PLAN SYMBOLS

EXISTING / PROPOSED — CENTERLINE

EXISTING / PROPOSED — RIGHT-OF-WAY LINE

CONSTRUCTION / PERMANENT — EASEMENT LINE

LOT / SECTION — PROPERTY LINE

CONSTRUCTION LIMITS
CLEAR ZONE

INTERMEDIATE 901 / INDEX 900 / GRADE BREAK 901.25 — EXISTING CONTOURS

INTERMEDIATE 901 / INDEX 900 / GRADE BREAK 901.25 — PROPOSED CONTOURS

EXISTING / PROPOSED / EXISTING COUNTY — DITCH LINE

X X X — FENCE LINE – ANY TYPE

SILT FENCE

W W W — WETLAND BOUNDARY

TREE LINE / TREE SYMBOLS — EXISTING TREES (TO REMAIN)

X BM — BENCH MARK / IRON MONUMENT

LIGHT POLE / BOLLARD

SOIL BORING

BUILDING

PROPOSED — RIPRAP

MB — MAILBOX

EXISTING / PROPOSED — SIGN

EXISTING RETAINING WALL

UTILITY SYMBOLS

GAS GAS — GAS LINE

PETRO PETRO — PETROLEUM LINE

OHE OHE OVERHEAD / UGE UGE UNDERGROUND — ELECTRIC

T T T — UNDERGROUND TELEPHONE LINE

CATV CATV — UNDERGROUND CABLE TV LINE

FO FO PRIVATE / MnDOT FO MnDOT — UNDERGROUND FIBER OPTIC LINE

T MANHOLE / T JUNC. BOX — TELEPHONE STRUCTURES

X — ELECTRIC JUNC. BOX

TV — CABLE TV JUNC. BOX

F MANHOLE / F JUNC. BOX — FIBER OPTIC STRUCTURES

EXISTING — POWER POLE AND GUY WIRE

EXISTING / PROPOSED — STORM DRAIN LINE

EXISTING / PROPOSED — FLARED END SECTION

EXISTING / PROPOSED — CATCH BASIN

EXISTING / PROPOSED — MANHOLE

W — WELL

HATCH LEGEND

BITUMINOUS / CONCRETE — DRIVEWAYS

GRAVEL / HYDROMULCH — EROSION CONTROL

GRAVEL / CONCRETE / BITUMINOUS — REMOVAL

PLOT DATE: 5/14/2026 15:52

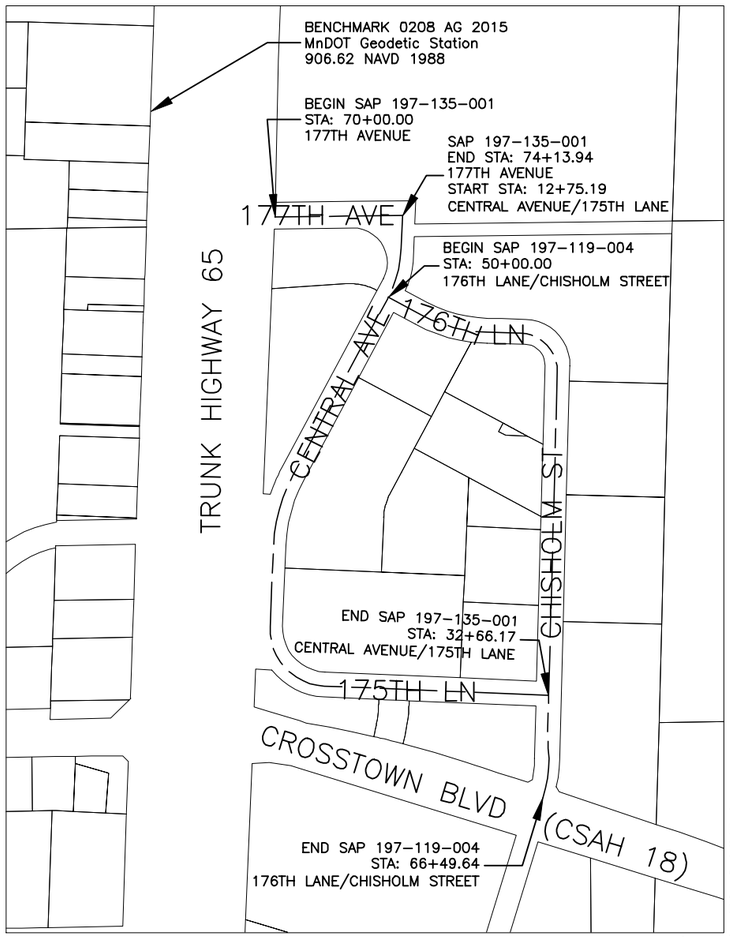
MINNESOTA DEPARTMENT OF TRANSPORTATION

City of Ham Lake, Minnesota

CONSTRUCTION PLANS FOR GRADING, RECLAIM, AGGREGATE BASE, PLANT MIXED BITUMINOUS SURFACE, STORM DRAINS AND CONCRETE CURB

CHISHOLM ST. FROM CROSSTOWN BOULEVARD TO 176TH LANE
175TH LANE FROM CENTRAL AVENUE TO CHISHOLM STREET
176TH LANE FROM CENTRAL AVENUE TO CHISHOLM STREET
177TH AVENUE FROM TH 65 TO CENTRAL AVENUE
CENTRAL AVENUE FROM 175TH LANE TO 177TH AVENUE

HAM LAKE PROJECT NO. 2205
STATE AID PROJ. NO. 197–119–004 AND 197–135–001



PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

0 100 200 400
FEET

N

VARIANCE NOTE

THIS PROJECT HAS BEEN GRANTED A VARIANCE FROM MINNESOTA RULE 8820.9936, DATED MARCH 23, 2023, SO AS TO PERMIT TWO (2) 20 MPH CURVES IN LIEU OF THE REQUIRED 30 MPH CURVES. THIS VARIANCE WAS APPROVED ON MARCH 23, 2023 BY THE MINNESOTA DOT, AND SIGNED BY KRISTINE ELWOOD, PE, STATE AID ENGINEER, ON APRIL 7, 2023.

ADT 177TH AVE. (2026) . . . . . 136. ADT 177TH AVE (2046) . . . . . 204.
ADT CHISHOLM ST. (2026) . . . . . 3,328. ADT CHISHOLM ST. (2046) 4,992
Design Speed . . . . . 30 MPH
NO. OF TRAFFIC LANES . . . 2 . . . NO. OF PARKING LANES . . . 0
FUNCTIONAL CLASSIFICATION COLLECTOR, LOW DENSITY
SOIL FACTOR . . . 50% . . . HCADT . . <150 . . .
TON DESIGN . . 9 TON . .
STOPPING SIGHT DISTANCE BASED ON:
HEIGHT OF EYE 3.5'
HEIGHT OF OBJECT 2.0'
DESIGN SPEED NOT ACHIEVED AT:
STA. 24+38 . . . . . TO STA. 26+74 . . 175TH. LANE
STA. 53+68 . . . . . TO STA. 55+25 . . CHISHOLM STREET

CHISHOLM STREET
54+46.60 TO 66+49.64

GROSS LENGTH	1,203.04	FEET	0.228	MILES
BRIDGES LENGTH	0	FEET	0	MILES
EXCEPTIONS LENGTH	0	FEET	0	MILES
NET LENGTH	1,203.04	FEET	0.228	MILES

176TH LANE
50+00.00 TO 54+46.60

GROSS LENGTH	446.60	FEET	0.085	MILES
BRIDGES LENGTH	0	FEET	0	MILES
EXCEPTIONS LENGTH	0	FEET	0	MILES
NET LENGTH	446.60	FEET	0.085	MILES

177TH AVENUE
70+00.00 TO 74+13.94

GROSS LENGTH	413.94	FEET	0.078	MILES
BRIDGES LENGTH	0	FEET	0	MILES
EXCEPTIONS LENGTH	0	FEET	0	MILES
NET LENGTH	413.94	FEET	0.078	MILES

CENTRAL AVENUE
12+75.19 TO 25+56.15

GROSS LENGTH				
BRIDGES LENGTH	1,280.96	FEET	0.243	MILES
EXCEPTIONS LENGTH	0	FEET	0	MILES
NET LENGTH	0	FEET	0	MILES
	1,280.96	FEET	0.243	MILES

175TH LANE
25+56.15 TO 32+66.17

GROSS LENGTH	710.02	FEET	0.134	MILES
BRIDGES LENGTH	0	FEET	0	MILES
EXCEPTIONS LENGTH	0	FEET	0	MILES
NET LENGTH	710.02	FEET	0.134	MILES

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

THE UTILITIES SHOWN ARE BASED UPON THE BEST INFORMATION AVAILABLE AND MAY NOT REFLECT THE ACTUAL EFFECTS ON THE UTILITIES BY CONSTRUCTION. ACTUAL DETERMINATIONS WILL BE MADE IN THE FIELD DURING CONSTRUCTION.

PROJECT LOCATION
ANOKA COUNTY
METRO DISTRICT

STATE AID PROJ. NO.	CHARGE	IDENTIFIER
197–119–004		
197–135–001		

STATE FUNDS

GOVERNING SPECIFICATIONS

THE 2025 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION".

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MMUTCD, INCLUDING FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2–3	STATEMENT OF ESTIMATED QUNATITIES AND STANDARD PLATES
4–6	EARTHWORK SUMMARY AND TABULATIONS
7	UTILITY TABULATION
8–10	TYPICAL SECTION AND DETAILS
11–19	MNDOT STANDARD PLANS
20–24	INTERSECTION & DRIVEWAY DETAILS
25–27	TREE REMOVAL PLANS
28–30	REMOVAL PLANS
31–35	PLAN AND PROFILES
36–37	GRADING AND DRAINAGE PLANS
38–40	STORM DETAILS
41–43	STORMWATER POLLUTION PREVENTION PLAN
44–45	SIGNING AND STRIPING PLAN
46–57	CROSS SECTIONS
58–61	TEMPORARY TRAFFIC CONTROL PLAN

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

THIS PLAN CONTAINS 61 SHEETS

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.

SIGNED . . . . Dave Krugler . . . . .
David A. Krugler

DATE: 5/14/26 . . . . . REG. NO. 48768 . . . . . .

APPROVED . . . . Dave Krugler . . . . . DATE: 5/14/26 . . . .
CITY ENGINEER – HAM LAKE

Lucas Lortie Digitally signed by Lucas Lortie Date: 2026.05.18 09:38:09 -05'00'
APPROVED . . . . . DATE: . . . . .
DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY

Lucas Lortie Digitally signed by Lucas Lortie Date: 2026.05.18 09:38:29 -05'00'
APPROVED . . . . . DATE: . . . . .
APPROVED FOR STATE AID FUNDING: FOR STATE AID ENGINEER

STATE AID PROJECT NO. 197–119–004 / 197–135–001

RFC ENGINEERING, INC.
Consulting Engineers
13635 Johnson Street NE
Ham Lake, MN 55304
Telephone 763–862–8000
Fax 763–862–8042

JOB NO. 2205
FILE: 37–2–101

STATEMENT OF ESTIMATED QUANTITIES

TAB	SHEET	NOTES	ITEM NO.	ITEM	UNIT	ENTIRE PROJECT	S.A.P. 197–135–001		S.A.P. 197–119–004		NON PARTICIPATING
							ROADWAY	STORM SEWER	ROADWAY	STORM SEWER	
						ESTIMATED QUANTITIES	ESTIMATED QUANTITIES	ESTIMATED QUANTITIES	ESTIMATED QUANTITIES	ESTIMATED QUANTITIES	ESTIMATED QUANTITIES
			2021.501	MOBILIZATION	LUMP SUM	1	0.5		0.5		
AA	4,21–23	5	2101.502	CLEARING	EACH	12	12				
AA	4,21–23	5	2101.502	GRUBBING	EACH	12	12				
AA	4,21–23	5	2101.505	CLEARING (P)	ACRE	1.52	0.38		1.14		
AA	4,21–23	5	2101.505	GRUBBING (P)	ACRE	1.52	0.38		1.14		
AJ	4,24–26		2104.502	REMOVE DRAINAGE STRUCTURE	EACH	10	6		4		
AM	4,24–26	6	2104.502	REMOVE SIGN	EACH	26	14		12		
AL	4,24–26	6	2104.502	SALVAGE SIGN	EACH	1					1
AE	4,24–26	10	2104.502	SALVAGE MAIL BOX SUPPORT AND MAILBOX	EACH	1			1		
AH	4,24–26		2104.503	SAWING CONCRETE CURB (FULL DEPTH)	LIN FT	29	14		15		
AF	4,24–26	8	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH) –DRIVEWAY	LIN FT	527	340		187		
AC	4,24–26	11	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	218	109		109		
AK	4,24–26		2104.503	REMOVE CONCRETE CULVERT	LIN FT	510	283		227		
AG	4,24–26		2104.503	REMOVE CURB AND GUTTER	LIN FT	272	152		120		
AO	4,24–26		2104.503	REMOVE BLOCK RETAINING WALL	LIN FT	64			64		
AD	4,24–26		2104.503	SALVAGE WOODEN FENCE	LIN FT	251					251
AI	4,24–26	8	2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	1 668	1 056		612		
AN	4	4, 5	2106.507	EXCAVATION – COMMON (P)	CU YD	5 215	2 558		2 657		
AN	4		2106.507	SELECT GRANULAR EMBANKMENT (CV)	CU YD	50	25		25		
AN	4	4, 5	2106.507	COMMON EMBANKMENT (CV) (P)	CU YD	3 159	1 768		1 391		
BA	5		2211.509	AGGREGATE BASE CLASS 5	TON	2 200	1 242		958		
BG	5	8	2211.604	AGGREGATE BASE (CV) CLASS 5 4.0" THICK–RESIDENTIAL DRIVEWAY	SQ YD	100			100		
BF	5	8	2211.604	AGGREGATE BASE (CV) CLASS 5 6.0" THICK–COMMERCIAL DRIVEWAY	SQ YD	1 680	1 081		599		
AB	4	11, 12	2215.504	FULL DEPTH RECLAMATION (P)	SQ YD	13 765	8 090		5 675		
BE	5		2221.509	SHOULDER BASE AGGREGATE CLASS 5	TON	226	226				
BJ	5	8, 9	2360.504	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C) 1.0" THICK–COMMERCIAL DRIVEWAY	SQ YD	1 145	748		397		
BH	5	8	2360.504	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C) 2.0" THICK–RESIDENTIAL DRIVEWAY	SQ YD	52			52		
BI	5	8, 9	2360.504	TYPE SP 12.5 WEARING COURSE MIXTURE (3,C) 2.0" THICK–COMMERCIAL DRIVEWAY	SQ YD	1 145	748		397		
BC	5	9	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TON	1 623	950		673		
BB	5	9	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (3,C)	TON	1 623	950		673		
	34–36	1, 5	2501.502	15" GS PIPE APRON	EACH	3		3			
	34–36	1, 5	2501.502	18" GS PIPE APRON	EACH	1				1	
	34–36	1, 5	2501.502	30" GS PIPE APRON	EACH	1		1			
	34–36	1, 5	2501.502	18" RC PIPE APRON	EACH	1		1			
	34–36	1, 5	2501.502	21" RC PIPE APRON	EACH	2				2	
	34–36	1, 5	2501.502	30" RC PIPE APRON	EACH	1				1	
	34–36	1, 5	2501.602	TRASH GUARD FOR 15" PIPE APRON	EACH	3		3			
	34–36	1, 5	2501.602	TRASH GUARD FOR 18" PIPE APRON	EACH	2		1		1	
	34–36	1, 5	2501.602	TRASH GUARD FOR 21" PIPE APRON	EACH	2				2	
	34–36	1, 5	2501.602	TRASH GUARD FOR 30" PIPE APRON	EACH	2		1		1	
	34–36	1, 5	2503.503	15" CP PIPE SEWER (SMOOTH)	LIN FT	249		77		172	
	34–36	1, 5	2503.503	18" CP PIPE SEWER (SMOOTH)	LIN FT	114				114	
	34–36	1, 5	2503.503	24" CP PIPE SEWER (SMOOTH)	LIN FT	125				125	
	34–36	1, 5	2503.503	30" CP PIPE SEWER (SMOOTH)	LIN FT	92		92			
	34–36	1, 5	2503.503	12" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	134		31		103	
	34–36	1, 5	2503.503	15" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	616		345		271	
	34–36	1, 5	2503.503	18" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	155		78		77	
	34–36	1, 5	2503.503	21" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	87				87	
	34–36	1, 5	2503.503	24" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	149		44		105	
	34–36	1, 5	2503.503	30" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	57				57	
	34–36	1, 5	2503.602	CONNECT TO EXISTING STORM SEWER	EACH	5		3		2	
	34–36	2, 5	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL–2X3	EACH	8		5		3	
	34–36	2, 5	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 1–48"	EACH	3				3	
	34–36	2, 5	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 2–60" SUMP	EACH	1				1	
	34–36	2, 5	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 3–72" SUMP	EACH	7		5		2	
	34–36	2, 5	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 4–48"–BEEHIVE	EACH	3		1		2	
	34–36	2, 5	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 5–48"–CLOSED	EACH	3		1		2	
	34–36	2, 5	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 6–60"–CLOSED	EACH	1		1			
	34–36	2, 5	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 7–72"–CLOSED	EACH	2		1		1	
	34–36	2, 5	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 8–60" SUMP–CLOSED	EACH	1				1	
	34–36		2506.602	INSTALL SAFL BAFFLE (60" X 36")	EACH	1				1	
	34–36		2506.602	INSTALL SAFL BAFFLE (72" X 36")	EACH	6		4		2	
BM	5	2	2511.504	GEOTEXTILE FILTER TYPE 4	SQ YD	200.5	105.3		95.2		
BL	5		2511.507	RANDOM RIPRAP CLASS III	CU YD	57.1	30.9		26.2		
BQ	5		2531.503	CONCRETE CURB AND GUTTER DESIGN B612	LIN FT	809	487		322		
BD	5	8	2531.503	CONCRETE CURB AND GUTTER DESIGN B618	LIN FT	7 079	3 860		3 219		
BN	5	8	2531.504	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	386	243		143		
BR	5	10	2540.602	INSTALL MAIL BOX SUPPORT WITH MAILBOX	EACH	1			1		

PLATE NO.	STANDARD PLATES – RFC ENGINEERING (IN THE PLANS)
RFC–356B	TRANSITION CURB: B424 TO B618
RFC–363A1	PRIVATE DRIVEWAY/FIELD ENTRANCE
RFC–366B1	TYPICAL STREET SECTION
RFC–366B1B	TYPICAL STREET SECTION – TURN LANE
RFC–366F12	TYPICAL STREET SECTION – NO CURB
RFC–370A1	COMMERCIAL DRIVEWAY
RFC–380A	CURB END
RFC–459C	RECTANGULAR CATCH BASIN
RFC–463A1	FABRIC AROUND CATCH BASIN
RFC–465A1	RECTANGULAR INLET FOR ROUND MANHOLE
RFC–465A3	RECTANGULAR INLET FOR ROUND MANHOLE – VARIABLE SUMP
RFC–465C	ROUND MANHOLE
RFC–465C1	ROUND INLET FOR ROUND MANHOLE
RFC–465C5	ROUND MANHOLE – VARIABLE SUMP
RFC–466B	RCP TRASH GUARD
RFC–466C	CPP TRASH GUARD
RFC–654	STORM DRAIN BEDDING FOR RIGID AND FLEXIBLE PIPE *MNDOT DETAIL
RFC–856A	FORESLOPE
RFC–857	SILT FENCE AT FES

NOTES:

1. SELECT GRANULAR BORROW, STRUCTURAL EXCAVATION, AND GRANULAR BACKFILL FOR STORM PIPES ARE INCIDENTAL.
2. FILTER FABRIC AND FABRIC WRAP FOR CATCH BASINS AND MANHOLES ARE INCIDENTAL.
3. ALL DISTURBED AREAS DETERMINED NOT TO BE PAVED, AGGREGATE SURFACE, CONCRETE SURFACE OR RIPRAPPED SHALL HAVE 4 INCHES OF TOPSOIL, FERTILIZER TYPE 2, MULCH MATERIAL, AND SEED MIXTURE NO. 25–131 PER MNDOT STANDARD SPECIFICATION 3876, APPLY TYPE 1 MULCH AT THE RATE OF 2 (TWO) TONS PER ACRE (TO ACHIEVE A 90% UNIFORM GROUND COVERAGE). SEED MIXTURE, WATER, TYPE 2 FERTILIZER, AND MULCH ARE INCIDENTAL. SOIL TESTING TO DETERMINE FERTILIZER MIXTURE RATIO AND RATE OF APPLICATION IS INCIDENTAL.
4. MATERIAL FOUND IN THE SUBCUTS THAT IS UNSUITABLE FOR FILL IN THE ROADBED SHALL BE REMOVED OFF–SITE OR USED AS NON–STRCTURAL FILL.
5. THE CONTRACTOR SHALL NOT DISTURB AREAS OUTSIDE THE CONSTRUCTION LIMITS.
6. SIGNS INCLUDE POSTS.
7. INSTALLATION AND MAINTENANCE ARE INCIDENTAL.
8. QUANTITY SHOWN USED FOR DRIVEWAY CONSTRUCTION. SEE DETAIL RFC–363A1 AND RFC–370A1.
9. BITUMINOUS MATERIAL FOR TACK COAT SHALL BE INCIDENTAL.
10. REMOVE SUPPORTS AND SALVAGE MAIL BOXES. SALVAGE MAIL BOXES ARE INCIDENTAL.
11. AVERAGE DEPTH OF EXISTING BITUMINOUS PAVEMENT IS 4"
12. AVERAGE DEPTH OF EXISTING BASE MATERIAL IS 3"

SEED MIX 25–131: COMMERCIAL TURF
MULCH TYPE 1
PLANT APRIL 1ST – JUNE 1ST FOR SPRING PLANTING OR
JULY 20TH – SEPTEMBER 20TH FOR FALL PLANTING

BASIS FOR ESTIMATED QUANTITIES

AGGREGATE BASE	105 LBS/S.Y./INCH
BITUMINOUS MIXTURE	110 LBS/S.Y./INCH
TYPE I MULCH	2 TONS/ACRE

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

PLATE NO.	MnDOT STANDARD PLATES
3000M	REINFORCED CONCRETE PIPE (6 SHEETS)
3006H	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3129A	METAL APRON FOR CORRUGATED POLYETHYLENE PIPE
3133D	RIPRAP AT RCP OUTLETS
3134D	RIPRAP AT CSP OUTLETS
3145G	CONCRETE PIPE OR PRECAST BOX CULVERT TIES
7100H	CONCRETE CURB & GUTTER
8000K	TEMPORARY CHANNELIZERS (3 SHEETS)
9350D	MAILBOX SUPPORT SWING–AWAY (3 SHEETS)

PLATE NO.	STANDARD PLATES – NON RFC ENGINEERING (IN THE PLANS)
	SAFL BAFFLE STANDARD DETAIL
	SAFL BAFFLE THROUGH PIPE CONFIGURATION
	SAFL BAFFLE NINETY DEGREE PIPE CONFIGURATION
	SAFL BAFFLE MULTIPLE INLET PIPE CONFIGURATION
	SAFL BAFFLE SIDE INLET PIPE CONFIGURATION

UTILITIES:
LUMEN (763) 712–5017
CENTERPOINT ENERGY (763) 323–2760
COMCAST (952) 607–4078
CONNEXUS ENERGY (763) 323–4268
GREAT RIVERS ENERGY (763) 445–5984

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Kruglen
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763–862–8000
Fax 763–862–8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197–119–004 / 197–135–001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

STATEMENT OF ESTIMATED QUANTITIES AND STANDARD PLATES

DWG: 2205 QTY 1
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 2 OF 61
FILE: 37–2–102

STATEMENT OF ESTIMATED QUANTITIES

TAB	SHEET	NOTES	ITEM NO.	ITEM	UNIT	ENTIRE PROJECT	S.A.P. 197–135–001		S.A.P. 197–119–004		NON PARTICIPATING
							ROADWAY	STORM SEWER	ROADWAY	STORM SEWER	
						ESTIMATED QUANTITIES	ESTIMATED QUANTITIES	ESTIMATED QUANTITIES	ESTIMATED QUANTITIES	ESTIMATED QUANTITIES	ESTIMATED QUANTITIES
			2563.601	TRAFFIC CONTROL	LUMP SUM	1	0.5		0.5		
BS	6,40–41	6	2564.518	SIGN PANELS TYPE C	SQ FT	311.3	198.4		112.9		
	37–39	7	2573.501	STABILIZED CONSTRUCTION EXIT	LUMP SUM	1	0.5		0.5		
BX	6,37–39	7	2573.502	STORM DRAIN INLET PROTECTION	EACH	23	11		12		
BW	6,37–39	7	2573.502	CULVERT END CONTROLS	EACH	9	5		4		
BK	5,37–39	7	2573.503	SILT FENCE, TYPE MS	LIN FT	4 387	2 515		1 872		
	37–39	3	2575.605	TURF ESTABLISHMENT (25–131 SEEDING MIX)	ACRE	3.73	2.03		1.7		
BU	6,40–41		2582.503	4" SINGLE WHITE SOLID LINE EPOXY PAINT	LIN FT	45			45		
BT	6,40–41		2582.503	12" WHITE SOLID LINE EPOXY PAINT (STOP BAR)	LIN FT	14	14				
BP	5,40–41		2582.503	4" DOUBLE YELLOW SOLID LINE EPOXY PAINT	LIN FT	3 624	2 128		1 496		
BO	5,40–41		2582.618	PAVEMENT MARKING – PARKING LOT ARROW – YELLOW EPOXY PAINT	SQ FT	48.8	24.4		24.4		
BV	6,40–41		2582.618	PAVEMENT MARKING – TURN ARROWS – WHITE EPOXY PAINT	SQ FT	45.5			45.5		

PLATE NO.	STANDARD PLATES – RFC ENGINEERING (IN THE PLANS)
RFC–356B	TRANSITION CURB: B424 TO B618
RFC–363A1	PRIVATE DRIVEWAY/FIELD ENTRANCE
RFC–366B1	TYPICAL STREET SECTION
RFC–366B1B	TYPICAL STREET SECTION – TURN LANE
RFC–366F12	TYPICAL STREET SECTION – NO CURB
RFC–370A1	COMMERCIAL DRIVEWAY
RFC–380A	CURB END
RFC–459C	RECTANGULAR CATCH BASIN
RFC–463A1	FABRIC AROUND CATCH BASIN
RFC–465A1	RECTANGULAR INLET FOR ROUND MANHOLE
RFC–465A3	RECTANGULAR INLET FOR ROUND MANHOLE – VARIABLE SUMP
RFC–465C	ROUND MANHOLE
RFC–465C1	ROUND INLET FOR ROUND MANHOLE
RFC–465C5	ROUND MANHOLE – VARIABLE SUMP
RFC–466B	RCP TRASH GUARD
RFC–466C	CPP TRASH GUARD
RFC–654	STORM DRAIN BEDDING FOR RIGID AND FLEXIBLE PIPE *MNDOT DETAIL
RFC–856A	FORESLOPE
RFC–857	SILT FENCE AT FES

NOTES:

1. SELECT GRANULAR BORROW, STRUCTURAL EXCAVATION, AND GRANULAR BACKFILL FOR STORM PIPES ARE INCIDENTAL.
2. FILTER FABRIC AND FABRIC WRAP FOR CATCH BASINS AND MANHOLES ARE INCIDENTAL.
3. ALL DISTURBED AREAS DETERMINED NOT TO BE PAVED, AGGREGATE SURFACE, CONCRETE SURFACE OR RIPRAPPED SHALL HAVE 4 INCHES OF TOPSOIL, FERTILIZER TYPE 2, MULCH MATERIAL, AND SEED MIXTURE NO. 25–131 PER MNDOT STANDARD SPECIFICATION 3876, APPLY TYPE 1 MULCH AT THE RATE OF 2 (TWO) TONS PER ACRE (TO ACHIEVE A 90% UNIFORM GROUND COVERAGE). SEED MIXTURE, WATER, TYPE 2 FERTILIZER, AND MULCH ARE INCIDENTAL. SOIL TESTING TO DETERMINE FERTILIZER MIXTURE RATIO AND RATE OF APPLICATION IS INCIDENTAL.
4. MATERIAL FOUND IN THE SUBCUTS THAT IS UNSUITABLE FOR FILL IN THE ROADBED SHALL BE REMOVED OFF–SITE OR USED AS NON–STRCTURAL FILL.
5. THE CONTRACTOR SHALL NOT DISTURB AREAS OUTSIDE THE CONSTRUCTION LIMITS.
6. SIGNS INCLUDE POSTS.
7. INSTALLATION AND MAINTENANCE ARE INCIDENTAL.
8. QUANTITY SHOWN USED FOR DRIVEWAY CONSTRUCTION. SEE DETAIL RFC–363A1 AND RFC–370A1.
9. BITUMINOUS MATERIAL FOR TACK COAT SHALL BE INCIDENTAL.
10. REMOVE SUPPORTS AND SALVAGE MAIL BOXES. SALVAGE MAIL BOXES ARE INCIDENTAL.
11. AVERAGE DEPTH OF EXISTING BITUMINOUS PAVEMENT IS 4"
12. AVERAGE DEPTH OF EXISTING BASE MATERIAL IS 3"

SEED MIX 25–131: COMMERCIAL TURF
MULCH TYPE 1
PLANT APRIL 1ST – JUNE 1ST FOR SPRING PLANTING OR
JULY 20TH – SEPTEMBER 20TH FOR FALL PLANTING

BASIS FOR ESTIMATED QUANTITIES

AGGREGATE BASE	105 LBS/S.Y./INCH
BITUMINOUS MIXTURE	110 LBS/S.Y./INCH
TYPE I MULCH	2 TONS/ACRE

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

PLATE NO.	MnDOT STANDARD PLATES
3000M	REINFORCED CONCRETE PIPE (6 SHEETS)
3006H	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3129A	METAL APRON FOR CORRUGATED POLYETHYLENE PIPE
3133D	RIPRAP AT RCP OUTLETS
3134D	RIPRAP AT CSP OUTLETS
3145G	CONCRETE PIPE OR PRECAST BOX CULVERT TIES
7100H	CONCRETE CURB & GUTTER
8000K	TEMPORARY CHANNELIZERS (3 SHEETS)
9350D	MAILBOX SUPPORT SWING–AWAY (3 SHEETS)

PLATE NO.	STANDARD PLATES – NON RFC ENGINEERING (IN THE PLANS)
	SAFL BAFFLE STANDARD DETAIL
	SAFL BAFFLE THROUGH PIPE CONFIGURATION
	SAFL BAFFLE NINETY DEGREE PIPE CONFIGURATION
	SAFL BAFFLE MULTIPLE INLET PIPE CONFIGURATION
	SAFL BAFFLE SIDE INLET PIPE CONFIGURATION

GOPHER STATE ONE CALL
800-252-1166 651-454-0002
PLOT DATE: 5/14/2026 15:52

UTILITIES:
LUMEN (763) 712–5017
CENTERPOINT ENERGY (763) 323–2760
COMCAST (952) 607–4078
CONNEXUS ENERGY (763) 323–4268
GREAT RIVERS ENERGY (763) 445–5984

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Krueger
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763–862–8000
Fax 763–862–8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197–119–004 / 197–135–001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

STATEMENT OF ESTIMATED QUANTITIES AND STANDARD PLATES

DWG: 2205 QTY 2
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 3 OF 61
FILE: 37–2–103

TREE REMOVAL — AA

STATION	LOCATION	CLEARING (ACRE)	GRUBBING (ACRE)	CLEARING (EACH)	GRUBBING (EACH)
12+36 TO 13+00	CENTRAL AVE. – LT	0.08	0.08		
13+32 TO 14+63	CENTRAL AVE. – LT	0.15	0.15		
14+02	CENTRAL AVE. – RT			1	1
14+37	CENTRAL AVE. – RT			1	1
23+45	CENTRAL AVE. – LT			1	1
23+67	CENTRAL AVE. – LT			1	1
26+67 TO 27+32	175TH LN. – RT			4	4
30+49 TO 32+31	175TH LN. – LT	0.10	0.10		
50+40 TO 52+06	176TH LN. – LT	0.16	0.16		
52+81 TO 54+47	176TH LN. – LT	0.14	0.14		
54+47 TO 55+52	CHISHOLM ST. – LT	0.04	0.04		
58+28 TO 61+65	CHISHOLM ST. – LT	0.25	0.25		
58+64 TO 63+52	CHISHOLM ST. – RT	0.26	0.26		
61+76 TO 66+30	CHISHOLM ST. – LT	0.17	0.17		
64+68 TO 66+41	CHISHOLM ST. – RT	0.11	0.11		
71+59 TO 73+44	177TH AVE. – LT	0.06	0.06		
72+09	177TH AVE. – RT			1	1
72+98	177TH AVE. – RT			1	1
73+33	177TH AVE. – RT			1	1
73+46	177TH AVE. – RT			1	1
TOTAL		1.52	1.52	12	12

RECLAIM BITUMINOUS PAVEMENT — AB

STATION	LOCATION	SQ YD
13+38 TO 25+56	CENTRAL AVE. – ROADWAY	4,273
25+56 TO 32+66	175TH LN. – ROADWAY	2,400
50+00 TO 54+47	176TH LN. – ROADWAY	1,480
54+47 TO 66+49	CHISHOLM ST. – ROADWAY	4,195
70+00 TO 73+88	177TH AVE. – ROADWAY	1,417
TOTAL		13,765

SAWCUT BITUMINOUS PAVEMENT — AC

STATION	LOCATION	LIN FT
66+49	CHISHOLM ST. – ROADWAY	109
70+00	177TH AVE. – ROADWAY	109
TOTAL		218

SALVAGE WOODEN FENCE — AD

STATION	LOCATION	LIN FT
26+45 TO 27+54	175TH LN. – LT	111
28+25 TO 29+52	175TH LN. – LT	140
TOTAL		251

SALVAGE MAILBOX SUPPORT — AE

STATION	LOCATION	TYPE
61+46	CHISHOLM ST. – LT	SINGLE
TOTAL		1

SAWCUT BITUMINOUS DRIVEWAY — AF

STATION	LOCATION	LIN FT
14+75	CENTRAL AVE. – RT	32
15+50	CENTRAL AVE. – RT	28
17+00	CENTRAL AVE. – LT	31
17+50	CENTRAL AVE. – RT	22
23+25	CENTRAL AVE. – LT	36
28+00	175TH LN. – LT	36
28+75	175TH LN. – RT	45
30+00	175TH LN. – LT	47
30+75	175TH LN. – RT	27
51+50	176TH LN. – RT	34
55+65	CHISHOLM ST. – RT	29
56+42	CHISHOLM ST. – LT	29
57+25	CHISHOLM ST. – RT	47
58+22	CHISHOLM ST. – LT	20
64+50	CHISHOLM ST. – RT	28
72+50	177TH AVE. – RT	36
TOTAL		527

REMOVE CONCRETE CURB AND GUTTER — AG

STATION	LOCATION	LENGTH (LIN FT)
14+96	CENTRAL AVE. – RT	37
15+41	CENTRAL AVE. – RT	29
15+70	CENTRAL AVE. – RT	29
17+43	CENTRAL AVE. – RT	26
17+64	CENTRAL AVE. – RT	25
30+62	175TH LN. – RT	2
30+92	175TH LN. – RT	4
51+42	176TH LN. – RT	12
51+74	176TH LN. – RT	14
55+80	CHISHOLM ST. – RT	2
56+92	CHISHOLM ST. – RT	2
64+38	CHISHOLM ST. – RT	10
64+68	CHISHOLM ST. – RT	10
65+95 TO 66+47	CHISHOLM ST. – RT	70
TOTAL		272

REMOVE BLOCK RETAINING WALL — AO

STATION	LOCATION	LIN FT
25+69 TO 26+45	175TH LN. – LT	64
TOTAL		64

SAWCUT CONCRETE CURB — AH

STATION	LOCATION	LIN FT
14+96	CENTRAL AVE. – RT	2
15+41	CENTRAL AVE. – RT	2
15+70	CENTRAL AVE. – RT	2
17+43	CENTRAL AVE. – RT	2
17+64	CENTRAL AVE. – RT	2
30+62	175TH LN. – RT	2
30+92	175TH LN. – RT	2
51+42	176TH LN. – RT	2
51+74	176TH LN. – RT	2
55+80	CHISHOLM ST. – RT	2
56+92	CHISHOLM ST. – RT	2
64+38	CHISHOLM ST. – RT	2
64+68	CHISHOLM ST. – RT	2
66+47	CHISHOLM ST. – RT	3
TOTAL		29

REMOVE BITUMINOUS DRIVEWAY — AI

STATION	LOCATION	SQ YD
14+75	CENTRAL AVE. – RT	91
15+50	CENTRAL AVE. – RT	62
17+00	CENTRAL AVE. – LT	120
17+50	CENTRAL AVE. – RT	64
23+25	CENTRAL AVE. – LT	112
28+00	175TH LN. – LT	93
28+75	175TH LN. – RT	163
30+00	175TH LN. – LT	182
30+75	175TH LN. – RT	87
51+50	176TH LN. – RT	108
55+65	CHISHOLM ST. – RT	76
56+42	CHISHOLM ST. – LT	52
57+25	CHISHOLM ST. – RT	206
58+22	CHISHOLM ST. – LT	56
64+50	CHISHOLM ST. – RT	114
72+50	177TH AVE. – RT	82
TOTAL		1,668

SALVAGE SIGN — AL

STATION	LOCATION	SIGN NO.	POST	PANEL LEGEND
72+77	177TH AVE. – RT	C–1	1	PRIVATE SIGN LIQUOR STORE
TOTAL			1	

NOTES:
1. TOP OF GRADING SUBGRADE IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE.
2. BITUMINOUS AND CONCRETE DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFFSITE IN ACCORDANCE WITH MnDOT SPEC. 2104.3C3.
3. COMPACTION OF ALL GRADING AND BASE ITEMS SHALL BE BY THE "QUALITY COMPACTION METHOD".
4. USE TACK COAT BETWEEN ALL BITUMINOUS LAYERS AND BETWEEN BITUMINOUS AND CONCRETE CURB AND GUTTER. TACK COAT IS INCIDENTAL.
5. STRIP ALL TOPSOIL AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE TOPSOIL OR USE AS FILL OUTSIDE OF ROAD CORE.
6. WHENEVER THE WORD "INCIDENTAL" IS USED IN THIS PLAN, IT SHALL MEAN THIS WORK SHALL BE INCIDENTAL FOR WHICH NO DIRECT COMPENSATION WILL BE MADE.
7. STATIONING FOR LOCATION OF EXISTING AND NEW SIGNS IS APPROXIMATE.
8. EXISTING STREETS ARE APPROXIMATELY 3" TO 4" OF BITUMINOUS AND 4" OF CLASS 5.

REMOVE DRAINAGE STRUCTURE — AJ

STATION	LOCATION	QUANTITY
13+92	CENTRAL AVE. – ROADWAY	2
20+16	CENTRAL AVE. – ROADWAY	2
26+24	175TH LN. – ROADWAY	2
51+19	176TH LN. – ROADWAY	1
51+45	176TH LN. – ROADWAY	1
53+66	176TH LN. – ROADWAY	2
TOTAL		10

REMOVE PIPES — AK

STATION	LOCATION	LIN FT
13+91	CENTRAL AVE. – RT	7
13+92	CENTRAL AVE. – ROADWAY	44
13+98	CENTRAL AVE. – LT	14
20+08	CENTRAL AVE. – LT	10
20+16	CENTRAL AVE. – ROADWAY	44
20+16	CENTRAL AVE. – RT	96
20+23	CENTRAL AVE. – LT	10
26+24	175TH LN. – ROADWAY	45
26+24	175TH LN. – RT	13
51+20	176TH LN. – ROADWAY	53
51+32	176TH LN. – RT	28
53+57	176TH LN. – LT	12
53+66	176TH LN. – ROADWAY	31
53+67	176TH LN. – RT	9
66+16	CHISHOLM ST. – ROADWAY	94
TOTAL		510

REMOVE SIGN — AM

STATION	LOCATION	SIGN NO.	POST	CODE NO.	PANEL LEGEND
14+57	CENTRAL AVE. – RT	C–2	1	R1–1, R1–3P	STOP & ALL–WAY
15+00	CENTRAL AVE. – RT	C–3	1	R1–1, R1–3P	STOP & ALL–WAY
15+30	CENTRAL AVE. – LT	C–4	1	R1–1, R1–3P	STOP & ALL–WAY
27+76	175TH LN. – LT	C–5	1	R1–1, W4–4P	STOP & CROSS TRAFFIC DOES NOT STOP
28+88	175TH LN. – LT	C–6	1	R7–1	NO PARKING ANY TIME
28+97	175TH LN. – RT	C–7	1	R1–1, W4–4P	STOP & CROSS TRAFFIC DOES NOT STOP
29+64	175TH LN. – RT	C–8	1	R7–1	NO PARKING ANY TIME
30+98	175TH LN. – RT	C–9	1	R1–1	STOP
31+33	175TH LN. – RT	C–10	1	R7–1	NO PARKING ANY TIME
32+27	175TH LN. – RT	C–11	1	R1–1	STOP
50+35	176TH LN. – LT	C–12	1	R1–1, R1–3P, D3–1	STOP, ALL–WAY, & STREET
51+81	176TH LN. – RT	C–13	1	R1–1	STOP
62+98	CHISHOLM ST. – LT	C–14	1	R7–1	NO PARKING ANY TIME
63+48	CHISHOLM ST. – RT	C–15	1	D3–1	STREET
64+25	CHISHOLM ST. – LT	C–16	1	R7–1	NO PARKING ANY TIME
64+78	CHISHOLM ST. – RT	C–17	1	R1–1	STOP
65+67	CHISHOLM ST. – LT	C–18	1	R7–1	NO PARKING ANY TIME
66+14	CHISHOLM ST. – RT	C–19	1	X3–1	RIGHT OF WAY MARKER: B–CORNER
66+19	CHISHOLM ST. – LT	C–20	1	X3–1	RIGHT OF WAY MARKER: B–CORNER
66+29	CHISHOLM ST. – RT	C–21	1	R1–1, W6–1L, W6–1R, X4–3	STOP, ONE–WAY LEFT, ONE–WAY RIGHT, & CYLINDER DELINEATOR
66+30	CHISHOLM ST. – LT	C–22	1	D3–1	STREET
66+43	CHISHOLM ST. – RT	C–23	1	X3–5	SNOW PLOW MARKER
70+24	177TH AVE. – RT	C–24	1	D3–1	STREET
70+33	177TH AVE. – LT	C–25	1	R1–1, W6–1R	STOP & ONE–WAY
70+92	177TH AVE. – RT	C–26	1	R2–1	SPEED LIMIT 30 M.P.H
72+77	177TH AVE. – RT	C–27	1	R1–1	STOP
TOTAL			26		

EARTHWORK SUMMARY — AN

EXCAVATION (CU YD)

TOPSOIL 2,151 CU YD (EV)
COMMON 3,064 CU YD (EV)
BIT RECLAIM 1,722 CU YD (EV)
→ 6,937 CU YD (EV) ①

TOPSOIL 2,151 CU YD (EV)/1.1 = 1,955 CU YD (CV)
COMMON EX 1,499 CU YD (EV)/1.3 = 1,153 CU YD (CV)
GRANULAR FILL 50 CU YD (CV)

EMBANKMENT (CU YD)

→ 3,159 CU YD (CV) ②

2,006 CU YD (CV) TOPSOIL
1,153 CU YD (CV) COMMON

NOTES:
① TOTAL EXCAVATION (EV) REQUIRED FOR PROJECT.
② TOTAL EMBANKMENT (CV) REQUIRED FOR PROJECT.

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

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GREAT RIVERS ENERGY (763) 445–5984

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Dan Krueger
DATE 05/14/26 REG. NO. 48768

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S.A.P. 197–119–004 / 197–135–001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

EARTHWORK SUMMARY AND TABULATIONS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2205 TAB 1
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 4 OF 61
FILE: 37–2–104

AGGREGATE BASE CLASS 5 — BA

STATION TO STATION	LOCATION	TONS
12+61 TO 25+56	CENTRAL AVE.	1,682
25+56 TO 32+66	175TH LN.	929
50+00 TO 54+47	176TH LN.	585
54+47 TO 66+49	CHISHOLM ST.	1,670
70+00 TO 73+88	177TH AVE.	538
TOTAL		5,404

SHOULDER BASE AGGRAGATE CLASS 5 — BE

STATION TO STATION	LOCATION	TONS
13+02 TO 13+26	CENTRAL AVE. – RT	7
70+00 TO 72+37	177TH AVE. – RT	68
72+75 TO 73+88	177TH AVE. – RT	30
70+02 TO 74+31	177TH AVE. – LT	121
TOTAL		226

TYPE SP 12.5 BITUMINOUS WEARING COURSE MIXTURE (SPWEB340C) — BB

STATION TO STATION	LOCATION	SQ. YD. (2 IN)	TONS
12+61 TO 25+56	CENTRAL AVE.	4,132	500
25+56 TO 32+66	175TH LN.	2,291	277
50+00 TO 54+47	176TH LN.	1,447	175
54+47 TO 66+49	CHISHOLM ST.	4,111	498
70+00 TO 73+88	177TH AVE.	1,429	173
TOTAL			1,623

TYPE SP 9.5 BITUMINOUS WEARING COURSE MIXTURE (SPWEA340C) — BC

STATION TO STATION	LOCATION	SQ. YD. (2 IN)	TONS
12+61 TO 25+56	CENTRAL AVE.	4,132	500
25+56 TO 32+66	175TH LN.	2,291	277
50+00 TO 54+47	176TH LN.	1,447	175
54+47 TO 66+49	CHISHOLM ST.	4,111	498
70+00 TO 73+88	177TH AVE.	1,429	173
TOTAL			1,623

CONCRETE CURB & GUTTER DESIGN B618 — BD

STATION TO STATION	LOCATION	LIN FT
12+60 TO 14+56	CENTRAL AVE. – LT	201
13+26 TO 25+56	CENTRAL AVE. – RT	1,242
15+43 TO 25+56	CENTRAL AVE. – LT	994
25+56 TO 32+49	175TH LN. – LT	699
25+56 TO 32+51	175TH LN. – RT	724
50+12 TO 54+47	176TH LN. – LT	452
50+16 TO 54+47	176TH LN. – RT	442
54+47 TO 66+44	CHISHOLM ST. – LT	1,220
54+47 TO 63+32	CHISHOLM ST. – RT	873
64+25 TO 66+47	CHISHOLM ST. – RT	232
TOTAL		7,079

COMMERCIAL DRIVEWAY AGGREGATE BASE CLASS 5, 6"–THICK — BF

STATION	LOCATION	SQ. YD.
14+75	CENTRAL AVE. – RT	130
15+50	CENTRAL AVE. – RT	83
17+00	CENTRAL AVE. – LT	118
17+50	CENTRAL AVE. – RT	76
23+25	CENTRAL AVE. – LT	115
28+00	175TH LN. – LT	75
28+75	175TH LN. – RT	151
30+00	175TH LN. – LT	167
30+75	175TH LN. – RT	77
51+50	176TH LN. – RT	104
55+65	CHISHOLM ST. – RT	70
56+42	CHISHOLM ST. – LT	55
57+25	CHISHOLM ST. – RT	193
58+22	CHISHOLM ST. – LT	74
64+50	CHISHOLM ST. – RT	103
72+50	177TH AVE. – RT	89
TOTAL		1,680

RESIDENTIAL DRIVEWAY AGGREGATE BASE CLASS 5, 4"–THICK — BG

STATION	LOCATION	SQ. YD.
61+60	CHISHOLM ST. – LT	100
TOTAL		100

TYPE SP 9.5 BITUMINOUS WEARING COURSE MIXTURE (SPWEA340C) 2"–RESIDENTIAL DRIVEWAY — BH

STATION	LOCATION	SQ. YD.
61+60	CHISHOLM ST. – LT	52
TOTAL		52

TYPE SP 12.5 BITUMINOUS WEARING COURSE MIXTURE (SPWEB340C) 2"–COMMCERCIAL DRIVEWAY — BI

STATION	LOCATION	SQ. YD.
14+75	CENTRAL AVE. – RT	90
15+50	CENTRAL AVE. – RT	51
17+00	CENTRAL AVE. – LT	80
17+50	CENTRAL AVE. – RT	46
23+25	CENTRAL AVE. – LT	78
28+00	175TH LN. – LT	44
28+75	175TH LN. – RT	104
30+00	175TH LN. – LT	118
30+75	175TH LN. – RT	48
51+50	176TH LN. – RT	70
55+65	CHISHOLM ST. – RT	40
56+42	CHISHOLM ST. – LT	33
57+25	CHISHOLM ST. – RT	142
58+22	CHISHOLM ST. – LT	43
64+50	CHISHOLM ST. – RT	69
72+50	177TH AVE. – RT	89
TOTAL		1,145

TYPE SP 9.5 BITUMINOUS WEARING COURSE MIXTURE (SPWEA340C) 1"–COMMERCIAL DRIVEWAY — BJ

STATION	LOCATION	SQ. YD.
14+75	CENTRAL AVE. – RT	90
15+50	CENTRAL AVE. – RT	51
17+00	CENTRAL AVE. – LT	80
17+50	CENTRAL AVE. – RT	46
23+25	CENTRAL AVE. – LT	78
28+00	175TH LN. – LT	44
28+75	175TH LN. – RT	104
30+00	175TH LN. – LT	118
30+75	175TH LN. – RT	48
51+50	176TH LN. – RT	70
55+65	CHISHOLM ST. – RT	40
56+42	CHISHOLM ST. – LT	33
57+25	CHISHOLM ST. – RT	142
58+22	CHISHOLM ST. – LT	43
64+50	CHISHOLM ST. – RT	69
72+50	177TH AVE. – RT	89
TOTAL		1,145

SILT FENCE — BK

STATION TO STATION	LOCATION	LIN. FT.
12+36 TO 14+44	CENTRAL AVE. – LT	503
20+03 TO 20+32	CENTRAL AVE. – RT	221
21+00 TO 25+56	CENTRAL AVE. – RT	693
25+56 TO 28+43	CENTRAL AVE. – RT	637
50+62 TO 53+75	176TH LN. – LT	580
53+78 TO 54+47	176TH LN. – LT	94
54+47 TO 56+28	CHISHOLM ST. – LT	210
56+57 TO 57+89	CHISHOLM ST. – LT	132
63+17 TO 66+47	CHISHOLM ST. – LT	539
64+79 TO 66+46	CHISHOLM ST. – RT	317
70+03 TO 72+37	177TH AVE. – RT	253
70+11 TO 72+01	177TH AVE. – LT	208
TOTAL		4,387

RIPRAP CLASS 3 — BL

STATION	LOCATION	CU. YD.
14+23	CENTRAL AVE. – LT	4.9
20+16	CENTRAL AVE. – RT	16.2
24+66	CENTRAL AVE. – RT	4.9
26+75	175TH LN. – RT	4.9
53+65	176TH LN. – LT	12.3
64+89	CHISHOLM ST. – RT	6.8
66+25	CHISHOLM ST. – LT	7.1
TOTAL		57.1

GEOTEXTILE FABRIC TYPE 4 — BM

STATION	LOCATION	SQ. YD.
14+23	CENTRAL AVE. – LT	20.7
20+16	CENTRAL AVE. – RT	43.2
24+66	CENTRAL AVE. – RT	20.7
26+75	175TH LN. – RT	20.7
53+65	176TH LN. – LT	41.6
64+89	CHISHOLM ST. – RT	26.2
66+25	CHISHOLM ST. – LT	27.4
TOTAL		200.5

6" CONCRETE PAVEMENT – DRIVEWAY — BN

STATION	LOCATION	SQ. YD.
14+75	CENTRAL AVE. – RT	27
15+50	CENTRAL AVE. – RT	22
17+00	CENTRAL AVE. – LT	26
17+50	CENTRAL AVE. – RT	20
23+25	CENTRAL AVE. – LT	27
28+00	175TH LN. – LT	25
28+75	175TH LN. – RT	39
30+00	175TH LN. – LT	37
30+75	175TH LN. – RT	21
51+50	176TH LN. – RT	24
55+65	CHISHOLM ST. – RT	22
56+42	CHISHOLM ST. – LT	17
57+25	CHISHOLM ST. – RT	37
58+22	CHISHOLM ST. – LT	20
64+50	CHISHOLM ST. – RT	22
TOTAL		386

YELLOW PAVEMENT MARKINGS PARKING LOT — BO

STATION	LOCATION	CODE	DESCRIPTION	AREA (SQ. FT.)
30+72	175TH LN. – RT	PMA–1	THROUGH ARROW	12.2
30+83	175TH LN. – RT	PMA–1	THROUGH ARROW	12.2
64+48	CHISHOLM ST. – RT	PMA–1	THROUGH ARROW	12.2
64+58	CHISHOLM ST. – RT	PMA–1	THROUGH ARROW	12.2
TOTAL				48.8

4" DOUBLE SOLID LINE YELLOW–PAINT — BP

STATION TO STATION	LOCATION	LIN. FT.
13+26 TO 14+56	CENTRAL AVE. – ROADWAY	130
15+43 TO 25+56	CENTRAL AVE. – ROADWAY	1,013
25+56 TO 32+20	175TH LN. – ROADWAY	664
50+44 TO 54+47	176TH LN. – ROADWAY	403
54+47 TO 63+32	CHISHOLM ST. – ROADWAY	885
64+25 TO 66+33	CHISHOLM ST. – ROADWAY	208
70+42 TO 73+63	177TH AVE. – ROADWAY	321
TOTAL		3,624

CONCRETE CURB & GUTTER DESIGN B612 – DRIVEWAY — BQ

STATION	LOCATION	LIN FT
14+60	CENTRAL AVE. – RT	37
14+99	CENTRAL AVE. – RT	36
15+37	CENTRAL AVE. – RT	27
15+70	CENTRAL AVE. – RT	26
16+87	CENTRAL AVE. – LT	30
17+23	CENTRAL AVE. – LT	33
17+41	CENTRAL AVE. – RT	24
17+71	CENTRAL AVE. – RT	26
22+99	CENTRAL AVE. – LT	27
23+39	CENTRAL AVE. – LT	29
27+73	175TH LN. – LT	20
28+16	175TH LN. – LT	19
28+29	175TH LN. – RT	27
28+94	175TH LN. – RT	17
29+73	175TH LN. – LT	33
30+28	175TH LN. – LT	30
30+60	175TH LN. – RT	23
30+93	175TH LN. – RT	23
51+42	176TH LN. – RT	26
51+77	176TH LN. – RT	28
55+47	CHISHOLM ST. – RT	22
55+84	CHISHOLM ST. – RT	22
56+27	CHISHOLM ST. – LT	13
56+57	CHISHOLM ST. – LT	13
56+95	CHISHOLM ST. – RT	22
57+49	CHISHOLM ST. – RT	54
58+11	CHISHOLM ST. – LT	20
58+39	CHISHOLM ST. – LT	39
64+38	CHISHOLM ST. – RT	32
64+69	CHISHOLM ST. – RT	31
TOTAL		809

MAILBOX SUPPORT (SWING–AWAY TYPE) — BR

STATION	LOCATION	TYPE
61+46	CHISHOLM ST. – LT	SINGLE
TOTAL		1

NOTES:

1. TOP OF GRADING SUBGRADE IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE.
2. BITUMINOUS AND CONCRETE DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFFSITE IN ACCORDANCE WITH MnDOT SPEC. 2104.3C3.
3. COMPACTION OF ALL GRADING AND BASE ITEMS SHALL BE BY THE "QUALITY COMPACTION METHOD".
4. USE TACK COAT BETWEEN ALL BITUMINOUS LAYERS AND BETWEEN BITUMINOUS AND CONCRETE CURB AND GUTTER. TACK COAT IS INCIDENTAL.
5. STRIP ALL TOPSOIL AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE TOPSOIL OR USE AS FILL OUTSIDE OF ROAD CORE.
6. WHENEVER THE WORD "INCIDENTAL" IS USED IN THIS PLAN, IT SHALL MEAN THIS WORK SHALL BE INCIDENTAL FOR WHICH NO DIRECT COMPENSATION WILL BE MADE.
7. STATIONING FOR LOCATION OF EXISTING AND NEW SIGNS IS APPROXIMATE.
8. SIGN INSTALLED BY OTHERS. POST INSTALLED BY OTHERS IF STAND ALONE SIGN.
9. FLANGED CHANNEL POSTS SHALL CONFORM TO MnDOT SPEC. 3401.2D FOR 3 POUNDS PER FOOT.
10. SIGNS SHALL CONFORM TO THE LATEST MnMUTCD.

