# MINNESOTA DEPARTMENT OF TRANSPORTATION
# CITY OF
# BLAINE, MINNESOTA

## CONSTRUCTION PLANS
## FOR

## STORM SEWER, GRADING, AGGREGATE BASE, CONCRETE CURB AND GUTTER, SIDEWALK, AND BITUMINOUS SURFACING

# 2022 STREET RECONSTRUCTION

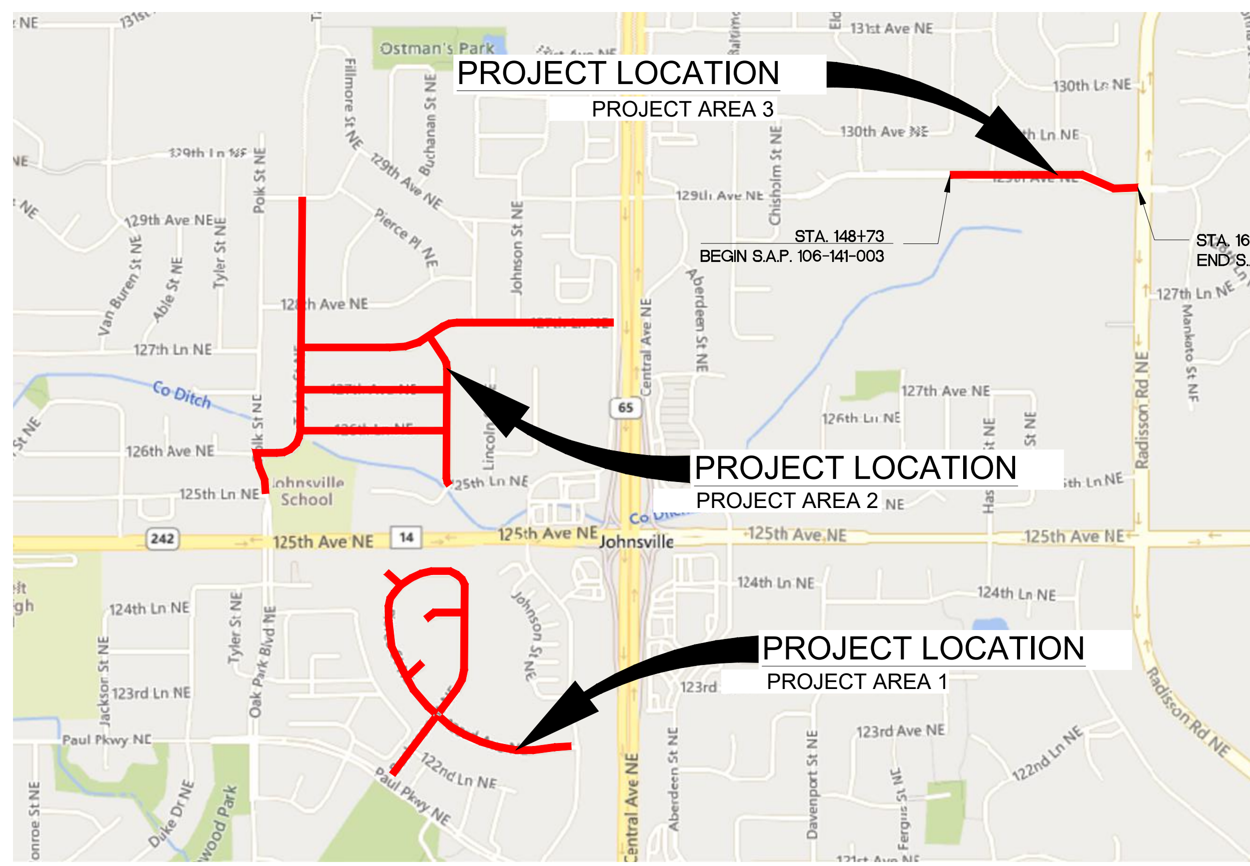
**CITY PROJECT NO. 22-04**
**S.A.P. 106-141-003 LOCATED ON 129TH AVENUE FROM 270 LF WEST OF ISANTI STREET TO RADISSON ROAD**

### EXISTING

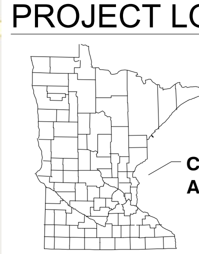
RIGHT OF WAY
PERMANENT EASEMENT
PROPERTY LINE
HORIZONTAL CONTROL POINT
BENCHMARK
SURVEY MARKER
SOIL BORING
SANITARY SEWER AND MANHOLE
FORCE MAIN AND LIFT STATION
SANITARY SEWER SERVICE & CLEANOUT
WATER MAIN, HYDRANT, VALVE AND MANHOLE
WATER SERVICE AND CURB STOP BOX
STORM SEWER, MANHOLE AND CATCH BASIN
CULVERT AND APRON ENDWALL
GAS MAIN, VALVE, VENT AND METER
HANDHOLE
BURIED FIBER OPTIC CABLE AND MANHOLE
BURIED PHONE CABLE, PEDESTAL AND MANHOLE
BURIED TV CABLE, PEDESTAL AND MANHOLE
BURIED ELECTRIC CABLE, PEDESTAL, MANHOLE, TRANSFORMER AND METER
OVERHEAD WIRE, POLE AND GUY WIRE
LIGHT POLE
TRAFFIC SIGNAL
STREET NAME SIGN
SIGN (NON STREET NAME)
RAILROAD TRACKS
DECIDUOUS AND CONIFEROUS TREE
BUSH / SHRUB AND STUMP
EDGE OF WOODED AREA
WETLAND
BUILDING
FENCE (UNIDENTIFIED)
BARBED WIRE FENCE
CHAIN LINK FENCE
ELECTRIC WIRE FENCE
WOOD FENCE
WOVEN WIRE FENCE
PLATE BEAM GUARDRAIL
CABLE GUARDRAIL
POST / BOLLARD
RETAINING WALL

### PROPOSED

STREET CENTERLINE
RIGHT-OF-WAY
PERMANENT EASEMENT
TEMPORARY EASEMENT
CONSTRUCTION LIMITS
SANITARY SEWER, BULKHEAD AND MANHOLE
FORCE MAIN
SANITARY SERVICE AND CLEANOUT
WATER MAIN, TEE, HYDRANT, BULKHEAD AND VALVE
WATER VALVE MANHOLE, REDUCER, BEND AND CROSS
WATER SERVICE AND CURB STOP BOX
STORM SEWER, MANHOLE AND CATCH BASIN
CULVERT AND APRON ENDWALL
DRAIN TILE
DITCH / SWALE
RIPRAP
STREET NAME SIGN
SIGN (NON STREET NAME)
RETAINING WALL




PROJECT LOCATION



CITY OF BLAINE, ANOKA COUNTY

NOTE:
THE SUBSURFACE UTILITY QUALITY INFORMATION IN THIS PLAN IS LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02 ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

THE CONTRACTOR SHALL CALL THE ONE CALL SYSTEM AT 811 BEFORE COMMENCING EXCAVATION.

811 Know what's below. Call before you dig.

### GOVERNING SPECIFICATIONS

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN EXCEPT AS MODIFIED BY THE SPECIFICATIONS FOR THIS PROJECT.

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.

### INDEX


| SHEET NO. | DESCRIPTION |
|---|---|
| 1 | TITLE SHEET |
| 2-3 | STATEMENT OF ESTIMATED QUANTITIES |
| 4 | GENERAL LAYOUT & STAGING PLAN |
| 5 | CONSTRUCTION NOTES |
| 6 | STRUCTURE SCHEDULE |
| 7-19 | DETAILS |
| 20-22 | TYPICAL SECTIONS |
| 23-35 | REMOVALS |
| 36-62 | STREET & STORM SEWER PLAN |
| 63-64 | STORM SEWER CROSS SECTIONS |
| 65-67 | INTERSECTIONAL DETAILS |
| 68-88 | EROSION CONTROL & SIGNING & STRIPING PLAN |
| 89-90 | SWPPP |
| 91-94 | SIGNAL PLAN |
| 95-135 | CROSS SECTIONS |


THIS PLAN CONTAINS 135 SHEETS.

### DESIGN DESIGNATION

STOPPING SIGHT DISTANCE BASED ON:
3.5' HEIGHT OF EYE — 2' HEIGHT OF OBJECT

129th Avenue
S.A.P. 106-141-003

| | |
|---|---|
| GROSS LENGTH | 1382 FEET 0.261 MILES |
| BRIDGE LENGTH | 0 FEET 0.000 MILES |
| EXCEPTION LENGTH | 0 FEET 0.000 MILES |
| NET LENGTH | 1382 FEET 0.261 MILES |
| DESIGN | 10 TON |
| DESIGN SPEED | 30 M.P.H. |
| R-VALUE | 50 |
| ESALS | 500,000 |
| EXISTING A.D.T. (2022) | 3,900 |
| 20 YR. PROJECTED A.D.T. (2042) | 4,800 |
| % HCADT (20XX) | 1.15 % |
| FUNCTIONAL CLASSIFICATION | URBAN COLLECTOR |
| NO. OF TRAFFIC LANES | 2-11' |
| NO. OF PARKING LANES | 2-7' |

APPROVED:
Daniel Schluender — 4.12.22
CITY ENGINEER OF BLAINE — DATE

Julie Dresel For — 4/26/2022
DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY — DATE

Julie Dresel For — 4/26/2022
APPROVED FOR STATE AID FUNDING STATE AID ENGINEER — DATE

**BLAINE, MINNESOTA**


SEH
PHONE: 651.490.2000
3535 VADNAIS CENTER DRIVE
ST. PAUL, MN 55110-5196
www.sehinc.com


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 MN.

Signature: Greg F Anderson
Date: 03.31.2022 Lic. No. 26859

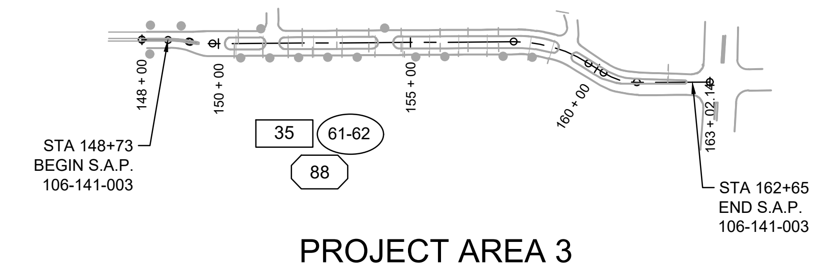
165899

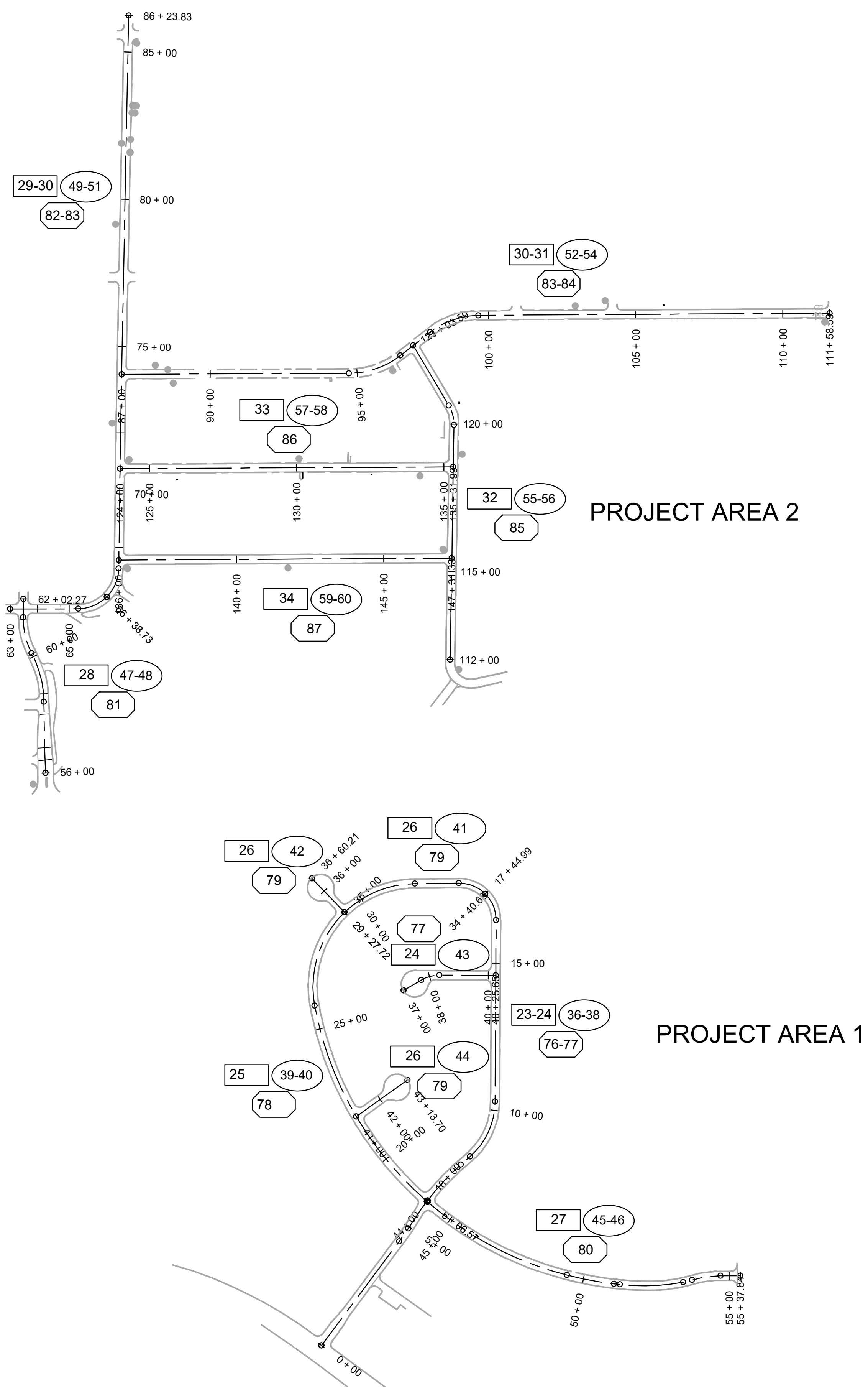


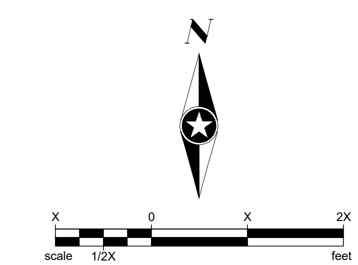
**S.A.P. 106-141-003**

| | | | | | LOCAL STREETS | LOCAL STREETS | SAP 106-141-003 (PROJECT AREA 3) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | PROJECT AREA 1 | PROJECT AREA 2 | PARTICIPATING | | NON PARTICIPATING |
| | | | | TOTAL | CITY OF BLAINE | CITY OF BLAINE | STREET | STORM | CITY OF BLAINE |
| LINE NO. | ITEM NO. | ITEM DESCRIPTION | UNIT | ESTIMATED QUANTITY | ESTIMATED QUANTITY | ESTIMATED QUANTITY | ESTIMATED QUANTITY | ESTIMATED QUANTITY | ESTIMATED QUANTITY |
| 1 | 2021.501 | MOBILIZATION | LS | 1 | 0.18 | 0.57 | 0.25 | | |
| 2 | 2101.502 | CLEARING | EA | 122 | 25 | 42 | 55 | | |
| 3 | 2101.502 | GRUBBING | EA | 122 | 25 | 42 | 55 | | |
| 4 | 2104.502 | SALVAGE MAILBOX SUPPORT | EA | 109 | | 91 | 18 | | |
| 5 | 2104.502 | REMOVE MANHOLE OR CATCH BASIN | EA | 15 | | 15 | | | |
| | | | | | | | | | |
| 6 | 2104.502 | REMOVE CASTING (STORM) | EA | 39 | 18 | 18 | 3 | | |
| 7 | 2104.502 | SALVAGE SIGN | EA | 84 | 7 | 64 | 4 | | 9 |
| 8 | 2104.502 | REMOVE GATE VALVE | EA | 5 | | 2 | | | 3 |
| 9 | 2104.502 | SALVAGE HYDRANT | EA | 4 | | 1 | | | 3 |
| 10 | 2104.502 | REMOVE CASTING (SANITARY) | EA | 61 | 27 | 27 | | | 7 |
| | | | | | | | | | |
| 11 | 2104.503 | REMOVE SEWER PIPE (STORM) | LF | 312 | | 312 | | | |
| 12 | 2104.503 | REMOVE CURB & GUTTER | LF | 25112 | 3415 | 16410 | 5287 | | |
| 13 | 2104.504 | REMOVE CONCRETE DRIVEWAY PAVEMENT | SY | 1442 | 65 | 1237 | 140 | | |
| 14 | 2104.504 | REMOVE BITUMINOUS DRIVEWAY PAVEMENT | SY | 2025 | 244 | 1381 | 400 | | |
| 15 | 2104.504 | REMOVE CONCRETE PAVEMENT | SY | 1232 | 435 | 191 | 606 | | |
| | | | | | | | | | |
| 16 | 2104.603 | EDGE MILL BITUMINOUS PAVEMENT | LF | 628 | 116 | 374 | 138 | | |
| 17 | 2105.602 | EXCAVATION SPECIAL (POTHOLING) | EACH | 6 | | | 6 | | |
| 18 | 2106.507 | EXCAVATION-COMMON (CV) (P) | CY | 12014 | 1942 | 5572 | 4500 | | |
| 19 | 2111.519 | TEST ROLLING | RDST | 154 | 54 | 86 | 14 | | |
| 20 | 2112.519 | SUBGRADE PREPARATION | RDST | 201 | 54 | 133 | 14 | | |
| | | | | | | | | | |
| 21 | 2123.510 | COMMON LABORER | HR | 41 | 14 | 23 | 4 | | |
| 22 | 2123.510 | 3.0 CU YD FRONT END LOADER | HR | 41 | 14 | 23 | 4 | | |
| 23 | 2123.610 | 3 C.Y. BACKHOE | HR | 41 | 14 | 23 | 4 | | |
| 24 | 2123.610 | STREET SWEEPER (WITH PICKUP BROOM) | HR | 236 | 84 | 131 | 21 | | |
| 25 | 2130.523 | WATER | MGAL | 154 | 54 | 86 | 14 | | |
| | | | | | | | | | |
| 26 | 2211.509 | AGGREGATE BASE CL 5 | TON | 3000 | | | 3000 | | |
| 27 | 2211.607 | DRAINABLE AGGREGATE BASE TYPE OGAB | TON | 1615 | | 1615 | | | |
| 28 | 2215.504 | FULL DEPTH RECLAMATION | SY | 48396 | 16879 | 26206 | 5311 | | |
| 29 | 2357.506 | BITUMINOUS MATERIAL FOR TACK COAT | GAL | 2430 | 844 | 1311 | 275 | | |
| 30 | 2360.509 | TYPE SP 9.5 WEARING COURSE MIX (3,C) | TON | 5132 | 1578 | 2870 | 684 | | |
| | | | | | | | | | |
| 31 | 2360.509 | TYPE SP 9.5 WEARING COURSE MIX (3,C) (DRIVEWAYS) | TON | 343 | 41 | 234 | 68 | | |
| 32 | 2360.509 | TYPE SP 12.5 NON WEAR COURSE MIX (3,C) | TON | 6253 | 2103 | 3466 | 684 | | |
| 33 | 2503.503 | 28" SPAN RC PIPE-ARCH SEWER DES 3006 CL IIA | LF | 232 | | | | 232 | |
| 34 | 2503.503 | 15" RC PIPE SEWER DES 3006 CL V | LF | 379 | | 283 | | 96 | |
| 35 | 2503.503 | 18" RC PIPE SEWER DES 3006 CL V | LF | 412 | | 129 | | 283 | |
| | | | | | | | | | |
| 36 | 2503.503 | 21" RC PIPE SEWER DES 3006 CL III | LF | 60 | | 60 | | | |
| 37 | 2503.503 | 24" RC PIPE SEWER DES 3006 CL III | LF | 121 | | 74 | | 47 | |
| 38 | 2503.503 | 30" RC PIPE SEWER DES 3006 CL III | LF | 155 | | 155 | | | |
| 39 | 2503.503 | 36" RC PIPE SEWER DES 3006 CL III | LF | 49 | | 49 | | | |
| 40 | 2503.602 | CONNECT TO EXISTING STORM SEWER (PIPE OR STRUCTURE) | EA | 13 | | 12 | | 1 | |
| | | | | | | | | | |
| 41 | 2503.602 | MINOR STORM REPAIR | EA | 15 | 12 | 3 | | | |
| 42 | 2503.603 | STORM PIPE CLEANING | LF | 1740 | | 1740 | | | |
| 43 | 2504.602 | ADJUST VALVE BOX | EA | 27 | 6 | 17 | | | 4 |
| 44 | 2504.602 | VALVE BOX | EA | 2 | | 2 | | | |
| 45 | 2504.602 | CURB BOX DRIVEWAY CASTING | EA | 10 | | 5 | | | 5 |
| | | | | | | | | | |
| 46 | 2504.602 | 6" GATE VALVE & BOX | EA | 4 | | 1 | | | 3 |
| 47 | 2504.602 | 8" GATE VALVE & BOX | EA | 1 | | 1 | | | |
| 48 | 2504.602 | INSTALL HYDRANT | EA | 4 | | 1 | | | 3 |
| 49 | 2504.602 | REPAIR WATER SERVICE | EA | 2 | | | | | 2 |
| 50 | 2504.602 | CONNECT TO EXISTING WATER MAIN | EA | 6 | | 3 | | | 3 |
| | | | | | | | | | |
| 51 | 2504.602 | GATE VALVE BOLT REPLACEMENT | EA | 1 | | 1 | | | |
| 52 | 2504.603 | 6" WATERMAIN DUCTILE IRON CL 52 | LF | 28 | | 16 | | | 12 |
| 53 | 2504.603 | 8" WATERMAIN DUCTILE IRON CL 52 | LF | 6 | | 6 | | | |

| | | | | | LOCAL STREETS | LOCAL STREETS | SAP 106-141-003 (PROJECT AREA 3) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | PROJECT AREA 1 | PROJECT AREA 2 | PARTICIPATING | | NON PARTICIPATING |
| | | | | TOTAL | CITY OF BLAINE | CITY OF BLAINE | STREET | STORM | CITY OF BLAINE |
| LINE NO. | ITEM NO. | ITEM DESCRIPTION | UNIT | ESTIMATED QUANTITY | ESTIMATED QUANTITY | ESTIMATED QUANTITY | ESTIMATED QUANTITY | ESTIMATED QUANTITY | ESTIMATED QUANTITY |
| 54 | 2504.603 | HYDRANT RISER | LF | 4 | | 1 | | | 3 |
| 55 | 2504.604 | 4" POLYSTYRENE INSULATION | SY | 290 | | 91 | | | 199 |
| | | | | | | | | | |
| 56 | 2504.608 | DUCTILE IRON FITTINGS | LB | 500 | | 200 | | | 300 |
| 57 | 2506.502 | CONST DRAINAGE STRUCTURE DESIGN K | EA | 13 | | 8 | | 5 | |
| 58 | 2506.502 | CONST DRAINAGE STRUCTURE 48-4020 | EA | 17 | | 14 | | 3 | |
| 59 | 2506.502 | CONST DRAINAGE STRUCTURE 60-4020 | EA | 12 | | 9 | | 3 | |
| 60 | 2506.502 | CONST DRAINAGE STRUCTURE 72-4020 | EA | 3 | | 3 | | | |
| | | | | | | | | | |
| 61 | 2506.502 | CASTING ASSEMBLY (STORM) | EA | 68 | 18 | 36 | | 14 | |
| 62 | 2506.502 | REPAIR SANITARY SERVICE | EA | 2 | | | | | 2 |
| 63 | 2506.502 | CASTING ASSEMBLY (SANITARY) | EA | 61 | 27 | 27 | | | 7 |
| 64 | 2506.603 | RECONSTRUCT CATCH BASIN OR MANHOLE (STORM & SANITARY) | LF | 3 | | | | | 3 |
| 65 | 2506.618 | MANHOLE BAFFLE | SF | 124 | | 109 | | 15 | |
| | | | | | | | | | |
| 66 | 2521.518 | 4" CONCRETE WALK | SF | 20126 | 240 | 2944 | 16942 | | |
| 67 | 2521.518 | 6" CONCRETE SIDEWALK | SF | 2125 | 195 | 1107 | 823 | | |
| 68 | 2531.503 | CONCRETE CURB & GUTTER DESIGN D312 | LF | 2210 | 2210 | | | | |
| 69 | 2531.503 | CONCRETE CURB & GUTTER DESIGN B618 | LF | 20925 | 1135 | 16562 | 3228 | | |
| 70 | 2531.504 | 6" CONCRETE DRIVEWAY PAVEMENT | SY | 2252 | 65 | 1237 | 950 | | |
| | | | | | | | | | |
| 71 | 2531.603 | 8" CONCRETE VALLEY GUTTER | LF | 765 | 70 | 520 | 175 | | |
| 72 | 2531.618 | TRUNCATED DOMES | SF | 251 | 40 | 101 | 110 | | |
| 73 | 2540.601 | IRRIGATION ALLOWANCE | LS | 1.00 | 0.18 | 0.57 | | | 0.25 |
| 74 | 2540.601 | LANDSCAPE ALLOWANCE | LS | 1.00 | 0.18 | 0.57 | | | 0.25 |
| 75 | 2540.602 | TEMPORARY MAILBOX | EA | 160 | | 138 | 22 | | |
| | | | | | | | | | |
| 76 | 2540.602 | INSTALL MAIL BOX SUPPORT | EA | 109 | | 91 | 18 | | |
| 77 | 2563.601 | TRAFFIC CONTROL | LS | 1.00 | 0.18 | 0.57 | 0.25 | | |
| 78 | 2564.502 | SIGN PANELS TYPE C | SF | 93 | | | 93 | | |
| 79 | 2564.602 | INSTALL SIGN | EA | 52 | 7 | 41 | 4 | | |
| 80 | 2565.616 | REVISE SIGNAL SYSTEM | SYS | 1 | | | 1 | | |
| | | | | | | | | | |
| 81 | 2571.502 | CONIFEROUS TREE 6' HT B&B | EA | 8 | 2 | 4 | 2 | | |
| 82 | 2571.502 | DECIDUOUS TREE 2.5" CAL B&B | EA | 71 | 23 | 38 | 10 | | |
| 83 | 2573.502 | STORM DRAIN INLET PROTECTION | EA | 88 | 31 | 48 | 9 | | |
| 84 | 2573.503 | SILT FENCE, TYPE MS | LF | 800 | | 700 | 100 | | |
| 85 | 2573.503 | SEDIMENT CONTROL LOG TYPE STRAW | LF | 300 | | 100 | 200 | | |
| | | | | | | | | | |
| 86 | 2574.507 | COMMON TOPSOIL BORROW (CV) | CY | 3590 | 300 | 2210 | 1080 | | |
| 87 | 2575.504 | SODDING TYPE LAWN | SY | 17890 | 1470 | 11040 | 5380 | | |
| 88 | 2582.503 | 4" SOLID LINE MULTI COMP | LF | 416 | | 276 | 140 | | |
| 89 | 2582.503 | 4" DOUBLE SOLID LINE MULTI COMP | LF | 1054 | | | 1054 | | |
| 90 | 2582.503 | 24" SOLID LINE MULTI COMP | LF | 73 | | 73 | | | |
| | | | | | | | | | |
| 91 | 2582.518 | PAVT MSSG MULTI COMP | SF | 84 | | | 84 | | |
| 92 | 2582.518 | CROSSWALK MULTI COMP | SF | 1098 | | 720 | 378 | | |




LEGEND

| | |
|---|---|
| XXX (rectangle) | REMOVALS PLAN |
| XXX (oval) | CONSTRUCTION PLAN |
| XXX (octagon) | EROSION CONTROL / TURF ESTABLISHMENT<br>SIGNING AND PAVEMENT MARKING PLAN |

NOTES:

SEE PROJECT MANUAL FOR STAGE COMPLETION MILESTONES.



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

SEH

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 MN.

Greg F Anderson

DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

**GENERAL LAYOUT - STAGING PLAN**

S.A.P. 106-141-003

## GENERAL NOTES

1. MINIMUM BURY DEPTH FOR WATERMAIN IS 7.5' OF COVER. IT MAY BE NECESSARY TO OVERBURY WATERMAIN DEEPER TO AVOID CONFLICTS WITH EXISTING SERVICES & UTILITIES AND MAINTAIN 1.5' VERTICAL SEPARATION. NO ADDITIONAL COMPENSATION WILL BE MADE FOR OVERBURY SITUATIONS.
2. CONTRACTOR SHALL NOTIFY PROPERTY OWNERS 72 HOURS IN ADVANCE OF DISRUPTION OF ACCESS TO PROPERTY OR BOULEVARDS.
3. CONTRACTOR SHALL MINIMIZE INTERRUPTION OF SANITARY SEWER AND WATER MAIN SERVICE TO ADJACENT PROPERTIES. ANY PROPERTY OUT OF SERVICE SHALL BE COORDINATED 72 HOURS IN ADVANCE BY THE CONTRACTOR WITH THE CITY, RESIDENTS AND BUSINESS OWNERS.
4. ANY USE OF TRENCH BOX, SHEETING, SHORING OR OTHER METHODS OR MEANS OF CONSTRUCTION NECESSARY TO COMPLETE CONSTRUCTION WITHIN CONSTRUCTION LIMITS OR SLOPE EASEMENTS SHOWN WILL BE CONSIDERED INCIDENTAL AND NO DIRECT COMPENSATION WILL BE MADE THEREFORE.
5. PROVIDE FOR REMOVAL AND DISPOSAL (OUTSIDE THE CONSTRUCTION ZONE) OF ALL IN PLACE STRUCTURES THAT WILL INTERFERE WITH CONSTRUCTION. DISPOSAL OF ITEMS REMOVED UNDER THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF MN/DOT 2018.
6. DRAINABLE AGGREGATE BASE TYPE OGAB CAN BE USED AS NEEDED IN TRENCHES FOR PIPE FOUNDATION STABILIZATION AS DIRECTED BY THE ENGINEER IN THE FIELD.
7. AS A PRECAUTIONARY MEASURE FROM A SOILS STANDPOINT, TRAFFIC LANES TO BE USED DURING CONSTRUCTION MUST BE DELINEATED TO KEEP VEHICLES A SAFE DISTANCE AWAY FROM THE EXCAVATION. THE DELINEATION SHOULD COINCIDE WITH POINTS ESTABLISHED BY PROJECTING A 1 (V) : 2 (H) OR GREATER (FLATTER) SLOPE BETWEEN THE EDGE OF THE TRAFFIC SURFACE AND THE BOTTOM OF THE EXCAVATION.
8. ALL WATER MAIN FITTINGS SHALL BE TYPE MJ UNLESS NOTED OTHERWISE. RESTRAINT SHALL BE MEGALUGS OR APPROVED EQUAL.
9. SERVICE LOCATIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ACTUAL SERVICE LOCATIONS AS NECESSARY TO INDIVIDUAL LOTS AND PROTECT FROM DAMAGE.
10. WATER, GAS, ELECTRIC, SEWER, CABLE TV, ETC. LINES SHOWN ON THE DRAWINGS ARE PLOTTED FROM THE BEST INFORMATION AVAILABLE AT THE TIME OF PLAN PREPARATION. THE PLANS MAY NOT DEPICT THE EXACT LOCATIONS OR ELEVATIONS AND THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITY LOCATIONS AND ELEVATIONS PRIOR TO COMMENCING ANY EXCAVATION.
11. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES AND PIPING NOT MARKED FOR REMOVAL. AT ALL TIMES DURING CONSTRUCTION
12. ALL INSULATION BOARD SHALL BE OVERLAPPED A MINIMUM OF 6". IF USING MORE THAN ONE BOARD THICKNESS, THE JOINTS SHALL BE STAGGERED A MINIMUM OF 6".
13. STREET WIDTH DIMENSIONS AND RADII ARE TO FACE OF CURB, UNLESS NOTED OTHERWISE.
14. WHERE SURVEY CONTROL MONUMENTS OR IRONS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE ANY SUCH ITEMS ARE REMOVED. THE CONTRACTOR SHALL CAREFULLY PRESERVE & PROTECT ALL MONUMENTS AND IRONS UNTIL THE OWNER & AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
15. ALL EXISTING STREETS SHALL BE SAW CUT AND EDGE MILLED AT THE MATCH POINTS OR AS DIRECTED.
16. NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT BEING MARKED FOR REMOVAL BY THE ENGINEER.
17. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING ANY EXCAVATION.
18. EROSION CONTROL MEASURES ARE TO BE IN PLACE PRIOR TO REMOVAL OF EXISTING BITUMINOUS MATERIAL.
19. SEE STRUCTURE SCHEDULE FOR SPECIFIC INFORMATION PERTAINING TO REMOVAL, REPLACEMENT, CASTINGS AND RECONSTRUCTION.
20. COMPACTION OF ROADWAY EMBANKMENT WILL BE BY THE "SPECIFIED METHOD" PER THE MNDOT SCHEDULE OF MATERIALS.
21. TEMPORARY EROSION CONTROL DEVICES AND THEIR SUGGESTED LOCATIONS ARE SHOWN IN THE SWPPP ALONG WITH PAY ITEMS FOR THEIR USE. THIS DOES NOT HOWEVER RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES TO CONDUCT HIS CONSTRUCTION IN A MANNER THAT WILL SUFFICIENTLY CONTROL EROSION. RESPONSIBILITIES FOR CONTROL OF EROSION ARE SET FORTH IN MN/DOT SPECIFICATIONS 1717, 1803, 2101, 2105, 2573, 2575 AND AS AMENDED BY THE SPECIAL PROVISIONS.

| BASIS OF ESTIMATED QUANTITIES | | |
|---|---|---|
| 2105.522 | AGGREGATE BASE CLASS 5, 100% CRUSHED | 1.8 TON/CU YD (CV) |
| 2211.501 | DRAINABLE AGGREGATE BASE, TYPE OGAB | 1.8 TON/CU YD (CV) |
| 2212.507 | BITUMINOUS MATERIAL FOR TACK COAT | .07 GAL/SQ YD |
| 2357.502 | BITUMINOUS PAVEMENT | 113#/SQYD/INCH |
| 2574.507 | COMMON TOPSOIL BORROW | 1.4 TON/CU YD (CV) |

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

| STANDARD PLATES | |
|---|---|
| 3000M | REINFORCED CONCRETE PIPE (6 SHEETS) |
| 3006H | GASKET JOINT FOR R.C. PIPE (2 SHEETS) |
| 3014K | REINFORCED CONCRETE PIPE ARCH (3 SHEETS) |
| 3100G | CONCRETE APRON FOR REINFORCED CONCRETE PIPE |
| 3145G | CONCRETE PIPE OR PRECAST BOX CULVERT TIES |
| 4010H | CONCRETE SHORT CONE AND ADJUSTING RING |
| 4011E | PRECAST CONCRETE BASE |
| 4020J | MANHOLE OR CATCH BASIN (FOR USE WITH OR WITHOUT TRAFFIC LOADS) (2 SHEETS) |
| 4180J | MANHOLE OR CATCH BASIN STEP |
| 7020K | CONCRETE CURB (DESIGN B, V, S, DR & BR)(2 SHEETS) |
| 7038A | DETECTABLE WARNING SURFACE |
| 7113A | CONCRETE NOSE APPROACH DETAIL |
| 8000K | TEMPORARY CHANNELIZERS- TYPE A, B & C (3 SHEETS) |
| 9000E | APPROACHES AND ENTRANCES |

*SEE SHEET 91 FOR ADDITIONAL STANDARD PLATES.

| UTILITIES | |
|---|---|
| THE FOLLOWING UTILITY COMPANIES HAVE FACILITIES WITHIN THE PROJECT AREA | |
| IF A LINE IS ENCOUNTERED PLEASE CONTACT THE SERVICE PROVIDER LISTED BELOW. | |
| CENTER POINT ENERGY (GAS) | COMCAST |
| 6161 GOLDEN VALLEY ROAD | 9660 COLORADO LANE N |
| GOLDEN VALLEY, MN, 55422 | BROOKLYN PARK, MN, 55445 |
| TRAVIS DENZEL- 612.321.5207 | luke_bastil@comcast.com |
| travis.denzel@centerpointenergy.com | |
| | |
| CENTURY LINK | CONNEXUS (ELECTRIC) |
| 325 CEDAR ST #324 | 14601 RAMSEY BLVD NW |
| ST PAUL, MN, 55101 | RAMSEY, MN, 55303 |
| AMY KLUDT- 651.714.7520 | Mat Rauschendorfer- 1.763.218.4655 |
| lkirkham@terratechllc.net | Mat.Rauschendorfer@connexusenergy.com |
| bill.byers@centurylink.com | Design@connexusenergy.com |
| | |
| CITY OF BLAINE | ANOKA COUNTY |
| 10801 TOWN SQUARE DRIVE NE | 1440 BUNKER LANE BOULEVARD NW |
| BLAINE, MN, 55449 | ANDOVER, MN 55304 |
| DAN SCHLUENDER- 763.785.6158 | HARRY GRAMS - 763.324.3114 |

## EARTHWORK NOTES

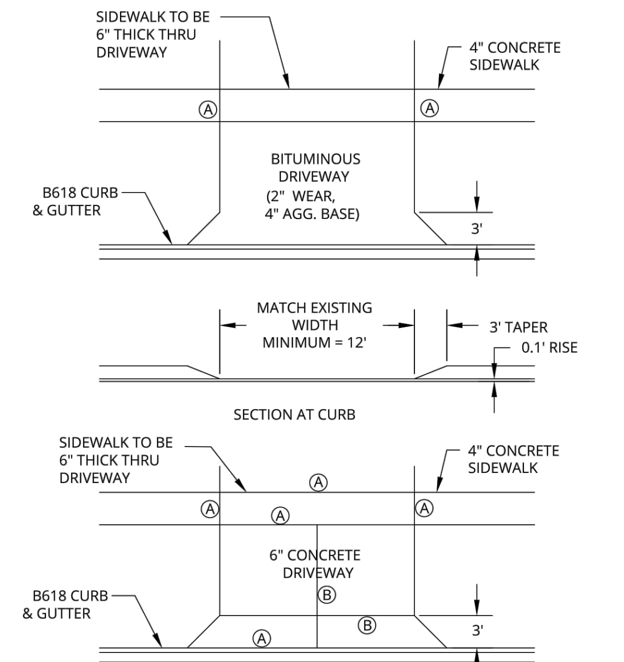
1. COMMON EXCAVATION IS (P) PLAN QUANTITY. COMMON EXCAVATION IS FOR EXCAVATION OF THE EXCESS RECLAIM PAVEMENT/CL5 MATERIAL AND THE NET EARTHWORK FOR THE PROJECT.
2. COMMON EXCAVATION (P) SHALL INCLUDE THE PROCESS OF SALVAGING AND STOCKPILING EXISTING RECLAIM MATERIAL. NO OTHER COMPENSATION WILL BE MADE FOR THESE OPERATIONS.
3. DRAINABLE AGGREGATE BASE TYPE OGAB SHALL BE ADDED TO THE ROADWAY PAVEMENT PRIOR TO RECLAMATION TO INCREASE THE COARSE AGGREGATE IN THE RECLAIM MATERIAL. THE OGAB MATERIAL SHALL BE UNIFORMLY PLACED AS NOTED IN THE REMOVAL PLAN AND WILL BE MARKED IN THE FIELD BY THE ENGINEER. OGAB SHALL BE PAID BY THE TON WITH PLACEMENT PAID AS ADDITIONAL SUB-GRADE PREP BY THE RD STATION.
4. ALL TOPSOIL STRIPPING TO BE PAID AS COMMON EXCAVATION AND IS INCLUDED IN THE COMMON EXCAVATION QUANTITIES. PLACEMENT OF SALVAGED TOPSOIL SHALL BE CONSIDERED INCIDENTAL.
5. EXCESS RECLAIMED MATERIAL CAN BE REUSED AS IMPORT FOR PROJECT AREA 3 IF IT MEETS MNDOT CL5 SPECIFICATION.
6. ANY EXCESS RECLAIM MATERIAL IS THE RESPONSIBILITY OF THE CONTRACTOR AND IS INCLUDED IN THE COMMON EXCAVATION QUANTITY.

## EARTHWORK SUMMARY

COMMON EXCAVATION (CV) (P): 12,014
- PROJECT AREA 1 — 1,942 CY (CV) (P)
- PROJECT AREA 2 — 5,572 CY (CV) (P)
- PROJECT AREA 3 — 4,500 CY (CV) (P)

EMBANKMENT: 7487 CY (CV)
- OPEN GRADED AGGREGATE BASE TYPE OGAB — PROJECT AREA 2 — 897 CY (CV)
- AGGREGATE BASE CL5 — PROJECT AREA 3 — 3,000 CY (CV)
- TOPSOIL BORROW: 3,590 (CV)
  - PROJECT AREA 1 — 300 CY (CV)
  - PROJECT AREA 2 — 2210 CY (CV)
  - PROJECT AREA 3 — 1080 CY (CV)

| STRUCT. NO. | STATION | OFFSET | STREET | CASTING ASSEMBLY | 15" RC PIPE SEWER CL V | 18" RC PIPE SEWER CL V | 21" RC PIPE SEWER CL III | 24" RC PIPE SEWER CL III | 24" RC ARCH PIPE SEWER CL III | 30" RC PIPE SEWER CL III | 36" RC PIPE SEWER CL III | PIPE SLOPE | END STRUCTURE | CONSTRUCT DRAINAGE STRUCTURE TYPE K | CONSTRUCT DRAINAGE STRUCTURE 48-4020 | CONSTRUCT DRAINAGE STRUCTURE 60-4020 | CONSTRUCT DRAINAGE STRUCTURE 72-4020 | TOP OF CASTING ELEV. (GRATE) | OULET ELEV. | SUMP DEPTH | CONNECT TO EXISTING STORM SEWER | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | EA | LF | LF | LF | LF | LF | LF | LF | % | | EACH | EACH | EACH | EACH | | | LF | EA | |
| EX. ST 100 | 149+69 | 31.62 L | 129th Ave. | R-1733 | | | | | | | | - | EX. ST 101 | | | | | 901.77 | | | | |
| EX. ST 101 | 149+72 | 32.26 R | 129th Ave. | R-1733 | | | | | | | | - | OUTLET | | | | | 901.46 | | | | |
| CB 102 | 149+90 | 18.0' R | 129th Ave. | R-3067-VB | | | | 23 | | | | 0.40% | 101 | | | 1 | | 900.90 | 895.26 | 4 | 1 | 60"-36" SAFL BAFFLE |
| MH 103 | 149+90 | 5.6' L | 129th Ave. | R-1733 | | | | 24 | | | | 0.40% | 102 | | | 1 | | 901.27 | 895.36 | 0 | | |
| MH 104 | 152+23 | 5.5' L | 129th Ave. | R-1733 | | | | | 232 | | | 0.20% | 103 | | | 1 | | 902.32 | 895.85 | 0 | | |
| MH 105 | 153+00 | 5.5' R | 129th Ave. | R-1733 | | 79 | | | | | | 0.60% | 104 | | 1 | | | 902.68 | 899.27 | 0 | | |
| MH 106 | 155+03 | 5.5' R | 129th Ave. | R-1733 | | 204 | | | | | | 0.60% | 105 | | 1 | | | 903.63 | 900.50 | 0 | | |
| CB 107 | 149+90 | 18.3' L | 129th Ave. | R-3067-VB | 13 | | | | | | | 1.00% | 103 | | 1 | | | 900.90 | 896.08 | 0 | | |
| CB 108 | 150+00 | 18.0' L | 129th Ave. | R-3067-V | 10 | | | | | | | 1.00% | 107 | 1 | | | | 900.92 | 896.18 | 0 | | |
| CB 109 | 152+23 | 18.0' L | 129th Ave. | R-3067-V | 13 | | | | | | | 1.00% | 104 | 1 | | | | 901.96 | 899.09 | 0 | | |
| CB 110 | 152+23 | 18.0' R | 129th Ave. | R-3067-V | 23 | | | | | | | 1.00% | 104 | 1 | | | | 901.99 | 899.25 | 0 | | |
| CB 111 | 155+04 | 18.0' L | 129th Ave. | R-3067-V | 24 | | | | | | | 1.00% | 106 | 1 | | | | 903.27 | 900.87 | 0 | | |
| CB 112 | 155+03 | 18.0' R | 129st Ave. | R-3067-V | 13 | | | | | | | 1.00% | 106 | 1 | | | | 903.27 | 900.72 | 0 | | |
| CB 200 | 66+55 | 15.0' L | Taylor St. | R-3067-VB | | | | | | | | - | EX. MH 100 | | 1 | | | 894.93 | 901.01 | 4 | 1 | 48"-36" SAFL BAFFLE |
| CB 201 | 66+51 | 15.0' R | Taylor St. | R-3067-VB | 30 | | | | | | | 1.00% | 200 | 1 | | | | 894.93 | 891.41 | 0 | | |
| CB 300 | 68+03 | 15.0' L | Taylor St. | R-3067-V | | | | | | | | - | EX. MH 100 | | | 1 | | 897.59 | 890.55 | 4 | 2 | 72"-57" SAFL BAFFLE |
| CB 301 | 68+05 | 15.0' R | Taylor St. | R-3067-V | | | 30 | | | | | 1.00% | 300 | | 1 | | | 897.62 | 893.62 | 0 | | |
| CB 302 | 136+41 | 15.0' L | 126th Ln. | R-3067-VB | | 30 | | | | | | 0.96% | 301 | | 1 | | | 897.25 | 894.01 | 0 | | |
| CB 303 | 136+40 | 15.0' R | 126th Ln. | R-3067-VB | 30 | | | | | | | 1.00% | 302 | | 1 | | | 897.25 | 894.41 | 0 | | |
| CB 304 | 136+50 | 15.0' R | 126th Ln. | R-3067-V | 10 | | | | | | | 1.00% | 303 | 1 | | | | 897.39 | 894.51 | 0 | | |
| CB 305 | 136+51 | 15.0' L | 126th Ln. | R-3067-V | 10 | | | | | | | 1.00% | 302 | 1 | | | | 897.40 | 894.21 | 0 | | |
| CB 306 | 68+21 | 15.0' R | Taylor St. | R-3067-V | | 15 | | | | | | 1.00% | 301 | 1 | | | | 897.79 | 893.88 | 0 | | |
| CB 400 | 70+53 | 15.0' L | Taylor St. | R-3067-V | | | | | | | | - | 300 | | | 1 | | 897.99 | 890.80 | 4 | 2 | 72"-57" SAFL BAFFLE |
| CB 401 | 70+54 | 15.0' R | Taylor St. | R-3067-V | | | 30 | | | | | 0.50% | 400 | | 1 | | | 897.98 | 893.98 | 0 | | |
| CB 402 | 124+31 | 15.0' R | 127th Ave. | R-3067-VB | | 24 | | | | | | 1.00% | 401 | | 1 | | | 897.99 | 894.32 | 0 | | |
| CB 403 | 124+32 | 15.0' L | 127th Ave. | R-3067-VB | | 30 | | | | | | 1.00% | 402 | | 1 | | | 898.00 | 894.62 | 0 | | |
| CB 404 | 71+16 | 15.0' R | Taylor St. | R-3067-V | 22 | | | | | | | 0.99% | 403 | | 1 | | | 898.09 | 894.94 | 0 | | |
| CB 405 | 71+47 | 15.0' R | Taylor St. | R-3067-V | 30 | | | | | | | 1.00% | 404 | | 1 | | | 898.22 | 895.24 | 0 | | |
| CB 406 | 71+57 | 15.0' R | Taylor St. | R-3067-V | 10 | | | | | | | 1.00% | 405 | 1 | | | | 898.26 | 895.34 | 0 | | |
| CB 500 | 73+89 | 15.0' L | Taylor St. | R-3067-V | | | | | | | | - | 400 | | | 1 | | 899.91 | 891.25 | 0 | 2 | |
| CB 501 | 87+33 | 15.0' R | 127th Lane | R-3067-VB | | | | | | | 49 | 0.50% | 500 | | | | 1 | 899.90 | 894.66 | 0 | | |
| CB 502 | 87+33 | 15.0' L | 127th Lane | R-3067-VB | | | | | | 30 | | 0.60% | 501 | | | | 1 | 899.90 | 894.94 | 0 | | |
| CB 503 | 87+42 | 15.0' L | 127th Lane | R-3067-V | | | | | | 9 | | 0.40% | 502 | | | 1 | | 899.95 | 894.98 | 0 | | |
| CB 504 | 88+28 | 15.0' L | 127th Lane | R-3067-V | | | | | | 86 | | 0.40% | 503 | | | 1 | | 900.41 | 895.32 | 0 | | |
| CB 505 | 88+44 | 15.0' L | 127th Lane | R-3067-V | | | | 16 | | | | 0.50% | 504 | | 1 | | | 900.50 | 895.50 | 0 | | |
| CB 506 | 88+28 | 15.0' R | 127th Lane | R-3067-V | 30 | | | | | | | 1.00% | 504 | 1 | | | | 900.41 | 895.80 | 0 | | |
| CB 600 | 76+89 | 15.0' L | Taylor St. | R-3067-V | | | | | | | | - | 500 | | | 1 | | 901.39 | 892.85 | 0 | 2 | |
| CB 601 | 76+89 | 15.0' R | Taylor St. | R-3067-V | | 30 | | | | | | 1.00% | 600 | | 1 | | | 901.39 | 896.19 | 0 | | |
| CB 602 | 77+22 | 39.1' R | Taylor St. | R-3067-V | 40 | | | | | | | 1.00% | 601 | 1 | | | | 901.89 | 896.69 | 0 | | |
| CB 700 | 77+81 | 15.0' L | Taylor St. | R-3067-VB | | | | | | | | - | 600 | | | 1 | | 901.81 | 892.97 | 0 | 2 | |
| CB 701 | 77+79 | 15.0' R | Taylor St. | R-3067-V | | | | | | 30 | | 0.50% | 700 | | | | 1 | 901.79 | 896.74 | 0 | | |
| CB 702 | 77+69 | 15.0' R | Taylor St. | R-3067-VB | | | | 10 | | | | 0.75% | 701 | | | 1 | | 901.72 | 896.92 | 0 | | |
| CB 703 | 77+51 | 38.1' R | Taylor St. | R-3067-V | | | | 30 | | | | 0.50% | 702 | | | 1 | | 901.81 | 897.07 | 0 | | |
| CB 704 | 77+51 | 56.1' R | Taylor St. | R-3067-V | | | | 18 | | | | 0.50% | 703 | | 1 | | | 901.85 | 897.16 | 0 | | |
| CB 800 | 119+99 | 15.0' L | Buchanan St. | R-3067-VB | 30 | | | | | | | 1.00% | EX. ST 200 | | 1 | | | 903.39 | 899.93 | 0 | 1 | |
| CB 801 | 120+12 | 15.0' L | Buchanan St. | R-3067-VB | 11 | | | | | | | 1.00% | 800 | | 1 | | | 903.37 | 900.04 | 0 | | |
| CB 802 | 120+09 | 14.4' R | Buchanan St. | R-3067-V | 30 | | | | | | | 1.00% | 801 | 1 | | | | 903.33 | 900.34 | 0 | | |
| | | | SUBTOTALS | 0 | 379 | 412 | 60 | 121 | 232 | 155 | 49 | | | 13 | 17 | 12 | 3 | | | | 13 | |



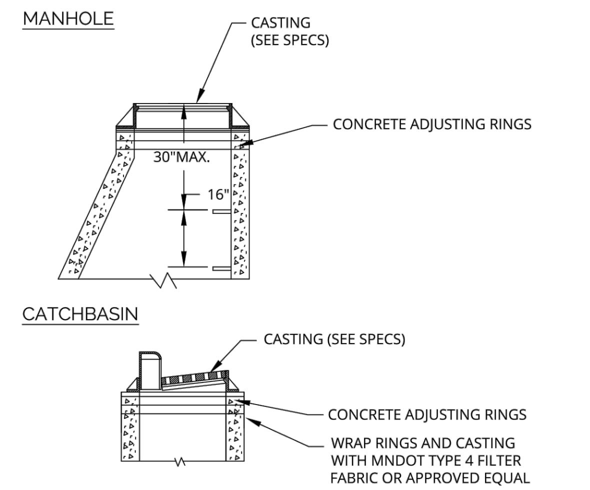

NOTES: MINIMUM 6" THICK CONCRETE OR MATCH EXISTING.
REFER TO MNDOT STANDARD PLATE 7035 FOR MORE INFORMATION REGARDING JOINT CONSTRUCTION.
A - EXPANSION JOINT  B - CONTRACTION JOINT
SEE CS-4 & CS-5 FOR DRIVEWAY WIDTH.

## RESIDENTIAL DRIVEWAYS

Plate No. MI-2

2022 STANDARD DETAIL PLATE


City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449  763-785-6172  Fax 763-785-6139

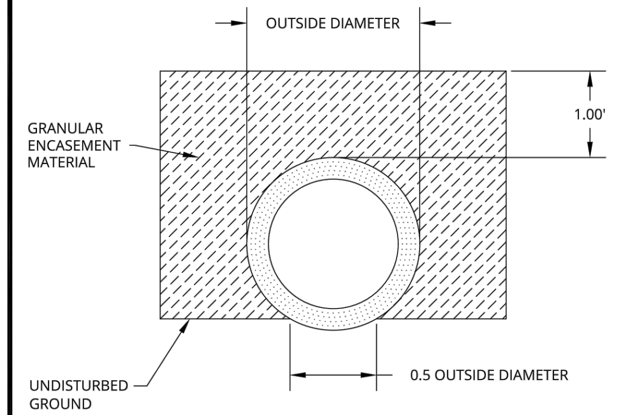

NOTES:
1. USE MINIMUM OF 2-0.2' ADJUSTING RINGS, MAXIMUM OF 5-0.2' ADJUSTING RINGS, ALL SET IN MORTAR.
2. MANHOLE STEPS SHALL BE PER MNDOT PLATE 4180, TYPE W. STEPS SHALL BE LOCATED ON UPSTREAM WALL FOR PIPE SIZES UP TO AND INCLUDING 15" AND ON SIDE WALL FOR GREATER THAN 15".
3. LIDS FOR SANITARY SEWER SHALL BE MARKED "SANITARY" AND LIDS FOR STORM SEWERS SHALL BE MARKED "STORM".
4. NO WOOD SHIMS WILL BE ALLOWED.

## ADJUSTING RINGS & STEPS

Plate No. MI-3

2022 STANDARD DETAIL PLATE


City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449  763-785-6172  Fax 763-785-6139

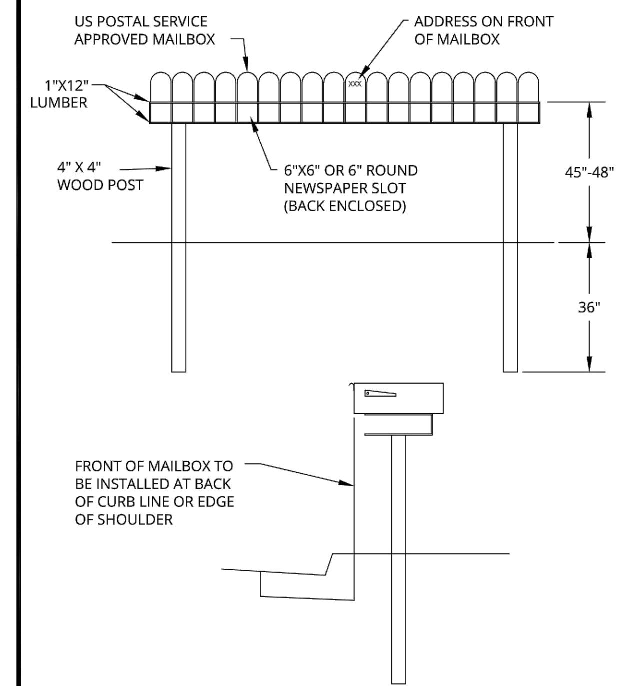

NOTES:
1. THIS IS THE STANDARD PIPE BEDDING APPLICATION UNLESS OTHER BEDDING IS SPECIFIED.
2. THE BOTTOM OF THE TRENCH SHALL BE SHAPED TO FIT THE BARREL OF THE PIPE FOR AT LEAST 50% OF THE OUTSIDE DIAMETER OF THE PIPE. THE REMAINDER OF THE PIPE IS TO BE SURROUNDED TO A HEIGHT OF AT LEAST 1' ABOVE ITS TOP.
3. GRANULAR ENCASEMENT MATERIAL SHALL MEET THE REQUIREMENTS OF THE SPECIFICATIONS.
4. NATIVE BLAINE GRANULAR MATERIAL IS CONSIDERED TO MEET THE INTENT OF THIS DETAIL.

## CLASS C PIPE BEDDING

Plate No. MI-4

2022 STANDARD DETAIL PLATE


City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449  763-785-6172  Fax 763-785-6139

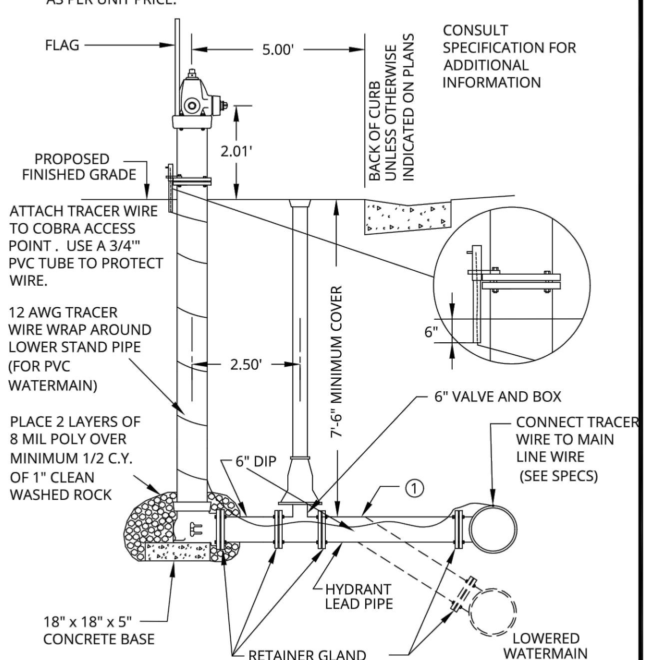

## TEMPORARY MAILBOX

Plate No. MI-7

2022 STANDARD DETAIL PLATE


City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449  763-785-6172  Fax 763-785-6139


1 CONTRACTOR SHALL INSTALL BEND TO ACHIEVE 7.5' BURY, BEND SHALL NOT EXCEED 45°, ALL FITTINGS WILL BE PAID AS PER UNIT PRICE.



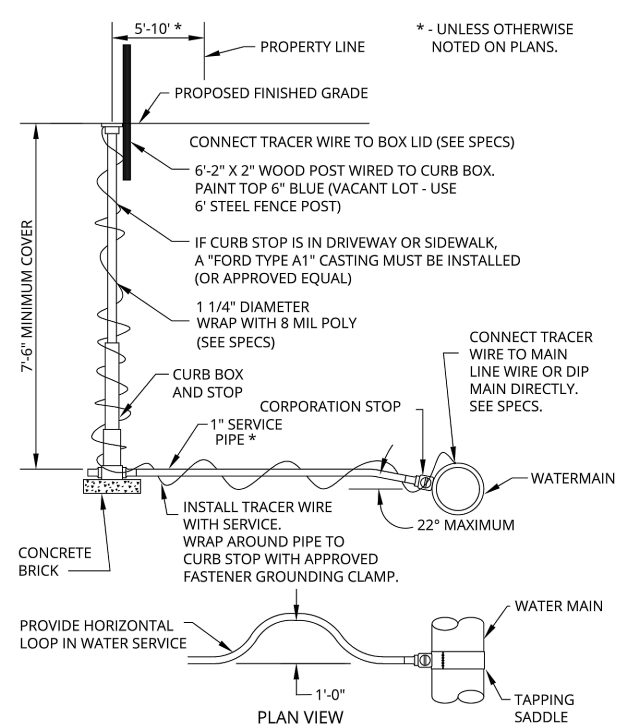

* FLAG TO BE INSTALLED DIRECTLY ABOVE TRACER WIRE SIDE OF HYDRANT.

## HYDRANT INSTALLATION

Plate No. WS-2

2022 STANDARD DETAIL PLATE


City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449  763-785-6172  Fax 763-785-6139


## WATER SERVICE CONNECTION

Plate No. WS-3

2022 STANDARD DETAIL PLATE


City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449  763-785-6172  Fax 763-785-6139


| | PIPE SIZE 6" | 8" | 10" | 12" | 14" | 16" | 18" | 20" | 24" |
|---|---|---|---|---|---|---|---|---|---|
| BENDS | | | | | | | | | |
| 90° | 39 | 57 | 89 | 108 | 210 | 264 | 335 | 400 | 565 |
| 45° | 32 | 46 | 70 | 86 | 164 | 202 | 250 | 305 | 405 |
| 22 1/2° | 32 | 46 | 64 | 84 | 148 | 178 | 255 | 310 | 412 |
| 11 1/4° | 30 | 42 | 58 | 74 | 130 | 158 | 205 | 245 | 315 |
| SLEEVES | | | | | | | | | |
| SHORT | 28 | 38 | 49 | 56 | 111 | 130 | 160 | 195 | 255 |
| LONG | 36 | 46 | 62 | 76 | 140 | 172 | 225 | 255 | 335 |
| PLUG | 18 | 26 | 36 | 46 | 85 | 93 | 130 | 153 | 202 |
| CAP | 17 | 25 | 35 | 44 | 79 | 100 | 122 | 202 | 214 |
| TEES | | | | | | | | | |
| RUN | | | | | | | | | |
| 6" | 56 | | | | | | | | |
| 8" | 72 | 86 | | | | | | | |
| 10" | 90 | 105 | 120 | | | | | | |
| 12" | 110 | 125 | 140 | 160 | | | | | |
| 14" | 182 | 206 | 228 | 234 | 280 | | | | |
| 16" | 228 | 248 | 264 | 280 | 316 | 322 | | | |
| 18" | 275 | 295 | 315 | 335 | 380 | 405 | 435 | | |
| 20" | 315 | 345 | 370 | 395 | 440 | 465 | 505 | 535 | |
| 24" | 415 | 445 | 470 | 500 | 550 | 580 | 625 | 660 | 720 |
| CROSS | | | | | | | | | |
| 6" | 80 | | | | | | | | |
| 8" | | 105 | | | | | | | |
| 10" | | | 145 | | | | | | |
| 12" | | | | 215 | | | | | |
| 14" | | | | | 335 | | | | |
| 16" | | | | | | 385 | | | |
| 18" | | | | | | | XXX | | |
| 20" | | | | | | | | XXX | |
| 24" | | | | | | | | | XXX |
| REDUCERS | | | | | | | | | |
| 8" | 36 | | | | | | | | |
| 10" | 47 | 50 | | | | | | | |
| 12" | 60 | 60 | 64 | | | | | | |
| 14" | 100 | 100 | 100 | 100 | | | | | |
| 16" | 124 | 124 | 124 | 124 | 140 | | | | |
| 18" | | 190 | 195 | 180 | 190 | 195 | | | |
| 20" | | | 220 | 205 | 200 | 200 | 225 | | |
| 24" | | | | 305 | 310 | 320 | 305 | 300 | |

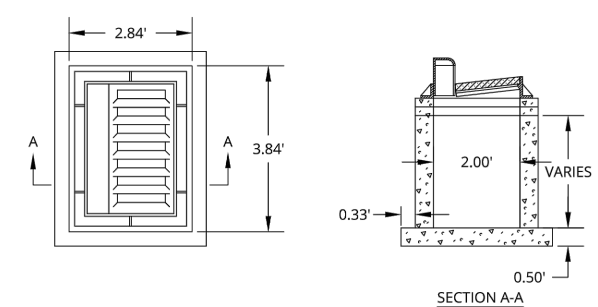
WEIGHTS TAKEN FROM AWWA C153; XXX BASED ON C110
WEIGHT DOES NOT INCLUDE GLANDS, GASKETS, BOLTS AND RESTRAINING DEVICES

## WATERMAIN FITTINGS

Plate No. WS-4

2022 STANDARD DETAIL PLATE


City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449  763-785-6172  Fax 763-785-6139


NOTES:
1. INSIDE DIMENSIONS 2.00' X 3.00'
2. BASE TO BE GROUTED TO FORM A SMOOTH INVERT TO OUTLET.
3. PIPE CUT OUTS TO BE LOCATED WHERE REQUIRED.
4. STRENGTH DESIGN OF BASE SLAB AND STRUCTURE PER MANUFACTURER.
5. SEE DETAIL MI-3 FOR ADJUSTING RING CONSTRUCTION
6. SEE SD-5 FOR CASTING SCHEDULE

## 24" x 36" CATCH BASIN

Plate No. SD-1

2022 STANDARD DETAIL PLATE


City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449  763-785-6172  Fax 763-785-6139


Save: 4/11/2022 11:43 AM enavratil Plot: 4/22/2022 12:43 PM X:\AE\B\BLAIN\165899\5-final-dsgn\51-drawings\10-Civil\cad\dwg\sheet\BL165774DT.dwg

| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
|---|---|---|---|---|---|---|---|
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

SEH

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 MN.

Greg F Anderson
DATE 03.31.2022  LICENSE NO. 26859

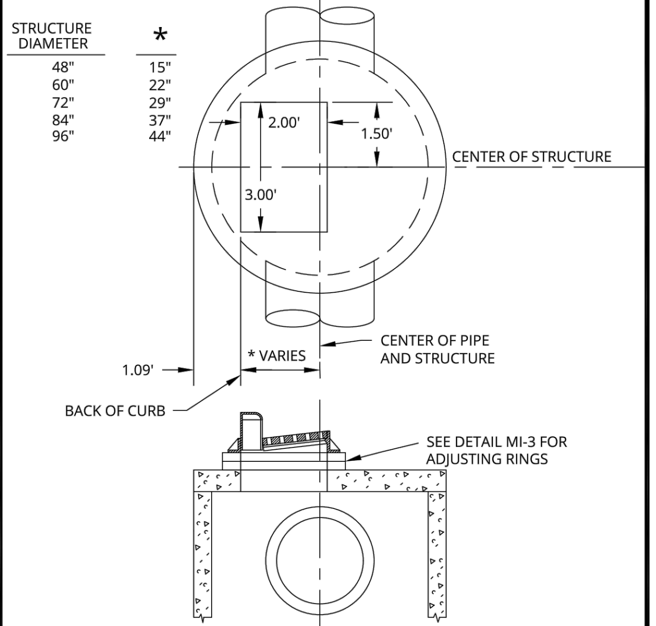
# 2022 STREET RECONSTRUCTION

BLAINE, MN

DETAILS



S.A.P. 106-141-003



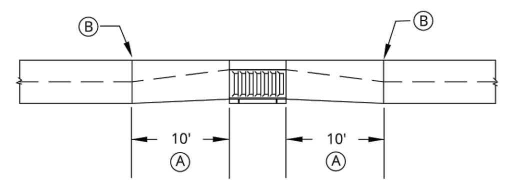

NOTES:
1. STRENGTH DESIGN OF COVER SHALL BE PER MNDOT STANDARD PLATE 4020.
2. SEE SD-5 FOR CASTING SCHEDULE

## RECTANGULAR OPENING CB COVER

Plate No. SD-2

**2022 STANDARD DETAIL PLATE**


City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139


(A) - 10' TRANSITION FROM CASTING OPENING TO D312 CURBING.
(B) - EXPANSION JOINT.

### CASTING SCHEDULE

| STRUCTURE TYPE | NEENAH CASTING TYPE |
|---|---|
| MANHOLE (DIA. VARIES) | R-1733 W/ PLATEN LID |
| CATCH BASIN (DIA. VARIES) | R-3067-V (SEE BLAINE PLATE SD-2) |
| 24" X 36" | R-3067-V (SEE BLAINE PLATE SD-1) |
| 24" X 36" | R-3290-A (DRIVEWAYS) |
| MNDOT TYPE "H" | R-3250-1 (B STYLE CURBING) |
| MNDOT TYPE "H" | R-3508-A2 (D312 STYLE CURBING) |
| MNDOT TYPE "H" | R-2577-1 TYPE C GRATE (OPEN SPACES) |

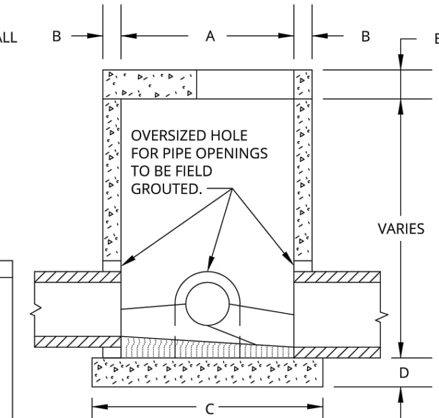
NOTES:
1. IF CATCHBASIN IS NOT LOCATED ON PROPERTY LINE, DO NOT USE 24" X 36" STRUCTURE.
2. CATCH BASIN CASTINGS SHALL BE R-3067-V VANE GRATE FOR FLOW THRU AND BI-DIRECTIONAL R-3067-VB VANE GRATE IN SAG LOCATIONS.

## CATCH BASIN/CURBING & CASTING SCHEDULE

Plate No. SD-5


**2022 STANDARD DETAIL PLATE**
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139


NOTES:
1. 54" THRU 120" DIA. STRUCTURES ARE MANUFACTURED WITH BELL END FACING DOWN.
2. STRUCTURES ARE MANUFACTURED IN ACCORDANCE WITH ASTM C-478 AND MNDOT STANDARD PLATE 4005 WITH RUBBER GASKET JOINTS.
3. REFER TO BLAINE DETAIL MI-3 FOR CASTING, ADJUSTING RINGS, AND STEPS.
4. PROVIDE MORTAR FILLETS TO FIT THE BOTTOM PORTION OF PIPE TO DIRECT FLOW TO OUTLET HALF-WAY UP PIPE MINIMUM.
5. COVER SLAB DESIGN VARIES WITH CASTING.
6. REINFORCING STEEL SHALL BE PER ASTM C-478 AND MNDOT PLATE 4005.

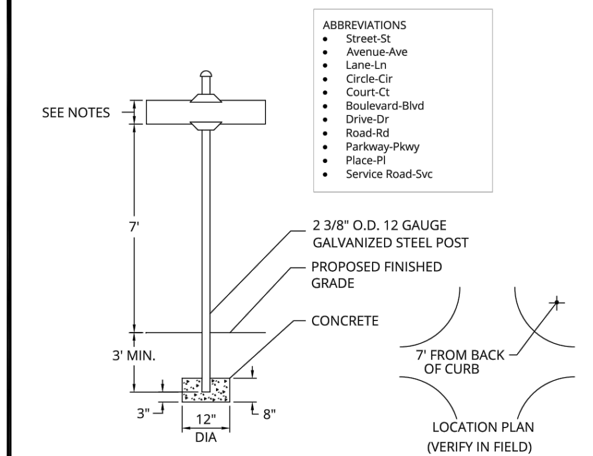



| A | B | C | D | E |
|---|---|---|---|---|
| 48" | 5" | 64" | 6" | 6" |
| 54" | 5.5" | 72" | 8" | 8" |
| 60" | 6" | 78" | 8" | 8" |
| 66" | 6.5" | 85" | 8" | 8" |
| 72" | 7" | 92" | 8" | 8" |
| 78" | 7.5" | 100" | 8" | 8" |
| 84" | 8" | 106" | 8" | 8" |
| 90" | 8.5" | 114" | 8" | 8" |
| 96" | 9" | 120" | 8" | 8" |
| 102" | 9.5" | 127" | 12" | 8" |
| 108" | 10" | 132" | 12" | 12" |
| 120" | 10" | 146" | 12" | 12" |

## STANDARD STORM SEWER CATCH BASIN/MANHOLE & MANHOLE

Plate No. SD-6


**2022 STANDARD DETAIL PLATE**
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139

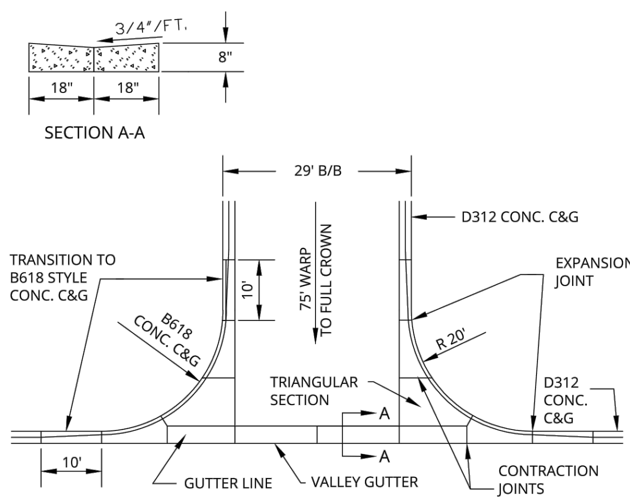




NOTES:
1. BLADE HEIGHT SHALL BE 9".
2. BLADE LENGTH SHALL BE AS NECESSARY.
3. LETTER SIZE - 40 MPH AND LESS: 6"UPPER CASE 4.5" LOWER CASE - 40 MPH AND GREATER: 8"UPPER CASE 6" LOWER CASE.
4. DIAMOND GRADE, WHITE ON MNDOT GREEN BACKGROUND FOR PUBLIC STREETS WHITE ON MNDOT BROWN BACKGROUND FOR PRIVATE STREETS, SEE CITY SPECIFICATIONS FOR MATERIALS.
5. STREET NAMES SHALL BE SPELLED COMPLETELY EXCEPT FOR SUFFIXES WHICH MAY BE ABBREVIATED ON LONGER STREET NAMES.
6. SIGNS SHALL NOT HAVE BORDERS.
7. SIGN BRACKETS SHALL BE "LYLE SIGNS" NO. E-450 OR APPROVED EQUAL.
8. A SIGN PLAN SHOWING SIGN COLORS, SIZES AND LETTERING MUST BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO SIGN INSTALLATION.
9. FIRST LETTER OF EACH WORD TO BE UPPER CASE; REMAINING LETTERS OF EACH WORD TO BE LOWER CASE

## STREET SIGN INSTALLATION

Plate No. ST-1


**2022 STANDARD DETAIL PLATE**
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139

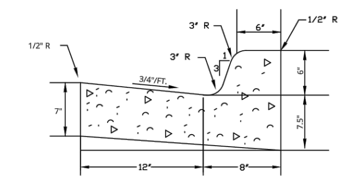




NOTE:
1. CURB IN RADIUS SHALL BE FORMED AND POURED AS ONE UNIT WITH TRIANGULAR SECTION AND VALLEY GUTTER. CURB IS CONSIDERED PART OF TRIANGULAR SECTION FOR PAYMENT PURPOSES.
2. SQUARE FOOT PAYMENT OF VALLEY GUTTER INCLUDES ALL CONCRETE SURFACE BETWEEN EXPANSION JOINTS.

## CONCRETE VALLEY GUTTER

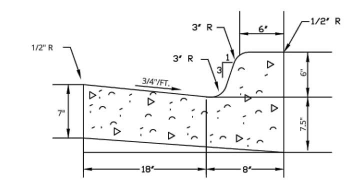
Plate No. ST-4


**2022 STANDARD DETAIL PLATE**
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139

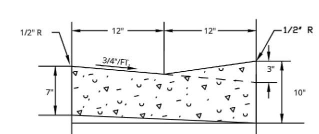
### B-612 CONCRETE CURB & GUTTER

MNDOT Standard Plate 7100H



### B-618 CONCRETE CURB & GUTTER

MNDOT Standard Plate 7100H



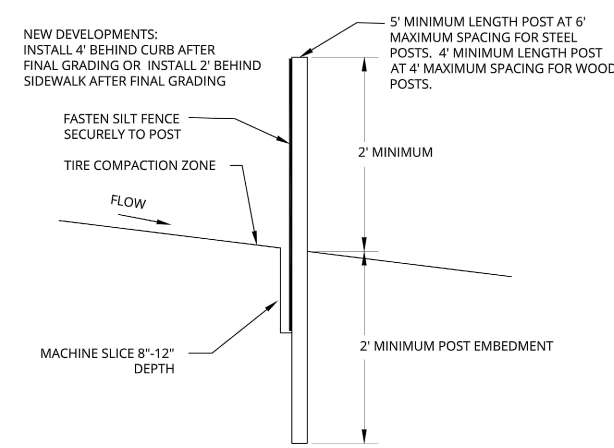
### D-312 CONCRETE CURB & GUTTER

## CONCRETE CURB & GUTTER

Plate No. ST-6


**2022 STANDARD DETAIL PLATE**
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139


- USE PROPER EQUIPMENT SUCH THAT THE SOIL IS SLICED, NOT TURNED OVER.
- GEOTEXTILE FABRIC EMBEDDED 8" TO 12" IN THE SOIL SLIT, LEAVING ABOUT 2' OF FABRIC ABOVE GROUND.
- COMPACT THE SOIL IMMEDIATELY NEXT TO THE GEOTEXTILE BY DRIVING OVER IT WITH A TRACTOR TIRE AT LEAST TWICE.
- STEEL T-POSTS PLACED ON DOWNSTREAM SIDE OF WATER FLOW EMBEDDED AT LEAST 2' INTO THE GROUND. MAXIMUM SPACING 6'. NIPPLES ON POST FACE AWAY FROM THE GEOTEXTILE TO KEEP TIES FROM SLIPPING ON POST.
- FOR STEEL POSTS USE 3 PLASTIC ZIP TIES (50 LB TENSILE) AT LEAST 1" APART TO SECURE THE GEOTEXTILE TO EACH POST WITHIN THE TOP 8".
- FENCE SHALL BE HEAVY DUTY TYPE.
- USE WOOD LATHE AND STAPLES ON FACE OF SILT FENCE TO SECURE TO WOOD POSTS.
- CONTRACTOR SHALL REMOVE FENCE AND POSTS PER SPECIFICATIONS.

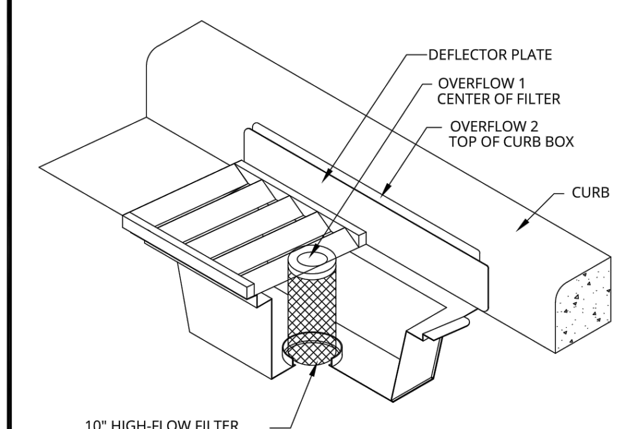



SILT FENCE MATERIALS SHALL MEET MNDOT SPECIFICATION 3886
CONTRACTOR SHALL REMOVE FENCE AND POSTS PER SPECIFICATIONS.

## MACHINE SLICED SILT FENCE

Plate No. EC-1


**2022 STANDARD DETAIL PLATE**
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139


NOTES:
- WIMCO CG MODEL OR APPROVED EQUAL TO MATCH CASTING
- SILT FENCE/FABRIC NOT ALLOWED TO BE USED AS INLET PROTECTION

## INLET PROTECTION FOR CURB AND GUTTER

Plate No. EC-4


**2022 STANDARD DETAIL PLATE**
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139



Save: 4/11/2022 11:43 AM enavratil Plot: 4/22/2022 12:43 PM X:\AE\B\BLAIN\165899\5-final-dsgn\51-drawings\10-Civil\cad\dwg\sheet\BL163774DT.dwg


| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
|---|---|---|---|---|---|---|---|
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

SEH

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 MN.

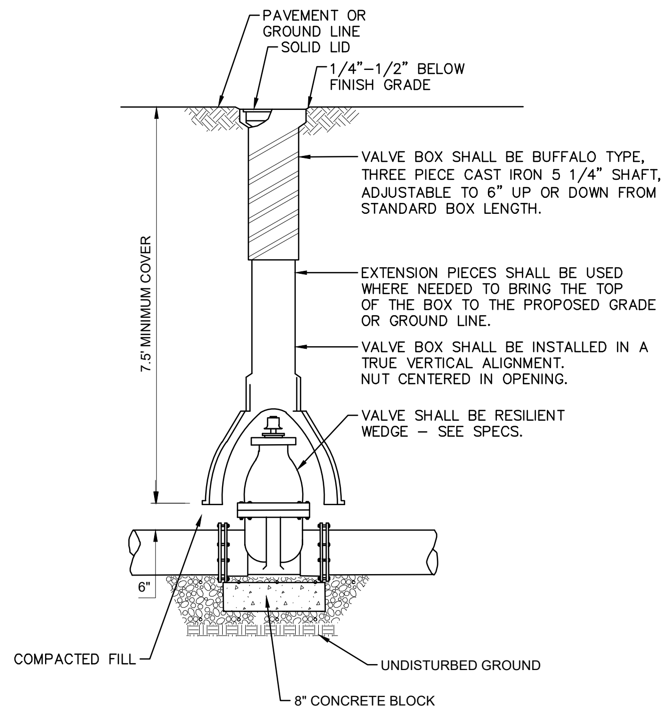
Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

# 2022 STREET RECONSTRUCTION

BLAINE, MN

**DETAILS**

S.A.P. 106-141-003



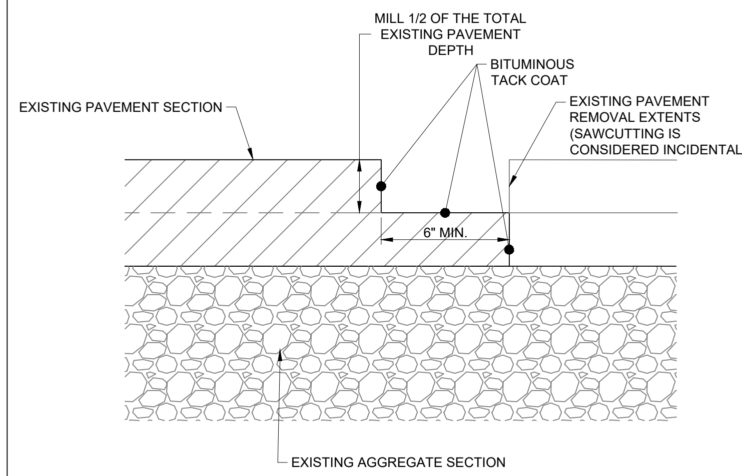

NTS

SEH

**GATE VALVE AND BOX**

Revised: Oct. 2011

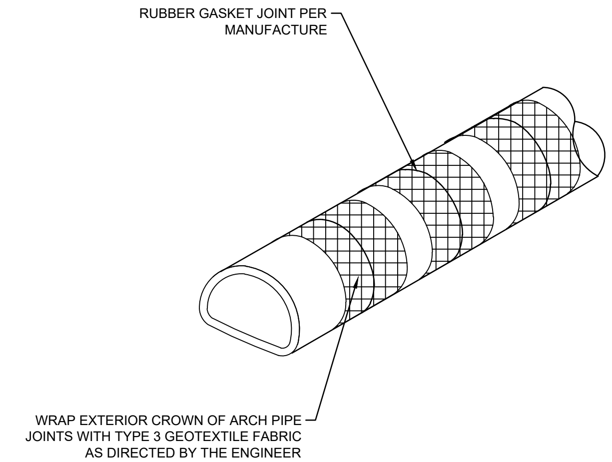
SEH Plate No. WAT-04




NTS

SEH

**BITUMINOUS EDGE MILL**




NTS

SEH

**RC ARCH PIPE JOINT DETAIL**

Revised: MAR. 2022

SEH Plate No.



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

SEH

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 MN.

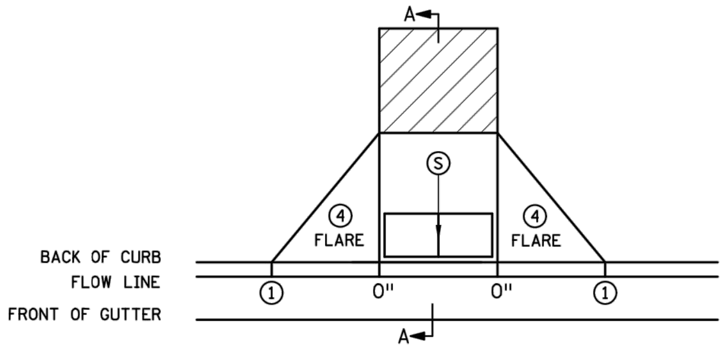
Greg F Anderson

DATE 03.31.2022 LICENSE NO. 26859

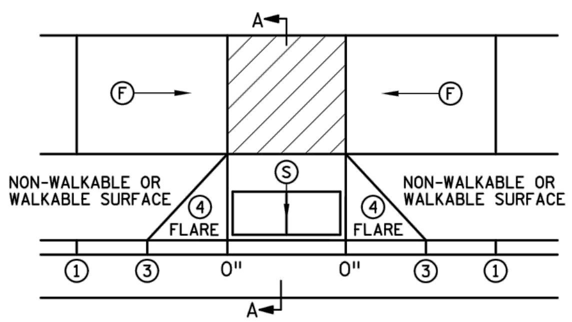
2022 STREET RECONSTRUCTION

BLAINE, MN

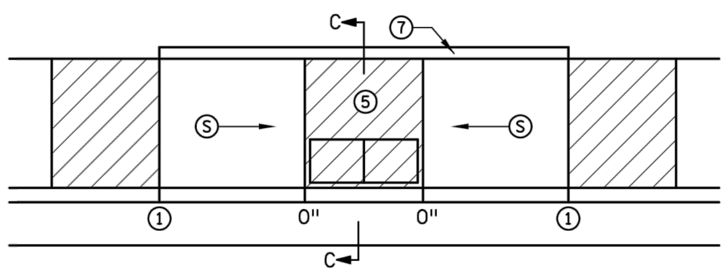
S.A.P. 106-141-003



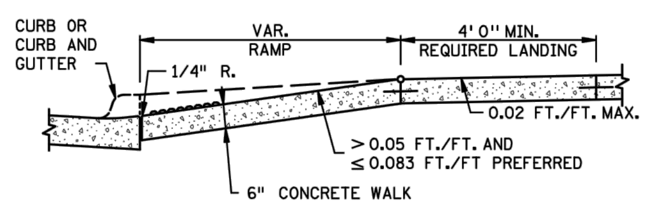

PERPENDICULAR




TIERED PERPENDICULAR

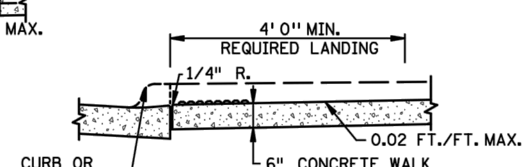



PARALLEL



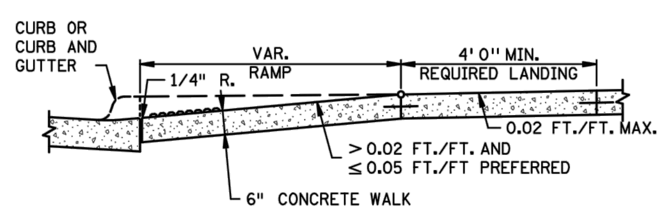

SECTION A-A

PERPENDICULAR/TIERED/DIAGONAL



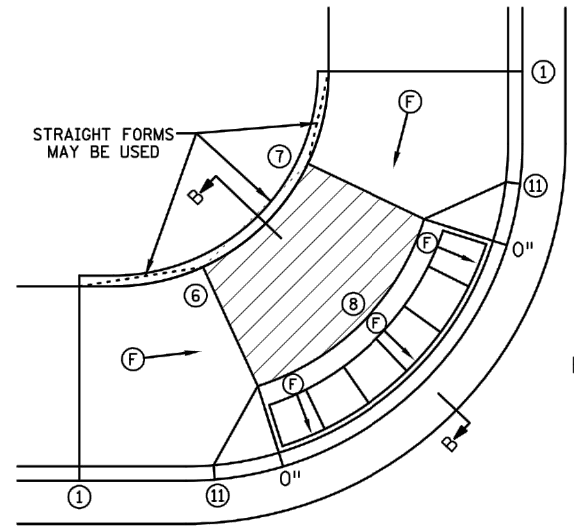

SECTION C-C

PARALLEL/DEPRESSED CORNER

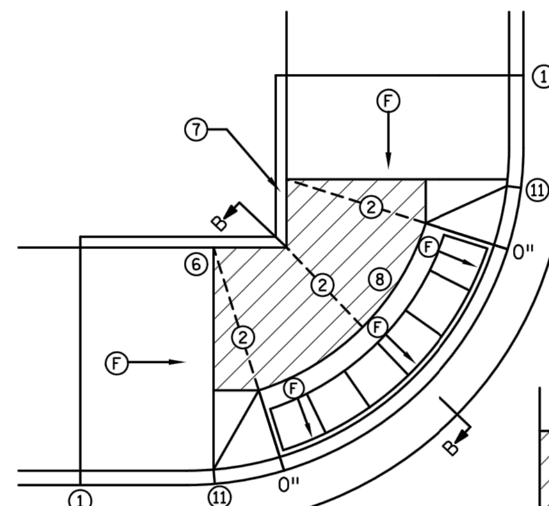



SECTION B-B

FAN

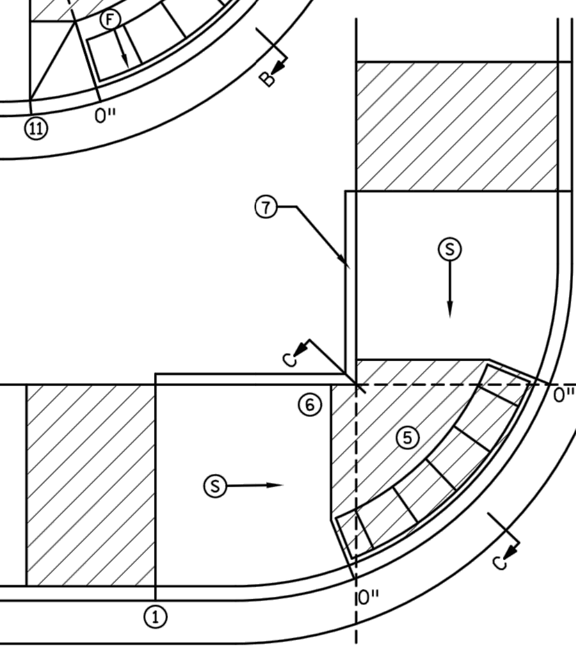



FAN ⑩

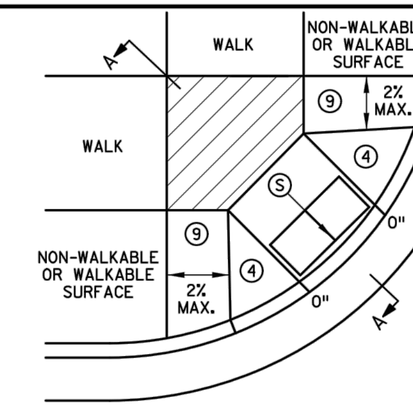



MODIFIED FAN ⑩

USED WHEN RIGHT-OF-WAY IS CONSTRAINED




DEPRESSED CORNER




DIAGONAL

SHALL ONLY BE USED AFTER ALL OTHER CURB RAMP TYPES HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL

NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE GREATER THAN 2%.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL RUNNING SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH. (EXCEPT AS STATED IN ⑥ BELOW.

TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 OF 6 FOR ALL SEPARATELY POURED INITIAL LANDINGS.

WHEN SIDEWALK IS AT BACK OF CURB, TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

MAINTAIN POSITIVE BOULEVARD DRAINAGE TO TOP OF CURB.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER THE ENTIRE PAR WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 3" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0" - 3" OFFSET IS ALLOWED.

WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 6" LESS THAN THE INCOMING PAR. ARC LENGTH OF THE RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.

① MATCH FULL HEIGHT CURB.

② 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.

③ 3" HIGH CURB WHEN USING A 3' LONG RAMP, 4" HIGH CURB WHEN USING A 4' LONG RAMP.

④ SEE SHEET 4 OF 6, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS.

⑤ DETECTABLE WARNINGS MAY BE PART OF THE 4' X 4' MIN. LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.

⑥ THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF WALK. THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL. (TYPICAL FOR ALL)

⑦ WHEN ADJACENT TO GRASS, GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS LESS THAN 5% RUNNING SLOPE SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.

⑧ A 7' MIN TOP RADIUS GRADE BREAK IS REQUIRED TO BE CONSTRUCTIBLE.

⑨ PAVE FULL WALK WIDTH.

⑩ "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.

⑪ INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8-10% TO A MINIMUM 3" CURB HEIGHT. REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.

## LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

| | |
|---|---|
| Ⓢ↓ | INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%. |
| Ⓕ↓ | INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%. |
| (hatched box) | LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS. |
| X" | CURB HEIGHT |

REVISION:

APPROVED: 11-04-2021

JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

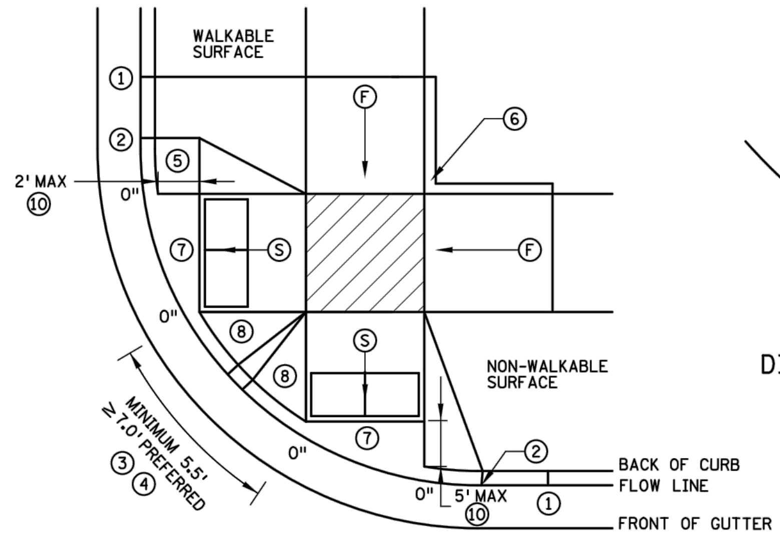
STANDARD PLAN 5-297.250 | 1 OF 6

APPROVED: 11-04-2021
REVISED:

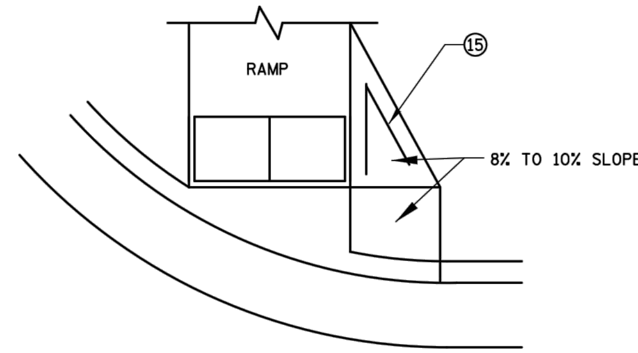
THOMAS STYRBICKI
STATE DESIGN ENGINEER

# PEDESTRIAN CURB RAMP DETAILS

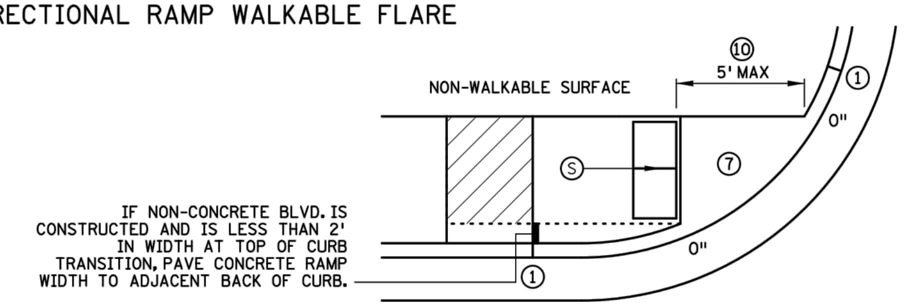
STATE PROJ. NO. (TH ) SHEET NO. OF SHEETS



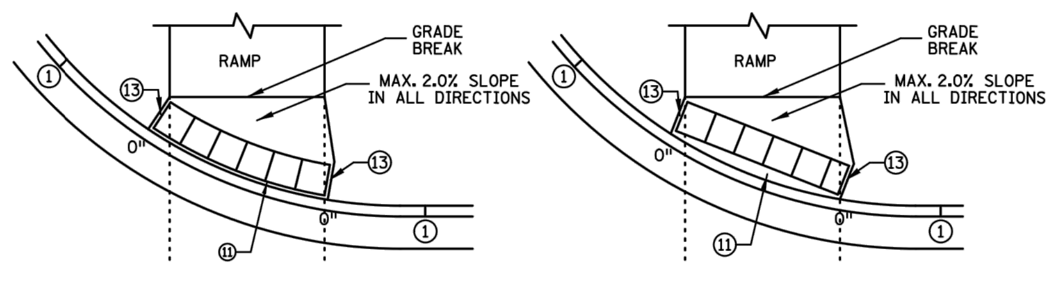

COMBINED DIRECTIONAL




DIRECTIONAL RAMP WALKABLE FLARE

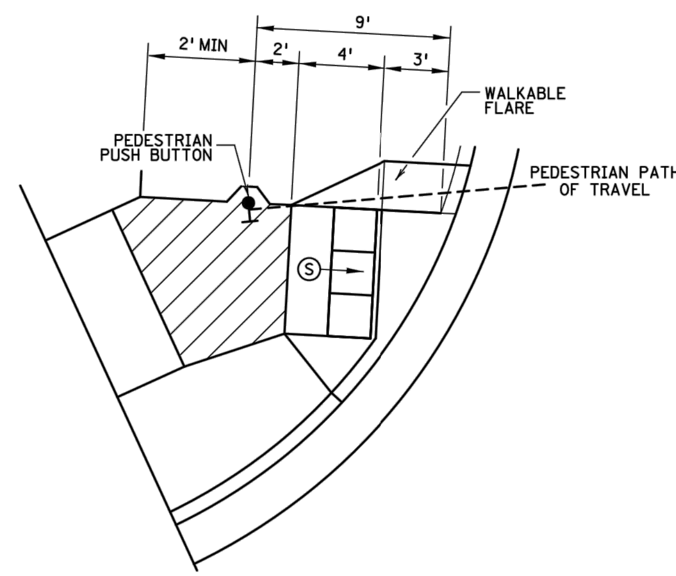



STANDARD ONE-WAY DIRECTIONAL ⑨




DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED ⑫

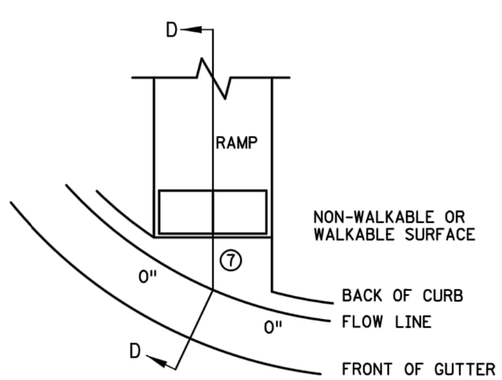
ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB



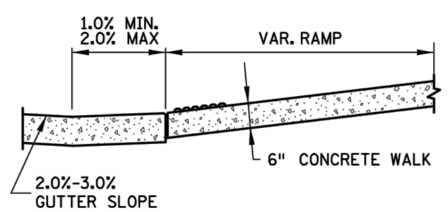

SEMI-DIRECTIONAL RAMP ③④⑨

3' DOME SETBACK, 4' LONG RAMP AND PUSH BUTTON 9' FROM THE BACK OF CURB

PRIMARILY USED FOR APS APPLICATIONS WHERE THE PAR DOES NOT CONTINUE PAST THE PUSH BUTTON (DEAD-END SIDEWALK)




CURB FOR DIRECTIONAL RAMPS ⑭




SECTION D-D

## NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOP GRADE BREAK OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH.

TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISION (PROSECUTION OF WORK).

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER THE ENTIRE PAR WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 3" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0" - 3" OFFSET IS ALLOWED.

WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 6" LESS THAN THE INCOMING PAR. ARC LENGTH OF THE RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB. SEE NOTES ⑩ & ⑪ FOR INFORMATION REGARDING RECTANGULAR DETECTABLE WARNING PLACEMENT.

① MATCH FULL CURB HEIGHT.

② 3" HIGH CURB WHEN USING A 3' LONG RAMP
4" HIGH CURB WHEN USING A 4' LONG RAMP.

③ 3" MINIMUM CURB HEIGHT (5.5' MIN. DISTANCE REQUIRED BETWEEN DOMES)
4" PREFERRED (7' MIN. DISTANCE REQUIRED BETWEEN DOMES).

④ THE "BUMP" IN BETWEEN THE RAMPS SHOULD NOT BE IN THE PATH OF TRAVEL FOR COMBINED DIRECTIONAL RAMPS. IF THIS OCCURS MODIFY THE RAMP LOCATION OR SWITCH RAMP TO A FAN/DEPRESSED CORNER.

⑤ WHEN USING CONCRETE PAVED FLARES ON THE OUTSIDE OF DIRECTIONAL RAMPS, AND ADJACENT TO A WALKABLE SURFACE, DIRECTIONAL RAMP FLARES SHALL BE USED. SEE THE DETAIL ON THIS SHEET.

⑥ GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.

⑦ MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.

⑧ 8% TO 10% WALKABLE FLARE.

⑨ PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.

⑩ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.

⑪ RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.

⑫ FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.

⑬ THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.

⑭ TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.

⑮ PLACE 2 NO. 4 BARS 4 INCHES FROM SIDE OF FORMS WITH A MINIMUM 2 INCHES OF CONCRETE COVER ALONG EACH SIDE OF FLARE (INCIDENTAL).

## LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

| | |
|---|---|
| Ⓢ | INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%. |
| Ⓕ | INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%. |
| (hatched box) | LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS. |
| X" | CURB HEIGHT |

REVISION:
APPROVED: 11-04-2021
JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 | 2 OF 6

APPROVED: 11-04-2021
REVISED:
THOMAS STYRBICKI
STATE DESIGN ENGINEER

**PEDESTRIAN CURB RAMP DETAILS**

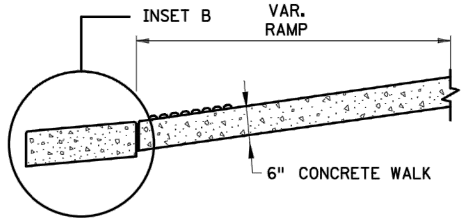
STATE PROJ. NO. (T.H. ) SHEET NO. OF SHEETS

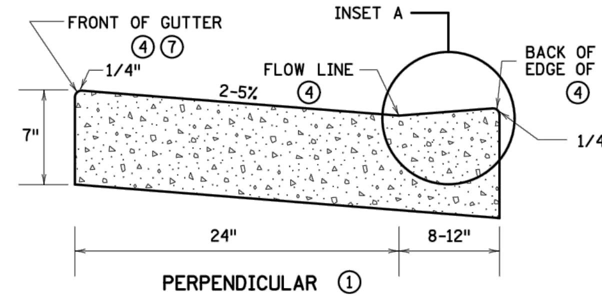
| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
|---|---|---|---|---|---|---|---|
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

SEH

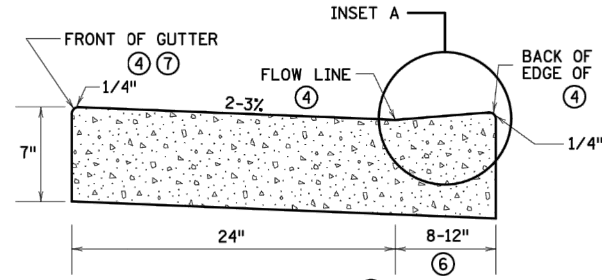
2022 STREET RECONSTRUCTION
BLAINE, MN

**MNDOT DETAILS**

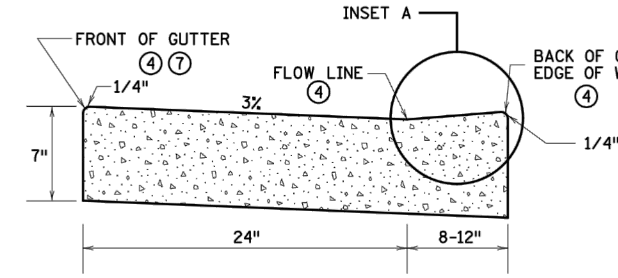



PERPENDICULAR ①

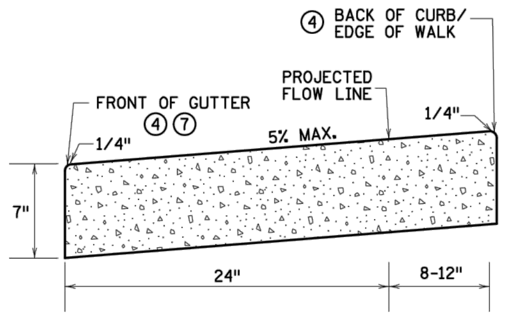



NON PERPENDICULAR ②

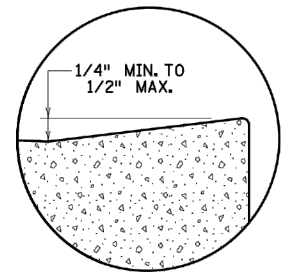



FOR CURB MACHINE PLACEMENT AROUND RADIUS ③
(REGARDLESS OF RAMP TYPE)

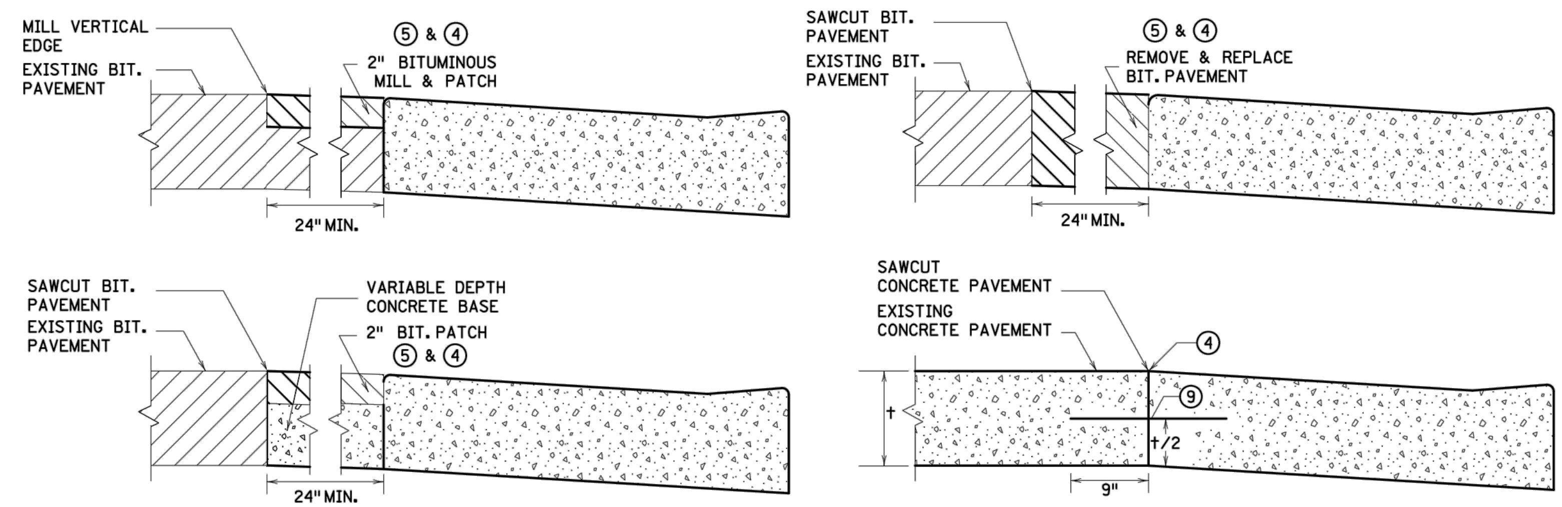
PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL




INSET B
OUTFLOW GUTTER ⑧

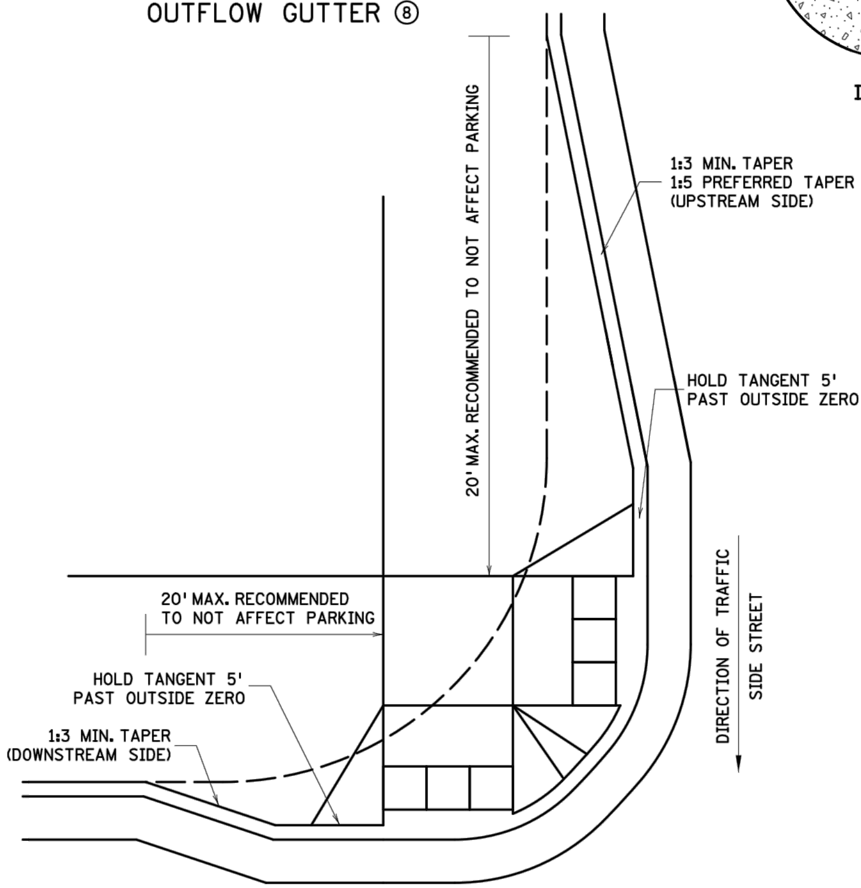



INSET A



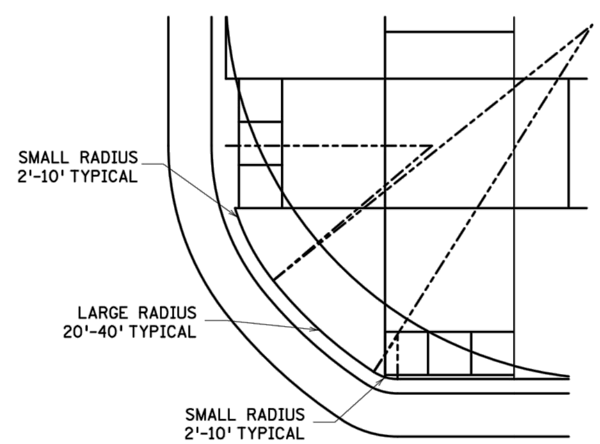

ONLY ALLOWED PER ENGINEER'S APPROVAL

PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER
FOR USE ON CURB RAMP RETROFITS




ADA CURB EXTENSION WITH COMPOUND RADIUS (BUMP OUT) ⑪

DIRECTION OF TRAFFIC
MAIN STREET




COMBINED DIRECTIONAL ⑩
(COMPOUND RADIUS)

**NOTES:**

POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM.

NO PONDING SHALL BE PRESENT IN THE PAR.

ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.

① FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.

② FOR USE AT CURB RAMPS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS & DEPRESSED CORNERS.

③ BEGIN GUTTER SLOPE TRANSITION 10' OUTSIDE OF ALL CURB RAMPS.

④ THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".

⑤ ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.

⑥ VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS. SEE SHEET 2 FOR DIRECTIONAL CURB SLOPE REQUIREMENTS.

⑦ TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. TOP 1.5" OF THE GUTTER FACE MUST BE A FORMED EDGE. PAR GUTTER SHALL NOT BE OVERLAID.

⑧ SHOULD BE USED AT VERTICALLY CONSTRAINED AREAS WHEN AT A DRAINAGE HIGH POINT OR SUPER ELEVATED ROADWAY SEGMENTS.

⑨ DRILL AND GROUT NO. 4 EPOXY-COATED 18" LONG TIE BARS AT 30" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT 1' MINIMUM FROM ALL JOINTS.

⑩ HELPS PROVIDE TWO SEPARATE RAMPS. REDUCES THE DOME SETBACK LENGTH AND MINIMIZES DIRECTIONAL CURB. THIS RADIUS DESIGN CLOSELY FOLLOWS THE TURNING VEHICLE PATH WHILE OPTIMIZING CURB RAMP LENGTH.

⑪ CURB EXTENSIONS SHOULD BE USED IN VERTICALLY CONSTRAINED AREAS, USUALLY IN DOWNTOWN ROADWAY SEGMENTS WHERE ON-STREET PARKING IS AVAILABLE. CURB EXTENSIONS SHOULD BE CONSIDERED FOR APS INTERSECTIONS WHERE SPACE IS LIMITED. PUSH BUTTONS MUST MEET APS CRITERIA AS DESCRIBED IN THE PUSH BUTTON LOCATION DETAIL SHEET.

REVISION:
APPROVED: 11-04-2021
JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

| STANDARD PLAN 5-297.250 | 3 OF 6 | PEDESTRIAN CURB RAMP DETAILS |
|---|---|---|
| THOMAS STYRBICKI, STATE DESIGN ENGINEER | APPROVED: 11-04-2021 REVISED: | |
| | STATE PROJ. NO. | (TH ) SHEET NO. OF SHEETS |

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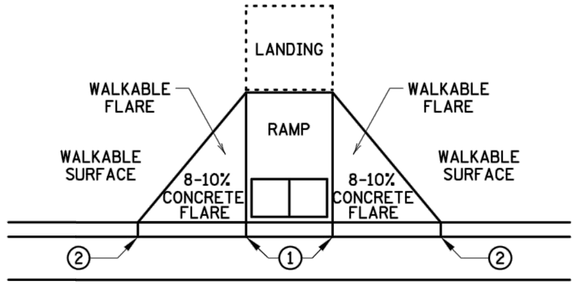
| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
|---|---|---|---|---|---|---|---|
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

SEH

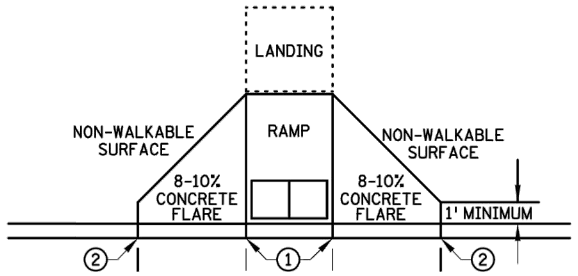
2022 STREET RECONSTRUCTION
BLAINE, MN

MNDOT DETAILS

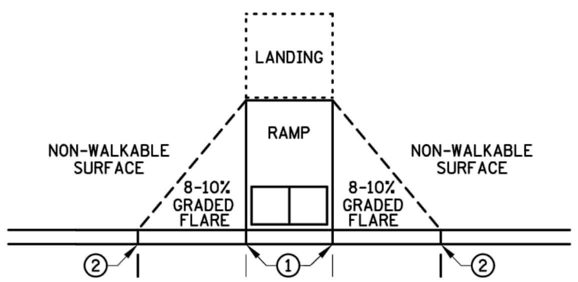
S.A.P. 106-141-003



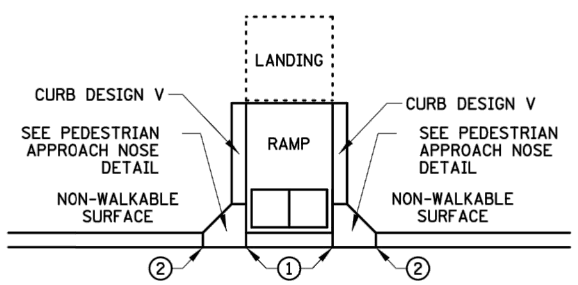

PAVED FLARES
ADJACENT TO WALKABLE SURFACE




PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

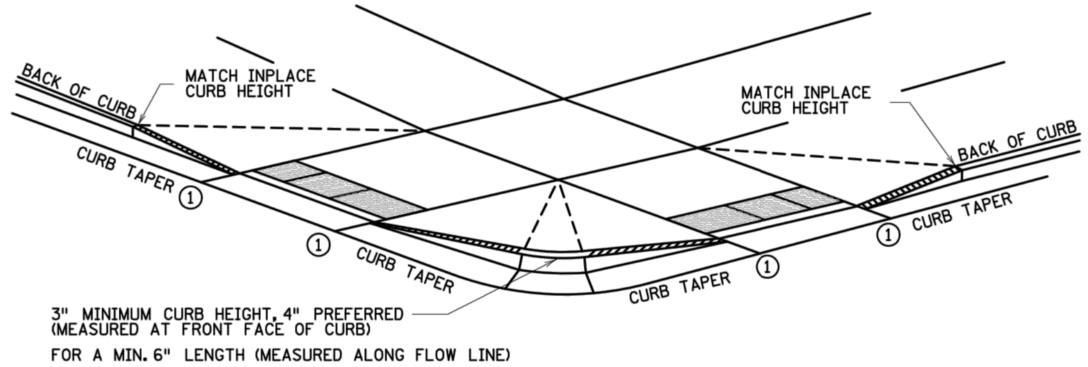



GRADED FLARES

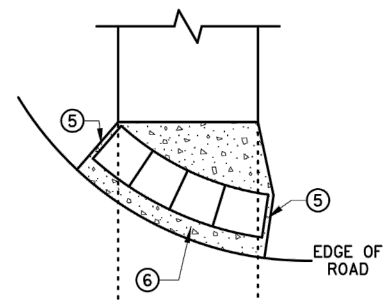



RETURNED CURB ④

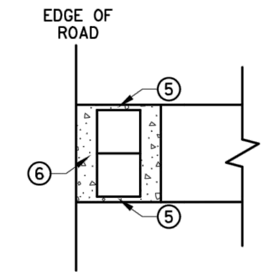
TYPICAL SIDE TREATMENT OPTIONS ③ ⑩




DETECTABLE EDGE WITH ⑦
CURB AND GUTTER

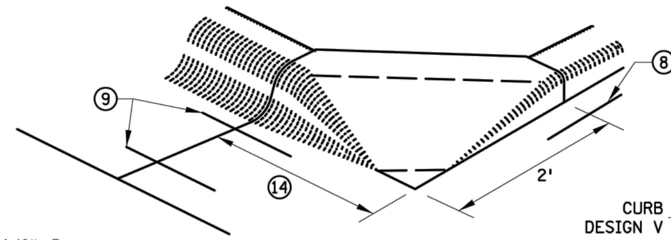


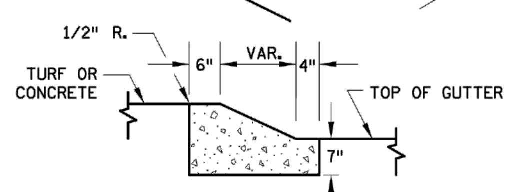

RADIAL DETECTABLE WARNING



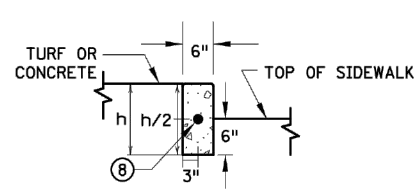

RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

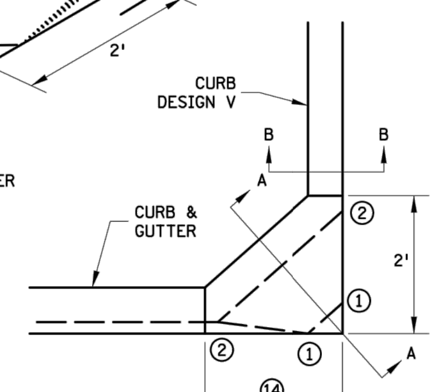


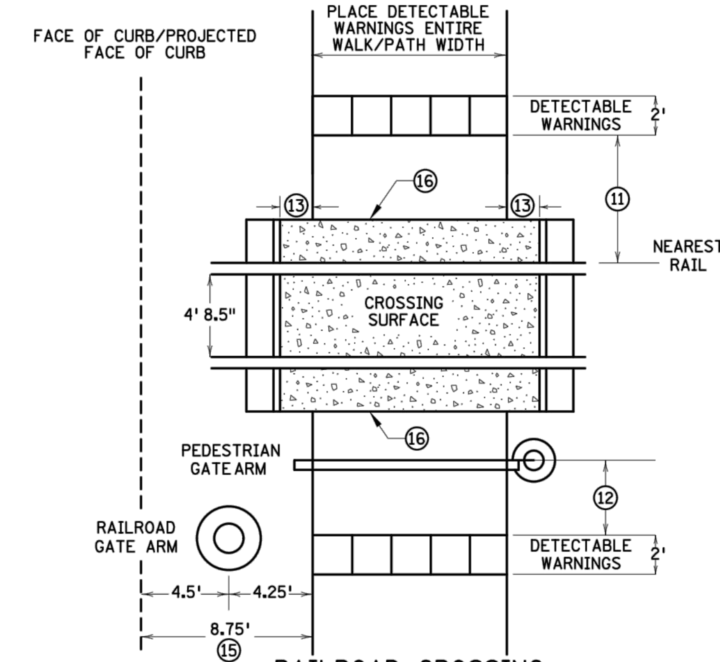

SECTION A-A




SECTION B-B




PEDESTRIAN APPROACH
NOSE DETAIL
(FOR RETURNED CURB
SIDE TREATMENT)




RAILROAD CROSSING
PLAN VIEW

NOTES:

INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8-10% TO A MINIMUM 3 INCH CURB HEIGHT. INCREASE CURB TAPER LENGTH AT LESS THAN 8% OR REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.

SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.

CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.

① 0" CURB HEIGHT. SEE INSET A ON SHEET 3 OF 6.

② FULL CURB HEIGHT.

③ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.

④ TYPICALLY USED FOR MEDIANS AND ISLANDS.

⑤ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" MAX. BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.

⑥ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHARED-USE PATH TO PROVIDE VISUAL CONTRAST.

⑦ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS. AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.

⑧ DRILL AND GROUT 1 - NO. 4 12" LONG REINFORCEMENT BAR (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE V CURB.

⑨ DRILL AND GROUT 2 - NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE CURB AND GUTTER.

⑩ SIDE TREATMENT EXAMPLES SHOWN ARE WHEN THE INITIAL LANDING IS APPROXIMATELY LEVEL WITH THE FULL HEIGHT CURB (I.E. 6' LONG RAMP FOR 6" HIGH CURB). WHEN THE INITIAL LANDING IS MORE THAN 1" BELOW FULL HEIGHT CURB REFER TO SHEETS 1 & 2 TO MODIFY THE CURB HEIGHT TAPERS AND MAINTAIN POSITIVE BOULEVARD DRAINAGE. CONSTRUCT THESE TAPERS AT 0"-3" AT 8-10%, THEN LESS THAN 5% FROM 3" CURB TO FULL CURB HEIGHT.

⑪ NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12' MINIMUM TO 15' MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.

⑫ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM. THIS CRITERIA GOVERNS OVER NOTE ⑪.

⑬ CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED-USE PATH.

⑭ 3' FOR MEDIANS AND SPLITTER ISLANDS. NOSE CAN BE REDUCED TO 2' ON FREE RIGHT ISLANDS.

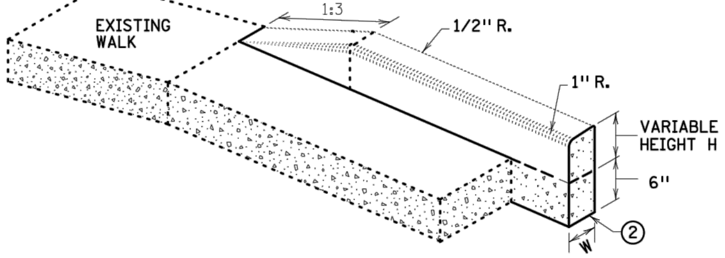
⑮ SIDEWALK TO BE PLACED 8.75' MIN. FROM THE FACE OF CURB/PROJECTED FACE OF CURB. THIS ENSURES MIN. CLEARANCE BETWEEN THE SIDEWALK AND GATE ARM COUNTERWEIGHT SUPPORTS.

⑯ CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.

REVISION:
APPROVED: 11-04-2021
JEFFREY PERKINS
OPERATIONS DIVISION

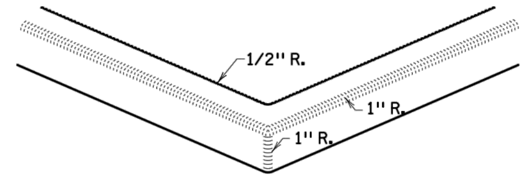
MINNESOTA DEPARTMENT OF TRANSPORTATION

| STANDARD PLAN 5-297.250 | 4 OF 6 | PEDESTRIAN CURB RAMP DETAILS |
|---|---|---|
| THOMAS STYRBICKI, STATE DESIGN ENGINEER — APPROVED: 11-04-2021 REVISED: | | |
| STATE PROJ. NO. | (TH ) | SHEET NO. OF SHEETS |



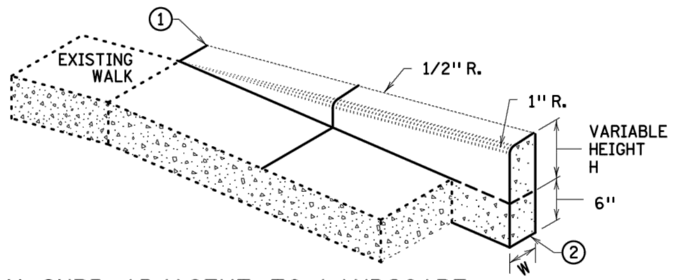

V CURB ADJACENT TO LANDSCAPE

CURB WITHIN SIDEWALK LIMITS



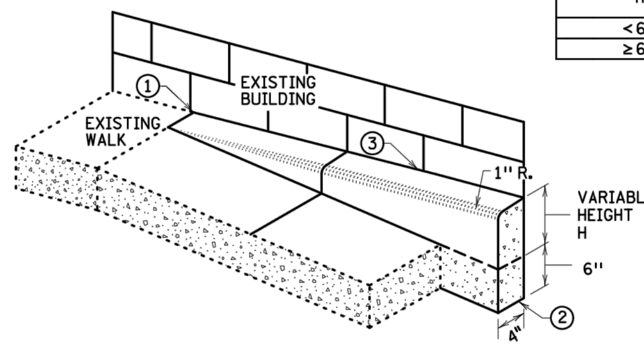

V CURB INTERSECTION

| CONCRETE CURB DESIGN V | |
|---|---|
| CURB HEIGHT H | CURB WIDTH W |
| <6" | 4" |
| ≥6" | 6" |

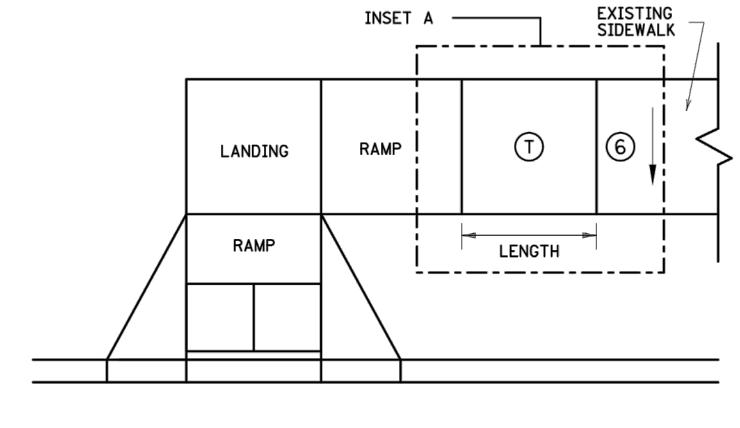



V CURB ADJACENT TO LANDSCAPE

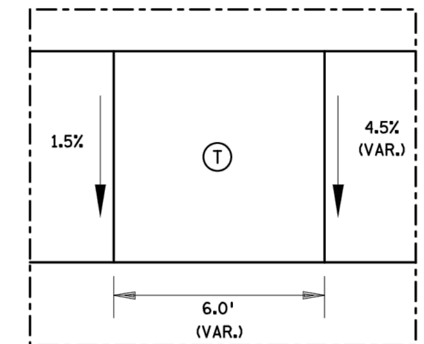
CURB OUTSIDE SIDEWALK LIMITS




V CURB ADJACENT TO BUILDING OR BARRIER




TRANSITION PANEL 4 5




INSET A

## NOTES:

A WALKABLE FLARE IS AN 8-10% CONCRETE FLARE THAT IS REQUIRED WHEN THE FLARE IS ADJACENT TO A WALKABLE SURFACE, OR WHEN THE PEDESTRIAN PATH OF TRAVEL OF A PUSH BUTTON TRAVERSES THE FLARE.

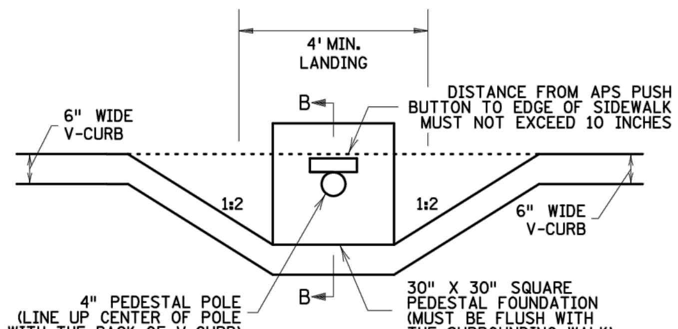
ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.

WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.

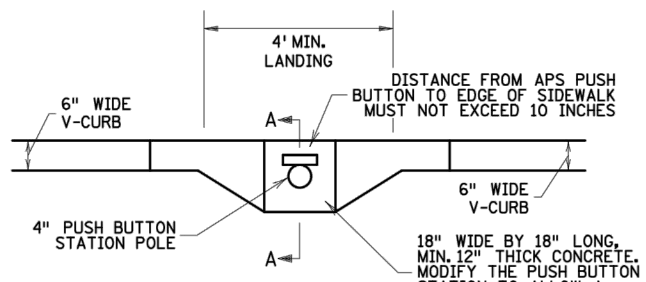
V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.

V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.

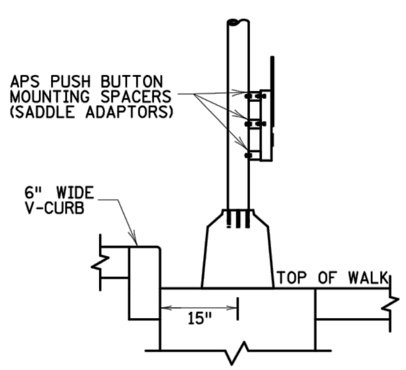
1. END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.
2. ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.
3. CONSTRUCT USING APPROVED EXPANSION MATERIAL PER MNDOT TYPE A-E EXPANSION. LEAVE A MINIMUM ½" TOP GAP AND SEAL WITH MNDOT APPROVED SILICONE PER MNDOT SPEC 3722.
4. THE MAX. RATE OF CROSS SLOPE TRANSITIONING IS 1' LINEAR FOOT OF SIDEWALK PER HALF PERCENT CROSS SLOPE. WHEN PAR WIDTH IS GREATER THAN 6' OR THE RUNNING SLOPE IS GREATER THAN 5%, DOUBLE THE CALCULATED TRANSITION LENGTH.
5. TRANSITION PANELS ARE TO ONLY BE USED AFTER THE RAMP, OR IF NEEDED, LANDING ARE AT THE FULL CURB HEIGHT (TYPICAL SECTION).
6. EXISTING CROSS SLOPE GREATER THAN 2.0%.




PLAN VIEW

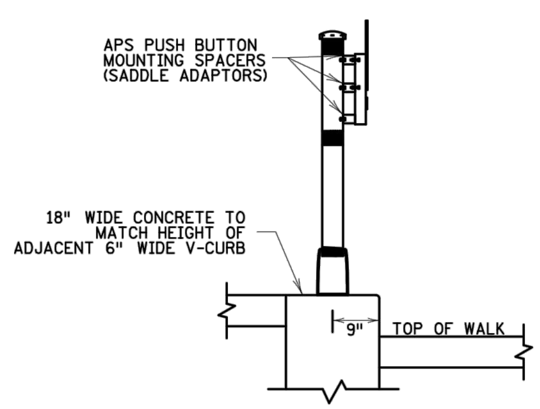



PLAN VIEW




SECTION B-B

SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)




SECTION A-A

PUSH BUTTON STATION (V-CURB)

## LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

- S — INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
- LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
- T — TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK. SEE THIS SHEET FOR ADDITIONAL INFORMATION.

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JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

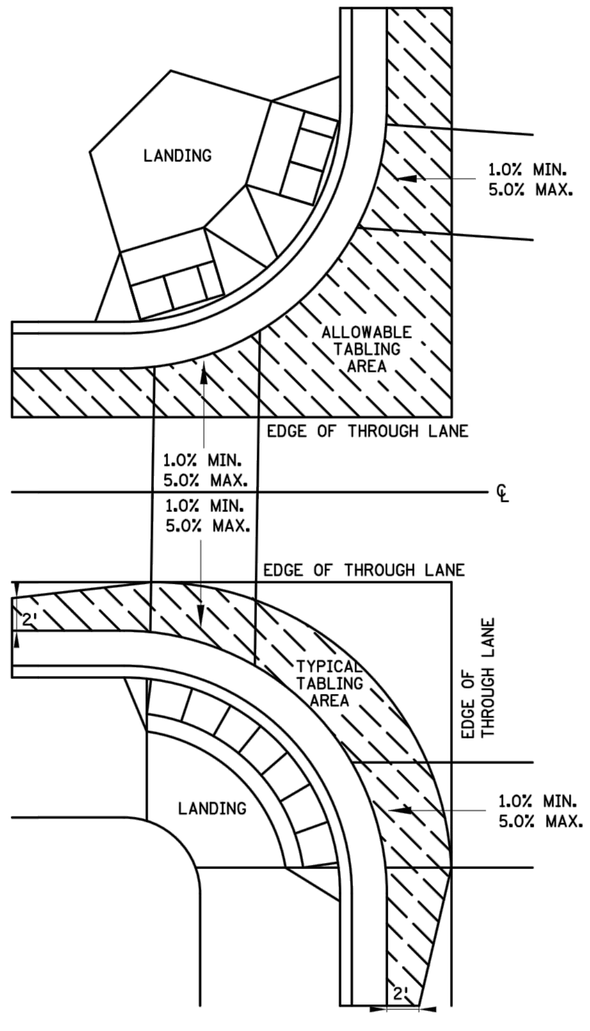
STANDARD PLAN 5-297.250 | 5 OF 6

APPROVED: 11-04-2021
REVISED:

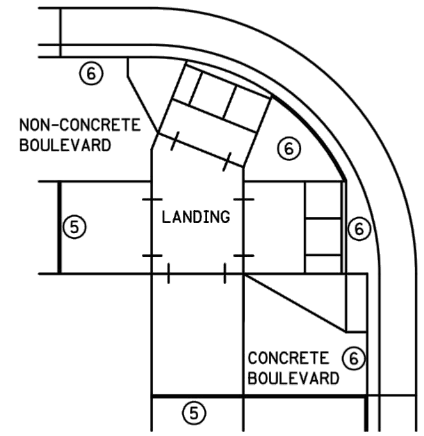
THOMAS STYRBICKI
STATE DESIGN ENGINEER

**PEDESTRIAN CURB RAMP DETAILS**

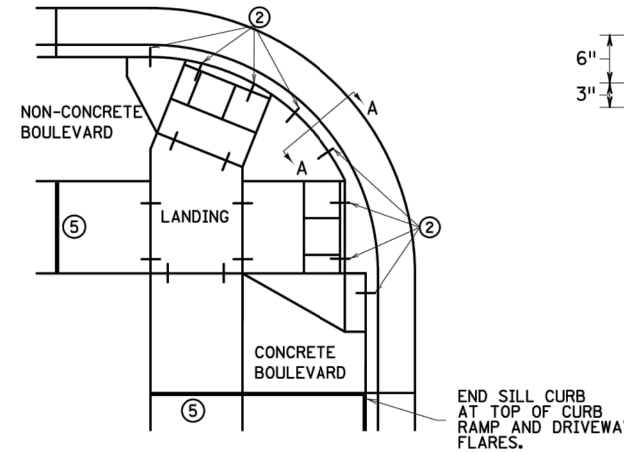
STATE PROJ. NO. (TH ) SHEET NO. OF SHEETS



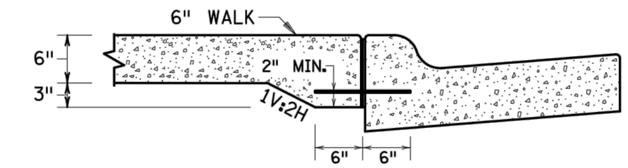

CURB LINE AND ROAD CROSSING ADJUSTMENTS




EXPANSION MATERIAL PLACEMENT FOR CONCRETE ROADWAYS

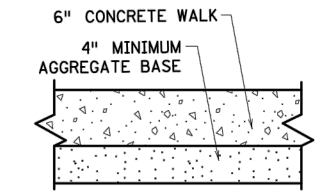



CURB LINE REINFORCEMENT ④ PLACEMENT ON BITUMINOUS ROADWAYS

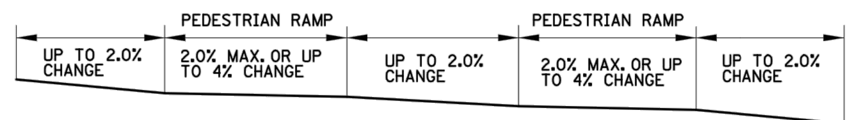



SECTION VIEW A-A

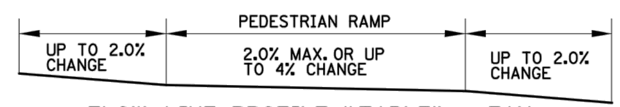
THICKENED SECTION THROUGH CURB RAMP FLARES



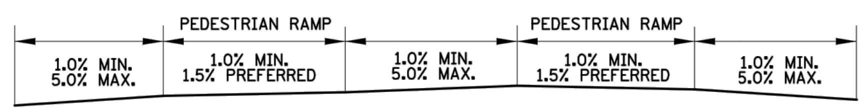

TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER



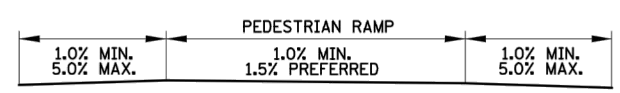

FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



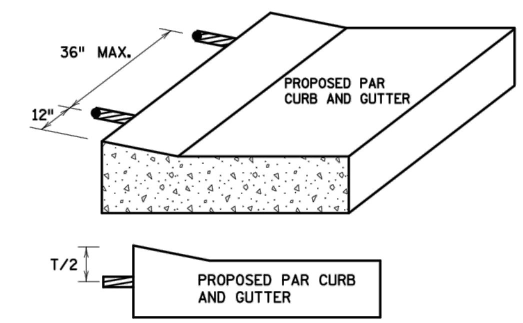

FLOW LINE PROFILE "TABLE" - FAN



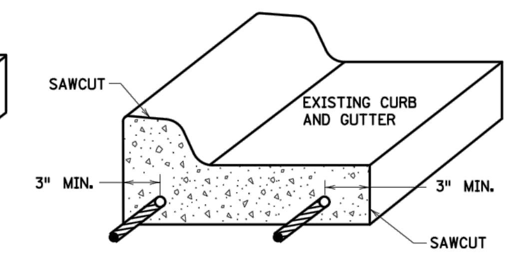

FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS



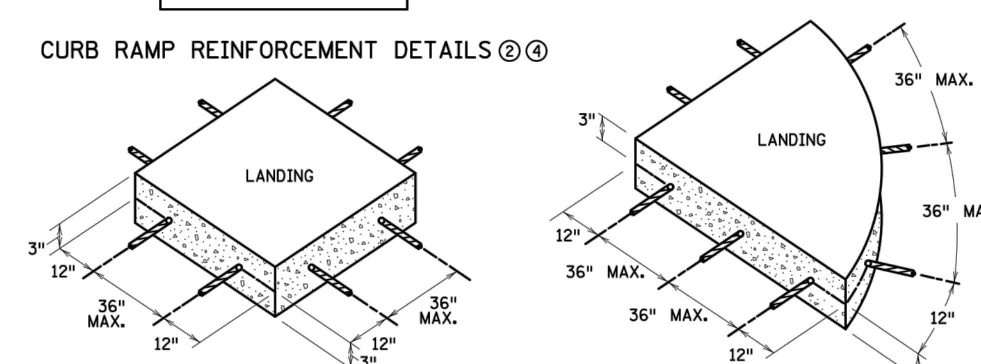

FLOW LINE PROFILE RAISE - FAN




CURB RAMP REINFORCEMENT DETAILS ②④




CURB AND GUTTER REINFORCEMENT ③




SEPARATE LANDING POUR REINFORCEMENT ①②

## GENERAL NOTES:

"TABLING" OF CROSSWALKS MEANS MAINTAINING LESS THAN 2% CROSS SLOPE WITHIN A CROSSWALK, IS REQUIRED WHEN A ROADWAY IS IN A STOP OR YIELD CONDITION AND THE PROJECT SCOPE ALLOWS.

