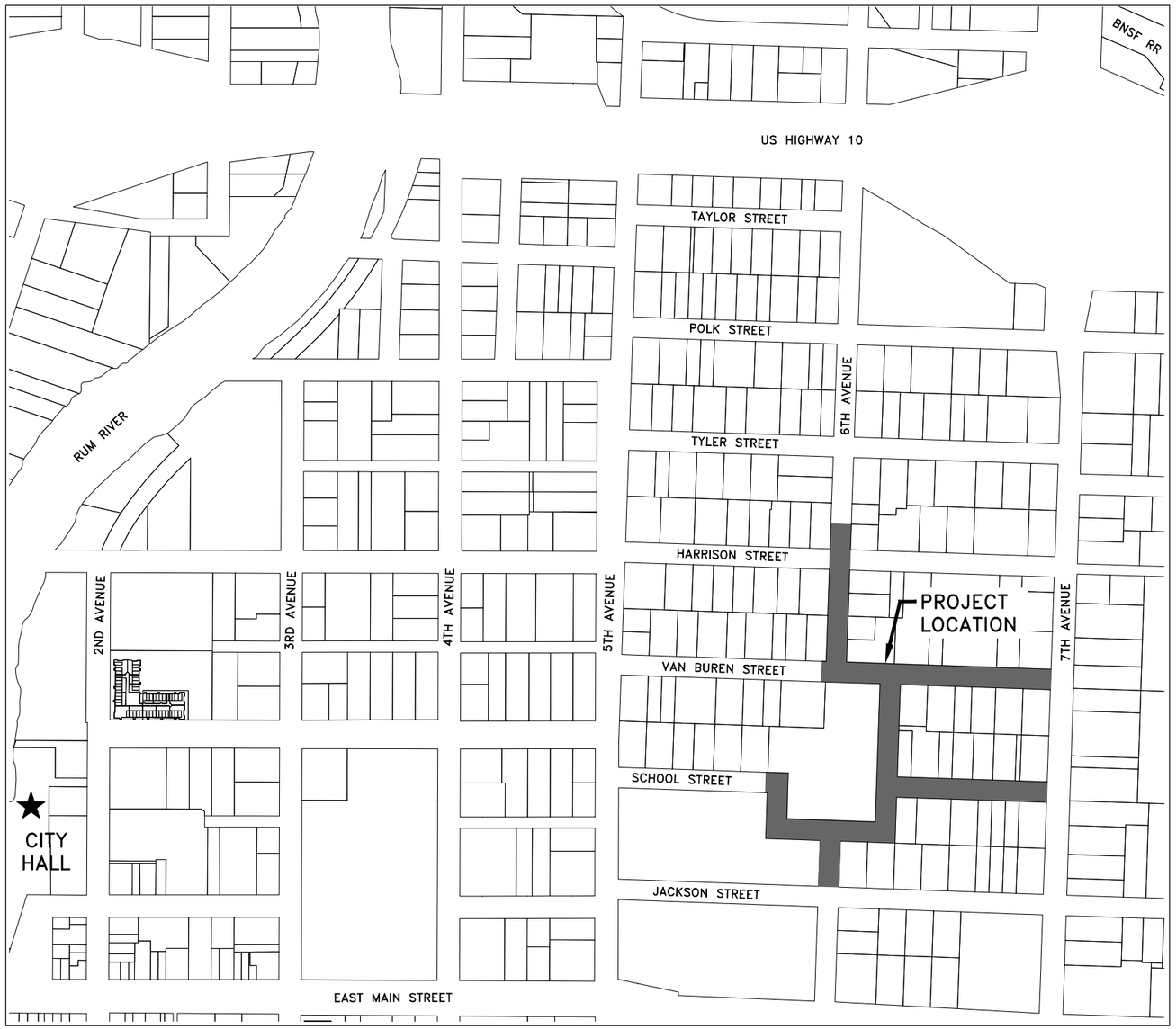
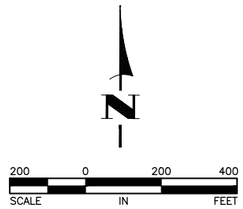
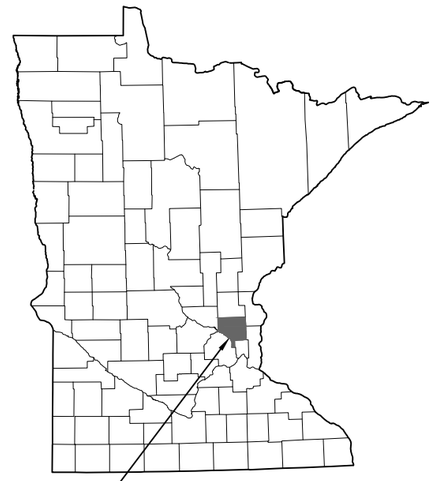
# 2021 SWEDE TOWN STREET RENEWAL PROJECT

## CONSTRUCTION PLANS FOR AGGREGATE BASE, BITUMINOUS SURFACING, CURB & GUTTER, GRADING, STORM SEWER, SANITARY SEWER, WATERMAIN, SIGNING, STRIPING, CONCRETE SIDEWALK AND CURB RAMPS

## CITY OF ANOKA




## GOVERNING SPECIFICATIONS

THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

THE 2013 EDITION OF THE CITY ENGINEER'S ASSOCIATION OF MINNESOTA "STANDARD SPECIFICATIONS" SHALL GOVERN FOR SANITARY SEWER AND WATERMAIN WORK.

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

ALL TRAFFIC CONTROL DEVICES AND SIGNING 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.

ALL REQUIREMENTS OF THE PROJECT MANUAL FOR THE 2021 SWEDE TOWN STREET RENEWAL PROJECT.

## SHEET INDEX

**THIS PLAN CONTAINS 76 SHEETS**



APPROVED: GREG LEE
ANOKA CITY MANAGER
DATE 2/12/21

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

CRAIG J JOCHUM, P.E.
HAKANSON ANDERSON
DESIGN ENGINEER
23461
LIC. NO.
DATE 2/12/21

| DATE | REVISION |
|---|---|
| 2/26/21 | ISSUED FOR BID |


Hakanson Anderson
Civil Engineers and Land Surveyors
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THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-2, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

ANOKA REAL. CLASSIC.




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## ESTIMATED QUANTITIES

| ITEM NO. | REF. NOTES | Mn/DOT SPEC. NO. | ITEM DESCRIPTION | UNIT | TOTAL ESTIMATED QUANTITY |
|---|---|---|---|---|---|
| 1 | | 2021.501 | MOBILIZATION | LUMP SUM | 1 |
| 2 | | 2101.524 | CLEARING | TREE | 43 |
| 3 | | 2101.524 | GRUBBING | TREE | 43 |
| 4 | | 2104.502 | REMOVE STORM MANHOLE OR CATCH BASIN | EACH | 6 |
| 5 | | 2104.502 | REMOVE SANITARY MANHOLE | EACH | 9 |
| 6 | | 2104.502 | REMOVE CASTING | EACH | 1 |
| 7 | | 2104.502 | REMOVE HYDRANT | EACH | 3 |
| 8 | | 2104.502 | REMOVE SIGN | EACH | 40 |
| 9 | | 2104.502 | SALVAGE ORNAMENTAL LIGHT | EACH | 1 |
| 10 | | 2104.502 | SALVAGE WOOD POLE | EACH | 7 |
| 11 | | 2104.502 | SALVAGE SIGN | EACH | 16 |
| 12 | | 2104.502 | SALVAGE MAILBOX SUPPORT | EACH | 1 |
| 13 | | 2104.502 | SALVAGE CASTING | EACH | 1 |
| 14 | | 2104.502 | SALVAGE HYDRANT AND VALVE | EACH | 1 |
| 15 | | 2104.503 | SAWING CONCRETE PAVEMENT - FULL DEPTH | LIN FT | 367 |
| 16 | | 2104.503 | SAWING BITUMINOUS PAVEMENT - FULL DEPTH | LIN FT | 841 |
| 17 | | 2104.503 | REMOVE WATERMAIN | LIN FT | 2554 |
| 18 | | 2104.503 | REMOVE SEWER PIPE (STORM) | LIN FT | 423 |
| 19 | | 2104.503 | REMOVE SEWER PIPE (SANITARY) | LIN FT | 1320 |
| 20 | | 2104.503 | REMOVE CURB | LIN FT | 4715 |
| 21 | | 2104.503 | REMOVE RETAINING WALL | LIN FT | 10 |
| 22 | | 2104.504 | REMOVE BITUMINOUS DRIVEWAY PAVEMENT | SQ YD | 638 |
| 23 | | 2104.504 | REMOVE BITUMINOUS PAVEMENT | SQ YD | 9497 |
| 24 | | 2104.518 | REMOVE CONCRETE PAVEMENT | SQ FT | 15120 |
| 25 | 1 | 2104.601 | LANDSCAPE RESTORATION | LUMP SUM | 1 |
| 26 | | 2105.507 | COMMON EXCAVATION (EV) | CU YD | 3246 |
| 27 | 2 | 2105.607 | HAUL AND STOCKPILE EXCESS MATERIAL (LV) | CU YD | 3852 |
| 28 | | 2112.519 | SUBGRADE PREPARATION | ROAD STATION | 26.8 |
| 29 | 2 | 2123.610 | STREET SWEEPER (WITH PICKUP BROOM) | HOUR | 32 |
| 30 | 2 | 2130.523 | WATER | M GALLON | 15 |
| 31 | | 2211.509 | AGGREGATE BASE CLASS 5 | TON | 4478 |
| 32 | | 2232.504 | MILL BITUMINOUS SURFACE (1.5") | SQ YD | 44 |
| 33 | | 2357.506 | BITUMINOUS MATERIAL FOR TACK COAT | GALLONS | 618 |
| 34 | | 2360.504 | TYPE SP 9.5 WEARING COURSE MIXTURE (2;B) 1.5" THICK | SQ YD | 467 |
| 35 | | 2360.504 | TYPE SP 9.5 WEARING COURSE MIXTURE (2;B) 2.5" THICK | SQ YD | 293 |
| 36 | | 2360.509 | TYPE SP 9.5 WEARING COURSE MIXTURE (2;B) | TON | 869 |
| 37 | | 2360.509 | TYPE SP 12.5 NON WEARING COURSE MIXTURE (2;B) | TON | 1367 |
| 38 | | 2411.603 | CONCRETE STEPS - DESIGN SPECIAL | LIN FT | 13 |
| 39 | | 2503.503 | 8" PVC PIPE SEWER SDR 35 | LIN FT | 1420 |
| 40 | | 2503.503 | 12" RC PIPE SEWER DESIGN 3006 CLASS V | LIN FT | 352 |
| 41 | | 2503.503 | 15" RC PIPE SEWER DESIGN 3006 CLASS V | LIN FT | 1332 |
| 42 | | 2503.503 | 18" RC PIPE SEWER DESIGN 3006 CLASS V | LIN FT | 505 |
| 43 | | 2503.601 | SANITARY SEWER BYPASS | LUMP SUM | 1 |
| 44 | | 2503.602 | RECONNECT TO EXISTING SANITARY SEWER SERVICE | EACH | 30 |
| 45 | | 2503.602 | CONNECT TO EXISTING SANITARY SEWER | EACH | 4 |
| 46 | | 2503.602 | CONNECT TO EXISTING STORM SEWER | EACH | 1 |
| 47 | | 2503.602 | CONNECT TO EXISTING SANITARY MANHOLE | EACH | 2 |
| 48 | | 2503.602 | 8"X4" PVC WYE SDR 26 | EACH | 30 |
| 49 | | 2503.602 | 8"X6" PVC WYE SDR 26 | EACH | 1 |
| 50 | | 2503.603 | CLEAN AND VIDEO TAPE PIPE SEWER | LIN FT | 1414 |
| 51 | | 2503.603 | 4" PVC SANITARY SERVICE PIPE SDR 26 | LIN FT | 990 |
| 52 | | 2503.603 | 6" PVC SANITARY SERVICE PIPE SDR 26 | LIN FT | 66 |
| 53 | | 2504.601 | TEMPORARY WATERMAIN | LUMP SUM | 1 |
| 54 | | 2504.602 | TEMPORARY WATER SERVICE | EACH | 29 |
| 55 | | 2504.602 | RECONNECT WATER SERVICE | EACH | 29 |
| 56 | | 2504.602 | CONNECT TO EXISTING WATERMAIN | EACH | 6 |
| 57 | | 2504.602 | HYDRANT | EACH | 6 |
| 58 | | 2504.602 | 1" CORPORATION STOP | EACH | 29 |
| 59 | | 2504.602 | 2" CORPORATION STOP | EACH | 2 |
| 60 | | 2504.602 | 6" GATE VALVE AND BOX | EACH | 19 |
| 61 | | 2504.602 | 1" CURB STOP AND BOX | EACH | 29 |
| 62 | | 2504.602 | 2" CURB STOP AND BOX | EACH | 2 |
| 63 | | 2504.603 | HYDRANT RISER | LIN FT | 6 |
| 64 | 3 | 2504.603 | 1" TYPE PE PIPE | LIN FT | 957 |
| 65 | 3 | 2504.603 | 2" TYPE PE PIPE | LIN FT | 80 |

## ESTIMATED QUANTITIES

| ITEM NO. | REF. NOTES | Mn/DOT SPEC. NO. | ITEM DESCRIPTION | UNIT | TOTAL ESTIMATED QUANTITY |
|---|---|---|---|---|---|
| 66 | | 2504.603 | 6" WATERMAIN DUCTILE IRON CL 52 | LIN FT | 2869 |
| 67 | | 2504.604 | 4" POLYSTYRENE INSULATION | SQ YD | 682 |
| 68 | | 2504.608 | DUCTILE IRON FITTINGS | POUND | 2414 |
| 69 | | 2506.502 | CONSTRUCT DRAINAGE STRUCTURE DESIGN H | EACH | 12 |
| 70 | | 2506.502 | CASTING ASSEMBLY | EACH | 40 |
| 71 | | 2506.502 | INSTALL CASTING | EACH | 1 |
| 72 | | 2506.503 | CONSTRUCT DRAINAGE STRUCTURE DESIGN 4007 | LIN FT | 65.2 |
| 73 | | 2506.503 | CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020 | LIN FT | 116.5 |
| 74 | | 2506.602 | CONNECT INTO EXISTING STORM MANHOLE | EACH | 2 |
| 75 | | 2521.518 | 4" CONCRETE WALK | SQ FT | 11378 |
| 76 | | 2521.518 | 6" CONCRETE WALK | SQ FT | 700 |
| 77 | | 2531.503 | CONCRETE CURB AND GUTTER DESIGN B618 | LIN FT | 4955 |
| 78 | | 2531.504 | 6" CONCRETE DRIVEWAY PAVEMENT | SQ YD | 571 |
| 79 | | 2531.504 | 8" CONCRETE DRIVEWAY PAVEMENT | SQ YD | 256 |
| 80 | | 2531.618 | TRUNCATED DOMES | SQ FT | 120 |
| 81 | 5 | 2533.503 | PORTABLE PRECAST CONCRETE BARRIER DESIGN 8337 | LIN FT | 100 |
| 82 | 5 | 2533.503 | RELOCATE PORTABLE PRECAST CONCRETE BARRIER DESIGN 8337 | LIN FT | 100 |
| 83 | | 2540.602 | INSTALL MAILBOX SUPPORT | EACH | 1 |
| 84 | | 2545.503 | INSTALL 1 1/2" PVC ELECTRICAL CONDUIT - OPEN CUT | LIN FT | 1885 |
| 85 | | 2545.503 | INSTALL 2" PVC ELECTRICAL CONDUIT - OPEN CUT | LIN FT | 504 |
| 86 | | 2545.503 | INSTALL 3" PVC ELECTRICAL CONDUIT - OPEN CUT | LIN FT | 211 |
| 87 | | 2545.503 | INSTALL 4" PVC ELECTRICAL CONDUIT - OPEN CUT | LIN FT | 63 |
| 88 | | 2545.503 | INSTALL 5" PVC ELECTRICAL CONDUIT - OPEN CUT | LIN FT | 1187 |
| 89 | | 2545.503 | INSTALL 1 1/2" PVC ELECTRICAL CONDUIT - DIRECTIONAL DRILL | LIN FT | 63 |
| 90 | | 2545.503 | INSTALL 2" PVC ELECTRICAL CONDUIT - DIRECTIONAL DRILL | LIN FT | 1437 |
| 91 | | 2545.503 | INSTALL 3" PVC ELECTRICAL CONDUIT - DIRECTIONAL DRILL | LIN FT | 705 |
| 92 | | 2545.503 | INSTALL 4" PVC ELECTRICAL CONDUIT - DIRECTIONAL DRILL | LIN FT | 630 |
| 93 | | 2545.503 | INSTALL 5" PVC ELECTRICAL CONDUIT - DIRECTIONAL DRILL | LIN FT | 588 |
| 94 | | 2545.602 | INSTALL VAULT MANHOLE | EACH | 1 |
| 95 | | 2545.602 | INSTALL TRANSFORMER BASE | EACH | 7 |
| 96 | | 2545.602 | INSTALL SWITCH MOLE | EACH | 1 |
| 97 | | 2545.602 | INSTALL SERVICE BOX | EACH | 15 |
| 98 | | 2545.602 | INSTALL SPLICE BOX | EACH | 1 |
| 99 | | 2545.602 | INSTALL STREET LIGHT BASE | EACH | 8 |
| 100 | | 2545.602 | ADJUST HANDHOLE | EACH | 10 |
| 101 | | 2563.601 | TRAFFIC CONTROL SUPERVISOR | LUMP SUM | 1 |
| 102 | | 2563.601 | TRAFFIC CONTROL | LUMP SUM | 1 |
| 103 | | 2563.601 | ALTERNATE PEDESTRIAN ROUTE | LUMP SUM | 1 |
| 104 | 5 | 2563.615 | TEMPORARY IMPACT ATTENUATOR | ASSEMBLY | 2 |
| 105 | 5 | 2563.615 | RELOCATE TEMPORARY IMPACT ATTENUATOR | ASSEMBLY | 2 |
| 106 | 4 | 2564.502 | INSTALL SIGN TYPE C | EACH | 57 |
| 107 | 4 | 2564.502 | INSTALL SIGN TYPE D | EACH | 42 |
| 108 | | 2571.524 | CONIFEROUS TREE 6' HT B&B | TREE | 19 |
| 109 | | 2571.524 | DECIDUOUS TREE 2.5" CAL B&B | TREE | 24 |
| 110 | | 2572.503 | TEMPORARY FENCE | LIN FT | 1000 |
| 111 | | 2573.501 | STABILIZED CONSTRUCTION EXIT | LUMP SUM | 1 |
| 112 | | 2573.501 | EROSION CONTROL SUPERVISOR | LUMP SUM | 1 |
| 113 | | 2573.502 | STORM DRAIN INLET PROTECTION | EACH | 29 |
| 114 | | 2574.507 | LOAM TOPSOIL BORROW (LV) | CU YD | 988 |
| 115 | | 2574.508 | FERTILIZER TYPE 1 | POUND | 424 |
| 116 | | 2575.504 | SODDING TYPE MINERAL | SQ YD | 6840 |
| 117 | | 2582.503 | 6" SOLID LINE MULTI-COMPONENT | LIN FT | 592 |
| 118 | | 2582.503 | 12" SOLID LINE MULTI-COMPONENT | LIN FT | 1326 |
| 119 | | 2582.503 | 24" SOLID LINE MULTI-COMPONENT | LIN FT | 135 |
| 120 | | 2582.518 | CROSSWALK MULTI-COMPONENT | SQ FT | 630 |
| 121 | | 2582.518 | CROSSWALK PREFORM THERMOPLASTIC | SQ FT | 180 |

REFERENCE NOTES:

1. SEE SECTION 01 02 00 ALLOWANCES OF THE PROJECT MANUAL FOR ADDITIONAL INFORMATION.
2. SEE SECTION 01 35 00 SPECIAL PROJECT PROCEDURES OF THE PROJECT MANUAL FOR ADDITIONAL INFORMATION.
3. REQUIRES TRACER WIRE. TRACER WIRE SHALL BE INCIDENTAL.
4. CITY SHALL FURNISH ALL SIGNS AND POSTS. CONTRACTOR SHALL FURNISH FASTENERS AND INSTALL SIGNS. FURNISHING FASTENERS SHALL BE INCIDENTAL.
5. CONTRACTOR SHALL USE PORTABLE PRECAST CONCRETE BARRIERS AND TEMPORARY IMPACT ATTENUATORS IF REQUIRED BY THE ANOKA COUNTY HIGHWAY DEPARTMENT FOR THE TIE INS AT 7TH AVENUE.

| BASIS OF ESTIMATED QUANTITIES | |
|---|---|
| AGGREGATE BASE CLASS 5 | 100 lbs/yd$^2$/in |
| NON WEARING BITUMINOUS COURSE MIXTURE | 110 lbs/yd$^2$/in |
| WEARING COURSE BITUMINOUS MIXTURE | 110 lbs/yd$^2$/in |
| BITUMINOUS MATERIAL FOR TACK COAT | 0.05 gal/yd$^2$ |
| TYPE 1, COMMERCIAL FERTILIZER | 300 lbs/acre |

| DATE | REVISION |
|---|---|
| 2/26/21 | ISSUED FOR BID |

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

CRAIG J. JOCHUM, P.E.
Date 2/12/21 Lic. No. 23461

DESIGNED BY: TAE
DRAWN BY: DMS
CHECKED BY: CJJ

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2021 SWEDE TOWN
STREET RENEWAL PROJECT

ESTIMATED QUANTITIES

CITY OF ANOKA, MINNESOTA

SHEET 2 OF 65 SHEETS

AN390

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GENERAL CONSTRUCTION NOTES:

1. CONTRACTOR SHALL SALVAGE AND TEMPORARILY PLACE ALL MAIL BOXES AT AN ENGINEER APPROVED LOCATION AS NEEDED DURING CONSTRUCTION. CONTRACTOR SHALL ALSO REINSTALL MAILBOXES BACK TO THEIR CURRENT LOCATION. ALL WORK REQUIRED TO PROVIDE TEMPORARY MAIL SERVICE AND TO REINSTALL SALVAGED MAILBOXES SHALL BE INCIDENTAL.
2. CONTRACTOR SHALL SAWCUT DRIVEWAYS AND SIDEWALKS AT DIRECTION OF ENGINEER. SAWING CONCRETE CURB AT MATCH POINTS SHALL BE INCIDENTAL.
3. CONCRETE CURB AND GUTTER SHALL BE STAMPED WITH AN ARROW AND "CS" AT CURB STOP LOCATIONS AND A "GV" AT GATE VALVE LOCATIONS. CITY OF ANOKA WILL SUPPLY METAL STAMPS FOR CONTRACTOR'S USE. GATE VALVES AND CURB STOPS SHALL BE LOCATED BY CONTRACTOR PRIOR TO CURB PLACEMENT (INCIDENTAL).
4. ANY DEWATERING REQUIRED FOR CONSTRUCTION SHALL MEET REGULATORY REQUIREMENTS AND BEST MANAGEMENT PRACTICES SUCH THAT THE RECEIVING WATER IS NOT ADVERSELY AFFECTED. ALL DEWATERING SHALL BE INCIDENTAL.
5. THE UTILITY COMPANIES, IF NECESSARY, WILL RELOCATE THEIR FACILITIES CONCURRENTLY WITH THE CONSTRUCTION OPERATIONS UNDER THIS CONTRACT. CONTRACTOR SHALL SCHEDULE AND COORDINATE CONSTRUCTION IN COOPERATION WITH UTILITY RELOCATION. THE CONTRACTOR MAY NEED TO INSTALL UTILITY CONDUIT CROSSINGS FOR FUTURE UTILITIES. CONDUIT SHALL BE PROVIDED BY THE UTILITY COMPANIES. INSTALLATION BY THE CONTRACTOR SHALL BE INCIDENTAL.
6. REMOVAL OF EXISTING SANITARY SEWER AND WATER SERVICE PIPE SHALL BE INCIDENTAL.
7. UNLESS NOTED, REMOVAL OF WATERMAIN VALVES AND VALVE BOXES SHALL BE INCIDENTAL.
8. ALL DISTURBED AREAS SHALL BE RESTORED WITH 4" OF TOPSOIL, FERTILIZER AND SOD UNLESS OTHERWISE NOTED IN THE PLANS.
9. THE CONCRETE MIX DESIGNS FOR THIS PROJECT SHALL BE 3F52 FOR HAND-FORMED CONCRETE AND 3F32 FOR MACHINE FORMED CONCRETE. ENTRAINED AIR SHALL BE MAINTAINED BETWEEN 5% AND 7%. COARSE AGGREGATE SHALL BE CLASS A AGGREGATE.
10. NEW TREE LOCATIONS ARE NOT SHOWN ON THE PLANS-TREES SHALL BE PLANTED IN LOCATIONS AS DIRECTED BY THE ENGINEER AND AS SHOWN ON DETAIL 2/13.
11. UNLESS NOTED IN THE PLANS, REMOVAL OF CASTINGS SHALL BE INCIDENTAL.
12. CONTRACTOR SHALL SALVAGE THE WOOD POWER POLES AS NOTED IN THESE PLANS. THIS WORK SHALL BE PAID PER ITEM 2104-SALVAGE WOOD POLE.

REFERENCE NOTES:

① QUANTITY IS BASED ON 3" OF BITUMINOUS REMOVAL.

② QUANTITY IS BASED ON 3.5" OF BITUMINOUS REMOVAL.

③ ALL EXCESS SOIL THAT IS NOT CLEAN, AS DETERMINED BY THE ENGINEER, SHALL BE THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF OFF SITE. PAY ITEM 2105-HAUL AND STOCKPILE EXCESS MATERIAL SHALL INCLUDE ALL LABOR, EQUIPMENT AND MATERIAL REQUIRED TO HAUL AND DISPOSE OF MATERIAL OFF SITE.

④ ALL EXCESS CLEAN SOIL, AS DETERMINED BY THE ENGINEER, SHALL BE PLACED AT THE CITY'S FUTURE PUBLIC WORKS FACILITY LOCATED IN THE NORTHWEST CORNER OF 7TH AVENUE AND GARFIELD STREET. PAY ITEM 2105-HAUL AND STOCKPILE EXCESS MATERIAL SHALL INCLUDE ALL LABOR, EQUIPMENT AND MATERIAL REQUIRED TO HAUL AND DISPOSE OF MATERIAL AT THE FUTURE PUBLIC WORKS SITE.

| STANDARD PLATES | |
|---|---|
| THESE STANDARD PLATES AS APPROVED BY THE FHWA SHALL APPLY | |
| PLATE NO. | DESCRIPTION |
| 3000M | REINFORCED CONCRETE PIPE (5 SHEETS) |
| 3006H | GASKET JOINT FOR R.C. PIPE (2 SHEETS) |
| 3007F | SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES |
| 3145G | CONCRETE PIPE OR PRECAST CULVERT TIES |
| 4006L | MANHOLE OR CATCH BASIN PRECAST - DESIGNS G AND H |
| 4007C | PRECAST MECHANICAL JOINT SEWER MANHOLE |
| 4010H | CONCRETE SHORT CONE AND ADJUSTING RING (SECTIONAL CONCRETE) |
| 4011E | PRECAST CONCRETE BASE |
| 4020J | MANHOLE OR CATCH BASIN (FOR USE WITH OR WITHOUT TRAFFIC LOADS) (2 SHEETS) |
| 4026A | CONCRETE ENCASED CONCRETE ADJUSTING RINGS |
| 4101D | RING CASTING FOR MANHOLE OR CATCH BASIN |
| 4108F | ADJUSTING RINGS FOR CATCH BASINS AND MANHOLES |
| 4110F | COVER CASTING FOR MANHOLE (FOR USE IN ALL TRAFFIC AREAS) CASTING NO. 715 AND 716 |
| 4154B | CATCH BASIN GRATE CASTING - CASTING NO. 816 |
| 4160D | CURB BOX CASTING FOR CATCH BASIN - CASTING NO. 823A OR 833A |
| 4180J | MANHOLE OR CATCH BASIN STEP |
| 7038A | DETECTABLE WARNING SURFACE TRUNCATED DOMES |
| 7100H | CONCRETE CURB AND GUTTER (DESIGN B AND DESIGN V) |
| 7111J | INSTALLATION OF CATCH BASIN CASTINGS (CONCRETE CURB AND GUTTER) |
| 8000J | CHANNELIZERS |

# SUMMARY OF EARTH BALANCE

| | | |
|---|---|---|
| **SUMMARY OF COMMON EXCAVATION** | | |
| COMMON EXCAVATION-VAN BUREN STREET | | 998 C.Y. |
| COMMON EXCAVATION-SCHOOL STREET/6TH AVENUE | + | 1117 C.Y. |
| COMMON EXCAVATION-SCHOOL STREET (EAST) | + | 550 C.Y. |
| COMMON EXCAVATION-6TH AVENUE (SOUTH) | + | 155 C.Y. |
| COMMON EXCAVATION-6TH AVENUE (NORTH) | + | 571 C.Y. |
| BOULEVARD SUBCUT-VAN BUREN STREET | + | 231 C.Y. |
| BOULEVARD SUBCUT-SCHOOL STREET/6TH AVENUE | + | 227 C.Y. |
| BOULEVARD SUBCUT-SCHOOL STREET (EAST) | + | 174 C.Y. |
| BOULEVARD SUBCUT-6TH AVENUE (SOUTH) | + | 40 C.Y. |
| BOULEVARD SUBCUT-6TH AVENUE (NORTH) | + | 88 C.Y. |
| BITUMINOUS PAVEMENT REMOVAL-VAN BUREN STREET | - | 229 C.Y. ① |
| BITUMINOUS PAVEMENT REMOVAL-SCHOOL STREET/6TH AVENUE | - | 284 C.Y. ② |
| BITUMINOUS PAVEMENT REMOVAL-SCHOOL STREET (EAST) | - | 131 C.Y. ① |
| BITUMINOUS PAVEMENT REMOVAL-6TH AVENUE (SOUTH) | - | 72 C.Y. ① |
| BITUMINOUS PAVEMENT REMOVAL-6TH AVENUE (NORTH) | - | 116 C.Y. ① |
| CONCRETE WALK REMOVAL-SCHOOL STREET/6TH AVENUE | - | 59 C.Y. |
| CONCRETE WALK REMOVAL-6TH AVENUE (SOUTH) | - | 14 C.Y. |
| TOTAL COMMON EXCAVATION (EV) | | 3246 C.Y. |
| COMPACTION FACTOR | * | 1.2 |
| TOTAL COMMON EXCAVATION (LV) | | 3895 C.Y. |
| **SUMMARY OF FILL QUANTITY** | | |
| REQUIRED FILL-VAN BUREN STREET | | 6 C.Y. |
| REQUIRED FILL-SCHOOL STREET/6TH AVENUE | + | 20 C.Y. |
| REQUIRED FILL-SCHOOL STREET (EAST) | + | 5 C.Y. |
| REQUIRED FILL-6TH AVENUE (SOUTH) | + | 1 C.Y. |
| REQUIRED FILL-6TH AVENUE (NORTH) | + | 1 C.Y. |
| REQUIRED FILL (CV) | | 33 C.Y. |
| COMPACTION FACTOR | * | 1.3 |
| TOTAL FILL REQUIRED (LV) | | 43 C.Y. |
| TOTAL COMMON EXCAVATION (LV) | - | 3895 C.Y. |
| TOTAL EXCESS MATERIAL (LV) | | 3852 C.Y. |
| EXCESS BOULEVARD SUBCUT (LV) | | 912 C.Y. ③ |
| EXCESS COMMON EXCAVATION (LV) | | 2940 C.Y. ④ |
| **SUMMARY OF LOAM TOPSOIL QUANTITY** | | |
| VAN BUREN STREET | | 231 C.Y. |
| SCHOOL STREET/6TH AVENUE | + | 227 C.Y. |
| SCHOOL STREET (EAST) | + | 174 C.Y. |
| 6TH AVENUE (SOUTH) | + | 40 C.Y. |
| 6TH AVENUE (NORTH) | + | 88 C.Y. |
| LOAM TOPSOIL QUANTITY (CV) | | 760 C.Y. |
| COMPACTION FACTOR | * | 1.3 |
| TOTAL LOAM TOPSOIL QUANTITY (LV) | | 988 C.Y. |

LEGEND

- FO-BUR — BURIED FIBER OPTIC CABLE
- T-BUR — BURIED TELEPHONE CABLE
- G — GAS MAIN
- P-BUR — BURIED ELECTRIC CABLE
- P-OH — OVERHEAD ELECTRIC CABLE
- E E T T — UTILITY PEDESTAL
- POWER POLE
- GUY WIRE
- LIGHT POLE
- SIGN
- >> — STORM SEWER
- > — SANITARY SEWER
- I — WATERMAIN
- HYDRANT
- GATE/BUTTERFLY VALVE
- S — SANITARY SEWER MANHOLE
- D — STORM SEWER MANHOLE
- CATCH BASIN
- W — WATER SERVICE PER 1/9
- S — SEWER SERVICE PER 2/5
- TREES AND SHRUBS
- TRUNCATED DOMES
- CONCRETE CURB & GUTTER
- 2/3 — DETAIL NUMBER / SHEET NUMBER
- B-X — SOIL BORING LOCATION
- C-X — BITUMINOUS CORING LOCATION

| DATE | REVISION |
|---|---|
| 2/26/21 | ISSUED FOR BID |

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

CRAIG J. JOCHUM, P.E.
Date 2/12/21 Lic. No. 23461

DESIGNED BY: TAE
DRAWN BY: DMS
CHECKED BY: CJJ

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763-427-5860 FAX 763-427-0520
www.hakanson-anderson.com

2021 SWEDE TOWN
STREET RENEWAL PROJECT

CONSTRUCTION NOTES, STANDARD PLATES AND EARTHWORK CALCULATIONS
CITY OF ANOKA, MINNESOTA

SHEET 3 OF 65 SHEETS

AN390

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## STORM SEWER SCHEDULE

| STRUCTURE NO. | | STRUCTURE LOCATION | | | DRAINAGE STRUCTURES | | | | FLOWLINE, TOP OF FRAME OR RIM ELEVATION | INVERT ELEVATION | | 12" RCP CL V | 15" RCP CL V | 18" RCP CL V | PIPE SLOPE | STORM DRAIN INLET PROTECTION TYPE 1 | STORM DRAIN INLET PROTECTION TYPE 2 | REFERENCE NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | DESIGN / PAY HEIGHT | | | | | | | | | | | | |
| FLOWS FROM | FLOWS TO | STREET | STATION | OFFSET | TYPE | H LIN FT | 48-4020 LIN FT | CASTING ASSEMBLY | | | | LIN FT | LIN FT | LIN FT | % | EACH | EACH | |
| 501 | EX. PIPE | VAN BUREN STREET | 17+93 | 3' L | STMH | | 13.55 | R-1733 | 874.00 | SW | 863.73 | | | | | | | 1 |
| | | | | | | | | | | E | 860.45 | | | | | | | |
| 502 | 501 | VAN BUREN STREET | 17+60 | 17.5' R | CBMH | | 9.20 | R-3250-DVSP | 873.12 | NE | 863.92 | | | 38 | 0.50 | 1 | 1 | 3 |
| | | | | | | | | | | W | 864.02 | | | | | | | |
| | | | | | | | | | | N | 869.12 | | | | | | | |
| 503 | 502 | VAN BUREN STREET | 15+10 | 17.5' R | CBMH | | 7.22 | R-3250-DVSP | 872.48 | E | 865.26 | | | 250 | 0.50 | 1 | 1 | 3 |
| | | | | | | | | | | W | 865.36 | | | | | | | |
| | | | | | | | | | | N | 868.48 | | | | | | | |
| 504 | 503 | VAN BUREN STREET | 13+19 | 15' R | STMH | | 8.94 | R-1733 | 875.26 | E | 866.32 | | | 191 | 0.50 | | | 1 |
| | | | | | | | | | | S | 867.40 | | | | | | | |
| 505 | 504 | 6TH AVENUE | 14+00 | 15' L | CBMH | | 6.88 | R-3250-DVSP | 874.43 | N | 867.55 | | | 31 | 0.50 | 1 | 1 | 3 |
| | | | | | | | | | | S | 867.65 | | | | | | | |
| | | | | | | | | | | E | 870.43 | | | | | | | |
| 506 | 505 | 6TH AVENUE | 12+40 | 15' L | CBMH | | 6.03 | R-3250-DVSP | 874.48 | N | 868.45 | | | | | | | |
| | | | | | | | | | | S | 868.55 | | 160 | | 0.50 | 1 | 1 | 3 |
| | | | | | | | | | | E | 870.48 | | | | | | | |
| 507 | 506 | 6TH AVENUE | 11+03 | 15' L | CBMH | | 6.18 | R-3250-DVSP | 875.41 | N | 869.23 | | | | | | | |
| | | | | | | | | | | S | 870.25 | | 137 | | 0.50 | | 1 | 3 |
| | | | | | | | | | | E | 869.43 | | | | | | | |
| 508 | 507 | SCHOOL STREET | 9+76 | 15' R | CBMH | | 5.41 | R-32510-DVSP | 876.29 | N | 870.88 | | | | | | | |
| | | | | | | | | | | W | 870.98 | | 127 | | 0.50 | | 1 | 3 |
| 509 | 508 | SCHOOL STREET | 8+23 | 12' R | STMH | | 5.61 | R-1733 | 877.37 | E | 871.76 | | | | | | | |
| | | | | | | | | | | W | 871.86 | | 158 | | 0.50 | | | 1 |
| | | | | | | | | | | S | 872.60 | | | | | | | |
| 510 | 509 | SCHOOL STREET | 7+60 | 15' R | CBMH | | 4.00 | R-3250-DVSP | 876.17 | E | 872.17 | | | | | | | |
| | | | | | | | | | | N | 872.37 | | 63 | | 0.50 | 1 | 1 | 3 |
| 511 | 510 | SCHOOL STREET | 7+60 | 15' L | CB | 3.50 | | R-3250-DVSP | 876.17 | | 872.67 | 28 | | | 1.07 | 1 | 1 | 2 |
| 512 | 523 | 6TH AVENUE | 20+40 | 15' L | CBMH | | 4.13 | R-3250-DVSP | 876.78 | N | 872.65 | | | | | | | |
| | | | | | | | | | | S | 872.70 | | 210 | | 0.50 | 1 | 1 | 3 |
| | | | | | | | | | | E | 872.98 | | | | | | | |
| 513 | 512 | 6TH AVENUE | 20+40 | 15' R | CB | 3.50 | | R-3250-DVSP | 876.78 | | 873.28 | 28 | | | 1.07 | 1 | 1 | 2 |
| 514 | 506 | 6TH AVENUE | 12+40 | 15' R | CB | 3.50 | | R-3250-DVSP | 874.48 | | 870.98 | 28 | | | 1.79 | 1 | 1 | 2 |
| 515 | 505 | 6TH AVENUE | 14+00 | 15' R | CB | 3.50 | | R-3250-DVSP | 874.43 | | 870.93 | 28 | | | 1.79 | 1 | 1 | 2 |
| 516 | 503 | VAN BUREN STREET | 15+10 | 17.5' L | CB | 3.50 | | R-3250-DVSP | 872.48 | | 868.98 | 34 | | | 1.47 | 1 | 1 | 2 |
| 517 | 502 | VAN BUREN STREET | 17+60 | 17.5' L | CB | 3.50 | | R-3250-DVSP | 873.12 | | 869.62 | 34 | | | 1.47 | 1 | 1 | 2 |
| 518 | 507 | SCHOOL STREET | 20+35 | 15' R | CBMH | | 5.30 | R-3250-DVSP | 874.87 | W | 869.67 | | | | | | | |
| | | | | | | | | | | N | 870.87 | | 47 | | 0.50 | 1 | 1 | 3 |
| | | | | | | | | | | E | 869.57 | | | | | | | |
| 519 | 518 | SCHOOL STREET | 20+35 | 15' L | CB | 3.50 | | R-3250-DVSP | 874.87 | | 871.37 | 28 | | | 1.07 | 1 | 1 | 2 |
| 520 | 509 | 6TH AVENUE | 11+30 | 18.5' L | CBMH | | 4.00 | R-3250-DVSP | 876.86 | N | 872.86 | | | | | | | |
| | | | | | | | | | | E | 873.06 | | 53 | | 0.50 | 1 | 1 | 3 |
| 521 | 520 | 6TH AVENUE | 11+30 | 18.5' R | CB | 3.50 | | R-3250-DVSP | 876.86 | | 873.36 | 35 | | | 0.86 | 1 | 1 | 2 |
| 522 | EX. MANHOLE | 6TH AVENUE | 23+12 | 12' L | STMH | | 5.24 | R-1733 | 876.42 | W | 872.72 | | | | | | | |
| | | | | | | | | | | N | 871.18 | | 27 | | 0.50 | | | 1 |
| | | | | | | | | | | S | 871.23 | | | | | | | |
| 523 | 524 | 6TH AVENUE | 22+50 | 15' L | CBMH | | 4.38 | R-3250-DVSP | 875.93 | N | 871.55 | | | | | | | |
| | | | | | | | | | | E | 871.93 | | 63 | | 0.50 | 1 | 1 | 3 |
| | | | | | | | | | | S | 871.60 | | | | | | | |
| 524 | 523 | 6TH AVENUE | 22+50 | 15' R | CB | 3.50 | | R-3250-DVSP | 875.93 | | 872.43 | 28 | | | 1.79 | 1 | 1 | 2 |
| 525 | 524 | 6TH AVENUE | 23+12 | 31' L | CB | 3.50 | | R-3250-EVSP | 876.31 | | 872.81 | 19 | | | 0.50 | 1 | 1 | 2 |
| 526 | 527 | SCHOOL STREET | 21+55 | 15' L | CB | 3.50 | | R-3250-DVSP | 874.17 | | 870.67 | 28 | | | 1.07 | 1 | 1 | 2 |
| 527 | 518 | SCHOOL STREET | 21+55 | 15' R | CBMH | | 4.00 | R-3250-DVSP | 874.17 | W | 870.17 | | | | | | | |
| | | | | | | | | | | N | 870.37 | | 120 | | 0.50 | 1 | 1 | 3 |
| 528 | 512 | VAN BUREN STREET | 11+59 | 17.5' R | CBMH | | 4.33 | R-3250-DVSP | 877.31 | N | 872.98 | | | | | | | |
| | | | | | | | | | | W | 873.03 | | 55 | | 0.50 | | 1 | 3 |
| 529 | 528 | VAN BUREN STREET | 10+70 | 17.5' R | CBMH | | 4.00 | R-3250-DVSP | 877.47 | E | 873.47 | | | | | | | |
| | | | | | | | | | | N | 873.67 | | 89 | | 0.50 | 1 | 1 | 3 |
| 530 | 529 | VAN BUREN STREET | 10+70 | 17.5' L | CB | 3.50 | | R-3250-DVSP | 877.47 | | 873.97 | 34 | | | 0.88 | 1 | 1 | 2 |
| TOTAL | | | | | 30 | 42.00 | 108.40 | 30 | | | | 352 | 1309 | 510 | | 23 | 26 | |

STORM SEWER SCHEDULE NOTES:
1. STRUCTURE SHALL BE CONSTRUCTED PER (1/10).
2. STRUCTURE SHALL BE CONSTRUCTED PER (2/10).
3. STRUCTURE SHALL BE CONSTRUCTED PER (3/10).

GENERAL NOTES:
1. OFFSET DIMENSIONS ARE MEASURED TO THE BACK OF CURB, CENTER OF STRUCTURE OR END OF APRON.

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Date 2/12/21 Lic. No. 23461

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DRAWN BY: DMS
CHECKED BY: CJJ

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2021 SWEDE TOWN STREET RENEWAL PROJECT

STORM SEWER SCHEDULES

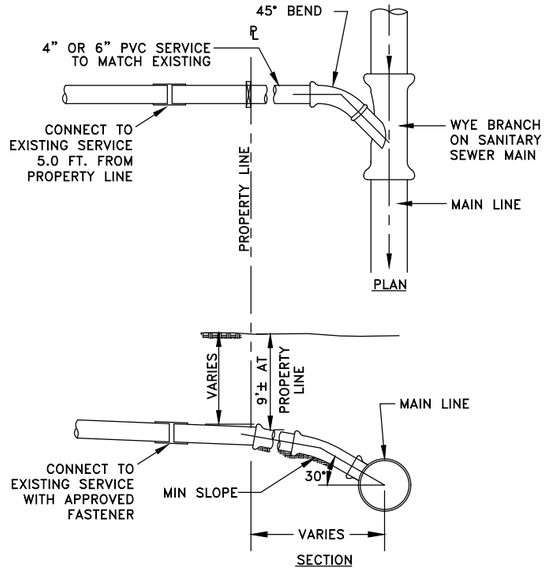
CITY OF ANOKA, MINNESOTA

SHEET 4 OF 65 SHEETS

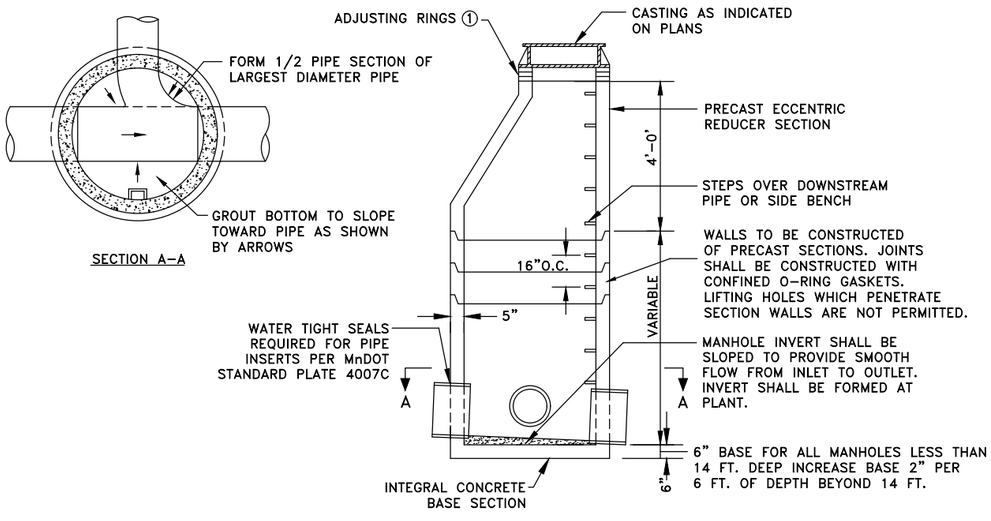
AN390

## SANITARY SEWER SCHEDULE

| STRUCTURE NO. | | STRUCTURE LOCATION | | | NEENAH CASTING ASSEMBLY | RIM ELEVATION | INVERT ELEVATION | | TOTAL BUILD DEPTH | DOWNSTREAM PIPE | | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FLOWS FROM | FLOWS TO | STREET | STATION | OFFSET | | | | | | 8" PVC SDR 35 | PIPE SLOPE | |
| | | | | | | | | | LIN FT | LIN FT | % | |
| 101 | EX. PIPE | VAN BUREN STREET | 18+00 | 2' R | R-1733 | 874.05 | E | 866.83 | 7.22 | | | 1 |
| | | | | | | | W | 866.88 | | | | |
| 102 | 101 | VAN BUREN STREET | 16+25 | 0' | R-1733 | 873.68 | E | 867.58 | 6.10 | 175 | 0.40 | 1 |
| | | | | | | | W | 867.63 | | | | |
| 103 | 102 | VAN BUREN STREET | 13+50 | 0' | R-1733 | 875.10 | | 868.73 | 6.37 | 275 | 0.40 | 1 |
| 104 | 109 | 6TH AVENUE | 20+79 | 0' | R-1733 | 877.77 | | 869.03 | 8.74 | 252 | 0.40 | 1 |
| 105 | EX. PIPE | SCHOOL STREET | 24+79 | 0' | R-1733 | 873.08 | E | 867.24 | 5.84 | | | 1 |
| | | | | | | | W | 867.29 | | | | |
| 106 | 105 | SCHOOL STREET | 20+62 | 0' | R-1733 | 875.79 | | 868.96 | 6.83 | 416 | 0.40 | 1 |
| 107 | EX. MANHOLE | 6TH AVENUE | 11+95 | 4' R | R-1733 | 877.89 | | 870.14 | 7.75 | 195 | 0.40 | 1 |
| 109 | EX. MANHOLE | 6TH AVENUE | 23+31 | 0' | R-1733 | 876.63 | N | 867.97 | 8.66 | 101 | 0.40 | 1 |
| | | | | | | | W | 869.65 | | | | |
| | | | | | | | S | 868.02 | | | | |
| 111 | EX. PIPE | VAN BUREN STREET | 10+86 | 0' | R-1733 | 878.02 | | 870.37 | 7.65 | 6 | 0.40 | 1 |
| TOTALS | | | | | 9 | | | | 65.16 | 1,420 | | |




2/5 TYPICAL PVC SEWER SERVICE
NO SCALE




1/5 STANDARD SANITARY SEWER MANHOLE
48" DIAMETER, ECCENTRIC CONE
NO SCALE

SANITARY SEWER SCHEDULE NOTES:
1. STRUCTURE SHALL BE CONSTRUCTED PER 1/5.

REFERENCE NOTES:
① HIGH DENSITY POLYETHYLENE ADJUSTMENT RINGS SHALL BE USED FOR ALL SANITARY SEWER MANHOLES THE CONTRACTOR SHALL USE STANDARD AVAILABLE RING THICKNESSES THAT MINIMIZE THE NUMBER OF RINGS REQUIRED. A MAXIMUM OF 3 RINGS SHALL BE USED FOR ADJUSTMENT. THE MINIMUM ADJUSTMENT HEIGHT SHALL BE 4 INCHES AND THE MAXIMUM ADJUSTMENT HEIGHT SHALL BE 8 INCHES.

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Date 2/12/21 Lic. No. 23461

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DRAWN BY: DMS
CHECKED BY: CJJ

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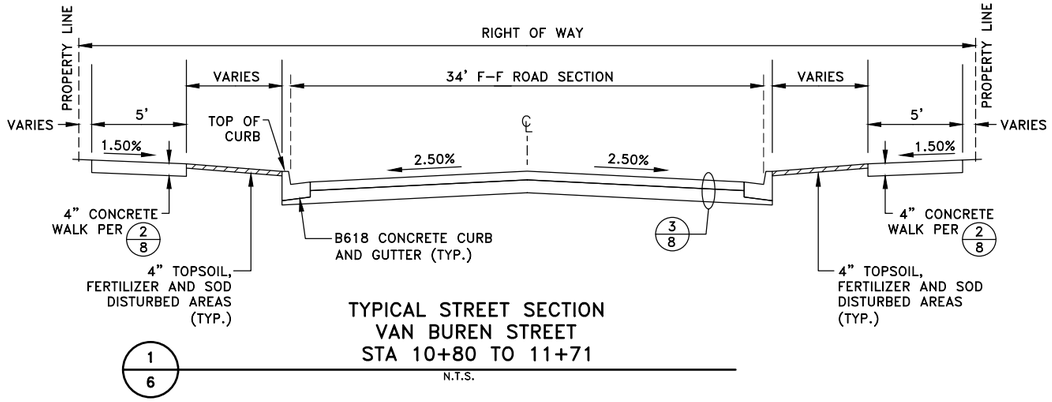
2021 SWEDE TOWN
STREET RENEWAL PROJECT

SANITARY SEWER SCHEDULE AND DETAILS

CITY OF ANOKA, MINNESOTA

SHEET 5 OF 65 SHEETS

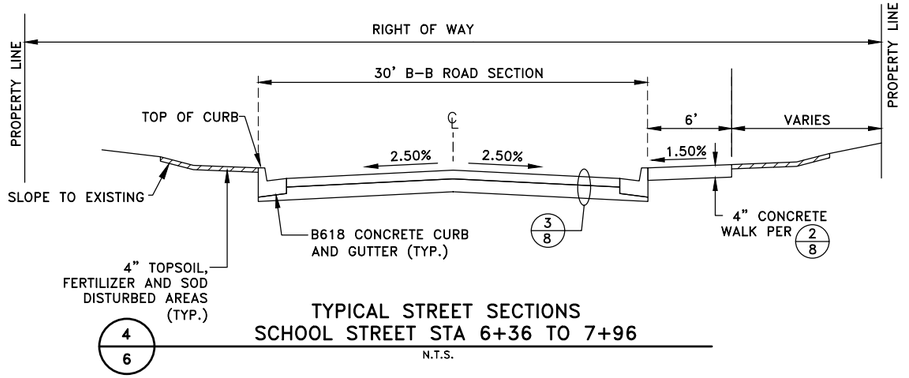
AN390




TYPICAL STREET SECTION
VAN BUREN STREET
STA 10+80 TO 11+71

1/6

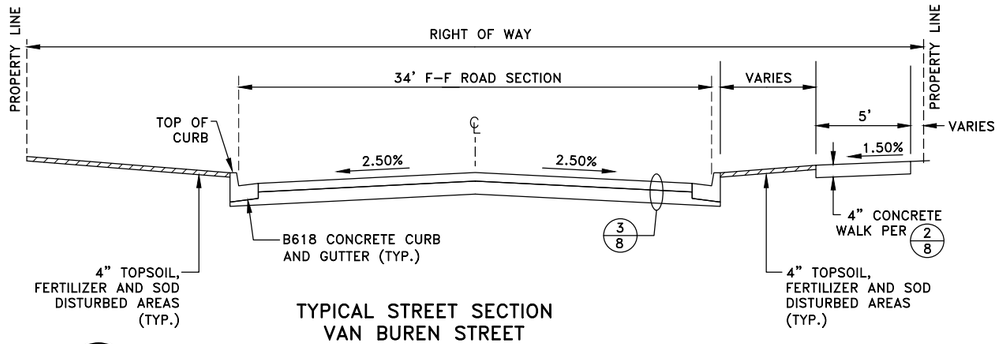
N.T.S.




TYPICAL STREET SECTIONS
SCHOOL STREET STA 6+36 TO 7+96

4/6

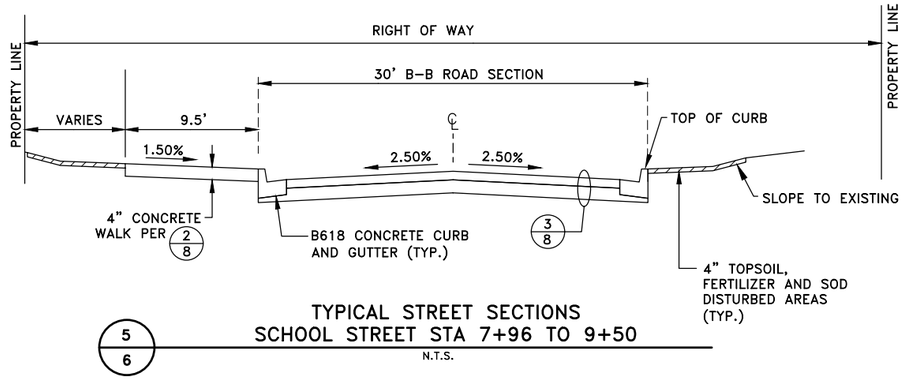
N.T.S.




TYPICAL STREET SECTION
VAN BUREN STREET
STA 11+71 TO 14+00

2/6

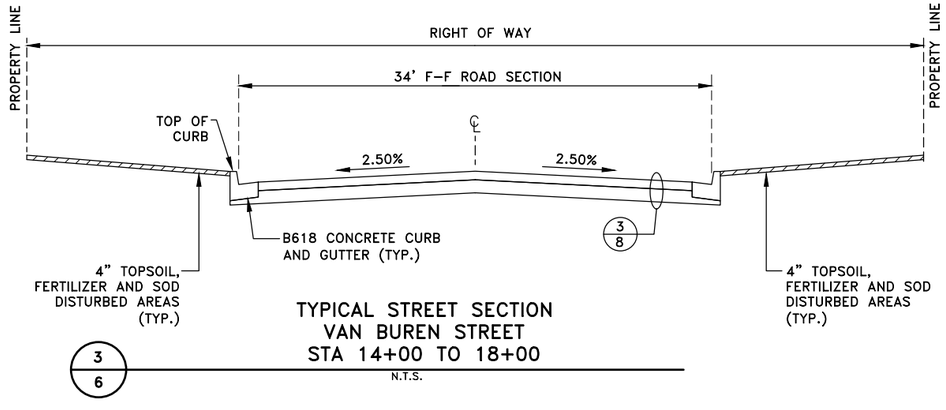
N.T.S.




TYPICAL STREET SECTIONS
SCHOOL STREET STA 7+96 TO 9+50

5/6

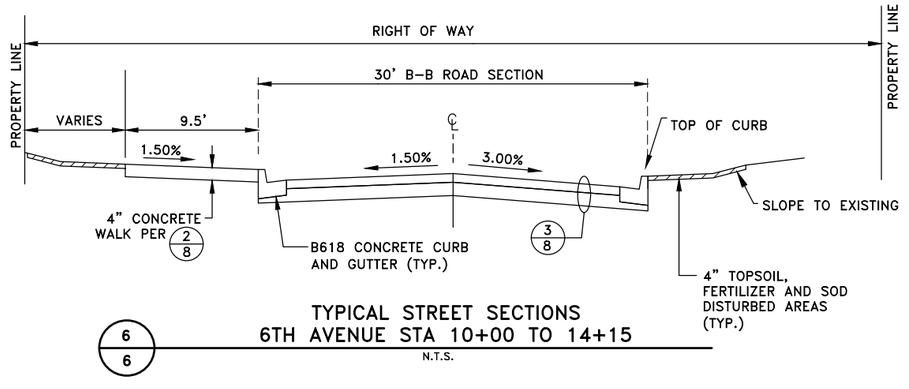
N.T.S.




TYPICAL STREET SECTION
VAN BUREN STREET
STA 14+00 TO 18+00

3/6

N.T.S.




TYPICAL STREET SECTIONS
6TH AVENUE STA 10+00 TO 14+15

6/6

N.T.S.