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Krueger
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
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13635 Johnson Street
Ham Lake, MN 55304
Telephone 763–862–8000
Fax 763–862–8042

S.A.P. 197–119–004 / 197–135–001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

EARTHWORK SUMMARY AND TABULATIONS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2205 TAB 2
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 5 OF 61
FILE: 37–2–105

SIGN PANELS TYPE C — BS

SIGN NO.	NOTE	TOTAL QTY.	NUMBER OF POSTS	POST TYPE	BASE TYPE	PANEL SIZE (IN)	PANEL AREA (SQ. FT.)	PANEL TOTAL AREA (SQ. FT.)	CODE NO.	PANEL LEGEND
C-50		12	SINGLE	FLANGED CHANNEL		30 X 30	6	72	R1-1	STOP
C-51		2	SINGLE	FLANGED CHANNEL		24 X 30	5	10	R2-1	SPEED LIMIT 30 M.P.H
C-52		1	SINGLE	FLANGED CHANNEL		36 X 30	7.5	7.5	R3-8DA	LANE USE CONTROL: COMBINED THRU/LEFT TURN ARROW & RIGHT TURN ONLY
C-53		24	SINGLE	FLANGED CHANNEL		24 X 24	4	96	R8-3	NO PARKING
C-54		2	DOUBLE	FLANGED CHANNEL		48 X 60	20	40		TYPE 3 BARRICADE
C-55		2	SINGLE	FLANGED CHANNEL		30 X 30	6	12	W1-1R	TURN LEFT
C-56		2	SINGLE	FLANGED CHANNEL		30 X 30	6	12	W1-1L	TURN RIGHT
C-57		1	DOUBLE	FLANGED CHANNEL		48 X 24	8	8	W1-7	TWO-DIRECTION LARGE ARROW
C-58		1	DOUBLE	FLANGED CHANNEL		48 X 24	8	8	W1-6R	ONE-DIRECTION LARGE ARROW RIGHT
C-59		3	SINGLE	FLANGED CHANNEL		24 X 12	2	6	W4-4P	CROSS TRAFFIC DOES NOT STOP
C-60		1	SINGLE	FLANGED CHANNEL		36 X 12	3	3	R6-1R	ONE WAY
C-61		1	SINGLE	FLANGED CHANNEL		36 X 12	3	3	R6-1L	ONE WAY
C-62		4	SINGLE	FLANGED CHANNEL		18 X 18	2.25	9	W13-1P	20 M.P.H. ADVISORY SPEED
C-63		1	SINGLE	FLANGED CHANNEL		9 HIGH, 6 DIAMETER	3.9	3.9	X4-3	CYLINDER DELINEATOR
C-64	8	5	SINGLE			VARIES X 8			D3-1	STREET
C-65		1	DOUBLE	FLANGED CHANNEL		48 X 24	8	8	W1-6L	ONE-DIRECTION LARGE ARROW LEFT
C-66	11	1	SINGLE	2.5" SQUARE TUBE	SLIP BASE ASSEMBLY	30 X 30	6	6	R1-1	STOP
C-67	11	1	SINGLE	2.5" SQUARE TUBE	SLIP BASE ASSEMBLY	36 X 12	3	3	R6-1R	ONE WAY
C-68	11	1	SINGLE	2.5" SQUARE TUBE	SLIP BASE ASSEMBLY	9 HIGH, 6 DIAMETER	3.9	3.9	X4-3	CYLINDER DELINEATOR
TOTAL								311.3		

WHITE PAVEMENT MARKINGS ROADWAY — BV

STATION	LOCATION	CODE	DESCRIPTION	AREA (SQ. FT.)
66+12	CHISHOLM ST. - ROADWAY	PMA-2R	RIGHT TURN ARROW	15.5
66+12	CHISHOLM ST. - ROADWAY	PMA-3L	COMBINED THROUGH & LEFT TURN ARROW	30
TOTAL				45.5

STORM DRAIN INLET PROTECTION — BX

STATION	LOCATION	QUANTITY
13+80	CENTRAL AVE. - RT	1
14+23	CENTRAL AVE. - LT	1
14+23	CENTRAL AVE. - RT	1
19+80	CENTRAL AVE. - LT	1
19+80	CENTRAL AVE. - RT	1
24+66	CENTRAL AVE. - LT	1
24+66	CENTRAL AVE. - RT	1
26+75	175TH LN. - LT	1
26+75	175TH LN. - RT	1
30+50	175TH LN. - LT	1
32+19	175TH LN. - LT	1
50+47	176TH LN. - RT	1
54+25	176TH LN. - RT	1
54+97	CHISHOLM ST. - LT	1
54+97	CHISHOLM ST. - RT	1
57+72	CHISHOLM ST. - LT	1
57+72	CHISHOLM ST. - RT	1
58+18	CHISHOLM ST. - RT	1
63+94	CHISHOLM ST. - LT	1
64+03	CHISHOLM ST. - RT	1
66+11	CHISHOLM ST. - RT	1
66+33	CHISHOLM ST. - LT	1
66+47	CHISHOLM ST. - RT	1
TOTAL		23

12" SOLID LINE WHITE-PAINT (STOP BAR) — BT

STATION	LOCATION	LIN. FT.
73+63	177TH AVE. - ROADWAY	14
TOTAL		14

4" SOLID SINGLE LINE WHITE-PAINT — BU

STATION	LOCATION	LIN. FT.
65+84 TO 66+32	CHISHOLM ST. - ROADWAY	45
TOTAL		45

CULVERT END CONTROL — BW

STATION	LOCATION	QUANTITY
13+89	CENTRAL AVE. - LT	1
14+23	CENTRAL AVE. - LT	1
20+16	CENTRAL AVE. - RT	1
24+66	CENTRAL AVE. - RT	1
26+75	175TH LN. - RT	1
53+65	176TH LN. - LT	1
64+89	CHISHOLM ST. - RT	1
66+07	CHISHOLM ST. - RT	1
66+25	CHISHOLM ST. - LT	1
TOTAL		9

NOTES:

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3. COMPACTION OF ALL GRADING AND BASE ITEMS SHALL BE BY THE "QUALITY COMPACTION METHOD".
4. USE TACK COAT BETWEEN ALL BITUMINOUS LAYERS AND BETWEEN BITUMINOUS AND CONCRETE CURB AND GUTTER. TACK COAT IS INCIDENTAL.
5. STRIP ALL TOPSOIL AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE TOPSOIL OR USE AS FILL OUTSIDE OF ROAD CORE.
6. WHENEVER THE WORD "INCIDENTAL" IS USED IN THIS PLAN, IT SHALL MEAN THIS WORK SHALL BE INCIDENTAL FOR WHICH NO DIRECT COMPENSATION WILL BE MADE.
7. STATIONING FOR LOCATION OF EXISTING AND NEW SIGNS IS APPROXIMATE.
8. SIGN INSTALLED BY OTHERS. POST INSTALLED BY OTHERS IF STAND ALONE SIGN.
9. FLANGED CHANNEL POSTS SHALL CONFORM TO MnDOT SPEC. 3401.2D FOR 3 POUNDS PER FOOT.
10. SIGNS SHALL CONFORM TO THE LATEST MnMUTCD.
11. MnDOT SIGNS SHALL USE A SLIP BASE ASSEMBLY AND SQUARE TUBE POSTS.

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dan Krughe
DATE 05/14/26 REG. NO. 48768

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S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

EARTHWORK SUMMARY AND TABULATIONS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2205 TAB 3
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 6 OF 61
FILE: 37-2-106

UTILITY COMPANIES – CA
GOPHER STATE ONE CALL FIELD UTILITY LOCATE REQUEST
CENTERPOINT ENERGY
COMCAST CABLE COMMUNICATIONS, INC.
CONNEXUS ENERGY
GREAT RIVER ENERGY
LUMEN
MINNESOTA DEPARTMENT OF TRANSPORTATION
ZAYO BANDWITDTH

GENERAL NOTES:

1. STATIONING REFERENCES THE PROPOSED CENTERLINES FOR THE PROJECT.
2. ALL REMOVALS AND RELOCATIONS, EXCEPT FOR MnDOT FACILITIES, ARE TO BE COMPLETED BY THE UTILITY OWNER.

LUMEN				CE
ALIGNMENT	STATION	OFFSET	INPLACE ITEM	NOTES
CENTRAL AVENUE	13+38 TO 15+07	VARIES RT	BURIED FIBER OPTIC	ABANDON IN PLACE OR REMOVE
CENTRAL AVENUE	15+07	0'	BURIED FIBER OPTIC	ABANDON IN PLACE OR REMOVE
176TH LANE	50+18 TO 54+47	VARIES LT	BURIED FIBER OPTIC	ABANDON IN PLACE OR REMOVE
CHISHOLM STREET	54+47 TO 55+51	22' LT	BURIED FIBER OPTIC	ABANDON IN PLACE OR REMOVE
CHISHOLM STREET	55+51 TO 56+14	36.5' LT	BURIED FIBER OPTIC	ABANDON IN PLACE OR REMOVE
CHISHOLM STREET	56+14	0'	BURIED CABLE	ABANDON IN PLACE OR REMOVE
CHISHOLM STREET	56+14 TO 57+49	24' LT	BURIED CABLE	ABANDON IN PLACE OR REMOVE
CHISHOLM STREET	57+49	0'	BURIED CABLE	ABANDON IN PLACE OR REMOVE
CHISHOLM STREET	57+49 TO 61+83	24' LT	BURIED CABLE	ABANDON IN PLACE OR REMOVE
CHISHOLM STREET	61+83 TO 63+00	24' LT	BURIED CABLE	ABANDON IN PLACE OR REMOVE
CHISHOLM STREET	63+00	0'	BURIED CABLE	ABANDON IN PLACE OR REMOVE
177TH AVENUE	70+74 TO 73+88	26' RT	BURIED FIBER OPTIC	ABANDON IN PLACE OR REMOVE
177TH AVENUE	73+88	0'	BURIED FIBER OPTIC	LEAVE AS IS

CENTERPOINT ENERGY				CB
ALIGNMENT	STATION	OFFSET	INPLACE ITEM	NOTES
CENTRAL AVENUE	14+58 TO 16+44	15.5' RT	BURIED GAS	LEAVE AS IS
CENTRAL AVENUE	14+58	0'	BURIED GAS	LEAVE AS IS
175TH LANE	25+22 TO 32+66	21' RT	BURIED GAS	RELOCATE
176TH LANE	50+18 TO 54+47	23' LT	BURIED GAS	LEAVE AS IS
176TH LANE	51+02	0'	BURIED GAS	LEAVE AS IS
CHISHOLM STREET	54+47 TO 64+04	23' LT	BURIED GAS	LEAVE AS IS
CHISHOLM STREET	57+66	0'	BURIED GAS	LEAVE AS IS
CHISHOLM STREET	64+04 TO 66+48	23' LT	BURIED GAS	RELOCATE
CHISHOLM STREET	64+03	0'	BURIED GAS	RELOCATE

COMCAST				CF
ALIGNMENT	STATION	OFFSET	INPLACE ITEM	NOTES
175TH LANE	26+00 TO 32+66	18' RT	BURIED FIBER OPTIC	RELOCATE
175TH LANE	29+50	0'	BURIED FIBER OPTIC	RELOCATE
175TH LANE	29+50 TO 32+01	22' LT	BURIED FIBER OPTIC	RELOCATE
175TH LANE	32+01	0'	BURIED FIBER OPTIC	RELOCATE
CHISHOLM STREET	56+14 TO 64+00	24' LT	BURIED FIBER OPTIC	RELOCATE
CHISHOLM STREET	64+00	0'	BURIED FIBER OPTIC	RELOCATE
CHISHOLM STREET	64+00 TO 66+30	24' LT	BURIED FIBER OPTIC	RELOCATE

ZAYO BANDWIDTH				CC
ALIGNMENT	STATION	OFFSET	INPLACE ITEM	NOTES
CENTRAL AVENUE	21+04	0'	BURIED FIBER OPTIC	LEAVE AS IS
CENTRAL AVENUE	21+05 TO 25+24	70' RT	BURIED FIBER OPTIC	LEAVE AS IS
CHISHOLM STREET	66+40	46' LT	BURIED FIBER OPTIC	LEAVE AS IS
177TH AVENUE	70+74	0'	BURIED FIBER OPTIC	LEAVE AS IS

GREAT RIVER ENERGY				CG
ALIGNMENT	STATION	OFFSET	INPLACE ITEM	NOTES
177TH AVENUE	70+00 TO 74+45	33' RT	OVERHEAD ELECTRIC	LEAVE AS IS

MINNESOTA DOT				CD
ALIGNMENT	STATION	OFFSET	INPLACE ITEM	NOTES
CENTRAL AVENUE	21+05 TO 25+24	70' RT	BURIED FIBER OPTIC	LEAVE AS IS
177TH AVENUE	70+74	0'	BURIED FIBER OPTIC	LEAVE AS IS

CONNEXUS ENERGY				CH
ALIGNMENT	STATION	OFFSET	INPLACE ITEM	NOTES
CENTRAL AVENUE	13+38 TO 15+87	VARIES RT	BURIED ELECTRIC	LEAVE AS IS
CENTRAL AVENUE	15+23 TO 17+30	28' RT	BURIED ELECTRIC	LEAVE AS IS
CENTRAL AVENUE	16+56	0'	BURIED ELECTRIC	LEAVE AS IS
CENTRAL AVENUE	20+89 TO 25+56	22' RT	BURIED ELECTRIC	LEAVE AS IS
175TH LANE	25+56 TO 32+33	26' RT	BURIED ELECTRIC	LEAVE AS IS
175TH LANE	30+60 TO 32+31	31' LT	BURIED ELECTRIC	LEAVE AS IS
175TH LANE	32+31	0'	BURIED ELECTRIC	LEAVE AS IS
176TH LANE	50+31 TO 55+47	27' RT	BURIED ELECTRIC	LEAVE AS IS
CHISHOLM STREET	54+47 TO 57+48	35' RT	BURIED ELECTRIC	LEAVE AS IS
CHISHOLM STREET	55+89	0'	BURIED ELECTRIC	LEAVE AS IS
CHISHOLM STREET	57+48	0'	BURIED ELECTRIC	LEAVE AS IS
CHISHOLM STREET	61+88 TO 65+55	38' LT	BURIED ELECTRIC	LEAVE AS IS
CHISHOLM STREET	63+53 TO 64+86	33' RT	BURIED ELECTRIC	LEAVE AS IS
CHISHOLM STREET	64+08	0'	BURIED ELECTRIC	LEAVE AS IS
CHISHOLM STREET	64+86	0'	BURIED ELECTRIC	LEAVE AS IS
177TH AVENUE	71+88 TO 73+88	30' RT	BURIED ELECTRIC	LEAVE AS IS

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:
LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
GREAT RIVERS ENERGY (763) 445-5984

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
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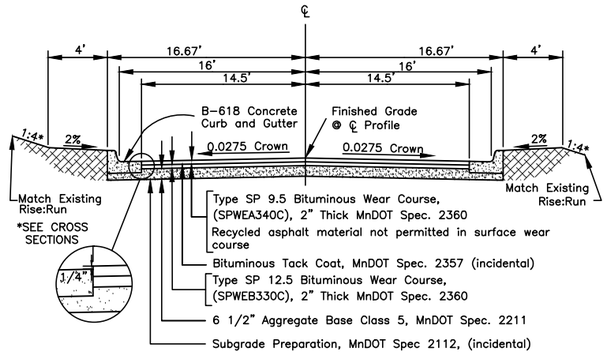
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

UTILITY TABULATIONS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2205 TAB 4
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 7 OF 61
FILE: 37-2-107

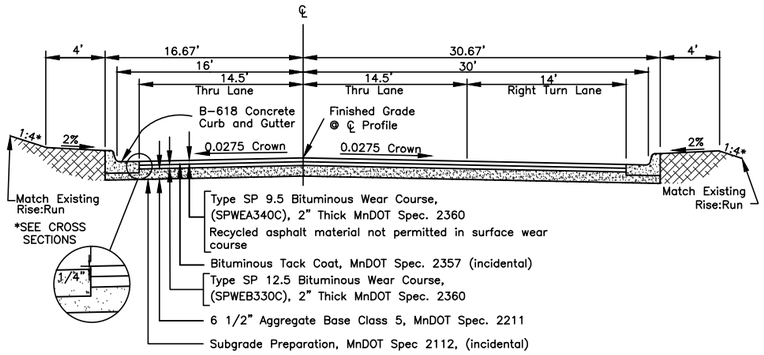


TYPICAL URBAN SECTION

TYPICAL STREET SECTION
COMMERCIAL 9-TON RFC-366B1

NOT TO SCALE

CENTRAL AVENUE/175TH LANE/176TH LANE/
CHISHOLM STREET STA 54+47 TO STA 65+00

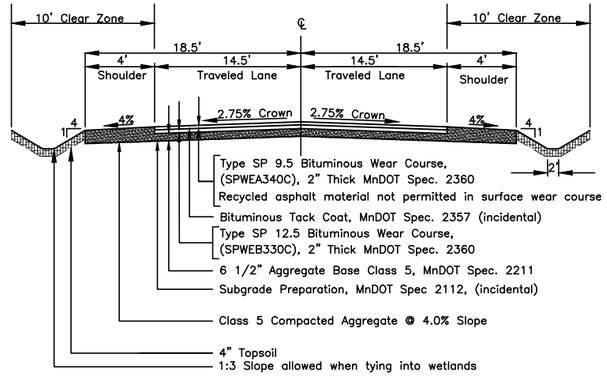


TYPICAL URBAN SECTION

TYPICAL STREET SECTION - TURN LANE
COMMERCIAL 9-TON RFC-366B1B

NOT TO SCALE

CHISHOLM STREET
STA 65+00 TO STA 66+49



TYPICAL RURAL SUBURBAN SECTION - NO CURB

TYPICAL STREET SECTION
COMMERCIAL 9-TON RFC-366F12

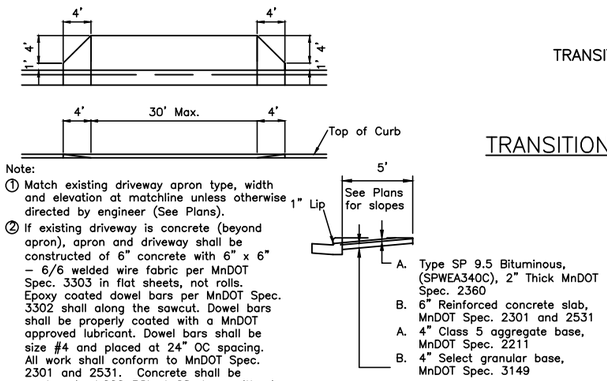
NOT TO SCALE

177TH AVENUE

Note:
① Match existing driveway width and elevation at matchline unless otherwise directed by engineer (See Plans).
② If existing driveway is concrete, apron and driveway shall be constructed of 6" concrete with 6"x6"-6/6 welded wire fabric per MnDOT Spec. 3303 in flat sheets, not rolls. Epoxy coated dowel bars conforming to MnDOT Spec. 3302 shall be placed in the existing driveway pavement along the sawcut line. Dowel bars shall be properly coated with a MnDOT approved lubricant. Dowel bars shall be #13. and placed at 24" OC spacing. All work shall conform to MnDOT Spec. 2301 and 2531. Concrete shall be per MnDOT Spec. 2461 for ready-mix with 3,900 PSI at 28 days, with air content of 5% to 7%. Coarse aggregate for concrete shall be per MnDOT Spec. 3137 with 1" max, Class A aggregate. Joint sealer shall be hot-poured, low modulus, mastic type per MnDOT Spec. 3725. Membrane curing compound shall be per MnDOT Spec. 3754 and 2301.3J.
③ If existing driveway is gravel, apron and driveway within R/W shall be constructed per bituminous driveways. Gravel driveways matching beyond R/W shall be 6" Class 5.
④ If existing driveway is bituminous, apron shall be constructed per concrete driveway and driveway behind apron shall be bituminous per note A. All bituminous work shall conform to MnDOT Specifications 2112, 2211, 2357 and 2360. Tack coat is to be applied between bituminous courses and between concrete and bituminous surfaces.
⑤ Driveways in cut sections to slope up from 1" curb lip to R/W at 2% min, 3% max then slope to matchline. Driveways in fill sections to slope up from 1" curb lip to R/W at min of 2% then slope to matchline. See Plan for slope.

COMMERCIAL DRIVEWAY DETAIL RFC-370A1

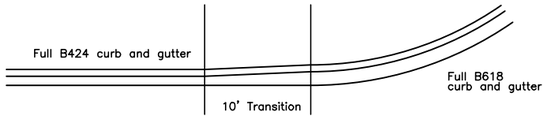
NOT TO SCALE



Note:
① Match existing driveway apron type, width and elevation at matchline unless otherwise directed by engineer (See Plans).
② If existing driveway is concrete (beyond apron), apron and driveway shall be constructed of 6" concrete with 6" x 6" - 6/6 welded wire fabric per MnDOT Spec. 3303 in flat sheets, not rolls. Epoxy coated dowel bars per MnDOT Spec. 3302 shall along the sawcut. Dowel bars shall be properly coated with a MnDOT approved lubricant. Dowel bars shall be size #4 and placed at 24" OC spacing. All work shall conform to MnDOT Spec. 2301 and 2531. Concrete shall be ready-mix 4,000 PSI at 28 days, with air content of 5% to 7%, coarse aggregate shall be 1" max, class A and per MnDOT Spec. 3137. Joint sealer shall be hot-poured, low modulus, mastic type per MnDOT Spec. 3725. Membrane curing compound shall be per MnDOT Specs. 3754 and 2301.3J.
③ If existing driveway is gravel (beyond apron), apron and driveway within R/W shall be constructed per existing bituminous driveways. Gravel driveways matching beyond R/W shall be 6" Class 5.
④ If existing driveway is bituminous (beyond apron), apron and driveway behind apron shall be bituminous per A. above. All bituminous work shall conform to MnDOT Specifications 2112, 2211, 2357 and 2360. Tack coat is to be applied between concrete and bituminous surfaces.
⑤ Driveways in fill sections to slope up from 1" curb lip to end of apron (5' from back of curb) at min of 2% then slope to matchline. See Plan for slope.

PRIVATE DRIVEWAY/FIELD ENTRANCE RFC-363A1

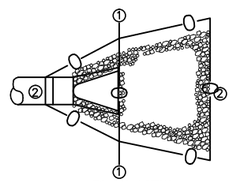
NOT TO SCALE



TRANSITION FOR B424 TO B618 CURB & GUTTER
AT CURB RETURNS

TRANSITION CURB: B424 TO B618 RFC-356B

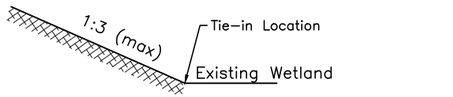
NOT TO SCALE



SEQUENCING:
1. Place silt fence along construction limits, the portion of silt fence in front of the pipe shall be removed during flared end section placement.
2. Once the flared end section is placed, silt fence shall be furnished and installed around the top of the flared end section and surrounding the riprap.
3. Any additional outlet protection shall be added as required.
4. Contractor may substitute silt fence for bio-roll or rock log to act as weir for flow into culvert.

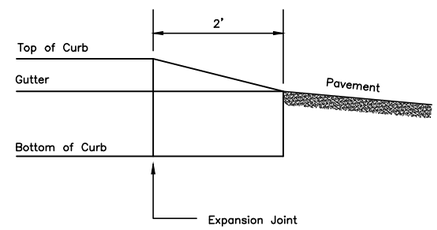
SILT FENCE AT FES RFC-857

NOT TO SCALE



FORESLOPE DETAIL RFC-856A

NOT TO SCALE



CURB END DETAIL RFC-380A

NOT TO SCALE

SOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:
LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
GREAT RIVERS ENERGY (763) 445-5984

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dan Krueger
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

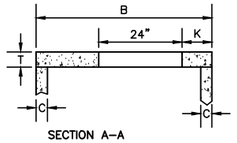
S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

TYPICAL SECTIONS AND DETAILS

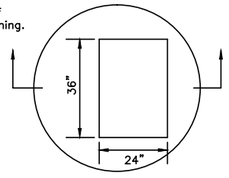
DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2205 DTL 1
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 8 OF 61
FILE: 37-2-108

NOTE:
HS20 Roadway Loading Catch Basin Cover Slab of Precast Reinforced Concrete with Rectangular Opening.



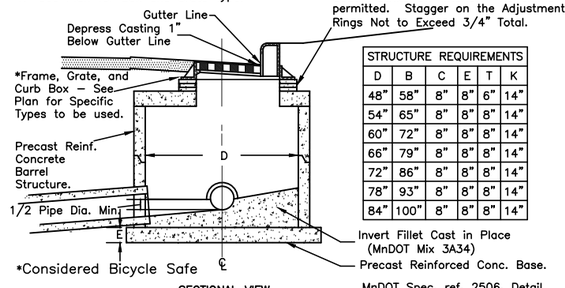
SECTION A–A



PLAN OF COVER SLAB

Note:
1. Steps needed for structure height greater than 4'.
2. Cover Slab to Rest on Bed of Mortar on Full Thickness of Structure Walls, not to Rest on Pipe Tongue or Groove.
3. Location of Structure as Shown in Plans.
4. See Plan for Box and Grate Type.

Adjusting Rings, 2 Min., 3 Max., Full 3/8" Bed of Mortar Between Rings. Plaster Exterior Only with 2" Min. Thick Coat. Strike Off Interior. No shims permitted. Stager on the Adjustment Rings Not to Exceed 3/4" Total.



SECTIONAL VIEW

MnDOT Spec. ref. 2506, Detail ref. 4011, 4020, 4022

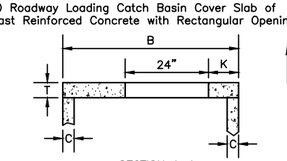
STRUCTURE REQUIREMENTS					
D	B	C	E	T	K
48"	58"	8"	8"	6"	14"
54"	65"	8"	8"	8"	14"
60"	72"	8"	8"	8"	14"
66"	79"	8"	8"	8"	14"
72"	86"	8"	8"	8"	14"
78"	93"	8"	8"	8"	14"
84"	100"	8"	8"	8"	14"

RECTANGULAR INLET FOR ROUND MANHOLE RFC–465A1

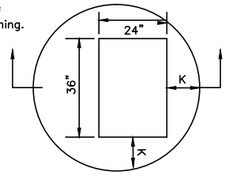
NOT TO SCALE

SPECIAL 1 = 48" ø

NOTE:
HS20 Roadway Loading Catch Basin Cover Slab of Precast Reinforced Concrete with Rectangular Opening.



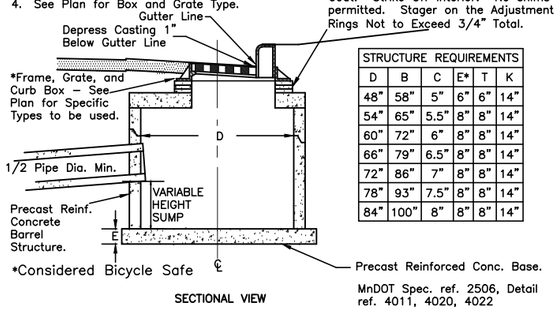
SECTION A–A



PLAN OF COVER SLAB

Note:
1. Steps needed for structure height greater than 4'.
2. Cover Slab to Rest on Bed of Mortar on Full Thickness of Structure Walls, not to Rest on Pipe Tongue or Groove.
3. Location of Structure as Shown in Plans.
4. See Plan for Box and Grate Type.

Adjusting Rings, 2 Min., 3 Max., Full 3/8" Bed of Mortar Between Rings. Plaster Exterior Only with 2" Min. Thick Coat. Strike Off Interior. No shims permitted. Stager on the Adjustment Rings Not to Exceed 3/4" Total.



SECTIONAL VIEW

MnDOT Spec. ref. 2506, Detail ref. 4011, 4020, 4022

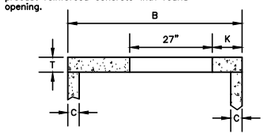
STRUCTURE REQUIREMENTS					
D	B	C	E*	T	K
48"	58"	5"	6"	6"	14"
54"	65"	5.5"	8"	8"	14"
60"	72"	6"	8"	8"	14"
66"	79"	6.5"	8"	8"	14"
72"	86"	7"	8"	8"	14"
78"	93"	7.5"	8"	8"	14"
84"	100"	8"	8"	8"	14"

RECTANGULAR INLET FOR ROUND MANHOLE RFC–465A3

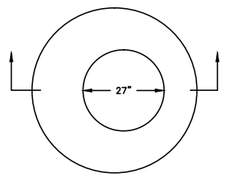
NOT TO SCALE

SPECIAL 2 = 60" ø
SPECIAL 3 = 72" ø

NOTE:
HS20 Roadway loading catch basin cover slab of precast reinforced concrete with round opening.



SECTION A–A

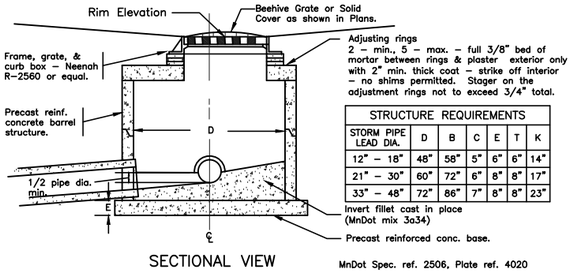


PLAN OF COVER SLAB

Note:
Steps needed for structure height greater than 4'.

Cover slab to rest on bed of mortar on full thickness of structure walls
Not to rest on pipe tongue or groove.

Location of structure as shown in plans.



SECTIONAL VIEW

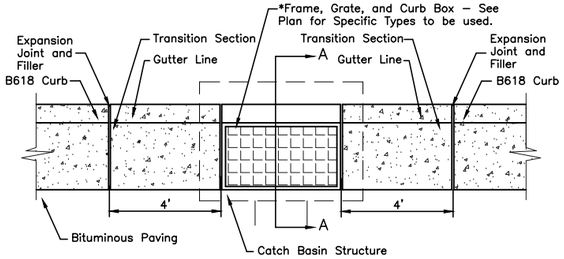
MnDot Spec. ref. 2506, Plate ref. 4020

STRUCTURE REQUIREMENTS					
STORM PIPE LEAD DIA.	D	B	C	E	T	K
12" – 18"	48"	58"	5"	6"	6"	14"
21" – 30"	60"	72"	6"	8"	8"	17"
33" – 48"	72"	86"	7"	8"	8"	23"

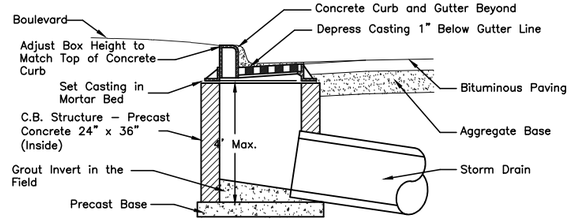
ROUND INLET FOR ROUND MANHOLE RFC–465C1

NOT TO SCALE

SPECIAL 4 = 48" ø



CATCH BASIN PLAN

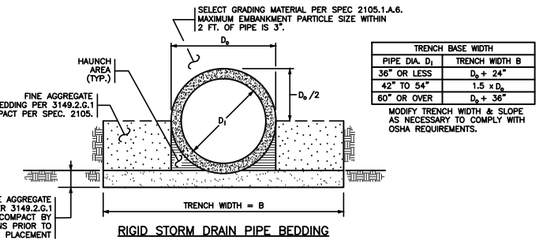


SECTION A–A

NOTE:
1. 2 Min., 3 Max. Adjustment Rings
2. Stagger on the adjustment rings not to exceed 3/4 inch total.

RECTANGULAR CATCH BASIN RFC–459C

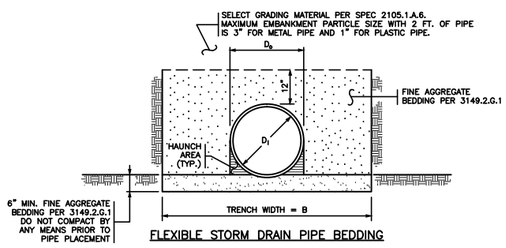
NOT TO SCALE
SPECIAL



TRENCH BASE WIDTH	
PIPE DIA. D_1	TRENCH WIDTH B
36" OR LESS	D_b + 24"
42" TO 54"	1.5 x D_b
60" OR OVER	D_b + 36"

MODIFY TRENCH WIDTH & SLOPE AS NECESSARY TO COMPLY WITH OSHA REQUIREMENTS.

RIGID STORM DRAIN PIPE BEDDING



FLEXIBLE STORM DRAIN PIPE BEDDING

TRENCH BASE WIDTH	
PIPE DIA. D_1	TRENCH WIDTH B
36" OR LESS	D_b + 24"
42" TO 48"	1.5 x D_b

MODIFY TRENCH WIDTH & SLOPE AS NECESSARY TO COMPLY WITH OSHA REQUIREMENTS.

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 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 THE 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).COMPACT THE REMAINING MATERIAL OUTSIDE THE HAUNCH AREA TO THE REQUIREMENTS OF THE APPLICABLE MATERIAL TYPE ENSURING THAT THE ENTIRE LENGTH OF PIPE IS SUPPORTED UNIFORMLY BY BEDDING.
5. PLACE AND COMPACT BACKFILL EVENLY AND SIMULTANEOUSLY IN 6" LIFTS ON EACH SIDE OF THE PIPE UP TO THE MID–HEIGHT WHEN COMPACTED.
6. COMPLETE REMAINING BACKFILL.

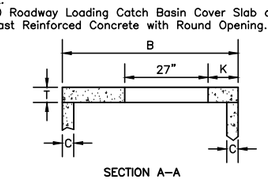
NOTES

EXCAVATE & CONSTRUCT ALL TRENCHES AND SLOPES PER OSHA REQUIREMENTS.
PIPE SIZE IS BASED ON THE NOMINAL INSIDE DIAMETER.
PROTECT ALL PIPE DURING CONSTRUCTION PER SPEC. 2501 OR 2503.

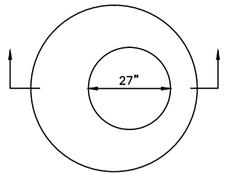
STORM DRAIN BEDDING FOR RIGID AND FLEXIBLE PIPE RFC–654

NOT TO SCALE

NOTE:
HS20 Roadway Loading Catch Basin Cover Slab of Precast Reinforced Concrete with Round Opening.



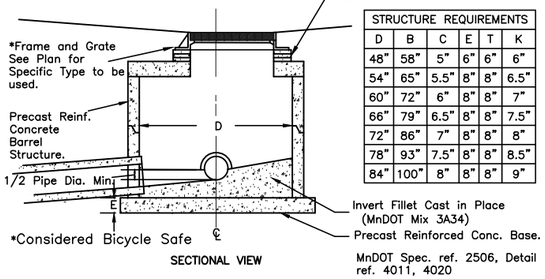
SECTION A–A



PLAN OF COVER SLAB

Note:
1. Steps needed for structure height greater than 4'.
2. Cover Slab to Rest on Bed of Mortar on Full Thickness of Structure Walls, not to Rest on Pipe Tongue or Groove.
3. Location of Structure as Shown in Plans.

Adjusting Rings, 2 Min., 3 Max., Full 3/8" Bed of Mortar Between Rings. Plaster Exterior Only with 2" Min. Thick Coat. Strike Off Interior. No shims permitted. Stager on the Adjustment Rings Not to Exceed 3/4" Total.



SECTIONAL VIEW

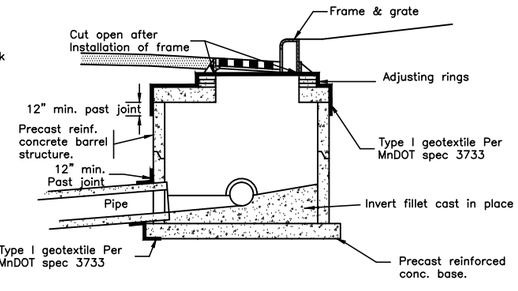
MnDOT Spec. ref. 2506, Detail ref. 4011, 4020

STRUCTURE REQUIREMENTS					
D	B	C	E	T	K
48"	58"	5"	6"	6"	6"
54"	65"	5.5"	8"	8"	6.5"
60"	72"	6"	8"	8"	7"
66"	79"	6.5"	8"	8"	7.5"
72"	86"	7"	8"	8"	8"
78"	93"	7.5"	8"	8"	8.5"
84"	100"	8"	8"	8"	9"

ROUND MANHOLE RFC–465C

NOT TO SCALE

SPECIAL 5 = 48" ø
SPECIAL 6 = 60" ø
SPECIAL 7 = 72" ø



Seal fabric onto catch basin and catch basin manhole with duct tape. Over lap all seams. 12" min.

SECTIONAL VIEW

FABRIC AROUND CATCH BASIN RFC–463A1

NOT TO SCALE

SOPHER ONE CALL
800-252-1166 651-454-0002

UTILITIES:
LUMEN (763) 712–5017
CENTERPOINT ENERGY (763) 323–2760
COMCAST (952) 607–4078
CONNEXUS ENERGY (763) 323–4268
GREAT RIVERS ENERGY (763) 445–5984

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dan Krueger
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

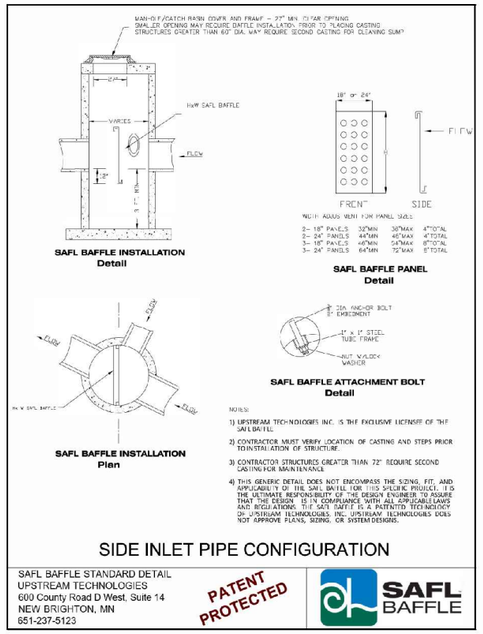
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763–862–8000
Fax 763–862–8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197–119–004 / 197–135–001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

DETAILS

DWG: 2205 DTL 2
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 9 OF 61
FILE: 37–2–109

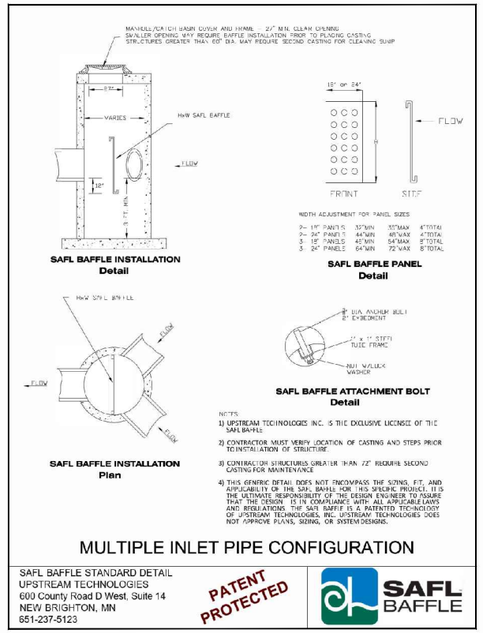


SIDE INLET PIPE CONFIGURATION

SAFL BAFFLE STANDARD DETAIL
UPSTREAM TECHNOLOGIES
600 County Road D West, Suite 14
NEW BRIGHTON, MN
651-237-5123

PATENT PROTECTED

SAFL BAFFLE

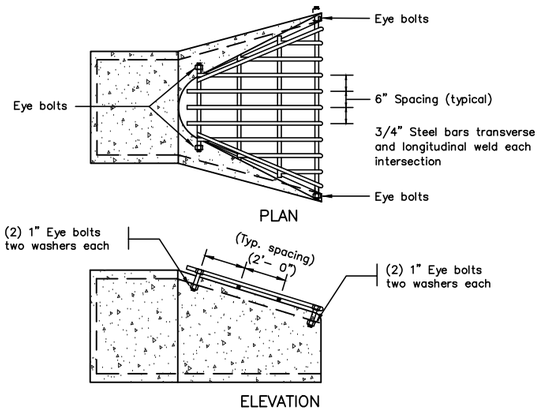


MULTIPLE INLET PIPE CONFIGURATION

SAFL BAFFLE STANDARD DETAIL
UPSTREAM TECHNOLOGIES
600 County Road D West, Suite 14
NEW BRIGHTON, MN
651-237-5123

PATENT PROTECTED

SAFL BAFFLE



Note:

1.) Trash guard to be galvanized after fabrication

2.) The size of each trash guard will vary to fit the apron size.

3.) All bolts to be non–rusting stainless steel.

4.) Weld all bolts to prevent entry after final storm sewer cleaning.

5.) Round all steel bars such that ends are smooth and free of burs.

FOR PIPE DIAMETERS 30" AND SMALLER

RCP TRASH GUARD RFC–466B

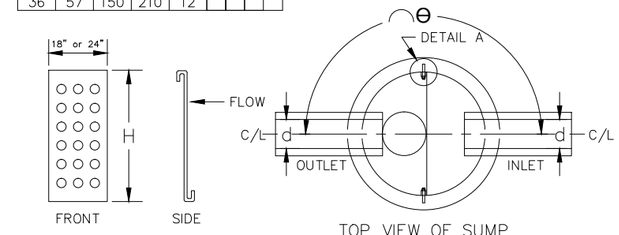
NOT TO SCALE

Rev C (07-24-2019)

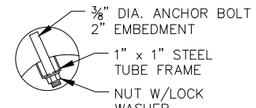
d (IN.)	H (IN.)	Θ (DEG.) MIN.	Θ (DEG.) MAX.	y (IN.)	Ys	Yb	Yt	D
12	36	130	230	12	MIN. 4 FT.	MIN. 3 FT.	0" to 6"	VARIES
15	36	130	230	12				
18	36	130	230	12				
21	46	140	220	12				
24	46	140	220	12				
27	46	140	220	12				
30	57	150	210	12				
36	57	150	210	12				

NOTES:

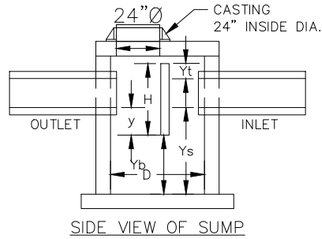
* Ideal Baffle height = distance from top of the highest Inlet pipe to the bottom of the outlet pipe plus 18" or greater
* Minimum acceptable Baffle Height = distance from top of the highest inlet pipe to the bottom of the outlet pipe plus 12"
* Heights greater than 57" require 2 Baffles stacked
* Contact Upstream Technologies for pipes larger than 48" I.D.
* For more information see our design guide
* View the complete list of Available Baffle Sizes



SAFL BAFFLE PANEL



DETAIL A



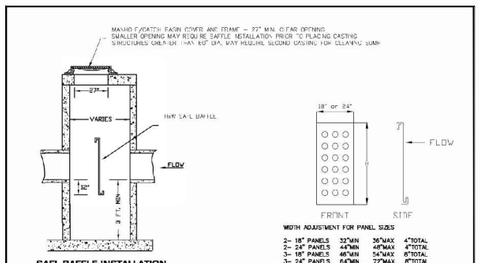
SIDE VIEW OF SUMP

PATENT PROTECTED Patents: US #8663466B2 - US #8715507B2 - US #9506237B2 - CA #2742207

This generic detail does not encompass the sizing, fit, and applicability of the SAFL Baffle for this specific project. It is the ultimate responsibility of the design engineer to assure that the design is in compliance with all applicable laws and regulations. The SAFL Baffle is a patented technology of Upstream Technologies, Inc. and the University of Minnesota. Neither Upstream Technologies nor the University of Minnesota approves plans, sizing, or system designs.

SAFL BAFFLE STANDARD DETAIL
UPSTREAM TECHNOLOGIES INC.
600 COUNTY ROAD D WEST,
STE 14
NEW BRIGHTON, MN 55112
651.237.5123

SAFL BAFFLE

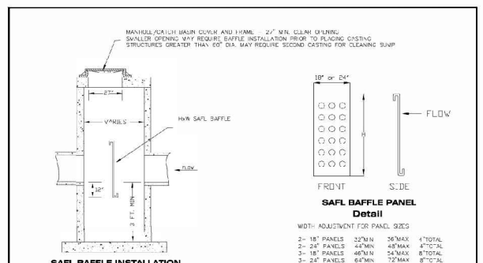


THROUGH PIPE CONFIGURATION

SAFL BAFFLE STANDARD DETAIL
UPSTREAM TECHNOLOGIES
600 County Road D West, Suite 14
NEW BRIGHTON, MN
651-237-5123

PATENT PROTECTED

SAFL BAFFLE



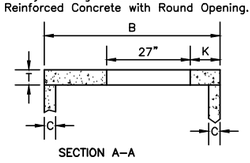
NINETY DEGREE PIPE CONFIGURATION

SAFL BAFFLE STANDARD DETAIL
UPSTREAM TECHNOLOGIES
600 County Road D West, Suite 14
NEW BRIGHTON, MN
651-237-5123

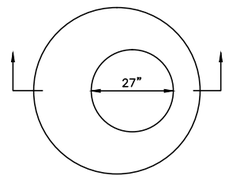
PATENT PROTECTED

SAFL BAFFLE

NOTE:
HS20 Roadway Loading Catch Basin Cover Slab of Precast Reinforced Concrete with Round Opening.



