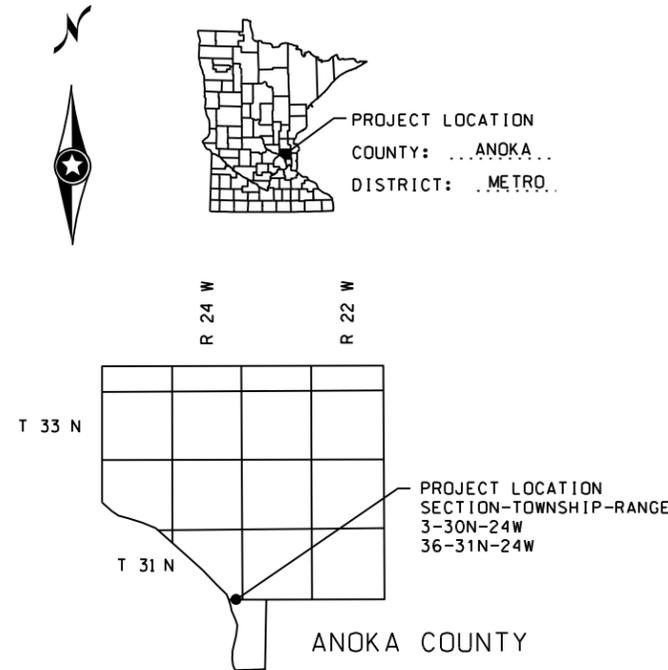
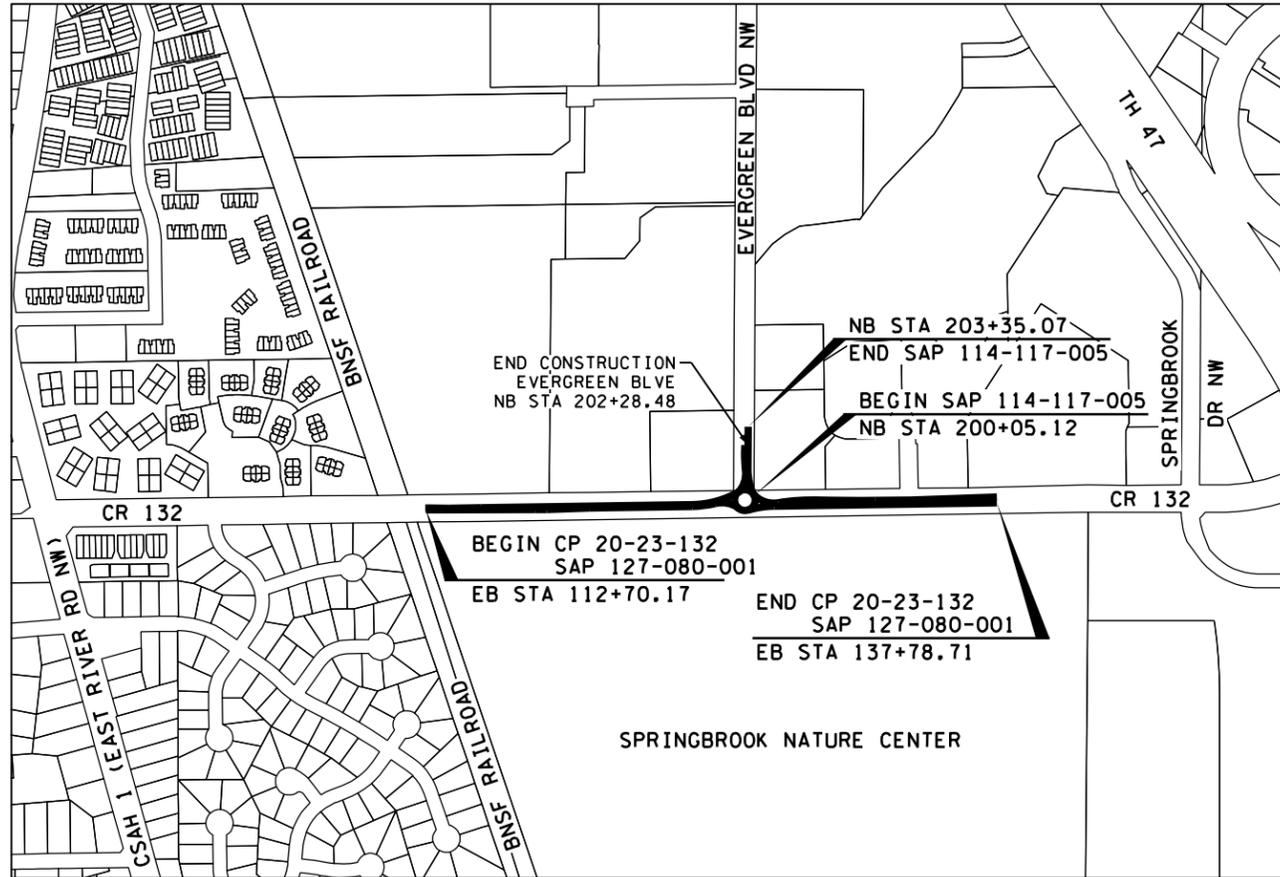


MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY, MINNESOTA

CONSTRUCTION PLAN FOR ROUNDABOUT, GRADING, CONCRETE AND BITUMINOUS SURFACING, DRAINAGE, ADA IMPROVEMENTS, AND LIGHTING

SAP 127-080-001 LOCATED ON CR 132 FROM 1600 FT EAST OF CSAH 1 TO 820 FT WEST OF SPRINGBROOK DR NW
 SAP 114-117-005 LOCATED ON EVERGREEN BLVD NW FROM CR 132 TO 250 FT NORTH OF CR 132



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

INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL LAYOUT
3 - 5	STATEMENT OF ESTIMATED QUANTITIES
6 - 7	QUANTITY TABULATIONS
8	EARTHWORK TABULATION
9	SOILS AND CONSTRUCTION NOTES
10 - 13	STANDARD PLATES
14 - 22	TYPICAL SECTIONS
23 - 25	MISCELLANEOUS DETAILS
26 - 52	STANDARD PLANS
53 - 73	TEMPORARY TRAFFIC CONTROL PLAN
81 - 84	ALIGNMENT PLAN & TABULATIONS
85 - 87	INPLACE TOPOGRAPHY & UTILITIES
88 - 89	REMOVAL PLAN
90 - 91	SIGN REMOVAL PLAN
92 - 96	CONSTRUCTION PLAN & PROFILES
97 - 98	PAVING PLAN
99	CONCRETE PAVEMENT JOINT PLAN
100 - 101	ROUNDABOUT INTERSECTION DETAILS
102 - 103	INTERSECTION DETAILS
104	PEDESTRIAN RAMP DETAILS
105 - 108	DRIVEWAY DETAILS
109 - 113	DRAINAGE PLAN
114 - 118	WATERMAIN PLAN
119 - 125	SIGNING PLAN
126 - 128	STRIPING PLAN
129	LIGHTING PLAN
130 - 132	STORMWATER POLLUTION PREVENTION PLAN
133 - 135	TURF ESTABLISHMENT & EROSION CONTROL PLAN
X1 - X13	CROSS SECTIONS

THIS PLAN CONTAINS 148 SHEETS.

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



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

PRINTED NAME: ANDREW J. PLOWMAN, PE
 LICENSE NO. 44200

APPROVED: ANOKA COUNTY ENGINEER
 Joseph MacPherson

APPROVED: COON RAPIDS CITY ENGINEER
 Mark Hansen

APPROVED: FRIDLEY CITY ENGINEER
 James Kosluchar

DISTRICT STATE AID ENGINEER REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY
 Lucas Lortie

STATE AID ENGINEER APPROVED FOR STATE AID FUNDING
 Lucas Lortie

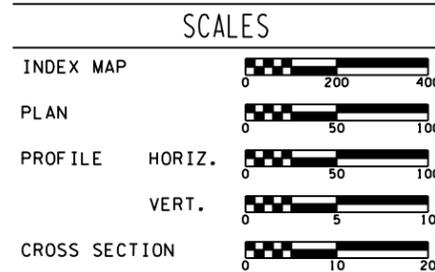
DESIGN DESIGNATION CR 132 EVERGREEN BLVD NW
 CP 20-23-132 (MSAS 117)
 SAP 127-080-001 SAP 114-117-005

GROSS LENGTH	2508.54' = 0.475 MILES	329.95' = 0.062 MILES
BRIDGES-LENGTH	NA	NA
EXCEPTIONS-LENGTH	NA	NA
NET LENGTH	2508.54' = 0.475 MILES	329.95' = 0.062 MILES

NOTE: LENGTH BASED ON EASTBOUND AND NORTHBOUND ALIGNMENTS.

R VALUE	45	45
ADT (Current Year) 2024	7620	2480
ADT (Future Year) 2044	8030	3990
D (DIRECTIONAL DISTR.)	50/50	50/50
HEAVY COMMERCIAL	4.21%	3.94%
ESALS	1,471,000	543,000
DESIGN SPEED	50 MPH	40 MPH
BASED ON SIGHT DISTANCE	STOPPING	STOPPING
HEIGHT OF EYE / HEIGHT OF OBJECT	3.5' / 2.0'	3.5' / 2.0'
FUNCTIONAL CLASS	MAJOR COLLECTOR	MAJOR COLLECTOR
NO. OF TRAFFIC LANES	1-2 (12')	2 (18')
NO. OF PARKING LANES	0	0
SHOULDER WIDTH	4'-6"	XX
TON DESIGN	10	10
DESIGN SPEED NOT ACHIEVED AT	ROUNDABOUT	ROUNDABOUT

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY



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

CP 20-23-132, SAP 114-117-005, SAP 127-080-001
 SHEET NO. 1 OF 135 SHEETS

PLOTTED/REVISED: 12/29/2023 12:20:36 PM

PATH & FILENAME: Projects\Minnesota\02\204-000\Corr\Plan\2\204-000_1.sht.dgn

STATEMENT OF ESTIMATED QUANTITIES

NOTES:

Table with columns: TAB ID, SHEET NO., ITEM, DESCRIPTION, NOTES, UNIT, PROJECT TOTAL, ANOKA COUNTY CP 20-23-132, PARTICIPATING - STATE AID (COON RAPIDS, FRIDLEY, STORM SEWER), COON RAPIDS WATER MAIN (LOCAL). Includes items like MOBILIZATION, GRUBBING, PAVEMENT MARKING REMOVAL, etc.

- (A) 33.75% COUNTY, 55.36% SAP 114-117-005, 10.89% SAP 127-080-001
(1) NO TREES SHALL BE CLEARED OR GRUBBED WITHOUT THE ENGINEERS APPROVAL
(2) TO BE USED FOR SURFACE CLEANING AND/OR AS DIRECTED BY THE ENGINEER

Table with columns: NO., DATE, BY, CHK, REVISIONS. Includes revision history for tree clearing and ditch grading.

Design By: AJP, Plan By: AJP, Checked By: AJP, Approved By: AJP. Includes a signature and date: 2/1/2024, LICENSE # 44200.

wsb logo, ANOKA COUNTY logo, CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements, Anoka County Highway Department.

ANOKA COUNTY, MINNESOTA
STATEMENT OF ESTIMATED QUANTITIES
CP 20-23-132, SAP 114-117-005, SAP 127-080-001

1/29/2024 10:59:58 AM

WSB PATH & FILENAME: Projects\Minnesota\2024\CP20-23-132\CP20-23-132-000.dwg

STATEMENT OF ESTIMATED QUANTITIES

NOTES:

Main table with columns: TAB ID, SHEET NO., ITEM, DESCRIPTION, NOTES, UNIT, PROJECT TOTAL, ANOKA COUNTY CP 20-23-132, PARTICIPATING - STATE AID (COON RAPIDS, FRIDLEY, STORM SEWER), COON RAPIDS WATER MAIN (LOCAL). Includes items like TRASH GUARD, RC PIPE SEWER, WATERMAIN, and CONCRETE WALK.

- (A) 33.75% COUNTY, 55.36% SAP 114-117-005, 10.89% SAP 127-080-001
(1) NO TREES SHALL BE CLEARED OR GRUBBED WITHOUT THE ENGINEERS APPROVAL
(2) TO BE USED FOR SURFACE CLEANING AND/OR AS DIRECTED BY THE ENGINEER

Revisions table with columns: NO., DATE, BY, CHK, REVISIONS. Includes entries for updating watermain quantities and connections.

Design By: AJP, Plan By: AJP, Checked By: AJP, Approved By: AJP. Includes a signature and date: 1/29/2024, LICENSE # 44200.



CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
STATEMENT OF ESTIMATED QUANTITIES
CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET 4R OF 135 SHEETS

PLOTTED/REVISED: 1/22/2024 10:27:17 AM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\Coon Rapids\21204-000_estimate

STATEMENT OF ESTIMATED QUANTITIES

NOTES:

Table with columns: TAB ID, SHEET NO., ITEM, DESCRIPTION, NOTES, UNIT, PROJECT TOTAL, ANOKA COUNTY CP 20-23-132, PARTICIPATING - STATE AID (COON RAPIDS, FRIDLEY, STORM SEWER), COON RAPIDS WATER MAIN (LOCAL). Rows include items like STORM DRAIN INLET PROTECTION, SILT FENCE, SOIL BED PREPARATION, SEED MIXTURE, and PAVT MSSG.

- (A) 33.75% COUNTY, 55.36% SAP 114-117-005, 10.89% SAP 127-080-001
(1) NO TREES SHALL BE CLEARED OR GRUBBED WITHOUT THE ENGINEERS APPROVAL
(2) TO BE USED FOR SURFACE CLEANING AND/OR AS DIRECTED BY THE ENGINEER
(3) TO BE USED FOR MINOR DITCH CLEANING AND/OR AS DIRECTED BY THE ENGINEER
(4) TO BE USED FOR DUST CONTROL AND/OR AS DIRECTED BY THE ENGINEER
(5) TO BE USED UNDER DRIVEWAYS
(6) COLORED CONCRETE, INTEGRAL RED (FS 31136).
(7) TO BE USED IN PEDESTRIAN RAMPS AND LANDINGS PER MN/DOT STANDARD PLAN 5-297.250
(8) INCLUDES QUANTITY FOR CONCRETE WALKS, MEDIANS, AND BOULEVARDS
(9) SEE DETAIL IN TYPICAL SECTIONS
(10) SEE TABULATION FOR COLOR
(11) PLUG AND FILL WITH SAND, CONTRACTOR TO GPS LOCATE ABANDONED WATER MAIN AND PROVIDE DATA TO COUNTY.
(12) TO BE USED AT THE DIRECTION OF THE ENGINEER.
(P) PLAN QUANTITY

△

Table with columns: NO., DATE, BY, CHK, REVISIONS. Row 1: 1, 2024/01/22, AJF, AJP, UPDATE ITEM DESCRIPTION TO MATCH TABULATION

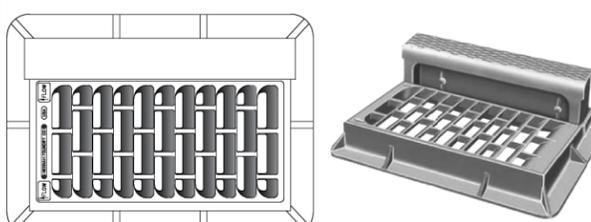
Design By: AJP
Plan By: AJF
Checked By: AJP
Approved By: AJP
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: ANDREW J. FLOWMAN
DATE: 1/22/2024 LICENSE #: 44200

wsb logo, ANOKA COUNTY logo, CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements, Anoka County Highway Department

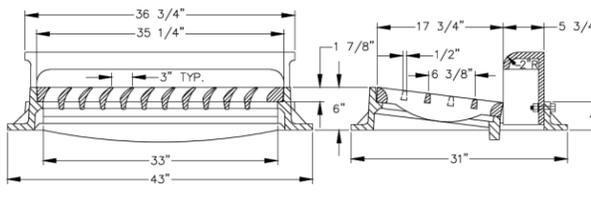
ANOKA COUNTY, MINNESOTA
STATEMENT OF ESTIMATED QUANTITIES
CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET 5R OF 135 SHEETS

R-3067-L NEENAH COMBINATION INLET FRAME, GRATE, CURB BOX. IF NEEDED R-3067-L LOW PROFILE FRAME ESS BROS.



TYPE L GRATE

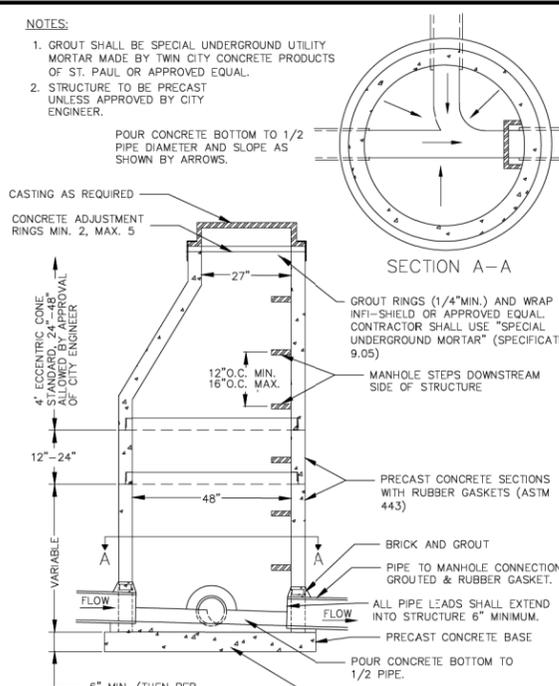


NOTE: LOW POINTS SHALL HAVE A TYPE L BI-DIRECTIONAL GRATE.

COON RAPIDS Minnesota
 DRAWN: R.L.S. DATE: 1/31/2019 SCALE: NONE PLATE NO: STM-7

NOTES:
 1. GROUT SHALL BE SPECIAL UNDERGROUND UTILITY MORTAR MADE BY TWIN CITY CONCRETE PRODUCTS OF ST. PAUL OR APPROVED EQUAL.
 2. STRUCTURE TO BE PRECAST UNLESS APPROVED BY CITY ENGINEER.

POUR CONCRETE BOTTOM TO 1/2 PIPE DIAMETER AND SLOPE AS SHOWN BY ARROWS.



SECTION A-A

CASTING AS REQUIRED
 CONCRETE ADJUSTMENT RINGS MIN. 2, MAX. 5

4" ECCENTRIC CONE STANDARD, 24"-48" ALLOWED BY APPROVAL OF CITY ENGINEER

GROUT RINGS (1/4" MIN.) AND WRAP WITH INFIL-SHIELD OR APPROVED EQUAL. CONTRACTOR SHALL USE "SPECIAL UNDERGROUND MORTAR" (SPECIFICATION 9.05)

MANHOLE STEPS DOWNSTREAM SIDE OF STRUCTURE

12" O.C. MIN. 16" O.C. MAX.

PRECAST CONCRETE SECTIONS WITH RUBBER GASKETS (ASTM 443)

BRICK AND GROUT

PIPE TO MANHOLE CONNECTION, GROUTED & RUBBER GASKET.

ALL PIPE LEADS SHALL EXTEND INTO STRUCTURE 6" MINIMUM.

PRECAST CONCRETE BASE

POUR CONCRETE BOTTOM TO 1/2 PIPE.

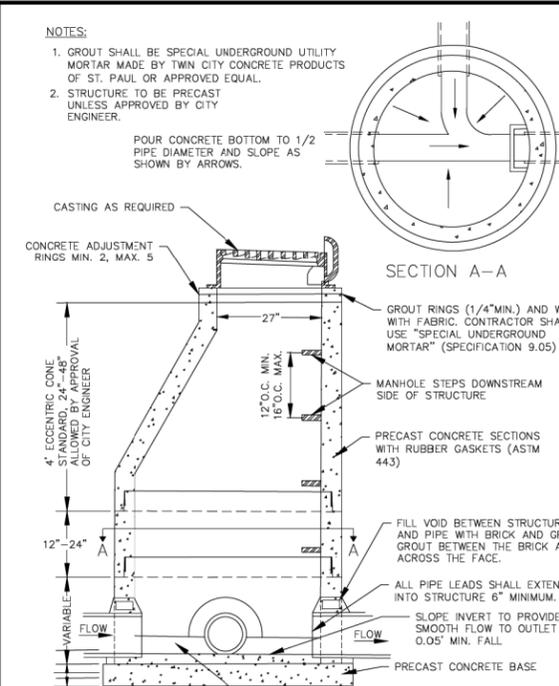
SLOPE INVERT TO PROVIDE SMOOTH FLOW TO OUTLET 0.05' MIN. FALL.

6" MIN. (THEN PER MnDOT DETAIL 4011E).

COON RAPIDS Minnesota
 DRAWN: R.L.S. DATE: 1/29/2019 SCALE: NONE PLATE NO: STM-8

NOTES:
 1. GROUT SHALL BE SPECIAL UNDERGROUND UTILITY MORTAR MADE BY TWIN CITY CONCRETE PRODUCTS OF ST. PAUL OR APPROVED EQUAL.
 2. STRUCTURE TO BE PRECAST UNLESS APPROVED BY CITY ENGINEER.

POUR CONCRETE BOTTOM TO 1/2 PIPE DIAMETER AND SLOPE AS SHOWN BY ARROWS.



SECTION A-A

CASTING AS REQUIRED
 CONCRETE ADJUSTMENT RINGS MIN. 2, MAX. 5

4" ECCENTRIC CONE STANDARD, 24"-48" ALLOWED BY APPROVAL OF CITY ENGINEER

GROUT RINGS (1/4" MIN.) AND WRAP WITH FABRIC. CONTRACTOR SHALL USE "SPECIAL UNDERGROUND MORTAR" (SPECIFICATION 9.05)

MANHOLE STEPS DOWNSTREAM SIDE OF STRUCTURE

PRECAST CONCRETE SECTIONS WITH RUBBER GASKETS (ASTM 443)

FILL VOID BETWEEN STRUCTURE AND PIPE WITH BRICK AND GROUT. GROUT BETWEEN THE BRICK AND ACROSS THE FACE.

ALL PIPE LEADS SHALL EXTEND INTO STRUCTURE 6" MINIMUM.

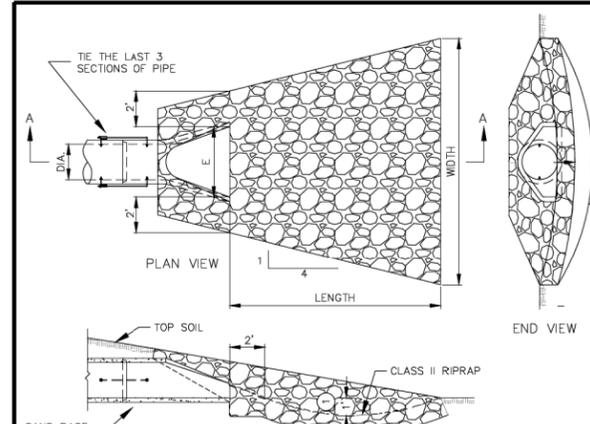
SLOPE INVERT TO PROVIDE SMOOTH FLOW TO OUTLET 0.05' MIN. FALL.

PRECAST CONCRETE BASE

6" MIN. (THEN PER MnDOT DETAIL 4011E).

POUR CONCRETE BOTTOM TO 1/2 PIPE.

COON RAPIDS Minnesota
 DRAWN: R.L.S. DATE: 1/29/2019 SCALE: NONE PLATE NO: STM-11



PLAN VIEW

END VIEW

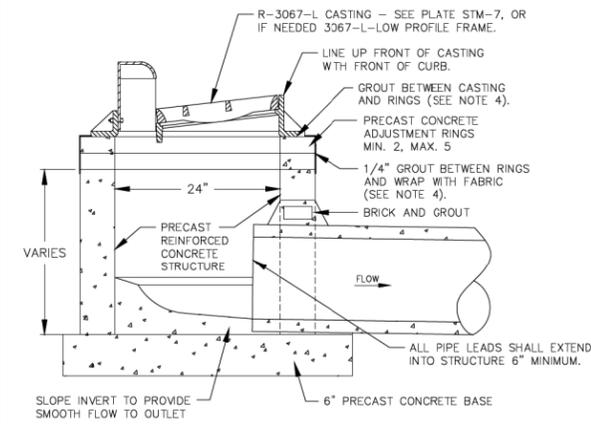
SECTION A-A

TABLE OF QUANTITIES FOR RIPRAP (RIPRAP TO BE FIELD STONE OR GRANITE)

DIA. OF PIPE (N.)	LENGTH (FEET)	WIDTH (FEET)	E-WIDTH F.E.S.(N.)	DEPTH CL. II RIPRAP(CU.YDS.)
12	8	10	24	2.8
15	8	10.5	30	2.9
18	10	12	36	3.9
21	10	12.5	42	4.2
24	12	14	48	5.5
27	12	14.5	54	5.8
30	14	16	60	7.3
36	16	18	72	9.2
42	18	19.5	78	10.9
48	20	21	84	12.9

PIPE SIZES LARGER THAN THOSE SHOWN REQUIRE A SPECIAL DESIGN

COON RAPIDS Minnesota
 DRAWN: R.L.S. DATE: 11/28/2018 SCALE: NONE PLATE NO: STM-12



R-3067-L CASTING - SEE PLATE STM-7, OR IF NEEDED 3067-L-LOW PROFILE FRAME.

LINE UP FRONT OF CASTING WITH FRONT OF CURB.

GROUT BETWEEN CASTING AND RINGS (SEE NOTE 4).

PRECAST CONCRETE ADJUSTMENT RINGS MIN. 2, MAX. 5

1/4" GROUT BETWEEN RINGS AND WRAP WITH FABRIC (SEE NOTE 4).

BRICK AND GROUT

PRECAST REINFORCED CONCRETE STRUCTURE

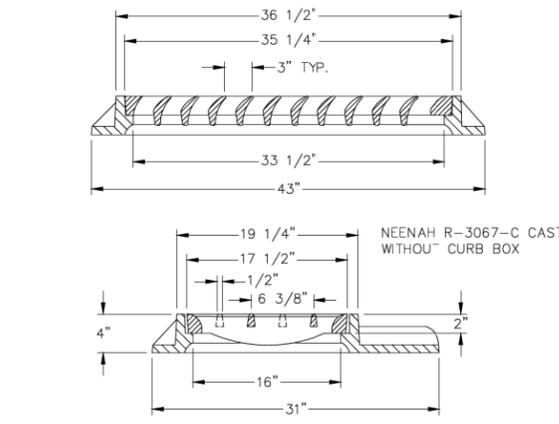
ALL PIPE LEADS SHALL EXTEND INTO STRUCTURE 6" MINIMUM.

SLOPE INVERT TO PROVIDE SMOOTH FLOW TO OUTLET

6" PRECAST CONCRETE BASE

NOTES:
 1. SLOPE BENCH TO INVERT, TOP OF BENCH TO BE AT HALF THE HEIGHT OF DOWN STREAM PIPE DIAMETER. (DO NOT ADD FILLERS BEFORE POURING BENCH)
 2. FILL VOID BETWEEN STRUCTURE AND PIPE WITH BRICK AND GROUT. GROUT BETWEEN THE BRICK AND ACROSS THE FACE. (SEE NOTE 4)
 3. INSIDE DIMENSIONS 2.00' X 3.00' (STRENGTH DESIGN OF BASE SLAB AND STRUCTURE PER MANUFACTURER.)
 4. CONTRACTOR SHALL USE "SPECIAL UNDERGROUND UTILITY MORTAR" MADE BY TWIN CITY CONCRETE PRODUCTS OF ST. PAUL OR APPROVED EQUAL. (SEE SPECIFICATION 9.05)
 5. LOW POINTS SHALL HAVE A TYPE "L" BI-DIRECTIONAL GRATE.
 6. STRUCTURE TO BE PRECAST UNLESS APPROVED BY CITY ENGINEER.

COON RAPIDS Minnesota
 DRAWN: R.L.S. DATE: 11/28/2018 SCALE: NONE PLATE NO: STM-13



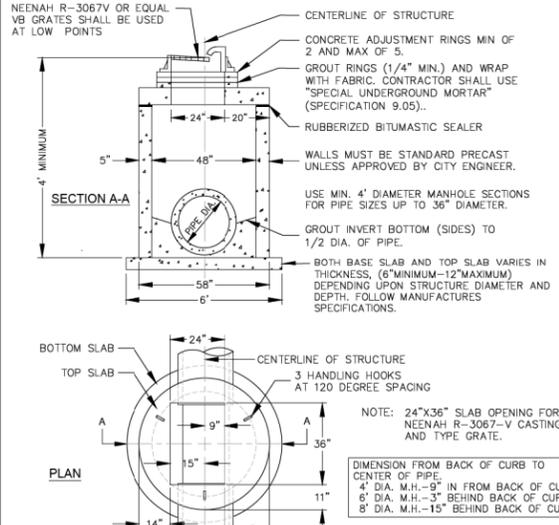
NEENAH R-3067-C CASTING WITHOUT CURB BOX

TYPE L GRATE

NOTE: LOW POINTS SHALL HAVE A TYPE L BI-DIRECTIONAL GRATE.

COON RAPIDS Minnesota
 DRAWN: R.L.S. DATE: 1/14/2019 SCALE: NONE PLATE NO: STM-14

NEENAH R-3067V OR EQUAL VB GRATES SHALL BE USED AT LOW POINTS



SECTION A-A

PLAN

CENTERLINE OF STRUCTURE

CONCRETE ADJUSTMENT RINGS MIN OF 2 AND MAX OF 5.

GROUT RINGS (1/4" MIN.) AND WRAP WITH FABRIC. CONTRACTOR SHALL USE "SPECIAL UNDERGROUND MORTAR" (SPECIFICATION 9.05).

RUBBERIZED BITUMASUL SEALER

WALLS MUST BE STANDARD PRECAST UNLESS APPROVED BY CITY ENGINEER.

USE MIN. 4" DIAMETER MANHOLE SECTIONS FOR PIPE SIZES UP TO 36" DIAMETER.

GROUT INVERT BOTTOM (SIDES) TO 1/2 DIA. OF PIPE.

BOTH BASE SLAB AND TOP SLAB VARIES IN THICKNESS, (6" MINIMUM-12" MAXIMUM) DEPENDING UPON STRUCTURE DIAMETER AND DEPTH. FOLLOW MANUFACTURERS SPECIFICATIONS.

3 HANDLING HOOKS AT 120 DEGREE SPACING

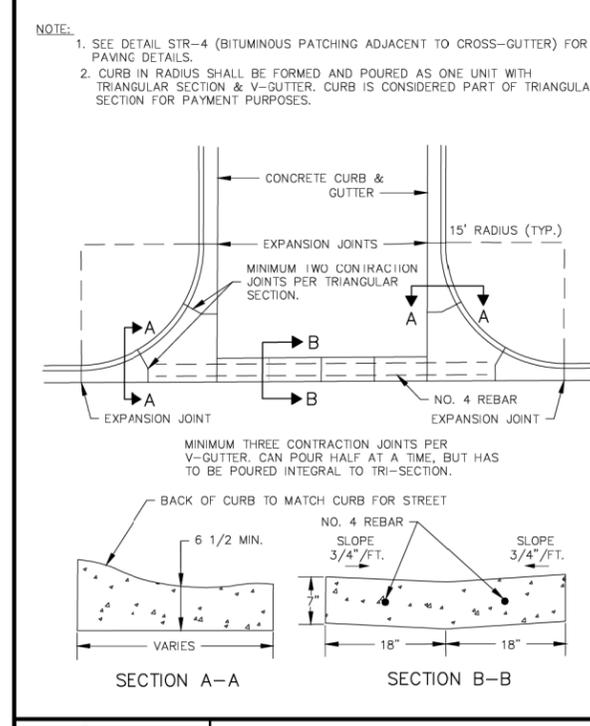
NOTE: 24"x36" SLAB OPENING FOR NEENAH R-3067-V CASTING AND TYPE GRATE.

NOTE: DIMENSION FROM BACK OF CURB TO CENTER OF PIPE:
 4" DIA. M.H.-9" IN FROM BACK OF CURB
 6" DIA. M.H.-3" BEHIND BACK OF CURB
 8" DIA. M.H.-15" BEHIND BACK OF CURB

NOTES:
 1. ALL CATCH BASIN/MANHOLE MUST BE A MINIMUM OF 4' IN DEPTH.
 2. PROVIDE POURED CONCRETE INVERTS AND DOGHOUSES.
 3. GROUT ALL DOGHOUSES AND LIFT HOLES TO INSPECTORS APPROVAL.
 4. DOG-HOUSE OPENING SHALL NOT BE MORE THAN 4" LARGER THAN PIPE.
 5. 2" 4" OR 6" ADJUSTING RINGS ARE ACCEPTABLE.
 6. CATCH BASIN/MANHOLE WITH FLAT TOP SLABS SHALL HAVE TERMINATING MANHOLE SECTIONS.
 7. SPECIFICATIONS FOR CATCH BASIN, MANHOLE SECTIONS, COVER AND SLABS SHALL CONFORM TO MANHOLE DETAIL.
 8. BLOCK MANHOLES SHALL NOT BE ALLOWED WITHOUT PRIOR APPROVAL FROM CITY ENGINEER.

COON RAPIDS Minnesota
 DRAWN: R.L.S. DATE: 1/23/2020 SCALE: NONE PLATE NO: STM-21

NOTE:
 1. SEE DETAIL STR-4 (BITUMINOUS PATCHING ADJACENT TO CROSS-GUTTER) FOR PAVING DETAILS.
 2. CURB IN RADIUS SHALL BE FORMED AND POURED AS ONE UNIT WITH TRIANGULAR SECTION & V-GUTTER. CURB IS CONSIDERED PART OF TRIANGULAR SECTION FOR PAYMENT PURPOSES.



SECTION A-A

SECTION B-B

CONCRETE CURB & GUTTER

EXPANSION JOINTS

15' RADIUS (TYP.)

MINIMUM TWO CONTRACTION JOINTS PER TRIANGULAR SECTION.

NO. 4 REBAR EXPANSION JOINT

MINIMUM THREE CONTRACTION JOINTS PER V-GUTTER. CAN POUR HALF AT A TIME, BUT HAS TO BE POURED INTEGRAL TO TRI-SECTION.

BACK OF CURB TO MATCH CURB FOR STREET

6 1/2" MIN.

NO. 4 REBAR

SLOPE 3/4"/FT.

SLOPE 3/4"/FT.

VARIES

18" 18"

COON RAPIDS Minnesota
 DRAWN: R.L.S. DATE: 1/2/2019 SCALE: NONE PLATE NO: STR-5

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**

DATE: 1/5/2024 LICENSE #: 44200



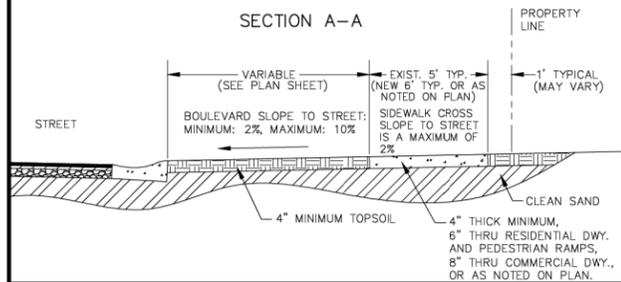
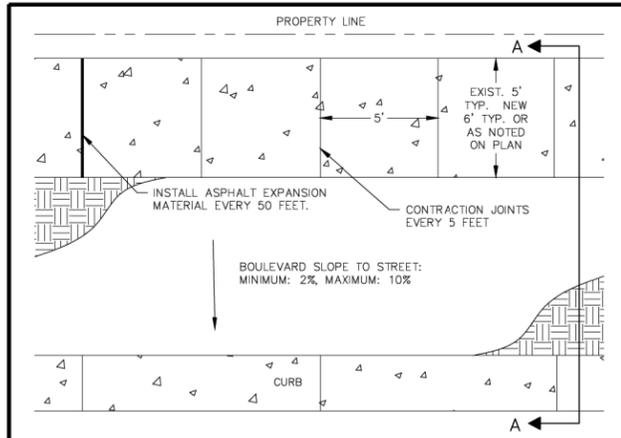
CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

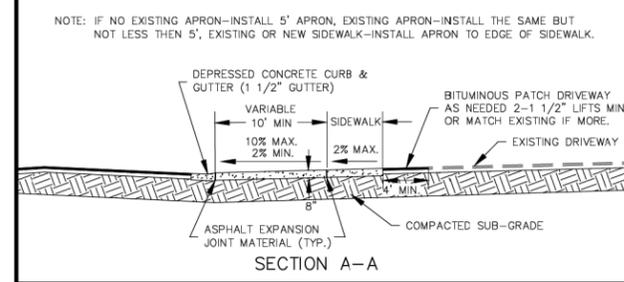
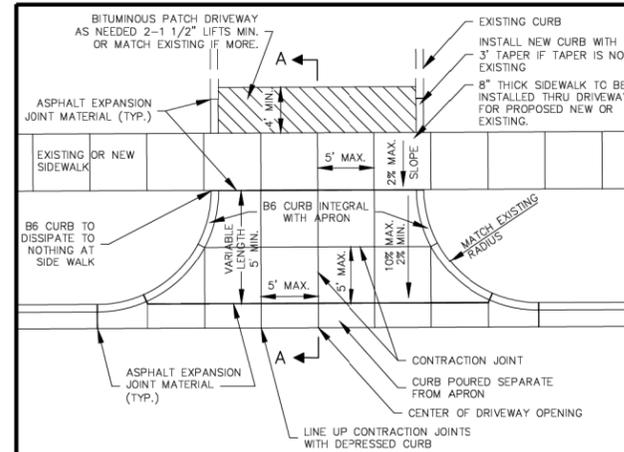
STANDARD PLATES

CP 20-23-132, SAP 114-117-005, SAP 127-080-001

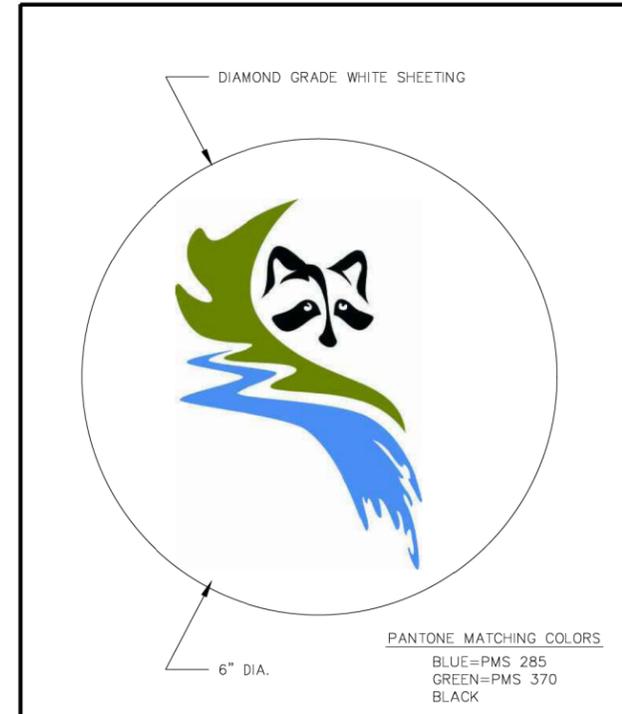
SHEET 11 OF 135 SHEETS



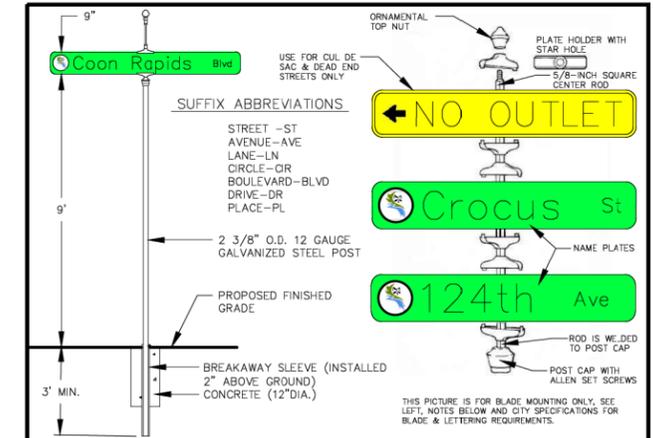
COON RAPIDS Minnesota logo and title: CONCRETE SIDEWALK SECTION. Includes drawing info: DRAWN: R.L.S., DATE: 1/3/2019, SCALE: NONE, PLATE NO. STR-6.



COON RAPIDS Minnesota logo and title: COMMERCIAL DRIVEWAY FOR STREET RECONSTRUCTION. Includes drawing info: DRAWN: R.L.S., DATE: 1/3/2019, SCALE: NONE, PLATE NO. STR-9.

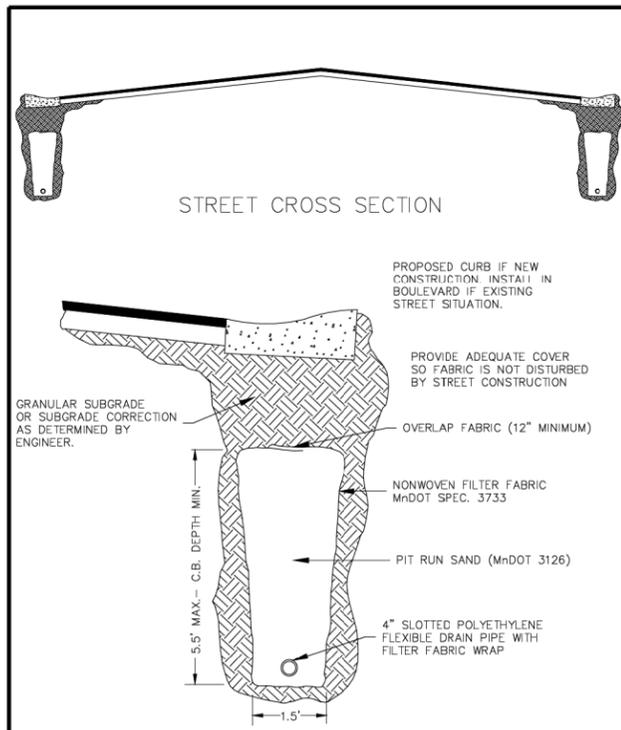


COON RAPIDS Minnesota logo and title: STREET SIGN LOGO. Includes drawing info: DRAWN: R.L.S., DATE: 3/18/2011, SCALE: NONE, PLATE NO. STR-12. Also lists Pantone matching colors: BLUE=PMS 285, GREEN=PMS 370, BLACK.

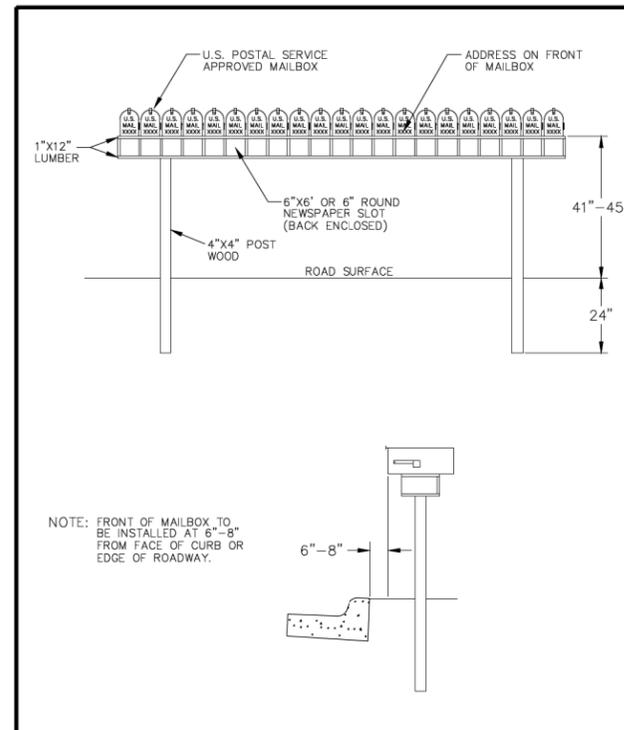


- NOTES: 1. SIGN BLADE SIZE IS 9" FOR 40 MPH AND LESS, 12" FOR 45 MPH AND GREATER... 2. BLADE LENGTH SHALL BE 24" MIN... 3. BLADES SHALL BE SINGLE FACED AND FASTENED TOGETHER WITH STAINLESS STEEL BOLTS... 4. LETTER SIZE IS 6" UPPER CASE & 4.5" LOWER CASE FOR STREET NAME ON 9" BLADES... 5. THE FONT TO USE FOR LETTERING IS SERIES B... 6. WHITE DIAMOND GRADE SHEETING, MNDOT GREEN BACKGROUND FOR PUBLIC STREETS... 7. THE CITY LOGO WILL PRECEDE THE STREET NAME ON BLADE... 8. STREET NAMES SHALL BE SPELLED COMPLETELY EXCEPT FOR SUFFIXES... 9. SIGN BRACKETS SHALL BE 1 1/2" SIGNS NO. E450 OR E650 FOR NO OUTLET... 10. SIGN POST SHALL BE 2 3/8" O.D. X 12' LONG GALVANIZED ROUND TUBE... 11. A SIGN PLAN SHOWING SIGN COLORS, SIZES AND LETTERING MUST BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL... 12. SEE CITY SPECIFICATIONS FOR MORE DETAILS ON MATERIALS AND LAYOUT... 13. PERMANENT SIGNS SHALL BE PLACED SUCH THAT OBSTACLES DO NOT BLOCK THEM FROM BEING VIEWED BY APPROACHING ROAD USERS...

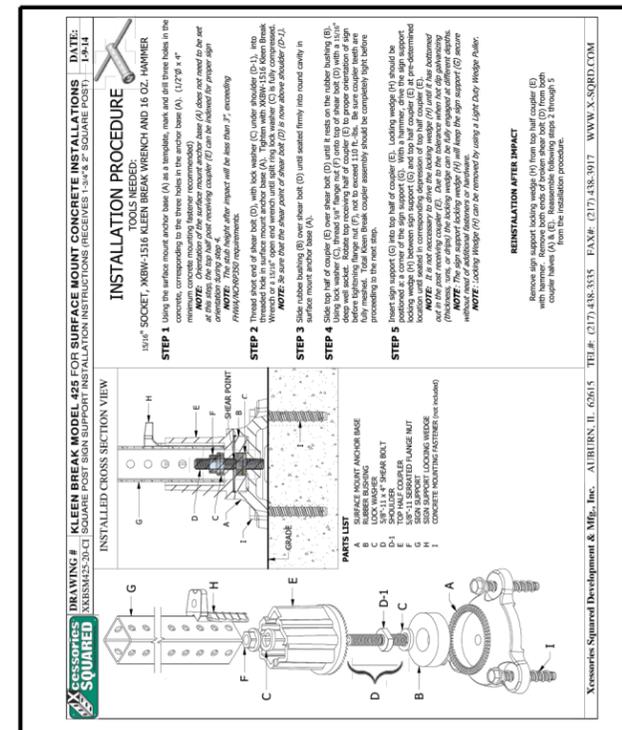
COON RAPIDS Minnesota logo and title: STREET SIGN INSTALLATION. Includes drawing info: DRAWN: R.L.S., DATE: 1/24/2020, SCALE: NONE, PLATE NO. STR-13.



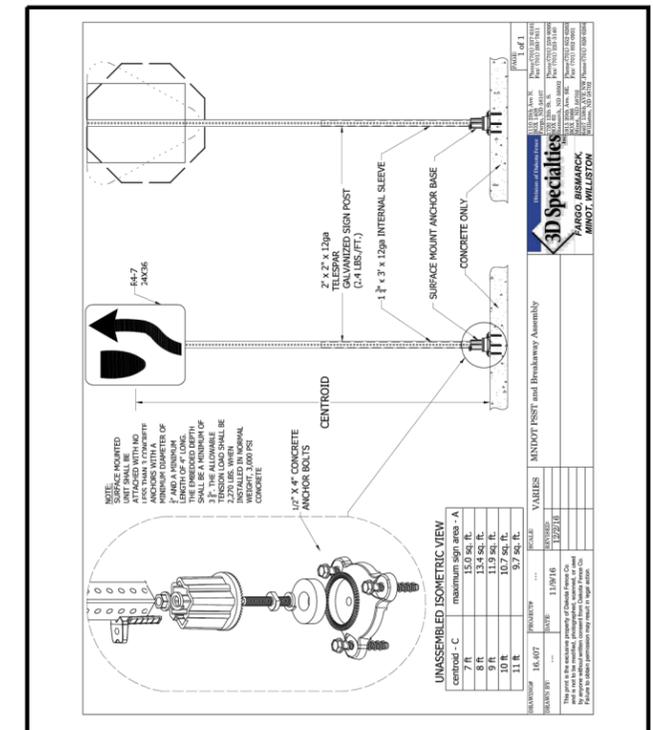
COON RAPIDS Minnesota logo and title: DRAINTILE DETAIL. Includes drawing info: DRAWN: A.S.W., DATE: 12/17/2014, SCALE: NONE, PLATE NO. STR-15.



COON RAPIDS Minnesota logo and title: TEMPORARY MAILBOX DETAIL. Includes drawing info: DRAWN: R.L.S., DATE: 1/24/2019, SCALE: NONE, PLATE NO. STR-17.



COON RAPIDS Minnesota logo and title: MEDIAN SIGN MOUNTING DETAIL 1. Includes drawing info: DRAWN: R.L.S., DATE: 2/14/2017, SCALE: NONE, PLATE NO. STR-19.



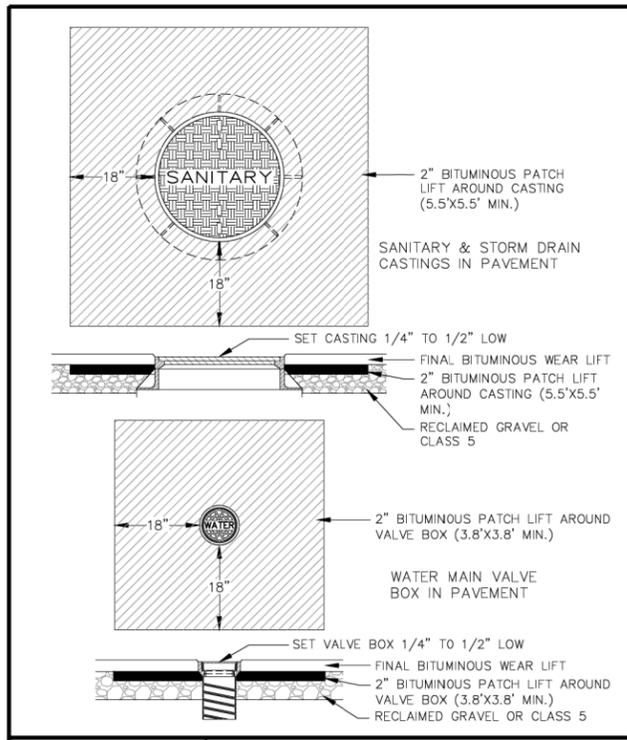
COON RAPIDS Minnesota logo and title: MEDIAN SIGN MOUNTING DETAIL 2. Includes drawing info: DRAWN: R.L.S., DATE: 2/14/2017, SCALE: NONE, PLATE NO. STR-20.

Table with 5 columns: NO., DATE, BY, CHK, REVISIONS. Contains revision history entries.

Design By: AJP
Plan By: AJP
Checked By: AJP
Approved By: AJP
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: ANDREW J. FLOWMAN
DATE: 1/5/2024 LICENSE #: 44200

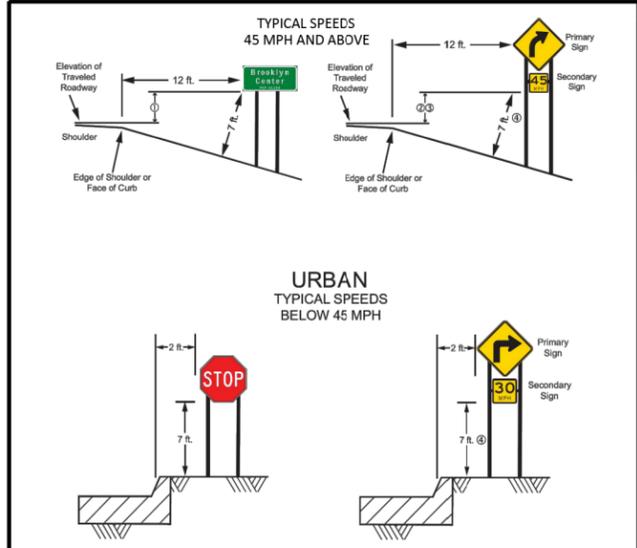
wsb logo and ANOKA COUNTY logo with text: CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements, Anoka County Highway Department.

ANOKA COUNTY, MINNESOTA
STANDARD PLATES
CP 20-23-132, SAP 114-117-005, SAP 127-080-001
SHEET 12 OF 135 SHEETS



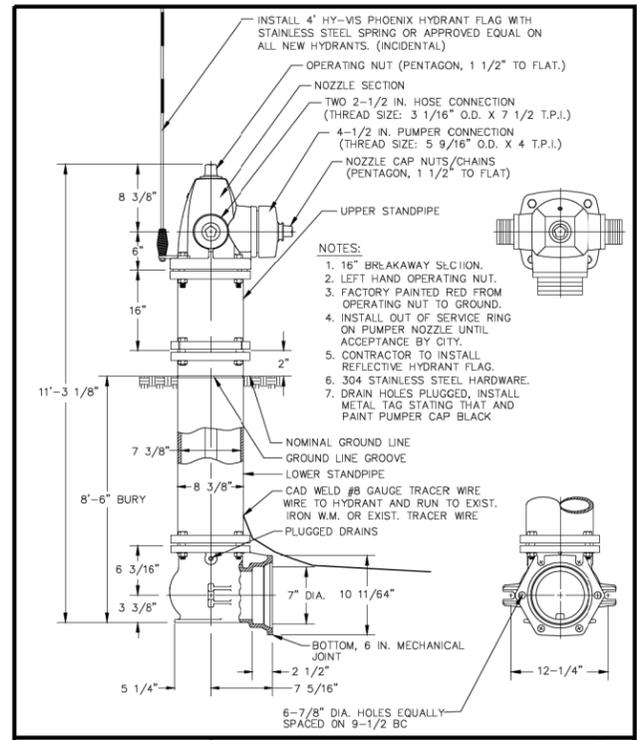
2" BITUMINOUS PATCH AROUND MANHOLES AND VALVES BEFORE FINAL PAVING LIFT

COON RAPIDS Minnesota
 DRAWN: R.L.S. DATE: 1/29/2018 SCALE: NONE PLATE NO: STR-24



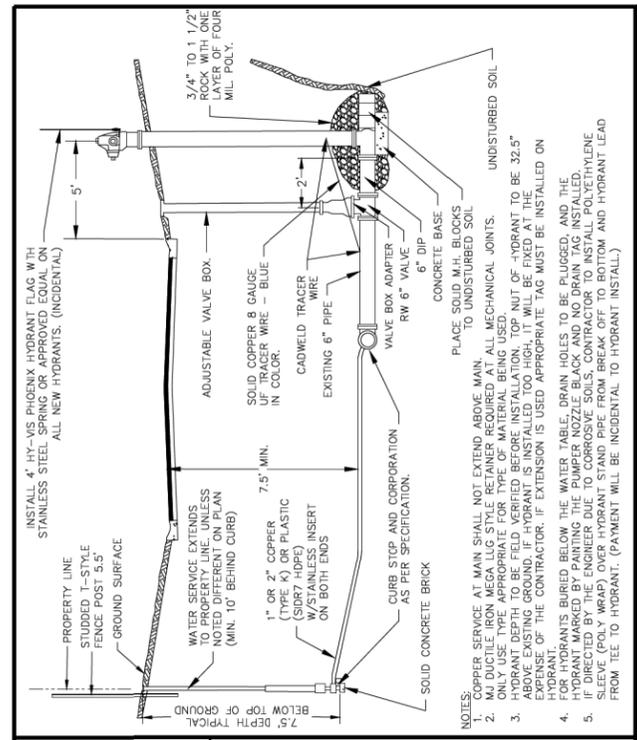
SIGN PLACEMENT

COON RAPIDS Minnesota
 DRAWN: R.L.S. DATE: 1/24/2020 SCALE: NONE PLATE NO: STR-26



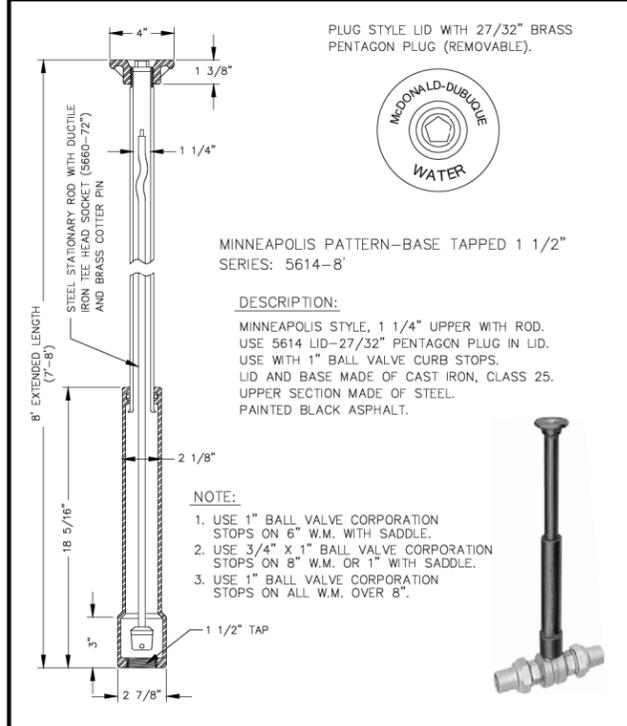
HYDRANT DETAIL WB67 PACER 8'-6" BURY/MECH. JOINT BASE

COON RAPIDS Minnesota
 DRAWN: R.L.S. DATE: 1/17/2019 SCALE: NONE PLATE NO: WM-1



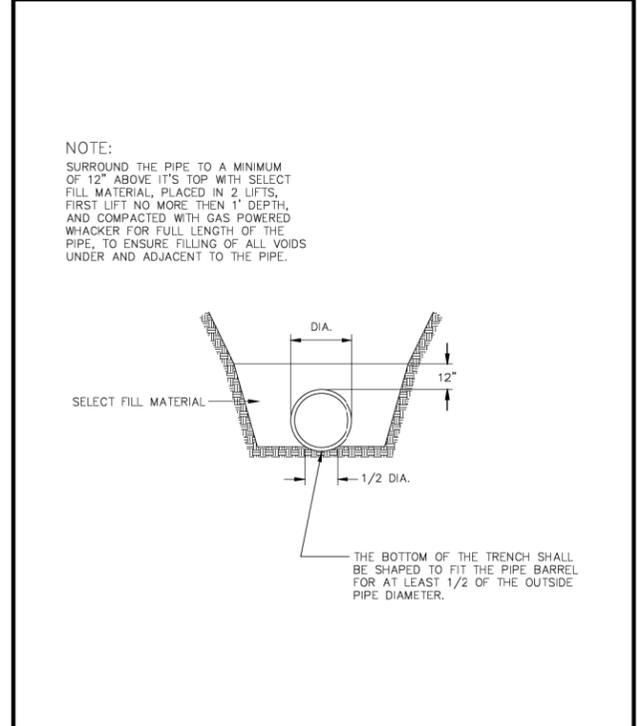
TYPICAL WATER SERVICE LAYOUT & HYDRANT REPLACEMENT (ONLY) LAYOUT

COON RAPIDS Minnesota
 DRAWN: R.L.S. DATE: 1/21/2020 SCALE: NONE PLATE NO: WM-2



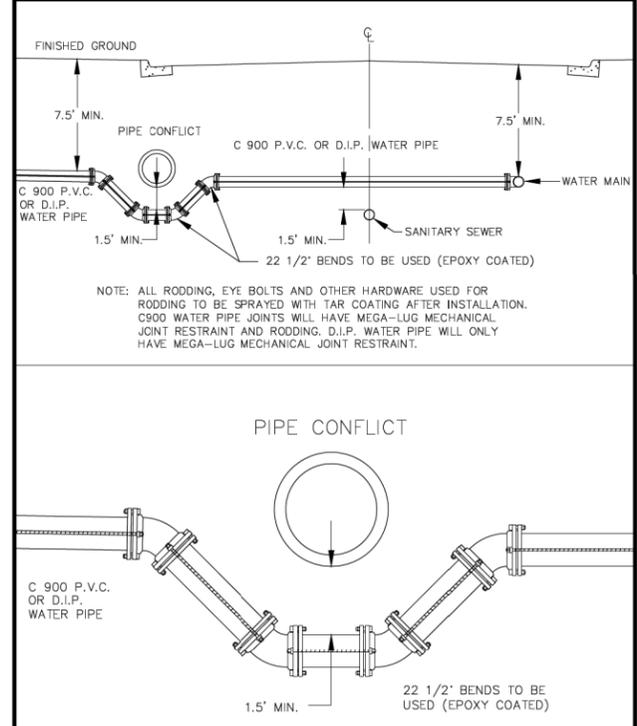
CURB STOP BOX WITH ROD

COON RAPIDS Minnesota
 DRAWN: R.L.S. DATE: 1/16/2019 SCALE: NONE PLATE NO: WM-4



CLASS C PIPE BEDDING

COON RAPIDS Minnesota
 DRAWN: R.L.S. DATE: 1/12/2005 SCALE: NONE PLATE NO: WM-5



VERTICAL BENDS DETAIL

COON RAPIDS Minnesota
 DRAWN: R.L.S. DATE: 1/7/2019 SCALE: NONE PLATE NO: WM-6

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 1/5/2024 LICENSE #: 44200



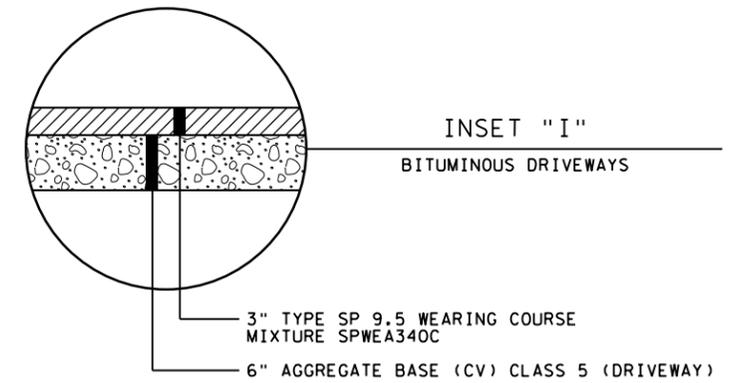
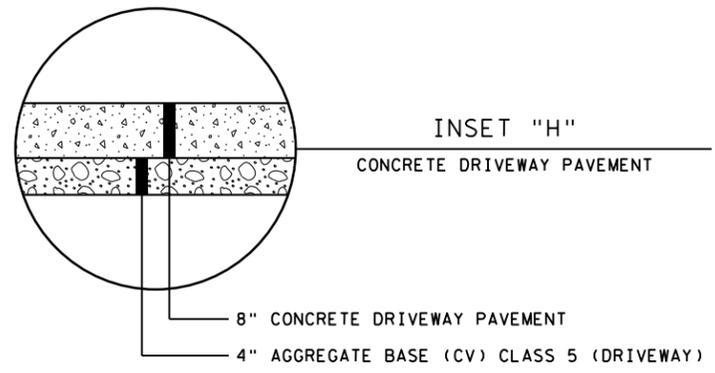
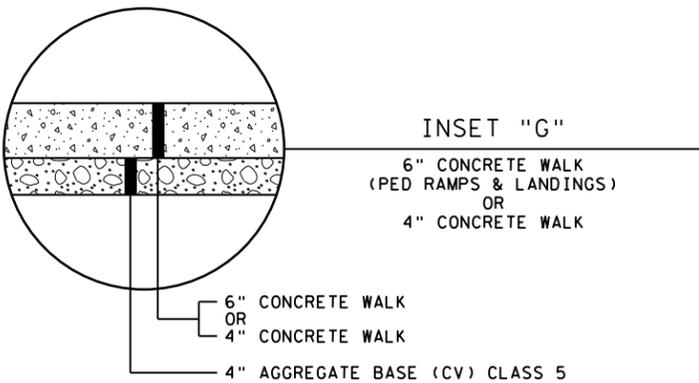
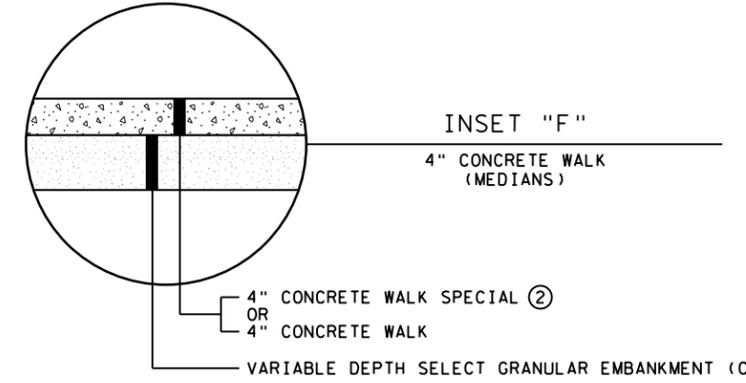
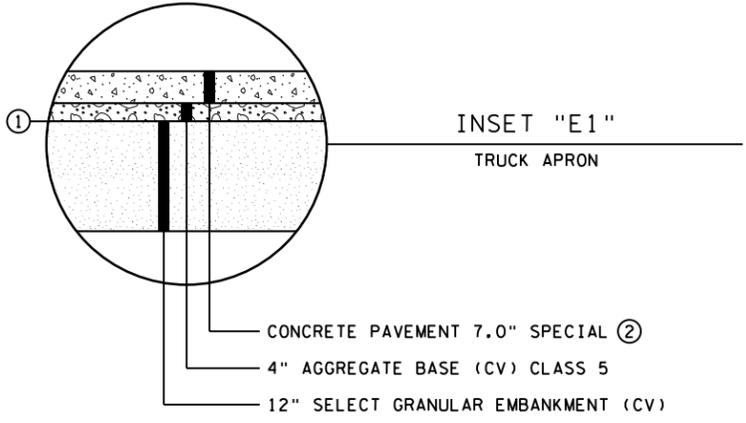
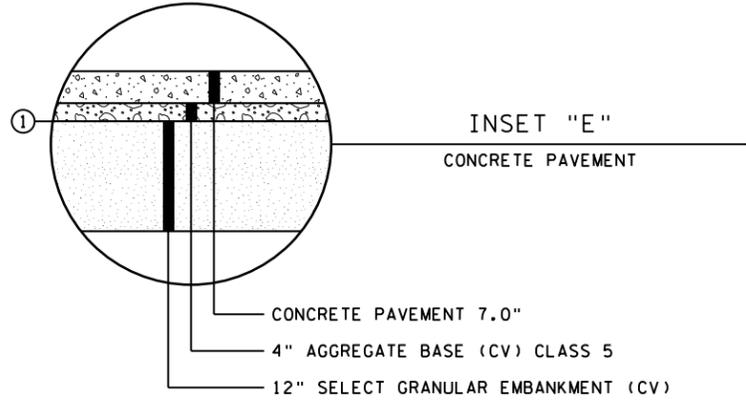
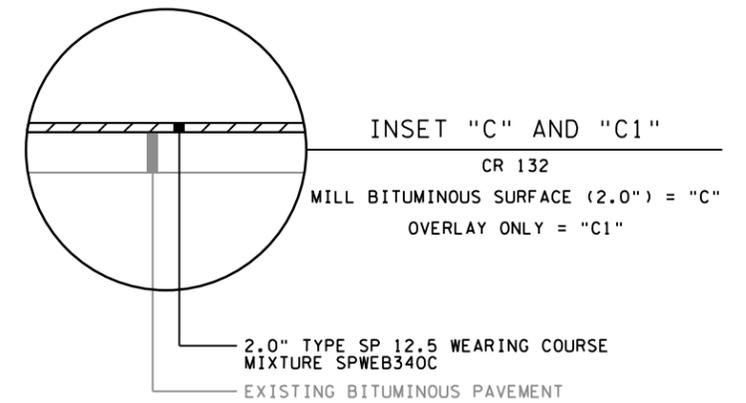
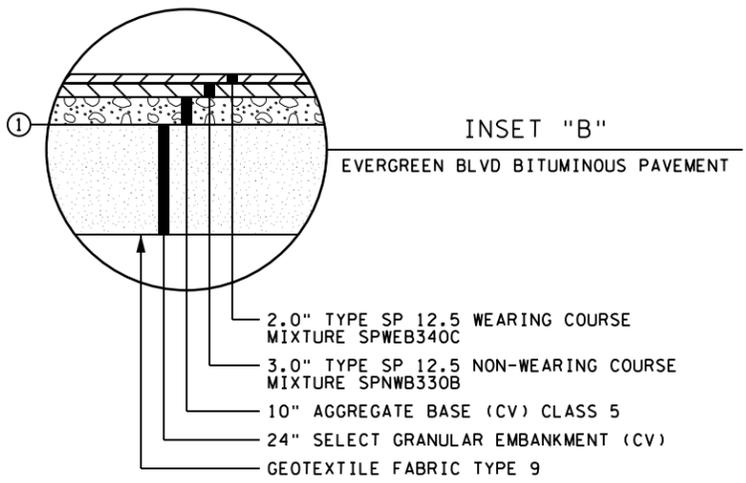
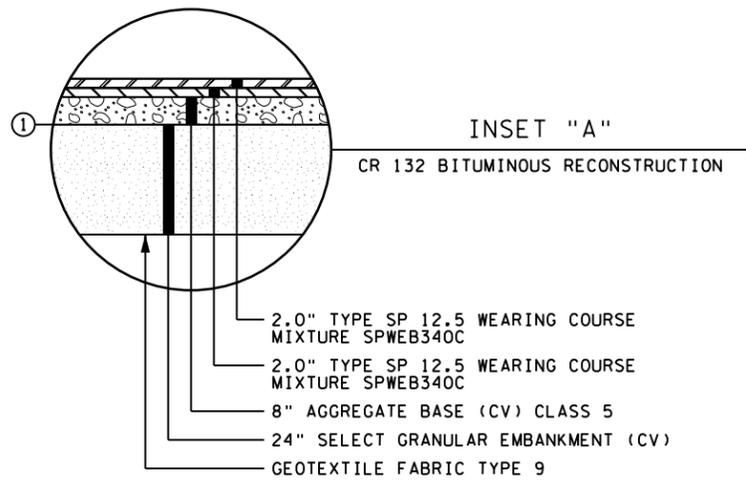
CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
STANDARD PLATES
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **13** OF **135** SHEETS

PLOTTED/REVISED: 1/5/2024 2:39:01 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\Cad\Plan\21204-000_1.scd.dgn



- NOTES:**
- ① GRADING GRADE
 - ② CONCRETE COLOR SHALL BE INTEGRAL RED (FS 31136)

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 1/5/2024 LICENSE #: 44200



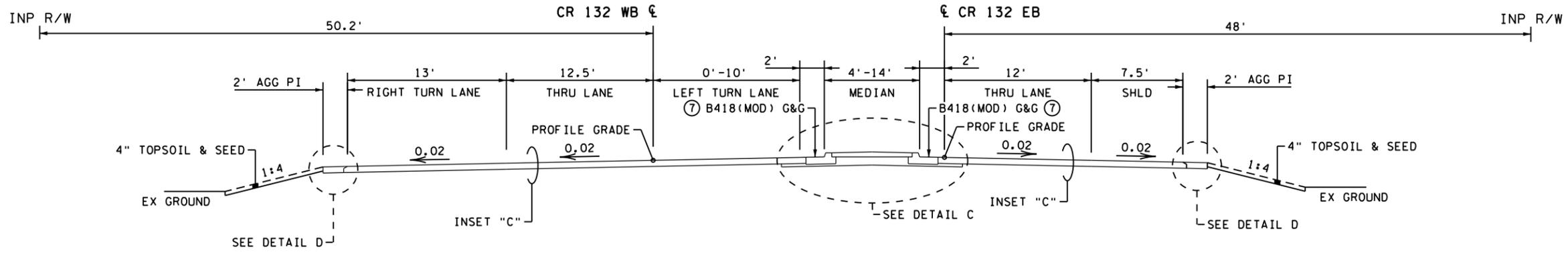
CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 INSETS
TYPICAL SECTIONS
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

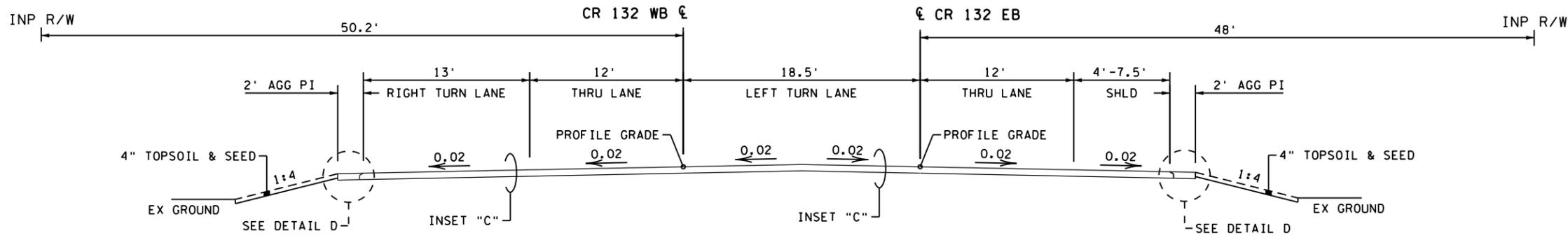
SHEET **14** OF **135** SHEETS

PLOTTED/REVISED: 1/5/2024 2:39:17 PM

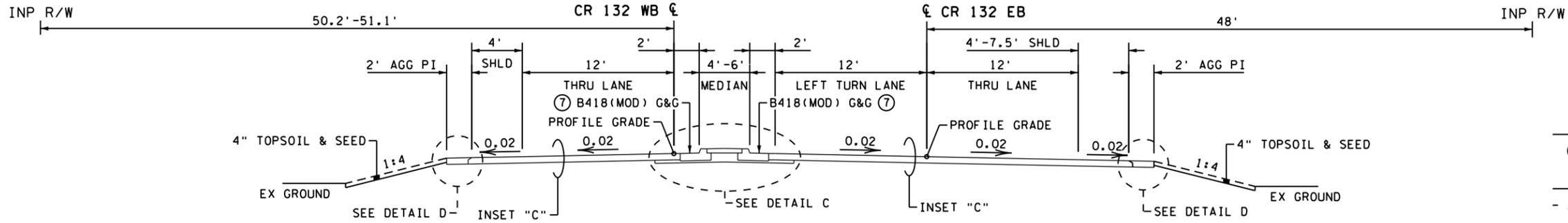
WSB PATH & FILENAME: Projects\Minnesota\2024\000\CR132\Plan\2024-000_1s06.dgn



PROPOSED TYPICAL SECTION 8 - CR 132
EB STA 133+90 TO EB STA 134+06



PROPOSED TYPICAL SECTION 7 - CR 132
EB STA 133+70 TO EB STA 133+90



PROPOSED TYPICAL SECTION 6 - CR 132
EB STA 130+44 TO EB STA 133+70

NOTES:

- ⑦ TIP OUT
- GENERAL NOTES:**
- ALL SLOPES IN FOOT PER FOOT UNLESS OTHERWISE NOTED.
- PREPARATION OF THE EXISTING SUBGRADE SHALL BE IN ACCORDANCE WITH MNDOT SPECIFICATIONS AND SHALL BE INCIDENTAL.
- SEE SHEET 14 FOR INSETS AND SHEET 15 FOR DETAILS.
- B418(MOD) GURB & GUTTER IS TIPPED OUT UNLESS NOTED OTHERWISE.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 1/5/2024 LICENSE # 44200



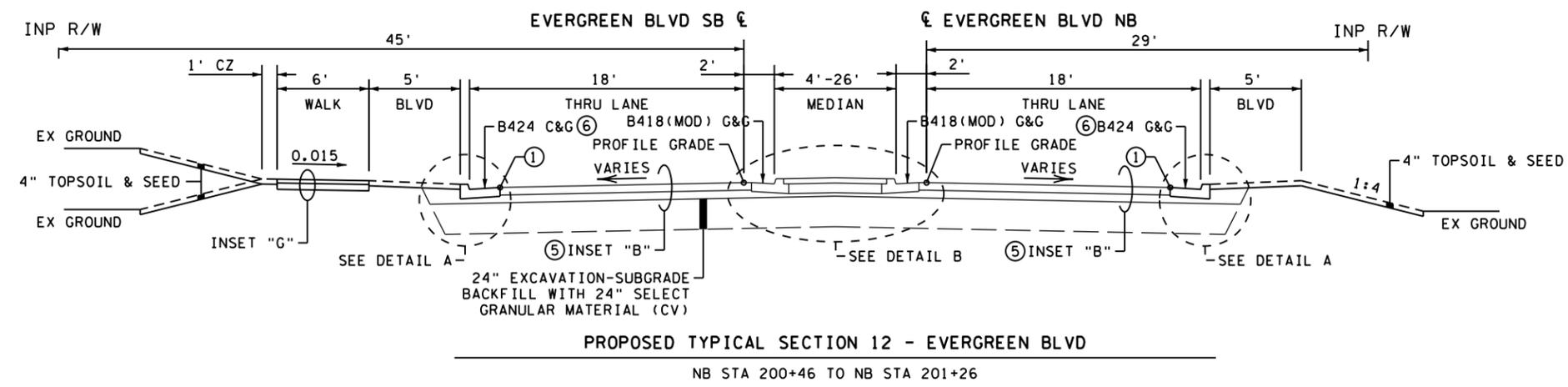
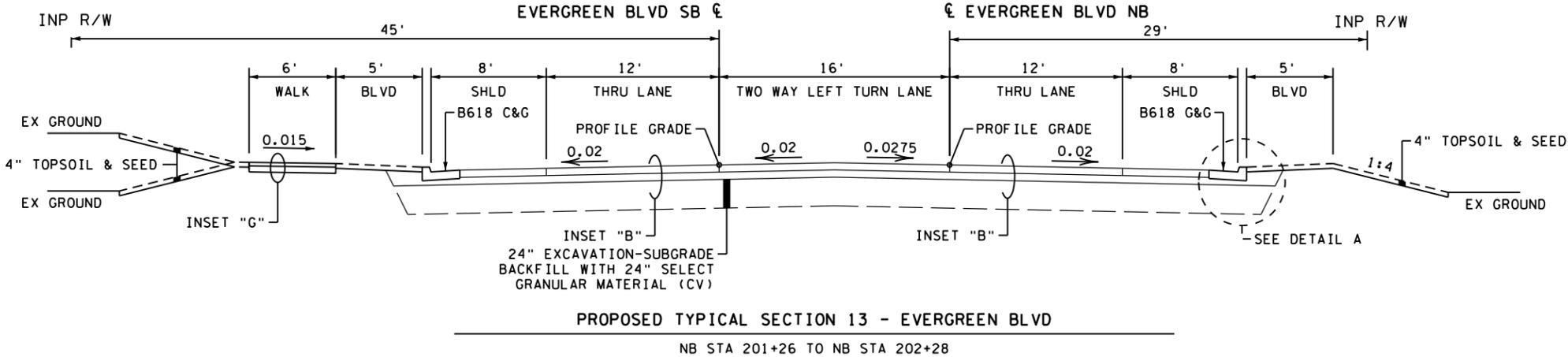
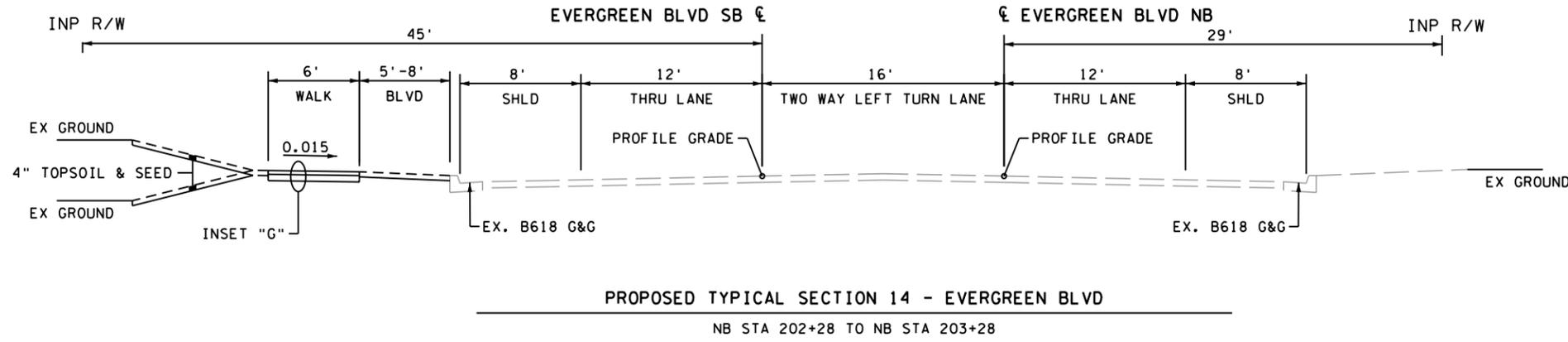
**CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements**
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 CR 132
TYPICAL SECTIONS
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
19
 OF
135
 SHEETS

PLOTTED/REVISED: 1/5/2024 2:39:23 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\000\Plan\21204-000_1s08.dgn



- NOTES:**
- ⑤ USE INSET "E" FROM NB STA 200+46 TO NB STA 200+80
 - ⑥ TRANSITION TO B618 C&G AT NB STA 200+80
 - ⑦ TIP OUT

- GENERAL NOTES:**
- ALL SLOPES IN FOOT PER FOOT UNLESS OTHERWISE NOTED.
 - PREPARATION OF THE EXISTING SUBGRADE SHALL BE IN ACCORDANCE WITH MNDOT SPECIFICATIONS AND SHALL BE INCIDENTAL.
 - SEE SHEET 14 FOR INSETS AND SHEET 15 FOR DETAILS.
 - B418(MOD) GURB & GUTTER IS TIPPED OUT UNLESS NOTED OTHERWISE.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

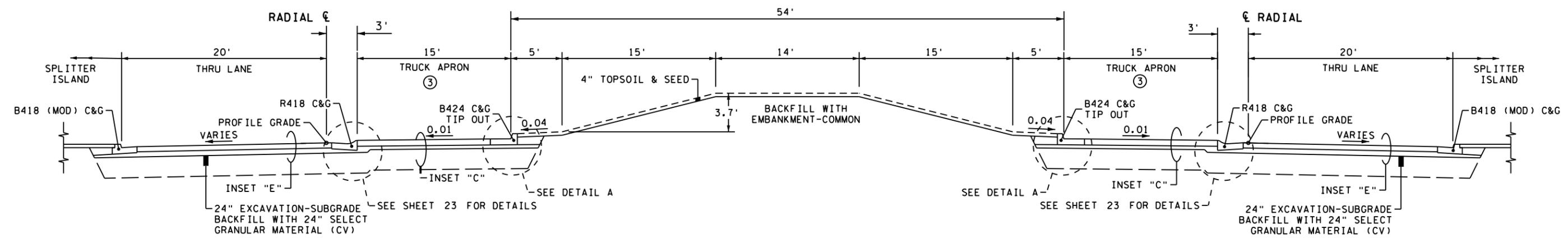
PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 1/5/2024 LICENSE #: 44200



CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 CR 132 AND EVERGREEN BLVD
TYPICAL SECTIONS
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **21** OF **135** SHEETS



PROPOSED TYPICAL SECTION 15 - ROUNDABOUT
 RADIAL STA 10+00.00 TO RADIAL STA 12+82.74

NOTES:

- ③ SEE SHEET 23 FOR ADDITIONAL TRUCK APRON DETAILS

GENERAL NOTES:

- ALL SLOPES IN FOOT PER FOOT UNLESS OTHERWISE NOTED.
- PREPARATION OF THE EXISTING SUBGRADE SHALL BE IN ACCORDANCE WITH MNDOT SPECIFICATIONS AND SHALL BE INCIDENTAL.
- SEE SHEET 14 FOR INSETS AND SHEET 15 FOR DETAILS.
- B418(MOD) GURB & GUTTER IS TIPPED OUT UNLESS NOTED OTHERWISE.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 1/5/2024 LICENSE #: 44200



**CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements**
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 ROUNDABOUT
TYPICAL SECTIONS
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
22
 OF
135
 SHEETS

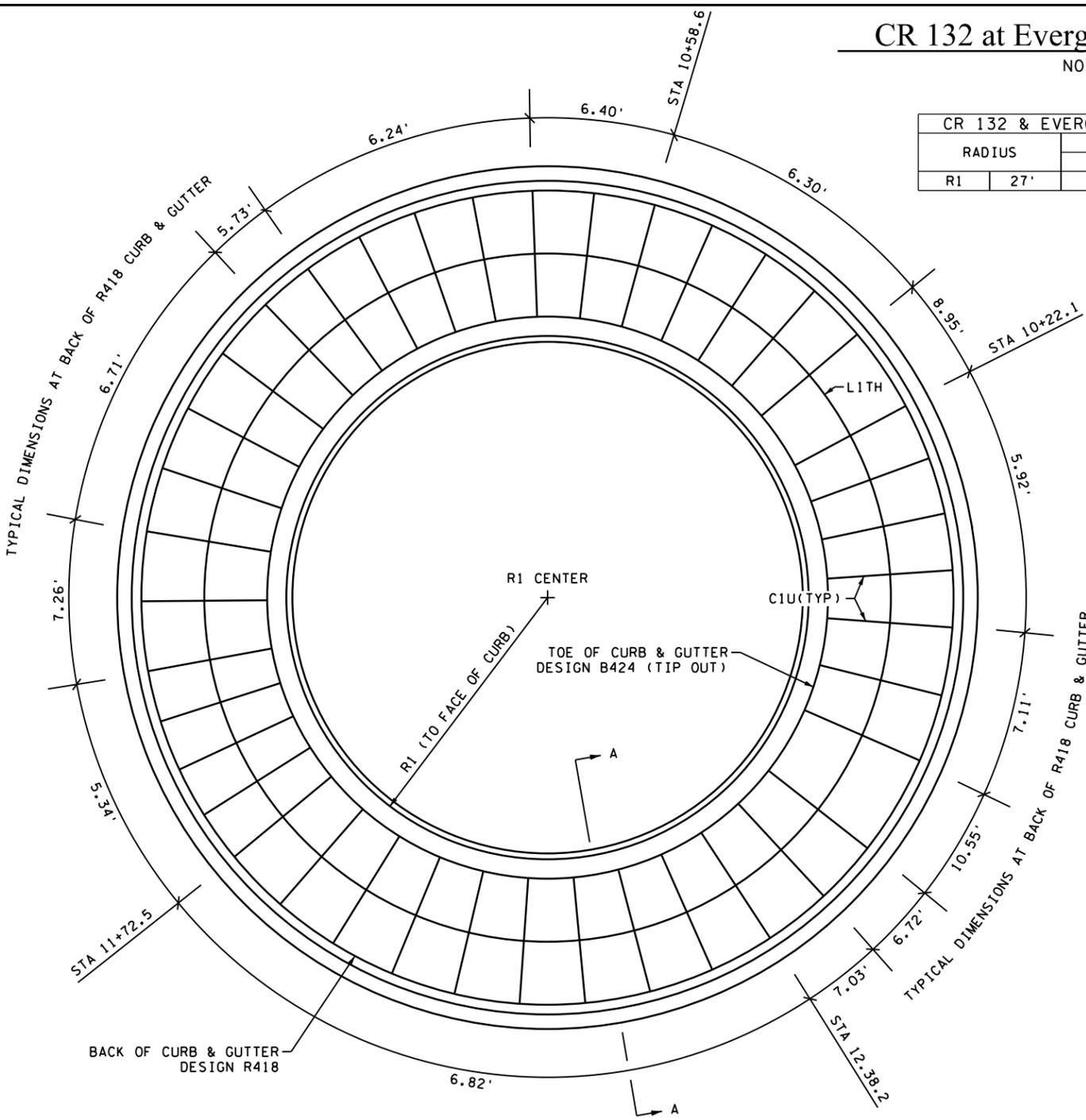
PLOTTED/REVISED: 1/5/2024 2:39:31 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\Cad\Plan\21204-000_md01.dgn

CR 132 at Evergreen Blvd Roundabout

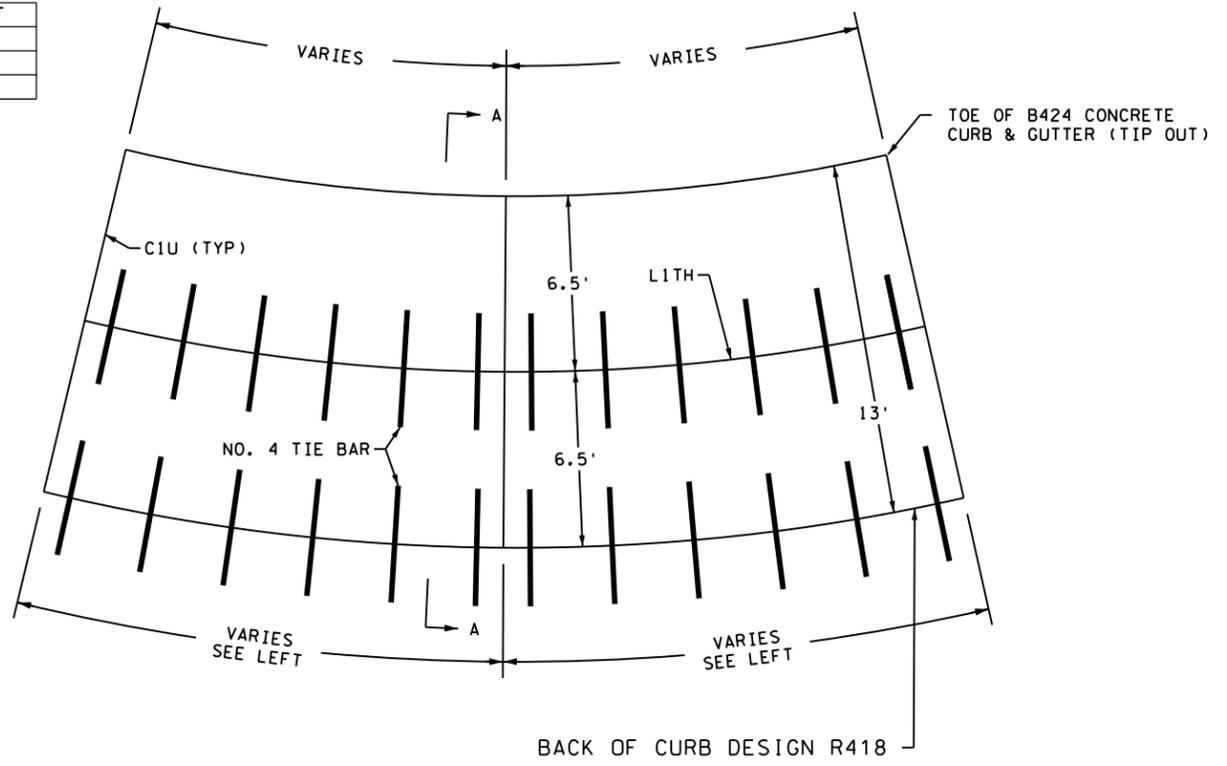
NOT TO SCALE

CR 132 & EVERGREEN BLVD ROUNDABOUT			
RADIUS	CENTER		
	X	Y	
R1	27'	497939.62	132543.81



PLAN VIEW JOINT LAYOUT

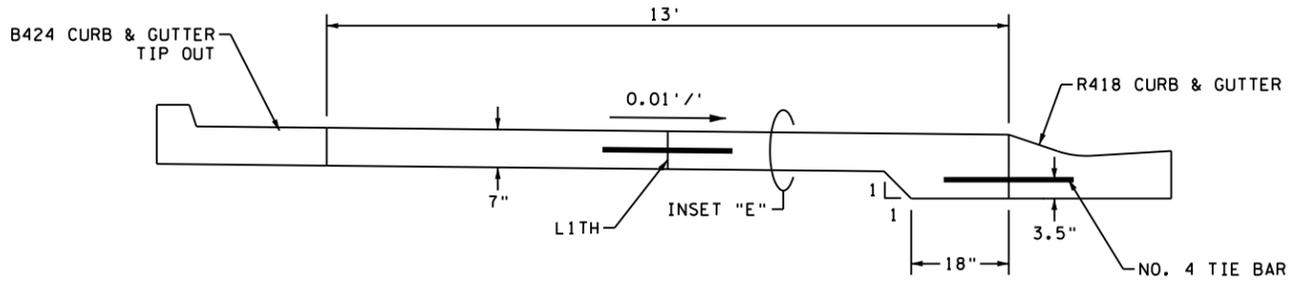
NOT TO SCALE



NOTE: C1U JOINT TO EXTEND THROUGH CURB AND GUTTER

CONCRETE PANEL REINFORCEMENT

NOT TO SCALE



SECTION A-A

NOT TO SCALE

GENERAL NOTES:

1. SEE TYPICAL SECTIONS AND PLAN SHEETS FOR CURB AND GUTTER DETAILS
2. ALL REINFORCING BARS SHALL BE EPOXY COATED IN ACCORDANCE WITH SPEC. 3301 AND SHALL MEET THE REQUIREMENTS OF GRADE 60 FOR AASHTO M-31 OR M-53
3. TIE BARS: USE NO. 4 BARS, 2' LONG AT 3' SPACING
4. REINFORCEMENT BARS ARE CONSIDERED INCIDENTAL.
5. ADDITIONAL CONCRETE PAVEMENT DEPTH, ADJACENT TO CONCRETE CURB DESIGN R418, IS INCIDENTAL.

