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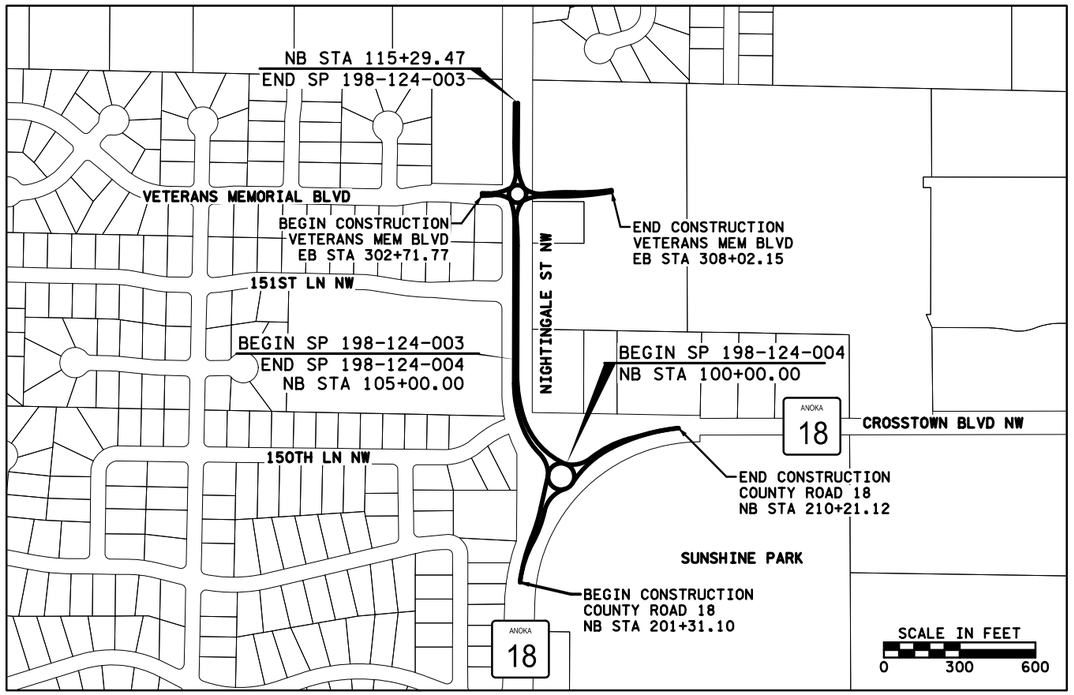
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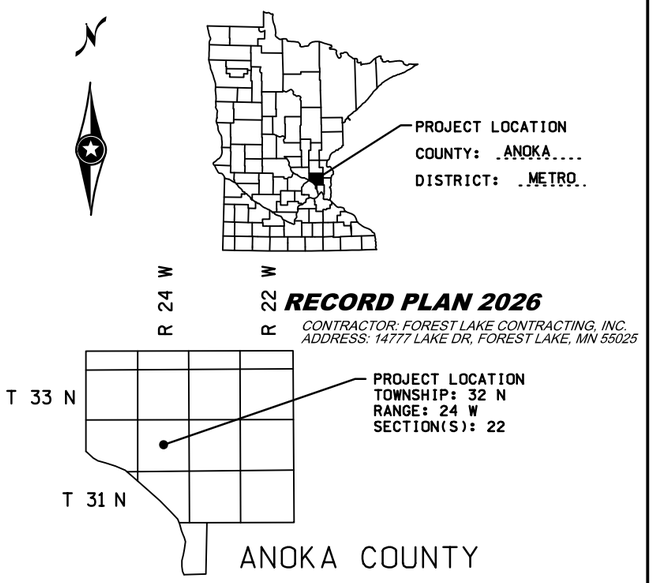
MINNESOTA DEPARTMENT OF TRANSPORTATION

CITY OF ANDOVER, MINNESOTA

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

SP 198-124-003	LOCATED ON	NIGHTINGALE ST NW	FROM	250' S OF 151ST LN NW	TO	350' N OF VETERANS MEMORIAL BLVD NW
SP 198-124-003	LOCATED ON	VETERANS MEMORIAL BLVD	FROM	150' W OF NIGHTINGALE ST NW	TO	375' E OF NIGHTINGALE ST NW
SP 198-124-004	LOCATED ON	NIGHTINGALE ST NW	FROM	COUNTY ROAD 18	TO	250' N OF 150TH LN NW
SP 198-124-004	LOCATED ON	COUNTY ROAD 18	FROM	425' SW OF NIGHTINGALE ST NW	TO	500' NE OF NIGHTINGALE ST NW





RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

TRAIL DESIGN DESIGNATION

DESIGN SPEED (MPH) ...20...
BASED ON 4.5 FT HEIGHT OF EYE
0.0 FT HEIGHT OF OBJECT
DESIGN SPEED NOT ACHIEVED AT: ROUNDABOUTS

DESIGN DESIGNATION	NIGHTINGALE STREET NW SP 198-124-003	NIGHTINGALE STREET NW SP 198-124-004	VETERANS MEMORIAL BLVD NW SP 198-124-003 (MSAS 137)	COUNTY ROAD 18 CP 23-15-18
GROSS LENGTH	1034.13' = 0.196 MILES	500.00' = 0.095 MILES	530.08' = 0.100 MILES	889.99' = 0.169 MILES
BRIDGES-LENGTH	NA	NA	NA	NA
EXCEPTIONS-LENGTH	NA	NA	NA	NA
NET LENGTH	1034.13' = 0.196 MILES	500.00' = 0.095 MILES	530.08' = 0.100 MILES	889.99' = 0.169 MILES
NOTE: LENGTH BASED ON NORTHBOUND AND EASTBOUND ALIGNMENTS.				
R VALUE	50	50	50	50
ADT (Current Year) 2025	6,030	6,030	1,480	8,300
ADT (Future Year) 2045	7,270	7,270	1,630	9,130
D (DIRECTIONAL DISTR.)	50/50	50/50	50/50	50/50
HEAVY COMMERCIAL	4.13%	4.13%	3.90%	4.25%
ESALS	797,000	797,000	173,000	1,084,000
DESIGN SPEED	55 MPH	55 MPH	30 MPH	45 MPH
BASED ON SIGHT DISTANCE	STOPPING	STOPPING	STOPPING	STOPPING
HEIGHT OF EYE / HEIGHT OF OBJECT	3.5'/2.0'	3.5'/2.0'	3.5'/2.0'	3.5'/2.0'
FUNCTIONAL CLASS	MAJOR COLLECTOR	MAJOR COLLECTOR	MINOR COLLECTOR	MINOR ARTERIAL
NO. OF TRAFFIC LANES	2	2	2	2
NO. OF PARKING LANES	NA	NA	1 (10')	NA
SHOULDER WIDTH	4'-6'	4'-6'	4'-6'	4'-6'
TON DESIGN	10	10	10	10
DESIGN SPEED NOT ACHIEVED AT	ROUNDABOUT APPROACHES	ROUNDABOUT APPROACHES	ROUNDABOUT APPROACHES	ROUNDABOUT APPROACHES

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI-ASCE 38-22, ENTITLED "STANDARD GUIDELINES FOR INVESTING AND DOCUMENTING EXISTING UTILITIES".

MINN. PROJECT NO.: HSIP 0225(090))

GOVERNING SPECIFICATIONS

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST EDITION OF THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

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	~~L1 - L3~~	~~LANDSCAPING PLAN~~
	~~X1 - X20~~	~~CROSS SECTIONS~~

A = PLAN SHEET CONTAINS AS-BUILT INFORMATION

RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

THIS PLAN CONTAINS ~~176~~ 148 SHEETS.

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

wsb

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

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

APPROVED: ANDOVER CITY ENGINEER

APPROVED: ANOKA COUNTY ENGINEER

DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AID AND FEDERAL AID RULES/POLICY

FOR STATE AID ENGINEER: APPROVED FOR STATE AID AND FEDERAL AID FUNDING

RECORD DRAWING

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18 SHEET NO. 1 OF 153 SHEETS

6964

PLOTTED/REVISED: 6/19/2026 11:34:30 AM

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149TH AVE NW

150TH AVE NW

150TH LN NW

PARTRIDGE ST NW

OSAGE ST NW

151ST AVE NW

151ST LN NW

VETERANS MEMORIAL BLVD NW

PARTRIDGE ST NW

PARTRIDGE ST NW

SCALE IN FEET
0 100 200

BEGIN CONSTRUCTION
150TH LN NW
NB STA 102+52.9, 87.3'LT

BEGIN CONSTRUCTION
151ST LN NW
NB STA 107+58.0, 79.5'LT

BEGIN CONSTRUCTION
VETERANS MEM BLVD
EB STA 302+71.77

℄ VETERANS MEM BLVD WB

℄ VETERANS MEM BLVD EB

℄ NIGHTINGALE ST SB

℄ NIGHTINGALE ST SB

CROSSTOWN BLVD NW

℄ CR 18 SB

NIGHTINGALE ST NW

BEGIN CONSTRUCTION
CR 18
EB STA 201+31.10

℄ CR 18 NB

℄ NIGHTINGALE ST NB

℄ VETERANS RADIAL

END SP 198-124-004
BEGIN SP 198-124-003
NB STA 105+00.00

END SP 198-124-003
NB STA 115+29.47

℄ NIGHTINGALE ST NB

℄ VETERANS MEM BLVD WB

BEGIN SP 198-124-004
NB STA 100+00.00

℄ VETERANS MEM BLVD EB

A

℄ RADIAL CR 18

℄ CR 18 SB

END CONSTRUCTION
VETERANS MEM BLVD
EB STA 308+02.15

℄ CR 18 NB

SUNSHINE PARK
CITY OF ANDOVER

END CONSTRUCTION
CR 18
NB STA 210+21.12

CROSSTOWN BLVD NW

VETERANS MEMORIAL BLVD NW

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

PLAN SHEET INDEX PER SECTION

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SIGNING PLAN	133	134
STRIPING PLAN	139	140
LIGHTING PLAN	146	147
TURF ESTABLISHMENT & EROSION CONTROL	152	153

RECORD PLAN

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RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

NO.	DATE	BY	CHK	REVISIONS

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

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

PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

GENERAL LAYOUT

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 2 OF 153 SHEETS

6965

PLOTTED/REVISED: 6/19/2026 11:34:32 AM
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STATEMENT OF ESTIMATED QUANTITIES

TAB ID	SHEET NO.	ITEM	DESCRIPTION	NOTES	UNIT	PROJECT TOTAL ESTIMATED QUANTITY
		1507.601	UTILITY COORDINATION		LUMP SUM	1
		2021.501	MOBILIZATION		LUMP SUM	1
A	6	2101.502	GRUBBING	(1)	EACH	6
A	6	2101.505	GRUBBING	(1)	ACRE	0.2
A	6	2104.502	REMOVE PIPE APRON		EACH	16
A	6	2104.502	REMOVE HYDRANT		EACH	1
I	132	2104.502	REMOVE SIGN		EACH	6
A	6	2104.502	SALVAGE MAIL BOX SUPPORT	(2)	EACH	2
A	6	2104.503	SAWING BIT PAVEMENT (FULL DEPTH)		LIN FT	1032
A	6	2104.503	REMOVE PIPE CULVERTS		LIN FT	455
A	6	2104.503	REMOVE WATER MAIN		LIN FT	16
A	6	2104.503	REMOVE CURB & GUTTER		LIN FT	1250
A	6	2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT		SQ YD	438
A	6	2104.504	REMOVE BITUMINOUS PAVEMENT		SQ YD	12427
A	6	2104.518	REMOVE BITUMINOUS WALK		SQ FT	22763
A	6	2104.518	REMOVE CONCRETE WALK		SQ FT	1352
A	6	2104.518	REMOVE CONCRETE MEDIAN		SQ FT	1697
E	10	2106.507	EXCAVATION - COMMON	(P)	CU YD	7473
E	10	2106.507	EXCAVATION - SUBGRADE	(P)	CU YD	5759
H	131R	2106.507	EXCAVATION - CHANNEL AND POND	(P)	CU YD	4585
E	10	2106.507	SELECT GRANULAR EMBANKMENT (CV)	(P)	CU YD	5917
E & H	10 & 131R	2106.507	COMMON EMBANKMENT (CV)	(P)	CU YD	4146
		2106.601	DEWATERING		LUMP SUM	1
H	131R	2106.604	POND LINER	(14)	SQ YD	957
		2123.610	STREET SWEEPER (WITH PICKUP BROOM)	(4)	HOUR	80
		2123.610	1.5 CU YD BACKHOE	(3)	HOUR	80
		2130.523	WATER	(5)	M GALLON	100
B	7	2211.507	AGGREGATE BASE (CV) CLASS 5		CU YD	2681
B	7	2211.507	AGGREGATE BASE (CV) CLASS 5 (DRIVEWAY)		CU YD	14
B	7	2231.509	BITUMINOUS PATCHING MIXTURE		TON	11
A	6	2232.504	MILL BITUMINOUS SURFACE (2.0")		SQ YD	2940
C	8	2301.502	DOWEL BAR		EACH	3270
C	8	2301.504	CONCRETE PAVEMENT 7.5"		SQ YD	2643
		2360.509	BITUMINOUS INCENTIVE AND DISINCENTIVE		LS	1
B	7	2360.509	TYPE SP 9.5 WEARING COURSE MIX (2,B) (TRAIL)	(8)	TON	308
B	7	2360.509	TYPE SP 9.5 WEARING COURSE MIX (3,C)		TON	1671
B	7	2360.509	TYPE SP 9.5 WEARING COURSE MIX (3,C) (DRIVEWAY)		TON	5
B	7	2360.509	TYPE SP 12.5 NON WEAR COURSE MIX (3,B)		TON	762
B	7	2360.509	TYPE SP 12.5 WEARING COURSE MIX (3,F)		TON	465
F1	128	2501.502	18" GS PIPE APRON		EACH	8
F2	129	2501.502	12" RC PIPE APRON		EACH	2
F2	129	2501.502	15" RC PIPE APRON		EACH	1
F2	129	2501.502	21" RC PIPE APRON		EACH	1
F2	129	2501.502	24" RC PIPE APRON		EACH	2
F1	128	2501.503	18" CS PIPE CULVERT		LIN FT	152
F2	129	2503.503	12" RC PIPE SEWER DES 3006 CL V		LIN FT	134
F2	129	2503.503	15" RC PIPE SEWER DES 3006 CL V		LIN FT	2194
F2	129	2503.503	21" RC PIPE SEWER DES 3006		LIN FT	49
F2	129	2503.503	24" RC PIPE SEWER DES 3006		LIN FT	283
F2	129	2503.602	CONNECT TO EXISTING STORM SEWER		EACH	1
		2503.603	CLEAN & VIDEO TAPE PIPE SEWER		LIN FT	2710

NOTES:

(1) NO TREE SHALL BE CLEARED OR GRUBBED WITHOUT THE ENGINEERS APPROVAL
(2) CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF TEMPORARY MAIL SERVICE AND FINAL MAIL BOX PLACEMENT.
(3) TO BE USED FOR MINOR DITCH CLEANING AND/OR AS DIRECTED BY THE ENGINEER.
(4) TO BE USED FOR SURFACE CLEANING AND/OR AS DIRECTED BY THE ENGINEER.
(5) TO BE USED FOR DUST CONTROL AND/OR AS DIRECTED BY THE ENGINEER.
(6) COLORED CONCRETE, INTEGRAL DARK GRAY (FS 36099)
(7) TO BE USED IN PEDESTRIAN RAMPS AND LANDINGS PER MN/DOT STANDARD PLAN 5-297.250 AND MEDIAN NOSES PER STANDARD PLATE 7113.
(8) TO BE USED FOR BITUMINOUS TRAILS.
(9) INCLUDES QUANTITY FOR CONCRETE WALKS AND MEDIANS.
(10) INCLUDES QUANTITY FOR CONCRETE MEDIANS AND BOULEVARDS.
(11) DELETED.
(12) SEE TABULATION FOR COLOR
(13) WEIGHT PER AWWA C153
⚠1 (14) POND LINER SHALL CONSIST OF PVC PLASTIC.

(P) PLAN QUANTITY

RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

TABULATION INDEX

TAB ID	SHEET NO.	DESCRIPTION
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B	7	BITUMINOUS & AGGREGATE
C	8	CONCRETE
D	9	EROSION CONTROL & TURF ESTABLISHMENT
E	10	EARTHWORK
F2	124	DRAINAGE SUMMARY
G	124	CASTING ASSEMBLY SUMMARY
H	131R	POND SUMMARY
L	143	RRFB TABULATION
I	132	SIGN AND DELINEATOR / MARKER
J	132	SIGN TYPE SPECIAL
K	138	PAVEMENT MARKING

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

NO.	DATE	BY	CHK	REVISIONS
⚠1	2025/02/18	AJF	AJP	UPDATE TO POND LINER BID ITEM

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

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RECORD DRAWING

PRINT NAME: ANDREW J. PLOWMAN, PE

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

STATEMENT OF ESTIMATED QUANTITIES
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET **3R** OF **153** SHEETS

6966

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STATEMENT OF ESTIMATED QUANTITIES

TAB ID	SHEET NO.	ITEM	DESCRIPTION	NOTES	UNIT	PROJECT TOTAL ESTIMATED QUANTITY
		2503.603	18" HDPE PIPE SEWER		LIN FT	76
		2504.601	IRRIGATION SYSTEM		LUMP SUM	1
	100	2504.602	CONNECT TO EXISTING WATER MAIN		EACH	1
	100	2504.602	HYDRANT		EACH	1
A	6	2504.602	ADJUST VALVE BOX		EACH	10
	100	2504.602	6" GATE VALVE & BOX		EACH	1
	100	2504.603	6" WATERMAIN DUCTILE IRON CL 52		LIN FT	42
	100	2504.608	WATERMAIN FITTINGS	(13)	POUND	62
F2	129	2506.502	CONST DRAINAGE STRUCTURE DESIGN SPEC 1		EACH	8
F2	129	2506.502	CASTING ASSEMBLY		EACH	47
A	6	2506.502	ADJUST FRAME & RING CASTING		EACH	6
F2	129	2506.503	CONST DRAINAGE STRUCTURE DESIGN G		LIN FT	7.6
F2	129	2506.503	CONST DRAINAGE STRUCTURE DESIGN H		LIN FT	15.8
F2	129	2506.503	CONST DRAINAGE STRUCTURE DESIGN SD-48		LIN FT	13.6
F2	129	2506.503	CONST DRAINAGE STRUCTURE DESIGN SD-60		LIN FT	3.8
F2	129	2506.503	CONST DRAINAGE STRUCTURE DES 48-4020		LIN FT	141.5
F2	129	2506.503	CONST DRAINAGE STRUCTURE DES 60-4020		LIN FT	16.0
F2	129	2511.504	GEOTEXTILE FILTER TYPE 4		SQ YD	82.0
F2	129	2511.507	RANDOM RIPRAP CLASS III		CU YD	21.0
C	8	2521.518	4" CONCRETE WALK	(9)	SQ FT	9087
C	8	2521.518	4" CONCRETE WALK SPECIAL	(6)(10)	SQ FT	2238
	L1	2521.518	4" CONCRETE WALK SPECIAL (LANDSCAPING)		SQ FT	157
C	8	2521.518	6" CONCRETE WALK	(7)	SQ FT	931
C	8	2521.518	7" CONCRETE WALK SPECIAL	(6)	SQ FT	4804
C	8	2521.602	DRILL & GROUT REINF BAR (EPOXY COATED)		EACH	151
C	8	2521.618	CONCRETE CURB RAMP WALK		SQ FT	4723
C	8	2531.503	CONCRETE CURB & GUTTER DESIGN B418		LIN FT	2173
C	8	2531.503	CONCRETE CURB & GUTTER DESIGN B424		LIN FT	2786
C	8	2531.503	CONCRETE CURB & GUTTER DESIGN B618		LIN FT	416
C	8	2531.503	CONCRETE CURB & GUTTER DESIGN R418		LIN FT	520
C	8	2531.503	CONCRETE CURB DESIGN V10		LIN FT	42
C	8	2531.504	6" CONCRETE DRIVEWAY PAVEMENT		SQ YD	42
C	8	2531.603	CONCRETE SILL		LIN FT	2667
C	8	2531.618	TRUNCATED DOMES		SQ FT	578
		2540.602	INSTALL MAIL BOX SUPPORT	(2)	EACH	2
	L1	2540.618	STONE RETAINING WALL		SQ FT	280
	99	2545.503	1.5" NON-METALLIC CONDUIT		LIN FT	260
	99 - 100	2545.503	2" NON-METALLIC CONDUIT		LIN FT	177
	99 - 100	2545.603	3" PVC SCH 40		LIN FT	177
		2545.601	TEMPORARY LIGHTING SYSTEM		LUMP SUM	2.00
F2	128 - 129	2554.502	GUIDE POST TYPE B		EACH	13
		2554.602	INSTALL FLARED END SECTION		EACH	4
		2563.601	TRAFFIC CONTROL		LUMP SUM	1
		2563.601	ALTERNATE PEDESTRIAN ROUTE		LUMP SUM	1
I	132	2564.602	DELINEATOR / MARKER PANEL		EACH	10
I	132	2564.618	SIGN		SQ FT	572
J	132	2564.618	SIGN TYPE SPECIAL		SQ FT	44
L	143	2565.616	PEDESTRIAN CROSSWALK FLASHER SYSTEM A		SYSTEM	1
L	143	2565.616	PEDESTRIAN CROSSWALK FLASHER SYSTEM B		SYSTEM	1

NOTES:

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(11) DELETED.
(12) SEE TABULATION FOR COLOR
(13) WEIGHT PER AWWA C153
(14) POND LINER SHALL CONSIST OF PVC PLASTIC.

(P) PLAN QUANTITY

RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

TABULATION INDEX

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NO.	DATE	BY	CHK	REVISIONS

Design By AJP
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Approved By AJP

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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

STATEMENT OF ESTIMATED QUANTITIES
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

PLOTTED/REVISED: 6/19/2026 11:34:33 AM
WSB PATH & FILENAME: Projects\Minnesota\022965-000\Cad\Plan\22965-000_estimate.dgn

STATEMENT OF ESTIMATED QUANTITIES

TAB ID	SHEET NO.	ITEM	DESCRIPTION	NOTES	UNIT	PROJECT TOTAL ESTIMATED QUANTITY
	L1	2571.525	DECIDUOUS SHRUB NO 5 CONT		SHRUB	62
	L1	2571.527	PERENNIAL NO 1 CONT		PLANT	370
D	9	2573.502	STORM DRAIN INLET PROTECTION		EACH	48
D	9	2573.502	CULVERT END CONTROLS		EACH	8
D	9	2573.503	SILT FENCE, TYPE MS		LIN FT	2223
D	9	2573.503	SEDIMENT CONTROL LOG TYPE COMPOST		LIN FT	1949
D	9	2574.505	SOIL BED PREPARATION		ACRE	4.1
		2574.507	COMMON TOPSOIL BORROW		CU YD	954.0
	L1	2574.507	BOULEVARD TOPSOIL BORROW		CU YD	65
D	9	2574.508	FERTILIZER TYPE 3		POUND	1008
D	9	2574.508	FERTILIZER TYPE 4		POUND	100
D	9	2575.504	RAPID STABILIZATION METHOD 4		SQ YD	2881
D	9	2575.505	SEEDING		ACRE	4.1
	L1	2575.507	MULCH MATERIAL TYPE 6		CU YD	32
D	9	2575.508	HYDRAULIC REINFORCED FIBER MATRIX		POUND	11184
D	9	2575.523	RAPID STABILIZATION METHOD 3		M GALLON	21
D	9	2575.604	ROLLED EROSION PREVENTION CATEGORY 20		SQ YD	2881
D	9	2575.608	SEED SOUTHERN BOULEVARD		POUND	424
D	9	2575.608	SEED TURFGRASS		POUND	53
D	9	2575.608	SEED SOUTHERN TALLGRASS ROADSIDE		POUND	19
K	138	2582.503	4" SOLID LINE MULTI COMP	(12)	LIN FT	1687
K	138	2582.503	4" DBLE SOLID LINE MULTI COMP	(12)	LIN FT	2284
K	138	2582.503	4" SOLID LINE PREF THERMO GR IN	(12)	LIN FT	6114
K	138	2582.503	24" SOLID LINE PREF THERMO GR IN	(12)	LIN FT	395
K	138	2582.503	4" DOUBLE SOLID LINE PREF THERMO GR IN	(12)	LIN FT	1388
K	138	2582.503	8" DOTTED LINE PREF THERMO GR IN CONT	(12)	LIN FT	164
K	138	2582.518	PAVT MSSG PREF THERMO GR IN		SQ FT	32
K	138	2582.518	CROSSWALK PREF THERMO GR IN CONT		SQ FT	1470
		2582.601	PAVEMENT MARKINGS		LUMP SUM	1

NOTES:

(1) NO TREE SHALL BE CLEARED OR GRUBBED WITHOUT THE ENGINEERS APPROVAL
(2) CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF TEMPORARY MAIL SERVICE AND FINAL MAIL BOX PLACEMENT.
(3) TO BE USED FOR MINOR DITCH CLEANING AND/OR AS DIRECTED BY THE ENGINEER.
(4) TO BE USED FOR SURFACE CLEANING AND/OR AS DIRECTED BY THE ENGINEER.
(5) TO BE USED FOR DUST CONTROL AND/OR AS DIRECTED BY THE ENGINEER.
(6) COLORED CONCRETE, INTEGRAL DARK GRAY (FS 36099)
(7) TO BE USED IN PEDESTRIAN RAMPS AND LANDINGS PER MN/DOT STANDARD PLAN 5-297.250 AND MEDIAN NOSES PER STANDARD PLATE 7113.
(8) TO BE USED FOR BITUMINOUS TRAILS.
(9) INCLUDES QUANTITY FOR CONCRETE WALKS AND MEDIANS.
(10) INCLUDES QUANTITY FOR CONCRETE MEDIANS AND BOULEVARDS.
(11) DELETED.
(12) SEE TABULATION FOR COLOR
(13) WEIGHT PER AWWA C153
(14) POND LINER SHALL CONSIST OF PVC PLASTIC.

(P) PLAN QUANTITY

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

TABULATION INDEX

TAB ID	SHEET NO.	DESCRIPTION
A	6	REMOVALS
B	7	BITUMINOUS & AGGREGATE
C	8	CONCRETE
D	9	EROSION CONTROL & TURF ESTABLISHMENT
E	10	EARTHWORK
F2	124	DRAINAGE SUMMARY
G	124	CASTING ASSEMBLY SUMMARY
H	131R	POND SUMMARY
L	143	RRFB TABULATION
I	132	SIGN AND DELINEATOR / MARKER
J	132	SIGN TYPE SPECIAL
K	138	PAVEMENT MARKING

NO.	DATE	BY	CHK	REVISIONS
1	2025/02/19	AJF	AJP	UPDATE SEED MIXTURE UNIT

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

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PRINT NAME: ANDREW J. PLOWMAN, PE

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wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

STATEMENT OF ESTIMATED QUANTITIES
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET **5R** OF **153** SHEETS

6968

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CONSTRUCTION AND SOIL NOTES

1. TOP OF THE GRADING GRADE IS DEFINED AS THE BOTTOM OF THE PROPOSED CLASS 5 AGGREGATE BASE.

2. TEST ROLLING OF THE SUBGRADE WILL BE REQUIRED AS SPECIFIED BY 2111.2 (INCIDENTAL).

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

4. THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF PRIVATE UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATIONS AS TO THE TYPE AND LOCATION OF PRIVATE UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTRACTOR WILL CALL GOPHER STATE ONE CALL A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION.

5. THE CONSTRUCTION LIMITS AS SHOWN IN THE PLANS REPRESENT THE POINT OF INTERSECTION BETWEEN THE REQUIRED FILL OR CUT SLOPE AND THE EXISTING GROUND LINE AS DEPICTED ON THE CROSS SECTIONS. THE CONSTRUCTION LIMITS DO NOT INCLUDE AREAS REQUIRED FOR SLOPE ROUNDING.

6. ANY DEBRIS WHICH MAY BE ENCOUNTERED DURING GRADING SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE PROJECT RIGHT OF WAY IN A SUITABLE DISPOSAL AREA AS APPROVED BY THE ENGINEER (INCIDENTAL).

7. COMPACTION OF AGGREGATE BASE SHOULD BE IN ACCORDANCE WITH MnDOT "MODIFIED PENETRATION INDEX METHOD." COMPACTION OF SELECT GRANULAR MATERIAL SHOULD BE IN ACCORDANCE WITH MnDOT "SPECIFIED DENSITY METHOD."

8. NO EXTRA PAYMENT WILL BE MADE FOR MOVING, PLACING, OR TEMPORARY STOCKPILING OF EXCAVATION AND/OR EMBANKMENT MATERIAL.

9. UNLESS OTHERWISE SPECIFICALLY ALLOWED OR REQUIRED BY THE CONTRACT, BITUMINOUS AND CONCRETE ITEMS DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL EITHER BE RECYCLED OR DISPOSED OF OFF THE RIGHT OF WAY.

10. PROVIDE A UNIFORM TACK COAT AS DOCUMENTED IN THE MOST CURRENT SPEC. 2357 - BITUMINOUS TACK COAT REQUIREMENTS

11. PIPE SEWERS CONNECTING MANHOLES AND CATCH BASINS SHALL BE IN ACCORDANCE WITH SPEC. 2503. BEDDING AND BACKFILL SHALL CONSIST OF UNIFORM COMMON EMBANKMENT MATCHING ADJACENT SOILS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

12. TEMPORARY EROSION CONTROL - TEMPORARY EROSION CONTROL DEVICES AND THEIR SUGGESTED LOCATIONS HAVE BEEN SHOWN IN THE PLANS ALONG WITH PAY ITEMS FOR THEIR USE. THIS DOES NOT HOWEVER RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES TO CONDUCT HIS CONSTRUCTION IN A MANNER THAT WILL CONTROL EROSION. RESPONSIBILITY FOR CONTROLLING EROSION AND MAINTENANCE OF EROSION CONTROL AS SET IN MNDOT SPECIFICATIONS 1717, 1803, 2101, 2106, 2573, 2575, AND IS AMENDED BY THE SPECIAL PROVISIONS.

13. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

14. EXCESS GRANULAR MATERIAL MUST BE DEEMED EXCESS BY THE ENGINEER BEFORE REMOVED FROM THE PROJECT.

15. NO OVER-EXCAVATION WILL BE ALLOWED ON THIS PROJECT.

16. COMPACTION OF THE MAINLINE BASE AND BINDER BITUMINOUS LIFTS SHALL BE BY THE "SPECIFIED DENSITY METHOD." COMPACTION OF MAINLINE WEAR AND ENTRANCES SHALL BE BY THE "QUALITY COMPACTION METHOD."

17. BITUMINOUS MATERIAL MUST BE REMOVED FROM THE PROJECT AND CANNOT BE USED AS EMBANKMENT.

18. UNSUITABLE SOILS ARE DEFINED AS SOILS WHICH DO NOT MEET OR ARE NOT MANUFACTURED TO MEET ANY OF THE ABOVE DEFINED CATEGORIES, AND ARE THEREFORE NOT REUSABLE AS STRUCTURAL BACKFILL OR EMBANKMENT WITHIN THE ROADWAY CORE.

19. SUITABLE GRADING MATERIAL OBTAINED FROM COMMON EXCAVATION NOT MEETING THE REQUIREMENTS OF MnDOT SPEC. 3149.2B1 SHALL BE USED OUTSIDE THE ROADWAY CORE ON THE PROJECT AS APPROVED BY THE ENGINEER.

19. SUITABLE GRADING MATERIAL OBTAINED FROM COMMON EXCAVATION NOT MEETING THE REQUIREMENTS OF MnDOT SPEC. 3149.2B1 SHALL BE USED OUTSIDE THE ROADWAY CORE ON THE PROJECT AS APPROVED BY THE ENGINEER.

20. CONTRACTOR SHALL PROVIDE A FULL DEPTH SAWCUT WHERE PLACING NEW PAVEMENT ADJACENT TO INPLACE PAVEMENT TO ENSURE A UNIFORM JOINT. IF NO ITEM FOR THIS WORK IS SPECIFICALLY CALLED OUT, THEN THE WORK SHALL BE INCIDENTAL WITH NO DIRECT COMPENSATION.