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TYPICAL SECTIONS

CITY OF ANOKA, MINNESOTA

SHEET 6 OF 65 SHEETS

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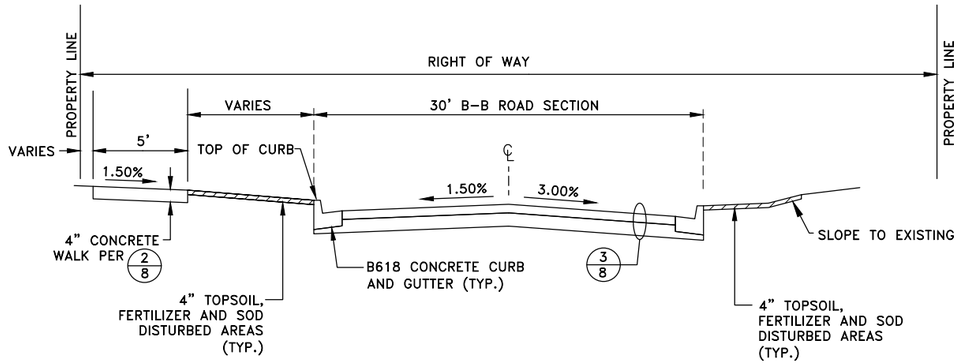
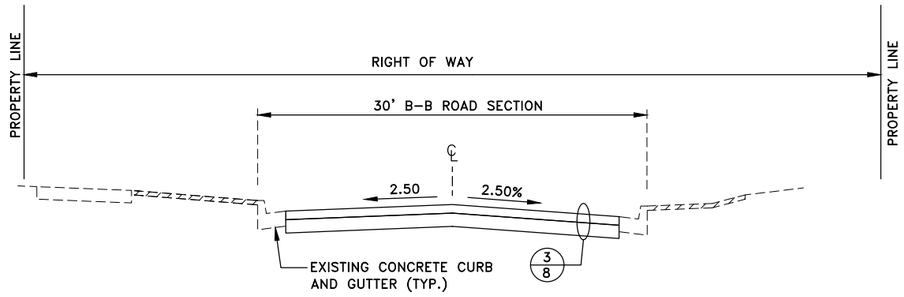



TYPICAL STREET SECTION
6TH AVENUE STA 20+25 TO 23+00

1/7

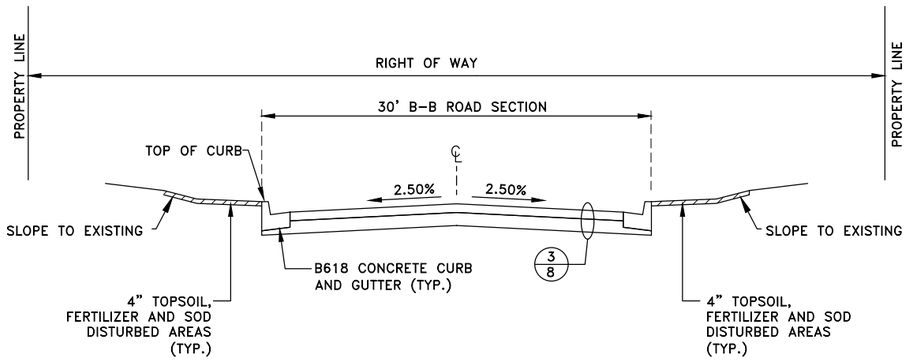
N.T.S.




TYPICAL STREET SECTION
6TH AVENUE STA 23+60 TO 24+43

4/7

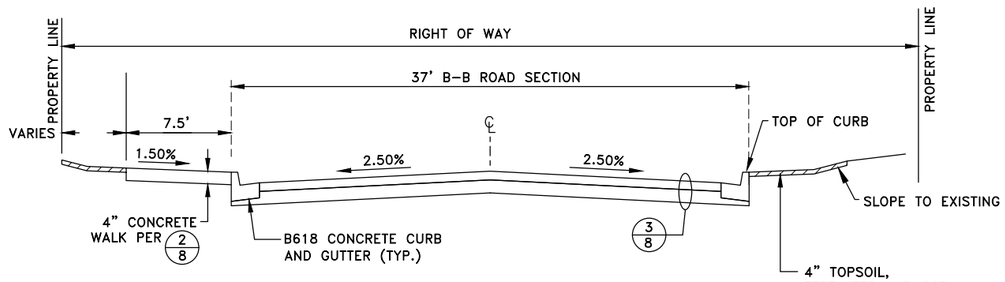
N.T.S.




TYPICAL STREET SECTION
SCHOOL STREET STA 20+25 TO 24+68

2/7

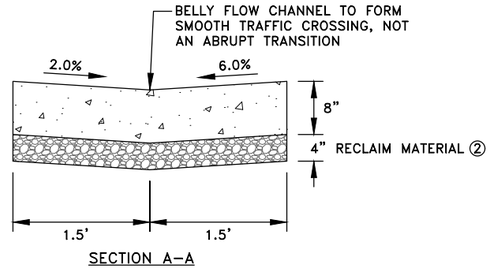
N.T.S.



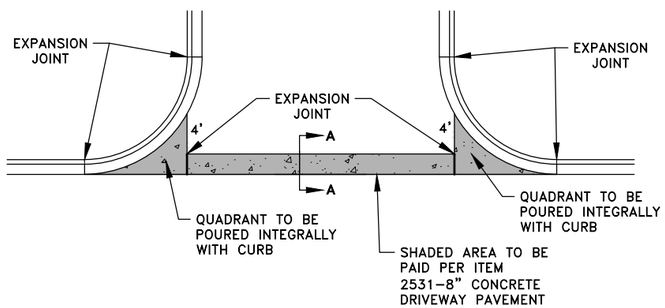

TYPICAL STREET SECTIONS
6TH AVENUE STA 10+20 TO 11+80

3/7

N.T.S.




SECTION A-A




PLAN VIEW

CONCRETE VALLEY GUTTER ①③

5/7

N.T.S.

REFERENCE NOTES:

① CONCRETE VALLEY GUTTERS SHALL BE CONSTRUCTED IN TWO PHASES TO ALLOW FOR TRAFFIC TO PASS. CONTRACTORS SHALL PROTECT CONCRETE WITH BARRICADES AND FLASHERS AS NECESSARY FOR A MINIMUM OF 7 DAYS PRIOR TO ALLOWING TRAFFIC ON THE NEW CONCRETE.

② PLACEMENT OF RECLAIM MATERIAL SHALL BE INCIDENTAL.

③ ALL CURB CONSTRUCTED AS PART OF THE CONCRETE VALLEY GUTTER SHALL BE PAID PER ITEM 2531-CONCRETE CURB AND GUTTER DESIGN B618.

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|---|---|
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TYPICAL SECTIONS

CITY OF ANOKA, MINNESOTA

SHEET 7 OF 65 SHEETS

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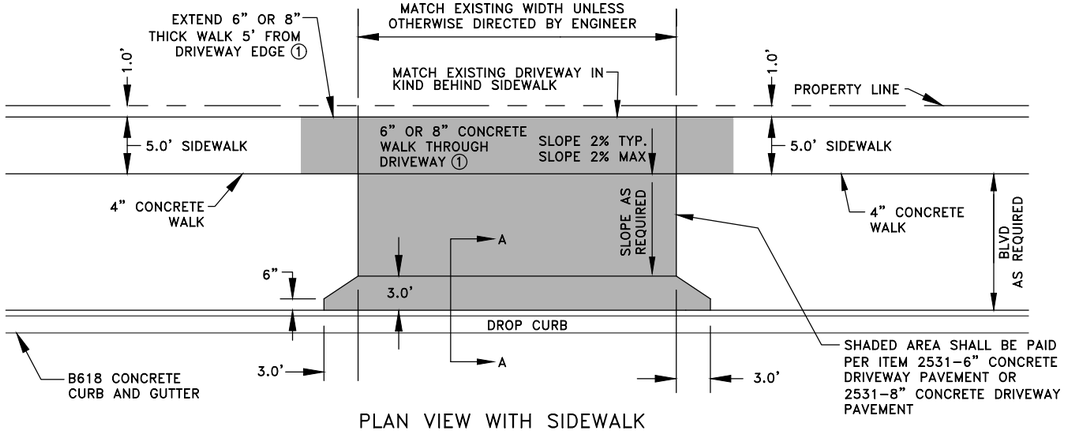



PLAN VIEW WITH SIDEWALK



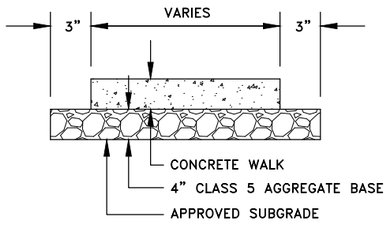

PLAN VIEW




SECTION A-A

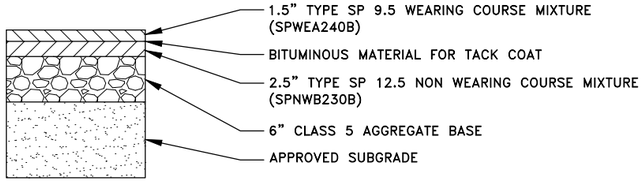
1/8 DRIVEWAY DETAILS ②

N.T.S.




2/8 SIDEWALK SECTION

N.T.S.




3/8 PAVEMENT SECTION

N.T.S.

GENERAL NOTES:

1. ALL RESIDENTIAL DRIVEWAYS SHALL HAVE A CONCRETE APRON A MINIMUM OF 3 FEET FROM BACK OF CURB TOWARD PROPERTY LINE.
2. WHERE SIDEWALK WILL BE INSTALLED AND/OR REPLACED, EXTEND 6" OR 8" CONCRETE DRIVEWAY PAVEMENT TO AND THROUGH SIDEWALK.
3. WHERE SIDEWALK IS NOT TO BE INSTALLED AND/OR REPLACED, DRIVEWAY SURFACE TO MATCH EXISTING SURFACE BEYOND THE 3 FOOT CONCRETE APRON.
4. SINGLE FAMILY RESIDENTIAL BITUMINOUS DRIVEWAYS SHALL BE CONSTRUCTED WITH A MINIMUM OF 2.5" SPWEA240B OVER 4" OF CLASS 5 AGGREGATE BASE AND COMMERCIAL OR MULTI-TENANT RESIDENTIAL BITUMINOUS DRIVEWAYS SHALL BE CONSTRUCTED WITH A MINIMUM OF 3" SPWEA240B, CONSTRUCTED IN TWO LIFTS, OVER 4" OF CLASS 5 AGGREGATE BASE. SINGLE FAMILY RESIDENTIAL DRIVEWAY PAVEMENT SHALL BE PAID PER ITEM 2360-TYPE SP 9.5 WEARING COURSE MIXTURE (2,B) 2.5" THICK AND EACH LIFT OF COMMERCIAL OR MULTI-TENANT RESIDENTIAL DRIVEWAY PAVEMENT SHALL BE PAID PER ITEM 2360-TYPE SP 9.5 WEARING COURSE MIXTURE (2,B) 1.5" THICK. SINGLE FAMILY RESIDENTIAL CONCRETE DRIVEWAYS SHALL BE CONSTRUCTED WITH A MINIMUM OF 6" OF CONCRETE DRIVEWAY PAVEMENT OVER 4" OF CLASS 5 AGGREGATE BASE AND COMMERCIAL OR MULTI-TENANT RESIDENTIAL CONCRETE DRIVEWAYS SHALL BE CONSTRUCTED WITH A MINIMUM OF 8" OF CONCRETE DRIVEWAY PAVEMENT OVER 4" OF CLASS 5 AGGREGATE BASE. CONTRACTOR SHALL NOTIFY ENGINEER A MINIMUM OF 48 HOURS BEFORE ANY CONCRETE WORK WILL BLOCK PROPERTY OWNERS FROM THEIR DRIVEWAYS SUCH THAT PROPER NOTICE CAN BE PROVIDED.

REFERENCE NOTES:

① CONSTRUCT 6" CONCRETE WALK IN SINGLE FAMILY RESIDENTIAL DRIVEWAY LOCATIONS AND 8" CONCRETE WALK IN COMMERCIAL OR MULTI-TENANT RESIDENTIAL DRIVEWAY LOCATIONS.

② COMMERCIAL AND MULTI-TENANT DRIVEWAYS MAY HAVE TO BE CONSTRUCTED IN TWO PHASES. TWO PHASE DRIVEWAYS WILL BE EVALUATED ON A CASE BY CASE BASIS. CONTRACTOR SHALL PROTECT CONCRETE WITH BARRICADES AND FLASHERS AS NECESSARY FOR A MINIMUM OF 7 DAYS PRIOR TO ALLOWING TRAFFIC ON THE NEW CONCRETE.

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CRAIG J JOCHUM, P.E.
Date 2/12/21 Lic. No. 23461

DESIGNED BY: TAE
DRAWN BY: DMS
CHECKED BY: CJJ

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2021 SWEDE TOWN STREET RENEWAL PROJECT

PAVEMENT SECTIONS AND DRIVEWAY DETAILS

CITY OF ANOKA, MINNESOTA

SHEET 8 OF 65 SHEETS

AN390

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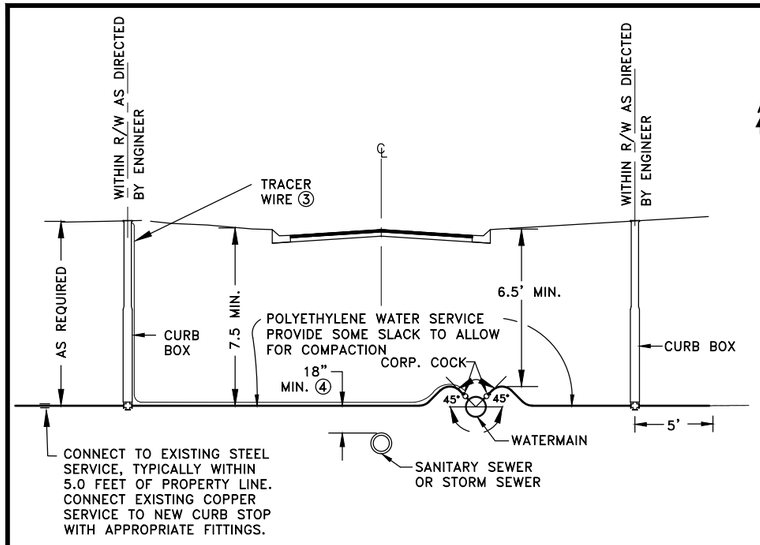
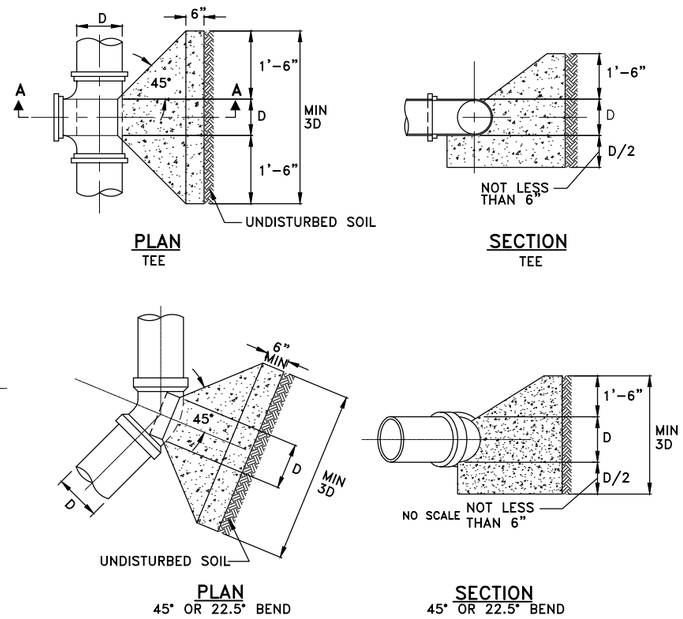
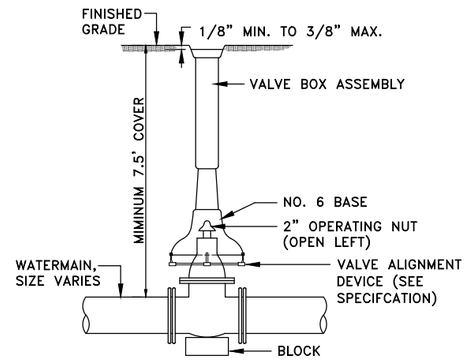



1/9 WATER SERVICE DETAIL
NO SCALE




2/9 WATERMAIN THRUST BLOCKING DETAIL ②
NO SCALE




TYPICAL RESILIENT WEDGE
VALVE & BOX INSTALLATION
10" DIA. AND SMALLER WATERMAIN ①

3/9
NO SCALE

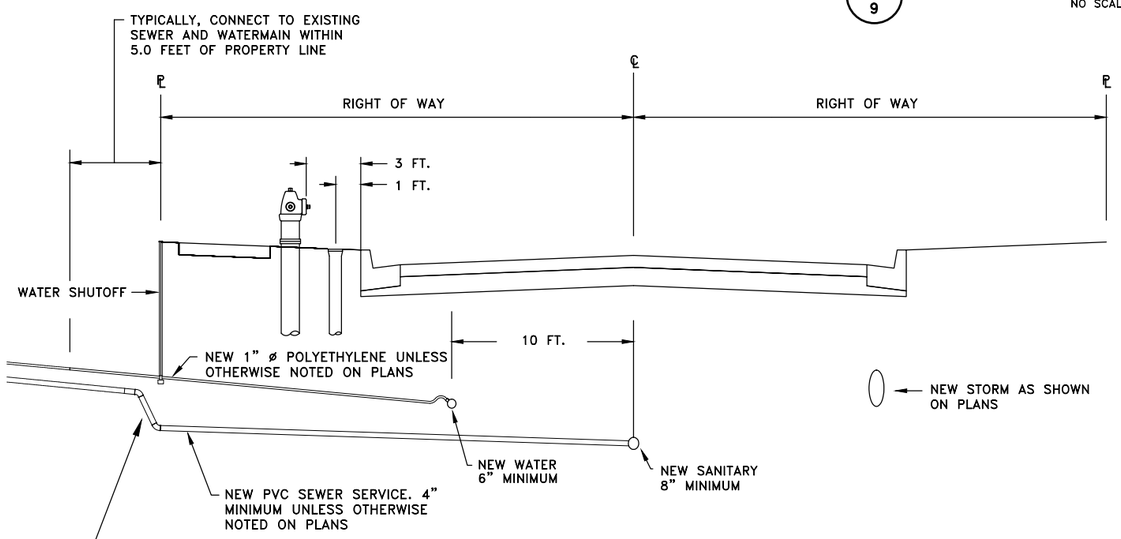
REFERENCE NOTES:

① CONTRACTOR SHALL USE A VALVE STEM ALIGNMENT TUBE TOOL TO MAINTAIN VERTICAL ALIGNMENT WHEN BACKFILLING THE VALVE BONNET AND VALVE BOX ASSEMBLY. THE ALIGNMENT TUBE SHALL CONSIST OF METAL PIPE WITH A SQUARE NUT RECEIVER SECURELY FASTENED TO THE END FOR PLACEMENT ON THE VALVE OPERATING NUT.

② ALL PIPE BENDS AND FITTINGS REQUIRE THRUST BLOCKING AND SERIES 1100 MEGALUG MECHANICAL JOINT RESTRAINTS AS MANUFACTURED BY EBBA IRON, INC. OR APPROVED EQUAL. THRUST BLOCKING AND MEGALUGS SHALL BE INCIDENTAL.

③ TRACER WIRE SHALL BE INCIDENTAL.

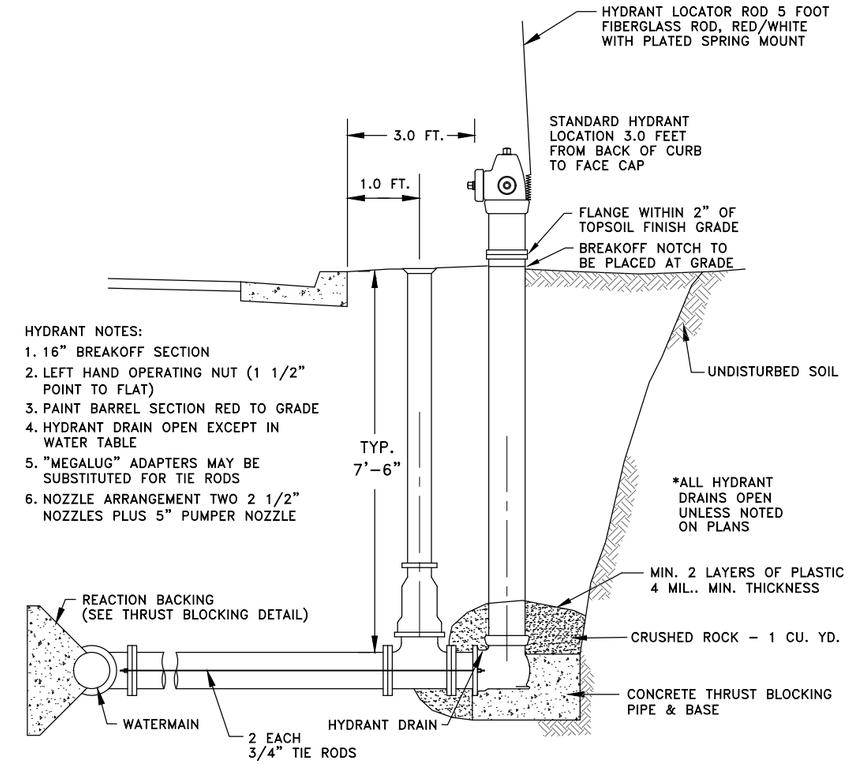
④ IF THIS SEPARATION CANNOT BE ACHIEVED WHILE CONSTRUCTING THE WATER SERVICE WITH 7.5' OF COVER, CONSTRUCT THE WATER SERVICE UNDER THE SANITARY OR STORM SEWER AND PROVIDE 12" OF SEPARATION FROM THE WATER SERVICE TO THE BOTTOM OF THE SANITARY OR STORM SEWER. EXTRA DEPTH WATER SERVICE CONSTRUCTION SHALL BE INCIDENTAL. INSULATE SERVICE PER 5/10.




**SANITARY SEWER–ON ROAD CENTERLINE**
**WATERMAIN–10 FT. NORTH OR EAST OF CENTERLINE**
**STORM SEWER–SOUTH OR WEST OF CENTERLINE**
**SIDEWALK–REPLACE EXISTING WITHIN PROJECT LIMITS**

CITY OF ANOKA
STANDARD UTILITY LOCATIONS

4/9
NO SCALE




HYDRANT NOTES:
1. 16" BREAKOFF SECTION
2. LEFT HAND OPERATING NUT (1 1/2" POINT TO FLAT)
3. PAINT BARREL SECTION RED TO GRADE
4. HYDRANT DRAIN OPEN EXCEPT IN WATER TABLE
5. "MEGALUG" ADAPTERS MAY BE SUBSTITUTED FOR TIE RODS
6. NOZZLE ARRANGEMENT TWO 2 1/2" NOZZLES PLUS 5" PUMPER NOZZLE

5/9 HYDRANT DETAIL
NO SCALE

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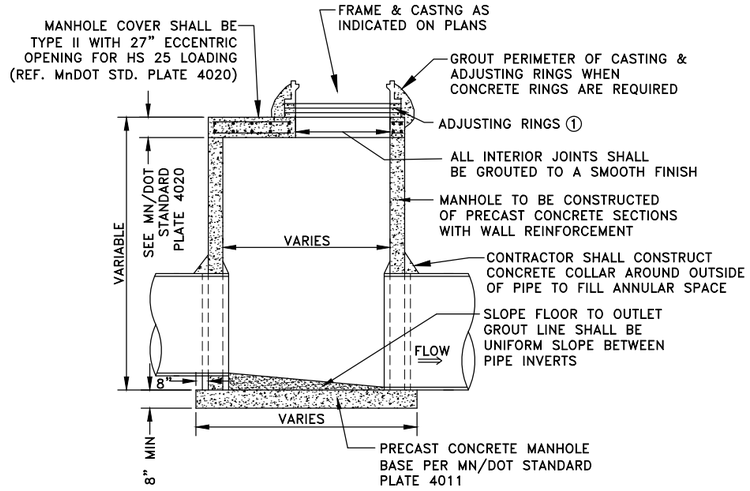
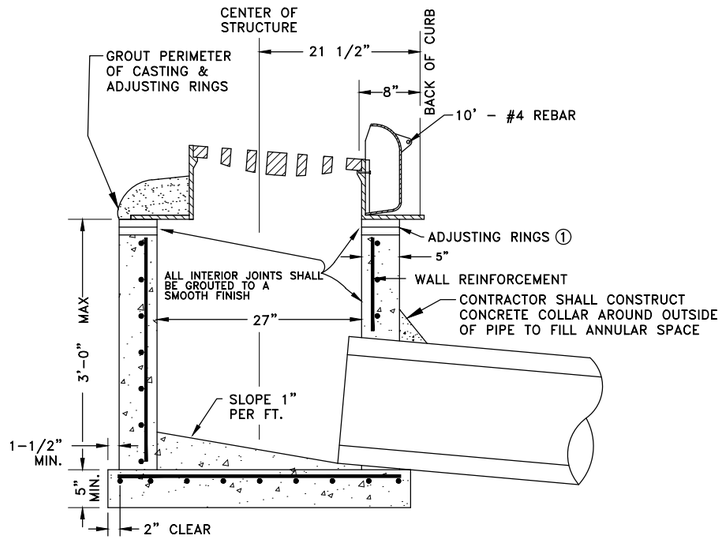


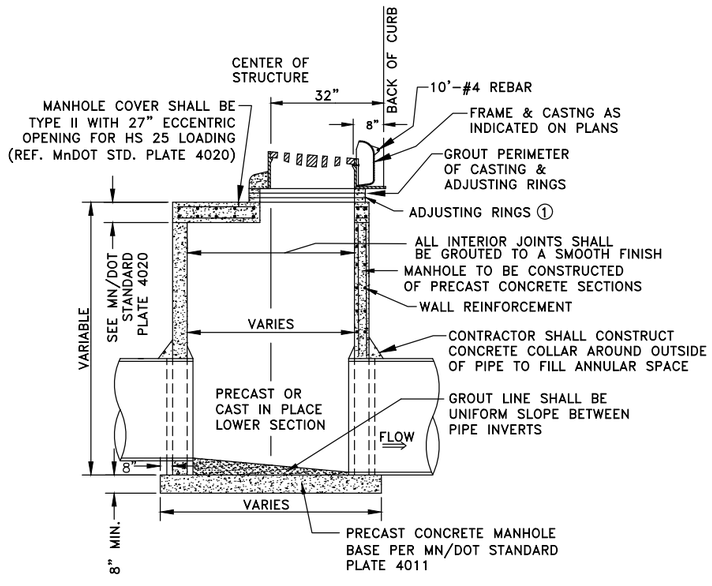

1/10 STANDARD SLAB–TOP MANHOLE

(STORM SEWER)
NO SCALE



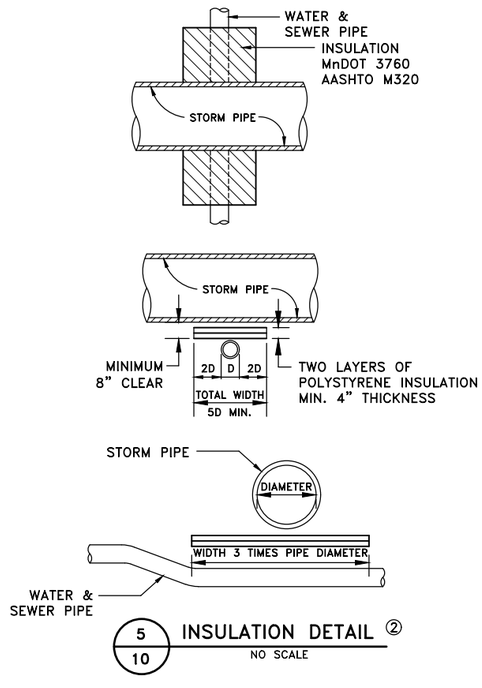

2/10 STANDARD CATCH BASIN

(REF. Mn/DOT STANDARD PLATE 4006 DESIGN H)
NO SCALE




3/10 STANDARD CATCH BASIN MANHOLE

NO SCALE




5/10 INSULATION DETAIL ②

NO SCALE

REFERENCE NOTES:

① HIGH DENSITY POLYETHYLENE ADJUSTMENT RINGS SHALL BE USED FOR ALL STORM SEWER MANHOLES WITH SOLID LIDS (NON–INLET TYPE). ALL INLET TYPE STORM SEWER CASTINGS SHALL USE CONCRETE ADJUSTMENT RINGS. THE CONTRACTOR SHALL USE STANDARD AVAILABLE RING THICKNESSES THAT MINIMIZE THE NUMBER OF RINGS REQUIRED. A MAXIMUM OF 3 RINGS SHALL BE USED FOR ADJUSTMENT. THE MINIMUM ADJUSTMENT HEIGHT SHALL BE 4 INCHES AND THE MAXIMUM ADJUSTMENT HEIGHT SHALL BE 8 INCHES.

② LOWER EXISTING SERVICE IF LESS THAN 8" CLEAR. LOWER TO 12" CLEAR AND INSULATE.

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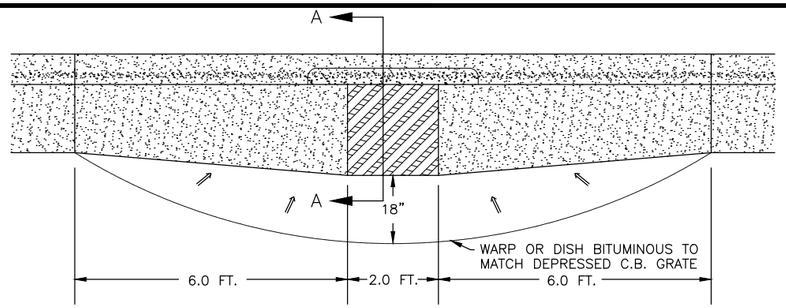
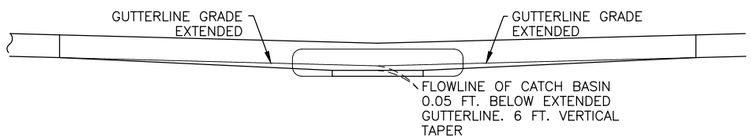



PLAN

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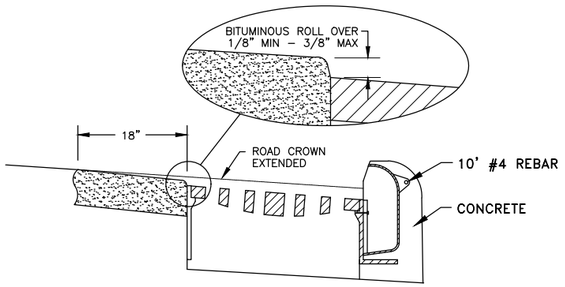
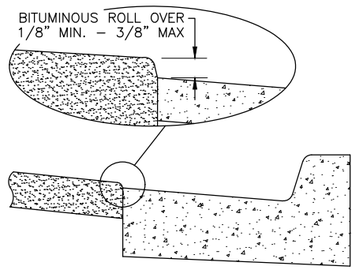
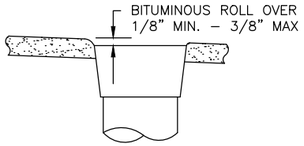



SECTION A–A

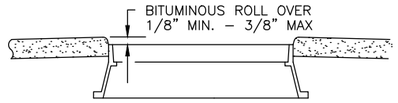
1/11 CURB CONSTRUCTION AT CATCH BASIN DETAIL




PAVING AT CURB DETAIL



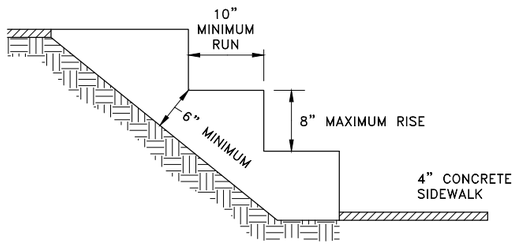

PAVING AT VALVE BOX DETAIL




PAVING AT MANHOLE DETAIL

2/11 PAVING DETAILS

N.T.S.

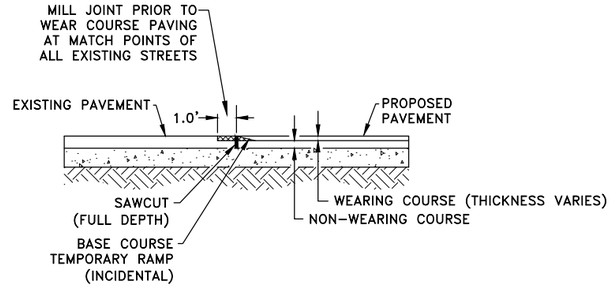



RISE TO RUN RELATIONSHIP:
RISE+RISE+RUN=24"–26"

4/11 CONCRETE STEP DETAIL ①

REFERENCE NOTES:

① CONCRETE STEP LOCATIONS WILL BE DETERMINED IN THE FIELD. STEPS SHALL BE MEASURED BY THE HORIZONTAL WIDTH PER VERTICAL RISE AND PAID PER ITEM 2411–CONCRETE STEPS–DESIGN SPECIAL.




3/11 WEAR COURSE JOINT MILLING

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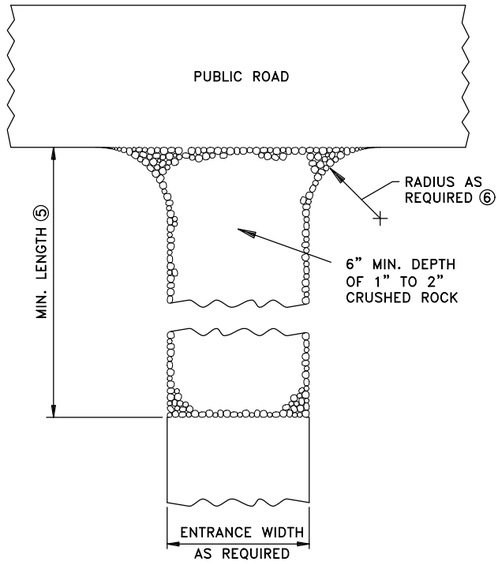
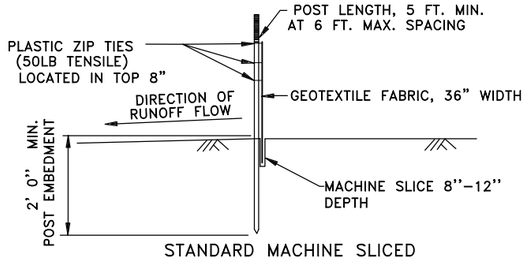
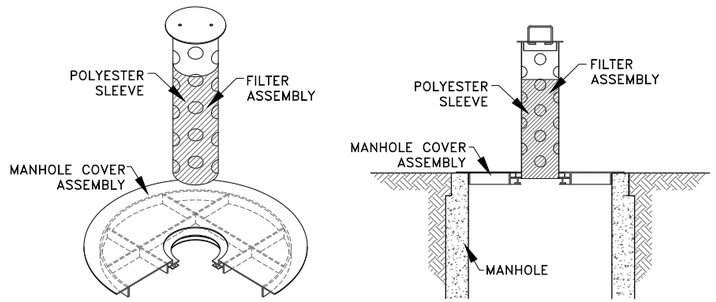



1/12 CRUSHED ROCK CONSTRUCTION EXIT ⑦



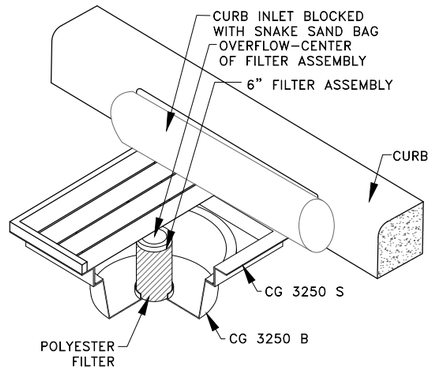

STANDARD MACHINE SLICED

4/12 SILT FENCE DETAILS ④




2/12 STORM DRAIN INLET PROTECTION TYPE 1 ①③

PRE–CURB




3/12 STORM DRAIN INLET PROTECTION TYPE 2 ②③

POST–CURB

GENERAL EROSION CONTROL NOTES:

1. PRIOR TO ANY CONSTRUCTION ACTIVITIES THE CONTRACTOR SHALL ACQUIRE THE MPCA NPDES CONSTRUCTION STORMWATER GENERAL PERMIT. A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN PREPARED COVERING CONSTRUCTION ACTIVITIES. THE SWPPP IS INCLUDED IN THE PROJECT MANUAL.
2. THE CONTRACTOR SHALL INSTALL EROSION AND SEDIMENT CONTROL FACILITIES (BMP'S) PRIOR TO GRADING AND REMOVAL ACTIVITIES. BMP'S SHALL BE MAINTAINED FOR THE DURATION OF CONSTRUCTION ACTIVITIES AND UNTIL THE POTENTIAL FOR EROSION HAS PASSED.
3. THE CONTRACTOR SHALL SCHEDULE HIS OPERATION TO MINIMIZE THE AMOUNT OF DISTURBED AREA AT ANY GIVEN TIME.
4. BMP'S SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND DOCUMENTED IN THE SWPPP INSPECTION LOG. WEEKLY LOGS MUST BE FORWARDED TO THE ENGINEER FOR REVIEW.
5. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PROPERLY DISPOSED OF WITHIN THIRTY (30) DAYS AFTER FINAL SITE STABILIZATION IS APPROVED BY THE ENGINEER.
6. THE CONTRACTOR SHALL FILE NOTICE OF TERMINATION (NOT) WITH THE MPCA WHEN FINAL STABILIZATION IS APPROVED BY THE ENGINEER.
7. ALL LABOR, MATERIALS, AND EQUIPMENT COSTS NECESSARY TO MANAGE EROSION AND SEDIMENT IN ACCORDANCE WITH THE MN/DOT STANDARD SPECIFICATIONS, MN/DOT EROSION CONTROL HANDBOOK, AND ALL REQUIREMENTS INCLUDED IN THE PROJECT MANUAL SHALL BE PAID PER ITEM 2573–EROSION CONTROL SUPERVISOR, UNLESS OTHERWISE INCLUDED ON THE PROJECT BID FORM.
8. DUST CONTROL–ALL PUBLIC OR HAUL ROADS USED DURING CONSTRUCTION OF THE PROJECT SHALL BE TREATED WITH WATER OR OTHER ENGINEER APPROVED METHODS AS NECESSARY TO SUPPRESS DUST.
9. STREET CLEANING–THE CONTRACTOR SHALL CONTINUOUSLY CLEAN AND SWEEP ANY CONSTRUCTION MATERIAL AND DEBRIS THAT MAY BE TRACKED OR DEPOSITED ONTO STREETS LEADING TO OR ADJACENT TO THE PROJECT AREA. IF, UPON 6 HOURS NOTICE FROM THE ENGINEER, STREETS HAVE NOT BEEN CLEANED, THE ENGINEER MAY ORDER SUCH CLEANING BY OTHERS WITH THE COSTS OF SUCH SWEEPING OR CLEANING DEDUCTED FROM CONTRACT PAYMENTS.
10. ALL DISTURBED BOULEVARD AREAS SHALL BE FERTILIZED AND SODDED PER THE BASIS OF ESTIMATED QUANTITIES.
11. CONSTRUCT A CRUSHED ROCK CONSTRUCTION EXIT AT ALL ENTRANCES PER 1/12.
12. ALTERNATIVE INLET PROTECTION DEVICES MAY BE SUBSTITUTED WITH ENGINEER'S APPROVAL.
13. STORM DRAIN INLET PROTECTION SHALL BE PROVIDED AT CATCH BASINS DOWNSTREAM OF THE PROJECT AREA AS DIRECTED BY THE ENGINEER.

REFERENCE NOTES:

① TYPE 1 INLET PROTECTION, OR APPROVED EQUAL, SHALL BE INSTALLED AS NECESSARY TO MINIMIZE PONDING OF WATER DURING CONSTRUCTION.

② TYPE 2 INLET PROTECTION, OR APPROVED EQUAL, SHALL BE INSTALLED ON ALL EXISTING AND NEW CASTINGS RECEIVING RUNOFF FROM THE PROJECT AREA. INLET PROTECTION SHALL BE INSTALLED ON EXISTING, OFF SITE CASTINGS PRIOR TO THE START OF CONSTRUCTION.

③ CONTRACTOR SHALL BE PAID FOR THE NUMBER OF INDIVIDUAL STORM DRAIN INLETS PROTECTED OVER THE LIFE OF THE CONTRACT, REGARDLESS OF THE TYPE AND NUMBER OF DEVICES USED AT EACH STORM DRAIN INLET.

④ SILT FENCE SHALL BE INSTALLED IN LOCATIONS DETERMINED BY THE ENGINEER AND FOLLOW AS CLOSELY AS POSSIBLE A SINGLE CONTOUR LINE.

⑤ MINIMUM LENGTH SHALL BE THE GREATER OF 50 FEET OR A LENGTH SUFFICIENT TO ALLOW A MINIMUM OF 5 TIRE ROTATIONS ON THE PROVIDED PAD. MINIMUM LENGTH SHALL BE CALCULATED USING THE LARGEST TIRE WHICH WILL BE USED IN TYPICAL OPERATIONS.

⑥ PROVIDE RADIUS OR WIDEN PAD SUFFICIENTLY TO PREVENT VEHICLE TIRES FROM TRACKING OFF OF PAD WHEN LEAVING SITE.

⑦ MAINTENANCE OF CONSTRUCTION EXITS SHALL OCCUR WHEN THE EFFECTIVENESS OF SEDIMENT REMOVAL HAS BEEN REDUCED. MAINTENANCE SHALL CONSIST OF REMOVING SEDIMENT AND CLEANING THE MATERIALS OR PLACING ADDITIONAL MATERIAL OVER SEDIMENT FILLED MATERIAL TO RESTORE EFFECTIVENESS.

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2021 SWEDE TOWN STREET RENEWAL PROJECT

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

CITY OF ANOKA, MINNESOTA

SHEET 12 OF 65 SHEETS

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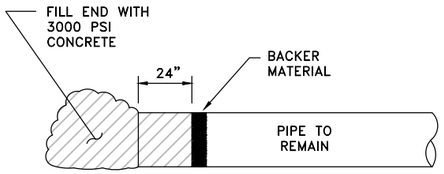
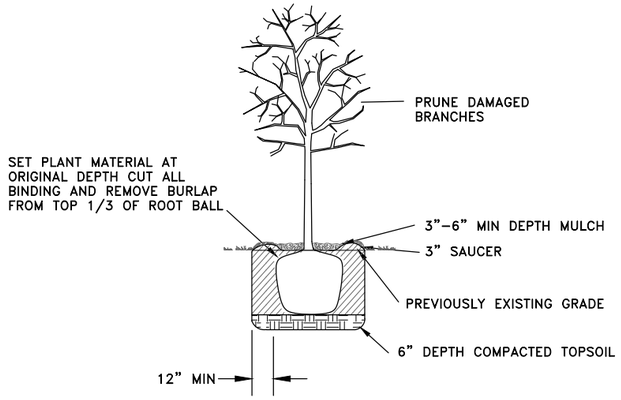



1/13 CONCRETE PLUG ①

NO SCALE

REFERENCE NOTES:

① CONCRETE PLUG SHALL BE PAID PER ITEM 2411–CONSTRUCT CONCRETE PLUG.




2/13 TREE PLANTING DETAIL

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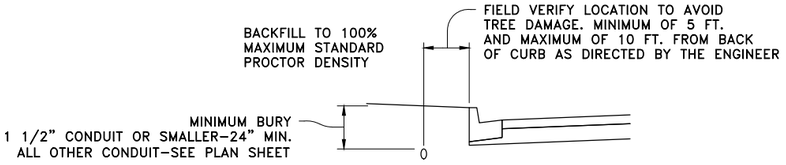
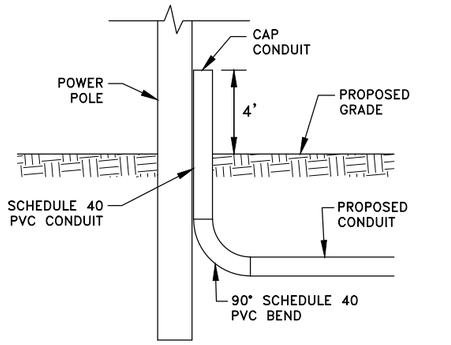


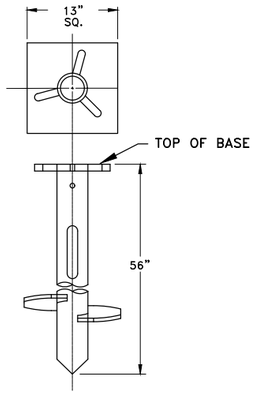

3/13 TYPICAL CONDUIT LOCATION DETAIL

NO SCALE




7/13 TYPICAL CONDUIT END AT POWER POLES

NO SCALE

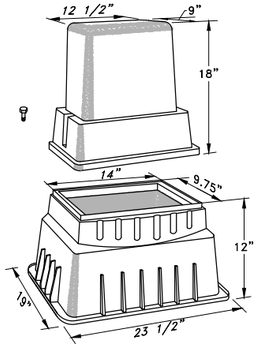



NOTES:

1. THE CONTRACTOR SHALL TERMINATE CONDUITS INSIDE LIGHTING BASE AND FLUSH WITH THE TOP OF THE BASE. THIS WORK SHALL BE INCIDENTAL.

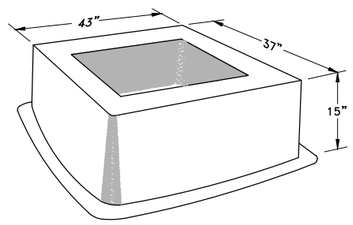
4/13 DECORATIVE LIGHTING BASE

SCREW–IN TYPE



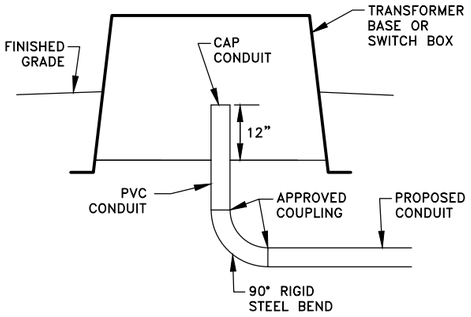

5/13 FIBERGLASS URD (SERVICE) BOX

NO SCALE



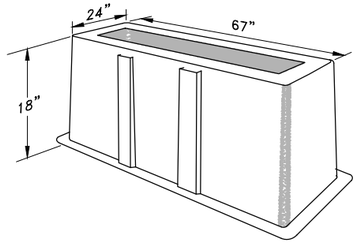

6/13 FIBERGLASS TRANSFORMER BASE

NO SCALE



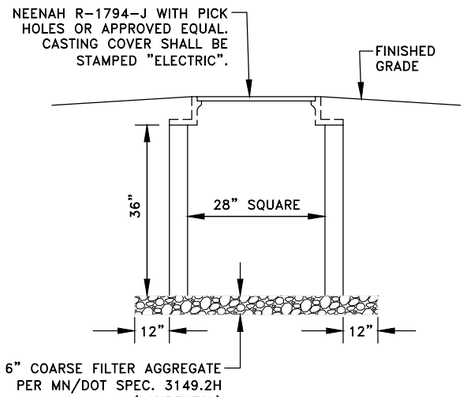

8/13 TYPICAL CONDUIT END AT TRANSFORMER BASES AND SWITCH BOXES

NO SCALE



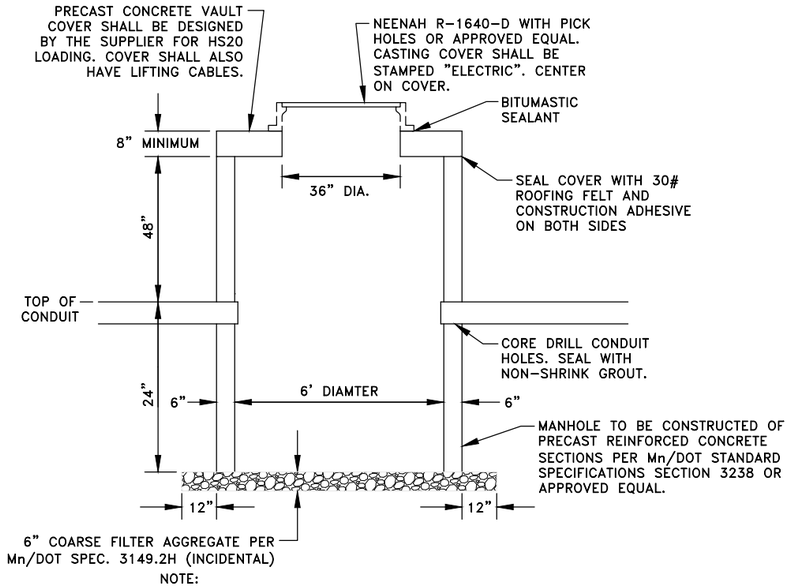

9/13 FIBERGLASS THREE PHASE SWITCH MOLE

NO SCALE




10/13 SPLICE BOX

NO SCALE




NOTE:

1. ELECTRICAL VAULT MANHOLES SHALL BE FURNISHED BY THE CITY OF ANOKA, INSTALLED BY THE CONTRACTOR AND PAID PER ITEM 2545–INSTALL ELECTRICAL VAULT MANHOLE.

11/13 ELECTRICAL VAULT MANHOLE

NO SCALE

| DATE | REVISION |
|---|---|
| 2/26/21 | ISSUED FOR BID |

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

CRAIG J JOCHUM, P.E.
Date 2/12/21 Lic. No. 23461

DESIGNED BY: TAE
DRAWN BY: DMS
CHECKED BY: CJJ

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763–427–5860 FAX 763–427–0520
www.hakanson–anderson.com

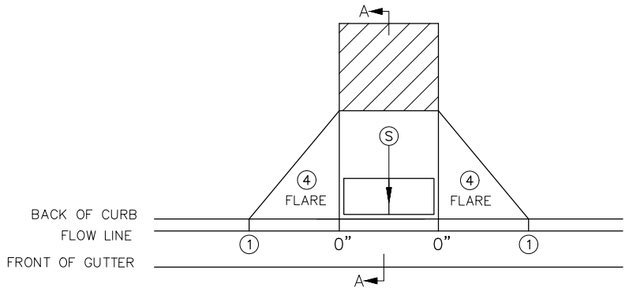
2021 SWEDE TOWN
STREET RENEWAL PROJECT

DETAILS

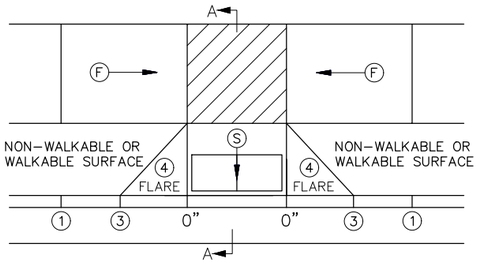
CITY OF ANOKA, MINNESOTA

SHEET 13 OF 65 SHEETS

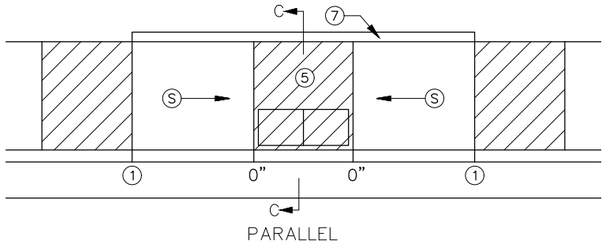
AN390



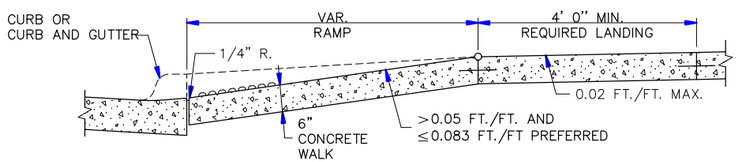

PERPENDICULAR




TIERED PERPENDICULAR

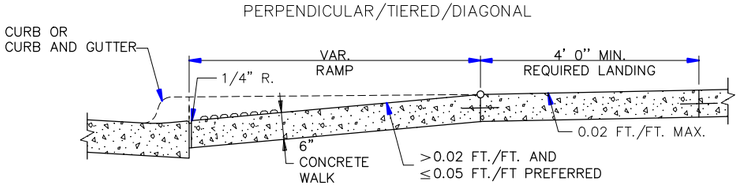



PARALLEL



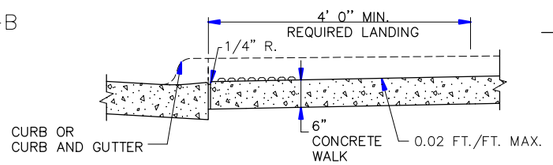

SECTION A–A

PERPENDICULAR/TIERED/DIAGONAL



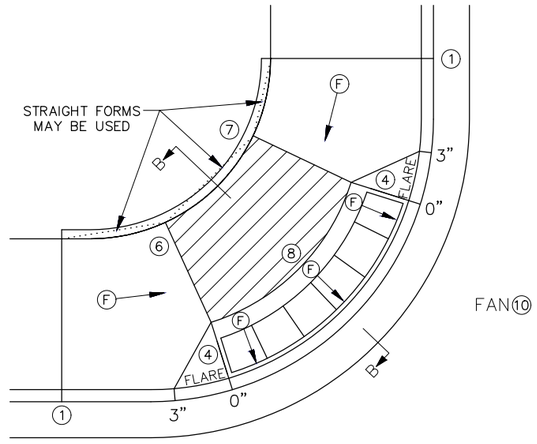

SECTION B–B

FAN

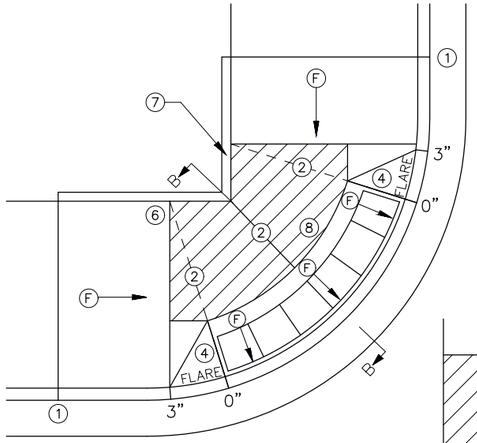



SECTION C–C

PARALLEL/DEPRESSED CORNER

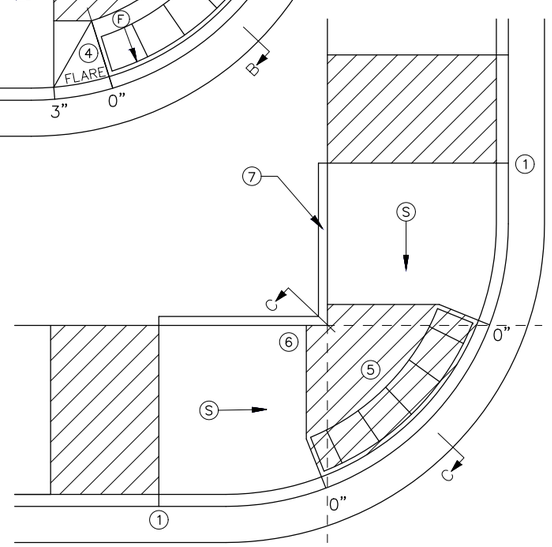



FAN⑩

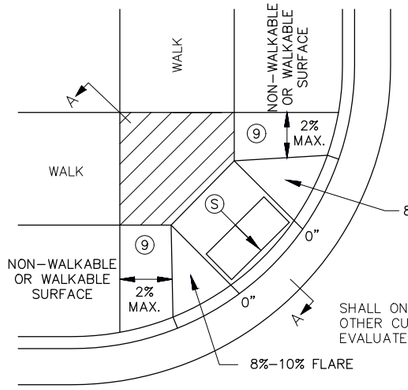



MODIFIED FAN ⑩

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

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 ENTIRE WIDTH OF SHARED–USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/TRAIL WIDTH. ARC LENGTH OF 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, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS, WHEN INITIAL LANDING IS AT FULL CURB HEIGHT.

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 SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.

⑧ A 7' MIN TOP RADIUS GRADE BREAK 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.

## 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%.

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: JANUARY 23, 2017

OPERATIONS ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 | 1 OF 6

APPROVED: 1-23-2017

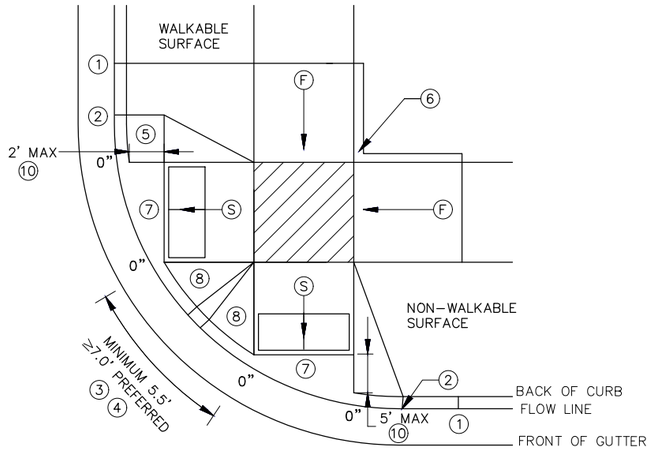
REVISED:

STATE DESIGN ENGINEER

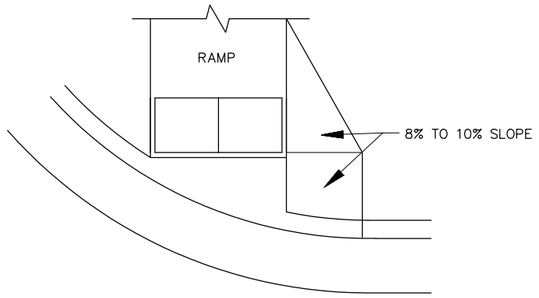
# PEDESTRIAN CURB RAMP DETAILS



Mar 03, 2021 – 5:57pm
K:\MUNICIPAL\AN390\ENGINEERING\AN390 DETAILS-PED RAMPS.dwg




COMBINED DIRECTIONAL ⑨




DIRECTIONAL RAMP WALKABLE FLARE

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 ENTIRE WIDTH OF SHARED-USE PATH AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/PATH WIDTH. ARC LENGTH OF 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 SHOULD 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.

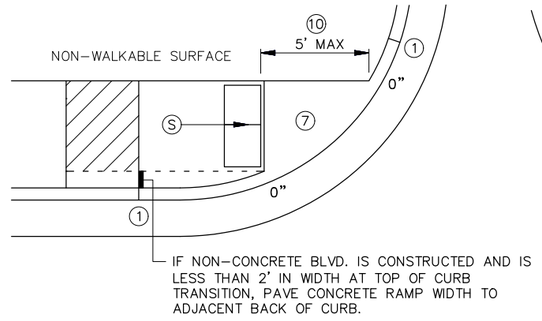
⑩ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD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

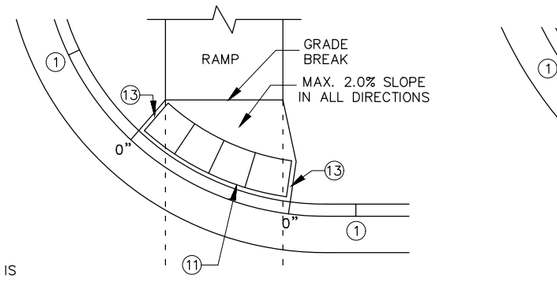
⑫ FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.

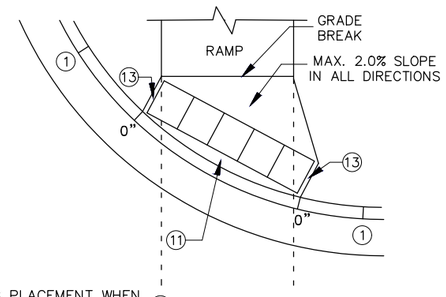
⑬ THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.