NO.	DATE	BY	CHK	REVISIONS

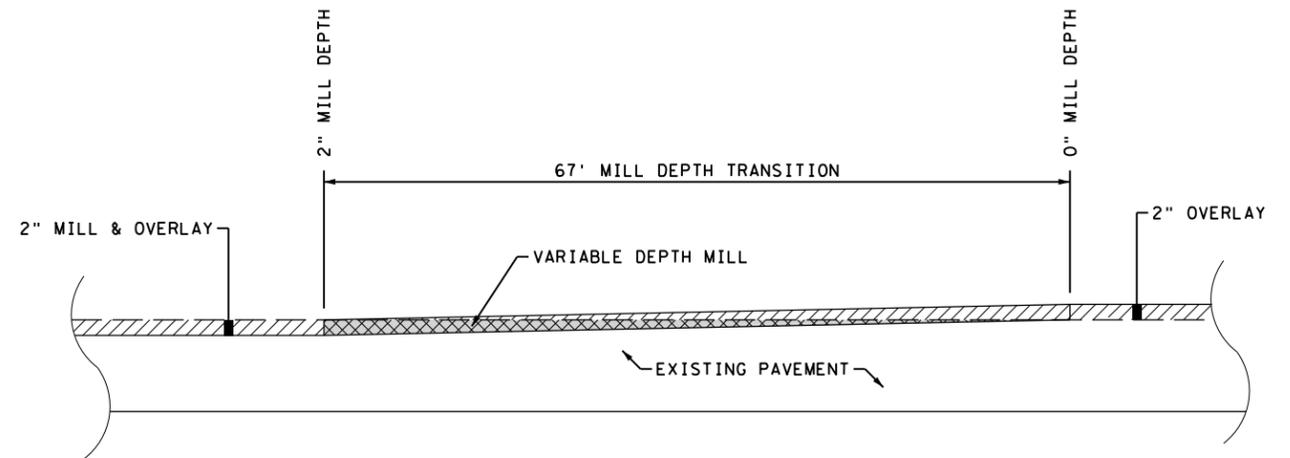
Design By:	AJP	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Plan By:	AJF	PRINT NAME: ANDREW J. FLOWMAN
Checked By:	AJP	<i>[Signature]</i>
Approved By:	AJP	DATE: 1/5/2024 LICENSE #: 44200



**CR 132 (85th Ave) at Evergreen Blvd
Intersection Improvements**
Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
TRUCK APRON DETAILS
MISCELLANEOUS DETAILS
CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
23
OF
135
SHEETS



MILL BITUMINOUS SURFACE TRANSITION TO 0" DEPTH
NO SCALE

NO.	DATE	BY	CHK	REVISIONS

Design By:	AJP	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: <u>ANDREW J. FLOWMAN</u> DATE: <u>1/5/2024</u> LICENSE # <u>44200</u>
Plan By:	AJF	
Checked By:	AJP	
Approved By:	AJP	

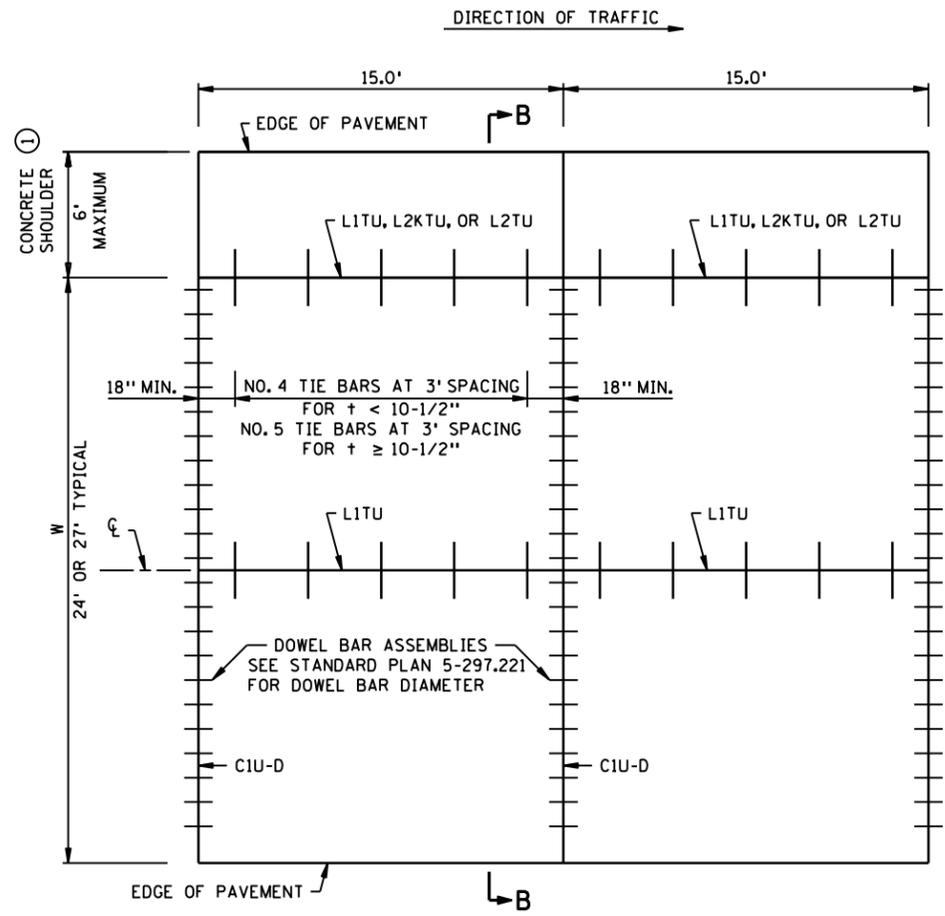


ANOKA COUNTY
CR 132 (85th Ave) at Evergreen Blvd
Intersection Improvements
 Anoka County Highway Department

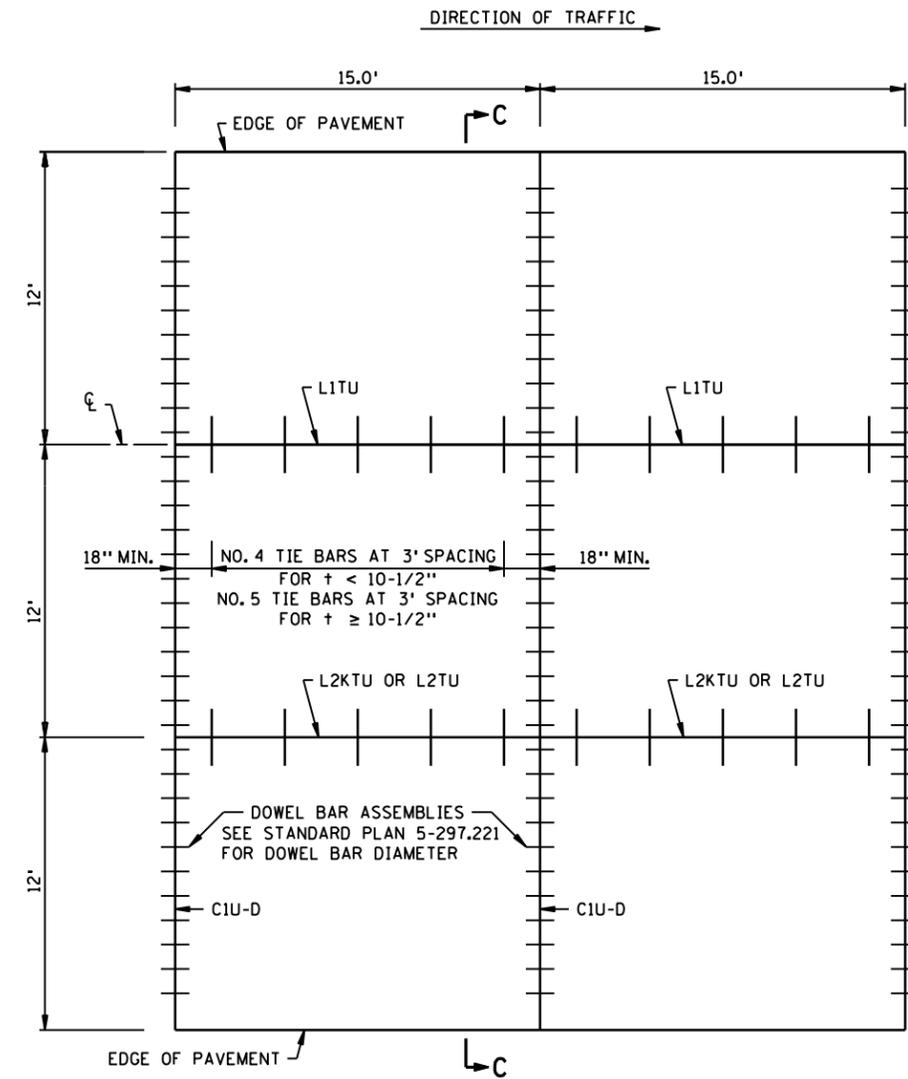
ANOKA COUNTY, MINNESOTA
MISCELLANEOUS DETAILS
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

PLOTTED/REVISED: 1/5/2024 2:39:38 PM

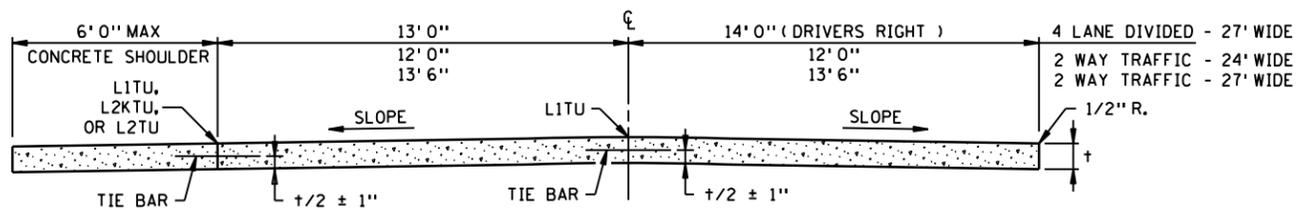
PATH & FILENAME: Projects\Minnesota\021204-000\Cadd\Plan\21204-000_std\plr_200.dgn



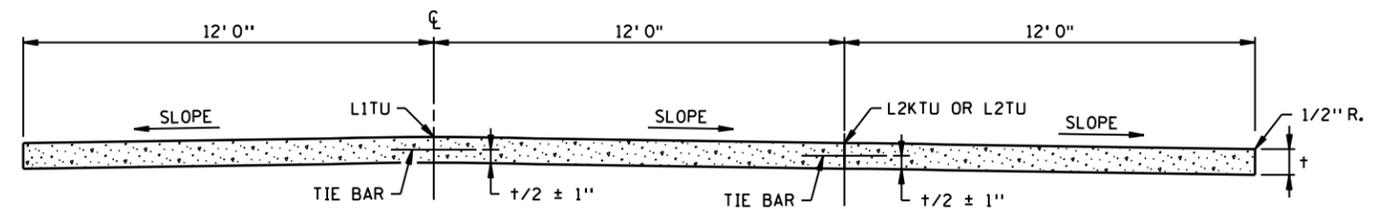
MAINLINE PAVEMENT WITH INSIDE CONCRETE SHOULDER
DOWELED



MAINLINE PAVEMENT URBAN
DOWELED



SECTION B-B



SECTION C-C

GENERAL NOTES:

- SEE TYPICAL SECTIONS AND PLAN SHEETS FOR CROSS SLOPES AND PAVEMENT THICKNESS, t .
- DOWEL BAR ASSEMBLIES, WHEN REQUIRED, SHALL BE SIMILAR TO THOSE SHOWN ON STANDARD PLATE 1103.
- ALL REINFORCING BARS SHALL BE EPOXY COATED AND COMPLY WITH SPEC. 3301.
- FOR SUPPLEMENTAL PAVEMENT REINFORCEMENT, SEE STANDARD PLATE 1070.

- ① CONTACT THE CONCRETE ENGINEER TO DISCUSS WHETHER TIE BARS AND SAWED JOINTS ARE NEEDED BASED ON CONCRETE SHOULDER WIDTH AND DEPTH.

REVISION:
APPROVED: FEBRUARY 16, 2016
[Signature]
DIRECTOR, OFFICE OF MATERIALS AND ROAD RESEARCH



STANDARD PLAN 5-297.217 2 OF 2

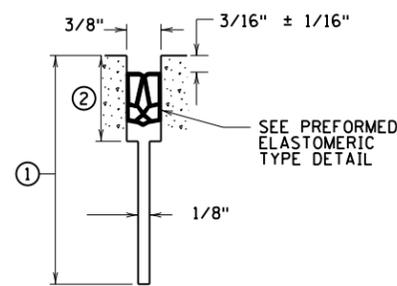
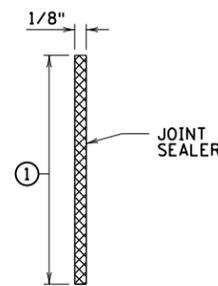
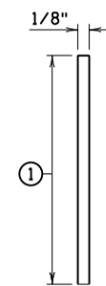
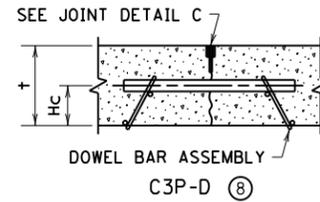
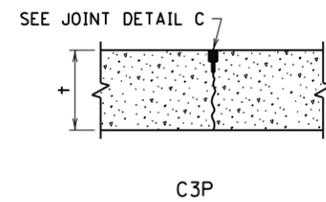
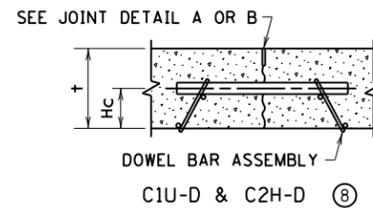
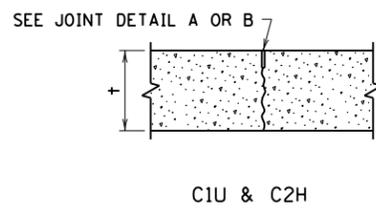
APPROVED: 2-16-2016
REVISED:
[Signature]
STATE DESIGN ENGINEER

CP 20-23-132, SAP 114-117-005, SAP 127-080-001

CONCRETE MAINLINE PAVEMENT
15.0 FT. PANEL LENGTH
URBAN OR CONCRETE SHOULDERS

PLOTTED/REVISED: 1/5/2024 2:39:39 PM

PATH & FILENAME: Projects\Minnesota\021204-000\Cad\Plan\21204-000_std\plr_200.dgn

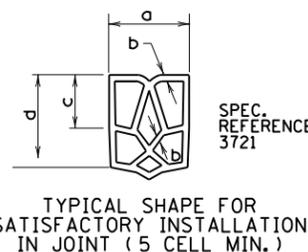


JOINT DETAIL A ③⑤
SAWED & UNSEALED

JOINT DETAIL B ④⑤
SAWED & SEALED

JOINT DETAIL C ④⑤
SAWED AND SEALED

REQUIRED DIMENSIONS ②	
JOINT TYPE	TRANSVERSE
NOMINAL SEALER SIZE	11/16"
	USE IN ALL 3/8" JOINTS
a	0.69" + 0.13" - 0.05"
b	0.08" ± 0.02"
c	0.25" MIN.
d	0.63" MIN.



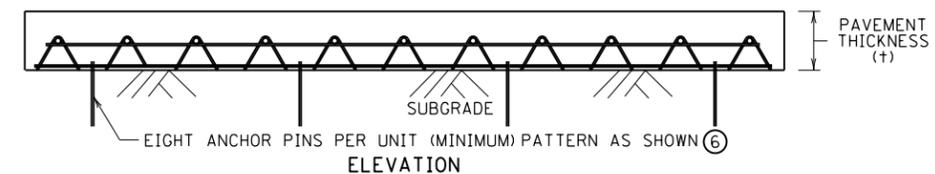
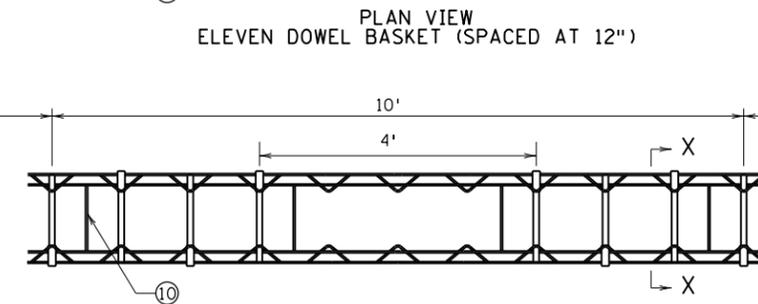
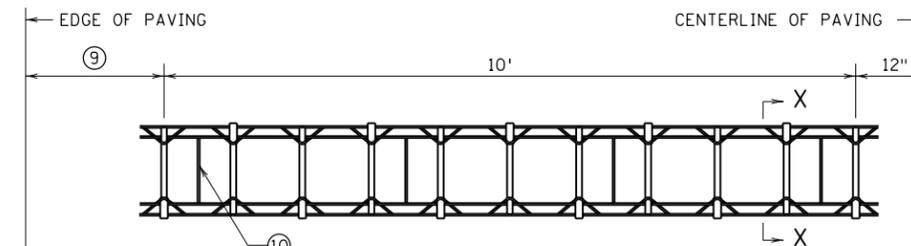
PREFORMED ELASTOMERIC TYPE DETAIL ②

CONTRACTION JOINT REFERENCE, DETAIL & SEALER SPEC. TABLE				
JOINT REFERENCE		JOINT DETAIL	JOINT SEALER SPEC.	JOINT WIDTH
WITHOUT DOWELS	WITH DOWELS			
C1U	C1U-D	A	UNSEALED	1/8"
C2H	C2H-D	B	3725	1/8"
C3P	C3P-D	C	3721	3/8"

LEGEND		EXAMPLE	
C	= CONTRACTION JOINT	—	C2H-D
NO.	= JOINT REFERENCE	—	
U	= UNSEALED	—	
H	= HOT POURED	—	
P	= PREFORMED	—	
-D	= DOWEL BARS	—	

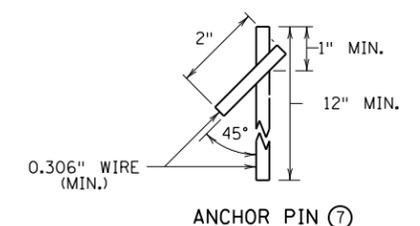
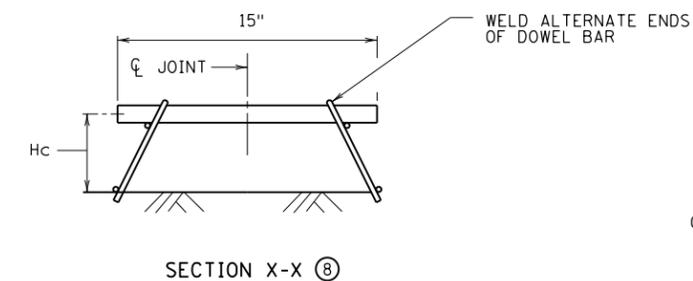
LEAD EXPERT OFFICE

GLENN ENGSTROM
DIRECTOR
OFFICE OF MATERIALS
AND ROAD RESEARCH



CONTRACTION JOINT DOWEL BAR ASSEMBLIES

DOWEL BAR TABLE		
† PAVEMENT THICKNESS (IN.)	DOWEL BAR DIAMETER (IN.)	Hc HEIGHT TO CENTER OF DOWEL BAR (IN.)
7 - 7 1/2	1	3
8 - 10	1 1/4	4
≥ 10 1/2	1 1/2	5



NOTES:

- SEE STANDARD PLATE 1103 FOR DOWEL BAR ASSEMBLY.
- FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- SEE STANDARD PLANS 5-297.217 AND 5-297.219 FOR CONCRETE MAINLINE/RAMP PAVEMENT.
- SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATION TO BE USED AND SPECIAL REINFORCEMENT REQUIRED.
- ① JOINT DEPTH AND TOLERANCE: $\pm 3 \pm 1/4"$.
- ② JOINT DEPTH 1/4" MORE THAN THE PREFORMED SEALER WHEN COMPRESSED TO FIT THE JOINT DESIGN WIDTH. "a" DIMENSION APPLIES AT ANY POINT THROUGHOUT "c" DEPTH, SHARP CORNERS NOT PERMITTED. PROVIDE CORNERS WITH SUITABLE FILLET.
- ③ CLEAN JOINT FACES WITH WATER DURING THE SAW CUTTING OPERATION OR BY WATER BLASTING AFTER SAWING.
- ④ CLEAN AND DRY JOINT FACES BY SANDBLASTING AND AIR BLASTING, WHEN SEALING IS REQUIRED.
- ⑤ JOINT WIDTH TOLERANCE IS $\pm 1/16"$ TO $-1/32"$.
- ⑥ EVENLY SPACE A MINIMUM OF (8) ANCHOR PINS (4 PER SIDE) PER DOWEL ASSEMBLY. PROVIDE QUALITY CONTROL PLAN FOR ANCHORING THE DOWEL BAR ASSEMBLIES TO THE ENGINEER FOR ACCEPTANCE PER SPEC. 2301.
- ⑦ ANCHOR PIN REQUIREMENTS FOR CONCRETE PAVEMENT ON GRADE CONSTRUCTION. FOR CONCRETE OVERLAYS, ANCHOR PIN REQUIREMENT AS APPROVED BY THE ENGINEER.
- ⑧ TOLERANCES:
 - PLACE DOWEL BARS PARALLEL TO THE SUBSTRATE SURFACE $\pm 1/8"$ IN 15".
 - PLACE DOWEL BARS PARALLEL TO THE CENTERLINE OF THE PAVEMENT $\pm 1/4"$ IN 15".
 - SAW CONTRACTION JOINTS PERPENDICULAR TO THE CENTERLINE OF THE PAVEMENT AND CENTERED ON THE DOWEL BAR $\pm 3"$.
 - HEIGHT (Hc) TO CENTER OF DOWEL BAR $\pm 1/2"$.
- ⑨ DISTANCE TO EDGE OF PAVEMENT FROM OUTSIDE DOWEL:
 - 3' 0" FOR 14' 0" LANE.
 - 2' 6" FOR 13' 6" LANE.
 - 2' 0" FOR 13' 0" LANE.
 - 1' 0" FOR 12' 0" LANE.
- ⑩ CONTRACTOR OPTION TO CUT AND BEND SPACER WIRES AFTER STAKING.



STANDARD PLAN 5-297.221 1 OF 4

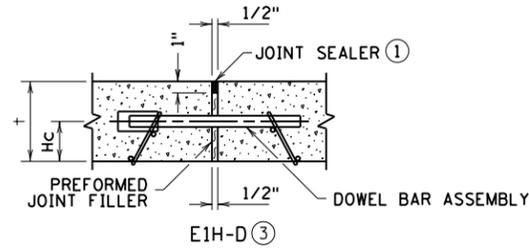
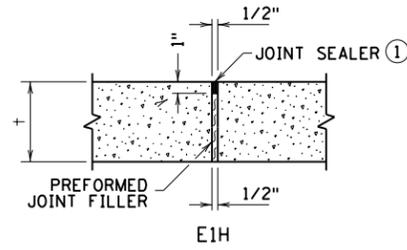
APPROVED: 10-03-2022
REVISED:

THOMAS STYBICKI
STATE DESIGN ENGINEER

PAVEMENT JOINTS
CONTRACTION (DESIGN C)

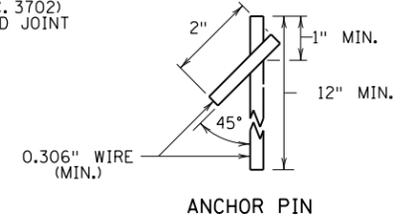
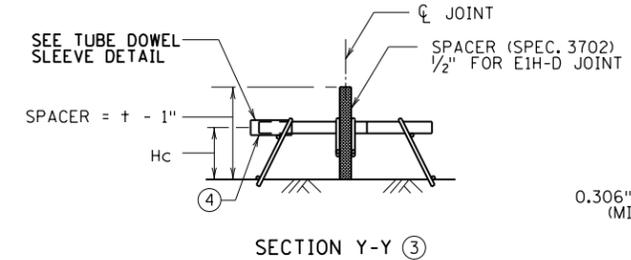
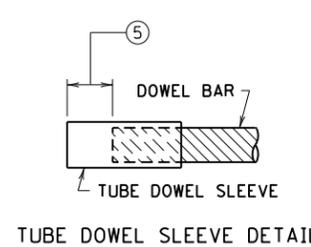
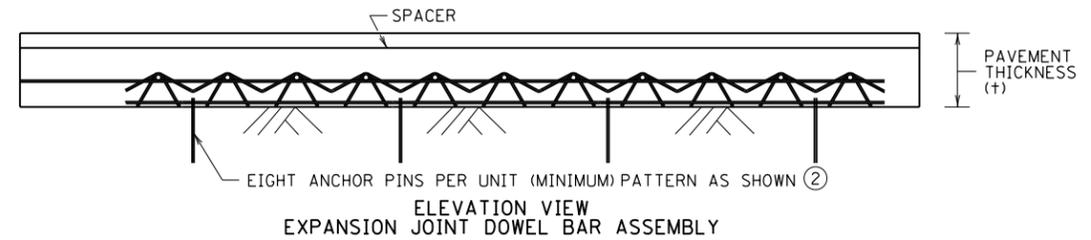
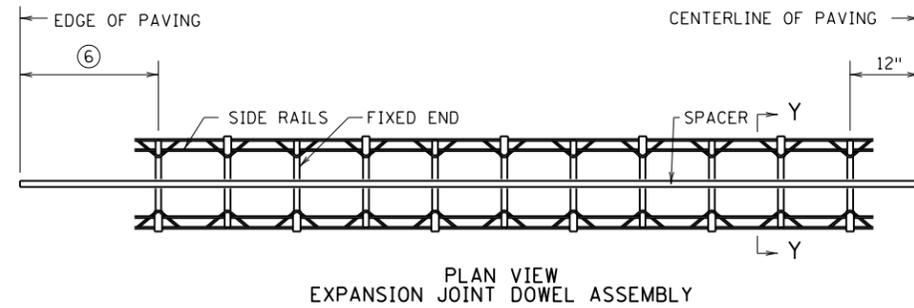
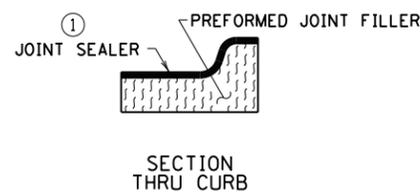
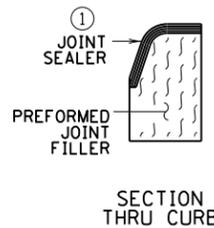
CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET 27 OF 135 SHEETS



EXPANSION JOINT REFERENCE, DETAIL & SEALER SPEC. TABLE				
JOINT REFERENCE		PREFORMED JOINT FILLER SPEC.	JOINT SEALER SPEC.	JOINT WIDTH
WITHOUT DOWELS	WITH DOWELS			
E1H	E1H-D	3702	3725	1/2"

LEGEND	EXAMPLE
E = EXPANSION JOINT	E1H-D
NO. = JOINT REFERENCE	
H = HOT POURED	
-D = DOWEL BARS	



DOWEL BAR TABLE		
PAVEMENT THICKNESS (IN.)	DOWEL BAR DIAMETER (IN.)	Hc HEIGHT TO CENTER OF DOWEL BAR (IN.)
7 - 7 1/2	1	3
8 - 10	1 1/4	4
≥ 10 1/2	1 1/2	5

NOTES:

- WHEN USING THE EXPANSION JOINT DOWEL ASSEMBLY, CONTACT THE CONCRETE OFFICE.
- SEE STANDARD PLATE 1103 FOR DOWEL BAR ASSEMBLY.
- PROVIDE PREFORMED JOINT FILLER MATERIAL IN ACCORDANCE WITH SPEC. 3702.
- FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- ① JOINT SEALER SPEC. 3725. CLEAN AND DRY JOINT FACES BY SANDBLASTING AND AIR BLASTING. TOP OF SEALER FLUSH TO 1/8" BELOW TOP OF PAVEMENT SURFACE.
- ② EVENLY SPACE A MINIMUM OF (8) ANCHOR PINS (4 PER SIDE) PER DOWEL ASSEMBLY. PROVIDE QUALITY CONTROL PLAN FOR ANCHORING THE DOWEL BAR ASSEMBLIES TO THE ENGINEER FOR ACCEPTANCE PER SPEC. 2301.
- ③ TOLERANCES:
 - PLACE DOWEL BARS PARALLEL TO THE SUBSTRATE SURFACE ± 1/8" IN 15".
 - PLACE DOWEL BARS PARALLEL TO THE CENTERLINE OF THE PAVEMENT ± 1/4" IN 15"
 - HEIGHT (hc) TO CENTER OF DOWEL BAR ± 1/2".
- ④ PLACE METAL INSTALLATION SHIELDS FOR EXPANSION JOINTS PARALLEL TO THE PAVEMENT SURFACE AND THE PAVEMENT CENTERLINE WITHIN A TOLERANCE OF 1/4" WITHIN THE LENGTH OF BAR.
- ⑤ SPACE FROM END OF DOWEL BAR TO END OF SLEEVE IS 1" MINIMUM.
- ⑥ DISTANCE TO EDGE OF PAVEMENT FROM OUTSIDE DOWEL:
 - 3' 0" FOR 14' 0" LANE.
 - 2' 6" FOR 13' 6" LANE.
 - 2' 0" FOR 13' 0" LANE.
 - 1' 0" FOR 12' 0" LANE.

LEAD EXPERT OFFICE

GLENN ENGSTROM
DIRECTOR
OFFICE OF MATERIALS
AND ROAD RESEARCH



STANDARD PLAN 5-297.221 2 OF 4
APPROVED: 10-03-2022
REVISED:
THOMAS STYRBICKI
STATE DESIGN ENGINEER

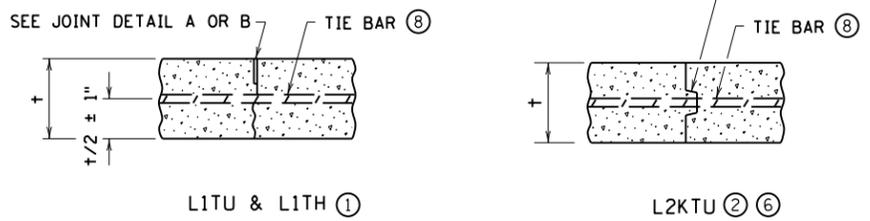
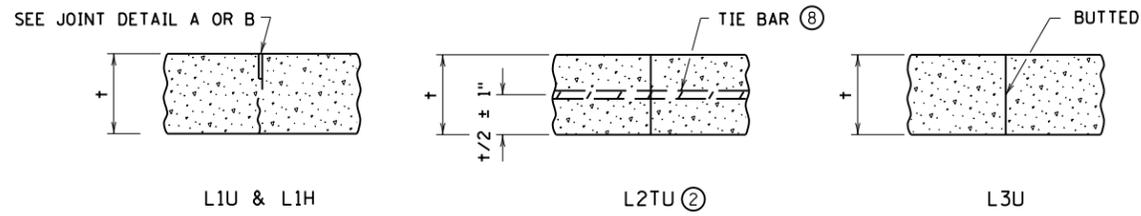
PAVEMENT JOINTS
EXPANSION (DESIGN E)

CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET 28 OF 135 SHEETS

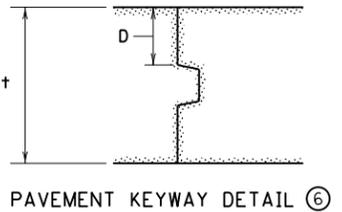
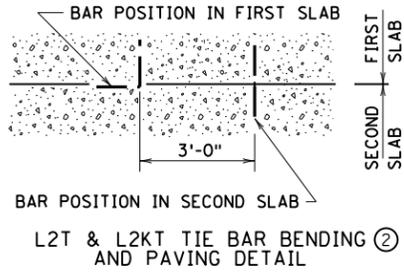
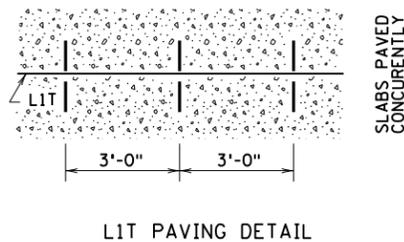
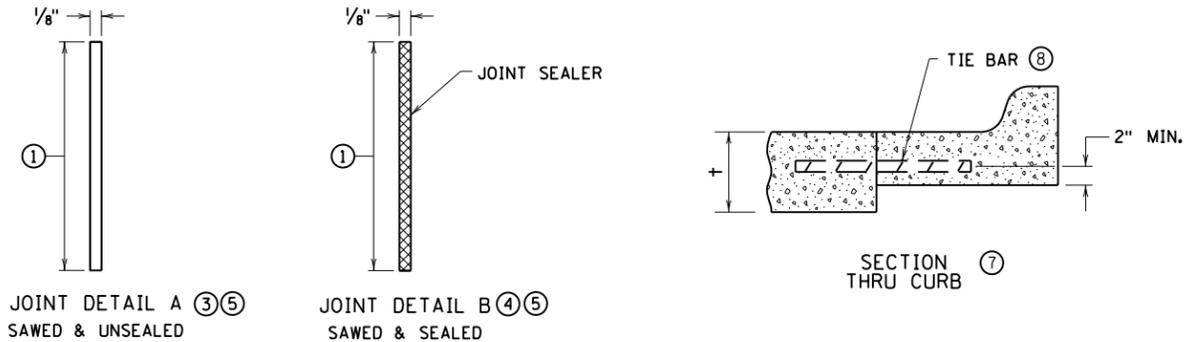
PLOTTED/REVISED: 1/5/2024 2:39:41 PM

PATH & FILENAME: Projects\Minnesota\021204-000\Cad\Plan\21204-000_stflpr_200.dgn



LONGITUDINAL JOINT REFERENCE, DETAIL & SEALER SPECIFICATION TABLE					
JOINT REFERENCE			JOINT DETAIL	JOINT SEALER SPEC	JOINT WIDTH
WITHOUT TIE BARS	WITH TIE BARS	WITH KEYWAY & TIE BARS			
L1U	L1TU		A	UNSEALED	1/8"
L1H	L1TH		B	3725	1/8"
	L2TU	L2KTU	NONE	UNSEALED	
L3U			NONE	UNSEALED	

LEGEND		EXAMPLE
L = LONGITUDINAL JOINT		L2KTU
NO. = JOINT REFERENCE		
1 = PAVED CONSTRUCTION JOINT		
2 = TIED CONSTRUCTION JOINT		
3 = BUTTED CONSTRUCTION JOINT		
K = KEYWAY		
T = TIE BARS		
U = UNSEALED		
H = HOT POURED		



+ PAVEMENT THICKNESS	D (MIN. DEPTH)
< 7"	2-1/2"
7" TO 7-1/2"	3"
8" TO 9-1/2"	4"
≥ 10"	5"

+ PAVEMENT THICKNESS	D (MIN. DEPTH)
< 10"	NO KEYWAY
≥ 10"	5"

NOTES:

- ① PROVIDE EPOXY-COATED TIE BARS COMPLYING WITH SPEC. 3301.
- ② FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- ③ SEE STANDARD PLANS 5-297.217 AND 5-297.219 FOR CONCRETE MAINLINE AND RAMP PAVEMENT.
- ④ SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATION TO BE USED AND SPECIAL REINFORCEMENT REQUIRED.
- ⑤ LONGITUDINAL JOINTS SAWED WIDER THAN 1/8", CONTACT THE CONCRETE UNIT FOR SEALING RECOMMENDATIONS.
- ⑥ JOINT DEPTH AND TOLERANCE: +/3 ± 1/4".
- ⑦ BEND TIE BARS 90 DEGREES WHEN INSERTED IN THE L2 JOINTS, EXCEPT WHEN NOTED OTHERWISE IN THE PLANS.
- ⑧ CLEAN JOINT FACES WITH WATER DURING THE SAW CUTTING OPERATION OR BY WATER BLASTING AFTER SAWING.
- ⑨ CLEAN AND DRY JOINT FACES BY SANDBLASTING AND AIR BLASTING, WHEN SEALING IS REQUIRED.
- ⑩ JOINT WIDTH TOLERANCE IS +1/16" TO -1/32".
- ⑪ CONTRACTOR'S OPTION TO USE KEYWAY WHEN:
 - PLACING FIXED FORM CONSTRUCTION.
 - PLACING SLIPFORM CONSTRUCTION WHEN + ≥ 10".
- ⑫ USE OF KEYWAY FOR ANY OTHER APPLICATION REQUIRES APPROVAL BY THE ENGINEER. OTHER KEYWAY SHAPES MAY BE USED WITH THE APPROVAL OF THE CONCRETE ENGINEER.
- ⑬ WHEN CURB AND GUTTER IS NOT CONSTRUCTED AT THE SAME DEPTH AS ADJACENT CONCRETE, PLACE TIE BAR MINIMUM OF 2" ABOVE THE CURB AND GUTTER GRADE.
- ⑭ PROVIDE NO. 4 TIE BAR, 30" LONG, SPACED AT 3' ON CENTER.

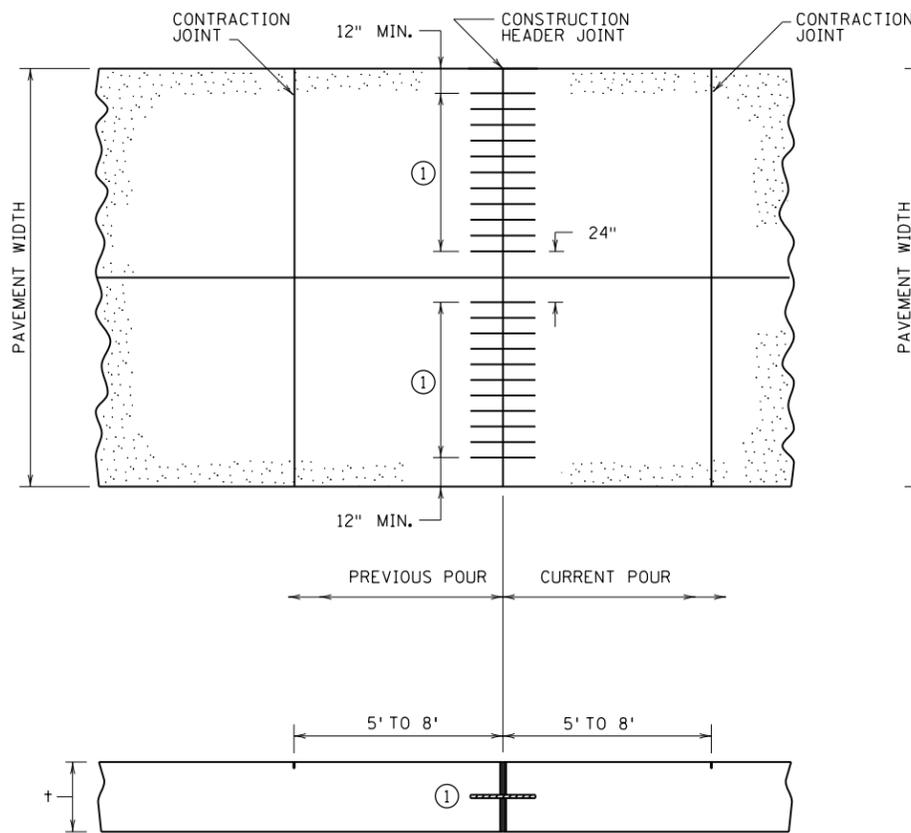
LEAD EXPERT OFFICE

GLENN ENGSTROM
DIRECTOR
OFFICE OF MATERIALS
AND ROAD RESEARCH

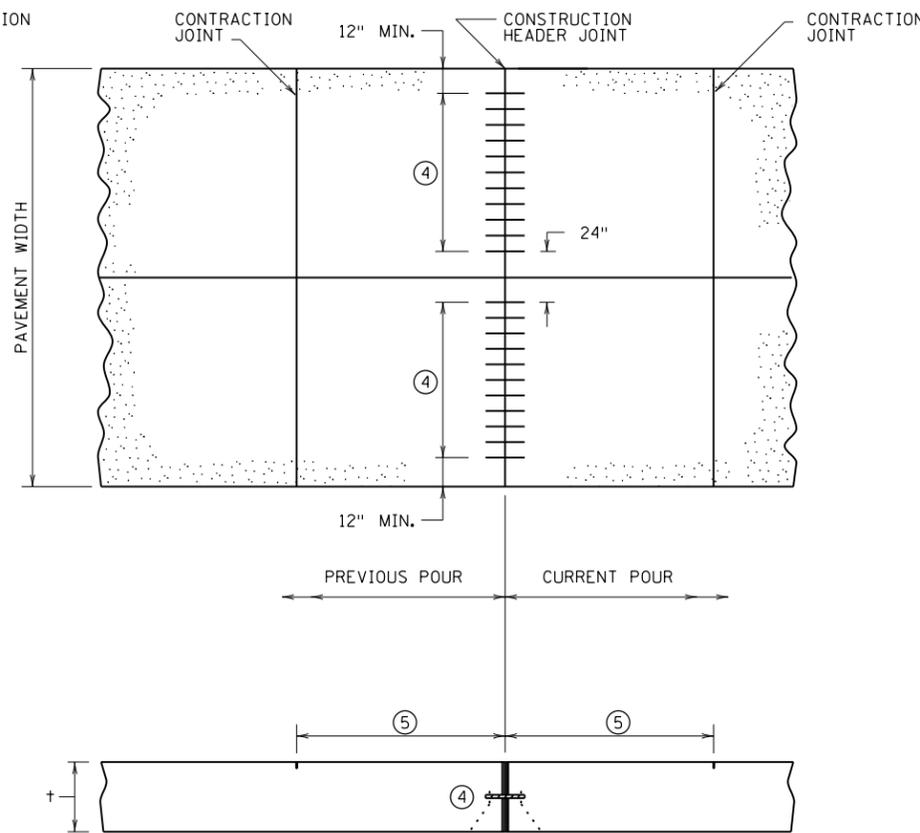
	STANDARD PLAN 5-297.221	3 OF 4
	APPROVED: 10-03-2022 REVISED:	
THOMAS STYRBICKI STATE DESIGN ENGINEER	CP 20-23-132, SAP 114-117-005, SAP 127-080-001	

PAVEMENT JOINTS
LONGITUDINAL (DESIGN L)

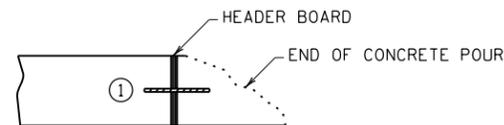
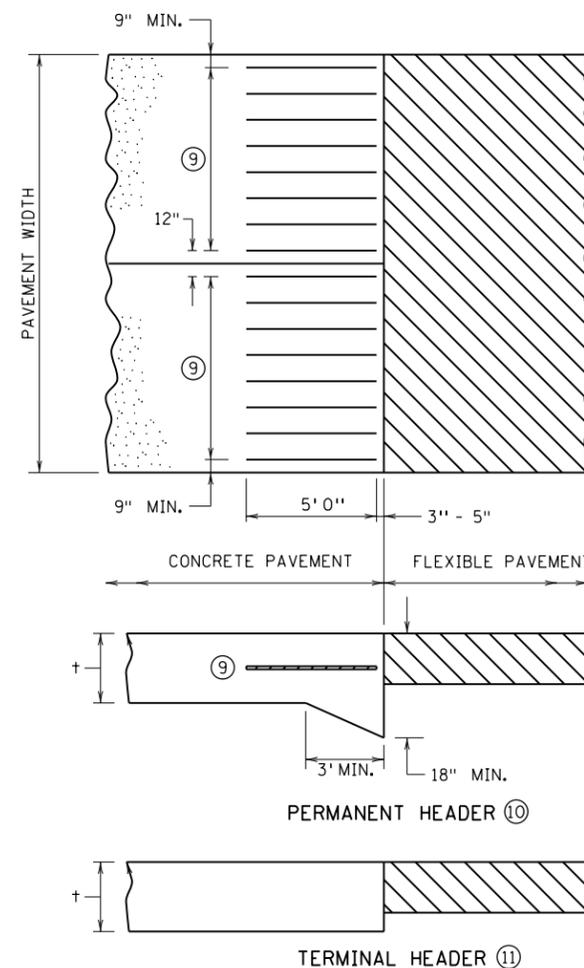
SHEET **29** OF **135** SHEETS



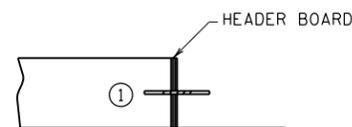
REINFORCEMENT BAR CONSTRUCTION HEADERS



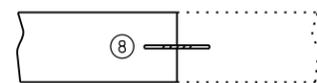
DOWEL BAR CONSTRUCTION HEADERS



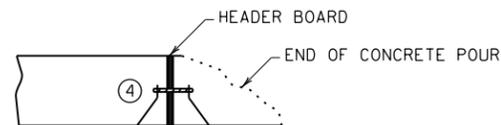
SLIPFORM PLACED REINFORCEMENT BAR HEADER ②



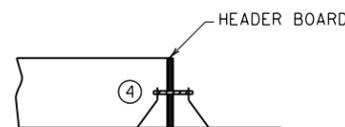
FIXED FORM PLACED REINFORCEMENT BAR HEADER ③



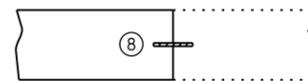
DRILL AND GROUT REINFORCEMENT BAR HEADER



SLIPFORM PLACED DOWEL BAR HEADER ⑥



FIXED FORM PLACED DOWEL BAR HEADER ⑦



DRILL AND GROUT DOWEL BAR HEADER

NOTES:

PROVIDE EPOXY-COATED REINFORCEMENT BARS IN ACCORDANCE WITH SPEC. 3301.

- ① PROVIDE NO. 4 REINFORCEMENT BARS, 30" LONG, SPREAD 12" ON CENTER AT DEPTH OF $T/2 \pm 1"$.
- ② PAVE PAST THE HEADER LOCATION, REMOVE END OF CONCRETE POUR, SET HEADER BOARD SHAPED TO PAVEMENT CROSS SECTION AND SLOTTED OR DRILLED FOR REINFORCEMENT BARS. PLACE THE CONCRETE BEHIND THE BOARD AND FINISH THE CONCRETE BEHIND THE BOARD.
- ③ SET HEADER BOARD SHAPED TO PAVEMENT CROSS SECTION AND SLOTTED OR DRILLED FOR REINFORCEMENT BARS. PLACE THE CONCRETE BEHIND THE BOARD AND FINISH THE CONCRETE BEHIND THE BOARD.
- ④ PROVIDE DOWEL BARS IN ACCORDANCE WITH SPEC. 3302 AND THE CONTRACT.
- ⑤ DISTANCE EQUAL TO OR LESS THAN THE DESIGNED CONTRACTION JOINT SPACING IN ACCORDANCE WITH THE CONTRACT.
- ⑥ PLACE DOWEL BAR BASKET AT DESIRED HEADER LOCATION, SET HEADER BOARD SHAPED TO PAVEMENT CROSS SECTION ABOVE AND BELOW THE DOWELS. PAVE PAST THE HEADER LOCATION AND FINISH CONCRETE BEHIND THE HEADER BOARD. THOROUGHLY REMOVE ALL CONCRETE FROM THE EXPOSED DOWELS.
- ⑦ PLACE DOWEL BAR BASKET AT DESIRED HEADER LOCATION, SET HEADER BOARD SHAPED TO PAVEMENT CROSS SECTION ABOVE AND BELOW THE DOWELS. PLACE, CONSOLIDATE AND FINISH THE CONCRETE BEHIND THE HEADER BOARD.
- ⑧ DRILL AND GROUT 18" LONG DOWEL OR REINFORCEMENT BARS SPACED AT 12" ON CENTER AT A DEPTH OF $T/2 \pm 1"$. DRILL THE HOLE $1/8"$ GREATER THAN THE NOMINAL OUTSIDE DIAMETER OF THE BAR BEING PLACED TO A DEPTH OF 9". INJECT A MNDOT-APPROVED EPOXY OR NON-SHRINK GROUT IN THE BACK OF THE DRILL HOLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 - FOR DOWEL BAR HEADERS, USE DOWEL BARS HAVING A DIAMETER IN ACCORDANCE WITH SPEC. 3302 AND THE CONTRACT.
 - FOR REINFORCEMENT BAR HEADERS, USE NO. 4 REINFORCEMENT BARS.
- ⑨ PROVIDE NO. 7 REINFORCEMENT BARS, 5' LONG, SPACED 18" ON CENTER AT DEPTH OF $T/2 \pm 1"$.
- ⑩ USE PERMANENT HEADER WHEN LONG SECTIONS OF CONCRETE (400' OR GREATER) ABUT BITUMINOUS. CONTACT THE CONCRETE UNIT WHEN FUTURE CONCRETE IS BEING CONSTRUCTED ADJACENT TO AN EXISTING PERMANENT HEADER.
- ⑪ USE TERMINAL HEADER WHEN SHORT SECTIONS OF CONCRETE (LESS THAN 400' ABUT BITUMINOUS (ON SIDE STREETS, FOR EXAMPLE)).

LEAD EXPERT OFFICE

GLENN ENGSTROM
DIRECTOR
OFFICE OF MATERIALS
AND ROAD RESEARCH



STANDARD PLAN 5-297.221

4 OF 4

APPROVED: 10-03-2022
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

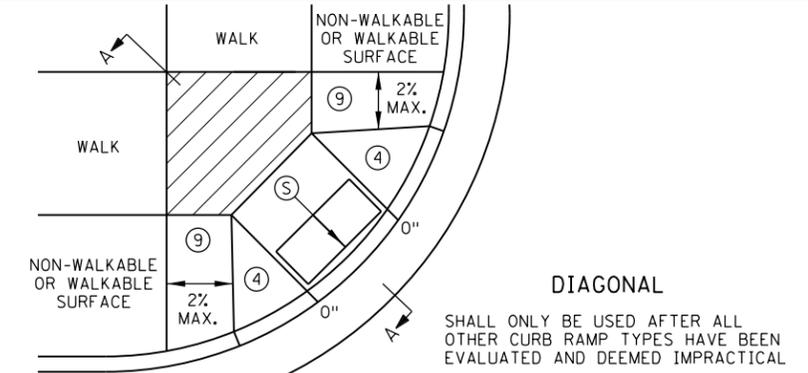
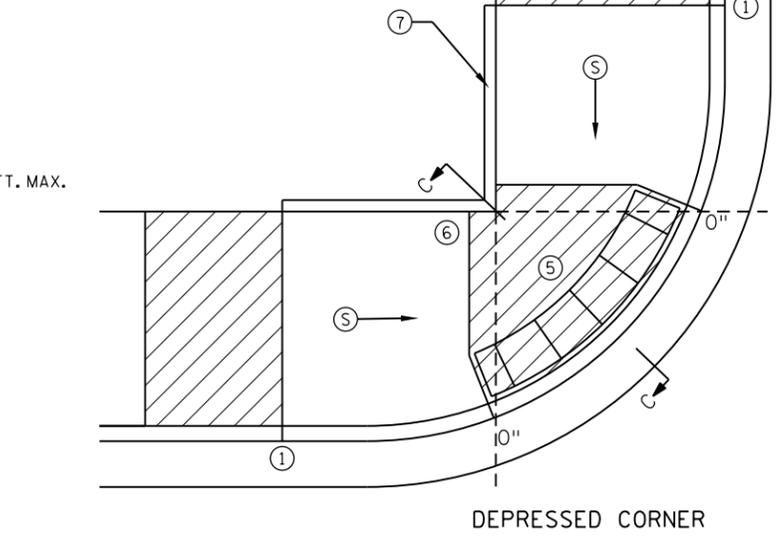
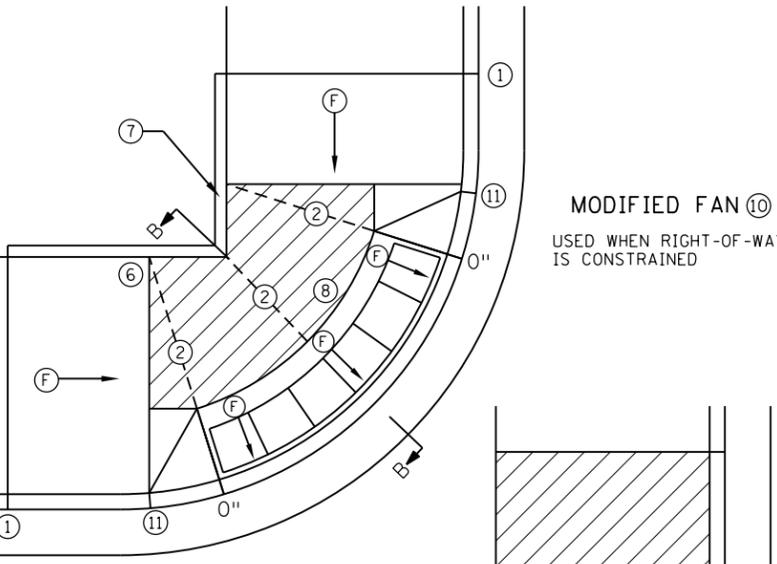
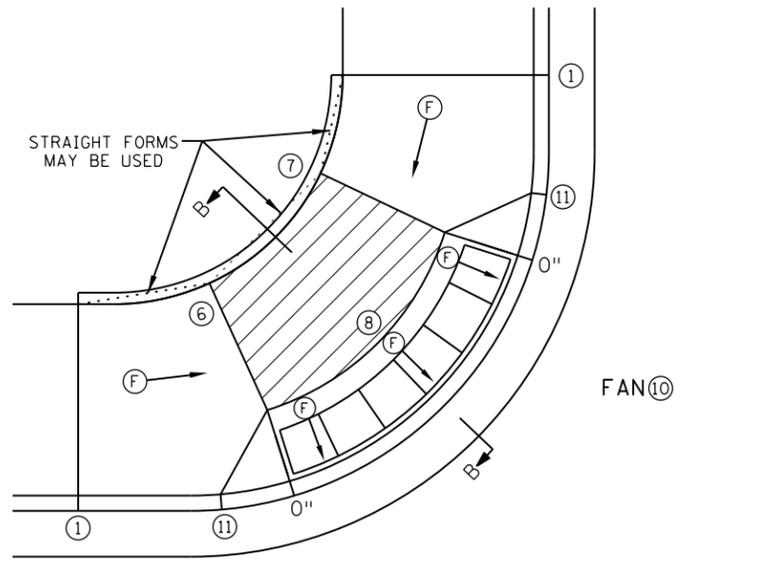
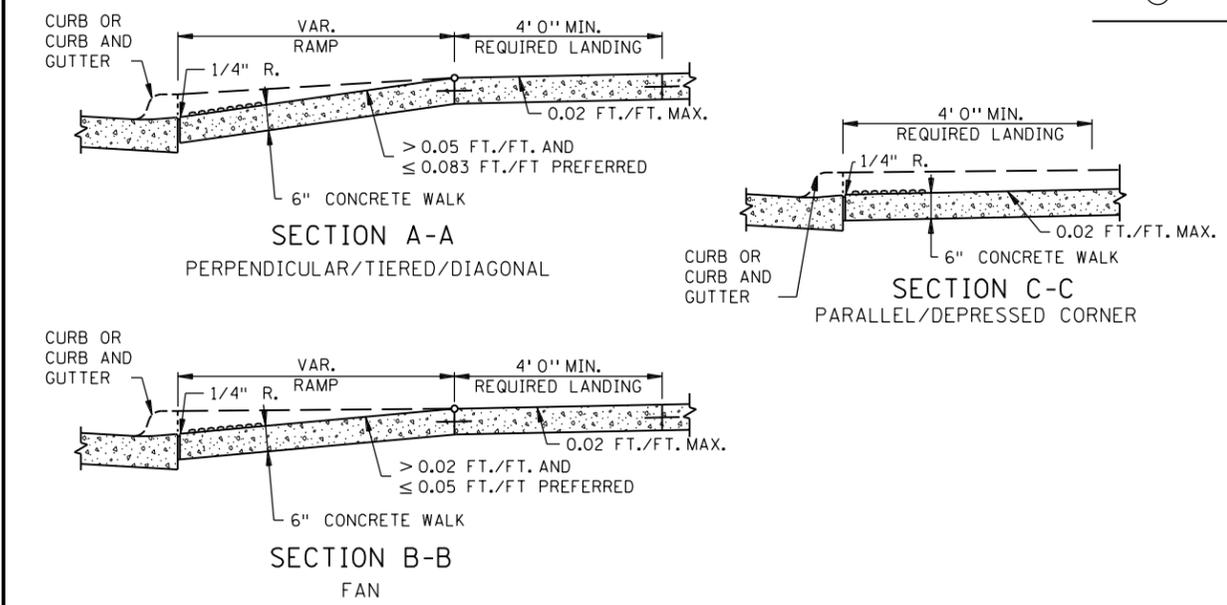
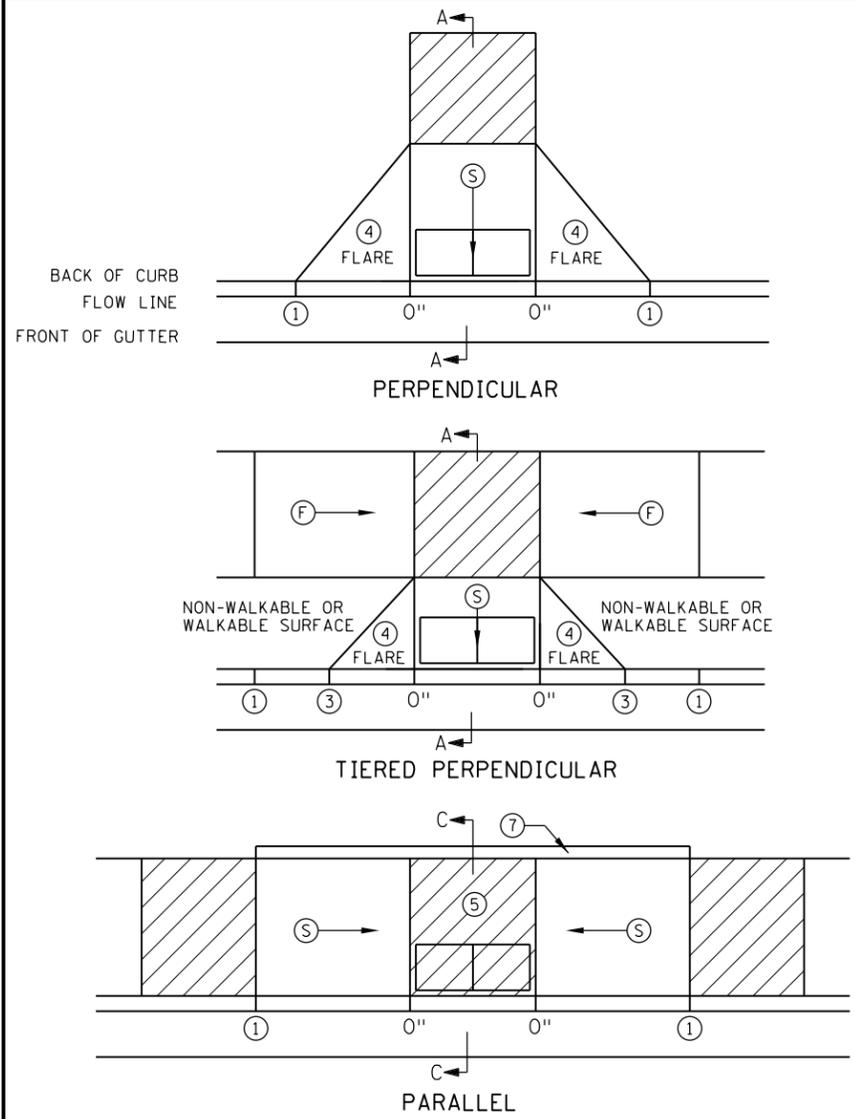
CP 20-23-132, SAP 114-117-005, SAP 127-080-001

PAVEMENT JOINTS
CONSTRUCTION AND TERMINAL HEADERS

SHEET 30 OF 135 SHEETS

PLOTTED/REVISED: 1/5/2024 2:39:42 PM

PATH & FILENAME: Projects\Minnesota\021204-000\Cad\Plan\21204-000_std\plr_200.dgn



- NOTES:**
- LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE GREATER THAN 2%.
 - INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.
 - SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL RUNNING SLOPE IS GREATER THAN 5.0%.
 - CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.
 - ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL, THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH. (EXCEPT AS STATED IN 6) BELOW.
 - TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 OF 6 FOR ALL SEPARATELY POURED INITIAL LANDINGS.
 - WHEN SIDEWALK IS AT BACK OF CURB, TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE. MAINTAIN POSITIVE BOULEVARD DRAINAGE TO TOP OF CURB.
 - ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.
 - 4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER THE ENTIRE PAR WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 3" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0" - 3" OFFSET IS ALLOWED.
 - WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 6" LESS THAN THE INCOMING PAR. ARC LENGTH OF THE RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.
 - RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.
 - 1 MATCH FULL HEIGHT CURB.
 - 2 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.
 - 3 3" HIGH CURB WHEN USING A 3' LONG RAMP, 4" HIGH CURB WHEN USING A 4' LONG RAMP.
 - 4 SEE SHEET 4 OF 6, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS.
 - 5 DETECTABLE WARNINGS MAY BE PART OF THE 4' X 4' MIN. LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.
 - 6 THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF WALK, THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL. (TYPICAL FOR ALL)
 - 7 WHEN ADJACENT TO GRASS, GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS LESS THAN 5% RUNNING SLOPE SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
 - 8 A 7' MIN TOP RADIUS GRADE BREAK IS REQUIRED TO BE CONSTRUCTIBLE.
 - 9 PAVE FULL WALK WIDTH.
 - 10 "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.
 - 11 INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8-10% TO A MINIMUM 3" CURB HEIGHT. REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.

LEGEND	
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.	
(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%.
(Hatched Box)	LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PAR.
X"	CURB HEIGHT

REVISION:

APPROVED: 11-04-2021

Jeff J. Perkins
JEFFREY PERKINS
OPERATIONS DIVISION

m MINNESOTA
DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 1 OF 6

APPROVED: 11-04-2021
REVISED:

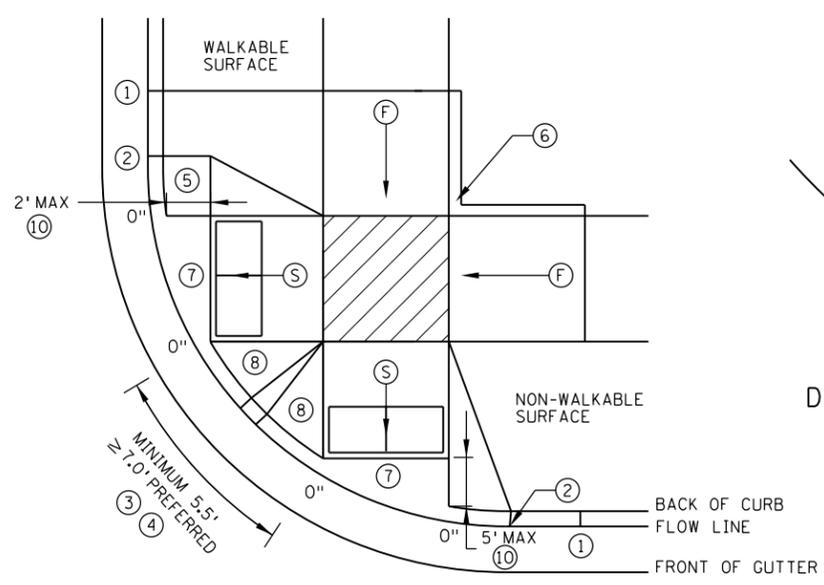
Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

CP 20-23-132, SAP 114-117-005, SAP 127-080-001

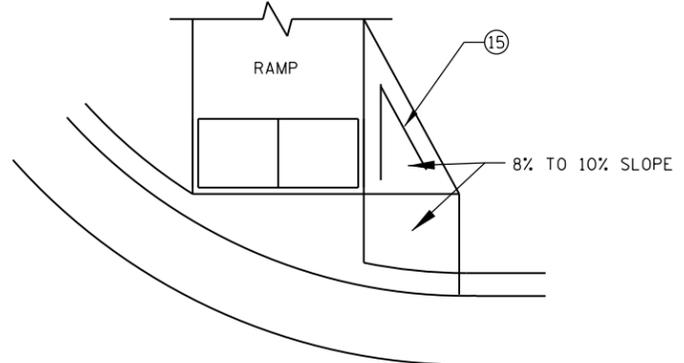
PEDESTRIAN CURB RAMP DETAILS

PLOTTED/REVISED: 1/5/2024 2:39:43 PM

PATH & FILENAME: Projects\Minnesota\021204-000\Cad\Plan\21204-000_std\plr_200.dgn

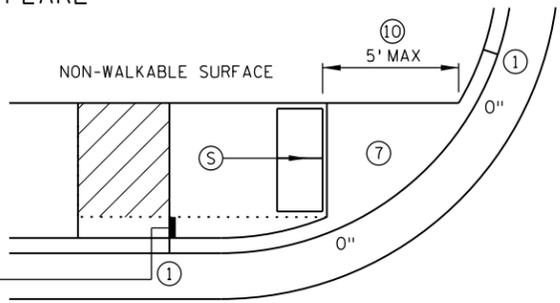


COMBINED DIRECTIONAL

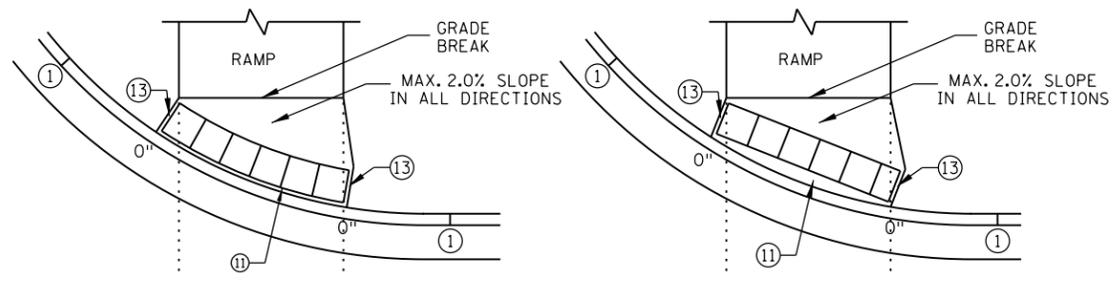


DIRECTIONAL RAMP WALKABLE FLARE

IF NON-CONCRETE BLVD. IS CONSTRUCTED AND IS LESS THAN 2' IN WIDTH AT TOP OF CURB TRANSITION, PAVE CONCRETE RAMP WIDTH TO ADJACENT BACK OF CURB.

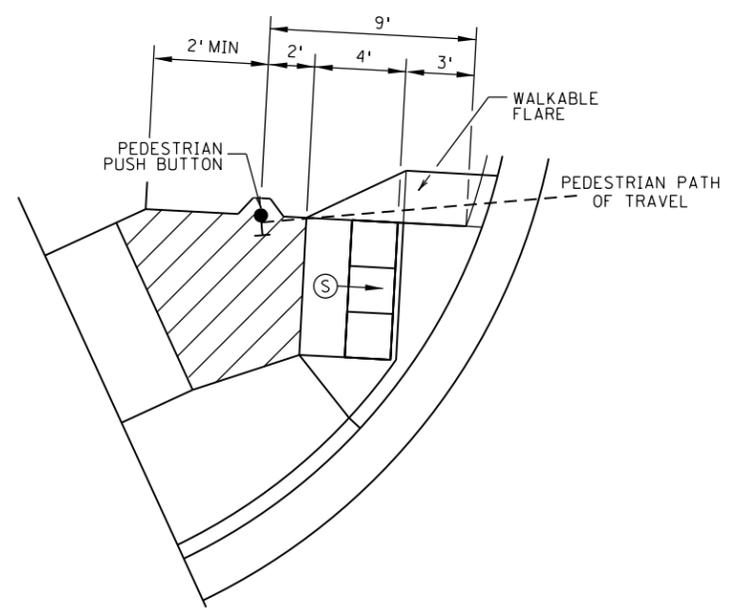


STANDARD ONE-WAY DIRECTIONAL ⑨



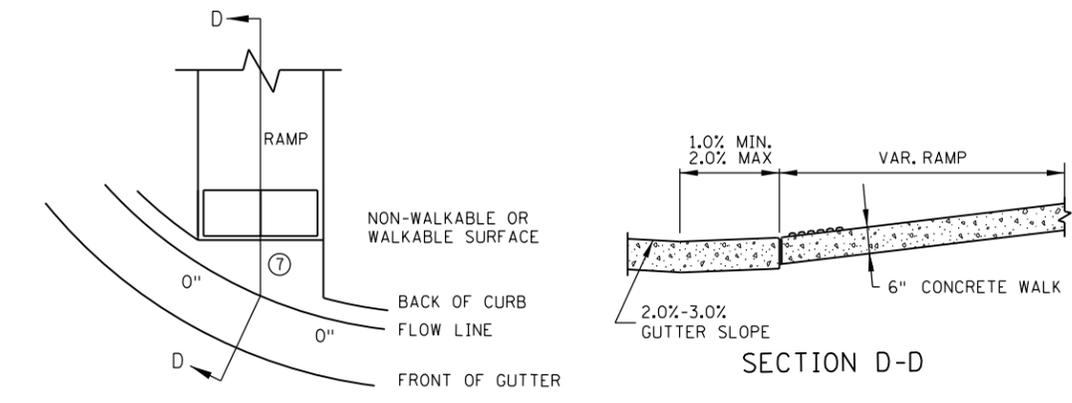
DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED ⑫

ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB



SEMI-DIRECTIONAL RAMP ③④⑨

3' DOME SETBACK, 4' LONG RAMP AND PUSH BUTTON 9' FROM THE BACK OF CURB
 PRIMARILY USED FOR APS APPLICATIONS WHERE THE PAR DOES NOT CONTINUE PAST THE PUSH BUTTON (DEAD-END SIDEWALK)



CURB FOR DIRECTIONAL RAMPS ⑭

NOTES:

- LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.
- INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.
- SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.
- CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOP GRADE BREAK OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.
- ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH.
- TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY, FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISION (PROSECUTION OF WORK).

- TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.
- WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.
- ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.
- 4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER THE ENTIRE PAR WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 3" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0" - 3" OFFSET IS ALLOWED.
- WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 6" LESS THAN THE INCOMING PAR. ARC LENGTH OF THE RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.
- RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB. SEE NOTES ⑩ & ⑪ FOR INFORMATION REGARDING RECTANGULAR DETECTABLE WARNING PLACEMENT.

- ① MATCH FULL CURB HEIGHT.
- ② 3" HIGH CURB WHEN USING A 3' LONG RAMP
4" HIGH CURB WHEN USING A 4' LONG RAMP.
- ③ 3" MINIMUM CURB HEIGHT (5.5' MIN. DISTANCE REQUIRED BETWEEN DOMES)
4" PREFERRED (7' MIN. DISTANCE REQUIRED BETWEEN DOMES).
- ④ THE "BUMP" IN BETWEEN THE RAMPS SHOULD NOT BE IN THE PATH OF TRAVEL FOR COMBINED DIRECTIONAL RAMPS. IF THIS OCCURS MODIFY THE RAMP LOCATION OR SWITCH RAMP TO A FAN/DEPRESSED CORNER.
- ⑤ WHEN USING CONCRETE PAVED FLARES ON THE OUTSIDE OF DIRECTIONAL RAMPS, AND ADJACENT TO A WALKABLE SURFACE, DIRECTIONAL RAMP FLARES SHALL BE USED. SEE THE DETAIL ON THIS SHEET.
- ⑥ GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
- ⑦ MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.
- ⑧ 8% TO 10% WALKABLE FLARE.
- ⑨ PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.
- ⑩ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
- ⑪ RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.
- ⑫ FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.
- ⑬ THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
- ⑭ TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.
- ⑮ PLACE 2 NO. 4 BARS 4 INCHES FROM SIDE OF FORMS WITH A MINIMUM 2 INCHES OF CONCRETE COVER ALONG EACH SIDE OF FLARE (INCIDENTAL).

LEGEND	
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.	
(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%.
[Hatched Box]	LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PAR.
X"	CURB HEIGHT

REVISION:

APPROVED: 11-04-2021

Jeff G. Perkins
JEFFREY PERKINS
OPERATIONS DIVISION

m MINNESOTA
DEPARTMENT OF TRANSPORTATION

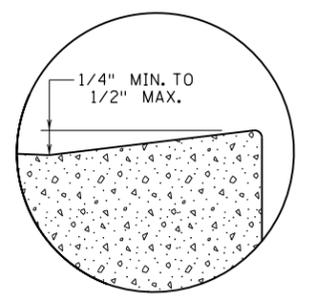
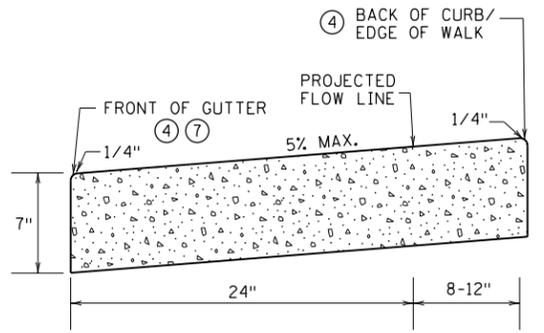
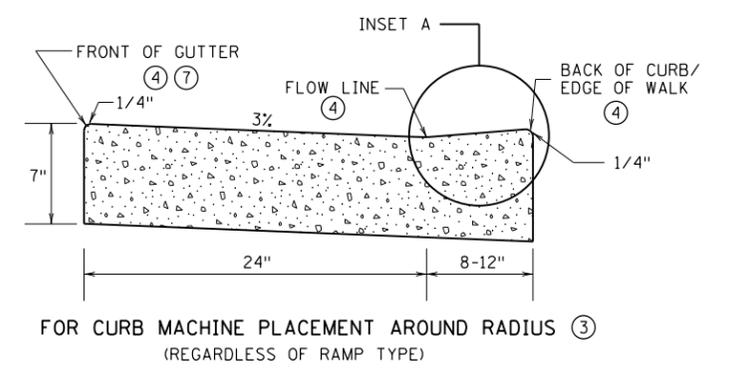
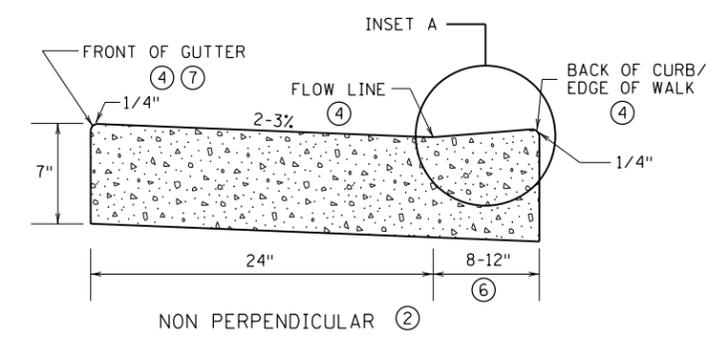
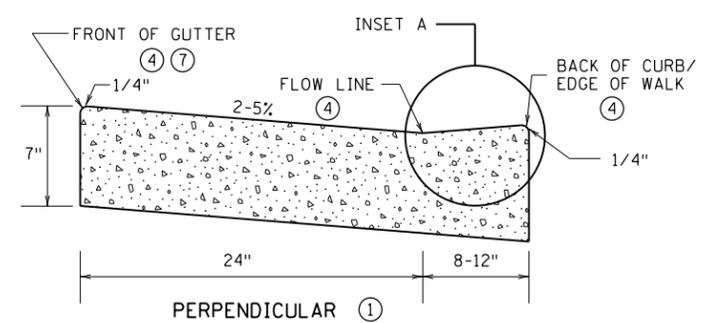
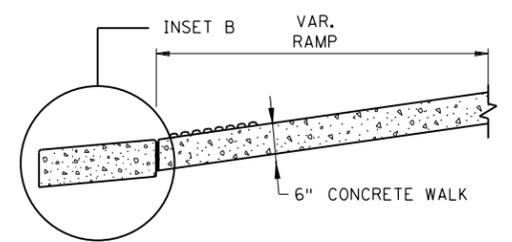
STANDARD PLAN 5-297.250 2 OF 6

APPROVED: 11-04-2021
REVISED:

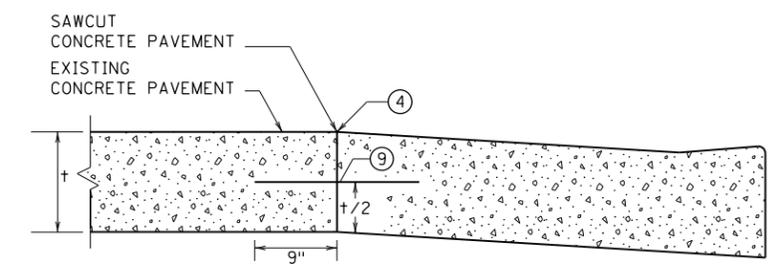
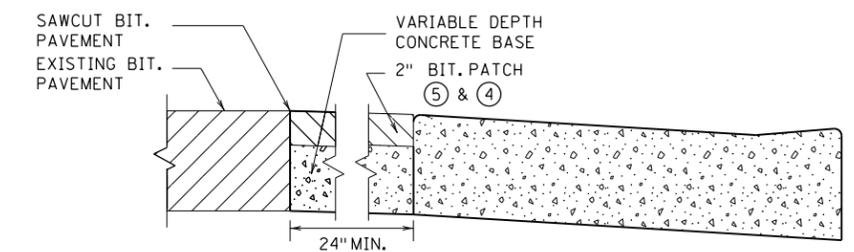
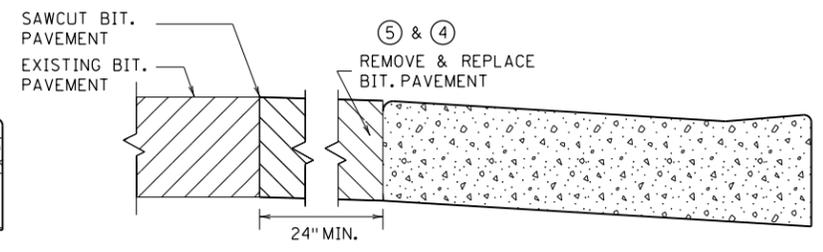
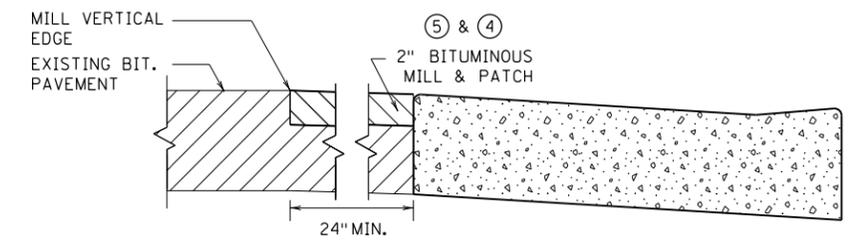
Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

PLOTTED/REVISED: 1/5/2024 2:39:44 PM

PATH & FILENAME: Projects\Minnesota\021204-000\Cadd\Plan\21204-000_std\plr_200.dgn

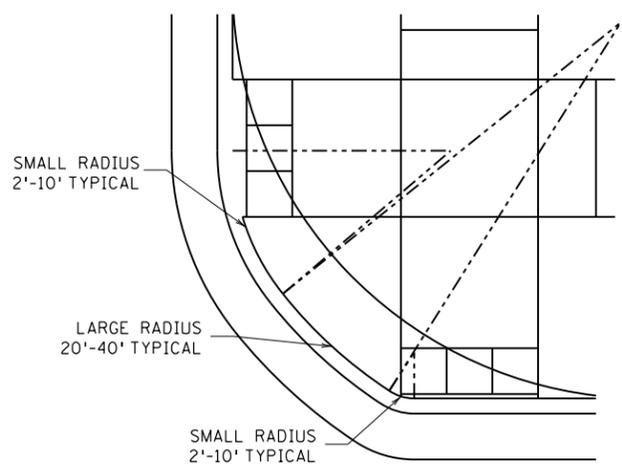
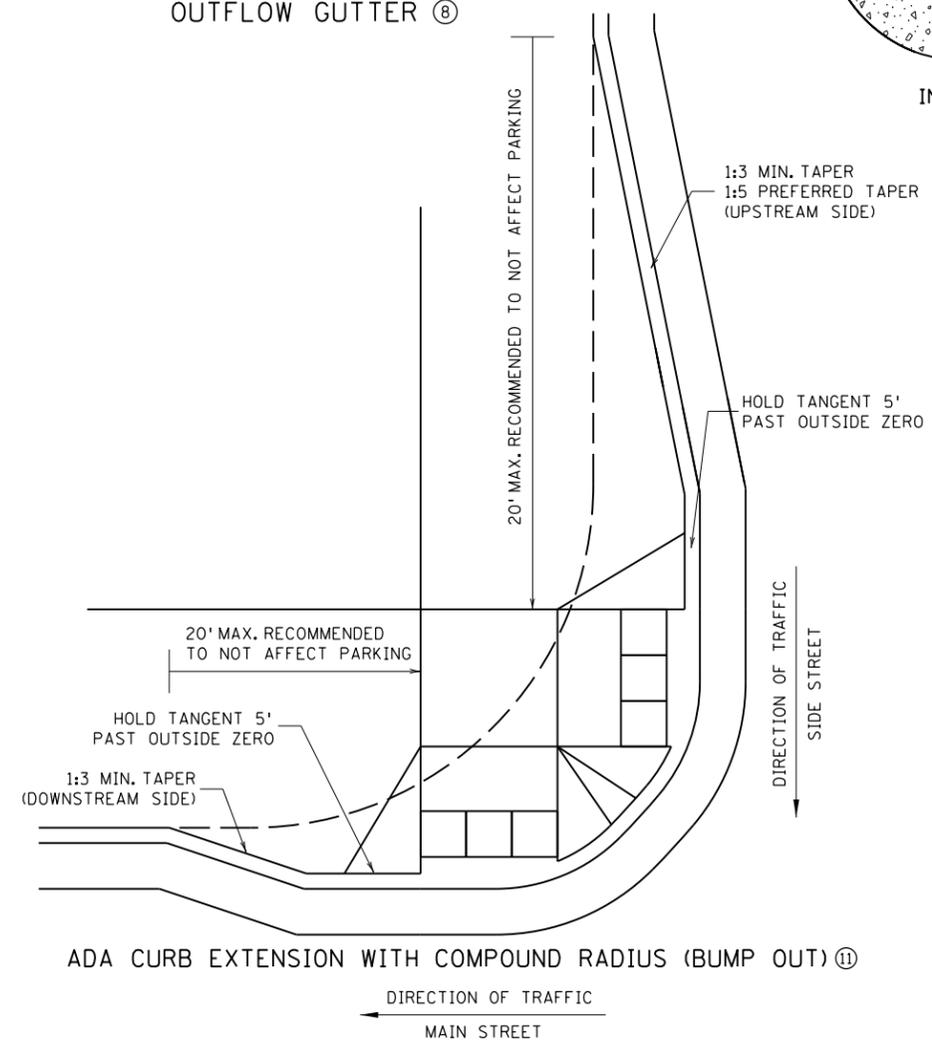


PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



ONLY ALLOWED PER ENGINEER'S APPROVAL

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



COMBINED DIRECTIONAL (COMPOUND RADIUS)

- NOTES:**
- POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM. NO PONDING SHALL BE PRESENT IN THE PAR.
 - ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.
 - ① FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.
 - ② FOR USE AT CURB RAMPS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS & DEPRESSED CORNERS.
 - ③ BEGIN GUTTER SLOPE TRANSITION 10' OUTSIDE OF ALL CURB RAMPS.
 - ④ THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".
 - ⑤ ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.
 - ⑥ VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS. SEE SHEET 2 FOR DIRECTIONAL CURB SLOPE REQUIREMENTS.
 - ⑦ TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. TOP 1.5" OF THE GUTTER FACE MUST BE A FORMED EDGE. PAR GUTTER SHALL NOT BE OVERLAID.
 - ⑧ SHOULD BE USED AT VERTICALLY CONSTRAINED AREAS WHEN AT A DRAINAGE HIGH POINT OR SUPER ELEVATED ROADWAY SEGMENTS.
 - ⑨ DRILL AND GROUT NO. 4 EPOXY-COATED 18" LONG TIE BARS AT 30" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT 1' MINIMUM FROM ALL JOINTS.
 - ⑩ HELPS PROVIDE TWO SEPARATE RAMPS, REDUCES THE DOME SETBACK LENGTH AND MINIMIZES DIRECTIONAL CURB. THIS RADIUS DESIGN CLOSELY FOLLOWS THE TURNING VEHICLE PATH WHILE OPTIMIZING CURB RAMP LENGTH.
 - ⑪ CURB EXTENSIONS SHOULD BE USED IN VERTICALLY CONSTRAINED AREAS, USUALLY IN DOWNTOWN ROADWAY SEGMENTS WHERE ON-STREET PARKING IS AVAILABLE. CURB EXTENSIONS SHOULD BE CONSIDERED FOR APS INTERSECTIONS WHERE SPACE IS LIMITED. PUSH BUTTONS MUST MEET APS CRITERIA AS DESCRIBED IN THE PUSH BUTTON LOCATION DETAIL SHEET.