RECONSTRUCTION PROJECTS: ON FULL PAVEMENT REPLACEMENT PROJECTS "TABLING" OF ENTIRE CROSSWALK SHALL OCCUR WHEN FEASIBLE.

MILL & OVERLAY PROJECTS: "TABLING" OF FLOW LINES, IN FRONT OF THE PEDESTRIAN RAMP, IS REQUIRED WHEN THE EXISTING FLOW LINE IS GREATER THAN 2%. WARPING OF THE BITUMINOUS PAVEMENT CAN NOT EXTEND INTO THE THROUGH LANE. TABLE THE FLOW LINE TO 2% OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:
1) 1.0% MIN. CROSS-SLOPE OF THE ROAD
2) 5.0% MAX. CROSS-SLOPE OF THE ROAD
3) "TABLE" FLOW LINE UP TO 4% CHANGE FROM EXISTING SLOPE IN FRONT OF PEDESTRIAN RAMP
4) UP TO 2% CHANGE IN FLOW LINE FROM EXISTING SLOPE BEYOND THE PEDESTRIAN CURB RAMP

STAND-ALONE ADA RETROFITS: FOLLOW MILL & OVERLAY CRITERIA ABOVE HOWEVER ALL PAVEMENT WARPING IS DONE WITH BITUMINOUS PATCHING ON BITUMINOUS ROADWAYS AND FULL-DEPTH APRON REPLACEMENT ON CONCRETE ROADWAYS.

RAISING OF CURB LINES SHOULD OCCUR IN VERTICALLY CONSTRAINED AREAS. RAISE THE CURB LINES ENOUGH TO ALLOW COMPLIANT RAMPS OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:
1) 1.0% MIN. AND 5.0% MAXIMUM CROSS-SLOPE OF THE ROAD
2) 1.0% MIN. FLOW LINE (ON EITHER SIDE OF PEDESTRIAN RAMP) TO MAINTAIN POSITIVE DRAINAGE
3) 5.0% RECOMMENDED MAX. FLOW LINE
4) LONGITUDINAL THROUGH LANE ROADWAY TAPERS SHOULD BE 1" VERTICAL PER 15' HORIZONTAL

## NOTES:

1. TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET FOR ALL SEPARATELY POURED INITIAL LANDINGS.
2. DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) AT 36" MAXIMUM CENTER TO CENTER MINIMUM 12" SPACING FROM CONSTRUCTION JOINTS. BARS TO BE ADJUSTED TO MATCH RAMP GRADE. BARS TO BE PAID BY EACH.
3. DRILL AND GROUT 2 - NO. 4 X 12" LONG (6" EMBEDDED) REINFORCEMENT BARS (EPOXY COATED). REINFORCEMENT REQUIRED FOR ALL CONSTRUCTION JOINTS. BARS TO BE PAID BY EACH.
4. THIS CURB LINE REINFORCEMENT DETAIL SHALL BE USED ON BITUMINOUS ROADWAYS. FOR CONCRETE ROADWAYS, SEE NOTE 6.
5. CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.
6. USE AN APPROVED TYPE F (1/4 INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FULL HEIGHT DIMENSION OF ADJACENT CONCRETE.

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STANDARD PLAN 5-297.250 | 6 OF 6

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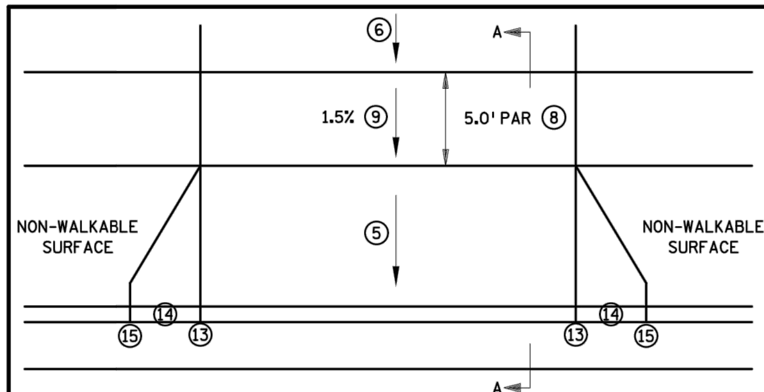
REVISED:

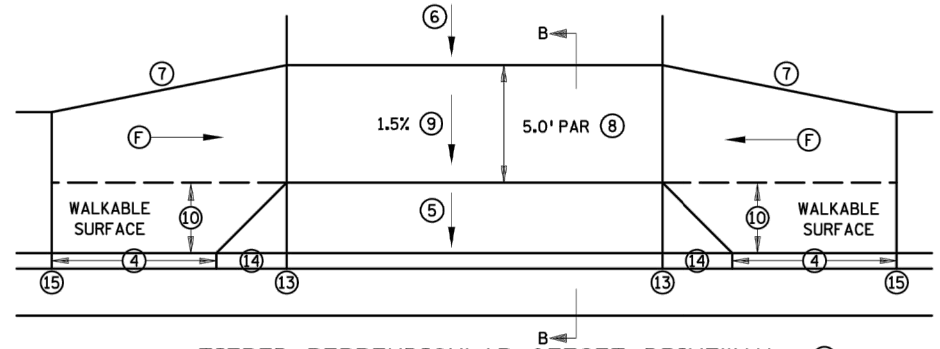
THOMAS STYRBICKI
STATE DESIGN ENGINEER

**PEDESTRIAN CURB RAMP DETAILS**

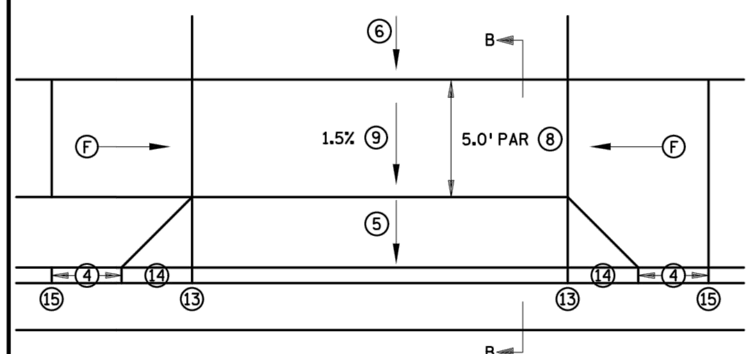
STATE PROJ. NO. (TH ) SHEET NO. OF SHEETS



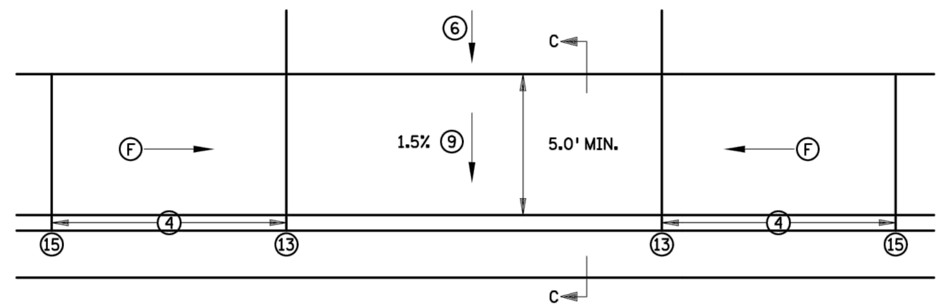

PERPENDICULAR DRIVEWAY 1




TIERED PERPENDICULAR OFFSET DRIVEWAY 2




TIERED PERPENDICULAR DRIVEWAY 2




PARALLEL DRIVEWAY 3

## NOTES:

ALL SIDEWALK AND BOULEVARD WIDTHS SHALL BE MEASURE FROM BACK OF CURB.

IN URBAN ROADWAY SECTIONS, 6" CURB HEIGHT SHOULD BE USED WHEN 6' OR GREATER BOULEVARD WIDTH IS PROPOSED. WHEN BOULEVARD IS LESS THAN 6' WIDE, 4" CURB HEIGHT SHOULD BE USED.

MAINTAIN EXISTING DRAINAGE PATTERNS FLOWING TO PUBLIC RIGHT OF WAY.

ACQUIRE ADEQUATE L3 TO ALLOW FOR A CONTINUOUS PAR PROFILE (UNIFORM TYPICAL SIDEWALK SECTION) THROUGH THE DRIVEWAY APRON.

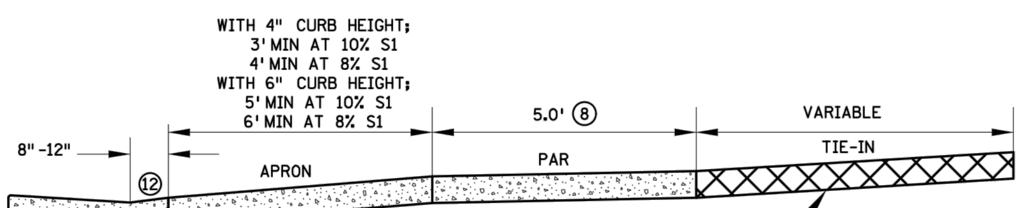
IN NO CASE SHALL SIDEWALK PROFILES EXCEED 5.0%, EXCEPT SIDEWALK PROFILES CAN MATCH ROADWAY GRADE IF ROADWAY GRADE IS GREATER THAN 5.0%. RAMPS FOR DRIVEWAYS ARE REQUIRED TO FOLLOW THE ABOVE SIDEWALK CRITERIA.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PEDESTRIAN ACCESS ROUTE (PAR). 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

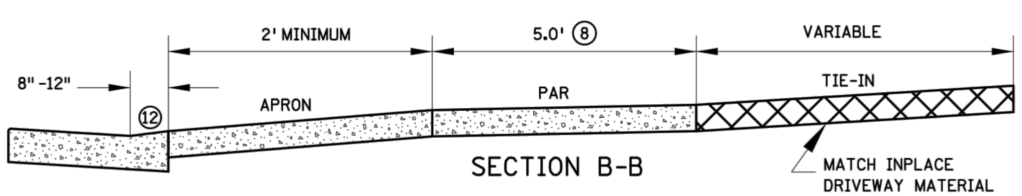
DRIVEWAY TYPES FROM MOST PREFERRED TO LEAST PREFERRED ARE AS FOLLOWS: PERPENDICULAR, TIERED PERPENDICULAR, TIERED PERPENDICULAR OFFSET & PARALLEL.

1. PERPENDICULAR DRIVEWAYS ARE THE STANDARD AND STARTING POINT FOR ALL DRIVEWAY DESIGN AND CONSTRUCTION. SHOULD BE USED TO ACHIEVE CONTINUOUS PAR PROFILE THROUGH THE DRIVEWAY. OBTAINING A PERPENDICULAR DRIVEWAY DESIGN BECOMES MORE CRITICAL WITH STEEP ROADWAY PROFILES.
2. TO BE USED WHEN PERPENDICULAR DRIVEWAY DESIGN CANNOT BE ACHIEVED, THE DRIVEWAY PAR IS BELOW ROADWAY CURB HEIGHT. THIS DRIVEWAY TYPE CAN BE USED FOR BOTH PAVED (AS SHOWN) AND GRASS BOULEVARDS.
3. TO BE USED WHEN PERPENDICULAR AND TIERED PERPENDICULAR DRIVEWAY DESIGN CANNOT BE ACHIEVED. CAN BE USED FOR STEEP NEGATIVE SLOPED DRIVEWAYS. DW CURB TYPE 2 SHOULD BE USED TO RAISE PAR ABOVE GUTTER AND REDUCE "ROLLER COASTER" EFFECT. 4" HIGH ROADWAY CURB SHOULD BE USED TO REDUCE "ROLLER COASTER" EFFECT ESPECIALLY WHEN MULTIPLE DRIVEWAYS ARE PRESENT.
4. TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.
5. 8% STANDARD, 10% MAX. FOR COMMERCIAL AND 12% MAX. FOR RESIDENTIAL. SEE GENERAL NOTES ON SHEET 2 FOR MORE INFORMATION.
6. S3 8% MAXIMUM, IF THE SLOPE IS EXCEEDED OR CONTINUED FOR MORE THAN 5', ANALYZE VEHICLE TEMPLATES FOR VERTICAL CLEARANCE. IF EXISTING DRIVEWAY IS NEGATIVELY DRAINING, S3 CAN BECOME SLIGHTLY MORE NEGATIVE TO ACHIEVE PERPENDICULAR DRIVEWAY DESIGN IF THE VERTICAL CLEARANCE IS ACHIEVED IN VEHICLE TEMPLATES.
7. 1:3 MIN. 1:5 PREFERRED FOR DRIVEWAY RETROFIT PROJECTS. 1:10 PREFERRED FOR SIDEWALK REPLACEMENT PROJECTS.
8. 5.0' MIN. PAR WIDTH IS THE STANDARD THROUGH DRIVEWAYS. IF FEASIBLE WIDEN DRIVEWAY PAR WIDTH TO MATCH APPROACHING SIDEWALK PAR WIDTHS. IN VERTICALLY CONSTRAINED AREAS PAR WIDTHS CAN INCREMENTALLY BE REDUCED TO 4.5' OR 4' MIN AFTER ALL OTHER OPTIONS HAVE BEEN APPLIED.
9. THE PEDESTRIAN ACCESS ROUTE, MAY NOT EXCEED 0.02 FT./FT. AS CONSTRUCTED.
10. SIDEWALK OFFSET TO BE LESS THAN OR EQUAL TO HALF THE APPROACHING SIDEWALK WIDTH.
11. INTEGRAL DRIVEWAY APRON TO BE POURED MONOLITHICALLY/INTEGRAL WITH THE CURB AND GUTTER. SEE SHEET 2 FOR MORE INFORMATION.
12. SEE SHEET 2 FOR CURB TYPE INFORMATION.
13. 0" CURB IS AT FLOW LINE. SEE DRIVEWAY TABLE FOR BACK OF CURB HEIGHTS.
14. 3' LONG AT 8-10% PREFERRED FOR INITIAL CURB TAPER. REDUCE CURB TAPER SLOPE IF NECESSARY TO MATCH ADJACENT SIDEWALK GRADES.
15. MATCH FULL CURB HEIGHT.
16. 1:2 TAPER RATE ON INTEGRAL DRIVEWAY APRONS.
17. SEE SHEET 4 FOR WHEN 6" WALK IS REQUIRED.

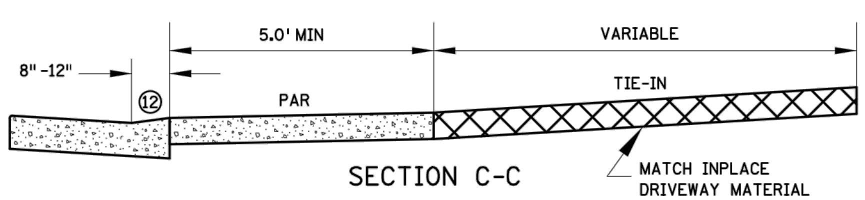
| LEGEND | |
|---|---|
| F | INDICATES DRIVEWAY RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0% |



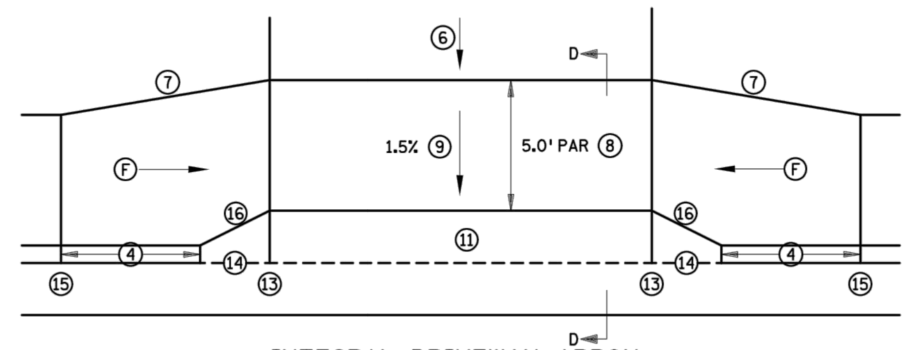

SECTION A-A



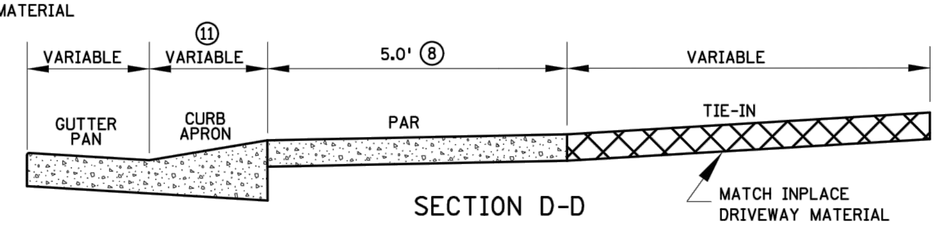

SECTION B-B



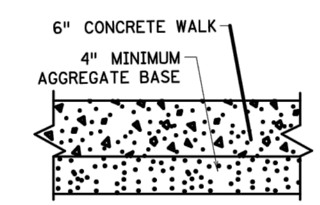

SECTION C-C



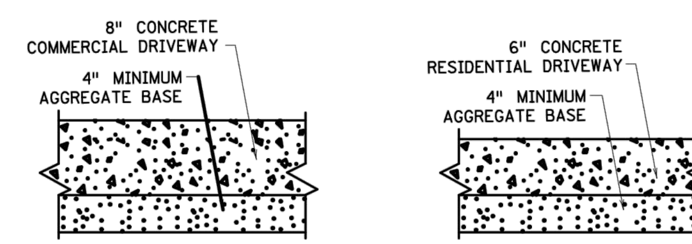

INTEGRAL DRIVEWAY APRON




SECTION D-D




TYPICAL SIDEWALK SECTION 17




TYPICAL DRIVEWAY SECTIONS

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OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.254 | 1 OF 4

APPROVED: 11-04-2021
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

**DRIVEWAY AND SIDEWALK DETAILS**

STATE PROJ. NO. (TH ) SHEET NO. OF SHEETS

| DRIVEWAY TABLE ① | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STATION | SIDE | DRIVEWAY TYPE ② | CURB TYPE ③ | E1 | E2 | L1 | S1 | E3 | L2 | S2 ④ | E4 | L3 ⑤ | S3 | EXISTING ⑥ | E5 | COMMENTS |
| | | | | | | FT | % | | FT | % | | FT | % | % | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
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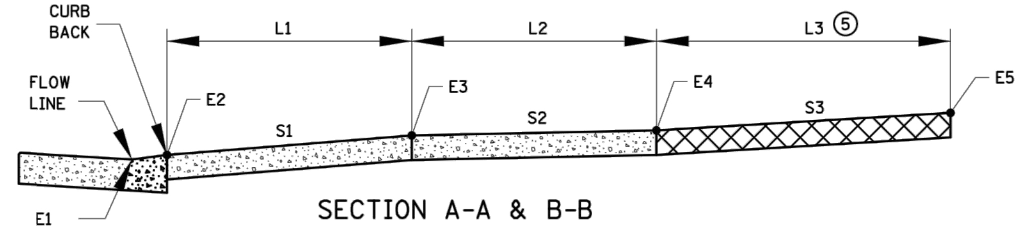
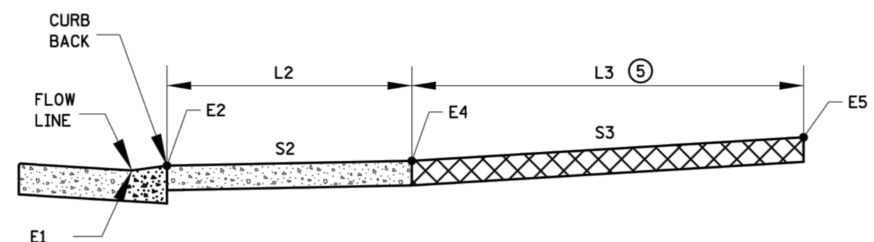


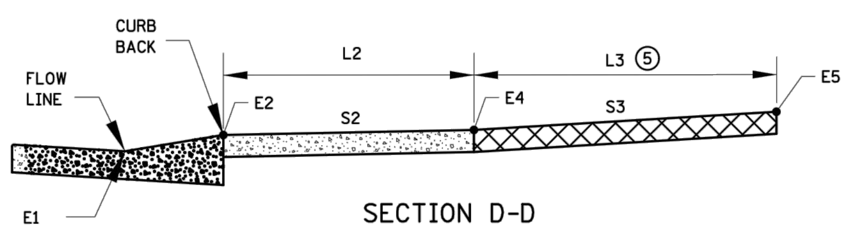

SECTION A-A & B-B

(REFER TO PREVIOUS SHEET)



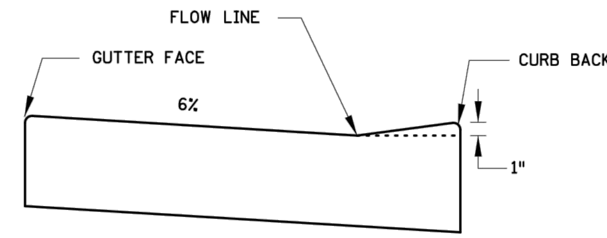

SECTION C-C

(REFER TO PREVIOUS SHEET)



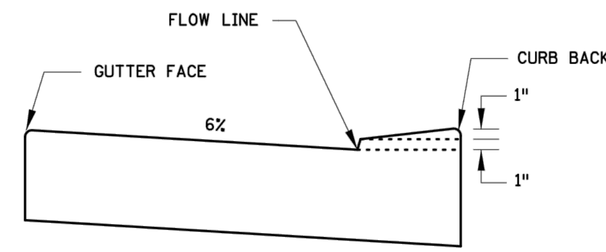

SECTION D-D

(REFER TO PREVIOUS SHEET)



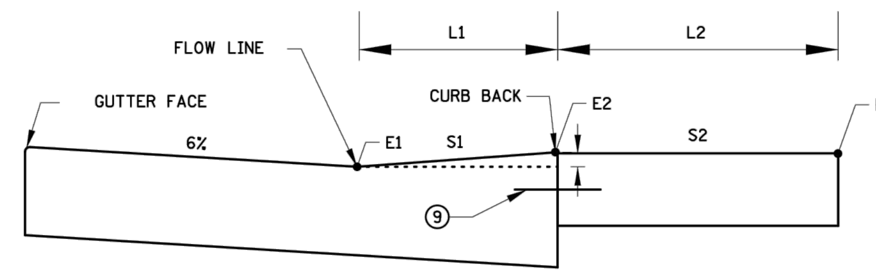

DW CURB TYPE 1

STANDARD CURB AT DRIVEWAY




DW CURB TYPE 2

VERTICALLY CONSTRAINED




INTEGRAL DRIVEWAY APRON (IDA)

## NOTES:

ALL SIDEWALK AND BOULEVARD WIDTHS SHALL BE MEASURED FROM BACK OF CURB.

DW CURB TYPE 1 SHALL BE USED WHEN THE DRIVEWAY ACTS AS A PEDESTRIAN RAMP. THE MAX. APRON SLOPE MUST ADHERE TO ADA CRITERIA AS WELL. DW CURB TYPE 1 SHOULD BE USED IF THERE IS ON STREET PARKING.

WHERE ROADWAY DRAINAGE IS A CONCERN (NEGATIVE SLOPED APRON) DW CURB TYPE 2 CAN BE USED TO HELP KEEP THE WATER ON PUBLIC RIGHT OF WAY.

S1 8% STANDARD, 10% MAX. COMMERCIAL AND 12% MAX. RESIDENTIAL. IF EXISTING GRADES ARE STEEPER DO NOT MAKE GRADES APPRECIABLY WORSE BY USING BEST PRACTICES SUCH AS DRIVEWAY CURB HEIGHTS, EXTENDING L3 AND/OR STEEPEN S3.

S3 8% MAXIMUM, IF THIS SLOPE IS EXCEEDED OR CONTINUED FOR MORE THAN 5', ANALYZE VEHICLE TEMPLATES FOR VERTICAL CLEARANCE. SEE FACILITY DESIGN GUIDE, CHAPTER 6, FOR GEOMETRIC DESIGNS OF DRIVEWAYS.

① EXAMPLE SHOWN TO BE INCLUDED IN PLAN FOR EACH DRIVEWAY THAT HAS PAR THROUGH IT.

② REFERS TO THE FOLLOWING TYPES; PERPENDICULAR DRIVEWAY, TIERED PERPENDICULAR OFFSET DRIVEWAY, TIERED PERPENDICULAR DRIVEWAY, PARALLEL DRIVEWAY, AND INTEGRAL DRIVEWAY APRON.

③ DW CURB TYPE 1 IS THE STANDARD AND SHALL BE THE STARTING POINT FOR ALL PERPENDICULAR AND TIERED DRIVEWAYS. DW CURB TYPE 2 SHALL ONLY BE USED AFTER UTILIZING BEST PRACTICES SUCH AS MAXIMIZING S1, S3, AND L3.

④ SHOULD BE DESIGNED AT 1.5%.

⑤ ACQUIRE ADEQUATE L3 TO ALLOW FOR CONTINUOUS PAR PROFILE (UNIFORM SIDEWALK SECTION) THROUGH THE DRIVEWAY APRON.

⑥ PROVIDE INPLACE TIE-IN SLOPE INFORMATION AT BACK OF PROPOSED WALK (S3 AREA).

⑦ INFORMATION TO BE INCORPORATED INTO DRIVEWAY TABLE WHEN INTEGRAL DRIVEWAY APRON IS USED. OTHER CURB HEIGHTS & CURB APRON LENGTHS CAN BE USED.

⑧ L1 & S1 FOR INTEGRAL DRIVEWAY APRON IS TO FLOWLINE. 12.5% IS MAXIMUM PREFERRED SLOPE.

⑨ TIE ADJACENT SECTIONS. CONCRETE DRIVEWAY APRON AND CONCRETE DRIVEWAY SIDEWALK SHALL BE CONSTRUCTED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. DRILL AND GROUT OR CAST IN-PLACE THROUGH HOLES IN THE FORMS NO. 4 X 12" LONG TIE BARS (EPOXY COATED). 36" MAXIMUM SPACING WITH 2" MINIMUM CONCRETE COVER PLACED 1' MINIMUM FROM ADJACENT CONSTRUCTION JOINT.

| TYPICAL INTEGRAL DRIVEWAY APRON ⑦ | | | |
|---|---|---|---|
| CURB TYPE | L1 | E2 | S1 ⑧ |
| | FT | | % |
| IDA 216 | 1.33 | +0.16 | 12.5 |
| IDA 220 | 1.67 | +0.16 | 10 |
| IDA 324 | 2 | +0.24 | 12.5 |
| IDA 432 | 2.67 | +0.33 | 12.5 |

REVISION:
APPROVED: 11-04-2021
JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.254 | 2 OF 4

APPROVED: 11-04-2021
REVISED:
THOMAS STYRBICKI
STATE DESIGN ENGINEER

DRIVEWAY AND SIDEWALK DETAILS

STATE PROJ. NO. (TH ) SHEET NO. OF SHEETS

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|---|---|---|---|---|---|---|---|
| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

SEH

2022 STREET RECONSTRUCTION

BLAINE, MN

MNDOT DETAILS

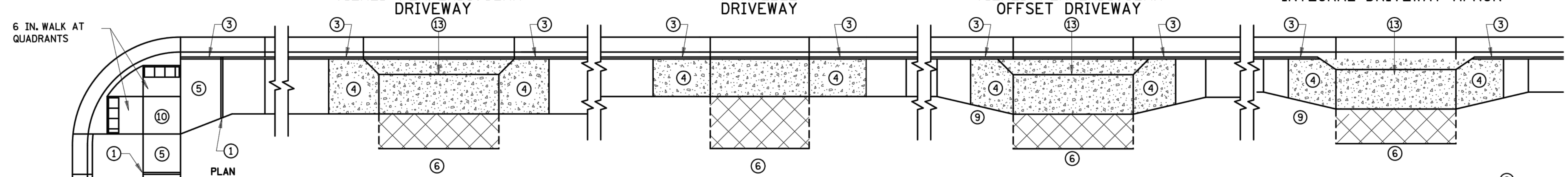
S.A.P. 106-141-003

TIERED PERPENDICULAR DRIVEWAY

PARALLEL DRIVEWAY

TIERED PERPENDICULAR OFFSET DRIVEWAY

INTEGRAL DRIVEWAY APRON

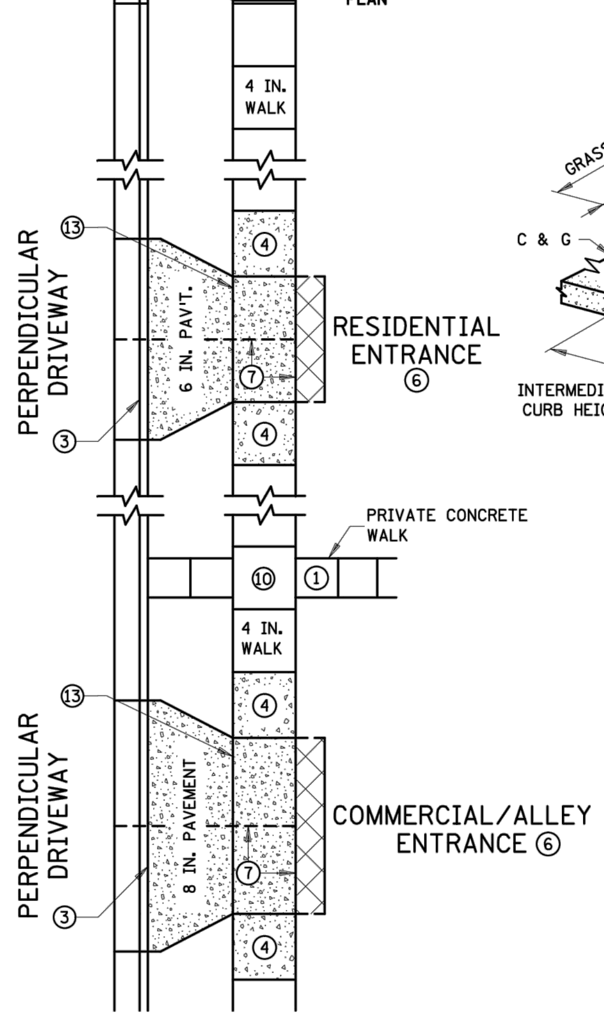


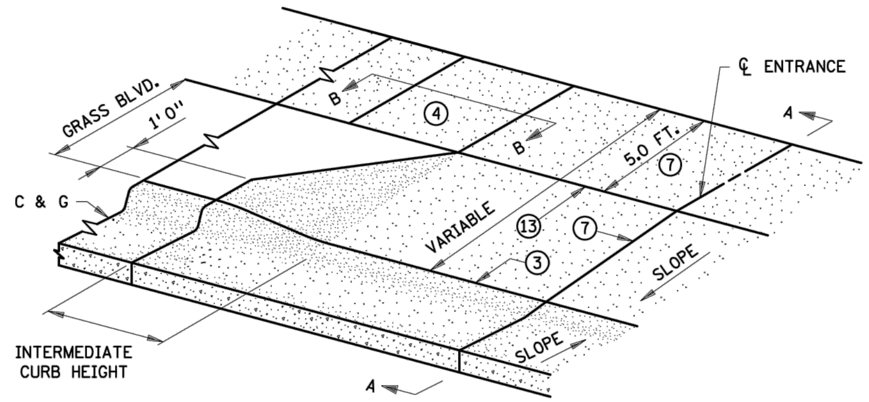

PERPENDICULAR DRIVEWAY

RESIDENTIAL ENTRANCE ⑥

PERPENDICULAR DRIVEWAY

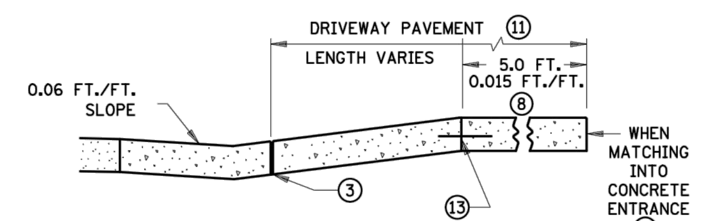
COMMERCIAL/ALLEY ENTRANCE ⑥



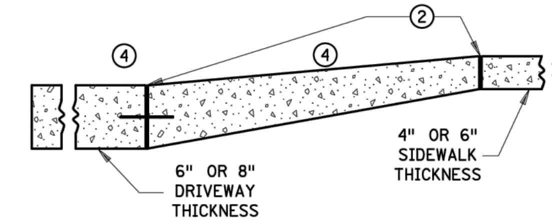

HALF PLAN PERSPECTIVE

PERPENDICULAR DRIVEWAYS WITH GRASS BOULEVARDS



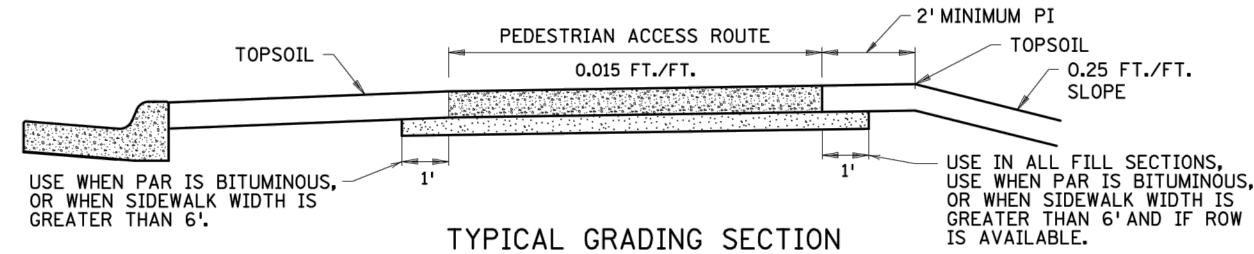

SECTION A-A

SECTION THRU DRIVEWAY



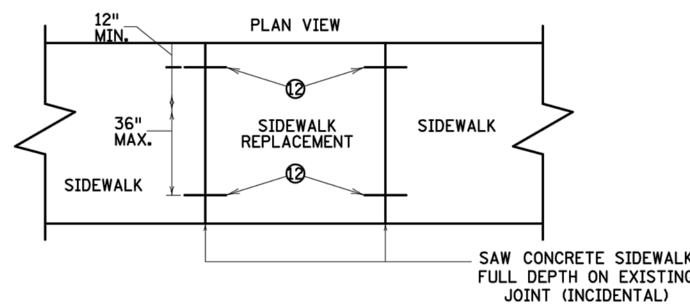

SECTION B-B

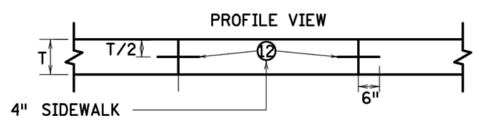
SECTION THRU SIDEWALK THICKNESS TRANSITION




TYPICAL GRADING SECTION

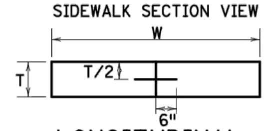
(NOT USED WHEN CONFINED BY CURB, BUILDING, WALL, ETC.)




TRANSVERSE SIDEWALK TIE BAR REINFORCEMENT

RETROFITS ONLY




LONGITUDINAL SIDEWALK REINFORCEMENT JOINTS

## SIDEWALK LONGITUDINAL JOINT TIE BAR TABLE

| SIDEWALK WIDTH, W | SIDEWALK THICKNESS, T | TIE BAR SIZE | LENGTH | SPACING |
|---|---|---|---|---|
| > 7' | 4" | No. 4 | 12" | 24" |
| >10' | 6" | No. 4 | 12" | 36" |

FOR 4" CONCRETE ONLY: CAST IN PLACE BARS MUST BE SUPPORTED WITH P-STAKES OR REINFORCEMENT BASKETS FOR FULL WIDTH CONCRETE PLACEMENTS.

FOR 6" CONCRETE ONLY: DRILL AND GROUT OR CAST IN PLACE THROUGH HOLES IN THE FORMS REQUIRED FOR STAGED ADJACENT CONCRETE PLACEMENTS.

## NOTES:

ALL SIDEWALK AND BOULEVARD WIDTHS SHALL BE MEASURED FROM BACK OF CURB.

TO MINIMIZE SIDEWALK "ROLLER COASTER" EFFECT IT IS DESIRABLE TO KEEP THE PAR ELEVATION CONTINUOUS OR AT LEAST IN THE UPPER HALF OF CURB HEIGHT. 4" HIGH CURB SHOULD BE USED INSTEAD OF 6" HIGH CURB TO HELP THIS PROBLEM WHEN APPLICABLE.

4" HIGH ADJACENT CURB IS PREFERRED WHEN BOULEVARDS 4' OR LESS ARE PRESENT MEASURED FROM THE BACK OF CURB. WHEN THE DRIVEWAY IS SLOPING DOWN FROM THE ROADWAY (NEGATIVE) 4" HIGH ADJACENT CURB SHOULD ALSO BE USED.

SEE FACILITY DESIGN GUIDE, CHAPTER 6, FOR GEOMETRIC DESIGN OF DRIVEWAYS.

① CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE. DRIVEWAY EXPANSION SHALL BE PLACED AT TOP OR BOTTOM OF TRANSITION PANEL.

② CONSTRUCT WITH EXPANSION MATERIAL MNDOT PER SPEC. 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE. MAXIMUM ONE EXPANSION PER DRIVEWAY PLACED AT EITHER TOP OR BOTTOM OF CONCRETE THICKNESS TRANSITION. IF MULTIPLE DRIVEWAYS EXIST PLACE ONE EXPANSION BETWEEN EACH DRIVEWAY. IF NO DRIVEWAY EXIST PLACE A MAXIMUM OF ONE EXPANSION PER 150' OF SIDEWALK RUN.

③ USE AN APPROVED TYPE F (1/4 INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FULL HEIGHT DIMENSION OF ADJACENT CONCRETE.

④ TRANSITION DRIVEWAY THICKNESS TO WALK THICKNESS. IF THERE IS A CONSTRUCTION JOINT AND NO EXPANSION IS USED, INSTALL TIE BARS.

⑤ TRANSITION CURB RAMP THICKNESS TO WALK THICKNESS.

⑥ MATCH INPLACE DRIVEWAY WIDTH, MATERIAL TYPE AND THICKNESS.

⑦ FORM CONTRACTION JOINT AS NEEDED TO PRODUCE APPROXIMATELY SQUARE PANELS. CONCRETE PANEL SIZE SHOULD NOT EXCEED 1 1/2 :1 LENGTH X WIDTH. 81 SF FOR 6" CONCRETE DRIVEWAY WITH 9'X9' MAXIMUM PANEL SIZE. 144 SF FOR 8" CONCRETE DRIVEWAY WITH 12'X12' MAXIMUM PANEL SIZE. MATCH DRIVEWAY APRON AND SIDEWALK JOINTS.

⑧ THE PEDESTRIAN ACCESS ROUTE CROSS-SLOPE, SHALL NOT EXCEED 0.02 FT./FT. AS CONSTRUCTED.

⑨ 1:10 MIN. SIDEWALK OFFSET TAPER REQUIRED FOR SIDEWALK REPLACEMENT PROJECTS. 1:3 MIN. AND 1:5 MIN. PREFERRED SIDEWALK OFFSET TAPER FOR DRIVEWAY REPLACEMENT.

⑩ LANDING REQUIRED, SEE NEXT SHEET FOR MORE INFORMATION.

⑪ CONCRETE DRIVEWAY APRON AND CONCRETE DRIVEWAY SIDEWALK SECTIONS SHALL BE CONSTRUCTED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. ENGINEER'S APPROVAL REQUIRED FOR MONOLITHIC PLACEMENTS.

⑫ DRILL AND GROUT NO. 4 X 12" LONG TIE BARS (EPOXY COATED). 36" MAXIMUM SPACING BETWEEN BARS COVER PLACED 1' MINIMUM FROM ADJACENT CONSTRUCTION JOINTS. 1' MINIMUM FROM ADJACENT CONCRETE JOINTS. BARS TO BE ADJUSTED TO MATCH SIDEWALK GRADES. TO BE PAID BY EACH.

⑬ DRILL AND GROUT OR CAST IN-PLACE THROUGH HOLES IN THE FORMS NO. 4 X 12" LONG TIE BARS (EPOXY COATED). 36" MAXIMUM SPACING BETWEEN BARS WITH 2" MINIMUM CONCRETE COVER PLACED 1' MINIMUM FROM ADJACENT CONSTRUCTION JOINTS. 1' MINIMUM FROM ADJACENT CONCRETE JOINTS.

REVISION: 12-23-2021

APPROVED: 11-04-2021

JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

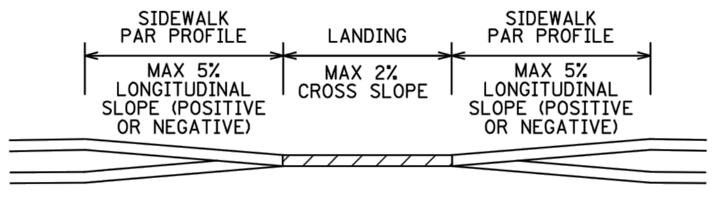
STANDARD PLAN 5-297.254 | 3 OF 4

APPROVED: 11-04-2021
REVISED: 12-23-2021

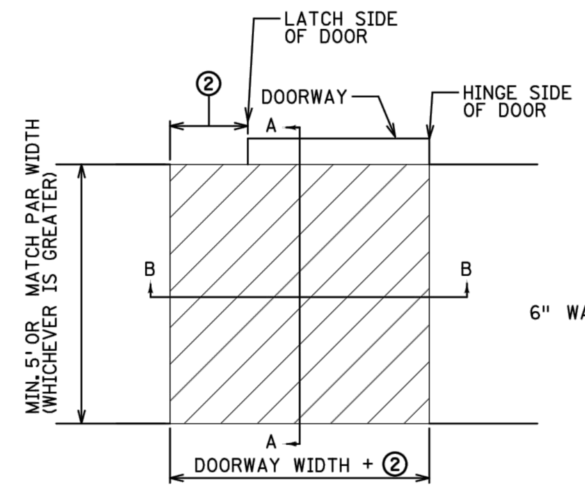
THOMAS STYRBICKI
STATE DESIGN ENGINEER

DRIVEWAY AND SIDEWALK DETAILS

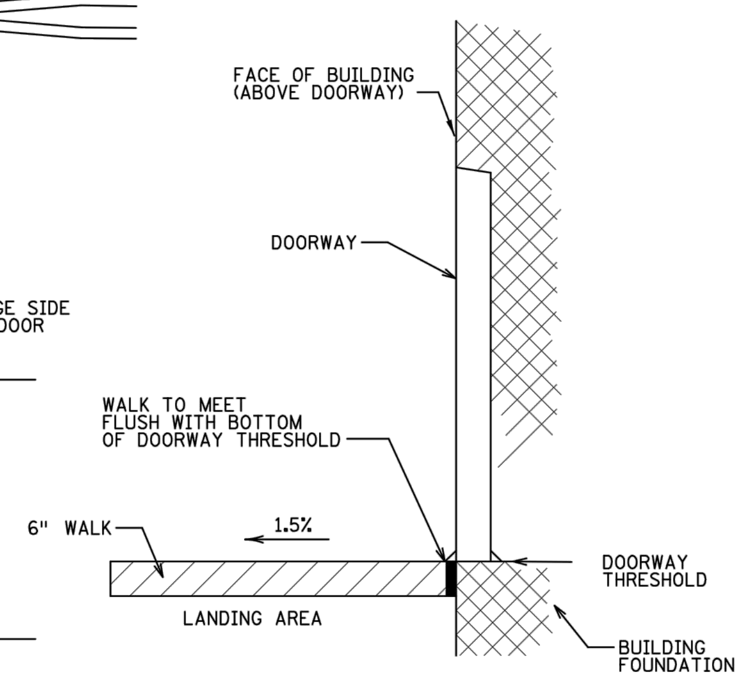
STATE PROJ. NO. (TH ) SHEET NO. OF SHEETS



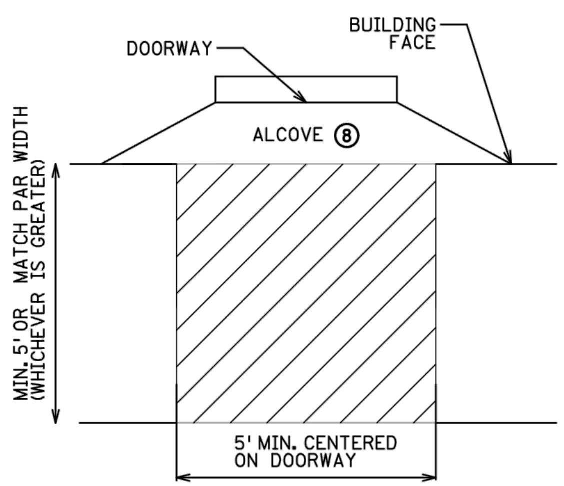

SECTION VIEW B-B



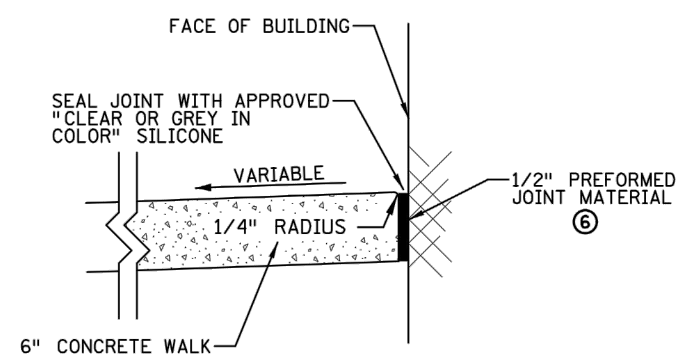

PLAN VIEW DOORWAY




SECTION VIEW A-A

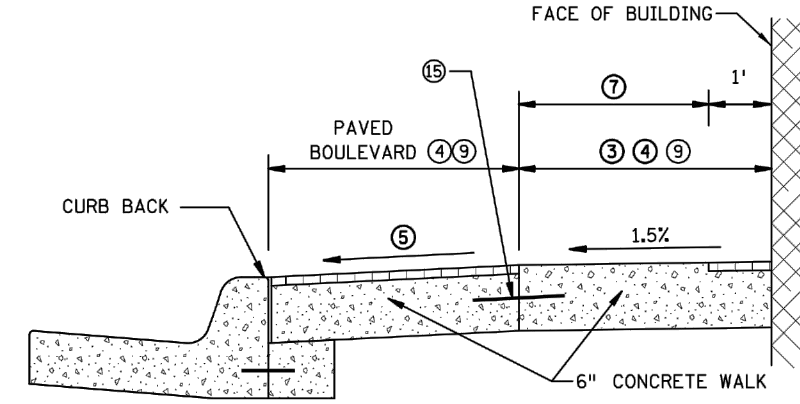



PLAN VIEW DOORWAY WITH ALCOVE

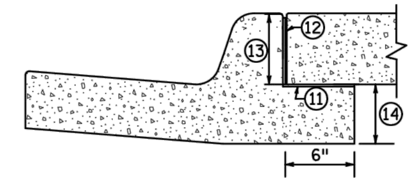



BUILDING JOINT SEAL (INCIDENTAL)

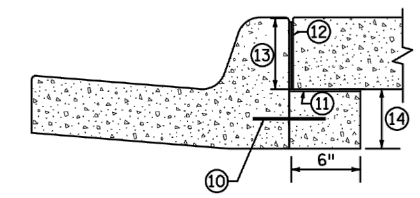
SIDEWALK LANDING REQUIREMENTS ①




DOWNTOWN SIDEWALK TYPICAL SECTION




SLIP FORM SILL




FIXED FORM SILL

SILL CURB SHOULD BE USED AT ALL LOCATIONS WHEN CONCRETE WALK IS AT BACK OF CURB, INCLUDING PAVED BOULEVARD.

SILL CURB SHALL NOT BE USED IN CURB RAMP AND DRIVEWAY AREAS, INCLUDING CONCRETE FLARES.

SILL CURB WITH 4" WALK CAN USE FIXED OR SLIP FORM OPTIONS.

NOTES:

6" WALK IS REQUIRED:
1) IN ALL SIDEWALK LOCATIONS WHERE VARIABLE SLOPED CONCRETE BOULEVARDS ARE PAVED, SUCH AS COMMERCIAL (STORE FRONT, DOWNTOWN) AREAS.
2) ANYTIME DRILL AND REINFORCEMENT IS USED TO TIE LONGITUDINAL JOINTS TOGETHER.
3) TO ELIMINATE LONGITUDINAL JOINT WHEN INCREASING PANEL SIZE OVER 36SF.
4) AT LOCATIONS WHERE MAINTENANCE EQUIPMENT WILL SUBJECT CONCRETE TO HEAVY LOADS.

ALL SIDEWALK AND BOULEVARD WIDTHS SHALL BE MEASURED FROM BACK OF CURB.

FIELD ADJUST SIDEWALK PROFILES TO MEET ALL DOORWAY THRESHOLDS.

SIDEWALK MUST MAINTAIN POSITIVE DRAINAGE AWAY FROM THE BUILDING TO THE ROADWAY.

SEE SPECIAL PROVISIONS FOR SILICONE SPECIFICATIONS.

① LANDING CRITERIA IS REQUIRED FOR ALL DOORS, STEPS, AND PRIVATE WALKS. FEASIBILITY DECREASES WITH NARROWER BOULEVARDS AND STEEPER SIDEWALK PROFILES.

② 18" MIN. WHEN DOOR SWINGS OUTWARD FROM BUILDING. 12" MIN WHEN DOOR SWINGS INWARD FROM BUILDING.

③ 6' MIN. PAR REQUIRED WHEN ADJACENT TO BUILDINGS.

④ 2/3 PAR TO 1/3 BOULEVARD SHOULD BE USED WHEN FEASIBLE. HOLD UNIFORM BOULEVARD WIDTH. 4' PREFERRED MINIMUM BOULEVARD.

⑤ 1%-5% FOR THE MAJORITY OF THE BLOCK, WITH EXCEPTIONS UP TO 8% IN CONSTRAINED AREAS.

⑥ CONSTRUCT USING APPROVED EXPANSION MATERIAL PER MNDOT TYPE A-E EXPANSION. LEAVE A MINIMUM 1/2" TOP GAP AND SEAL WITH MNDOT APPROVED SILICONE PER MNDOT SPEC 3722.

⑦ TO MINIMIZE VIBRATION AND ROLLING RESISTANCE, AREA SHALL BE FREE OF PAVERS, STAMPED CONCRETE, AND/OR EXCESSIVE JOINTING.

⑧ 2% MAX. PER BUILDING CODE. IF GREATER THAN 2%, FLATTEN AS FEASIBLE.

⑨ FORM CONTRACTION JOINTS AS NEEDED TO PRODUCE APPROXIMATELY SQUARE PANEL SIZE. CONRETE PANEL SIZE SHOULD NOT EXCEED 1 1/2 : 1 LENGTH X WIDTH.

⑩ DRILL AND GROUT NO. 4 X 8" LONG TIE BARS (EPOXY COATED). 36" MAXIMUM SPACING BETWEEN BARS WITH 2" MINIMUM CONCRETE COVER PLACED 1' MINIMUM FROM ADJACENT CONSTRUCTION JOINTS. 1' MINIMUM FROM ADJACENT CONCRETE JOINTS. TIE BARS SHALL BE EMBEDDED 4" WITH 2" MINIMUM CONCRETE COVER AND ARE INCIDENTAL TO SILL PLACEMENT.

⑪ FURNISH AND INSTALL THE FULL WIDTH OF THE TOP OF SILL A MINIMUM 2ML THICK POLYTHENE SHEETING.

⑫ USE AN APPROVED TYPE F (1/4 INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FULL HEIGHT DIMENSION OF ADJACENT CONCRETE.

⑬ DIMENSION TO BE SAME AS SIDEWALK THICKNESS, 4" MIN.

⑭ 6" WALK: 5" MIN. FOR B424; 7" MIN. FOR B624
4" WALK: 7" MIN. FOR B424; 9" MIN. FOR B624

⑮ DRILL AND GROUT NO. 4 X 12" LONG TIE BARS (EPOXY COATED). 36" MAXIMUM SPACING BETWEEN BARS WITH 2" MINIMUM CONCRETE COVER PLACED 1' MINIMUM FROM ADJACENT CONCRETE JOINTS.

REVISION:
APPROVED: 11-04-2021
JEFFREY PERKINS
OPERATIONS DIVISION

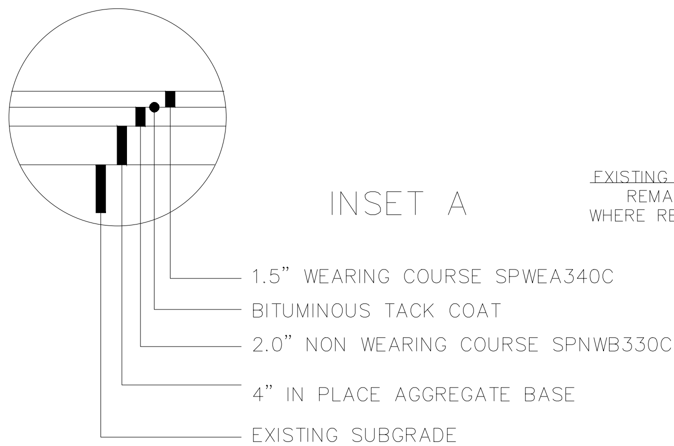
MINNESOTA DEPARTMENT OF TRANSPORTATION

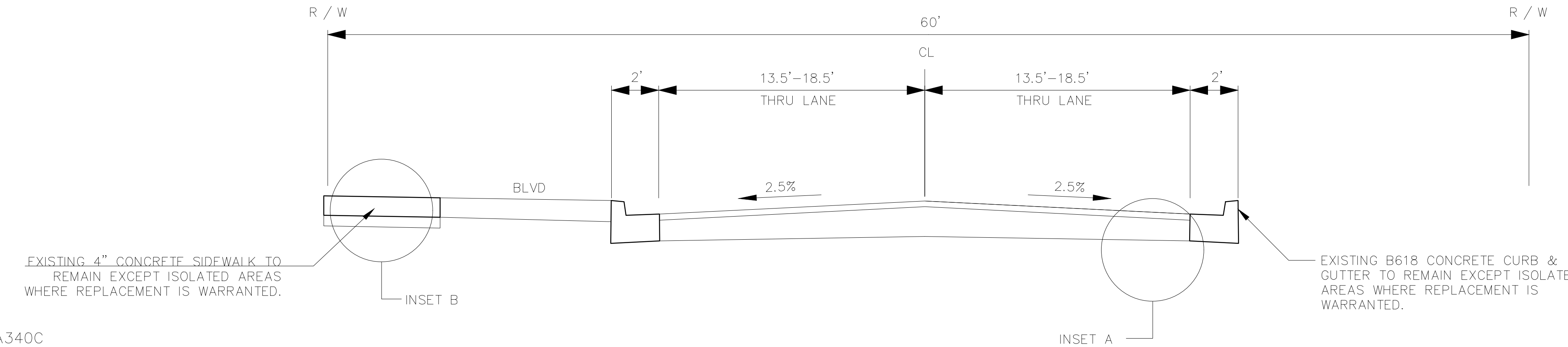
STANDARD PLAN 5-297.254 | 4 OF 4

APPROVED: 11-04-2021
REVISED:
THOMAS STYRBICKI
STATE DESIGN ENGINEER

DRIVEWAY AND SIDEWALK DETAILS

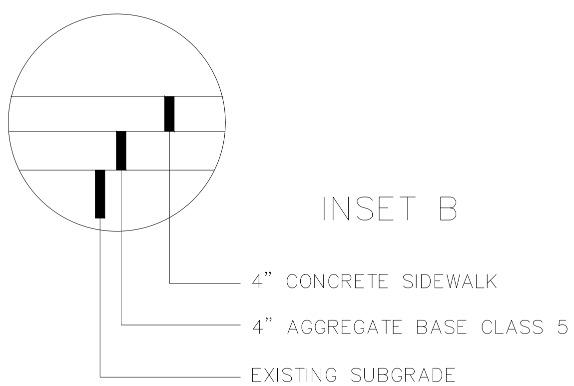
STATE PROJ. NO. (TH ) SHEET NO. OF SHEETS

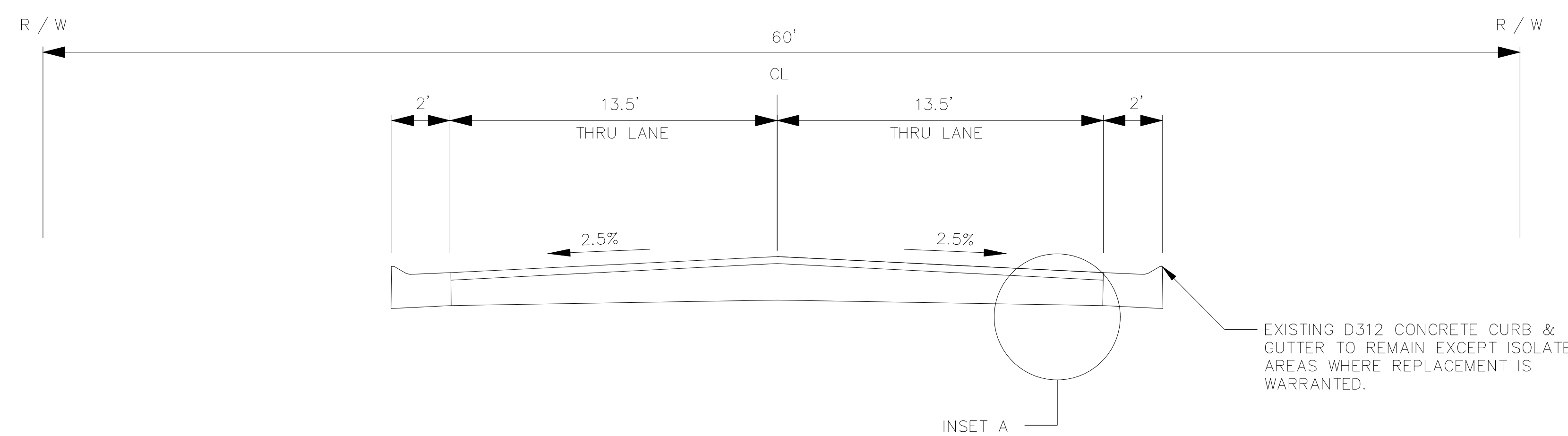



## BITUMINOUS REPLACEMENT W/ SPOT CURB REPLACEMENT

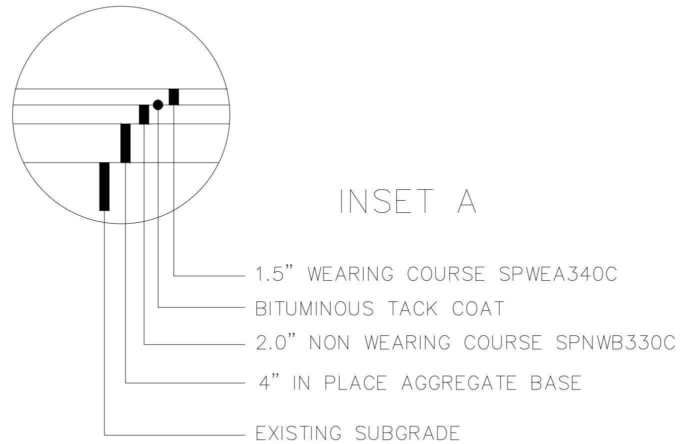
BUCHANAN STREET WIDTH VARIES ON THE
SOUTH END

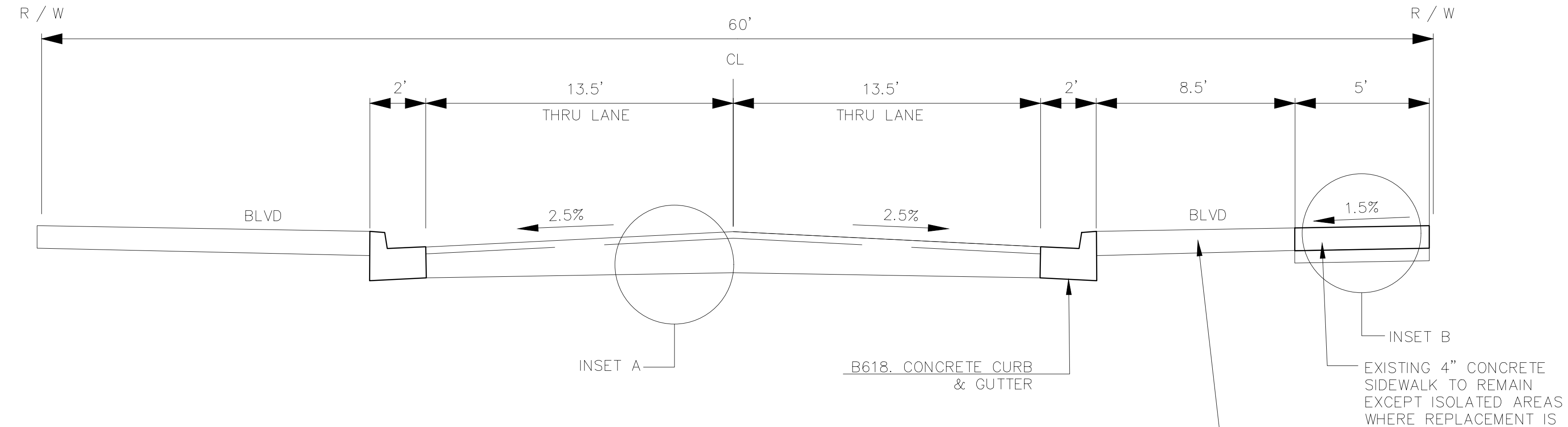



## BITUMINOUS REPLACEMENT W/ SPOT CURB REPLACEMENT

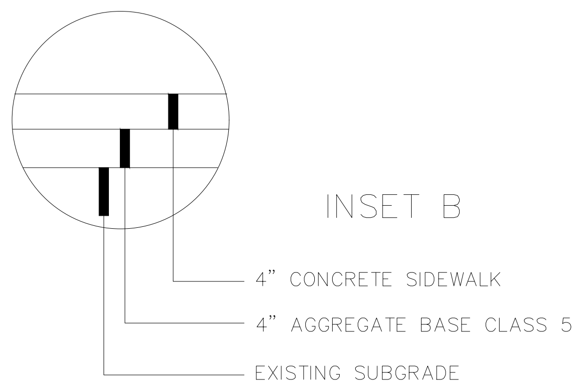
123RD AVENUE
124TH LANE
PIERCE STREET
BUCHANAN STREET NE
124TH COURT NE
PIERCE COURT NE

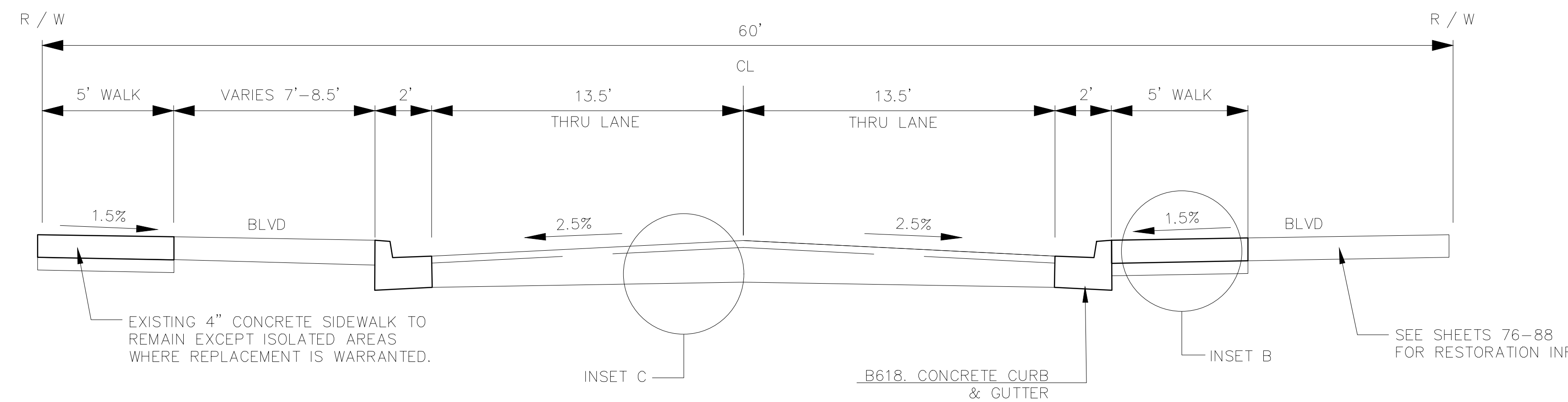



## BITUMINOUS REPLACEMENT W/ FULL CURB REPLACEMENT

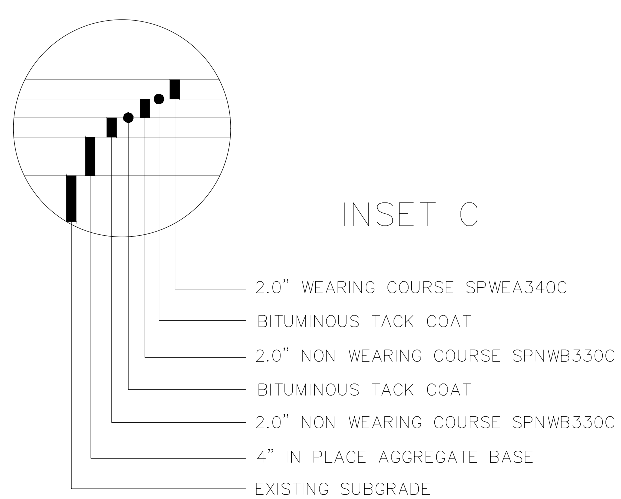
126TH AVENUE

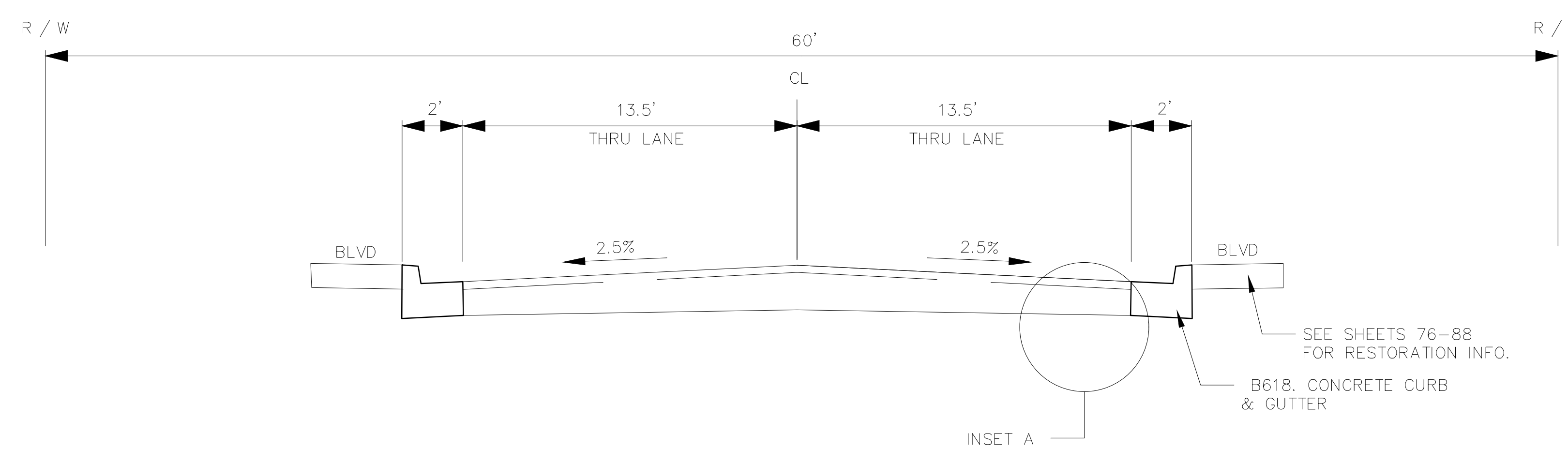



## BITUMINOUS REPLACEMENT W/ FULL CURB REPLACEMENT

POLK STREET




## BITUMINOUS REPLACEMENT W/ FULL CURB REPLACEMENT

TAYLOR STREET
127TH LANE
126TH LANE
127TH AVENUE
BUCHANAN STREET

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|---|---|
| SEH Project | 165899 |
| Drawn By | NMB, HC, EN |
| Designed By | DJC |
| Checked By | GFA |

| Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
|---|---|---|---|---|---|

SEH

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 MN.

Greg F Anderson

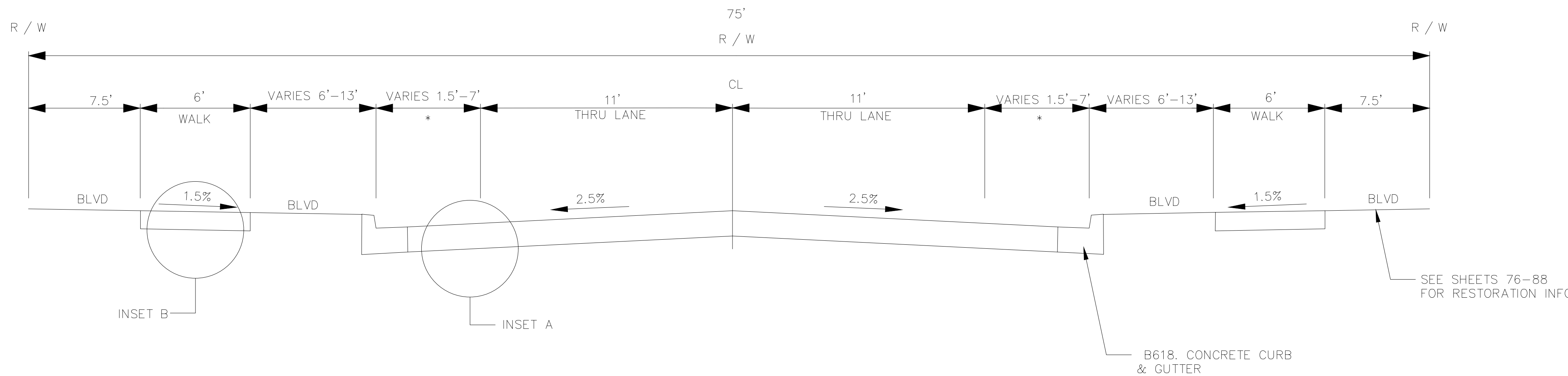
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

PROJECT AREA 2 TYPICAL SECTION

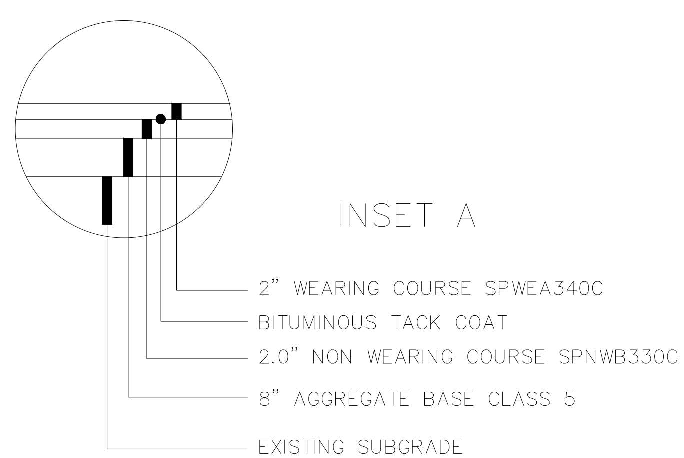
S.A.P. 106-141-003



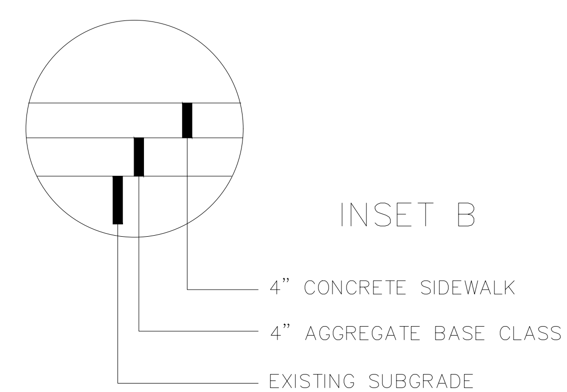

## BITUMINOUS REPLACEMENT W/ FULL CURB + SIDEWALK

129TH AVENUE

* PARKING ONLY PERMITTED WHERE A FULL 7' LANE IS CONSTRUCTED




INSET A




INSET B



| | | | | | | |
|---|---|---|---|---|---|---|
| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

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Greg F Anderson

DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

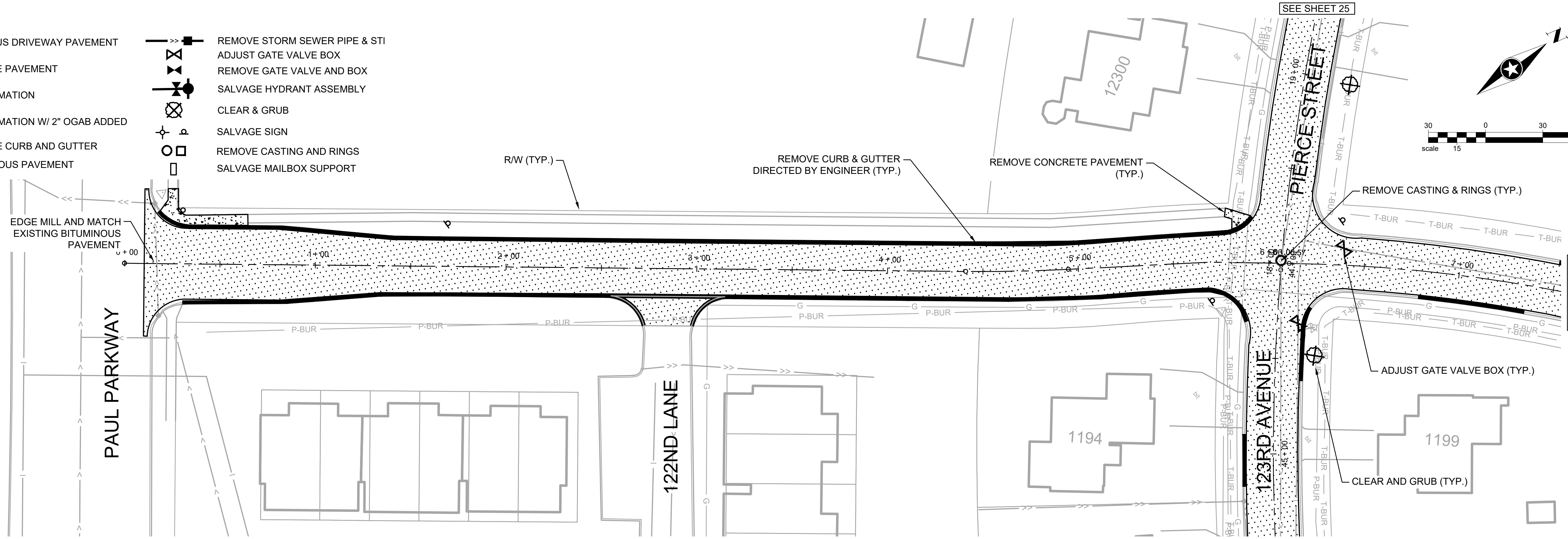
BLAINE, MN

PROJECT AREA 3 TYPICAL SECTION

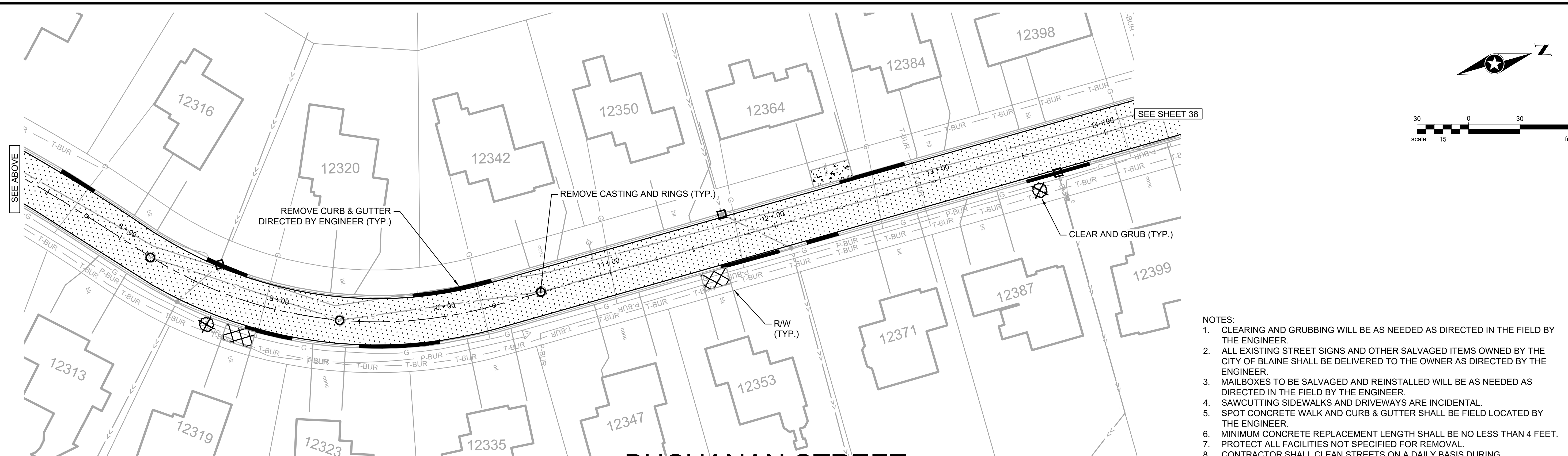
S.A.P. 106-141-003

## LEGEND

- REMOVE BITUMINOUS DRIVEWAY PAVEMENT
- REMOVE CONCRETE PAVEMENT
- FULL DEPTH RECLAMATION
- FULL DEPTH RECLAMATION W/ 2" OGAB ADDED
- REMOVE CONCRETE CURB AND GUTTER
- EDGE MILL BITUMINOUS PAVEMENT
- REMOVE STORM SEWER PIPE & STI
- ADJUST GATE VALVE BOX
- REMOVE GATE VALVE AND BOX
- SALVAGE HYDRANT ASSEMBLY
- CLEAR & GRUB
- SALVAGE SIGN
- REMOVE CASTING AND RINGS
- SALVAGE MAILBOX SUPPORT




BUCHANAN STREET




BUCHANAN STREET

NOTES:

1. CLEARING AND GRUBBING WILL BE AS NEEDED AS DIRECTED IN THE FIELD BY THE ENGINEER.
2. ALL EXISTING STREET SIGNS AND OTHER SALVAGED ITEMS OWNED BY THE CITY OF BLAINE SHALL BE DELIVERED TO THE OWNER AS DIRECTED BY THE ENGINEER.
3. MAILBOXES TO BE SALVAGED AND REINSTALLED WILL BE AS NEEDED AS DIRECTED IN THE FIELD BY THE ENGINEER.
4. SAWCUTTING SIDEWALKS AND DRIVEWAYS ARE INCIDENTAL.
5. SPOT CONCRETE WALK AND CURB & GUTTER SHALL BE FIELD LOCATED BY THE ENGINEER.
6. MINIMUM CONCRETE REPLACEMENT LENGTH SHALL BE NO LESS THAN 4 FEET.
7. PROTECT ALL FACILITIES NOT SPECIFIED FOR REMOVAL.
8. CONTRACTOR SHALL CLEAN STREETS ON A DAILY BASIS DURING CONSTRUCTION HOURS UNLESS DIRECTED OTHERWISE BY ENGINEER.



| | |
|---|---|
| SEH Project | 165899 |
| Drawn By | NMB, HC, EN |
| Designed By | DJC |
| Checked By | GFA |

| Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
|---|---|---|---|---|---|

SEH

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 MN.

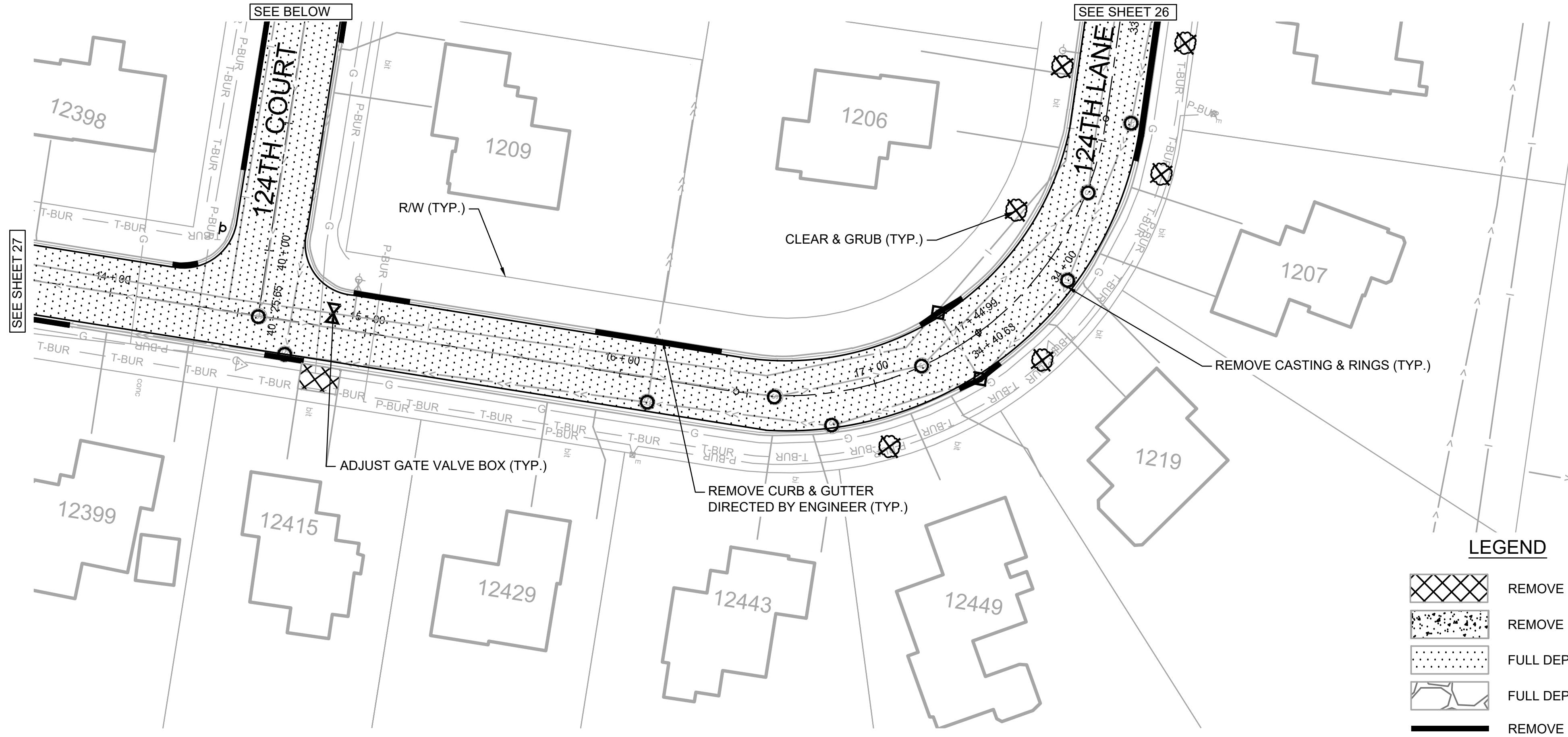
DATE 03.31.2022 Greg F Anderson LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

REMOVALS
BUCHANAN STREET
AREA 1

S.A.P. 106-141-003

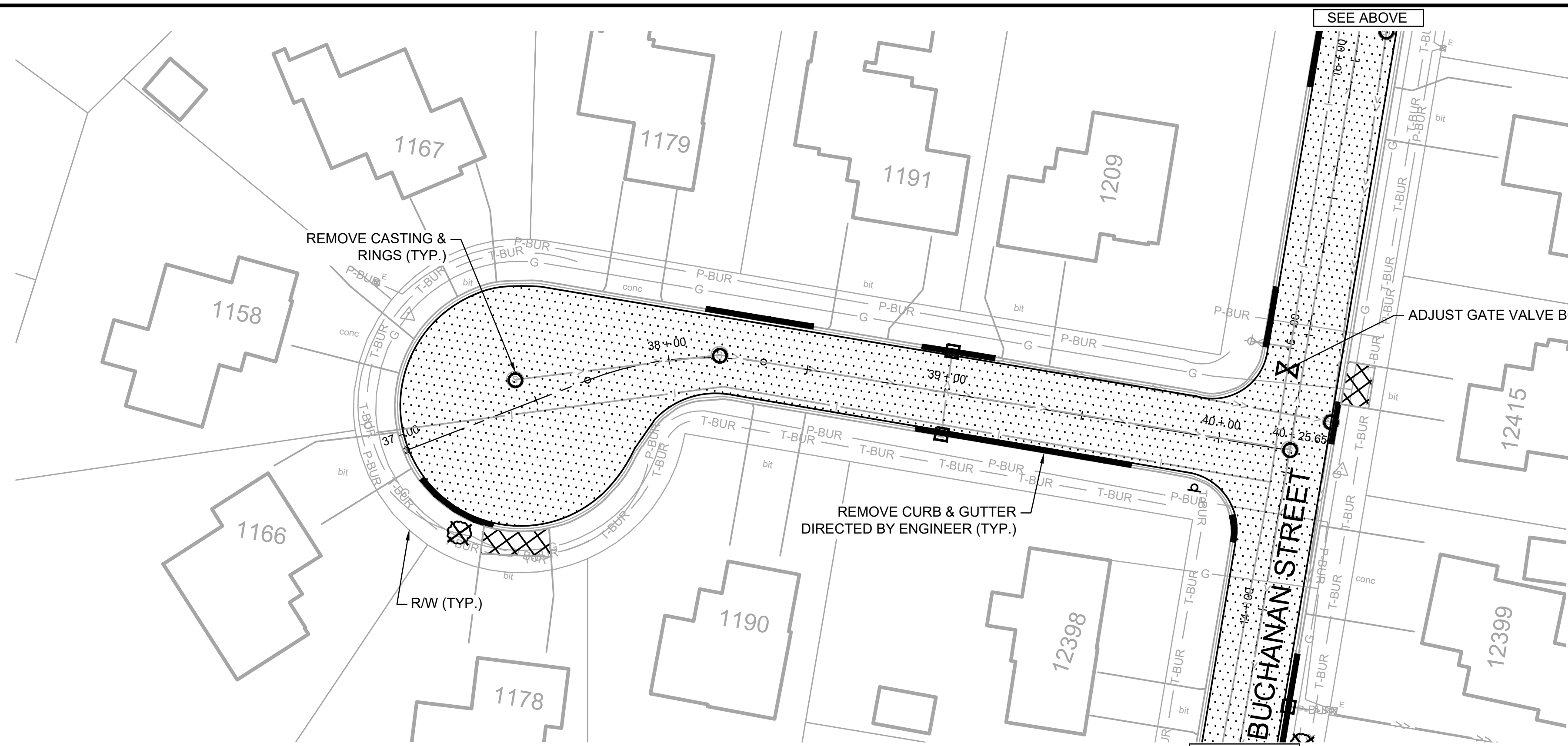



30 0 30 60
scale 15 feet

## BUCHANAN STREET

### LEGEND

- REMOVE BITUMINOUS DRIVEWAY PAVEMENT
- REMOVE CONCRETE PAVEMENT
- FULL DEPTH RECLAMATION
- FULL DEPTH RECLAMATION W/ 2" OGAB ADDED
- REMOVE CONCRETE CURB AND GUTTER
- EDGE MILL BITUMINOUS PAVEMENT
- REMOVE STORM SEWER PIPE & STI
- ADJUST GATE VALVE BOX
- REMOVE GATE VALVE AND BOX
- SALVAGE HYDRANT ASSEMBLY
- CLEAR & GRUB
- SALVAGE SIGN
- REMOVE CASTING AND RINGS
- SALVAGE MAILBOX SUPPORT




30 0 30 60
scale 15 feet

## 124TH COURT NE-EAST

NOTES:
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2. ALL EXISTING STREET SIGNS AND OTHER SALVAGED ITEMS OWNED BY THE CITY OF BLAINE SHALL BE DELIVERED TO THE OWNER AS DIRECTED BY THE ENGINEER.
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4. SAWCUTTING SIDEWALKS AND DRIVEWAYS ARE INCIDENTAL.
5. SPOT CONCRETE WALK AND CURB & GUTTER SHALL BE FIELD LOCATED BY THE ENGINEER.
6. MINIMUM CONCRETE REPLACEMENT LENGTH SHALL BE NO LESS THAN 4 FEET.
7. PROTECT ALL FACILITIES NOT SPECIFIED FOR REMOVAL.
8. CONTRACTOR SHALL CLEAN STREETS ON A DAILY BASIS DURING CONSTRUCTION HOURS UNLESS DIRECTED OTHERWISE BY ENGINEER.

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| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

SEH

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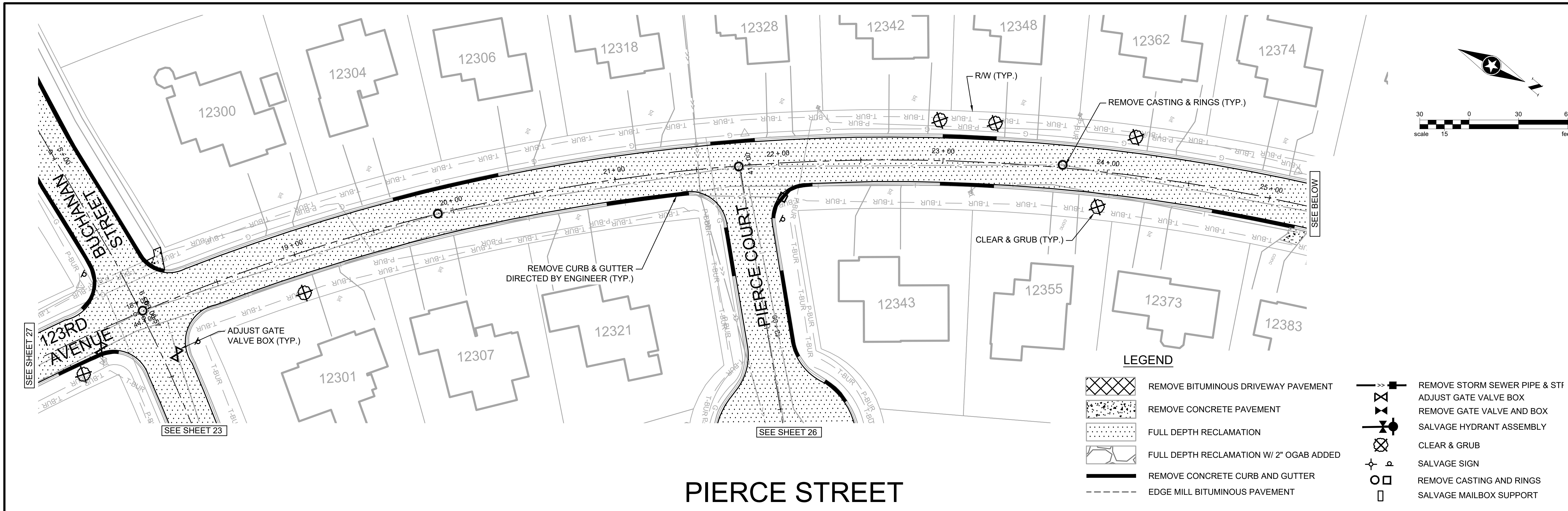
Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION
BLAINE, MN

REMOVALS
BUCHANAN STREET & 124TH COURT NE-EAST
AREA 1

S.A.P. 106-141-003

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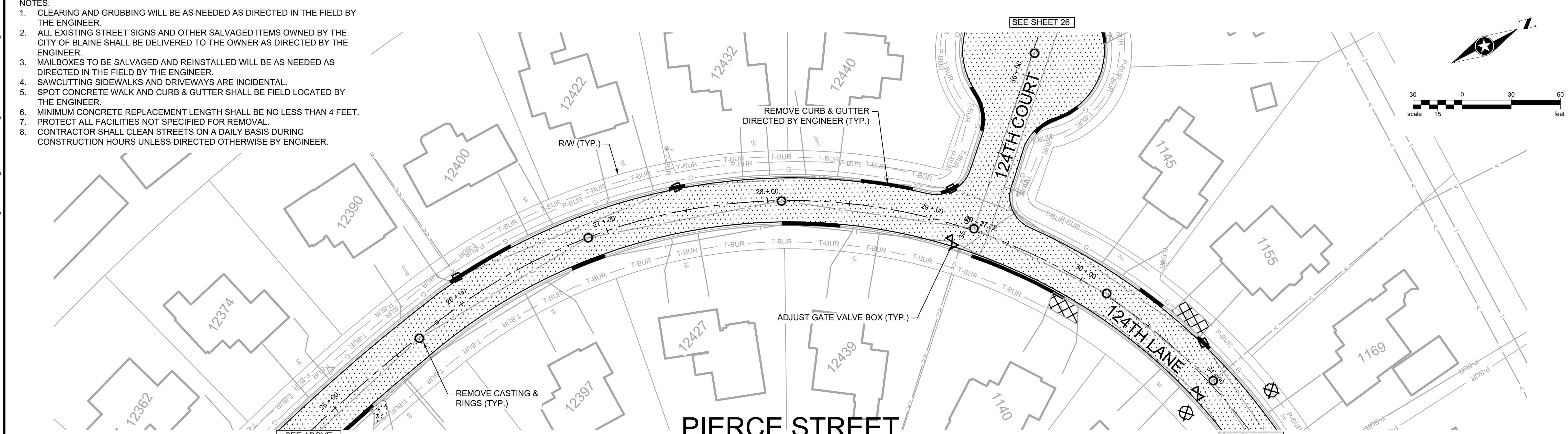


| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
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Greg F Anderson

DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

REMOVALS
PIERCE STREET
AREA 1

S.A.P. 106-141-003



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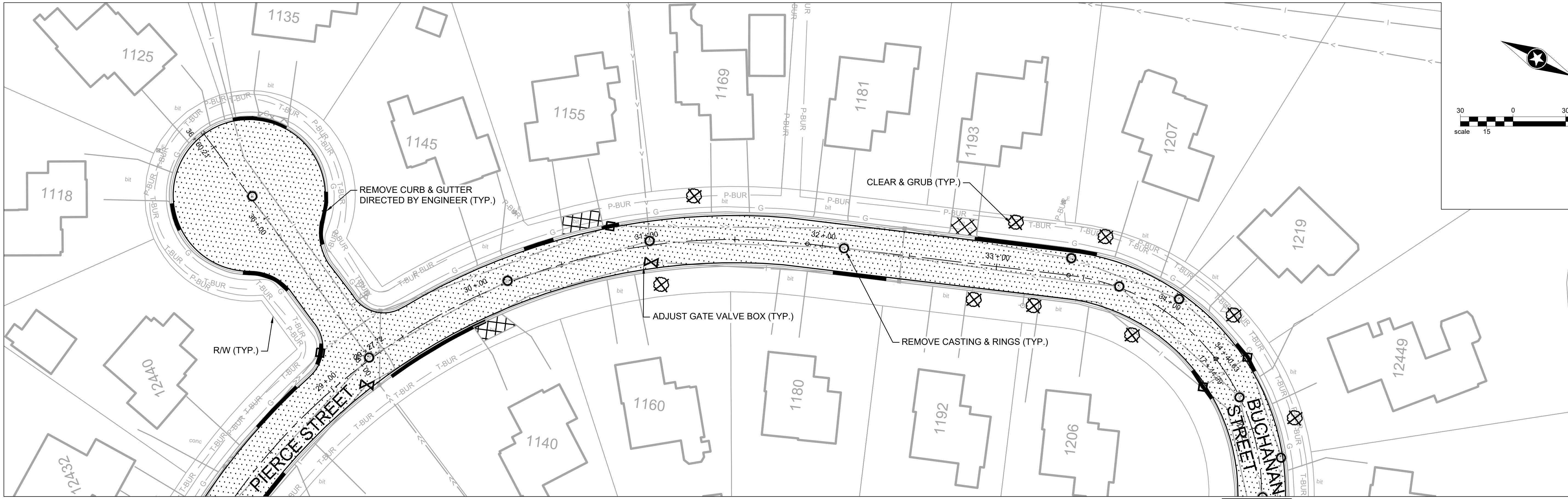
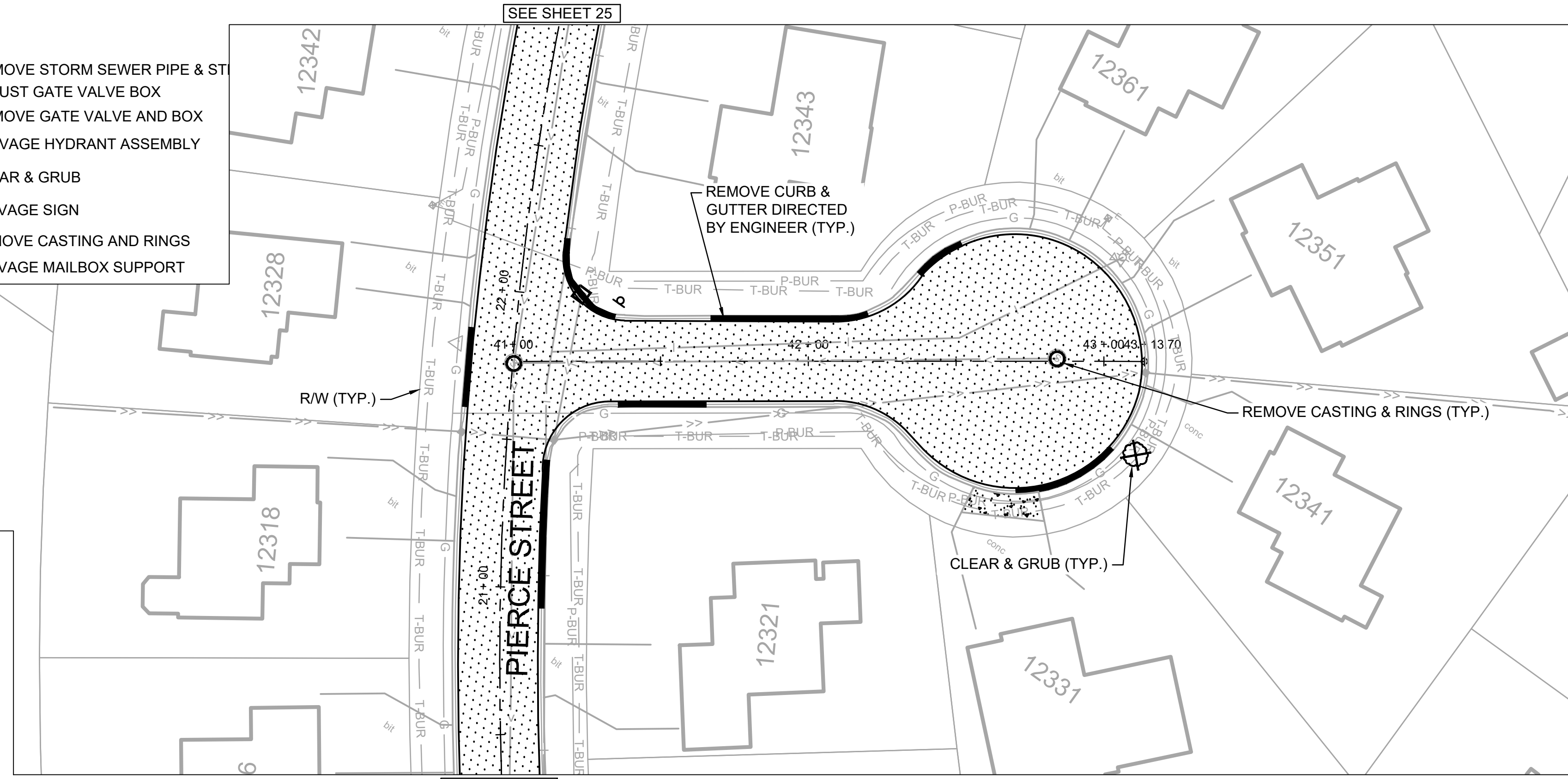



# 124TH LANE-124TH COURT NE

## LEGEND

- REMOVE BITUMINOUS DRIVEWAY PAVEMENT
- REMOVE CONCRETE PAVEMENT
- FULL DEPTH RECLAMATION
- FULL DEPTH RECLAMATION W/ 2" OGAB ADDED
- REMOVE CONCRETE CURB AND GUTTER
- EDGE MILL BITUMINOUS PAVEMENT
- REMOVE STORM SEWER PIPE & STI
- ADJUST GATE VALVE BOX
- REMOVE GATE VALVE AND BOX
- SALVAGE HYDRANT ASSEMBLY
- CLEAR & GRUB
- SALVAGE SIGN
- REMOVE CASTING AND RINGS
- SALVAGE MAILBOX SUPPORT

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7. PROTECT ALL FACILITIES NOT SPECIFIED FOR REMOVAL.
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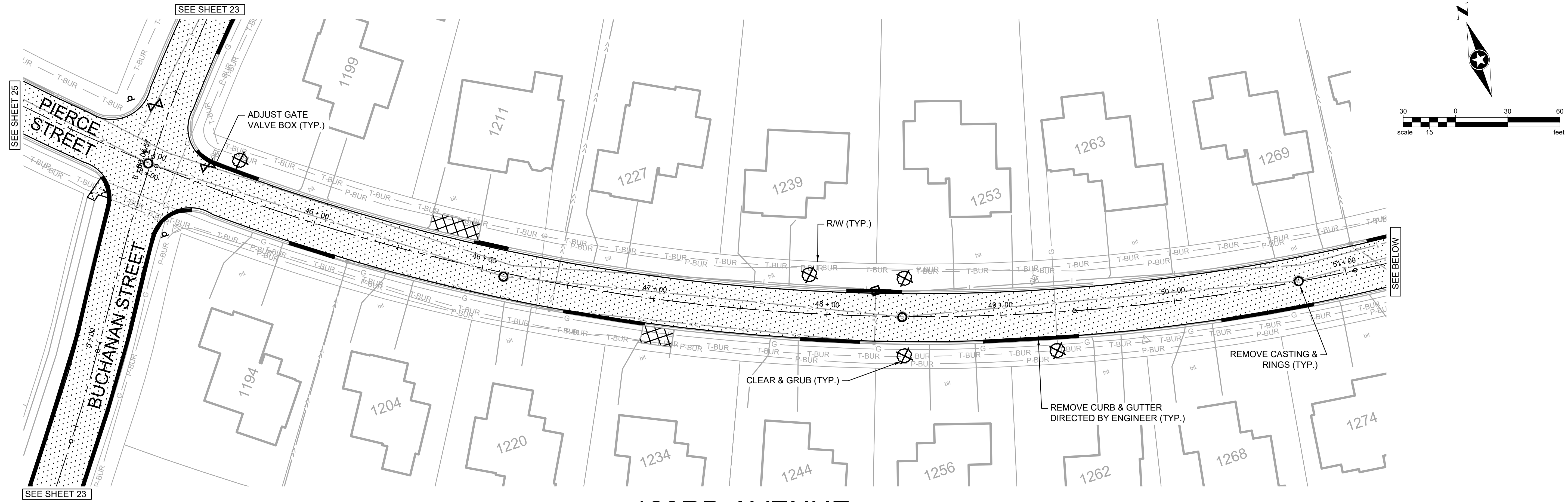
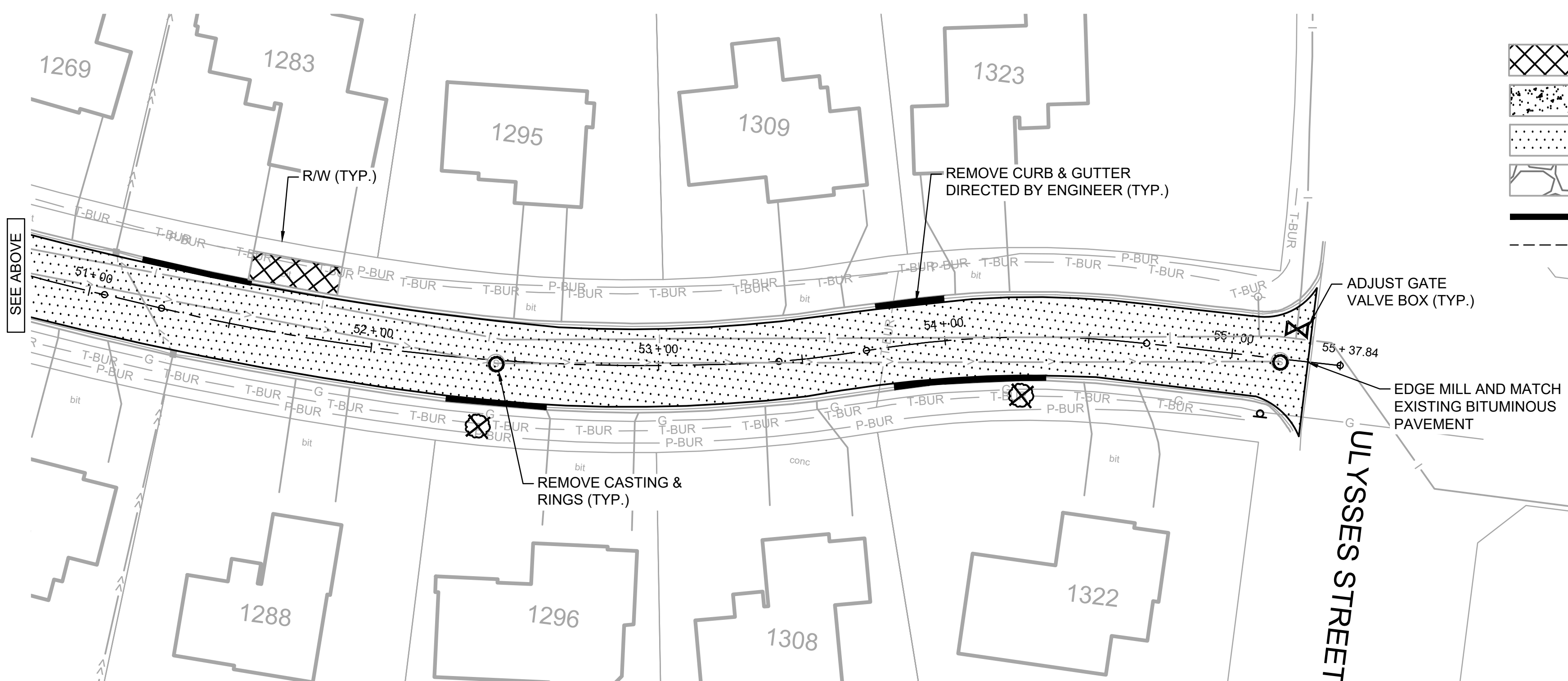
SEE SHEET 25

# PIERCE COURT




# 123RD AVENUE




## LEGEND

- REMOVE BITUMINOUS DRIVEWAY PAVEMENT
- REMOVE CONCRETE PAVEMENT
- FULL DEPTH RECLAMATION
- FULL DEPTH RECLAMATION W/ 2" OGAB ADDED
- REMOVE CONCRETE CURB AND GUTTER
- EDGE MILL BITUMINOUS PAVEMENT
- REMOVE STORM SEWER PIPE & STI
- ADJUST GATE VALVE BOX
- REMOVE GATE VALVE AND BOX
- SALVAGE HYDRANT ASSEMBLY
- CLEAR & GRUB
- SALVAGE SIGN
- REMOVE CASTING AND RINGS
- SALVAGE MAILBOX SUPPORT

scale 15 feet
30 0 30 60

# 123RD AVENUE

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|---|---|---|---|---|---|---|
| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

SEH

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Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION
BLAINE, MN

REMOVALS
123RD AVENUE
AREA 1

S.A.P. 106-141-003

## LEGEND

- REMOVE BITUMINOUS DRIVEWAY PAVEMENT
- REMOVE CONCRETE PAVEMENT
- FULL DEPTH RECLAMATION
- FULL DEPTH RECLAMATION W/ 2" OGAB ADDED
- REMOVE CONCRETE CURB AND GUTTER
- EDGE MILL BITUMINOUS PAVEMENT
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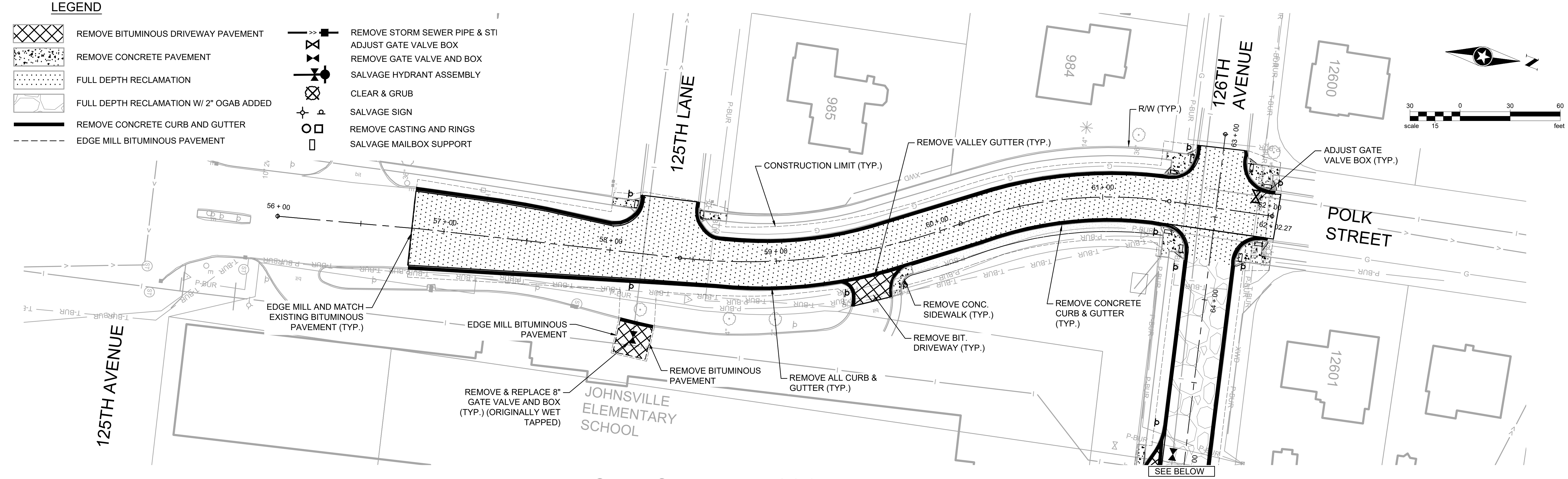
- SALVAGE SIGN
- REMOVE CASTING AND RINGS
- SALVAGE MAILBOX SUPPORT




## POLK STREET-126TH AVENUE

NOTES:

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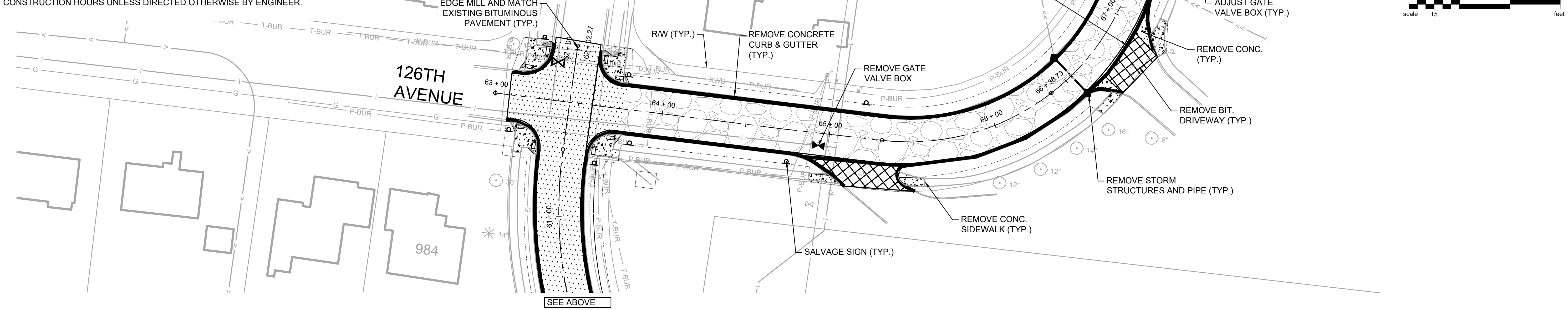


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| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | |
| Drawn By | NMB, HC, EN | | | | |
| Designed By | DJC | | | | |
| Checked By | GFA | | | | |

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Greg F Anderson

DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

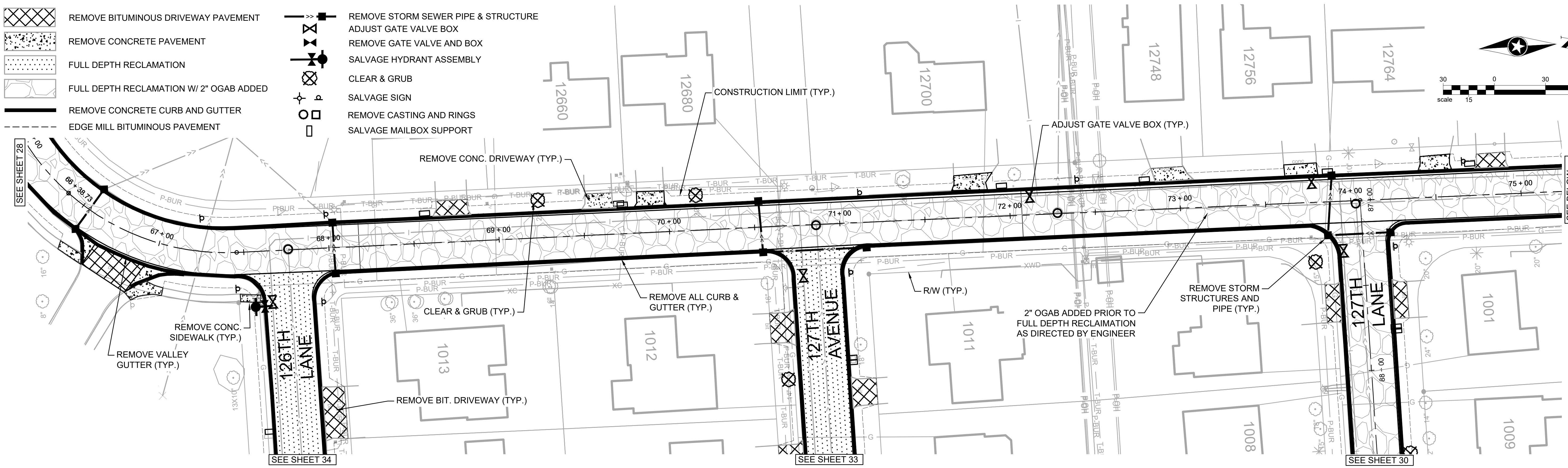
BLAINE, MN

REMOVALS
POLK STREET-126TH AVENUE
AREA 2

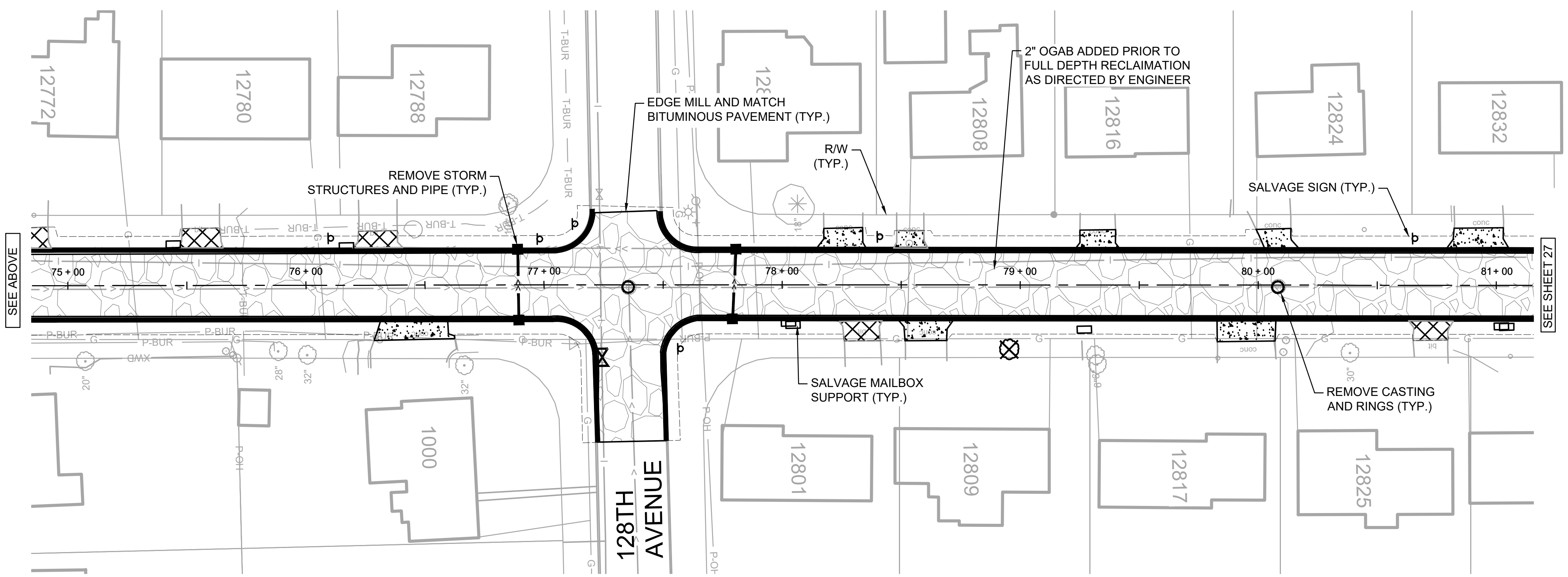
S.A.P. 106-141-003

## LEGEND

- REMOVE BITUMINOUS DRIVEWAY PAVEMENT
- REMOVE CONCRETE PAVEMENT
- FULL DEPTH RECLAMATION
- FULL DEPTH RECLAMATION W/ 2" OGAB ADDED
- REMOVE CONCRETE CURB AND GUTTER
- EDGE MILL BITUMINOUS PAVEMENT
- REMOVE STORM SEWER PIPE & STRUCTURE
- ADJUST GATE VALVE BOX
- REMOVE GATE VALVE AND BOX
- SALVAGE HYDRANT ASSEMBLY
- CLEAR & GRUB
- SALVAGE SIGN
- REMOVE CASTING AND RINGS
- SALVAGE MAILBOX SUPPORT




# TAYLOR STREET




# TAYLOR STREET

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| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | 
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| Designed By | DJC | | | | |
| Checked By | GFA | | | | |

Revision Issue Description — Date

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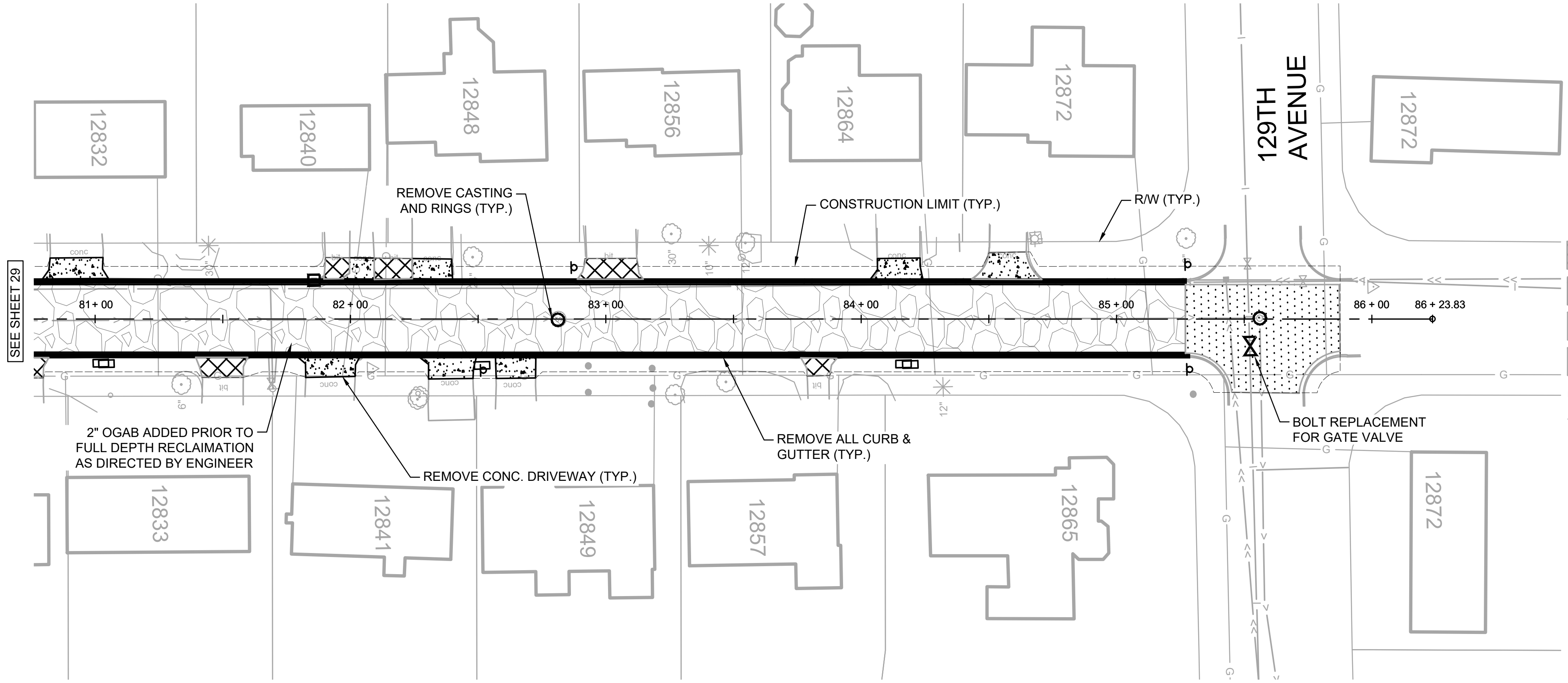
Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION
BLAINE, MN

REMOVALS
TAYLOR STREET
AREA 2

S.A.P. 106-141-003




# TAYLOR STREET

## LEGEND

- REMOVE BITUMINOUS DRIVEWAY PAVEMENT
- REMOVE CONCRETE PAVEMENT
- FULL DEPTH RECLAMATION
- FULL DEPTH RECLAMATION W/ 2" OGAB ADDED
- REMOVE CONCRETE CURB AND GUTTER
- EDGE MILL BITUMINOUS PAVEMENT
- REMOVE STORM SEWER PIPE & STRUCTURE
- ADJUST GATE VALVE BOX
- REMOVE GATE VALVE AND BOX
- SALVAGE HYDRANT ASSEMBLY
- CLEAR & GRUB
- SALVAGE SIGN
- REMOVE CASTING AND RINGS
- SALVAGE MAILBOX SUPPORT

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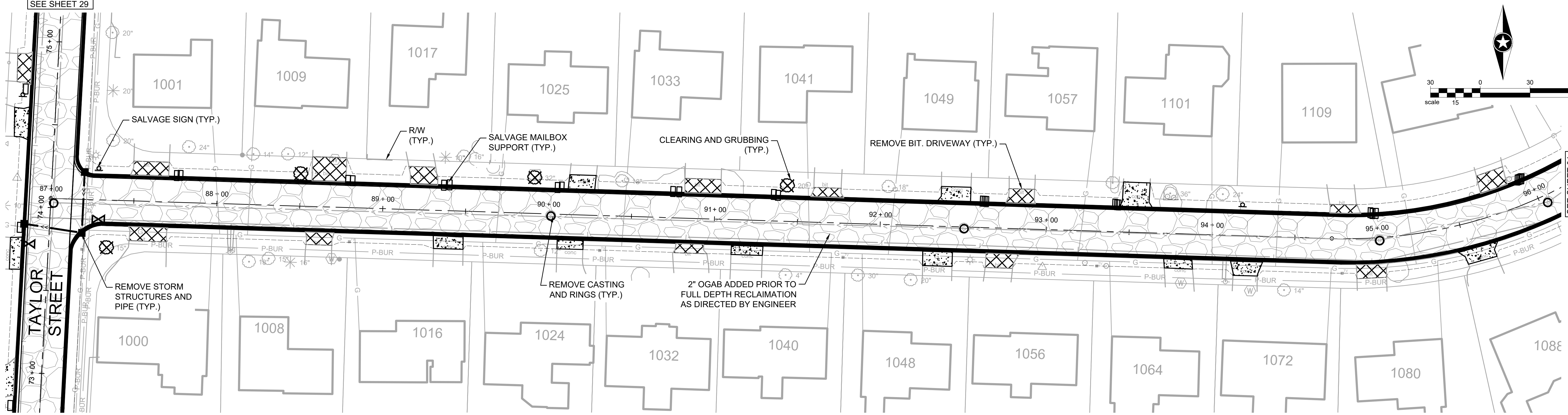


# 127TH LANE

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Greg F Anderson

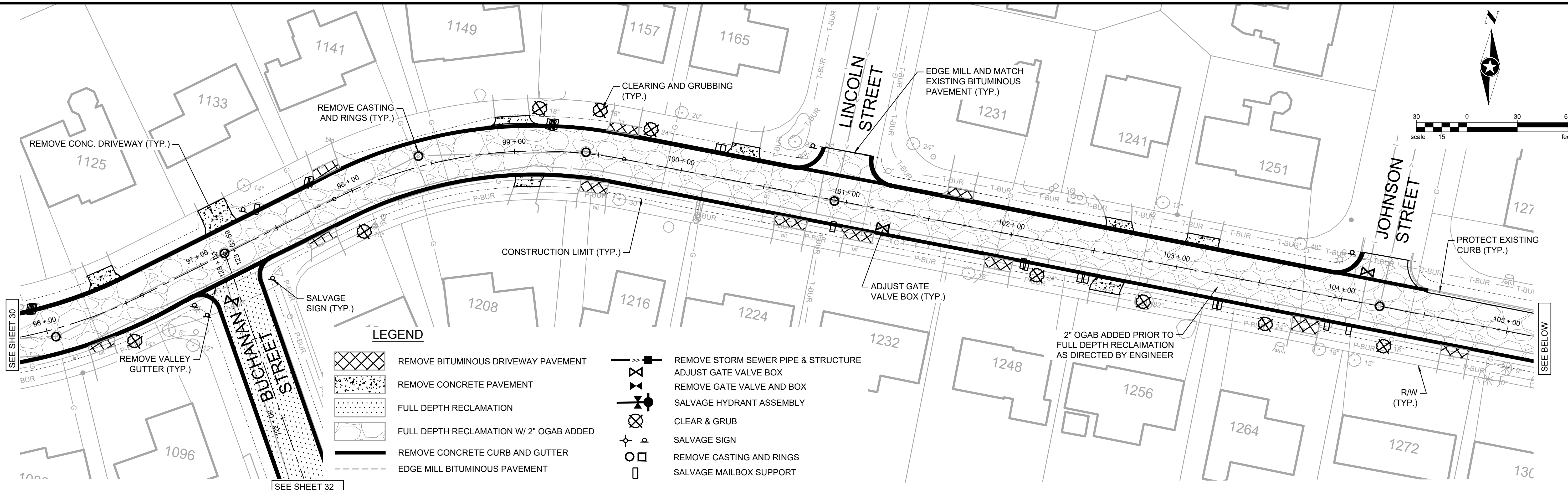
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

REMOVALS
TAYLOR STREET-127TH LANE
AREA 2

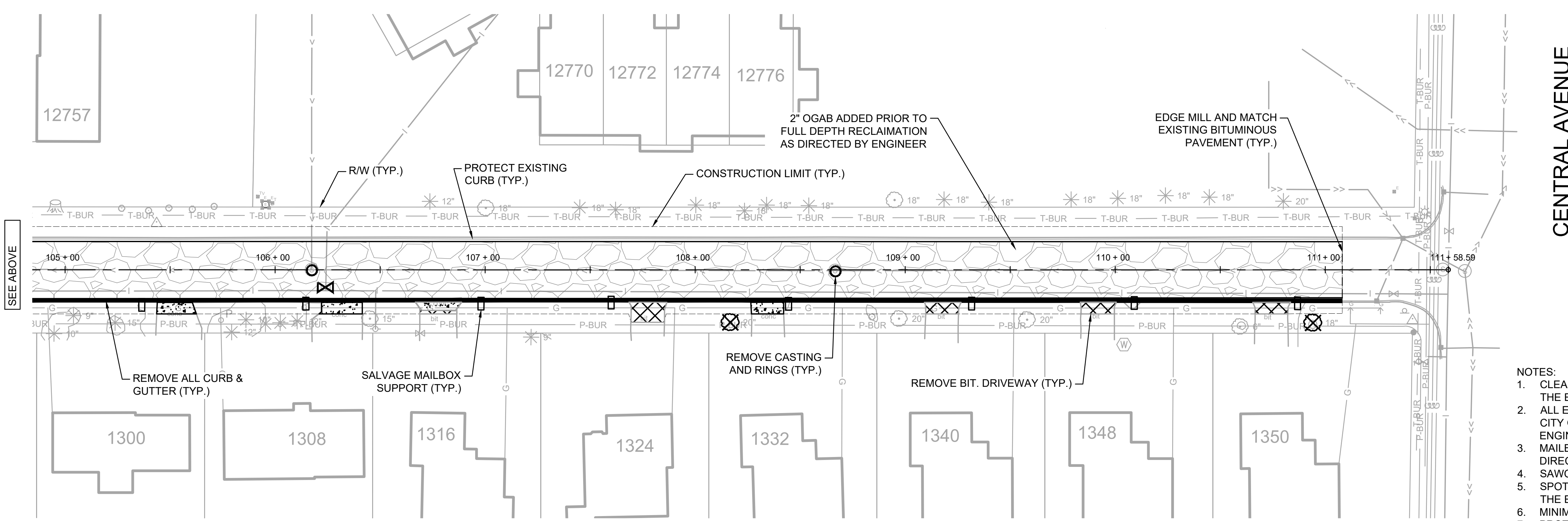
S.A.P. 106-141-003




## LEGEND

- REMOVE BITUMINOUS DRIVEWAY PAVEMENT
- REMOVE CONCRETE PAVEMENT
- FULL DEPTH RECLAMATION
- FULL DEPTH RECLAMATION W/ 2" OGAB ADDED
- REMOVE CONCRETE CURB AND GUTTER
- EDGE MILL BITUMINOUS PAVEMENT
- REMOVE STORM SEWER PIPE & STRUCTURE
- ADJUST GATE VALVE BOX
- REMOVE GATE VALVE AND BOX
- SALVAGE HYDRANT ASSEMBLY
- CLEAR & GRUB
- SALVAGE SIGN
- REMOVE CASTING AND RINGS
- SALVAGE MAILBOX SUPPORT

# 127TH LANE




# 127TH LANE

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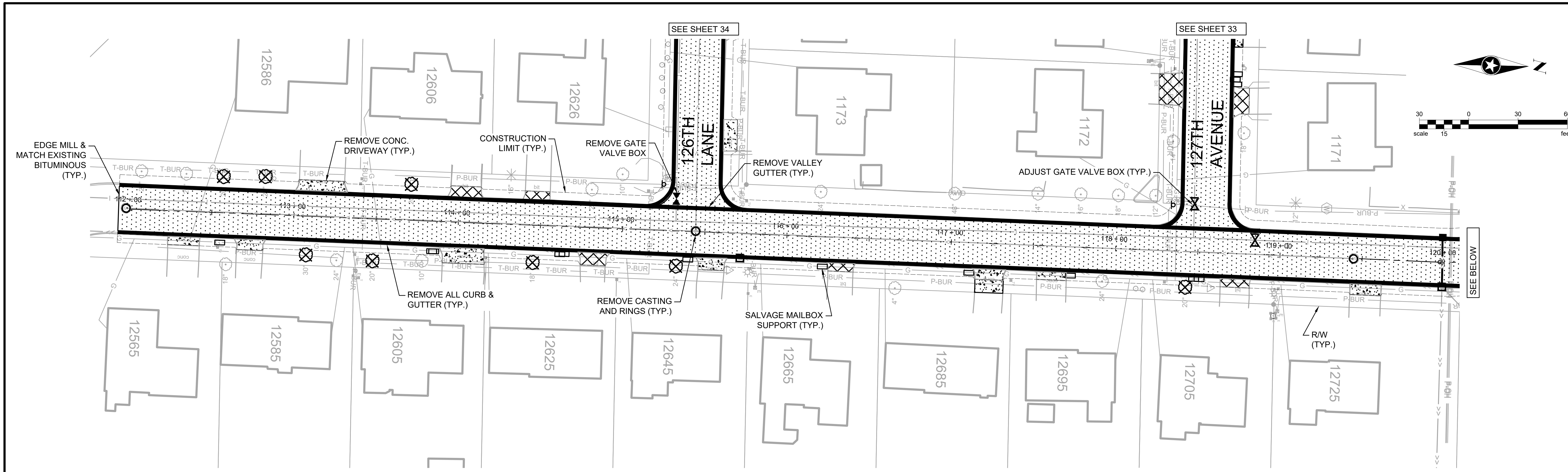
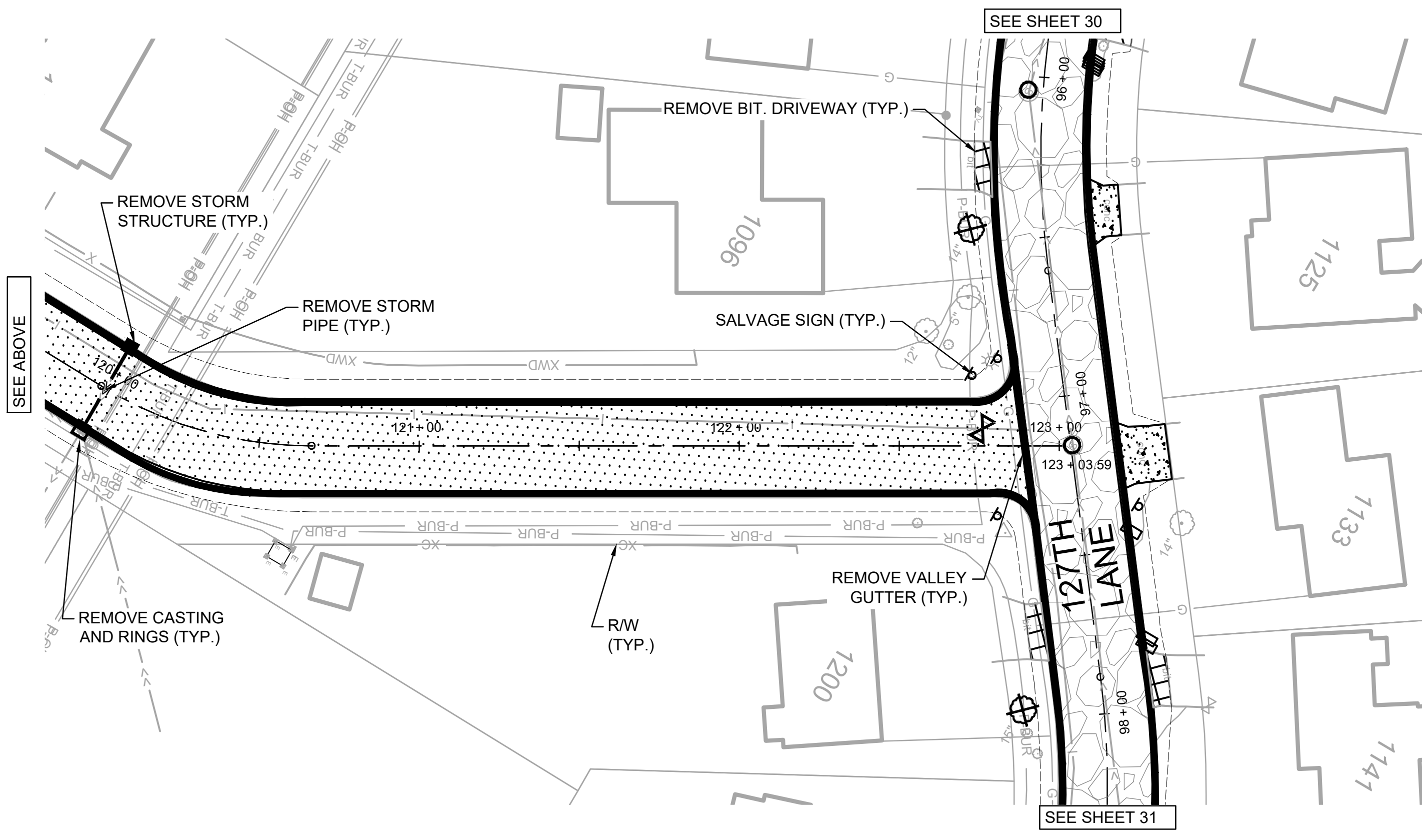



BUCHANAN STREET




BUCHANAN STREET

## LEGEND

- REMOVE BITUMINOUS DRIVEWAY PAVEMENT
- REMOVE CONCRETE PAVEMENT
- FULL DEPTH RECLAMATION
- FULL DEPTH RECLAMATION W/ 2" OGAB ADDED
- REMOVE CONCRETE CURB AND GUTTER
- EDGE MILL BITUMINOUS PAVEMENT
- REMOVE STORM SEWER PIPE & STRUCTURE
- ADJUST GATE VALVE BOX
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Greg F Anderson

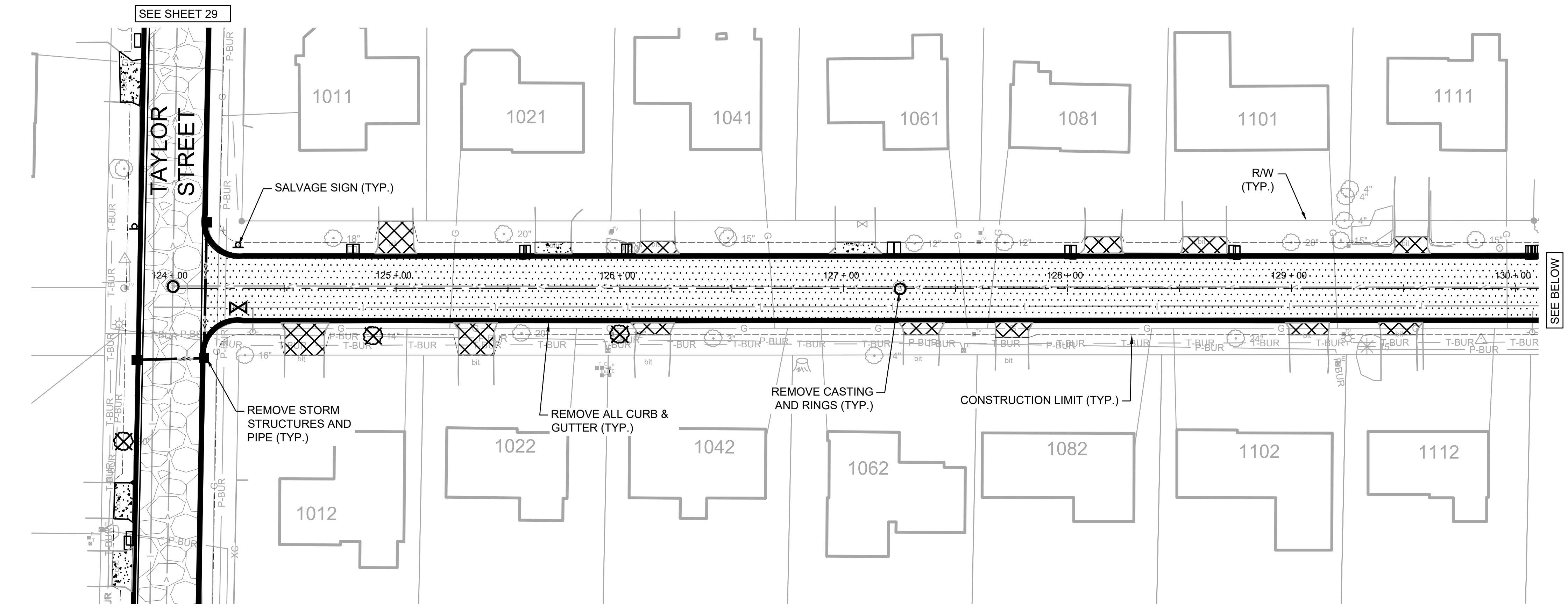
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

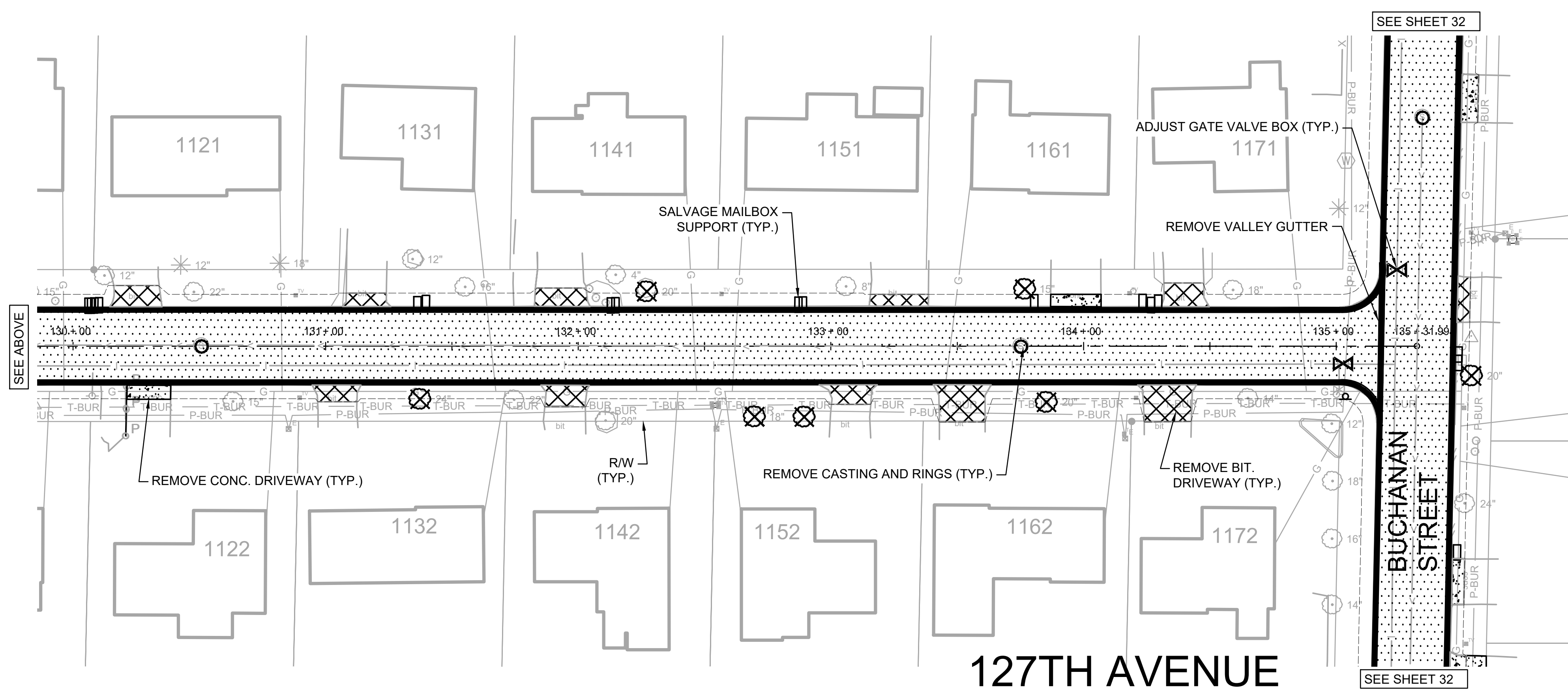
REMOVALS
BUCHANAN STREET
AREA 2

S.A.P. 106-141-003




# 127TH AVENUE

NOTES:
1. CLEARING AND GRUBBING WILL BE AS NEEDED AS DIRECTED IN THE FIELD BY THE ENGINEER.
2. ALL EXISTING STREET SIGNS AND OTHER SALVAGED ITEMS OWNED BY THE CITY OF BLAINE SHALL BE DELIVERED TO THE OWNER AS DIRECTED BY THE ENGINEER.
3. MAILBOXES TO BE SALVAGED AND REINSTALLED WILL BE AS NEEDED AS DIRECTED IN THE FIELD BY THE ENGINEER.
4. SAWCUTTING SIDEWALKS AND DRIVEWAYS ARE INCIDENTAL.
5. SPOT CONCRETE WALK AND CURB & GUTTER SHALL BE FIELD LOCATED BY THE ENGINEER.
6. MINIMUM CONCRETE REPLACEMENT LENGTH SHALL BE NO LESS THAN 4 FEET.
7. PROTECT ALL FACILITIES NOT SPECIFIED FOR REMOVAL.
8. CONTRACTOR SHALL CLEAN STREETS ON A DAILY BASIS DURING CONSTRUCTION HOURS UNLESS DIRECTED OTHERWISE BY ENGINEER.




