

# MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

CONSTRUCTION PLAN FOR MILL BITUMINOUS, BITUMINOUS SURFACING, CURB & GUTTER, BITUMINOUS RECLAMATION, AND SEWER REPAIRS

LOCATED ON CSAH 35 BETWEEN 81 ST AVE AND TH 10

|                   | <u>CSAH 35</u> |   | <u>PLEASANT VIEW DR</u> |   |             |
|-------------------|----------------|---|-------------------------|---|-------------|
| GROSS LENGTH      | 4467.00 FEET   | = | 281.00 FEET             | = | 0.846 MILES |
| EXCEPTIONS-LENGTH | 0.00 FEET      | = | 0.00 FEET               | = | 0.000 MILES |
| NET LENGTH        | 4467.00 FEET   | = | 281.00 FEET             | = | 0.846 MILES |

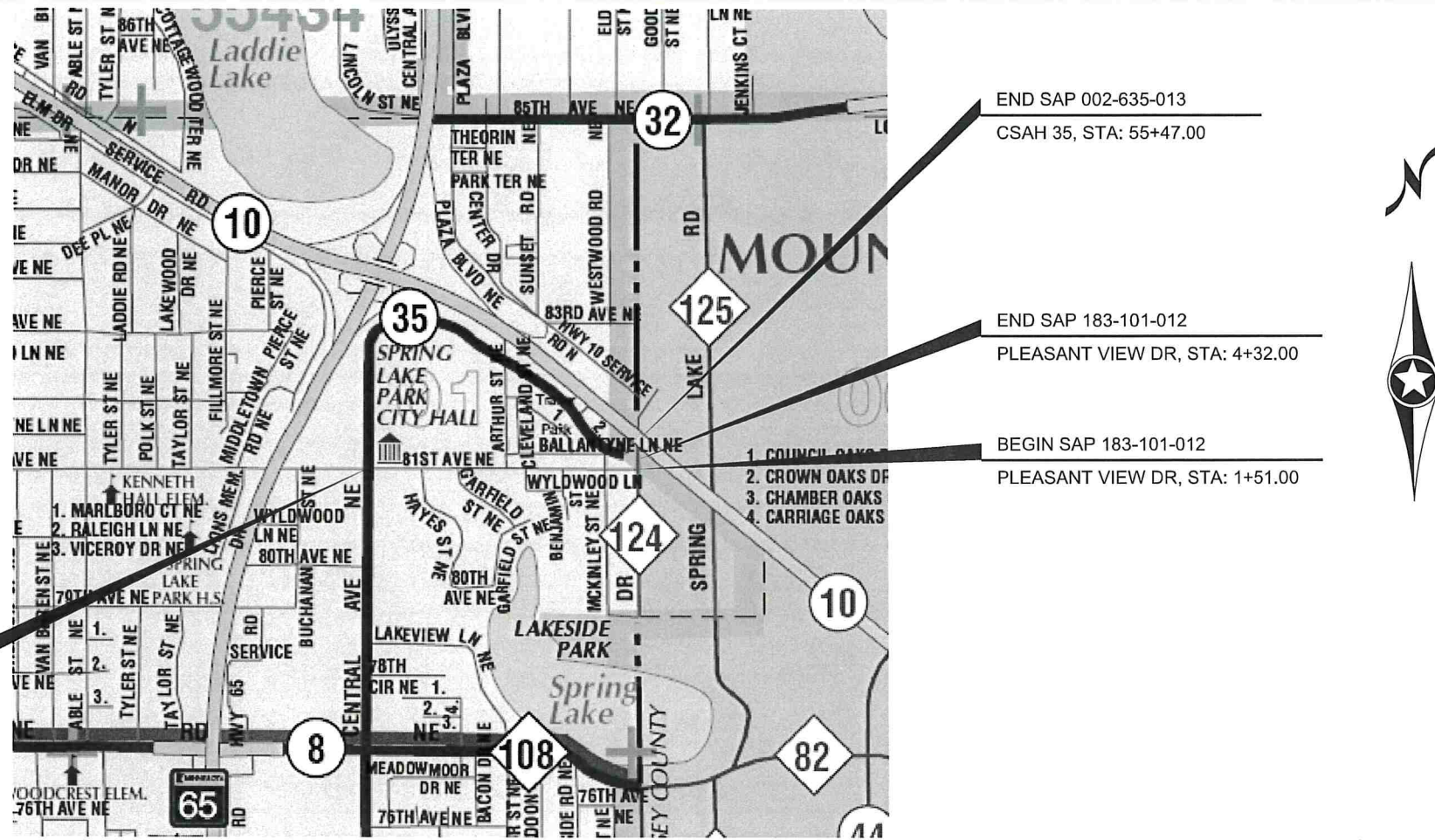
GOVERNING SPECIFICATIONS

THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE WITH THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MNMUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."

THIS PLAN CONTAINS 21 SHEETS

INDEX

| SHEET NO. | DESCRIPTION                       |
|-----------|-----------------------------------|
| 1         | TITLE SHEET                       |
| 2         | STATEMENT OF ESTIMATED QUANTITIES |
| 3         | TABULATIONS                       |
| 4-6       | TYPICAL SECTIONS                  |
| 7-9       | DETAILS                           |
| 10-11     | CONSTRUCTION PLAN                 |
| 12        | PERMANENT MARKING TABULATION      |
| 13-14     | SIGNING & STRIPING PLAN           |
| 15        | SIGNING & STRIPING QUANTITIES     |
| 16-17     | SIGNING & STRIPING DETAILS        |
| 18-21     | EXISTING SIGNAL PLANS             |



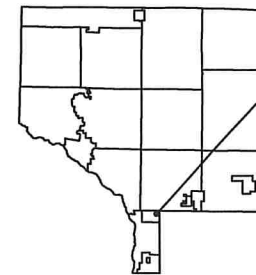
BEGIN SAP 002-635-013  
CSAH 35, STA: 10+80.00

END SAP 002-635-013  
CSAH 35, STA: 55+47.00

END SAP 183-101-012  
PLEASANT VIEW DR, STA: 4+32.00

BEGIN SAP 183-101-012  
PLEASANT VIEW DR, STA: 1+51.00

## PROJECT LOCATION



CITY OF SPRING LAKE PARK  
ANOKA COUNTY  
MN/DOT TRANSPORTATION DISTRICT - METRO  
SECTION 04  
TOWNSHIP 31 NORTH  
RANGE 24 WEST

DATE \_\_\_\_\_  
DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY

DATE \_\_\_\_\_  
STATE AID ENGINEER:  
APPROVED FOR STATE AID FUNDING

Approved \_\_\_\_\_, 20\_\_\_\_  
CITY OF SPRING LAKE PARK ENGINEER

Approved 3-3, 2021  
ANOKA COUNTY ENGINEER

| DESIGN DESIGNATION (CSAH 35)      |                 |
|-----------------------------------|-----------------|
| ESAL 20                           | 95691           |
| R VALUE                           | 70              |
| ADT (2021)                        | 810             |
| PROJ. ADT (2041)                  | 810             |
| PROJ. HCADT (2041)                | 48              |
| SOIL FACTOR                       | N/A             |
| 10 TON DESIGN                     |                 |
| FUNCTIONAL CLASSIFICATION         | MAJOR COLLECTOR |
| NO. OF TRAFFIC LANES              | 2               |
| NO. OF PARKING LANES              | 0               |
| DESIGN SPEED                      | 40 MPH          |
| STOPPING SIGHT DISTANCE BASED ON: |                 |
| HEIGHT OF EYE                     | 3.5'            |
| HEIGHT OF OBJECT                  | 2.0'            |
| DESIGN SPEED NOT ACHIEVED AT:     |                 |
| STA.                              | TO STA.         |
|                                   | MPH             |

| NO | DATE | BY | CKD | APPR | REVISION |
|----|------|----|-----|------|----------|
|    |      |    |     |      |          |

NAME: P:\21-01-00\CSAH\_35\_(81ST-TH10)\BaselProposed\CSAH35\_TITLE.dgn

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
PRINT NAME: GERALD J. AUGER JR.  
SIGNATURE:   
DATE: 02-24-2021 LICENSE NO. 26511

DRAWN BY: KPR DATE: 12/11/2020  
DESIGN BY: KPR DATE: 12/11/2020  
CHECKED BY: CSO DATE: 01/28/2021

ANOKA COUNTY  
HIGHWAY DEPT.

STATE AID PROJECT 002-635-013  
STATE AID PROJECT 183-101-012

TITLE SHEET  
Sheet 1 of 21 Sheets

**STATEMENT OF ESTIMATED QUANTITIES**

| NOTES  | ITEM NUMBER | ITEM DESCRIPTION                        | UNIT     | TOTAL PROJECT QUANTITIES ESTIMATED | ANOKA COUNTY SAP 002-678-022 | SPRING LAKE PARK SAP 183-101-012 |
|--------|-------------|---|----------|------------------------------------|------------------------------|----------------------------------|
|        | 2021.501    | MOBILIZATION                            | LUMP SUM | 1                                  | 1                            |                                  |
| 1      | 2104.503    | SAWING CONCRETE PAVEMENT (FULL DEPTH)   | LIN FT   | 44                                 | 44                           |                                  |
| 1      | 2104.503    | SAWING BIT PAVEMENT (FULL DEPTH)        | LIN FT   | 1855                               | 1855                         |                                  |
|        | 2104.503    | REMOVE CURB & GUTTER                    | LIN FT   | 60                                 | 60                           |                                  |
| 2      | 2104.504    | REMOVE BITUMINOUS DRIVEWAY PAVEMENT     | SQ YD    | 153                                | 153                          |                                  |
|        | 2104.504    | REMOVE BITUMINOUS PAVEMENT              | SQ YD    | 177                                | 177                          |                                  |
| 3      | 2105.507    | COMMON EXCAVATION                       | CU YD    | 671                                | 546                          | 125                              |
| 4      | 2123.510    | MOTOR GRADER                            | HOUR     | 32                                 | 32                           |                                  |
|        | 2130.523    | WATER                                   | M GALLON | 289                                | 289                          |                                  |
| 5      | 2211.509    | AGGREGATE BASE CLASS 5                  | TON      | 44                                 | 44                           |                                  |
|        | 2215.504    | FULL DEPTH RECLAMATION                  | SQ YD    | 13893                              | 12764                        | 1129                             |
| 6      | 2215.507    | HAUL FULL DEPTH RECLAMATION (LV)        | CU YD    | 339                                | 339                          |                                  |
|        | 2221.509    | SHOULDER BASE AGGREGATE CLASS 5         | TON      | 190                                | 190                          |                                  |
|        | 2232.504    | MILL BITUMINOUS SURFACE (2.0")          | SQ YD    | 2060                               | 2060                         |                                  |
|        | 2232.504    | MILL BITUMINOUS SURFACE (4.0")          | SQ YD    | 3442                               | 3442                         |                                  |
| 7      | 2232.604    | MILL BITUMINOUS PAVEMENT (SPECIAL)      | SQ YD    | 106                                | 106                          |                                  |
|        | 2357.506    | BITUMINOUS MATERIAL FOR TACK COAT       | GALLON   | 1153                               | 1097                         | 56                               |
| 8      | 2360.509    | TYPE SP 9.5 WEARING COURSE MIX (3:B)    | TON      | 18                                 | 18                           |                                  |
| 9      | 2360.509    | TYPE SP 12.5 BIT MIXTURE FOR PATCHING   | TON      | 31                                 | 31                           |                                  |
| 10     | 2360.509    | TYPE SP 12.5 WEARING COURSE MIX (4:C)   | TON      | 19                                 | 19                           |                                  |
|        | 2360.509    | TYPE SP 12.5 WEARING COURSE MIX (4:C)   | TON      | 4400                               | 4133                         | 267                              |
| 11, 12 | 2504.602    | ADJUST GATE VALVE                       | EACH     | 6                                  | 4                            | 2                                |
| 13     | 2506.502    | CASTING ASSEMBLY                        | EACH     | 4                                  | 4                            |                                  |
| 14     | 2506.602    | GROUT CATCH BASIN OR MANHOLE            | EACH     | 19                                 | 19                           |                                  |
|        | 2511.504    | GEOTEXTILE FILTER TYPE 4                | SQ YD    | 13                                 | 13                           |                                  |
|        | 2511.507    | RANDOM RIPRAP CLASS III                 | CU YD    | 4                                  | 4                            |                                  |
|        | 2531.503    | CONCRETE CURB & GUTTER DESIGN B618      | LIN FT   | 418                                | 418                          |                                  |
|        | 2531.604    | CONCRETE DRAINAGE FLUME                 | SQ YD    | 9                                  | 9                            |                                  |
| 15     | 2540.602    | MAIL BOX SUPPORT                        | EACH     | 1                                  | 1                            |                                  |
|        | 2550.602    | LOOP DETECTOR DESIGN NMC                | EACH     | 7                                  | 7                            |                                  |
|        | 2563.601    | TRAFFIC CONTROL SUPERVISOR              | LUMP SUM | 1                                  | 1                            |                                  |
| 16     | 2563.601    | TRAFFIC CONTROL                         | LUMP SUM | 1                                  | 1                            |                                  |
|        | 2563.610    | POLICE OFFICER                          | HOUR     | 48                                 | 48                           |                                  |
| 17     | 2563.613    | PORTABLE CHANGEABLE MESSAGE SIGN        | UNIT DAY | 20                                 | 20                           |                                  |
|        | 2573.501    | EROSION CONTROL SUPERVISOR              | LUMP SUM | 1                                  | 1                            |                                  |
|        | 2573.501    | CULVERT END CONTROLS                    | LUMP SUM | 1                                  | 1                            |                                  |
| 18     | 2573.502    | STORM DRAIN INLET PROTECTION            | EACH     | 25                                 | 25                           |                                  |
|        | 2573.503    | SEDIMENT CONTROL LOG TYPE WOOD FIBER    | LIN FT   | 400                                | 400                          |                                  |
|        | 2574.507    | COMMON TOPSOIL BORROW                   | CU YD    | 59                                 | 59                           |                                  |
| 19     | 2575.508    | HYDRAULIC REINFORCED FIBER MATRIX       | POUND    | 128                                | 128                          |                                  |
| 20     | 2581.503    | REMOVABLE PREFORM PAVEMENT MARKING TAPE | LIN FT   | 397                                | 397                          |                                  |
| 21     | 2582.503    | 4" SOLID LINE MULTI COMP                | LIN FT   | 12266                              | 12266                        |                                  |
| 21     | 2582.503    | 4" BROKEN LINE MULTI COMP               | LIN FT   | 276                                | 276                          |                                  |
| 21     | 2582.503    | 4" DBLE SOLID LINE MULTI COMP           | LIN FT   | 4195                               | 4195                         |                                  |
| 21     | 2582.518    | PAVT MSSG PREF THERMO                   | SQ FT    | 156                                | 156                          |                                  |
| 21     | 2582.518    | CROSSWALK PREF THERMO                   | SQ FT    | 360                                | 360                          |                                  |
| 21     | 2582.603    | PAVEMENT MARKING SPECIAL                | LIN FT   | 122                                | 122                          |                                  |

**BASIS OF PLANNED QUANTITIES**

|      |   |                                |
|------|---|--------------------------------|
| 2357 | BITUMINOUS MATERIAL FOR TACK COAT       | 0.05 GAL / SQ YD               |
| 2211 | AGGREGATE BASE CLASS 5                  | 1.8 TONS / CU YD               |
| 2360 | ALL BITUMINOUS PAVEMENT                 | 115 LBS / SQ YD / IN THICKNESS |
| 2581 | REMOVABLE PREFORM PAVEMENT MARKING TAPE | 2' AT 50' INTERVALS            |
| 2575 | HYDRAULIC REINFORCED FIBER MATRIX       | 3900 LBS./ ACRE                |
| 2575 | SEED MIXTURE 25-121                     | 61 LBS./ ACRE                  |
| 2574 | FERTILIZER TYPE 3                       | 350 LBS./ ACRE                 |

**CONSTRUCTION NOTES**

|    |  |
|----|--|
| 1  | REFERENCE DETAILS (PAGE 7, 8, 9) FOR REMOVAL DETAILS   |
| 2  | ITEM FOR BITUMINOUS DRIVEWAYS AND STREET APPROACHES. CONTRACTOR IS RESPONSIBLE FOR CONTACTING PROPERTY OWNER 48 HOURS BEFORE STARTING OPERATION.   |
| 3  | ITEM USED TO REMOVE EXCESS RECLAIM MATERIAL.   |
| 4  | ITEM USED TO MOVE EXCESS RECLAIM MATERIAL AT THE RECLAIM AREA LIMITS TO CREATE A SMOOTH TRANSITION BETWEEN THE PROPOSED AND EXISTING PAVEMENT  |
| 5  | GRAVEL BASE FOR BITUMINOUS DRIVEWAYS, AND CURB PATCHES.  |
| 6  | MATERIAL SHALL BE HAULED AND USED FOR PROFILE CORRECTION AREAS. ITEM INCLUDES PLACEMENT, SHAPING, COMPACTION, AND MAINTENANCE OF MATERIAL.   |
| 7  | TO BE USED FOR MILLING STREET APPROACHES AND/OR DETAIL MILLING AREAS AS IDENTIFIED IN THE PLAN. DETAIL MILLING AROUND MANHOLES, CATCH BASINS, GATE VALVES, AND ALONG CURB LINE IS INCIDENTAL TO THIS ITEM.   |
| 8  | ITEM FOR BITUMINOUS DRIVEWAYS. DRIVEWAYS SHALL BE PAVED AFTER MAINLINE AND BEFORE FINAL STRIPING.  |
| 9  | ITEM INCLUDES BITUMINOUS PATCHING AROUND NEW CURB, STORM STRUCTURE REPAIRS, AND ANY POTHOLES   |
| 10 | ITEM FOR STREET APPROACHES. STREET APPROACHES SHALL BE PAVED AFTER MAINLINE, AND BEFORE FINAL STRIPING   |
| 11 | GATE VALVES TO BE ADJUSTED ONLY AS NECESSARY AS DETERMINED BY THE ENGINEER.  |
| 12 | ELEVATION PRIOR TO OR IN CONJUNCTION WITH RECLAIMING OPERATION, AND FINAL ADJUSTMENT TO FINISH GRADE BETWEEN PAVING BASE AND WEAR LIFTS  |
| 13 | ITEM INCLUDES FULL REPLACEMENT OF CASTING ADJUSTMENT RINGS. SEE STORM TABULATIONS FOR RING HEIGHTS. CASTINGS IN ROADWAY SHALL BE INSTALLED BETWEEN BASE AND WEAR LIFT PAVING   |
| 14 | ITEM INCLUDES GROUTING OF INVERTS, DOGHOUSES, RINGS, AND CASTINGS AS REQUIRED (SEE DRAINAGE TAB, SHEET 3).   |
| 15 | MAILBOXES ARE TO BE INSTALLED AT THE EXISTING MAILBOX LOCATION OR AS DIRECTED BY THE LOCAL POSTAL AUTHORITY, CONTRACTOR IS RESPONSIBLE FOR CONTACTING. MAILBOX REMOVAL AND ALL MATERIALS ARE INCIDENTAL TO INSTALLATION.   |
| 16 | ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO, AND BE INSTALLED IN ACCORDANCE WITH, THE MOST CURRENT REVISION OF THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". "DO NOT PASS, PASS WITH CARE, NO CENTER STRIPE, AND STOP HERE ON RED SIGNS SHALL BE INPLACE WHENEVER PERMANENT PAVEMENT MARKINGS ARE NOT PRESENT. |
| 17 | 2 MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT, SHALL BE INSTALLED 10 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.   |
| 18 | ALL DRAINAGE STRUCTURES AFFECTED BY THIS PROJECT MUST HAVE INLET PROTECTION.   |
| 19 | TYPE 3 FERTILIZER AND TYPE 25-121 SEED ARE INCIDENTAL TO THIS ITEM. SEE "BASIS OF PLANNED QUANTITIES" FOR APPLICATION RATES.   |
| 20 | CENTERLINE AND LANE DESIGNATION SKIPS TO BE APPLIED AS SOON AS POSSIBLE ON MILLED SURFACE AND EACH NEW LIFT OF PAVEMENT; SKIPS MUST BE INPLACE BEFORE THE CONTRACTOR LEAVES FOR THE DAY. CONTRACTOR IS TO REMOVE PRIOR TO FINAL STRIPING.  |
| 21 | FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING.  |


THE FOLLOWING STANDARD PLATES APPROVED BY THE DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY TO THIS PROJECT.

