

MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

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

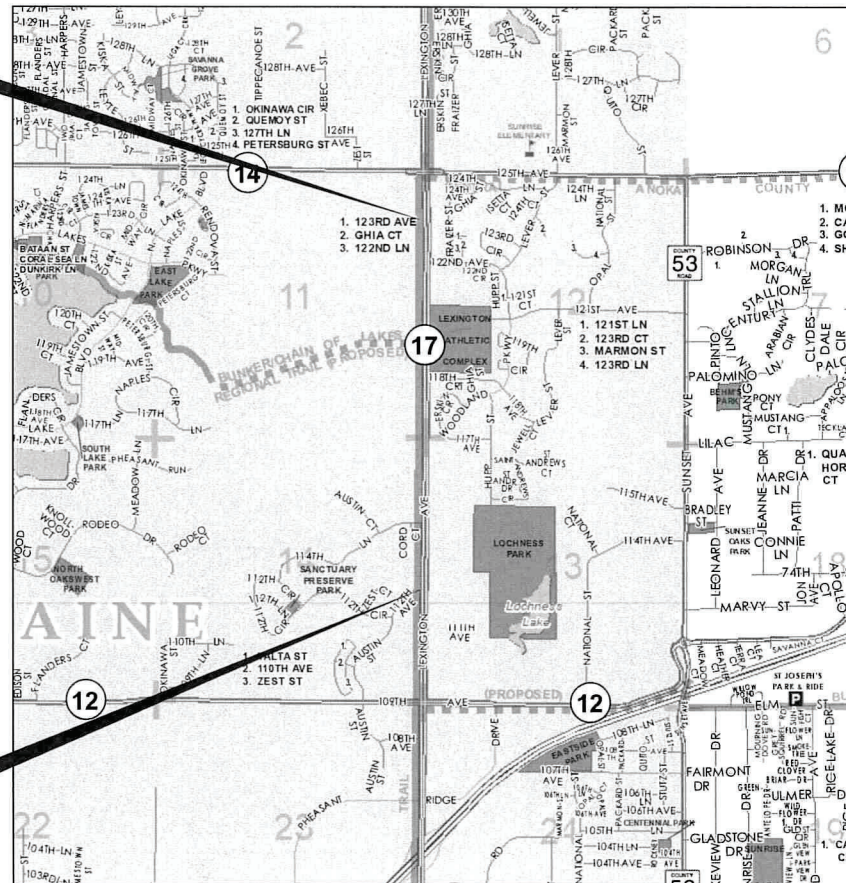
LOCATED ON CSAH 17 BETWEEN 112TH AVE. NE AND 400' SOUTH OF CSAH 14

CSAH 17

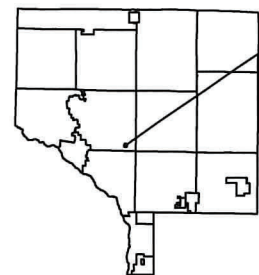
GROSS LENGTH 7942.64 FEET 1.504 MILES
 EXCEPTIONS-LENGTH 0.00 FEET 0.000 MILES
 NET LENGTH 7942.64 FEET 1.504 MILES

END SAP 002-617-032
 CSAH 17, STA: 164+24.38

BEGIN SAP 002-617-032
 CSAH 17, STA: 84+81.73



PROJECT LOCATION



| DESIGN DESIGNATION (CSAH 17) | | | |
|------------------------------|----------------------|-----------------------------------|--|
| ESAL 20 | <u>2,561,446</u> | FUNCTIONAL CLASSIFICATION | <u>A-MINOR EXPANDER</u> |
| R VALUE | <u>75</u> | NO. OF TRAFFIC LANES | <u>4</u> NO. OF PARKING LANES <u>0</u> |
| ADT (2024) | <u>21,682</u> | DESIGN SPEED | <u>55</u> MPH |
| PROJ. ADT (2044) | <u>21,682</u> | STOPPING SIGHT DISTANCE BASED ON: | |
| PROJ. HCADT (2044) | <u>1279</u> | HEIGHT OF EYE | <u>3.5'</u> HEIGHT OF OBJECT <u>2.0'</u> |
| SOIL FACTOR | <u>N/A</u> | DESIGN SPEED NOT ACHIEVED AT: | |
| | <u>10</u> TON DESIGN | STA. _____ TO STA. _____ | MPH _____ |

CITY OF BLAINE
 ANOKA COUNTY
 MN/DOT TRANSPORTATION DISTRICT - METRO
 SECTION 11, 12, 13 & 14
 TOWNSHIP 31 NORTH
 RANGE 23 WEST

GOVERNING SPECIFICATIONS

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.
 ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

THIS PLAN CONTAINS 39 SHEETS

INDEX

| SHEET NO. | DESCRIPTION |
|-----------|--|
| 1 | TITLE SHEET |
| 2 | STATEMENT OF ESTIMATED QUANTITIES |
| 3-4 | STORM SEWER TABULATIONS |
| 5-7 | TYPICAL SECTIONS |
| 8-10 | DETAILS |
| 11-13 | CONSTRUCTION PLAN |
| 14 | PERMANENT PAVEMENT MARKING PLAN DETAILS |
| 15 - 18 | TEMPORARY SIGNING AND PERMANENT STRIPING |
| 19 - 39 | EXISTING SIGNAL PLANS |


Approved  1-22, 2024
 ANOKA COUNTY ENGINEER

Approved Daniel Schluender 1.24, 2024
 CITY OF BLAINE ENGINEER


Lucas Lortie Digitally signed by Lucas Lortie
 Date: 2024.01.24 14:24:44
 -06'00' _____, 20____
 DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY For
Lucas Lortie Digitally signed by Lucas Lortie
 Date: 2024.01.24 14:24:58
 -06'00' _____, 20____
 STATE AID ENGINEER:
 APPROVED FOR STATE AID FUNDING For

| NO | DATE | BY | CKD | APPR | REVISION | | |
|----|------|----|-----|------|----------|------------|------------|
| | | | | | | 01/09/2024 | 1:48:33 PM |

NAME: P:\24-01-00\CSAH_17_(CSAH 12 TO MAIN ST.)\Base\Proposed\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: 12-08-2023 LICENSE NO. 26511

DRAWN BY SPH DATE 12/06/23
 DESIGN BY SPH DATE 12/06/23
 CHECKED BY CSO DATE 12/06/23

 **ANOKA COUNTY**
HIGHWAY DEPT.

STATE AID PROJECT 002-617-032

TITLE SHEET
 Sheet 1 of 39 Sheets

STATEMENT OF ESTIMATED QUANTITIES

| Notes | Item Number | Code | ITEM DESCRIPTION | Unit | TOTAL PROJECT QUANTITIES ESTIMATED |
|----------|-------------|-------|--|----------|------------------------------------|
| | 2021.501 | 00010 | MOBILIZATION | LUMP SUM | 1 |
| | 2104.502 | 00910 | REMOVE DRAINAGE STRUCTURE | EACH | 1 |
| 1 | 2104.503 | 00195 | SAWING CONCRETE PAVEMENT (FULL DEPTH) | LIN FT | 105 |
| 1 | 2104.503 | 00205 | SAWING BITUMINOUS PAVEMENT (FULL DEPTH) | LIN FT | 535 |
| | 2104.503 | 00315 | REMOVE CURB AND GUTTER | LIN FT | 510 |
| 1,2 | 2104.504 | 00120 | REMOVE BITUMINOUS PAVEMENT | SQ YD | 3355 |
| 27 | 2105.607 | 00015 | COMMON EXCAVATION | CU YD | 1018 |
| | 2105.607 | 00030 | MUCK EXCAVATION | CU YD | 100 |
| | 2105.607 | 00050 | SUBGRADE EXCAVATION | CU YD | 1911 |
| | 2105.607 | 00190 | SELECT GRANULAR BORROW (LV) | CU YD | 2676 |
| 27 | 2105.607 | 00380 | COMMON BORROW (CV) | CU YD | 908 |
| 3 | 2123.510 | 00020 | MOTOR GRADER | HOUR | 8 |
| 4, 27 | 2123.510 | 00130 | DOZER | HOUR | 12 |
| 5 | 2130.523 | 00010 | WATER | MGALLON | 20 |
| 6,7, 27 | 2211.509 | 00070 | AGGREGATE BASE CLASS 5 | TON | 671 |
| 8 | 2221.509 | 00080 | SHOULDER BASE AGGREGATE CLASS 5 | TON | 1221 |
| 9 | 2232.504 | 00060 | MILL BITUMINOUS SURFACE (2.0") | SQ YD | 60620 |
| 10 | 2232.604 | 00470 | MILL BITUMINOUS PAVEMENT (SPECIAL) | SQ YD | 601 |
| | 2357.506 | 00010 | BITUMINOUS MATERIAL FOR TACK COAT | GALLON | 3631 |
| 11 | 2360.509 | 20100 | TYPE SP 12.5 BITUMINOUS MIXTURE FOR PATCHING | TON | 11 |
| 12, 27 | 2360.509 | 24300 | TYPE SP 12.5 WEARING COURSE MIXTURE (4;C) | TON | 169 |
| | 2360.509 | 24300 | TYPE SP 12.5 WEARING COURSE MIXTURE (4;C) | TON | 7769 |
| | 2502.602 | 00170 | CONNECT TO EXISTING PIPE DRAIN | EACH | 2 |
| 14 | 2506.502 | 06000 | CASTING ASSEMBLY | EACH | 20 |
| 13 | 2506.503 | 00070 | CONSTRUCT DRAINAGE STRUCTURE DESIGN G | LIN FT | 4.6 |
| 15 | 2506.602 | 06040 | GROUT CATCH BASIN OR MANHOLE | EACH | 84 |
| | 2506.602 | 06110 | CLEAN OUT CATCH BASIN | EACH | 2 |
| | 2506.602 | 06360 | REPAIR CATCH BASINS | EACH | 1 |
| 17 | 2521.518 | 00040 | 4" CONCRETE WALK | SQ FT | 1363 |
| | 2531.503 | 02120 | CONCRETE CURB AND GUTTER DESIGN B424 | LIN FT | 660 |
| | 2531.602 | 00110 | CONCRETE MEDIAN NOSE-SPECIAL | EACH | 1 |
| 16 | 2550.602 | 09970 | LOOP DETECTOR DESIGN NMC PERFORMED | EACH | 1 |
| | 2563.601 | 00001 | TRAFFIC CONTROL SUPERVISOR | LUMP SUM | 1 |
| 18,19,20 | 2563.601 | 00010 | TRAFFIC CONTROL | LUMP SUM | 1 |
| 21 | 2563.613 | 01100 | PORTABLE CHANGEABLE MESSAGE SIGN | UNIT DAY | 20 |
| 22 | 2573.502 | 00110 | STORM DRAIN INLET PROTECTION | EACH | 104 |
| | 2574.507 | 00100 | COMMON TOPSOIL BORROW | CU YD | 122 |
| 23 | 2575.508 | 40003 | HYDRAULIC REINFORCED FIBER MATRIX | POUND | 515 |
| 24 | 2581.503 | 00010 | REMOVABLE PREFORMED PAVEMENT MARKING TAPE | LIN FT | 1469 |
| 25 | 2582.503 | 60104 | 4" SOLID LINE PREFORM TAPE GROUND IN (WR) | LIN FT | 35696 |
| 25 | 2582.503 | 60204 | 4" BROKEN LINE PREFORM TAPE GROUND IN (WR) | LIN FT | 3610 |
| 26 | 2582.503 | 76124 | 24" SOLID LINE PREFORM THERMO GROUND IN | LIN FT | 444 |
| 26 | 2582.518 | 04000 | PAVEMENT MESSAGE PREFORM THERMOPLASTIC | SQ FT | 248 |
| 26 | 2582.518 | 08020 | CROSSWALK PREFORM THERMOPLASTIC GROUND IN | SQ FT | 1650 |

CONSTRUCTION NOTES

| | |
|----|--|
| 1 | REFERENCE DETAILS (PAGE 9) FOR REMOVAL DETAILS |
| 2 | ITEM USED FOR THE REMOVAL OF BITUMINOUS PAVEMENT FOR SUBCUT AREA, TEMPORARY BYPASS SECTION, MAINLINE TURN LANE, AND NEW CONCRETE MEDIAN AREAS. |
| 3 | ITEM USED TO MOVE CLASS 5 MATERIAL AT THE SUBCUT AREA LIMITS TO CREATE A SMOOTH TRANSITION BETWEEN THE PROPOSED AND EXISTING PAVEMENT. |
| 4 | TO BE USED FOR DITCH GRADING AND FOR DRESSING DISTURBED AREAS AFTER CLEARING AND GRUBBING. |
| 5 | WATER TO BE USE FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. |
| 6 | GRAVEL BASE FOR CONCRETE AND BITUMINOUS STREET APPROACHES AND DRIVEWAYS. |
| 7 | ITEM TO BE USED AS BASE FOR NEW CONCRETE WALK AND CURB PATCHES. |
| 8 | ITEM INCLUDES 7 TONS FOR EACH GRAVEL ENTRANCE AND GRAVEL STREET APPROACH. |
| 9 | DETAIL MILLING AROUND MANHOLES, CATCH BASINS, GATE VALVES, AND ALONG CURB LINE IS INCIDENTAL TO THIS ITEM. |
| 10 | TO BE USED FOR MILLING STREET APPROACHES AND/OR DETAIL MILLING AREAS AS IDENTIFIED IN THE PLAN. |
| 11 | ITEM INCLUDES BITUMINOUS PATCHING AROUND NEW CURB, STORM STRUCTURE REPAIRS, AND ANY POTHOLES. |
| 12 | STREET APPROACHES SHALL BE PAVED AFTER MAINLINE, AND BEFORE FINAL STRIPING |
| 13 | PAY HEIGHT IS MEASURED FROM INVERT OF OUTLET PIPE TO TOP OF PRECAST CONCRETE STRUCTURE PLUS AN ALLOWANCE OF 0.70 FEET FOR THE DEPTH OF THE CONCRETE BASE, REGARDLESS OF ITS ACTUAL THICKNESS. CONCRETE ADJUSTMENT RINGS ARE INCIDENTAL. CONNECTIONS TO EXISTING STORM SEWER ARE INCIDENTAL. |
| 14 | 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 |
| 15 | ITEM INCLUDES GROUTING OF INVERTS, DOGHOUSES, RINGS, STRUCTURES AND CASTINGS AS DIRECTED BY PLAN AND ENGINEER. SEE DRAINAGE TAB, PAGE 3-4. |
| 16 | LOOP REPLACEMENT REQUIRED ONLY IF DAMAGED DURING CONSTRUCTION OPERATIONS. EXISTING SIGNAL PLANS ARE INCLUDED AT THE END OF THIS PLAN. |
| 17 | ITEM USED FOR CONCRETE MEDIAN. |
| 18 | CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN TEMPORARY SIGNAGE WHENEVER EXISTING SIGNAGE IS REMOVED. TEMPORARY SIGNAGE SHALL BE INCIDENTAL TO TRAFFIC CONTROL. |
| 19 | 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 |
| 20 | DO NOT PASS, PASS WITH CARE AND NO CENTER STRIPE SIGNS MUST BE INPLACE DURING MILLING, RECLAIMING OR PAVING OPERATIONS. |
| 21 | 2 MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT, SHALL BE INSTALLED 10 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS. |
| 22 | ALL DRAINAGE STRUCTURES AFFECTED BY THIS PROJECT MUST HAVE INLET PROTECTION. |
| 23 | TYPE 3 FERTILIZER AND TYPE 25-121 SEED ARE INCIDENTAL TO THIS ITEM. SEE "BASIS OF PLANNED QUANTITIES" FOR APPLICATION RATES. |
| 24 | 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. ITEM INCLUDES QUANTITY OF REMOVABLE TAPE TO BE USED IN BYPASS AREAS. |
| 25 | FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING. CANNOT BE INSTALLED SOONER THAN 48 HOURS. |
| 26 | INCLUDES ALL THERMOPLASTIC STOP BARS, GORE AREA HATCHING, CROSSWALKS, LANE DESIGNATION ARROWS, AND PAVEMENT MESSAGES. |
| 27 | ITEM INCLUDED FOR CONSTRUCTION OF BYPASS AREA. SEE TAB ON PAGE 12 |

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 | SEED MIXTURE 25-121 | 61 LBS. / ACRE |
| 2574 | FERTILIZER TYPE 3 | 350 LBS. / ACRE |
| 2575 | HYDRAULIC REINFORCED FIBER MATRIX | 3900 LBS. / ACRE |

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT

MNDOT STANDARD PLATES

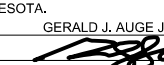
| PLATE NO. | DESCRIPTION |
|-----------|--|
| 4026B | CONCRETE ENCASED CONCRETE ADJUSTING RINGS |
| 4110F | COVER CASTING FOR MANHOLE (FOR USE IN ALL TRAFFIC AREAS) - CASTING NO. 715 AND 716 |
| 4134A | CURB BOX CASTING FOR CATCH BASIN (FOR DESIGN B CURBS)- CASTING NO. 825 |
| 7100H | CONCRETE CURB AND GUTTER (DESIGN B AND DESIGN V) |
| 7111J | INSTALLATION OF CATCH BASIN CASTINGS (CONCRETE CURB AND GUTTER) |
| 7113A | CONCRETE APPROACH NOSE DETAIL |
| 8000K | TEMPORARY CHANNELIZERS (3 SHEETS) |

| NO | DATE | BY | CKD | APPR | REVISION | |
|----|------------|----|-----|------|----------|------------|
| | 02/15/2024 | | | | | 9:51:38 AM |

NAME: P:\24-01-00\CSAH_17_(CSAH 12 TO MAIN ST.)\Base\Proposed\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. AUGER JR.

SIGNATURE: 

DATE: 12-08-2023 LICENSE NO. 26511

DRAWN BY DBK DATE 12/06/23

DESIGN BY DBK DATE 12/06/23

CHECKED BY CSO DATE 12/06/23



**ANOKA COUNTY
HIGHWAY DEPT.**

STATE AID PROJECT 002-617-032

STATEMENT OF ESTIMATED QUANTITIES

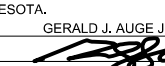
Sheet 2 of 39 Sheets

| STORM DRAINAGE TAB | | | | | | | | | | |
|--------------------|------|--------------|------------------|--------------------------------------|--------------------------|------------------|------------------------------|---------------------------------------|--|-------------------------------|
| NUMBER | TYPE | ACTION | NEW CASTING TYPE | FURNISH AND INSTALL CASTING ASSEMBLY | RING HEIGHT (INCIDENTAL) | REMOVE STRUCTURE | GROUT CATCH BASIN OR MANHOLE | CONSTRUCT DRAINAGE STRUCTURE DESIGN G | CONNECT TO EXISTING STORM SEWER (INCIDENTAL) | NOTES |
| | | | | EACH | LIN FT | EACH | EACH | LIN FT | EACH | |
| 100 | CB | GROUT | | | | | 1 | | | |
| 101 | CB | GROUT | | | | | 1 | | | |
| 102 | CB | RE-RING | B | 1 | 0.2 | | | | | |
| 103 | CB | RE-RING | A | 1 | 0.5 | | | | | |
| 104 | CB | RE-RING | A | 1 | 0.5 | | | | | |
| 105 | CB | GROUT | | | | | 1 | | | |
| 106 | CB | GROUT | | | | | 1 | | | |
| 107 | CB | GROUT | | | | | 1 | | | |
| 108 | CB | RE-RING | A | 1 | 0.5 | | | | | |
| 109 | CB | GROUT | | | | | 1 | | | |
| 110 | CB | GROUT | | | | | 1 | | | |
| 111 | CB | GROUT | | | | | 1 | | | |
| 112 | CB | RE-RING | A | 1 | 1.2 | | | | | |
| 113 | CB | GROUT | | | | | 1 | | | GROUT ALL |
| 114 | CB | GROUT | | | | | 1 | | | |
| 115 | CB | GROUT | | | | | 1 | | | |
| 116 | CB | GROUT | | | | | 1 | | | |
| 117 | CB | GROUT | | | | | 1 | | | |
| 118 | CB | GROUT | | | | | 1 | | | GROUT ALL |
| 119 | CB | GROUT | | | | | 1 | | | |
| 120 | CB | GROUT | | | | | 1 | | | GROUT RINGS |
| 121 | CB | GROUT | | | | | 1 | | | |
| 122 | CB | GROUT | | | | | 1 | | | |
| 123 | CB | GROUT | | | | | 1 | | | GROUT ALL |
| 124 | CB | RE-RING | A | 1 | 0.8 | | | | | |
| 125 | CB | GROUT | | | | | 1 | | | |
| 126 | CB | GROUT | | | | | 1 | | | |
| 127 | CB | GROUT | | | | | 1 | | | |
| 128 | CB | GROUT | | | | | 1 | | | |
| 129 | CB | GROUT | | | | | 1 | | | |
| 130 | CB | RE-RING | B | 1 | 0.4 | | | | | |
| 131 | CB | GROUT | | | | | 1 | | | |
| 132 | MH | OK | | | | | | | | |
| 133 | CB | CLEAN | | | | | | | | CLEAN |
| 134 | CB | GROUT | | | | | 1 | | | CLEAN & GROUT RINGS |
| 135 | CB | RE-CONSTRUCT | A | 1 | 0.6 | | | | | NEW HAT & GROUT SE,S DOGHOUSE |
| 136 | CB | RE-RING | A | 1 | 0.6 | | | | | CLEAN & GROUT DOGHOUSE |
| 137 | CB | GROUT | | | | | 1 | | | |
| 138 | CB | RE-RING | A | 1 | 1.0 | | | | | |
| 139 | CB | RE-RING | B | 1 | 0.9 | | | | | |
| 140 | CB | GROUT | | | | | 1 | | | |
| 141 | CB | RE-RING | A | 1 | 0.9 | | | | | |
| 142 | CB | RE-RING | A | 1 | 1.0 | | | | | |
| 143 | CB | GROUT | | | | | 1 | | | |
| 144 | CB | RE-RING | A | 1 | 0.4 | | | | | |
| 145 | CB | GROUT | | | | | 1 | | | |
| 146 | CB | RE-RING | A | 1 | 0.8 | | | | | |
| 147 | CB | RE-CONSTRUCT | A | 1 | 0.5 | 1 | | 4.6 | 2 | INV 3.7 N, INV 3.8 S |
| 148 | CB | GROUT | | | | | 1 | | | GROUT CASTING |
| 149 | CB | GROUT | | | | | 1 | | | GROUT RINGS |
| 150 | CB | GROUT | | | | | 1 | | | GROUT RINGS |
| 151 | CB | CLEAN | | | | | | | | CLEAN |
| 152 | CB | GROUT | | | | | 1 | | | GROUT RINGS & DOGHOUSE |
| 153 | CB | GROUT | | | | | 1 | | | GROUT ALL |
| 132A | CB | OK | | | | | | | | |
| 133A | CB | OK | | | | | | | | |
| 134A | CB | GROUT | | | | | | | | GROUT DOGHOUSE |
| 137A | CB | GROUT | | | | | 1 | | | FULL OF WATER |
| TOTALS | | | | 16 | 10.8 | 1 | 37 | 4.6 | 2 | |

| BITUMINOUS STREET SUMMARY | | |
|---------------------------|------------------------------|-----|
| LOCATION | BITUMINOUS | |
| | 2360 TYPE SP 12.5 WEAR (4,C) | |
| | TON | |
| 114TH LN NW | 22 | [1] |
| WOODLAND PKWY W | 8 | [1] |
| WOODLAND PKWY E | 14 | [1] |
| PROJECT TOTAL | 45 | |

BITUMINOUS SUMMARY NOTES:
 [1] QUANTITY ESTIMATED FOR 1 LIFTS

| | | | | | | | |
|---|------|----|-----|------|----------|------------|------------|
| NO | DATE | BY | CKD | APPR | REVISION | 01/09/2024 | 1:51:35 PM |
| NAME: P:\24-01-00\CSAH_17_(CSAH 12 TO MAIN ST.)\Base\Proposed\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. AUGER JR.
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DRAWN BY DBK DATE 12/06/23
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 CHECKED BY CSO DATE 12/06/23



ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT 002-617-032

STORM SEWER TABULATIONS
 Sheet 3 of 39 Sheets


STORM DRAINAGE TAB

| NUMBER | TYPE | ACTION | NEW CASTING TYPE | FURNISH AND INSTALL CASTING ASSEMBLY | RING HEIGHT (INCIDENTAL) | GROUT CATCH BASIN OR MANHOLE | REPAIR CATCH BASIN (REBUILD INVERT AND/OR DOGHOUSE) | NOTES |
|---------------|------|---------|------------------|--------------------------------------|--------------------------|------------------------------|---|---|
| | | | | EACH | LIN FT | EACH | EACH | |
| 154 | CB | GROUT | | | | 1 | | GROUT RINGS & CASTING |
| 155 | CB | GROUT | | | | 1 | | GROUT RINGS & CASTING |
| 156 | CB | GROUT | | | | 1 | | GROUT RINGS & CASTING |
| 157 | CB | GROUT | | | | 1 | | GROUT RINGS & CASTING |
| 158 | CB | GROUT | | | | 1 | | CLEAN AND SAW & SEAL PANEL AROUND CASTING |
| 159 | CB | GROUT | | | | 1 | | GROUT CASTING |
| 162 | CB | RE-RING | A | 1 | 0.6 | | | GROUT INVERT & DOGHOUSES |
| 163 | CB | RE-RING | A | 1 | 0.6 | | | GROUT ALL |
| 164 | CB | GROUT | | | | 1 | | GROUT ALL |
| 165 | CB | GROUT | | | | 1 | | GROUT RINGS |
| 166 | CB | GROUT | | | | 1 | | GROUT RINGS |
| 166A | CB | GROUT | | | | 1 | | GROUT CASTING |
| 167 | CB | GROUT | | | | 1 | | GROUT RINGS & CASTING |
| 168 | CB | GROUT | | | | 1 | | GROUT ALL |
| 169 | CB | GROUT | | | | 1 | | GROUT RINGS & CASTING |
| 170 | CB | GROUT | | | | 1 | | GROUT RINGS & CASTING |
| 171 | CB | GROUT | | | | 1 | | GROUT ALL |
| 172 | CB | GROUT | | | | 1 | | GROUT RINGS & CASTING |
| 173 | CB | GROUT | | | | 1 | | GROUT RINGS & CASTING |
| 174 | CB | GROUT | | | | 1 | | GROUT RINGS & CASTING |
| 175 | CB | GROUT | | | | 1 | | GROUT RINGS & CASTING |
| 176 | CB | GROUT | | | | 1 | | GROUT RINGS & CASTING |
| 177 | MH | GROUT | | | | 1 | | GROUT RINGS & CASTING |
| 178 | MH | GROUT | | | | 1 | | GROUT RINGS & CASTING |
| 179 | CB | GROUT | | | | 1 | | GROUT CASTING |
| 180 | CB | GROUT | | | | 1 | | GROUT RINGS & CASTING |
| 181 | CB | GROUT | | | | 1 | | GROUT RINGS & CASTING |
| 182 | CB | GROUT | | | | 1 | | GROUT RINGS & CASTING |
| 183 | CB | GROUT | | | | 1 | | GROUT RINGS & CASTING |
| 184 | CB | GROUT | | | | 1 | 1 | GROUT ALL & NEW INV |
| 185 | CB | OK | | | | | | |
| 186 | CB | GROUT | | | | 1 | | GROUT RINGS & CASTING |
| 187 | CB | GROUT | | | | 1 | | GROUT RINGS & DOGHOUSE |
| 200 | MH | RE-RING | A-7D | 1 | 1.0 | | | |
| 201 | MH | GROUT | | | | 1 | | |
| 202 | MH | GROUT | | | | 1 | | |
| 203 | MH | GROUT | | | | 1 | | |
| 204 | MH | GROUT | | | | 1 | | |
| 205 | MH | GROUT | | | | 1 | | GROUT ALL |
| 205A | MH | OK | | | | | | |
| 206 | MH | GROUT | | | | 1 | | CLEAN & GROUT RINGS & CASTING |
| 206A | MH | OK | | | | | | |
| 207 | MH | GROUT | | | | 1 | | GROUT CASTING |
| 207A | CB | OK | | | | | | |
| 208 | MH | GROUT | | | | 1 | | GROUT ALL |
| 208A | MH | OK | | | | | | |
| 209 | MH | GROUT | | | | 1 | | GROUT RINGS & CASTING |
| 209A | MH | GROUT | | | | 1 | | GROUT RINGS & DOGHOUSE |
| 210 | MH | GROUT | | | | 1 | | CLEAN ALSO |
| 300 | CB | GROUT | | | | 1 | | |
| 300A | CB | OK | | | | | | |
| 301 | CB | GROUT | | | | 1 | | |
| 302 | CB | GROUT | | | | 1 | | |
| 303 | CB | GROUT | | | | 1 | | GROUT ALL |
| 304 | CB | GROUT | | | | 1 | | |
| 305 | CB | RE-RING | A | 1 | 0.9 | | | |
| 306 | CB | GROUT | | | | 1 | | GROUT ALL |
| 307 | CB | OK | | | | | | |
| TOTALS | | | | 4 | 3.1 | 47 | 1 | |

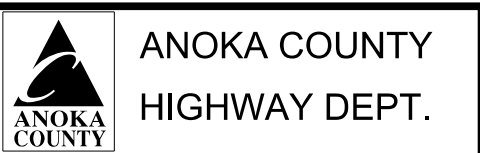
CASTING ASSEMBLIES SUMMARY

| ASSEMBLY | RING OR FRAME CASTING | COVER OR GRATE CASTING | CURB BOX | DESCRIPTION | NOTES | QUANTITY |
|---|-----------------------|------------------------|----------|---|---|----------|
| A-7D | 700-7 | 715 | | 301-CP LID WITH RUBBER GASKET ON BOTTOM | CASTING COVER STAMPED "STORM SEWER" (NEENAH R-1733 WITH LID 301-CP) | 1 |
| B | NEENAH R-3250-DVSP | V | YES | NEENAH R-3250-DVSP | | 3 |
| A | NEENAH R-3250-DVSP | V | NO | NEENAH R-3250-DVSP | CURB PLATE NEEDED | 16 |
| ALL CASTING HEIGHTS ARE TO BE VERIFIED IN THE FIELD ALL MANHOLE COVERS SHOULD BE LABELED AS STORM OR SANITARY NEW MANHOLE CASTINGS TO BE INSTALLED FLUSH WITH THE MILLED ASPHALT SURFACE. ALL MANHOLES TO BE WRAPPED WITH INFI- SHIELD. THIS WORK IS INCIDENTAL TO THE CASTING ASSEMBLY. ADJUSTING RINGS TO BE INSTALLED AND GLUED DURING THE PAVING OPERATION. ADJUSTING RINGS TO BE RECESSED 1/4" FROM TOP OF FINISHED MAT | | | | | | |

| | | | | | | | |
|---|------|----|-----|------|----------|------------|------------|
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 PRINT NAME: GERALD J. AUGER JR.
 SIGNATURE: 
 DATE: 12-08-2023 LICENSE NO. 26511