# 127TH AVENUE

## LEGEND

- REMOVE BITUMINOUS DRIVEWAY PAVEMENT
- REMOVE CONCRETE PAVEMENT
- FULL DEPTH RECLAMATION
- FULL DEPTH RECLAMATION W/ 2" OGAB ADDED
- REMOVE CONCRETE CURB AND GUTTER
- EDGE MILL BITUMINOUS PAVEMENT
- REMOVE STORM SEWER PIPE & ST
- ADJUST GATE VALVE BOX
- REMOVE GATE VALVE AND BOX
- SALVAGE HYDRANT ASSEMBLY
- CLEAR & GRUB
- SALVAGE SIGN
- REMOVE CASTING AND RINGS
- SALVAGE MAILBOX SUPPORT

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|---|---|---|---|---|---|---|---|
| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

SEH

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 MN.

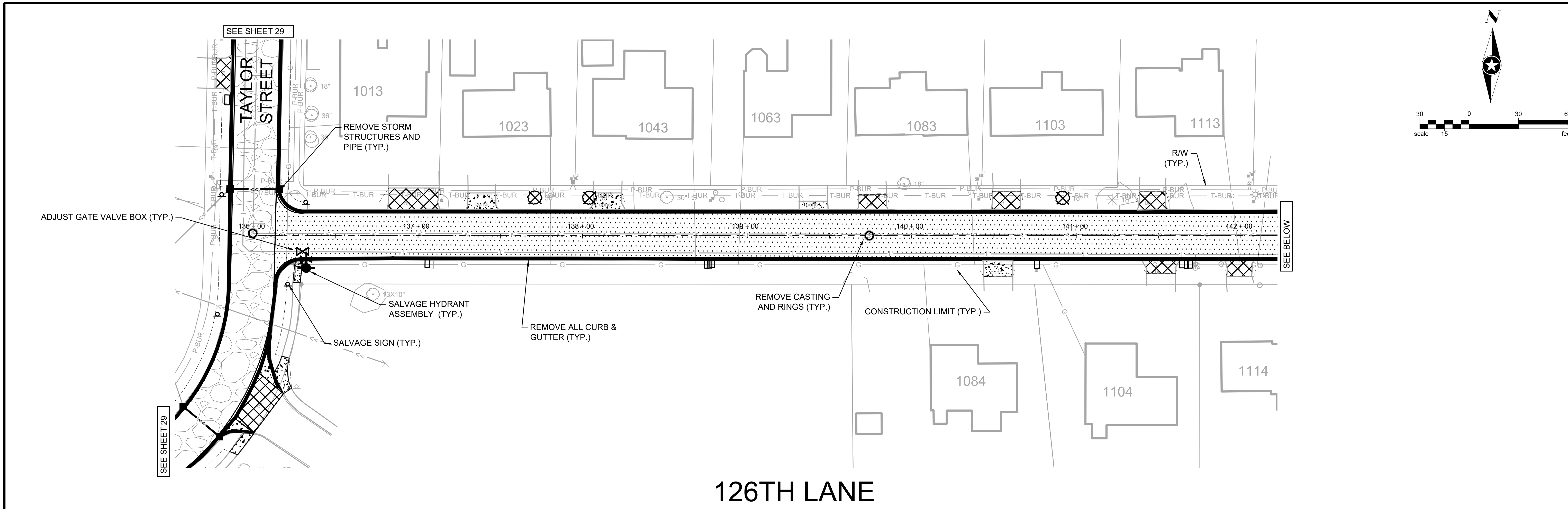
Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

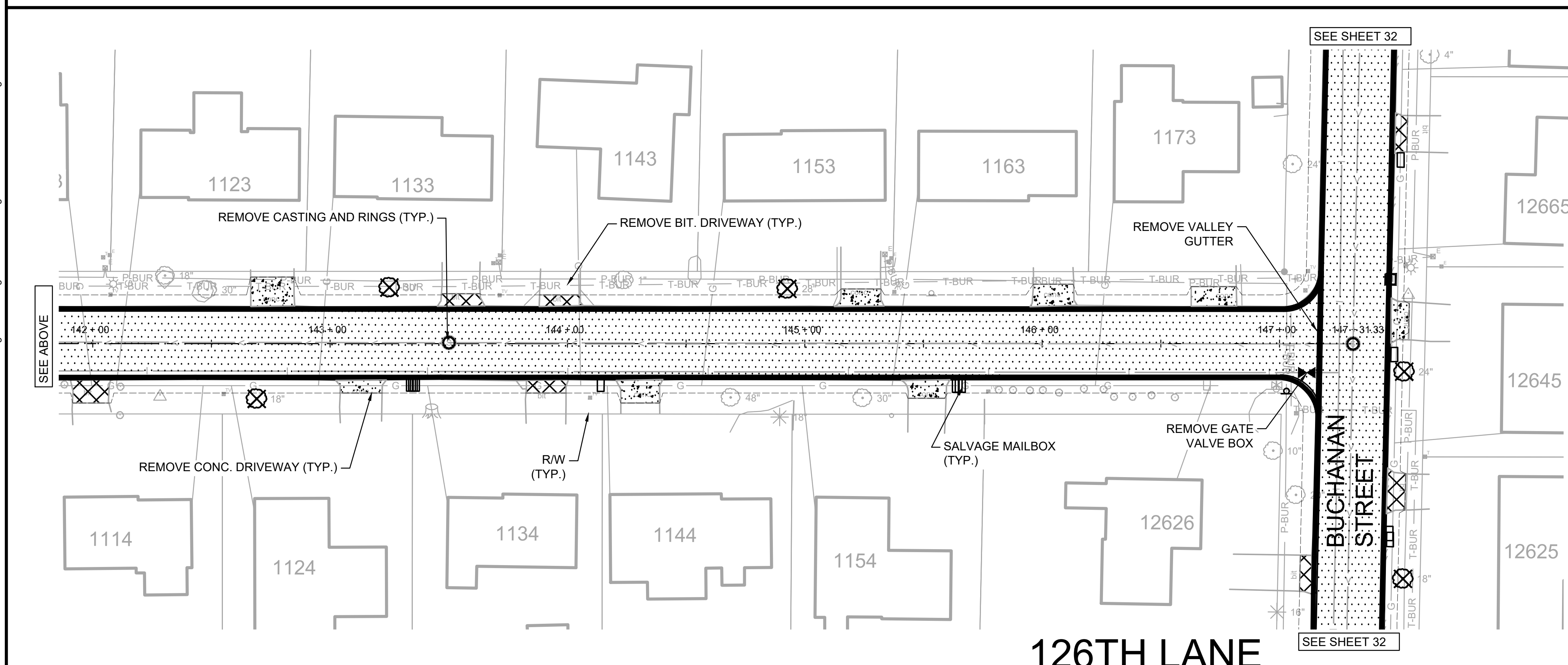
2022 STREET RECONSTRUCTION

BLAINE, MN

REMOVALS
127TH AVENUE
AREA 2

S.A.P. 106-141-003




## LEGEND

- REMOVE BITUMINOUS DRIVEWAY PAVEMENT
- REMOVE CONCRETE PAVEMENT
- FULL DEPTH RECLAMATION
- FULL DEPTH RECLAMATION W/ 2" OGAB ADDED
- REMOVE CONCRETE CURB AND GUTTER
- EDGE MILL BITUMINOUS PAVEMENT
- REMOVE STORM SEWER PIPE & ST
- ADJUST GATE VALVE BOX
- REMOVE GATE VALVE AND BOX
- SALVAGE HYDRANT ASSEMBLY
- CLEAR & GRUB
- SALVAGE SIGN
- REMOVE CASTING AND RINGS
- SALVAGE MAILBOX SUPPORT

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| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

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Greg F Anderson

DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

REMOVALS
126TH LANE
AREA 2

S.A.P. 106-141-003



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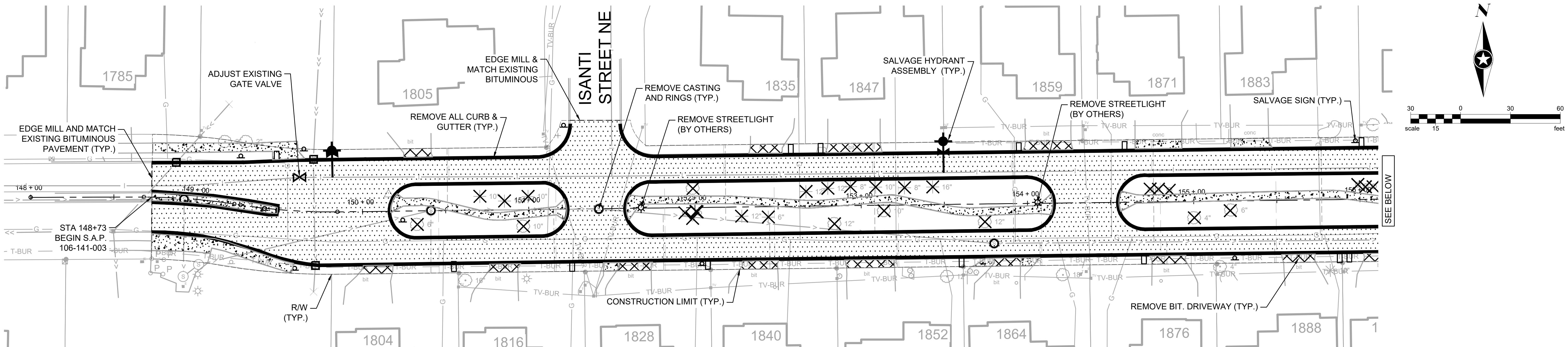
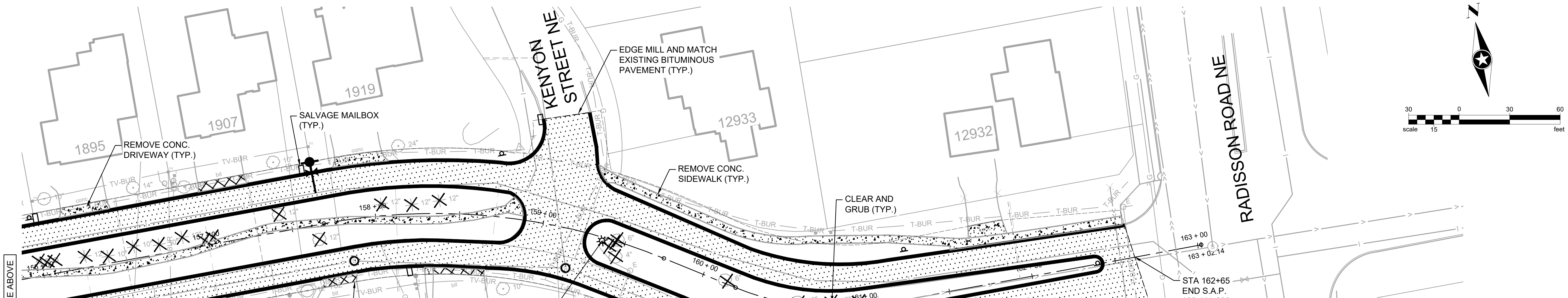



# 129TH AVENUE

## LEGEND

| | |
|---|---|
| REMOVE BITUMINOUS DRIVEWAY PAVEMENT | REMOVE STORM SEWER PIPE & ST |
| REMOVE CONCRETE PAVEMENT | ADJUST GATE VALVE BOX |
| FULL DEPTH RECLAMATION | REMOVE GATE VALVE AND BOX |
| FULL DEPTH RECLAMATION W/ 2" OGAB ADDED | SALVAGE HYDRANT ASSEMBLY |
| REMOVE CONCRETE CURB AND GUTTER | CLEAR & GRUB |
| EDGE MILL BITUMINOUS PAVEMENT | SALVAGE SIGN |
| | REMOVE CASTING AND RINGS |
| | SALVAGE MAILBOX SUPPORT |

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# 129TH AVENUE

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|---|---|---|---|---|---|---|
| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

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Greg F Anderson

DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

REMOVALS
129TH AVENUE
AREA 3

S.A.P. 106-141-003

LEGEND

- BITUMINOUS PAVEMENT
- BITUMINOUS DRIVEWAY PAVEMENT
- 6" CONCRETE DRIVEWAY PAVEMENT
- 4" CONCRETE SIDEWALK
- 6" CONCRETE SIDEWALK
- TRUNCATED DOMES
- SUPER ELEVATION GRADING
- B618 CONCRETE CURB & GUTTER
- INSTALL SAN. FRAME & RING CASTING
- INSTALL STORM FRAME & RING CASTING
- CONSTRUCT DRAINAGE STRUCTURE
- ADJUST VALVE BOX
- GATE VALVE & BOX
- INSTALL SALVAGED HYDRANT ASSEMBLY
- STORM PIPE CLEANING
- INSTALL STORM SEWER PIPE

NOTES:

1. CONTRACTOR TO VERIFY ALL UTILITY ELEVATIONS AND PIPE SIZES PRIOR TO BEGINNING UTILITY WORK.
2. PROTECT ALL FACILITIES NOT SPECIFIED FOR REMOVAL.
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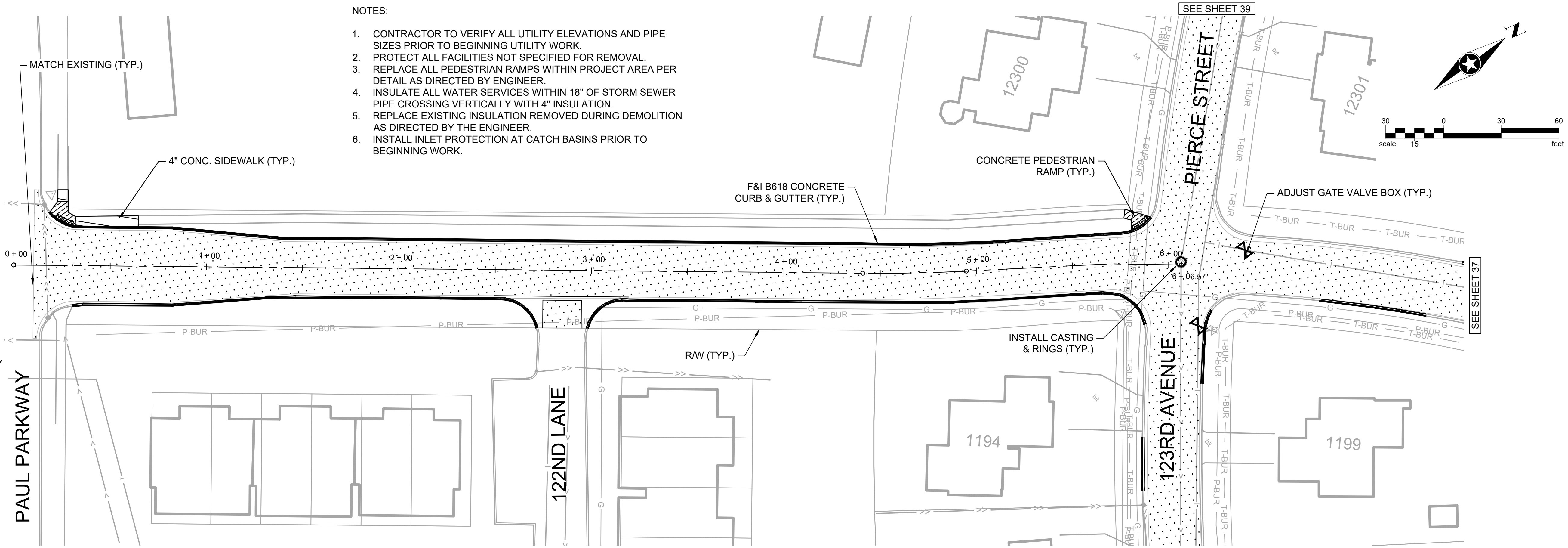
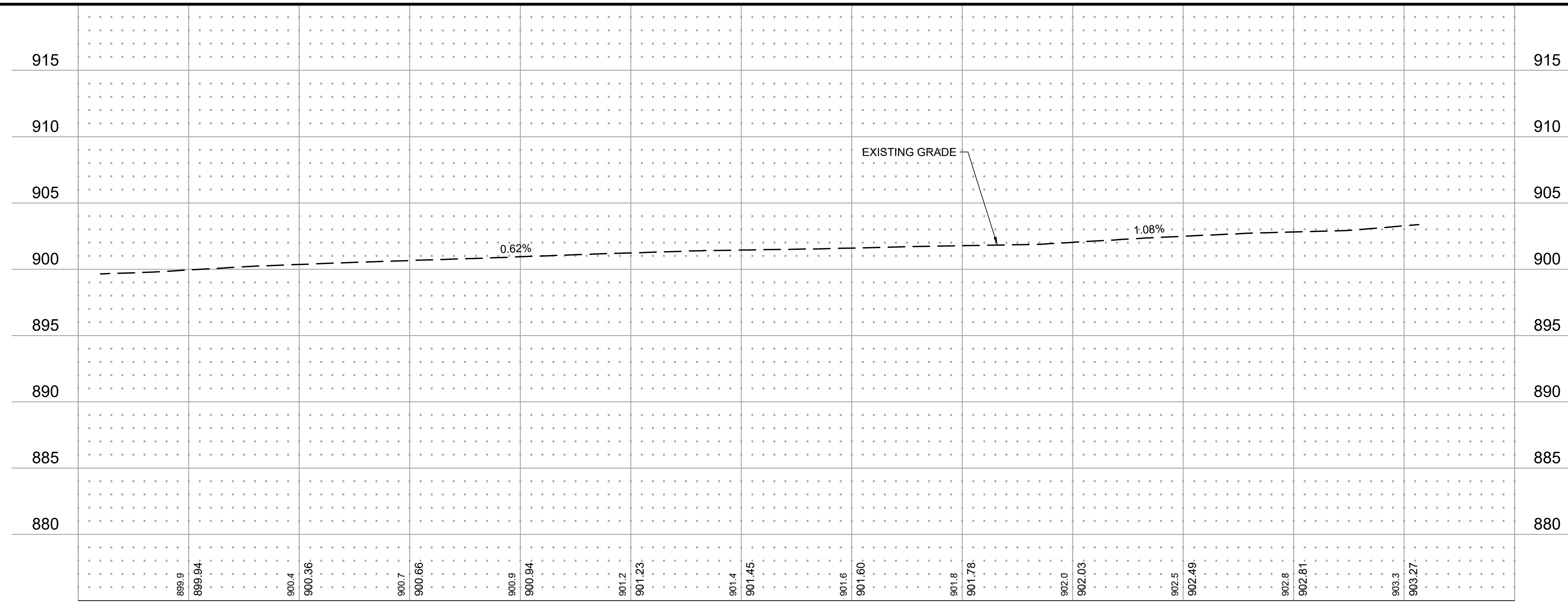
5. REPLACE EXISTING INSULATION REMOVED DURING DEMOLITION AS DIRECTED BY THE ENGINEER.
6. INSTALL INLET PROTECTION AT CATCH BASINS PRIOR TO BEGINNING WORK.




# BUCHANAN STREET

BENCHMARK EL. 905.82
TNH NE QUAD OF 123RD AVE. & BUCHANAN ST. INT.

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|---|---|---|---|---|---|---|---|
| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

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Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

CONSTRUCTION PLAN
BUCHANAN STREET
AREA 1

S.A.P. 106-141-003

NOTES:

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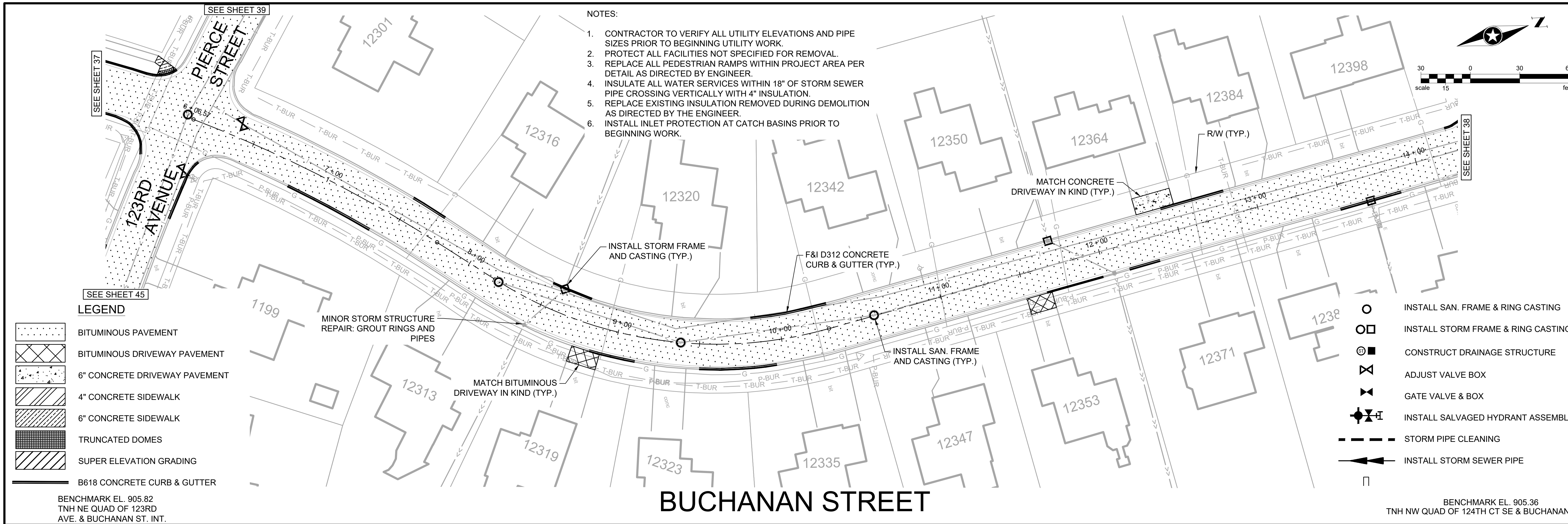
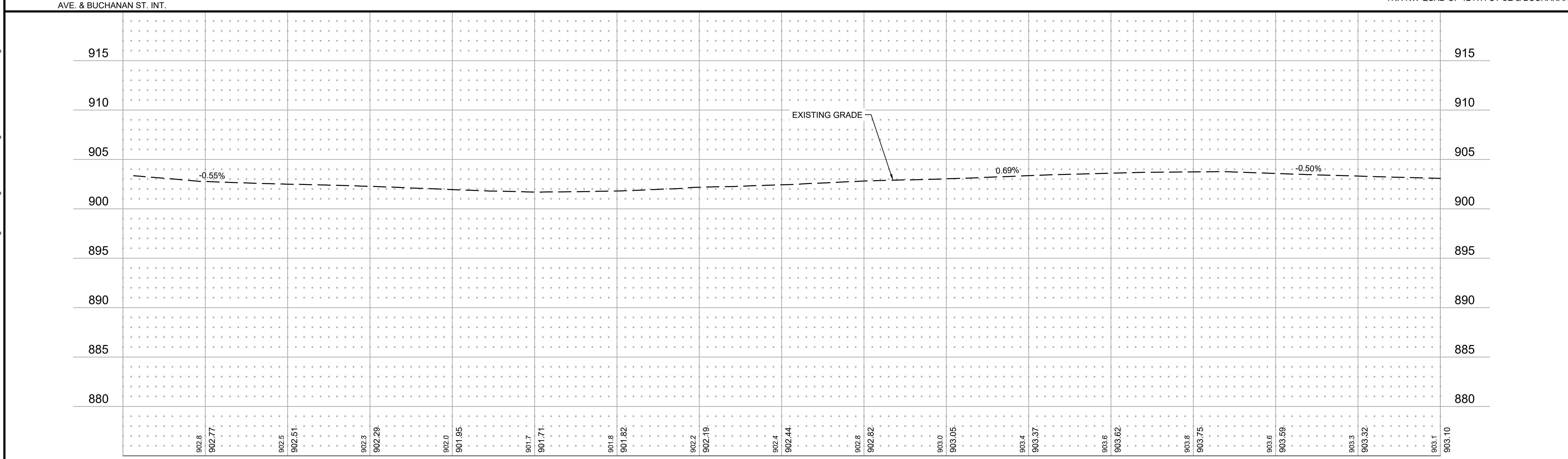



LEGEND

- BITUMINOUS PAVEMENT
- BITUMINOUS DRIVEWAY PAVEMENT
- 6" CONCRETE DRIVEWAY PAVEMENT
- 4" CONCRETE SIDEWALK
- 6" CONCRETE SIDEWALK
- TRUNCATED DOMES
- SUPER ELEVATION GRADING
- B618 CONCRETE CURB & GUTTER
- INSTALL SAN. FRAME & RING CASTING
- INSTALL STORM FRAME & RING CASTING
- CONSTRUCT DRAINAGE STRUCTURE
- ADJUST VALVE BOX
- GATE VALVE & BOX
- INSTALL SALVAGED HYDRANT ASSEMBLY
- STORM PIPE CLEANING
- INSTALL STORM SEWER PIPE

BENCHMARK EL. 905.82
TNH NE QUAD OF 123RD AVE. & BUCHANAN ST. INT.

BENCHMARK EL. 905.36
TNH NW QUAD OF 124TH CT SE & BUCHANAN ST

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| Drawn By | NMB, HC, EN | Rev.# | Revision Issue Description | Date | |
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Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION
BLAINE, MN

CONSTRUCTION PLAN
BUCHANAN STREET
AREA 1

S.A.P. 106-141-003

NOTES:

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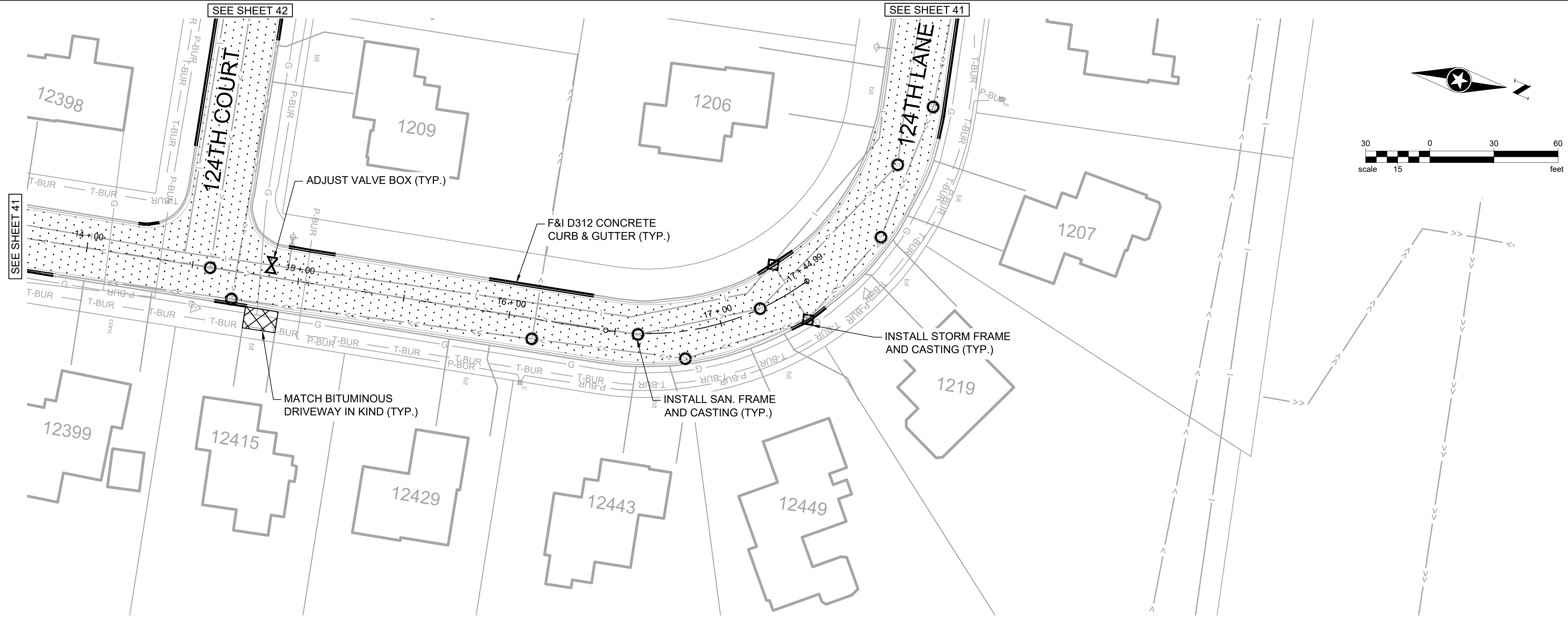
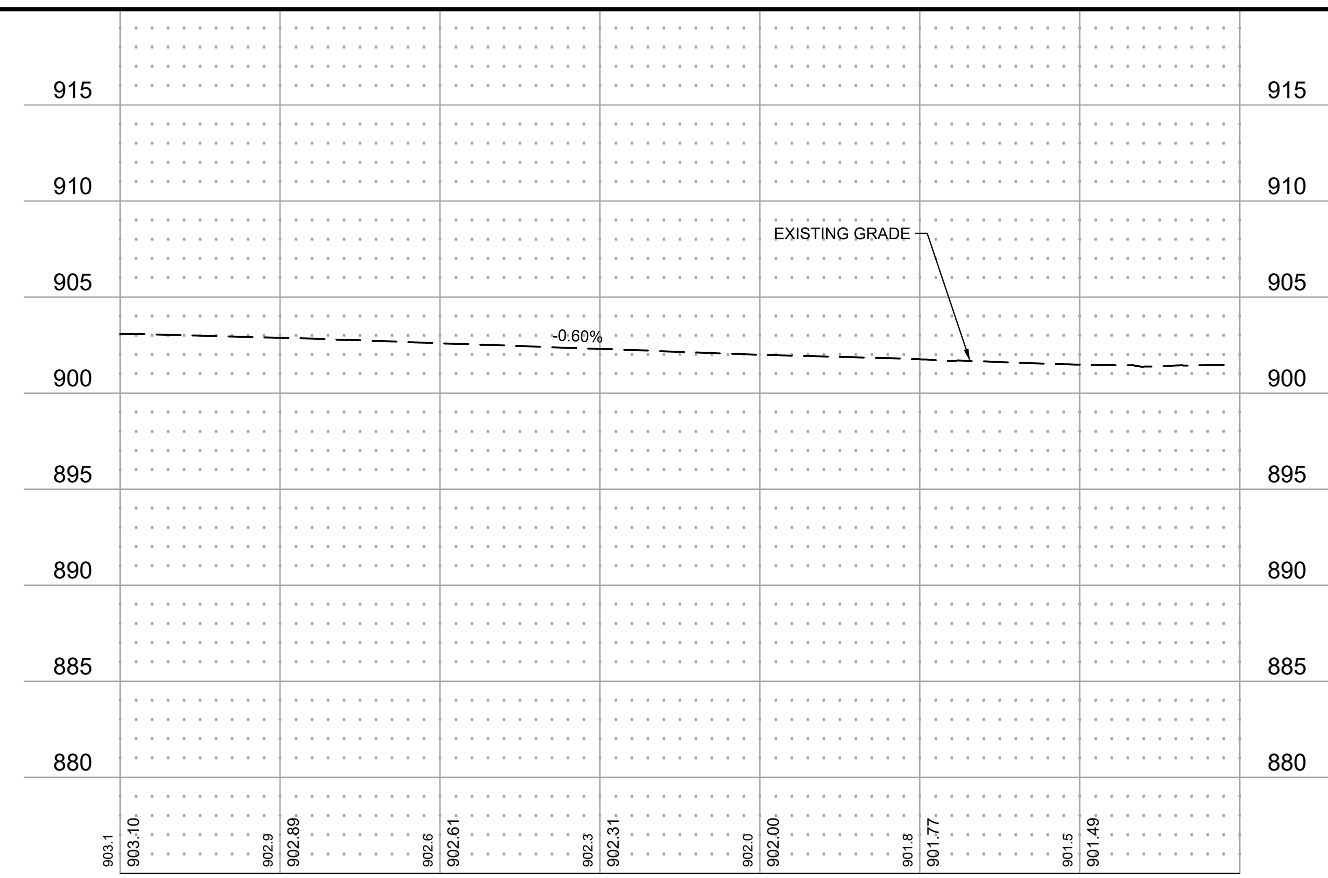



BENCHMARK EL. 905.36
TNH NW QUAD OF 124TH CT SE & BUCHANAN ST

# BUCHANAN STREET

BENCHMARK EL. 904.84
TNH AT 33+20 & 20 R ON 124TH LN




LEGEND

- BITUMINOUS PAVEMENT
- BITUMINOUS DRIVEWAY PAVEMENT
- 6" CONCRETE DRIVEWAY PAVEMENT
- 4" CONCRETE SIDEWALK
- 6" CONCRETE SIDEWALK
- TRUNCATED DOMES
- SUPER ELEVATION GRADING
- B618 CONCRETE CURB & GUTTER
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- INSTALL SALVAGED HYDRANT ASSEMBLY
- STORM PIPE CLEANING
- INSTALL STORM SEWER PIPE

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| SEH Project | 165899 |
|---|---|
| Drawn By | NMB, HC, EN |
| Designed By | DJC |
| Checked By | GFA |

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Greg F Anderson

DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

CONSTRUCTION PLAN
BUCHANAN STREET
AREA 1

S.A.P. 106-141-003

NOTES:

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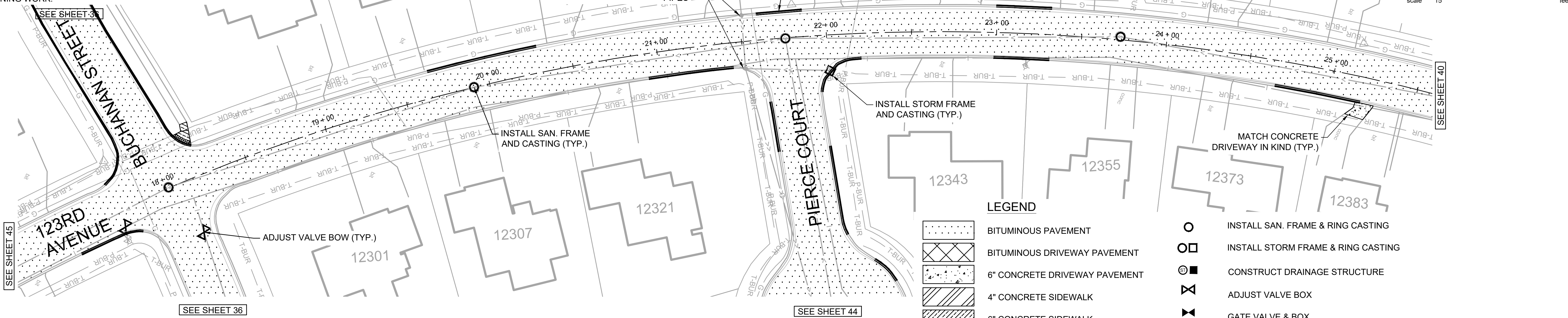


## LEGEND

| | |
|---|---|
| | BITUMINOUS PAVEMENT |
| | BITUMINOUS DRIVEWAY PAVEMENT |
| | 6" CONCRETE DRIVEWAY PAVEMENT |
| | 4" CONCRETE SIDEWALK |
| | 6" CONCRETE SIDEWALK |
| | TRUNCATED DOMES |
| | SUPER ELEVATION GRADING |
| | B618 CONCRETE CURB & GUTTER |
| | INSTALL SAN. FRAME & RING CASTING |
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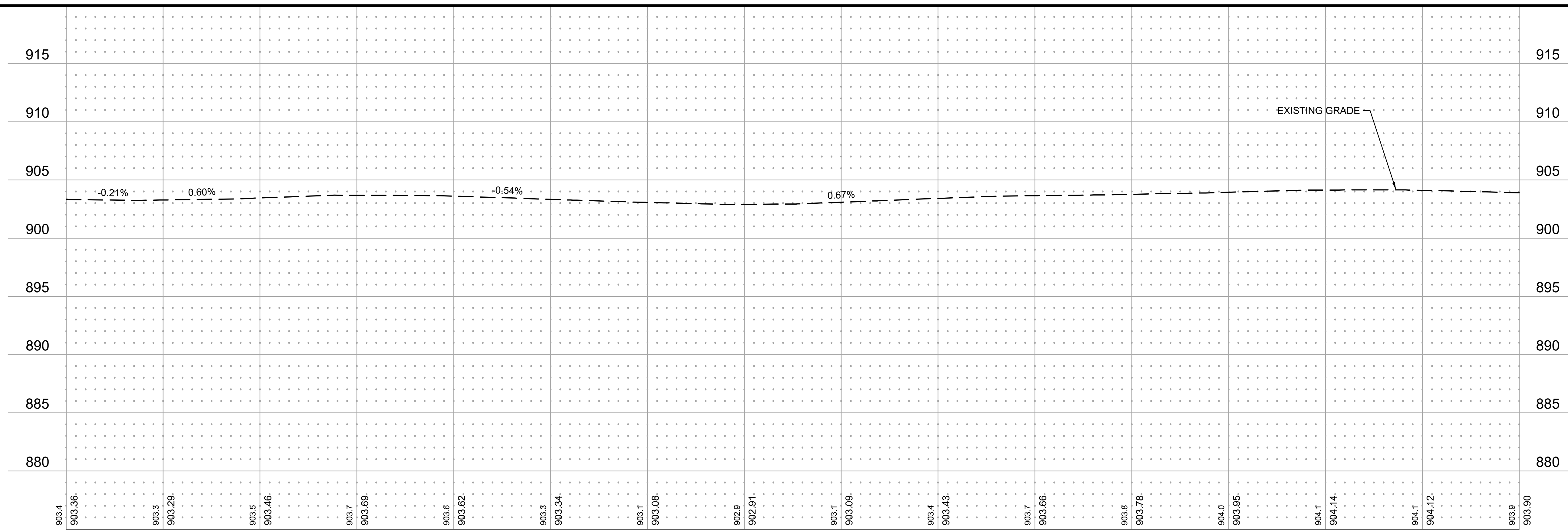
| | CONSTRUCT DRAINAGE STRUCTURE |
| | ADJUST VALVE BOX |
| | GATE VALVE & BOX |
| | INSTALL SALVAGED HYDRANT ASSEMBLY |
| | STORM PIPE CLEANING |

BENCHMARK EL. 905.82
TNH E QUAD OF 123RD AVE & BUCHANAN ST

# PIERCE STREET

BENCHMARK EL. 906.34
TNH AT 23+16 & 19 R ON PIERCE STREET

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| Designed By | DJC | | | |
| Checked By | GFA | | | |

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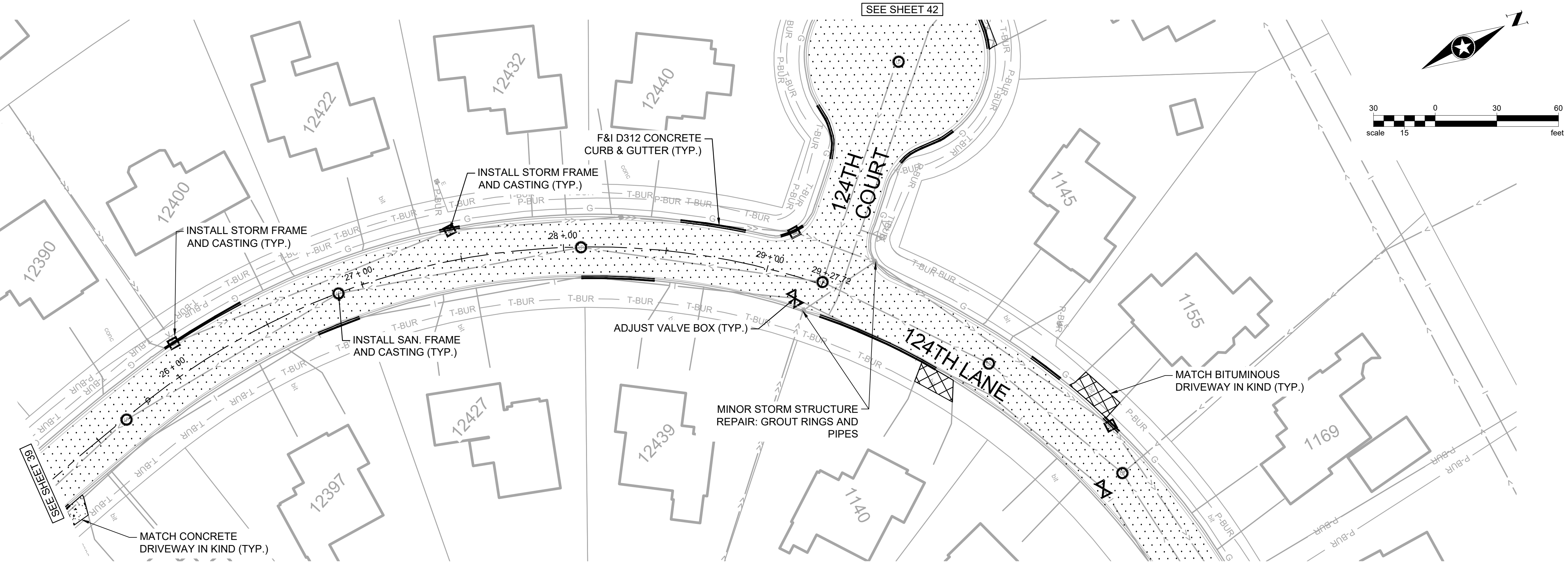
Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

SEH

2022 STREET RECONSTRUCTION
BLAINE, MN

CONSTRUCTION PLAN
PIERCE STREET
AREA 1

S.A.P. 106-141-003

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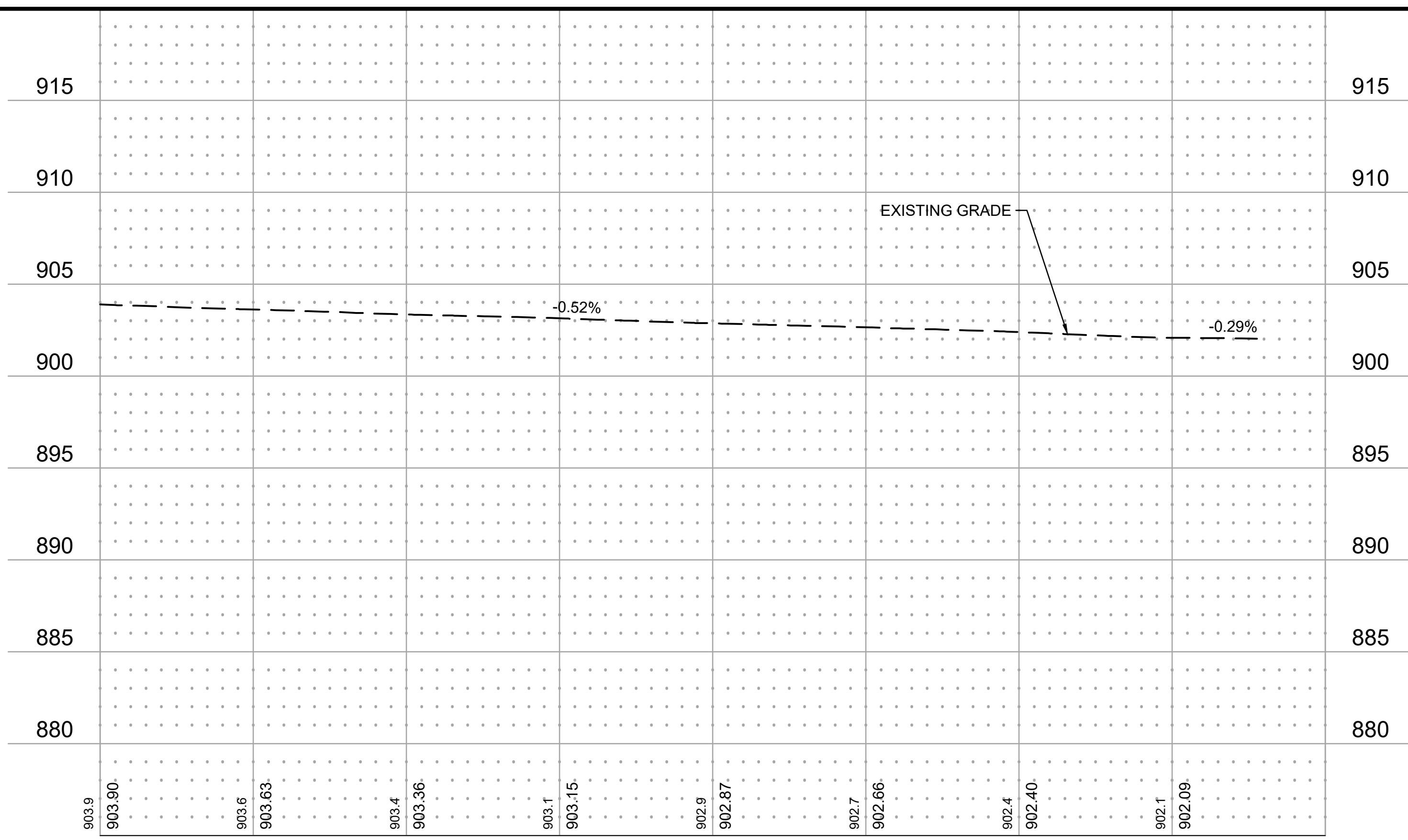
BENCHMARK EL. 906.34
TNH AT 23+16 & 19 R ON PIERCE ST

# PIERCE STREET

BENCHMARK EL. 905.36
TNH N QUAD OF 124TH CT NW & 124TH LN




LEGEND

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- BITUMINOUS DRIVEWAY PAVEMENT
- 6" CONCRETE DRIVEWAY PAVEMENT
- 4" CONCRETE SIDEWALK
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- INSTALL SAN. FRAME & RING CASTING
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- CONSTRUCT DRAINAGE STRUCTURE
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- GATE VALVE & BOX
- INSTALL SALVAGED HYDRANT ASSEMBLY
- STORM PIPE CLEANING
- INSTALL STORM SEWER PIPE



| | |
|---|---|
| SEH Project | 165899 |
| Drawn By | NMB, HC, EN |
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Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION
BLAINE, MN

CONSTRUCTION PLAN
PIERCE STREET
AREA 1

S.A.P. 106-141-003

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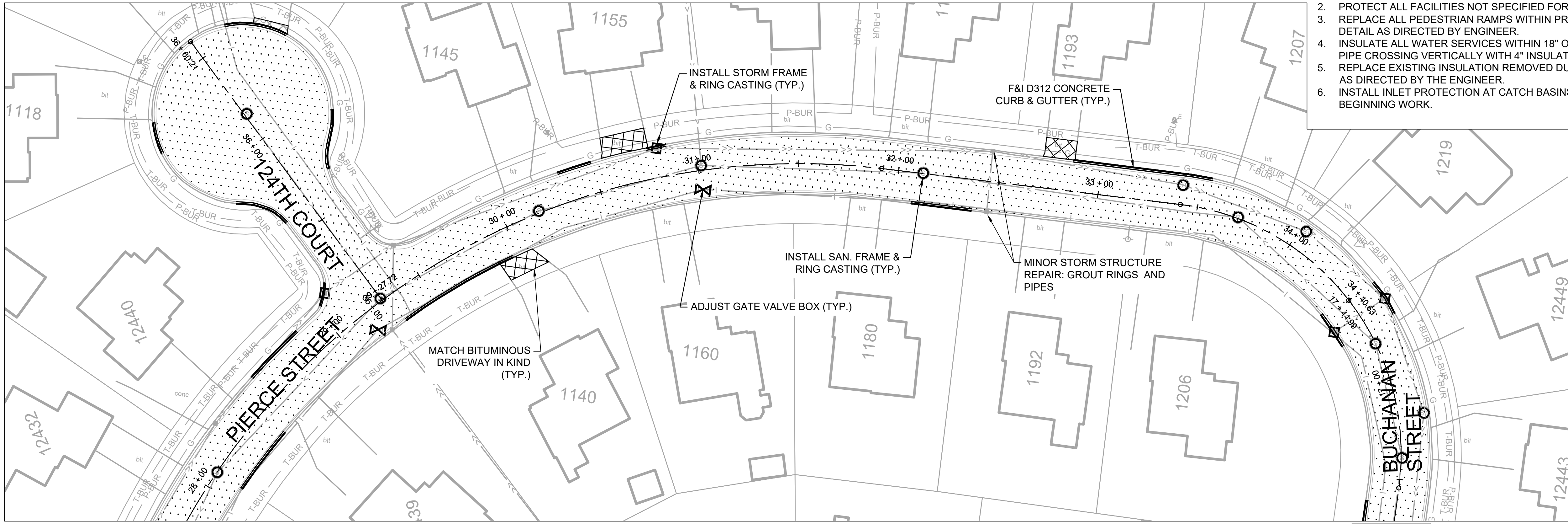


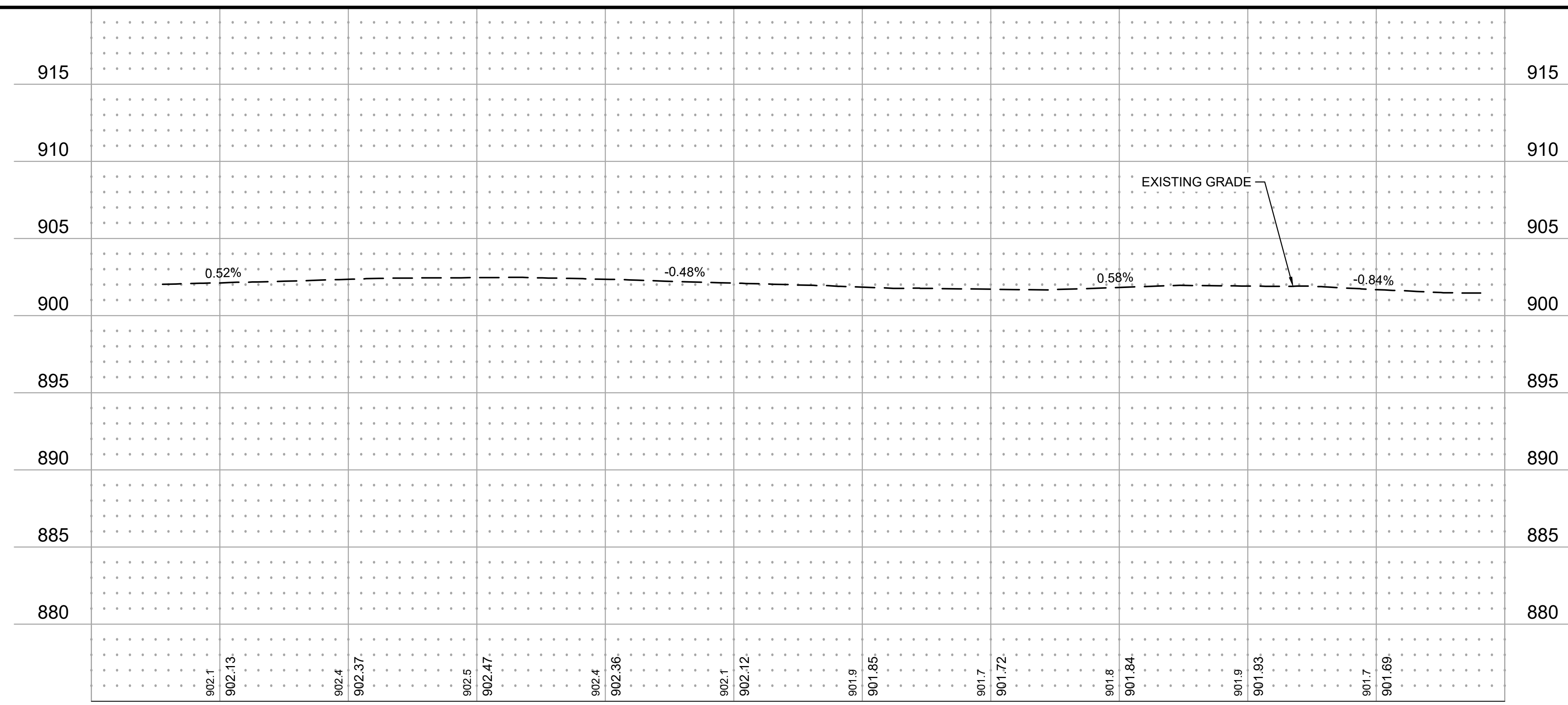

N

30 0 30 60
scale 15 feet

BENCHMARK EL. 905.36
TNH N QUAD OF 124TH CT NW & 124TH LN

# 124TH LANE

BENCHMARK EL. 904.84
TNH AT 33+20 & 20 R ON 124TH LN




## LEGEND

- BITUMINOUS PAVEMENT
- BITUMINOUS DRIVEWAY PAVEMENT
- 6" CONCRETE DRIVEWAY PAVEMENT
- 4" CONCRETE SIDEWALK
- 6" CONCRETE SIDEWALK
- TRUNCATED DOMES
- SUPER ELEVATION GRADING
- B618 CONCRETE CURB & GUTTER
- INSTALL SAN. FRAME & RING CASTING
- INSTALL STORM FRAME & RING CASTING
- CONSTRUCT DRAINAGE STRUCTURE
- ADJUST VALVE BOX
- GATE VALVE & BOX
- INSTALL SALVAGED HYDRANT ASSEMBLY
- STORM PIPE CLEANING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|---|---|
| SEH Project | 165899 |
| Drawn By | NMB, HC, EN |
| Designed By | DJC |
| Checked By | GFA |

| Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
|---|---|---|---|---|---|

SEH

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 MN.

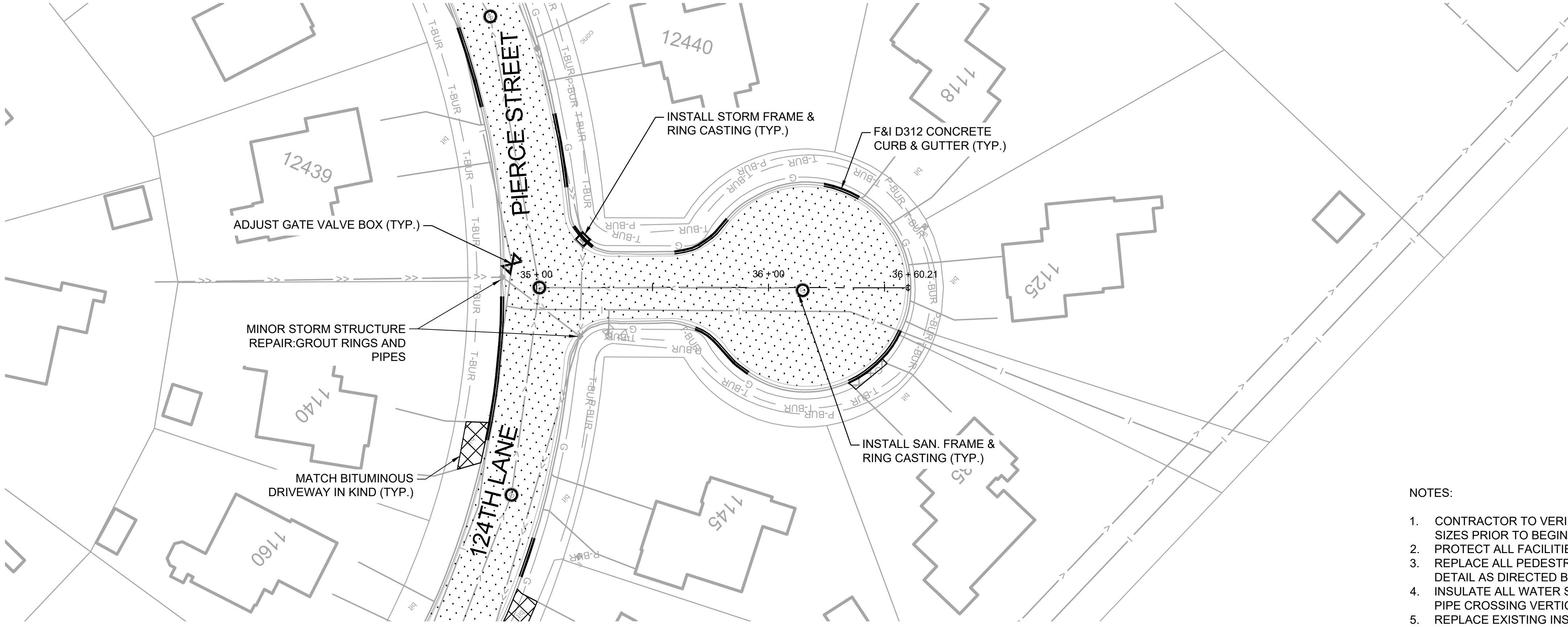
Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

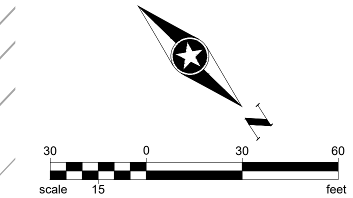

2022 STREET RECONSTRUCTION

BLAINE, MN

CONSTRUCTION PLAN
124TH LANE
AREA 1

S.A.P. 106-141-003



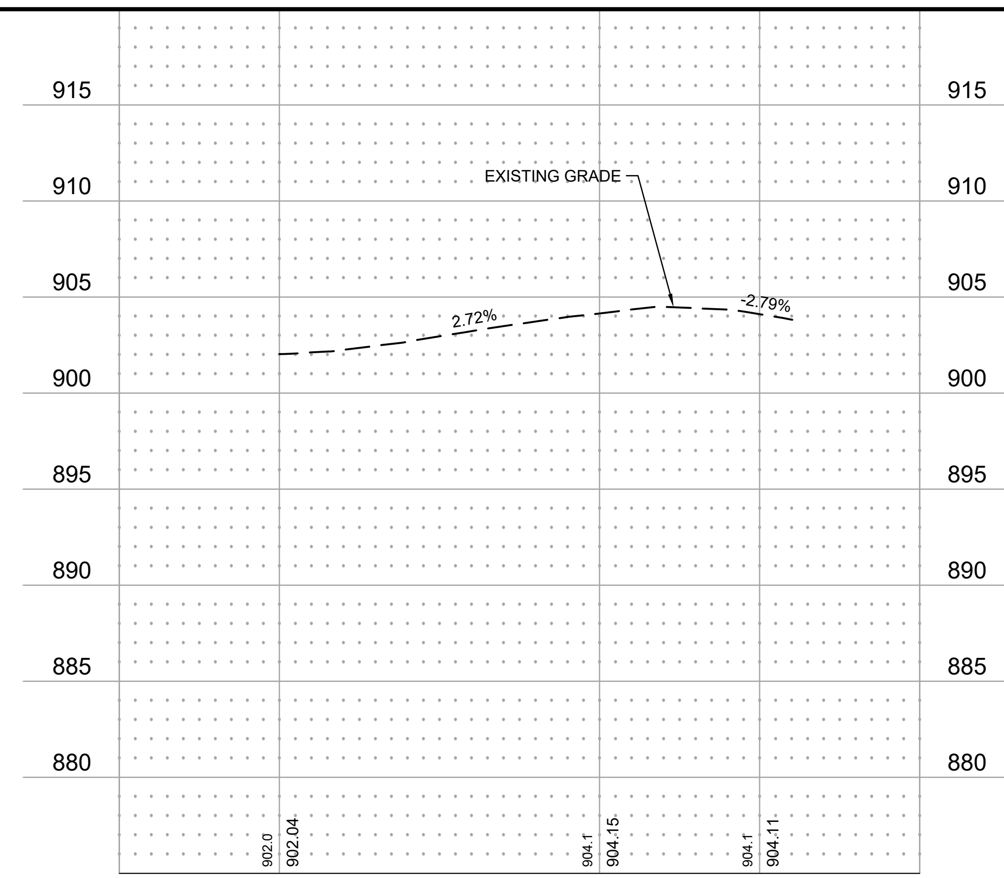




# 124TH COURT

BENCHMARK EL. 905.36
TNH N QUAD OF 124TH CT NW & 124TH LN

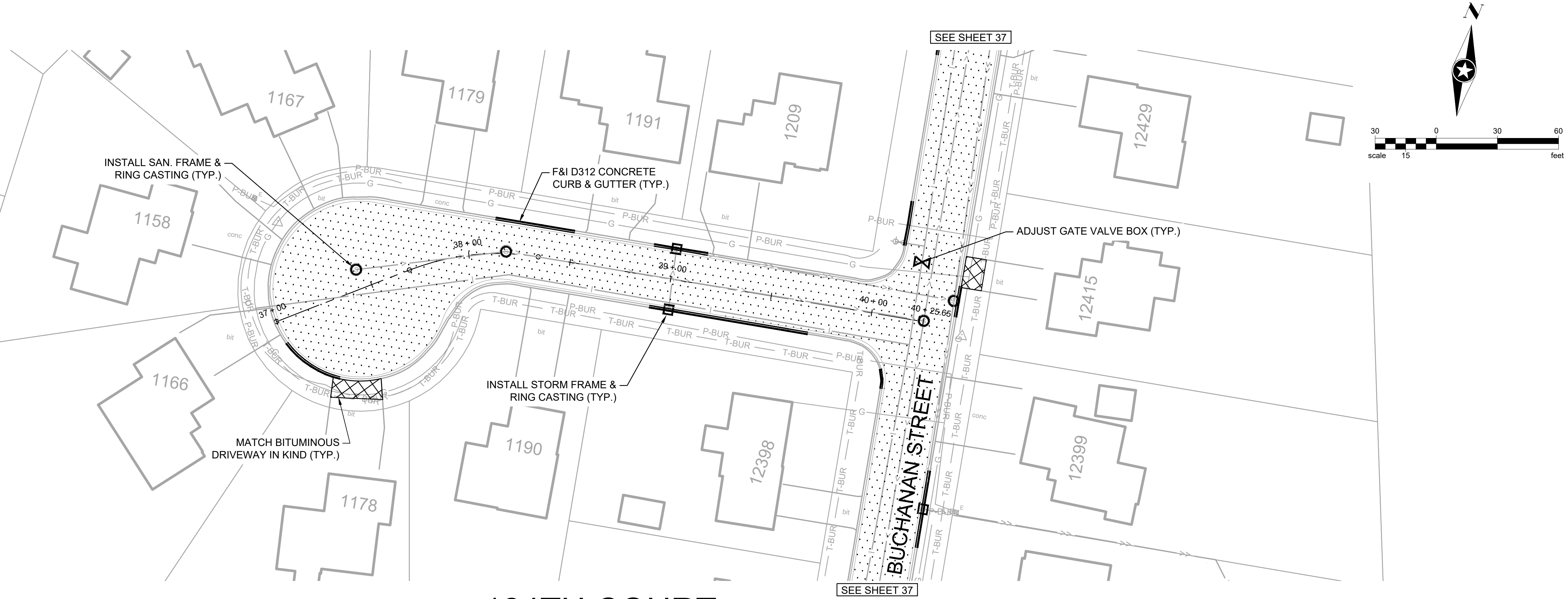
NOTES:

1. CONTRACTOR TO VERIFY ALL UTILITY ELEVATIONS AND PIPE SIZES PRIOR TO BEGINNING UTILITY WORK.
2. PROTECT ALL FACILITIES NOT SPECIFIED FOR REMOVAL.
3. REPLACE ALL PEDESTRIAN RAMPS WITHIN PROJECT AREA PER DETAIL AS DIRECTED BY ENGINEER.
4. INSULATE ALL WATER SERVICES WITHIN 18" OF STORM SEWER PIPE CROSSING VERTICALLY WITH 4" INSULATION.
5. REPLACE EXISTING INSULATION REMOVED DURING DEMOLITION AS DIRECTED BY THE ENGINEER.
6. INSTALL INLET PROTECTION AT CATCH BASINS PRIOR TO BEGINNING WORK.




## LEGEND

- BITUMINOUS PAVEMENT
- BITUMINOUS DRIVEWAY PAVEMENT
- 6" CONCRETE DRIVEWAY PAVEMENT
- 4" CONCRETE SIDEWALK
- 6" CONCRETE SIDEWALK
- TRUNCATED DOMES
- SUPER ELEVATION GRADING
- B618 CONCRETE CURB & GUTTER
- INSTALL SAN. FRAME & RING CASTING
- INSTALL STORM FRAME & RING CASTING
- CONSTRUCT DRAINAGE STRUCTURE
- ADJUST VALVE BOX
- GATE VALVE & BOX
- INSTALL SALVAGED HYDRANT ASSEMBLY
- STORM PIPE CLEANING
- INSTALL STORM SEWER PIPE

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6. INSTALL INLET PROTECTION AT CATCH BASINS PRIOR TO BEGINNING WORK.

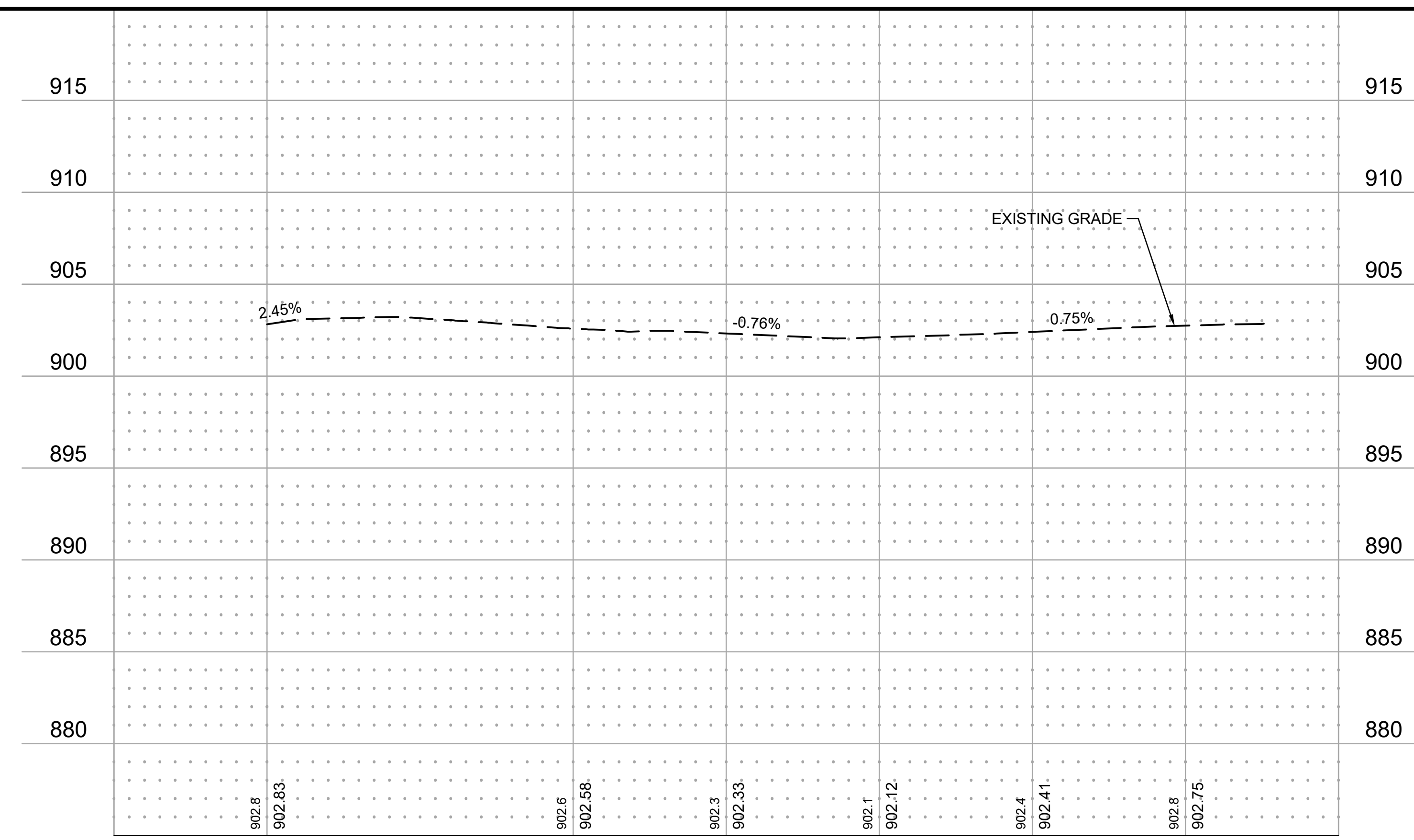
BENCHMARK EL. 905.80
TNH AT END OF CUL-DE- SAC ON 124TH CT SE

# 124TH COURT

BENCHMARK EL. 905.36
TNH NW QUAD OF 124TH CT SE & BUCHANAN ST

LEGEND

- BITUMINOUS PAVEMENT
- BITUMINOUS DRIVEWAY PAVEMENT
- 6" CONCRETE DRIVEWAY PAVEMENT
- 4" CONCRETE SIDEWALK
- 6" CONCRETE SIDEWALK
- TRUNCATED DOMES
- SUPER ELEVATION GRADING
- B618 CONCRETE CURB & GUTTER
- INSTALL SAN. FRAME & RING CASTING
- INSTALL STORM FRAME & RING CASTING
- CONSTRUCT DRAINAGE STRUCTURE
- ADJUST VALVE BOX
- GATE VALVE & BOX
- INSTALL SALVAGED HYDRANT ASSEMBLY
- STORM PIPE CLEANING
- INSTALL STORM SEWER PIPE

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|---|---|---|---|---|---|---|---|
| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

SEH

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Greg F Anderson

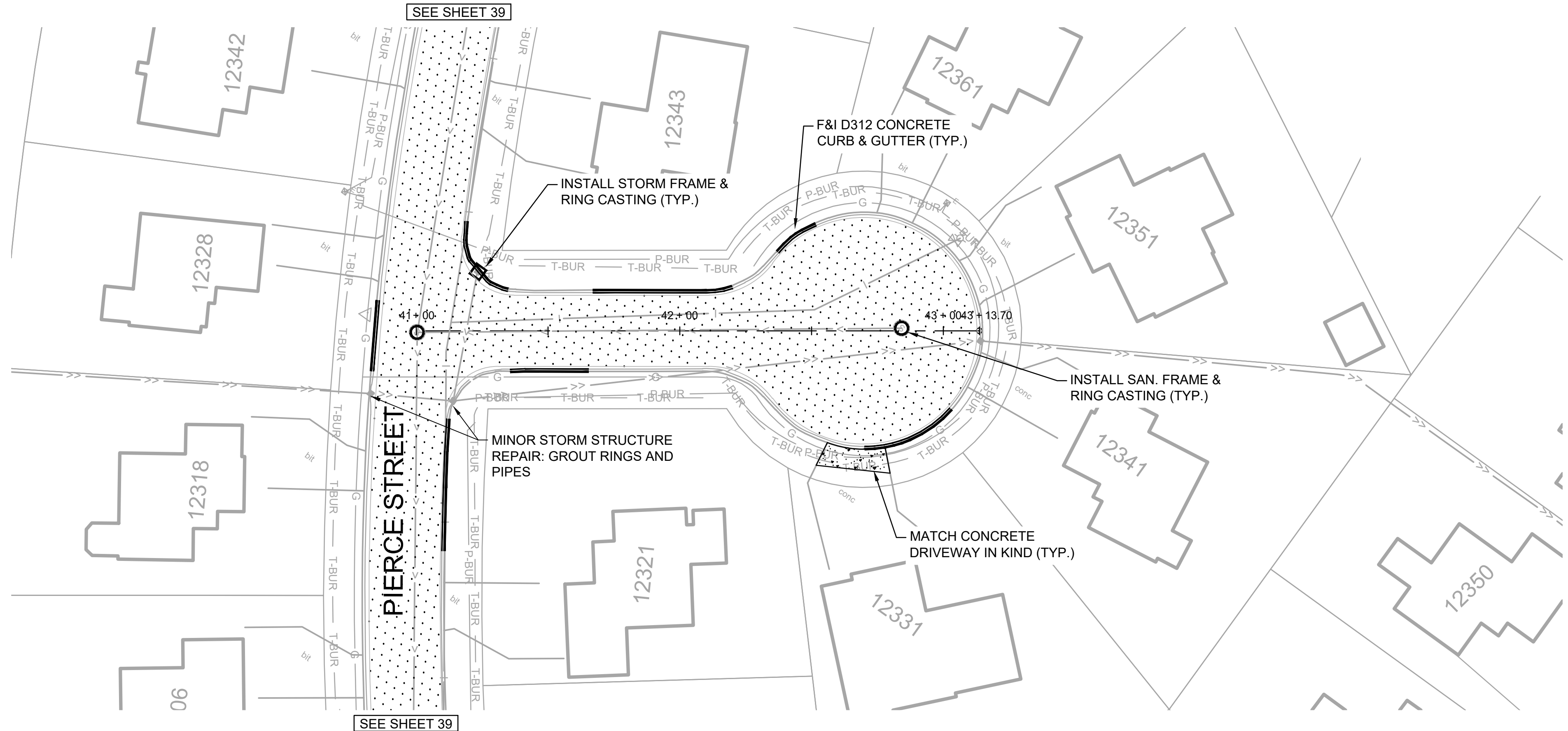
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

CONSTRUCTION PLAN
124TH COURT SE
AREA 1

S.A.P. 106-141-003




NOTES:

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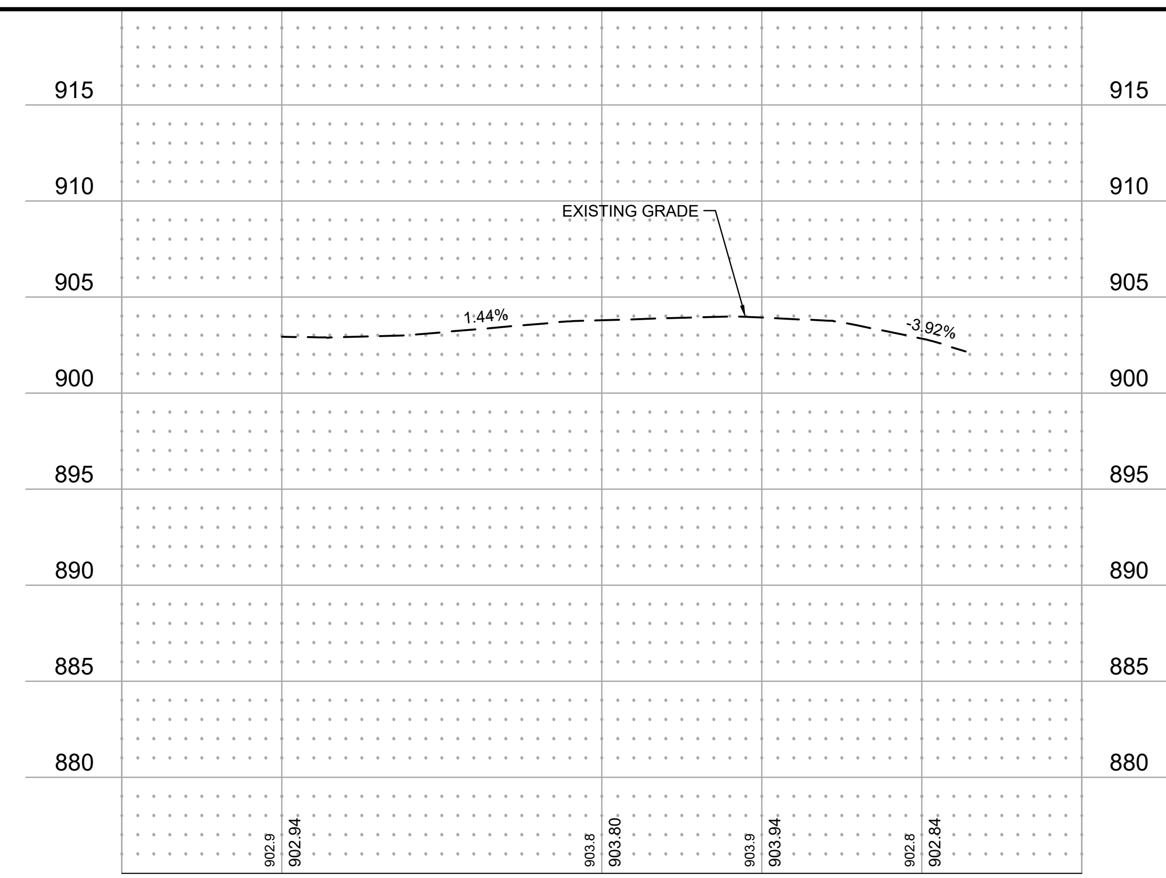
6. INSTALL INLET PROTECTION AT CATCH BASINS PRIOR TO BEGINNING WORK.

# PIERCE COURT

BENCHMARK EL. 905.61
TNH AT END OF CUL-DE-SAC OF PIERCE CT

LEGEND

- BITUMINOUS PAVEMENT
- BITUMINOUS DRIVEWAY PAVEMENT
- 6" CONCRETE DRIVEWAY PAVEMENT
- 4" CONCRETE SIDEWALK
- 6" CONCRETE SIDEWALK
- TRUNCATED DOMES
- SUPER ELEVATION GRADING
- B618 CONCRETE CURB & GUTTER
- INSTALL SAN. FRAME & RING CASTING
- INSTALL STORM FRAME & RING CASTING
- CONSTRUCT DRAINAGE STRUCTURE
- ADJUST VALVE BOX
- GATE VALVE & BOX
- INSTALL SALVAGED HYDRANT ASSEMBLY
- STORM PIPE CLEANING

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|---|---|---|---|
| SEH Project | 165899 | Rev.# Revision Issue Description Date | Rev.# Revision Issue Description Date |
| Drawn By | NMB, HC, EN | | |
| Designed By | DJC | | |
| Checked By | GFA | | |

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Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION
BLAINE, MN

CONSTRUCTION PLAN
PIERCE COURT
AREA 1

S.A.P. 106-141-003



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NOTES:

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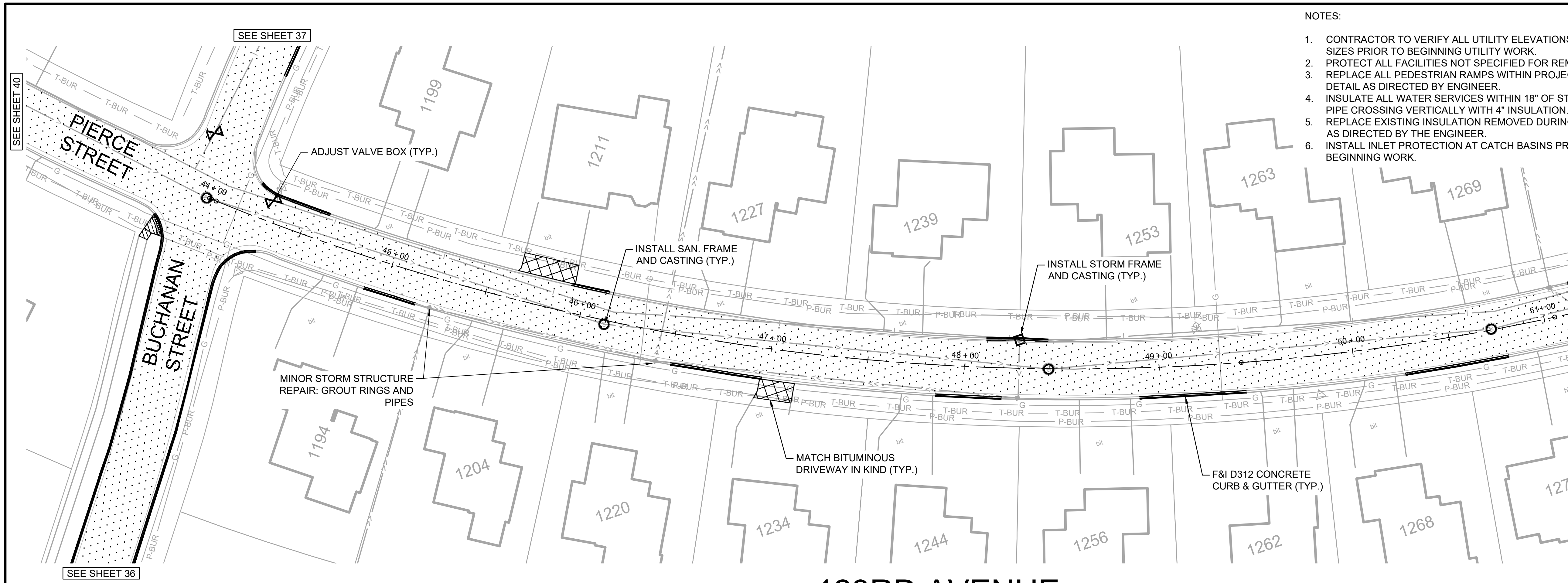


LEGEND

- BITUMINOUS PAVEMENT
- BITUMINOUS DRIVEWAY PAVEMENT
- 6" CONCRETE DRIVEWAY PAVEMENT
- 4" CONCRETE SIDEWALK
- 6" CONCRETE SIDEWALK
- TRUNCATED DOMES
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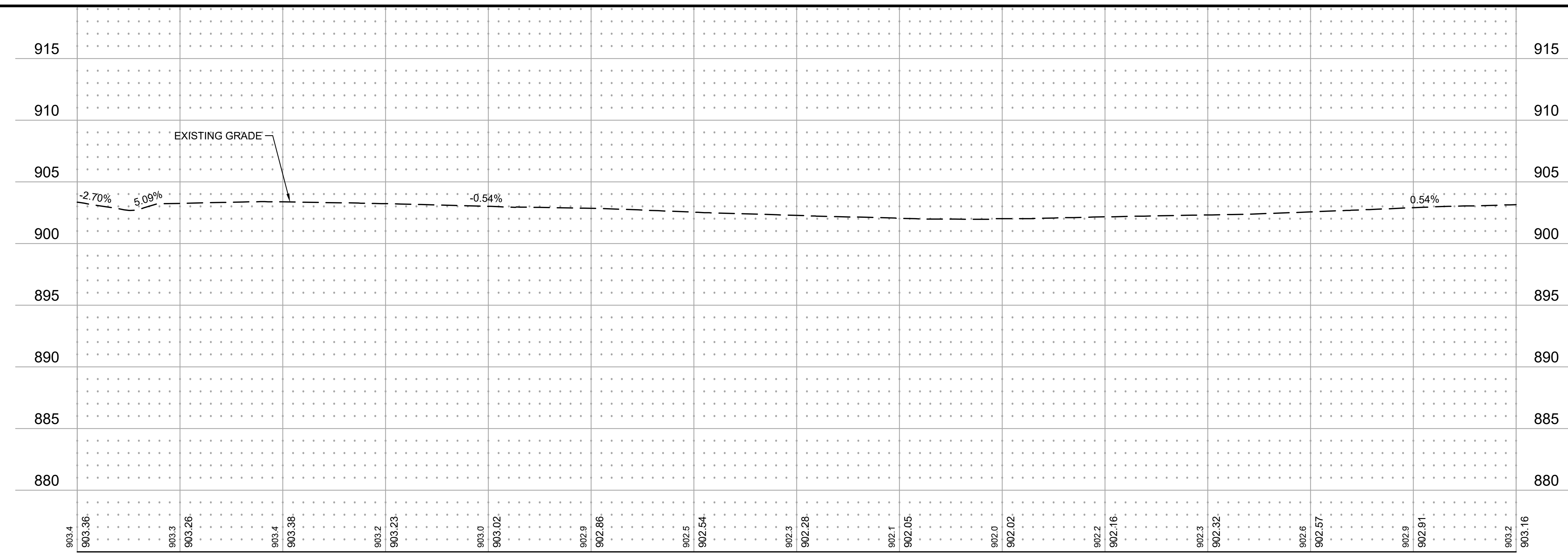
- INSTALL STORM FRAME & RING CASTING
- CONSTRUCT DRAINAGE STRUCTURE
- ADJUST VALVE BOX
- GATE VALVE & BOX
- INSTALL SALVAGED HYDRANT ASSEMBLY
- STORM PIPE CLEANING

# 123RD AVENUE

TNH E QUAD OF 123RD AVE & BUCHANAN ST

TNH AT 49+20 & 21 L ON 123RD AVE

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|---|---|---|---|---|---|---|---|
| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

SEH

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 MN.

Greg F Anderson

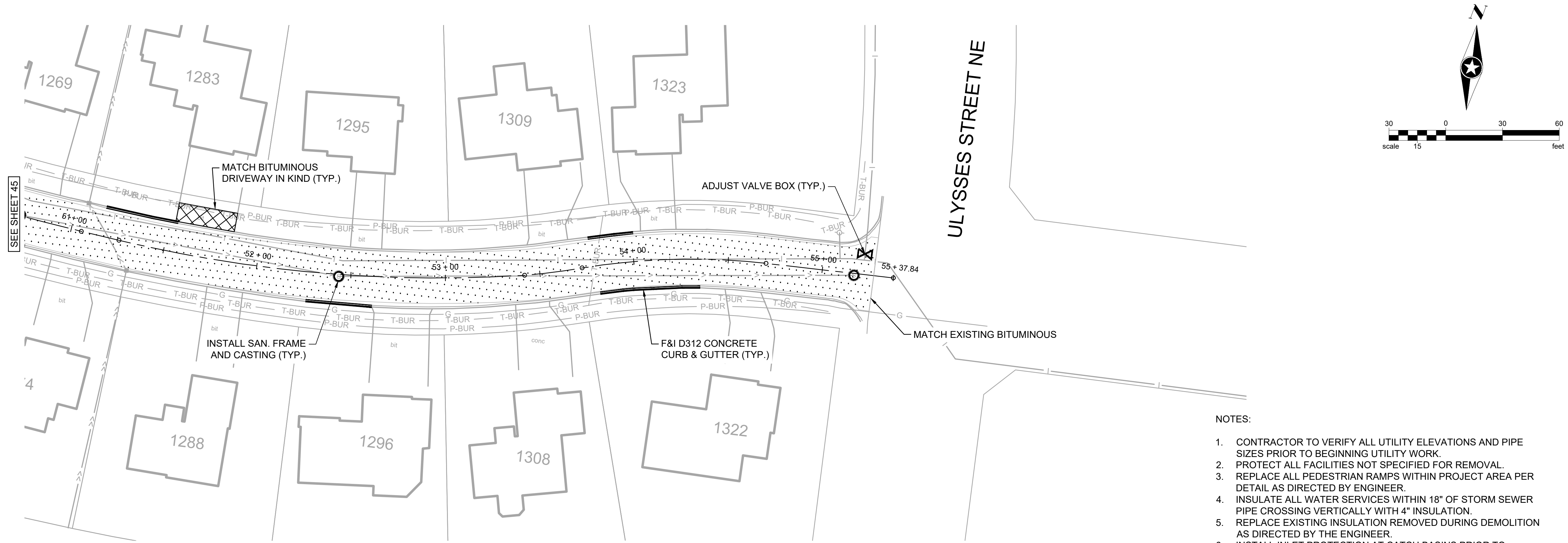
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

**CONSTRUCTION PLAN**
**123RD AVENUE**
**AREA 1**

**S.A.P. 106-141-003**




# 123RD AVENUE

TNH AT 49+20 & 21 L ON 123RD AVE

TNH NW QUAD OF 123RD AVE & ULYSSES ST

NOTES:

1. CONTRACTOR TO VERIFY ALL UTILITY ELEVATIONS AND PIPE SIZES PRIOR TO BEGINNING UTILITY WORK.
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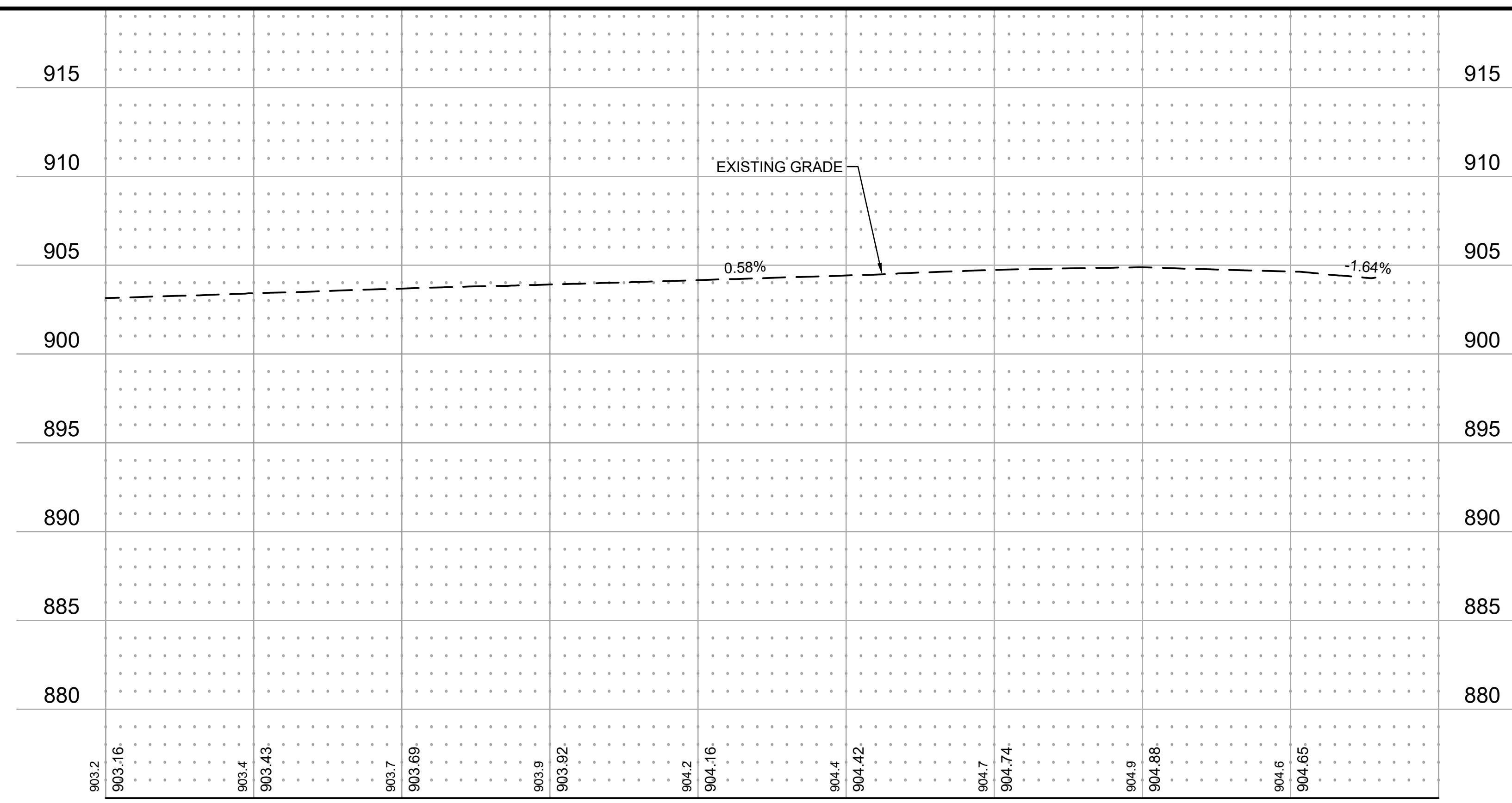


## LEGEND

- BITUMINOUS PAVEMENT
- BITUMINOUS DRIVEWAY PAVEMENT
- 6" CONCRETE DRIVEWAY PAVEMENT
- 4" CONCRETE SIDEWALK
- 6" CONCRETE SIDEWALK
- TRUNCATED DOMES
- SUPER ELEVATION GRADING
- B618 CONCRETE CURB & GUTTER
- INSTALL SAN. FRAME & RING CASTING
- INSTALL STORM FRAME & RING CASTING
- CONSTRUCT DRAINAGE STRUCTURE
- ADJUST VALVE BOX
- GATE VALVE & BOX
- INSTALL SALVAGED HYDRANT ASSEMBLY
- STORM PIPE CLEANING

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| SEH Project | 165899 |
|---|---|
| Drawn By | NMB, HC, EN |
| Designed By | DJC |
| Checked By | GFA |

| Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
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Greg F Anderson

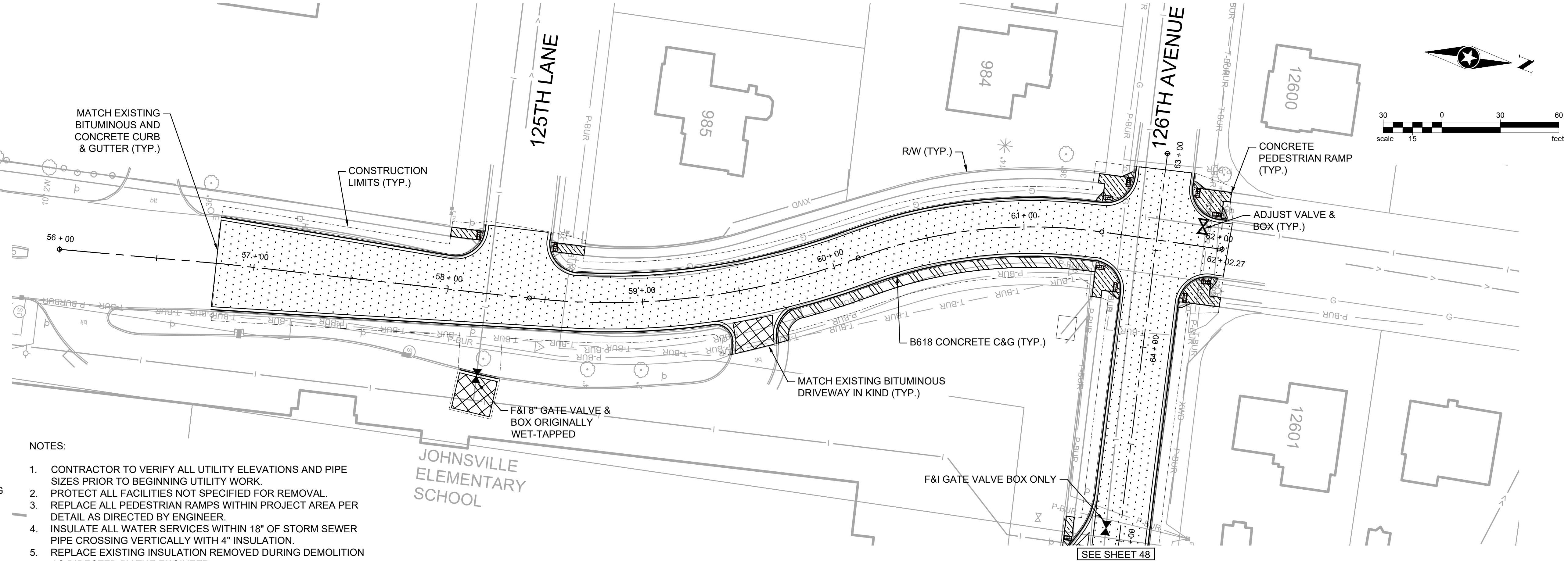
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

CONSTRUCTION PLAN
123RD AVENUE
AREA 1

S.A.P. 106-141-003




## LEGEND

- BITUMINOUS PAVEMENT
- BITUMINOUS DRIVEWAY PAVEMENT
- 6" CONCRETE DRIVEWAY PAVEMENT
- 4" CONCRETE SIDEWALK
- 6" CONCRETE SIDEWALK
- TRUNCATED DOMES
- SUPER ELEVATION GRADING
- B618 CONCRETE CURB & GUTTER
- INSTALL SAN. FRAME & RING CASTING
- INSTALL STORM FRAME & RING CASTING
- CONSTRUCT DRAINAGE STRUCTURE
- ADJUST VALVE BOX

BENCHMARK EL. 910.24
TNH NE QUAD OF 125TH AVE & POLK STREET

NOTES:

1. CONTRACTOR TO VERIFY ALL UTILITY ELEVATIONS AND PIPE SIZES PRIOR TO BEGINNING UTILITY WORK.
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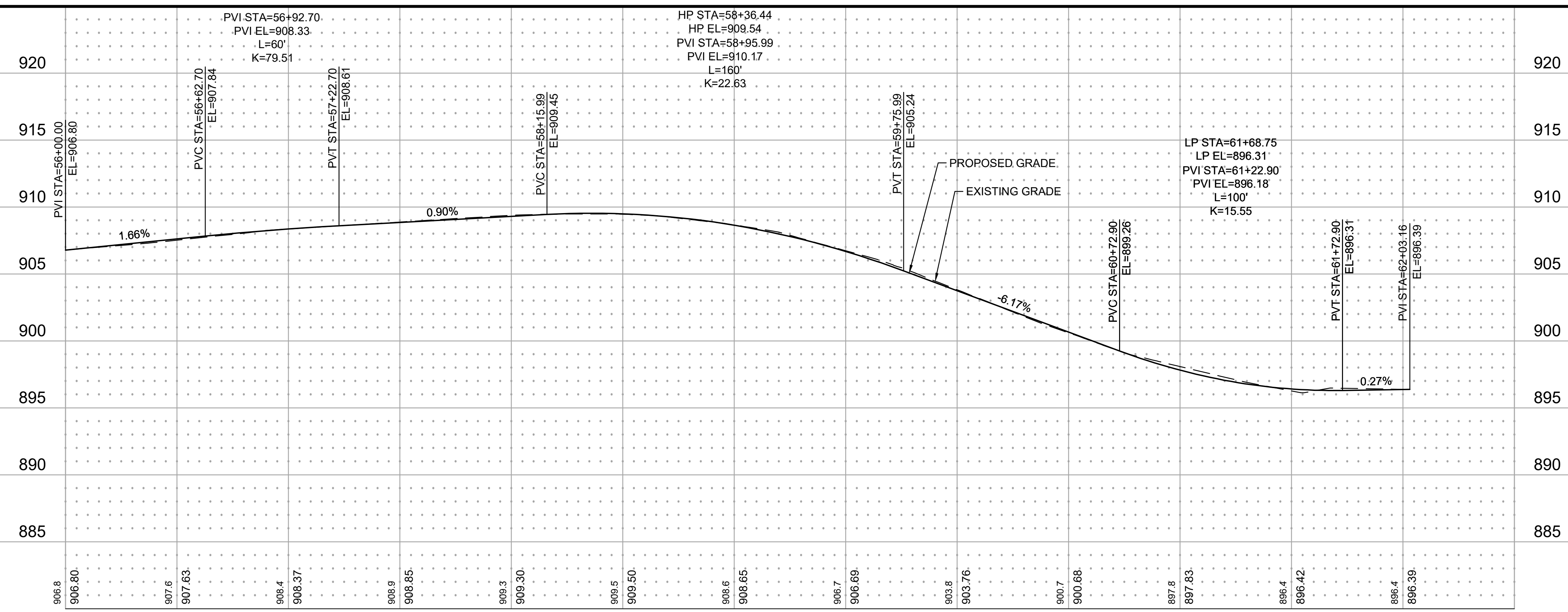
6. INSTALL INLET PROTECTION AT CATCH BASINS PRIOR TO BEGINNING WORK.

# POLK STREET

BENCHMARK EL. 899.09
TNH NW QUAD OF 126TH AVE & POLK STREET

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|---|---|---|---|---|---|---|---|
| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

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Greg F Anderson
DATE 03.31.2022
LICENSE NO. 26859

2022 STREET RECONSTRUCTION
BLAINE, MN

CONSTRUCTION PLAN
POLK STREET
AREA 2

S.A.P. 106-141-003

NOTES:

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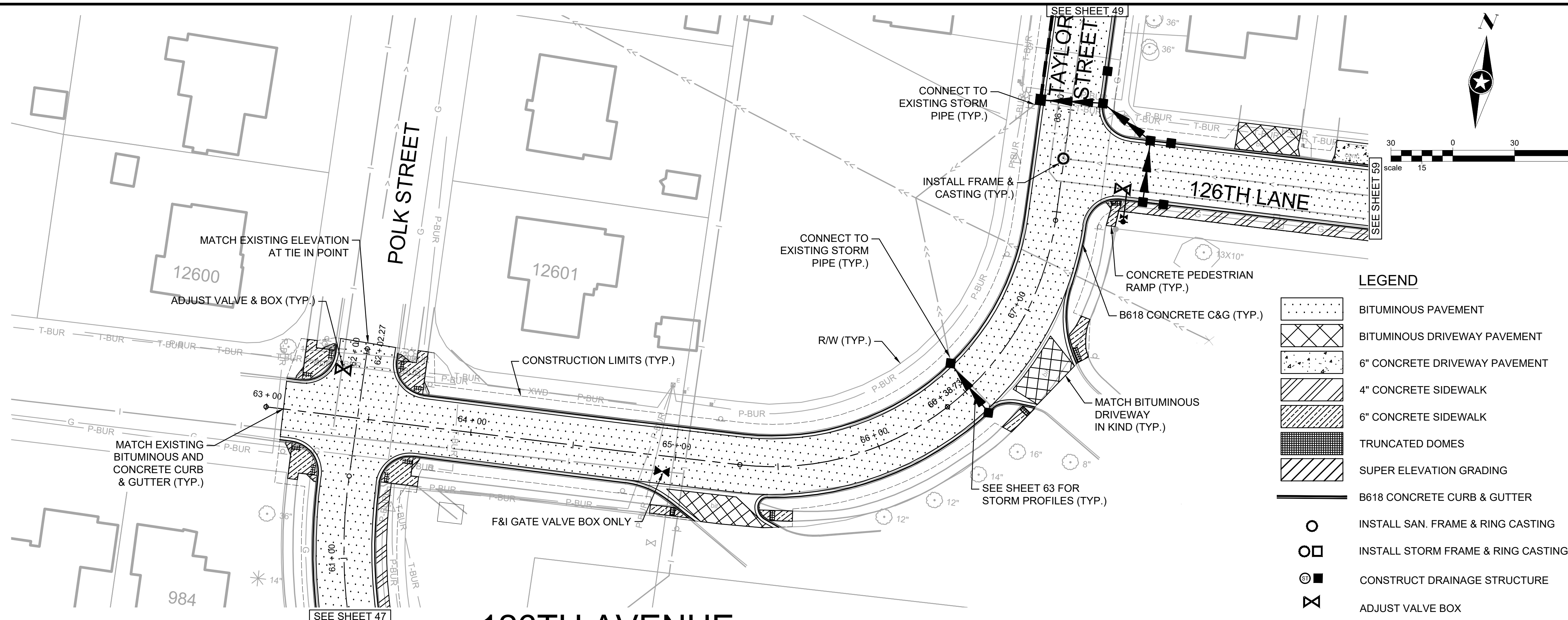


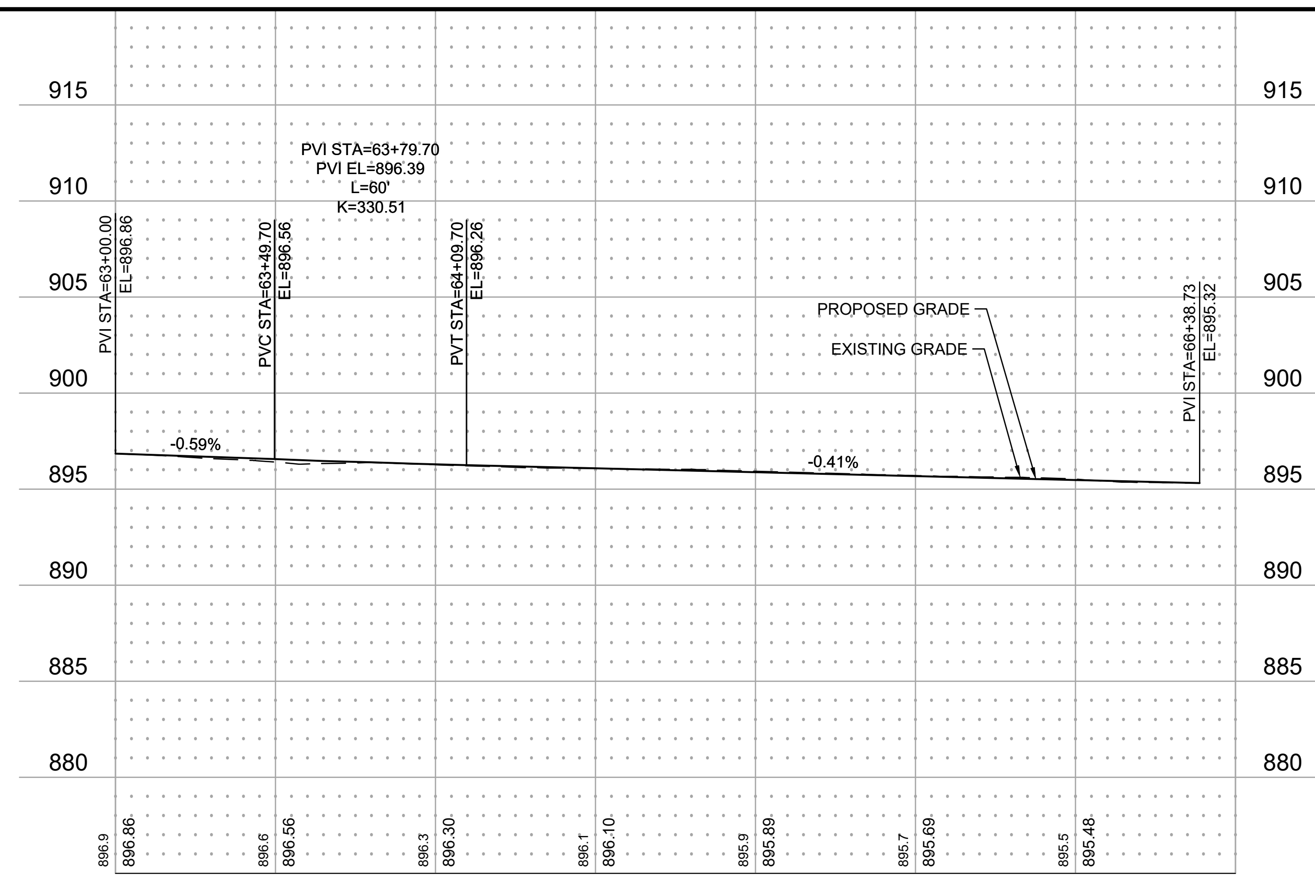

## LEGEND

- BITUMINOUS PAVEMENT
- BITUMINOUS DRIVEWAY PAVEMENT
- 6" CONCRETE DRIVEWAY PAVEMENT
- 4" CONCRETE SIDEWALK
- 6" CONCRETE SIDEWALK
- TRUNCATED DOMES
- SUPER ELEVATION GRADING
- B618 CONCRETE CURB & GUTTER
- INSTALL SAN. FRAME & RING CASTING
- INSTALL STORM FRAME & RING CASTING
- CONSTRUCT DRAINAGE STRUCTURE
- ADJUST VALVE BOX

BENCHMARK EL. 899.09
TNH NW QUAD OF 126TH AVE & POLK ST

# 126TH AVENUE

BENCHMARK EL. 900.70
TNH SE QUAD OF 126TH LANE & TAYLOR ST



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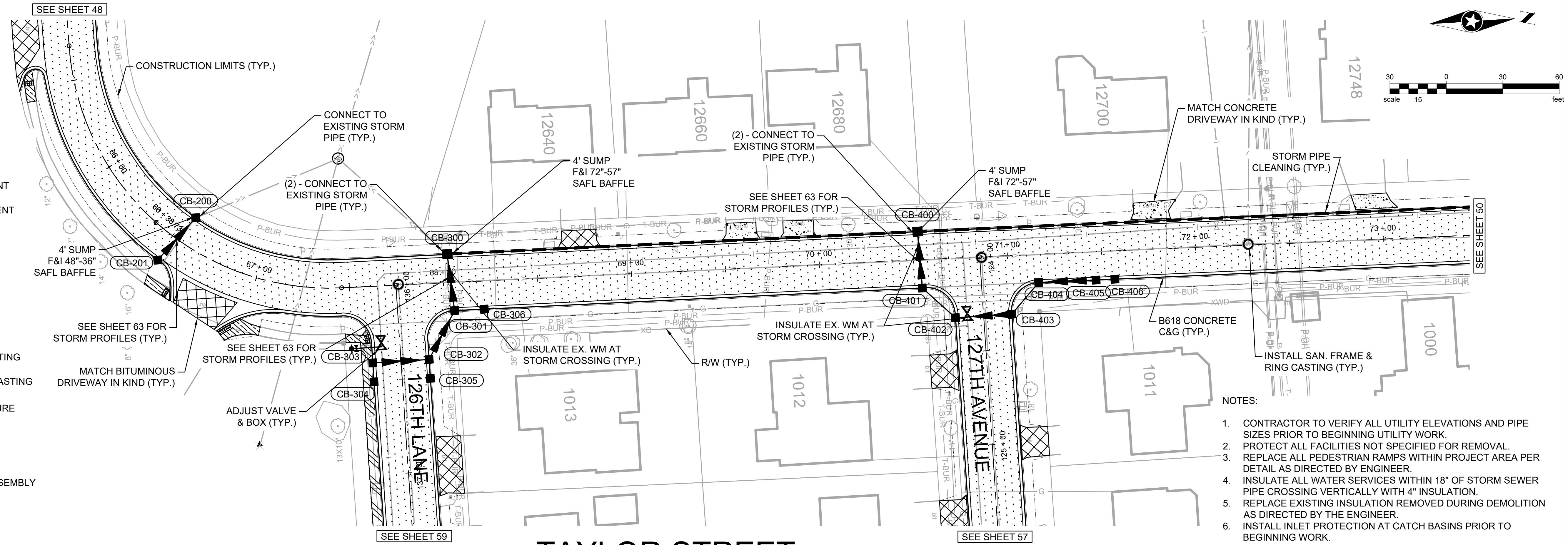
2022 STREET RECONSTRUCTION
BLAINE, MN

CONSTRUCTION PLAN
126TH AVENUE
AREA 2

S.A.P. 106-141-003

# TAYLOR STREET




LEGEND

- BITUMINOUS PAVEMENT
- BITUMINOUS DRIVEWAY PAVEMENT
- 6" CONCRETE DRIVEWAY PAVEMENT
- 4" CONCRETE SIDEWALK
- 6" CONCRETE SIDEWALK
- TRUNCATED DOMES
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- ADJUST VALVE BOX
- GATE VALVE & BOX
- INSTALL SALVAGED HYDRANT ASSEMBLY
- STORM PIPE CLEANING
- INSTALL STORM SEWER PIPE

BENCHMARK EL. 900.70
TNH SE QUAD OF 126TH LN & TAYLOR ST

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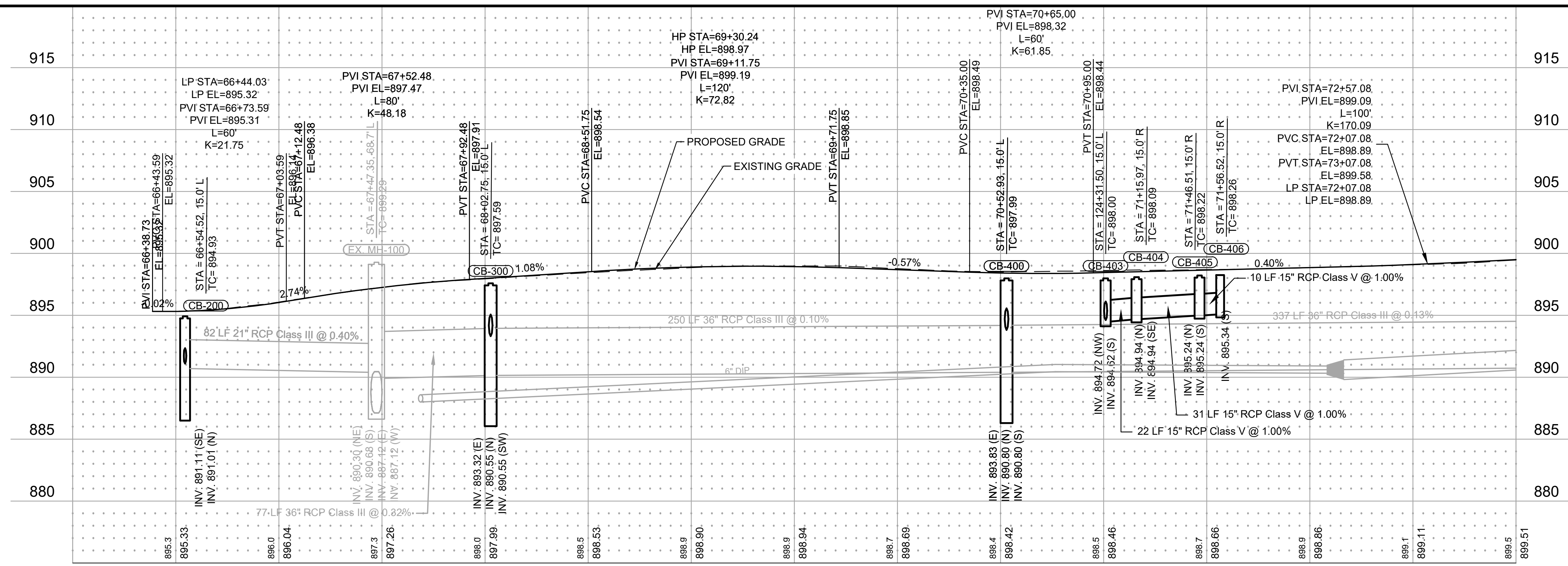
BENCHMARK EL. 901.65
TNH SE QUAD OF 127TH AVE & TAYLOR ST




| SEH Project | 165899 |
|---|---|
| Drawn By | NMB, HC, EN |
| Designed By | DJC |
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DATE 03.31.2022 Greg F Anderson LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

CONSTRUCTION PLAN
TAYLOR STREET
AREA 2

S.A.P. 106-141-003



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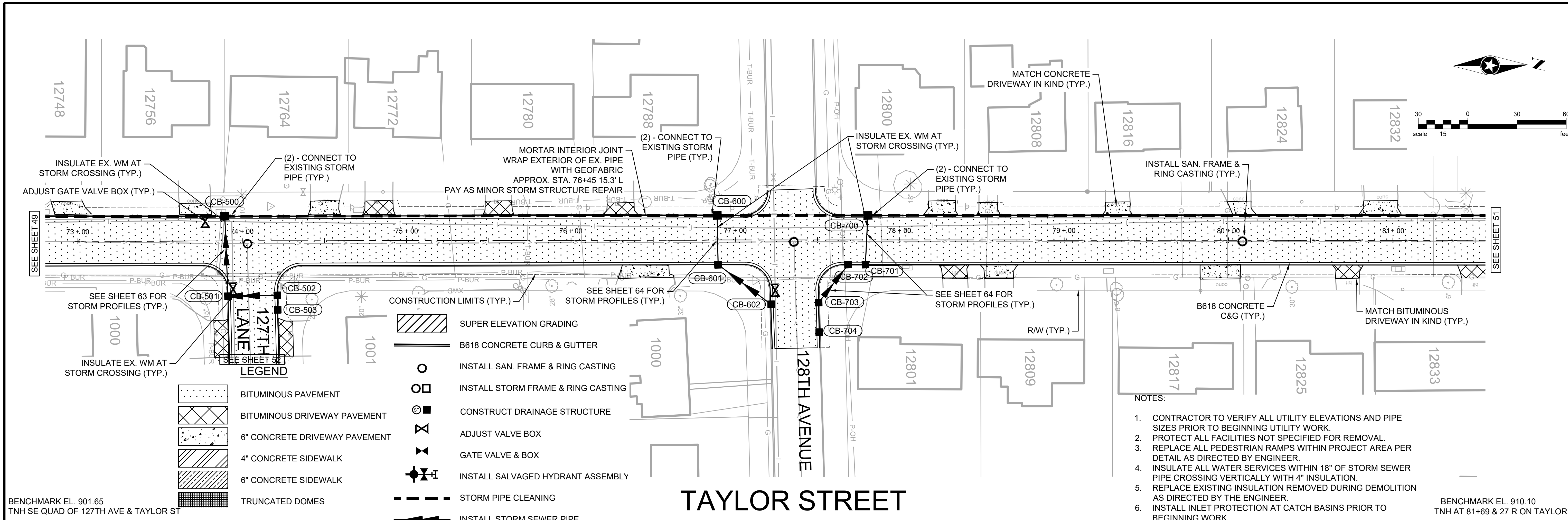


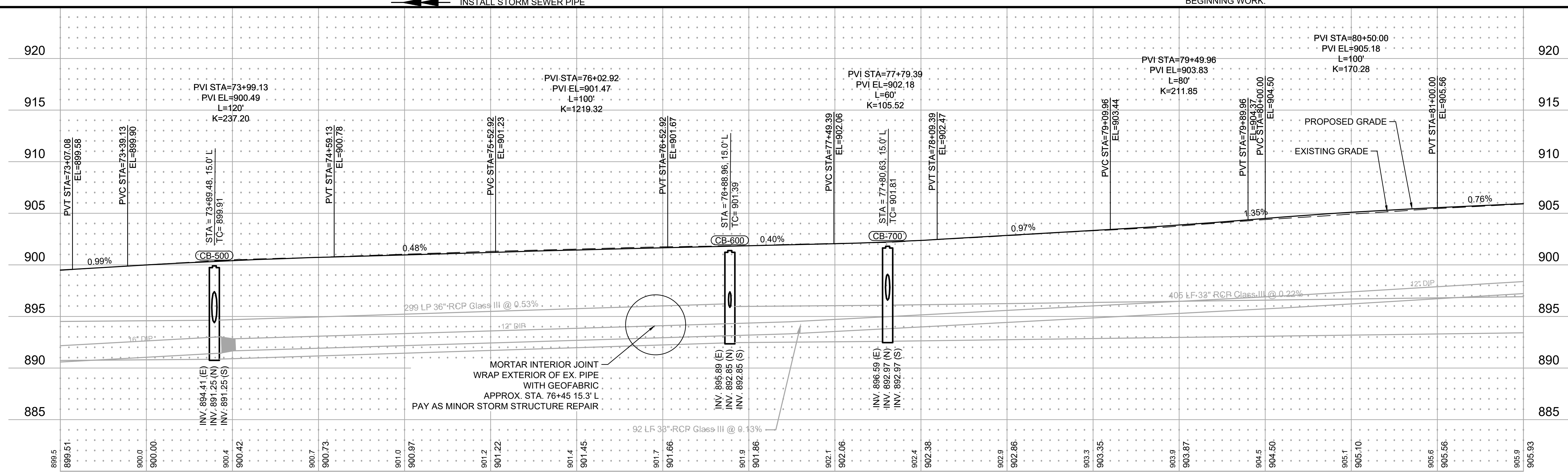


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| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
|---|---|---|---|---|---|---|---|
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

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Greg F Anderson

DATE 03.31.2022 LICENSE NO. 26859

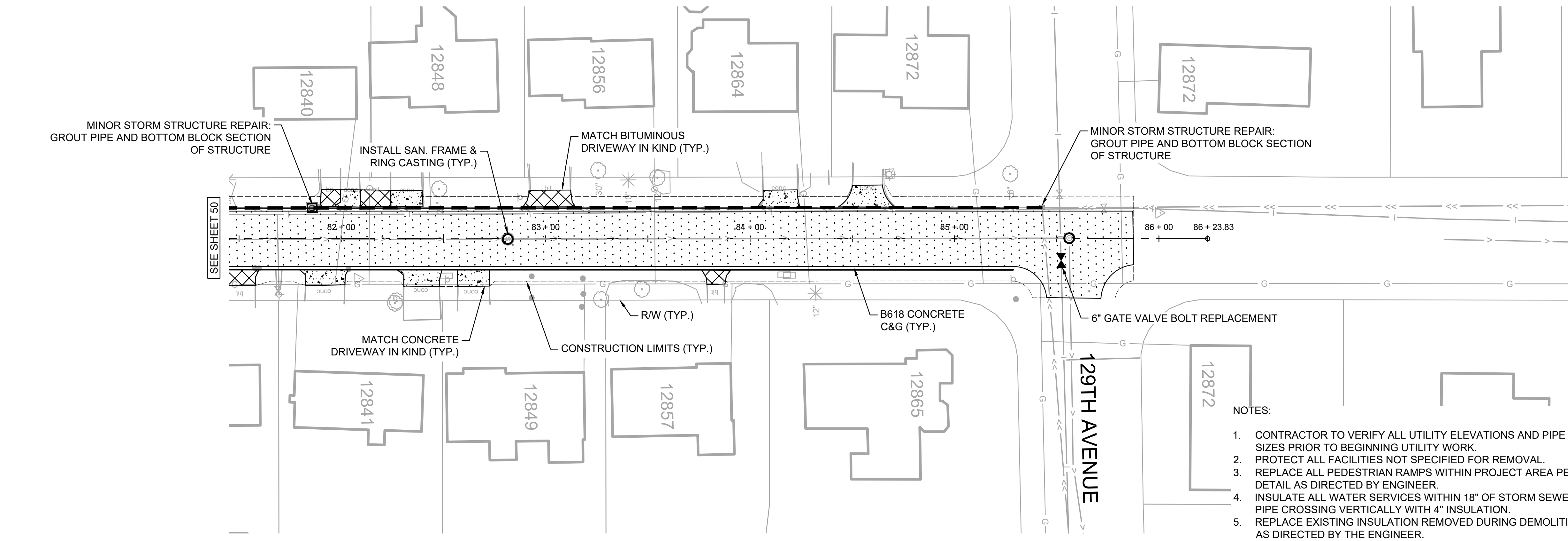
# 2022 STREET RECONSTRUCTION

BLAINE, MN

## CONSTRUCTION PLAN TAYLOR STREET AREA 2



S.A.P. 106-141-003




BENCHMARK EL. 910.10
TNH AT 81+69 & 27 R ON TAYLOR ST

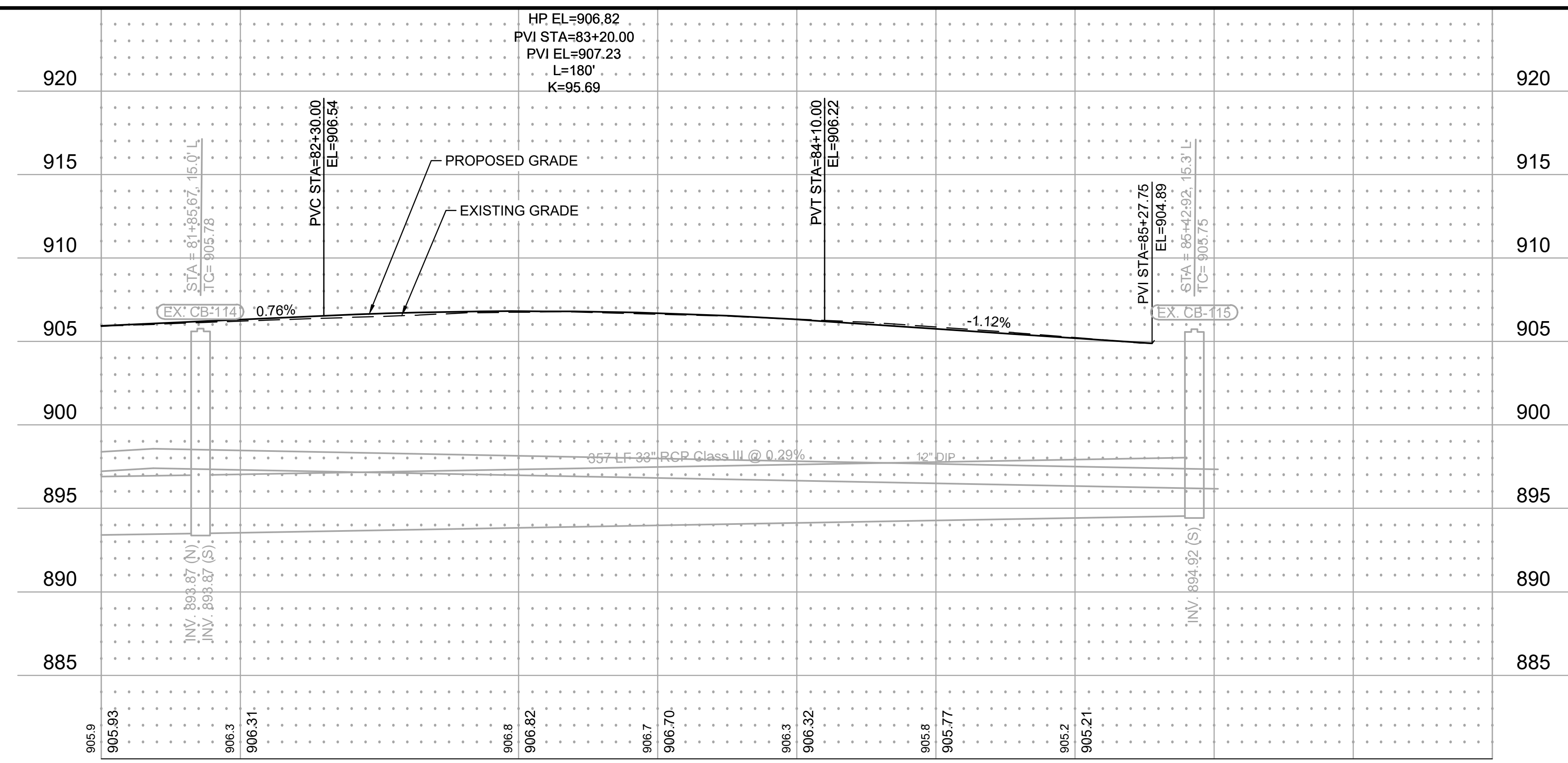
# TAYLOR STREET

NOTES:

1. CONTRACTOR TO VERIFY ALL UTILITY ELEVATIONS AND PIPE SIZES PRIOR TO BEGINNING UTILITY WORK.
2. PROTECT ALL FACILITIES NOT SPECIFIED FOR REMOVAL.
3. REPLACE ALL PEDESTRIAN RAMPS WITHIN PROJECT AREA PER DETAIL AS DIRECTED BY ENGINEER.
4. INSULATE ALL WATER SERVICES WITHIN 18" OF STORM SEWER PIPE CROSSING VERTICALLY WITH 4" INSULATION.
5. REPLACE EXISTING INSULATION REMOVED DURING DEMOLITION AS DIRECTED BY THE ENGINEER.
6. INSTALL INLET PROTECTION AT CATCH BASINS PRIOR TO BEGINNING WORK.

## LEGEND

- BITUMINOUS PAVEMENT
- BITUMINOUS DRIVEWAY PAVEMENT
- 6" CONCRETE DRIVEWAY PAVEMENT
- 4" CONCRETE SIDEWALK
- 6" CONCRETE SIDEWALK
- TRUNCATED DOMES
- SUPER ELEVATION GRADING
- B618 CONCRETE CURB & GUTTER
- INSTALL SAN. FRAME & RING CASTING
- INSTALL STORM FRAME & RING CASTING
- CONSTRUCT DRAINAGE STRUCTURE
- ADJUST VALVE BOX
- GATE VALVE & BOX
- INSTALL SALVAGED HYDRANT ASSEMBLY
- STORM PIPE CLEANING
- INSTALL STORM SEWER PIPE

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|---|---|---|---|---|---|---|
| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

SEH

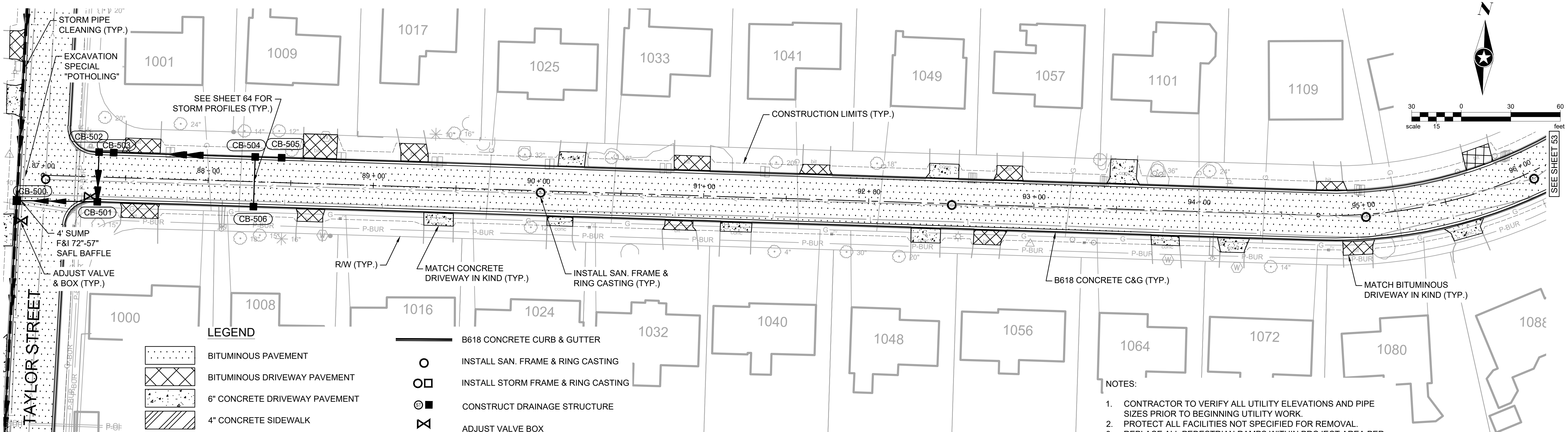
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MN.

Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION
BLAINE, MN

CONSTRUCTION PLAN
TAYLOR STREET
AREA 2

S.A.P. 106-141-003




## LEGEND

- BITUMINOUS PAVEMENT
- BITUMINOUS DRIVEWAY PAVEMENT
- 6" CONCRETE DRIVEWAY PAVEMENT
- 4" CONCRETE SIDEWALK
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- INSTALL STORM FRAME & RING CASTING
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- ADJUST VALVE BOX
- GATE VALVE & BOX
- INSTALL SALVAGED HYDRANT ASSEMBLY
- STORM PIPE CLEANING

BENCHMARK EL. 904.19
TNH AT 88+09 & 29 R ON 127TH LANE

# 127TH LANE

NOTES:

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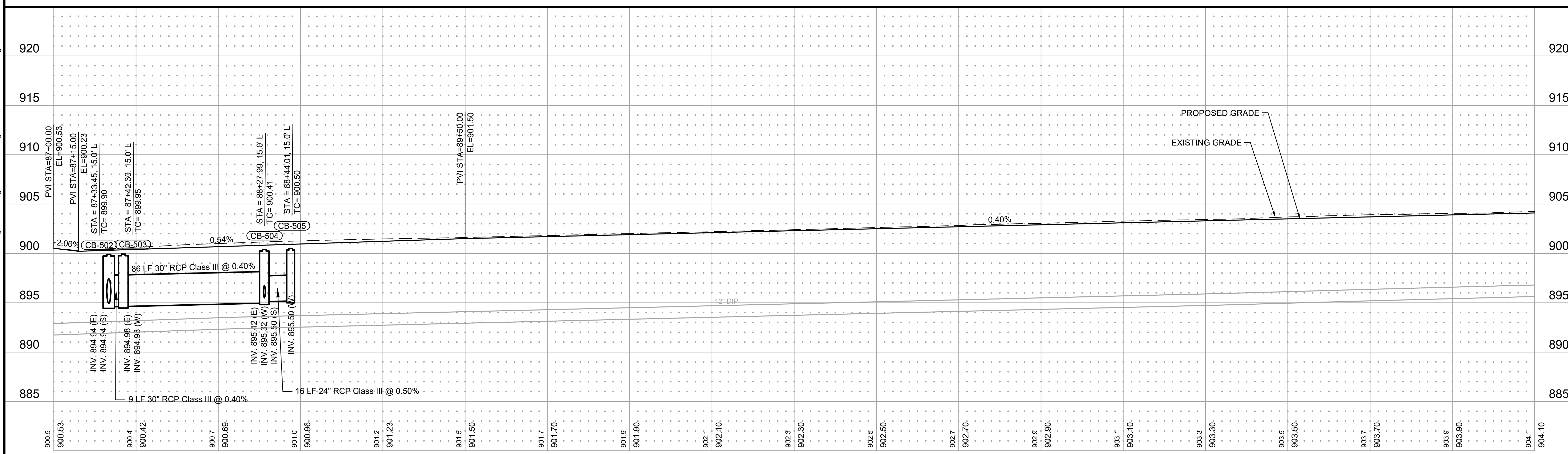
BENCHMARK EL. 907.47
TNH AT 94+09 & 28 R ON 127TH LANE

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| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

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Greg F Anderson

DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

CONSTRUCTION PLAN
127TH LANE
AREA 2

S.A.P. 106-141-003

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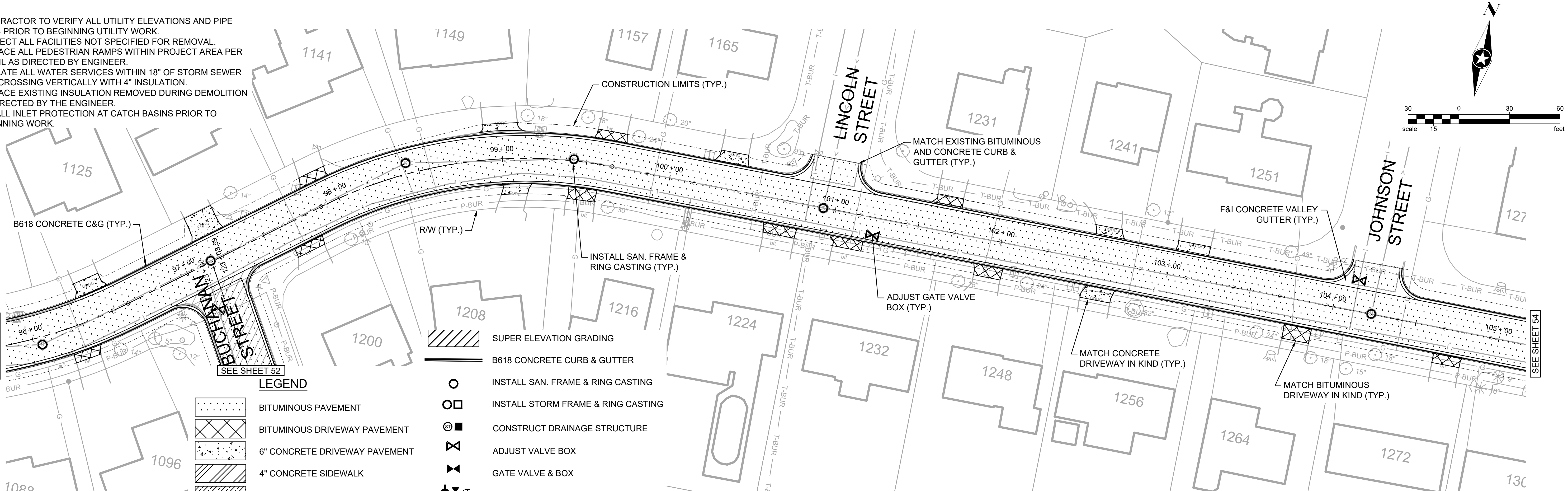


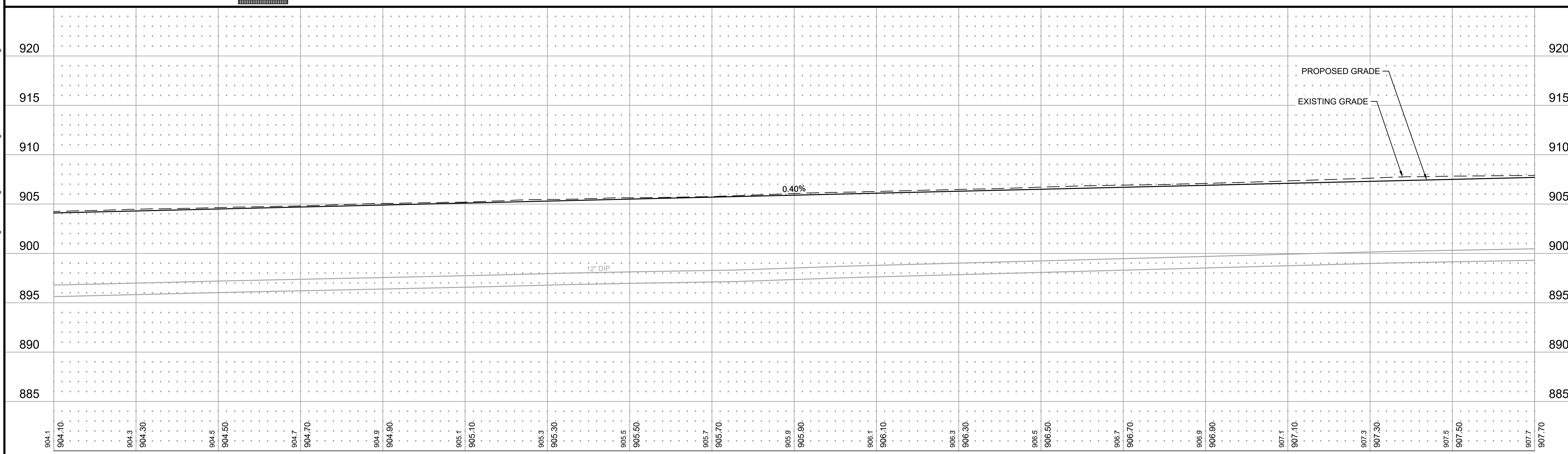

LEGEND

| | |
|---|---|
| BITUMINOUS PAVEMENT | SUPER ELEVATION GRADING |
| BITUMINOUS DRIVEWAY PAVEMENT | B618 CONCRETE CURB & GUTTER |
| 6" CONCRETE DRIVEWAY PAVEMENT | INSTALL SAN. FRAME & RING CASTING |
| 4" CONCRETE SIDEWALK | INSTALL STORM FRAME & RING CASTING |
| 6" CONCRETE SIDEWALK | CONSTRUCT DRAINAGE STRUCTURE |
| TRUNCATED DOMES | ADJUST VALVE BOX |
| | GATE VALVE & BOX |
| | INSTALL SALVAGED HYDRANT ASSEMBLY |
| | STORM PIPE CLEANING |

BENCHMARK EL. 907.47
TNH AT 904.17 & 28 R ON 127TH LANE

# 127TH LANE

BENCHMARK EL. 910.64
TNH AT 106+48 & 28 R ON 127TH LANE

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| | |
|---|---|
| SEH Project | 165899 |
| Drawn By | NMB, HC, EN |
| Designed By | DJC |
| Checked By | GFA |

| Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
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Greg F Anderson

DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

CONSTRUCTION PLAN
127TH LANE
AREA 2

S.A.P. 106-141-003

NOTES:

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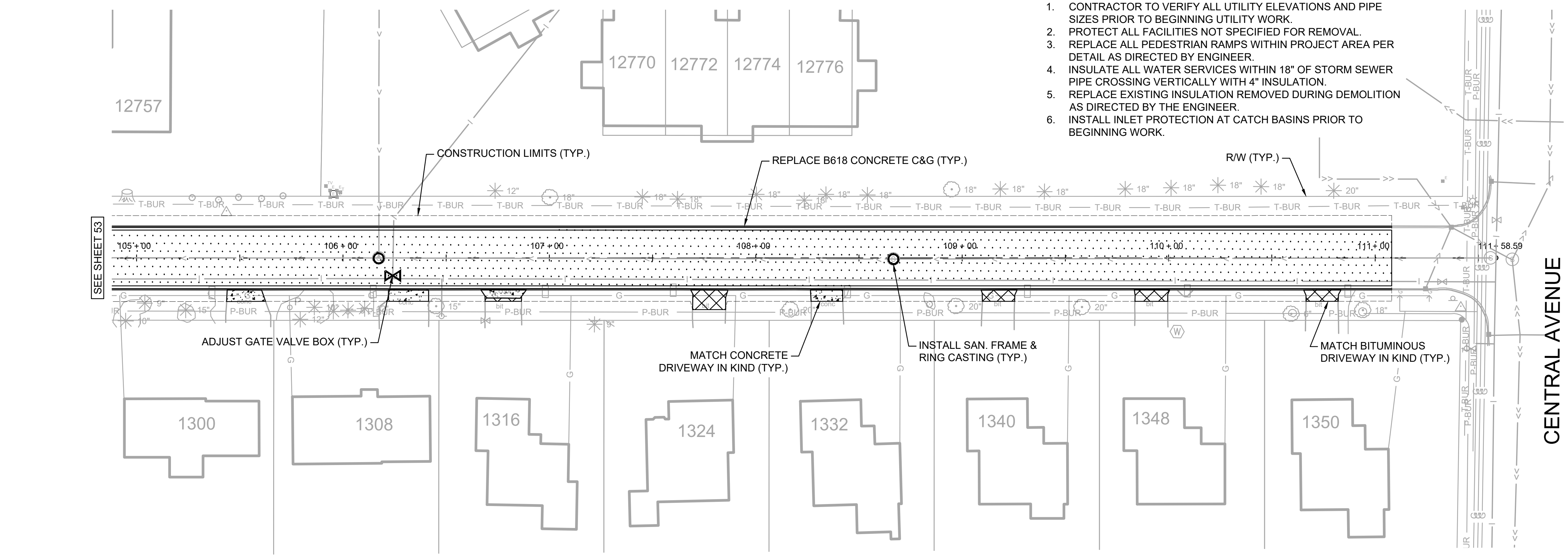


## LEGEND

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- BITUMINOUS DRIVEWAY PAVEMENT
- 6" CONCRETE DRIVEWAY PAVEMENT
- 4" CONCRETE SIDEWALK
- 6" CONCRETE SIDEWALK
- TRUNCATED DOMES
- SUPER ELEVATION GRADING
- B618 CONCRETE CURB & GUTTER
- INSTALL SAN. FRAME & RING CASTING
- INSTALL STORM FRAME & RING CASTING
- CONSTRUCT DRAINAGE STRUCTURE
- ADJUST VALVE BOX
- GATE VALVE & BOX
- INSTALL SALVAGED HYDRANT ASSEMBLY
- STORM PIPE CLEANING

BENCHMARK EL. 910.64
TNH AT 106+48 & 28 R ON 127TH LANE

# 127TH LANE

BENCHMARK EL. 909.65
TNH SW QUAD OF 127TH LANE


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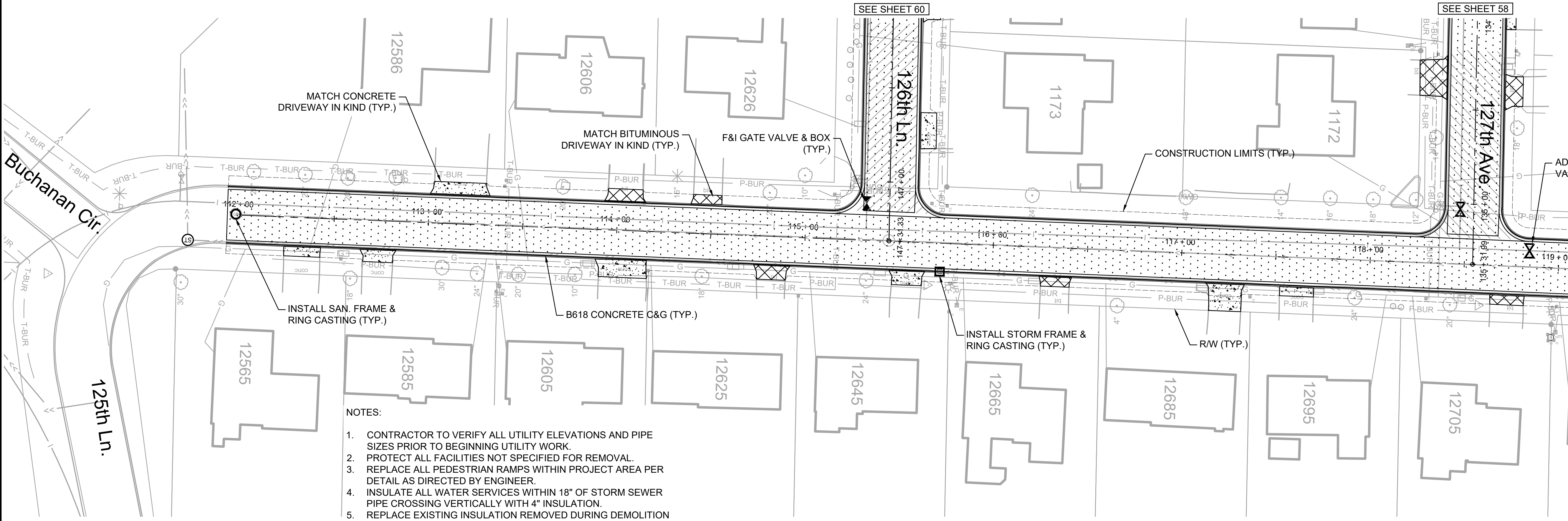
Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

CONSTRUCTION PLAN
127TH LANE
AREA 2

S.A.P. 106-141-003




## LEGEND

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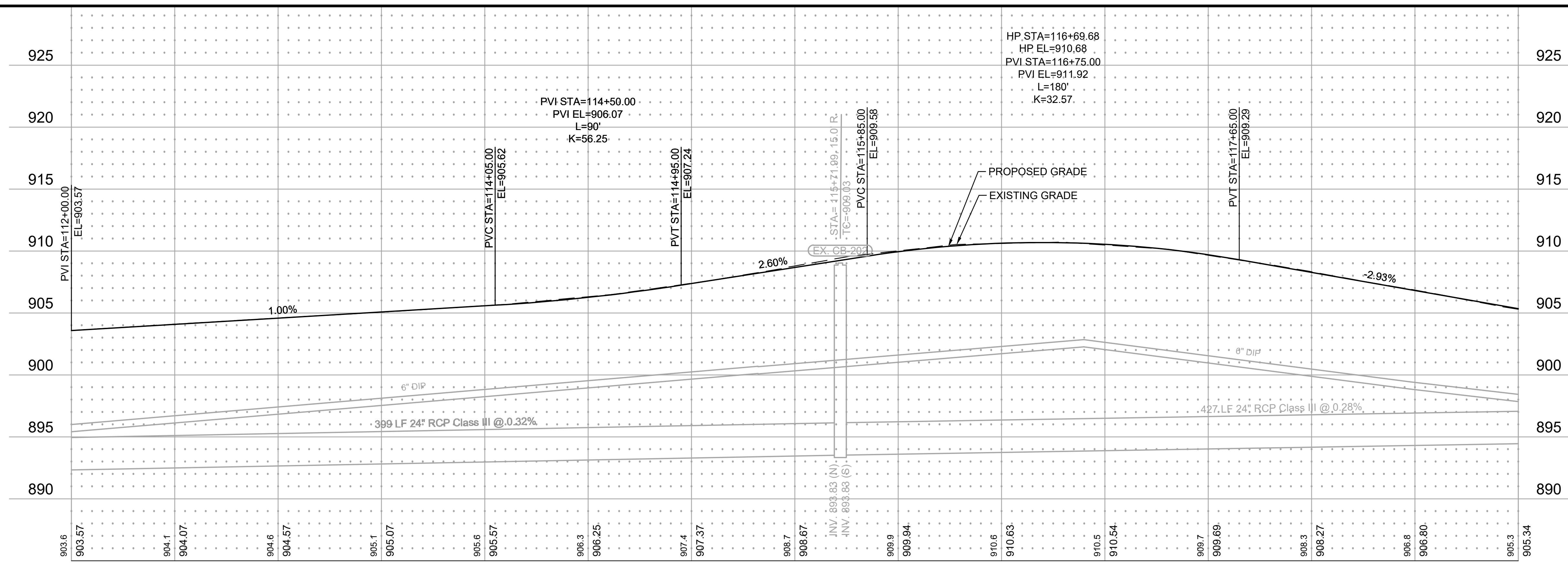
BENCHMARK EL. 905.87
TNH NW QUAD OF BUCHANAN CIR. & BUCHANAN ST

# BUCHANAN STREET

BENCHMARK EL. 909.90
TNH SW QUAD OF BUCHANAN ST & 127TH AVE

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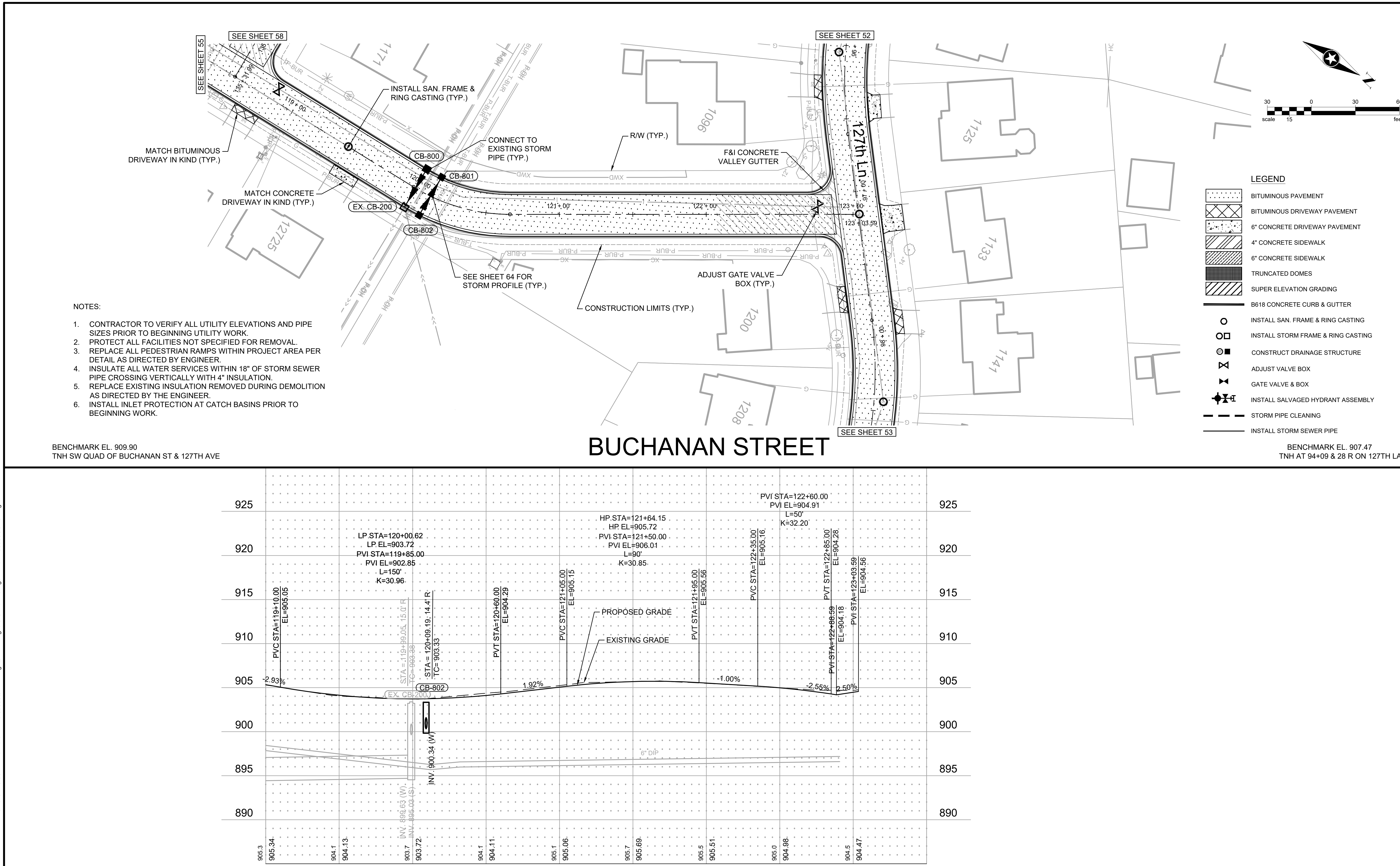
Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

CONSTRUCTION PLAN
BUCHANAN STREET
AREA 2

S.A.P. 106-141-003

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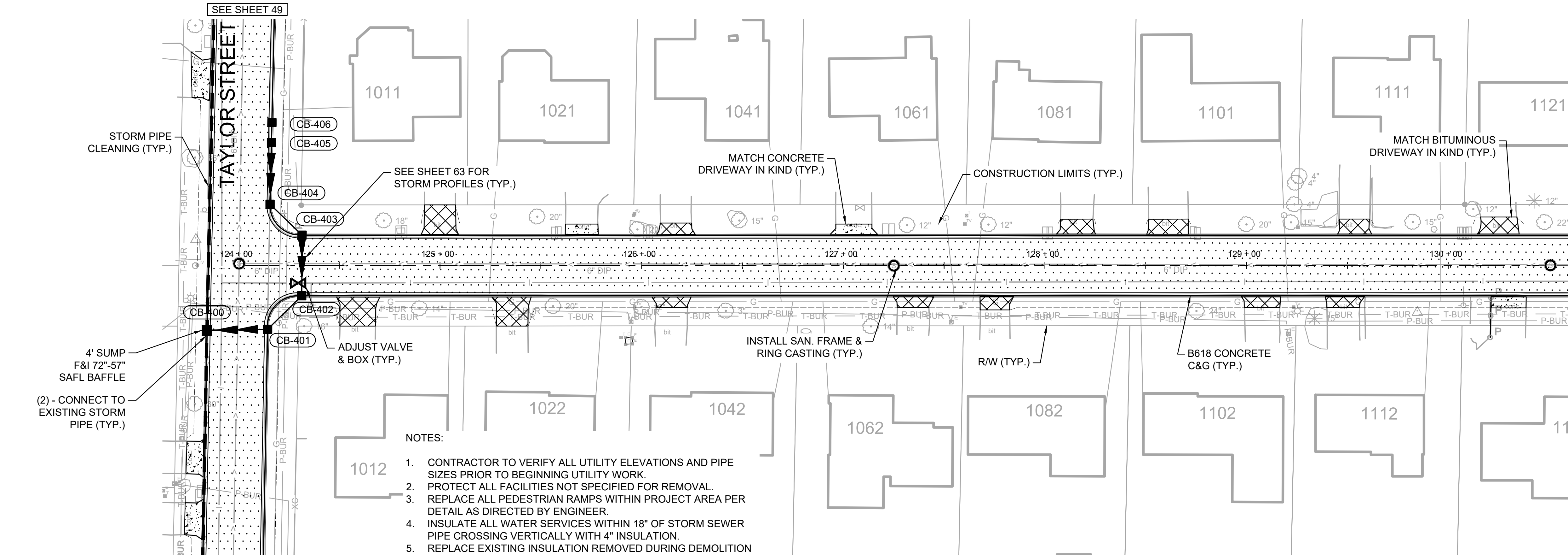


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BENCHMARK EL. 901.65
TNH SE QUAD OF TAYLOR ST & 127TH AVE

# 127TH AVENUE

BENCHMARK EL. 909.07
TNH AT 130+08 & 19.8 R ON 127TH AVE

N

scale 30 0 30 60 feet

## LEGEND

- BITUMINOUS PAVEMENT
- BITUMINOUS DRIVEWAY PAVEMENT
- 6" CONCRETE DRIVEWAY PAVEMENT
- 4" CONCRETE SIDEWALK
- 6" CONCRETE SIDEWALK
- TRUNCATED DOMES
- SUPER ELEVATION GRADING
- B618 CONCRETE CURB & GUTTER
- INSTALL SAN. FRAME & RING CASTING
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- CONSTRUCT DRAINAGE STRUCTURE
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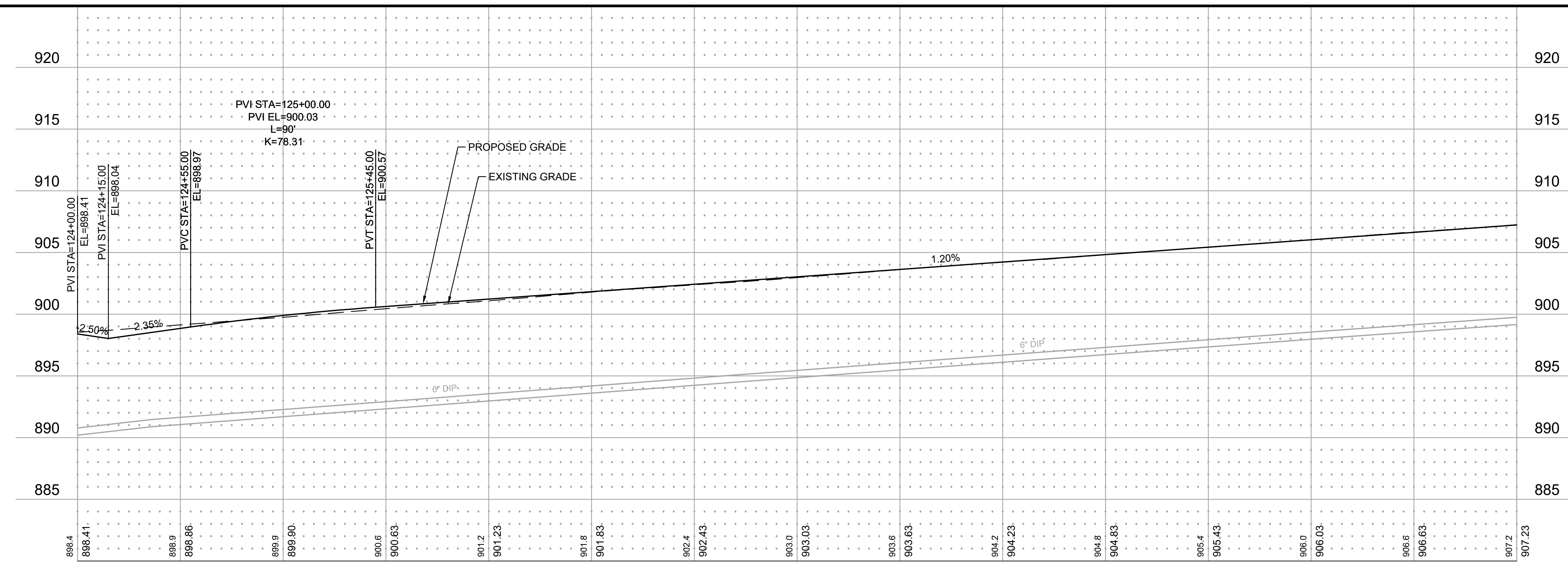
- GATE VALVE & BOX
- INSTALL SALVAGED HYDRANT ASSEMBLY
- STORM PIPE CLEANING

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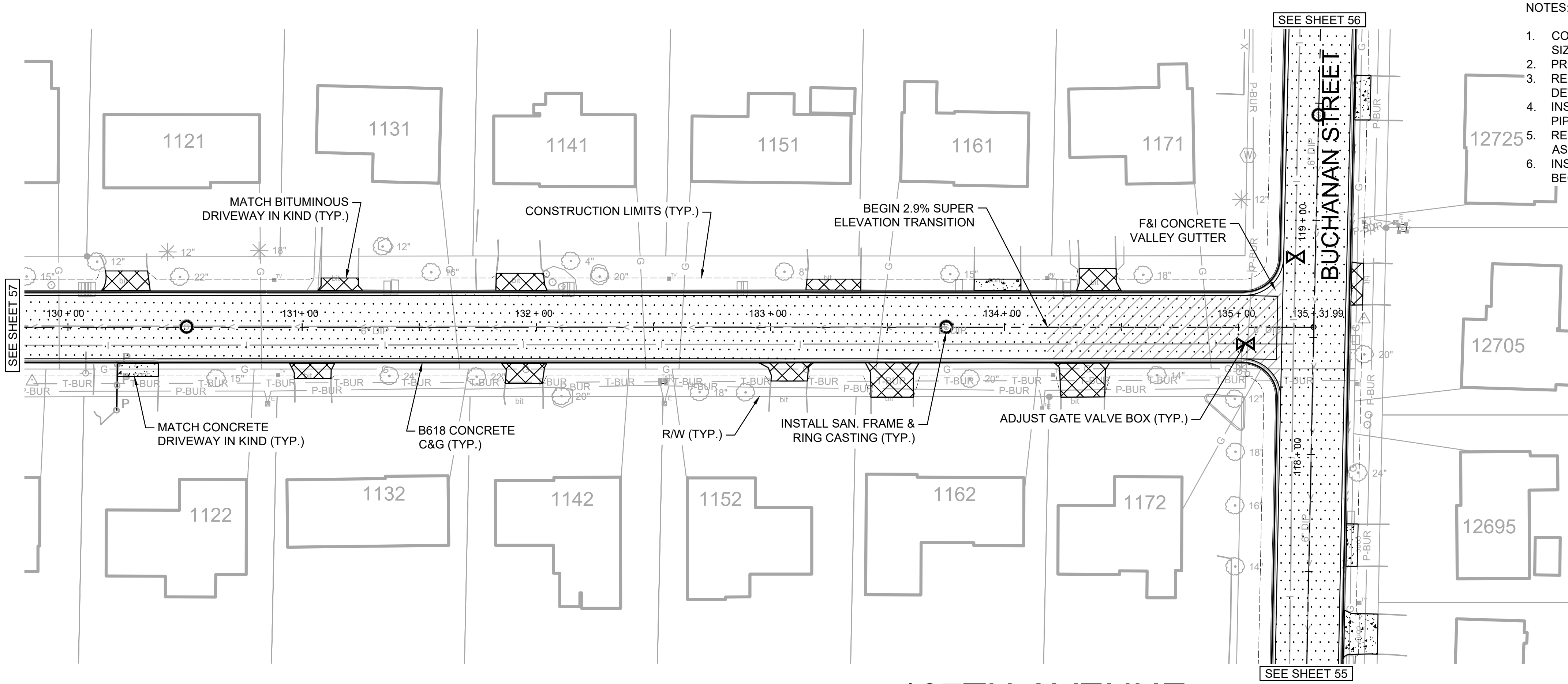
Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION
BLAINE, MN

CONSTRUCTION PLAN
127TH AVENUE
AREA 2

S.A.P. 106-141-003

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N

30 0 30 60
scale 15 feet

## LEGEND

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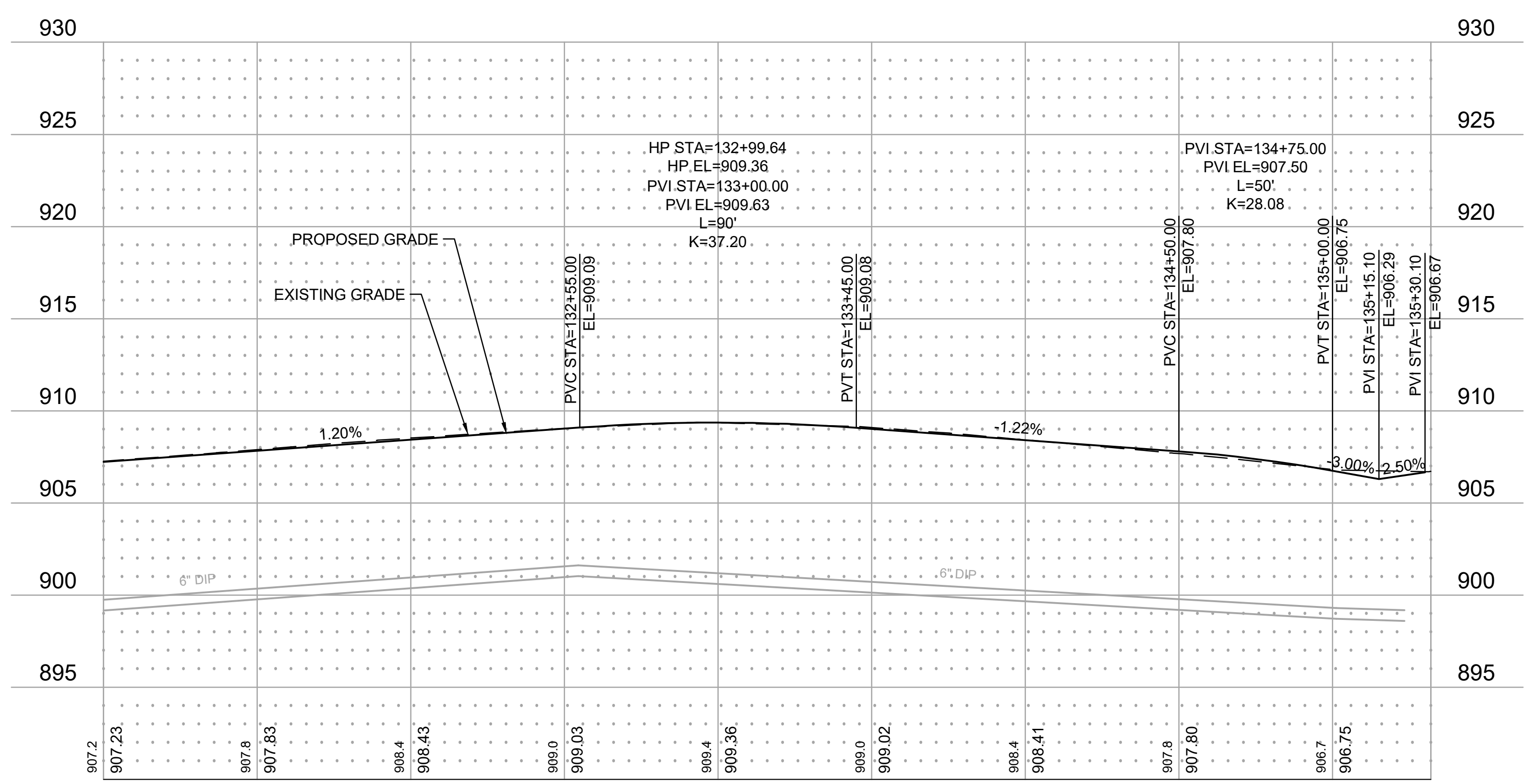
BENCHMARK EL. 909.07
TNH AT 130+08 & 19.8 R ON 127TH AVE

# 127TH AVENUE

BENCHMARK EL. 909.90
TNH SW QUAD OF BUCHANAN ST & 127TH AVE

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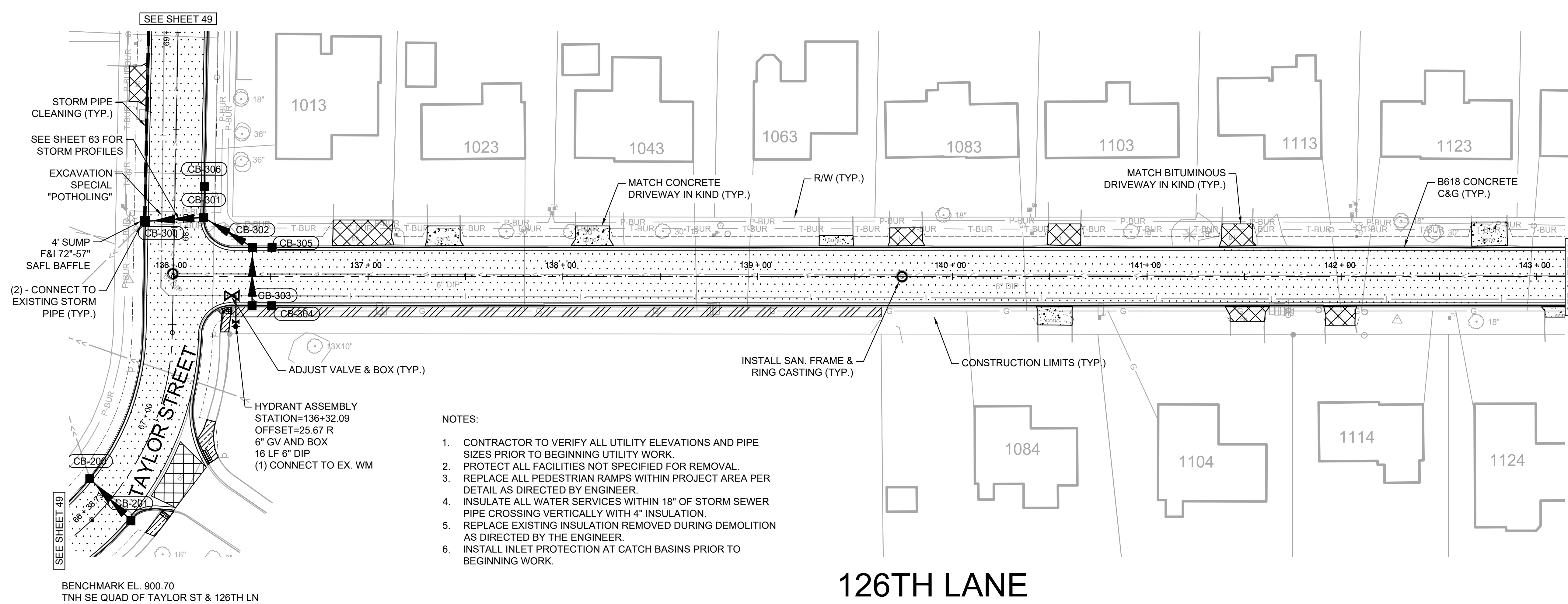
Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION
BLAINE, MN

CONSTRUCTION PLAN
127TH AVENUE
AREA 2

S.A.P. 106-141-003

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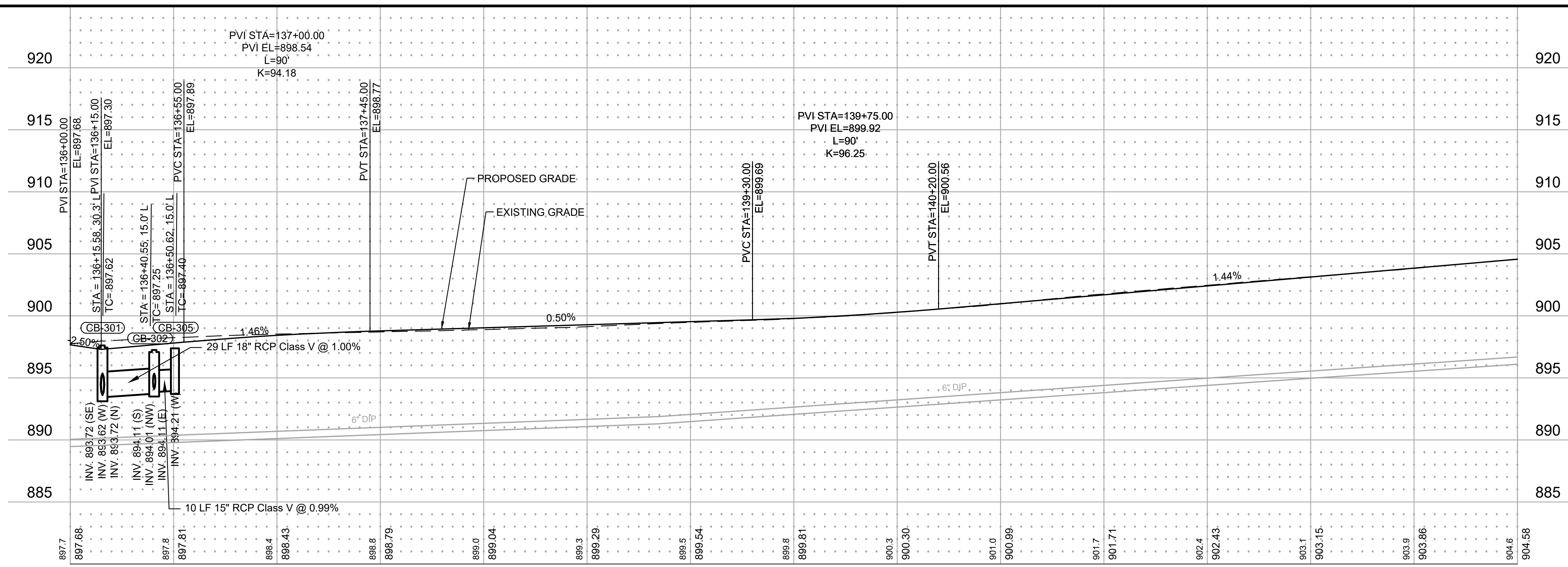
- ADJUST VALVE BOX
- GATE VALVE & BOX
- INSTALL SALVAGED HYDRANT ASSEMBLY
- STORM PIPE CLEANING

BENCHMARK EL. 900.70
TNH SE QUAD OF TAYLOR ST & 126TH LN

# 126TH LANE

BENCHMARK EL. 905.55
TNH AT 141+73 & 19.9 R ON 126TH LN



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Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION
BLAINE, MN

CONSTRUCTION PLAN
126TH LANE
AREA 2

S.A.P. 106-141-003

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N

30 0 30 60
scale 15 feet

## LEGEND

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- BITUMINOUS DRIVEWAY PAVEMENT
- 6" CONCRETE DRIVEWAY PAVEMENT
- 4" CONCRETE SIDEWALK
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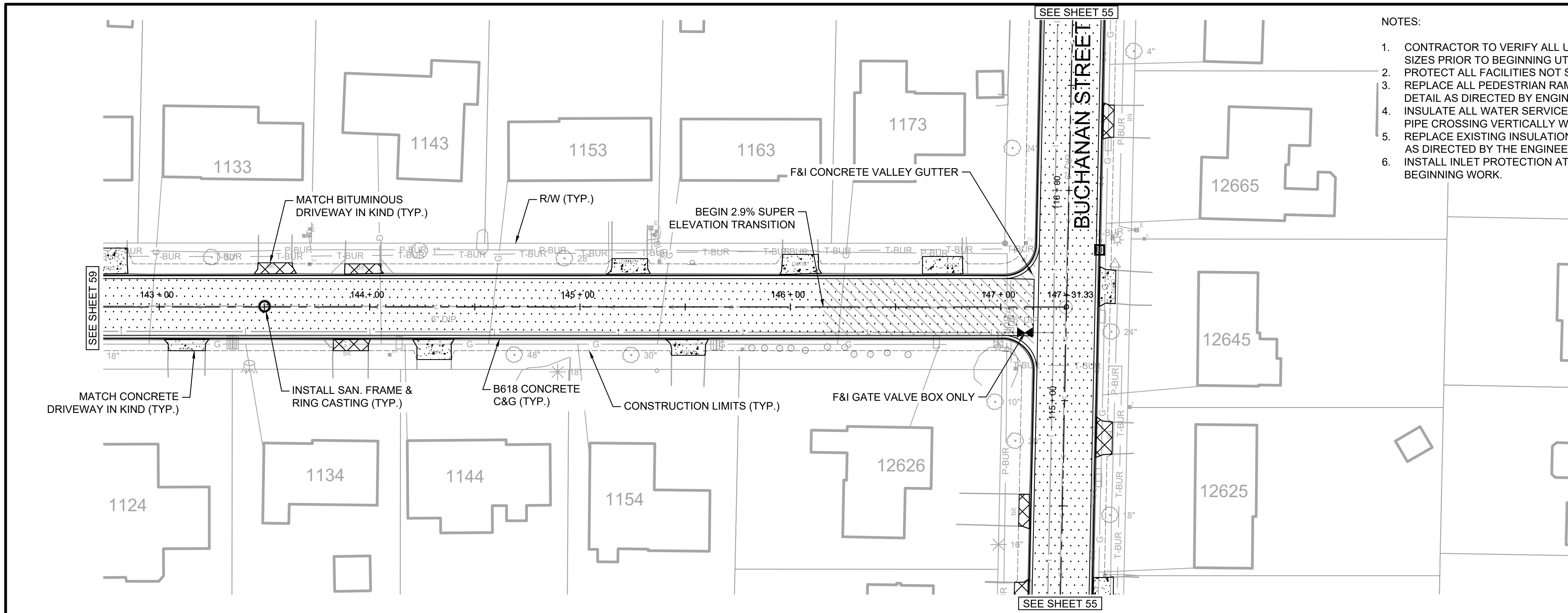
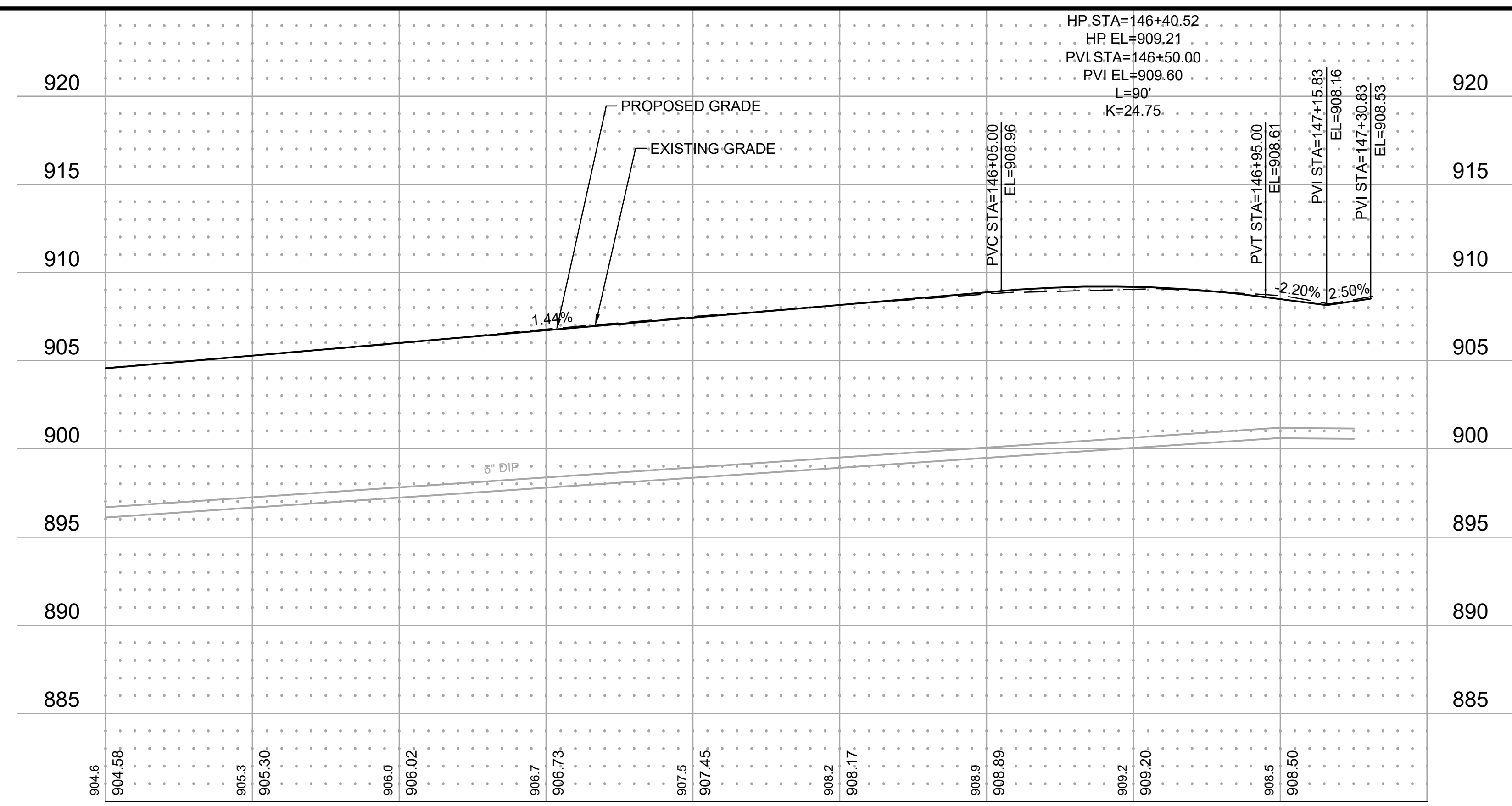
- CONSTRUCT DRAINAGE STRUCTURE
- ADJUST VALVE BOX
- GATE VALVE & BOX
- INSTALL SALVAGED HYDRANT ASSEMBLY
- STORM PIPE CLEANING




# 126TH LANE

BENCHMARK EL. 905.55
TNH AT 141+73 & 19.9 R ON 126TH LN

BENCHMARK EL. 911.78
TNH SW QUAD OF BUCHANAN ST & 126TH LN




| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
|---|---|---|---|---|---|---|---|
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

SEH

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 MN.

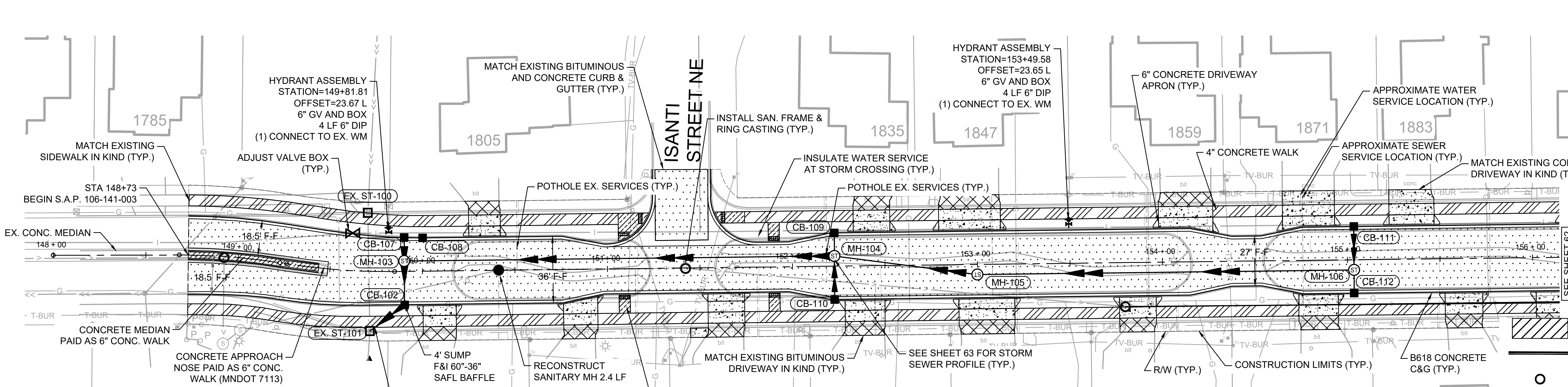
DATE 03.31.2022 Greg F Anderson LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

CONSTRUCTION PLAN
126TH LANE
AREA 2

S.A.P. 106-141-003




NOTES:

1. CONTRACTOR TO VERIFY ALL UTILITY ELEVATIONS AND PIPE SIZES PRIOR TO BEGINNING UTILITY WORK.
2. PROTECT ALL FACILITIES NOT SPECIFIED FOR REMOVAL.
3. REPLACE ALL PEDESTRIAN RAMPS WITHIN PROJECT AREA PER DETAIL AS DIRECTED BY ENGINEER.
4. INSULATE ALL WATER SERVICES WITHIN 18" OF STORM SEWER PIPE CROSSING VERTICALLY WITH 4" INSULATION.
5. REPLACE EXISTING INSULATION REMOVED DURING DEMOLITION AS DIRECTED BY THE ENGINEER.
6. INSTALL INLET PROTECTION AT CATCH BASINS PRIOR TO BEGINNING WORK.

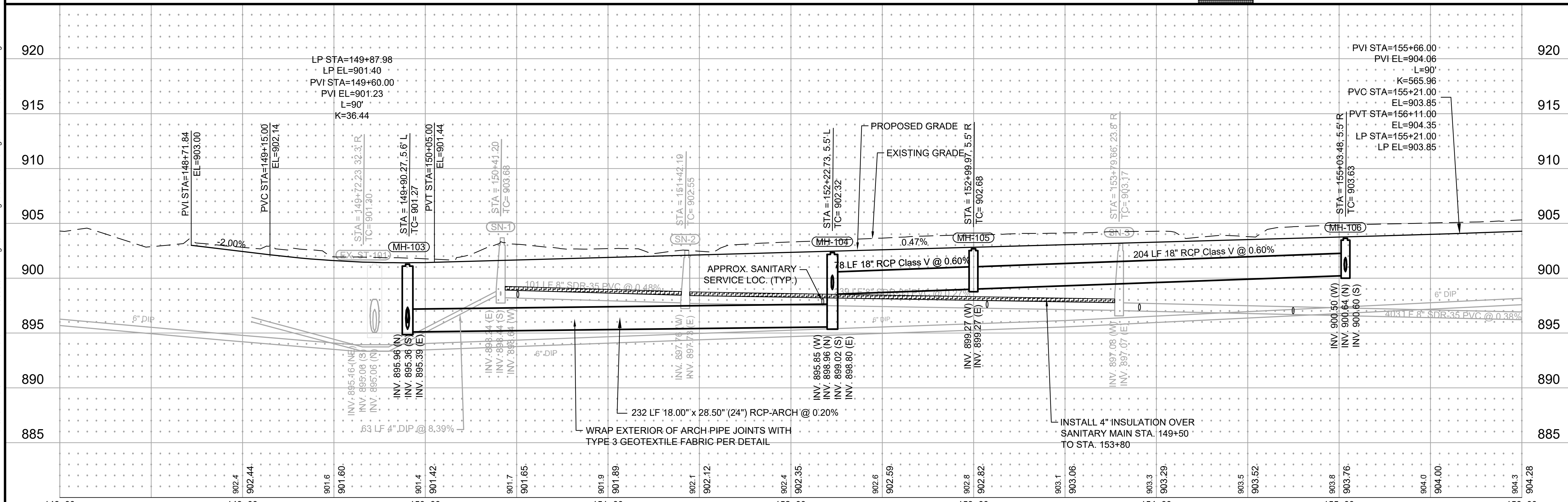
BENCHMARK EL. 904.11
TNH AT STA 149+82 AND 23.7 L ON 129TH AVENUE

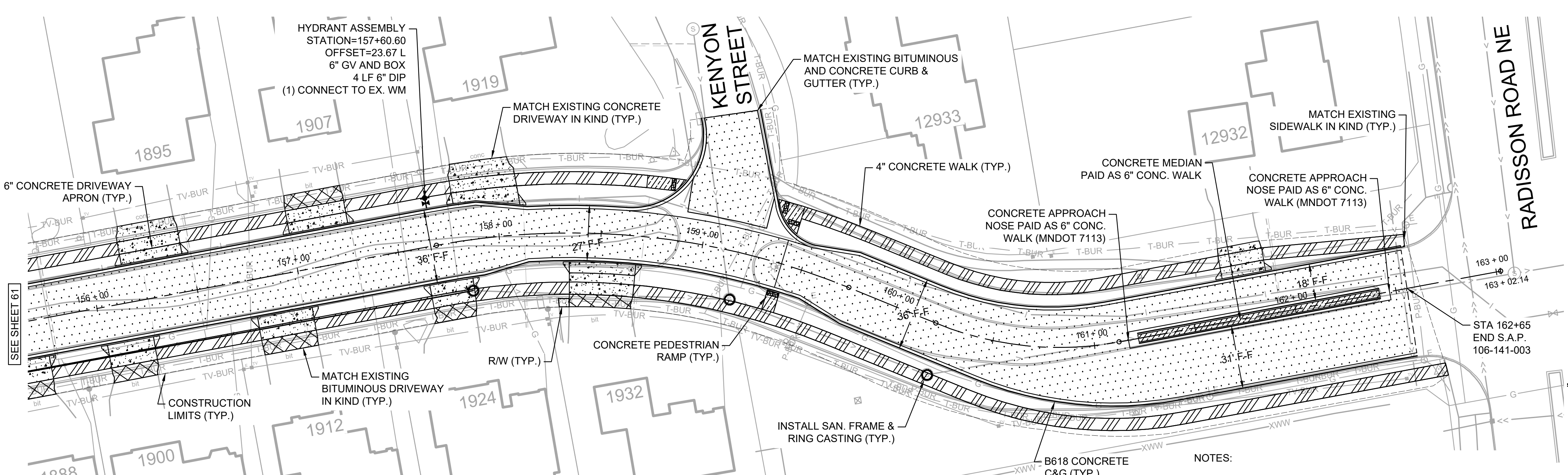
# 129TH AVENUE

LEGEND

- BITUMINOUS PAVEMENT
- BITUMINOUS DRIVEWAY PAVEMENT
- 6" CONCRETE DRIVEWAY PAVEMENT
- 4" CONCRETE SIDEWALK
- 6" CONCRETE SIDEWALK
- TRUNCATED DOMES
- SUPER ELEVATION GRADING
- B618 CONCRETE CURB & GUTTER
- INSTALL SAN. FRAME & RING CASTING
- INSTALL STORM FRAME & RING CASTING
- CONSTRUCT DRAINAGE STRUCTURE
- ADJUST VALVE BOX
- GATE VALVE & BOX
- INSTALL SALVAGED HYDRANT ASSEMBLY
- STORM PIPE CLEANING
- INSTALL STORM SEWER PIPE

BENCHMARK EL. 905.53
TNH AT STA 153+50 AND 23.7 L ON 129TH AVENUE






**LEGEND**

- BITUMINOUS PAVEMENT
- BITUMINOUS DRIVEWAY PAVEMENT
- 6" CONCRETE DRIVEWAY PAVEMENT
- 4" CONCRETE SIDEWALK
- 6" CONCRETE SIDEWALK
- TRUNCATED DOMES
- SUPER ELEVATION GRADING
- B618 CONCRETE CURB & GUTTER
- INSTALL SAN. FRAME & RING CASTING
- INSTALL STORM FRAME & RING CASTING
- CONSTRUCT DRAINAGE STRUCTURE
- ADJUST VALVE BOX
- GATE VALVE & BOX
- INSTALL SALVAGED HYDRANT ASSEMBLY
- STORM PIPE CLEANING
- INSTALL STORM SEWER PIPE

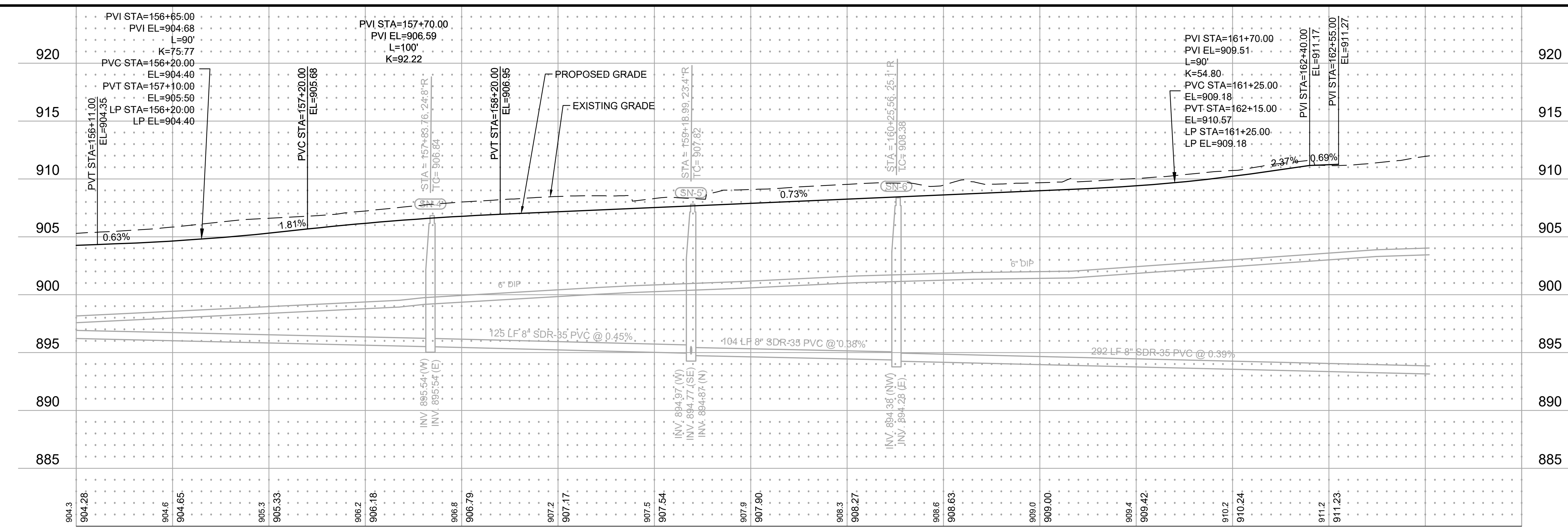
**NOTES:**

1. CONTRACTOR TO VERIFY ALL UTILITY ELEVATIONS AND PIPE SIZES PRIOR TO BEGINNING UTILITY WORK.
2. PROTECT ALL FACILITIES NOT SPECIFIED FOR REMOVAL.
3. REPLACE ALL PEDESTRIAN RAMPS WITHIN PROJECT AREA PER DETAIL AS DIRECTED BY ENGINEER.
4. INSULATE ALL WATER SERVICES WITHIN 18" OF STORM SEWER PIPE CROSSING VERTICALLY WITH 4" INSULATION.
5. REPLACE EXISTING INSULATION REMOVED DURING DEMOLITION AS DIRECTED BY THE ENGINEER.
6. INSTALL INLET PROTECTION AT CATCH BASINS PRIOR TO BEGINNING WORK.

BENCHMARK EL. 905.53
TNH AT STA 153+50 AND 23.7 L ON 129TH AVENUE

# 129TH AVENUE

BENCHMARK EL. 908.94
TNH AT STA 157+61 AND 23.7 L ON 129TH AVENUE




| | | | | | |
|---|---|---|---|---|---|
| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# / Revision Issue Description / Date |
| Drawn By | NMB, HC, EN | | | | |
| Designed By | DJC | | | | |
| Checked By | GFA | | | | |

SEH

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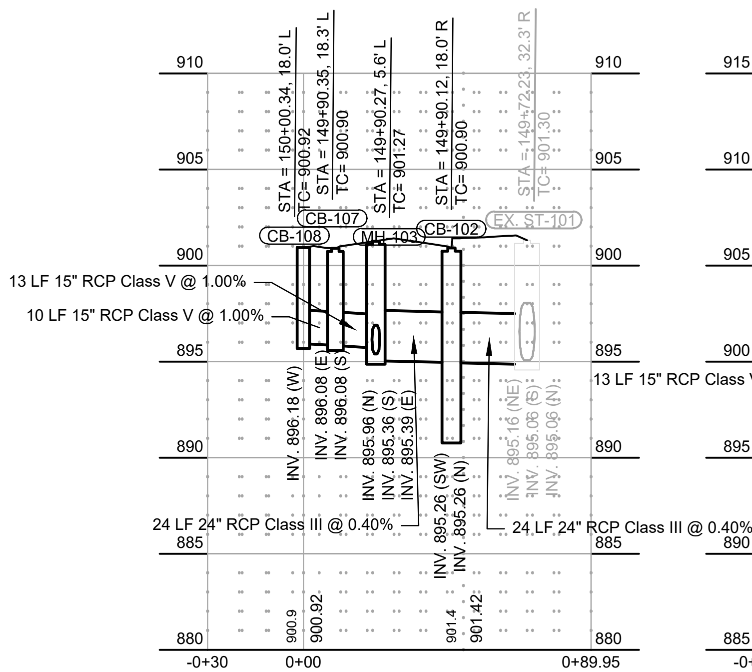
Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION
BLAINE, MN

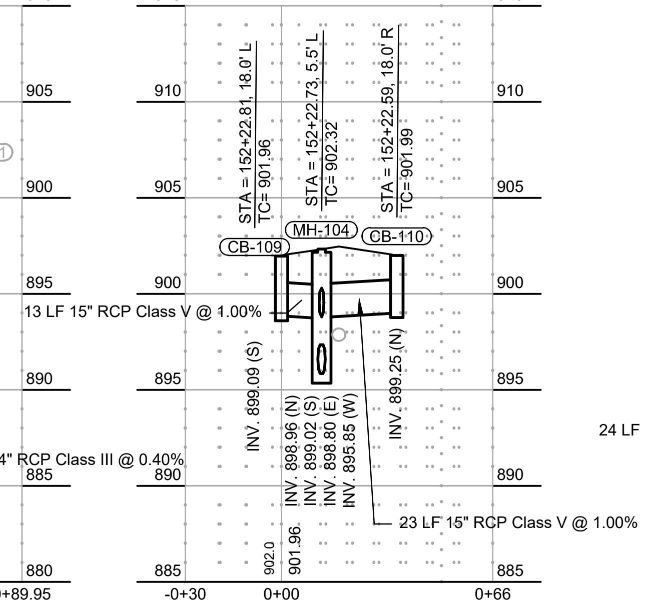
CONSTRUCTION PLAN
129TH AVENUE
AREA 3

S.A.P. 106-141-003

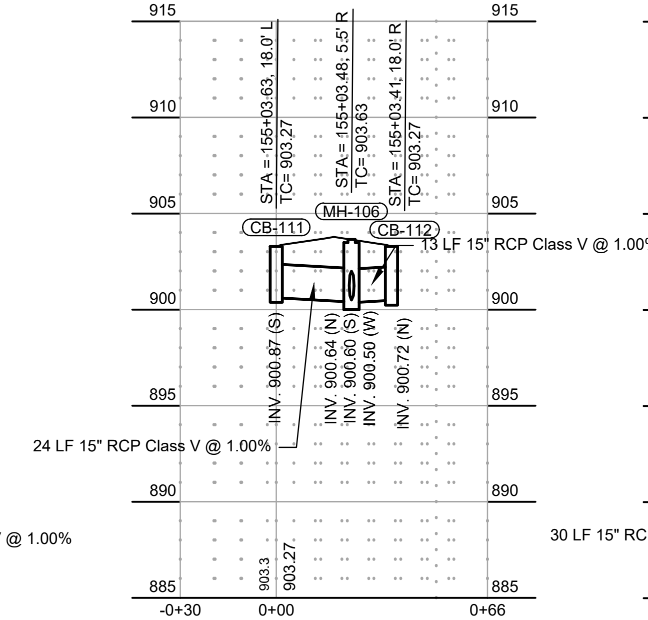
## CB 106 TO ex. ST 101



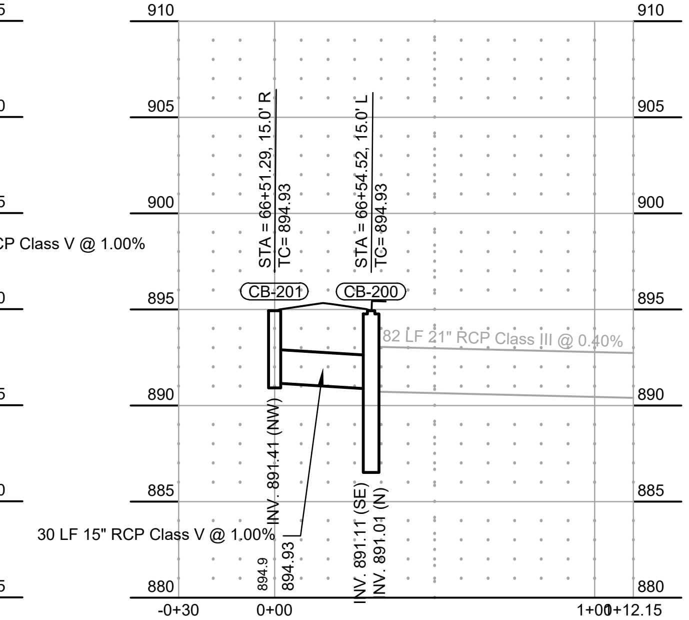

## CB 107 TO CB 103



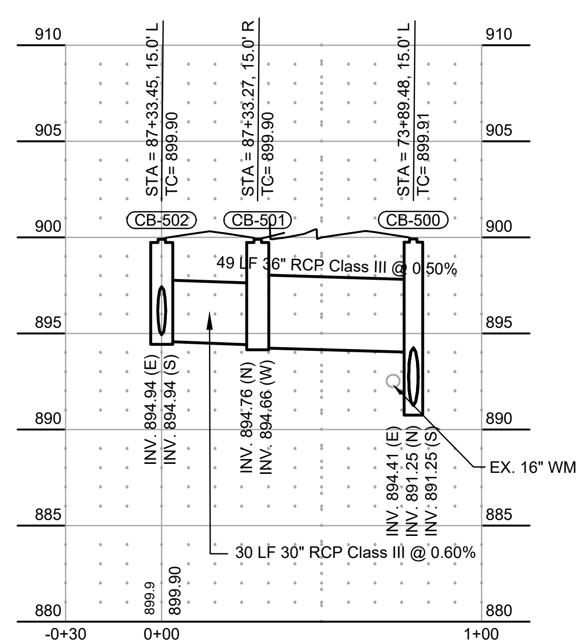

## CB 108 TO CB 104



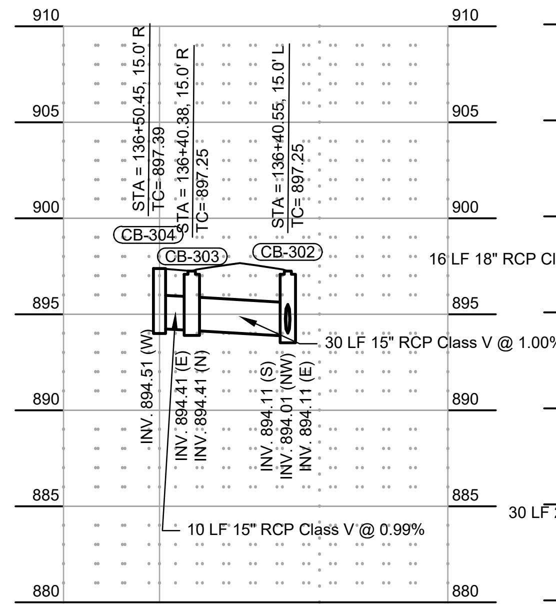

## CB 201 TO CB 200



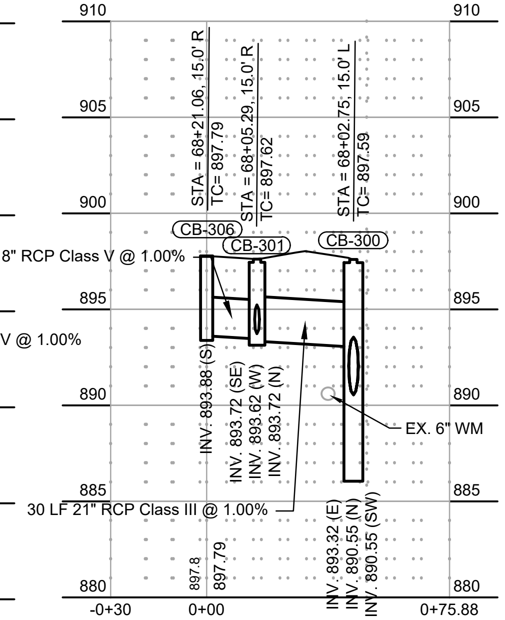

## CB 502 TO CB 500



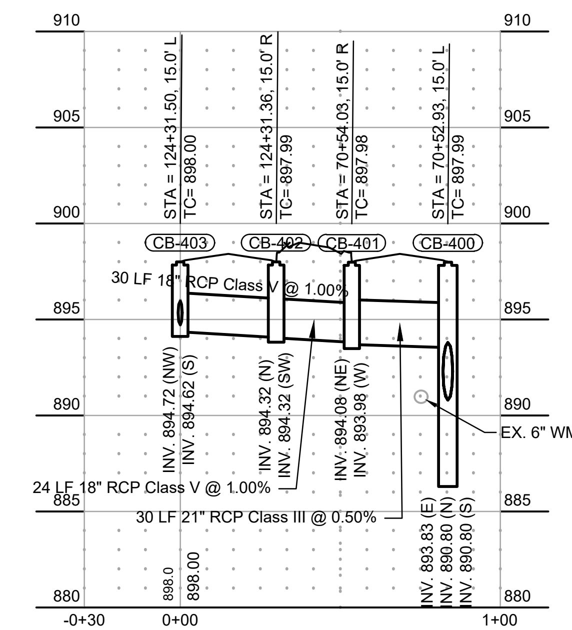

## CB 304 TO CB 302

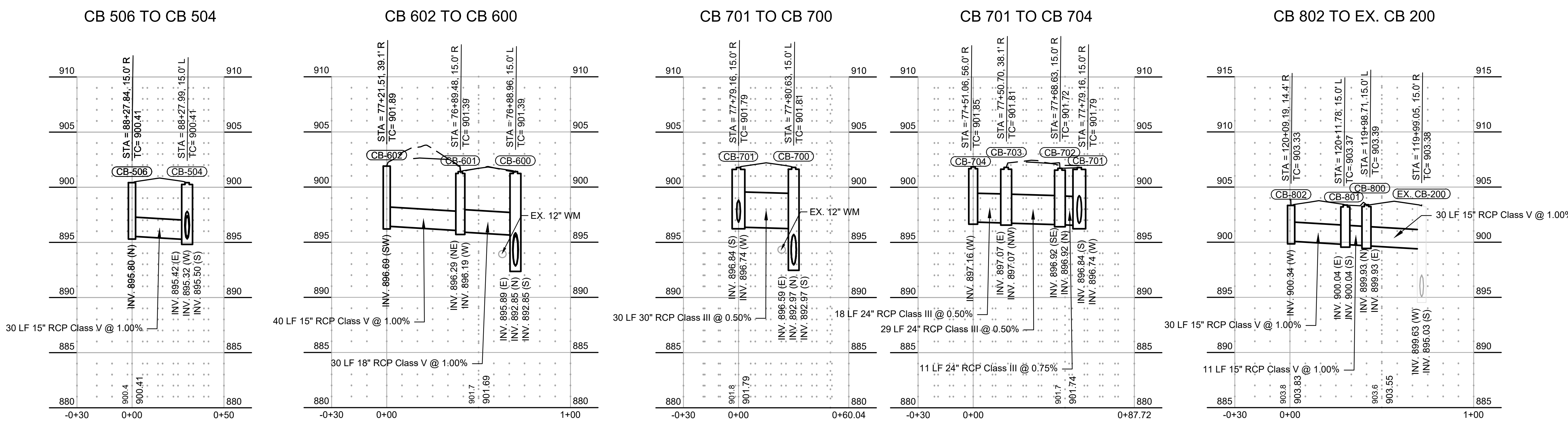



## CB 306 TO CB 300




## CB 403 TO CB 400






Save: 4/21/2022 12:21 PM enavratil Plot: 4/22/2022 1:18 PM X:\AE\B\BLAIN\165899\5-final-dsgn\51-drawings\10-Civil\cad\dwg\BL165899STPRO.dwg

| | | | | | | |
|---|---|---|---|---|---|---|
| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

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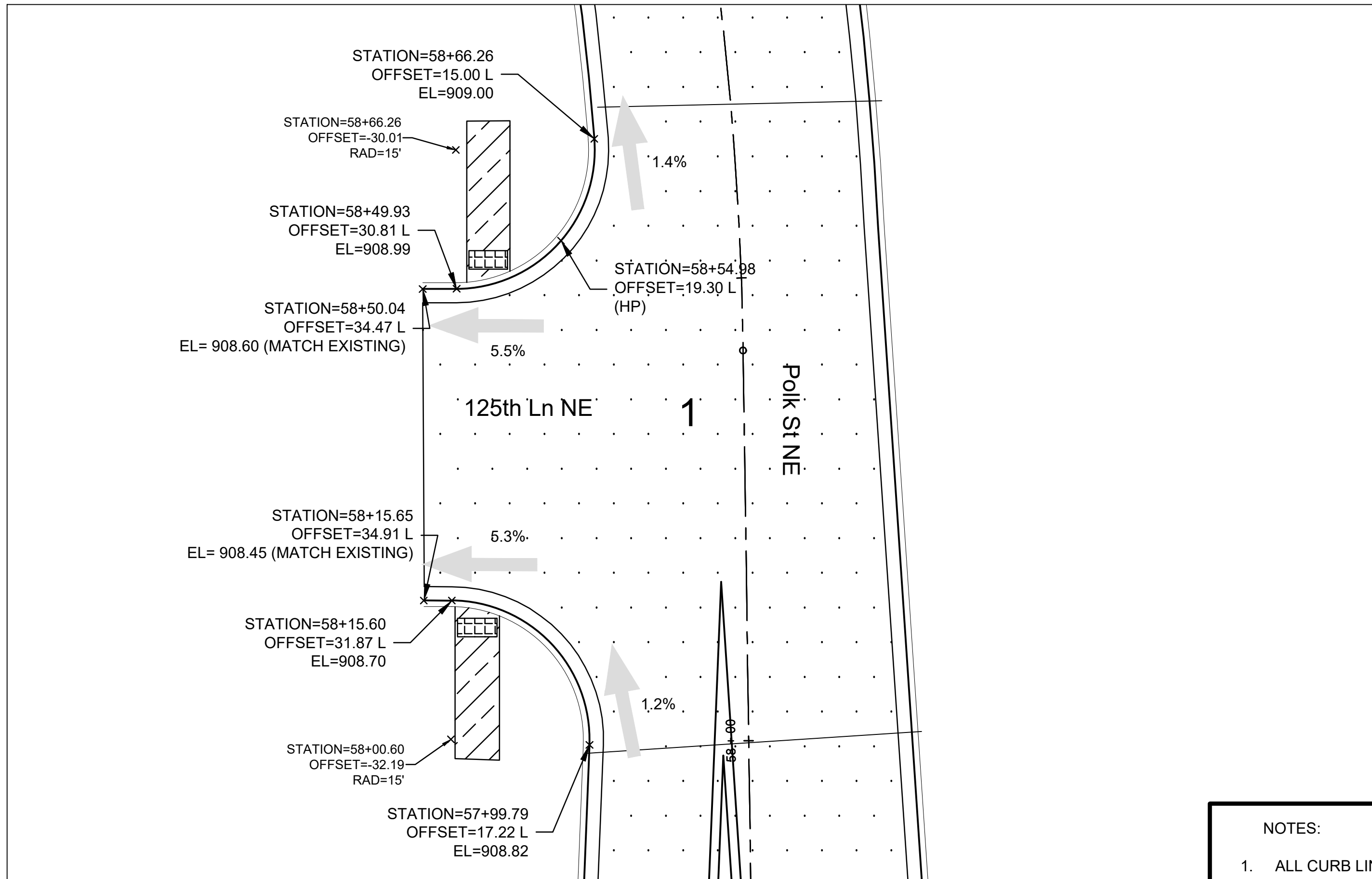
Greg F Anderson

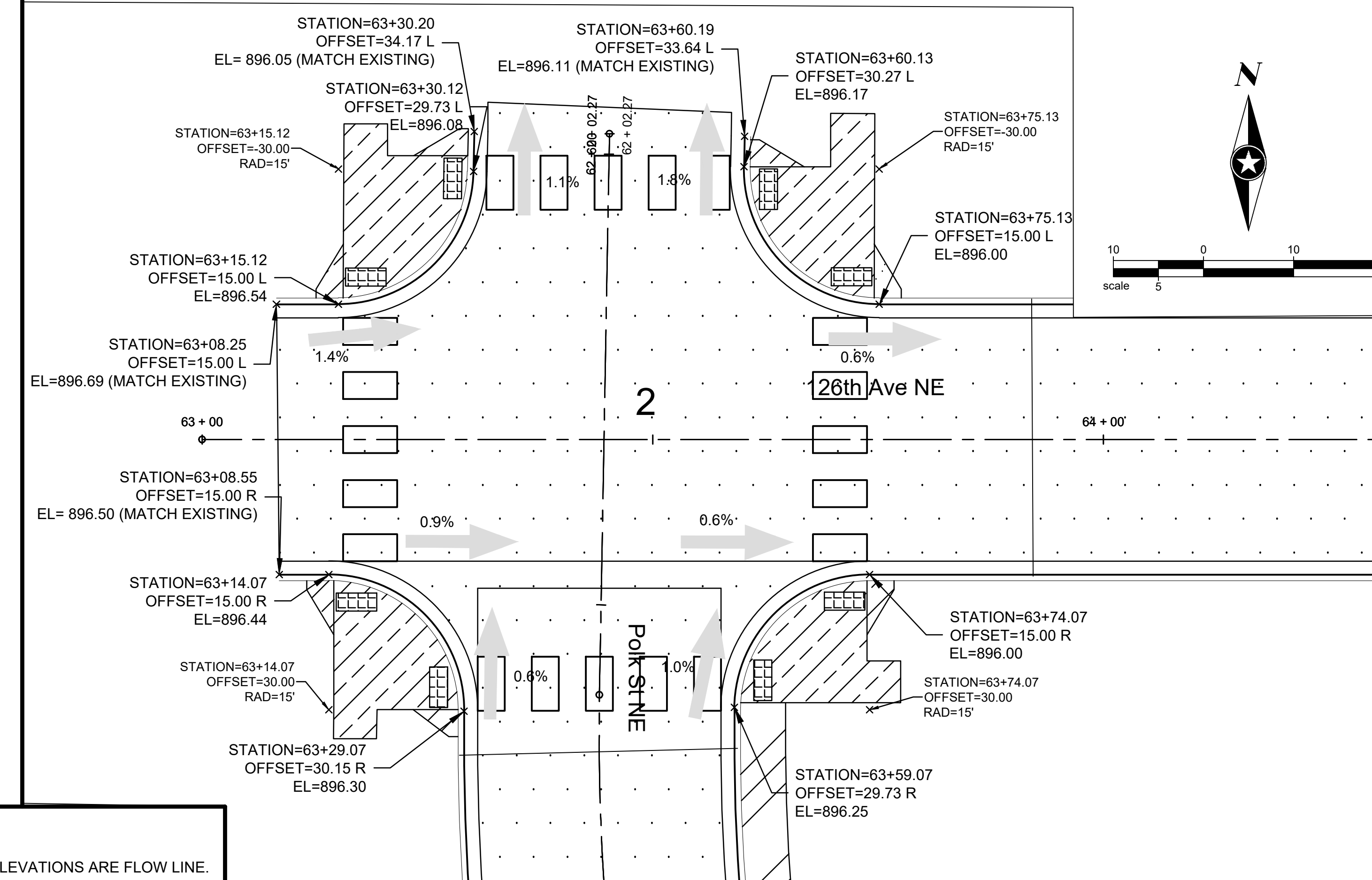
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

S.A.P. 106-141-003

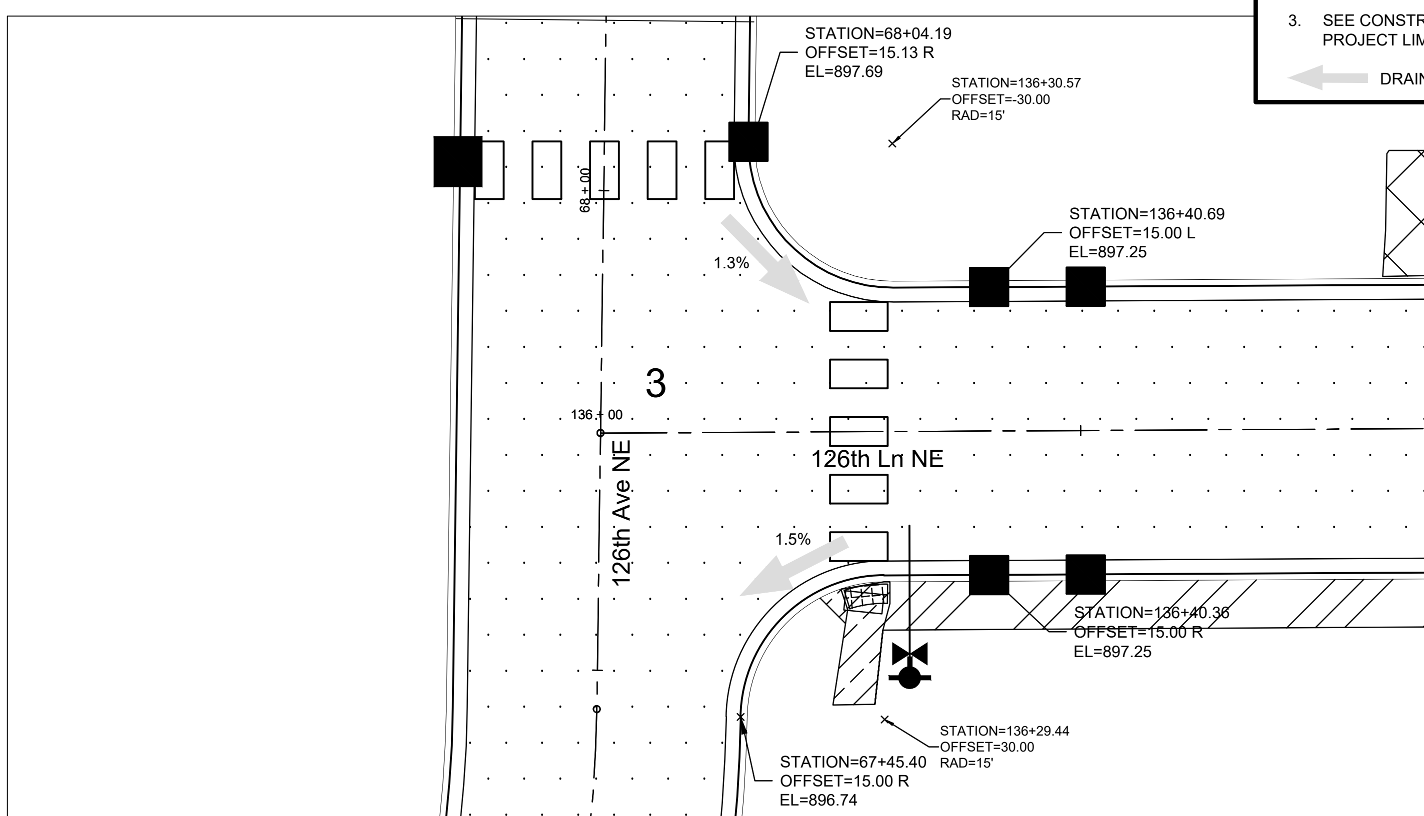


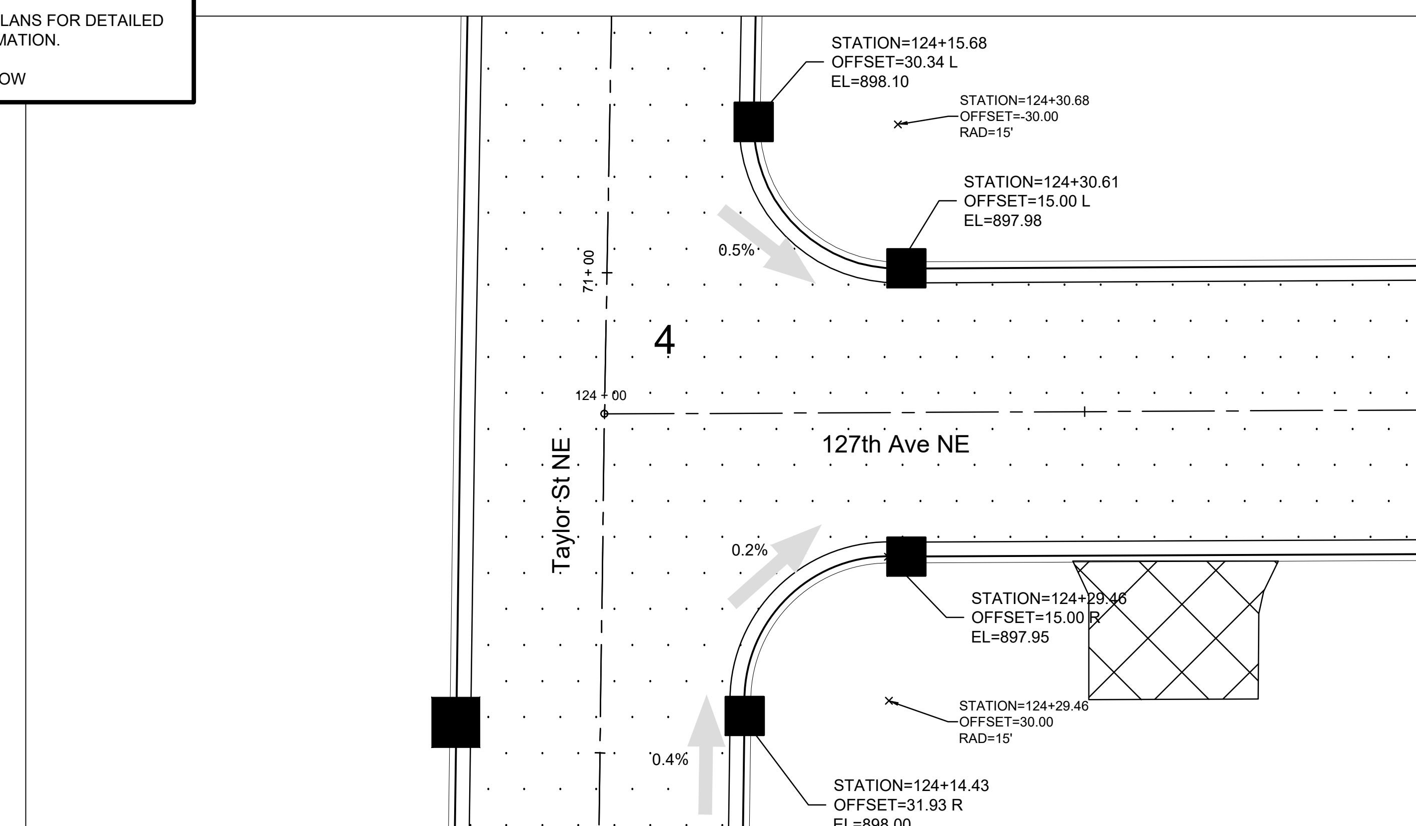



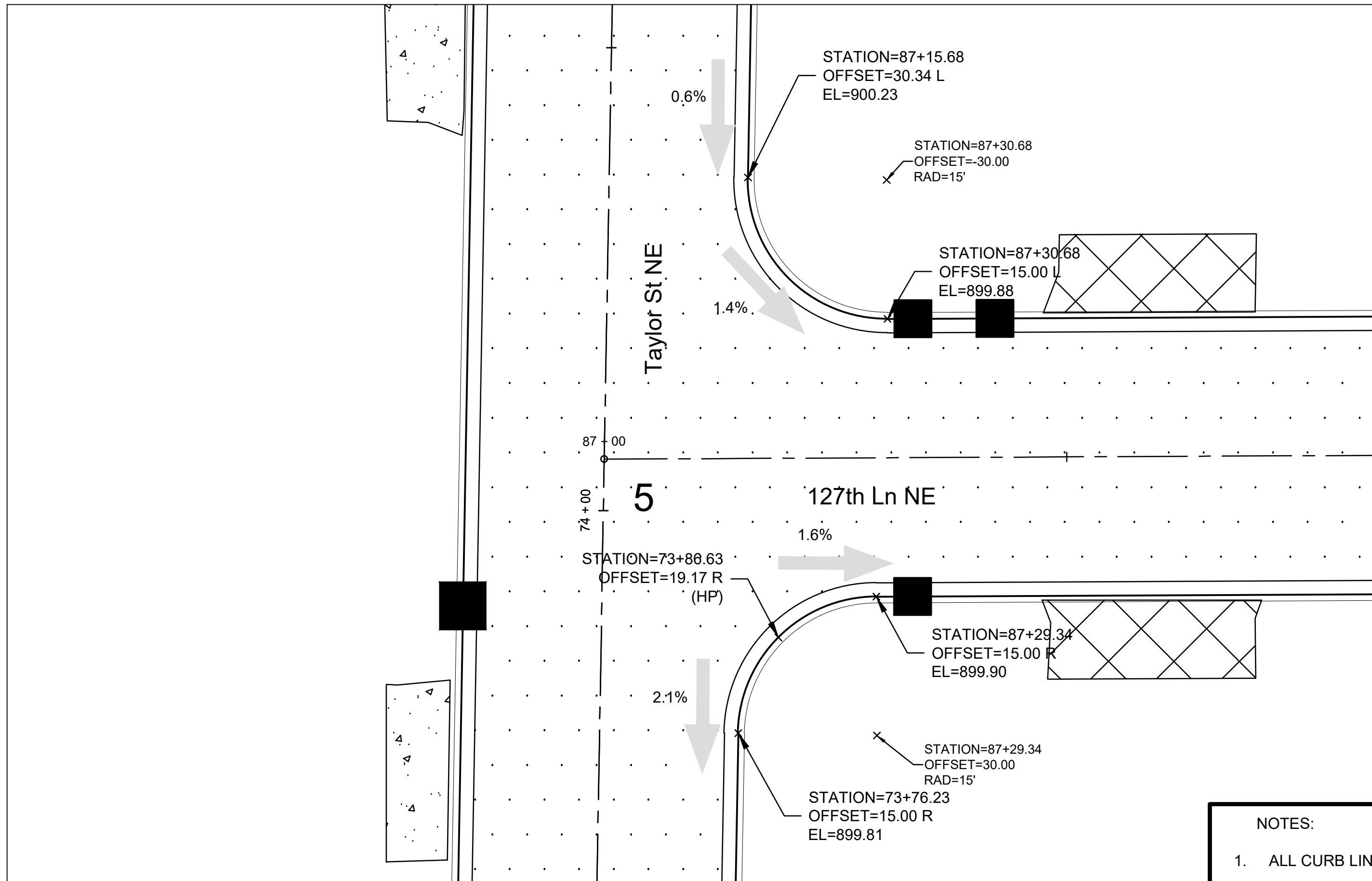

NOTES:

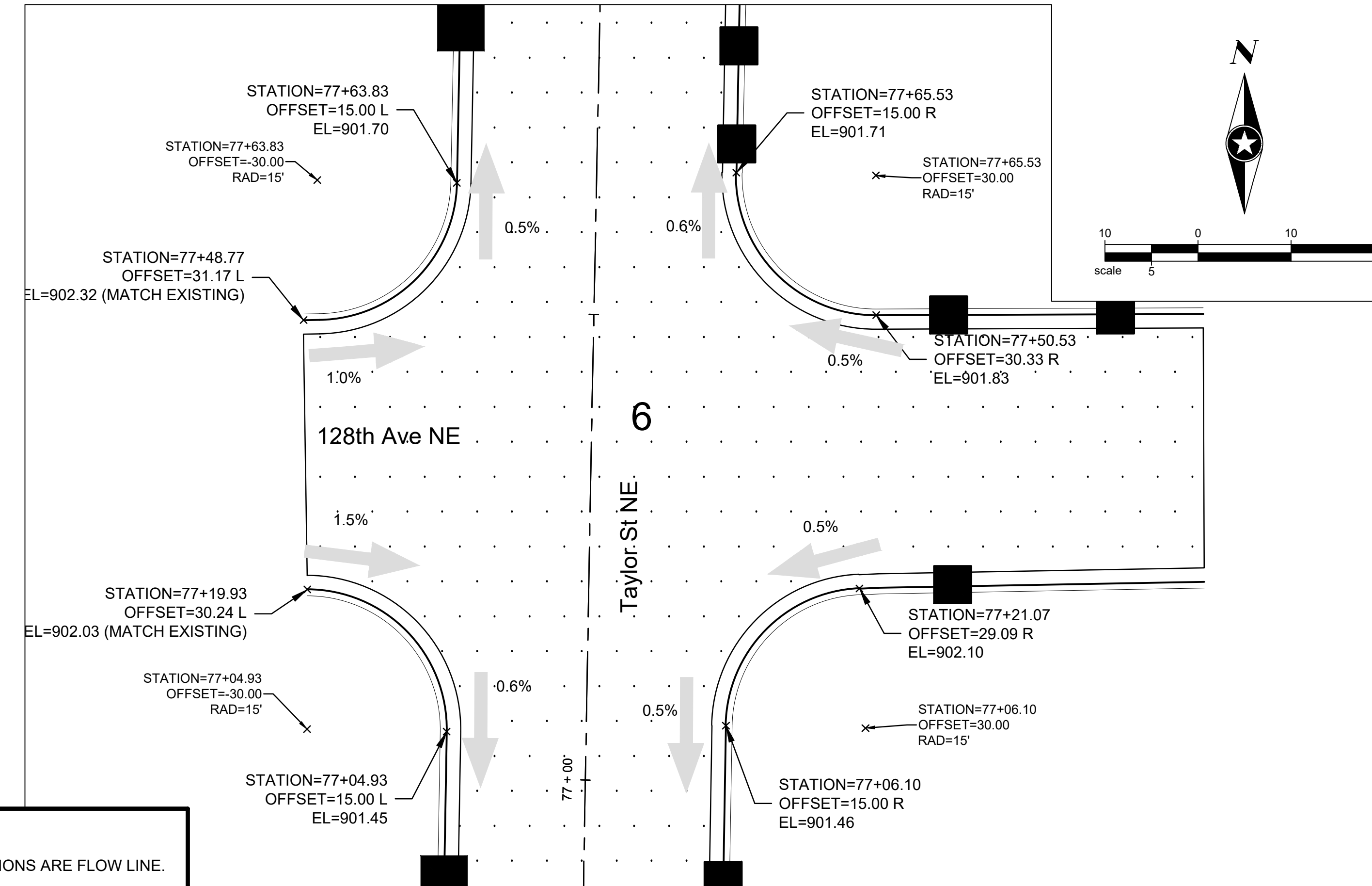
1. ALL CURB LINE ELEVATIONS ARE FLOW LINE.
2. RADII AT FACE OF CURB IS 15' UNLESS OTHERWISE NOTED.
3. SEE CONSTRUCTION PLANS FOR DETAILED PROJECT LIMIT INFORMATION.

DRAINAGE ARROW



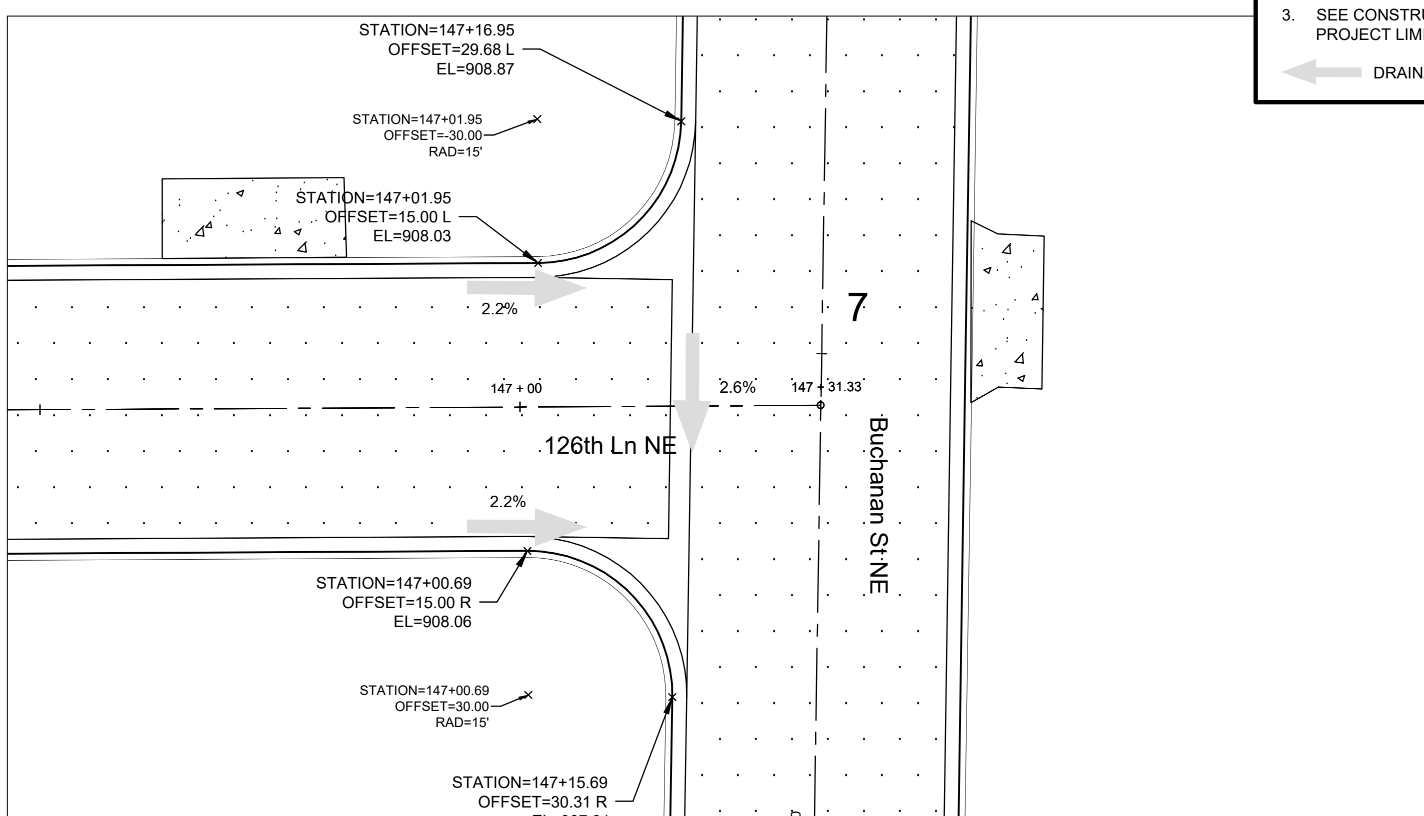


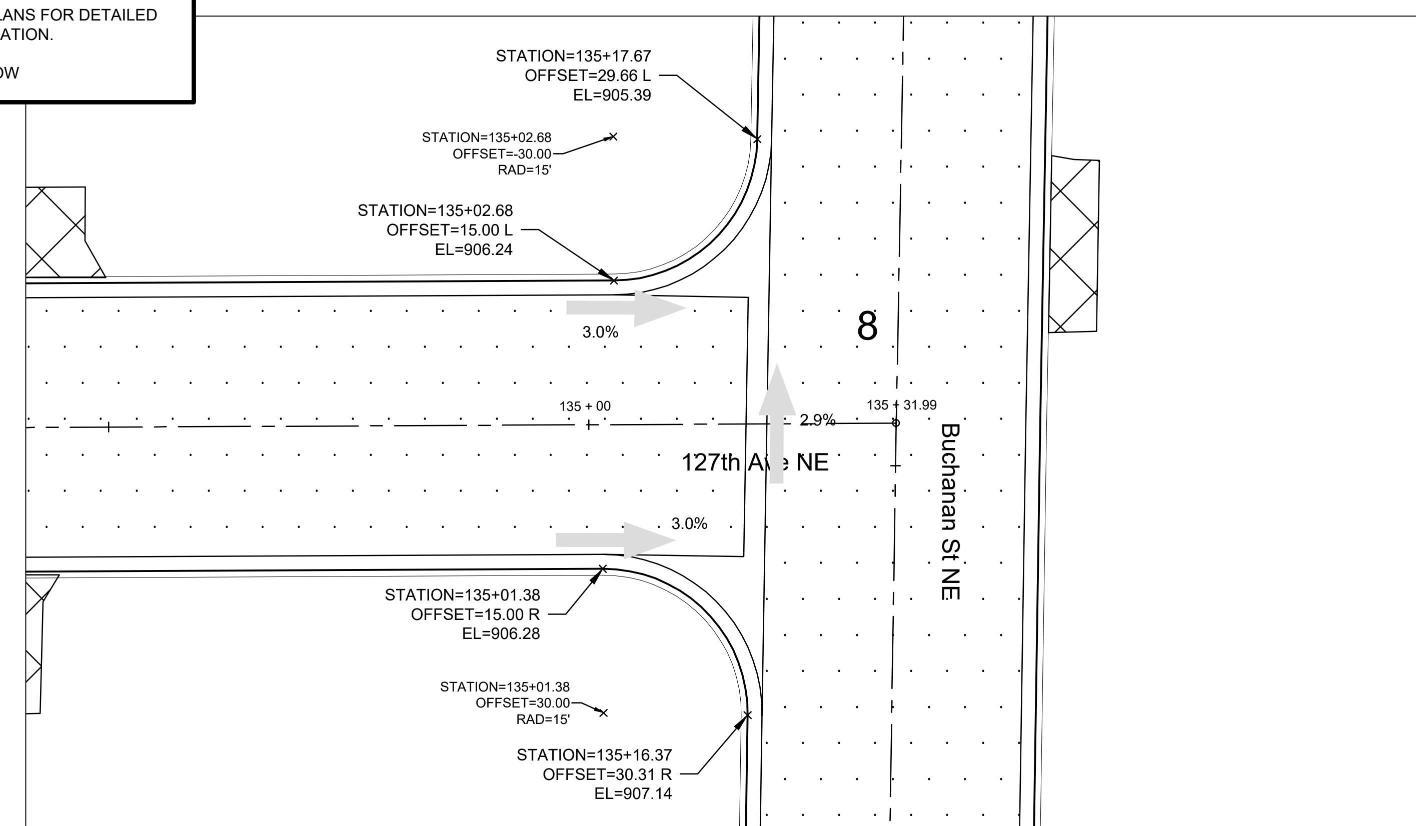




NOTES:

1. ALL CURB LINE ELEVATIONS ARE FLOW LINE.
2. RADII AT FACE OF CURB IS 15' UNLESS OTHERWISE NOTED.
3. SEE CONSTRUCTION PLANS FOR DETAILED PROJECT LIMIT INFORMATION.

DRAINAGE ARROW




| | | | | | | | |
|---|---|---|---|---|---|---|---|
| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

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Greg F Anderson

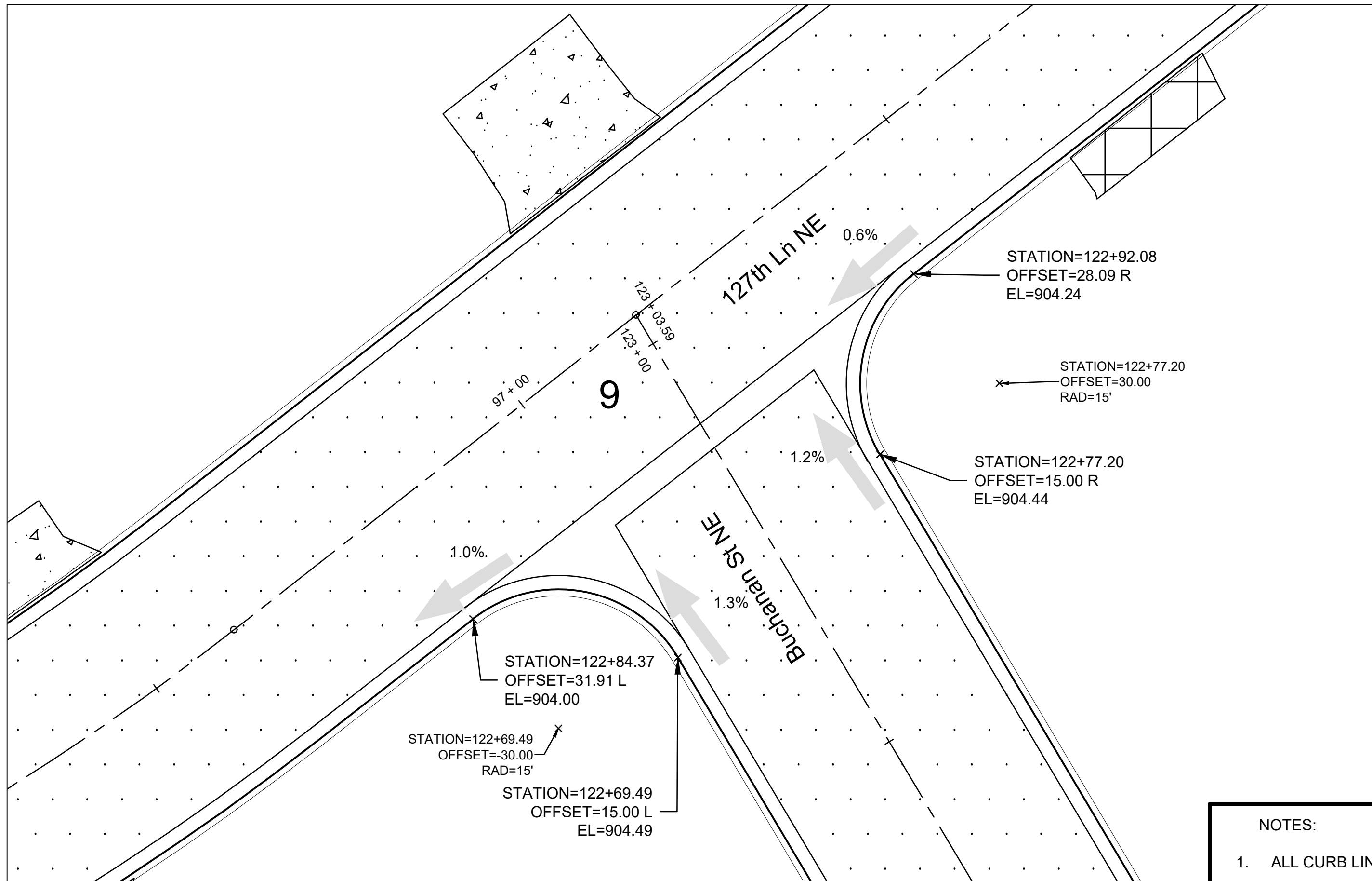
DATE 03.31.2022 LICENSE NO. 26859

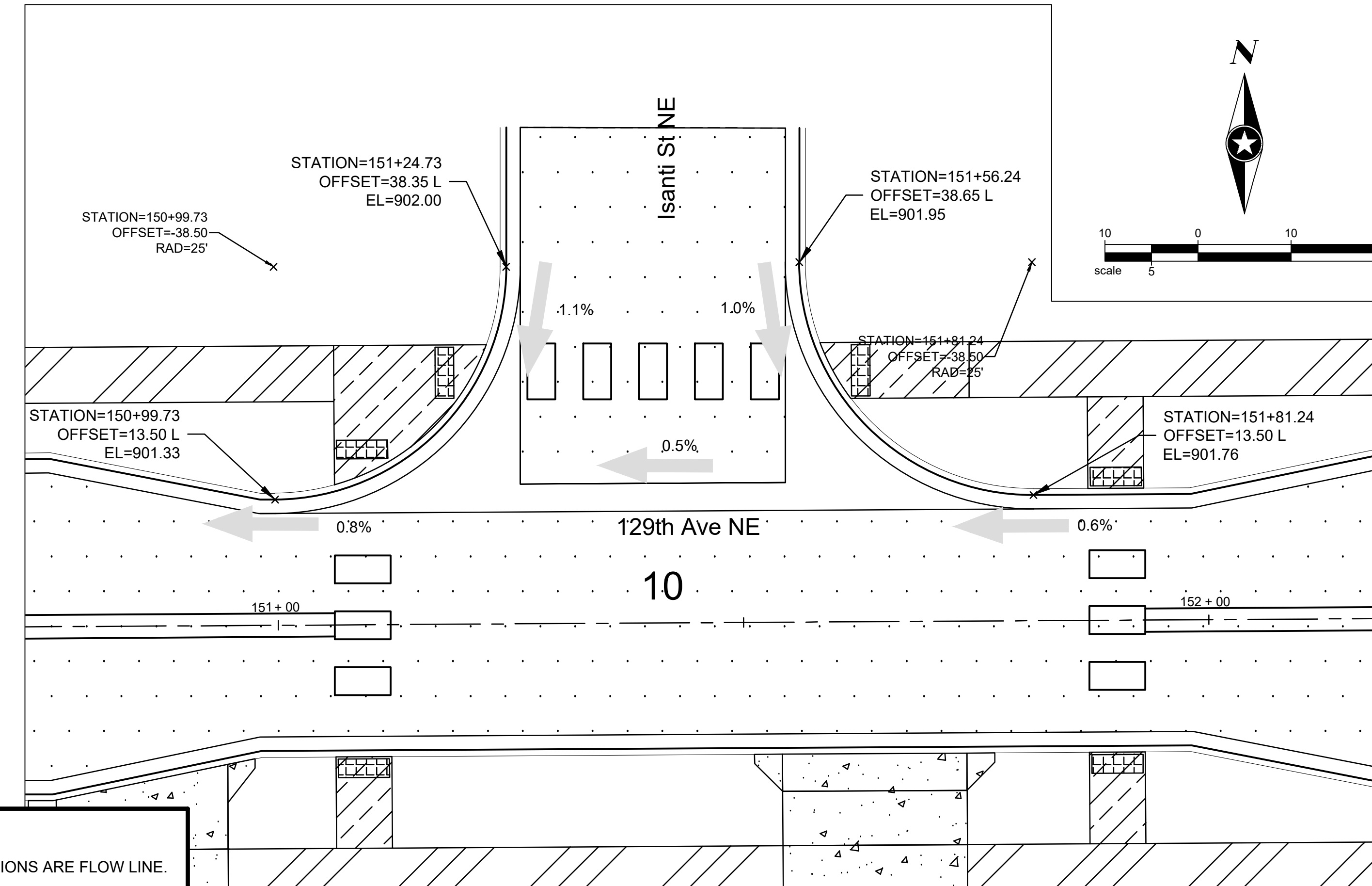
2022 STREET RECONSTRUCTION

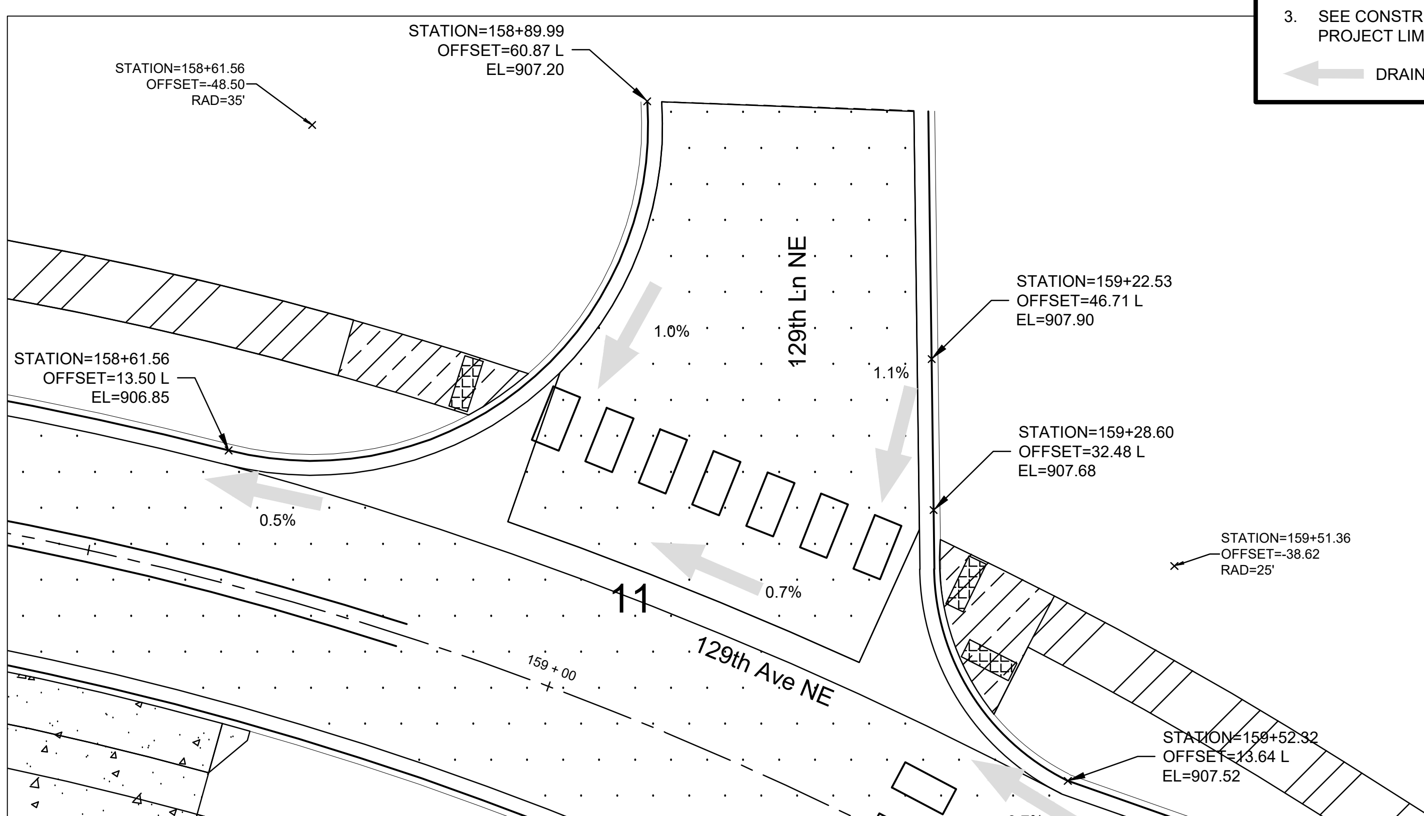
BLAINE, MN

INTERSECTION DETAILS

S.A.P. 106-141-003




NOTES:

1. ALL CURB LINE ELEVATIONS ARE FLOW LINE.
2. RADII AT FACE OF CURB IS 15' UNLESS OTHERWISE NOTED.
3. SEE CONSTRUCTION PLANS FOR DETAILED PROJECT LIMIT INFORMATION.

DRAINAGE ARROW

# PERMANENT PAVEMENT MARKING PLAN

NOTES & GUIDELINES

## NOTES & GUIDELINES

### GENERAL INFORMATION:

1. SEE 2582 IN THE SPECIAL PROVISIONS FOR PAVEMENT MARKING SPOTTING RESPONSIBILITIES.
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 AN AGENCY PLACED YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE MAINLINE RADIUS.
3. DO NOT APPLY THE PAVEMENT MARKINGS WHEN WEATHER AND OTHER CONDITIONS CAUSE A FILM OF DUST OR DEBRIS TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL IS APPLIED.
4. 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.

### CONTRAST MARKINGS

1. CONTRAST MARKINGS ARE DEFINED AS STANDARD LINEAR PAVEMENT MARKINGS, CROSSWALK MARKINGS AND PAVEMENT MESSAGES WITH 1.5 INCH NON REFLECTIVE BLACK BORDERS.

PLOTTED/REVISED: 9-FEB-2022

DISTRICT #: Metro
IPLOT NAME: title sheet
PATH & FILENAME: OTST\PavementMarkings\Typicals\6 Inch PM typ.dgn

LAST REVISED
MAY/17/2019

## PERMANENT PAVEMENT MARKING PLAN INDEX


| | |
|---|---|
| 68 | PERMANENT PAVEMENT MARKING TITLE SHEET |
| 69–71 | SIGNING DETAILS |
| 72–75 | PAVEMENT MARKING TYPICALS AND DETAILS |
| 76–88 | SIGNING AND STRIPING PLANS |


## SYMBOLS & MATERIALS LEGEND

— — — BROKEN LINE-50' CYCLE (10' LINE, 40' GAP)

- - - - - - - - DOTTED LINE-15' CYCLE (3' LINE, 12' GAP), UNLESS SHOWN OTHERWISE IN THE PLAN

CROSSWALK BLOCK

PAVEMENT MESSAGE (LEFT ARROW)

## STRIPING KEY

CIRCLE-MULTI COMP

BOX-PREF TAPE

TRIANGLE-PAINT

OCTAGON-PREF THERMO

| 1ST DIGIT WIDTH | 2ND DIGIT PATTERN | 3RD DIGIT COLOR |
|---|---|---|
| 4", 8", ETC. | S - SOLID<br>B - BROKEN<br>T - DOTTED<br>D - DOUBLE SOLID<br>K - DOUBLE BROKEN<br>H - DOUBLE DOTTED | W - WHITE<br>Y - YELLOW<br>B - BLACK |

G=GROUND IN W=WET REFLECTIVE
C=CONTRAST E=ENHANCED SKID RESISTANCE

EXAMPLE: 4SW GCW = 4" SOLID LINE WHITE PREF THERMO GROUND IN, CONTRAST, WET REFLECTIVE

I HEREBY CERTIFY THAT SHEETS 000 THROUGH 000 OF THIS PLAN WERE 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.

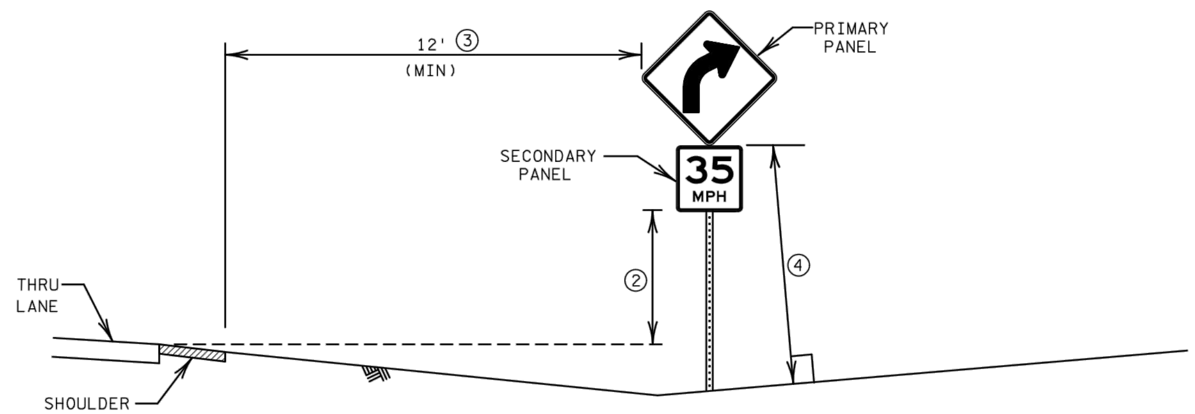
PRINT NAME: ENGR NAME HERE LICENSE #

DATE: $$DATE1$$ SIGNATURE: ____________

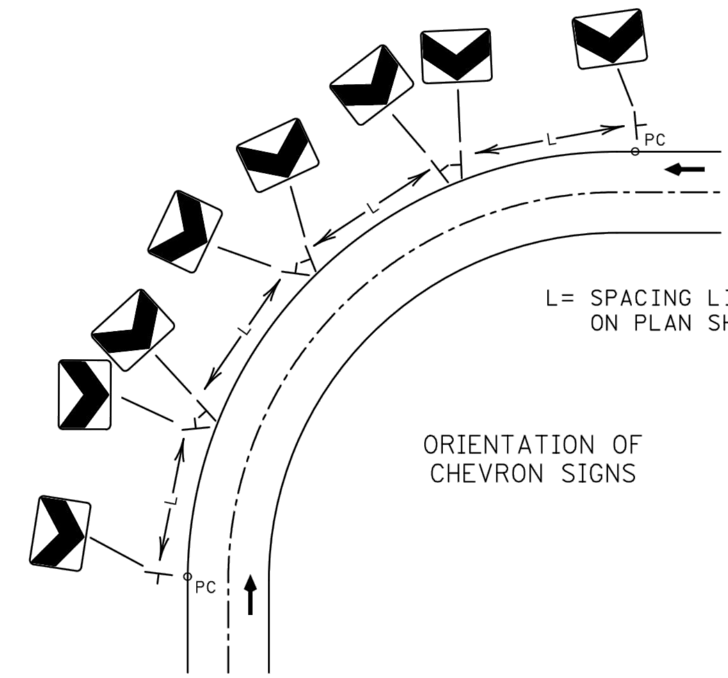
DESIGNER TECH NAME HERE

TITLE:
PERMANENT PAVEMENT MARKING
TITLE SHEET

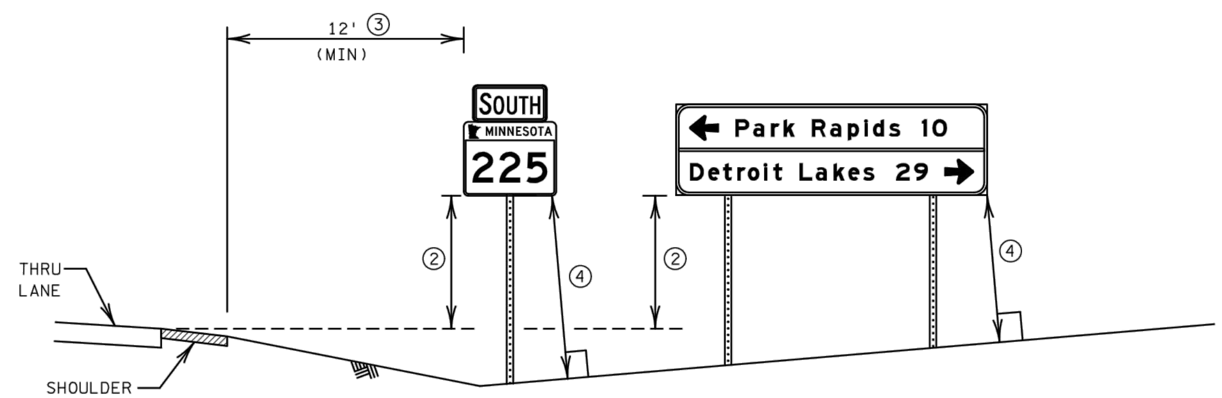
STATE PROJ. NO. 0000-000 (TH 000) SHEET NO. PMXXX OF PMXXX SHEETS



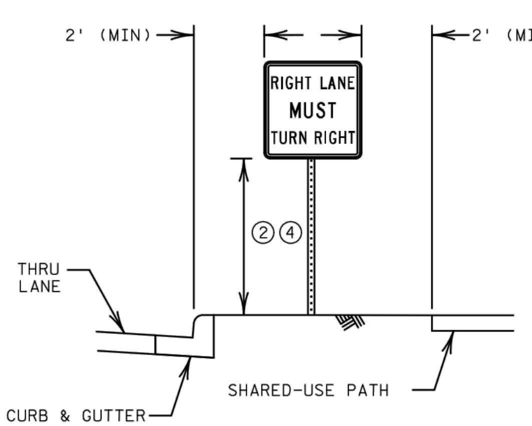

PRIMARY SIGNS WITH SECONDARY SIGN BELOW



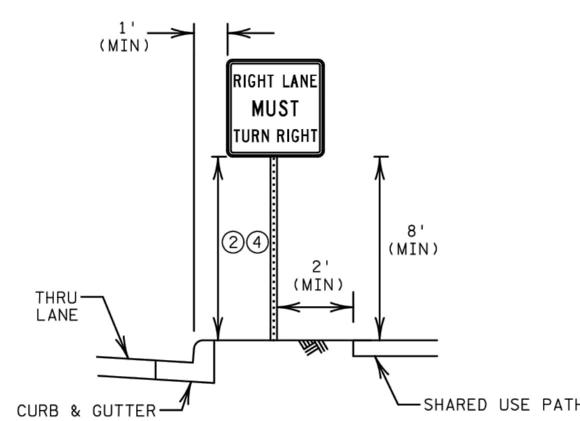

ORIENTATION OF
CHEVRON SIGNS




STANDARD LOCATIONS




6 TO 12 FEET
BOULEVARD LOCATIONS




LESS THAN 6 FEET
BOULEVARD LOCATIONS ①

NOTES:

PLACE SIGNS AND ORIENT THEM APPROXIMATELY AS SHOWN IN THE PLAN, AT RIGHT ANGLES TO THE DIRECTION OF, AND FACING, THE TRAFFIC THEY ARE INTENDED TO SERVE, UNLESS OTHERWISE SPECIFIED. TO AVOID SPECULAR GLARE, TURN SIGNS APPROXIMATELY THREE DEGREES AWAY FROM APPROACHING TRAFFIC.

IF A SIGN NEEDS TO BE REPOSITIONED FROM THE PROPOSED PLAN LOCATION IN ORDER TO AVOID CONFLICTS WITH UTILITIES OR OBSTACLES, CONTACT THE PROJECT ENGINEER.

MOUNT SIGN FACES PLUMB.

LATERAL CLEARANCES GIVEN APPLY TO RIGHT AND/OR LEFT SIDE INSTALLATION.

ERECT OR CONSTRUCT SIGN SUPPORT SO THAT NO PORTION OF THE SIGN PANEL IS WITHIN 8.5 FEET OF THE RAIL OF A RAILROAD TRACK.

PLACE SIGNS SUCH THAT OBSTACLES DO NOT BLOCK THEM FROM BEING VIEWED BY THE APPROACHING TRAFFIC.

PLACE SIGNS A MINIMUM OF 10 FEET FROM THE NEAREST OBSTACLE. OBSTACLES MAY INCLUDE, BUT ARE NOT LIMITED TO, LIGHT POLES, TREES, SIGNS, AND BUILDINGS. SIGNS MAY BE PLACED CLOSER TO SIGNS IN TIGHT AREAS, BUT NO MORE THAN TWO POSTS IN A SEVEN FEET DIAMETER CIRCLE.

① TO BE USED ONLY WHEN BOULEVARD IS TOO NARROW TO OBTAIN ADEQUATE CURBED LOCATION SIGN OFFSETS.

② ALL SIGN MOUNTING HEIGHTS ARE MEASURED VERTICALLY FROM THE BOTTOM OF THE LOWEST SIGN PANEL TO THE TOP OF THE CURB, OR IN ABSENCE OF CURB, TO THE NEAR EDGE OF THE THRU-LANE PAVEMENT. SEE SIGN TABULATIONS.

③ MINIMUM OFFSET MAY BE REDUCED TO AT LEAST 6' FROM SHOULDER AND AT LEAST 12' FROM THRU LANE IF SITE CONDITIONS PROHIBIT A 12' OFFSET FROM SHOULDER.

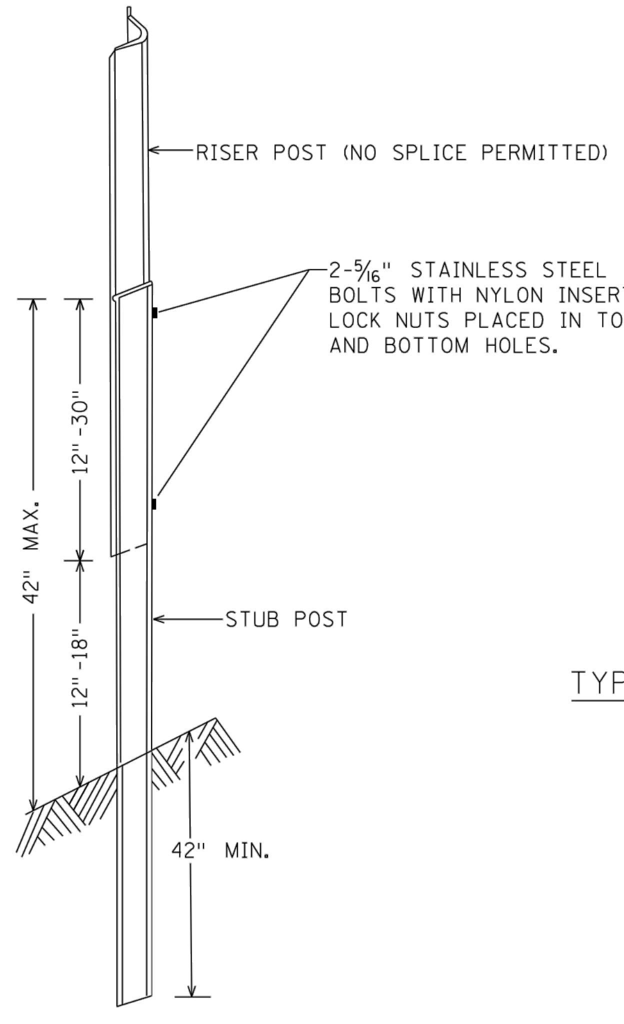
④ CRASHWORTHY HEIGHT IS AT LEAST 7 FEET FOR BREAKAWAY STRUCTURES AND AT LEAST 4 FEET FOR BENDABLE STRUCTURES. SEE SPECIFIC SQUARE TUBE BASE STRUCTURE PLAN FOR CRASH RESPONCE TYPE. THE CRASHWORTHY HEIGHT IS MEASURED TO THE BOTTOM OF THE PRIMARY SIGN PANEL EXCLUDING ANY SECONDARY SIGN PANELS, MARKERS, DELINEATORS, AND REFERENCE LOCATION SIGN PANELS. ANY SECONDARY SIGN PANELS MOUNTED TO MORE THAN ONE POST ARE CONSIDERED PRIMARY SIGN PANELS FOR CRASHWORTHY PURPOSES.

PLOT NAME: STANDARD PLACEMENT DETAIL
PATH & FILENAME: OTST\Signing\Typicals\Standard Plans\DETAIL Versions\Standard Sign Placement DETAIL.dgn
PLOTTED/REVISED: 10-DEC-2021

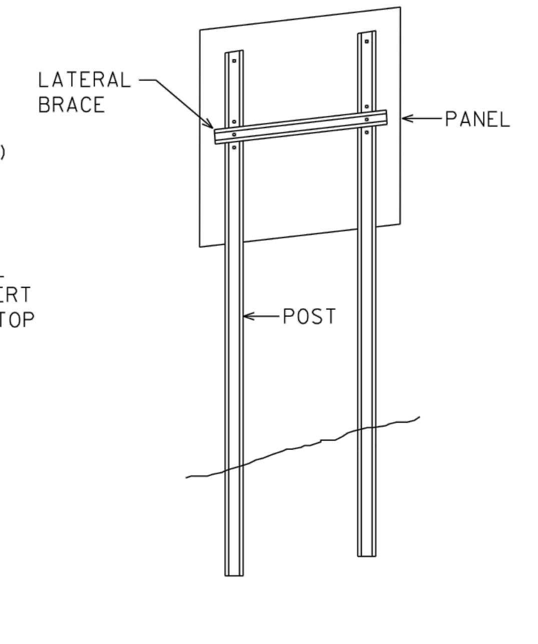
**STANDARD SIGN PLACEMENT**

| DRAWN BY: | CHECKED BY: | CERTIFIED BY ______ LICENSED PROFESSIONAL ENGINEER | LIC. NO. ______ | DATE 12/10/2021 | STATE PROJ. NO. | (T.H. ) | SHEET NO. OF SHEETS |
|---|---|---|---|---|---|---|---|

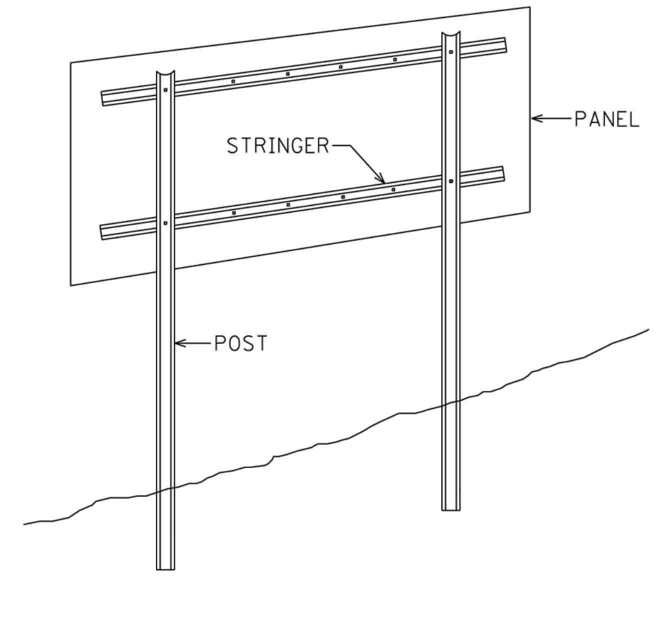
## TYPE C & D POST



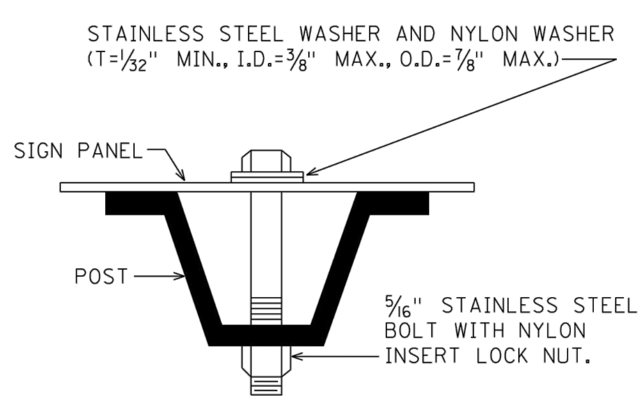

U POST BREAKAWAY SPLICE



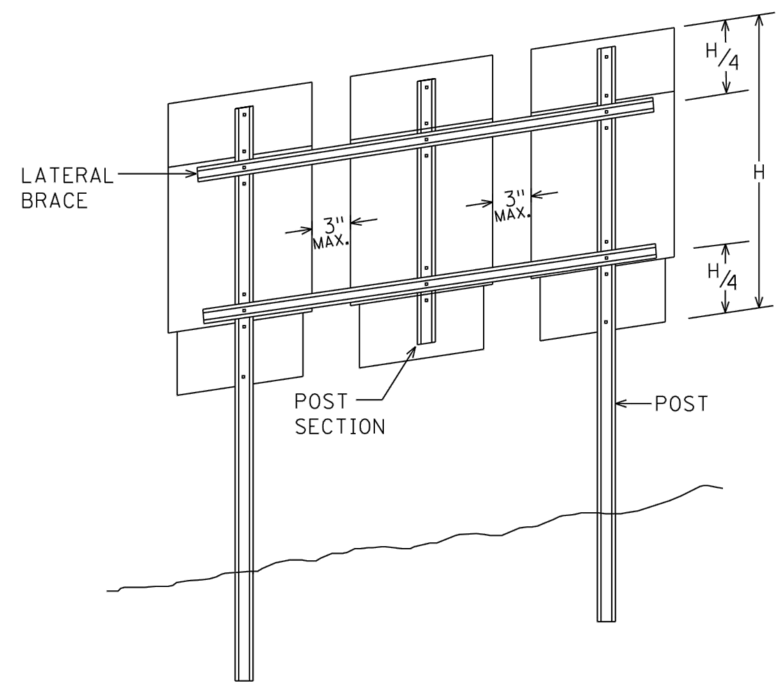

TYPICAL TYPE C INSTALLATION




TYPICAL TYPE D INSTALLATION




U POST MOUNTING
TYPE C SIGNS




MODIFIED TYPE C INSTALLATION

NOTES:

1. USE 3 LB/FT STUB POSTS. SHALL CONFORM TO MNDOT 3401.
2. USE 2.5 LB/FT RISER POSTS, STRINGERS, KNEE BRACES AND LATERAL BRACES. ALL SHALL CONFORM TO MNDOT 3401.
3. SEE SIGN DATA SHEETS FOR NUMBER OF POSTS, KNEE BRACES, POST LENGTHS AND SPACINGS, AS DETERMINED FROM TEM CHARTS 6.3 AND 6.4.
4. IF MORE THAN TWO POSTS ARE NEEDED, THE MINIMUM SPACING SHALL BE 45" BETWEEN POSTS.
5. TYPE D SIGN PANELS SHALL BE BOLTED TO STRINGERS AT 24" MAXIMUM INTERVALS IN ACCORDANCE WITH THE TYPE D STRINGER AND PANEL-JOINT DETAIL (SEE MNDOT STANDARD SIGNS AND MARKINGS MANUAL).
6. MOUNTING (PUNCH CODE) FOR TYPE C SIGN PANELS SHALL BE AS INDICATED IN THE MNDOT STANDARD SIGNS AND MARKINGS MANUAL UNLESS OTHERWISE SPECIFIED.
7. ALL RISER (VERTICAL) U POSTS SHALL BE SPLICED. DRIVEN STUB POSTS SHALL BE AT LEAST 7' LONG.
8. USE STAINLESS STEEL 5/16" BOLTS, WASHERS AND NYLON INSERT LOCK NUTS AS SHOWN FOR ALL GROUND MOUNTED AND OVERHEAD MOUNTED SIGNS.
9. STAINLESS STEEL WASHER WITH SAME DIMENSIONS SHALL BE PROVIDED BETWEEN ALL NYLON WASHERS AND BOLT HEADS.
10. BRACING STUBS SHALL BE NO MORE THAN 4" ABOVE GROUND AND EMBEDDED AT LEAST 42".
11. A-FRAME BRACKET SHALL BE STEEL CONFORMING TO MNDOT 3306 AND GALVANIZED IN ACCORDANCE WITH MNDOT 3394.
12. COLLARS SHALL BE USED TO SHIM OVERLAYS AND LEGEND COMPONENTS AWAY FROM PANEL WHERE INTERFERENCE WITH BOLT HEADS IS ENCOUNTERED. MNDOT 3352.2A6.
13. 2 POST TYPE C SIGNS SHALL BE REINFORCED WITH AT LEAST ONE LATERAL BRACE. INSTALLATIONS WHERE THE TOTAL PANEL HEIGHT IS 60" OR MORE SHALL HAVE TWO LATERAL BRACES LOCATED APPROXIMATELY AT THE QUARTER POINTS.
14. WHERE 2 SINGLE POST TYPE C SIGNS ARE INSTALLED SIDE BY SIDE, THEY SHALL BE REINFORCED LATERALLY BY AT LEAST 2 BRACES, BOLTED AT EACH POST AND LOCATED APPROXIMATELY AT THE QUARTER POINTS.
15. WHERE 3 OR MORE TYPE C SIGNS ARE INSTALLED SIDE BY SIDE, THEY SHALL BE REINFORCED LATERALLY BY AT LEAST 2 BRACES, BOLTED AT EACH POST AND POST SECTION AND LOCATED APPROXIMATELY AT THE QUARTER POINTS AS SHOWN IN MODIFIED TYPE C INSTALLATION.

