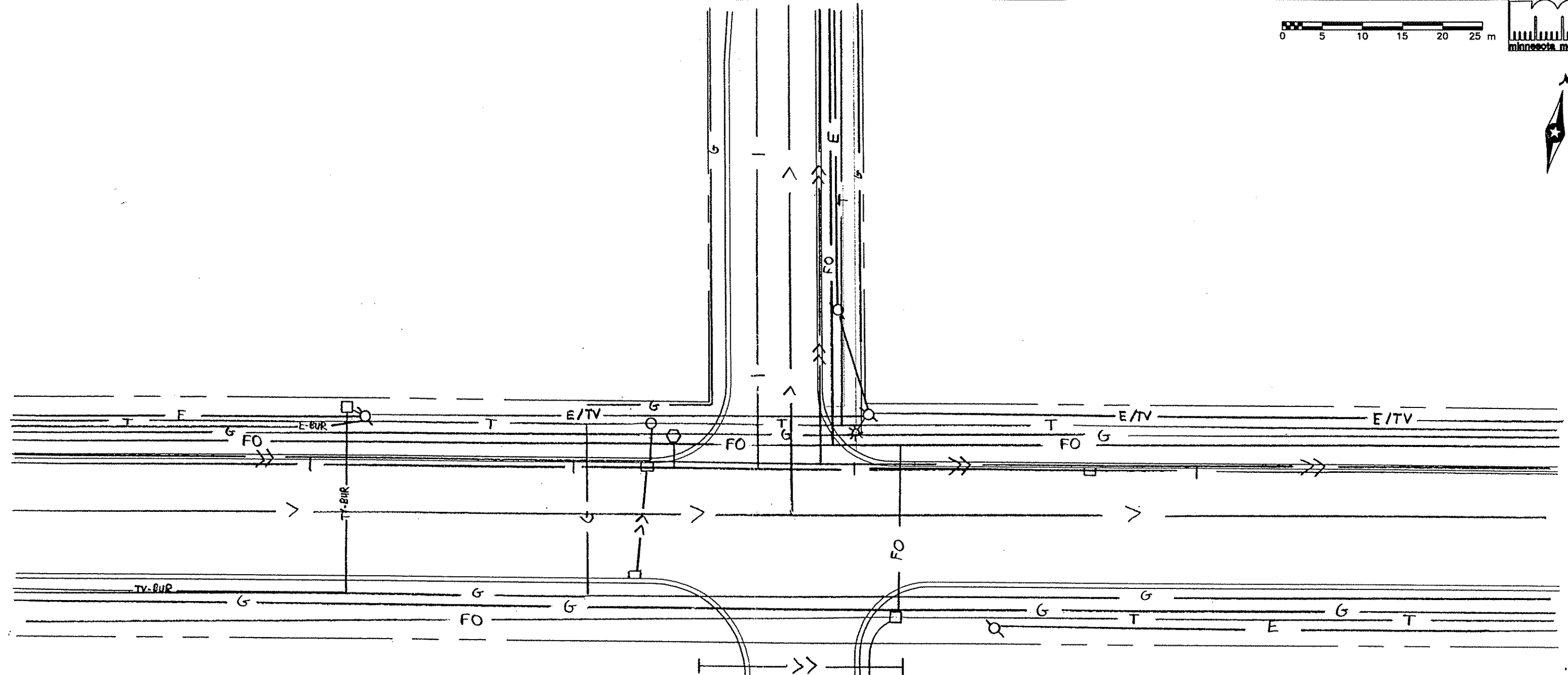
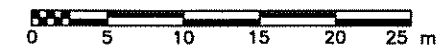
KNEE BRACE SPLICE

| | | | |
|--------------------------------|-------------------|-------------------|-------------------|
| DRAWN BY: | REVISED BY: | REVISED BY: | AS BUILT BY: |
| CHECKED: DATE: | CHECKED: DATE: | CHECKED: DATE: | CHECKED: DATE: |
| SYSTEM I.D. : | | | |
| METER ADDRESS: | | | |
| S.A.P.: 62-601-09, 106-020-16 | | | |
| S.A.P.: 106-131-03, 146-020-10 | | | |

"C" & "D" SIGN DETAILS

DESIGN A
SHEET 2 OF 2

85TH AVE/COUNTY ROAD J AT XYLITE ST NE
IN BLAINE/MOUNDS VIEW , ANOKA/RAMSEY COUNTY



PUBLIC UTILITIES AT INTERSECTION

| UTILITY COMPANY | REPRESENTATIVE & PHONE NUMBER |
|----------------------------------|-------------------------------|
| ANKA COUNTY HIGHWAY DEPARTMENT | GENE HAAG 862-4200 |
| ANKA ELECTRIC COOPERATIVE | MARK MUDRICK 323-2763 |
| BLAINE, MINNESOTA | TDM SCOTT 784-6700 |
| MEDIA ONE CABLE TELEVISION | SCOTT GUNDERSON 483-3233 |
| MINNEGASCO | RICHARD PILDN 342-5426 |
| MINNESOTA DEPT OF TRANSPORTATION | DISPATCHER 797-3000 |
| MOUNDS VIEW, MINNESOTA | MIKE ULRICH 717-4051 |
| NSP GAS | J SCHMIDT |
| RAMSEY COUNTY PUBLIC WORKS | BOB WEBER 482-5205 |
| US WEST COMMUNICATIONS | LEROY 569-2439 |
| WILLIAMS PIPELINE | GARY ROBIDEAUX 633-1519 |

NOTES:
 1) LOCATION OF UTILITIES ARE APPROXIMATE AND SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. SEE SPECIAL PROVISIONS.

LEGEND OF SYMBOLS

- >>— STORM SEWER
- >— SANITARY SEWER
- |— WATERMAIN
- G— GAS
- T— TELEPHONE
- E— ELECTRIC
- TV— CABLE TV
- OH— OVERHEAD
- BUR— BURIED
- UC— UNDERGROUND CONDUIT
- FIRE HYDRANT
- ◇ WOOD POLE
- ⊛ STREET LIGHT
- MANHOLE
- ⊠ GATE VALVE
- FO— FIBER OPTIC CABLE

| | | | | | | | | |
|-----|-----|------|---------------------|------|--------|---------|--|--|
| 1 | JMG | 11/9 | PER MN/DOT COMMENTS | | | | | |
| NO. | BY | DATE | REVISIONS | ITEM | DESIGN | CHECKED | | |

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.
John M. Gray
 Date: 11/12/98 Reg. No. 22457



ANKA COUNTY, MINNESOTA
CITIES OF BLAINE & MOUNDS VIEW
 ANKA COUNTY PROJECT NO. 97-58-32
 S.A.P. 62-601-09 & 106-020-16
 S.A.P. 106-131-03 & 146-020-10

TRAFFIC SIGNAL SYSTEM UTILITIES
 85TH AVE NE (CSAH 32)/COUNTY ROAD J (CSAH 1) AT XYLITE STREET NORTHEAST

| | | |
|----------|-----------|----|
| FILE NO. | ANDKC9708 | 12 |
| DATE | 9/14/98 | 12 |