SECTION A–A

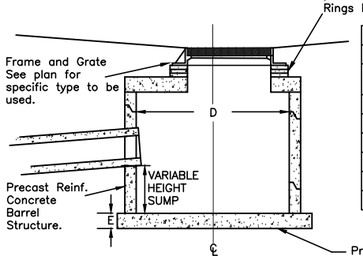


PLAN OF COVER SLAB

Note:

1. Steps needed for structure height greater than 4'.
2. Cover Slab to Rest on Bed of Mortar on Full Thickness of Structure Walls, not to Rest on Pipe Tongue or Groove.
3. Location of Structure as Shown in Plans.

Adjusting Rings, 2 Min., 3 Max., Full 3/8" Bed of Mortar Between Rings. Plaster Exterior Only with 2" Min. Thick Coat. Strike Off Interior. No shims permitted. Stagger on the Adjustment Rings Not to Exceed 3/4" Total.



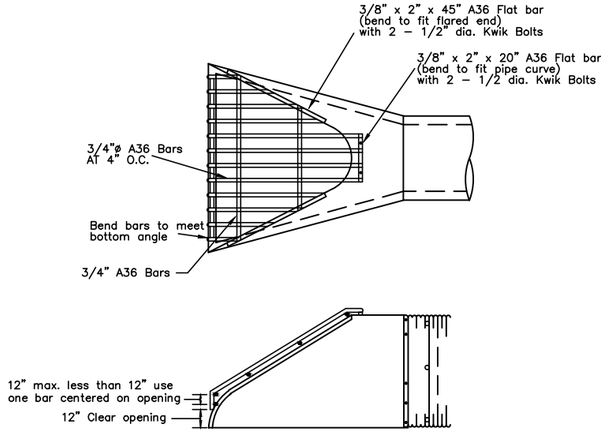
SECTIONAL VIEW

STRUCTURE REQUIREMENTS					
D	B	C	E	T	K
48"	58"	5"	6"	6"	14"
54"	65"	5.5"	8"	8"	14"
60"	72"	6"	8"	8"	14"
66"	79"	6.5"	8"	8"	14"
72"	86"	7"	8"	8"	14"
78"	93"	7.5"	8"	8"	14"
84"	100"	8"	8"	8"	14"

ROUND MANHOLE – VARIABLE SUMP RFC–465C5

NOT TO SCALE

SPECIAL 8 = 60" ø



CPP TRASH GUARD RFC–466C

NOT TO SCALE

UTILITIES:

LUMEN	(763) 712–5017
CENTERPOINT ENERGY	(763) 323–2760
COMCAST	(952) 607–4078
CONNEXUS ENERGY	(763) 323–4268
GREAT RIVERS ENERGY	(763) 445–5984

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

DATE	REVISION HISTORY

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

DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

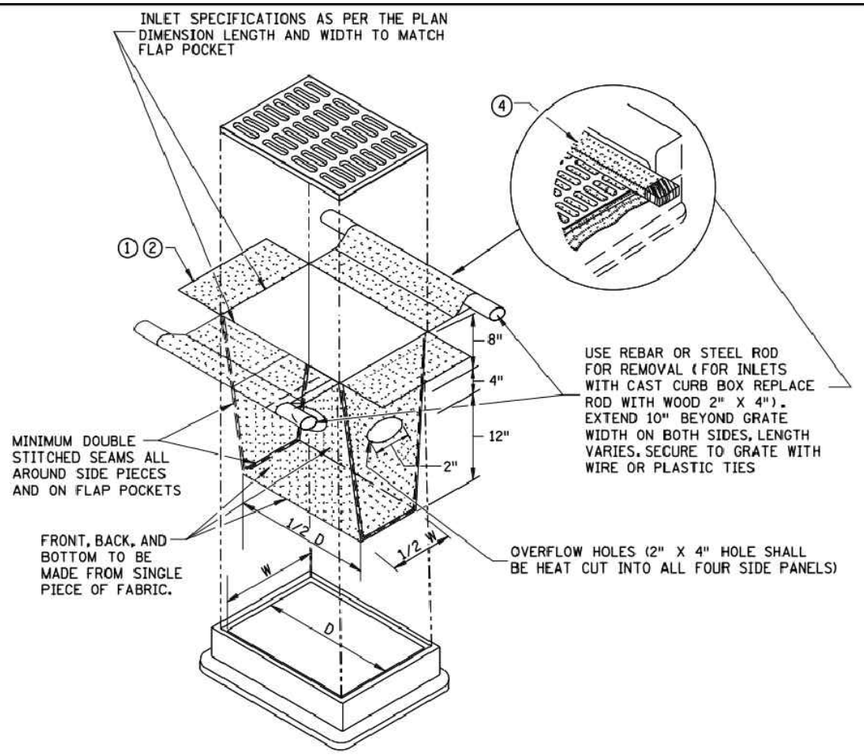
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763–862–8000
Fax 763–862–8042

S.A.P. 197–119–004 / 197–135–001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

DETAILS

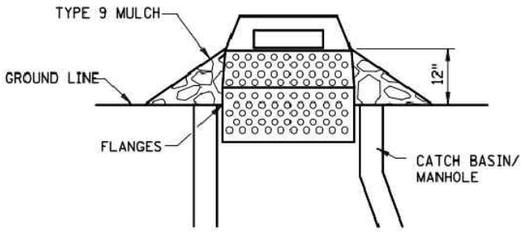
DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2205 DTL 3
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 10 OF 61
FILE: 37–2–110



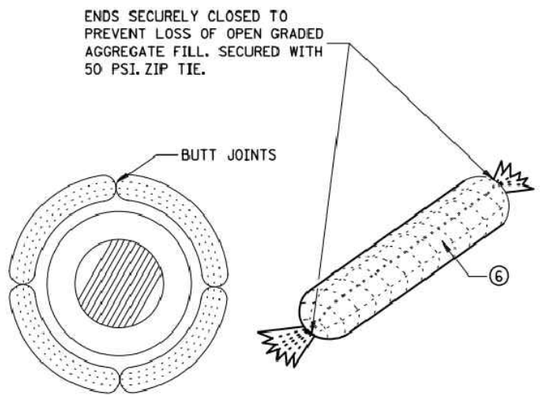
FILTER BAG INSERT ③

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

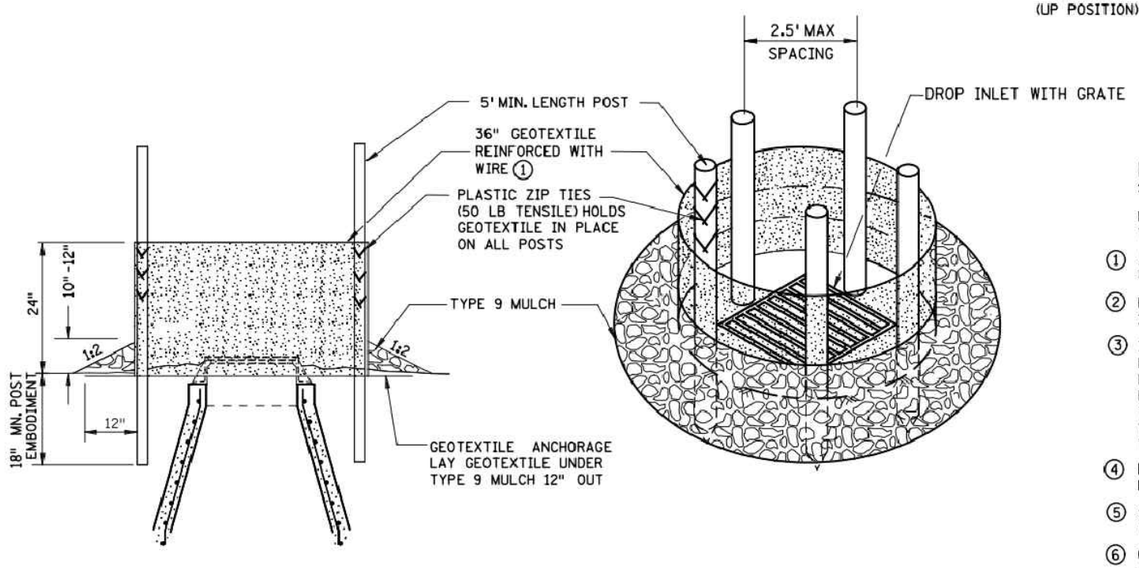


SEDIMENT CONTROL INLET HAT

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.

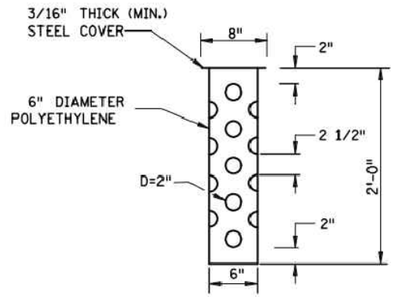


ROCK LOG/COMPOST LOG

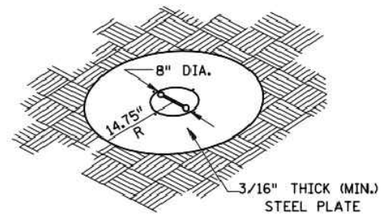


SILT FENCE RING AND ROCK FILTER BERM

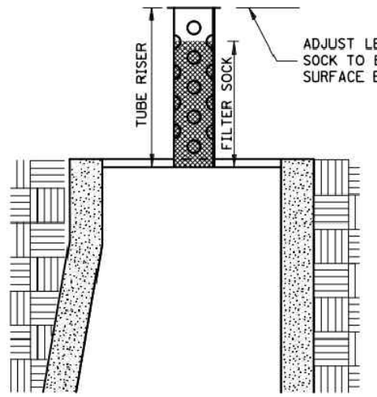
USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 or LESS



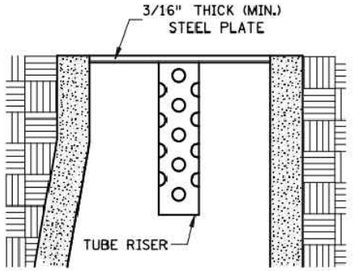
TUBE RISER



PERSPECTIVE VIEW



SECTION
(UP POSITION)



SECTION
(DOWN POSITION)

POP-UP HEAD

NOTES:
SEE SPECS. 2573, 3137, & 3886.

DEVICES MUST BE ADJUSTED ACCORDINGLY AS TO NOT CAUSE FLOODING ON ROADWAY THAT WOULD IMPEED 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

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.405 | 4 OF 8

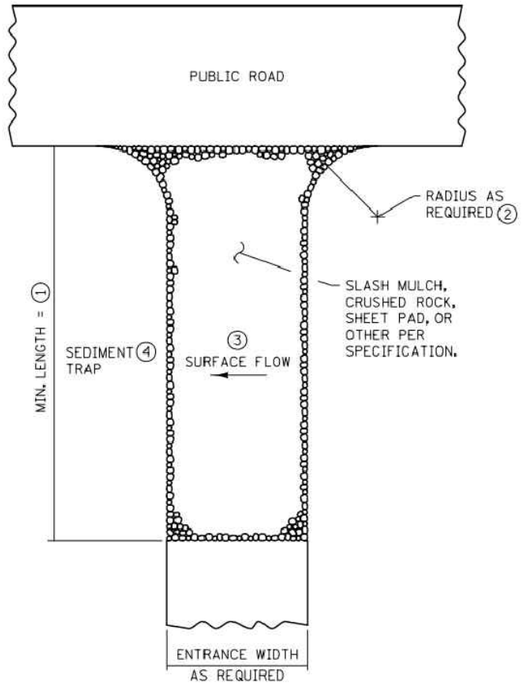
APPROVED: 2-28-2017
REVISED:

STATE DESIGN ENGINEER

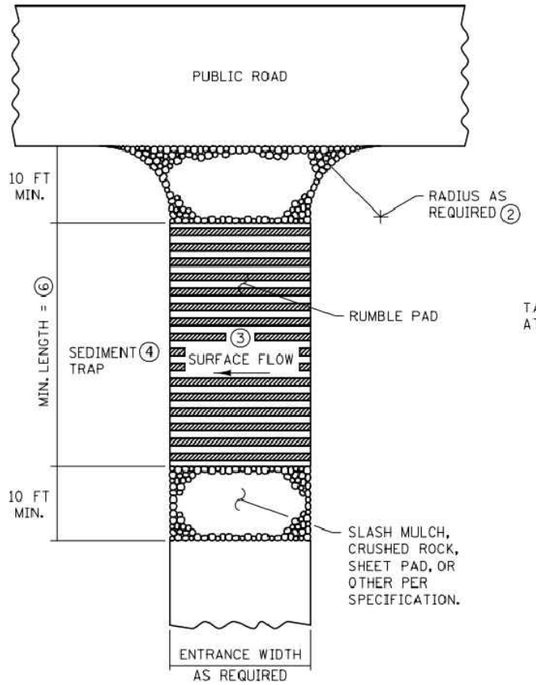
TEMPORARY SEDIMENT CONTROL

STORM DRAIN INLET PROTECTION

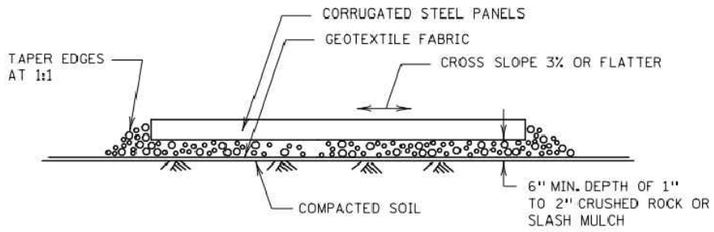
STATE PROJ. NO. (T.H.) SHEET NO. 11 OF 61 SHEETS



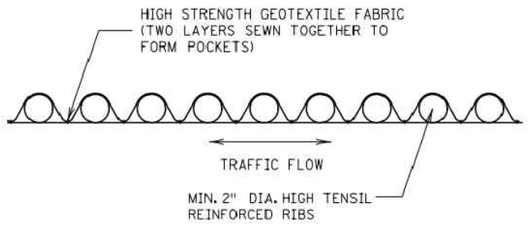
SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT ⑤⑦



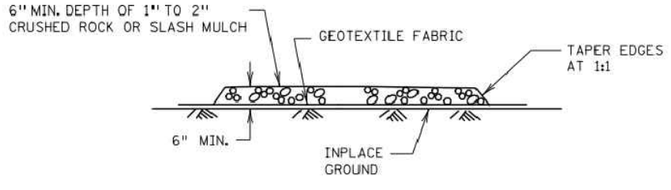
RUMBLE PAD CONSTRUCTION EXIT ⑤⑦



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
CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.405 | 5 OF 8

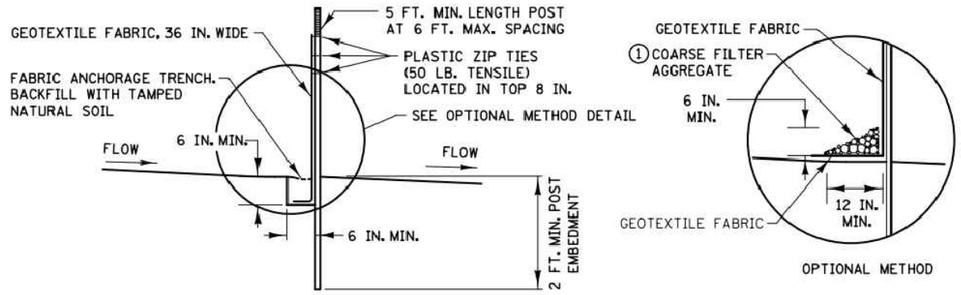
APPROVED: 2-28-2017
REVISED:

STATE DESIGN ENGINEER

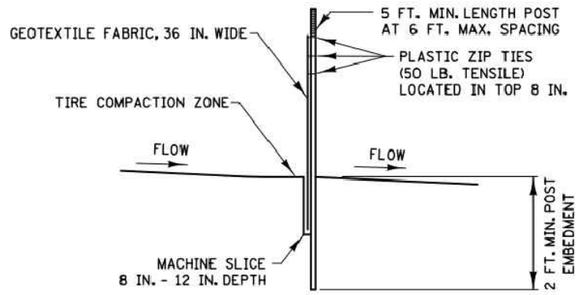
TEMPORARY SEDIMENT CONTROL

STABILIZED CONSTRUCTION EXIT

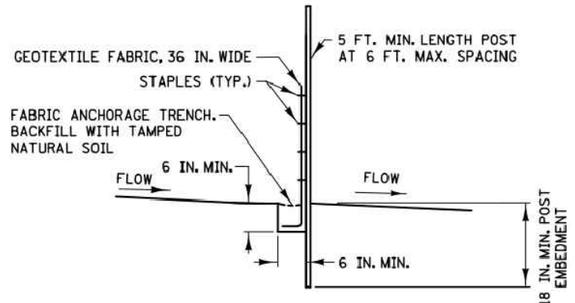
STATE PROJ. NO. (T.H.) SHEET NO. 12 OF 61 SHEETS



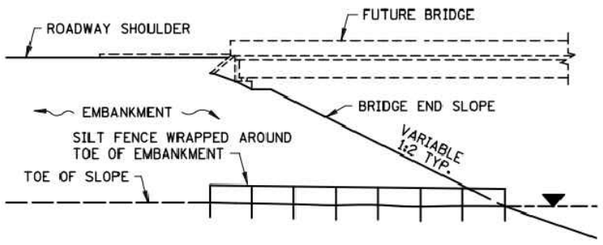
SILT FENCE TYPE HI ②
(HAND INSTALLED)



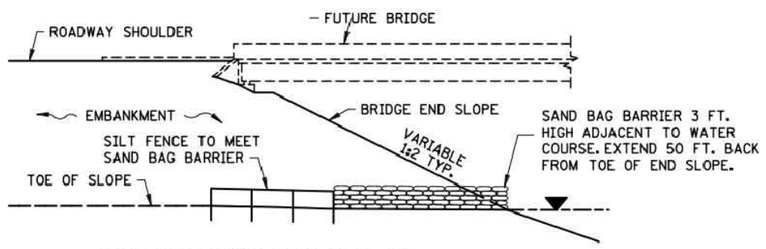
SILT FENCE TYPE MS ②
(MACHINE SLICED)



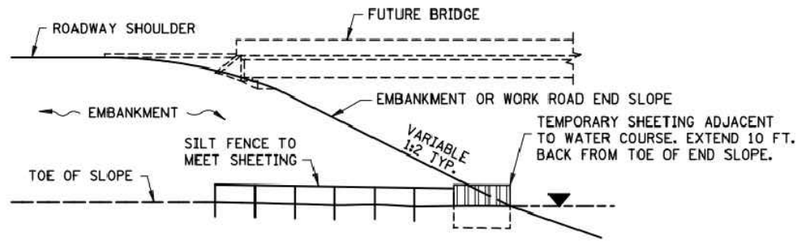
SILT FENCE TYPE PA ③
(PREASSEMBLED)



SILT FENCE ONLY ④

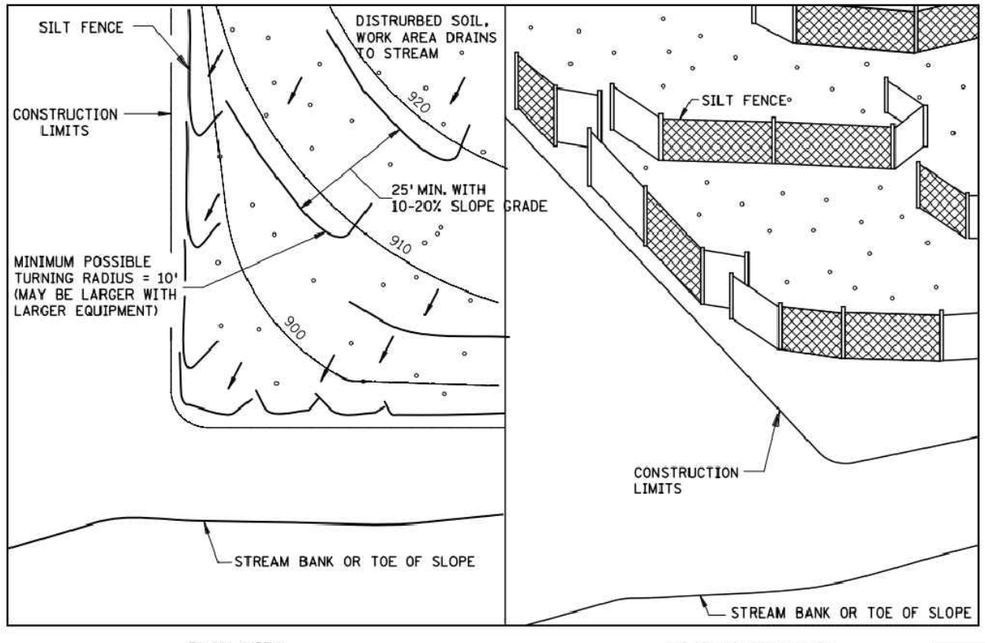


SILT FENCE WITH SAND BAGS ⑤



SILT FENCE WITH SHEETING ⑥

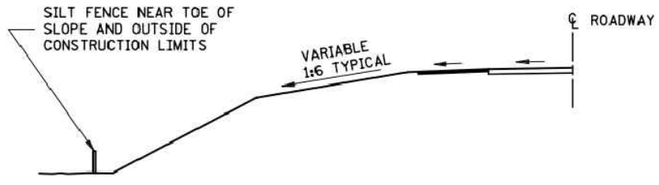
INSTALLATION AT BRIDGE EMBANKMENT ADJACENT TO WATER



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./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

CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.405 | 6 OF 8

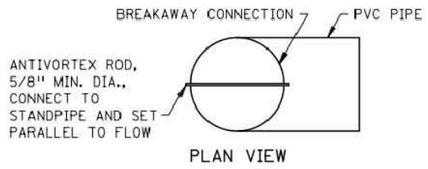
APPROVED: 2-28-2017
REVISED:

STATE DESIGN ENGINEER

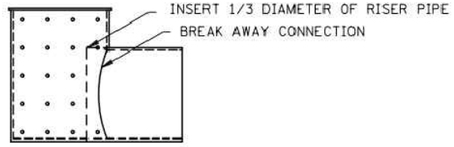
TEMPORARY SEDIMENT CONTROL

SILT FENCE

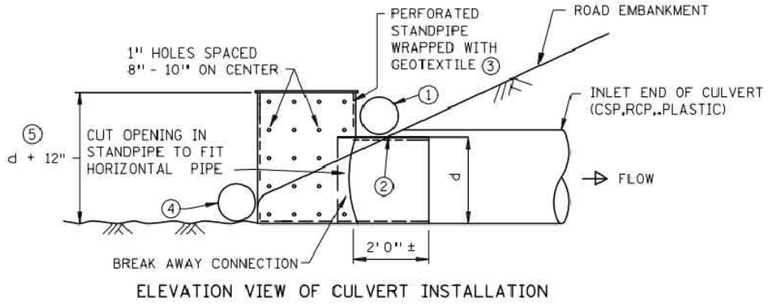
STATE PROJ. NO. (T.H.) SHEET NO. 13 OF 61 SHEETS



PLAN VIEW



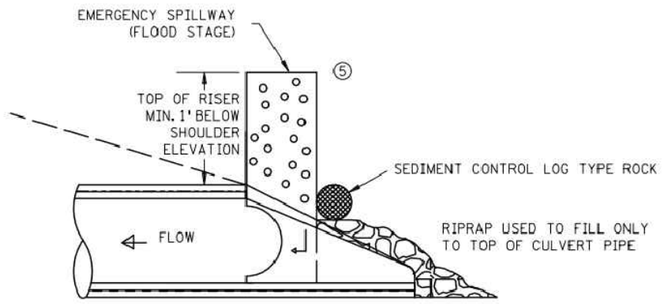
CULVERT STANDPIPE



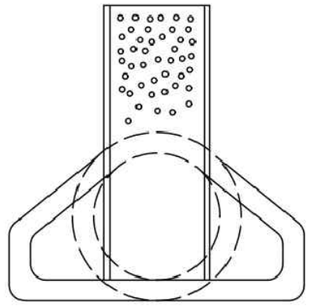
ELEVATION VIEW OF CULVERT INSTALLATION

CULVERT STANDPIPE INSERT (D-RISER)

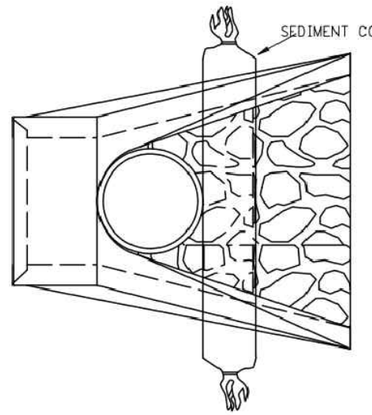
d= CULVERT SIZE: 12" - 36"



LONGITUDINAL SECTION



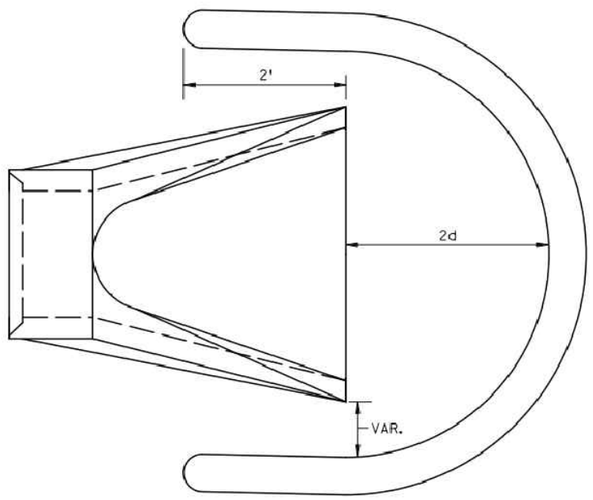
END VIEW



NOTE: SEDIMENT CONTROL LOG TYPE ROCK MAY BE WRAPPED AROUND RISER

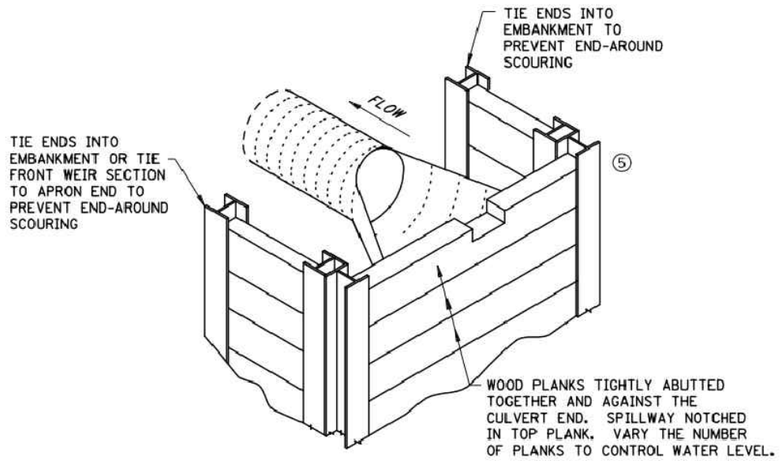
TOP VIEW

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

CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.405 | 8 OF 8

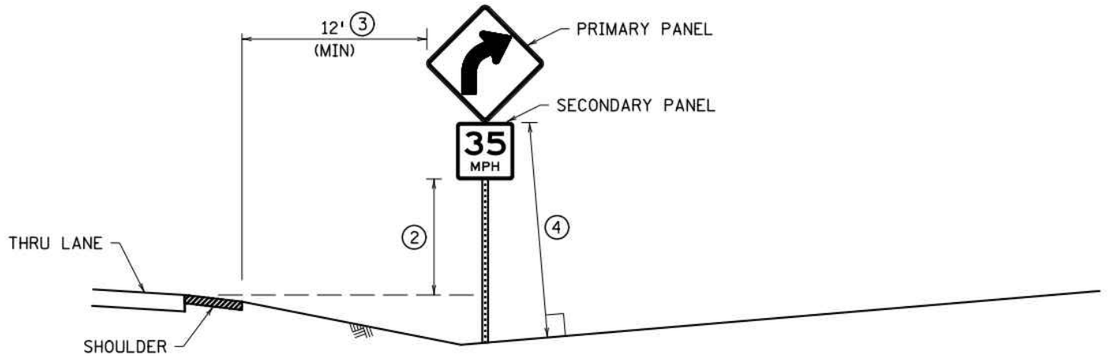
APPROVED: 2-28-2017
REVISED:

STATE DESIGN ENGINEER

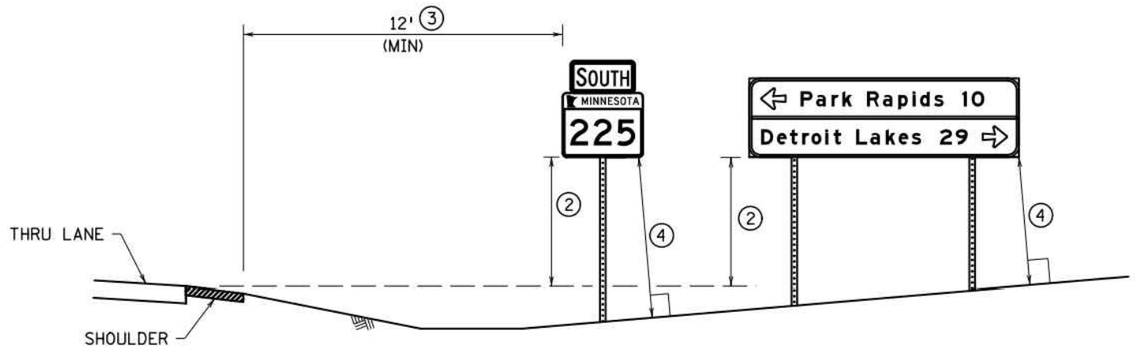
TEMPORARY SEDIMENT CONTROL

CULVERT END CONTROLS

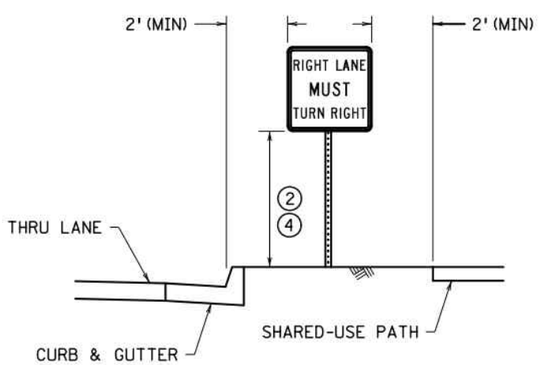
STATE PROJ. NO. (T.H.) SHEET NO. 14 OF 61 SHEETS



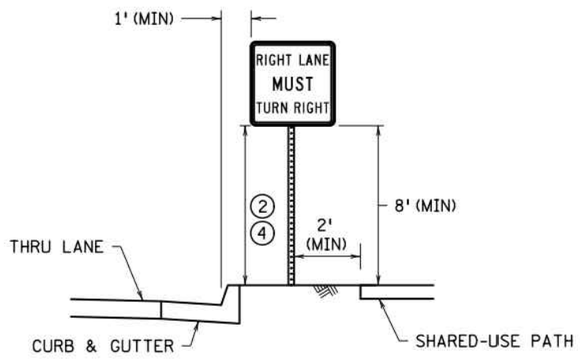
PRIMARY AND SECONDARY PANELS



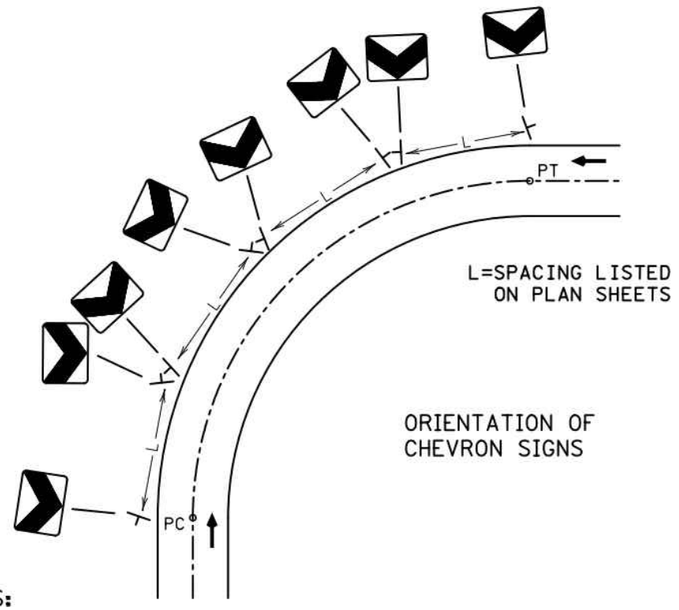
STANDARD LOCATIONS



BOULEVARD LOCATIONS
6' TO 12' WIDE



BOULEVARD LOCATIONS (1)
LESS THAN 6' WIDE



ORIENTATION OF
CHEVRON SIGNS

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.

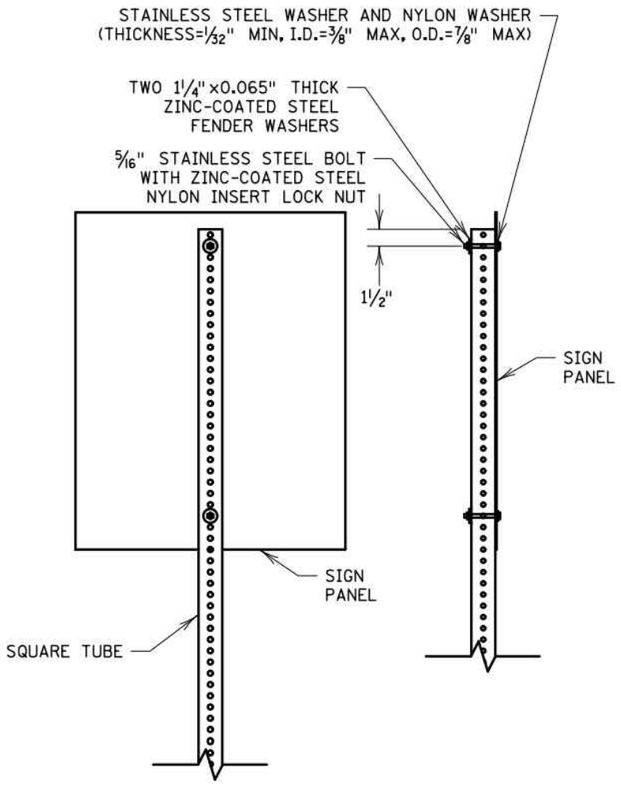
(1) ONLY USE WHEN BOULEVARD IS TOO NARROW TO OBTAIN ADEQUATE CURBED LOCATION SIGN OFFSETS.

(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.

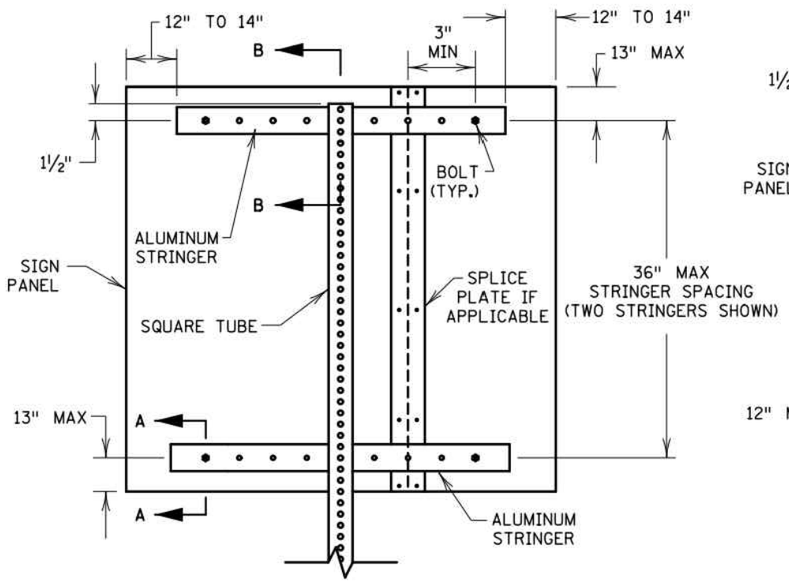
(3) MINIMUM OFFSET MAY BE REDUCED TO AT LEAST 6' FROM SHOULDER AND AT LEAST 12' FROM THRU LANE IF SITE CONDITIONS PROHIBIT A 12' OFFSET FROM SHOULDER.

(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.

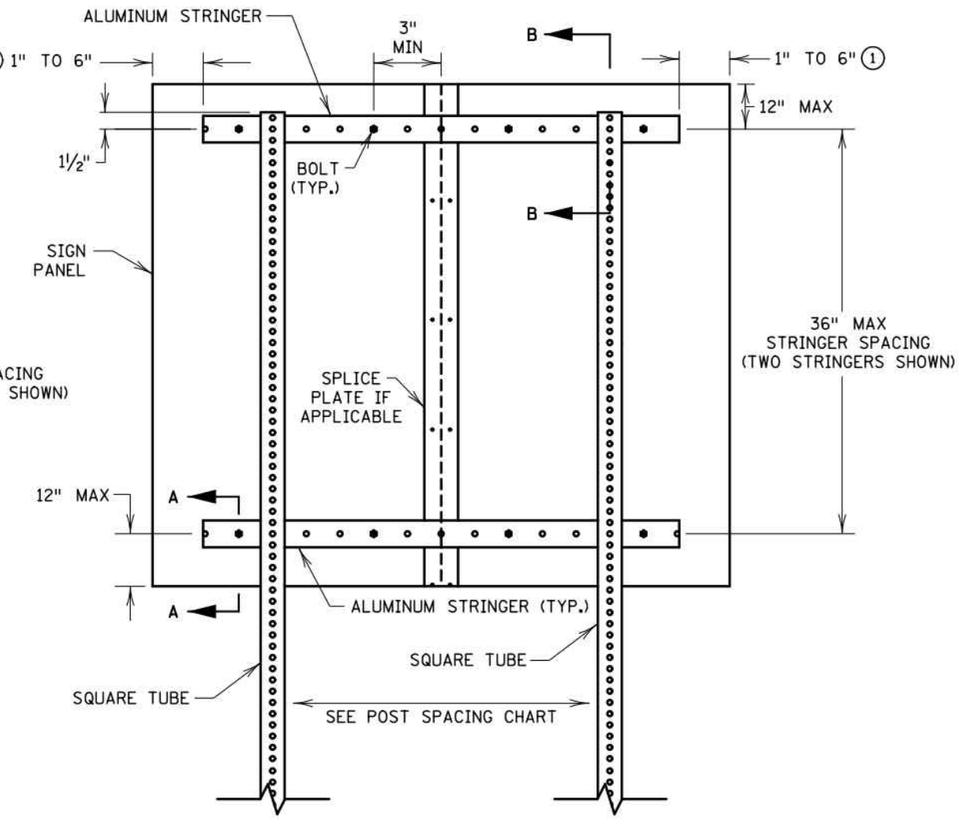
LEAD EXPERT OFFICE	BRIAN SORENSON STATE TRAFFIC ENGINEER OFFICE OF TRAFFIC ENGINEERING		STANDARD SIGN PLACEMENT	APPROVED: 08-09-2023 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.701	1 OF 1
	DEPARTMENT OF TRANSPORTATION		STANDARD PLAN	STATE PROJ. NO. TRUNK HWY.		SHEET NO. 15 TOTAL SHEETS 61	



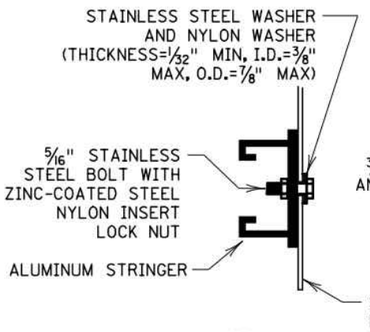
FOR SIGN PANELS UP TO 30" WIDE



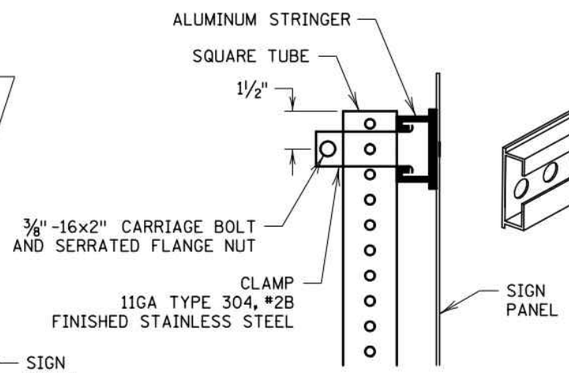
FOR SIGN PANELS 36" WIDE OR GREATER ON ONE POST



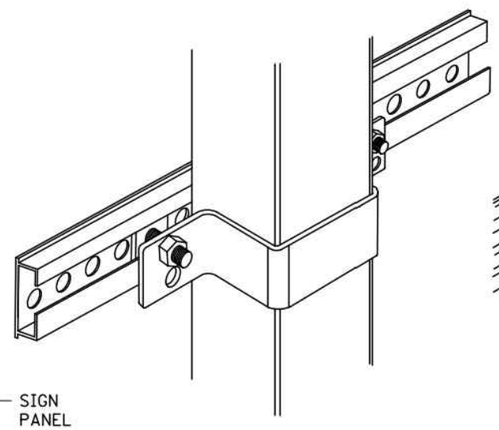
FOR SIGN PANELS ON TWO OR MORE POSTS



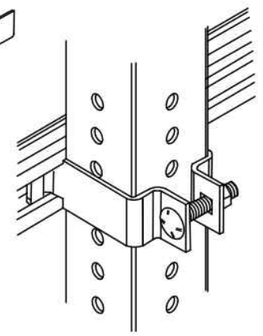
VIEW A-A



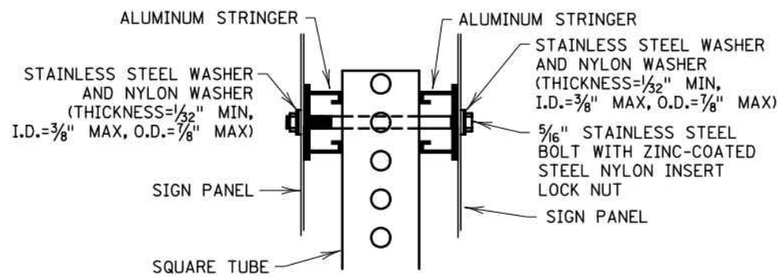
VIEW B-B



CLAMP DETAIL
4" SQUARE TUBE



CLAMP DETAIL
2" AND 2 1/2" SQUARE TUBE



BACK-TO-BACK SIGN MOUNTING WITH STRINGERS

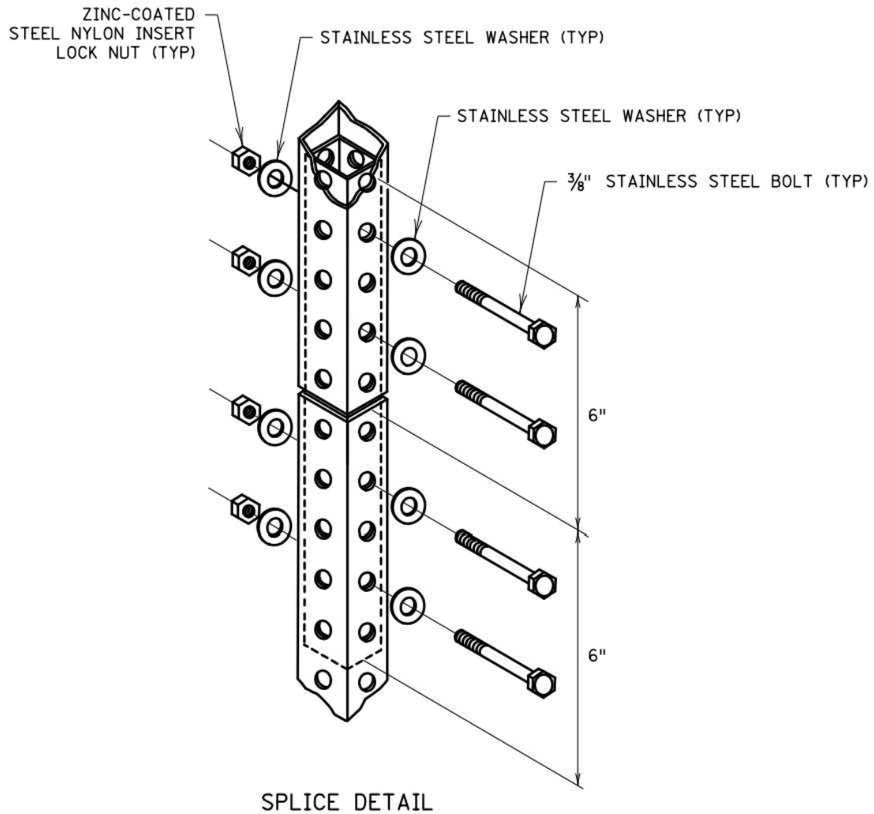
NOTES:

BOLT SIGN PANELS TO STRINGERS OR RISER POSTS AT NO GREATER THAN 24" SPACING OR ACCORDING TO THE MNDOT STANDARD SIGNS AND MARKINGS MANUAL FOR MOUNTING HOLES (PUNCH CODES) INFORMATION.

CENTER STRINGERS ON SIGN PANEL.

(1) IF POST SPACING REQUIRES PLACEMENT OF A POST WITHIN THIS AREA, EXTEND STRINGERS AS NEEDED TO ACCOMMODATE THE STRINGER TO POST CLAMP.

LEAD EXPERT OFFICE: BRIAN SORENSON, STATE TRAFFIC ENGINEER, OFFICE OF TRAFFIC ENGINEERING		SQUARE-TUBE SIGN MOUNTING DETAILS	APPROVED: 08-09-2023 REVISED:	THOMAS STYRBICKI, STATE DESIGN ENGINEER	STANDARD PLAN 5-297.718 — 1 OF 3
DEPARTMENT OF TRANSPORTATION		STANDARD PLAN	STATE PROJ. NO.	SHEET NO.	
			TRUNK HWY.	16 TOTAL SHEETS 61	



SPLICE DETAIL

PANEL WIDTH	SQUARE TUBE POST SPACING						
	2 POSTS	3 POSTS	4 POSTS	5 POSTS	6 POSTS	7 POSTS	8 POSTS
(IN)	(IN)	(IN)	(IN)	(IN)	(IN)	(IN)	(IN)
42	15						
48	21						
54	30						
60	36						
66	36						
72	42						
78	42						
84	48						
90	48	42					
96	48	42					
102	54	42					
108	54	42					
114	60	42					
120	60	48					
126	66	48					
132	66	48	42				
138	72	48	42				
144	72	48	42				
150	78	54	42				
156	78	54	42				
162	84	54	42				
168	84	60	48				
174	90	60	48	42			
180	90	60	48	42			
186	96	66	48	42			
192	96	66	48	42			
198	102	66	54	42			
204	102	72	54	42			
210	108	72	54	42			
216	108	72	54	48	42		
222	114	78	60	48	42		
228	114	78	60	48	42		
234	120	78	60	48	42		
240	120	84	60	48	42		
246		84	66	54	42		
252		84	66	54	42		
258		90	66	54	42	42	
264		90	66	54	48	42	
270		90	72	54	48	42	
276		96	72	60	48	42	
282		96	72	60	48	42	
288		96	72	60	48	42	
294		102	78	60	54	42	
300		102	78	60	54	42	42
306		102	78	66	54	42	42
312		108	78	66	54	48	42
318		108	84	66	54	48	42
324		108	84	66	54	48	42
330		114	84	66	60	48	42
336		114	84	72	60	48	42

DISTANCES ARE CENTER-TO-CENTER OF POSTS

NOTES:

NO MORE THAN ONE SPLICE PER POST.

WHEN USED, THE SPLICE MUST BE PLACED AT LEAST 8' ABOVE GROUND. THE PREFERRED PLACEMENT LOCATION IS BEHIND THE SIGN PANEL.

INTERIOR POST STUD SHALL BE ONE SIZE SMALLER FOR TIGHT FIT. IF RISER POST IS 2½", INTERIOR POST IS 2⅜". IF RISER POST IS 2", INTERIOR POST IS 1¾".