REVISION:
 APPROVED: 11-04-2021
 Jeff J. Perkins
 OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION
 STANDARD PLAN 5-297.250 3 OF 6
 APPROVED: 11-04-2021
 THOMAS STYBICKI
 STATE DESIGN ENGINEER

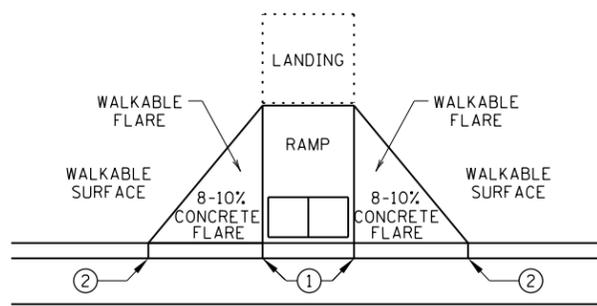
PEDESTRIAN CURB RAMP DETAILS

CP 20-23-132, SAP 114-117-005, SAP 127-080-001

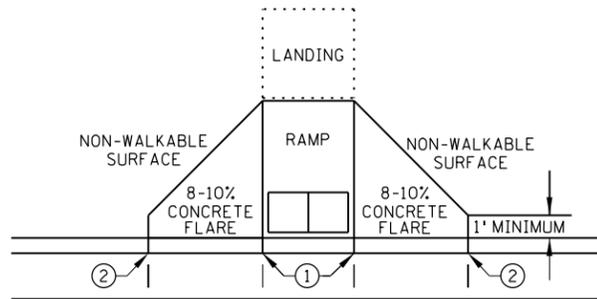
SHEET 33 OF 135 SHEETS

2:39:45 PM
1/5/2024
PLOTTED/REVISED:

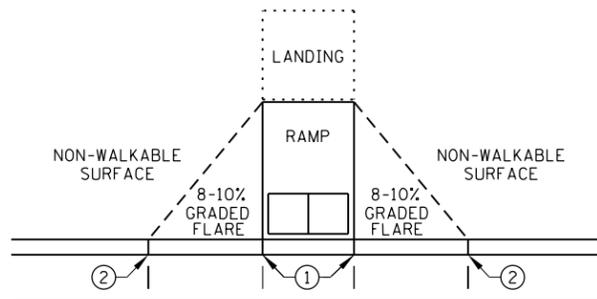
Projects\Minnesota\021204-000\Cad\Plan\21204-000_std\plr_200.dgn



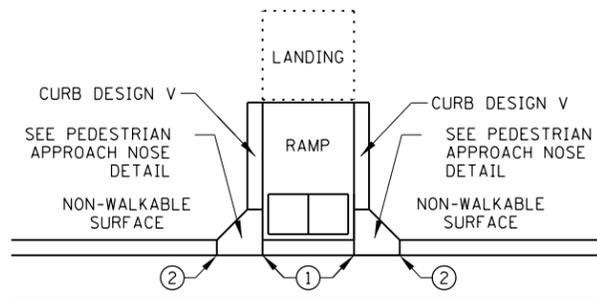
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

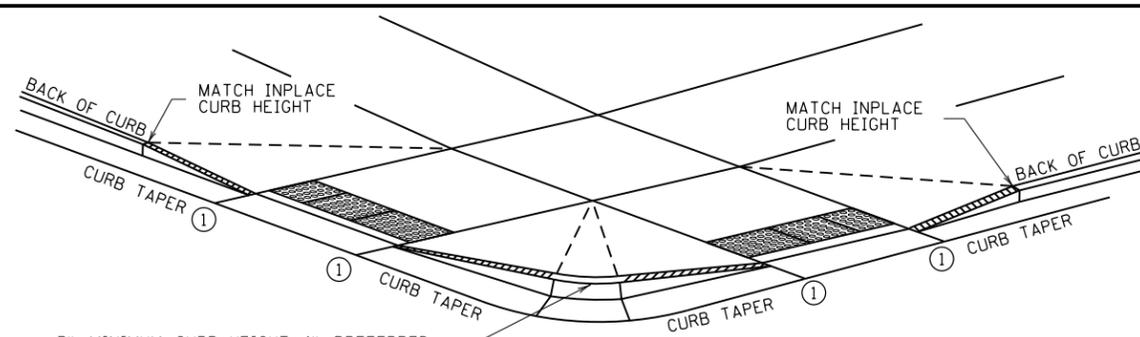


GRADED FLARES



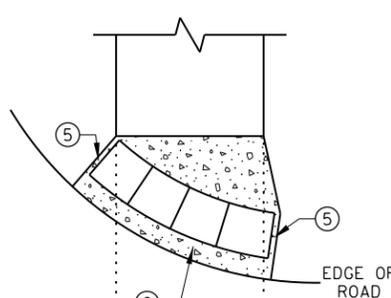
RETURNED CURB ④

TYPICAL SIDE TREATMENT OPTIONS ③ ⑩

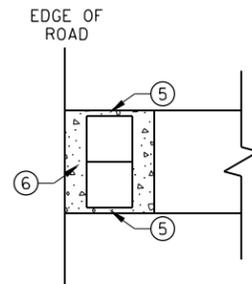


3" MINIMUM CURB HEIGHT, 4" PREFERRED
(MEASURED AT FRONT FACE OF CURB)
FOR A MIN. 6" LENGTH (MEASURED ALONG FLOW LINE)

DETECTABLE EDGE WITH
CURB AND GUTTER ⑦

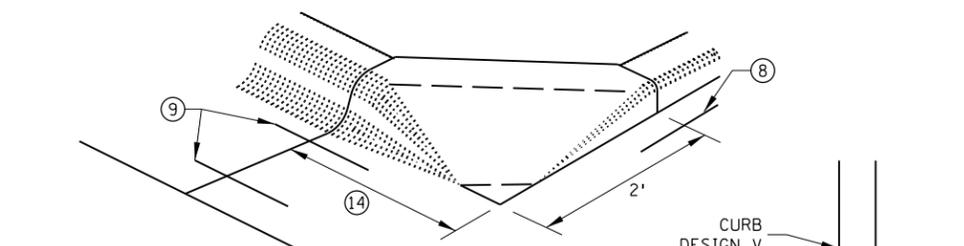


RADIAL DETECTABLE WARNING

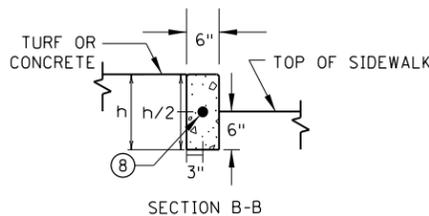


RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

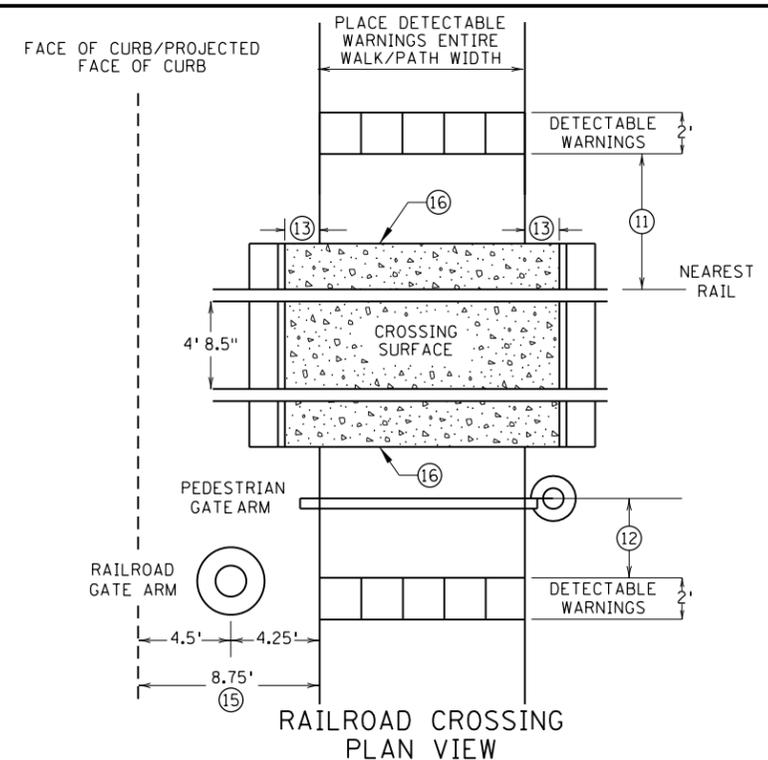


SECTION A-A



SECTION B-B

PEDESTRIAN APPROACH
NOSE DETAIL
(FOR RETURNED CURB
SIDE TREATMENT)



RAILROAD CROSSING
PLAN VIEW

NOTES:

- INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8-10% TO A MINIMUM 3 INCH CURB HEIGHT. INCREASE CURB TAPER LENGTH AT LESS THAN 8% OR REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.
- SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.
- A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
- CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.
- ① 0" CURB HEIGHT. SEE INSET A ON SHEET 3 OF 6.
- ② FULL CURB HEIGHT.
- ③ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.
- ④ TYPICALLY USED FOR MEDIANS AND ISLANDS.
- ⑤ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" MAX. BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
- ⑥ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHARED-USE PATH TO PROVIDE VISUAL CONTRAST.
- ⑦ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS. AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.
- ⑧ DRILL AND GROUT 1 - NO. 4 12" LONG REINFORCEMENT BAR (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE V CURB.
- ⑨ DRILL AND GROUT 2 - NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE CURB AND GUTTER.
- ⑩ SIDE TREATMENT EXAMPLES SHOWN ARE WHEN THE INITIAL LANDING IS APPROXIMATELY LEVEL WITH THE FULL HEIGHT CURB (I.E. 6' LONG RAMP FOR 6" HIGH CURB). WHEN THE INITIAL LANDING IS MORE THAN 1" BELOW FULL HEIGHT CURB REFER TO SHEETS 1 & 2 TO MODIFY THE CURB HEIGHT TAPERS AND MAINTAIN POSITIVE BOULEVARD DRAINAGE. CONSTRUCT THESE TAPERS AT 0"-3" AT 8-10%, THEN LESS THAN 5% FROM 3" CURB TO FULL CURB HEIGHT.
- ⑪ NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12' MINIMUM TO 15' MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.
- ⑫ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM. THIS CRITERIA GOVERNS OVER NOTE ⑪.
- ⑬ CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED-USE PATH.
- ⑭ 3' FOR MEDIANS AND SPLITTER ISLANDS. NOSE CAN BE REDUCED TO 2' ON FREE RIGHT ISLANDS.
- ⑮ SIDEWALK TO BE PLACED 8.75' MIN. FROM THE FACE OF CURB/PROJECTED FACE OF CURB. THIS ENSURES MIN. CLEARANCE BETWEEN THE SIDEWALK AND GATE ARM COUNTERWEIGHT SUPPORTS.
- ⑯ CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.

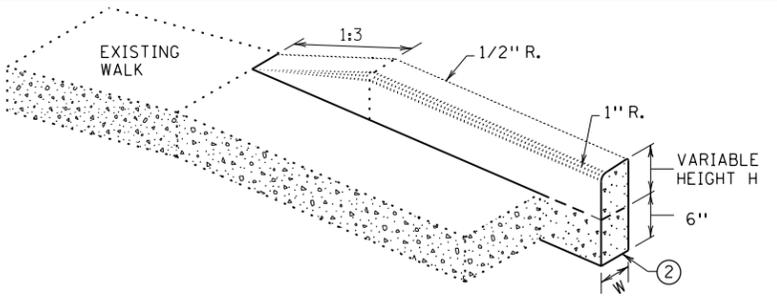
REVISION:
APPROVED: 11-04-2021
<i>Jeff J. Perkins</i> JEFFREY PERKINS OPERATIONS DIVISION

	STANDARD PLAN 5-297.250	4 OF 6
	APPROVED: 11-04-2021 REVISED:	
THOMAS STYBICKI STATE DESIGN ENGINEER	CP 20-23-132, SAP 114-117-005, SAP 127-080-001	

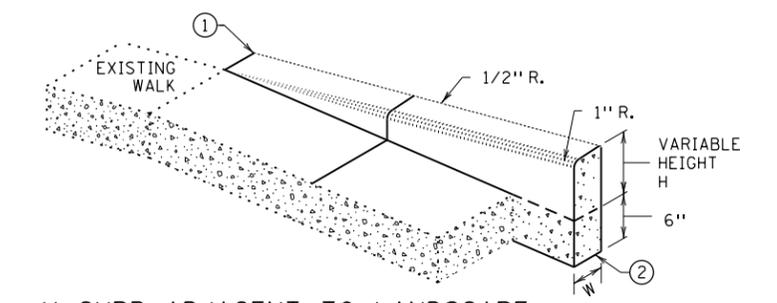
PEDESTRIAN CURB RAMP DETAILS

PLOTTED/REVISED: 1/5/2024 2:39:45 PM

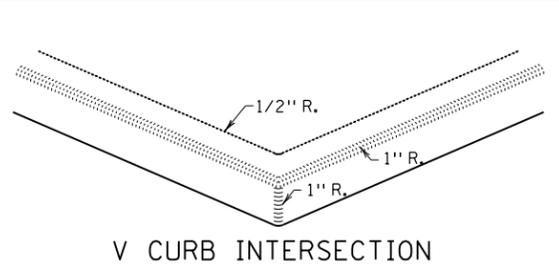
PATH & FILENAME: Projects\Minnesota\021204-000\Cadd\Plan\21204-000_std\plr_200.dgn



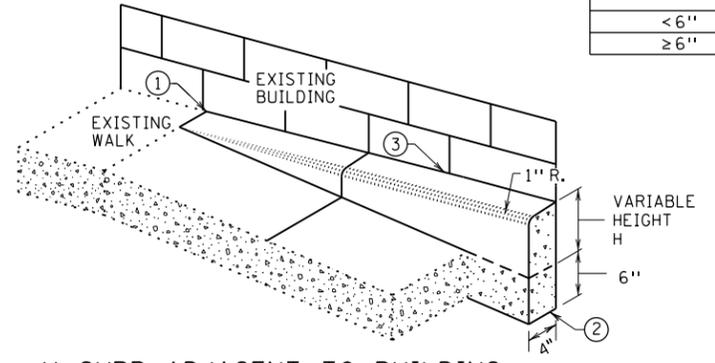
V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS



V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS

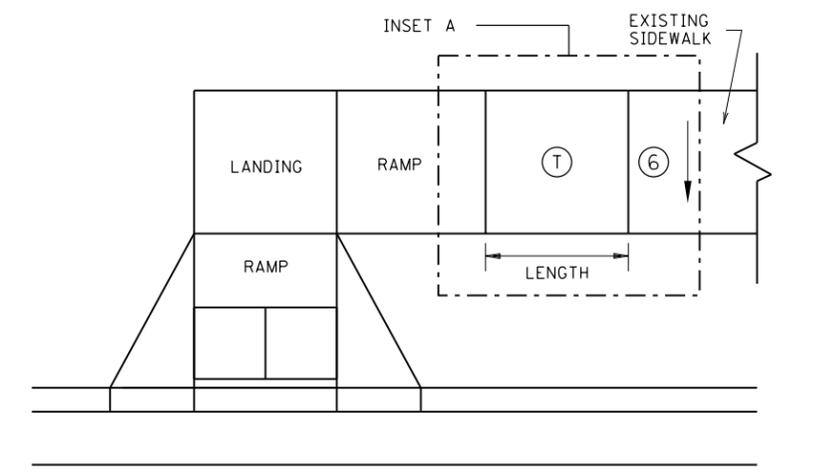


V CURB INTERSECTION

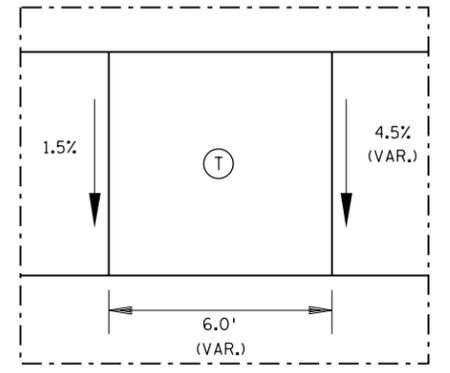


V CURB ADJACENT TO BUILDING OR BARRIER

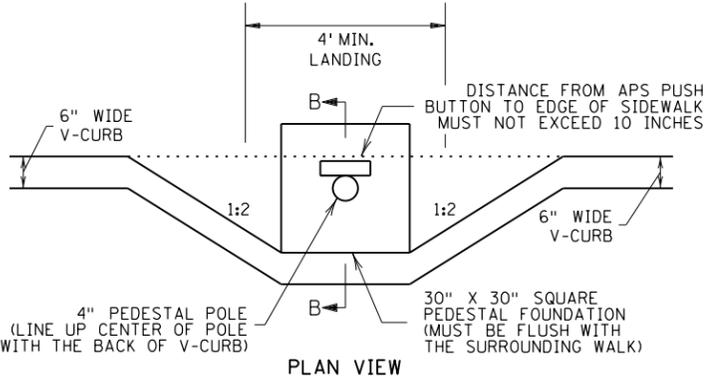
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



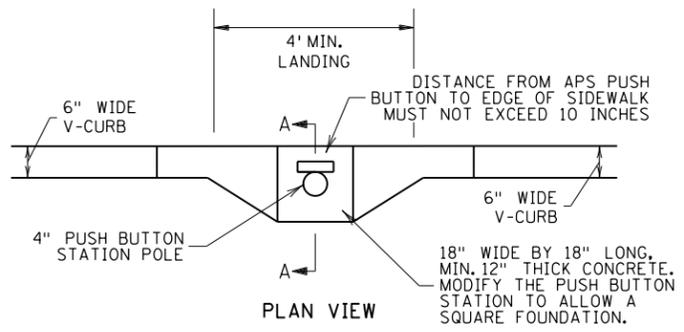
TRANSITION PANEL ④ ⑤



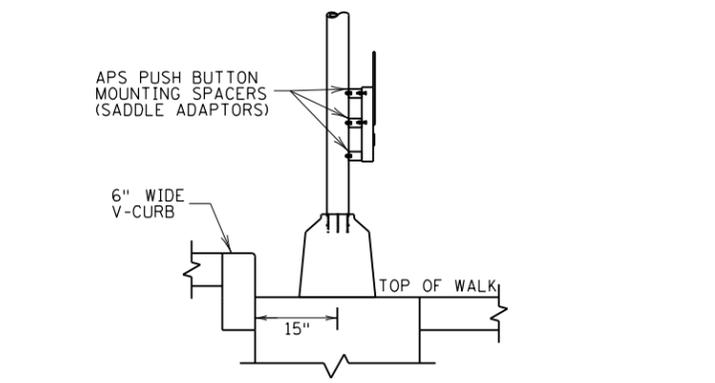
INSET A



PLAN VIEW

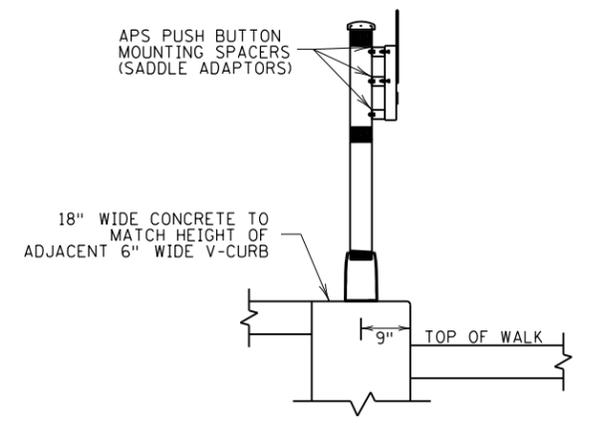


PLAN VIEW



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

LEGEND

- THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.
- ⑤ 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%.
- ④ 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 PAR.
- ① 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.

REVISION:
APPROVED: 11-04-2021
Jeff J. Perkins
JEFFREY PERKINS
OPERATIONS DIVISION

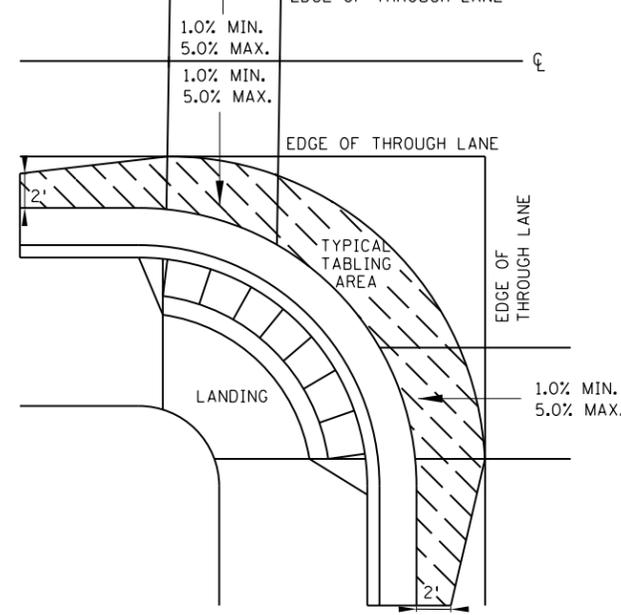
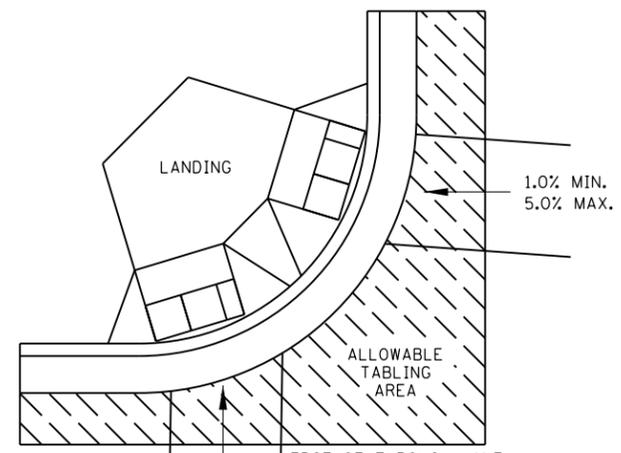
m
MINNESOTA
DEPARTMENT
OF
TRANSPORTATION

STANDARD PLAN 5-297.250 5 OF 6
Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER
APPROVED: 11-04-2021
REVISED:

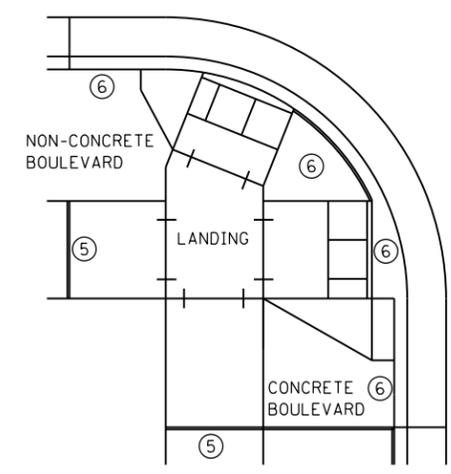
PEDESTRIAN CURB RAMP DETAILS
CP 20-23-132, SAP 114-117-005, SAP 127-080-001
SHEET 35 OF 135 SHEETS

PLOTTED/REVISED: 1/5/2024 2:39:46 PM

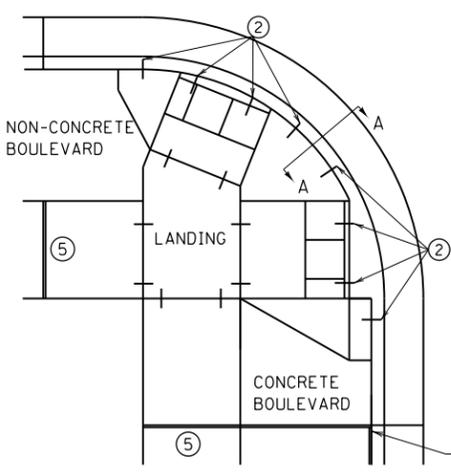
PATH & FILENAME: Projects\Minnesota\021204-000\Cadd\Plan\21204-000_std\plr_200.dgn



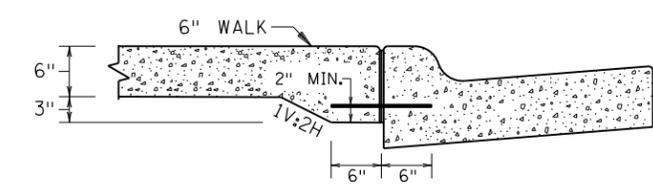
CURB LINE AND ROAD CROSSING ADJUSTMENTS



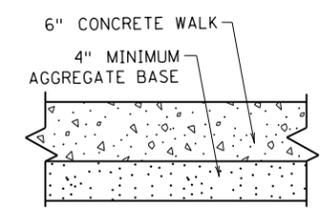
EXPANSION MATERIAL PLACEMENT FOR CONCRETE ROADWAYS



CURB LINE REINFORCEMENT PLACEMENT ON BITUMINOUS ROADWAYS



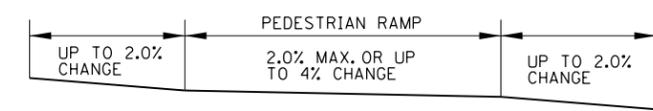
SECTION VIEW A-A THICKENED SECTION THROUGH CURB RAMP FLARES



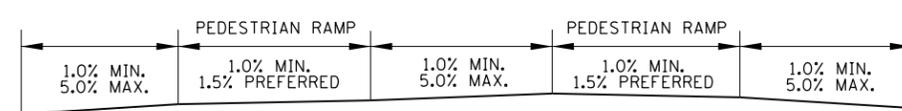
TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER



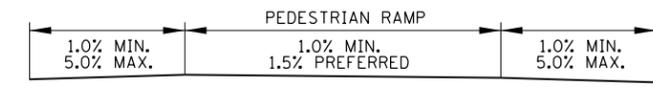
FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



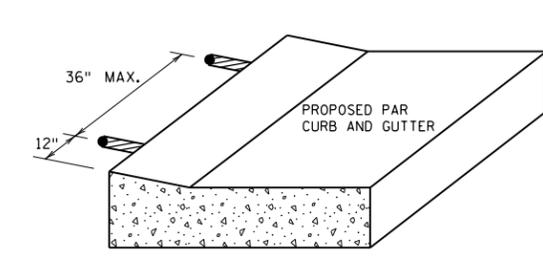
FLOW LINE PROFILE "TABLE" - FAN



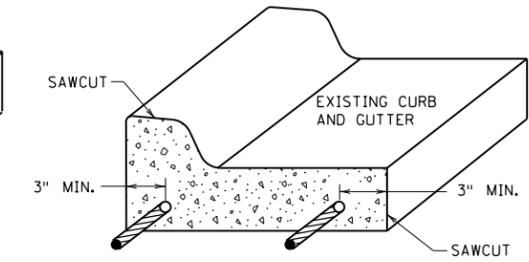
FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS



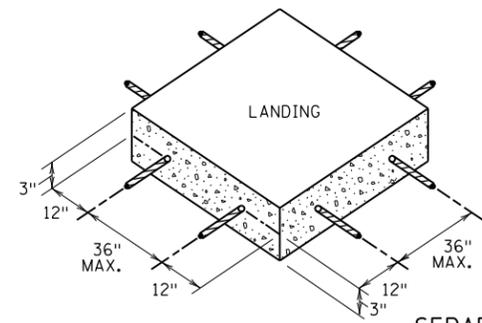
FLOW LINE PROFILE RAISE - FAN



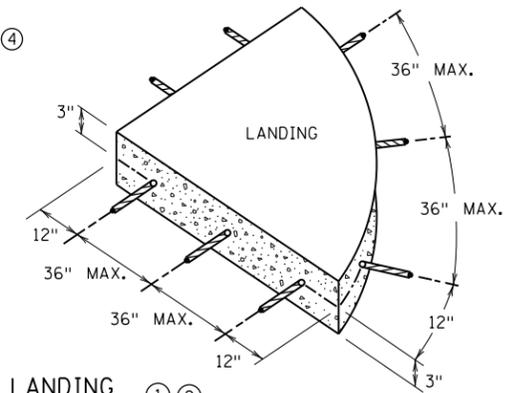
CURB RAMP REINFORCEMENT DETAILS



CURB AND GUTTER REINFORCEMENT



SEPARATE LANDING POUR REINFORCEMENT



GENERAL NOTES:

- "TABLING" OF CROSSWALKS MEANS MAINTAINING LESS THAN 2% CROSS SLOPE WITHIN A CROSSWALK, IS REQUIRED WHEN A ROADWAY IS IN A STOP OR YIELD CONDITION AND THE PROJECT SCOPE ALLOWS.
- RECONSTRUCTION PROJECTS: ON FULL PAVEMENT REPLACEMENT PROJECTS "TABLING" OF ENTIRE CROSSWALK SHALL OCCUR WHEN FEASIBLE.
- MILL & OVERLAY PROJECTS: "TABLING" OF FLOW LINES, IN FRONT OF THE PEDESTRIAN RAMP, IS REQUIRED WHEN THE EXISTING FLOW LINE IS GREATER THAN 2%. WARPING OF THE BITUMINOUS PAVEMENT CAN NOT EXTEND INTO THE THROUGH LANE. TABLE THE FLOW LINE TO 2% OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:
 - 1) 1.0% MIN. CROSS-SLOPE OF THE ROAD
 - 2) 5.0% MAX. CROSS-SLOPE OF THE ROAD
 - 3) "TABLE" FLOW LINE UP TO 4% CHANGE FROM EXISTING SLOPE IN FRONT OF PEDESTRIAN RAMP
 - 4) UP TO 2% CHANGE IN FLOW LINE FROM EXISTING SLOPE BEYOND THE PEDESTRIAN CURB RAMP
- STAND-ALONE ADA RETROFITS: FOLLOW MILL & OVERLAY CRITERIA ABOVE HOWEVER ALL PAVEMENT WARPING IS DONE WITH BITUMINOUS PATCHING ON BITUMINOUS ROADWAYS AND FULL-DEPTH APRON REPLACEMENT ON CONCRETE ROADWAYS.
- RAISING OF CURB LINES SHOULD OCCUR IN VERTICALLY CONSTRAINED AREAS. RAISE THE CURB LINES ENOUGH TO ALLOW COMPLIANT RAMPS OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:
 - 1) 1.0% MIN. AND 5.0% MAXIMUM CROSS-SLOPE OF THE ROAD
 - 2) 1.0% MIN. FLOW LINE (ON EITHER SIDE OF PEDESTRIAN RAMP) TO MAINTAIN POSITIVE DRAINAGE
 - 3) 5.0% RECOMMENDED MAX. FLOW LINE
 - 4) LONGITUDINAL THROUGH LANE ROADWAY TAPERS SHOULD BE 1" VERTICAL PER 15' HORIZONTAL

NOTES:

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

REVISION:

APPROVED: 11-04-2021

Jeff J. Perkins
JEFFREY PERKINS
OPERATIONS DIVISION

m
MINNESOTA
DEPARTMENT
OF
TRANSPORTATION

STANDARD PLAN 5-297.250 6 OF 6

APPROVED: 11-04-2021
REVISOR:

Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

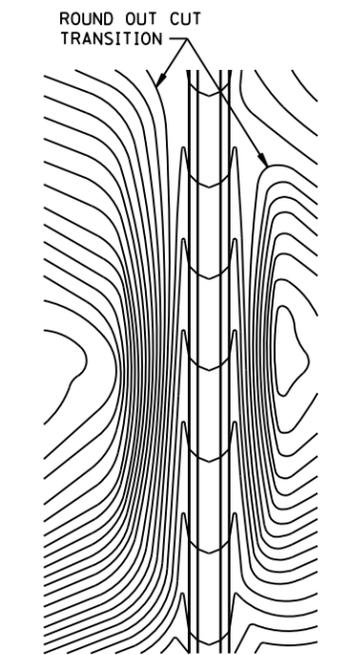
PEDESTRIAN CURB RAMP DETAILS

CP 20-23-132, SAP 114-117-005, SAP 127-080-001

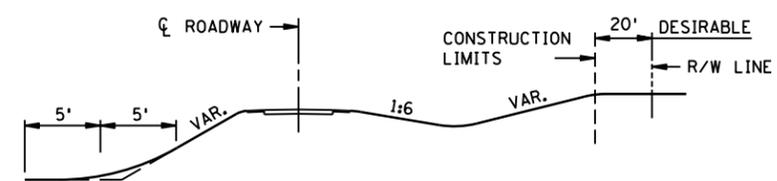
SHEET 36 OF 135 SHEETS

PLOTTED/REVISED: 1/5/2024 2:39:49 PM

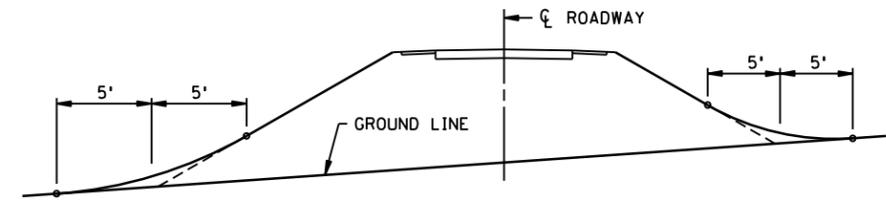
PATH & FILENAME: Projects\Minnesota\021204-000\Cadd\Plan\21204-000_std\plr_400.dgn



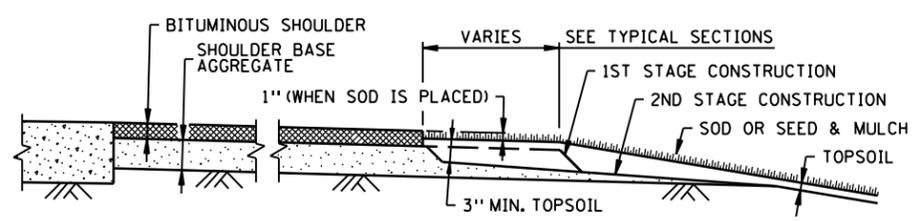
CONTOURING ROAD CUTS



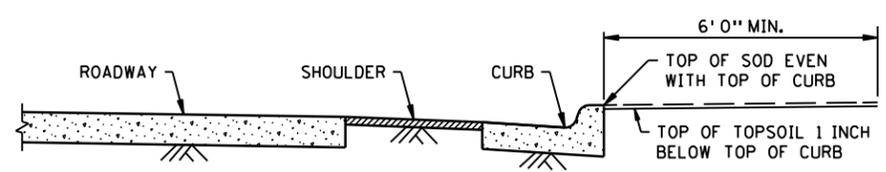
ROUNDING SHOULDERS AND BACKSLOPES



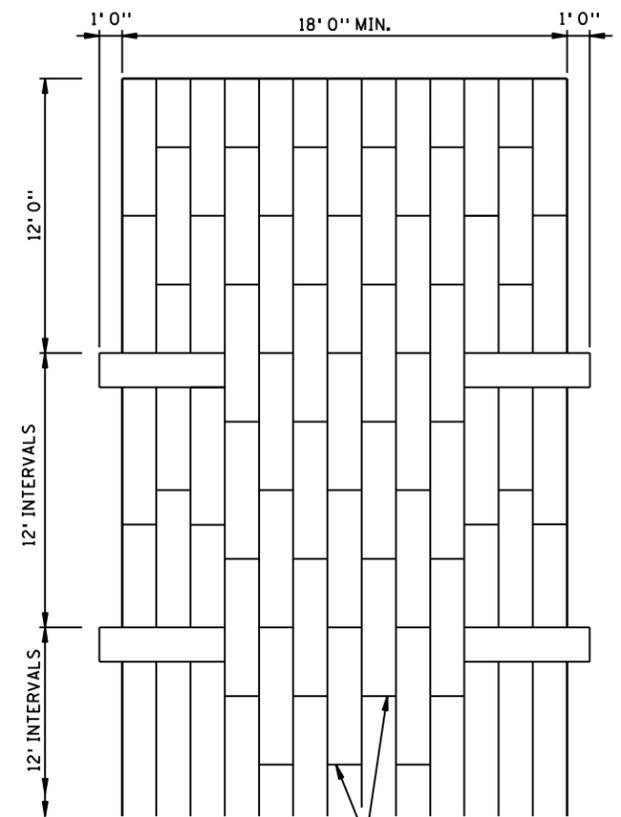
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



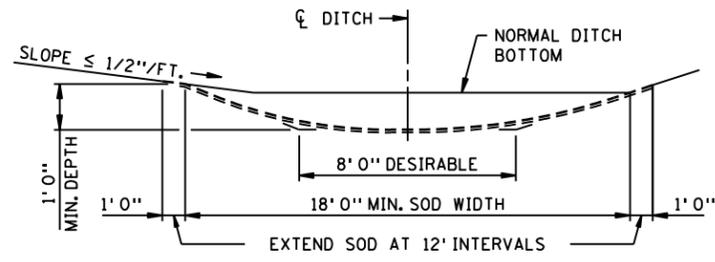
SHAPING AND TOPSOILING INSLOPES



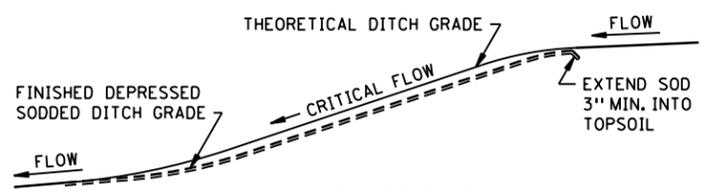
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



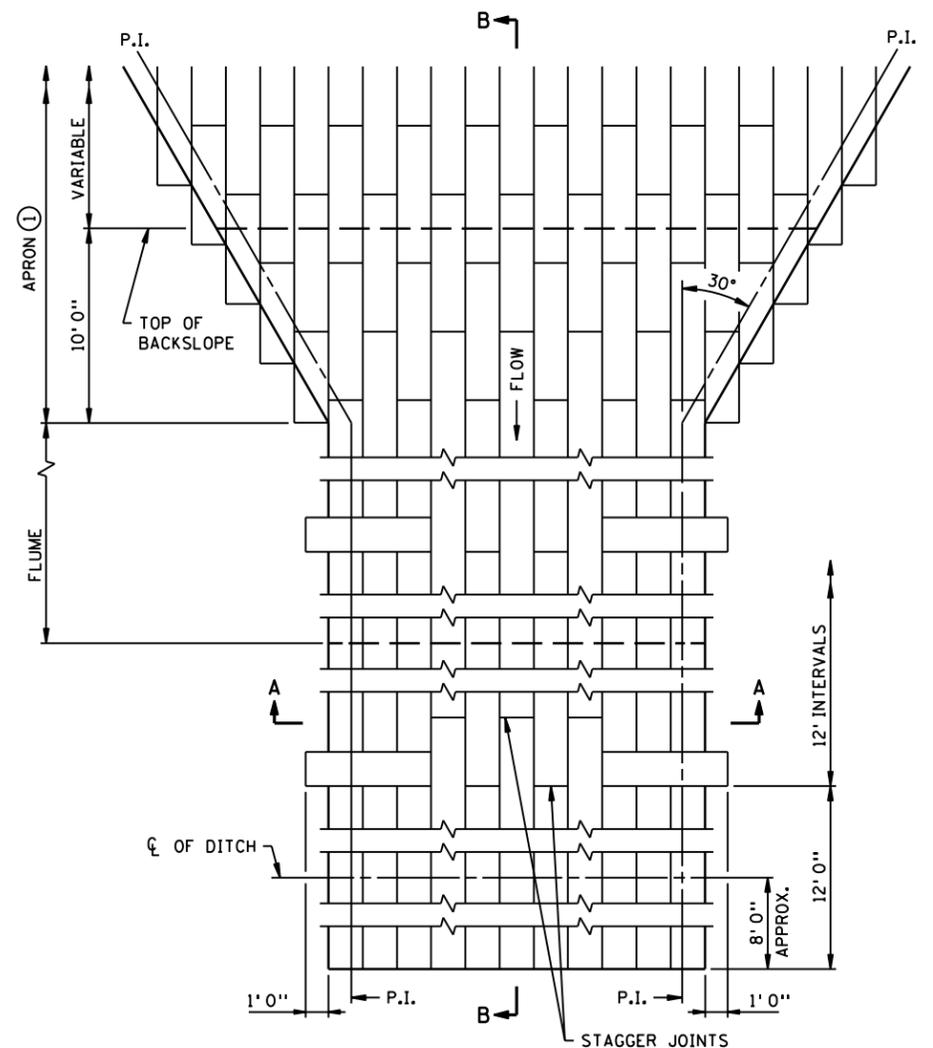
PLAN VIEW



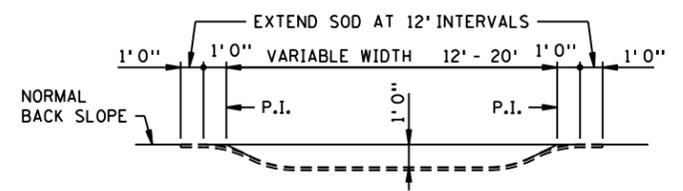
SODDED DITCH CROSS SECTION WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.), FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



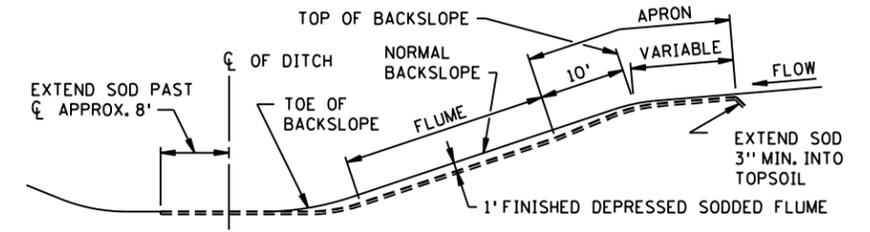
SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A



SECTION B-B

SODDED FLUME DETAILS

NOTES:
 SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.
 ① CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

REVISION:
 APPROVED: 2-28-2017
Chief Environmental Officer
 CHIEF ENVIRONMENTAL OFFICER

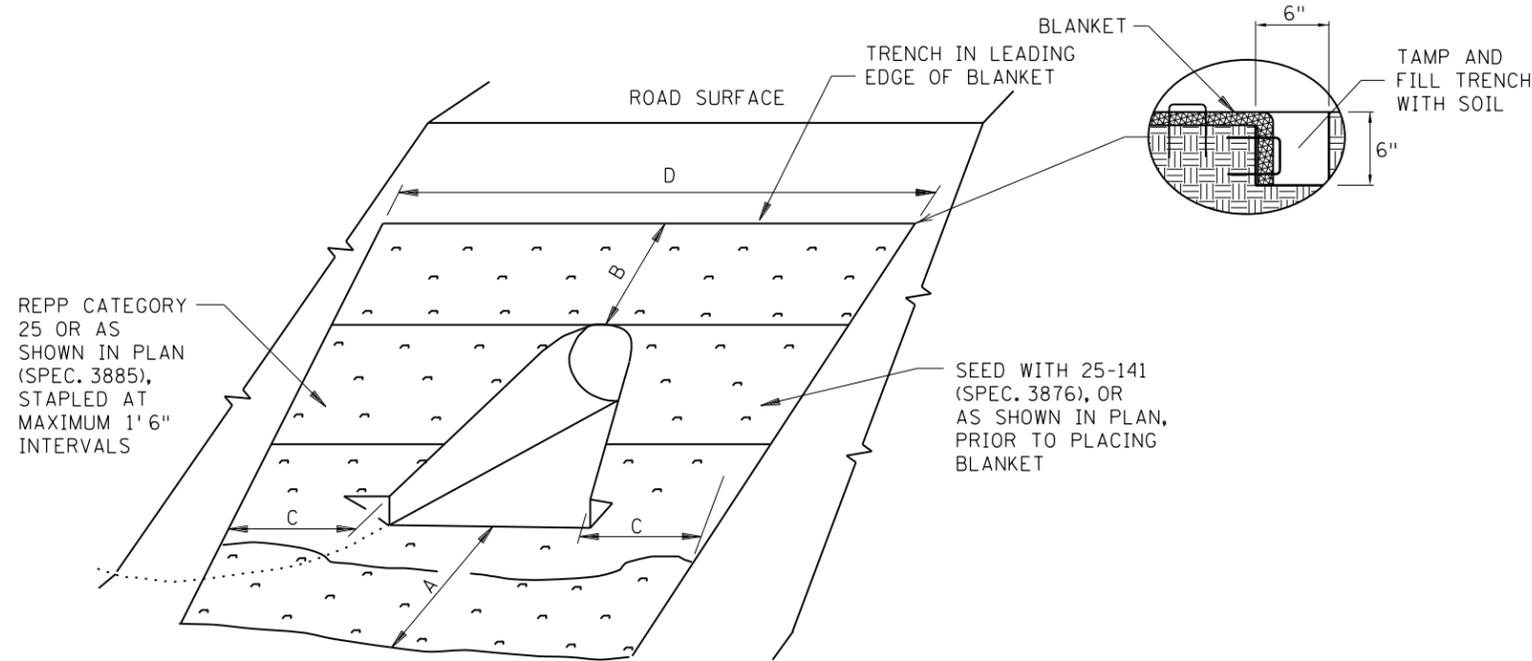
MINNESOTA
 DEPARTMENT OF TRANSPORTATION
 STANDARD PLAN 5-297.404 1 OF 3
 APPROVED: 2-28-2017
 REVISED:
 STATE DESIGN ENGINEER

PERMANENT EROSION CONTROL
ALONG ROADWAYS, DITCHES AND FLUMES

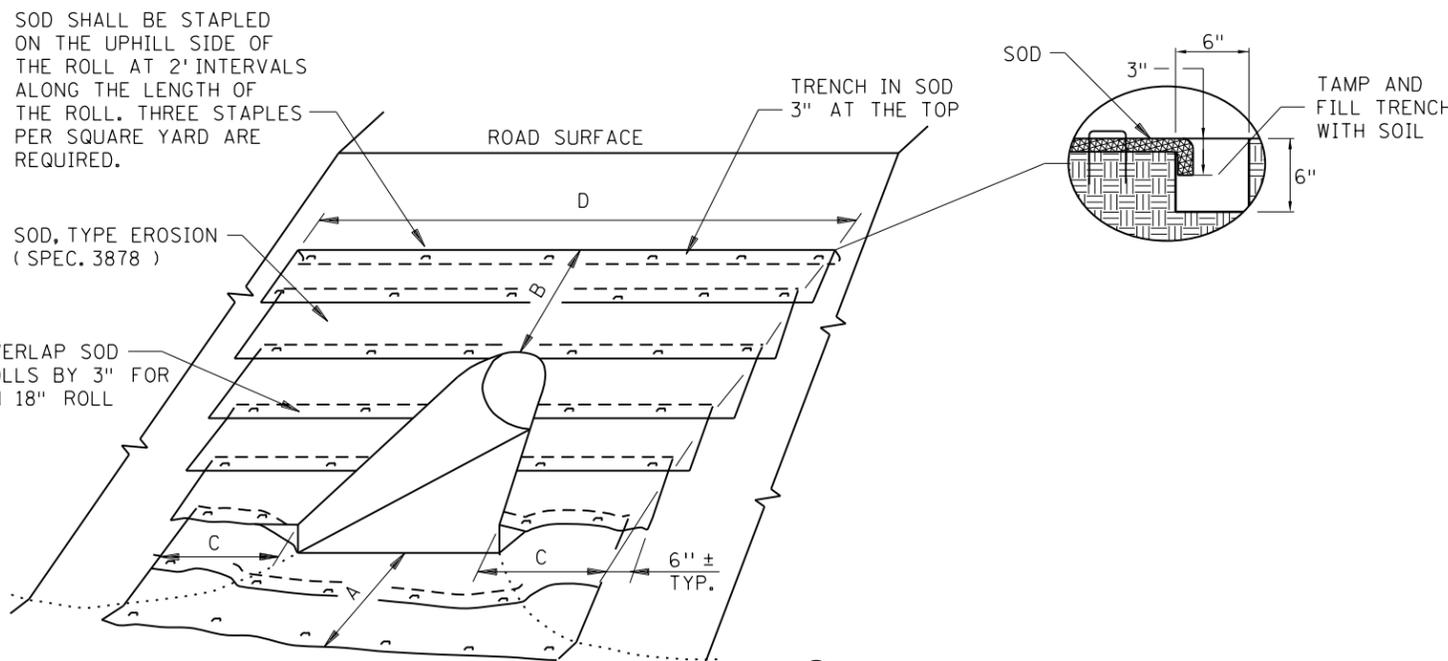
CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET 37 OF 135 SHEETS

PLOTTED/REVISED: 1/5/2024 2:39:50 PM
 PATH & FILENAME: Projects\Minnesota\021204-000\Cadd\Plan\21204-000_std\plr_400.dgn



ROLLED EROSION PREVENTION PRODUCT (BLANKET) & SEED DETAIL



SODDING DETAIL

- ① ADDITIONAL QUANTITIES MAY BE SHOWN IN THE PLAN OR REQUIRED BY THE ENGINEER.
- ② FOR ARCH PIPE USE CLOSEST CIRCULAR PIPE DIAMETER AND APRON SLOPE. DIAMETERS LARGER THAN 72" REQUIRE SPECIAL DESIGNS.

CULVERT DIAMETER ②	SOD OR REPP (SQ. YDS.)						"A"	"B"	"C"	"D"
	CIRCULAR AND ARCH PIPE METAL APRON (PLATE 3123, PLATE 3122)	CIRCULAR AND ARCH PIPE CONCRETE APRON (PLATE 3100, PLATE 3110)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:4 SLOPE (PLATE 3148)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:6 SLOPE (PLATE 3148)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:6 SLOPE (PLATE 3128)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:4 SLOPE (PLATE 3128)				
15"	9	9	8	8	N/A	N/A	3'	1.5'	3'	13'
18"	13	12	12	14	16	N/A	3'	3'	3'	16'
21"	14	14	14	16	18	14	3'	3'	3'	17'
24"	16	15	16	19	21	17	3'	3'	3'	18'
27"	N/A	20	N/A	N/A	N/A	N/A	3'	4.5'	3'	20'
30"	23	22	25	30	32	N/A	3'	4.5'	3'	22'
36"	34	34	39	48	51	37	4.5'	4.5'	4.5'	27'
42"	43	40	51	64	N/A	N/A	4.5'	6'	4.5'	30'
48"	54	50	66	82	N/A	N/A	4.5'	7.5'	4.5'	34'
54"	65	58	81	102	N/A	N/A	4.5'	9'	4.5'	37'
60"	69	59	91	115	N/A	N/A	4.5'	9'	4.5'	39'
66"	69	63	N/A	N/A	N/A	N/A	4.5'	9'	4.5'	39'
72"	78	72	99	122	N/A	N/A	4.5'	10.5'	4.5'	41'

CULVERT DIAMETER ②	SOD OR REPP (SQ. YDS.)						"A"	"B"	"C"	"D"
	CIRCULAR AND ARCH PIPE METAL APRON (PLATE 3123, PLATE 3122)	CIRCULAR AND ARCH PIPE CONCRETE APRON (PLATE 3100, PLATE 3110)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:4 SLOPE (PLATE 3148)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:6 SLOPE (PLATE 3148)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:6 SLOPE (PLATE 3128)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:4 SLOPE (PLATE 3128)				
15"	10	10	9	10	N/A	N/A	4.5'	1.5'	3'	13'
18"	13	13	12	14	15	N/A	6'	1.5'	3'	14'
21"	16	14	16	18	19	15	6'	1.5'	3'	15'
24"	18	18	18	21	22	18	7.5'	1.5'	3'	16'
27"	N/A	19	N/A	N/A	N/A	N/A	7.5'	1.5'	3'	17'
30"	23	23	24	28	29	N/A	9'	1.5'	3'	18'
36"	36	35	38	47	48	37	10.5'	1.5'	4.5'	23'
42"	43	40	47	58	N/A	N/A	12'	1.5'	4.5'	25'
48"	50	46	57	70	N/A	N/A	13.5'	1.5'	4.5'	27'
54"	57	50	67	84	N/A	N/A	15'	1.5'	4.5'	29'
60"	74	63	90	113	N/A	N/A	16.5'	1.5'	6'	33'
66"	75	67	N/A	N/A	N/A	N/A	16.5'	1.5'	6'	33'
72"	77	70	92	114	N/A	N/A	16.5'	1.5'	6'	34'

NOTES:

- REPP = ROLLED EROSION PREVENTION PRODUCT.
- AREA SHOWN IN SQUARE YARDS IS FOR ONE CULVERT END.
- QUANTITIES ARE CALCULATED TO INCLUDE SOD REQUIRED TO PROVIDE A 3" OVERLAP ON ALL 18" WIDE ROLLS. THIS ALLOWS FOR SHRINKAGE OF THE SOD.
- FOR PIPE ARCHES USE EQUIVALENT PIPE DIAMETER TO APPROXIMATE AREA.
- FOR CORRUGATED POLYETHYLENE PIPE METAL APRON (PLATE 3129), USE THE METAL APRON COLUMN (PLATE 3123).
- AREAS AND DIMENSIONS ARE APPROXIMATE AND ARE BASED ON APRON SIDE SLOPES OF NO STEEPER THAN 1:2, UNLESS INDICATED AS FOR SAFETY APRONS.
- CARE SHOULD BE TAKEN IN SELECTING SOD TO STABILIZE THE APRON. RIP-RAP SHOULD BE USED FOR FLOW VELOCITIES GREATER THAN 6 FPS.

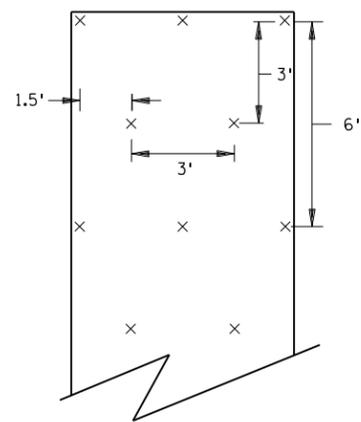
REVISION:
 APPROVED: JANUARY 8, 2020
Marni Karnowski
 MARNI KARNOWSKI
 CHIEF ENVIRONMENTAL OFFICER

m MINNESOTA
 DEPARTMENT OF TRANSPORTATION
 STANDARD PLAN 5-297.404 2 OF 3
 APPROVED: 1-8-2020
 REVISED:
Tom Styrbicki
 THOMAS STYRBICKI
 STATE DESIGN ENGINEER

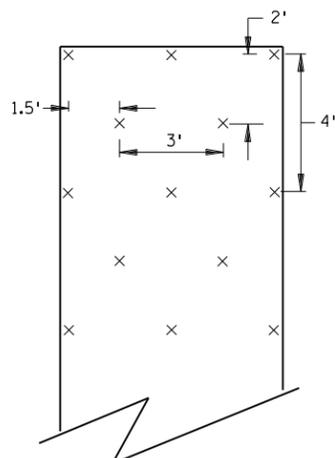
PERMANENT EROSION CONTROL
TURF ESTABLISHMENT DETAIL AT CULVERT ENDS
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001
 SHEET 38 OF 135 SHEETS

2:39:50 PM
1/5/2024
PLOTTED/REVISED:

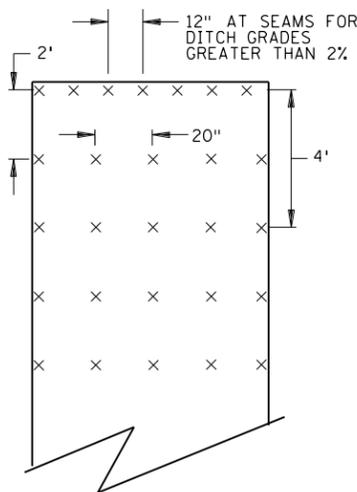
Projects\Minnesota\021204-000\Cad\Plan\21204-000_std\pln_400.dgn
PATH & FILENAME:



SLOPES FLATTER THAN 1:2
120 STAPLES PER 100 SQ YD

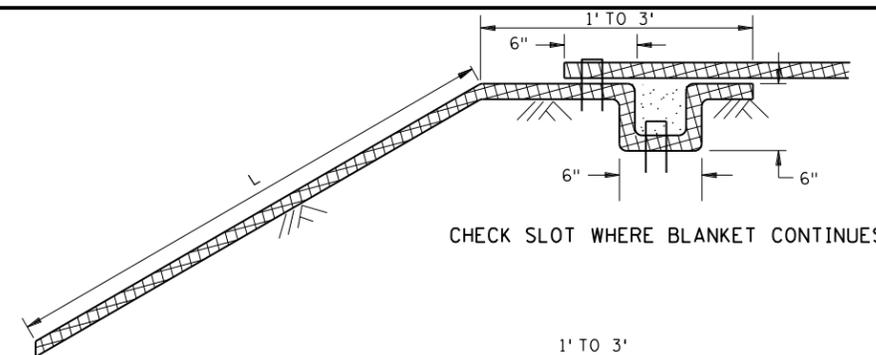


SLOPES 1:2 TO 1:1
170 STAPLES PER 100 SQ YD

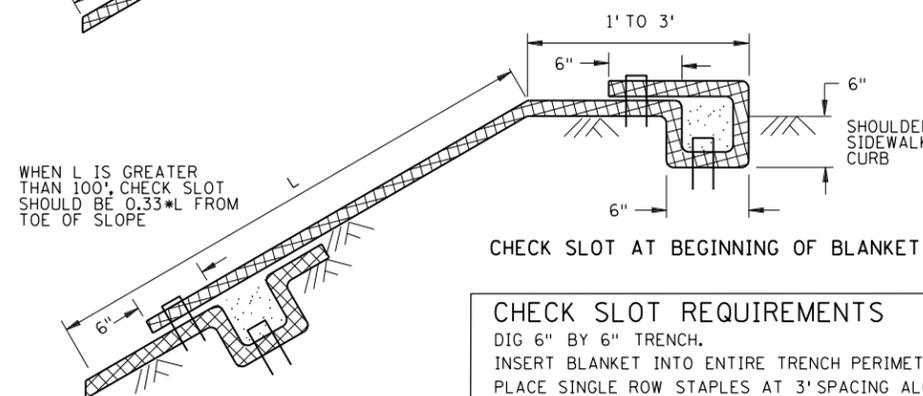


CHANNEL AND DITCH APPLICATIONS
350 STAPLES PER 100 SQ YD

BLANKET STAPLE PATTERN



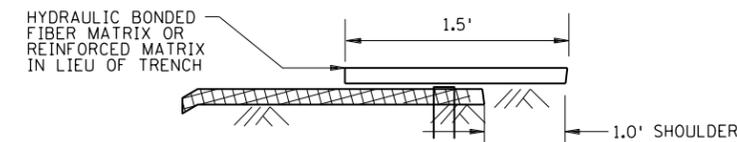
CHECK SLOT WHERE BLANKET CONTINUES



CHECK SLOT AT BEGINNING OF BLANKET

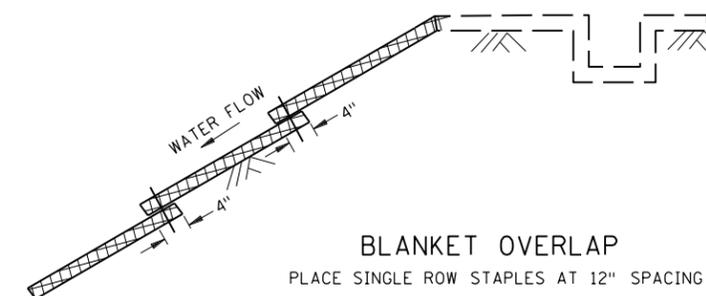
CHECK SLOT REQUIREMENTS

DIG 6" BY 6" TRENCH.
INSERT BLANKET INTO ENTIRE TRENCH PERIMETER.
PLACE SINGLE ROW STAPLES AT 3' SPACING ALONG THE BOTTOM OF THE TRENCH.
BACKFILL TRENCH WITH SOIL AND TAMP.
PLACE SINGLE ROW STAPLES AT 3' SPACING ON OVERLAP.



CHECK SLOT ALTERNATIVE
PLACE SINGLE ROW STAPLES AT 12" SPACING

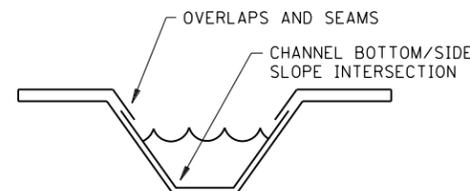
CHECK SLOT DETAILS



BLANKET OVERLAP
PLACE SINGLE ROW STAPLES AT 12" SPACING

GENERAL BLANKET INSTALLATION REQUIREMENTS

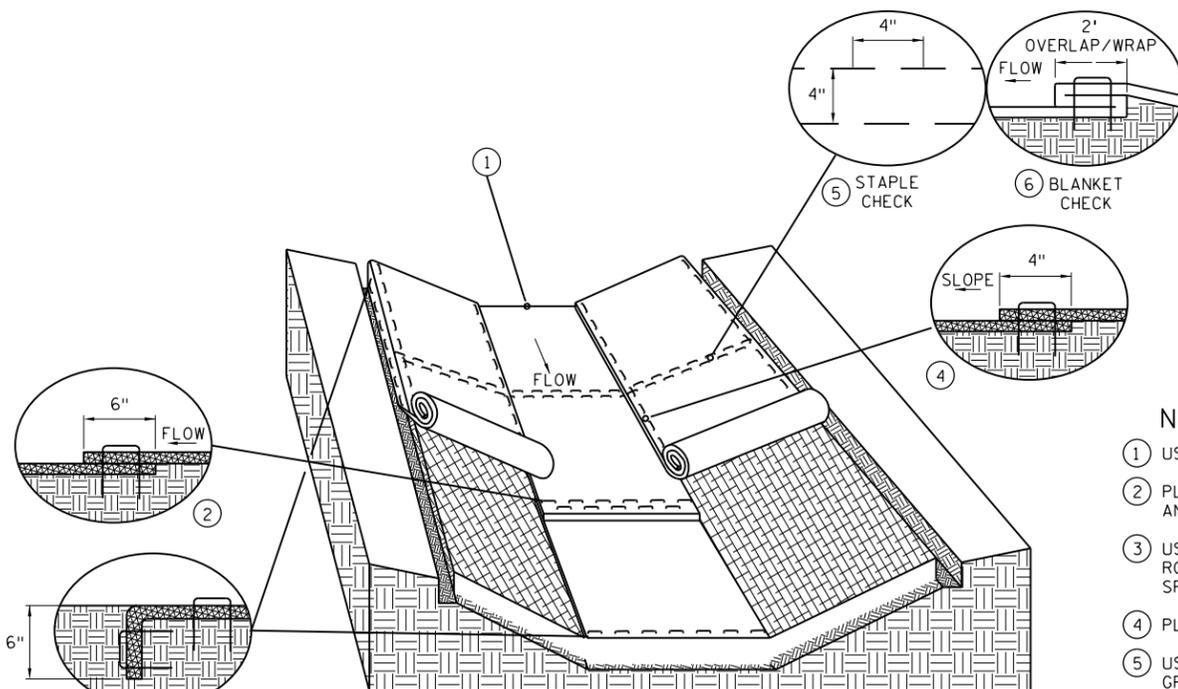
REPP = ROLLED EROSION PREVENTION PRODUCT.
PREPARE SOIL AS PER SPECIFICATION 2574.
LAY PARALLEL OR PERPENDICULAR TO THE DIRECTION OF WATER FLOW.
OVERLAP ADJACENT STRIP EDGES A MINIMUM OF 4".
OVERLAP BLANKET 6" (MINIMUM) AT EACH END. OVERLAP BOTTOM END OF UPPER BLANKET OVER TOP END OF LOWER BLANKET. STAPLE ALONG OVERLAP EVERY 1.5'.
THE UPPERMOST BLANKET OF ALL SLOPE APPLICATIONS MUST START IN A CHECK SLOT. IF SLOPE LENGTH (L) IS 100' OR GREATER, INSERT BLANKET INTO A CHECK SLOT 1/3 FROM THE BOTTOM OF THE SLOPE.



DITCH BLANKET CRITICAL POINTS ⑦

NOTES:

- ① USE CHECK SLOT DETAIL (NO ALTERNATES).
- ② PLACE DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER.
- ③ USE 6" X 6" TRENCH TO PLACE BLANKET. PLACE SINGLE ROW OF STAPLES ON TOP AND TRENCH SIDES AT 12" SPACING. BACKFILL TRENCH WITH SOIL AND TAMP.
- ④ PLACE SINGLE ROW OF STAPLES AT 12" SPACING.
- ⑤ USE STAPLE CHECK FOR CHANNEL SLOPES LESS THAN 2.5%. GRADE AT 100' INTERVALS. PLACE DOUBLE ROW OF STAPLES STAGGERED 4" APART AND AT 4" SPACING.
- ⑥ USE BLANKET CHECKS FOR THE FOLLOWING SLOPES:
2.5%-3% 100' INTERVALS
3%-5% 50' INTERVALS
5%-7% 25' INTERVALS
- ⑦ CRITICAL POINTS SHALL BE SECURED WITH PROPER STAPLE PATTERNS.



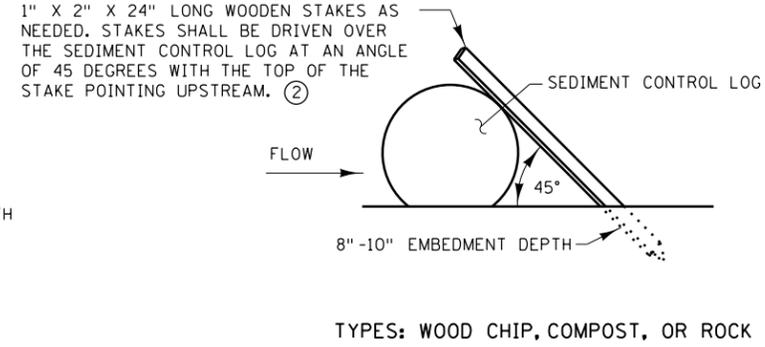
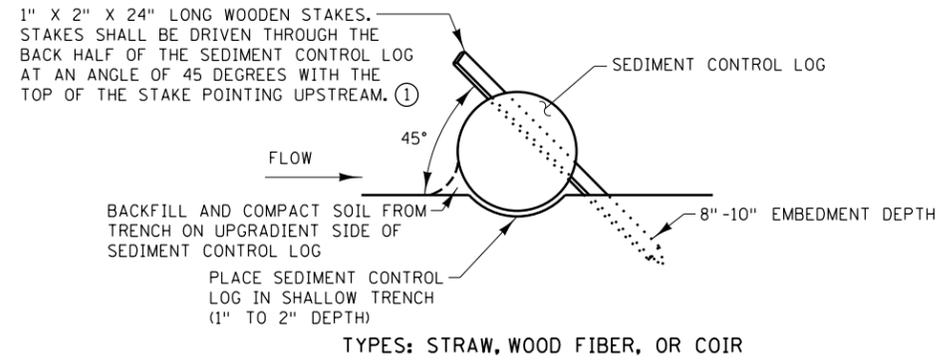
DITCH BLANKET STAPLE DETAIL

REVISION:
APPROVED: JANUARY 8, 2020 <i>Marni Karnowski</i> MARNI KARNOWSKI CHIEF ENVIRONMENTAL OFFICER

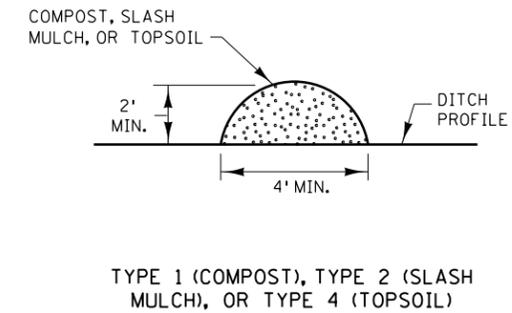
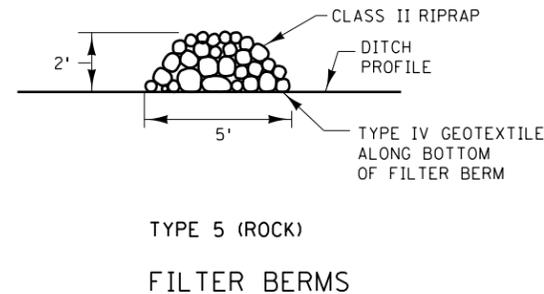
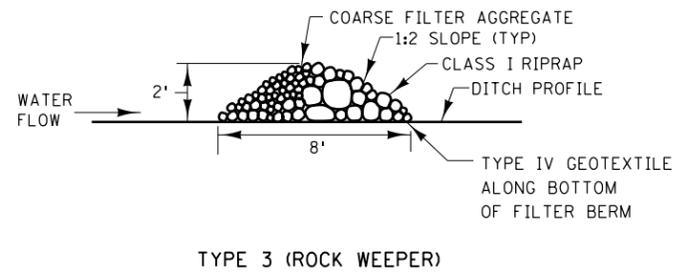


STANDARD PLAN 5-297.404	3 OF 3
<i>Tom Styrbicki</i> THOMAS STYRBICKI STATE DESIGN ENGINEER	APPROVED: 1-8-2020 REVISED:
CP 20-23-132, SAP 114-117-005, SAP 127-080-001	

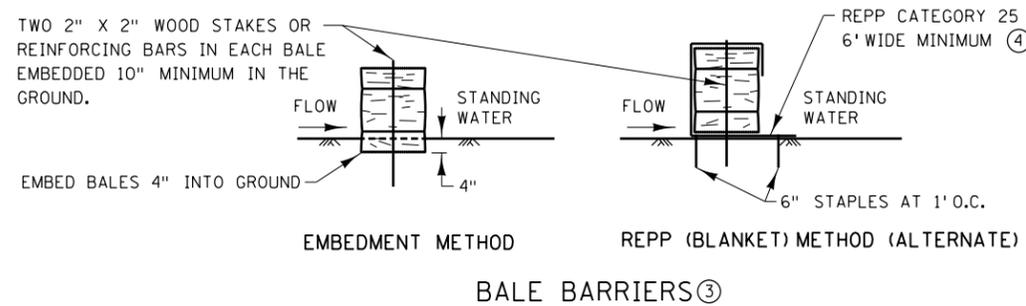
PERMANENT EROSION CONTROL
REPP (BLANKET) STAPLE PATTERN FOR SLOPES



SEDIMENT CONTROL LOGS



FILTER BERMS



NOTES:

- REPP = ROLLED EROSION PREVENTION PRODUCT.
- SEE SPECS. 2573, 3149, 3874, 3882, 3885, 3886, AND 3897.
- ① SPACE BETWEEN STAKES SHALL BE A MAXIMUM OF 1' FOR DITCH CHECKS OR 2' FOR OTHER APPLICATIONS.
- ② PLACE STAKES AS NEEDED TO PREVENT MOVEMENT OF SEDIMENT CONTROL LOGS PLACED ON SLOPES OR AS NEEDED DUE TO OTHER FACTORS. STAKES SHALL BE INCIDENTAL.
- ③ TO BE USED FOR CRITICAL PERIMETER CONTROL AREAS WHERE STANDING WATER OCCURS (6" MAXIMUM DEPTH). BALES SHALL CONSIST OF TYPE 1 MULCH OF APPROXIMATELY 14" X 18" X 36" LONG. BALES SHALL BE PLACED ON EDGE AND BUTTED TIGHT TO ADJACENT BALES.
- ④ INSTEAD OF TRENCHING, PLACE BALE ON THE REPP (BLANKET) AND WRAP BLANKET AROUND THE BALE. PLACE STAKE THROUGH BALE AND BLANKET.

REVISION:
APPROVED: JANUARY 8, 2020
<i>Marni Karnowski</i>
MARNI KARNOWSKI CHIEF ENVIRONMENTAL OFFICER



STANDARD PLAN 5-297.405 2 OF 8

Thomas Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

APPROVED: 1-8-2020
REVISED:

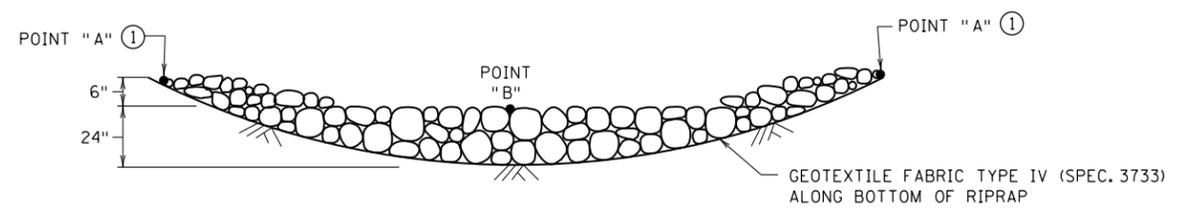
TEMPORARY SEDIMENT CONTROL
FILTER BERMS, SEDIMENT CONTROL LOGS, AND BALE BARRIERS

CP 20-23-132, SAP 114-117-005, SAP 127-080-001

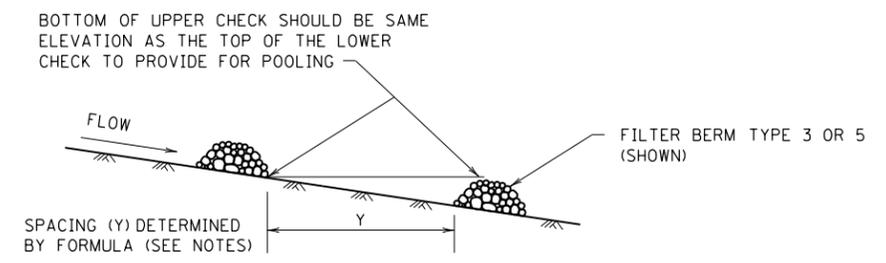
SHEET 40 OF 135 SHEETS

PLOTTED/REVISED: 1/5/2024 2:39:52 PM

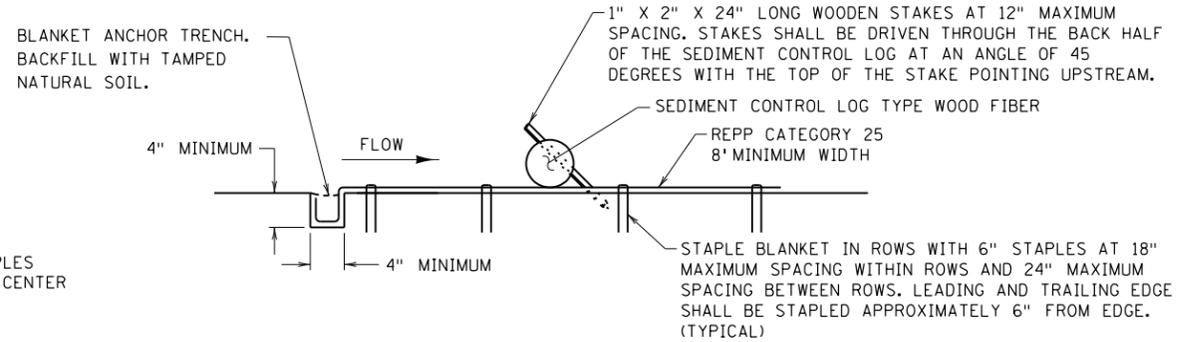
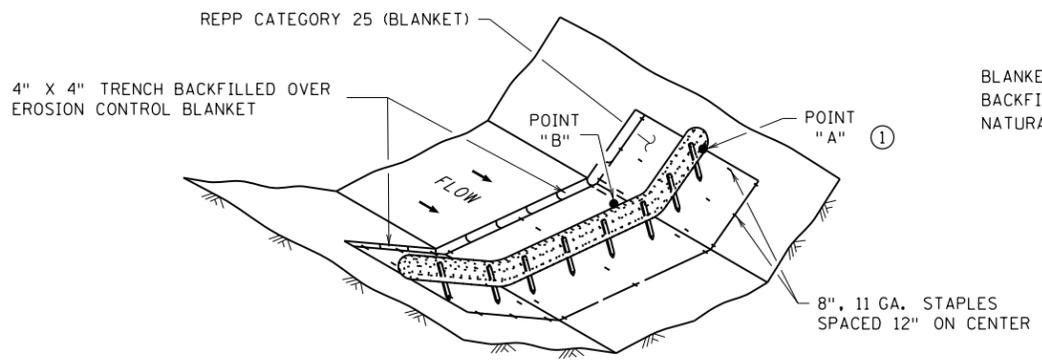
PATH & FILENAME: Projects\Minnesota\021204-000\Cad\Plan\21204-000_std\plr_400.dgn



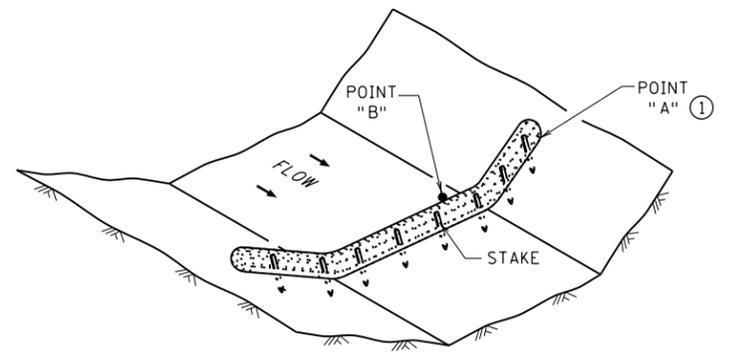
ROCK DITCH CHECKS
FILTER BERMS TYPE 3 (ROCK WEEPER) OR FILTER TYPE 5 (ROCK) ③
FOR USE ON ROUGH-GRADED AREAS
ONLY FOR USE OUTSIDE CLEAR ZONE ②



DITCH CHECK SPACING
FOR ALL FILTER BERM TYPES



SEDIMENT CONTROL LOG TYPE REPP (BLANKET) SYSTEM ④



SEDIMENT CONTROL LOG TYPE WOOD FIBER, OR TYPE COMPOST ⑤
FOR USE ON ROUGH GRADED AREAS

- NOTES:**
- REPP = ROLLED EROSION PREVENTION PRODUCT.
 - SEE SPECS. 2573, 3601, 3733, 3885, 3886 & 3889.
 - FOR DITCH CHECKS, PLACE SEDIMENT CONTROL LOG PERPENDICULAR TO FLOW AND IN A CRESCENT SHAPE WITH THE ENDS FACING UPSTREAM.
 - APPROXIMATE SPACING BETWEEN EACH DITCH CHECK SHOULD BE DETERMINED FROM THE FOLLOWING SPACING FORMULA:
- $$\text{APPROXIMATE SPACING OF DITCH CHECKS (FT.)} = Y = \frac{\text{DITCH CHECK HEIGHT (FT.)}}{\% \text{ CHANNEL SLOPE}} \times 100$$
- ① POINT "A" MUST BE A MINIMUM OF 6" HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.
 - ② ROCK DITCH CHECKS PLACED WITHIN THE CLEAR ZONE ARE TO BE 18" OR LESS IN HEIGHT. A 1:6 APPROACH AND DEPARTURE SLOPE SHALL BE PROVIDED.
 - ③ DITCH GRADE 3% - 5%, MAX. FLOW VELOCITY 12 FT./SEC.
 - ④ DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 4.5 FT./SEC.
 - ⑤ DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 1.5 FT./SEC.

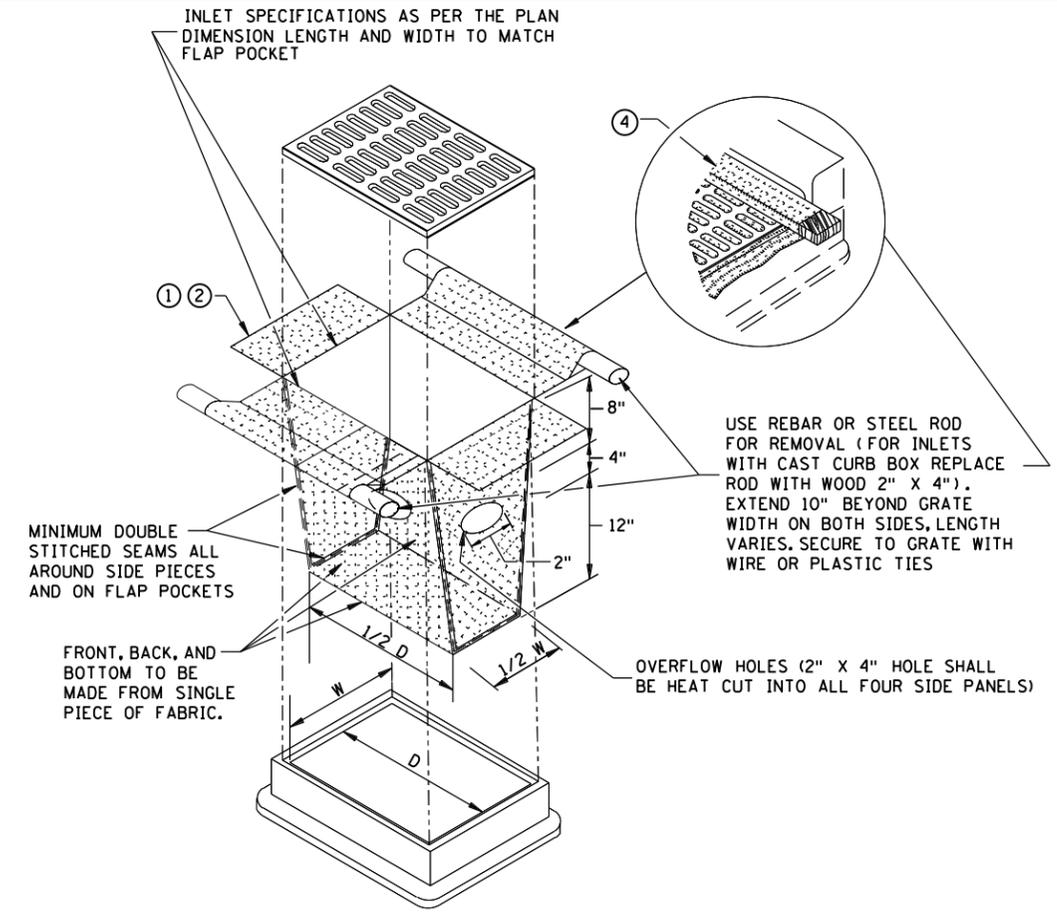
REVISION:
 APPROVED: JANUARY 8, 2020
Marni Karnowski
 MARNI KARNOWSKI
 CHIEF ENVIRONMENTAL OFFICER

mm MINNESOTA DEPARTMENT OF TRANSPORTATION
 STANDARD PLAN 5-297.405 3 OF 8
 APPROVED: 1-8-2020
 REVISED:
Thomas Styrbicki
 THOMAS STYRBICKI
 STATE DESIGN ENGINEER

TEMPORARY SEDIMENT CONTROL
DITCH CHECK
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001
 SHEET 41 OF 135 SHEETS

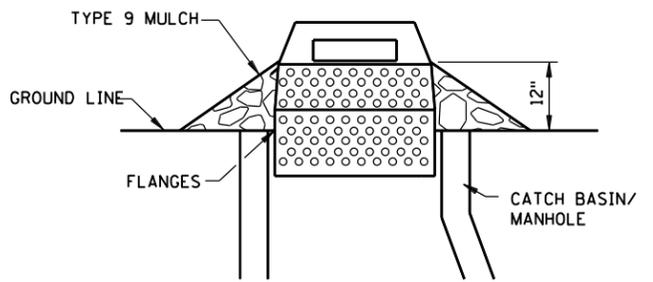
PLOTTED/REVISED: 1/5/2024 2:39:53 PM

PROJECT & FILENAME: Projects\Minnesota\021204-000\Cadd\Plan\21204-000_std\plr_400.dgn



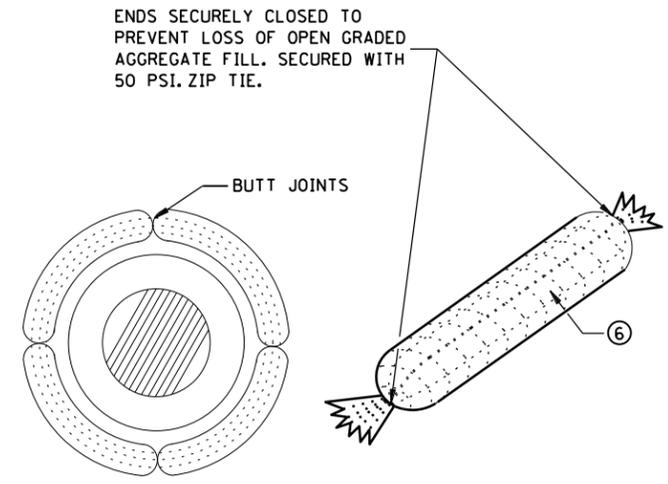
FILTER BAG INSERT ③

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX)

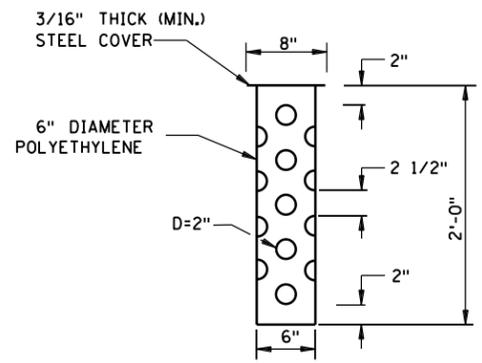


SEDIMENT CONTROL INLET HAT

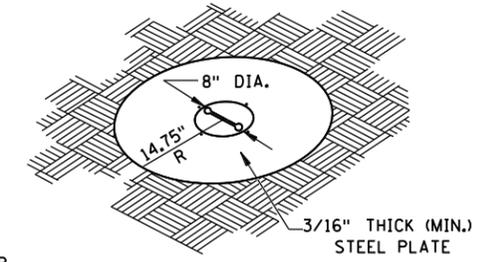
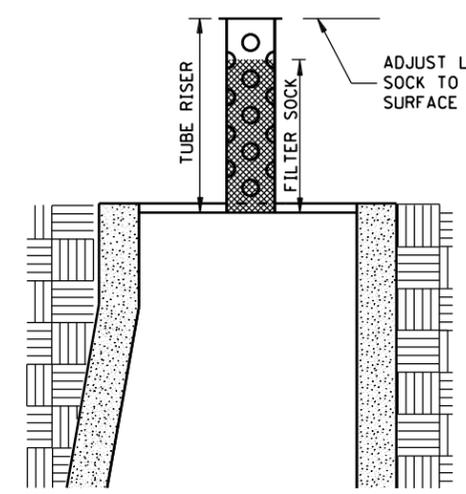
NOTE: THE SEDIMENT CONTROL BARRIER SHALL BE A METAL OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING, FLANGES AND A LID/COVER.



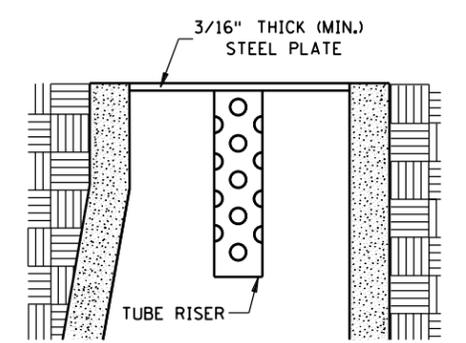
ROCK LOG/COMPOST LOG



TUBE RISER



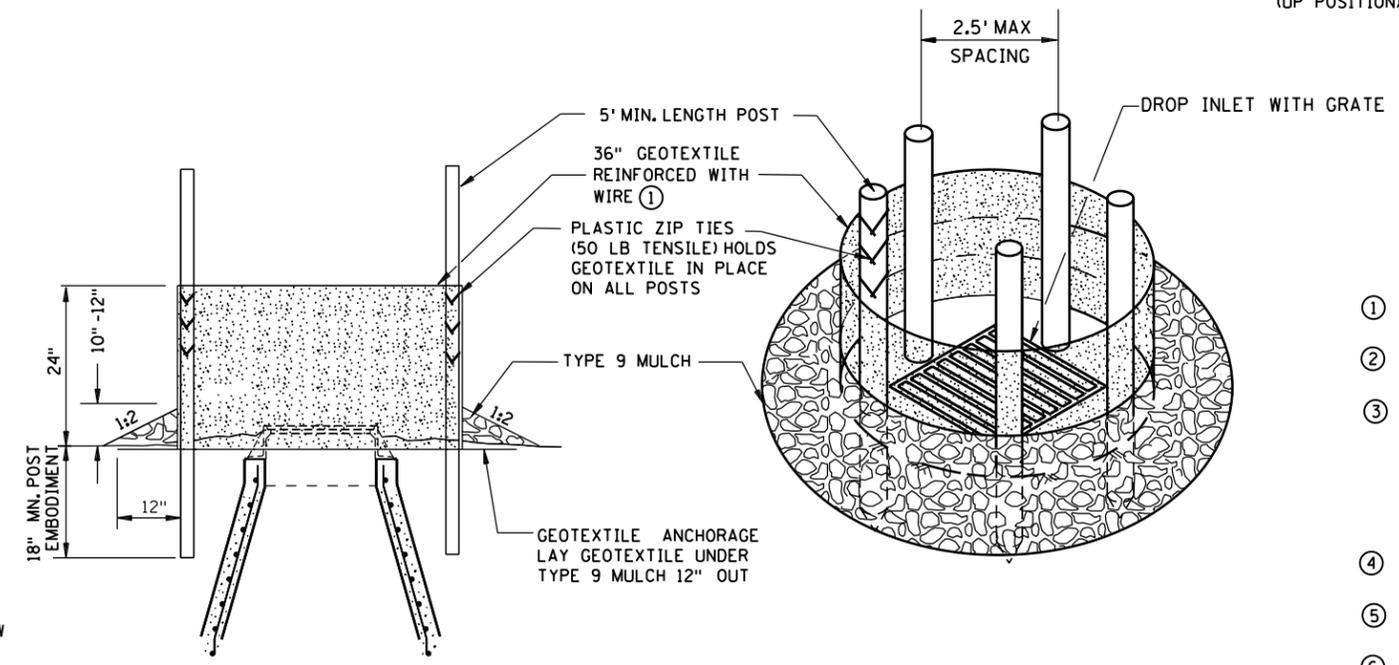
PERSPECTIVE VIEW



SECTION (UP POSITION)

SECTION (DOWN POSITION)

POP-UP HEAD



SILT FENCE RING AND ROCK FILTER BERM

USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 OR LESS

NOTES:

- SEE SPECS. 2573, 3137, & 3886.
- DEVICES MUST BE ADJUSTED ACCORDINGLY AS TO NOT CAUSE FLOODING ON ROADWAY THAT WOULD IMPEDE TRAFFIC FLOW.
- ① ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.
- ② FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ③ INSTALLATION NOTES: DO NOT PLACE FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE PLACED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
- ④ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.
- ⑤ SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.
- ⑥ GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADATION.