RECORD PLAN 2026

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ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

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NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. PLOWMAN, PE

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DATE 6/19/2026 LICENSE # 44200

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

SOILS AND CONSTRUCTION NOTES
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET **11** OF **153** SHEETS

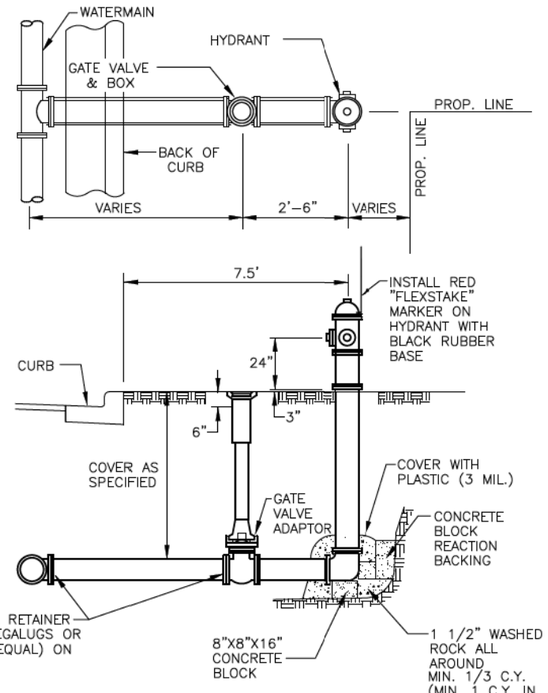
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THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT

MNDOT STANDARD PLATES

PLATE NO.	DESCRIPTION
1070N	SUPPLEMENTAL PAVEMENT REINFORCEMENT
1103L	TYPICAL DOWEL BAR ASSEMBLY (2 SHEETS)
3000M	REINFORCED CONCRETE PIPE (6 SHEETS)
3006H	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3110G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH
3133D	RIPRAP AT RCP OUTLETS
4006L	MANHOLE OR CATCH BASIN PRECAST - DESIGNS G AND H
4010I	CONCRETE ADJUSTING RINGS
4011E	PRECAST CONCRETE BASE
4020J	MANHOLE OR CATCH BASIN (FOR USE WITH OR WITHOUT TRAFFIC LOADS) (2 SHEETS)
4024A	48" DIA. PRECAST SHALLOW DEPTH CATCH BASIN - DESIGN SD
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4110F	COVER CASTING FOR MANHOLE (FOR USE IN ALL TRAFFIC AREAS) – CASTING NO. 715 AND 716
4143E	STOOL GRATE & CONCRETE FRAME (MEDIAN DRAINS) - CASTING NO. 731
4154B	CATCH BASIN GRATE CASTING - CASTING NO. 816
4160D	CURB BOX CASTING FOR CATCH BASIN - CASTING NO. 823A AND 833A
7038A	DETECTABLE WARNING SURFACE TRUNCATED DOMES
7100H	CONCRETE CURB AND GUTTER (DESIGN B AND DESIGN V)
7102K	CONCRETE CURB AND GUTTER (DESIGN D, DESIGN S, AND DESIGN R)
7111J	INSTALLATION OF CATCH BASIN CASTINGS (CONCRETE CURB AND GUTTER)
7113A	CONCRETE APPROACH NOSE DETAIL
8000K	TEMPORARY CHANNELIZERS (3 SHEETS)
8112I	PEDESTAL FOUNDATION (TRAFFIC CONTROL SIGNALS)
8129A	SHIM AND WASHER (TRAFFIC CONTROL SIGNALS AND ROADWAY LIGHTING)
8150C	INSTALLATION OF CULVERT MARKERS



TYPICAL HYDRANT LAYOUT
(VALVE IN BOULEVARD)

7/28/14

CITY OF ANDOVER

STANDARD DRAWING NO.
201D

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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER
OCTOBER 2026

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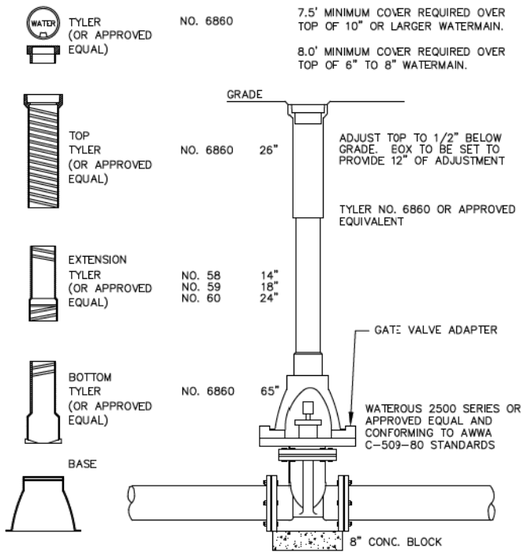
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CITY OF ANDOVER

Nightingale Street NW Roundabouts

STANDARD PLATES
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

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GATE VALVE AND BOX

6/19/12

CITY OF ANDOVER

STANDARD DRAWING NO. **202A**

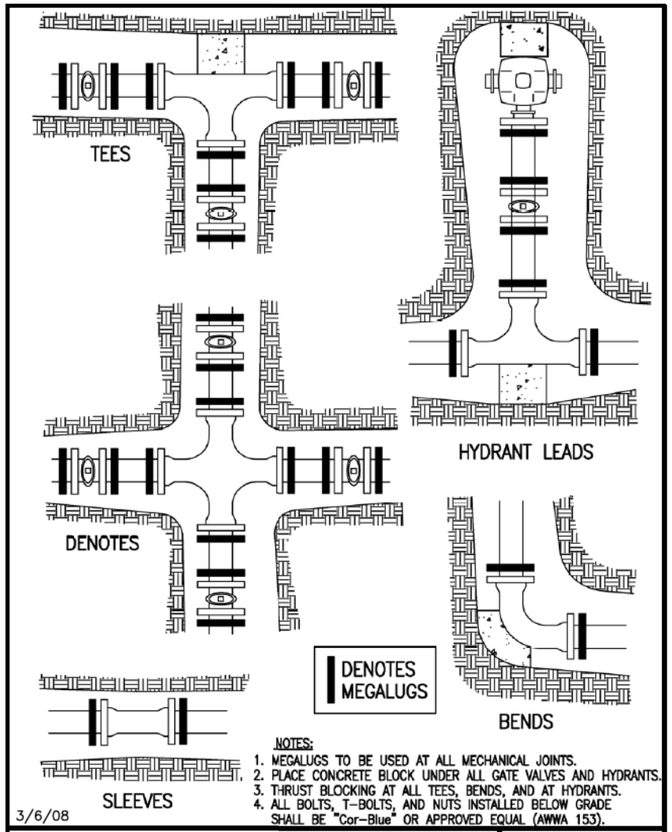
CITY OF ANDOVER

1685 CROSSTOWN BOULEVARD N.W. • ANDOVER, MINNESOTA 55304 • (763) 755-5100
FAX (763) 755-8923 • WWW.CI.ANDOVER.MN.US

IRRIGATION SYSTEM PLAN REQUIREMENTS

1. Include on the Landscape Plan the irrigation layout (meter enclosure locations and trunk lines).
2. City must inspect all water connections to City water system.
3. Fire Code Requirement - Cannot reduce more than 25% of the domestic water flow.
4. Meter Enclosure
   a. A 2" curb stop must be installed outside the meter enclosure at all connections.
   b. RPZ (Reduced Pressure Zone) is required if 1 foot elevation above the highest head cannot be achieved. Please indicate on plan the locations.
   c. If 1 foot elevation can be achieved a PVB (Pressure Vacuum Breaker) can be installed. Please indicate on plan the locations.
5. Street Crossing Requirements – Item 14 – Irrigation lines shall be placed in SCH40 conduit pipe.
6. Please show on the plan each irrigation area relative to each water service.
7. System shall be designed to meet City irrigation restriction. Submit irrigation as per sprinkling times proposed for City review to meet odd/even sprinkling requirements.
8. The plan shall indicate the contact person regarding irrigation system.
9. Rain sensors are required on all irrigation systems and must be indicated on plan.
10. A licensed contractor shall construct water connections to the City watermain. All other connections must be installed by a master plumber as required by Code.
11. Meter box must be sized large enough to hold controller, valves, RPZ or PVB, meter, etc. Please submit drawing with plan. Extra room shall be required for maintenance.
12. Blowout of the system shall not be run through the meter.
13. If conduits are to cross City right-of-way your attorney must submit an Indemnification document for City review regarding crossing public right-of-way with an irrigation line. Language shall include hold harmless the City of Andover for any damages and the association would be responsible for repair if the City damages lines within the right-of-way. Example: Indemnification to City of Andover: The _____ Association, Inc. shall indemnify and hold harmless the City of Andover for any damages to the City infrastructure sustained during installation and/or as a result of water pipes (irrigation pipes) of the Association because water pipes of the Association run under _____ in the City of Andover. Damages include, but are not limited to, burst water pipes and access to the pipes by the Association through the street surface to repair the pipes or damage to City utilities. The indemnification cannot be altered or terminated by the Association without the written consent of the City of Andover.

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3/6/08

CITY OF ANDOVER

STANDARD DRAWING NO. **210**

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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OCTOBER 2026

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

STANDARD PLATES

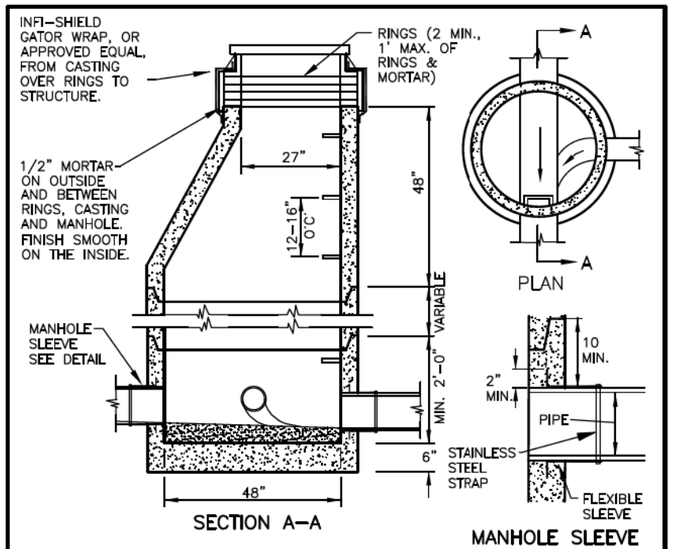
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET **13** OF **153** SHEETS

6976

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NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY.

CAST IRON MANHOLE FRAME & COVER AS PER SPECIFICATIONS (1642 B).

MANHOLE STEPS SHALL BE CAST IRON, ALUMINUM, OR STEEL REINFORCED PLASTIC, PER ASTM C478, LOCATED OVER DOWNSTREAM PIPE.

PRECAST REINFORCED CONCRETE MANHOLE SECTIONS PER ASTM C478, FURNISHED WITH O-RING GASKETS & LUBRICANT EXCEPT AS OTHERWISE SPECIFIED. LIFT HOLES NOT PERMITTED IN MANHOLE SECTIONS. A 12" OR 16" BARREL SECTION SHALL BE INSTALLED UNDER THE CONE WHENEVER POSSIBLE.

PIPE CONNECTIONS TO MANHOLE SHALL BE MADE WATER TIGHT BY CAST INFLACE RUBBER SLEEVE & CEMENT MORTAR. INSIDE SURFACE SHALL BE FINISHED SMOOTH.

PLACE "RAM-NECK" OUTSIDE OF O-RING GASKET AND WRAP MH SECTION JOINT WITH INFI-SHIELD GATOR WRAP, OR APPROVED EQUAL, ON ALL MANHOLE JOINTS BELOW WATER TABLE.

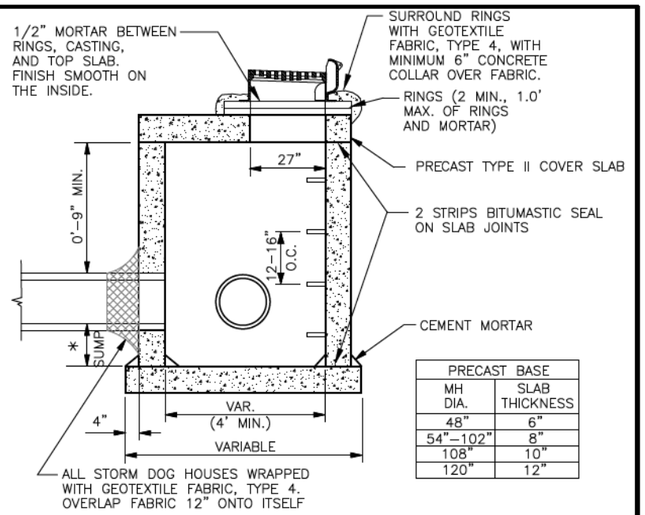
ALL MORTAR SHALL CONFORM TO ASTM C270 AND MEET THE REQUIREMENTS OF MNDOT 2506.2B.

SANITARY SEWER MANHOLE, TYPE 301 (PIPES 27" OR LESS)

12/10/2021

CITY OF ANDOVER

STANDARD DRAWING NO. **301E**



PRECAST BASE	
MH DIA.	SLAB THICKNESS
48"	6"
54"-102"	8"
108"	10"
120"	12"

NOTES: NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY.

CAST IRON FRAME & GRATE CASTINGS TYPE R-3250-A UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

MANHOLE STEPS SHALL BE CAST IRON, ALUMINUM, OR STEEL REINFORCED PLASTIC PER ASTM C478. LOCATION SHALL BE EASILY ACCESSIBLE.

PRECAST REINFORCED CONCRETE BASE SLAB & COVER SLAB PER ASTM C478.

PRECAST REINFORCED CONCRETE MANHOLE SECTIONS PER ASTM C478, FURNISHED WITH O-RING GASKETS & LUBRICANT.

FILL OPENING BETWEEN PIPE AND MANHOLE WALL WITH CEMENT MORTAR. INSIDE SURFACE SHALL BE FINISHED SMOOTH. WRAP OUTSIDE OF DOGHOUSE WITH GEOTEXTILE FABRIC, TYPE 4, OVERLAP FABRIC 12" ONTO ITSELF.

ALL MORTAR SHALL CONFORM TO ASTM C270 AND MEET THE REQUIREMENTS OF MNDOT 2506.2B.

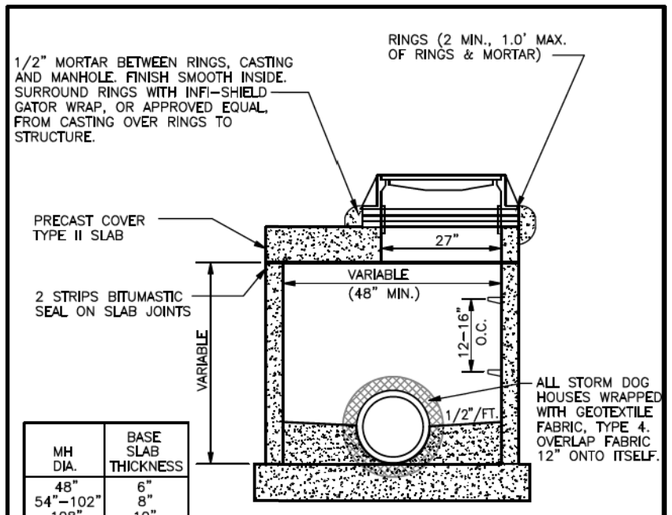
* REFER TO PLANS FOR SUMP DEPTH, IF ANY.

CATCH BASIN/MANHOLE WITH SUMP, TYPE 405

1/10/20

CITY OF ANDOVER

STANDARD DRAWING NO. **405K**



MH DIA.	BASE SLAB THICKNESS
48"	6"
54"-102"	8"
108"	10"
120"	12"

NOTE: NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY.

CAST IRON MANHOLE FRAME & COVER AS PER SPECIFICATIONS (1642 B).

STEPS SHALL BE CAST IRON, ALUMINUM OR STEEL REINFORCED PLASTIC, LOCATION AS SHOWN.

PRECAST REINFORCED CONCRETE MANHOLE SECTIONS PER ASTM C478.

FILL OPENING BETWEEN PIPE AND MANHOLE WALL WITH CEMENT MORTAR. INSIDE SURFACE SHALL BE FINISHED SMOOTH. WRAP OUTSIDE OF DOGHOUSE WITH GEOTEXTILE FABRIC, TYPE 4, OVERLAP FABRIC 12" ONTO ITSELF.

ALL MORTAR SHALL CONFORM TO ASTM C270 AND MEET THE REQUIREMENTS OF MNDOT 2506.2B.

SHALLOW STORM SEWER MANHOLE

12/10/21

CITY OF ANDOVER

STANDARD DRAWING NO. **409E**

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

STANDARD PLATES

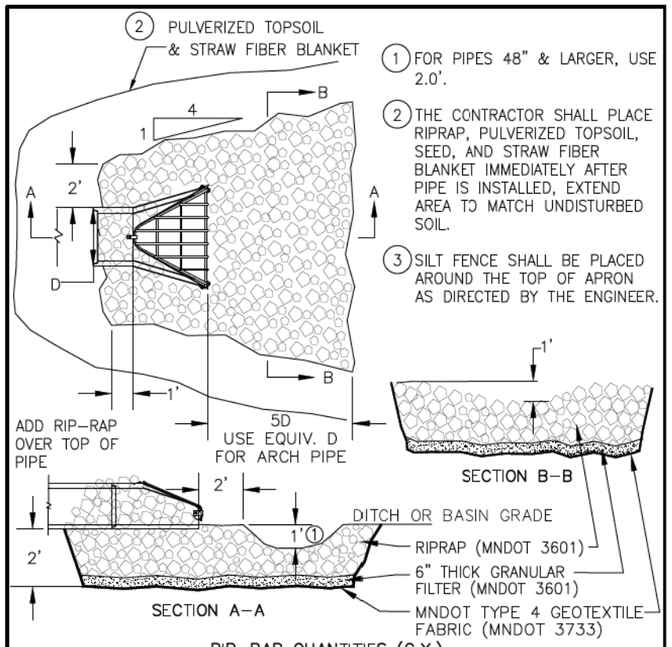
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SHEET **14** OF **153** SHEETS

6977

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1 FOR PIPES 48" & LARGER, USE 2.0'.

2 THE CONTRACTOR SHALL PLACE RIPRAP, PULVERIZED TOPSOIL, SEED, AND STRAW FIBER BLANKET IMMEDIATELY AFTER PIPE IS INSTALLED, EXTEND AREA TO MATCH UNDISTURBED SOIL.

3 SILT FENCE SHALL BE PLACED AROUND THE TOP OF APRON AS DIRECTED BY THE ENGINEER.

RIP-RAP QUANTITIES (C.Y.)

PIPE DIA.	RIP-RAP	PIPE DIA.	RIP-RAP	PIPE DIA.	RIP-RAP
12"	6	24"	14	42"	35
15"	8	27"	17	48"	43
18"	9	30"	21	54"	50
21"	12	36"	28	60"	58

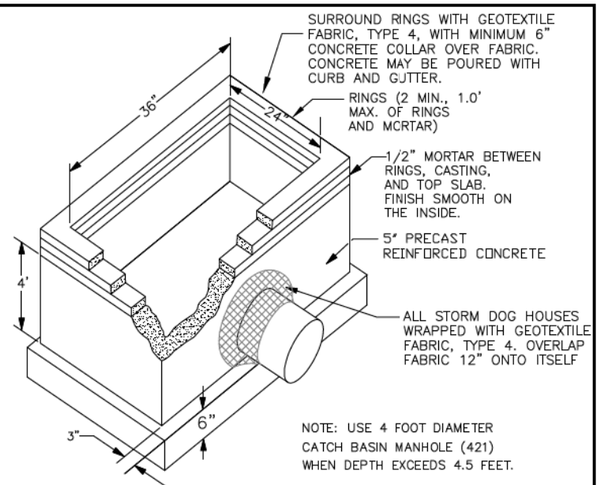
NOTE: REQUIREMENTS FOR RIP-RAP SIZE, THICKNESS, AND GRANULAR FILTER WILL BE DESIGNATED IN THE PLANS. GRANULAR FILTER AND FABRIC ARE INCIDENTAL TO RIP-RAP.

11/17/2020

RIP-RAP AT RCP OUTLETS

CITY OF ANDOVER

STANDARD DRAWING NO. 411B



NOTE: USE 4 FOOT DIAMETER CATCH BASIN MANHOLE (421) WHEN DEPTH EXCEEDS 4.5 FEET.

NOTES: NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY.

IN NEW DEVELOPMENTS CAST IRON FRAME AND GRATE CASTINGS TYPE R-3501-TB SHALL BE USED. CAST IRON FRAME AND GRATE CASTINGS TYPE R-3067-V (ON A GRADE) OR R-3067-VB (LOW POINTS) SHALL BE USED IN RECONSTRUCTION AREAS OR AS CALLED OUT IN PLANS.

PRECAST REINFORCED CONCRETE BASE SLAB PER ASTM C478.

FILL OPENING BETWEEN PIPE AND MANHOLE WALL WITH CEMENT MORTAR. INSIDE SURFACE SHALL BE FINISHED SMOOTH. WRAP OUTSIDE OF DOGHOUSE WITH GEOTEXTILE FABRIC, TYPE 4, OVERLAP FABRIC 12" ONTO ITSELF.

ALL MORTAR SHALL CONFORM TO ASTM C270 AND MEET THE REQUIREMENTS OF MNDOT 2506.2B.

DOGHOUSE SHALL BE GROUTED ON BOTH THE OUTSIDE AND INSIDE.

MAXIMUM DIAMETER RCP STORM SEWER PIPE IS 15" ON THE SHORT SIDE AND 18" ON THE LONG SIDE OF CATCH BASIN.

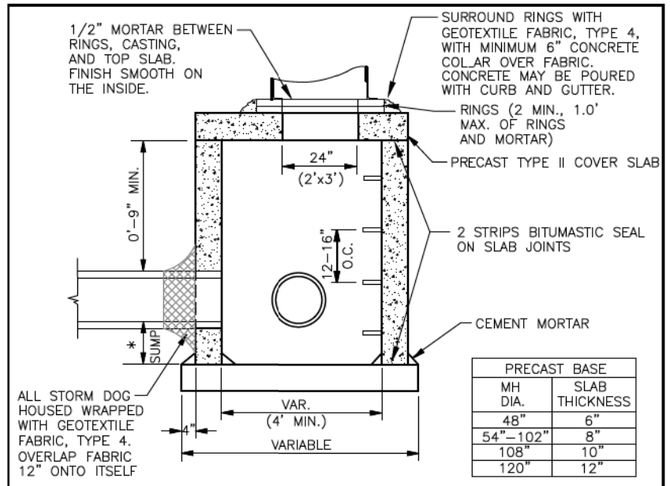
GROUT SUMP TO PIPE INVERT UNLESS A SUMP IS CALLED OUT IN PLANS.

2/22/16

CATCH BASIN, TYPE 420

CITY OF ANDOVER

STANDARD DRAWING NO. 420F



PRECAST BASE	
MH DIA.	SLAB THICKNESS
48"	6"
54"-102"	8"
108"	10"
120"	12"

NOTES: NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY.

IN NEW DEVELOPMENTS CAST IRON FRAME AND GRATE CASTINGS TYPE R-3501-TB SHALL BE USED. CAST IRON FRAME AND GRATE CASTINGS TYPE R-3067-V (ON A GRADE) OR R-3067-VB (LOW POINTS) SHALL BE USED IN RECONSTRUCTION AREAS OR AS CALLED OUT IN PLANS.

MANHOLE STEPS SHALL BE CAST IRON, ALUMINUM, OR STEEL REINFORCED PLASTIC PER ASTM C478. LOCATION SHALL BE EASILY ACCESSIBLE.

PRECAST REINFORCED CONCRETE BASE SLAB & COVER SLAB PER ASTM C478.

PRECAST REINFORCED CONCRETE MANHOLE SECTIONS PER ASTM C478, FURNISHED WITH O-RING GASKETS & LUBRICANT.

FILL OPENING BETWEEN PIPE AND MANHOLE WALL WITH CEMENT MORTAR. INSIDE SURFACE SHALL BE FINISHED SMOOTH. WRAP OUTSIDE OF DOGHOUSE WITH GEOTEXTILE FABRIC, TYPE 4, OVERLAP FABRIC 12" ONTO ITSELF.

ALL MORTAR SHALL CONFORM TO ASTM C270 AND MEET THE REQUIREMENTS OF MNDOT 2506.2B.

* REFER TO PLANS FOR SUMP DEPTH, IF ANY.

1/10/20

CATCH BASIN/MANHOLE WITH SUMP, TYPE 421

CITY OF ANDOVER

STANDARD DRAWING NO. 421G

RECORD PLAN 2026

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ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

STANDARD PLATES

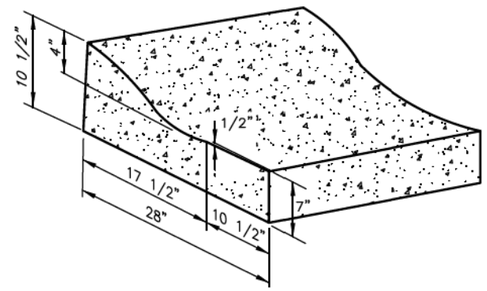
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SHEET 15 OF 153 SHEETS

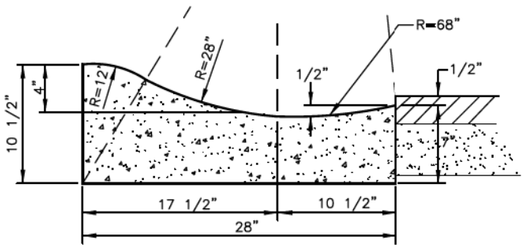
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PERSPECTIVE

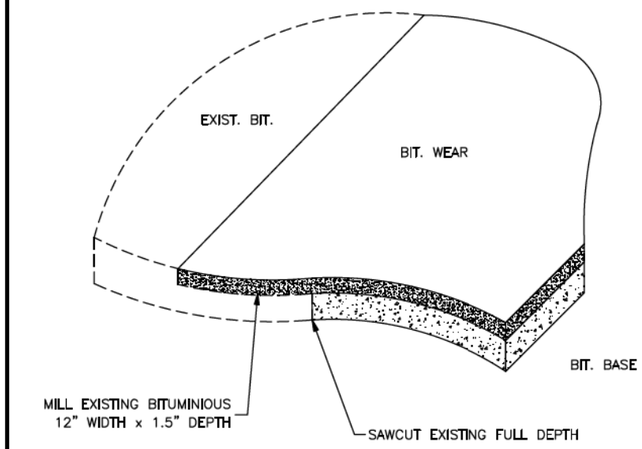


SECTION

SURMOUNTABLE CONCRETE CURB & GUTTER

12/26/00

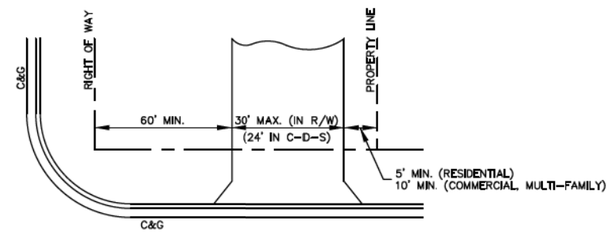
CITY OF ANDOVER | STANDARD DRAWING NO. 501



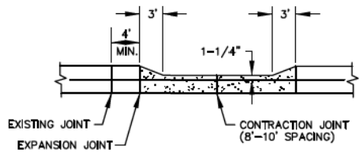
MATCH EXISTING BITUMINOUS

3/08/09

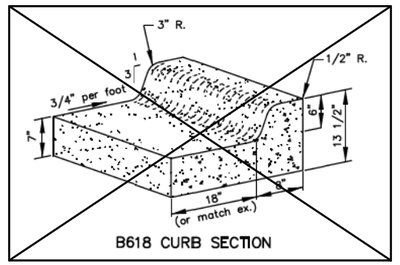
CITY OF ANDOVER | STANDARD DRAWING NO. 520



PLAN



CURB SECTION AT DRIVEWAY



B618 CURB SECTION

CURB CUT CONSTRUCTION

12/21/2020

CITY OF ANDOVER | STANDARD DRAWING NO. 521

RECORD PLAN 2026

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ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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OCTOBER 2026

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RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

STANDARD PLATES

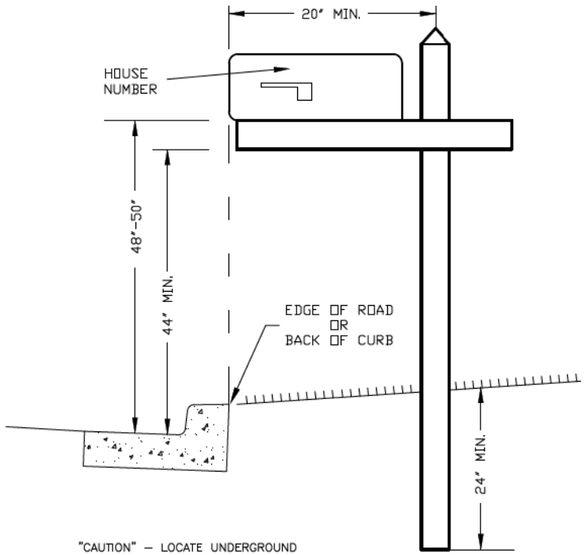
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 16 OF 153 SHEETS

6979

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"CAUTION" – LOCATE UNDERGROUND UTILITIES; GAS, TELEPHONE, ELECTRICAL, CABLE TV

HAVE BOX EXTEND AS FAR IN FRONT OF SUPPORT POST AS POSSIBLE (THIS PREVENTS POSSIBLE SNOW PLOW DAMAGE).

ADDRESS MUST BE ON SIDE OF BOX FROM WHICH CARRIER APPROACHES, IN LETTERS ABOUT ONE INCH HIGH OR ON FRONT WHERE BOXES ARE GROUPED.

BOX MUST BE LOCATED SO CARRIER CAN SERVE WITHOUT LEAVING VEHICLE.

FACE OF MAIL BOX TO LINE UP WITH BACK OF CURB.

3/20/13

CITY OF ANDOVER

STANDARD DRAWING NO.
614A

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ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

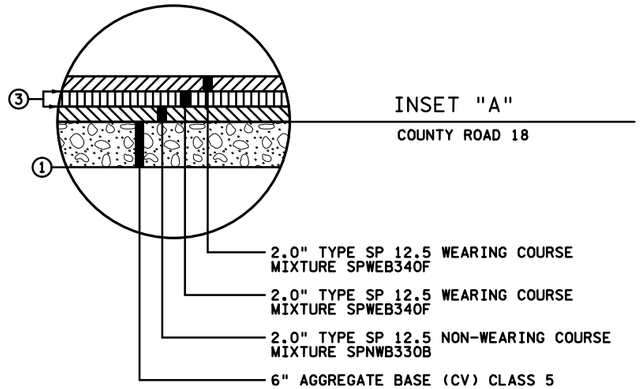
STANDARD PLATES

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET **17** OF **153** SHEETS

6980

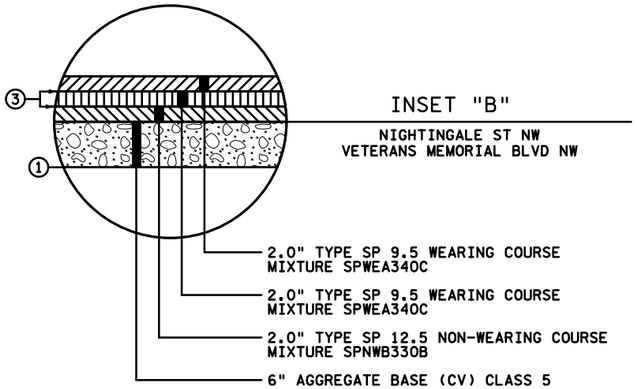
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INSET "A"

COUNTY ROAD 18

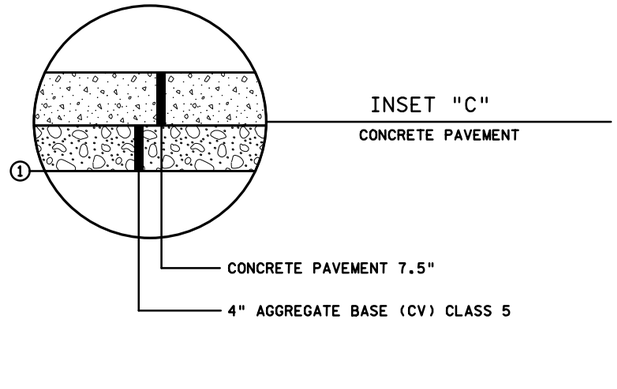
- 2.0" TYPE SP 12.5 WEARING COURSE MIXTURE SPWEB340F
- 2.0" TYPE SP 12.5 WEARING COURSE MIXTURE SPWEB340F
- 2.0" TYPE SP 12.5 NON-WEARING COURSE MIXTURE SPNWB330B
- 6" AGGREGATE BASE (CV) CLASS 5



INSET "B"

NIGHTINGALE ST NW
VETERANS MEMORIAL BLVD NW

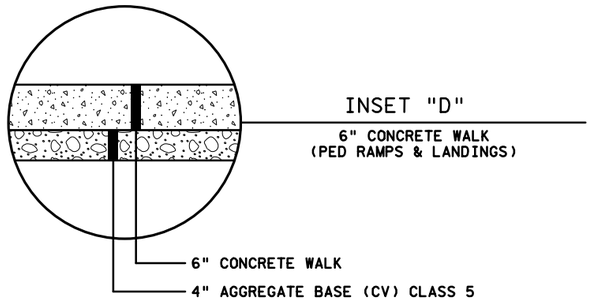
- 2.0" TYPE SP 9.5 WEARING COURSE MIXTURE SPWEA340C
- 2.0" TYPE SP 9.5 WEARING COURSE MIXTURE SPWEA340C
- 2.0" TYPE SP 12.5 NON-WEARING COURSE MIXTURE SPNWB330B
- 6" AGGREGATE BASE (CV) CLASS 5



INSET "C"

CONCRETE PAVEMENT

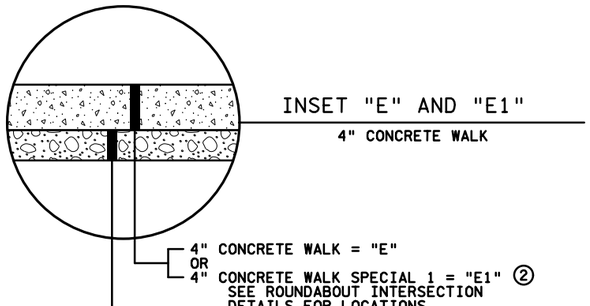
- CONCRETE PAVEMENT 7.5"
- 4" AGGREGATE BASE (CV) CLASS 5



INSET "D"

6" CONCRETE WALK
(PED RAMPS & LANDINGS)

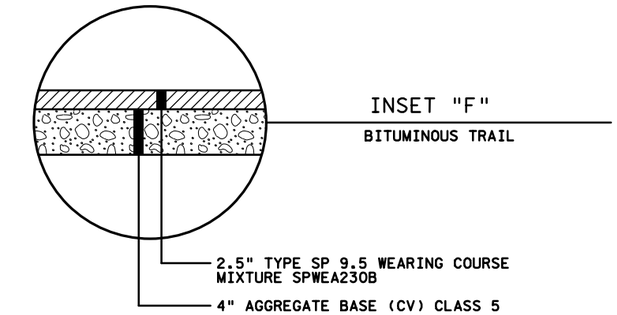
- 6" CONCRETE WALK
- 4" AGGREGATE BASE (CV) CLASS 5