LEAD EXPERT OFFICE	BRIAN SORENSON STATE TRAFFIC ENGINEER OFFICE OF TRAFFIC ENGINEERING	SQUARE-TUBE SIGN MOUNTING DETAILS	APPROVED: 08-09-2023 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.718	2 OF 3
DEPARTMENT OF TRANSPORTATION		STANDARD PLAN	STATE PROJ. NO.		SHEET NO.	
			TRUNK HWY.		17 TOTAL SHEETS 61	

NUMBER OF ALUMINUM STRINGERS FOR $2\frac{1}{2}$" OR SMALLER POSTS

PANEL HEIGHT (INCHES) / PANEL WIDTH (INCHES)

PANEL HEIGHT (INCHES)	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120	126	132	138	144	150	156	162	168	174	180	186	192	198	204	210	216	222	228	234	240	246	252	258	264	270	276	282	288	294	300	306	312	318	324	330	336
120	0	0	0	0	4	4	4	4	4					4																																									
114	0	0	0	0	4	4	4	4	4	4				4	4																																								
108	0	0	0	0	4	4	4	4	4	4	4			4	4	4					4	4																																	
102	0	0	0	0	4	4	4	4	4	4	4			4	4	4	4	4			4	4	4	4				4	4	4					4	4																			
96	0	0	0	0	3	3	3	3	3	3	3	3		3	3	3	3	3	3		3	3	3	3	3	3		3	3	3	3	3	3		3	3	3	3	3																
90	0	0	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3												
84	0	0	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3								
78	0	0	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3			
72	0	0	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
66	0	0	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
60	0	0	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
54	0	0	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
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18	0	0	0	0	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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	1 POST									2 POST										3 POST										4 POST										5 POST										6 POST					

NUMBER OF STRINGERS FOR 4" POSTS

PANEL HEIGHT (INCHES) / PANEL WIDTH (INCHES)

PANEL HEIGHT (INCHES)	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120	126	132	138	144	150	156	162	168	174	180	186	192	198	204	210	216	222	228	234	240	246	252	258	264	270	276	282	288	294	300	306	312	318	324	330	336	
144			5	5	5	5	5	6	6	5	5	5	5	5	5	6	6	6	6	7	5	5	5	5	6	6	6	6	6	7	5	5	6	6	6	6	6	6	6	7	7															
138			5	5	5	5	5	6	6	7	5	5	5	5	5	5	6	6	6	7	7	5	5	5	5	6	6	6	6	6	7	7	5	6	6	6	6	6	6	6	7	7	7													
132			4	4	4	4	5	5	6	7	7	4	4	5	5	5	5	6	6	6	7	7	5	5	5	5	6	6	6	6	6	7	7	7	5	6	6	6	6	6	6	6	7	7	7	7										
126				4	4	4	5	5	6	6	7	7	4	4	5	5	5	5	6	6	6	7	7	7	5	5	5	6	6	6	6	6	6	7	7	7	5	6	6	6	6	6	6	6	7	7	7	7	7							
120				4	4	4	4	5	5	6	6	7	7	4	4	5	5	5	5	6	6	6	6	7	7	7	5	5	5	6	6	6	6	6	6	7	7	7	7	6	6	6	6	6	6	6	6	7	7	7	7	7				
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108					4	4	4	5	5	5	6	6	7	7	8	4	5	5	5	5	5	6	6	6	6	7	7	7	7	7	5	5	6	6	6	6	6	6	6	7	7	7	7	7	7	6	6	6	6	6	6	6	7	7	7	4 POST
102						4	4	4	5	5	6	6	6	7	7	8	4	5	5	5	5	5	6	6	6	6	6	7	7	7	7	8	5	5	6	6	6	6	6	6	6	7	7	7	7	7	7	7	6	6	6	6	6	6	6	
96						3	4	4	4	5	5	6	6	6	7	7	8	4	4	5	5	5	5	5	6	6	6	6	6	7	7	7	7	7	8	5	6	6	6	6	6	6	6	6	7	7	7	7	7	7	7	8	8	6	6	
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72								3	3	4	4	4	5	5	5	6	6	6	6	4	4	4	4	4	4	5	5	5	5	5	5	5	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6	
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48										3	3	3	3	3	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	
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24										2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
18										2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
12										2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
										1 POST										2 POST																				3 POST																

LEAD EXPERT OFFICE	BRIAN SORENSON STATE TRAFFIC ENGINEER OFFICE OF TRAFFIC ENGINEERING	SQUARE-TUBE SIGN MOUNTING DETAILS	APPROVED: 08-09-2023 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.718	3 OF 3

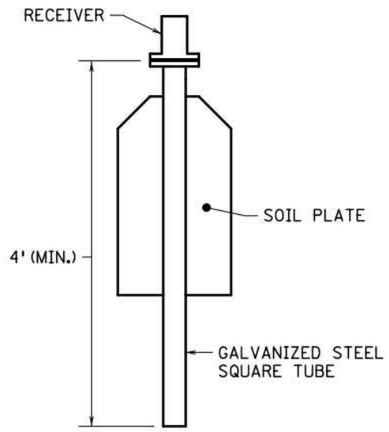
DEPARTMENT OF TRANSPORTATION

STANDARD PLAN

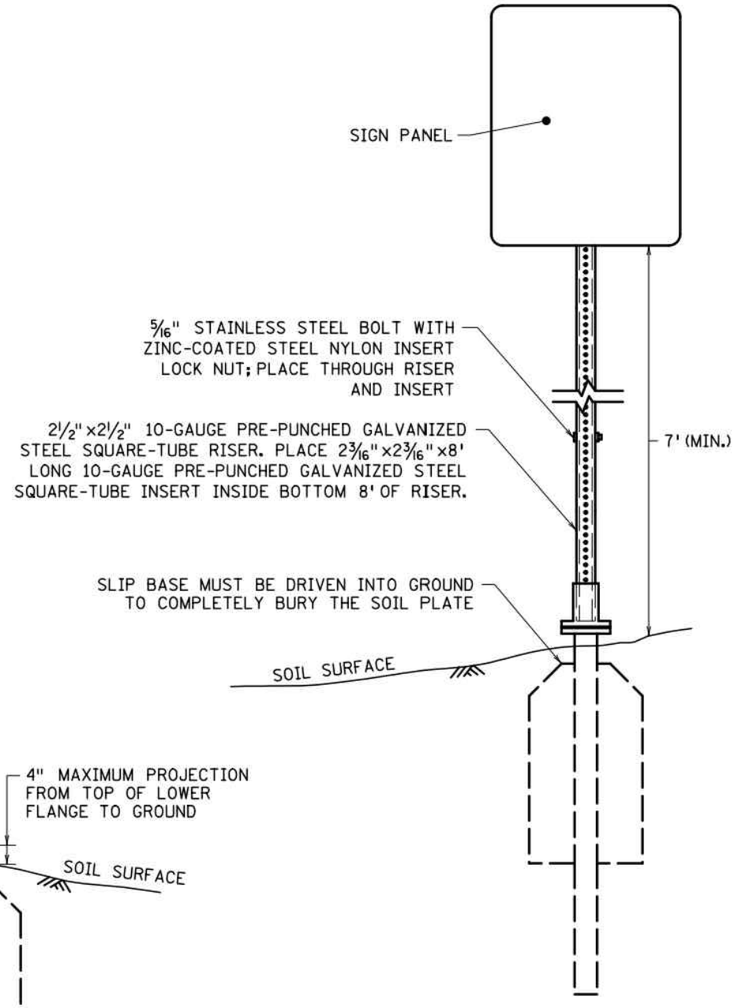
STATE PROJ. NO.

TRUNK HWY.

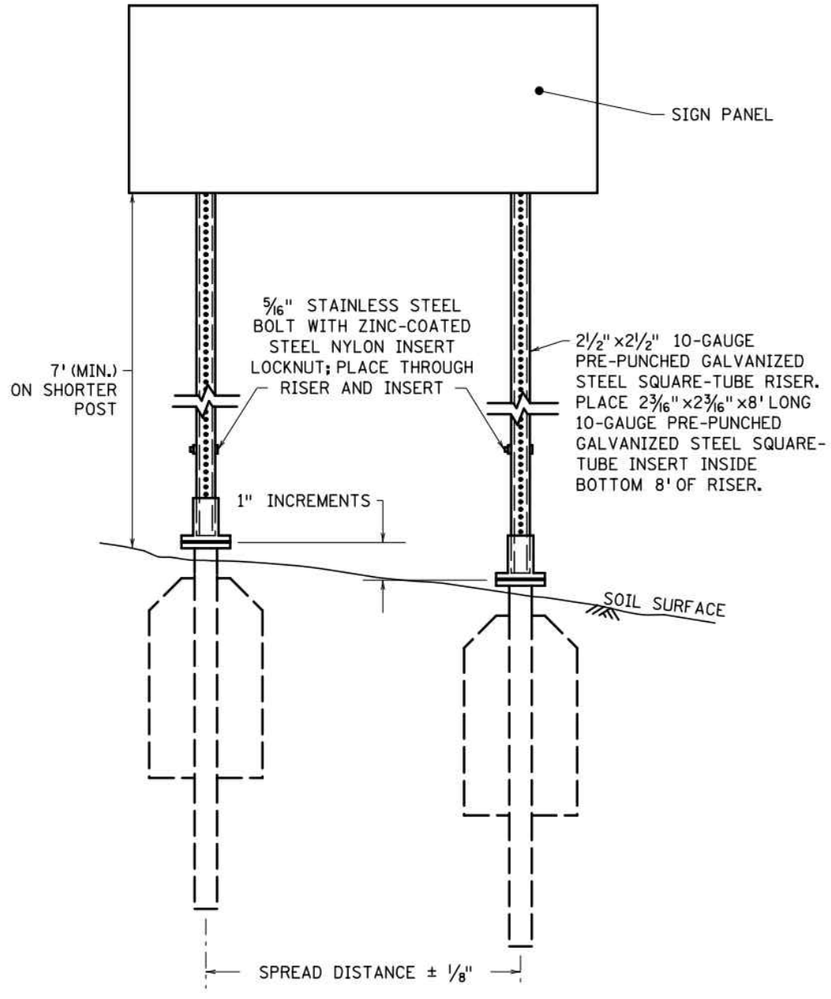
SHEET NO. 18 TOTAL SHEETS 61



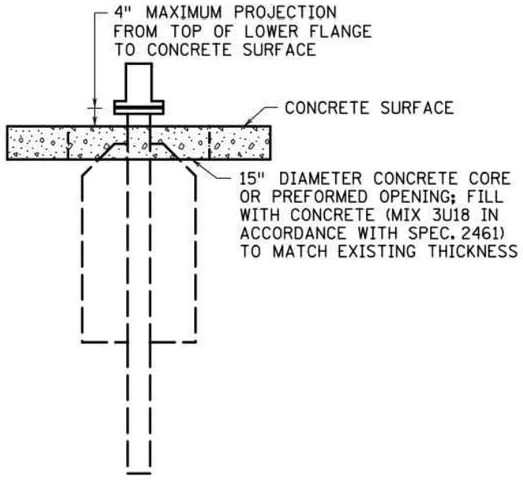
PROPRIETARY SLIP BASE ASSEMBLY ①



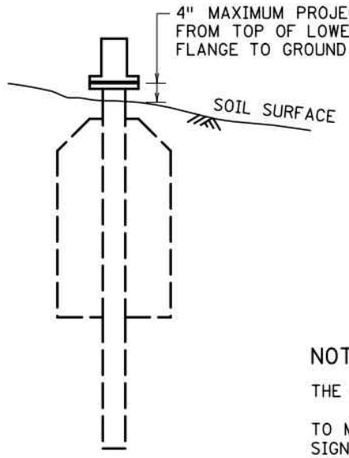
SLIP BASE ASSEMBLY WITH SINGLE-POST SIGN
TYPICAL PLACEMENT IN SOIL



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



SLIP BASE ASSEMBLY IN CONCRETE



SLIP BASE ASSEMBLY IN SOIL

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.

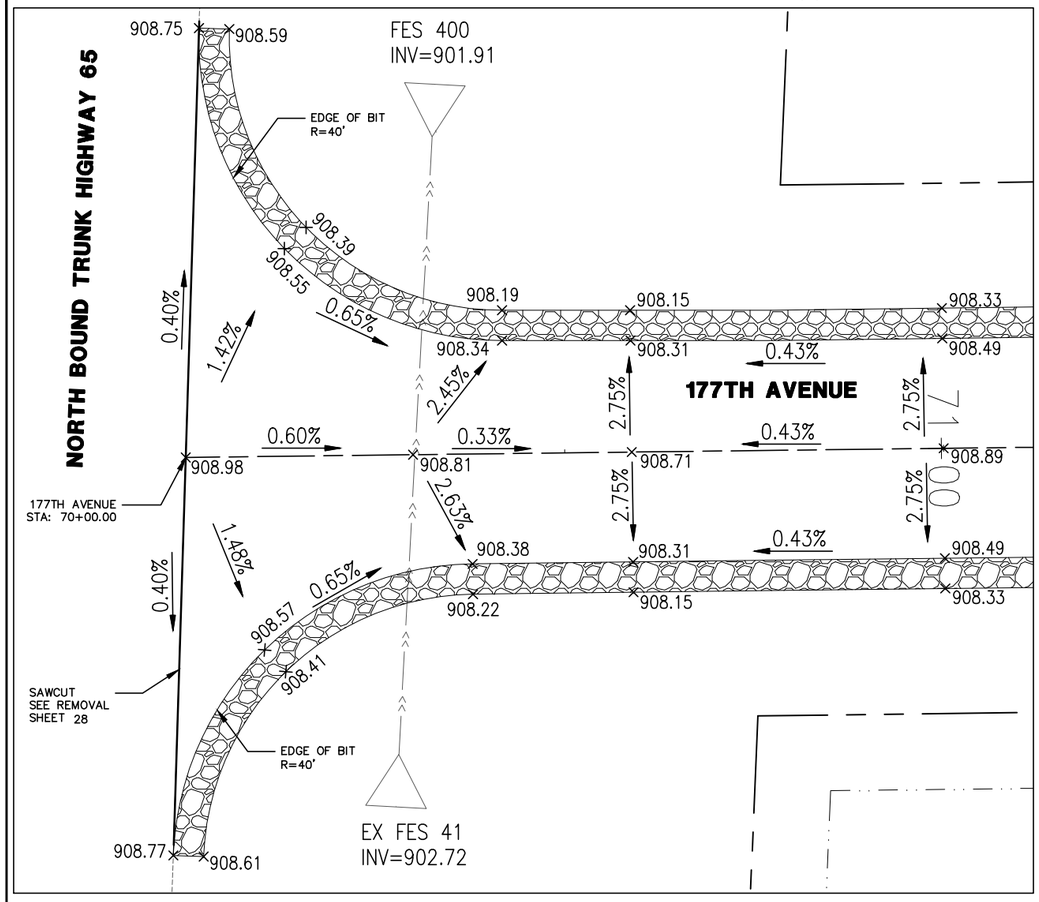
LEAD EXPERT OFFICE: BRIAN SORENSON, STATE TRAFFIC ENGINEER, OFFICE OF TRAFFIC ENGINEERING		SLIP BASE ASSEMBLY FOR 2½" SQUARE-TUBE RISER POST	APPROVED: 08-09-2023 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.724	1 OF 1
DEPARTMENT OF TRANSPORTATION		STANDARD PLAN	STATE PROJ. NO.		SHEET NO.	
			TRUNK HWY.		19 TOTAL SHEETS 61	

NOTES:

1. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION, BUT IN NO CASE LONGER THAN 7 DAYS. IF THERE IS A SCHEDULED PAUSE OF WORK THAT WILL LAST 7 DAYS OR LONGER, ALL SOILS AND STOCKPILES ARE REQUIRED TO BE STABILIZED WITHIN THE FIRST 24 HOURS OF INACTIVITY.
2. ALL REMOVALS TO BE DISPOSED OF LEGALLY.
3. SEE DETAIL COMMERCIAL DRIVEWAY RFC-370A1 FOR DRIVEWAY DETAILS.

0 5 10 20
FEET
(ALL DETAILS)

TRUNK HIGHWAY 65 AND 177TH AVENUE

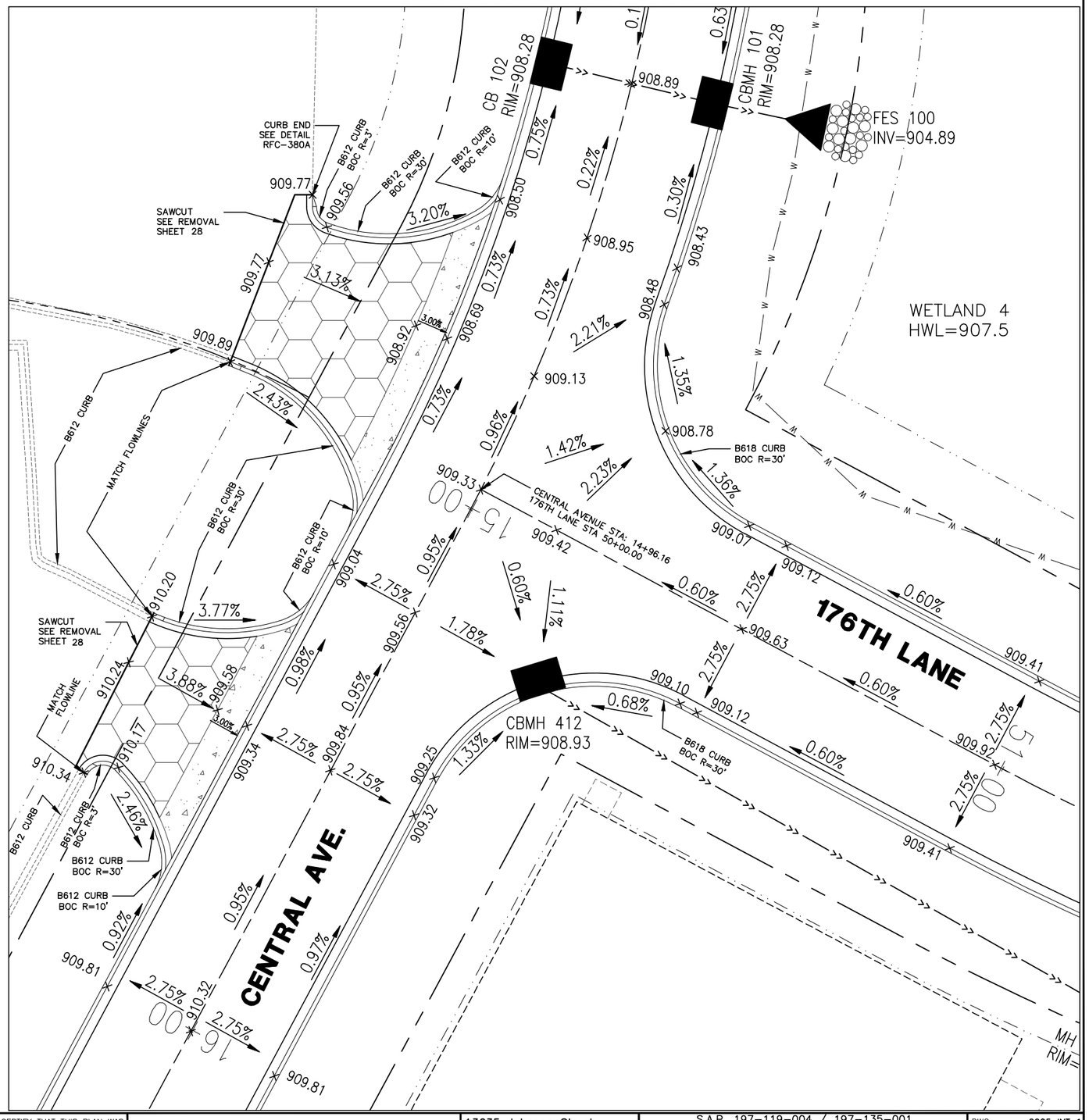


PROPOSED BITUMINOUS DRIVEWAY

PROPOSED CONCRETE

PROPOSED CLASS 5 SHOULDER

CENTRAL AVENUE AND 176TH LANE



DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dan Kruglen
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

INTERSECTION DETAILS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

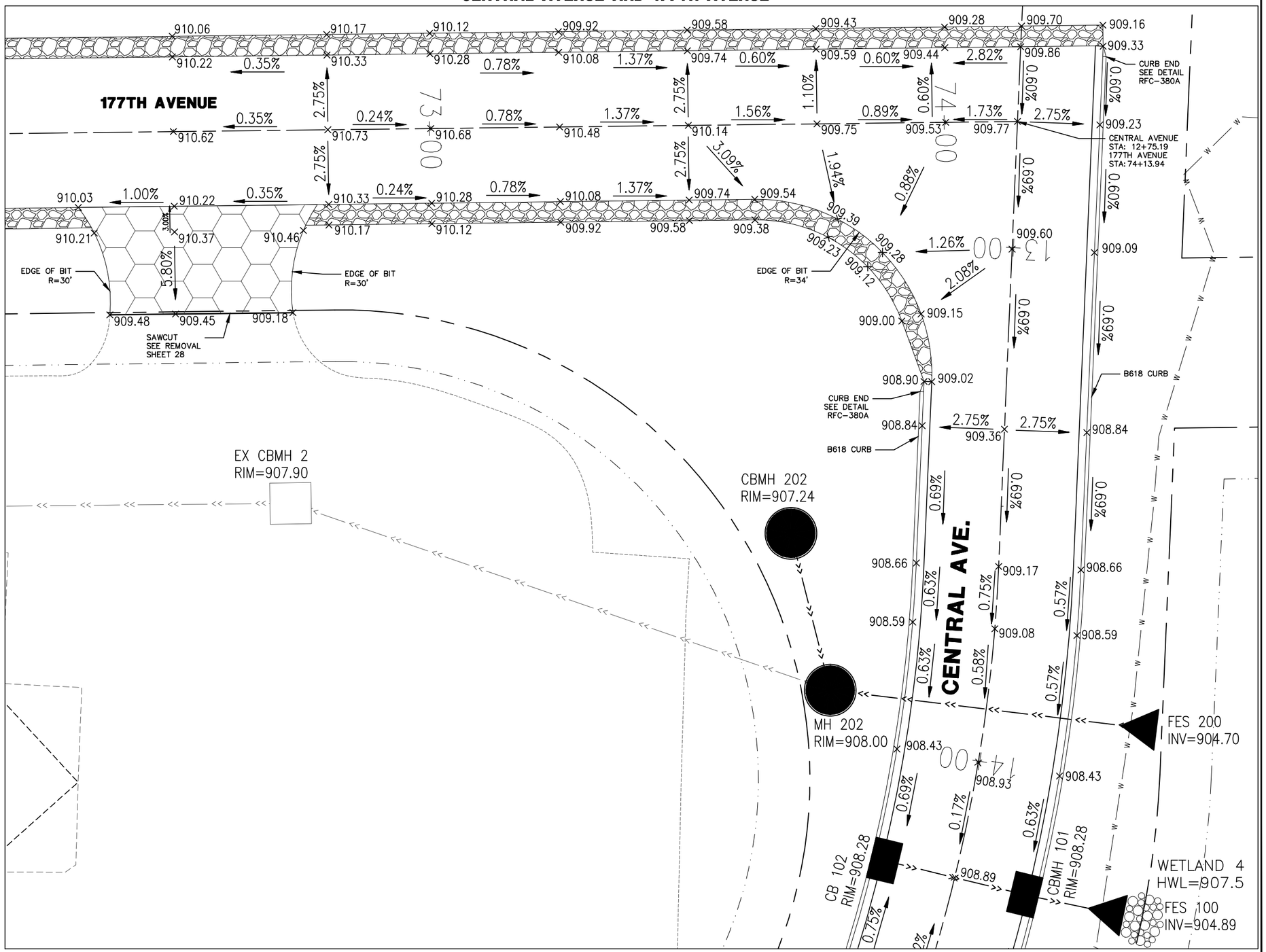
DWG: 2205 INT 1
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 20 OF 61
FILE: 37-2-120

NOTES:

1. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION, BUT IN NO CASE LONGER THAN 7 DAYS. IF THERE IS A SCHEDULED PAUSE OF WORK THAT WILL LAST 7 DAYS OR LONGER, ALL SOILS AND STOCKPILES ARE REQUIRED TO BE STABILIZED WITHIN THE FIRST 24 HOURS OF INACTIVITY.
2. ALL REMOVALS TO BE DISPOSED OF LEGALLY.
3. SEE DETAIL PRIVATE DRIVEWAY RFC-363A1 FOR DRIVEWAY DETAILS.

0 5 10 20
FEET

N



PROPOSED BITUMINOUS DRIVEWAY

PROPOSED CLASS 5 SHOULDER

UTILITIES:

LUMEN	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
GREAT RIVERS ENERGY	(763) 445-5984

GOPHER ONE CALL STATE
800-252-1166 651-454-0002

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Krueger
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

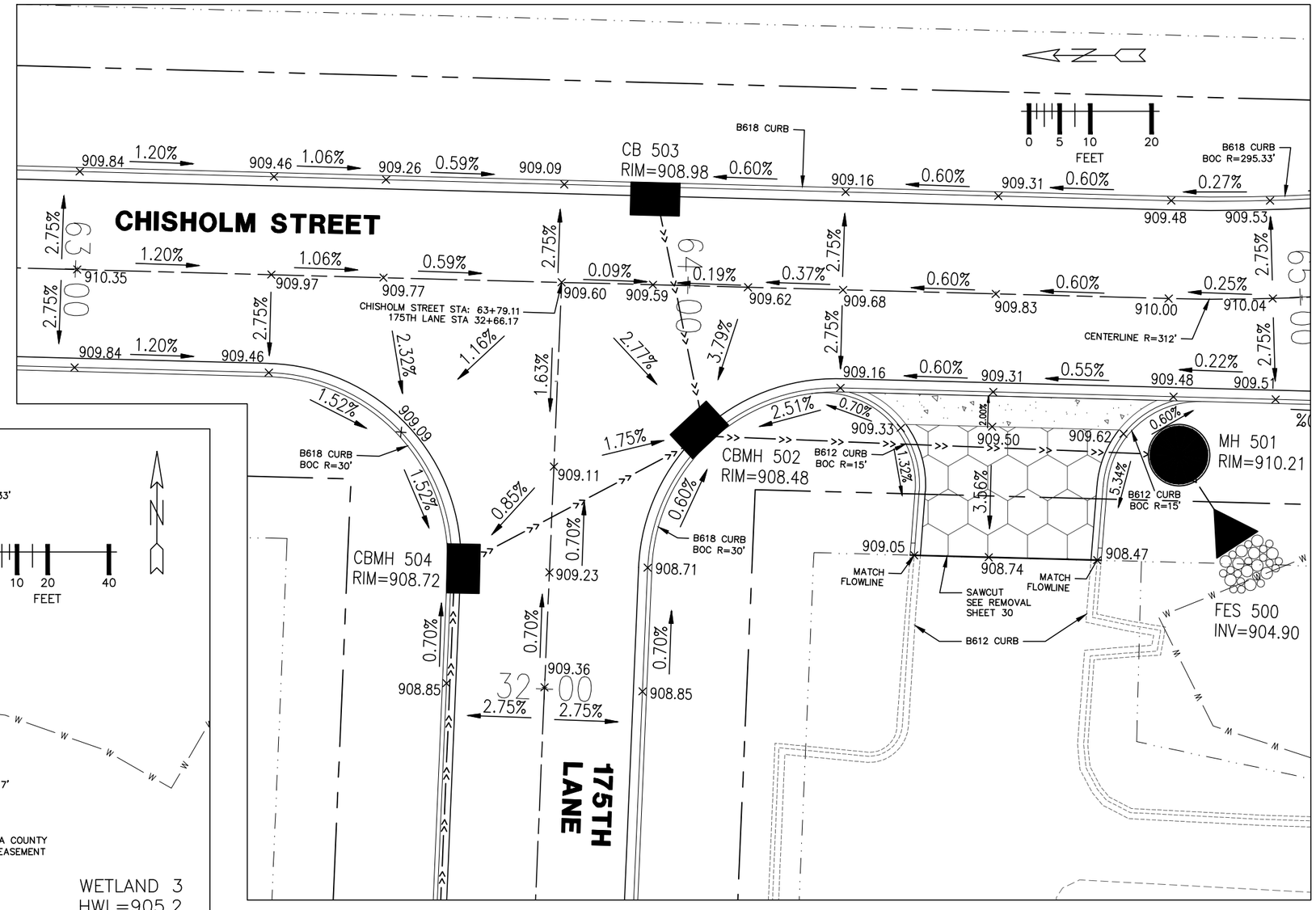
INTERSECTION DETAILS

DWG:	2205 INT 2
DATE:	05/14/26
JOB NUMBER:	2205
SHEET:	21 OF 61
FILE:	37-2-121

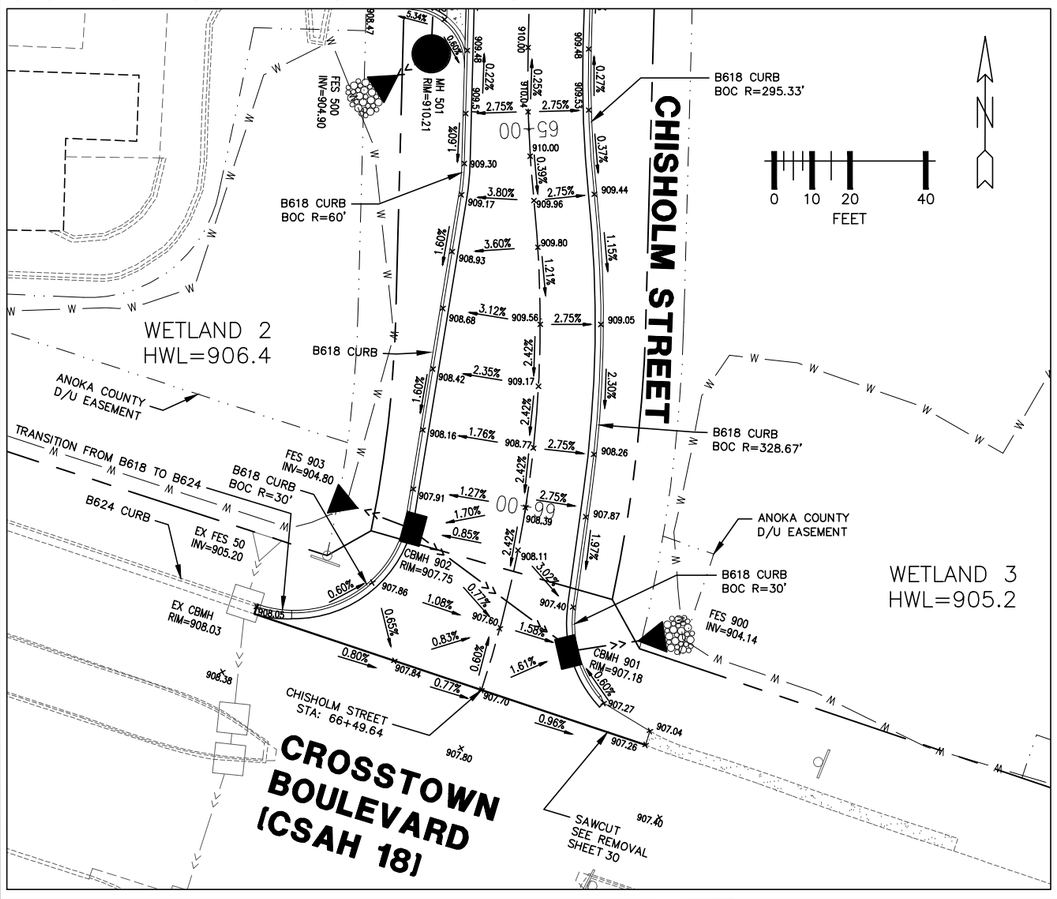
NOTES:

1. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION, BUT IN NO CASE LONGER THAN 7 DAYS. IF THERE IS A SCHEDULED PAUSE OF WORK THAT WILL LAST 7 DAYS OR LONGER, ALL SOILS AND STOCKPILES ARE REQUIRED TO BE STABILIZED WITHIN THE FIRST 24 HOURS OF INACTIVITY.
2. ALL REMOVALS TO BE DISPOSED OF LEGALLY.
3. SEE DETAIL COMMERCIAL DRIVEWAY RFC-370A1 FOR DRIVEWAY DETAILS.

CHISHOLM STREET AND 175TH LANE



CROSSTOWN BOULEVARD (CSAH 18) AND CHISHOLM STREET



PROPOSED BITUMINOUS DRIVEWAY

PROPOSED CONCRETE

UTILITIES:

LUMEN	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
GREAT RIVERS ENERGY	(763) 445-5984

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Krughe
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

INTERSECTION DETAILS

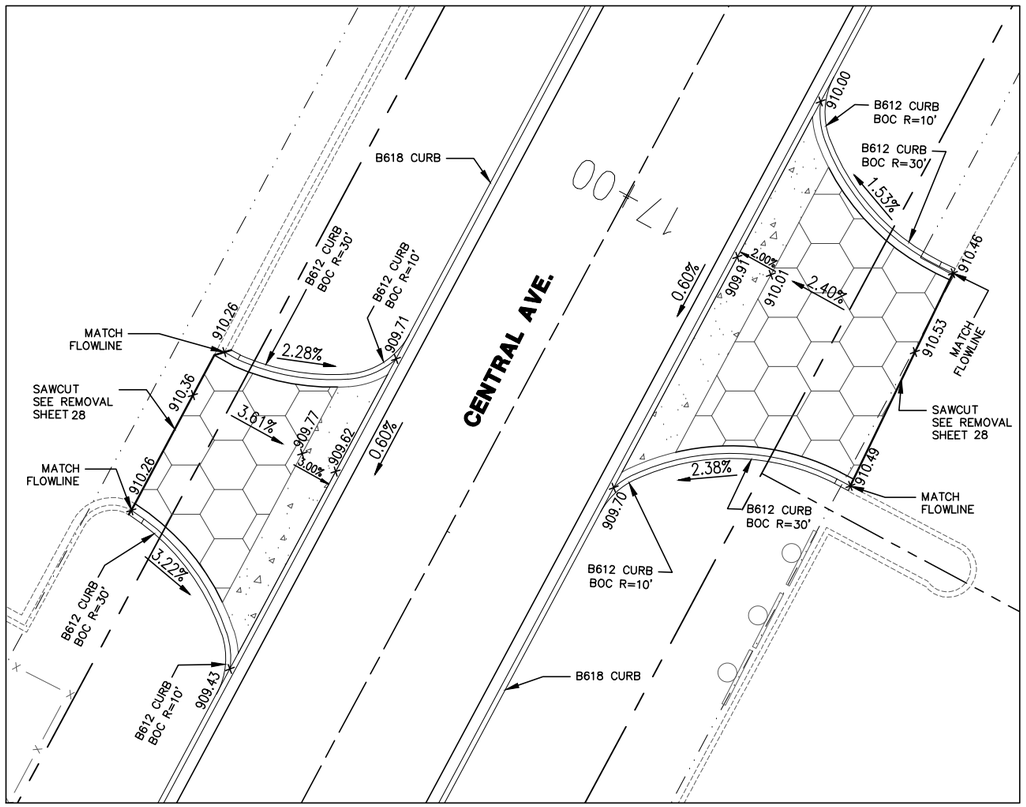
DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG:	2205 INT 3
DATE:	05/14/26
JOB NUMBER:	2205
SHEET:	22 OF 61
FILE:	37-2-122

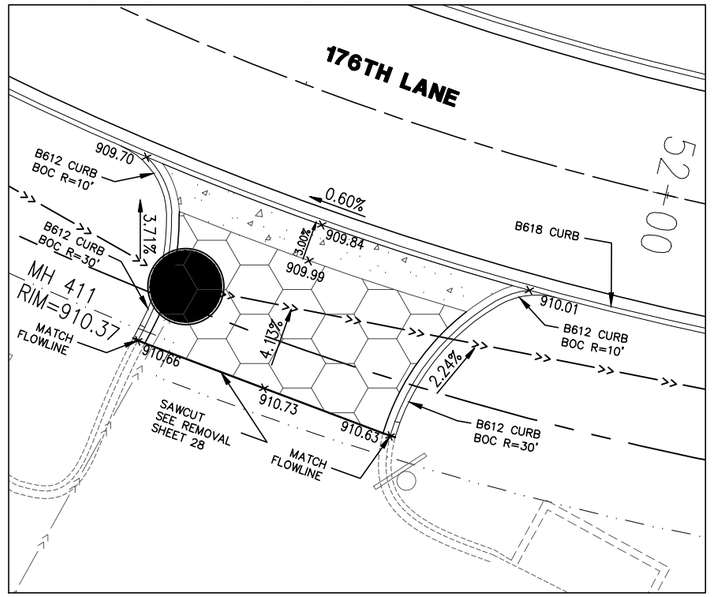
NOTES:

1. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION, BUT IN NO CASE LONGER THAN 7 DAYS. IF THERE IS A SCHEDULED PAUSE OF WORK THAT WILL LAST 7 DAYS OR LONGER, ALL SOILS AND STOCKPILES ARE REQUIRED TO BE STABILIZED WITHIN THE FIRST 24 HOURS OF INACTIVITY.
2. ALL REMOVALS TO BE DISPOSED OF LEGALLY.
3. SEE DETAIL COMMERCIAL DRIVEWAY RFC-370A1 FOR DRIVEWAY DETAILS.

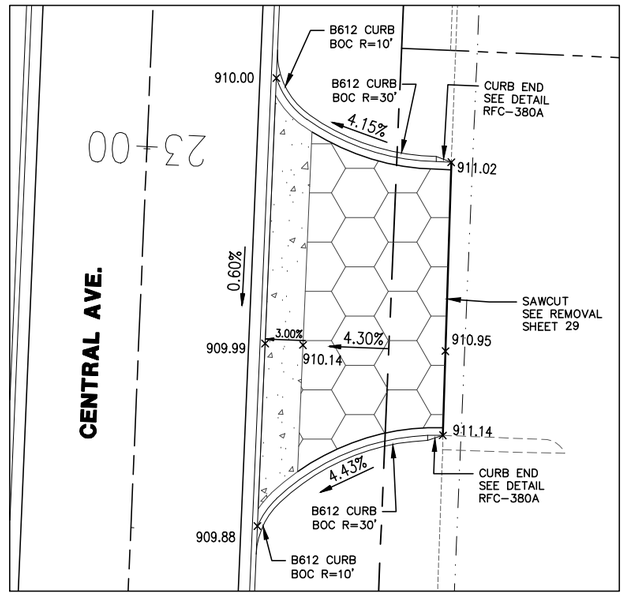
DRIVEWAYS CENTRAL AVENUE STA 17+00 & STA 17+50

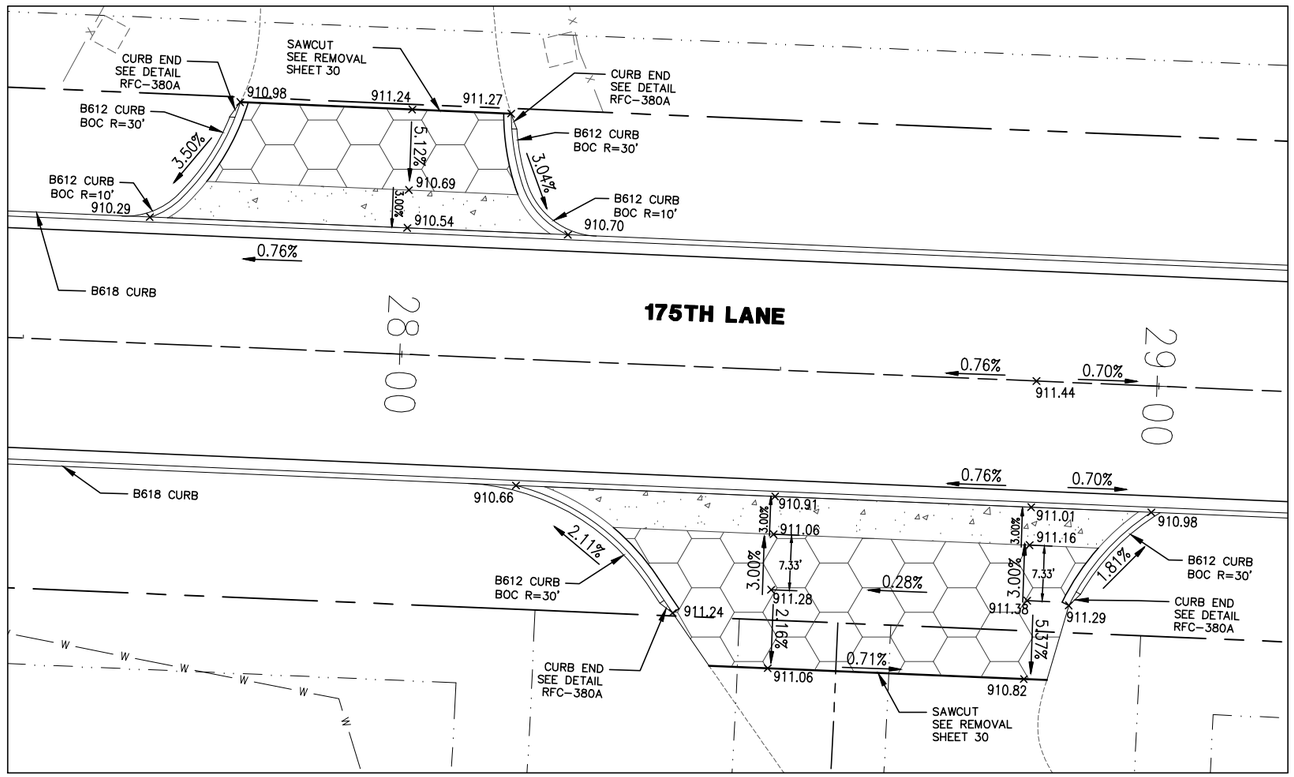


DRIVEWAY 176TH LANE STA 51+50



DRIVEWAY CENTRAL AVENUE STA 23+25





DRIVEWAYS 175TH LANE STA 28+00 & STA 28+50

0 5 10 20
FEET
(ALL DETAILS)

N

PROPOSED BITUMINOUS DRIVEWAY

PROPOSED CONCRETE

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:

LUMEN	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
GREAT RIVERS ENERGY	(763) 445-5984

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dan Rugle
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

DRIVEWAY DETAILS

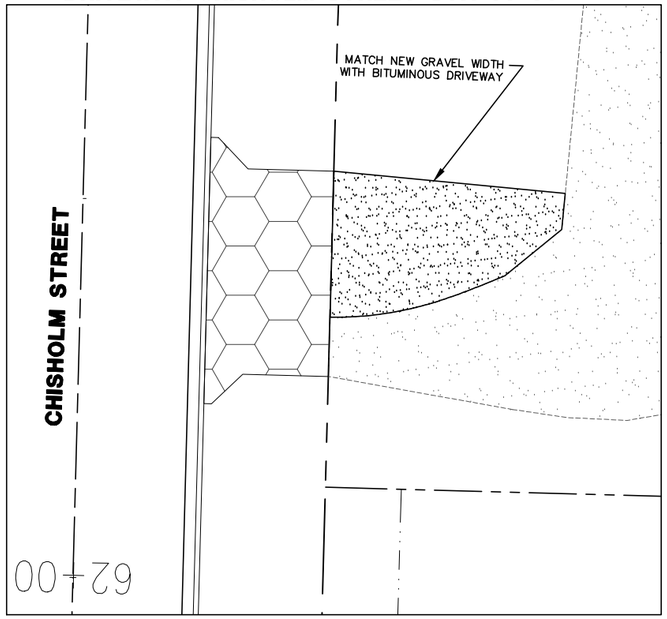
DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

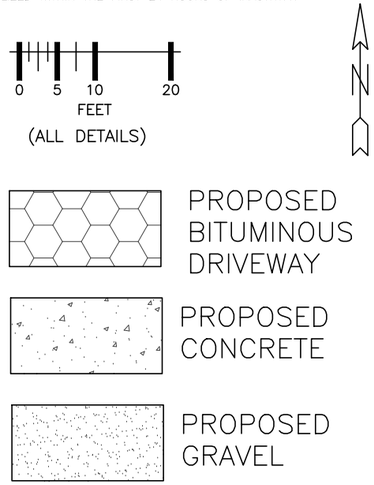
DWG:	2205 INT 4
DATE:	05/14/26
JOB NUMBER:	2205
SHEET:	23 OF 61
FILE:	37-2-123

NOTES:

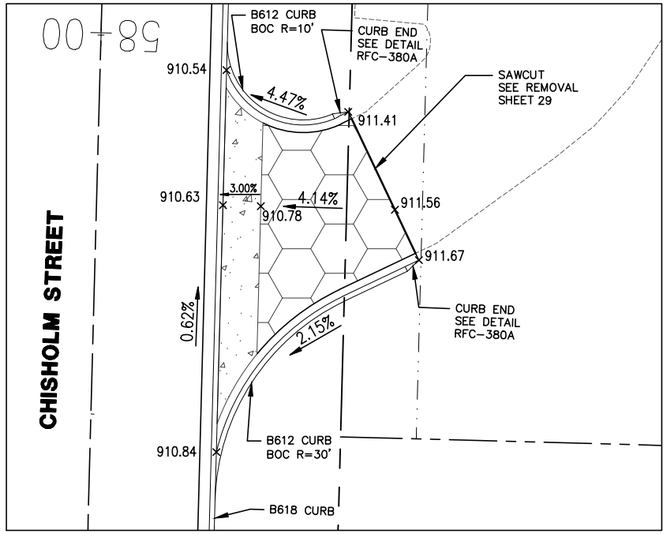
1. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION, BUT IN NO CASE LONGER THAN 7 DAYS. IF THERE IS A SCHEDULED PAUSE OF WORK THAT WILL LAST 7 DAYS OR LONGER, ALL SOILS AND STOCKPILES ARE REQUIRED TO BE STABILIZED WITHIN THE FIRST 24 HOURS OF INACTIVITY.
2. ALL REMOVALS TO BE DISPOSED OF LEGALLY.
3. SEE DETAIL COMMERCIAL DRIVEWAY RFC-370A1 FOR DRIVEWAY DETAILS.
4. SEE DETAIL PRIVATE DRIVEWAY RFC-363A1 FOR RESIDENTIAL DRIVEWAY DETAIL.

DRIVEWAY CHISHOLM STREET STA 61+60

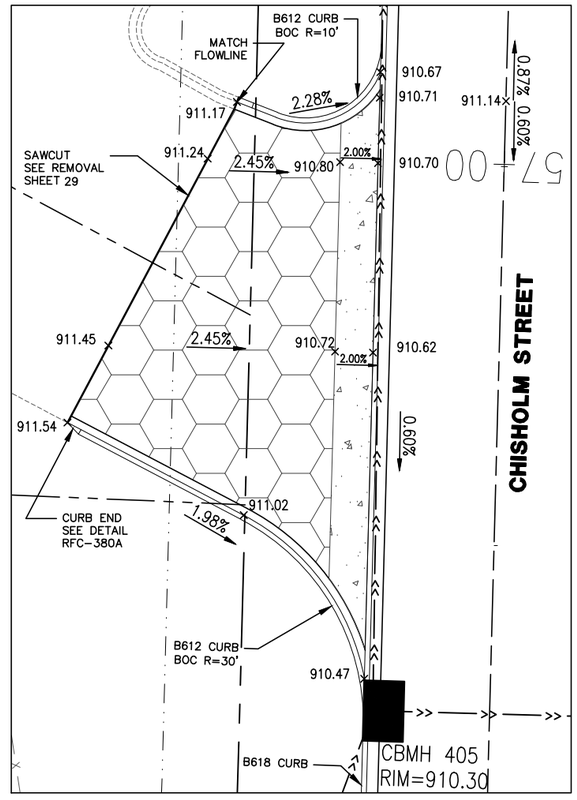




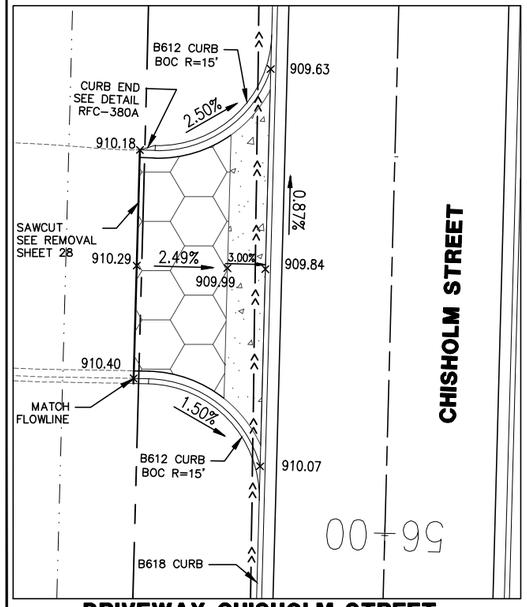
DRIVEWAY CHISHOLM STREET STA 58+22



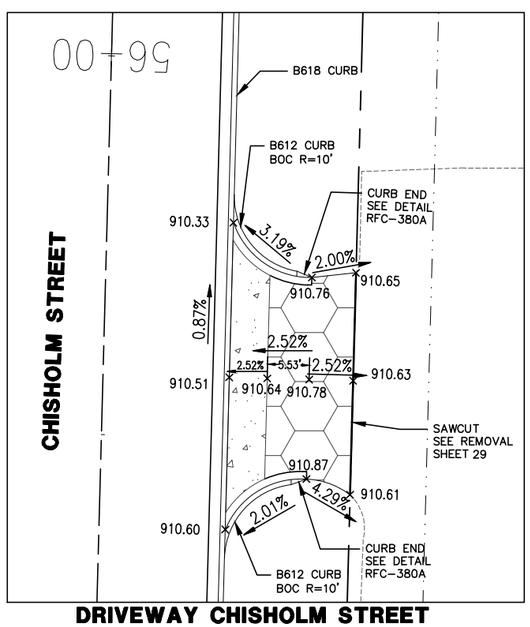
DRIVEWAY CHISHOLM STREET STA 57+25



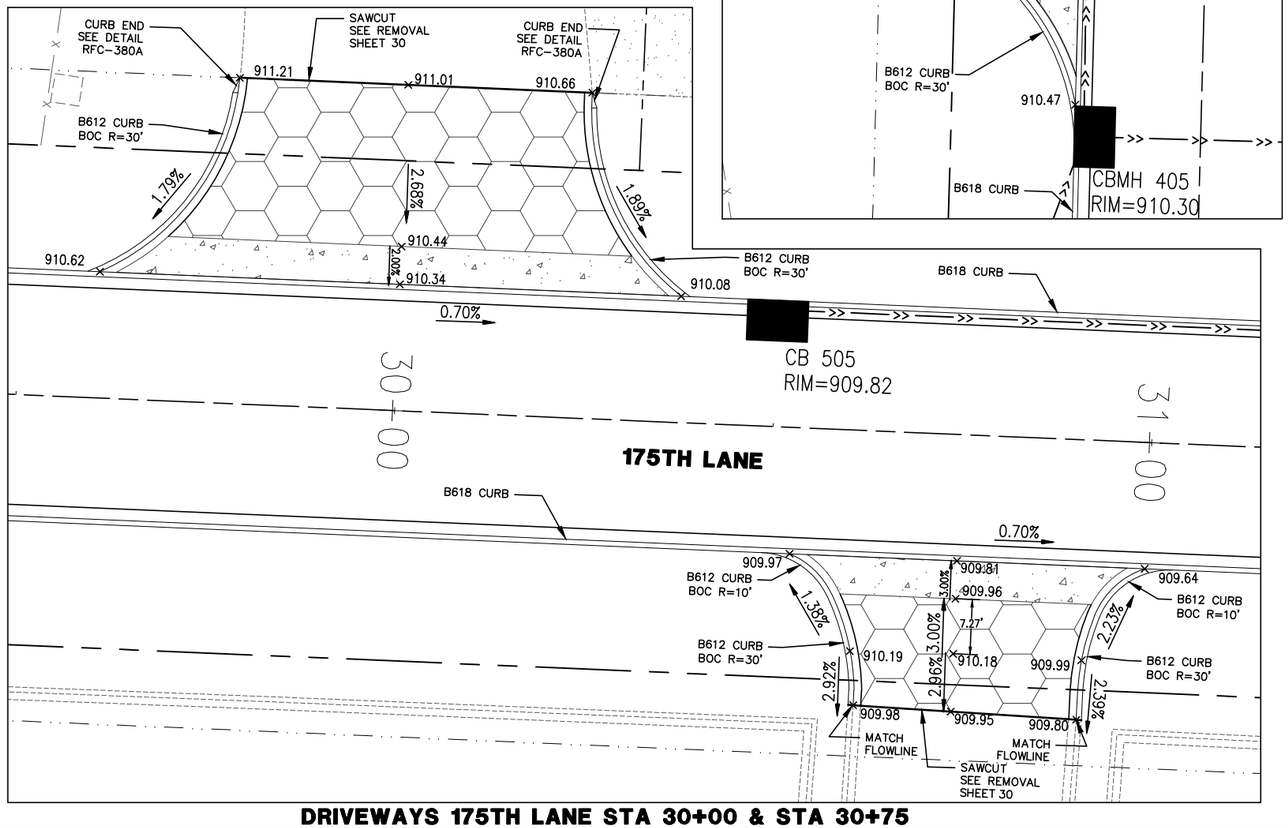
DRIVEWAY CHISHOLM STREET STA 55+65



DRIVEWAY CHISHOLM STREET STA 56+42



DRIVEWAYS 175TH LANE STA 30+00 & STA 30+75



UTILITIES:

LUMEN	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
GREAT RIVERS ENERGY	(763) 445-5984

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dan Krueger
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

DRIVEWAY DETAILS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG:	2205 INT 5
DATE:	05/14/26
JOB NUMBER:	2205
SHEET:	24 OF 61
FILE:	37-2-124

NOTES:
1. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION, BUT IN NO CASE LONGER THAN 7 DAYS. IF THERE IS A SCHEDULED PAUSE OF WORK THAT WILL LAST 7 DAYS OR LONGER, ALL SOILS AND STOCKPILES ARE REQUIRED TO BE STABILIZED WITHIN THE FIRST 24 HOURS OF INACTIVITY.
2. ALL LOCATIONS OF STOCKPILES SHALL BE SUBMITTED FOR THE CITY ENGINEERS' APPROVAL PRIOR TO STOCKPILING. ALL EROSION CONTROL FOR STOCKPILES SHALL BE PER BMP'S AND SWPPP.
3. ALL SILT FENCE MUST BE IN PLACE BEFORE ANY LAND IS DISTURBED.