DRAWN BY DBK DATE 12/06/23
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 CHECKED BY CSO DATE 12/06/23



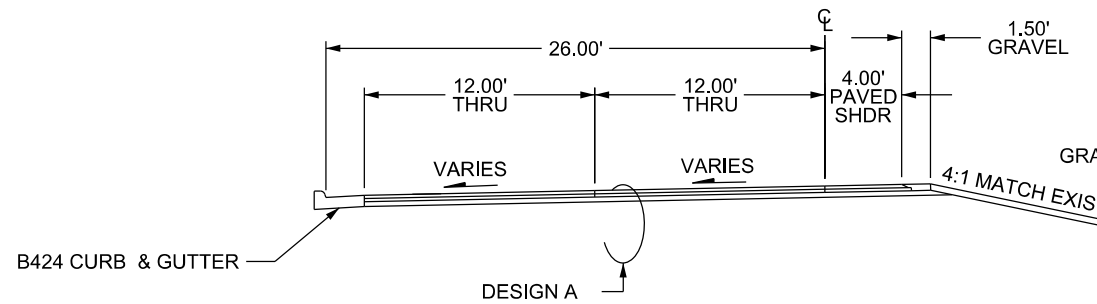
STATE AID PROJECT 002-617-032

STORM SEWER TABULATIONS

Sheet 4 of 39 Sheets

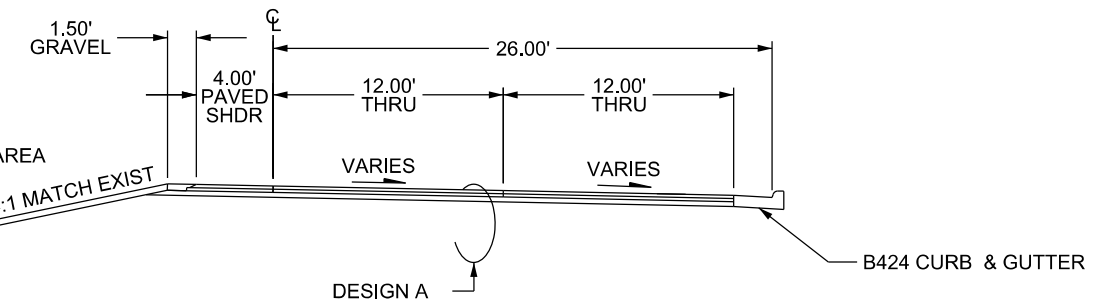
LEXINGTON AVE. - CSAH 17
 (EXISTING/PROPOSED) LANE SOUTH BOUND

1088+95.72 - 1114+00.00
 1120+97.50 - 1132+82.36



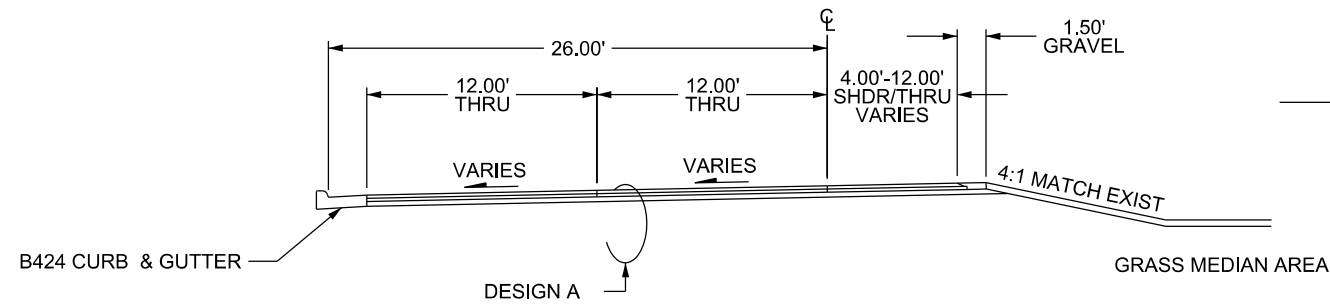
LEXINGTON AVE. - CSAH 17
 (EXISTING/PROPOSED) LANE NORTH BOUND

84+81.73 - 91.15.40
 97+53.00 - 108+24.00
 115+00.00 - 130+04.50
 134+54.57 - 136+24.17
 149+66.31 - 157+22.63



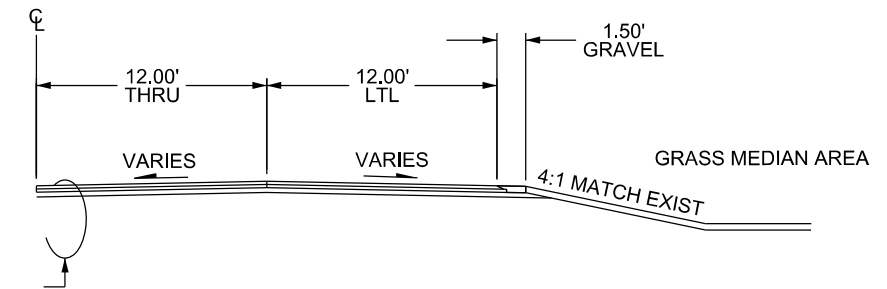
LEXINGTON AVE. - CSAH 17
 (EXISTING/PROPOSED) LANE SOUTH BOUND

1132+82.36 - 1160+75.83



(EXISTING/PROPOSED) LEFT TURN LANE

1149+60.00 - 1154+35.40

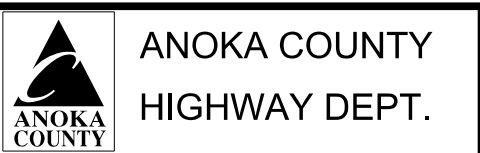


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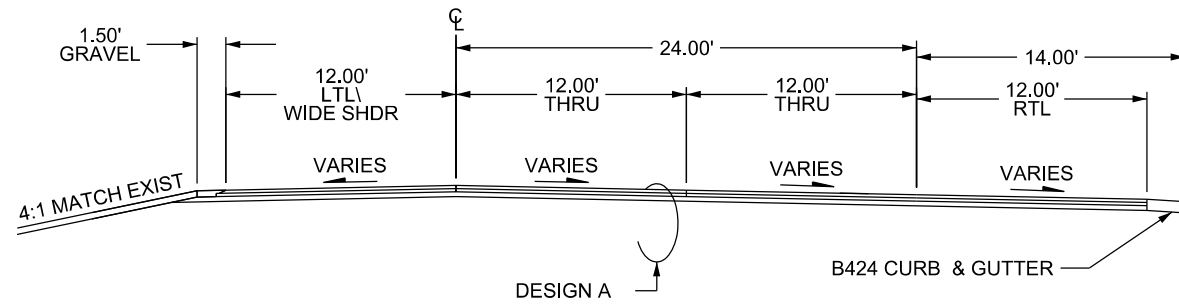


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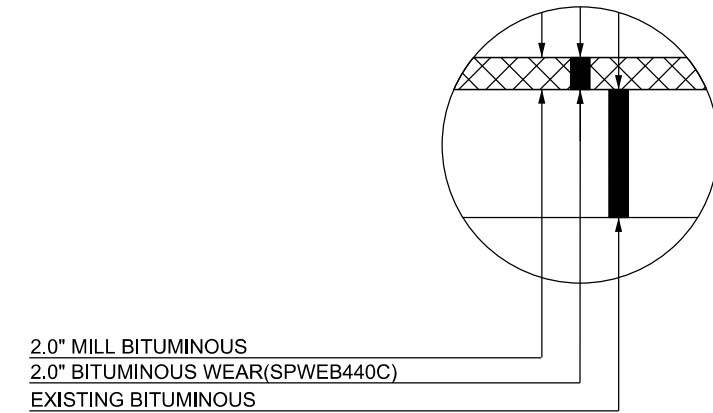
TYPICAL SECTIONS
 Sheet 5 of 39 Sheets

LEXINGTON AVE. - CSAH 17 (EXISTING/PROPOSED) LANE NORTH BOUND

| | | |
|-------------|-----------------------|-----------------------|
| | 91+15.40 - 97+53.00 | 109+26.40 - 115+00.00 |
| (WIDE SHDR) | 108+24.00 - 115+00.00 | 130+04.50 - 134+54.57 |
| | 136+24.17 - 149+66.31 | 145+31.78 - 149+66.31 |

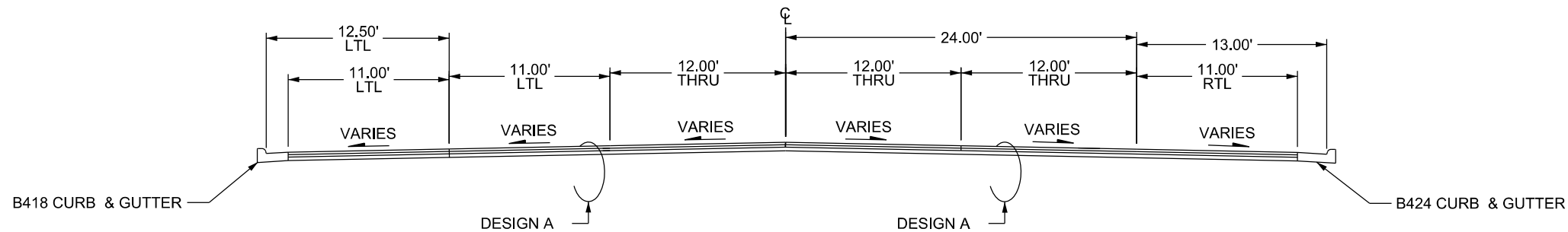


DESIGN A MILL SECTION



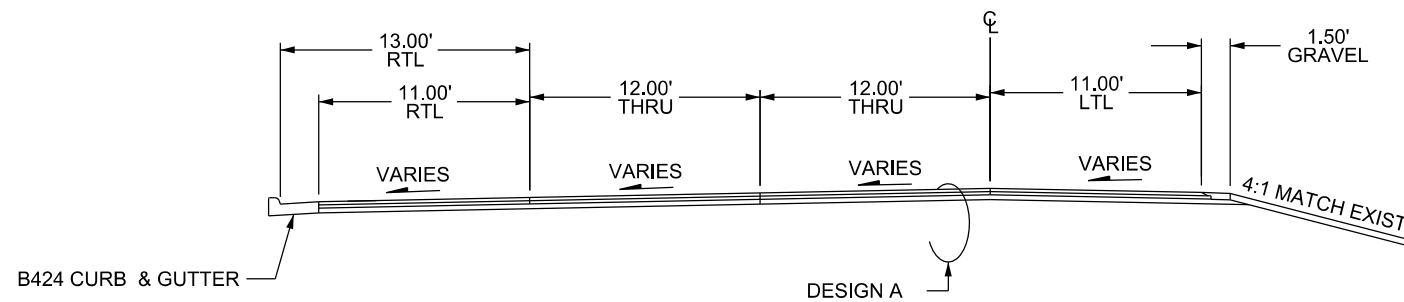
LEXINGTON AVE. - CSAH 17 (EXISTING/PROPOSED) LANE NORTH BOUND

| | |
|-----------------------|-----------------------|
| 157+22.63 - 164+24.38 | 159+68.00 - 164+24.38 |
|-----------------------|-----------------------|



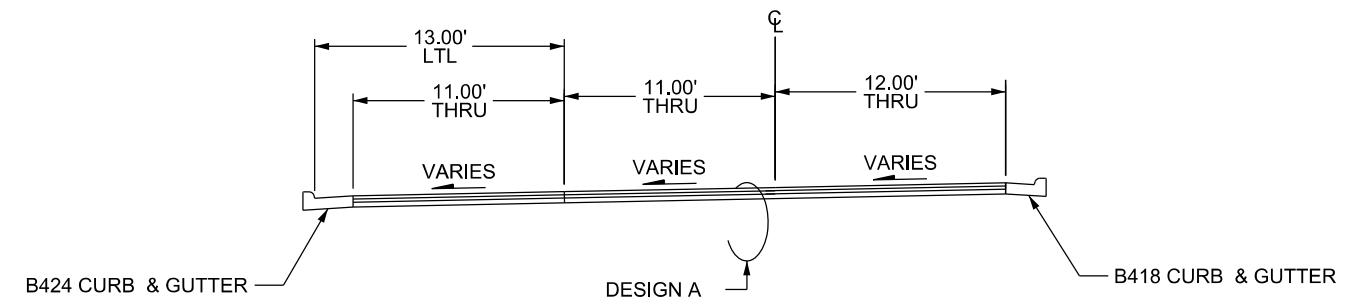
LEXINGTON AVE. - CSAH 17 (EXISTING/PROPOSED) LANE SOUTH BOUND

| | |
|-------------------------|-------------------------|
| 1084+93.20 - 1088+95.72 | 1084+93.20 - 1089+62.00 |
| 1114+00.00 - 1118+67.00 | 1114+00.00 - 1120+97.50 |



LEXINGTON AVE. - CSAH 17 (EXISTING/PROPOSED) LANE SOUTH BOUND

1160+75.83 - 1164+22.45



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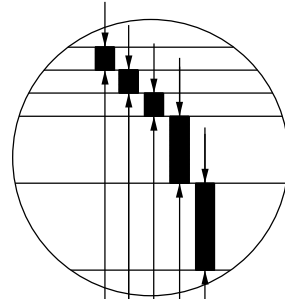
**ANOKA COUNTY
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TYPICAL SECTIONS

Sheet 6 of 39 Sheets

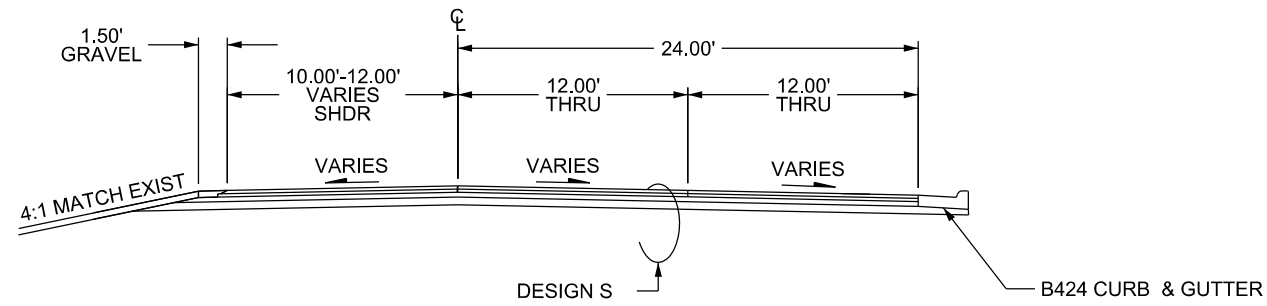
DESIGN S SUBCUT AREA



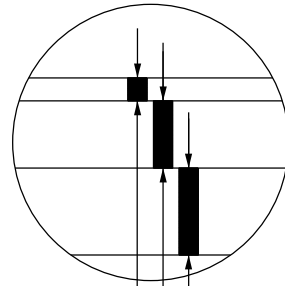
- 2.0" BITUMINOUS WEAR (SPWEB440C)
- 2.0" BITUMINOUS WEAR (SPWEB440C)
- 2.0" BITUMINOUS WEAR (SPWEB440C)
- 6" AGGREGATE BASE, CLASS 5
- 2' SUB-CUT

LEXINGTON AVE. - CSAH 17 (SUBCUT AREA) LANE NORTH BOUND

136+24.17 - 139+24.17



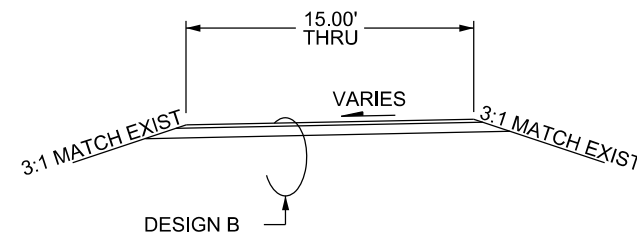
DESIGN B BYPASS AREA



- 2.0" BITUMINOUS WEAR (SPWEB440C)
- 6" AGGREGATE BASE, CLASS 5
- GRANULAR BORROW BASE

BYPASS AREA

119+80.39 - 123+13.21
140+67.13 - 143+78.42



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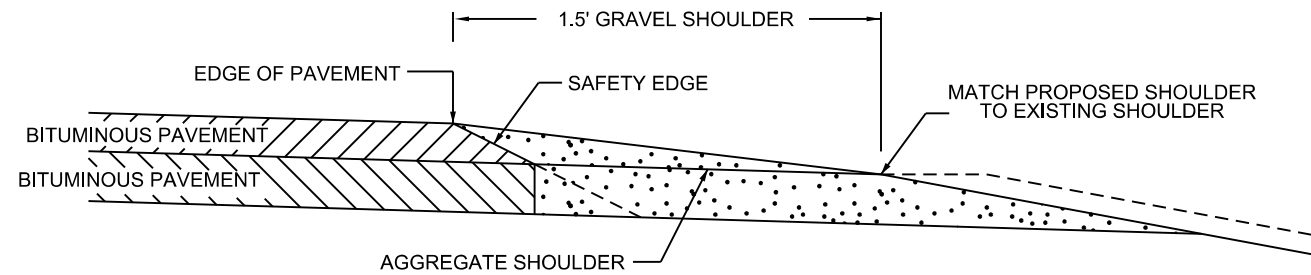
ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT 002-617-032

TYPICAL SECTIONS
Sheet 7 of 39 Sheets

SHOULDER DETAIL

BITUMINOUS SAFETY EDGE
GRAVEL SHOULDER



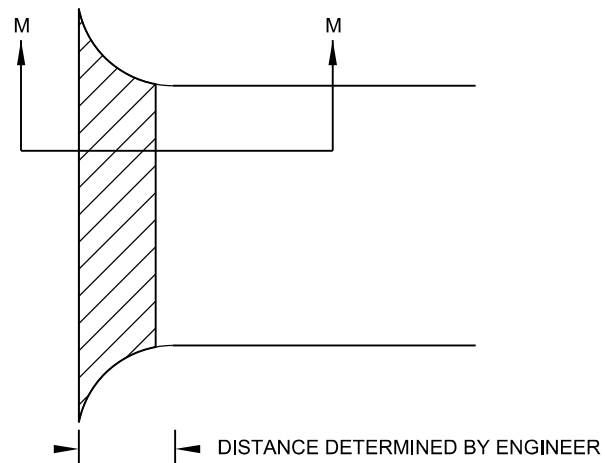
SAFETY EDGE TO BE USED IN ALL NON-CURB AREAS ON SHOULDER.

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

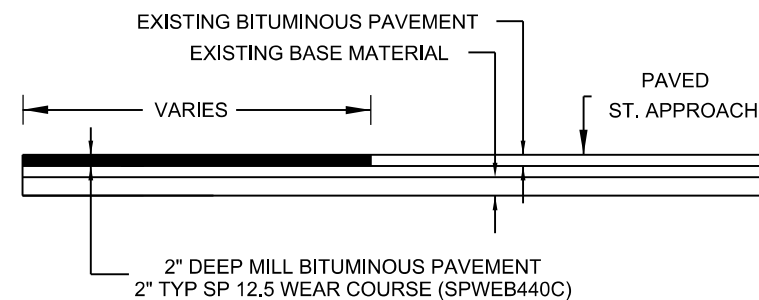
STREET APPROACH DETAIL (MILL & OVERLAY)

BITUMINOUS STREET

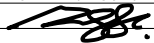
PLAN VIEW



SECTION M - M



| NO | DATE | BY | CKD | APPR | REVISION | 01/09/2024 | 1:51:45 PM |
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| | | | | | | | |
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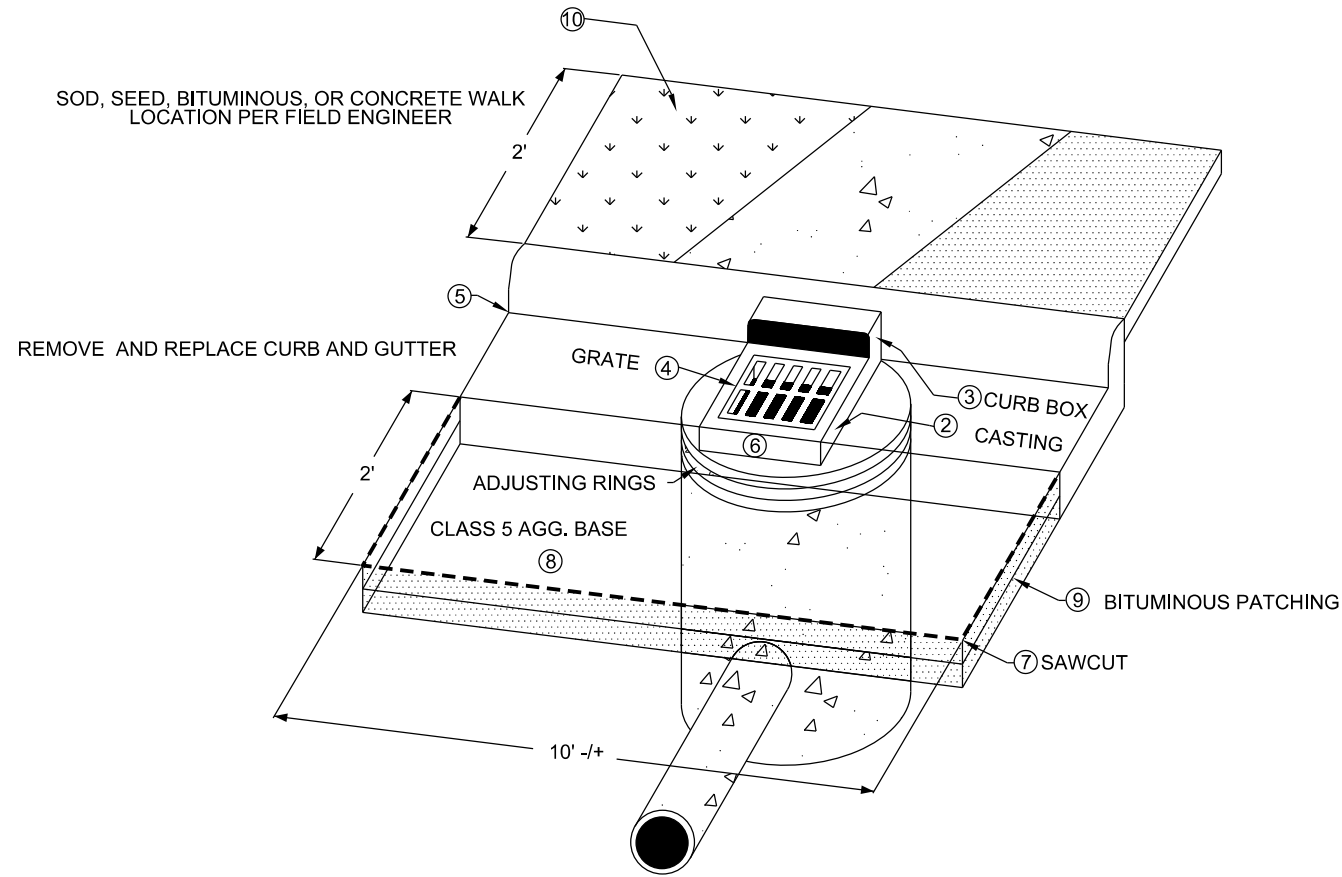
STATE AID PROJECT 002-617-032

DETAILS

Sheet 8 of 39 Sheets

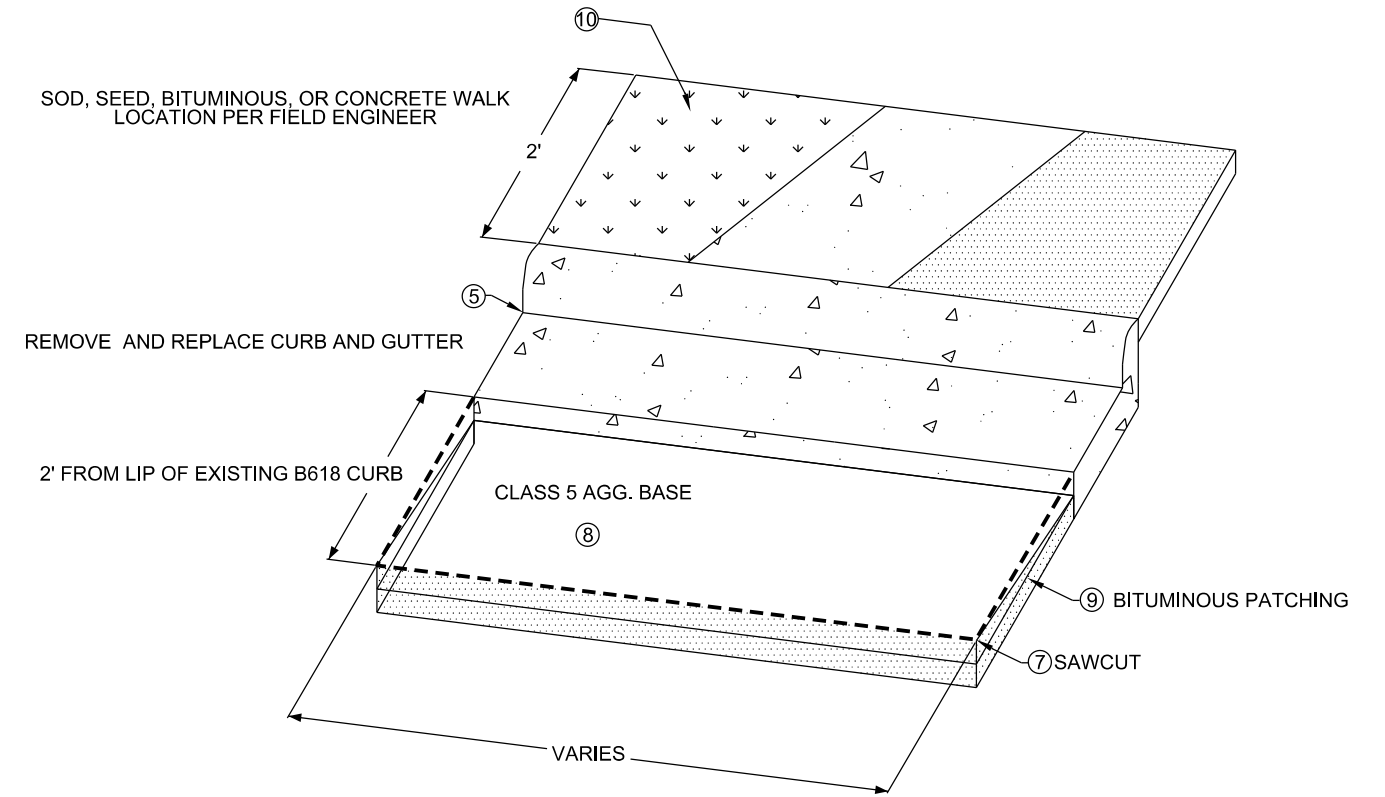
CATCH BASIN DETAIL

SEE STRUCTURE TAB FOR LOCATION
(PAGE 3-4)



NEW CURB DETAIL

SEE PLAN FOR LOCATION



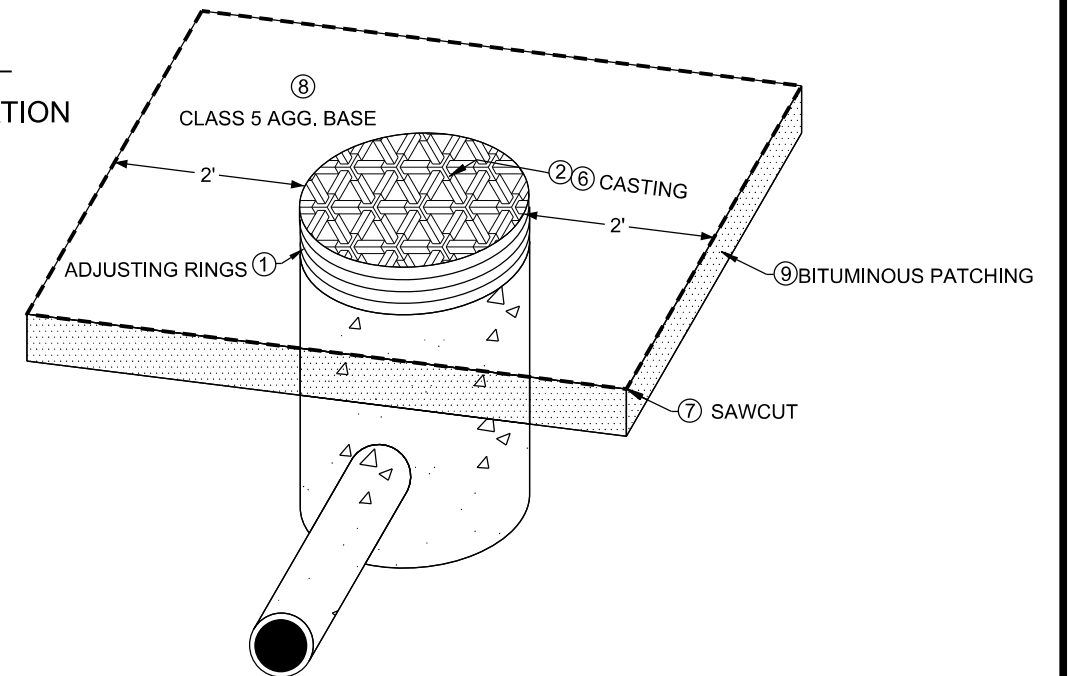
NOTES

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 (RESIDENTAL AREAS), EROSION CONTROL BLANKET, BITUMINOUS, OR CONCRETE

MANHOLE DETAIL

SEE STRUCTURE TAB FOR LOCATION
(PAGE 3-4)