# TYPE C & D SIGN STRUCTURAL DETAILS

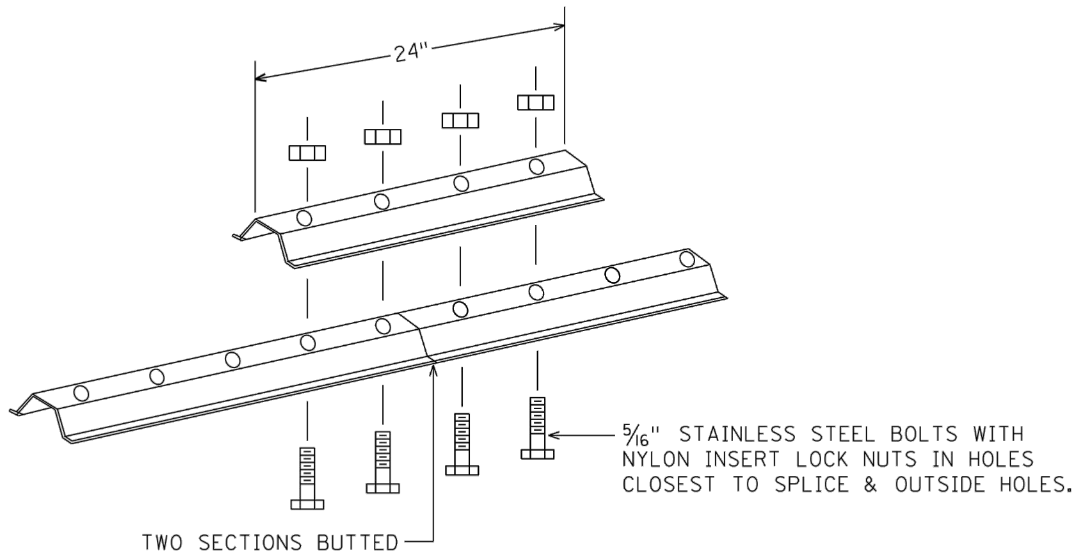
Sheet 1 of 2

PLOTTED/REVISED: 5/5/2017

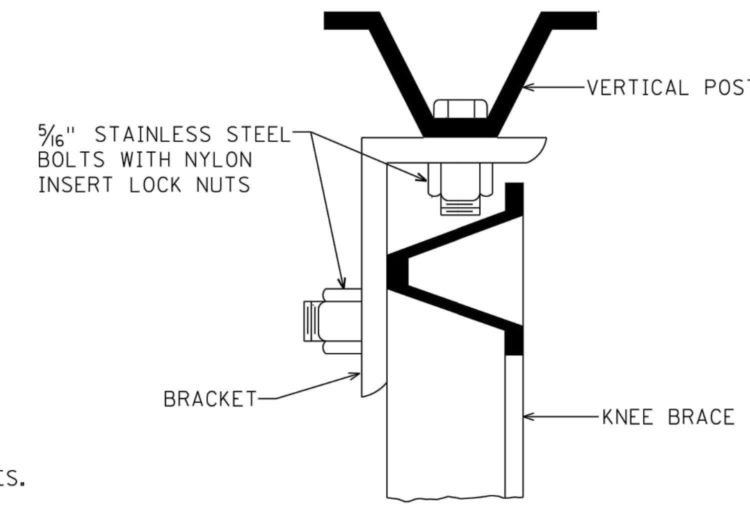
DISTRICT #: METRO
IPLOT NAME: C&D Ground Mounted Structural Detail Sheets-2 sheets
PATH & FILENAME: IP_PWP:d1624788\C&D Ground Mounted Structural Detail Sheets-2 sheets.dgn

**REVISED: 5-5-2017**

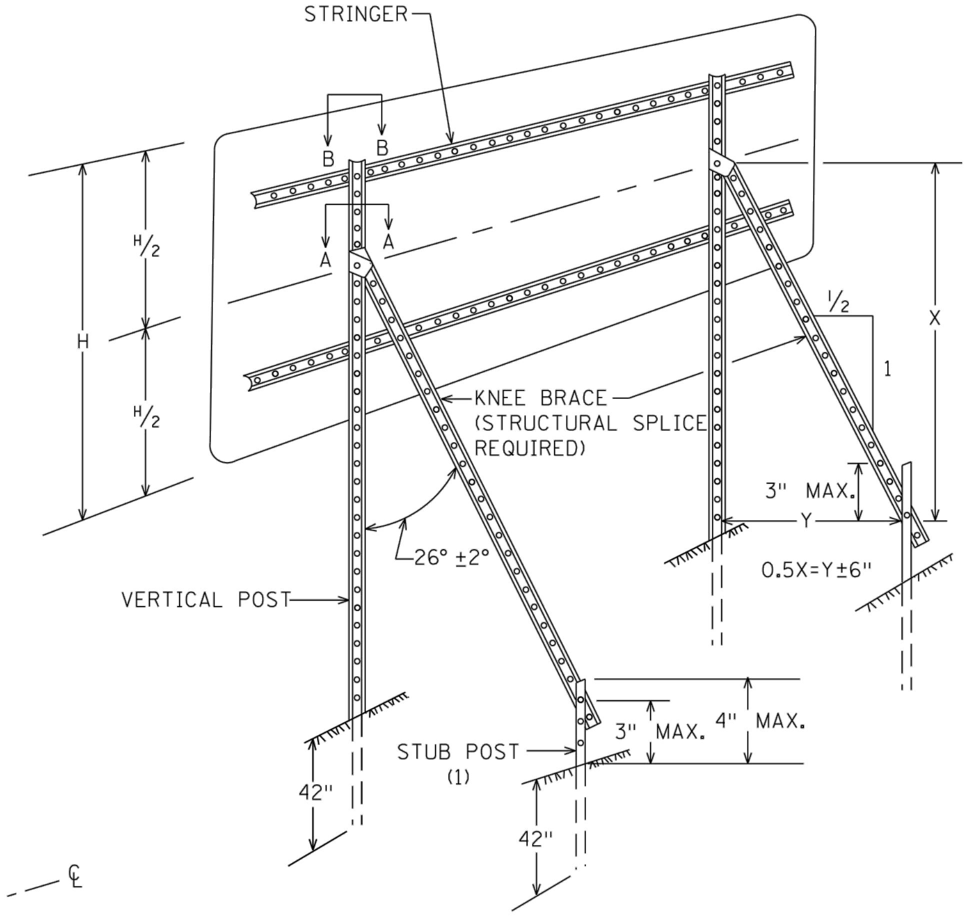
| STATE PROJ. NO. | SHEET NO. | OF | SHEETS |
|---|---|---|---|
| | | | |



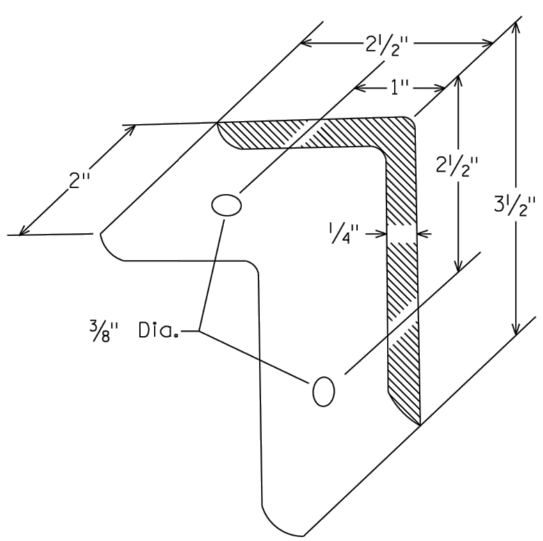

LATERAL BRACE OR STRINGER
SPLICE DETAIL (EXPLODED VIEW)




SECTION A-A

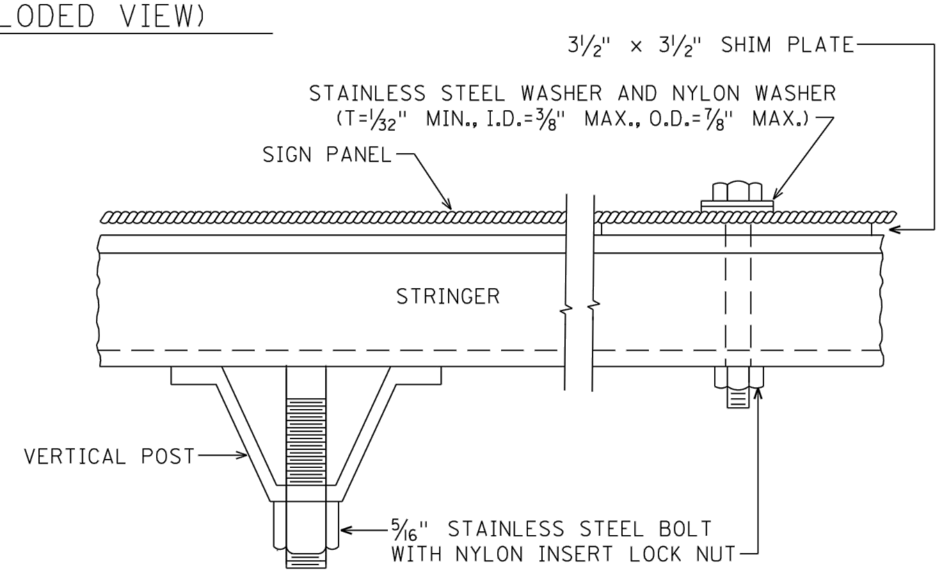



TYPICAL "A-FRAME" INSTALLATION
TYPE "D" SIGNS

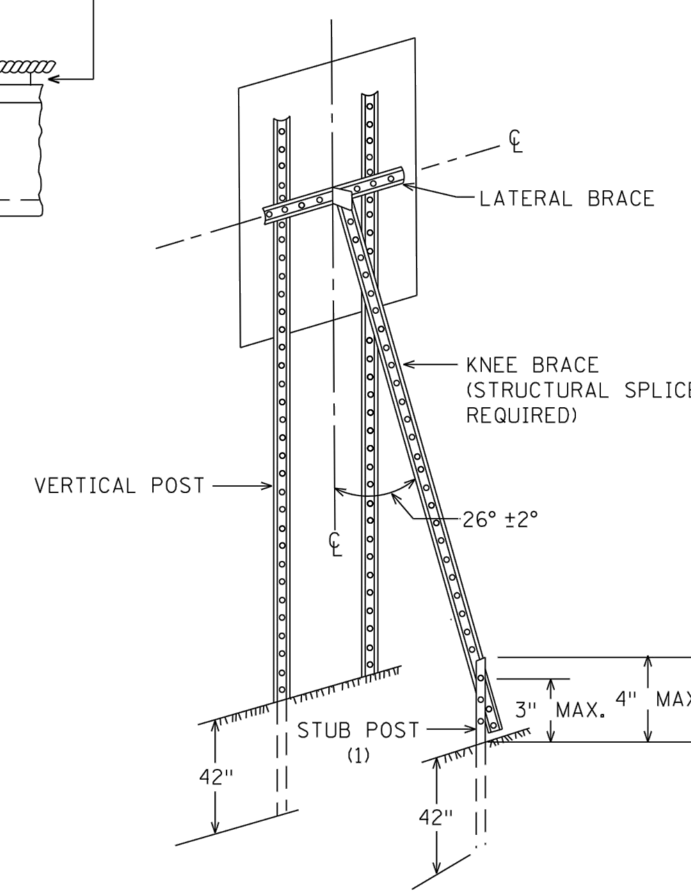



A-FRAME BRACKET

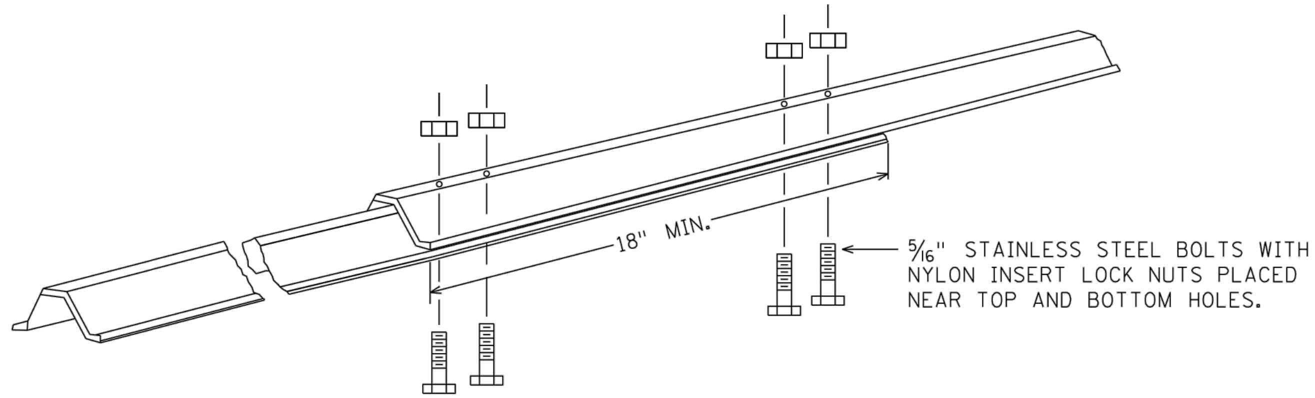
(STEEL MNDOT 3306 GALVANIZED PER MNDOT 3394)




SECTION B-B

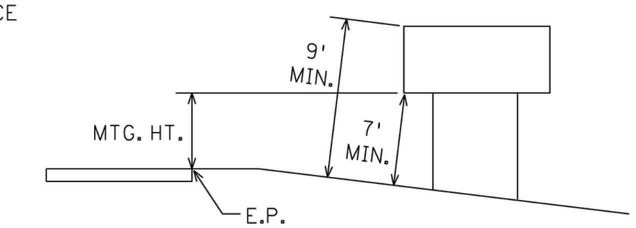



TYPICAL "A-FRAME" INSTALLATION
TYPE "C" SIGNS




STRUCTURAL SPLICE

(USE WHEN IT IS NECESSARY TO FABRICATE THE CORRECT LENGTH OF POST FROM TWO PIECES)




TYPICAL MOUNTING

(1) OFFSET STUB POST 1' TOWARD ROADWAY RELATIVE TO VERTICAL POST. ATTACH STUB POST AND KNEE BRACE BACK TO BACK.

# TYPE C & D SIGN STRUCTURAL DETAILS

Sheet 2 of 2

PLOTTED/REVISED: 5/5/2017

DISTRICT #: METRO
IPLOT NAME: C&D Ground Mounted Structural Detail Sheets-2 sheets!
PATH & FILENAME: IP_PWP:d1624788\C&D Ground Mounted Structural Detail Sheets-2 sheets.dgn

REVISED: 5-5-2017

| STATE PROJ. NO. | SHEET NO. | OF | SHEETS |
|---|---|---|---|

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| | | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
|---|---|---|---|---|---|---|---|
| SEH Project | 165899 | | | | | | |
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

SEH

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 MN.

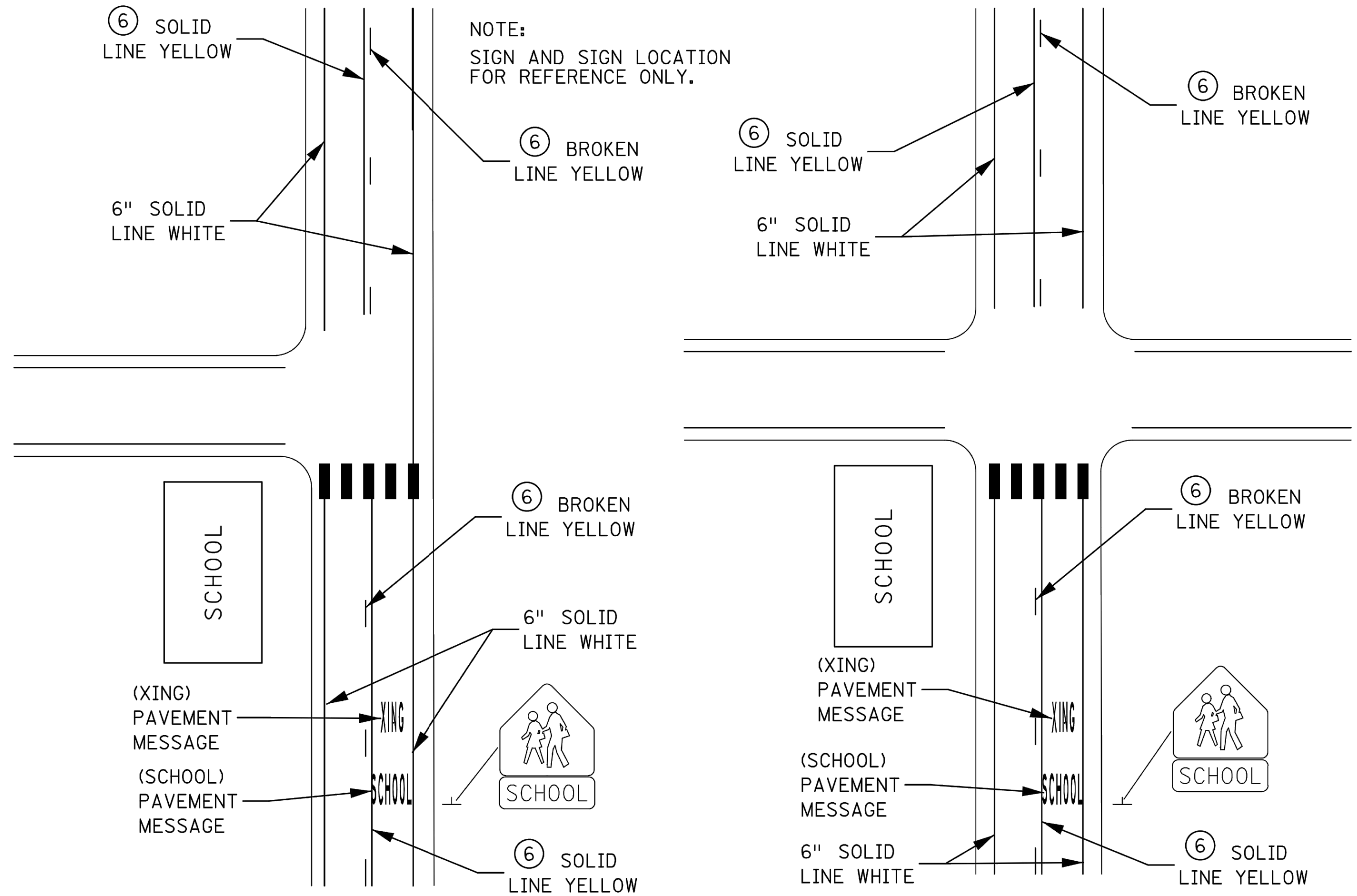
Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION
BLAINE, MN

SIGNING DETAILS

S.A.P. 106-141-003

# UNSIGNALIZED INTERSECTIONS SCHOOL ZONE MARKINGS




DESINER NOTES:

1. PAVEMENT MESSAGES ARE OPTIONAL. ENGINEERING JUDGEMENT SHOULD BE USED TO DETERMINE WHETHER PAVEMENT MESSAGES ARE NECESSARY.

2. 8' OR 6' LETTERS MAY BE USED IF APPROACH SPEEDS ARE 40 MPH OR LESS. IF A PAVEMENT MARKING WORD MESSAGE CONSISTS OF MORE THAN ONE LINE OF INFORMATION, IT SHOULD READ IN THE DIRECTION OF TRAVEL. THE FIRST WORD OF THE MESSAGE SHOULD BE NEAREST TO THE ROAD USER. THE LONGITUDINAL SPACE BETWEEN WORD MESSAGE MARKINGS SHOULD BE AT LEAST 4 TIMES THE HEIGHT OF CHARACTERS FOR 40 MPH OR LESS, BUT NOT MORE THAN 10 TIMES THE HEIGHT OF THE CHARACTERS FOR 45 MPH OR GREATER.

3. CROSSWALK MARKINGS ARE OPTIONAL, SEE "MARKINGS FOR PEDESTRIAN CROSSWALKS" TYPICAL FOR PLACEMENT AND DIMENSIONS OF CROSSWALKS. STOP LINE MAY BE NEEDED IF NO CROSSWALKS ARE PRESENT. SEE "STOP BAR AND STOP AHEAD" TYPICAL FOR PLACEMENT AND DIMENSIONS OF STOP BARS.

4. SEE TABLE 7-4 IN THE TEM FOR THE MINIMUM LENGTH OF A NO PASSING ZONE IN ADVANCE OF A STOP CONDITION.

5. SEE TABLE 7-5 IN THE TEM FOR THE MINIMUM DISTANCE BETWEEN NO PASSING ZONES.

6 DISTRICT MAY USE 6" OR 4" FOR LANE LINES, EXCLUDING TURN LANES, AUXILIARY AND/OR DROP LANES.

PUBLISHED BY OTE: 16 NOV 2021 | MODIFIED:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

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Greg F Anderson

DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

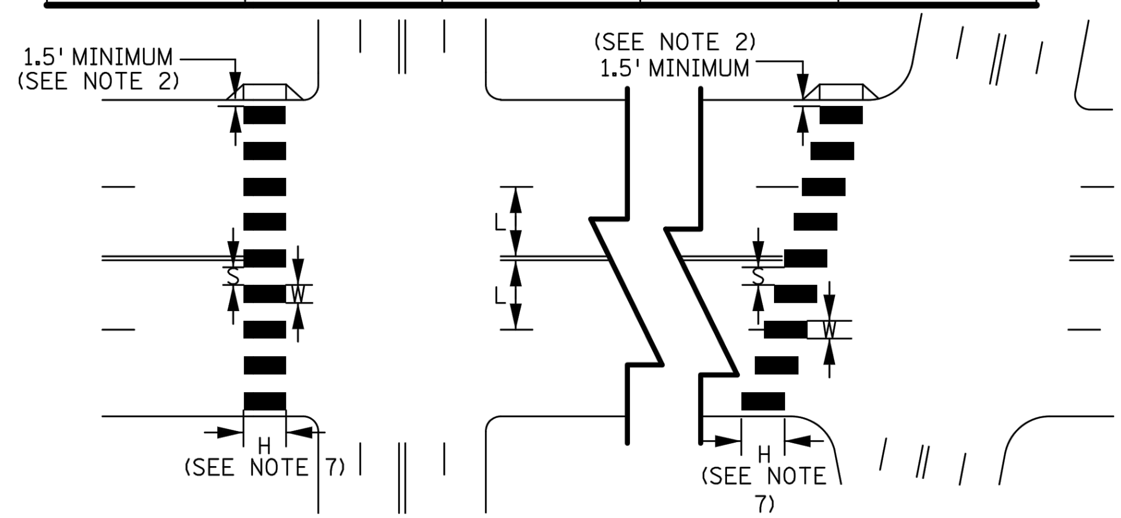
BLAINE, MN

PAVEMENT MARKING TYPICALS AND DETAILS

S.A.P. 106-141-003

# PEDESTRIAN CROSSWALK MARKINGS

| (L) WIDTH OF INSIDE LANE | (W) WIDTH OF PAINTED AREA | (S) WIDTH OF SPACE | ALTERNATE (W) WIDTH OF PAINTED AREA | ALTERNATE (S) WIDTH OF SPACE |
|---|---|---|---|---|
| 9′ | 2.0′ | 2.5′ | — | — |
| 10′ | 2.5′ | 2.5′ | 2.0′ | 3.0′ |
| 11′ | 2.5′ | 3.0′ | 2.0′ | 3.5′ |
| 12′ | 3.0′ | 3.0′ | 2.5′ | 3.5′ |
| 13′ | 3.0′ | 3.5′ | — | — |

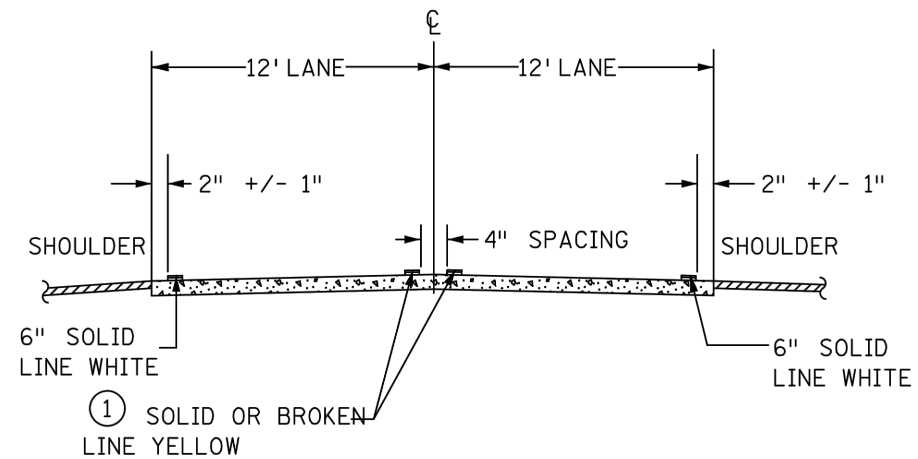



NOTES:

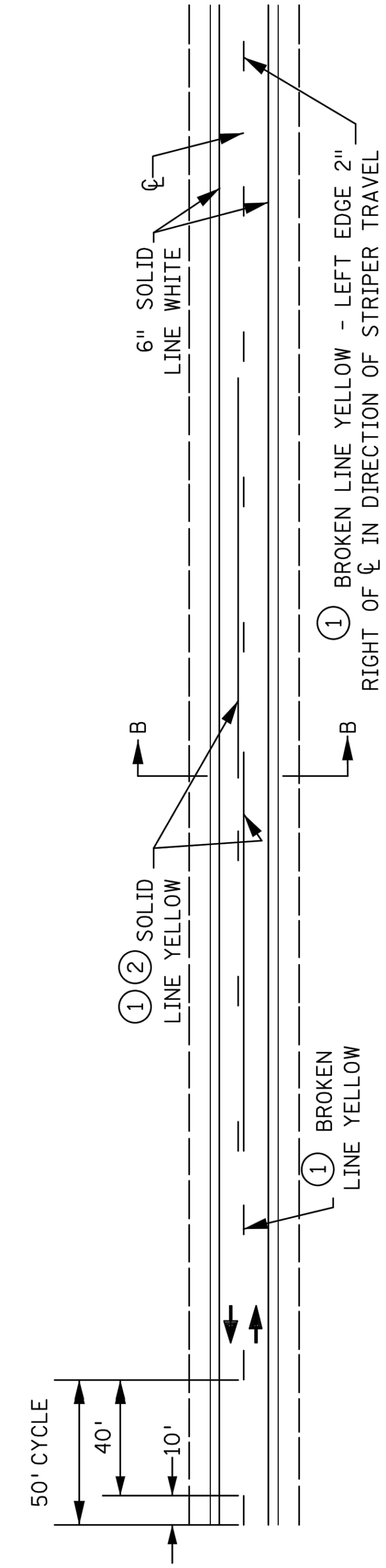
1. PAINTED AREAS TO BE CENTERED ON CENTERLINE AND LANE LINES.
2. A MINIMUM OF 1.5 FT. CLEAR DISTANCE SHALL BE LEFT ADJACENT TO THE CURB FACE. IF LAST PAINTED AREA FALLS INTO THIS DISTANCE IT MUST BE OMITTED.
3. ON TWO LANE TWO WAY STREETS, USE SPACING SHOWN FOR AN 11 FT. INSIDE LANE.
4. FOR DIVIDED ROADWAYS, ADJUSTMENTS IN SPACING OF THE BLOCKS SHOULD BE MADE IN THE MEDIAN SO THAT THE BLOCKS ARE MAINTAINED IN THEIR PROPER LOCATION ACROSS THE TRAVELED PORTION OF THE ROADWAY.
5. AT SKEWED CROSSWALKS, THE BLOCKS ARE TO REMAIN PARALLEL TO THE LANE LINES AS SHOWN.
6. THE BLOCKS SHALL BE PLACED SO THAT THEY ARE NOT LOCATED IN THE WHEEL PATH OF THE VEHICLES.
7. THE BLOCKS SHALL BE A MINIMUM OF 6' LONG AND AT LEAST AS LONG AS THE TRUNCATED DOMES, FOR FANNED TRUNCATED DOMES THE BLOCKS SHALL BE AT LEAST AS LONG AS THE APPROACHING SIDEWALK OR SHARED USE PATH.
8. THE ALTERNATE (W) AND (S) MAY BE USED WHEN BLOCKS LONGER THAN 6' (H) ARE USED.

PUBLISHED BY OTE: 16 NOV 2021 | MODIFIED:

# TWO-LANE, TWO-WAY




**SECTION B-B**




DESIGNER'S NOTES:

1. DISTRICT MAY USE 6" OR 4" FOR LANE LINES, EXCLUDING TURN LANES, AUXILIARY AND/OR DROP LANES.
2. CONTACT DISTRICT TRAFFIC ENGINEER FOR NO PASSING ZONE SURVEY.

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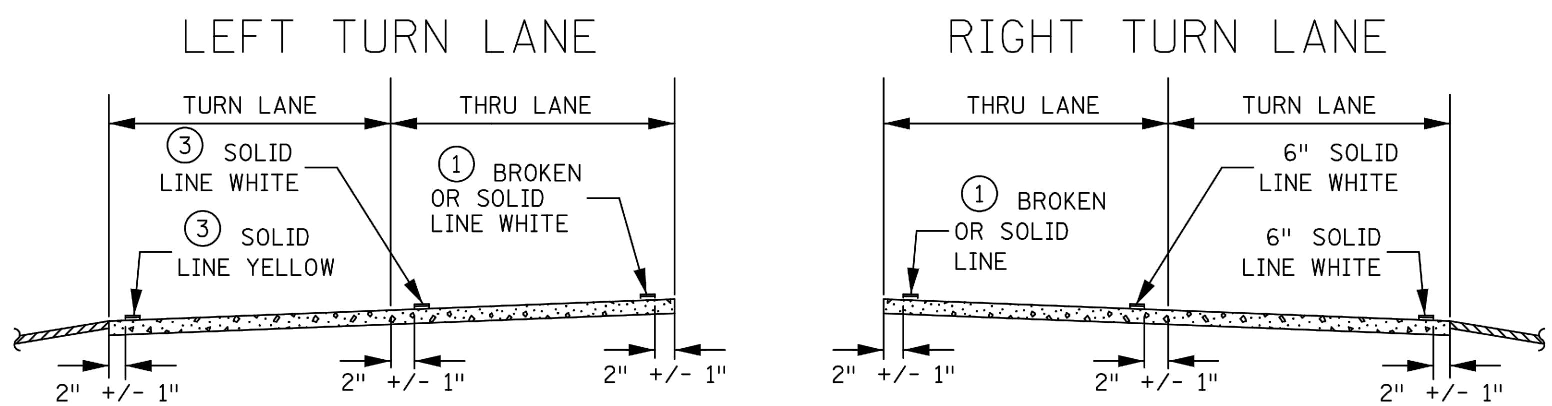
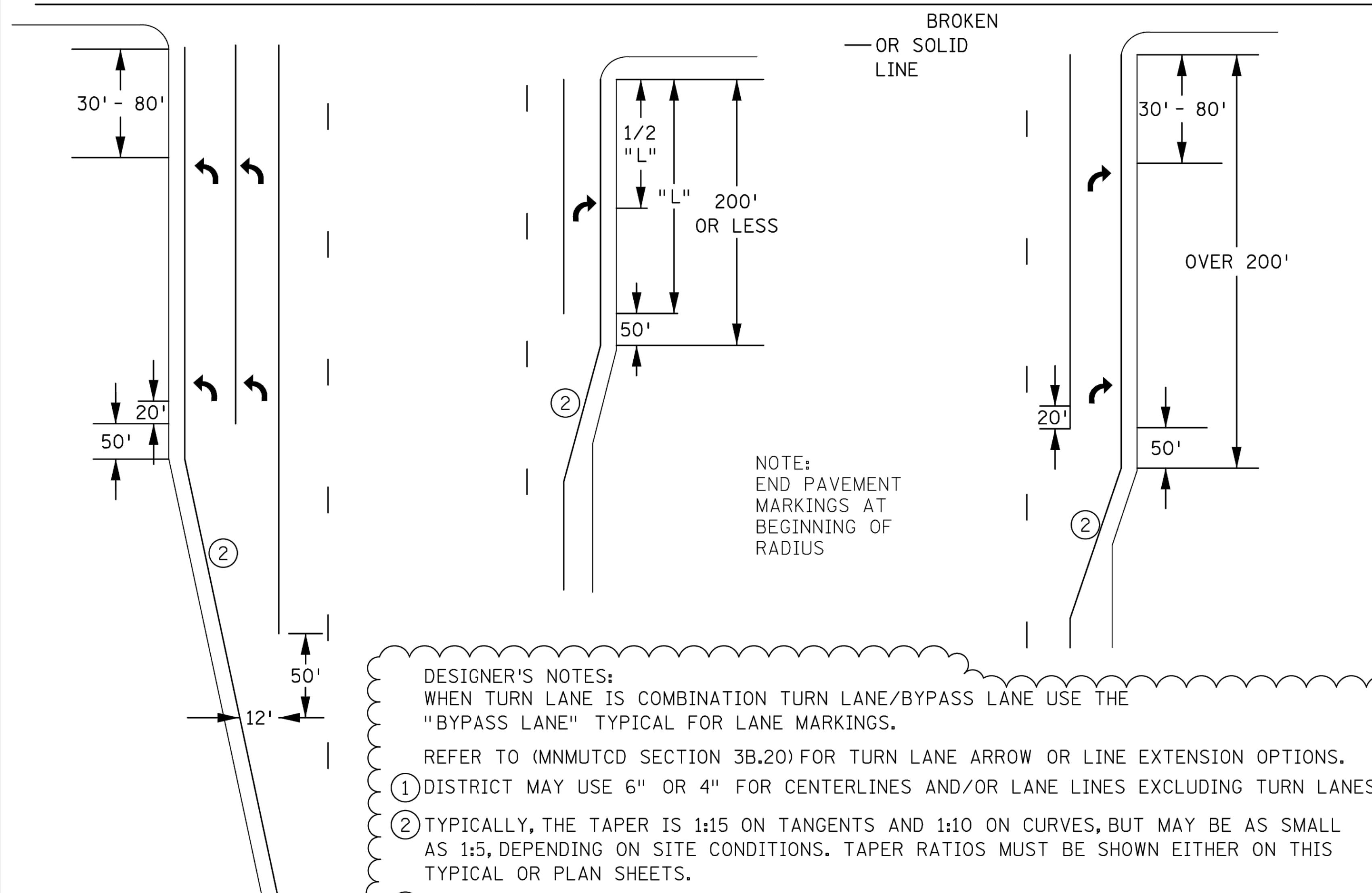
# TURN LANE WITH ARROW MESSAGE

## LEFT TURN LANE / RIGHT TURN LANE




DESIGNER'S NOTES:
WHEN TURN LANE IS COMBINATION TURN LANE/BYPASS LANE USE THE "BYPASS LANE" TYPICAL FOR LANE MARKINGS.

REFER TO (MNMUTCD SECTION 3B.20) FOR TURN LANE ARROW OR LINE EXTENSION OPTIONS.

1. DISTRICT MAY USE 6" OR 4" FOR CENTERLINES AND/OR LANE LINES EXCLUDING TURN LANES.
2. TYPICALLY, THE TAPER IS 1:15 ON TANGENTS AND 1:10 ON CURVES, BUT MAY BE AS SMALL AS 1:5, DEPENDING ON SITE CONDITIONS. TAPER RATIOS MUST BE SHOWN EITHER ON THIS TYPICAL OR PLAN SHEETS.
3. WIDTH OF LINE SHOULD MATCH THE CORRESPONDING UPSTREAM EDGELINE OR CENTER LINE."

PUBLISHED BY OTE: 16 NOV 2021 | MODIFIED:

1. SALVAGE SIGN
2. SIGN PANEL TYPE C
3. INSTALL SIGN

## LEGEND

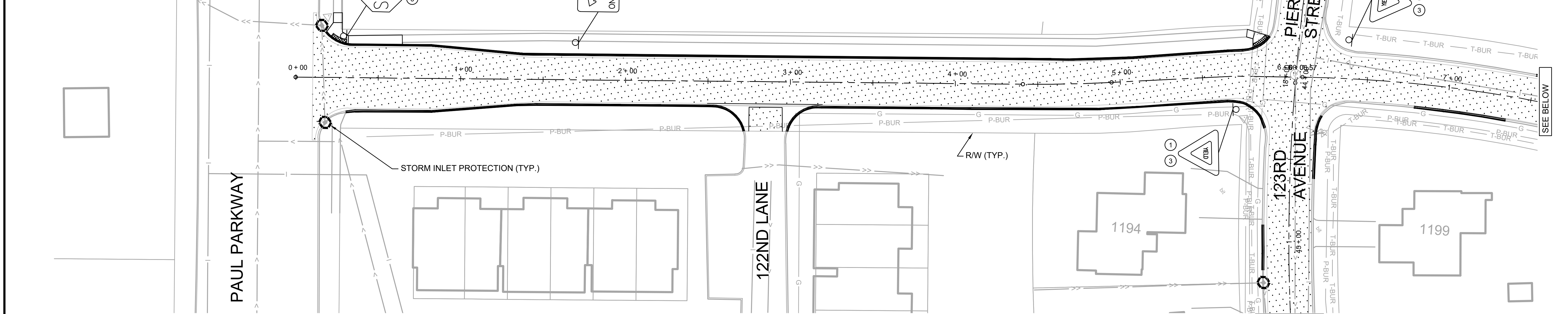
- STORM DRAIN INLET PROTECTION
- SILT FENCE
- INLET PROTECTION
- CLEARING AND GRUBBING

## SEEDING-EROSION CONTROL NOTES:

1. ACTUAL LOCATION OF SILT FENCE & SEDIMENT CONTROL LOG SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. CONTRACTOR SHALL CLEAN STREETS ON A DAILY BASIS DURING CONSTRUCTION HOURS UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
3. ALL DISTURBED AREAS SHALL BE RESTORED WITH 4" BOULEVARD TOPSOIL BORROW AND SOD UNLESS OTHERWISE NOTED.

## SIGNAGE NOTES:

1. SIGN SIZES ARE IN INCHES.
2. SALVAGE SIGN ITEM IS ONE PER SIGN POST LOCATION.
3. SIGN PANEL TYPE C SHALL BE SAVAGED TO THE CITY OF BLAINE.
4. SIGNS TYPE C SHALL REMAIN ON SITE AND BE REINSTALLED.
5. ALL SIGN POSTS SHALL REMAIN ON SITE AND BE REINSTALLED.




## BUCHANAN STREET


## BUCHANAN STREET

| | |
|---|---|
| SEH Project | 165899 |
| Drawn By | NMB, HC, EN |
| Designed By | DJC |
| Checked By | GFA |

| Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
|---|---|---|---|---|---|

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Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION
BLAINE, MN

EROSION CONTROL & RESTORATION-SIGNING/STRIPING PLAN BUCHANAN STREET

S.A.P. 106-141-003



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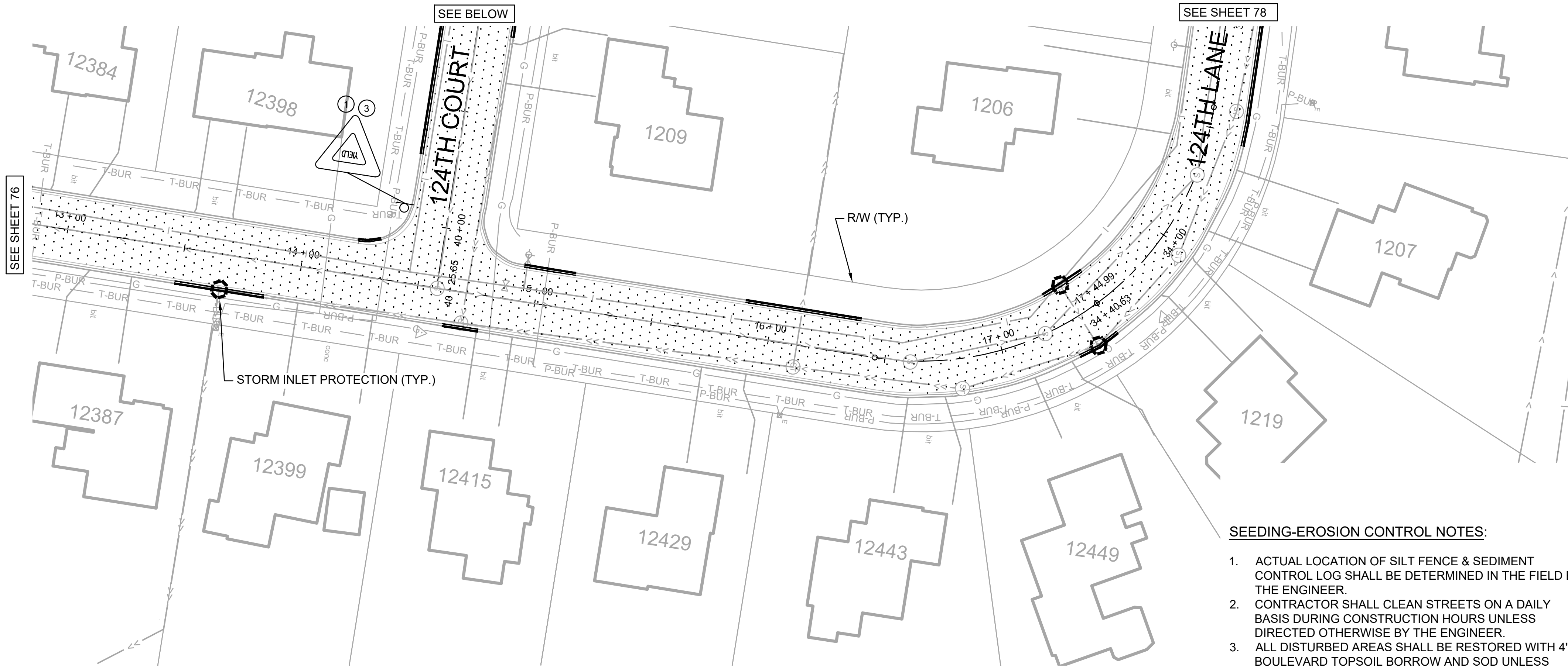



1 SALVAGE SIGN
2 SIGN PANEL TYPE C
3 INSTALL SIGN

LEGEND

- STORM DRAIN INLET PROTECTION
- SILT FENCE
- INLET PROTECTION
- CLEARING AND GRUBBING

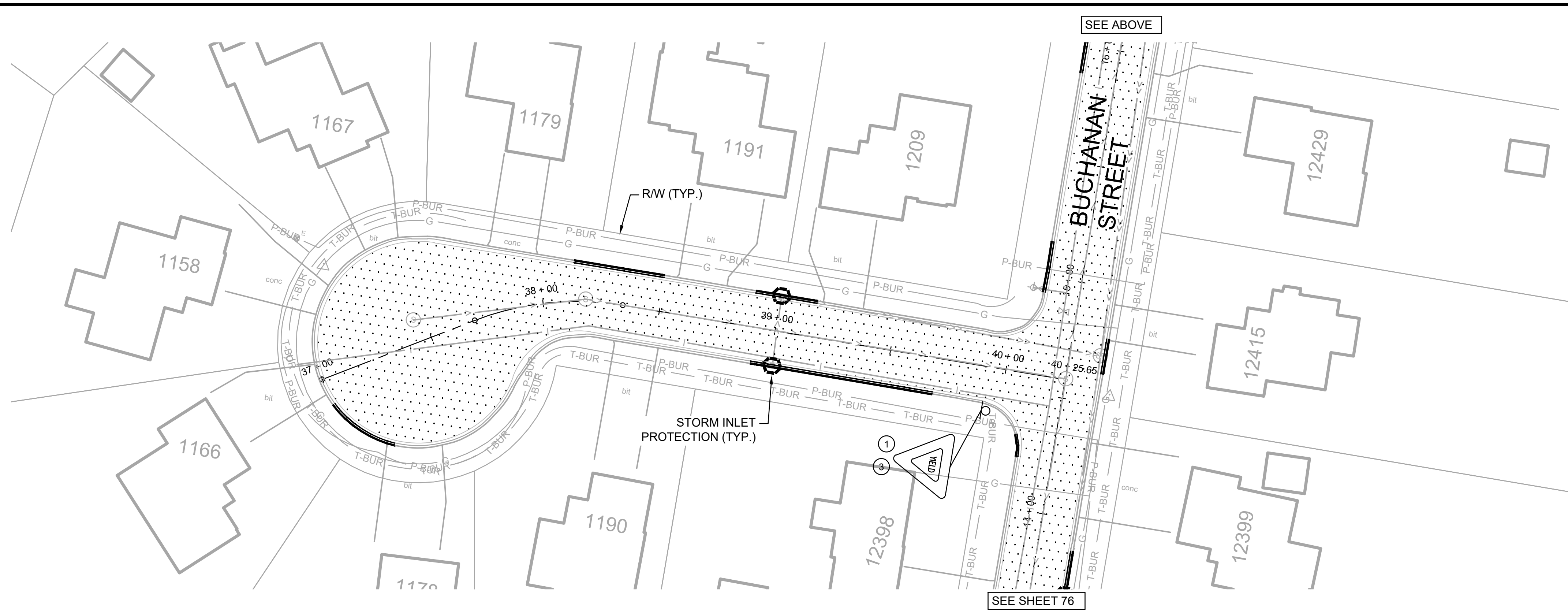
SEEDING-EROSION CONTROL NOTES:

1. ACTUAL LOCATION OF SILT FENCE & SEDIMENT CONTROL LOG SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. CONTRACTOR SHALL CLEAN STREETS ON A DAILY BASIS DURING CONSTRUCTION HOURS UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
3. ALL DISTURBED AREAS SHALL BE RESTORED WITH 4" BOULEVARD TOPSOIL BORROW AND SOD UNLESS OTHERWISE NOTED.

SIGNAGE NOTES:

1. SIGN SIZES ARE IN INCHES.
2. SALVAGE SIGN ITEM IS ONE PER SIGN POST LOCATION.
3. SIGN PANEL TYPE C SHALL BE SAVAGED TO THE CITY OF BLAINE.
4. SIGNS TYPE C SHALL REMAIN ON SITE AND BE REINSTALLED.
5. ALL SIGN POSTS SHALL REMAIN ON SITE AND BE REINSTALLED.

## BUCHANAN STREET




## 124TH COURT SE

| | |
|---|---|
| SEH Project | 165899 |
| Drawn By | NMB, HC, EN |
| Designed By | DJC |
| Checked By | GFA |

| Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
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Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION
BLAINE, MN

EROSION CONTROL & RESTORATION-SIGNING/STRIPING PLAN BUCHANAN STREET-124TH COURT SE

S.A.P. 106-141-003



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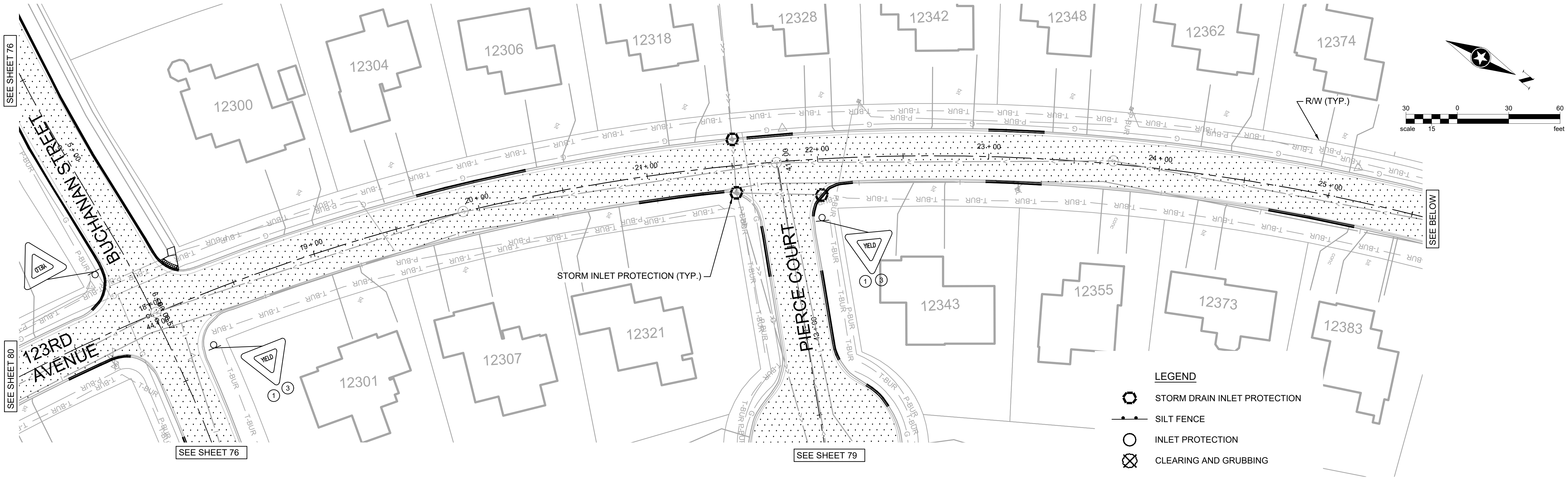



# PIERCE STREET

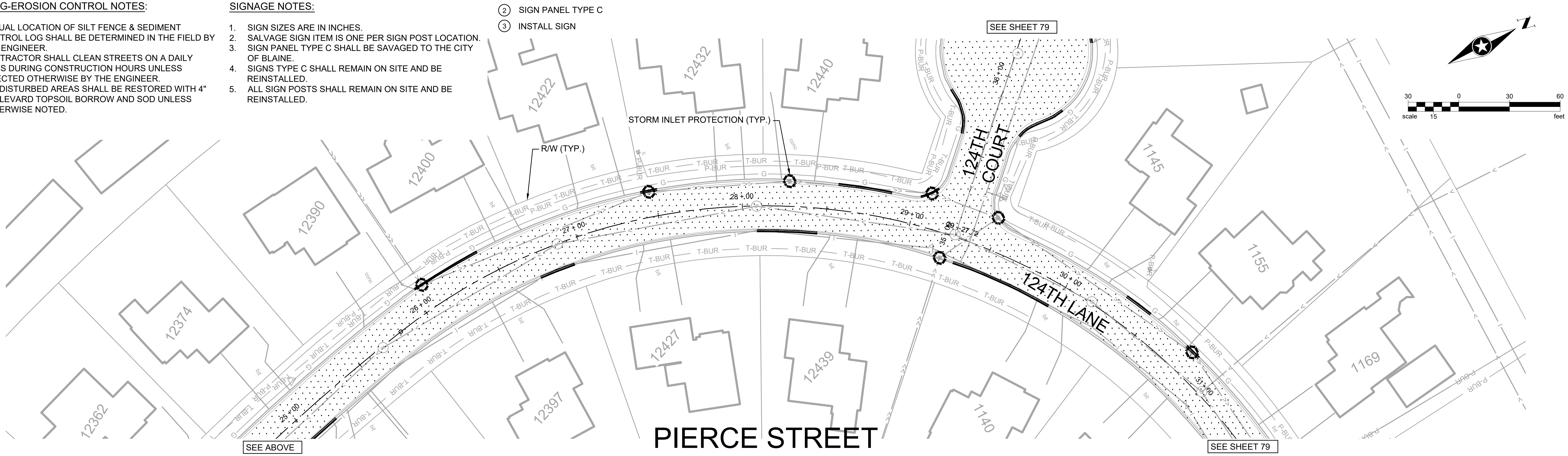
## SEEDING-EROSION CONTROL NOTES:

1. ACTUAL LOCATION OF SILT FENCE & SEDIMENT CONTROL LOG SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. CONTRACTOR SHALL CLEAN STREETS ON A DAILY BASIS DURING CONSTRUCTION HOURS UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
3. ALL DISTURBED AREAS SHALL BE RESTORED WITH 4" BOULEVARD TOPSOIL BORROW AND SOD UNLESS OTHERWISE NOTED.

## SIGNAGE NOTES:

1. SIGN SIZES ARE IN INCHES.
2. SALVAGE SIGN ITEM IS ONE PER SIGN POST LOCATION.
3. SIGN PANEL TYPE C SHALL BE SAVAGED TO THE CITY OF BLAINE.
4. SIGNS TYPE C SHALL REMAIN ON SITE AND BE REINSTALLED.
5. ALL SIGN POSTS SHALL REMAIN ON SITE AND BE REINSTALLED.

(1) SALVAGE SIGN
(2) SIGN PANEL TYPE C
(3) INSTALL SIGN




# PIERCE STREET

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| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

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Greg F Anderson

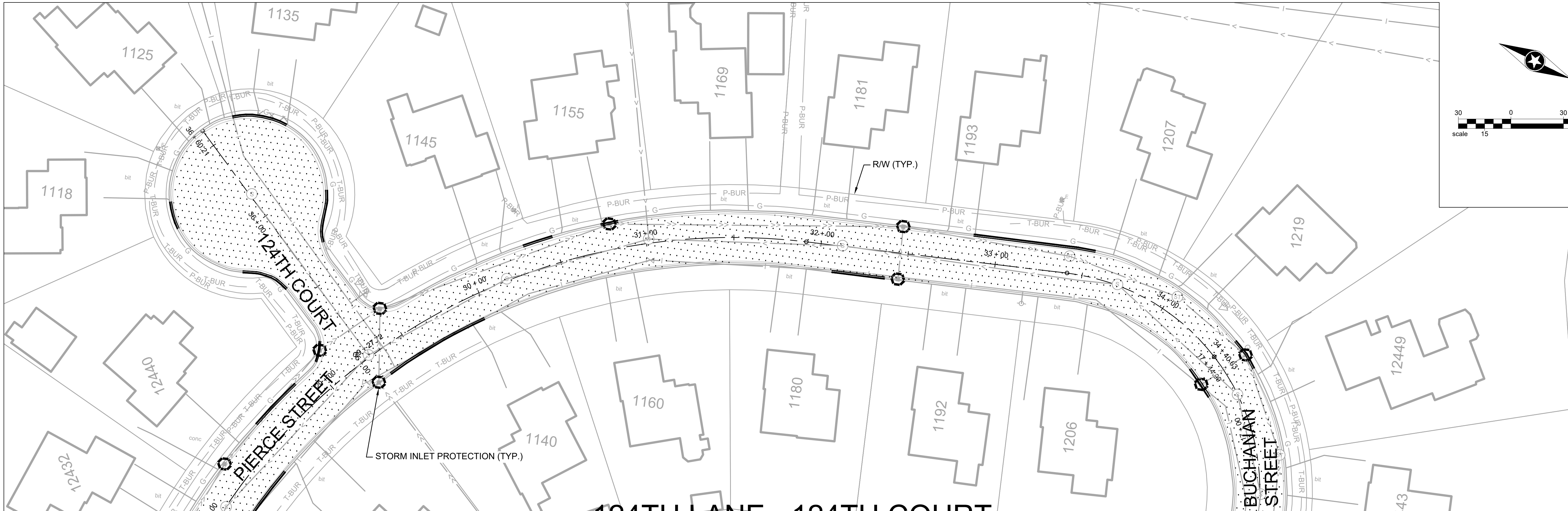
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

**EROSION CONTROL & RESTORATION-SIGNING/STRIPING PLAN PIERCE STREET**

S.A.P. 106-141-003

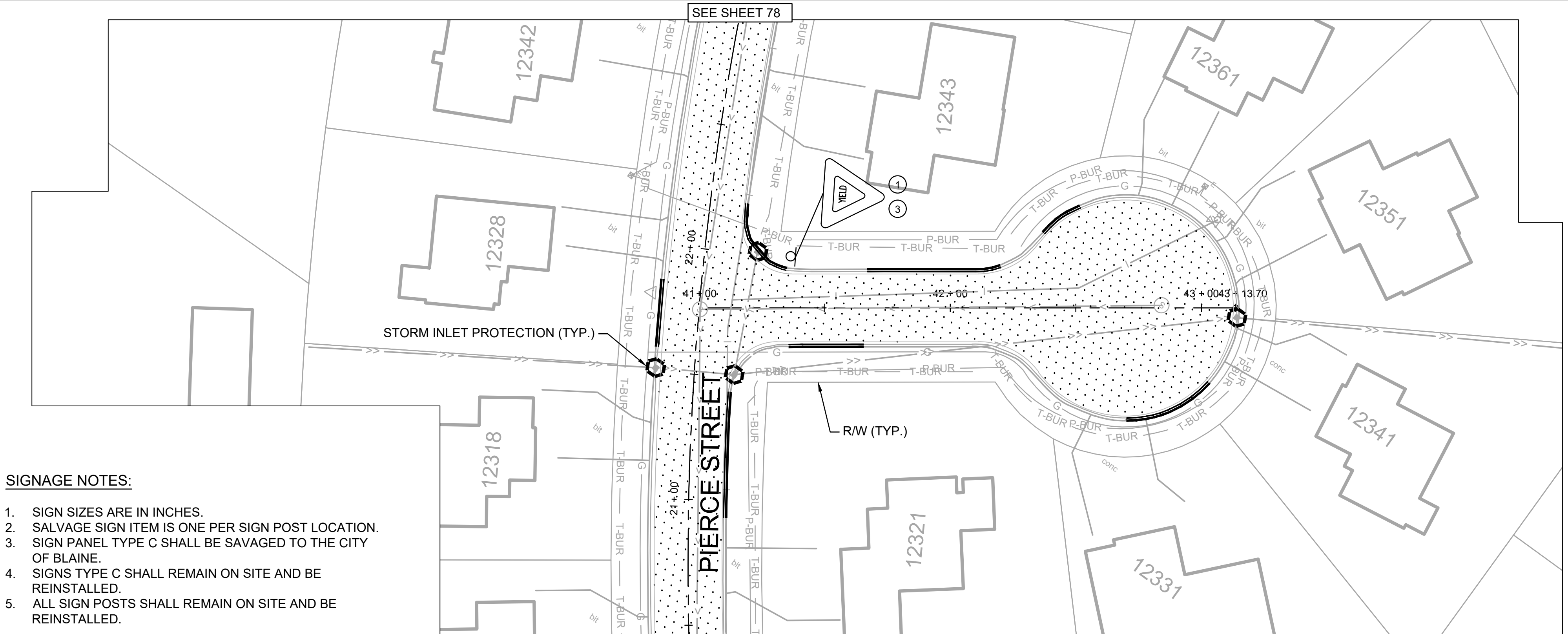



# 124TH LANE - 124TH COURT

SEE SHEET 78

SEE SHEET 77

SEE SHEET 78




SEE SHEET 78

# PIERCE COURT

## LEGEND

- STORM DRAIN INLET PROTECTION
- SILT FENCE
- INLET PROTECTION
- CLEARING AND GRUBBING

1. SALVAGE SIGN
2. SIGN PANEL TYPE C
3. INSTALL SIGN

## SEEDING-EROSION CONTROL NOTES:

1. ACTUAL LOCATION OF SILT FENCE & SEDIMENT CONTROL LOG SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. CONTRACTOR SHALL CLEAN STREETS ON A DAILY BASIS DURING CONSTRUCTION HOURS UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
3. ALL DISTURBED AREAS SHALL BE RESTORED WITH 4" BOULEVARD TOPSOIL BORROW AND SOD UNLESS OTHERWISE NOTED.

## SIGNAGE NOTES:

1. SIGN SIZES ARE IN INCHES.
2. SALVAGE SIGN ITEM IS ONE PER SIGN POST LOCATION.
3. SIGN PANEL TYPE C SHALL BE SAVAGED TO THE CITY OF BLAINE.
4. SIGNS TYPE C SHALL REMAIN ON SITE AND BE REINSTALLED.
5. ALL SIGN POSTS SHALL REMAIN ON SITE AND BE REINSTALLED.



| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
|---|---|---|---|---|---|---|---|
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

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Greg F Anderson

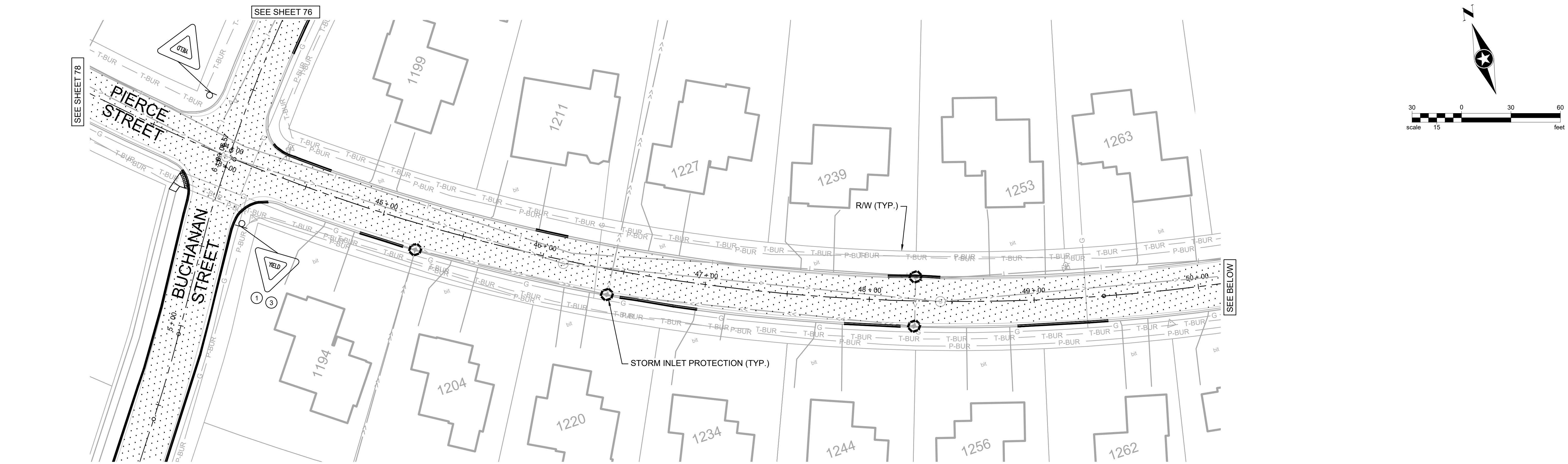
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

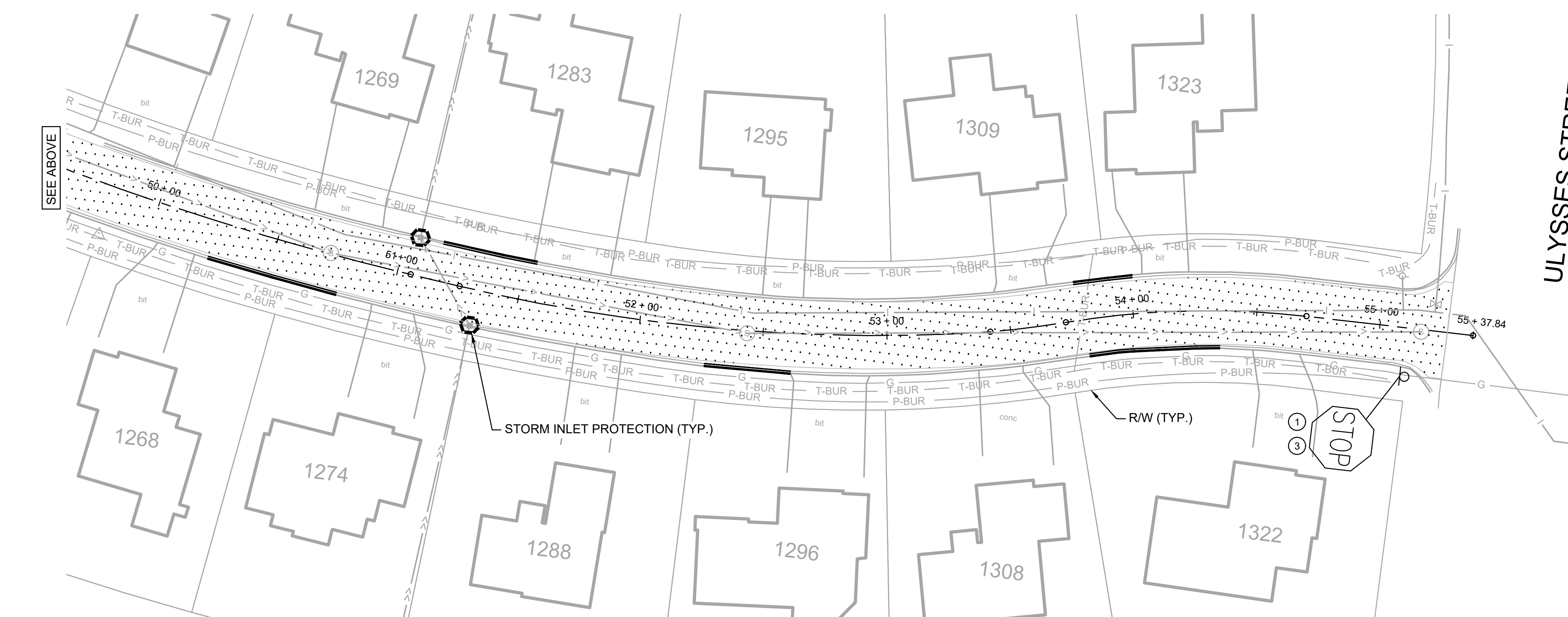
BLAINE, MN

**EROSION CONTROL & RESTORATION-SIGNING/STRIPING PLAN 124TH LANE-PIERCE COURT**

S.A.P. 106-141-003




123RD AVENUE




123RD AVENUE

1. SALVAGE SIGN
2. SIGN PANEL TYPE C
3. INSTALL SIGN

## LEGEND

- STORM DRAIN INLET PROTECTION
- SILT FENCE
- INLET PROTECTION
- CLEARING AND GRUBBING

## SEEDING-EROSION CONTROL NOTES:

1. ACTUAL LOCATION OF SILT FENCE & SEDIMENT CONTROL LOG SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. CONTRACTOR SHALL CLEAN STREETS ON A DAILY BASIS DURING CONSTRUCTION HOURS UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
3. ALL DISTURBED AREAS SHALL BE RESTORED WITH 4" BOULEVARD TOPSOIL BORROW AND SOD UNLESS OTHERWISE NOTED.

## SIGNAGE NOTES:

1. SIGN SIZES ARE IN INCHES.
2. SALVAGE SIGN ITEM IS ONE PER SIGN POST LOCATION.
3. SIGN PANEL TYPE C SHALL BE SAVAGED TO THE CITY OF BLAINE.
4. SIGNS TYPE C SHALL REMAIN ON SITE AND BE REINSTALLED.
5. ALL SIGN POSTS SHALL REMAIN ON SITE AND BE REINSTALLED.



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

SEH

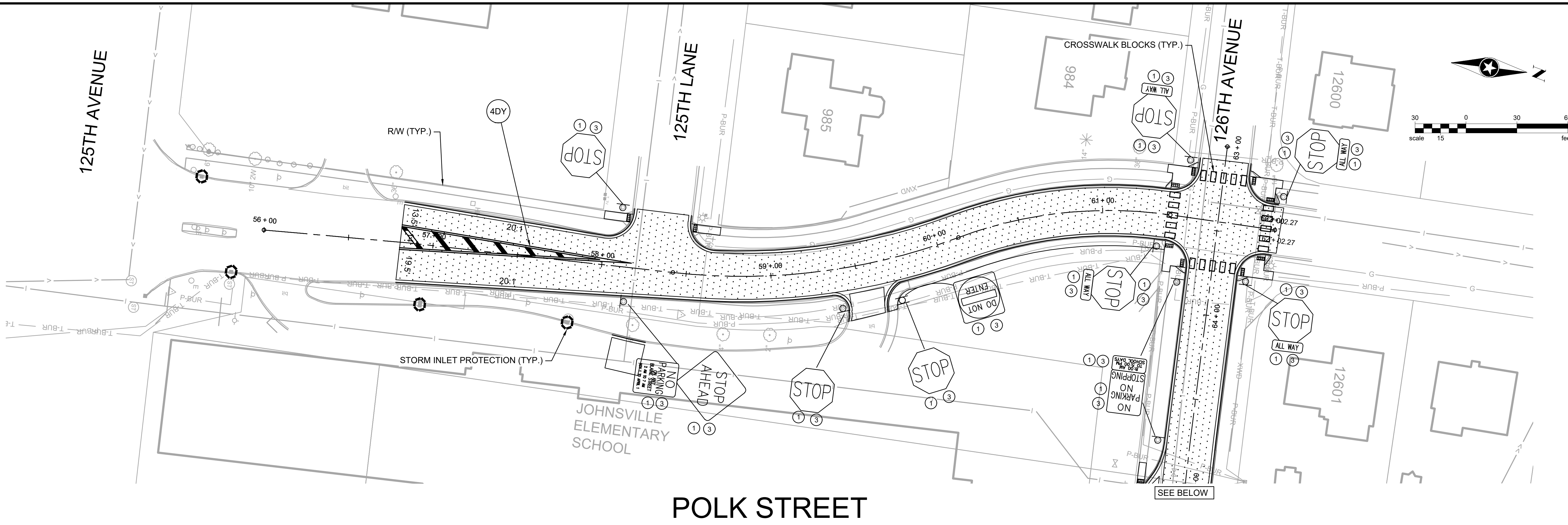
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MN.

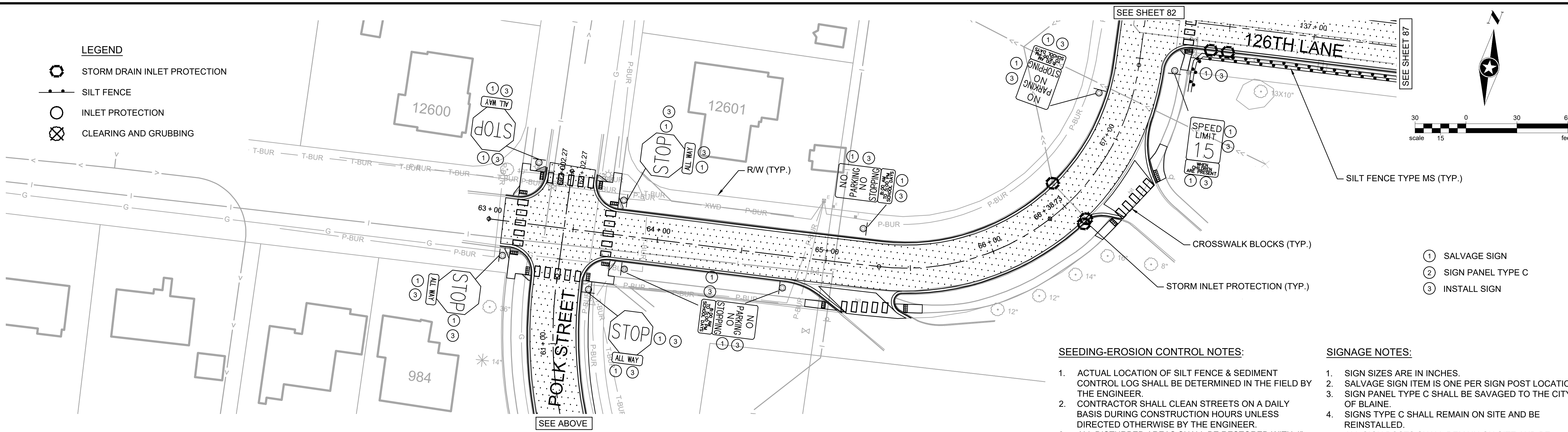
Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION
BLAINE, MN

EROSION CONTROL & RESTORATION-SIGNING/STRIPING PLAN 123RD AVENUE

S.A.P. 106-141-003




LEGEND

- STORM DRAIN INLET PROTECTION
- SILT FENCE
- INLET PROTECTION
- CLEARING AND GRUBBING

1. SALVAGE SIGN
2. SIGN PANEL TYPE C
3. INSTALL SIGN

SEEDING-EROSION CONTROL NOTES:

1. ACTUAL LOCATION OF SILT FENCE & SEDIMENT CONTROL LOG SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. CONTRACTOR SHALL CLEAN STREETS ON A DAILY BASIS DURING CONSTRUCTION HOURS UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
3. ALL DISTURBED AREAS SHALL BE RESTORED WITH 4" BOULEVARD TOPSOIL BORROW AND SOD UNLESS OTHERWISE NOTED.

SIGNAGE NOTES:

1. SIGN SIZES ARE IN INCHES.
2. SALVAGE SIGN ITEM IS ONE PER SIGN POST LOCATION.
3. SIGN PANEL TYPE C SHALL BE SAVAGED TO THE CITY OF BLAINE.
4. SIGNS TYPE C SHALL REMAIN ON SITE AND BE REINSTALLED.
5. ALL SIGN POSTS SHALL REMAIN ON SITE AND BE REINSTALLED.



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| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

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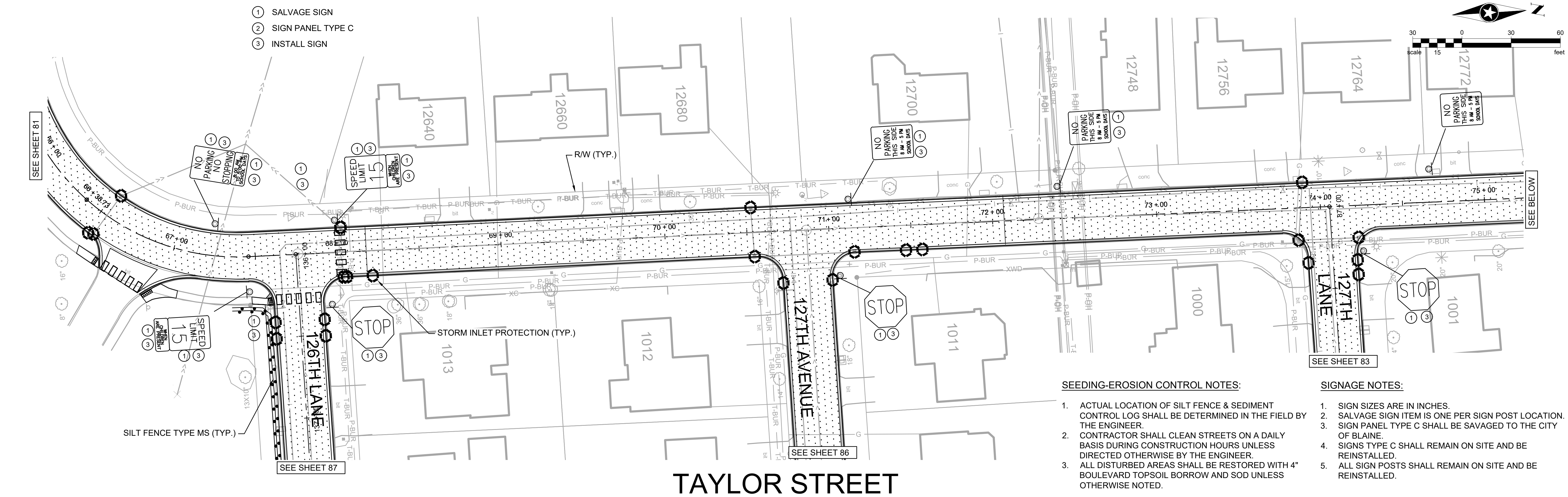
Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

**EROSION CONTROL & RESTORATION-SIGNING/STRIPING PLAN POLK STREET-126TH AVENUE**

S.A.P. 106-141-003




## SEEDING-EROSION CONTROL NOTES:

1. ACTUAL LOCATION OF SILT FENCE & SEDIMENT CONTROL LOG SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. CONTRACTOR SHALL CLEAN STREETS ON A DAILY BASIS DURING CONSTRUCTION HOURS UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
3. ALL DISTURBED AREAS SHALL BE RESTORED WITH 4" BOULEVARD TOPSOIL BORROW AND SOD UNLESS OTHERWISE NOTED.

## SIGNAGE NOTES:

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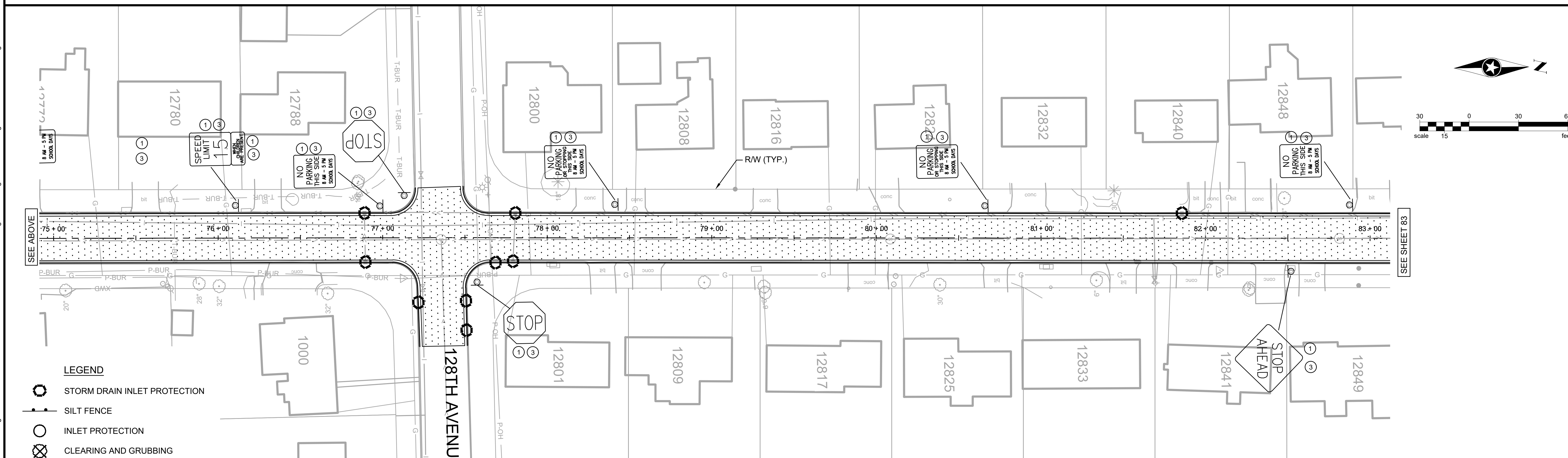


LEGEND

- STORM DRAIN INLET PROTECTION
- SILT FENCE
- INLET PROTECTION
- CLEARING AND GRUBBING

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| SEH Project | 165899 | Rev.# | Revision Issue Description | Date |
| Drawn By | NMB, HC, EN | Rev.# | Revision Issue Description | Date |
| Designed By | DJC | | | |
| Checked By | GFA | | | |

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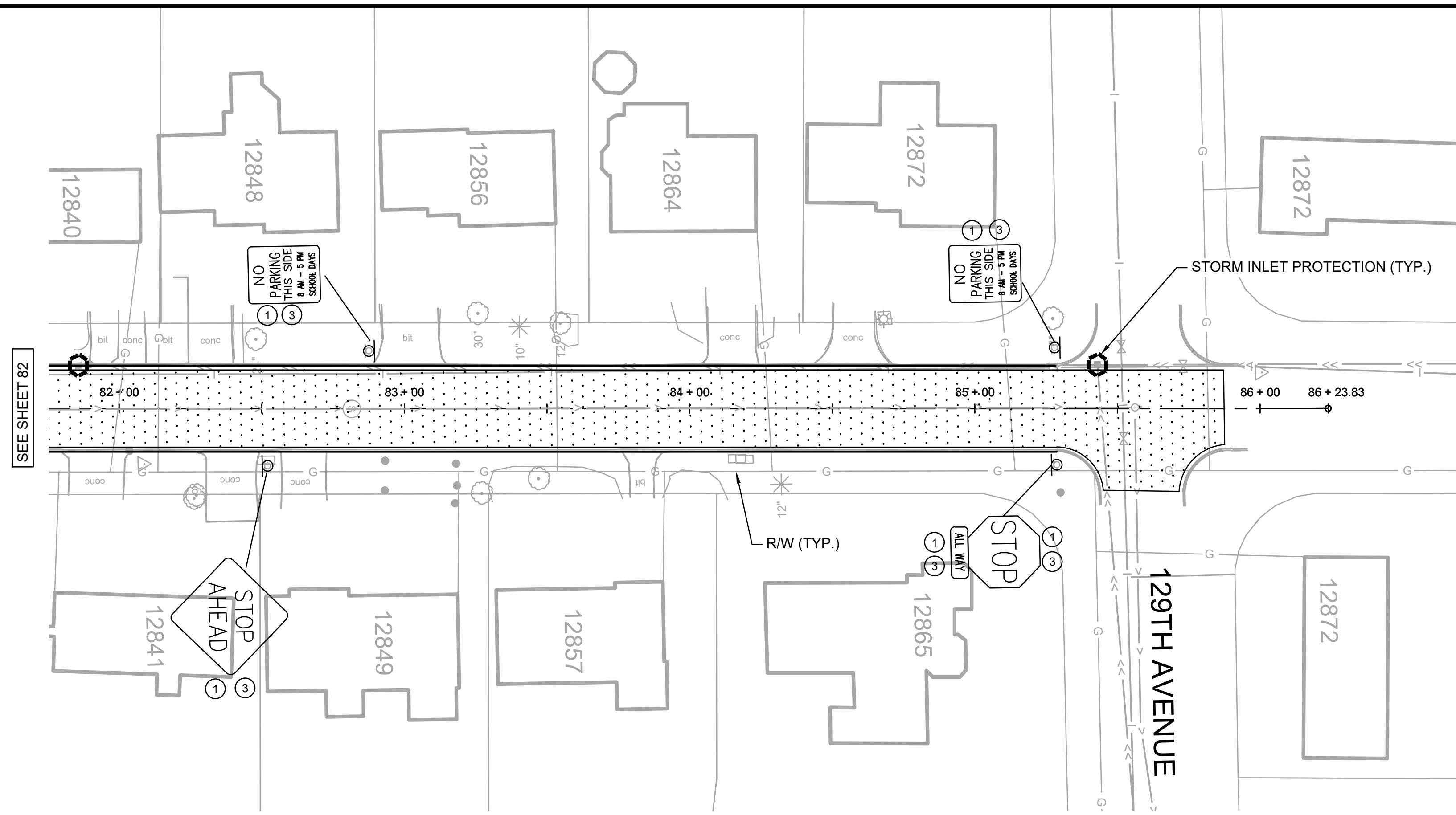
Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION
BLAINE, MN

EROSION CONTROL & RESTORATION-SIGNING/STRIPING PLAN TAYLOR STREET

S.A.P. 106-141-003




# TAYLOR STREET

1 SALVAGE SIGN
2 SIGN PANEL TYPE C
3 INSTALL SIGN

LEGEND

STORM DRAIN INLET PROTECTION
SILT FENCE
INLET PROTECTION
CLEARING AND GRUBBING

## SEEDING-EROSION CONTROL NOTES:

1. ACTUAL LOCATION OF SILT FENCE & SEDIMENT CONTROL LOG SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. CONTRACTOR SHALL CLEAN STREETS ON A DAILY BASIS DURING CONSTRUCTION HOURS UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
3. ALL DISTURBED AREAS SHALL BE RESTORED WITH 4" BOULEVARD TOPSOIL BORROW AND SOD UNLESS OTHERWISE NOTED.

## SIGNAGE NOTES:

1. SIGN SIZES ARE IN INCHES.
2. SALVAGE SIGN ITEM IS ONE PER SIGN POST LOCATION.
3. SIGN PANEL TYPE C SHALL BE SAVAGED TO THE CITY OF BLAINE.
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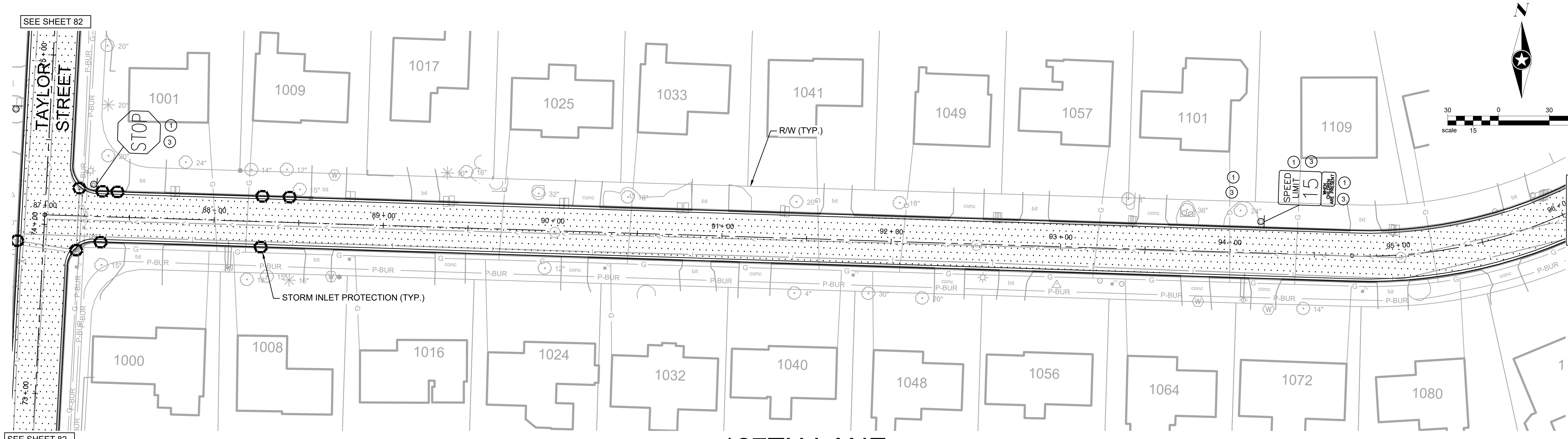


# 127TH LANE

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| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
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| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

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Greg F Anderson
DATE 03.31.2022 LICENSE NO. 26859

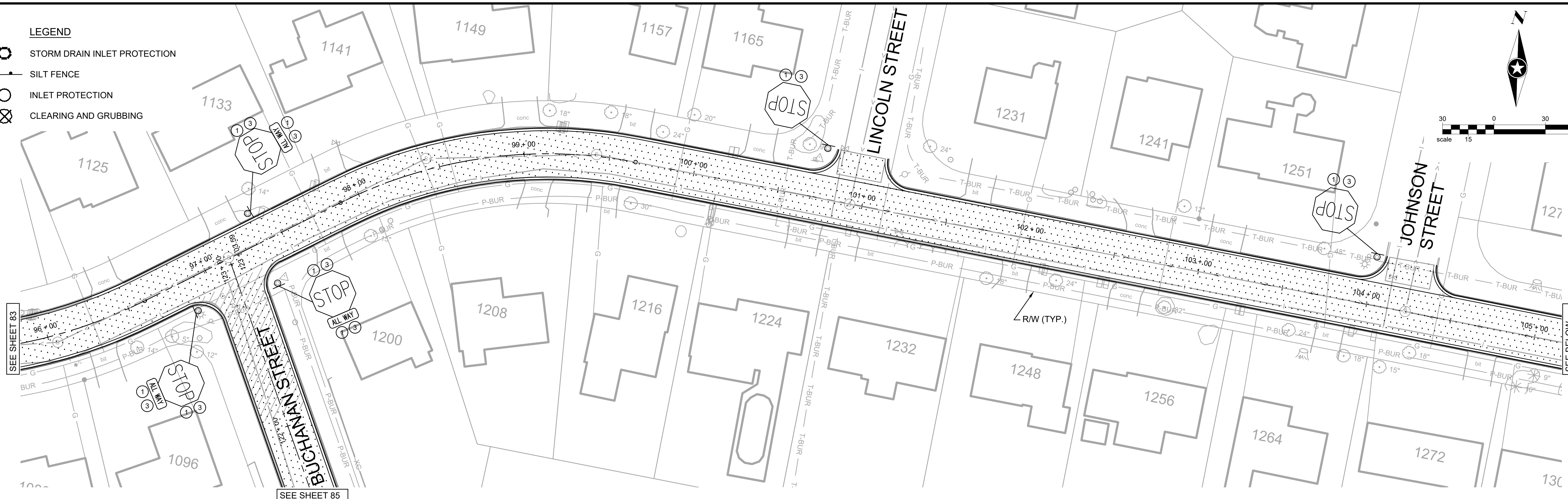
2022 STREET RECONSTRUCTION
BLAINE, MN

EROSION CONTROL & RESTORATION-SIGNING/STRIPING PLAN TAYLOR STREET-127TH LANE

S.A.P. 106-141-003

LEGEND

- STORM DRAIN INLET PROTECTION
- SILT FENCE
- INLET PROTECTION
- CLEARING AND GRUBBING




## 127TH LANE

1. SALVAGE SIGN
2. SIGN PANEL TYPE C
3. INSTALL SIGN

SEEDING-EROSION CONTROL NOTES:

1. ACTUAL LOCATION OF SILT FENCE & SEDIMENT CONTROL LOG SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. CONTRACTOR SHALL CLEAN STREETS ON A DAILY BASIS DURING CONSTRUCTION HOURS UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
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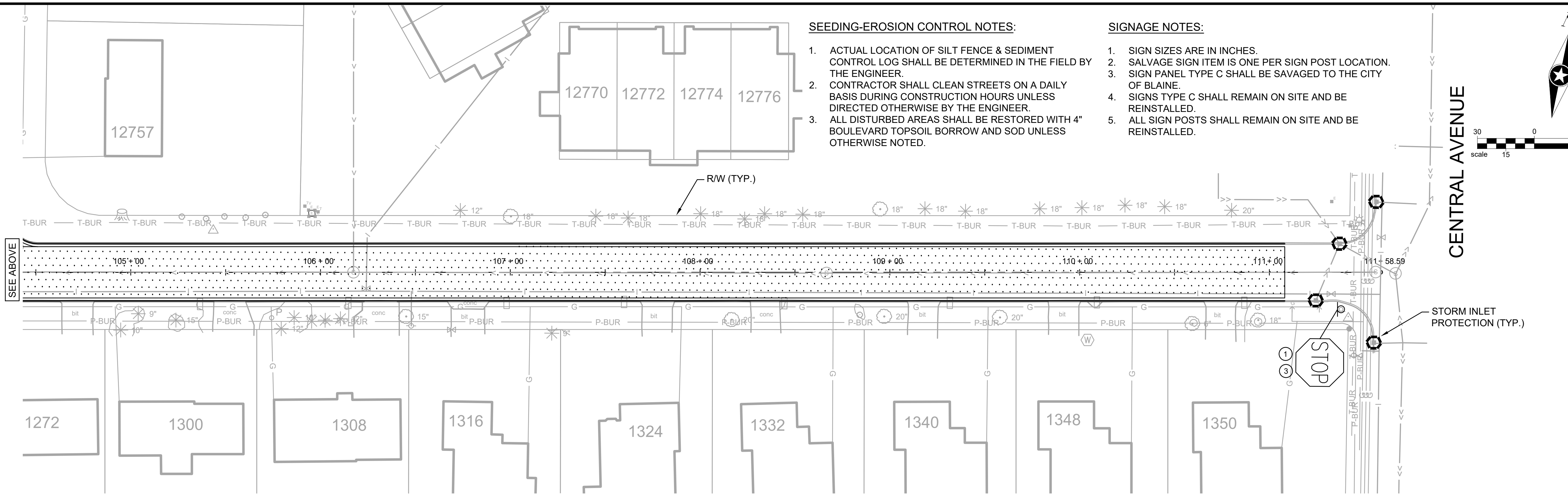


## 127TH LANE

| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
|---|---|---|---|---|---|---|---|
| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

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Greg F Anderson

DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

EROSION CONTROL & RESTORATION-SIGNING/STRIPING PLAN 127TH LANE

S.A.P. 106-141-003



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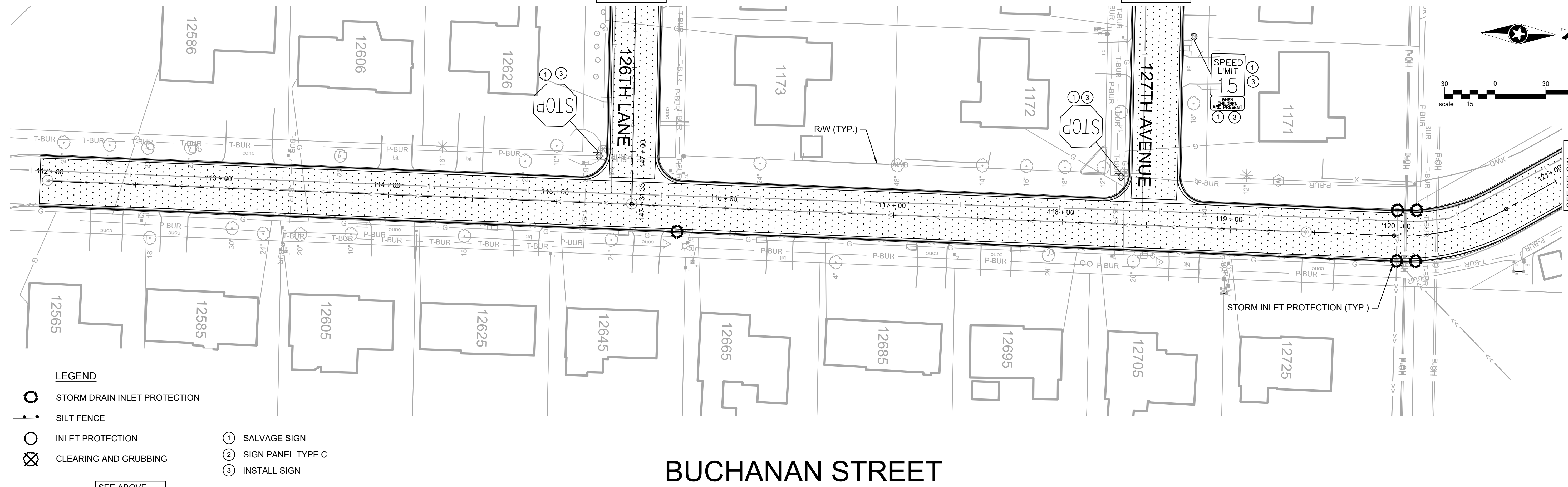



SEEDING-EROSION CONTROL NOTES:

1. ACTUAL LOCATION OF SILT FENCE & SEDIMENT CONTROL LOG SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
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| Drawn By | NMB, HC, EN | | | | | | |
| Designed By | DJC | | | | | | |
| Checked By | GFA | | | | | | |

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Greg F Anderson

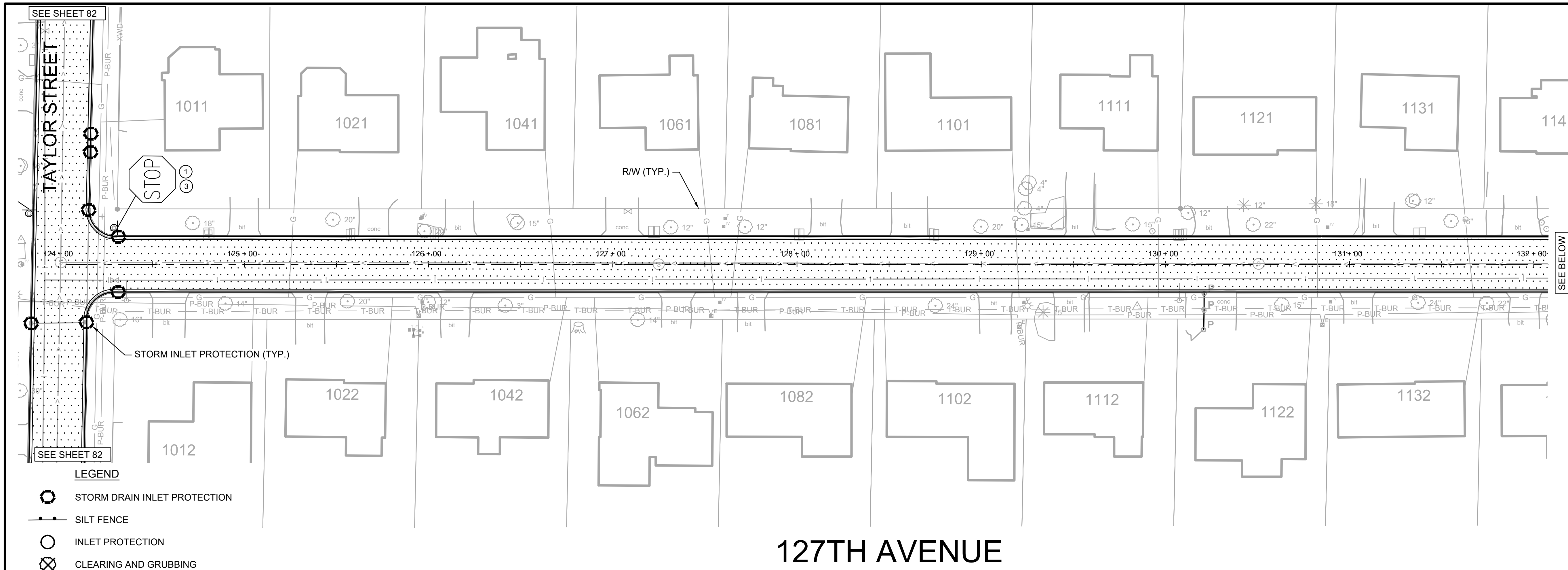
DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

EROSION CONTROL & RESTORATION-SIGNING/STRIPING PLAN BUCHANAN STREET

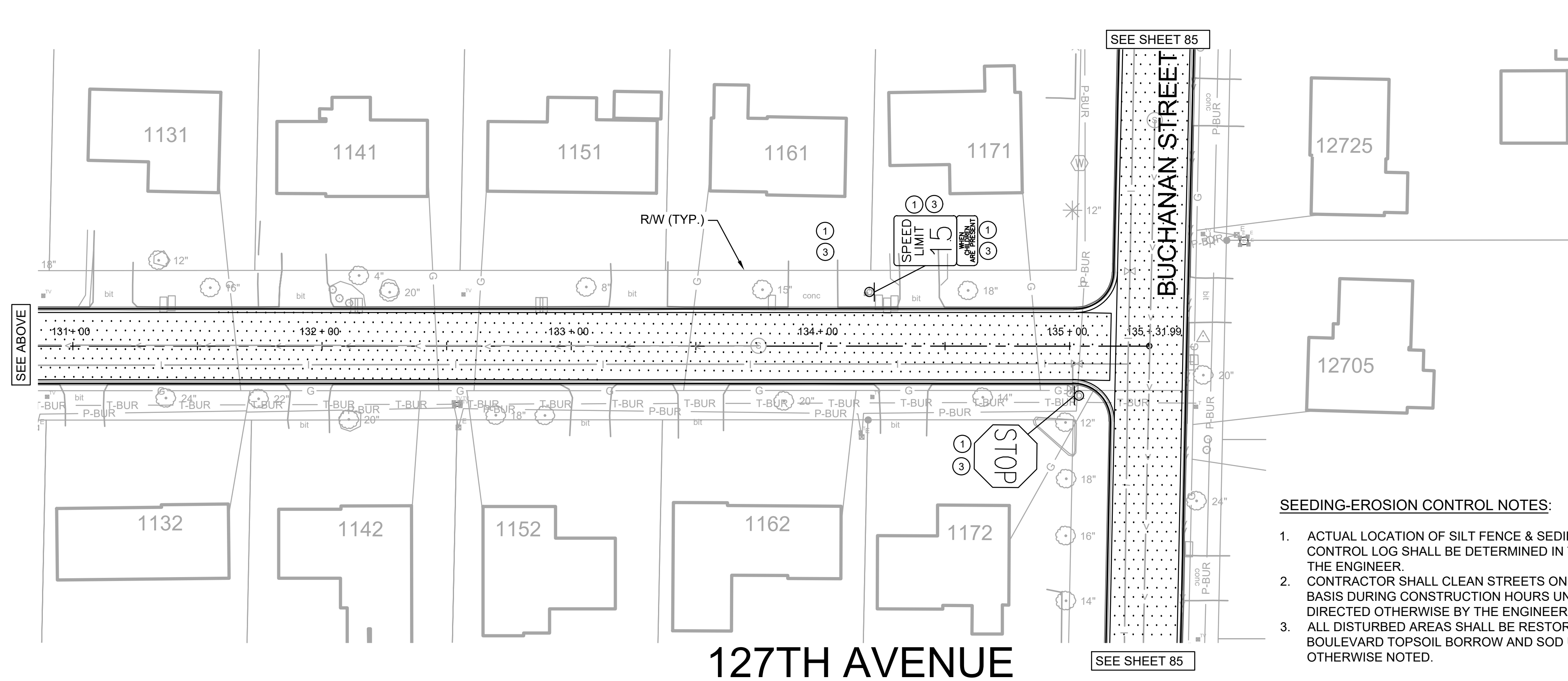
S.A.P. 106-141-003




LEGEND

- STORM DRAIN INLET PROTECTION
- SILT FENCE
- INLET PROTECTION
- CLEARING AND GRUBBING

## 127TH AVENUE




## 127TH AVENUE

1. SALVAGE SIGN
2. SIGN PANEL TYPE C
3. INSTALL SIGN

SEEDING-EROSION CONTROL NOTES:

1. ACTUAL LOCATION OF SILT FENCE & SEDIMENT CONTROL LOG SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
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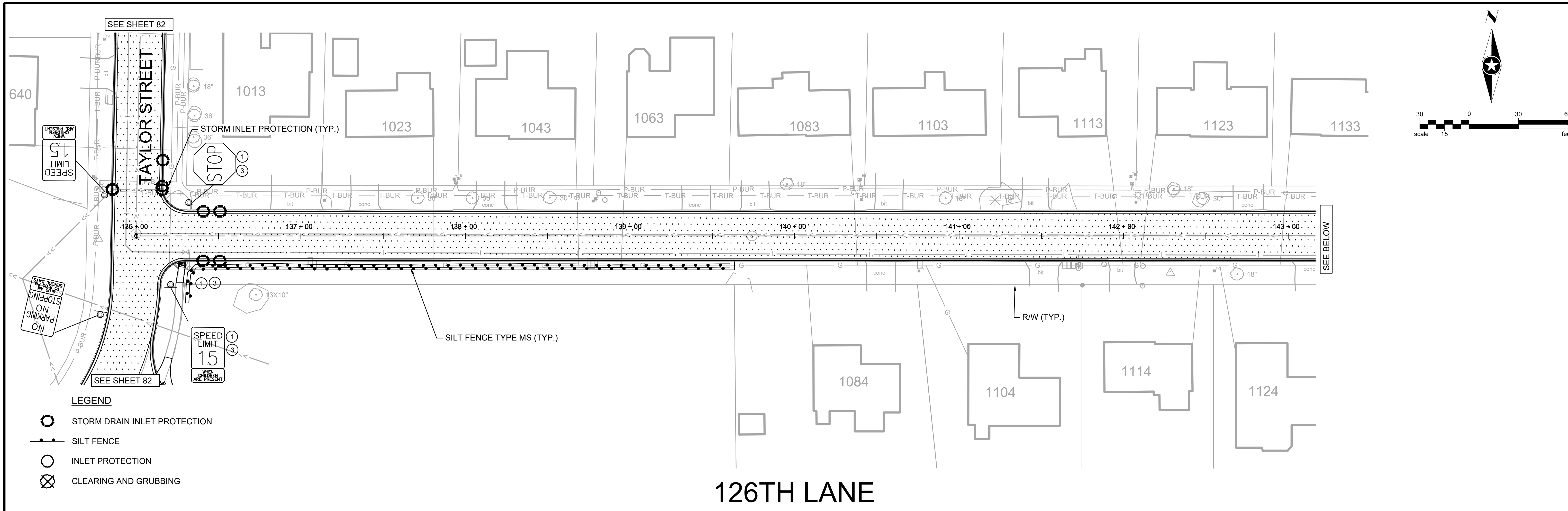


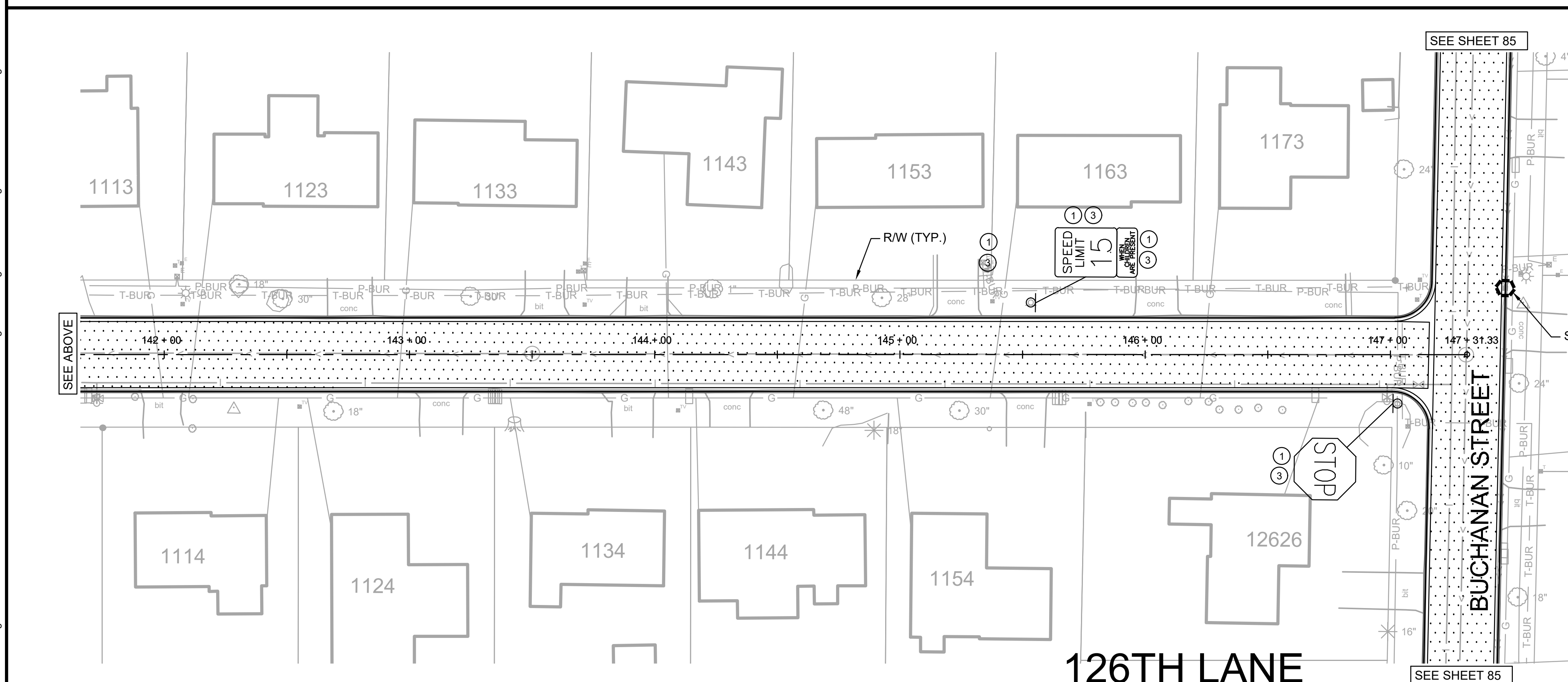


## SEEDING-EROSION CONTROL NOTES:

1. ACTUAL LOCATION OF SILT FENCE & SEDIMENT CONTROL LOG SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. CONTRACTOR SHALL CLEAN STREETS ON A DAILY BASIS DURING CONSTRUCTION HOURS UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
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|---|---|
| SEH Project | 165899 |
| Drawn By | NMB, HC, EN |
| Designed By | DJC |
| Checked By | GFA |

| Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
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Greg F Anderson

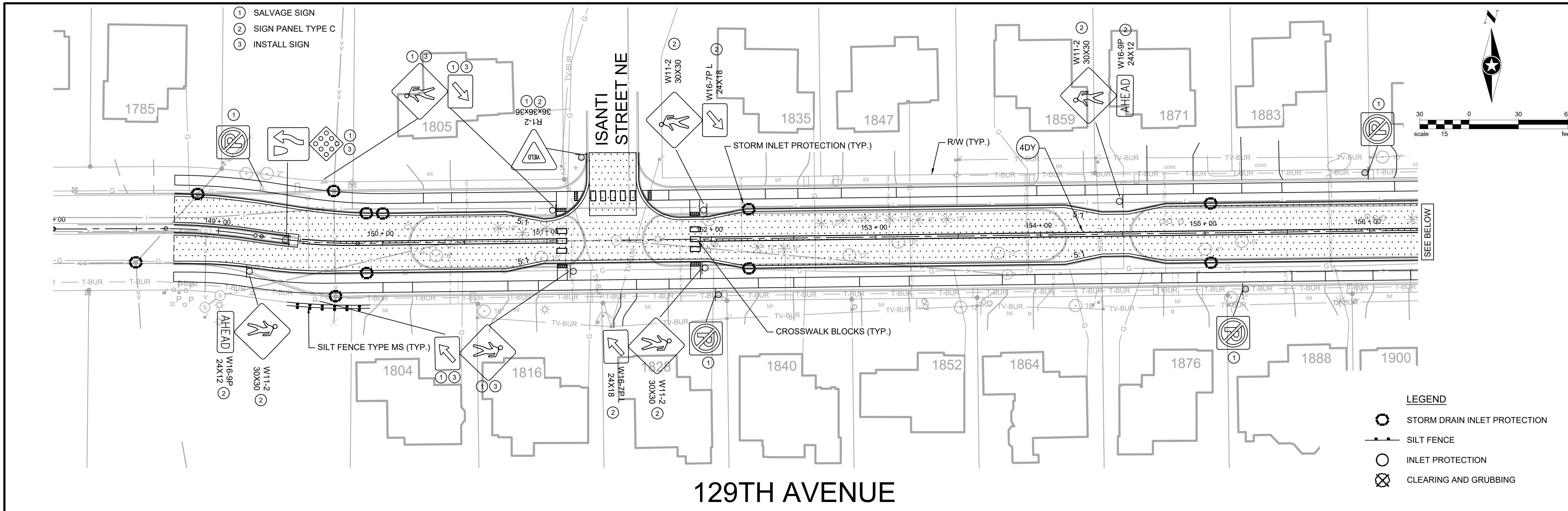
DATE 03.31.2022 LICENSE NO. 26859

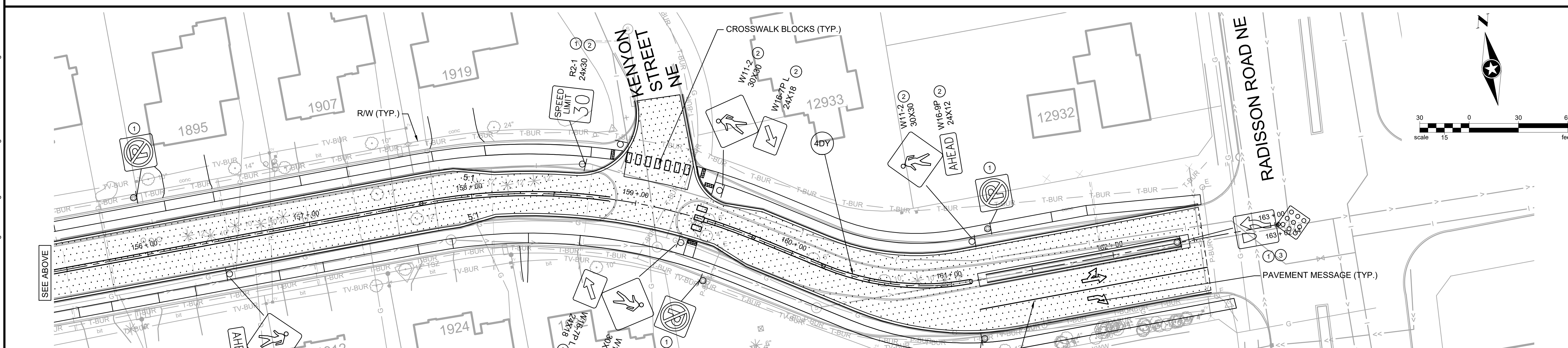
2022 STREET RECONSTRUCTION

BLAINE, MN

**EROSION CONTROL & RESTORATION-SIGNING/STRIPING PLAN 126TH LANE**

S.A.P. 106-141-003

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| SEH Project | 165899 |
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| Drawn By | NMB, HC, EN |
| Designed By | DJC |
| Checked By | GFA |

| Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
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Greg F Anderson

DATE 03.31.2022 LICENSE NO. 26859

2022 STREET RECONSTRUCTION

BLAINE, MN

**EROSION CONTROL & RESTORATION-SIGNING/STRIPING PLAN 129TH AVENUE**

S.A.P. 106-141-003

## SWPPP SUMMARY/OVERVIEW:

THIS STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN DEVELOPED TO ADDRESS THE REQUIREMENTS OF NPDES PERMIT MN R100001. THIS SWPPP INCLUDES A COMBINATION OF NARRATIVE AND PLAN SHEETS THAT DESCRIBE THE TEMPORARY AND PERMANENT STORM WATER MANAGEMENT PLAN FOR THE PROJECT.

## PROJECT INFORMATION:

| | |
|---|---|
| LOCATION: | BLAINE, MN |
| LATITUDE/LONGITUDE: | (PA1 45.195/-93.240) (PA2 45.200/-93.243) (PA3 45.205/-93.221) |
| PROJECT DESCRIPTION: | WATER MAIN, STORM SEWER, GRADING, AGGREGATE BASE, CONCRETE CURB AND GUTTER, SPOT SIDEWALK REPAIR, AND BITUMINOUS SURFACING |
| SOIL DISTURBING ACTIVITIES: | STORM SEWER, 129TH AVE. RECONSTRUCTION |

## CONTACTS:

| | |
|---|---|
| OWNER: | CITY OF BLAINE |
| CONTACT: | DAN SCHLUENDER |
| ADDRESS: | 10801 TOWN SQUARE DRIVE NE |
| PHONE: | 763-785-6158 |
| EMAIL: | DSCHUENDER@BLAINEMN.GOV |

| | |
|---|---|
| ENGINEER: | SHORT ELLIOT HENDRICKSON INC. |
| CONTACT: | DUSTIN CESAFSKY |
| PHONE: | 651.256.0430 |
| EMAIL: | DCESAFSKY@SEHINC.COM |
| PROJECT NO.: | BL165899 |

## KNOWLEDGEABLE PERSON/CHAIN OF RESPONSIBILITY

THE CONTRACTOR SHALL IDENTIFY A PERSON KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BMPS WHO WILL COORDINATE WITH ALL CONTRACTORS, SUBCONTRACTORS, AND OPERATORS ON-SITE TO OVERSEE THE IMPLEMENTATION OF THE SWPPP.

| | |
|---|---|
| CONTRACTOR | TBD |
| CONTACT | |
| PHONE | |
| EMAIL | |

THE CONTRACTOR SHALL ESTABLISH A CHAIN OF RESPONSIBILITY FOR ALL CONTRACTORS AND SUB-CONTRACTORS ON SITE TO ENSURE THE SWPPP IS BEING PROPERLY IMPLEMENTED AND MAINTAINED. THE CONTRACTOR SHALL PROVIDE THE CHAIN OF RESPONSIBILITY TO THE OWNER AND ATTACH TO THE SWPPP PRIOR TO ANY CONSTRUCTION ACTIVITY.

## GENERAL SWPPP RESPONSIBILITIES:

THE CONTRACTOR SHALL KEEP THE SWPPP, INCLUDING ALL AMENDMENTS AND INSPECTION AND MAINTENANCE RECORDS ON SITE DURING CONSTRUCTION.

THE SWPPP WILL BE AMENDED AS NEEDED AND/OR AS REQUIRED BY PROVISIONS OF THE PERMIT. PERMITTEES MUST AMEND THE SWPPP TO INCLUDE ADDITIONAL OR MODIFIED BMPS AS NECESSARY TO CORRECT PROBLEMS IDENTIFIED OR ADDRESS SITUATIONS WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE, WEATHER OR SEASONAL CONDITIONS HAVING A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER. AMENDMENTS WILL BE APPROVED BY BOTH THE OWNER AND CONTRACTOR AND WILL BE ATTACHED OR OTHERWISE INCLUDED WITH THE SWPPP DOCUMENTS. THE SWPPP AMENDMENTS SHALL BE INITIATED, FACILITATED, AND PROCESSED BY THE CONTRACTOR.

ALL SWPPP CHANGES MUST BE DONE BY AN INDIVIDUAL TRAINED IN ACCORDANCE WITH SECTION 21.4 OR 21.5. CHANGES INVOLVING THE USE OF A LESS STRINGENT BMP MUST INCLUDE A JUSTIFICATION DESCRIBING HOW THE REPLACEMENT BMP IS EFFECTIVE FOR THE SITE CHARACTERISTICS.

BOTH THE OWNER AND CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER TERMINATION AND/OR TRANSFER OF THE PERMIT.

## LONG TERM OPERATION AND MAINTENANCE

THE OWNER WILL BE RESPONSIBLE OR WILL OTHERWISE IDENTIFY WHO WILL BE RESPONSIBLE FOR THE LONG TERM OPERATION AND MAINTENANCE OF THE PERMANENT STORMWATER MANAGEMENT SYSTEM(S).

## TRAINING DOCUMENTATION:

| | |
|---|---|
| PREPARER/DESIGNER OF SWPPP: | DUSTIN CESAFSKY |
| EMPLOYER: | SEH INC. |
| TRAINING AND DATE OF EXPIRATION: | DESIGN OF CONSTRUCTION SWPP PLANS, MAY 2024 |
| NAME OF INSTRUCTOR(S): | JOHN CHAPMAN, U OF M |

CONTENT OF TRAINING AVAILABLE UPON REQUEST.

THE CONTRACTOR (OPERATOR) SHALL ADD TO THE SWPPP TRAINING RECORDS FOR THE FOLLOWING PERSONNEL:

-INDIVIDUALS OVERSEEING THE IMPLEMENTATION OF, REVISING, AND AMENDING THE SWPPP
-INDIVIDUALS PERFORMING INSPECTIONS
-INDIVIDUALS PERFORMING OR SUPERVISING THE INSTALLATION, MAINTENANCE AND REPAIR OF BMPS

TRAINING MUST RELATE TO THE INDIVIDUAL'S JOB DUTIES AND RESPONSIBILITIES AND SHALL INCLUDE:

1) DATES OF TRAINING
2) NAME OF INSTRUCTORS
3) CONTENT AND ENTITY PROVIDING TRAINING

THE CONTRACTOR SHALL ENSURE THAT THE INDIVIDUALS ARE TRAINED BY LOCAL, STATE, FEDERAL AGENCIES, PROFESSIONAL ORGANIZATIONS, OR OTHER ENTITIES WITH EXPERTISE IN EROSION PREVENTION, SEDIMENT CONTROL, PERMANENT STORMWATER MANAGEMENT AND THE MINNESOTA NPDES/SDS CONSTRUCTION STORMWATER PERMIT.

## PROJECT SUMMARY:

| | |
|---|---|
| TOTAL DISTURBED AREA: | 17.01 AC |
| PRE-CONSTRUCTION IMPERVIOUS AREA: | 13.01 AC |
| POST-CONSTRUCTION IMPERVIOUS AREA: | 13.32 AC |
| IMPERVIOUS AREA ADDED: | 0.31 AC |

## RECEIVING WATER(S) WITHIN ONE MILE FROM PROJECT BOUNDARIES:

(http://pca-gis02.pca.state.mn.us/CSW/index.html)

| ID | NAME | TYPE | SPECIAL WATER? | IMPAIRED WATER? | CONSTRUCTION RELATED IMPAIRMENT OR SPECIAL WATER CLASSIFICATION | TMDL |
|---|---|---|---|---|---|---|
| N/A | | | | | | |
| ADDITIONAL BMPS AND/OR ACTIONS REQUIRED: N/A | | | | | | |

| WATERBODY | NO WORK DURING |
|---|---|
| LAKES | APRIL 1 - JUNE 30 |
| NON-TROUT STREAMS | MARCH 15 - JUNE 15 |
| TROUT STREAMS | SEPTEMBER 1 - APRIL 1 |

## SITE SOIL INFORMATION: (http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx)

(SOIL INFORMATION PROVIDED IS FOR NPDES PERMIT INFORMATION ONLY. SOIL INFORMATION WAS OBTAINED FROM THE USGS WEBSITE. THE CONTRACTOR SHALL NOT RELY ON THIS SOIL INFORMATION FOR CONSTRUCTION PURPOSES.)

| SOIL NAME: | HYDROLOGIC CLASSIFICATION: |
|---|---|
| ISANTI FINE LOAM | A/D |
| LINO LOAMY FINE SAND | A/D |
| ZIMMERMAN FINE SAND | A |

## RELATED REVIEWS & PERMITS:

ENVIRONMENTAL, WETLAND, ENDANGERED OR THREATENED SPECIES, ARCHEOLOGICAL, LOCAL, STATE, AND/OF FEDERAL REVIEWS/PERMITS:

| TYPE OF PERMIT/REVIEW: | REQUIRED ACTION(S): |
|---|---|
| COON CREEK WATERSHED | REVIEW |
| MNDOT STATE AID | REVIEW |

## IMPLEMENTATION SEQUENCE:

THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING SEQUENCE.
THE ENGINEER MAY APPROVE ADJUSTMENTS TO THE SEQUENCE AS NEEDED.

| | |
|---|---|
| 1. | MAINTAIN CLASS 5 CONSTRUCTION ENTRANCE |
| 2. | INSTALL PERIMETER CONTROL AND STABILIZE DOWN GRADIENT BOUNDARIES |
| 3. | COMPLETE SITE GRADING |
| 4. | INSTALL STORM SEWER INLET PROTECTION, CURB & GUTTER, PAVING |
| 5. | COMPLETE FINAL GRADING AND STABILIZE DISTURBED AREAS |
| 6. | AFTER CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED, REMOVE ACCUMULATED SEDIMENT, REMOVE BMPS, AND RE-STABILIZE ANY AREAS DISTURBED BY THEIR REMOVAL. |

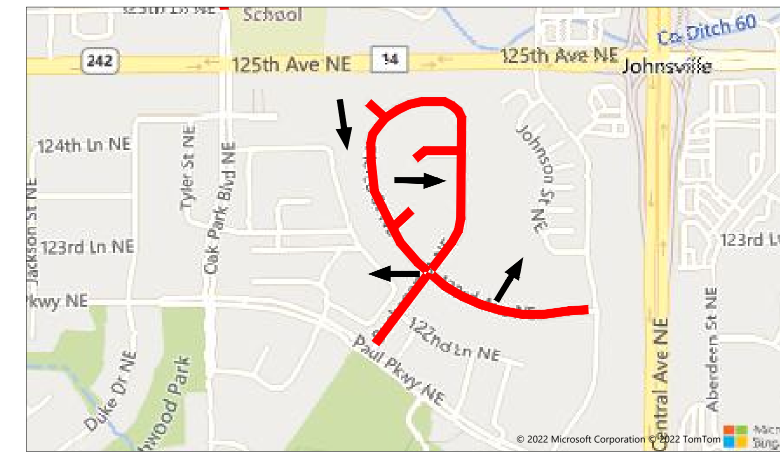
## PROJECT SPECIFIC NOTES:

THE PROJECT SUMMARY AREAS ARE A COMBINATION OF ALL 3 PROJECT AREAS THAT DO NOT SHARE A COMMON DISCHARGE POINT.

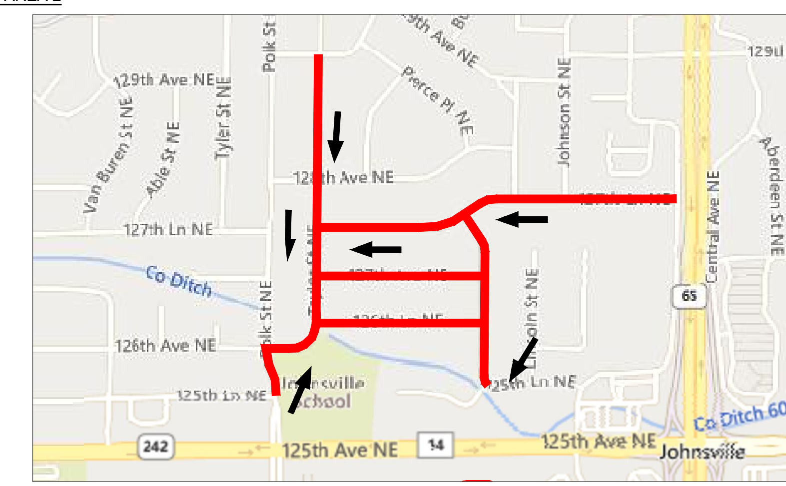
## THE FOLLOWING DOCUMENTS ARE CONSIDERED PART OF THE SWPPP:

PLAN AND PROFILE PLAN SHEETS: 36-62
EROSION AND SEDIMENT CONTROL PLAN SHEETS:76-88
TURF ESTABLISHMENT PLAN SHEETS:76-88
STORM SEWER PLAN & PROFILE PLAN SHEETS:36-62
GRADING PLAN SHEETS:36-62
DETAIL PLAN SHEETS:7-19
SWPPP NOTE AND DETAIL SHEETS:89-90
PROJECT SPECIFICATIONS: PROJECT MANUAL
PROJECT BID FORM: PROJECT MANUAL

PROJECT AREA 1




PROJECT AREA 2




PROJECT AREA 3

EROSION PREVENTION MEASURES AND TIMING:
THE CONTRACTOR IS RESPONSIBLE FOR ALL EROSION PREVENTION MEASURES FOR THE PROJECT.

EROSION PREVENTION MEASURES SHOWN ON PLANS ARE THE ABSOLUTE MINIMUM REQUIREMENTS. THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL EROSION PREVENTION MEASURES AS NECESSARY TO PROPERLY MANAGE THE PROJECT AREA.

THE CONTRACTOR SHALL PLAN AND IMPLEMENT APPROPRIATE CONSTRUCTION PRACTICES AND CONSTRUCTION PHASING TO MINIMIZE EROSION AND RETAIN VEGETATION WHENEVER POSSIBLE.

THE PERMITTEE SHALL DELINEATE AREAS NOT TO BE DISTURBED. PERMITTEE(S) MUST MINIMIZE THE NEED FOR DISTURBANCE OF PORTIONS OF THE PROJECT WITH STEEP SLOPES. WHEN STEEP SLOPES MUST BE DISTURBED, PERMITTEES MUST USE TECHNIQUES SUCH AS PHASING AND STABILIZATION PRACTICES DESIGNED FOR STEEP SLOPES.

THE CONTRACTOR SHALL STABILIZE OF ALL EXPOSED SOILS IMMEDIATELY TO LIMIT SOIL EROSION. IN NO CASE SHALL ANY EXPOSED AREAS, INCLUDING STOCK PILES, HAVE EXPOSED SOILS FOR MORE THAN 14 DAYS WITHOUT PROVIDING TEMPORARY OR PERMANENT STABILIZATION. STABILIZATION MUST BE COMPLETED WITHIN 14 DAYS AFTER CONSTRUCTION ACTIVITY HAS CEASED. TEMPORARY STOCKPILES WITHOUT SIGNIFICANT CLAY, SILT, OR ORGANIC COMPONENTS DO NOT REQUIRE STABILIZATION.

DRAINAGE PATHS, DITCHES, AND/OR SWALES SHALL HAVE TEMPORARY OR PERMANENT STABILIZATION WITHIN 24 HOURS OF CONNECTING TO A SURFACE WATER OR 24 HOURS AFTER CONSTRUCTION ACTIVITY IN THE DITCH/SWALE HAS TEMPORARILY OR PERMANENTLY CEASED.

THE CONTRACTOR SHALL COMPLETE THE STABILIZATION OF ALL EXPOSED SOILS WITHIN 24 HOURS THAT LIE WITHIN 200 FEET OF PUBLIC WATERS PROMULGATED "WORK IN WATER RESTRICTIONS" BY THE MN DNR DURING SPECIFIED FISH SPAWNING TIMES.

THE CONTRACTOR SHALL IMPLEMENT EROSION CONTROL BMPS AND VELOCITY DISSIPATION DEVICES ALONG CONSTRUCTED STORMWATER CONVEYANCE CHANNELS AND OUTLETS.

THE CONTRACTOR SHALL STABILIZE TEMPORARY AND/OR PERMANENT DRAINAGE DITCHES OR SWALES WITHIN 200 LINEAL FEET FROM PROPERTY EDGE, OR DISCHARGE POINT(S) WITHIN 24 HOURS AFTER CONNECTING TO A SURFACE WATER OR PROPERTY EDGE.

TEMPORARY OR PERMANENT DITCHES OR SWALES USED AS A SEDIMENT CONTAINMENT SYSTEM DURING CONSTRUCTION MUST BE STABILIZED WITHIN 24 HOURS AFTER NO LONGER BEING USED AS A SEDIMENT CONTAINMENT SYSTEM.

THE CONTRACTOR SHALL NOT UTILIZE HYDROMULCH, TACKIFIER, POLYACRYLAMIDE OR SIMILAR EROSION PREVENTION PRACTICES AS A FORM OF STABILIZATION FOR TEMPORARY OR PERMANENT DRAINAGE DITCHES OR SWALE SECTION WITH A CONTINUOUS SLOPE OF GREATER THAN 2 PERCENT.

THE CONTRACTOR SHALL ENSURE PIPE OUTLETS HAVE TEMPORARY OR PERMANENT ENERGY DISSIPATION WITH IN 24 HOURS OF CONNECTION TO A SURFACE WATER.

THE CONTRACTOR SHALL DIRECT DISCHARGES FROM BMPS TO VEGETATED AREAS TO INCREASE SEDIMENT REMOVAL AND MAXIMIZE STORMWATER INFILTRATION. VELOCITY DISSIPATION DEVICES MUST BE USED TO PREVENT EROSION WHEN DIRECTING STORMWATER TO VEGETATED AREAS.

SEDIMENT CONTROL MEASURES AND TIMING:
THE CONTRACTOR IS RESPONSIBLE FOR ALL SEDIMENT CONTROL MEASURES FOR THE PROJECT.

SEDIMENT CONTROL MEASURES SHOWN ON PLANS ARE THE ABSOLUTE MINIMUM REQUIREMENTS. THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL SEDIMENT CONTROL MEASURES AS NECESSARY TO PROPERLY MANAGE THE PROJECT AREA.

THE CONTRACTOR SHALL ENSURE SEDIMENT CONTROL MEASURES ARE ESTABLISHED ON ALL DOWN GRADIENT PERIMETERS BEFORE ANY UPGRADIENT LAND DISTURBING ACTIVITIES BEGIN. THESE MEASURES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION HAS BEEN ESTABLISHED.

A FLOATING SILT CURTAIN PLACED IN THE WATER IS NOT A SEDIMENT CONTROL BMP EXCEPT WHEN WORKING ON A SHORELINE OR BELOW THE WATERLINE. IMMEDIATELY AFTER THE SHORT TERM CONSTRUCTION ACTIVITY IS COMPLETE, PERMITTEE(S) MUST INSTALL AN UPLAND PERIMETER CONTROL PRACTICE IF EXPOSED SOILS STILL DRAIN TO A SURFACE WATER.

THE CONTRACTOR SHALL ENSURE SEDIMENT CONTROL PRACTICES REMOVED OR ADJUSTED FOR SHORT-TERM ACTIVITIES BE RE-INSTALLED IMMEDIATELY AFTER THE SHORT-TERM ACTIVITY HAS BEEN COMPLETED. SEDIMENT CONTROL PRACTICES MUST BE REINSTALLED BEFORE THE NEXT PRECIPITATION EVENT EVEN IF THE SHORT-TERM ACTIVITY IS NOT COMPLETE.

THE CONTRACTOR SHALL ENSURE STORM DRAIN INLETS ARE PROTECTED BY APPROPRIATE BMPS DURING CONSTRUCTION UNTIL ALL SOURCES WITH POTENTIAL FOR DISCHARGING TO THE INLET HAVE BEEN STABILIZED.

THE CONTRACTOR SHALL PROVIDE SILT FENCE OR OTHER EFFECTIVE SEDIMENT CONTROL AT THE BASE OF THE STOCKPILES.

THE CONTRACTOR SHALL INSTALL PERIMETER CONTROL AROUND ALL STAGING AREAS, BORROW PITS, AND AREAS CONSIDERED ENVIRONMENTALLY SENSITIVE.

THE CONTRACTOR SHALL ENSURE VEHICLE TRACKING BE MINIMIZED WITH EFFECTIVE BMPS. WHERE THE BMPS FAIL TO PREVENT SEDIMENT FROM TRACKING ONTO STREETS THE CONTRACTOR SHALL CONDUCT STREET SWEEPING TO REMOVE ALL TRACKED SEDIMENT.

THE CONTRACTOR SHALL IMPLEMENT CONSTRUCTION PRACTICES TO MINIMIZE SOIL COMPACTION.

THE CONTRACTOR SHALL ENSURE ALL CONSTRUCTION ACTIVITY REMAIN WITHIN PROJECT LIMITS AND THAT ALL IDENTIFIED RECEIVING WATER BUFFERS ARE MAINTAINED.

A 50 FOOT NATURAL BUFFER MUST BE PRESERVED OR PROVIDE REDUNDANT (DOUBLE) PERIMETER SEDIMENT CONTROLS IF NATURAL BUFFER IS INFEASIBLE.

THE CONTRACTOR SHALL NOT UTILIZE SEDIMENT CONTROL CHEMICALS ON SITE.

INSPECTION AND MAINTENANCE:
ALL INSPECTIONS, MAINTENANCE, REPAIRS, REPLACEMENTS, AND REMOVAL OF BMPS IS TO BE CONSIDERED INCIDENTAL TO THE BMP BID ITEMS.

THE PERMITTEE(S) IS RESPONSIBLE FOR COMPLETING SITE INSPECTIONS, AND BMP MAINTENANCE TO ENSURE COMPLIANCE WITH THE PERMIT REQUIREMENTS.

THE PERMITTEE(S) SHALL INSPECT THE CONSTRUCTION SITE ONCE EVERY 7 DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS.

THE PERMITTEE(S) SHALL DOCUMENT A WRITTEN SUMMARY OF ALL INSPECTIONS AND MAINTENANCE ACTIVITIES CONDUCTED WITHIN 24 HOURS OF OCCURRENCE. RECORDS OF EACH ACTIVITY SHALL INCLUDE THE FOLLOWING:

-DATE AND TIME OF INSPECTIONS;
-NAME OF PERSON(S) CONDUCTING INSPECTION;
-FINDINGS AND RECOMMENDATIONS FOR CORRECTIVE ACTIONS IF NECESSARY;
-CORRECTIVE ACTIONS TAKEN;
-DATE AND AMOUNT OF RAINFALL EVENTS;
-POINTS OF DISCHARGE OBSERVED DURING INSPECTION AND DESCRIPTION OF THE DISCHARGE
-AMENDMENTS MADE TO THE SWPPP.

THE CONTRACTOR SHALL DOCUMENT AMENDMENTS TO THE SWPPP AS A RESULT OF INSPECTION(S) WITHIN 7 DAYS.

THE CONTRACTOR SHALL KEEP THE SWPPP, ALL INSPECTION REPORTS, AND AMENDMENTS ONSITE. THE CONTRACTOR SHALL DESIGNATE A SPECIFIC ONSITE LOCATION TO KEEP THE RECORDS

THE CONTRACTOR IS RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF TEMPORARY AND PERMANENT WATER QUALITY BMP'S, AS WELL AS EROSION AND SEDIMENT CONTROL BMP'S.

THE CONTRACTOR SHALL INSPECT EROSION PREVENTION AND SEDIMENTATION CONTROL BMPS TO ENSURE INTEGRITY AND EFFECTIVENESS. ALL NONFUNCTIONAL BMPS SHALL BE REPAIRED, REPLACED, OR SUPPLEMENTED WITH FUNCTIONAL BMPS WITHIN 24 HOURS OF FINDING. THE CONTRACTOR SHALL INVESTIGATE AND COMPLY WITH THE FOLLOWING INSPECTION AND MAINTENANCE REQUIREMENTS:

PERIMETER CONTROL DEVICES, INCLUDING SILT FENCE SHALL BE REPAIRED, OR REPLACED, WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/2 OF THE DEVICE HEIGHT. THESE REPAIRS SHALL BE MADE WITHIN 24 HOURS OF DISCOVERY.

TEMPORARY AND PERMANENT SEDIMENT BASINS SHALL BE DRAINED AND THE SEDIMENT REMOVED WHEN THE DEPTH OF SEDIMENT COLLECTED IN THE BASIN REACHES 1/2 THE STORAGE VOLUME. DRAINAGE AND REMOVAL MUST BE COMPLETED WITHIN 72 HOURS OF DISCOVERY.

SURFACE WATERS, INCLUDING DRAINAGE DITCHES AND CONVEYANCE SYSTEMS, MUST BE INSPECTED FOR EVIDENCE OF EROSION AND SEDIMENT DEPOSITION. THE CONTRACTOR SHALL REMOVE ALL DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATERS, INCLUDING DRAINAGE WAYS, CATCH BASINS, AND OTHER DRAINAGE SYSTEMS. THE CONTRACTOR SHALL RE-STABILIZE THE AREAS WHERE SEDIMENT REMOVAL RESULTS IN EXPOSED SOIL. REMOVAL AND STABILIZATION MUST TAKE PLACE WITHIN 7 DAYS OF DISCOVERY, UNLESS PRECLUDED BY LEGAL, REGULATORY, OR PHYSICAL CONSTRAINTS. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL LOCAL, REGIONAL, STATE AND FEDERAL AUTHORITIES AND OBTAIN ANY APPLICABLE PERMITS, PRIOR TO CONDUCTING ANY WORK IN SURFACE WATERS.

CONSTRUCTION SITE VEHICLE EXIT LOCATIONS SHALL BE INSPECTED DAILY FOR EVIDENCE OF SEDIMENT TRACKING ONTO PAVED SURFACES. TRACKED SEDIMENT MUST BE REMOVED FROM ALL PAVED SURFACES WITHIN 24 HOURS OF DISCOVERY.

IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED IN A MANOR AND AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS.

EROSION PREVENTION BMP SUMMARY:
SEE EROSION AND SEDIMENT CONTROL PLAN SHEET AND BID FORM FOR TYPE, LOCATION, AND QUANTITY OF EROSION PREVENTION BMPS.

SEDIMENT CONTROL BMP SUMMARY:
SEE EROSION AND SEDIMENT CONTROL PLAN SHEETS AND BID FORM FOR TYPE, LOCATION, AND QUANTITY OF SEDIMENT CONTROL BMPS.

DEWATERING AND BASIN DRAINING ACTIVITIES:
THE CONTRACTOR IS RESPONSIBLE FOR ADHERING TO ALL DEWATERING AND SURFACE DRAINAGE REGULATIONS.

WATER FROM DEWATERING ACTIVITIES SHALL DISCHARGE TO A TEMPORARY AND/OR PERMANENT SEDIMENT BASIN.

IF WATER CANNOT BE DISCHARGED TO A SEDIMENTATION BASIN, IT SHALL BE TREATED WITH OTHER APPROPRIATE BMPS, TO EFFECTIVELY REMOVE SEDIMENT.

DISCHARGE THAT CONTAINS OIL OR GREASE MUST BE TREATED WITH AN OIL-WATER SEPARATOR OR SUITABLE FILTRATION DEVICE PRIOR TO DISCHARGE.

WATER FROM DEWATERING SHALL BE DISCHARGED IN A MANNER THAN DOES NOT CAUSE NUISANCE CONDITIONS, EROSION, OR INUNDATION OF WETLANDS.

BACKWASH WATER USED FOR FILTERING SHALL BE HAULED AWAY FOR DISPOSAL, RETURNED TO THE BEGINNING OF TREATMENT PROCESS, OR INCORPORATED INTO THE SITE IN A MANNER THAT DOES NOT CAUSE EROSION. THE CONTRACTOR SHALL REPLACE AND CLEAN FILTER MEDIAS USED IN DEWATERING DEVICES WHEN REQUIRED TO MAINTAIN ADEQUATE FUNCTION.

POLLUTION PREVENTION MANAGEMENT MEASURES:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POLLUTION PREVENTION MANAGEMENT MEASURES.

ALL POLLUTION PREVENTION MEASURES ARE CONSIDERED INCIDENTAL TO THE MOBILIZATION BID ITEM, UNLESS OTHERWISE NOTED.

THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER DISPOSAL, IN COMPLIANCE WITH MPCA DISPOSAL REQUIREMENTS, OF ALL HAZARDOUS MATERIALS, SOLID WASTE, AND PRODUCTS ON-SITE.

THE CONTRACTOR SHALL ENSURE BUILDING PRODUCTS THAT HAVE THE POTENTIAL TO LEAK POLLUTANTS ARE KEPT UNDER COVER TO PREVENT THE DISCHARGE OF POLLUTANTS.

THE CONTRACTOR SHALL ENSURE PESTICIDES, HERBICIDES, INSECTICIDES, FERTILIZERS, TREATMENT CHEMICALS, AND LANDSCAPE MATERIALS ARE COVERED TO PREVENT THE DISCHARGE OF POLLUTANTS.

THE CONTRACTOR SHALL ENSURE HAZARDOUS MATERIALS AND TOXIC WASTE IS PROPERLY STORED IN SEALED CONTAINERS TO PREVENT SPILLS, LEAKS, OR OTHER DISCHARGE. STORAGE AND DISPOSAL OF HAZARDOUS WASTE OR HAZARDOUS MATERIALS MUST BE IN COMPLIANCE WITH MINN. R. CH. 7045 INCLUDING SECONDARY CONTAINMENT AS APPLICABLE.

THE CONTRACTOR SHALL ENSURE ASPHALT SUBSTANCES USED ON-SITE SHALL ARE APPLIED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

THE CONTRACTOR SHALL ENSURE PAINT CONTAINERS AND CURING COMPOUNDS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT AND/OR CURING COMPOUNDS SHALL NOT BE DISCHARGED INTO THE STORM SEWER SYSTEM AND SHALL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURE'S INSTRUCTION.

THE CONTRACTOR SHALL ENSURE SOLID WASTE BE STORED, COLLECTED AND DISPOSED OF PROPERLY IN COMPLIANCE WITH MINN. R. CH. 7035.

THE CONTRACTOR SHALL ENSURE POTABLE TOILETS ARE POSITIONED SO THAT THEY ARE SECURE AND WILL NOT BE TIPPED OR KNOCKED OVER. SANITARY WASTE MUST BE DISPOSED OF PROPERLY IN ACCORDANCE WITH MINN. R, CH. 7041.

THE CONTRACTOR SHALL MONITOR ALL VEHICLES ON-SITE FOR LEAKS AND RECEIVE REGULAR PREVENTION MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE.

THE CONTRACTOR SHALL ENSURE WASHOUT WASTE MUST CONTACT THE GROUND AND BE PROPERLY DISPOSED OF IN COMPLIANCE WITH MPCA RULES.

THE CONTRACTOR SHALL INCLUDE SPILL KITS WITH ALL FUELING SOURCES AND MAINTENANCE ACTIVITIES. SECONDARY CONTAINMENT MEASURES SHALL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR.

THE CONTRACTOR SHALL ENSURE SPILLS ARE CONTAINED AND CLEANED UP IMMEDIATELY UPON DISCOVERY. SPILLS LARGE ENOUGH TO REACH THE STORM WATER CONVEYANCE SYSTEM SHALL BE REPORTED TO THE MINNESOTA DUTY OFFICER AT 1.800.422.0798.

PERMIT TERMINATION CONDITIONS:
THE CONTRACTOR IS RESPONSIBLE FOR ENSURING FINAL STABILIZATION OF THE ENTIRE SITE. PERMIT TERMINATION CONDITIONS INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

ALL SOIL DISTURBING ACTIVITIES HAVE BEEN COMPLETED.

ALL EXPOSED SOILS HAVE BEEN UNIFORMLY STABILIZED WITH AT LEAST 70% VEGETATION COVERAGE.