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



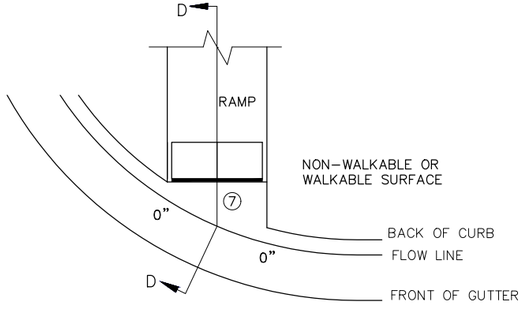

STANDARD ONE-WAY DIRECTIONAL ⑨



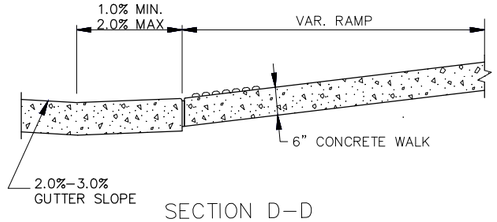




DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED ⑫

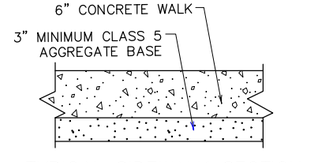
ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB




CURB FOR DIRECTIONAL RAMPS ⑭




SECTION D-D




TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER

| 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%. |
| (F) 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%. |
| 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: JANUARY 23, 2017

OPERATIONS ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 | 2 OF 6

APPROVED: 1-23-2017
REVISED:

STATE DESIGN ENGINEER

# PEDESTRIAN CURB RAMP DETAILS



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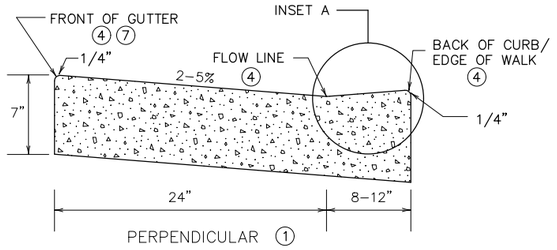
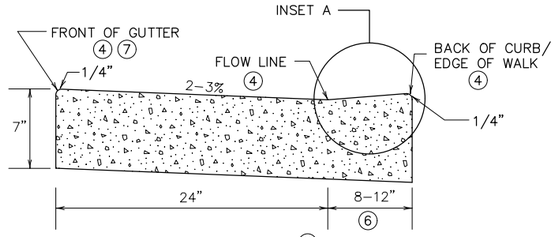
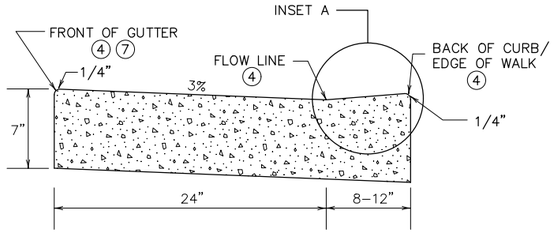



PERPENDICULAR ①

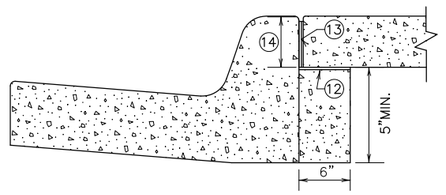



NON PERPENDICULAR ②

PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL

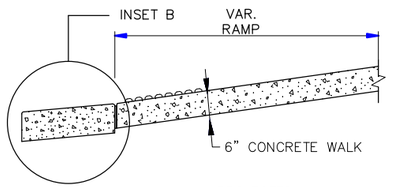


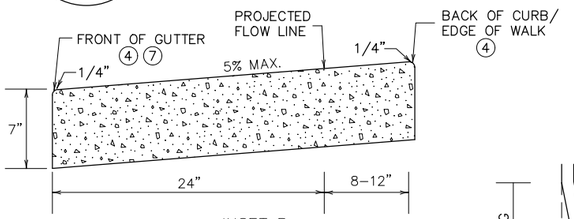

FOR CURB MACHINE PLACEMENT AROUND RADIUS ③
(REGARDLESS OF RAMP TYPE)




OPTIONAL SILL CURB WHEN SIDEWALK
IS AT BACK OF CURB

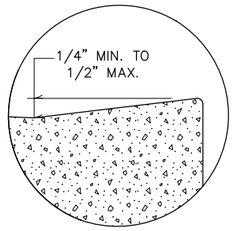
CONCRETE SILL TO BE USED ONLY WHEN
SPECIFIED IN THE PLAN.



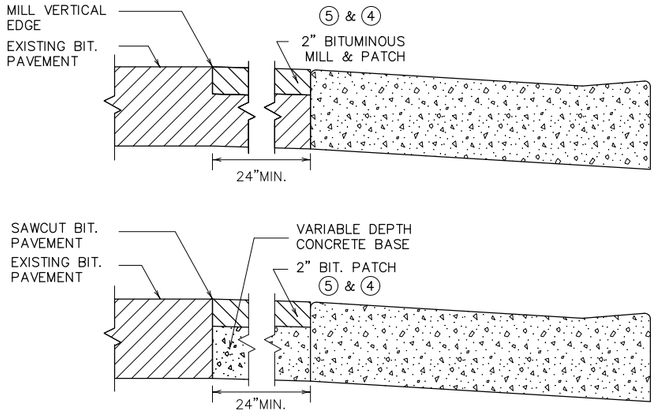




INSET B

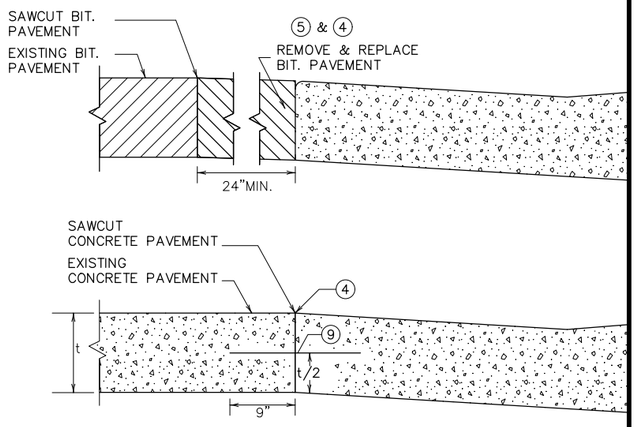
OUTFLOW GUTTER ⑧




INSET A

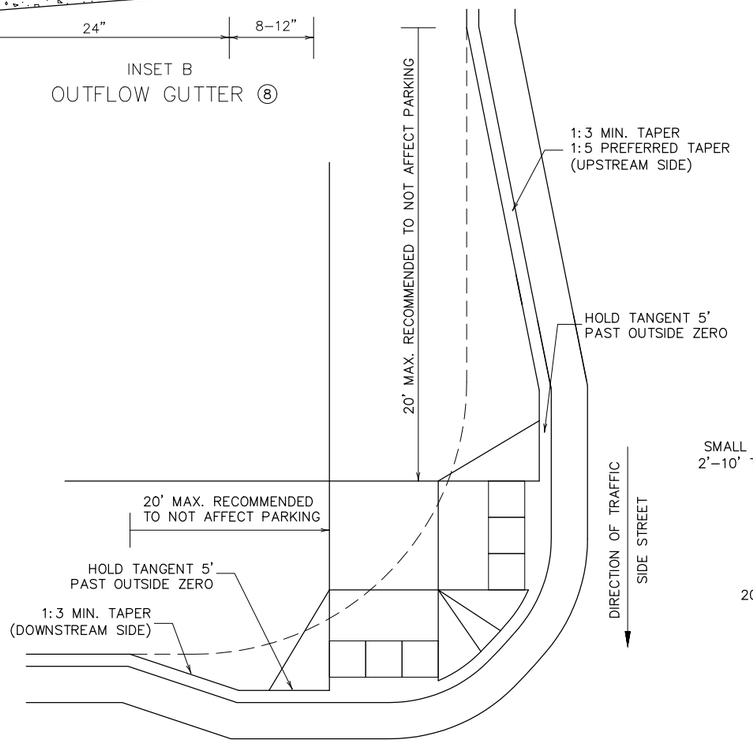



ONLY ALLOWED PER ENGINEER'S APPROVAL

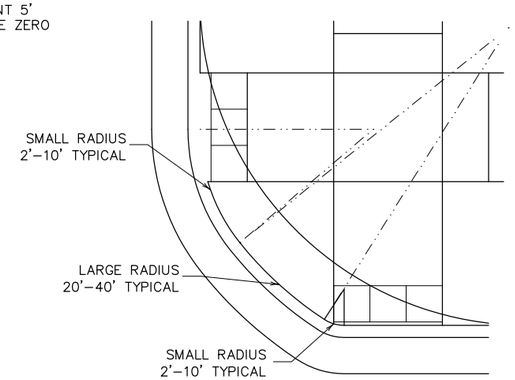



PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER

FOR USE ON CURB RAMP RETROFITS




ADA CURB EXTENSION WITH COMPOUND RADIUS (BUMP OUT)⑪




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 SEGMEN

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.

⑫ PLACE BOND BREAKER BETWEEN WALK AND TOP OF SILL.

⑬ 1/2" PREFORMED JOINT FILLER PER MNDOT SPEC. 3702.

⑭ DIMENSION TO BE SAME AS SIDEWALK THICKNESS, 4" MIN.

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STANDARD PLAN 5–297.250 | 3 OF 6

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REVISED:

STATE DESIGN ENGINEER

# PEDESTRIAN CURB RAMP DETAILS

SHEET NO 16 OF 65 SHEETS

Mar 03, 2021 – 5:57pm
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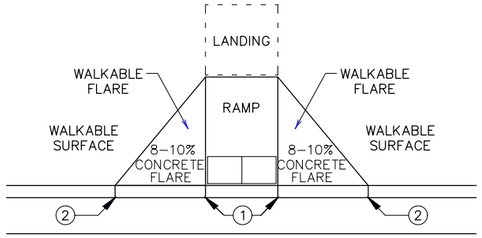
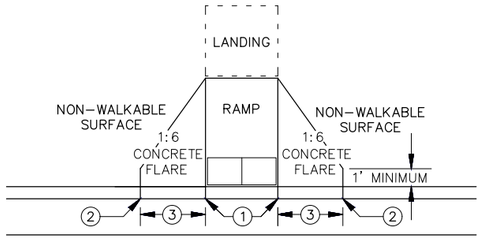
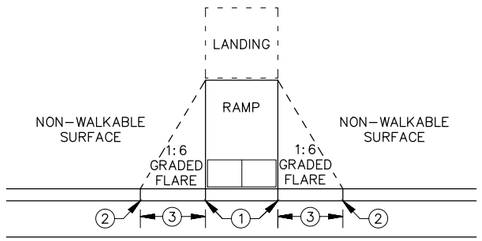


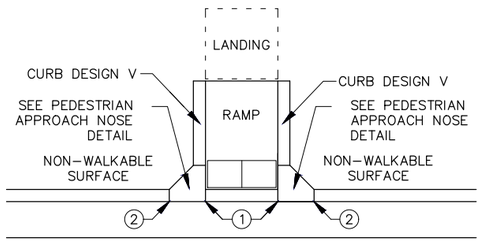

PAVED FLARES
ADJACENT TO WALKABLE SURFACE




PAVED FLARES
ADJACENT TO NON–WALKABLE SURFACE

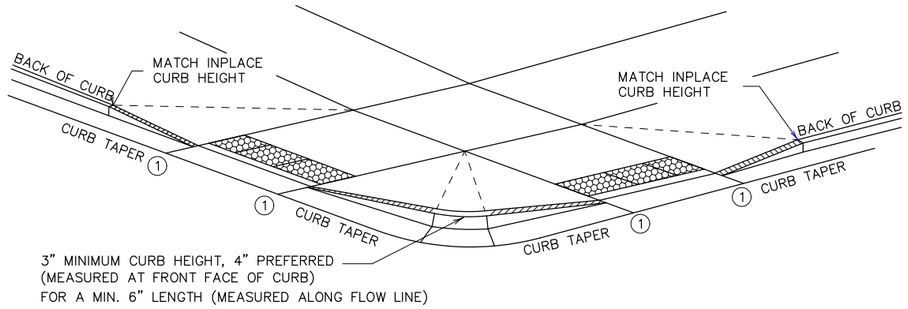



GRADED FLARES

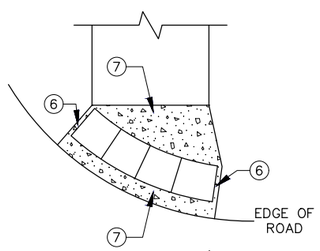



RETURNED CURB ⑤

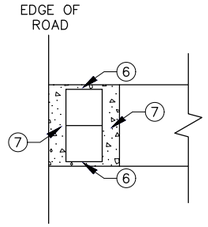
TYPICAL SIDE TREATMENT OPTIONS ④ ⑪




DETECTABLE EDGE WITH ⑧
CURB AND GUTTER

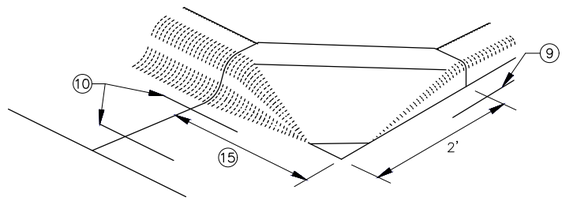


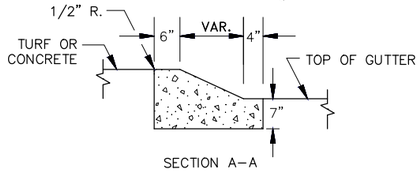

RADIAL DETECTABLE WARNING



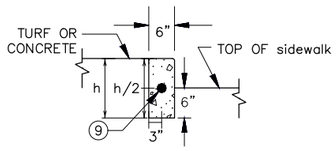

RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

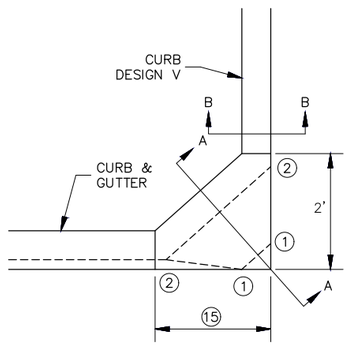


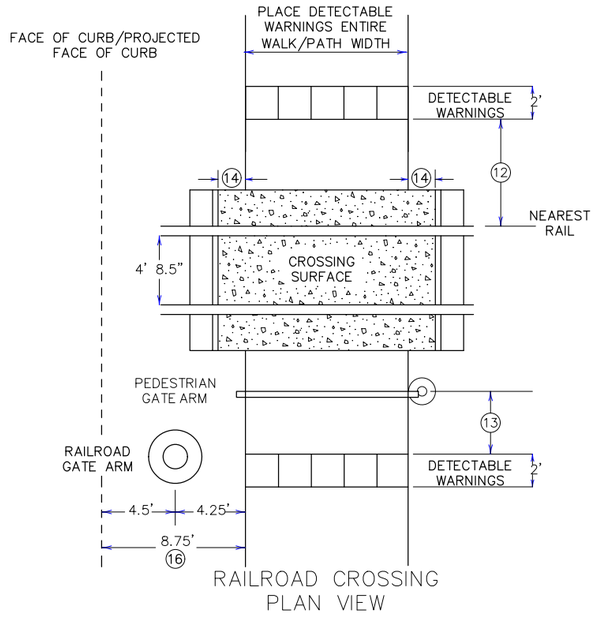

SECTION A–A




SECTION B–B




PEDESTRIAN APPROACH
NOSE DETAIL
(FOR RETURNED CURB
SIDE TREATMENT)




RAILROAD CROSSING
PLAN VIEW

NOTES:

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.

② FULL CURB HEIGHT.

③ 2' FOR 4" HIGH CURB AND 3' FOR 6" HIGH CURB.

④ 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.

⑤ TYPICALLY USED FOR MEDIANS AND ISLANDS.

⑥ 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.

⑦ 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.

⑧ 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.

⑨ 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.

⑩ DRILL AND GROUT 2 – NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMEN BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE CURB AND GUTTER.

⑪ 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.

⑫ 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.

⑬ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FORM THE APPROACHING SIDE OF THE GATE ARM. THIS CRITERIA GOVERNS OVER NOTE ⑫.

⑭ CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED–USE PATH.

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

⑯ 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.

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STANDARD PLAN 5–297.250 | 4 OF 6

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STATE DESIGN ENGINEER

# PEDESTRIAN CURB RAMP DETAILS



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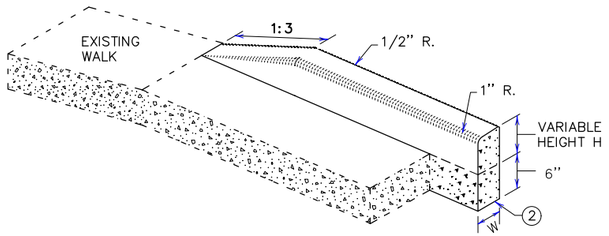
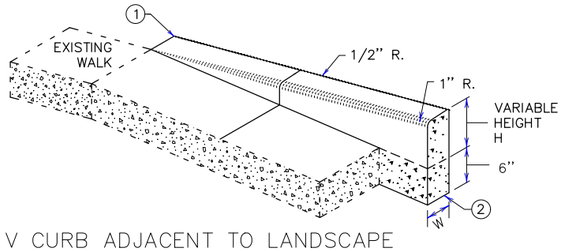


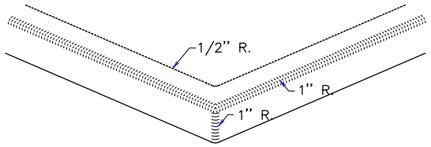

V CURB ADJACENT TO LANDSCAPE

CURB WITHIN SIDEWALK LIMITS

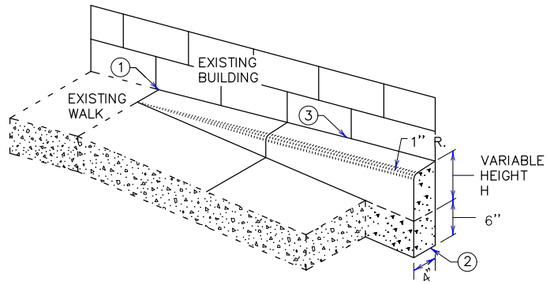



V CURB ADJACENT TO LANDSCAPE

CURB OUTSIDE SIDEWALK LIMITS

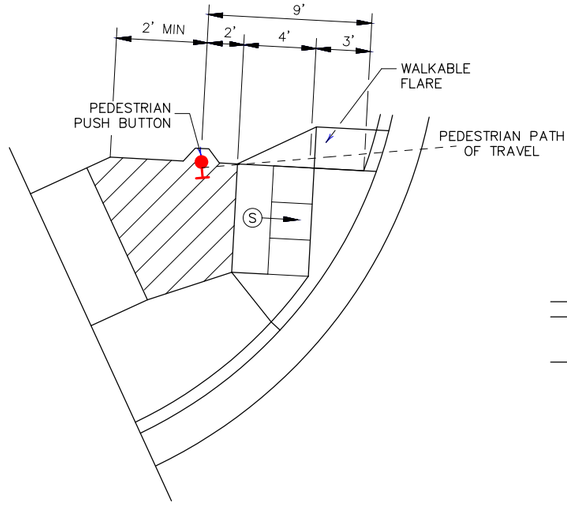



V CURB INTERSECTION




V CURB ADJACENT TO BUILDING OR BARRIER

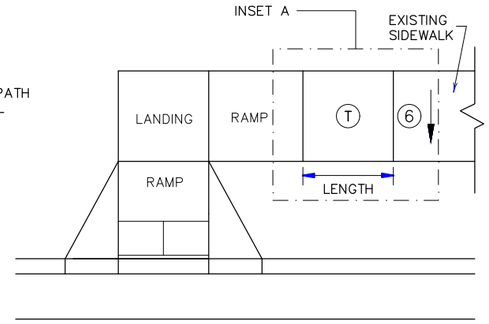
| CONCRETE CURB DESIGN V | |
|---|---|
| CURB HEIGHT H | CURB WIDTH W |
| < 6" | 4" |
| ≥ 6" | 6" |

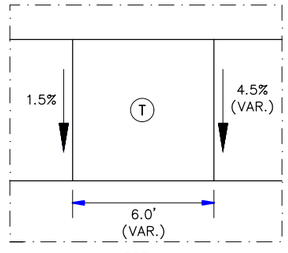



SEMI-DIRECTIONAL RAMP (3,4,9)

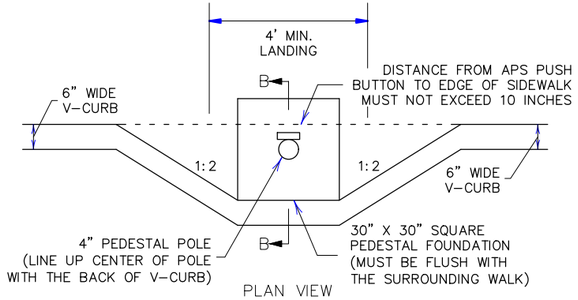
3' DOME SETBACK, 4' LONG RAMP AND PUSH BUTTON 9' FROM THE BACK OF CURB

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

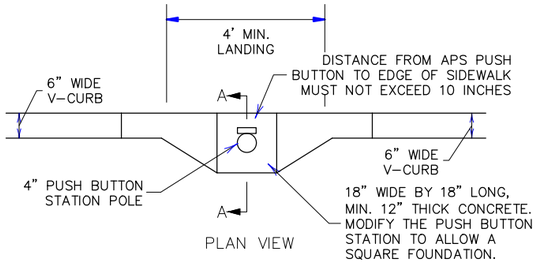


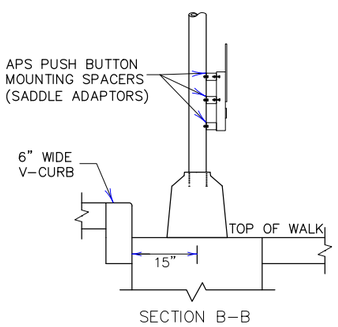

TRANSITION PANEL ④⑤




PLAN VIEW

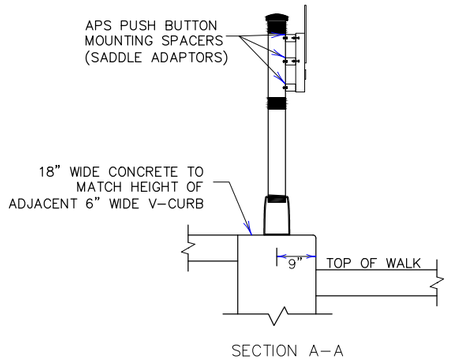



PLAN VIEW




SECTION B-B

SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)




SECTION A-A

PUSH BUTTON STATION (V-CURB)

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) EDGE BETWEEN NEW V CURB AND INPLACE STRUCTURE SHALL BE SEALED AND BOND BREAKER SHALL BE USED BETWEEN EXISTING STRUCTURE AND PLACED V-CURB.

(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 AREA AT THE FULL CURB HEIGHT (TYPICAL SECTION).

(6) EXISTING CROSS SLOPE GREATER THAN 2.0%.

| 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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STANDARD PLAN 5-297.250 | 5 OF 6

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# PEDESTRIAN CURB RAMP DETAILS



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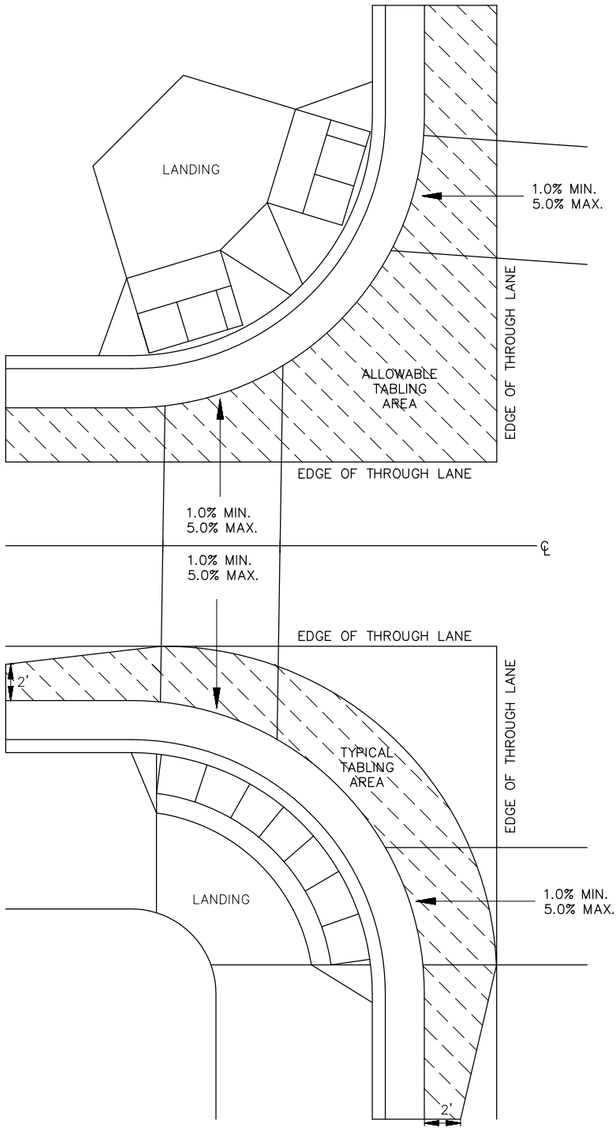
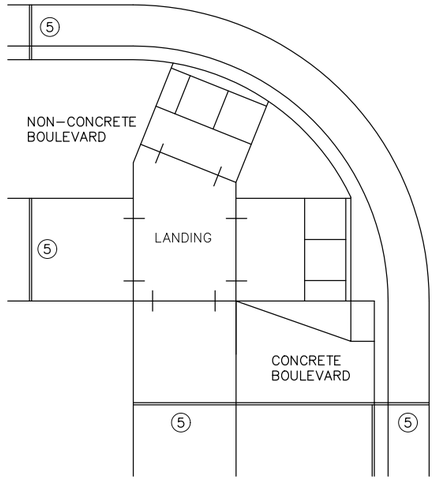
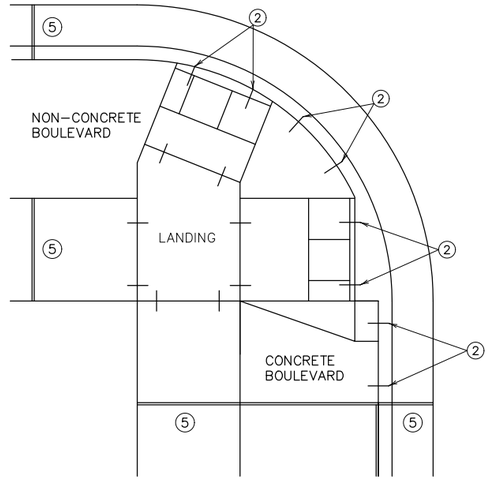


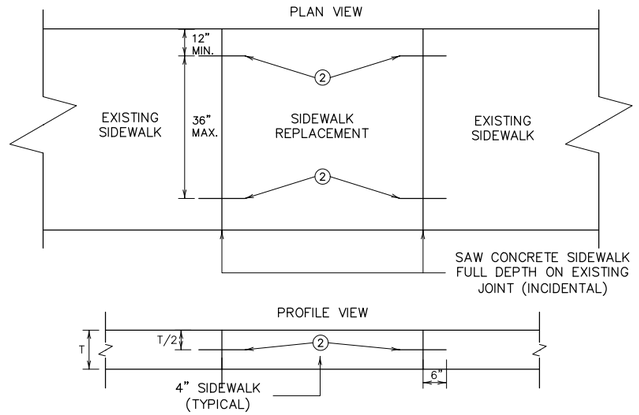

CURB LINE AND ROAD CROSSING ADJUSTMENTS




EXPANSION MATERIAL PLACEMENT FOR
CONCRETE AND BITUMINOUS ROADWAYS

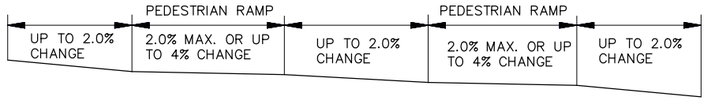



OPTIONAL CURB LINE REINFORCEMENT
PLACEMENT ON BITUMINOUS ROADWAYS ④




OPTIONAL SIDEWALK REINFORCEMENT

SIDEWALK REINFORCEMENT TO BE USED
ONLY WHEN SPECIFIED IN THE PLAN.

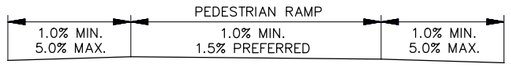



FLOW LINE PROFILE "TABLE" – TWIN PERPENDICULARS

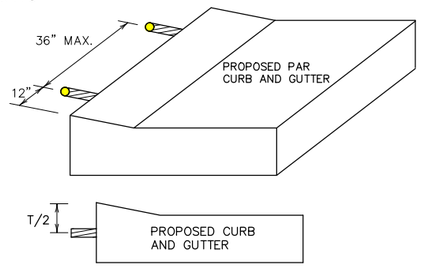


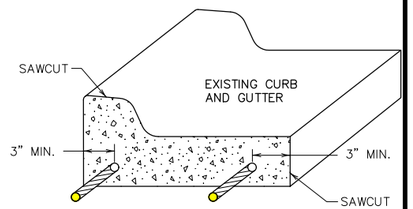

FLOW LINE PROFILE "TABLE" – FAN


FLOW LINE PROFILE RAISE – TWIN PERPENDICULARS




FLOW LINE PROFILE RAISE – FAN

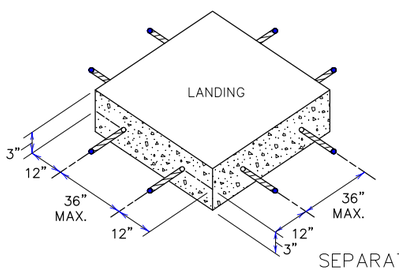


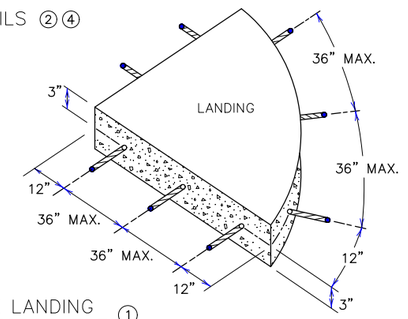




FOR USE ON CURB RAMP RETROFITS

CURB AND GUTTER
REINFORCEMENT ③

OPTIONAL CURB LINE REINFORCEMENT DETAILS ②④




SEPARATE LANDING
POUR REINFORCEMENT ①

"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 AT 36" MAXIMUM CENTER TO CENTER (EPOXY COATED). BARS TO BE ADJUSTED TO MATCH RAMP GRADE.

③ DRILL AND GROUT 2 – NO. 4 X 12" LONG REINFORCEMENT BARS (EPOXY COATED). REINFORCEMENT REQUIRED FOR ALL CONSTRUCTION JOINTS WITHIN RADIUS.

④ THIS OPTIONAL CURB LINE REINFORCEMENT DETAIL SHOULD ONLY BE USED ON BITUMINOUS ROADWAYS WHEN SPECIFIED IN THE PLAN.

⑤ 1/2 IN. PREFORMED JOINT FILLER MATERIAL PER MNDOT SPEC. 3702.

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STANDARD PLAN 5–297.250 | 6 OF 6

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# PEDESTRIAN CURB RAMP DETAILS

SHEET NO 19 OF 65 SHEETS

Mar 03, 2021 – 5:57pm
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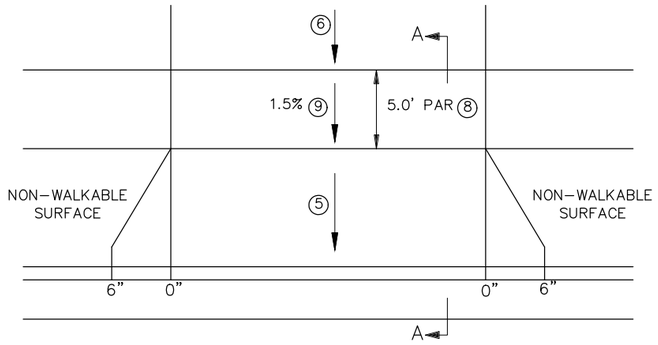
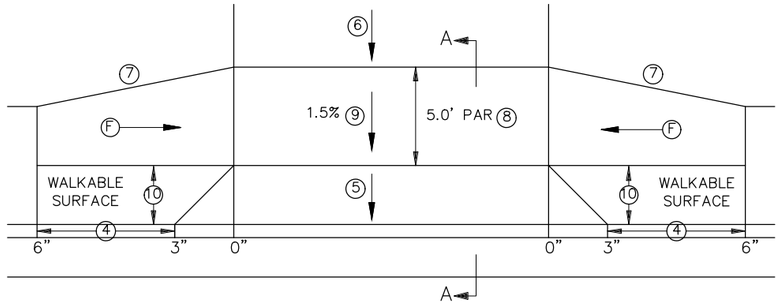
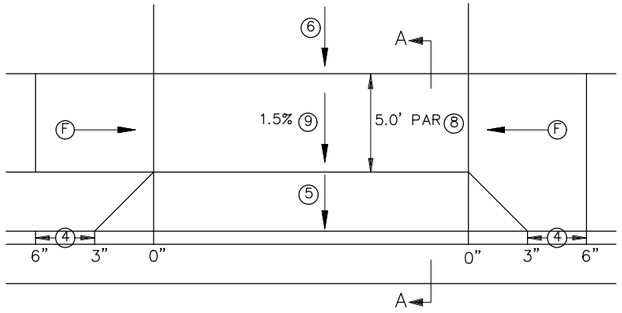


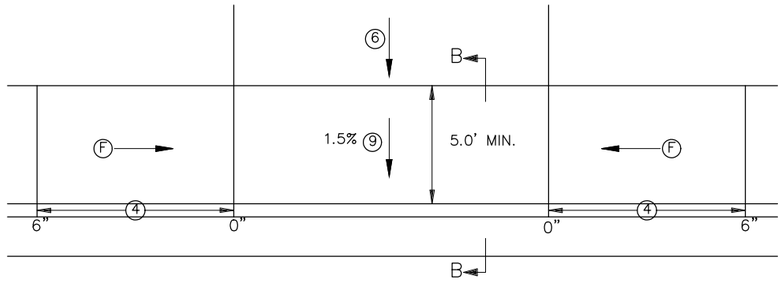

PERPENDICULAR DRIVEWAY ①




TIERED PERPENDICULAR OFFSET DRIVEWAY




TIERED PERPENDICULAR DRIVEWAY ②




PARALLEL DRIVEWAY ③

## NOTES:

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 TO BE USED WHEN THE DRIVEWAY PAR IS LEVEL WITH OR ABOVE THE TOP OF CURB, RESULTING IN A CONTINUOUS PAR PROFILE.

② TO BE USED WHEN THE DRIVEWAY PAR IS BELOW THE ROADWAY CURB HEIGHT. THIS DRIVEWAY TYPE CAN BE USED FOR BOTH PAVED (AS SHOWN) AND GRASS BOULEVARDS.

③ SHOULD BE USED FOR NEGATIVE SLOPED DRIVEWAYS. DW CURB TYPE 2 CURB 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% MAX. PREFERRED, 10% MAX. FOR COMMERCIAL AND 12% MAX. FOR RESIDENTIAL. SEE GENERAL NOTES ON SHEET 2 FOR MORE INFORMATION.

⑥ 8% MAX. PREFERRED, SEE SHEET 2 FOR MORE INFORMATION.

⑦ 1:3 MIN. 1:5 PREFERRED FOR DRIVEWAY RETROFIT PROJECTS. 1:10 PREFERRED FOR SIDEWALK REPLACEMENT PROJECTS.

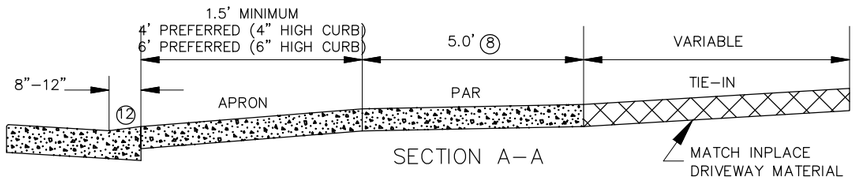
⑧ 5.0' MIN. PAR WIDTH IS THE STANDARD THROUGH DRIVEWAYS. IF FEASIBLE WIDEN DRIVEWAY PAR WIDTH TO MATCH APPROACHING SIDEWALK PAR WIDTHS. IN VERTICALLY CONSTRAINED AREAS PAR WIDTHS CAN INCREMENTALLY BE REDUCED TO 4.5' OR 4' MIN AFTER ALL OTHER OPTIONS HAVE BEEN APPLIED.

⑨ THE PEDESTRIAN ACCESS ROUTE, MAY NOT EXCEED 0.02 FT./FT. AS CONSTRUCTED.

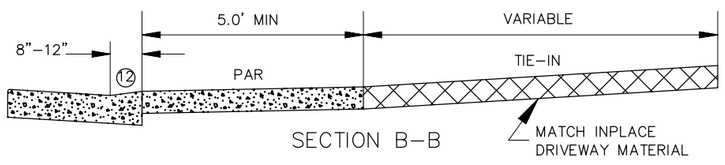
⑩ SIDEWALK OFFSET TO BE LESS THAN OR EQUAL TO HALF THE APPROACHING SIDEWALK WIDTH.

⑪ VALLEY GUTTER APRON TO BE POURED INTEGRAL WITH THE CURB AND GUTTER. SEE SHEET 2 FOR MORE INFORMATION.

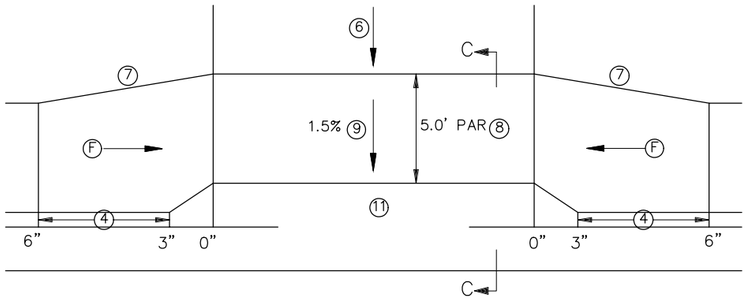
⑫ SEE SHEET 2 FOR CURB TYPE INFORMATION.



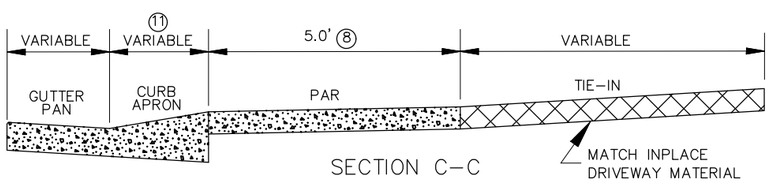

SECTION A–A




SECTION B–B




VALLEY GUTTER DRIVEWAY




SECTION C–C

| 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% |
| X" | CURB HEIGHT (INCHES) |

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|---|
| APPROVED: JANUARY 23, 2017 |
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MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

STANDARD PLAN 5-297.254 | 1 OF 4

APPROVED: 1-23-2017
REVISED:

# DRIVEWAY AND SIDEWALK DETAILS

SHEET NO. 20 OF 65 SHEETS

Mar 03, 2021 – 5:58pm
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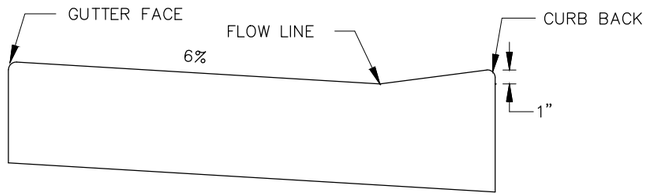
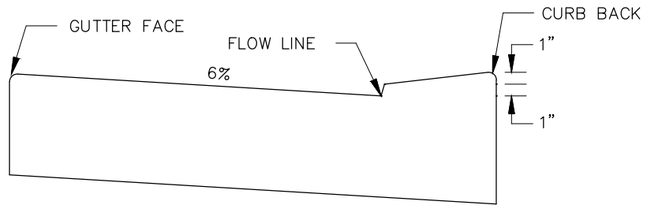


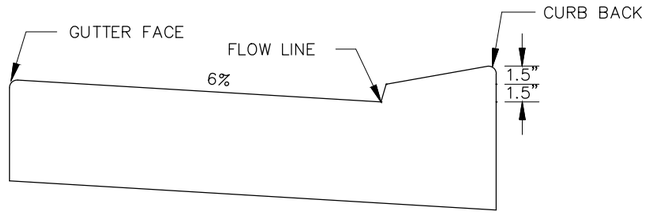

DW CURB STANDARD

STANDARD CURB AT DRIVEWAY



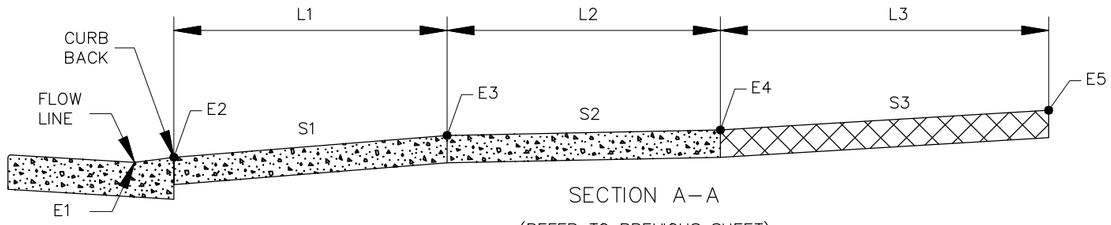

DW CURB TYPE 2

VERTICALLY CONSTRAINED



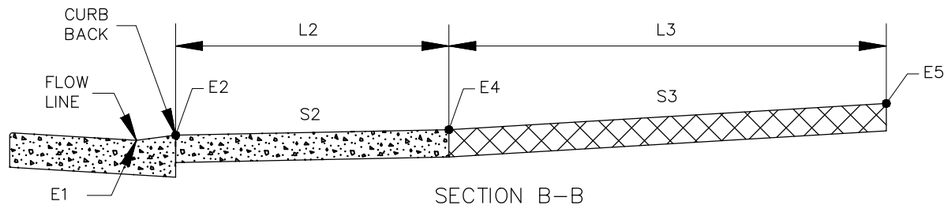

DW CURB TYPE 3

VERTICALLY CONSTRAINED




SECTION A–A

(REFER TO PREVIOUS SHEET)




SECTION B–B

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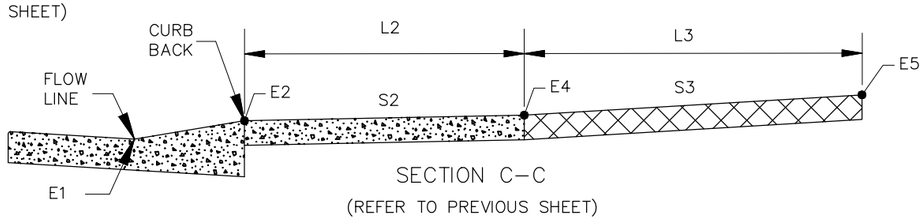


SECTION C–C

(REFER TO PREVIOUS SHEET)

## DRIVEWAY TABULATION ①

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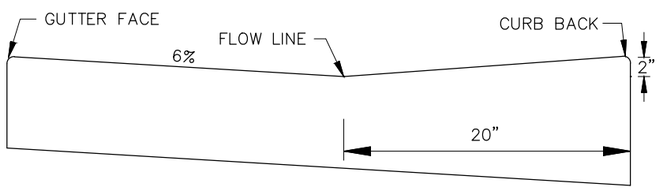
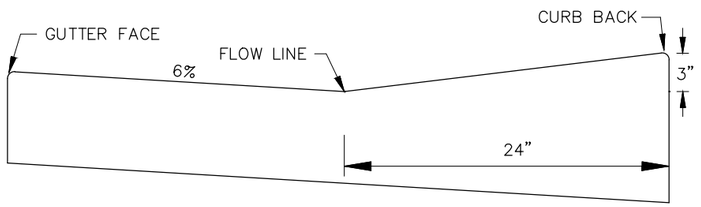



VG 220




VG 324

VALLEY GUTTER CURB

OTHER CURB HEIGHTS & CURB APRON LENGTHS CAN BE USED

NOTES:

DW CURB STANDARD SHALL BE USED WHEN THE DRIVEWAY ACTS AS A PEDESTRIAN RAMP. THE MAX. APRON SLOPE MUST ADHERE TO ADA CRITERIA AS WELL. DW CURB STANDARD 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% MAX PREFERRED, 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.

DW CURB TYPE 3 SHALL ONLY BE USED IN EXTREME TIE–IN CASES.

S3 8% MAX PREFERRED, IF THIS SLOPE IS EXCEEDED OR IS CONTINUED FOR MORE THAN 5' ANALYZE THE NEED FOR VERTICAL CURVE(S). SEE ROAD DESIGN MANUAL, CHAPTER 5, FOR GEOMETRIC DESIGNS OF DRIVEWAYS.

① EXAMPLE SHOWN TO BE INCLUDED IN PLAN FOR EACH DRIVEWAY.

② SHOULD BE DESIGNED AT 1.5%.

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

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STANDARD PLAN 5–297.254 | 2 OF 4

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# DRIVEWAY AND SIDEWALK DETAILS

SHEET NO. 21 OF 65 SHEETS

Mar 03, 2021 – 5:58pm
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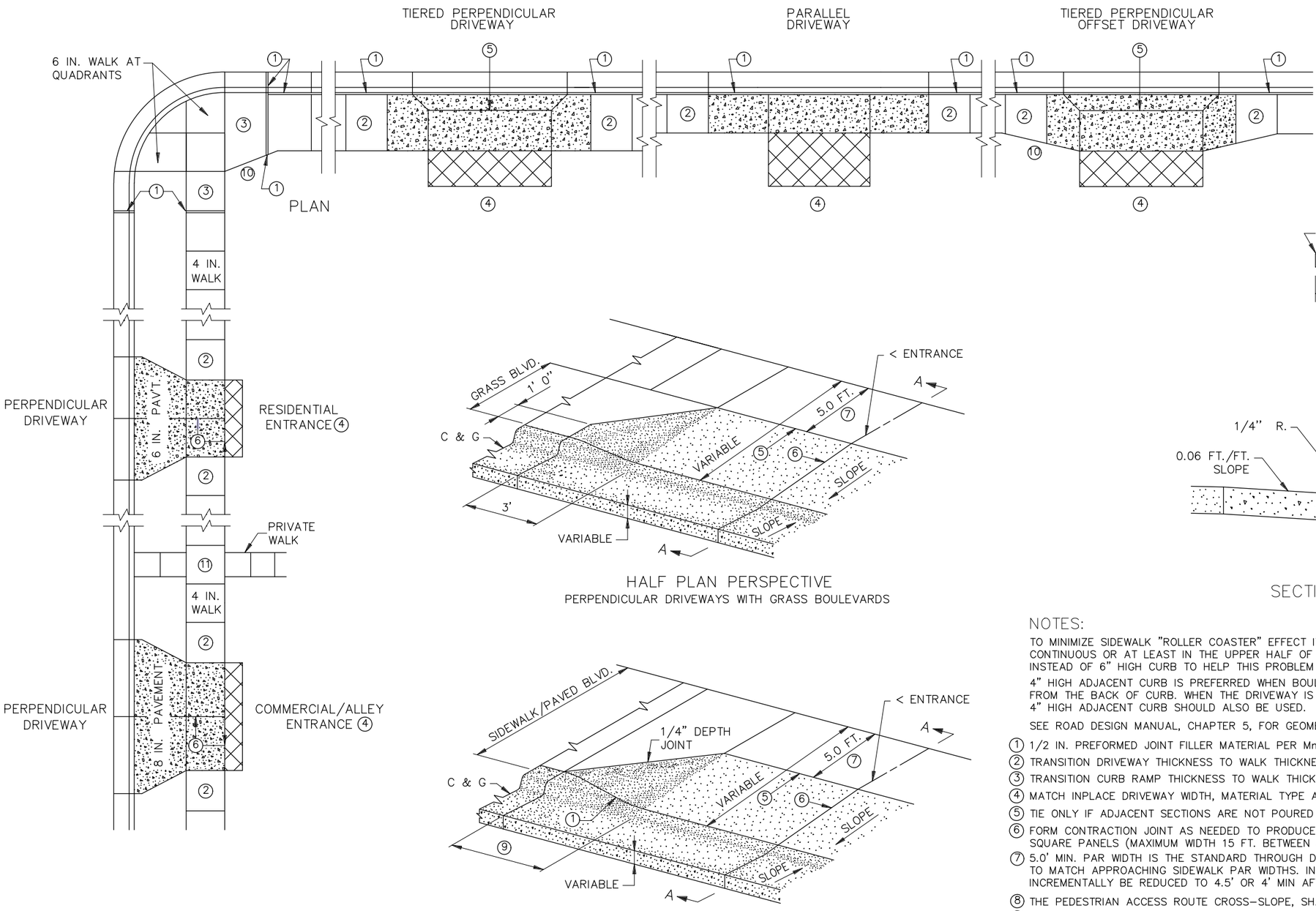


NOTES:

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 ROAD DESIGN MANUAL, CHAPTER 5, FOR GEOMETRIC DESIGN OF DRIVEWAYS.

(1) 1/2 IN. PREFORMED JOINT FILLER MATERIAL PER MnDOT SPEC. 3702, EXCEPT AT GRASS BOULEVARDS.
(2) TRANSITION DRIVEWAY THICKNESS TO WALK THICKNESS.
(3) TRANSITION CURB RAMP THICKNESS TO WALK THICKNESS.
(4) MATCH INPLACE DRIVEWAY WIDTH, MATERIAL TYPE AND THICKNESS.
(5) TIE ONLY IF ADJACENT SECTIONS ARE NOT POURED MONOLITHICALLY. SEE SECTION A–A.
(6) FORM CONTRACTION JOINT AS NEEDED TO PRODUCE APPROXIMATELY SQUARE PANELS (MAXIMUM WIDTH 15 FT. BETWEEN JOINTS).
(7) 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.
(8) THE PEDESTRIAN ACCESS ROUTE CROSS–SLOPE, SHALL NOT EXCEED 0.02 FT./FT. AS CONSTRUCTED.
(9) 8% TO 10% FLARES SHALL BE USED WHEN ADJACENT TO WALKABLE SURFACES AND FOR ALL TIERED DRIVEWAYS WITH GRASS BOULEVARDS.
(10) 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.
(11) LANDING REQUIRED, SEE NEXT SHEET FOR MORE INFORMATION.

| REVISION: |
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STANDARD PLAN 5–297.254 | 3 OF 4

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# DRIVEWAY AND SIDEWALK DETAILS

SHEET NO. 22 OF 65 SHEETS

Mar 03, 2021 – 5:58pm
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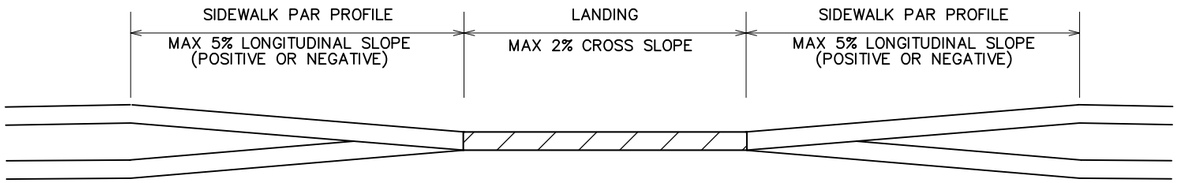
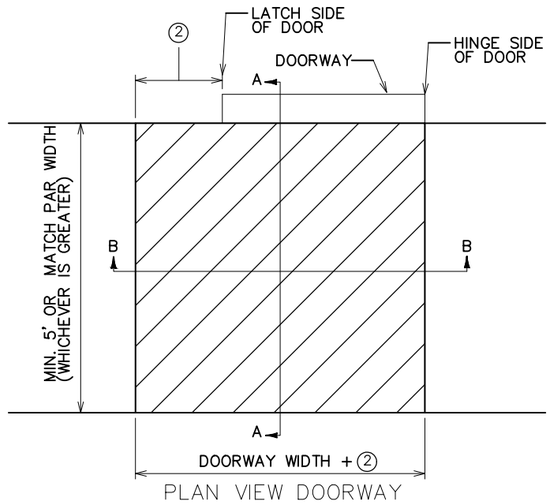
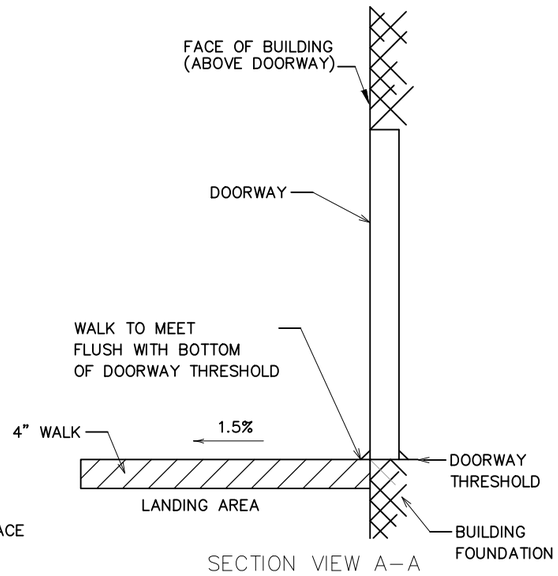


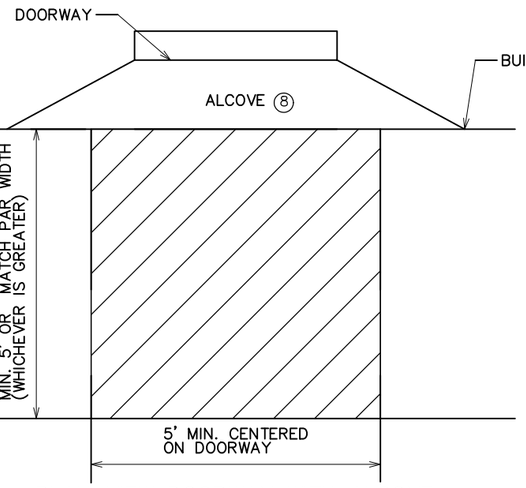

SECTION VIEW B–B




PLAN VIEW DOORWAY

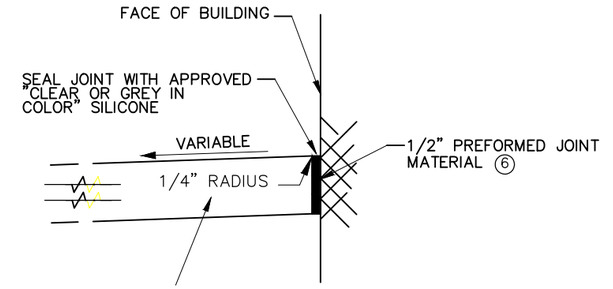



SECTION VIEW A–A

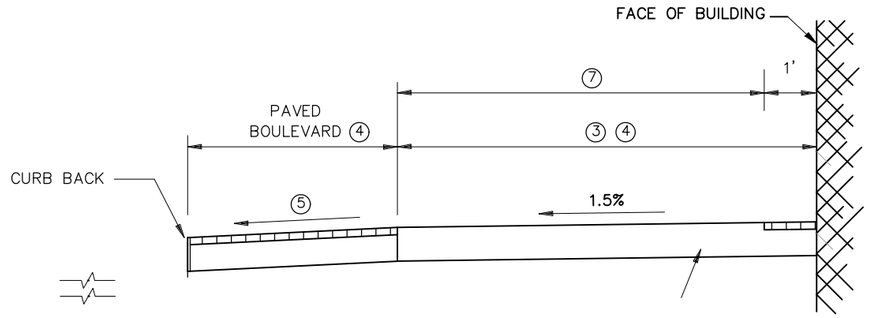



PLAN VIEW DOORWAY WITH ALCOVE

SIDEWALK LANDING REQUIREMENTS①




BUILDING JOINT SEAL (INCIDENTAL)




DOWNTOWN SIDEWALK TYPICAL SECTION

NOTES:

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, PRIVATE WALKS AND STEPS.

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.

⑤ 1%–5% FOR THE MAJORITY OF THE BLOCK, WITH EXCEPTIONS UP TO 8% IN CONSTRAINED AREAS. 10% MAX. FOR SHORT SECTIONS ALLOWED TO ACCOUNT FOR FIELD TOLERANCES.

⑥ FURNISH AND INSTALL BACKER ROD OF APPROPRIATE DIAMETER.