INSET "E" AND "E1"

4" CONCRETE WALK

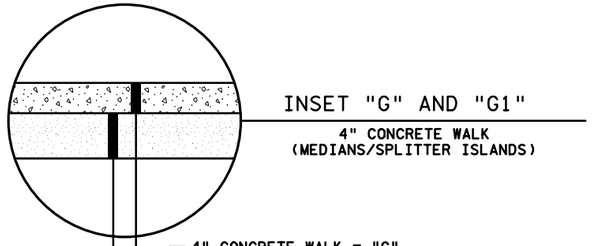
- 4" CONCRETE WALK = "E"
  OR
  4" CONCRETE WALK SPECIAL 1 = "E1" ②
  SEE ROUNDABOUT INTERSECTION DETAILS FOR LOCATIONS
- 4" AGGREGATE BASE (CV) CLASS 5



INSET "F"

BITUMINOUS TRAIL

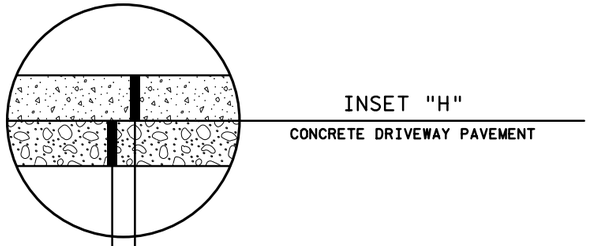
- 2.5" TYPE SP 9.5 WEARING COURSE MIXTURE SPWEA230B
- 4" AGGREGATE BASE (CV) CLASS 5



INSET "G" AND "G1"

4" CONCRETE WALK
(MEDIANS/SPLITTER ISLANDS)

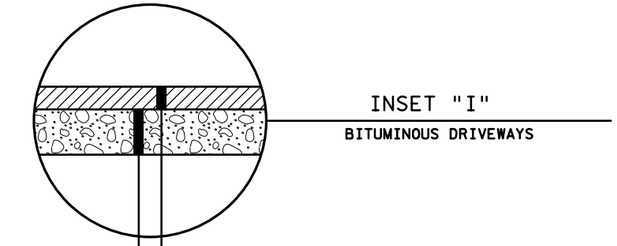
- 4" CONCRETE WALK = "G"
  OR
  4" CONCRETE WALK SPECIAL 1 = "G1" ②
  SEE ROUNDABOUT INTERSECTION DETAILS FOR LOCATIONS
- VARIABLE DEPTH SELECT GRANULAR EMBANKMENT (CV) SEE TYPICAL SECTIONS



INSET "H"

CONCRETE DRIVEWAY PAVEMENT

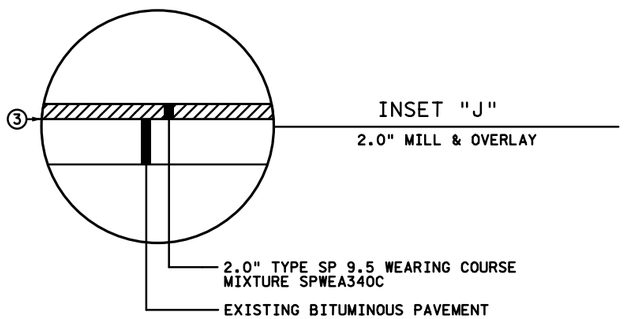
- 6" CONCRETE DRIVEWAY PAVEMENT
- 6" AGGREGATE BASE (CV) CLASS 5



INSET "I"

BITUMINOUS DRIVEWAYS

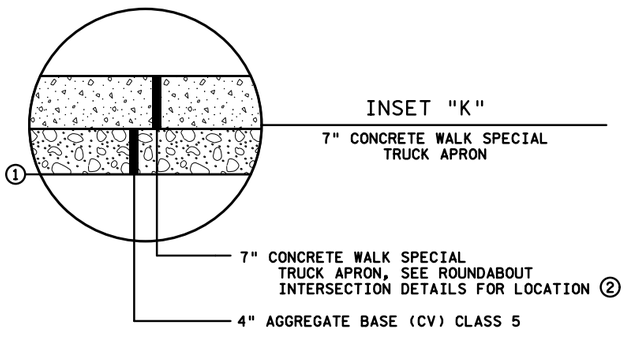
- 3" TYPE SP 9.5 WEARING COURSE MIXTURE SPWEA340C
- 6" AGGREGATE BASE (CV) CLASS 5 (DRIVEWAY)



INSET "J"

2.0" MILL & OVERLAY

- 2.0" TYPE SP 9.5 WEARING COURSE MIXTURE SPWEA340C
- EXISTING BITUMINOUS PAVEMENT



INSET "K"

7" CONCRETE WALK SPECIAL
TRUCK APRON

- 7" CONCRETE WALK SPECIAL TRUCK APRON, SEE ROUNDABOUT INTERSECTION DETAILS FOR LOCATION ②
- 4" AGGREGATE BASE (CV) CLASS 5

RECORD PLAN

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OCTOBER 2026

RECORD PLAN 2026

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ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

GENERAL NOTES:

1. GRADING GRADE
2. CONCRETE COLOR SHALL BE INTEGRAL DARK GRAY (FS COLOR 36099)
3. BITUMINOUS MATERIAL FOR TACK COAT

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CITY OF ANDOVER

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INSETS

TYPICAL SECTIONS

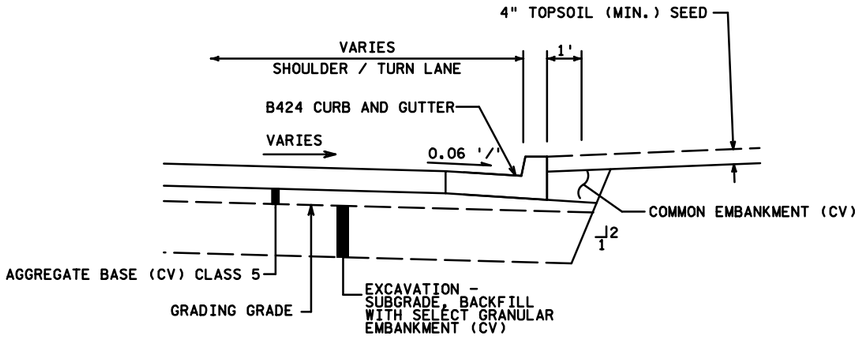
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 18 OF 153 SHEETS

6981

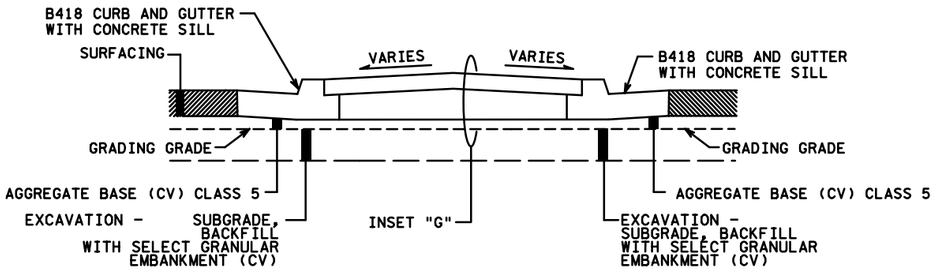
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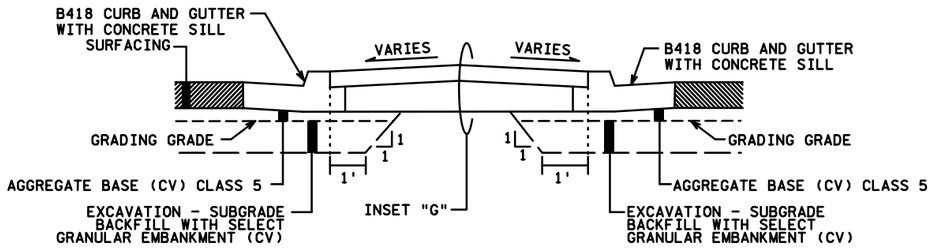
DETAIL A

CONCRETE CURB & GUTTER



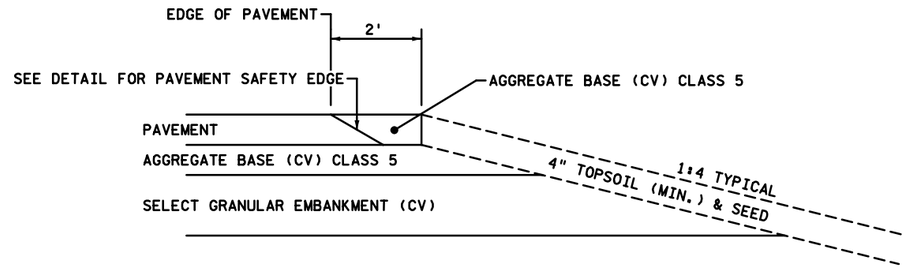
DETAIL B

CONCRETE MEDIAN LESS THAN 8' (FACE TO FACE)



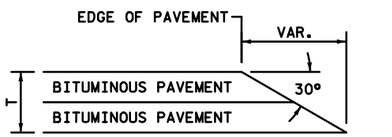
DETAIL B

CONCRETE MEDIAN GREATER THAN 8' (FACE TO FACE)



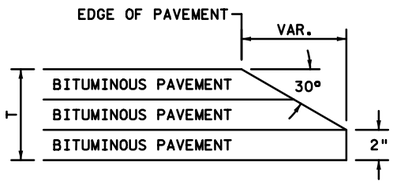
DETAIL C

RURAL AGGREGATE SHOULDER



BITUMINOUS PAVEMENT SAFETY EDGE

FOR T < 6"



BITUMINOUS PAVEMENT SAFETY EDGE

FOR T => 6"

RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

NOTES:

1. UNLESS OTHERWISE SPECIFIED. THE SUBGRADE CROSS SLOPE WILL BE THE SAME AS THE FINISHED SLOPE.
2. ALL UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE ROADWAY.
3. ALL EDGE DIMENSIONS ARE FACE TO FACE OF CURB OR TO THE EDGE OF THE PAVEMENT UNLESS OTHERWISE SPECIFIED.
4. COMMON TOPSOIL SHALL BE INCLUDED IN THE COMMON EMBANKMENT (CV).
5. ALL EMBANKMENT MATERIAL SHALL BE APPROVED BY THE ENGINEER. ALL CONCRETE AND BITUMINOUS REMOVAL MUST BE DISPOSED OF OFF-SITE. REMOVAL AND DISPOSAL OF EXCESS MATERIAL SHALL BE INCIDENTAL.
6. 2' CLEAR ZONE SHALL BE PROVIDED ON EACH SIDE OF THE TRAIL.
7. SEE CONCRETE PAVEMENT JOINT PLAN FOR LOCATION OF CONCRETE WALK SPECIAL AND CONCRETE PAVEMENT SPECIAL.

NO.	DATE	BY	CHK	REVISIONS

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

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

PRINT NAME: ANDREW J. PLOWMAN, PE

DATE 6/19/2026 LICENSE # 44200

RECORD DRAWING

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

DETAILS

TYPICAL SECTIONS

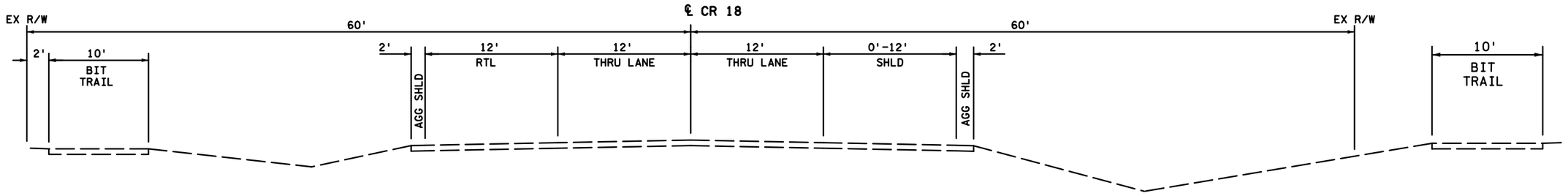
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SHEET 19 OF 153 SHEETS

6982

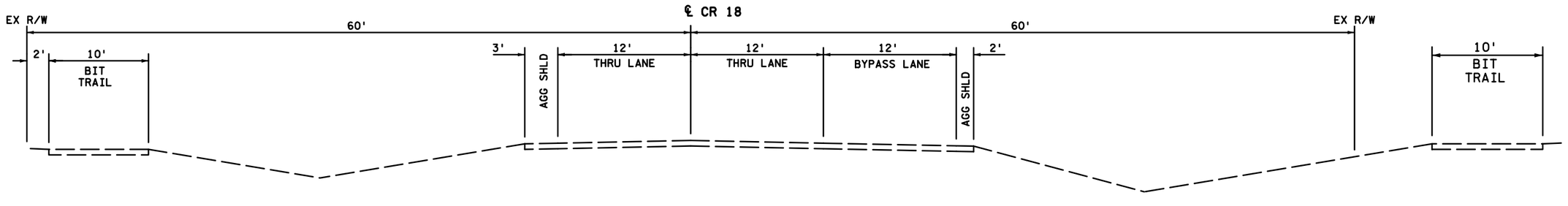
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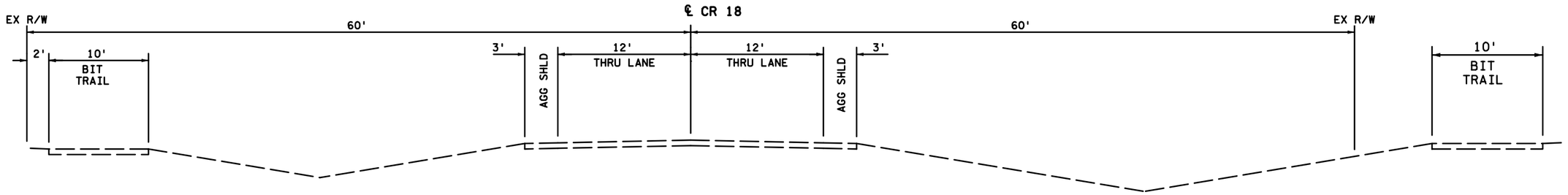
EXISTING TYPICAL SECTION 3 - CR 18

NB STA 205+50 TO NB STA 207+84



EXISTING TYPICAL SECTION 2 - CR 18

NB STA 202+97 TO NB STA 205+50



EXISTING TYPICAL SECTION 1 - CR 18

NB STA 201+31.10 TO NB STA 202+97

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

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

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DATE 6/19/2026 LICENSE # 44200

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

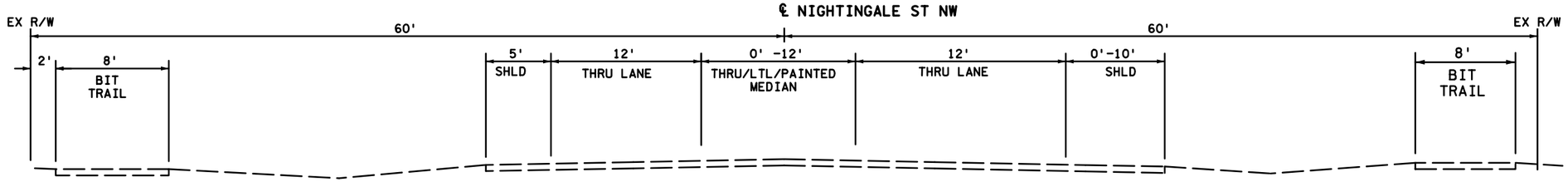
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SHEET **20** OF **153** SHEETS

6983

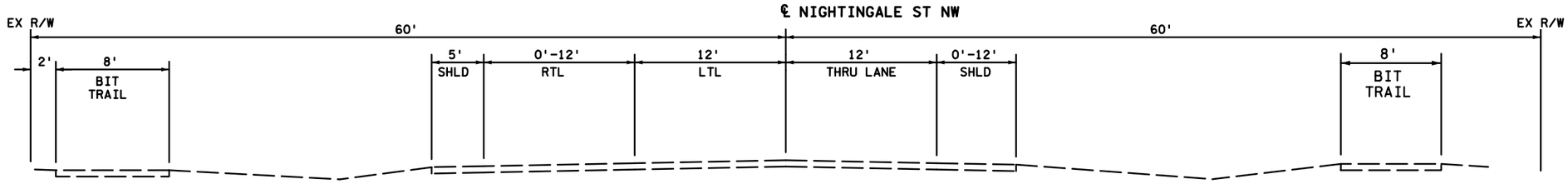
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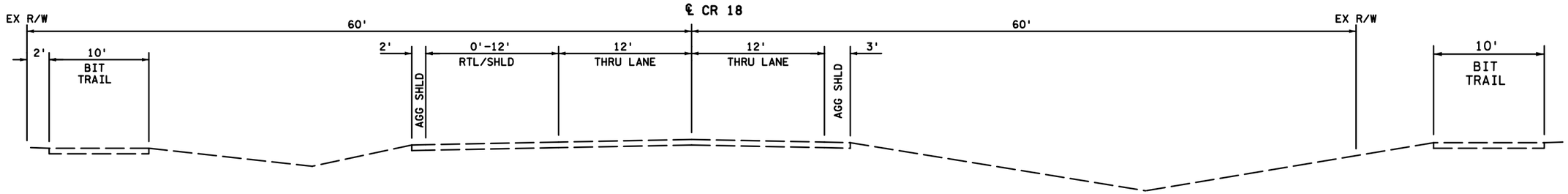
EXISTING TYPICAL SECTION 6 - NIGHTINGALE ST NW

NB STA 101+80 TO NB STA 109+21



EXISTING TYPICAL SECTION 5 - NIGHTINGALE ST NW

NB STA 100+00.00 TO NB STA 101+80



EXISTING TYPICAL SECTION 4 - CR 18

NB STA 207+84 TO NB STA 210+21.12

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

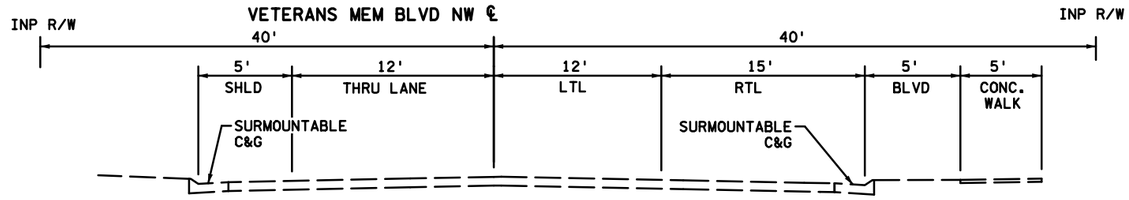
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SHEET **21** OF **153** SHEETS

6984

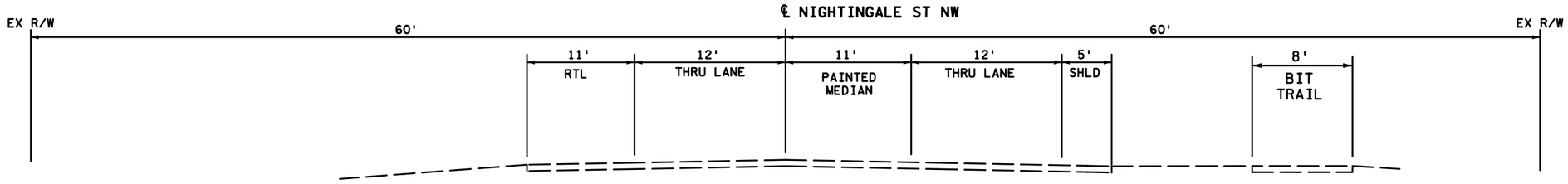
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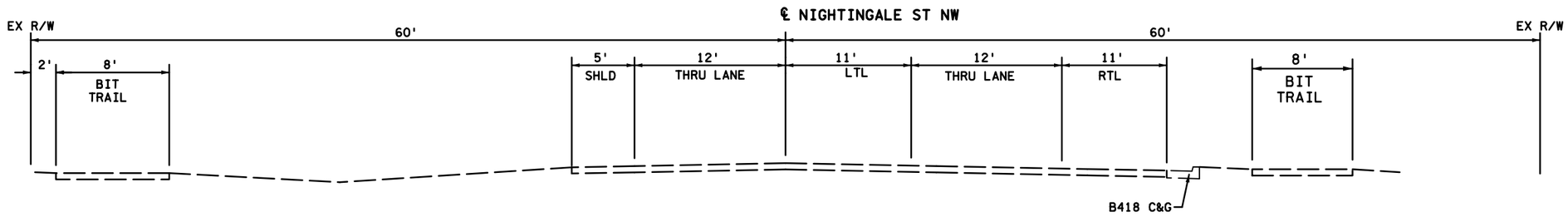
EXISTING TYPICAL SECTION 9 - VETERANS MEM BLVD NW

EB STA 302+71.77 TO EB STA 303+70



EXISTING TYPICAL SECTION 8 - NIGHTINGALE ST NW

NB STA 112+00 TO NB STA 115+31.08



EXISTING TYPICAL SECTION 7 - NIGHTINGALE ST NW

NB STA 109+21 TO NB STA 112+00

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

EXISTING
TYPICAL SECTIONS
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 22 OF 153 SHEETS

6985

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RECORD PLAN 2026

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ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

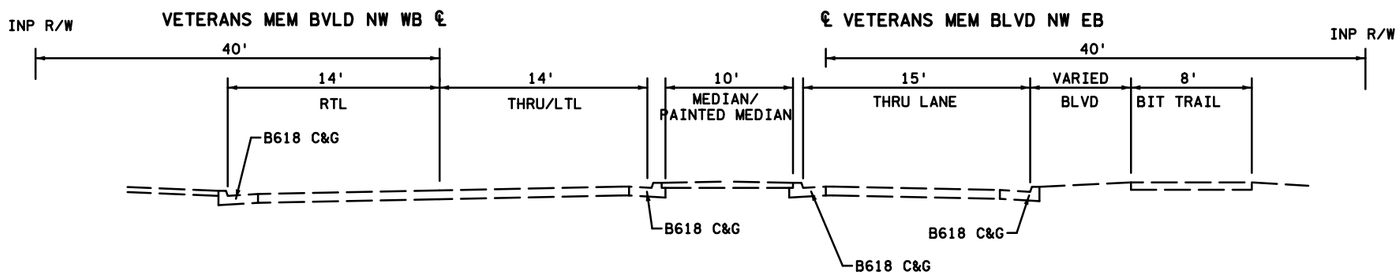
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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026



EXISTING TYPICAL SECTION 10 - VETERANS MEM BLVD NW

EB STA 306+38 TO EB STA 308+02.15

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
Plan By: AJP
Checked By: AJP
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DATE 6/19/2026 LICENSE # 44200

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

EXISTING
TYPICAL SECTIONS
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 23 OF 153 SHEETS

6986

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RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

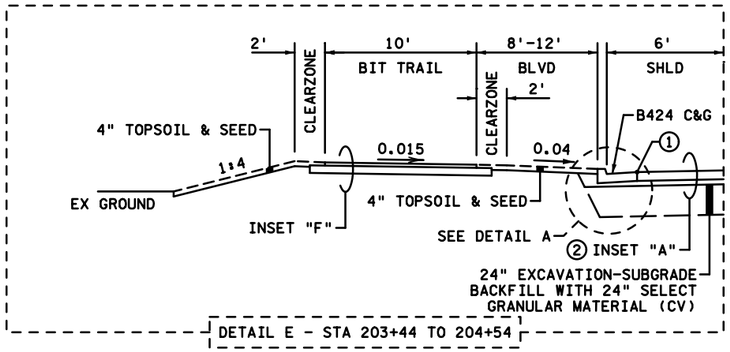
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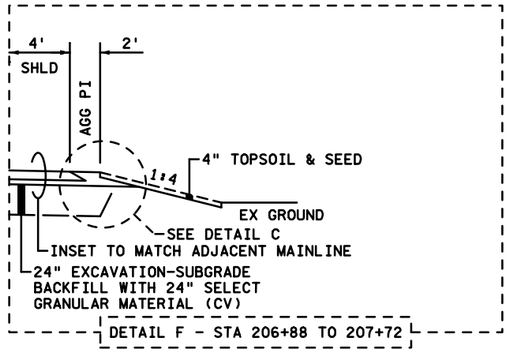
ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

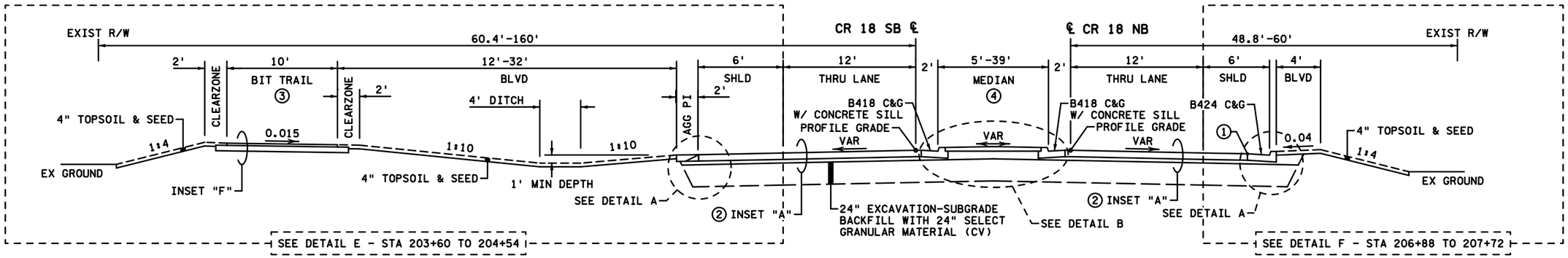
OCTOBER 2026



DETAIL E - STA 203+44 TO 204+54



DETAIL F - STA 206+88 TO 207+72

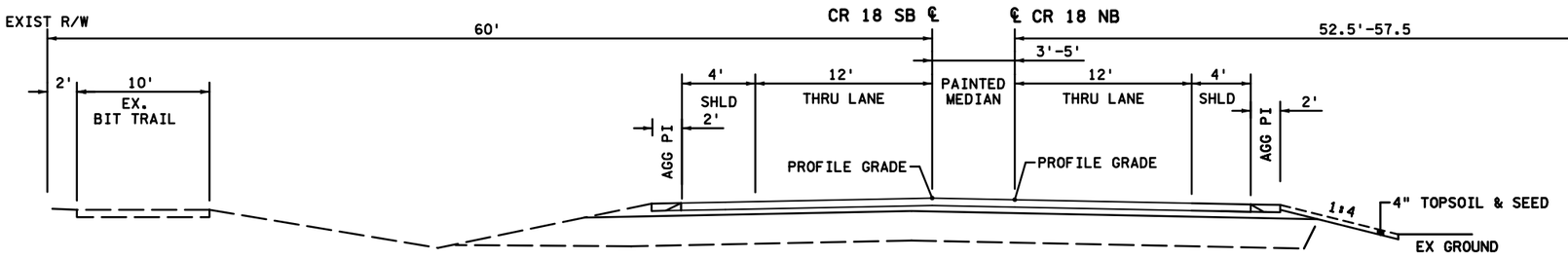


SEE DETAIL E - STA 203+60 TO 204+54

SEE DETAIL F - STA 206+88 TO 207+72

PROPOSED TYPICAL SECTION 2 - CR 18

NB STA 201+99 TO NB STA 204+54
NB STA 206+03 TO NB STA 207+40



PROPOSED TYPICAL SECTION 1 - CR 18

NB STA 201+81 TO NB STA 201+99

NOTES

1. QUADRANT PROFILE GRADE, SEE ROUNDABOUT INTERSECTION DETAILS. OUTSIDE OF QUADRANT PROFILES, CROSS SLOPE OF ROADWAY TO BE 0.02 FT/FT
2. INSET "C" STA 204+10 TO STA 206+30
3. BEGIN TRAIL CONSTRUCTION STA 202+63
   END TRAIL CONSTRUCTION STA 207+46
4. RAISED MEDIAN BEGINS STA 202+30

GENERAL NOTES

- ALL SLOPES IN FOOT PER FOOT UNLESS OTHERWISE NOTED.
- PREPARATION OF THE EXISTING SUBGRADE SHALL BE IN ACCORDANCE WITH MNDOT SPECIFICATIONS AND SHALL BE INCIDENTAL.
- SEE SHEET 18 FOR INSETS AND SHEET 19 FOR DETAILS.

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

PROPOSED
TYPICAL SECTIONS
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 24 OF 153 SHEETS

6987

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RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

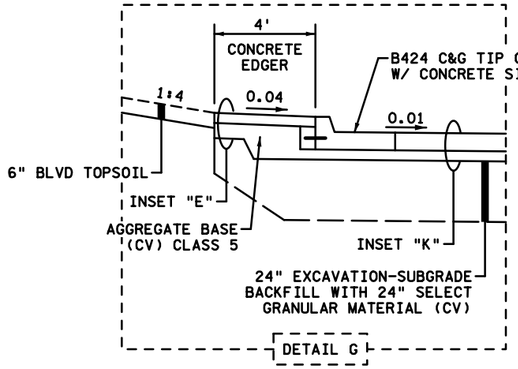
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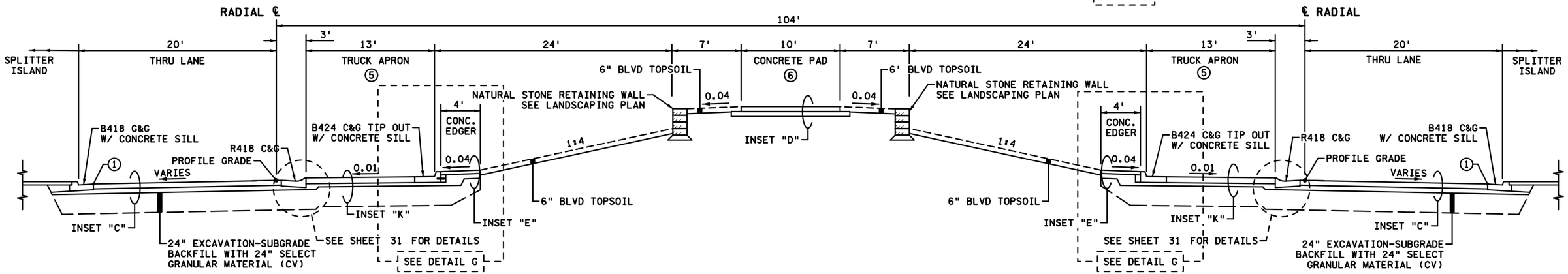
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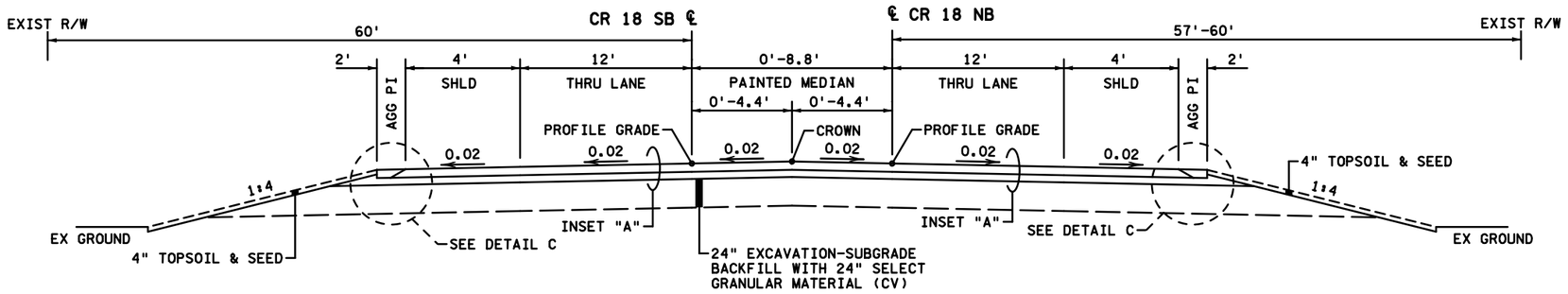
OCTOBER 2026





PROPOSED TYPICAL SECTION 4 - CR 18 & NIGHTINGALE ST NW ROUNDABOUT

NIGHTINGALE STREET NB STA 100+00.00 TO NB STA 100+47
CR 18 NB STA 204+54 TO NB STA 206+03
RADIAL STA 10+00 TO RADIAL STA 13+26.73



PROPOSED TYPICAL SECTION 3 - CR 18

NB STA 207+40 TO NB STA 209+12

NOTES

① QUADRANT PROFILE GRADE, SEE ROUNDABOUT INTERSECTION DETAILS. OUTSIDE OF QUADRANT PROFILES, CROSS SLOPE OF ROADWAY TO BE 0.02 FT/FT

⑤ SEE MISCELLANEOUS DETAILS SHEET 31 FOR ADDITIONAL DETAILS.