0 15 30 60
FEET

N

CLEAR AND GRUB (0.06 ACRES)

CLEAR AND GRUB (0.08 ACRES)

177TH AVENUE

BEGIN S.A.P. 197-135-001 STA 70+00.00

CLEAR AND GRUB (1 TOTAL)

SB-6 905.5

S.A.P. 197-135-001 END STA 73+88.00 177TH AVENUE BEGIN STA 13+38 CENTRAL AVENUE

CLEAR AND GRUB (3 TOTAL)

CLEAR AND GRUB (2 TOTAL)

CLEAR AND GRUB (0.31 ACRES)

CLEAR AND GRUB (0.18 ACRES)

MNDOT RIGHT-OF-WAY

NORTH BOUND TRUNK HIGHWAY 65

SB-5 909.8

BEGIN S.A.P. 197-119-004 STA 50+00.00 176TH LANE

176TH LANE

CENTRAL AVENUE

CHISHOLM STREET

SB-8 906.8

MATCHLINE

LEGEND

- TREES TO REMOVE (ACRE)
- TREES TO REMOVE (EACH)
- TREES TO REMAIN

UTILITIES:
LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
GREAT RIVERS ENERGY (763) 445-5984

GOPHER ONE CALL STATE
800-252-1166 651-454-0002

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dan Krueger
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

TREE REMOVAL PLANS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2205 REMOVETREE1
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 25 OF 61
FILE: 37-2-125

MATCHLINE

MATCHLINE

MnDOT RIGHT-OF-WAY

CENTRAL AVENUE

CHISHOLM STREET

SB-4
909.3

CLEAR AND GRUB
(2 TOTAL)

CLEAR AND GRUB
(0.22 ACRES)

CLEAR AND GRUB
(0.14 ACRES)

MB

LEGEND

TREES TO REMOVE (ACRE)

TREES TO REMOVE (EACH)

TREES TO REMAIN

0 15 30 60
FEET

N

NOTES:
1. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION, BUT IN NO CASE LONGER THAN 7 DAYS. IF THERE IS A SCHEDULED PAUSE OF WORK THAT WILL LAST 7 DAYS OR LONGER, ALL SOILS AND STOCKPILES ARE REQUIRED TO BE STABILIZED WITHIN THE FIRST 24 HOURS OF INACTIVITY.
2. ALL LOCATIONS OF STOCKPILES SHALL BE SUBMITTED FOR THE CITY ENGINEERS' APPROVAL PRIOR TO STOCKPILING. ALL EROSION CONTROL FOR STOCKPILES SHALL BE PER BMP'S AND SWPPP.
3. ALL SILT FENCE MUST BE IN PLACE BEFORE ANY LAND IS DISTURBED.

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Ruggles
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

TREE REMOVAL PLANS

DWG 2205 REMOVETREE2
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 26 OF 61
FILE: 37-2-126

MATCHLINE

NOTES:
1. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION, BUT IN NO CASE LONGER THAN 7 DAYS. IF THERE IS A SCHEDULED PAUSE OF WORK THAT WILL LAST 7 DAYS OR LONGER, ALL SOILS AND STOCKPILES ARE REQUIRED TO BE STABILIZED WITHIN THE FIRST 24 HOURS OF INACTIVITY.
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0 15 30 60
FEET

LEGEND

- TREES TO REMOVE (ACRE)
- TREES TO REMOVE (EACH)
- TREES TO REMAIN

CENTRAL AVENUE

175TH LANE

CROSSTOWN BOULEVARD (CSAH 18)

CHISHOLM STREET

MNDOT RIGHT-OF-WAY

SB-3 909.7

SB-2 909.4

SB-1 908.4

CLEAR AND GRUB (4 TOTAL)

CLEAR AND GRUB (0.22 ACRES)

CLEAR AND GRUB (0.03 ACRES)

CLEAR AND GRUB (0.17 ACRES)

CLEAR AND GRUB (0.11 ACRES)

END S.A.P. 197-135-001
STA 32+66.17 175TH LANE

END S.A.P. 197-119-004
STA 66+49.64 CHISHOLM STREET

24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 62+00 63+00 64+00 65+00 00+99

FO — MnDOT FO — MnDOT FO — MnDOT FO — MnDOT FO — MnDOT FO — MnDOT FO — MnDOT FO — MnDOT FO — MnDOT FO — MnDOT FO

UTILITIES:

LUMEN	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
GREAT RIVERS ENERGY	(763) 445-5984

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dan Kreger
DATE 05/14/26 REG. NO. 48768

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Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

TREE REMOVAL PLANS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG 2205 REMOVETREE3
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 27 OF 61
FILE: 37-2-127

NOTES:
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0 15 30 60
FEET

N

LEGEND

BITUMINOUS RECLAIM

177TH AVENUE

176TH LANE

CHISHOLM STREET

CENTRAL AVENUE

NORTH BOUND TRUNK HIGHWAY 65

MATCHLINE

PROTECT CULVERT
SAWCUT BITUMINOUS 109 LF STA 70+00.00
BEGIN S.A.P. 197-135-001 STA 70+00.00
REMOVE SIGN C-25
REMOVE SIGN C-26
REMOVE SIGN C-24
PROTECT CULVERT
CAUTION MNDOT FIBER LINE WITHIN DITCH. USE CAUTION WHEN GRADING TO AVOID POSSIBLE LINE EXPOSURE.
MNDOT RIGHT-OF-WAY
S.A.P. 197-135-001 END STA 73+88.00 177TH AVENUE BEGIN STA 13+38 CENTRAL AVENUE
SAWCUT BITUMINOUS AT 20' FROM ROAD EDGE
REMOVE SIGN C-27 SALVAGE SIGN C-1
REMOVE 7 LF OF RC PIPE REMOVE AT NEAREST CONNECTION
REMOVE STORM STRUCTURE, RC PIPES, AND RC FLARED END
GREAT RIVER ENERGY OVERHEAD TRANSMISSION LINE
SB-6 905.5
REMOVE SIGNS C-2 & C-3
SAWCUT BITUMINOUS AT 35' FROM ROAD EDGE
SAWCUT CONCRETE CURB SAWCUT AT JOINT 2 LF
REMOVE 37 LF OF CONCRETE CURB
REMOVE 29 LF OF CONCRETE CURB
SAWCUT CONCRETE CURB SAWCUT AT JOINT 2 LF
SAWCUT BITUMINOUS AT 23' FROM ROAD EDGE
SAWCUT CONCRETE CURB SAWCUT AT JOINT 2 LF
REMOVE 29 LF OF CONCRETE CURB
BEGIN S.A.P. 197-119-004 STA 50+00.00 176TH LANE
REMOVE STORM STRUCTURE, RC PIPES, AND RC FLARED END
REMOVE STORM STRUCTURE, RC PIPES, AND RC FLARED END
CB-5 909.8
REMOVE SIGNS C-1 & C-12
REMOVE 12 LF OF CONCRETE CURB
SAWCUT CONCRETE CURB SAWCUT AT JOINT 2 LF
REMOVE 14 LF OF CONCRETE CURB
REMOVE SIGN C-13
REMOVE 9 LF OF RC PIPE REMOVE AT NEAREST CONNECTION
SB-8 906.8
PROTECT STREET LIGHT
PROTECT WELL
PROTECT SEPTIC
SAWCUT BITUMINOUS AT 26' FROM ROAD EDGE
PROTECT SIGN
PROTECT SEPTIC
SAWCUT CONCRETE CURB SAWCUT AT JOINT 2 LF
REMOVE 26 LF OF CONCRETE CURB
SAWCUT CONCRETE CURB SAWCUT AT JOINT 2 LF
SAWCUT BITUMINOUS AT 23' FROM ROAD EDGE
SAWCUT CONCRETE CURB SAWCUT AT JOINT 2 LF
REMOVE 25 LF OF CONCRETE CURB
PROTECT FENCE
PROTECT SEPTIC
SAWCUT BITUMINOUS AT 28' FROM ROAD EDGE
SAWCUT BITUMINOUS AT 19' FROM ROAD EDGE
SAWCUT CONCRETE CURB SAWCUT AT JOINT 2 LF
REMOVE 2 LF OF CONCRETE CURB

SOPHER ONE STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:
LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
GREAT RIVERS ENERGY (763) 445-5984

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dan Krueger
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION
REMOVAL PLANS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2205 REMOVAL 1
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 28 OF 61
FILE: 37-2-128

MATCHLINE

CAUTION MNDOT FIBER LINE WITHIN DITCH. USE CAUTION WHEN GRADING TO AVOID POSSIBLE LINE EXPOSURE.

PROTECT FENCE

MNDOT RIGHT-OF-WAY

REMOVE STORM STRUCTURE, RC PIPES, AND RC FLARED END

CENTRAL AVENUE

REMOVE 10 LF OF RC PIPE
REMOVE AT NEAREST CONNECTION

REMOVE 10 LF OF RC PIPE
REMOVE AT NEAREST CONNECTION

SB-4
909.3

LEGEND

BITUMINOUS RECLAIM

0 15 30 60
FEET

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SAWCUT BITUMINOUS AT 25' FROM ROAD EDGE

REMOVE 2 LF OF CONCRETE CURB

SAWCUT CONCRETE CURB
SAWCUT AT JOINT 2 LF

SAWCUT BITUMINOUS AT 32' FROM ROAD EDGE

SAWCUT BITUMINOUS AT 17' FROM ROAD EDGE

PROTECT FENCE

SAWCUT BITUMINOUS AT 24' FROM ROAD EDGE

CHISHOLM STREET

MATCHLINE

UTILITIES:
LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
GREAT RIVERS ENERGY (763) 445-5984

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

DATE	REVISION HISTORY

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Dave Krueger
DATE 05/14/26 REG. NO. 48768

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13635 Johnson Street
Ham Lake, MN 55304
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Fax 763-862-8042

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

REMOVAL PLANS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2205 REMOVAL 2
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 29 OF 61
FILE: 37-2-129

MATCHLINE

NOTES:
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0 15 30 60
FEET

LEGEND

GRAVEL REMOVAL

BITUMINOUS RECLAIM

CENTRAL AVENUE

175TH LANE

CHISHOLM STREET

CROSSTOWN BOULEVARD (CSAH 18)

PROTECT FENCE

REMOVE BLOCK RETAINING WALL 64 LF

SALVAGE WOODEN FENCE 111 LF

REMOVE SIGN C-5

SAWCUT BITUMINOUS AT 17' FROM ROAD EDGE

PROTECT FENCE

SALVAGE WOODEN FENCE 140 LF

REMOVE SIGN C-6

SAWCUT BITUMINOUS AT 29' FROM ROAD EDGE

REMOVE SIGN C-15

MNDOT RIGHT-OF-WAY

REMOVE STORM STRUCTURE, RC PIPES, AND RC FLARED END

REMOVE SIGNS C-9, C-10, & C-11

END S.A.P. 197-135-001 STA 32+66.17 175TH LANE

REMOVE SIGN C-8

REMOVE SIGN C-7

SAWCUT BITUMINOUS AT 17' FROM ROAD EDGE

REMOVE 2 LF OF CONCRETE CURB

SAWCUT CONCRETE CURB SAWCUT AT JOINT 2 LF

SAWCUT BITUMINOUS AT 22' FROM ROAD EDGE

SAWCUT CONCRETE CURB SAWCUT AT JOINT 2 LF

REMOVE 4 LF OF CONCRETE CURB

PROTECT WELL

SAWCUT CONCRETE CURB SAWCUT AT JOINT 2 LF

REMOVE 10 LF OF CONCRETE CURB

SAWCUT BITUMINOUS AT 29' FROM ROAD EDGE

SAWCUT CONCRETE CURB SAWCUT AT JOINT 2 LF

REMOVE 10 LF OF CONCRETE CURB

SALVAGE MAILBOX AND SUPPORT

REMOVE SIGN C-14

REMOVE SIGN C-16

REMOVE SIGN C-17

REMOVE 70 LF OF CONCRETE CURB

REMOVE STORM RC PIPE AND RC FLARED ENDS

REMOVE SIGNS C-19 & C-21

PROTECT SIGN

SAWCUT CONCRETE CURB SAWCUT AT NEAREST JOINT BEFORE CASTING 3 LF

REMOVE SIGN C-18

REMOVE SIGNS C-20 & C-22

REMOVE SIGN C-23

SAWCUT BITUMINOUS 109 LF

END S.A.P. 197-119-004 STA 66+49.64 CHISHOLM STREET

CAUTION MNDOT FIBER LINE WITHIN DITCH. USE CAUTION WHEN GRADING TO AVOID POSSIBLE LINE EXPOSURE.

SB-3 @ 909.7

SB-2 @ 909.4

SB-1 @ 908.4

24+00 25+00 28+00 29+00 30+00 31+00 64+00 65+00 00+99

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:
LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
GREAT RIVERS ENERGY (763) 445-5984

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dan Krueger
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

REMOVAL PLANS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2205 REMOVAL 3
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 30 OF 61
FILE: 37-2-130

0 25 50 100
FEET

GREAT RIVER ENERGY
OVERHEAD TRANSMISSION LINE

WETLAND 4

END SAP 197-135-001
STA: 74+13.94
BEGIN SAP 197-135-001
STA: 12+75.19

FUTURE FRONTAGE
ROAD ALIGNMENT

BOP = 10+00.00
S 33°57'34" W
173.39 FT

CIRCULAR
PI Sta = 11+73.39
I = 31°32'06"L
T = 88.10
R = 312.00
M = 11.74

PC Sta = 10+85.30
PT Sta = 12+57.02

CIRCULAR
PI Sta = 14+33.05
I = 25°45'58"R
T = 71.36
R = 312.00
M = 7.85

CIRCULAR
PI Sta = 21+28.72
I = 25°45'58"L
T = 100.00
R = 437.21
M = 11.01

PC Sta = 20+28.72
PT Sta = 22+25.34

176TH LANE

177TH AVENUE

CENTRAL AVENUE

S 02°25'28" W
264.12 FT

S 28°11'26" W
698.09 FT

S 02°25'28" W
463.00 FT

MH 410
MH 411
MH 412
MH 201
MH 202
MH 124
MH 121

CBMH 101
CBMH 122
CBMH 181

CB 102
CB 123
CB 182
CB 132
CBMH 131

FES 200
FES 100
FES 180
FES 120

STUB 125
STUB 126

EX CBMH 2
EX CBMH 6
EX CBMH 17
EX CBMH 18
EX CBMH 19
EX CBMH 20
EX CBMH 21

CAUTION MNDOT FIBER LINE WITHIN DITCH.
USE CAUTION WHEN GRADING TO AVOID
POSSIBLE LINE EXPOSURE.

NB TRUNK HIGHWAY 65

NOTES:

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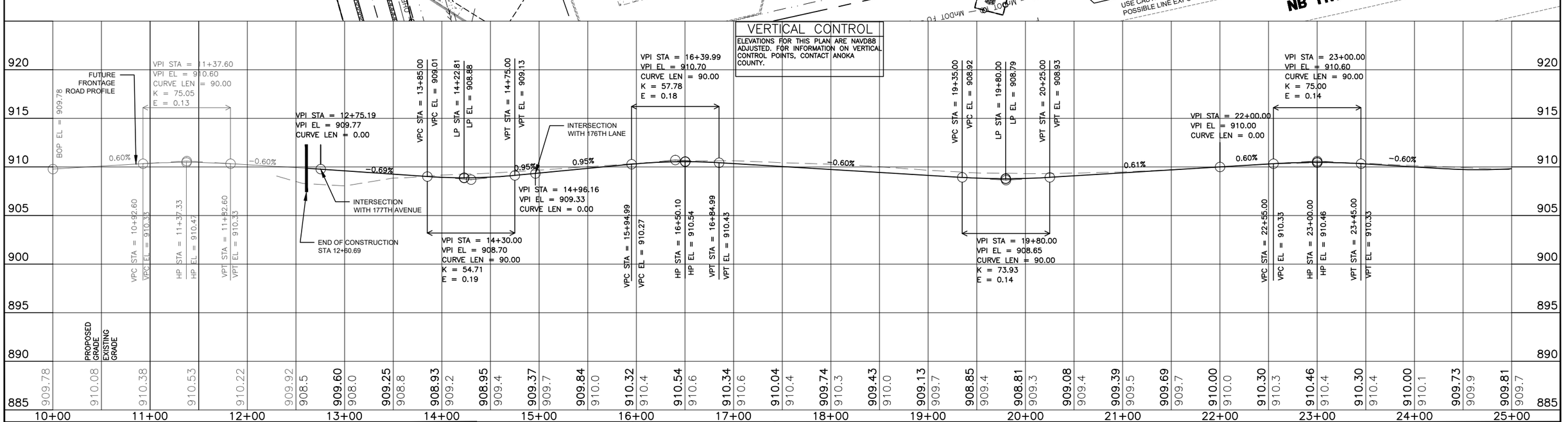
VERTICAL CONTROL

ELEVATIONS FOR THIS PLAN ARE NAVD88 ADJUSTED. FOR INFORMATION ON VERTICAL CONTROL POINTS, CONTACT ANOKA COUNTY.



UTILITIES:
LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
GREAT RIVERS ENERGY (763) 445-5984

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

PLOT DATE: 5/14/2026 15:53

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Krueger
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

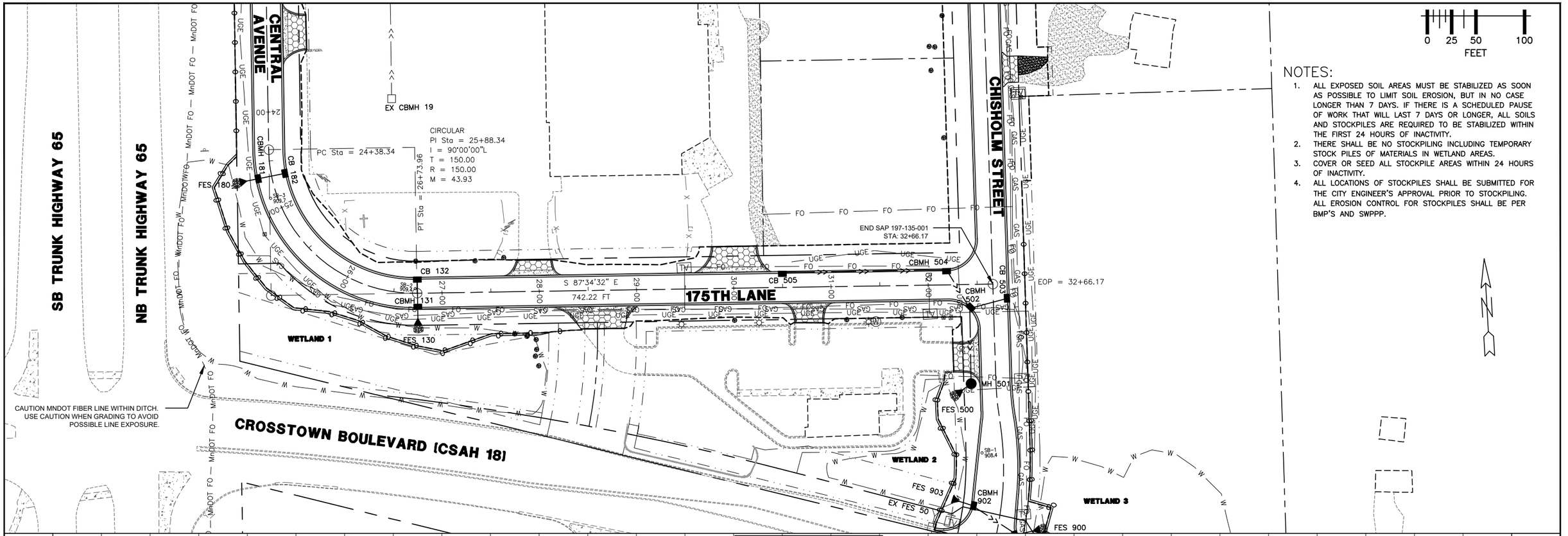
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

CENTRAL AVENUE/175TH LANE
PLAN AND PROFILE

DWG:	RCP01001
DATE:	05/14/26
JOB NUMBER:	2205
SHEET:	31 OF 61
FILE:	37-2-131



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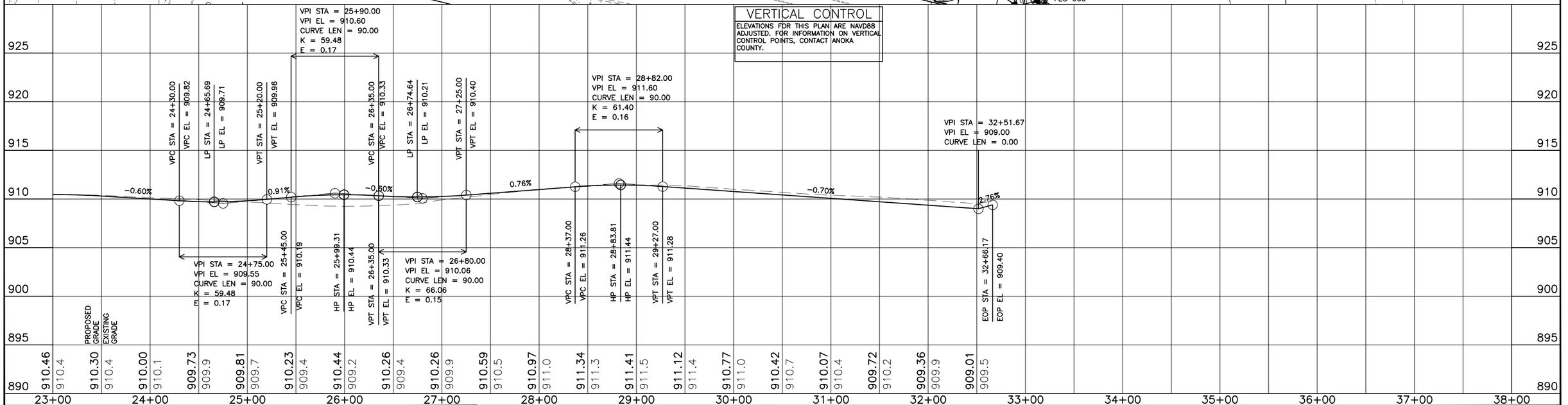

VERTICAL CONTROL

ELEVATIONS FOR THIS PLAN ARE NAVD88 ADJUSTED. FOR INFORMATION ON VERTICAL CONTROL POINTS, CONTACT ANOKA COUNTY.

SOPHER ONE CALL 800-252-1166 651-454-0002

PLOT DATE: 5/14/2026 15:53

UTILITIES:
LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
GREAT RIVERS ENERGY (763) 445-5984

DATE	REVISION HISTORY

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Dan Krueger
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

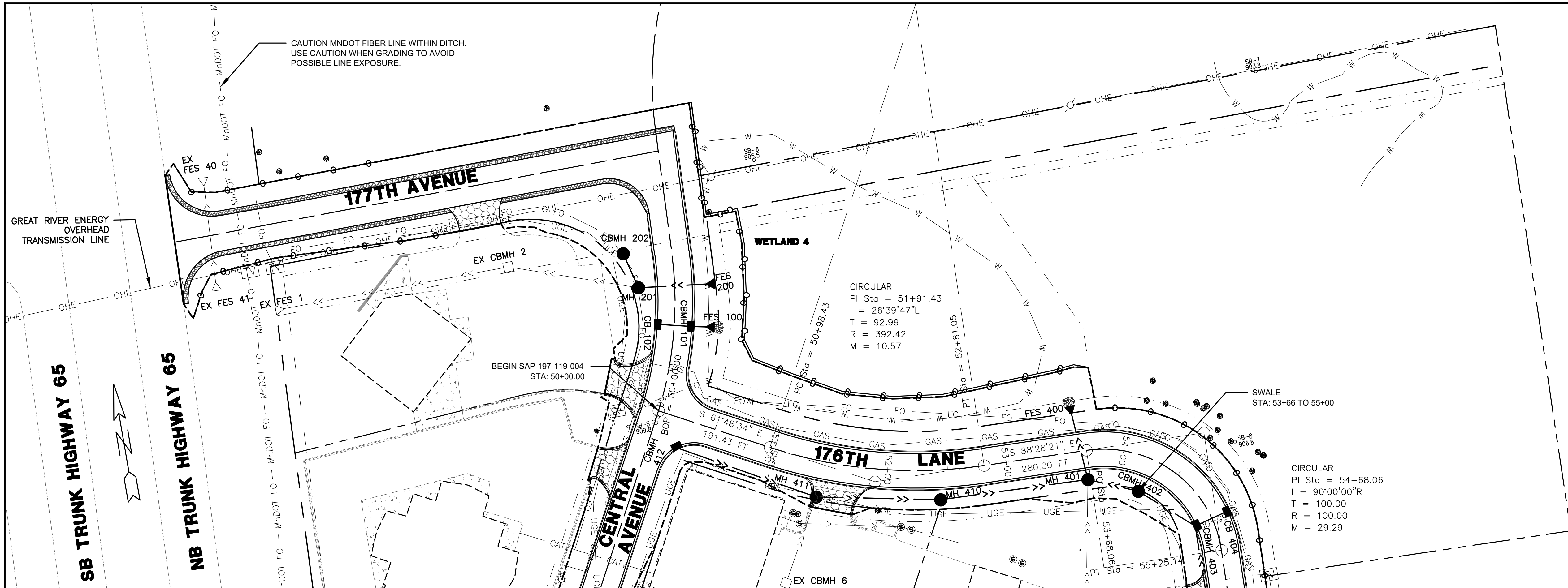
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

CENTRAL AVENUE/175TH LANE
PLAN AND PROFILE

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: RCP02001
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 32 OF 61
FILE: 37-2-132



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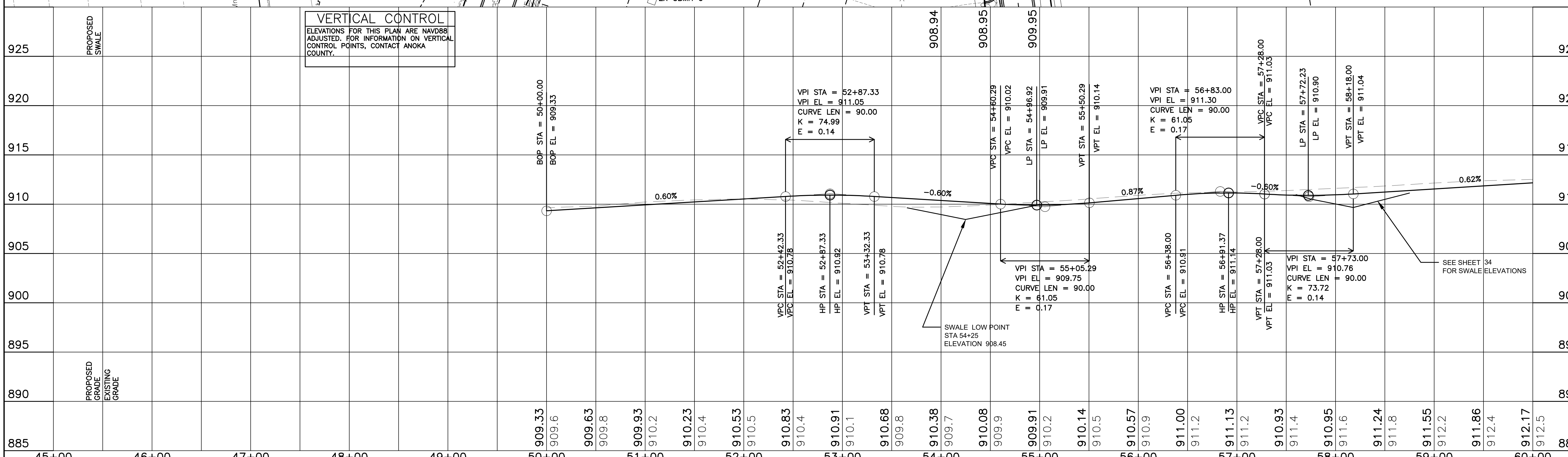

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

PLOT DATE: 5/14/2026 15:53

UTILITIES:		
	LUMEN	(763) 712-5017
	CENTERPOINT ENERGY	(763) 323-2760
	COMCAST	(952) 607-4078
	CONNEXUS ENERGY	(763) 323-4268
	GREAT RIVERS ENERGY	(763) 445-5984

DATE	REVISION HISTORY

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DATE 05/14/26 REG. NO. 48768

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Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

176TH LANE/CHISHOLM STREET
PLAN AND PROFILE

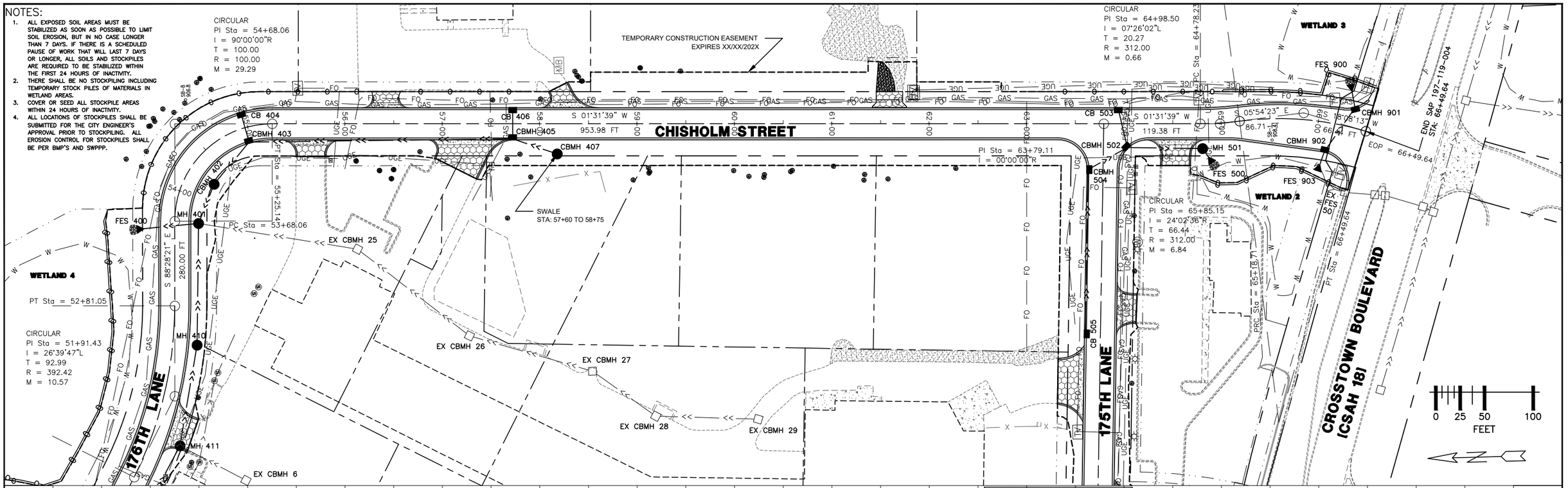
DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

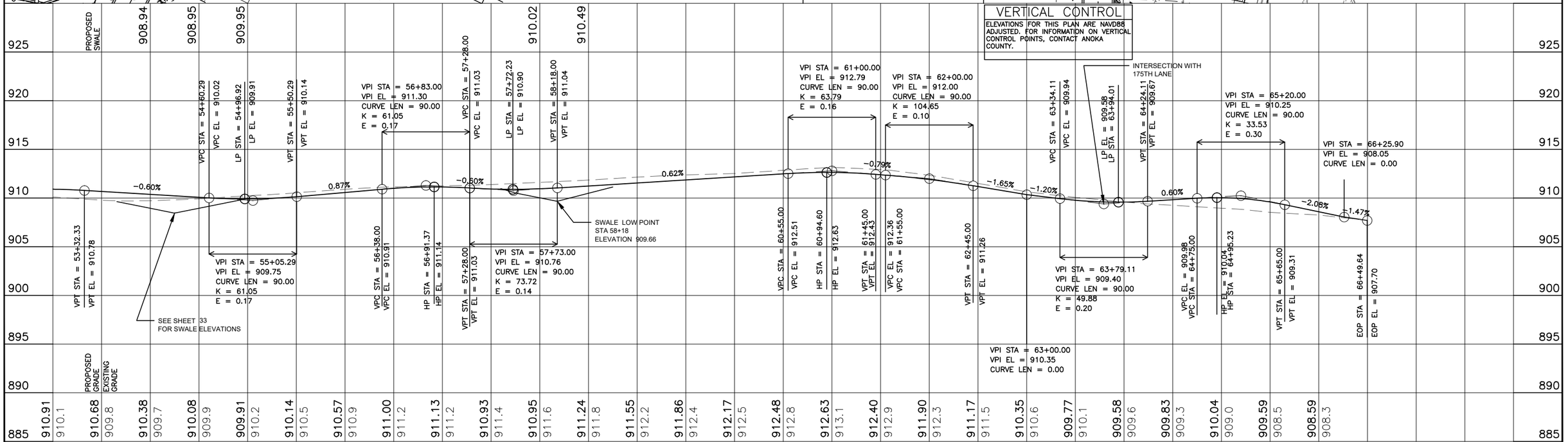
DWG: RCP01002
DATE: 05/14/26
JOB NUMBER: 2205

FILE: 37-2-133

NOTES:

1. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION, BUT IN NO CASE LONGER THAN 7 DAYS. IF THERE IS A SCHEDULED PAUSE OF WORK THAT WILL LAST 7 DAYS OR LONGER, ALL SOILS AND STOCKPILES ARE REQUIRED TO BE STABILIZED WITHIN THE FIRST 24 HOURS OF INACTIVITY.
2. THERE SHALL BE NO STOCKPILING INCLUDING TEMPORARY STOCK PILES OF MATERIALS IN WETLAND AREAS.
3. COVER OR SEED ALL STOCKPILE AREAS WITHIN 24 HOURS OF INACTIVITY.
4. ALL LOCATIONS OF STOCKPILES SHALL BE SUBMITTED FOR THE CITY ENGINEER'S APPROVAL PRIOR TO STOCKPILING. ALL EROSION CONTROL FOR STOCKPILES SHALL BE PER BMP'S AND SWPPP.





SOPHER STATE ONE CALL
800-252-1166 651-454-0002
PLOT DATE: 5/14/2026 15:53

UTILITIES:
LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
GREAT RIVERS ENERGY (763) 445-5984

DATE	REVISION HISTORY

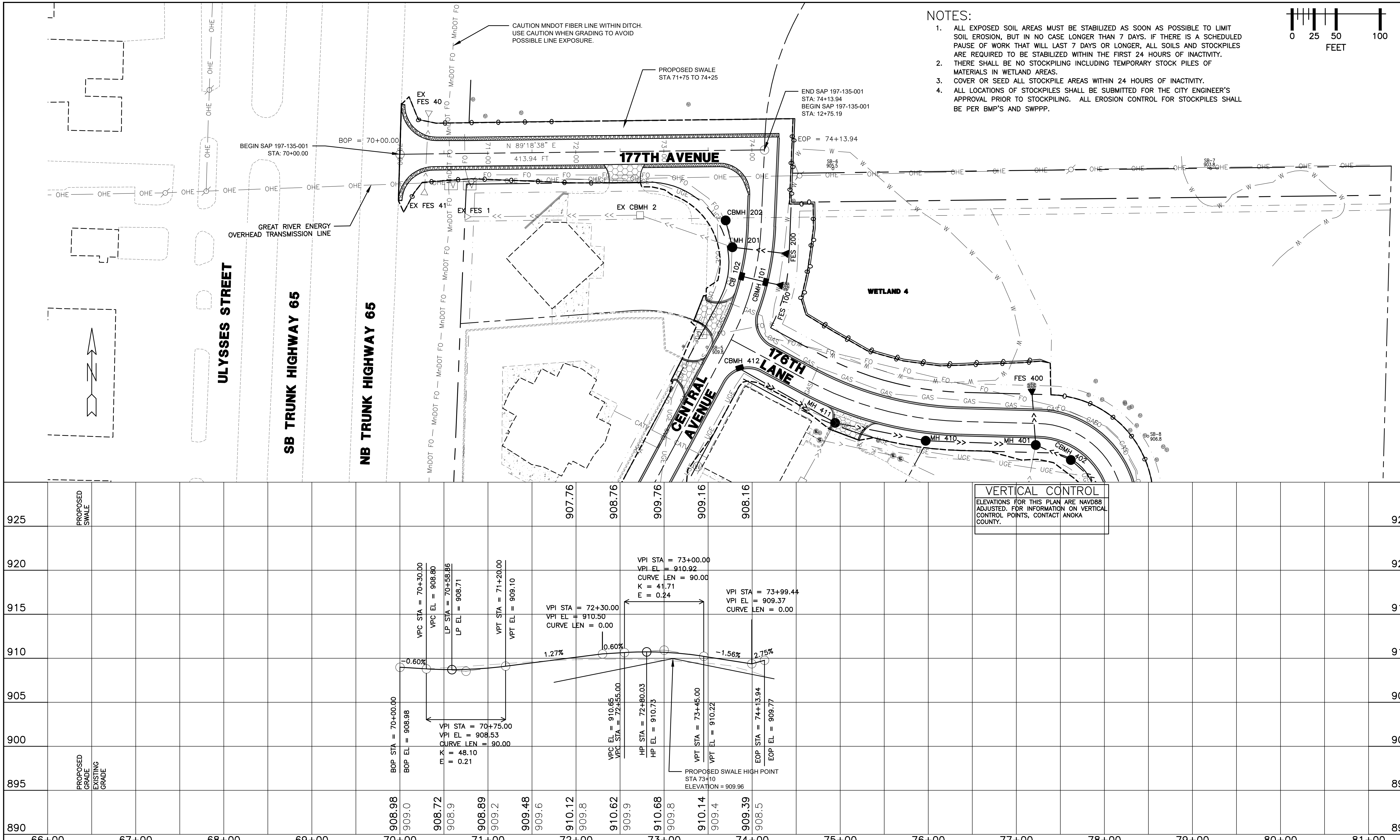
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dan Kugler
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION
176TH LANE/CHISHOLM STREET
PLAN AND PROFILE

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: RCP02002
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 34 OF 61
FILE: 37-2-134



NOTES:

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2. THERE SHALL BE NO STOCKPILING INCLUDING TEMPORARY STOCK PILES OF MATERIALS IN WETLAND AREAS.
3. COVER OR SEED ALL STOCKPILE AREAS WITHIN 24 HOURS OF INACTIVITY.
4. ALL LOCATIONS OF STOCKPILES SHALL BE SUBMITTED FOR THE CITY ENGINEER'S APPROVAL PRIOR TO STOCKPILING. ALL EROSION CONTROL FOR STOCKPILES SHALL BE PER BMP'S AND SWPPP.

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

PLOT DATE: 5/14/2026 15:53

UTILITIES:		
	LUMEN	(763) 712-5017
	CENTERPOINT ENERGY	(763) 323-2760
	COMCAST	(952) 607-4078
	CONNEXUS ENERGY	(763) 323-4268
	GREAT RIVERS ENERGY	(763) 445-5984

DATE	REVISION HISTORY

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Dave Krugler

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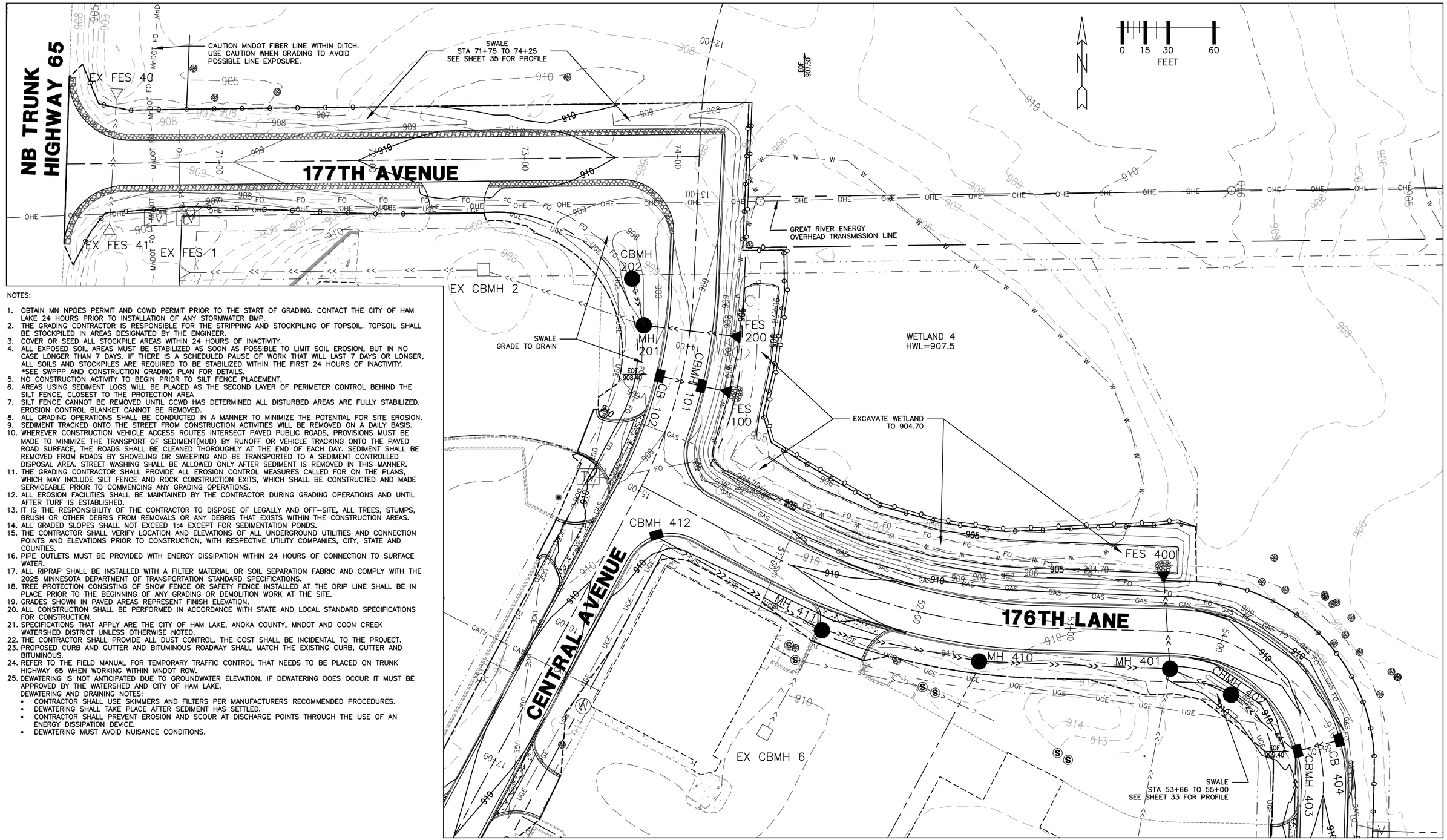
S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

177TH AVENUE
PLAN AND PROFILE

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG:	RCP01004
DATE:	05/14/26
JOB NUMBER:	2205
SHEET:	35 OF 61
FILE:	37-2-135



NOTES:

1. OBTAIN MN NPDES PERMIT AND CCWD PERMIT PRIOR TO THE START OF GRADING. CONTACT THE CITY OF HAM LAKE 24 HOURS PRIOR TO INSTALLATION OF ANY STORMWATER BMP.
2. THE GRADING CONTRACTOR IS RESPONSIBLE FOR THE STRIPPING AND STOCKPILING OF TOPSOIL. TOPSOIL SHALL BE STOCKPILED IN AREAS DESIGNATED BY THE ENGINEER.
3. COVER OR SEED ALL STOCKPILE AREAS WITHIN 24 HOURS OF INACTIVITY.
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5. NO CONSTRUCTION ACTIVITY TO BEGIN PRIOR TO SILT FENCE PLACEMENT.
6. AREAS USING SEDIMENT LOGS WILL BE PLACED AS THE SECOND LAYER OF PERIMETER CONTROL BEHIND THE SILT FENCE, CLOSEST TO THE PROTECTION AREA
7. SILT FENCE CANNOT BE REMOVED UNTIL CCWD HAS DETERMINED ALL DISTURBED AREAS ARE FULLY STABILIZED. EROSION CONTROL BLANKET CANNOT BE REMOVED.
8. ALL GRADING OPERATIONS SHALL BE CONDUCTED IN A MANNER TO MINIMIZE THE POTENTIAL FOR SITE EROSION.
9. SEDIMENT TRACKED ONTO THE STREET FROM CONSTRUCTION ACTIVITIES WILL BE REMOVED ON A DAILY BASIS.
10. WHEREVER CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED PUBLIC ROADS, PROVISIONS MUST BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT(MUD) BY RUNOFF OR VEHICLE TRACKING ONTO THE PAVED ROAD SURFACE, THE ROADS SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM ROADS BY SHOVELING OR SWEEPING AND BE TRANSPORTED TO A SEDIMENT CONTROLLED DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.
11. THE GRADING CONTRACTOR SHALL PROVIDE ALL EROSION CONTROL MEASURES CALLED FOR ON THE PLANS, WHICH MAY INCLUDE SILT FENCE AND ROCK CONSTRUCTION EXITS, WHICH SHALL BE CONSTRUCTED AND MADE SERVICEABLE PRIOR TO COMMENCING ANY GRADING OPERATIONS.
12. ALL EROSION FACILITIES SHALL BE MAINTAINED BY THE CONTRACTOR DURING GRADING OPERATIONS AND UNTIL AFTER TURF IS ESTABLISHED.
13. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DISPOSE OF LEGALLY AND OFF-SITE, ALL TREES, STUMPS, BRUSH OR OTHER DEBRIS FROM REMOVALS OR ANY DEBRIS THAT EXISTS WITHIN THE CONSTRUCTION AREAS.
14. ALL GRADED SLOPES SHALL NOT EXCEED 1:4 EXCEPT FOR SEDIMENTATION PONDS.
15. THE CONTRACTOR SHALL VERIFY LOCATION AND ELEVATIONS OF ALL UNDERGROUND UTILITIES AND CONNECTION POINTS AND ELEVATIONS PRIOR TO CONSTRUCTION, WITH RESPECTIVE UTILITY COMPANIES, CITY, STATE AND COUNTIES.
16. PIPE OUTLETS MUST BE PROVIDED WITH ENERGY DISSIPATION WITHIN 24 HOURS OF CONNECTION TO SURFACE WATER.
17. ALL RIPRAP SHALL BE INSTALLED WITH A FILTER MATERIAL OR SOIL SEPARATION FABRIC AND COMPLY WITH THE 2025 MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
18. TREE PROTECTION CONSISTING OF SNOW FENCE OR SAFETY FENCE INSTALLED AT THE DRIP LINE SHALL BE IN PLACE PRIOR TO THE BEGINNING OF ANY GRADING OR DEMOLITION WORK AT THE SITE.
19. GRADES SHOWN IN PAVED AREAS REPRESENT FINISH ELEVATION.
20. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH STATE AND LOCAL STANDARD SPECIFICATIONS FOR CONSTRUCTION.
21. SPECIFICATIONS THAT APPLY ARE THE CITY OF HAM LAKE, ANOKA COUNTY, MNDOT AND COON CREEK WATERSHED DISTRICT UNLESS OTHERWISE NOTED.
22. THE CONTRACTOR SHALL PROVIDE ALL DUST CONTROL. THE COST SHALL BE INCIDENTAL TO THE PROJECT.
23. PROPOSED CURB AND GUTTER AND BITUMINOUS ROADWAY SHALL MATCH THE EXISTING CURB, GUTTER AND BITUMINOUS.
24. REFER TO THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL THAT NEEDS TO BE PLACED ON TRUNK HIGHWAY 65 WHEN WORKING WITHIN MNDOT ROW.
25. DEWATERING IS NOT ANTICIPATED DUE TO GROUNDWATER ELEVATION, IF DEWATERING DOES OCCUR IT MUST BE APPROVED BY THE WATERSHED AND CITY OF HAM LAKE.
    DEWATERING AND DRAINING NOTES:
    - CONTRACTOR SHALL USE SKIMMERS AND FILTERS PER MANUFACTURERS RECOMMENDED PROCEDURES.
    - DEWATERING SHALL TAKE PLACE AFTER SEDIMENT HAS SETTLED.
    - CONTRACTOR SHALL PREVENT EROSION AND SCOUR AT DISCHARGE POINTS THROUGH THE USE OF AN ENERGY DISSIPATION DEVICE.
    - DEWATERING MUST AVOID NUISANCE CONDITIONS.