REVISION:

APPROVED: 2-28-2017

Chief Environmental Officer



STANDARD PLAN 5-297.405 4 OF 8

APPROVED: 2-28-2017

REVISED:

Rom

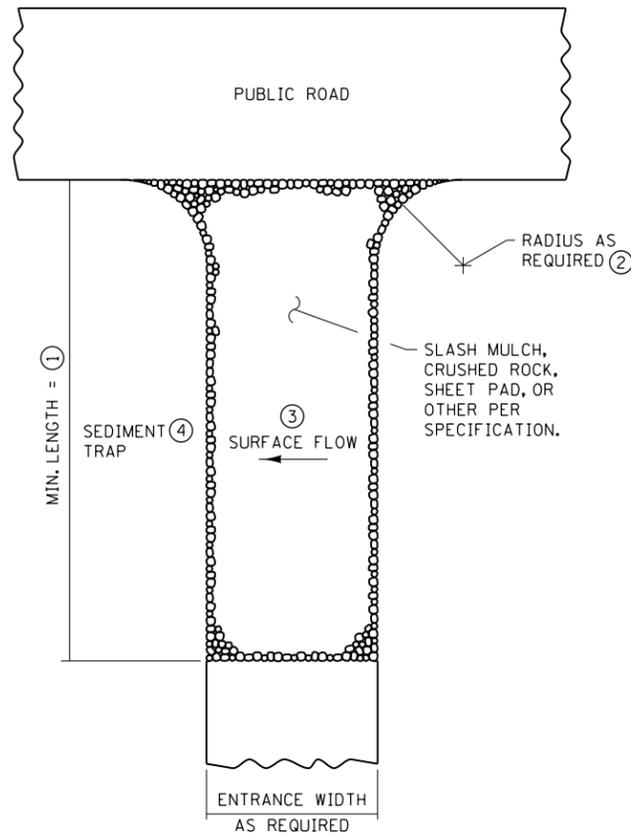
STATE DESIGN ENGINEER

TEMPORARY SEDIMENT CONTROL

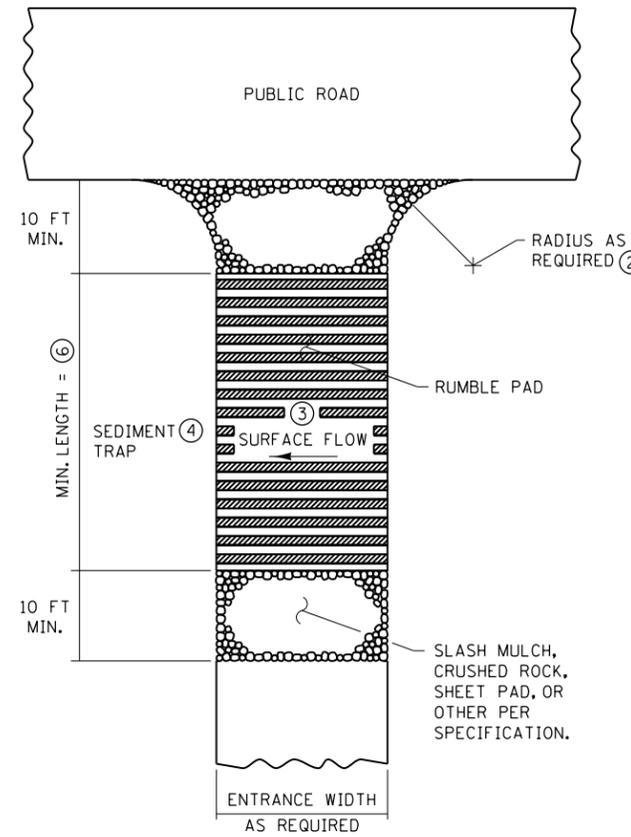
STORM DRAIN INLET PROTECTION

CP 20-23-132, SAP 114-117-005, SAP 127-080-001

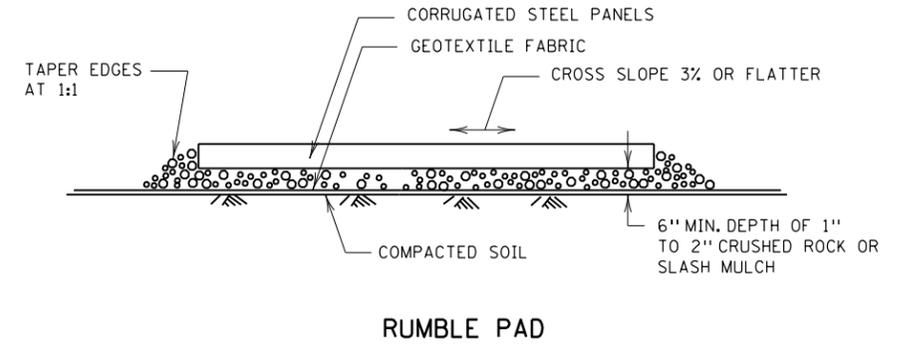
SHEET 42 OF 135 SHEETS



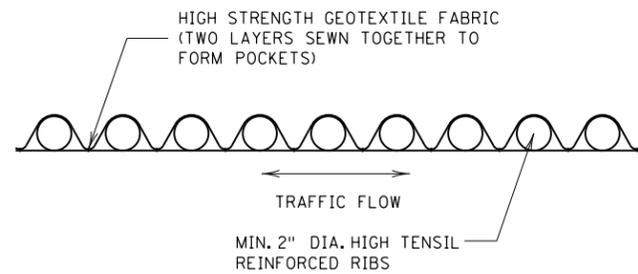
SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT ⑤⑦



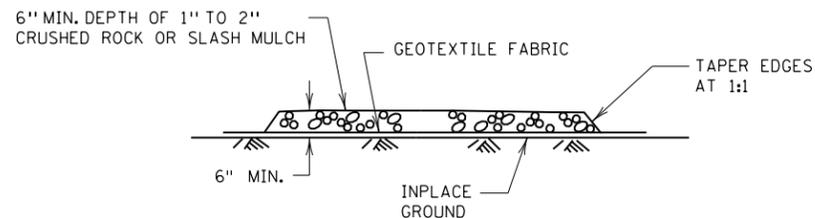
RUMBLE PAD CONSTRUCTION EXIT ⑤⑦



RUMBLE PAD



SHEET PAD



SLASH MULCH OR CRUSHED ROCK

NOTES:

SEE SPECS. 2573 & 3882.

- ① 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.
- ② PROVIDE RADIUS OR WIDEN PAD SUFFICIENTLY TO PREVENT VEHICLE TIRES FROM TRACKING OFF OF PAD WHEN LEAVING SITE.
- ③ IF RUNOFF FROM DISTURBED AREAS FLOWS TOWARD CONSTRUCTION EXITS, PREVENT RUNOFF FROM DRAINING DIRECTLY TO PUBLIC ROAD OVER CONSTRUCTION EXIT BY CROWNING THE EXIT OR SLOPING TO ONE SIDE. IF SURFACE GRADING IS INSUFFICIENT, PROVIDE OTHER MEANS OF INTERCEPTING RUNOFF.
- ④ IF RUNOFF FROM CONSTRUCTION EXITS WILL DRAIN OFF OF PROJECT SITE, PROVIDE SEDIMENT TRAP WITH STABILIZED OVERFLOW.
- ⑤ IF A TIRE WASH OFF IS REQUIRED THE CONSTRUCTION EXITS SHALL BE GRADED TO DRAIN THE WASH WATER TO A SEDIMENT TRAP.
- ⑥ MINIMUM LENGTH OF RUMBLE PAD SHALL BE 20 FEET, OR AS REQUIRED TO REMOVE SEDIMENT FROM TIRES. IF SIGNIFICANT SEDIMENT IS TRACKED FROM THE SITE, THE RUMBLE PAD SHALL BE LENGTHENED OR THE DESIGN MODIFIED TO PROVIDE ADDITIONAL VIBRATION. WASH-OFF LENGTH SHALL BE AS REQUIRED TO EFFECTIVELY REMOVE CONSTRUCTION SEDIMENT FROM VEHICLE TIRES.
- 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 (SLASH MULCH OR CRUSHED ROCK) OVER SEDIMENT FILLED MATERIAL TO RESTORE EFFECTIVENESS.

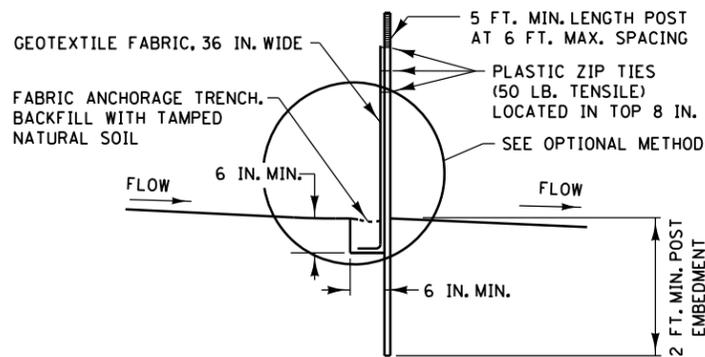
REVISION:
APPROVED: 2-28-2017
<i>[Signature]</i> CHIEF ENVIRONMENTAL OFFICER

	STANDARD PLAN 5-297.405	5 OF 8
	APPROVED: 2-28-2017 REVISED:	
DEPARTMENT OF TRANSPORTATION	STATE DESIGN ENGINEER	CP 20-23-132, SAP 114-117-005, SAP 127-080-001

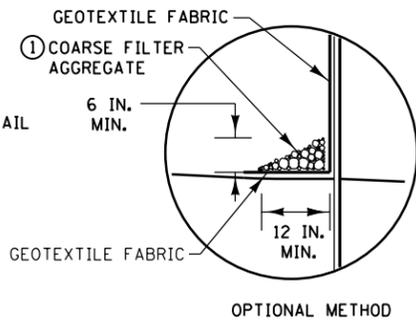
**TEMPORARY SEDIMENT CONTROL
STABILIZED CONSTRUCTION EXIT**

PLOTTED/REVISED: 1/5/2024 2:39:54 PM

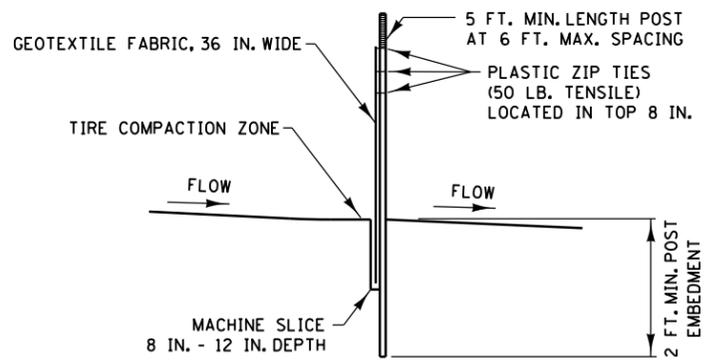
PATH & FILENAME: Projects\Minnesota\021204-000\Cadd\Plan\21204-000_std\plan_400.dgn



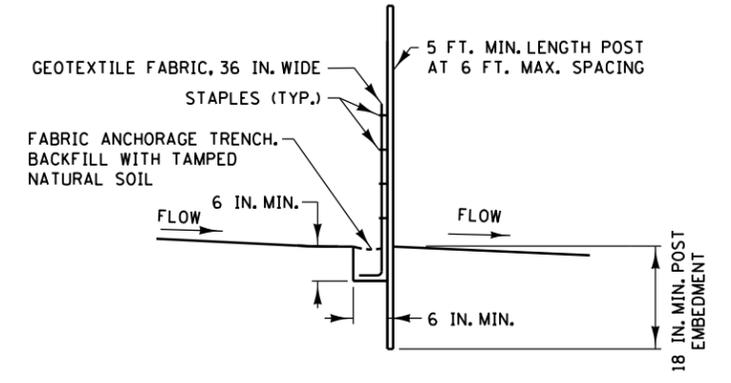
**SILT FENCE TYPE HI ②
(HAND INSTALLED)**



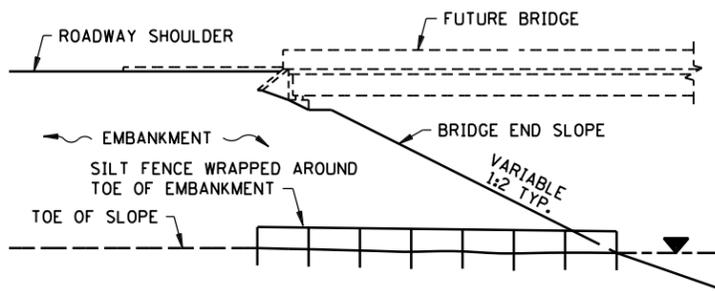
OPTIONAL METHOD



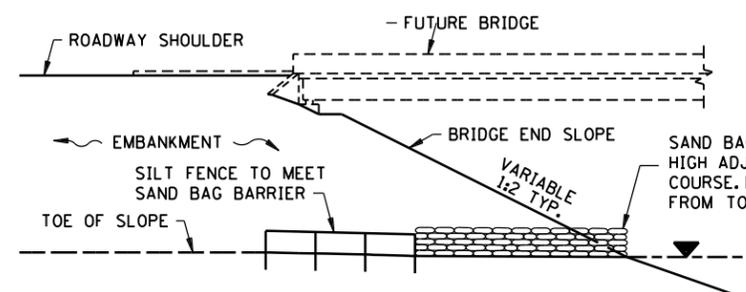
**SILT FENCE TYPE MS ②
(MACHINE SLICED)**



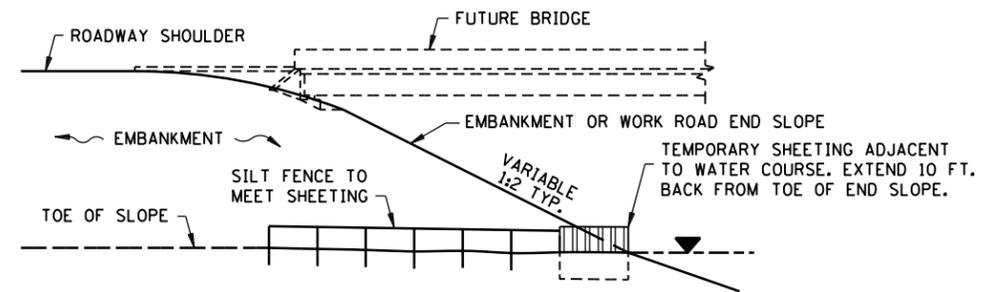
**SILT FENCE TYPE PA ③
(PREASSEMBLED)**



SILT FENCE ONLY ④

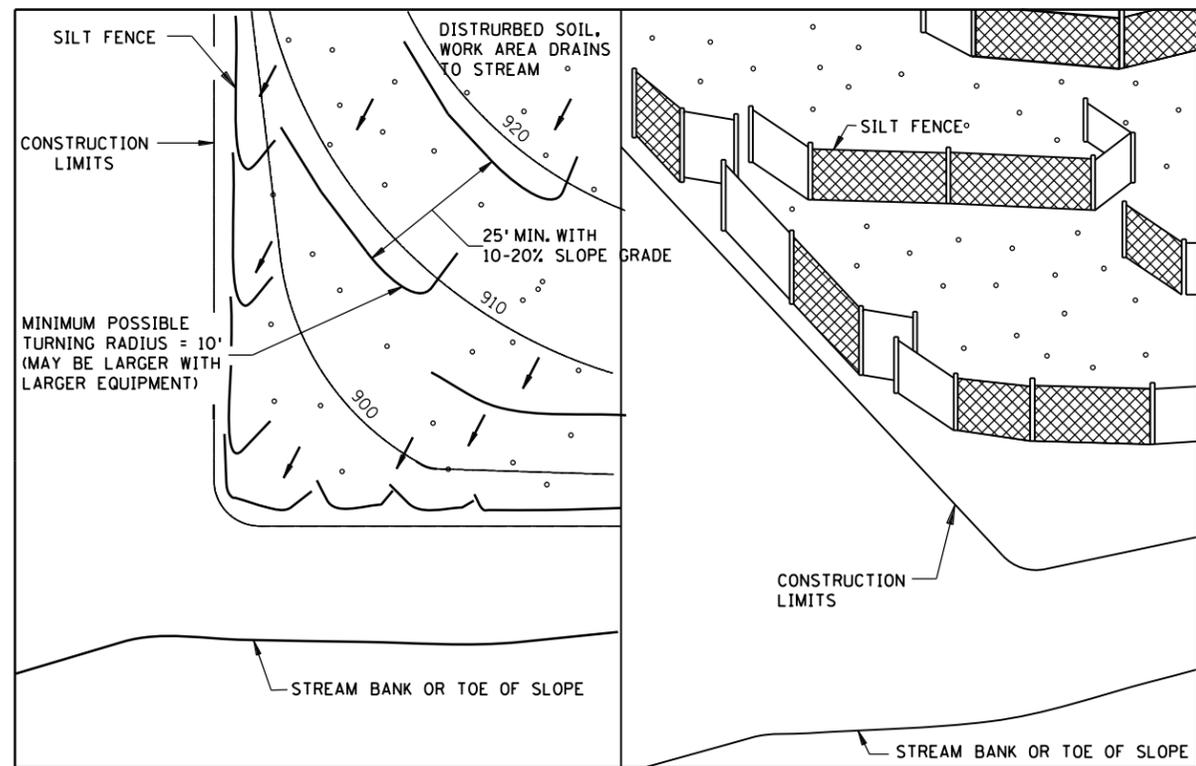


SILT FENCE WITH SAND BAGS ⑤



SILT FENCE WITH SHEETING ⑥

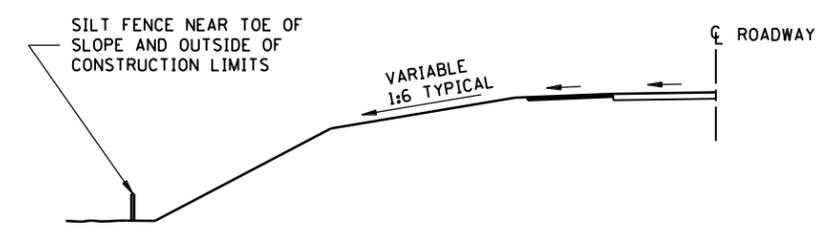
INSTALLATION AT BRIDGE EMBANKMENT ADJACENT TO WATER



PLAN VIEW

PERSPECTIVE VIEW

J-HOOK INSTALLATION



LOCATION AT TOE OF ROADWAY EMBANKMENT

NOTES:

- SEE SPECS. 2573, 3149 & 3886.
- ① COARSE FILTER AGGREGATE (SPEC. 3149) SHALL BE INCIDENTAL.
- ② TO PROTECT AREAS FROM SHEET FLOW, MAXIMUM CONTRIBUTING AREA: 1 ACRE.
- ③ TO PROTECT AREAS FROM SHEET FLOW, MAXIMUM CONTRIBUTING AREA: 0.25 ACRE.
- ④ WATER COURSE FLOW VELOCITY: STANDING. CONTRIBUTING SLOPE AREA: 1.1/2 ACRE.
- ⑤ WATER COURSE FLOW VELOCITY: 1 TO 7 FT./SEC. CONTRIBUTING SLOPE AREA: 1 ACRE.
- ⑥ WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC. CONTRIBUTING SLOPE AREA: 3 ACRES.

REVISION:
APPROVED: 2-28-2017
[Signature]
CHIEF ENVIRONMENTAL OFFICER



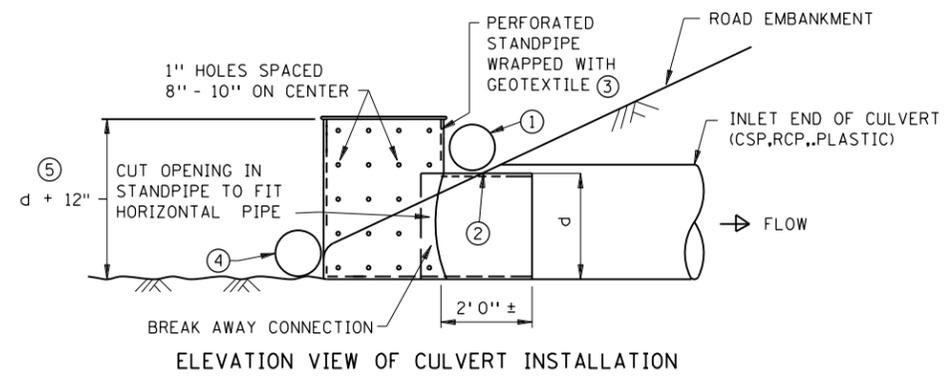
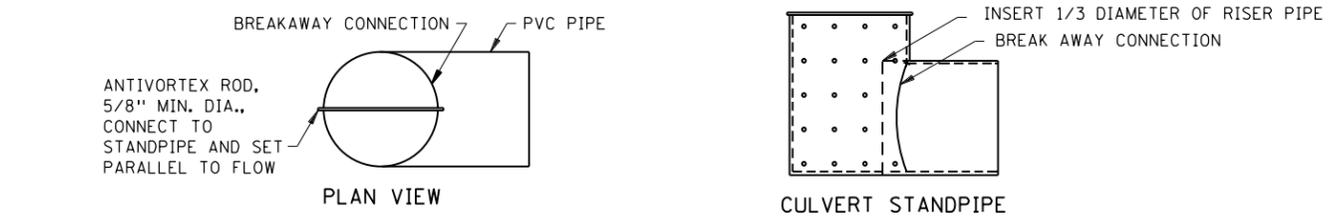
STANDARD PLAN 5-297.405 6 OF 8
APPROVED: 2-28-2017
REVISED:
[Signature]
STATE DESIGN ENGINEER

**TEMPORARY SEDIMENT CONTROL
SILT FENCE**

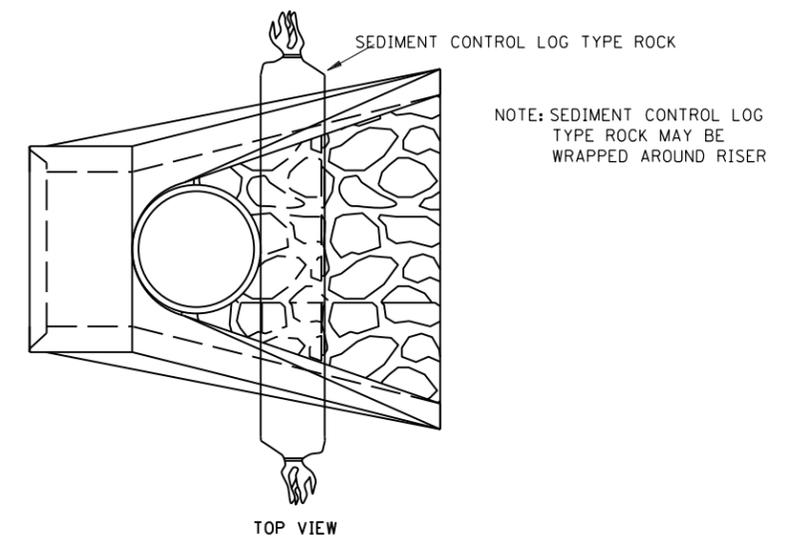
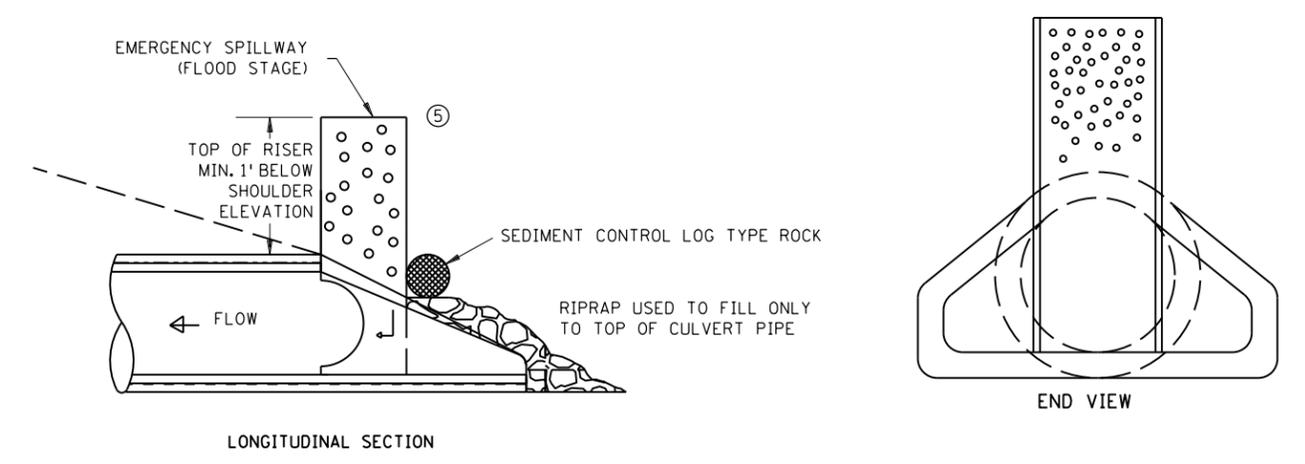
CP 20-23-132, SAP 114-117-005, SAP 127-080-001

PLOTTED/REVISED: 1/5/2024 2:39:55 PM

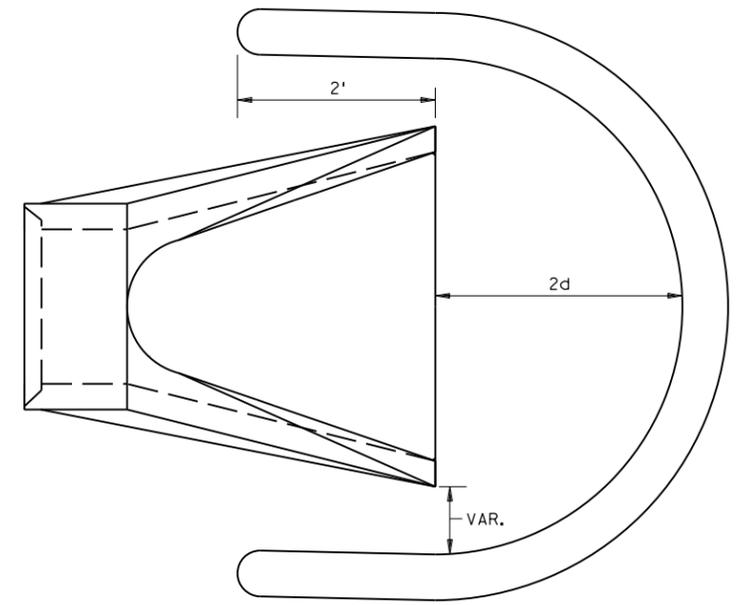
PATH & FILENAME: Projects\Minnesota\021204-000\Cad\Plan\21204-000_std\plan_400.dgn



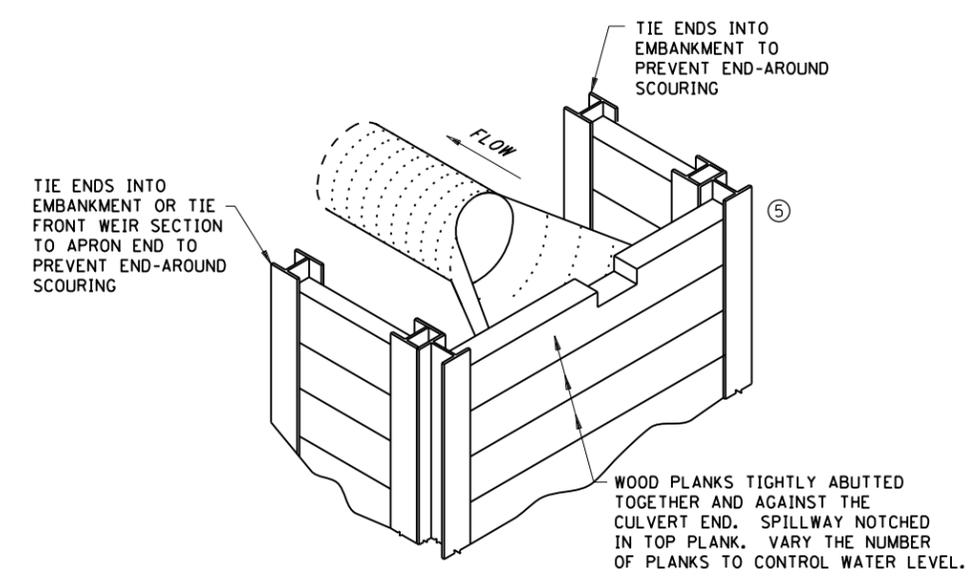
CULVERT STANDPIPE INSERT (D-RISER)
d = CULVERT SIZE: 12" - 36"



CULVERT STANDPIPE INSERT (D-RISER)



SEDIMENT CONTROL LOG WEIR
(COMPOST, WOOD CHIP, OR ROCK)
d = CULVERT SIZE: 12" - 36"



WOOD PLANK WEIR

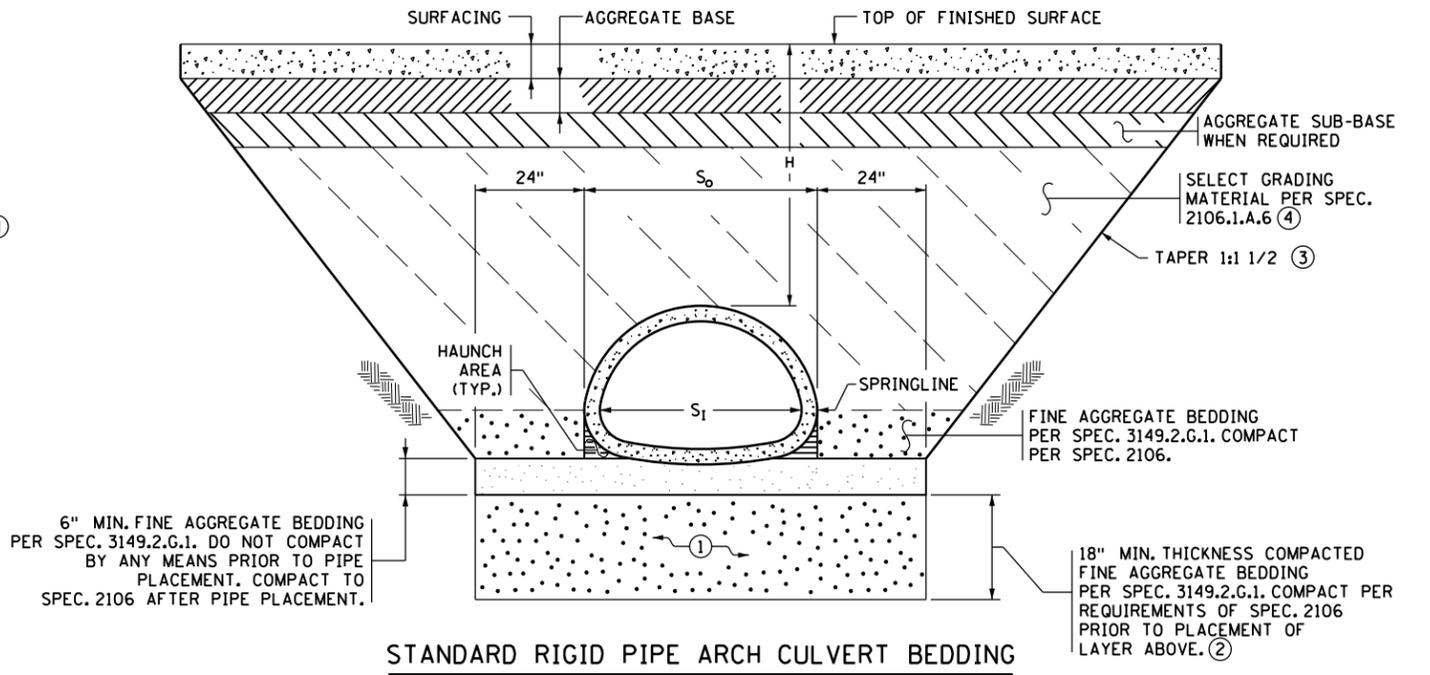
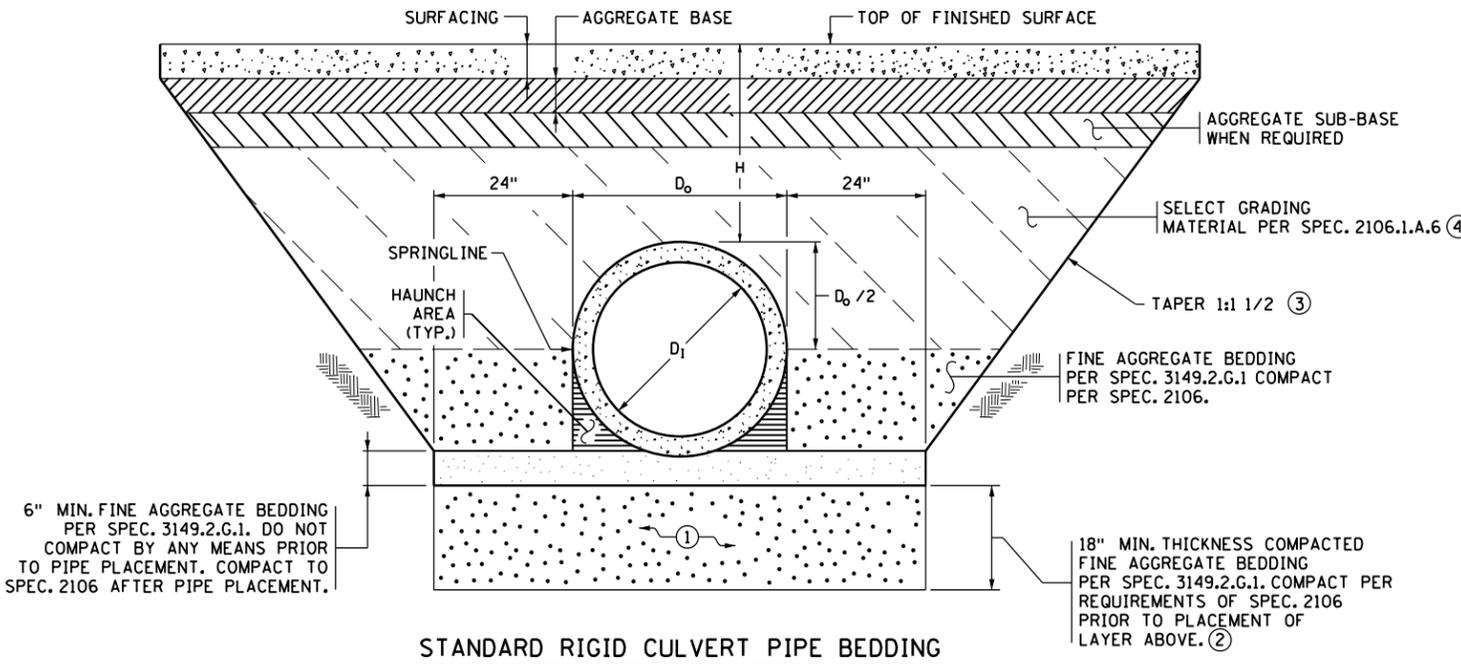
- NOTES:**
- SEE SPECS. 2573, 3891 & 3893.
 - FOR USE WHEN TEMPORARY PONDING IS NEEDED IN DITCH SECTIONS FOR SEDIMENT CONTROL.
 - MANUFACTURED ALTERNATIVES LISTED ON MnDOT'S APPROVED PRODUCTS LIST MAY BE SUBSTITUTED AT NO ADDITIONAL COST.
 - ① ROCK LOG OR SANDBAG TO HOLD STANDPIPE AND ACT AS A SEAL BETWEEN RISER PIPE AND CULVERT.
 - ② PLACE CULVERT APRON AND SLIDE TEMPORARY STANDPIPE INTO CSP OR RCP CULVERT.
 - ③ ALL GEOTEXTILE USED FOR CULVERT PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886 FOR MACHINE SLICED.
 - ④ ROCK LOG OR RIP RAP TO HOLD STANDPIPE AND ACT AS A FILTER BETWEEN RISER PIPE AND CULVERT.
 - ⑤ HEIGHT OVERFLOW NOT TO CAUSE FLOODING OF ROAD OR ADJACENT PROPERTIES.

REVISION:
APPROVED: 2-28-2017
[Signature]
CHIEF ENVIRONMENTAL OFFICER

	STANDARD PLAN 5-297.405	8 OF 8	<p>TEMPORARY SEDIMENT CONTROL</p> <p>CULVERT END CONTROLS</p>
		APPROVED: 2-28-2017	
DEPARTMENT OF TRANSPORTATION	STATE DESIGN ENGINEER		CP 20-23-132, SAP 114-117-005, SAP 127-080-001
			SHEET 45 OF 135 SHEETS

PLOTTED/REVISED: 1/5/2024 2:39:56 PM

PATH & FILENAME: Projects\Minnesota\021204-000\Cad\Plan\21204-000_std\plr_400.dgn



- LEGEND-**
- D_1 = INSIDE DIAMETER OF ROUND PIPE (INCHES).
 - D_0 = OUTSIDE DIAMETER OF ROUND PIPE (INCHES).
 - S_1 = INSIDE SPAN OF PIPE-ARCH (INCHES).
 - S_0 = OUTSIDE SPAN OF PIPE-ARCH (INCHES).
 - H = FILL COVER HEIGHT OVER PIPE (FEET).
 - = UNDISTURBED SOIL
 - = COMPACTED BEDDING
 - = LOOSE BEDDING, COMPACTED AFTER PIPE PLACEMENT

- NOTES**
- STANDARD BEDDING FOR RIGID PIPE CULVERTS WITHOUT TREATMENTS.
 - RIGID PIPE INCLUDES CONCRETE.
 - ENTRANCE CULVERTS (FIELD AND DRIVEWAY CULVERTS) DO NOT NEED BEDDING UNLESS SPECIFIED IN THE PLANS OR SPECIAL PROVISIONS.
 - UNLESS OTHERWISE NOTED IN THE PLAN, BEDDING QUANTITIES ARE COMPUTED FOR THE FULL LENGTH OF THE PIPE AND APRON, AND WILL NOT BE ADJUSTED FOR CHANGES TO MEET OSHA REQUIREMENTS.
 - WHEN RIPRAP IS REQUIRED AT THE APRON END, SEE STANDARD PLATE OR PLAN FOR RIPRAP INSTALLATION AND QUANTITIES. FOR APRONS WITHOUT RIPRAP PLACE 6" MIN. FINE AGGREGATE BEDDING UNDER APRONS. USE A TRENCH WIDTH EQUAL TO THE PIPE TRENCH WIDTH.
 - CONTRACT PAY ITEM FOR FINE AGGREGATE BEDDING INCLUDES THE COST OF EXCAVATION, PLACEMENT AND COMPACTION.
 - EXCAVATION AND BACKFILL WITH SELECT GRADING MATERIAL ARE NOT TABULATED SEPARATELY BUT ARE INCLUDED IN THE CONTRACT UNIT PRICE OF THE RELEVANT CULVERT PAY ITEM.
 - EXCAVATE & CONSTRUCT ALL TRENCHES AND SLOPES PER OSHA REQUIREMENTS.
 - ALL SLOPES SHOWN AS (V) : (H).
 - PIPE SIZE IS BASED ON THE NOMINAL INSIDE DIAMETER OR SPAN.
 - PROTECT ALL PIPE DURING CONSTRUCTION PER SPEC. 2501.
 - PLACE MULTIPLE PIPE CULVERTS WITH A CLEARANCE OF 24 INCHES OR GREATER BETWEEN STRINGS OF PIPE.
 - ① IF APPROVED BY THE ENGINEER, IN WET CONDITIONS THE CONTRACTOR MAY SUBSTITUTE 18" OF COARSE FILTER AGGREGATE PER SPEC. 3149.2.H COMPACTED TO THE QUALITY COMPACTION REQUIREMENTS OF SPEC. 2106. WRAP WITH GEOTEXTILE FABRIC TYPE IV PER SPEC. 3733. SEAM ALL FABRIC SIDES AND ENDS PER SPEC. TABLE 3733-1 INCLUDING FOOTNOTE (e) OR OVERLAP A MINIMUM OF 3 FT., ALL AT NO ADDITIONAL COST.
 - ② FOR INSTALLATIONS ON INTACT BEDROCK, OMIT THIS LAYER.
 - ③ OVER-EXCAVATION BENEATH TAPERS IS NOT PERMITTED UNLESS REQUIRED BY OSHA. (TYP.)
 - ④ MAXIMUM EMBANKMENT PARTICLE SIZE WITHIN 2 FT. OF RIGID PIPE IS 3".

CONSTRUCTION SEQUENCE

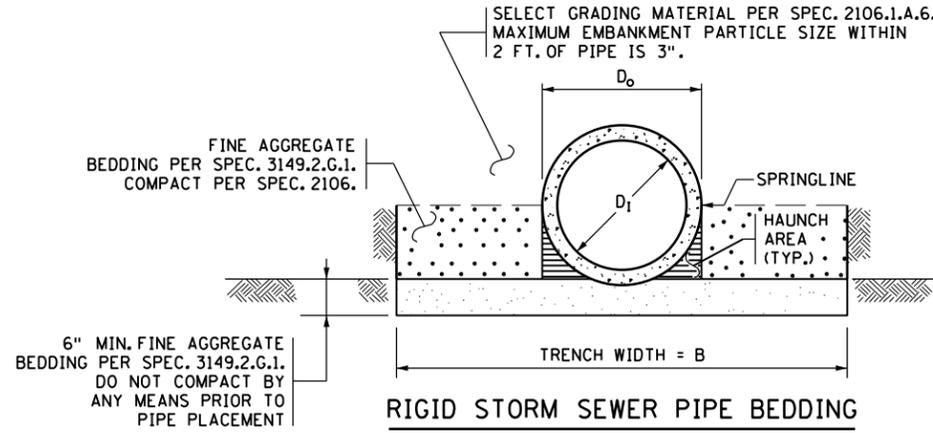
1. PLACE AND COMPACT 18" OF FINE AGGREGATE BEDDING TO THE REQUIREMENTS OF SPEC. 2106.
2. LOOSELY PLACE 6" OF FINE AGGREGATE BEDDING MATERIAL (SPEC. 3149.2.G.1) TO GRADE. DO NOT COMPACT PRIOR TO PIPE PLACEMENT.
3. FOR PIPES WITH BELL, REMOVE MATERIAL IN BELL AREA PRIOR TO PLACEMENT.
4. FURNISH AND INSTALL PIPE TO GRADE.
5. AFTER PLACEMENT OF THE PIPE, PLACE ADDITIONAL BEDDING AND COMPACT THE FULL LENGTH ON BOTH SIDES OF THE PIPE UNDERNEATH THE HAUNCH AREA BY FIRST SHOVEL SLICING (MANUALLY SHOVEL THE BLADE END OF A SHOVEL AT AN ANGLE DOWN THE ENTIRE LENGTH OF THE PIPE IN THE HAUNCH AREA) THEN COMPACT THE HAUNCH AT AN ANGLE USING A POWERED MECHANICAL OR PNEUMATIC DEVICE (I.E. POLE TAMPER, JUMPING JACK, OR SIMILAR).
6. COMPACT THE REMAINING MATERIAL OUTSIDE THE HAUNCH AREA TO THE REQUIREMENTS OF SPEC. 2106 ENSURING THAT THE ENTIRE LENGTH OF PIPE IS SUPPORTED UNIFORMLY BY BEDDING.
7. PLACE AND COMPACT BACKFILL EVENLY AND SIMULTANEOUSLY IN 6" LIFTS ON EACH SIDE OF THE PIPE UP TO THE SPRINGLINE WHEN COMPACTED.
8. COMPLETE REMAINING BACKFILL.

REVISION:
 APPROVED: JANUARY 18, 2019
Kevin Weston
 STATE BRIDGE ENGINEER

	STANDARD PLAN 5-297.441	1 OF 1	STANDARD CULVERT BEDDING FOR RIGID PIPE (WITHOUT TREATMENTS)
	 STATE DESIGN ENGINEER	APPROVED: 01-18-2019 REVISED:	
SHEET 46 OF 135 SHEETS			

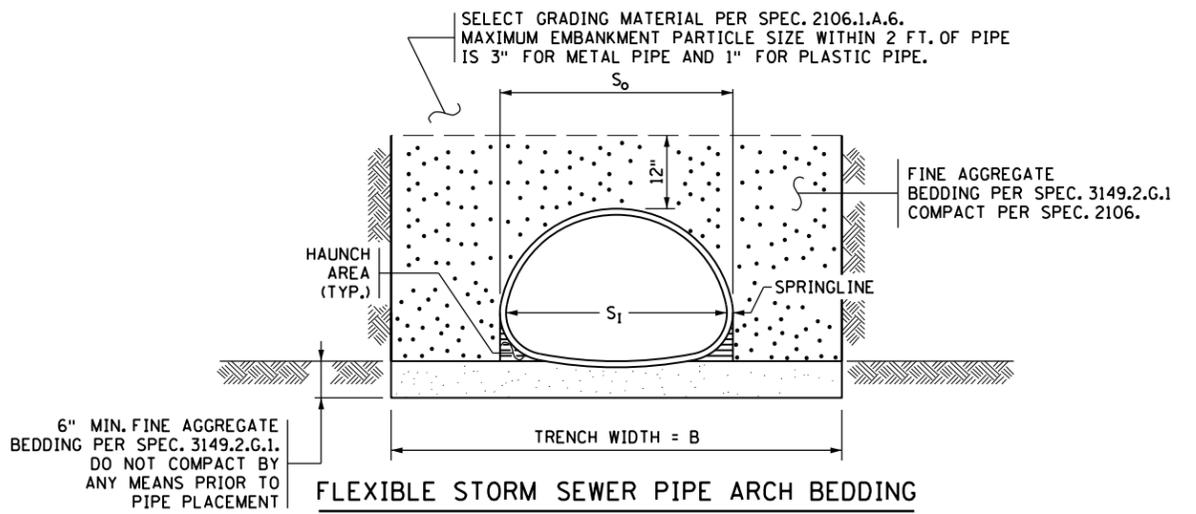
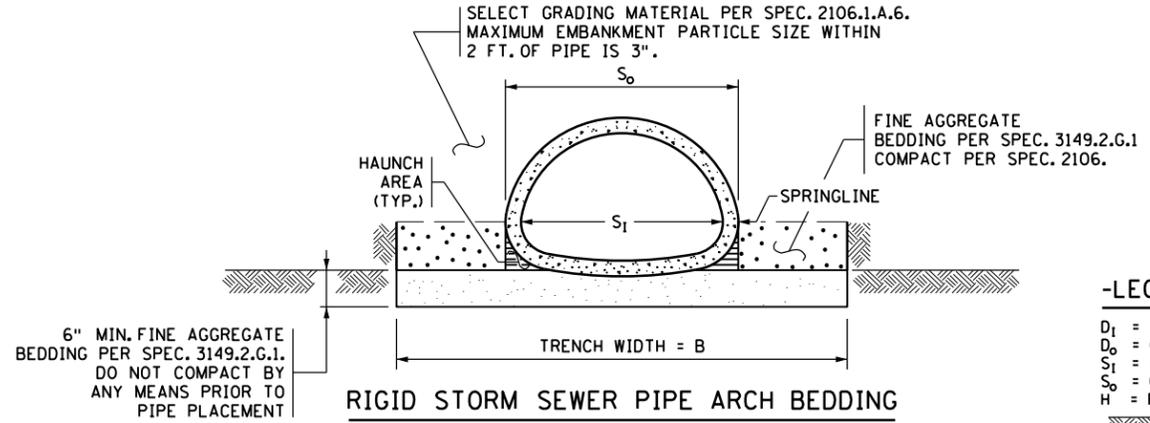
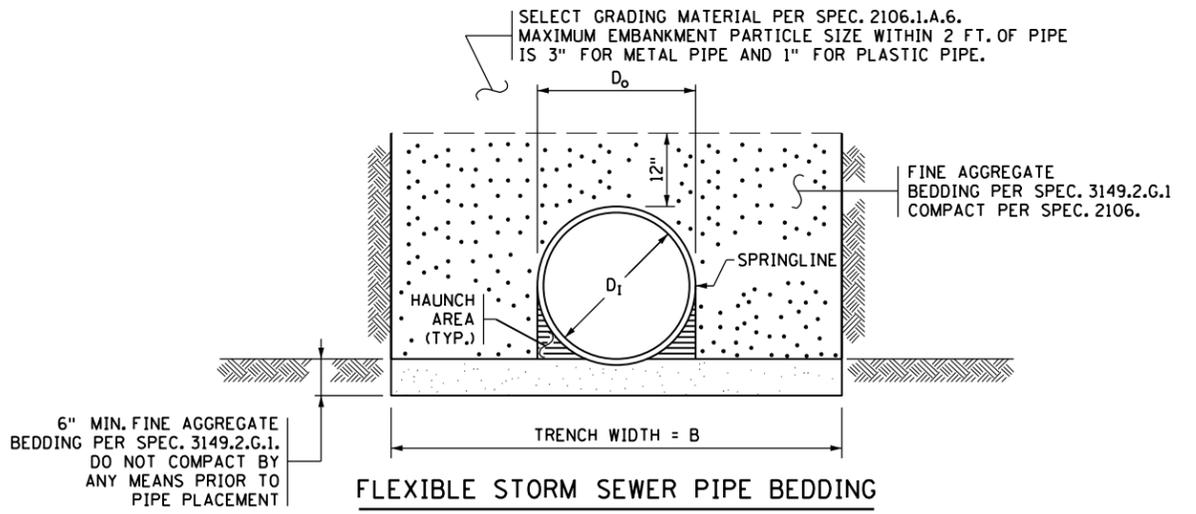
PLOTTED/REVISED: 1/5/2024 2:39:57 PM

PATH & FILENAME: Projects\Minnesota\021204-000\Cad\Plan\21204-000_std\plr_400.dgn



TRENCH BASE WIDTH ①②	
PIPE DIA. D_1 OR S_1	TRENCH WIDTH B
< 42"	$D_0 + 24"$
42" TO 54"	$1.5 \times D_0$
> 54"	$D_0 + 36"$

PLASTIC PIPE WITH $H > 10$ FT. ①②	
PIPE DIA.	TRENCH WIDTH (FEET)
12"	5'-2"
15"	5'-6"
18"	5'-9"
24"	6'-6"
30"	8'-0"
36"	9'-6"
42"	11'-0"
48"	12'-6"



-LEGEND-

- D_1 = INSIDE DIAMETER OF ROUND PIPE (INCHES).
- D_0 = OUTSIDE DIAMETER OF ROUND PIPE (INCHES).
- S_1 = INSIDE SPAN OF PIPE-ARCH (INCHES).
- S_0 = OUTSIDE SPAN OF PIPE-ARCH (INCHES).
- H = FILL COVER HEIGHT OVER PIPE (FEET).
- = UNDISTURBED SOIL
- = COMPACTED BEDDING
- = LOOSE BEDDING, COMPACTED AFTER PIPE PLACEMENT

CONSTRUCTION SEQUENCE

1. LOOSELY PLACE 6" OF FINE AGGREGATE BEDDING MATERIAL TO GRADE. DO NOT COMPACT PRIOR TO PIPE PLACEMENT.
2. FOR PIPES WITH BELL, REMOVE MATERIAL IN BELL AREA PRIOR TO PLACEMENT.
3. FURNISH AND INSTALL PIPE TO GRADE.
4. AFTER PLACEMENT OF THE PIPE, PLACE ADDITIONAL FINE AGGREGATE BEDDING AND COMPACT THE FULL LENGTH ON BOTH SIDES OF THE PIPE UNDERNEATH THE HAUNCH AREA BY FIRST SHOVEL SLICING (MANUALLY SHOVE THE BLADE END OF SHOVEL AT AN ANGLE DOWN THE ENTIRE LENGTH OF HAUNCH UNDER THE PIPE). THEN COMPACT THE HAUNCH AT AN ANGLE USING A POWERED MECHANICAL OR PNEUMATIC DEVICE (I.E. POLE TAMPER, JUMPING JACK, OR SIMILAR).
5. COMPACT THE REMAINING MATERIAL OUTSIDE THE HAUNCH AREA TO THE REQUIREMENTS OF SPEC. 2106 ENSURING THAT THE ENTIRE LENGTH OF PIPE IS SUPPORTED UNIFORMLY BY BEDDING.
6. PLACE AND COMPACT BACKFILL EVENLY AND SIMULTANEOUSLY IN 6" LIFTS ON EACH SIDE OF THE PIPE UP TO THE SPRINGLINE FOR RIGID PIPE AND 12" ABOVE THE TOP OF THE PIPE FOR FLEXIBLE PIPE WHEN COMPACTED.
7. COMPLETE REMAINING BACKFILL.

NOTES

- EXCAVATE & CONSTRUCT ALL TRENCHES AND SLOPES PER OSHA REQUIREMENTS.
- PIPE SIZE IS BASED ON THE NOMINAL INSIDE DIAMETER OR SPAN.
- PROTECT ALL PIPE DURING CONSTRUCTION PER SPEC. 2503.
- WHEN RIPRAP IS REQUIRED AT THE APRON END, SEE STANDARD PLATE OR PLAN FOR RIPRAP INSTALLATION AND QUANTITIES. FOR APRONS WITHOUT RIPRAP PLACE 6" MIN. FINE AGGREGATE BEDDING UNDER APRONS. USE A TRENCH WIDTH EQUAL TO THE PIPE TRENCH WIDTH.
- FINE AGGREGATE BEDDING INCLUDING THE COST OF EXCAVATION, PLACEMENT AND COMPACTION IS INCLUDED IN THE CONTRACT UNIT PRICE OF THE RELEVANT STORM SEWER PAY ITEM.
- EXCAVATION AND BACKFILL WITH SELECT GRADING MATERIAL ARE NOT TABULATED SEPARATELY BUT ARE INCLUDED IN THE CONTRACT UNIT PRICE OF THE RELEVANT STORM SEWER PAY ITEM.
- RIGID PIPE INCLUDES CONCRETE. FLEXIBLE PIPE INCLUDES METAL, AND PLASTIC MATERIALS SUCH AS CORRUGATED POLYPROPYLENE (PP), CORRUGATED POLYETHYLENE (CP) AND POLYVINYL CHLORIDE (PVC).
- ① MODIFY TRENCH WIDTH & SLOPE AS NECESSARY TO COMPLY WITH OSHA REQUIREMENTS.
- ② USE PLASTIC PIPE TABLE FOR TRENCH WIDTHS WHEN FILL HEIGHT IS GREATER THAN 10 FT.

REVISION:
APPROVED: JANUARY 18, 2019
Kevin Weston
STATE BRIDGE ENGINEER



STANDARD PLAN 5-297.442 1 OF 1
APPROVED: 01-18-2019
REVISED:
Tom S...
STATE DESIGN ENGINEER

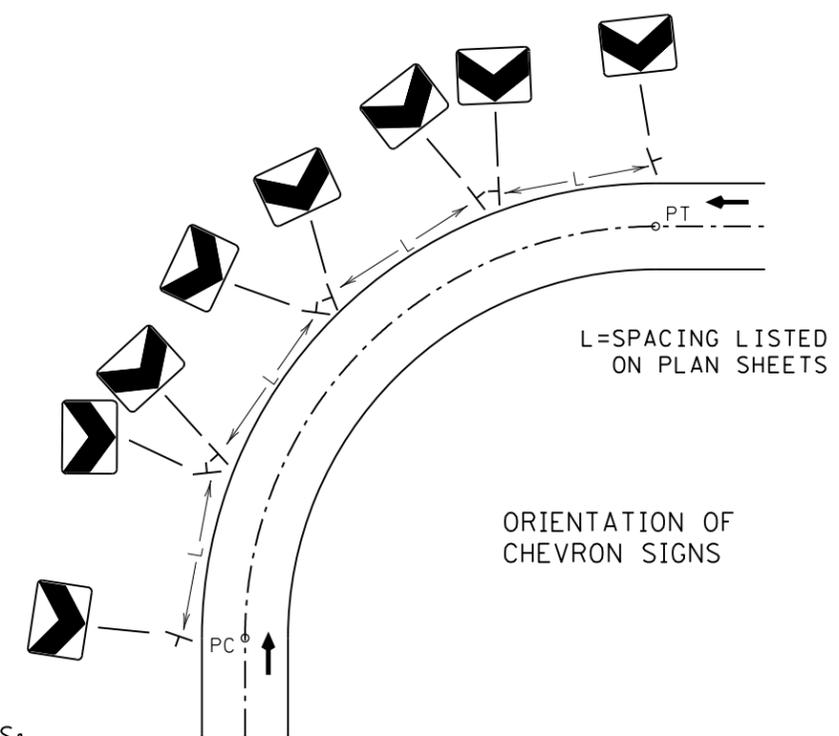
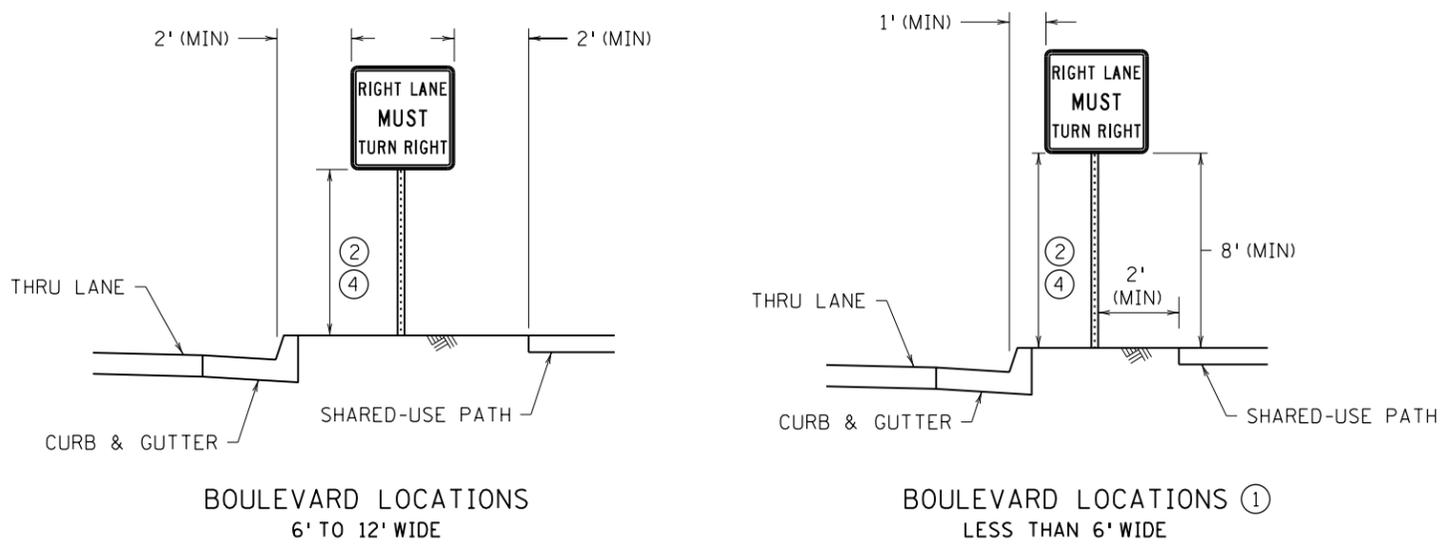
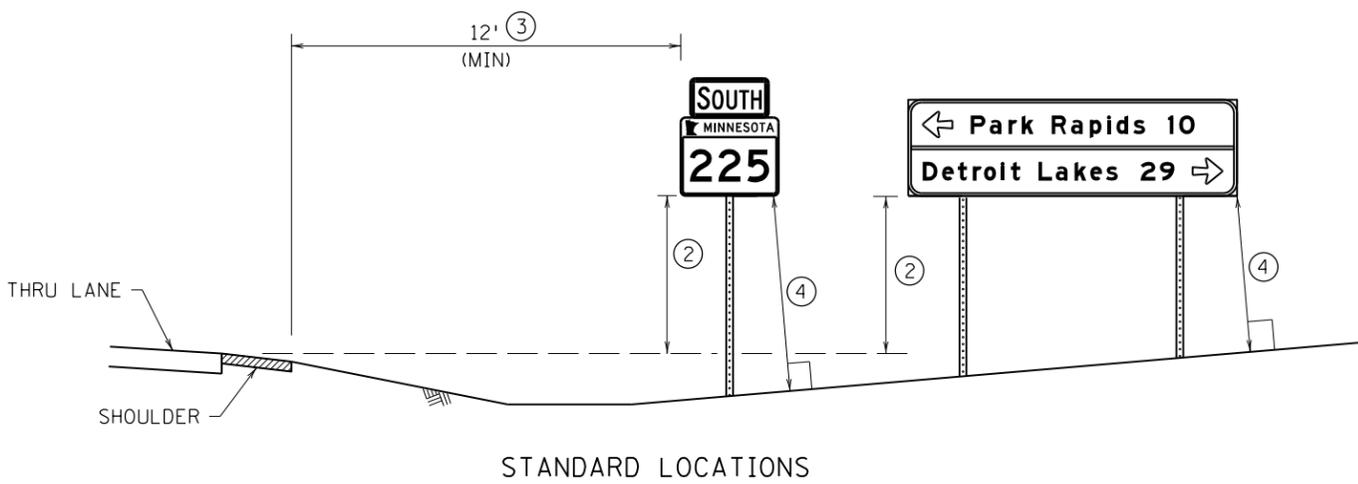
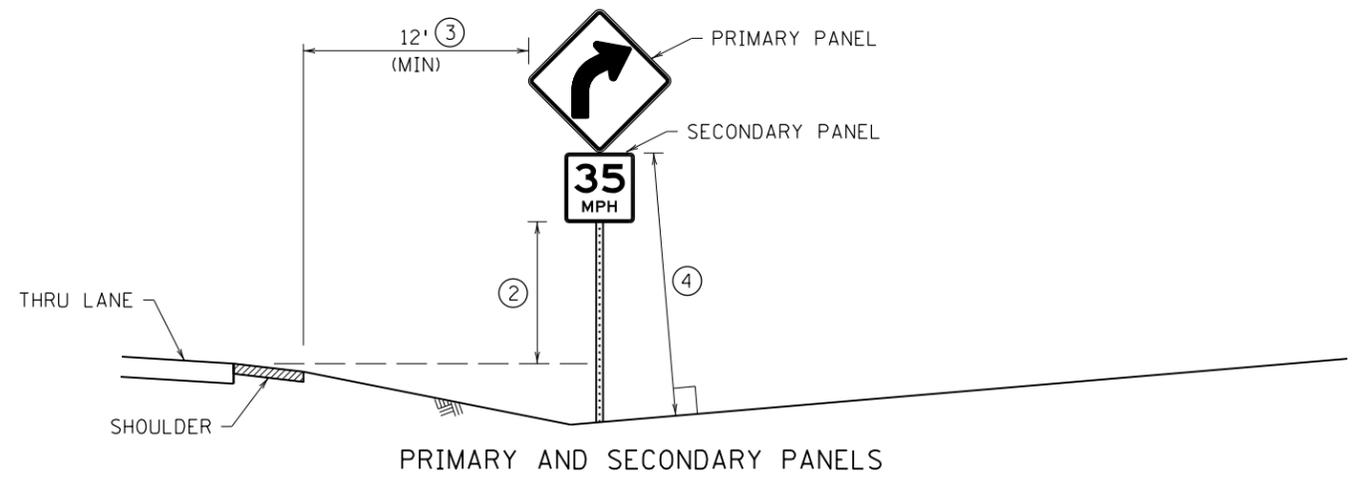
STANDARD STORM SEWER BEDDING FOR RIGID AND FLEXIBLE PIPE

CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET 47 OF 135 SHEETS

PLOTTED/REVISED: 1/5/2024 2:39:59 PM

PATH & FILENAME: Projects\Minnesota\021204-000\Cad\Plan\21204-000_std\plr_700.dgn



NOTES:

- PLACE SIGNS AND ORIENT THEM APPROXIMATELY AS SHOWN IN THE PLAN, AT RIGHT ANGLES TO THE DIRECTION OF, AND FACING THE TRAFFIC THEY ARE INTENDED TO SERVE, UNLESS OTHERWISE SPECIFIED. TO AVOID SPECULAR GLARE, TURN SIGNS APPROXIMATELY THREE DEGREES AWAY FROM APPROACHING TRAFFIC.
- IF A SIGN NEEDS TO BE REPOSITIONED FROM THE PROPOSED PLAN LOCATION IN ORDER TO AVOID CONFLICTS WITH UTILITIES OR OBSTACLES, CONTACT THE PROJECT ENGINEER.
- MOUNT SIGN FACES PLUMB.
- LATERAL CLEARANCES GIVEN APPLY TO RIGHT AND/OR LEFT SIDE INSTALLATION.
- ERECT OR CONSTRUCT SIGN SUPPORT SO THAT NO PORTION OF THE SIGN PANEL IS WITHIN 15' OF THE RAIL OF A RAILROAD TRACK.
- PLACE SIGNS SUCH THAT OBSTACLES DO NOT BLOCK THEM FROM BEING VIEWED BY THE APPROACHING TRAFFIC.
- PLACE SIGNS A MINIMUM OF 10' FROM THE NEAREST OBSTACLE. OBSTACLES MAY INCLUDE, BUT ARE NOT LIMITED TO, LIGHT POLES, TREES, SIGNS, AND BUILDINGS. SIGNS MAY BE PLACED CLOSER TO SIGNS IN TIGHT AREAS, BUT NO MORE THAN TWO POSTS IN A 7' DIAMETER CIRCLE.
- AVOID PLACING SIGNS IN DITCH BOTTOMS.
- ① ONLY USE WHEN BOULEVARD IS TOO NARROW TO OBTAIN ADEQUATE CURBED LOCATION SIGN OFFSETS.
- ② ALL SIGN MOUNTING HEIGHTS ARE MEASURED VERTICALLY FROM THE BOTTOM OF THE LOWEST SIGN PANEL TO THE TOP OF THE CURB, OR IN ABSENCE OF CURB, TO THE NEAR EDGE OF THE THRU-LANE PAVEMENT. SEE SIGN TABULATIONS.
- ③ MINIMUM OFFSET MAY BE REDUCED TO AT LEAST 6' FROM SHOULDER AND AT LEAST 12' FROM THRU LANE IF SITE CONDITIONS PROHIBIT A 12' OFFSET FROM SHOULDER.
- ④ CRASHWORTHY HEIGHT IS AT LEAST 7' FOR BREAKAWAY STRUCTURES AND AT LEAST 4' FOR BENDABLE STRUCTURES. SEE SPECIFIC SQUARE TUBE BASE STRUCTURE PLAN FOR CRASH RESPONSE TYPE. THE CRASHWORTHY HEIGHT IS MEASURED TO THE BOTTOM OF THE PRIMARY SIGN PANEL EXCLUDING ANY SECONDARY SIGN PANELS, MARKERS, DELINEATORS, AND REFERENCE LOCATION SIGN PANELS. ANY SECONDARY SIGN PANELS MOUNTED TO MORE THAN ONE POST ARE CONSIDERED PRIMARY SIGN PANELS FOR CRASHWORTHY PURPOSES.

LEAD EXPERT OFFICE

BRIAN SORENSON
STATE TRAFFIC ENGINEER
OFFICE OF TRAFFIC ENGINEERING



STANDARD PLAN 5-297.701 **1 OF 1**

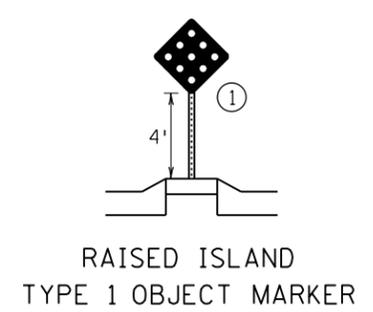
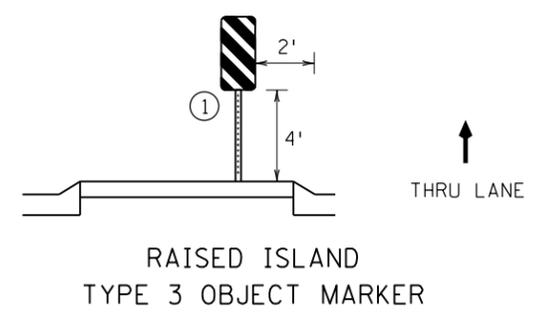
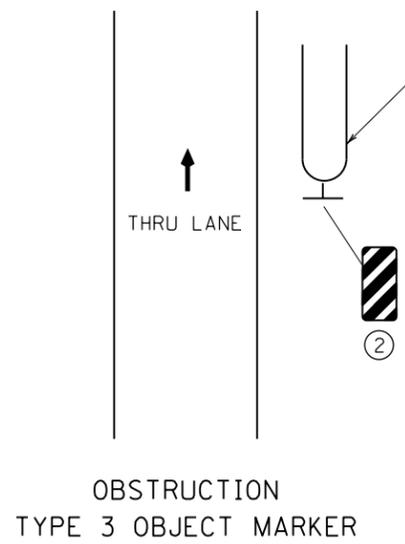
APPROVED: 08-09-2023
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

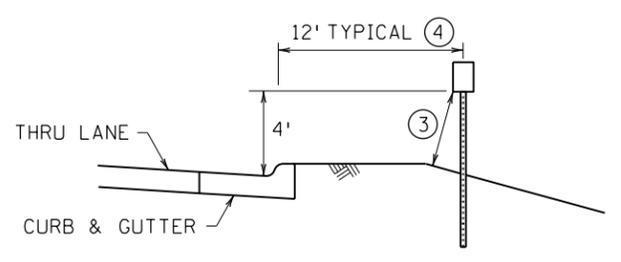
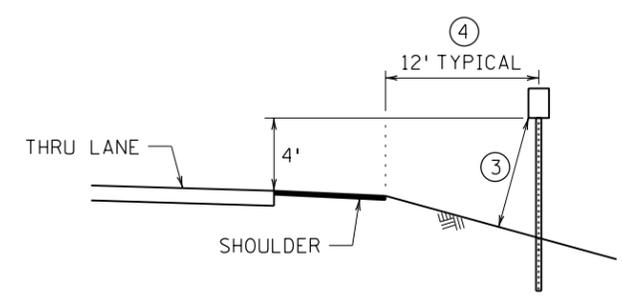
STANDARD SIGN PLACEMENT

CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **48** OF **135** SHEETS



MARKER TYPICAL PLACEMENT



DELINEATOR TYPICAL PLACEMENT

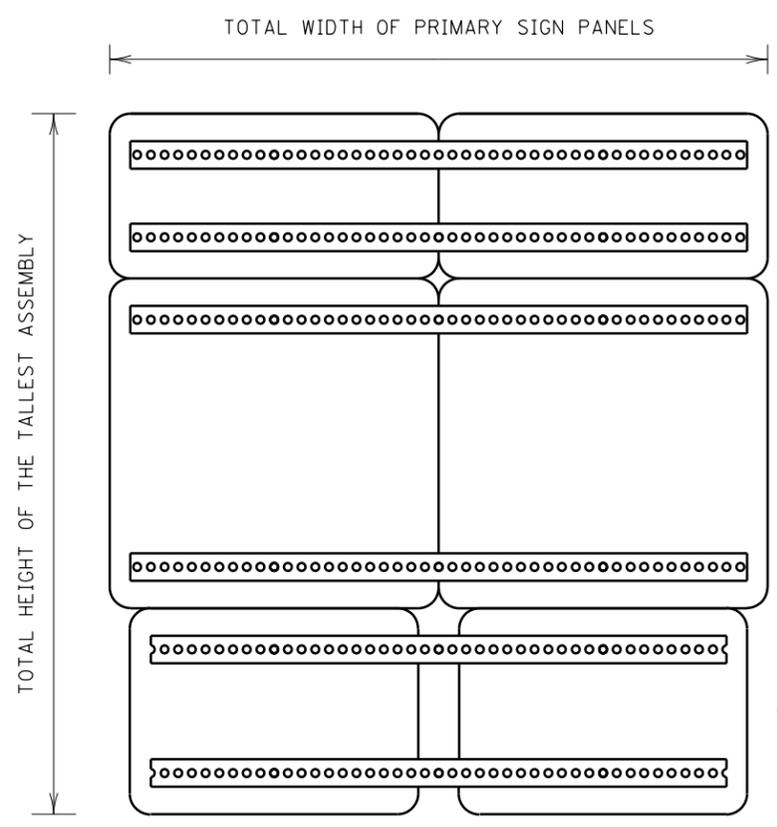
NOTES:

- FOR DELINEATOR OFFSETS AT RAMP GORES, SEE STANDARD PLAN 5-297.703.
- ① PLACE MARKER AS CLOSE TO THE BEGINNING OF MEDIAN AS POSSIBLE.
- ② PLACE THE EDGE OF THE OBJECT MARKER THAT IS CLOSEST TO THE ROAD USER IN LINE WITH THE CLOSEST EDGE OF THE OBSTRUCTION. ANGLE THE STRIPES DOWNWARD TOWARDS THE SIDE TRAFFIC IS TO PASS THE OBSTRUCTION.
- ③ THE CRASHWORTHY HEIGHT FROM THE GROUND TO ANY PORTION OF THE SIGN PANEL IS AT LEAST 7' FOR BREAKAWAY STRUCTURES AND AT LEAST 4' FOR BENDABLE STRUCTURES. SEE SPECIFIC SQUARE TUBE BASE STRUCTURE PLAN FOR CRASH RESPONSE TYPE.
- ④ ADJUST OFFSET TO MATCH OTHER SIGN OFFSETS ALONG ROADWAY CORRIDOR, BUT NOT MORE THAN 12' NOR LESS THAN 2'.

REVISION:
APPROVED: 02-28-2022 <i>Brian Subenson</i> BRIAN SUBENSON STATE TRAFFIC ENGINEER

	STANDARD PLAN 5-297.702	1 OF 1
	 THOMAS STYRBICKI STATE DESIGN ENGINEER	APPROVED: 02-28-2022 REVISED:
CP 20-23-132, SAP 114-117-005, SAP 127-080-001		

DELINEATOR AND MARKER PLACEMENT
SHEET 49 OF 135 SHEETS

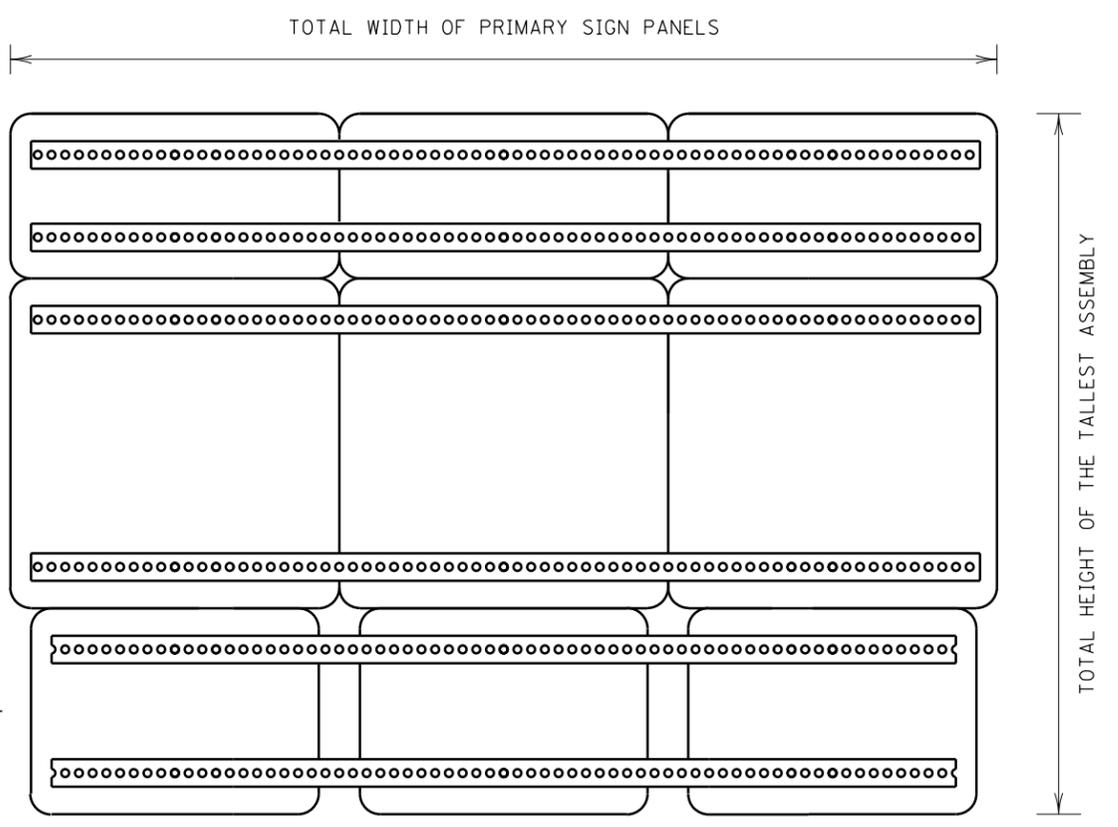


TWO SIDE-BY-SIDE ASSEMBLIES

← SECONDARY SIGN PANELS →

← PRIMARY SIGN PANELS →

← SECONDARY SIGN PANELS →



THREE SIDE-BY-SIDE ASSEMBLIES

NOTES:

- CENTER SECONDARY SIGN PANELS BELOW OR ABOVE PRIMARY SIGN PANELS.
- STRINGER SPACING TO MATCH VERTICAL PUNCHING SPACING FOR SIGN PANELS.
- FOR SINGLE-POST INSTALLATIONS, THE STRINGERS MUST EXTEND 1" BEYOND THE BOLT HOLES.
- FOR MULTI-POST INSTALLATIONS, THE STRINGERS MUST EXTEND EITHER 1" BEYOND THE BOLT HOLES OR 3" BEYOND THE OUTER POST CENTERLINE, WHICHEVER IS GREATER.
- DETERMINE THE NUMBER OF POSTS AND THE POST SPACING BY THE TOTAL WIDTH AND HEIGHT OF THE ASSEMBLIES.
- SEE STANDARD PLAN 5-297.718 FOR ADDITIONAL MOUNTING DETAILS.

LEAD EXPERT OFFICE

BRIAN SORENSON
STATE TRAFFIC ENGINEER
OFFICE OF TRAFFIC ENGINEERING

m MINNESOTA
DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.719 **1 OF 1**

APPROVED: 08-09-2023
REVISED:

Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

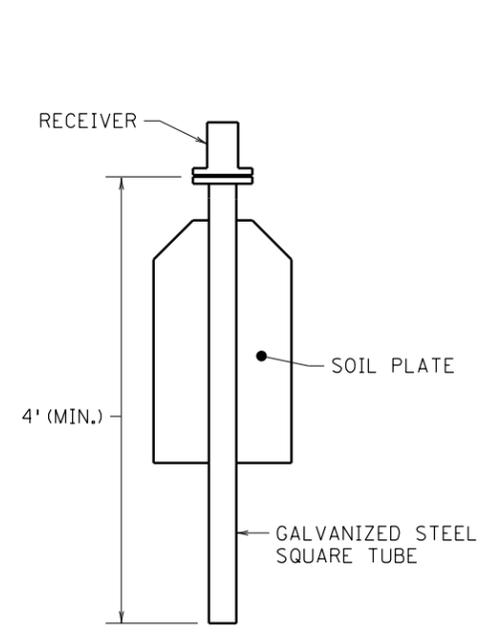
SQUARE TUBE SIDE-BY-SIDE SIGN MOUNTING DETAILS

CP 20-23-132, SAP 114-117-005, SAP 127-080-001

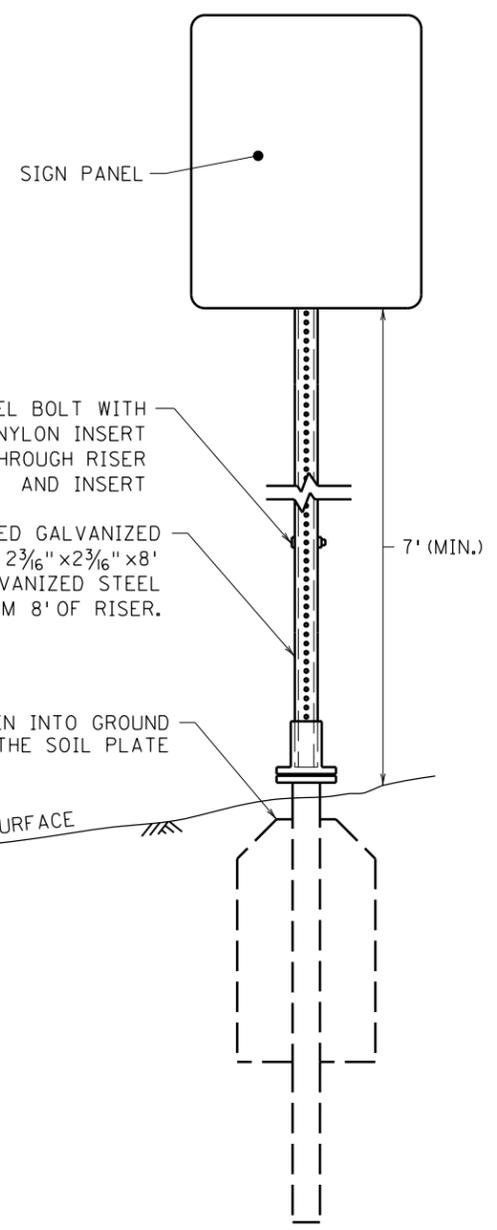
SHEET **50** OF **135** SHEETS

PLOTTED/REVISED: 1/5/2024 2:40:01 PM

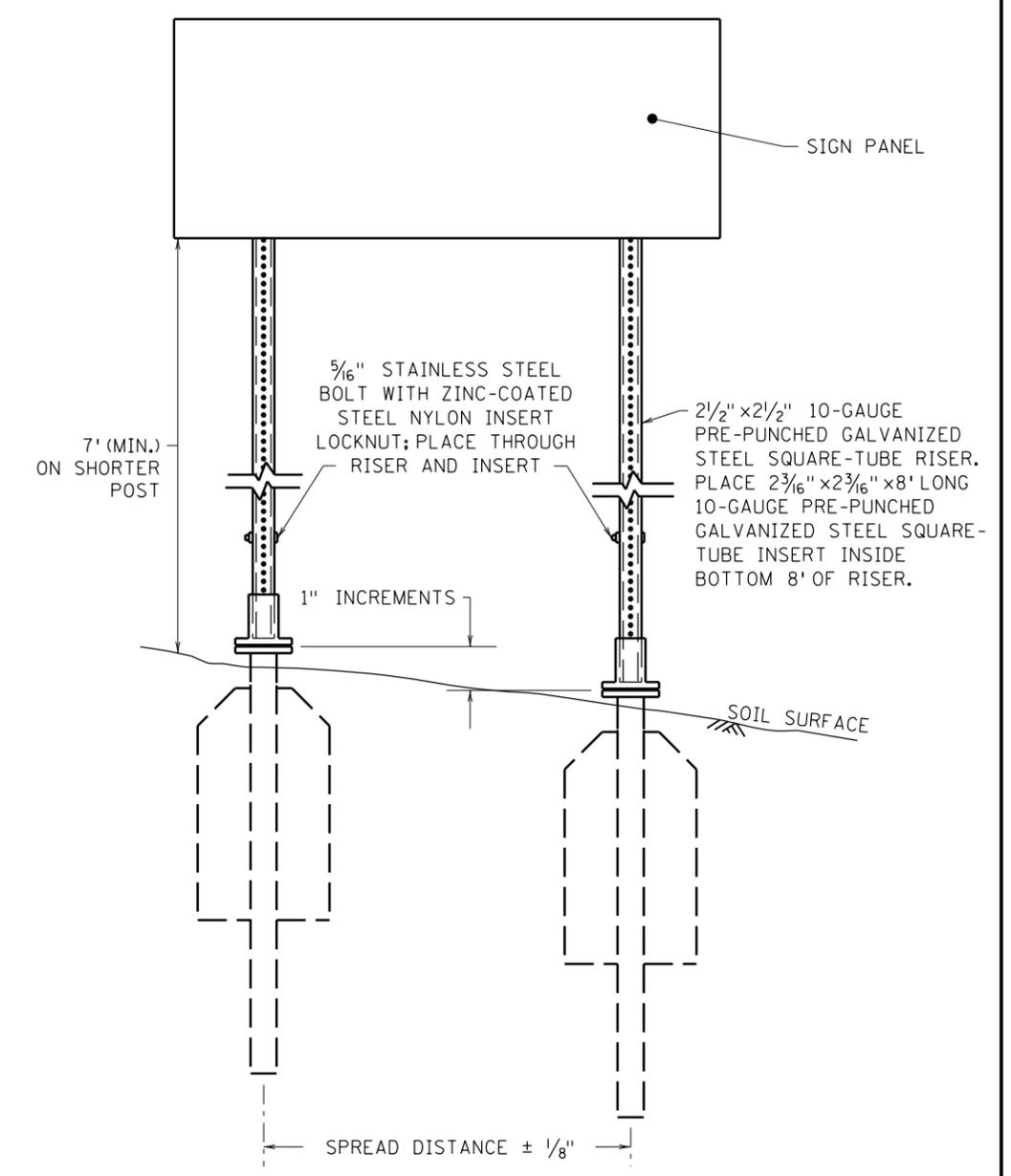
PATH & FILENAME: Projects\Minnesota\021204-000\Cadd\Plan\21204-000_std\plr_700.dgn



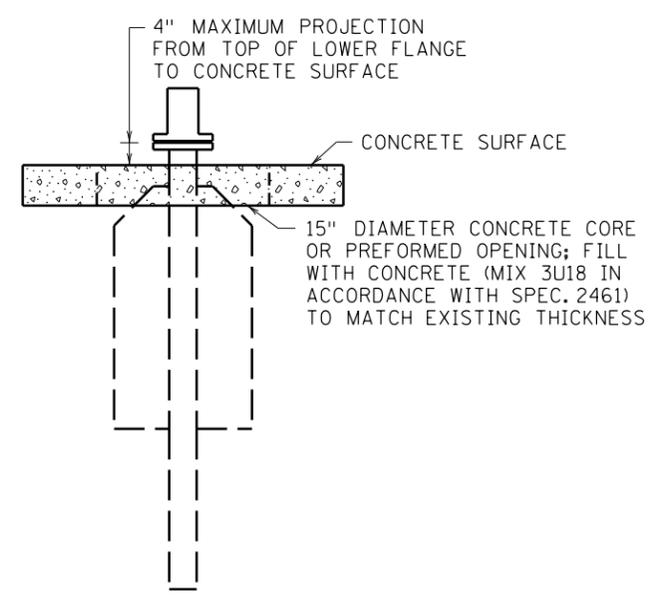
PROPRIETARY SLIP BASE ASSEMBLY ①



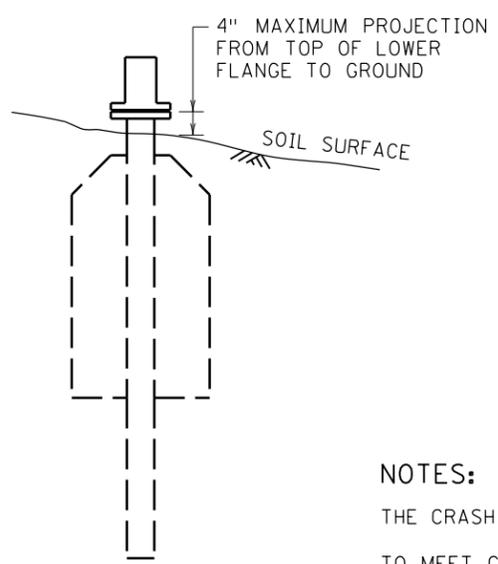
SLIP BASE ASSEMBLY WITH SINGLE-POST SIGN
TYPICAL PLACEMENT IN SOIL



SLIP BASE ASSEMBLY WITH MULTIPLE-POST SIGN ②
TYPICAL PLACEMENT IN SOIL



SLIP BASE ASSEMBLY IN CONCRETE



SLIP BASE ASSEMBLY IN SOIL

5/16" STAINLESS STEEL BOLT WITH ZINC-COATED STEEL NYLON INSERT LOCK NUT; PLACE THROUGH RISER AND INSERT

2 1/2" x 2 1/2" 10-GAUGE PRE-PUNCHED GALVANIZED STEEL SQUARE-TUBE RISER. PLACE 2 3/16" x 2 3/16" x 8' LONG 10-GAUGE PRE-PUNCHED GALVANIZED STEEL SQUARE-TUBE INSERT INSIDE BOTTOM 8' OF RISER.

SLIP BASE MUST BE DRIVEN INTO GROUND TO COMPLETELY BURY THE SOIL PLATE

NOTES:

THE CRASH RESPONSE TYPE FOR THIS STRUCTURE IS BREAKAWAY.

TO MEET CRASHWORTHY REQUIREMENTS, THE DISTANCE BETWEEN THE BOTTOM OF THE PRIMARY SIGN PANEL AND THE GROUND SURFACE BELOW ANY PORTION OF THE PRIMARY SIGN PANEL MUST BE A MINIMUM OF 7'. SEE SIGNING PLAN TABULATIONS FOR MOUNTING HEIGHT.

1/16"-THICK LEVELING SHIMS MAY BE USED TO PLUMB TOP HALF. PLACE SHIMS UNDER TEFLON-COATED SLIP WASHER. MAXIMUM OF TWO SHIMS PER NOTCH POINT.

FOR SIGN PANEL MOUNTING DETAILS, SEE STANDARD PLAN 5-297.718.

SQUARE TUBE SIGN POST IN ACCORDANCE WITH MnDOT SPEC. 3402.

① USE APPROVED PRODUCT FROM THE SIGN STRUCTURES PAGE OF THE SIGNING SECTION OF THE APPROVED PRODUCTS LIST.

② FOR MULTIPLE-POST APPLICATIONS, ENSURE SOIL PLATES ARE COMPLETELY BURIED. IF SOIL SURFACE IS NOT LEVEL, DRIVE THE BASES UNTIL THEY ARE OFFSET IN 1" INCREMENTS. THE BASES MUST BE TRUE AND SQUARE WITH ONE ANOTHER TO ENSURE PROPER UNRESTRICTED INSERTION OF STEEL TUBE RISERS. MOUNT SIGN PANELS LEVEL.

LEAD EXPERT OFFICE

BRIAN SORENSON
STATE TRAFFIC ENGINEER
OFFICE OF TRAFFIC ENGINEERING

MINNESOTA
DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.724 **1 OF 1**

APPROVED: 08-09-2023
REVISED:

Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

SLIP BASE ASSEMBLY
FOR 2 1/2" SQUARE-TUBE RISER POST

CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **51** OF **135** SHEETS

2:40:04 PM
 PLOTTED/REVISED: 1/5/2024
 PROJECT & FILENAME: Projects\Minnesota\021204-000\Cad\Plan\21204-000_std\plan_800.dgn

**TWO-LANE, TWO-WAY
LESS THAN 400 ADT
WITHOUT MARKINGS**

TWO-LANE, TWO-WAY

GENERAL NOTES:

SEE MnDOT SPEC. 2580 (INTERIM PAVEMENT MARKING).

DO NOT OPEN ANY ROADWAY SEGMENT TO TRAFFIC UNLESS THE FOLLOWING MARKINGS (INTERIM OR PERMANENT) ARE IN PLACE: CENTERLINE MARKINGS (INCLUDING NO PASSING ZONES), FLUSH MEDIANS (EXCLUDING CROSSHATCHING), AND LANE LINE (INCLUDING TURN AND AUXILIARY LANE LINES). THIS REQUIREMENT IS WAIVED FOR TANGENT ROAD SEGMENTS LESS THAN 350' IN LENGTH AND CURVED ROAD SEGMENTS WITH DEGREES OF CURVE GREATER THAN 6 DEGREES FOR LESS THAN 50' IN LENGTH.