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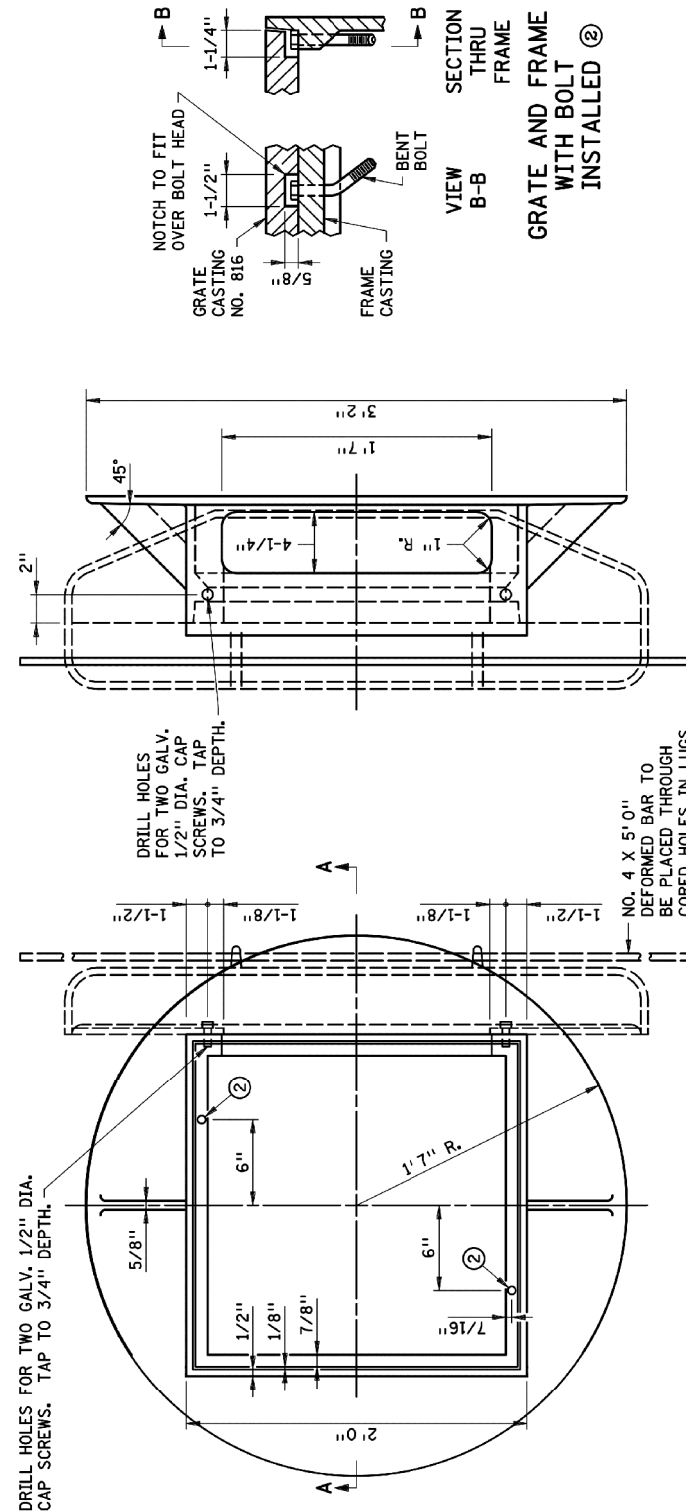


ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT 002-617-032

DETAILS

Sheet 9 of 39 Sheets

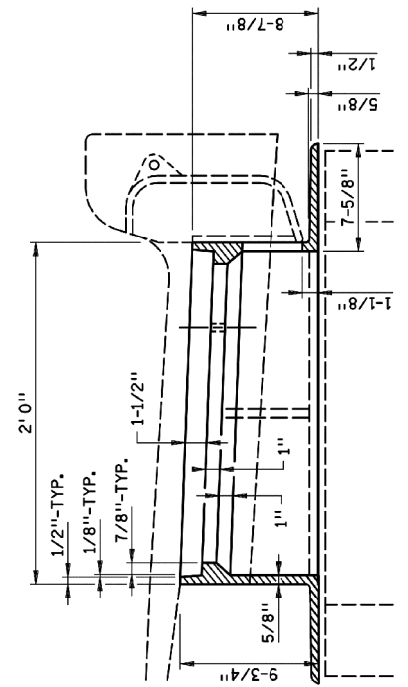


END VIEW

TOP VIEW

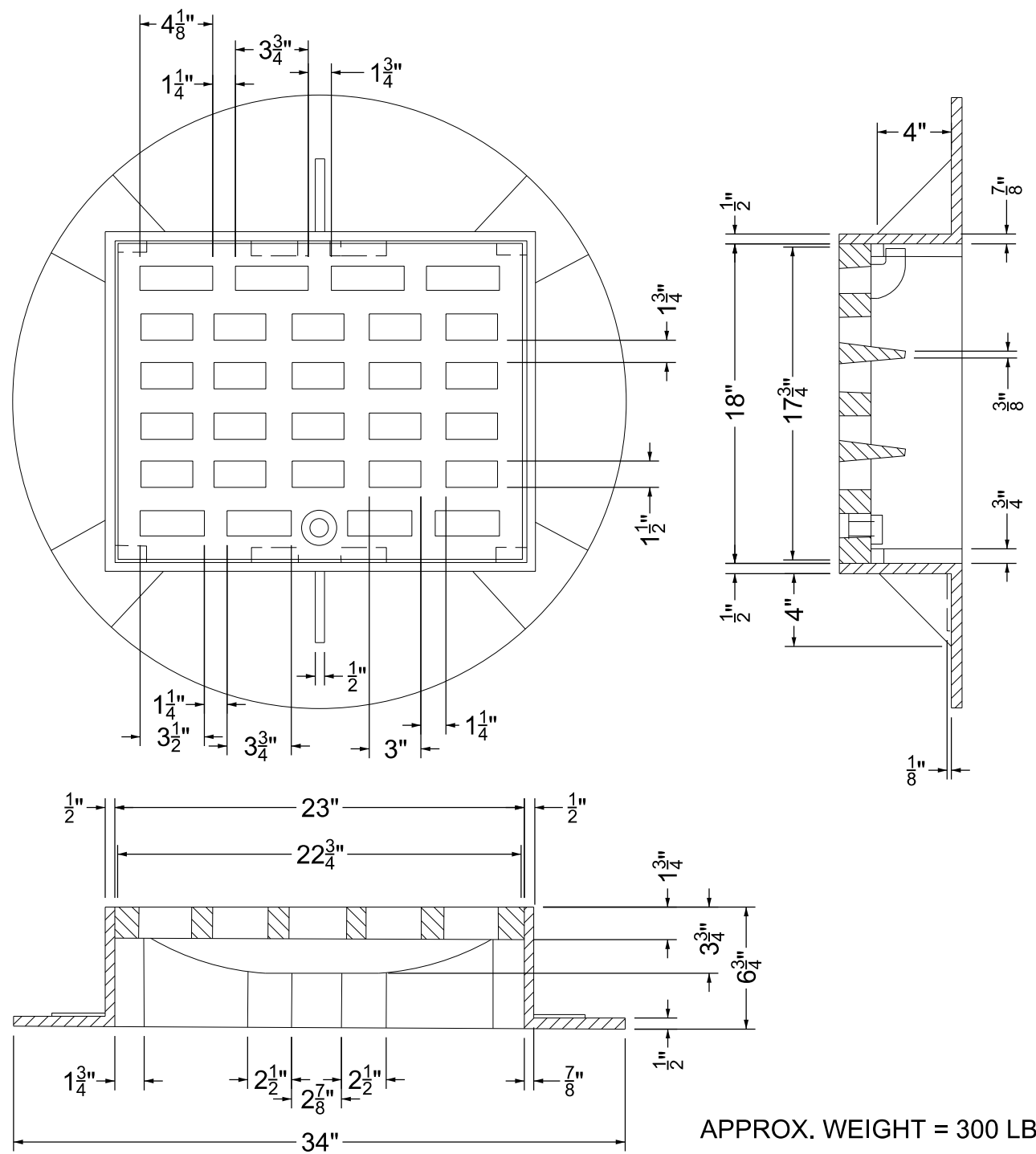
CASTINGS USED FOR ASSEMBLY
 GRATE NO. 816 (MNDOT STD PLATE 4154B)
 CURB BOX ① NO. 823A (MNDOT STD PLATE 4160) OR

NOTES:
 USE 1/4" FILLETS IN ALL CORNERS. SEE MNDOT STANDARD PLATE 7111 FOR INSTALLATION REQUIREMENTS. APPLIES TO DESIGN B OR V CURB AND GUTTER.
 ① 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 PLACE 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

FRAME RING AND CASTING TYPE A



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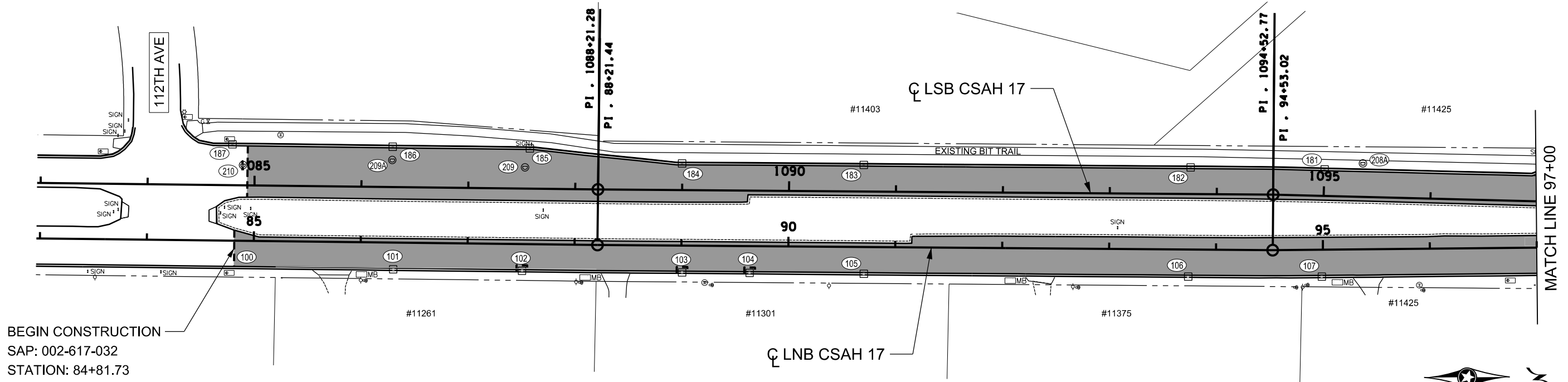
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HIGHWAY DEPT.

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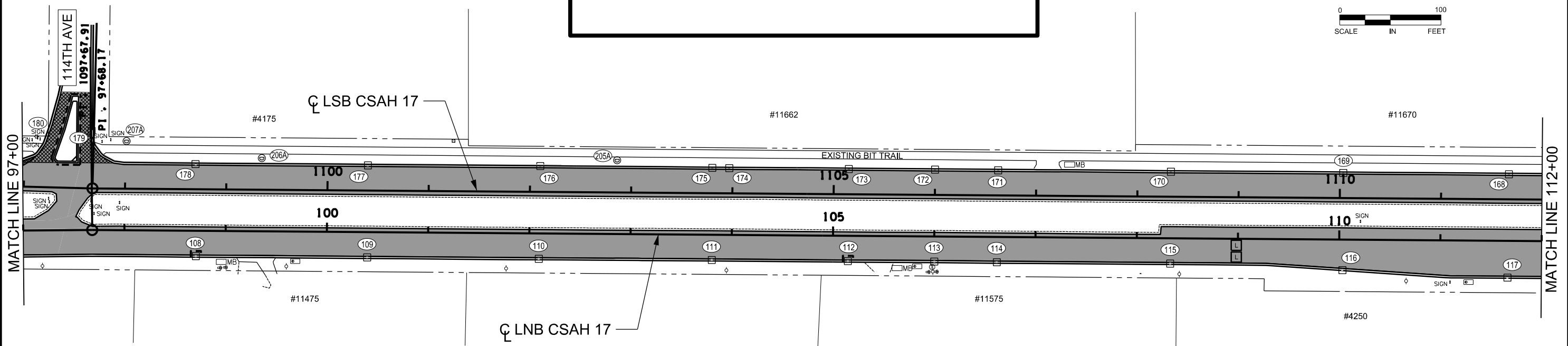
DETAILS
 Sheet 10 of 39 Sheets



BEGIN CONSTRUCTION
 SAP: 002-617-032
 STATION: 84+81.73

LEGEND

| | | | |
|-----|---------------------|------------------|-----------------------------|
| --- | SAWCUT | [Solid Grey] | MAINLINE MILL & PAVE AREA |
| —○— | SILT FENCE | [Cross-hatch] | MILL SPECIAL AREA |
| [L] | APRX. LOOP LOCATION | [Dotted] | REMOVE AND REPLACE PAVEMENT |
| --- | R / W | [Diagonal Lines] | TEMPORARY BYPASS AREA |
| == | CROSS CULVERT | | |



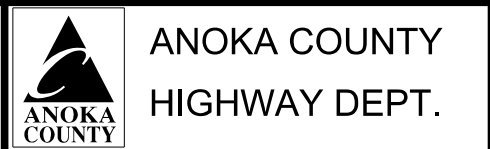
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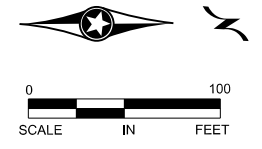
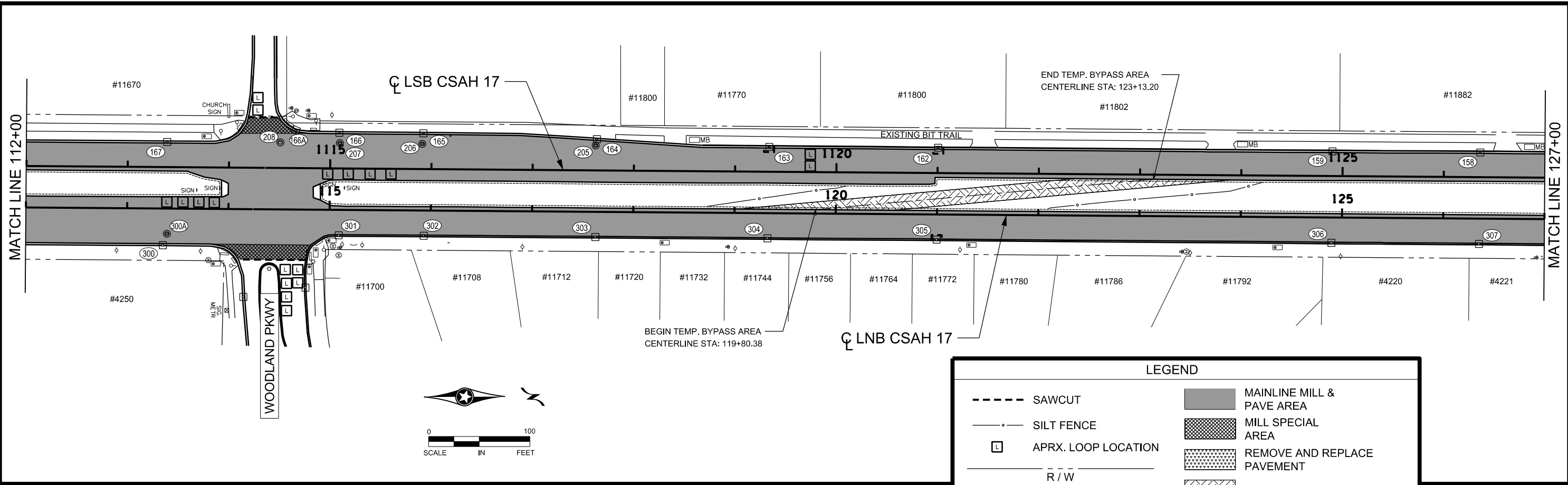
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STATE AID PROJECT 002-617-032

CONSTRUCTION PLAN
 STA 84+81.73 TO 112+00.00
 Sheet 11 of 39 Sheets

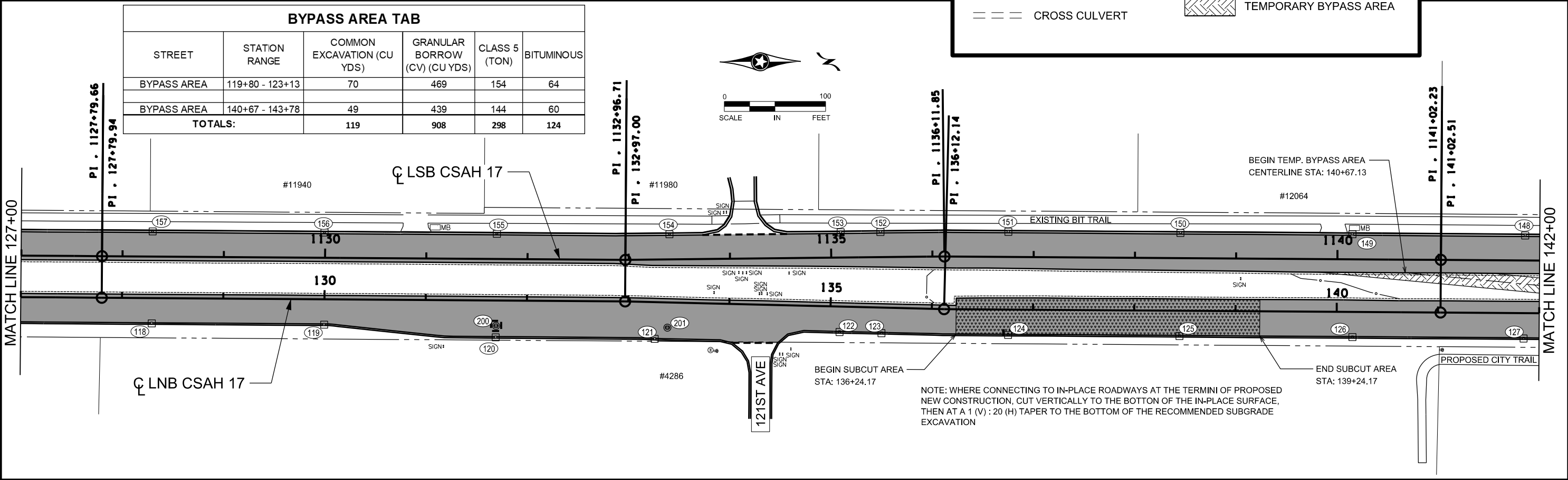
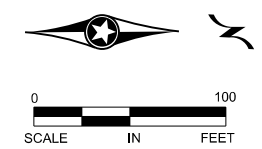


LEGEND

- SAWCUT
- - - SILT FENCE
- APRX. LOOP LOCATION
- R / W
- - - CROSS CULVERT
- MAINLINE MILL & PAVE AREA
- ▨ MILL SPECIAL AREA
- ▤ REMOVE AND REPLACE PAVEMENT
- ▧ TEMPORARY BYPASS AREA

BYPASS AREA TAB

| STREET | STATION RANGE | COMMON EXCAVATION (CU YDS) | GRANULAR BORROW (CV) (CU YDS) | CLASS 5 (TON) | BITUMINOUS |
|----------------|-----------------|----------------------------|-------------------------------|---------------|------------|
| BYPASS AREA | 119+80 - 123+13 | 70 | 469 | 154 | 64 |
| BYPASS AREA | 140+67 - 143+78 | 49 | 439 | 144 | 60 |
| TOTALS: | | 119 | 908 | 298 | 124 |



NOTE: WHERE CONNECTING TO IN-PLACE ROADWAYS AT THE TERMINI OF PROPOSED NEW CONSTRUCTION, CUT VERTICALLY TO THE BOTTOM OF THE IN-PLACE SURFACE, THEN AT A 1 (V) : 20 (H) TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION

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DESIGN BY SPH DATE 12/06/23

CHECKED BY CSO DATE 12/06/23

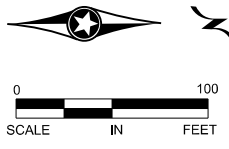
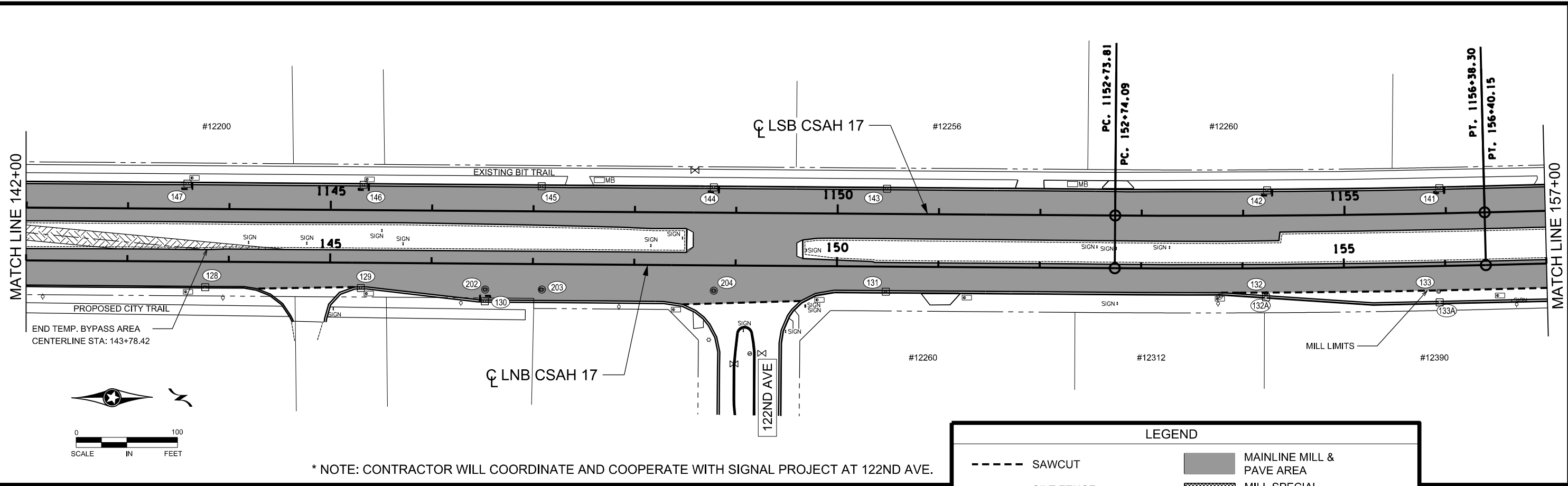

**ANOKA COUNTY
HIGHWAY DEPT.**

STATE AID PROJECT 002-617-032

CONSTRUCTION PLAN

STA 112+00.00 TO 142+00.00

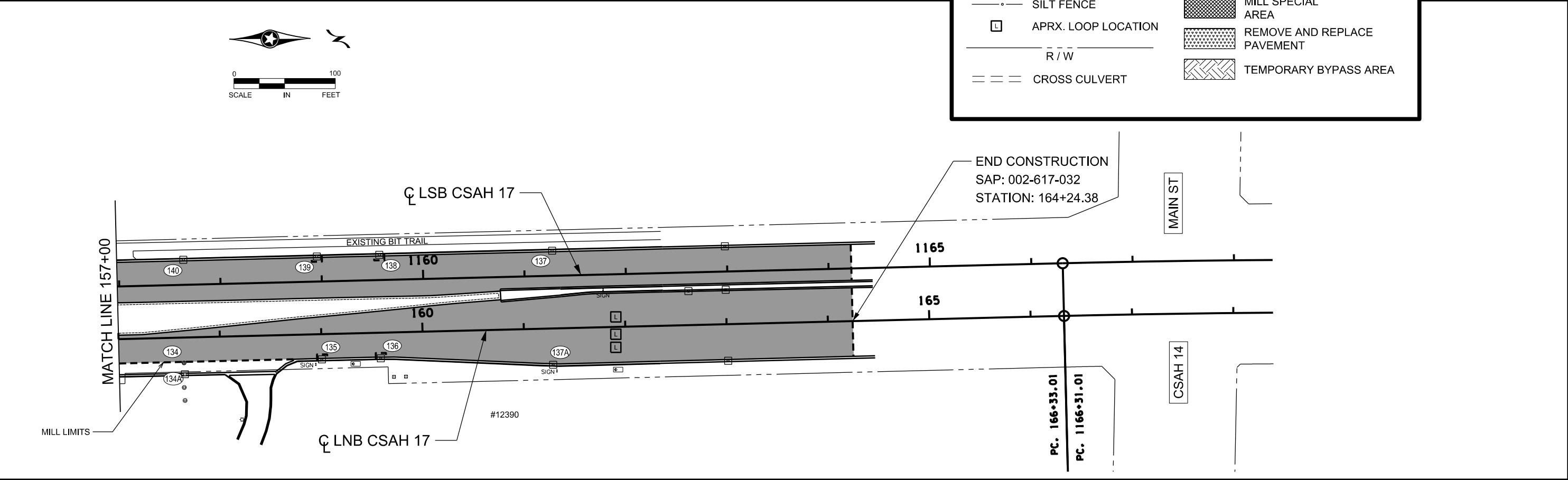
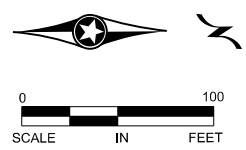
Sheet 12 of 39 Sheets



* NOTE: CONTRACTOR WILL COORDINATE AND COOPERATE WITH SIGNAL PROJECT AT 122ND AVE.

LEGEND

| | | | |
|-----|---------------------|--|-----------------------------|
| --- | SAWCUT | | MAINLINE MILL & PAVE AREA |
| —○— | SILT FENCE | | MILL SPECIAL AREA |
| □ | APRX. LOOP LOCATION | | REMOVE AND REPLACE PAVEMENT |
| --- | R / W | | TEMPORARY BYPASS AREA |
| --- | CROSS CULVERT | | |



| NO | DATE | BY | CKD | APPR | REVISION | |
|----|------------|----|-----|------|----------|------------|
| | 01/22/2024 | | | | | 1:34:54 PM |

NAME: P:\24-01-00\CSAH_17_(CSAH 12 TO MAIN ST.)\Base\Proposed\CP3.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: 12-08-2023 LICENSE NO. 26511

DRAWN BY: SPH DATE: 12/06/23

DESIGN BY: SPH DATE: 12/06/23

CHECKED BY: CSO DATE: 12/06/23

**ANOKA COUNTY
HIGHWAY DEPT.**

STATE AID PROJECT 002-617-032

CONSTRUCTION PLAN
STA 142+00.00 TO 164+24.38
Sheet 13 of 39 Sheets

PERMANENT PAVEMENT MARKING PLAN NOTES & GUIDELINES

GENERAL INFORMATION:

1. 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.
2. 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.
3. 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.
4. PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.
5. 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.

PAINT:

1. 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.
2. GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE PAINT LINE.
3. EXCEPT WHEN USED AS A TEMPORARY MARKING, PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR AND PAVEMENT SURFACE TEMPERATURES ARE 50°F OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILM OR DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.

PREFORMED TAPE LAY APPLICATION:

1. APPLY THE PREFORMED PAVEMENT MARKING TAPE AS RECOMMENDED BY THE MANUFACTURER TO PROVIDE A NEAT, DURABLE MARKING THAT WILL NOT FLOW OR DISTORT DUE TO TEMPERATURE IF THE PAVEMENT SURFACE REMAINS STABLE. USE EQUIPMENT AND APPLICATION METHODS SPECIFIED BY THE MANUFACTURER.
2. CONTRACTOR SHALL USE PRODUCTS LISTED ON MNDOTS APPROVED PRODUCTS LIST.

PREFORMED THERMOPLASTIC:

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

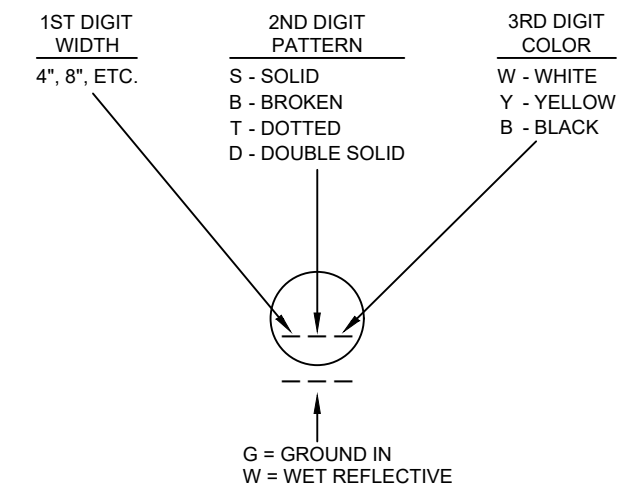
| PAVEMENT MARKING TABULATION | | |
|--|--------|----------------|
| ITEM | UNIT | TOTAL QUANTITY |
| 4" SOLID LINE PREF TAPE GROUND IN (WR) (WHITE) | LIN FT | 18703 |
| 4" SOLID LINE PREF TAPE GROUND IN (WR) (YELLOW) | LIN FT | 15362 |
| 4" BROKEN LINE PREF TAPE GROUND IN (WR) (WHITE) | LIN FT | 3610 |
| 24" SOLID LINE PREF THERMOPLASTIC GROUND IN (WHITE) | LIN FT | 444 |
| PAVEMENT MESSAGE PREF THERMOPLASTIC (LEFT ARROW) | SQ FT | 155 |
| PAVEMENT MESSAGE PREF THERMOPLASTIC (RIGHT ARROW) | SQ FT | 93 |
| 3'x6' ZEBRA CROSSWALK PREFORMED THERMOPLASTIC GROUND IN (WHITE) | SQ FT | 810 |
| 3'x10' ZEBRA CROSSWALK PREFORMED THERMOPLASTIC GROUND IN (WHITE) | SQ FT | 840 |

PAVEMENT MARKING SYMBOLS & MATERIALS LEGEND

- — BROKEN LINE - 50' CYCLE (10' LINE, 40' GAP)
- ↶ PAVEMENT MESSAGE (LEFT ARROW)
- CROSSWALK BLOCK

STRIPING KEY

- CIRCLE - MULTI-COMP
- TRIANGLE - PAINT
- SQUARE - PREF TAPE
- OCTAGON - PREF THERMO



EXAMPLE: 4SW = 4" SOLID LINE WHITE PREF TAPE GROUND IN, WET REFLECTIVE

| NO | DATE | BY | CHKD | APPR | REVISION |
|----|---------|-----|------|------|--|
| 1 | 2/14/24 | LJK | SRT | SRT | MODIFY CSAH 17 AT 122ND CROSSWALK BLOCKS |

NAME: P:\24-01-00\CSAH_17_(CSAH 12 TO MAIN ST.)Base\Traffic

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: SEAN R. THIEL
SIGNATURE:
DATE: 2/14/2024 LICENSE NO. 45129

DRAWN BY LJK DATE 11/28/23
DESIGN BY LJK DATE 11/28/23
CHECKED BY SRT DATE 11/29/23



ANOKA COUNTY
HIGHWAY DEPT.