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

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

| LEGEND | |
|---|---|
| | LANDING – ALL SLOPES TO BE LESS THAN 2% |
| | OPTIONAL AESTHETIC TREATMENT |

| REVISION: |
|---|
| APPROVED: JANUARY 23, 2017 |
| OPERATIONS ENGINEER |

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

STANDARD PLAN 5-297.254 | 1 OF 4

APPROVED: 1-23-2017
REVISED:

# DRIVEWAY AND SIDEWALK DETAILS

SHEET NO. 23 OF 65 SHEETS

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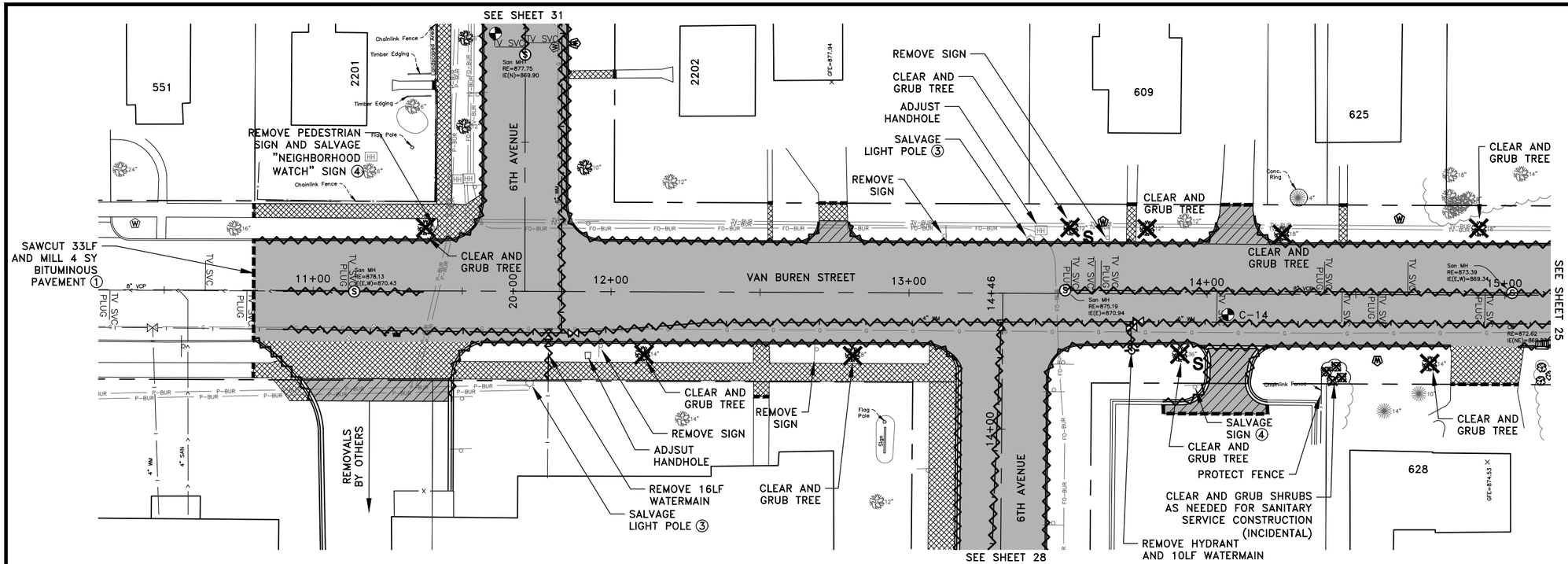


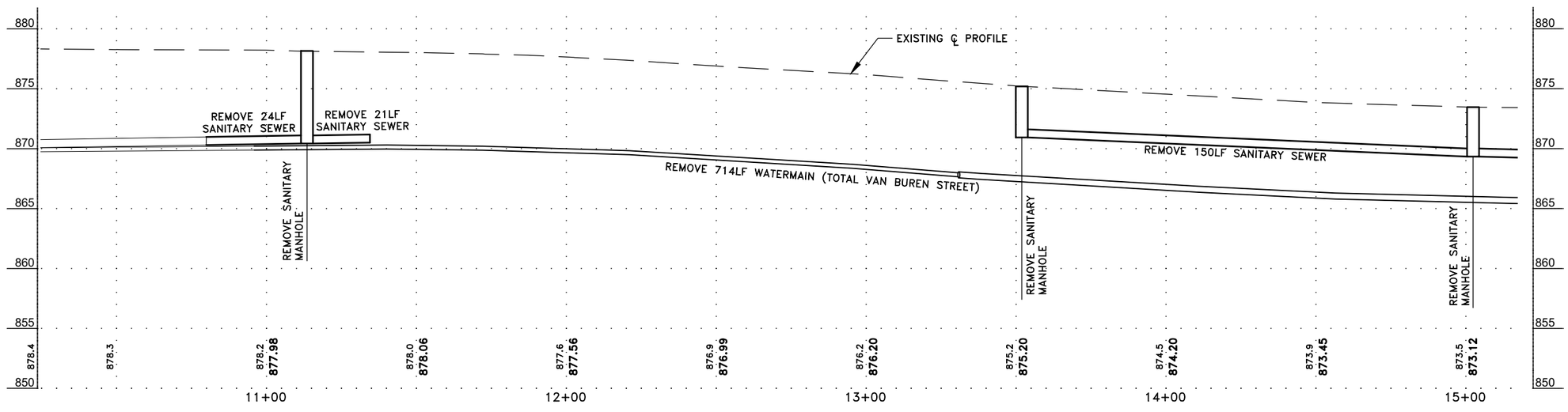


GENERAL NOTES:

1. SAWCUT DRIVEWAYS AND SIDEWALKS AT MATCH POINTS. THIS WORK SHALL BE PAID PER ITEMS 2104–SAWING CONCRETE PAVEMENT–FULL DEPTH AND 2104–SAWING BITUMINOUS PAVEMENT–FULL DEPTH.

REFERENCE NOTES:

① MILL AND SAWCUT SHALL BE PER (3/11).

② SAWING CONCRETE CURB OR THE UTILITIES AT MATCH POINT SHALL BE INCIDENTAL.

③ THIS WORK SHALL BE PAID PER ITEM 2104–SALVAGE WOOD POLE.

④ CONTRACTOR SHALL DISPOSE OF THE POSTS OF SALVAGED SIGNS. THIS WORK SHALL BE INCIDENTAL.

| DATE | REVISION |
|---|---|
| 2/26/21 | ISSUED FOR BID |

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

CRAIG J JOCHUM, P.E. Lic. No. 23461

Date 2/12/21

DESIGNED BY: TAE
DRAWN BY: DMS
CHECKED BY: CJJ

Hakanson Anderson
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www.hakanson-anderson.com

2021 SWEDE TOWN
STREET RENEWAL PROJECT

EXISTING CONDITIONS AND REMOVALS PLAN

VAN BUREN STREET
CITY OF ANOKA, MINNESOTA

SHEET 24 OF 65 SHEETS

AN390

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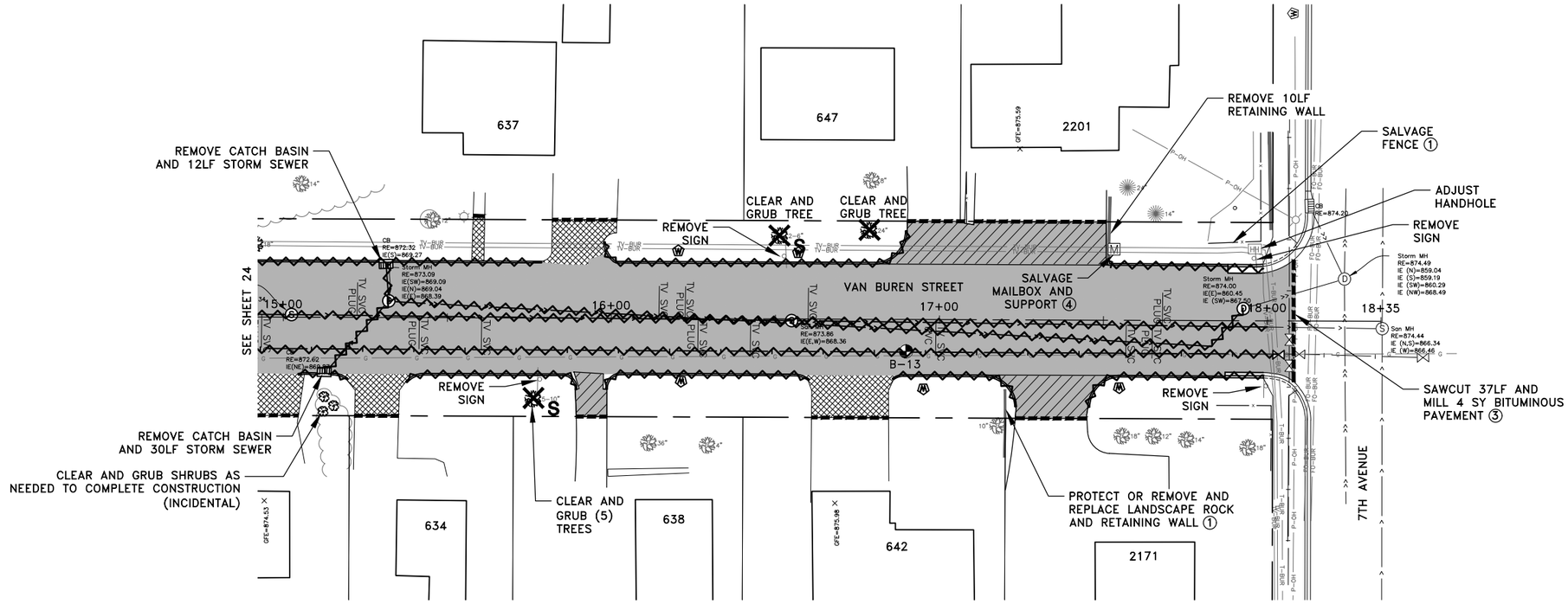


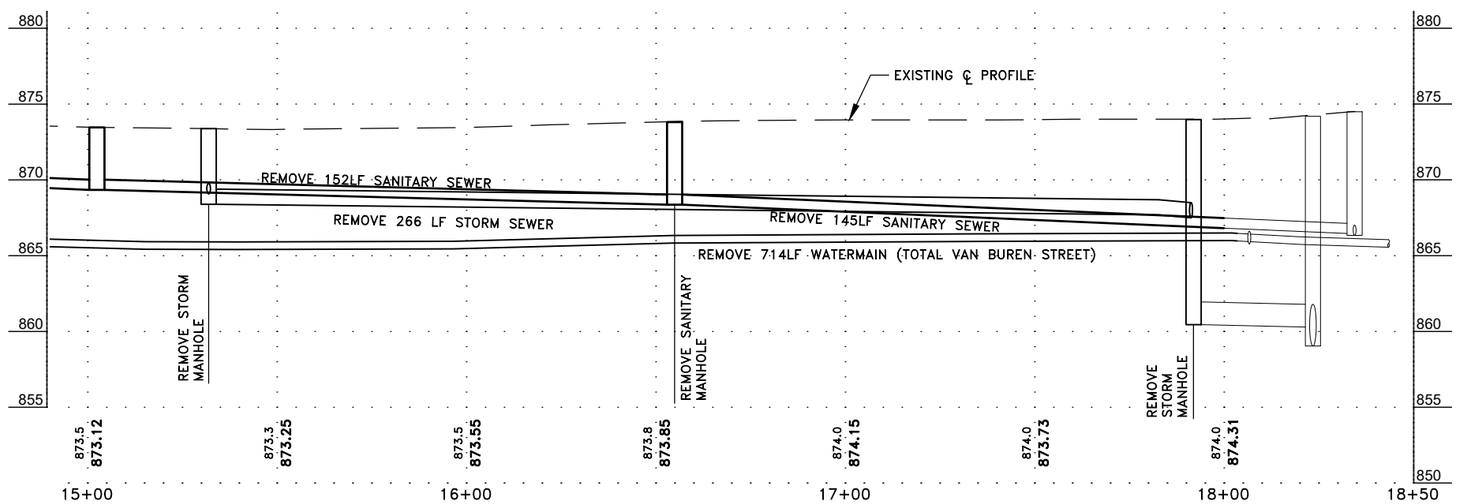


GENERAL NOTES:

1. SAWCUT DRIVEWAYS AND SIDEWALKS AT MATCH POINTS. THIS WORK SHALL BE PAID PER ITEMS 2104–SAWING CONCRETE PAVEMENT–FULL DEPTH AND 2104–SAWING BITUMINOUS PAVEMENT–FULL DEPTH.
2. SEE SHEET 55 FOR THE 7TH AVENUE TRAFFIC CONTROL PLAN.

REFERENCE NOTES:

① SALVAGING AND REINSTALLING OR REMOVING AND REPLACING LANDSCAPE ITEMS SHALL BE PAID PER ITEM 2104–LANDSCAPE RESTORATION.

② SAWING CONCRETE CURB OR THE UTILITIES AT MATCH POINT SHALL BE INCIDENTAL.

③ MILL AND SAWCUT SHALL BE PER (3/11).

④ THIS WORK SHALL BE PAID PER ITEM 2105–SALVAGE MAILBOX SUPPORT.

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2021 SWEDE TOWN
STREET RENEWAL PROJECT

EXISTING CONDITIONS AND REMOVALS PLAN

VAN BUREN STREET
CITY OF ANOKA, MINNESOTA

SHEET 25 OF 65 SHEETS

AN390

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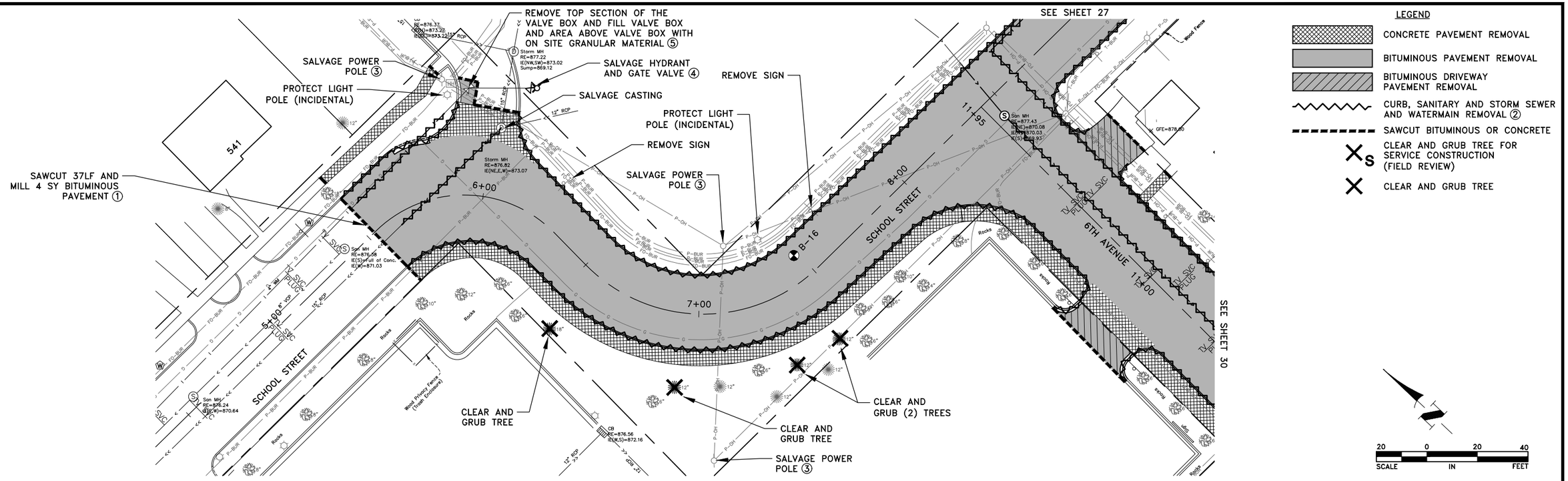


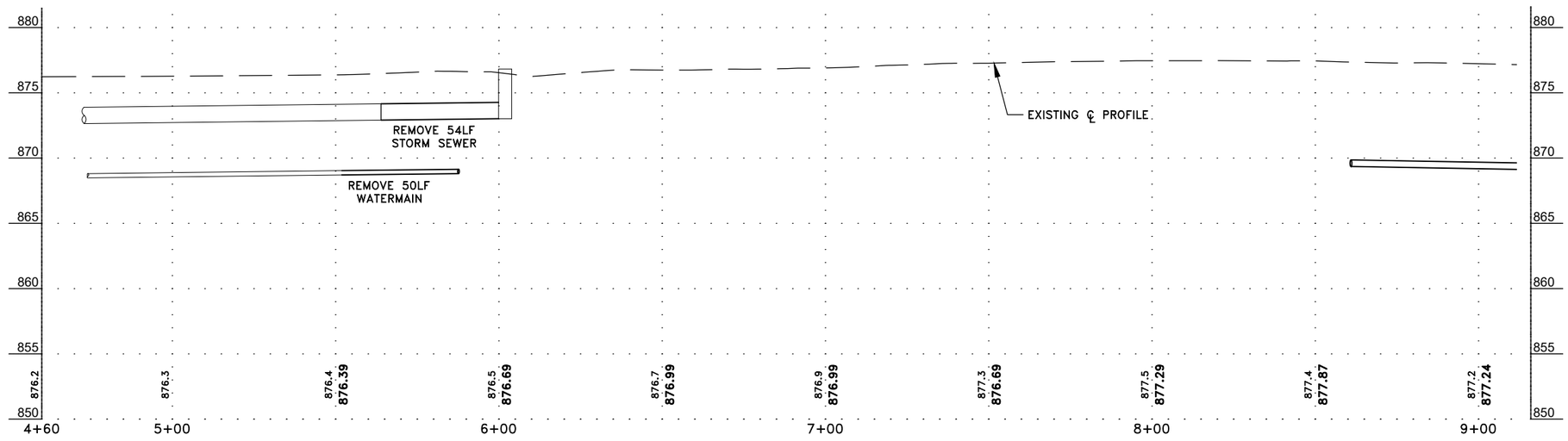


GENERAL NOTES:

1. SAWCUT DRIVEWAYS AND SIDEWALKS AT MATCH POINTS. THIS WORK SHALL BE PAID PER ITEMS 2104–SAWING CONCRETE PAVEMENT–FULL DEPTH AND 2104–SAWING BITUMINOUS PAVEMENT–FULL DEPTH.

REFERENCE NOTES:

① MILL AND SAWCUT SHALL BE PER (3/11).

② SAWING CONCRETE CURB OR THE UTILITIES AT MATCH POINT SHALL BE INCIDENTAL.

③ THIS WORK SHALL BE PAID PER ITEM 2104–SALVAGE WOOD POLE.

④ PLUG BOTH ENDS OF THE REMAINING HYDRANT LEAD WITH DIP PLUGS. THIS WORK SHALL BE PAID PER ITEM 2504–DUCTILE IRON FITTINGS.

⑤ THIS WORK SHALL BE INCIDENTAL.

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|---|---|
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2021 SWEDE TOWN
STREET RENEWAL PROJECT

EXISTING CONDITIONS AND REMOVALS PLAN

SCHOOL STREET
CITY OF ANOKA, MINNESOTA

SHEET 26 OF 65 SHEETS

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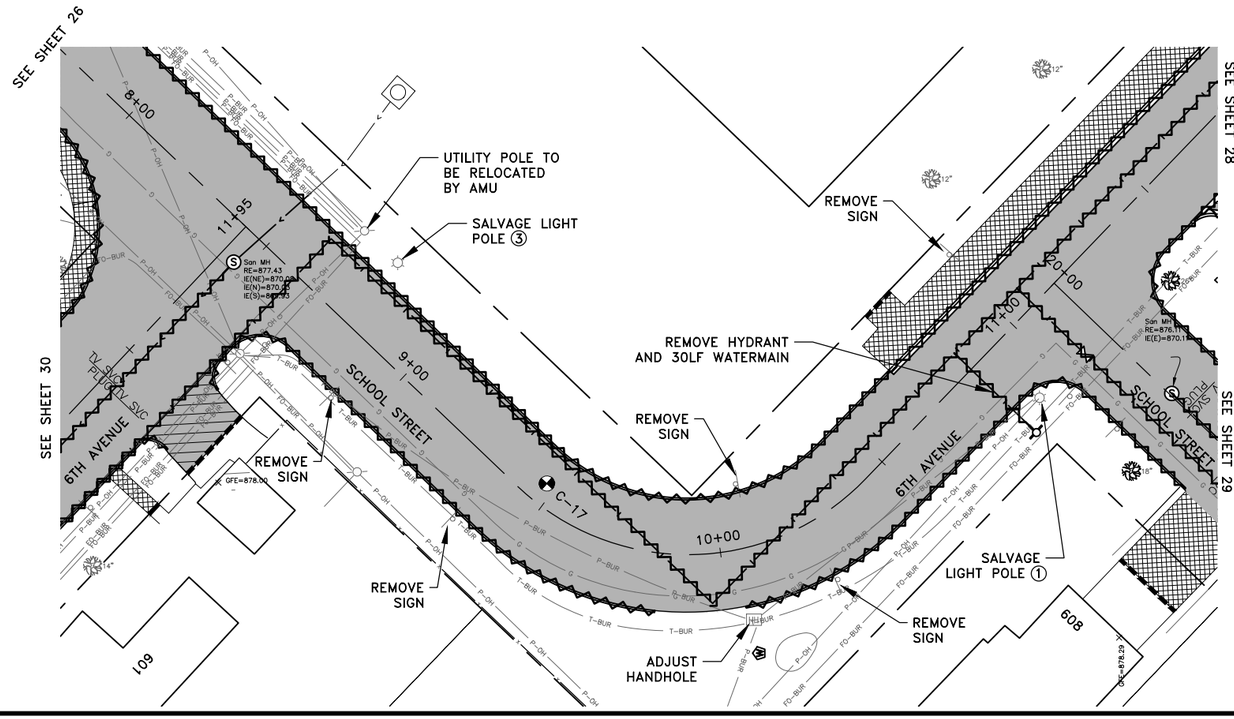


LEGEND

- CONCRETE PAVEMENT REMOVAL
- BITUMINOUS PAVEMENT REMOVAL
- BITUMINOUS DRIVEWAY PAVEMENT REMOVAL
- CURB, SANITARY AND STORM SEWER AND WATERMAIN REMOVAL ②
- SAWCUT BITUMINOUS OR CONCRETE
- $X_S$ CLEAR AND GRUB TREE FOR SERVICE CONSTRUCTION (FIELD REVIEW)
- X CLEAR AND GRUB TREE

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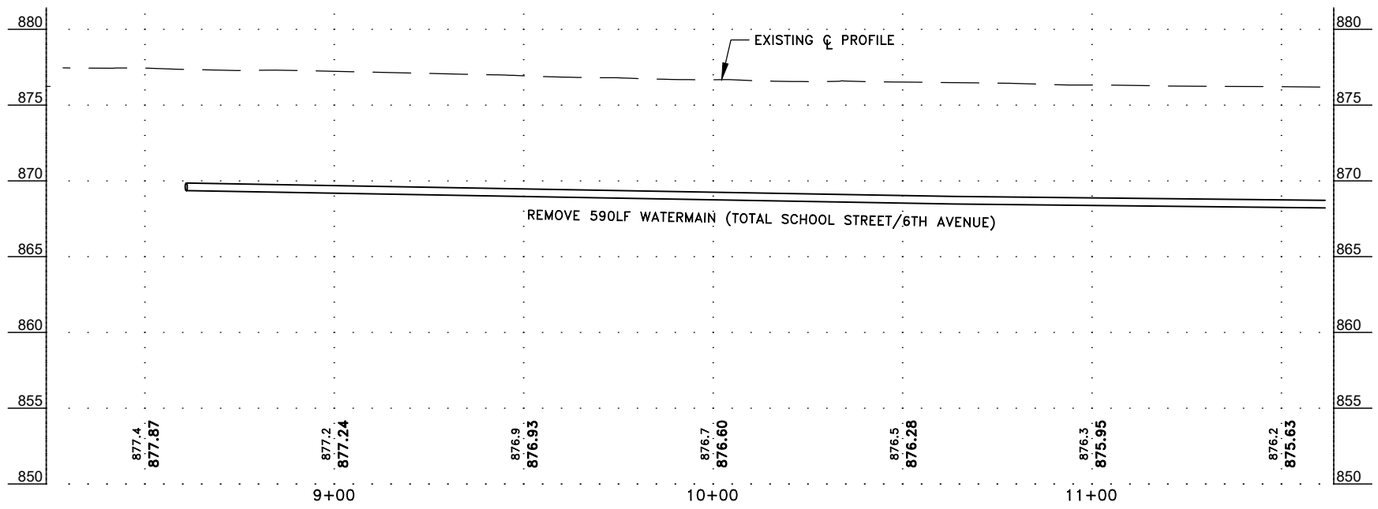
SCALE IN FEET




GENERAL NOTES:

1. SAWCUT DRIVEWAYS AND SIDEWALKS AT MATCH POINTS. THIS WORK SHALL BE PAID PER ITEMS 2104–SAWING CONCRETE PAVEMENT–FULL DEPTH AND 2104–SAWING BITUMINOUS PAVEMENT–FULL DEPTH.

REFERENCE NOTES:

① THIS WORK SHALL BE PAID PER ITEM 2104–SALVAGE WOOD POLE.

② SAWING CONCRETE CURB OR THE UTILITIES AT MATCH POINT SHALL BE INCIDENTAL.

③ THIS WORK SHALL BE PAID PER ITEM 2104–SALVAGE ORNAMENTAL LIGHT.

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2021 SWEDE TOWN
STREET RENEWAL PROJECT

# EXISTING CONDITIONS AND REMOVALS PLAN

SCHOOL STREET AND 6TH AVENUE
CITY OF ANOKA, MINNESOTA

SHEET 27 OF 65 SHEETS

AN390

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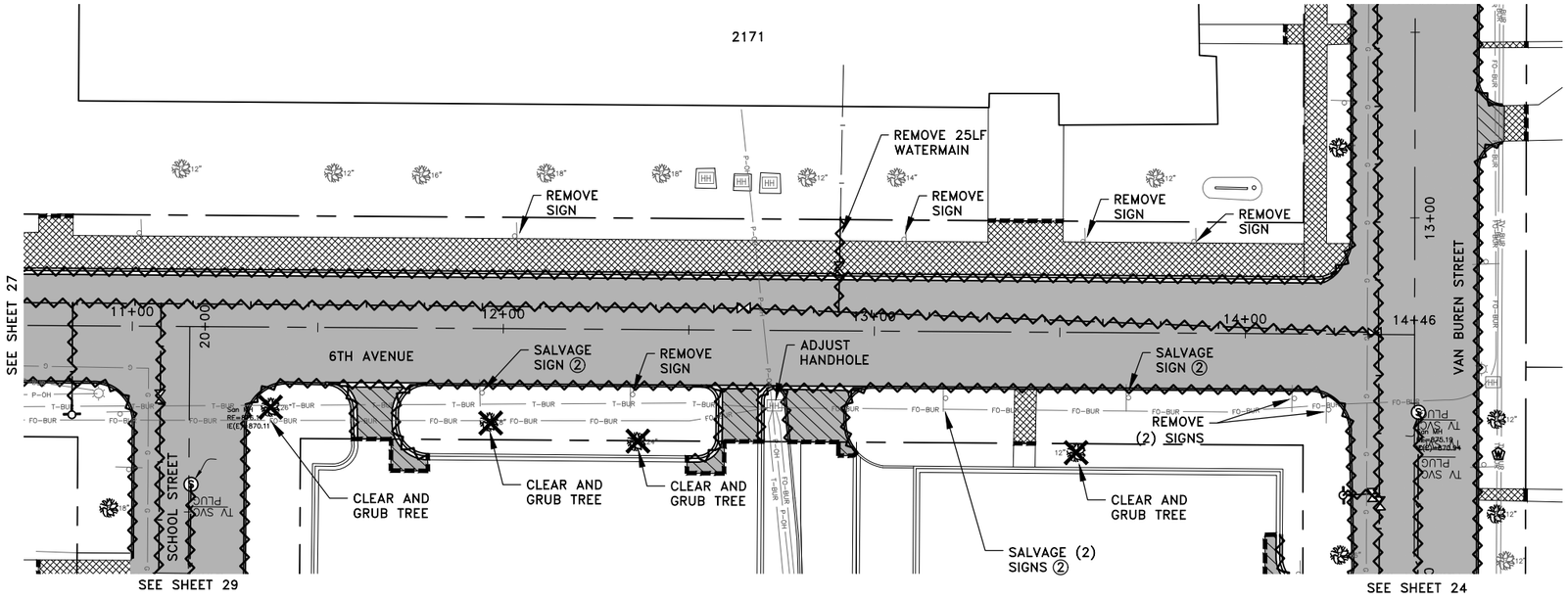



LEGEND

- CONCRETE PAVEMENT REMOVAL
- BITUMINOUS PAVEMENT REMOVAL
- BITUMINOUS DRIVEWAY PAVEMENT REMOVAL
- CURB, SANITARY AND STORM SEWER AND WATERMAIN REMOVAL ②
- SAWCUT BITUMINOUS OR CONCRETE
- $X_S$ CLEAR AND GRUB TREE FOR SERVICE CONSTRUCTION (FIELD REVIEW)
- X CLEAR AND GRUB TREE

SCALE IN FEET: 20 0 20 40

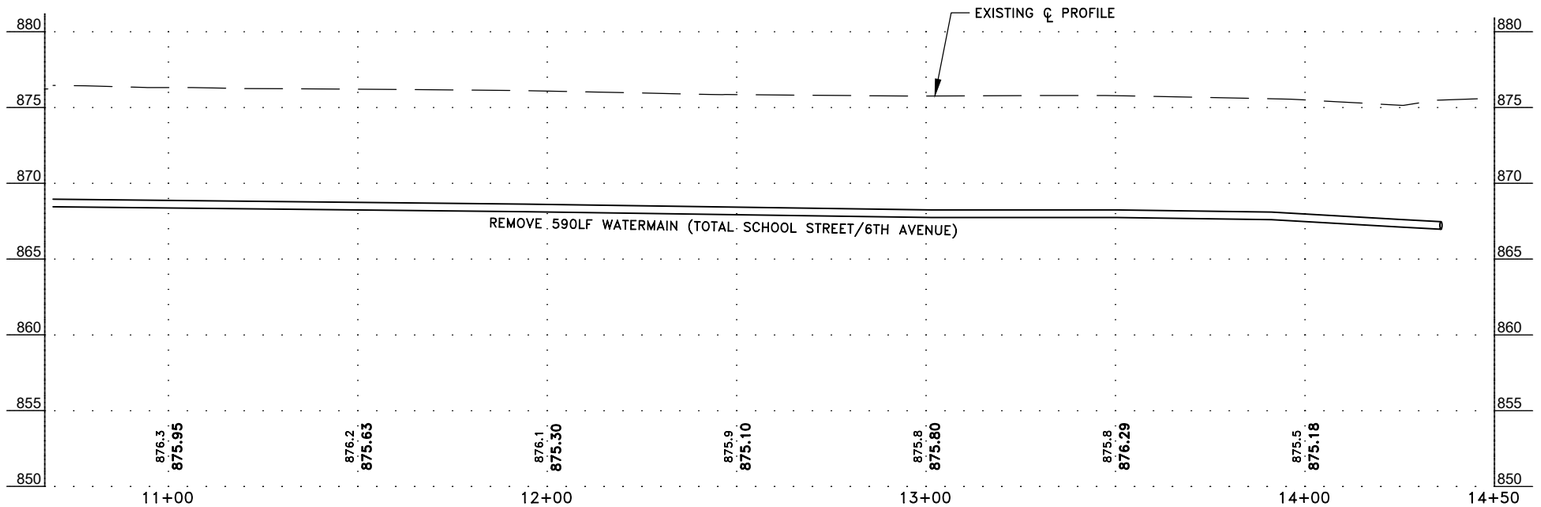
GENERAL NOTES:

1. SAWCUT DRIVEWAYS AND SIDEWALKS AT MATCH POINTS. THIS WORK SHALL BE PAID PER ITEMS 2104–SAWING CONCRETE PAVEMENT–FULL DEPTH AND 2104–SAWING BITUMINOUS PAVEMENT–FULL DEPTH.

REFERENCE NOTES:

① SAWING CONCRETE CURB OR THE UTILITIES AT MATCH POINT SHALL BE INCIDENTAL.

② CONTRACTOR SHALL DISPOSE OF THE POSTS OF SALVAGED SIGNS. THIS WORK SHALL BE INCIDENTAL.

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2021 SWEDE TOWN
STREET RENEWAL PROJECT

EXISTING CONDITIONS AND REMOVALS PLAN

6TH AVENUE
CITY OF ANOKA, MINNESOTA

SHEET 28 OF 65 SHEETS

AN390

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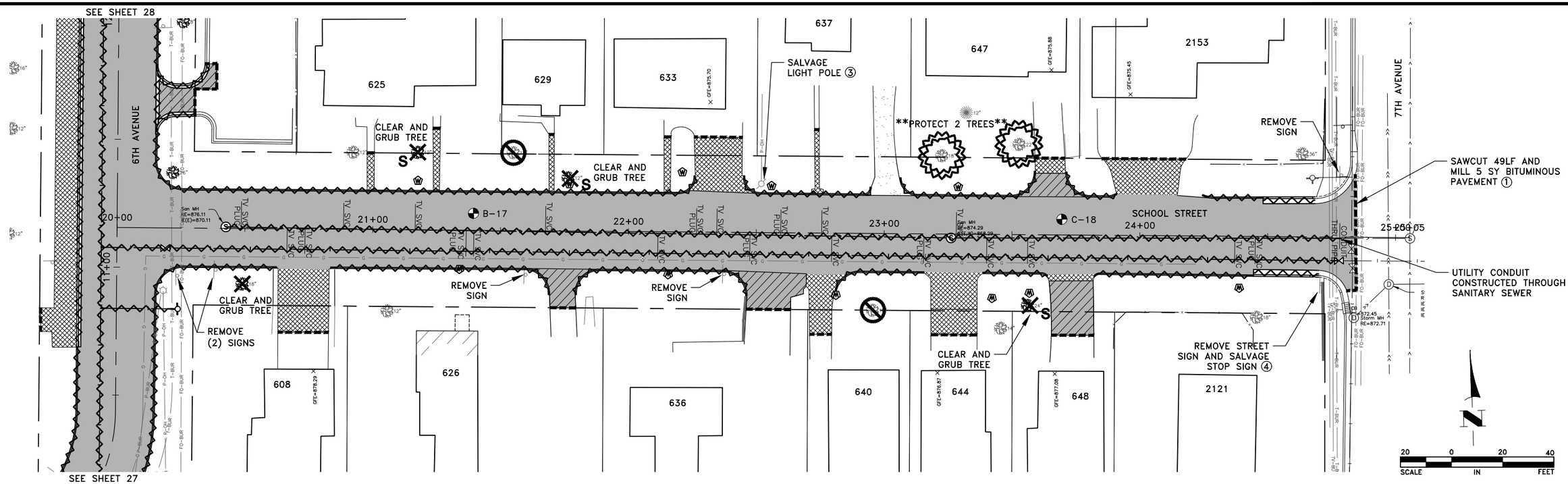



LEGEND

- CONCRETE PAVEMENT REMOVAL
- BITUMINOUS PAVEMENT REMOVAL
- BITUMINOUS DRIVEWAY PAVEMENT REMOVAL
- CURB, SANITARY AND STORM SEWER AND WATERMAIN REMOVAL (2)
- SAWCUT BITUMINOUS OR CONCRETE
- $X_S$ CLEAR AND GRUB TREE FOR SERVICE CONSTRUCTION (FIELD REVIEW)
- X CLEAR AND GRUB TREE
- ⊘ CLEAR AND GRUB TREE WITH APPROVAL FROM PROPERTY OWNER

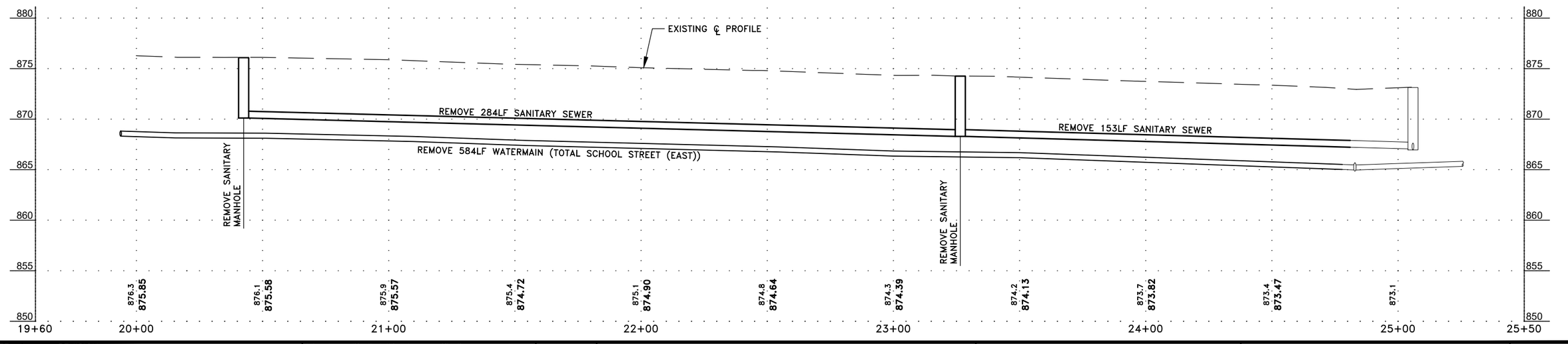
GENERAL NOTES:

1. SAWCUT DRIVEWAYS AND SIDEWALKS AT MATCH POINTS. THIS WORK SHALL BE PAID PER ITEMS 2104–SAWING CONCRETE PAVEMENT–FULL DEPTH AND 2104–SAWING BITUMINOUS PAVEMENT–FULL DEPTH.
2. SEE SHEET 57 FOR THE 7TH AVENUE TRAFFIC CONTROL PLAN.

REFERENCE NOTES:

(1) MILL AND SAWCUT SHALL BE PER (3/11).

(2) SAWING CONCRETE CURB OR THE UTILITIES AT MATCH POINT SHALL BE INCIDENTAL.
(3) THIS WORK SHALL BE PAID PER ITEM 2104–SALVAGE WOOD POLE.
(4) CONTRACTOR SHALL DISPOSE OF THE POSTS OF SALVAGED SIGNS. THIS WORK SHALL BE INCIDENTAL.

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2021 SWEDE TOWN
STREET RENEWAL PROJECT

EXISTING CONDTIONS AND REMOVALS PLAN

SCHOOL STREET
CITY OF ANOKA, MINNESOTA

SHEET 29 OF 65 SHEETS

AN390

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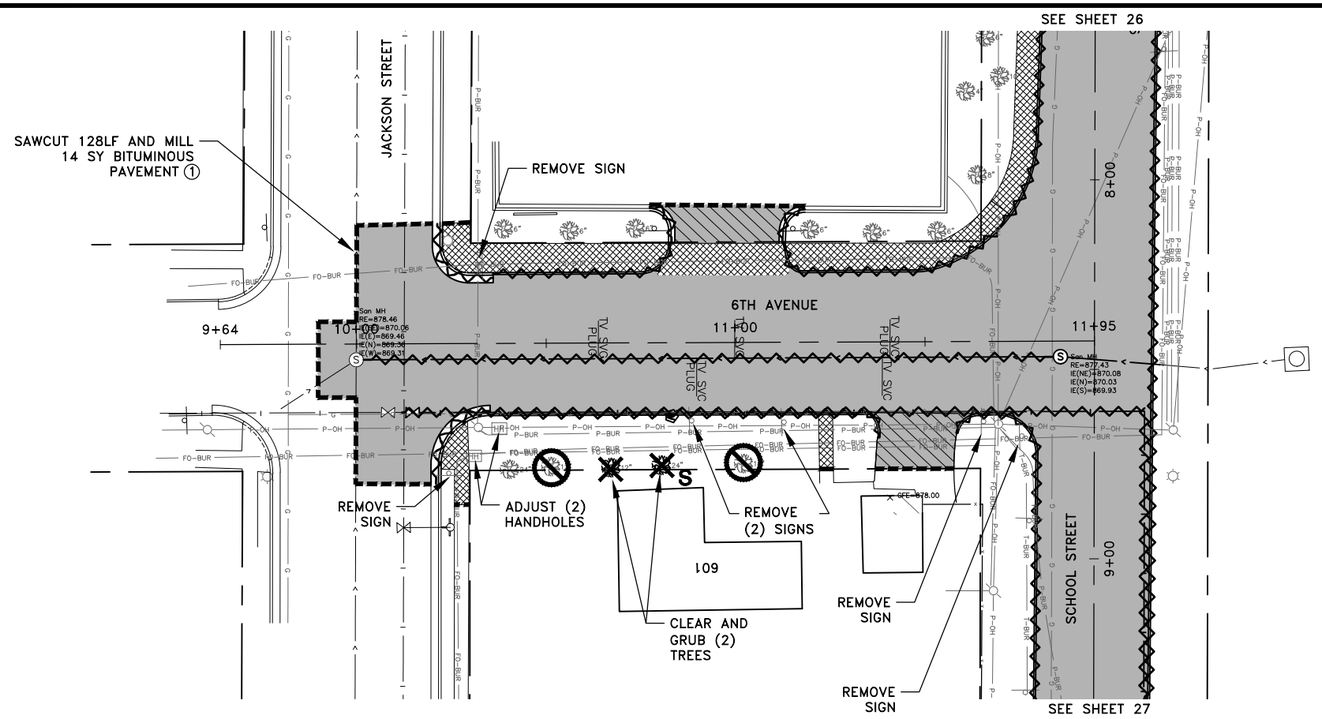
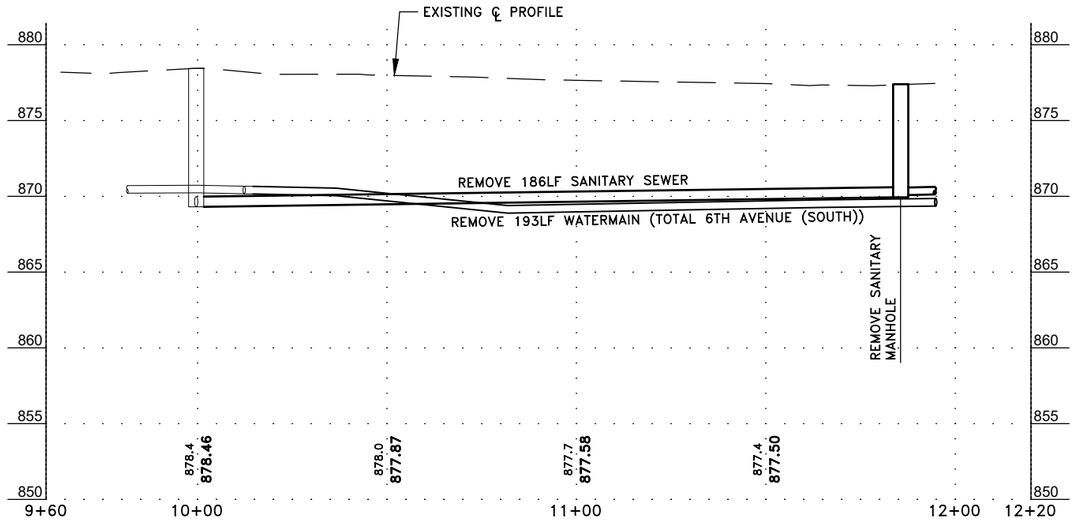



LEGEND

- CONCRETE PAVEMENT REMOVAL
- BITUMINOUS PAVEMENT REMOVAL
- BITUMINOUS DRIVEWAY PAVEMENT REMOVAL
- CURB, SANITARY AND STORM SEWER AND WATERMAIN REMOVAL (2)
- SAWCUT BITUMINOUS OR CONCRETE
- $\times_S$ CLEAR AND GRUB TREE FOR SERVICE CONSTRUCTION (FIELD REVIEW)
- $\times$ CLEAR AND GRUB TREE
- ⊘ CLEAR AND GRUB TREE WITH APPROVAL FROM PROPERTY OWNER

20 0 20 40
SCALE IN FEET




GENERAL NOTES:

1. SAWCUT DRIVEWAYS AND SIDEWALKS AT MATCH POINTS. THIS WORK SHALL BE PAID PER ITEMS 2104–SAWING CONCRETE PAVEMENT–FULL DEPTH AND 2104–SAWING BITUMINOUS PAVEMENT–FULL DEPTH.

REFERENCE NOTES:

(1) MILL AND SAWCUT SHALL BE PER (3/11).

(2) SAWING CONCRETE CURB OR THE UTILITIES AT MATCH POINT SHALL BE INCIDENTAL.

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2021 SWEDE TOWN
STREET RENEWAL PROJECT

EXISTING CONDTIONS AND REMOVALS PLAN

6TH AVENUE
CITY OF ANOKA, MINNESOTA

SHEET 30 OF 65 SHEETS

AN390

Mar 03, 2021 – 6:00pm
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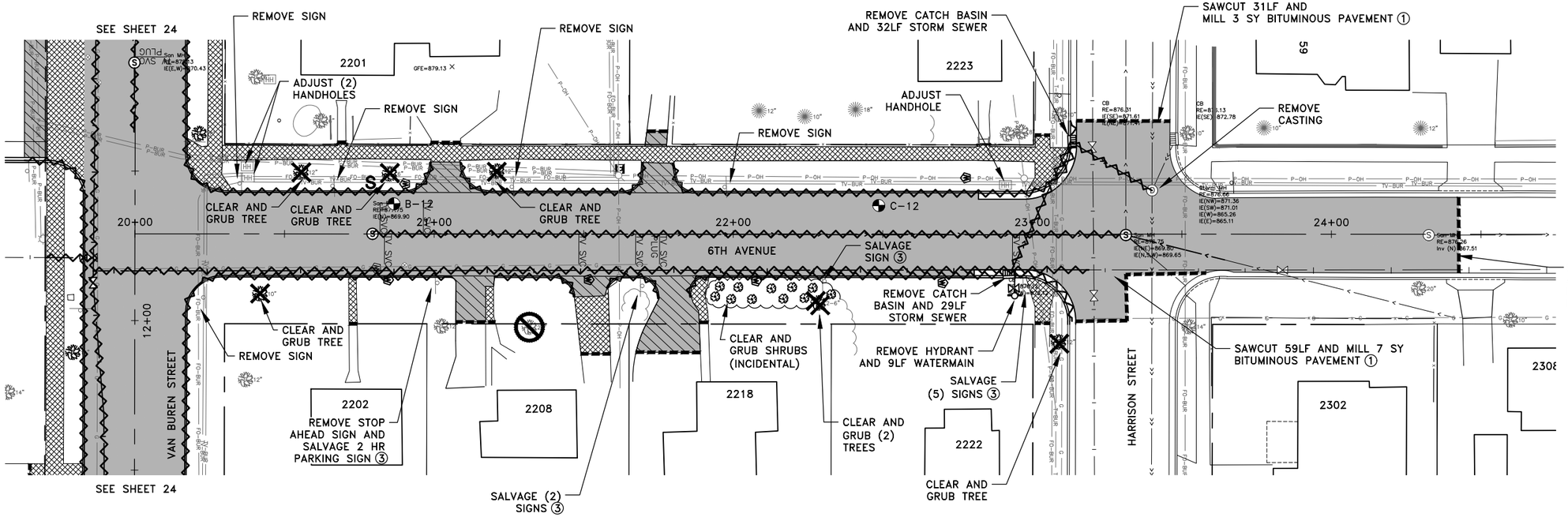


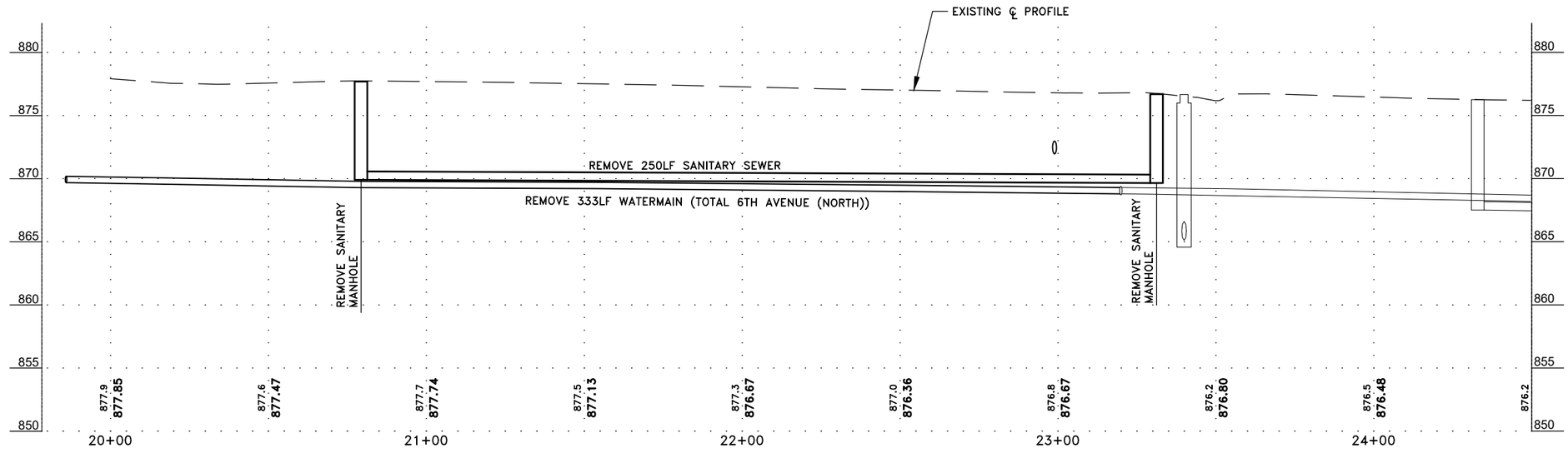


GENERAL NOTES:

1. SAWCUT DRIVEWAYS AND SIDEWALKS AT MATCH POINTS. THIS WORK SHALL BE PAID PER ITEMS 2104–SAWING CONCRETE PAVEMENT–FULL DEPTH AND 2104–SAWING BITUMINOUS PAVEMENT–FULL DEPTH.

REFERENCE NOTES:

(1) MILL AND SAWCUT SHALL BE PER (3/11).

(2) SAWING CONCRETE CURB OR THE UTILITIES AT MATCH POINT SHALL BE INCIDENTAL.

(3) CONTRACTOR SHALL DISPOSE OF THE POSTS OF SALVAGED SIGNS. THIS WORK SHALL BE INCIDENTAL.

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2021 SWEDE TOWN
STREET RENEWAL PROJECT

EXISTING CONDITIONS AND REMOVALS PLAN

6TH AVENUE
CITY OF ANOKA, MINNESOTA

SHEET 31 OF 65 SHEETS

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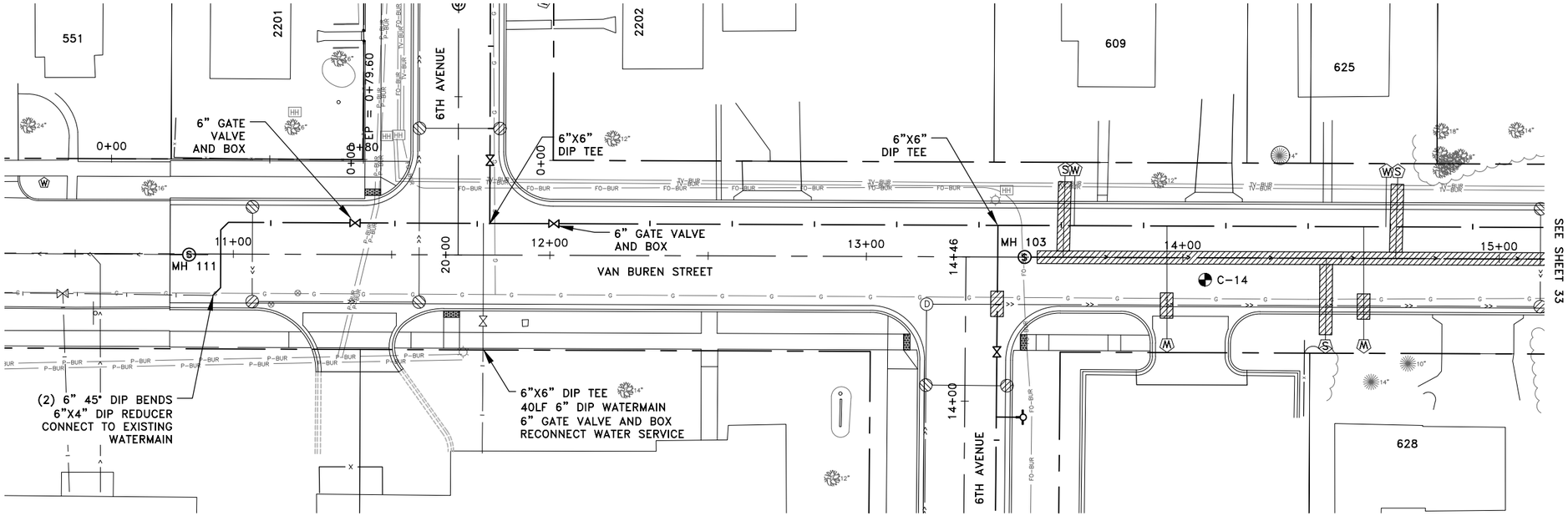


LEGEND

4" POLYSTYRENE INSULATION PER (5/10)

GENERAL NOTES:

1. SEE SANITARY SEWER SCHEDULE ON SHEET 5 FOR ADDITIONAL SEWER STRUCTURE INFORMATION.
2. UNLESS OTHERWISE NOTED, PROPOSED SEWER SERVICE SIZES SHALL MATCH THE EXISTING SEWER SERVICE SIZES.

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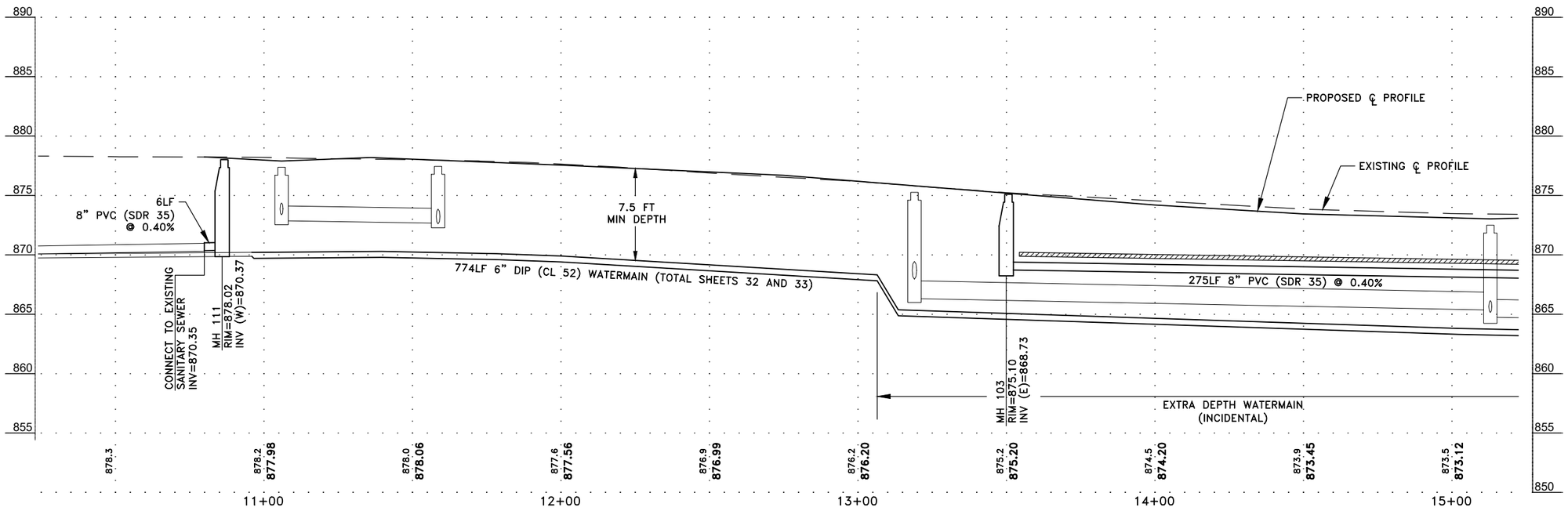


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2021 SWEDE TOWN
STREET RENEWAL PROJECT

SANITARY SEWER AND WATERMAIN
CONSTRUCTION PLAN
VAN BUREN STREET
CITY OF ANOKA, MINNESOTA

SHEET 32 OF 65 SHEETS

AN390

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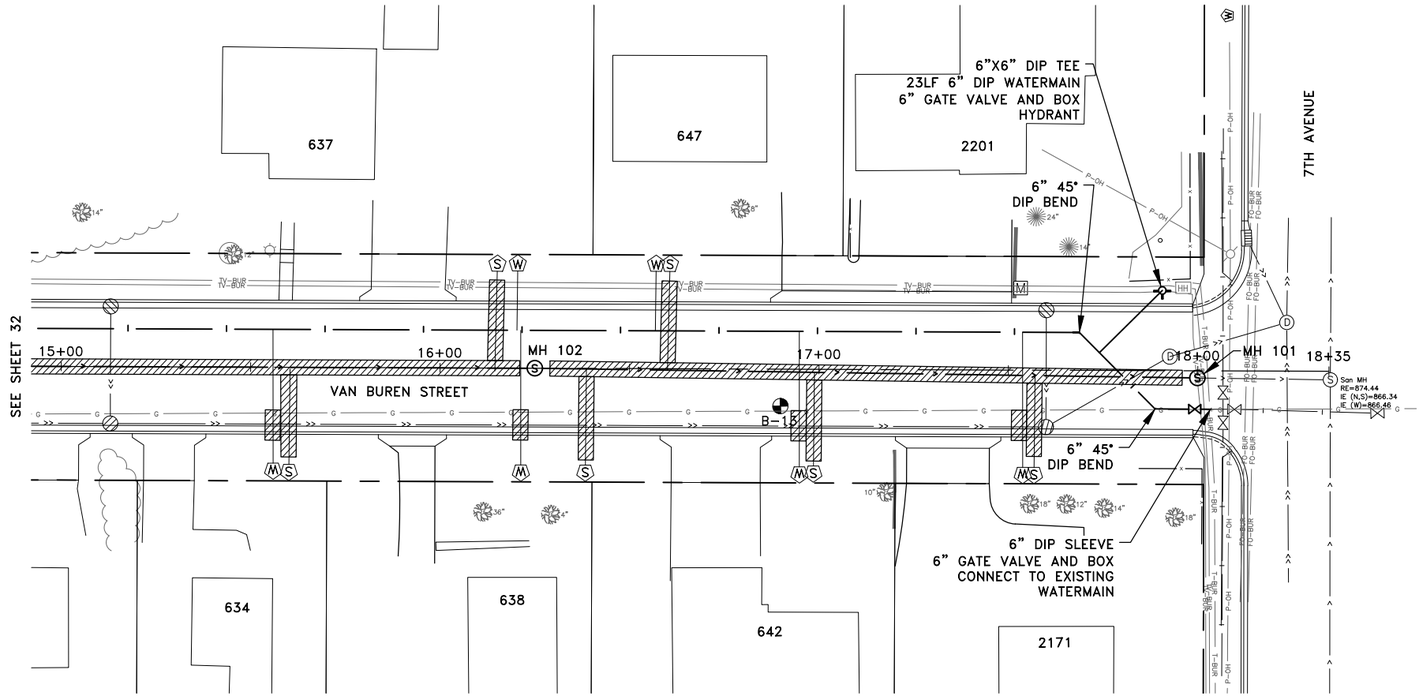


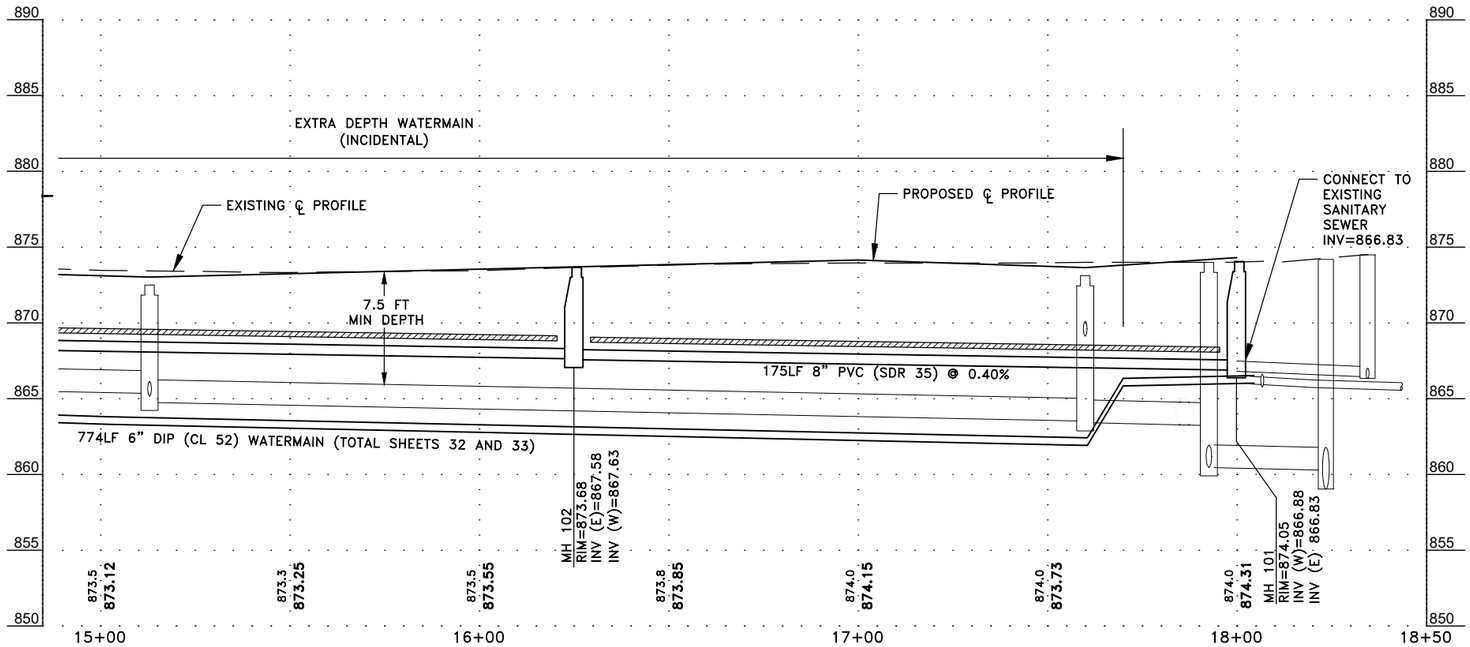

LEGEND

4" POLYSTYRENE INSULATION PER (5/10)

GENERAL NOTES:

1. SEE SANITARY SEWER SCHEDULE ON SHEET 5 FOR ADDITIONAL SEWER STRUCTURE INFORMATION.
2. UNLESS OTHERWISE NOTED, PROPOSED SEWER SERVICE SIZES SHALL MATCH THE EXISTING SEWER SERVICE SIZES.
3. SEE SHEET 55 FOR 7TH AVENUE TRAFFIC CONTROL PLAN.