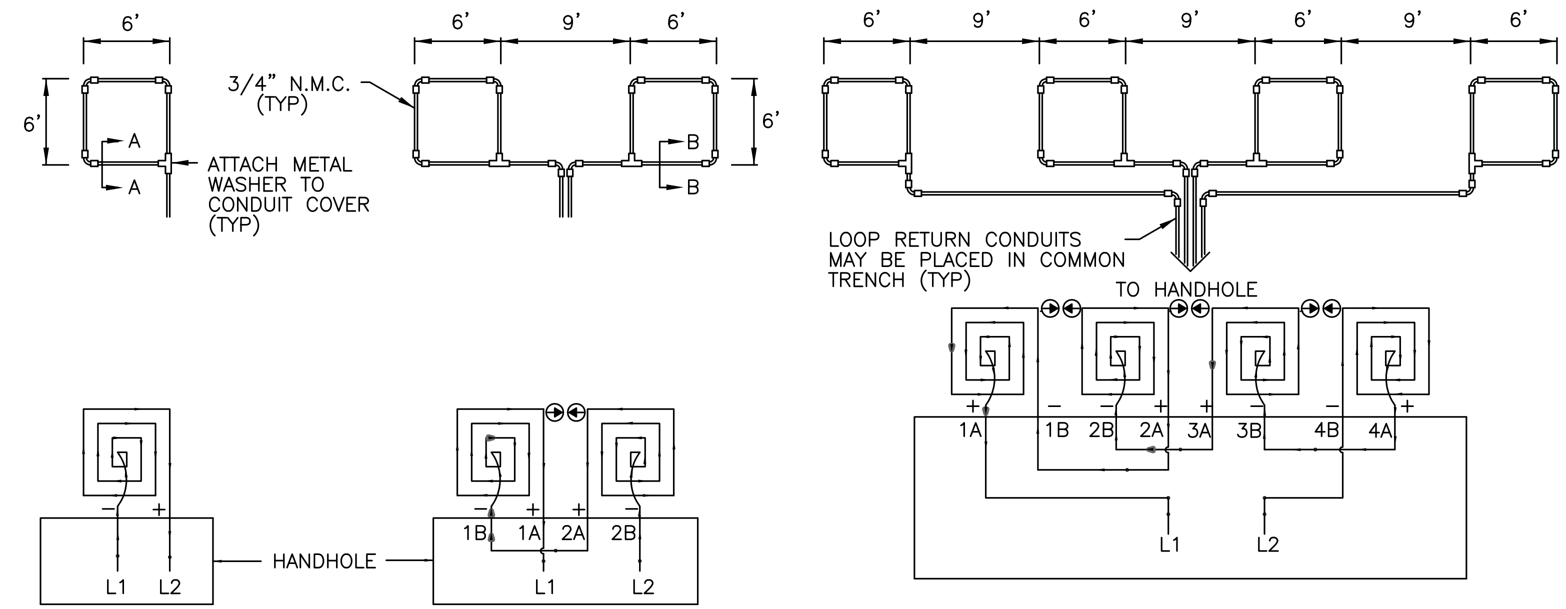
PERMANENT STORM WATER MANAGEMENT SYSTEM(S) ARE CONSTRUCTED AND ARE OPERATING AS DESIGNED.

ALL DRAINAGE DITCHES, PONDS, AND ALL STORM WATER CONVEYANCE SYSTEMS HAVE BEEN CLEARED OF SEDIMENT AND STABILIZED WITH PERMANENT COVER TO PRECLUDE EROSION.

ALL TEMPORARY SYNTHETIC BMPS HAVE BEEN REMOVED AND PROPERLY DISPOSED OF.

IN RESIDENTIAL CONSTRUCTION, INDIVIDUAL LOTS ARE CONSIDERED FINALLY STABILIZED IF THE STRUCTURE(S) ARE FINISHED AND TEMPORARY EROSION PROTECTION AND DOWNGRADIENT PERIMETER CONTROL HAS BEEN COMPLETED, THE RESIDENCE HAS BEEN SOLD TO THE HOMEOWNER, AND THE HOMEOWNER HAS BEEN PROVIDED A "HOMEOWNER FACT SHEET" BY THE CONTRACTOR.

AGRICULTURAL LAND DISTURBED HAS BEEN RETURNED TO ITS PRECONSTRUCTION AGRICULTURAL USE.




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

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

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

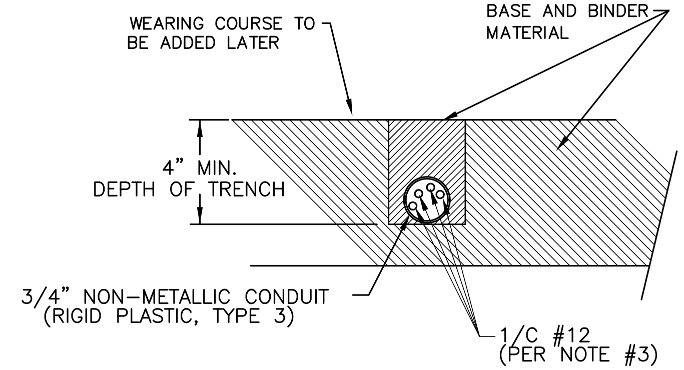
L1 TO 1A   3B TO 4A
1B TO 2A   4B TO L2
2B TO 3A

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

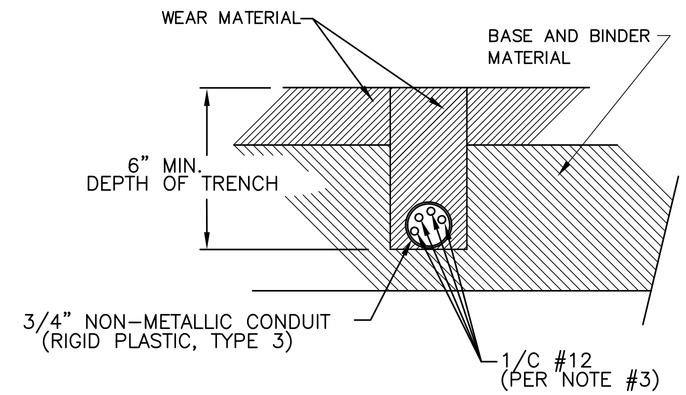
**LOOP DETECTOR DETAIL 'A'**
(LOOP PHASING FOR SINGLE CONNECTION)

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

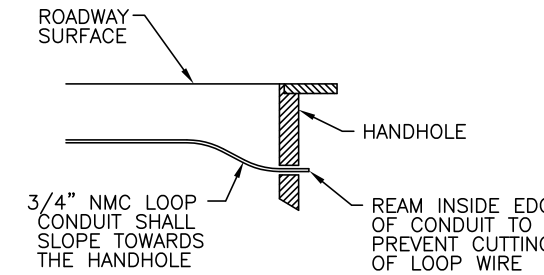
**LOOP DETECTOR DETAIL 'C'**
(LOOP PHASING FOR SERIES CONNECTION)




**SECTION A–A**
DETAIL FOR LOOP INSTALLATION IN NEW ROADWAY




**SECTION B–B**
DETAIL FOR LOOP INSTALLATION IN EXISTING ROADWAY




**DRAINAGE DETAIL**

## LOOP DETECTOR WIRING

1) ALL CORNERS SHALL BE 90° CONDUIT BENDS.
2) CONNECT WIRES IN HANDHOLES USING SPLICE KIT METHOD DESCRIBED IN THE SPECIAL PROVISIONS.
3) LOOP DETECTOR WIRES SHALL BE #12 AWG CROSSED LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.
4) LOOP LEAD IN WIRES SHALL BE TWISTED A MIN. OF (5) TURNS PER FOOT THROUGH THE CONDUIT TO THE HANDHOLE.
5) NMC DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
6) LOOPS 6' x 6' THRU 6' x 14' SHALL HAVE (4) TURNS.
7) LOOPS 6' x 15' AND LARGER SHALL HAVE (2) TURNS.

## LEGEND OF SYMBOLS

- CONTROLLER AND SERVICE EQUIP. NO's
- SIGNAL BASE NO.
- SIGNAL FACE NO.
- LUMINAIRE NO.
- CONTROLLER AND CABINET
- CONTROLLER AND CABINET – IN PLACE
- HANDHOLE
- HANDHOLE – IN PLACE
- RIGID STEEL CONDUIT (RSC)
- RIGID STEEL CONDUIT (RSC) – IN PLACE
- SIGNAL FACE WITH BACKGROUND SHIELD
- SIGNAL FACE W/O BACKGROUND SHIELD
- SIGNAL FACE – IN PLACE
- PEDESTRIAN INDICATORS
- PEDESTRIAN INDICATORS – IN PLACE
- PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE
- PEDESTRIAN PUSH BUTTON STATION
- TRAFFIC SIGNAL PEDESTAL
- TRAFFIC SIGNAL PEDESTAL – INPLACE
- TRAFFIC SIGNAL POLE AND MAST ARM
- TRAFFIC SIGNAL POLE AND MAST ARM – IN PLACE
- STREET LIGHT POLE AND LUMINAIRE
- STREET LIGHT POLE AND LUMINAIRE – IN PLACE
- MAST ARM AND LUMINAIRE
- MAST ARM AND LUMINAIRE – INPLACE
- WOOD POLE
- WOOD POLE – IN PLACE
- SOURCE OF POWER
- RAILROAD SIGNAL – IN PLACE
- RIGHT OF WAY LINE
- CENTERLINE
- EDGE OF ROADWAY
- SHOULDERLINE
- CURB LINE
- STOP BAR
- EMERGENCY VEHICLE PREEMPTION DETECTOR

## ABBREVIATIONS

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

## CONDUCTOR COLOR CODE

| | |
|---|---|
| R | RED |
| O | ORANGE |
| BL | BLUE |
| WH | WHITE |
| R/BLK | RED WITH BLACK TRACER |
| O/BLK | ORANGE WITH BLACK TRACER |
| BL/BLK | BLUE WITH BLACK TRACER |
| WH/BLK | WHITE WITH BLACK TRACER |
| BLK | BLACK |
| BLK/WH | BLACK WITH WHITE TRACER |
| G/BLK | GREEN WITH BLACK TRACER |
| G | GREEN |

## TRAFFIC SIGNAL TABULATION

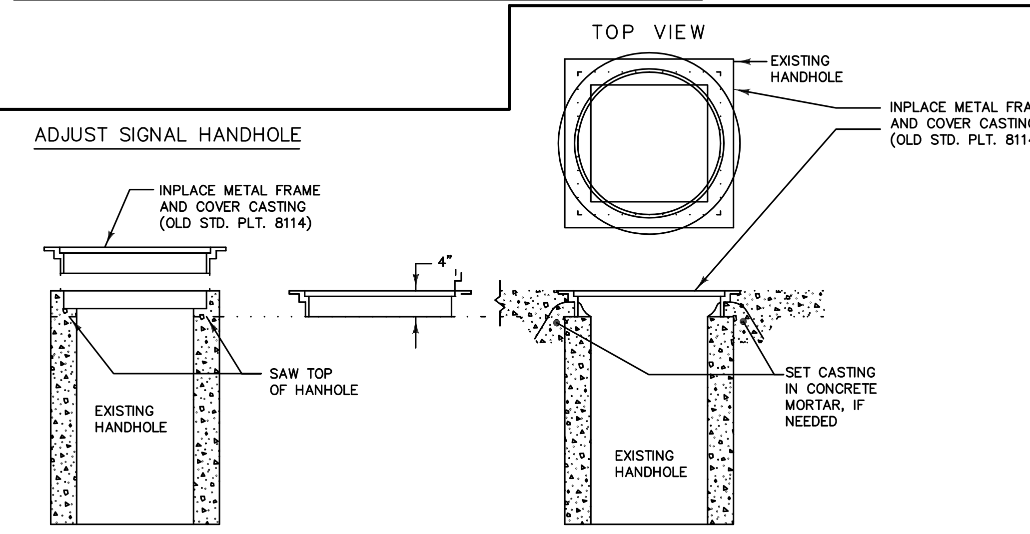
| ITEM NO | ITEM | UNIT | TOTAL ESTIMATED QUANTITY | PARTICIPATION S.A.P. 106–141–003 |
|---|---|---|---|---|
| | | | | |
| 2565 | REVISE SIGNAL SYSTEM | SYSTEM | 1 | 1 |

## STANDARD PLATES – SIGNAL SYSTEMS

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

| PLATE NO. | DESCRIPTION |
|---|---|
| 8111 E | TRAFFIC SIGNAL BRACKETING (PEDESTAL MOUNTED) (3 SHEETS) |
| 8112 I | PEDESTAL FOUNDATION (FOR TRAFFIC CONTROL SIGNALS) |
| 8122 F | PEDESTAL AND PEDESTAL BASE (FOR TRAFFIC CONTROL SIGNALS SUPPORT (2 SHEETS) |
| 8129 A | SHIM AND WASHER (TRAFFIC CONTROL SIGNALS AND ROADWAY LIGHTING) |

ADJUST SIGNAL HANDHOLE




WHERE EXISTING PVC HANDHOLES WITH METAL FRAMES AND COVERS ARE REQUIRED TO BE ADJUSTED TO MATCH FINISHED SURROUNDING GRADE, THE CONTRACTOR SHALL REUSE THE EXISTING METAL FRAME AND COVER AND SHALL CUT THE TOP OF HANDHOLE SO THAT THE TOP OF METAL COVER FITS THE ELEVATION OF THE SURROUNDING ADJACENT GROUND LINE. THIS WORK WILL BE INCLUDED AS PART OF PAY ITEM FOR "REVISE SIGNAL SYSTEM" (ITEM NO. 2565).

| PVC LOOP DETECTORS | | | | |
|---|---|---|---|---|
| NUMBER | SIZE (FT) | LOCATION | FUNCTION | STATUS |
| D1–1 | 6 x 6 | 40' | 1 | INPLACE |
| D1–2 | 6 x 6 | 10' | 1 | INPLACE |
| D2–1 | 6 x 6 | 300' | 1 | INPLACE |
| D2–2 | 6 x 6 | 300' | 1 | INPLACE |
| D4–1 | 6 x 6 | 120' | 3,8 | F & I |
| D4–2 | 2–6 x 6 | 0' & 15' | 7 | F & I |
| D4–3 | 2–6 x 6 | 0' & 15' | 1 | F & I |
| D5–1 | 6 x 6 | 40' | 1 | INPLACE |
| D5–2 | 6 x 6 | 10' | 1 | INPLACE |
| D6–1 | 6 x 6 | 300' | 1 | INPLACE |
| D6–2 | 6 x 6 | 300' | 1 | INPLACE |
| D8–1 | 6 x 6 | 120' | 3,8 | INPLACE |
| D8–2 | 6x8 & 6x6 | 0' & 15' | 7 | INPLACE |
| D8–3 | 2–6 x 6 | 0' & 15' | 1 | INPLACE |

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

LOOP DETECTORS FUNCTIONS:

1) CALL AND EXTEND
3) EXTEND ONLY
7) DELAYED CALL, IMMEDIATE EXTEND
8) CARRY OVER (STRETCH)

| F & I VIDEO DETECTOR | | | | |
|---|---|---|---|---|
| CAMERA NO. | INTERSECTION APPROACH FACING | SIGNAL POLE (CAMERA) LOCATION | CAMERA MOUNTED AT | MOUNTING HEIGHT |
| V4–1 | EB 129TH AVENUE | POLE 2 | ON MAST ARM | 25' |

MOUNTING HEIGHT = APPROXIMATE HEIGHT ABOVE ADJACENT GROUND LINE.

TURN OFF INPLACE PHASE 4 LOOP DETECTORS IN CONTROLLER CABINET DURING OPERATION OF VIDEO DETECTION (DURING CONSTRUCTION ONLY).

REMOVE CAMERA AND CABLE AFTER PHASE 4 PERMANENT LOOP DETECTORS ARE ABLE TO BE MADE OPERATIONAL.

F & I — VIDEO PROCESSOR, MONITOR, AND ALL REQUIRED VIDEO EQUIPMENT

(A) INPLACE (MAINTAIN INPLACE) — CONTROLLER AND CABINET EQUIPMENT PAD FOUNDATION

BETWEEN CONTROLLER CABINET AND SERVICE CABINET: METERED SIGNAL SERVICE
2" RSC
3–1/c 6

3" RSC STUBBED OUT FROM CABINET TO WEST (BOTH ENDS THREADED & CAPPED)

1" RSC STUBBED OUT FROM CABINET (FOR FUTURE PHONE LINE BY OTHERS)

EXTENDED INTO HH 16:
2" RSC
1–6 MM/6 SM FO CABLE

EXTENDED INTO HH 16:
4" RSC
6–12/c 14
2–3/c 14
3–3/c 20
13–2/c 14

EXTENDED INTO HH 1:
4" RSC
6–12/c 14
2–3/c 14
3–3/c 20
13–2/c 14

1–VIDEO CABLE (F & I)

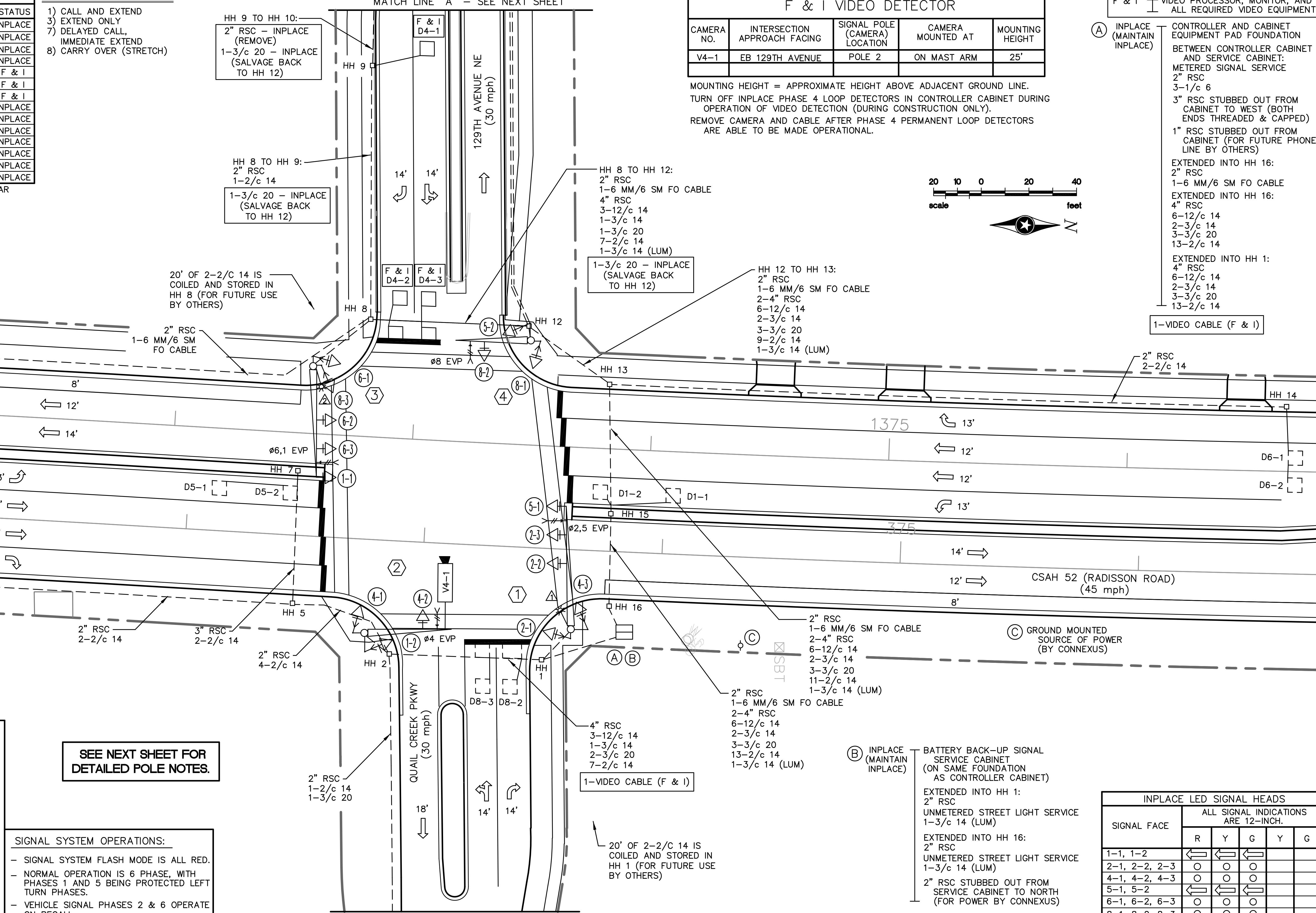
(B) INPLACE (MAINTAIN INPLACE) — BATTERY BACK–UP SIGNAL SERVICE CABINET (ON SAME FOUNDATION AS CONTROLLER CABINET)

EXTENDED INTO HH 1:
2" RSC
UNMETERED STREET LIGHT SERVICE
1–3/c 14 (LUM)

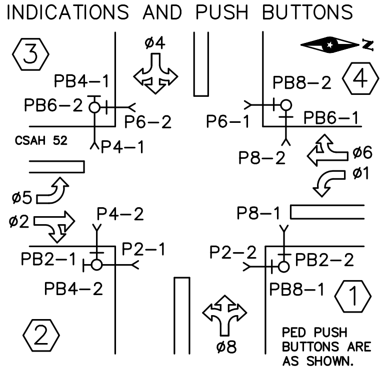
EXTENDED INTO HH 16:
2" RSC
UNMETERED STREET LIGHT SERVICE
1–3/c 14 (LUM)

2" RSC STUBBED OUT FROM SERVICE CABINET TO NORTH (FOR POWER BY CONNEXUS)

(C) GROUND MOUNTED SOURCE OF POWER (BY CONNEXUS)




CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS




**SEE NEXT SHEET FOR DETAILED POLE NOTES.**

SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 6 PHASE, WITH PHASES 1 AND 5 BEING PROTECTED LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 & 6 OPERATE ON RECALL.

| INPLACE LED SIGNAL HEADS | | | | | |
|---|---|---|---|---|---|
| SIGNAL FACE | ALL SIGNAL INDICATIONS ARE 12–INCH. | | | | |
| | R | Y | G | Y | G |
| 1–1, 1–2 | ⇦ | ⇦ | ⇦ | | |
| 2–1, 2–2, 2–3 | O | O | O | | |
| 4–1, 4–2, 4–3 | O | O | O | | |
| 5–1, 5–2 | ⇦ | ⇦ | ⇦ | | |
| 6–1, 6–2, 6–3 | O | O | O | | |
| 8–1, 8–2, 8–3 | O | O | O | | |

REVISE SIGNAL SYSTEM NOTES:

1) ALL ITEMS OF SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS OTHERWISE NOTED ON PLANS.
2) CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING HANDHOLES IN THE VICINITY OF CONSTRUCTION; SHALL REMOVE AND DISPOSE OF HANDHOLES 10 AND 11; SHALL FURNISH AND INSTALL NEW HANDHOLE 20 (PVC HANDHOLE WITH METAL FRAME AND COVER); AND SHALL ADJUST INPLACE HANDHOLES 8, 9, AND 12 AS NECESSARY TO MATCH FINISHED SURROUNDING GRADE AFTER ROAD AND SIDEWALK WORK HAS BEEN COMPLETED. SEE SPECIAL PROVISIONS (INCIDENTAL).
3) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) 12 AWG IN 3/4" NMC. NEW LOOP DETECTORS D4-1, D4-2, AND D4-3 SHALL BE FURNISHED, INSTALLED AND MADE OPERATIONAL BY CONTRACTOR TO THE SATISFACTION OF THE ENGINEER AND THE ANOKA COUNTY HIGHWAY DEPARTMENT. SEE DETAILS AND SPECIAL PROVISIONS.
4) ANY DAMAGE TO INPLACE TRAFFIC SIGNAL FACILITIES (CONDUIT, CABLES, HANDHOLES, SIGNAL POLES, ETC.) SHALL BE REPAIRED BY CONTRACTOR TO THE SATISFACTION OF THE ENGINEER, AT NO EXPENSE TO THE CITY.
5) CONTRACTOR SHALL MAINTAIN OPERATION OF SIGNAL SYSTEM AT ALL TIMES, EXCEPT AS OTHERWISE APPROVED BY THE ENGINEER, THE CITY, AND THE COUNTY.
6) CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING LOOP DETECTOR SPLICE KITS (FOR LOOP DETECTORS D4-1, D4-2, AND D4-3), AND SHALL FURNISH & INSTALL NEW LOOP DETECTOR SPLICE KITS IN THE ADJACENT HANDHOLE FOR D4-1, D4-2, AND AND D4-3 AS CALLED FOR IN THE SPECIAL PROVISIONS.
7) NEW LOOP DETECTORS AND HANDHOLES TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR ARE BOXED IN AND DENOTED BY F & I (FURNISH AND INSTALL).
8) SEE SPECIAL PROVISIONS REGARDING VIDEO DETECTION SYSTEM TO BE FURNISHED, INSTALLED & MADE OPERATIONAL BY CONTRACTOR DURING CONSTRUCTION, AND REMOVED BY CONTRACTOR AFTER THE PERMANENT ø4 LOOP DETECTORS ARE MADE OPERATIONAL (INCIDENTAL TO REVISE SIGNAL SYSTEM PAY ITEM). SEE DIVISION SS SPECIAL PROVISIONS.
9) VIDEO DETECTOR CABLES TO BE FURNISHED & INSTALLED BY THE CONTRACTOR FOR USE DURING CONSTRUCTION SHALL BE FULLY COMPATIBLE WITH VIDEO CAMERA AND CABINET EQUIPMENT.
10) MOVEMENT/REAIMING OF VIDEO CAMERA AND ALL LABOR AND MATERIALS NEEDED TO REVISE THIS SIGNAL SYSTEM DURING CONSTRUCTION ARE INCIDENTAL.

(1) INPLACE (MAINTAIN INPLACE)
- PA100 POLE FOUNDATION
- TYPE PA100-A-50-D40-9 (DAVIT AT 350 DEG)
- LUMINAIRE-250 W HPS
- 1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
- 2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 11' & 23'
- 2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90/180 DEG
- 2-ANGLE MOUNT CD PED INDICATIONS-POLE MOUNTED 90/180 DEG
- 2-PEDESTRIAN PUSH BUTTONS & SIGNS
- 2-R6-1 SIGN PANELS-POLE MOUNTED 0/180 DEG
- TYPE D SIGN PANEL-OVERHEAD
- ONE WAY EVP DETECTOR AND LIGHT (ø2,5)
- EXTENDED INTO HH 1:
- 3" RSC
- 3-12/c 14
- 1-3/c 14
- 1-3/c 20
- 2-2/c 14
- 1-3/c 14 (LUM)

(2) INPLACE (MAINTAIN INPLACE)
- PA90 POLE FOUNDATION
- TYPE PA90-A-35
- 1-STRAIGHT MOUNT SIGNAL-OVERHEAD AT 11'
- MAST ARM HUB AT 0' FROM END OF MAST ARM
- END MOUNT CAPPED (FOR FUTURE USE)
- 2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90/180 DEG
- 2-ANGLE MOUNT CD PED INDICATIONS-POLE MOUNTED 90/180 DEG
- 2-PEDESTRIAN PUSH BUTTONS & SIGNS
- 2-R6-1 SIGN PANELS-POLE MOUNTED 0/180 DEG
- TYPE D SIGN PANEL-OVERHEAD
- ONE WAY EVP DETECTOR AND LIGHT (ø4)
- EXTENDED INTO HH 2:
- 3" RSC
- 3-12/c 14
- 1-3/c 14
- 1-3/c 20
- 2-2/c 14

F & I
- VIDEO CAMERA-MAST ARM MOUNTED (FACING EB TRAFFIC) (V4-1)
- MAST ARM HUB & MAST ARM MOUNTING HARDWARE FOR VIDEO CAMERA
- 1-VIDEO CABLE (CAMERA TO CABINET)

(6) INPLACE (REMOVE)
- PEDESTAL FOUNDATION
- EXTENDED INTO HH 11:
- 2" RSC

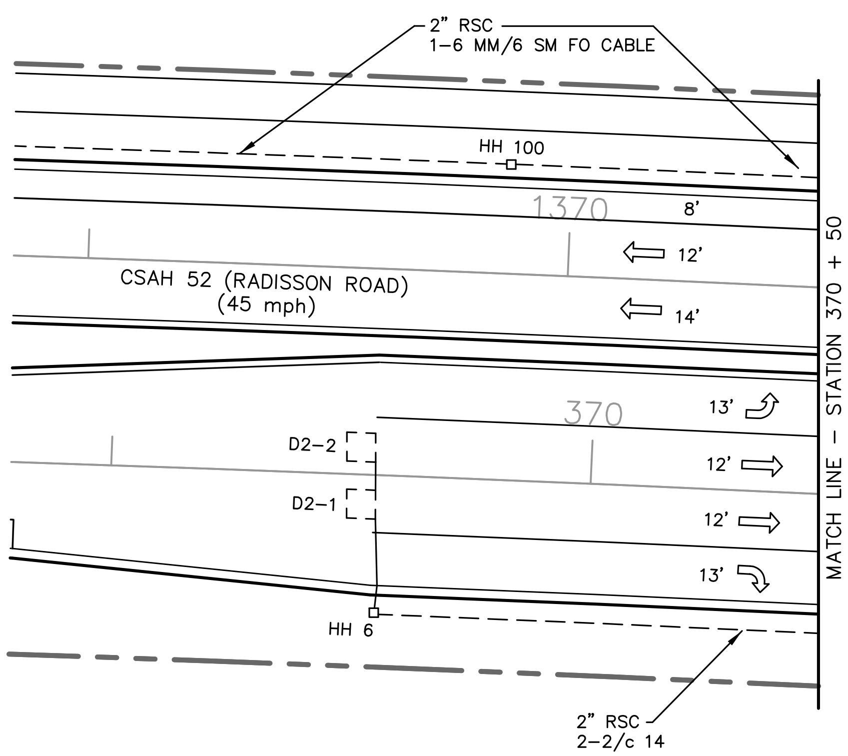
INPLACE (S & I)
- 10' PEDESTAL POLE (INCLUDES BASE)
- WIND COLLAR FOR PEDESTAL POLE
- ONE WAY EVP DETECTOR-MOUNT ON TOP OF PEDESTAL POLE) (ø4)
- 1-3/c 20 (SALVAGE BACK FROM POLE 6 TO HH 12, THROUGH HH 11-10-9-8)

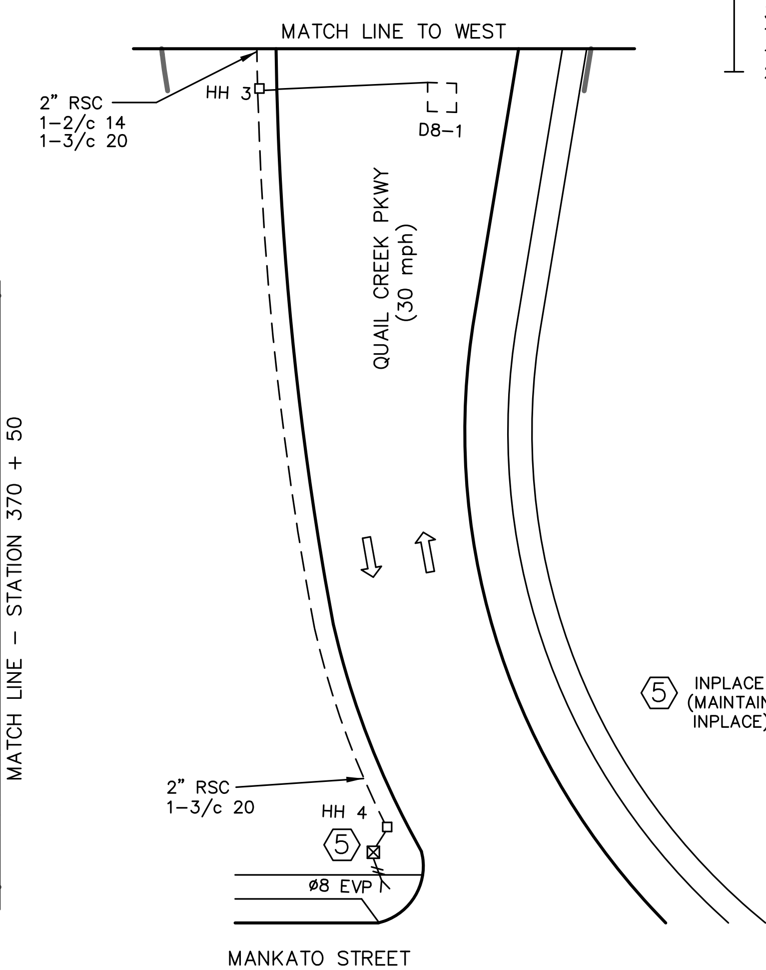
F & I
- PEDESTAL FOUNDATION
- EXTEND INTO HH 20:
- 2" CONDUIT

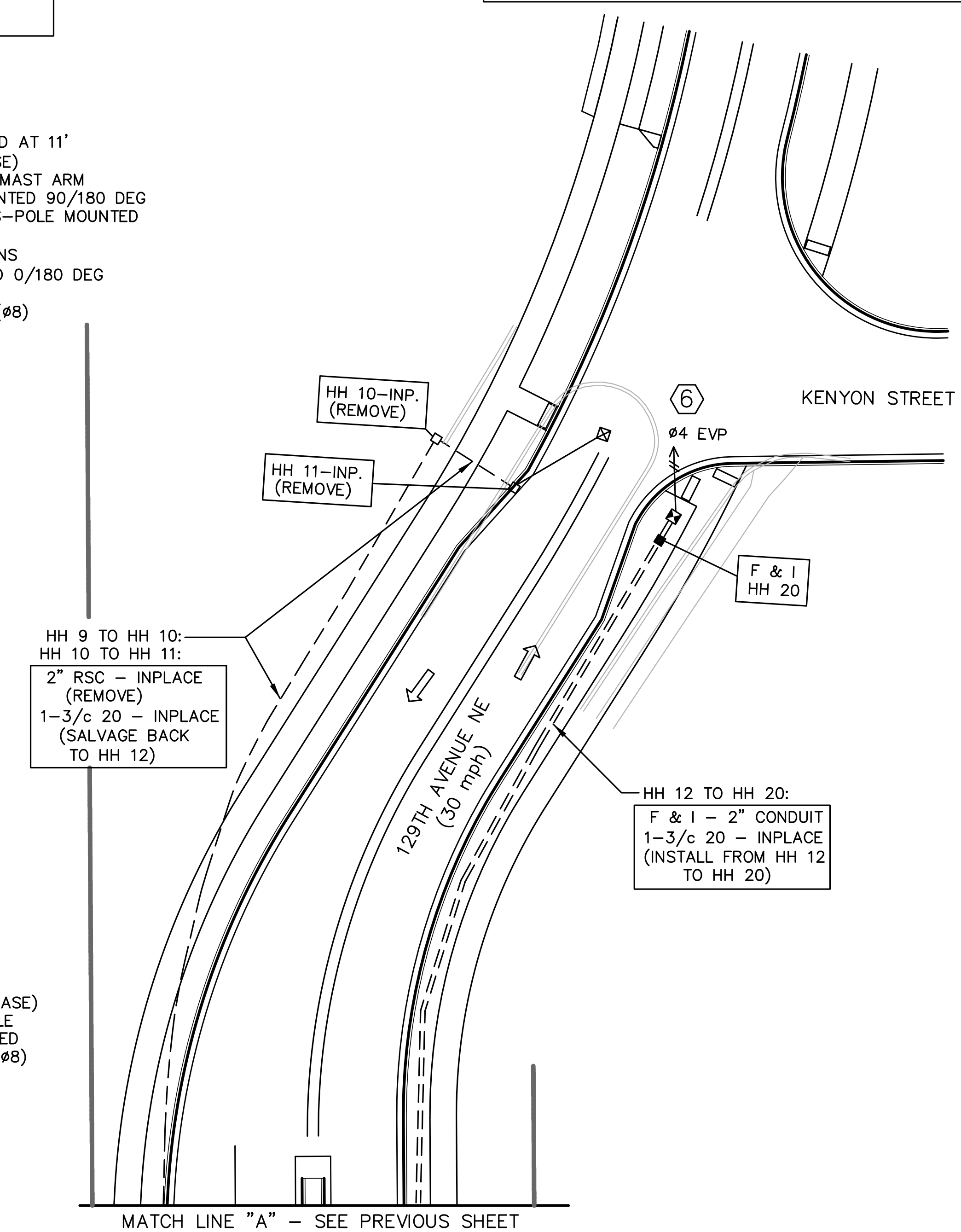
(3) INPLACE (MAINTAIN INPLACE)
- PA100 POLE FOUNDATION
- TYPE PA100-A-45-D40-9 (DAVIT AT 350 DEG)
- LUMINAIRE-250 W HPS
- 1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
- 2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 11' & 23'
- 2-ANGLE MOUNT SIGNALS-POLE MOUNTED 180/270 DEG
- 2-ANGLE MOUNT CD PED INDICATIONS-POLE MOUNTED 180/270 DEG
- 2-PEDESTRIAN PUSH BUTTONS & SIGNS
- 2-R6-1 SIGN PANELS-POLE MOUNTED 0/180 DEG
- TYPE D SIGN PANEL-OVERHEAD
- ONE WAY EVP DETECTOR AND LIGHT (ø6,1)
- EXTENDED INTO HH 8:
- 3" RSC
- 3-12/c 14
- 1-3/c 14
- 1-3/c 20
- 2-2/c 14
- 1-3/c 14 (LUM)

(4) INPLACE (MAINTAIN INPLACE)
- PA90 POLE FOUNDATION
- TYPE PA90-A-30
- 1-STRAIGHT MOUNT SIGNAL-OVERHEAD AT 11'
- END MOUNT CAPPED (FOR FUTURE USE)
- MAST ARM HUB AT 0' FROM END OF MAST ARM
- 2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90/180 DEG
- 2-ANGLE MOUNT CD PED INDICATIONS-POLE MOUNTED 90/180 DEG
- 2-PEDESTRIAN PUSH BUTTONS & SIGNS
- 2-R6-1 SIGN PANELS-POLE MOUNTED 0/180 DEG
- TYPE D SIGN PANEL-OVERHEAD
- ONE WAY EVP DETECTOR AND LIGHT (ø8)
- EXTENDED INTO HH 12:
- 3" RSC
- 3-12/c 14
- 1-3/c 14
- 1-3/c 20
- 2-2/c 14

(5) INPLACE (MAINTAIN INPLACE)
- PEDESTAL FOUNDATION
- 10' PEDESTAL POLE (INCLUDES BASE)
- WIND COLLAR FOR PEDESTAL POLE
- ONE WAY EVP DETECTOR-MOUNTED ON TOP OF PEDESTAL POLE) (ø8)
- EXTENDED INTO HH 4:
- 2" RSC
- 1-3/c 20

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|---|---|---|---|---|---|
| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# |
| Drawn By | JMG | | | | |
| Designed By | JMG | | | | |
| Checked By | | | | | |

Revision Issue Description — Date

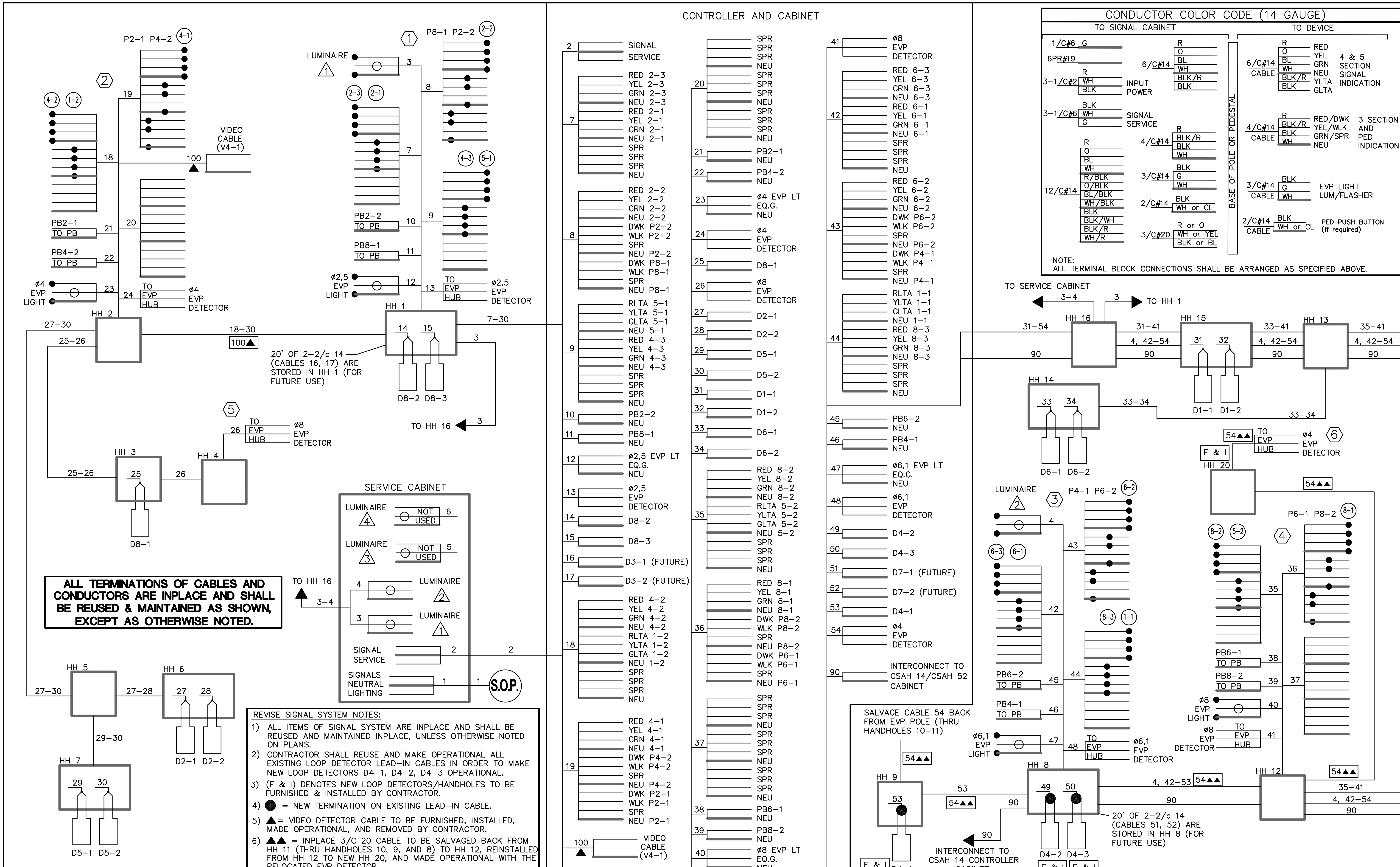
SEH

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 3/04/2022 Name: John M. Gray, PE LICENSE NO. 22457

2022 STREET IMPROVEMENTS
S.A.P. 106-141-003
BLAINE, MN

REVISE SIGNAL SYSTEM
INTERSECTION LAYOUT AND NOTES
CSAH 52 AND 129TH AVE NE/QUAIL CREEK PKWY




REVISE SIGNAL SYSTEM NOTES:

1) ALL ITEMS OF SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS OTHERWISE NOTED ON PLANS.
2) CONTRACTOR SHALL REUSE AND MAKE OPERATIONAL ALL EXISTING LOOP DETECTOR LEAD-IN CABLES IN ORDER TO MAKE NEW LOOP DETECTORS D4-1, D4-2, D4-3 OPERATIONAL.
3) (F & I) DENOTES NEW LOOP DETECTORS/HANDHOLES TO BE FURNISHED & INSTALLED BY CONTRACTOR.
4) ● = NEW TERMINATION ON EXISTING LEAD-IN CABLE.
5) ▲ = VIDEO DETECTOR CABLE TO BE FURNISHED, INSTALLED, MADE OPERATIONAL, AND REMOVED BY CONTRACTOR.
6) ▲▲ = INPLACE 3/C 20 CABLE TO BE SALVAGED BACK FROM HH 11 (THRU HANDHOLES 10, 9, AND 8) TO HH 12, REINSTALLED FROM HH 12 TO NEW HH 20, AND MADE OPERATIONAL WITH THE RELOCATED EVP DETECTOR.

| SEH Project | 165899 | Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date |
|---|---|---|---|---|---|---|---|
| Drawn By | JMG | | | | | | |
| Designed By | JMG | | | | | | |
| Checked By | | | | | | | |

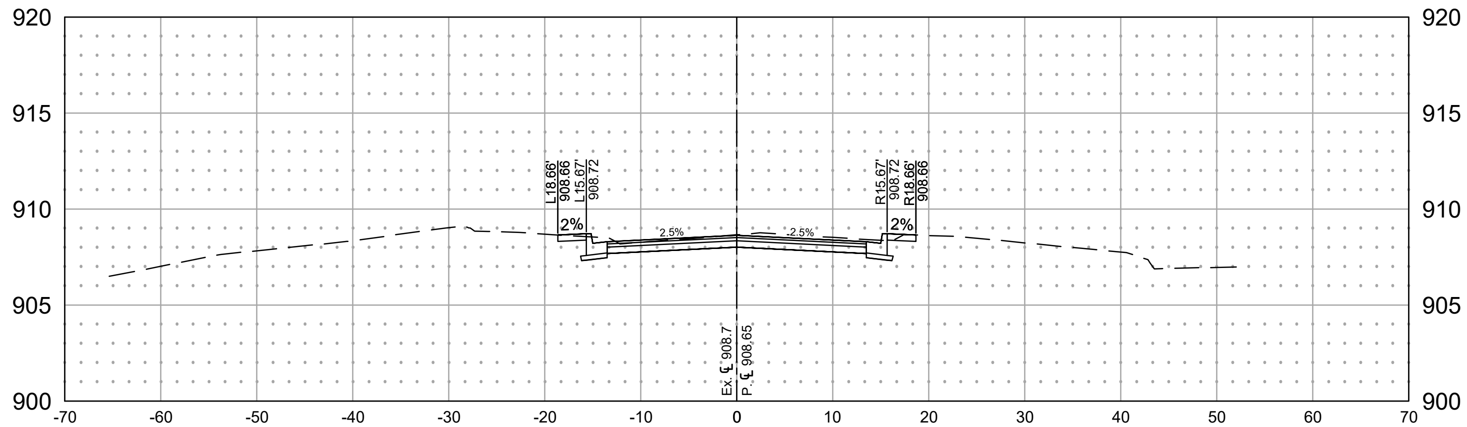
SEH

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 3/04/2022 Name: John M. Gray, PE LICENSE NO. 22457

# 2022 STREET IMPROVEMENTS
S.A.P. 106-141-003
BLAINE, MN

REVISE SIGNAL SYSTEM FIELD WIRING DIAGRAM
CSAH 52 AND 129TH AVE NE/QUAIL CREEK PKWY

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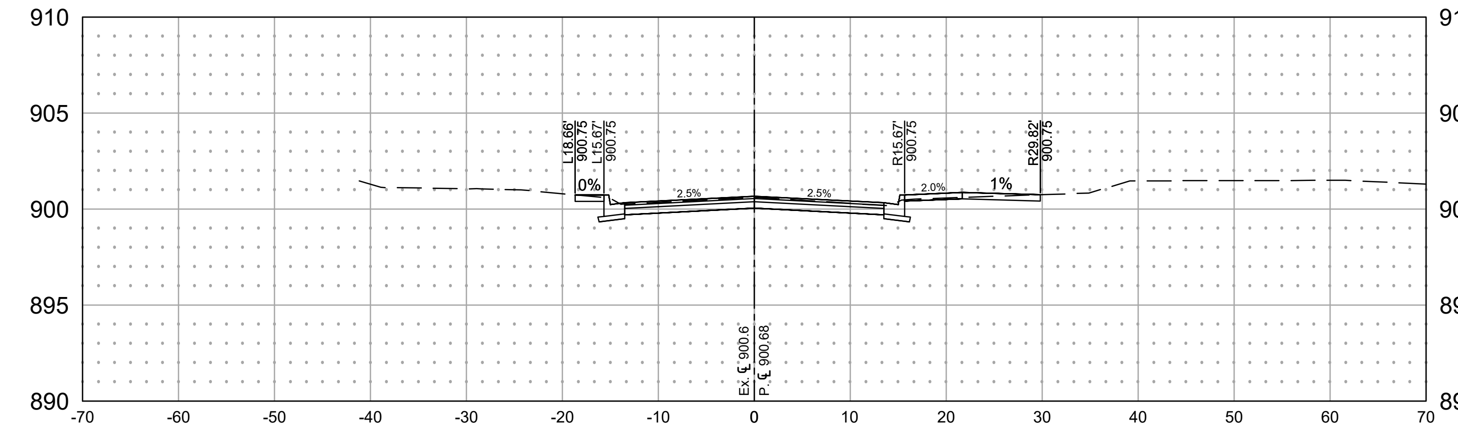


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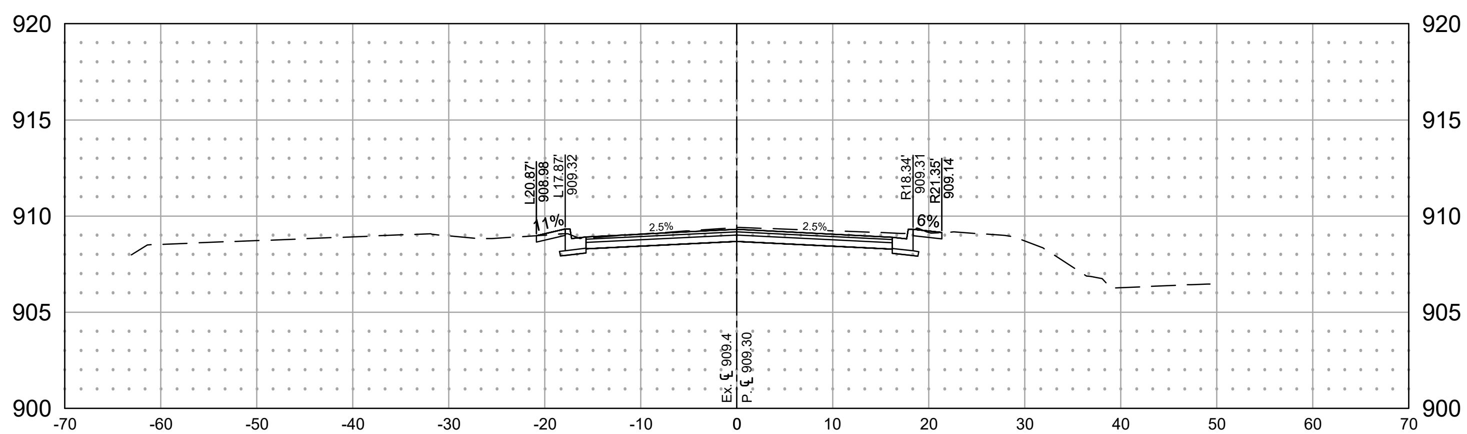


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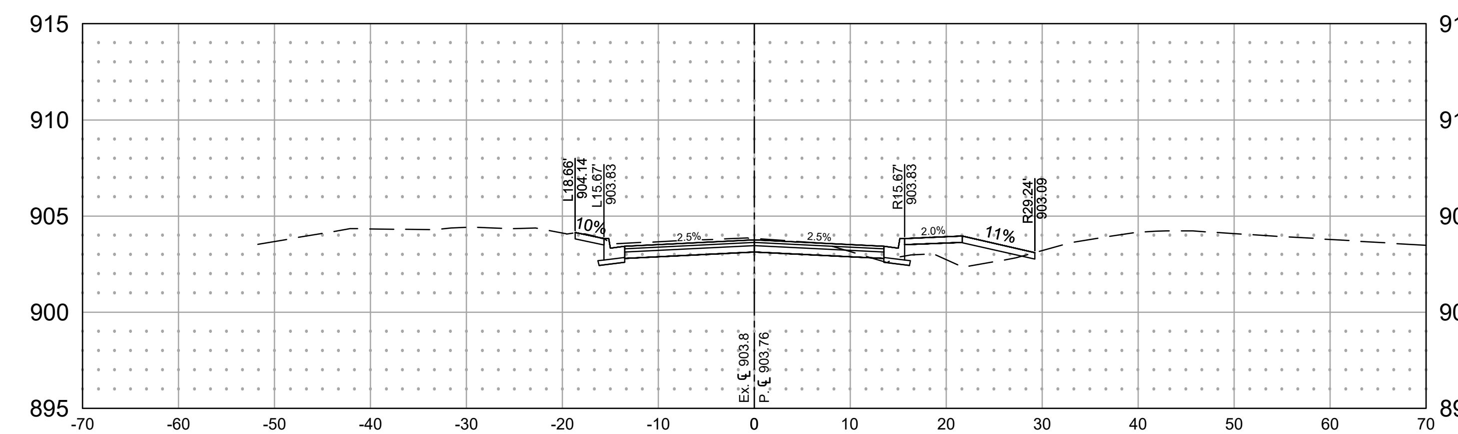


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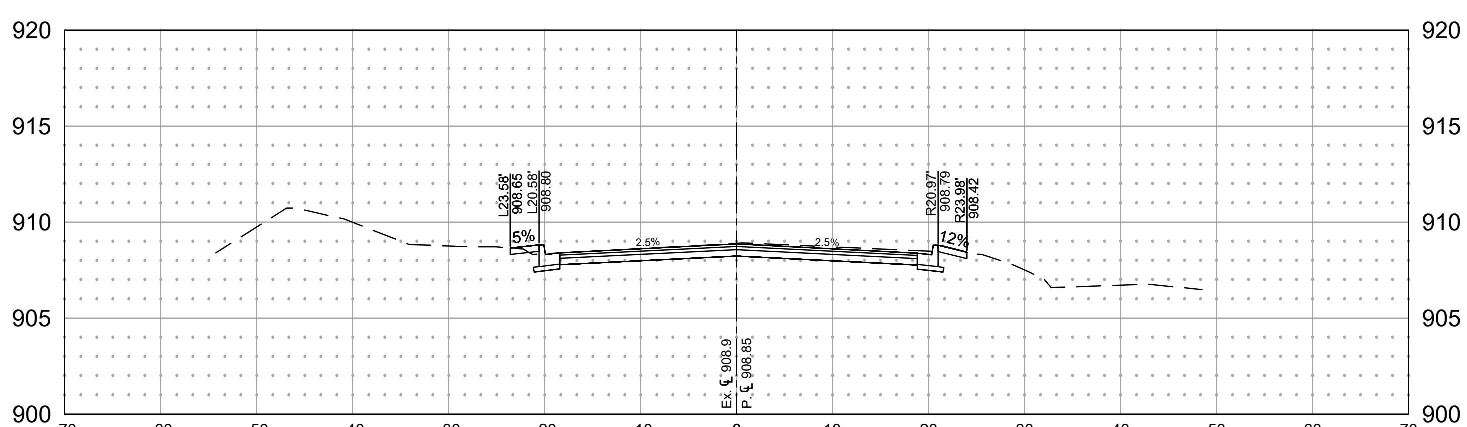


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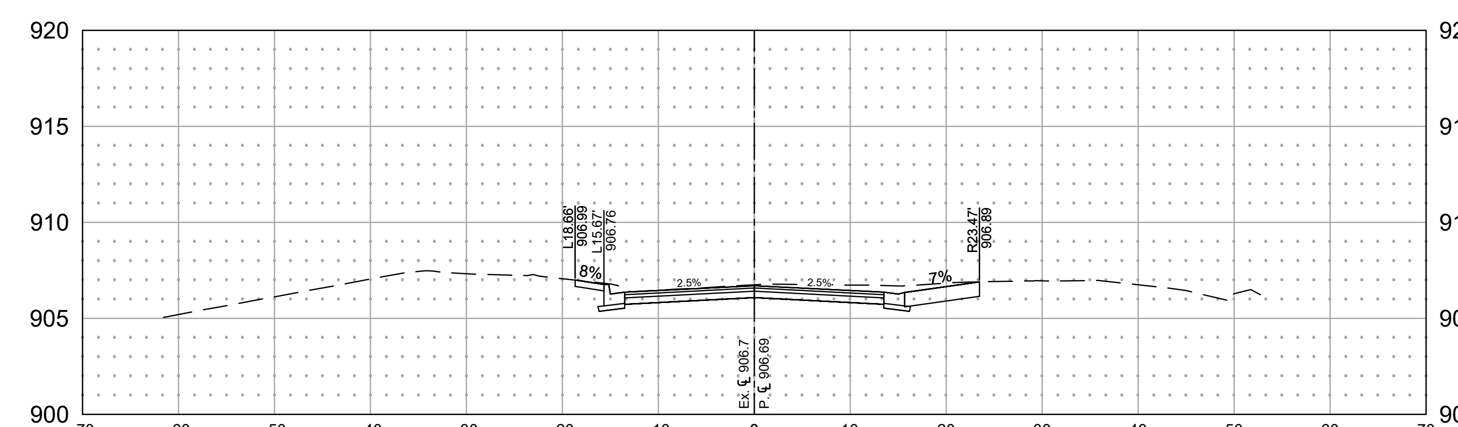


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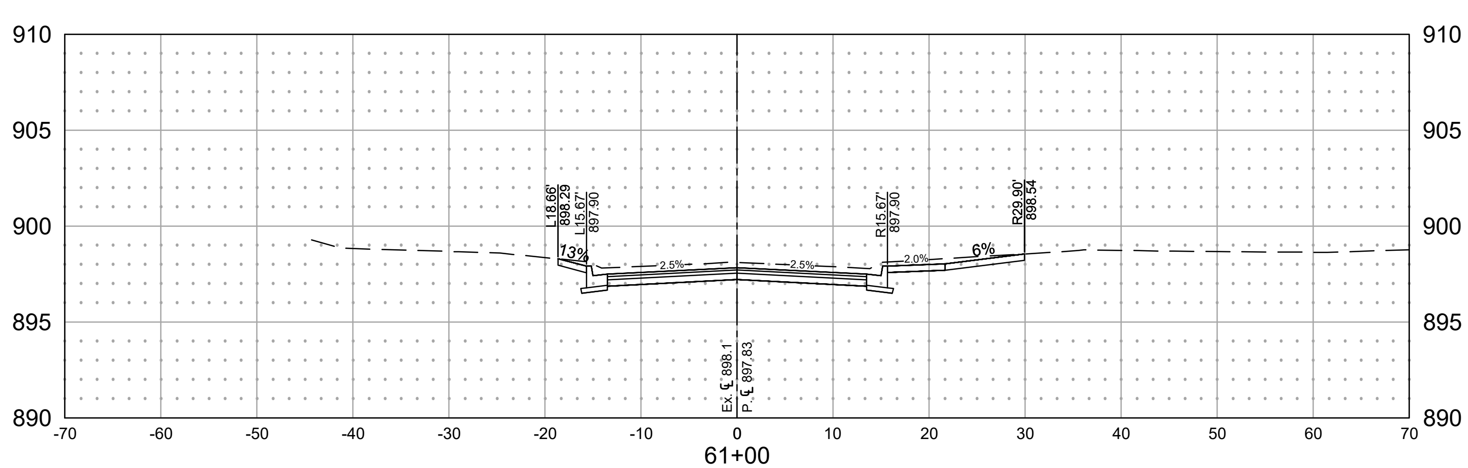

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897.90
13%
2.5%
2.5%
R15.67'
897.90
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6%
R29.90'
898.54
Ex. ℄ 898.1
P. ℄ 897.83
-70
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POLK STREET

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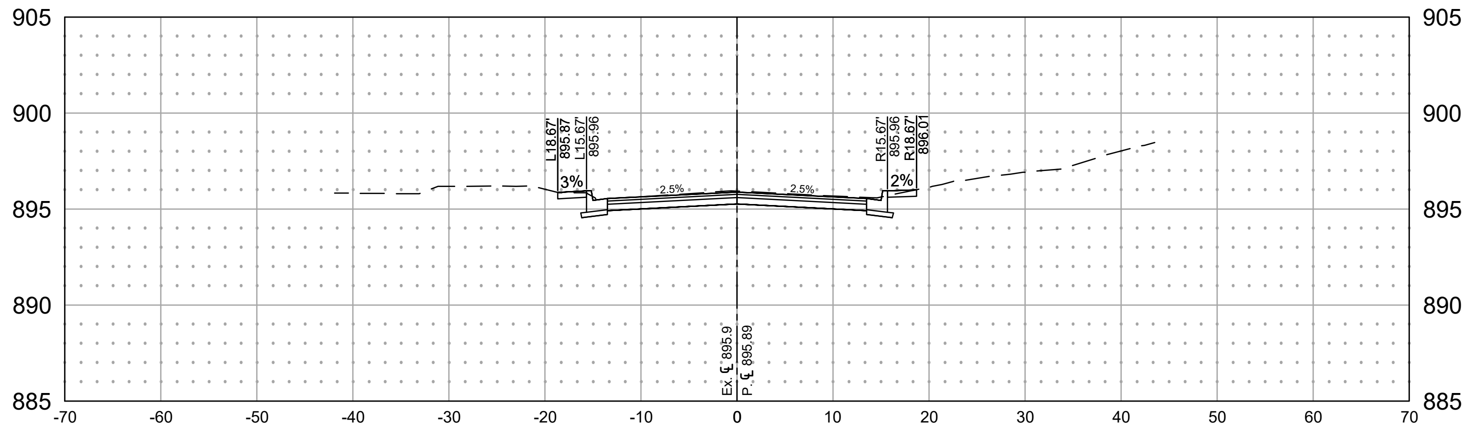

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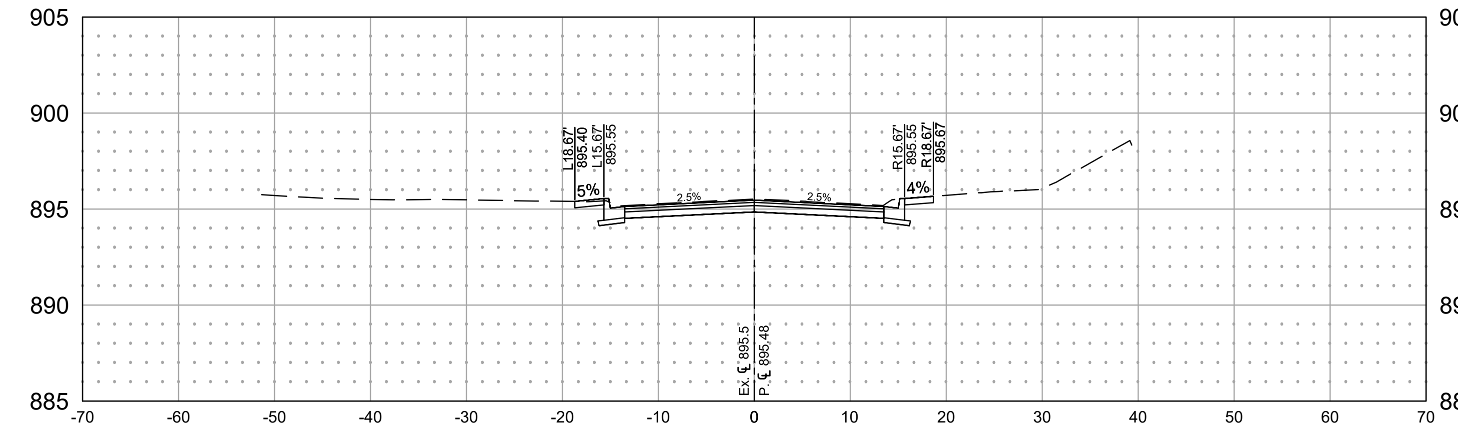

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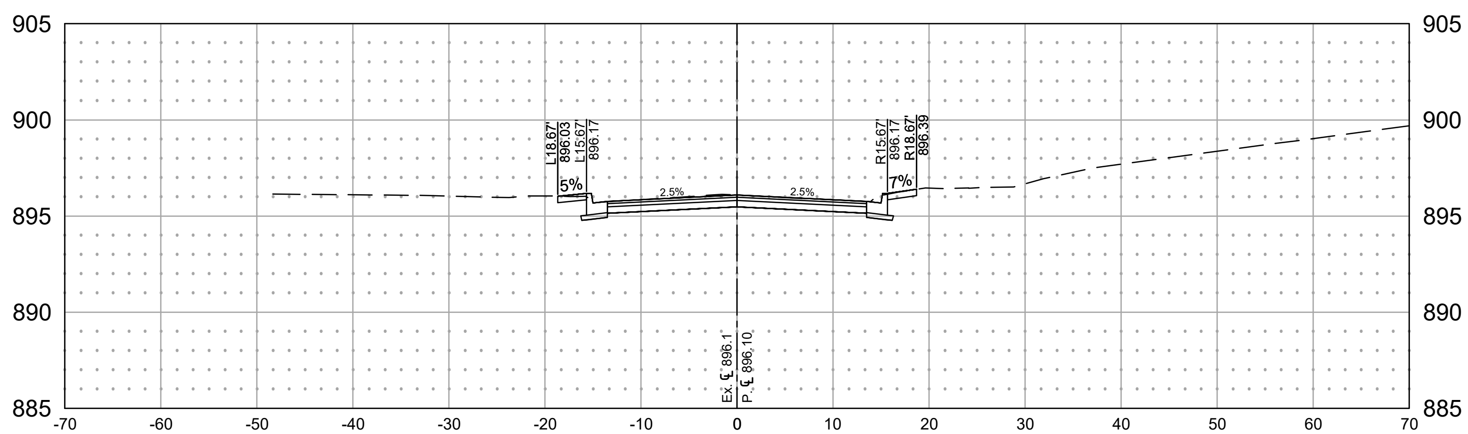

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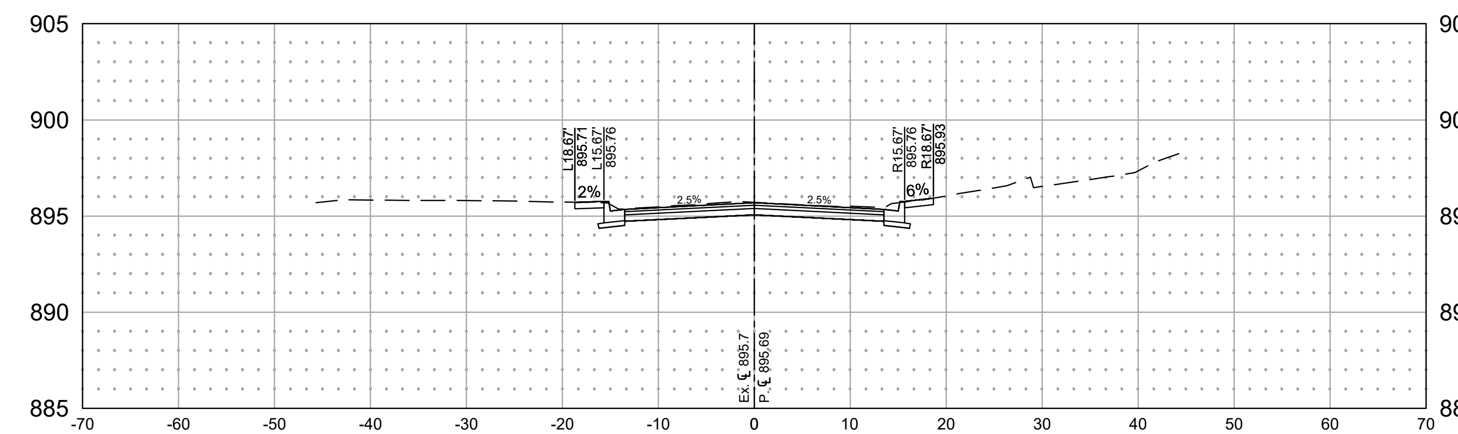

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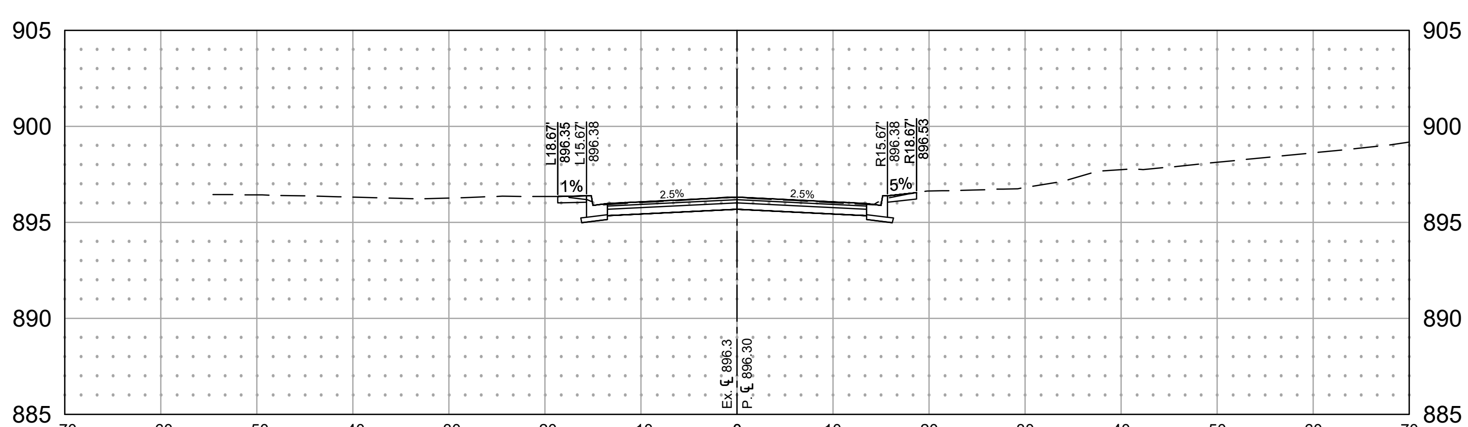

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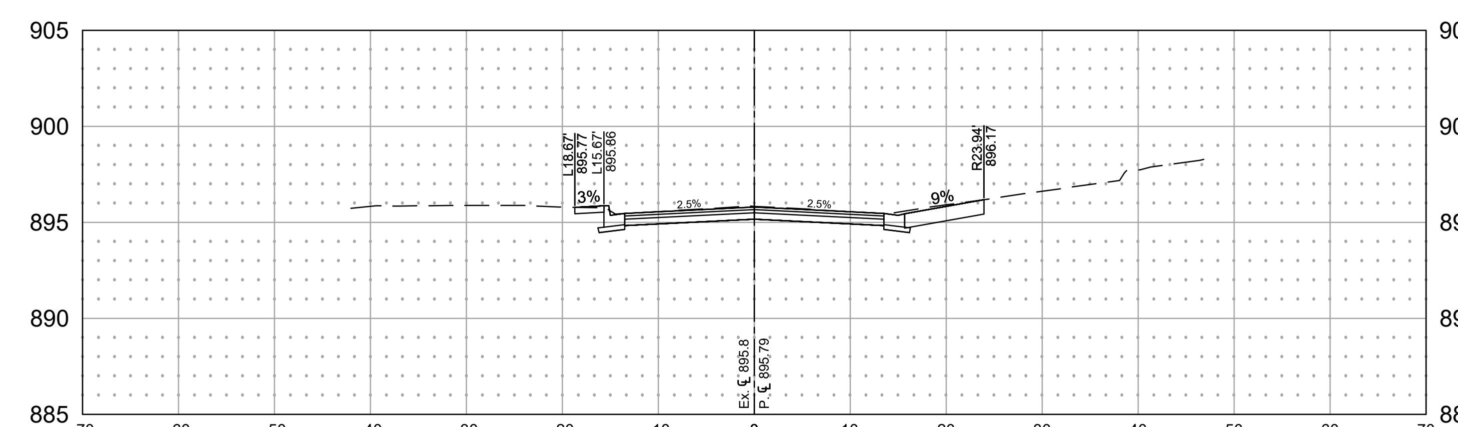

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126TH AVENUE

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| S.A.P. 106-141-003 | Sheet No. 97 Of135 Sheets |
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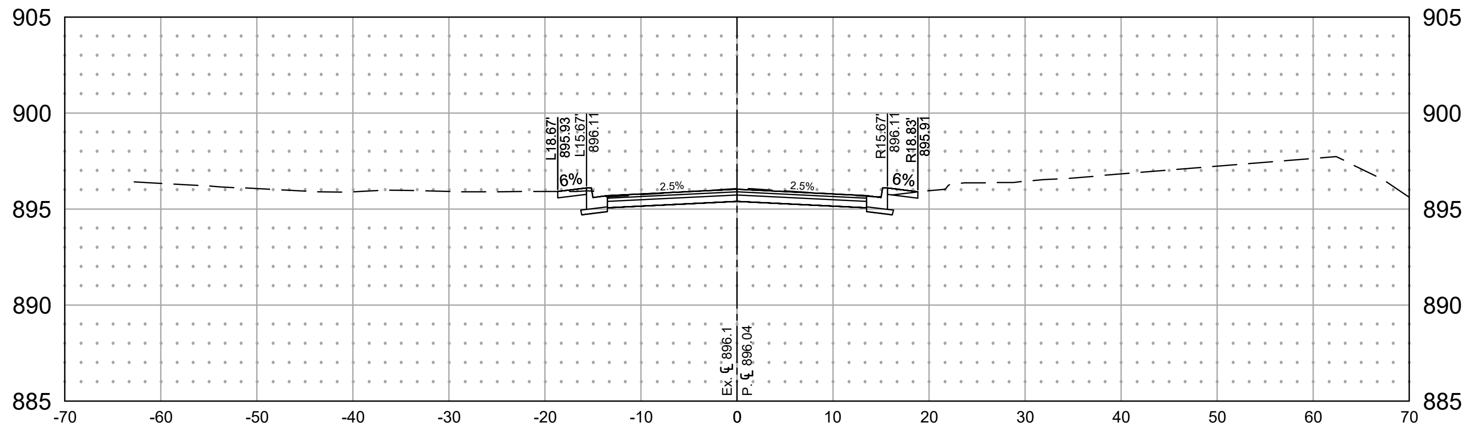

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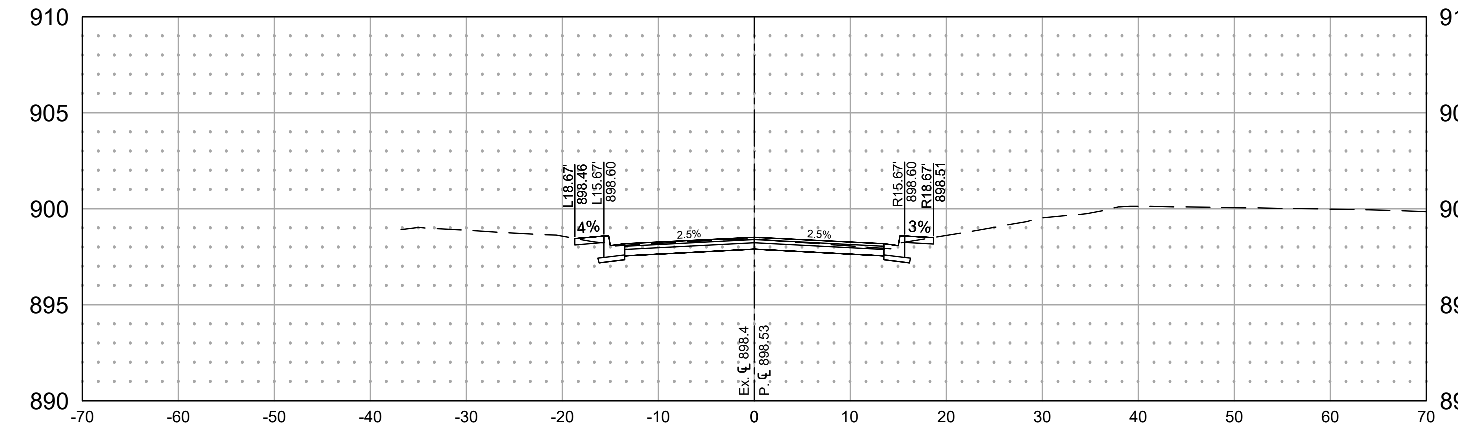

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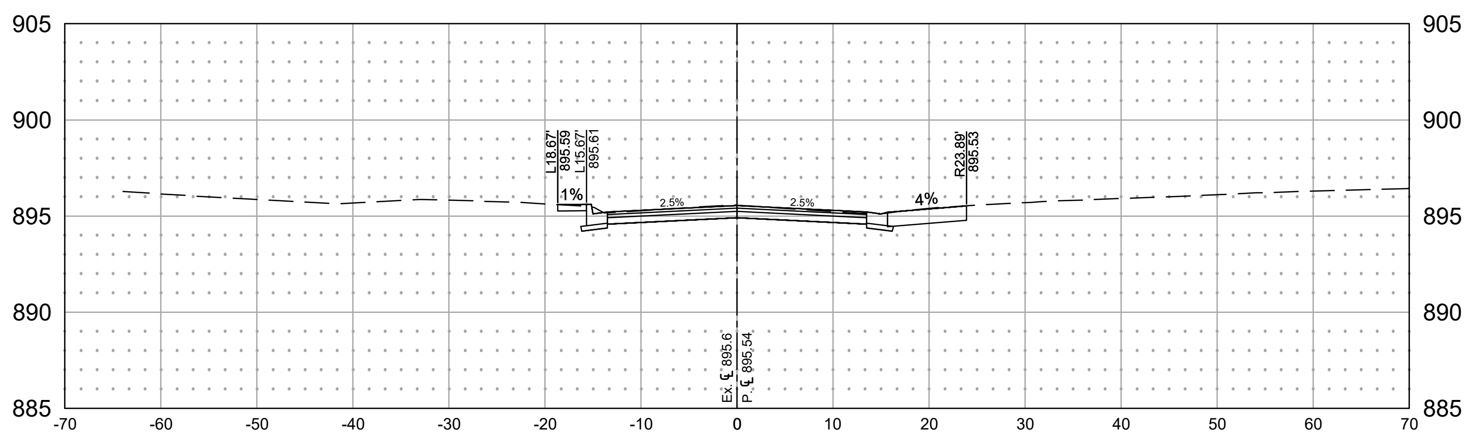

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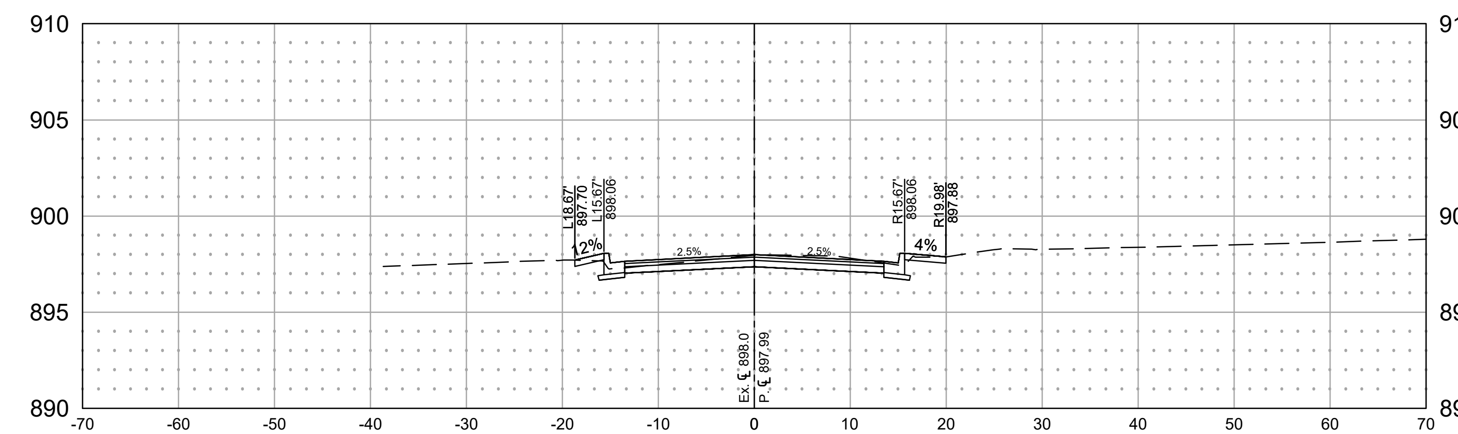

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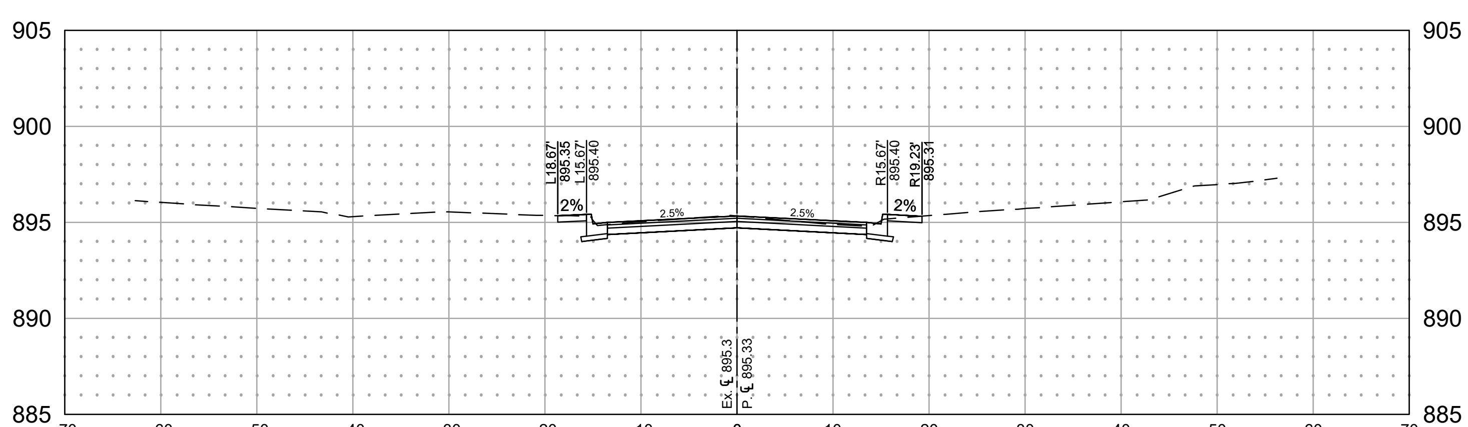

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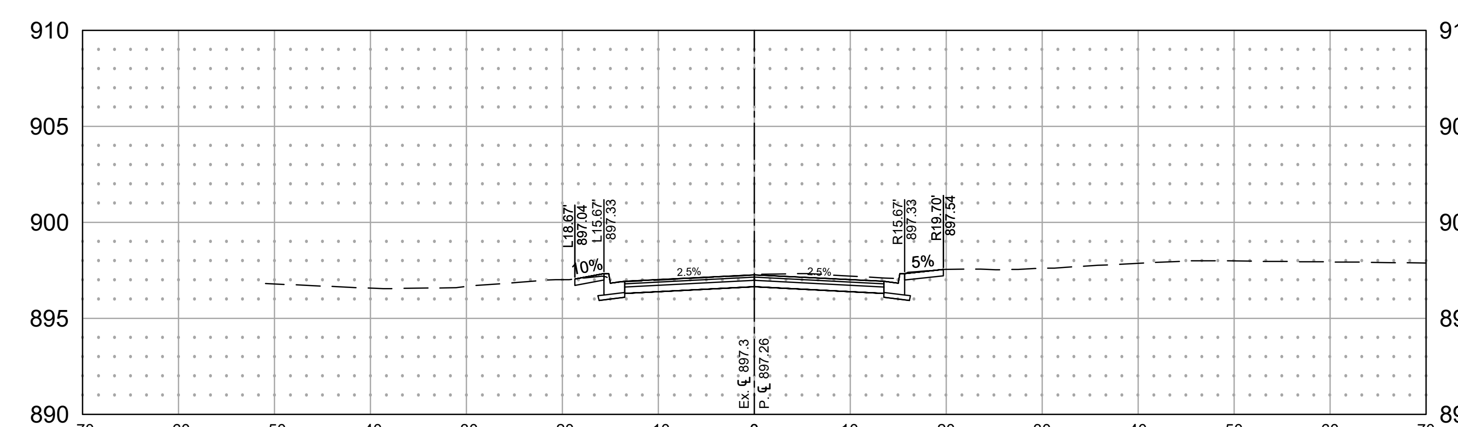

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TAYLOR STREET

| S.A.P. 106-141-003 | Sheet No. 98 Of135 Sheets |
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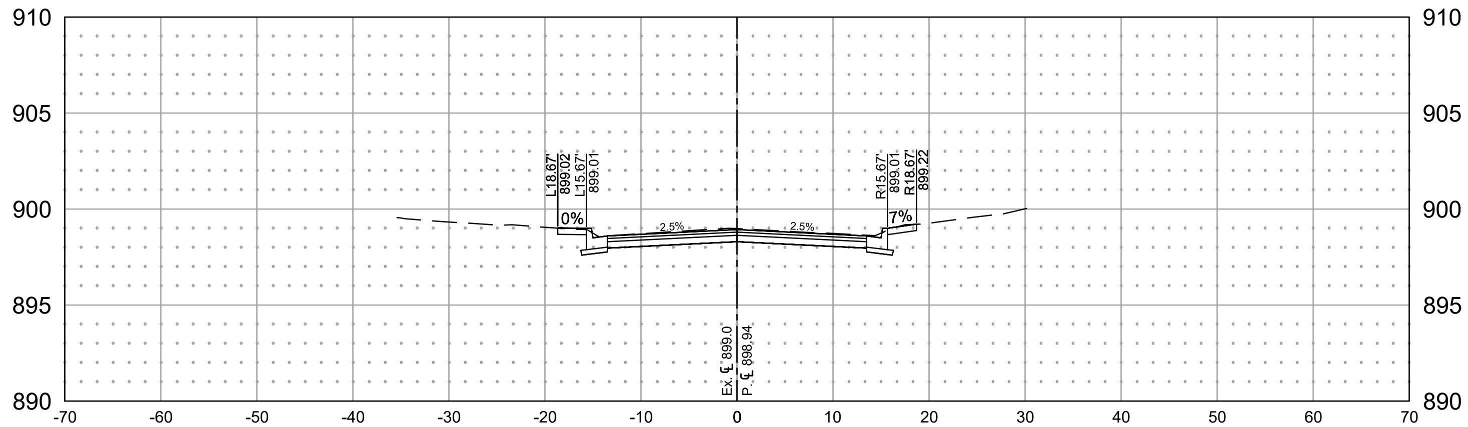


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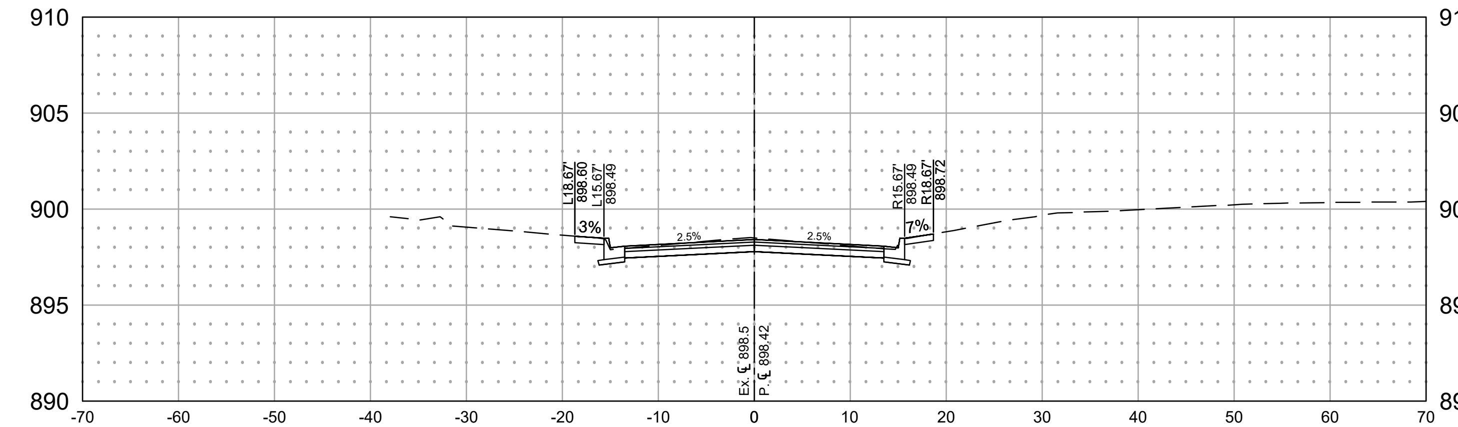


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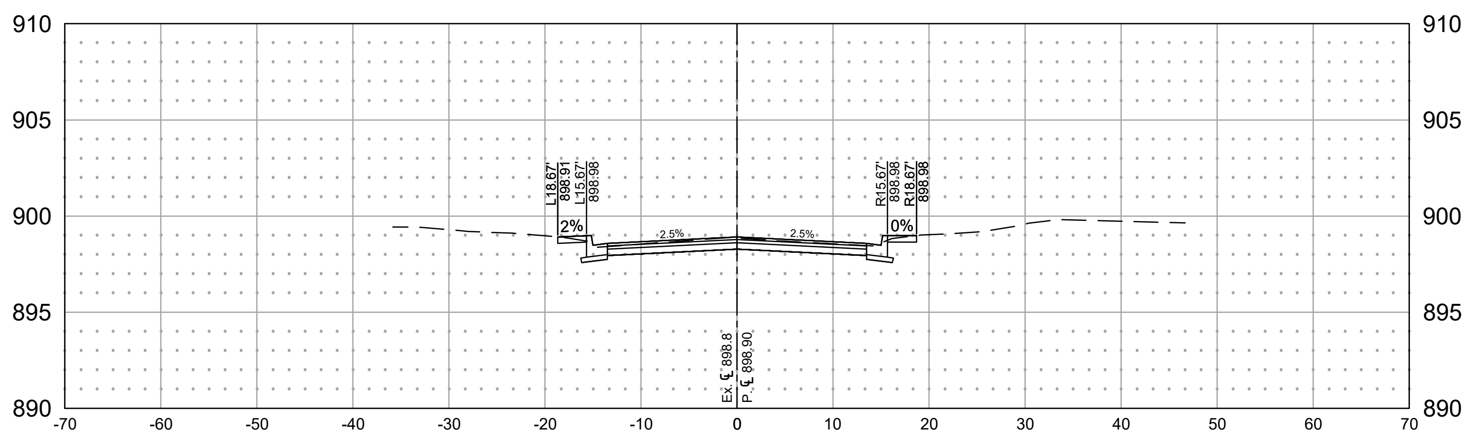


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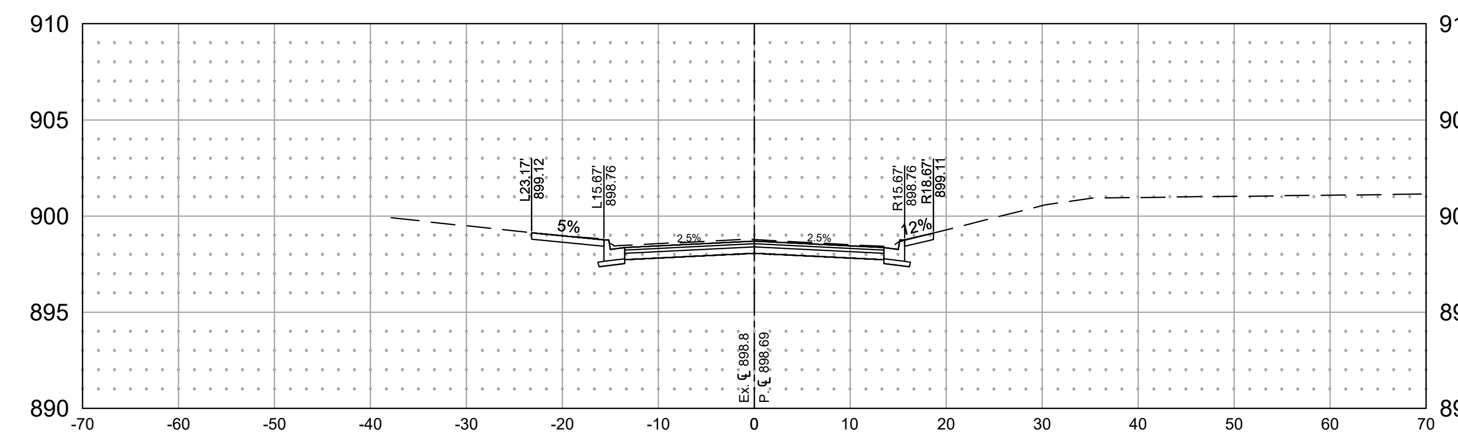


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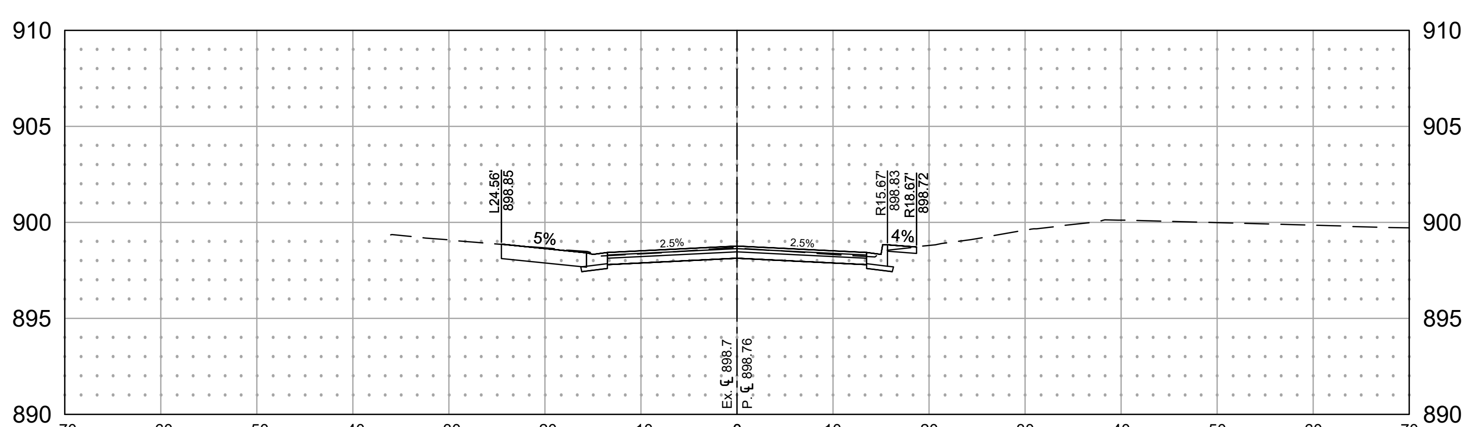


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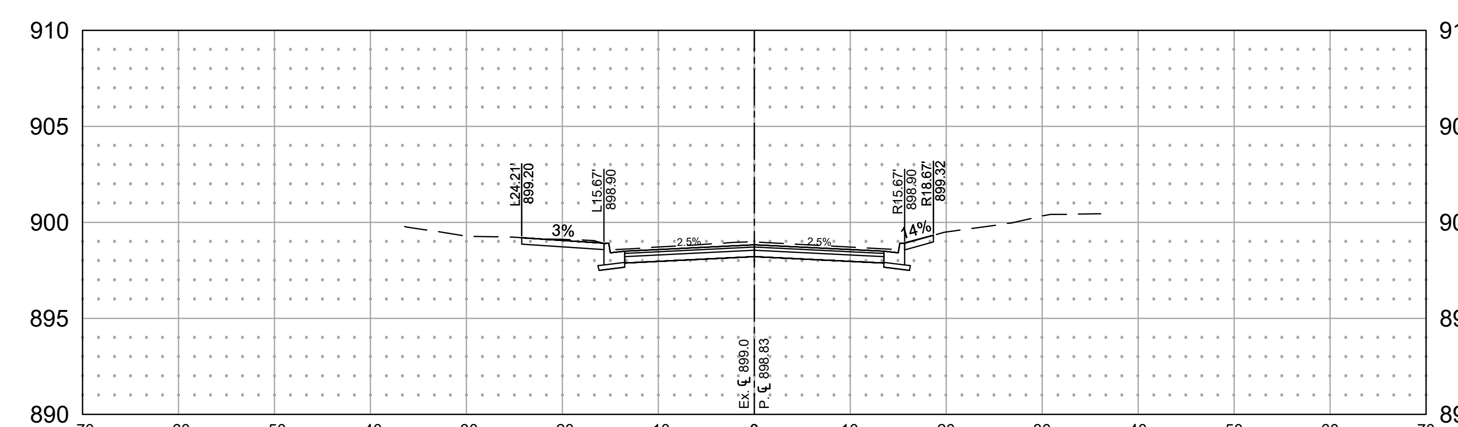


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TAYLOR STREET

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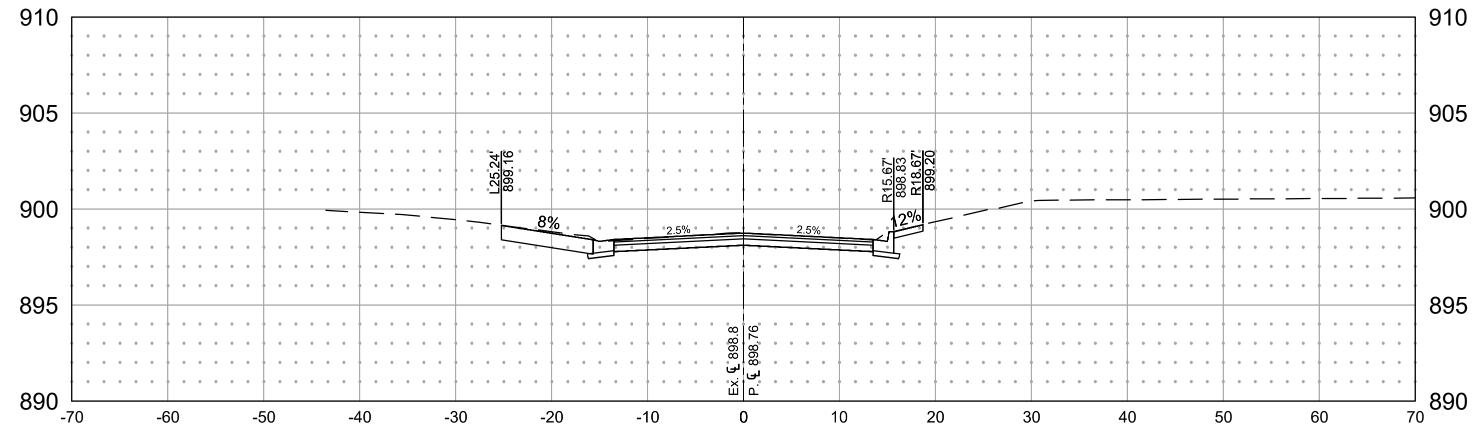

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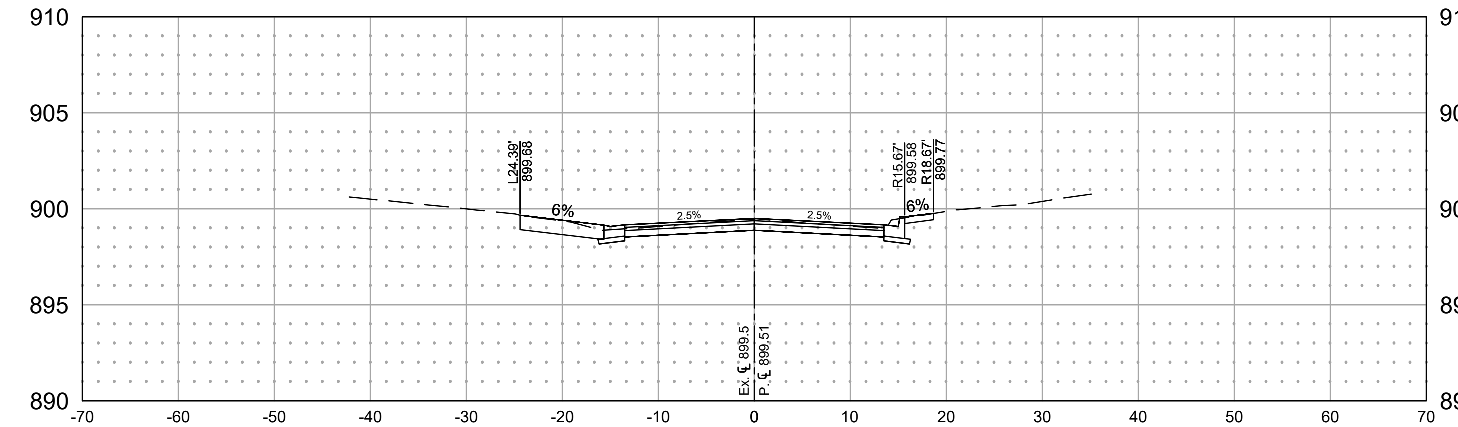

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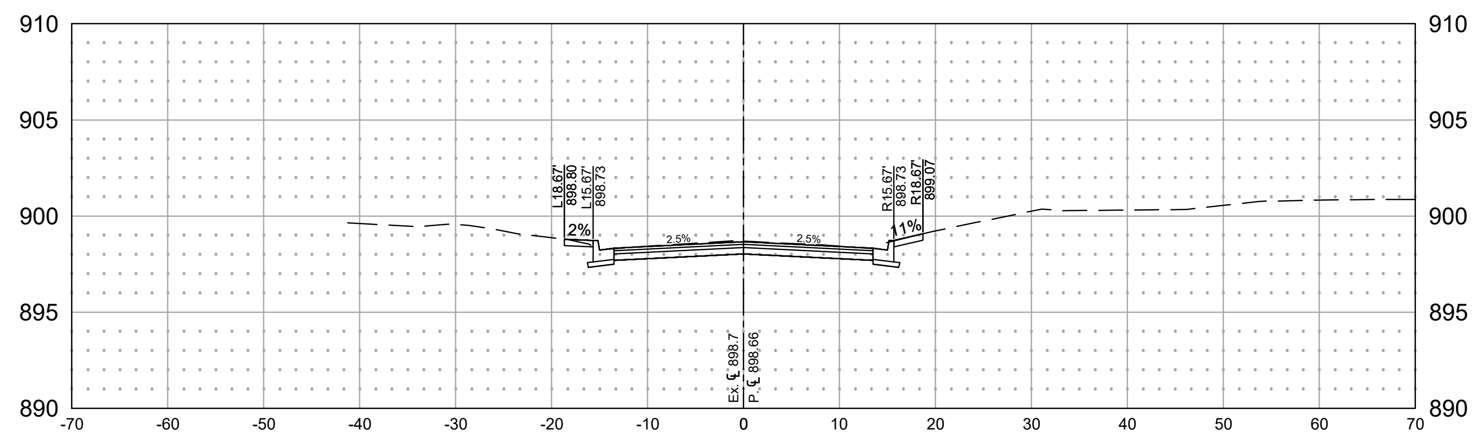

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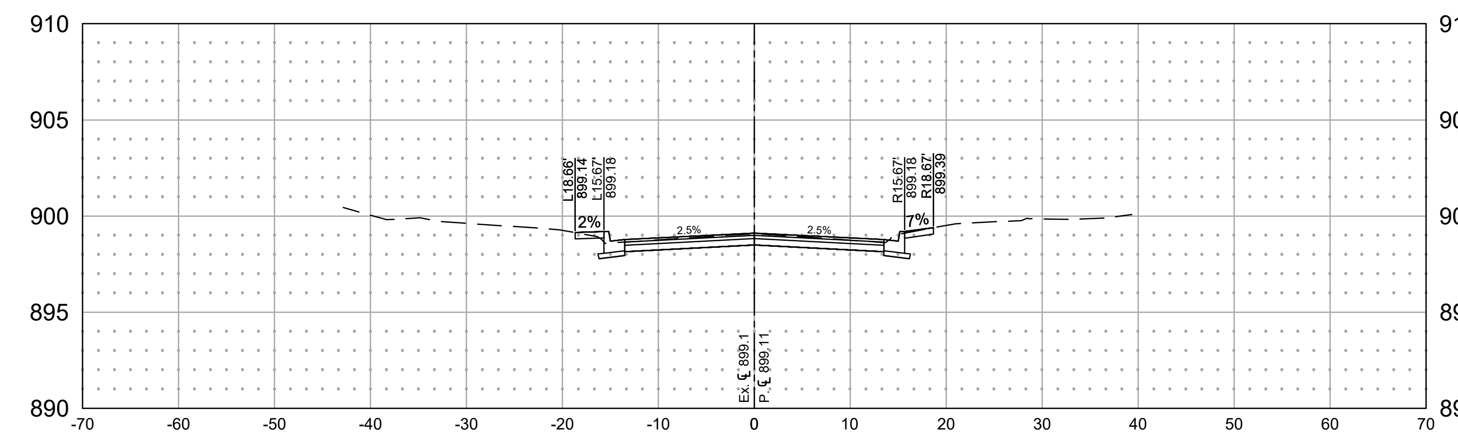

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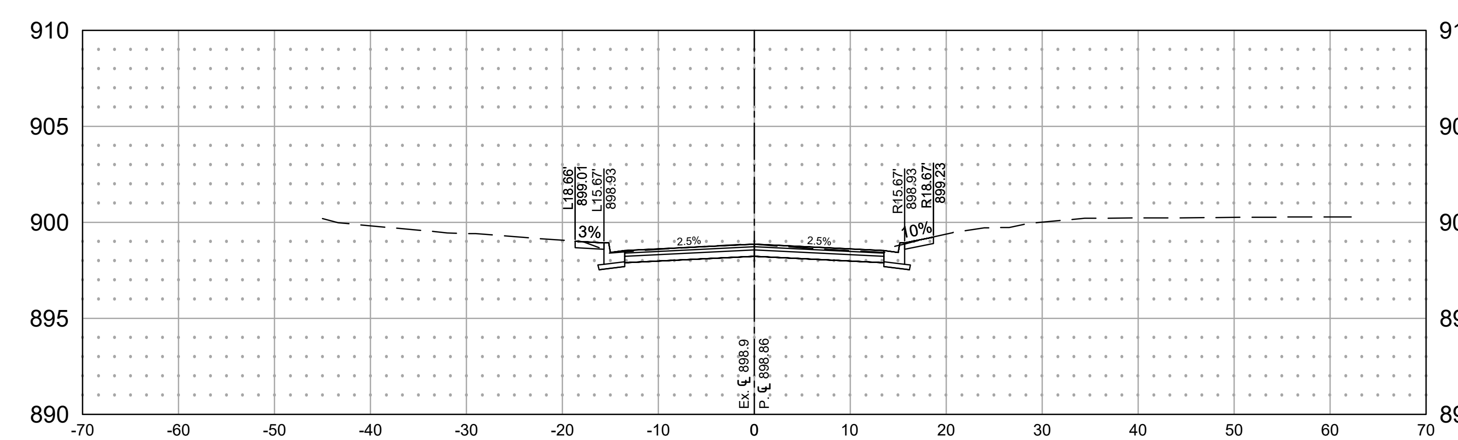

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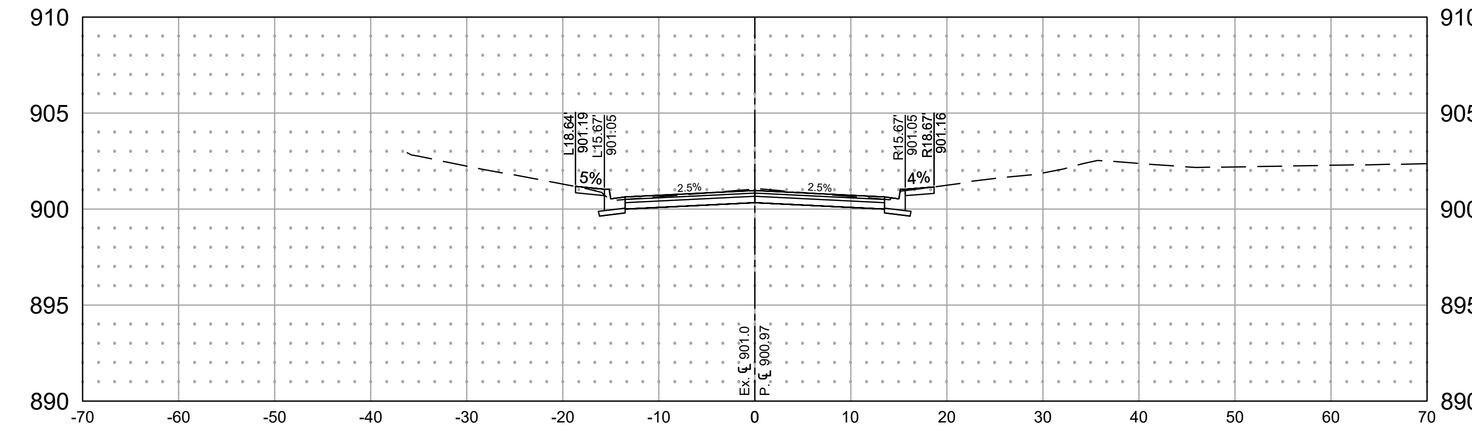

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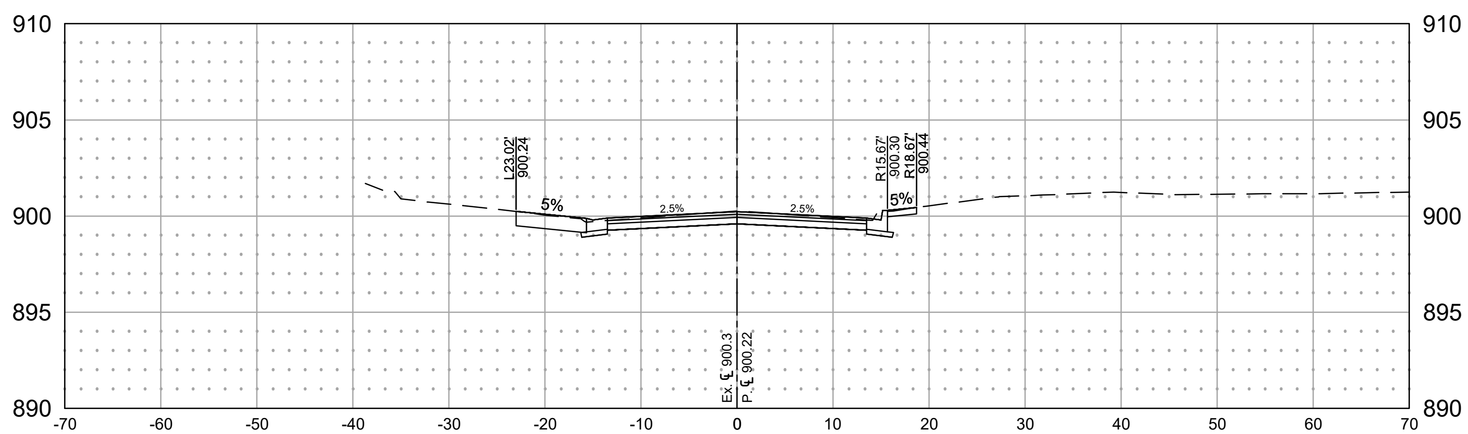

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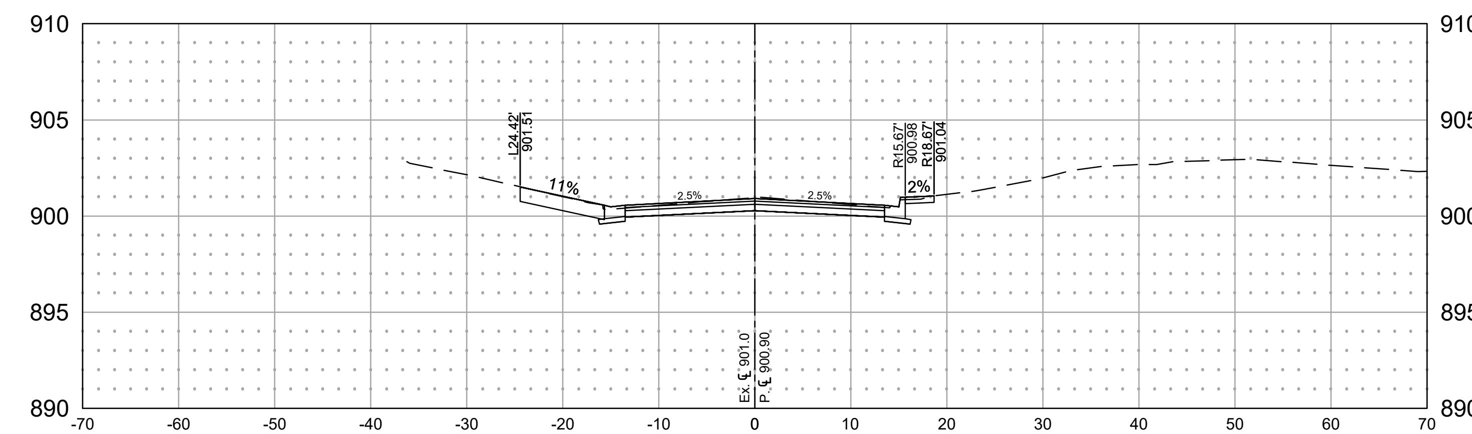

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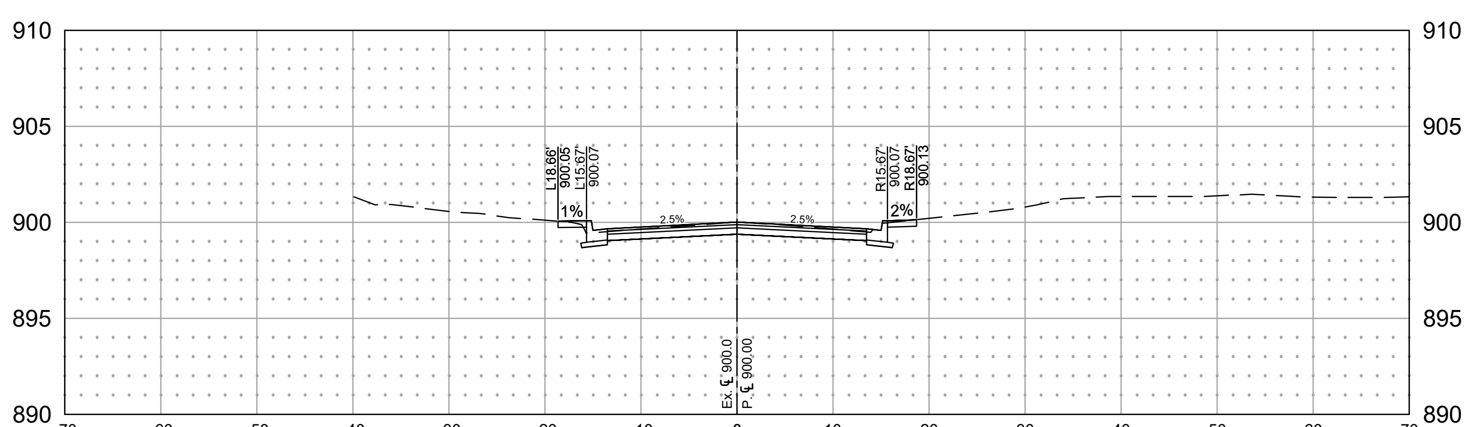

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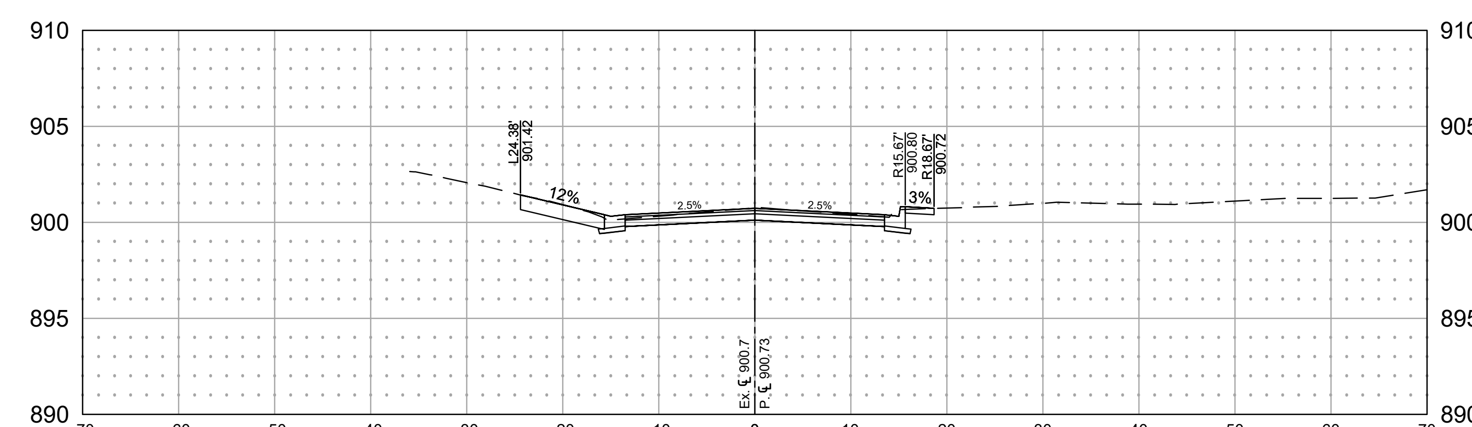

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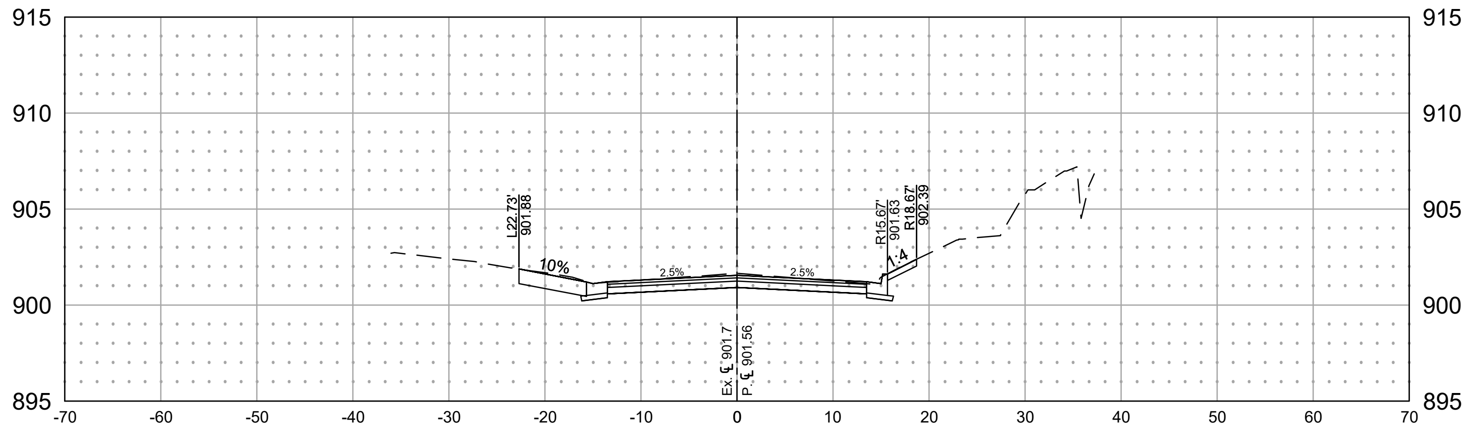

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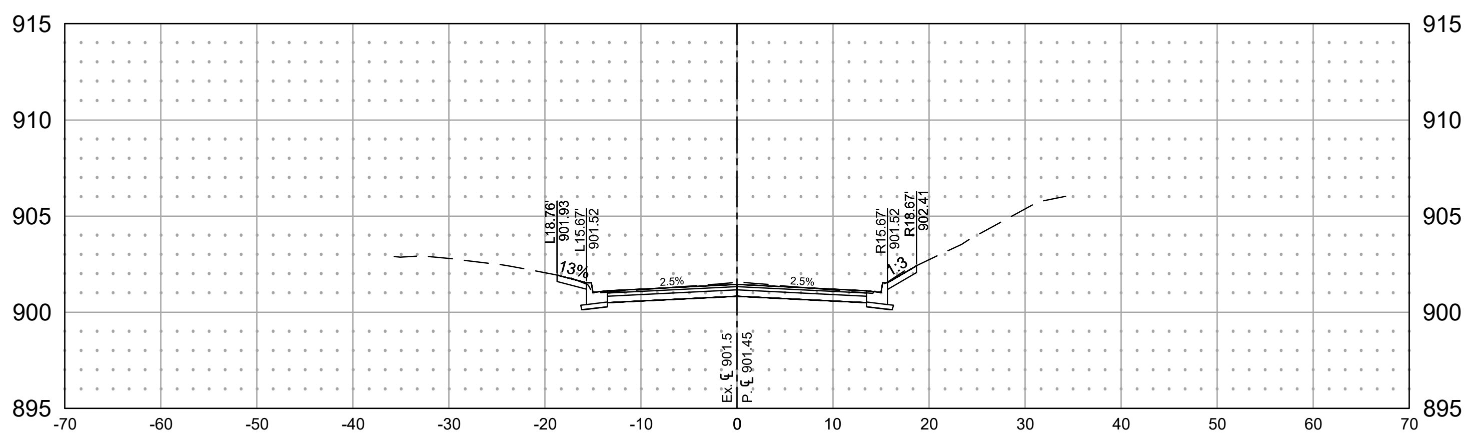

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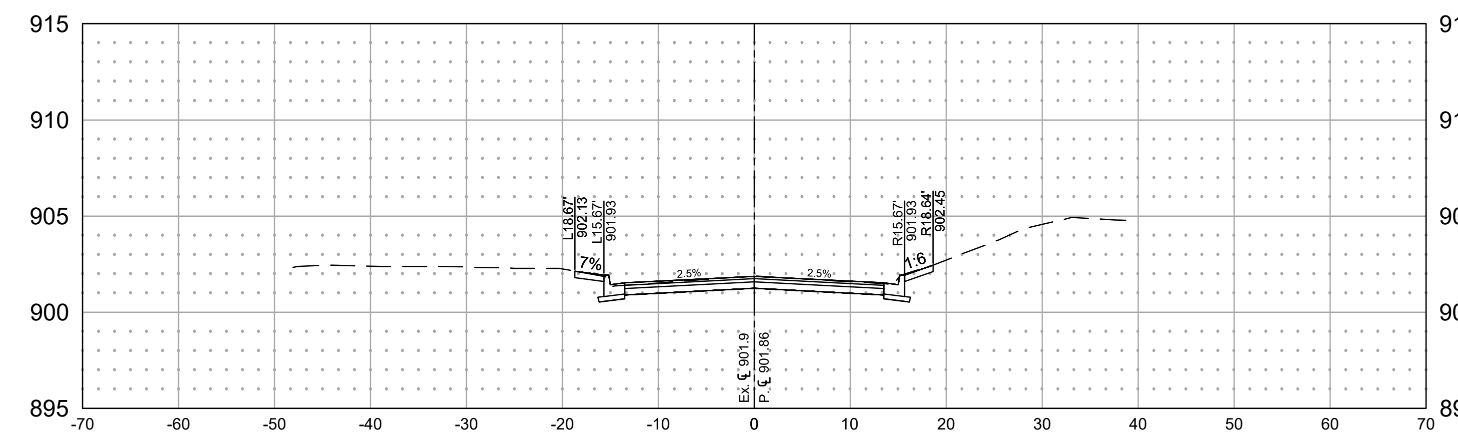

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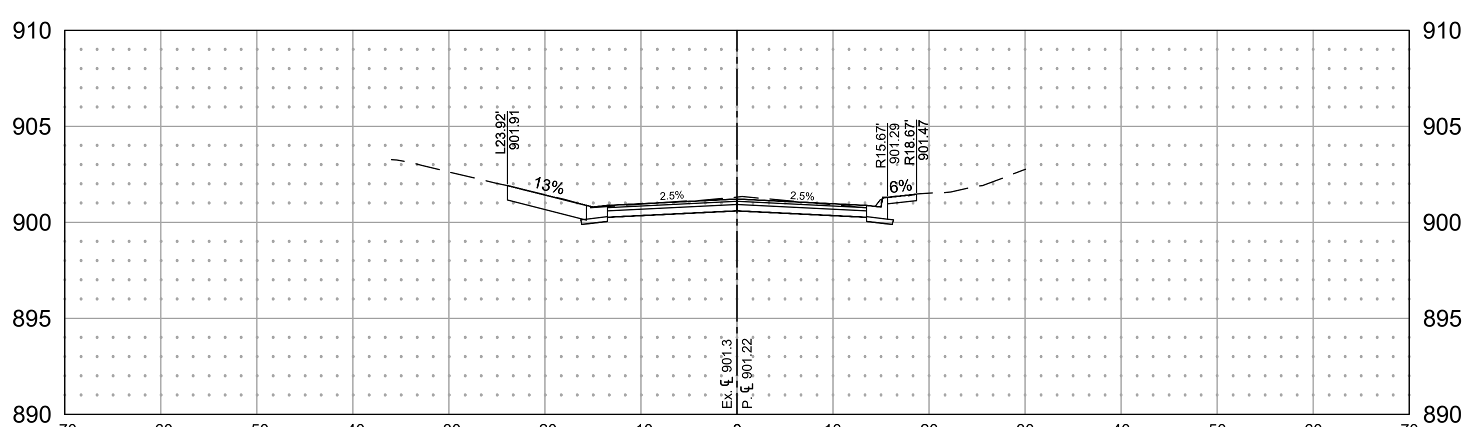

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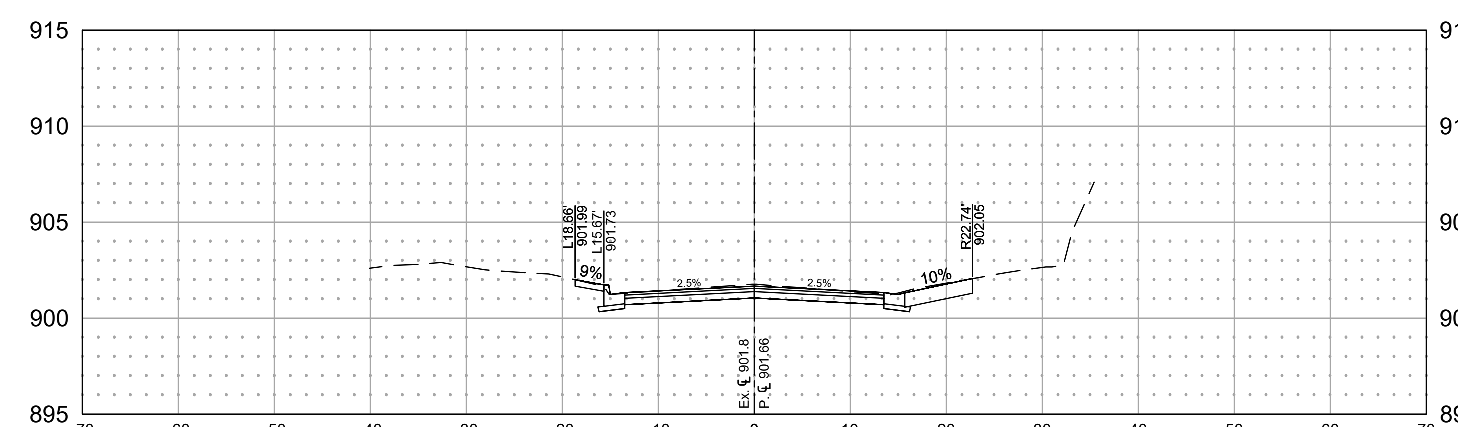

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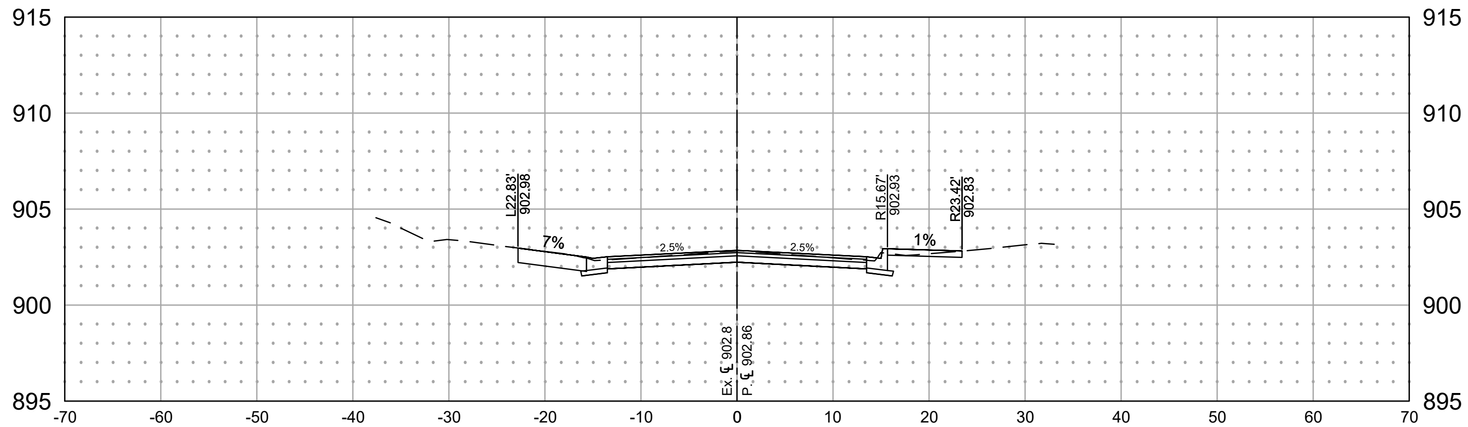


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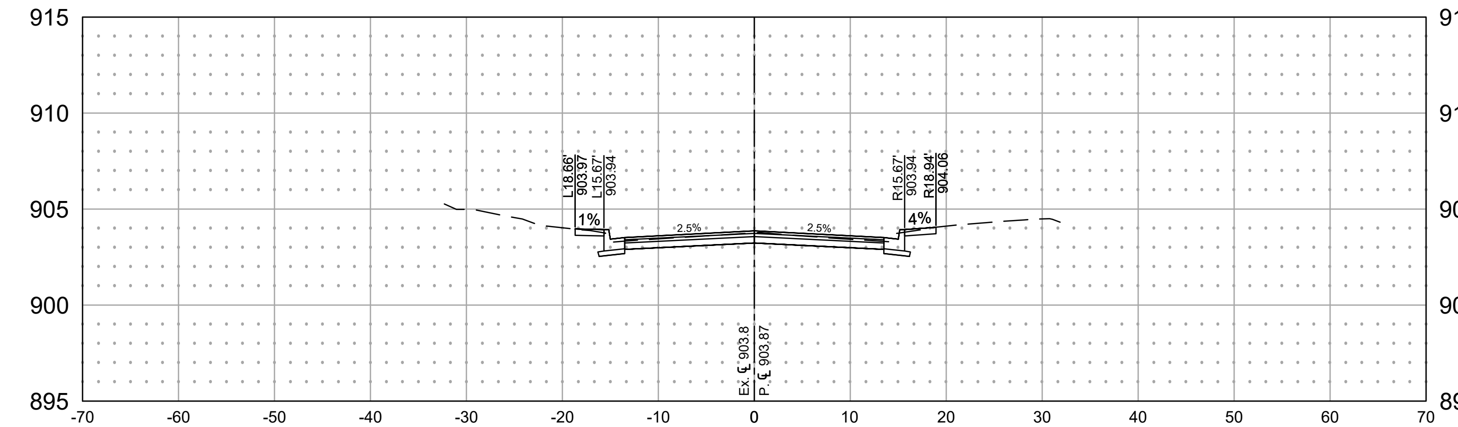


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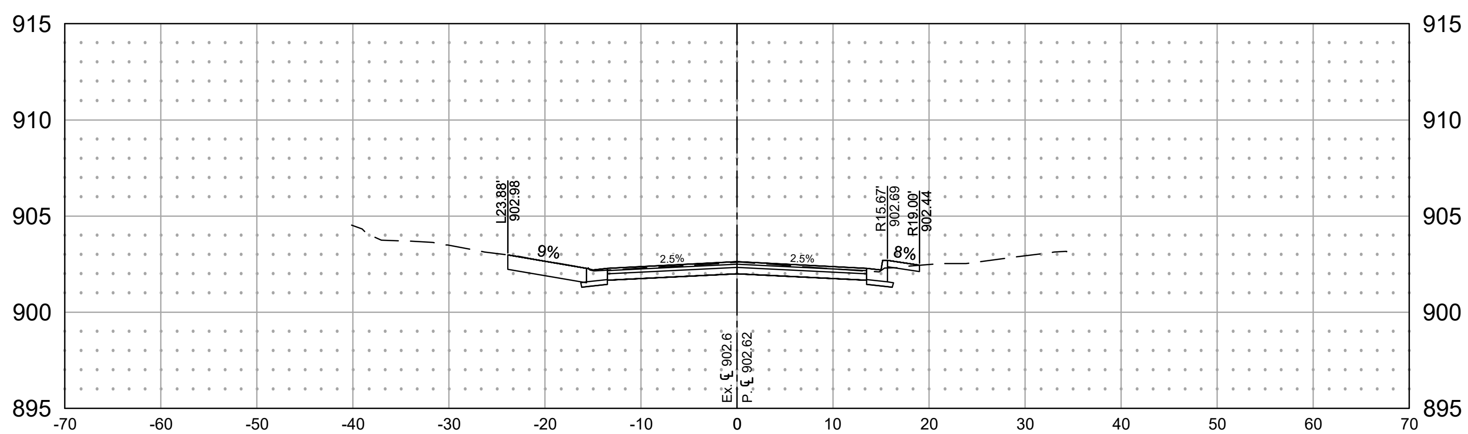


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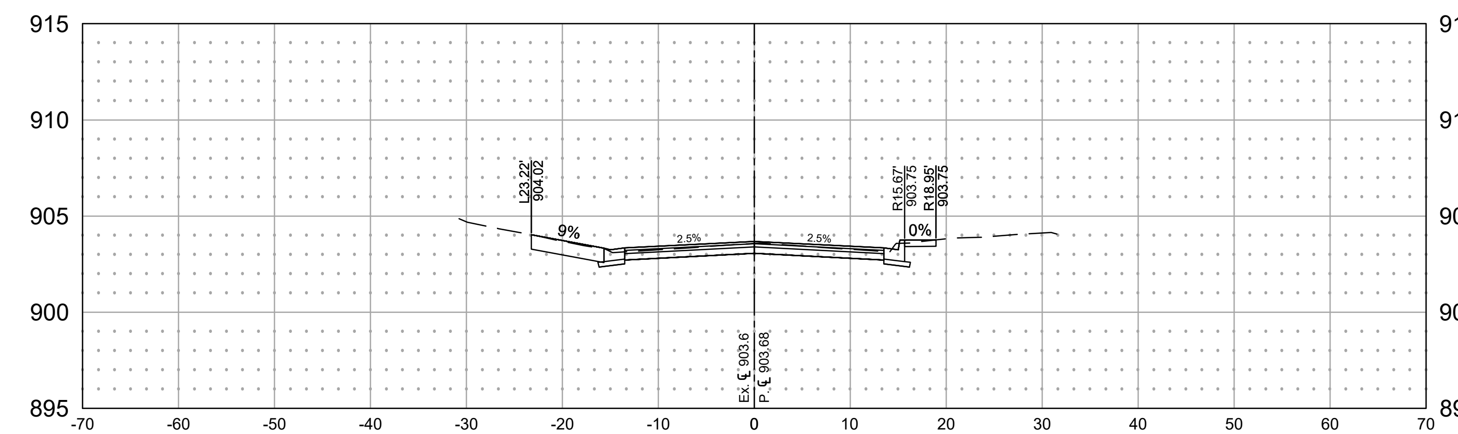


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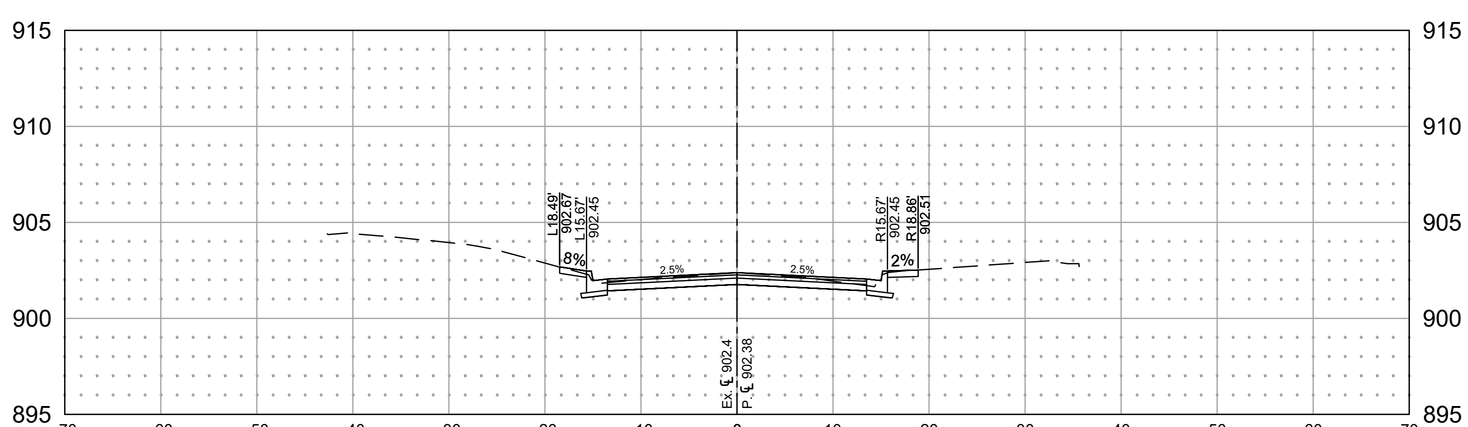


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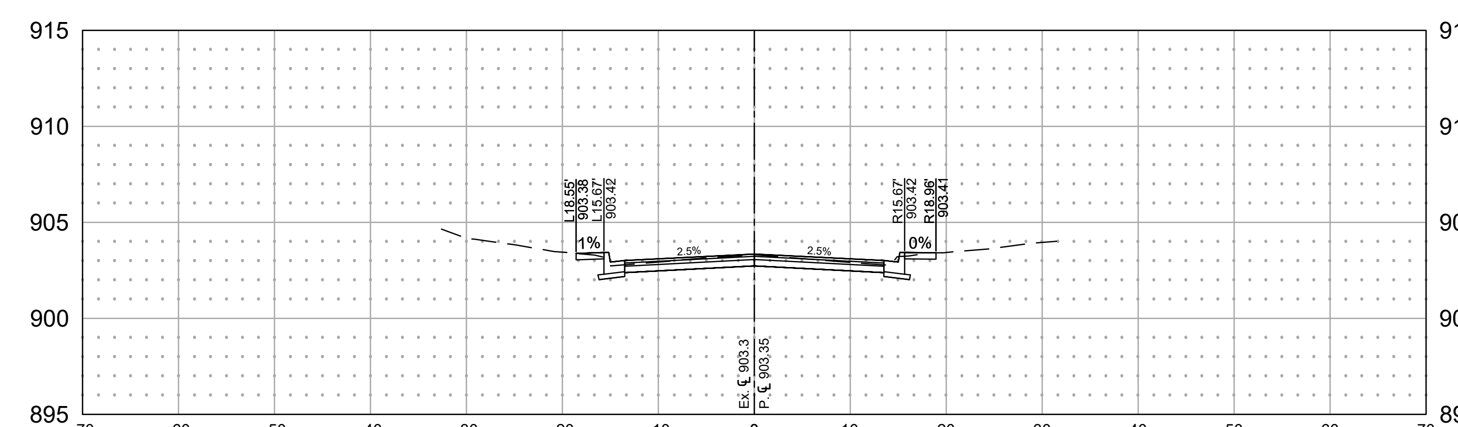


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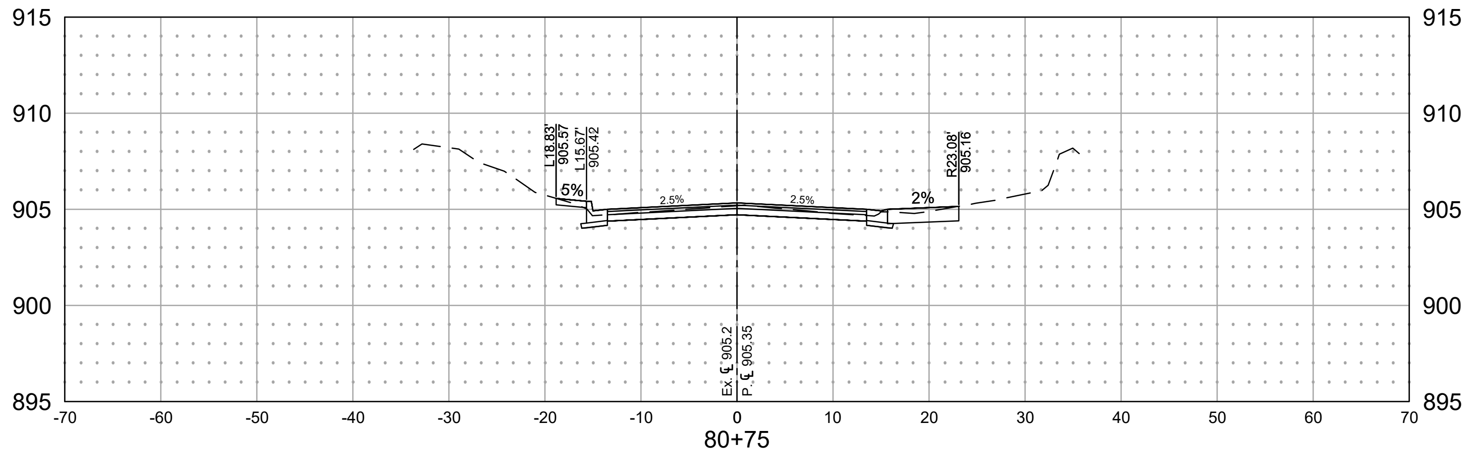