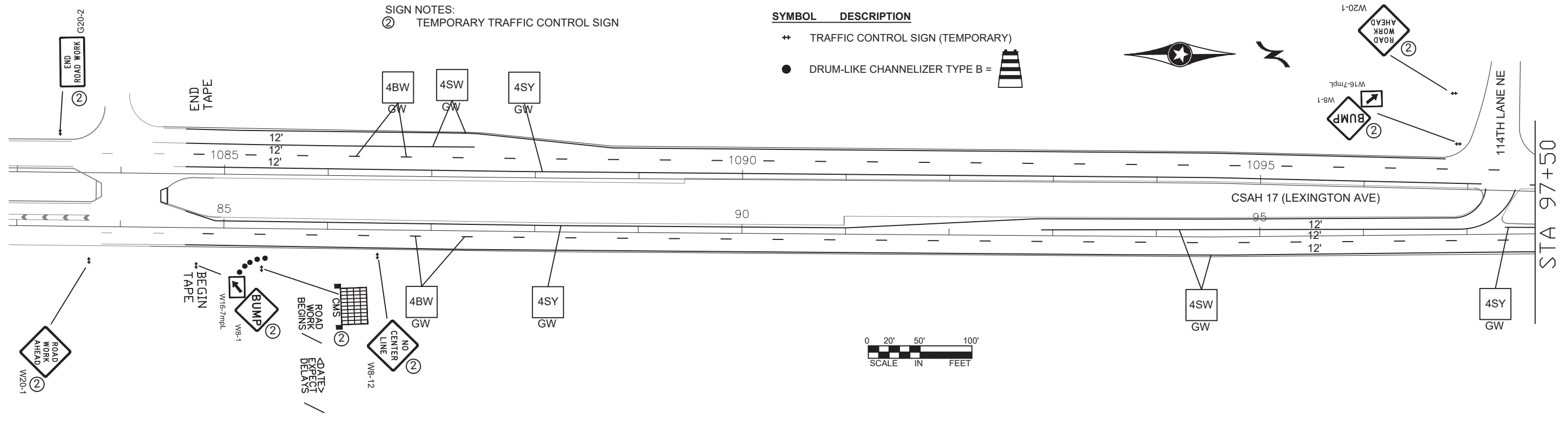
SAP 002-617-032

PERMANENT PAVEMENT
MARKING PLAN DETAILS

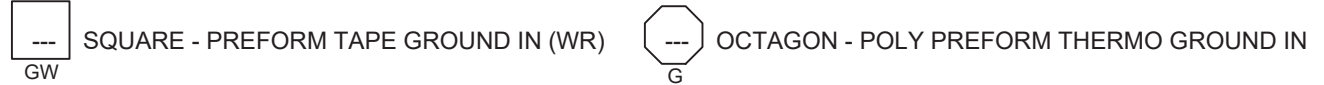
TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

| SYMBOL | DESCRIPTION |
|--------|----------------------------------|
| ++ | TRAFFIC CONTROL SIGN (TEMPORARY) |
| ● | DRUM-LIKE CHANNELIZER TYPE B = |

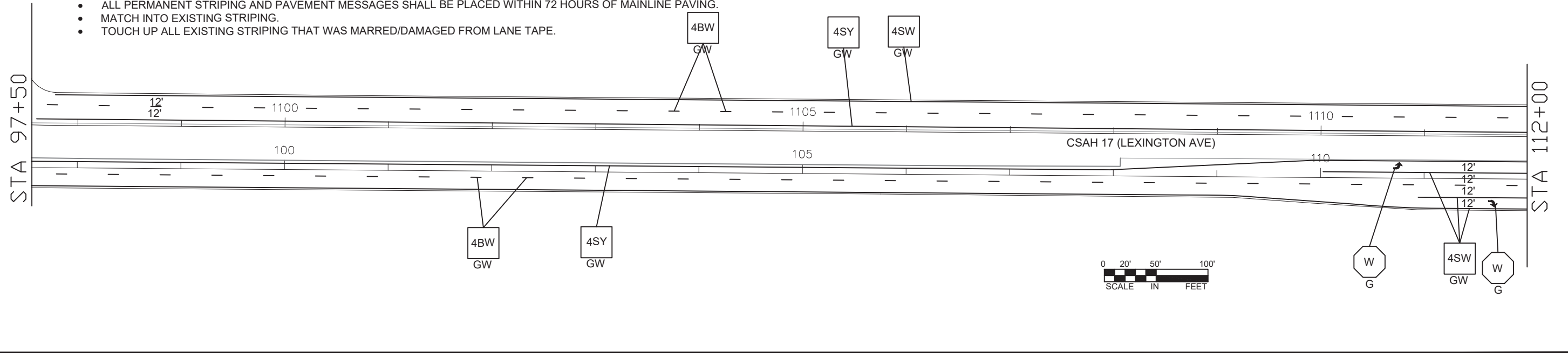
SIGN NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN



STRIPING KEY



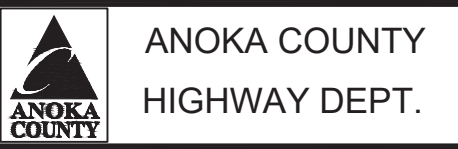
- NOTES:
- LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
 - MATCH INTO EXISTING STRIPING.
 - TOUCH UP ALL EXISTING STRIPING THAT WAS MARRED/DAMAGED FROM LANE TAPE.



| NO | DATE | BY | CKD | APPR | REVISION |
|----|------|----|-----|------|----------|
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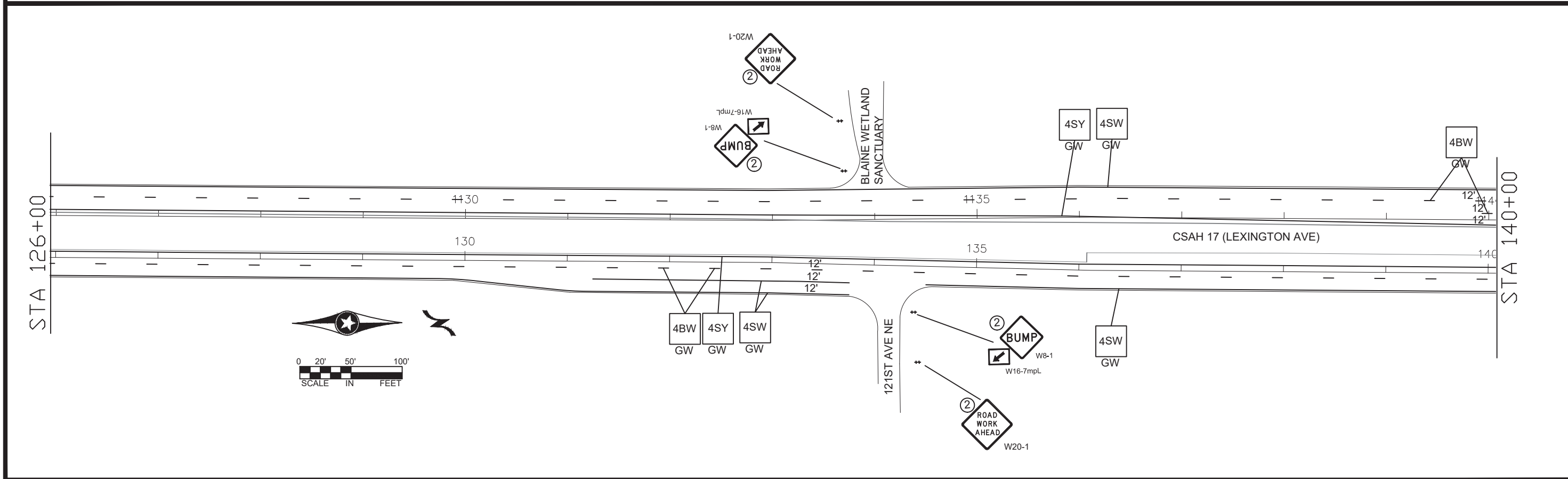
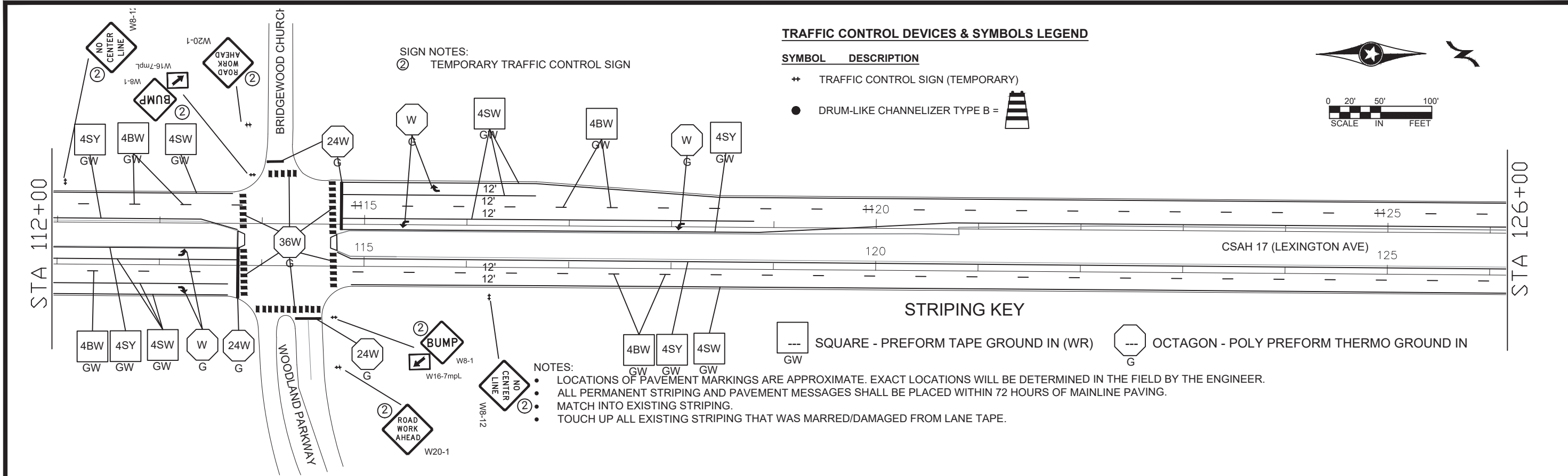
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: SEAN R. THIEL
 SIGNATURE: *Sean R. Thiel*
 DATE: 12/06/2023 LICENSE NO. 45129

DRAWN BY LJK DATE 11/28/23
 DESIGN BY LJK DATE 11/28/23
 CHECKED BY SRT DATE 11/29/23



SAP 002-617-032

TEMPORARY SIGNING AND PERMANENT STRIPING
 Sheet 15 of 39 Sheets



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

NAME: P:\24-01-00\CSAH_17_(CSAH 12 TO MAIN ST.)\BaseTraffic

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: SEAN R. THIEL

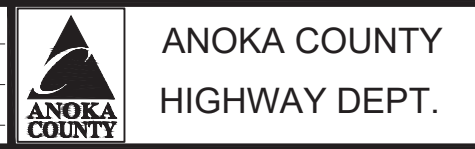
SIGNATURE: *Sean R. Thiel*

DATE: 12/06/2023 LICENSE NO. 45129

DRAWN BY: LJK DATE: 11/28/23

DESIGN BY: LJK DATE: 11/28/23

CHECKED BY: SRT DATE: 11/29/23



SAP 002-617-032

TEMPORARY SIGNING AND PERMANENT STRIPING

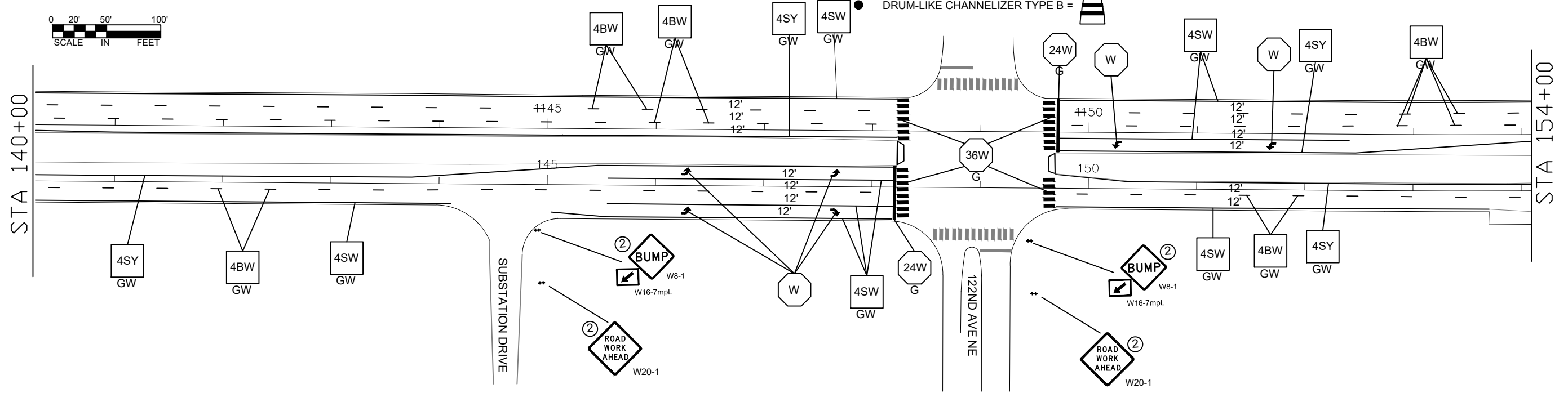
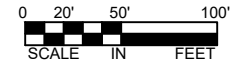
Sheet 16 of 39 Sheets

TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL DESCRIPTION

- ++ TRAFFIC CONTROL SIGN (TEMPORARY)
- DRUM-LIKE CHANNELIZER TYPE B =

SIGN NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN

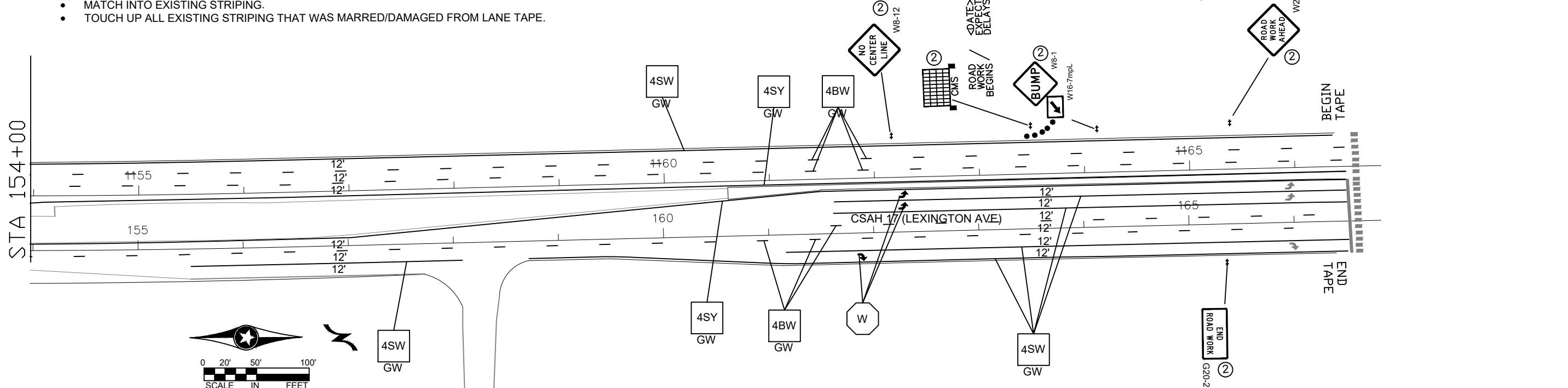


STRIPING KEY

NOTES:

- 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.
- MATCH INTO EXISTING STRIPING.
- TOUCH UP ALL EXISTING STRIPING THAT WAS MARRED/DAMAGED FROM LANE TAPE.

- GW SQUARE - PREFORM TAPE GROUND IN (WR)
- GW OCTAGON - POLY PREFORM THERMO GROUND IN



| NO | DATE | BY | CHKD | APPR | REVISION |
|----|---------|-----|------|------|--|
| 1 | 2/14/24 | LJK | SRT | SRT | MODIFY CSAH 17 AT 122ND CROSSWALK BLOCKS |

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 PRINT NAME: SEAN R. THIEL
 SIGNATURE: *Sean R. Thiel*
 DATE: 2/14/2024 LICENSE NO. 45129








DRAWN BY LJK DATE 11/28/23
 DESIGN BY LJK DATE 11/28/23
 CHECKED BY SRT DATE 11/29/23











ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-617-032

TEMPORARY SIGNING AND PERMANENT STRIPING
 Sheet 17 of 39 Sheets

| TEMPORARY TRAFFIC CONTROL SIGNS | | | |
|---------------------------------|-----------|---|----------------------------|
| M.U.T.C.D. CODE | SIZE | INSERT | QUANTITY |
| W8-12 | 48" x 48" |  | 4 |
| G20-2 | 36" x 18" |  | 2 |
| W8-1 | 48" x 48" |  | 9 |
| W16-7P | 48" x 48" |  | 9 |
| W20-1 | 48" x 48" |  | AS NEEDED (ESTIMATED 9) |
| W8-23 | 48" x 48" |  | AS NEEDED |
| W8-8 | 48" x 48" |  | AS NEEDED |

| TEMPORARY TRAFFIC CONTROL SIGNS | | | |
|---------------------------------|-----------|---|-----------------------------|
| M.U.T.C.D. CODE | SIZE | INSERT | QUANTITY |
| W8-9 | 48" x 48" |  | AS NEEDED |
| W8-11 | 48" x 48" |  | AS NEEDED |
| W8-1 | 48" x 48" |  | AS NEEDED |
| W3-4 | 48" x 48" |  | AS NEEDED |
| W20-4 | 48" x 48" |  | AS NEEDED |
| W20-7 | 48" x 48" |  | AS NEEDED (ESTIMATED 2) |
| | | 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 |
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| | | | | | |
| | | | | | |

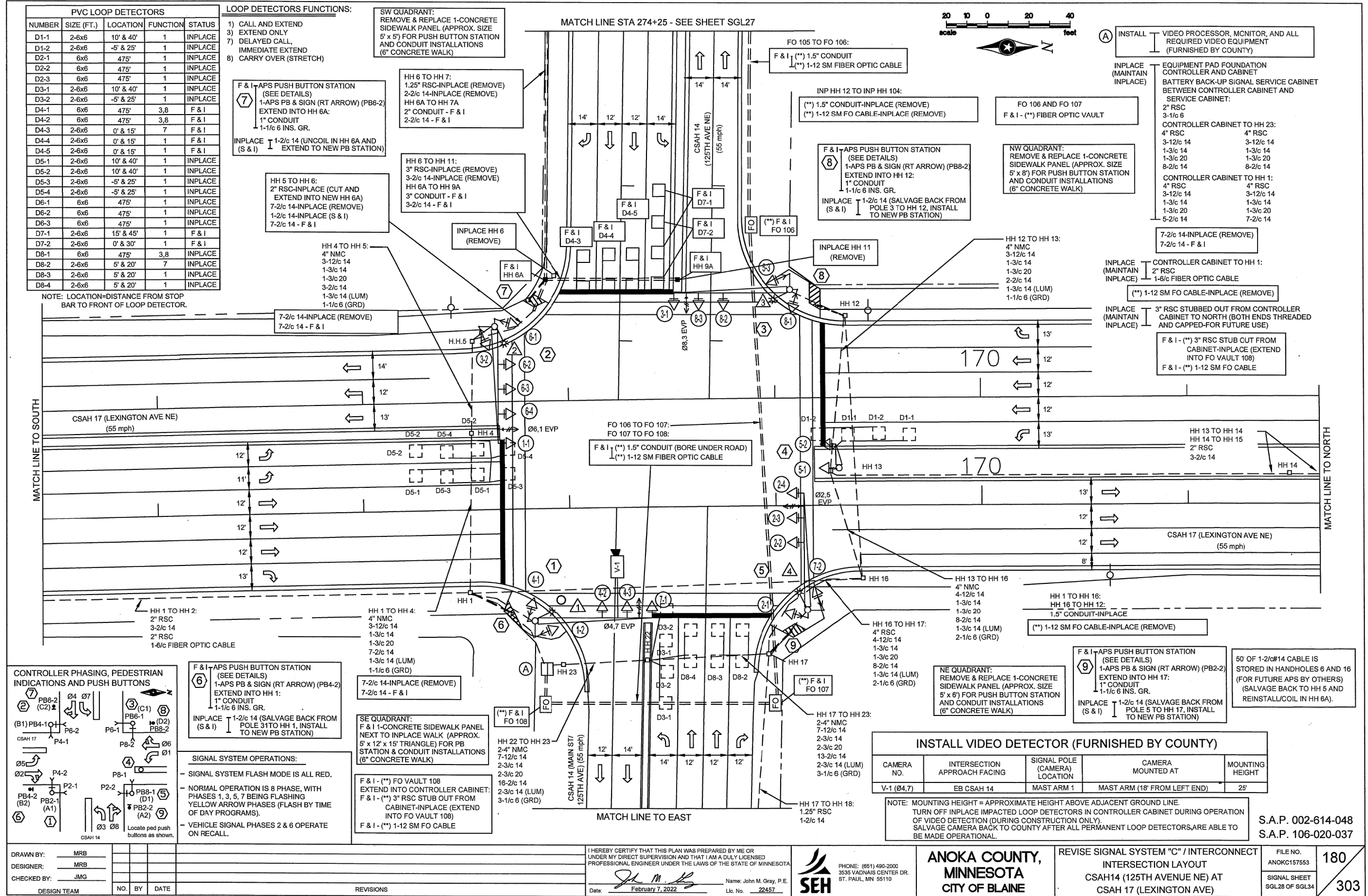
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: SEAN R. THIEL
 SIGNATURE: 
 DATE: 12/06/2023 LICENSE NO. 45129

DRAWN BY LJK DATE 11/28/23
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 CHECKED BY SRT DATE 11/29/23



ANOKA COUNTY
 HIGHWAY DEPT.

SAP 002-617-032



| PVC LOOP DETECTORS | | | | |
|--------------------|------------|-----------|----------|---------|
| NUMBER | SIZE (FT.) | LOCATION | FUNCTION | STATUS |
| D1-1 | 2-6x6 | 10' & 40' | 1 | INPLACE |
| D1-2 | 2-6x6 | -5' & 25' | 1 | INPLACE |
| D2-1 | 6x6 | 475' | 1 | INPLACE |
| D2-2 | 6x6 | 475' | 1 | INPLACE |
| D2-3 | 6x6 | 475' | 1 | INPLACE |
| D3-1 | 2-6x6 | 10' & 40' | 1 | INPLACE |
| D3-2 | 2-6x6 | -5' & 25' | 1 | INPLACE |
| D4-1 | 6x6 | 475' | 3,8 | F & I |
| D4-2 | 6x6 | 475' | 3,8 | F & I |
| D4-3 | 2-6x6 | 0' & 15' | 7 | F & I |
| D4-4 | 2-6x6 | 0' & 15' | 1 | F & I |
| D4-5 | 2-6x6 | 0' & 15' | 1 | F & I |
| D5-1 | 2-6x6 | 10' & 40' | 1 | INPLACE |
| D5-2 | 2-6x6 | 10' & 40' | 1 | INPLACE |
| D5-3 | 2-6x6 | -5' & 25' | 1 | INPLACE |
| D5-4 | 2-6x6 | -5' & 25' | 1 | INPLACE |
| D6-1 | 6x6 | 475' | 1 | INPLACE |
| D6-2 | 6x6 | 475' | 1 | INPLACE |
| D6-3 | 6x6 | 475' | 1 | INPLACE |
| D7-1 | 2-6x6 | 15' & 45' | 1 | F & I |
| D7-2 | 2-6x6 | 0' & 30' | 1 | F & I |
| D8-1 | 6x6 | 475' | 3,8 | INPLACE |
| D8-2 | 2-6x6 | 5' & 20' | 7 | INPLACE |
| D8-3 | 2-6x6 | 5' & 20' | 1 | INPLACE |
| D8-4 | 2-6x6 | 5' & 20' | 1 | INPLACE |

LOOP DETECTORS FUNCTIONS:

- CALL AND EXTEND
- EXTEND ONLY
- DELAYED CALL, IMMEDIATE EXTEND
- CARRY OVER (STRETCH)

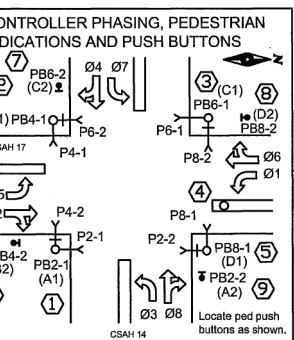
SW QUADRANT:
REMOVE & REPLACE 1-CONCRETE SIDEWALK PANEL (APPROX. SIZE 5' x 5') FOR PUSH BUTTON STATION AND CONDUIT INSTALLATIONS (6" CONCRETE WALK)

SE QUADRANT:
REMOVE & REPLACE 1-CONCRETE SIDEWALK PANEL (APPROX. SIZE 5' x 5') FOR PUSH BUTTON STATION AND CONDUIT INSTALLATIONS (6" CONCRETE WALK)

NE QUADRANT:
REMOVE & REPLACE 1-CONCRETE SIDEWALK PANEL (APPROX. SIZE 5' x 8') FOR PUSH BUTTON STATION AND CONDUIT INSTALLATIONS (6" CONCRETE WALK)

NW QUADRANT:
REMOVE & REPLACE 1-CONCRETE SIDEWALK PANEL (APPROX. SIZE 5' x 8') FOR PUSH BUTTON STATION AND CONDUIT INSTALLATIONS (6" CONCRETE WALK)

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



F & I - APS PUSH BUTTON STATION
(SEE DETAILS)
1-APS PB & SIGN (RT ARROW) (PB2-2)
EXTEND INTO HH 1:
1" CONDUIT
1-1/6 INS. GR.

INPLACE 1-2/c 14 (SALVAGE BACK FROM POLE 31 TO HH 1, INSTALL TO NEW PB STATION)

SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASES 1, 3, 5, 7 BEING FLASHING YELLOW ARROW PHASES (FLASH BY TIME OF DAY PROGRAMS).
- VEHICLE SIGNAL PHASES 2 & 6 OPERATE ON RECALL.

SE QUADRANT:
REMOVE & REPLACE 1-CONCRETE SIDEWALK PANEL (APPROX. SIZE 5' x 12' x 15' TRIANGLE) FOR PB STATION & CONDUIT INSTALLATIONS (6" CONCRETE WALK)

F & I - () FO VAULT 108**
EXTEND INTO CONTROLLER CABINET:
F & I - (**) 3" RSC STUB OUT FROM CABINET-INPLACE (EXTEND INTO FO VAULT 108)
F & I - (**) 1-12 SM FO CABLE

HH 1 TO HH 2:
2" RSC
3-2/c 14
2" RSC
1-6/c FIBER OPTIC CABLE

HH 1 TO HH 4:
4" NMC
3-12/c 14
1-3/c 14
1-3/c 20
7-2/c 14
1-3/c 14 (LUM)
1-1/c 6 (GRD)

HH 1 TO HH 6:
2" RSC-INPLACE (REMOVE)
7-2/c 14 - F & I

HH 1 TO HH 16:
HH 16 TO HH 12:
1.5" CONDUIT-INPLACE
(**) 1-12 SM FO CABLE-INPLACE (REMOVE)

HH 17 TO HH 23:
2-4" NMC
7-12/c 14
2-3/c 14
13-2/c 14
2-3/c 14 (LUM)
3-1/c 6 (GRD)

HH 17 TO HH 18:
1.25" RSC
1-2/c 14

NE QUADRANT:
REMOVE & REPLACE 1-CONCRETE SIDEWALK PANEL (APPROX. SIZE 5' x 8') FOR PUSH BUTTON STATION AND CONDUIT INSTALLATIONS (6" CONCRETE WALK)

F & I - APS PUSH BUTTON STATION
(SEE DETAILS)
1-APS PB & SIGN (RT ARROW) (PB2-2)
EXTEND INTO HH 17:
1" CONDUIT
1-1/6 INS. GR.

INPLACE 1-2/c 14 (SALVAGE BACK FROM POLE 5 TO HH 17, INSTALL TO NEW PB STATION)

| INSTALL VIDEO DETECTOR (FURNISHED BY COUNTY) | | | | |
|--|------------------------------|-------------------------------|------------------------------|-----------------|
| CAMERA NO. | INTERSECTION APPROACH FACING | SIGNAL POLE (CAMERA) LOCATION | CAMERA MOUNTED AT | MOUNTING HEIGHT |
| V-1 (Ø4.7) | EB CSAH 14 | MAST ARM 1 | MAST ARM (18' FROM LEFT END) | 25' |

NOTE: MOUNTING HEIGHT = APPROXIMATE HEIGHT ABOVE ADJACENT GROUND LINE. TURN OFF INPLACE IMPACTED LOOP DETECTORS IN CONTROLLER CABINET DURING OPERATION OF VIDEO DETECTION (DURING CONSTRUCTION ONLY). SALVAGE CAMERA BACK TO COUNTY AFTER ALL PERMANENT LOOP DETECTORS ARE ABLE TO BE MADE OPERATIONAL.

S.A.P. 002-614-048
S.A.P. 106-020-037

| | | | |
|-----------------|-----|----|------|
| DRAWN BY: MRB | NO. | BY | DATE |
| DESIGNER: MRB | | | |
| CHECKED BY: JMG | | | |

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

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.