⑥ SPECIAL SURFACE TREATMENT, SEE SPECIAL PROVISIONS

GENERAL NOTES

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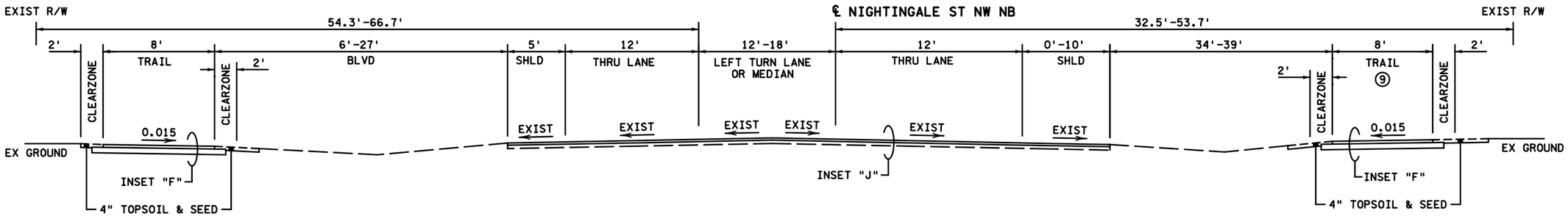
CITY OF ANDOVER

Nightingale Street NW Roundabouts

PROPOSED
TYPICAL SECTIONS
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

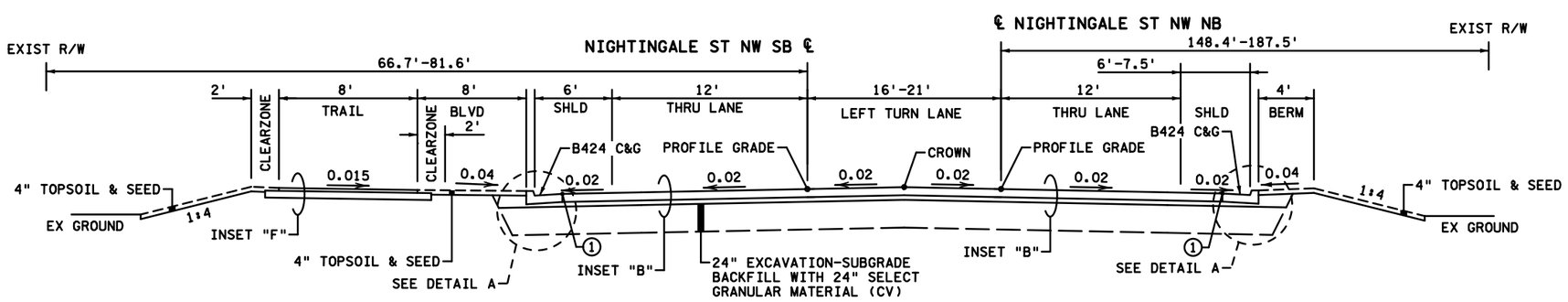
SHEET 25 OF 153 SHEETS

6988



PROPOSED TYPICAL SECTION 7 - NIGHTINGALE ST NW

NB STA 102+42 TO NB STA 107+78



PROPOSED TYPICAL SECTION 6 - NIGHTINGALE ST NW

NB STA 101+51 TO NB STA 102+42

NOTES

① QUADRANT PROFILE GRADE, SEE ROUNDABOUT INTERSECTION DETAILS. OUTSIDE OF QUADRANT PROFILES, CROSS SLOPE OF ROADWAY TO BE 0.02 FT/FT

⑦ INSET "C" STA 100+51 TO STA 100+91

⑧ END TRAIL CONSTRUCTION STA 101+01

⑨ TRAIL CONSTRUCTION STA 102+58 TO STA 103+72

GENERAL NOTES

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RECORD PLAN

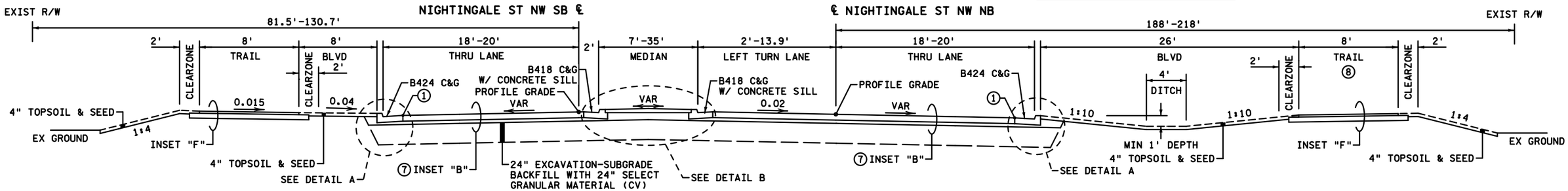
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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026



PROPOSED TYPICAL SECTION 5 - NIGHTINGALE ST NW

NB STA 100+47 TO NB STA 101+51

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

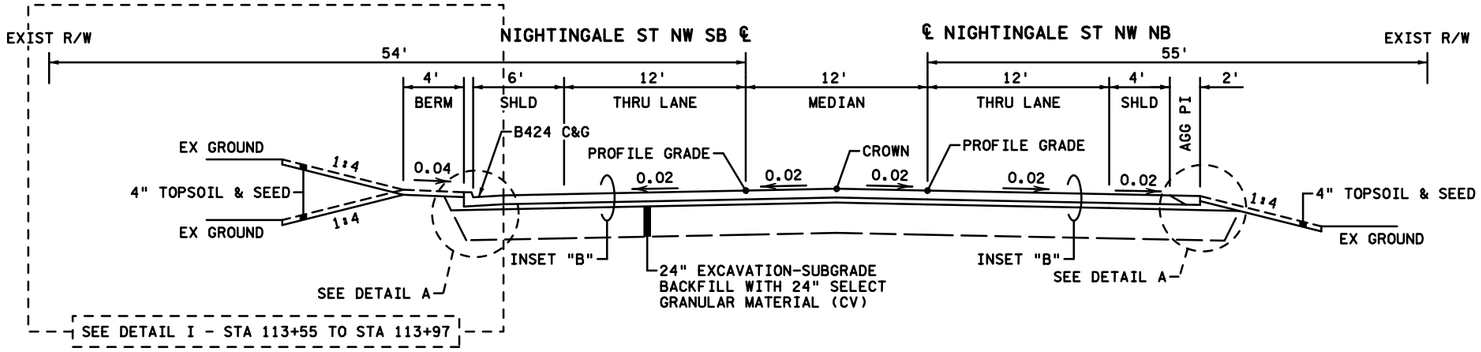
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TYPICAL SECTIONS
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 26 OF 153 SHEETS

6989

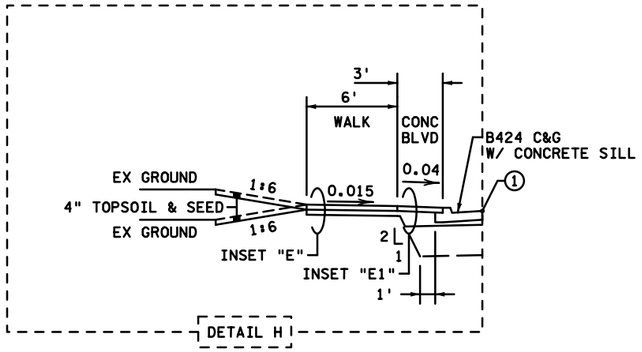
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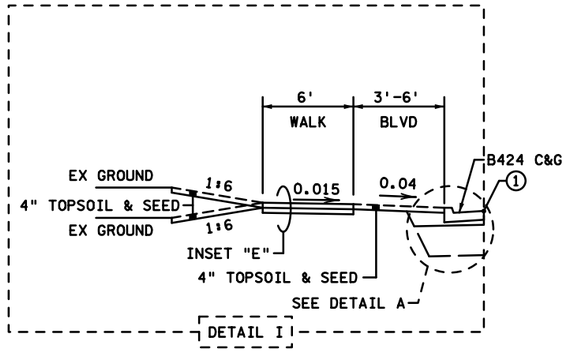
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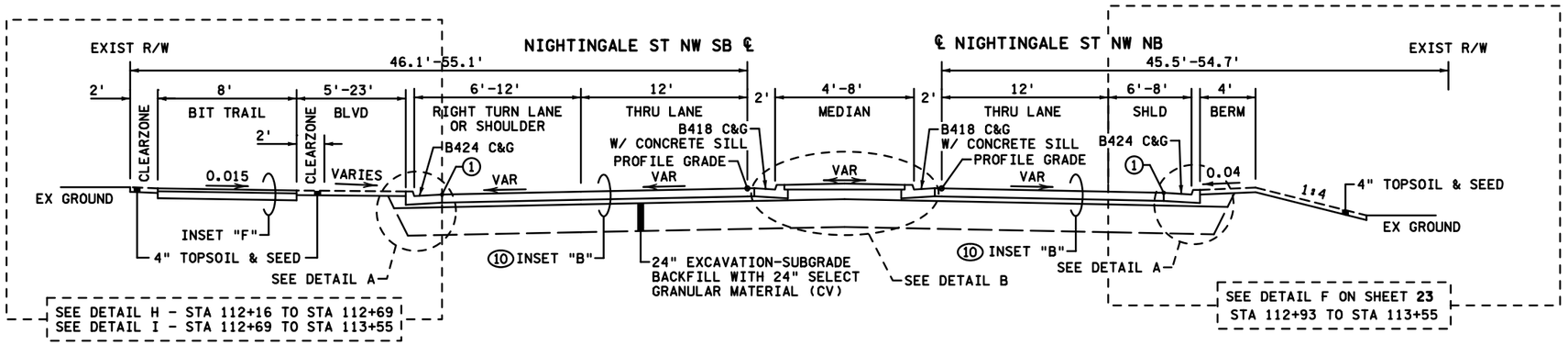


PROPOSED TYPICAL SECTION 9 - NIGHTINGALE ST NW

NB STA 113+55 TO NB STA 114+31







PROPOSED TYPICAL SECTION 8 - NIGHTINGALE ST NW

NB STA 107+78 TO NB STA 110+94
NB STA 112+16 TO NB STA 113+55

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

NOTES

(1) QUADRANT PROFILE GRADE, SEE ROUNDABOUT INTERSECTION DETAILS. OUTSIDE OF QUADRANT PROFILES, CROSS SLOPE OF ROADWAY TO BE 0.02 FT/FT

(10) INSET "C" STA 110+67 TO STA 112+45

GENERAL NOTES

- ALL SLOPES IN FOOT PER FOOT UNLESS OTHERWISE NOTED.
- PREPARATION OF THE EXISTING SUBGRADE SHALL BE IN ACCORDANCE WITH MNDOT SPECIFICATIONS AND SHALL BE INCIDENTAL.
- SEE SHEET 18 FOR INSETS AND SHEET 19 FOR DETAILS.

NO.	DATE	BY	CHK	REVISIONS

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

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

PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

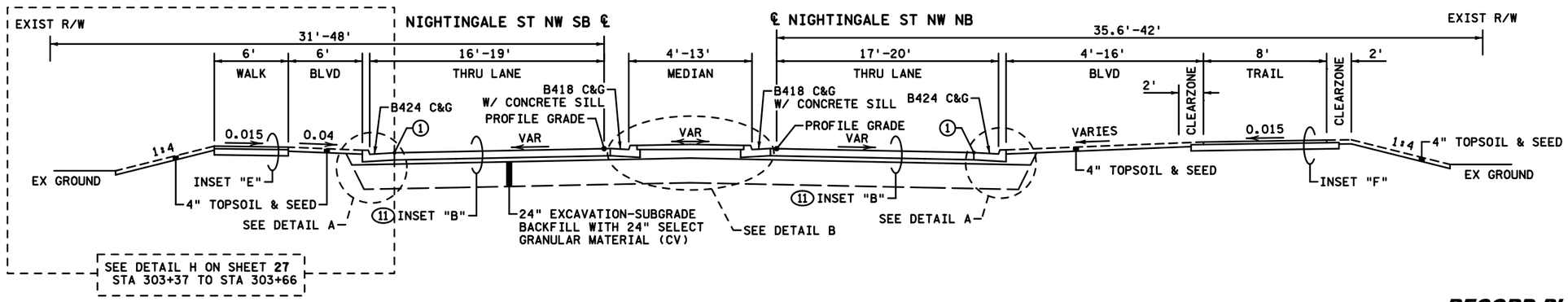
PROPOSED
TYPICAL SECTIONS
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 27 OF 153 SHEETS

6990

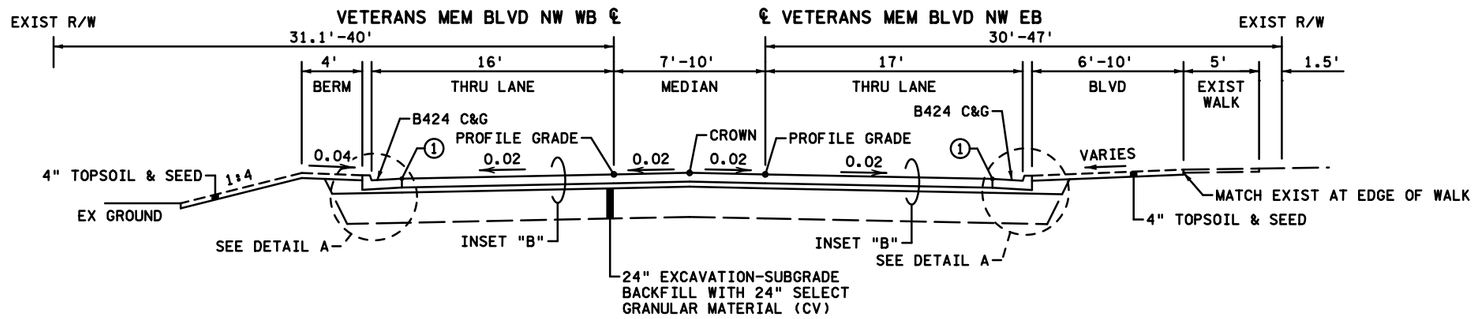
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PLOTTED/REVISED: 6/19/2026 11:34:57 AM



PROPOSED TYPICAL SECTION 11 - VETERANS MEMORIAL BLVD NW

EB STA 303+31 TO EB STA 303+66
EB STA 304+84 TO EB STA 305+14



PROPOSED TYPICAL SECTION 10 - VETERANS MEMORIAL BLVD NW

EB STA 302+71.77 TO EB STA 303+31

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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JAKE KNUTSON - *CONSTRUCTION OBSERVER CITY OF ANDOVER*

OCTOBER 2026

NOTES

(1) QUADRANT PROFILE GRADE, SEE ROUNDABOUT INTERSECTION DETAILS. OUTSIDE OF QUADRANT PROFILES, CROSS SLOPE OF ROADWAY TO BE 0.02 FT/FT

(11) INSET "C" STA 303+40 TO STA 305+14

GENERAL NOTES

- ALL SLOPES IN FOOT PER FOOT UNLESS OTHERWISE NOTED.
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- SEE SHEET **18** FOR INSETS AND SHEET **19** FOR DETAILS.

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

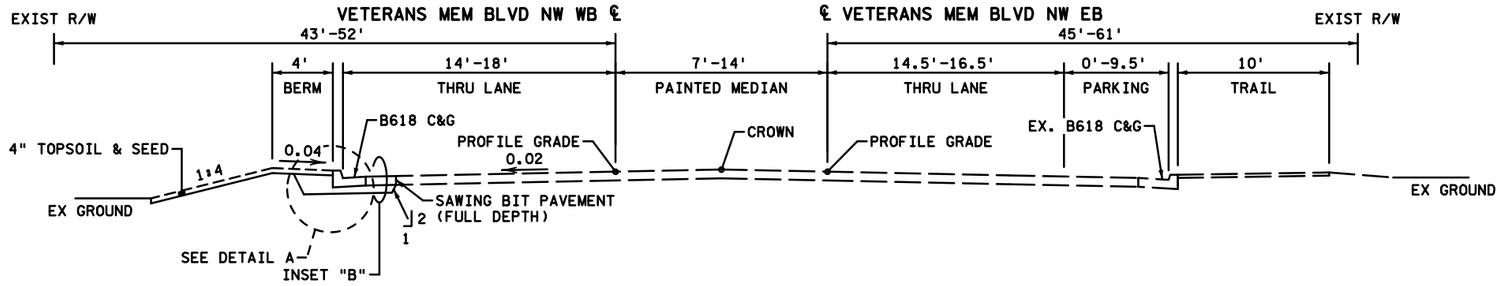
PROPOSED
TYPICAL SECTIONS
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET **28** OF **153** SHEETS

6991

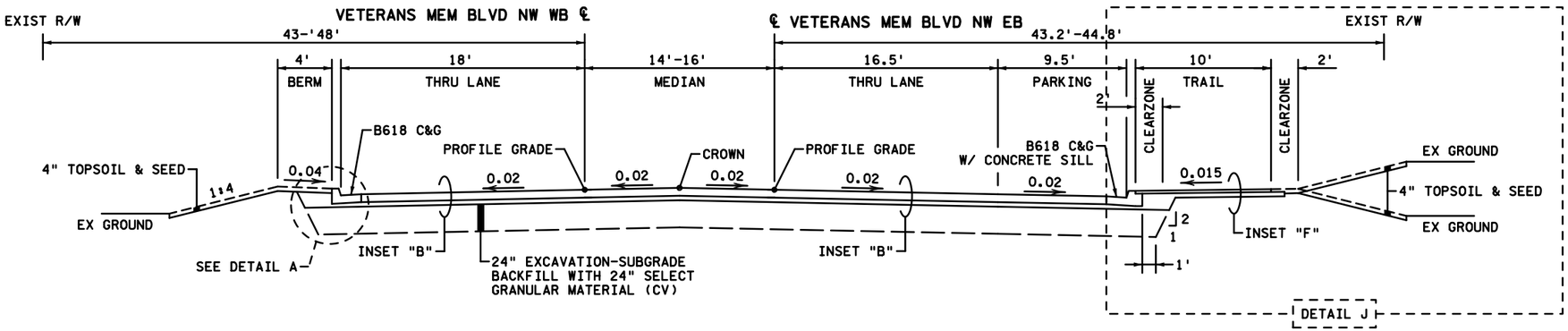
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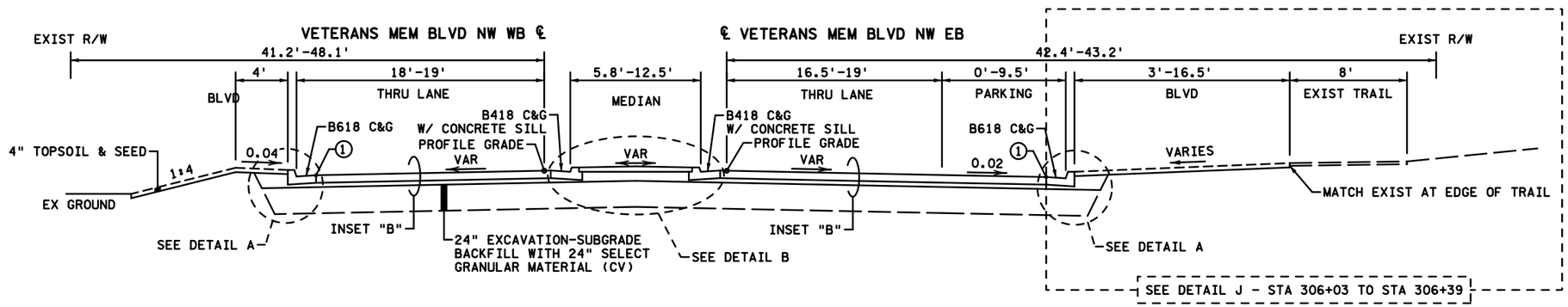
PROPOSED TYPICAL SECTION 15 - VETERANS MEMORIAL BLVD NW

EB STA 306+72 TO EB STA 308+02.10



PROPOSED TYPICAL SECTION 14 - VETERANS MEMORIAL BLVD NW

EB STA 306+37 TO EB STA 306+72



PROPOSED TYPICAL SECTION 13 - VETERANS MEMORIAL BLVD NW

EB STA 305+14 TO EB STA 306+39

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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JAKE KNUTSON - *CONSTRUCTION OBSERVER CITY OF ANDOVER*

OCTOBER 2026

NOTES

① QUADRANT PROFILE GRADE, SEE ROUNDABOUT INTERSECTION DETAILS. OUTSIDE OF QUADRANT PROFILES, CROSS SLOPE OF ROADWAY TO BE 0.02 FT/FT

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NO.	DATE	BY	CHK	REVISIONS

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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

PROPOSED
TYPICAL SECTIONS
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET **29** OF **153** SHEETS

6992

WSB PATH & FILENAME: P:\Projects\Minnesota\022965-000\Cad\Plan\22965-000_ts.dgn

PLOTTED/REVISED: 6/19/2026 11:34:58 AM

WSB PATH & FILENAME: Projects\Minnesota\022965-000\Cad\Plan\22965-000.1s.dgn

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

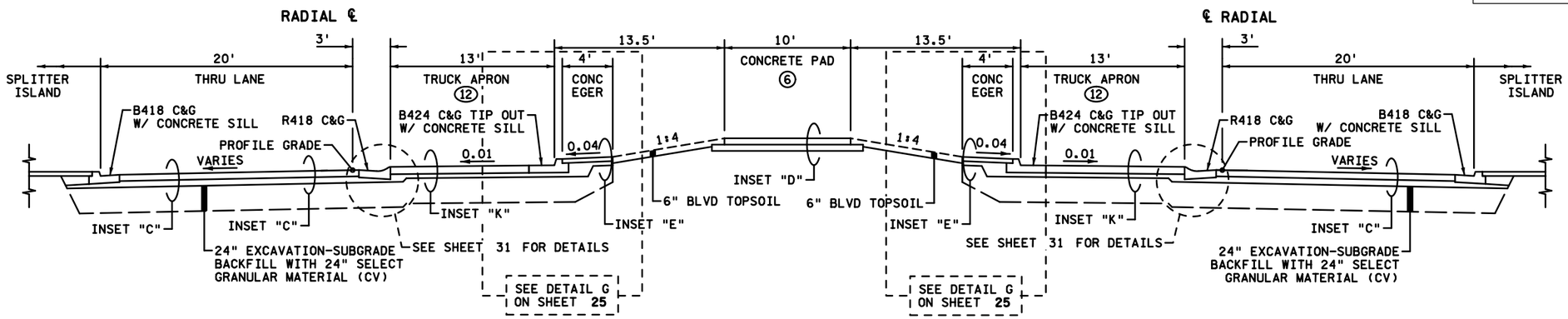
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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026



PROPOSED TYPICAL SECTION 16 - NIGHTINGALE ST NW & VETERANS MEM BLVD NW ROUNDABOUT

NB STA 110+94 TO NB STA 112+16
EB STA 303+66 TO EB STA 304+84
RADIAL STA 10+00.00 TO RADIAL STA 12+14.99

NOTES

(1) QUADRANT PROFILE GRADE, SEE ROUNDABOUT INTERSECTION DETAILS. OUTSIDE OF QUADRANT PROFILES, CROSS SLOPE OF ROADWAY TO BE 0.02 FT/FT

(6) SPECIAL SURFACE TREATMENT, SEE SPECIAL PROVISIONS

(12) SEE MISCELLANEOUS DETAILS SHEET **31** FOR ADDITIONAL DETAILS/

GENERAL NOTES

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- SEE SHEET **18** FOR INSETS AND SHEET **19** FOR DETAILS.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
Plan By: AJF
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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

PROPOSED
TYPICAL SECTIONS
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

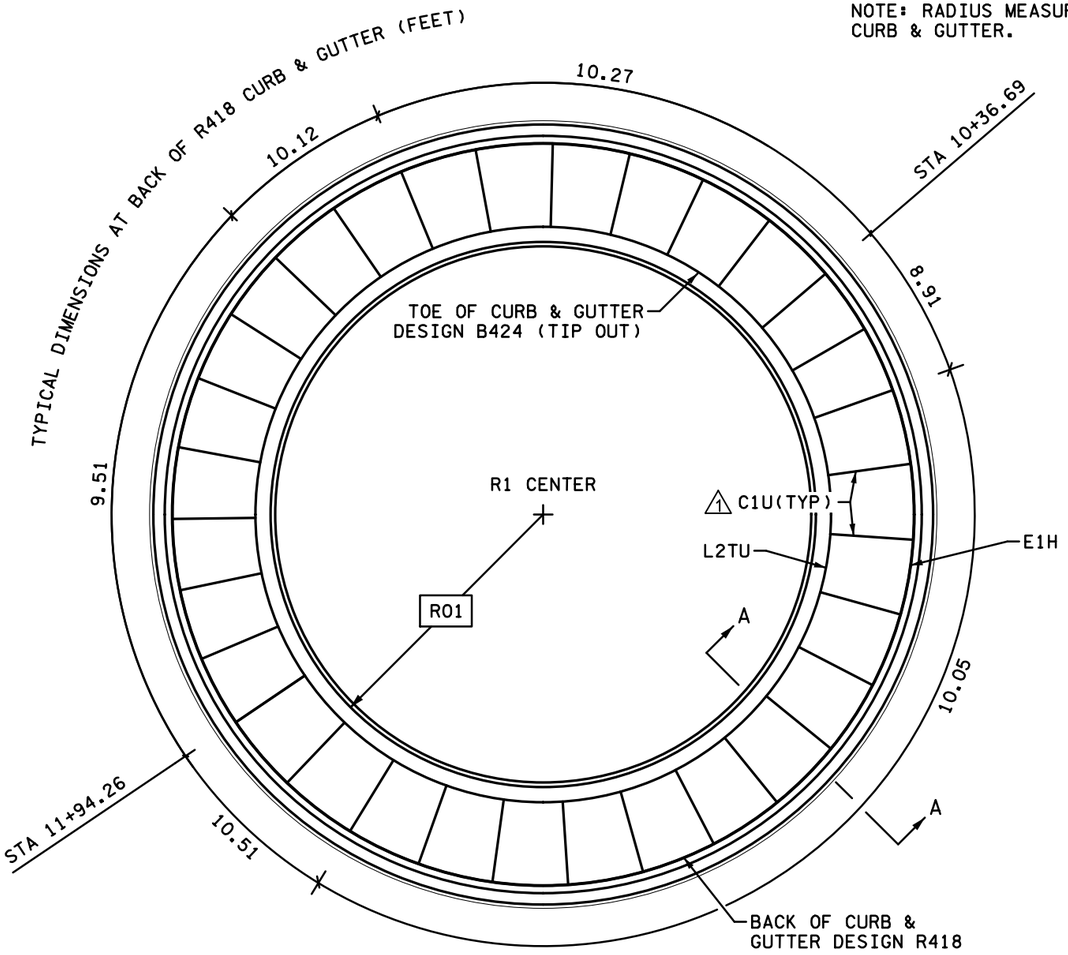
SHEET **30** OF **153** SHEETS

6993

County Road 18 Roundabout

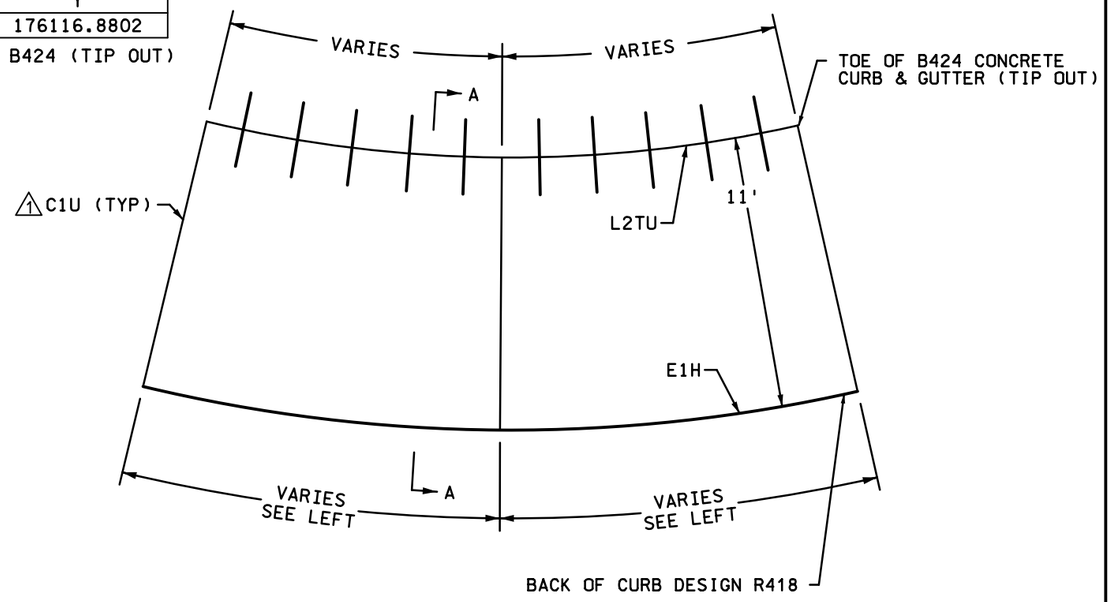
CR 18 & NIGHTINGALE ROUNDABOUT			
RADIUS		CENTER	
		X	Y
R1	36'	487406.0825	176116.8802

NOTE: RADIUS MEASURED TO FACE OF B424 (TIP OUT) CURB & GUTTER.



PLAN VIEW JOINT LAYOUT

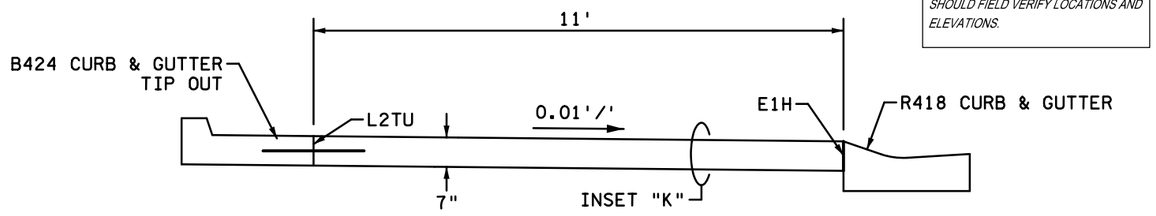
NOT TO SCALE



NOTE: CIU JOINT SHOULD EXTEND THROUGH CURB AND GUTTER

CONCRETE PANEL REINFORCEMENT

NOT TO SCALE



SECTION A-A

NOT TO SCALE

RECORD PLAN

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RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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ANDREW J. PLOWMAN, P.E. - *PROJECT ENGINEER WSB & ASSOCIATES*

JAKE KNUTSON - *CONSTRUCTION OBSERVER CITY OF ANDOVER*

OCTOBER 2026

GENERAL NOTES:

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

NO.	DATE	BY	CHK	REVISIONS
1	2025/08/07	AJF	AJP	UPDATED CONTRACTION JOINT TYPE

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

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PRINT NAME: ANDREW J. PLOWMAN, PE

DATE 6/19/2026 LICENSE # 44200

RECORD DRAWING

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

TRUCK APRON DETAILS - COUNTY ROAD 18 ROUNDABOUT

MISCELLANEOUS DETAILS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 31 OF 153 SHEETS

6994

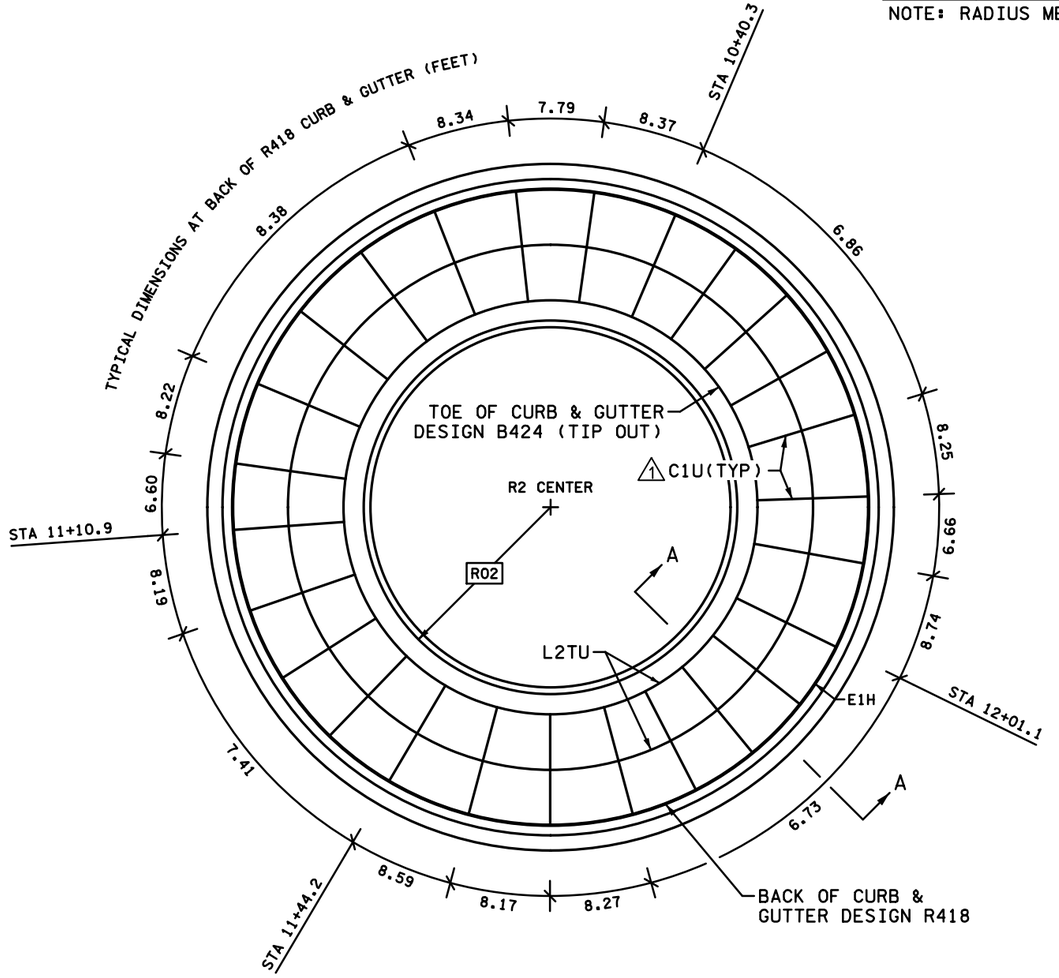
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PLOTTED/REVISED: 6/19/2026 11:35:03 AM