PLACE INTERIM BROKEN LINE PAVEMENT MARKINGS AT THE SAME CYCLE LENGTH AS FINAL PAVEMENT MARKINGS WITH A MINIMUM LENGTH OF 5 FEET; IF FINAL PAVEMENT MARKING PLAN IS NOT PROVIDED, THE CYCLE LENGTH SHALL BE 50'. PLACE INTERIM DOTTED LINE PAVEMENT MARKINGS AT THE SAME CYCLE LENGTH AND LINE LENGTH AS SHOWN IN THE PLAN; IF FINAL PAVEMENT MARKING PLAN IS NOT PROVIDED, THE CYCLE LENGTH SHALL BE 15' WITH A LINE LENGTH OF 3'.

FOR NO PASSING ZONE LOCATIONS, REFER TO THE SIGNING OR PAVEMENT MARKING PLAN; IF NEITHER IS PROVIDED, FOLLOW INPLACE NO PASSING ZONES.

WHEN PERMANENT PAVEMENT MARKINGS ARE TO BE MULTI-COMPONENT LIQUID AND PAINT IS USED FOR THE INTERIM MARKINGS, PLACE A 10 MIL THICK LAYER OF PAINT. REMOVAL OF THE 10 MIL LAYER OF PAINT IS NOT REQUIRED PRIOR TO PLACING THE MULTI-COMPONENT LIQUID. IF THE LAYER OF PAINT IS GREATER THAN 10 MIL, REMOVE THE PAINT PRIOR TO PLACING THE MULTI-COMPONENT LIQUID.

PLACE INTERIM MARKINGS ON THE FINAL PERMANENT PAVEMENT SURFACE SUCH THAT THEY WILL BE FULLY COVERED BY THE PERMANENT PAVEMENT MARKINGS.

INTERIM PAVEMENT MARKINGS SHOULD NOT BE LEFT IN PLACE FOR MORE THAN 14 CALENDAR DAYS UNLESS THEY MEET THE REQUIREMENTS OF PERMANENT OR TEMPORARY MARKINGS.

USING SIGNING IN LIEU OF INTERIM PAVEMENT MARKINGS ON TWO-LANE, TWO-WAY ROADWAYS

ON ROADS WITH AN AVERAGE DAILY TRAFFIC (ADT) OF LESS THAN 400 VEHICLES, THE SIGNS AS SHOWN MAY BE USED IN LIEU OF PAVEMENT MARKINGS FOR UP TO 14 CALENDAR DAYS OR AS DIRECTED BY THE ENGINEER.

- ① PLACE A "NO CENTER LINE" SIGN (W8-12, BLACK ON ORANGE) FOR EACH DIRECTION OF TRAVEL. PLACE ADDITIONAL SIGNS AT MAJOR INTERSECTIONS OR ONE MILE INCREMENTS, WHICHEVER IS LESS.
- ② IF NOT ALREADY IN PLACE, PLACE A "DO NOT PASS" SIGN (R4-1) OPPOSITE OF EACH INPLACE "NO PASSING ZONE" SIGN (W14-3).
- ③ PLACE A "PASS WITH CARE" SIGN (R4-2) AT THE END OF EACH NO PASSING ZONE, ADJACENT TO THE END OF NO PASSING ZONE MARKER POST.

USING TEMPORARY RAISED PAVEMENT MARKERS (TRPMS) AS INTERIM PAVEMENT MARKING

WHEN USING TRPMS AS INTERIM PAVEMENT MARKINGS, FOLLOW THE REQUIREMENTS BELOW UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

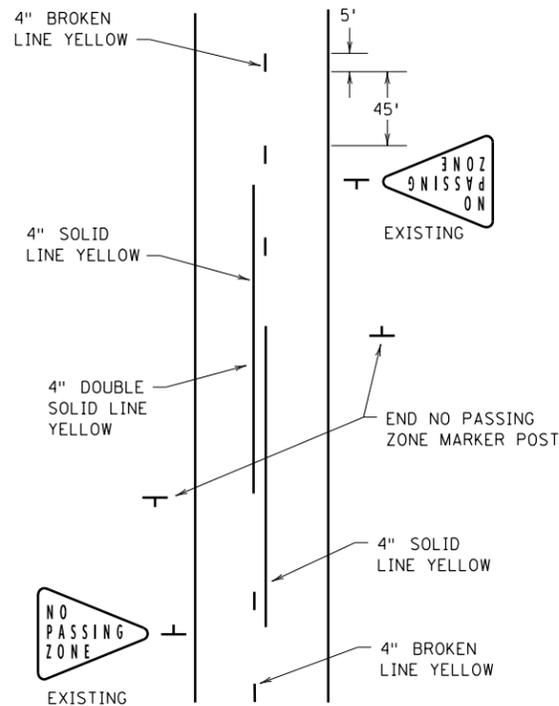
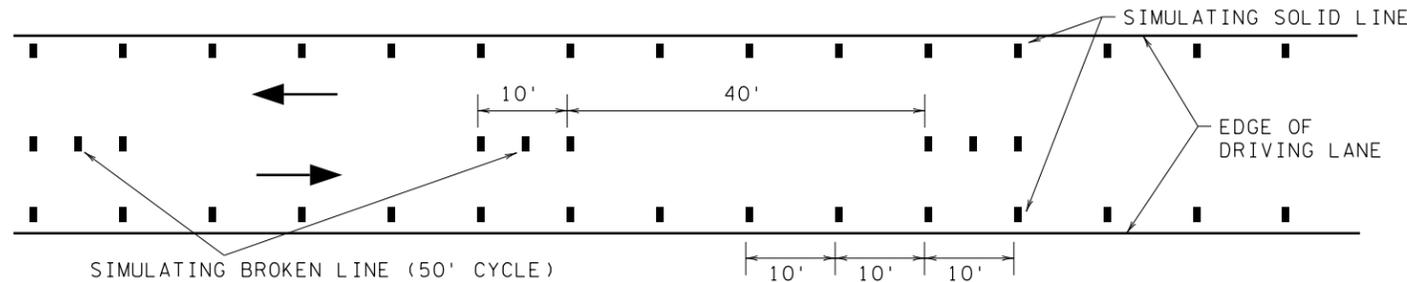
USE DOUBLE-SIDED TRPMS ON TWO-LANE, TWO-WAY ROADS.

BROKEN LINE: USE 3 TRPMS PER 10' BROKEN LINE, 5' SPACING WITH A 40' GAP.

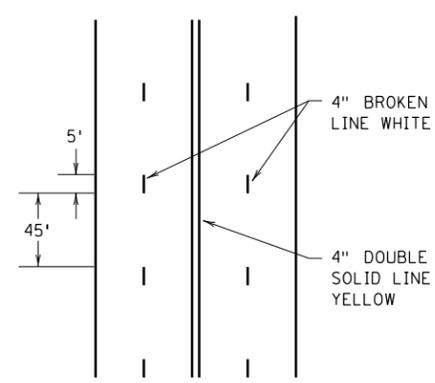
SOLID LINE: USE CONTINUOUS TRPMS; 10' SPACING FOR TANGENTS AND CURVES UNDER 6 DEGREES; 5' SPACING FOR CURVES ≥ 6 DEGREES, GRADES > 5 PERCENT, OR CONCRETE PAVEMENTS.

DOUBLE SOLID LINE: USE TWO CONTINUOUS TRPMS 4" APART, 10' SPACING ON TANGENTS AND CURVES UNDER 6 DEGREES; 5' SPACING FOR CURVES ≥ 6 DEGREES, GRADES > 5 PERCENT, OR CONCRETE PAVEMENTS.

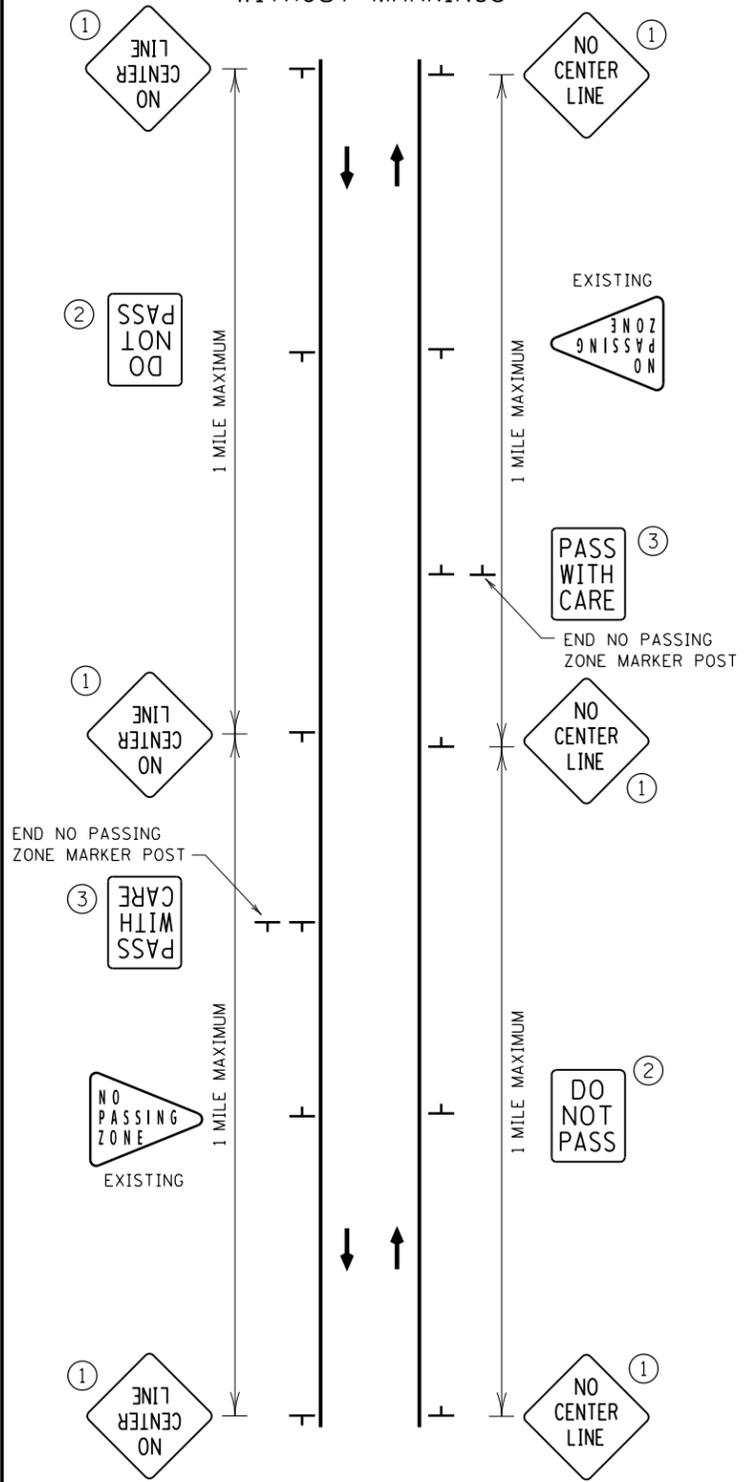
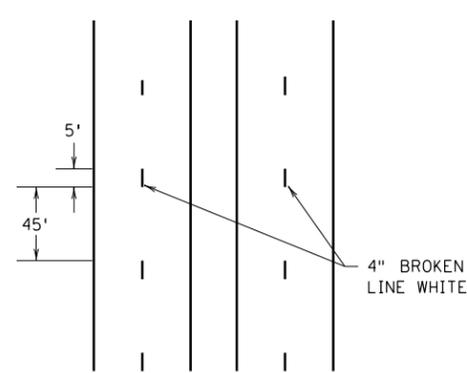
SIMULATING A SOLID LINE AND A BROKEN LINE (50' CYCLE) WITH TRPMS



MULTI-LANE, UNDIVIDED



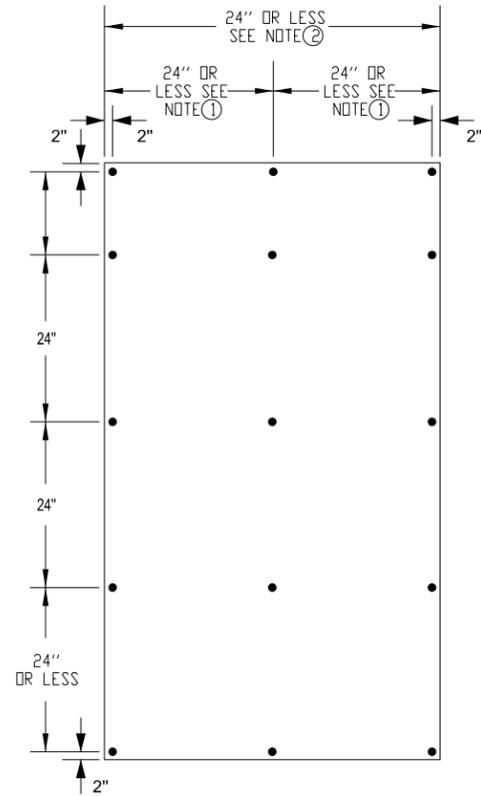
MULTI-LANE, DIVIDED



REVISION:
 APPROVED: OCTOBER 10, 2019

 BRIAN SUBENSON
 STATE TRAFFIC ENGINEER

	STANDARD PLAN 5-297.801	1 OF 1	INTERIM PAVEMENT MARKINGS AND SIGNING
	 PETER A. HARFF STATE DESIGN ENGINEER		
CP 20-23-132, SAP 114-117-005, SAP 127-080-001			SHEET 52 OF 135 SHEETS



OVERLAY ASSEMBLY STEPS FOR COVERING COMPLETE OR PORTION OF EXTRUDED SIGN PANEL:

- 1) DRILL 1/4" HOLES ON THE SHEET ALUMINUM OVERLAYS IN ACCORDANCE WITH THE HOLE SPACING ON THE DIAGRAM. OUTSIDE HOLES SHALL NOT BE SPACED MORE THAN 24" APART.
- 2) ATTACH PLASTIC SPACER(S) (1/4" MIN THICKNESS, 3/8" I.D. AND 7/8" O.D.) WITH DOUBLE FACED TAPE, CENTERED BEHIND EACH DRILLED HOLE.
- 3) POSITION THE FIRST OVERLAY PANEL'S BOTTOM EDGE FLUSH WITH THE BOTTOM OF THE INPLACE EXTRUDED SIGN PANEL AND THE OVERLAY PANEL'S LOWER LEFT EDGE FLUSH WITH THE LOWER LEFT EDGE OF THE BOTTOM INPLACE EXTRUDED PANEL SECTION.
- 4) DRILL ALL OF THE OUTSIDE HOLES THROUGH THE INPLACE EXTRUDED SIGN PANEL AND ATTACH THE OVERLAY PANEL WITH SHEET METAL SCREWS.
- 5) DRILL THE INNER HOLES THROUGH THE INPLACE EXTRUDED SIGN PANEL AND ATTACH WITH SHEET METAL SCREWS AS SPECIFIED IN STEP 4 ABOVE.
- 6) ABUT THE NEXT OVERLAY PANEL TO THE FIRST ATTACHED OVERLAY PANEL AND PERFORM THE SAME WORK AS SPECIFIED IN STEPS 4 AND 5 ABOVE.
- 7) PLACE EACH ADDITIONAL OVERLAY PANEL AS SPECIFIED IN STEP 6 ABOVE.

NOTES FOR COVERING COMPLETE OR PORTION OF EXTRUDED SIGN PANEL:

- ① THE CENTER SHEET METAL SCREWS SHALL BE SPACED AT 1/2 OF THE PANELS WIDTH.
- ② IF THE SHEET ALUMINUM PANEL IS GREATER THAN 48" WIDE, THE SHEET METAL SCREWS SPACING SHALL BE NO GREATER THAN 24". IF THE SHEET ALUMINUM PANEL IS LESS THAN 24" WIDE, THERE SHALL BE NO INNER HOLES.
- ③ VERTICAL SPACING FOR THE MOUNTING HOLES IS 50% OF THE PANEL HEIGHT. IF THE PANEL IS LESS THAN 24" HIGH, THERE SHALL BE NO INNER HOLES.
- ④ HORIZONTAL SPACING FOR MOUNTING HOLES SHALL NOT BE LESS THAN 15" NOR MORE THAN 24".

GENERAL NOTES:

SIGN PANEL OVERLAYS SHALL BE MADE OF A RIGID MATERIAL. (SHEET ALUMINUM, PLYWOOD, CORRUGATED PLASTIC, OR OTHER MATERIAL AS APPROVED BY THE ENGINEER), THE INSTALLATION SHALL ALLOW ADEQUATE AIR FLOW BETWEEN THE OVERLAY PANEL AND THE INPLACE SIGN PANEL BY PROVIDING A MINIMUM SPACING OF 1/4" (1" MAXIMUM).

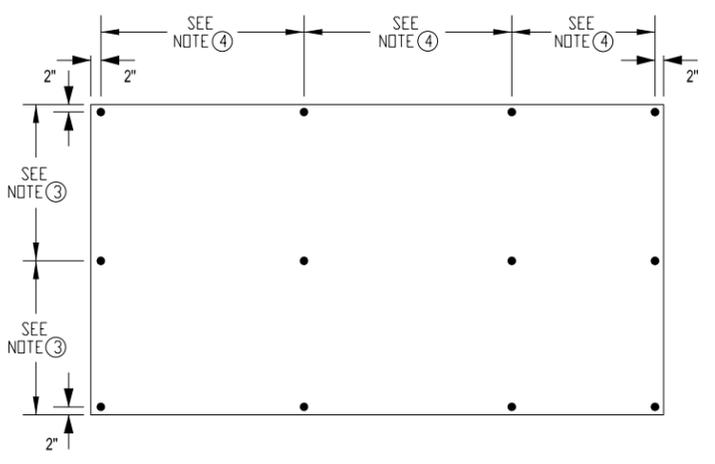
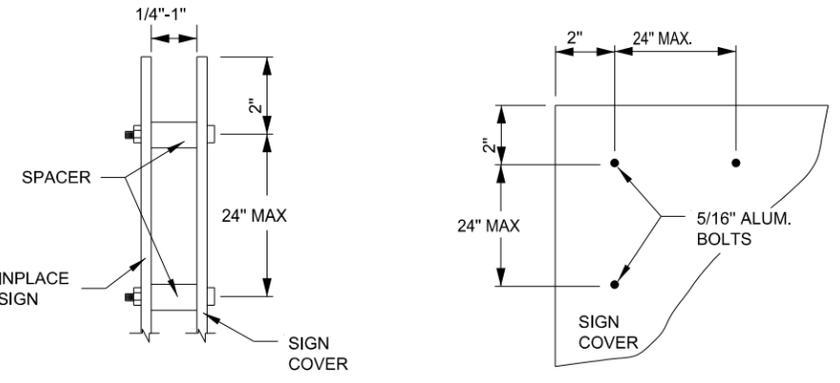
IF SHEET METAL SCREWS ARE USED WITH CORRUGATED PLASTIC, FENDER WASHERS SHALL BE PLACED BETWEEN SCREWS AND PANEL OVERLAY.

SPACERS SHALL BE A MATERIAL THAT WILL NOT HARM THE SIGN SHEETING FACE (SUCH AS PLASTIC OR RUBBER).

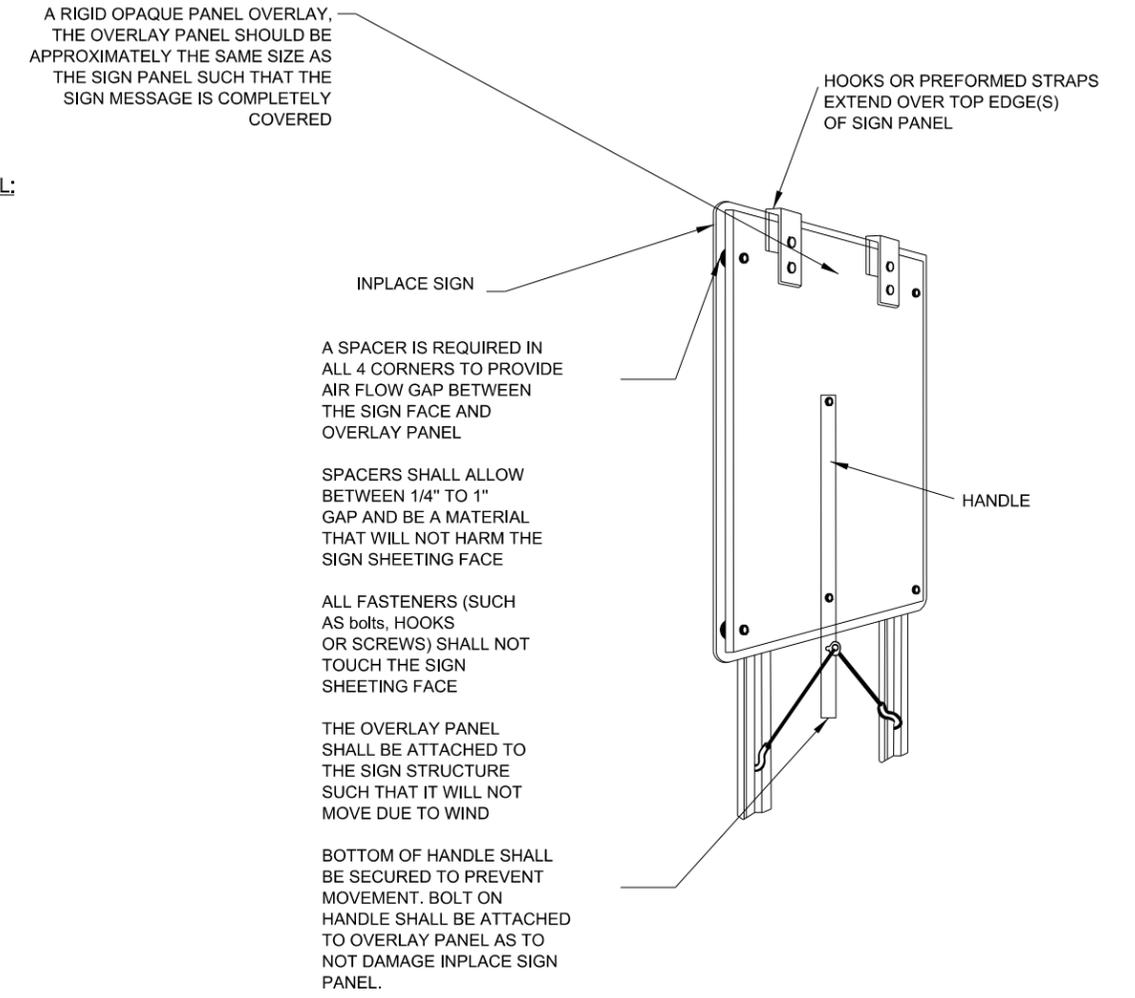
ALL COVERING MATERIAL, MOUNTING HARDWARE AND FASTENERS SHALL BE REMOVED WHEN PANEL OVERLAY IS REMOVED.

SIGN PANEL OVERLAYS USED TO COVER ALL OR PART OF A SIGN SHALL BE THE SAME COLOR AS THE BACKGROUND COLOR OF THE SIGN TO BE COVERED AND SHALL COVER ALL OF THE SIGN OR MESSAGE TO BE COVERED UNLESS SHOWN OTHERWISE IN THE PLAN.

TAPE SHALL NOT BE APPLIED TO THE SIGN SHEETING SURFACE. PRE-MASK OR APPLICATION TAPE SHALL BE REMOVED PRIOR TO EXPOSURE TO SUNLIGHT.



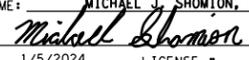
OVERLAY ASSEMBLY COVERING TYPE C OR D SIGN PANEL:



ACHD REFERENCE DATE: 01/26/2018

ANOKA COUNTY HIGHWAY DEPARTMENT TEMPORARY SIGN COVERING

NO.	DATE	BY	CHK	REVISIONS

Design By:	MJS	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Plan By:	MJS	
Checked By:	MJS	
Approved By:	MJS	
PRINT NAME:	MICHAEL J. SHOMION, PE	
DATE:	1/5/2024	



CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
DETAILS
CONSTRUCTION STAGING & TRAFFIC CONTROL
CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **60** OF **135** SHEETS

PLOTTED/REVISED: 1/5/2024 2:40:20 PM

WSB PATH & FILENAME: Projects\Minnesota\2024\000\000\Cad\Plan\21204-000.ctb...detour2.dgn

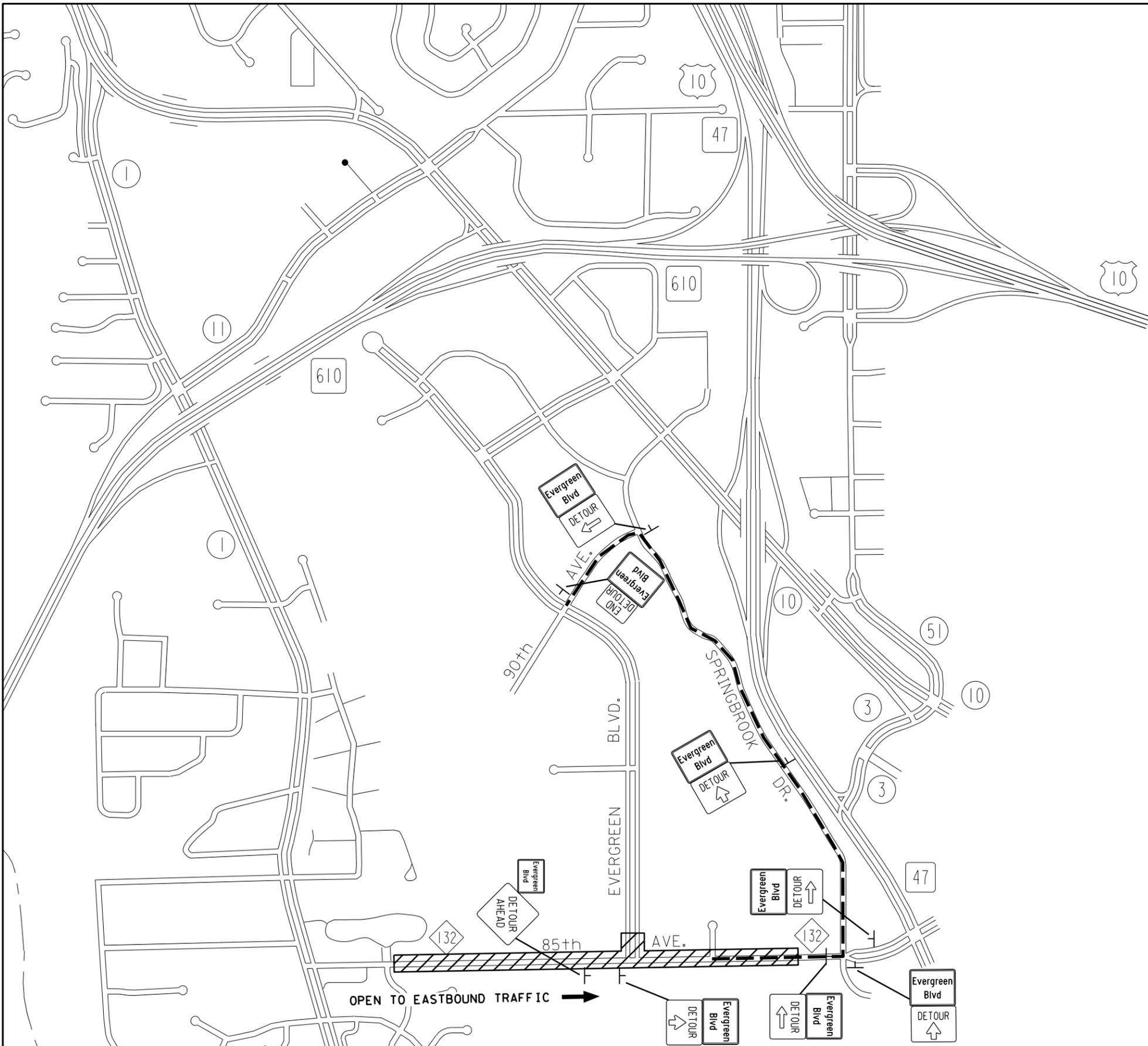
TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL DESCRIPTION

-  AREA CLOSED TO TRAFFIC / WORK AREA
-  WESTBOUND DETOUR

SCALE IN FEET

0 500 1000

NO.	DATE	BY	CHK	REVISIONS

Design By: MJS
 Plan By: MJS
 Checked By: MJS
 Approved By: MJS

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

PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 1/5/2024 LICENSE #: 50488



CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department



ANOKA COUNTY, MINNESOTA
 EVERGREEN BLVD DETOUR PLAN
CONSTRUCTION STAGING & TRAFFIC CONTROL
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **62** OF **135** SHEETS

PLOTTED/REVISED: 1/5/2024 2:40:28 PM

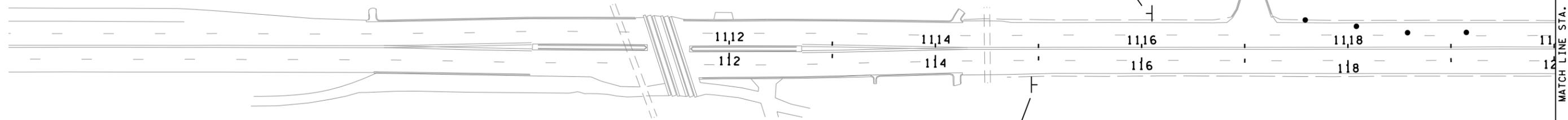
WSB PATH & FILENAME: Projects\Minnesota\021204-000\000\000\Plan\21204-000_rcd01.dgn

CR 132



BNSF RAILROAD

CR 132



END ROAD WORK

ROAD WORK AHEAD

MATCH LINE STA. 120+00 SEE SHEET 64

SPRINGBROOK NATURE CENTER

NO.	DATE	BY	CHK	REVISIONS

Design By: MJS
 Plan By: MJS
 Checked By: MJS
 Approved By: MJS

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

PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 1/5/2024 LICENSE #: 50488



CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

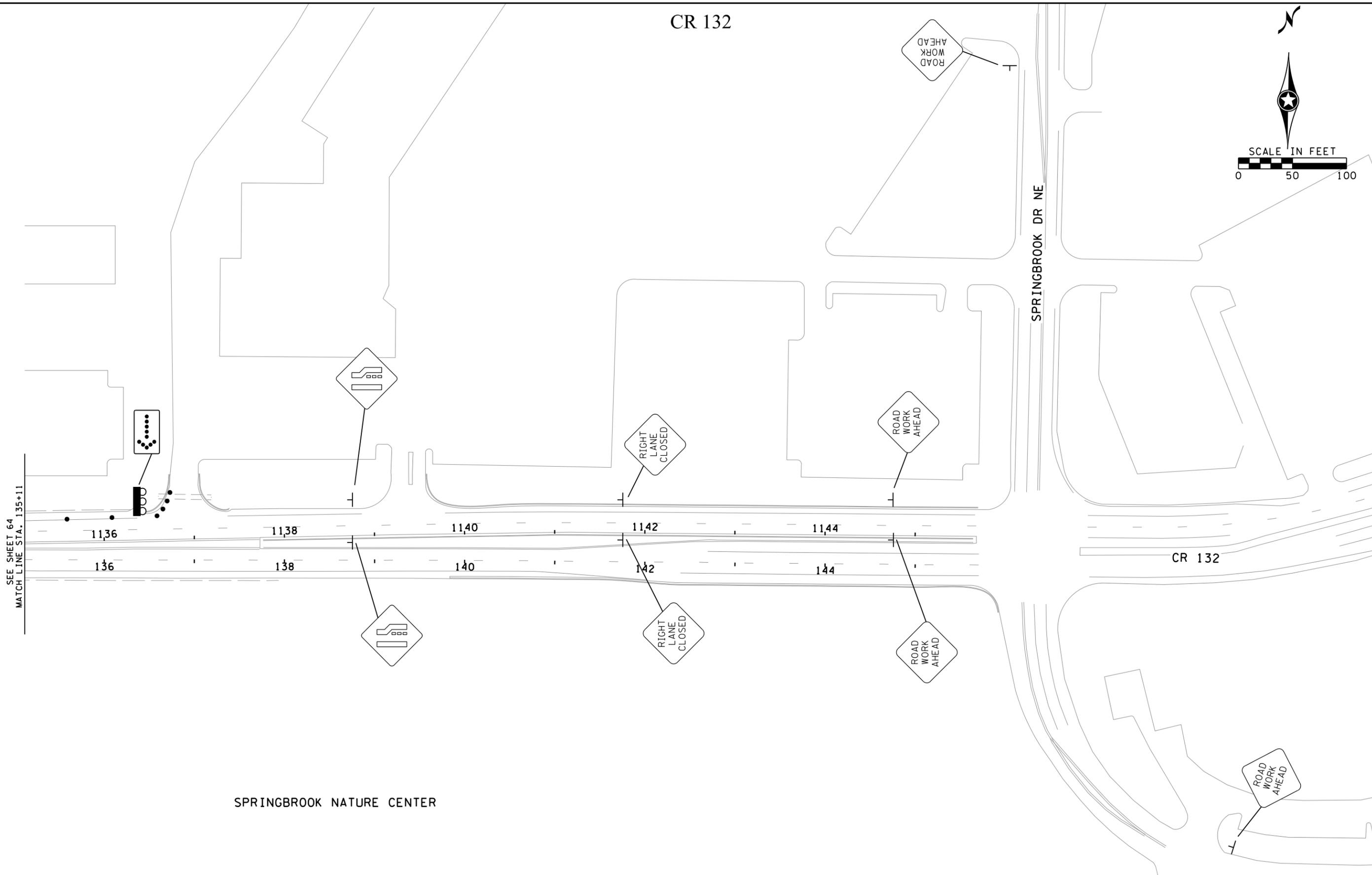
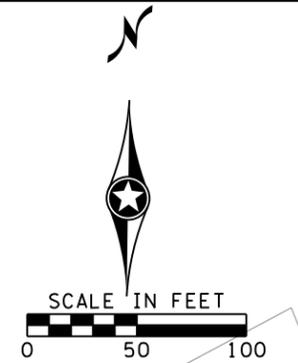
ANOKA COUNTY, MINNESOTA
 STAGE 0
CONSTRUCTION STAGING & TRAFFIC CONTROL
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **63** OF **135** SHEETS

PLOTTED/REVISED: 1/5/2024 2:40:43 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\000\000\Plan\21204-000-rc003.dgn

CR 132



SEE SHEET 64
MATCH LINE STA. 135+11

SPRINGBROOK NATURE CENTER

SPRINGBROOK DR NE

CR 132

NO.	DATE	BY	CHK	REVISIONS

Design By: MJS
 Plan By: MJS
 Checked By: MJS
 Approved By: MJS

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

PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 1/5/2024 LICENSE #: 50488



**CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements**
 Anoka County Highway Department

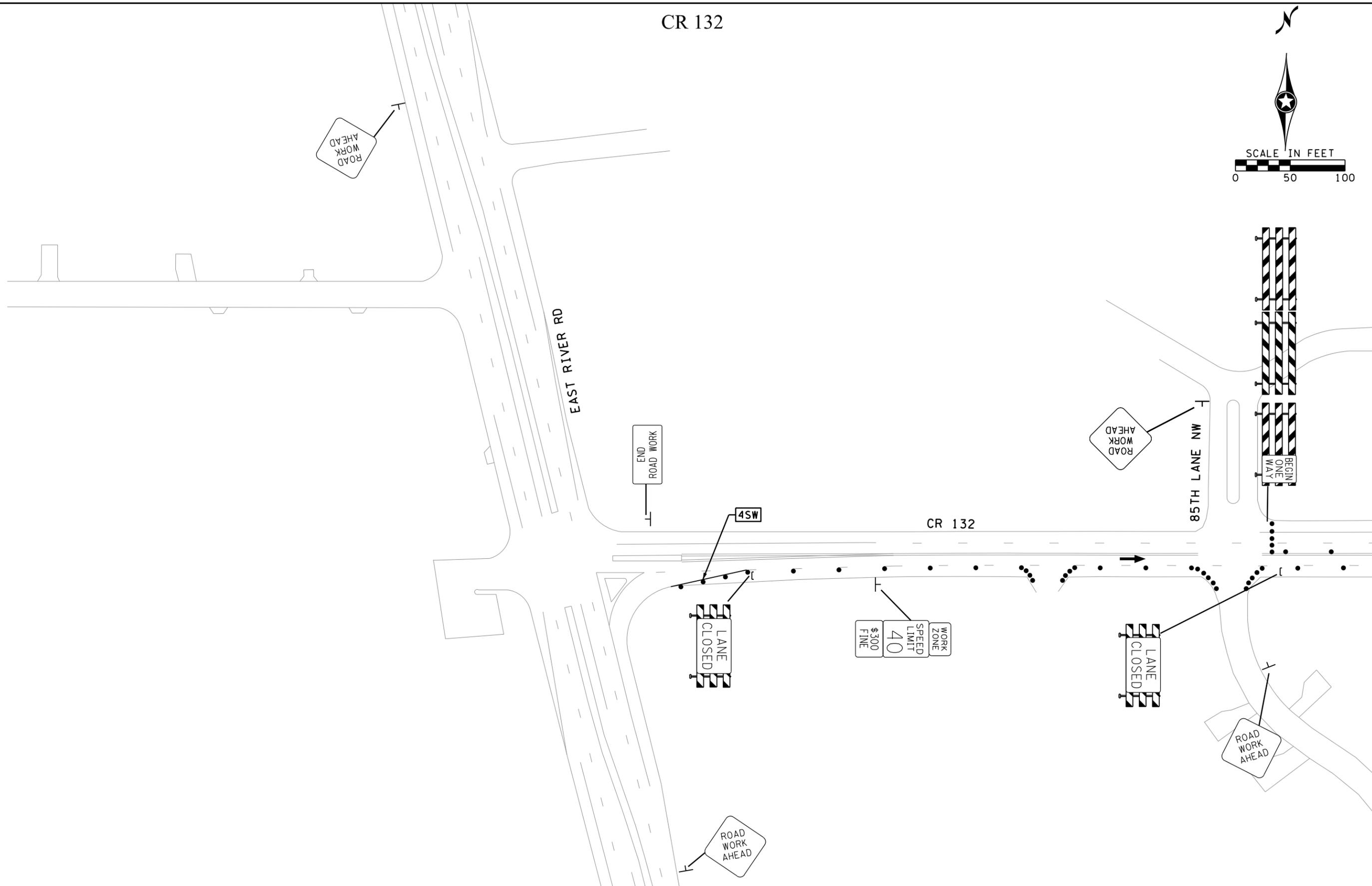
ANOKA COUNTY, MINNESOTA
 STAGE 0
CONSTRUCTION STAGING & TRAFFIC CONTROL
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
65
 OF
135
 SHEETS

PLOTTED/REVISED: 1/5/2024 2:40:52 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\000\000\Plan\21204-000-1.rvt.dgn

CR 132



MATCH LINE SEE SHEET 67

NO.	DATE	BY	CHK	REVISIONS

Design By: MJS
 Plan By: MJS
 Checked By: MJS
 Approved By: MJS

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

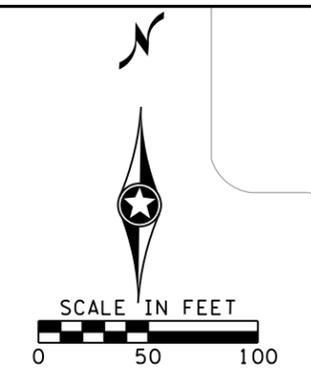
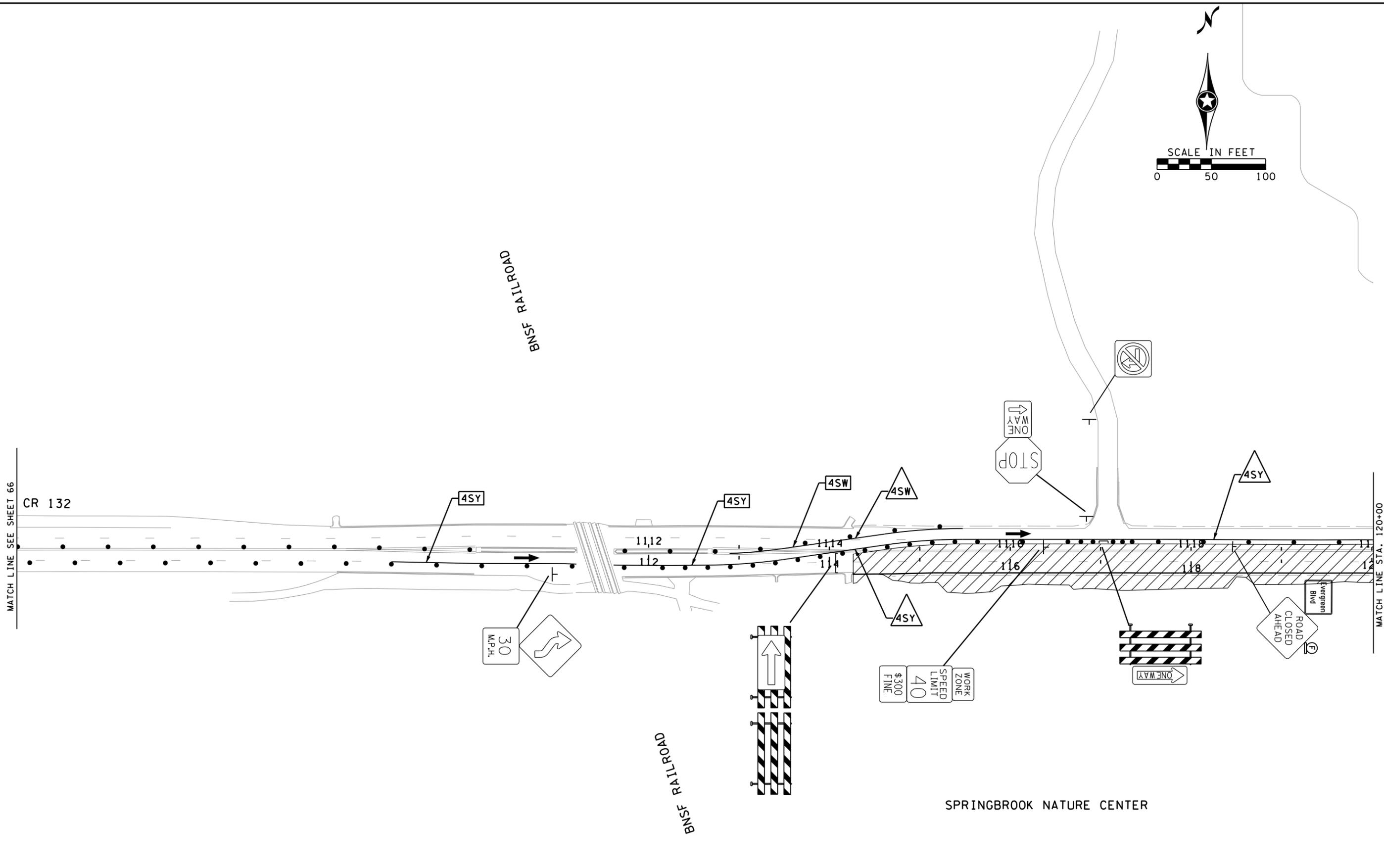
PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 1/5/2024 LICENSE #: 50488



CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 STAGE 1
CONSTRUCTION STAGING & TRAFFIC CONTROL
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET 66 OF 135 SHEETS



NO.	DATE	BY	CHK	REVISIONS

Design By: MJS
 Plan By: MJS
 Checked By: MJS
 Approved By: MJS

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

PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 1/5/2024 LICENSE #: 50488



CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

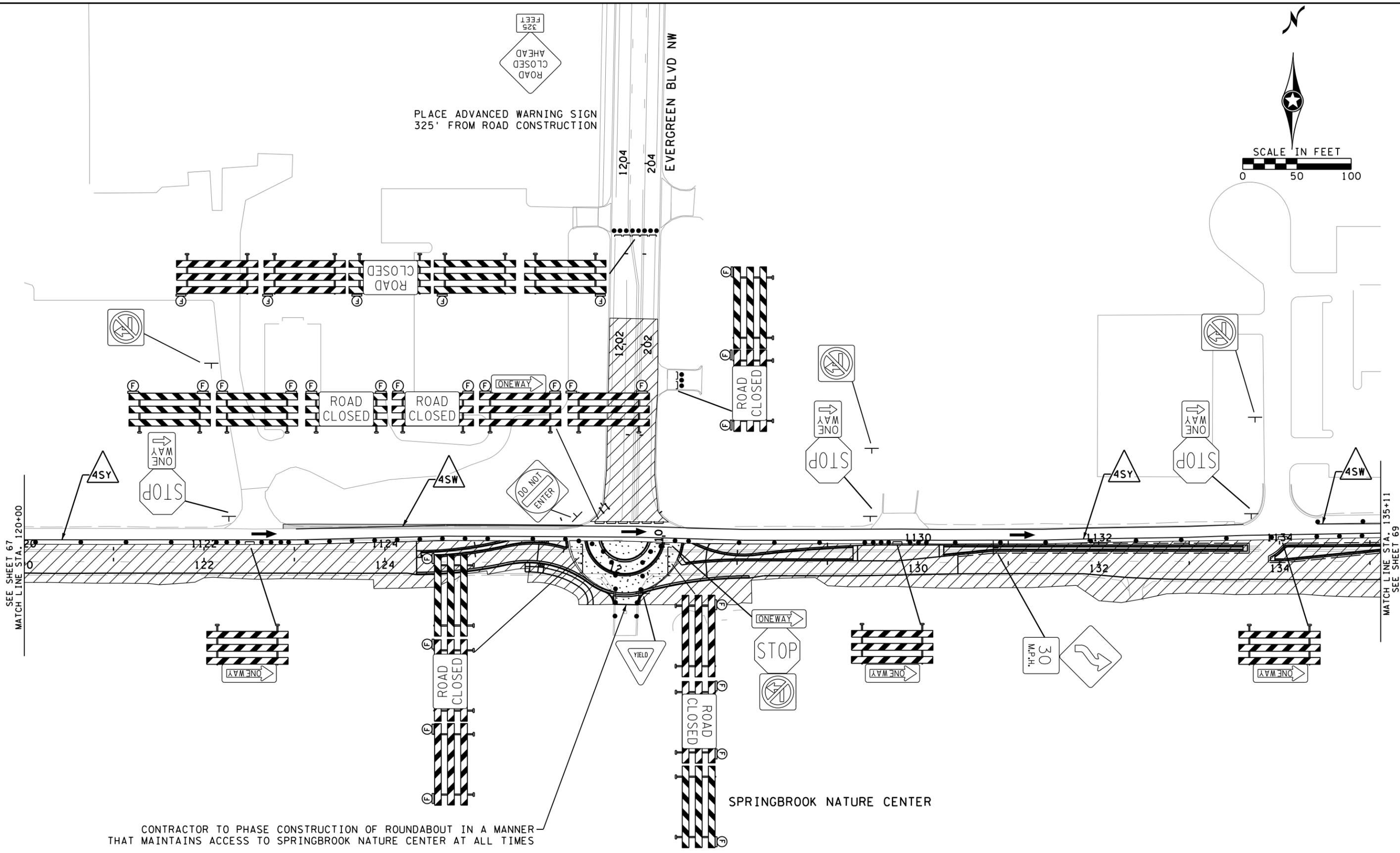
The logo for Anoka County, Minnesota, featuring a stylized mountain and water graphic.

ANOKA COUNTY, MINNESOTA
 STAGE 1
CONSTRUCTION STAGING & TRAFFIC CONTROL
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **67** OF **135** SHEETS

PLOTTED/REVISED: 1/5/2024 2:40:00 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\000\000\Plan\21204-000-1c103.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: MJS
 Plan By: MJS
 Checked By: MJS
 Approved By: MJS

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

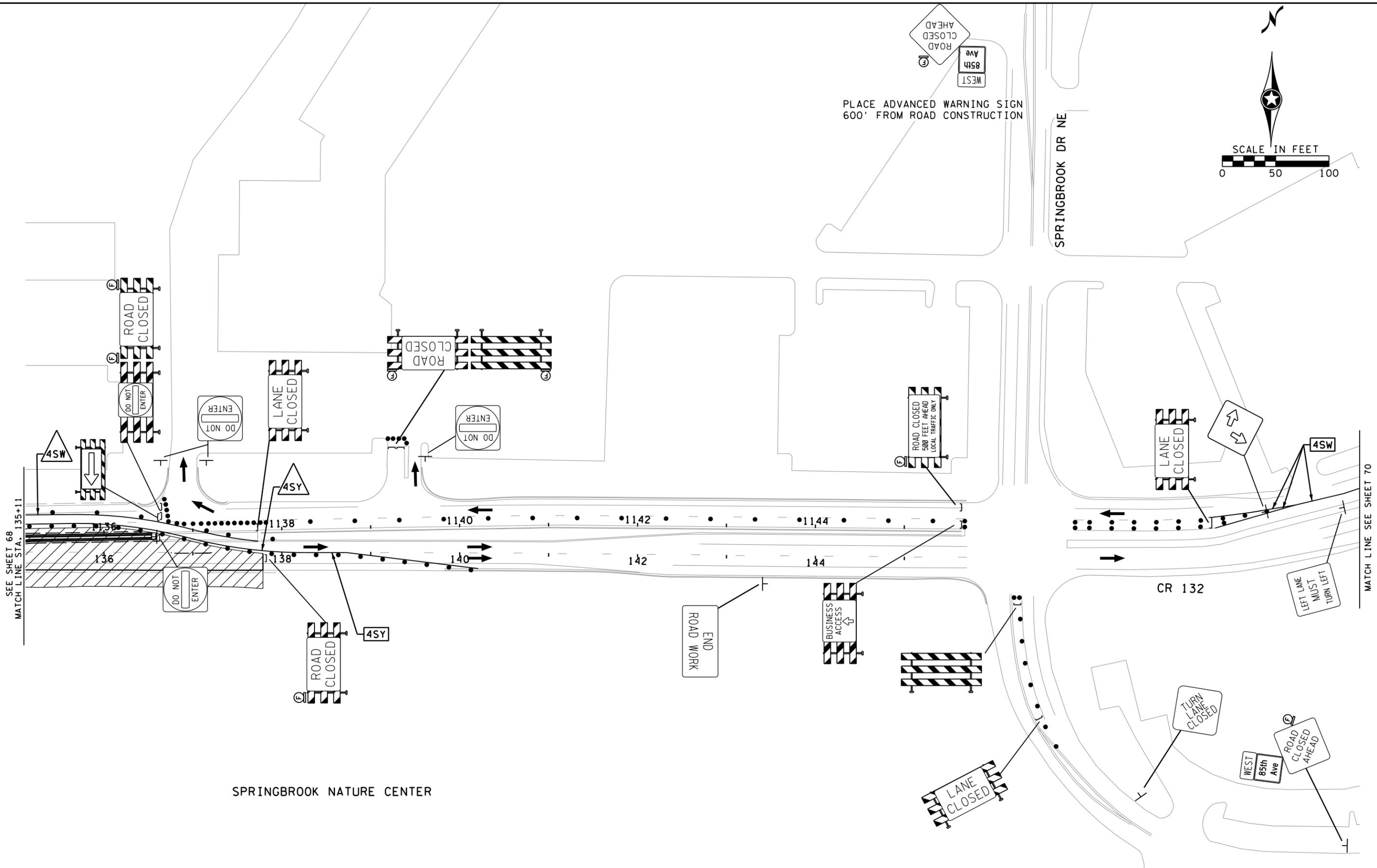
PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 1/5/2024 LICENSE #: 50488



CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 STAGE 1
CONSTRUCTION STAGING & TRAFFIC CONTROL
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **68** OF **135** SHEETS



NO.	DATE	BY	CHK	REVISIONS

Design By: MJS
 Plan By: MJS
 Checked By: MJS
 Approved By: MJS

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

PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 1/5/2024 LICENSE #: 50488



**CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements**
 Anoka County Highway Department

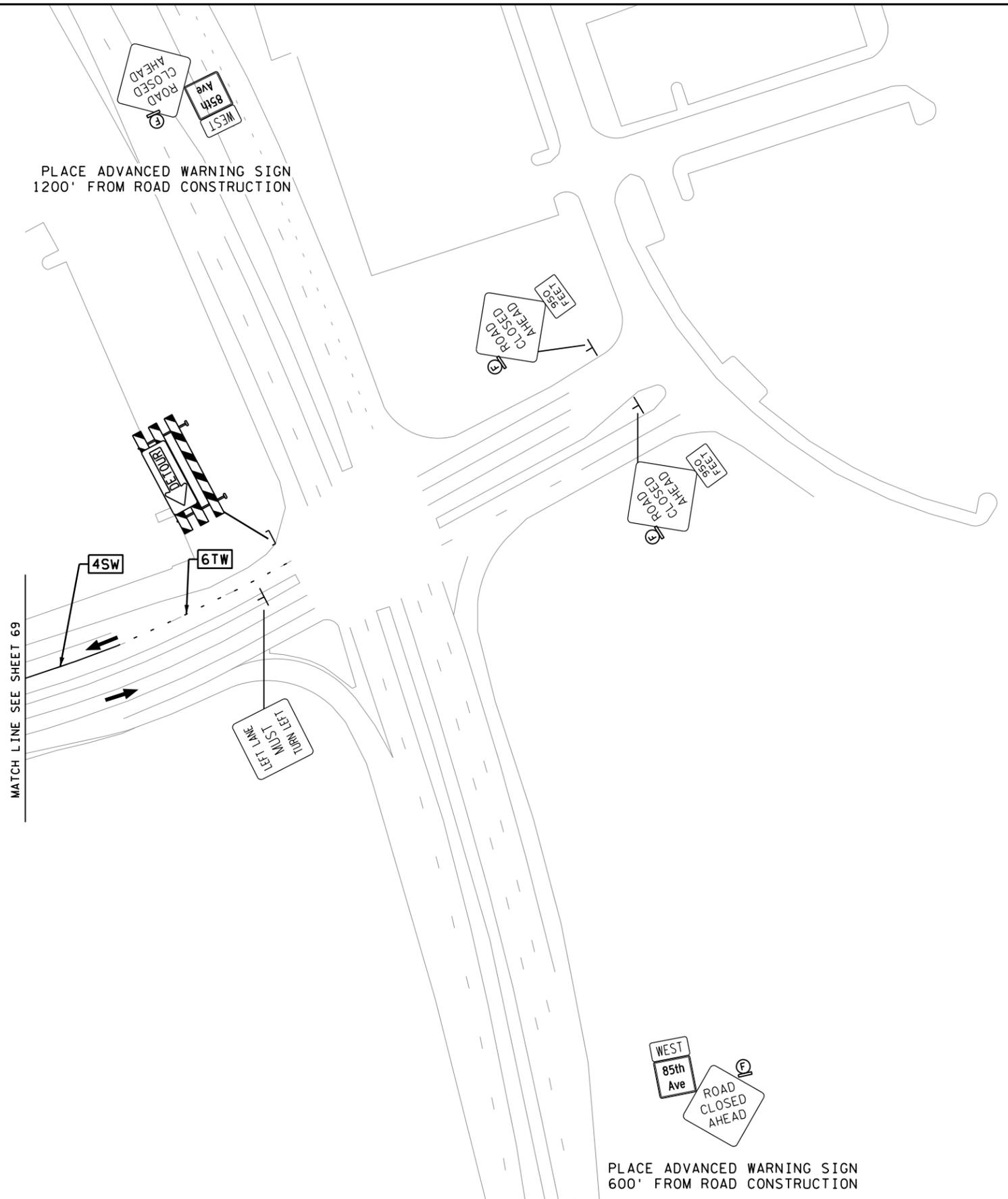
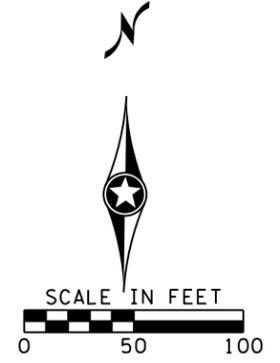
ANOKA COUNTY, MINNESOTA
 STAGE 1
CONSTRUCTION STAGING & TRAFFIC CONTROL
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **69**
 OF **135**
 SHEETS

PLOTTED/REVISED: 1/5/2024 2:41:27 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\Cad\Plan\21204-000-1.r105.dgn

PLACE ADVANCED WARNING SIGN
1200' FROM ROAD CONSTRUCTION



PLACE ADVANCED WARNING SIGN
600' FROM ROAD CONSTRUCTION



NO.	DATE	BY	CHK	REVISIONS

Design By: MJS
 Plan By: MJS
 Checked By: MJS
 Approved By: MJS

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

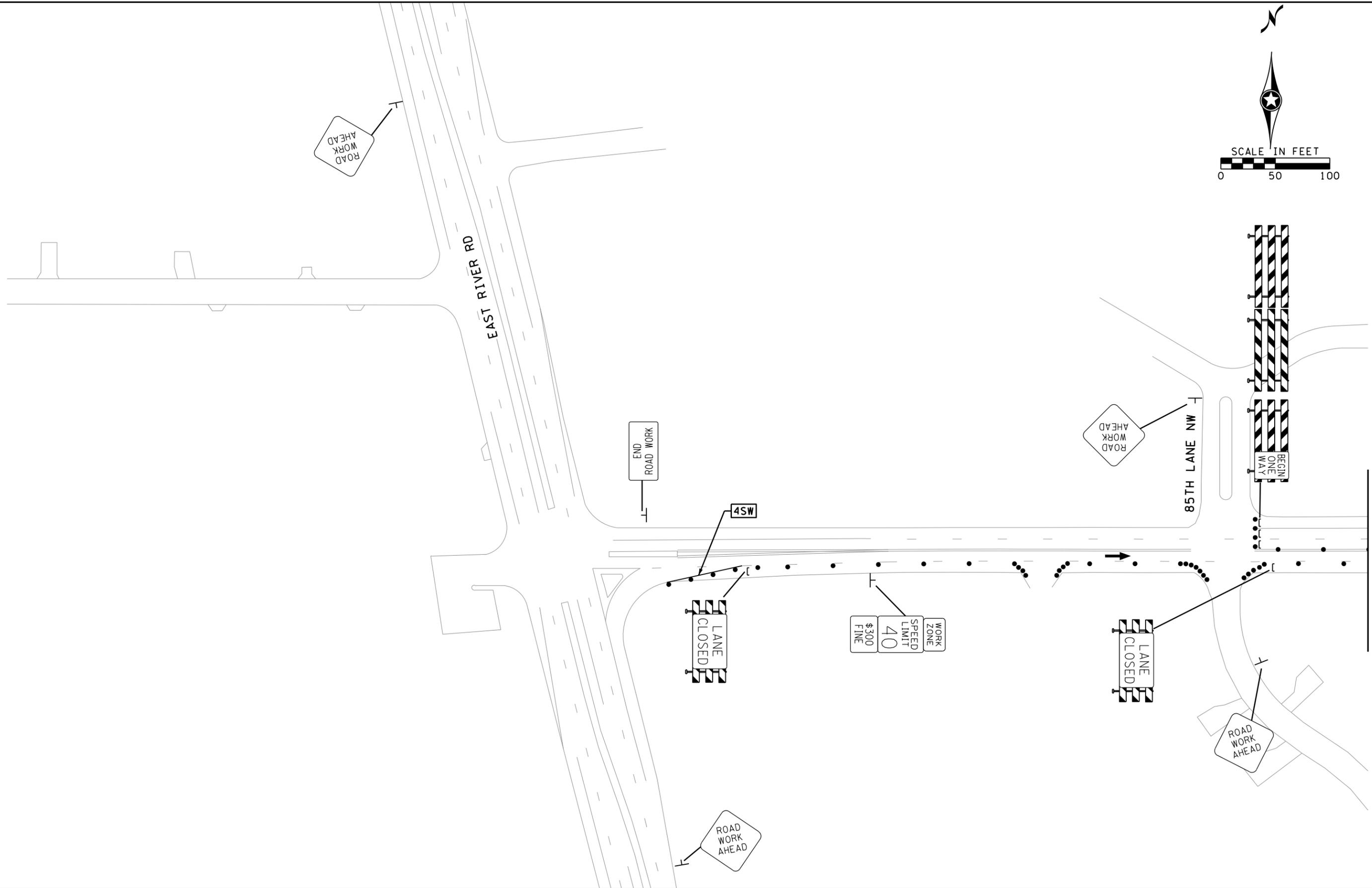
PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 1/5/2024 LICENSE #: 50488



**CR 132 (85th Ave) at Evergreen Blvd
Intersection Improvements**
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 STAGE 1
CONSTRUCTION STAGING & TRAFFIC CONTROL
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
70
 OF
135
 SHEETS



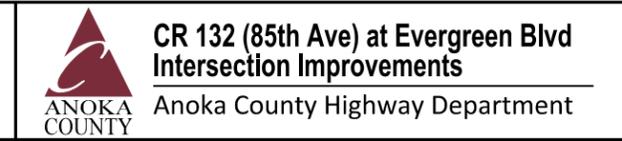
MATCH LINE SEE SHEET 72

NO.	DATE	BY	CHK	REVISIONS

Design By: MJS
 Plan By: MJS
 Checked By: MJS
 Approved By: MJS

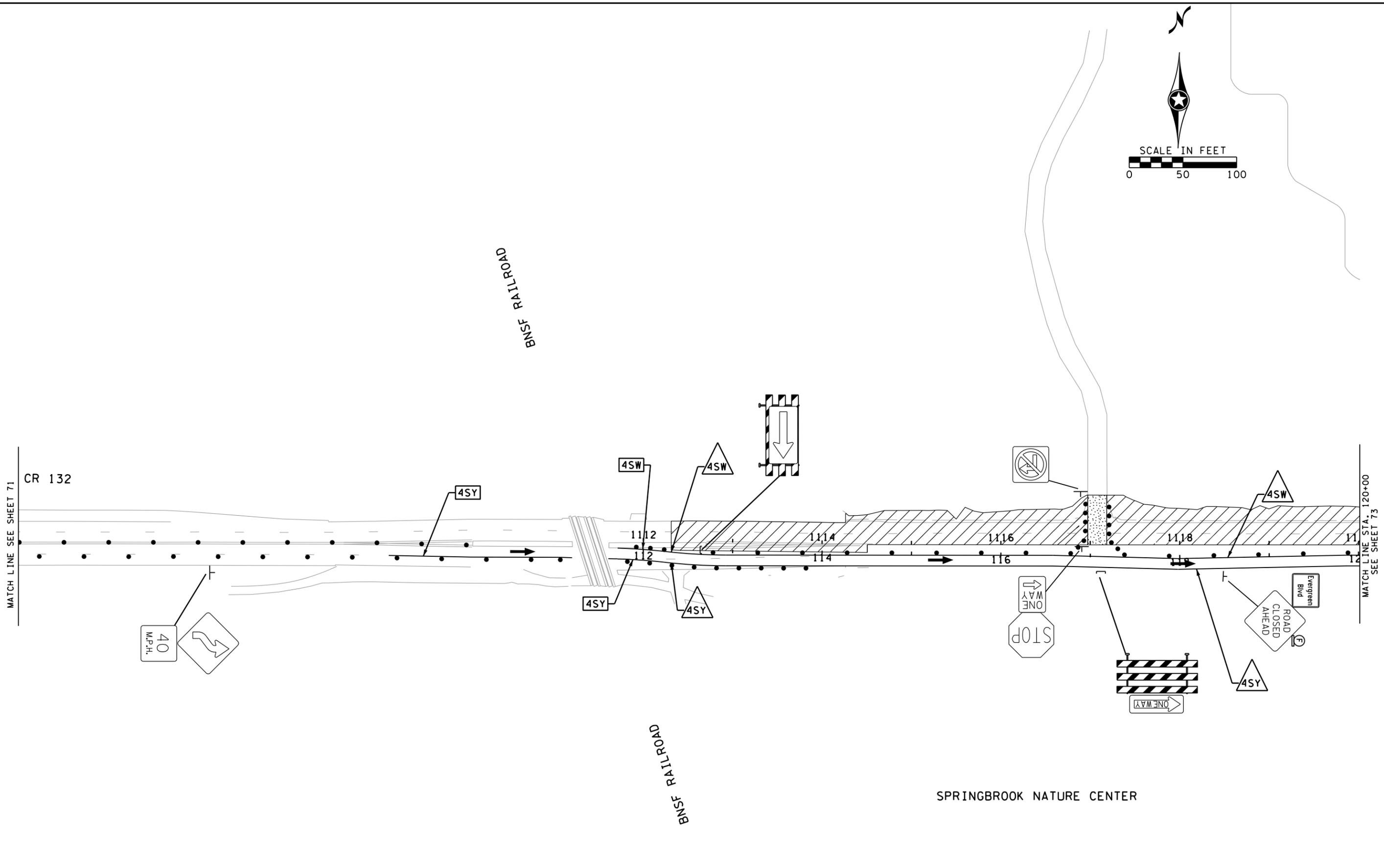
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 1/5/2024 LICENSE #: 50488



ANOKA COUNTY, MINNESOTA
 STAGE 2
CONSTRUCTION STAGING & TRAFFIC CONTROL
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
71
 OF
135
 SHEETS



NO.	DATE	BY	CHK	REVISIONS

Design By: MJS
 Plan By: MJS
 Checked By: MJS
 Approved By: MJS

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

PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 1/5/2024 LICENSE #: 50488



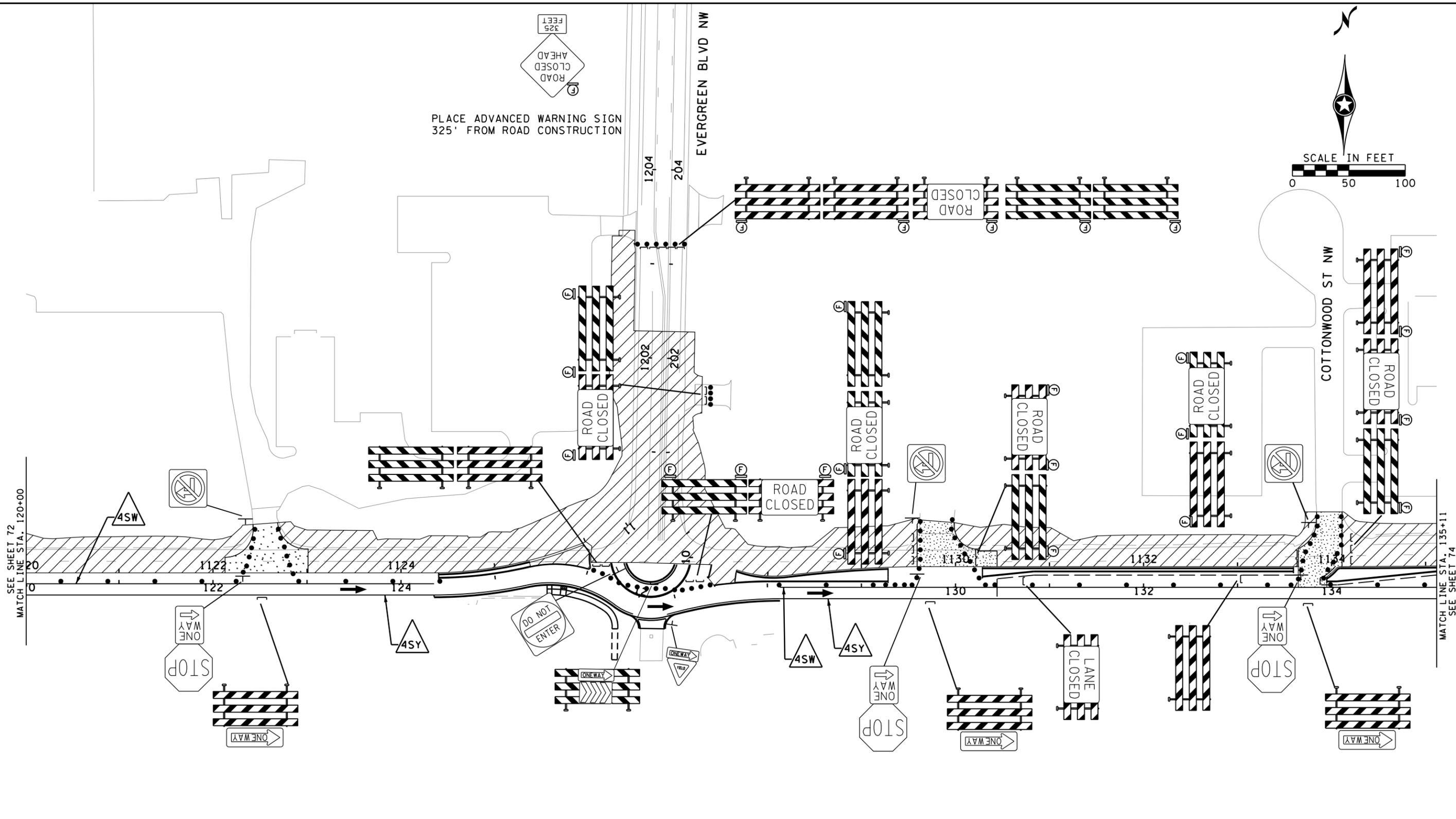
CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 STAGE 2
CONSTRUCTION STAGING & TRAFFIC CONTROL
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **72** OF **135** SHEETS

PLOTTED/REVISED: 1/5/2024 2:44:53 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\000\Plan\21204-000-1c203.dgn



SPRINGBROOK NATURE CENTER

NO.	DATE	BY	CHK	REVISIONS

Design By: MJS
 Plan By: MJS
 Checked By: MJS
 Approved By: MJS

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

PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 1/5/2024 LICENSE #: 50488



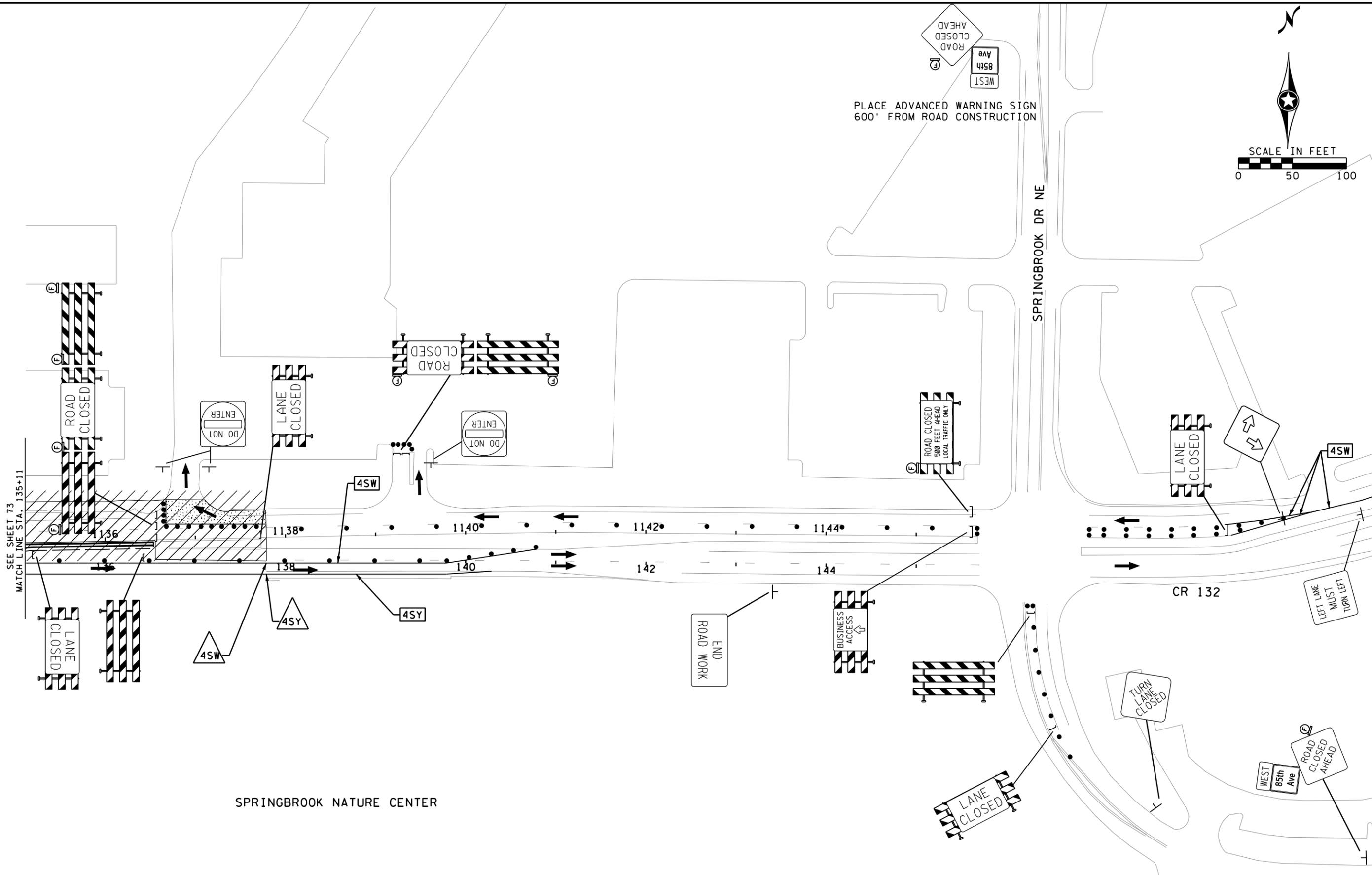
CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 STAGE 2
CONSTRUCTION STAGING & TRAFFIC CONTROL
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **73** OF **135** SHEETS

PLOTTED/REVISED: 1/5/2024 2:42:02 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\000\000\Plan\21204-000-1c204.dgn



SEE SHEET 73
MATCH LINE STA. 135+11

MATCH LINE SEE SHEET 75

NO.	DATE	BY	CHK	REVISIONS

Design By:	MJS	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: MICHAEL J. SHOMION, PE <i>Michael Shomion</i> DATE: 1/5/2024 LICENSE #: 50488
Plan By:	MJS	
Checked By:	MJS	
Approved By:	MJS	



**CR 132 (85th Ave) at Evergreen Blvd
Intersection Improvements**
Anoka County Highway Department

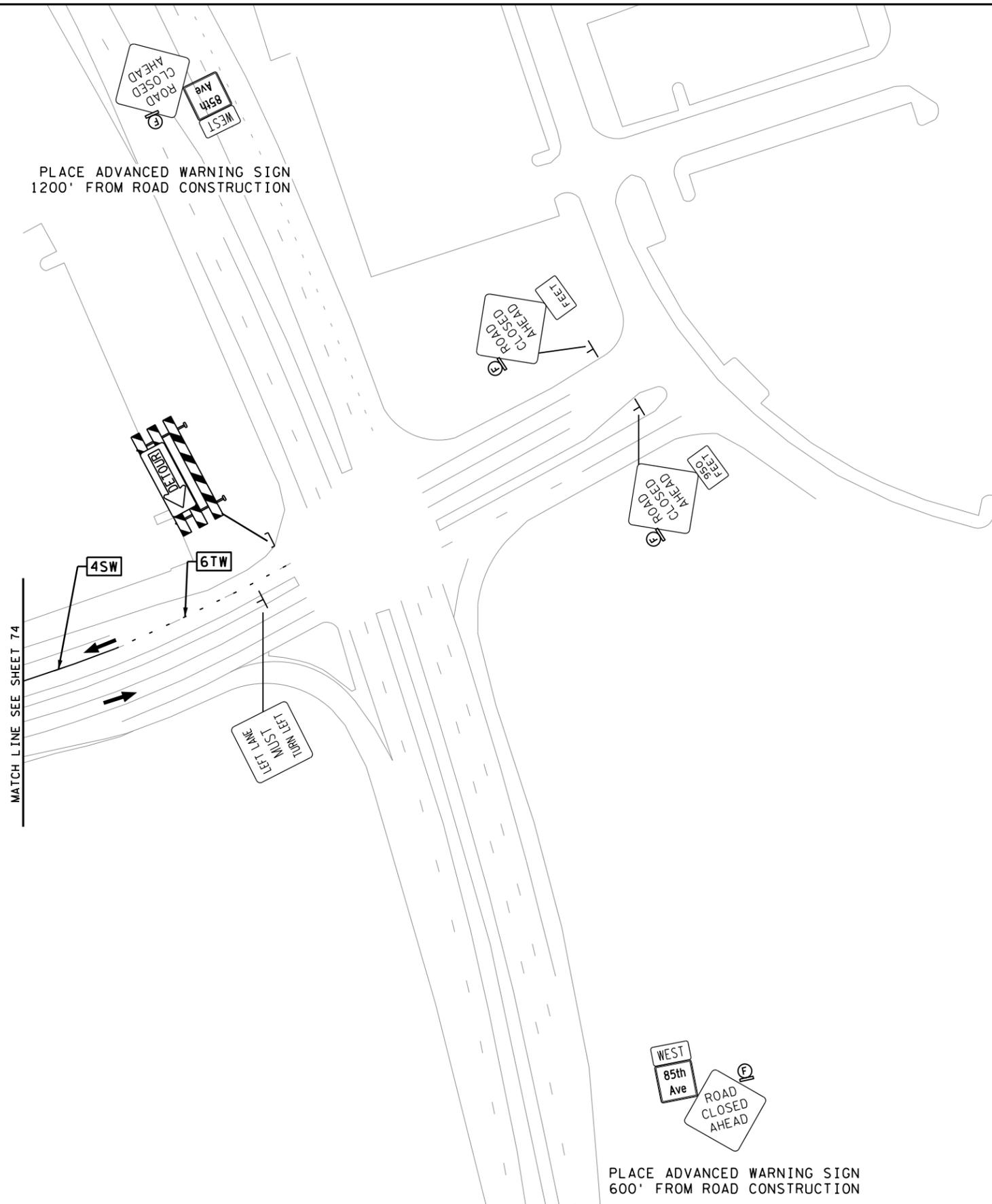
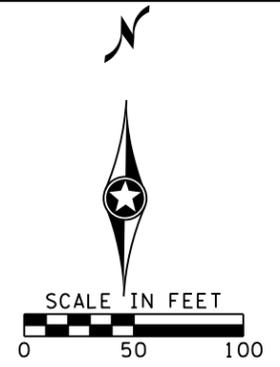
ANOKA COUNTY, MINNESOTA
STAGE 2
CONSTRUCTION STAGING & TRAFFIC CONTROL
CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
74
OF
135
SHEETS

PLOTTED/REVISED: 1/5/2024 2:42:10 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\Cad\Plan\21204-000-1c205.dgn

PLACE ADVANCED WARNING SIGN
1200' FROM ROAD CONSTRUCTION



PLACE ADVANCED WARNING SIGN
600' FROM ROAD CONSTRUCTION

NO.	DATE	BY	CHK	REVISIONS

Design By: MJS
 Plan By: MJS
 Checked By: MJS
 Approved By: MJS

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

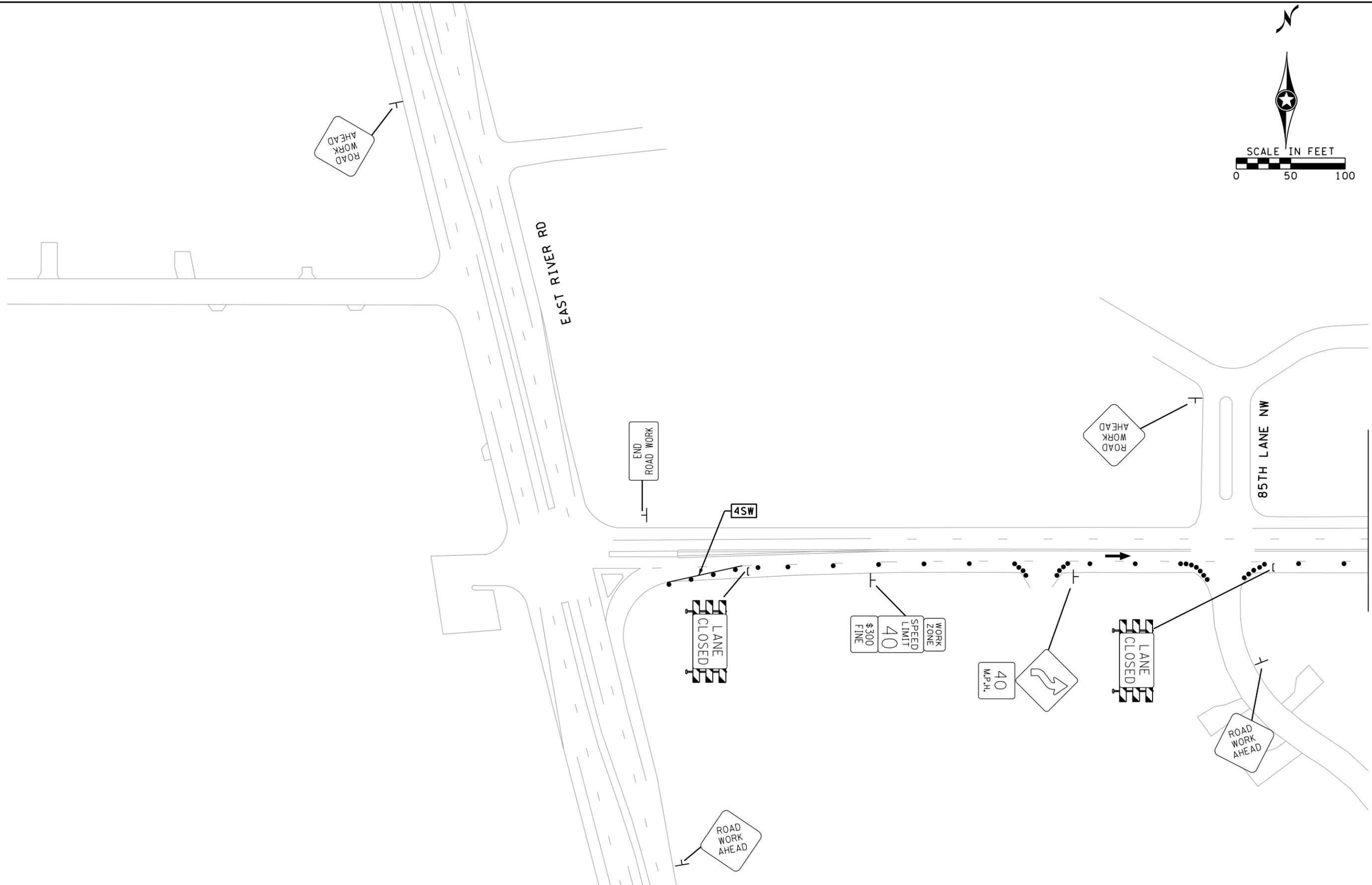
PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 1/5/2024 LICENSE #: 50488



**CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements**
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 STAGE 2
CONSTRUCTION STAGING & TRAFFIC CONTROL
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
75
 OF
135
 SHEETS



MATCH LINE SEE SHEET 77

NO.	DATE	BY	CHK	REVISIONS

Design By: MJS
 Plan By: MJS
 Checked By: MJS
 Approved By: MJS

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

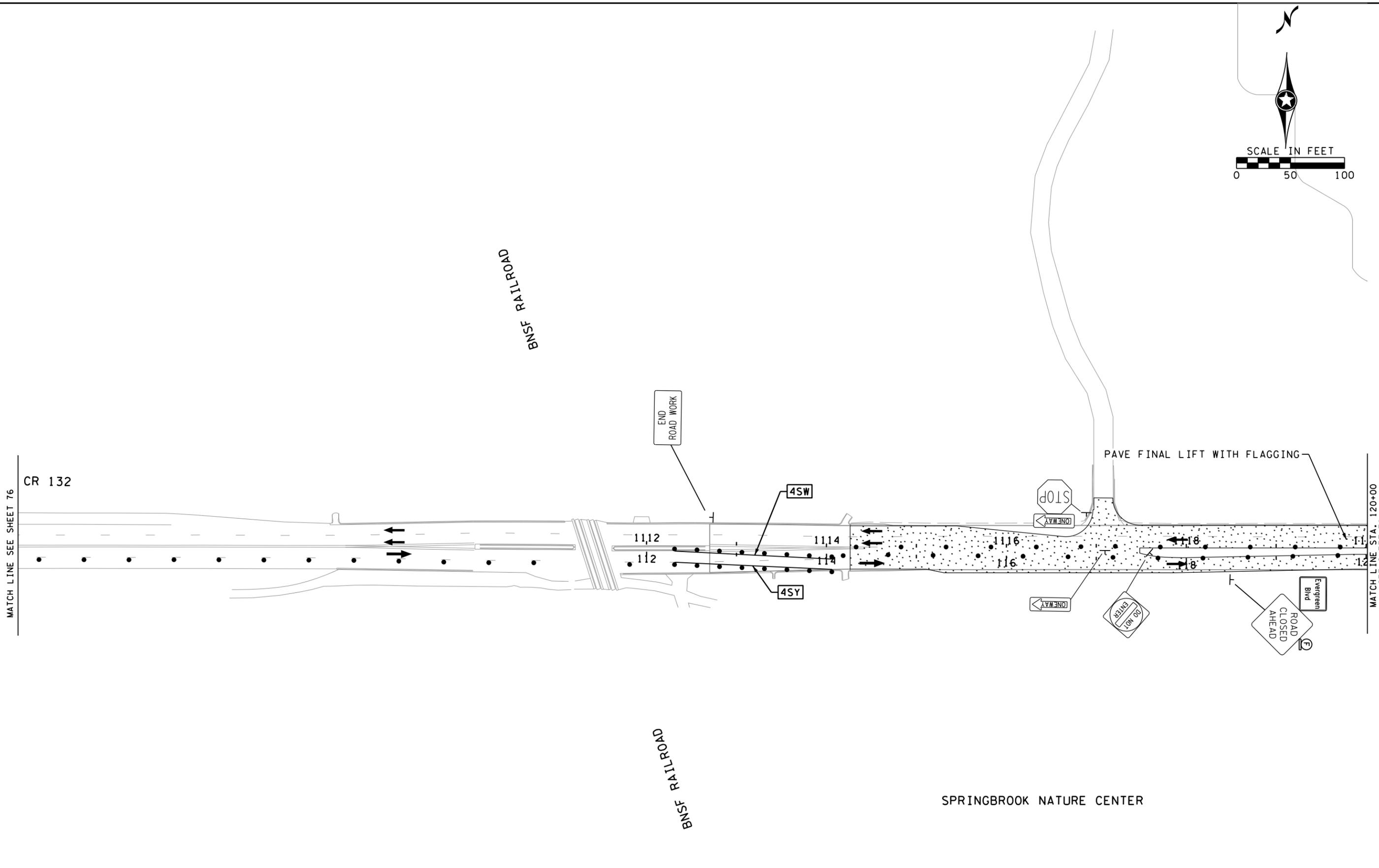
PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 1/5/2024 LICENSE #: 50488



CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 STAGE 3
CONSTRUCTION STAGING & TRAFFIC CONTROL
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **76**
 OF **135**
 SHEETS



NO.	DATE	BY	CHK	REVISIONS

Design By: MJS
 Plan By: MJS
 Checked By: MJS
 Approved By: MJS

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

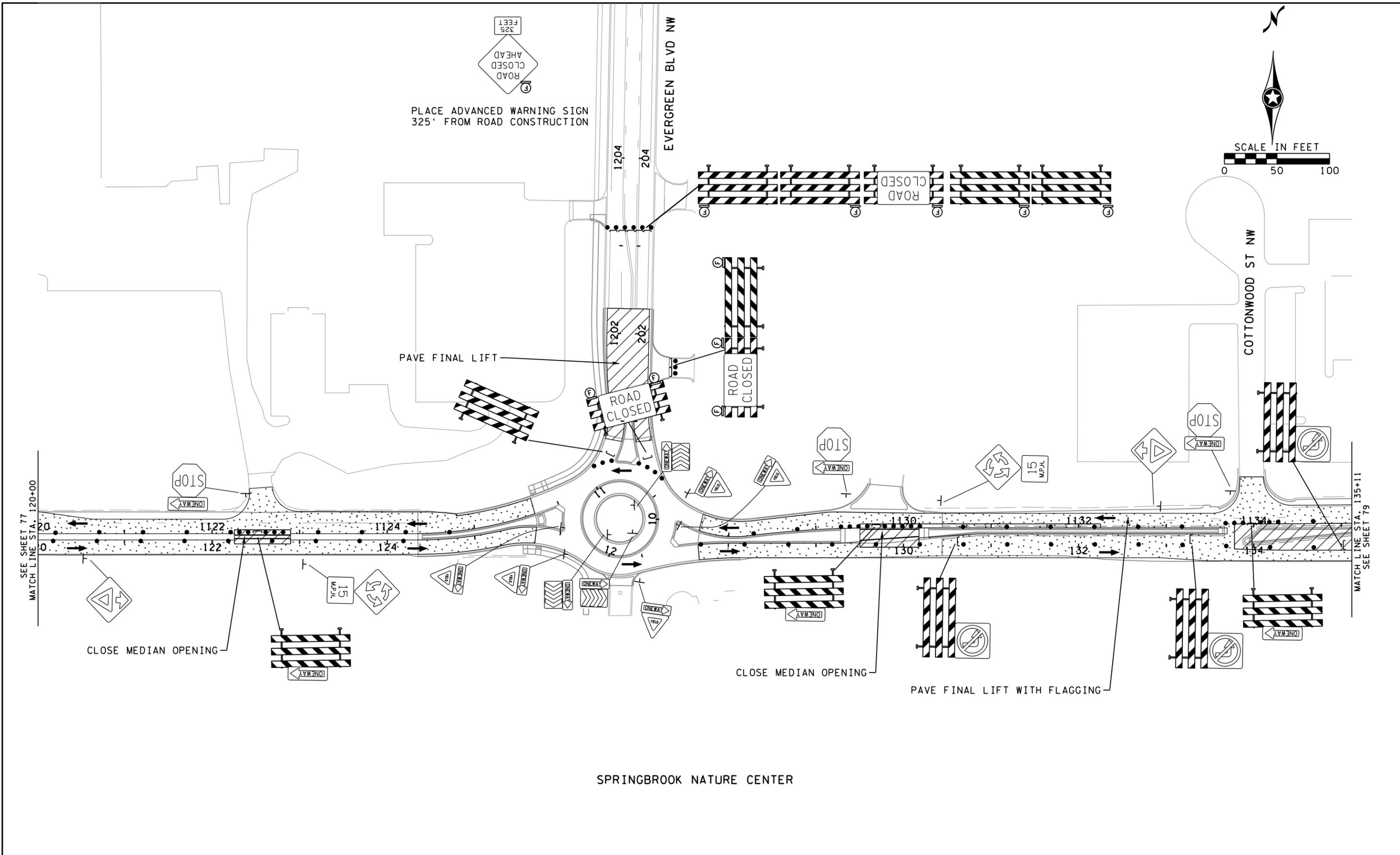
PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 1/5/2024 LICENSE #: 50488



**CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements**
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 STAGE 3
CONSTRUCTION STAGING & TRAFFIC CONTROL
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
77
 OF
135
 SHEETS



NO.	DATE	BY	CHK	REVISIONS

Design By:	MJS	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: MICHAEL J. SHOMION, PE <i>Michael Shomion</i> DATE: 1/5/2024 LICENSE #: 50488
Plan By:	MJS	
Checked By:	MJS	
Approved By:	MJS	

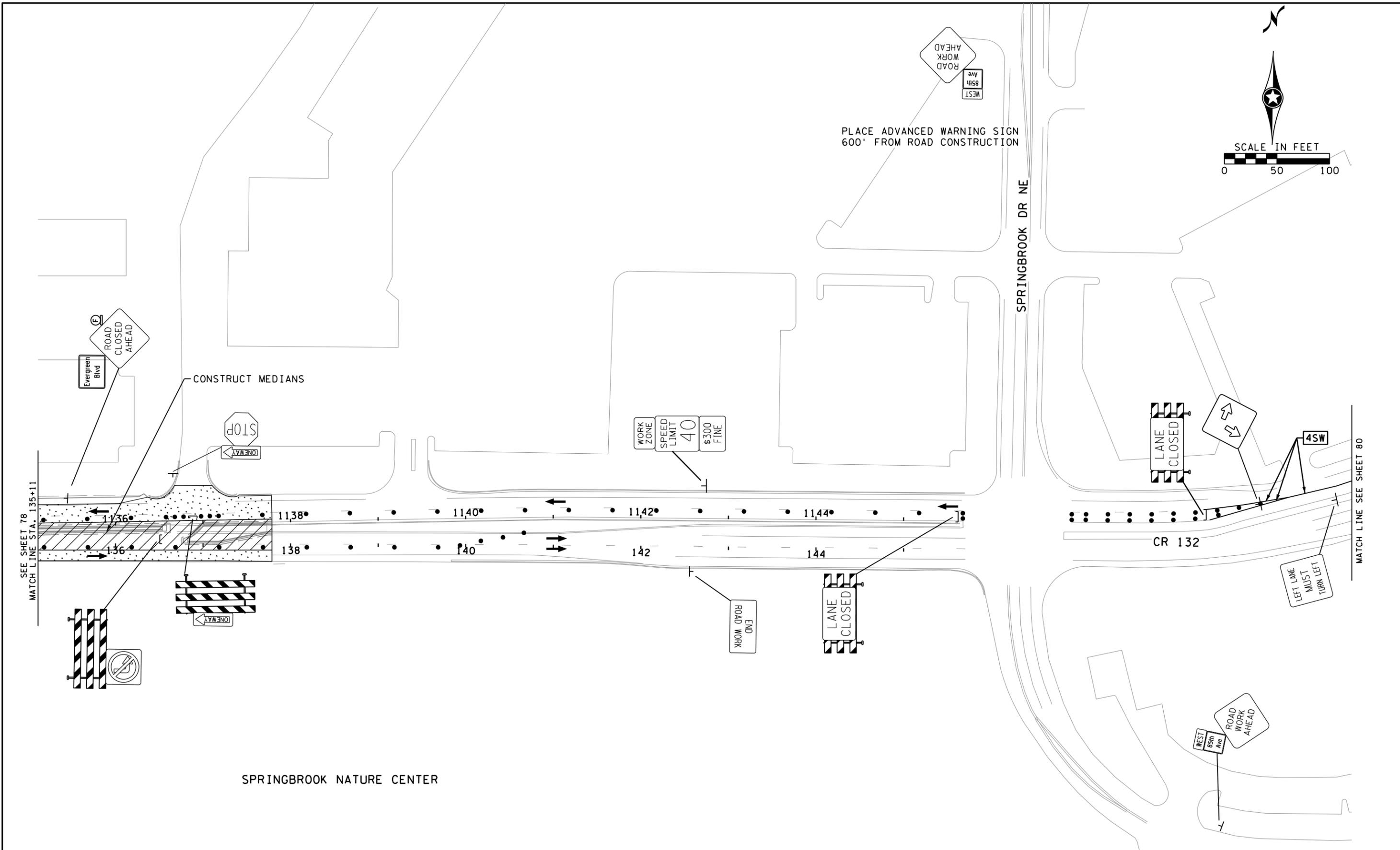


CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 STAGE 3
CONSTRUCTION STAGING & TRAFFIC CONTROL
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

PLOTTED/REVISED: 1/5/2024 2:42:43 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\000\000\Plan\21204-000-ic304.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: MJS
 Plan By: MJS
 Checked By: MJS
 Approved By: MJS

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

PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 1/5/2024 LICENSE #: 50488



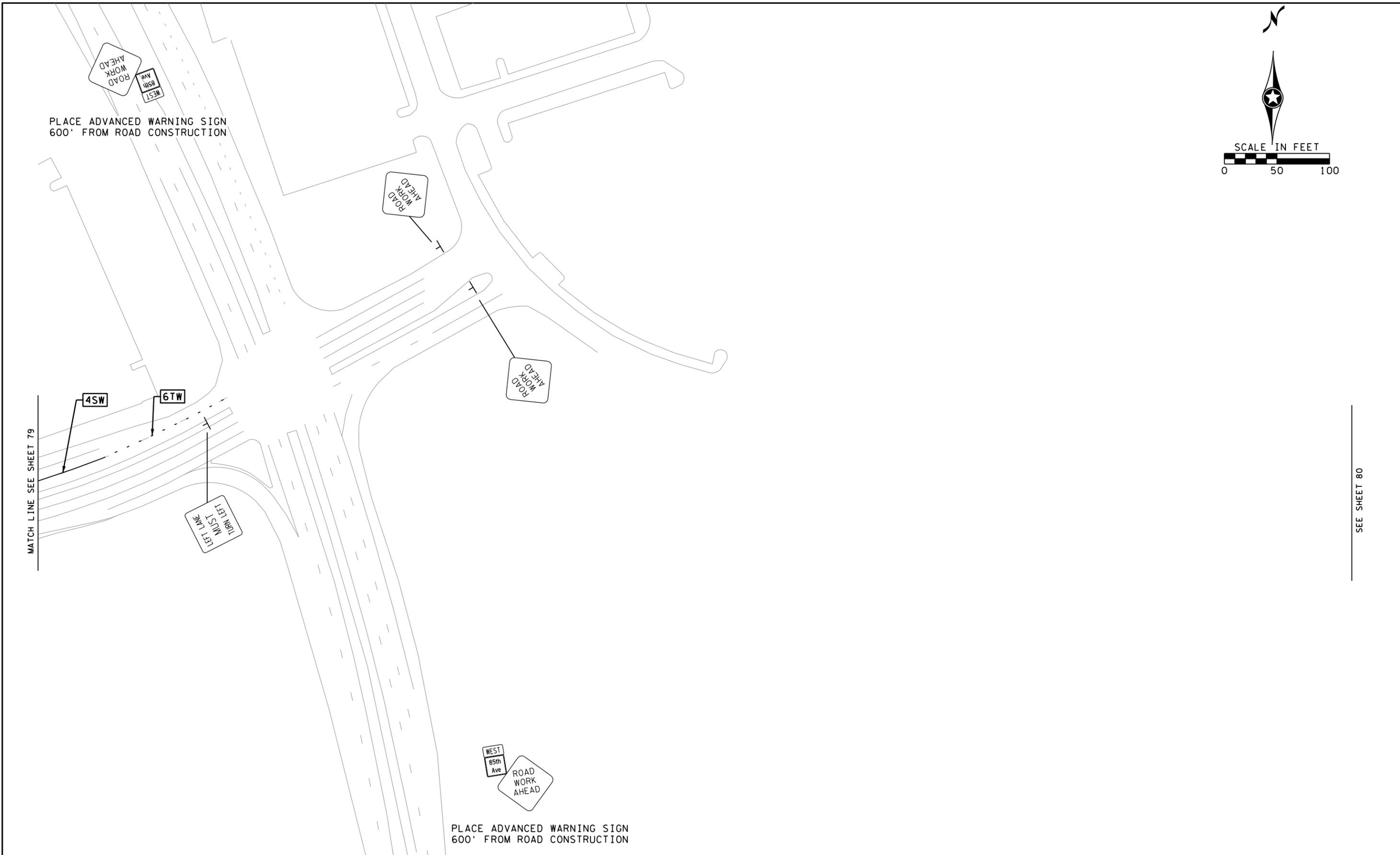
CR 132 (85th Ave) at Evergreen Blvd
Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 STAGE 3
CONSTRUCTION STAGING & TRAFFIC CONTROL
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **79**
 OF **135**
 SHEETS

PLOTTED/REVISED: 1/5/2024 2:42:52 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\000\000\Plan\21204-000-ic305.dgn



MATCH LINE SEE SHEET 79

SEE SHEET 80

NO.	DATE	BY	CHK	REVISIONS

Design By: MJS
 Plan By: MJS
 Checked By: MJS
 Approved By: MJS

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

PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 1/5/2024 LICENSE #: 50488



**CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements**
 Anoka County Highway Department

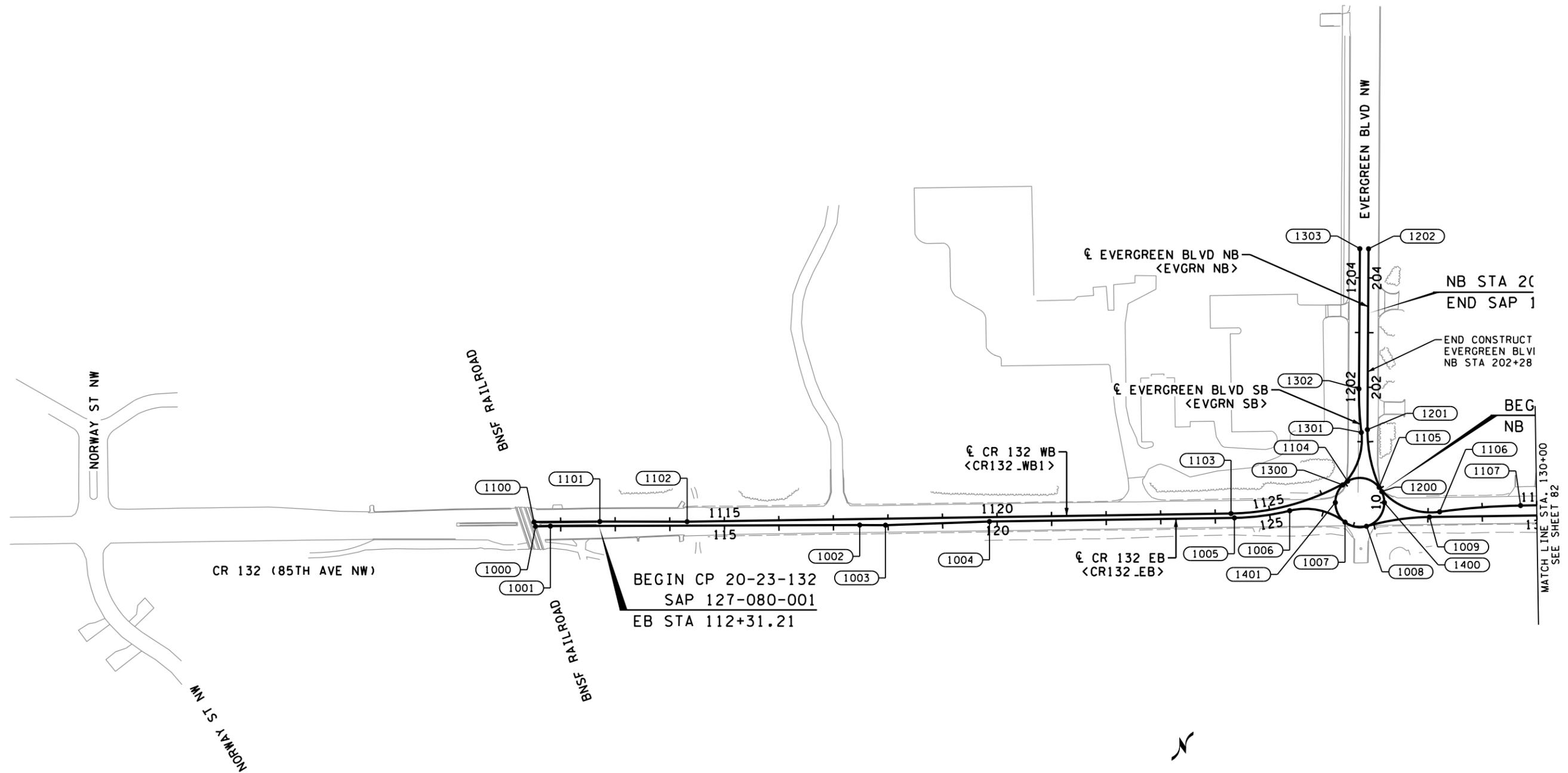
ANOKA COUNTY, MINNESOTA
 STAGE 3
CONSTRUCTION STAGING & TRAFFIC CONTROL
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
80
 OF
135
 SHEETS

CR 132 at Evergreen Blvd NW

PLOTTED/REVISED: 1/5/2024 2:42:58 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\Coord\Plan\21204-000.dwg



HORIZONTAL CONTROL FOR THIS PLAN IS ANOKA COUNTY COORDINATE SYSTEM, NAD 83 (2011 ADJUSTMENT)
 ELEVATIONS FOR THIS PLAN ARE BASED ON NGVD 88 DATUM

LEGEND

XXXX POINT NUMBER (DETAILS FOUND ON ALIGNMENT TABULATION SHEETS)

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 1/5/2024 LICENSE #: 44200



CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

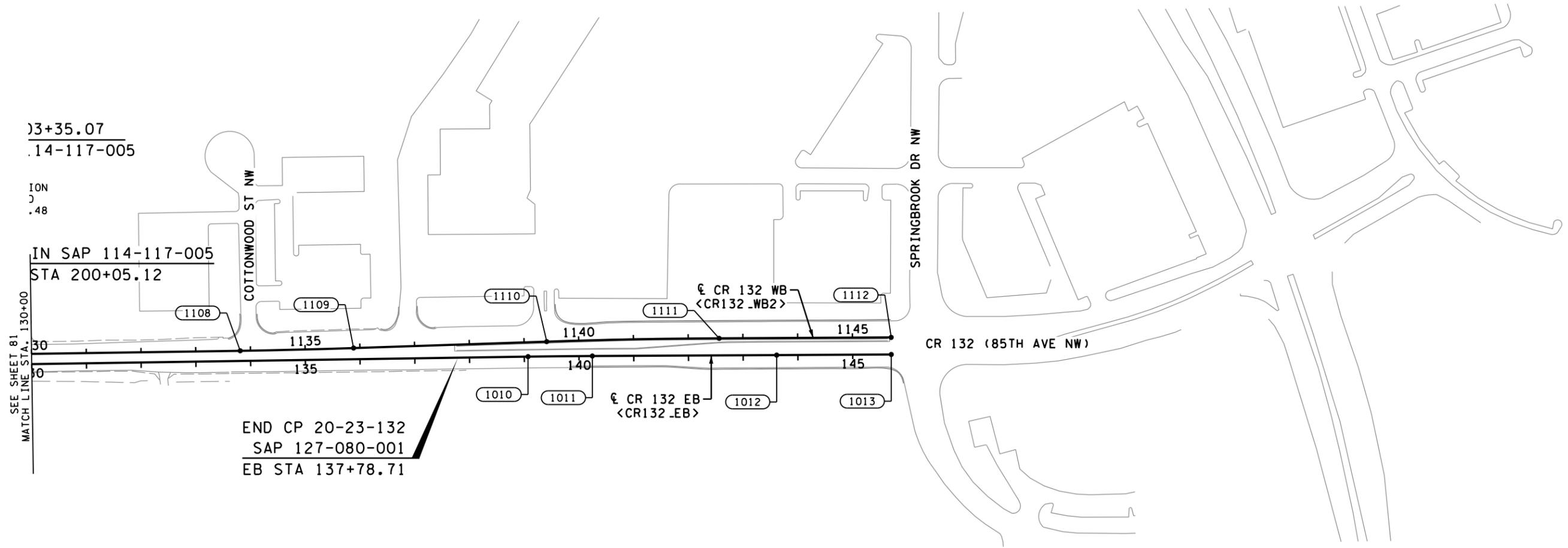
ANOKA COUNTY, MINNESOTA
 EB STA 112+31.21 TO EB STA 130+00
ALIGNMENT PLAN & TABULATION
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **81** OF **135** SHEETS

CR 132 at Evergreen Blvd NW

PLOTTED/REVISED: 1/5/2024 2:43:05 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\000\000\Plan\21204-000_0102.dgn



HORIZONTAL CONTROL FOR THIS PLAN IS ANOKA COUNTY COORDINATE SYSTEM, NAD 83 (2011 ADJUSTMENT)
ELEVATIONS FOR THIS PLAN ARE BASED ON NGVD 88 DATUM

LEGEND

XXXX POINT NUMBER (DETAILS FOUND ON ALIGNMENT TABULATION SHEETS)

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
Plan By: AJF
Checked By: AJP
Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
DATE: 1/5/2024 LICENSE #: 44200



CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
EB STA 130+00 TO EB STA 137+78.71
ALIGNMENT PLAN & TABULATION
CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **82** OF **135** SHEETS

PLOTTED/REVISED: 1/5/2024 2:43:08 PM

WSB PATH & FILENAME: Projects\Minnesota\021004-000\000\Plan\21004-000_0103.dgn

ALIGNMENT TABULATION

Table with columns: POINT NUMBER, POINT, STATION, DELTA, DEGREE, RADIUS, TANGENT, LENGTH, COORDINATES (X, Y), BEARING. Includes sections for CR 132 EB, CR 132 WB, and CR 132 WB.

ALIGNMENT TABULATION

Table with columns: POINT NUMBER, POINT, STATION, DELTA, DEGREE, RADIUS, TANGENT, LENGTH, COORDINATES (X, Y), BEARING. Includes sections for CR 132 WB (CONTINUED), EVERGREEN BLVD NB, EVERGREEN BLVD SB, and RADIAL.

NOTES: <XXXX> INDICATES GEOPAK ALIGNMENT NAMES.

Table with columns: NO., DATE, BY, CHK, REVISIONS. Includes revision history for design and plan.

Design By: AJP, Plan By: AJP, Checked By: AJP, Approved By: AJP. Includes professional seal and license information for Andrew J. FLOWMAN.



CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements, Anoka County Highway Department

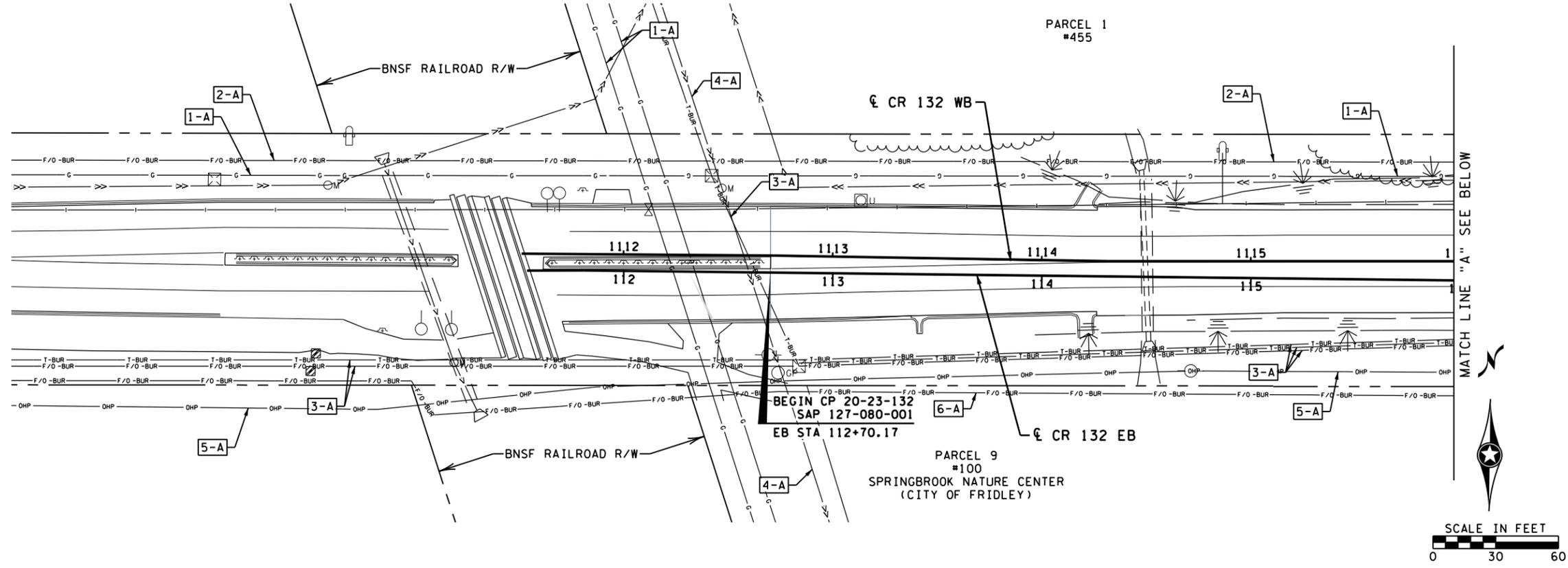
ANOKA COUNTY, MINNESOTA, ALIGNMENT PLAN & TABULATION, CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET 83 OF 135 SHEETS

PLOTTED/REVISED: 1/5/2024 2:43:19 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\000\000\Plan\21204-000_1101.dgn

CR 132



LEGEND

- T-BUR — BURIED TELEPHONE LINE
- TV-BUR — BURIED TELEVISION LINE
- OHU — OVERHEAD UTILITY LINE
- F/O-BUR — BURIED FIBER OPTIC LINE
- P-BUR — BURIED POWER LINE
- P — UTILITY IN CONDUIT
- OHP — OVERHEAD POWER LINE
- SIG-BUR — BURIED SIGNAL LINE
- G — BURIED GAS MAIN/SERVICE
- >> — SANITARY SEWER LINE
- > — STORM SEWER LINE
- FM — FORCE MAIN
- I — WATER MAIN
- ==== PIPE CULVERT

- ☐ UTILITY PEDESTAL
- HANDHOLE
- POWER/UTILITY POLE
- LIGHT POLE
- ☐ CABINET
- VALVE (GAS)
- MANHOLE
- ☐ CATCH BASIN
- ☐ CONCRETE APRON
- ☐ HYDRANT
- VALVE (WATER)
- VALVE (GAS)
- ☐ VEGETATION
- ☐ INPLACE STRUCTURE
- ☐ EXISTING GUARD RAIL
- ☐ EXISTING WATER EDGE
- ☐ BOLLARD
- ☐ RETAINING WALL
- ☐ NOISE WALL
- XC — EXISTING FENCE

- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

- █ EXISTING PAVEMENT TO BE REMOVED / MILLED
- ☐ 1-A UTILITY CONFLICT AREA (OWNER-IMPACT)

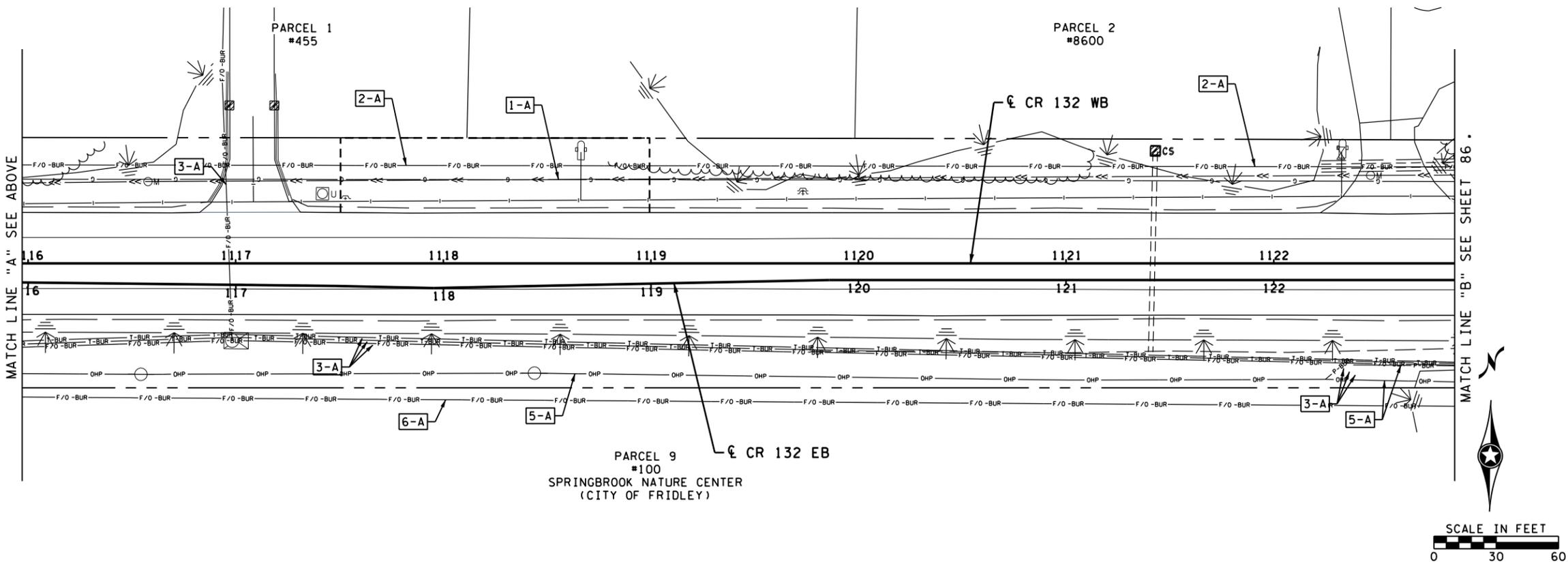
- OWNERSHIP:
- (1) CENTERPOINT ENERGY
 - (2) COMCAST
 - (3) LUMEN
 - (4) METROPOLITAN COUNCIL
 - (5) XCEL ENERGY
 - (6) ZAYO

- IMPACT:
- (A) LEAVE AS IS
 - (B) ADJUST
 - (C) RELOCATE
 - (D) REMOVE

GENERAL NOTES

- THE EXISTING SUBSURFACE UTILITY INFORMATION IS QUALITY LEVEL D IN ACCORDANCE WITH THE GUIDELINES OF CI/ASCE 38-02.
- UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL BURIED UTILITIES IN THE FIELD (INCIDENTAL).

CR 132



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 1/5/2024 LICENSE #: 44200



CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 CR 132
 INPLACE TOPOGRAPHY & UTILITIES
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
 85
 OF
 135
 SHEETS

WSB PATH & FILENAME: Projects\Minnesota\2024\000\CP\Plan\2024-000-102.dgn

PLOTTED/REVISED: 1/5/2024 2:43:29 PM

CR 132 at Evergreen Blvd NW

LEGEND

- T-BUR — BURIED TELEPHONE LINE
- TV-BUR — BURIED TELEVISION LINE
- OHU — OVERHEAD UTILITY LINE
- F/O-BUR — BURIED FIBER OPTIC LINE
- P-BUR — BURIED POWER LINE
- P — UTILITY IN CONDUIT
- OHP — OVERHEAD POWER LINE
- SIG-BUR — BURIED SIGNAL LINE
- G — BURIED GAS MAIN/SERVICE
- S — SANITARY SEWER LINE
- V — STORM SEWER LINE
- FM — FORCE MAIN
- I — WATER MAIN
- ==== PIPE CULVERT

- ⊠ UTILITY PEDESTAL
- ⊙ HANDHOLE
- ⊙ POWER/UTILITY POLE
- ⊙ LIGHT POLE
- ⊠ CABINET
- ⊙ VALVE (GAS)
- ⊙ MANHOLE
- ⊙ CATCH BASIN
- ⊙ CONCRETE APRON
- ⊙ HYDRANT
- ⊙ VALVE (WATER)
- ⊙ VALVE (GAS)
- ⊙ VEGETATION
- ⊙ INPLACE STRUCTURE
- ⊙ EXISTING GUARD RAIL
- ⊙ EXISTING WATER EDGE
- ⊙ BOLLARD
- ⊙ RETAINING WALL
- ⊙ NOISE WALL
- ⊙ EXISTING FENCE

- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

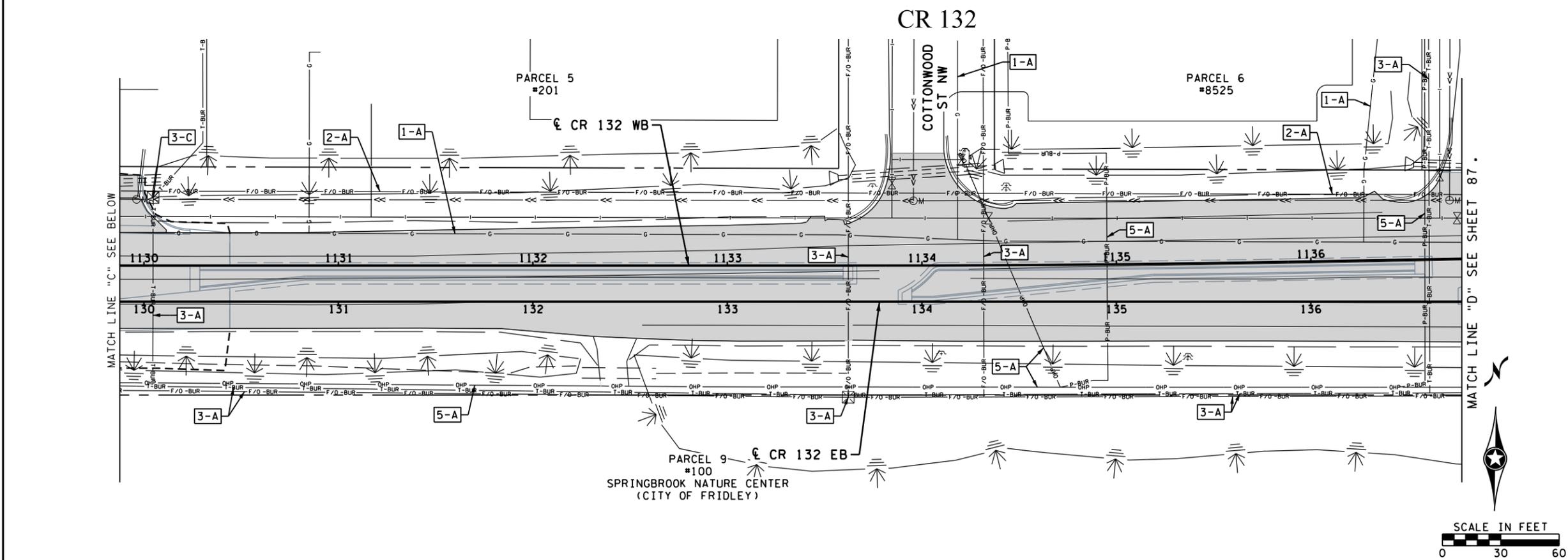
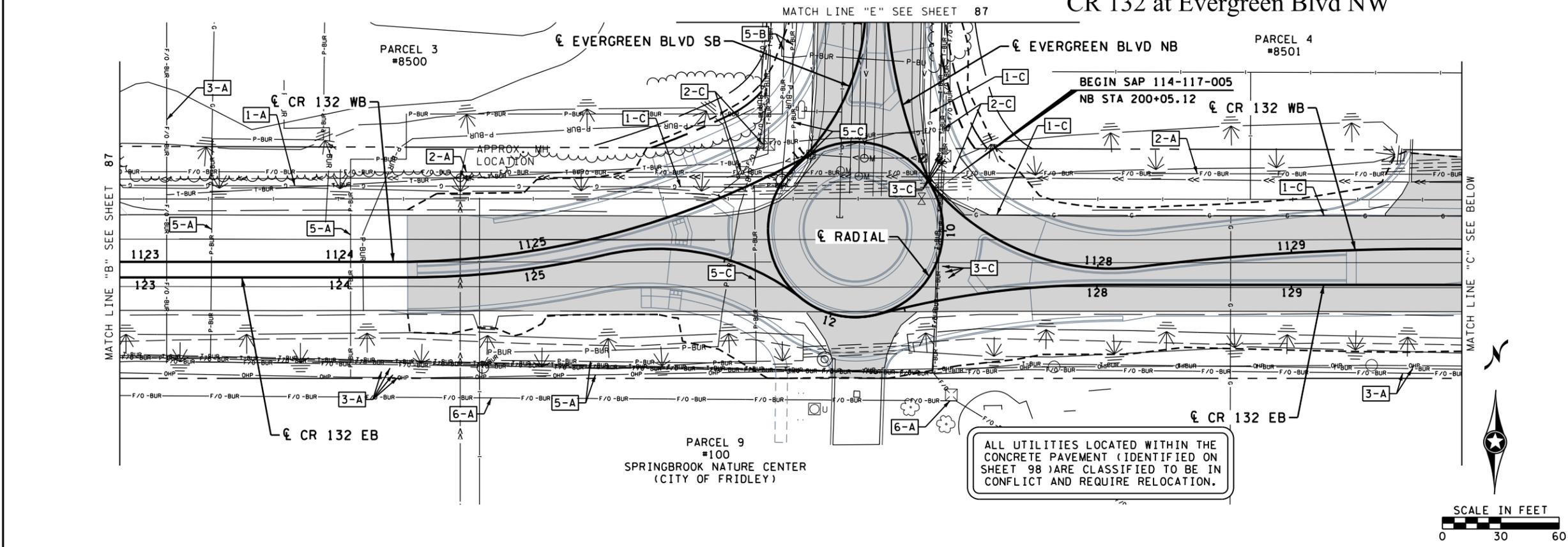
- █ EXISTING PAVEMENT TO BE REMOVED / MILLED
- ⊠ UTILITY CONFLICT AREA (OWNER-IMPACT)

- OWNERSHIP:**
- (1) CENTERPOINT ENERGY
 - (2) COMCAST
 - (3) LUMEN
 - (4) METROPOLITAN COUNCIL
 - (5) XCEL ENERGY
 - (6) ZAYO

- IMPACT:**
- (A) LEAVE AS IS
 - (B) ADJUST
 - (C) RELOCATE
 - (D) REMOVE

GENERAL NOTES

- THE EXISTING SUBSURFACE UTILITY INFORMATION IS QUALITY LEVEL D IN ACCORDANCE WITH THE GUIDELINES OF CI/ASCE 38-02.
- UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL BURIED UTILITIES IN THE FIELD (INCIDENTAL).



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 1/5/2024 LICENSE #: 44200



CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 CR 132
INPLACE TOPOGRAPHY & UTILITIES
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **86** OF **135** SHEETS

1/5/2024 2:43:38 PM

WSB PATH & FILENAME: Projects\Minnesota\0210204-000\000\Plan\210204-000_1103.dgn

CR 132

LEGEND

- T-BUR — BURIED TELEPHONE LINE
- TV-BUR — BURIED TELEVISION LINE
- OHU — OVERHEAD UTILITY LINE
- F/O-BUR — BURIED FIBER OPTIC LINE
- P-BUR — BURIED POWER LINE
- P — UTILITY IN CONDUIT
- OHP — OVERHEAD POWER LINE
- SIG-BUR — BURIED SIGNAL LINE
- G — BURIED GAS MAIN/SERVICE
- S — SANITARY SEWER LINE
- V — STORM SEWER LINE
- FM — FORCE MAIN
- I — WATER MAIN
- ==== PIPE CULVERT

- ☐ UTILITY PEDESTAL
- HANDHOLE
- ⊙ POWER/UTILITY POLE
- ⊙ LIGHT POLE
- ☐ CABINET
- ⊙ VALVE (GAS)
- ⊙ MANHOLE
- ☐ CATCH BASIN
- ☐ CONCRETE APRON
- ⊙ HYDRANT
- ⊙ VALVE (WATER)
- ⊙ VALVE (GAS)
- ☐ VEGETATION
- ☐ INPLACE STRUCTURE
- ☐ EXISTING GUARD RAIL
- ☐ EXISTING WATER EDGE
- ☐ BOLLARD
- ☐ RETAINING WALL
- ☐ NOISE WALL
- XC — EXISTING FENCE

- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

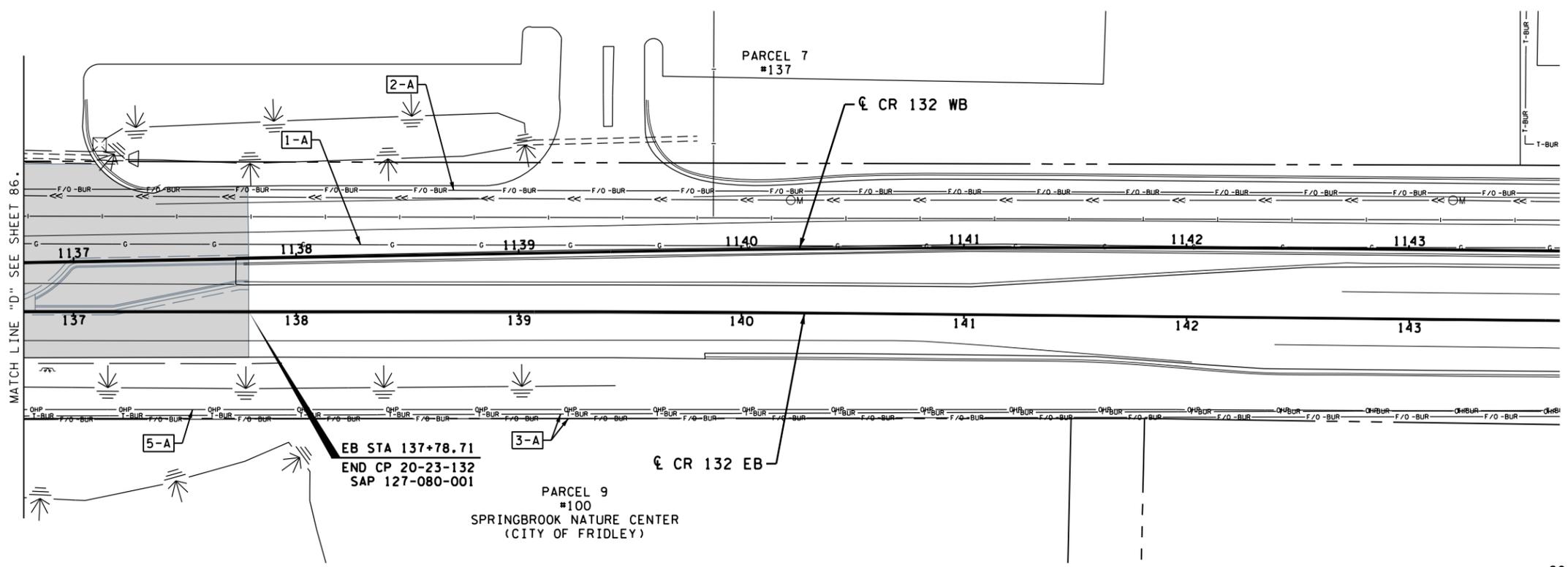
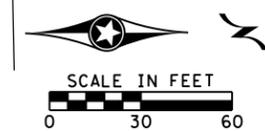
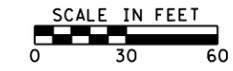
- █ EXISTING PAVEMENT TO BE REMOVED / MILLED
- ☐ 1-A UTILITY CONFLICT AREA (OWNER-IMPACT)

- OWNERSHIP:**
- (1) CENTERPOINT ENERGY
 - (2) COMCAST
 - (3) LUMEN
 - (4) METROPOLITAN COUNCIL
 - (5) XCEL ENERGY
 - (6) ZAYO

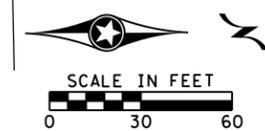
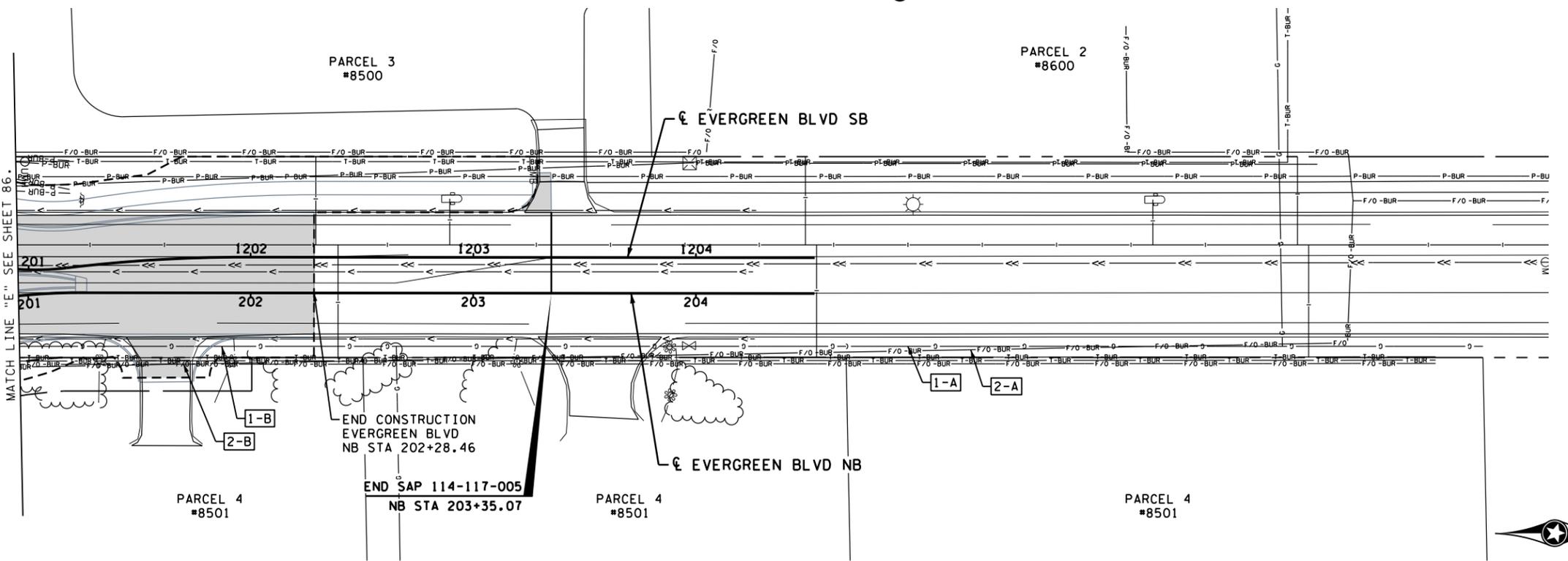
- IMPACT:**
- (A) LEAVE AS IS
 - (B) ADJUST
 - (C) RELOCATE
 - (D) REMOVE

GENERAL NOTES

- THE EXISTING SUBSURFACE UTILITY INFORMATION IS QUALITY LEVEL D IN ACCORDANCE WITH THE GUIDELINES OF CI/ASCE 38-02.
- UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL BURIED UTILITIES IN THE FIELD (INCIDENTAL).



Evergreen Blvd NW



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 1/5/2024 LICENSE #: 44200



**CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements**
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 CR 132 AND EVERGREEN BLVD NW
INPLACE TOPOGRAPHY & UTILITIES
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
87
 OF
135
 SHEETS

PLOTTED/REVISED: 1/16/2024 8:53:00 AM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\CR132\Plan\21204-000_remo.dgn

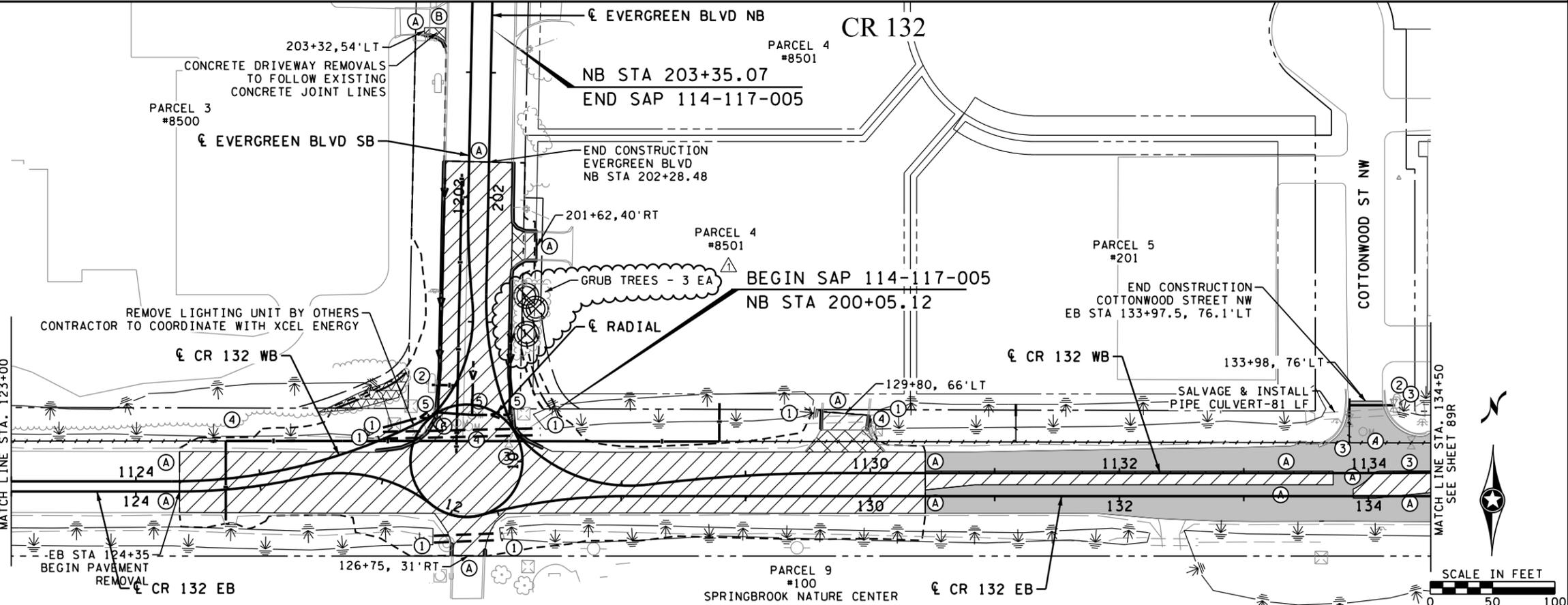
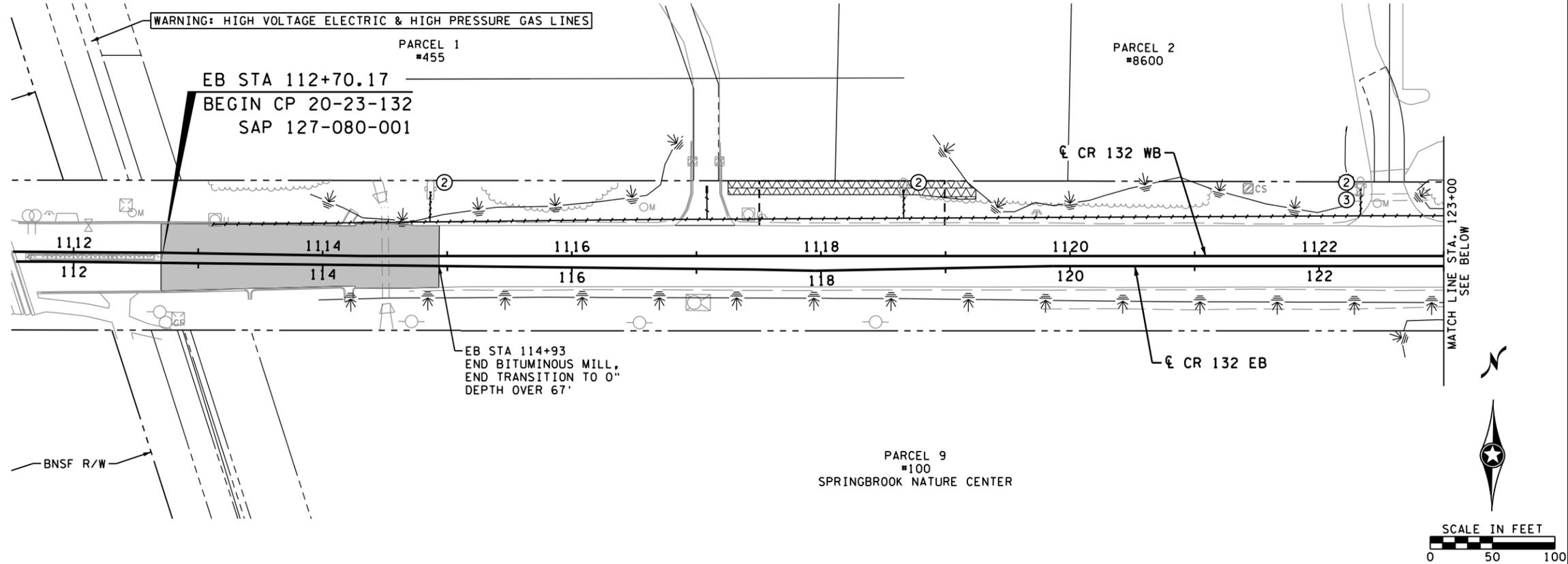
CR 132

LEGEND

- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE PAVEMENT
- REMOVE CONCRETE MEDIAN
- GRUB TREE (ACRE) Δ
- MILL BITUMINOUS SURFACE (2.0")
- (A) SAWING BITUMINOUS PAVEMENT (FULL DEPTH)
- (B) SAWING CONCRETE PAVEMENT (FULL DEPTH)
- (1) REMOVE PIPE APRON
- (2) REMOVE HYDRANT
- (3) REMOVE GATE VALVE & BOX
- (4) ADJUST FRAME & RING CASTING (SANITARY)
- (5) REMOVE DRAINAGE STRUCTURE
- (6) ADJUST FRAME & RING CASTING (WATER)
- PLUG FILL & ABANDON WATER MAIN
- REMOVE SEWER PIPE (STORM)
- REMOVE WATER MAIN
- REMOVE PIPE CULVERT
- REMOVE CURB & GUTTER
- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- INPLACE PERMANENT EASEMENT
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

GENERAL NOTES

1. ALL REMOVAL ITEMS SHALL BE DISPOSED OF OFF THE PROJECT SITE IN ACCORDANCE WITH THE SPECIFICATIONS. (INCIDENTAL)
2. REMOVAL OF ALL AGGREGATE SURFACING REGARDLESS OF THICKNESS SHALL BE INCLUDED IN EXCAVATION-COMMON.
3. THE EXISTING SUBSURFACE UTILITY INFORMATION IS QUALITY LEVEL D IN ACCORDANCE WITH THE GUIDELINES OF CI/ASCE 38-02.
4. UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL BURIED UTILITIES IN THE FIELD (INCIDENTAL).
5. SAWCUTTING FOR CONCRETE CURB & GUTTER, CONCRETE WALK, AND BITUMINOUS WALK SHALL BE INCIDENTAL.
6. INPLACE BITUMINOUS PAVEMENT THICKNESS 4"-10". NO ADDITIONAL PAYMENT FOR EXTRA THICKNESS.



NO.	DATE	BY	CHK	REVISIONS
1	2024/01/12	AJF	AJP	TREE CLEARING REMOVED. UPDATED TO GRUBBING ONLY

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 1/16/2024 LICENSE #: 44200



**CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements**
 Anoka County Highway Department

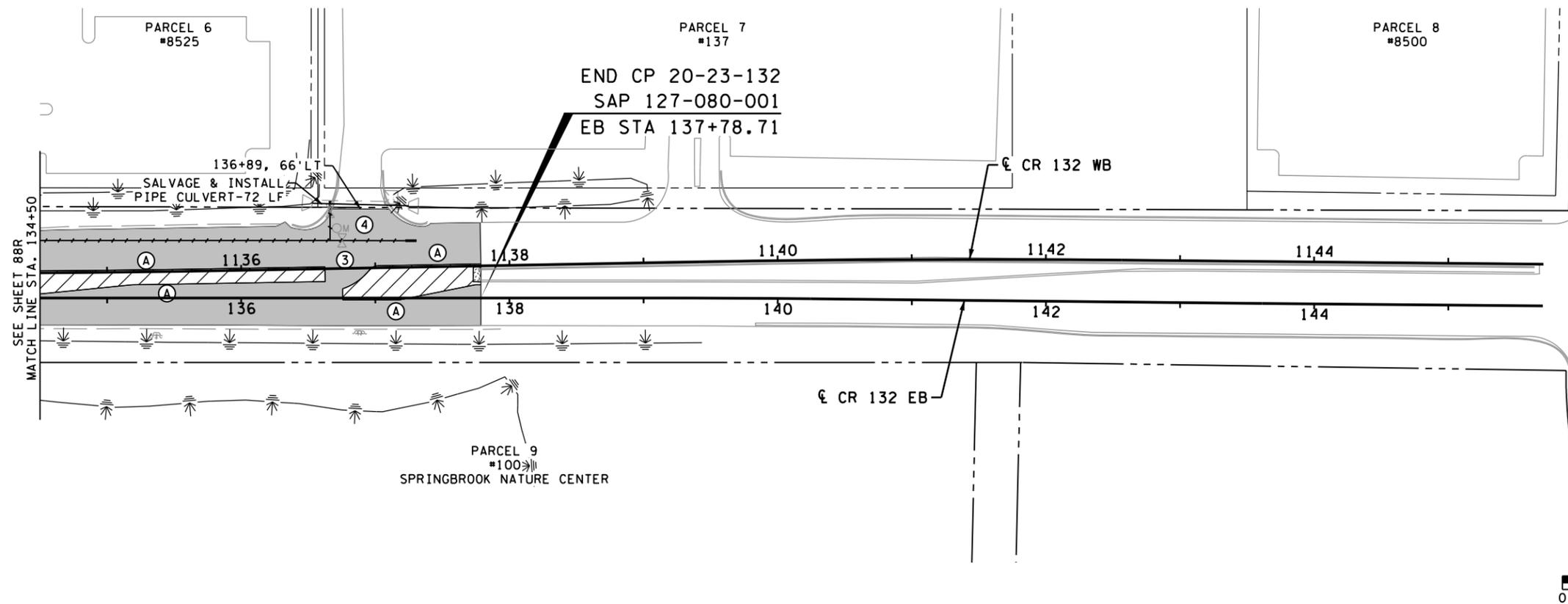
ANOKA COUNTY, MINNESOTA
 EB STA 112+31.21 TO EB STA 134+50
REMOVAL PLAN
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
88R
 OF
135
 SHEETS

PLOTTED/REVISED: 1/16/2024 8:53:06 AM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\000\000\Plan\21204-000_remove.dgn

CR 132



LEGEND

- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE PAVEMENT
- REMOVE CONCRETE MEDIAN
- GRUB TREE (ACRE) Δ
- MILL BITUMINOUS SURFACE (2.0")
- (A) SAWING BITUMINOUS PAVEMENT (FULL DEPTH)
- (B) SAWING CONCRETE PAVEMENT (FULL DEPTH)
- (1) REMOVE PIPE APRON
- (2) REMOVE HYDRANT
- (3) REMOVE GATE VALVE & BOX
- (4) ADJUST FRAME & RING CASTING (SANITARY)
- (5) REMOVE DRAINAGE STRUCTURE
- (6) ADJUST FRAME & RING CASTING (WATER)
- PLUG FILL & ABANDON WATER MAIN
- REMOVE SEWER PIPE (STORM)
- REMOVE WATER MAIN
- REMOVE PIPE CULVERT
- REMOVE CURB & GUTTER
- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- INPLACE PERMANENT EASEMENT
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

GENERAL NOTES

1. ALL REMOVAL ITEMS SHALL BE DISPOSED OF OFF THE PROJECT SITE IN ACCORDANCE WITH THE SPECIFICATIONS. (INCIDENTAL)
2. REMOVAL OF ALL AGGREGATE SURFACING REGARDLESS OF THICKNESS SHALL BE INCLUDED IN EXCAVATION-COMMON.
3. THE EXISTING SUBSURFACE UTILITY INFORMATION IS QUALITY LEVEL D IN ACCORDANCE WITH THE GUIDELINES OF CI/ASCE 38-02.
4. UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL BURIED UTILITIES IN THE FIELD (INCIDENTAL).
5. SAWCUTTING FOR CONCRETE CURB & GUTTER, CONCRETE WALK, AND BITUMINOUS WALK SHALL BE INCIDENTAL.
6. INPLACE BITUMINOUS PAVEMENT THICKNESS 4"-10". NO ADDITIONAL PAYMENT FOR EXTRA THICKNESS.

NO.	DATE	BY	CHK	REVISIONS
1	2024/01/12	AJF	AJP	TREE CLEARING REMOVED. UPDATED TO GRUBBING ONLY

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 1/16/2024 LICENSE # 44200



**CR 132 (85th Ave) at Evergreen Blvd
Intersection Improvements**

Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

EB STA 134+50 TO EB STA 137+78.71

REMOVAL PLAN

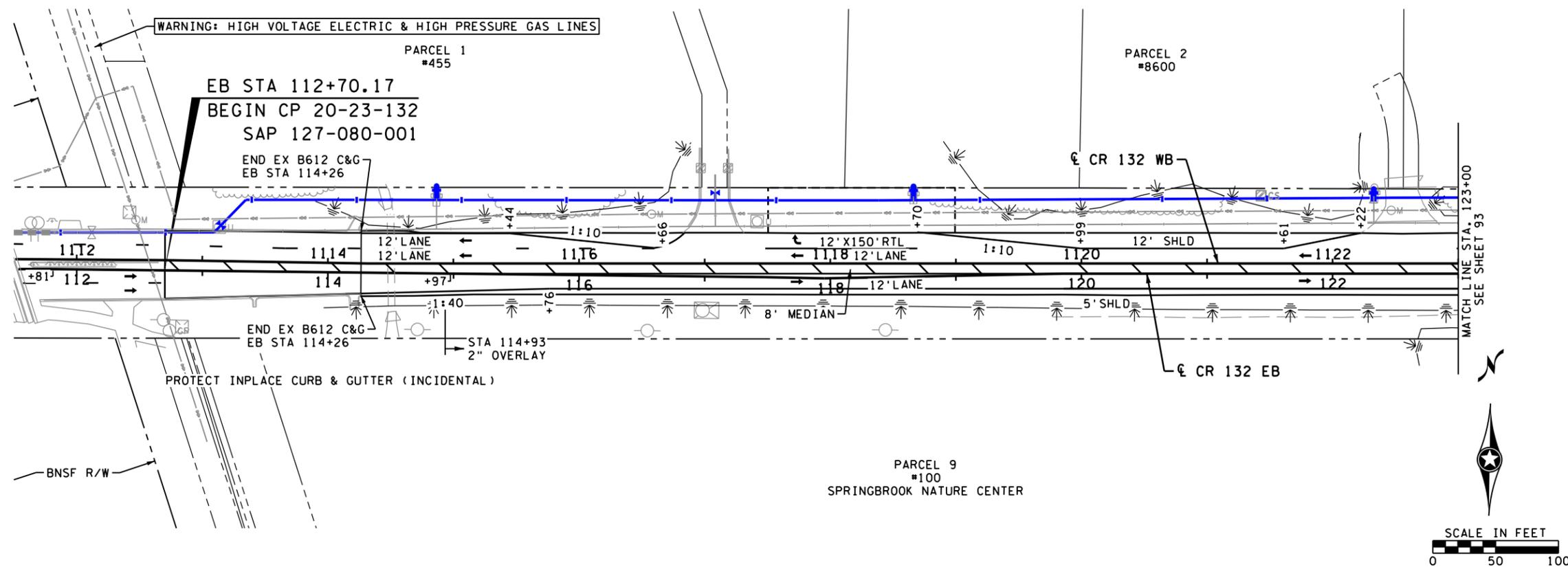
CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
89R
OF
135
SHEETS

PLOTTED/REVISED: 1/5/2024 2:44:29 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\000\Plan\21204-000-001.dgn

CR 132

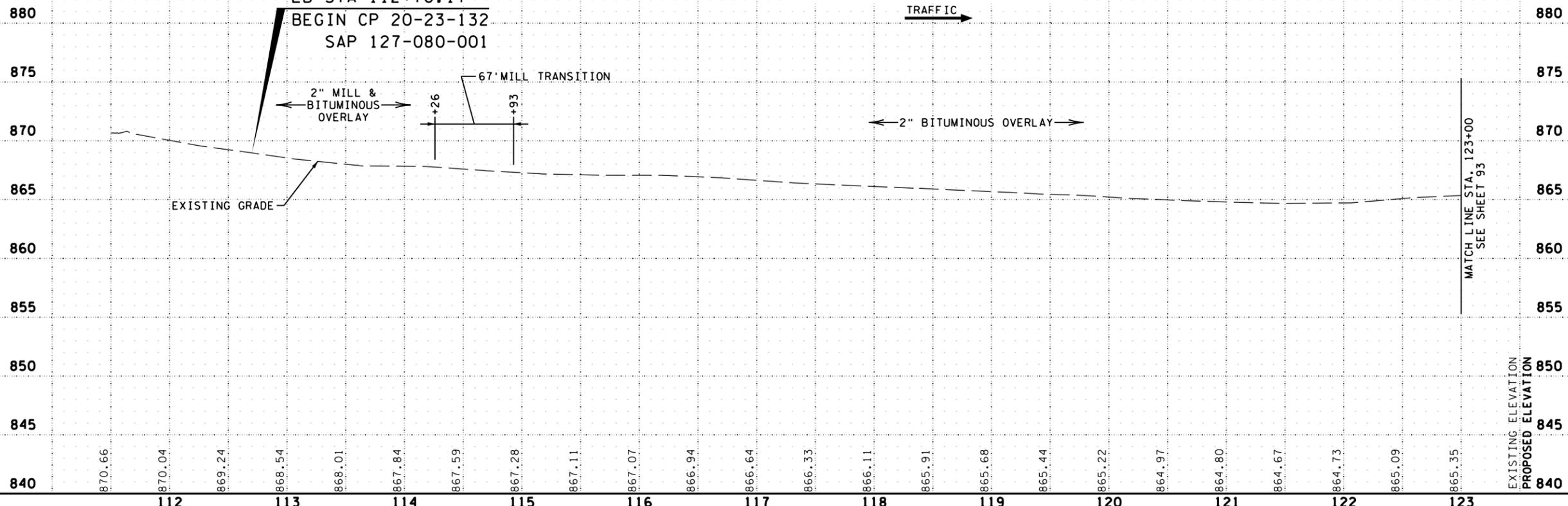


LEGEND

- ➔ TRAFFIC DIRECTION
- ① CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP WITH TRUNCATED DOMES. SEE PEDESTRIAN RAMP DETAILS.
- ② CONSTRUCT CONCRETE MEDIAN NOSE PER STANDARD PLAN 7113
- ③ CONSTRUCT DEPRESSED MEDIAN CURB AT DRIVEWAY, SEE MISCELLANEOUS DETAILS
- ④ SEE DRIVEWAY DETAILS FOR MORE INFORMATION
- ⑤ SEE INTERSECTION DETAILS FOR MORE INFORMATION
- ⑥ CONSTRUCT CURB TRANSITION, SEE MISCELLANEOUS DETAILS
- Ⓐ 4" CONCRETE WALK

- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

CR 132 Eastbound Profile



GENERAL NOTES

1. CURB & GUTTER DES. B418 (MOD) (TIP OUT) USED FOR MEDIANS
2. CURB & GUTTER DES. B424 USED FOR OUTSIDE LANES AND INSIDE TRUCK APRON ON ROUNDABOUT
3. CURB & GUTTER DES. R418 USED FOR OUTSIDE TRUCK APRON ON ROUNDABOUT
4. MEDIANS CONSTRUCTED WITH 4" CONCRETE WALK
5. ALL LANE DIMENSIONS ARE FROM CENTERLINE TO LANE LINE OR FACE OF CURB.
6. ALL SHOULDER DIMENSIONS ARE FROM LANE LINE TO FACE OF CURB (WHERE PRESENT) OR EDGE OF PAVEMENT.
7. SEE DRIVEWAY DETAILS FOR ADDITIONAL INFORMATION AT DRIVEWAYS.
8. SEE ALIGNMENT PLAN FOR CURVE DATA.
9. SEE PAVING PLAN FOR REQUIRED PAVEMENT SECTIONS.
10. SEE SHEET 100 -RAB3 FOR ROUNDABOUT INTERSECTION DETAILS.

VERTICAL CONTROL

ELEVATIONS FOR THIS PLAN ARE BASED ON NGVD 88 DATUM.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 1/5/2024 LICENSE #: 44200



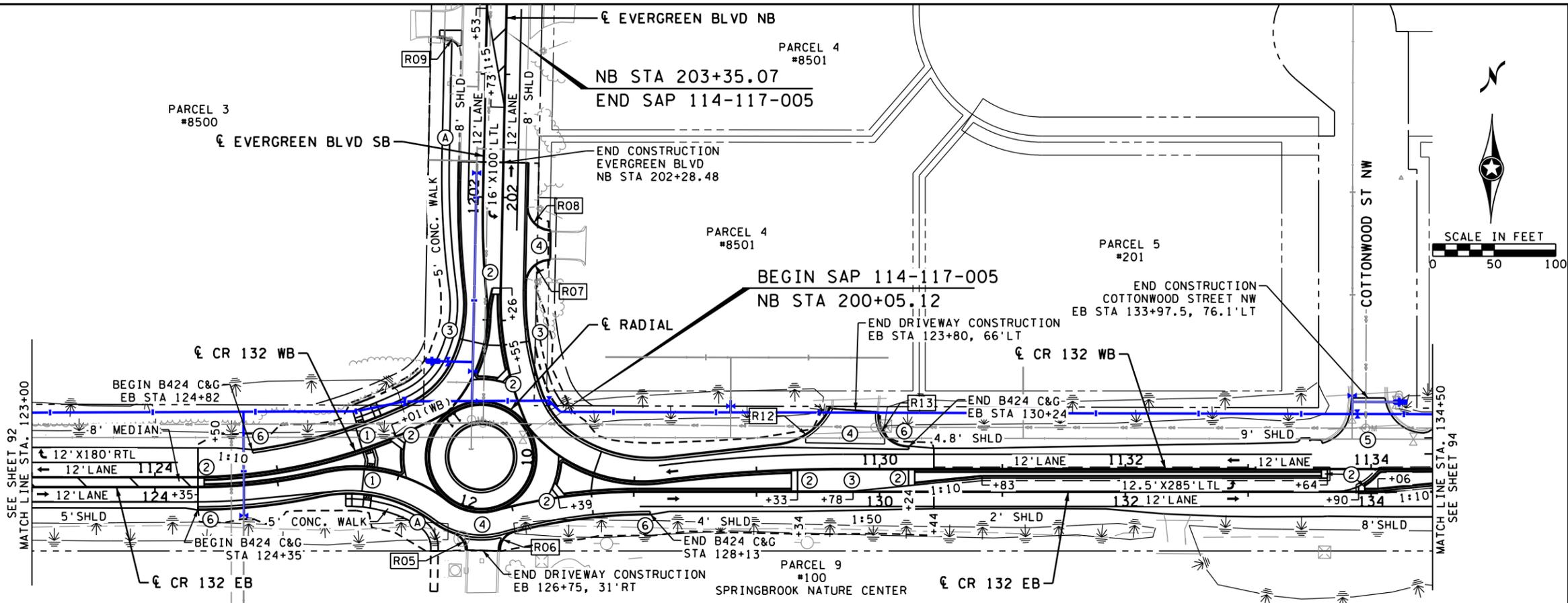
**CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements**
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 EB STA 112+31.21 TO EB STA 123+00
CONSTRUCTION PLAN & PROFILE
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
92
 OF
135
 SHEETS

1/5/2024 2:44:41 PM

WSB PATH & FILENAME: Projects\Minnesota\2024\CP\Plan\2024-000_cp02.dgn

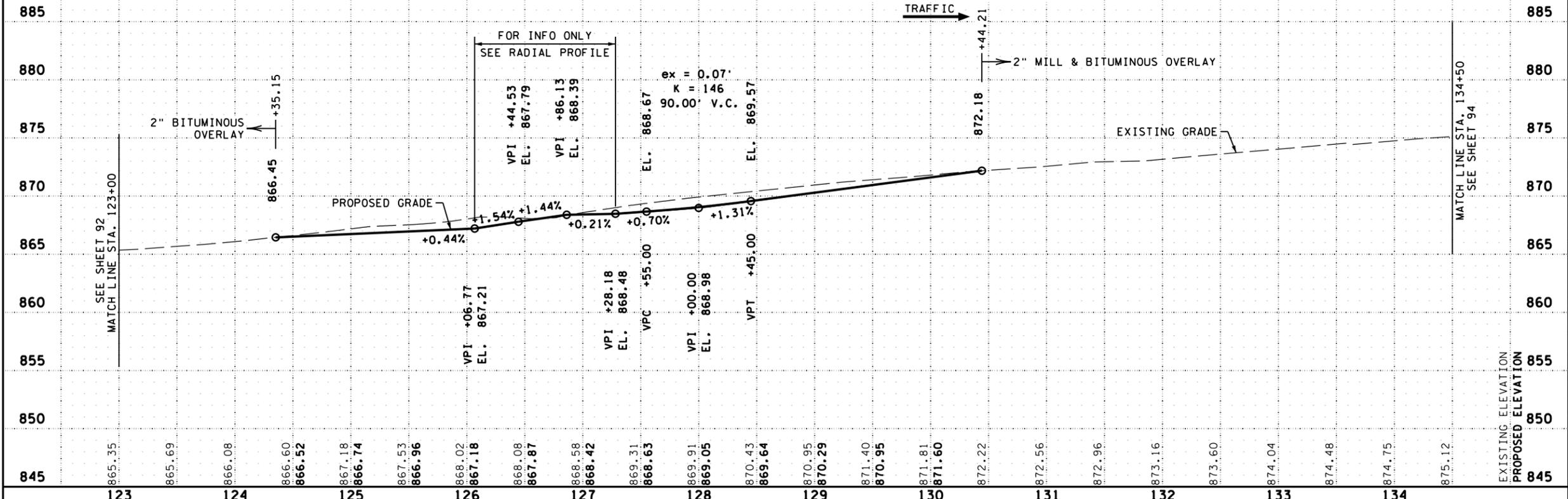


LEGEND

- ➔ TRAFFIC DIRECTION
- ① CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP WITH TRUNCATED DOMES. SEE PEDESTRIAN RAMP DETAILS.
- ② CONSTRUCT CONCRETE MEDIAN NOSE PER STANDARD PLAN 7113
- ③ CONSTRUCT DEPRESSED MEDIAN CURB AT DRIVEWAY, SEE MISCELLANEOUS DETAILS
- ④ SEE DRIVEWAY DETAILS FOR MORE INFORMATION
- ⑤ SEE INTERSECTION DETAILS FOR MORE INFORMATION
- ⑥ CONSTRUCT CURB TRANSITION, SEE MISCELLANEOUS DETAILS
- Ⓐ 4" CONCRETE WALK

- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

CR 132 Eastbound Profile



- ### GENERAL NOTES
1. CURB & GUTTER DES. B418 (MOD) (TIP OUT) USED FOR MEDIANS
 2. CURB & GUTTER DES. B424 USED FOR OUTSIDE LANES AND INSIDE TRUCK APRON ON ROUNDABOUT
 3. CURB & GUTTER DES. R418 USED FOR OUTSIDE TRUCK APRON ON ROUNDABOUT
 4. MEDIANS CONSTRUCTED WITH 4" CONCRETE WALK
 5. ALL LANE DIMENSIONS ARE FROM CENTERLINE TO LANE LINE OR FACE OF CURB.
 6. ALL SHOULDER DIMENSIONS ARE FROM LANE LINE TO FACE OF CURB (WHERE PRESENT) OR EDGE OF PAVEMENT.
 7. SEE DRIVEWAY DETAILS FOR ADDITIONAL INFORMATION AT DRIVEWAYS.
 8. SEE ALIGNMENT PLAN FOR CURVE DATA.
 9. SEE PAVING PLAN FOR REQUIRED PAVEMENT SECTIONS.
 10. SEE SHEET 100 -RAB3 FOR ROUNDABOUT INTERSECTION DETAILS.

VERTICAL CONTROL

ELEVATIONS FOR THIS PLAN ARE BASED ON NGVD 88 DATUM.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 1/5/2024 LICENSE #: 44200



CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

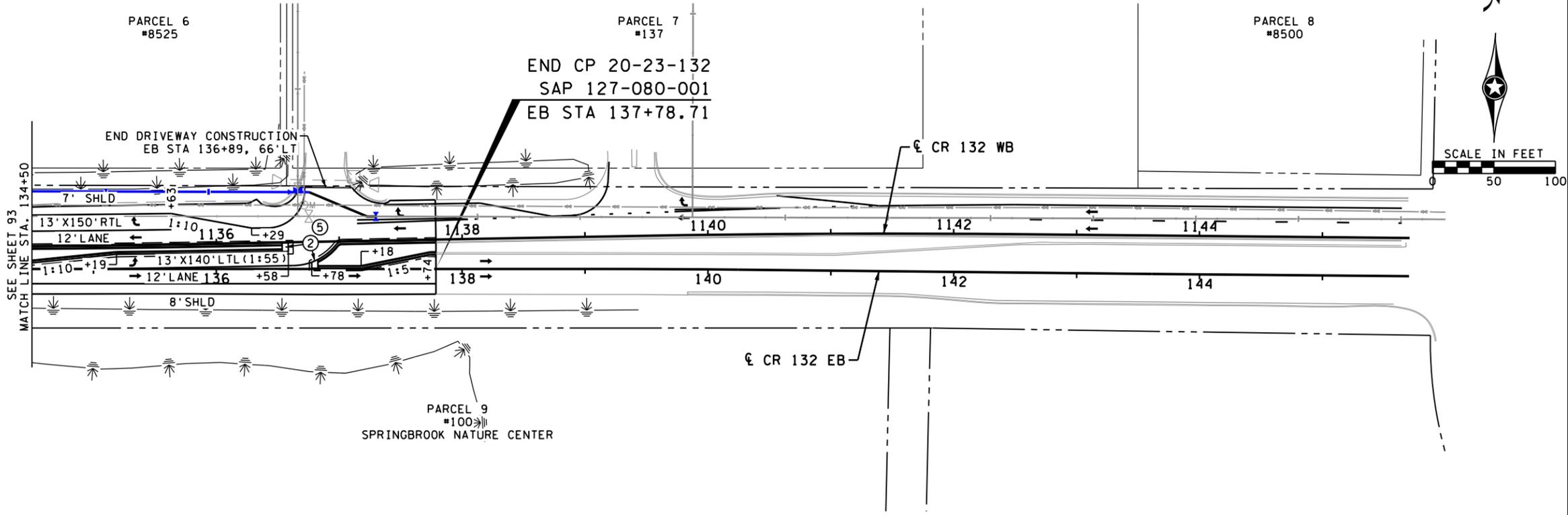
ANOKA COUNTY, MINNESOTA
 EB STA 132+00 TO EB STA 134+50
CONSTRUCTION PLAN & PROFILE
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **93**
 OF **135**
 SHEETS

PLOTTED/REVISED: 1/5/2024 2:44:53 PM

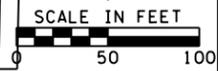
WSB PATH & FILENAME: Projects\Minnesota\0210204-000\000\Plan\210204-000_cp03.dgn

CR 132

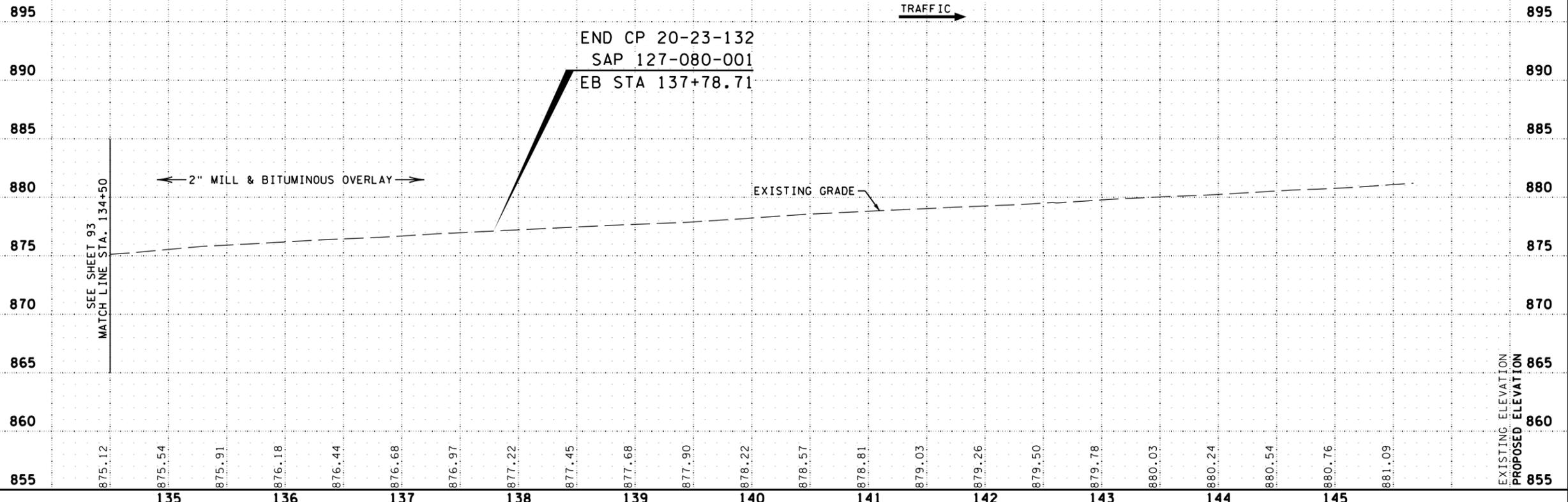


LEGEND

- ➔ TRAFFIC DIRECTION
- ① CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP WITH TRUNCATED DOMES. SEE PEDESTRIAN RAMP DETAILS.
- ② CONSTRUCT CONCRETE MEDIAN NOSE PER STANDARD PLAN 7113
- ③ CONSTRUCT DEPRESSED MEDIAN CURB AT DRIVEWAY, SEE MISCELLANEOUS DETAILS
- ④ SEE DRIVEWAY DETAILS FOR MORE INFORMATION
- ⑤ SEE INTERSECTION DETAILS FOR MORE INFORMATION
- ⑥ CONSTRUCT CURB TRANSITION, SEE MISCELLANEOUS DETAILS
- Ⓐ 4" CONCRETE WALK
- CONSTRUCTION LIMITS
- ▬ AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT



CR 132 Eastbound Profile



GENERAL NOTES

1. CURB & GUTTER DES. B418 (MOD) (TIP OUT) USED FOR MEDIANS
2. CURB & GUTTER DES. B424 USED FOR OUTSIDE LANES AND INSIDE TRUCK APRON ON ROUNDABOUT
3. CURB & GUTTER DES. R418 USED FOR OUTSIDE TRUCK APRON ON ROUNDABOUT
4. MEDIANS CONSTRUCTED WITH 4" CONCRETE WALK
5. ALL LANE DIMENSIONS ARE FROM CENTERLINE TO LANE LINE OR FACE OF CURB.
6. ALL SHOULDER DIMENSIONS ARE FROM LANE LINE TO FACE OF CURB (WHERE PRESENT) OR EDGE OF PAVEMENT.
7. SEE DRIVEWAY DETAILS FOR ADDITIONAL INFORMATION AT DRIVEWAYS.
8. SEE ALIGNMENT PLAN FOR CURVE DATA.
9. SEE PAVING PLAN FOR REQUIRED PAVEMENT SECTIONS.
10. SEE SHEET 100 -RAB3 FOR ROUNDABOUT INTERSECTION DETAILS.