SCALE IN FEET: 20 0 20 40




| DATE | REVISION |
|---|---|
| 2/26/21 | ISSUED FOR BID |

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

CRAIG J JOCHUM, P.E. Lic. No. 23461

Date 2/12/21

DESIGNED BY: TAE
DRAWN BY: DMS
CHECKED BY: CJJ

Hakanson Anderson
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SHEET 33 OF 65 SHEETS

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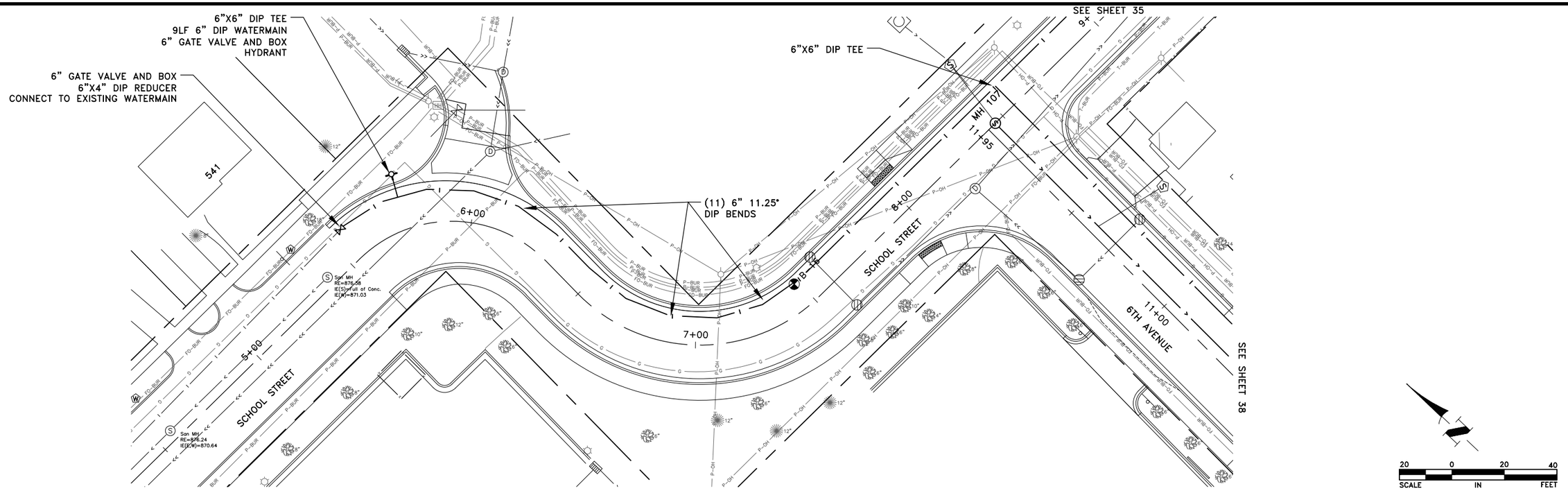


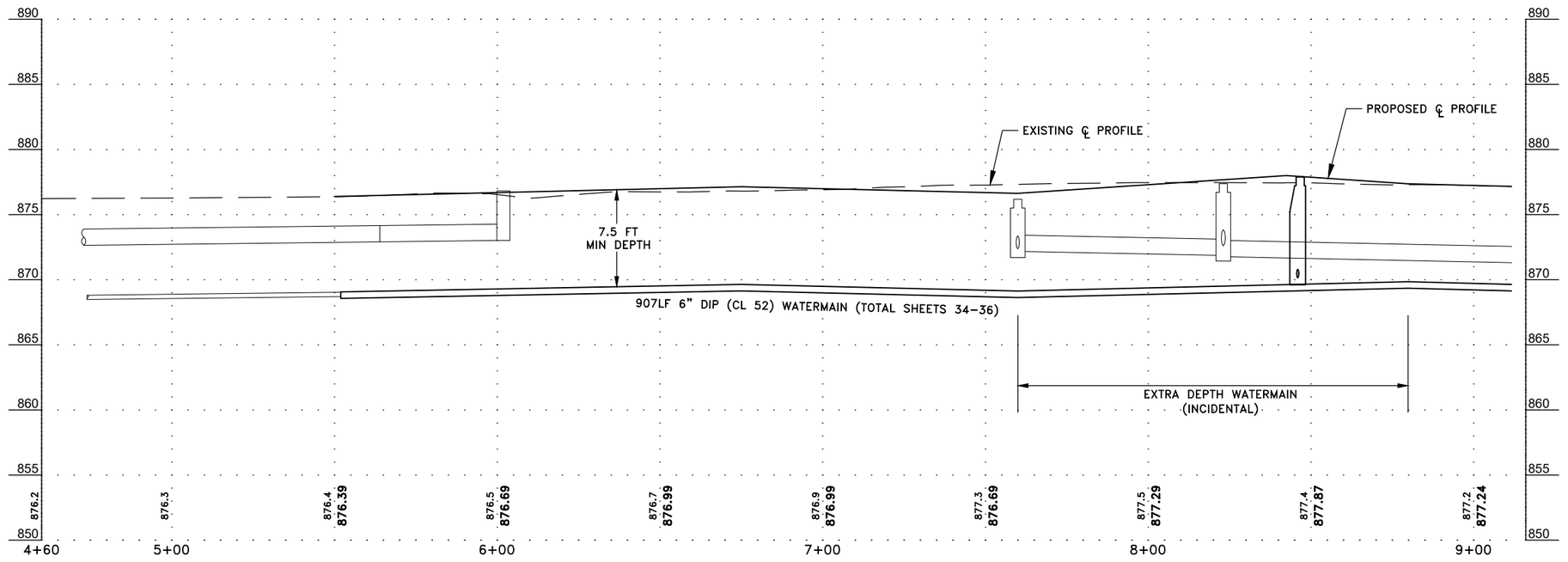


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SANITARY SEWER AND WATERMAIN
CONSTRUCTION PLAN
SCHOOL STREET
CITY OF ANOKA, MINNESOTA

SHEET 34 OF 65 SHEETS

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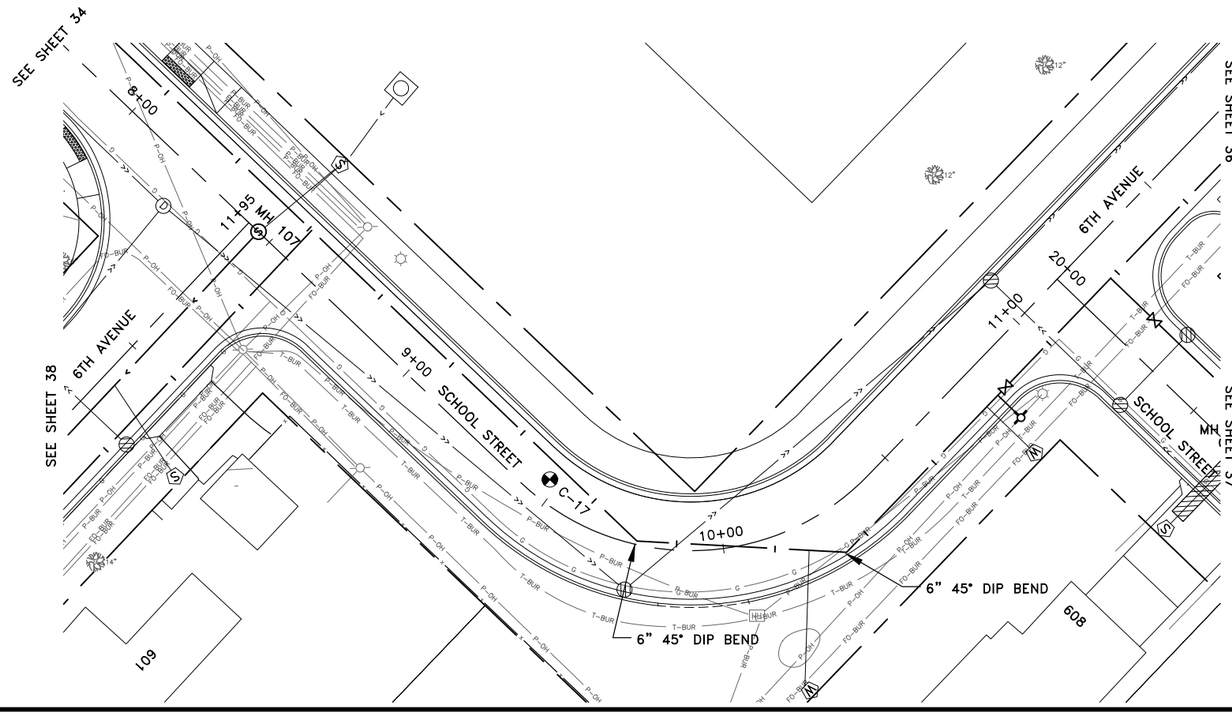


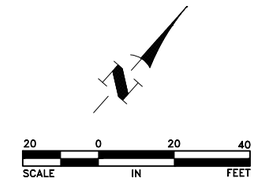


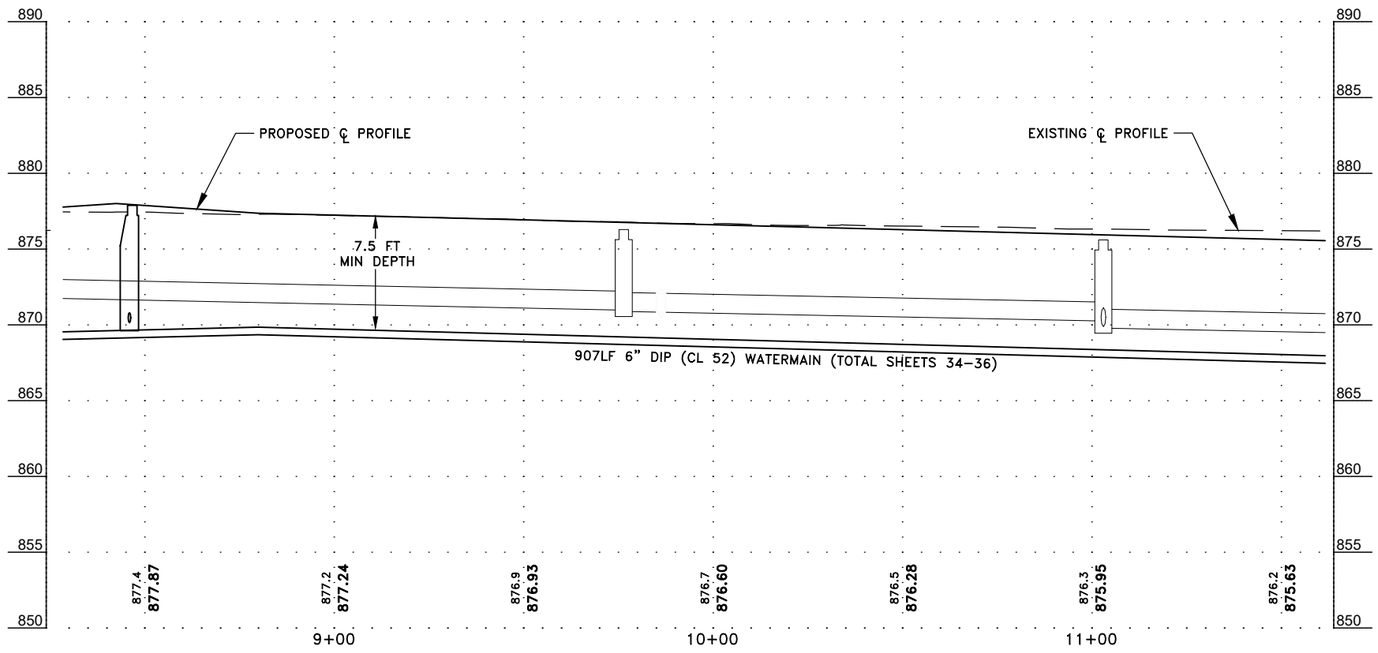


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SANITARY SEWER AND WATERMAIN
CONSTRUCTION PLAN
SCHOOL STREET AND 6TH AVENUE
CITY OF ANOKA, MINNESOTA

SHEET 35 OF 65 SHEETS

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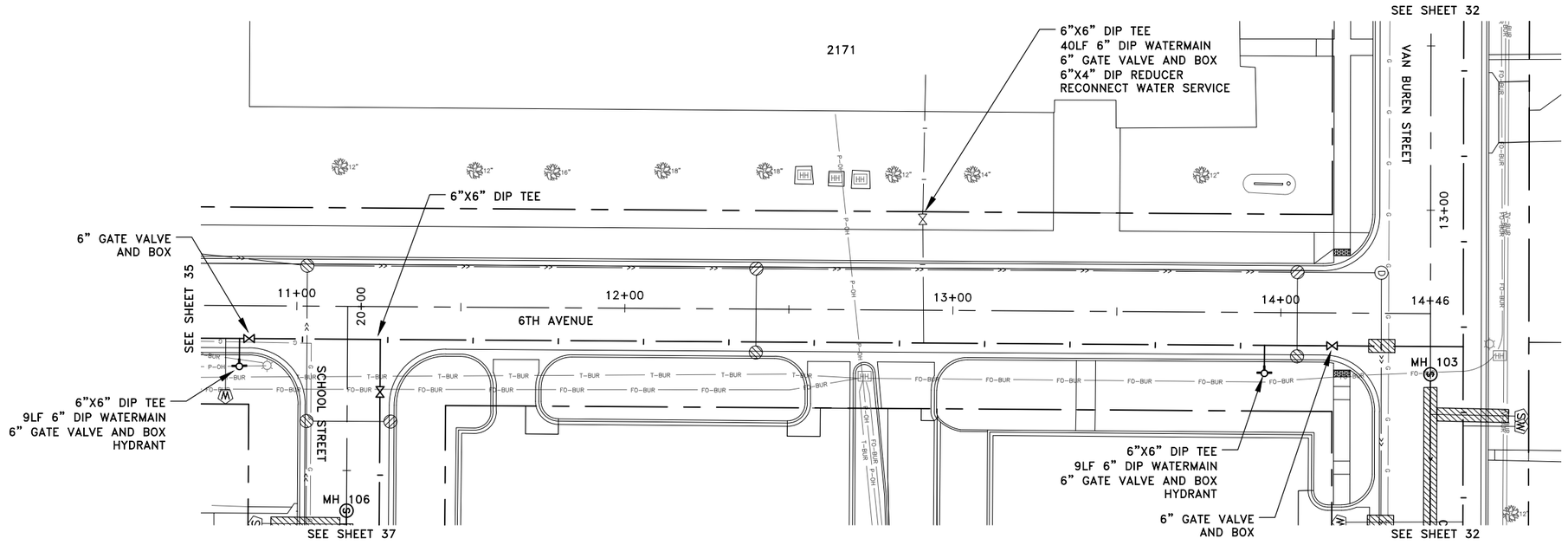


LEGEND

4" POLYSTYRENE INSULATION PER (5/10)

GENERAL NOTES:

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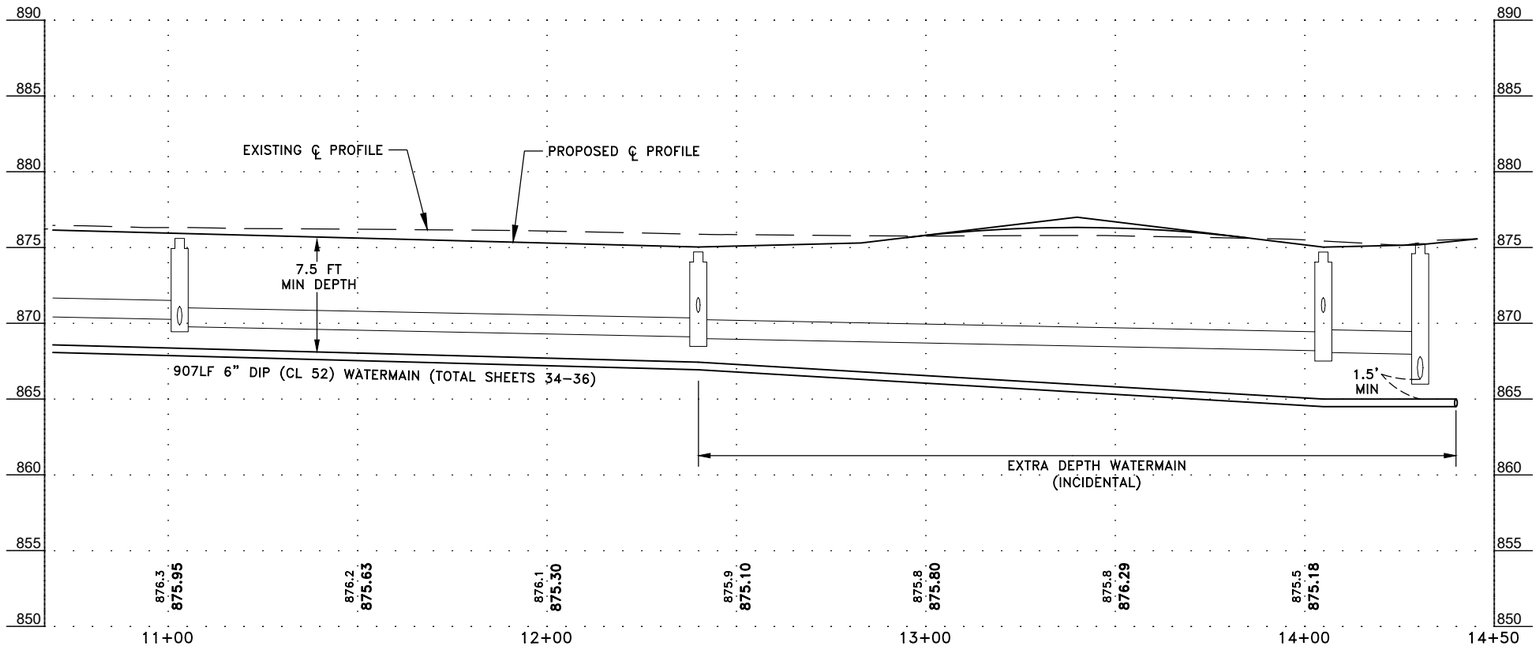


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CITY OF ANOKA, MINNESOTA

SHEET 36 OF 65 SHEETS

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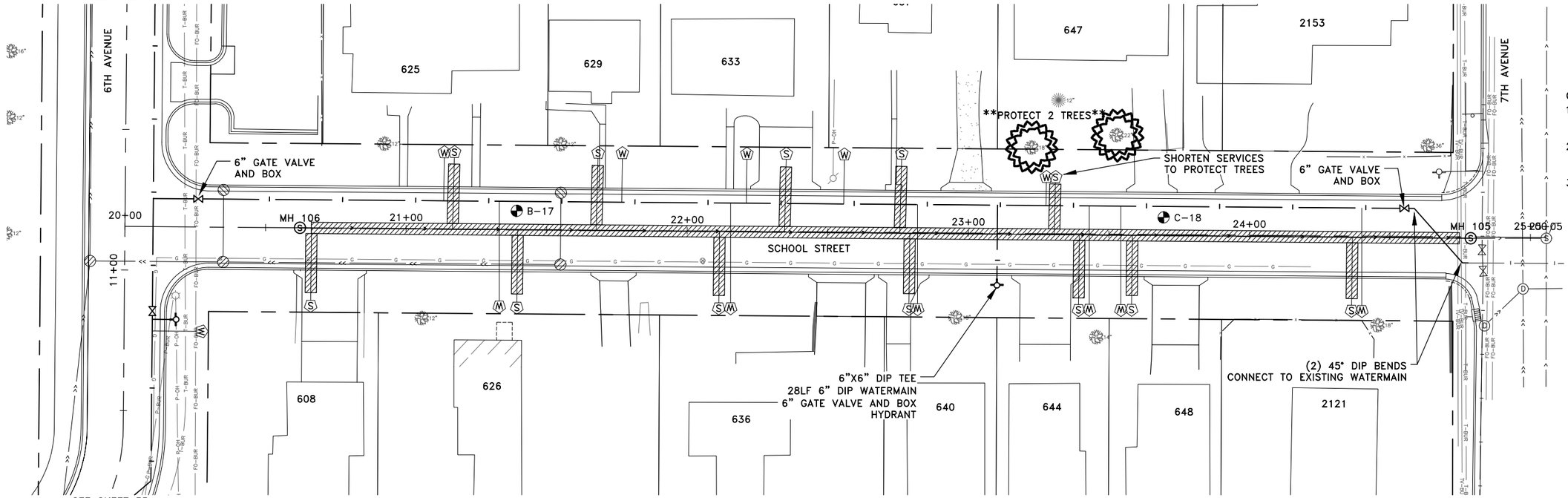


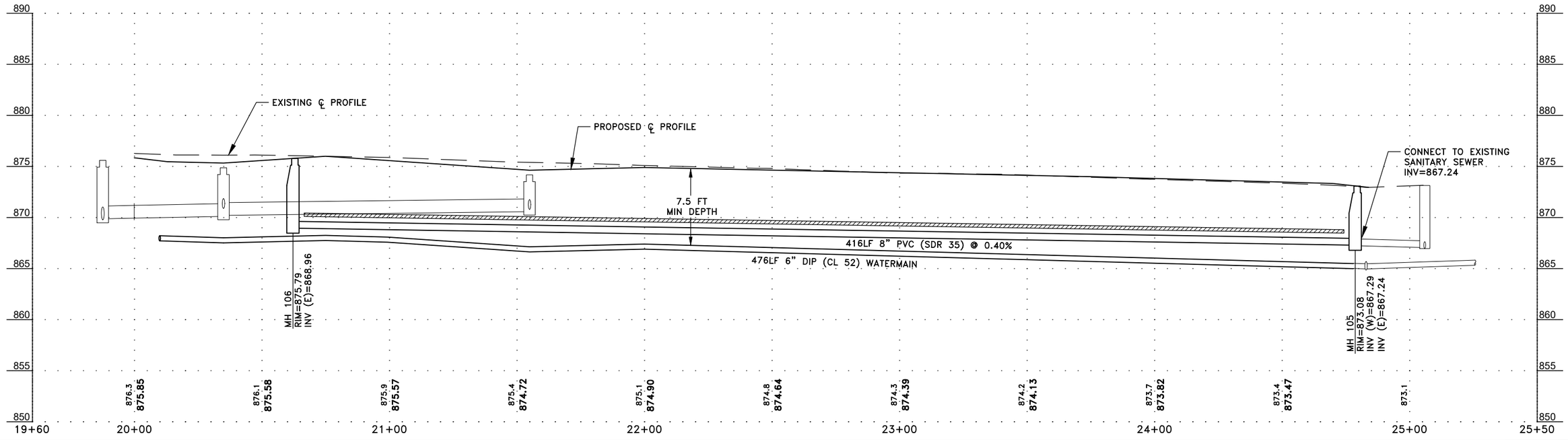


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SHEET 37 OF 65 SHEETS

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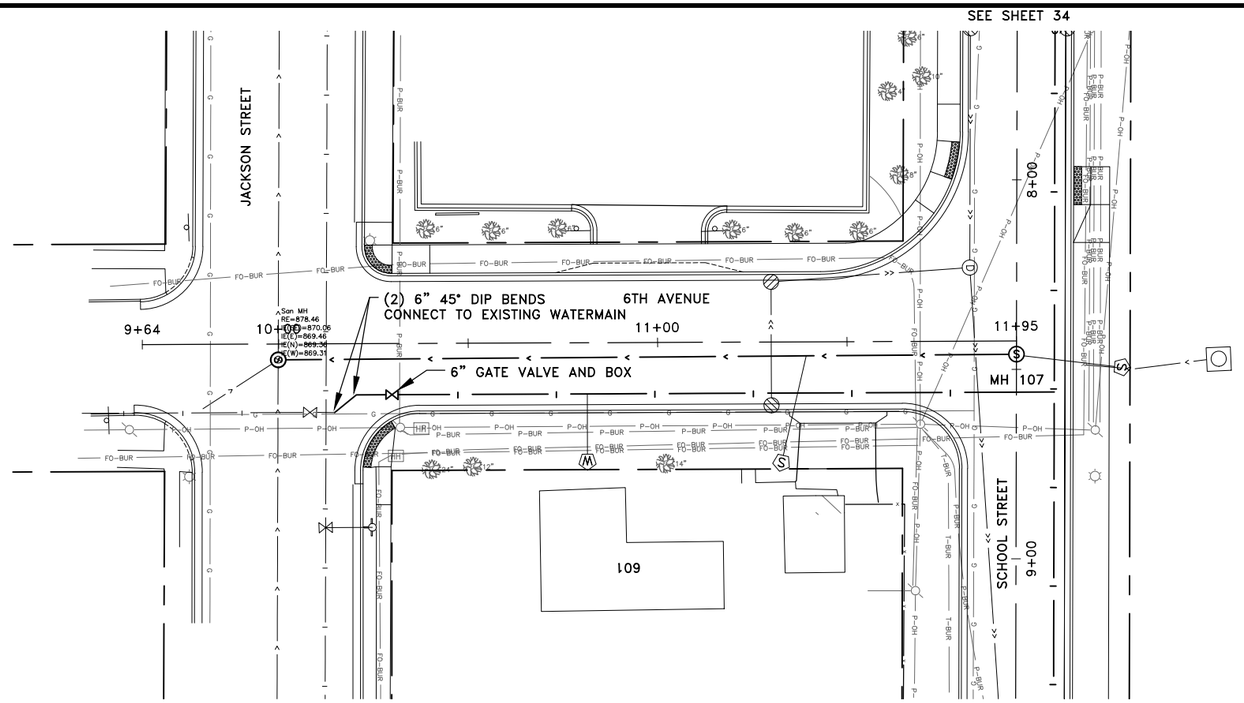


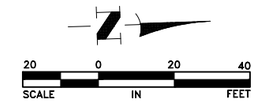


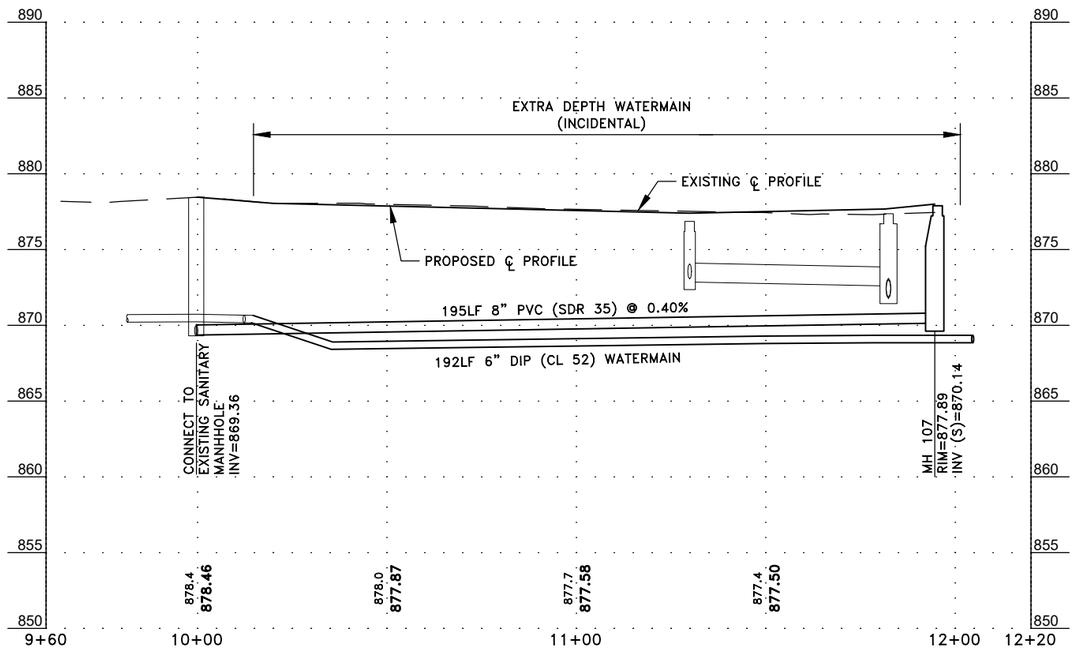


GENERAL NOTES:

1. SEE SANITARY SEWER SCHEDULE ON SHEET 5 FOR ADDITIONAL SEWER STRUCTURE INFORMATION.
2. UNLESS OTHERWISE NOTED, PROPOSED SEWER SERVICE SIZES SHALL MATCH THE EXISTING SEWER SERVICE SIZES.

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6TH AVENUE
CITY OF ANOKA, MINNESOTA

SHEET 38 OF 65 SHEETS

AN390

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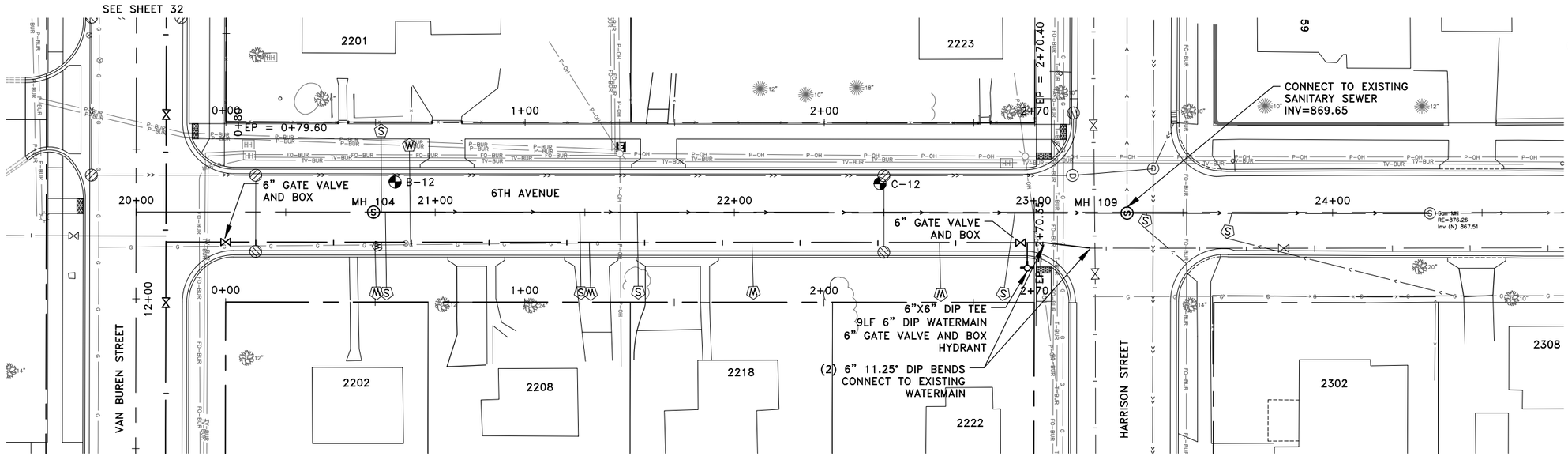
1. SEE SANITARY SEWER SCHEDULE ON SHEET 5 FOR ADDITIONAL SEWER STRUCTURE INFORMATION.
2. UNLESS OTHERWISE NOTED, PROPOSED SEWER SERVICE SIZES SHALL MATCH THE EXISTING SEWER SERVICE SIZES.

REFERENCE NOTES:

① CORE DRILL EXISTING MANHOLE AND INSTALL WATERTIGHT BOOT. THIS WORK SHALL BE PAID PER ITEM 2503–CONNECT TO EXISTING SANITARY MANHOLE.

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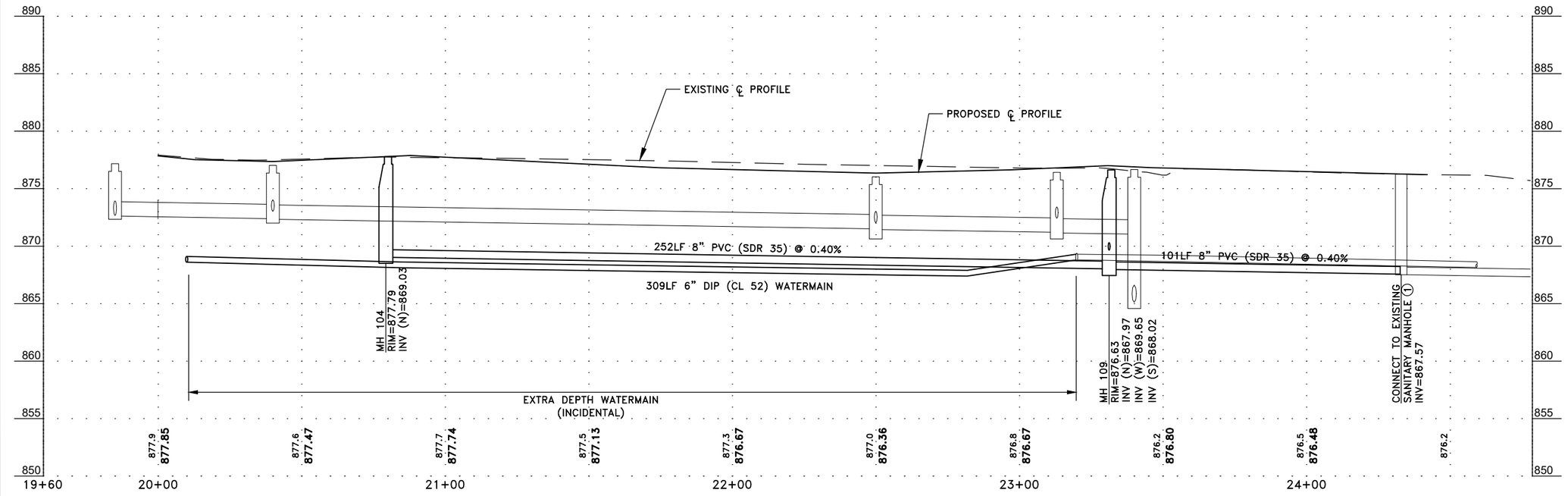


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CONSTRUCTION PLAN
6TH AVENUE
CITY OF ANOKA, MINNESOTA

SHEET 39 OF 65 SHEETS

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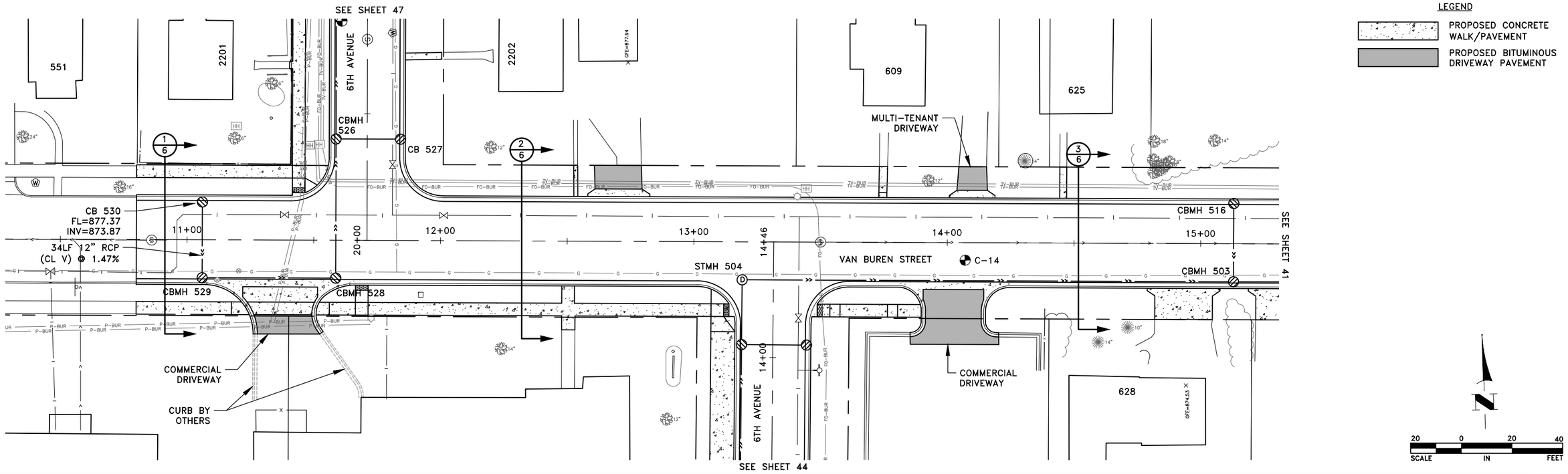


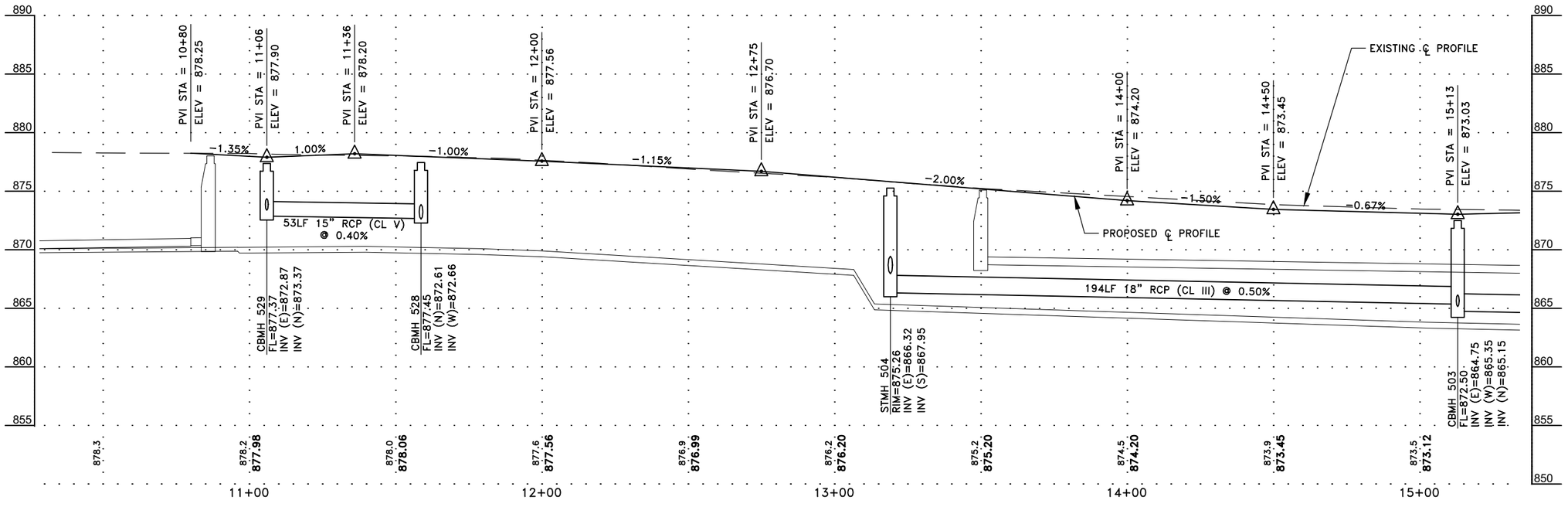


GENERAL NOTES:

1. SEE STORM SEWER SCHEDULE ON SHEET 4 FOR STORM SEWER STATIONS, OFFSETS, MANHOLE SIZES AND CASTINGS
2. UNLESS NOTED, RECONSTRUCT DRIVEWAYS PER (1/8).
3. ALL DRIVEWAYS SHALL BE SINGLE FAMILY RESIDENTIAL UNLESS NOTED OTHERWISE.
4. SEE SHEETS 62-65 FOR INTERSECTION AND PEDESTRIAN RAMP CONSTRUCTION DETAILS.
5. ALL CONCRETE WALK SHALL HAVE A 4" THICKNESS UNLESS NOTED OTHERWISE ELSEWHERE IN THESE PLANS.

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STREET AND STORM SEWER
CONSTRUCTION PLAN
VAN BUREN STREET
CITY OF ANOKA, MINNESOTA

SHEET 40 OF 65 SHEETS

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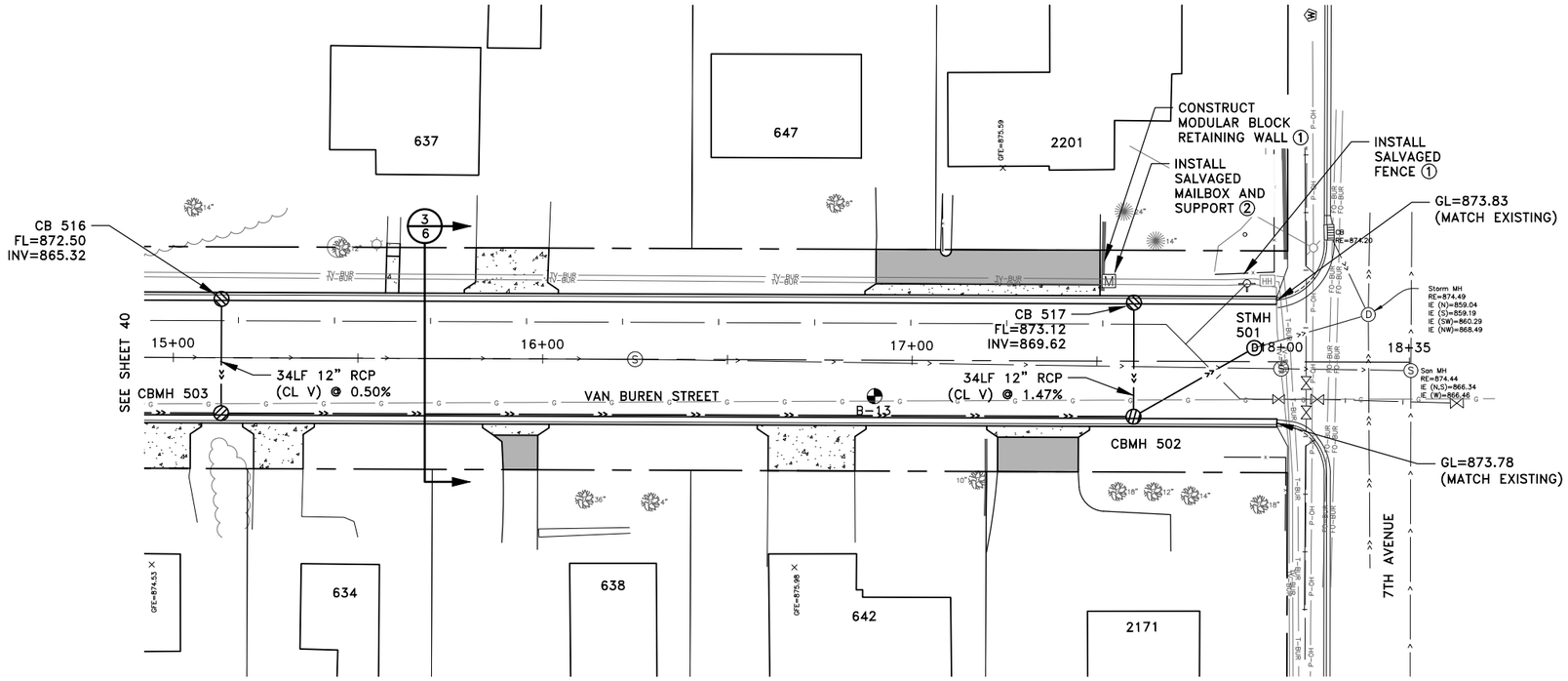


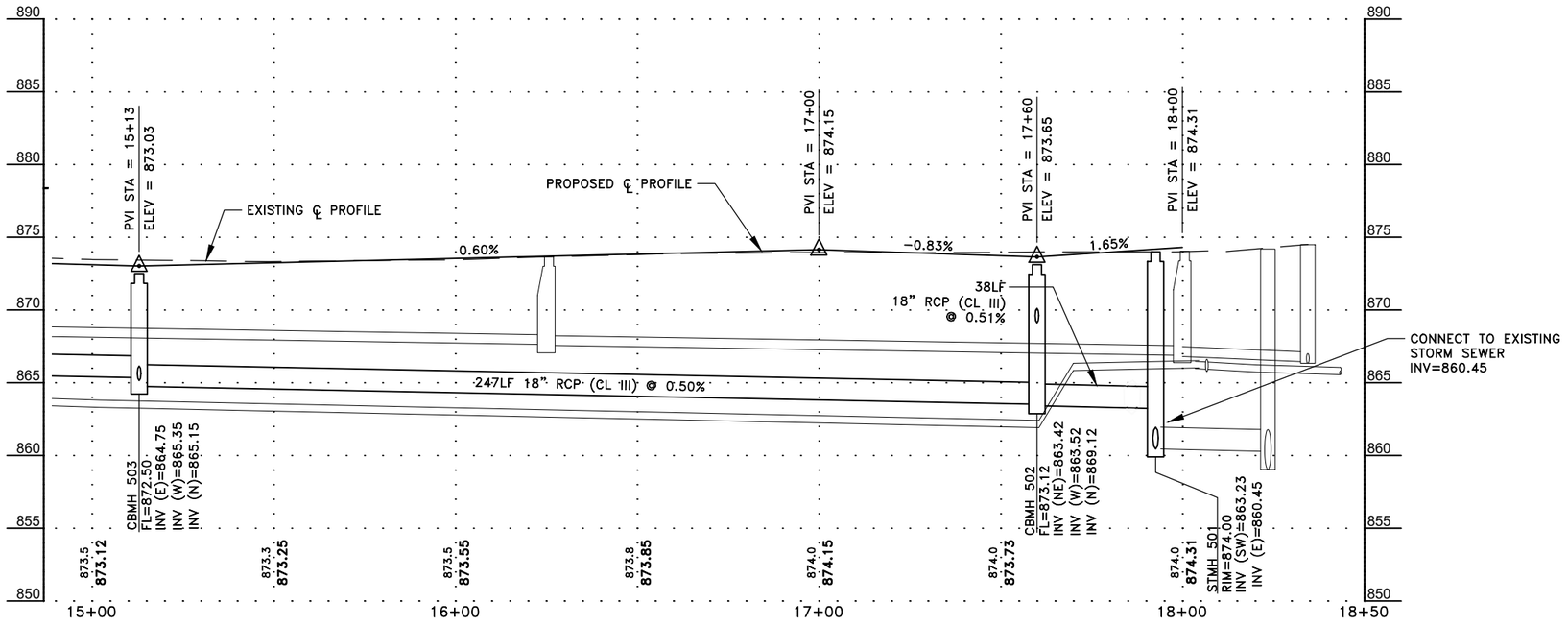


GENERAL NOTES

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4. SEE SHEETS 62–65 FOR INTERSECTION AND PEDESTRIAN RAMP CONSTRUCTION DETAILS.
5. ALL CONCRETE WALK SHALL HAVE A 4" THICKNESS UNLESS NOTED OTHERWISE ELSEWHERE IN THESE PLANS.
6. SEE SHEET 55 FOR THE 7TH AVENUE TRAFFIC CONTROL PLAN.

REFERENCE NOTES:

(1) THIS WORK SHALL BE PAID PER ITEM 2104–LANDSCAPE RESTORATION.

(2) THIS WORK SHALL BE PAID PER ITEM 2540–INSTALL MAILBOX SUPPORT.

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CITY OF ANOKA, MINNESOTA

SHEET 41 OF 65 SHEETS

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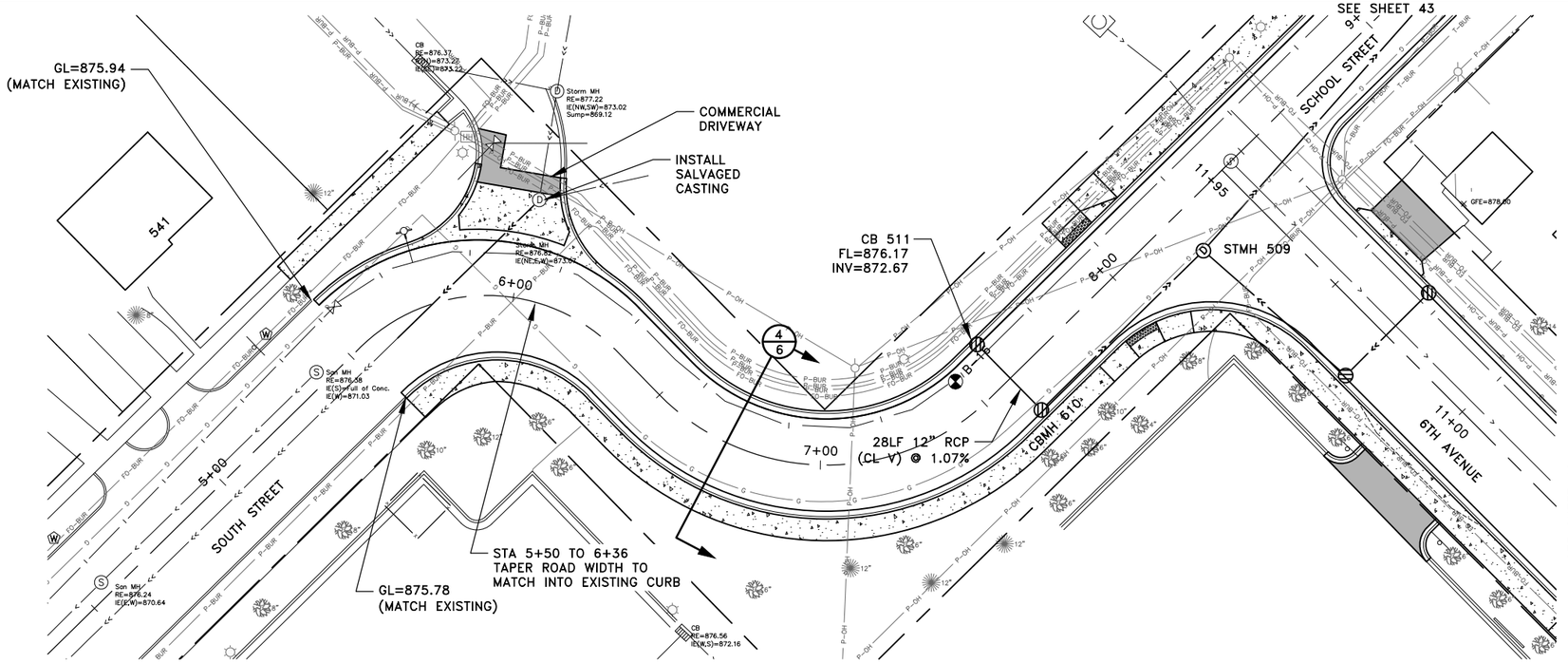


LEGEND

- PROPOSED CONCRETE WALK/PAVEMENT
- PROPOSED BITUMINOUS DRIVEWAY PAVEMENT

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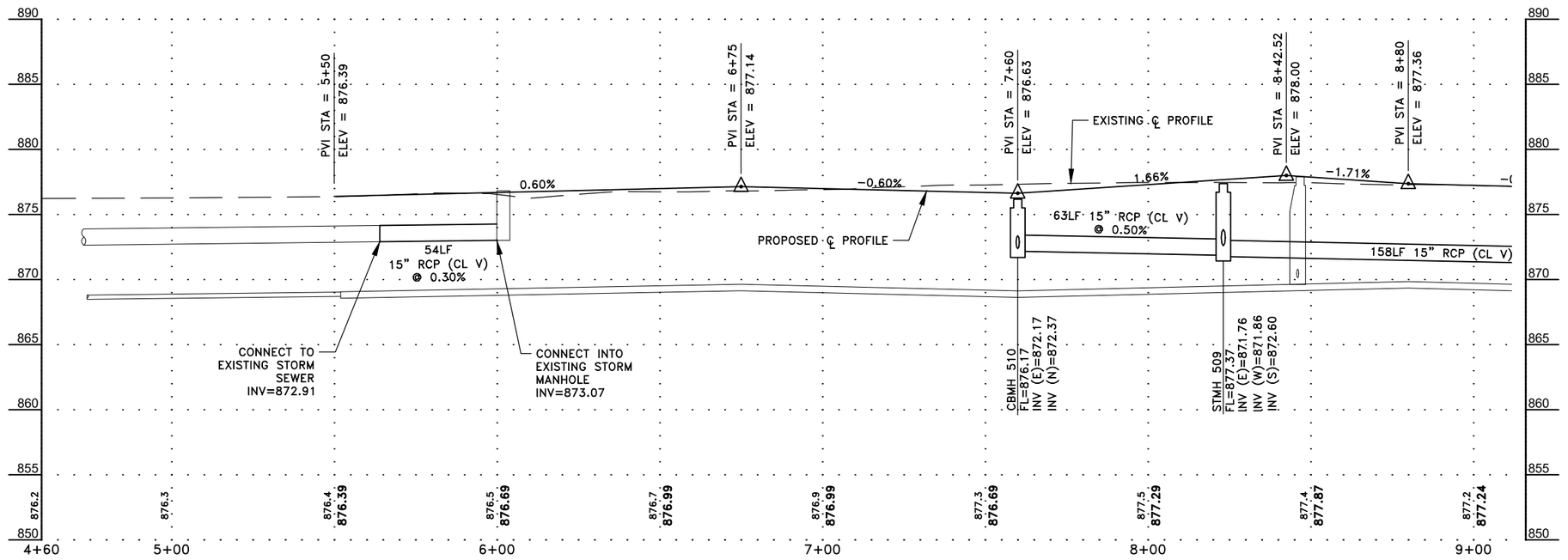


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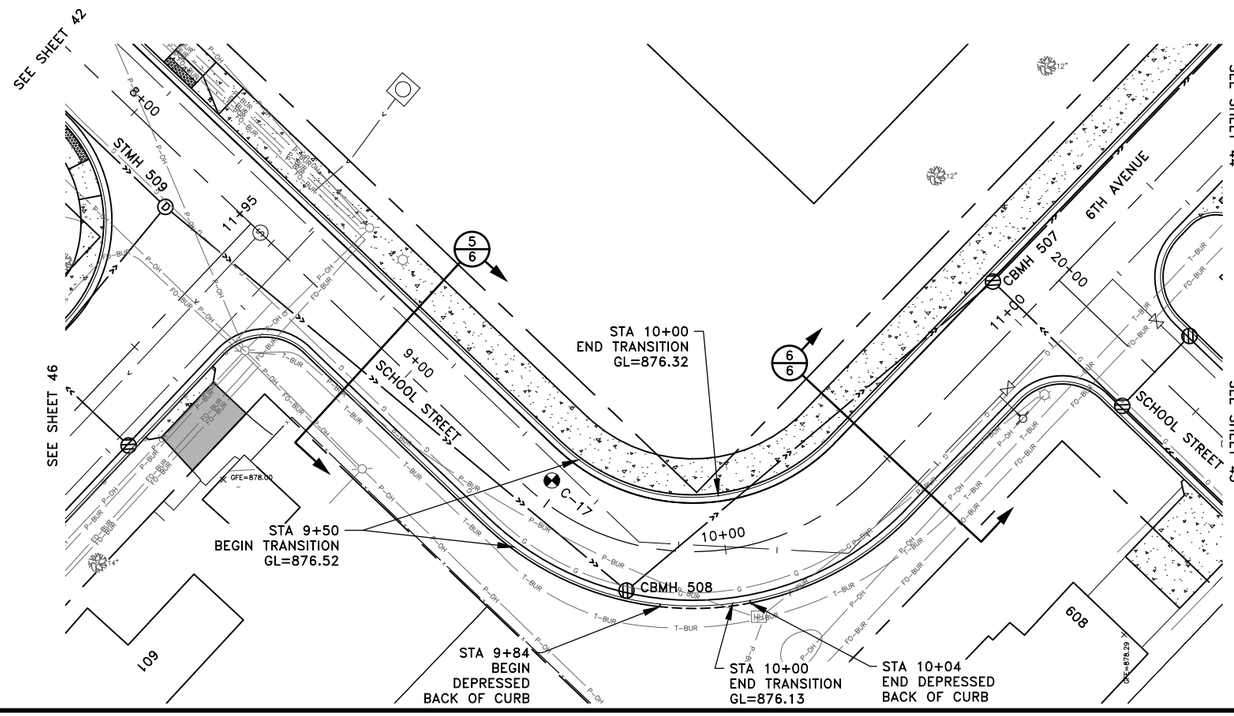