NIGHTINGALE & VETERANS ROUNDABOUT			
RADIUS		CENTER	
		X	Y
R2	18.5'	487228.2290	177237.7146

NOTE: RADIUS MEASURED TO FACE OF CURB



PLAN VIEW JOINT LAYOUT

NOT TO SCALE

RECORD PLAN

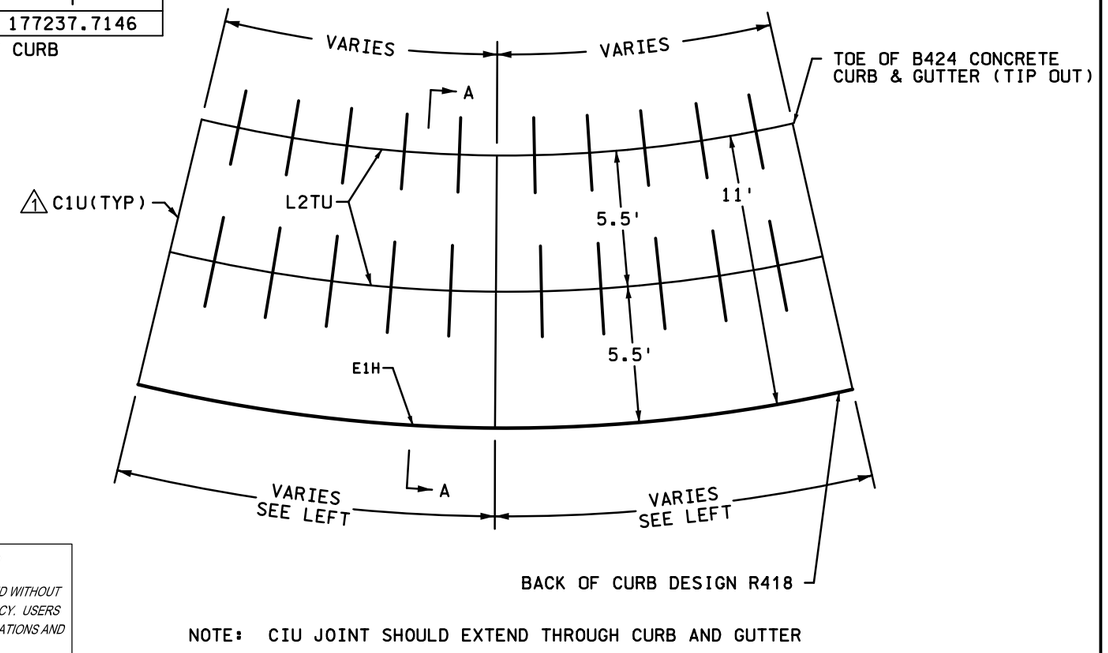
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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

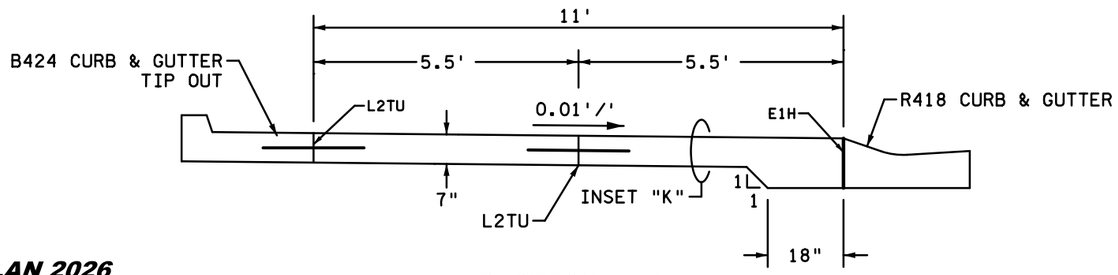
OCTOBER 2026



NOTE: CIU JOINT SHOULD EXTEND THROUGH CURB AND GUTTER

CONCRETE PANEL REINFORCEMENT

NOT TO SCALE



SECTION A-A

NOT TO SCALE

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

GENERAL NOTES:

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NO.	DATE	BY	CHK	REVISIONS
1	2025/08/07	AJF	AJP	UPDATED CONTRACTION JOINT TYPE

Design By	AJP
Plan By	AJF
Checked By	AJP
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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

TRUCK APRON DETAILS - VETERANS MEMORIAL BLVD ROUNDABOUT

MISCELLANEOUS DETAILS

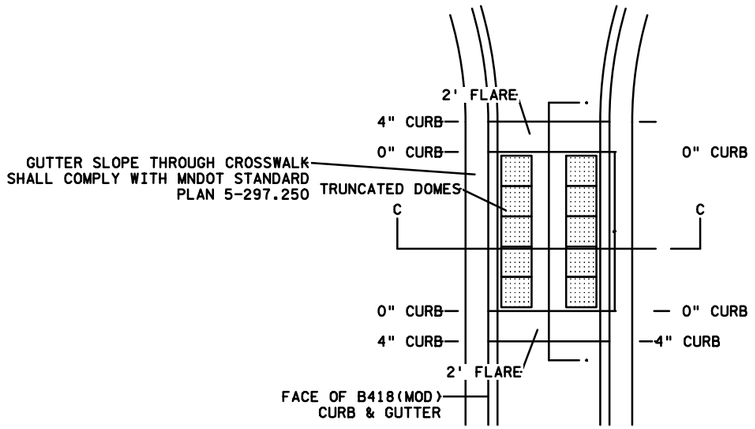
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

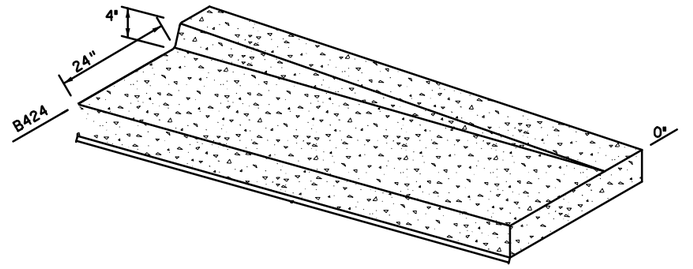
SHEET 32 OF 153 SHEETS

6995

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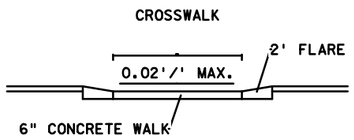




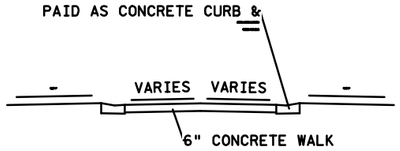
FOR OTHER DIMENSIONS SEE STANDARD PLATE NO. 7100
TO BE USED AT CURB AND GUTTER TERMINI
PAYMENT SHALL BE MADE AS CONCRETE CURB & GUTTER DESIGN B424 BY THE LINEAR FOOT

B424 TO 0" HEIGHT CURB & GUTTER TRANSITION

NOT TO SCALE



SECTION B-B



RECORD PLAN

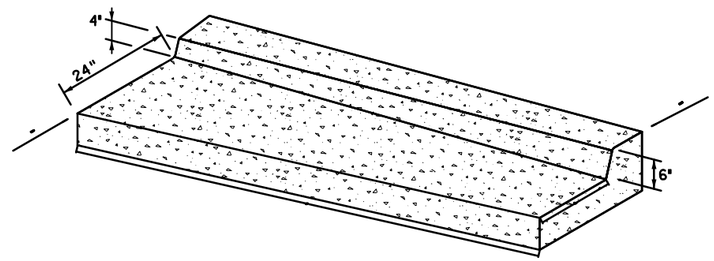
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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026



NOTES:
1. CROSSING TO BE PAID FOR AS CONCRETE CURB RAMP WALK.
2. TRUNCATED DOMES SHALL BE PLACED AT EACH SIDE OF THE CROSSWALK, PAID FOR AS SQ. FT. OF TRUNCATED DOMES.
3. FLARES TO BE PAID FOR AS CONCRETE CURB RAMP WALK.

DEPRESSED MEDIAN CURB AT CROSSWALK DETAIL

NO SCALE

FOR OTHER DIMENSIONS SEE STANDARD PLATE NO. 7100
PAYMENT SHALL BE MADE AS CONCRETE CURB & GUTTER DESIGN B424 BY THE LINEAR FOOT

B424 TO B618 CURB & GUTTER TRANSITION

NOT TO SCALE

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

NO.	DATE	BY	CHK	REVISIONS

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RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

MISCELLANEOUS DETAILS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 33 OF 153 SHEETS

6996

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RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

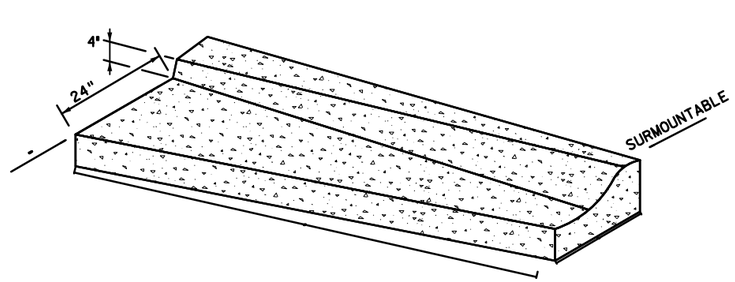
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THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026



FOR OTHER DIMENSIONS SEE STANDARD PLATE NO. 7100 AND CITY STANDARD PLATE 501
PAYMENT SHALL BE MADE AS CONCRETE CURB & GUTTER DESIGN B424 BY THE LINEAR FOOT

B424 TO SURMOUNTABLE CURB & GUTTER TRANSITION

NOT TO SCALE

NO.	DATE	BY	CHK	REVISIONS

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

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

PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

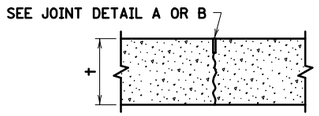
MISCELLANEOUS DETAILS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

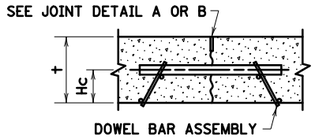
SHEET **34** OF **153** SHEETS

6997

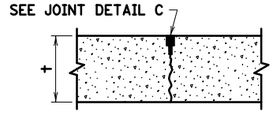
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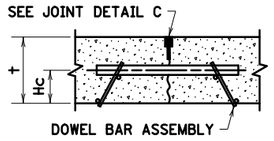
C1U & C2H



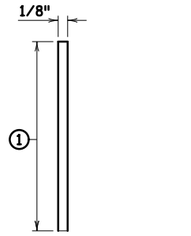
C1U-D & C2H-D ⑧



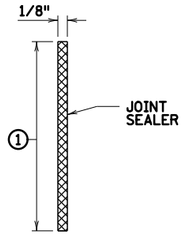
C3P



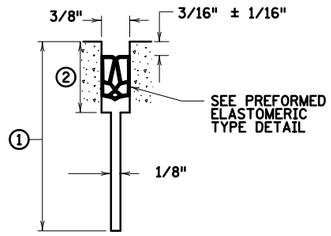
C3P-D ⑧



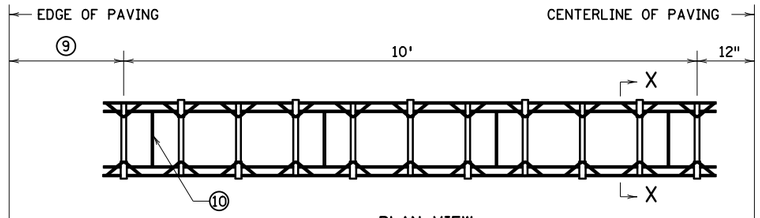
JOINT DETAIL A ③⑤
SAWED & UNSEALED



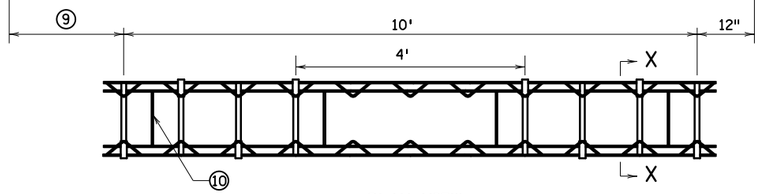
JOINT DETAIL B ④⑤
SAWED & SEALED



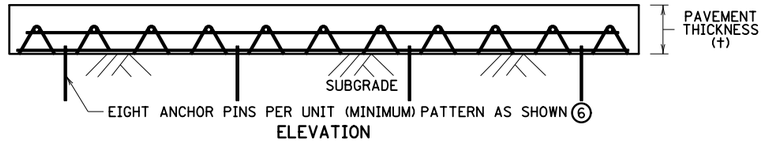
JOINT DETAIL C ④⑤
SAWED AND SEALED



PLAN VIEW
ELEVEN DOWEL BASKET (SPACED AT 12")



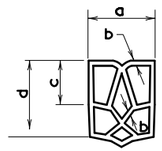
PLAN VIEW
EIGHT DOWEL BASKET (WHEEL PATH DOWELS SPACED AT 12")



ELEVATION

CONTRACTION JOINT DOWEL BAR ASSEMBLIES

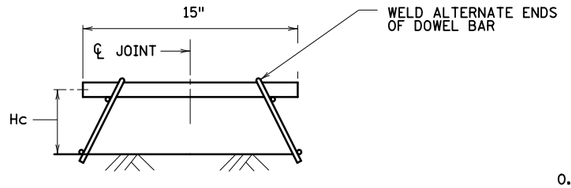
REQUIRED DIMENSIONS ②	
JOINT TYPE	TRANSVERSE
NOMINAL SEALER SIZE	11/16" USE IN ALL 3/8" JOINTS
a	0.69" + 0.13" - 0.05"
b	0.08" ± 0.02"
c	0.25" MIN.
d	0.63" MIN.



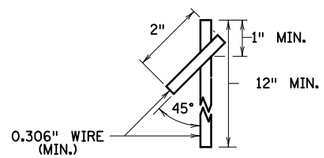
TYPICAL SHAPE FOR SATISFACTORY INSTALLATION IN JOINT (5 CELL MIN.)

PREFORMED ELASTOMERIC TYPE DETAIL ②

DOWEL BAR TABLE		
+ PAVEMENT THICKNESS (IN.)	DOWEL BAR DIAMETER (IN.)	Hc HEIGHT TO CENTER OF DOWEL BAR (IN.)
7 - 7½	1	3
8 - 10	1¼	4
≥10½	1½	5



SECTION X-X ⑧



ANCHOR PIN ⑦

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

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

EXAMPLE
C2H-D

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - *PROJECT ENGINEER WSB & ASSOCIATES*

JAKE KNUTSON - *CONSTRUCTION OBSERVER CITY OF ANDOVER*

OCTOBER 2026

NOTES:

SEE STANDARD PLATE 1103 FOR DOWEL BAR ASSEMBLY.

FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

SEE STANDARD PLANS 5-297.217 AND 5-297.219 FOR CONCRETE MAINLINE/RAMP PAVEMENT.

SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATION TO BE USED AND SPECIAL REINFORCEMENT REQUIRED.

① JOINT DEPTH AND TOLERANCE: t/3 ± ¼".

② JOINT DEPTH ¼" MORE THAN THE PREFORMED SEALER WHEN COMPRESSED TO FIT THE JOINT DESIGN WIDTH. "a" DIMENSION APPLIES AT ANY POINT THROUGHOUT "c" DEPTH. SHARP CORNERS NOT PERMITTED. PROVIDE CORNERS WITH SUITABLE FILLET.

③ CLEAN JOINT FACES WITH WATER DURING THE SAW CUTTING OPERATION OR BY WATER BLASTING AFTER SAWING.

④ CLEAN AND DRY JOINT FACES BY SANDBLASTING AND AIR BLASTING, WHEN SEALING IS REQUIRED.

⑤ JOINT WIDTH TOLERANCE IS +1/16" TO -1/32".

⑥ EVENLY SPACE A MINIMUM OF (8) ANCHOR PINS (4 PER SIDE) PER DOWEL ASSEMBLY. PROVIDE QUALITY CONTROL PLAN FOR ANCHORING THE DOWEL BAR ASSEMBLIES TO THE ENGINEER FOR ACCEPTANCE PER SPEC. 2301.

⑦ ANCHOR PIN REQUIREMENTS FOR CONCRETE PAVEMENT ON GRADE CONSTRUCTION. FOR CONCRETE OVERLAYS, ANCHOR PIN REQUIREMENT AS APPROVED BY THE ENGINEER.

⑧ TOLERANCES:
- PLACE DOWEL BARS PARALLEL TO THE SUBSTRATE SURFACE ±1/8" IN 15".
- PLACE DOWEL BARS PARALLEL TO THE CENTERLINE OF THE PAVEMENT ±¼" IN 15"
- SAW CONTRACTION JOINTS PERPENDICULAR TO THE CENTERLINE OF THE PAVEMENT AND CENTERED ON THE DOWEL BAR ±3".
- HEIGHT (hC) TO CENTER OF DOWEL BAR ± ½".

⑨ DISTANCE TO EDGE OF PAVEMENT FROM OUTSIDE DOWEL:
- 3' 0" FOR 14' 0" LANE.
- 2' 6" FOR 13' 6" LANE.
- 2' 0" FOR 13' 0" LANE.
- 1' 0" FOR 12' 0" LANE.

⑩ CONTRACTOR OPTION TO CUT AND BEND SPACER WIRES AFTER STAKING.

LEAD EXPERT OFFICE	GLENN ENGSTROM DIRECTOR OFFICE OF MATERIALS & ROAD RESEARCH	PAVEMENT JOINTS CONTRACTION (DESIGN C)	APPROVED: 10-03-2022 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.221	1 OF 4

DEPARTMENT OF TRANSPORTATION

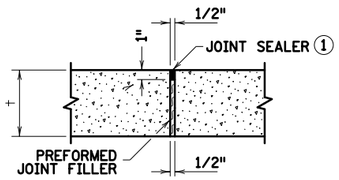
STANDARD PLANS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

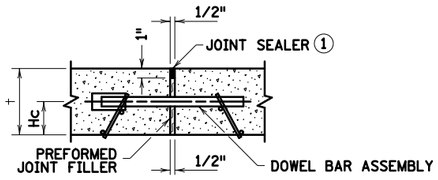
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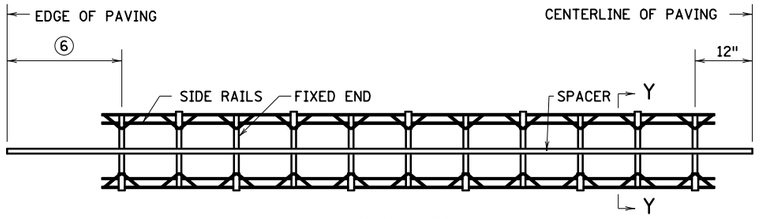
E1H



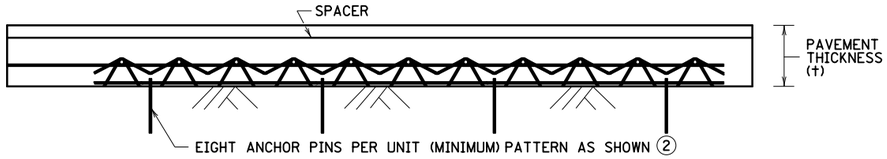
E1H-D ③

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

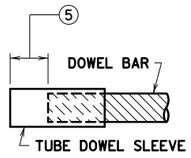
LEGEND — EXAMPLE
E = EXPANSION JOINT — E1H-D
NO. = JOINT REFERENCE
H = HOT POURED
-D = DOWEL BARS



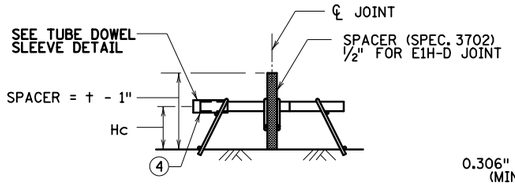
PLAN VIEW
EXPANSION JOINT DOWEL ASSEMBLY



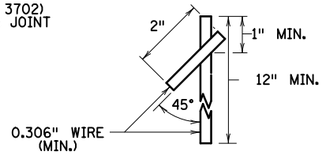
ELEVATION VIEW
EXPANSION JOINT DOWEL BAR ASSEMBLY



TUBE DOWEL SLEEVE DETAIL

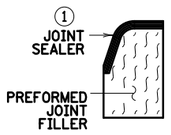


SECTION Y-Y ③

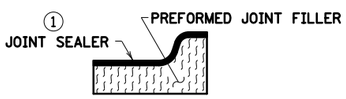


ANCHOR PIN

DOWEL BAR TABLE		
† PAVEMENT THICKNESS (IN.)	DOWEL BAR DIAMETER (IN.)	Hc HEIGHT TO CENTER OF DOWEL BAR (IN.)
7 - 7½	1	3
8 - 10	1¼	4
≥10½	1½	5



SECTION THRU CURB



SECTION THRU CURB

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

NOTES:

WHEN USING THE EXPANSION JOINT DOWEL ASSEMBLY, CONTACT THE CONCRETE OFFICE.

SEE STANDARD PLATE 1103 FOR DOWEL BAR ASSEMBLY.

PROVIDE PREFORMED JOINT FILLER MATERIAL IN ACCORDANCE WITH SPEC. 3702.

FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

① JOINT SEALER SPEC. 3725. CLEAN AND DRY JOINT FACES BY SANDBLASTING AND AIR BLASTING. TOP OF SEALER FLUSH TO ⅛" BELOW TOP OF PAVEMENT SURFACE.

② EVENLY SPACE A MINIMUM OF (8) ANCHOR PINS (4 PER SIDE) PER DOWEL ASSEMBLY. PROVIDE QUALITY CONTROL PLAN FOR ANCHORING THE DOWEL BAR ASSEMBLIES TO THE ENGINEER FOR ACCEPTANCE PER SPEC. 2301.

③ TOLERANCES:
- PLACE DOWEL BARS PARALLEL TO THE SUBSTRATE SURFACE ±⅛" IN 15".
- PLACE DOWEL BARS PARALLEL TO THE CENTERLINE OF THE PAVEMENT ±¼" IN 15"
- HEIGHT (hC) TO CENTER OF DOWEL BAR ± ½".

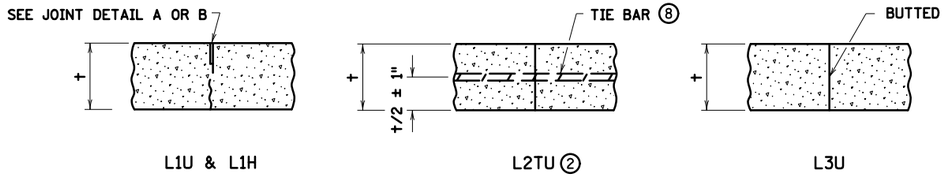
④ PLACE METAL INSTALLATION SHIELDS FOR EXPANSION JOINTS PARALLEL TO THE PAVEMENT SURFACE AND THE PAVEMENT CENTERLINE WITHIN A TOLERANCE OF ¼" WITHIN THE LENGTH OF BAR.

⑤ SPACE FROM END OF DOWEL BAR TO END OF SLEEVE IS 1" MINIMUM.

⑥ DISTANCE TO EDGE OF PAVEMENT FROM OUTSIDE DOWEL:
- 3' 0" FOR 14' 0" LANE.
- 2' 6" FOR 13' 6" LANE.
- 2' 0" FOR 13' 0" LANE.
- 1' 0" FOR 12' 0" LANE.

LEAD EXPERT OFFICE	GLENN ENGSTROM DIRECTOR OFFICE OF MATERIALS & ROAD RESEARCH		PAVEMENT JOINTS EXPANSION (DESIGN E)	APPROVED: 10-03-2022 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.221	2 OF 4
	DEPARTMENT OF TRANSPORTATION		STANDARD PLANS	SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18		Sheet No. 36 of 153 Sheets	

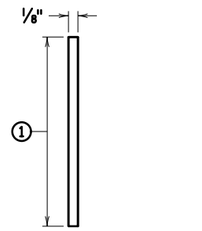
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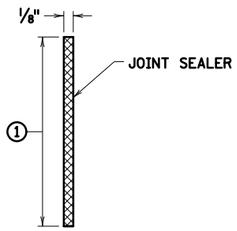
LONGITUDINAL JOINT REFERENCE, DETAIL & SEALER SPECIFICATION TABLE					
JOINT REFERENCE			JOINT DETAIL	JOINT SEALER SPEC	JOINT WIDTH
WITHOUT TIE BARS	WITH TIE BARS	WITH KEYWAY & TIE BARS			
L1U	L1TU		A	UNSEALED	1/8"
L1H	L1TH		B	3725	1/8"
	L2TU	L2KTU	NONE	UNSEALED	
L3U			NONE	UNSEALED	

LEGEND — **EXAMPLE** L2KTU

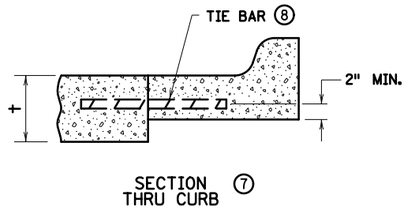
- L = LONGITUDINAL JOINT
- NO. = JOINT REFERENCE
  - 1 = PAVED CONSTRUCTION JOINT
  - 2 = TIED CONSTRUCTION JOINT
  - 3 = BUTTED CONSTRUCTION JOINT
- K = KEYWAY
- T = TIE BARS
- U = UNSEALED
- H = HOT POURED



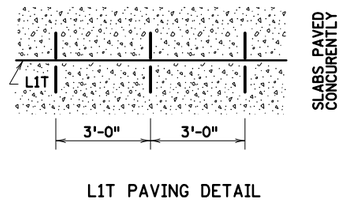
JOINT DETAIL A ③⑤
SAWED & UNSEALED



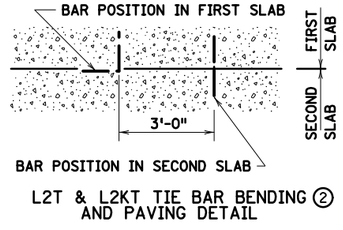
JOINT DETAIL B ④⑤
SAWED & SEALED



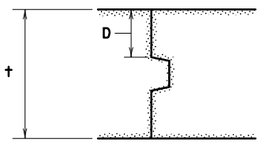
SECTION THRU CURB ⑦



L1T PAVING DETAIL



L2T & L2KT TIE BAR BENDING ②
AND PAVING DETAIL



PAVEMENT KEYWAY DETAIL ⑥

FIXED FORM KEYWAY TABLE ⑥	
t PAVEMENT THICKNESS	D (MIN. DEPTH)
< 7"	2-1/2"
7" TO 7-1/2"	3"
8" TO 9-1/2"	4"
≥ 10"	5"

SLIPFORM KEYWAY TABLE ⑥	
t PAVEMENT THICKNESS	D (MIN. DEPTH)
< 10"	NO KEYWAY
≥ 10"	5"

RECORD PLAN

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RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

NOTES:

PROVIDE EPOXY-COATED TIE BARS COMPLYING WITH SPEC. 3301.

FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

SEE STANDARD PLANS 5-297.217 AND 5-297.219 FOR CONCRETE MAINLINE AND RAMP PAVEMENT.

SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATION TO BE USED AND SPECIAL REINFORCEMENT REQUIRED.

LONGITUDINAL JOINTS SAWED WIDER THAN 1/8", CONTACT THE CONCRETE UNIT FOR SEALING RECOMMENDATIONS.

① JOINT DEPTH AND TOLERANCE: t/3 ± 1/4".

② BEND TIE BARS 90 DEGREES WHEN INSERTED IN THE L2 JOINTS, EXCEPT WHEN NOTED OTHERWISE IN THE PLANS.

③ CLEAN JOINT FACES WITH WATER DURING THE SAW CUTTING OPERATION OR BY WATER BLASTING AFTER SAWING.

④ CLEAN AND DRY JOINT FACES BY SANDBLASTING AND AIR BLASTING, WHEN SEALING IS REQUIRED.

⑤ JOINT WIDTH TOLERANCE IS +1/16" TO -1/32".

⑥ CONTRACTOR'S OPTION TO USE KEYWAY WHEN:
- PLACING FIXED FORM CONSTRUCTION.
- PLACING SLIPFORM CONSTRUCTION WHEN t ≥ 10".

USE OF KEYWAY FOR ANY OTHER APPLICATION REQUIRES APPROVAL BY THE ENGINEER. OTHER KEYWAY SHAPES MAY BE USED WITH THE APPROVAL OF THE CONCRETE ENGINEER.

⑦ WHEN CURB AND GUTTER IS NOT CONSTRUCTED AT THE SAME DEPTH AS ADJACENT CONCRETE, PLACE TIE BAR MINIMUM OF 2" ABOVE THE CURB AND GUTTER GRADE.

⑧ PROVIDE NO. 4 TIE BAR, 30" LONG, SPACED AT 3' ON CENTER.

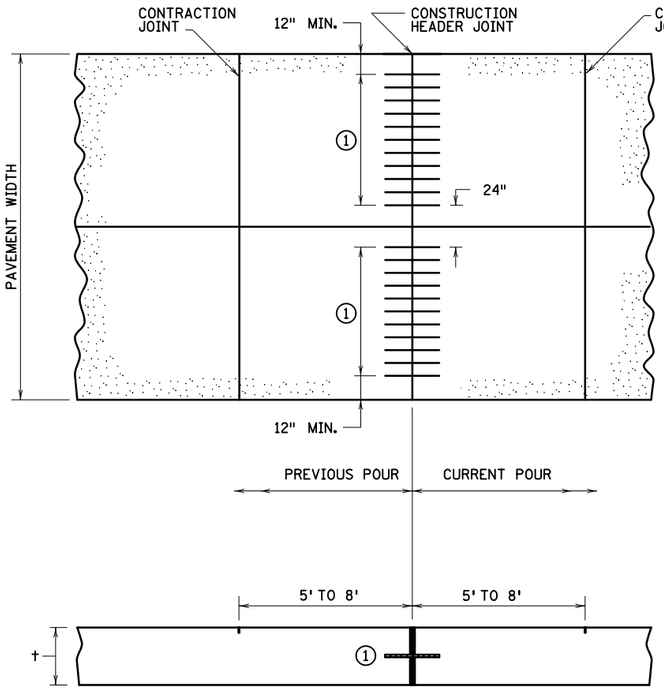
LEAD EXPERT OFFICE	GLENN ENGSTROM DIRECTOR OFFICE OF MATERIALS & ROAD RESEARCH		PAVEMENT JOINTS LONGITUDINAL (DESIGN L)	APPROVED: 10-03-2022 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.221	3 OF 4
	DEPARTMENT OF TRANSPORTATION		STANDARD PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18	Sheet No. 37 of 153 Sheets

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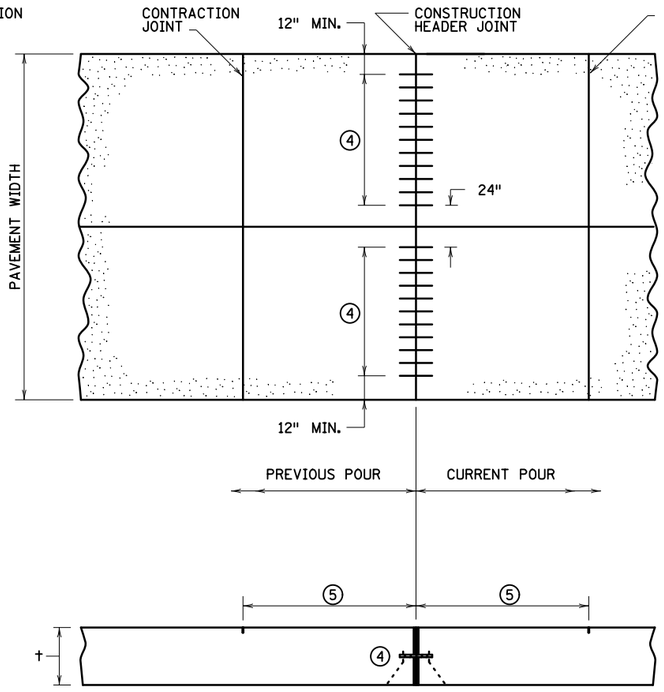
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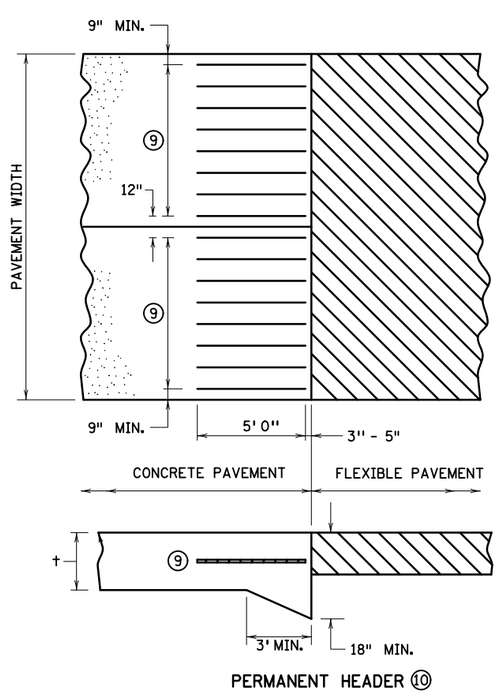
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REINFORCEMENT BAR CONSTRUCTION HEADERS

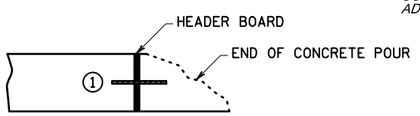


DOWEL BAR CONSTRUCTION HEADERS

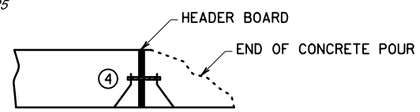


RECORD PLAN 2026

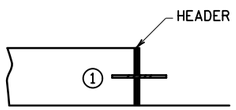
CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025



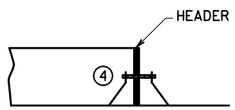
SLIPFORM PLACED REINFORCEMENT BAR HEADER ②



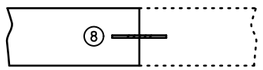
SLIPFORM PLACED DOWEL BAR HEADER ⑥



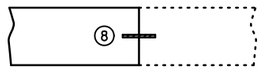
FIXED FORM PLACED REINFORCEMENT BAR HEADER ③



FIXED FORM PLACED DOWEL BAR HEADER ⑦



DRILL AND GROUT REINFORCEMENT BAR HEADER



DRILL AND GROUT DOWEL BAR HEADER

RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

NOTES:

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

① PROVIDE NO. 4 REINFORCEMENT BARS, 30" LONG, SPREAD 12" ON CENTER AT DEPTH OF T/2 +/- 1".