Date: February 7, 2022 Name: John M. Gray, P.E. Lic. No.: 22457



ANOKA COUNTY, MINNESOTA
CITY OF BLAINE

REVISE SIGNAL SYSTEM "C" / INTERCONNECT
INTERSECTION LAYOUT
CSAH14 (125TH AVENUE NE) AT
CSAH 17 (LEXINGTON AVE)

| | |
|-----------------------------|-----|
| FILE NO. ANOKC157553 | 180 |
| SIGNAL SHEET SGL28 OF SGL34 | 303 |

SYSTEM "C" NOTES:

- ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS OTHERWISE NOTED ON PLANS.
- LOCATION OF NEW FO VAULTS, HANDHOLES, PUSH BUTTON STATIONS, AND LOOP DETECTORS SHALL BE DETERMINED IN THE FIELD BY ENGINEER.
- AS PART OF THE "REVISE SIGNAL SYSTEM C" PAY ITEM, THE CONTRACTOR SHALL COMPLETE THE FOLLOWING WORK:
 - REMOVE AND DISPOSE OF INPLACE HANDHOLES 6, 7, 8, 9, 10, AND 11; FURNISH AND INSTALL NEW HANDHOLES 6A, 7A, 8A, AND 9A (PVC HANDHOLES WITH METAL FRAMES AND COVERS - SEE DETAILS & SPECIAL PROVISIONS FOR FURTHER INFORMATION).
 - REMOVE AND DISPOSE OF INPLACE CONDUITS BETWEEN HH 6-10 AND BETWEEN HH 6-11; FURNISH AND INSTALL NEW CONDUITS AS SHOWN BETWEEN HH 6A-8A AND BETWEEN HH 6A-9A; AND CUT AND EXTEND INPLACE 2" RSC BACK FROM HH 6 AND INSTALL INTO NEW HH 6A.
 - REMOVE AND DISPOSE OF INPLACE 2/C 14 CABLES AS SHOWN, AND FURNISH AND INSTALL NEW 2/C 14 CABLES TO NEW LOOP DETECTORS.
 - FURNISH AND INSTALL NEW LOOP DETECTORS D4-1, D4-2, D4-3, D4-4, D4-5, D7-1, AND D7-2 IN PVC PER DETAILS INCLUDED ELSEWHERE IN THESE PLANS, AND SPLICE NEW ROADWAY WIRES TO NEW LEAD-IN CABLES IN ADJACENT HANDHOLES (USING NEW LOOP DETECTOR SPLICE ENCAPSULATION KITS). NEW LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) #12 AWG IN 3/4" NMC (SEE SPECIAL PROVISIONS).
 - INSTALL, AIM, AND MAKE OPERATIONAL THE COUNTY FURNISHED VIDEO DETECTOR CAMERA AND MAST ARM EXTENSION ON MAST ARM 1 (FOR EASTBOUND VEHICULAR DETECTION DURING CONSTRUCTION AND WHEN PERMANENT EASTBOUND LOOP DETECTORS ARE NOT ABLE TO BE USED WITH THE EXISTING SIGNAL SYSTEM). CONTRACTOR SHALL FURNISH & INSTALL 3/4" 14 CABLE FROM POLE BASE 1 TO THE MAST ARM MOUNTED VIDEO CAMERA (SPLICE TO INPLACE CABLE 7 IN POLE BASE 1) IN ACCORDANCE WITH VIDEO SYSTEM MANUFACTURERS SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR REIMAGING VIDEO CAMERA AS NEEDED DURING CONSTRUCTION. AFTER PERMANENT LOOP DETECTORS ARE MADE OPERATIONAL, CONTRACTOR SHALL SALVAGE CAMERA AND MAST ARM EXTENSION TO COUNTY, SHALL REMOVE VIDEO CABLE, AND SHALL MAKE ALL PERMANENT LOOP DETECTORS OPERATIONAL.
 - BAG (COVER) & MAKE INOPERATIONAL ANY VEHICLE SIGNAL HEADS THAT CONFLICT WITH TRAFFIC PATTERNS DURING ALL STAGED ROAD CONSTRUCTION. AFTER IMPACTED APPROACH IS RETURNED TO NORMAL TRAFFIC PATTERNS, UNBAG AND MAKE THESE IMPACTED VEHICLE SIGNAL HEADS OPERATIONAL.
 - FURNISH AND INSTALL APS PUSH BUTTON STATIONS, APS PUSH BUTTONS, APS MAST ARM POLE ADAPTORS, AND 1-INCH CONDUIT TO PUSH BUTTON STATIONS; REMOVE AND REPLACE CONCRETE SIDEWALK TO ACCOMMODATE NEW PUSH BUTTON STATIONS; SALVAGE AND REINSTALL 2/C 14 CABLES TO NEW PUSH BUTTON STATIONS; SALVAGE EXISTING PEDESTRIAN PUSH BUTTONS AND SIGNS FROM EACH MAST ARM POLE; CAP HOLES ON MAST ARM POLES WHERE PUSH BUTTONS USED TO BE; AND COMPLETE ALL OTHER WORK NEEDED TO MAKE APS PUSH BUTTONS OPERATIONAL.
- ANY DAMAGE TO INPLACE TRAFFIC SIGNAL FACILITIES (CONDUIT, CABLES, HANDHOLES, SIGNAL POLES, ETC.), EITHER DUE TO TRAFFIC SIGNAL REVISION WORK OR ROAD CONSTRUCTION WORK, SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER, AT NO EXPENSE TO THE COUNTY.
- CONTRACTOR SHALL MAINTAIN OPERATION OF THE SIGNAL SYSTEM AT ALL TIMES, EXCEPT AS OTHERWISE APPROVED BY ENGINEER.
- F & I = NEW, FURNISH AND INSTALL.
- ALL CONDUIT, CABLES AND CONDUCTORS, HANDHOLES, AND LOOP DETECTORS ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN AND DEVOTED OTHERWISE.
- (**) DENOTES ITEMS TO BE FURNISHED AND INSTALLED (OR REMOVED AND DISPOSED OF BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- SEE DETAILS AND SPECIAL PROVISIONS REGARDING FIBER OPTIC VAULTS TO BE FURNISHED AND INSTALLED BY CONTRACTOR.

1 INPLACE (MAINTAIN INPLACE) PA100 POLE FOUNDATION TYPE PA100-A-55-D40-9 (DAVIT AT 350 DEG) LUMINAIRE-COBRAHEAD LED 3-ONE WAY SIGNALS-OVERHEAD (0, 11' AND 23' FROM END OF MAST ARM) 2-TYPE 10B-POLE MOUNTED 90/180 DEG 2-R6-1 SIGN PANELS-POLE MOUNTED 0/180 DEG R10-X12 SIGN-ADJACENT TO 7-1 TYPE D SIGN PANEL-OVERHEAD AT 30' ONE WAY EVP DETECTOR AND LIGHT AT 6' (04,7) EXTENDED INTO HH 1:

3" RSC
3-1/2c 14
1-3/c 14
1-3/c 20
1-2/c 14
1-3/c 14 (LUM)
1-1/c 6 (GRD)

INSTALL VIDEO DETECTOR CAMERA AND MAST ARM EXTENSION AT APPROX. 18' FROM END OF MAST ARM (V-1) BY COUNTY

F & I 1-3/c 14 (SPLICE TO INPLACE CABLE 7 AND EXTEND FROM POLE BASE TO VIDEO DETECTOR CAMERA) 3/4" MAST ARM HUB AT 18' (FOR VIDEO CAMERA)

INPLACE (SALVAGE) 2-PEDESTRIAN PUSH BUTTONS - POLE MOUNTED 0/270 DEG
INPLACE (S & I) 1-2/c 14 (CABLE 11) - SALVAGE BACK TO HH 1 AND EXTEND TO NEW PUSH BUTTON STATION (FOR PB4-2)
INPLACE (REMOVE) 2-PEDESTRIAN INSTRUCTION "STICKER" SIGNS

F & I 1-APS PUSH BUTTON, SIGN (LT ARROW), AND APS MAST ARM POLE ADAPTOR AT 270 DEG (PB2-1) PLUG HOLES ON MAST ARM POLE WHERE PUSH BUTTONS USED TO BE (AT 0/270 DEG)

2 INPLACE (MAINTAIN INPLACE) PA100 POLE FOUNDATION TYPE PA100-A-55-D40-9 (DAVIT AT 350 DEG) LUMINAIRE-COBRAHEAD LED 4-ONE WAY SIGNALS-OVERHEAD (0, 14, 26, AND 38' FROM END OF MAST ARM) 3-WELDED MID MAST ARM MOUNTS (LOCATED AT 14', 26' AND 38' FROM END OF MAST ARM) OPEN MID-MOUNTS CAPPED AT 17', 29', AND 41' FROM END OF MAST ARM 2-TYPE 10B-POLE MOUNTED 90/180 DEG 2-R6-1 SIGN PANELS-POLE MOUNTED 0/180 DEG R10-X12 SIGN-ADJACENT TO 1-1 TYPE D SIGN PANEL-OVERHEAD AT 45' ONE WAY EVP DETECTOR AND LIGHT AT 6' (06,1) EXTENDED INTO HH 5:

3" RSC
3-1/2c 14
1-3/c 14
1-3/c 20
2-2/c 14
1-3/c 14 (LUM)
1-1/c 6 (GRD)

INPLACE (SALVAGE) 2-PEDESTRIAN PUSH BUTTONS - POLE MOUNTED AT 180/270 DEG
INPLACE (REMOVE) 2-PEDESTRIAN INSTRUCTION "STICKER" SIGNS

F & I 1-APS PUSH BUTTON, SIGN (LT ARROW), AND APS MAST ARM POLE ADAPTOR AT 270 DEG (PB4-1) PLUG HOLES ON MAST ARM POLE WHERE PUSH BUTTONS USED TO BE (AT 180/270 DEG)

3 INPLACE (MAINTAIN INPLACE) PA100 POLE FOUNDATION TYPE PA100-A-55-D40-9 (DAVIT AT 350 DEG) LUMINAIRE-COBRAHEAD LED 3-ONE WAY SIGNALS-OVERHEAD (0, 11' AND 23' FROM END OF MAST ARM) 2-TYPE 10B-POLE MOUNTED 90/180 DEG 2-R6-1 SIGN PANELS-POLE MOUNTED 0/180 DEG R10-X12 SIGN-ADJACENT TO 3-1 TYPE D SIGN PANEL-OVERHEAD AT 30' ONE WAY EVP DETECTOR AND LIGHT AT 6' (08,3) EXTENDED INTO HH 12:

3" RSC
3-1/2c 14
1-3/c 14
1-3/c 20
1-2/c 14
1-3/c 14 (LUM)
1-1/c 6 (GRD)

INPLACE (SALVAGE) 2-PEDESTRIAN PUSH BUTTONS - POLE MOUNTED AT 180/270 DEG
INPLACE (S & I) 1-2/c 14 (CABLE 62) - SALVAGE BACK TO HH 12 AND EXTEND TO NEW PUSH BUTTON STATION (FOR PB8-2)
INPLACE (REMOVE) 2-PEDESTRIAN INSTRUCTION "STICKER" SIGNS

F & I 1-APS PUSH BUTTON, SIGN (LT ARROW), AND APS MAST ARM POLE ADAPTOR AT 270 DEG (PB6-1) PLUG HOLES ON MAST ARM POLE WHERE PUSH BUTTONS USED TO BE (AT 180/270 DEG)

4 INPLACE (MAINTAIN INPLACE) PA85 POLE FOUNDATION TYPE PA85-A-10 1-ONE WAY SIGNAL-OVERHEAD AT 0' 1-ONE WAY SIGNAL-POLE MOUNTED 270 DEG R10-X12 SIGN-ADJACENT TO 5-2 EXTENDED INTO HH 13:

3" RSC
1-1/2c 14
1-2/c 14
1-1/c 6 (GRD)

5 INPLACE (MAINTAIN INPLACE) PA100 POLE FOUNDATION TYPE PA100-A-55-D40-9 (DAVIT AT 350 DEG) LUMINAIRE-COBRAHEAD LED 3-ONE WAY SIGNALS-OVERHEAD (0, 11, AND 23' FROM END OF MAST ARM) 2-WELDED MID MAST ARM MOUNTS (LOCATED AT 11' AND 23' FROM END OF MAST ARM) OPEN MID-MOUNTS CAPPED AT 17', 29', AND 41' FROM END OF MAST ARM 2-TYPE 10B-POLE MOUNTED 90/180 DEG 2-R6-1 SIGN PANELS-POLE MOUNTED 0/180 DEG TYPE D SIGN PANEL-OVERHEAD AT 45' ONE WAY EVP DETECTOR AND LIGHT AT 6' (02,5) EXTENDED INTO HH 17:

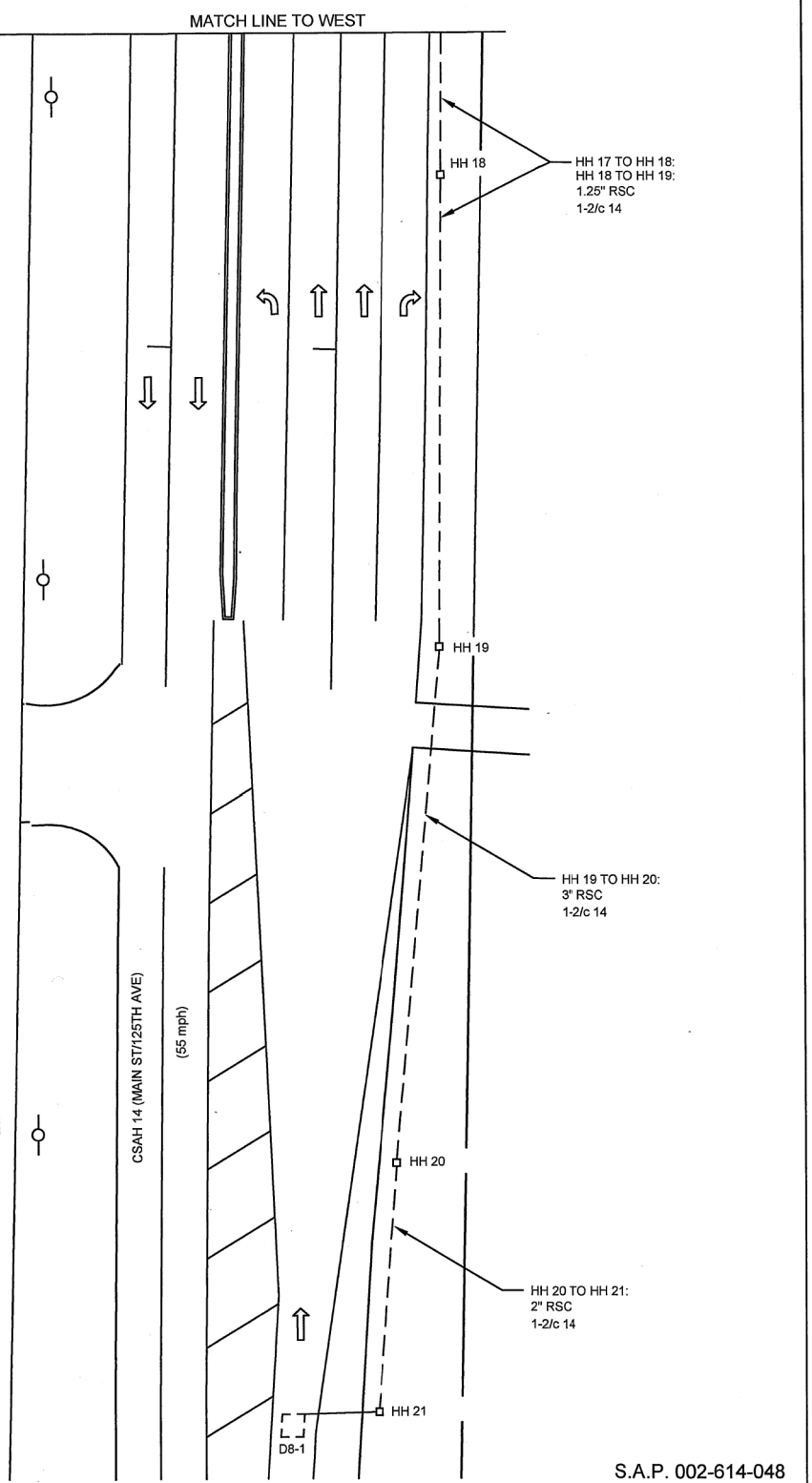
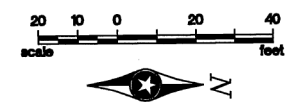
3" RSC
3-1/2c 14
1-3/c 14
1-3/c 20
1-2/c 14
1-3/c 14 (LUM)
1-1/c 6 (GRD)

INPLACE (SALVAGE) 2-PEDESTRIAN PUSH BUTTONS - POLE MOUNTED 0/270 DEG
INPLACE (S & I) 1-2/c 14 (CABLE 44) - SALVAGE BACK TO HH 17 AND EXTEND TO NEW PUSH BUTTON STATION (FOR PB2-2)
INPLACE (REMOVE) 2-PEDESTRIAN INSTRUCTION "STICKER" SIGNS

F & I 1-APS PUSH BUTTON, SIGN (LT ARROW), AND APS MAST ARM POLE ADAPTOR AT 270 DEG (PB8-1) PLUG HOLES ON MAST ARM POLE WHERE PUSH BUTTONS USED TO BE (AT 0/270 DEG)

FYA = FLASHING YELLOW ARROW

| SIGNAL HEAD # | ALL 12" INDICATIONS | | | |
|---------------|---------------------|---|-----|---|
| | R | Y | FYA | G |
| 1-1, 5-2 | ← | ← | ← | ← |
| 1-2, 5-3 | ← | ← | ← | ← |
| 2-1, 2-2 | ○ | ○ | ○ | ○ |
| 2-3, 2-4 | ○ | ○ | ○ | ○ |
| 3-1, 7-1 | ← | ← | ← | ← |
| 3-2, 7-2 | ← | ← | ← | ← |
| 4-1, 4-2, 4-3 | ○ | ○ | ○ | ○ |
| 5-1 | ← | ← | ← | ← |
| 6-1, 6-2 | ○ | ○ | ○ | ○ |
| 6-3, 6-4 | ○ | ○ | ○ | ○ |
| 8-1, 8-2, 8-3 | ○ | ○ | ○ | ○ |



S.A.P. 002-614-048
S.A.P. 106-020-037

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

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

Date: February 7, 2022 Name: John M. Gray, P.E. Lic. No.: 22457

SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA
CITY OF BLAINE

REVISE SIGNAL SYSTEM "C" / INTERCONNECT
MATCHLINE AND NOTES
CSAH14 (125TH AVENUE NE) AT
CSAH 17 (LEXINGTON AVE)

| | |
|-----------------------------|-----|
| FILE NO. ANOKC157553 | 181 |
| SIGNAL SHEET SGL29 OF SGL34 | 303 |

FOR REFERENCE PURPOSES ONLY

| | | | | | | | |
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| NO | DATE | BY | CKD | APPR | REVISION | 01/24/2024 | 11:28:11 AM |
| NAME: P:\24-01-00\CSAH_17_(CSAH 12 TO MAIN ST.)\Base\Proposed\SIGNALS.dgn | | | | | | | |

ANOKA COUNTY HIGHWAY DEPT.

ANOKA COUNTY HIGHWAY DEPT.

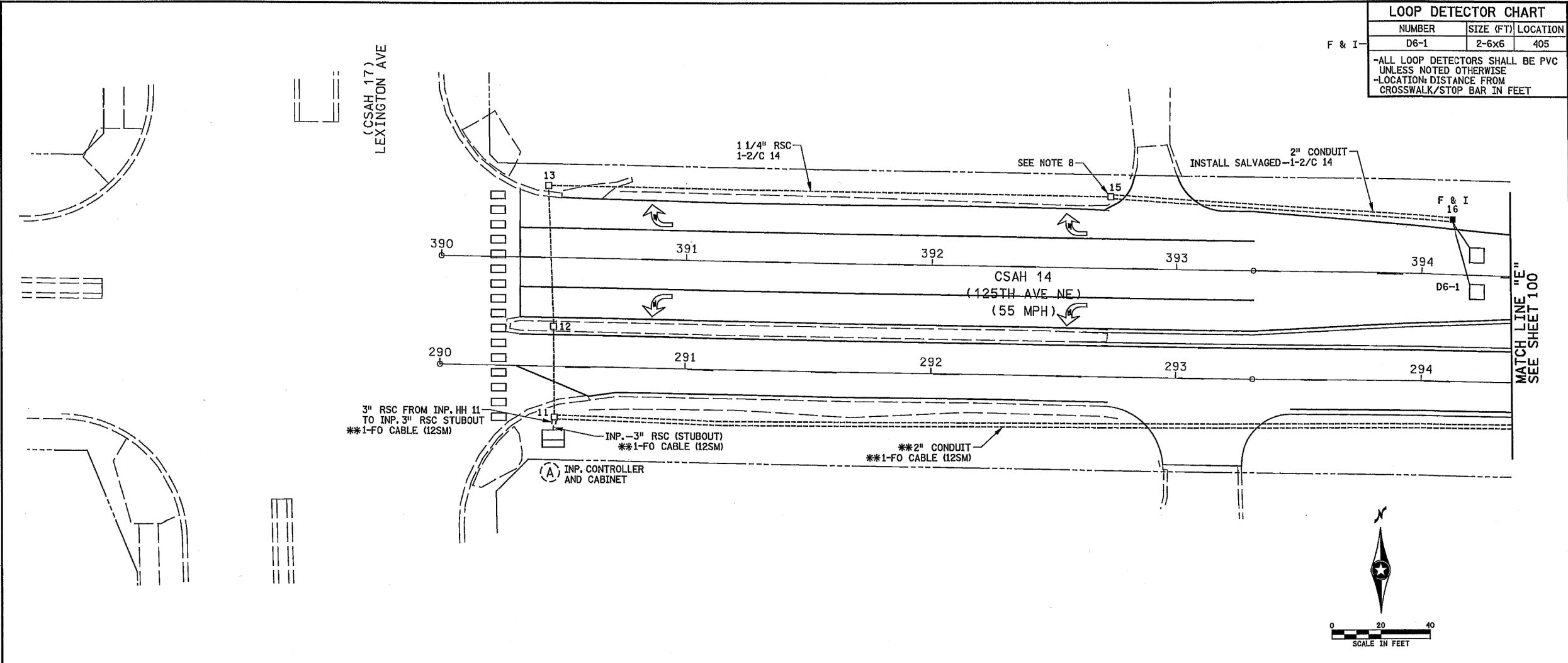
STATE AID PROJECT 002-617-032

SIGNAL PLANS
Sheet 20 of 39 Sheets

FOR REFERENCE PURPOSES ONLY

| LOOP DETECTOR CHART | | |
|---------------------|-----------|----------|
| NUMBER | SIZE (FT) | LOCATION |
| D6-1 | 2-6x6 | 405 |

-ALL LOOP DETECTORS SHALL BE PVC
UNLESS NOTED OTHERWISE
-LOCATION: DISTANCE FROM
CROSSWALK/STOP BAR IN FEET



- NOTES:
1. ALL ITEMS SHOWN ARE INPLACE AND SHALL REMAIN INPLACE UNLESS NOTED OTHERWISE.
 2. REFER TO "FOR INFORMATION ONLY" SHEETS FOR INPLACE SIGNAL COMPONENTS.
 3. SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
 4. ENSURE THE EXACT LOCATION OF THE HANDHOLE, CONDUIT AND LOOP DETECTORS ARE VERIFIED IN THE FIELD BY COUNTY OFFICE PERSONNEL.
 5. THIS PLAN SPECIFIES CONDUIT SIZE, TYPE, AND GENERAL LOCATION. THE EXACT LOCATION WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAYS REQUIRE BORING.
 6. USE RSC FOR ALL NEW CONDUIT.
 7. CONDUIT SIZES ARE NOMINAL DIAMETER.
 8. INTERCEPT EXISTING HH 15 WITH NEW CONDUIT TO NEW HH 16. CONTRACTOR SHALL COIL AND PROTECT SALVAGED LOOP DETECTOR LEAD-IN CONDUCTOR IN EXISTING HH 15. CONTRACTOR SHALL INSTALL SALVAGED CONDUCTORS AS SHOWN AND MAKE ALL NECESSARY SPLICES TO NEW LOOP DETECTOR D6-1 TO MAKE THE REVISED SIGNAL SYSTEM OPERATIONAL TO THE SATISFACTION OF THE ENGINEER.
 9. ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.

8:55:41 AM 3/22/2019 ...\\Plan\Ina\Plan\11762_m103.dgn

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

I hereby certify that this plan, specification, or report 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: **NATHAN A. POOLE**

Date: **03/22/19** License #: **56071**

STATE PROJECT NO. 002-617-045
103-142-001

CITY OF BLAINE
PROJECT NO. 18-09

DRAWN BY M. BRESSLER
DESIGNED BY M. BRESSLER
CHECKED BY N. POOLE
COMM. NO. 1811762



ANOKA COUNTY

TRAFFIC SIGNAL PLANS
CSAH 14 RECONSTRUCTION
REVISED INTERSECTION/INTERCONNECT LAYOUT

SHEET 101 OF 106

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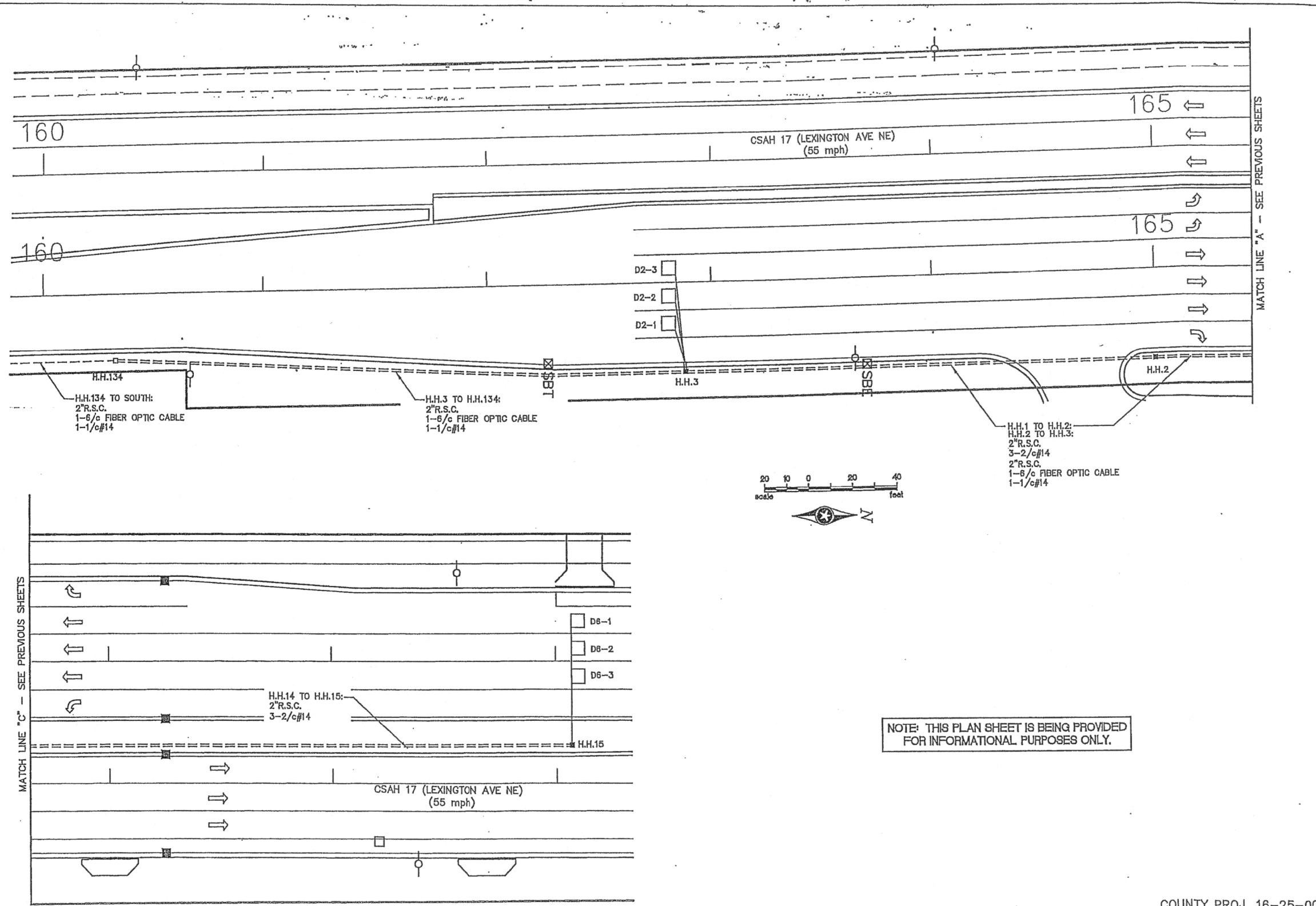


ANOKA COUNTY HIGHWAY DEPT.