**MNDOT STANDARD PLATES**

| PLATE NO. | DESCRIPTION  |
|-----------|--|
| 4026A     | CONCRETE ENCASED CONCRETE ADJUSTING RINGS                              |
| 4134A     | CURB BOX CASTING FOR CATCH BASIN (FOR DESIGN B CURBS)- CASTING NO. 825 |
| 4154B     | CATCH BASIN GRATE CASTING - CASTING NO. 816                            |
| 7100H     | CONCRETE CURB AND GUTTER (DESIGN B AND DESIGN V)                       |
| 7111J     | INSTALLATION OF CATCH BASIN CASTINGS (CONCRETE CURB AND GUTTER)        |
| 8000J     | CHANNELIZERS   |
| 9350A     | MAILBOX SUPPORT (SWING-AWAY TYPE)                                      |

| NO | DATE       | BY | CKD | APPR | REVISION    |
|----|------------|----|-----|------|-------------|
|    | 03/02/2021 |    |     |      | 12:40:45 PM |

NAME: P:\21-01-00\CSAH\_35\_(81ST-TH10)\Base\Proposed\CSAH35\_SEQ.dgn

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: GERALD J. AUGÉ JR.  
 SIGNATURE:   
 DATE: 02-24-2021 LICENSE NO. 26511

DRAWN BY: KPR DATE: 12/11/2020  
 DESIGN BY: KPR DATE: 12/11/2020  
 CHECKED BY: CSO DATE: 01/28/2021



**ANOKA COUNTY  
HIGHWAY DEPT.**

STATE AID PROJECT 002-635-013  
 STATE AID PROJECT 183-101-012

**STATEMENT OF ESTIMATED QUANTITIES**

Sheet 2 of 21 Sheets

### STORM DRAINAGE TAB

| NUMBER         | TYPE | ACTION  | NEW CASTING | FURNISH AND<br>INSTALL CASTING<br>ASSEMBLY | RING HEIGHT<br>-INCIDENTAL- | GROUT<br>CATCH<br>BASIN OR<br>MANHOLE | NOTES                              |
|----------------|------|---------|-------------|--|-----------------------------|---------------------------------------|------------------------------------|
|                |      |         |             | EACH                                       | LIN FT                      | EACH                                  |                                    |
| 100            | CB   | GROUT   |             |  |                             | 1                                     | GROUT RINGS AND CASTING            |
| 101            | MH   | GROUT   |             |  |                             | 1                                     | GROUT RINGS AND CASTING            |
| 102            | CB   | OK      |             |  |                             | 1                                     |                                    |
| 103            | CB   | GROUT   |             |  |                             | 1                                     | GROUT RINGS AND CASTING            |
| 104            | CB   | GROUT   |             |  |                             | 1                                     | GROUT RINGS AND CASTING            |
| 105            | CB   | RE-RING | A           | 1  | 0.7                         |                                       |                                    |
| 106            | CB   | GROUT   |             |  |                             | 1                                     | GROUT RINGS AND DOGHOUSE           |
| 107            | CB   | GROUT   |             |  |                             | 1                                     | GROUT RINGS AND CASTING            |
| 108            | CB   | GROUT   |             |  |                             | 1                                     | GROUT RINGS AND CASTING            |
| 109            | CB   | GROUT   |             |  |                             | 1                                     | GROUT RINGS AND CASTING            |
| 110            | CB   | RE-RING | A           | 1  | 0.4                         |                                       |                                    |
| 111            | CB   | GROUT   |             |  |                             | 1                                     | GROUT RINGS AND CASTING            |
| 112            | CB   | RE-RING | A           | 1  | 0.7                         |                                       |                                    |
| 113            | CB   | GROUT   |             |  |                             | 1                                     | GROUT RINGS AND CASTING            |
| 113A           | MH   | GROUT   |             |  |                             | 1                                     | GROUT RINGS, CASTING, AND DOGHOUSE |
| 114            | CB   | RE-RING | A           | 1  | 0.2                         |                                       |                                    |
| 115            | CB   | GROUT   |             |  |                             | 1                                     | GROUT RINGS AND CASTING            |
| 116            | CB   | GROUT   |             |  |                             | 1                                     | GROUT RINGS AND CASTING            |
| 117            | CB   | GROUT   |             |  |                             | 1                                     | GROUT RINGS AND CASTING            |
| 118            | CB   | GROUT   |             |  |                             | 1                                     | GROUT RINGS AND CASTING            |
| 118A           | CB   | GROUT   |             |  |                             | 1                                     | GROUT RINGS AND CASTING            |
| 200            | MH   | GROUT   |             |  |                             | 1                                     | GROUT RINGS AND CASTING            |
| 201            | MH   | GROUT   |             |  |                             | 1                                     | GROUT RINGS AND CASTING            |
| 202            | MH   | GROUT   |             |  |                             | 1                                     | GROUT RINGS AND CASTING            |
| <b>TOTALS:</b> |      |         |             | <b>4</b>                                   | <b>2.0</b>                  | <b>19</b>                             |                                    |

### SUPERELEVATION CORRECTION TAB


| STATION | POINT            | LEFT GRADE | RIGHT GRADE |
|---------|------------------|------------|-------------|
| 19+87   | BEGIN SUPER LT   | -2.0%      | -2.0%       |
| 20+00   |                  | -1.7%      | -2.0%       |
| 20+50   |                  | -0.7%      | -2.0%       |
| 20+83   |                  | 0.0%       | -2.0%       |
| 21+00   |                  | 0.4%       | -2.0%       |
| 21+49   |                  | 1.4%       | -2.0%       |
| 21+79   | BEGIN SUPER RT   | 2.0%       | -2.0%       |
| 21+90   |                  | 2.2%       | -2.2%       |
| 22+00   |                  | 2.4%       | -2.4%       |
| 22+12   | PC               | 2.7%       | -2.7%       |
| 22+50   |                  | 3.5%       | -3.5%       |
| 22+75   | BEGIN FULL SUPER | 4.0%       | -4.0%       |
| 23+00   |                  | 4.0%       | -4.0%       |
| 23+50   |                  | 4.0%       | -4.0%       |
| 24+00   |                  | 4.0%       | -4.0%       |
| 24+50   |                  | 4.0%       | -4.0%       |
| 24+83   | END FULL SUPER   | 4.0%       | -4.0%       |
| 25+00   |                  | 3.6%       | -3.6%       |
| 25+46   | PT               | 2.7%       | -2.7%       |
| 25+79   | MODIFIED SUPER   | 2.0%       | -2.0%       |
| 26+00   |                  | 2.0%       | -2.0%       |
| 26+50   |                  | 2.0%       | -2.0%       |
| 27+00   |                  | 2.0%       | -2.0%       |
| 27+50   |                  | 2.0%       | -2.0%       |
| 28+00   |                  | 2.0%       | -2.0%       |
| 28+50   |                  | 2.0%       | -2.0%       |
| 28+81   | MODIFIED SUPER   | 2.0%       | -2.0%       |
| 29+00   |                  | 2.4%       | -2.4%       |
| 29+14   | PC               | 2.7%       | -2.7%       |
| 29+50   |                  | 3.4%       | -3.4%       |
| 29+77   | BEGIN FULL SUPER | 4.0%       | -4.0%       |
| 30+50   |                  | 4.0%       | -4.0%       |
| 31+00   |                  | 4.0%       | -4.0%       |
| 31+50   |                  | 4.0%       | -4.0%       |
| 32+00   |                  | 4.0%       | -4.0%       |
| 32+50   |                  | 4.0%       | -4.0%       |
| 33+00   |                  | 4.0%       | -4.0%       |
| 33+50   |                  | 4.0%       | -4.0%       |
| 34+00   |                  | 4.0%       | -4.0%       |
| 34+50   |                  | 4.0%       | -4.0%       |
| 35+00   |                  | 4.0%       | -4.0%       |
| 35+50   |                  | 4.0%       | -4.0%       |
| 36+00   |                  | 4.0%       | -4.0%       |
| 36+38   | END FULL SUPER   | 4.0%       | -4.0%       |
| 36+50   |                  | 3.8%       | -3.8%       |
| 37+01   | PT               | 2.7%       | -2.7%       |
| 37+34   | END SUPER RT     | 2.0%       | -2.0%       |
| 37+73   |                  | 1.2%       | -2.0%       |
| 38+00   |                  | 0.6%       | -2.0%       |
| 38+30   |                  | 0.0%       | -2.0%       |
| 38+50   |                  | -0.4%      | -2.0%       |
| 39+00   |                  | -1.5%      | -2.0%       |
| 39+26   | END SUPER LT     | -2.0%      | -2.0%       |

### CASTING ASSEMBLIES SUMMARY

| ASSEMBLY  | RING OR<br>FRAME<br>CASTING | COVER<br>OR GRATE<br>CASTING | CURB<br>BOX | DESCRIPTION         | NOTES | QUANTITY |
|---|-----------------------------|------------------------------|-------------|---------------------|-------|----------|
| A   | NEENAH<br>R-3250-DVSP       | V                            | YES         | 24" GRATE, CURB BOX |       | 4        |
| ALL CASTING HEIGHTS ARE TO BE VERIFIED IN THE FIELD             |                             |                              |             |                     |       |          |
| ALL MANHOLE COVERS SHOULD BE LABELED AS STORM OR SANITARY       |                             |                              |             |                     |       |          |
| NEW CASTINGS TO BE INSTALLED AFTER ASPHALT MILLING IS COMPLETED |                             |                              |             |                     |       |          |
| MANHOLE CASTINGS TO BE RECESSED 1/4" FROM TOP OF FINISHED MAT   |                             |                              |             |                     |       |          |

| NO | DATE       | BY | CKD | APPR | REVISION    |
|----|------------|----|-----|------|-------------|
|    | 03/02/2021 |    |     |      | 12:40:52 PM |

NAME: P:\21-01-00\CSAH\_35\_(81ST-TH10)\Base\Proposed\CSAH35\_TABULATION.dgn

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: GERALD J. AUGER, JR.  
 SIGNATURE:   
 DATE: 02-24-2021 LICENSE NO. 26511

DRAWN BY: KPR DATE: 12/11/2020  
 DESIGN BY: KPR DATE: 12/11/2020  
 CHECKED BY: CSO DATE: 01/28/2021



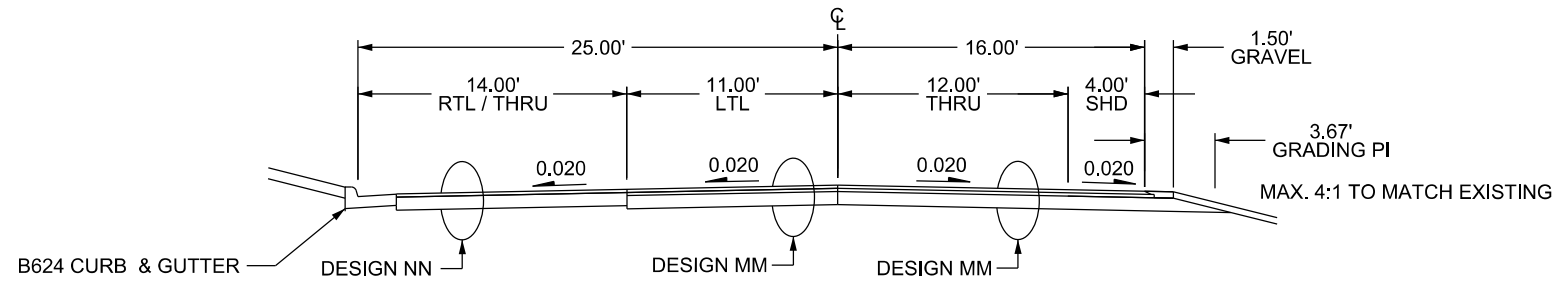
STATE AID PROJECT 002-635-013  
 STATE AID PROJECT 183-101-012

TABULATIONS  
 Sheet 3 of 21 Sheets

**CSAH 35 - OLD CENTRAL AVE.**

**PROPOSED SECTION**

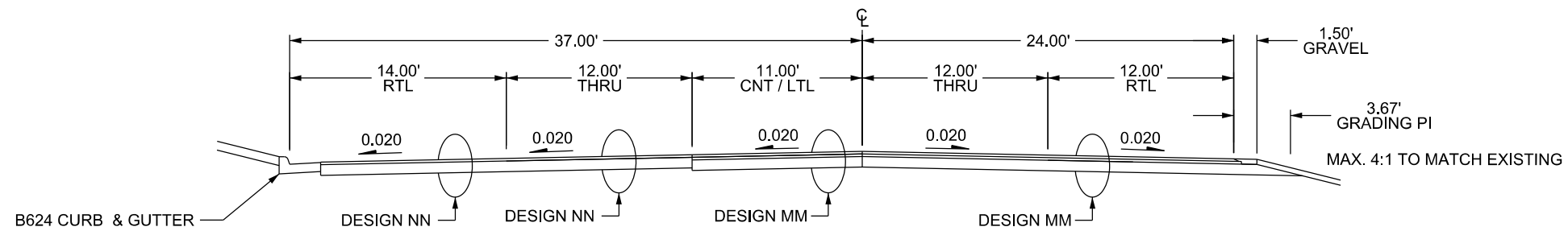
10+80.00 - 15+10.00



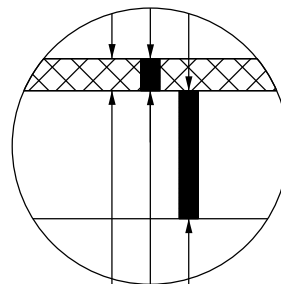
**CSAH 35 - OLD CENTRAL AVE.**

**PROPOSED SECTION**

15+10.00 - 19+79.00

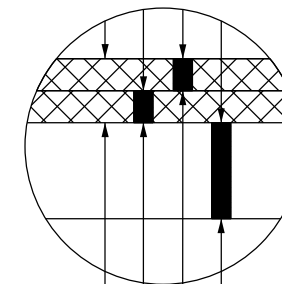


**DESIGN NN  
MILL SECTION**




2.0" MILL BITUMINOUS  
2.0" BITUMINOUS WEAR (SPWEB440C)  
REMAINING BITUMINOUS

**DESIGN MM  
MILL SECTION**

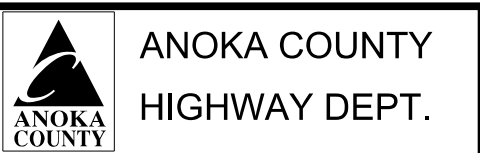


4.0" MILL BITUMINOUS  
2.0" BITUMINOUS WEAR (SPWEB440C)  
2.0" BITUMINOUS WEAR (SPWEB440C)  
REMAINING BITUMINOUS / CONCRETE

| NO  | DATE | BY | CKD | APPR | REVISION | 03/02/2021 | 12:41:30 PM |
|---|------|----|-----|------|----------|------------|-------------|
| NAME: P:\21-01-00\CSAH_35_(81ST-TH10)\Base\Proposed\CSAH35_TYPICALS.dgn |      |    |     |      |          |            |             |

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: GERALD J. AUGER JR.  
 SIGNATURE:   
 DATE: 02-24-2021 LICENSE NO. 26511

DRAWN BY: KPR DATE: 12/11/2020  
 DESIGN BY: KPR DATE: 12/11/2020  
 CHECKED BY: CSO DATE: 01/28/2021



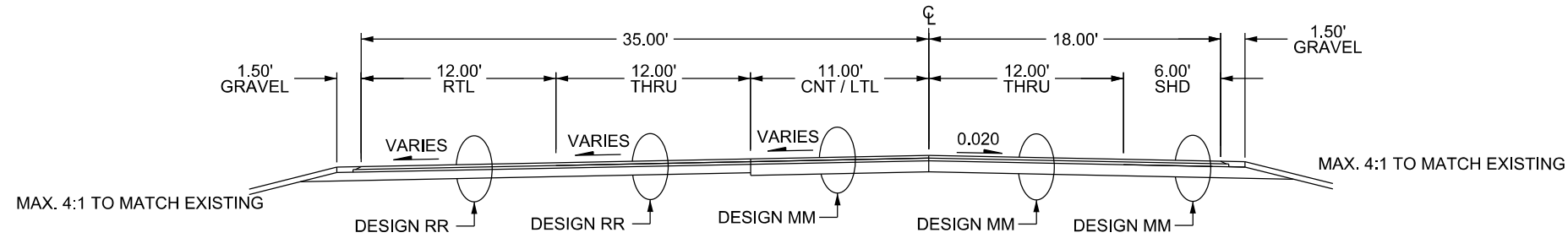
STATE AID PROJECT 002-635-013  
 STATE AID PROJECT 183-101-012

TYPICAL SECTIONS  
 Sheet 4 of 21 Sheets

### CSAH 35 - OLD CENTRAL AVE.

#### PROPOSED SECTION

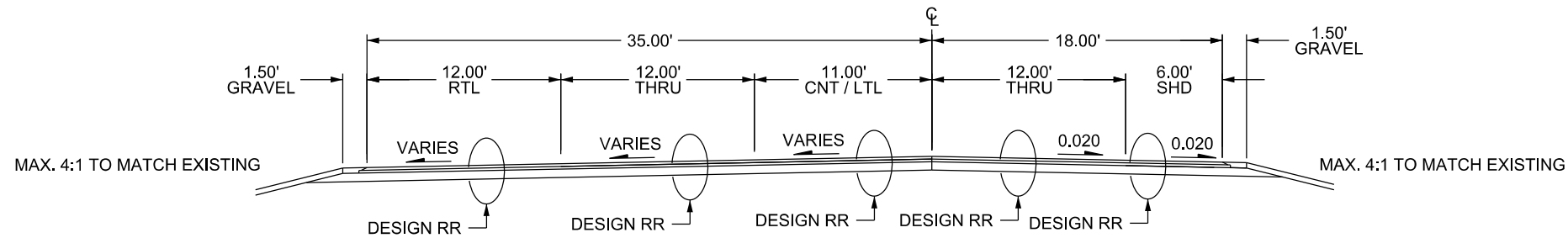
19+79.00 - 22+08.00



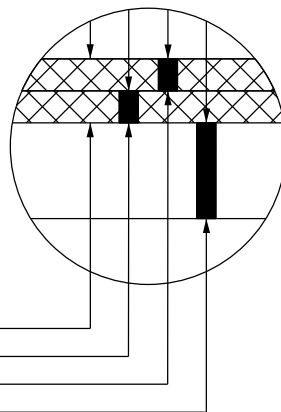
### CSAH 35 - OLD CENTRAL AVE.