② PAVE PAST THE HEADER LOCATION. REMOVE END OF CONCRETE POUR. SET HEADER BOARD SHAPED TO PAVEMENT CROSS SECTION AND SLOTTED OR DRILLED FOR REINFORCEMENT BARS. INSERT THE REINFORCEMENT BARS AND FINISH THE CONCRETE BEHIND THE BOARD.

③ SET HEADER BOARD SHAPED TO PAVEMENT CROSS SECTION AND SLOTTED OR DRILLED FOR REINFORCEMENT BARS. PLACE THE CONCRETE BEHIND THE BOARD AND INSERT THE REINFORCEMENT BARS. CONSOLIDATE AND FINISH THE CONCRETE BEHIND THE HEADER BOARD.

④ PROVIDE DOWEL BARS IN ACCORDANCE WITH SPEC. 3302 AND THE CONTRACT.

⑤ DISTANCE EQUAL TO OR LESS THAN THE DESIGNED CONTRACTION JOINT SPACING IN ACCORDANCE WITH THE CONTRACT.

⑥ PLACE DOWEL BAR BASKET AT DESIRED HEADER LOCATION. SET HEADER BOARD SHAPED TO PAVEMENT CROSS SECTION ABOVE AND BELOW THE DOWELS. PAVE PAST THE HEADER LOCATION AND FINISH CONCRETE BEHIND THE HEADER BOARD. THOROUGHLY REMOVE ALL CONCRETE FROM THE EXPOSED DOWELS.

⑦ PLACE DOWEL BAR BASKET AT DESIRED HEADER LOCATION. SET HEADER BOARD SHAPED TO PAVEMENT CROSS SECTION ABOVE AND BELOW THE DOWELS. PLACE, CONSOLIDATE AND FINISH THE CONCRETE BEHIND THE HEADER BOARD.

⑧ DRILL AND GROUT 18" LONG DOWEL OR REINFORCEMENT BARS SPACED AT 12" ON CENTER AT A DEPTH OF T/2 ± 1". DRILL THE HOLE 1/8" GREATER THAN THE NOMINAL OUTSIDE DIAMETER OF THE BAR BEING PLACED TO A DEPTH OF 9". INJECT A MnDOT-APPROVED EPOXY OR NON-SHRINK GROUT IN THE BACK OF THE DRILL HOLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- FOR DOWEL BAR HEADERS, USE DOWEL BARS HAVING A DIAMETER IN ACCORDANCE WITH SPEC. 3302 AND THE CONTRACT.
- FOR REINFORCEMENT BAR HEADERS, USE NO. 4 REINFORCEMENT BARS.

⑨ PROVIDE NO. 7 REINFORCEMENT BARS, 5' LONG, SPACED 18" ON CENTER AT DEPTH OF T/2 ± 1".

⑩ USE PERMANENT HEADER WHEN LONG SECTIONS OF CONCRETE (400' OR GREATER) ABUT BITUMINOUS. CONTACT THE CONCRETE UNIT WHEN FUTURE CONCRETE IS BEING CONSTRUCTED ADJACENT TO AN EXISTING PERMANENT HEADER.

⑪ USE TERMINAL HEADER WHEN SHORT SECTIONS OF CONCRETE (LESS THAN 400') ABUT BITUMINOUS (ON SIDE STREETS, FOR EXAMPLE).

LEAD EXPERT OFFICE	GLENN ENGSTROM DIRECTOR OFFICE OF MATERIALS & ROAD RESEARCH	PAVEMENT JOINTS CONSTRUCTION AND TERMINAL HEADERS	APPROVED: 10-03-2022 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.221	4 OF 4

DEPARTMENT OF TRANSPORTATION

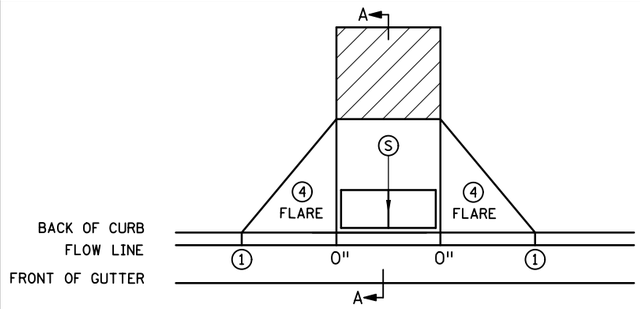
STANDARD PLANS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

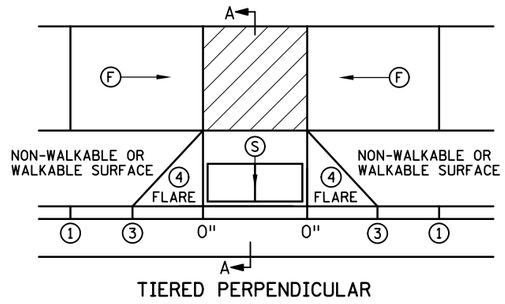
Sheet No. 38 of 153 Sheets

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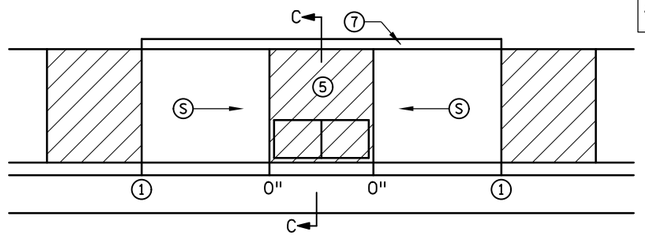
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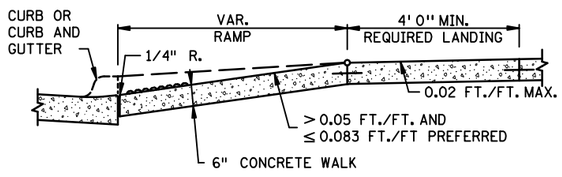
PERPENDICULAR



TIERED PERPENDICULAR

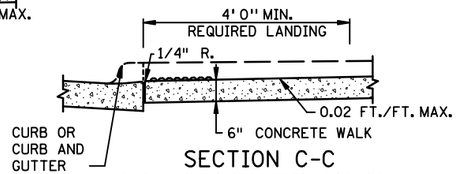


PARALLEL



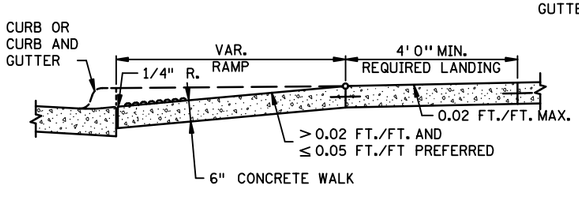
SECTION A-A

PERPENDICULAR/TIERED/DIAGONAL



SECTION C-C

PARALLEL/DEPRESSED CORNER



SECTION B-B

FAN

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

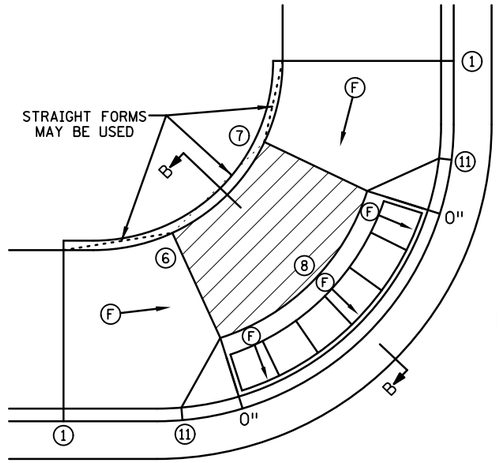
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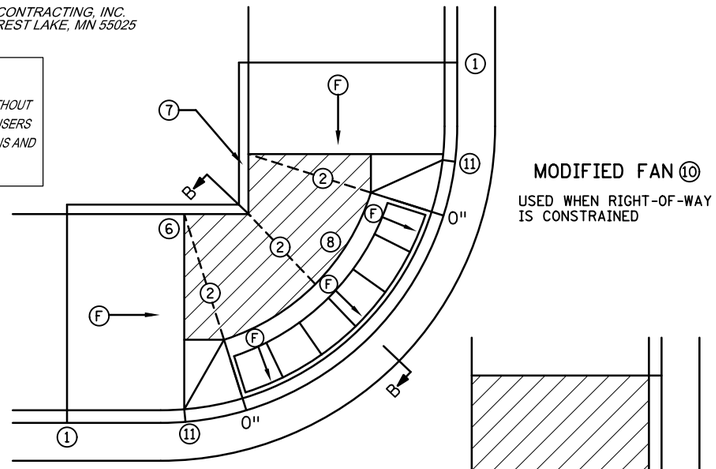
ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

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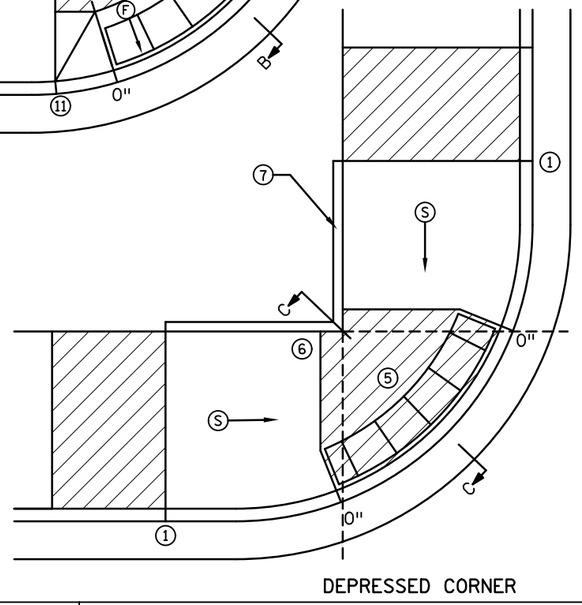


FAN ⑩

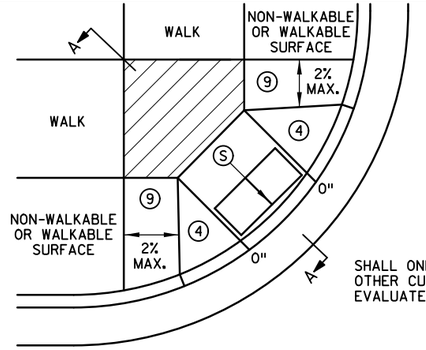


MODIFIED FAN ⑩

USED WHEN RIGHT-OF-WAY IS CONSTRAINED



DEPRESSED CORNER



DIAGONAL

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

NOTES:

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

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

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

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

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

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

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

MAINTAIN POSITIVE BOULEVARD DRAINAGE TO TOP OF CURB.

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

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

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

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

① MATCH FULL HEIGHT CURB.
② 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.
③ 3" HIGH CURB WHEN USING A 3' LONG RAMP, 4" HIGH CURB WHEN USING A 4' LONG RAMP.
④ SEE SHEET 4 OF 6, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS.
⑤ DETECTABLE WARNINGS MAY BE PART OF THE 4' X 4' MIN. LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.
⑥ THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF WALK. THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL. (TYPICAL FOR ALL)
⑦ WHEN ADJACENT TO GRASS, GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS LESS THAN 5% RUNNING SLOPE SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
⑧ A 7' MIN TOP RADIUS GRADE BREAK IS REQUIRED TO BE CONSTRUCTIBLE.
⑨ PAVE FULL WALK WIDTH.
⑩ "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.
⑪ INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8-10% TO A MINIMUM 3" CURB HEIGHT. REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.

LEGEND

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

(S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.

(F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.

LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.

X" CURB HEIGHT

LEAD EXPERT OFFICE	JEFFREY PERKINS OPERATIONS DIVISION	PEDESTRIAN CURB RAMP DETAILS	APPROVED: 11-04-2021 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.250	1 OF 6

DEPARTMENT OF TRANSPORTATION

STANDARD PLANS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

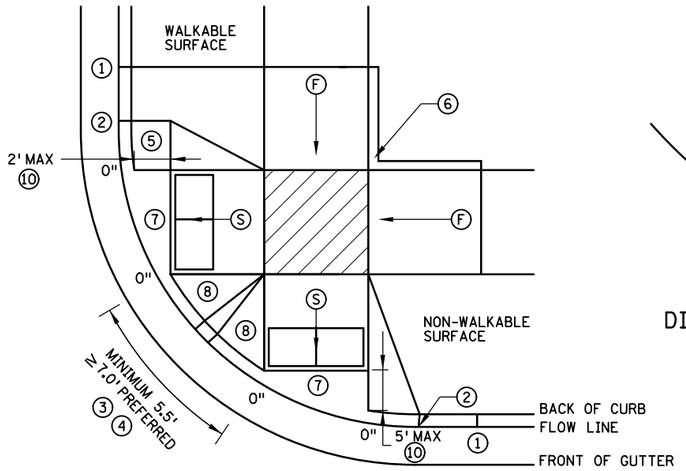
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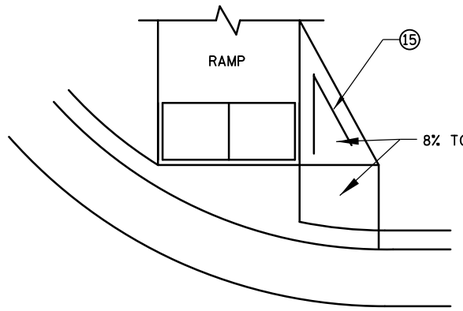
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COMBINED DIRECTIONAL



DIRECTIONAL RAMP WALKABLE FLARE

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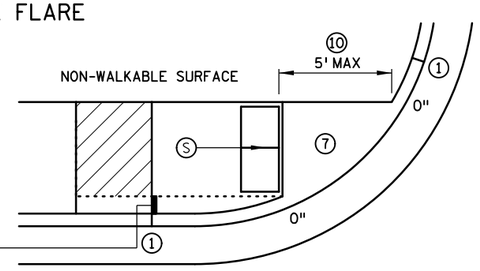
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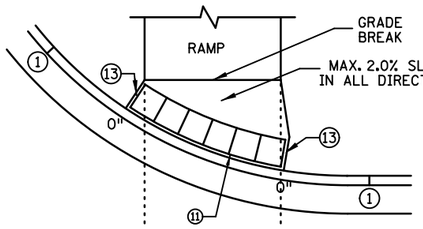
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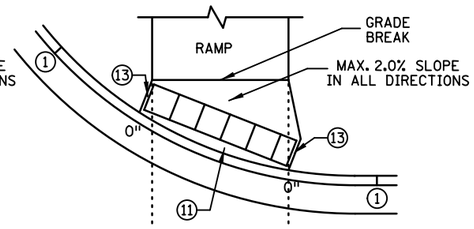
OCTOBER 2026

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



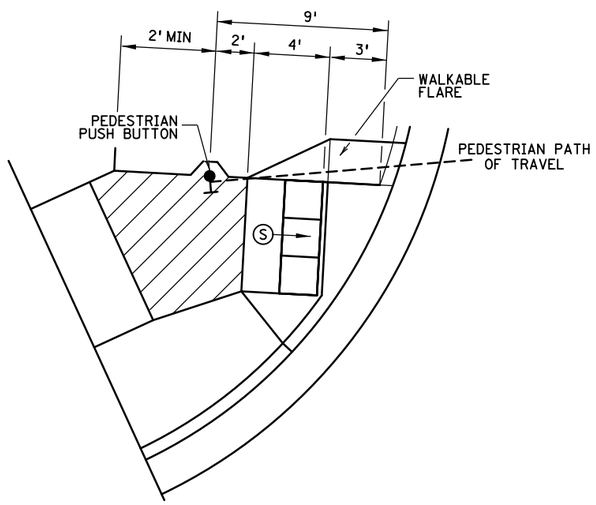
STANDARD ONE-WAY DIRECTIONAL ⑨





DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED ⑫

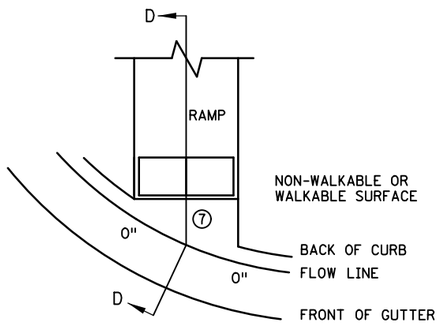
ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB

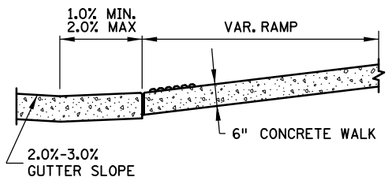


SEMI-DIRECTIONAL RAMP ③④⑨

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

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





SECTION D-D

CURB FOR DIRECTIONAL RAMPS ⑭

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

NOTES:

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

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

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

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

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

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

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

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

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

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

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

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

① MATCH FULL CURB HEIGHT.

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

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

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

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

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

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

⑧ 8% TO 10% WALKABLE FLARE.

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

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

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

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

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

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

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

LEGEND

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

Ⓢ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.

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

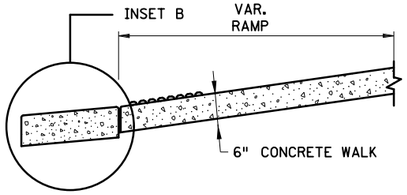
LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.

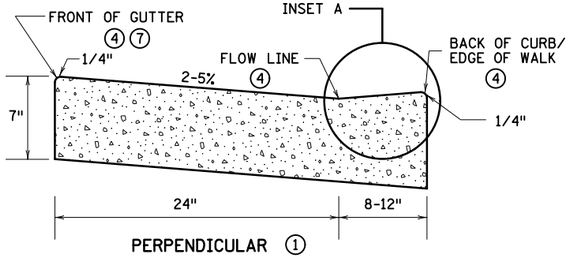
X" CURB HEIGHT

LEAD EXPERT OFFICE	JEFFREY PERKINS OPERATIONS DIVISION		PEDESTRIAN CURB RAMP DETAILS	APPROVED: 11-04-2021 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.250	2 OF 6
	DEPARTMENT OF TRANSPORTATION		STANDARD PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18 Sheet No. 40 of 153 Sheets	

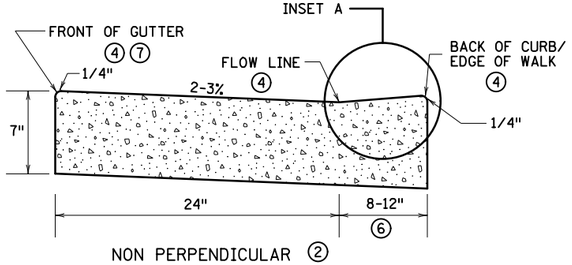
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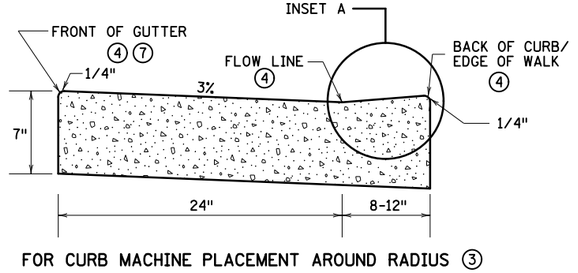




PERPENDICULAR ①

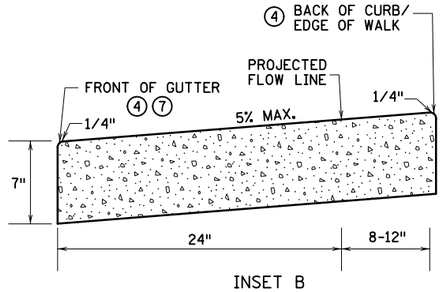


NON PERPENDICULAR ②

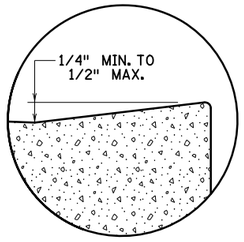


FOR CURB MACHINE PLACEMENT AROUND RADIUS ③
(REGARDLESS OF RAMP TYPE)

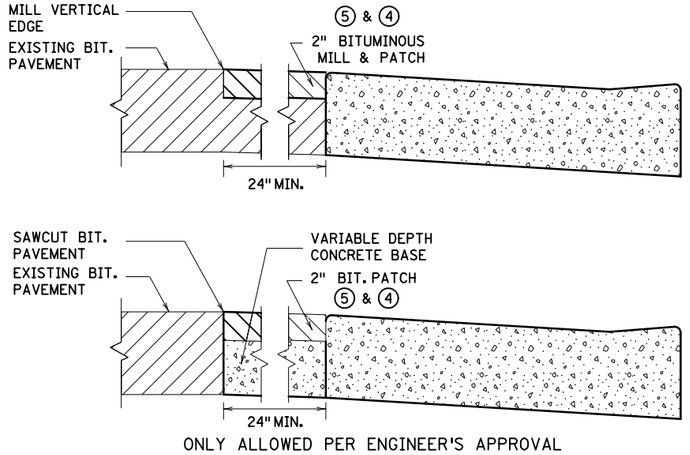
PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



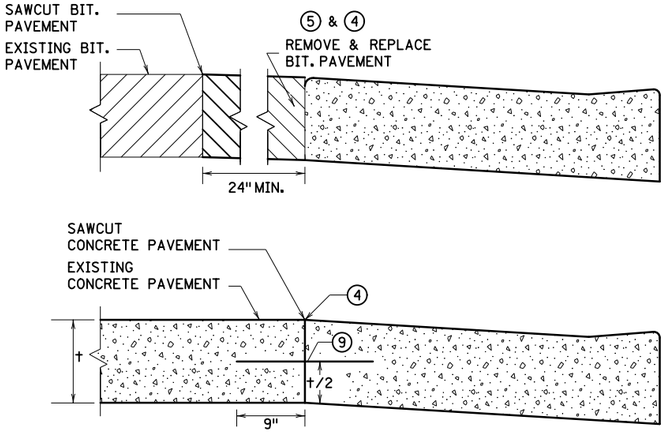
INSET B
OUTFLOW GUTTER ⑧



INSET A



ONLY ALLOWED PER ENGINEER'S APPROVAL



PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER

FOR USE ON CURB RAMP RETROFITS

RECORD PLAN

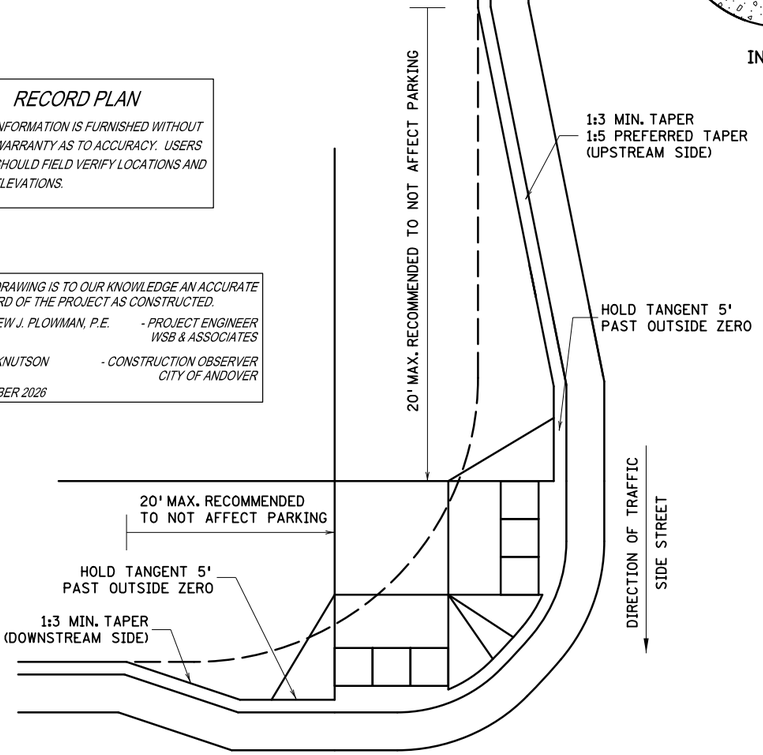
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THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

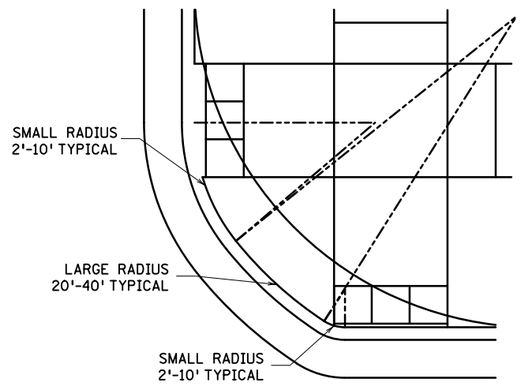
ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026



ADA CURB EXTENSION WITH COMPOUND RADIUS (BUMP OUT) ⑪



COMBINED DIRECTIONAL ⑩
(COMPOUND RADIUS)

NOTES:

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

NO PONDING SHALL BE PRESENT IN THE PAR.

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

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

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

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

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

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

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

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

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

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

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

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

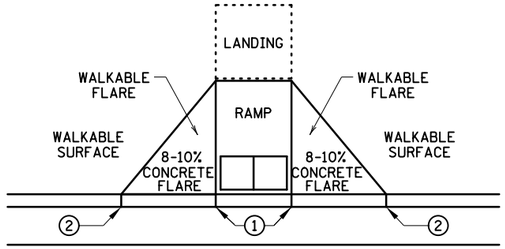
RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

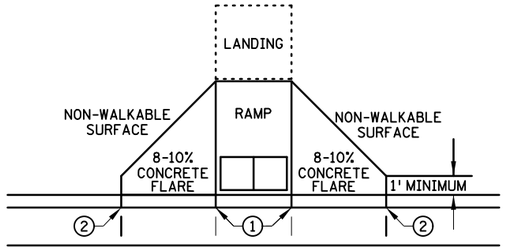
LEAD EXPERT OFFICE	JEFFREY PERKINS OPERATIONS DIVISION		PEDESTRIAN CURB RAMP DETAILS	APPROVED: 11-04-2021 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.250	3 OF 6
	DEPARTMENT OF TRANSPORTATION		STANDARD PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18 Sheet No. 41 of 153 Sheets	

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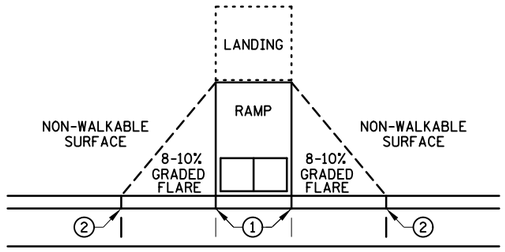
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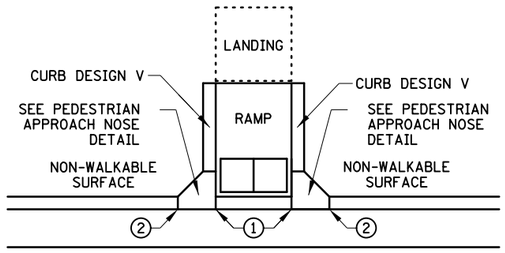
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

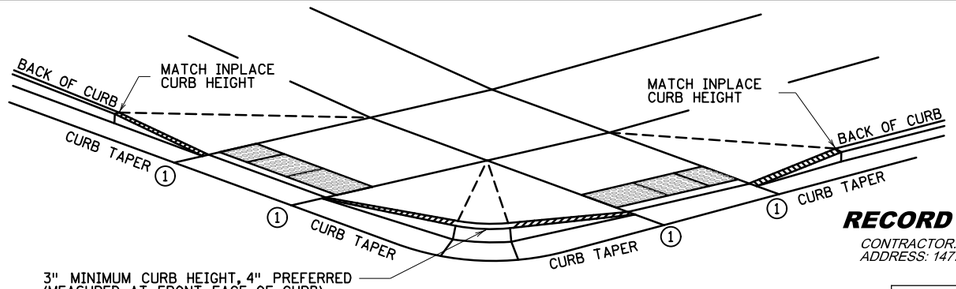


GRADED FLARES

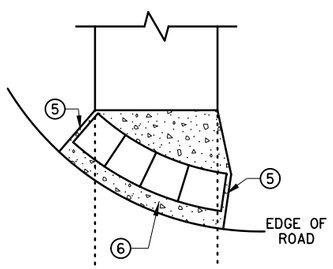


RETURNED CURB ④

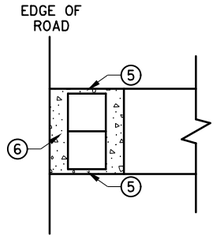
TYPICAL SIDE TREATMENT OPTIONS ③ ⑩



DETECTABLE EDGE WITH ⑦
CURB AND GUTTER

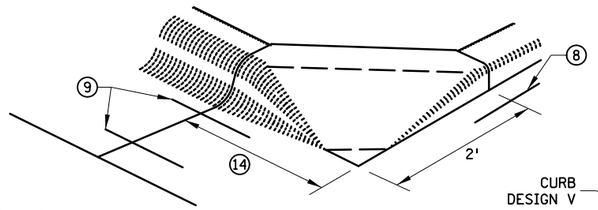


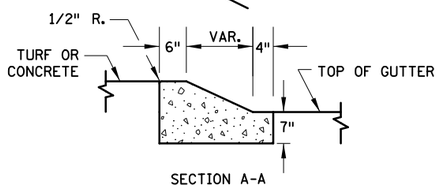
RADIAL DETECTABLE WARNING



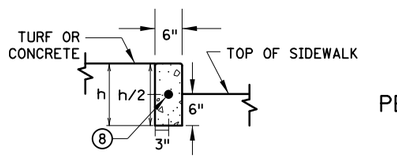
RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

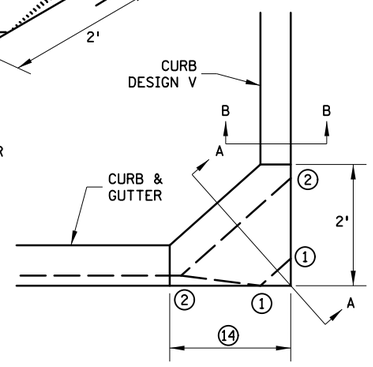




SECTION A-A



SECTION B-B



PEDESTRIAN APPROACH
NOSE DETAIL
(FOR RETURNED CURB
SIDE TREATMENT)

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

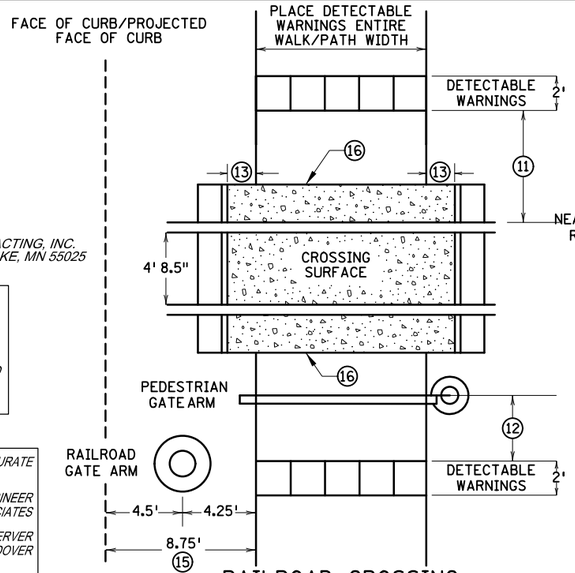
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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026



RAILROAD CROSSING
PLAN VIEW

NOTES:

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

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

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

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

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

② FULL CURB HEIGHT.

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

④ TYPICALLY USED FOR MEDIANS AND ISLANDS.