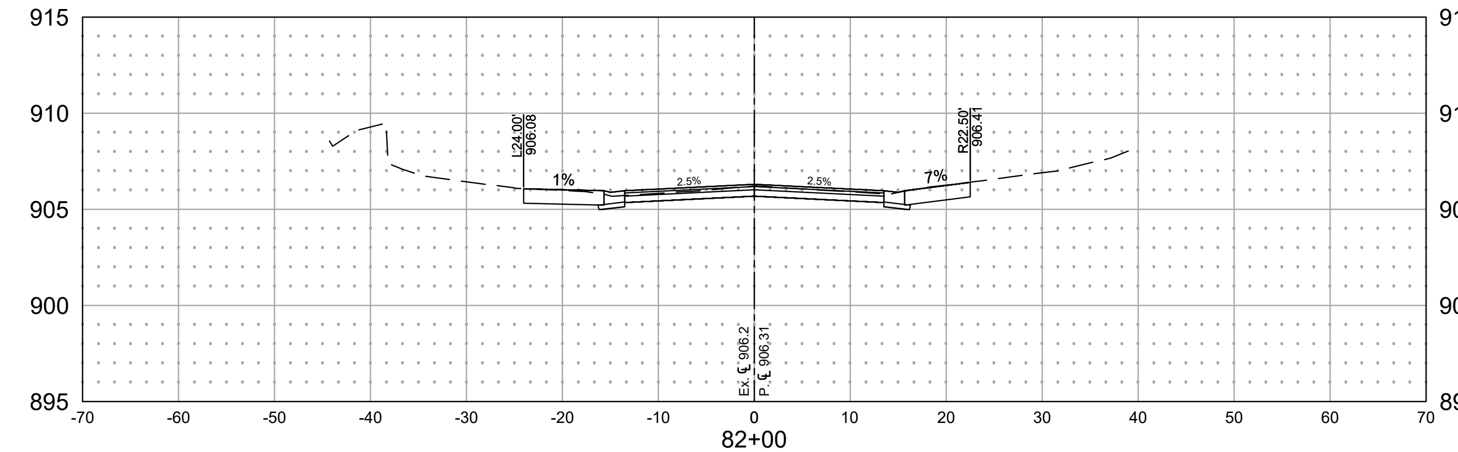


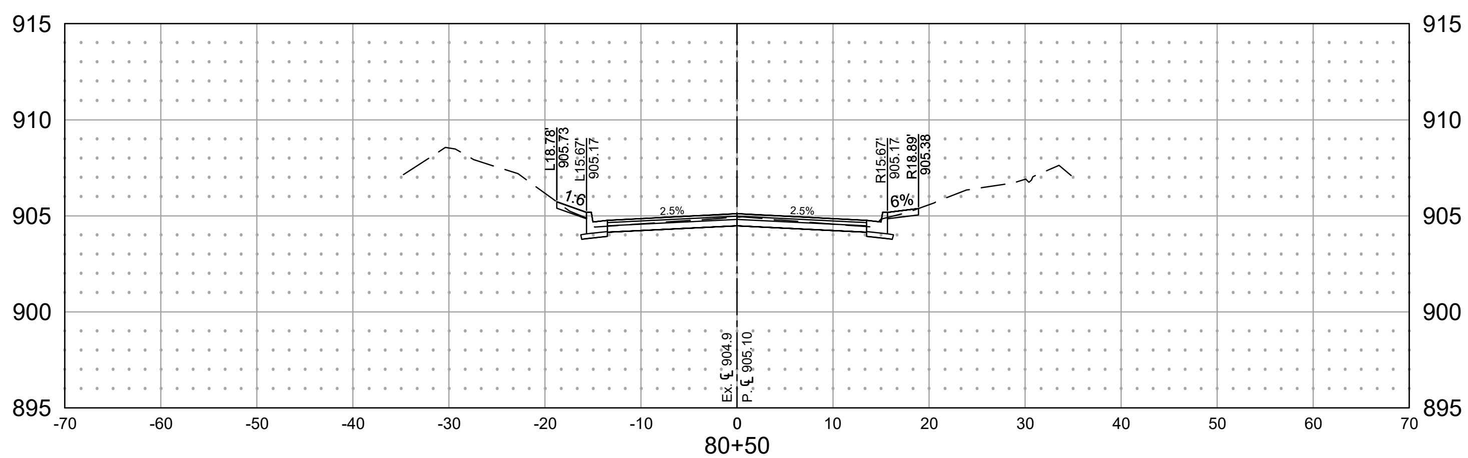


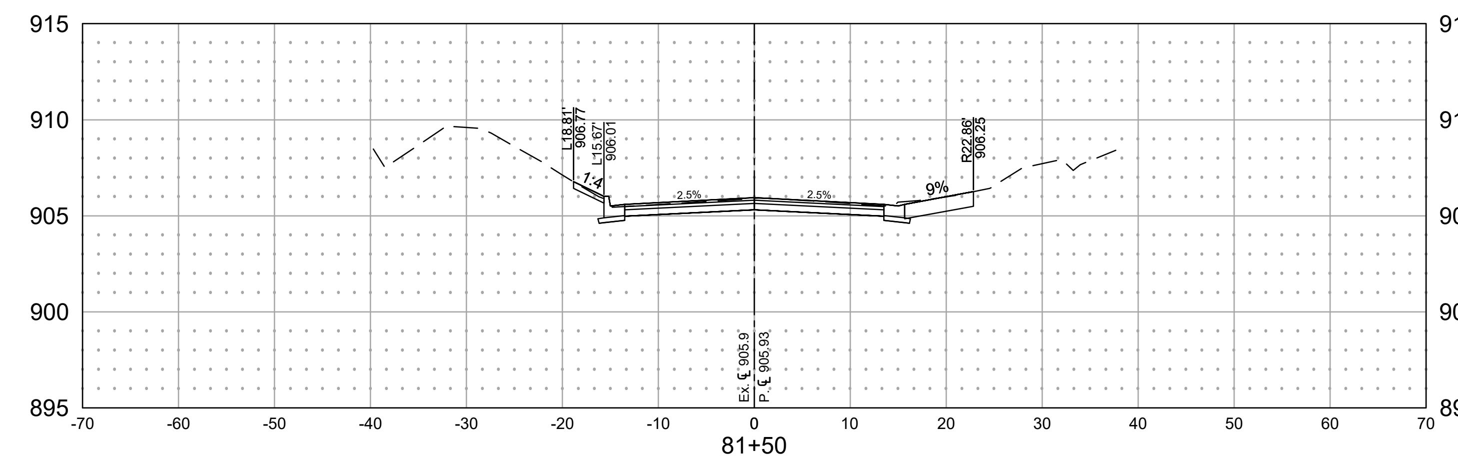


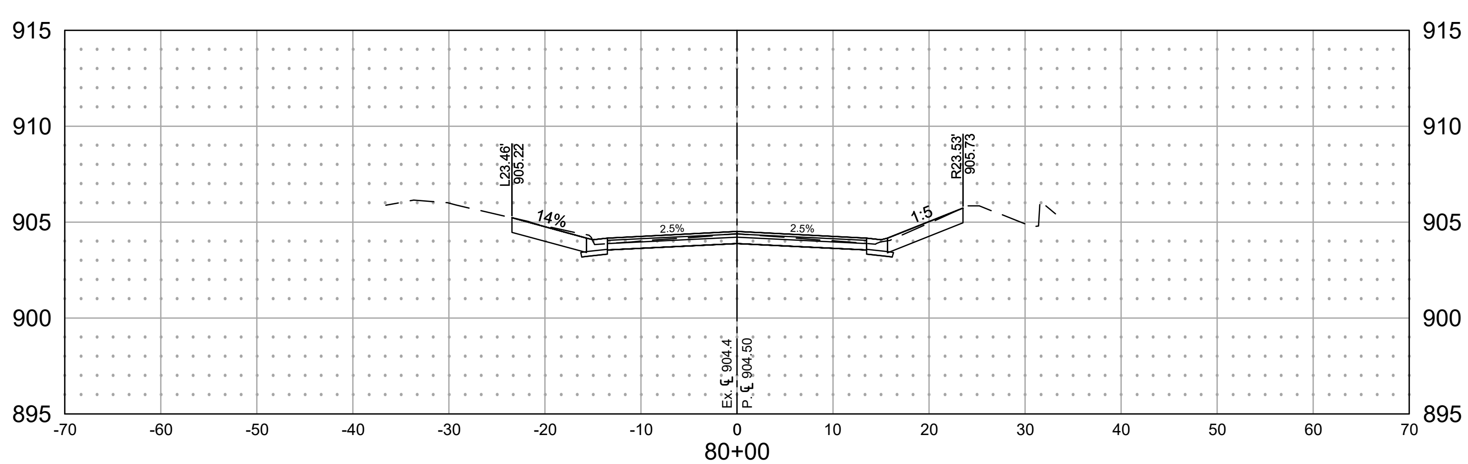


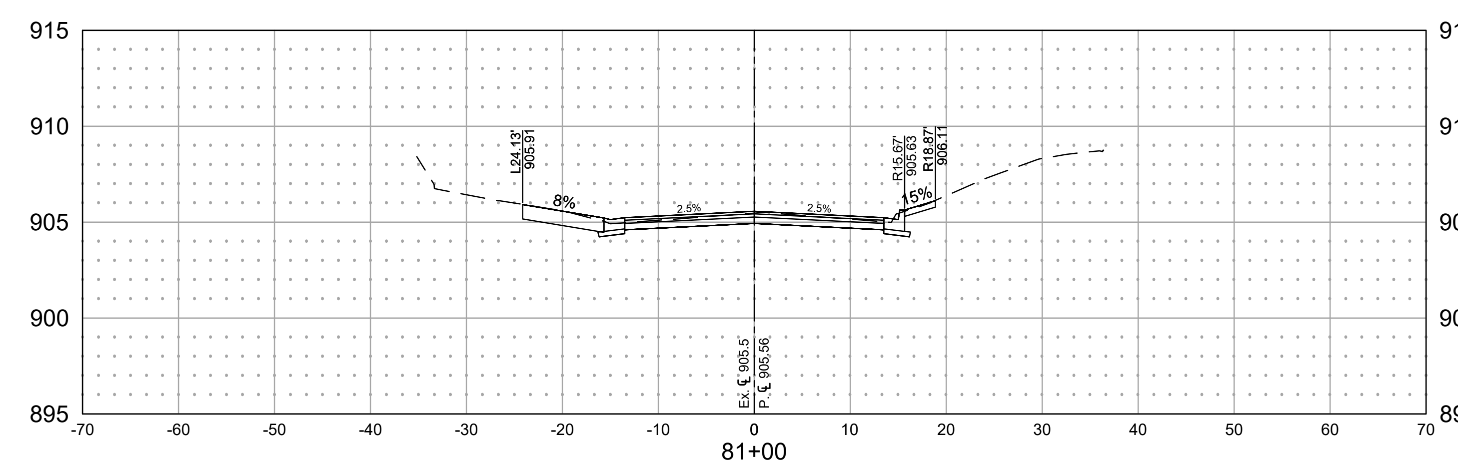


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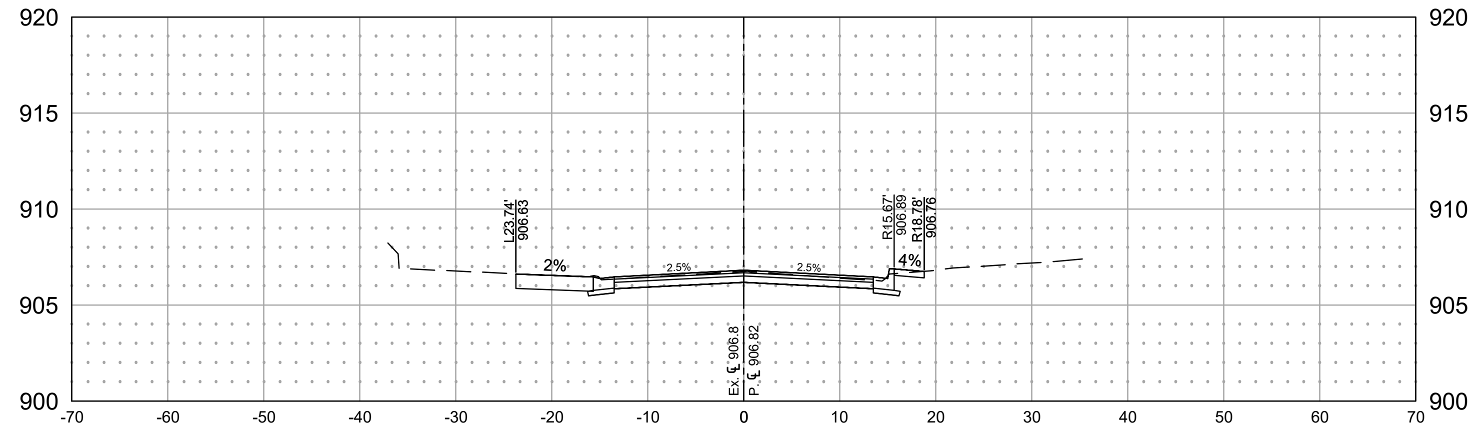

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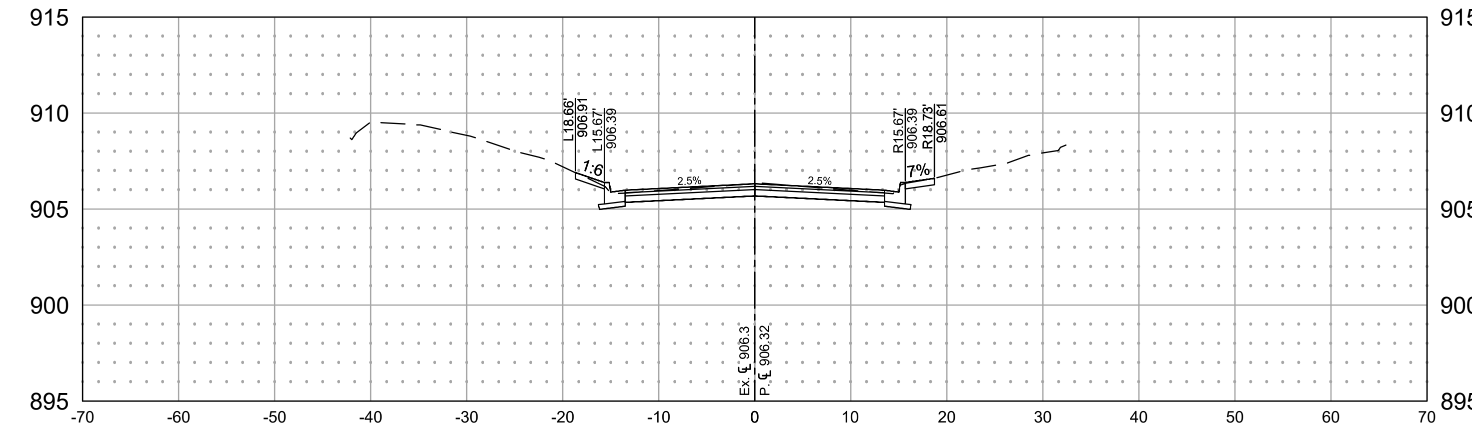

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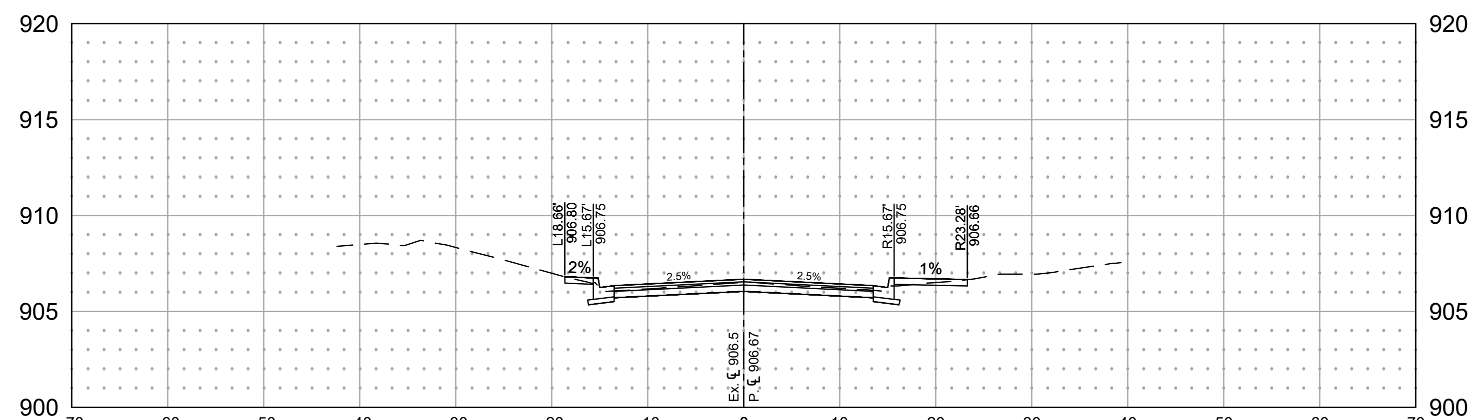

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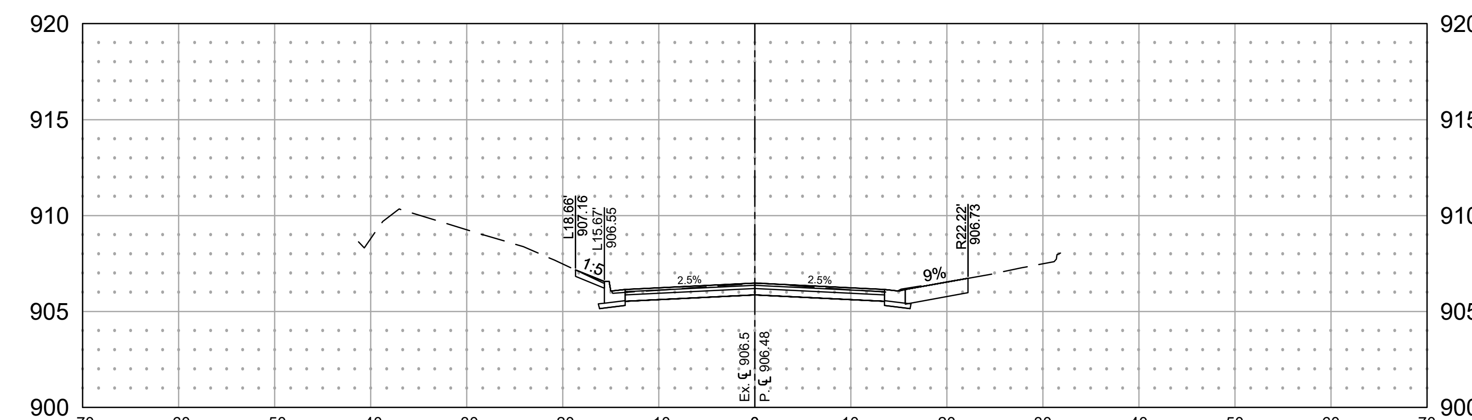

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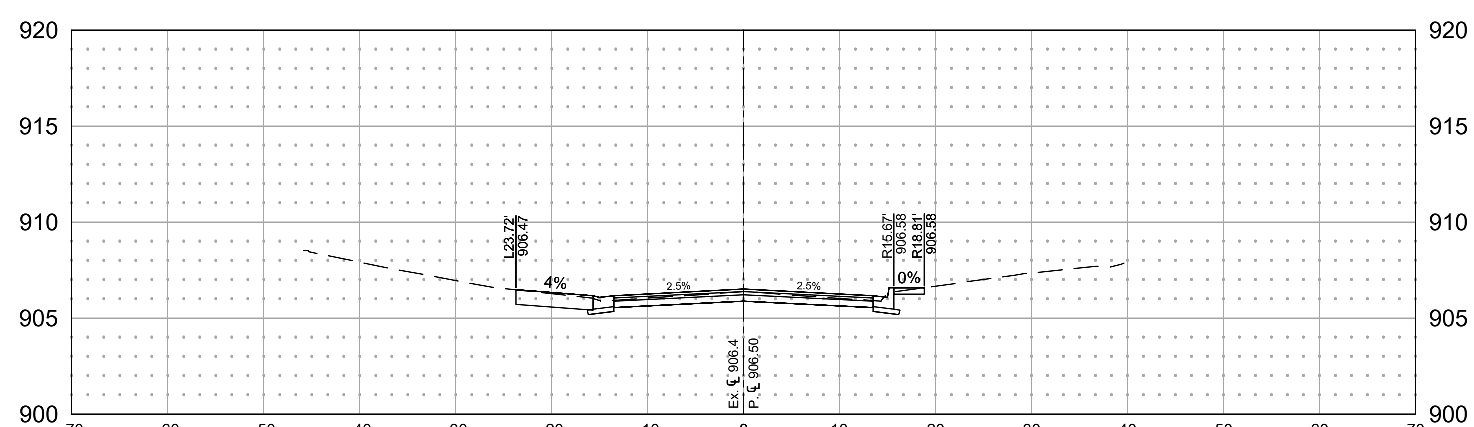

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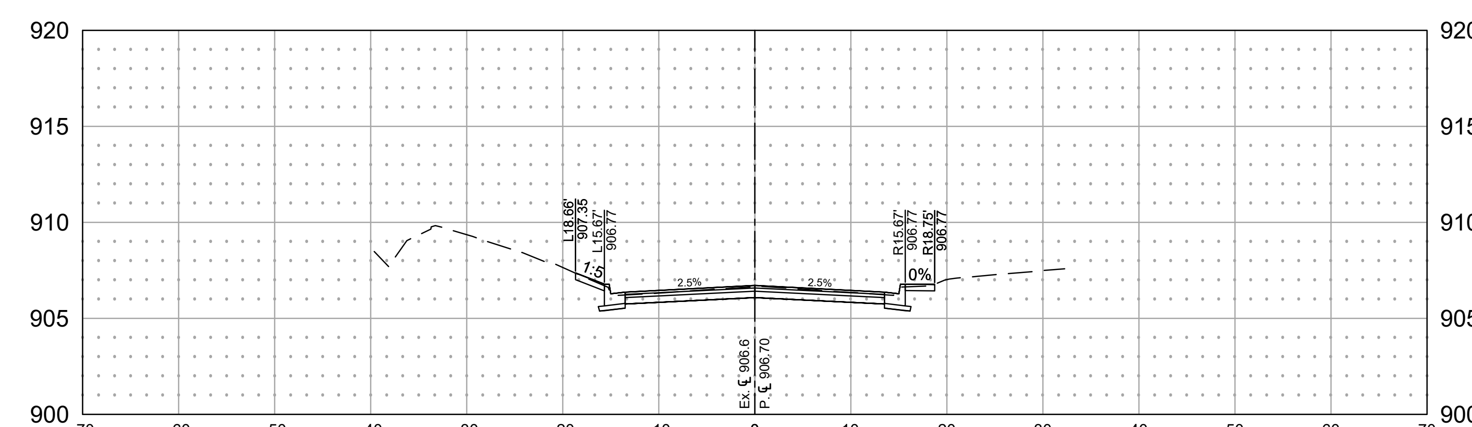

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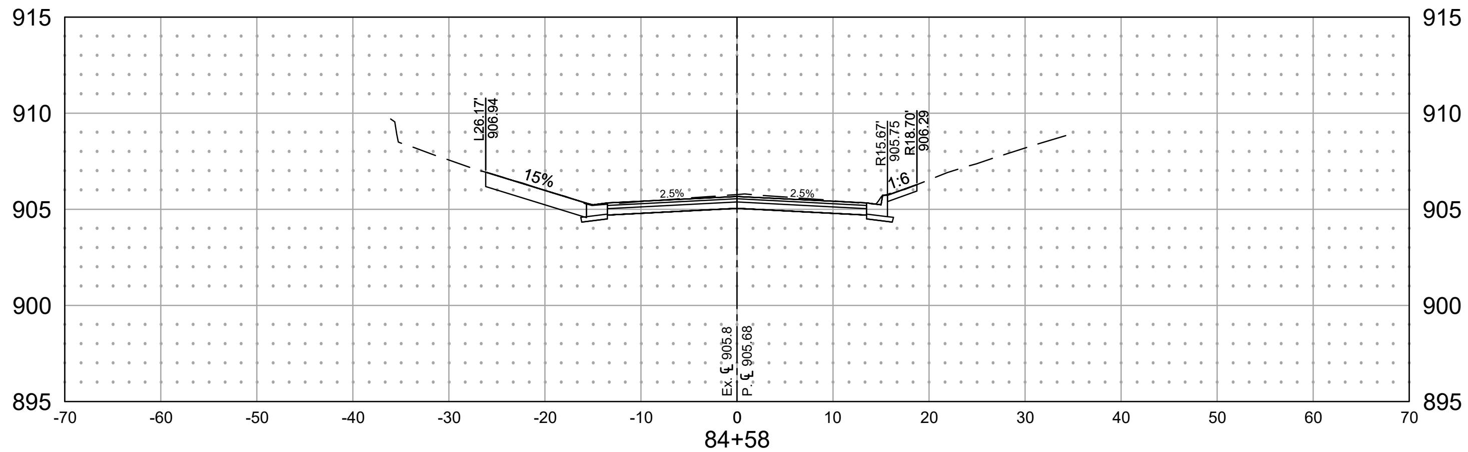


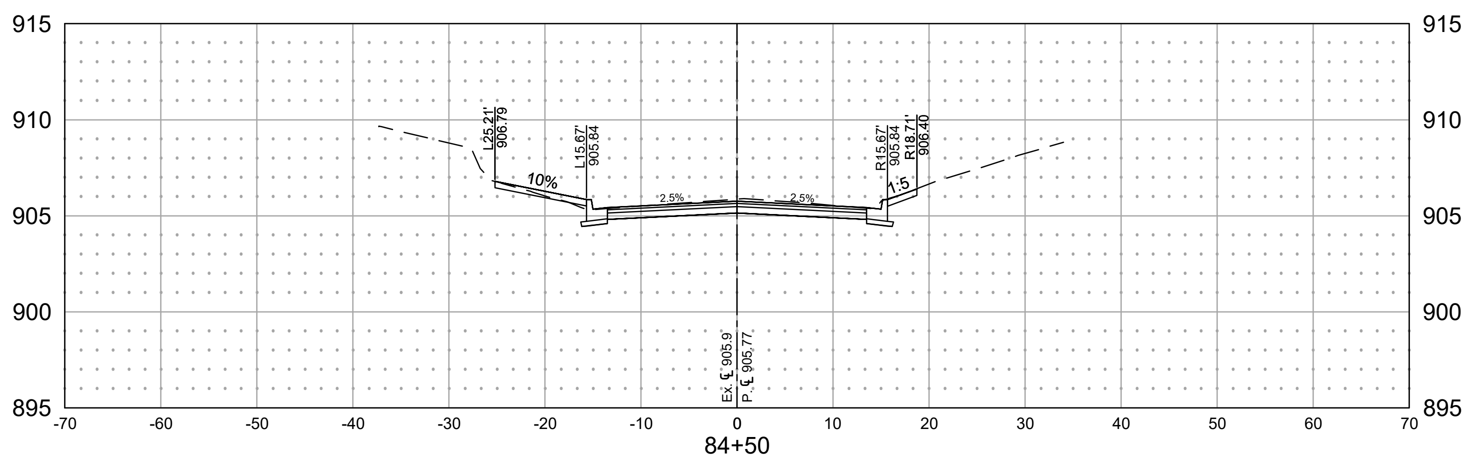


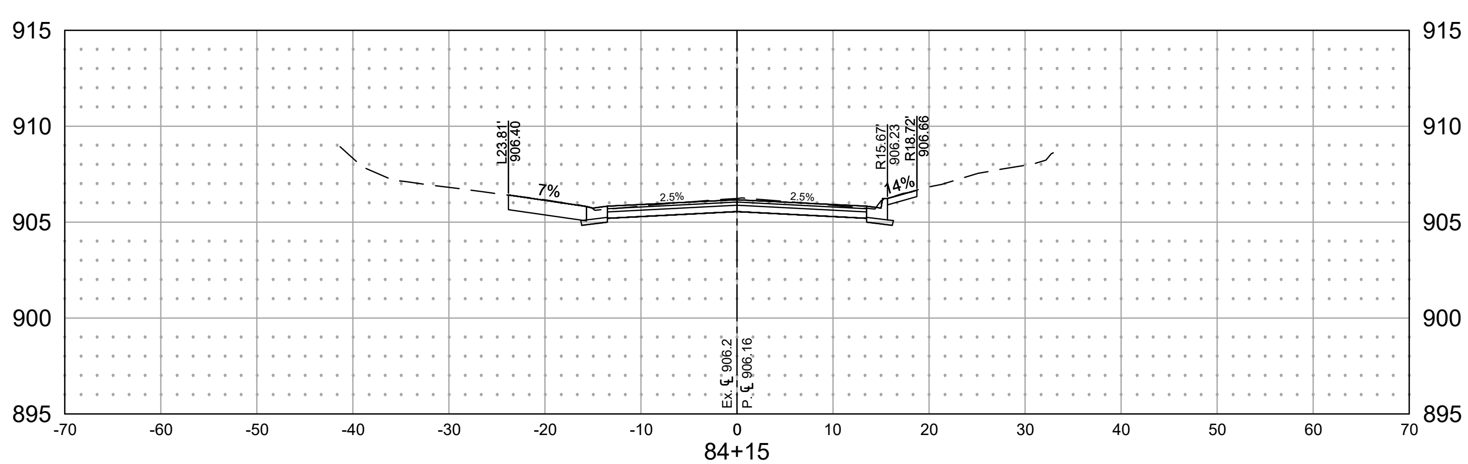


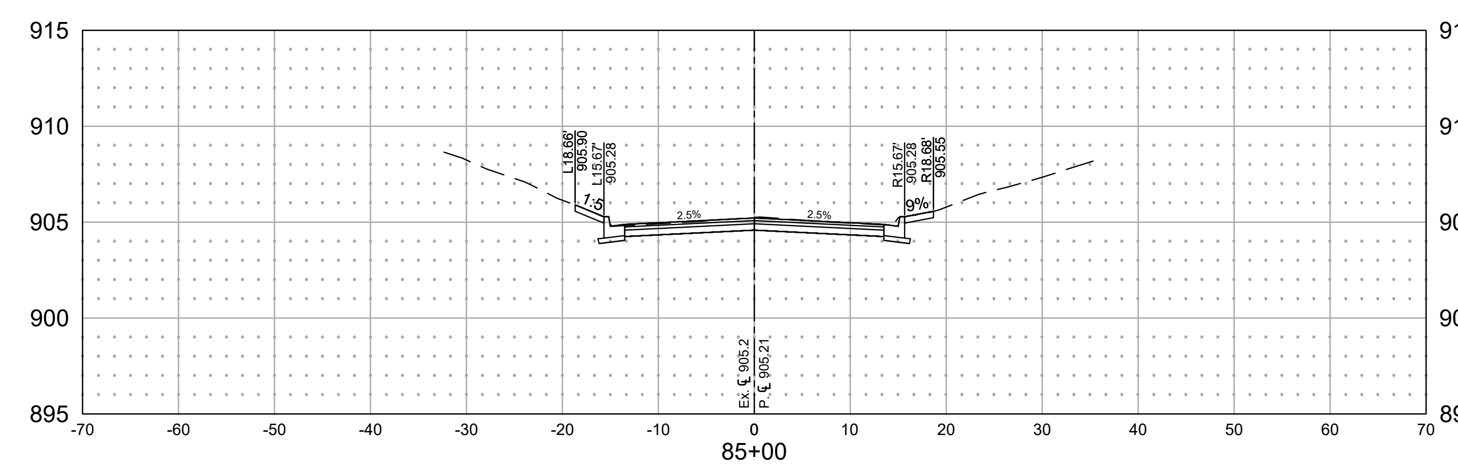


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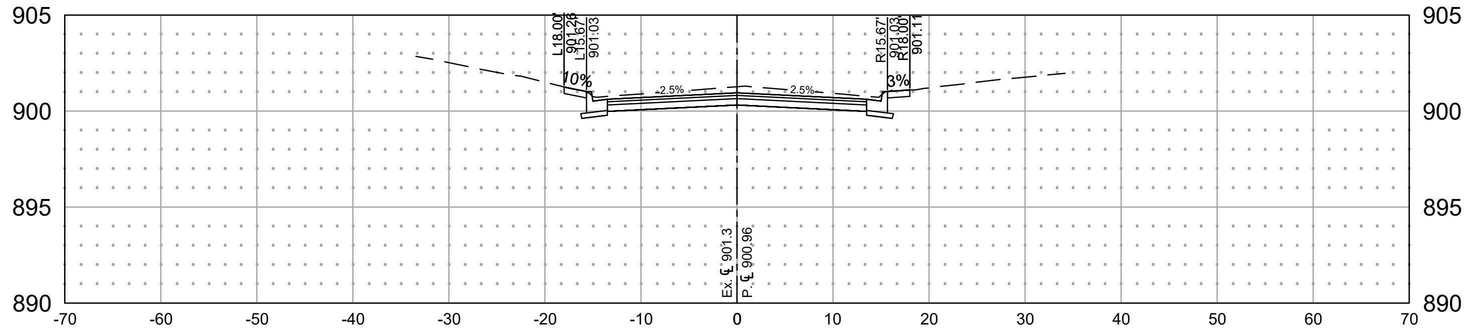

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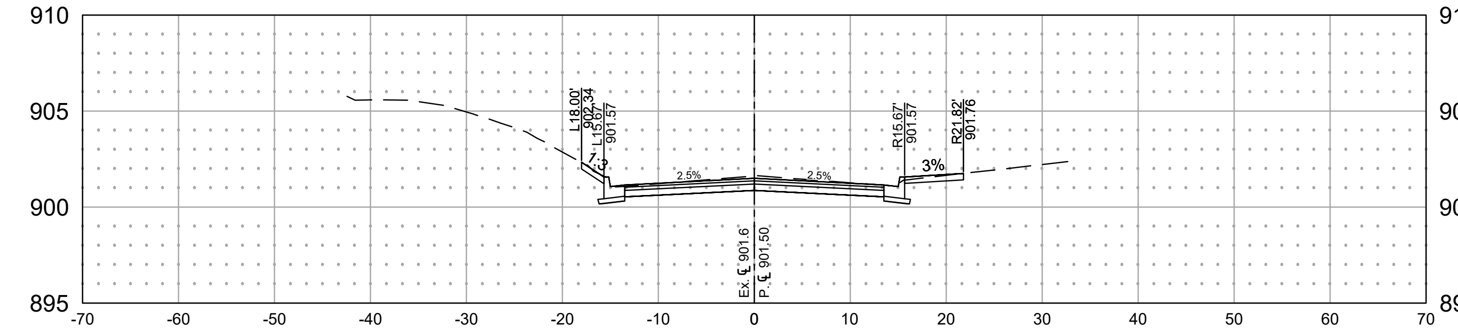

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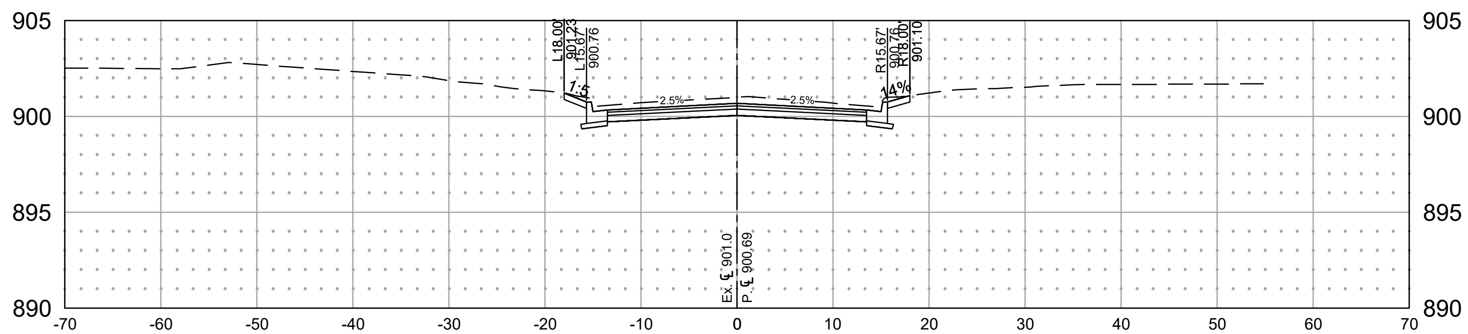

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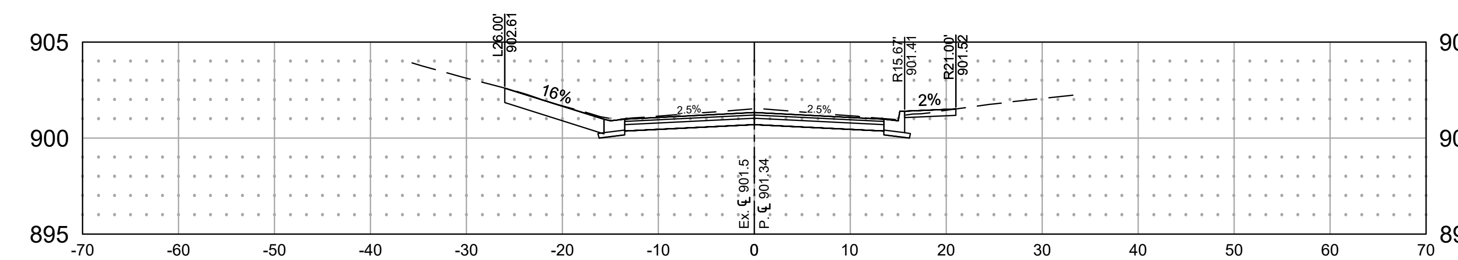

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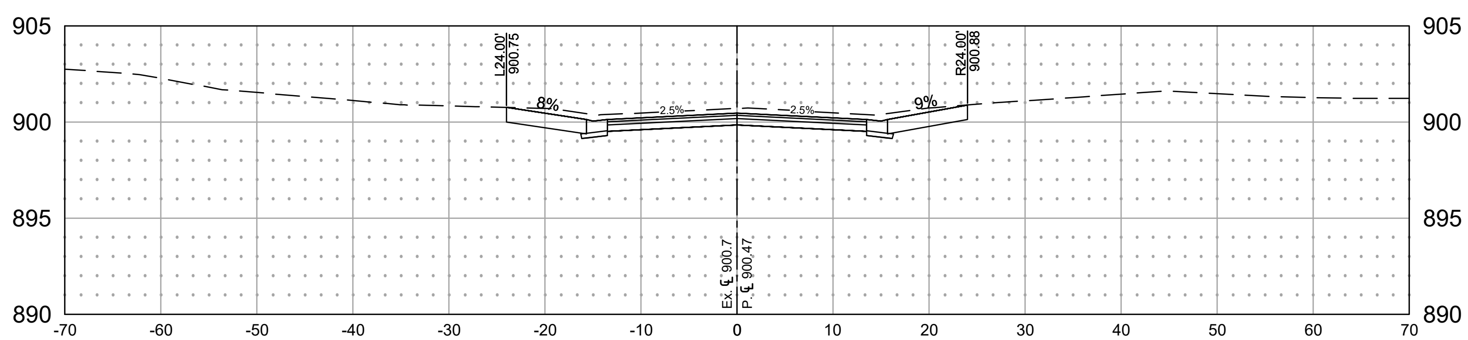

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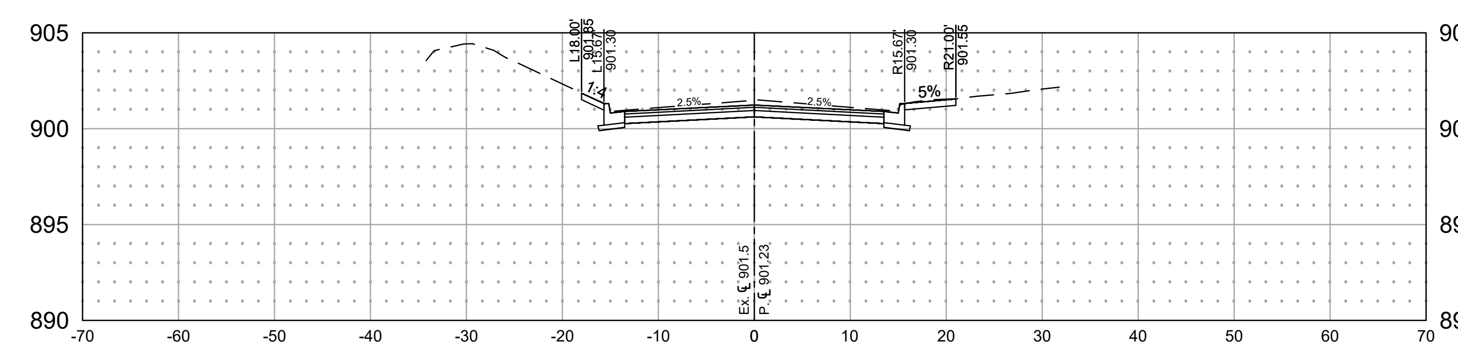

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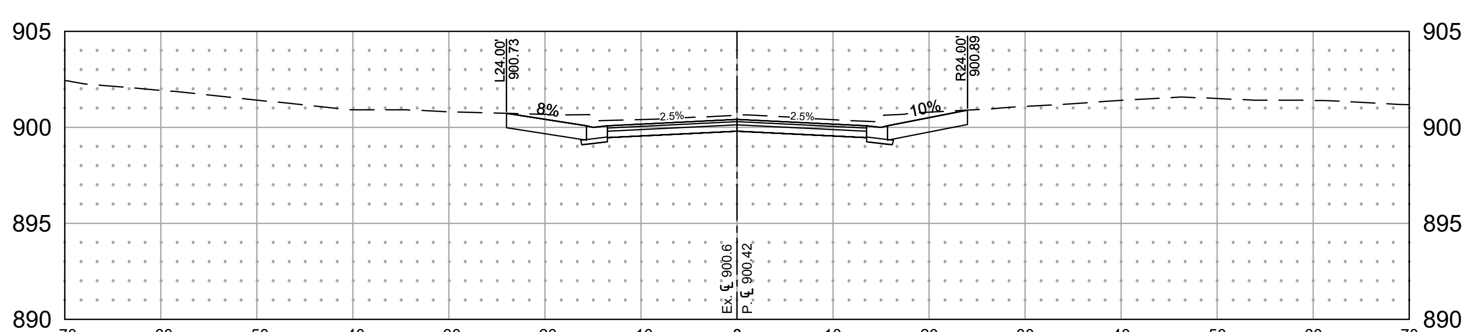

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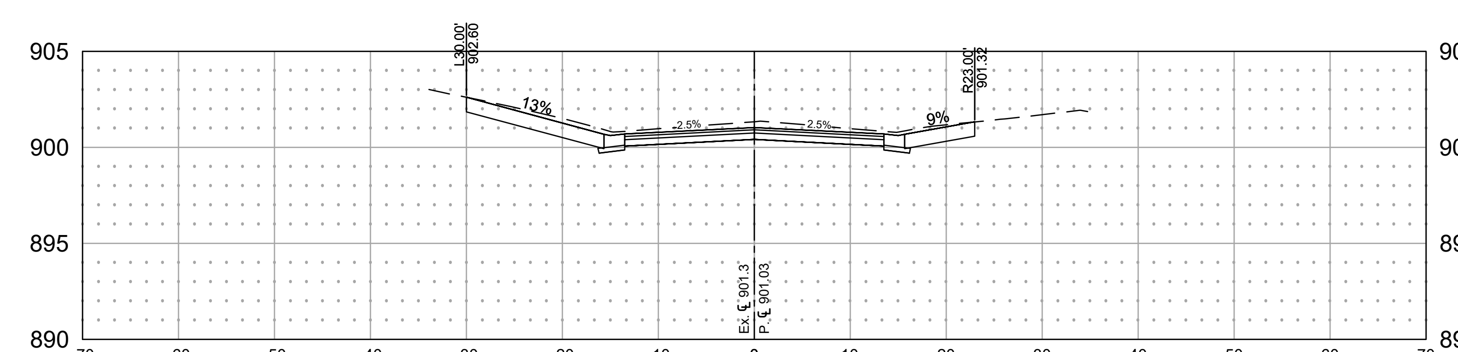

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127TH LANE

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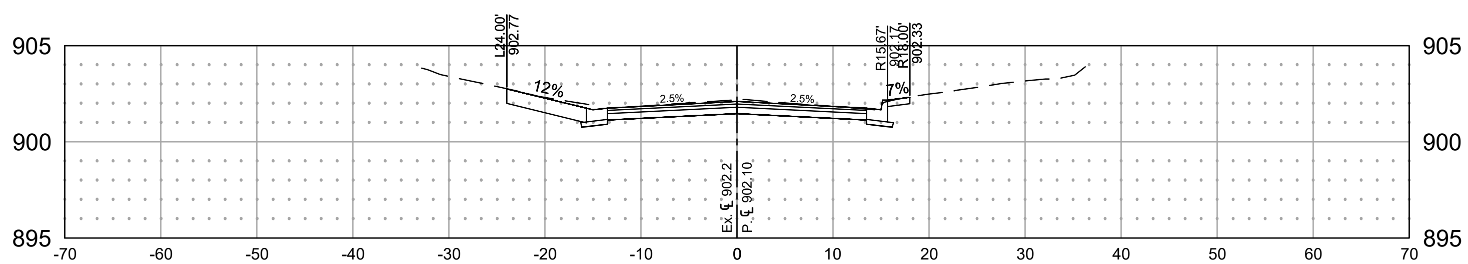

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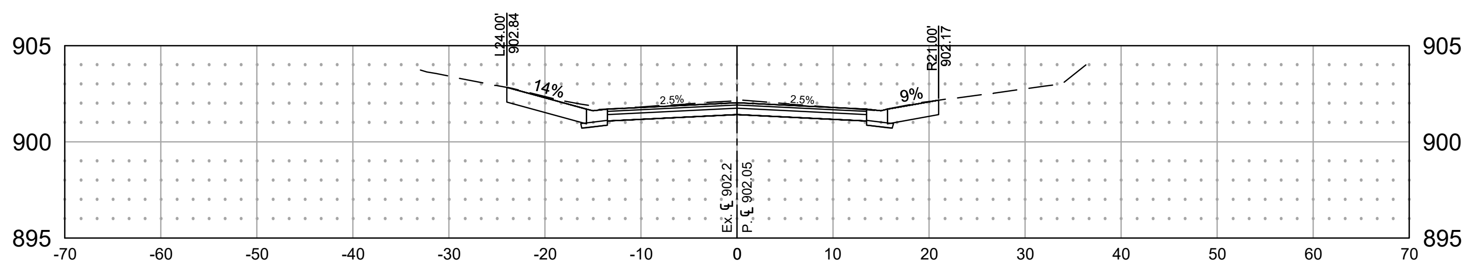

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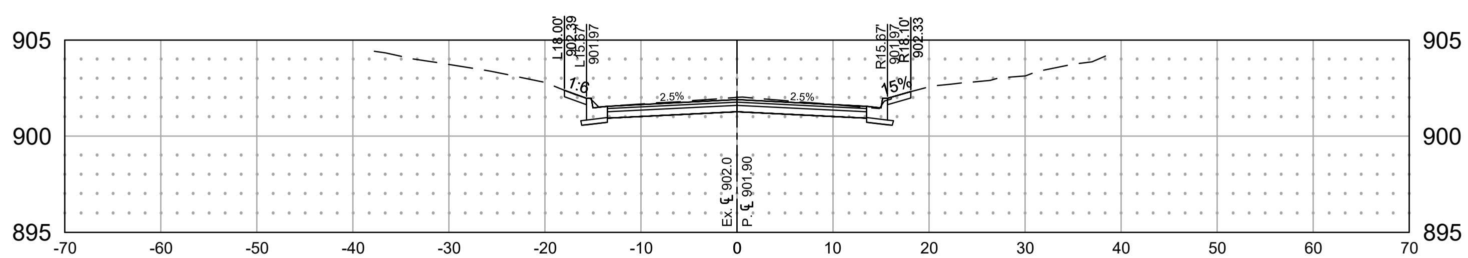

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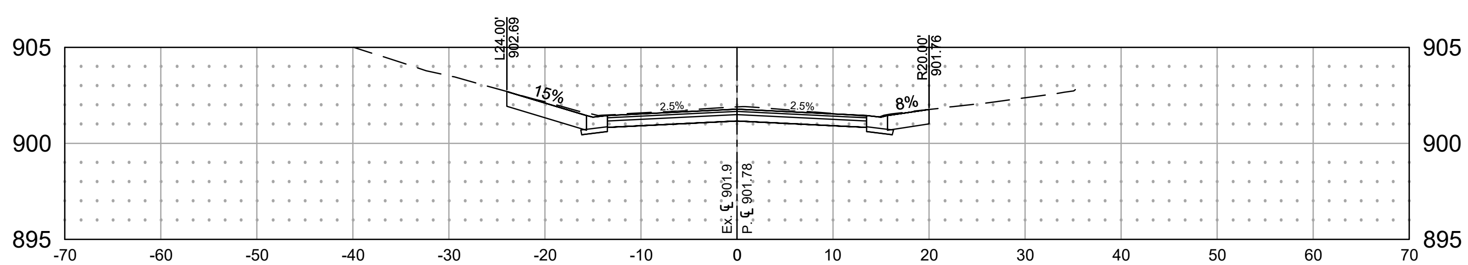

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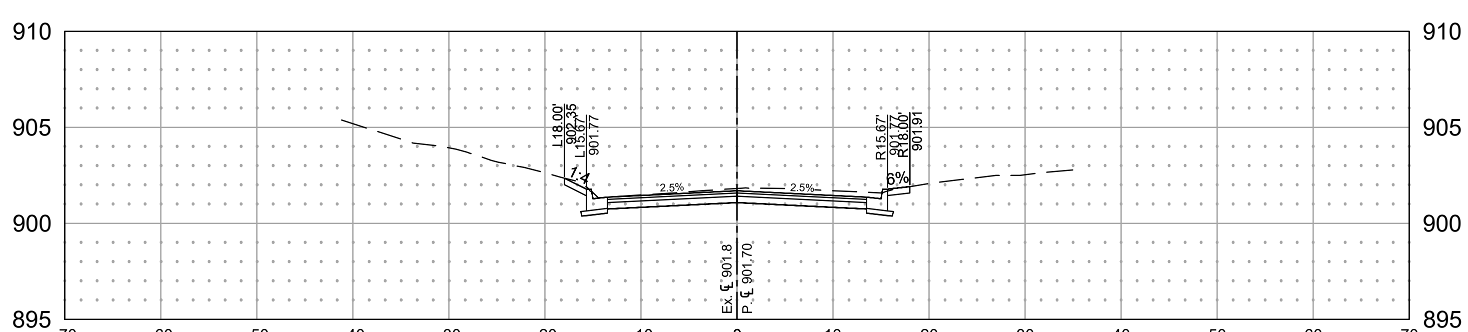

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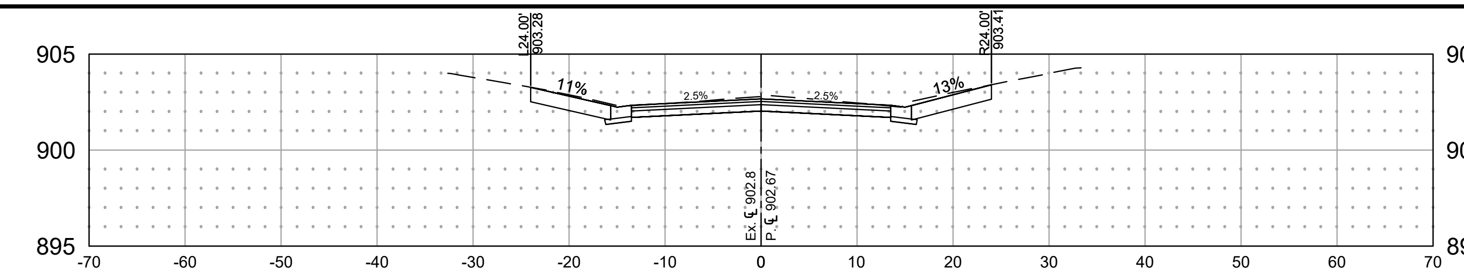

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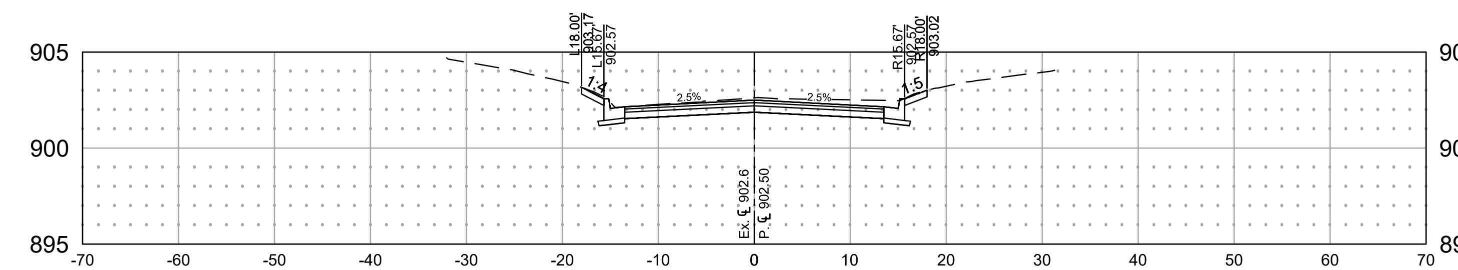

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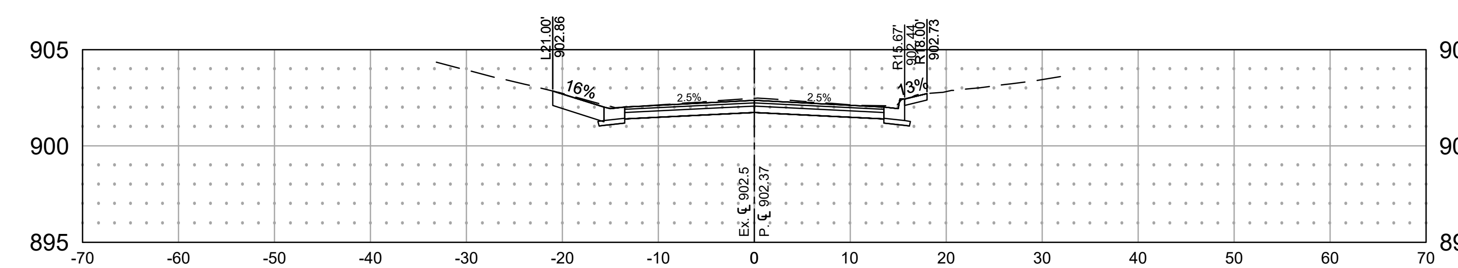

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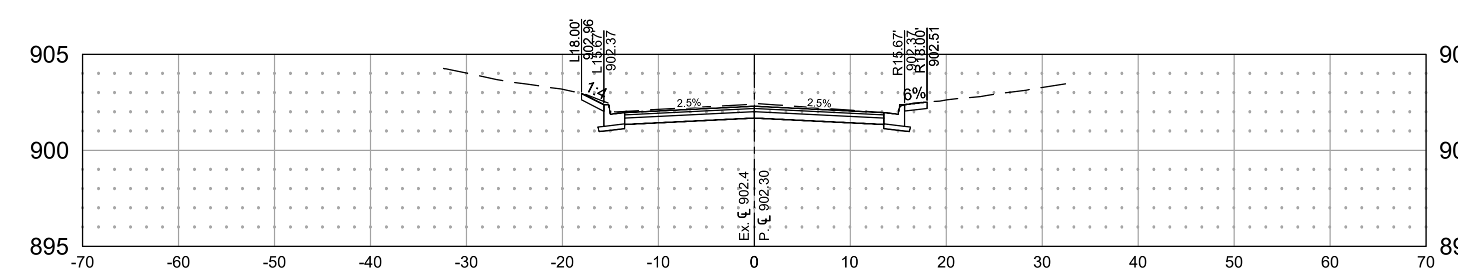

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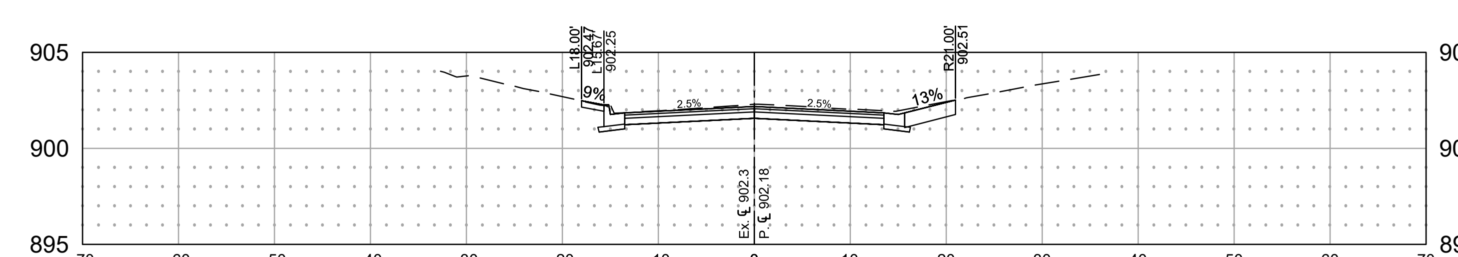

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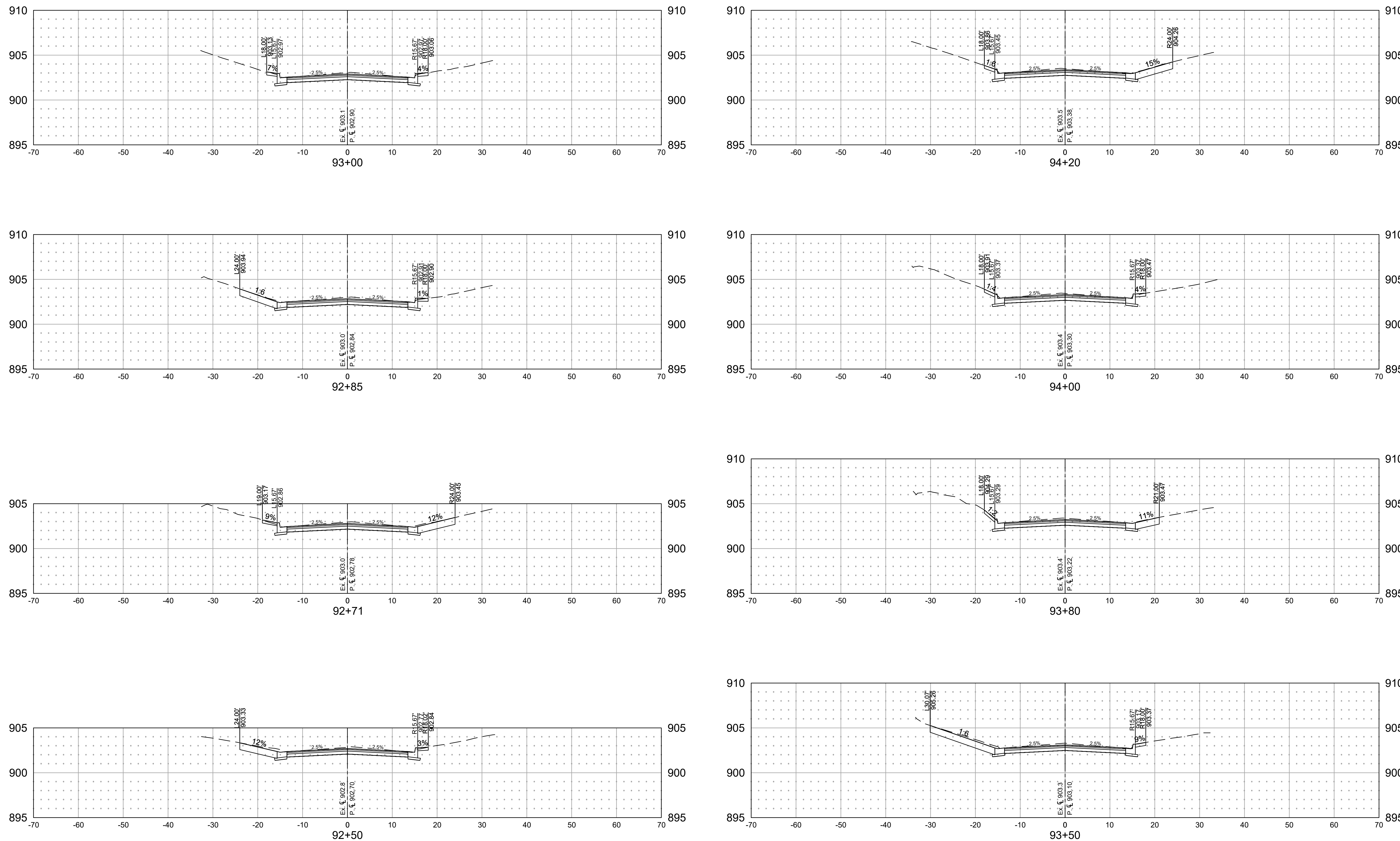


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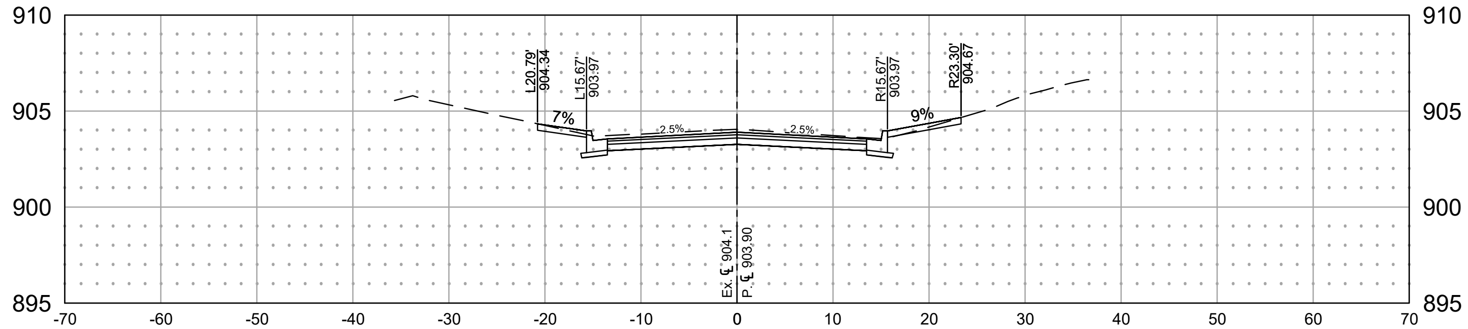

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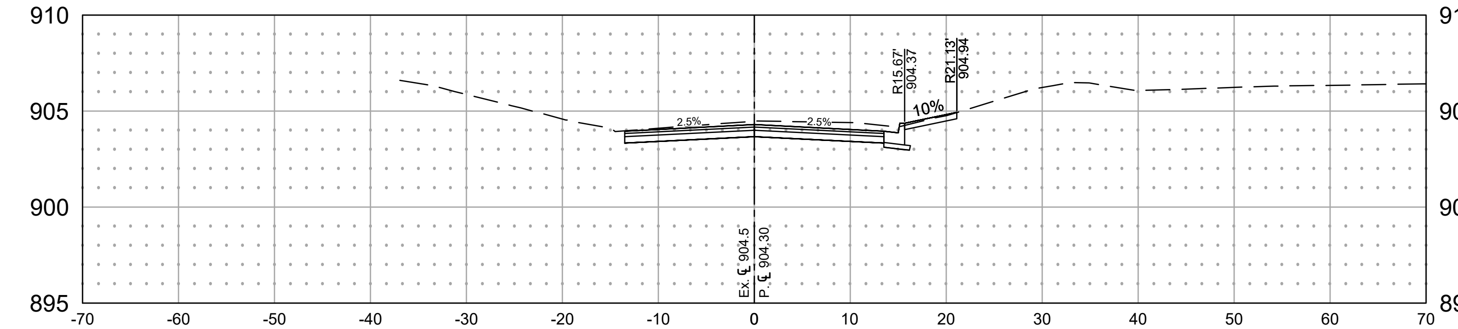

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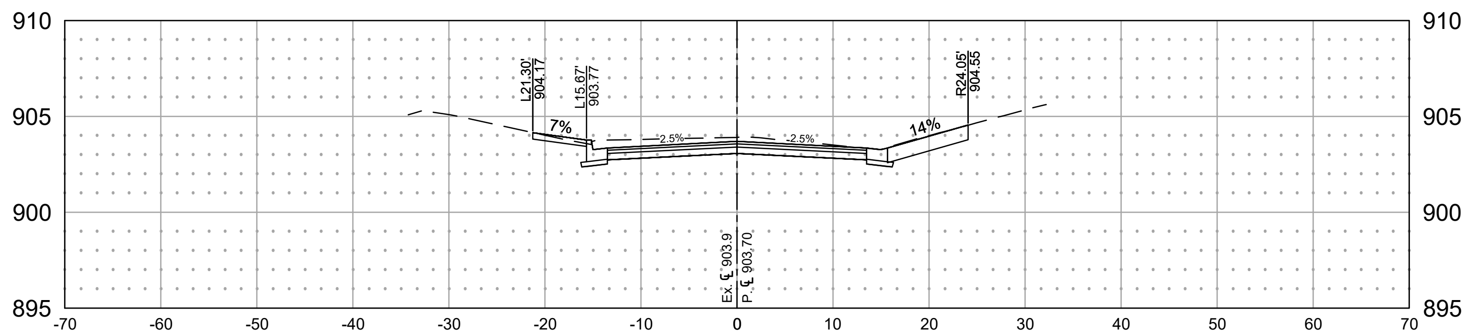

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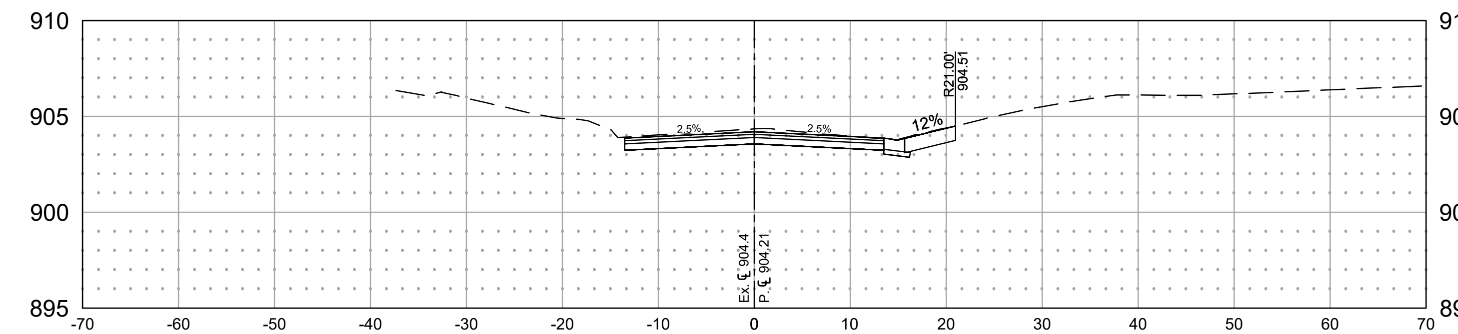

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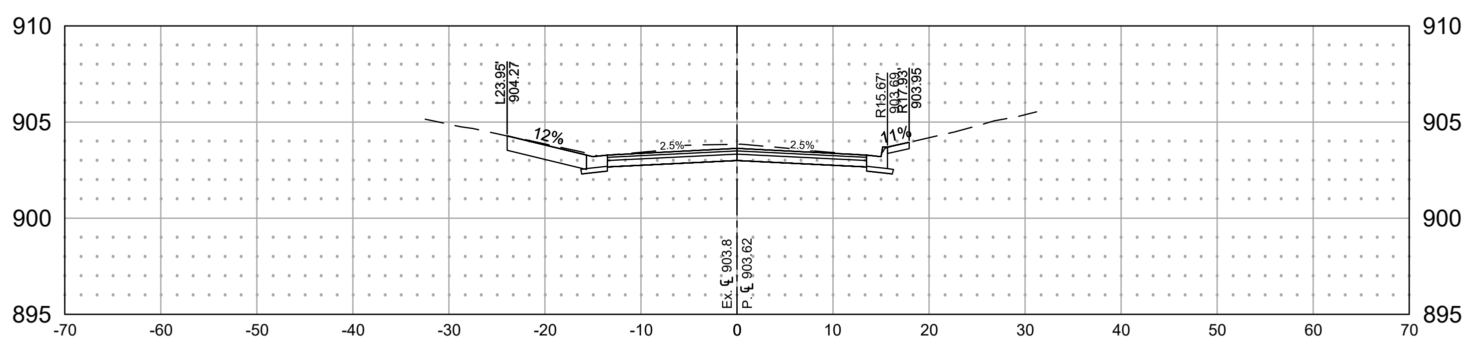

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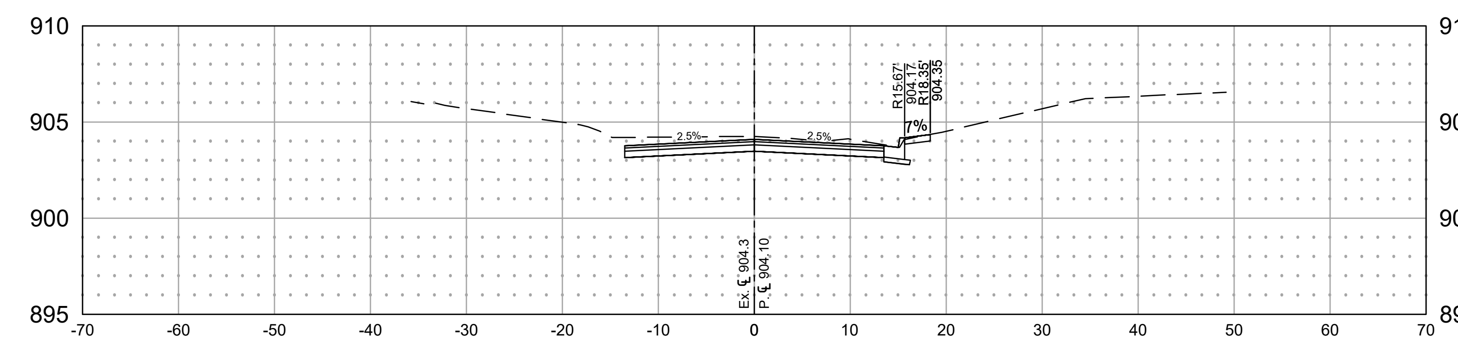

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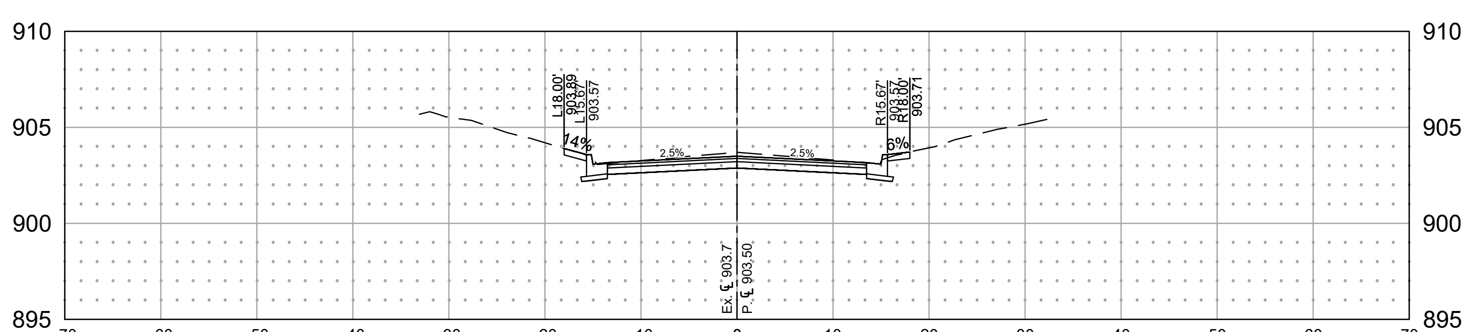

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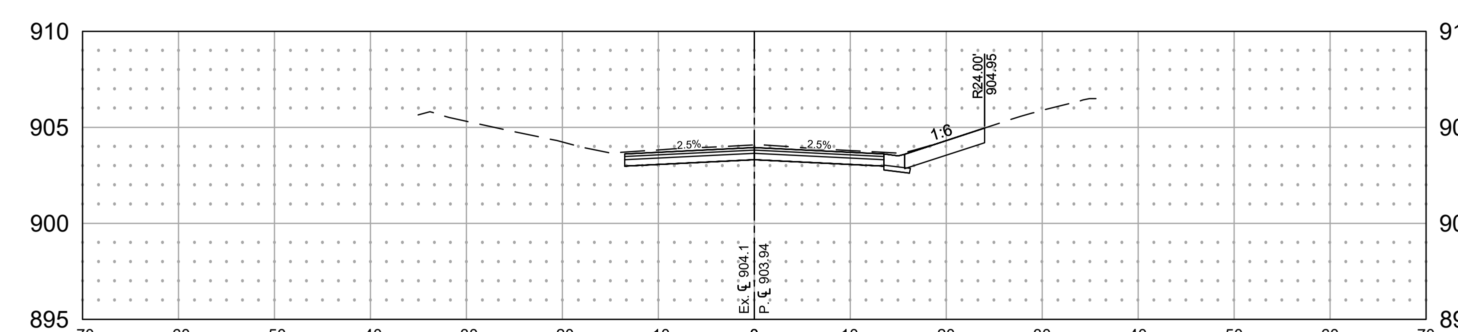

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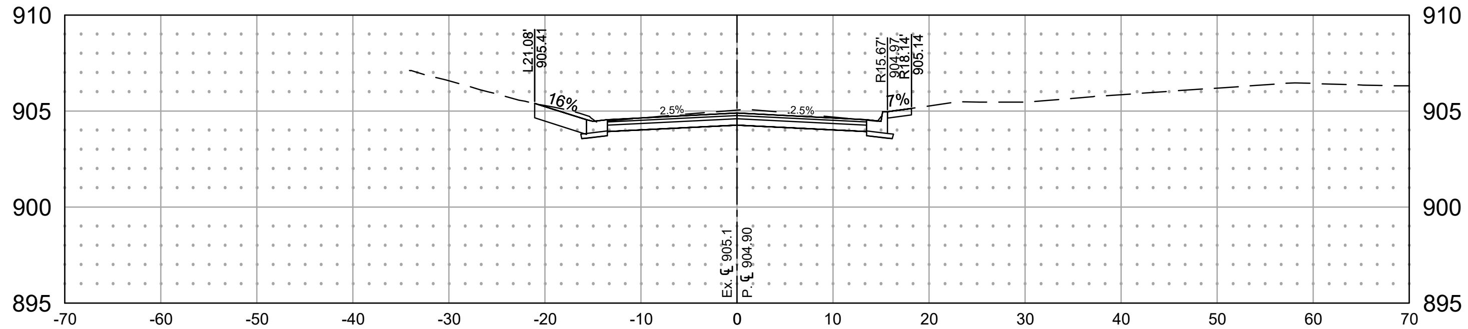


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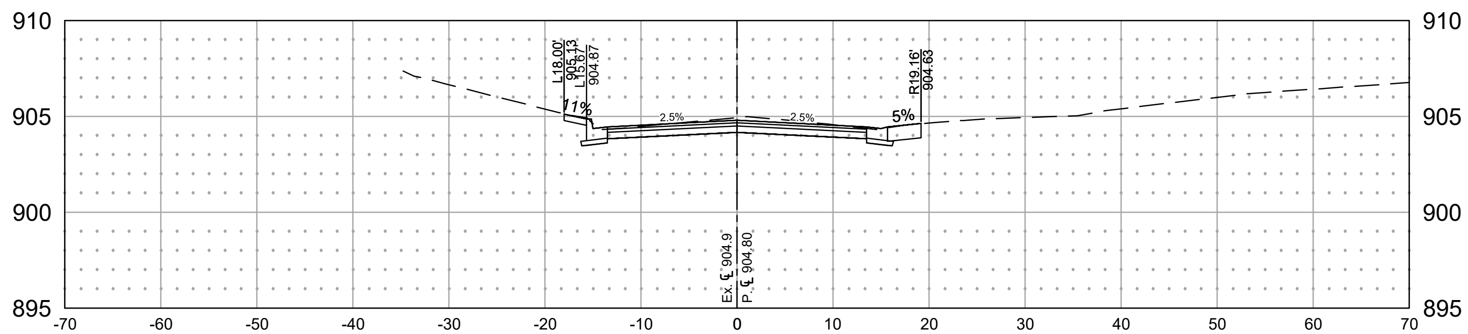


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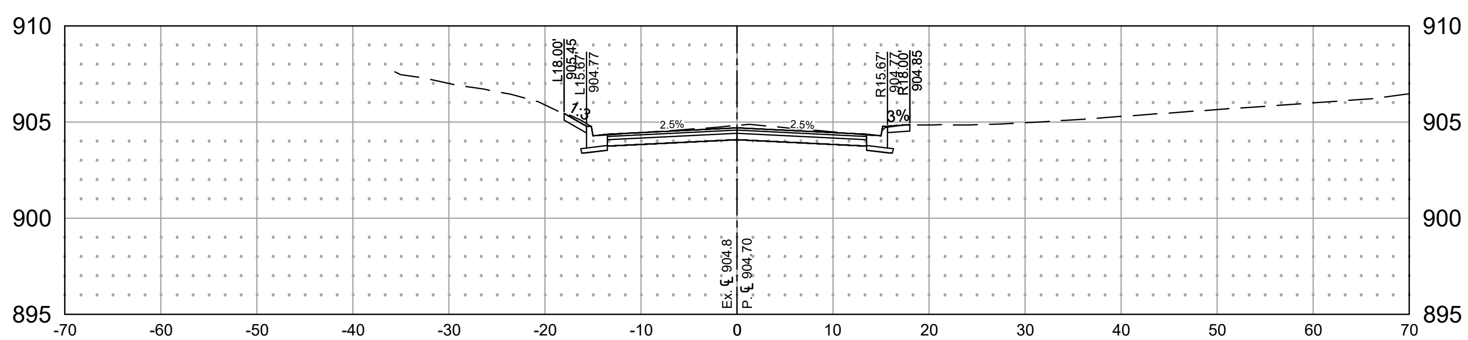


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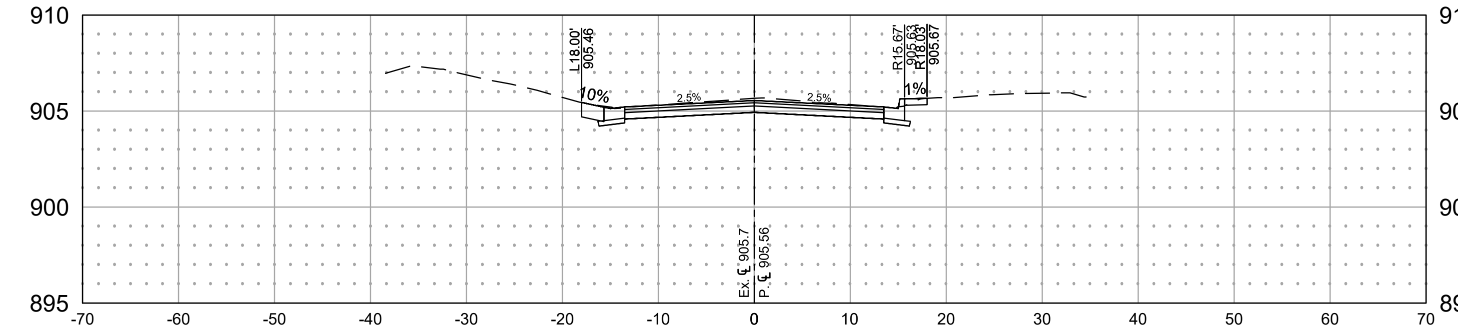


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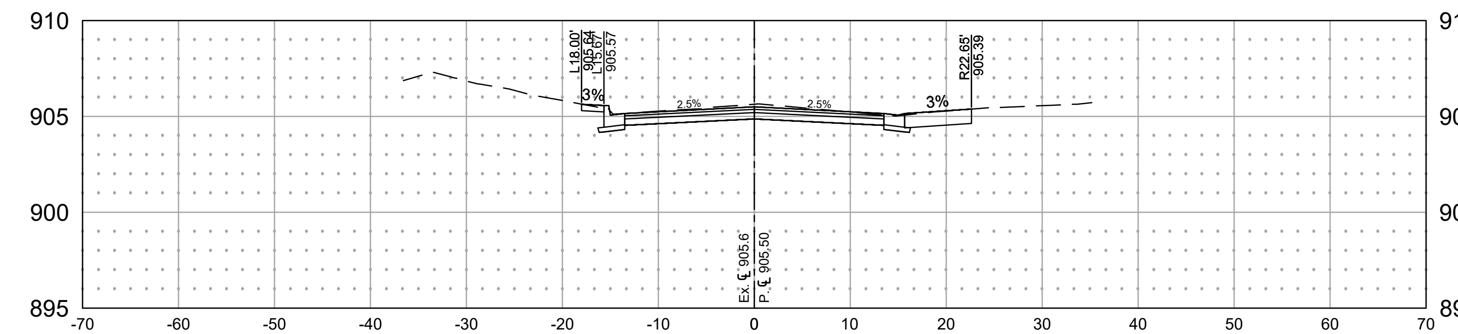


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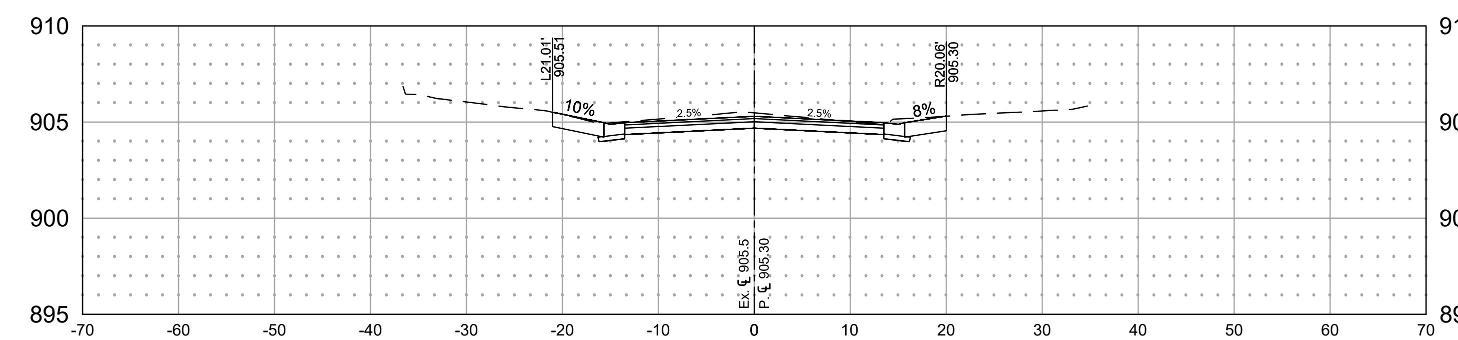


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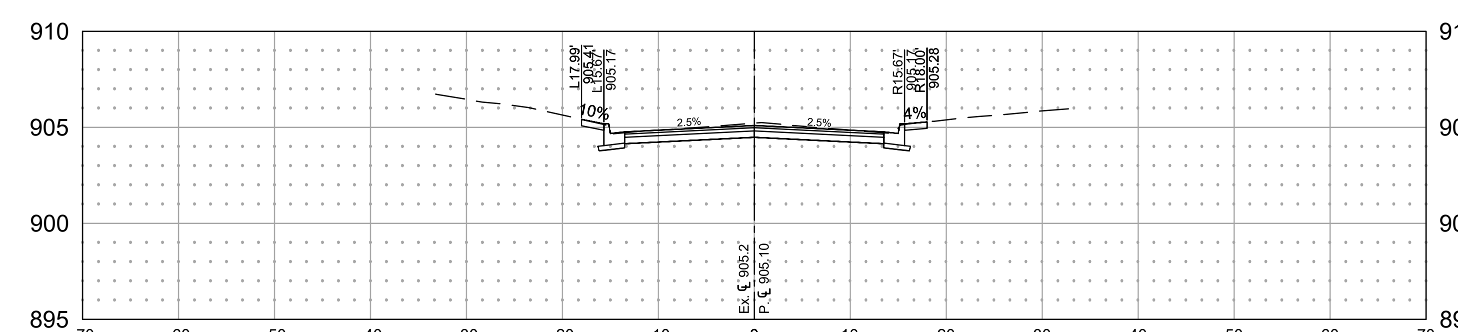


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127TH LANE

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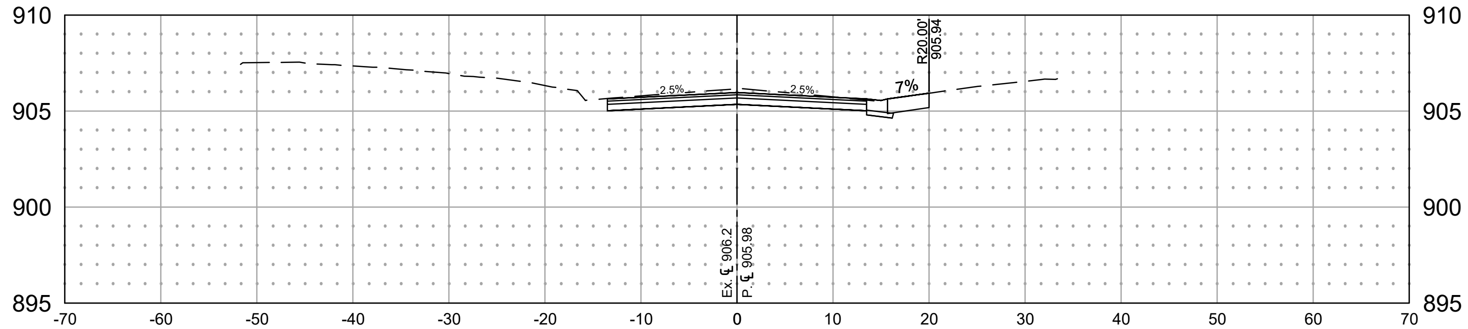

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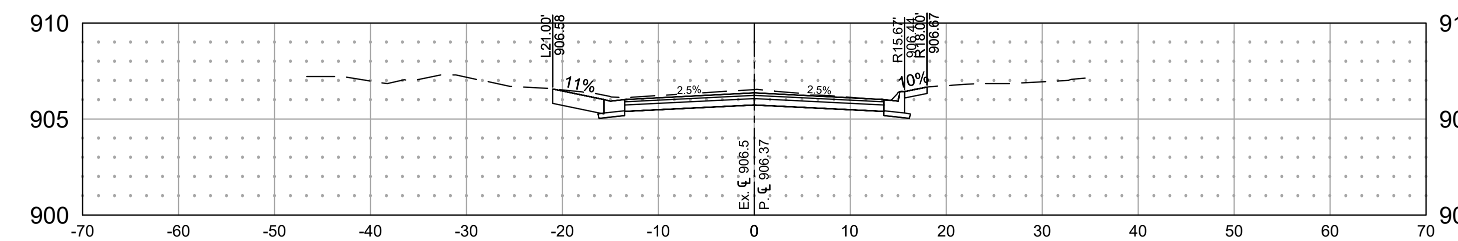

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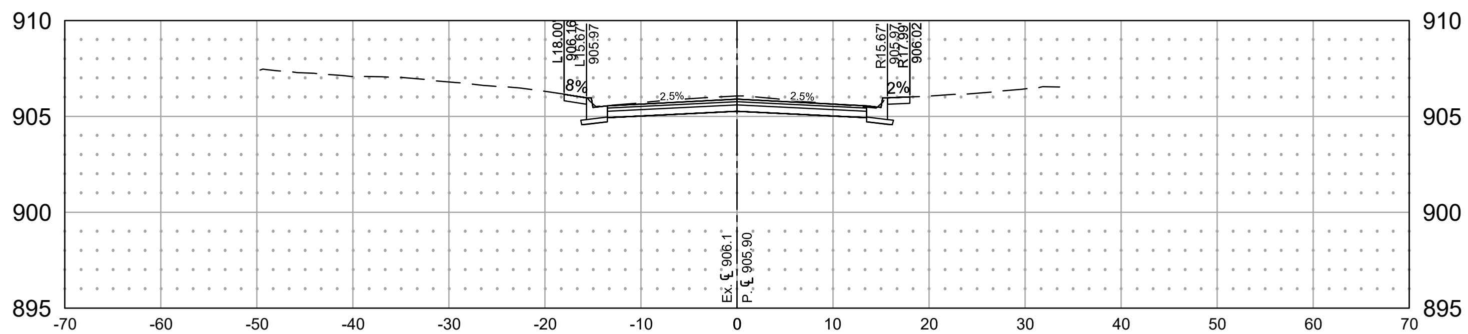

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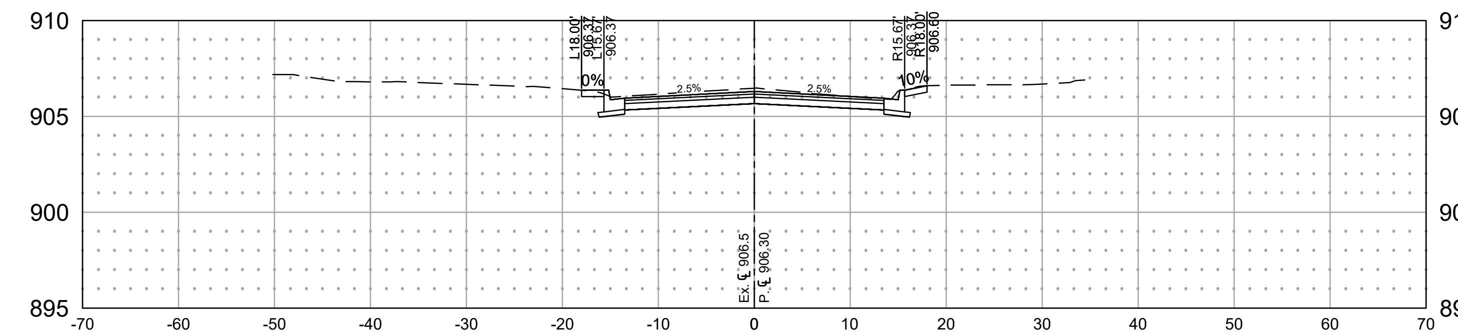

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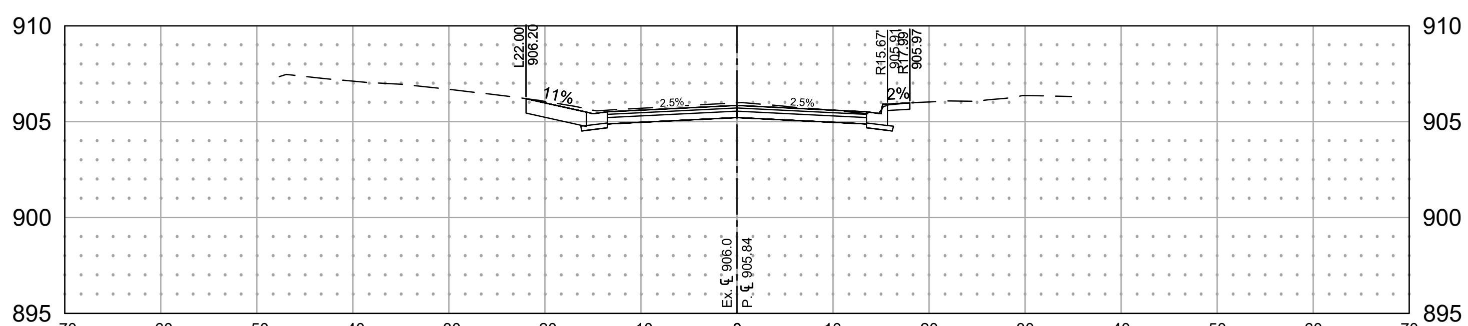

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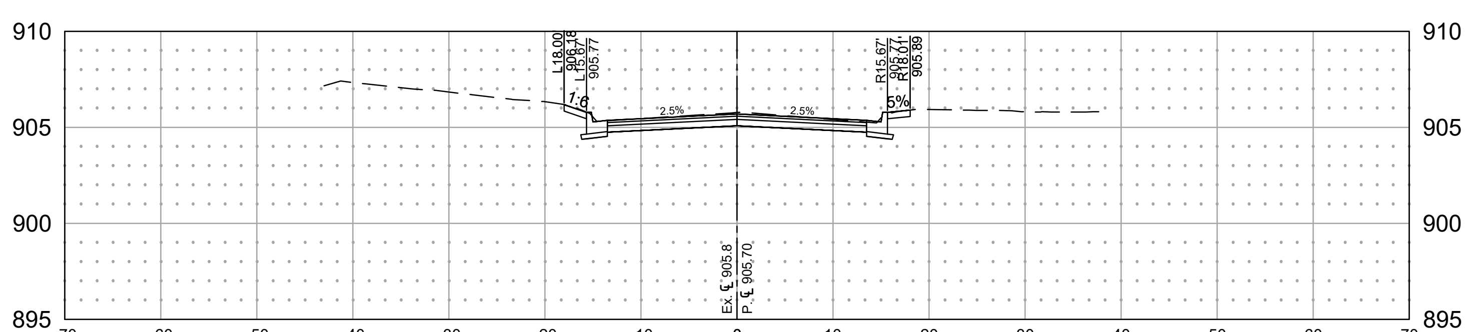

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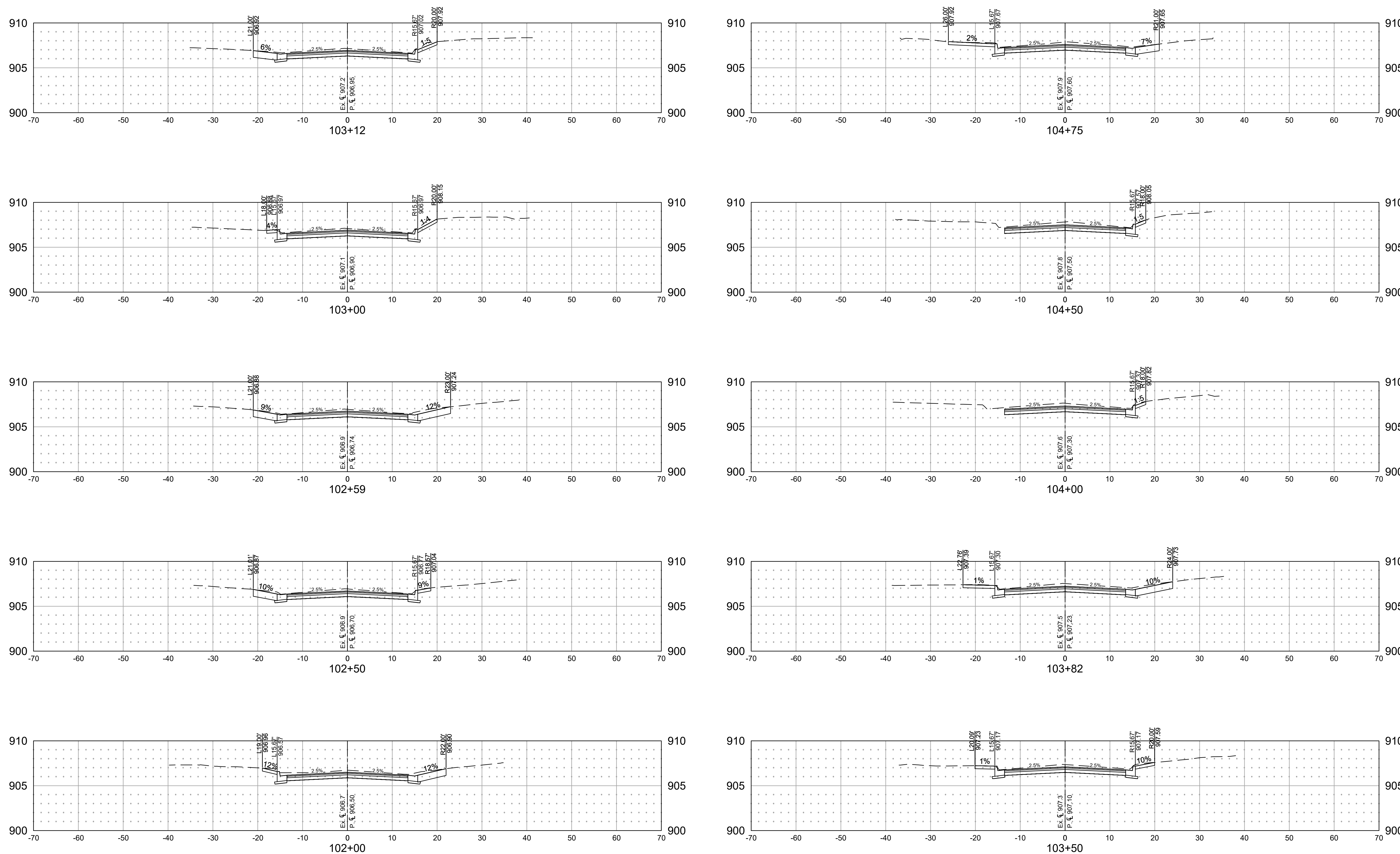


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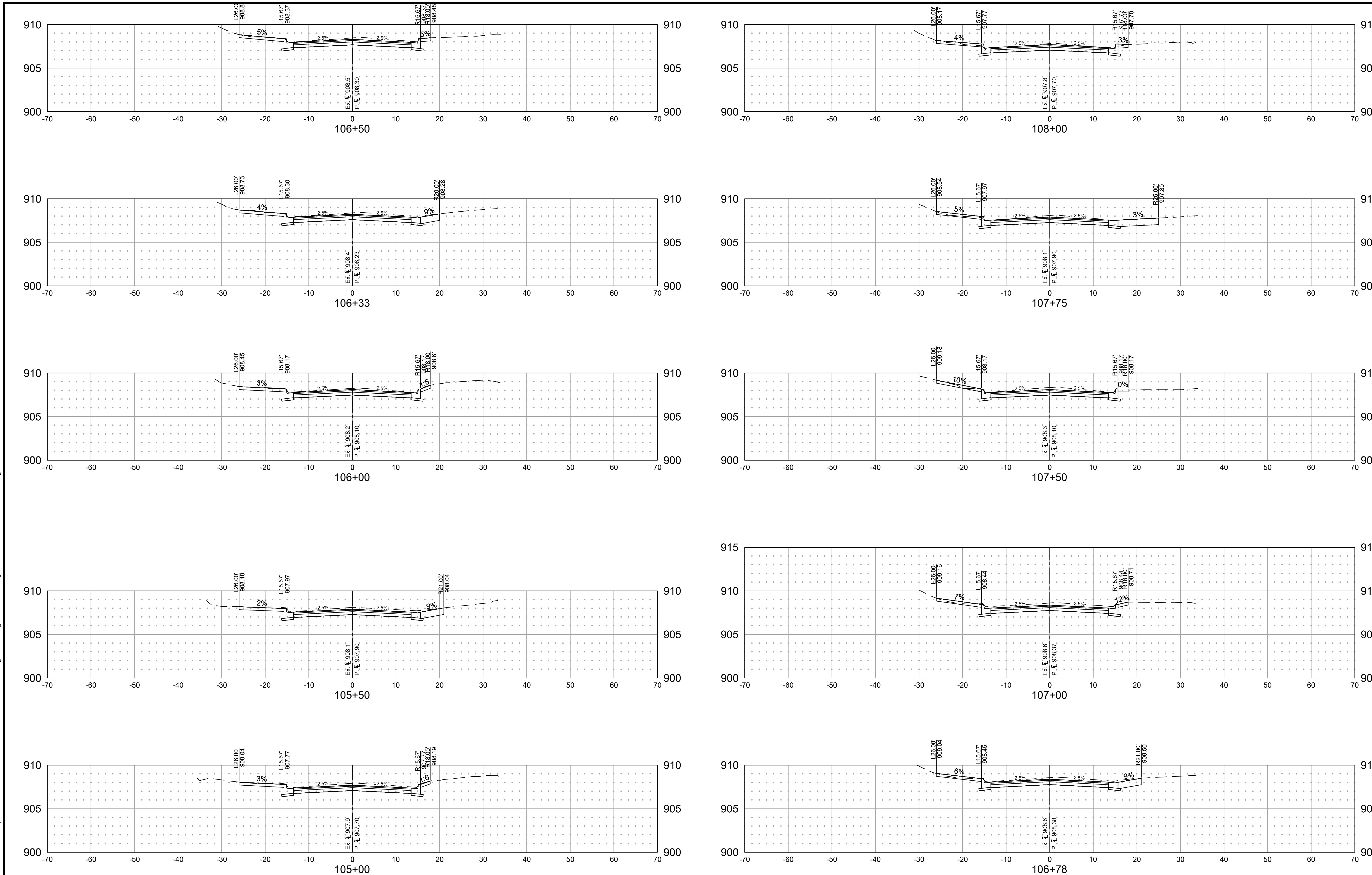


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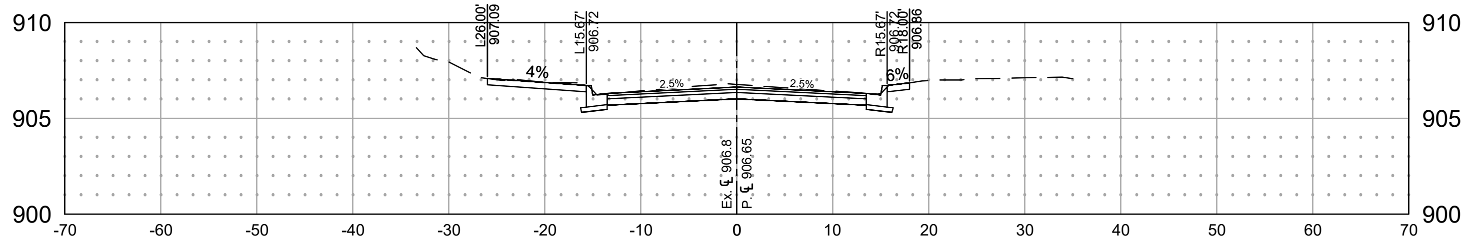


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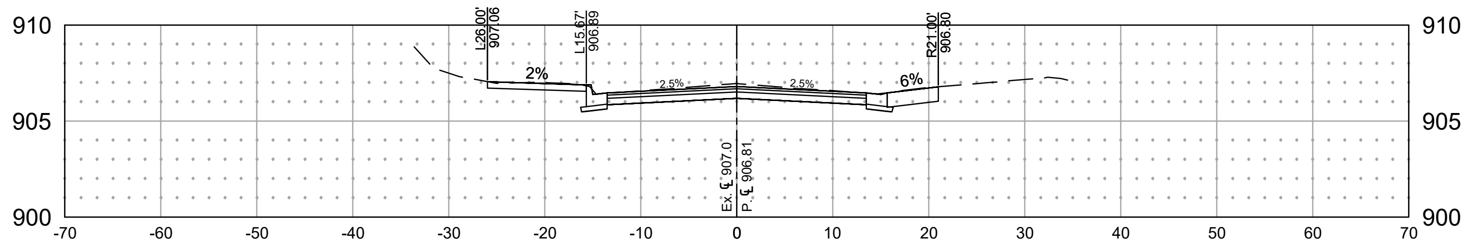


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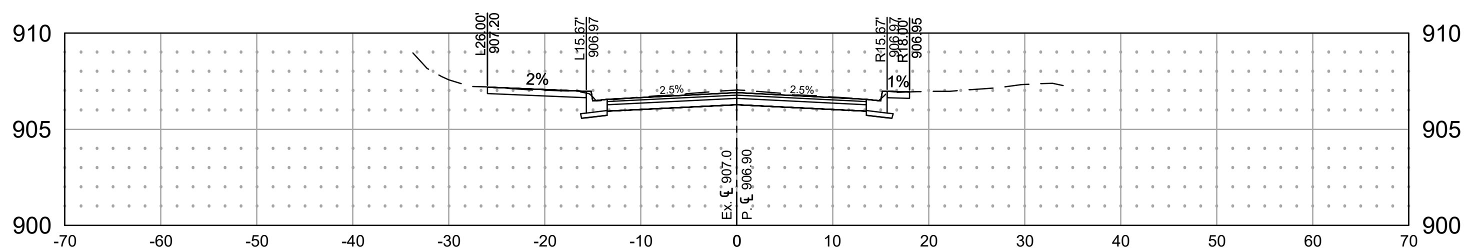


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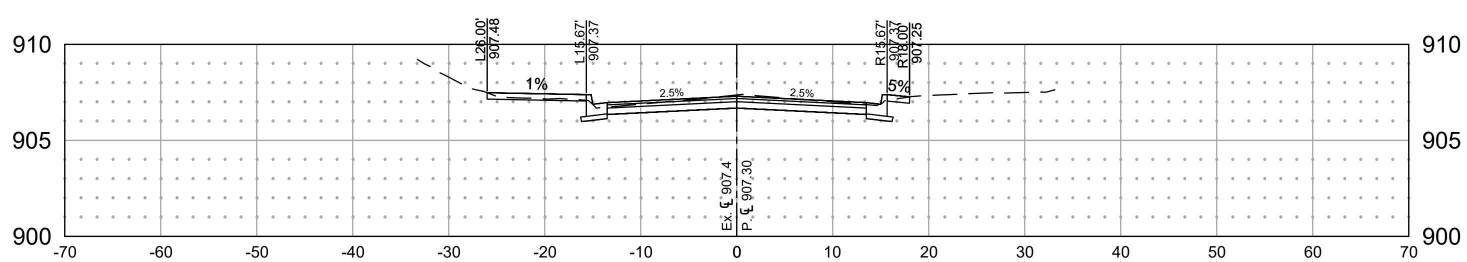


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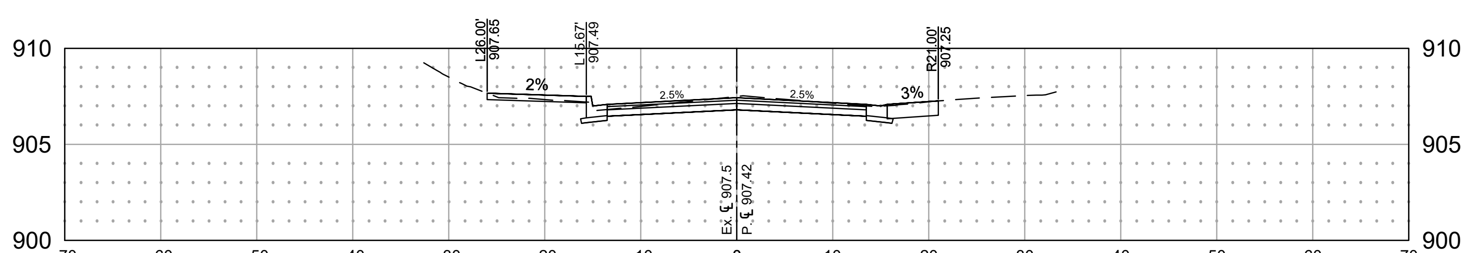


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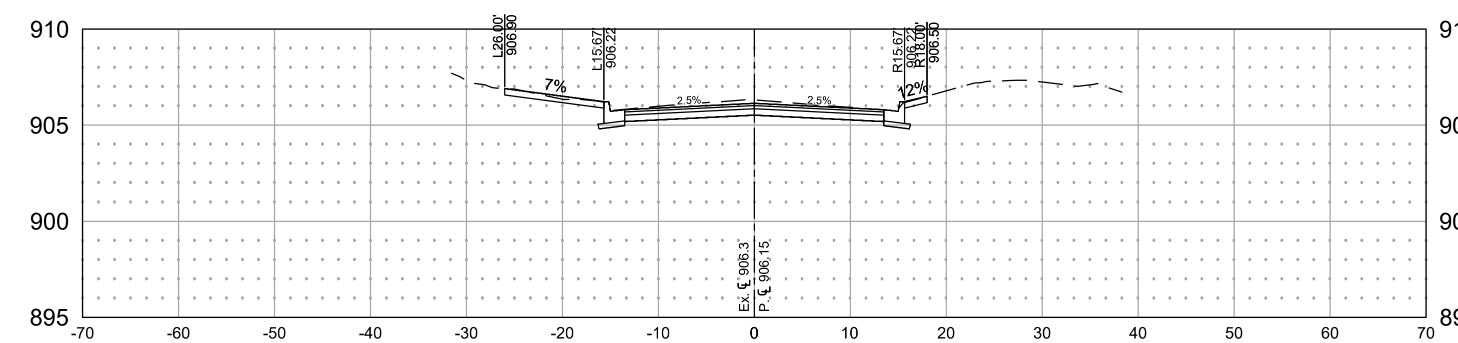


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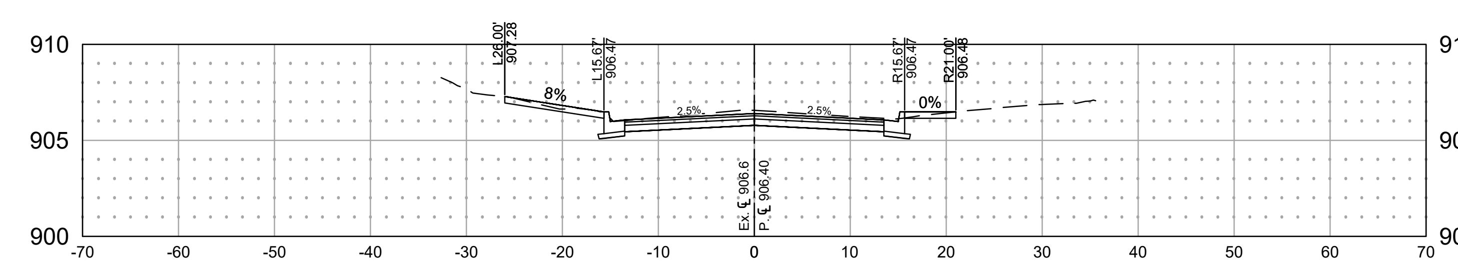


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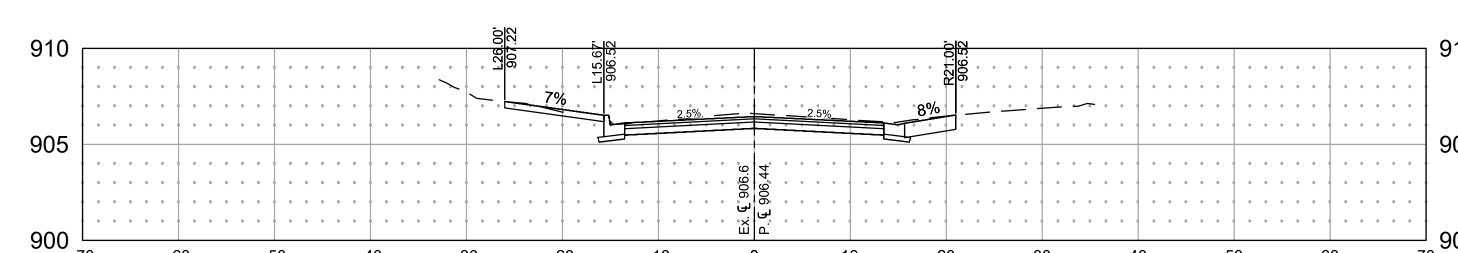


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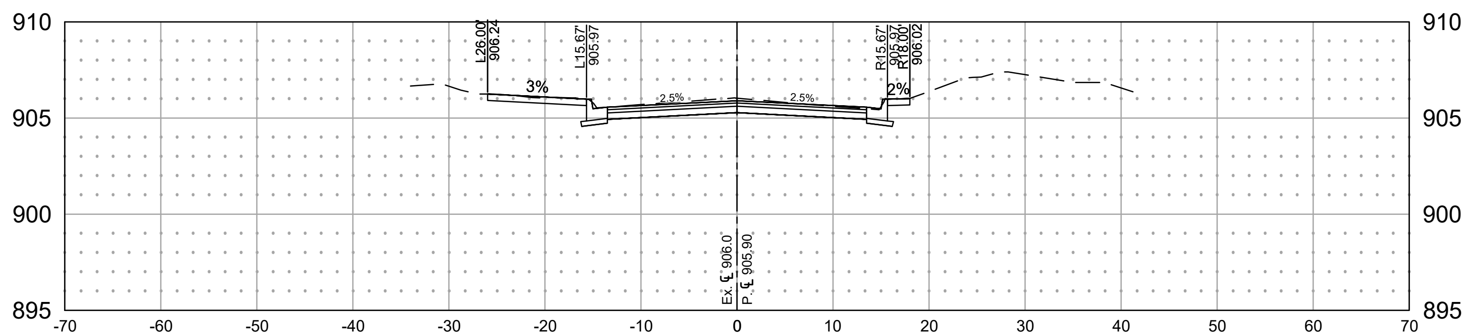


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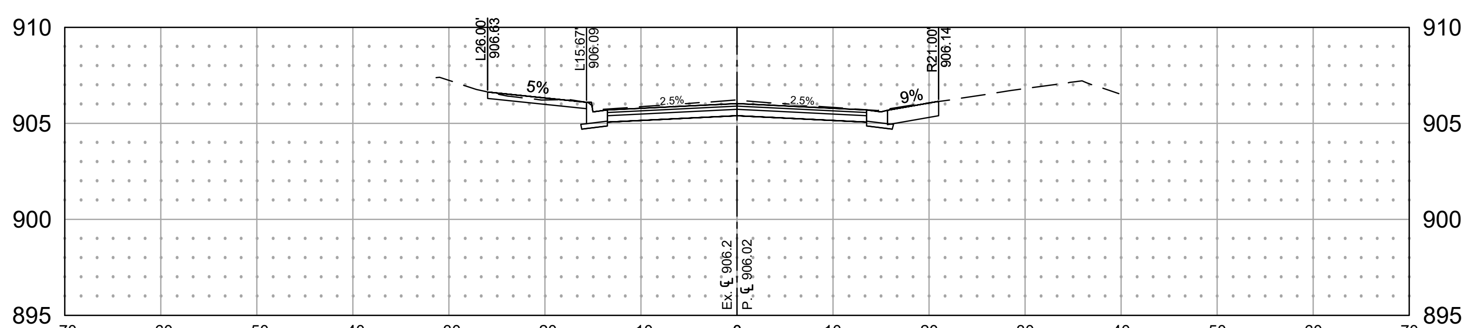


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127TH LANE
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| S.A.P. 106-141-003 | Sheet No. 116 Of135 Sheets |
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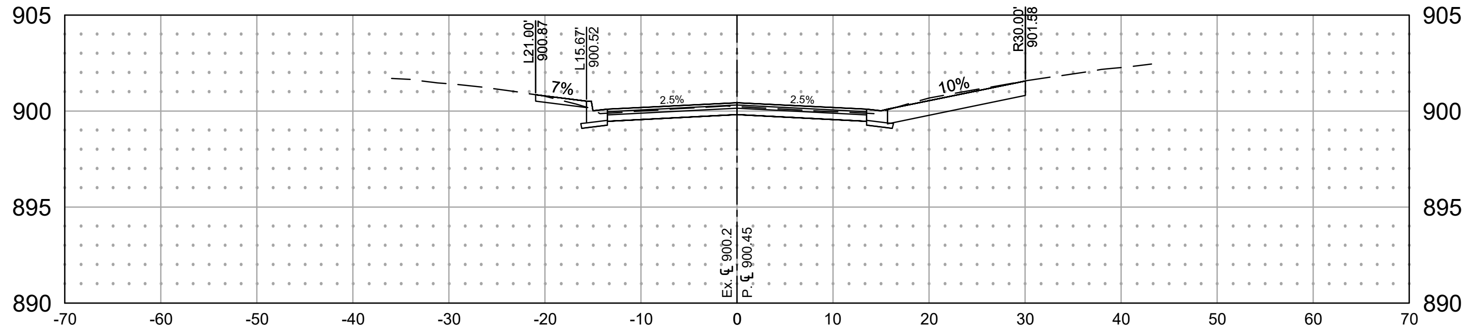


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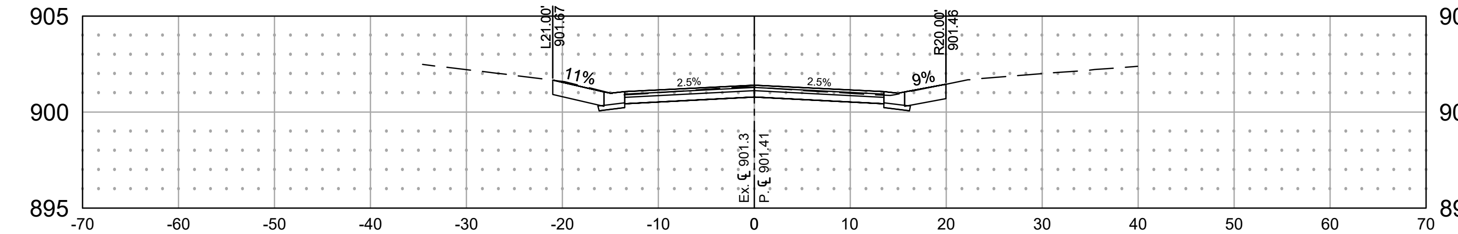


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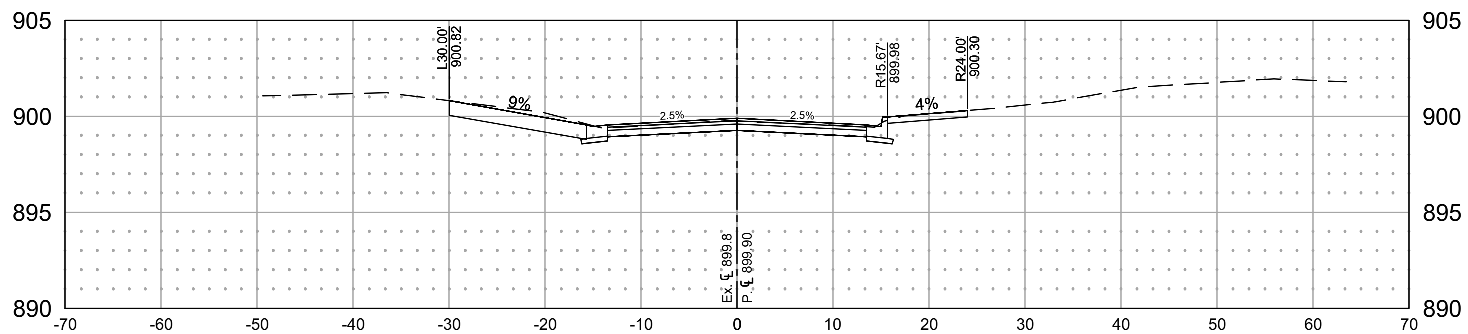


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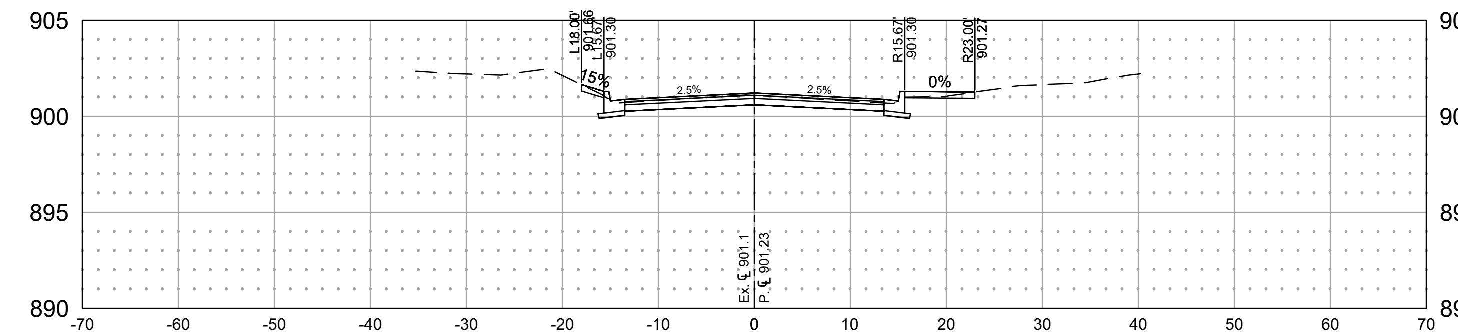


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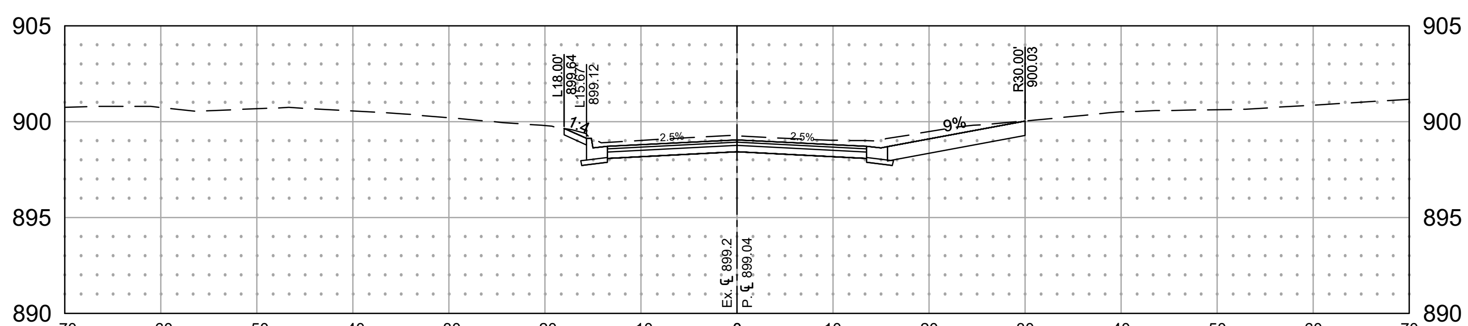


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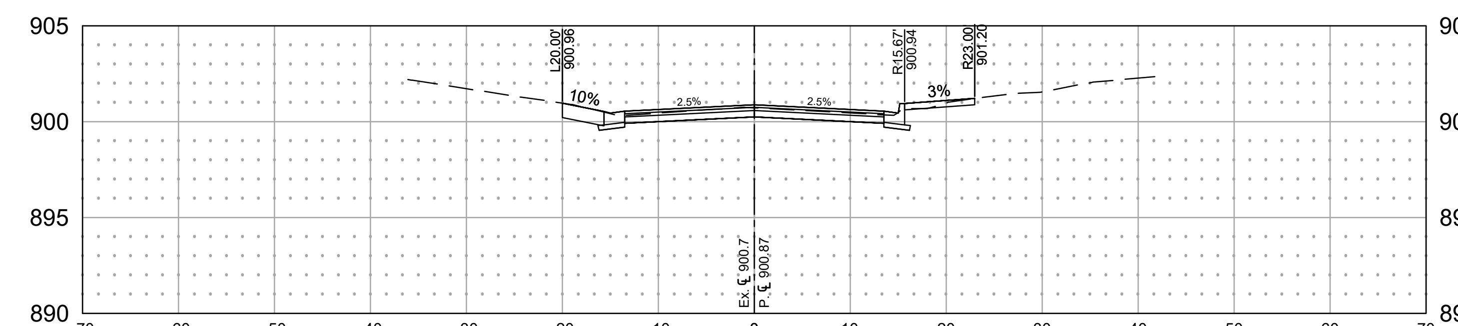


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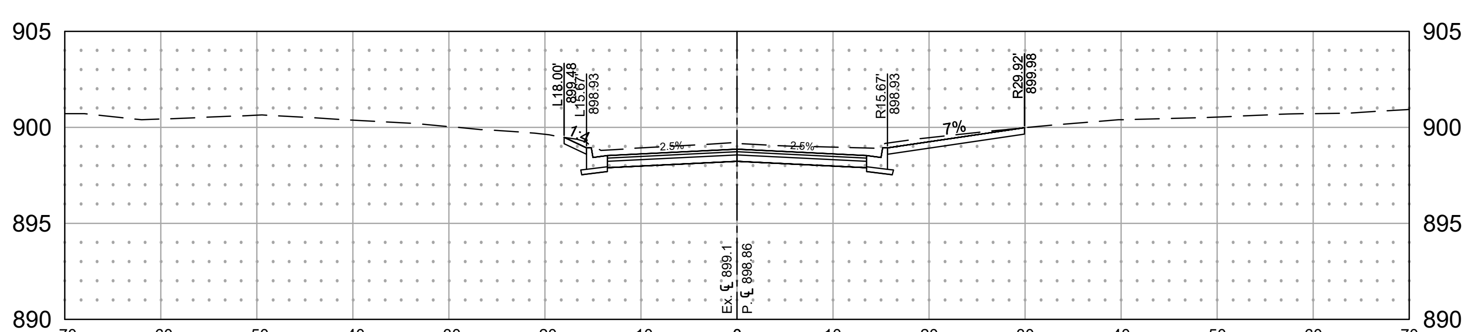


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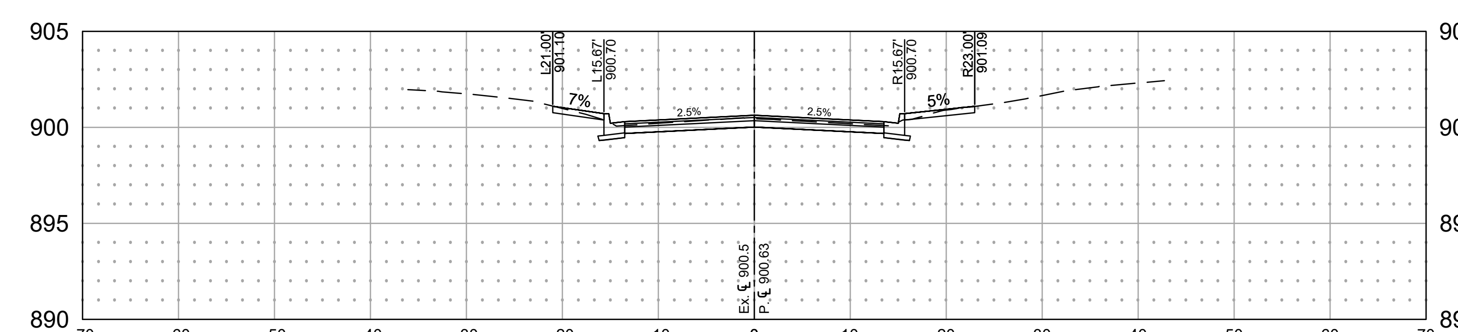


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127TH AVENUE

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| S.A.P. 106-141-003 | Sheet No. 117 Of135 Sheets |
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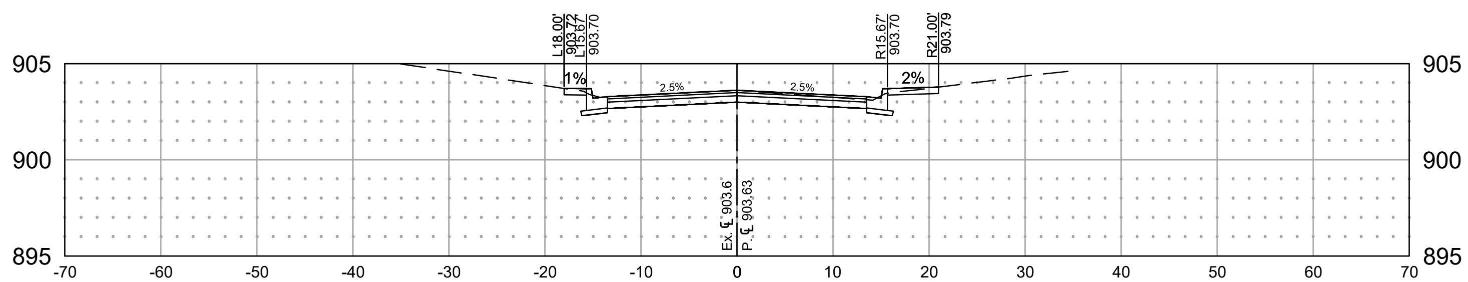


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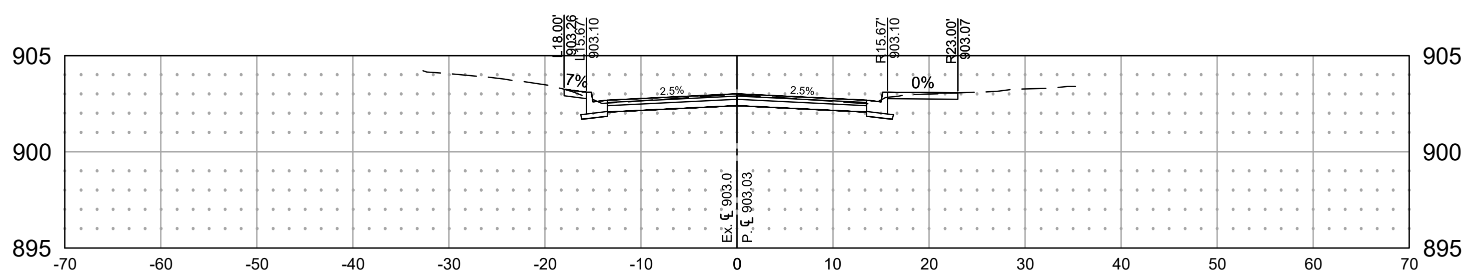


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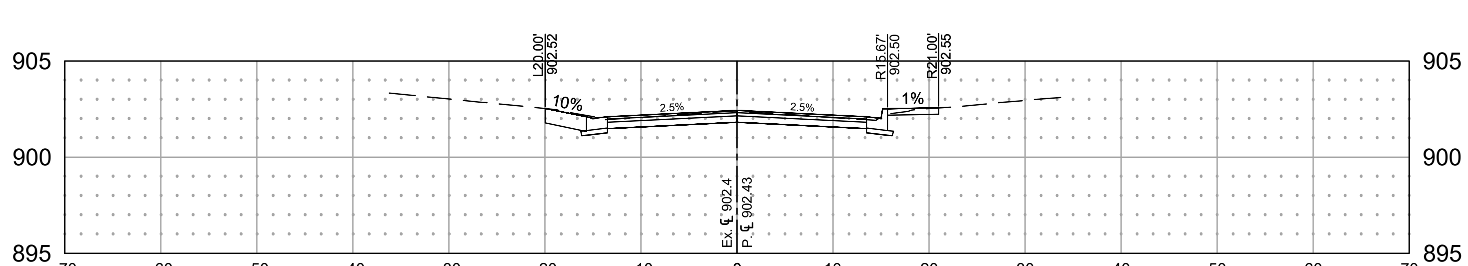


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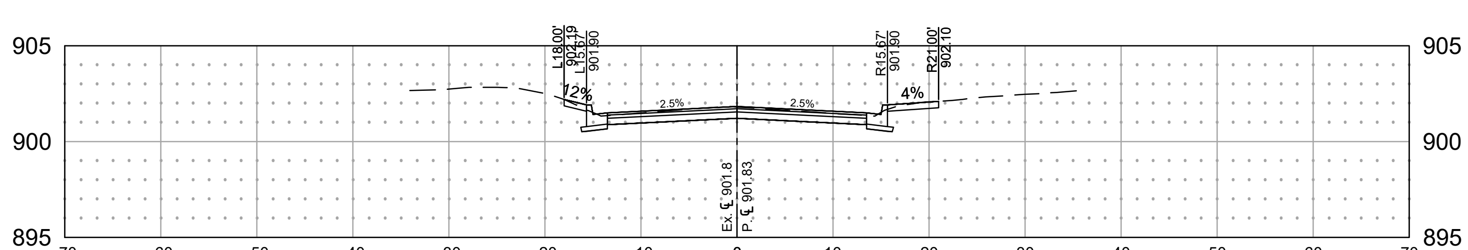


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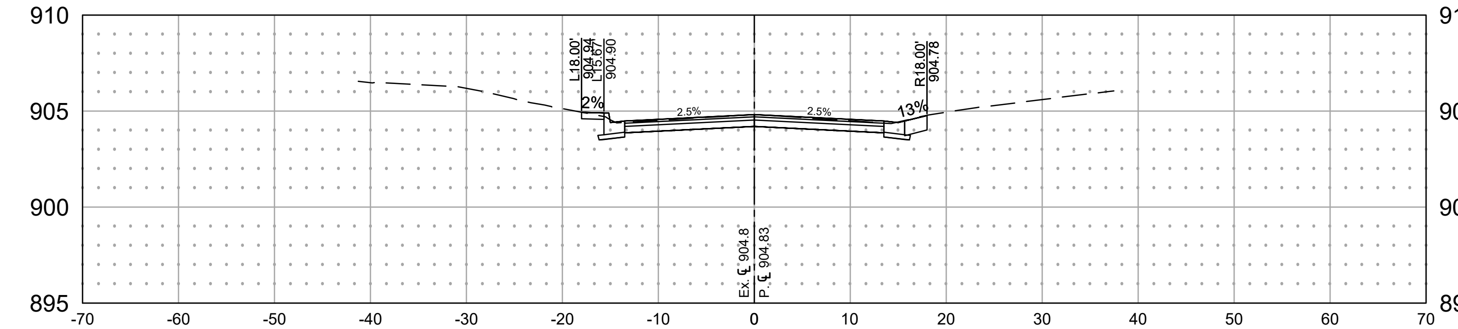


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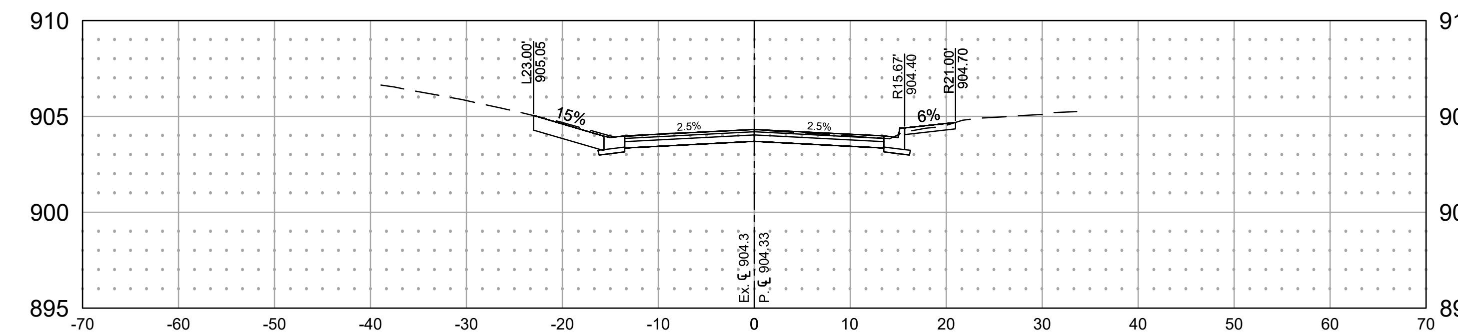


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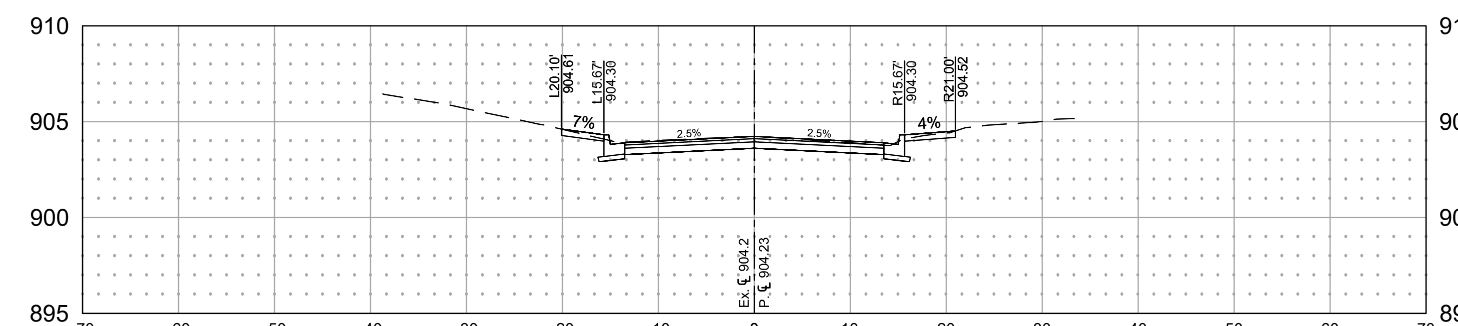


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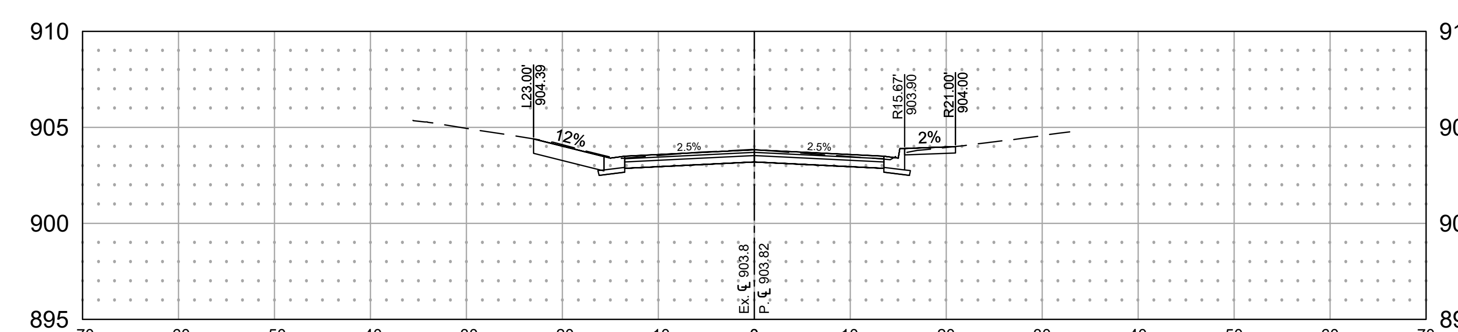


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127TH AVENUE

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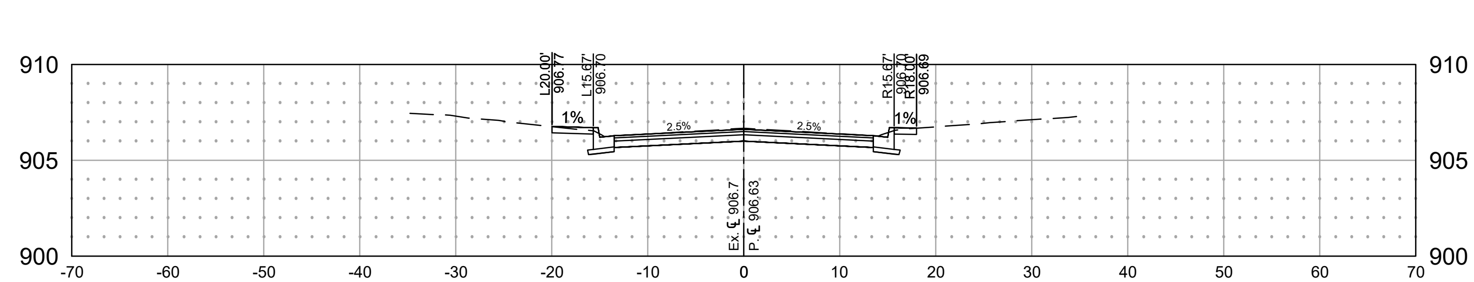

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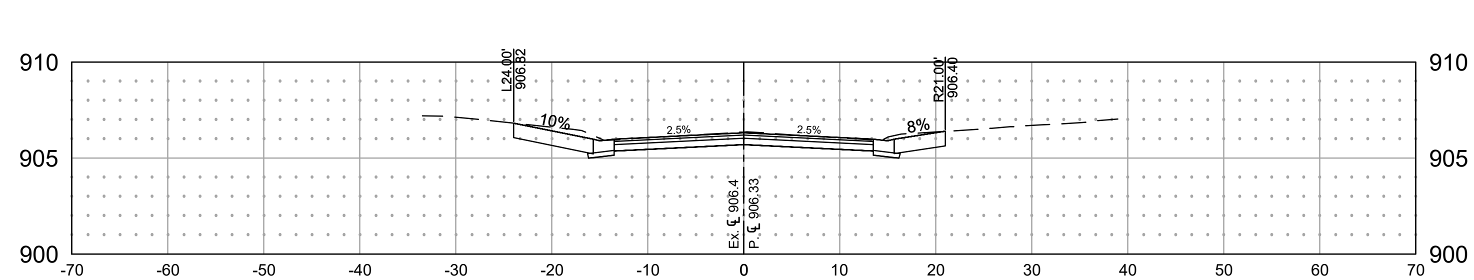