VERTICAL CONTROL

ELEVATIONS FOR THIS PLAN ARE BASED ON NGVD 88 DATUM.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 1/5/2024 LICENSE #: 44200



**CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements**
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

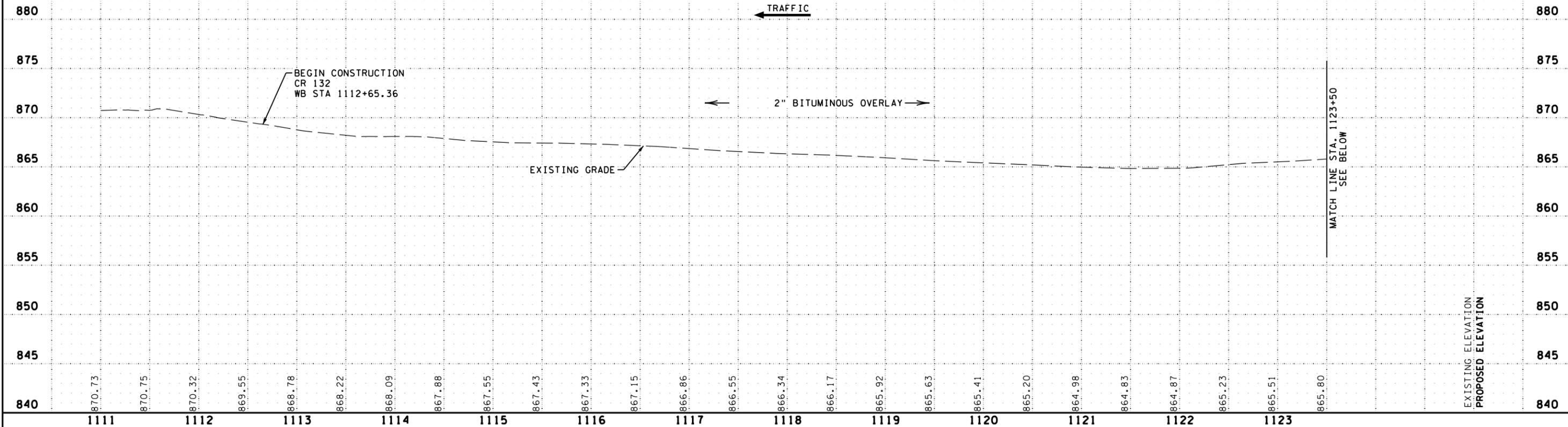
EB STA 134+50 TO EB STA 137+78.71

CONSTRUCTION PLAN & PROFILE
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

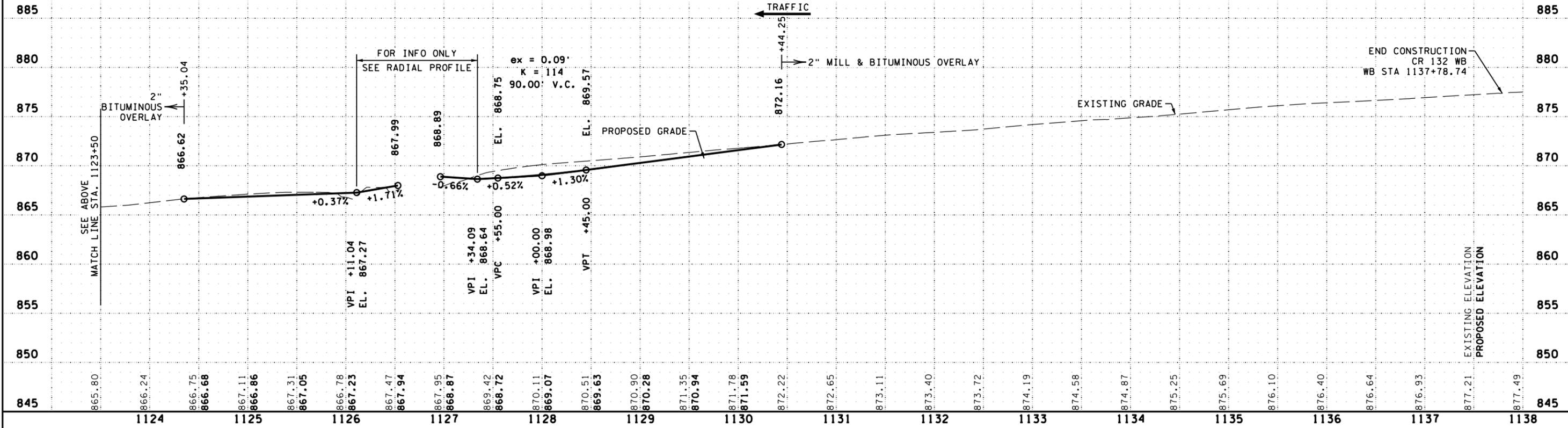
SHEET
94
 OF
135
 SHEETS

PLOTTED/REVISED: 1/5/2024 2:44:56 PM

CR 132 Westbound Profile



CR 132 Westbound Profile



WSB PATH & FILENAME: Projects\Minnesota\021204-000\000\Plan\21204-000_cp04.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 1/5/2024 LICENSE #: 44200



ANOKA COUNTY
 CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements
 Anoka County Highway Department

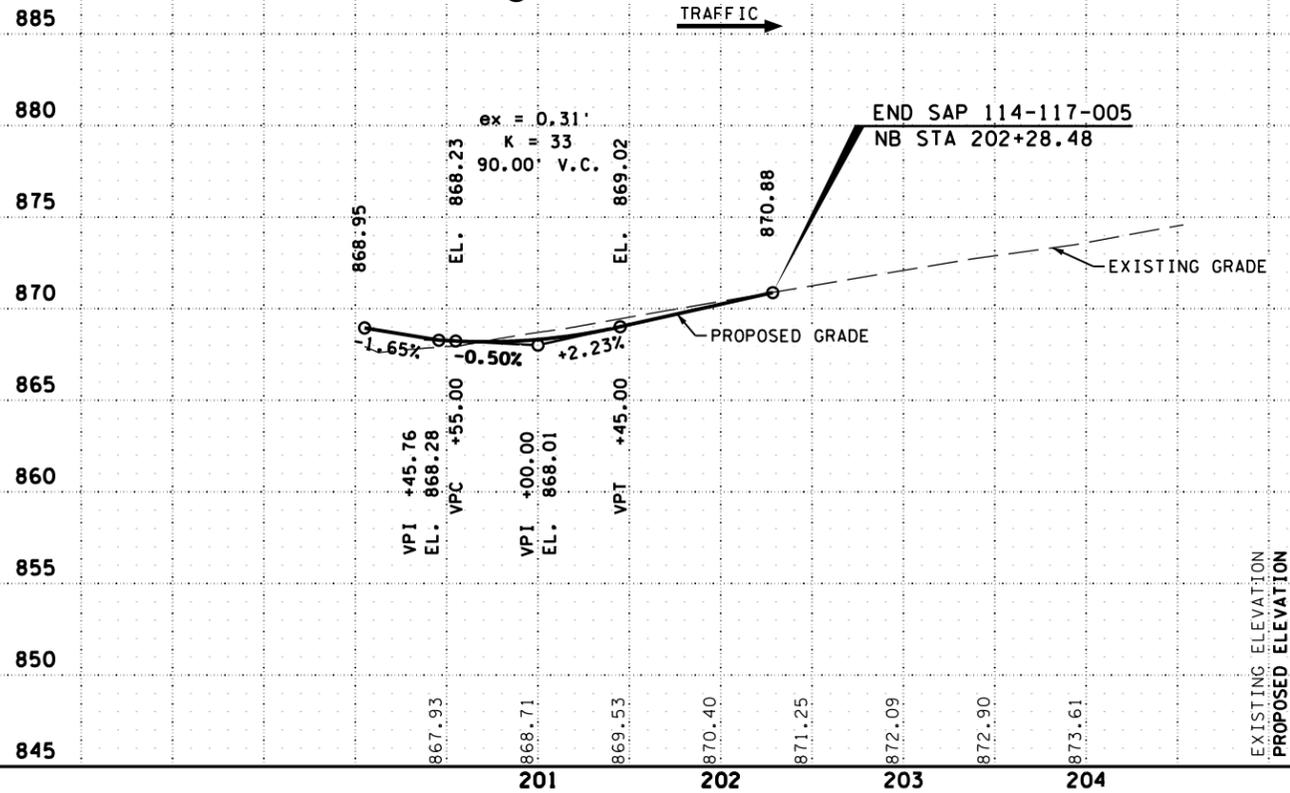
ANOKA COUNTY, MINNESOTA
 CR 132 WESTBOUND PROFILE
CONSTRUCTION PLAN & PROFILE
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
95
 OF
135
 SHEETS

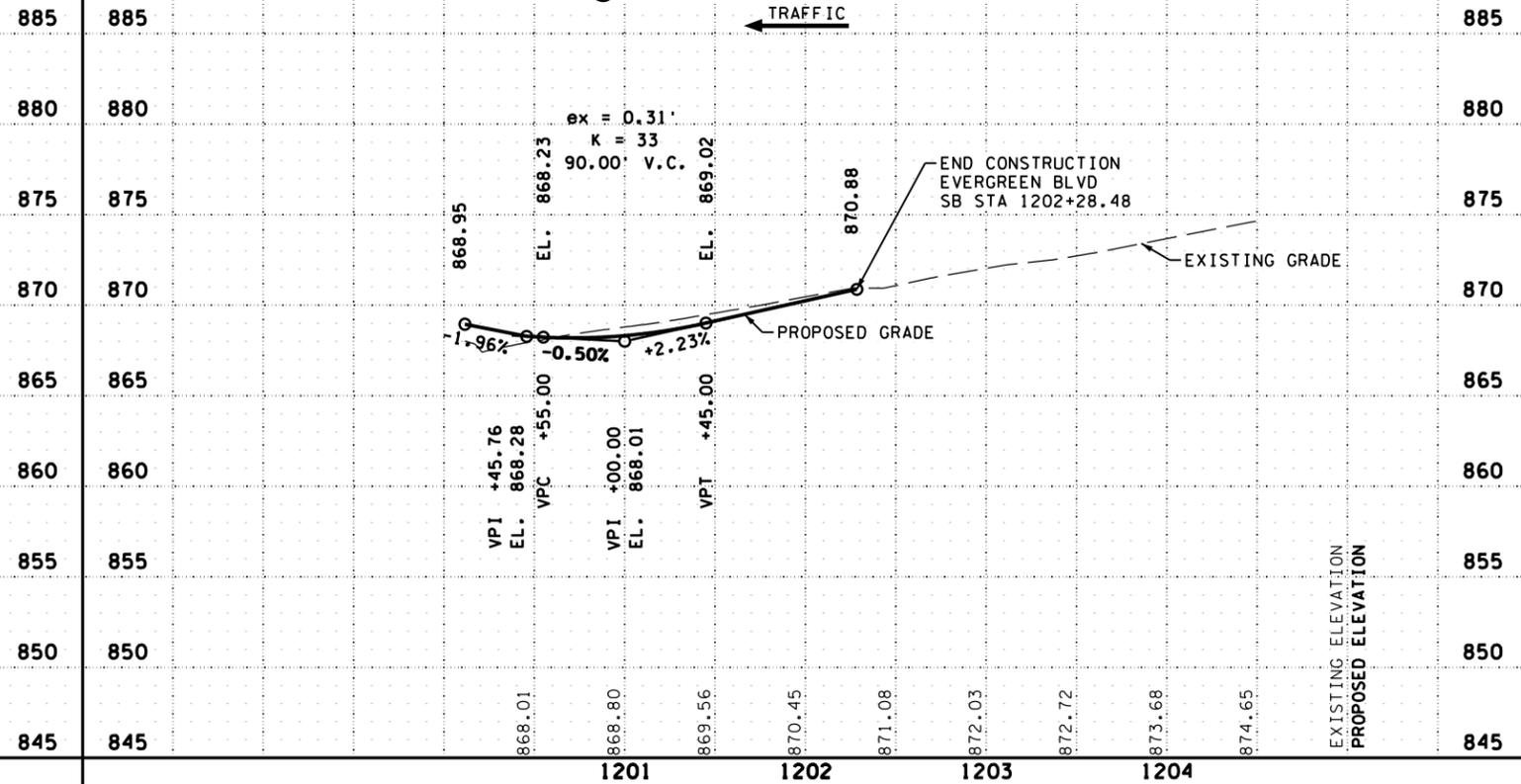
PLOTTED/REVISED: 1/5/2024 2:44:59 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\000\Plan\21204-000_cp05.dgn

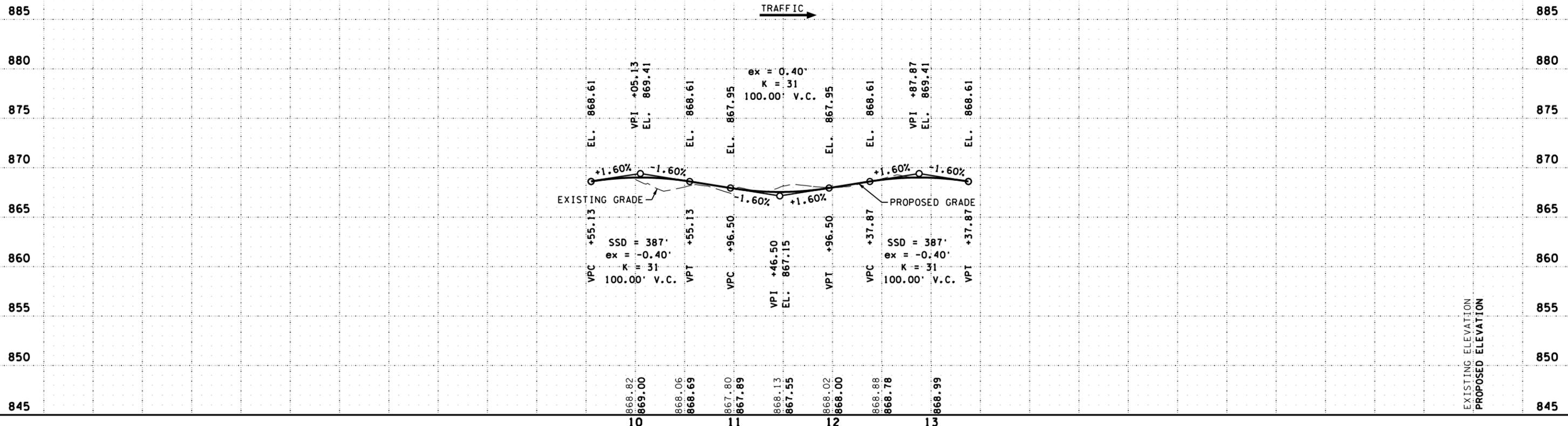
Evergreen Blvd Northbound Profile



Evergreen Blvd Southbound Profile



Radial Profile



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**

DATE: 1/5/2024 LICENSE #: 44200



CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 EVERGREEN BLVD & RADIAL PROFILES
CONSTRUCTION PLAN & PROFILE
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **96**
 OF **135**
 SHEETS

PLOTTED/REVISED: 1/5/2024 2:45:07 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\000\000\Plan\21204-000_000.dwg

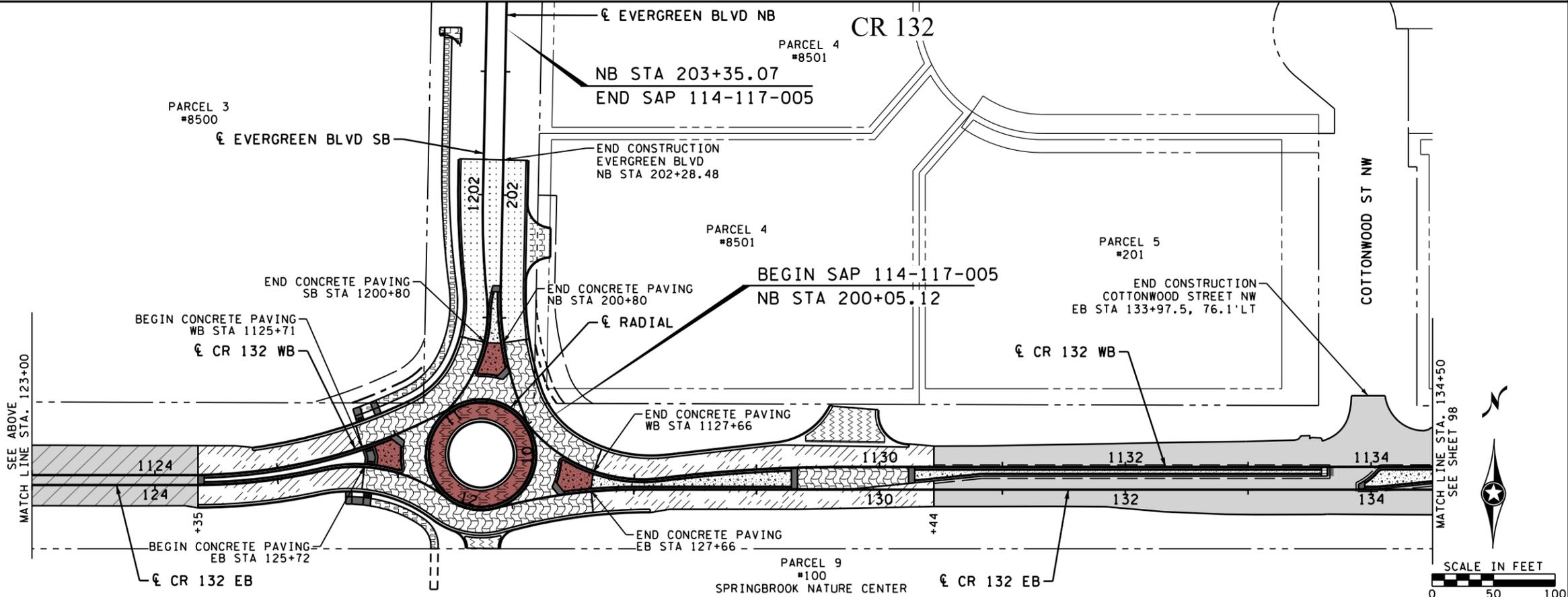
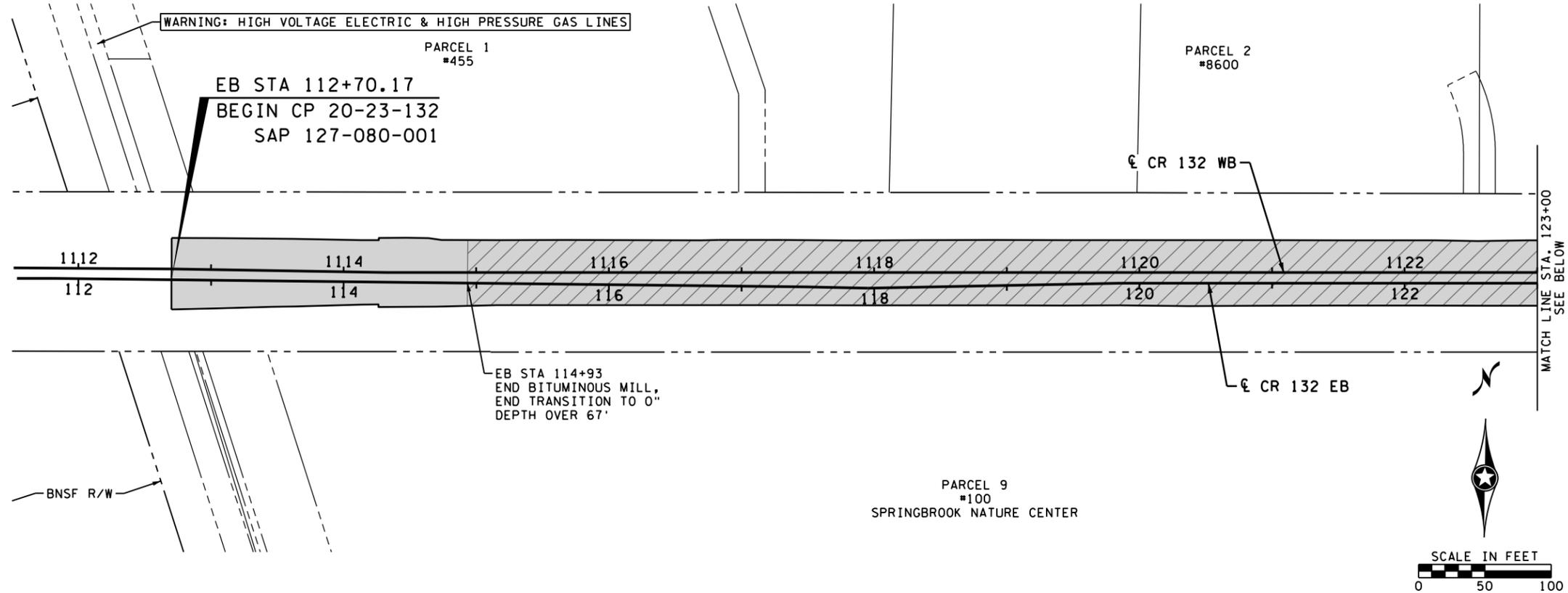
CR 132

LEGEND

-  INSET "A" - CR 132 BITUMINOUS PAVEMENT
-  INSET "B" - EVERGREEN BITUMINOUS PAVEMENT
-  INSET "C" - BITUMINOUS OVERLAY
-  INSET "D" - CONCRETE PAVEMENT 7.0"
-  INSET "E" - TRUCK APRON
-  INSET "F1" - 4" CONCRETE WALK (MEDIAN)
-  INSET "F2" - 4" CONCRETE WALK SPECIAL (MEDIAN)
-  INSET "G1" - 4" CONCRETE WALK
-  INSET "G2" - 6" CONCRETE WALK
-  INSET "H" - CONCRETE DRIVEWAY PAVEMENT
-  INSET "I" - BITUMINOUS DRIVEWAY

GENERAL NOTES

1. SEE SHEET 99 FOR JOINT DETAILING.



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 1/5/2024 LICENSE #: 44200



CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

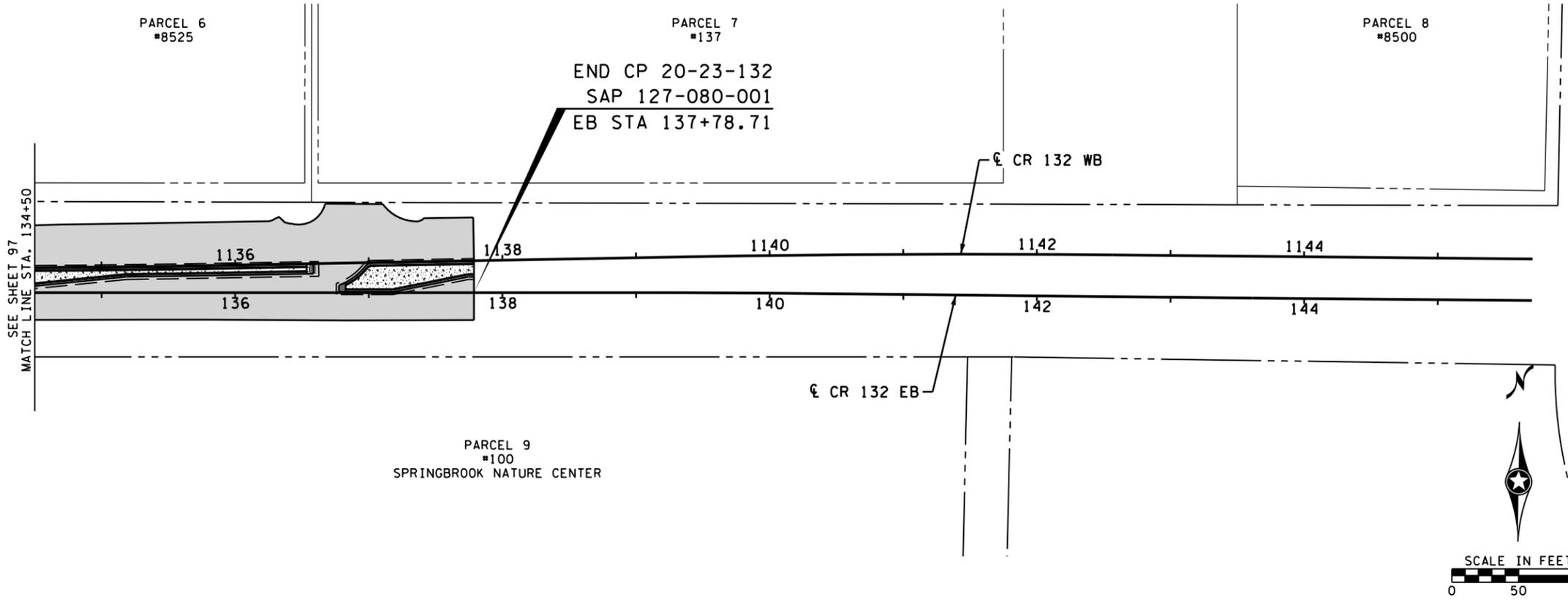
ANOKA COUNTY, MINNESOTA
 EB STA 112+31.21 TO EB STA 134+50
PAVING PLAN
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **97** OF **135** SHEETS

PLOTTED/REVISED: 1/5/2024 2:45:16 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\CoaPlan\21204-000_pav02.dgn

CR 132



LEGEND

- INSET "A" - CR 132 BITUMINOUS PAVEMENT
- INSET "B" - EVERGREEN BITUMINOUS PAVEMENT
- INSET "C" - BITUMINOUS OVERLAY
- INSET "D" - CONCRETE PAVEMENT 7.0"
- INSET "E" - TRUCK APRON
- INSET "F1" - 4" CONCRETE WALK (MEDIAN)
- INSET "F2" - 4" CONCRETE WALK SPECIAL (MEDIAN)
- INSET "G1" - 4" CONCRETE WALK
- INSET "G2" - 6" CONCRETE WALK
- INSET "H" - CONCRETE DRIVEWAY PAVEMENT
- INSET "I" - BITUMINOUS DRIVEWAY

GENERAL NOTES

1. SEE SHEET 99 FOR JOINT DETAILING.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP

Plan By: AJF

Checked By: AJP

Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN

DATE: 1/5/2024 LICENSE # 44200



**CR 132 (85th Ave) at Evergreen Blvd
Intersection Improvements**
Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

EB STA 134+50 TO EB STA 137+78.71

PAVING PLAN

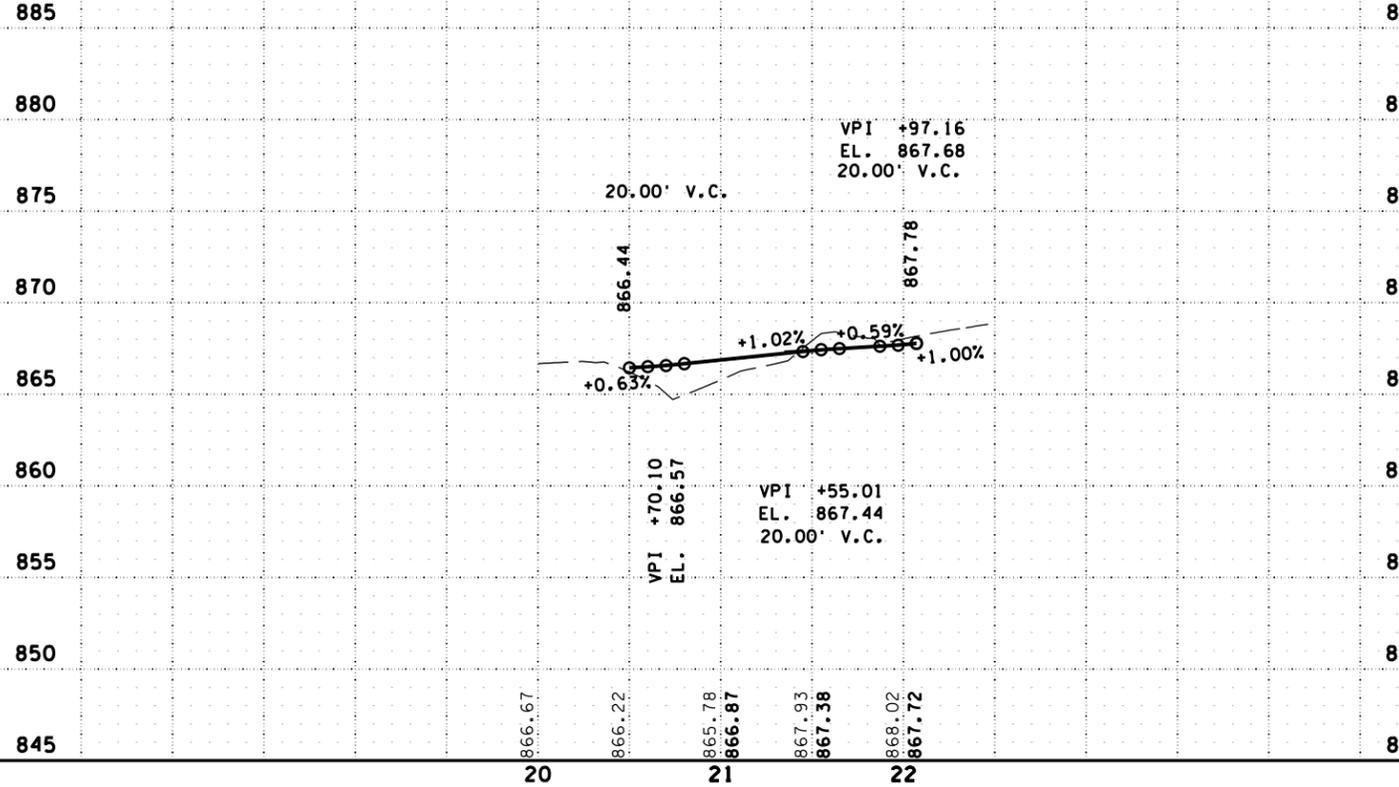
CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
98
OF
135
SHEETS

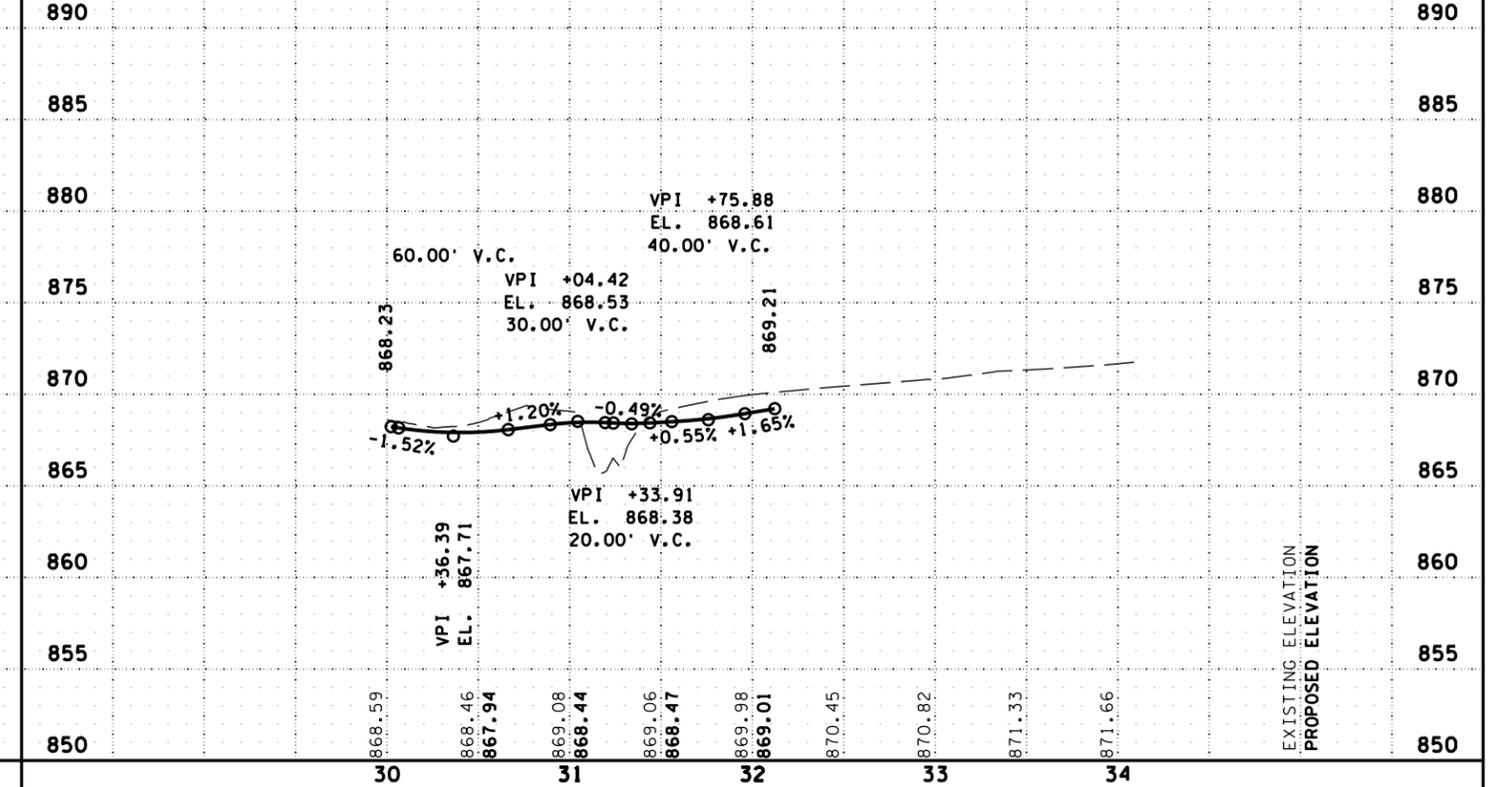
PLOTTED/REVISED: 1/5/2024 2:45:41 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\000\Plan\21204-000_rdb02.dgn

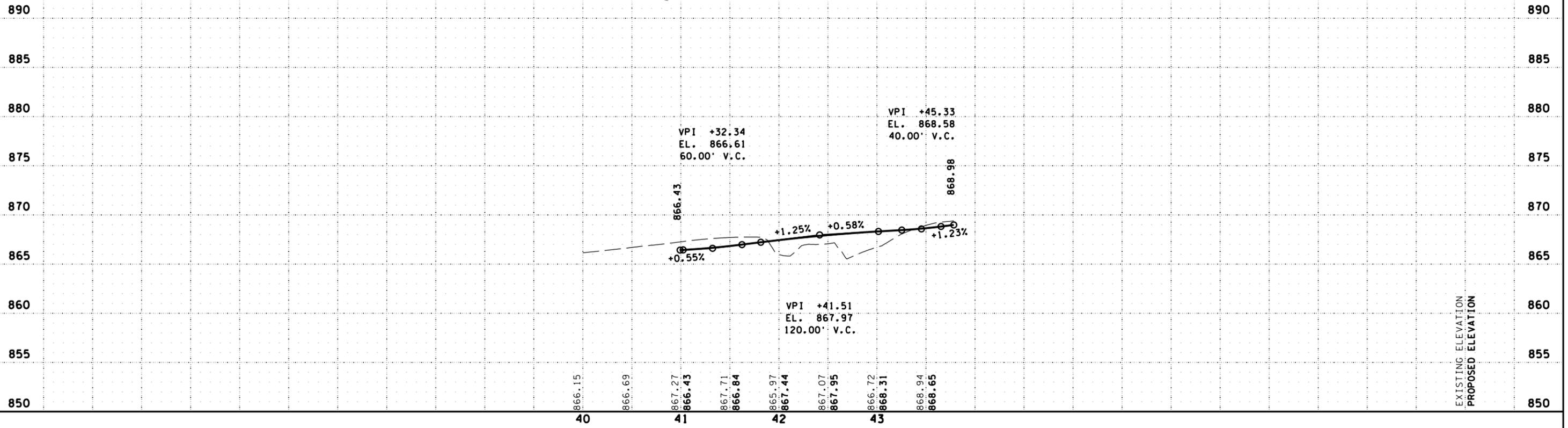
NW Quadrant Toe of Gutter Profile



NE Quadrant Toe of Gutter Profile



S Quadrant Toe of Gutter Profile



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 1/5/2024 LICENSE # 44200



ANOKA COUNTY

CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements

Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

QUADRANT PROFILES

ROUNDBOUT INTERSECTION DETAILS

CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET 101 OF 135 SHEETS

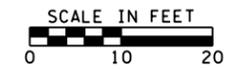
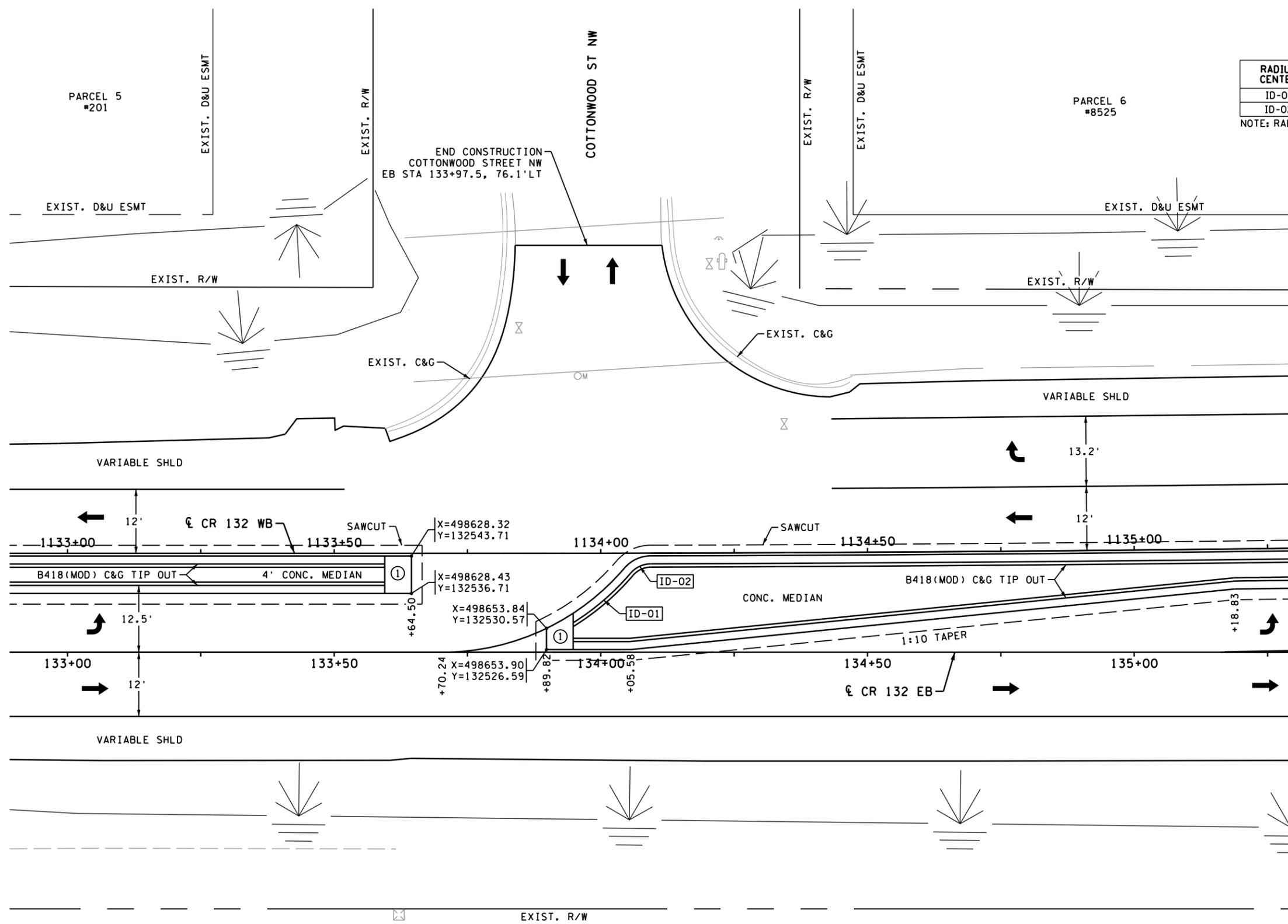
CR 132 at Cottonwood St NW

PLOTTED/REVISED: 1/5/2024 2:45:44 PM

WSB PATH & FILENAME: Projects\Minnesota\2024\CP\2024-000\CP\Plan\2024-000-100.dgn

RADIUS CENTER	X	Y	RADIUS
ID-01	498633.66	132570.79	46.5'
ID-02	498673.30	132537.91	5'

NOTE: RADIUS MEASURED TO FACE OF CURB.



- LEGEND**
- ① CONSTRUCT CONCRETE MEDIAN NOSE PER STANDARD PLAN 7113
 - ID-01 RADIUS CALLOUT

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 1/5/2024 LICENSE #: 44200



CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

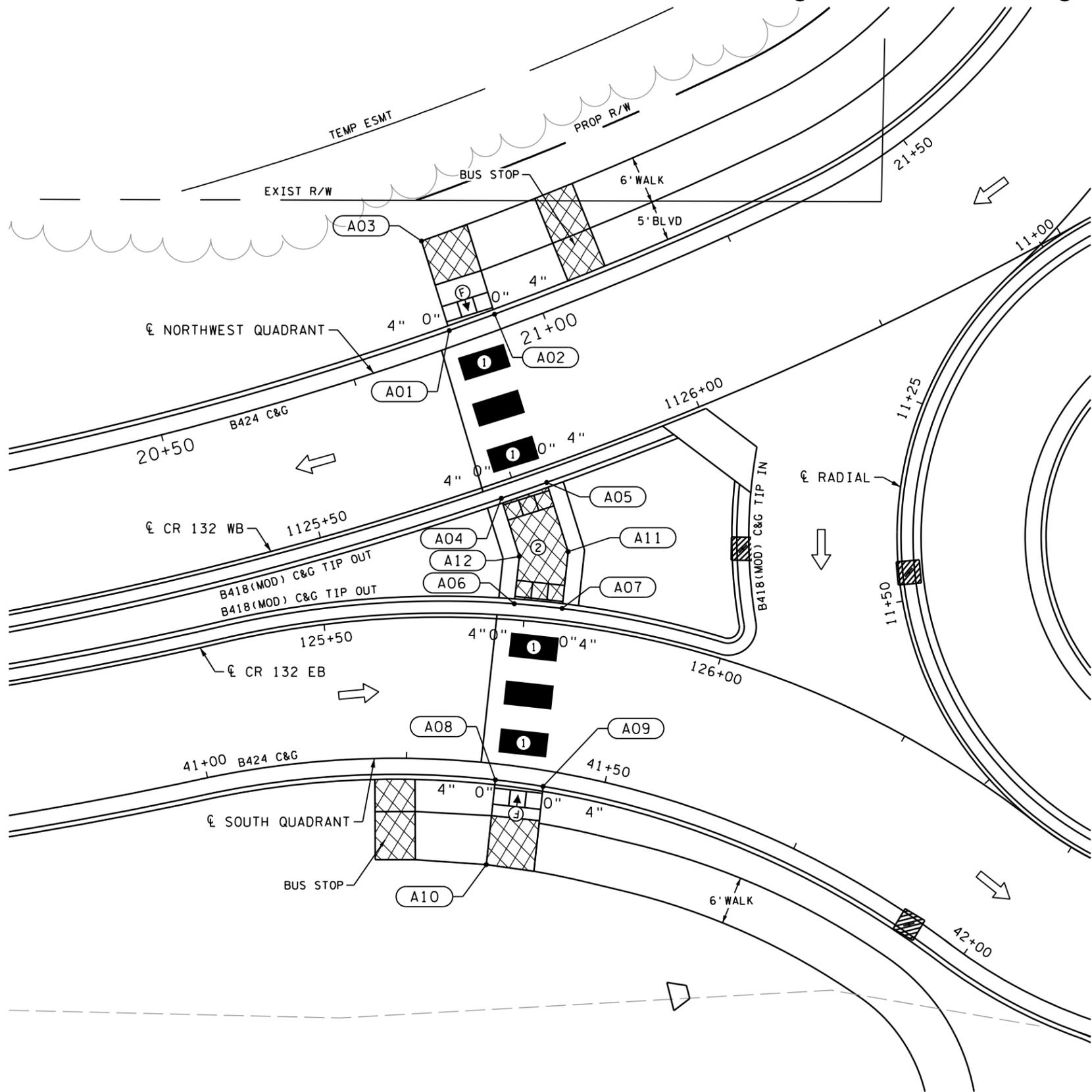
ANOKA COUNTY, MINNESOTA
 CR 132 AT COTTONWOOD ST NW
INTERSECTION DETAILS
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **102** OF **135** SHEETS

CR 132 at Evergreen Blvd NW West Leg

PLOTTED/REVISED: 1/5/2024 2:46:01 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\Cad\Plan\21204-000.dwg



CONTROL POINT	X	Y	Z
A01	497838.38	132568.08	866.67
A02	497844.00	132570.20	866.73
A03	497834.75	132579.18	-
A04	497845.18	132547.30	867.17
A05	497850.82	132549.36	867.19
A06	497846.99	132534.21	867.10
A07	497852.97	132533.71	867.13
A08	497844.97	132512.25	866.62
A09	497850.92	132511.52	866.68
A10	497843.99	132501.68	-
A11	497853.62	132540.79	-
A12	497847.53	132540.10	-

LEGEND

- TRAFFIC DIRECTION
- CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CURB HEIGHT
- CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS.
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND 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%.
- PEDESTRIAN CURB RAMP, SEE STANDARD PLANS
- DEPRESSED MEDIAN CROSSWALK, SEE MISC. DETAILS

GENERAL NOTES

- MAINTAIN A MINIMUM 4' WIDE PEDESTRIAN ACCESS ROUTE OBSTRUCTION TO OBSTRUCTION AND/OR OBSTRUCTION TO FAR EDGE OF WALK.
- THE CROSS SLOPE OF THE PEDESTRIAN ACCESS ROUTE SHALL NOT EXCEED 0.020 FT/FT
- PROVIDE A SAWCUT (INCIDENTAL) AT ALL CONCRETE WALK AND BITUMINOUS TRAIL REMOVAL LIMITS.
- ALL CURB RAMPS AND LANDING AREAS SHALL BE 6" CONCRETE WALK ON 4" AGGREGATE BASE CLASS 5.
- LANDINGS SHALL BE CONNECTED TO EXISTING SIDEWALKS MAINTAINING A 4' WIDE (MINIMUM) PEDESTRIAN ACCESS ROUTE WITH A CROSS SLOPE THAT DOES NOT EXCEED 0.020 FT/FT AND A RUNNING SLOPE THAT DOES NOT EXCEED 0.050 FT/FT.
- ALL DISTURBED AREAS IN CUT SECTION THAT ARE NOT OTHERWISE SURFACED SHALL BE GRADED FLUSH WITH NEW SURFACING AT A 1:6 SLOPE FOR A DISTANCE OF UP TO 5 FEET FROM THE EDGE OF WALK TO MATCH SURROUNDING CONTOURS.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 1/5/2024 LICENSE #: 44200



CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

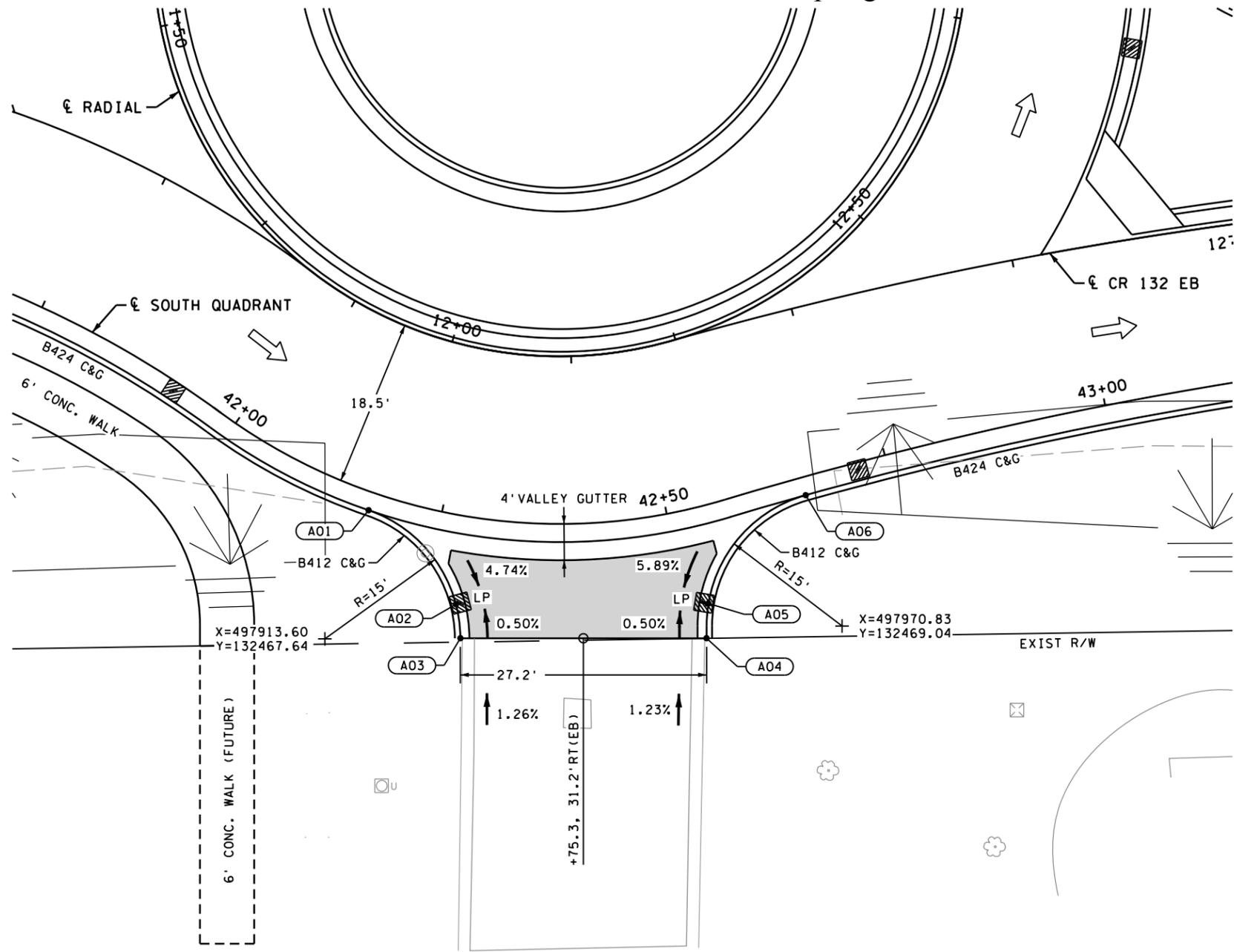
ANOKA COUNTY, MINNESOTA
PEDESTRIAN RAMP DETAILS
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **104** OF **135** SHEETS

PLOTTED/REVISED: 1/5/2024 2:46:09 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\000\000\Plan\21204-000.dwg

Springbrook Nature Center



CONTROL POINT	X	Y	Z
A01	497918.45	132481.83	867.51
A02	497928.11	132471.45	866.81
A03	497928.60	132467.70	866.83
A04	497955.53	132467.70	866.86
A05	497956.0402	132471.54	866.84
A06	497966.81	132483.49	867.95

PARCEL 9
#100
SPRINGBROOK NATURE CENTER

LEGEND	
	PROPOSED CATCH BASIN
	CONSTRUCT CONCRETE CURB AND GUTTER
	CONTROL POINT
	DRAINAGE FLOW ARROW
	CONCRETE PAVEMENT 7.0", SEE INSET ON SHEET 14
	BITUMINOUS DRIVEWAY, SEE INSET ON SHEET 14
	CONCRETE DRIVEWAY, SEE INSET ON SHEET 14



DRIVEWAY INFORMATION: _____ STA AT CENTER, OFFSET

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 1/5/2024 LICENSE #: 44200



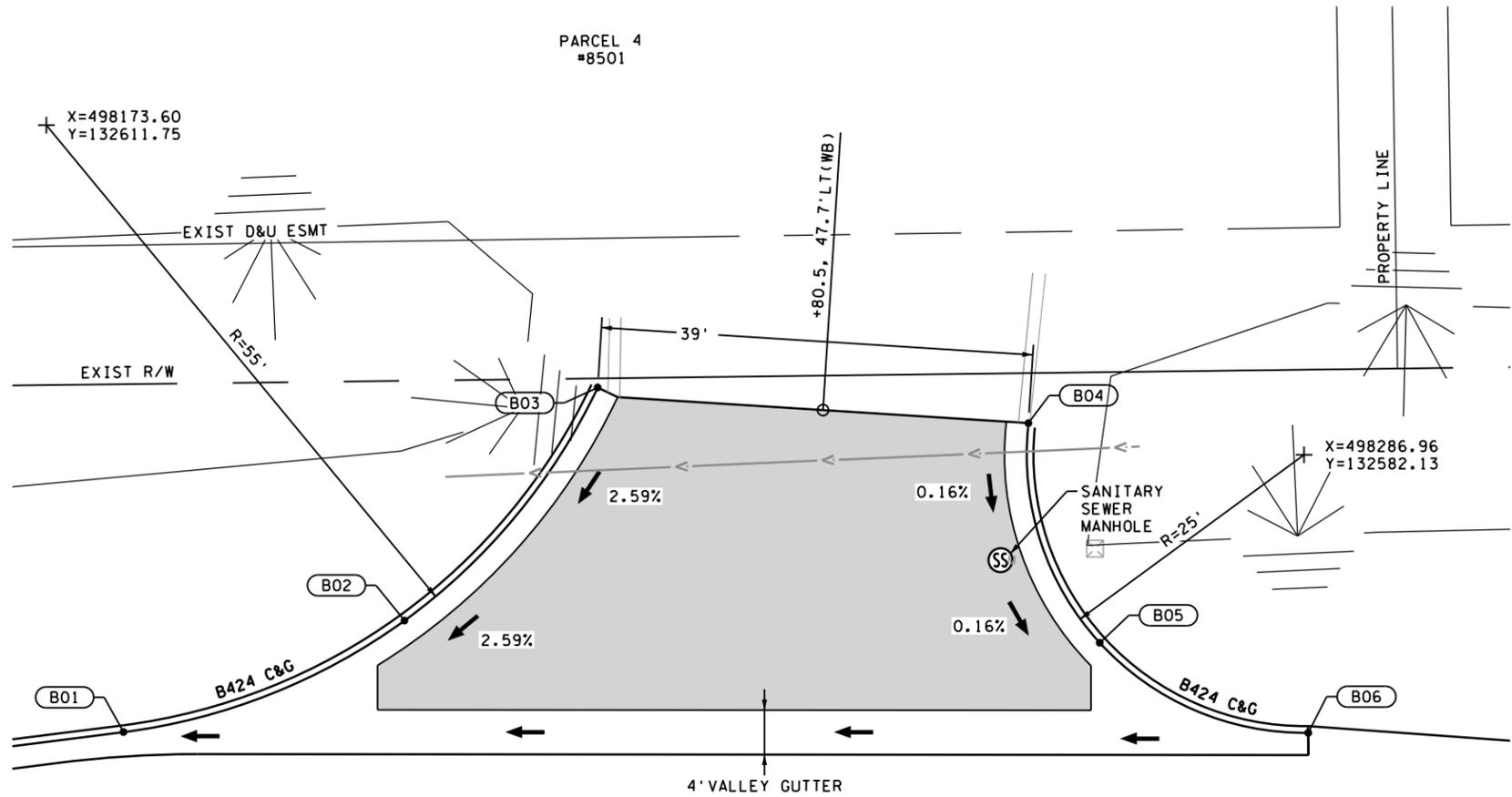
CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 SPRINGBROOK NATURE CENTER
DRIVEWAY DETAILS
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

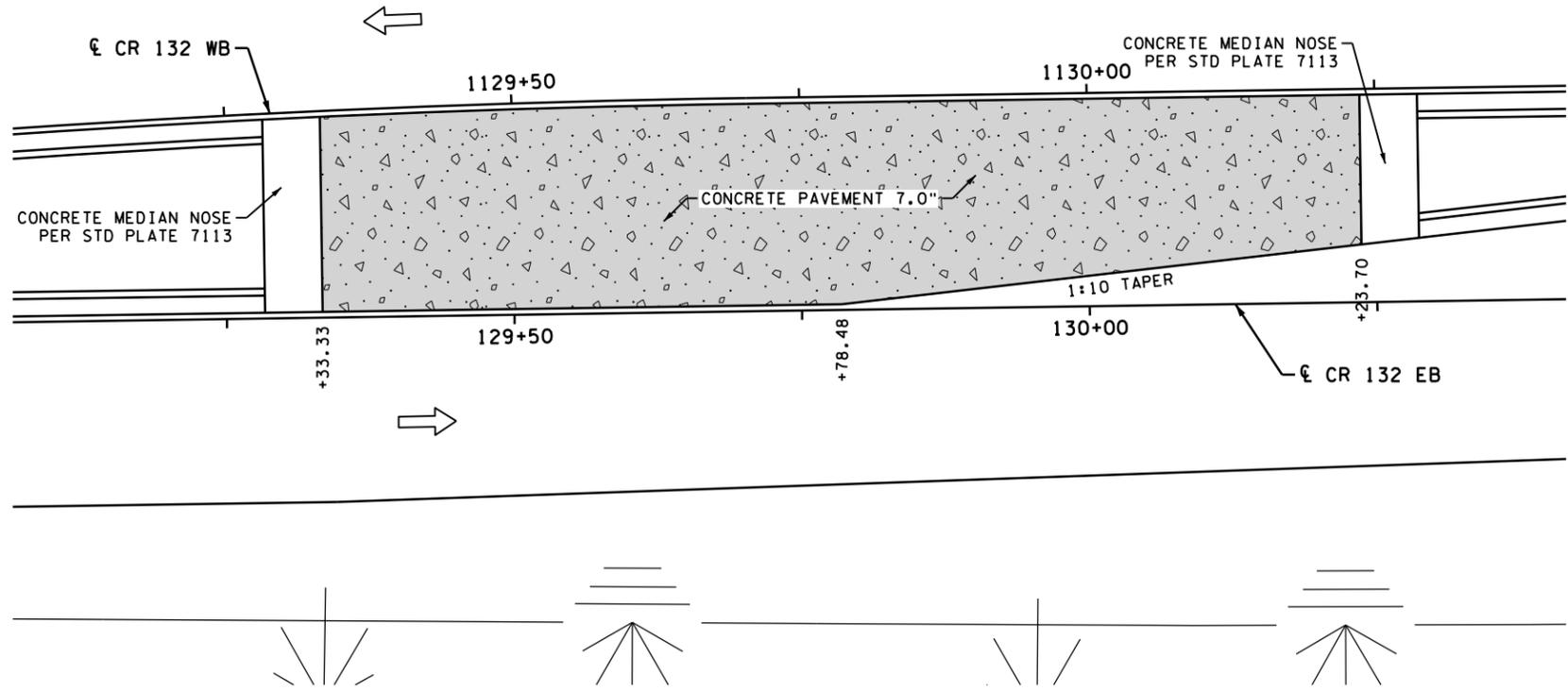
SHEET
105
 OF
135
 SHEETS

Parcel 4 (#8501) on CR 132

PARCEL 4
#8501



CONTROL POINT	X	Y	Z
B01	498180.69	132555.00	870.02
B02	498205.88	132567.22	870.73
B03	498223.29	132588.17	871.45
B04	498262.12	132584.97	871.53
B05	498268.54	132565.22	871.49
B06	498287.33	132557.13	871.46



LEGEND

- PROPOSED CATCH BASIN
- CONSTRUCT CONCRETE CURB AND GUTTER
- CONTROL POINT
- DRAINAGE FLOW ARROW
- CONCRETE PAVEMENT 7.0", SEE INSET ON SHEET 14
- BITUMINOUS DRIVEWAY, SEE INSET ON SHEET 14
- CONCRETE DRIVEWAY, SEE INSET ON SHEET 14

DRIVEWAY INFORMATION: _____ STA AT CENTER, OFFSET



PLOTTED/REVISED: 1/5/2024 2:46:05 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\000\000\Plan\21204-000.dwg

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
Plan By: AJP
Checked By: AJP
Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
DATE: 1/5/2024 LICENSE #: 44200



**CR 132 (85th Ave) at Evergreen Blvd
Intersection Improvements**
Anoka County Highway Department

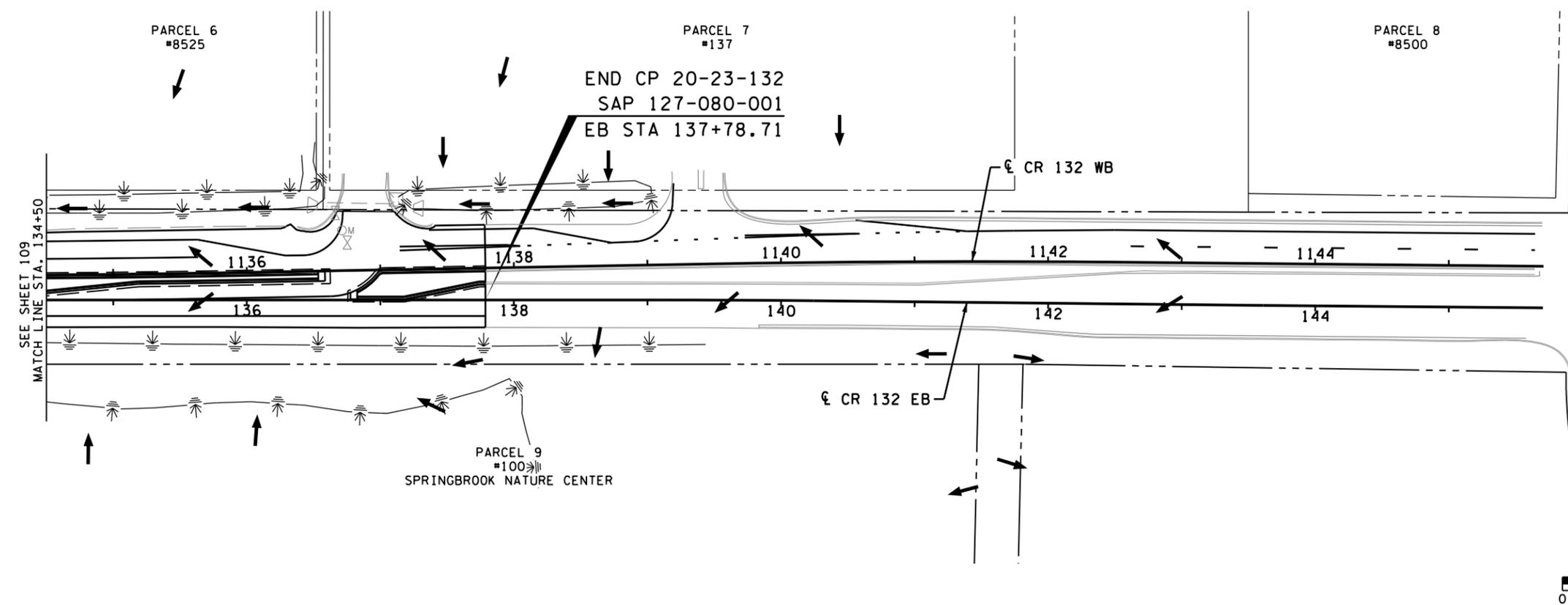
ANOKA COUNTY, MINNESOTA
PARCEL 4 (#8501) ON CR 132
DRIVEWAY DETAILS
CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
106
OF
135
SHEETS

PLOTTED/REVISED: 1/5/2024 2:46:38 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\Coop\Plan\21204-000_dp02.dgn

CR 132



LEGEND

- GUIDE POST TYPE B
- RANDOM RIPRAP
- CATCH BASIN
- MANHOLE
- DROP INLET
- APRON
- STRUCTURE
- SURFACE FLOW DIRECTION
- STORM SEWER PIPE
- CULVERT PIPE
- INPLACE STORM SEWER
- INPLACE CULVERT
- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

GENERAL NOTES

1. ALL DIMENSIONS ARE TO FACE OF CURB OR EDGE OF BITUMINOUS MAT UNLESS OTHERWISE NOTED.
2. SEE ROADWAY PROFILE FOR ALL HIGH AND LOW POINTS.



NO.	DATE	BY	CHK	REVISIONS

Design By: HGS
 Plan By: HGS
 Checked By: EAE
 Approved By: EAE

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

PRINT NAME: EARTH A. EVANS, PE
 DATE: 1/5/2024 LICENSE #: 44235

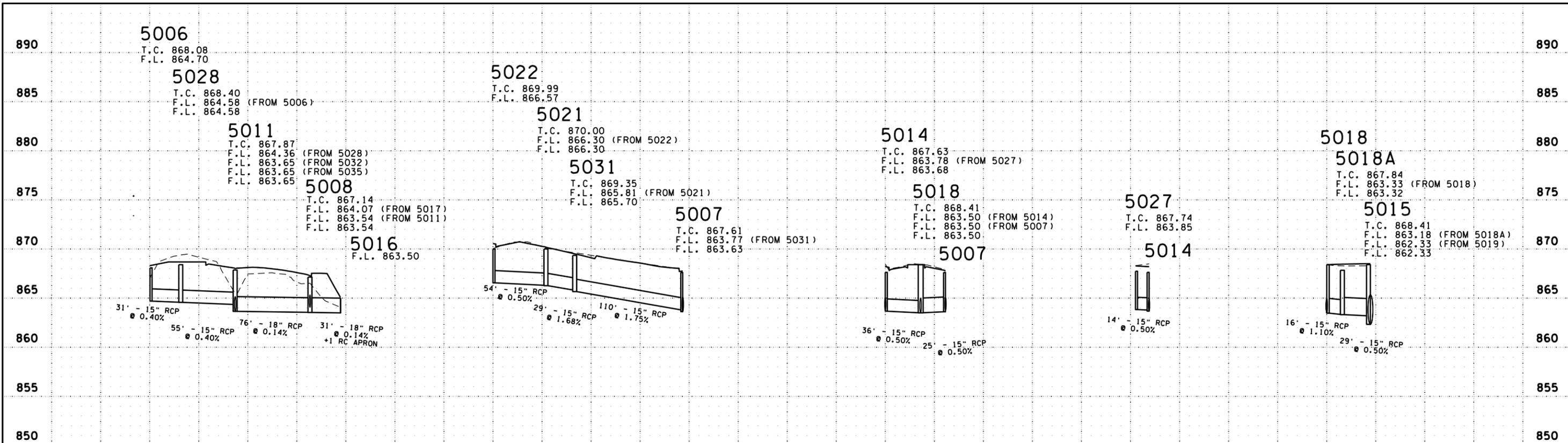


**CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements**
 Anoka County Highway Department

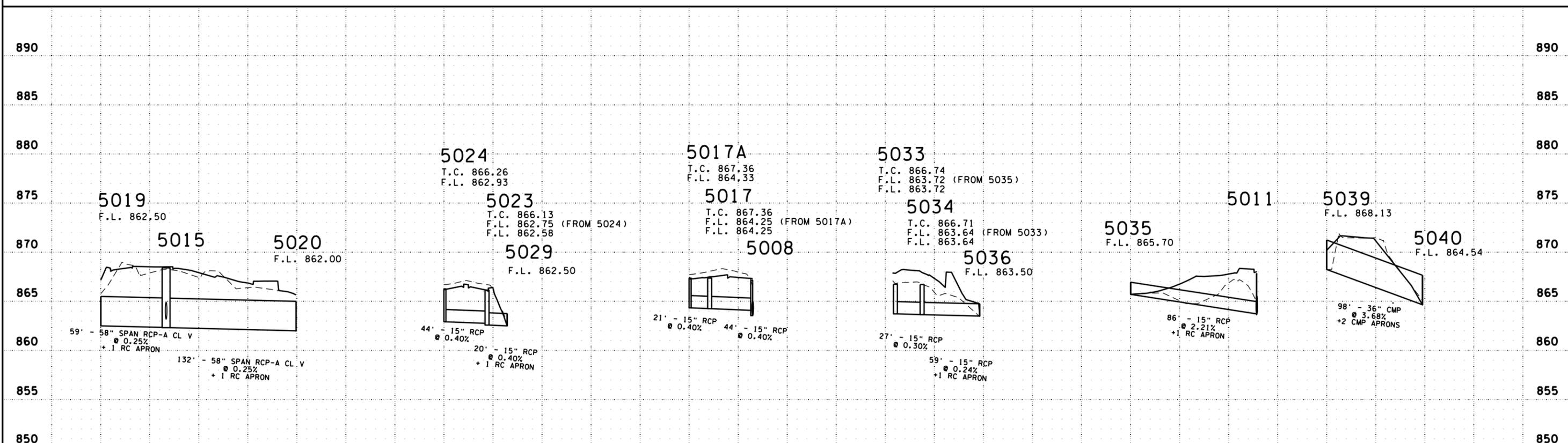
ANOKA COUNTY, MINNESOTA
 EB STA 134+50 TO EB STA 137+78.71
DRAINAGE PLAN
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
110
 OF
135
 SHEETS

PLOTTED/REVISED: 1/5/2024 2:46:46 PM



WSB PATH & FILENAME: Projects\Minnesota\021204-000\000\000\Plan\21204-000.dwg



NO.	DATE	BY	CHK	REVISIONS

Design By: HGS
 Plan By: HGS
 Checked By: EAE
 Approved By: EAE

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

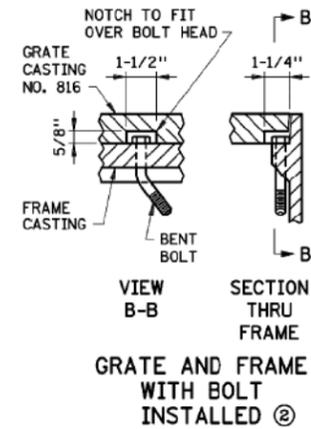
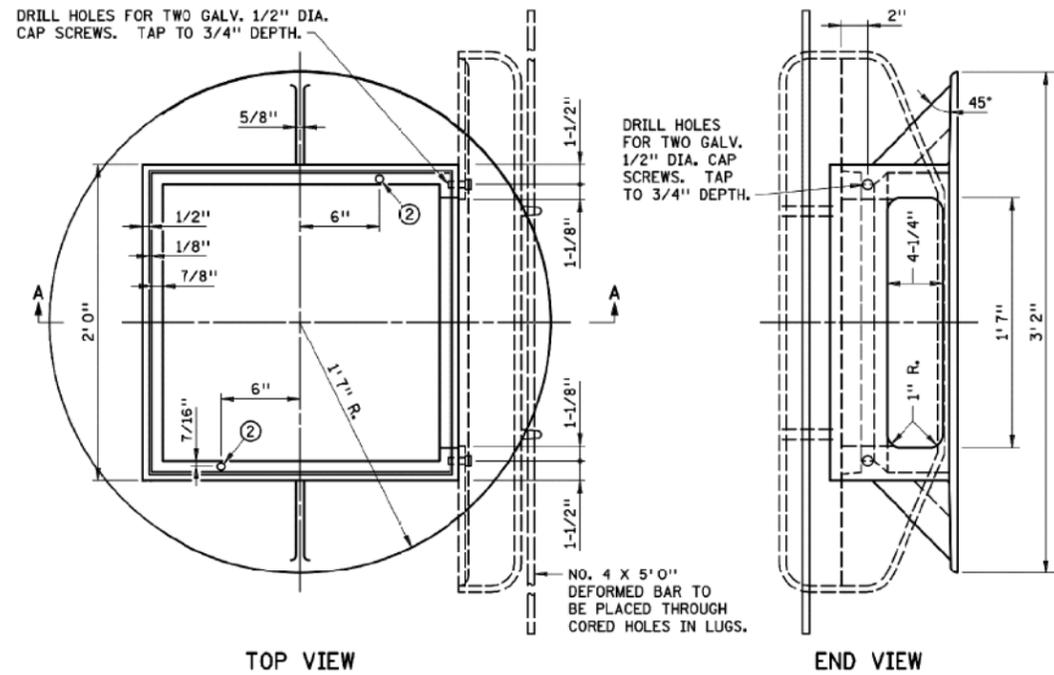
PRINT NAME: EARTH A. EVANS, PE
 DATE: 1/5/2024 LICENSE #: 44235



**CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements**
 Anoka County Highway Department

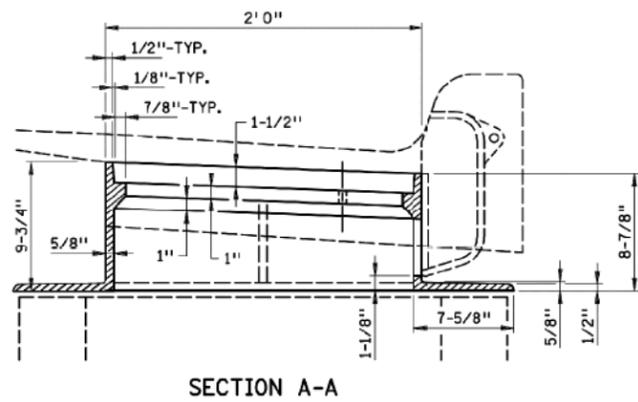
ANOKA COUNTY, MINNESOTA
 PROFILES
DRAINAGE PLAN
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
111
 OF
135
 SHEETS



TOP VIEW

END VIEW



SECTION A-A

CASTINGS USED FOR ASSEMBLY

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

NOTES:

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

NO.	DATE	BY	CHK	REVISIONS

Design By:	HGS	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: <u>EARTH A. EVANS, PE</u> DATE: <u>1/5/2024</u> LICENSE # <u>44235</u>
Plan By:	HGS	
Checked By:	EAE	
Approved By:	EAE	



CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 DETAILS
DRAINAGE PLAN
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **113** OF **135** SHEETS

PLOTTED/REVISED: 1/16/2024 8:53:56 AM

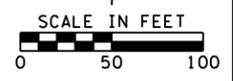
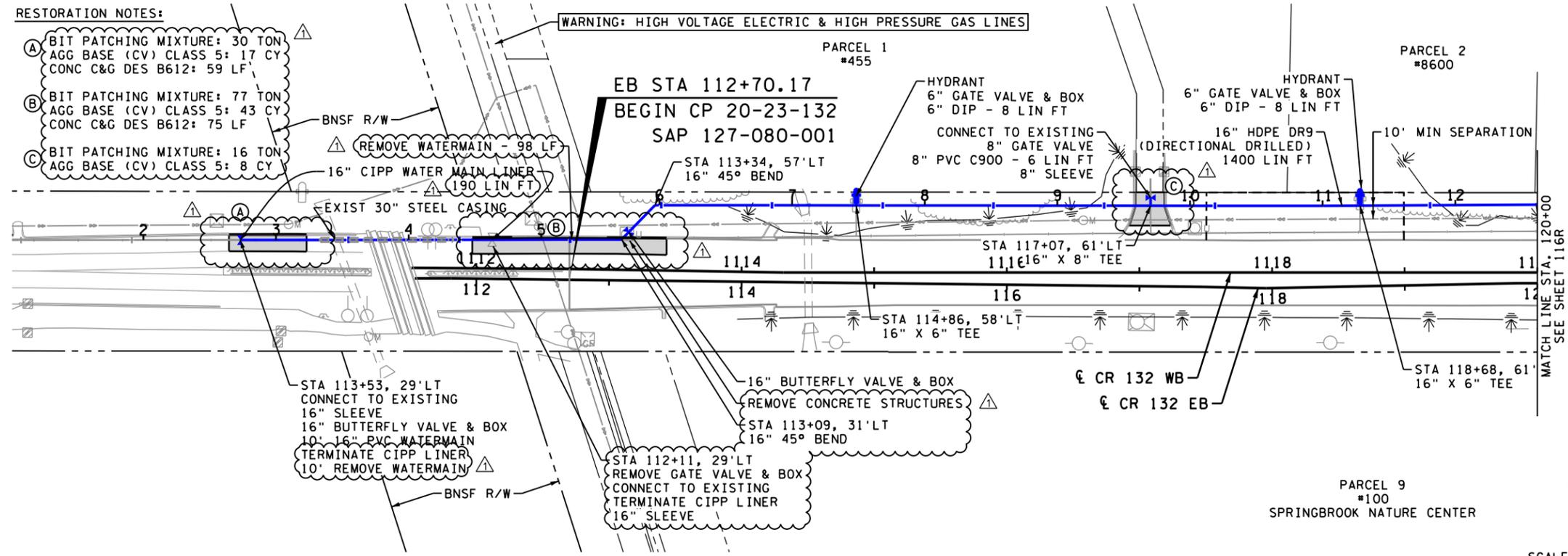
CR 132

LEGEND

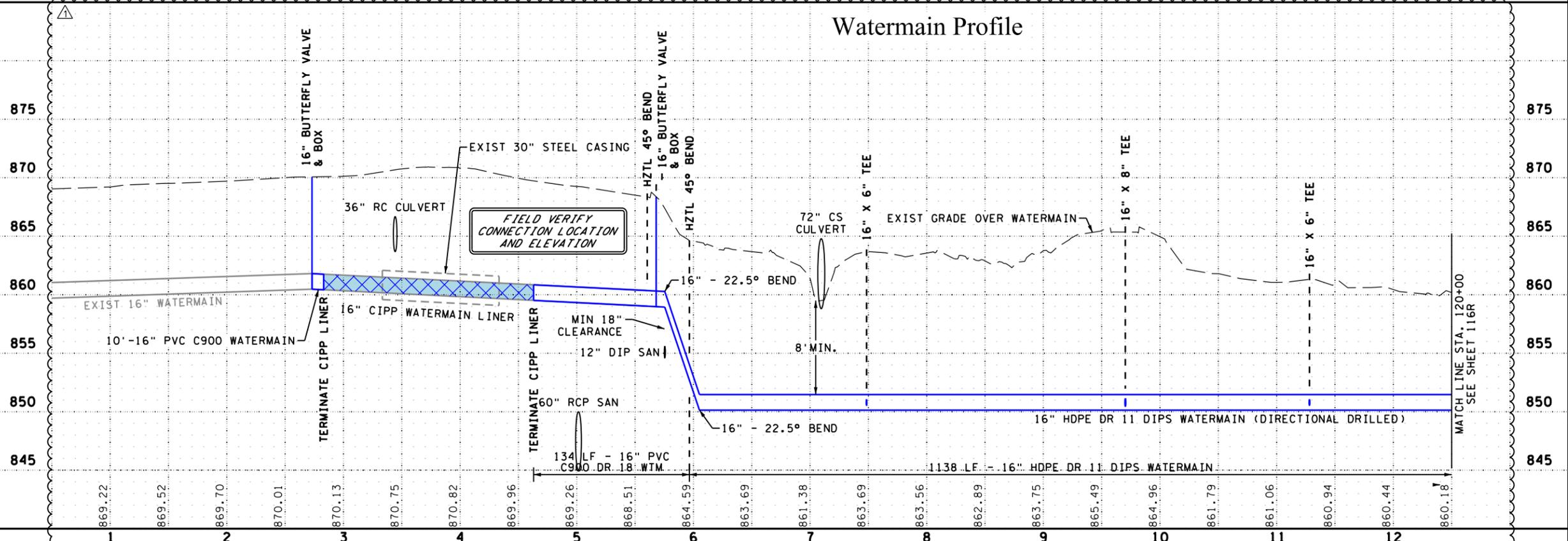
- HYDRANT
- GATE VALVE AND BOX
- WATERMAIN
- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

RESTORATION NOTES:

- (A) BIT PATCHING MIXTURE: 30 TON
AGG BASE (CV) CLASS 5: 17 CY
CONC C&G DES B612: 59 LF
- (B) BIT PATCHING MIXTURE: 77 TON
AGG BASE (CV) CLASS 5: 43 CY
CONC C&G DES B612: 75 LF
- (C) BIT PATCHING MIXTURE: 16 TON
AGG BASE (CV) CLASS 5: 8 CY



Watermain Profile



WSB PATH & FILENAME: Projects\Minnesota\021204-000\CR132\Plan\21204-000_wrd01.dgn

NO.	DATE	BY	CHK	REVISIONS
1	2024/01/10	AJF	AJP	UPDATES TO WATER MAIN CONSTRUCTION AND ROADWAY RESTORATIONS

DESIGN BY: AJP
 CHECKED BY: AJP
 APPROVED BY: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 1/16/2024 LICENSE #: 44200



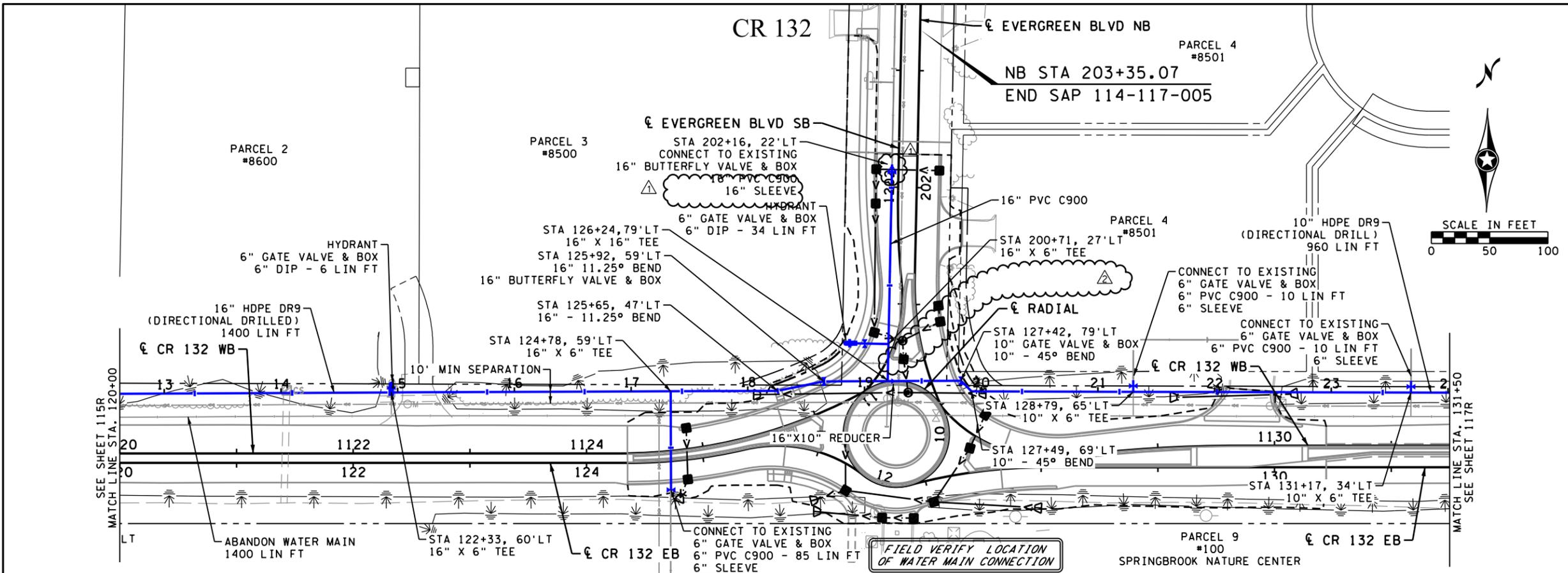
**CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements**
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 EB STA 112+31.21 TO EB STA 120+00
WATERMAIN PLAN
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
115R
 OF
135
 SHEETS

PLOTTED/REVISED: 1/16/2024 8:54:04 AM

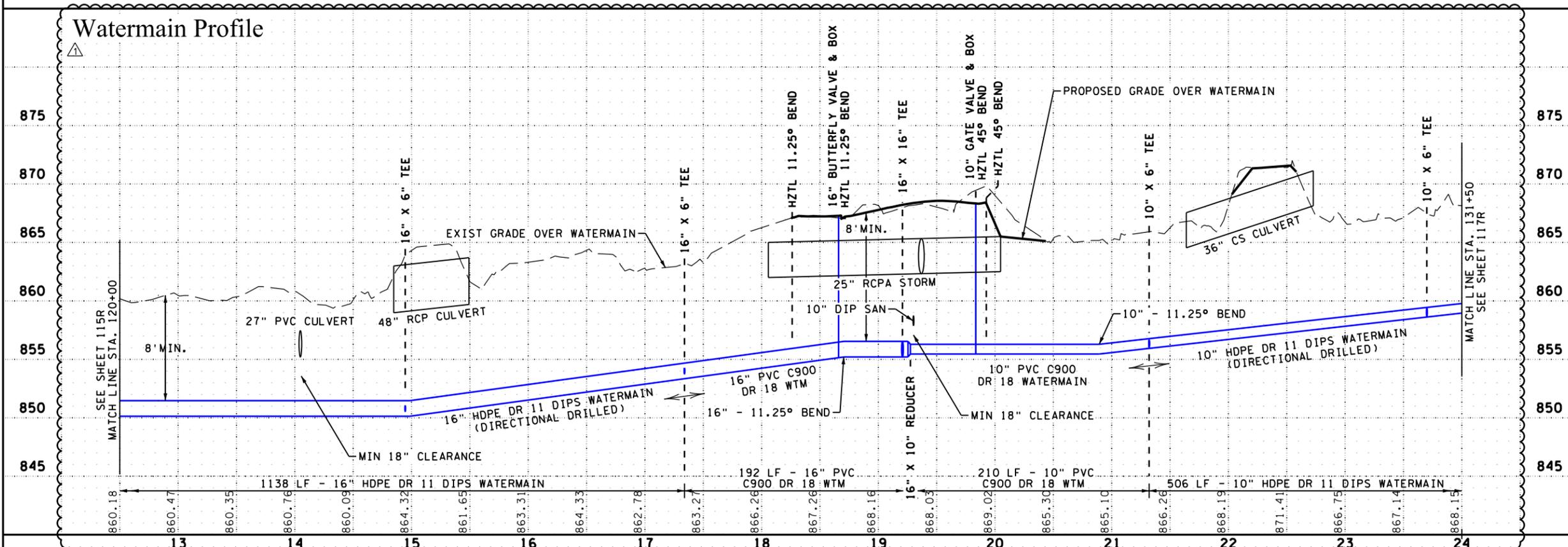
WSB PATH & FILENAME: Projects\Minnesota\021204-000\CD\Plan\21204-000_wrd02.dgn



LEGEND

- HYDRANT
- GATE VALVE AND BOX
- WATERMAIN
- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

SCALE IN FEET
0 50 100



NO.	DATE	BY	CHK	REVISIONS
1	2024/01/10	AJF	AJP	UPDATES TO WATER MAIN CONSTRUCTION AND ROADWAY RESTORATIONS
2	2024/01/10	AJF	AJP	REMOVE 16\"/>

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 1/16/2024 LICENSE #: 44200



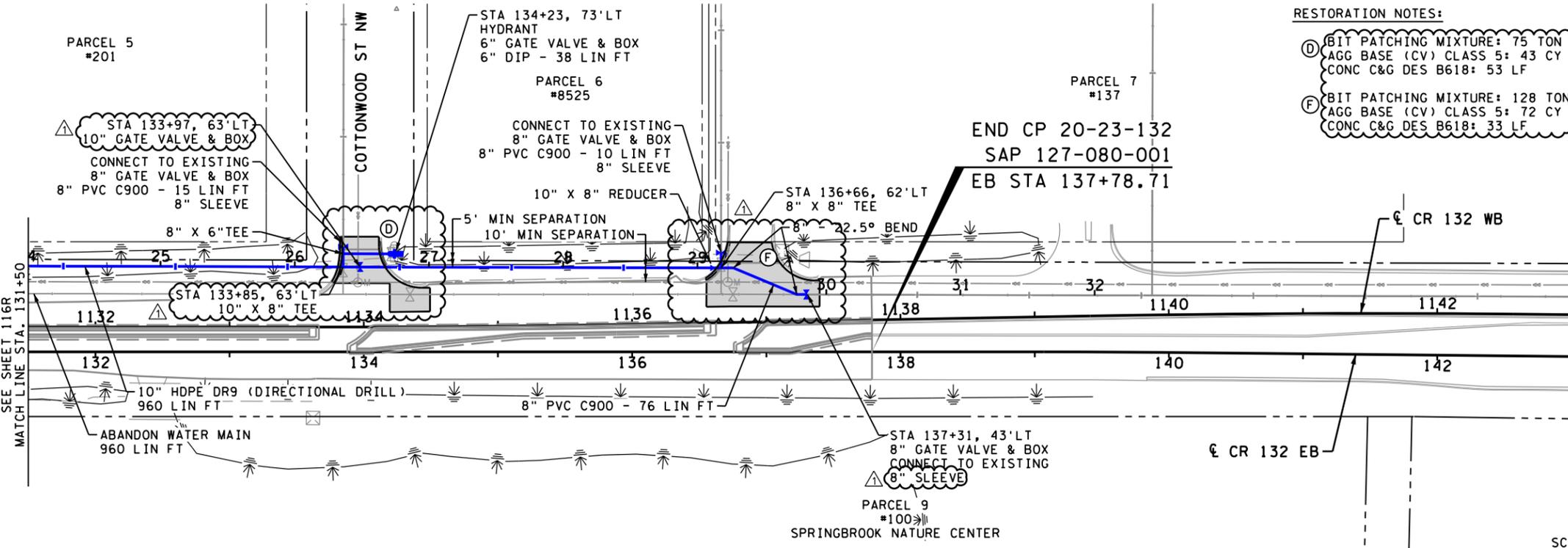
CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 EB STA 120+00 TO EB STA 131+50
WATERMAIN PLAN
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **116R** OF **135** SHEETS

PLOTTED/REVISED: 1/16/2024 8:54:2 AM

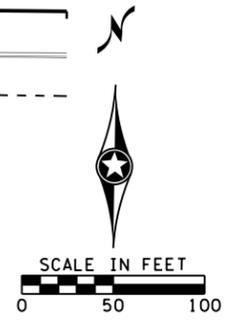
CR 132



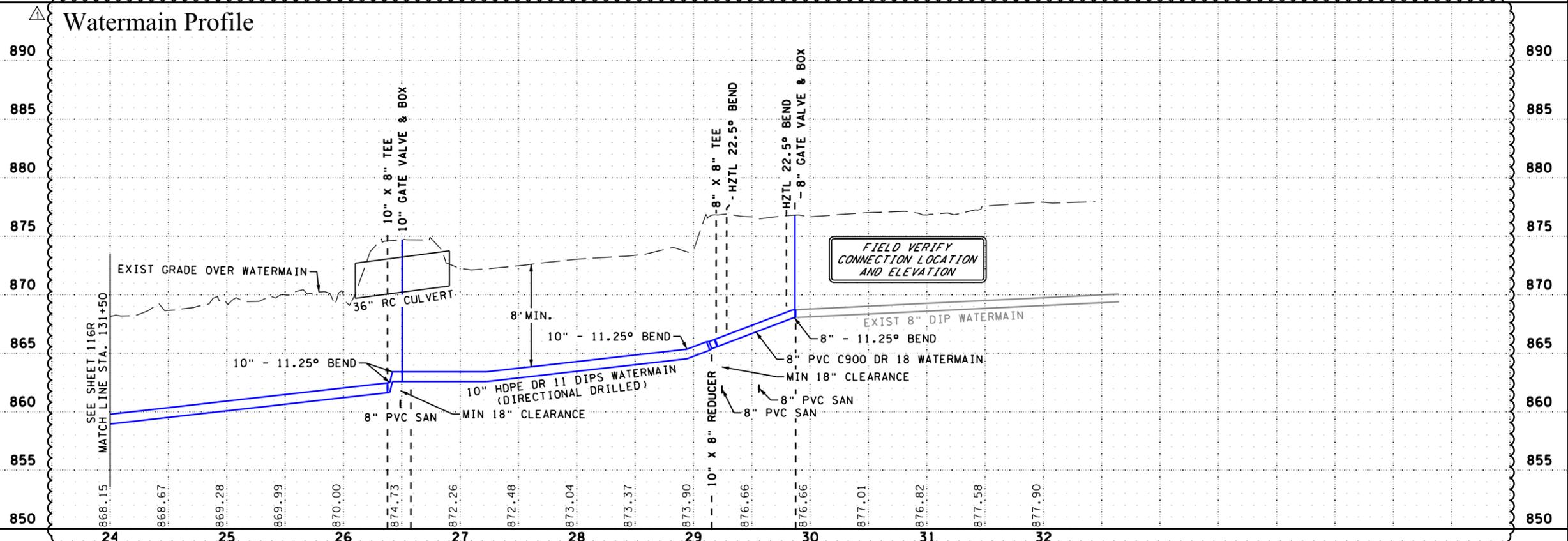
RESTORATION NOTES:

- (D) BIT PATCHING MIXTURE: 75 TON
AGG BASE (CV) CLASS 5: 43 CY
CONC C&G DES B618: 53 LF
- (F) BIT PATCHING MIXTURE: 128 TON
AGG BASE (CV) CLASS 5: 72 CY
CONC C&G DES B618: 33 LF

LEGEND	
	HYDRANT
	GATE VALVE AND BOX
	WATERMAIN
	CONSTRUCTION LIMITS
	AREA OF ENVIRONMENTAL SENSITIVITY
	INPLACE RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	TEMPORARY EASEMENT
	PERMANENT EASEMENT



Watermain Profile



NO.	DATE	BY	CHK	REVISIONS
1	2024/01/10	AJF	AJP	UPDATES TO WATER MAIN CONSTRUCTION AND ROADWAY RESTORATIONS

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

PRINT NAME: **ANDREW J. FLOWMAN**

DATE: 1/16/2024 LICENSE #: 44200



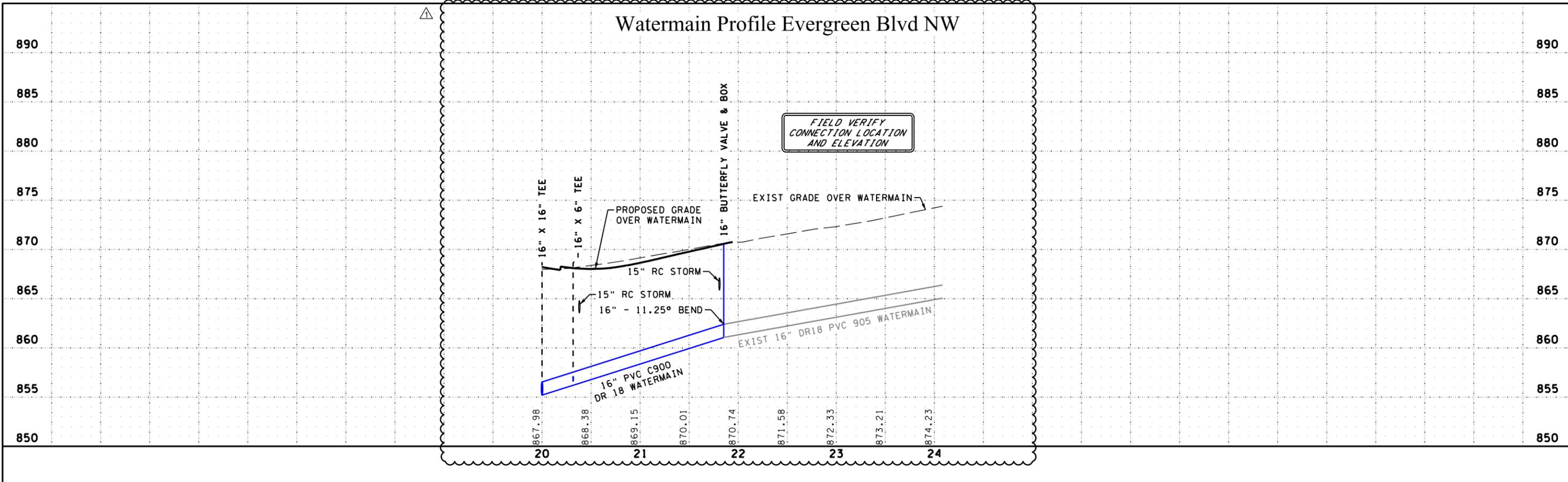
**CR 132 (85th Ave) at Evergreen Blvd
Intersection Improvements**
Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
EB STA 131+50 TO EB STA 137+78.71
WATERMAIN PLAN
CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
117R
OF
135
SHEETS

PLOTTED/REVISED: 1/16/2024 8:54:05 AM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\Cad\Plan\21204-000_wrd04.dgn



NO.	DATE	BY	CHK	REVISIONS
△	2024/01/10	AJF	AJP	UPDATES TO WATER MAIN CONSTRUCTION AND ROADWAY RESTORATIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 1/16/2024 LICENSE # 44200



**CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements**
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 PROFILE
WATERMAIN PLAN
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
118R
 OF
135
 SHEETS

SIGN NO.	SIGN AND DELINEATOR / MARKER					SUPPORT					DELINEATOR / MARKER PANEL	
	PANEL		SIZE (W X H)	MOUNTING HEIGHT	TYPE (1)	NO. OF POSTS	REMOVE SIGN	SIGN	SALVAGE SIGN	INSTALL SIGN		REMOVE DELINEATOR / MARKER
	CODE	LEGEND										
S-59	R6-1R	ONE WAY RIGHT	36 X 12									
	R1-1	STOP	30 X 30	7	U-SOIL	1		6.25				
	X4-3	CYLINDER DELINEATOR (WHITE)	6 X 9									
S-60	R3-2	NO LEFT TURN	24 X 24	7	U-SOIL	1		4.00				
S-61	W3-2	YIELD AHEAD	30 X 30	7	U-SOIL	1		6.25				
	W2-6	ROUNDBOUT	30 X 30					6.25				
S-62	W13-1P	15 MPH PLAQUE	18 X 18	7	U-SOIL	1		2.25				
(2) S-63	R3-4	NO U-TURN	24 X 24					4.00				
	R4-7	KEEP RIGHT	24 X 30	7	U-CONC	1		5.00				
	OM1-2	TYPE 1 OBJECT MARKER	18 X 18	4								1
S-64	R6-1R	ONE WAY RIGHT	36 X 12	7	U-CONC	1		3.00				
S-65	R1-2	YIELD	36 X 36 X 36					3.90				
	R6-1R	ONE WAY RIGHT	36 X 12	7	U-SOIL	1		3.00				
S-66	R6-1R	ONE WAY RIGHT	36 X 12	7	U-CONC	1		3.00				
S-67	R6-4A	ROUNDBOUT DIRECTIONAL	48 X 24	7	U-CONC	1		8.00				
	P3	EVERGREEN BLVD ARROW	66 X 24	7	U-CONC	1		11.00				
(2) S-68	R3-4	NO U-TURN	24 X 24					4.00				
	R4-7	KEEP RIGHT	24 X 30	7	U-CONC	1		5.00				
	OM1-2	TYPE 1 OBJECT MARKER	18 X 18	4								1
S-69	R1-1	STOP	30 X 30	7	U-SOIL	1		6.25				
	X4-3	CYLINDER DELINEATOR (WHITE)	6 X 9									1
S-70	R3-8AC	L-T	36 X 30	7	U-SOIL	1		7.50				
S-71	R6-1R	ONE WAY RIGHT	36 X 12					3.00				
	R1-2	YIELD	36 X 36 X 36	7	U-CONC	1		3.90				
S-72	R6-1R	ONE WAY RIGHT	36 X 12					3.00				
	R6-4A	ROUNDBOUT DIRECTIONAL	48 X 24	7	U-CONC	1		8.00				
S-73	R6-1R	ONE WAY RIGHT	36 X 12					3.00				
	R1-2	YIELD	36 X 36 X 36	7	U-SOIL	1		3.90				
S-74	M3-4	WEST (BLUE)	24 X 12					2.00				
	M1-6M	ANOKA COUNTY 132	24 X 24	7	U-SOIL	1		4.00				
	M6-2R	45 DEG ARROW RIGHT (BLUE)	21 X 15					2.19				
S-75	P1	85TH AVE ARROW	42 X 24	7	U-CONC	1		7.00				
S-76	W11-2	PEDESTRIAN CROSSING	30 X 30	7	U-CONC	1		6.25				
	W16-7PL	45 DEG ARROW RIGHT	24 X 12					2.00				
S-77	R1-6A	STOP FOR PEDS	12 X 36	1	U-CONC	1		3.00				
S-78	M3-4	WEST (BLUE)	24 X 12					2.00				
	M1-6M	ANOKA COUNTY 132	24 X 24	7	U-SOIL	1		4.00				
S-79	R3-7R MOD	RIGHT TURN LANE	30 X 30	7	U-SOIL	1		6.25				
S-80	R3-7L MOD	LEFT TURN LANE	30 X 30	7	U-CONC	1		6.25				
S-81	R3-4	NO U-TURN	24 X 24					4.00				
	R4-7	KEEP RIGHT	24 X 30	7	U-CONC	1		5.00				
	OM1-2	TYPE 1 OBJECT MARKER	18 X 18	4								1
S-82	R3-4	NO U-TURN	24 X 24					4.00				
	R4-7	KEEP RIGHT	24 X 30	7	U-CONC	1		5.00				
S-83	OM1-2	TYPE 1 OBJECT MARKER	18 X 18	4								1
	R5-1	DO NOT ENTER	30 X 30	7	U-CONC	1		6.25				
S-84	W9-1R	RIGHT LANE ENDS	36 X 36	7	U-SOIL	1		9.00				
	W16-2P	900 FEET PLAQUE	30 X 24					5.00				
S-85	W4-2R	LANE REDUCTION RIGHT	36 X 36	7	U-SOIL	1		9.00				
S-86	R3-7R MOD	RIGHT TURN LANE	30 X 30	7	U-SOIL	1		6.25				
S-87	R3-7R MOD	RIGHT TURN LANE	30 X 30	7	U-SOIL	1		6.25				
S-88	R6-1R	ONE WAY RIGHT	54 X 18	7	U-CONC	1		6.75				
S-89	P4	S SPRINGBROOK, W 132, N EVERGREEN	96 X 48	7	SQ-SOIL	2		32.00				
S-90	R6-1R	ONE WAY RIGHT	54 X 12					4.50				
	R1-1	STOP	30 X 30	7	U-SOIL	1		6.25				
	X4-3	CYLINDER DELINEATOR (WHITE)	6 X 9									1
S-91	R3-2	NO LEFT TURN	24 X 24	7	U-SOIL	1		4.00				
S-92	R3-7R MOD	RIGHT TURN LANE	30 X 30	7	U-SOIL	1		6.25				
S-93	M2-1	JCT (BLUE)	21 X 15					2.19				
	M1-6M	ANOKA COUNTY 132	24 X 24	7	U-SOIL	1		4.00				
S-94	W16-17P	ROUNDBOUT PLAQUE	36 X 12					3.00				
	W2-6	ROUNDBOUT	30 X 30					6.25				
	W13-1P	15 MPH PLAQUE	18 X 18	7	U-SOIL	1		2.25				
TOTAL							23	561	5	5	1	13

SPECIFIC NOTE(S):
 (1) U-CHANNEL 3" PER FOOT BLACK POST.
 (2) MOUNTED BACK TO BACK.