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Fax 763-862-8042

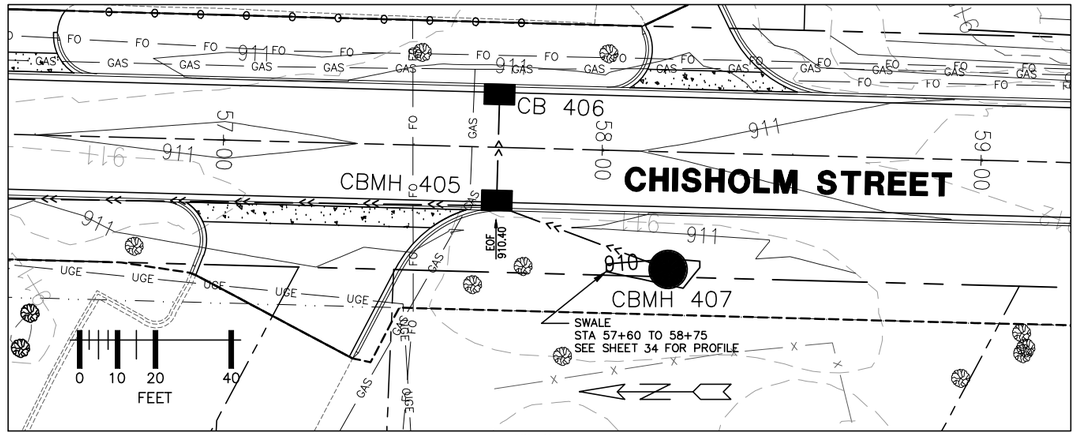
S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

GRADING AND DRAINAGE PLAN

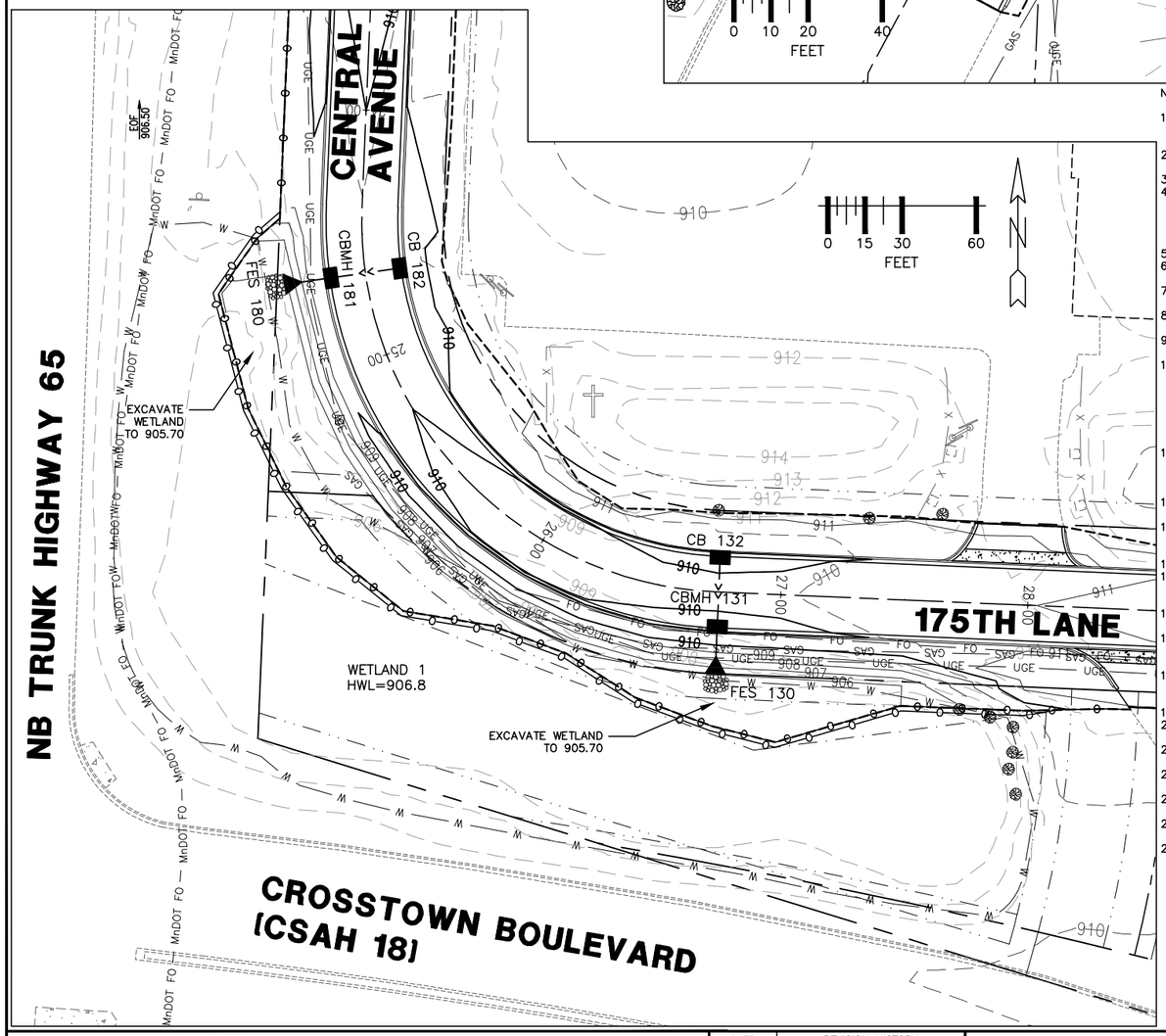
DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2205 GRADING 1
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 36 OF 61
FILE: 37-2-136

SWALE 57+60 TO 58+75



WETLAND 1



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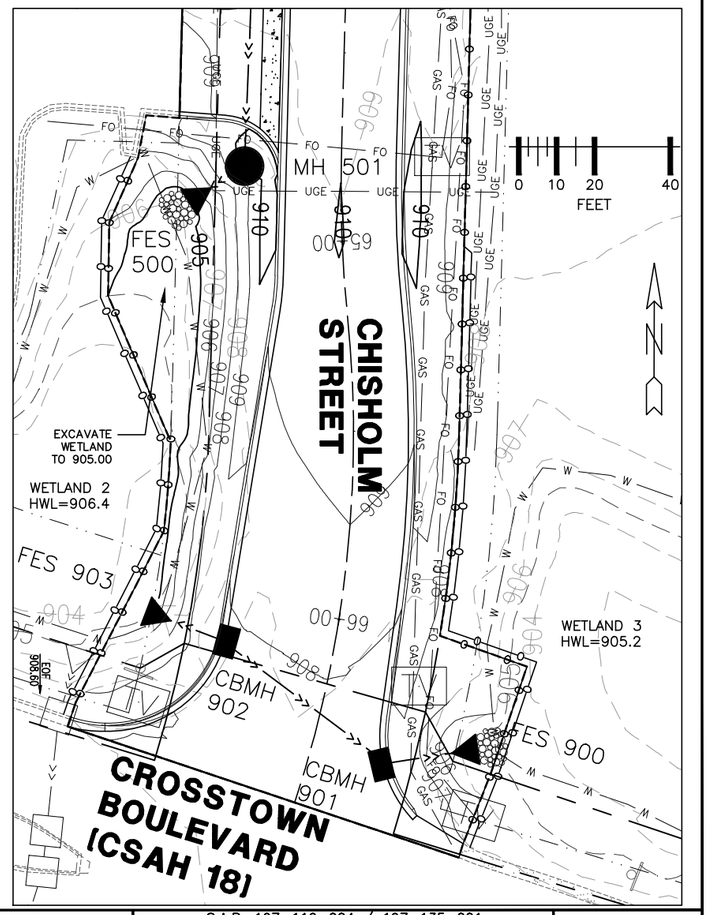
WETLAND 2



SUPERIOR ONE STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:

LUMEN	(763)	712-5017
CENTERPOINT ENERGY	(763)	323-2760
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DATE	REVISION HISTORY

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Dave Ruglen
DATE 05/14/26 REG. NO. 48768

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13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

GRADING AND DRAINAGE PLAN

DWG: 2205 GRADING 2
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 37 OF 61
FILE: 37-2-137

STORM DRAIN

STRUCTURE	STATION	LOCATION	SIZE OF STRUCTURE	DESIGN	TOP OF CASTING OR INLET	INVERT	CASTING ASSEMBLY (NEENAH, EJ, DL)**	TYPE GRATE (NEENAH CASTINGS)	12" R.C.P. LIN FT	15" R.C.P. LIN FT	24" R.C.P. LIN FT	30" R.C.P. LIN FT	15" C.P.P. LIN FT	18" C.P.P. LIN FT	24" C.P.P. LIN FT	PIPE APRON LIN FT	TRASH GUARD EACH	APRON EACH	SAFL BAFFLE *** EACH	FLOWS TO	INLET	% GRADE
CBMH 412	50+24.7	RT.	72" ø	RFC-465A3	908.93	906.00	R-3067	C														
													124							MH 411	905.69	0.25
MH 411	51+45	RT.	48" ø	RFC-465C	910.37	905.69	R-1733	–														
											105									MH 410	905.39	0.29
MH 410	52+43	RT.	48" ø	RFC-465C	911.01	905.39	R-1733	–														
															125					MH 401	905.03	0.29
CBMH 407	58+17.9	RT.	48" ø	RFC-465C1	909.66	907.25	R-2577	C														
													48							CBMH 405	907.00	0.52
CB 406	57+72.2	LT.	2' x 3'	RFC-459C	910.30	907.20	R-3067	C														
									31											CBMH 405	907.00	0.65
CBMH 405	57+72.2	RT.	48" ø	RFC-465A1	910.30	907.00	R-3067	C														
										271										CBMH 403	905.44	0.58
CB 404	54+96.9	LT.	2' x 3'	RFC-459C	909.31	906.20	R-3067	C														
									31											CBMH 403	906.00	0.65
CBMH 403	54+96.9	RT.	72" ø	RFC-465A3	909.31	905.40	R-3067	C														
														56					1	CBMH 402	905.20	0.36
CBMH 402	54+24.9	RT.	48" ø	RFC-465C1	908.45	905.20	R-2577	C														
														43						MH 401	905.03	0.39
MH 401	53+65.7	RT.	72" ø	RFC-465C	909.63	905.03	R-1733	–														
												57				6.2	1	1		FES 400	904.70	0.52
TOTAL									62	271	105	57	172	99	125		1	1	1			

NOTES:

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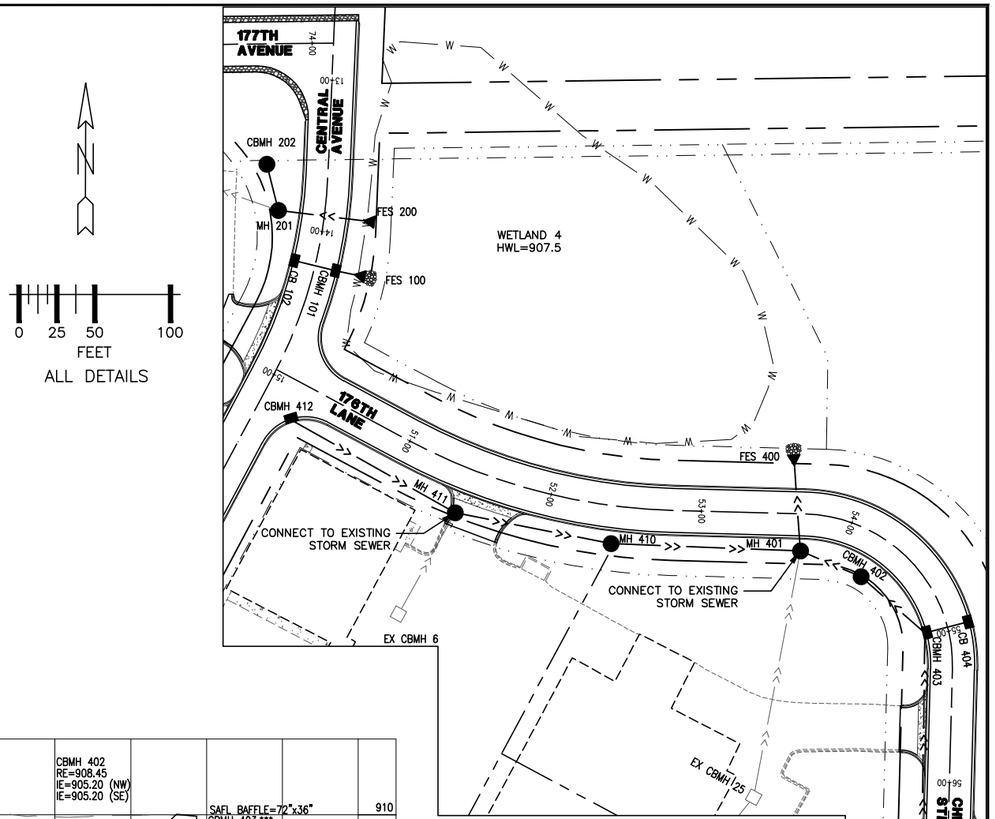
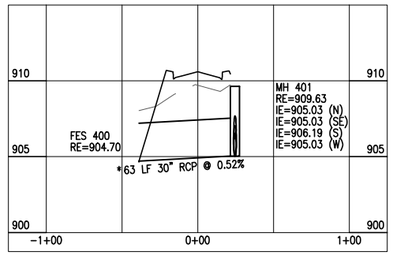
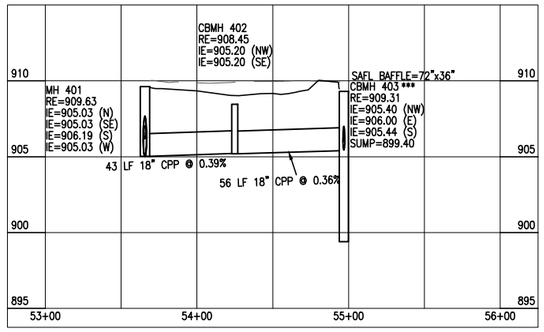
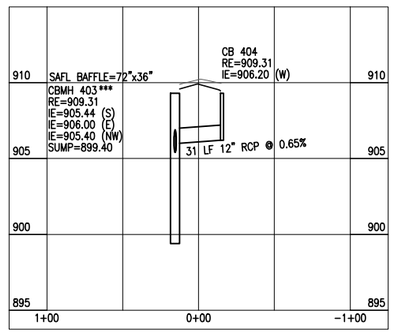
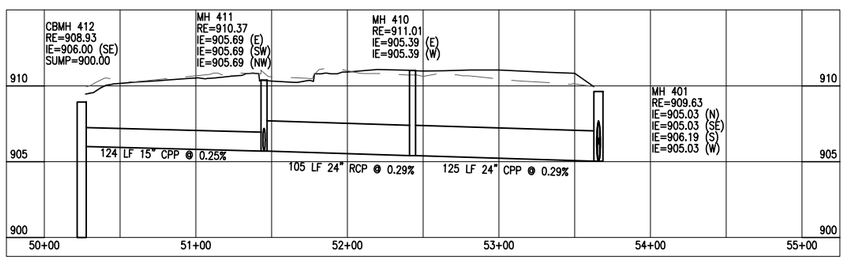
4. ALL SILT FENCE MUST BE IN PLACE BEFORE ANY LAND IS DISTURBED.
5. ALL REMOVALS TO BE DISPOSED OF LEGALLY.
6. * PIPE LENGTH INCLUDES APRON.
7. ** NEENAH FOUNDRY R-3067; EAST JORDAN IRON WORKS V-7030; D&L FOUNDRY I-1804.
8. ** NEENAH FOUNDRY R-1733; EAST JORDAN IRON WORKS V-1280; D&L FOUNDRY A-1028.
9. *** STRUCTURE RECEIVES SAFFLE BAFFLE.

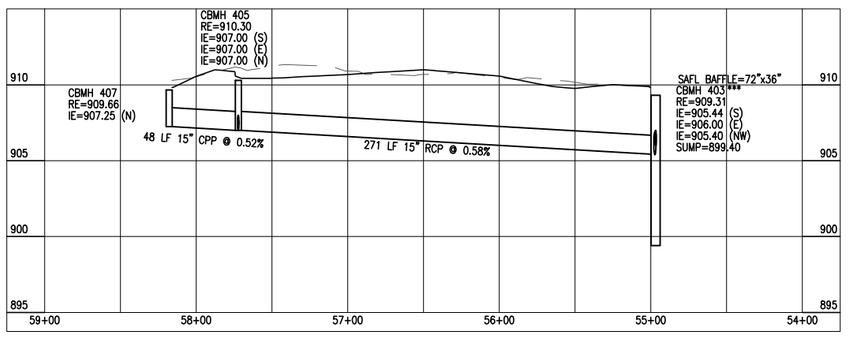


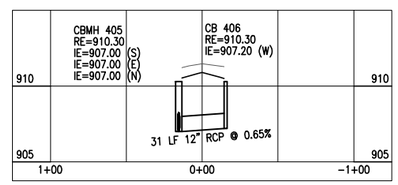












UTILITIES:
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Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

STORM DETAILS

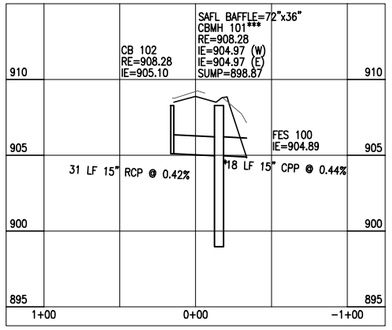
DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

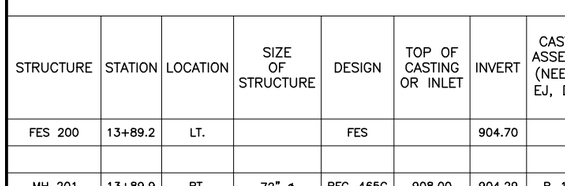
DWG: 2205 STORM 1
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 38 OF 61
FILE: 37-2-138

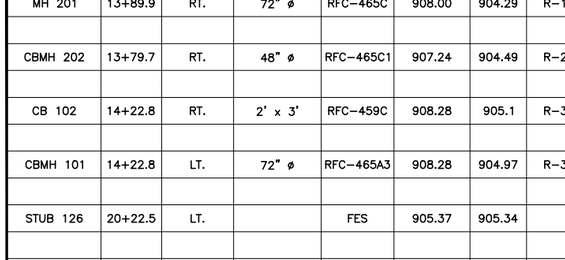
STORM DRAIN

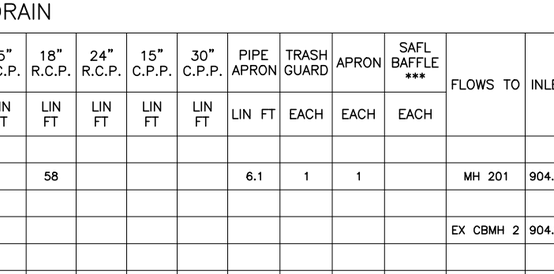
STRUCTURE	STATION	LOCATION	SIZE OF STRUCTURE	DESIGN	TOP OF CASTING OR INLET	INVERT	CASTING ASSEMBLY (NEENAH, EJ, DL)**	TYPE GRATE (NEENAH CASTINGS)	15" R.C.P. LIN FT	18" R.C.P. LIN FT	24" R.C.P. LIN FT	15" C.P.P. LIN FT	30" C.P.P. LIN FT	PIPE APRON LIN FT	TRASH GUARD EACH	APRON EACH	SAFL BAFFLE *** EACH	FLOWS TO	INLET	% GRADE
FES 200	13+89.2	LT.		FES		904.70														
										58				6.1	1	1		MH 201	904.30	0.63
MH 201	13+89.9	RT.	72" ø	RFC-465C	908.00	904.29	R-1733	–												
																		EX CBMH 2	904.00	0.26
CBMH 202	13+79.7	RT.	48" ø	RFC-465C1	907.24	904.49	R-2577	C												
												31						MH 201	904.30	0.60
CB 102	14+22.8	RT.	2' x 3'	RFC-459C	908.28	905.1	R-3067	C												
									31									CBMH 101	904.97	0.42
CBMH 101	14+22.8	LT.	72" ø	RFC-465A3	908.28	904.97	R-3067	C												
												16		2.2	1	1	1	FES 100	904.89	0.44
STUB 126	20+22.5	LT.		FES	905.37	905.34														
										10								MH 124	905.32	0.16
STUB 125	20+08	LT.		FES	905.37	905.35														
										10								MH 124	905.32	0.30
MH 124	20+16.3	LT.	48" ø	RFC-465C	908.99	905.30	R-1733	–												
											44							MH 121	904.67	1.42
CB 123	19+80	LT.	2' x 3'	RFC-459C	908.19	905.09	R-3067	C												
									31									CBMH 122	904.93	0.52
CBMH 122	19+80	RT.	72" ø	RFC-465A3	908.19	904.90	R-3067	C												
									37								1	MH 121	904.70	0.54
MH 121	20+16.2	RT.	60" ø	RFC-465C	908.99	904.67	R-1733	–												
													92	4.2	1	1		FES 120	904.30	0.38
TOTAL									99	78	44	47	92		3	3	2			

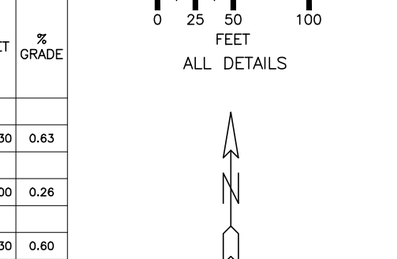
0 25 50 100
FEET
ALL DETAILS

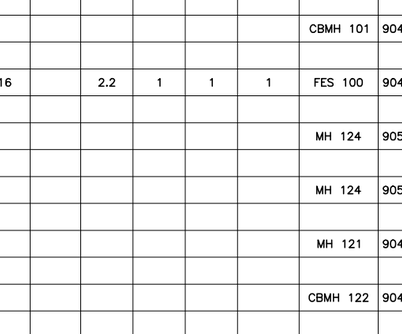


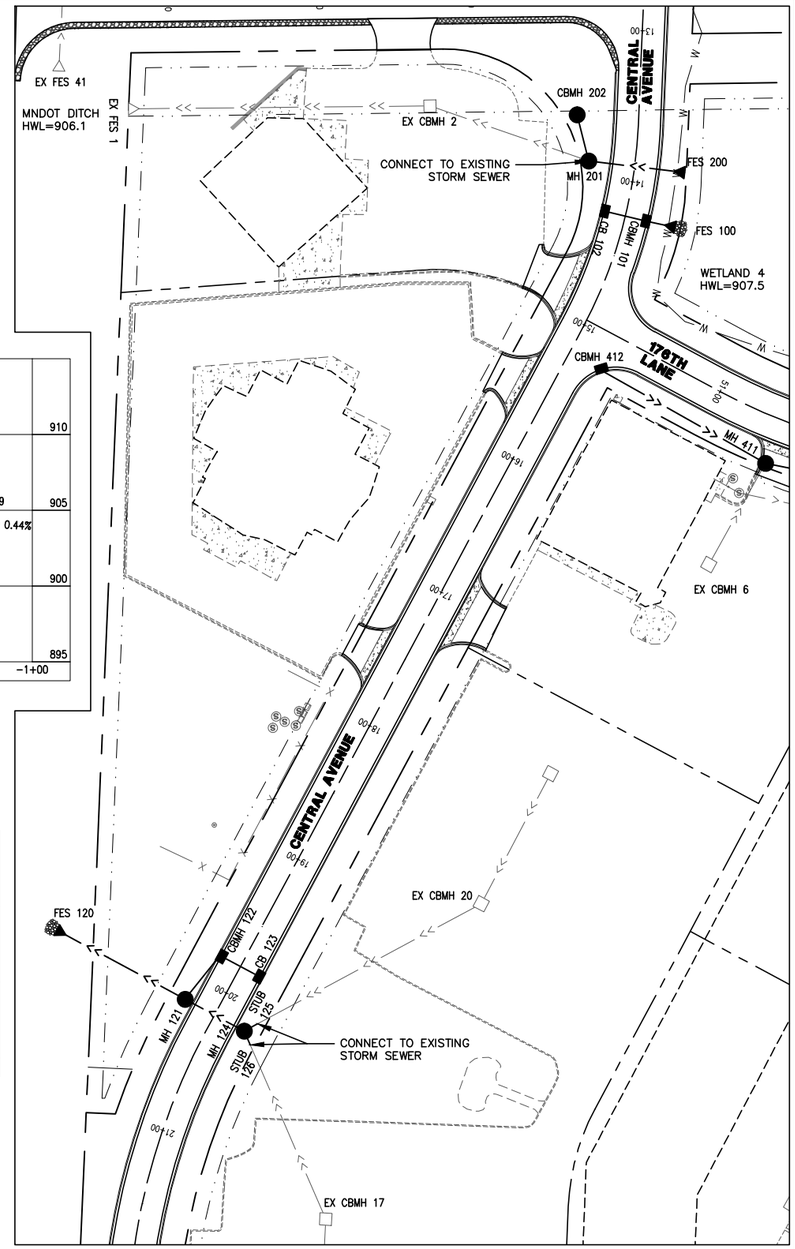


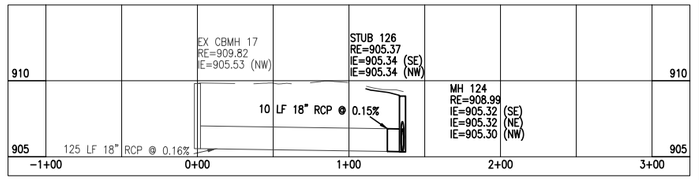












NOTES:

1. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION, BUT IN NO CASE LONGER THAN 7 DAYS. IF THERE IS A SCHEDULED PAUSE OF WORK THAT WILL LAST 7 DAYS OR LONGER, ALL SOILS AND STOCKPILES ARE REQUIRED TO BE STABILIZED WITHIN THE FIRST 24 HOURS OF INACTIVITY.
2. THERE SHALL BE NO STOCKPILING INCLUDING TEMPORARY STOCK PILES OF MATERIALS IN WETLAND AREAS.
3. COVER OR SEED ALL STOCKPILE AREAS WITHIN 24 HOURS OF INACTIVITY.
4. ALL SILT FENCE MUST BE IN PLACE BEFORE ANY LAND IS DISTURBED.
5. ALL REMOVALS TO BE DISPOSED OF LEGALLY.
6. * PIPE LENGTH INCLUDES APRON.
7. ** NEENAH FOUNDRY R-3067; EAST JORDAN IRON WORKS V-7030; D&L FOUNDRY I-1804.
8. ** NEENAH FOUNDRY R-1733; EAST JORDAN IRON WORKS V-1280; D&L FOUNDRY A-1028.
9. *** STRUCTURE RECEIVES SAFFLE BAFFLE.

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:
LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
GREAT RIVERS ENERGY (763) 445-5984

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dan Krueger
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

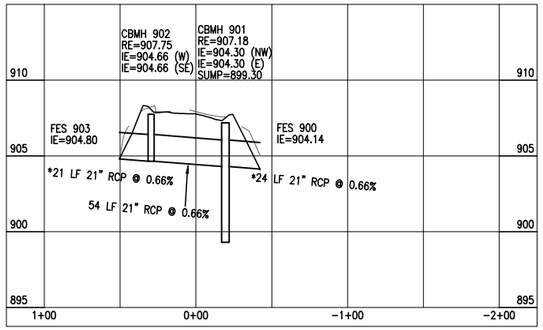
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

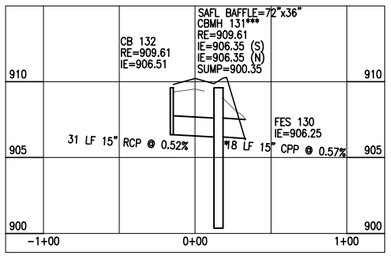
S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

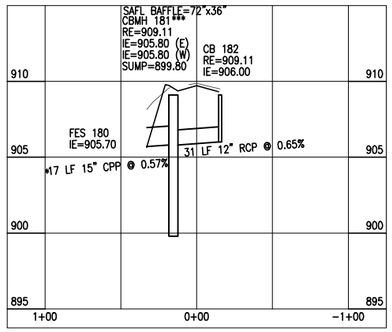
STORM DETAILS

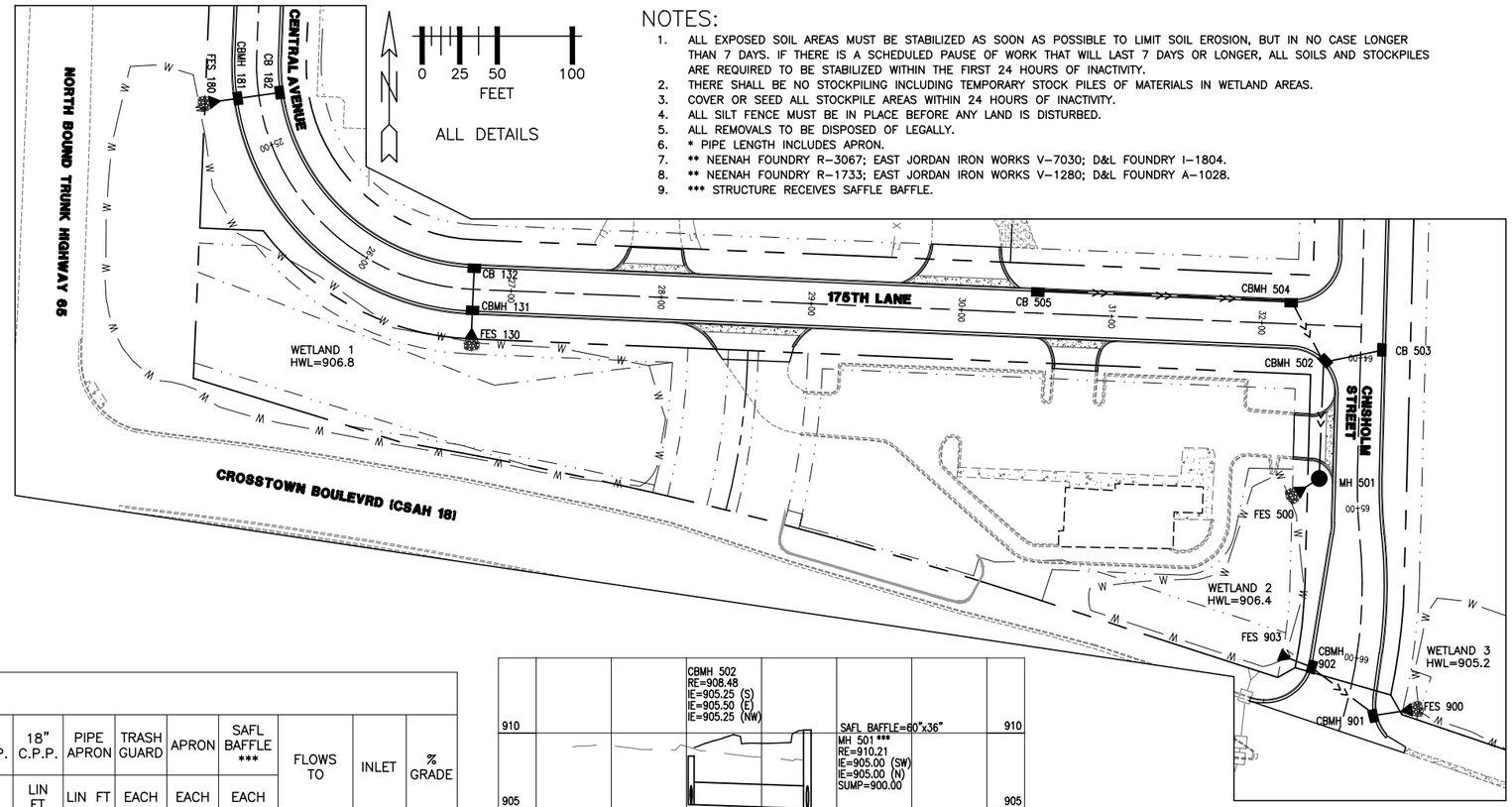
DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2205 STORM 2
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 39 OF 61
FILE: 37-2-139









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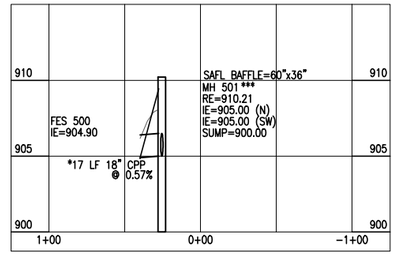
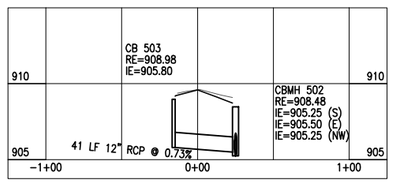
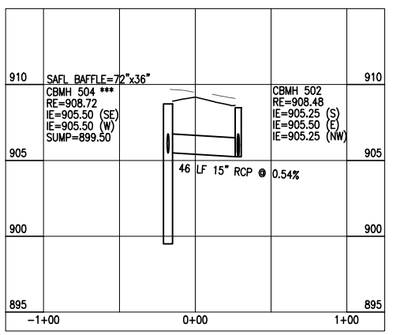
2. THERE SHALL BE NO STOCKPILING INCLUDING TEMPORARY STOCK PILES OF MATERIALS IN WETLAND AREAS.
3. COVER OR SEED ALL STOCKPILE AREAS WITHIN 24 HOURS OF INACTIVITY.
4. ALL SILT FENCE MUST BE IN PLACE BEFORE ANY LAND IS DISTURBED.
5. ALL REMOVALS TO BE DISPOSED OF LEGALLY.
6. * PIPE LENGTH INCLUDES APRON.
7. ** NEENAH FOUNDRY R–3067; EAST JORDAN IRON WORKS V–7030; D&L FOUNDRY I–1804.
8. ** NEENAH FOUNDRY R–1733; EAST JORDAN IRON WORKS V–1280; D&L FOUNDRY A–1028.
9. *** STRUCTURE RECEIVES SAFFLE BAFFLE.

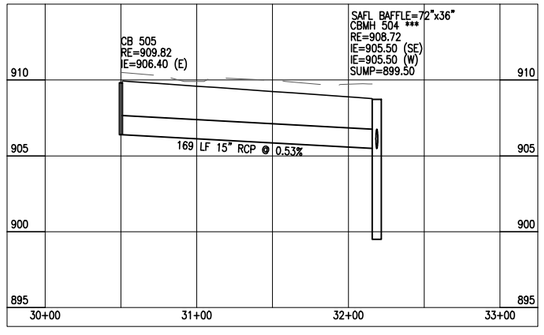
STORM DRAIN

STRUCTURE	STATION	LOCATION	SIZE OF STRUCTURE	DESIGN	TOP OF CASTING OR INLET	INVERT	CASTING ASSEMBLY (NEENAH, EJ, DL)**	TYPE GRATE (NEENAH CASTINGS)	12" R.C.P. LIN FT	15" R.C.P. LIN FT	18" R.C.P. LIN FT	21" R.C.P. LIN FT	15" C.P.P. LIN FT	18" C.P.P. LIN FT	PIPE APRON LIN FT	TRASH GUARD EACH	APRON EACH	SAFL BAFFLE *** EACH	FLOWS TO	INLET	% GRADE
CB 182	24+65.7	LT.	2' x 3'	RFC–459C	909.11	906	R–3067	C													
									31										CBMH 181	905.80	0.65
CBMH 181	24+65.7	RT.	72" ø	RFC–465A3	909.11	905.8	R–3067	C													
													15		2.2	1	1	1	FES 180	905.70	0.57
CB 132	26+74.6	LT.	2' x 3'	RFC–459C	909.61	906.51	R–3067	C													
										31									CBMH 131	906.35	0.52
CBMH 131	26+74.6	RT.	72" ø	RFC–465A3	909.61	906.35	R–3067	C													
													15		2.2	1	1	1	FES 130	906.25	0.57
CB 505	30+50	LT.	2' x 3'	RFC–459C	909.82	906.40	R–3067	L													
										169									CBMH 504	905.50	0.53
CBMH 504	32+18.8	LT.	72" ø	RFC–465A3	908.72	905.50	R–3067	C													
										46								1	CBMH 502	905.25	0.54
CB 503	63+94	LT.	2' x 3'	RFC–459C	908.98	905.80	R–3067	C													
									41										CBMH 502	905.50	0.73
CBMH 502	64+03.2	RT.	48" ø	RFC–465A1	908.48	905.25	R–3067	C													
											77								MH 501	905.00	0.32
MH 501	64+80.4	RT.	60" ø	RFC–465C5	910.21	905	R–1733	–													
														15	2.6	1	1	1	FES 500	904.90	0.57
FES 903	66+06.8	RT.		FES		904.8															
												15			6.1	1	1		CBMH 902	904.66	0.66
CBMH 902	66+11.2	RT.	48" ø	RFC–465A1	907.75	904.66	R–3067	C													
												54							CBMH 901	904.30	0.66
CBMH 901	66+33.3	LT.	60" ø	RFC–465A3	907.18	904.3	R–3067	C													
												18			6.1	1	1		FES 900	904.14	0.66
TOTAL									72	246	77	87	30	15		5	5	4			









SOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:
LUMEN (763) 712–5017
CENTERPOINT ENERGY (763) 323–2760
COMCAST (952) 607–4078
CONNEXUS ENERGY (763) 323–4268
GREAT RIVERS ENERGY (763) 445–5984

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dan Krueger
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
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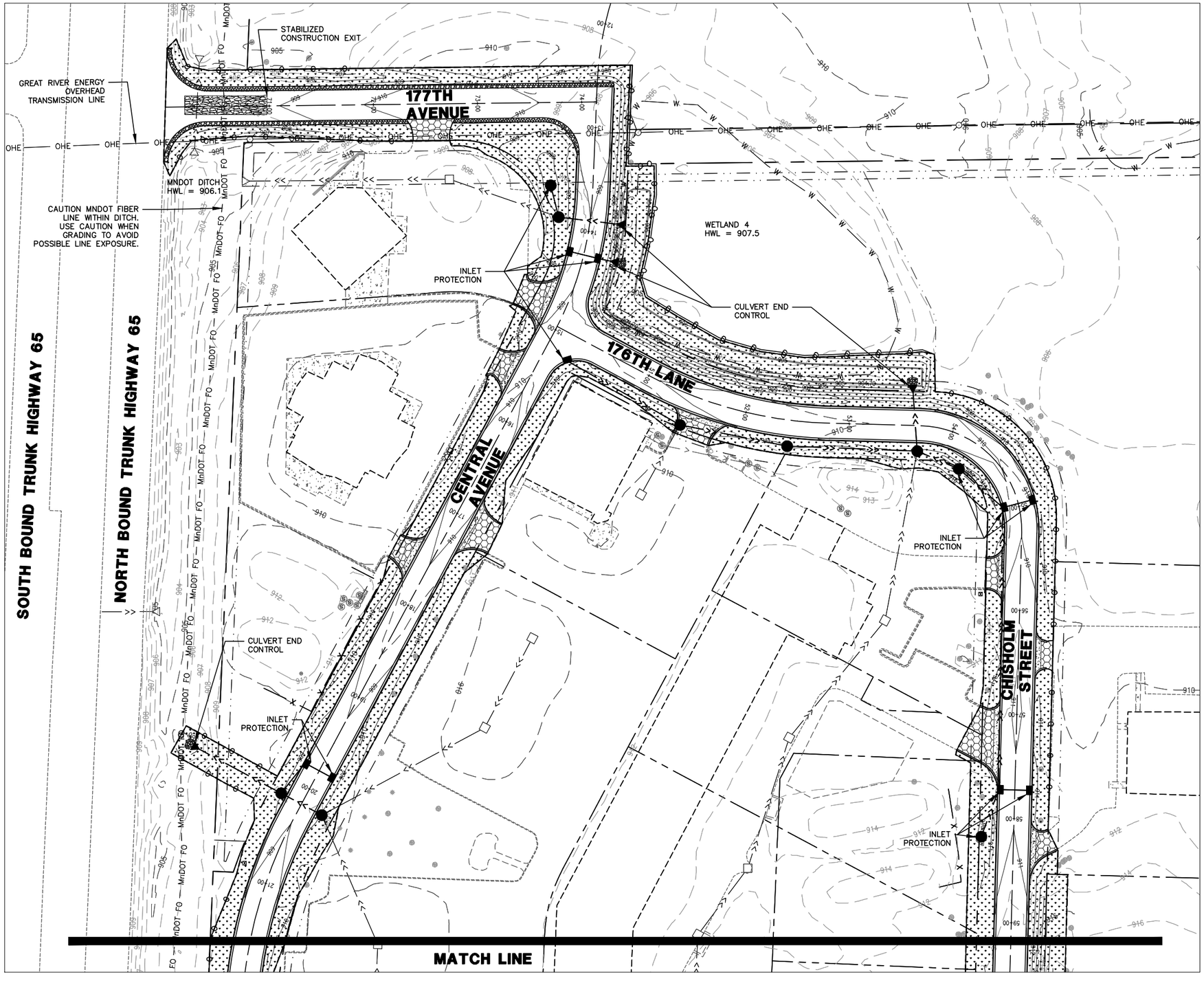
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763–862–8000
Fax 763–862–8042

S.A.P. 197–119–004 / 197–135–001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION
STORM DETAILS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2205 STORM 3
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 40 OF 61
FILE: 37–2–140



0 25 50 100
FEET

ALL DETAILS

LEGEND

RIPRAP, CLASS III WITH FABRIC

SEED MIX 25–131: COMMERCIAL TURF
MULCH TYPE 1
PLANT APRIL 1ST – JUNE 1ST FOR SPRING PLANTING OR
JULY 20TH – SEPTEMBER 20TH FOR FALL PLANTING

SILT FENCE

STABILIZED CONSTRUCTION EXIT

NOTES:

1. ALL GRADING OPERATIONS SHALL BE CONDUCTED IN A MANNER TO MINIMIZE THE POTENTIAL FOR SITE EROSION.
2. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION, BUT IN NO CASE LONGER THAN 7 DAYS. IF THERE IS A SCHEDULED PAUSE OF WORK THAT WILL LAST 7 DAYS OR LONGER, ALL SOILS AND STOCKPILES ARE REQUIRED TO BE STABILIZED WITHIN THE FIRST 24 HOURS OF INACTIVITY.
3. SALVAGED TOPSOIL SHALL BE STOCKPILED IN PLACE TO MAINTAIN CONTINUITY OF PROPERTY OWNERS EXISTING TURF CONDITIONS. UPON APPROVAL OF ENGINEER, SOIL MAY BE STOCKPILED UPON REVIEW OF ALTERNATE PLAN PROVIDED BY THE CONTRACTOR.
4. COVER OR SEED ALL STOCKPILE AREAS WITHIN 24 HOURS OF INACTIVITY.

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:
LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
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GREAT RIVERS ENERGY (763) 445-5984

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Ruglen
DATE 05/14/26 REG. NO. 48768

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Consulting Engineers

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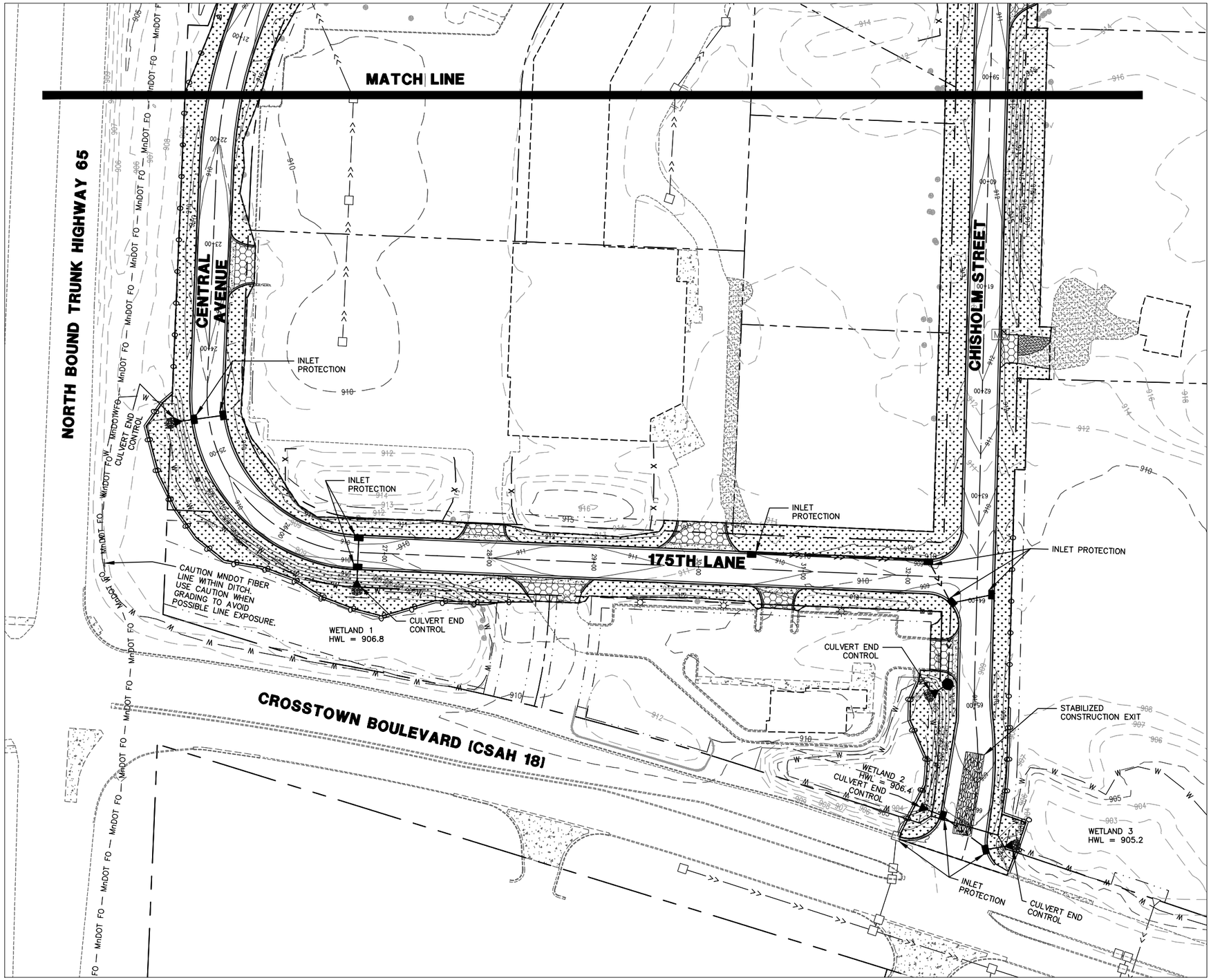
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197–119–004 / 197–135–001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

STORMWATER POLLUTION PREVENTION PLAN

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2205 SWPPP 1
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 41 OF 61
FILE: 37–2–141



0 25 50 100
FEET
ALL DETAILS

LEGEND

RIPRAP, CLASS III WITH FABRIC

SEED MIX 25–151: COMMERCIAL TURF
MULCH TYPE 1
PLANT APRIL 1ST – JUNE 1ST FOR SPRING PLANTING OR
JULY 20TH – SEPTEMBER 20TH FOR FALL PLANTING

SILT FENCE

STABILIZED CONSTRUCTION EXIT

NOTES:

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4. COVER OR SEED ALL STOCKPILE AREAS WITHIN 24 HOURS OF INACTIVITY.

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CENTERPOINT ENERGY (763) 323-2760
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CONNEXUS ENERGY (763) 323-4268
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Dan Krueger
DATE 05/14/26 REG. NO. 48768

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Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

STORMWATER POLLUTION PREVENTION PLAN

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2205 SWPPP 2
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 42 OF 61
FILE: 37-2-142

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

CONSTRUCTION ACTIVITY INFORMATION:
CROSSTOWN SHOPPING CENTER, HAM LAKE, ANOKA COUNTY, MINNESOTA 55304

THIS IS A STREET RECONSTRUCTION PROJECT.

THERE ARE 0.43 ACRES OF NEW IMPERVIOUS SURFACE.
THERE ARE 0.10 ACRES OF NEW PERVIOUS SURFACE.

DRAINAGE IS TO WETLANDS LOCATED WITHIN THE PROJECT AREA. THERE ARE NO SPECIAL WATERS OR IMPAIRED WATERS WITHIN ONE MILE DOWNSTREAM OF THE PROJECT.

CONTACT INFORMATION:
OWNER: CITY OF HAM LAKE OWNER CONTACT: DENISE WEBSTER, CITY ADMINISTRATOR, DWEBSTER@HAMLAKEMN.GOV, 763-434-9555, 15544 CENTRAL AVENUE, HAM LAKE, MN, 55304

ALTERNATE OWNER CONTACT: DAVID A KRUGLER, CITY ENGINEER, DKRUGLER@RFCENGINEERING.COM, 763-862-8000. RFC ENGINEERING INC, 13635 JOHNSON STREET NE, HAM LAKE, MN 55304

CONTRACTOR: _____

ALTERNATE CONTRACTOR CONTACT: _____

PARTY RESPONSIBLE FOR OPERATION AND MAINTENANCE OF PERMANENT STORMWATER MANAGEMENT SYSTEM: CITY OF HAM LAKE PUBLIC WORKS, JOHN WITKOWSKI, JWITKOWSKI@HAMLAKEMN.GOV 763-235-1662, 15544 CENTRAL AVENUE, HAM LAKE, MN, 55304

GENERAL CONSTRUCTION PROJECT INFORMATION:
THE PROJECT CONSISTS OF RECONSTRUCTION OF PUBLIC STREETS. WORK INCLUDES GRADING, AGGREGATE BASE, BITUMINOUS PAVING, STORM DRAINS, CONCRETE CURB AND GUTTER, SEEDING, MULCHING AND FERTILIZING. THE SOILS ON THE SITE ARE PRIMARILY HYDROLOGICAL SOIL GROUP TYPE B WITH MODERATE INFILTRATION CAPACITY.

THERE IS MUCK IN THE WETLANDS. THE GROUNDWATER IN THIS AREA IS HIGH.

GENERAL SITE INFORMATION:
ALL EROSION CONTROL MEASURES MUST BE PLACED PRIOR TO COMMENCEMENT OF LAND DISTURBING ACTIVITIES AND BE MAINTAINED UNTIL ALL DISTURBED AREAS ON THE SITE HAVE BEEN RESTORED.

CONSTRUCTION EXITS SHALL BE SURFACED WITH CRUSHED ROCK AND DESIGNATED PRIOR TO CONSTRUCTION (REFER TO DETAIL).

TRENCHES FOR STORM DRAIN PIPE AND STRUCTURES ARE TO BE BACKFILLED BY THE END OF THE WORK DAY.

STORMWATER MITIGATION MEASURES ARE REQUIRED AS THE RESULT OF AN ENVIRONMENTAL, ARCHAEOLOGICAL, OR OTHER REQUIRED LOCAL, STATE, OR FEDERAL REVIEW OF THE PROJECT.

THE PROJECT IS NOT LOCATED IN A KARST AREA.

THE PROJECT DOES NOT DISCHARGE TO A CALCAREOUS FEN LISTED IN MINN. R. 7050.0180, SUBP. 6B.

THE SITE DOES NOT DISCHARGE TO A WATER THAT IS LISTED AS IMPAIRED FOR PHOSPHORUS, TURBIDITY, DISSOLVED OXYGEN OR BIOTIC IMPAIRMENT.

SELECTION OF A PERMANENT STORMWATER MANAGEMENT SYSTEM:
NEW IMPERVIOUS SURFACE CREATED BY THIS PROJECT IS 0.43 ACRES.

PER COON CREEK WATERSHED DISTRICT, UPPER RUM RIVER WATERSHED MANAGEMENT ORGANIZATION, ANOKA CONSERVATION DISTRICT, AND MINNESOTA BOARD OF WATER AND SOIL RESOURCES, THERE IS NO INFILTRATION ON SITE DUE TO THE HIGH GROUND WATER TABLE.