LEGEND

- PROPOSED CONCRETE WALK/PAVEMENT
- PROPOSED BITUMINOUS DRIVEWAY PAVEMENT

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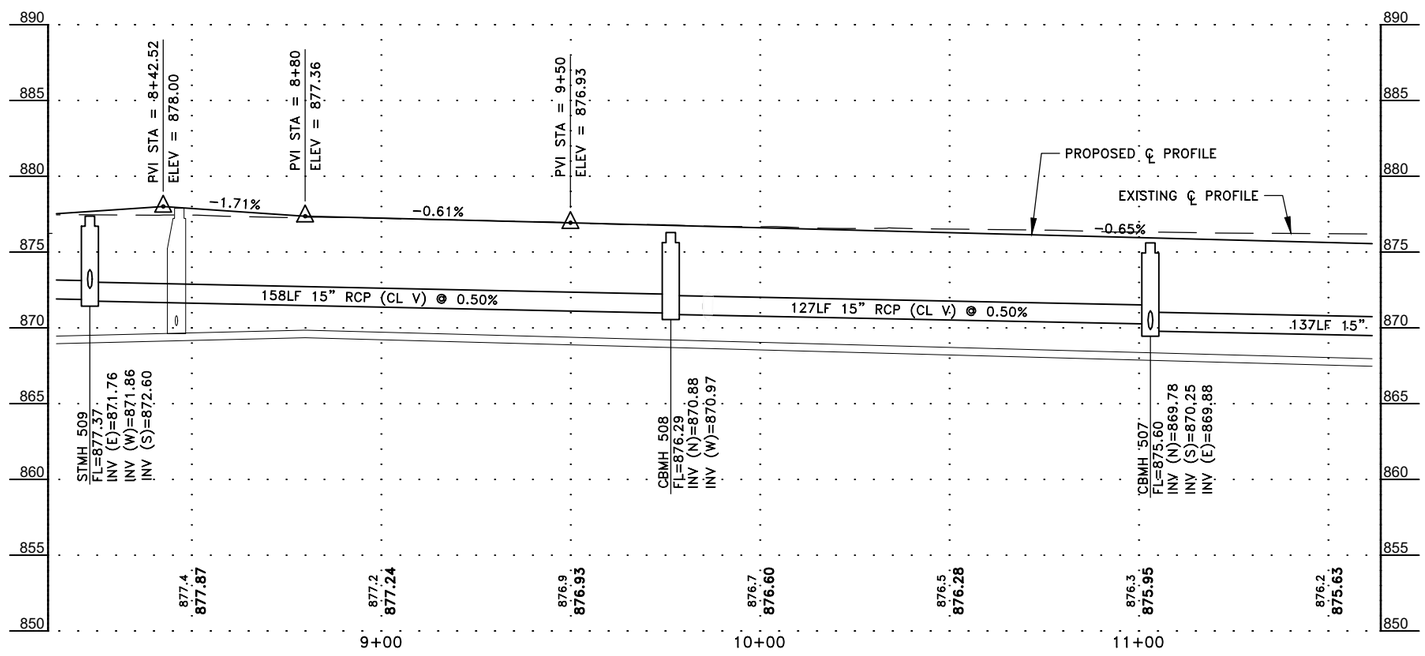
SCALE IN FEET

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CITY OF ANOKA, MINNESOTA

SHEET 43 OF 65 SHEETS

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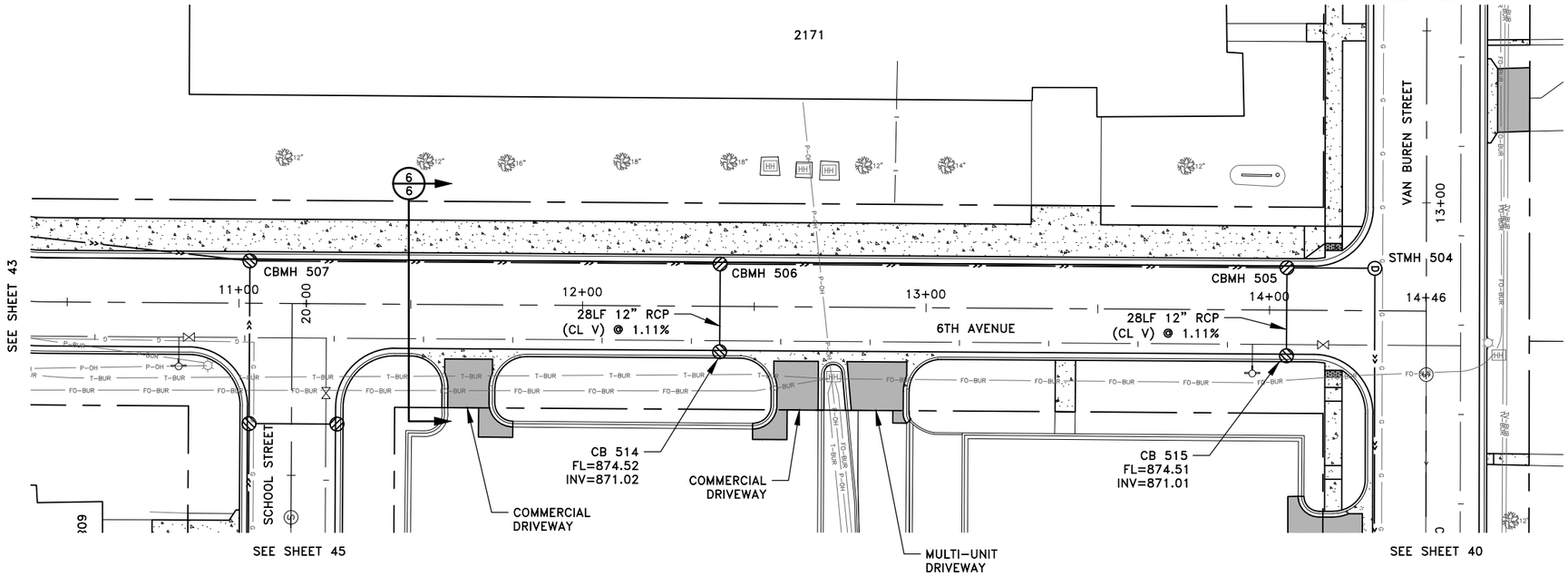
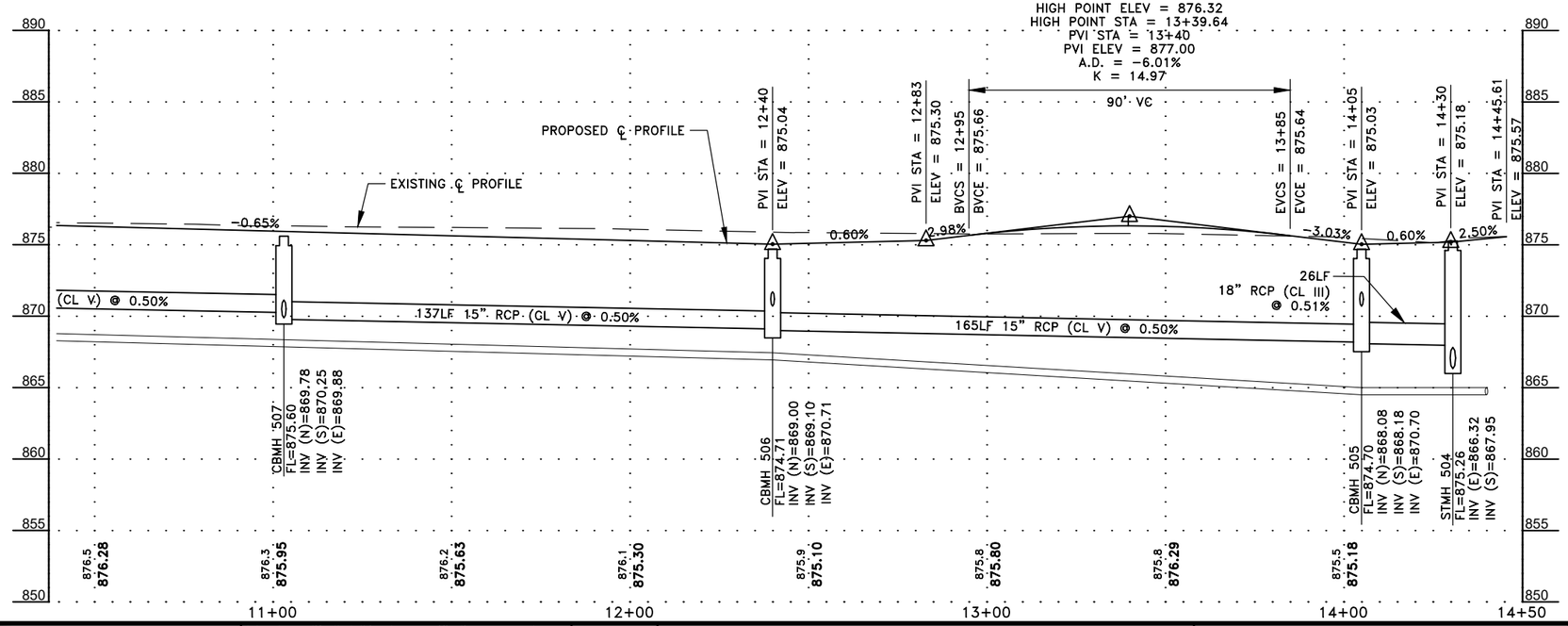



LEGEND

- PROPOSED CONCRETE WALK/PAVEMENT
- PROPOSED BITUMINOUS DRIVEWAY PAVEMENT

SCALE IN FEET: 20 0 20 40




GENERAL NOTES:

1. SEE STORM SEWER SCHEDULE ON SHEET 4 FOR STORM SEWER STATIONS, OFFSETS, MANHOLE SIZES AND CASTINGS
2. UNLESS NOTED, RECONSTRUCT DRIVEWAYS PER (1/8).
3. ALL DRIVEWAYS SHALL BE SINGLE FAMILY RESIDENTIAL UNLESS NOTED OTHERWISE.
4. SEE SHEETS 62-65 FOR INTERSECTION AND PEDESTRIAN RAMP CONSTRUCTION DETAILS.
5. ALL CONCRETE WALK SHALL HAVE A 4" THICKNESS UNLESS NOTED OTHERWISE ELSEWHERE IN THESE PLANS.

| DATE | REVISION |
|---|---|
| 2/26/21 | ISSUED FOR BID |

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

CRAIG J JOCHUM, P.E.
Date 2/12/21 Lic. No. 23461

DESIGNED BY: TAE
DRAWN BY: DMS
CHECKED BY: CJJ

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
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www.hakanson-anderson.com

2021 SWEDE TOWN
STREET RENEWAL PROJECT

STREET AND STORM SEWER
CONSTRUCTION PLAN
6TH AVENUE
CITY OF ANOKA, MINNESOTA

SHEET 44 OF 65 SHEETS

AN390

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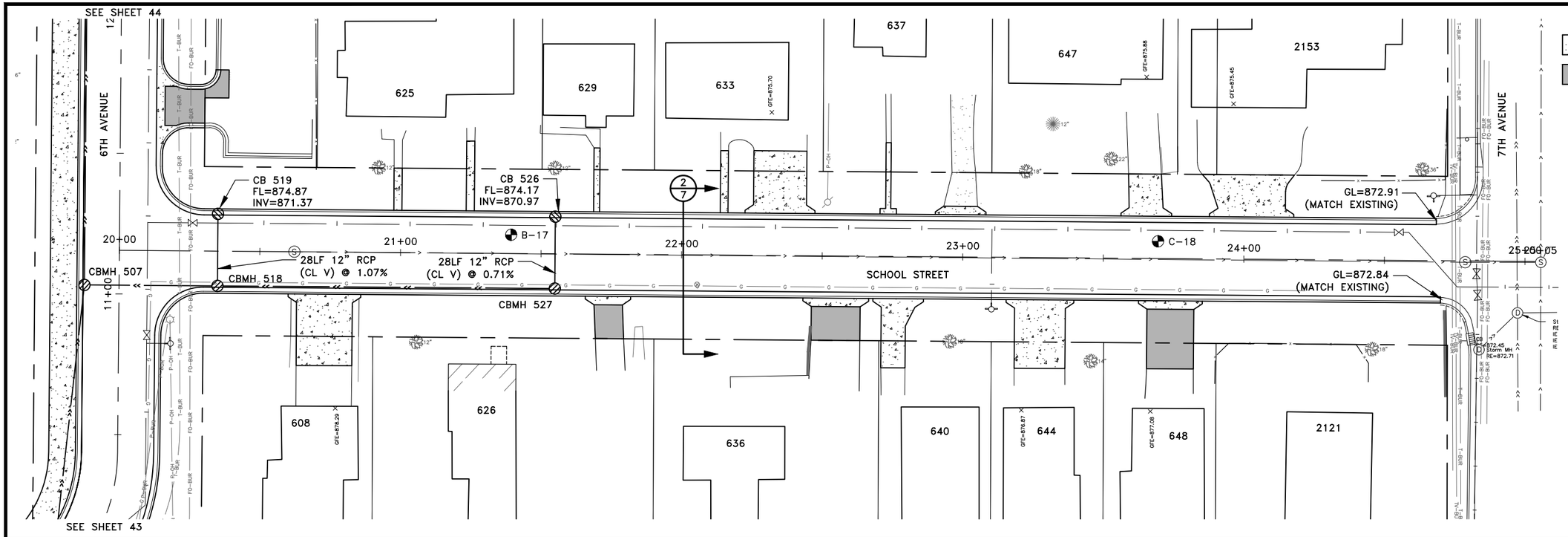


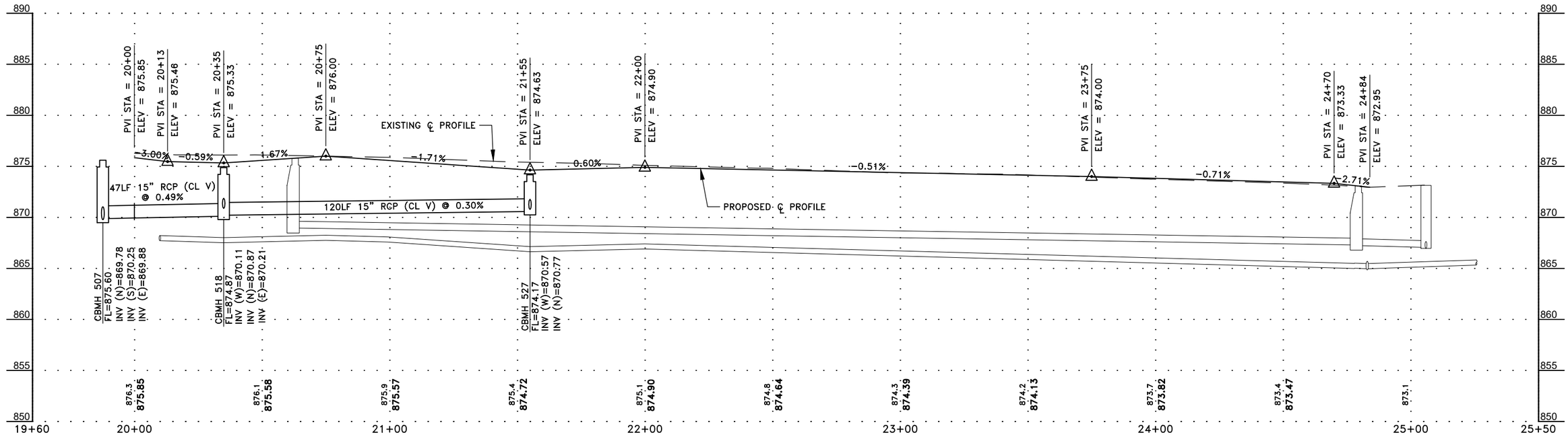


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CONSTRUCTION PLAN
SCHOOL STREET
CITY OF ANOKA, MINNESOTA

SHEET 45 OF 65 SHEETS

AN390

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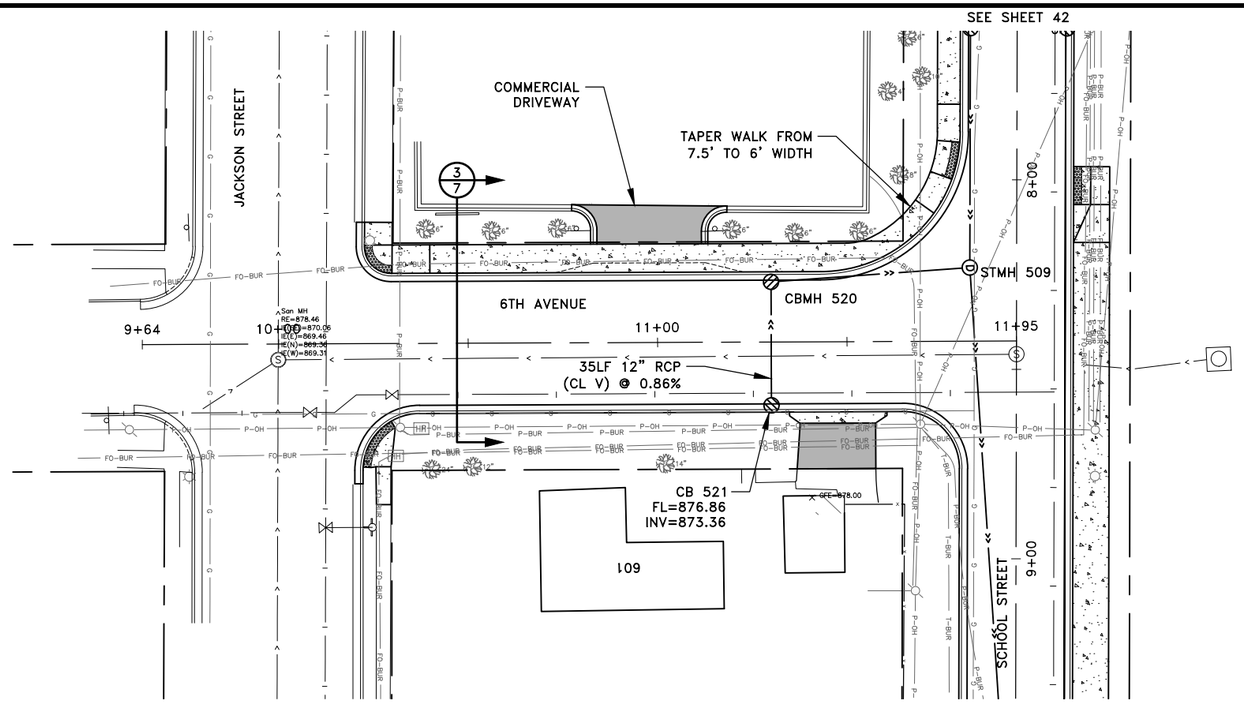
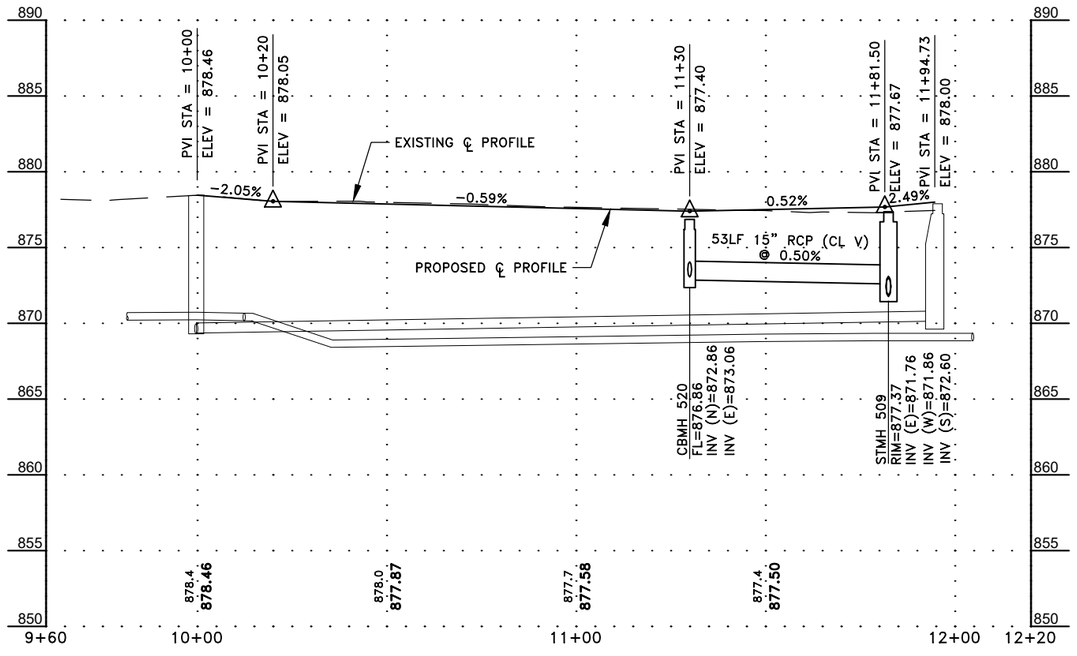



LEGEND

- PROPOSED CONCRETE WALK/PAVEMENT
- PROPOSED BITUMINOUS DRIVEWAY PAVEMENT

SCALE IN FEET: 20 0 20 40

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5. ALL CONCRETE WALK SHALL HAVE A 4" THICKNESS UNLESS NOTED OTHERWISE ELSEWHERE IN THESE PLANS.

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2021 SWEDE TOWN
STREET RENEWAL PROJECT

STREET AND STORM SEWER CONSTRUCTION PLAN
6TH AVENUE
CITY OF ANOKA, MINNESOTA

SHEET 46 OF 65 SHEETS

AN390

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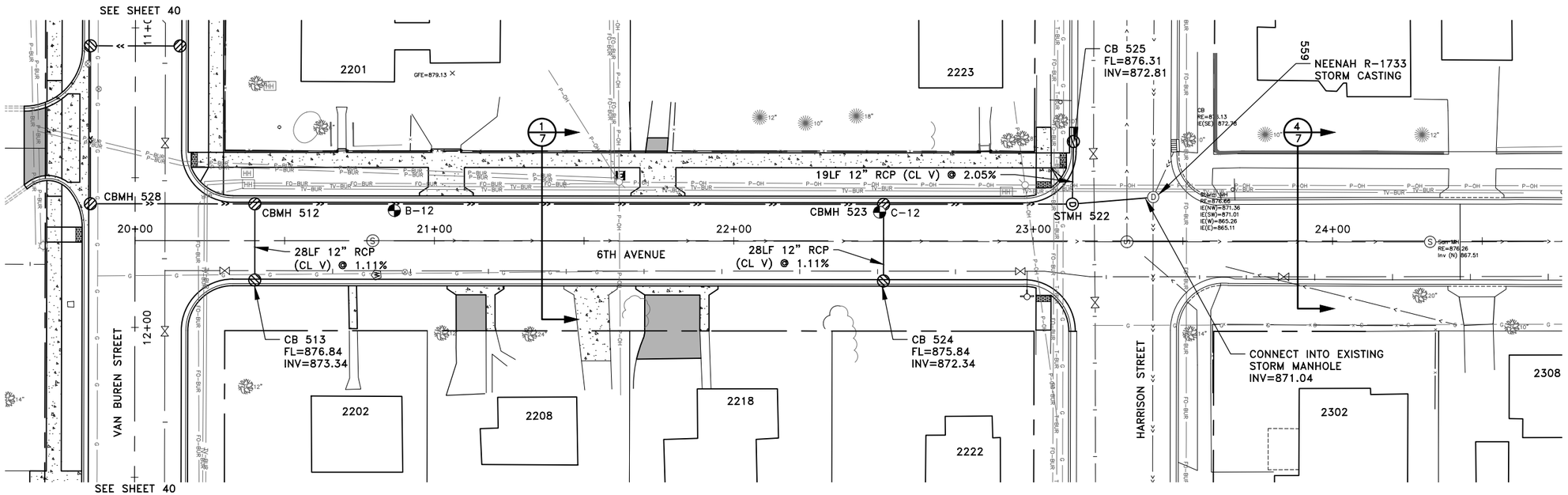
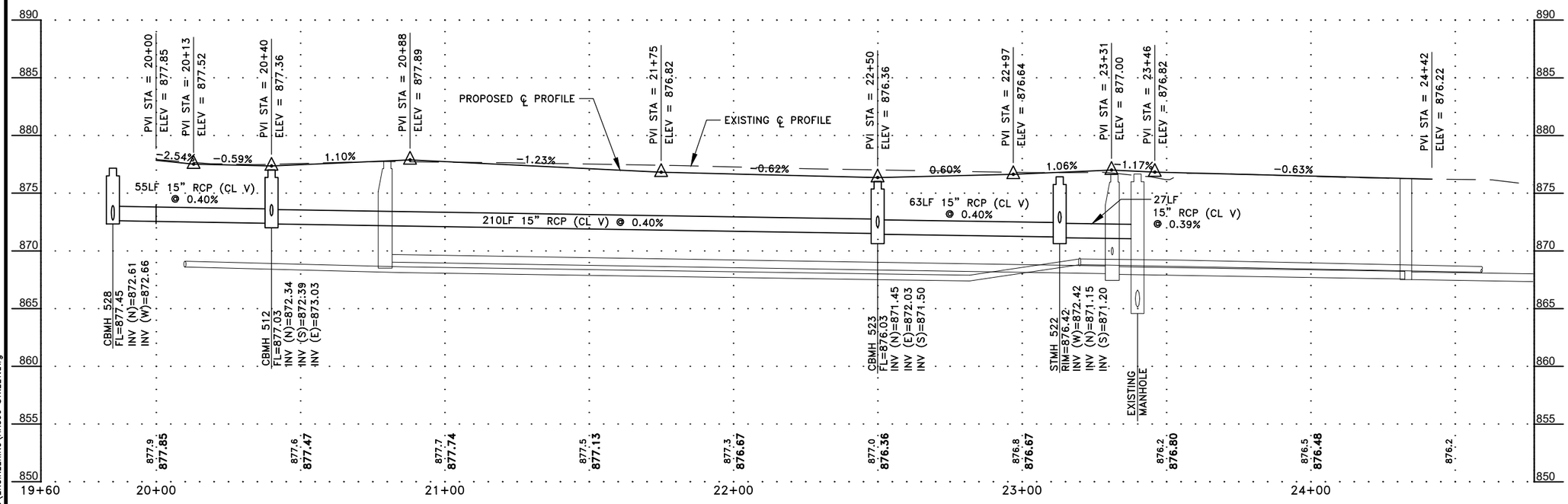



LEGEND

- PROPOSED CONCRETE WALK/PAVEMENT
- PROPOSED BITUMINOUS DRIVEWAY PAVEMENT

SCALE 20 0 20 40 IN FEET




GENERAL NOTES:

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CONSTRUCTION PLAN
6TH AVENUE
CITY OF ANOKA, MINNESOTA

SHEET 47 OF 65 SHEETS

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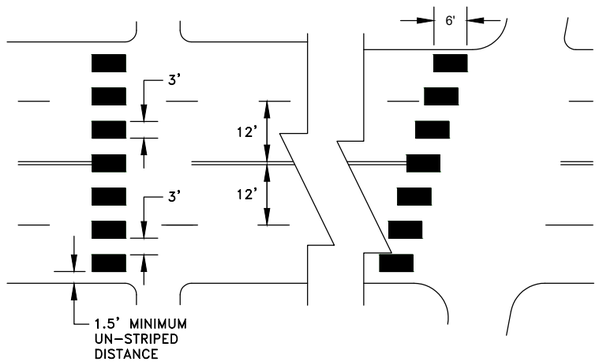
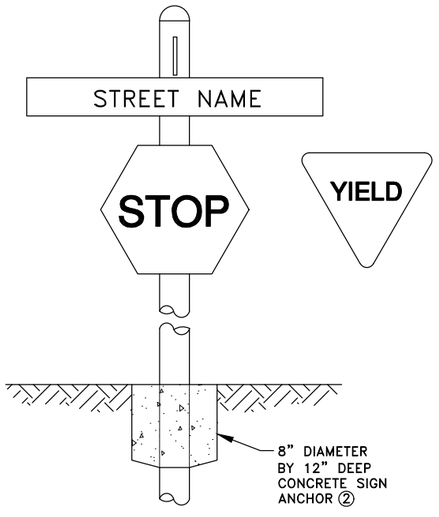


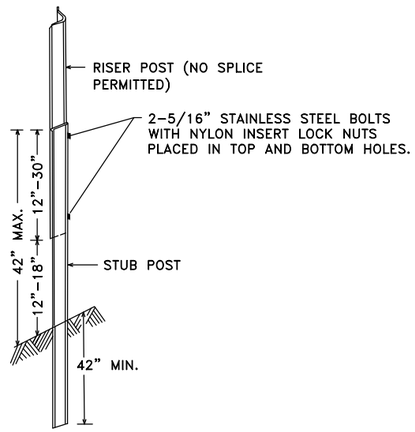

GENERAL CROSSWALK NOTES:

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. 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. CROSSWALK MARKINGS SHALL BE WHITE MULTI-COMPONENT LIQUID OR PREFORM THERMOPLASTIC.

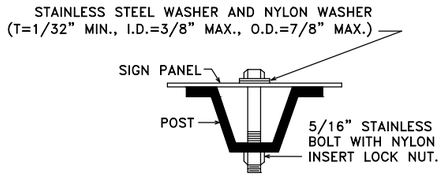
1/48 PEDESTRIAN CROSSWALK MARKINGS ③




2/48 SIGN WITH ROUND POST AND CONCRETE ANCHOR INSTALLATION DETAIL (IN GREEN AREAS) ①

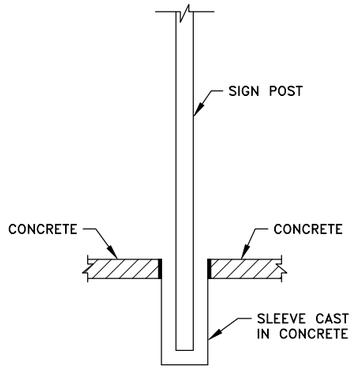



U POST BREAKAWAY SPLICE




U POST MOUNTING
TYPE C SIGNS

3/48 SIGN WITH U-POST INSTALLATION DETAIL ①




4/48 SIGN WITH ROUND POST AND SLEEVE CAST IN CONCRETE INSTALLATION DETAILS ①

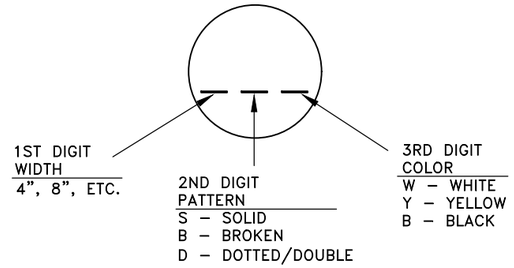
## STRIPING KEY SHEETS 50-52

CIRCLE-MULTI-COMPONENT LIQUID

SQUARE-PREFORM TAPE

TRIANGLE-PAINT

PENTAGON-REMOVABLE PREFORMED PLASTIC MARKING




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

PERMANENT PAVEMENT MARKING GENERAL NOTES AND GUIDELINES:

1. THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. THE CONTRACTOR WILL PLACE NECESSARY "SPOTTING" AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS. LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.
2. EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY A YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.
3. A TOLERANCE OF 1/4 INCH UNDER OR 1/4 OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO 1/2 FOOT FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 1 INCH. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINTS. ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.
4. THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC) OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. THIS WORK SHALL BE INCIDENTAL.
5. THE MULTI-COMPONENT MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE MULTI-COMPONENT LIQUID LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.
6. FOR 20 MIL APPLICATIONS, GLASS BEADS SHALL BE APPLIED AT A RATE OF AT LEAST 25 LB/GAL. THE "NO-TRACKING" CONDITION SHALL BE DETERMINED ON AN APPLICATION OF SPECIFIED THICKNESS TO THE PAVEMENT AND COVERED WITH GLASS BEADS AT THE RATE OF AT LEAST 25 LB/GAL. EXCESS GLASS BEADS SHALL BE SWEPT. THIS WORK SHALL BE INCIDENTAL.
7. OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES (°F) OR GREATER.
8. PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.
9. CONTRACTOR SHALL SWEEP AND DISPOSE OF EXCESS GLASS BEADS. REMOVAL AND DISPOSAL OF GLASS BEADS SHALL BE INCIDENTAL.

REFERENCE NOTES:

① CITY SHALL FURNISH ALL SIGNS, POSTS, AND SLEEVES. CONTRACTOR SHALL INSTALL ALL SIGNS AND FURNISH ALL HARDWARE AND FASTENERS.

② ALL STREET NAME SIGNS SHALL BE INSTALLED WITH A CONCRETE ANCHOR.

③ CROSSWALK MARKINGS SHALL BE PREFORM THERMOPLASTIC WITHIN THE ANOKA COUNTY RIGHT-OF-WAY AND MULTI-COMPONENT LIQUID EVERYWHERE ELSE.

| DATE | REVISION |
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Date 2/12/21 CRAIG J JOCHUM, P.E. Lic. No. 23461

DESIGNED BY: TAE
DRAWN BY: DMS
CHECKED BY: CJJ

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2021 SWEDE TOWN
STREET RENEWAL PROJECT

SIGNAGE AND STRIPING NOTES AND DETAILS

CITY OF ANOKA, MINNESOTA

SHEET 48 OF 65 SHEETS

AN390

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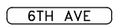
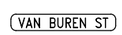
| SIGN LEGEND | SIGN NUMBER | SIZE (INCHES) | COLOR | QUANTITY |
|---|---|---|---|---|
|   | R1-1 | 30X30 | WHITE ON RED | 5 |
|   | R1-3P | 18X6 | WHITE ON RED | 4 |
|   | R2-1 | 24X30 | BLACK ON WHITE | 1 |
|   | R7-108 | 12X18 | GREEN ON WHITE | 2 |
|  | R8-3 | 24X24 | BLACK AND RED ON WHITE | 16 |
|   | R8-3bP TEXT MODIFIED | 24X18 | RED ON WHITE | 5 |
|   | R8-3mP TEXT MODIFIED | 24X18 | RED ON WHITE | 1 |
|   | R8-3mP TEXT MODIFIED | 24X18 | RED ON WHITE | 1 |
|  | S1-1 | 36X36 | BLACK ON FLOURESCENT YELLOW-GREEN | 8 |
|   | S4-2P | 24X10 | BLACK ON WHITE | 1 |
|   | S4-3P | 24X8 | BLACK ON FLOURESCENT YELLOW-GREEN | 1 |

| SIGN LEGEND | SIGN NUMBER | SIZE (INCHES) | COLOR | QUANTITY |
|---|---|---|---|---|
|  | W16-7PL | 24X12 | BLACK ON FLOURESCENT YELLOW-GREEN | 4 |
|  | W16-7PR | 24X12 | BLACK ON FLOURESCENT YELLOW-GREEN | 4 |
|   | W16-9P | 24X12 | BLACK ON FLOURESCENT YELLOW-GREEN | 2 |
|  | X4-13 | 6 DIA. 9 HIGH | WHITE ON BLACK | 2 |
|   | CUSTOM | 28X9 | WHITE ON BLUE | 8 |
|   | CUSTOM | 28X9 | WHITE ON BLUE | 4 |
|   | CUSTOM | 35X9 | WHITE ON BLUE | 6 |
|   | CUSTOM | 44X9 | WHITE ON BLUE | 6 |

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2021 SWEDE TOWN STREET RENEWAL PROJECT

SIGNAGE QUANTITIES

CITY OF ANOKA, MINNESOTA

SHEET 49 OF 65 SHEETS

AN390

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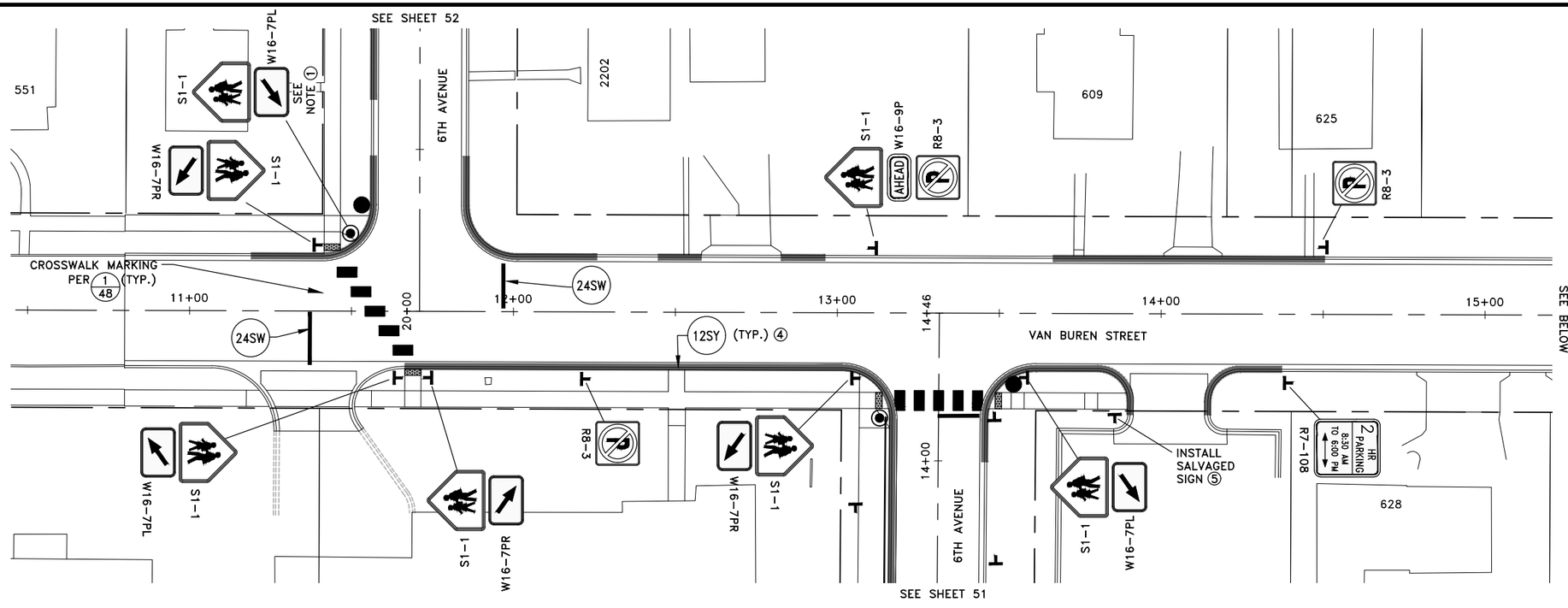


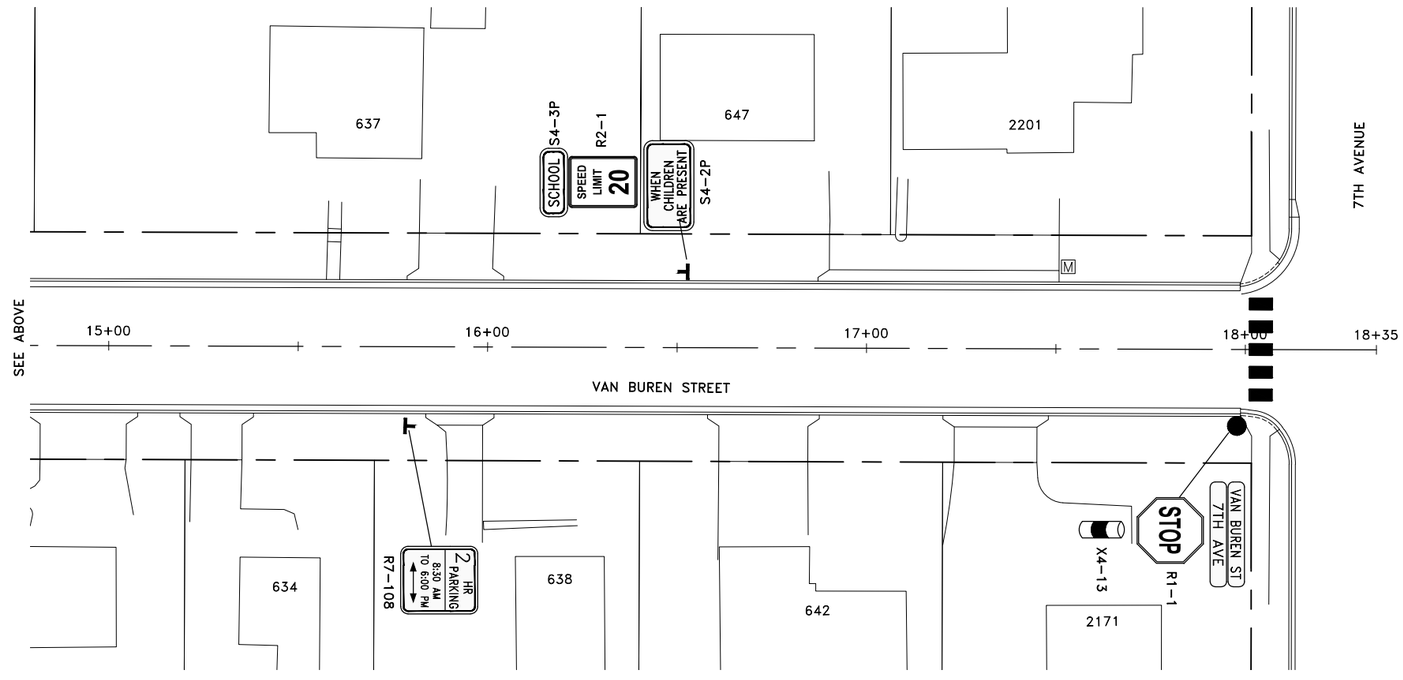


REFERENCE NOTES:

① INSTALL SALVAGED "NEIGHBORHOOD WATCH" SIGN ON THE SAME POST. THIS WORK SHALL BE PAID PER ITEM 2564–INSTALL SIGN TYPE D.

② SIGNS INSTALLED ON A ROUND POST WITH A CONCRETE ANCHOR OR WITH A SLEEVE CAST IN CONCRETE SHALL BE PAID PER ITEM 2564–INSTALL SIGN TYPE D.

③ SIGNS INSTALLED ON A U–POST SHALL BE PAID PER ITEM 2564–INSTALL SIGN TYPE C.

④ THIS SHALL INCLUDE STRIPING THE FACE AND TOP OF THE CURB. THIS WORK SHALL BE PAID PER ITEM 2582–12" SOLID LINE MULTI–COMPONENT.

⑤ INSTALL SIGN ON A NEW POST. THIS WORK SHALL BE PAID PER ITEM 2564–INSTALL SIGN TYPE C.

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2021 SWEDE TOWN
STREET RENEWAL PROJECT

SIGNAGE AND STRIPING PLAN

CITY OF ANOKA, MINNESOTA

SHEET 50 OF 65 SHEETS

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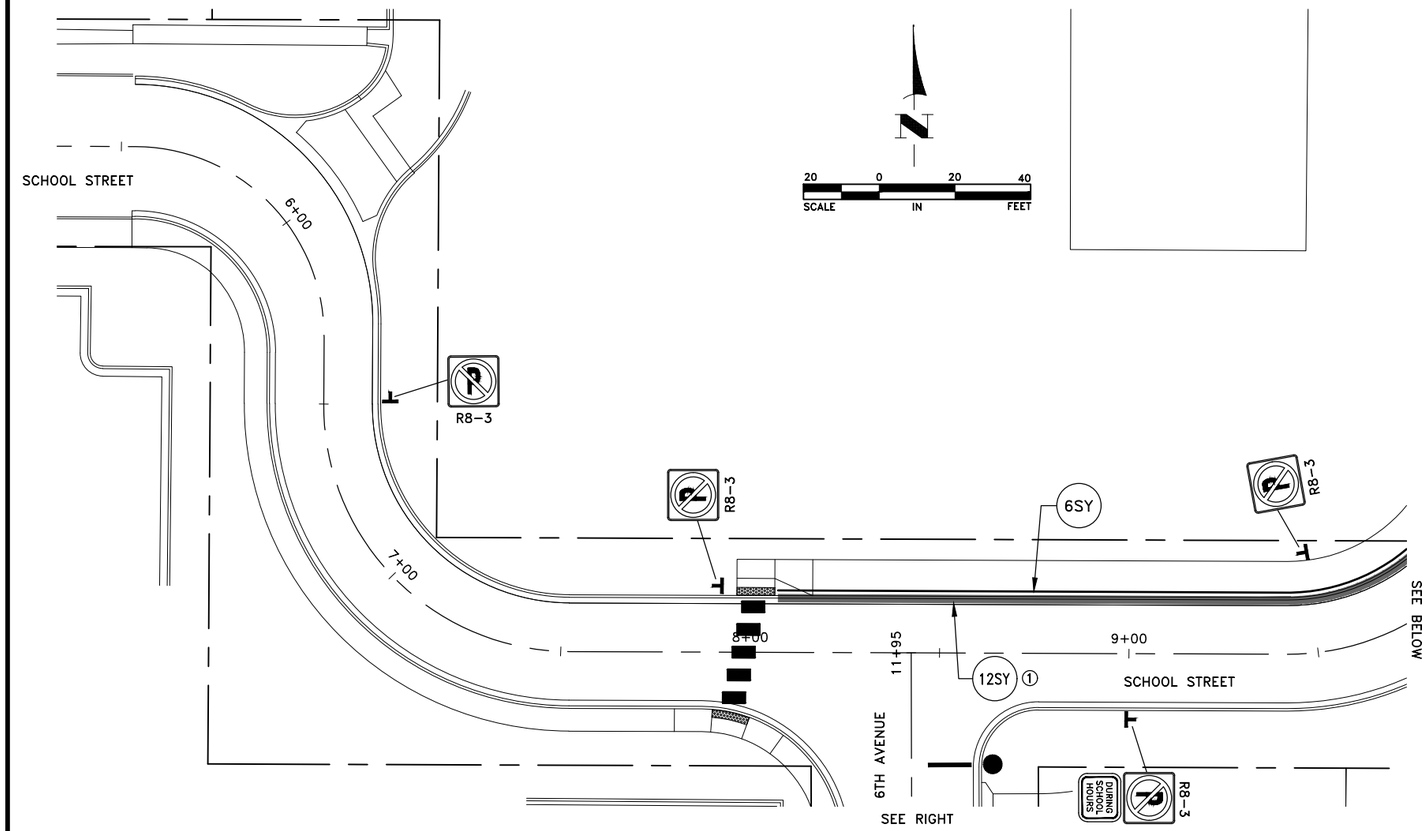


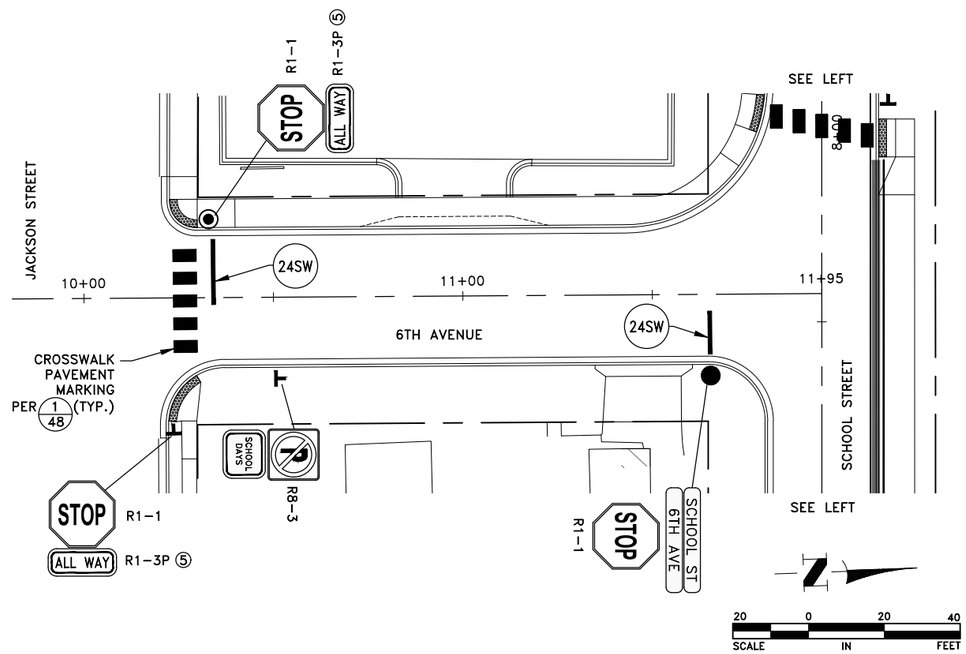


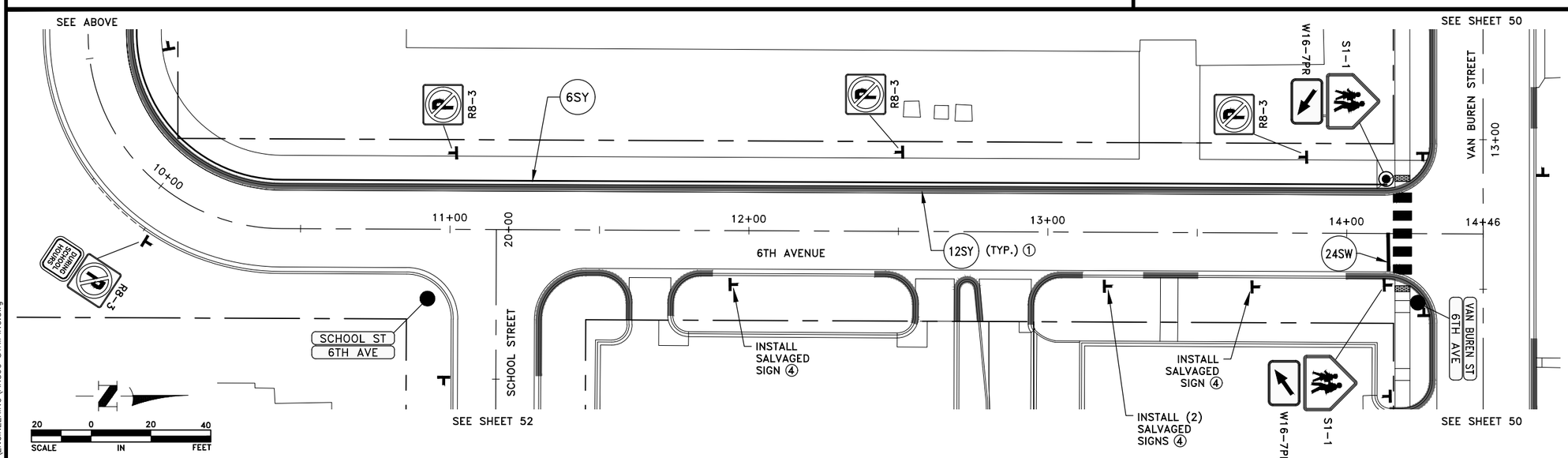


LEGEND

- ● SIGN INSTALLED ON A ROUND POST WITH CONCRETE ANCHOR PER 2/48 ②
- ⊥ SIGN INSTALLED ON A U-POST PER 3/48 ③
- ◉ SIGN INSTALLED ON A ROUND POST WITH A SLEEVE CAST IN CONCRETE PER 4/48 ②

REFERENCE NOTES:

① THIS SHALL INCLUDE STRIPING THE FACE AND TOP OF THE CURB. THIS WORK SHALL BE PAID PER ITEM 2582-12" SOLID LINE MULTI-COMPONENT.

② SIGNS INSTALLED ON A ROUND POST WITH A CONCRETE ANCHOR OR WITH A SLEEVE CAST IN CONCRETE SHALL BE PAID PER ITEM 2564-INSTALL SIGN TYPE D.

③ SIGNS INSTALLED ON A U-POST SHALL BE PAID PER ITEM 2564-INSTALL SIGN TYPE C.

④ INSTALL SALVAGED SIGN ON A NEW POST. THIS WORK SHALL BE PAID PER ITEM 2564-INSTALL SIGN TYPE C.

⑤ INSTALL "ALL WAY" SIGNS ON THE TWO STOP SIGN POSTS ON THE SOUTH SIDE OF JACKSON STREET. THIS WORK SHALL BE PAID PER ITEM 2564-INSTALL SIGN TYPE C.

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SIGNAGE AND STRIPING PLAN

CITY OF ANOKA, MINNESOTA

SHEET 51 OF 65 SHEETS

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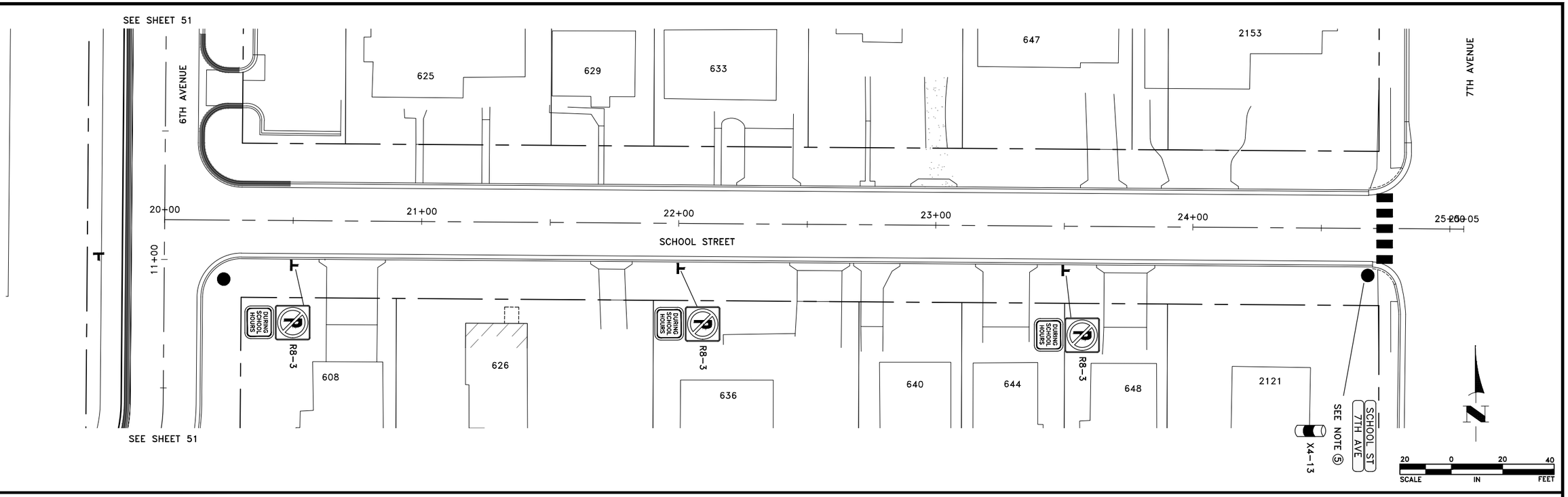


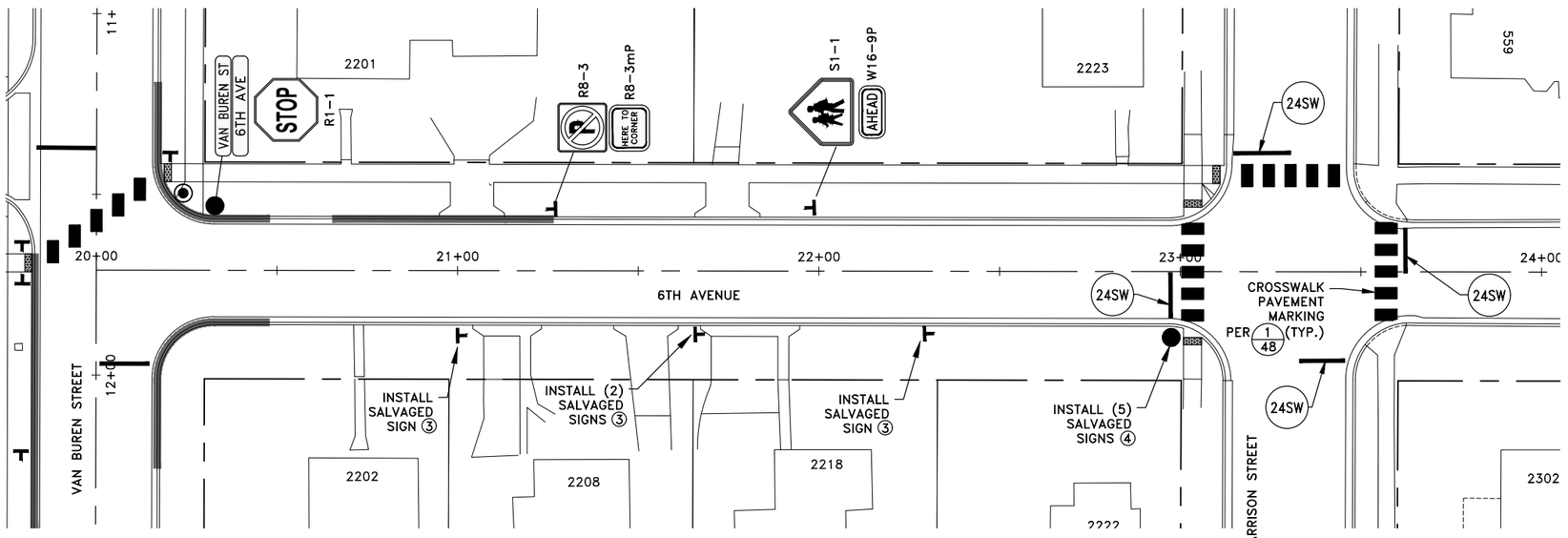


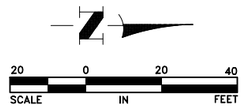


LEGEND

- SIGN INSTALLED ON A ROUND POST WITH CONCRETE ANCHOR PER 2/48 ①
- SIGN INSTALLED ON A U-POST PER 3/48 ②
- SIGN INSTALLED ON A ROUND POST WITH A SLEEVE CAST IN CONCRETE PER 4/48 ①

REFERENCE NOTES:

① SIGNS INSTALLED ON A ROUND POST WITH A CONCRETE ANCHOR OR WITH A SLEEVE CAST IN CONCRETE SHALL BE PAID PER ITEM 2564-INSTALL SIGN TYPE D.

② SIGNS INSTALLED ON A U-POST SHALL BE PAID PER ITEM 2564-INSTALL SIGN TYPE C.

③ INSTALL SALVAGED SIGN ON A NEW POST. THIS WORK SHALL BE PAID PER ITEM 2564-INSTALL SIGN TYPE C.

④ INSTALL SALVAGED SIGN ON A NEW POST. THIS WORK SHALL BE PAID PER ITEM 2564-INSTALL SIGN TYPE D.