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

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

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

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

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

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

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

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

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

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

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

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

LEAD EXPERT OFFICE	JEFFREY PERKINS OPERATIONS DIVISION	PEDESTRIAN CURB RAMP DETAILS	APPROVED: 11-04-2021 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.250	4 OF 6

DEPARTMENT OF TRANSPORTATION

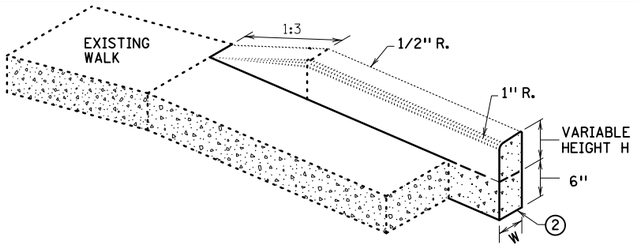
STANDARD PLANS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

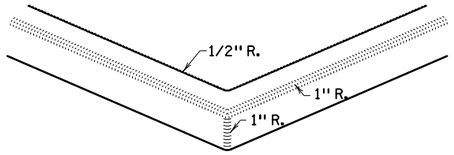
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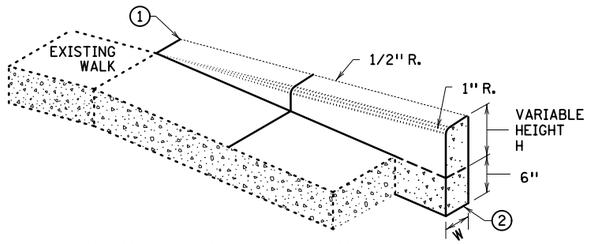


V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS

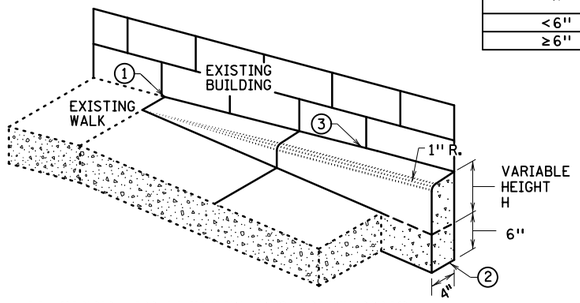


V CURB INTERSECTION

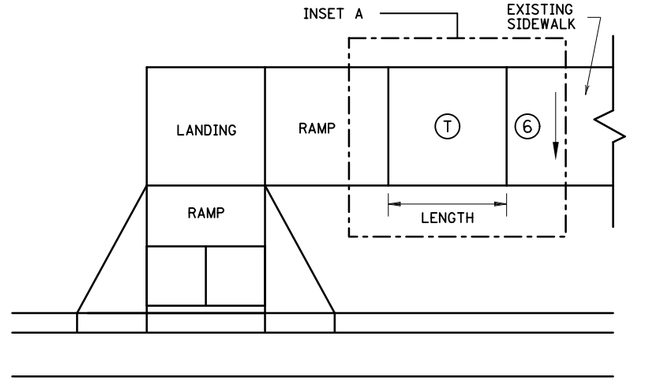
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



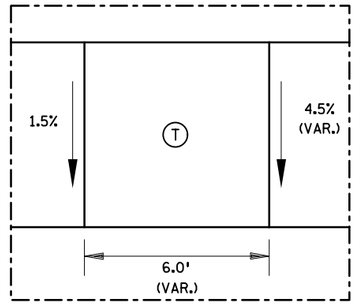
V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS



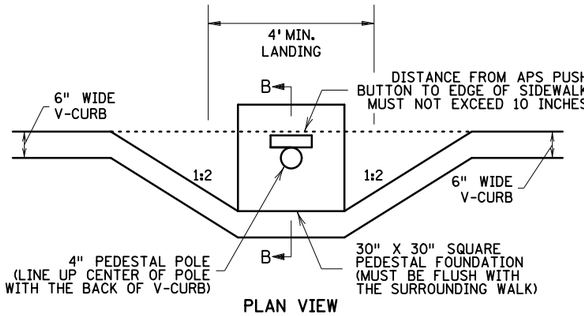
V CURB ADJACENT TO BUILDING OR BARRIER



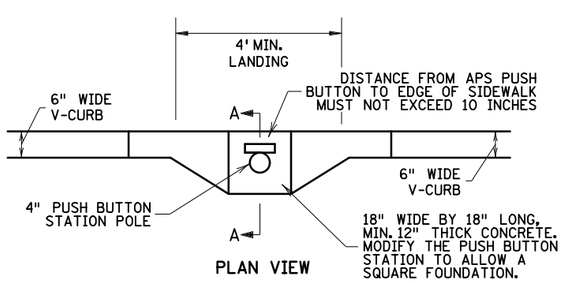
TRANSITION PANEL ④⑤



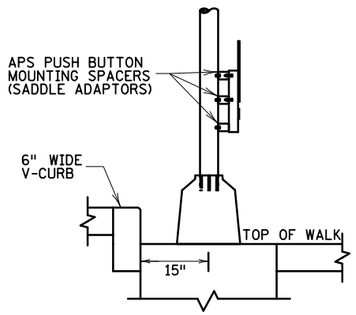
INSET A



PLAN VIEW

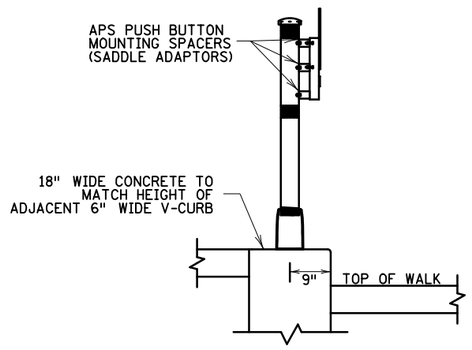


PLAN VIEW



SECTION B-B

SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)



SECTION A-A

PUSH BUTTON STATION (V-CURB)

NOTES:

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

ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.

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

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

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

① END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.

② ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.

③ CONSTRUCT USING APPROVED EXPANSION MATERIAL PER MNDOT TYPE A-E EXPANSION. LEAVE A MINIMUM ½" TOP GAP AND SEAL WITH MNDOT APPROVED SILICONE PER MNDOT SPEC 3722.

④ THE MAX. RATE OF CROSS SLOPE TRANSITIONING IS 1' LINEAR FOOT OF SIDEWALK PER HALF PERCENT CROSS SLOPE. WHEN PAR WIDTH IS GREATER THAN 6' OR THE RUNNING SLOPE IS GREATER THAN 5%, DOUBLE THE CALCULATED TRANSITION LENGTH.

⑤ TRANSITION PANELS ARE TO ONLY BE USED AFTER THE RAMP, OR IF NEEDED, LANDING ARE AT THE FULL CURB HEIGHT (TYPICAL SECTION).

⑥ EXISTING CROSS SLOPE GREATER THAN 2.0%.

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

LEGEND

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

Ⓢ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.

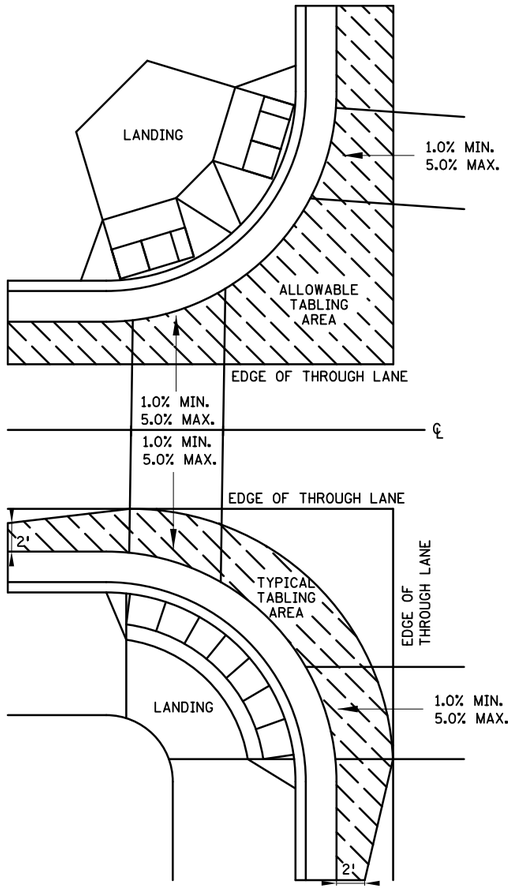
LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.

Ⓣ TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK. SEE THIS SHEET FOR ADDITIONAL INFORMATION.

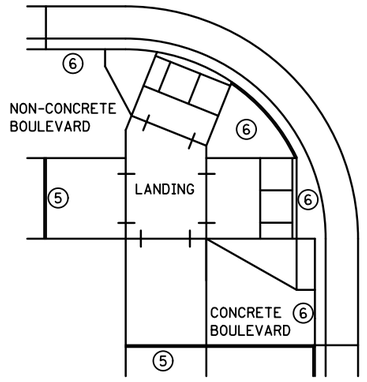
LEAD EXPERT OFFICE: JEFFREY PERKINS, OPERATIONS DIVISION		PEDESTRIAN CURB RAMP DETAILS	APPROVED: 11-04-2021 REVISED:	THOMAS STYRBICKI, STATE DESIGN ENGINEER	STANDARD PLAN 5-297.250	5 OF 6
DEPARTMENT OF TRANSPORTATION		STANDARD PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18	Sheet No. 43 of 153 Sheets

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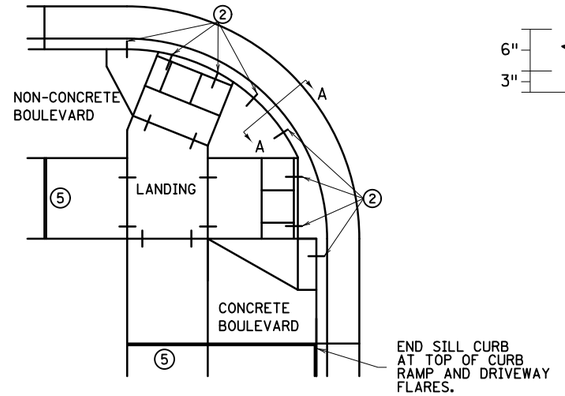
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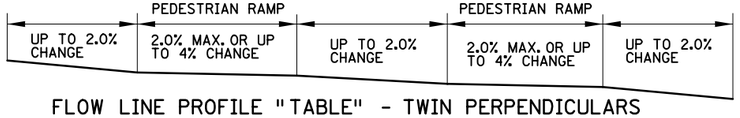
CURB LINE AND ROAD CROSSING ADJUSTMENTS



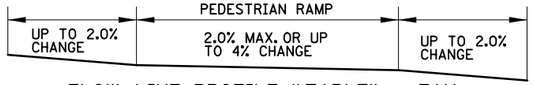
EXPANSION MATERIAL PLACEMENT
FOR CONCRETE ROADWAYS



CURB LINE REINFORCEMENT ④
PLACEMENT ON BITUMINOUS ROADWAYS



FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS

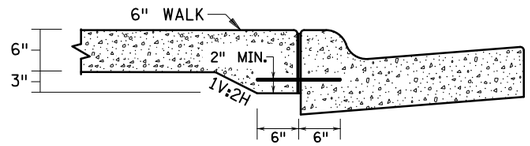


FLOW LINE PROFILE "TABLE" - FAN

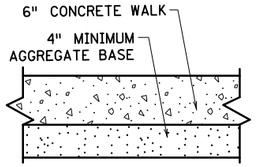
FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS



FLOW LINE PROFILE RAISE - FAN



SECTION VIEW A-A
THICKENED SECTION
THROUGH CURB RAMP FLARES



TYPICAL SIDEWALK SECTION
WITHIN INTERSECTION CORNER

RECORD PLAN

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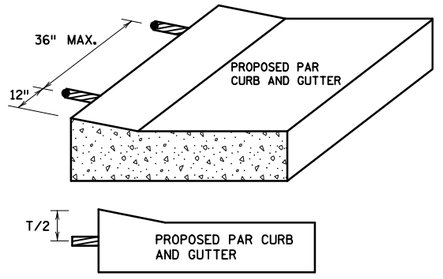
ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

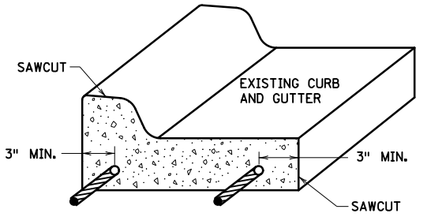
JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

RECORD PLAN 2026

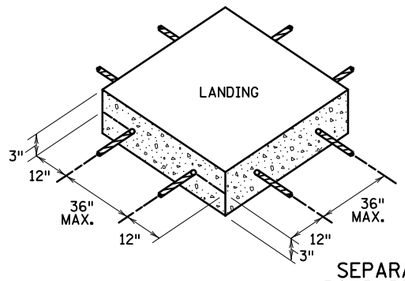
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ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

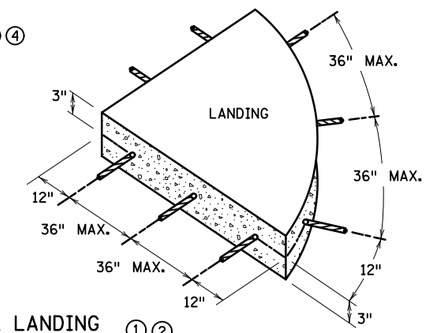




CURB AND GUTTER
REINFORCEMENT ③

CURB RAMP REINFORCEMENT DETAILS ②④





SEPARATE LANDING
POUR REINFORCEMENT ①②

GENERAL NOTES:

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

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

MILL & OVERLAY PROJECTS: "TABLING" OF FLOW LINES, IN FRONT OF THE PEDESTRIAN RAMP, IS REQUIRED WHEN THE EXISTING FLOW LINE IS GREATER THAN 2%. WARPING OF THE BITUMINOUS PAVEMENT CAN NOT EXTEND INTO THE THROUGH LANE. TABLE THE FLOW LINE TO 2% OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA;

1) 1.0% MIN. CROSS-SLOPE OF THE ROAD
2) 5.0% MAX. CROSS-SLOPE OF THE ROAD
3) "TABLE" FLOW LINE UP TO 4% CHANGE FROM EXISTING SLOPE IN FRONT OF PEDESTRIAN RAMP
4) UP TO 2% CHANGE IN FLOW LINE FROM EXISTING SLOPE BEYOND THE PEDESTRIAN CURB RAMP

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

RAISING OF CURB LINES SHOULD OCCUR IN VERTICALLY CONSTRAINED AREAS. RAISE THE CURB LINES ENOUGH TO ALLOW COMPLIANT RAMPS OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA;

1) 1.0% MIN. AND 5.0% MAXIMUM CROSS-SLOPE OF THE ROAD
2) 1.0% MIN. FLOW LINE (ON EITHER SIDE OF PEDESTRIAN RAMP) TO MAINTAIN POSITIVE DRAINAGE
3) 5.0% RECOMMENDED MAX. FLOW LINE
4) LONGITUDINAL THROUGH LANE ROADWAY TAPERS SHOULD BE 1" VERTICAL PER 15' HORIZONTAL

NOTES:

① TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET FOR ALL SEPARATELY POURED INITIAL LANDINGS.

② DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) AT 36" MAXIMUM CENTER TO CENTER MINIMUM 12" SPACING FROM CONSTRUCTION JOINTS. BARS TO BE ADJUSTED TO MATCH RAMP GRADE. BARS TO BE PAID BY EACH.

③ DRILL AND GROUT 2 - NO. 4 X 12" LONG (6" EMBEDDED) REINFORCEMENT BARS (EPOXY COATED). REINFORCEMENT REQUIRED FOR ALL CONSTRUCTION JOINTS. BARS TO BE PAID BY EACH.

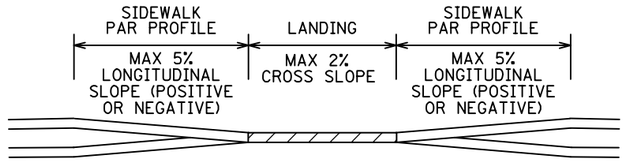
④ THIS CURB LINE REINFORCEMENT DETAIL SHALL BE USED ON BITUMINOUS ROADWAYS. FOR CONCRETE ROADWAYS, SEE NOTE 6.

⑤ CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.

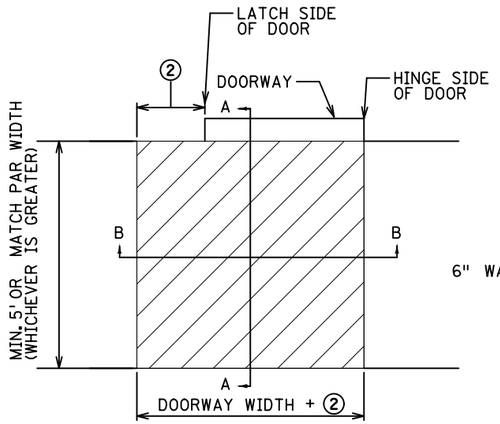
⑥ USE AN APPROVED TYPE F (1/4 INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FULL HEIGHT DIMENSION OF ADJACENT CONCRETE.

LEAD EXPERT OFFICE: JEFFREY PERKINS, OPERATIONS DIVISION		PEDESTRIAN CURB RAMP DETAILS	APPROVED: 11-04-2021 REVISED:	THOMAS STYRBICKI, STATE DESIGN ENGINEER	STANDARD PLAN 5-297.250 — 6 OF 6
DEPARTMENT OF TRANSPORTATION		STANDARD PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18 — Sheet No. 44 of 153 Sheets

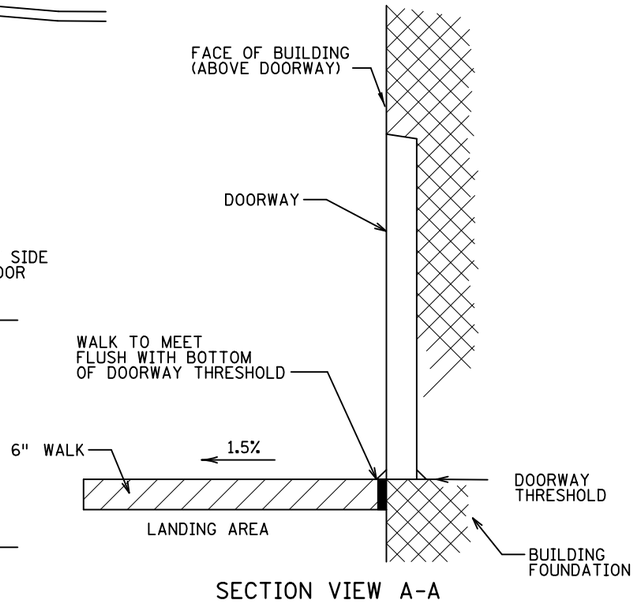
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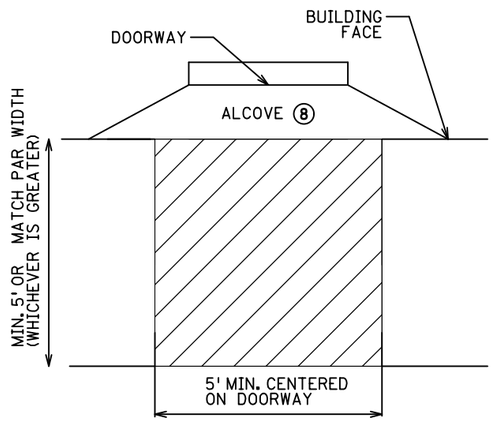
SECTION VIEW B-B



PLAN VIEW DOORWAY

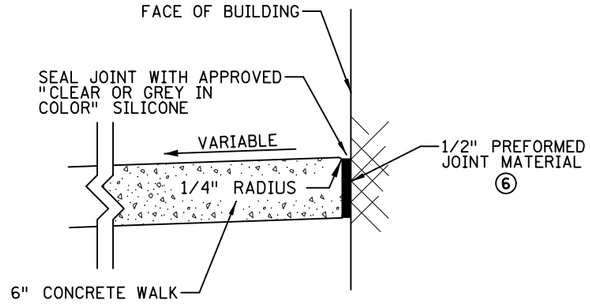


SECTION VIEW A-A

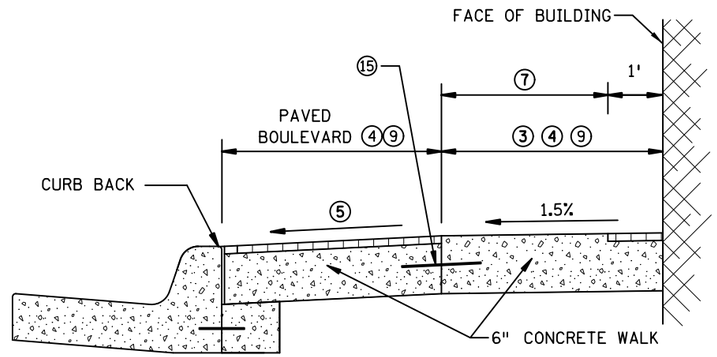


PLAN VIEW DOORWAY WITH ALCOVE

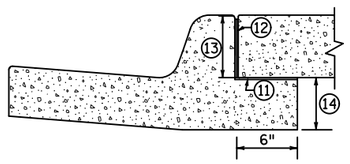
SIDEWALK LANDING REQUIREMENTS ①



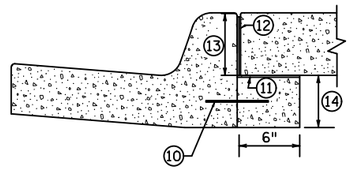
BUILDING JOINT SEAL (INCIDENTAL)



DOWNTOWN SIDEWALK TYPICAL SECTION



SLIP FORM SILL



FIXED FORM SILL

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

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

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

NOTES:

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

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

FIELD ADJUST SIDEWALK PROFILES TO MEET ALL DOORWAY THRESHOLDS.

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

SEE SPECIAL PROVISIONS FOR SILICONE SPECIFICATIONS.

① LANDING CRITERIA IS REQUIRED FOR ALL DOORS, STEPS, AND PRIVATE WALKS. FEASIBILITY DECREASES WITH NARROWER BOULEVARDS AND STEEPER SIDEWALK PROFILES.
② 18" MIN. WHEN DOOR SWINGS OUTWARD FROM BUILDING. 12" MIN WHEN DOOR SWINGS INWARD FROM BUILDING.
③ 6' MIN. PAR REQUIRED WHEN ADJACENT TO BUILDINGS.
④ 2/3 PAR TO 1/3 BOULEVARD SHOULD BE USED WHEN FEASIBLE. HOLD UNIFORM BOULEVARD WIDTH. 4' PREFERRED MINIMUM BOULEVARD.
⑤ 1%-5% FOR THE MAJORITY OF THE BLOCK, WITH EXCEPTIONS UP TO 8% IN CONSTRAINED AREAS.
⑥ CONSTRUCT USING APPROVED EXPANSION MATERIAL PER MNDOT TYPE A-E EXPANSION. LEAVE A MINIMUM ½" TOP GAP AND SEAL WITH MNDOT APPROVED SILICONE PER MNDOT SPEC 3722.
⑦ TO MINIMIZE VIBRATION AND ROLLING RESISTANCE, AREA SHALL BE FREE OF PAVERS, STAMPED CONCRETE, AND/OR EXCESSIVE JOINTING.
⑧ 2% MAX. PER BUILDING CODE. IF GREATER THAN 2%, FLATTEN AS FEASIBLE.
⑨ FORM CONTRACTION JOINTS AS NEEDED TO PRODUCE APPROXIMATELY SQUARE PANEL SIZE. CONRETE PANEL SIZE SHOULD NOT EXCEED 1½ :1 LENGTH X WIDTH.
⑩ DRILL AND GROUT NO. 4 X 8" LONG TIE BARS (EPOXY COATED). 36" MAXIMUM SPACING BETWEEN BARS WITH 2" MINIMUM CONCRETE COVER PLACED 1' MINIMUM FROM ADJACENT CONSTRUCTION JOINTS. 1' MINIMUM FROM ADJACENT CONCRETE JOINTS. TIE BARS SHALL BE EMBEDDED 4" WITH 2" MINIMUM CONCRETE COVER AND ARE INCIDENTAL TO SILL PLACEMENT.
⑪ FURNISH AND INSTALL THE FULL WIDTH OF THE TOP OF SILL A MINIMUM 2ML THICK POLYTHENE SHEETING.
⑫ USE AN APPROVED TYPE F (¼ INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FULL HEIGHT DIMENSION OF ADJACENT CONCRETE.
⑬ DIMENSION TO BE SAME AS SIDEWALK THICKNESS, 4" MIN.
⑭ 6" WALK: 5" MIN. FOR B424; 7" MIN. FOR B624
4" WALK: 7" MIN. FOR B424; 9" MIN. FOR B624
⑮ DRILL AND GROUT NO. 4 X 12" LONG TIE BARS (EPOXY COATED). 36" MAXIMUM SPACING BETWEEN BARS WITH 2" MINIMUM CONCRETE COVER PLACED 1' MINIMUM FROM ADJACENT CONCRETE JOINTS.

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - *PROJECT ENGINEER WSB & ASSOCIATES*

JAKE KNUTSON - *CONSTRUCTION OBSERVER CITY OF ANDOVER*

OCTOBER 2026

LEAD EXPERT OFFICE	JEFFREY PERKINS OPERATIONS DIVISION		DRIVEWAY AND SIDEWALK DETAILS	APPROVED: 11-04-2021 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.254	4 OF 4

DEPARTMENT OF TRANSPORTATION

STANDARD PLANS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

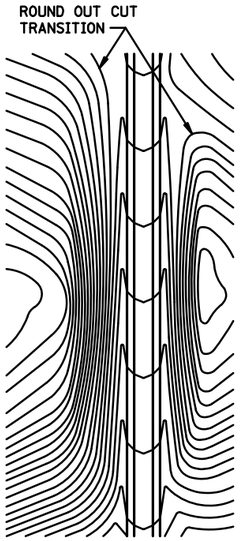
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CONTOURING ROAD CUTS

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

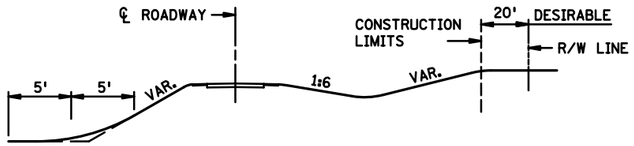
ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

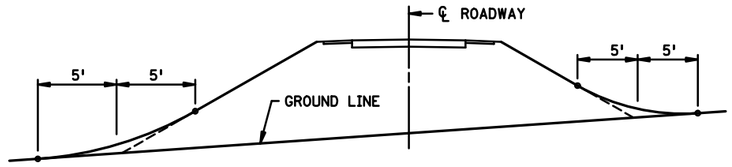
OCTOBER 2026

RECORD PLAN

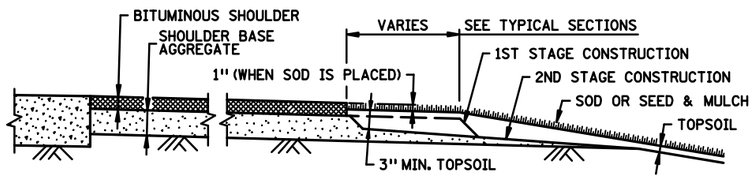
INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.



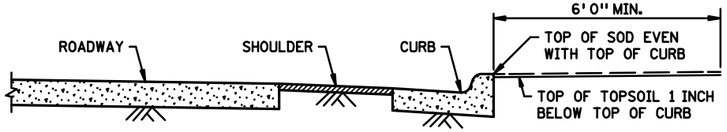
ROUNDING SHOULDERS AND BACKSLOPES



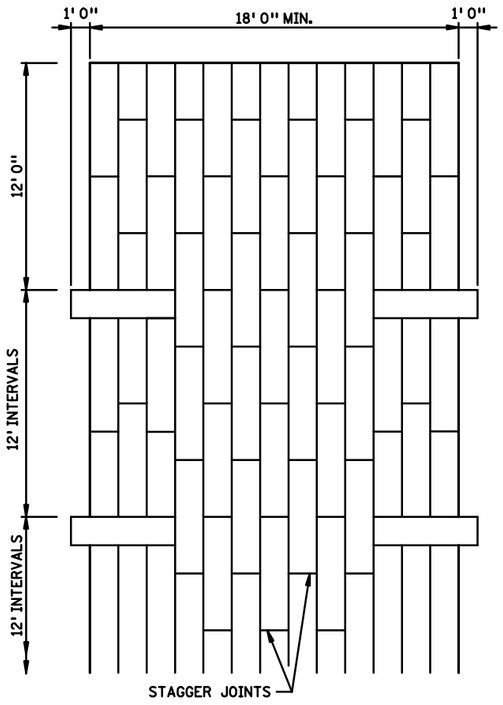
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



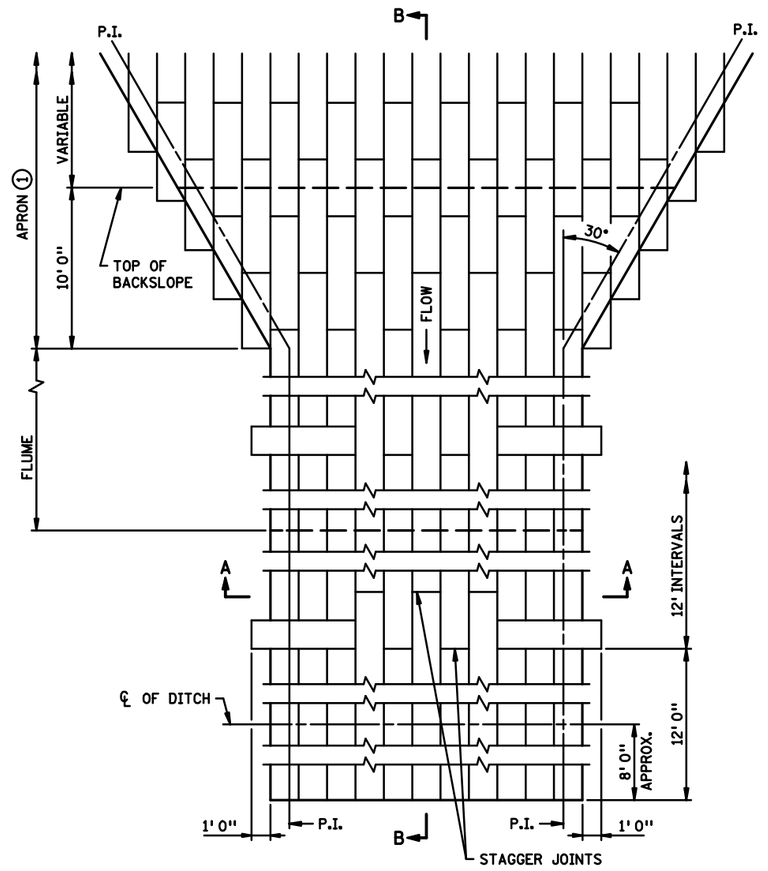
SHAPING AND TOPSOILING INSLOPES



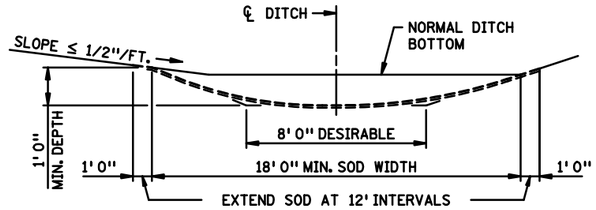
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



PLAN VIEW

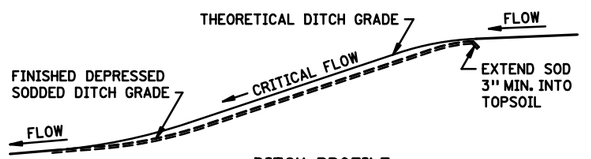


PLAN VIEW



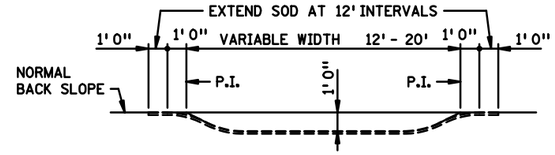
SODDED DITCH CROSS SECTION

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

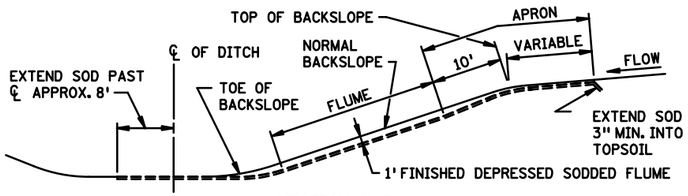


DITCH PROFILE

SODDED DITCH DETAILS



SECTION A-A



SECTION B-B

SODDED FLUME DETAILS

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

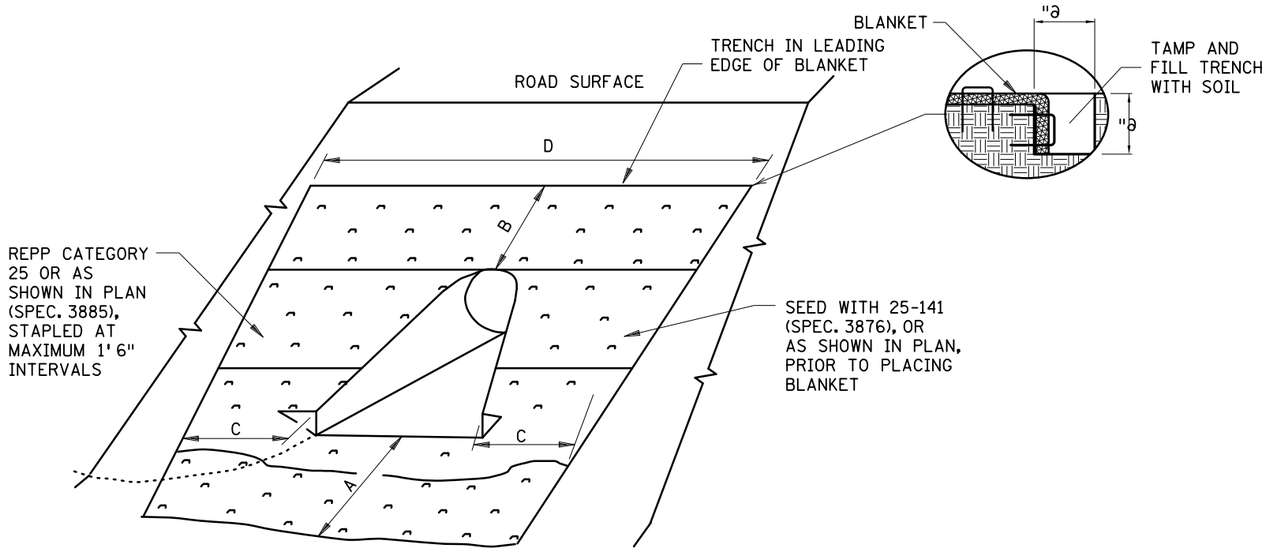
NOTES:

SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.