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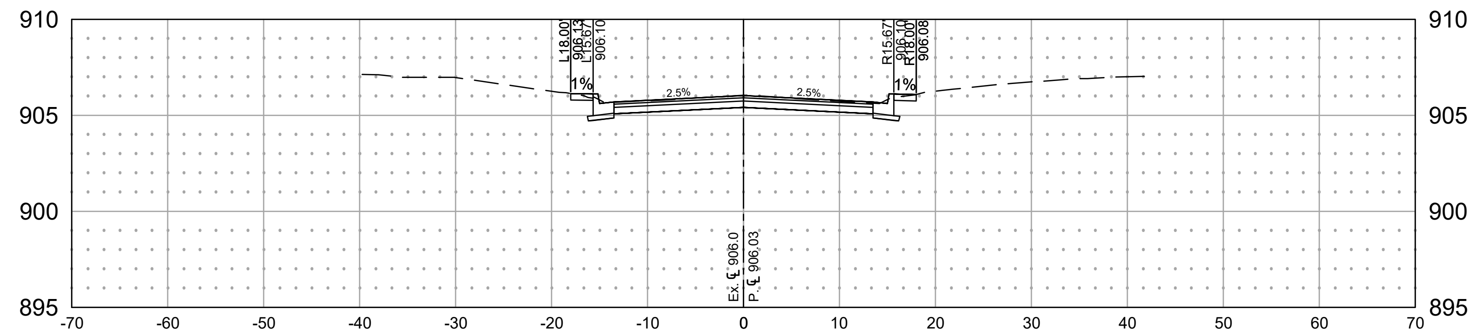

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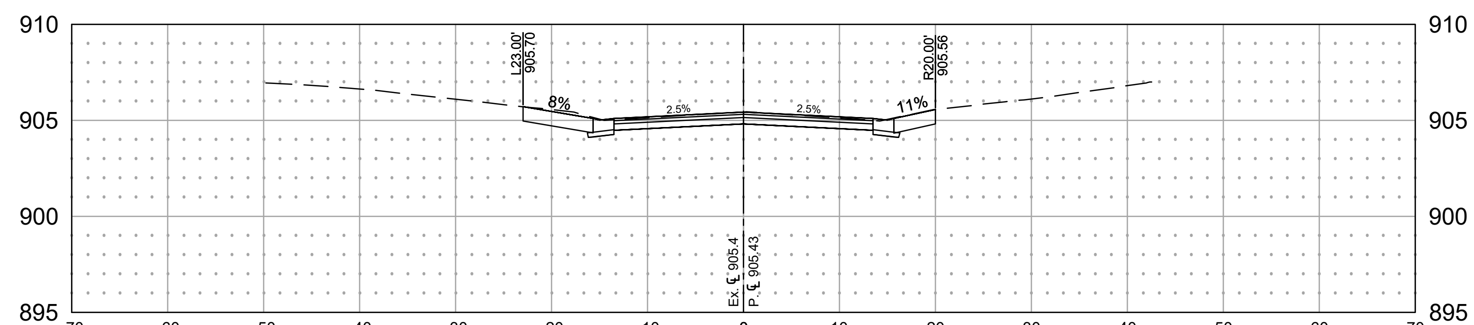

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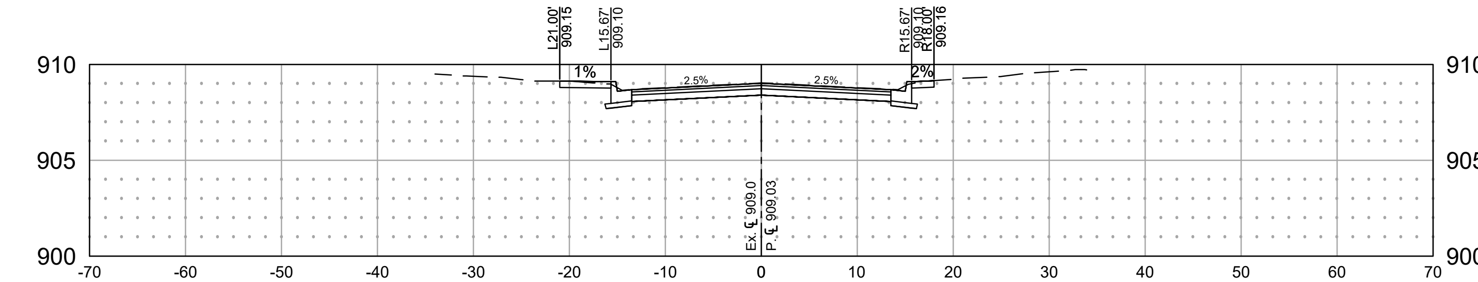

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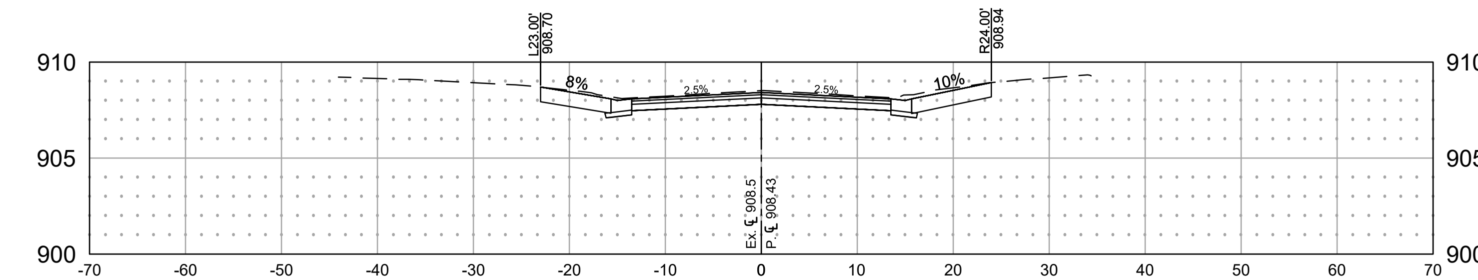

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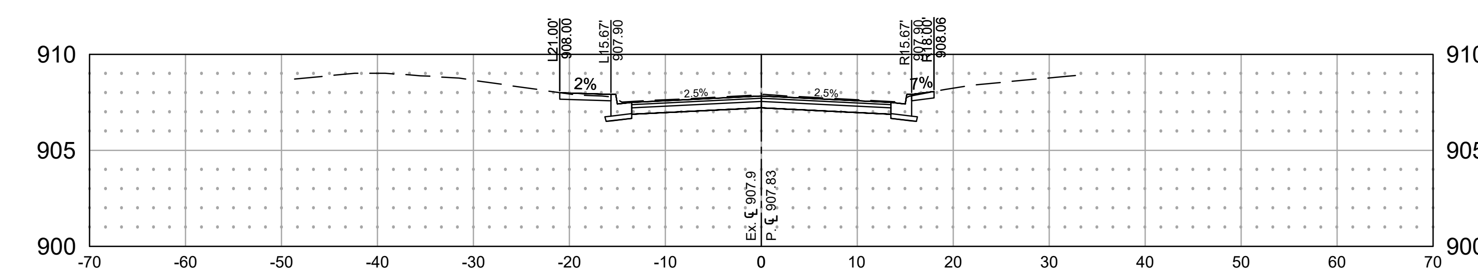

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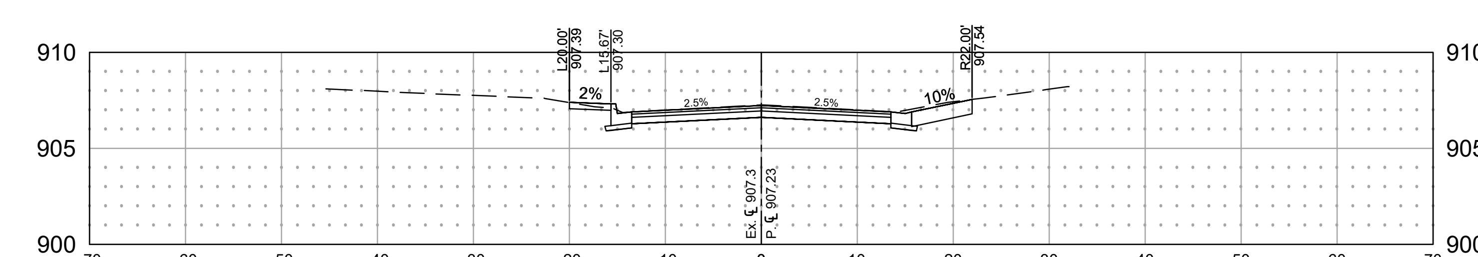

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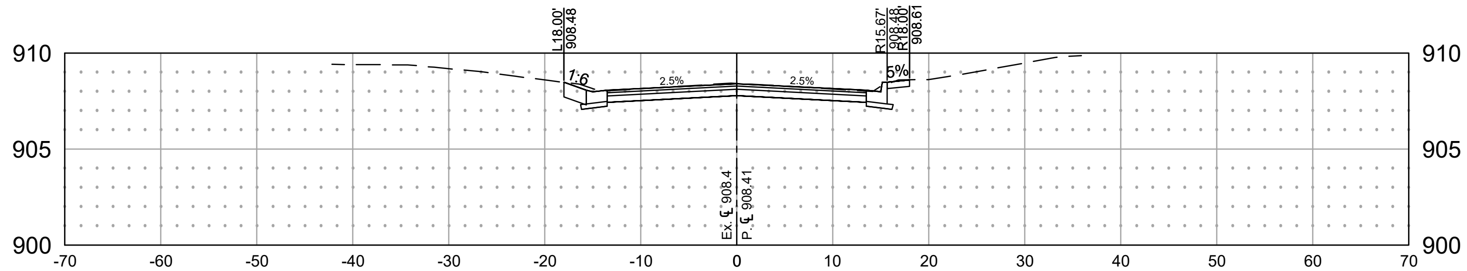


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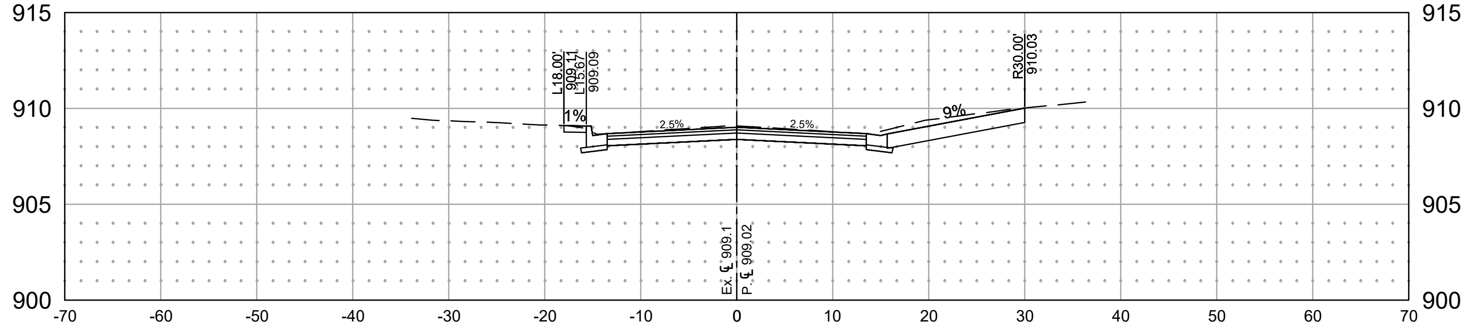


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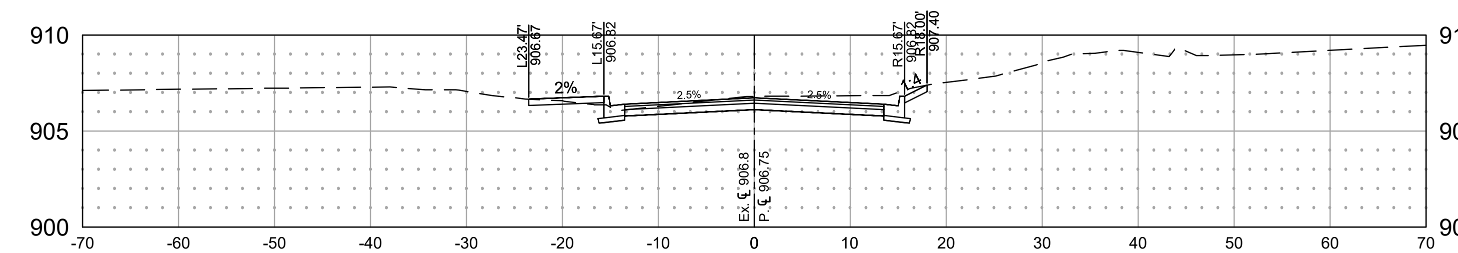


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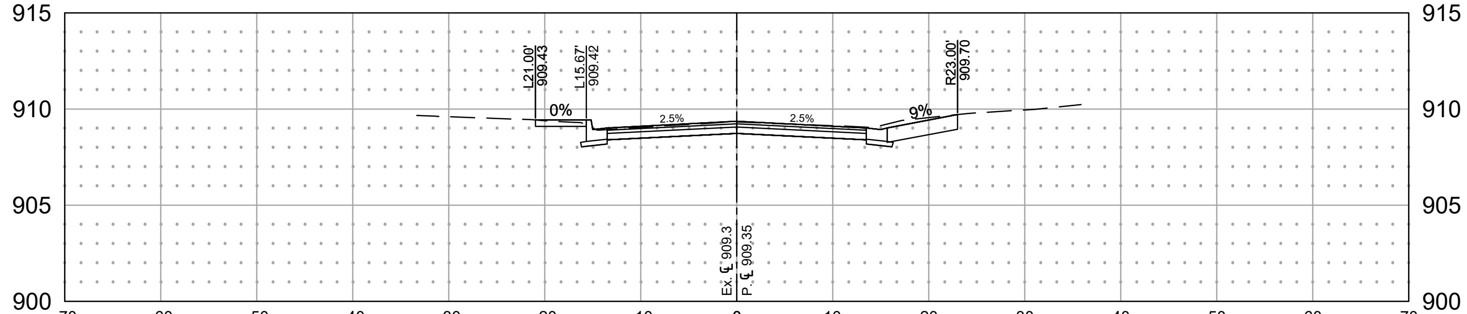


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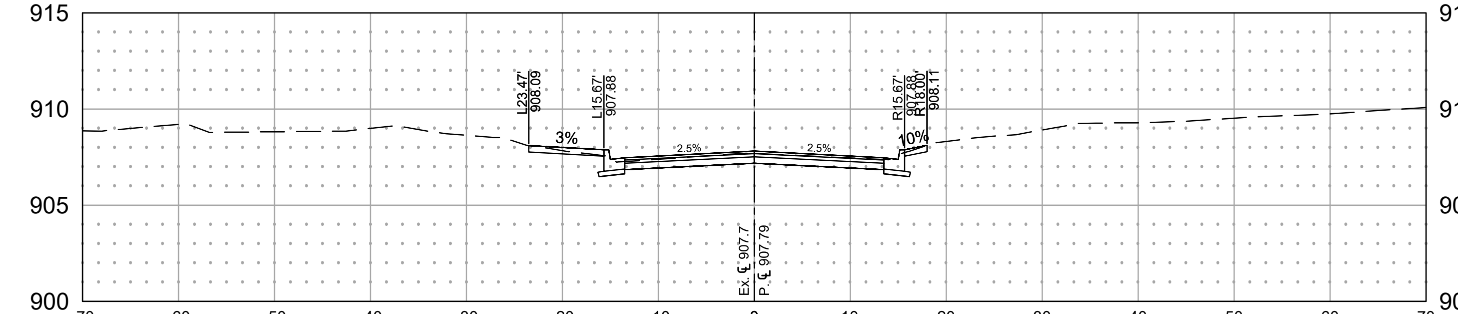


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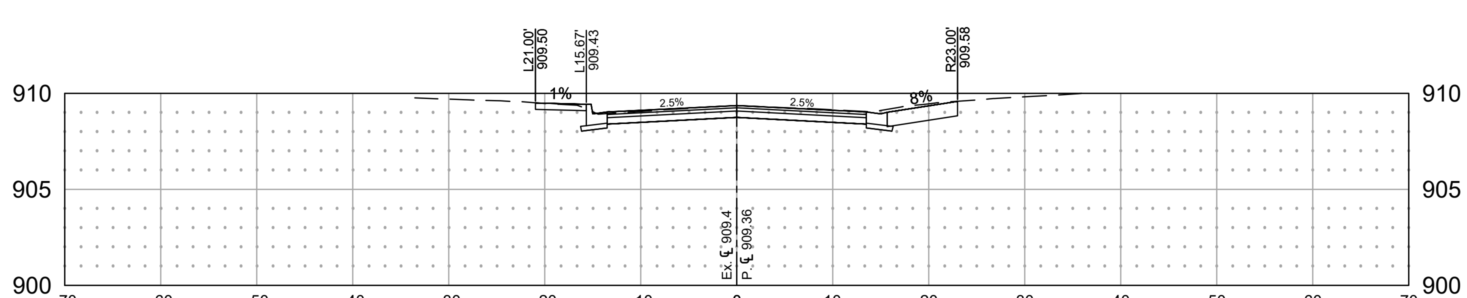


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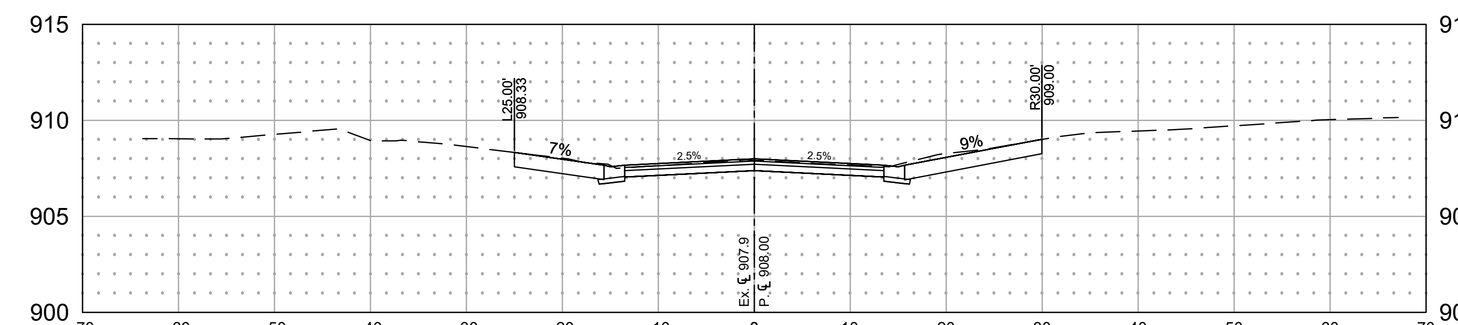


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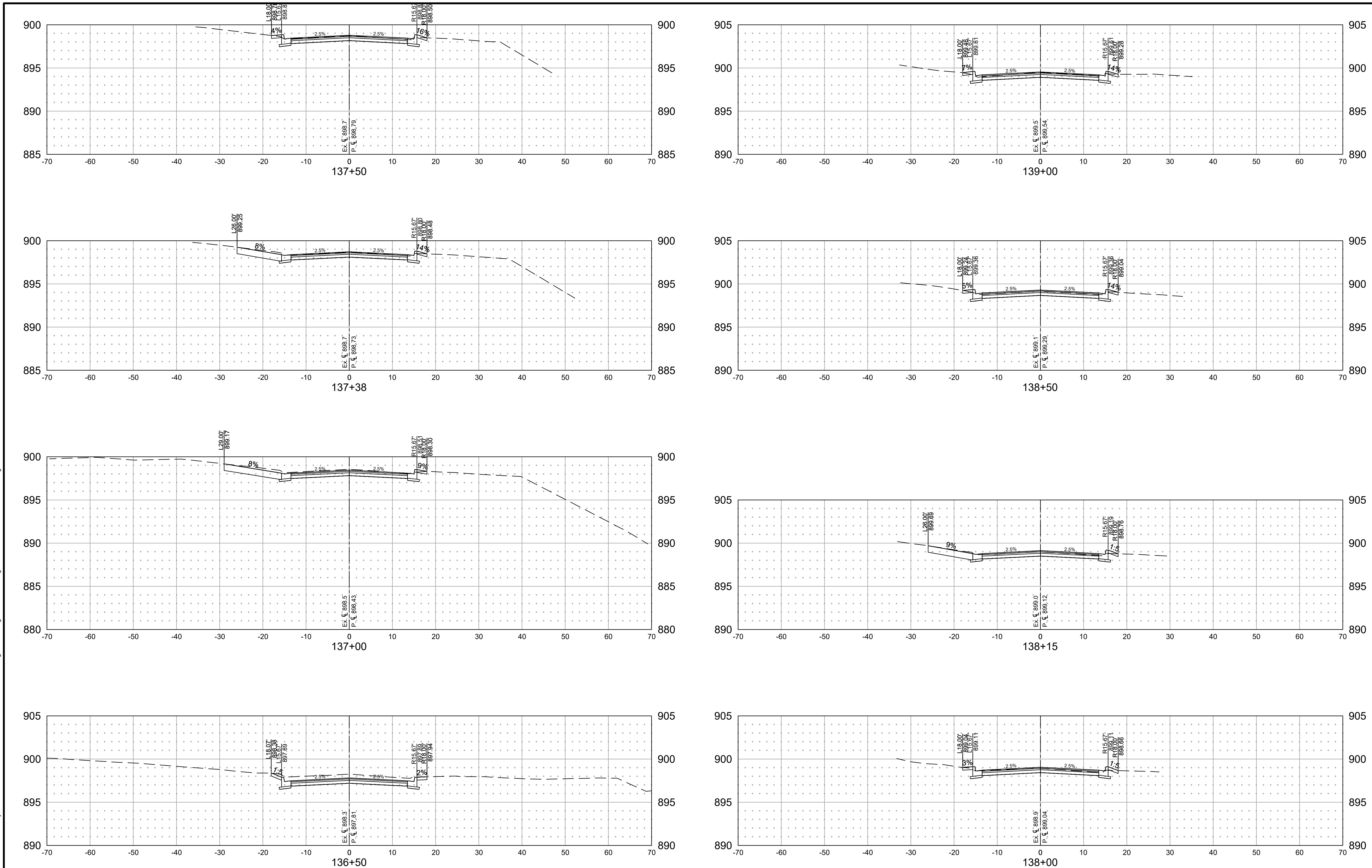


126TH LANE

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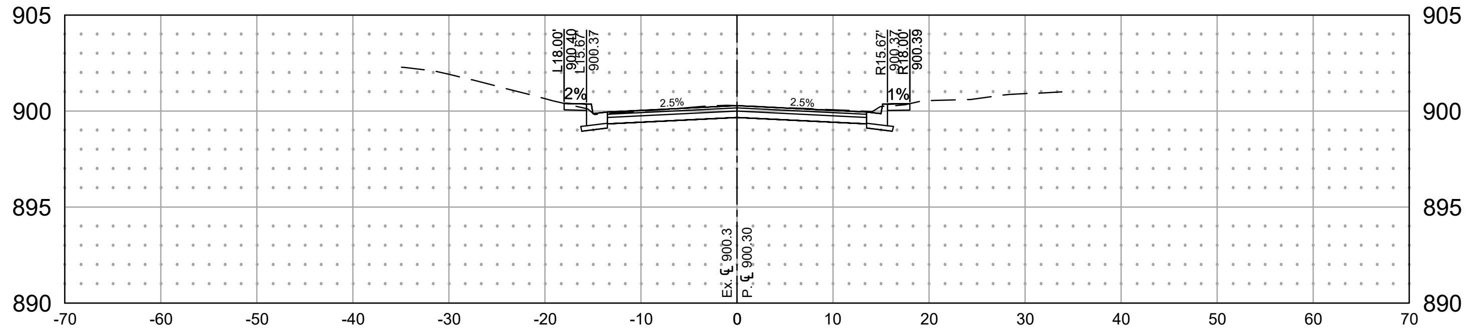
S.A.P. 106-141-003 | Sheet No. 121 Of135 Sheets

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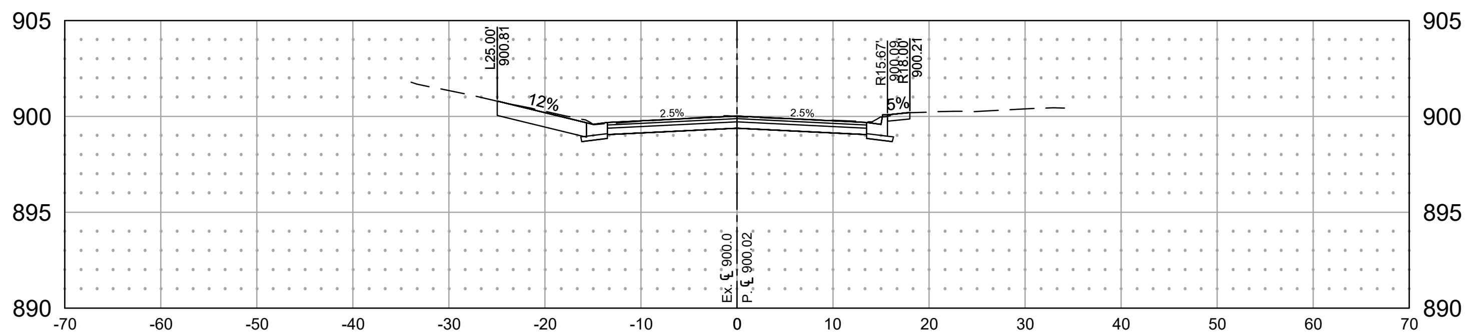


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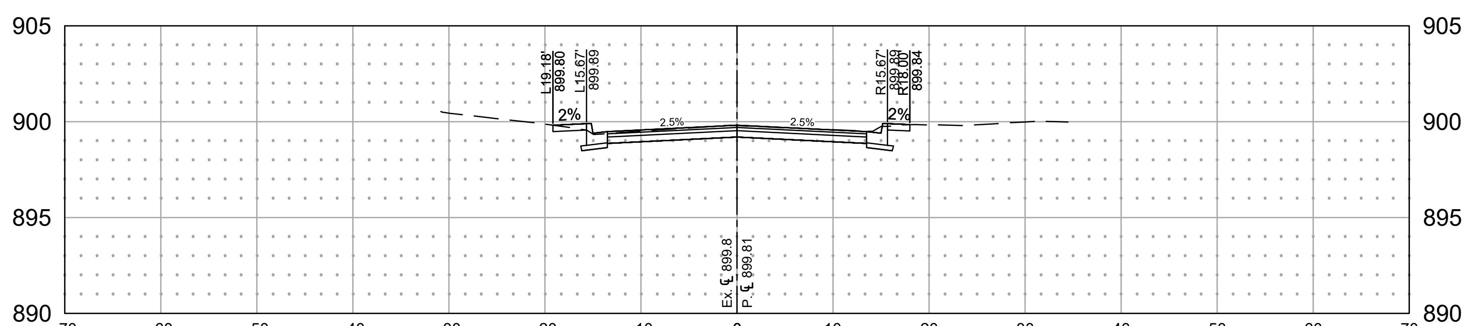


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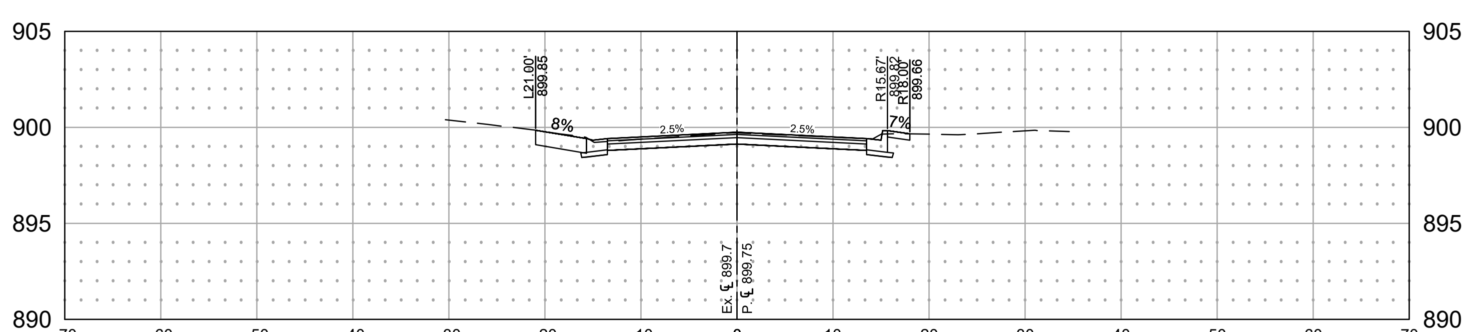


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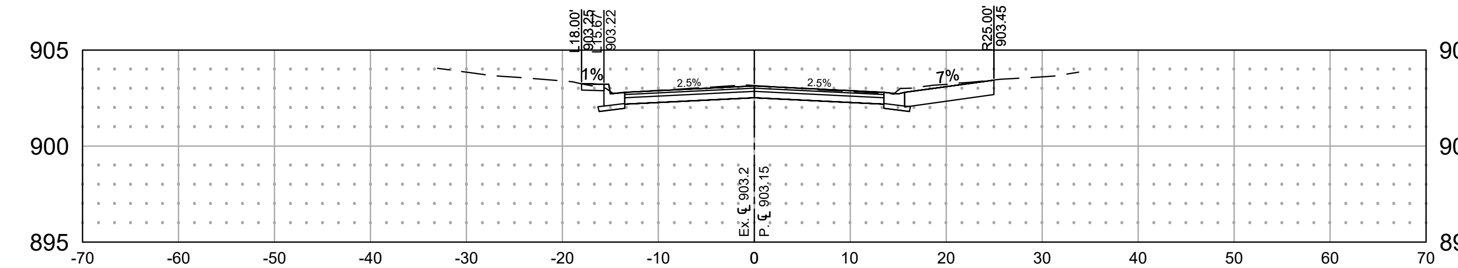


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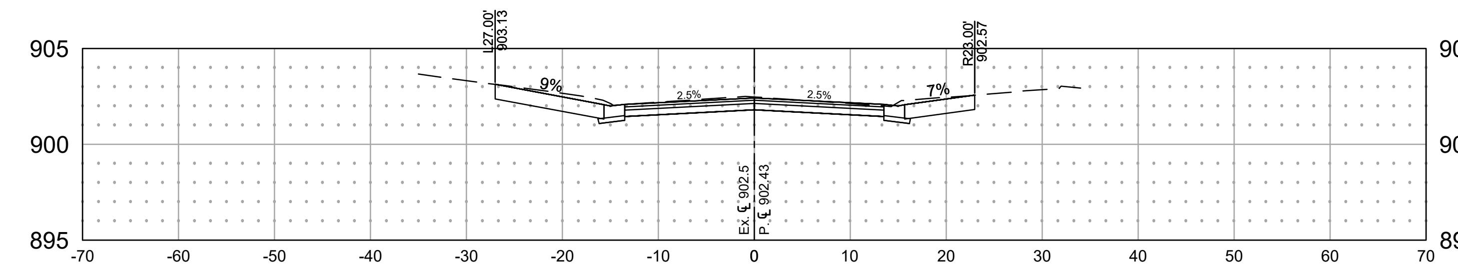


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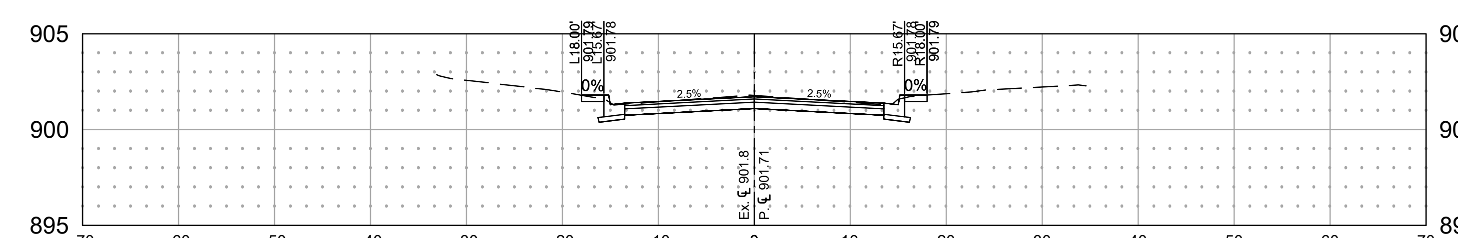


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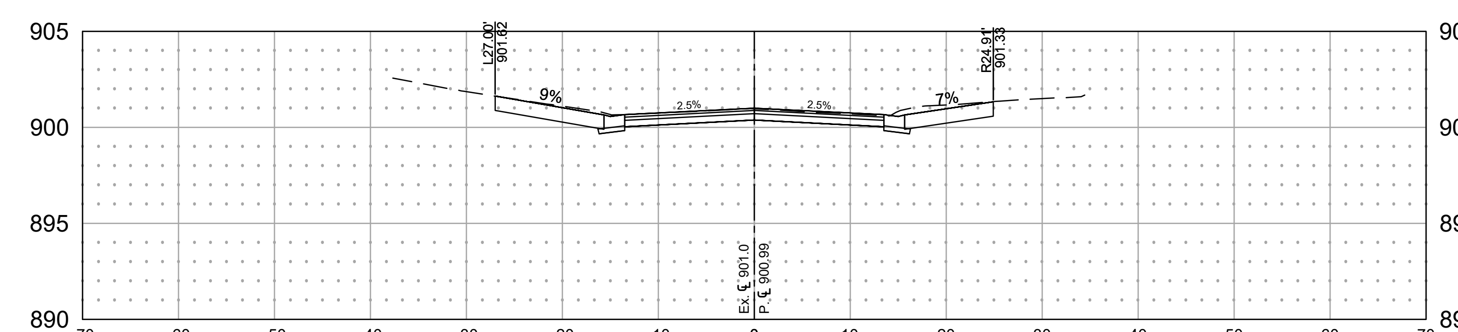


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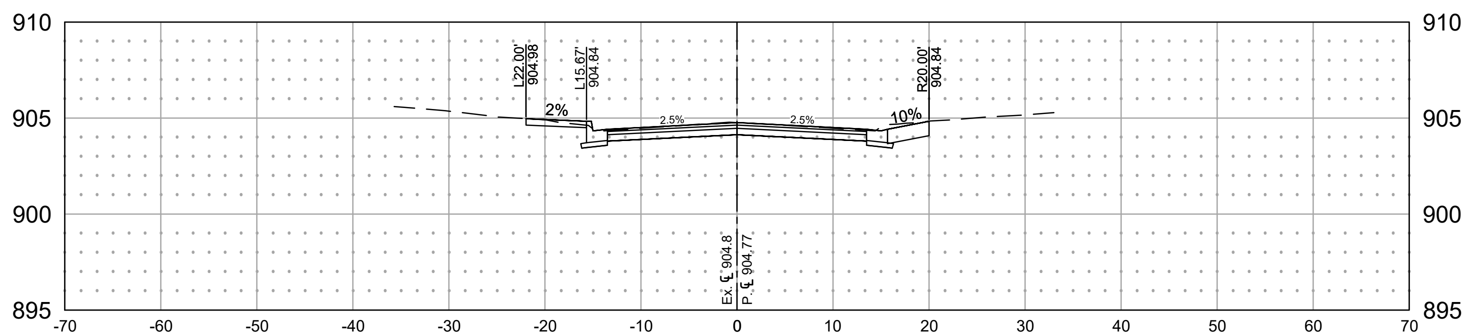

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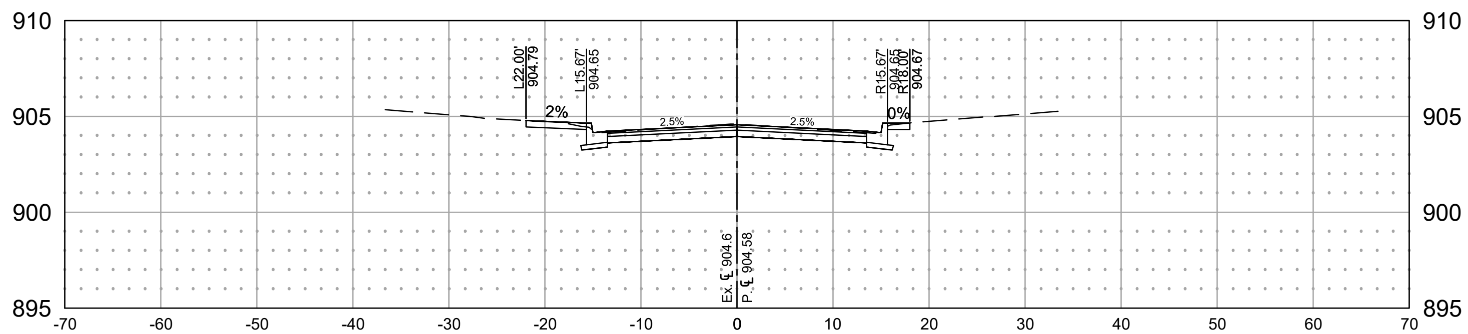

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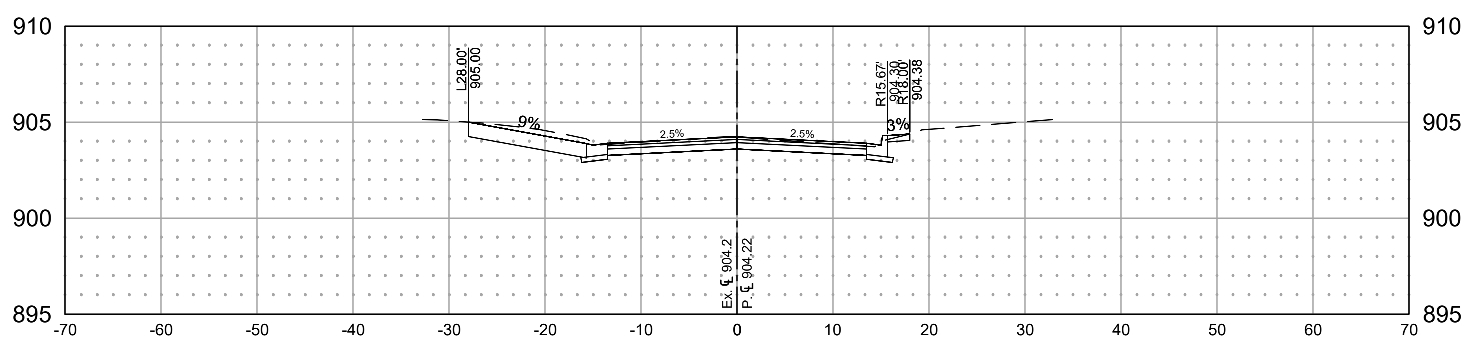

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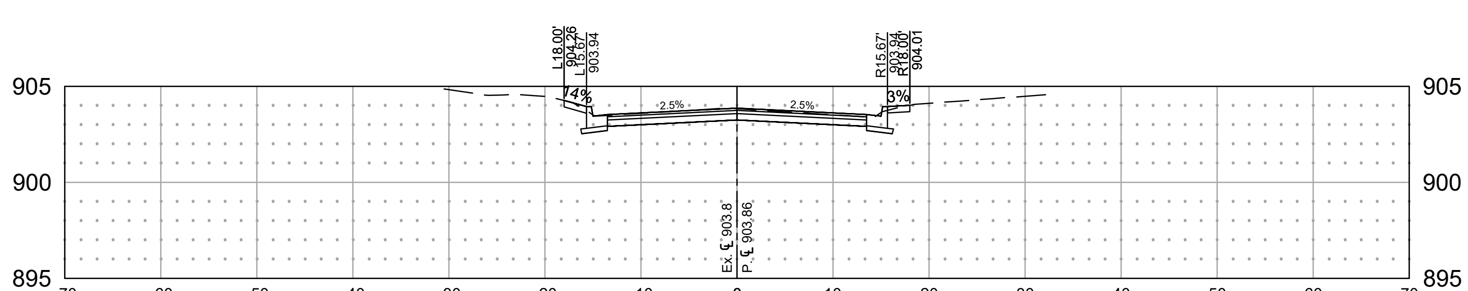

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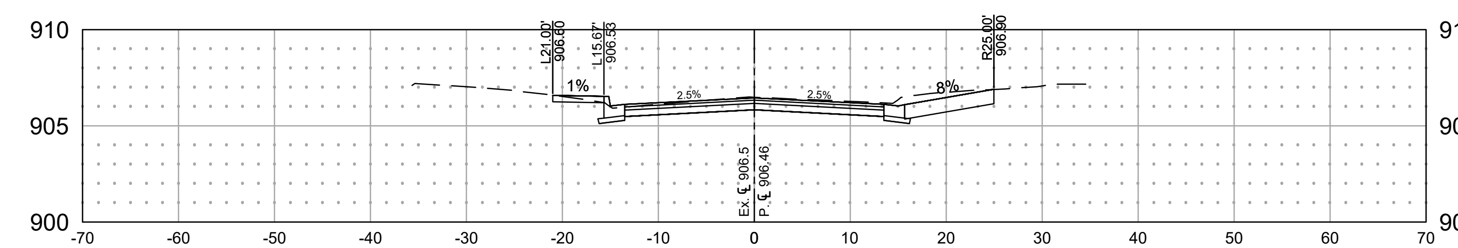

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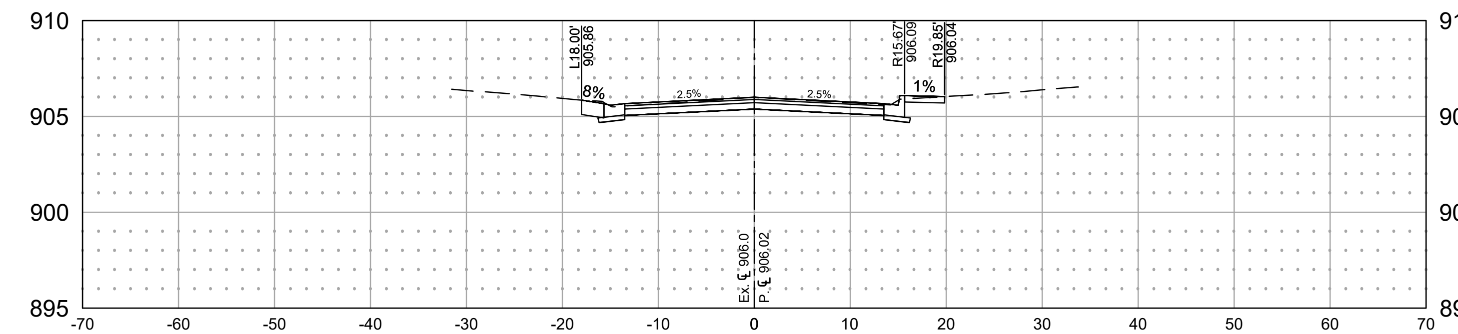

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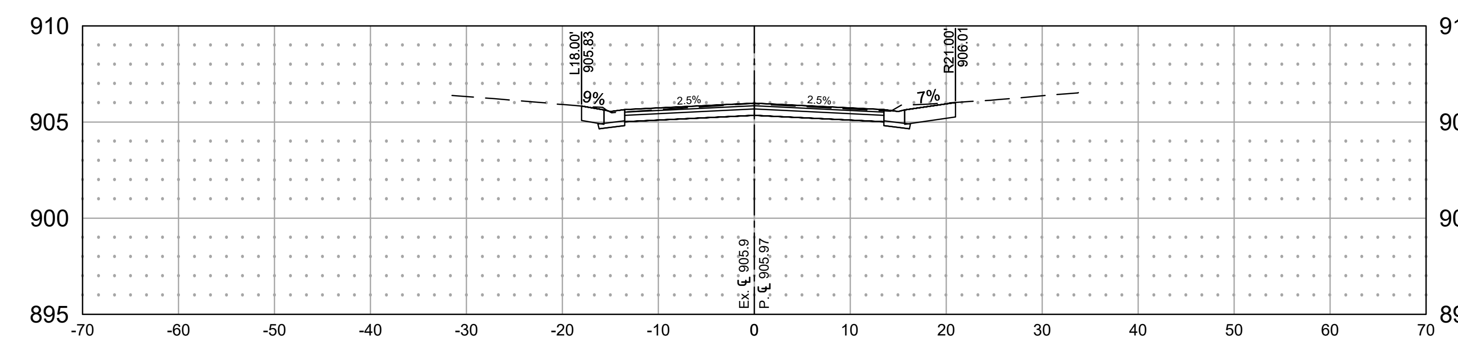

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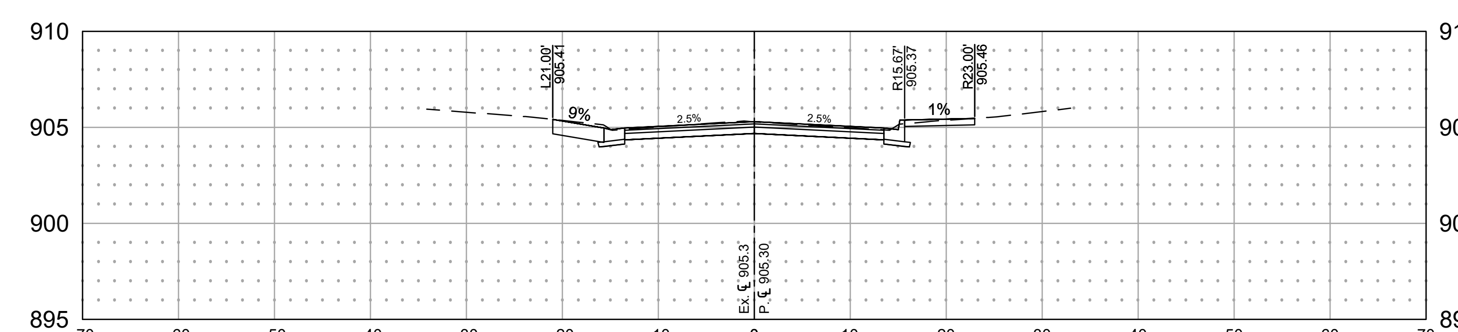

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126TH LANE

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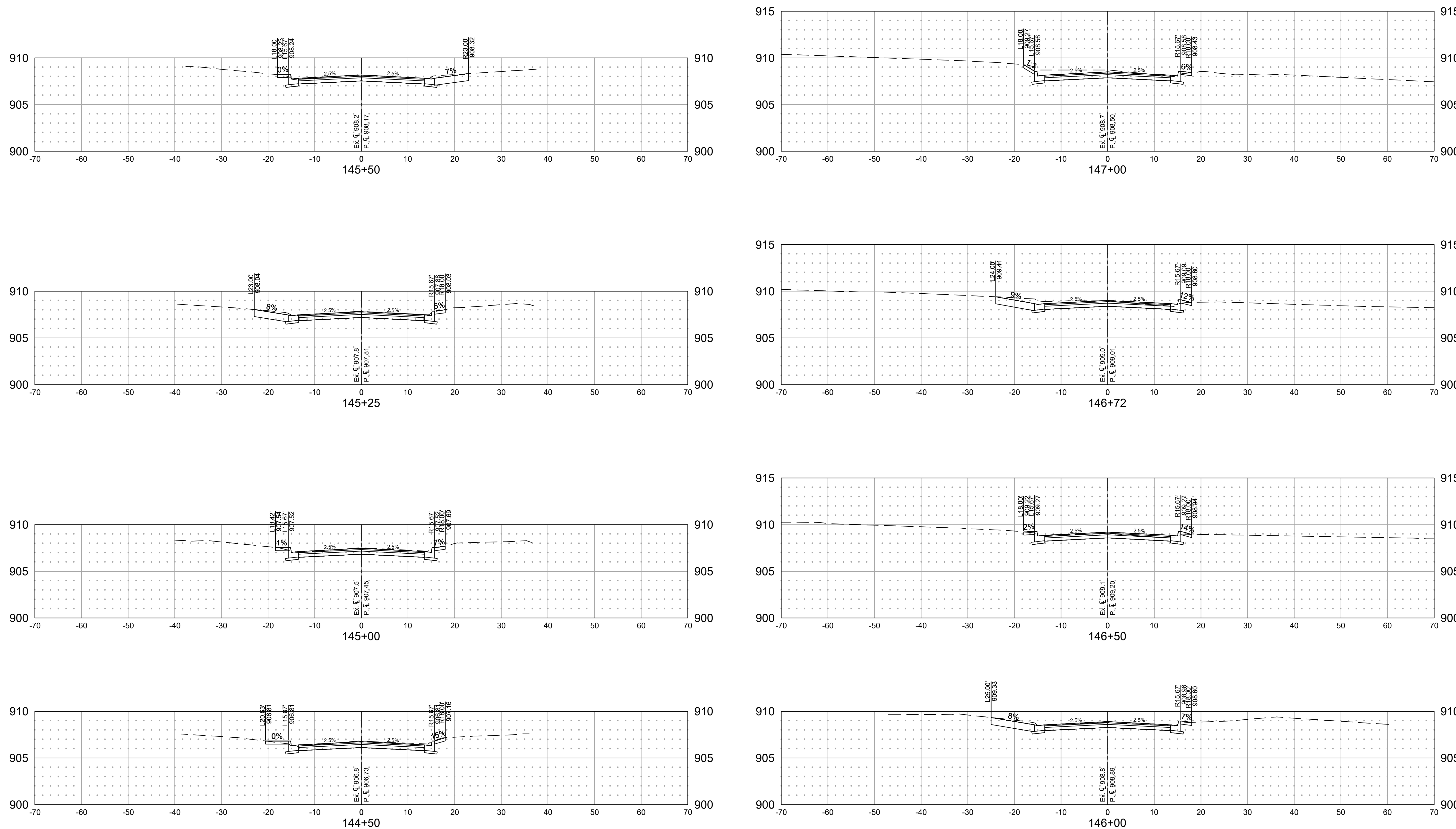

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P. ℄ 908.17
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Ex. ℄ 906.8
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144+50
Ex. ℄ 908.8
P. ℄ 908.89
146+00


126TH LANE

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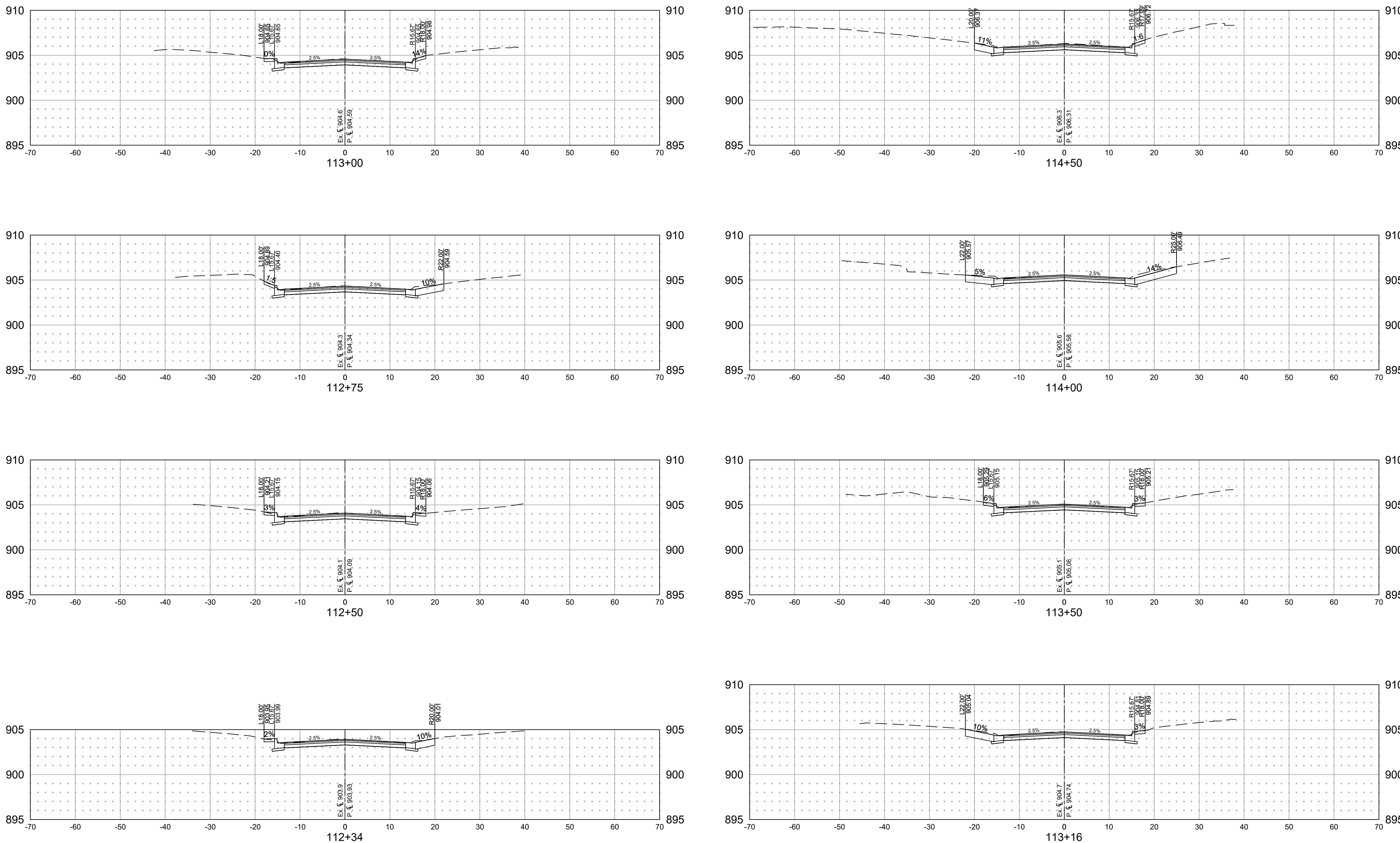
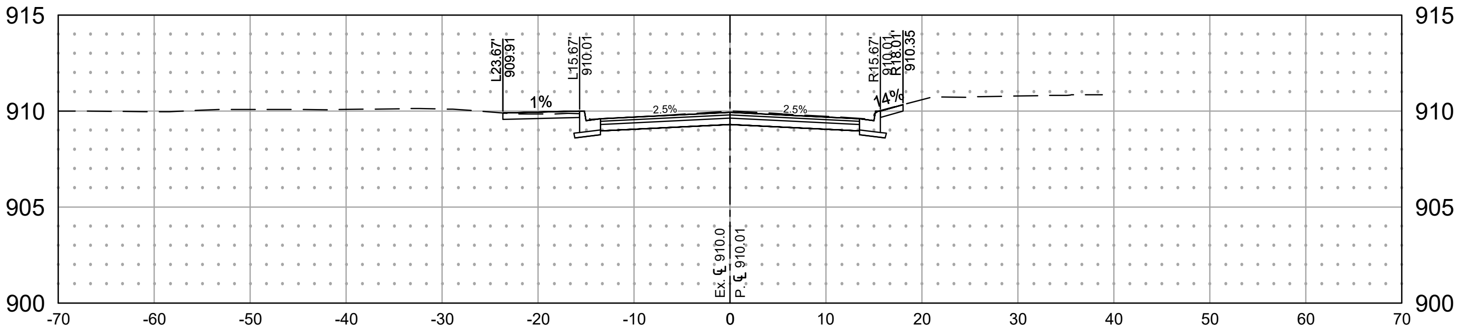



BUCHANAN STREET

S.A.P. 106-141-003 | Sheet No. 125 Of135 Sheets

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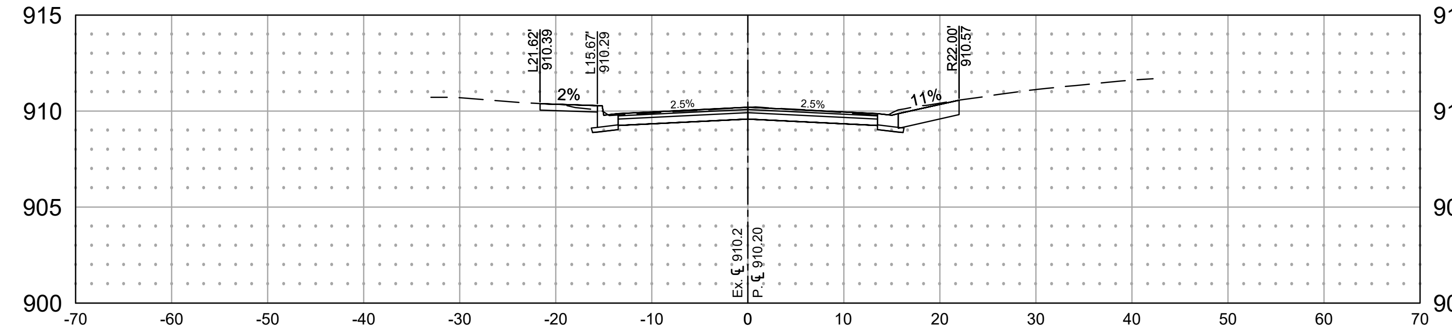


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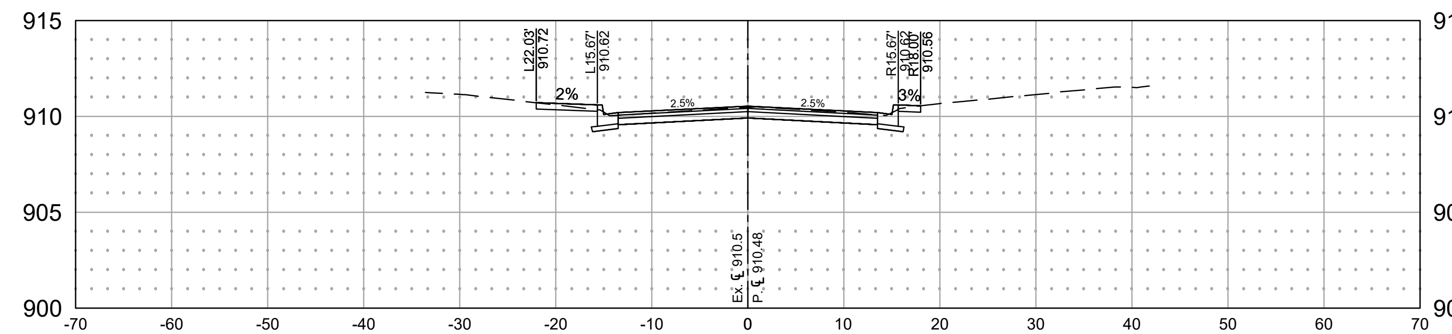


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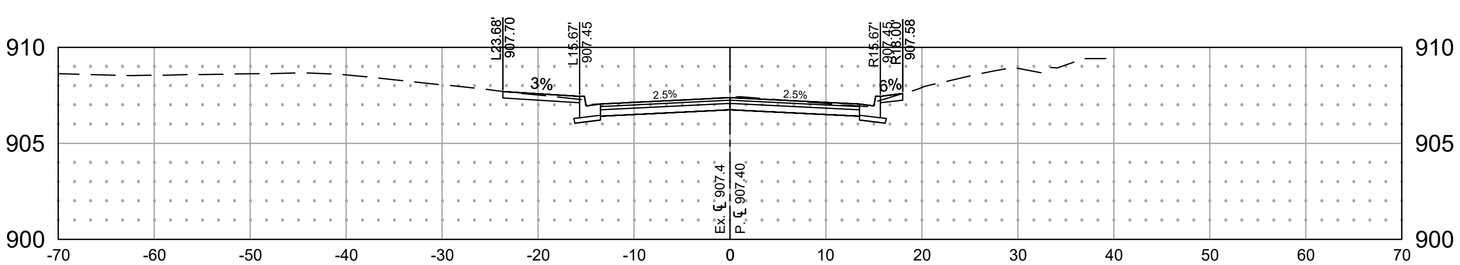


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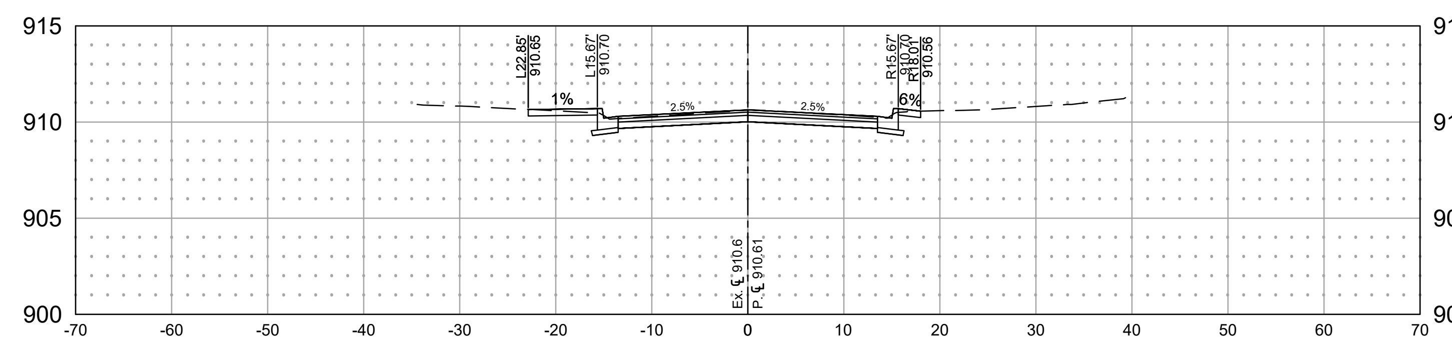


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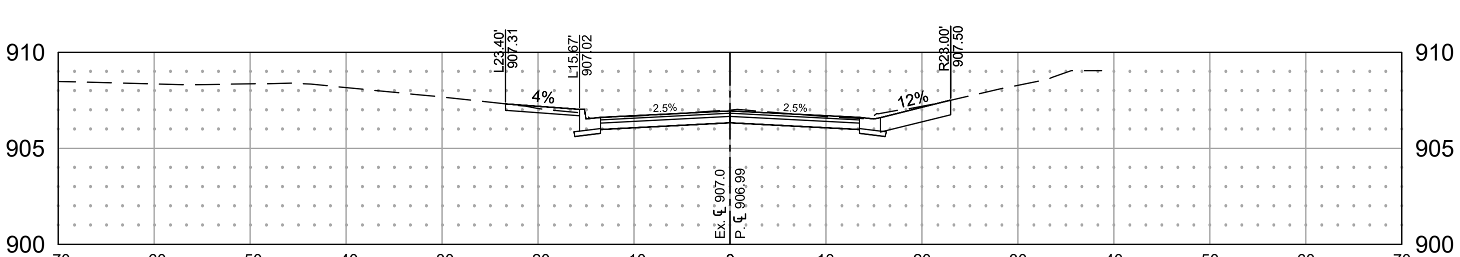


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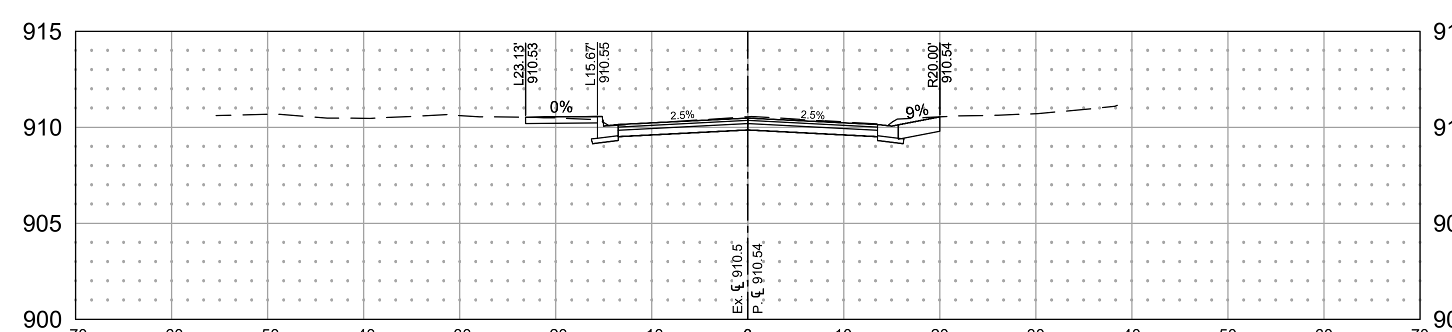


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| S.A.P. 106-141-003 | Sheet No. 126 Of135 Sheets |
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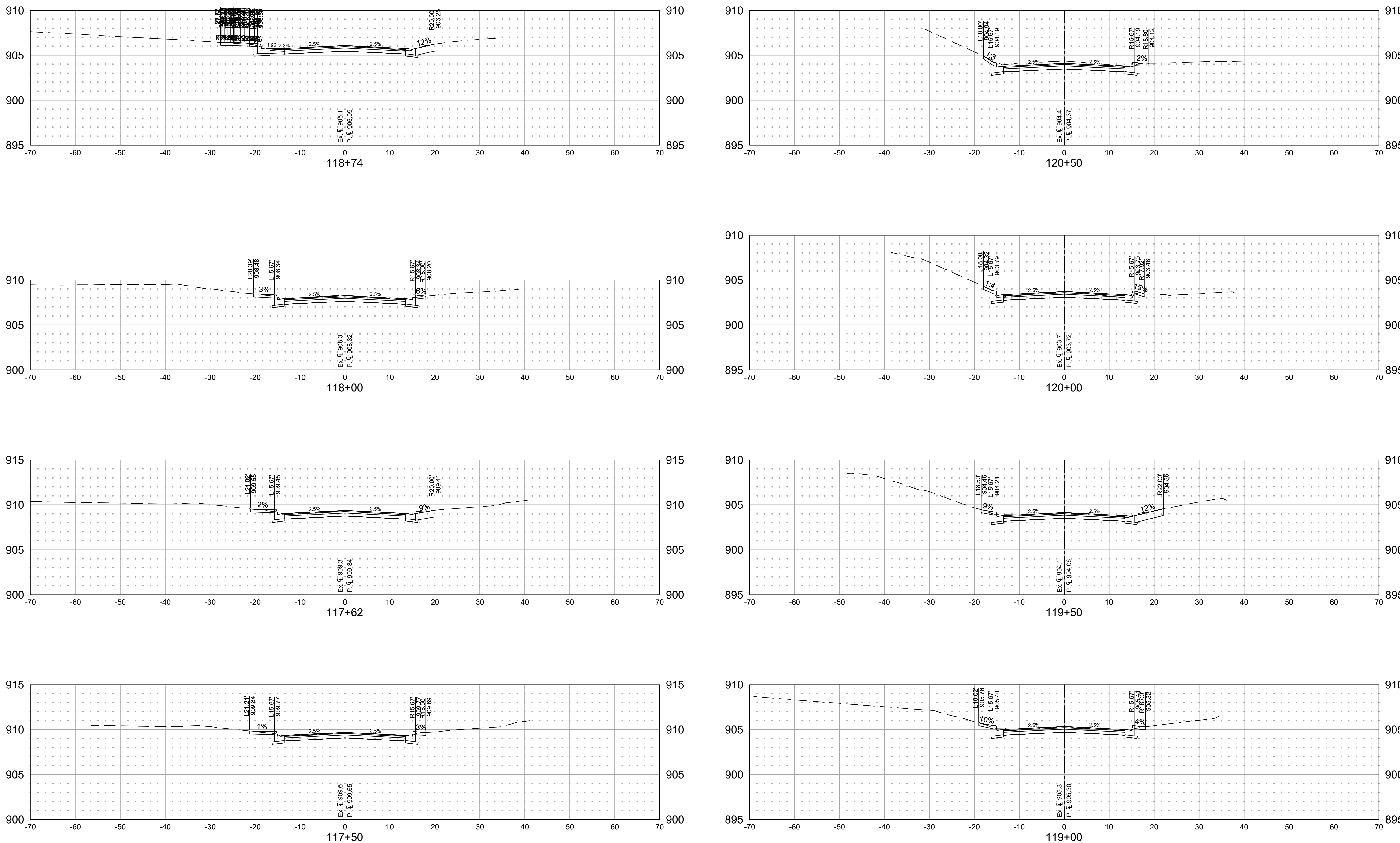


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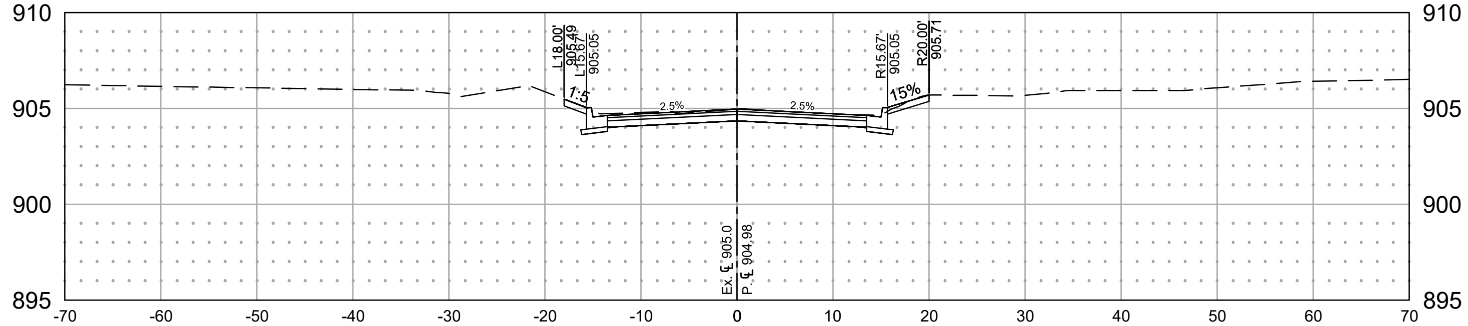
S.A.P. 106-141-003 | Sheet No. 127 Of135 Sheets



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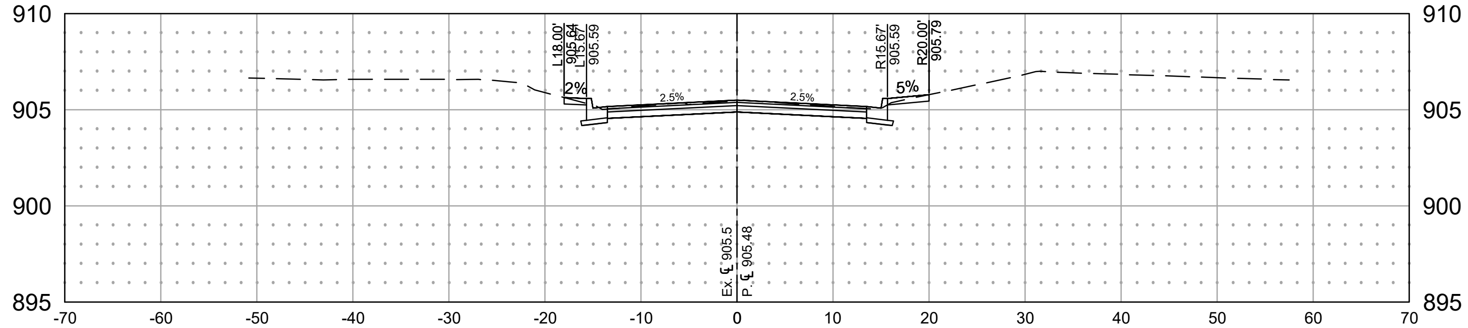

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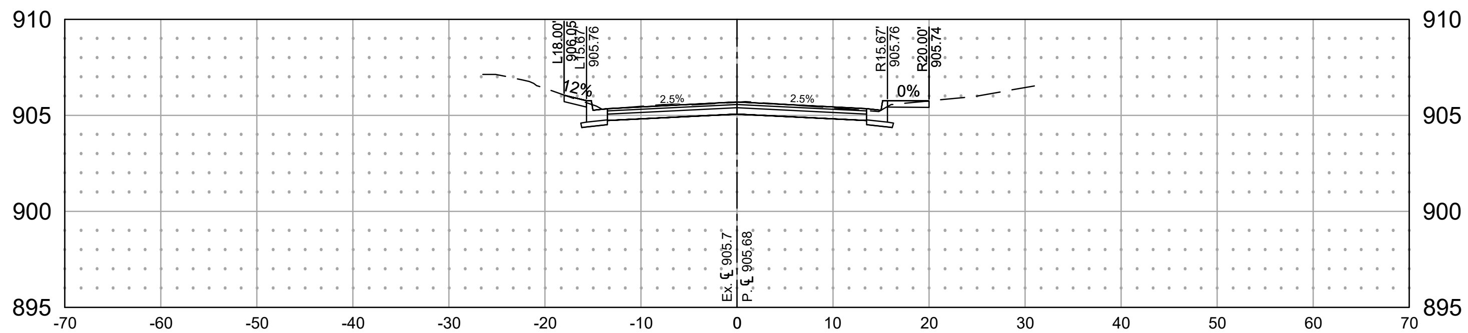

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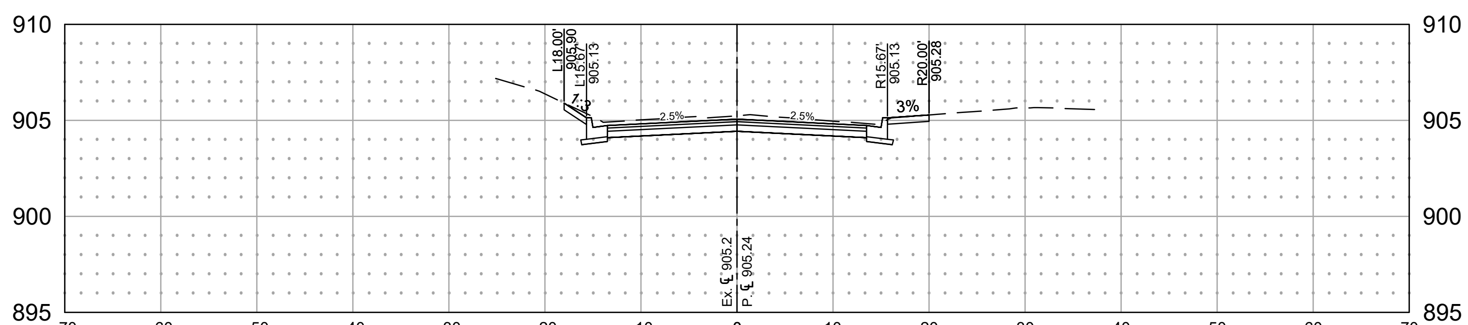

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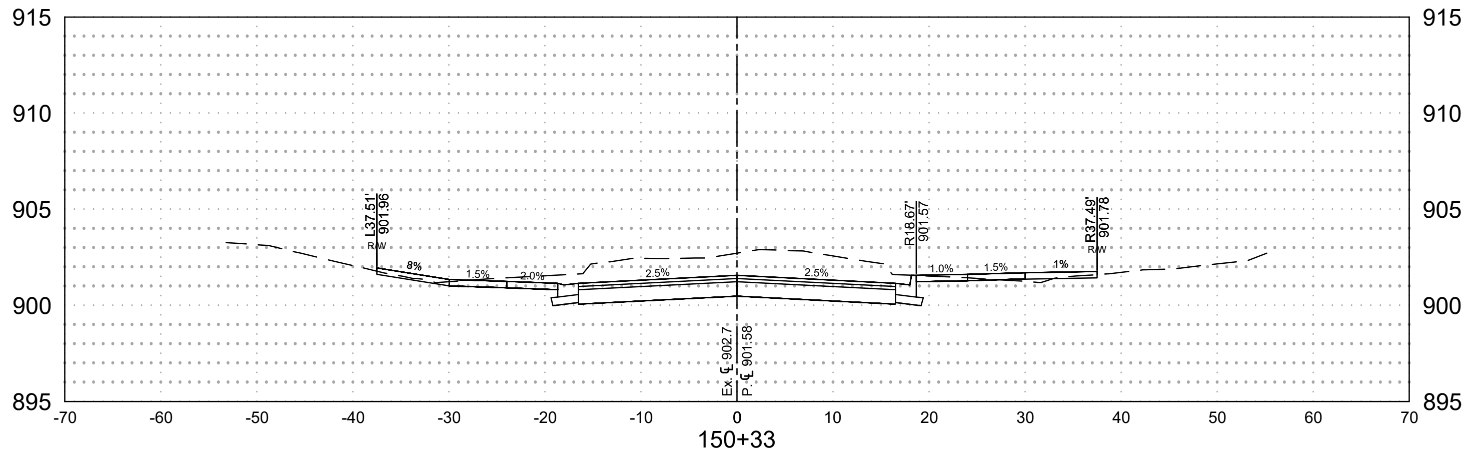


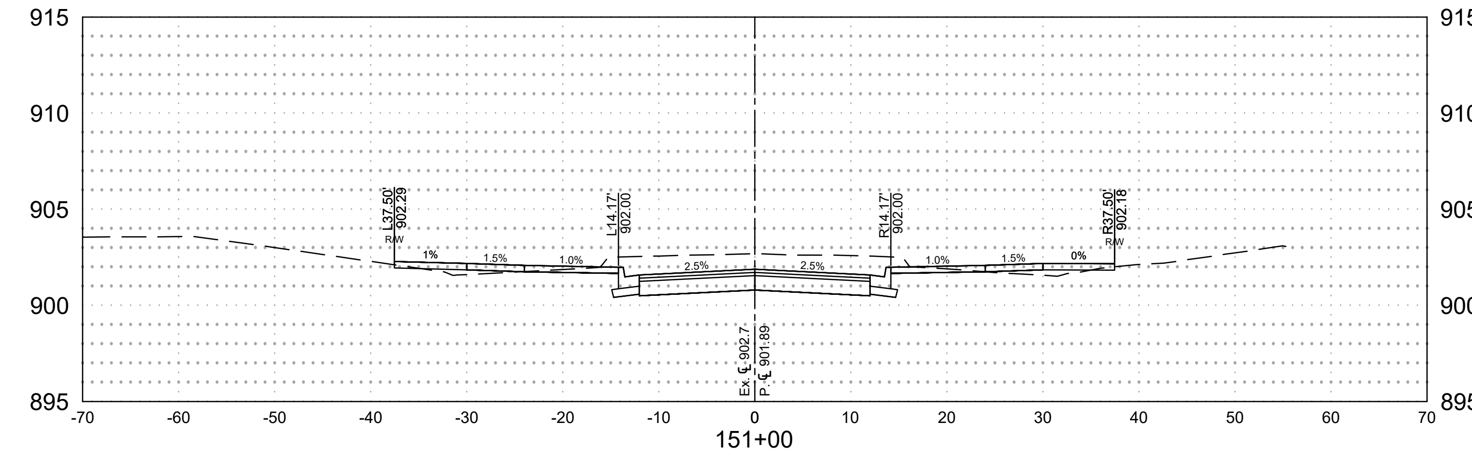


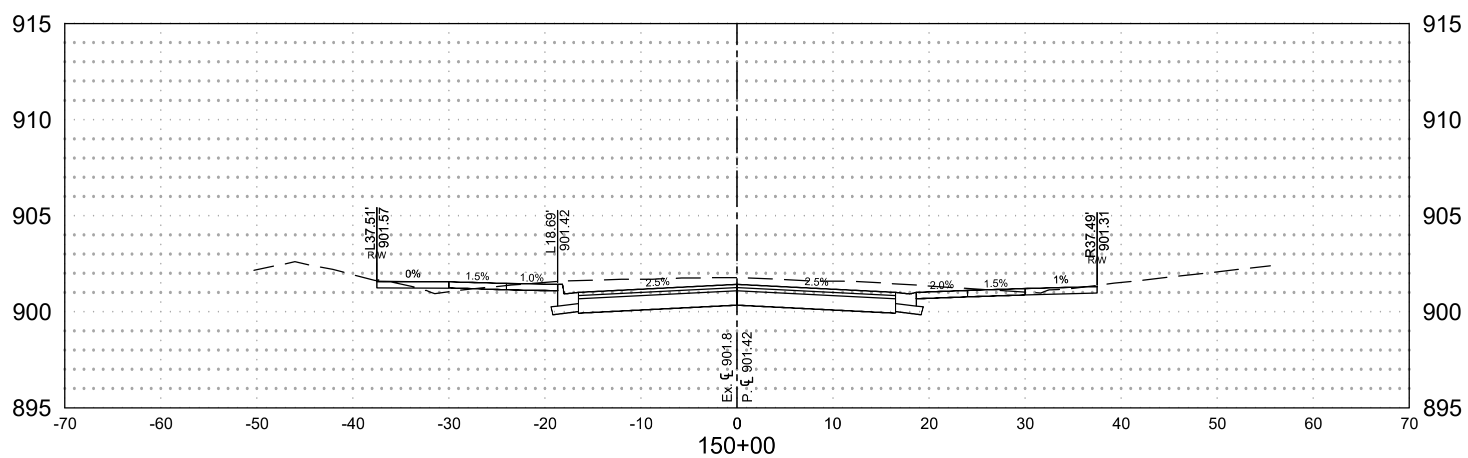


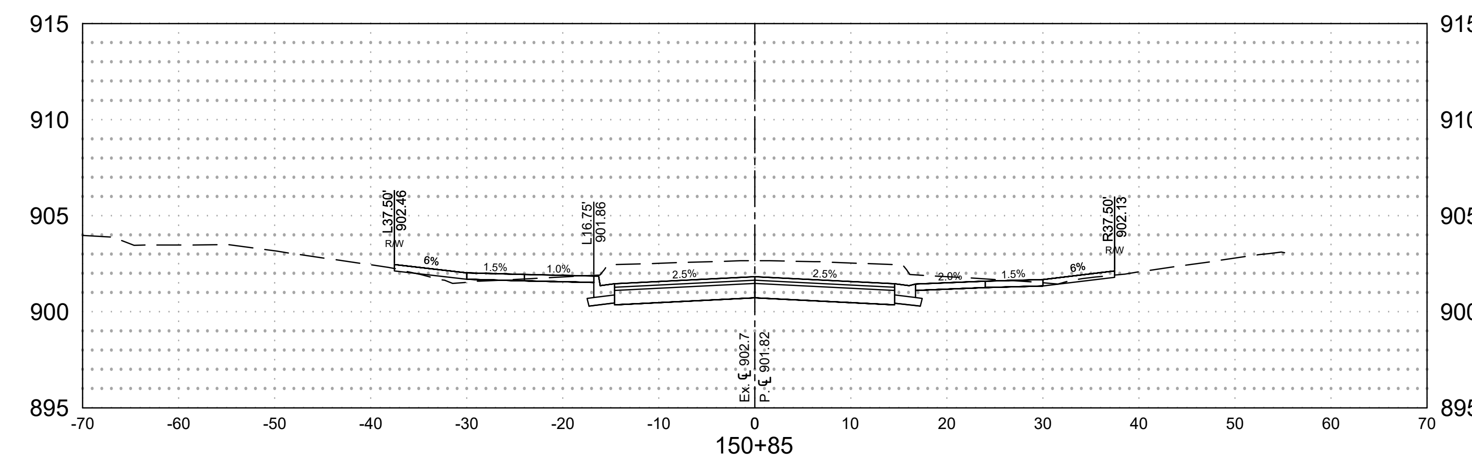


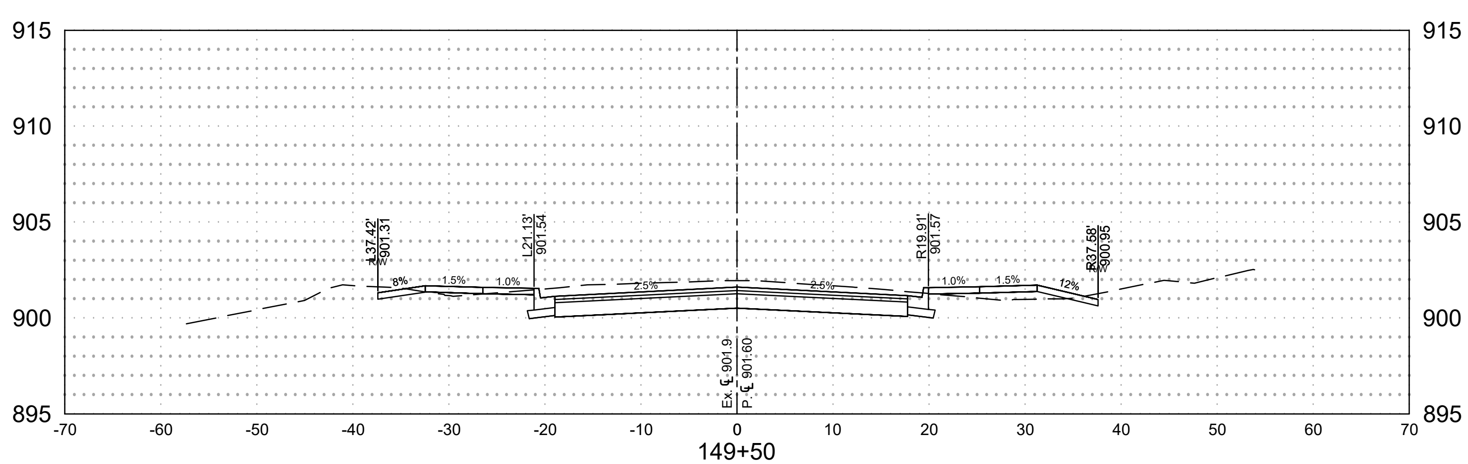


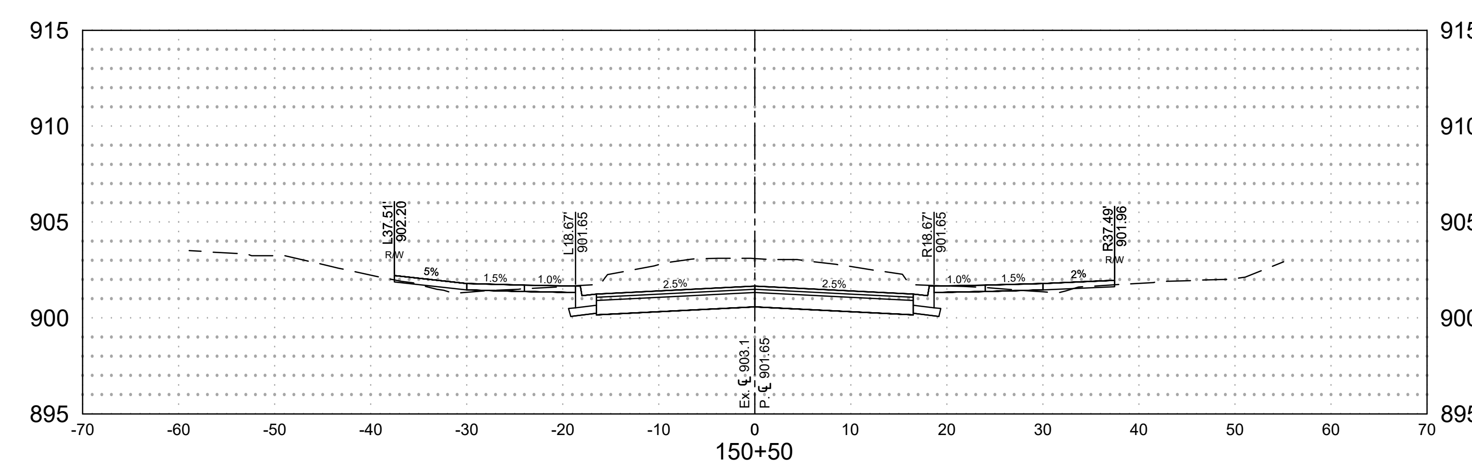


129TH AVENUE

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| S.A.P. 106-141-003 | Sheet No. 129 Of135 Sheets |
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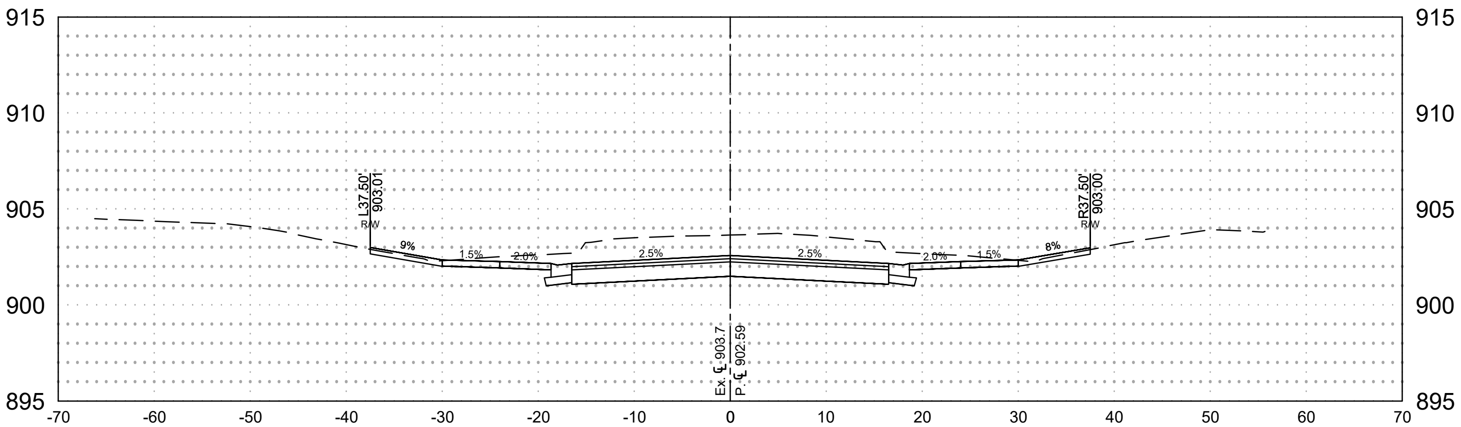


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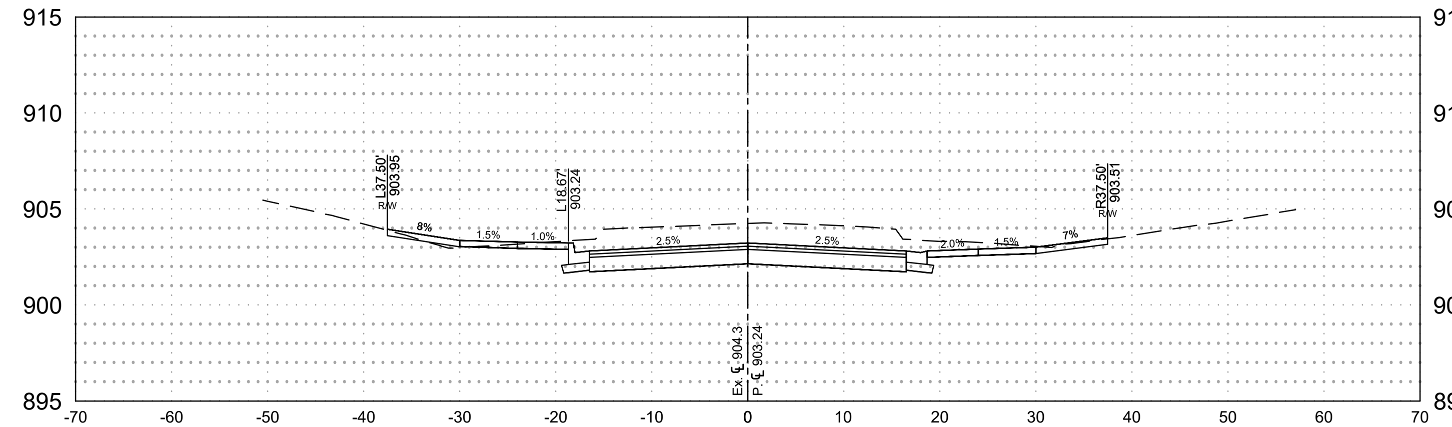


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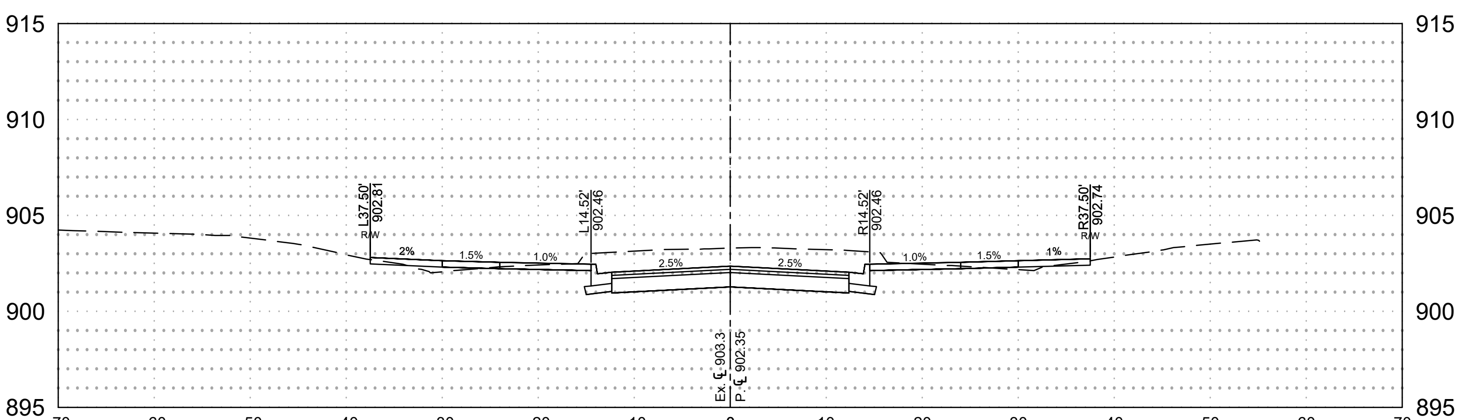


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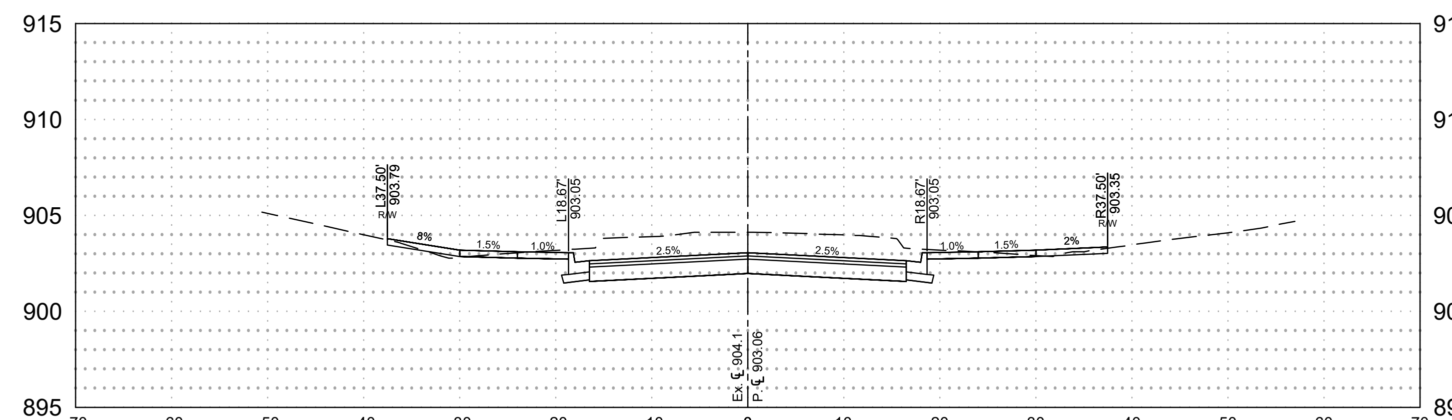


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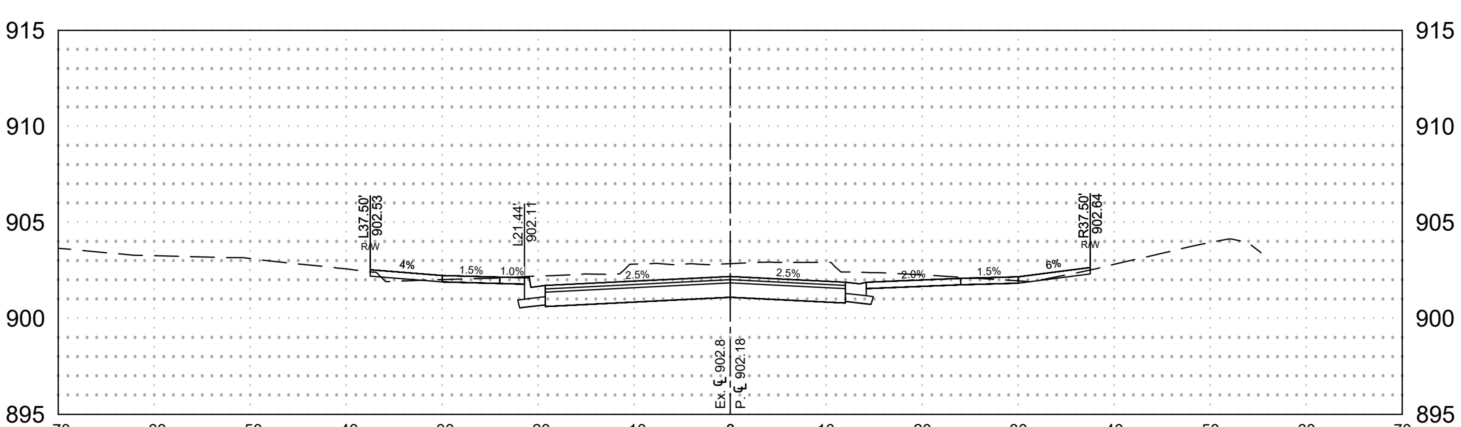


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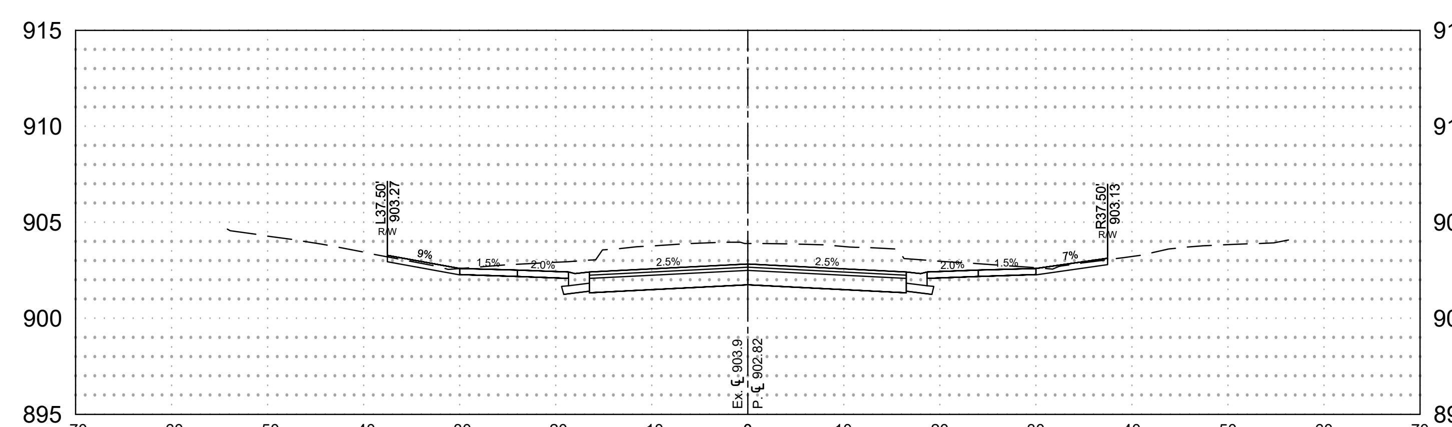


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129TH AVENUE

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| S.A.P. 106-141-003 | Sheet No. 130 Of135 Sheets |
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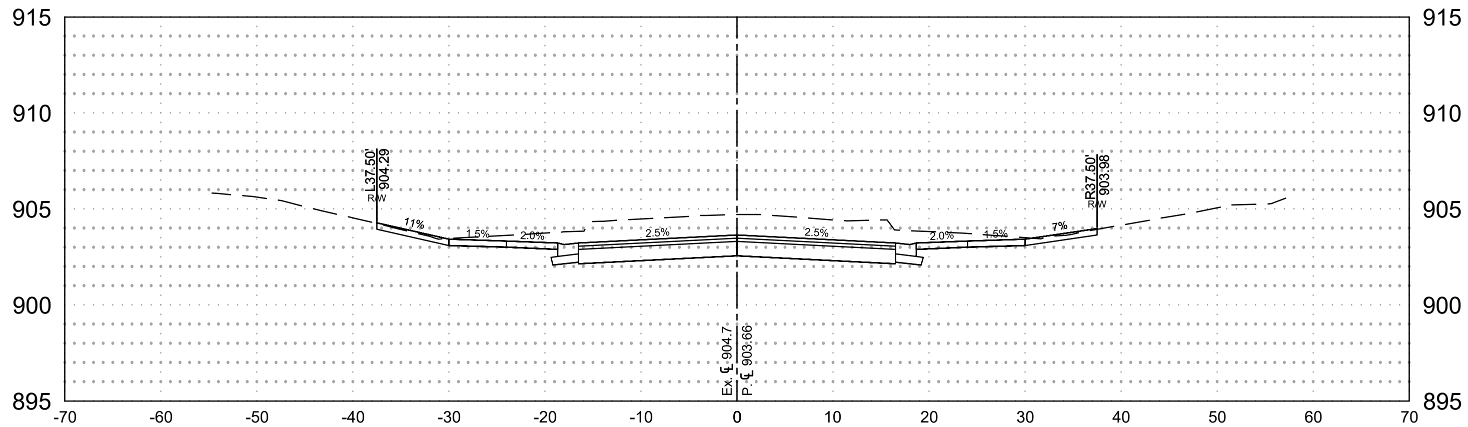


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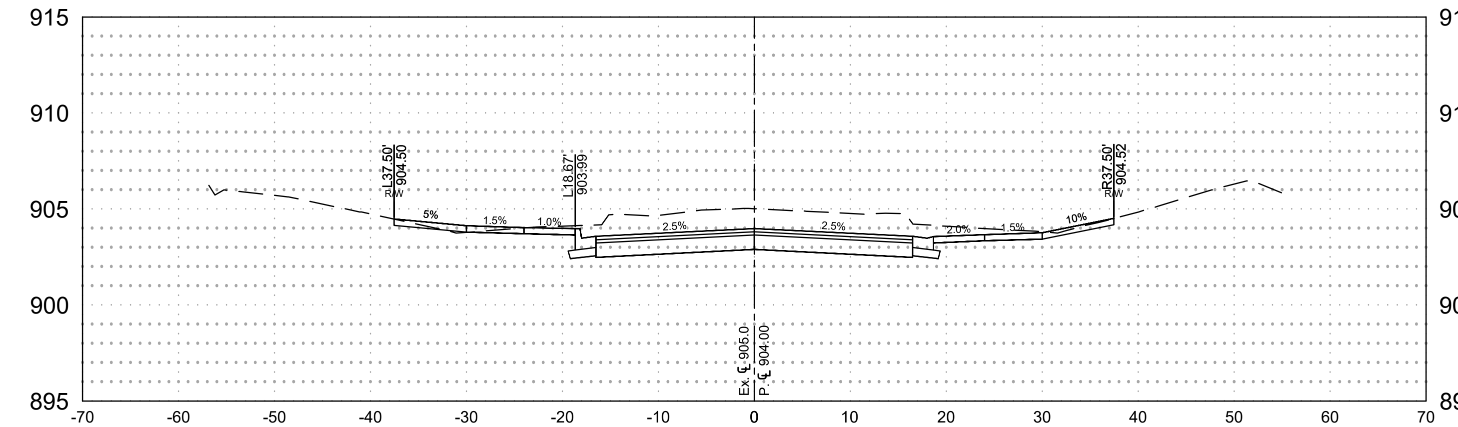


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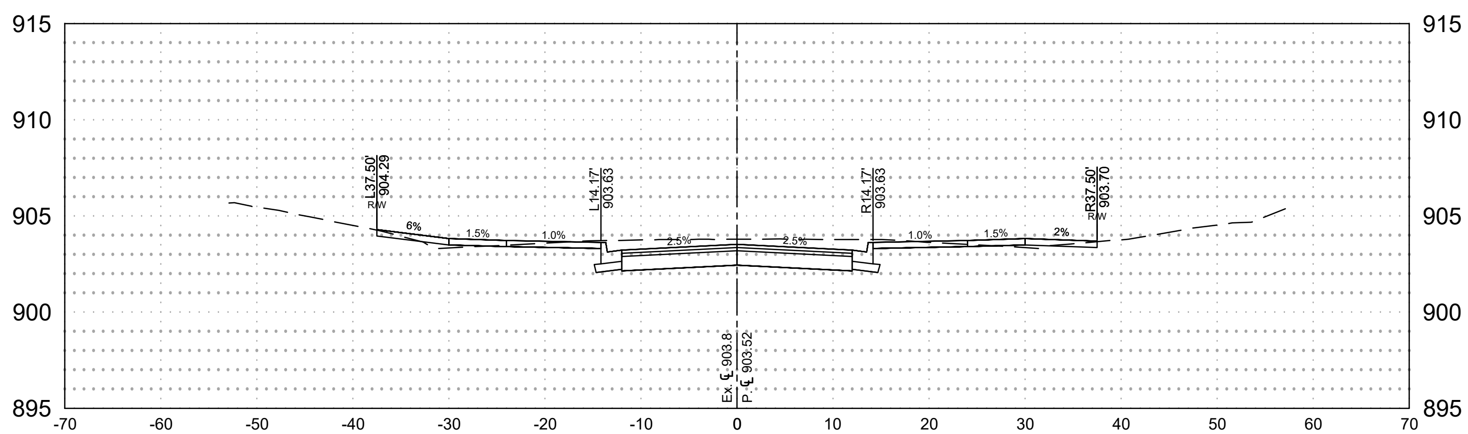


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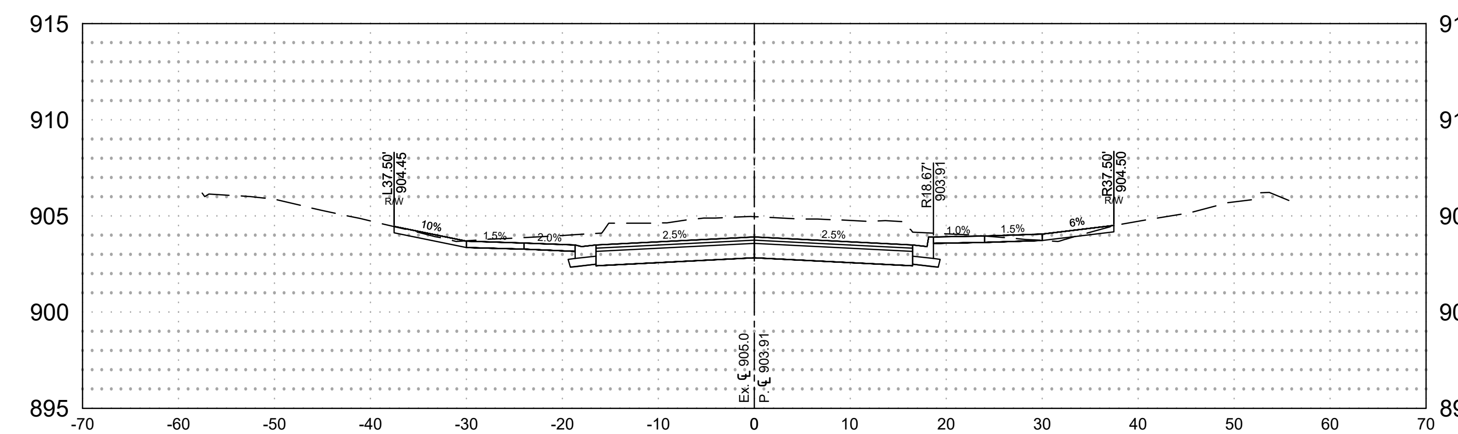


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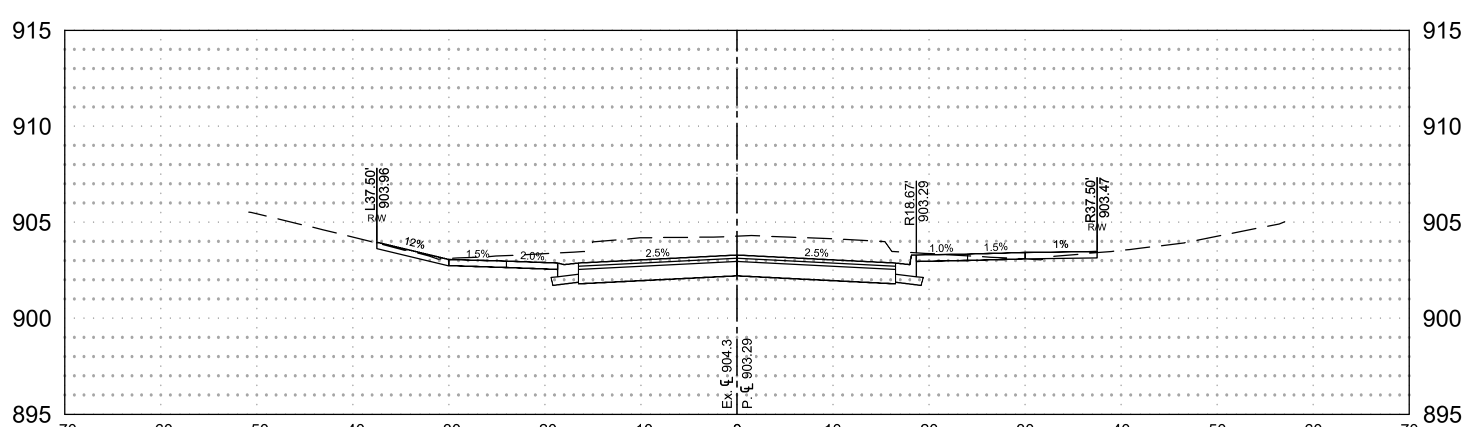


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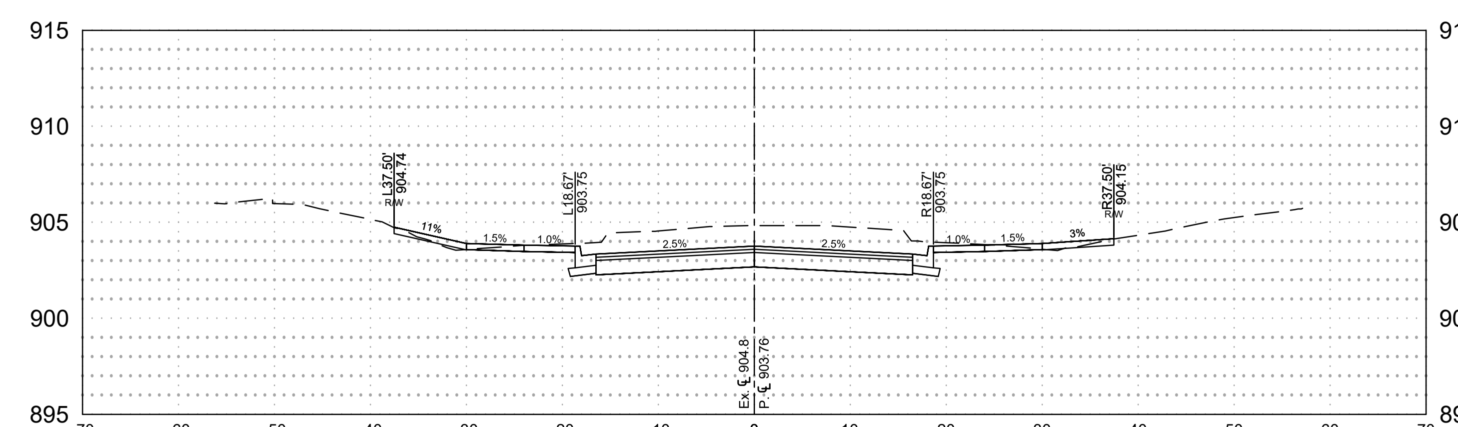


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129TH AVENUE

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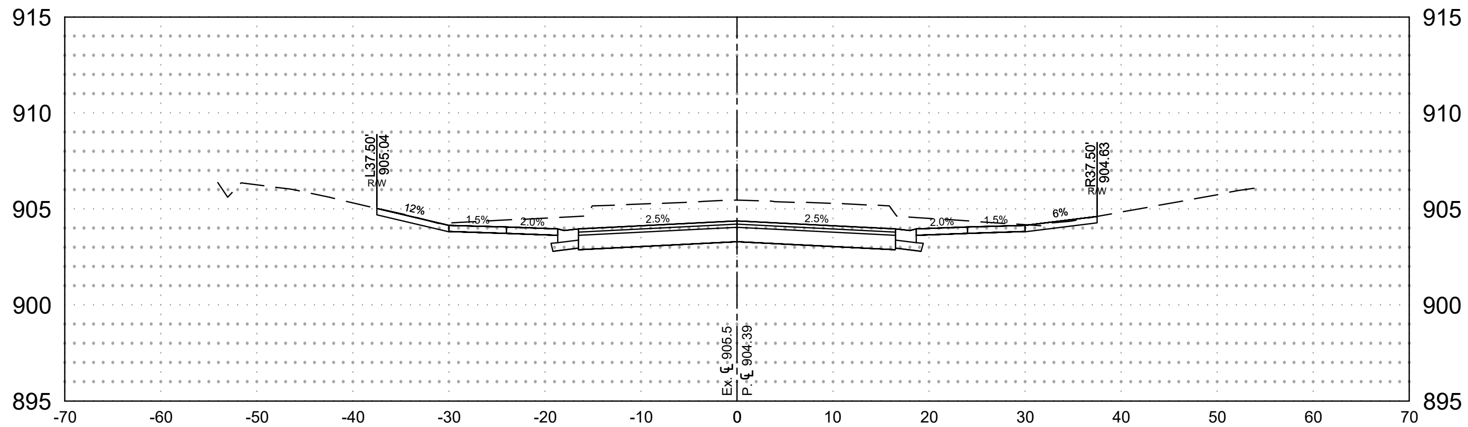

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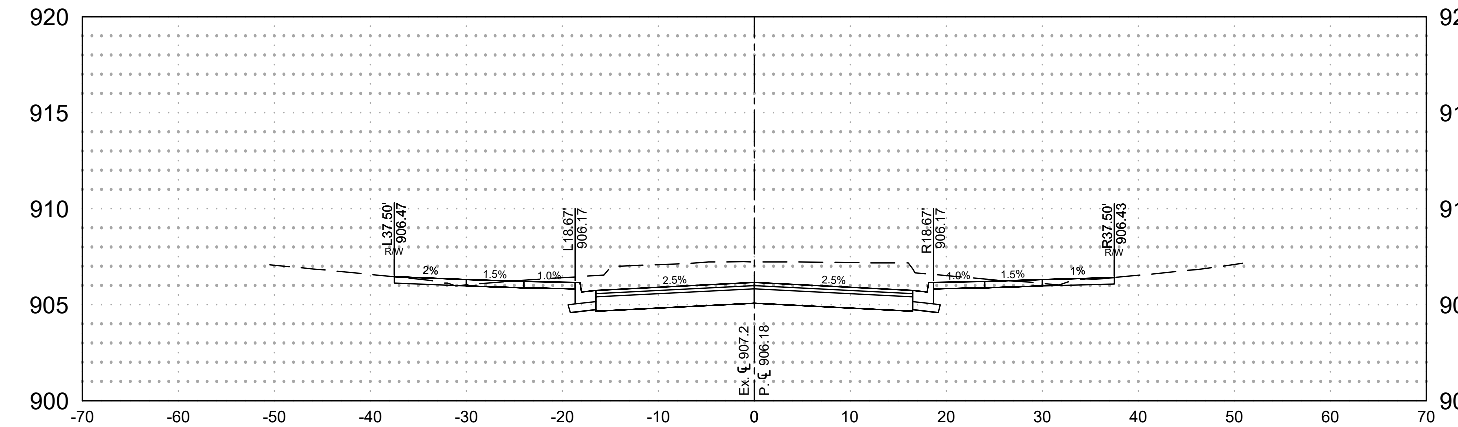

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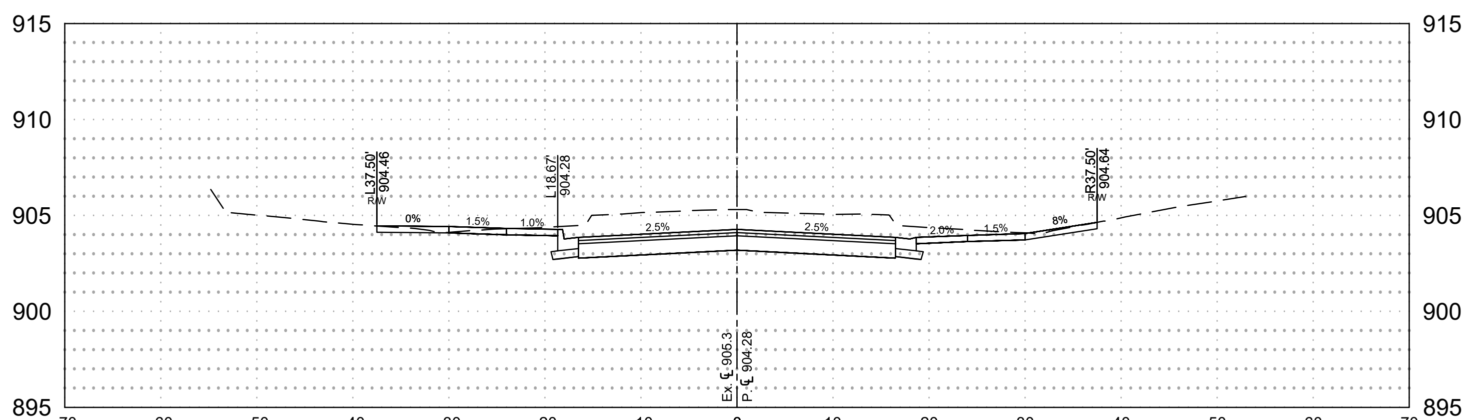

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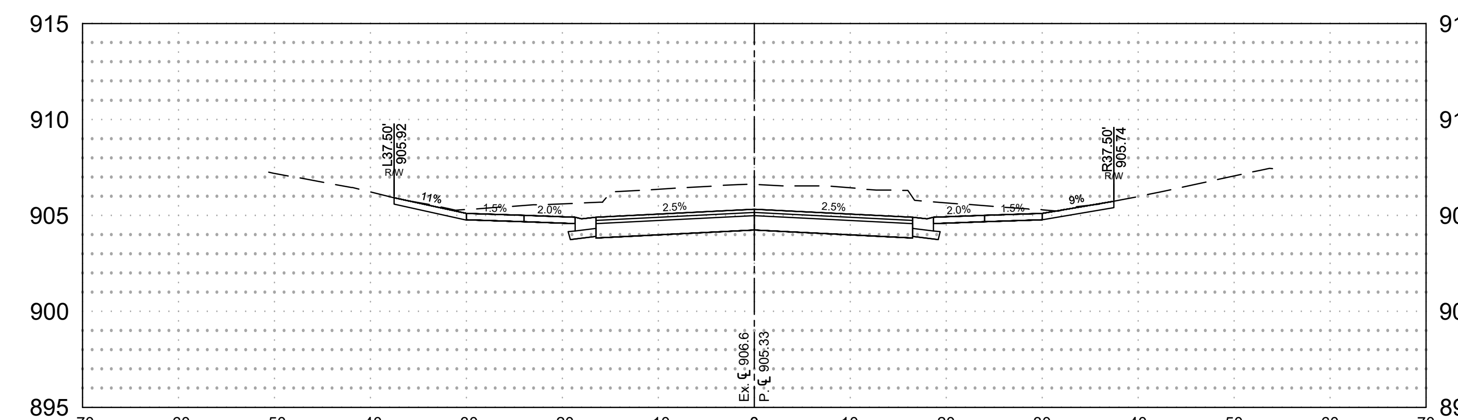

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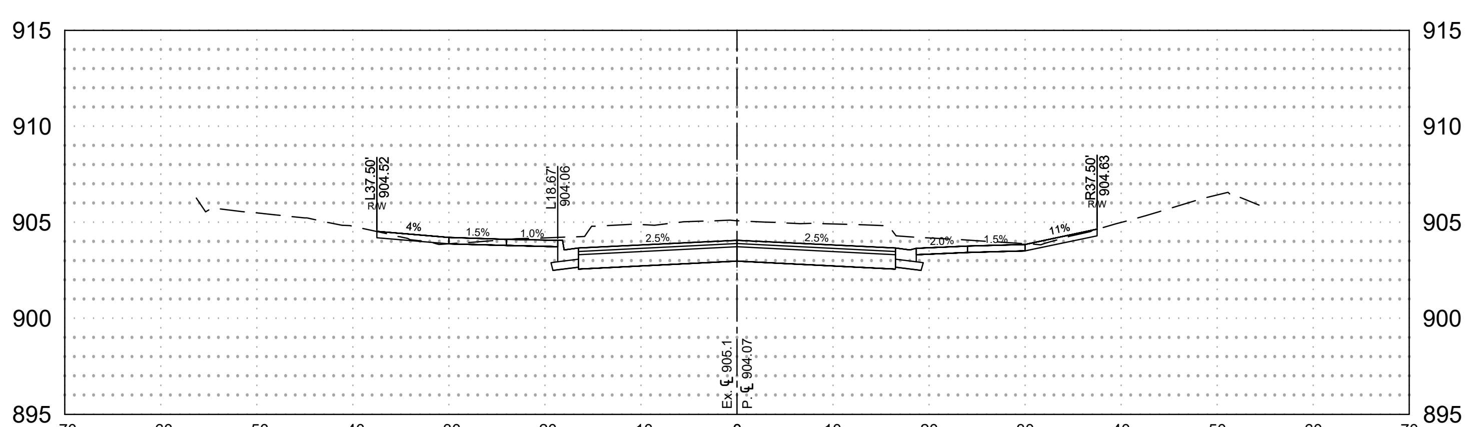

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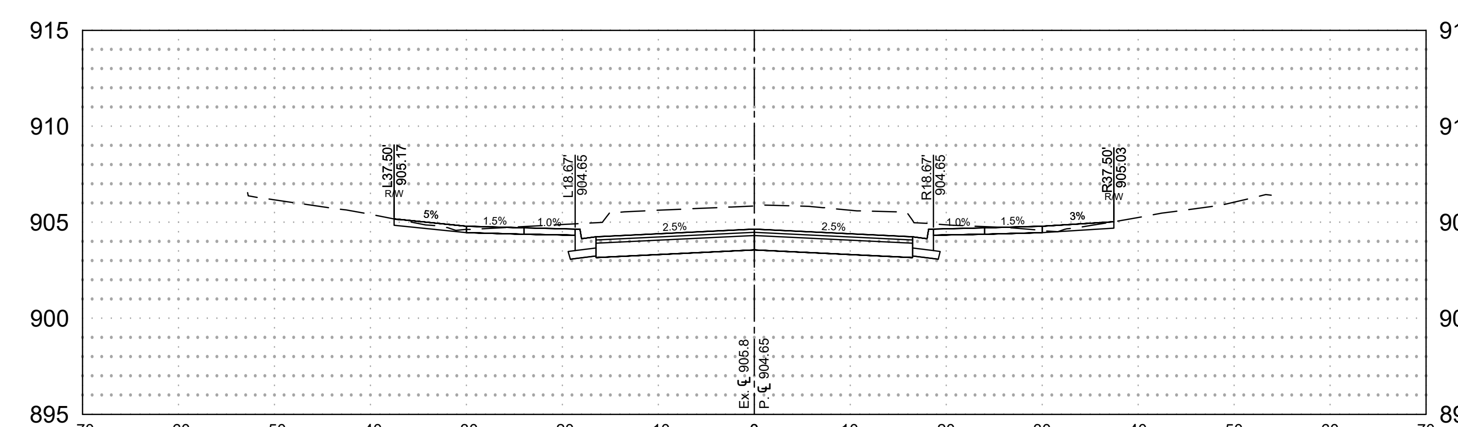

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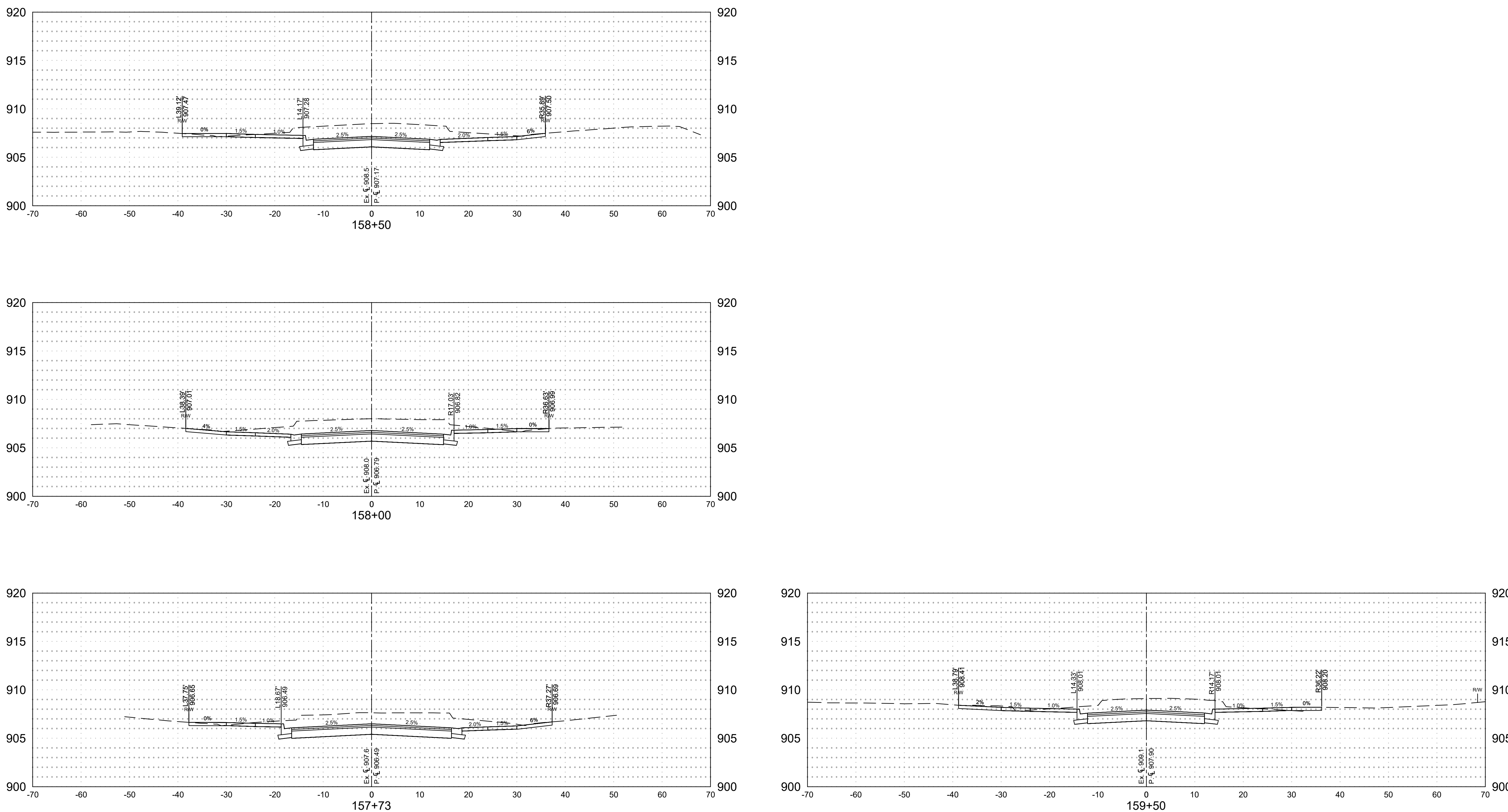


129TH AVENUE

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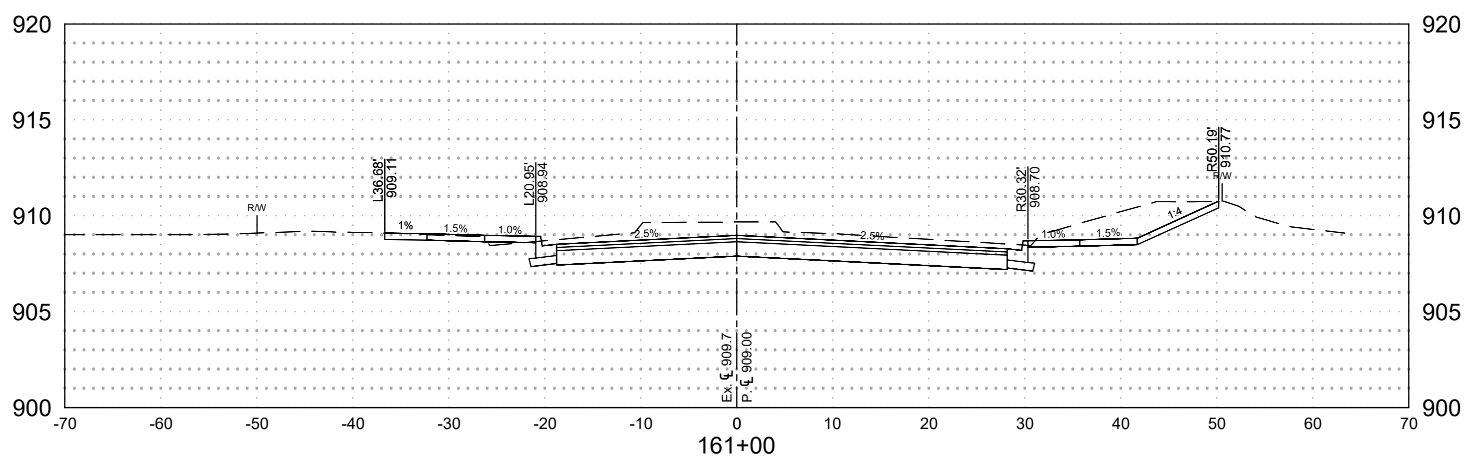


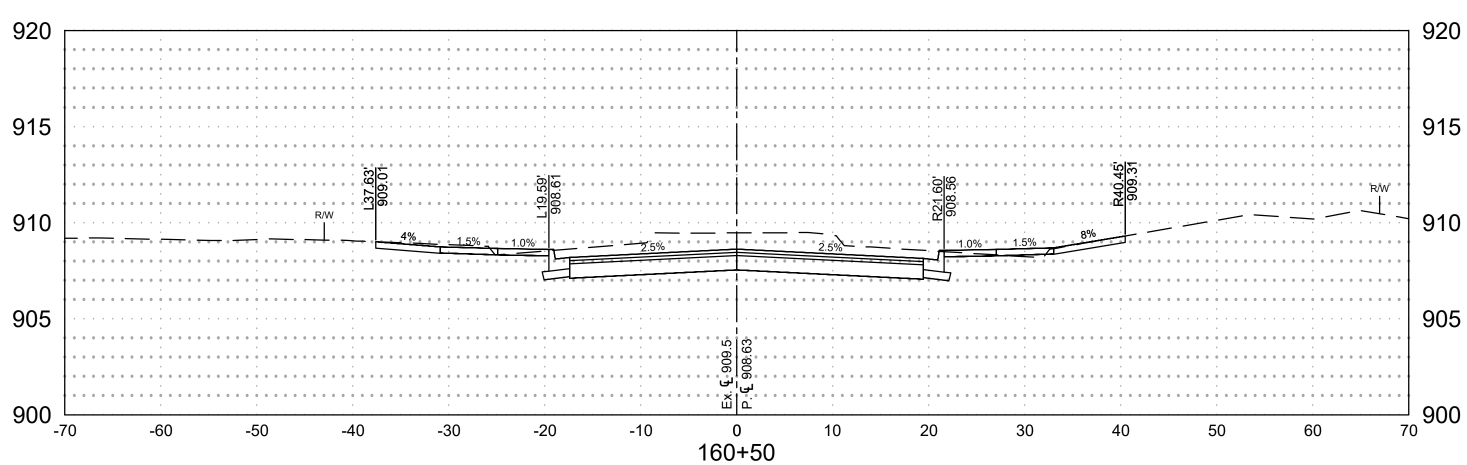


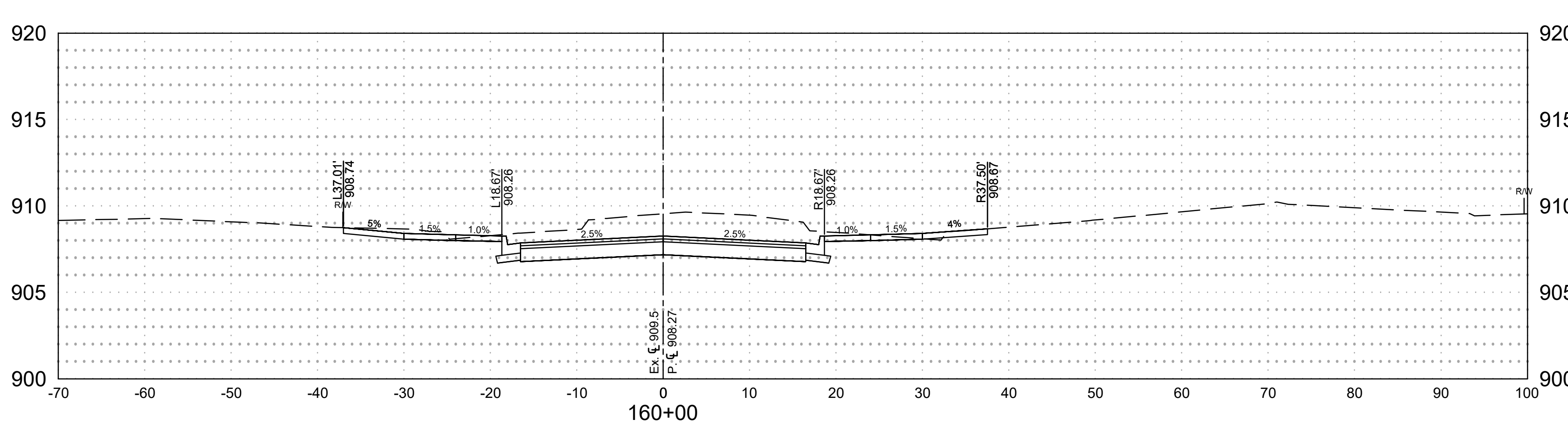


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129TH AVENUE

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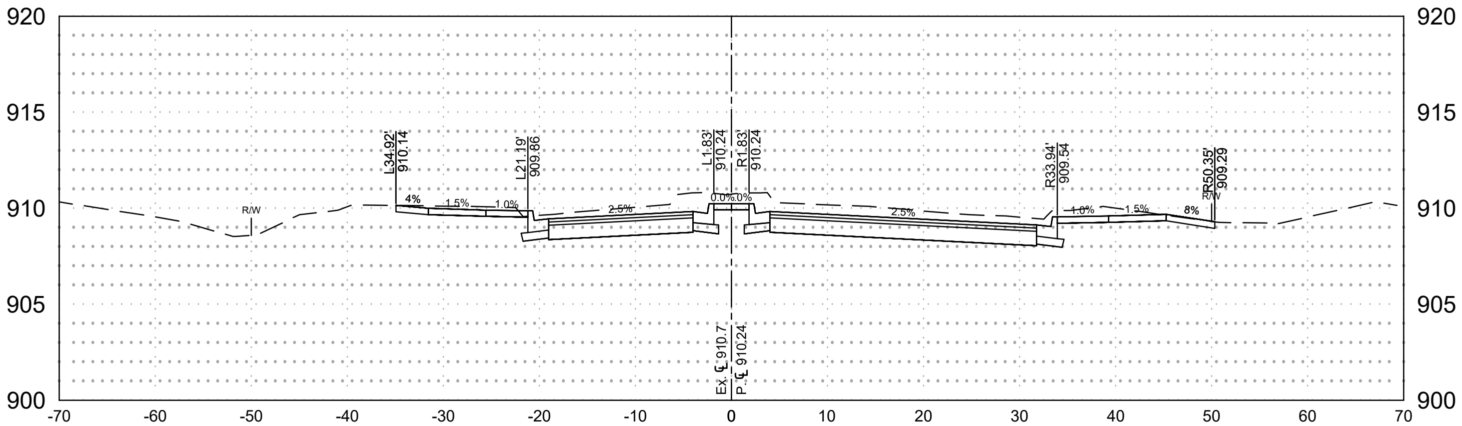
| S.A.P. 106-141-003 | Sheet No. 134 Of135 Sheets |

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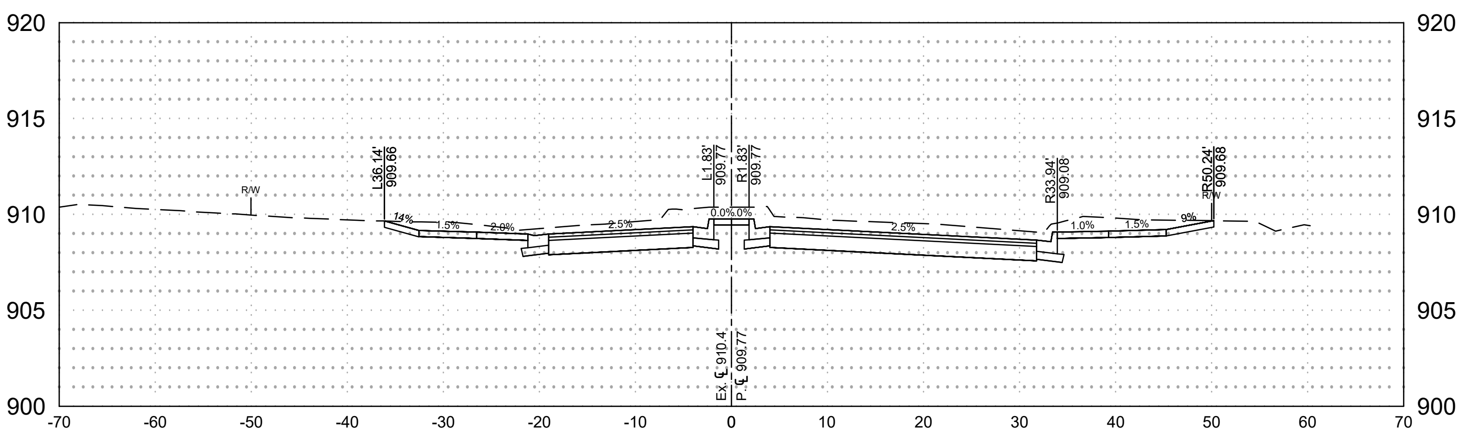


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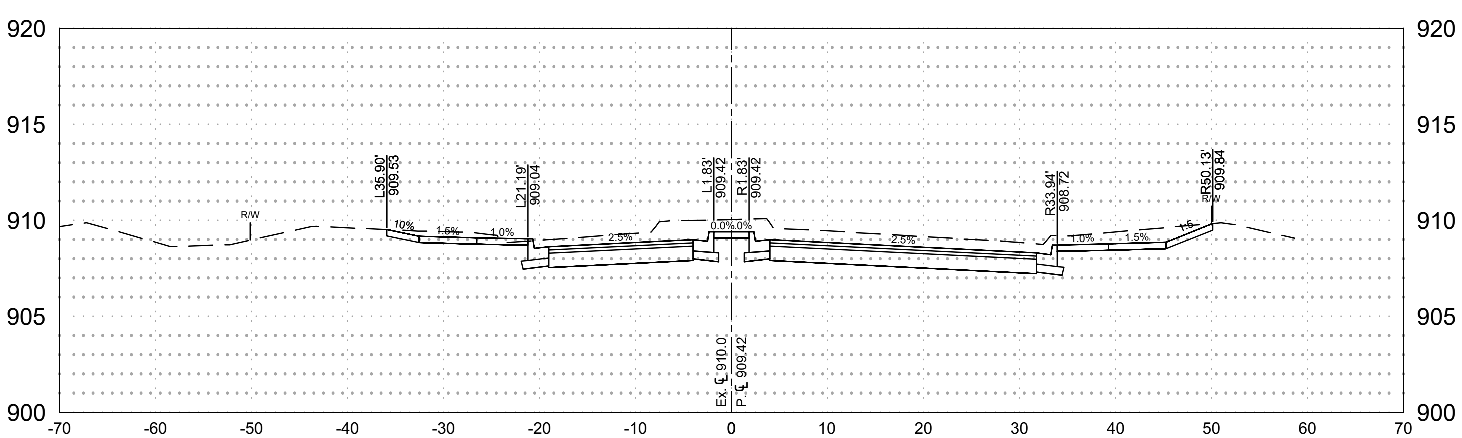


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