#### PROPOSED SECTION

22+08.00 - 22+80.00

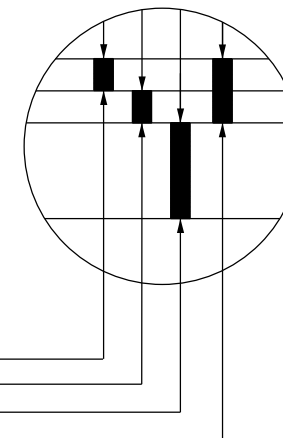


#### DESIGN MM MILL SECTION



4.0" MILL BITUMINOUS  
 2.0" BITUMINOUS WEAR (SPWEB440C)  
 2.0" BITUMINOUS WEAR (SPWEB440C)  
 REMAINING BITUMINOUS / CONCRETE


#### DESIGN RR RECLAIM SECTION



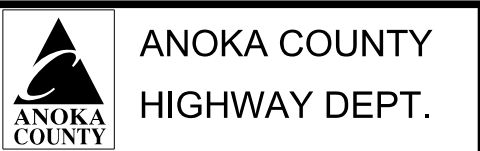
2.0" BITUMINOUS WEAR (SPWEB440C)  
 2.0" BITUMINOUS WEAR (SPWEB440C)  
 RECLAIMED BITUMINOUS  
 REMOVE 4" RECLAIM BITUMINOUS

| NO | DATE       | BY | CKD | APPR | REVISION | TIME        |
|----|------------|----|-----|------|----------|-------------|
|    | 03/02/2021 |    |     |      |          | 12:41:31 PM |

NAME: P:\21-01-00\CSAH\_35\_(81ST-TH10)\Base\Proposed\CSAH35\_TYPICALS.dgn

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: GERALD J. AUGER, JR.  
 SIGNATURE:   
 DATE: 02-24-2021 LICENSE NO. 26511

DRAWN BY: KPR DATE: 12/11/2020  
 DESIGN BY: KPR DATE: 12/11/2020  
 CHECKED BY: CSO DATE: 01/28/2021



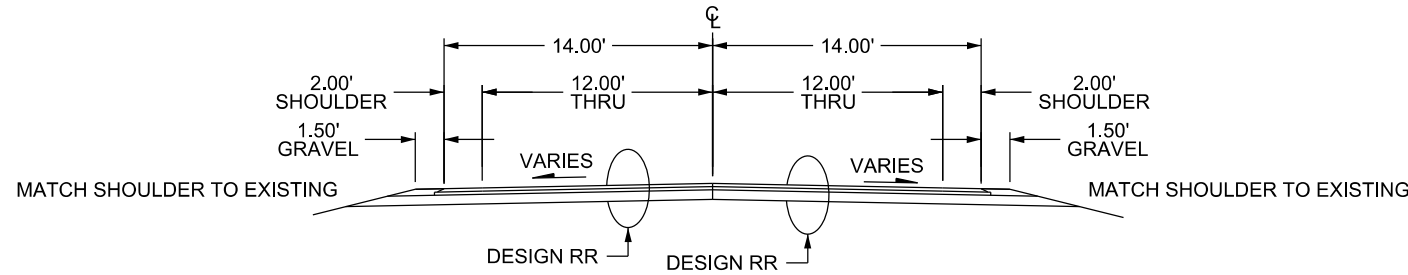
STATE AID PROJECT 002-635-013  
 STATE AID PROJECT 183-101-012

TYPICAL SECTIONS  
 Sheet 5 of 21 Sheets

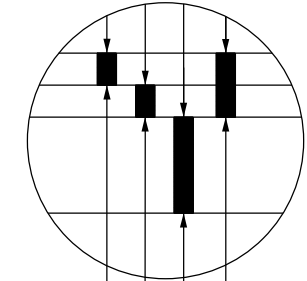
**CSAH 35 - OLD CENTRAL AVE.**

PROPOSED SECTION

22+80.00 - 37+11.00



**DESIGN RR  
RECLAIM SECTION**

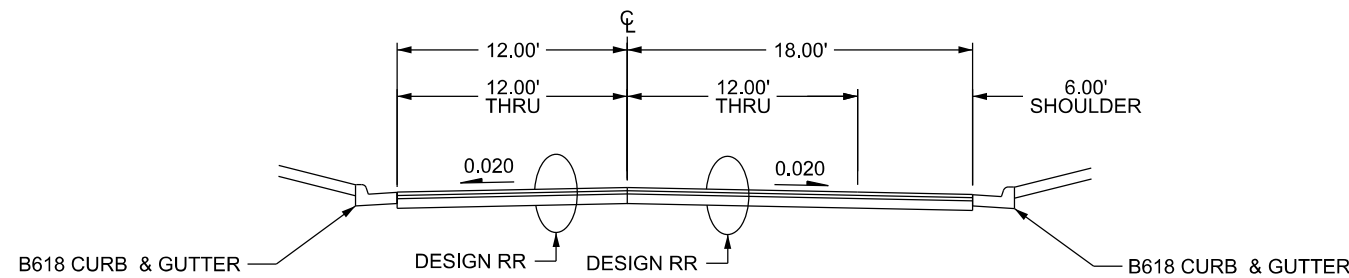


2.0" BITUMINOUS WEAR (SPWEB440C)  
 2.0" BITUMINOUS WEAR (SPWEB440C)  
 RECLAIMED BITUMINOUS  
 REMOVE 4" RECLAIM BITUMINOUS

**CSAH 35 - OLD CENTRAL AVE.**

PROPOSED SECTION

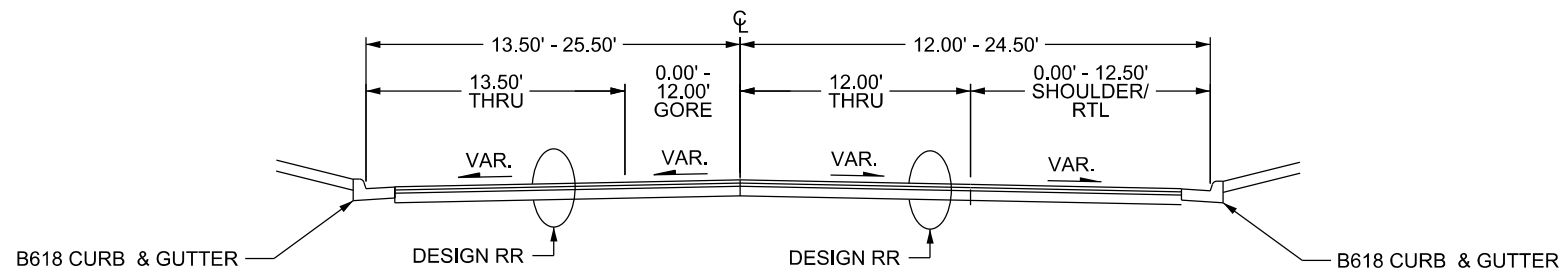
37+11.00 - 54+90.00




**PLEASANT VIEW DR**

PROPOSED SECTION

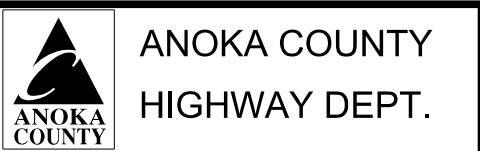
1+51.00 - 4+32.00



| NO  | DATE | BY | CKD | APPR | REVISION | 03/02/2021 | 12:41:31 PM |
|---|------|----|-----|------|----------|------------|-------------|
| NAME: P:\21-01-00\CSAH_35_(81ST-TH10)\Base\Proposed\CSAH35_TYPICALS.dgn |      |    |     |      |          |            |             |

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: GERALD J. AUGER JR.  
 SIGNATURE:   
 DATE: 02-24-2021 LICENSE NO. 26511

DRAWN BY: KPR DATE: 12/11/2020  
 DESIGN BY: KPR DATE: 12/11/2020  
 CHECKED BY: CSO DATE: 01/28/2021



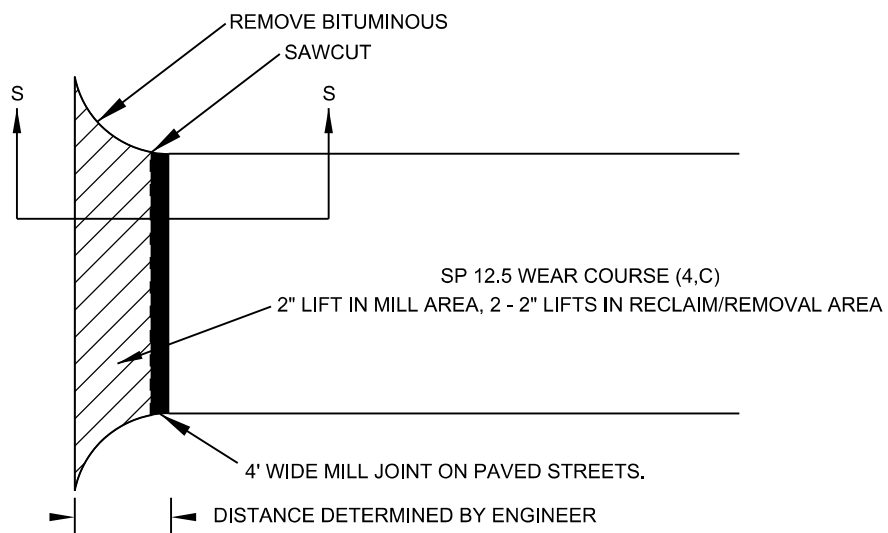
STATE AID PROJECT 002-635-013  
 STATE AID PROJECT 183-101-012

TYPICAL SECTIONS  
 Sheet 6 of 21 Sheets

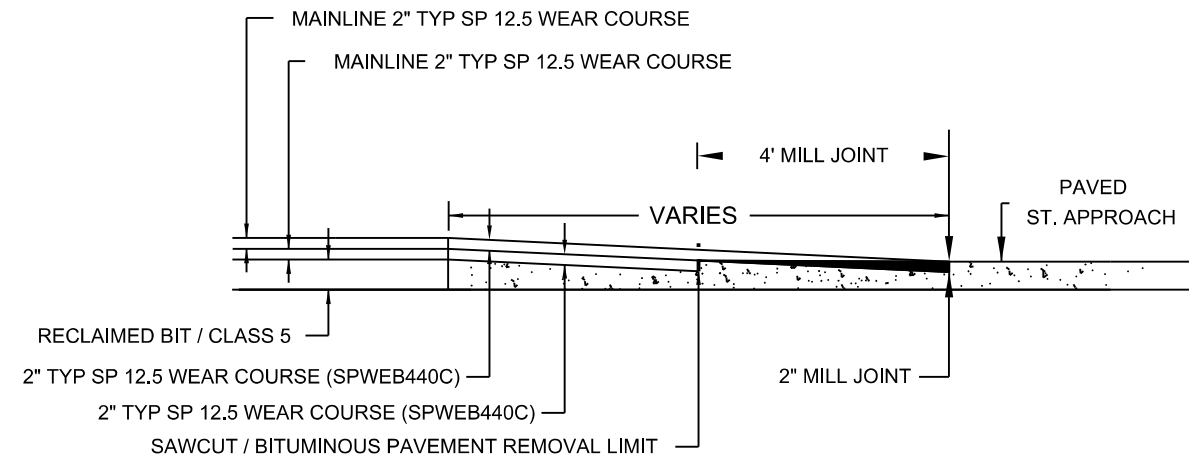
# STREET APPROACH DETAIL (RECLAIM)

## BITUMINOUS STREET

PLAN VIEW




SECTION S - S



| NO | DATE       | BY | CKD | APPR | REVISION | TIME        |
|----|------------|----|-----|------|----------|-------------|
|    | 03/02/2021 |    |     |      |          | 12:41:34 PM |

NAME: P:\21-01-00\CSAH\_35\_(81ST-TH10)\Base\Proposed\CSAH35\_DETAILS.dgn

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: GERALD J. AUGER, JR.  
 SIGNATURE:   
 DATE: 02-24-2021 LICENSE NO. 26511

DRAWN BY KPR DATE 12/11/2020  
 DESIGN BY KPR DATE 12/11/2020  
 CHECKED BY CSO DATE 01/28/2021



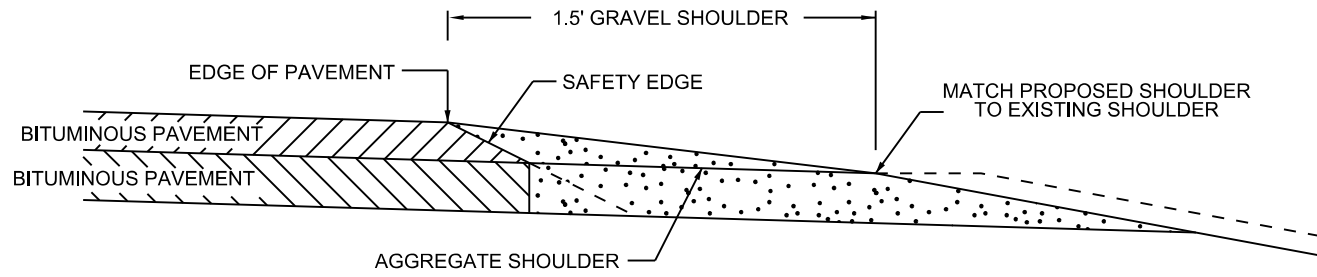
**ANOKA COUNTY  
 HIGHWAY DEPT.**

STATE AID PROJECT 002-635-013  
 STATE AID PROJECT 183-101-012

DETAILS  
 Sheet 7 of 21 Sheets

### SHOULDER DETAIL

BITUMINOUS SAFETY EDGE  
GRAVEL SHOULDER

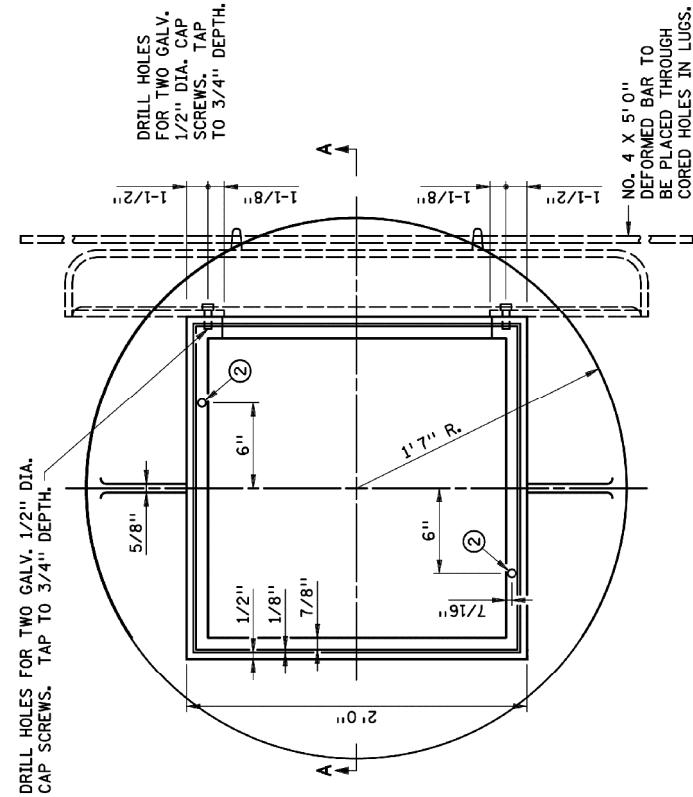
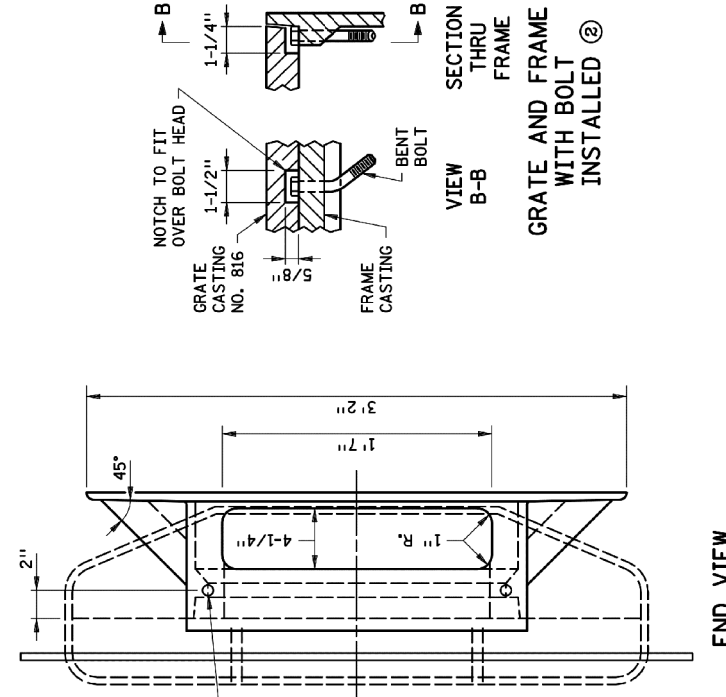
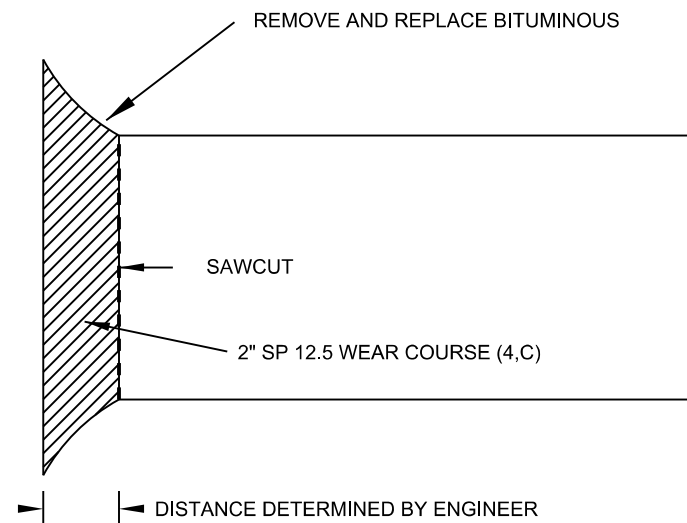


SAFETY EDGE TO BE USED IN ALL NON-CURB AREAS ON SHOULDER.

OPTIONAL DESIGN EXTENDS SAFETY EDGE DEEPER THAN 6" AND WIDER THAN 10.5". SEE SPECIAL PROVISIONS.