NO.	DATE	BY	CHK	REVISIONS

Design By: MF
 Plan By: MF
 Checked By: ES
 Approved By: SD

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

PRINT NAME: SEAN DELMORE, PE
 DATE: 1/5/2024 LICENSE #: 40145

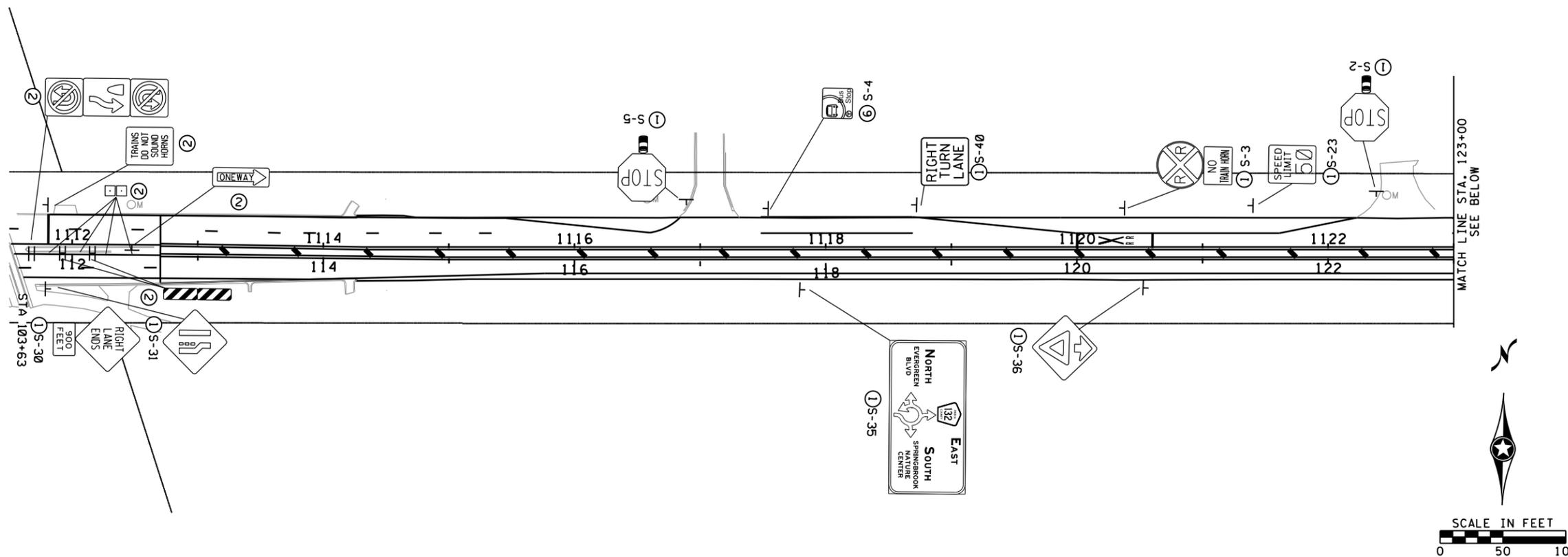


CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

SIGNING PLAN
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

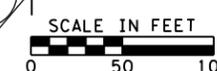
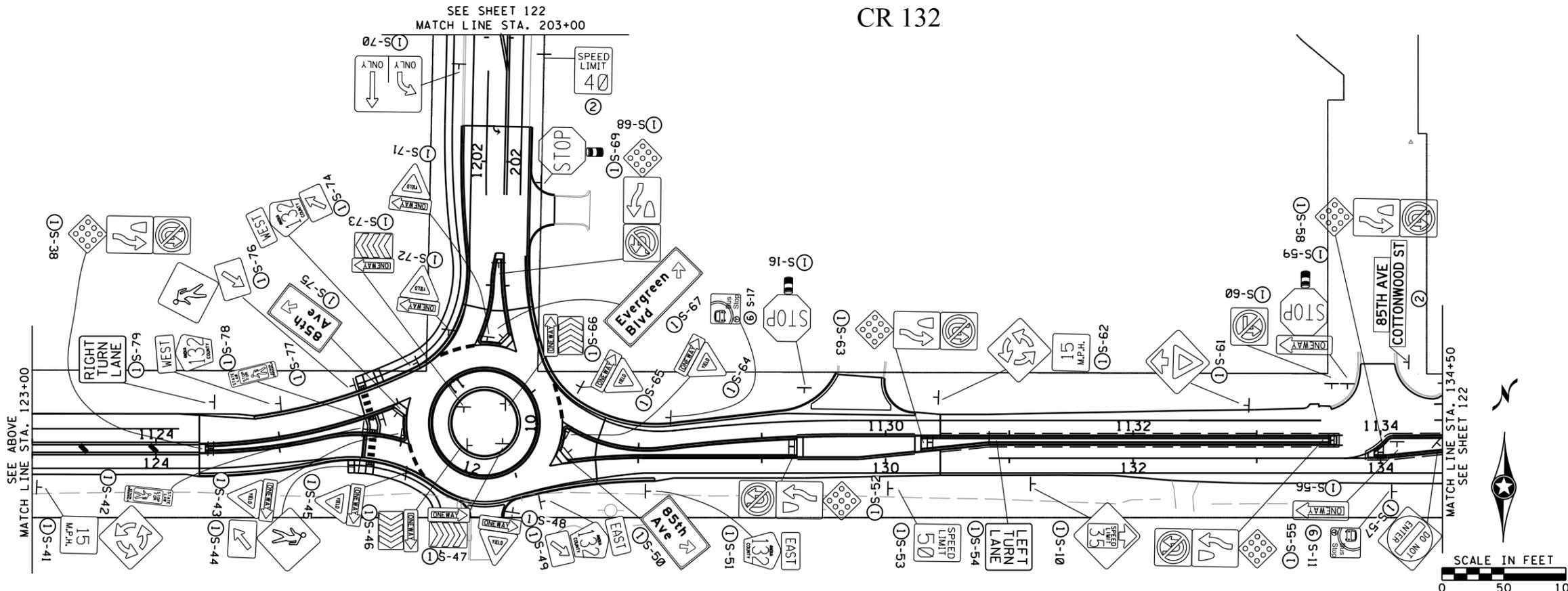
CR 132



LEGEND

- ① FURNISH & INSTALL
- ② INPLACE
- ⑥ INSTALL

CR 132



NO.	DATE	BY	CHK	REVISIONS

Design By: MF
 Plan By: MF
 Checked By: ES
 Approved By: SD

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

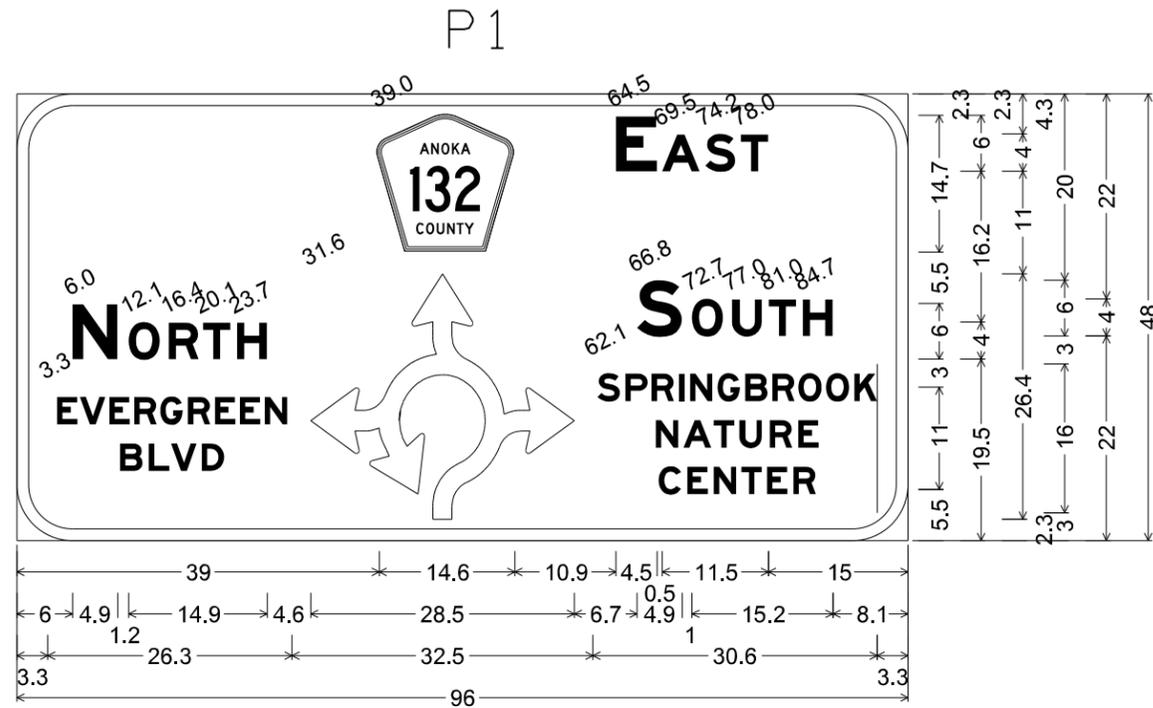
PRINT NAME: SEAN DELMORE, PE
 DATE: 1/5/2024 LICENSE #: 40145



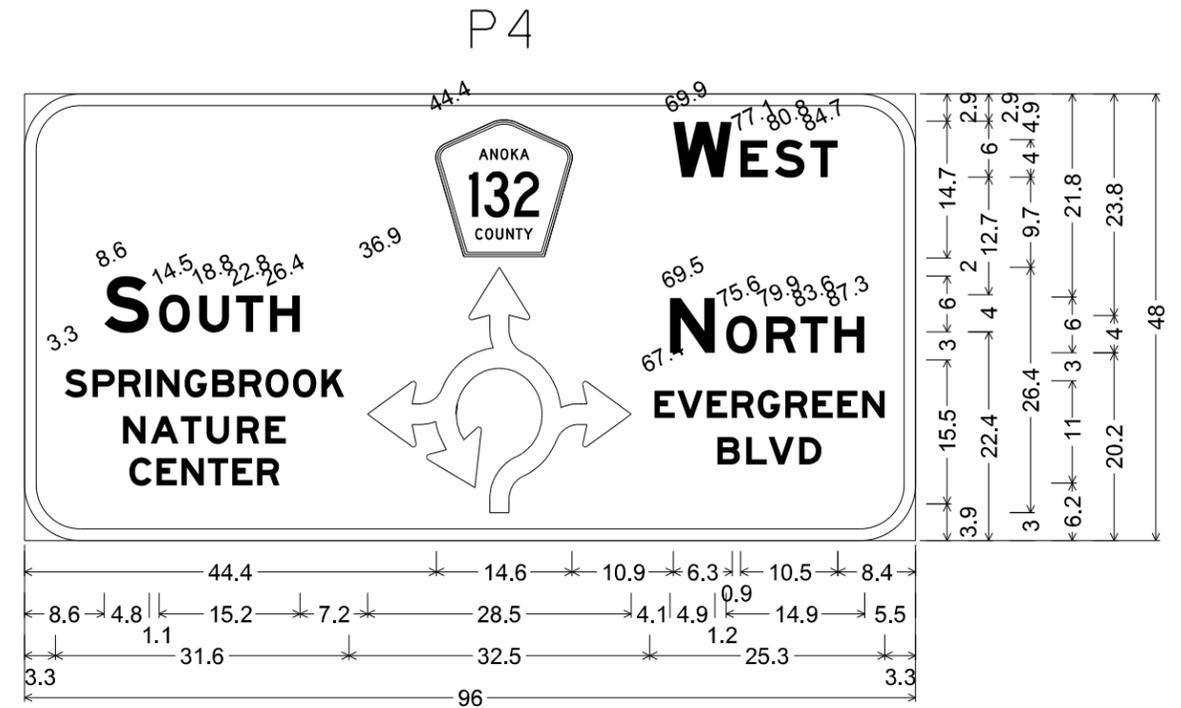
**CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements**
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 EB STA 112+31.21 TO EB STA 134+50
SIGNING PLAN
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

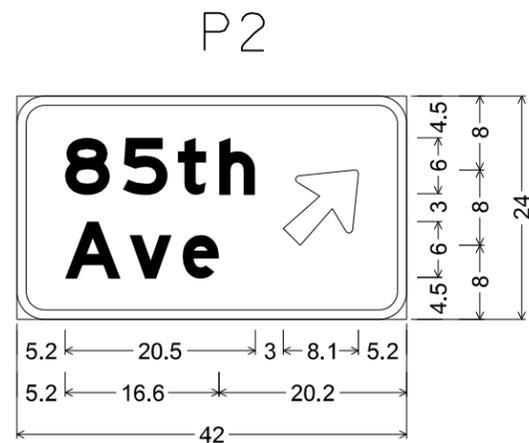
SHEET
121
 OF
135
 SHEETS



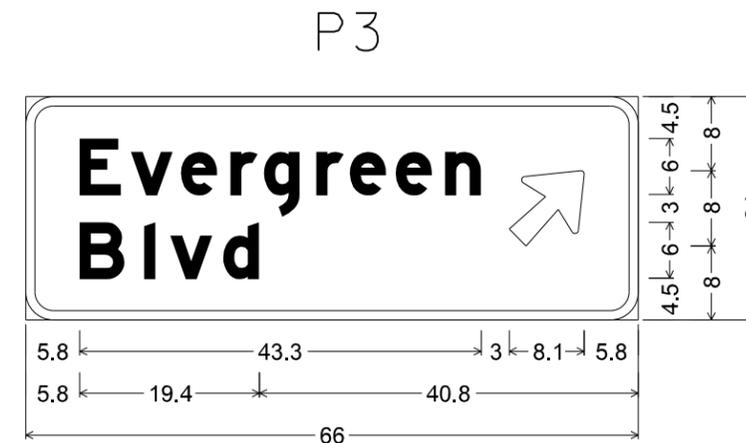
6.0" Radius, 1.3" Border, White on, Green;
 Pentagonal County 132 M1-6;
 "EAST", E Mod 2K; "NORTH", E Mod 2K;
 RA Arrow-4hd; "SOUTH", E Mod 2K;



6.0" Radius, 1.3" Border, White on, Green;
 Pentagonal County 132 M1-6;
 "WEST", E Mod 2K; "SOUTH", E Mod 2K;
 RA Arrow-4hd; "NORTH", E Mod 2K;



3.0" Radius, 1.0" Border, White on, Green;
 "85th", E Mod 75% spacing;
 "Ave", E Mod;
 Arrow 3 - 10.0" 45';



3.0" Radius, 1.0" Border, White on, Green;
 "Evergreen", E Mod 75% spacing; "Blvd", E Mod;
 Arrow 3 - 10.0" 45';

ALL DIMENTIONS IN INCHES

NO.	DATE	BY	CHK	REVISIONS

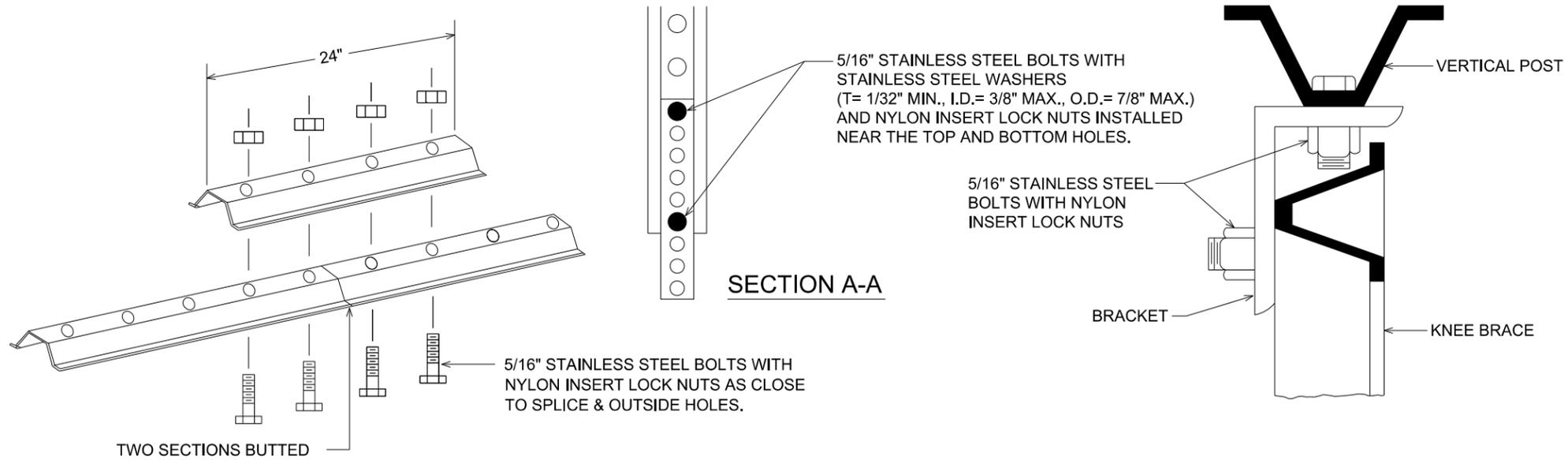
Design By:	MF	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: <u>SEAN DELMORE, PE</u> DATE: <u>1/5/2024</u> LICENSE # <u>40145</u>
Plan By:	MF	
Checked By:	ES	
Approved By:	SD	



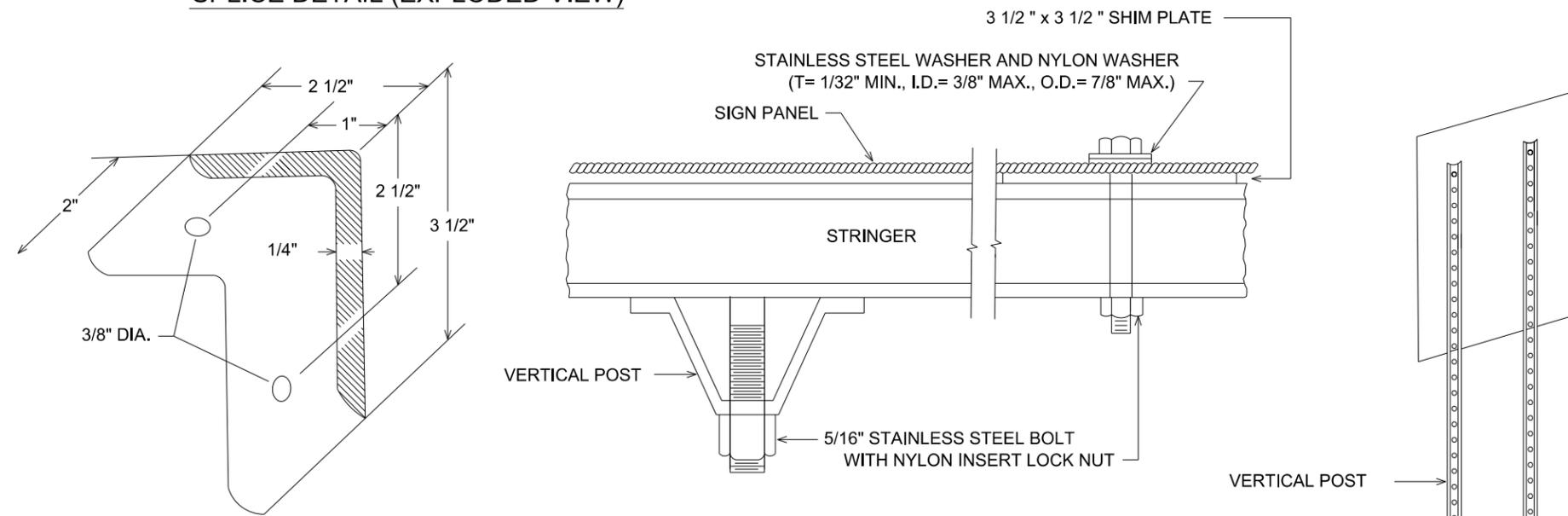
CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
SIGNING PLAN
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **123** OF **135** SHEETS

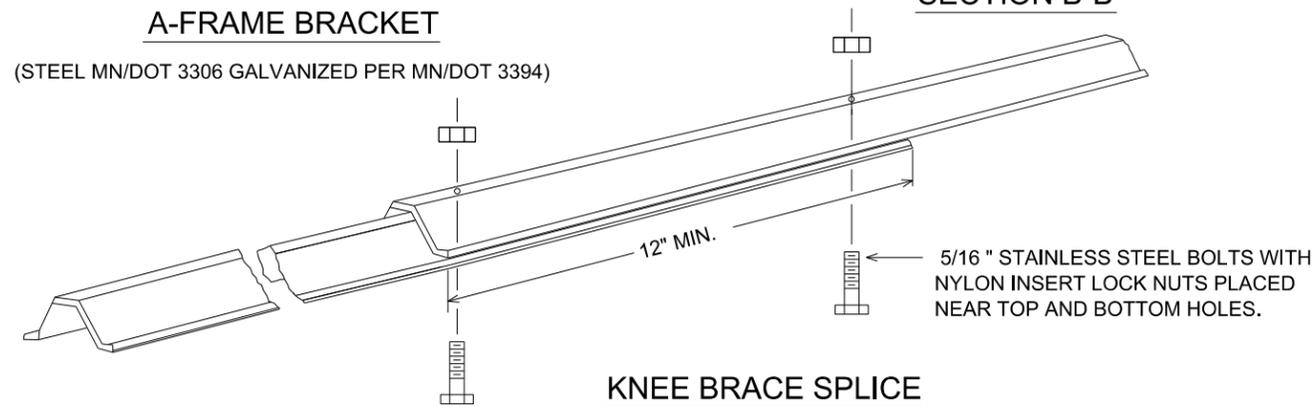


**LATERAL BRACE OR STRINGER
SPlice DETAIL (EXPLODED VIEW)**

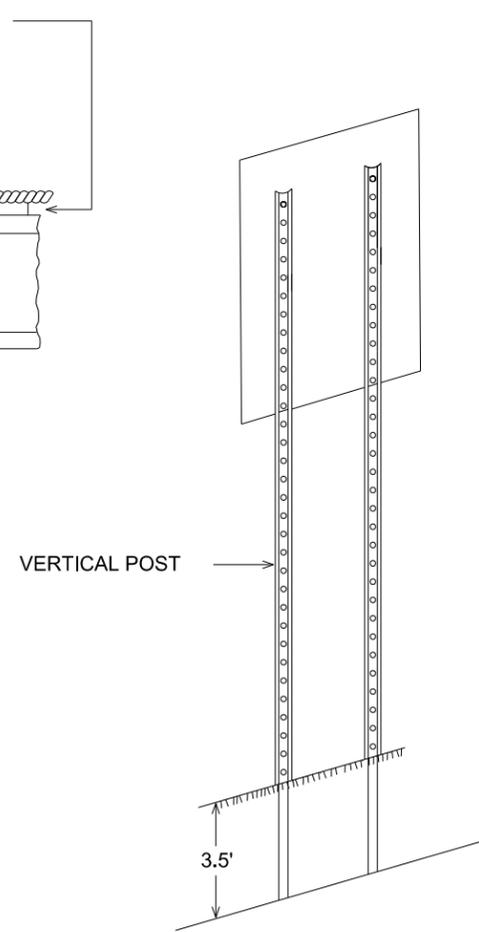


A-FRAME BRACKET

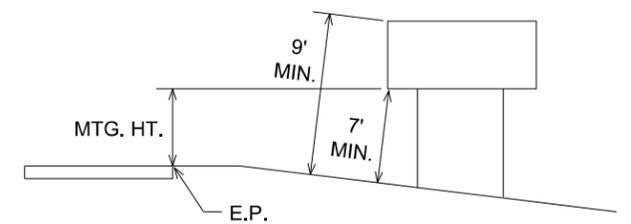
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



KNEE BRACE SPLICE



**TYPICAL INSTALLATION 36" AND LARGER
TYPE "C" SIGNS**



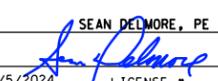
TYPICAL MOUNTING

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

**TYPE C & D SIGN
STRUCTURAL DETAILS**

ANOKA COUNTY HIGHWAY DEPARTMENT SIGN DETAILS

NO.	DATE	BY	CHK	REVISIONS

Design By:	MF	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: SEAN DELMORE, PE  DATE: 1/5/2024 LICENSE # 40145
Plan By:	MF	
Checked By:	ES	
Approved By:	SD	



**CR 132 (85th Ave) at Evergreen Blvd
Intersection Improvements**
Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
SIGNING PLAN
CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **124**
OF **135**
SHEETS

PAVEMENT MARKING TABULATION													J	
LOCATION	PAVEMENT MARKING REMOVAL (1)	MULTI-COMPONENT				PREFORM THERMOPLASTIC GROUND IN						PREFORM THERMOPLASTIC GROUND IN CONTRAST		
		4" SOLID LINE		4" BROKEN LINE	4" DOUBLE LINE	4" SOLID LINE	24" SOLID LINE		8" DOTTED LINE	PAVEMENT MESSAGE		4" SOLID LINE	CROSSWALK (2)	
		WHITE	YELLOW	WHITE	YELLOW	YELLOW	WHITE	YELLOW	WHITE	RR XING	LEFT ARROW	WHITE	EACH	
		LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	SQ FT	SQ FT	LIN FT	SQ FT	
CP 20-23-132														
CR 132														
STA 112+31.21 TO STA 120+00.00		1801	236	100	1460		24	101						
STA 120+00.00 TO STA 125+72.00		1183	273		871		42	68		62				
STA 127+66.00 TO STA 137+78.71	1738	3666	2507	60	191									
EVERGREEN BLVD														
STA 200+80.00 TO STA 202+28.48		552	93		262			24			16			
RADIAL														
STA 10+00.00 TO STA 13+67.57						494			46			513	108	
SUBTOTAL	1738	7202	3109	160	2784	494	66	193	46	62	16	513	108	
PROJECT TOTAL	1738	10311		160	2784	494	259		46	78		513	108	

NOTES:
 (1) INCLUDES THE REMOVAL OF WESTBOUND STRIPING OUTSIDE OF PROJECT LIMITS FROM STA 137+78.71 TO STA 145+64.
 (2) 6' X 3' CROSSWALK BLOCKS.

NO.	DATE	BY	CHK	REVISIONS

Design By: MF
 Plan By: MF
 Checked By: ES
 Approved By: SD

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

PRINT NAME: SEAN DELMORE, PE
 DATE: 1/5/2024 LICENSE #: 40145



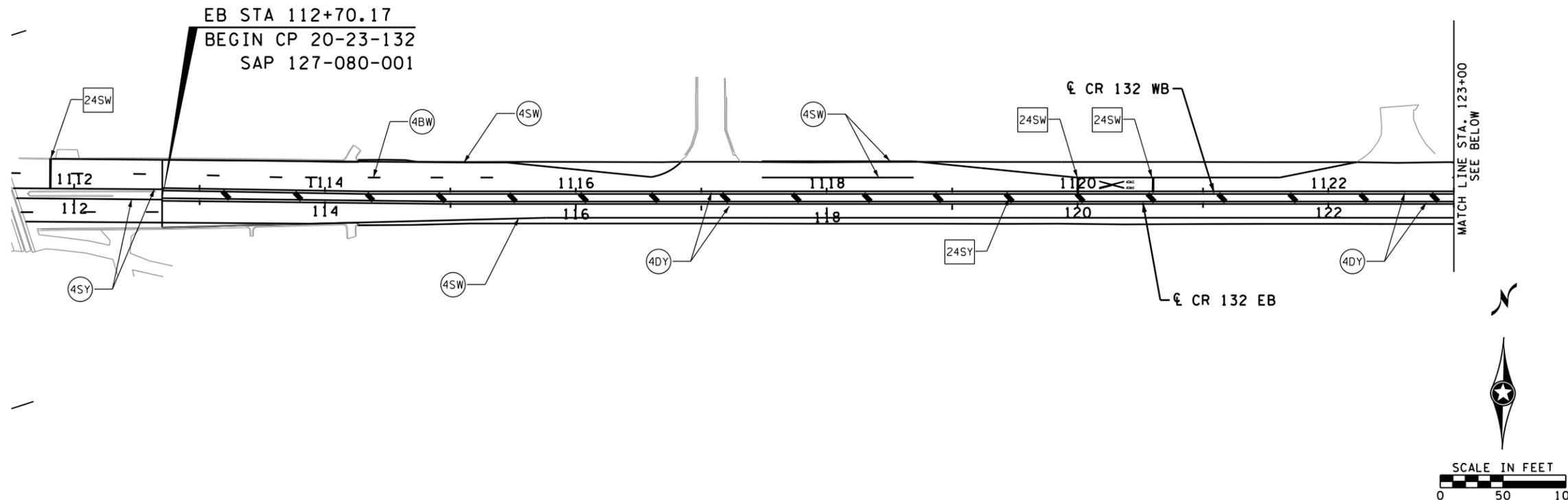
CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

STRIPING PLAN
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

PLOTTED/REVISED: 1/5/2024 2:47:32 PM

CR 132

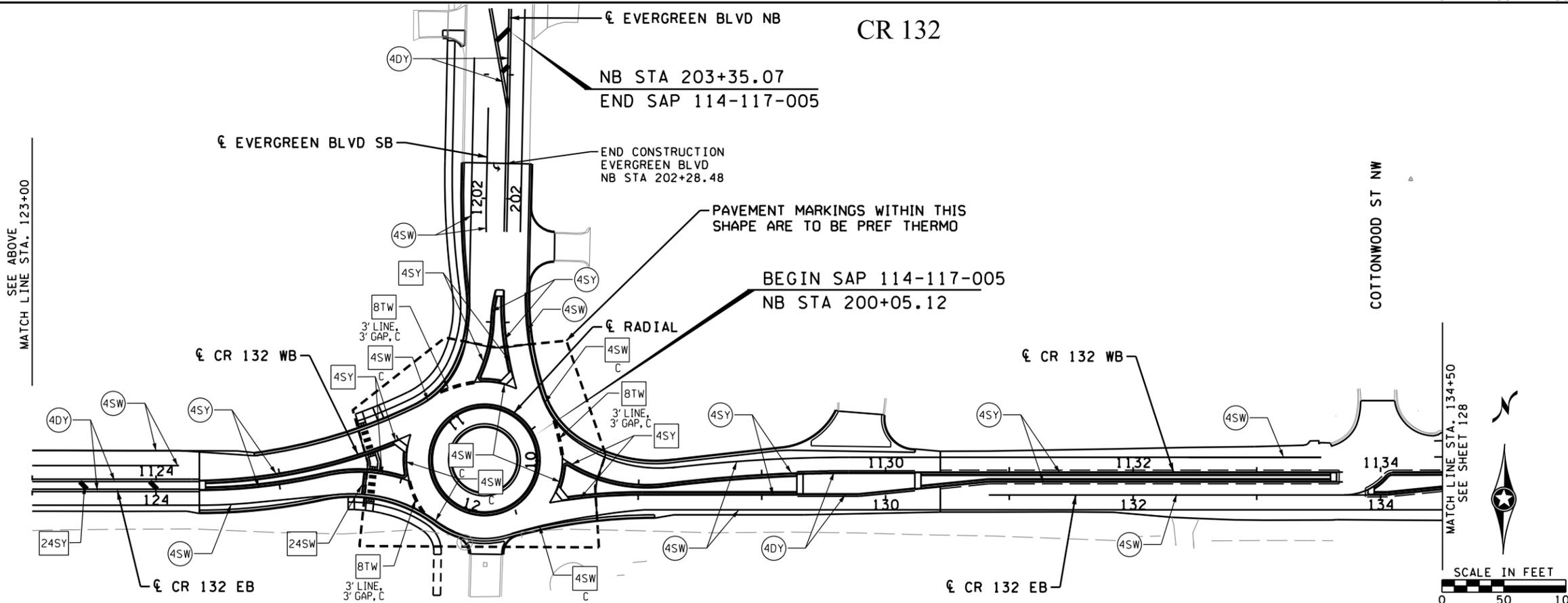


LEGEND

- CIRCLE - MULTI-COMP
 - SQUARE - PREF THERMO GR IN
 - PVMT MSSG - PREF THERMO GR IN
 - MULTI-COMP
 - 1ST DIGIT WIDTH: 4", 8", ETC.
 - 2ND DIGIT PATTERN: S = SOLID, B = BROKEN, D = DOUBLE, T = DOTTED
 - 3RD DIGIT COLOR: W = WHITE, Y = YELLOW, B = BLACK, C = CONTRAST
- EXAMPLE: = 4" SOLID LINE WHITE MULTI-COMP

WSB PATH & FILENAME: Projects\Minnesota\021204-000\000\Plan\21204-000_000.dgn

CR 132



NO.	DATE	BY	CHK	REVISIONS

Design By: MF
 Plan By: MF
 Checked By: ES
 Approved By: SD

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

PRINT NAME: SEAN DELMORE, PE
 DATE: 1/5/2024 LICENSE #: 40145



CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 EB STA 112+31.21 TO EB STA 134+50
STRIPING PLAN
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

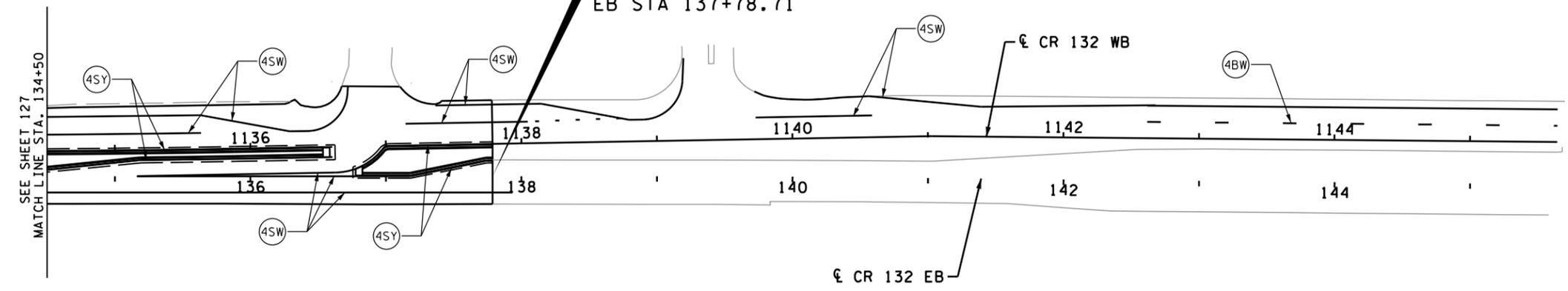
SHEET 127 OF 135 SHEETS

PLOTTED/REVISED: 1/5/2024 2:47:36 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\Coop\Plan\21204-000_dmm02.dgn

CR 132

END CP 20-23-132
SAP 127-080-001
EB STA 137+78.71



LEGEND

- CIRCLE - MULTI-COMP
- SQUARE - PREF THERMO GR IN
- X PREF THERMO GR IN
- MULTI-COMP
- 1ST DIGIT WIDTH 4", 8", ETC.
- 2ND DIGIT PATTERN
S = SOLID
B = BROKEN
D = DOUBLE
T = DOTTED
- 3RD DIGIT COLOR
W = WHITE
Y = YELLOW
B = BLACK
C = CONTRAST
- EXAMPLE: (4SW) = 4" SOLID LINE WHITE MULTI-COMP



NO.	DATE	BY	CHK	REVISIONS

Design By: MF
Plan By: MF
Checked By: ES
Approved By: SD

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

PRINT NAME: SEAN DELMORE, PE
DATE: 1/5/2024 LICENSE #: 40145



**CR 132 (85th Ave) at Evergreen Blvd
Intersection Improvements**
Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
EB STA 134+50 TO EB STA 137+78.71
STRIPING PLAN
CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
128
OF
135
SHEETS

CR 132

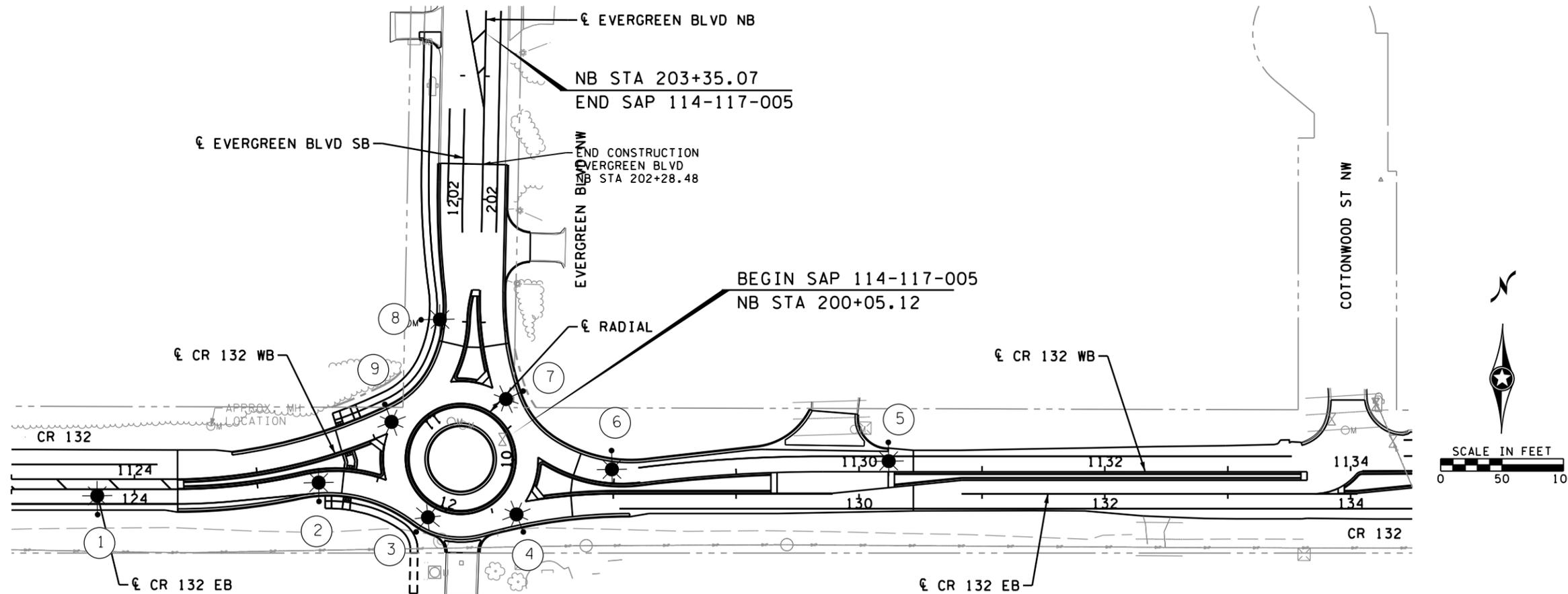
LEGEND

-  LIGHTING UNIT BY OTHERS
-  LIGHTING UNIT ID

NOTE:
CONTRACTOR TO COORDINATE WITH XCEL ENERGY, ANGELA ADESORO 651-229-2255,
FOR INSTALLATION AND TIMING OF THE LIGHTING SYSTEM (INCIDENTAL).

LIGHTING STANDARDS AND FOUNDATIONS					
NO.	STATION	LT	RT	LOCATION	PLACEMENT NOTE
1	1123+70		X	EB CR 132	(1)
2	1125+51		X	EB CR 132	(3)
3	11+88		X	ROUNDAABOUT	
4	12+45		X	ROUNDAABOUT	(3)
5	1130+24	X		WB CR 132	(3)
6	1127+93	X		WB CR 132	(3)
7	10+38		X	ROUNDAABOUT	
8	1201+00	X		SB EVERGREEN BLVD	(2)
9	11+14		X	ROUNDAABOUT	

NOTE - ALL SYSTEM COMPONENTS PROVIDED AND INSTALLED BY OTHERS.
(1) PLACE LIGHTING UNIT 22' FROM EDGE OF THROUGH LANE.
(2) PLACE 3' FROM EDGE OF TRAIL.
(3) PLACE 5' BEHIND CURB.



- NOTES:
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES PRIOR TO WORK.
 2. THE CONTRACTOR SHALL COORDINATE THE PLACEMENT OF CONDUIT AND FOUNDATIONS WITH OTHER CONSTRUCTION ACTIVITIES IN THE AREA.
 3. THE CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS AND UTILITY COORDINATION.
 4. ALL MATERIAL AND WORK SHALL BE IN ACCORDANCE WITH THE N.E.C.
 5. LIGHTING UNITS MUST MAINTAIN A MINIMUM CLEARANCE OF 10' FROM OVERHEAD POWER LINES.
 6. EXACT LOCATIONS OF LIGHT, PEDESTAL, AND SERVICE CABINET FOUNDATIONS SHALL BE STAKED IN THE FIELD FOR ENGINEER APPROVAL.

PLOTTED/REVISED: 1/5/2024 2:47:44 PM

WSB PATH & FILENAME: Projects\Minnesota\2024\000\CR132\Plan\2024-000_1110.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: MF
Plan By: MF
Checked By: ES
Approved By: SD

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

PRINT NAME: SEAN DELMORE, PE
DATE: 1/5/2024 LICENSE #: 40145



**CR 132 (85th Ave) at Evergreen Blvd
Intersection Improvements**
Anoka County Highway Department

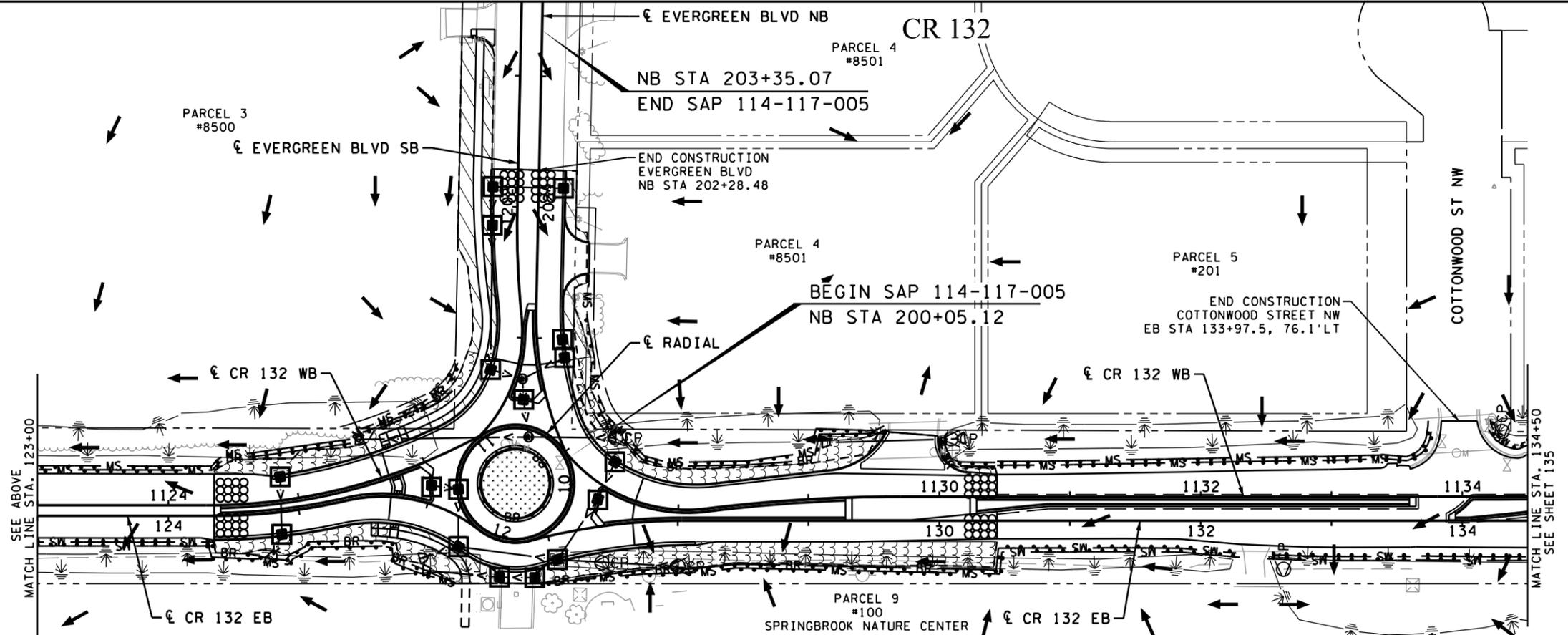
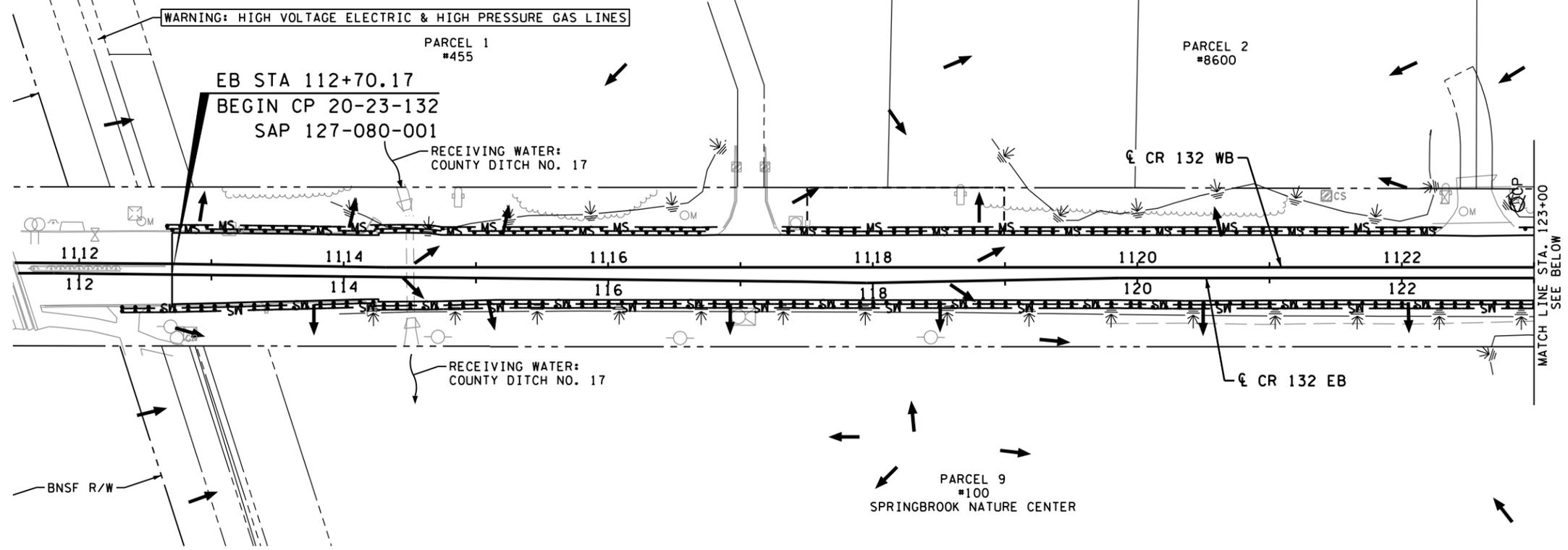
ANOKA COUNTY, MINNESOTA
LIGHTING PLAN
CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
129
OF
135
SHEETS

PLOTTED/REVISED: 1/5/2024 2:47:58 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\000\000\Plan\21204-000_1e01.dgn

CR 132



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 1/5/2024 LICENSE #: 44200



CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

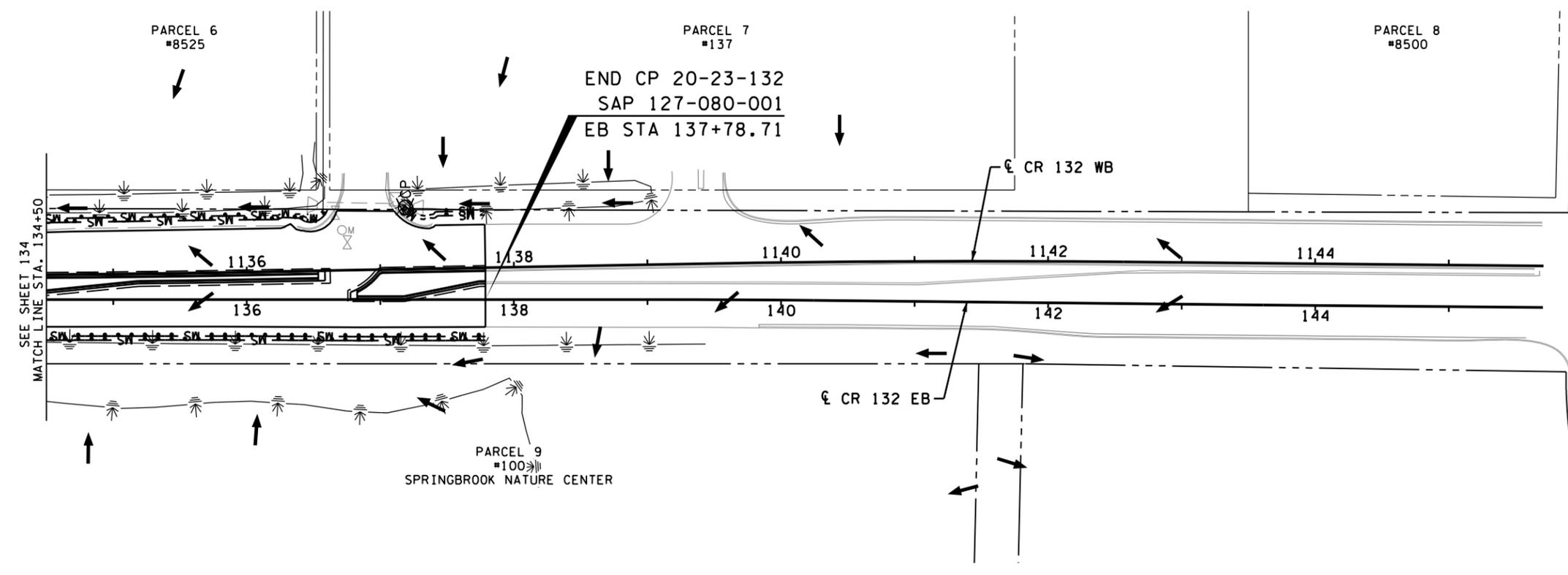
ANOKA COUNTY, MINNESOTA
 EB STA 112+31.21 TO EB STA 134+50
EROSION CONTROL & TURF ESTABLISHMENT
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
134
 OF
135
 SHEETS

PLOTTED/REVISED: 1/5/2024 2:48:04 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\CoopPlan\21204-000_r02.dgn

CR 132



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 1/5/2024 LICENSE # 44200



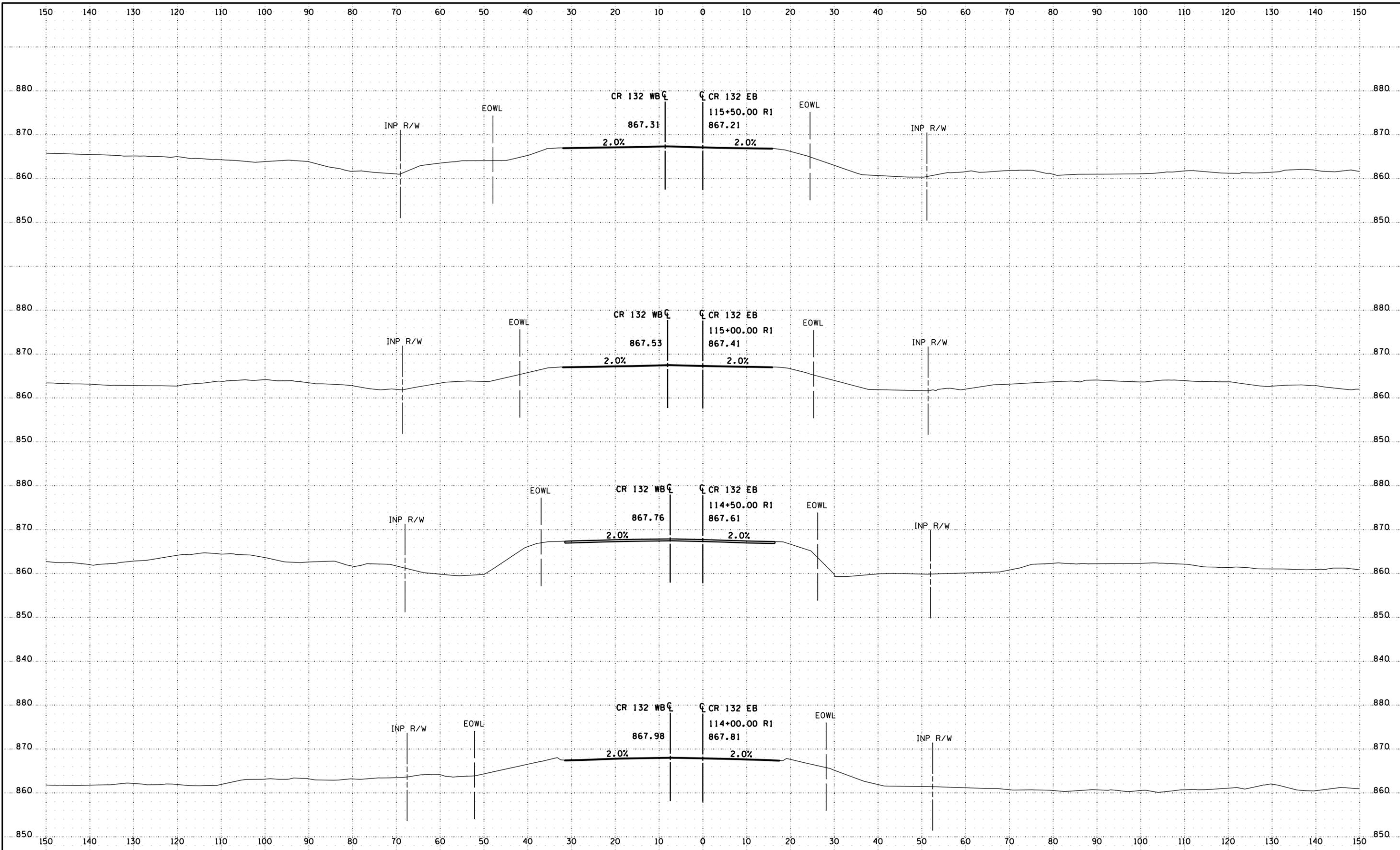
**CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements**
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 EB STA 134+50 TO EB STA 137+78.71
EROSION CONTROL & TURF ESTABLISHMENT
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
135
 OF
135
 SHEETS

PLOTTED/REVISED: 1/5/2024 2:48:07 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\00\Proposed\021204-000_sstb_CR_132.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: CK
 Checked By: MKV
 Approved By: AJP



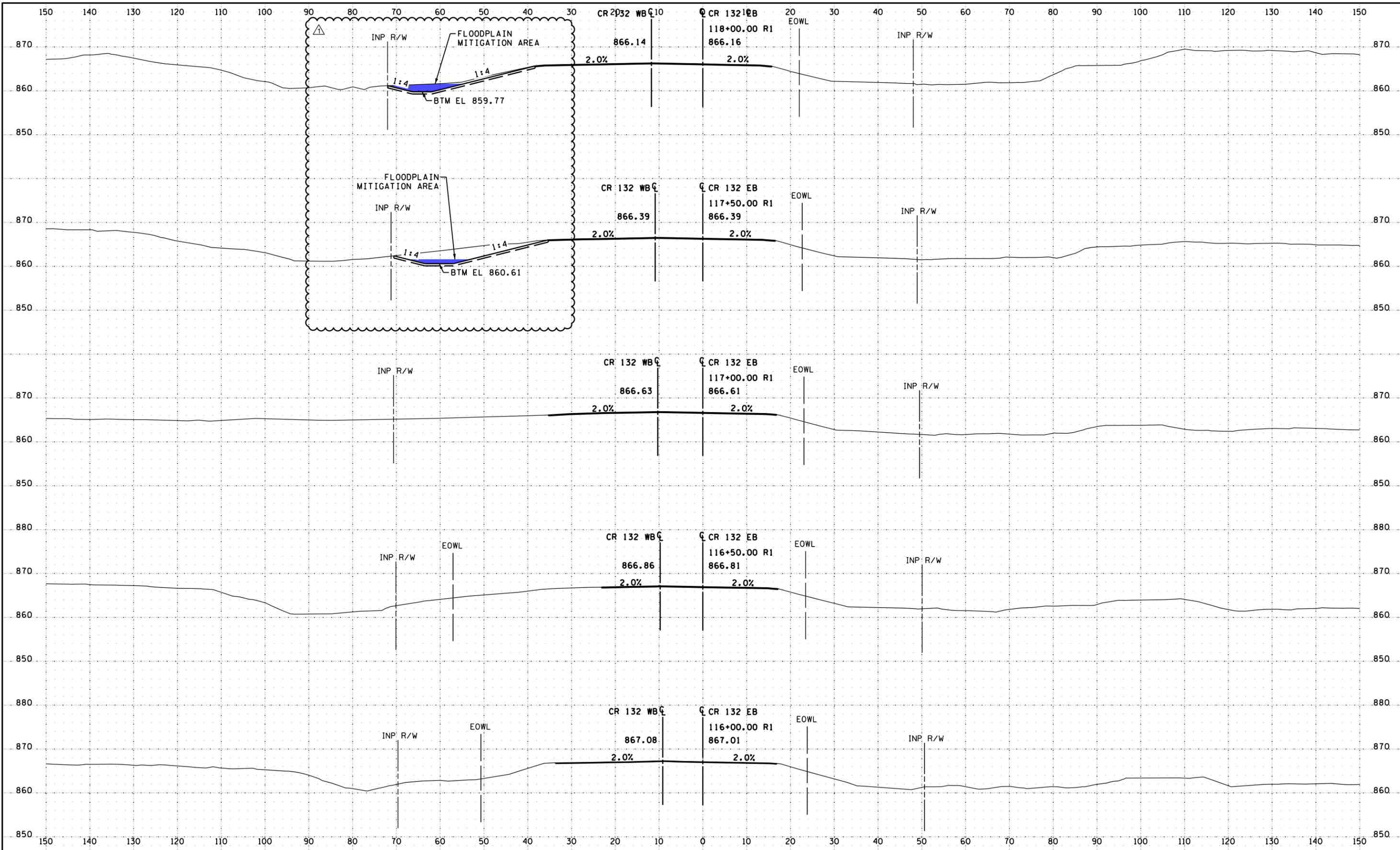
**CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements**
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 CR 132
CROSS SECTIONS
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
X1
 OF
X13
 SHEETS

PLOTTED/REVISED: 2/1/2024 10:25:55 AM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\00\Proposed\021204-000_sstb_CR_132.dgn



NO.	DATE	BY	CHK	REVISIONS
1	2024/02/01	AJF	AJP	UPDATED DITCH.

Design By: AJP
 Plan By: CK
 Checked By: MKV
 Approved By: AJP



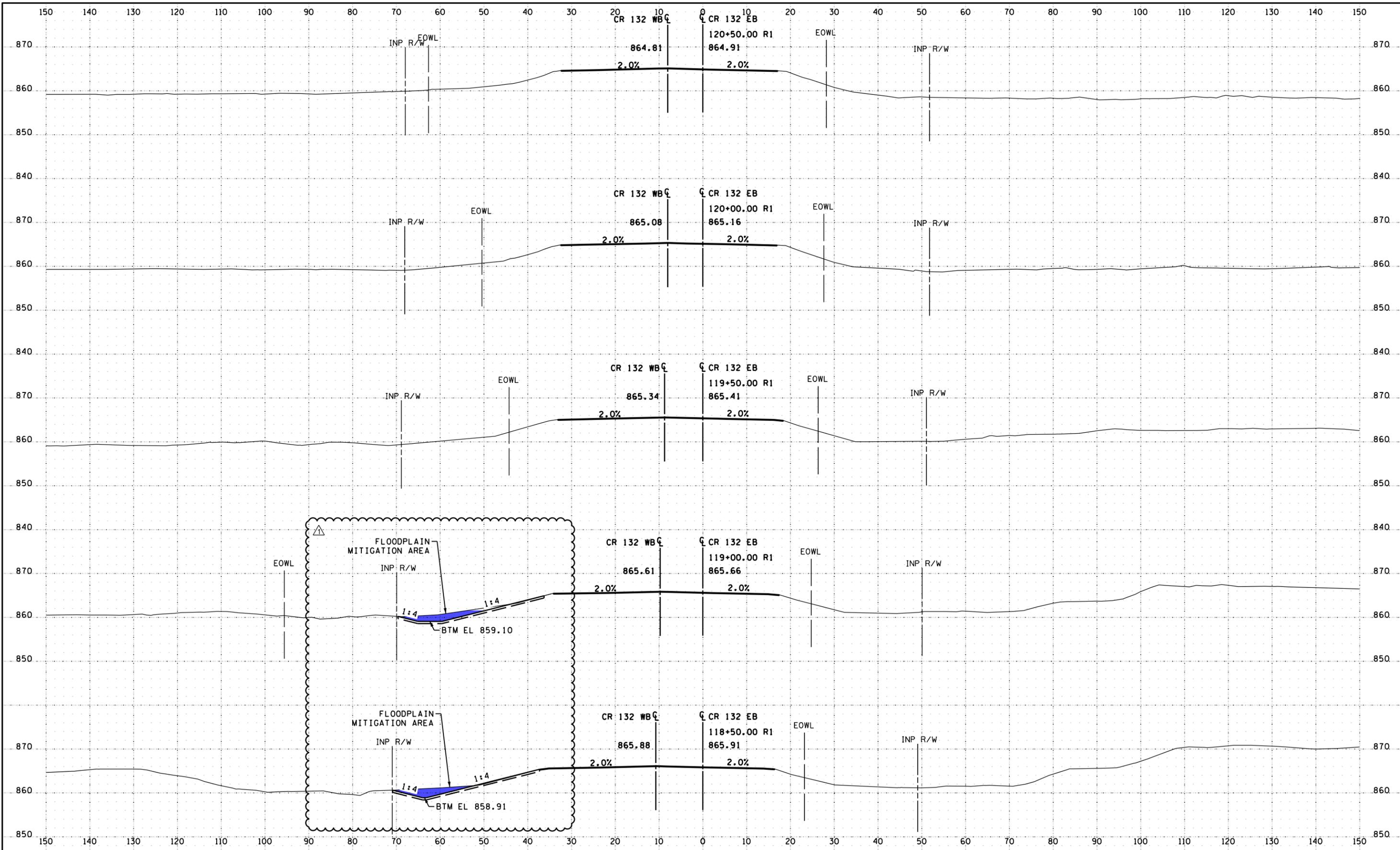
CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 CR 132
CROSS SECTIONS
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **X2R**
 OF
X13R
 SHEETS

PLOTTED/REVISED: 2/1/2024 10:25:56 AM

WSB PATH & FILENAME: Projects\Minnesota\2024\000\000\000\Proposed\02204-000_sstt_CR_132.dgn



NO.	DATE	BY	CHK	REVISIONS
1	2024/02/01	AJF	AJP	UPDATED DITCH.

Design By:	AJP
Plan By:	CK
Checked By:	MKV
Approved By:	AJP



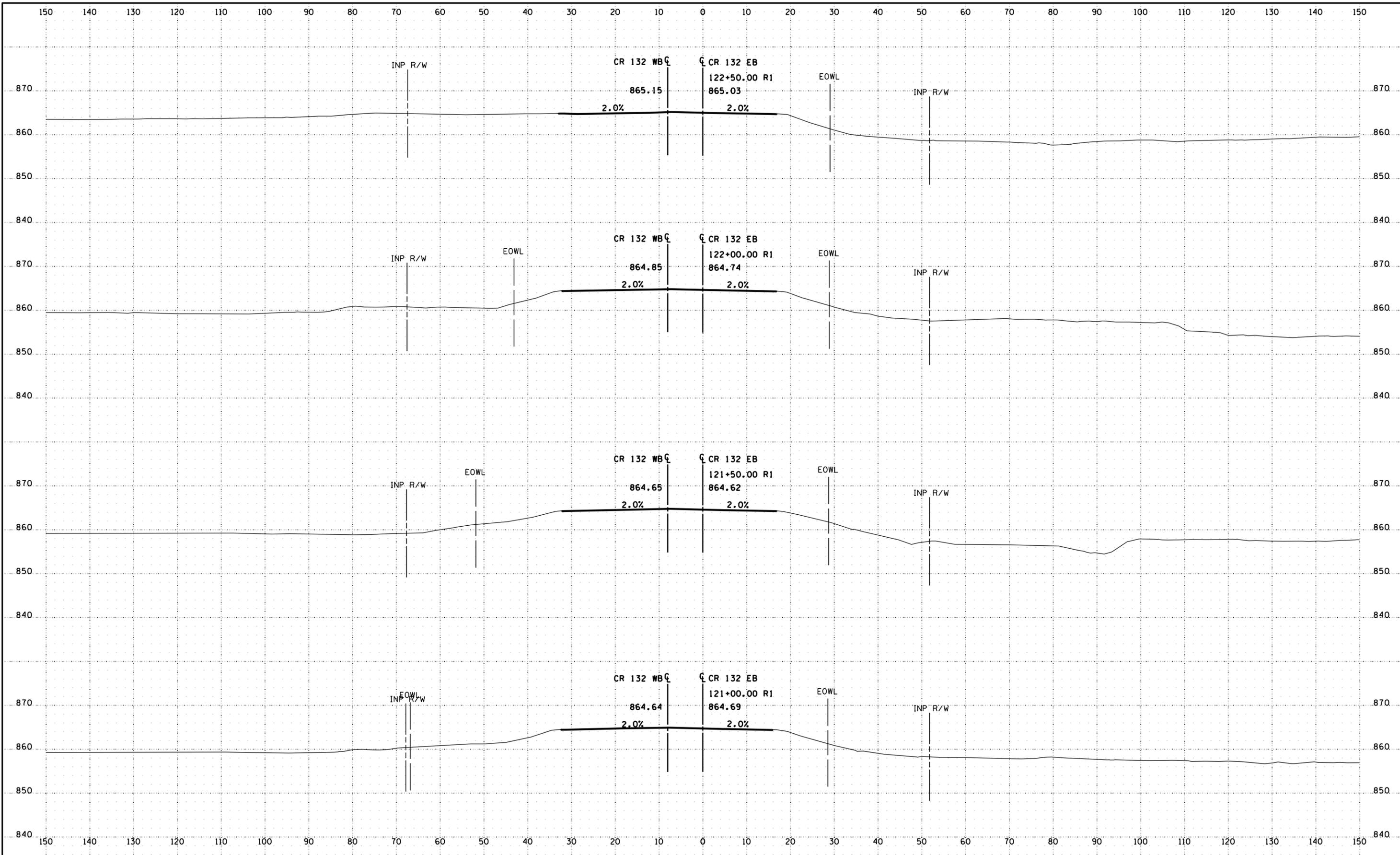
CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 CR 132
CROSS SECTIONS
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
X3R
 OF
X13R
 SHEETS

PLOTTED/REVISED: 1/5/2024 2:48:10 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\00\Proposed\021204-000_sstb_CR_132.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: CK
 Checked By: MKV
 Approved By: AJP



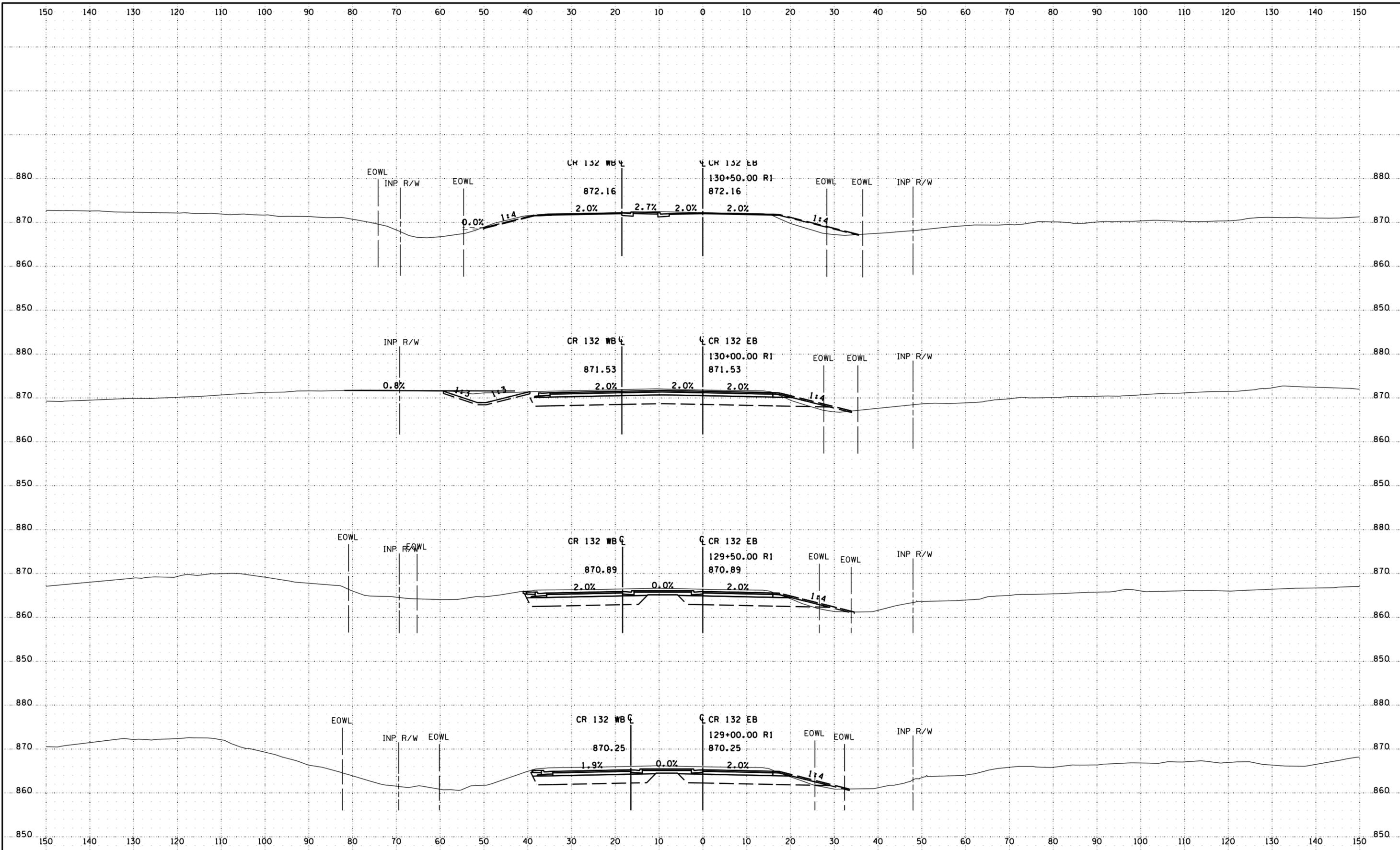
**CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements**
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 CR 132
CROSS SECTIONS
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
X4
 OF
X13
 SHEETS

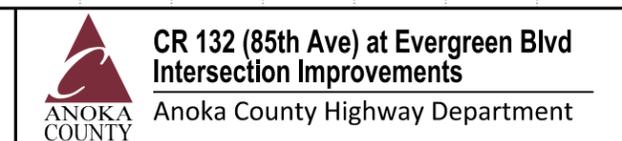
PLOTTED/REVISED: 1/5/2024 2:48:12 PM

WSB PATH & FILENAME: Projects\Minnesota\2024\000\000\000\Proposed\02\204-000_132.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: CK
 Checked By: MKV
 Approved By: AJP

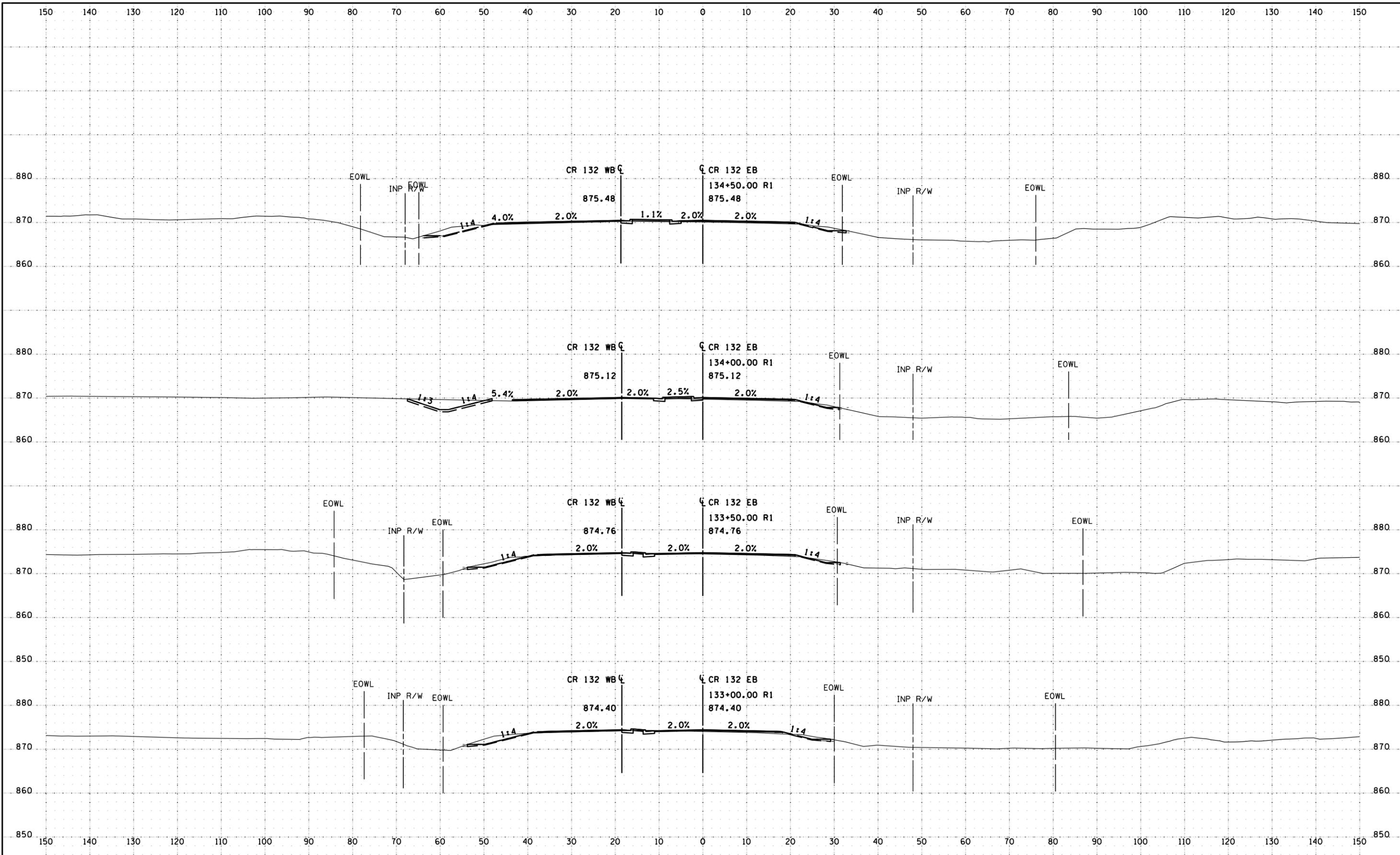


ANOKA COUNTY, MINNESOTA
 CR 132
CROSS SECTIONS
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
X7
 OF
X13
 SHEETS

PLOTTED/REVISED: 1/5/2024 2:48:14 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\00\Proposed\021204-000_sstt_CR_132.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: CK
 Checked By: MKV
 Approved By: AJP



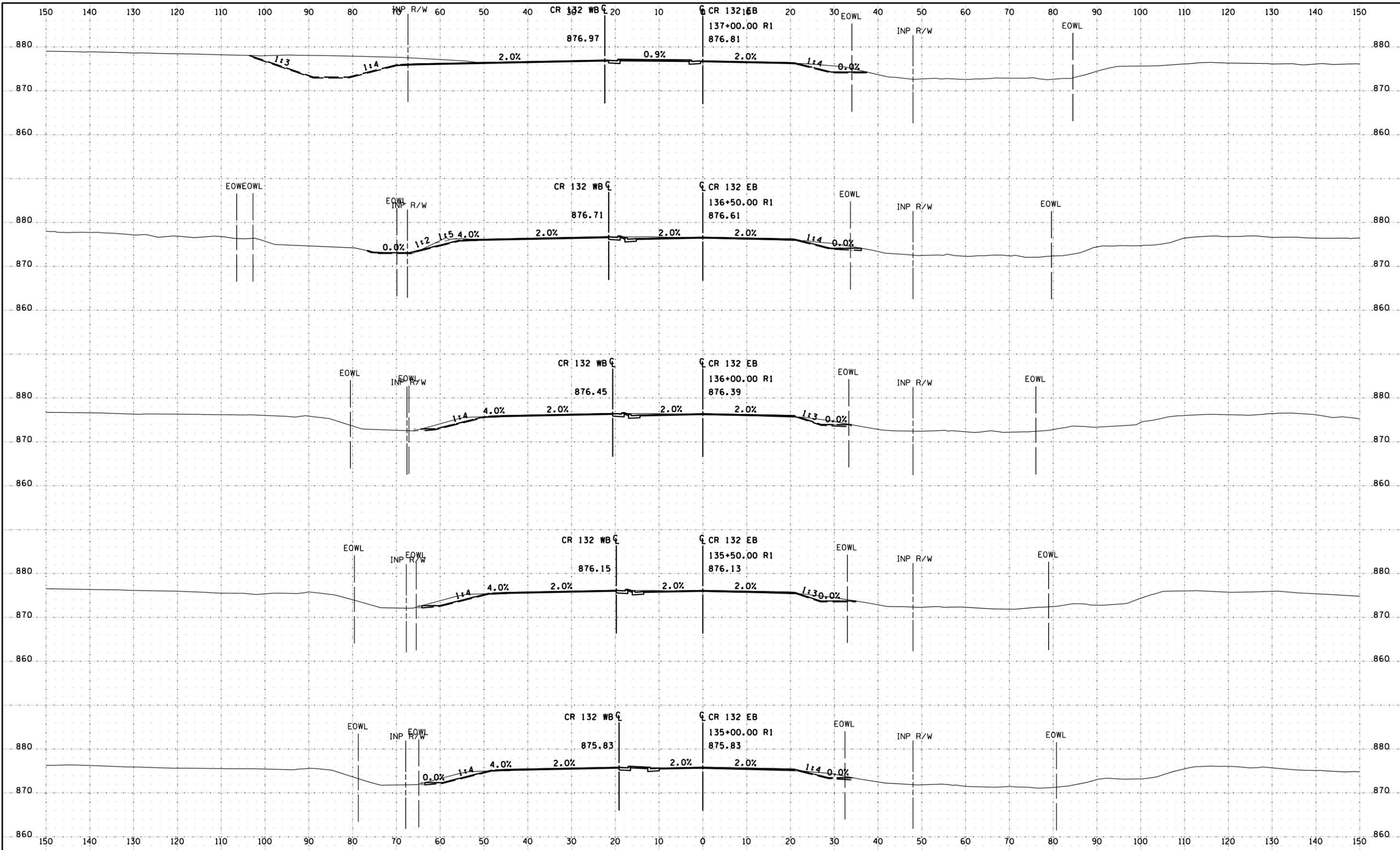
CR 132 (85th Ave) at Evergreen Blvd Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 CR 132
CROSS SECTIONS
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET **X9**
 OF **X13**
 SHEETS

PLOTTED/REVISED: 1/5/2024 2:48:05 PM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\00\Proposed\021204-000_sstt_CR_132.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: CK
 Checked By: MKV
 Approved By: AJP



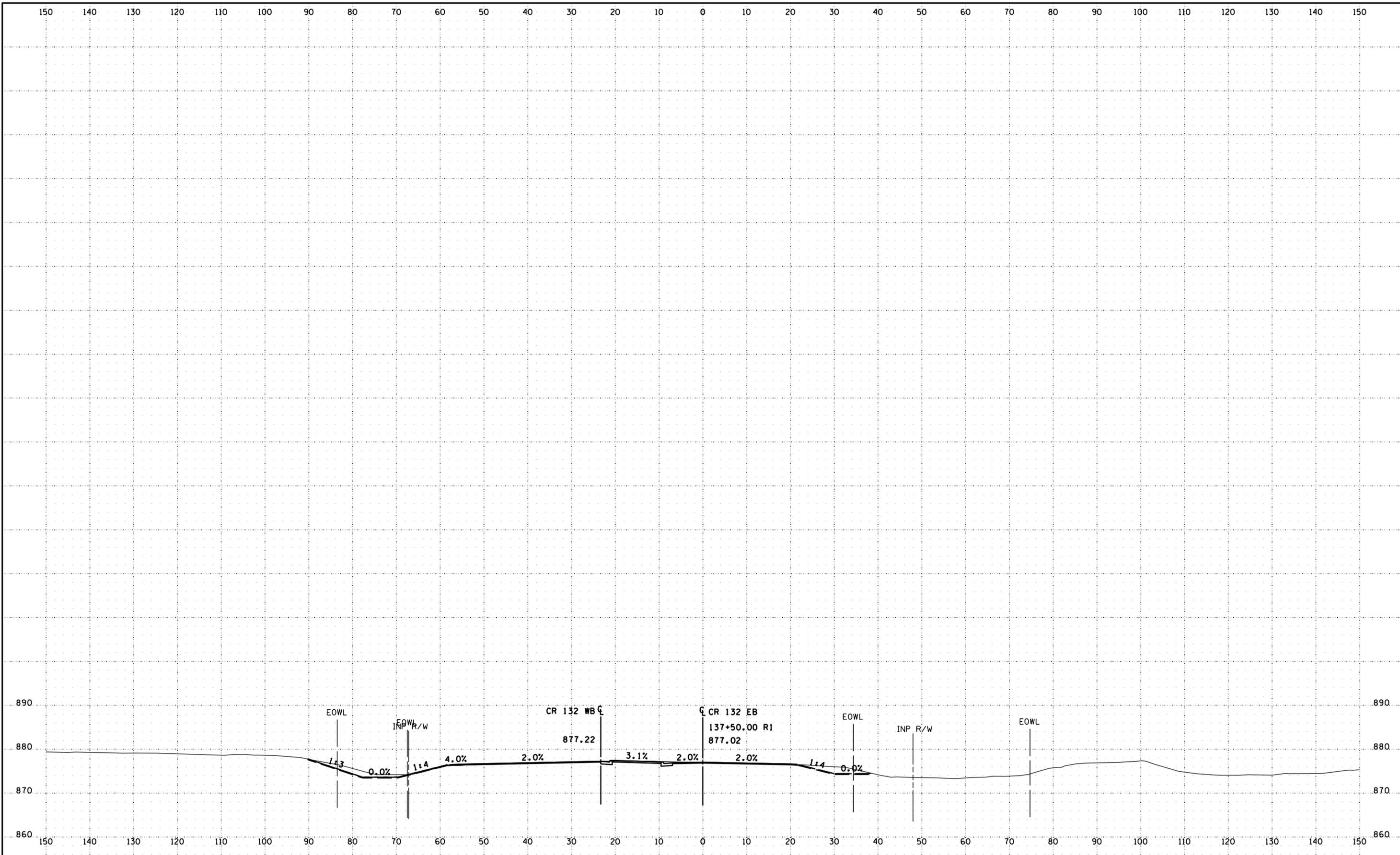
**CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements**
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 CR 132
CROSS SECTIONS
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
X10
 OF
X13
 SHEETS

PLOTTED/REVISED: 1/5/2024 2:48:16 PM

WSB PATH & FILENAME: Projects\Minnesota\2024\000\00\00\Proposed\02\204-000_132.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: CK
 Checked By: MKV
 Approved By: AJP



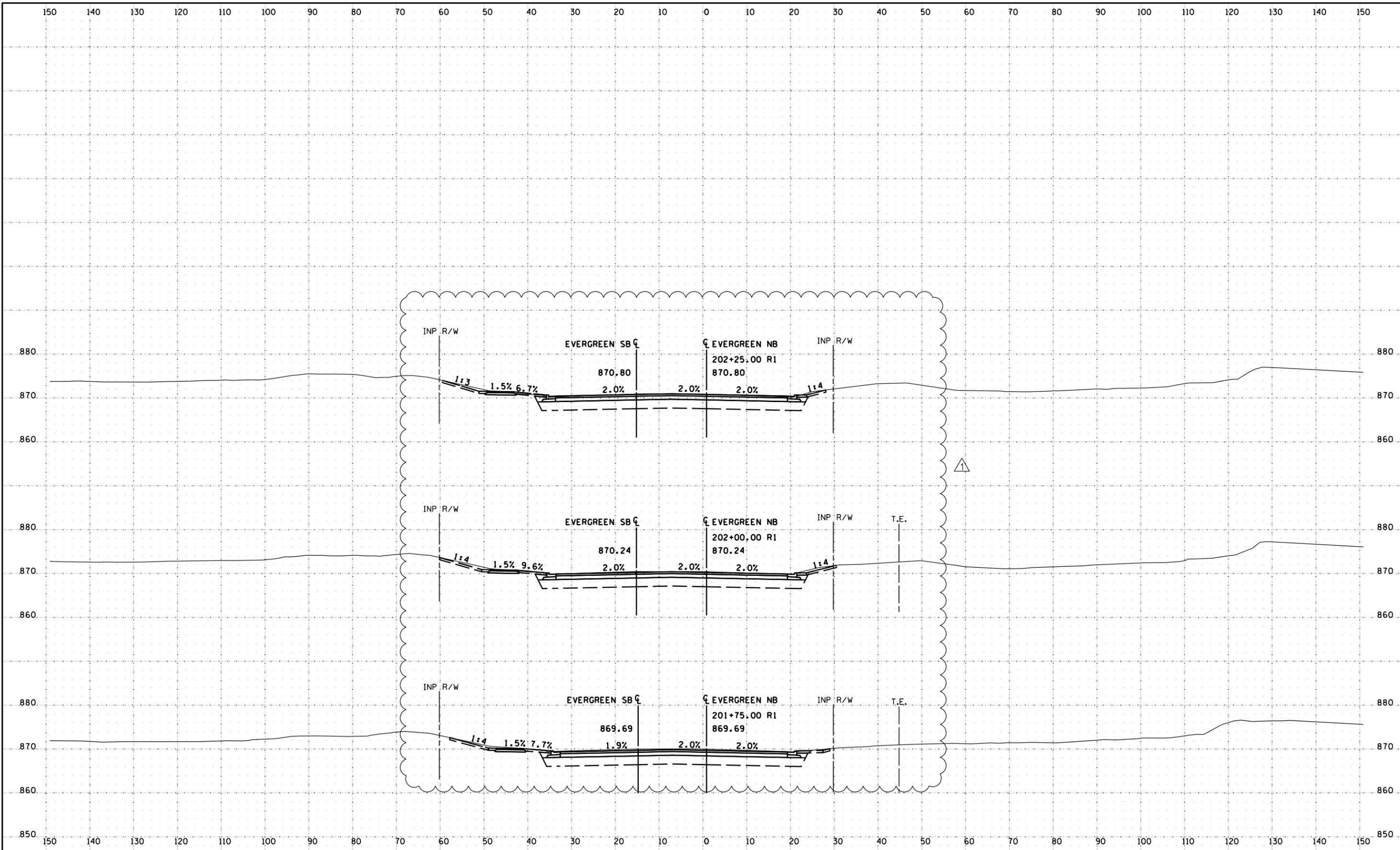
**CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements**
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 CR 132
CROSS SECTIONS
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
X11
 OF
X13
 SHEETS

PLOTTED/REVISED: 1/16/2024 8:54:45 AM

WSB PATH & FILENAME: Projects\Minnesota\021204-000\00\Proposed\021204-000_00sht_Evergreen.dgn



NO.	DATE	BY	CHK	REVISIONS
1	2024/01/12	AJF	AJP	ADJUSTED CURB WIDTH AND LOCATION

Design By: AJP
 Plan By: CK
 Checked By: MKV
 Approved By: AJP



**CR 132 (85th Ave) at Evergreen Blvd
 Intersection Improvements**
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 EVERGREEN BLVD
CROSS SECTIONS
 CP 20-23-132, SAP 114-117-005, SAP 127-080-001

SHEET
X13R
 OF
X13R
 SHEETS