HYDROLOGIC REPORT (DRAINAGE CALCULATIONS) AND DRAINAGE MAPS (WITH DRAINAGE DIVIDES) PREPARED FOR THIS PROJECT ARE AVAILABLE IN THE CITY ENGINEER'S OFFICE. STORM WATER RUNOFF FROM THE SITE DRAINS INTO THE DITCHES AND WETLANDS. THE RUNOFF FROM THE SITE WILL BE CONVEYED VIA STORM DRAINS. THE LAST STORM DRAIN STRUCTURE JUST PRIOR TO DISCHARGE WILL BE EQUIPPED WITH A SUMP (GRIT CHAMBERS). GRIT CHAMBERS ARE BEING USED FOR ADDITIONAL SEDIMENT CONTROL. THE SUMP (GRIT CHAMBERS) ARE SIZED PER COON CREEK WATERSHED DISTRICT AND UPPER RUM RIVER WATERSHED MANAGEMENT ORGANIZATION REQUIREMENTS. STAND ALONE SUMPS THAT DO NOT MEET THE REQUIREMENTS WILL BE FITTED WITH SAFL BAFFLES TO PROVIDE ADDITIONAL TREATMENT WITHIN THE SUMPS.

EROSION PREVENTION PRACTICES:
THERE ARE NO CONSTRUCTION PHASING, VEGETATIVE BUFFER STRIPS, LONG HORIZONTAL SLOPE GRADING FOR THE PROJECT. THERE ARE UNDISTURBED AREAS WITHIN THE PROJECT LIMITS. ONLY THE STREET RIGHT OF WAY AREAS WILL BE DISTURBED.

ALL DISTURBED AREAS SHALL BE RESTORED WITH SEED AND BLANKET WITHIN SEVEN (7) DAYS OF ROUGH GRADING.

ALL EXPOSED SOIL AREAS MUST HAVE TEMPORARY EROSION PROTECTION OR PERMANENT COVER WITHIN SEVEN (7) DAYS AFTER THE AREA IS NOT ACTIVELY BEING WORKED.

FERTILIZER: MnDOT SPECIFICATION 3881, TYPE 3 SEEDING: MnDOT SEED MIXTURE 25-131 OR 33-261 (FOR PONDS)
HYDRO MULCH: MnDOT SPECIFICATION 3884 TYPE 5 OR 6 WITH APPLICATION RATE PER MnDOT SPECIFICATION 2575.3H.

PROVIDE EROSION CONTROL FABRIC FOR ALL SLOPES STEEPER THAN 3:1. ALL EROSION CONTROL BLANKET SHALL BE NATURAL NETTED.

THERE ARE NO DRAINAGE DITCHES CONSTRUCTED WITH THIS PROJECT.

SEDIMENT CONTROL PRACTICES:
THERE ARE NO DRAINAGE DITCHES OR SEDIMENT BASINS FOR THIS PROJECT.

THERE ARE NO SLOPES WITH A GRADE OF 3:1 OR STEEPER WITH A SLOPE LENGTH GREATER THAN 75 FEET.

THERE ARE NO DRAINAGE INFILTRATION BASINS FOR THIS PROJECT.

ALL SEDIMENT CONTROL DEVICES ARE TO BE IN PLACE PRIOR TO UPSTREAM LAND DISTURBING ACTIVITIES.

WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER, PIPE OUTLETS MUST CONTAIN RIPRAP, SEED AND PLACE EROSION CONTROL BLANKETS ON DISTURBED AREAS WITHIN 200 LINEAL FEET OF PIPE OUTLETS INCLUDING THE DOWN SLOPE TO THE PIPE OUTLET, SILT FENCING TO BE PLACED AROUND THE DISTURBED AREA AND SILT FENCE ROUTED ACROSS THE TOP OF THE OUTLET.

WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER, SEED AND PLACE EROSION CONTROL BLANKETS ON DISTURBED AREAS WITHIN 200 FEET OF PIPE INLET INCLUDING THE DOWN SLOPE TO THE PIPE INLET, SILT FENCING TO BE PLACED AROUND THE DISTURBED AREA, PLACE A SECOND SILT FENCE ROUTED ACROSS THE TOP OF THE INLET AND PLACE INLET PROTECTION. PIPE INLET PROTECTION SHALL BE PER BMP'S SUCH AS SILT FENCE OR STRAW BALES STAKED AROUND THE APRON OPENING OR OTHER APPROVED EQUIVALENTS.

WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER, SEED AND PLACE EROSION CONTROL BLANKETS ON DISTURBED AREAS WITHIN 200 FEET OF CATCH BASIN INLET. PLACE INLET PROTECTION IMMEDIATELY AFTER STRUCTURE IS BACKFILLED. CATCH BASIN INLET PROTECTION SHALL BE PER BMPS SUCH AS CLEAR ROCK AROUND STEEL PLATE OVER FABRIC OR OTHER APPROVED EQUIVALENT UNTIL THE CATCH BASIN CASTING IS PLACED. IMMEDIATELY AFTER THE CASTING IS PLACED, PROVIDE CATCH BASIN INLET PROTECTION PER BMPS SUCH AS FILTER BAG INSERT OR OTHER APPROVED EQUIVALENT. NO CAPTURED SEDIMENT SHOULD BE ALLOWED TO DROP INTO THE CATCH BASIN.

PROVIDE SILT FENCE DOWNSTREAM OF STOCKPILE AREAS. STOCKPILES ARE NOT TO BLOCK DRAINAGE CONVEYANCE SYSTEMS.

SEDIMENT TRACKED OFFSITE SHALL BE MINIMIZED AND SWEPT ON A DAILY BASIS.

TEMPORARY SEDIMENTATION BASINS ARE NOT BEING USED TO REDUCE WETLAND IMPACTS, DUE TO THE HIGH GROUND WATER TABLE AND THE LACK OF RIGHT OF WAY.

DEWATERING AND BASIN DRAINING:
ALL DEWATERING IS TO DISCHARGE TO SEDIMENT SACKS, ROCK WEEPER, BIO ROLL AREA, ETC. TO PREVENT EROSION AND MINIMIZE SEDIMENT DISCHARGING FROM THE SITE. EXCESSIVE SEDIMENT-LADEN WATER WILL NOT BE PERMITTED TO DISCHARGE FROM THE SITE. DEWATERING PRACTICES ARE NOT TO CAUSE DOWNSTREAM NUISANCE CONDITIONS, EROSION, OR NON-PERMITTED WETLAND INUNDATION CAUSING ADVERSE IMPACTS. DISCHARGE FROM DEWATERING WILL BE TO WETLANDS. LARGE VOLUMES OF DEWATERING WILL REQUIRE DISCHARGE INTO SEDIMENT SACKS PRIOR TO DISCHARGING INTO THE WETLANDS.

ADDITIONAL BMPS FOR SPECIAL WATERS AND DISCHARGES TO WETLANDS:
THE PROJECT DOES NOT DISCHARGE INTO OR WITHIN 1 MILE OF SPECIAL WATERS.

THERE ARE NO BUFFER ZONES OR UNDISTURBED AREA ZONES.

THE STORM DRAIN SYSTEM WAS SET UP TO DISTRIBUTE THE STORMWATER RUNOFF INTO THE PROJECT WETLANDS AS CLOSE TO EXISTING CONDITIONS AS POSSIBLE. THIS INCLUDED PROVIDING STORM DRAIN ON BOTH SIDES OF THE STREET IN ORDER TO ACHIEVE THIS. THE DRAINAGE WAS APPROVED BY COON CREEK WATERSHED DISTRICT.

THERE IS NO CONVERSION OF WETLANDS INTO STORMWATER PONDS.

INSPECTION AND MAINTENANCE:
ALL DATA SHALL BE KEPT WITH THE SWPPP RECORDS.

THE CONTRACTOR MUST INSPECT THE CONSTRUCTION SITE ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. INSPECTIONS AND MAINTENANCE TO BE RECORDED IN WRITING. THE SWPPP INSPECTION FOR THE CONSTRUCTION IS TO BE CONDUCTED BY _____ OF _____.

INSPECTIONS FORMS ARE AVAILABLE AT: HTTPS://TINYURL.COM/2ARMT4KJ
SELECT THE APPROPRIATE INSPECTION FORM FROM THE LIST.

THE CONTRACTOR WILL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF TEMPORARY AND PERMANENT WATER QUALITY MANAGEMENT DEVICES, AS WELL AS ALL EROSION AND SEDIMENT CONTROL, FOR THE DURATION OF THE PROJECT.

THE CONTRACTOR WILL INVESTIGATE AND MUST COMPLY WITH THE FOLLOWING:

CONTRACTOR MUST INSPECT ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS AND POLLUTION PREVENTION MANAGEMENT MEASURES TO ENSURE INTEGRITY AND EFFECTIVENESS. CONTRACTOR MUST REPAIR, REPLACE OR SUPPLEMENT ALL NONFUNCTIONAL BMPS WITH FUNCTIONAL BMPS BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY UNLESS ANOTHER TIME FRAME IS SPECIFIED BELOW. CONTRACTOR MAY TAKE ADDITIONAL TIME IF FIELD CONDITIONS PREVENT ACCESS TO THE AREA.

DURING EACH INSPECTION, CONTRACTOR MUST INSPECT SURFACE WATERS, INCLUDING DRAINAGE DITCHES AND CONVEYANCE SYSTEMS BUT NOT CURB AND GUTTER SYSTEMS, FOR EVIDENCE OF EROSION AND SEDIMENT DEPOSITION. CONTRACTOR MUST REMOVE ALL DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATERS, INCLUDING DRAINAGE WAYS, CATCH BASINS, AND OTHER DRAINAGE SYSTEMS AND RESTABILIZE THE AREAS WHERE SEDIMENT REMOVAL RESULTS IN EXPOSED SOIL. CONTRACTOR MUST COMPLETE REMOVAL AND STABILIZATION WITHIN SEVEN (7) CALENDAR DAYS OF DISCOVERY UNLESS PRECLUDED BY LEGAL, REGULATORY, OR PHYSICAL ACCESS CONSTRAINTS. CONTRACTOR MUST USE ALL REASONABLE EFFORTS TO OBTAIN ACCESS. IF PRECLUDED, REMOVAL AND STABILIZATION MUST TAKE PLACE WITHIN SEVEN (7) DAYS OF OBTAINING ACCESS. CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL LOCAL, REGIONAL, STATE AND FEDERAL AUTHORITIES AND RECEIVING ANY APPLICABLE PERMITS, PRIOR TO CONDUCTING ANY WORK IN SURFACE WATERS.

CONTRACTOR MUST INSPECT CONSTRUCTION SITE VEHICLE EXIT LOCATIONS, STREETS AND CURB AND GUTTER SYSTEMS WITHIN AND ADJACENT TO THE PROJECT FOR SEDIMENTATION FROM EROSION OR TRACKED SEDIMENT FROM VEHICLES. CONTRACTOR MUST REMOVE SEDIMENT FROM ALL PAVED SURFACES WITHIN ONE (1) CALENDAR DAY OF DISCOVERY OR, IF APPLICABLE, WITHIN A SHORTER TIME TO AVOID A SAFETY HAZARD TO USERS OF PUBLIC STREETS.

REPAIR, REPLACE OR SUPPLEMENT ALL PERIMETER CONTROL DEVICES WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/2 OF THE HEIGHT OF THE DEVICE.

CONTRACTOR MUST DRAIN TEMPORARY AND PERMANENT SEDIMENTATION BASINS AND REMOVE THE SEDIMENT WHEN THE DEPTH OF SEDIMENT COLLECTED IN THE BASIN REACHES TWO FEET OR 1/2 THE STORAGE VOLUME, WHICHEVER IS LESS, WITHIN 72-HOURS OF DISCOVERY.

POLLUTION PREVENTION MANAGEMENT MEASURES:

THE CONTRACTOR SHALL IMPLEMENT THE FOLLOWING POLLUTION PREVENTION MANAGEMENT MEASURES ON THE SITE:

SOLID WASTE: COLLECT SEDIMENT, ASPHALT AND CONCRETE MILLINGS, FLOATING DEBRIS, PAPER, PLASTIC, FABRIC, CONSTRUCTION AND DEMOLITION DEBRIS, AND OTHER WASTES MUST BE DISPOSED OF PROPERLY OFFSITE AND MUST COMPLY WITH MPCA DISPOSAL REQUIREMENTS.

HAZARDOUS MATERIALS: OIL, GASOLINE, PAINT AND ANY HAZARDOUS SUBSTANCES MUST BE PROPERLY STORED, INCLUDING SECONDARY CONTAINMENT, TO PREVENT SPILLS, LEAKS OR OTHER DISCHARGE. RESTRICTED ACCESS TO STORAGE AREAS MUST BE PROVIDED TO PREVENT VANDALISM. STORAGE AND DISPOSAL OF HAZARDOUS WASTE MUST BE IN COMPLIANCE WITH MPCA REGULATIONS.

EXTERNAL WASHING OF TRUCKS, INCLUDING CONCRETE DELIVERY TRUCKS, AND OTHER CONSTRUCTION VEHICLES MUST BE LIMITED TO A DEFINED AREA OF THE SITE. RUNOFF MUST BE CONTAINED AND WASTE PROPERLY DISPOSED OF. NO ENGINE DEGREASING IS ALLOWED ON SITE. CONCRETE WASHOUT ON SITE MUST BE CONTAINED IN A LEAK-PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER.

THE CITY IS RESPONSIBLE FOR LONG TERM MAINTENANCE OF THE STORM DRAINS INCLUDING THE SUMPS (GRIT CHAMBERS) AND SAFL BAFFLES. THE GRIT CHAMBERS AND SAFL BAFFLES ARE TO BE INSPECTED YEARLY AND CLEANED OUT AS NECESSARY TO MAINTAIN FUNCTION.

THE CONTRACTOR IS RESPONSIBLE FOR MONITORING AIR POLLUTION AND ENSURING IT DOES NOT EXCEED LEVELS SET BY LOCAL, STATE, OR FEDERAL REGULATIONS. THIS INCLUDES DUST CREATED BY WORK BEING PERFORMED ON THE SITE. AIR POLLUTION AND DUST CONTROL CORRECTION ARE CONSIDERED INCIDENTAL TO THE UNIT BID PRICES FOR WHICH WORK IS BEING PERFORMED. ADDITIONAL DUST CONTROL MEASURES MAY BE REQUIRED BY THE ENGINEER.

NO SANITARY AND SEPTIC WASTE IS ON THE SITE.

FINAL STABILIZATION:
THE CONTRACTOR MUST ENSURE FINAL STABILIZATION OF THE SITE. FINAL STABILIZATION IS ACHIEVED WHEN ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND ALL SOILS ARE STABILIZED BY A UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70 PERCENT OF THE PERVIOUS SURFACE AREA, OR OTHER EQUIVALENT MEANS NECESSARY TO PREVENT SOIL FAILURE UNDER EROSIVE CONDITIONS.

ALL TEMPORARY EROSION PROTECTION, INCLUDING SILT FENCE, ARE TO BE REMOVED AFTER FINAL STABILIZATION OF THE SITE.

RECORDS RETENTION:
ALL REQUIREMENTS OF THE NPDES PERMIT AND THIS SWPPP SHALL REMAIN IN EFFECT UNTIL ALL LAND DISTURBING ACTIVITY HAS BEEN COMPLETED, ALL FINAL RESTORATION HAS BEEN COMPLETED AND THE NOTICE OF TERMINATION FORM HAS BEEN SUBMITTED TO THE MINNESOTA POLLUTION CONTROL AGENCY (MPCA).

REFER TO OTHER SHEETS OF THIS PLAN SET FOR DETAILED CONSTRUCTION INFORMATION. EXISTING AND PROPOSED GRADES FOR THE ROADWAY ARE SHOWN ON THE PLAN AND PROFILE SHEETS AND ON THE CROSS SECTION SHEETS.

THE CONTRACTOR SHALL MAINTAIN A COPY OF THE PLANS ON SITE AT ALL TIMES UNTIL THE PROJECT HAS BEEN ACCEPTED BY THE CITY. THE CONTRACTOR SHALL UPDATE THE SWPPP AS NECESSARY TO REFLECT CURRENT CONDITIONS ON THE SITE. CONTRACTOR IS TO PROVIDE THE ENGINEER A COPY OF THE REVISED SWPPP. THE REVISED SWPPP IS TO BE MAINTAINED WITH THE CONSTRUCTION SET OF PLANS.

THE CONSTRUCTION PLANS, INCLUDING THE SWPPP, AND THE SWPPP INSPECTION REPORTS ARE TO BE AVAILABLE TO THE ENGINEER AND TO THE MPCA AND COON CREEK WATERSHED DISTRICT AND UPPER RUM RIVER WATERSHED MANAGEMENT ORGANIZATION INSPECTORS AT ALL TIMES.

THE CONTRACTOR IS TO PROVIDE THE ENGINEER A COPY OF THE SWPPP INSPECTION REPORTS WITHIN SEVEN (7) DAYS AFTER THE INSPECTION.

THE CONTRACTOR IS TO PROVIDE THE ENGINEER A COPY OF THE REVISED SWPPP WITHIN SEVEN (7) DAYS AFTER THE CONTRACTOR REVISES THE SWPPP.

ALL SWPPP INSPECTIONS AND ALL BMPS SHALL BE PLACED UNDER THE SUPERVISION OF A CONSTRUCTION INSTALLER CERTIFIED BY THE MPCA. THE CONSTRUCTION SITE SHALL BE MANAGED AND MAINTAINED BY MPCA CERTIFIED CONSTRUCTION SITE MANAGEMENT.

THE CONTRACTOR SHALL PROVIDE THE CITY WITH A COPY OF CONSTRUCTION INSTALLER CERTIFICATION AND CONSTRUCTION SITE MANAGEMENT CERTIFICATION. A COPY OF THE CERTIFICATIONS, INCLUDING SWPPP DESIGNER, SHALL BE KEPT WITH THE SWPPP.

THE SWPPP, THE SWPPP INSPECTIONS REPORTS AND MAINTENANCE RECORDS SHALL BE KEPT FOR 3 YEARS.

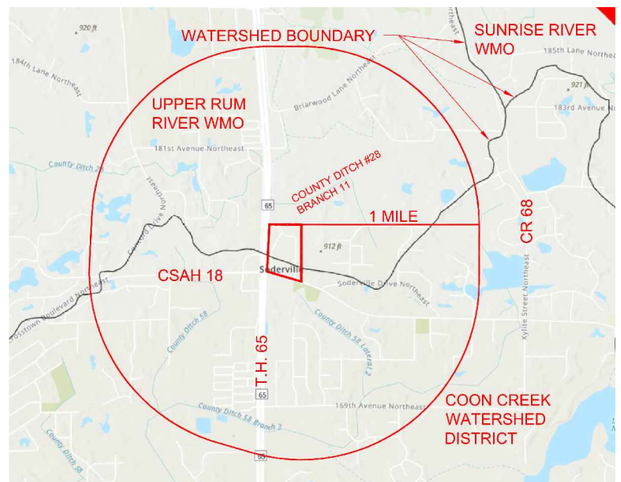
DRAINAGE CALCULATIONS AND DRAINAGE MAPS WILL BE KEPT BY THE CITY FOR AT LEAST 3 YEARS.

SEQUENCE OF EROSION CONTROL

1. OBTAIN ALL NECESSARY PERMITS, INCLUDING NPDES GENERAL STORMWATER PERMIT.
2. CLEAR AND GRUB SITE.
3. PLACE ALL PERIMETER SEDIMENT CONTROL DEVICES AND ROCK CONSTRUCTION EXITS.
4. CONTACT CITY ENGINEER FOR APPROVAL OF SEDIMENT CONTROL DEVICES.
5. ROUGH IN GRADE.
6. PLACE TEMPORARY EROSION CONTROL DEVICES AS NECESSARY.
7. PLACE STORM DRAIN SYSTEM.
8. RE-ADJUST TEMPORARY EROSION CONTROL DEVICES AS NECESSARY. PLACE STORM DRAIN INLET PROTECTION AND OUTLET PROTECTION DEVICES AS NECESSARY.
9. PLACE SITE PAVEMENT.
10. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, OBTAIN APPROVAL OF THE CITY ENGINEER.
11. CONTRACTOR TO REMOVE ALL TEMPORARY EROSION CONTROL DEVICES AFTER ACCEPTANCE BY THE CITY.

TABULATION SUMMARY

ITEM	UNIT	TOTAL
SILT FENCE	L.F.	4,387
CATCH BASIN INLET PROTECTION	EACH	23
CLASS III RIPRAP W/ FABRIC	C.Y.	57.1
GEOTEXTILE FILTER FABRIC	S.Y.	200.5
CULVERT END CONTROL	EACH	9
HYDROMULCH TYPE 3	ACRE	3.73
TURF ESTABLISHMENT: SEED MIX 25-131	ACRE	3.73



SOPHER STATE ONE CALL
800-252-1166 651-454-0002
PLOT DATE: 5/14/2026 15:54

UTILITIES:
LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
GREAT RIVERS ENERGY (763) 445-5984

DATE	REVISION HISTORY

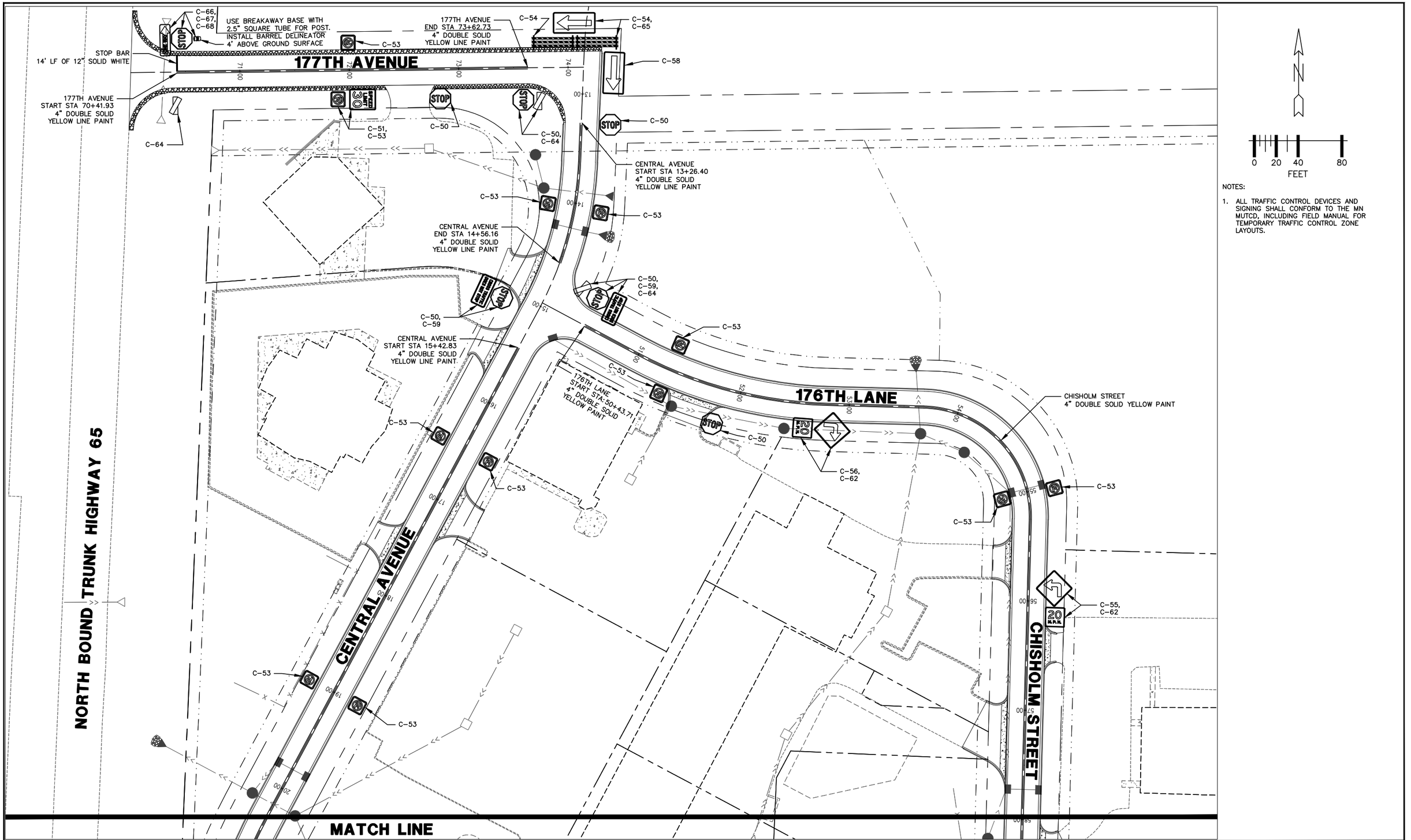
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dan Krugler
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION
STORMWATER POLLUTION PREVENTION PLAN

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2205 SWPPP 3
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 43 OF 61
FILE: 37-2-143



0 20 40 80
FEET

NOTES:

1. ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MN MUTCD, INCLUDING FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

GOPHER ONE CALL
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GREAT RIVERS ENERGY (763) 445-5984

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Dave Ruglin
DATE 05/14/26 REG. NO. 48768

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Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

SIGNING AND STRIPING PLAN

DWG: 2205 SIGN1
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 44 OF 61
FILE: 37-2-144

MATCH LINE

NORTH BOUND TRUNK HIGHWAY 65

CENTRAL AVENUE

CENTRAL AVENUE 4" DOUBLE SOLID YELLOW PAINT

C-53

C-55, C-62

SPEED LIMIT 20

175TH LANE

C-56, C-62

C-50

STOP

175TH LANE END STA: 32+19.86 4" DOUBLE SOLID YELLOW PAINT

C-64

CHISHOLM STREET

CHISHOLM STREET END STA 63+31.71 4" DOUBLE SOLID YELLOW LINE PAINT

C-57

CHISHOLM STREET START STA 64+25.06 4" DOUBLE SOLID YELLOW LINE PAINT

PAINT YELLOW THROUGH ARROW (CODE: PMA-1)

C-50, C-59

SPEED LIMIT 30

C-51, C-53

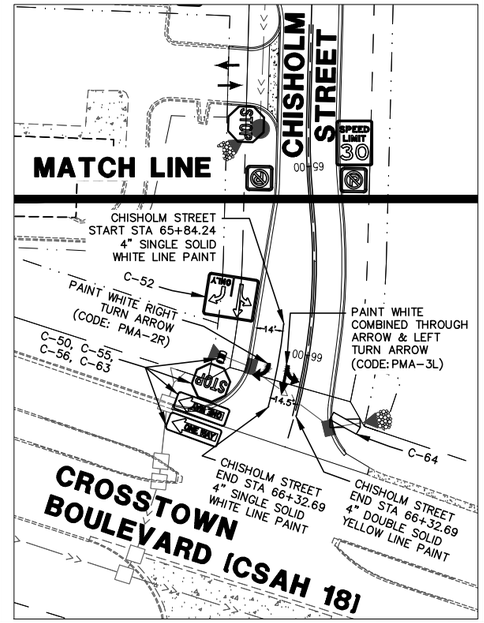
CROSSTOWN BOULEVARD (CSAH 18)

MATCH LINE

0 20 40 80
FEET
(ALL DETAILS)

NOTES:

1. ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MN MUTCD, INCLUDING FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.



SOPHER ONE STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:

LUMEN	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
GREAT RIVERS ENERGY	(763) 445-5984

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dan Krueger
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

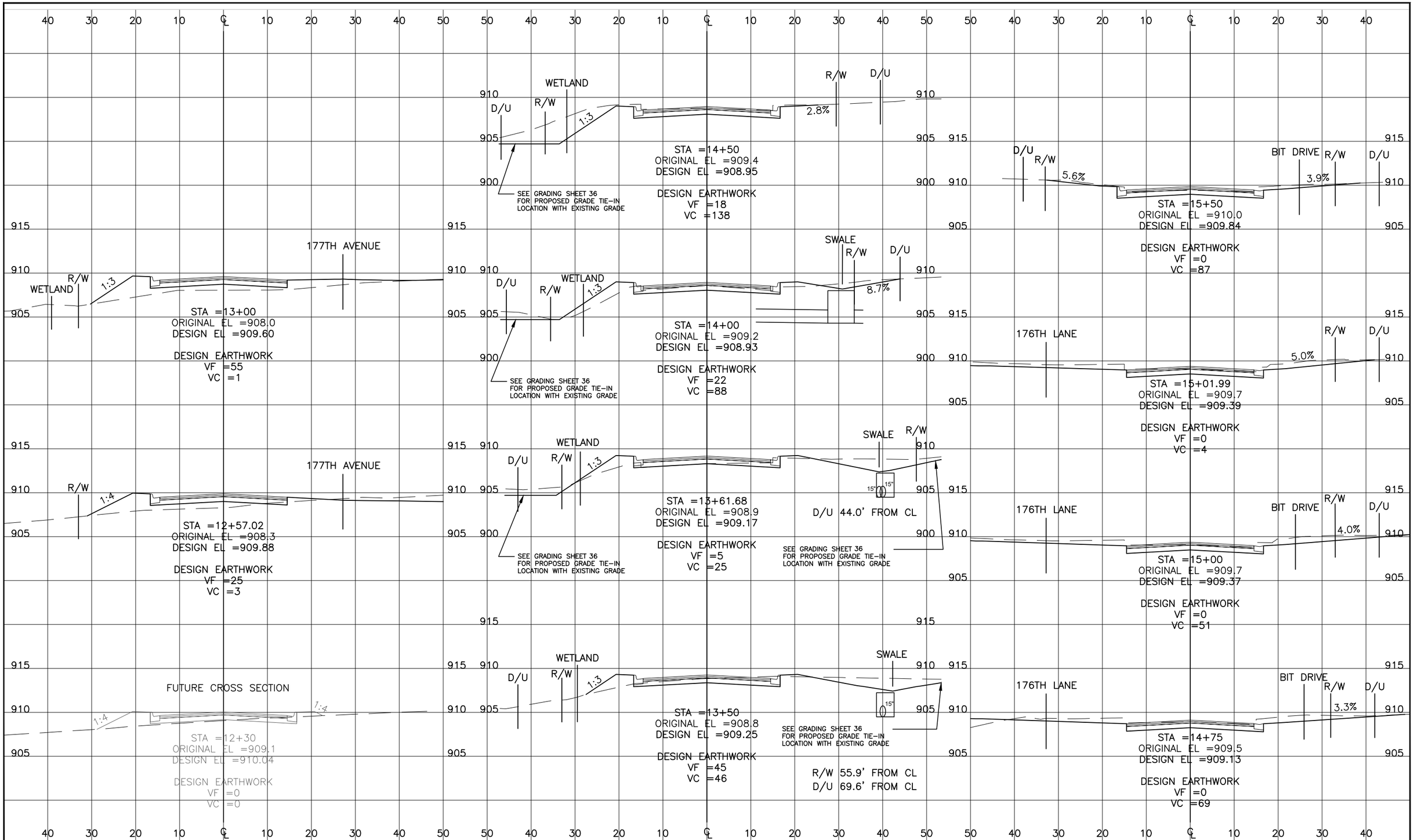
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

SIGNING AND STRIPING PLAN

DWG:	2205 SIGN2
DATE:	05/14/26
JOB NUMBER:	2205
SHEET:	45 OF 61
FILE:	37-2-145



GOPHER STATE ONE CALL
800-252-1166 651-454-0002
PLOT DATE: 5/14/2026 15:54

UTILITIES:

LUMEN	(763) 712-5017
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Dan Kuglin
DATE 05/14/26 REG. NO. 48768

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Consulting Engineers

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Ham Lake, MN 55304
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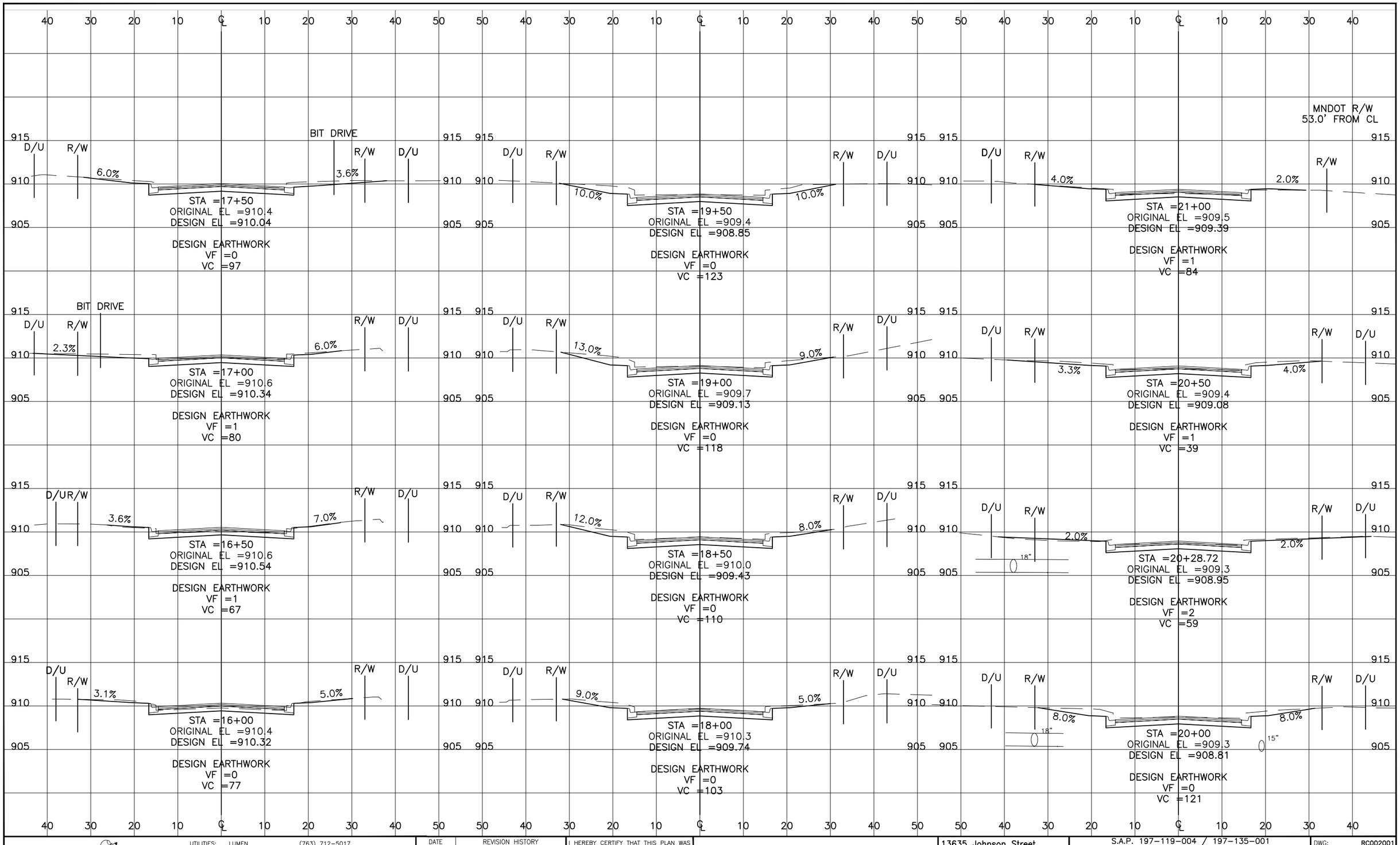
Fax 763-862-8042

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

CENTRAL AVENUE/175TH LANE
CROSS SECTIONS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: RC001001
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 46 OF 61
FILE: 37-2-146



SOPHER ONE CALL
800-252-1166 651-454-0002

PLOT DATE: 5/14/2026 15:54

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CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
GREAT RIVERS ENERGY (763) 445-5984

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Ruegsegger
DATE 05/14/26 REG. NO. 48768

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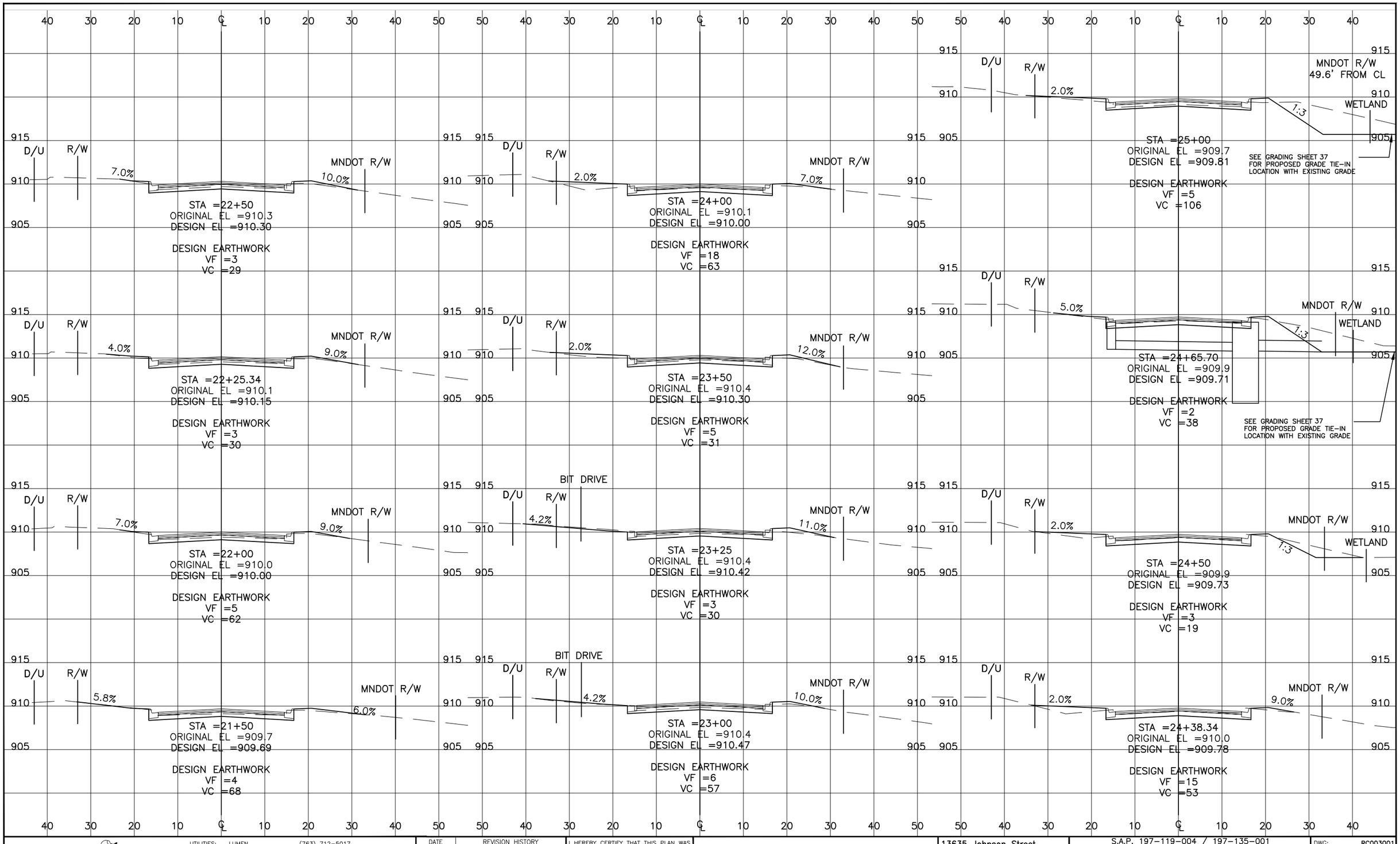
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

CENTRAL AVENUE/175TH LANE
CROSS SECTIONS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: RC002001
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 47 OF 61
FILE: 37-2-147



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UTILITIES:

LUMEN	(763) 712-5017
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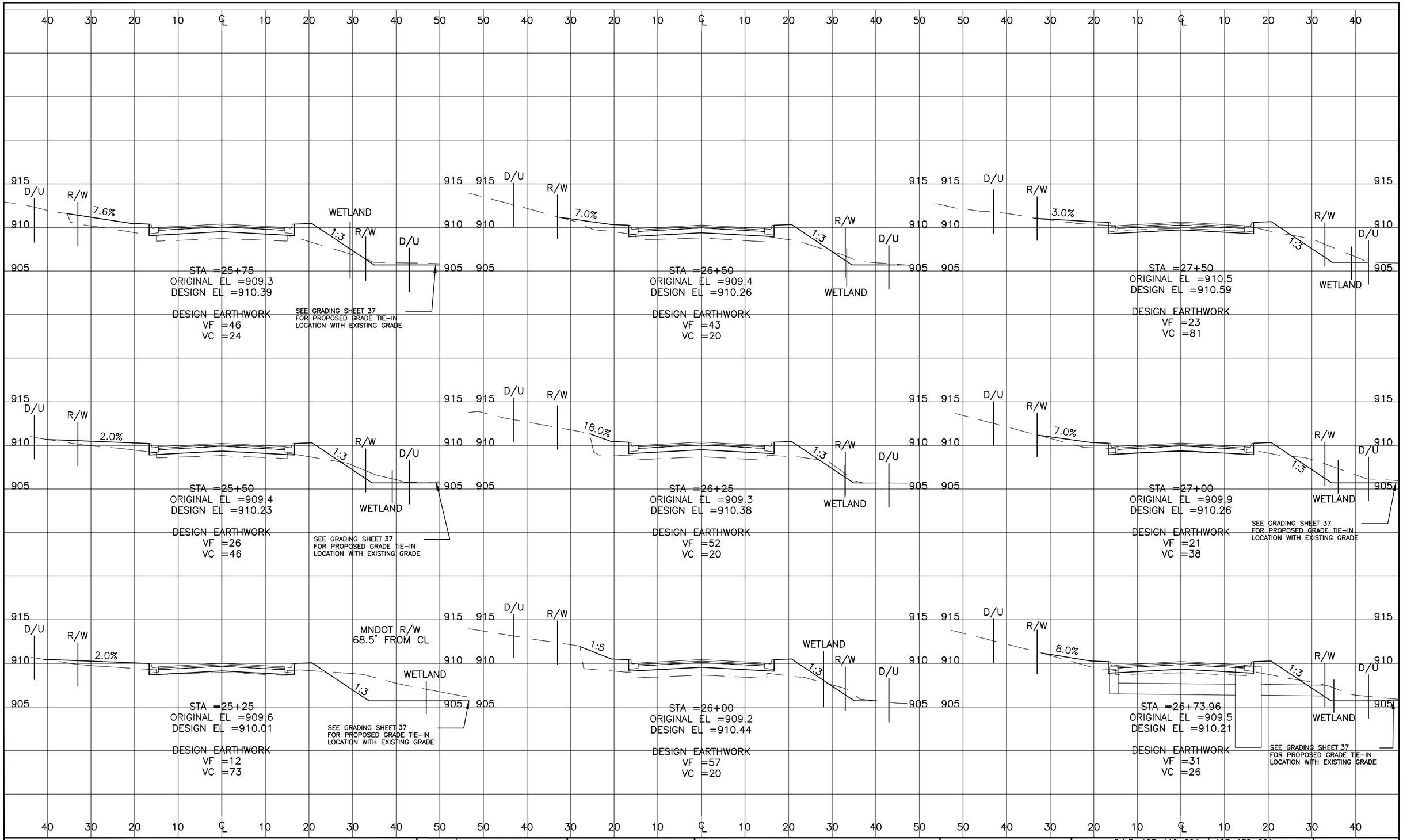
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

CENTRAL AVENUE/175TH LANE
CROSS SECTIONS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: RC003001
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 48 OF 61
FILE: 37-2-148



GOPHER STATE ONE CALL
800-252-1166 651-454-0002
PLOT DATE: 5/14/2026 15:54

UTILITIES:
LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
GREAT RIVERS ENERGY (763) 445-5984

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dan Krueger
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

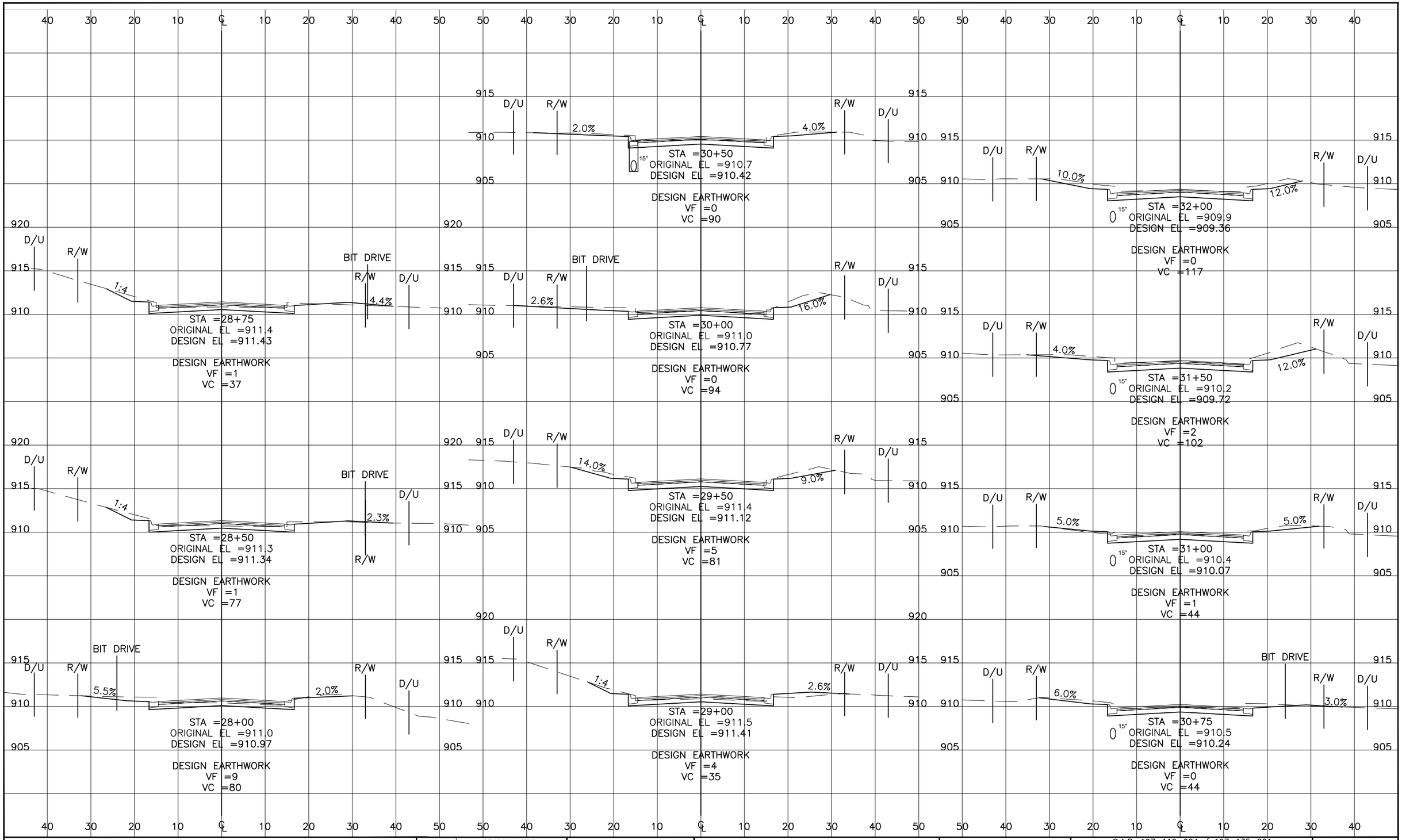
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

CENTRAL AVENUE/175TH LANE
CROSS SECTIONS

DWG: RC004001
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 49 OF 61
FILE: 37-2-149



GOPHER STATE ONE CALL
800-252-1166 651-454-0002

PLOT DATE: 5/14/2026 15:54

UTILITIES:

LUMEN	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
GREAT RIVERS ENERGY	(763) 445-5984

DATE	REVISION HISTORY

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Dan Kruglen

DATE 05/14/26 REG. NO. 48768

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Consulting Engineers

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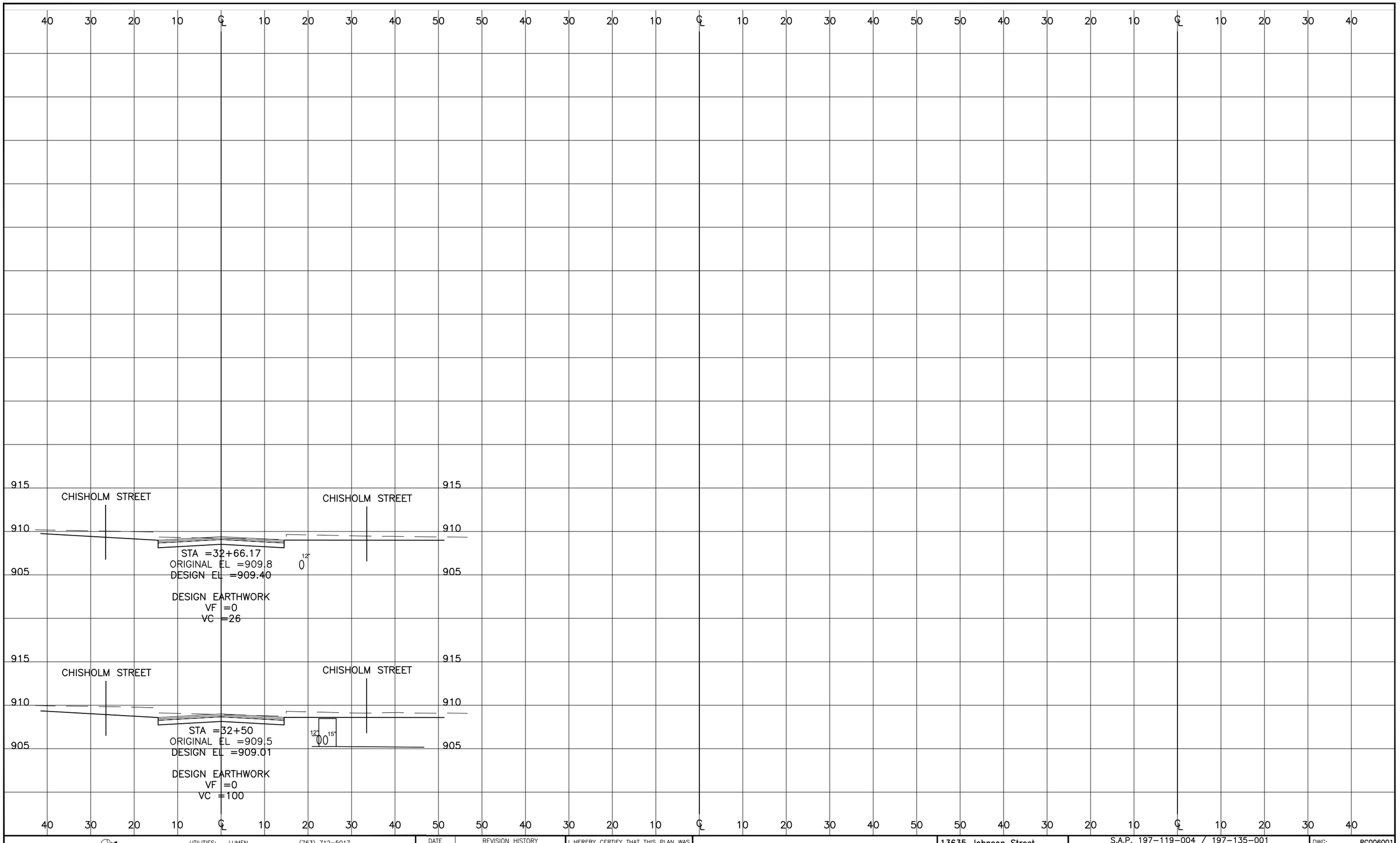
Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