### RECLAIM AREA - DRIVEWAY DETAIL

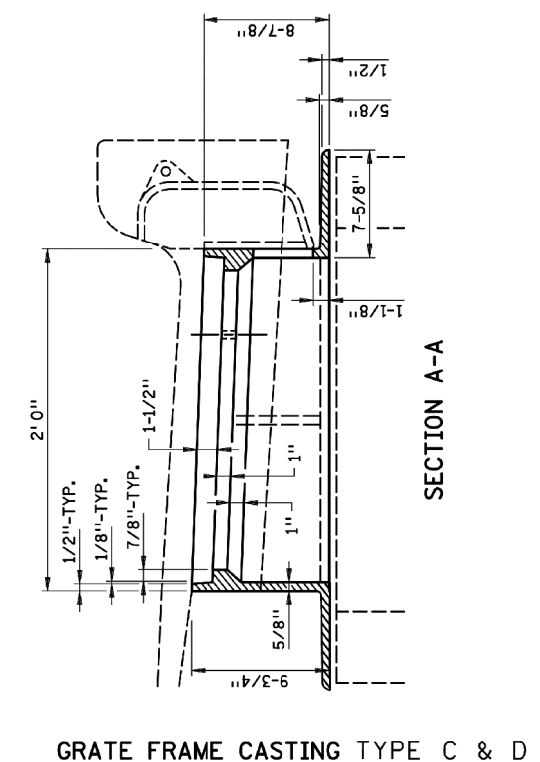
BITUMINOUS  
PLAN VIEW



CASTINGS USED FOR ASSEMBLY  
GRATE NO. 816 (MNDOT STD PLATE 4154B)  
CURB BOX ① NO. 823A (MNDOT STD PLATE 4160) OR

**NOTES:**

- USE 1/4" FILLETS IN ALL CORNERS. SEE MNDOT STANDARD PLATE 7111 FOR INSTALLATION REQUIREMENTS.
- ① APPLIES TO DESIGN B OR V CURB AND CURB AND GUTTER.
- ② AT LOCATIONS INDICATED IN TOP VIEW, PROVIDE 9/16" DIA. HOLES WHEN GRATE NO. 816 (MNDOT STD PLATE 4154) IS USED WITH THIS FRAME. FIELD PLATE 1/2" DIA X 4" LONG GALV BOLT IN UP STREAM SIDE AND BENT UNDERSIDE TO PREVENT REMOVAL. THIS WILL PREVENT GRATE NO. 816 (MNDOT STD PLATE 4154) FROM BEING PLACED IN WRONG AND NOT BEING BICYCLE SAFE



GRATE FRAME CASTING TYPE C & D

**NOTE: THE CONTRATOR SHALL LINE UP THE LIP OF CONCRETE CURB AND GUTTER FROM THE LIP OF THE ADJACENT CURB LINE TO THE LIP OF THE CASTING OVER A DISTANCE OF 3' (ON EACH SIDE OF THE CASTING). THIS WORK SHALL BE INCIDENTAL TO THE CONCRETE CURB & GUTTER PAY ITEMS.**

| NO | DATE       | BY | CKD | APPR | REVISION |             |
|----|------------|----|-----|------|----------|-------------|
|    | 03/02/2021 |    |     |      |          | 12:41:34 PM |

NAME: P:\21-01-00\CSAH\_35\_(81ST-TH10)\Base\Proposed\CSAH35\_DETAILS.dgn

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
PRINT NAME: GERALD J. AUGER, JR.  
SIGNATURE:   
DATE: 02-24-2021 LICENSE NO. 26511

DRAWN BY KPR DATE 12/11/2020  
DESIGN BY KPR DATE 12/11/2020  
CHECKED BY CSO DATE 01/28/2021

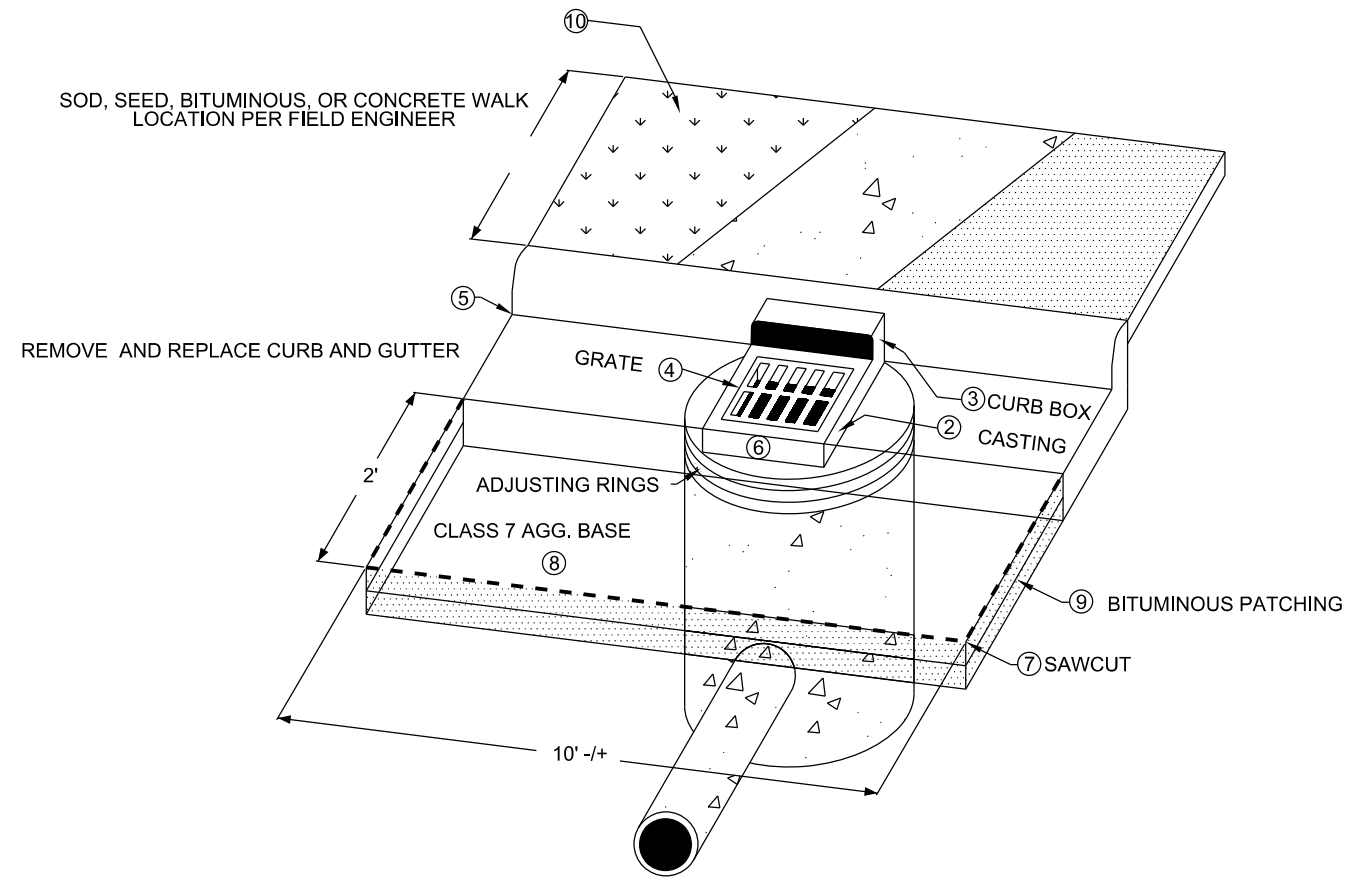
ANOKA COUNTY  
HIGHWAY DEPT.

STATE AID PROJECT 002-635-013  
STATE AID PROJECT 183-101-012



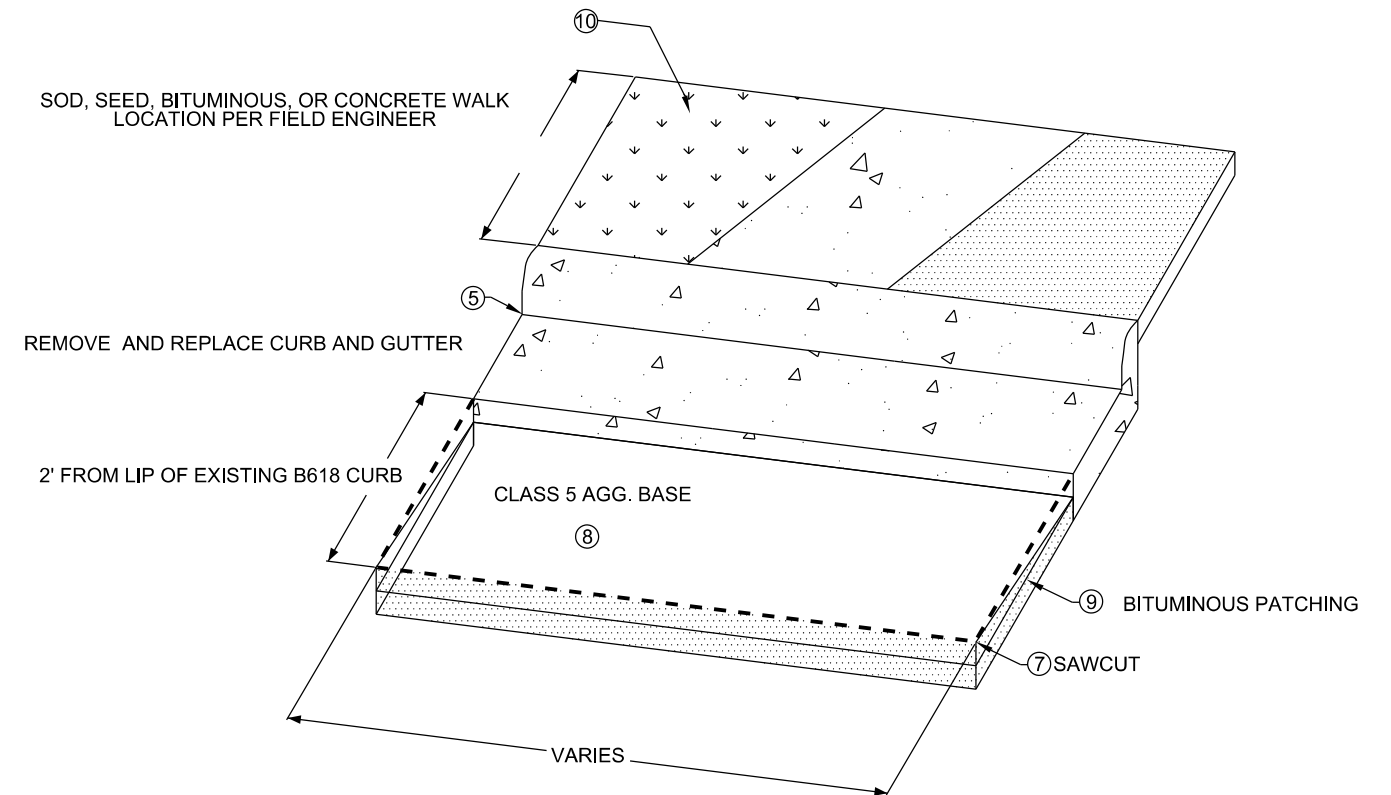
### CATCH BASIN DETAIL

SEE STRUCTURE TAB FOR LOCATION  
(PAGE 3)



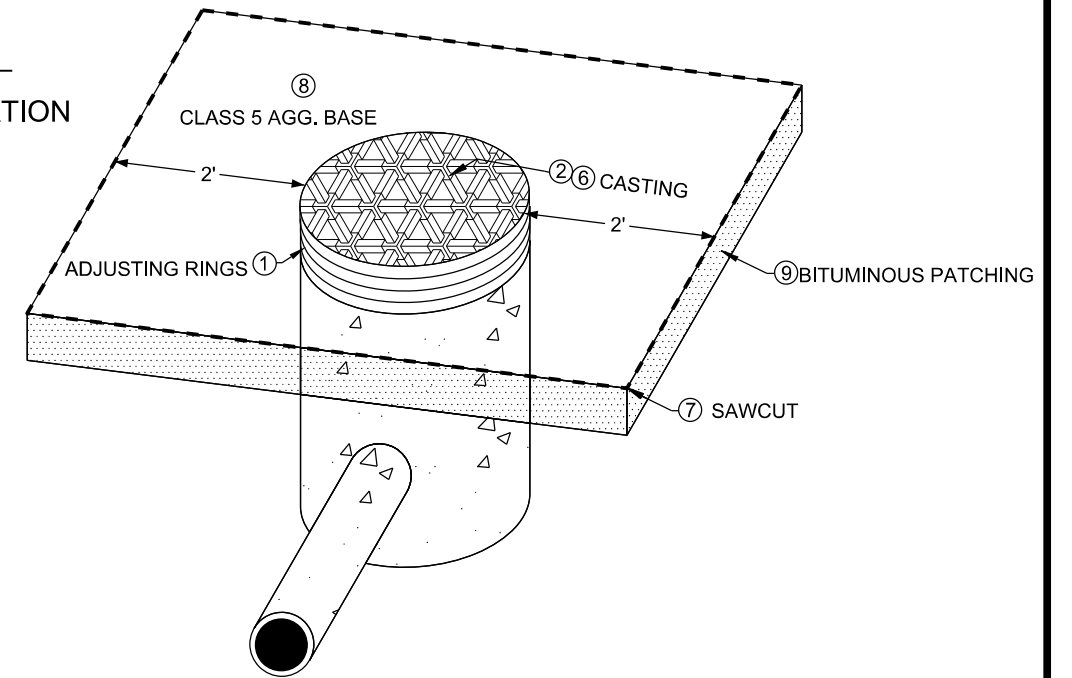
### NEW CURB DETAIL

SEE PLAN FOR LOCATION



### MANHOLE DETAIL

SEE STRUCTURE TAB FOR LOCATION  
(PAGE 3)




### NOTES


FOR TRAFFIC CONTROL AT CATCH BASIN AND MANHOLE REPAIRS REFER TO THE MINNESOTA MANUAL ON TEMPORARY TRAFFIC CONTROL LAYOUTS FIELD MANUAL.

- ① CONCRETE ENCASED CONCRETE ADJUSTING RINGS STANDARD PLATE 4026A.
- ② RING AND FRAME CASTING; REFERENCE CASTING ASSEMBLIES SUMMARY CHART FOR CASTING TYPE.
- ③ CURB BOX MATCHES CASTING REFERENCE CHART FOR CASTING TYPE.
- ④ GRATE CASTING; REFERENCE CASTING ASSEMBLIES SUMMARY CHART FOR CASTING TYPE.
- ⑤ CONCRETE CURB AND GUTTER DESIGN B STANDARD PLATE 7100H, FORM CURB TO FIT CASTING.
- ⑥ INSTALLATION OF CATCH BASIN OR MANHOLE CASTINGS; REFERENCE STANDARD PLATE PER TYPE OF CASTING.
- ⑦ SAWCUT BITUMINOUS PAVEMENT / CONCRETE CURB FULL DEPTH.
- ⑧ ADD AND COMPACT AGGREGATE BASE CLASS 5 AROUND REPAIRED STRUCTURE. ITEM INCIDENTAL TO ENTIRE STRUCTURE REPAIR.
- ⑨ REMOVE VARIABLE DEPTH BITUMINOUS, PATCH WITH 2, 3" LIFTS OF BITUMINOUS, TOP LIFT SHOULD TAPER TO BOTTOM LIFT AT CURB.
- ⑩ REPLACE DISTURBED AREA BEHIND CATCH BASIN WITH EITHER SOD (RESIDENTIAL AREAS), HYDAULIC REINFORCED FIBER MATRIX OR EROSION CONTROL BLANKET, BITUMINOUS, CONCRETE.

| NO   | DATE | BY | CKD | APPR | REVISION | 03/02/2021 | 12:41:39 PM |
|--|------|----|-----|------|----------|------------|-------------|
| NAME: P:\21-01-00\CSAH_35_(81ST-TH10)\Base\Proposed\CSAH35_DETAILS.dgn |      |    |     |      |          |            |             |

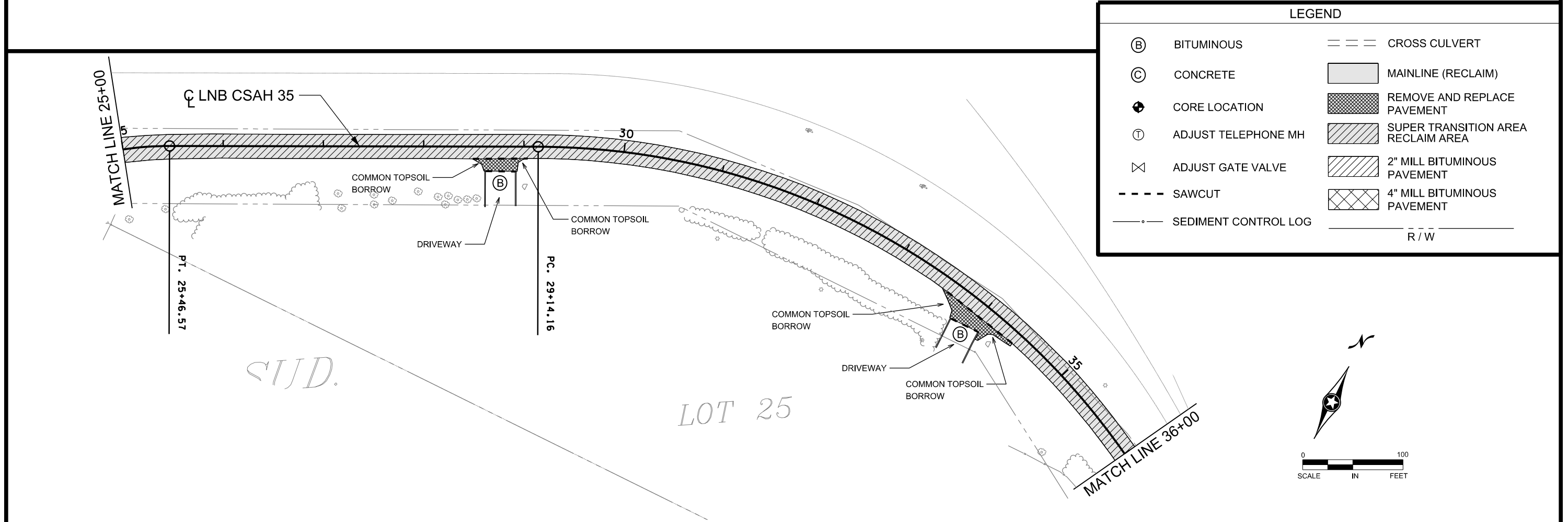
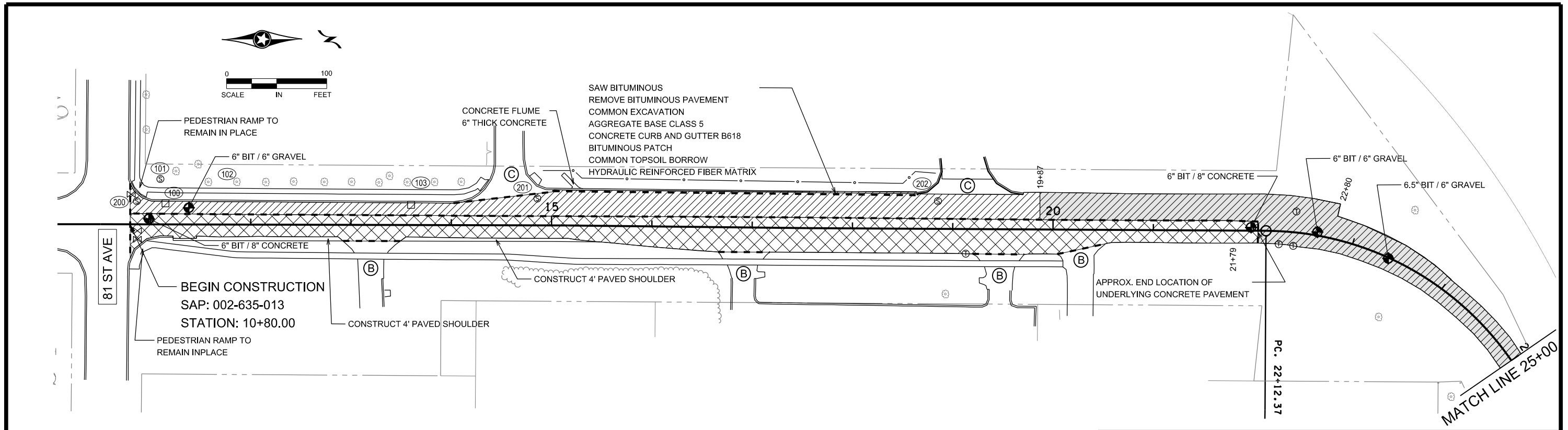
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: GERALD J. AUGER JR.  
 SIGNATURE:   
 DATE: 02-24-2021 LICENSE NO. 26511

DRAWN BY KPR DATE 12/11/2020  
 DESIGN BY KPR DATE 12/11/2020  
 CHECKED BY CSO DATE 01/28/2021

 ANOKA COUNTY  
HIGHWAY DEPT.

STATE AID PROJECT 002-635-013  
 STATE AID PROJECT 183-101-012

DETAILS  
 Sheet 9 of 21 Sheets



**LEGEND**

|     |                      |                        |                                    |
|-----|----------------------|------------------------|------------------------------------|
| (B) | BITUMINOUS           | ---                    | CROSS CULVERT                      |
| (C) | CONCRETE             | [Hatched Box]          | MAINLINE (RECLAIM)                 |
| ⊕   | CORE LOCATION        | [Cross-hatched Box]    | REMOVE AND REPLACE PAVEMENT        |
| Ⓢ   | ADJUST TELEPHONE MH  | [Diagonal Hatched Box] | SUPER TRANSITION AREA RECLAIM AREA |
| ⊗   | ADJUST GATE VALVE    | [Diagonal Hatched Box] | 2" MILL BITUMINOUS PAVEMENT        |
| --- | SAWCUT               | [Cross-hatched Box]    | 4" MILL BITUMINOUS PAVEMENT        |
| ○   | SEDIMENT CONTROL LOG | ---                    | R / W                              |

| NO   | DATE | BY | CKD | APPR | REVISION | 03/02/2021 | 12:41:43 PM |
|--|------|----|-----|------|----------|------------|-------------|
| NAME: P:\21-01-00\CSAH_35_(81ST-TH10)\Base\Proposed\CSAH35_CP1.dgn |      |    |     |      |          |            |             |

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

PRINT NAME: GERALD J. AUGER JR.