⑤ INSTALL SALVAGED STOP SIGN ON SAME POST. THIS WORK SHALL BE PAID PER ITEM 2564-INSTALL SIGN TYPE D.

| DATE | REVISION |
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Date 2/12/21 CRAIG J JOCHUM, P.E. Lic. No. 23461

DESIGNED BY: TAE
DRAWN BY: DMS
CHECKED BY: CJJ

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2021 SWEDE TOWN
STREET RENEWAL PROJECT

SIGNAGE AND STRIPING PLAN

CITY OF ANOKA, MINNESOTA

SHEET 52 OF 65 SHEETS

AN390

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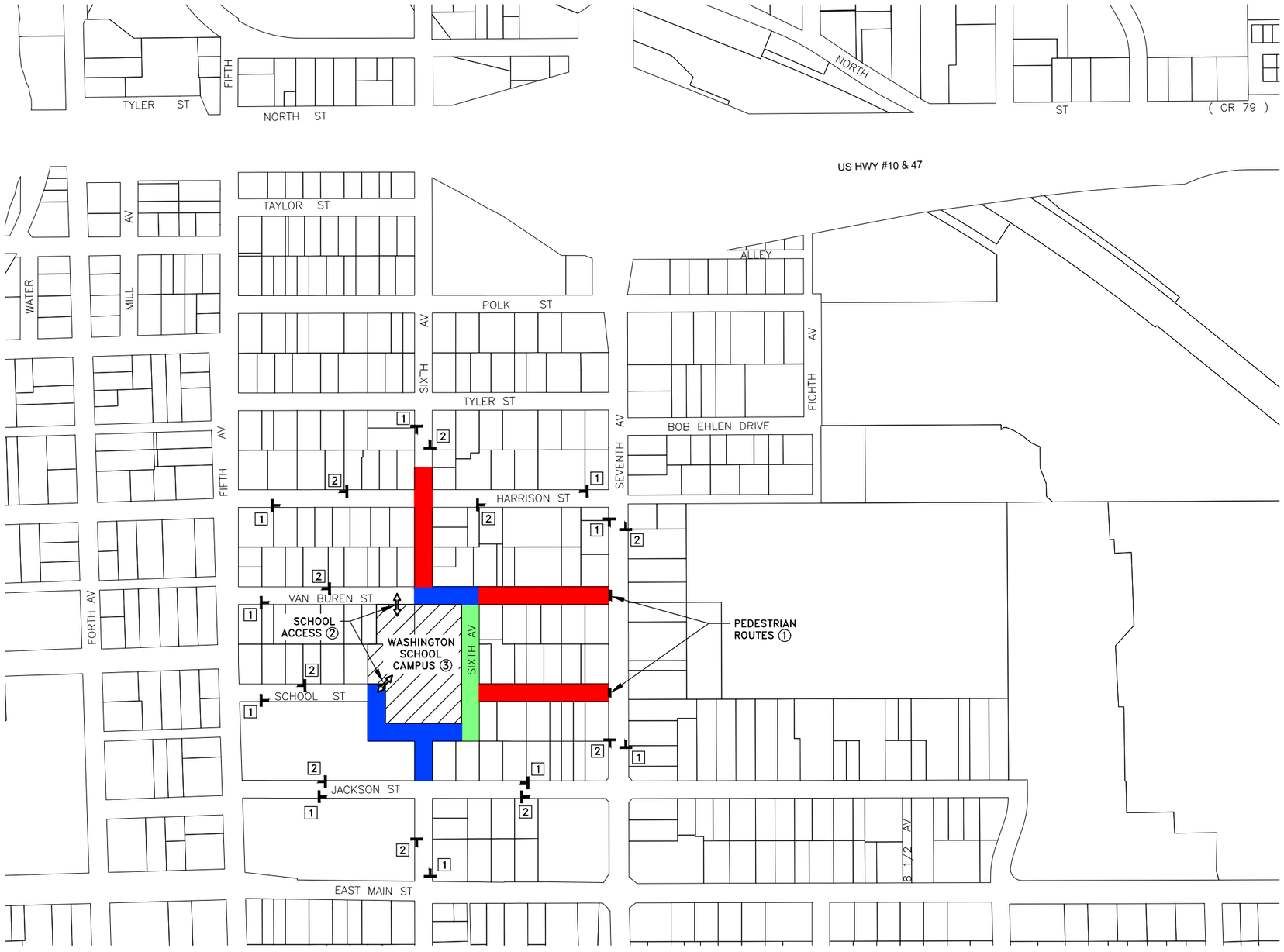


LEGEND

PHASE 1: AREA SHALL BE SUBSTANTIALLY COMPLETED BY OCTOBER 1, 2021

PHASE 2A: CONSTRUCTION IS ONLY ALLOWED BETWEEN THE HOURS OF 9:00 A.M. AND 2:00 P.M. AND BETWEEN 3:30 P.M. AND 7:00 P.M., MONDAY THROUGH FRIDAY, BEFORE JUNE 10, 2021. AFTER JUNE 10, 2021, REGULAR PROJECT HOURS SHALL BE OBSERVED. AREA SHALL BE SUBSTANTIALLY COMPLETED BY SEPTEMBER 1, 2021

PHASE 2B: NO CONSTRUCTION OR REMOVALS WILL BE ALLOWED UNTIL AFTER JUNE 10, 2021 AND AREA SHALL BE SUBSTANTIALLY COMPLETED BY SEPTEMBER 1, 2021

[1] ROAD WORK AHEAD — W20-1

[2] END ROAD WORK — G20-2a

GENERAL NOTES FOR SHEETS 53–58:

1. ALL TEMPORARY TRAFFIC SIGNS SHOWN ON THIS PLAN SHEET SHALL BE PLACED PRIOR TO THE START OF CONSTRUCTION AND REMAIN INPLACE UNTIL CONSTRUCTION IS COMPLETE.
2. ALL CONTRACTOR TRAFFIC WITHIN THE CITY OF ANOKA SHALL BE LIMITED TO THE PROJECT AREA, DESIGNATED HAUL ROUTES, APPROVED CITY COLLECTOR STREETS OR COUNTY AND STATE HIGHWAYS.
3. SEE SHEETS 54–58 FOR ADDITIONAL TRAFFIC CONTROL.
4. THE REMOVALS PLANS INDICATE THE REMOVAL OF ALL STOP SIGNS AND STREET IDENTIFICATION SIGNS. THE CONTRACTOR SHALL MAINTAIN THESE SIGNS IN PLACE UNTIL THE PERMANENT SIGNS ARE INSTALLED. THESE SIGNS MAY REQUIRE TEMPORARY REMOVAL AND REPLACEMENT TO COMPLETE THE WORK. MAINTENANCE OF THE EXISTING SIGNS SHALL BE INCIDENTAL.
5. THE TRAFFIC CONTROL DEPICTED ON SHEETS 53–58 IS CONSIDERED THE MINIMUM TRAFFIC CONTROL REQUIRED TO COMPLETE THE CONSTRUCTION IN THE REQUIRED PHASES. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO PROVIDE A SAFE WORK ZONE AT ALL TIMES. THE TRAFFIC CONTROL PHASES SHOWN DO NOT DEPICT TRAFFIC CONTROL THAT IS REQUIRED FOR CONSTRUCTION OF THE BITUMINOUS WEAR COURSE AND STRIPING. CONTRACTOR SHALL PROVIDE LAYOUTS FOR APPROVAL BY THE ENGINEER FOR THESE WORK ITEMS. ALL TRAFFIC CONTROL REQUIRED TO COMPLETE THIS PROJECT SHALL BE INCIDENTAL TO ITEM 2563–TRAFFIC CONTROL.
6. ALL NON–STANDARD TRAFFIC CONTROL SIGNS ON SHEETS 53–58 SHALL HAVE 6" SERIES C LETTERING.
7. ALL TEMPORARY TRAFFIC CONTROL SIGNS, UNLESS OTHERWISE NOTED, SHALL BE CONSTRUCTED ON TWO PERMANENT POSTS. POSTS SHALL BE REMOVED UPON COMPLETION OF THE PROJECT, OR UNTIL NO LONGER NEEDED, AND ALL DISTURBED AREAS SHALL BE RESTORED.
8. ALL SIGNS SHALL BE REMOVED WITHIN 24 HOURS AFTER THEY ARE NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
9. ORANGE SAFETY FENCE SHALL BE CONSTRUCTED AS NEEDED AND AS DIRECTED BY THE ENGINEER. PAYMENT FOR THE FENCE SHALL BE PER ITEM 2572–TEMPORARY FENCE.
10. FULL ACCESS AT ALL DRIVEWAYS SHALL BE MAINTAINED AND REMAIN FULLY OPERATIONAL AT ALL TIMES. DRIVEWAYS WITHIN THE WORK ZONE MAY BE CLOSED FOR A SHORT PERIOD OF TIME FOR REMOVALS, UTILITY CONSTRUCTION AND PAVEMENT CONSTRUCTION. CLOSURE OF ALL DRIVEWAYS SHALL BE COORDINATED WITH THE PROPERTY OWNER AND CITY. AFTER REMOVAL OF THE PAVEMENT ADJACENT TO THE DRIVEWAYS IN THE WORK ZONE, THE CONTRACTOR SHALL IMMEDIATELY RAMP THE MATCH POINTS WITH CLASS 5 AGGREGATE BASE OR BITUMINOUS MILLINGS. ALL LABOR, MATERIAL AND WORK REQUIRED TO MAINTAIN ACCESS SHALL BE INCIDENTAL. CONTRACTOR SHALL ALSO IMMEDIATELY RAMP DRIVEWAYS AND ALLOW PROPERTY OWNERS ACCESS TO THEIR PROPERTY THROUGH THEIR DRIVEWAYS AS SOON AS THE CONCRETE HAS CURED.
11. CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY PEDESTRIAN ACCESS ROUTE DEVICES, INCLUDING BUT NOT LIMITED TO PEDESTRIAN CHANNELIZERS AND PEDESTRIAN RAILING SYSTEMS, SIDEWALK BARRICADES, TEMPORARY WALKWAY SURFACES, DETECTABLE WARNING SURFACES, AUDIBLE MESSAGE DEVICES, CURB RAMPS, CHANNELIZERS AND ALL REQUIRED SIGNAGE TO MEET ALL REQUIREMENTS OF THE NOVEMBER 2005 VERSION OF THE PUBLIC RIGHT–OF–WAY ACCESSIBILITY GUIDELINES, THE LATEST VERSION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL–PART 6 AND THE AMERICANS WITH DISABILITIES ACT. THE CONTRACTOR SHALL PROVIDE TEMPORARY PEDESTRIAN ACCESS ROUTE LAYOUTS AND DETOURS FOR ANY PROPOSED SIDEWALK OR TRAIL CLOSURES. ALL LABOR, MATERIAL ND EQUIPMENT REQUIRED TO MAINTAIN PEDESTRIAN ACCESS ROUTES SHALL BE INCIDENTAL TO ITEM 2563–ALTERNATE PEDESTRIAN ROUTE.

REFERENCE NOTES:

① CONTRACTOR SHALL MAINTAIN A HANDICAP ACCESSIBLE PEDESTRIAN ROUTE AT ALL TIMES UNLESS AN APPROVED DETOUR IS CONSTRUCTED. ROUTE SHALL MEET ALL REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT. CONTRACTOR SHALL SUBMIT A DETAILED PLAN TO THE ENGINEER FOR APPROVAL SHOWING HOW THE ROUTE WILL BE MAINTAINED THROUGHOUT CONSTRUCTION. THIS WORK SHALL BE PAID PER ITEM 2563–ALTERNATE PEDESTRIAN ROUTE.

② THIS LOCATION HAS AN EXISTING DRIVEWAY ACCESS TO THE SCHOOL CAMPUS. THIS ACCESS SHALL REMAIN OPEN AT ALL TIMES.

③ THE WASHINGTON SCHOOL CAMPUS WILL BE UNDER CONSTRUCTION AT THE SAME TIME AS THE 2021 SWEDE TOWN STREET RENEWAL PROJECT. CONTRACTOR SHALL COORDINATE WORK WITH THE WASHINGTON SCHOOL CAMPUS CONTRACTOR.

| DATE | REVISION |
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CRAIG J JOCHUM, P.E.
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DRAWN BY: DMS
CHECKED BY: CJJ

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2021 SWEDE TOWN
STREET RENEWAL PROJECT

CONSTRUCTION PHASING AND
OVERALL TRAFFIC CONTROL PLAN
CITY OF ANOKA, MINNESOTA

SHEET 53 OF 65 SHEETS

AN390

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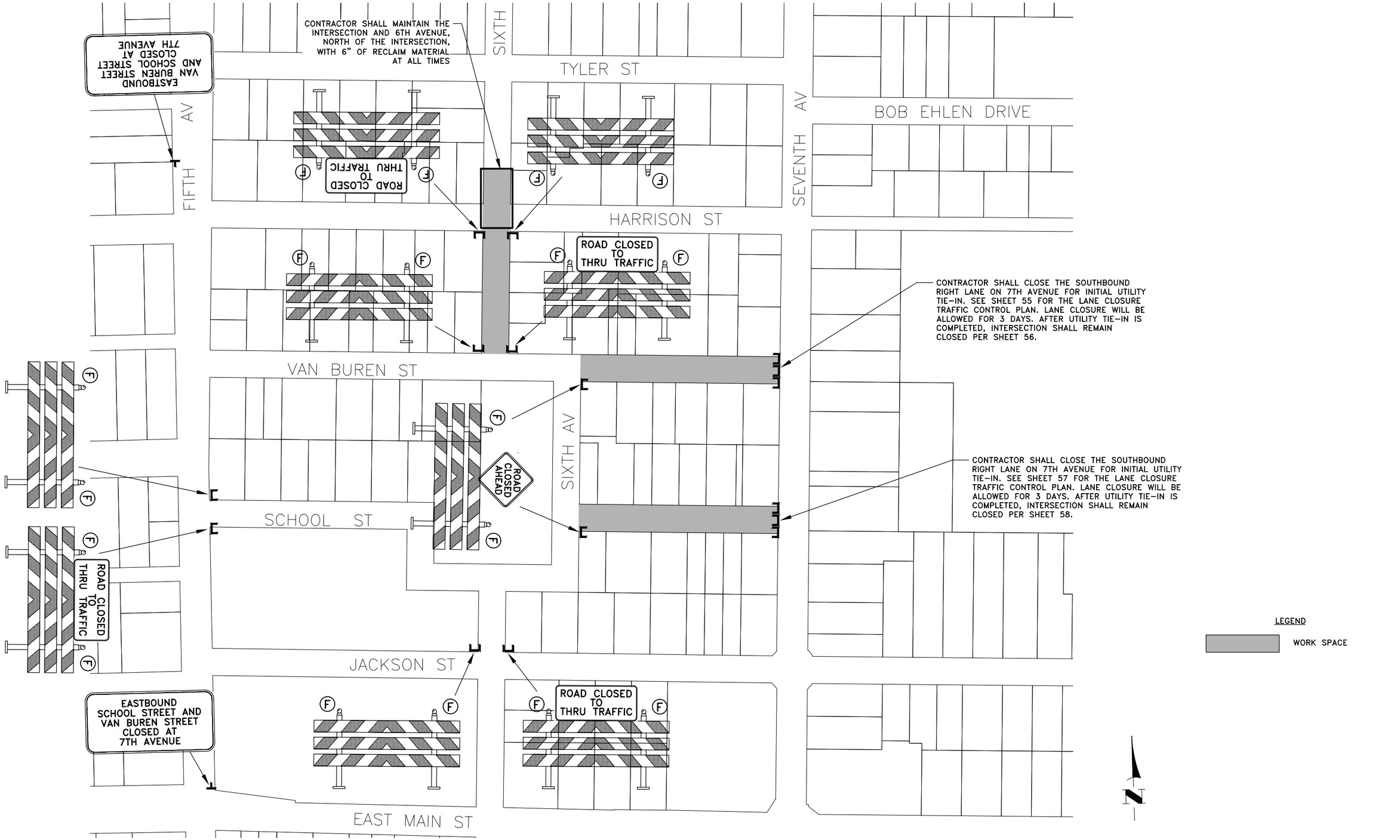


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2021 SWEDE TOWN
STREET RENEWAL PROJECT

TRAFFIC CONTROL PLAN-PHASE 1

CITY OF ANOKA, MINNESOTA

SHEET 54 OF 65 SHEETS

AN390

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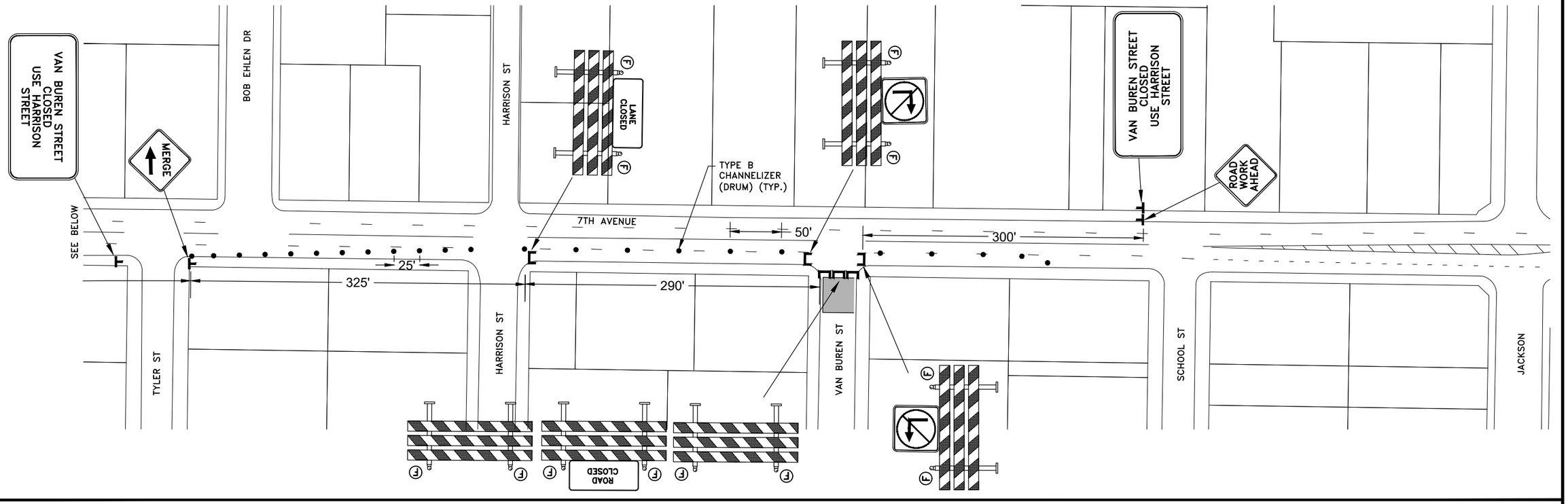


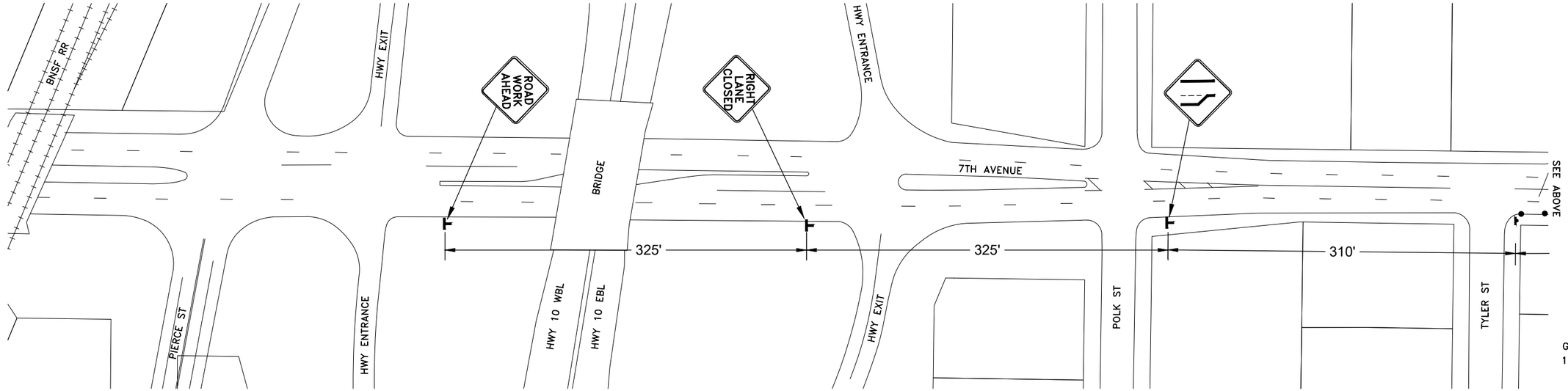


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SCALE IN FEET

LEGEND

WORK SPACE

GENERAL NOTES:

1. CONTRACTOR SHALL COORDINATE LANE CLOSURE WITH THE ANOKA COUNTY HIGHWAY DEPARTMENT A MINIMUM OF 3 DAYS IN ADVANCE OF THE CLOSURE.

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2021 SWEDE TOWN
STREET RENEWAL PROJECT

# TRAFFIC CONTROL PLAN-PHASE 1
## 7TH AVENUE SOUTHBOUND RIGHT LANE CLOSURE AT VAN BUREN STREET
## CITY OF ANOKA, MINNESOTA

SHEET 55 OF 65 SHEETS

AN390

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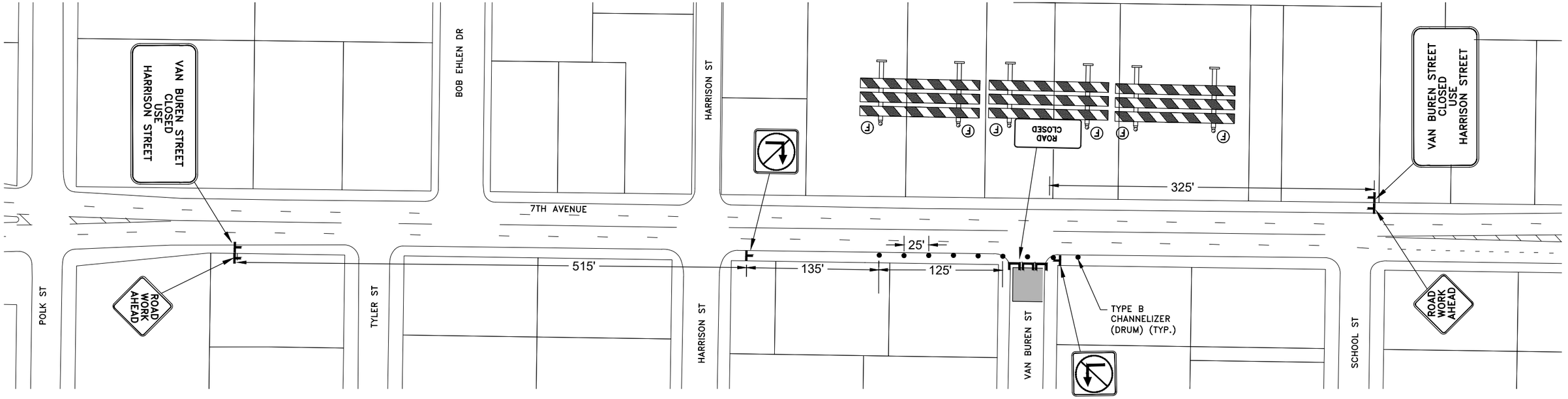


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2021 SWEDE TOWN
STREET RENEWAL PROJECT

TRAFFIC CONTROL PLAN-PHASE 1
VAN BUREN STREET CLOSURE
CITY OF ANOKA, MINNESOTA

SHEET 56 OF 65 SHEETS

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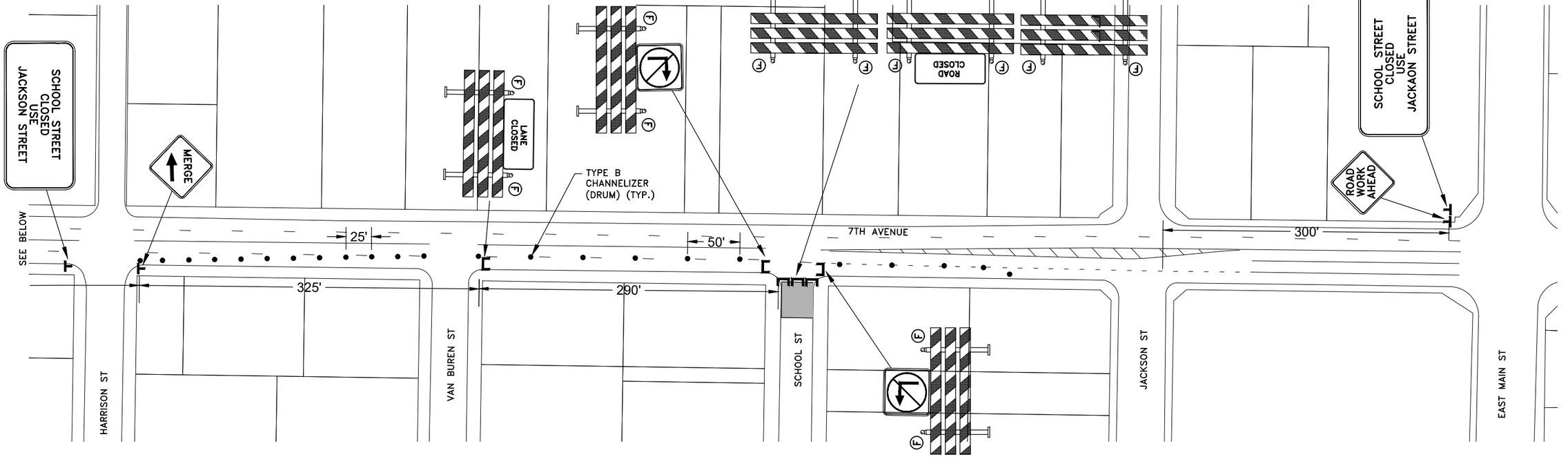


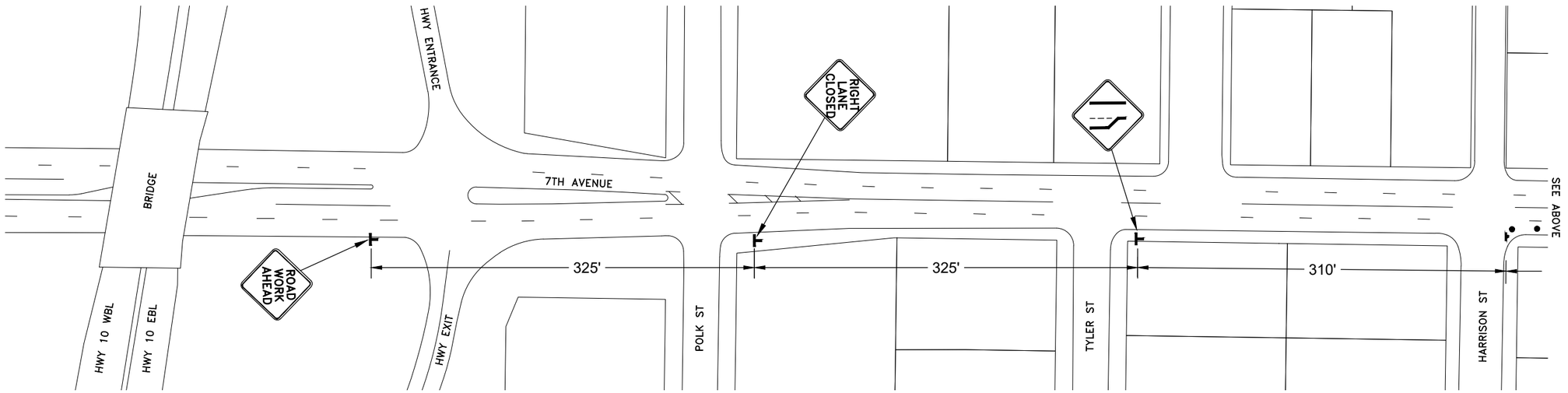


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SCALE IN FEET

LEGEND

WORK SPACE

GENERAL NOTES:

1. CONTRACTOR SHALL COORDINATE LANE CLOSURE WITH THE ANOKA COUNTY HIGHWAY DEPARTMENT A MINIMUM OF 3 DAYS IN ADVANCE OF THE CLOSURE.

| DATE | REVISION |
|---|---|
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2021 SWEDE TOWN
STREET RENEWAL PROJECT

# TRAFFIC CONTROL PLAN-PHASE 1
## 7TH AVENUE SOUTHBOUND RIGHT LANE CLOSURE AT SCHOOL STREET
## CITY OF ANOKA, MINNESOTA

SHEET 57 OF 65 SHEETS

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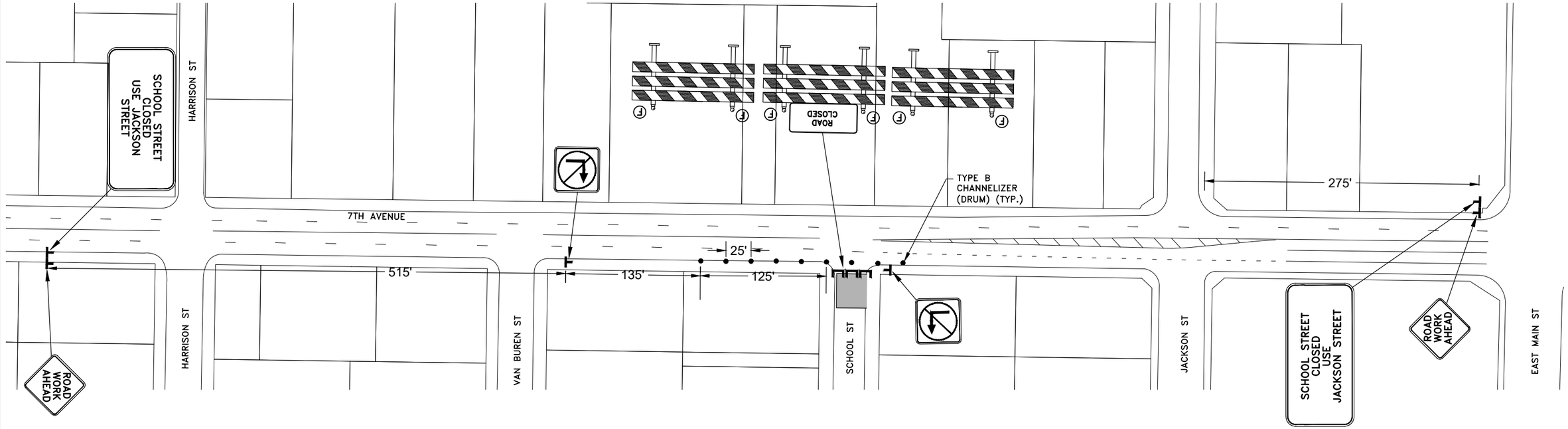


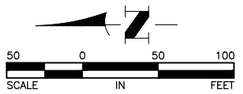


LEGEND

WORK SPACE

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STREET RENEWAL PROJECT

TRAFFIC CONTROL PLAN-PHASE 1
SCHOOL STREET CLOSURE
CITY OF ANOKA, MINNESOTA

SHEET 58 OF 65 SHEETS

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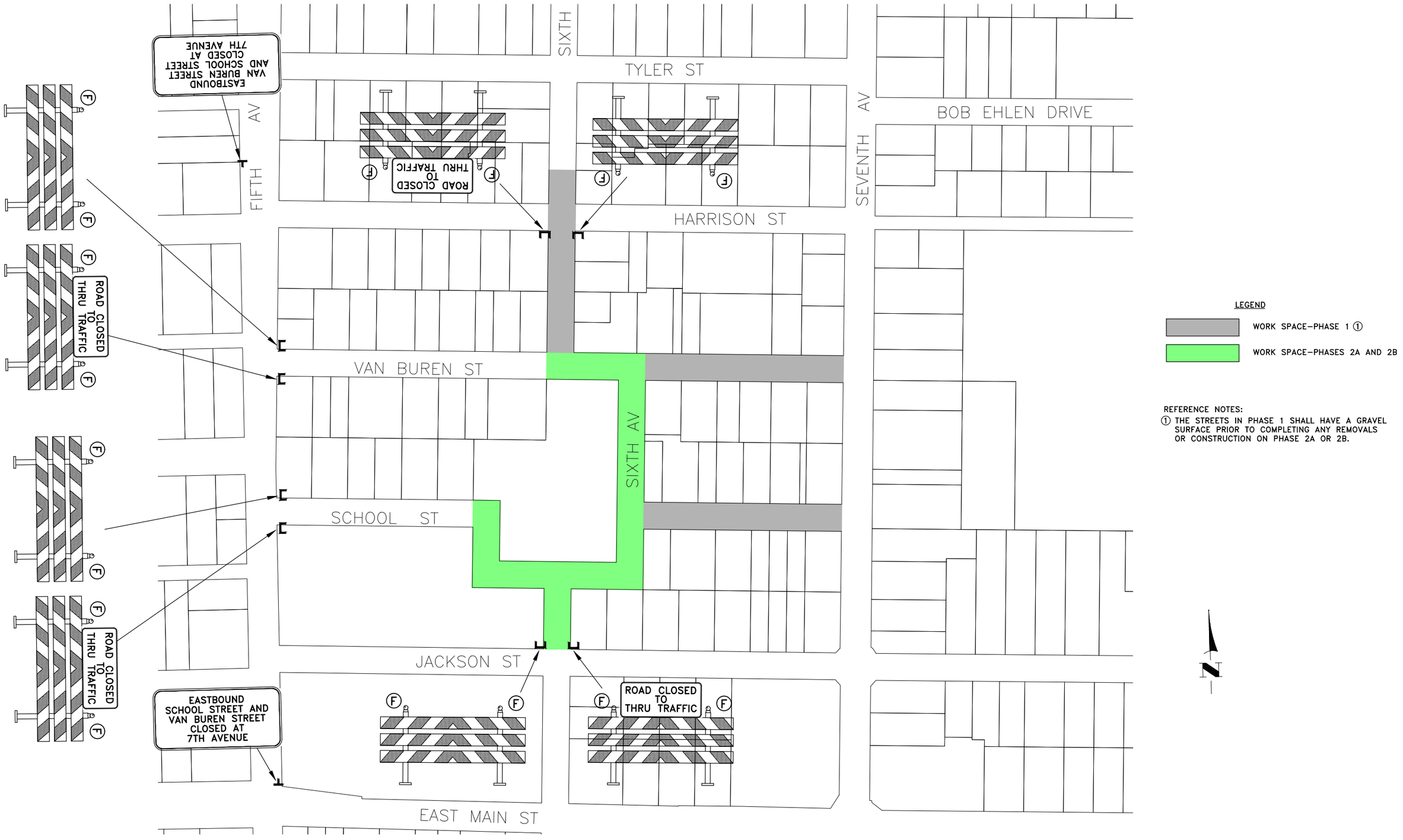


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2021 SWEDE TOWN
STREET RENEWAL PROJECT

# TRAFFIC CONTROL PLAN–PHASE 2A AND 2B

CITY OF ANOKA, MINNESOTA

SHEET 59 OF 65 SHEETS

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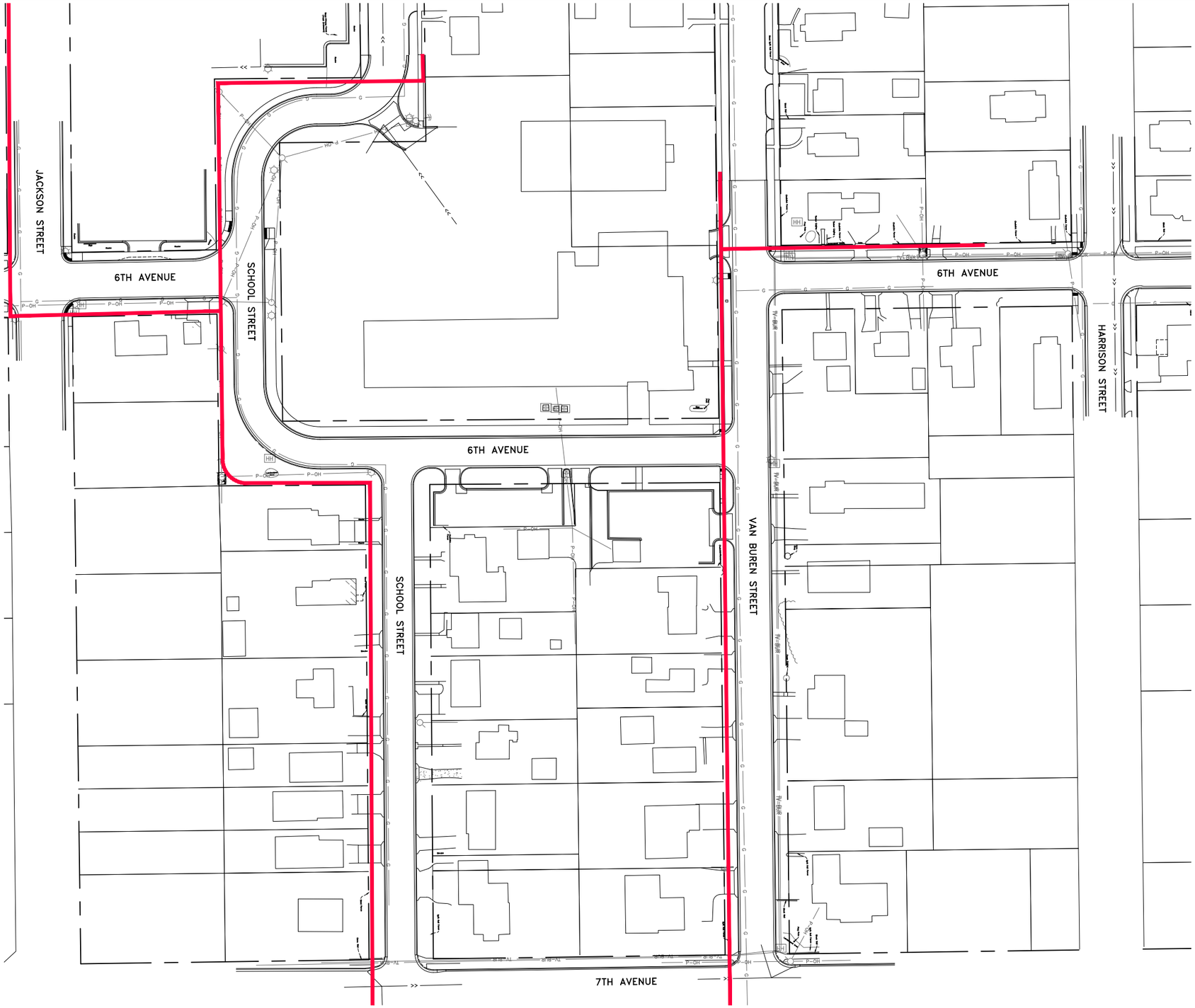


LEGEND

PROPOSED GAS UTILITY LINE LOCATION

GENERAL NOTES:

1. THE GAS UTILITY LINES WILL BE INSTALLED BY CENTERPOINT ENERGY.

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SCALE IN FEET

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2021 SWEDE TOWN
STREET RENEWAL PROJECT

PROPOSED GAS UTILITY PLAN

CITY OF ANOKA, MINNESOTA

SHEET 60 OF 65 SHEETS

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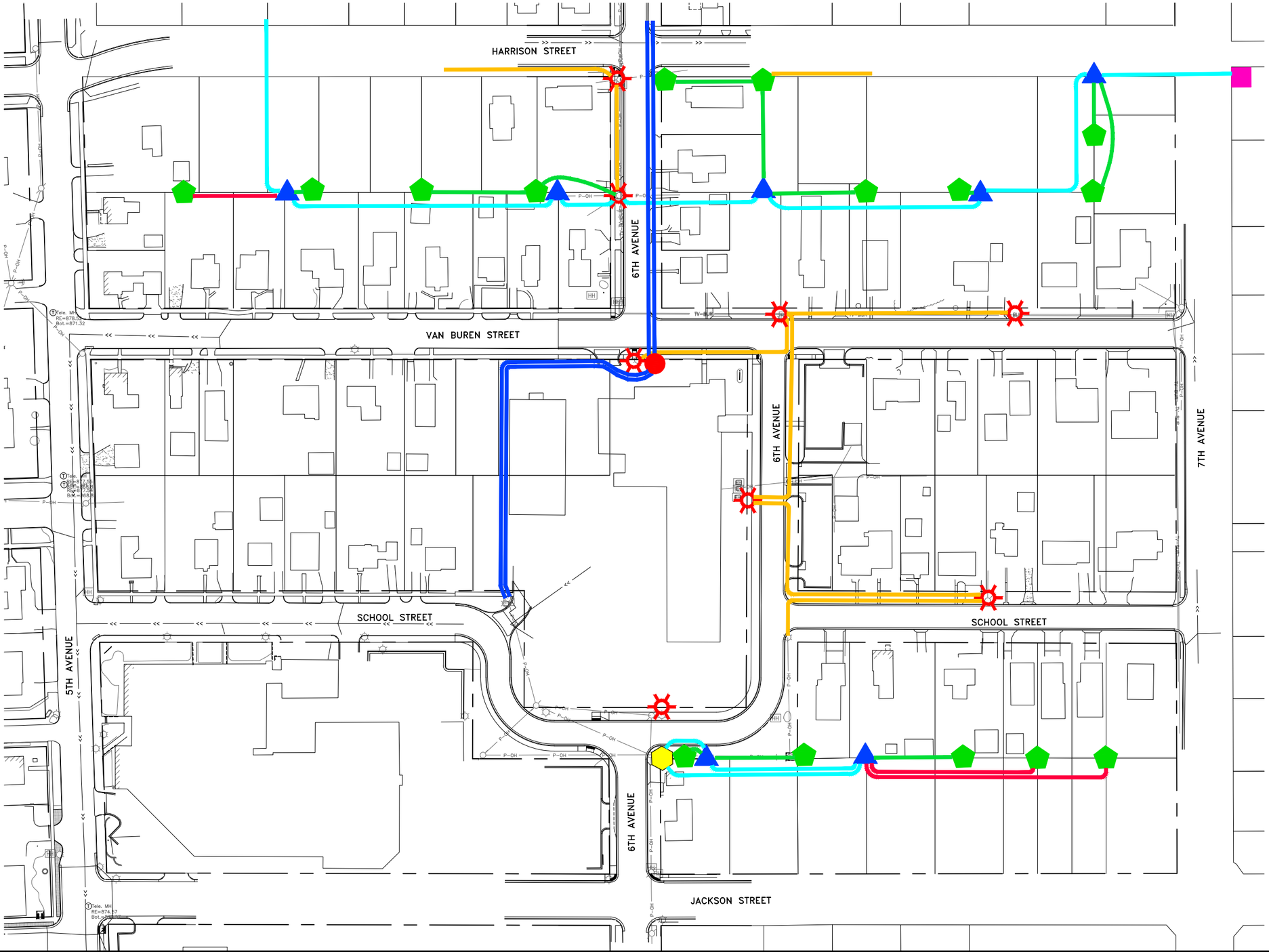


## LEGEND

- PROPOSED DECORATIVE LIGHTING BASE PER (4/13)
- FIBERGLASS URD (SERVICE) BOX PER (5/13)
- FIBERGLASS TRANSFORMER BASE PER (6/13)
- FIBERGLASS 3 PHASE SWITCH MOLE PER (9/13)
- SPLICE BOX PER (10/13)
- VAULT MANHOLE PER (11/13)
- 5 INCH PVC CONDUIT (MIN 42" BURY)
- 4 INCH PVC CONDUIT (MIN 42" BURY)
- 3 INCH PVC CONDUIT (MIN 42" BURY)
- 2 INCH PVC CONDUIT (MIN 24" BURY)
- 1 1/2 INCH PVC CONDUIT (MIN 24" BURY)
- EXISTING POWER POLE

GENERAL NOTES:

1. ALL CONDUITS WITHIN THE RIGHT-OF-WAY SHALL BE OPEN CUT AND ALL CONDUITS OUTSIDE THE RIGHT-OF-WAY SHALL BE DIRECTIONALLY DRILLED. FIELD CONDITIONS MAY DICTATE ALTERNATE INSTALLATION METHODS.

SCALE IN FEET: 60 0 60 120

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2021 SWEDE TOWN
STREET RENEWAL PROJECT

# ELECTRICAL CONSTRUCTION PLAN

CITY OF ANOKA, MINNESOTA

SHEET 61 OF 65 SHEETS

AN390

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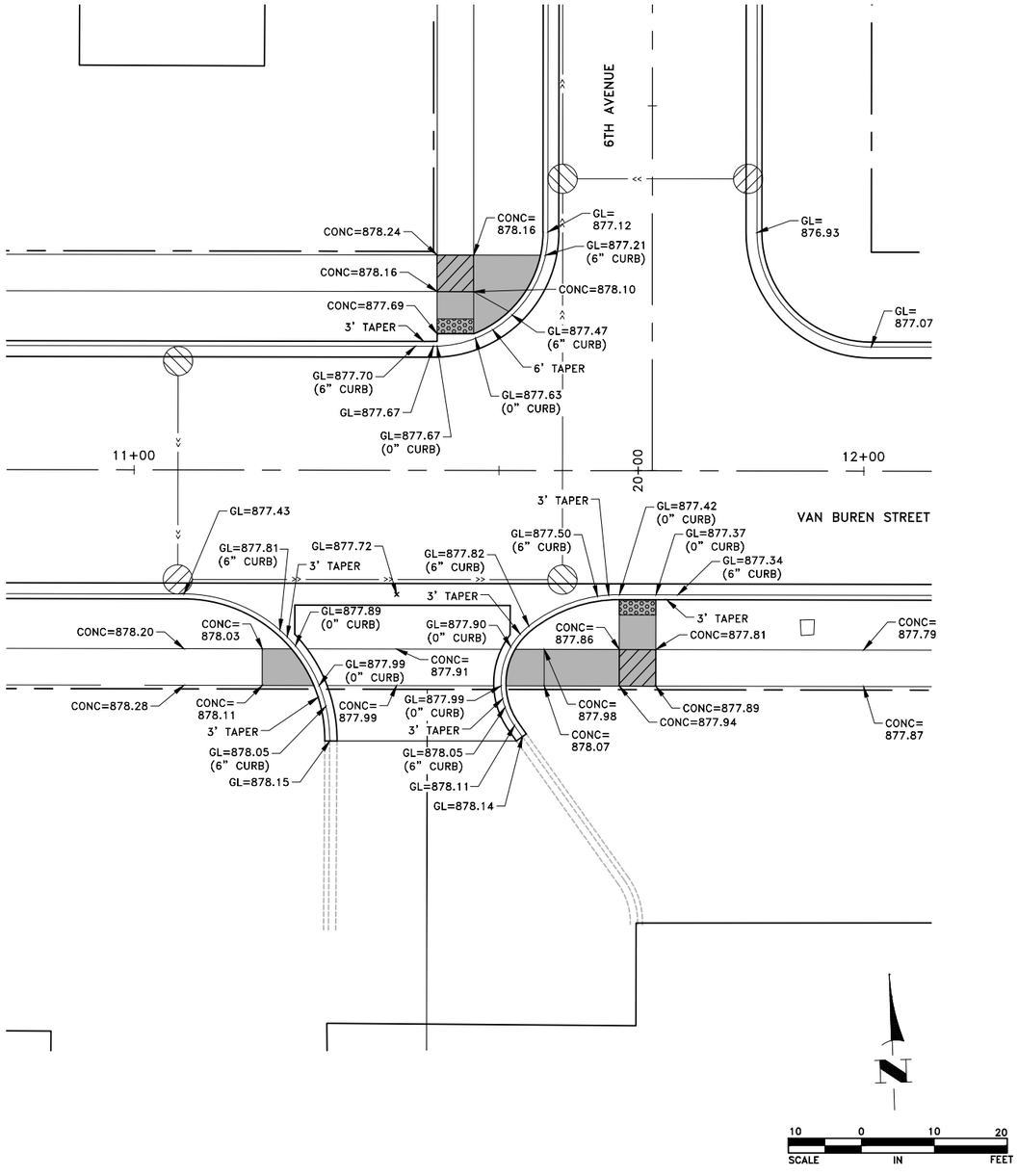
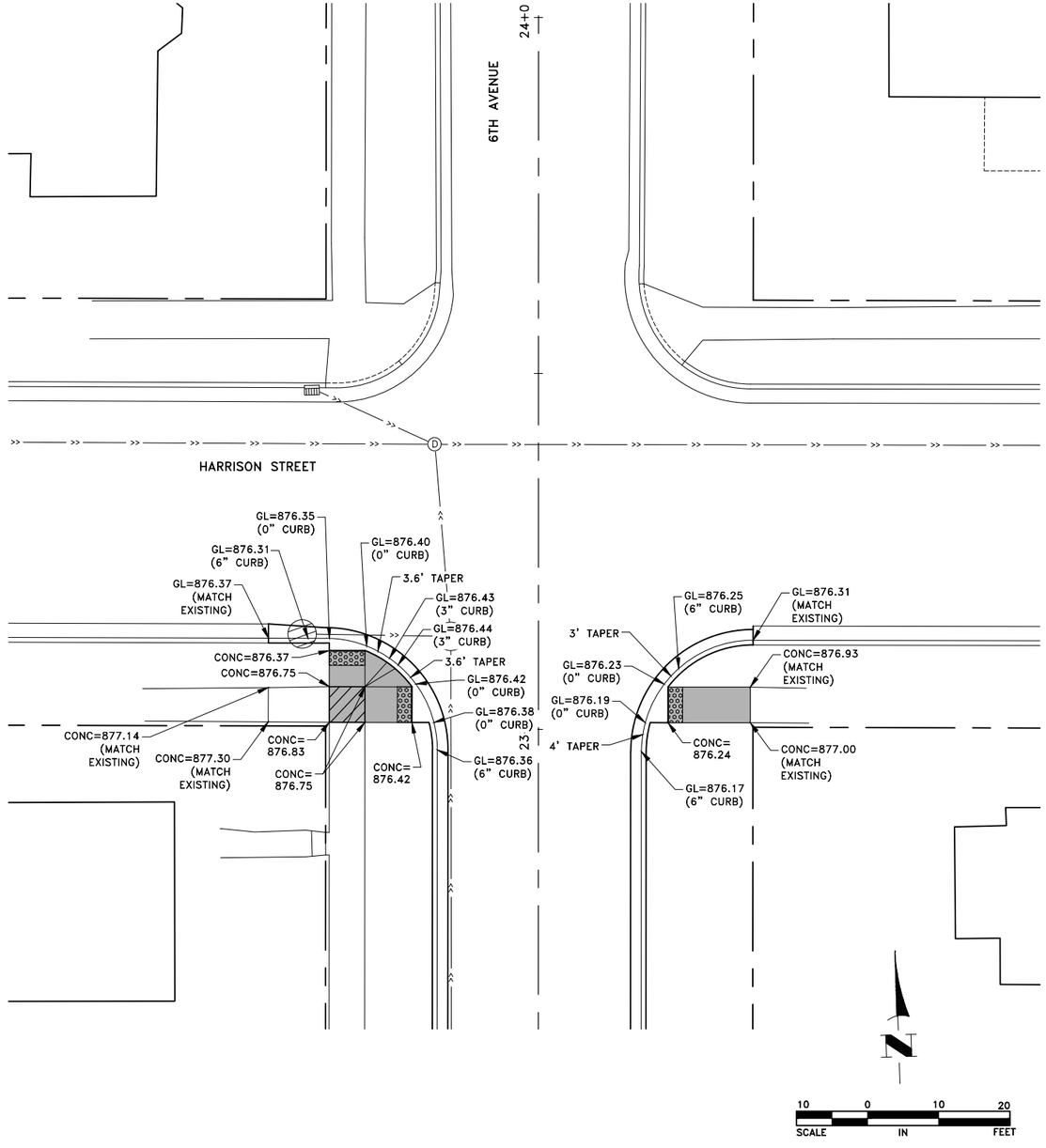
LEGEND

LANDING AREA–MAXIMUM 2% SLOPE IN ALL DIRECTIONS

6" CONCRETE WALK

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2021 SWEDE TOWN
STREET RENEWAL PROJECT

INTERSECTION DETAIL

CITY OF ANOKA, MINNESOTA

SHEET 62 OF 65 SHEETS

AN390

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LEGEND

LANDING AREA–MAXIMUM 2% SLOPE IN ALL DIRECTIONS

6" CONCRETE WALK

VAN BUREN STREET

13+00

14+46

14+00

14+00

6TH AVENUE

GL=875.67 (6" CURB)

GL= 875.43

D

15.6' TAPER

CONC= 876.73 (12+85)

CONC=875.13

CONC=875.21

GL=874.97 (0" CURB)

CONC=875.14

GL=874.86 (0" CURB)

CONC=875.06

6' TAPER

CONC=874.90

GL=874.80

CONC= 876.81 (12+85)

CONC=875.42

GL=874.78 (6" CURB)

CONC=875.35

GL=874.57 (6" CURB)

3' TAPER

GL=874.59 (0" CURB)

GL=874.63 (0" CURB)

3' TAPER

GL=874.61 (6" CURB)

GL= 874.49

CONC=874.89

CONC= 874.94

CONC= 875.40

CONC= 875.48

CONC= 875.02

CONC=874.97

CONC=874.67

GL= 874.11

CONC= 874.94

GL=874.29 (6" CURB)

3' TAPER

GL=874.35 (0" CURB)

CONC=874.89

GL=874.40 (0" CURB)

CONC= 875.02

CONC=874.97

3' TAPER

GL=874.45 (0" CURB)

GL=874.48

GL=874.51 (6" CURB)

GL=874.63 (MATCH EXISTING)

GL=874.34

GL= 873.35

GL=873.91

GL=874.06

GL=874.37 (MATCH EXISTING)

14+00

6TH AVENUE

13+00

GL= 875.44

GL= 875.27

GL=875.35 (MATCH EXISTING)

GL= 875.33

GL= 875.00

GL=875.43 (MATCH EXISTING)

GL= 874.77

GL= 874.80

GL=875.48 (MATCH EXISTING)

GL= 875.02

GL= 875.07

GL= 875.20

GL= 874.61

GL=875.48 (MATCH EXISTING)

N

10 0 10 20

SCALE IN FEET

| DATE | REVISION |
|---|---|
| 2/26/21 | ISSUED FOR BID |

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

CRAIG J JOCHUM, P.E.
Date 2/12/21 Lic. No. 23461

DESIGNED BY: TAE
DRAWN BY: DMS
CHECKED BY: CJJ

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
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www.hakanson-anderson.com

2021 SWEDE TOWN STREET RENEWAL PROJECT

INTERSECTION DETAIL

CITY OF ANOKA, MINNESOTA

SHEET 63 OF 65 SHEETS

AN390

Mar 03, 2021 – 6:07pm
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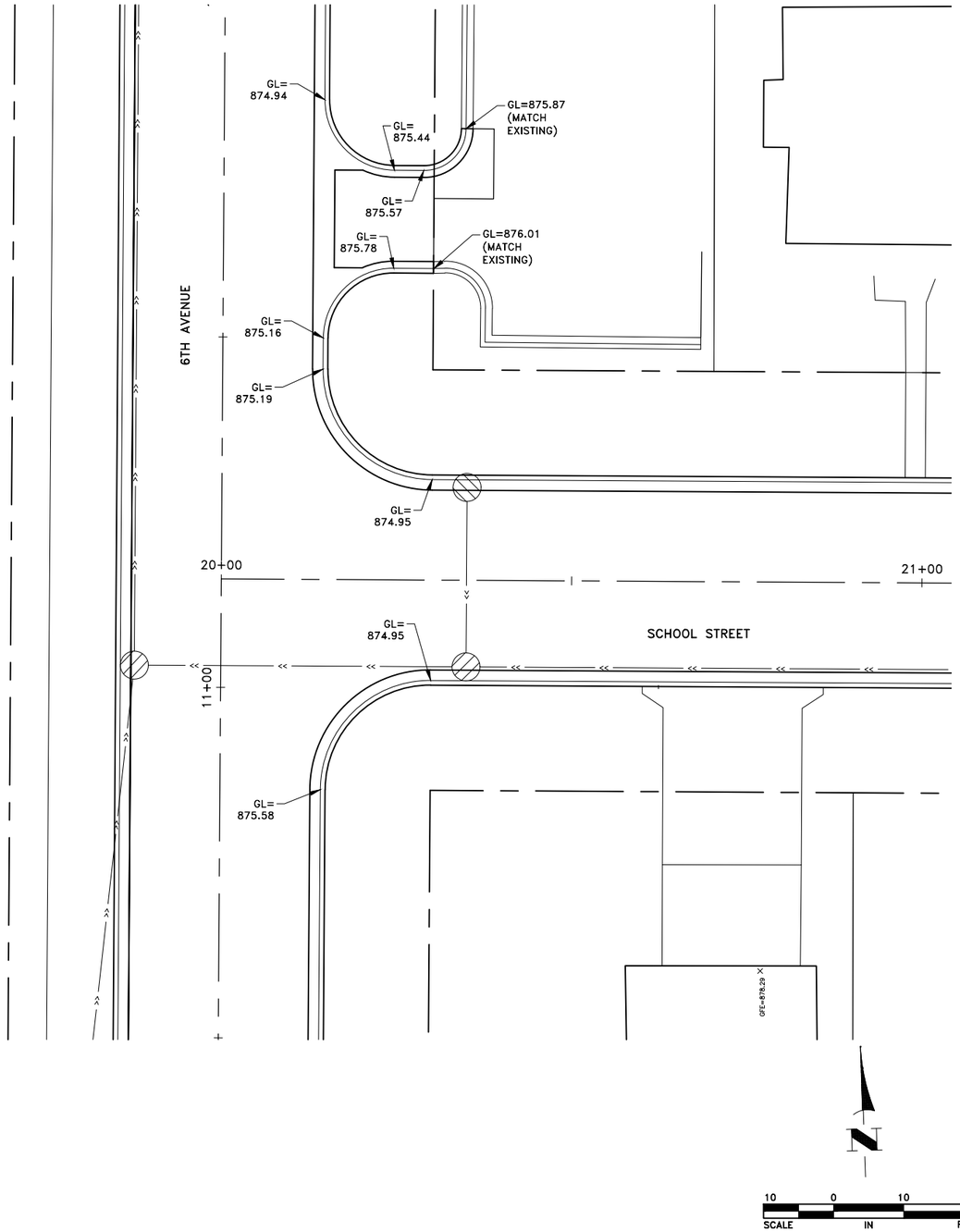


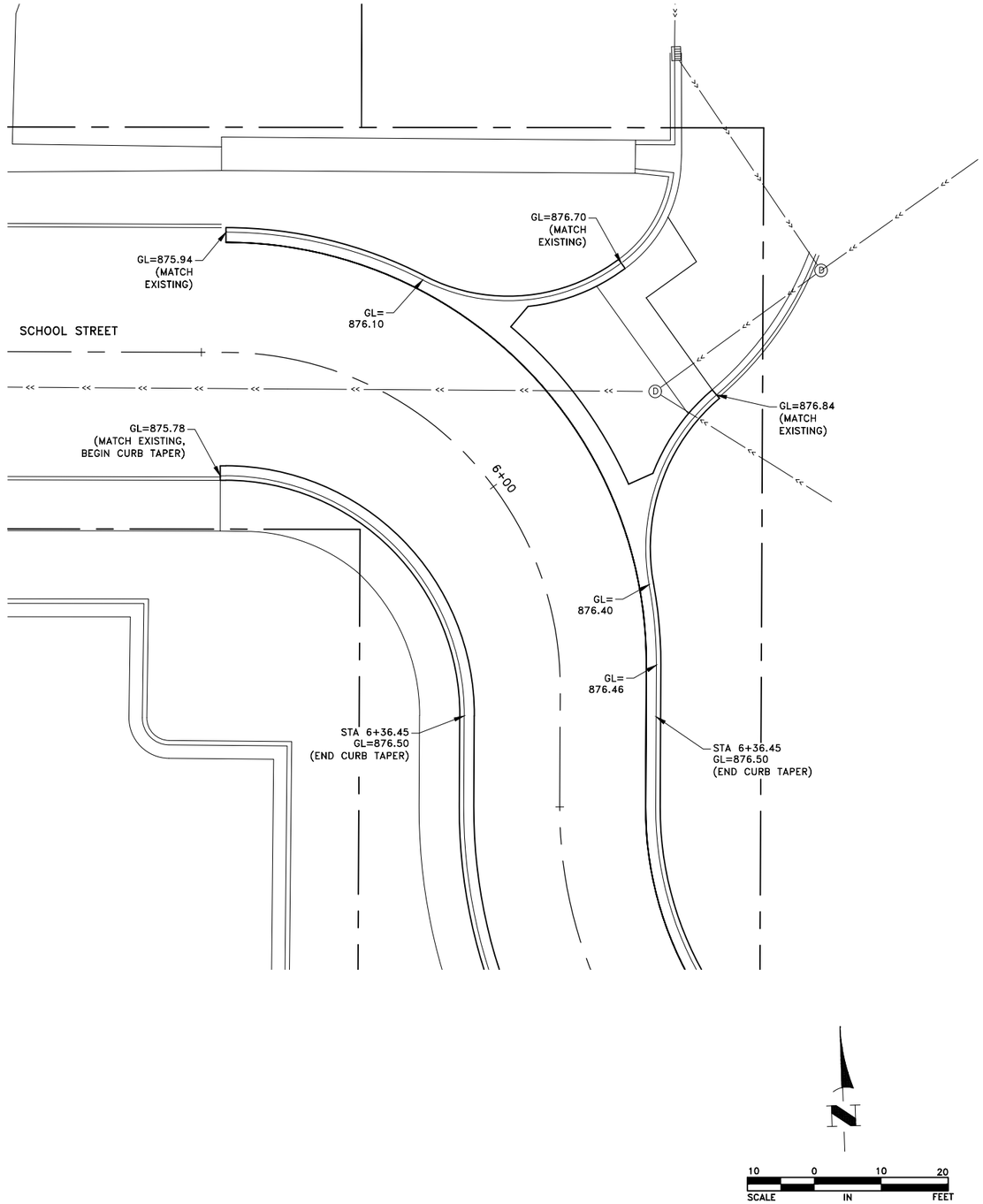


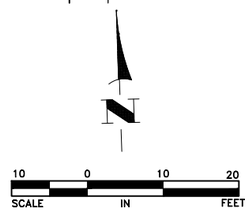





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2021 SWEDE TOWN
STREET RENEWAL PROJECT