STATE AID PROJECT 002-617-032

SIGNAL PLANS
Sheet 21 of 39 Sheets

7134




NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

DRAWN BY: JMG
 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.
 ANOKA COUNTY
 COUNTY PROJ. 16-25-00
 INPLACE SIGNAL SYSTEM "D"
 FILE NO. ANOKC 138132 30

FOR REFERENCE PURPOSES ONLY

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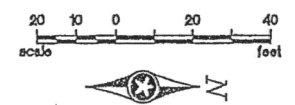
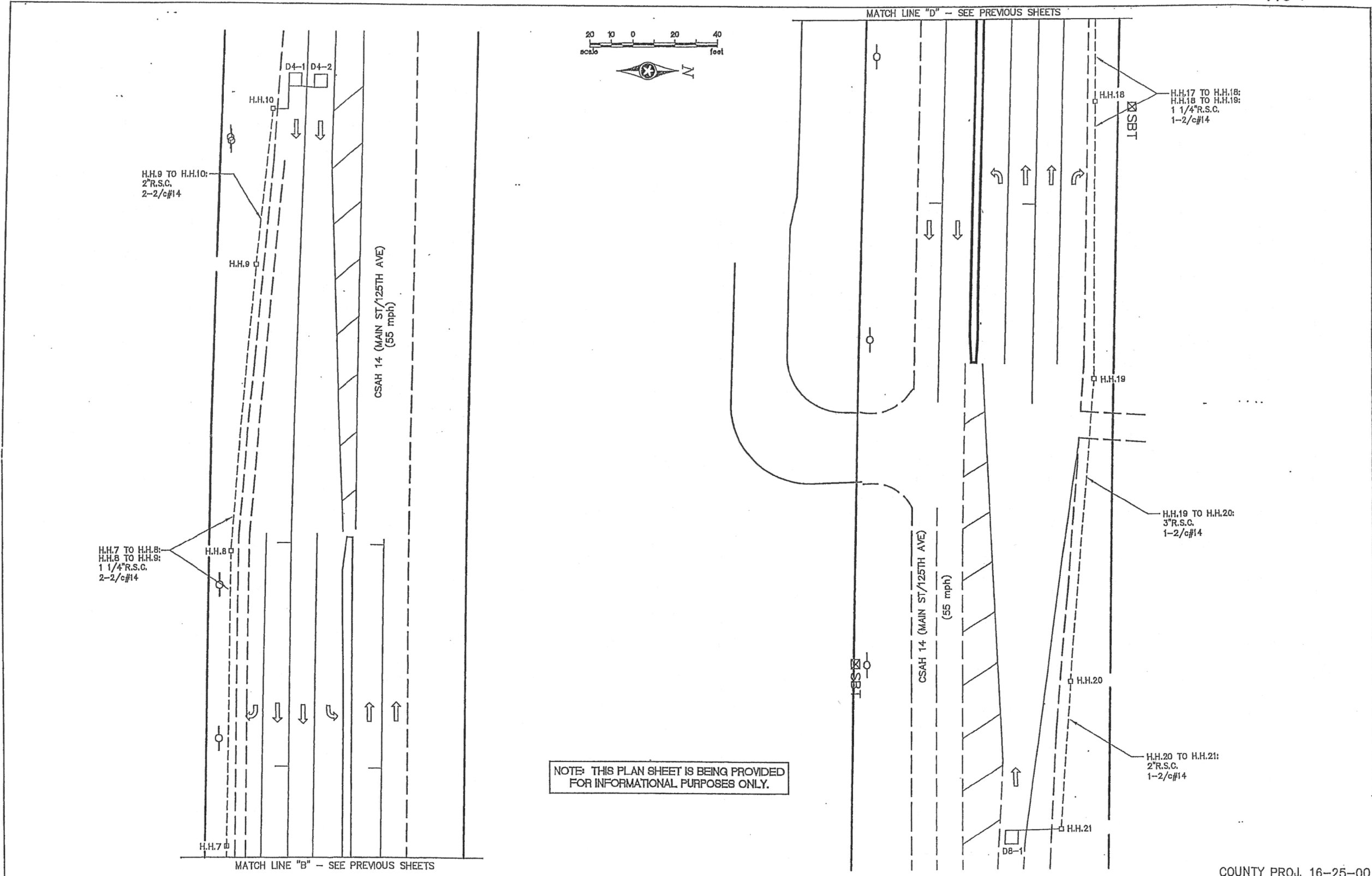
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ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT 002-617-032

SIGNAL PLANS

Sheet 22 of 39 Sheets



NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

DRAWN BY: JMG | I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED | ANOKA COUNTY | INPLACE SIGNAL SYSTEM 'D' | COUNTY PROJ. 16-25-00 | FILE NO. ANOKA 178179 | 31

FOR REFERENCE PURPOSES ONLY

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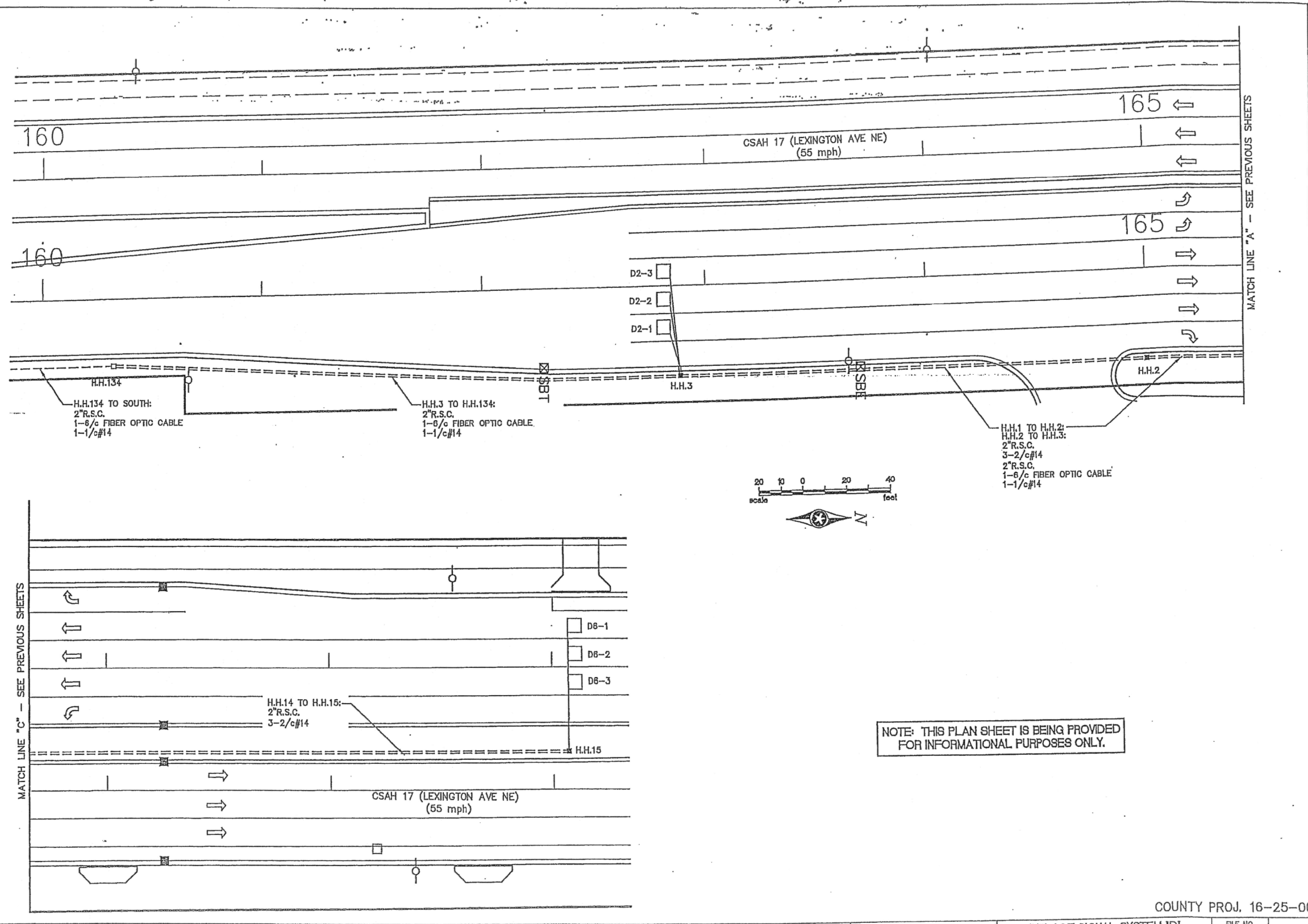
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ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT 002-617-032

SIGNAL PLANS
Sheet 23 of 39 Sheets

7134



FOR REFERENCE PURPOSES ONLY

COUNTY PROJ. 16-25-00

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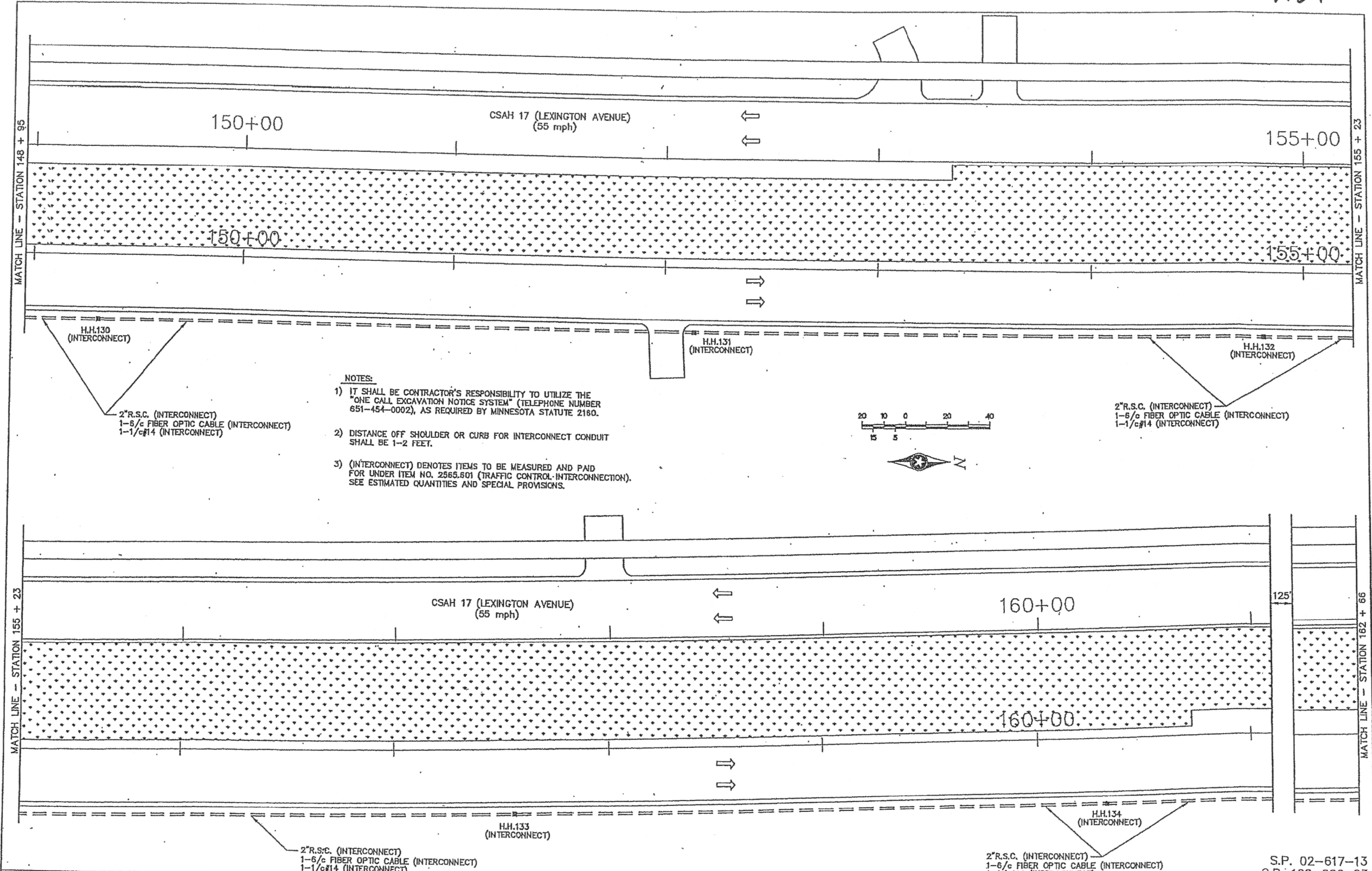


ANOKA COUNTY
HIGHWAY DEPT.

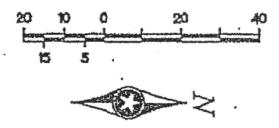
STATE AID PROJECT 002-617-032

SIGNAL PLANS
Sheet 24 of 39 Sheets

7184



- NOTES:**
- 1) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
 - 2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1-2 FEET.
 - 3) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR UNDER ITEM NO. 2565.601 (TRAFFIC CONTROL-INTERCONNECTION). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.



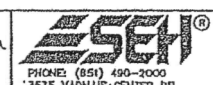
DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

| NO. | BY | DATE | REVISIONS |
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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.

[Signature] Home: John X. Gray, P.E.



ANOKA COUNTY, MINNESOTA

TRAFFIC SIGNAL INTERCONNECT INTERSECTION LAYOUT

S.P. 02-617-13
 S.P. 106-020-23

FILE NO. AAOKC0305.00
 SIGNAL SHEET 142/176

FOR REFERENCE PURPOSES ONLY

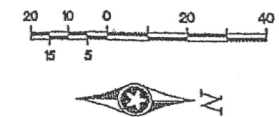
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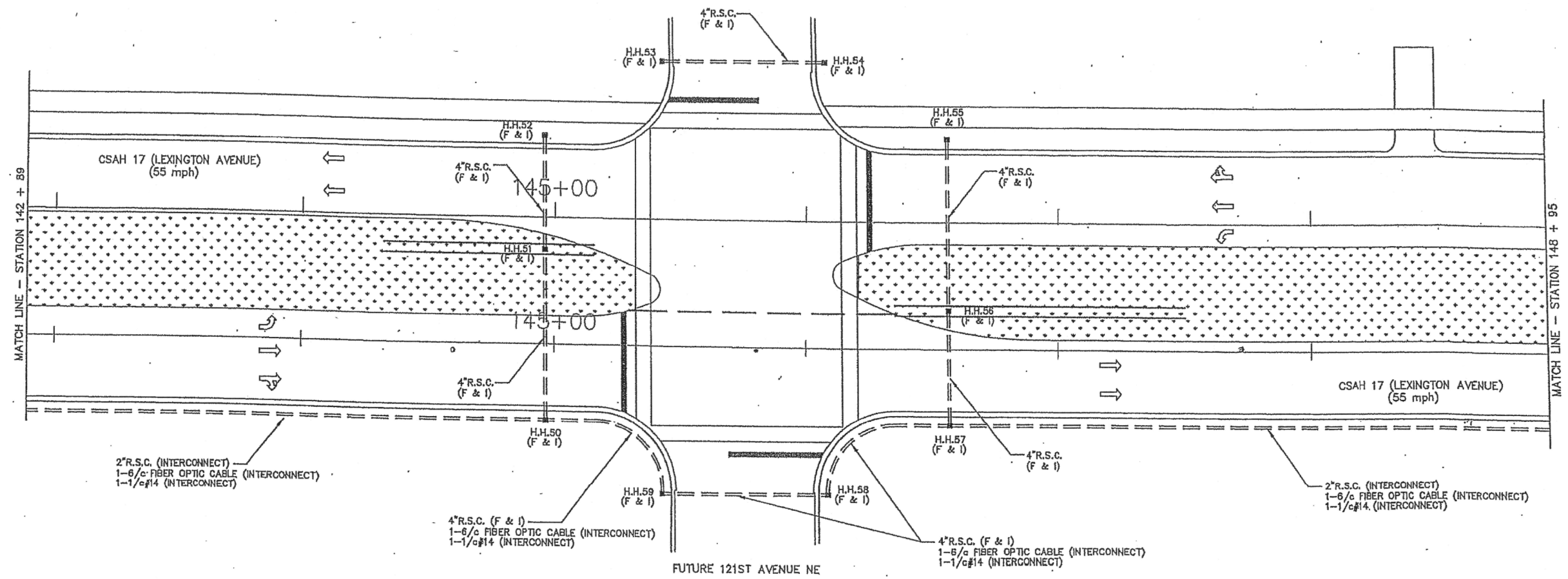
ANOKA COUNTY HIGHWAY DEPT.

STATE AID PROJECT 002-617-032

SIGNAL PLANS
 Sheet 25 of 39 Sheets



- NOTES:**
- 1) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002), AS REQUIRED BY MINNESOTA STATUTE 2180.
 - 2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1-2 FEET.
 - 3) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR UNDER ITEM NO. 2565.601 (TRAFFIC CONTROL INTERCONNECTION). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
 - 4) ALL ITEMS NOT DENOTED BY (INTERCONNECT), SUCH AS CONDUIT AND HANDHOLES FOR THE FUTURE TRAFFIC SIGNAL SYSTEM, SHALL BE MEASURED AND PAID FOR SEPARATELY (SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS) (ITEMS DENOTED BY F & I).
 - 5) CONTRACTOR SHALL THREAD AND CAP ALL CONDUIT FOR FUTURE TRAFFIC SIGNAL SYSTEM IN EACH HANDHOLE.



W:\AE\ANOKA\032600\7134\SIGNAL

| | | | | |
|-------------|-----|----|------|-----------|
| DESIGN TEAM | NO. | BY | DATE | REVISIONS |
| JMG | | | | |
| JMG | | | | |
| JMG | | | | |

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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.
 October 9, 2007



ANOKA COUNTY, MINNESOTA
CITY OF BLAINE

INTERCONNECT/FUTURE SIGNAL SYSTEM
 INTERSECTION LAYOUT
 CSAH 17 (LEXINGTON AVENUE) AT
 FUTURE 121ST AVENUE NE

S.P. 02-617-13
 S.P. 106-020-23

| | |
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| FILE NO. | 141 |
| AAHOKC0305.00 | |
| SIGNAL SHEET | 26 |
| 18 OF 28 | |

FOR REFERENCE PURPOSES ONLY

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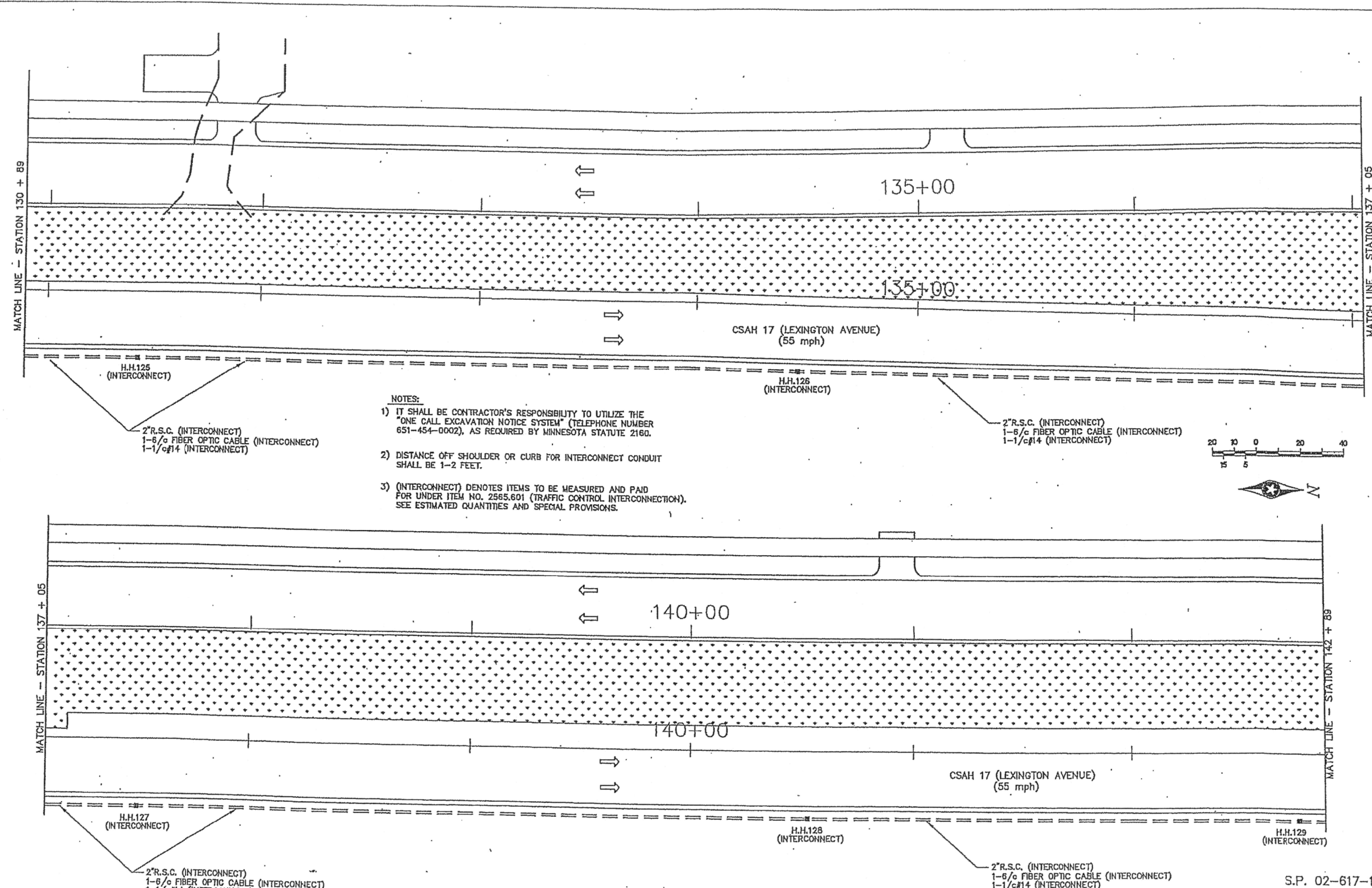
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ANOKA COUNTY HIGHWAY DEPT.

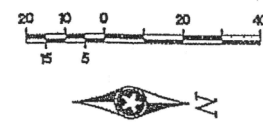
STATE AID PROJECT 002-617-032

SIGNAL PLANS
 Sheet 26 of 39 Sheets

FOR REFERENCE PURPOSES ONLY



- NOTES:
- 1) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
 - 2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1-2 FEET.
 - 3) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR UNDER ITEM NO. 2565.601 (TRAFFIC CONTROL INTERCONNECTION). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.



DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

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

John M. ...
 Name: John M. ...
 License No. ...



ANOKA COUNTY,
MINNESOTA

TRAFFIC SIGNAL INTERCONNECT
INTERSECTION LAYOUT

S.P. 02-617-13
S.P. 106-020-23

FILE NO. 140/26
ANOKA0206.00
SIGNAL SHEET

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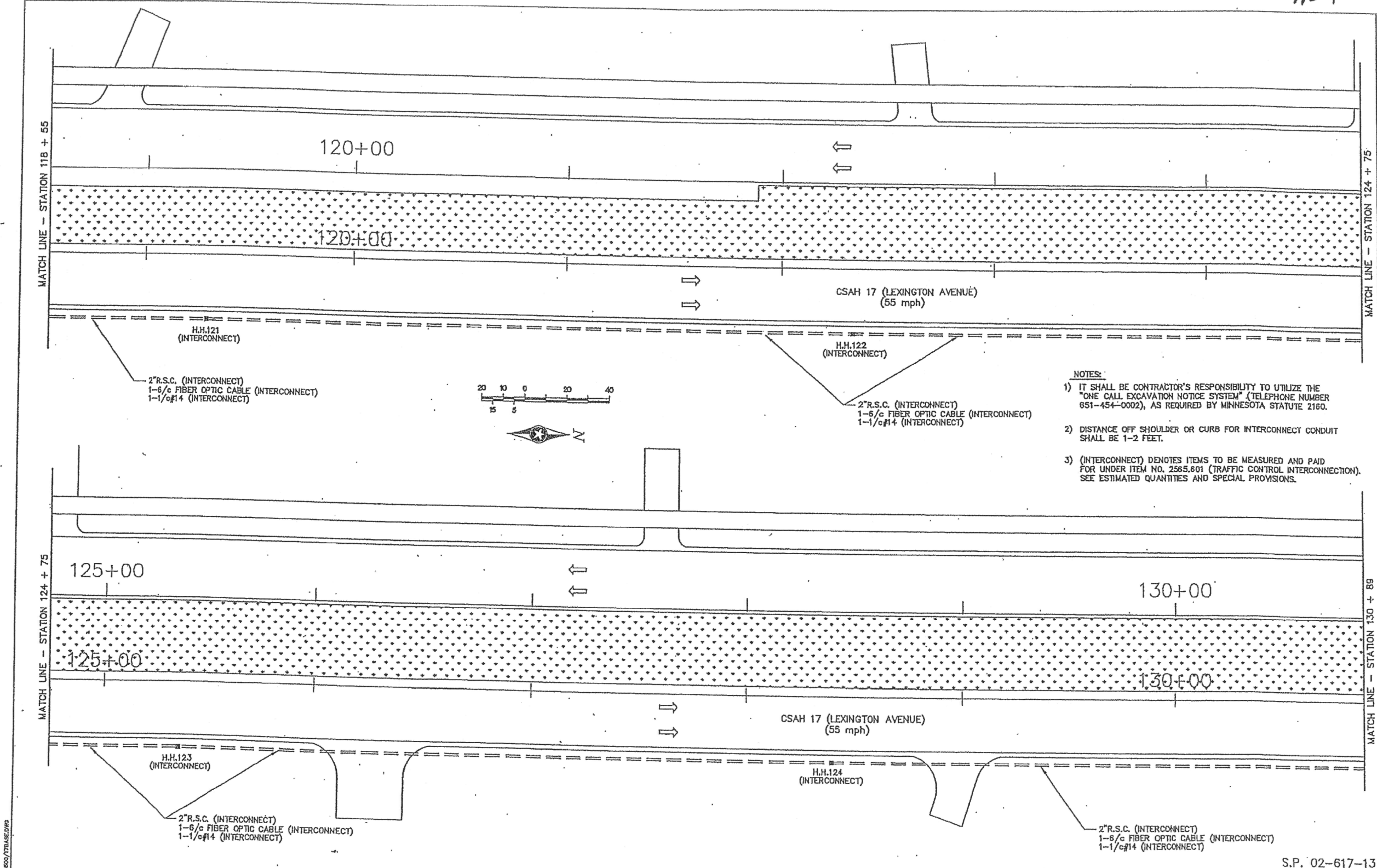
ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT 002-617-032

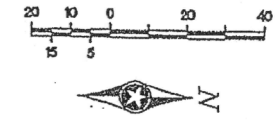
SIGNAL PLANS
Sheet 27 of 39 Sheets

7134

FOR REFERENCE PURPOSES ONLY



- NOTES:**
- 1) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
 - 2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1-2 FEET.
 - 3) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR UNDER ITEM NO. 2565.601 (TRAFFIC CONTROL INTERCONNECTION). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.



| | |
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| DESIGNER: | JMG |
| CHECKED BY: | JMG |
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John M. Gray
 Home: John M. Gray, P.E.
 PHONE: (851) 490-2000
 3535 VARNALL CENTER RD



ANOKA COUNTY,
MINNESOTA

TRAFFIC SIGNAL INTERCONNECT
INTERSECTION LAYOUT

S.P. 02-617-13
S.P. 106-020-23

FILE NO. AANOKC0305.00
SIGNAL SHEET 139/226

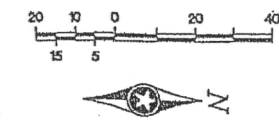
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ANOKA COUNTY
HIGHWAY DEPT.

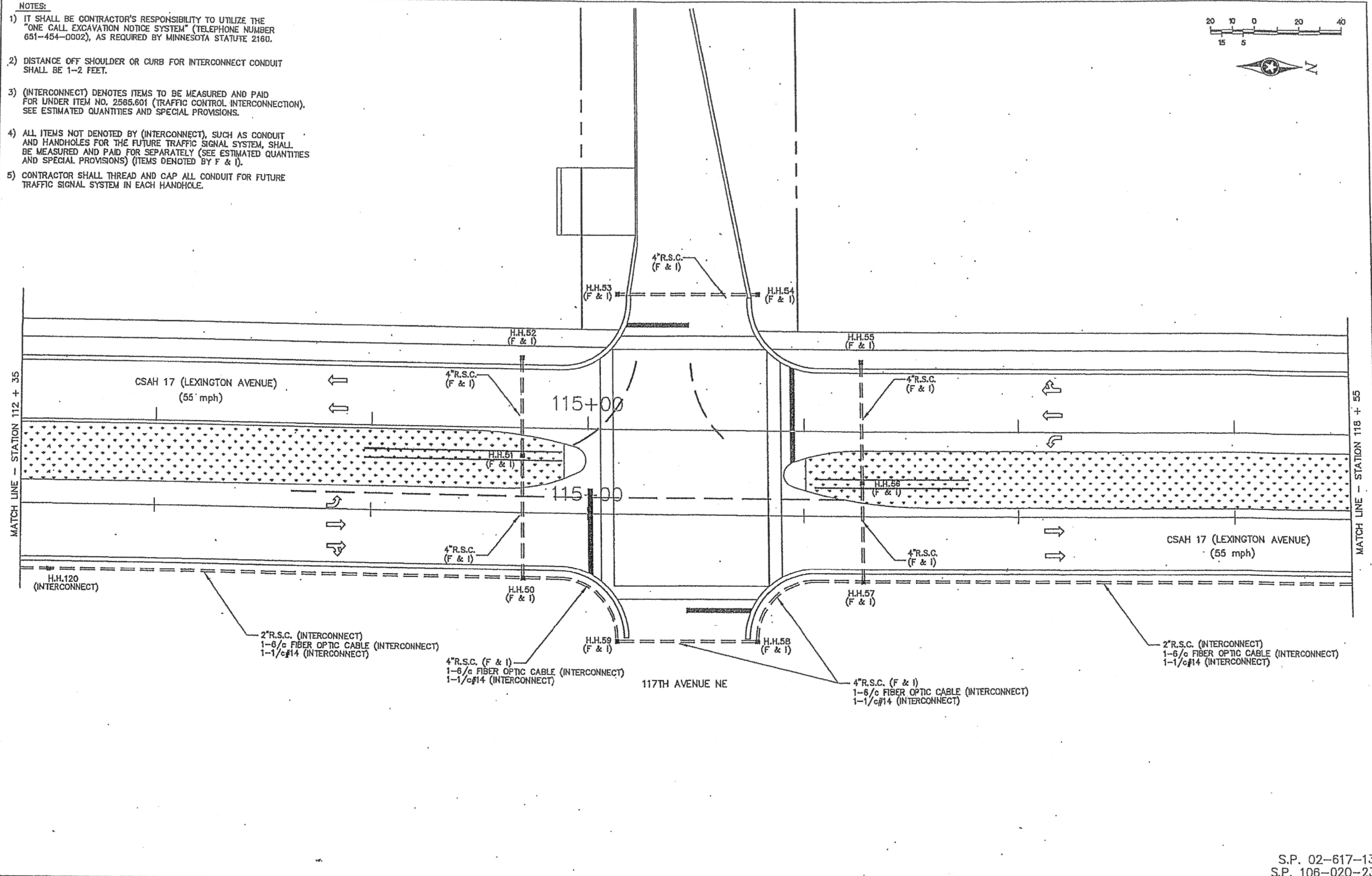
STATE AID PROJECT 002-617-032

SIGNAL PLANS
Sheet 28 of 39 Sheets

7134



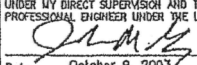
- NOTES:**
- 1) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002), AS REQUIRED BY MINNESOTA STATUTE 216D.
 - 2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1-2 FEET.
 - 3) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR UNDER ITEM NO. 2565.601 (TRAFFIC CONTROL INTERCONNECTION), SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
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 - 5) CONTRACTOR SHALL THREAD AND CAP ALL CONDUIT FOR FUTURE TRAFFIC SIGNAL SYSTEM IN EACH HANDHOLE.