SIGNATURE:

DATE: 02-24-2021 LICENSE NO. 26511

DRAWN BY KPR DATE 12/11/2020

DESIGN BY KPR DATE 12/11/2020

CHECKED BY CSO DATE 01/28/2021

**ANOKA COUNTY**  
**HIGHWAY DEPT.**

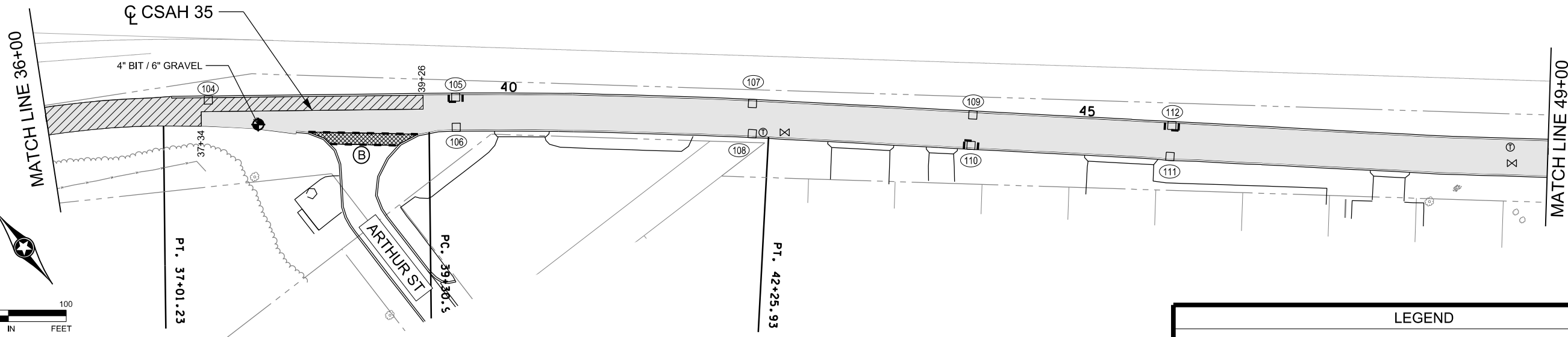
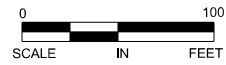
STATE AID PROJECT 002-635-013

STATE AID PROJECT 183-101-012

**CONSTRUCTION PLAN**

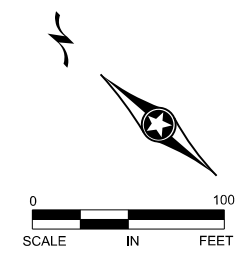
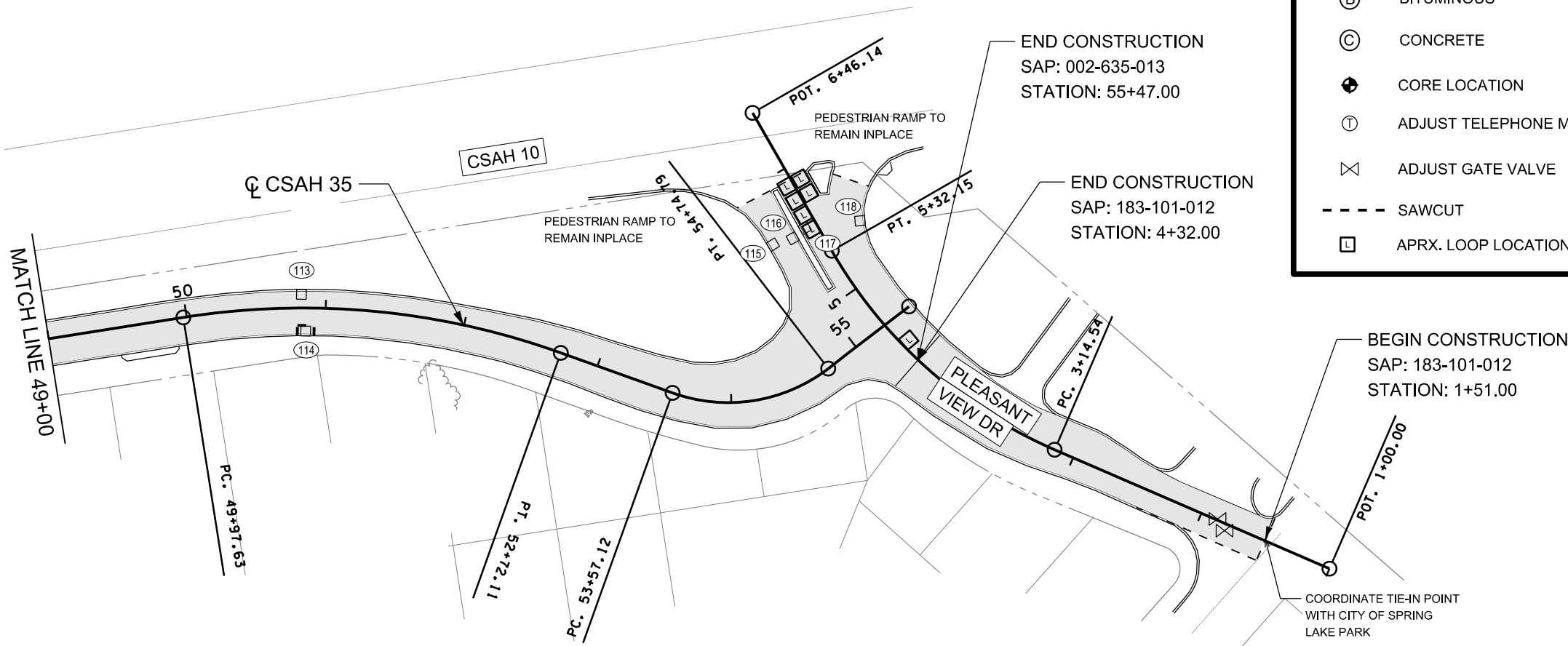
STA 10+80 TO 36+00

Sheet 10 of 21 Sheets



**LEGEND**

|       |                     |                        |                             |
|-------|---------------------|------------------------|-----------------------------|
| (B)   | BITUMINOUS          | ---                    | CROSS CULVERT               |
| (C)   | CONCRETE            | [Solid Grey Box]       | MAINLINE (RECLAIM)          |
| (◆)   | CORE LOCATION       | [Cross-hatched Box]    | REMOVE AND REPLACE PAVEMENT |
| (Ⓣ)   | ADJUST TELEPHONE MH | [Diagonal Hatched Box] | SUPER TRANSITION AREA       |
| (X)   | ADJUST GATE VALVE   | ---                    | R/W                         |
| - - - | SAWCUT              |                        |                             |
| [L]   | APRX. LOOP LOCATION |                        |                             |



| NO | DATE       | BY | CKD | APPR | REVISION |             |
|----|------------|----|-----|------|----------|-------------|
|    | 03/02/2021 |    |     |      |          | 12:41:45 PM |

NAME: P:\21-01-00\CSAH\_35\_(81ST-TH10)\Base\Proposed\CSAH35\_CP2.dgn

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

PRINT NAME: GERALD J. AUGER JR.

SIGNATURE:

DATE: 02-24-2021 LICENSE NO. 26511

DRAWN BY: KPR DATE: 12/11/2020

DESIGN BY: KPR DATE: 12/11/2020

CHECKED BY: CSO DATE: 01/28/2021

**ANOKA COUNTY**  
**HIGHWAY DEPT.**

STATE AID PROJECT 002-635-013

STATE AID PROJECT 183-101-012

**CONSTRUCTION PLAN**

STA 36+00 TO 55+47

Sheet 11 of 21 Sheets

**PERMANENT PAVEMENT MARKING PLAN**  
NOTES AND GUIDELINES

**GENERAL INFORMATION:**

THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. ANOKA COUNTY HIGHWAY DEPARTMENT WILL PLACE NECESSARY "SPOTTING" AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS, LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY A YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.

A TOLERANCE OF 1/4 INCH UNDER OR 1/4 INCH OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO ONE-HALF FOOT FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 1 INCH. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINTS, ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.

**MULTI COMPONENT (MULTI COMP):**

THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC) OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENT AND/OR LAITANCE ON LOW SPEED (SPEED LIMIT 35 MPH OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS. SANDBLAST CLEANING SHALL BE USED FOR ALL MULTI COMP PAVEMENT MARKINGS.

THE MULTI COMP MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEANS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE MULTI COMP RESIN LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

A MULTI COMP RESIN LINE SHALL BE APPLIED WITH A MINIMUM THICKNESS OF 20 MILS (WET) AND 4" WIDE. GLASS BEADS SHALL BE APPLIED AT A MINIMUM RATE OF 25LBS POUNDS PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.

OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES FAHRENHEIT OR GREATER.

PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.

**PREFORMED THERMOPLASTIC:**

THE PREFORMED THERMOPLASTIC MARKINGS SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS ON CLEAN AND DRY SURFACES. SEE SPECIAL PROVISIONS FOR PREFORMED THERMOPLASTIC MARKING SPECIFICATIONS.

**PAINT:**

AT THE TIME OF APPLYING THE MARKING MATERIAL, THE APPLICATION AREA SHALL BE FREE OF CONTAMINATION. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE PRIOR TO THE LINE APPLICATION IN A MANNER AND TO THE EXTENT REQUIRED BY THE ENGINEER.

GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE PAINT LINE.

EXCEPT WHEN USED AS A TEMPORARY MARKING, PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR TEMPERATURE IS 50 DEGREES FARHENHEIT OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILD OR DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.

THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.

| PAVEMENT MARKING TABULATION                           |        |                |
|---|--------|----------------|
| ITEM  | UNIT   | TOTAL QUANTITY |
| 4" SOLID LINE WHITE - MULTI COMP                      | LIN FT | 10737          |
| 4" BROKEN LINE YELLOW - MULTI COMP                    | LIN FT | 276            |
| 4" SOLID LINE YELLOW - MULTI COMP                     | LIN FT | 1529           |
| 4" DOUBLE LINE YELLOW - MULTI COMP                    | LIN FT | 4195           |
| 24" SOLID LINE YELLOW - THERMOPLASTIC (PMS*)          | LIN FT | 47             |
| 24" SOLID LINE WHITE - THERMOPLASTIC (PMS*)           | LIN FT | 75             |
| 3'x6' ZEBRA CROSSWALK - PREFORMED THERMOPLASTIC       | SQ FT  | 360            |
| PAVEMENT MESSAGE (RT ARROW) - PREFORMED THERMOPLASTIC | SQ FT  | 78             |
| PAVEMENT MESSAGE (LT ARROW) - PREFORMED THERMOPLASTIC | SQ FT  | 78             |

1 10' STRIPE, 40' GAP

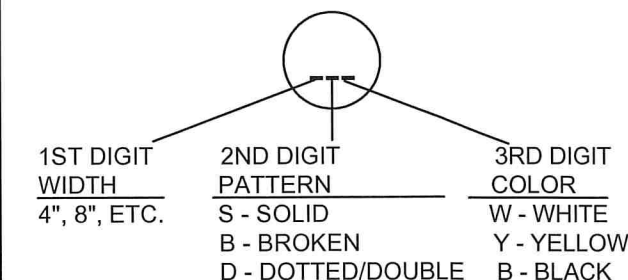
\* PAVEMENT MARKING SPECIAL

**SYMBOLS & MATERIALS LEGEND**

- █ CROSSWALK BLOCK WHITE-POLY PREFORM
- ↩ PAVEMENT MESSAGE (LEFT ARROW) POLY PREFORM

**STRIPING KEY**

- CIRCLE - MULTI COMP
- SQUARE - POLY PREFORM THERMOPLASTIC
- △ TRIANGLE - PAINT
- ⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



EXAMPLE: (4SW) = 4" SOLID LINE WHITE - MULTI COMP

| NO | DATE | BY | CKD | APPR | REVISION |
|----|------|----|-----|------|----------|
|    |      |    |     |      |          |

NAME: P:\21-01-00\CSAH\_35 (81st-TH10)\Base\Traffic\Perm Pvmt Mrkg Guide Notes.dwg

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: JOSEPH J. MACPHERSON, P.E.  
 SIGNATURE: *[Signature]*  
 DATE: 3-3-21 LICENSE NO. 46732

DRAWN BY: TMV DATE: 12/18/20  
 DESIGN BY: TMV DATE: 12/18/20  
 CHECKED BY: CO DATE: 01/27/21

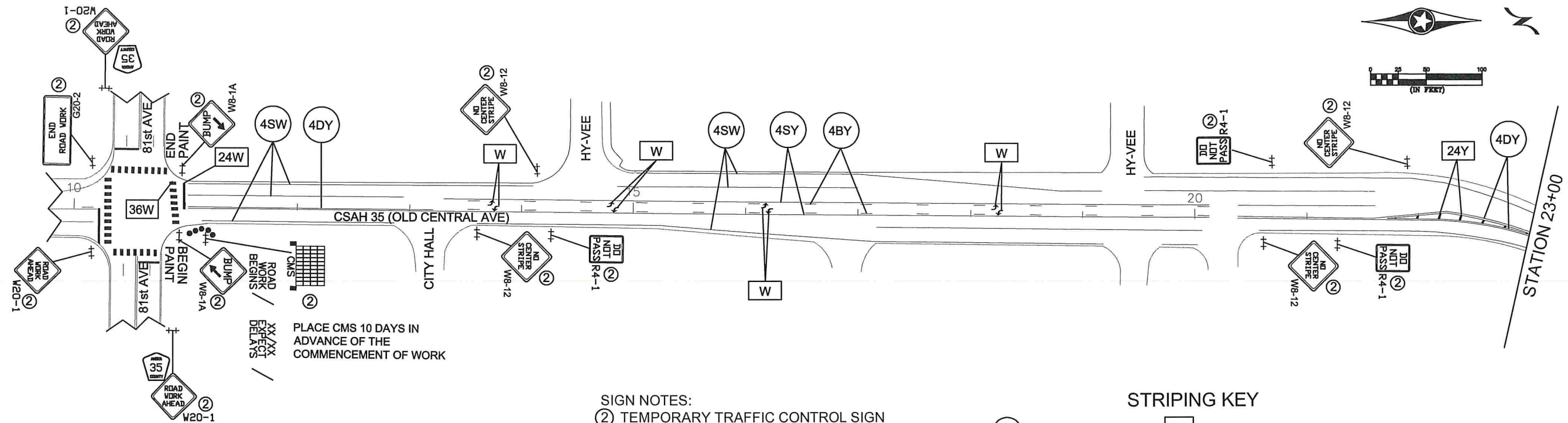


**ANOKA COUNTY**  
**HIGHWAY DEPT.**

STATE AID PROJECT 002-635-013  
 STATE AID PROJECT 183-101-012

PERMANENT MARKING  
 TABULATION

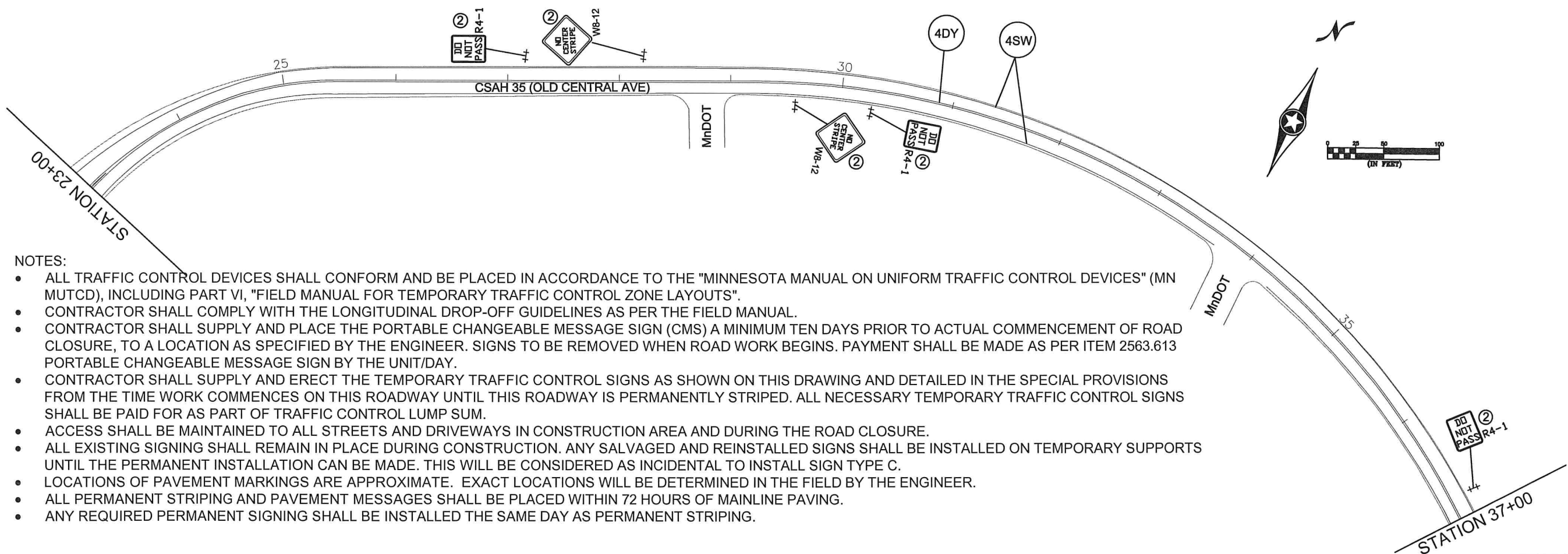
Sheet 12 of 21 Sheets



PLACE CMS 10 DAYS IN ADVANCE OF THE COMMENCEMENT OF WORK

SIGN NOTES:  
 (2) TEMPORARY TRAFFIC CONTROL SIGN

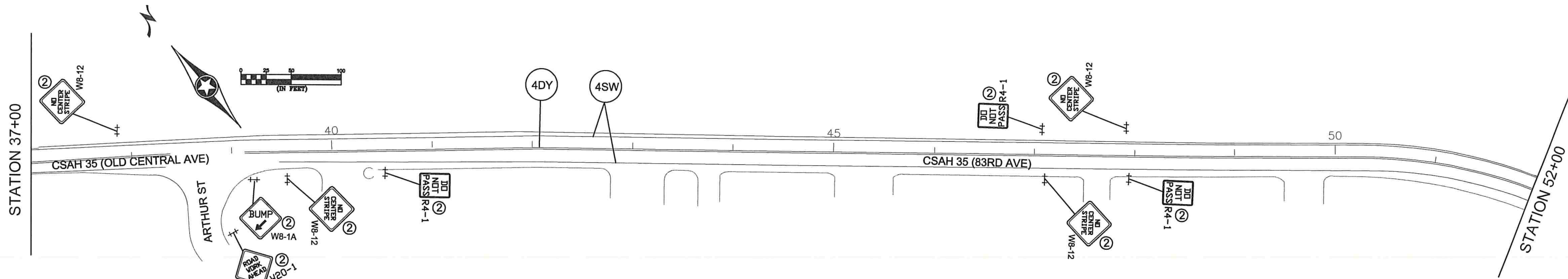
STRIPING KEY  
 (---) CIRCLE - MULTI COMP  
 (---) SQUARE - POLY PREFORM



NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
- CONTRACTOR SHALL SUPPLY AND PLACE THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) A MINIMUM TEN DAYS PRIOR TO ACTUAL COMMENCEMENT OF ROAD CLOSURE, TO A LOCATION AS SPECIFIED BY THE ENGINEER. SIGNS TO BE REMOVED WHEN ROAD WORK BEGINS. PAYMENT SHALL BE MADE AS PER ITEM 2563.613 PORTABLE CHANGEABLE MESSAGE SIGN BY THE UNIT/DAY.
- CONTRACTOR SHALL SUPPLY AND ERECT THE TEMPORARY TRAFFIC CONTROL SIGNS AS SHOWN ON THIS DRAWING AND DETAILED IN THE SPECIAL PROVISIONS FROM THE TIME WORK COMMENCES ON THIS ROADWAY UNTIL THIS ROADWAY IS PERMANENTLY STRIPED. ALL NECESSARY TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE PAID FOR AS PART OF TRAFFIC CONTROL LUMP SUM.
- ACCESS SHALL BE MAINTAINED TO ALL STREETS AND DRIVEWAYS IN CONSTRUCTION AREA AND DURING THE ROAD CLOSURE.
- ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ANY SALVAGED AND REINSTALLED SIGNS SHALL BE INSTALLED ON TEMPORARY SUPPORTS UNTIL THE PERMANENT INSTALLATION CAN BE MADE. THIS WILL BE CONSIDERED AS INCIDENTAL TO INSTALL SIGN TYPE C.
- LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
- ANY REQUIRED PERMANENT SIGNING SHALL BE INSTALLED THE SAME DAY AS PERMANENT STRIPING.