INTERSECTION DETAIL

CITY OF ANOKA, MINNESOTA

SHEET 64 OF 65 SHEETS

AN390

Mar 03, 2021 - 6:07pm
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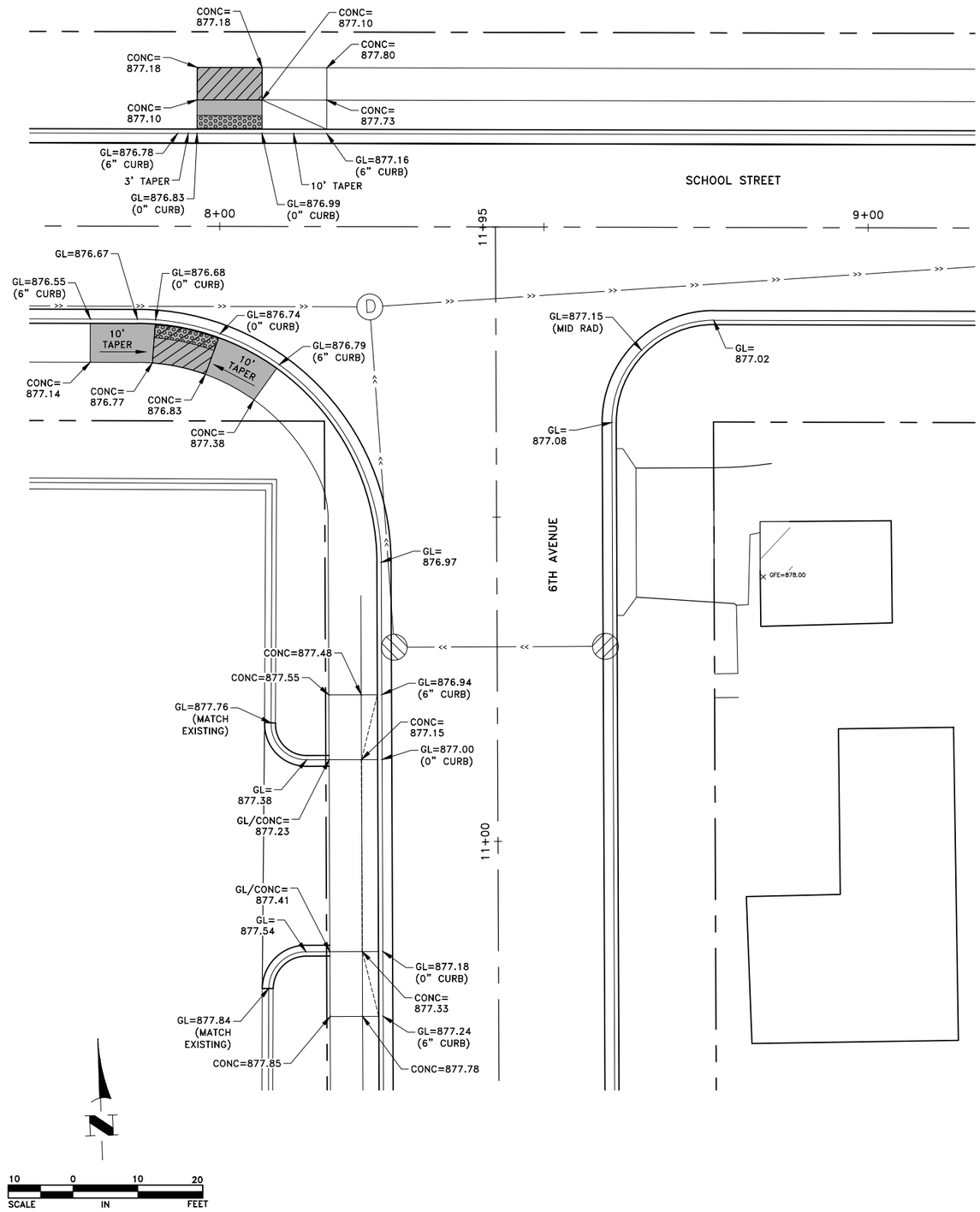
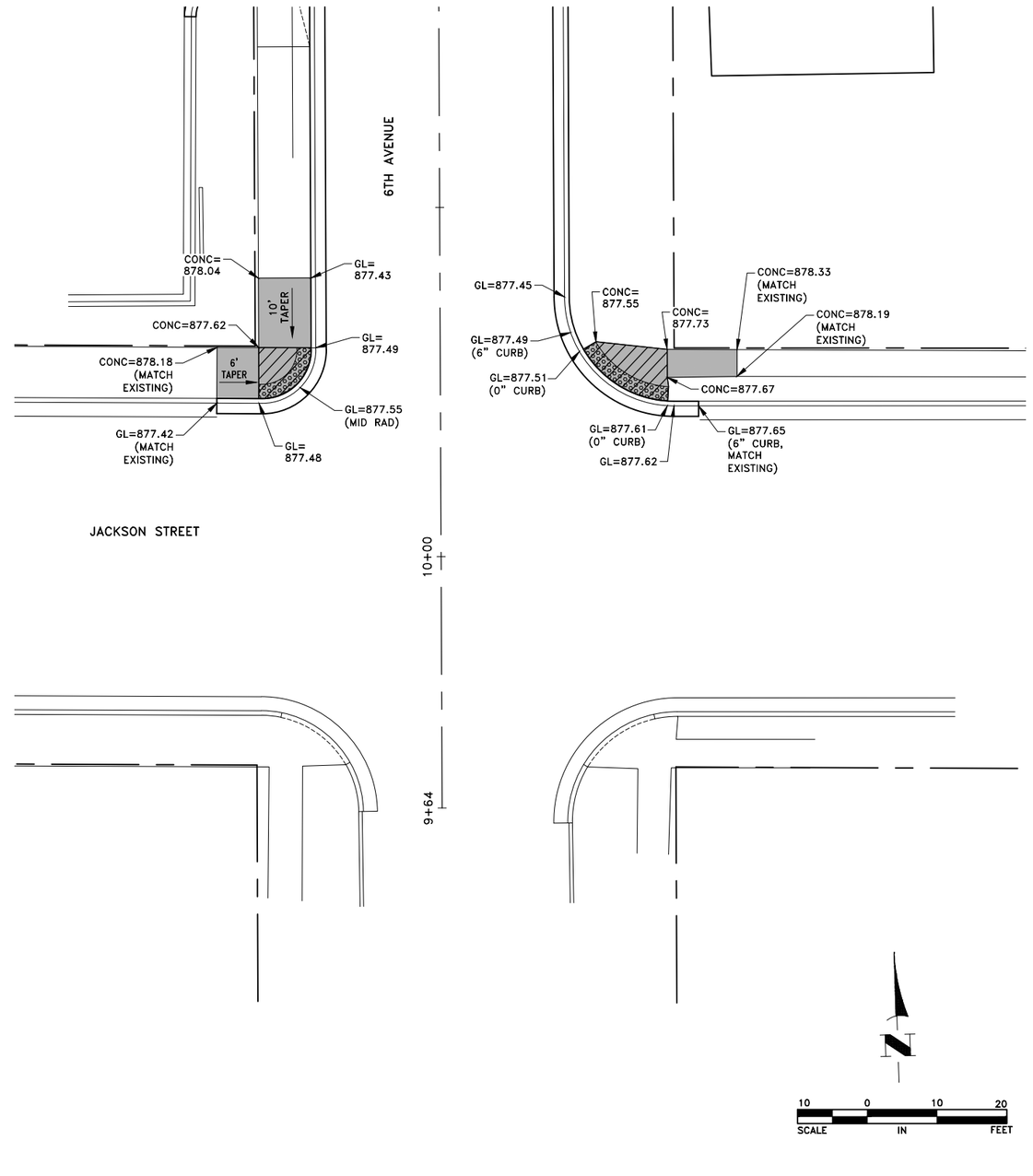
LEGEND

LANDING AREA–MAXIMUM 2% SLOPE IN ALL DIRECTIONS

6" CONCRETE WALK

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SHEET 65 OF 65 SHEETS

AN390


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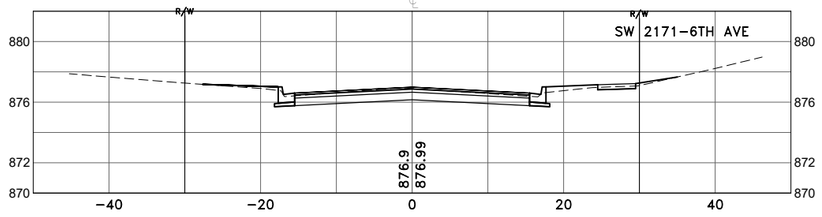


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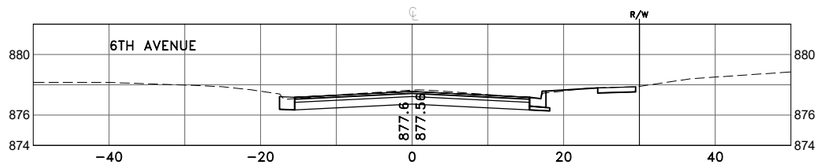


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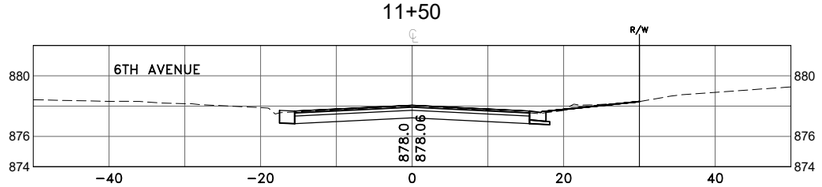


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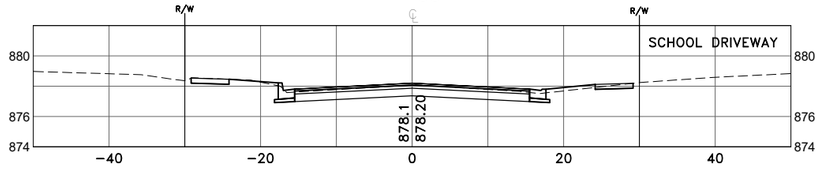


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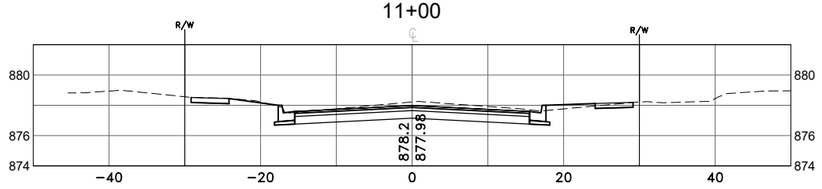


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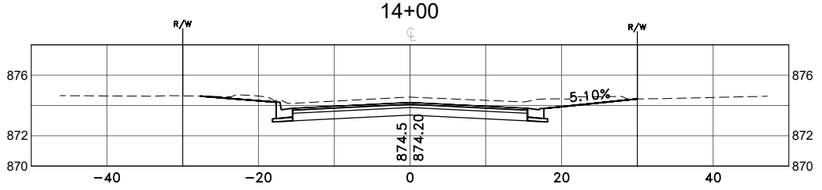


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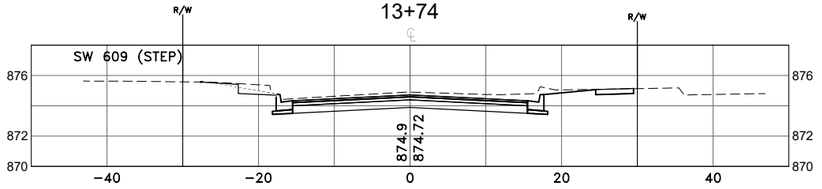


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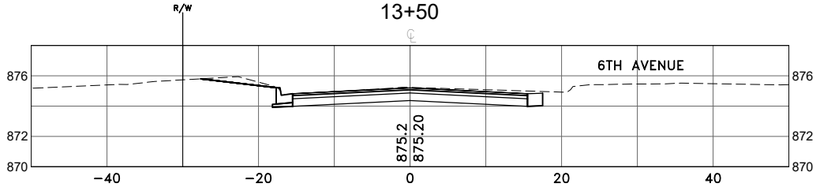


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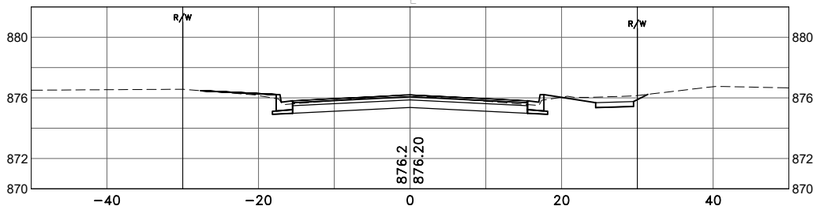


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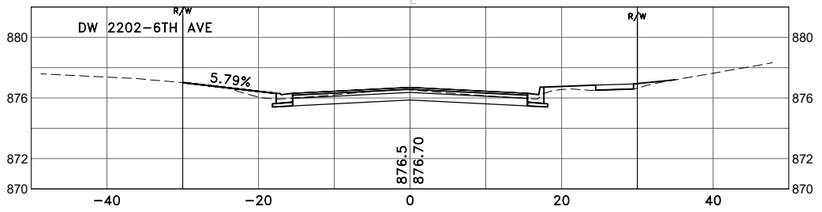


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CHECKED BY: CJJ

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2021 SWEDE TOWN
STREET RENEWAL PROJECT

CROSS SECTIONS

VAN BUREN STREET
CITY OF ANOKA, MINNESOTA

SHEET X1 OF X11 SHEETS

AN390

Mar 03, 2021 - 6:08pm
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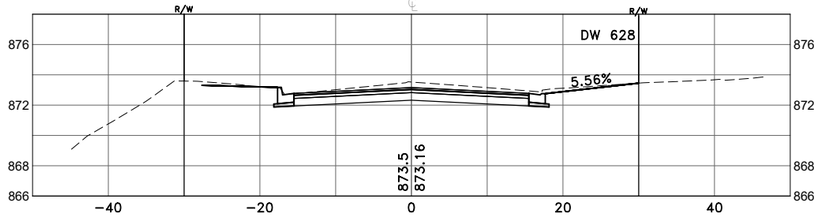


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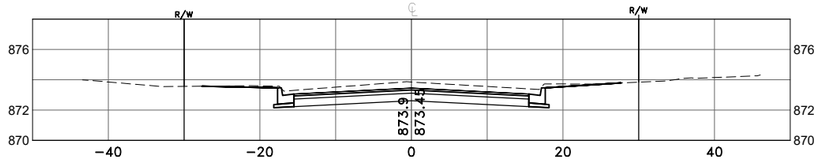


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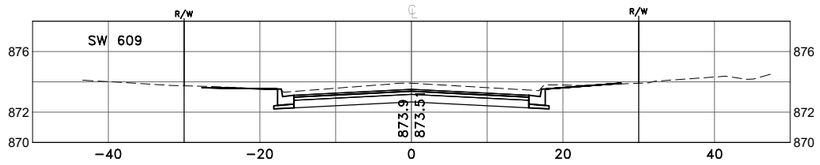


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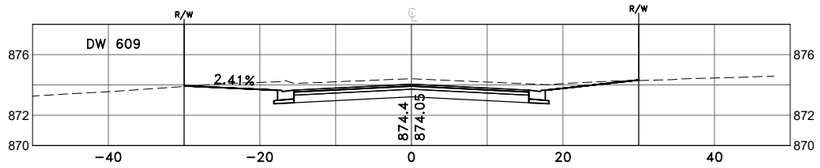


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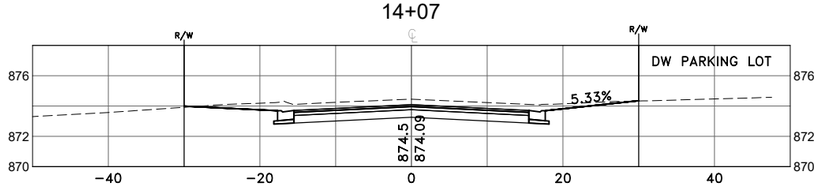


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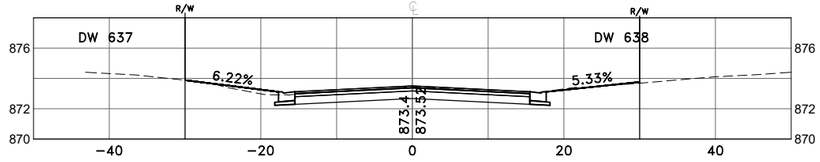


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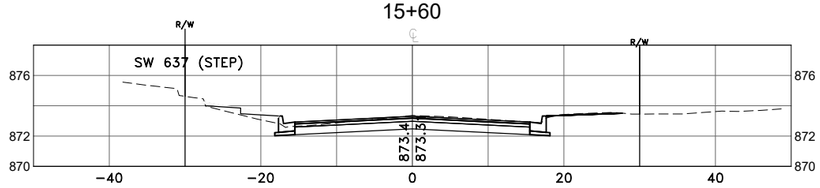


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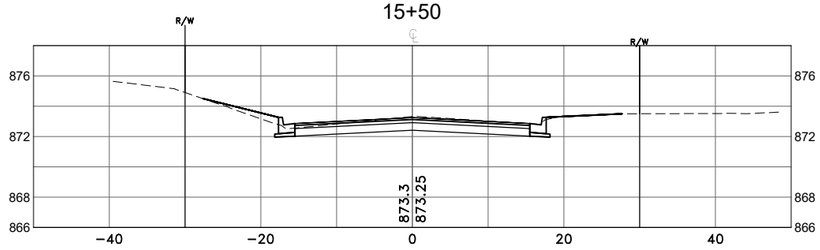


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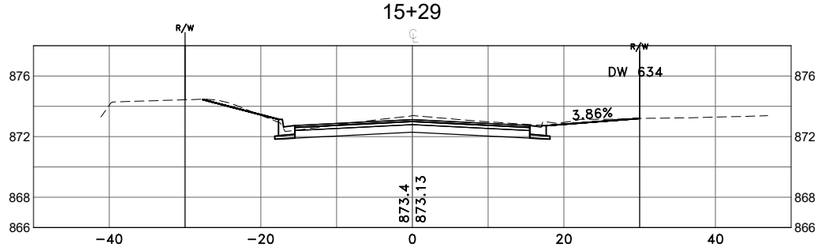


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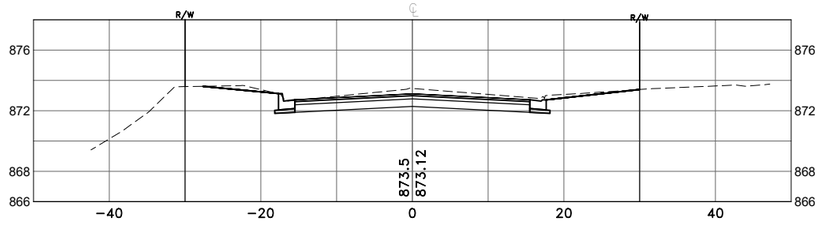


| DATE | REVISION |
|---|---|
| 2/26/21 | ISSUED FOR BID |

DESIGNED BY: TAE
DRAWN BY: DMS
CHECKED BY: CJJ


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2021 SWEDE TOWN
STREET RENEWAL PROJECT

CROSS SECTIONS

VAN BUREN STREET
CITY OF ANOKA, MINNESOTA

SHEET X2 OF X11 SHEETS

AN390

Mar 03, 2021 - 6:08pm
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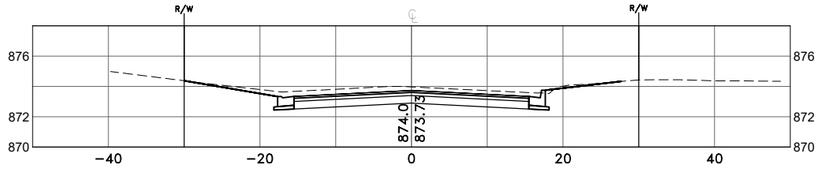


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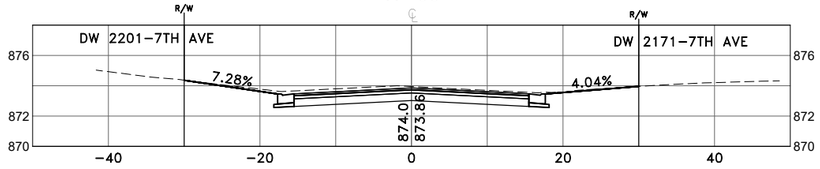


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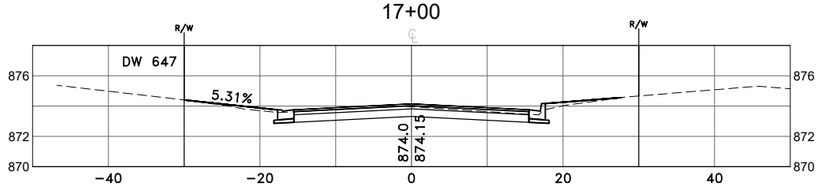


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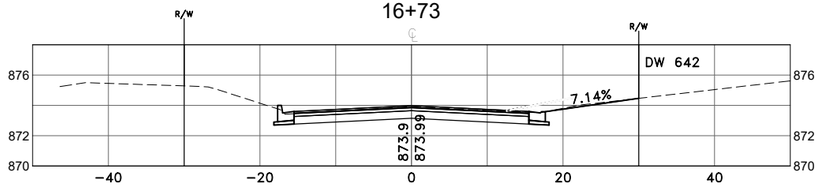


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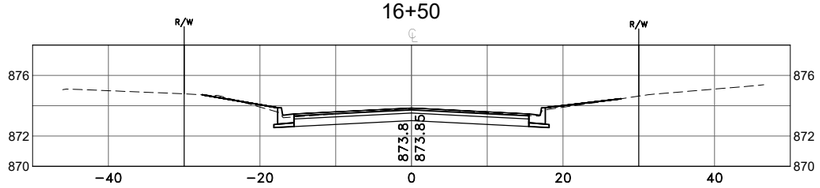


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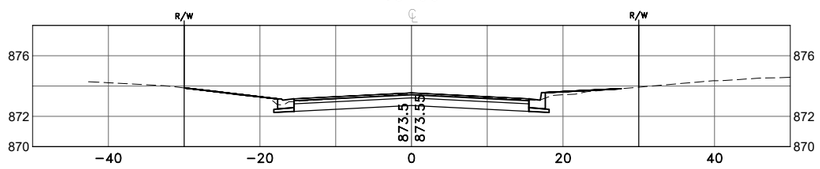


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2021 SWEDE TOWN
STREET RENEWAL PROJECT

CROSS SECTIONS

VAN BUREN STREET
CITY OF ANOKA, MINNESOTA

SHEET X3 OF X11 SHEETS

AN390

Mar 03, 2021 − 6:08pm
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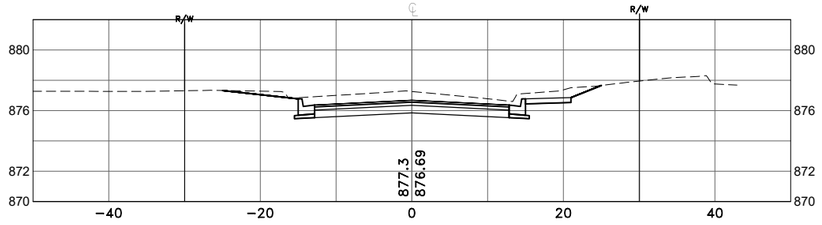


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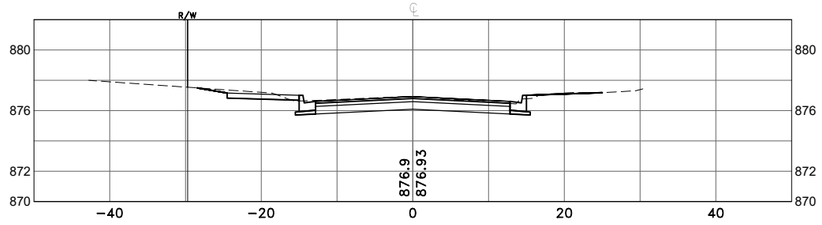


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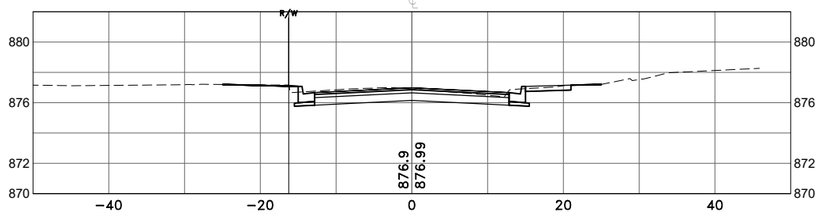


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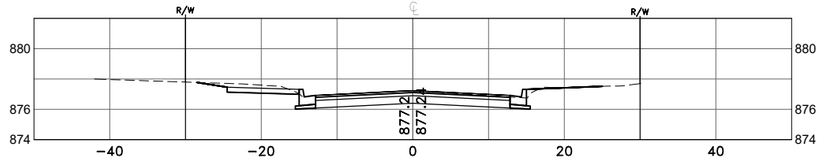


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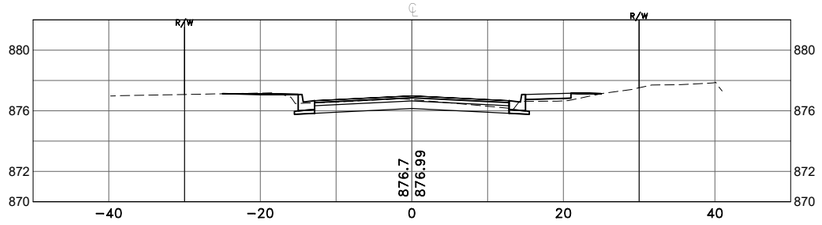


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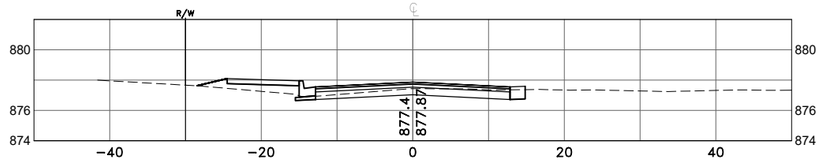


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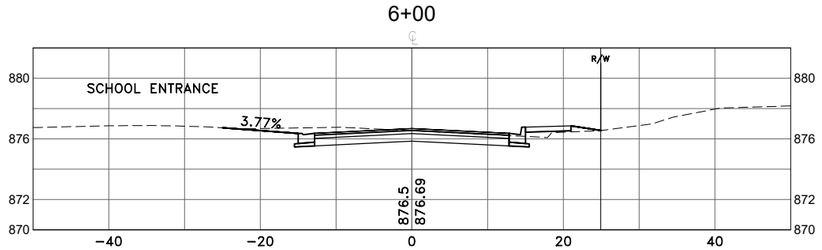


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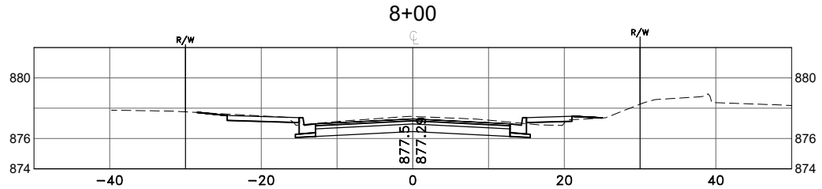


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2021 SWEDE TOWN
STREET RENEWAL PROJECT

CROSS SECTIONS

SCHOOL STREET
CITY OF ANOKA, MINNESOTA

SHEET X4 OF X11 SHEETS

AN390

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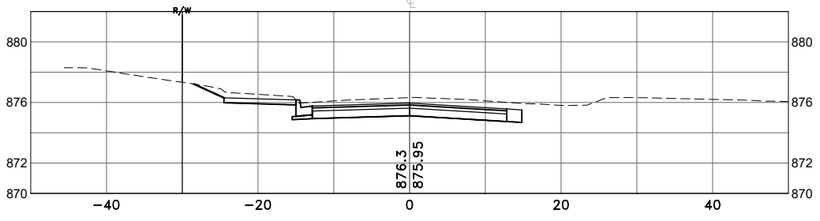


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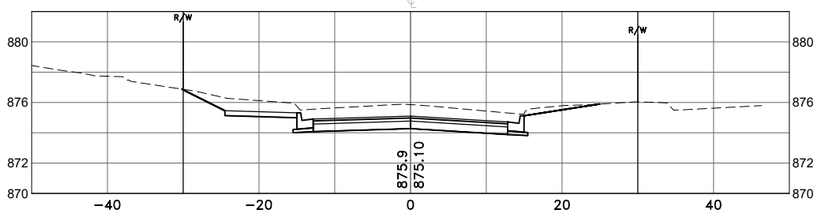


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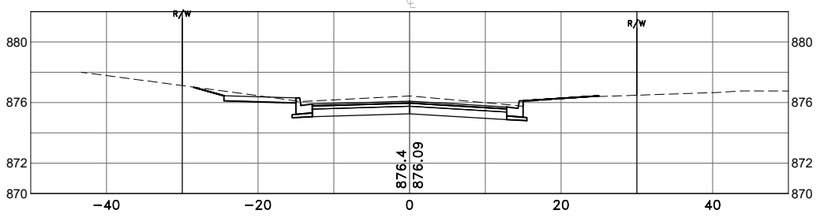


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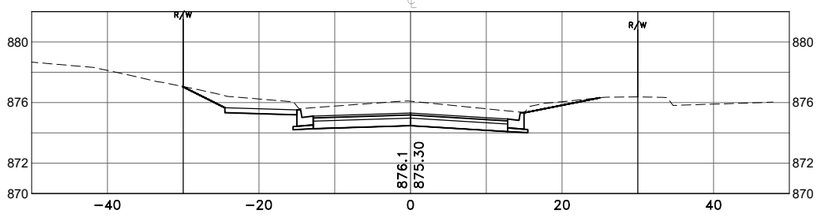


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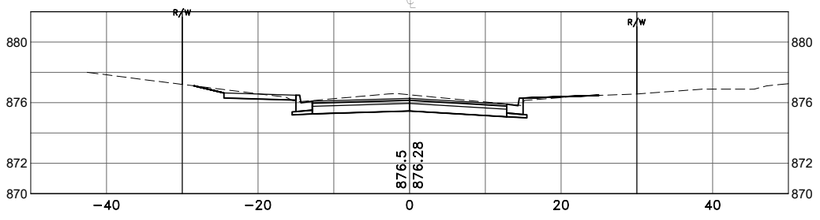


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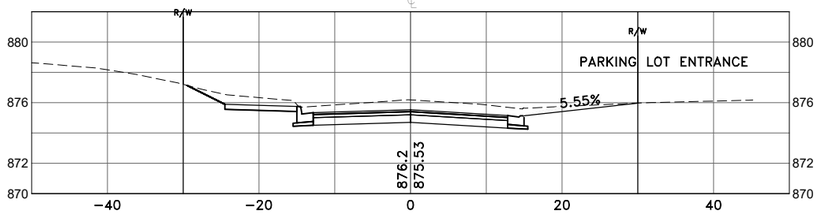


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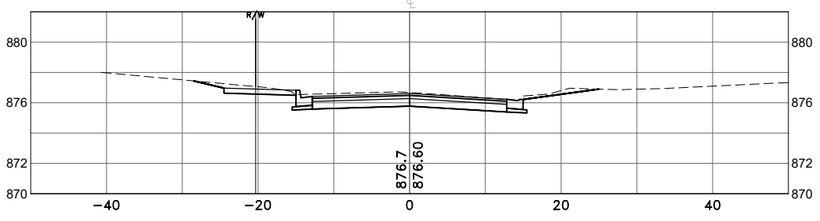


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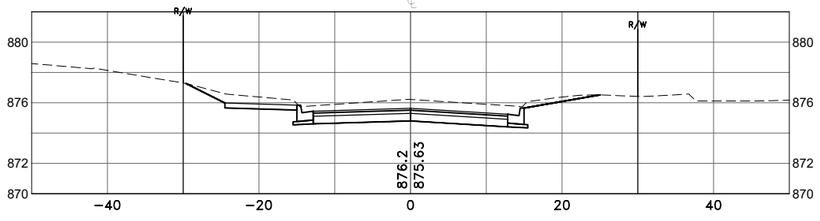


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2021 SWEDE TOWN
STREET RENEWAL PROJECT

CROSS SECTIONS

6TH AVENUE
CITY OF ANOKA, MINNESOTA

SHEET X5 OF X11 SHEETS

AN390

Mar 03, 2021 – 6:08pm
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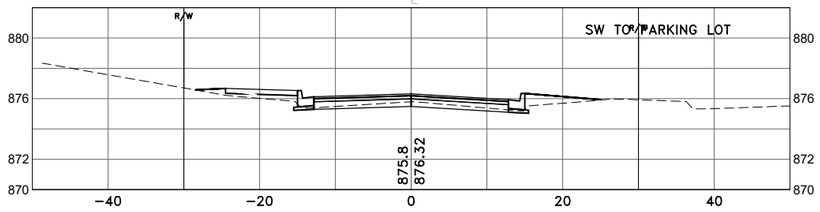


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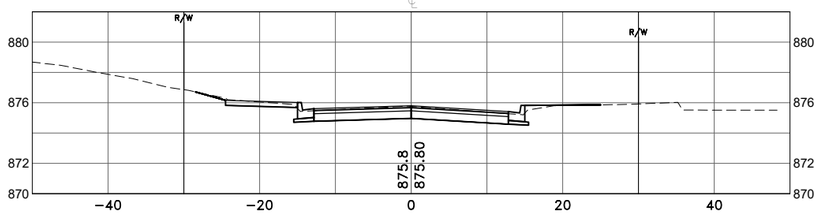


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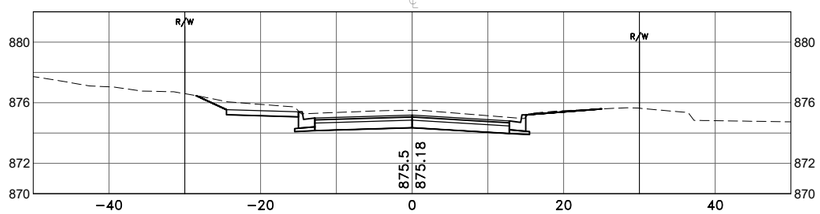


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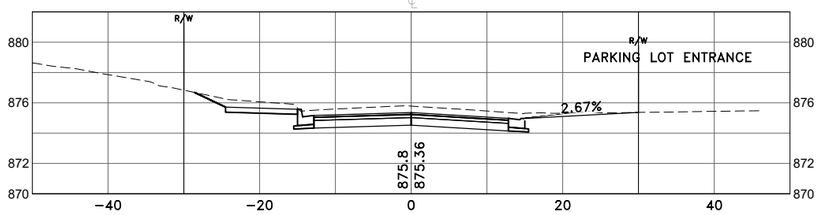


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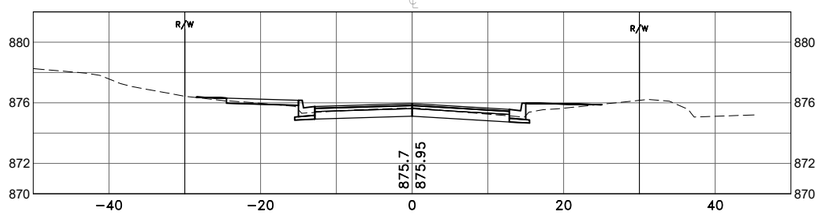


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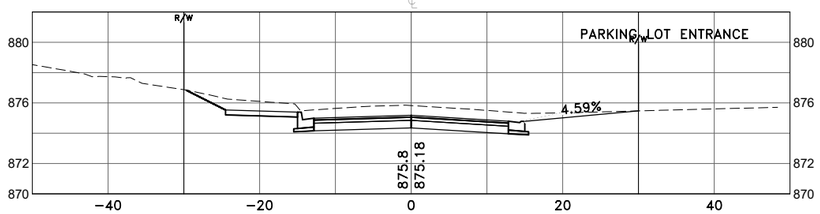


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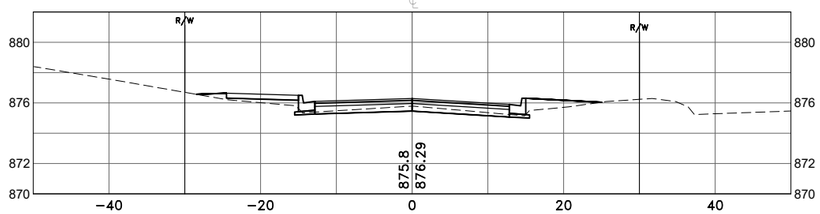


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SHEET X6 OF X11 SHEETS

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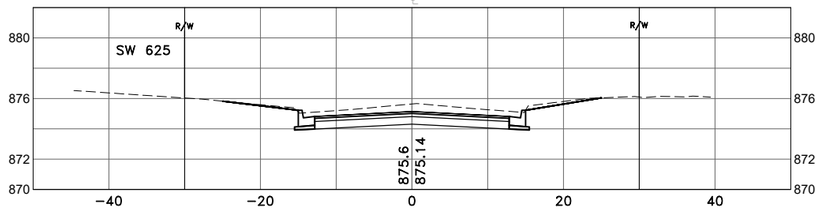


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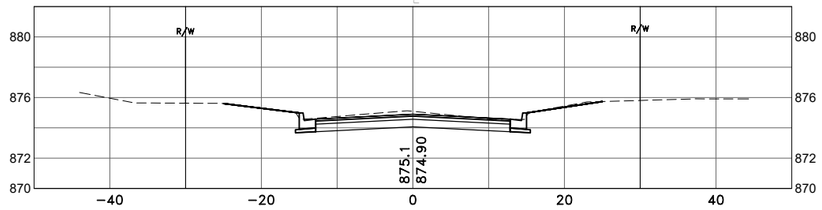


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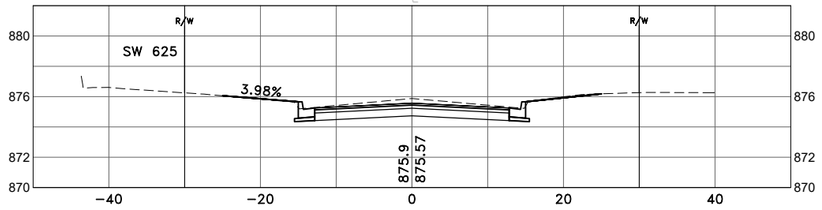


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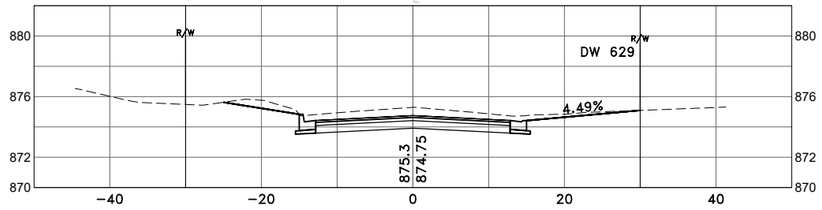


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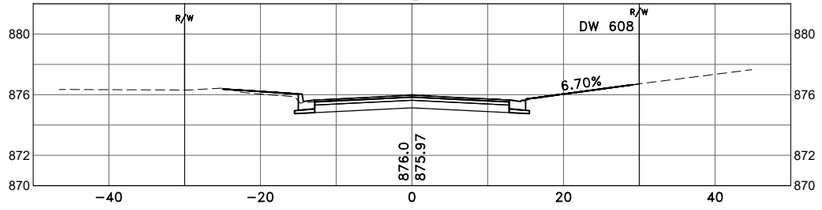


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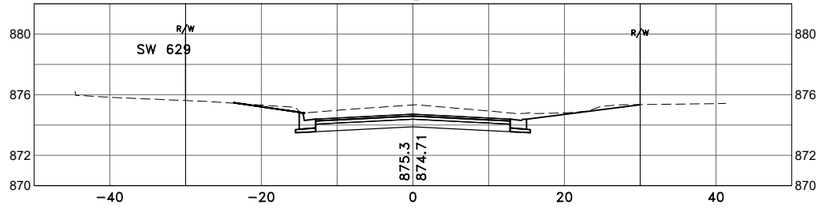


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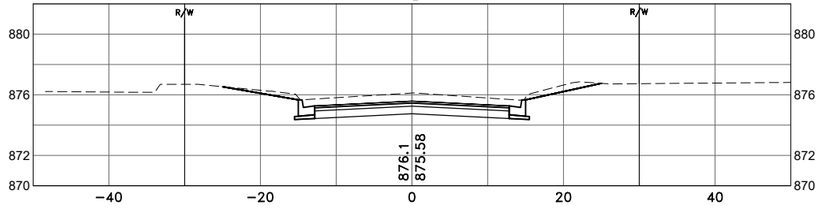


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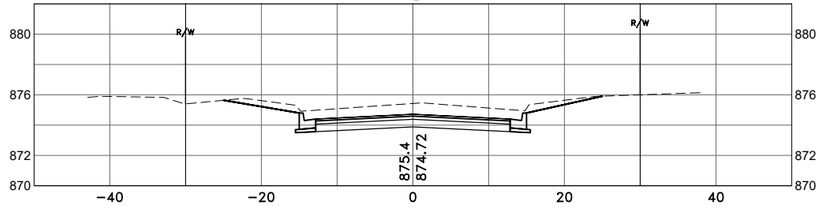


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SHEET X7 OF X11 SHEETS

AN390

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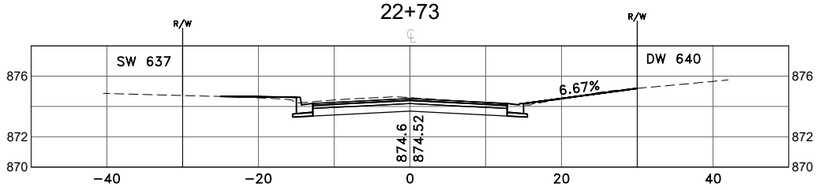


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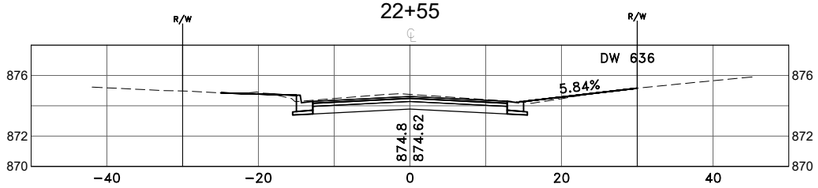


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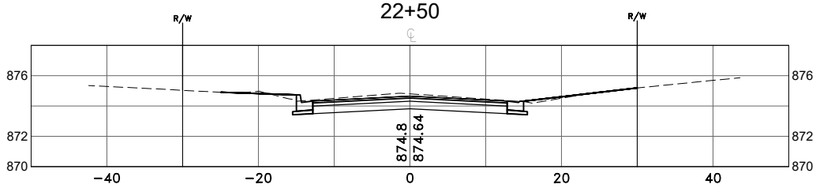


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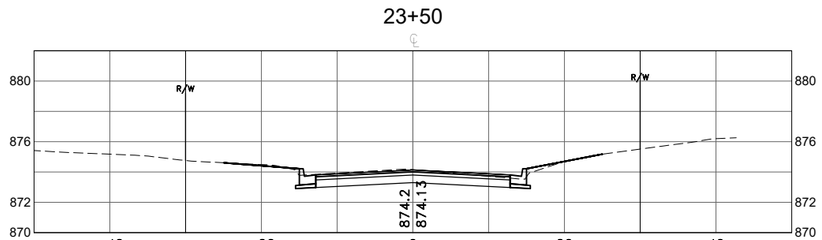


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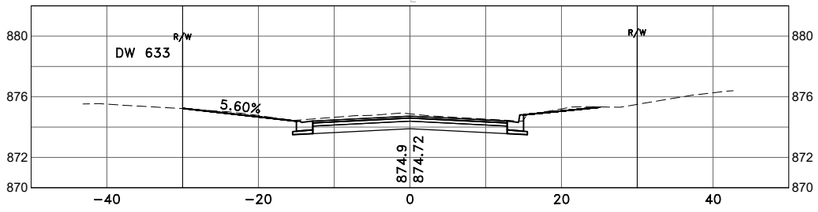


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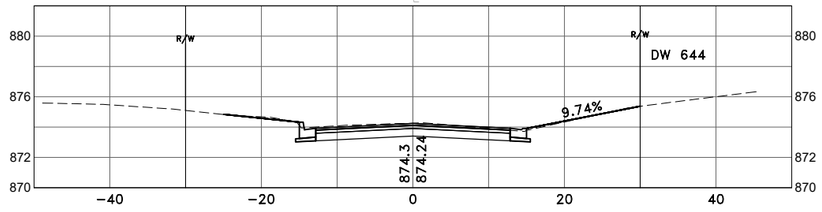


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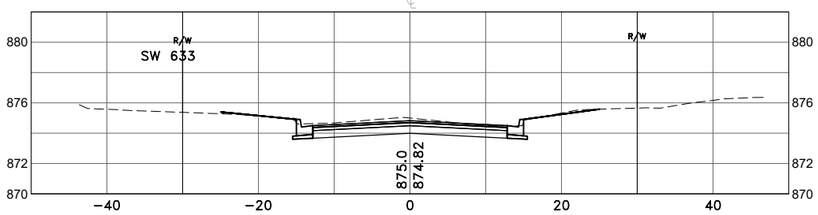


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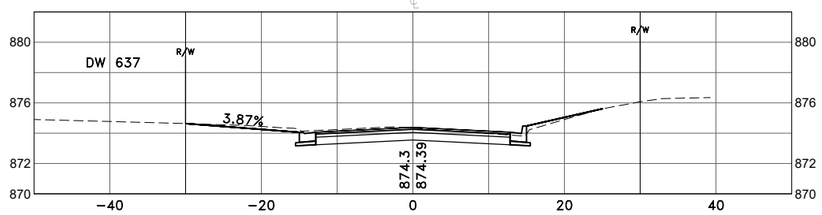


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SCHOOL STREET
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SHEET X8 OF X11 SHEETS

AN390

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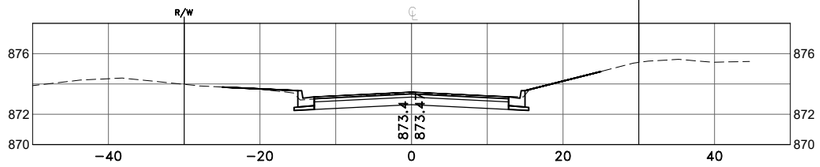


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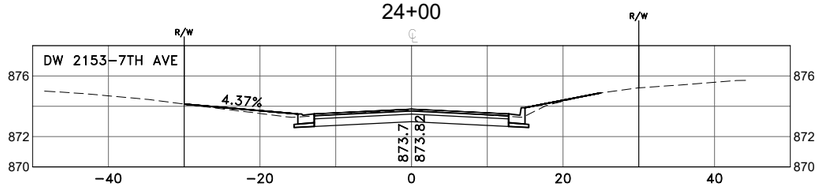


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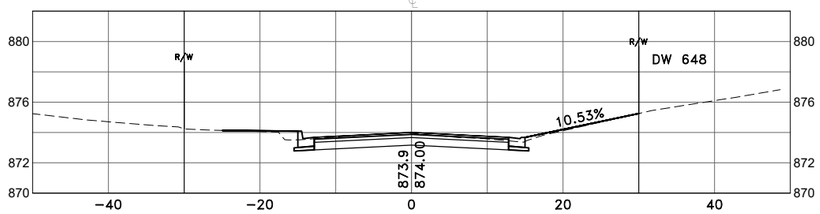


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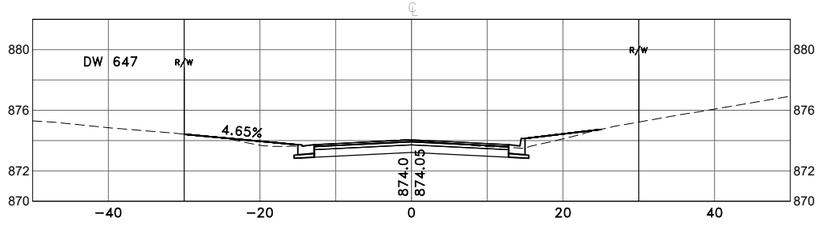


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STREET RENEWAL PROJECT

CROSS SECTIONS

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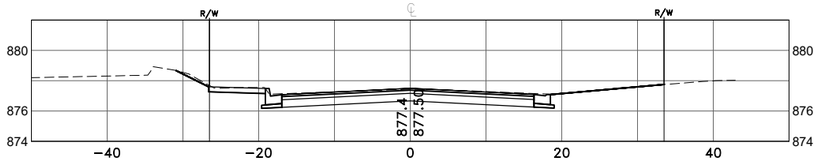
SHEET X9 OF X11 SHEETS

AN390

11+50

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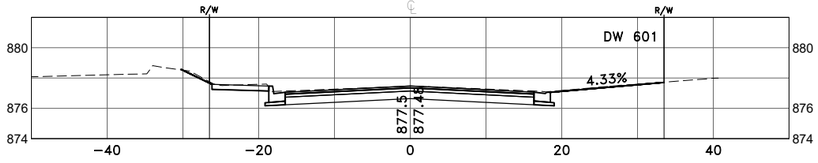


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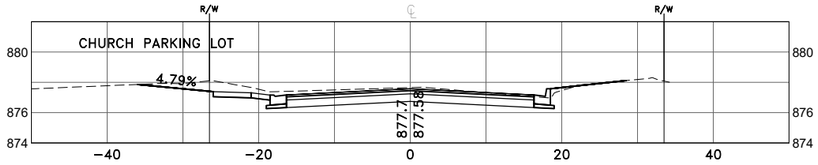


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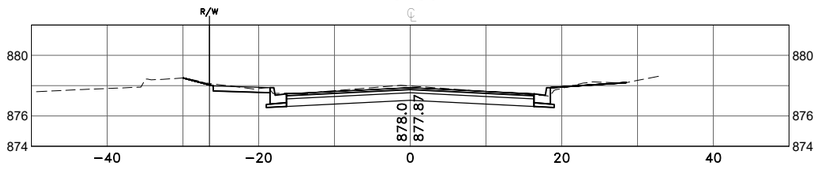


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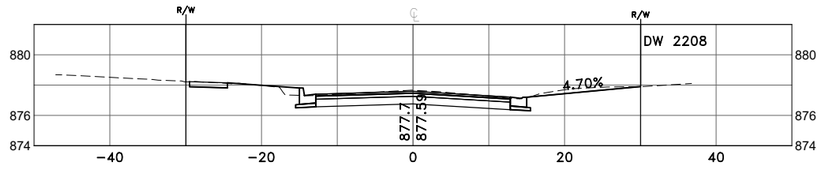


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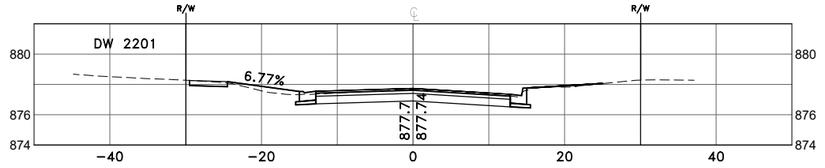


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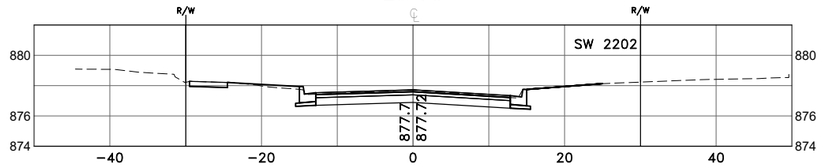


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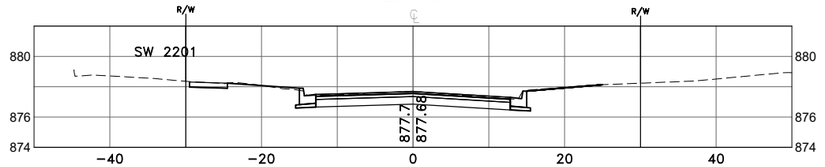


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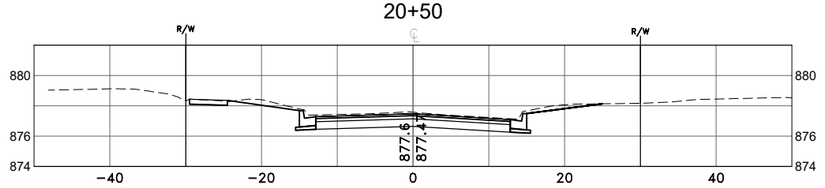


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6TH AVENUE
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SHEET X10 OF X11 SHEETS

AN390

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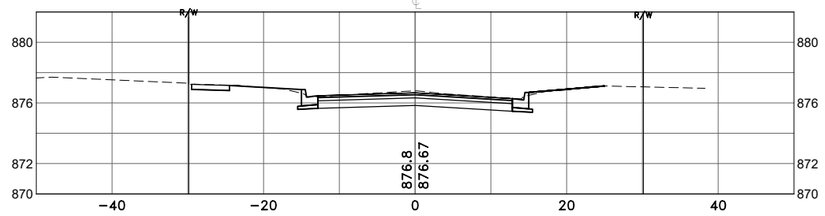


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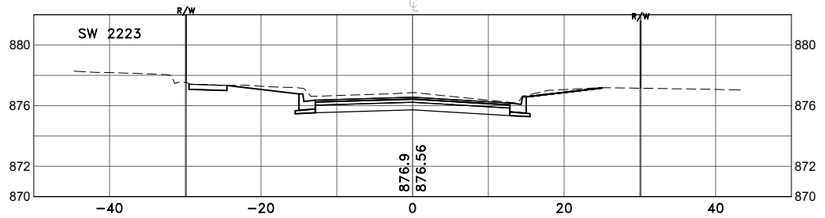


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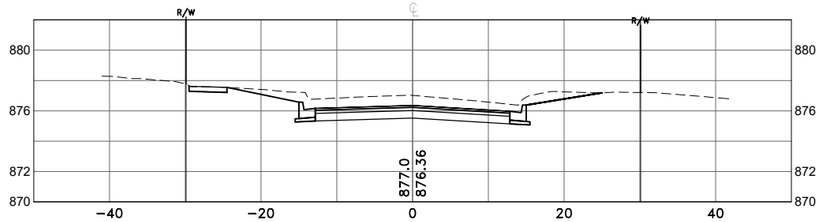


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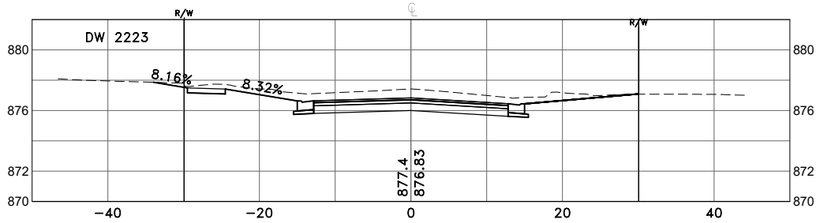


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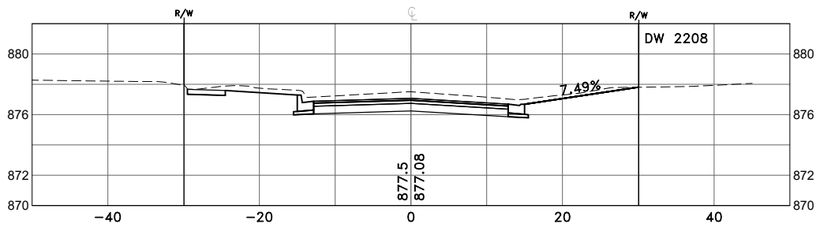


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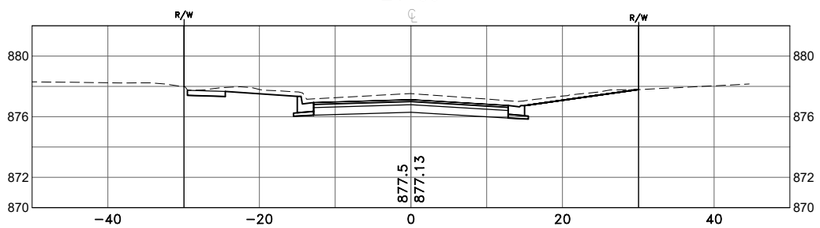


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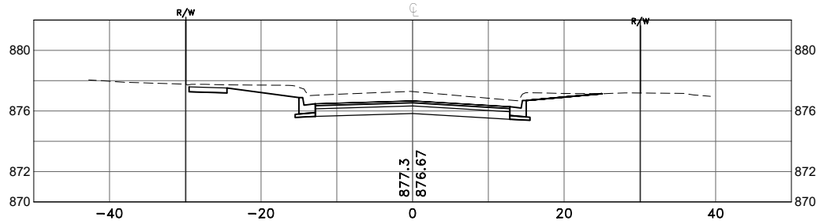


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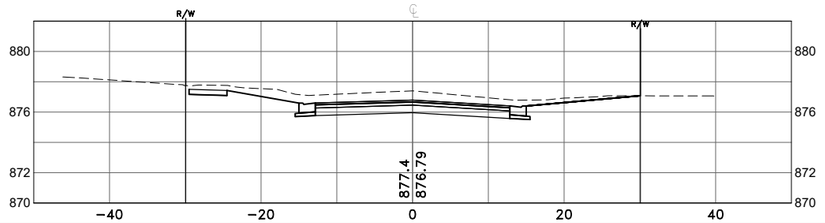


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