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| DESIGNER: | JMG |
| CHECKED BY: | JMG |
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 Name: John W. Gray, P.E.
 No. 22457
 Date: October 9, 2003



ANOKA COUNTY,
MINNESOTA
CITY OF BLAINE

INTERCONNECT/FUTURE SIGNAL SYSTEM
INTERSECTION LAYOUT
CSAH 17 (LEXINGTON AVENUE) AT
117TH AVENUE NORTH/EAST


| | |
|--------------|---------------|
| FILE NO. | AANOKC0305.00 |
| SIGNAL SHEET | 138 / 226 |
| 15 OF 28 | |

S.P. 02-617-13
S.P. 106-020-23

FOR REFERENCE PURPOSES ONLY

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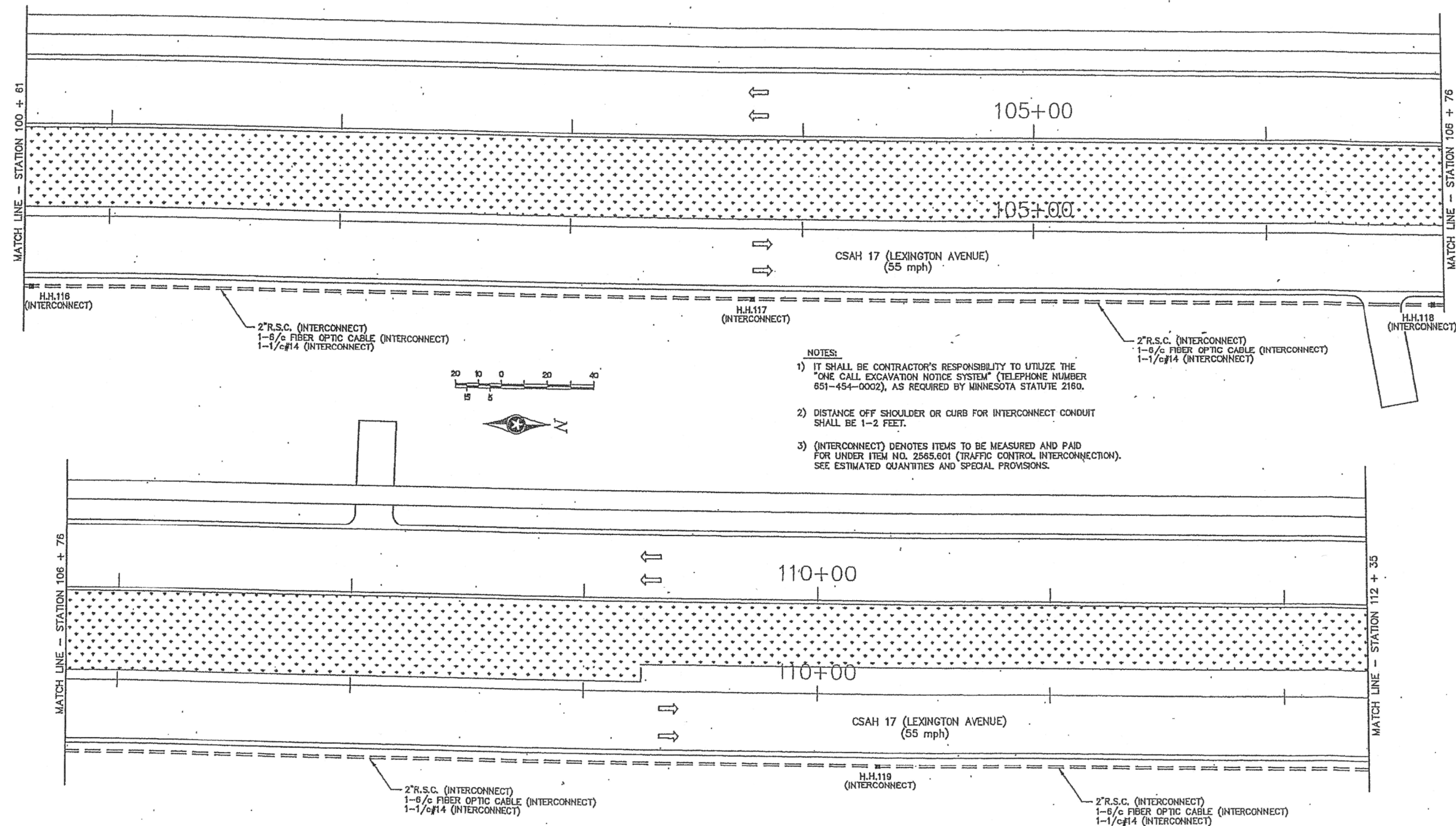
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 ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT 002-617-032

SIGNAL PLANS
Sheet 29 of 39 Sheets

7134



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John M. Gray
 John M. Gray, P.E.
 October 9, 2023



ANOKA COUNTY,
MINNESOTA
CITY OF PLANE

TRAFFIC SIGNAL INTERCONNECT
INTERSECTION LAYOUT

S.P. 02-617-13
S.P. 106-020-23

FILE NO. ANOKC0305.00
SIGNAL SHEET 137/226

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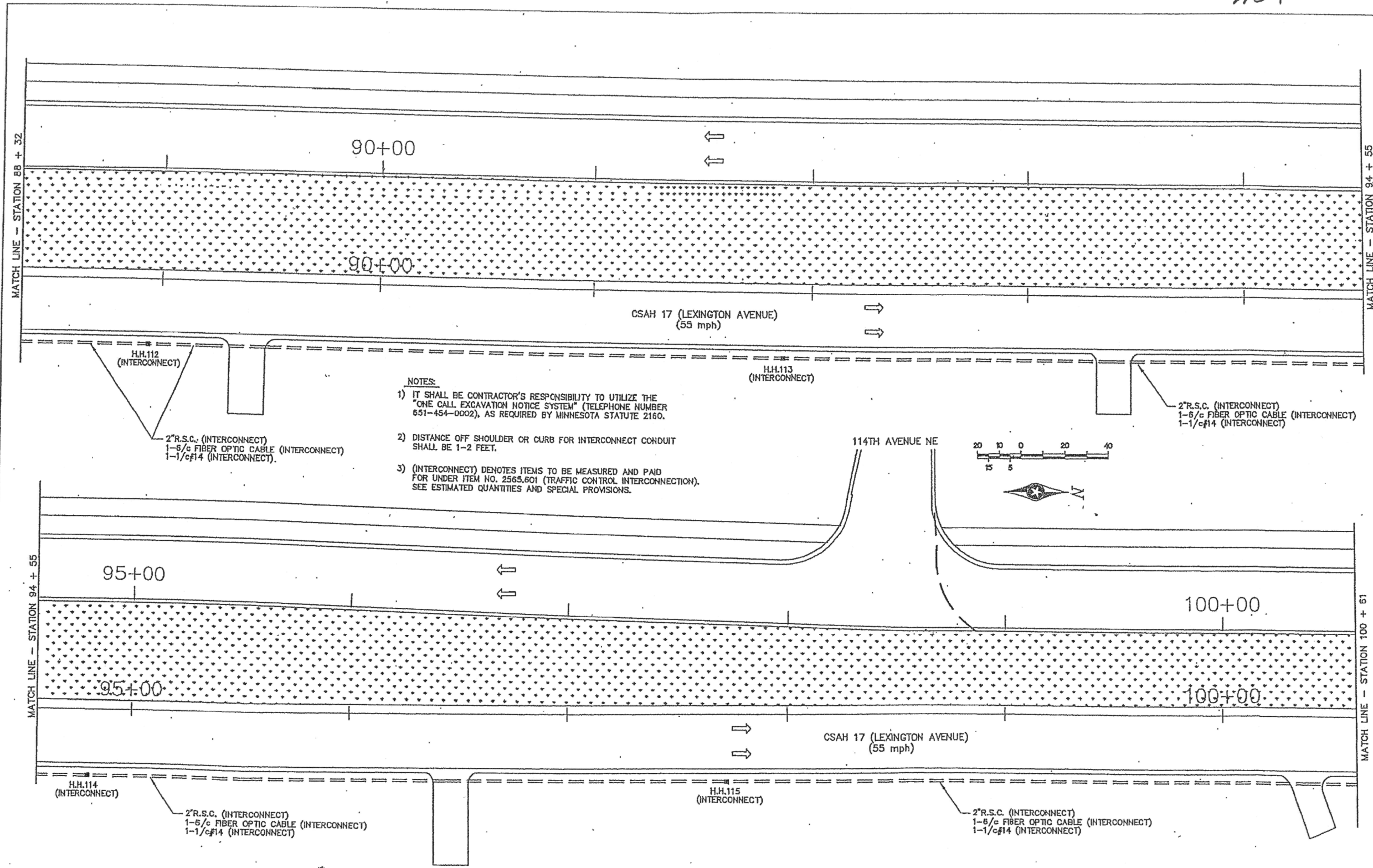
ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT 002-617-032

SIGNAL PLANS
Sheet 30 of 39 Sheets

7134

FOR REFERENCE PURPOSES ONLY



- NOTES:**
- 1) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
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| DESIGNER: | JMG |
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JMG John M. Gray, P.E.



ANOKA COUNTY, MINNESOTA

TRAFFIC SIGNAL INTERCONNECT INTERSECTION LAYOUT

S.P. 02-617-13
S.P. 106-020-23

FILE NO. AAANOKC0305.00
136
SIGNAL SHEET 26

| NO | DATE | BY | CKD | APPR | REVISION | 01/24/2024 | 11:31:02 AM |
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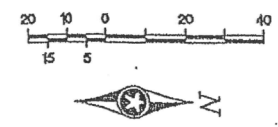
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ANOKA COUNTY HIGHWAY DEPT.

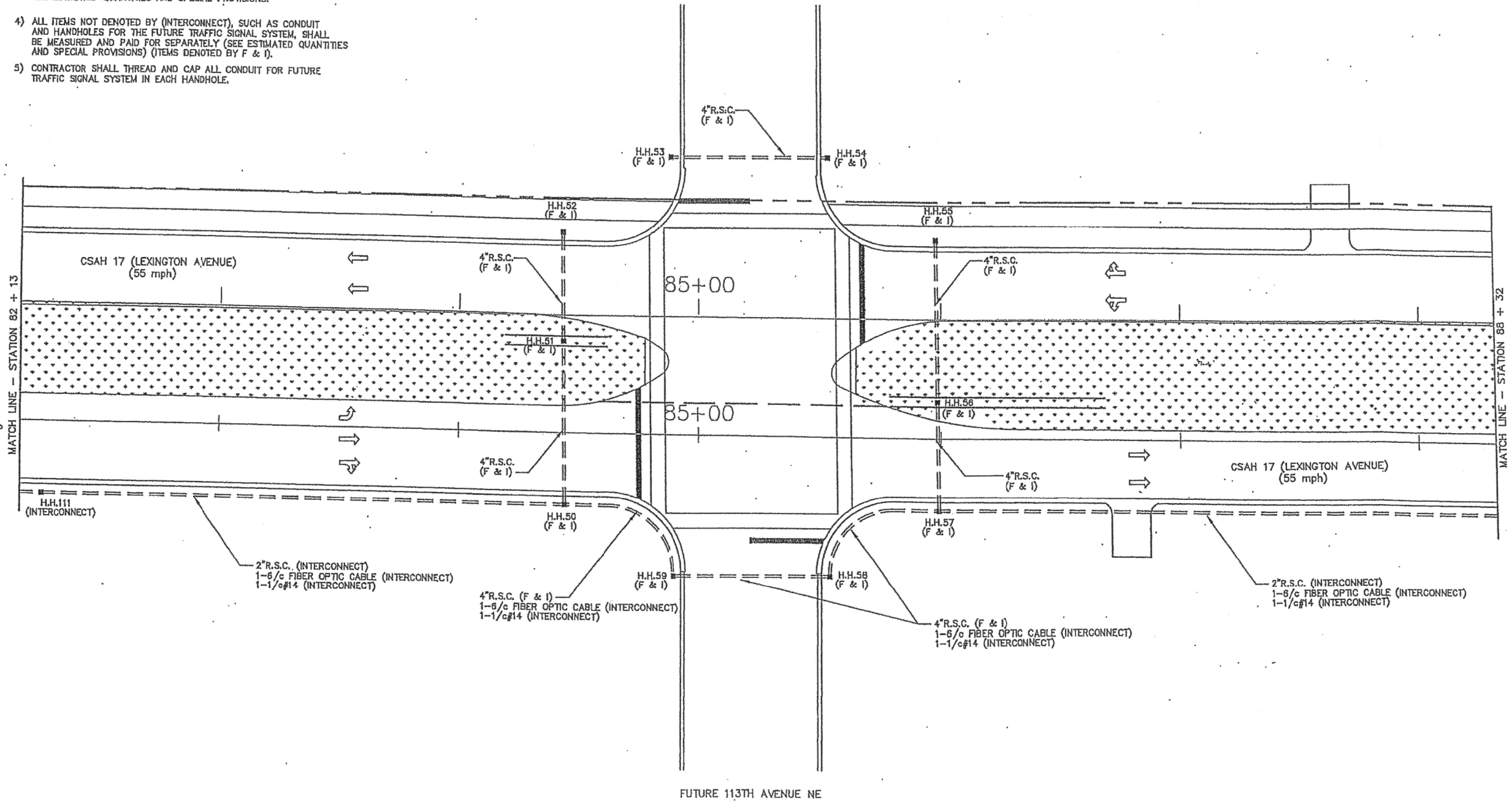
STATE AID PROJECT 002-617-032

SIGNAL PLANS
Sheet 31 of 39 Sheets

7134



- NOTES:**
- 1) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
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 - 5) CONTRACTOR SHALL THREAD AND CAP ALL CONDUIT FOR FUTURE TRAFFIC SIGNAL SYSTEM IN EACH HANDHOLE.



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

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John V. Gray
 Name: John V. Gray, P.E.
 Date: October 9, 2003
 No.: 22457



ANOKA COUNTY, MINNESOTA
CITY OF BLAINE

INTERCONNECT/FUTURE SIGNAL SYSTEM INTERSECTION LAYOUT
CSAH 17 (LEXINGTON AVENUE) AT 113TH AVENUE WEST/EAST

| | |
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| FILE NO. | AAHOK00305.00 |
| SIGNAL SHEET | 12 OF 28 |
| | 135/226 |

S.P. 02-617-13
S.P. 106-020-23

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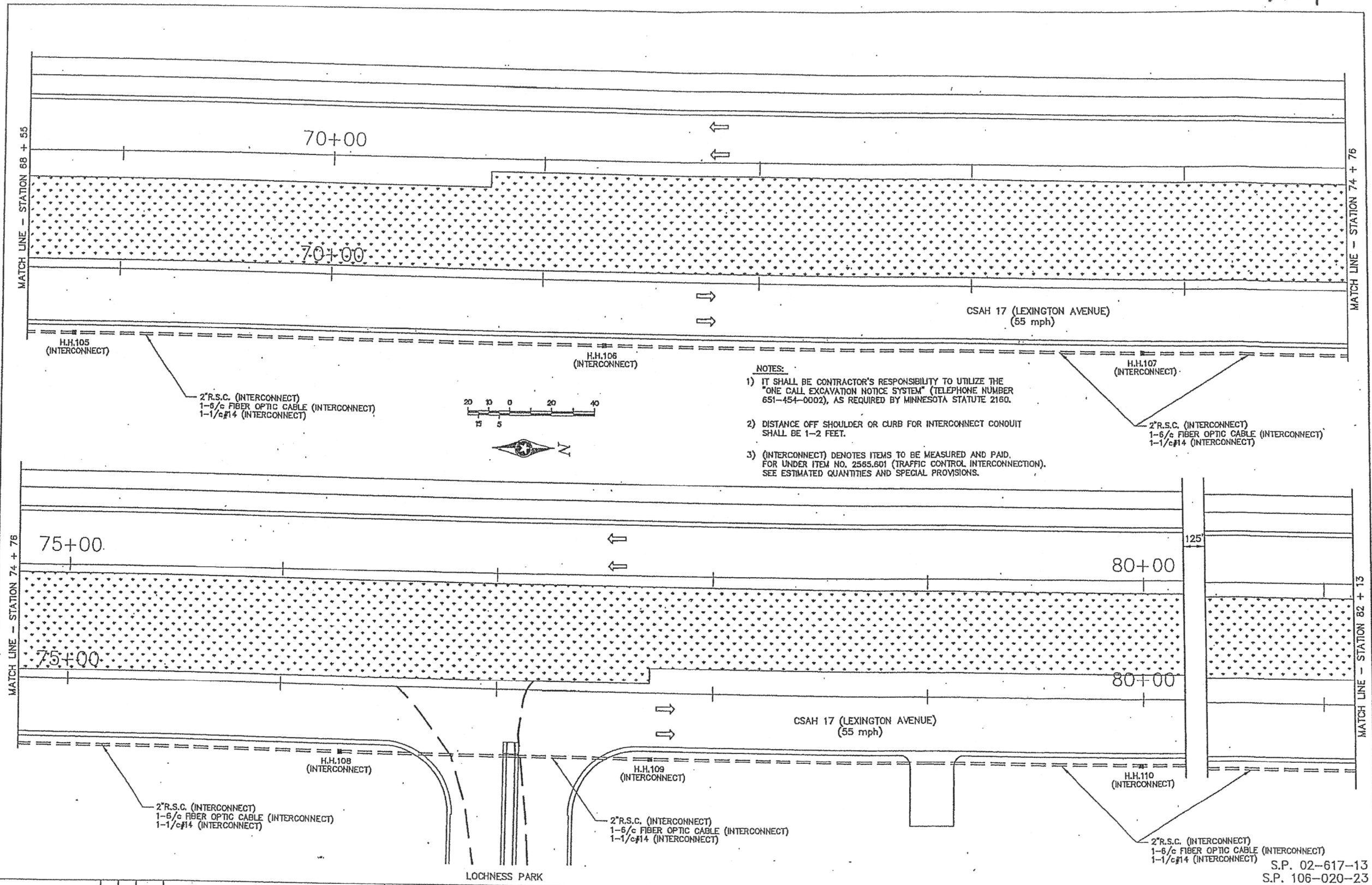
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ANOKA COUNTY HIGHWAY DEPT.

STATE AID PROJECT 002-617-032

SIGNAL PLANS
Sheet 32 of 39 Sheets

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DESIGNER: JMG

CHECKED BY: JMG

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[Signature]
Name: John M. Gray, P.E.



ANOKA COUNTY,
MINNESOTA

TRAFFIC SIGNAL INTERCONNECT
INTERSECTION LAYOUT

FILE NO.
AAHOKC0305.00
134
SIGNAL SHEET 26

S.P. 02-617-13
S.P. 106-020-23

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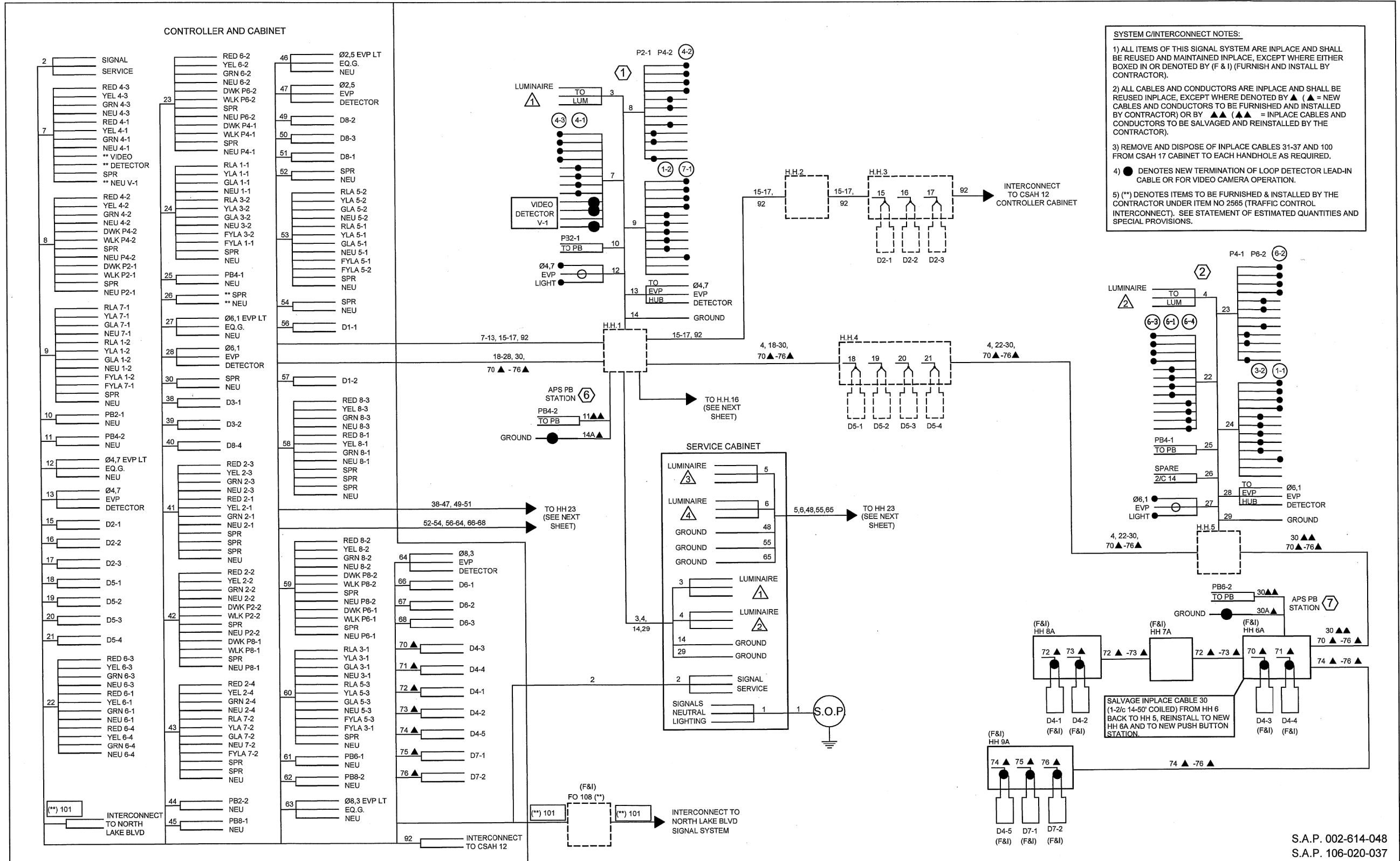
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ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT 002-617-032

SIGNAL PLANS
Sheet 33 of 39 Sheets

- SYSTEM C/INTERCONNECT NOTES:**
- 1) ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, EXCEPT WHERE EITHER BOXED IN OR DENOTED BY (F & I) (FURNISH AND INSTALL BY CONTRACTOR).
 - 2) ALL CABLES AND CONDUCTORS ARE INPLACE AND SHALL BE REUSED INPLACE, EXCEPT WHERE DENOTED BY ▲ (▲ = NEW CABLES AND CONDUCTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR) OR BY ▲▲ (▲▲ = INPLACE CABLES AND CONDUCTORS TO BE SALVAGED AND REINSTALLED BY THE CONTRACTOR).
 - 3) REMOVE AND DISPOSE OF INPLACE CABLES 31-37 AND 100 FROM CSAH 17 CABINET TO EACH HANDHOLD AS REQUIRED.
 - 4) ● DENOTES NEW TERMINATION OF LOOP DETECTOR LEAD-IN CABLE OR FOR VIDEO CAMERA OPERATION.
 - 5) (**) DENOTES ITEMS TO BE FURNISHED & INSTALLED BY THE CONTRACTOR UNDER ITEM NO 2565 (TRAFFIC CONTROL INTERCONNECT). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.



DRAWN BY: MRB
 DESIGNER: MRB
 CHECKED BY: JMG

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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.

Date: February 7, 2022 Name: John M. Gray, P.E. Lic. No. 22457



ANOKA COUNTY, MINNESOTA CITY OF BLAINE

REVISE SIGNAL SYSTEM "C" / INTERCONNECT FIELD WIRING DIAGRAM CSAH14 (125TH AVENUE NE) AT CSAH 17 (LEXINGTON AVE)

FILE NO. ANOKC157553 182
 SIGNAL SHEET SGL30 OF SGL34 303

| NO. | DATE | BY | CKD | APPR | REVISION | |
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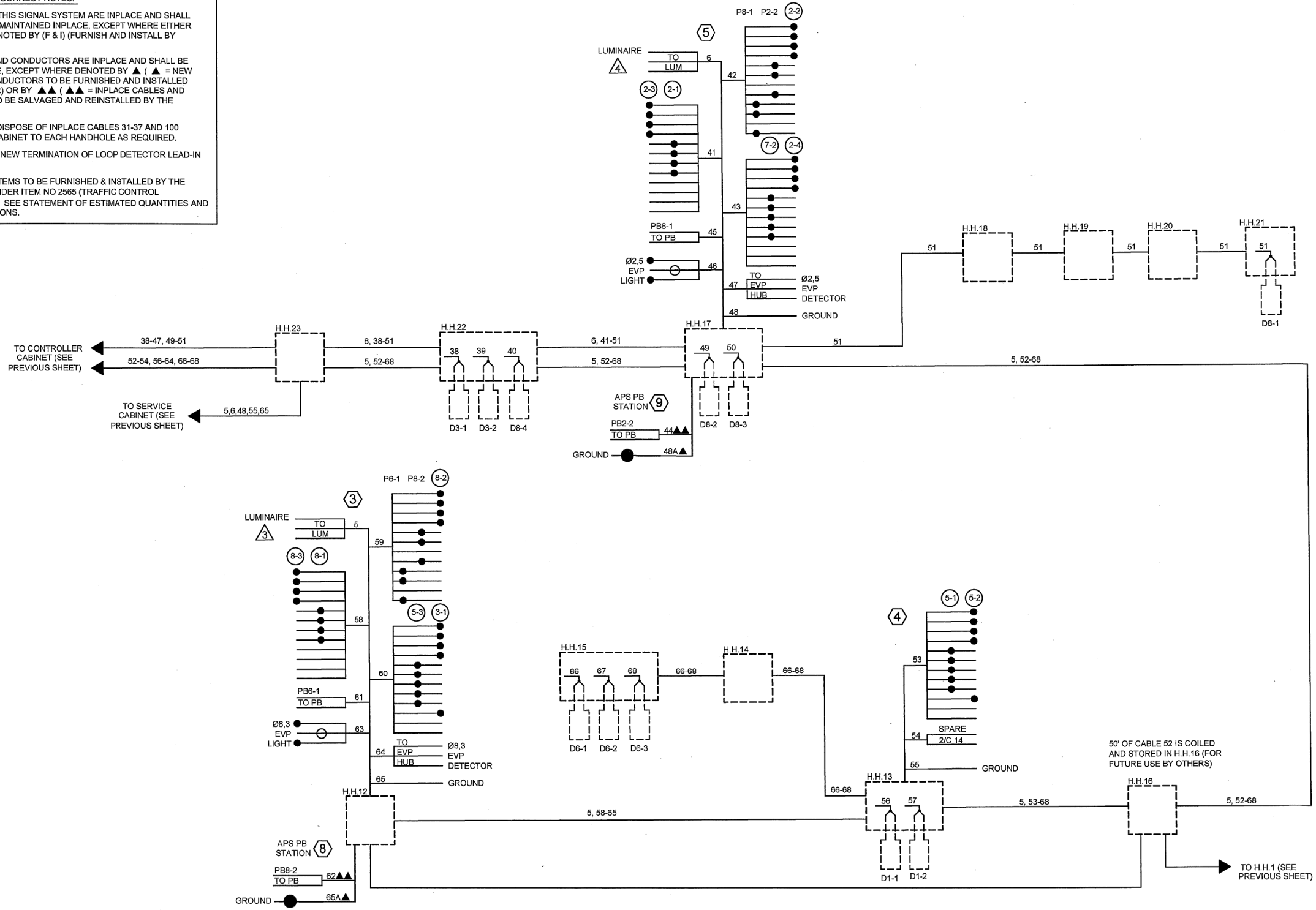
ANOKA COUNTY HIGHWAY DEPT.

STATE AID PROJECT 002-617-032

SIGNAL PLANS

Sheet 34 of 39 Sheets

- SYSTEM INTERCONNECT NOTES:**
- 1) ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, EXCEPT WHERE EITHER BOXED IN OR DENOTED BY (F & I) (FURNISH AND INSTALL BY CONTRACTOR).
 - 2) ALL CABLES AND CONDUCTORS ARE INPLACE, EXCEPT WHERE DENOTED BY ▲ (▲ = NEW CABLES AND CONDUCTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR) OR BY ▲▲ (▲▲ = INPLACE CABLES AND CONDUCTORS TO BE SALVAGED AND REINSTALLED BY THE CONTRACTOR).
 - 3) REMOVE AND DISPOSE OF INPLACE CABLES 31-37 AND 100 FROM CSAH 17 CABINET TO EACH HANDHOLE AS REQUIRED.
 - 4) ● DENOTES NEW TERMINATION OF LOOP DETECTOR LEAD-IN CABLE.
 - 5) (**) DENOTES ITEMS TO BE FURNISHED & INSTALLED BY THE CONTRACTOR UNDER ITEM NO 2565 (TRAFFIC CONTROL INTERCONNECT). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.