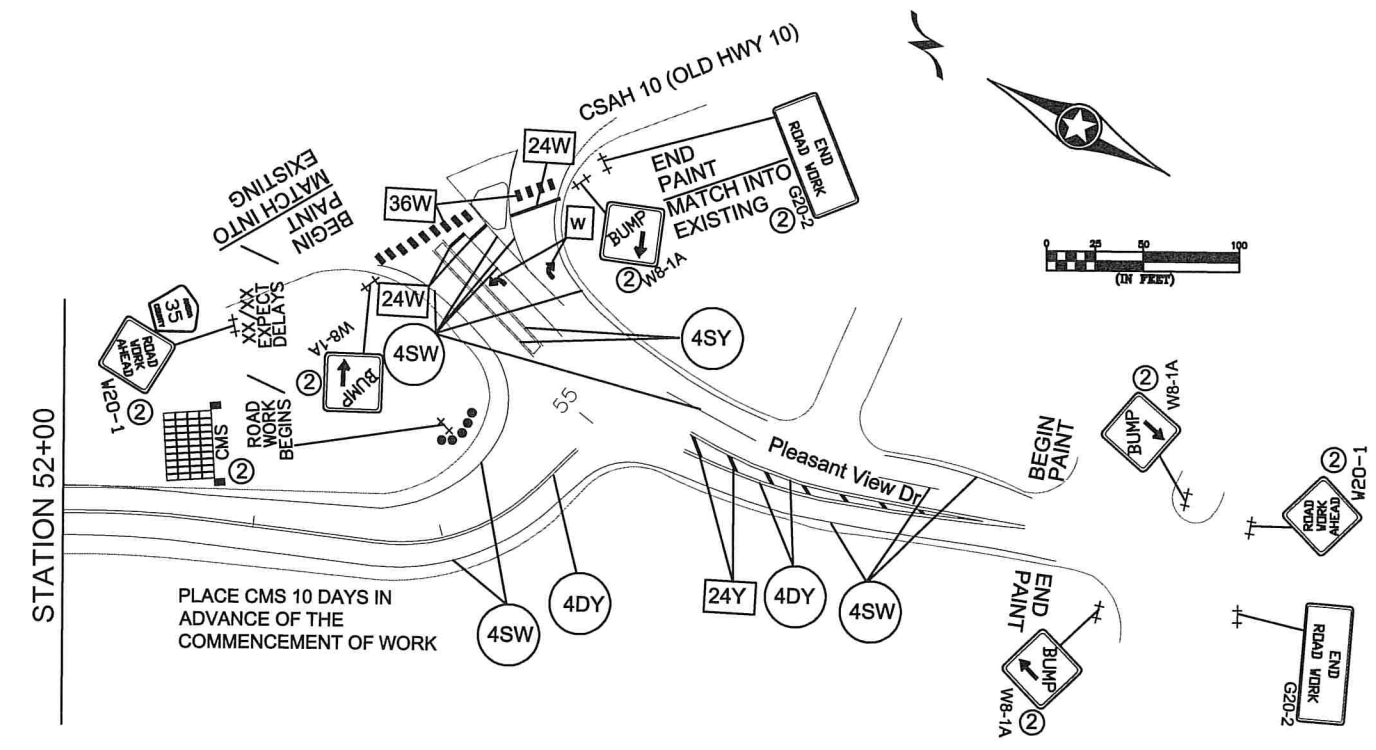
|  |      |    |     |      |          |  |   |  |   |
|--|------|----|-----|------|----------|--|---|--|---|
| I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.<br>PRINT NAME: JOSEPH J. MACPHERSON, P.E.<br>SIGNATURE: <i>[Signature]</i><br>DATE: 3-3-21 LICENSE NO. 46732 |      |    |     |      |          | DRAWN BY: TMV DATE: 12/18/20<br>DESIGN BY: TMV DATE: 12/18/20<br>CHECKED BY: CO DATE: 01/27/21 | <b>ANOKA COUNTY</b><br><b>HIGHWAY DEPT.</b> | STATE AID PROJECT 002-635-013<br>STATE AID PROJECT 183-101-012 | <b>SIGNING &amp; STRIPING PLAN</b><br>Sheet 13 of 21 Sheets |
| NO   | DATE | BY | CKD | APPR | REVISION |  |   |  |   |



SIGN NOTES:  
 (2) TEMPORARY TRAFFIC CONTROL SIGN



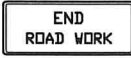









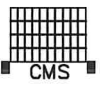
STRIPING KEY  
 (---) CIRCLE - MULTI COMP  
 (---) SQUARE - POLY PREFORM

- NOTES:
- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
  - CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
  - CONTRACTOR SHALL SUPPLY AND PLACE THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) A MINIMUM TEN DAYS PRIOR TO ACTUAL COMMENCEMENT OF ROAD CLOSURE, TO A LOCATION AS SPECIFIED BY THE ENGINEER. SIGNS TO BE REMOVED WHEN ROAD WORK BEGINS. PAYMENT SHALL BE MADE AS PER ITEM 2563.613 PORTABLE CHANGEABLE MESSAGE SIGN BY THE UNIT/DAY.
  - CONTRACTOR SHALL SUPPLY AND ERECT THE TEMPORARY TRAFFIC CONTROL SIGNS AS SHOWN ON THIS DRAWING AND DETAILED IN THE SPECIAL PROVISIONS FROM THE TIME WORK COMMENCES ON THIS ROADWAY UNTIL THIS ROADWAY IS PERMANENTLY STRIPED. ALL NECESSARY TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE PAID FOR AS PART OF TRAFFIC CONTROL LUMP SUM.
  - ACCESS SHALL BE MAINTAINED TO ALL STREETS AND DRIVEWAYS IN CONSTRUCTION AREA AND DURING THE ROAD CLOSURE.
  - ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ANY SALVAGED AND REINSTALLED SIGNS SHALL BE INSTALLED ON TEMPORARY SUPPORTS UNTIL THE PERMANENT INSTALLATION CAN BE MADE. THIS WILL BE CONSIDERED AS INCIDENTAL TO INSTALL SIGN TYPE C.
  - LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
  - ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
  - ANY REQUIRED PERMANENT SIGNING SHALL BE INSTALLED THE SAME DAY AS PERMANENT STRIPING.



|  |      |    |     |      |          |  |   |  |  |
|--|------|----|-----|------|----------|--|---|--|--|
| I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.<br>PRINT NAME: JOSEPH J. MACPHERSON, P.E.<br>SIGNATURE: <i>[Signature]</i><br>DATE: 3.3.24 LICENSE NO. 46732 |      |    |     |      |          | DRAWN BY: TMV DATE: 12/18/20<br>DESIGN BY: TMV DATE: 12/18/20<br>CHECKED BY: CO DATE: 01/27/21 | <b>ANOKA COUNTY</b><br><b>HIGHWAY DEPT.</b> | STATE AID PROJECT 002-635-013<br>STATE AID PROJECT 183-101-012 | SIGNING & STRIPING PLAN<br>Sheet 14 of 21 Sheets |
| NO   | DATE | BY | CKD | APPR | REVISION |  |   |  |  |

NAME: P:\21-01-00\CSAH\_35\_(81st-TH10)\Base\Traffic\Signing&Striping.dwg

| TEMPORARY TRAFFIC CONTROL SIGNS   |           |  |                          |          |                                  |  |
|---|-----------|--|--------------------------|----------|----------------------------------|--|
| M.U.T.C.D. CODE   | SIZE      | INSERT   | QUANTITY                 |          | MOUNTING HEIGHT TO PAVEMENT EDGE |  |
|   |           |  |                          | No. POST | FT.                              |  |
| W8-12   | 48" x 48" |    | 10                       | 2        | 7.0'                             |  |
| R4-1  | 24" x 30" |     | 9                        | 1        | 7.0'                             |  |
| G20-2   | 36" x 18" |    | 3                        | 2        | 7.0'                             |  |
| W8-1  | 48" x 48" |    | AS NEEDED                |          |                                  |  |
| W8-1A   | 48" x 48" |    | AS NEEDED (ESTIMATED 7)  |          |                                  |  |
| W8-8  | 48" x 48" |    | AS NEEDED                |          |                                  |  |
| W8-9  | 48" x 48" |   | AS NEEDED                |          |                                  |  |
|   | 48" x 48" |  | AS NEEDED                |          |                                  |  |
| W8-11   | 48" x 48" |  | AS NEEDED                |          |                                  |  |
| M1-6  | 24" x 24" |   | 3                        |          |                                  |  |
| W20-1   | 48" x 48" |  | AS NEEDED (ESTIMATED 6)  |          |                                  |  |
| REFLECTORIZED REBOUNDABLE DRUM  |           |  | AS NEEDED (ESTIMATED 10) |          |                                  |  |
| CMS sign to be placed a minimum of ten days prior to actual commencement of road work. Signs to be removed when road work begins. |           |  | 2 AT 10 DAYS EA          |          |                                  |  |

CHANGEABLE MESSAGE BOARD - MESSAGE SEQUENCE LAYOUT

|  |  |   |   |   |   |   |   |
|--|--|---|---|---|---|---|---|
|  |  | R | O | A | D |   |   |
|  |  | W | O | R | K |   |   |
|  |  | B | E | G | I | N | S |

|  |   |   |   |   |   |   |  |
|--|---|---|---|---|---|---|--|
|  | < | D | A | T | E | > |  |
|  | E | X | P | E | C | T |  |
|  | D | E | L | A | Y | S |  |

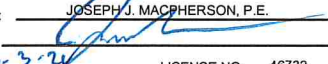
CMS SIGN TO BE PLACED A MINIMUM OF TEN DAYS PRIOR TO ACTUAL COMMENCEMENT OF ROAD WORK. SIGNS TO BE REMOVED WHEN ROAD WORK BEGINS.

| NO | DATE | BY | CKD | APPR | REVISION |
|----|------|----|-----|------|----------|
|    |      |    |     |      |          |
|    |      |    |     |      |          |

NAME: P:\21-01-00\CSAH\_35\_(81st-TH10)\Base\Traffic\Signing&Striping.dwg

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

PRINT NAME: JOSEPH J. MACPHERSON, P.E.

SIGNATURE: 

DATE: 3-3-21 LICENSE NO. 46732

DRAWN BY: TMV DATE: 12/18/20

DESIGN BY: TMV DATE: 12/18/20

CHECKED BY: CO DATE: 01/27/21

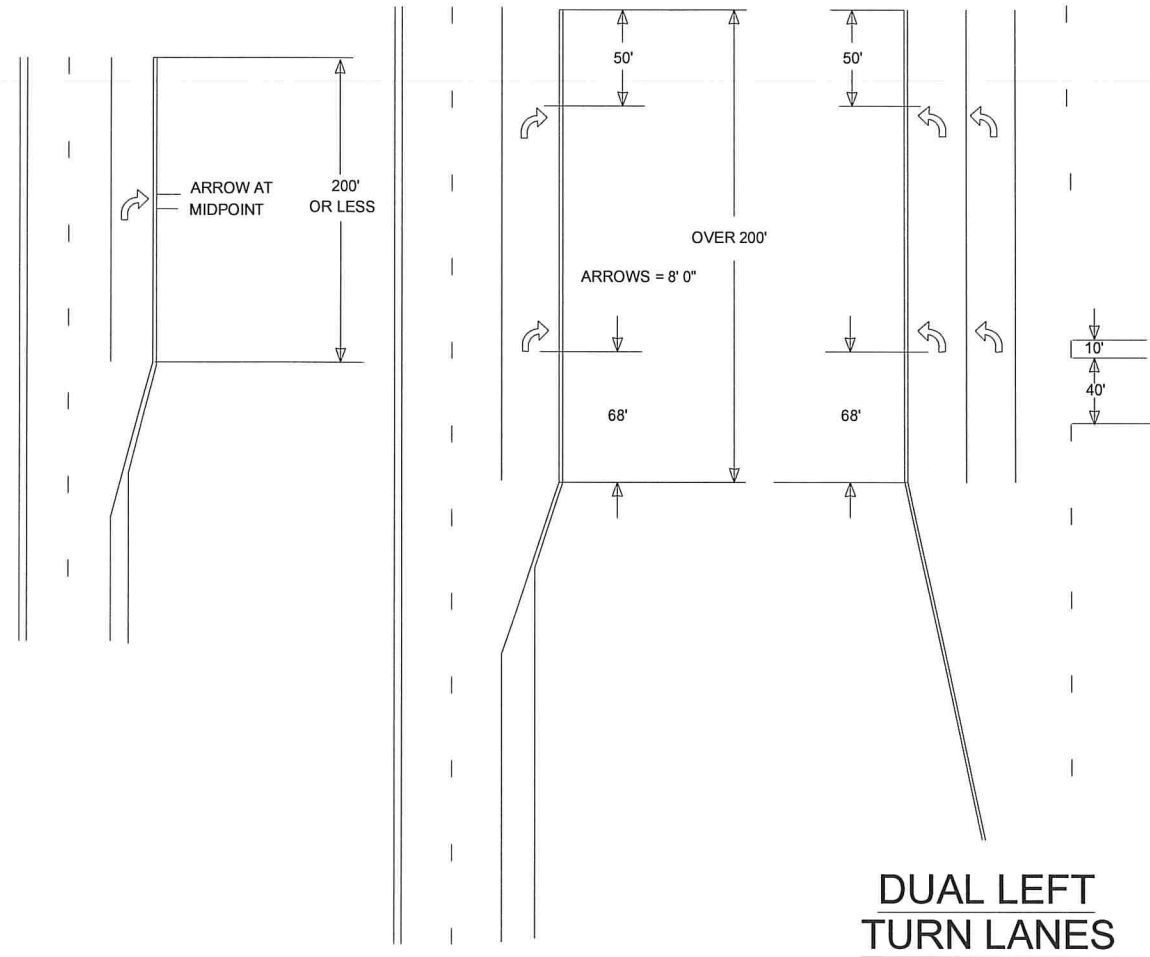


ANOKA COUNTY  
HIGHWAY DEPT.

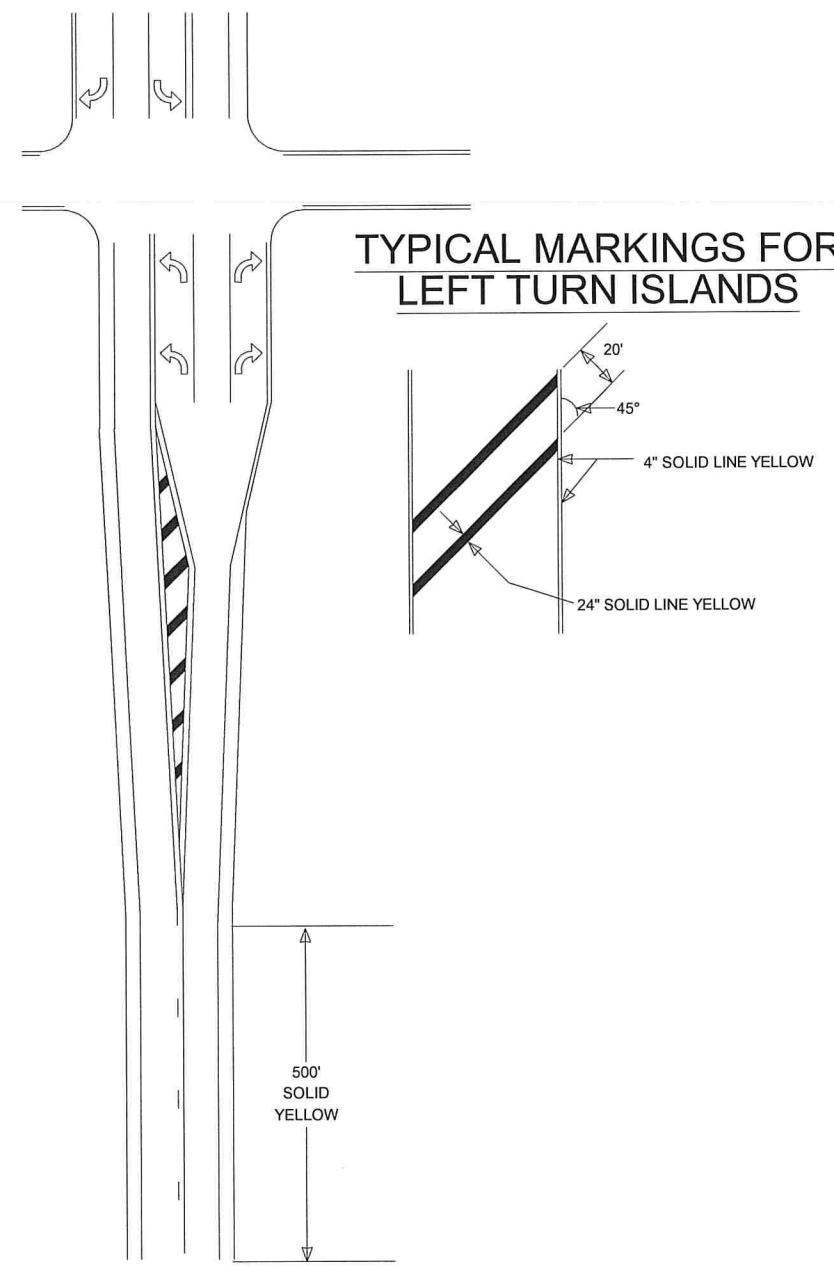
STATE AID PROJECT 002-635-013  
STATE AID PROJECT 183-101-012

SIGNING & STRIPING  
QUANTITIES

**TYPICAL MESSAGE PLACEMENT  
FOR TURN LANES**



**TYPICAL MARKINGS FOR  
LEFT TURN ISLANDS**



| NO | DATE | BY | CKD | APPR | REVISION |
|----|------|----|-----|------|----------|
|    |      |    |     |      |          |
|    |      |    |     |      |          |
|    |      |    |     |      |          |

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

PRINT NAME: JOSEPH J. MACPHERSON, P.E.