CENTRAL AVENUE/175TH LANE
CROSS SECTIONS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG:	RC005001
DATE:	05/14/26
JOB NUMBER:	2205
SHEET:	50 OF 61
FILE:	37-2-150



SOPHER ONE CALL
800-252-1166 651-454-0002

PLOT DATE: 5/14/2026 15:54

UTILITIES:

LUMEN	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
GREAT RIVERS ENERGY	(763) 445-5984

DATE	REVISION HISTORY

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Dave Ruegsegger

DATE 05/14/26 REG. NO. 48768

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Consulting Engineers

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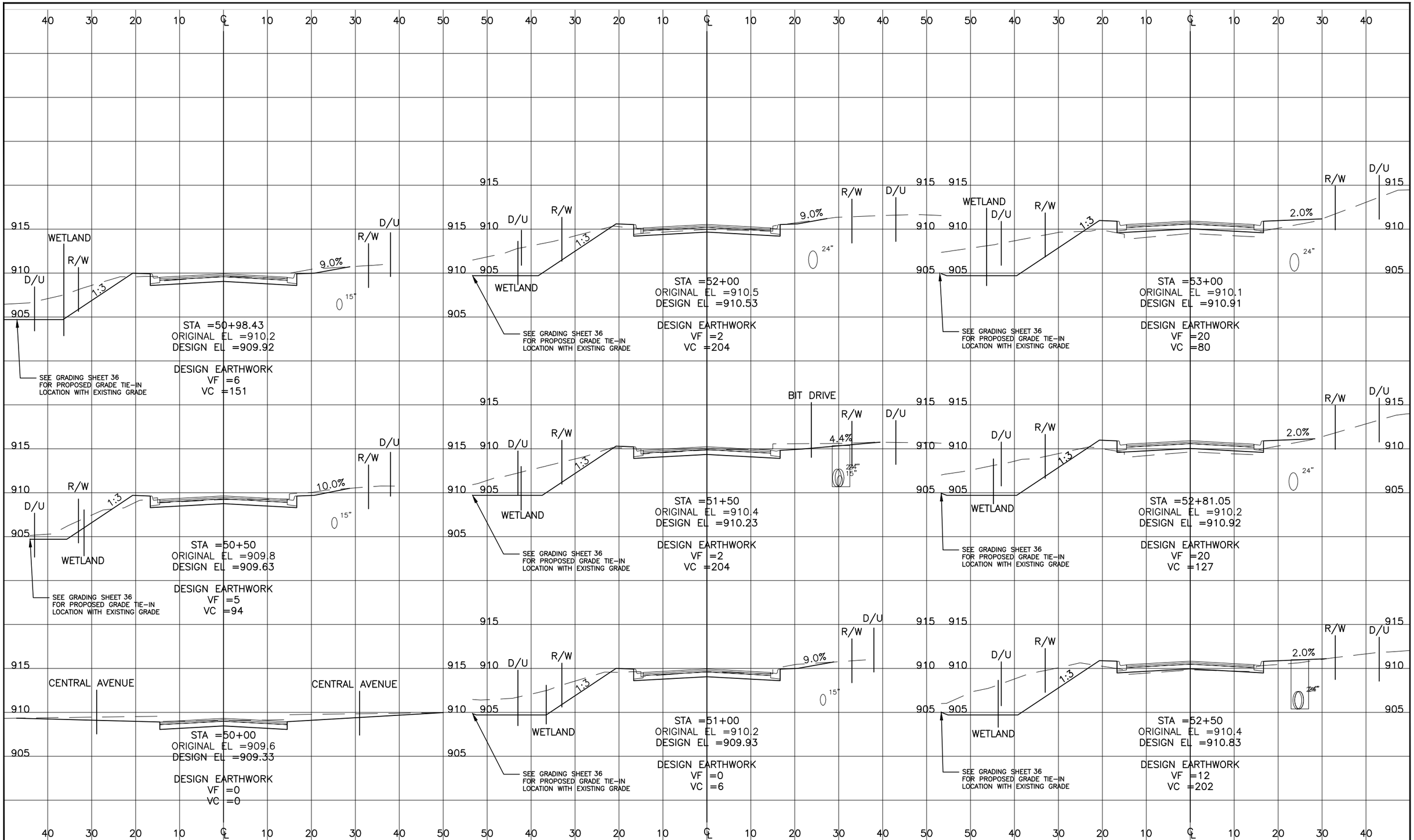
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

CENTRAL AVENUE/175TH LANE
CROSS SECTIONS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: RC006001
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 51 OF 61
FILE: 37-2-151



GOPHER STATE ONE CALL
800-252-1166 651-454-0002
PLOT DATE: 5/14/2026 15:54

UTILITIES:

LUMEN	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
GREAT RIVERS ENERGY	(763) 445-5984

DATE	REVISION HISTORY

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Dan Kugler
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

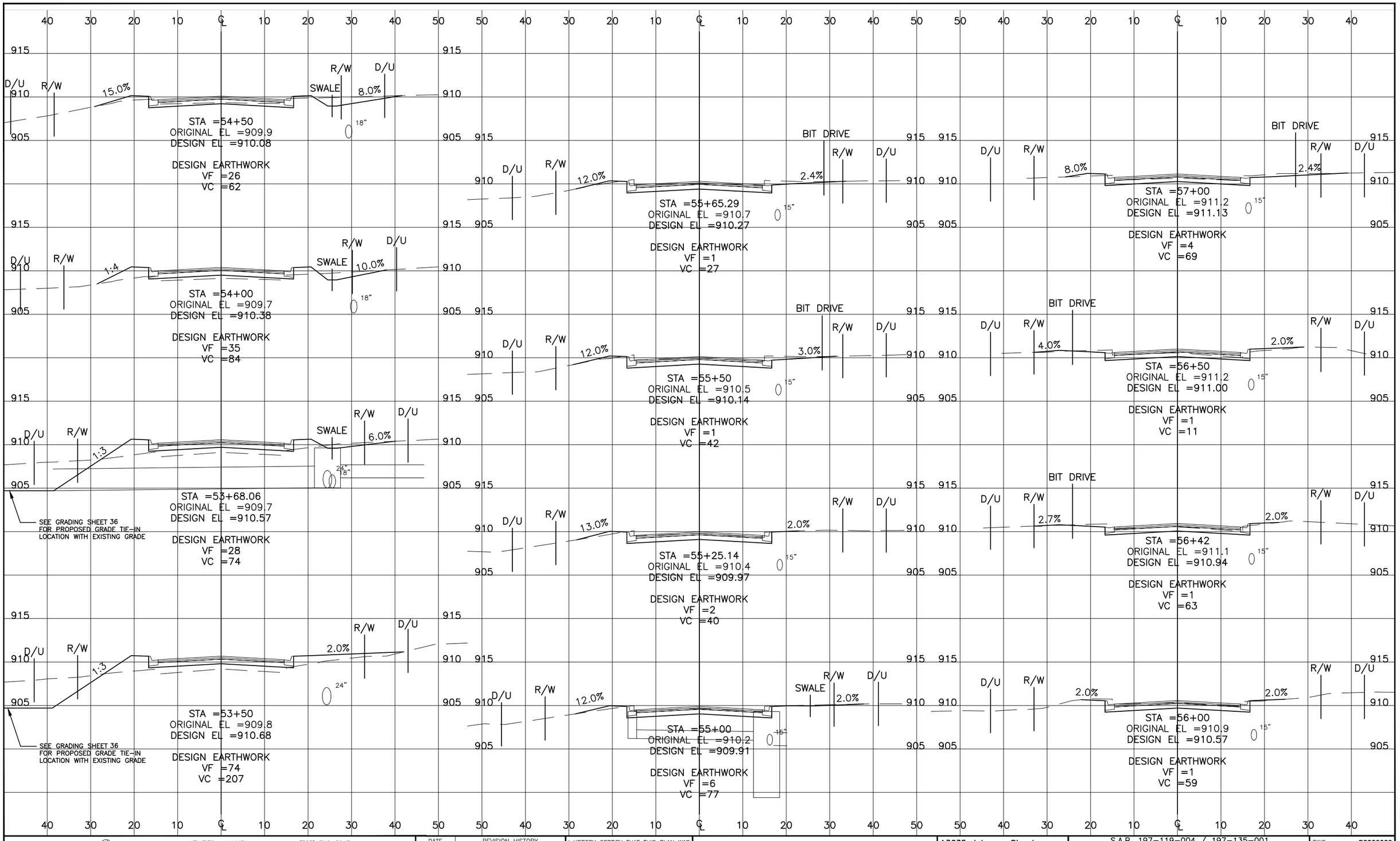
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

176TH LANE/CHISHOLM STREET
CROSS SECTIONS

DWG:	RC001002
DATE:	05/14/26
JOB NUMBER:	2205
SHEET:	52 OF 61
FILE:	37-2-152



UTILITIES:
LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
GREAT RIVERS ENERGY (763) 445-5984

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

PLOT DATE: 5/14/2026 15:54

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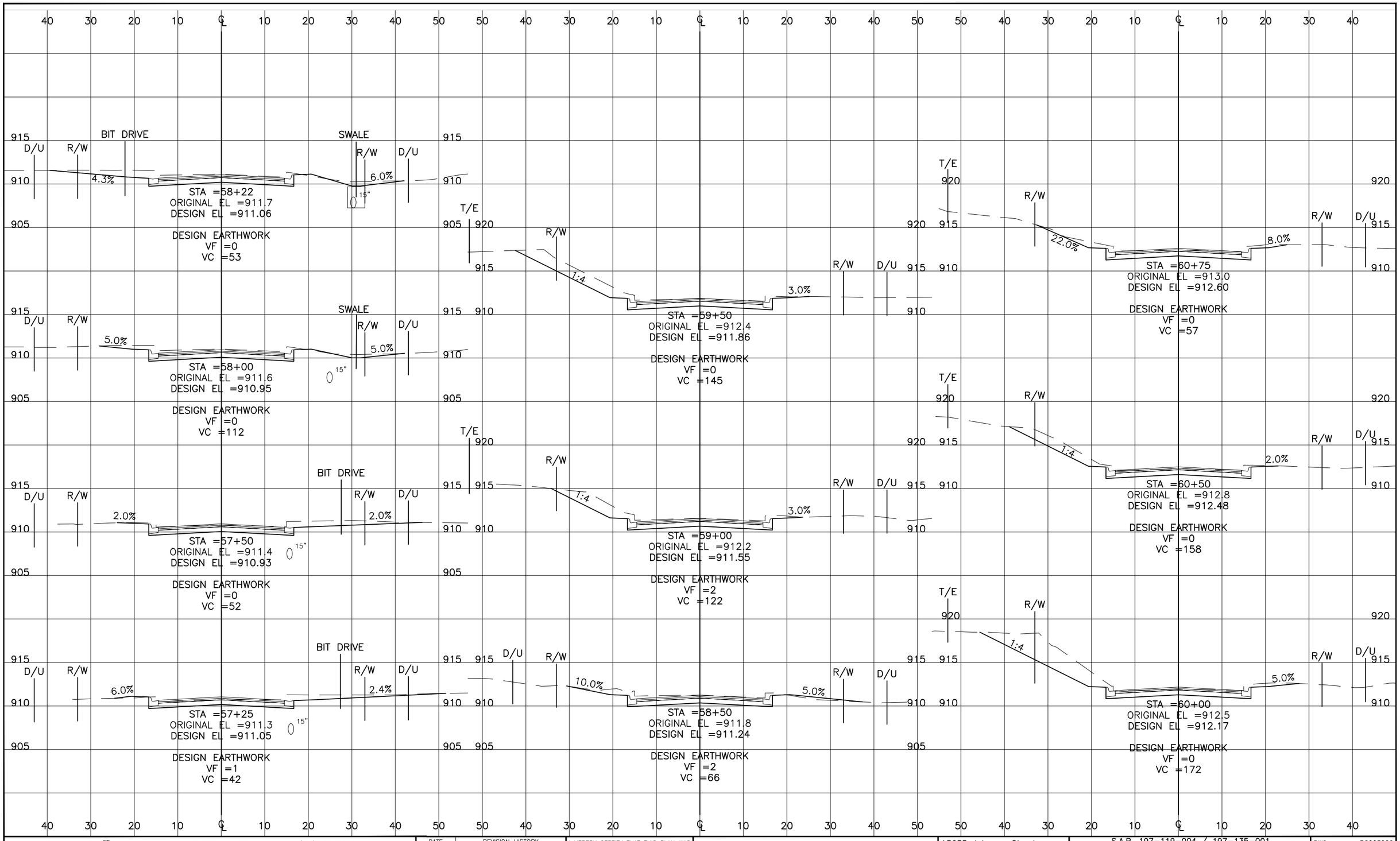
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

176TH LANE/CHISHOLM STREET
CROSS SECTIONS

DWG: RC002002
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 53 OF 61
FILE: 37-2-153



GOPHER STATE ONE CALL
800-252-1166 651-454-0002

PLOT DATE: 5/14/2026 15:54

UTILITIES:
LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
GREAT RIVERS ENERGY (763) 445-5984

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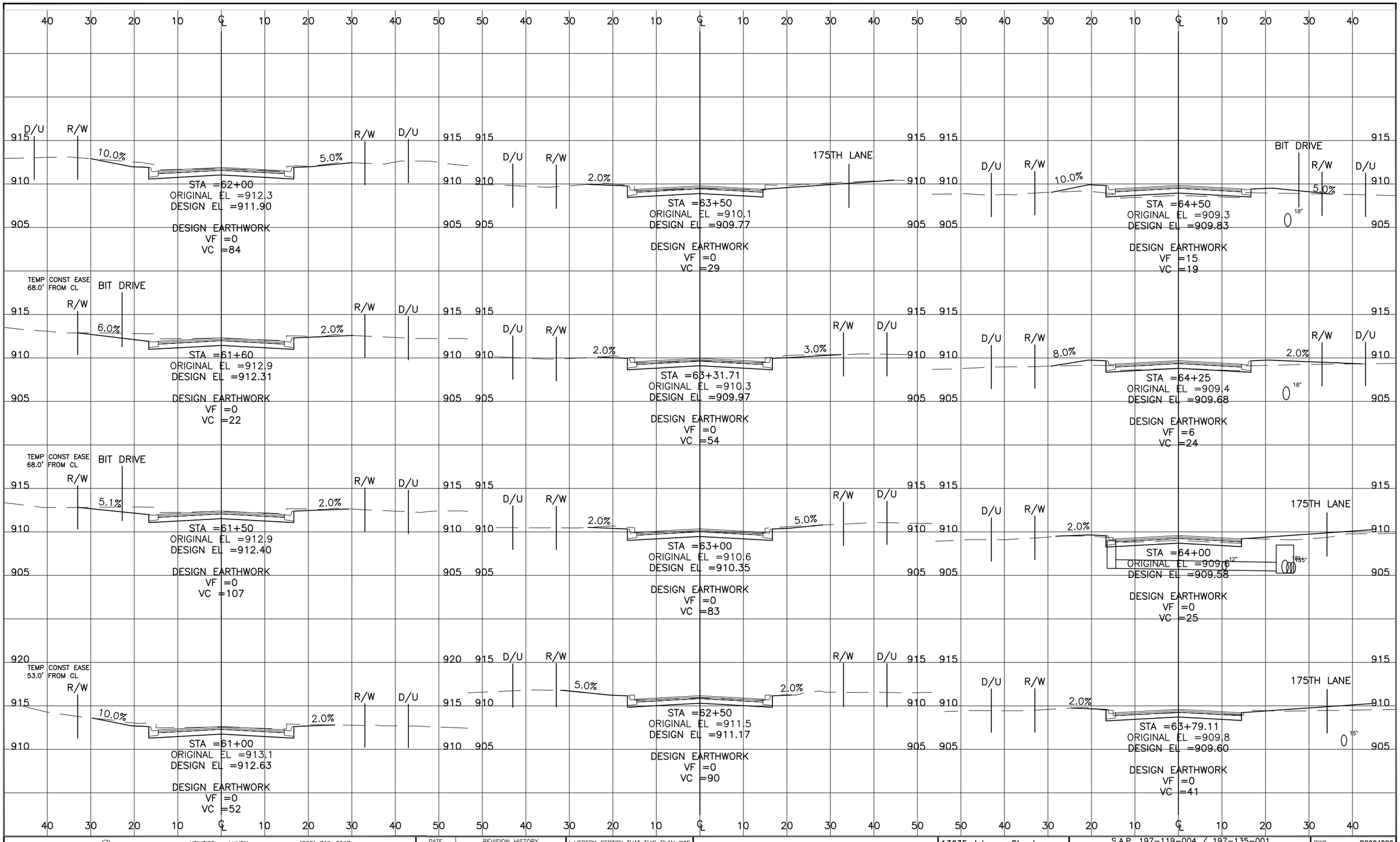
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

176TH LANE/CHISHOLM STREET
CROSS SECTIONS

DWG: RC003002
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 54 OF 61
FILE: 37-2-154



UTILITIES:
LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
GREAT RIVERS ENERGY (763) 445-5984

SOPHER ONE CALL
800-252-1166 651-454-0002

PLOT DATE: 5/14/2026 15:54

DATE	REVISION HISTORY

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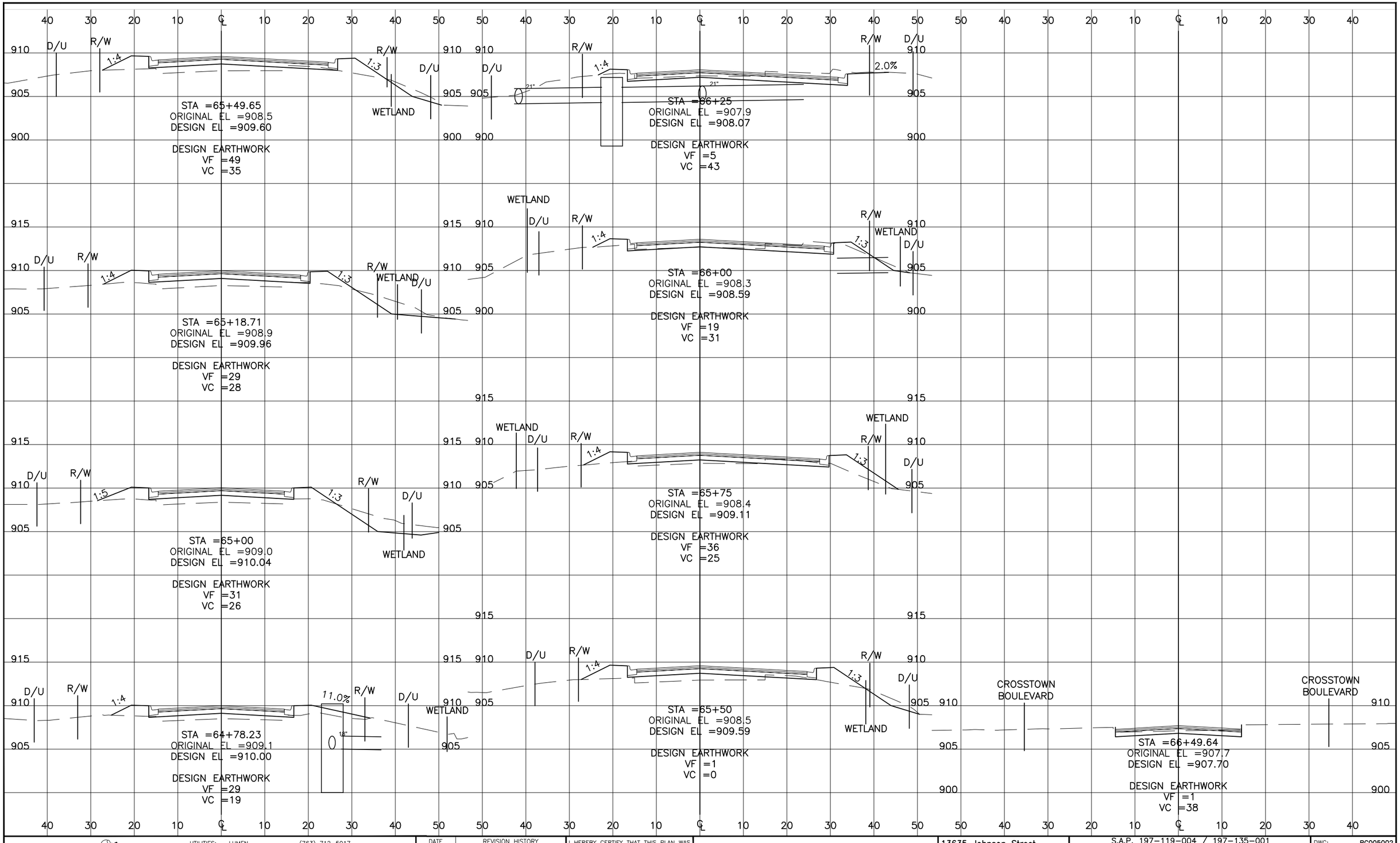
Fax 763-862-8042

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

176TH LANE/CHISHOLM STREET
CROSS SECTIONS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: RC004002
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 55 OF 61
FILE: 37-2-155



UTILITIES:

LUMEN	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
GREAT RIVERS ENERGY	(763) 445-5984

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

PLOT DATE: 5/14/2026 15:54

DATE	REVISION HISTORY

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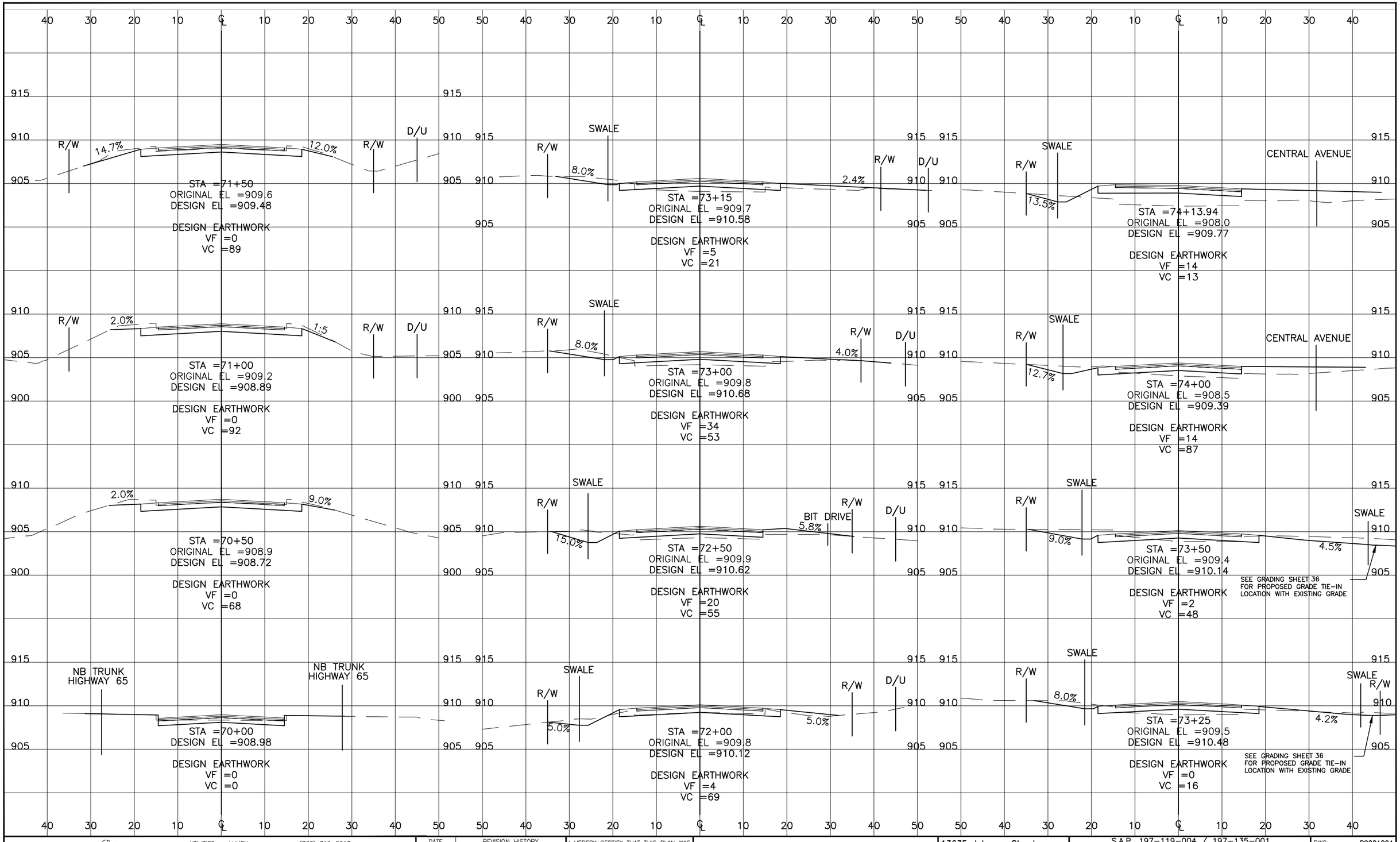
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

176TH LANE/CHISHOLM STREET
CROSS SECTIONS

DWG: RC005002
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 56 OF 61
FILE: 37-2-156



SOPHER ONE CALL
800-252-1166 651-454-0002

PLOT DATE: 5/14/2026 15:54

UTILITIES:

LUMEN	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
GREAT RIVERS ENERGY	(763) 445-5984

DATE	REVISION HISTORY

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DATE 05/14/26 REG. NO. 48768

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Consulting Engineers

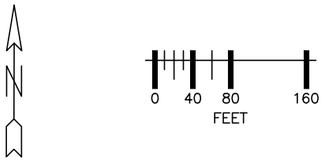
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

177TH AVENUE
CROSS SECTIONS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

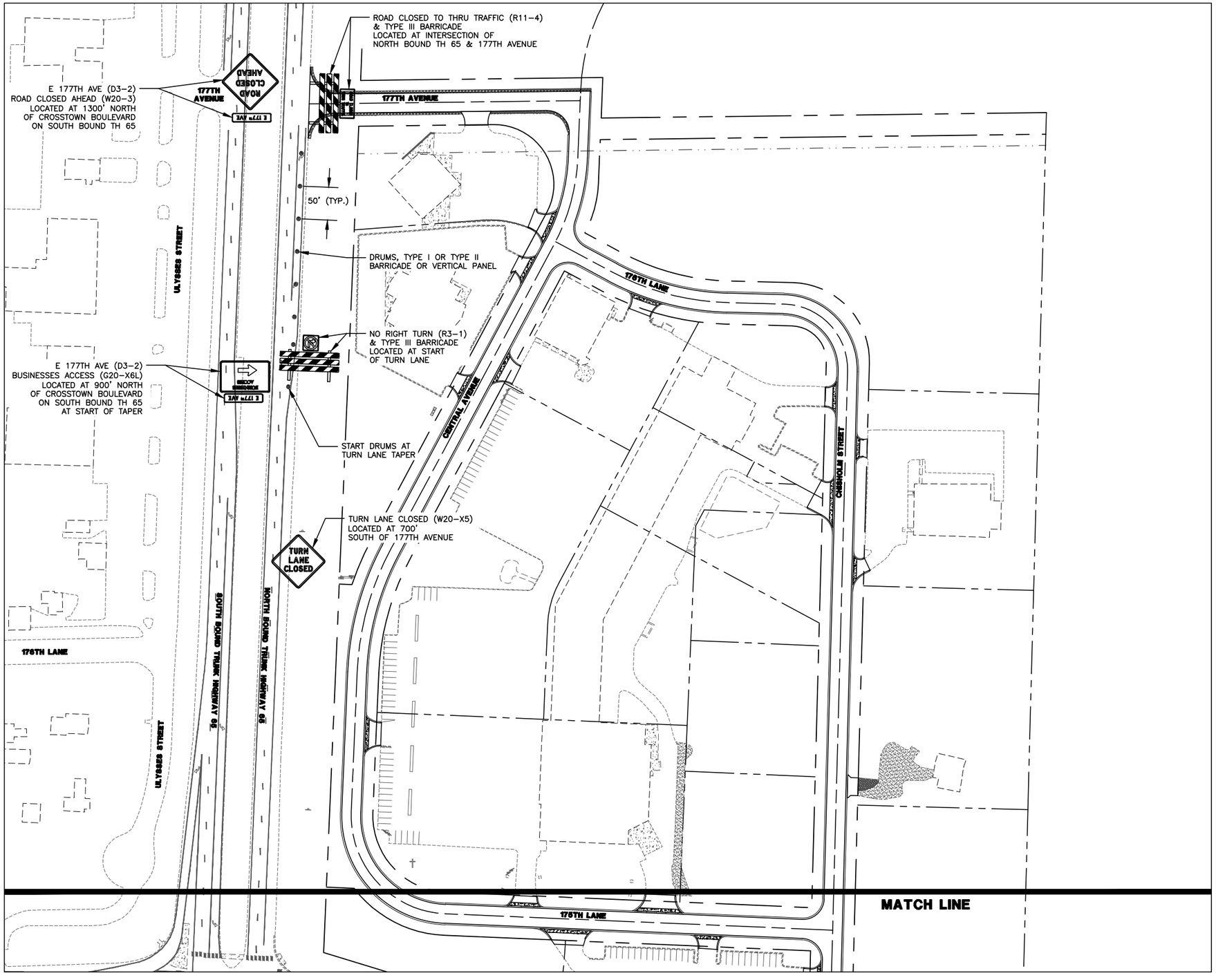
DWG: RC001004
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 57 OF 61
FILE: 37-2-157



NOTES:
1. ALL TEMPORARY TRAFFIC CONTROL SIGNS AND DEVICES ARE INCIDENTAL.
2. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS NEEDED BY THE ENGINEER.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE LATEST MnMUTCD AND LANE CLOSURE MANUAL.
4. SIGN INSTALLATION SHALL NOT OBSTRUCT EXISTING SIGNS.
5. QUANTITIES OF TRAFFIC CONTROL DEVICES ARE APPROXIMATE AND ARE SHOWN FOR INFORMATIONAL ONLY. THE ITEM "TRAFFIC CONTROL" COVERS ALL DEVICES SHOWN ON THE PLAN SHEETS AND OTHER SETUPS REQUIRED BY THE CONTRACTOR'S OPERATIONS.
6. **THROUGH LANE CLOSURES ARE NOT ALLOWED ON TRUNK HIGHWAY 65.**

SIGNING:
1. ALL TRAFFIC CONTROL DEVICES, INCLUDING OVERHEAD SIGNS ON ROADS OPEN TO TRAFFIC THAT ARE NOT CONSISTENT WITH TRAFFIC OPERATION SHALL BE COVERED, REMOVED OR REVISED AS DIRECTED BY THE ENGINEER.
2. SIGNS ARE TO BE MOUNTED ON PORTABLE SUPPORTS AS APPROVED BY THE ENGINEER.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA SIGNING NEEDED TO FACILITATE TRAFFIC SWITCHES OR FOR TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER.
4. ALL ORANGE WARNING AND ORANGE GUIDE SIGNS SHALL BE FABRICATED WITH SIGN SHEETING MATERIAL AS LISTED ON THE MnDOT APPROVED PRODUCT LIST FOR "SHEETING FOR RIGID TEMPORARY WORK ZONE SIGNS". BARRICADES SHALL BE FABRICATED WITH SIGN SHEETING MATERIAL AS LISTED ON THE MnDOT APPROVED PRODUCT LIST FOR BARRICADE SHEETING. NOTE THAT ASTM TYPE VII SHEETING IS NOT ALLOWED.
5. ALL SIGNS SHALL CONFORM TO THE LATEST MnMUTCD FOR SIZING, FONTS, AND FONT SIZING.
6. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE PLACED AS NEEDED, OR PROVIDE TEMPORARY SIGNING AT THEIR EXPENSE UNTIL THE FINAL SIGNING IS PLACED.

BARRIER & DELINEATION
1. TOP MOUNTED BARRIER DELINEATORS WILL HAVE A MINIMUM OF 24 SQ. IN. OF REFLECTIVE SURFACE AREA AND BE PLACED AT 30 FOOT SPACES ON TOP OF THE BARRIER WHEN THE BARRIER IS WITHIN 10 FEET OF TRAFFIC UNLESS OTHERWISE NOTED OR AS DIRECTED BY THE ENGINEER. IF THE TRAFFIC ENGINEER REQUIRES SIDE MOUNTED BARRIER DELINEATORS, THEY WILL HAVE A MINIMUM OF 12 SQ. IN. OF REFLECTIVE SURFACE AREA AND BE PLACED AT 30 FOOT SPACES. IF A SMALLER APPROVED BARRIER DELINEATOR IS USED IT SHALL BE AT ONE HALF THE SPACING AND ONE HALF THE BID PRICE.



UTILITIES:
LUMEN	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
GREAT RIVERS ENERGY	(763) 445-5984

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

DATE	REVISION HISTORY

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Dan Krueger
DATE 05/14/26 REG. NO. 48768

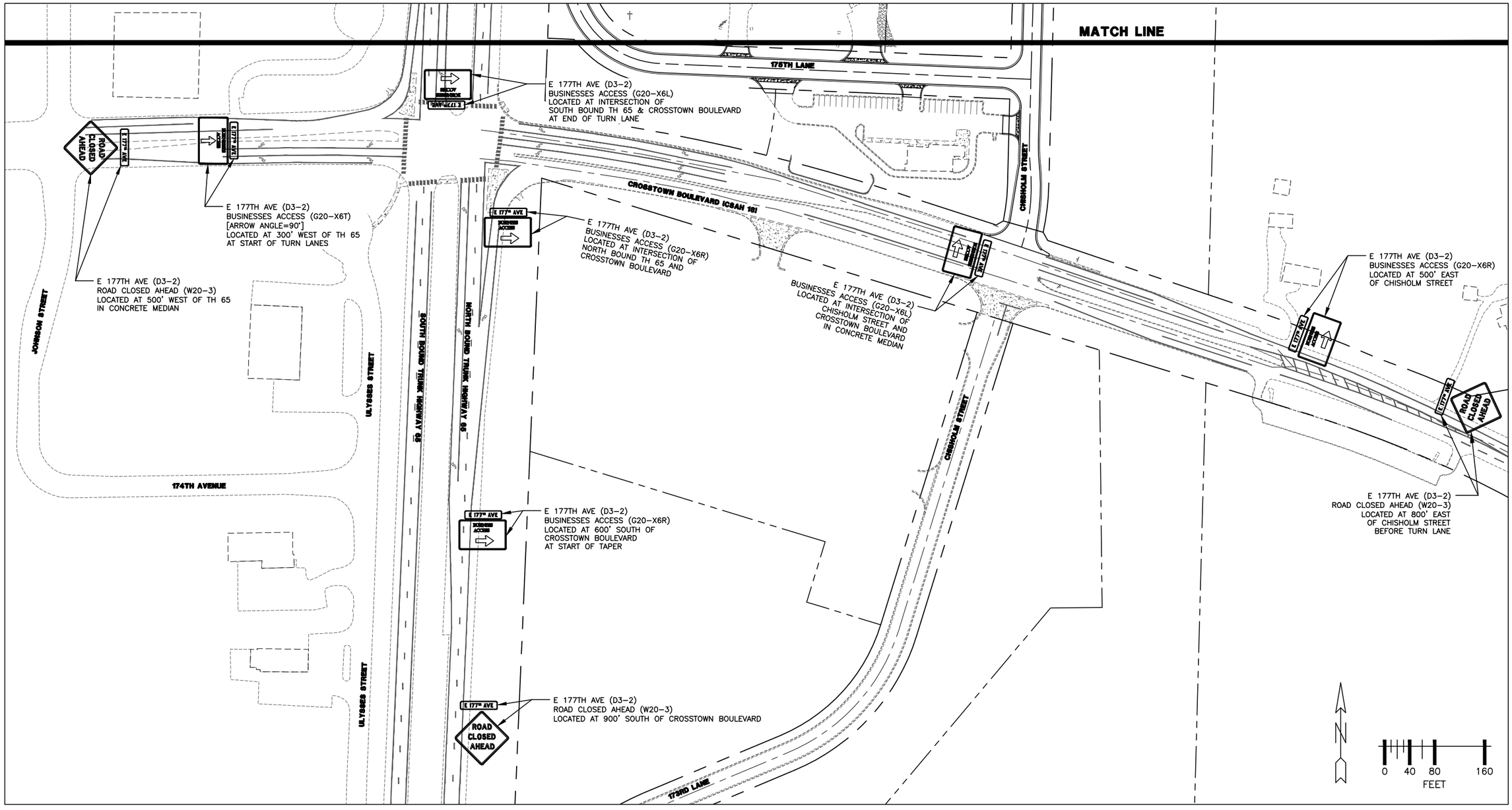
RFC ENGINEERING, INC.
Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

TEMPORARY TRAFFIC CONTROL PLAN
177TH AVENUE CLOSURE

DWG:	2205 TRAF1
DATE:	05/14/26
JOB NUMBER:	2205
SHEET:	58 OF 61
FILE:	37-2-158



NOTES:

1. ALL TEMPORARY TRAFFIC CONTROL SIGNS AND DEVICES ARE INCIDENTAL.
2. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS NEEDED BY THE ENGINEER.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE LATEST MnMUTCD AND LANE CLOSURE MANUAL.
4. SIGN INSTALLATION SHALL NOT OBSTRUCT EXISTING SIGNS.
5. QUANTITIES OF TRAFFIC CONTROL DEVICES ARE APPROXIMATE AND ARE SHOWN FOR INFORMATIONAL ONLY. THE ITEM "TRAFFIC CONTROL" COVERS ALL DEVICES SHOWN ON THE PLAN SHEETS AND OTHER SETUPS REQUIRED BY THE CONTRACTOR'S OPERATIONS.
6. **THROUGH LANE CLOSURES ARE NOT ALLOWED ON TRUNK HIGHWAY 65.**

SIGNING:

1. ALL TRAFFIC CONTROL DEVICES, INCLUDING OVERHEAD SIGNS ON ROADS OPEN TO TRAFFIC THAT ARE NOT CONSISTENT WITH TRAFFIC OPERATION SHALL BE COVERED, REMOVED OR REVISED AS DIRECTED BY THE ENGINEER.
2. SIGNS ARE TO BE MOUNTED ON PORTABLE SUPPORTS AS APPROVED BY THE ENGINEER.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA SIGNING NEEDED TO FACILITATE TRAFFIC SWITCHES OR FOR TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER.
4. ALL ORANGE WARNING AND ORANGE GUIDE SIGNS SHALL BE FABRICATED WITH SIGN SHEETING MATERIAL AS LISTED ON THE MnDOT APPROVED PRODUCT LIST FOR "SHEETING FOR RIGID TEMPORARY WORK ZONE SIGNS". BARRICADES SHALL BE FABRICATED WITH SIGN SHEETING MATERIAL AS LISTED ON THE MnDOT APPROVED PRODUCT LIST FOR BARRICADE SHEETING. NOTE THAT ASTM TYPE VII SHEETING IS NOT ALLOWED.
5. ALL SIGNS SHALL CONFORM TO THE LATEST MnMUTCD FOR SIZING, FONTS, AND FONT SIZING.
6. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE PLACED AS NEEDED, OR PROVIDE TEMPORARY SIGNING AT THEIR EXPENSE UNTIL THE FINAL SIGNING IS PLACED.

BARRIER & DELINEATION

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GOPHER STATE ONE CALL
800-252-1166 651-454-0002

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CONNEXUS ENERGY (763) 323-4268
GREAT RIVERS ENERGY (763) 445-5984

DATE	REVISION HISTORY

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Dave Kruglen
DATE 05/14/26 REG. NO. 48768

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Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

TEMPORARY TRAFFIC CONTROL PLAN
177TH AVENUE CLOSURE

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2205 TRAF2
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 59 OF 61
FILE: 37-2-159

NOTES:

1. ALL TEMPORARY TRAFFIC CONTROL SIGNS AND DEVICES ARE INCIDENTAL.
2. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS NEEDED BY THE ENGINEER.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE LATEST MnMUTCD AND LANE CLOSURE MANUAL.
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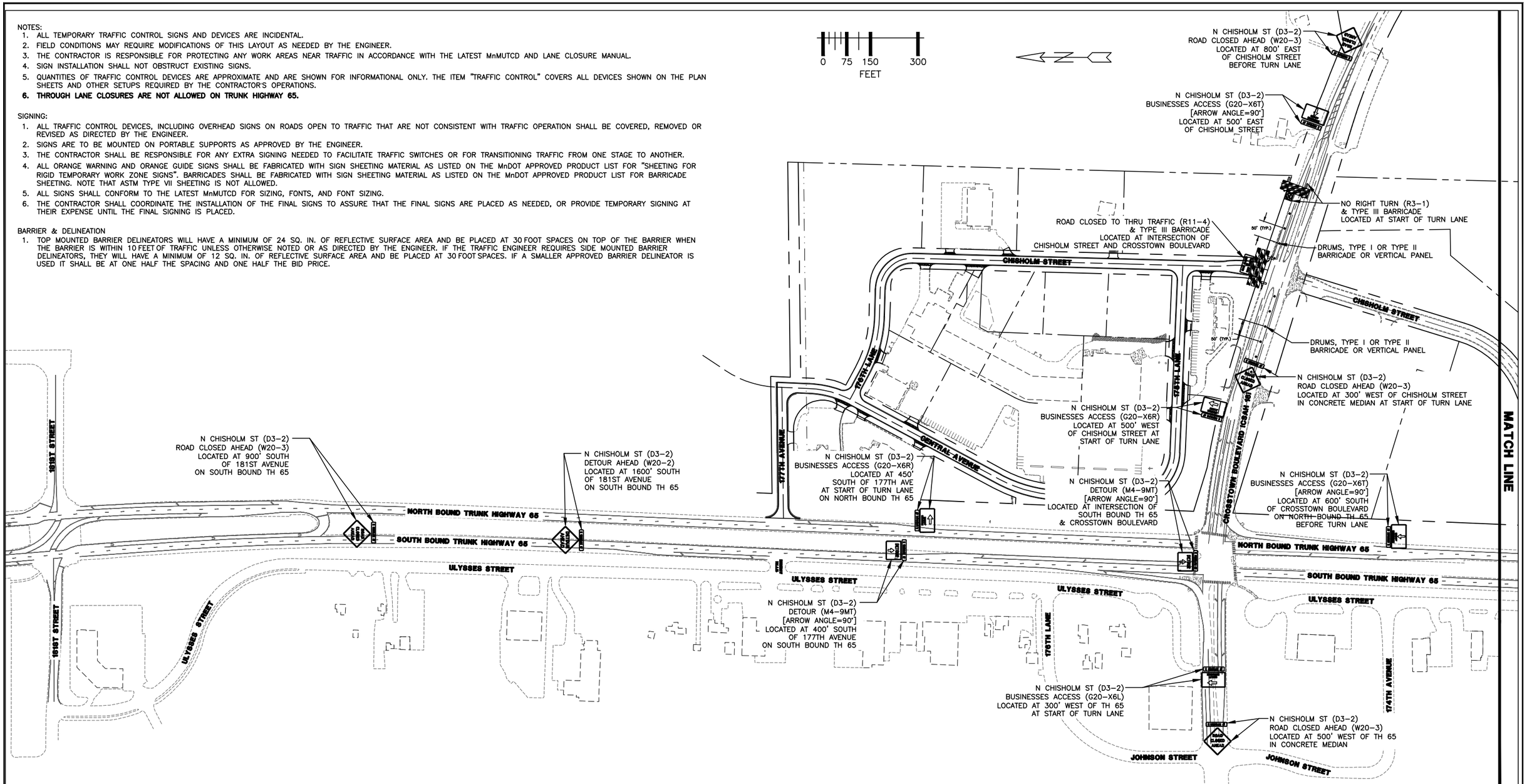
6. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE PLACED AS NEEDED, OR PROVIDE TEMPORARY SIGNING AT THEIR EXPENSE UNTIL THE FINAL SIGNING IS PLACED.

BARRIER & DELINEATION

1. TOP MOUNTED BARRIER DELINEATORS WILL HAVE A MINIMUM OF 24 SQ. IN. OF REFLECTIVE SURFACE AREA AND BE PLACED AT 30 FOOT SPACES ON TOP OF THE BARRIER WHEN THE BARRIER IS WITHIN 10 FEET OF TRAFFIC UNLESS OTHERWISE NOTED OR AS DIRECTED BY THE ENGINEER. IF THE TRAFFIC ENGINEER REQUIRES SIDE MOUNTED BARRIER DELINEATORS, THEY WILL HAVE A MINIMUM OF 12 SQ. IN. OF REFLECTIVE SURFACE AREA AND BE PLACED AT 30 FOOT SPACES. IF A SMALLER APPROVED BARRIER DELINEATOR IS USED IT SHALL BE AT ONE HALF THE SPACING AND ONE HALF THE BID PRICE.



SOPHER ONE CALL
800-252-1166 651-454-0002

UTILITIES:
LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
GREAT RIVERS ENERGY (763) 445-5984

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dan Krueger
DATE 05/14/26 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

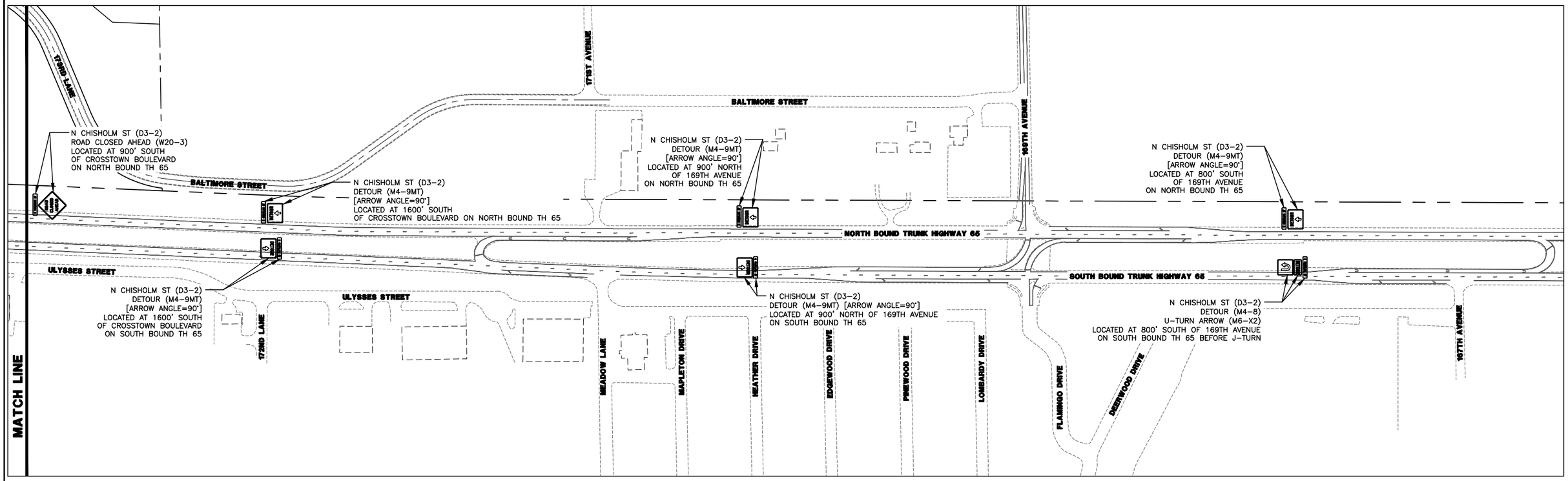
S.A.P. 197-119-004 / 197-135-001
HAM LAKE IMPROVEMENT PROJECT 2205
CROSSTOWN SHOPPING CENTER STREET RECONSTRUCTION

TEMPORARY TRAFFIC CONTROL PLAN
CHISHOLM STREET CLOSURE

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2205 TRAF3
DATE: 05/14/26
JOB NUMBER: 2205
SHEET: 60 OF 61
FILE: 37-2-160

0 75 150 300
FEET



NOTES:
1. ALL TEMPORARY TRAFFIC CONTROL SIGNS AND DEVICES ARE INCIDENTAL.
2. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS NEEDED BY THE ENGINEER.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE LATEST MnMUTCD AND LANE CLOSURE MANUAL.
4. SIGN INSTALLATION SHALL NOT OBSTRUCT EXISTING SIGNS.
5. QUANTITIES OF TRAFFIC CONTROL DEVICES ARE APPROXIMATE AND ARE SHOWN FOR INFORMATIONAL ONLY. THE ITEM "TRAFFIC CONTROL" COVERS ALL DEVICES SHOWN ON THE PLAN SHEETS AND OTHER SETUPS REQUIRED BY THE CONTRACTOR'S OPERATIONS.
6. **THROUGH LANE CLOSURES ARE NOT ALLOWED ON TRUNK HIGHWAY 65.**

SIGNING:
1. ALL TRAFFIC CONTROL DEVICES, INCLUDING OVERHEAD SIGNS ON ROADS OPEN TO TRAFFIC THAT ARE NOT CONSISTENT WITH TRAFFIC OPERATION SHALL BE COVERED, REMOVED OR REVISED AS DIRECTED BY THE ENGINEER.
2. SIGNS ARE TO BE MOUNTED ON PORTABLE SUPPORTS AS APPROVED BY THE ENGINEER.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA SIGNING NEEDED TO FACILITATE TRAFFIC SWITCHES OR FOR TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER.
4. ALL ORANGE WARNING AND ORANGE GUIDE SIGNS SHALL BE FABRICATED WITH SIGN SHEETING MATERIAL AS LISTED ON THE MnDOT APPROVED PRODUCT LIST FOR "SHEETING FOR RIGID TEMPORARY WORK ZONE SIGNS". BARRICADES SHALL BE FABRICATED WITH SIGN SHEETING MATERIAL AS LISTED ON THE MnDOT APPROVED PRODUCT LIST FOR BARRICADE SHEETING. NOTE THAT ASTM TYPE VII SHEETING IS NOT ALLOWED.
5. ALL SIGNS SHALL CONFORM TO THE LATEST MnMUTCD FOR SIZING, FONTS, AND FONT SIZING.
6. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE PLACED AS NEEDED, OR PROVIDE TEMPORARY SIGNING AT THEIR EXPENSE UNTIL THE FINAL SIGNING IS PLACED.

BARRIER & DELINEATION
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TEMPORARY TRAFFIC CONTROL PLAN
CHISHOLM STREET CLOSURE

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