S.A.P. 002-614-048
S.A.P. 106-020-037

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

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John M. Gray
Name: John M. Gray, P.E.
Date: February 7, 2022
Lic. No. 22457



ANOKA COUNTY, MINNESOTA
CITY OF BLAINE

REVISE SIGNAL SYSTEM "C" / INTERCONNECT
FIELD WIRING DIAGRAM
CSAH14 (125TH AVENUE NE) AT
CSAH 17 (LEXINGTON AVE)

| | | |
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| FILE NO. | ANOKC157553 | 183 |
| SIGNAL SHEET | SGL31 OF SGL34 | 303 |

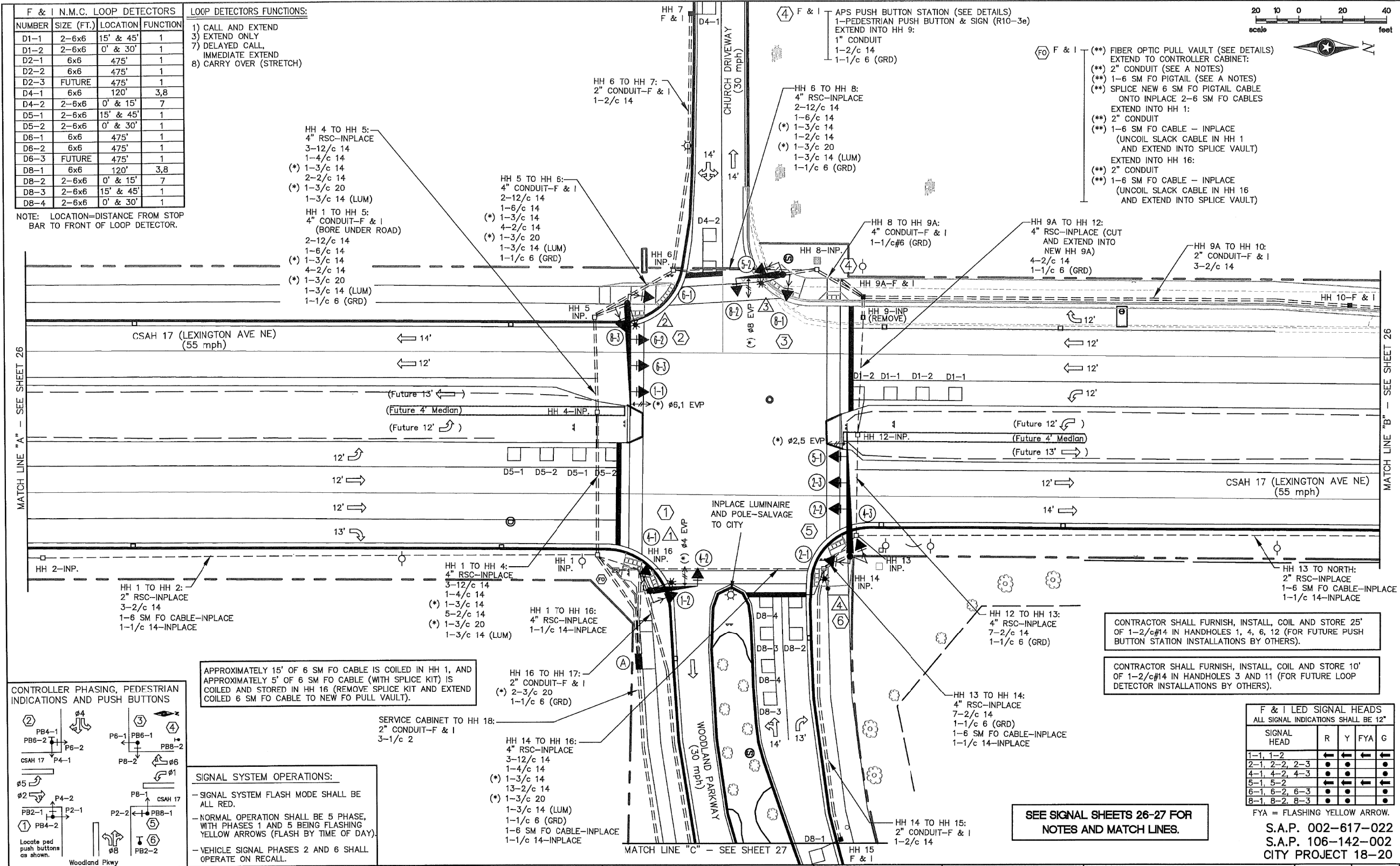
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ANOKA COUNTY HIGHWAY DEPT.

STATE AID PROJECT 002-617-032

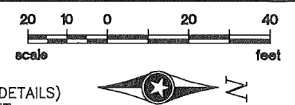
SIGNAL PLANS
Sheet 35 of 39 Sheets



| F & I N.M.C. LOOP DETECTORS | | | |
|-----------------------------|------------|-----------|----------|
| NUMBER | SIZE (FT.) | LOCATION | FUNCTION |
| D1-1 | 2-6x6 | 15' & 45' | 1 |
| D1-2 | 2-6x6 | 0' & 30' | 1 |
| D2-1 | 6x6 | 475' | 1 |
| D2-2 | 6x6 | 475' | 1 |
| D2-3 | FUTURE | 475' | 1 |
| D4-1 | 6x6 | 120' | 3,8 |
| D4-2 | 2-6x6 | 0' & 15' | 7 |
| D5-1 | 2-6x6 | 15' & 45' | 1 |
| D5-2 | 2-6x6 | 0' & 30' | 1 |
| D6-1 | 6x6 | 475' | 1 |
| D6-2 | 6x6 | 475' | 1 |
| D6-3 | FUTURE | 475' | 1 |
| D8-1 | 6x6 | 120' | 3,8 |
| D8-2 | 2-6x6 | 0' & 15' | 7 |
| D8-3 | 2-6x6 | 15' & 45' | 1 |
| D8-4 | 2-6x6 | 0' & 30' | 1 |

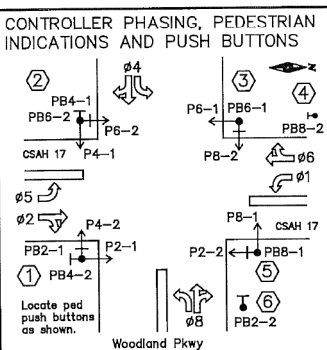
- LOOP DETECTORS FUNCTIONS:**
- 1) CALL AND EXTEND
 - 3) EXTEND ONLY
 - 7) DELAYED CALL, IMMEDIATE EXTEND
 - 8) CARRY OVER (STRETCH)

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



MATCH LINE "A" - SEE SHEET 26

MATCH LINE "B" - SEE SHEET 26



SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 5 PHASE, WITH PHASES 1 AND 5 BEING FLASHING YELLOW ARROWS (FLASH BY TIME OF DAY).
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

CONTRACTOR SHALL FURNISH, INSTALL, COIL AND STORE 25' OF 1-2/c#14 IN HANDHOLES 1, 4, 6, 12 (FOR FUTURE PUSH BUTTON STATION INSTALLATIONS BY OTHERS).

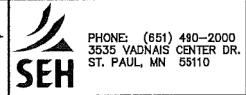
CONTRACTOR SHALL FURNISH, INSTALL, COIL AND STORE 10' OF 1-2/c#14 IN HANDHOLES 3 AND 11 (FOR FUTURE LOOP DETECTOR INSTALLATIONS BY OTHERS).

| F & I LED SIGNAL HEADS | | | | |
|-------------------------------------|---|---|-----|---|
| ALL SIGNAL INDICATIONS SHALL BE 12" | | | | |
| SIGNAL HEAD | R | Y | FYA | G |
| 1-1, 1-2 | ● | ● | ● | ● |
| 2-1, 2-2, 2-3 | ● | ● | ● | ● |
| 4-1, 4-2, 4-3 | ● | ● | ● | ● |
| 5-1, 5-2 | ● | ● | ● | ● |
| 6-1, 6-2, 6-3 | ● | ● | ● | ● |
| 8-1, 8-2, 8-3 | ● | ● | ● | ● |

FYA = FLASHING YELLOW ARROW.
 S.A.P. 002-617-022
 S.A.P. 106-142-002
 CITY PROJECT 18-20

SEE SIGNAL SHEETS 26-27 FOR NOTES AND MATCH LINES.

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.
 Date: May 10, 2019 Name: John M. Gray, PE Lic. No. 22457



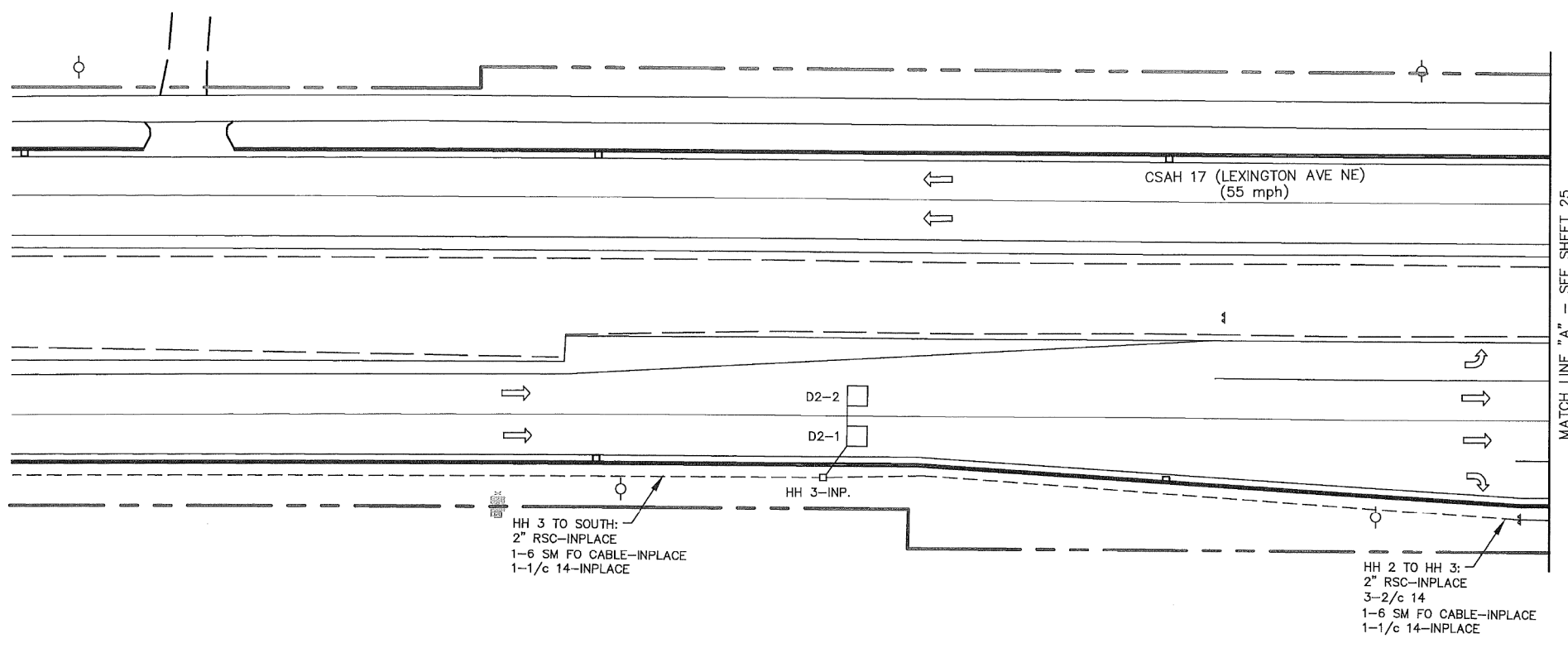
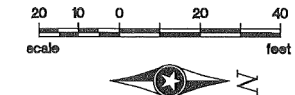
ANOKA COUNTY
CITY OF BLAINE

TRAFFIC SIGNAL SYSTEM
INTERSECTION LAYOUT
CSAH 17 (LEXINGTON AVENUE)
AT WOODLAND PARKWAY

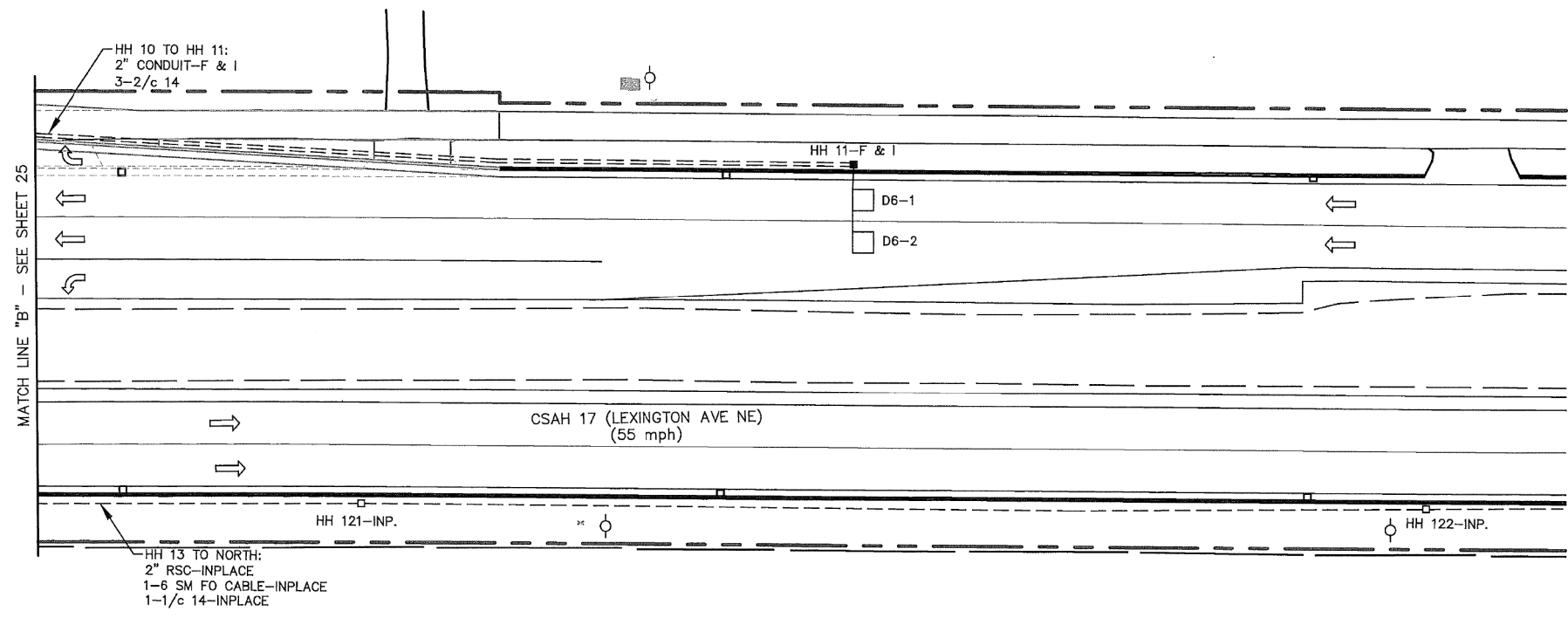
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| DATE 05/10/2019 | |
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FOR REFERENCE PURPOSES ONLY

| NO | DATE | BY | CKD | APPR | REVISION | 01/24/2024 | 11:28:04 AM |
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MATCH LINE "A" - SEE SHEET 25



MATCH LINE "B" - SEE SHEET 25

S.A.P. 002-617-022
S.A.P. 106-142-002
CITY PROJECT 18-20

DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG

| DESIGN TEAM | NO. | BY | DATE | REVISIONS |
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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.
Date: May 10, 2019 Name: John M. Gray, PE Lic. No. 22457



ANOKA COUNTY
CITY OF BLAINE

TRAFFIC SIGNAL SYSTEM
INTERSECTION LAYOUT
CSAH 17 (LEXINGTON AVENUE)
AT WOODLAND PARKWAY

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| FILE NO. ANOKC 148315 | 26 |
| DATE 05/10/2019 | 31 |

FOR REFERENCE PURPOSES ONLY

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ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT 002-617-032

SIGNAL PLANS
Sheet 37 of 39 Sheets

NOTES:

- LOCATION OF FOUNDATIONS, LOOP DETECTORS, AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
- NEW HANDHOLES 7, 9A, 10, 11, 15, 17, AND 18 SHALL BE PVC HANDHOLES WITH METAL FRAMES & COVERS (SEE SPECIAL PROVISIONS).
INPLACE HANDHOLES 1, 2, 3, 4, 5, 6, 8, 12, 13, 14, AND 16 (PVC HANDHOLES WITH METAL FRAMES AND COVERS) SHALL BE ADJUSTED TO FINISHED SURROUNDING GRADE AFTER ALL WORK IS COMPLETED (INCIDENTAL). SEE DETAILS & SPECIAL PROVISIONS.
INPLACE HANDHOLE 9 SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
- A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE & CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6 FEET FROM END OF EACH MAST ARM (FOR EVP).
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE POWER COMPANY TO ARRANGE FOR THE POWER CONNECTION (XCEL ENERGY). SEE SPECIAL PROVISIONS.
- SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (TO BE MEASURED AND PAID FOR SEPARATELY FROM TRAFFIC SIGNAL SYSTEM PAY ITEM).
- EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION LED FILLED COUNTDOWN TIMER "HAND/WALKING PERSON" INDICATION.
- EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
- SEE DETAILS, SPECIAL PROVISIONS & STATEMENT OF ESTIMATED QUANTITIES REGARDING BATTERY BACK-UP SIGNAL SERVICE CABINET TO BE FURNISHED AND INSTALLED BY CONTRACTOR (SEPARATE FROM ITEM NO. 2565 FOR THIS SIGNAL SYSTEM).
- LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) #12 AWG IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
- (* DENOTES ITEMS TO BE INCLUDED AS PART OF THE PAY ITEM FOR ITEM NO. 2565 (EMERGENCY VEHICLE PREEMPTION SYSTEM). SEE STATEMENT OF ESTIMATED AND SPECIAL PROVISIONS.
- (** DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- SEE SHEETS 29-31 FOR FURTHER INFORMATION REGARDING INPLACE CONDUIT, HANDHOLES & FIBER OPTIC CABLE TO BE INCORPORATED INTO NEW TRAFFIC SIGNAL INSTALLATION.
- SOIL BORINGS NEAR PROPOSED NEW SIGNAL POLE FOUNDATION LOCATIONS INDICATE THAT SOILS GENERALLY CONSIST OF POORLY GRADED SAND WITH SILT MATERIAL, WITH A WATER TABLE AT AROUND 5 FEET AT SOME LOCATIONS. SOILS SHOULD BE SUFFICIENT FOR SUPPORTING ALL FOUNDATION INSTALLATIONS, BUT CONTRACTOR SHALL PLAN FOR ADDITIONAL ENCASEMENT OF ALL POLE FOUNDATIONS TO ACCOUNT FOR SHALLOW WATER TABLE AND TO STABILIZE SOILS AROUND FOUNDATIONS (INCIDENTAL).
- ALL CABLES AND CONDUCTORS SHALL BE NEW (FURNISHED AND INSTALLED BY CONTRACTOR), EXCEPT FOR INTERCONNECT CABLES NOTED TO BE REUSED AS PART OF NEW SIGNAL INSTALLATION.

① F & I PA90 POLE FOUNDATION
LUMINAIRE-LED
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG AND 180 DEG
2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90 DEG AND 180 DEG
2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3e)
TYPE D SIGN PANEL-OVERHEAD (D-1)
INSTALL ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (#4)
ONE WAY EVP MOUNTING HARDWARE (FOR COUNTY FURNISHED DETECTOR AND CONFIRMATION LIGHT)
EXTEND INTO HH 16:
3" CONDUIT
2-12/c 14
1-6/c 14
1-3/c 14
2-2/c 14
1-3/c 20
1-3/c 14 (LUM)
2-1/c 6 (GRD)
INSTALL TYPE PA90-A-20-D30-9 (DAVIT AT 350 DEG) (FURNISHED BY COUNTY) ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (#4)

② F & I PA100 POLE FOUNDATION
LUMINAIRE-LED
CAP END OF MAST ARM (FOR FUTURE USE)
3-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 11', 23', 35'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG AND 180 DEG
2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90 DEG AND 180 DEG
2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3e)
R10-X12 SIGN PANEL-ADJACENT TO 1-1
TYPE D SIGN PANEL-OVERHEAD (D-2)
INSTALL ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (#6,1)
ONE WAY EVP MOUNTING HARDWARE (FOR COUNTY FURNISHED DETECTOR AND CONFIRMATION LIGHT)
EXTEND INTO HH 5:
3" CONDUIT
3-12/c 14
1-4/c 14
1-3/c 14
2-2/c 14
1-3/c 20
1-3/c 14 (LUM)
2-1/c 6 (GRD)
INSTALL TYPE PA100-A-50-D30-9 (DAVIT AT 350 DEG) (FURNISHED BY COUNTY) ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (#6,1)

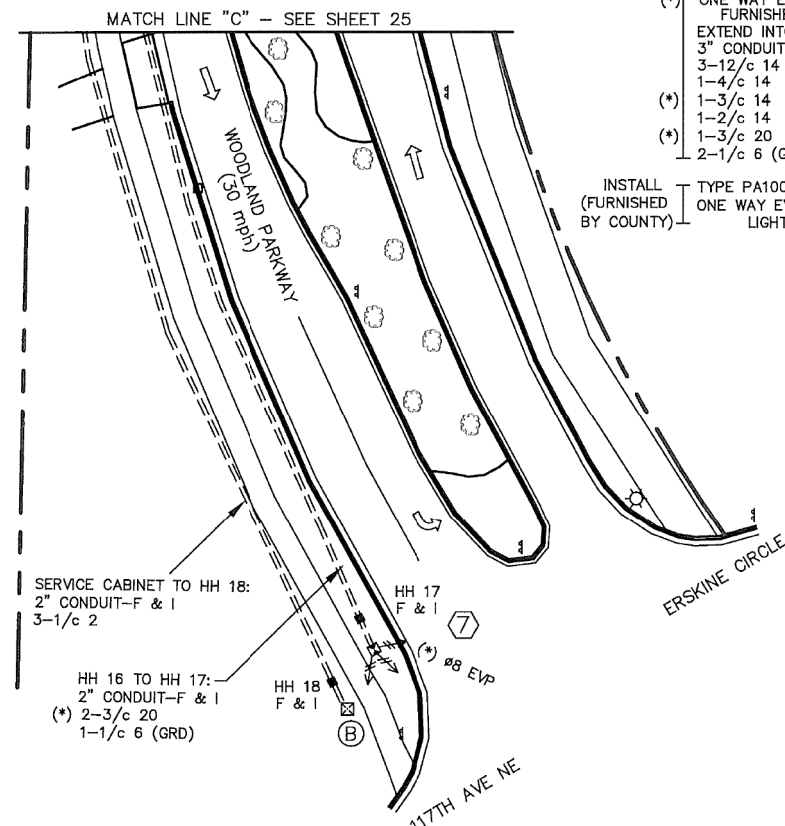
③ F & I PA90 POLE FOUNDATION
LUMINAIRE-LED
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG AND 180 DEG
2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90 DEG AND 180 DEG
1-PEDESTRIAN PUSH BUTTON & SIGN (R10-3e)
TYPE D SIGN PANEL-OVERHEAD (D-3)
INSTALL ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (#8)
ONE WAY EVP MOUNTING HARDWARE (FOR COUNTY FURNISHED DETECTOR AND CONFIRMATION LIGHT)
EXTEND INTO HH 8:
3" CONDUIT
2-12/c 14
1-6/c 14
1-3/c 14
1-2/c 14
1-3/c 20
1-3/c 14 (LUM)
1-1/c 6 (GRD)
INSTALL TYPE PA90-A-20-D30-9 (DAVIT AT 350 DEG) (FURNISHED BY COUNTY) ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (#8)

⑤ F & I PA100 POLE FOUNDATION
CAP END OF MAST ARM (FOR FUTURE USE)
3-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 11', 23', 35'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG AND 180 DEG
2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90 DEG AND 180 DEG
1-PEDESTRIAN PUSH BUTTON & SIGN (R10-3e)
R10-X12 SIGN PANEL-ADJACENT TO 5-1
TYPE D SIGN PANEL-OVERHEAD (D-4)
INSTALL ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (#2,5)
ONE WAY EVP MOUNTING HARDWARE (FOR COUNTY FURNISHED DETECTOR AND CONFIRMATION LIGHT)
EXTEND INTO HH 14:
3" CONDUIT
3-12/c 14
1-4/c 14
1-3/c 14
1-2/c 14
2" CONDUIT
2-1/c 6 (GRD)
INSTALL TYPE PA100-A-55 (FURNISHED BY COUNTY) ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (#2,5)

⑥ F & I STREET LIGHT POLE FOUNDATION
LUMINAIRE-LED
1-PEDESTRIAN PUSH BUTTON & SIGN (R10-3e)
EXTEND INTO HH 14:
3" CONDUIT
1-2/c 14
1-3/c 14 (LUM)
1-1/c 6 (GRD)
INSTALL TYPE D30-9 LUMINAIRE POLE AND DAVIT ARM (AT 315 DEG) (FURNISHED BY COUNTY)

ⓑ INPLACE GROUND MOUNTED TRANSFORMER (SOP) (XCEL ENERGY)
F & I EXTEND INTO HH 18:
2" CONDUIT
3-1/c 2

⑦ F & I PEDESTAL FOUNDATION
10' PEDESTAL POLE, BASE, WIND COLLAR
SLIPFITTER COLLAR ATOP POLE
INSTALL 1-ONE WAY AND 1-TWO WAY EVP DETECTORS ATOP POLE (BOTH #8)
EXTEND INTO HH 17:
2" CONDUIT
2-3/c 20
1-1/c 6 (GRD)
INSTALL 1-ONE WAY AND 1-TWO WAY EVP DETECTORS (BOTH #8) (FURNISHED BY COUNTY)



Ⓐ INSTALL CONTROLLER AND CABINET (FURNISHED BY COUNTY)

F & I EQUIPMENT PAD FOUNDATION
BBU SIGNAL SERVICE CABINET
BETWEEN CONTROLLER CABINET AND SERVICE CABINET:
METERED SIGNAL SERVICE
2" CONDUIT
3-1/c 6
CONTROLLER CABINET TO HH 1:
4" CONDUIT
3-12/c 14
1-4/c 14
1-3/c 14
9-2/c 14
1-3/c 20
CONTROLLER CABINET TO HH 16:
4" CONDUIT
3-12/c 14
1-4/c 14
1-3/c 14
13-2/c 14
1-3/c 20
CONTROLLER CABINET TO HH 1:
4" CONDUIT
2-12/c 14
1-6/c 14
1-3/c 14
2-2/c 14
3-3/c 20
1-1/c 6 (GRD)

F & I SERVICE CABINET TO HH 1:
1 1/4" CONDUIT
UNMETERED STREET LIGHT SERVICE
2-3/c 14 (LUM)
SERVICE CABINET TO HH 16:
1 1/4" CONDUIT
UNMETERED STREET LIGHT SERVICE
2-3/c 14 (LUM)
SERVICE CABINET TO HH 18:
2" CONDUIT
3-1/c 2
STUB OUT 3" CONDUIT FROM CONTROLLER CABINET TO WEST (THREAD AND CAP-FOR FUTURE USE)
STUB OUT 1" CONDUIT FROM CONTROLLER CABINET (FOR FUTURE PHONE LINE BY OTHERS)
CONTROLLER CABINET TO FO VAULT:
(**) 2" CONDUIT
(**) 1-6 SM FIBER-OPTIC PIGTAIL

S.A.P. 002-617-022
S.A.P. 106-142-002
CITY PROJECT 18-20

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

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.
Date: May 10, 2019 Name: John M. Gray, PE Lic. No. 22457

SEH
PHONE: (651) 450-2000
3535 WADSWORTH CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY
CITY OF BLAINE

TRAFFIC SIGNAL SYSTEM
NOTES
CSAH 17 (LEXINGTON AVENUE)
AT WOODLAND PARKWAY

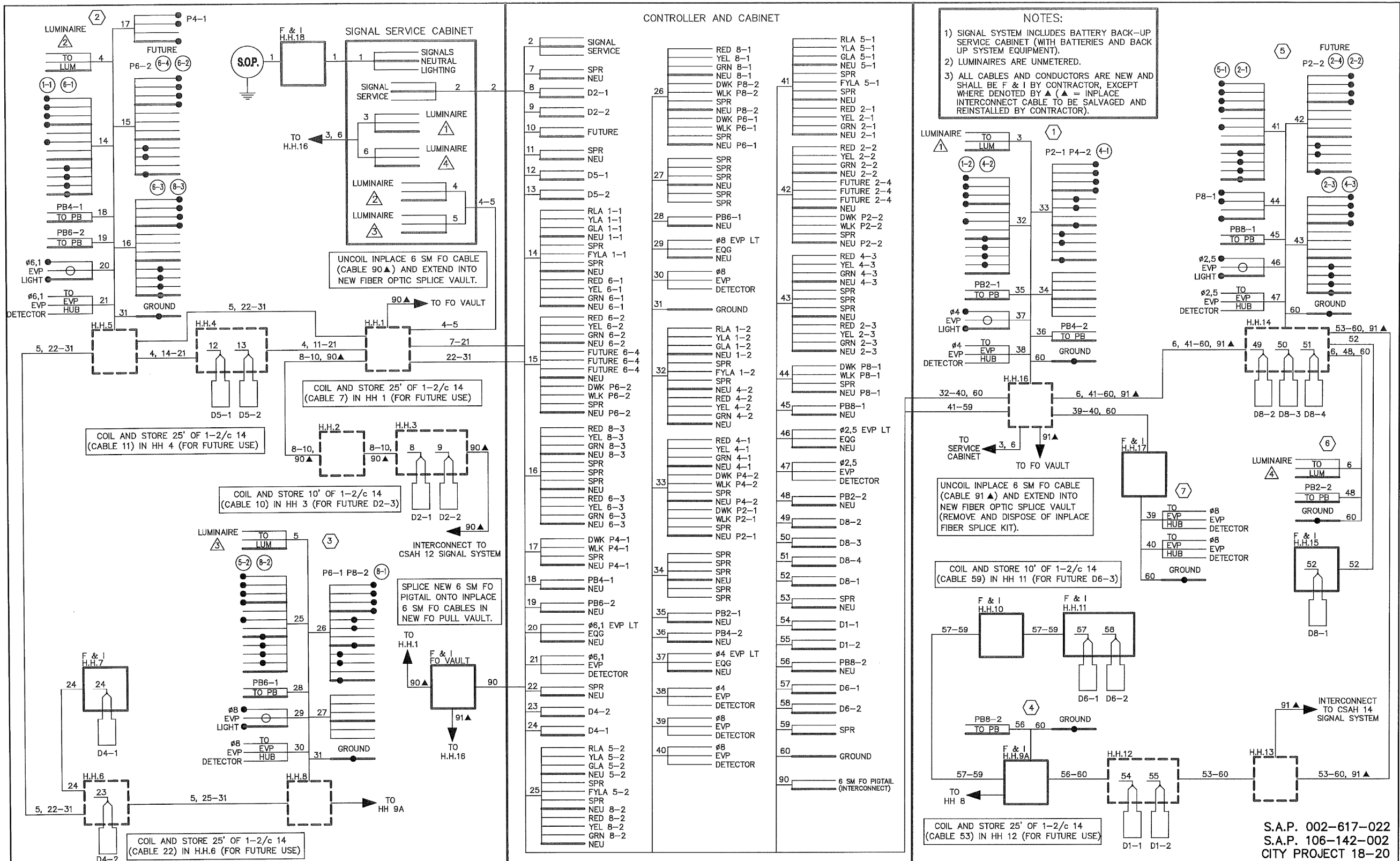
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ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT 002-617-032

SIGNAL PLANS
Sheet 38 of 39 Sheets



FOR REFERENCE PURPOSES ONLY

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|---|---------------------------|---|--------------------------------|--|--|----------|
| DRAWN BY: JMG DESIGNER: JMG CHECKED BY: JMG DESIGN TEAM: | NO. BY DATE REVISIONS: | 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. Date: May 10, 2019 Name: John M. Gray, PE Lic. No. 22457 | ANOKA COUNTY CITY OF BLAINE | TRAFFIC SIGNAL SYSTEM FIELD WIRING DIAGRAM CSAH 17 (LEXINGTON AVENUE) AT WOODLAND PARKWAY | FILE NO. ANOKC 148315 DATE 05/10/2019 | 28 31 |
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