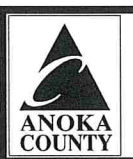
SIGNATURE: *[Signature]*

DATE: 3-3-21 LICENSE NO. 46732

DRAWN BY TMV DATE 12/21/20

DESIGN BY TMV DATE 12/21/20

CHECKED BY CO DATE 01/27/21



**ANOKA COUNTY  
HIGHWAY DEPT.**

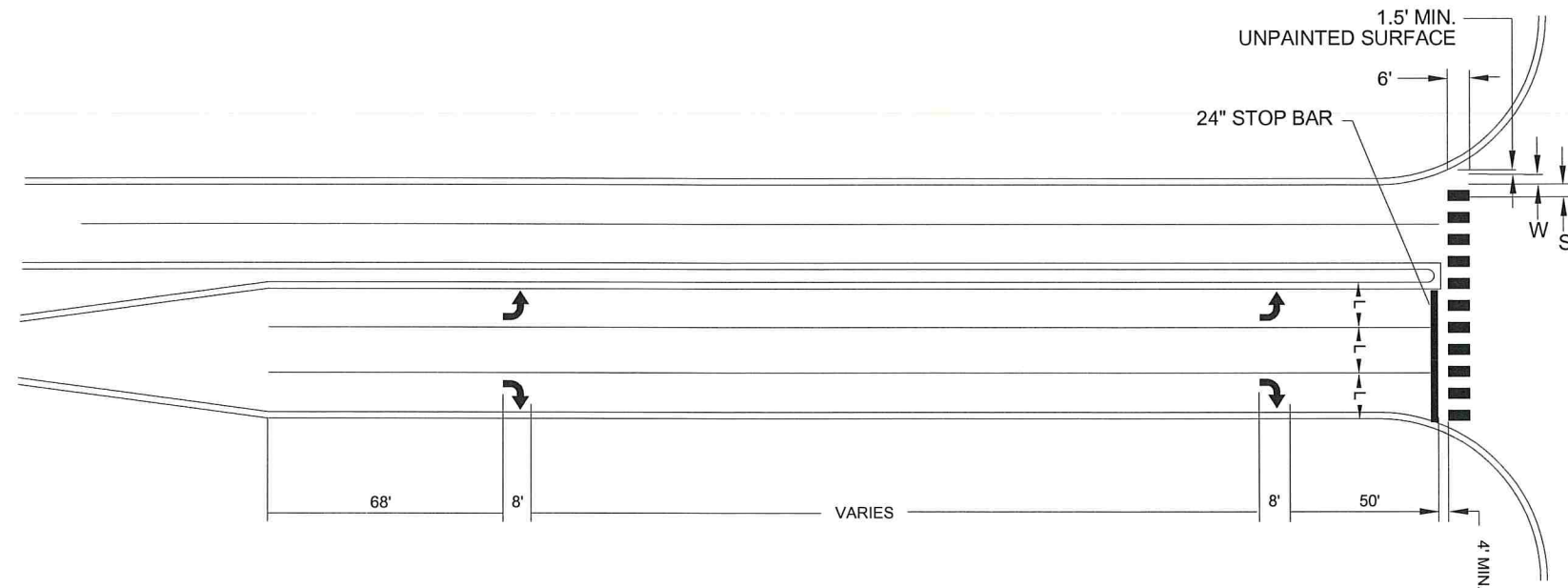
STATE AID PROJECT 002-635-013  
STATE AID PROJECT 183-101-012

**SIGNING & STRIPING  
DETAILS**

Sheet 16 of 21 Sheets



# MARKINGS FOR PEDESTRIAN CROSSWALKS



| (L)                  | (W)                    | (S)            |
|----------------------|------------------------|----------------|
| WIDTH OF INSIDE LANE | WIDTH OF PAINTED AREAS | WIDTH OF SPACE |
| 9'                   | 2.0'                   | 2.5'           |
| 10'                  | 2.5'                   | 2.5'           |
| 11'                  | 2.5'                   | 3.0'           |
| 12'                  | 3.0'                   | 3.0'           |
| 13'                  | 3.0'                   | 3.5'           |

### NOTES: CROSSWALKS:

- 1.) PAINTED AREAS ARE TO BE CENTERED ON CENTER AND LANE LINES, EVEN IF INTERSECTION IS NOT ALIGNED.
- 2.) LOCATION OF ZEBRA CROSSWALKS AND STOP BARS, SIGNAL LOOPS AND PED RAMPS ARE APPROXIMATE. FINAL LOCATIONS ARE TO BE DETERMINED AND FIELD VERIFIED DURING CONSTRUCTION BY THE FIELD ENGR.
- 3.) ZEBRA CROSSWALKS ARE TO BE PARALLEL TO THE DRIVING LANE OR LANES. EVEN IF THE STREET IS ON AN ANGLE TO THE INTERSECTION.
- 4.) A MIN. OF 1.5' (450mm) CLEAR DISTANCE MUST BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS AREA, IT MUST BE OMITTED.
- 5.) ON TWO LANE STREETS, USE SPACING SHOWN FOR AN 11' (3.3mm) INSIDE LANE.

| NO | DATE | BY | CKD | APPR | REVISION |
|----|------|----|-----|------|----------|
|    |      |    |     |      |          |
|    |      |    |     |      |          |

NAME: P:\21-01-00\CSAH\_35\_(81st-TH10)\Base\Traffic\Sign&Stripe Details.dwg

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

PRINT NAME: JOSEPH J. MACPHERSON, P.E.

SIGNATURE: *[Signature]*

DATE: 3-3-21 LICENSE NO. 46732

DRAWN BY: TMV DATE: 12/21/20

DESIGN BY: TMV DATE: 12/21/20

CHECKED BY: CO DATE: 01/27/21



**ANOKA COUNTY  
HIGHWAY DEPT.**

STATE AID PROJECT 002-635-013  
STATE AID PROJECT 183-101-012

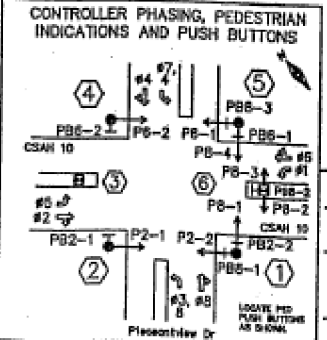
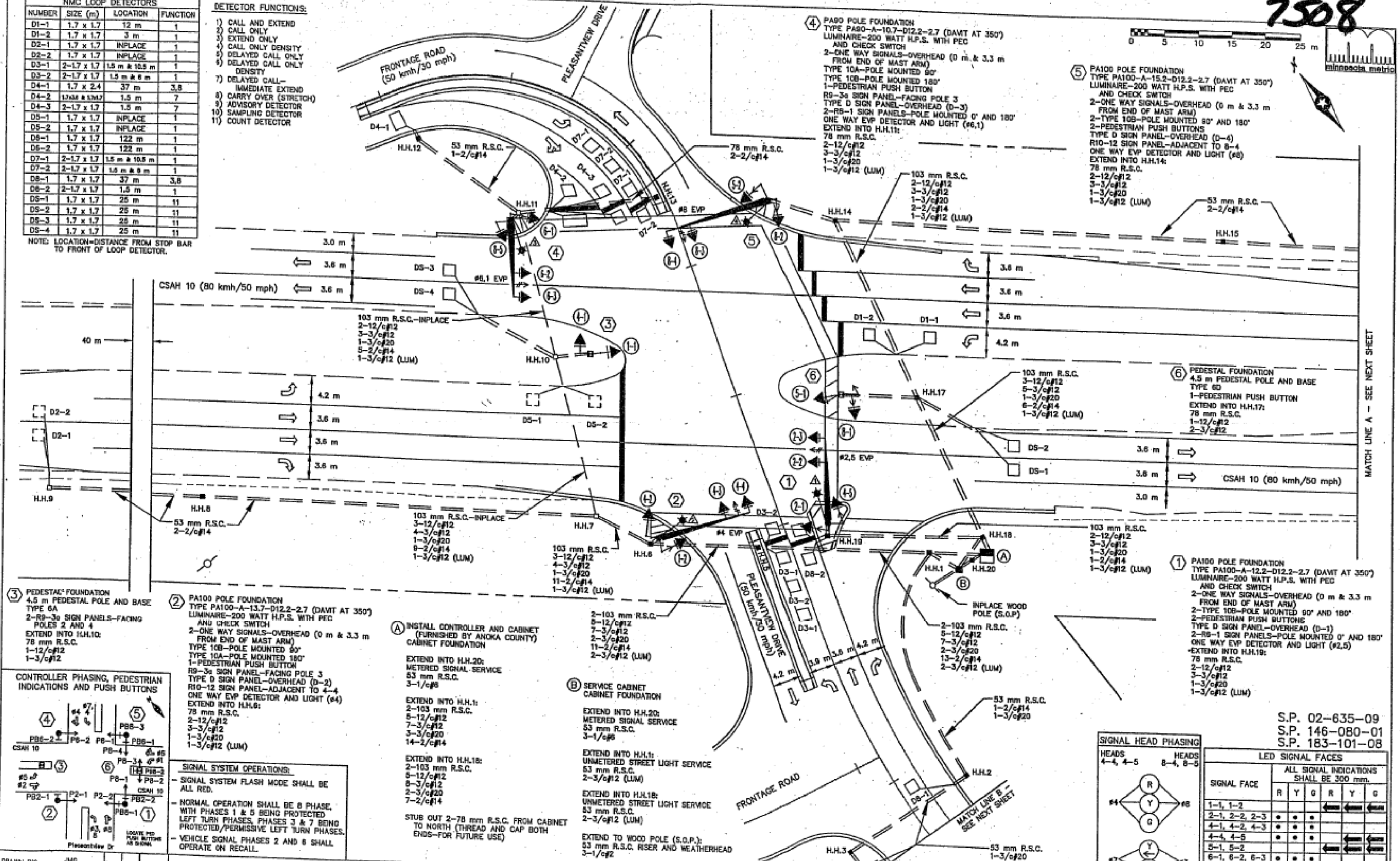
SIGNING & STRIPING  
DETAILS

7508

| NMC LOOP DETECTORS |             |                |          |
|--------------------|-------------|----------------|----------|
| NUMBER             | SIZE (m)    | LOCATION       | FUNCTION |
| D1-1               | 1.7 x 1.7   | 12 m           | 1        |
| D1-2               | 1.7 x 1.7   | 3 m            | 1        |
| D2-1               | 1.7 x 1.7   | INPLACE        | 1        |
| D2-2               | 1.7 x 1.7   | INPLACE        | 1        |
| D3-1               | 2-1.7 x 1.7 | 1.5 m & 10.5 m | 1        |
| D3-2               | 2-1.7 x 1.7 | 1.5 m & 8 m    | 1        |
| D4-1               | 1.7 x 2.4   | 37 m           | 3,8      |
| D4-2               | 1.7 x 2.4   | 1.5 m          | 7        |
| D4-3               | 2-1.7 x 1.7 | 1.5 m          | 7        |
| D5-1               | 1.7 x 1.7   | INPLACE        | 1        |
| D5-2               | 1.7 x 1.7   | INPLACE        | 1        |
| D6-1               | 1.7 x 1.7   | 122 m          | 1        |
| D6-2               | 1.7 x 1.7   | 122 m          | 1        |
| D7-1               | 2-1.7 x 1.7 | 1.5 m & 10.5 m | 1        |
| D7-2               | 2-1.7 x 1.7 | 1.5 m & 8 m    | 1        |
| D8-1               | 1.7 x 1.7   | 37 m           | 3,8      |
| D8-2               | 2-1.7 x 1.7 | 1.5 m          | 1        |
| D9-1               | 1.7 x 1.7   | 25 m           | 11       |
| D9-2               | 1.7 x 1.7   | 25 m           | 11       |
| D9-3               | 1.7 x 1.7   | 25 m           | 11       |
| D9-4               | 1.7 x 1.7   | 25 m           | 11       |

- 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) COUNT DETECTOR

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



**SIGNAL SYSTEM OPERATIONS:**

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 8 PHASE, WITH PHASES 1 & 5 BEING PROTECTED LEFT TURN PHASES, PHASES 3 & 7 BEING PROTECTED/PERMISSIVE LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

|             |             |
|-------------|-------------|
| DRAWN BY:   | JMG         |
| DESIGNER:   | JMG         |
| CHECKED BY: | JMG         |
| DESIGN TEAM | NO. BY DATE |
| REVISIONS   |             |

© SHORT ELLIOTT HENDRICKSON 1998. ANY USE OR REUSE OF THIS PLAN/DRAWING AND THE CORRESPONDING COMPUTER AIDED DESIGN/DRAWING FILES WITHOUT THE EXPRESS WRITTEN CONSENT OF SEH, IS PROHIBITED. SEH SHALL NOT BE RESPONSIBLE FOR ANY UNAUTHORIZED USE OR REUSE OF THESE MATERIALS, OR DAMAGES RESULTING THEREFROM.

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

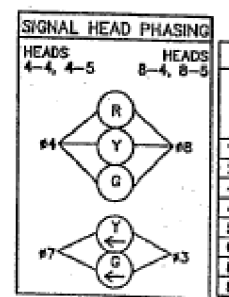
*John M. Gray, P.E.*  
 Date: August 27, 2001  
 License No.: 22452



**ANOKA & RAMSEY COUNTIES, MINNESOTA**  
 CITIES OF MOONDA VIEW & SPRING LAKE PARK

**TRAFFIC SIGNAL SYSTEM INTERSECTION LAYOUT**  
 CSAH 10 AT PLEASANTVIEW DRIVE

FILE NO. 47  
 ANOKA0105.00  
 DATE 05/27/01



**LED SIGNAL FACES**

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

FOR REFERENCE PURPOSES ONLY

|   |      |    |     |      |          |            |             |
|---|------|----|-----|------|----------|------------|-------------|
| NO.   | DATE | BY | CKD | APPR | REVISION | 03/02/2021 | 12:14:48 PM |
| NAME: P:\21-01-00\CSAH_35_(81ST-TH10)\Base\Proposed\CSAH35_SIGNAL.dgn |      |    |     |      |          |            |             |

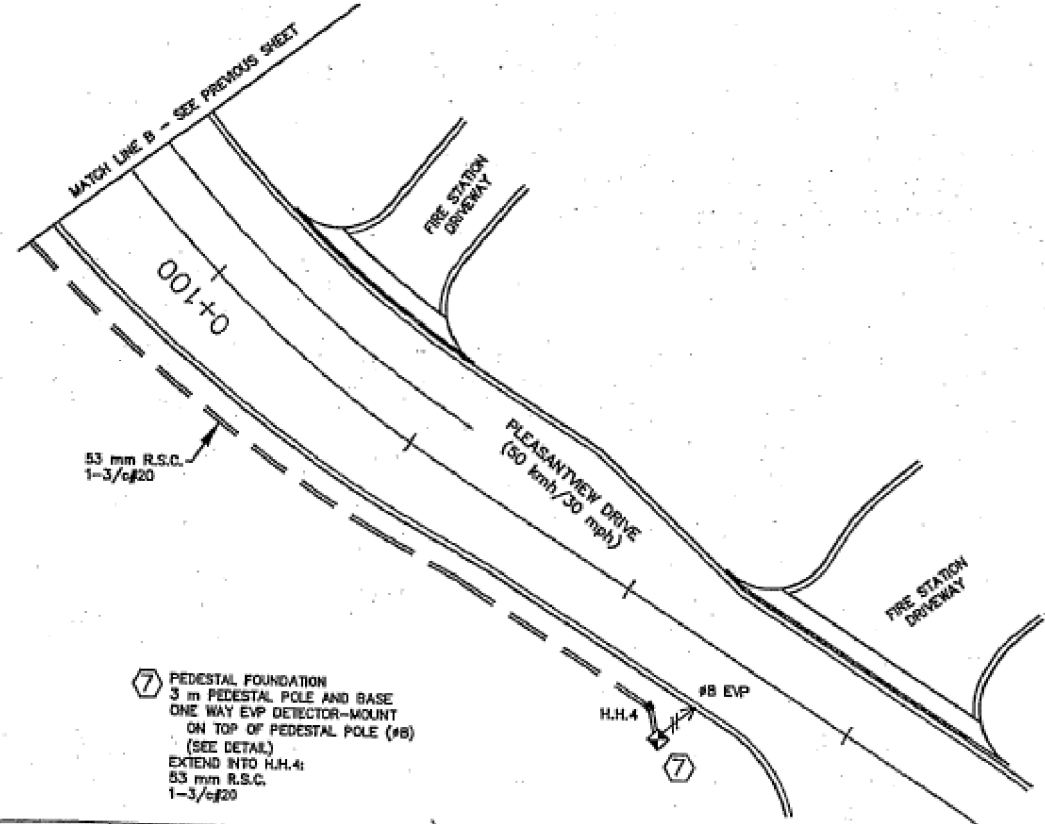
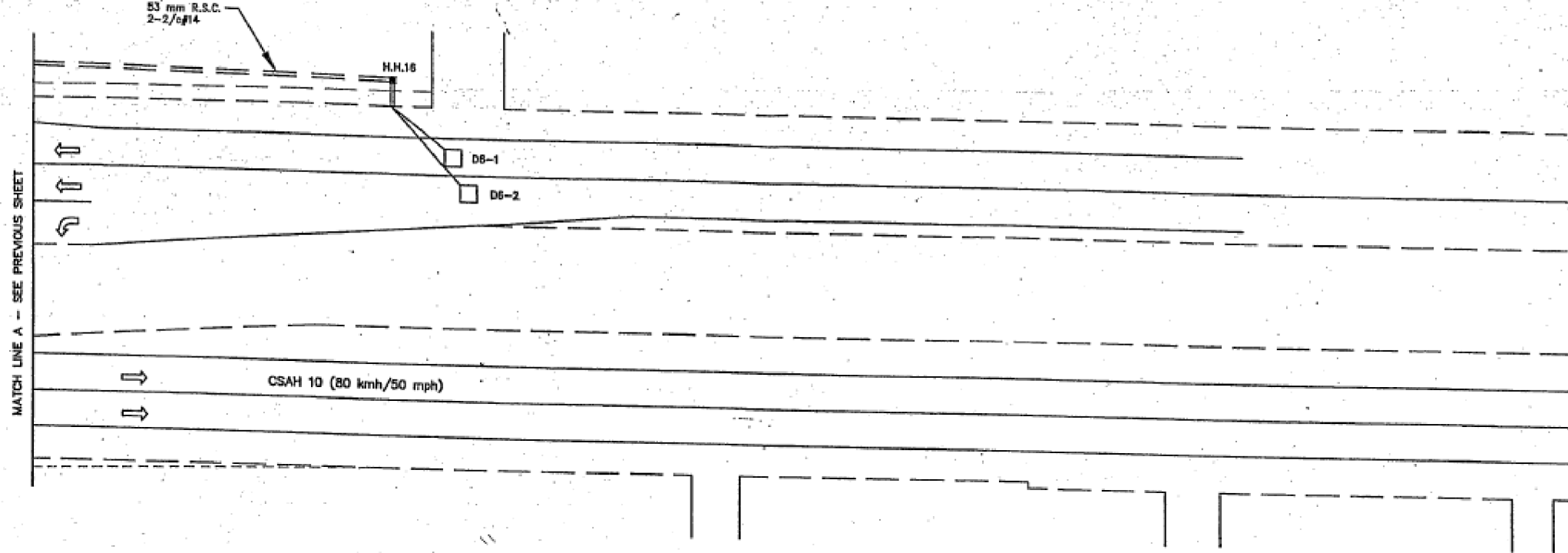
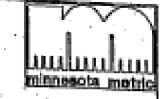
|            |      |
|------------|------|
| DRAWN BY   | DATE |
| DESIGN BY  | DATE |
| CHECKED BY | DATE |

**ANOKA COUNTY HIGHWAY DEPT.**

STATE AID PROJECT 002-635-013  
 STATE AID PROJECT 183-101-012

EXISTING SIGNAL PLANS  
 Sheet 18 of 21 Sheets

8025



- 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 (XLPE) IN 19 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. W8114A.
  - 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 VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED. SEE SPECIAL PROVISIONS.
  - 8) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED VEHICLE AND PEDESTRIAN SIGNAL FACE.
  - 9) A 21 mm HALF COUPLING, 21 mm PIPE NIPPLE AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 1.8 m FROM END OF EACH MAST ARM (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) CONTRACTOR SHALL COORDINATE INSTALLATION OF ALL TRAFFIC SIGNAL MATERIALS WITH ROAD CONSTRUCTION TO BE COMPLETED BY OTHERS.



7 PEDESTAL FOUNDATION  
 3 m PEDESTAL POLE AND BASE  
 ONE WAY EVP DETECTOR—MOUNT  
 ON TOP OF PEDESTAL POLE (#8)  
 (SEE DETAIL)  
 EXTEND INTO H.H.4:  
 53 mm R.S.C.  
 1-3/c#20

S.P. 02-635-09  
 S.P. 146-080-01  
 S.P. 183-101-08

|               |               |                 |
|---------------|---------------|-----------------|
| DRAWN BY: JMG | DESIGNER: JMG | CHECKED BY: JMG |
| DESIGN TEAM   | NG. BY        | DATE            |
|               |               |                 |
|               |               |                 |
|               |               |                 |
|               |               |                 |
|               |               |                 |
|               |               |                 |

©SHORT ELLIOTT HENDRICKSON 1998. ANY USE OR REUSE OF THIS PLAN/DRAWING AND THE CORRESPONDING COMPUTER AIDED DESIGN/CHAFFING FILES WITHOUT THE EXPRESS WRITTEN CONSENT OF SEH IS PROHIBITED. SEH SHALL NOT BE RESPONSIBLE FOR ANY UNAUTHORIZED USE OR REUSE OF THESE MATERIALS, OR DAMAGES RESULTING THEREFROM.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 Date: August 27, 2007  
 Name: John M. Gray, P.E.  
 Lic. No.: 22457



ANOKA & RAMSEY COUNTIES, MINNESOTA  
 CITIES OF MOUNDS VIEW & SPRING LAKE PARK

TRAFFIC SIGNAL SYSTEM INTERSECTION LAYOUT  
 CSAH 10 AT PLEASANTVIEW DRIVE

|                           |    |
|---------------------------|----|
| FILE NO. AA/ANOK/00105.00 | 48 |
| DATE 08/27/01             | 64 |

|    |      |    |     |      |          |            |             |
|----|------|----|-----|------|----------|------------|-------------|
| NO | DATE | BY | CKD | APPR | REVISION | 03/02/2021 | 12:41:56 PM |
|    |      |    |     |      |          |            |             |

NAME: P:\21-01-00\CSAH\_35\_(81ST-TH10)\Base\Proposed\CSAH35\_SIGNAL.dgn

DRAWN BY \_\_\_\_\_ DATE \_\_\_\_\_  
 DESIGN BY \_\_\_\_\_ DATE \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_



ANOKA COUNTY  
 HIGHWAY DEPT.

STATE AID PROJECT 002-635-013  
 STATE AID PROJECT 183-101-012

EXISTING SIGNAL PLANS  
 Sheet 19 of 21 Sheets

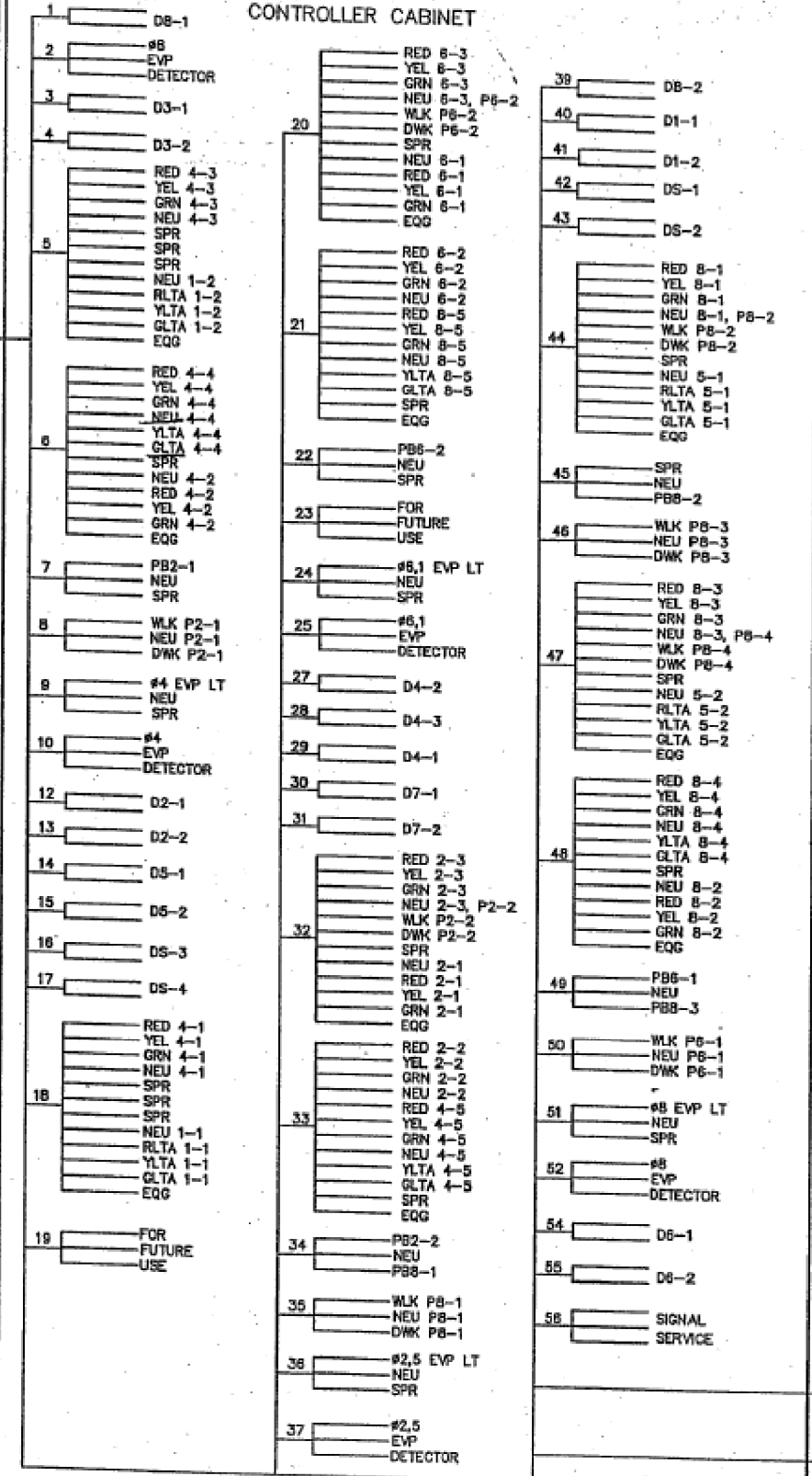
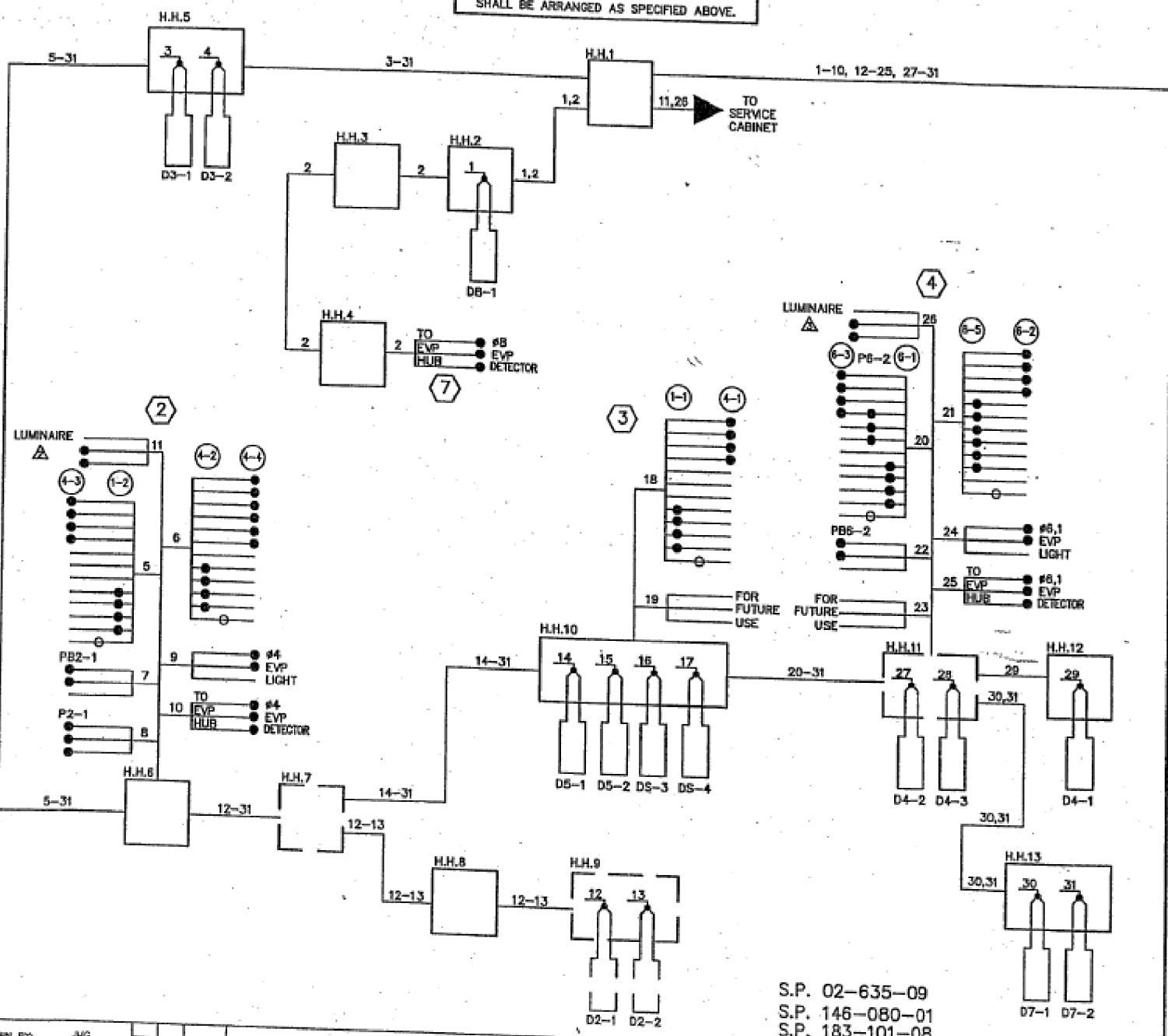
FOR REFERENCE PURPOSES ONLY

7508

**CONDUCTOR COLOR CODING**

|        |       |          |
|--------|-------|----------|
| R      | BLK   | 2-1/c#4  |
| O      | WH    | 2-1/c#8  |
| BL     | R     | 3/c#12   |
| R/BLK  | WH    | 2-1/c#10 |
| O/BLK  | BLK   |          |
| BL/BLK | BLK   |          |
| BLK/WH | BLK   |          |
| BLK    | BLK   |          |
| Y/BLK  | BLK   |          |
| Y      | CLEAR | 2/c#14   |
| WH     | BL    | 3/c#20   |
| G      | O     |          |
|        | Y     |          |
|        | BL    | 3/c#20   |
|        | O     |          |

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



S.P. 02-635-09  
S.P. 146-080-01  
S.P. 183-101-08

DESIGN TEAM

| NO. | BY | DATE | REVISIONS |
|-----|----|------|-----------|
|     |    |      |           |
|     |    |      |           |
|     |    |      |           |

SHORT ELLIOTT HENDRICKSON 1998. ANY USE OR REUSE OF THIS PLAN/DRAWING AND THE CORRESPONDING COMPUTER AIDED DESIGN/DRAWING FILES WITHOUT THE EXPRESS WRITTEN CONSENT OF SEH, IS PROHIBITED. SEH SHALL NOT BE RESPONSIBLE FOR ANY UNAUTHORIZED USE OR REUSE OF THESE MATERIALS, OR DAMAGES RESULTING THEREFROM.

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

John M. Gray, P.E.  
Lic. No. 22452  
Date: August 27, 2021



**ANOKA & RAMSEY COUNTIES, MINNESOTA**  
CITIES OF MOUNDS VIEW & SPRING LAKE PARK

**TRAFFIC SIGNAL SYSTEM**  
FIELD WIRING DIAGRAM  
CSAH 10 AT PLEASANTVIEW DRIVE

FILE NO. 49  
AANOKC0105.00  
DATE 06/27/01

FOR REFERENCE PURPOSES ONLY

| NO. | DATE | BY | CKD | APPR | REVISION | 03/02/2021 | 12:42:04 PM |
|-----|------|----|-----|------|----------|------------|-------------|
|     |      |    |     |      |          |            |             |
|     |      |    |     |      |          |            |             |

NAME: P:\21-01-00\CSAH\_35\_(81ST-TH10)\Base\Proposed\CSAH35\_SIGNAL.dgn

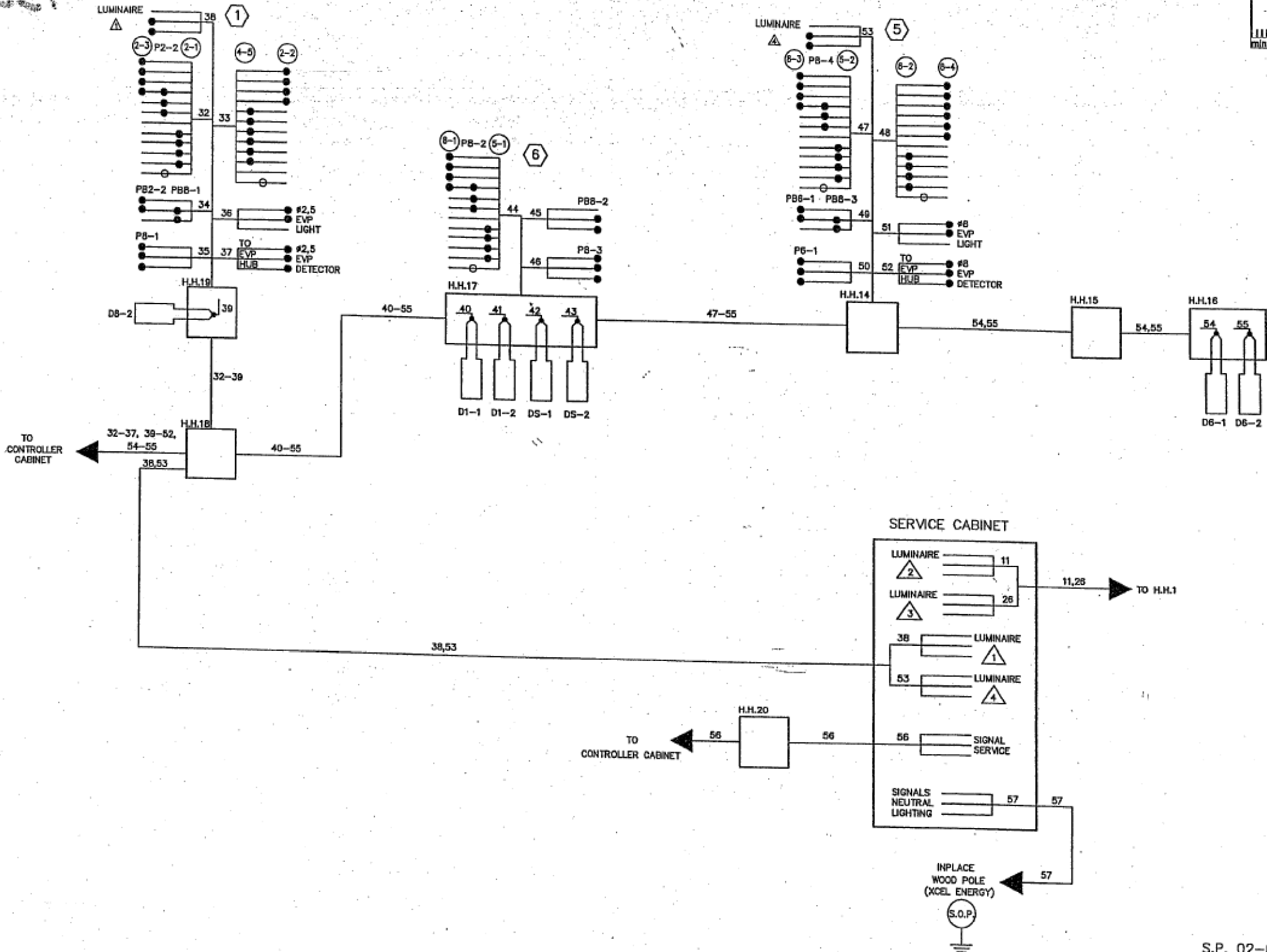
|            |      |
|------------|------|
| DRAWN BY   | DATE |
| DESIGN BY  | DATE |
| CHECKED BY | DATE |

**ANOKA COUNTY**  
HIGHWAY DEPT.

STATE AID PROJECT 002-635-013  
STATE AID PROJECT 183-101-012

EXISTING SIGNAL PLANS  
Sheet 20 of 21 Sheets

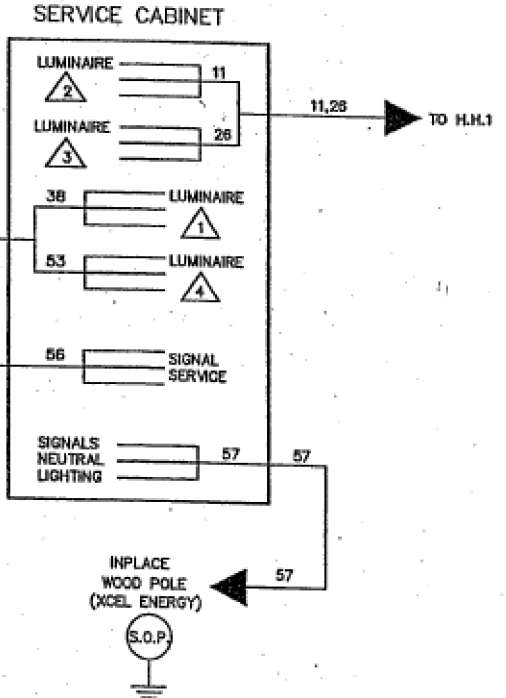
8027



**CONDUCTOR COLOR CODING**

|         |        |          |
|---------|--------|----------|
| R       | BLK    | 2-1/c#4  |
| O       | WH     | 2-1/c#5  |
| R/BLK   | WH     | 2-1/c#10 |
| O/BLK   | R      | 3/c#12   |
| 12/c#12 | BL/BLK | BLK      |
|         | BLK/WH | BLK      |
|         | Y/BLK  | BLK      |
|         | Y      | BLK      |
|         | WH     | CLEAR    |
|         | O      | 2/c#4    |
|         |        | 3/c#20   |

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



|             |     |    |      |           |  |
|-------------|-----|----|------|-----------|--|
| DRAWN BY:   | JMG |    |      |           |  |
| DESIGNER:   | JMG |    |      |           |  |
| CHECKED BY: | JMG |    |      |           |  |
| DESIGN TEAM | NO. | BY | DATE | REVISIONS |  |

©SHORT ELLIOTT HENDRICKSON 1999. ANY USE OR REUSE OF THIS PLAN/DRAWING AND THE CORRESPONDING COMPUTER AIDED DESIGN/DRAFTING FILES WITHOUT THE EXPRESS WRITTEN CONSENT OF SEH, IS PROHIBITED. SEH SHALL NOT BE RESPONSIBLE FOR ANY UNAUTHORIZED USE OR REUSE OF THESE MATERIALS, OR DAMAGES RESULTING THEREFROM.

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

*John M. Gray*  
Name: John M Gray, P.E.  
Date: August 27, 2008  
Lic. No. 22457



ANOKA & RAMSEY COUNTIES, MINNESOTA  
CITIES OF MOUNDS VIEW & SPRING LAKE PARK

S.P. 02-635-09  
S.P. 146-080-01  
S.P. 183-101-08

TRAFFIC SIGNAL SYSTEM  
FIELD WIRING DIAGRAM  
CSAH 10 AT PLEASANTVIEW DRIVE

|               |          |
|---------------|----------|
| FILE NO.      | 50       |
| AANOKC0105.00 |          |
| DATE          | 08/27/01 |

FOR REFERENCE PURPOSES ONLY

|   |      |    |     |      |          |            |             |
|---|------|----|-----|------|----------|------------|-------------|
| NO.   | DATE | BY | CKD | APPR | REVISION | 03/02/2021 | 12:42:12 PM |
| NAME: P:\21-01-00\CSAH_35_(81ST-TH10)\Base\Proposed\CSAH35_SIGNAL.dgn |      |    |     |      |          |            |             |

|            |      |
|------------|------|
| DRAWN BY   | DATE |
| DESIGN BY  | DATE |
| CHECKED BY | DATE |

|            |      |
|------------|------|
| DRAWN BY   | DATE |
| DESIGN BY  | DATE |
| CHECKED BY | DATE |

**ANOKA COUNTY HIGHWAY DEPT.**

|                   |             |
|-------------------|-------------|
| STATE AID PROJECT | 002-635-013 |
| STATE AID PROJECT | 183-101-012 |

|                       |
|-----------------------|
| EXISTING SIGNAL PLANS |
| Sheet 21 of 21 Sheets |