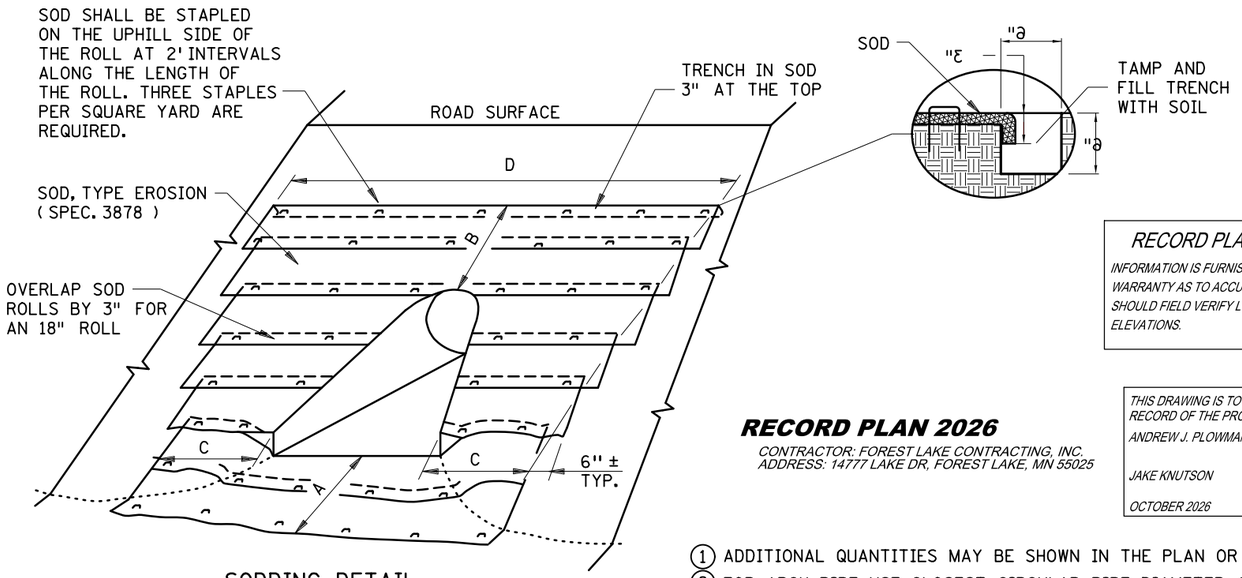
① CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

LEAD EXPERT OFFICE	LYNN CLARKOWSKI CHIEF ENVIRONMENTAL OFFICER OFFICE OF ENVIRNOMENTAL STEWARDSHIP		PERMANENT EROSION CONTROL ALONG ROADWAYS, DITCHES AND FLUMES	APPROVED: 02-28-2017 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.404	1 OF 3
	DEPARTMENT OF TRANSPORTATION		STANDARD PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18	Sheet No. 46 of 153 Sheets

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ROLLED EROSION PREVENTION PRODUCT (BLANKET) & SEED DETAIL



SODDING DETAIL

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

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

RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

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

NOTES:

REPP = ROLLED EROSION PREVENTION PRODUCT.

AREA SHOWN IN SQUARE YARDS IS FOR ONE CULVERT END.

QUANTITIES ARE CALCULATED TO INCLUDE SOD REQUIRED TO PROVIDE A 3" OVERLAP ON ALL 18" WIDE ROLLS. THIS ALLOWS FOR SHRINKAGE OF THE SOD.

FOR PIPE ARCHES USE EQUIVALENT PIPE DIAMETER TO APPROXIMATE AREA.

FOR CORRUGATED POLYETHYLENE PIPE METAL APRON (PLATE 3129), USE THE METAL APRON COLUMN (PLATE 3123).

AREAS AND DIMENSIONS ARE APPROXIMATE AND ARE BASED ON APRON SIDE SLOPES OF NO STEEPER THAN 1:2, UNLESS INDICATED AS FOR SAFETY APRONS.

CARE SHOULD BE TAKEN IN SELECTING SOD TO STABILIZE THE APRON. RIP-RAP SHOULD BE USED FOR FLOW VELOCITIES GREATER THAN 6 FPS.

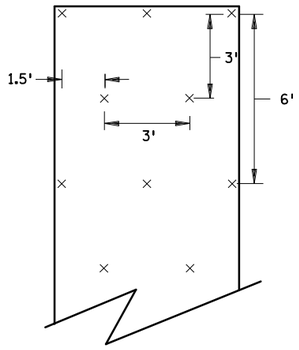
LEAD EXPERT OFFICE	MARNI KARNOWSKI CHIEF ENVIRONMENTAL OFFICER OFFICE OF ENVIRONMENTAL STEWARDSHIP		PERMANENT EROSION CONTROL TURF ESTABLISHMENT DETAIL AT CULVERT ENDS	APPROVED: 01-08-2020 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.404	2 OF 3
	DEPARTMENT OF TRANSPORTATION		STANDARD PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18	Sheet No. 47 of 153 Sheets

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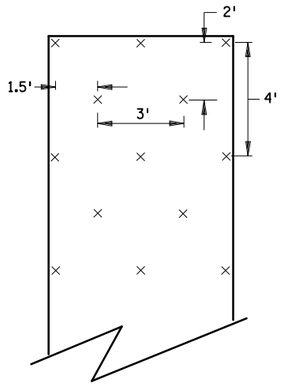
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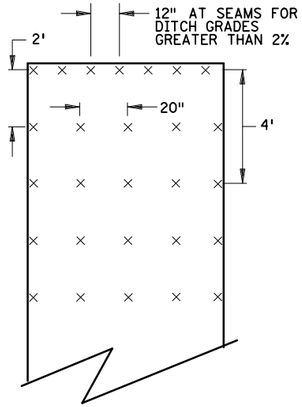
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SLOPES FLATTER THAN 1:2
120 STAPLES PER 100 SQ YD

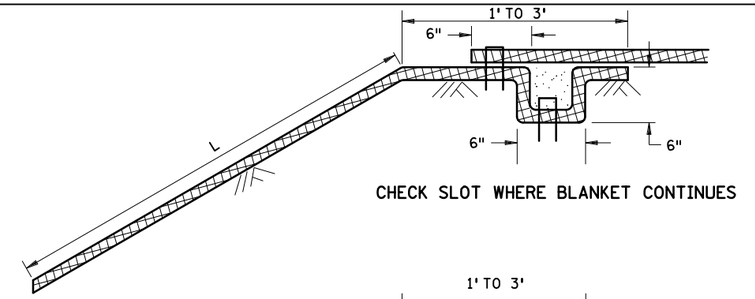


SLOPES 1:2 TO 1:1
170 STAPLES PER 100 SQ YD

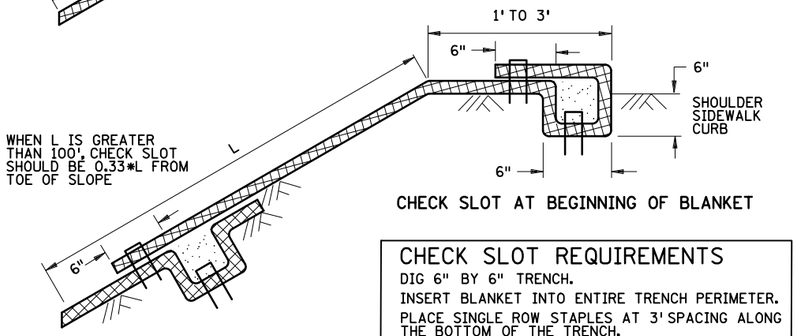


CHANNEL AND DITCH APPLICATIONS
350 STAPLES PER 100 SQ YD

BLANKET STAPLE PATTERN



CHECK SLOT WHERE BLANKET CONTINUES



CHECK SLOT AT BEGINNING OF BLANKET

CHECK SLOT REQUIREMENTS

DIG 6" BY 6" TRENCH.

INSERT BLANKET INTO ENTIRE TRENCH PERIMETER.

PLACE SINGLE ROW STAPLES AT 3' SPACING ALONG THE BOTTOM OF THE TRENCH.

BACKFILL TRENCH WITH SOIL AND TAMP.

PLACE SINGLE ROW STAPLES AT 3' SPACING ON OVERLAP.

RECORD PLAN

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RECORD PLAN 2026

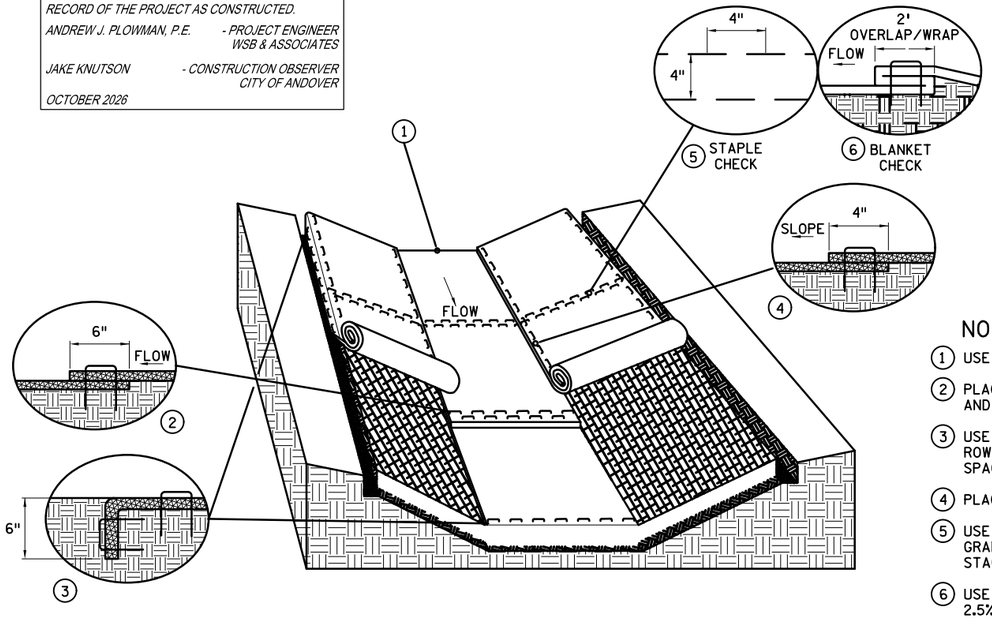
CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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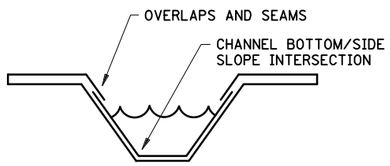
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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026



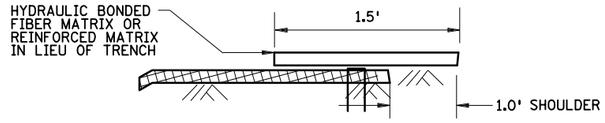
DITCH BLANKET STAPLE DETAIL



DITCH BLANKET CRITICAL POINTS (7)

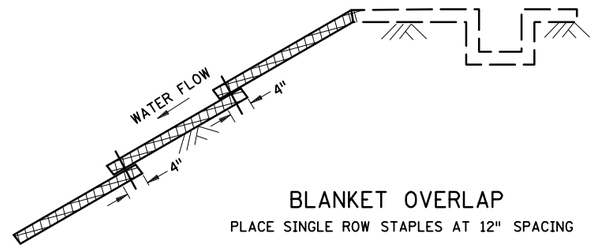
NOTES:

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



CHECK SLOT ALTERNATIVE
PLACE SINGLE ROW STAPLES AT 12" SPACING

CHECK SLOT DETAILS



BLANKET OVERLAP
PLACE SINGLE ROW STAPLES AT 12" SPACING

GENERAL BLANKET INSTALLATION REQUIREMENTS

REPP = ROLLED EROSION PREVENTION PRODUCT.

PREPARE SOIL AS PER SPECIFICATION 2574.

LAY PARALLEL OR PERPENDICULAR TO THE DIRECTION OF WATER FLOW.

OVERLAP ADJACENT STRIP EDGES A MINIMUM OF 4".

OVERLAP BLANKET 6" (MINIMUM) AT EACH END. OVERLAP BOTTOM END OF UPPER BLANKET OVER TOP END OF LOWER BLANKET. STAPLE ALONG OVERLAP EVERY 1.5'.

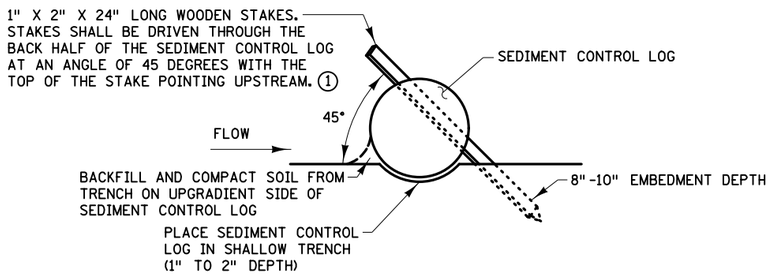
THE UPPERMOST BLANKET OF ALL SLOPE APPLICATIONS MUST START IN A CHECK SLOT. IF SLOPE LENGTH (L) IS 100' OR GREATER, INSERT BLANKET INTO A CHECK SLOT ⅓ FROM THE BOTTOM OF THE SLOPE.

LEAD EXPERT OFFICE	MARNI KARNOWSKI CHIEF ENVIRONMENTAL OFFICER OFFICE OF ENVIRNOMENTAL STEWARDSHIP	PERMANENT EROSION CONTROL REPP (BLANKET) STAPLE PATTERN FOR SLOPES	APPROVED: 01-08-2020 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.404	3 OF 3
	DEPARTMENT OF TRANSPORTATION	STANDARD PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18	Sheet No. 48 of 153 Sheets

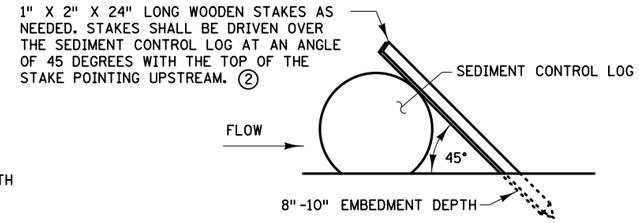
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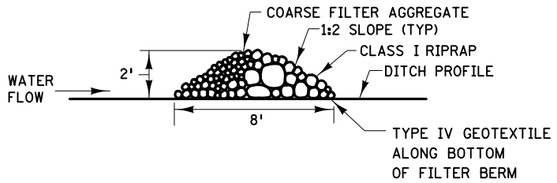


TYPES: STRAW, WOOD FIBER, OR COIR

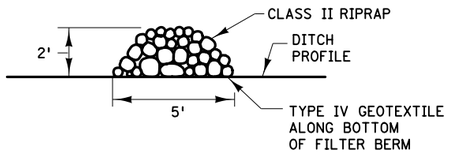


TYPES: WOOD CHIP, COMPOST, OR ROCK

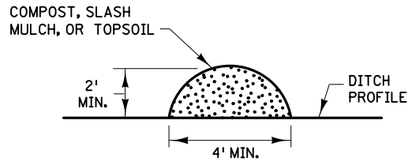
SEDIMENT CONTROL LOGS



TYPE 3 (ROCK WEEPER)

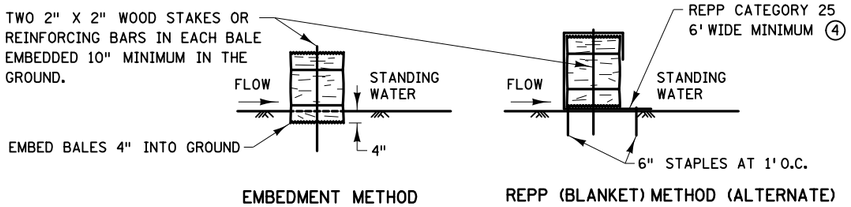


TYPE 5 (ROCK)



TYPE 1 (COMPOST), TYPE 2 (SLASH MULCH), OR TYPE 4 (TOPSOIL)

FILTER BERMS



EMBEDMENT METHOD

REPP (BLANKET) METHOD (ALTERNATE)

BALE BARRIERS(3)

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

NOTES:

REPP = ROLLED EROSION PREVENTION PRODUCT.

SEE SPECS. 2573, 3149, 3874, 3882, 3885, 3886, AND 3897.

(1) SPACE BETWEEN STAKES SHALL BE A MAXIMUM OF 1' FOR DITCH CHECKS OR 2' FOR OTHER APPLICATIONS.

(2) PLACE STAKES AS NEEDED TO PREVENT MOVEMENT OF SEDIMENT CONTROL LOGS PLACED ON SLOPES OR AS NEEDED DUE TO OTHER FACTORS. STAKES SHALL BE INCIDENTAL.

(3) TO BE USED FOR CRITICAL PERIMETER CONTROL AREAS WHERE STANDING WATER OCCURS (6" MAXIMUM DEPTH). BALES SHALL CONSIST OF TYPE 1 MULCH OF APPROXIMATELY 14" X 18" X 36" LONG. BALES SHALL BE PLACED ON EDGE AND BUTTED TIGHT TO ADJACENT BALES.

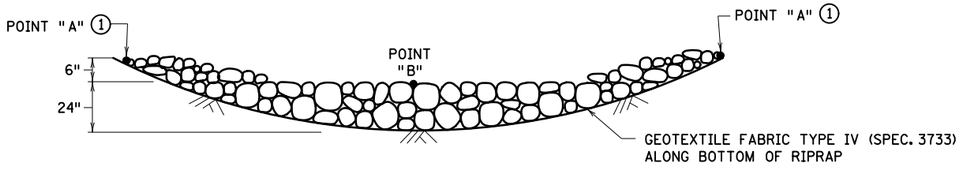
(4) INSTEAD OF TRENCHING, PLACE BALE ON THE REPP (BLANKET) AND WRAP BLANKET AROUND THE BALE. PLACE STAKE THROUGH BALE AND BLANKET.

LEAD EXPERT OFFICE: MARNI KARNOWSKI, CHIEF ENVIRONMENTAL OFFICER, OFFICE OF ENVIRNOMENTAL STEWARDSHIP		TEMPORARY SEDIMENT CONTROL FILTER BERMS, SEDIMENT CONTROL LOGS, AND BALE BARRIERS	APPROVED: 01-08-2020 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.405	2 OF 8
DEPARTMENT OF TRANSPORTATION		STANDARD PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18	Sheet No. 49 of 153 Sheets

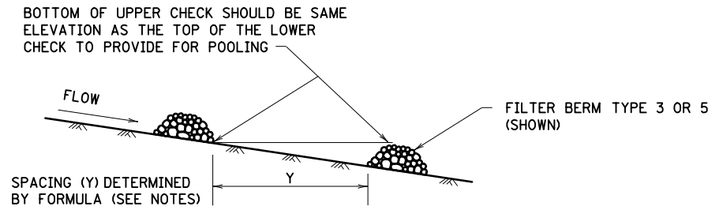
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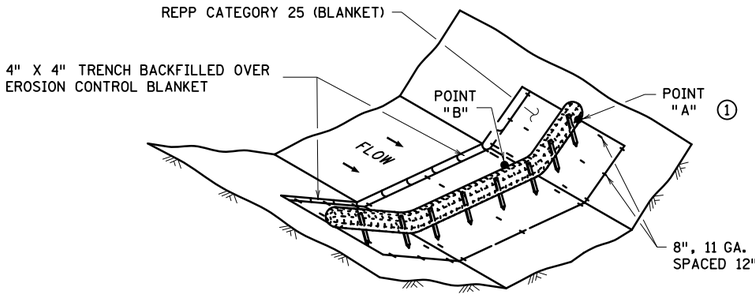
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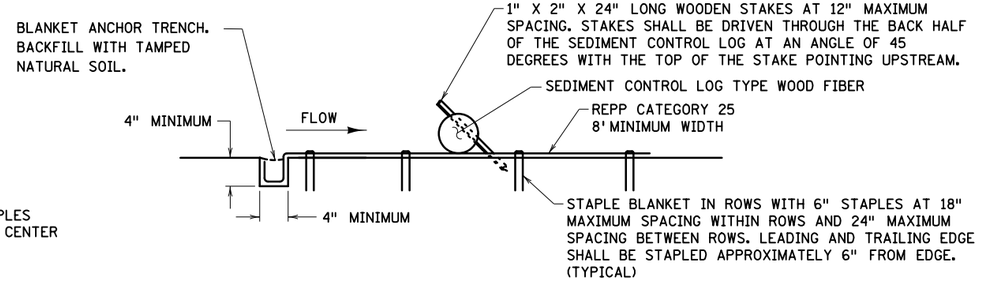


ROCK DITCH CHECKS
FILTER BERMS TYPE 3 (ROCK WEEPER) OR FILTER TYPE 5 (ROCK) ③
FOR USE ON ROUGH-GRADED AREAS
ONLY FOR USE OUTSIDE CLEAR ZONE ②

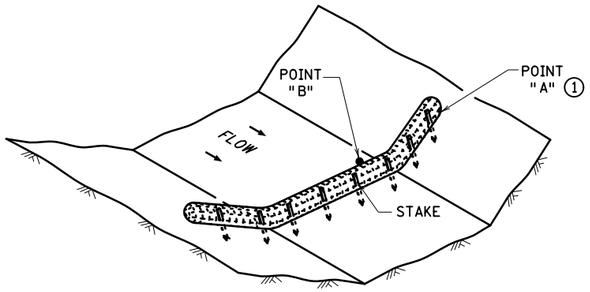


DITCH CHECK SPACING
FOR ALL FILTER BERM TYPES





SEDIMENT CONTROL LOG TYPE REPP (BLANKET) SYSTEM ④



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

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

NOTES:

REPP = ROLLED EROSION PREVENTION PRODUCT.

SEE SPECS. 2573, 3601, 3733, 3885, 3886 & 3889.

FOR DITCH CHECKS, PLACE SEDIMENT CONTROL LOG PERPENDICULAR TO FLOW AND IN A CRESCENT SHAPE WITH THE ENDS FACING UPSTREAM.

APPROXIMATE SPACING BETWEEN EACH DITCH CHECK SHOULD BE DETERMINED FROM THE FOLLOWING SPACING FORMULA:

$$\text{APPROXIMATE SPACING OF DITCH CHECKS (FT.)} = Y = \frac{\text{DITCH CHECK HEIGHT (FT.)}}{\text{\% CHANNEL SLOPE}} \times 100$$

① POINT "A" MUST BE A MINIMUM OF 6" HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

② ROCK DITCH CHECKS PLACED WITHIN THE CLEAR ZONE ARE TO BE 18" OR LESS IN HEIGHT. A 1:6 APPROACH AND DEPARTURE SLOPE SHALL BE PROVIDED.

③ DITCH GRADE 3% - 5%, MAX. FLOW VELOCITY 12 FT./SEC.

④ DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 4.5 FT./SEC.

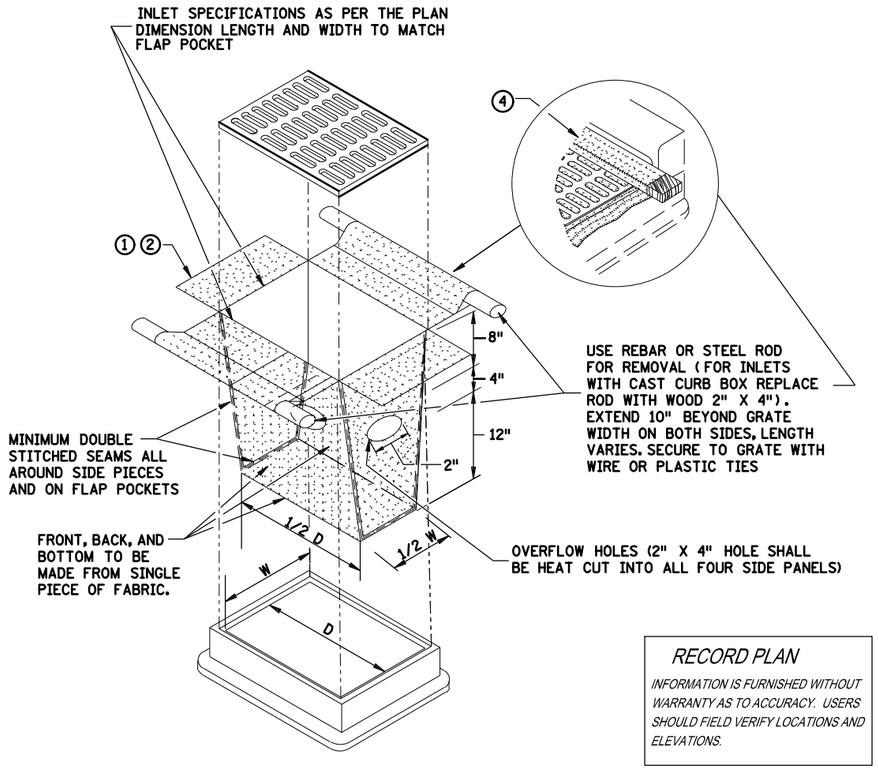
⑤ DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 1.5 FT./SEC.

LEAD EXPERT OFFICE	MARNI KARNOWSKI CHIEF ENVIRONMENTAL OFFICER OFFICE OF ENVIRNOMENTAL STEWARDSHIP		TEMPORARY SEDIMENT CONTROL DITCH CHECK	APPROVED: 01-08-2020 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.405	3 OF 8
	DEPARTMENT OF TRANSPORTATION		STANDARD PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18	Sheet No. 50 of 153 Sheets

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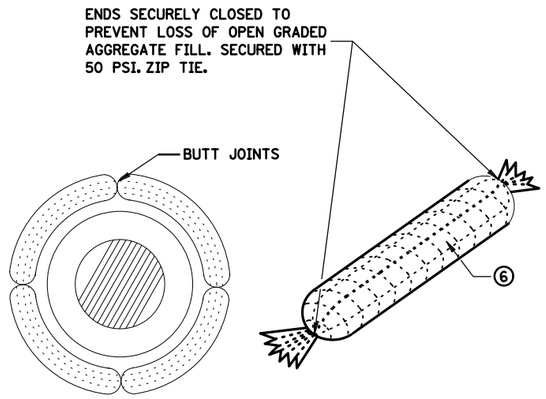


FILTER BAG INSERT ③

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

RECORD PLAN

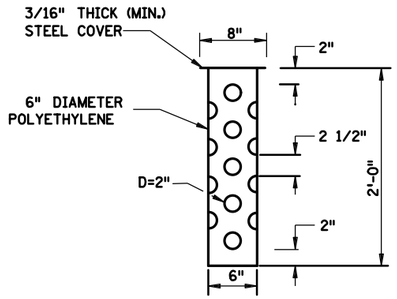
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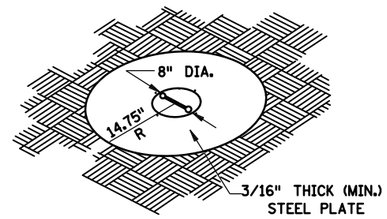
ROCK LOG/COMPOST LOG

RECORD PLAN 2026

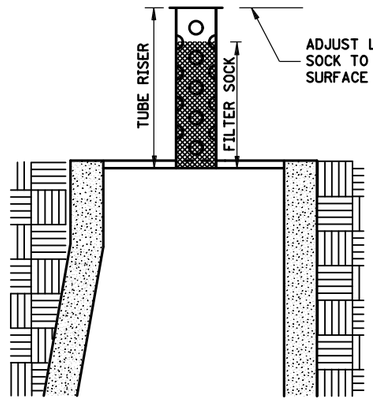
CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025



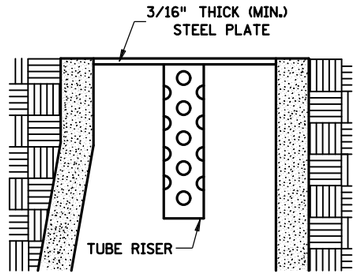
TUBE RISER



PERSPECTIVE VIEW



SECTION (UP POSITION)



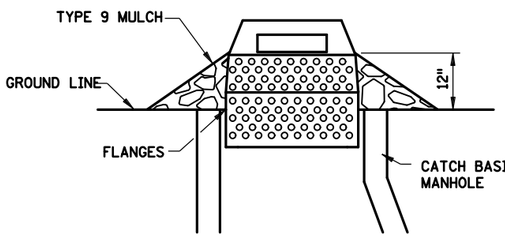
SECTION (DOWN POSITION)

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - *PROJECT ENGINEER WSB & ASSOCIATES*

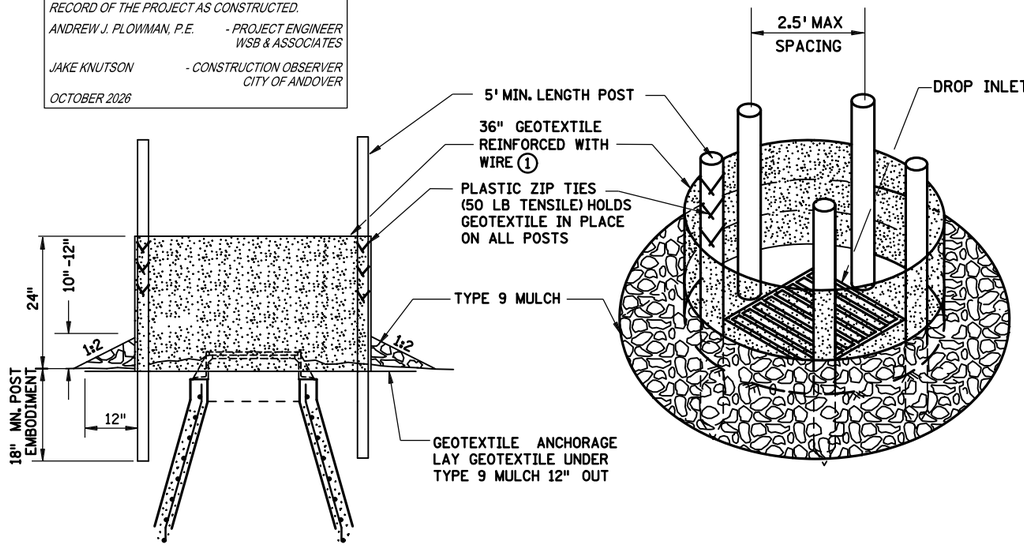
JAKE KNUTSON - *CONSTRUCTION OBSERVER CITY OF ANDOVER*

OCTOBER 2026



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.



SILT FENCE RING AND ROCK FILTER BERM

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

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.

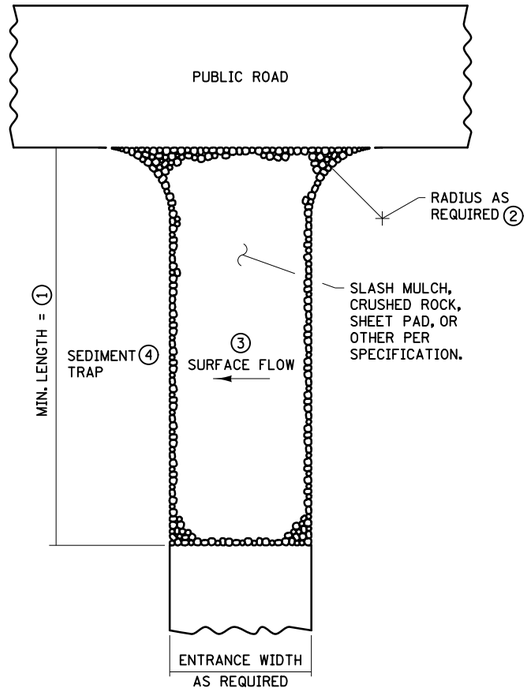
⑤ SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.

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.

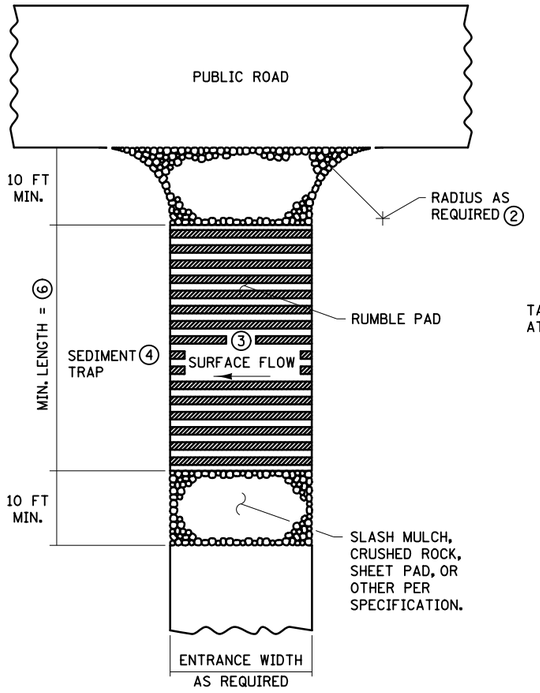
LEAD EXPERT OFFICE	LYNN CLARKOWSKI CHIEF ENVIRONMENTAL OFFICER OFFICE OF ENVIRNOMENTAL STEWARDSHIP		TEMPORARY SEDIMENT CONTROL STORM DRAIN INLET PROTECTION	APPROVED: 02-28-2017 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.405	4 OF 8
	DEPARTMENT OF TRANSPORTATION		STANDARD PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18 Sheet No. 51 of 153 Sheets

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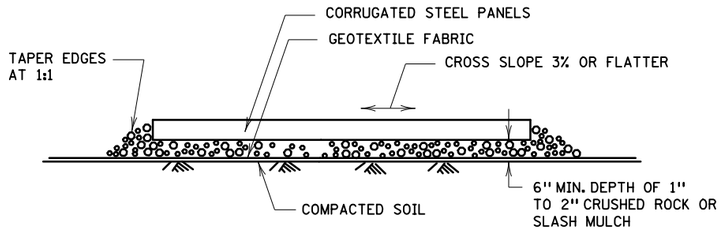
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SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT ⑤⑦



RUMBLE PAD CONSTRUCTION EXIT ⑤⑦



RUMBLE PAD

RECORD PLAN

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RECORD PLAN 2026

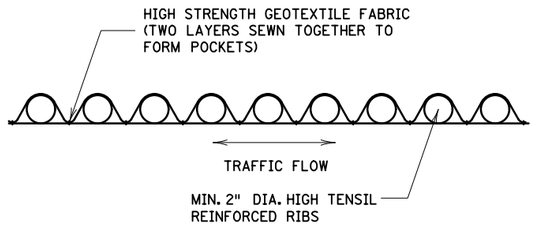
CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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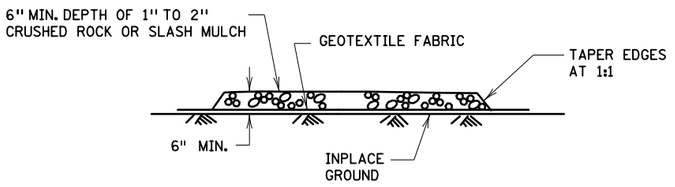
ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026



SHEET PAD



SLASH MULCH OR CRUSHED ROCK

NOTES:

SEE SPECS. 2573 & 3882.

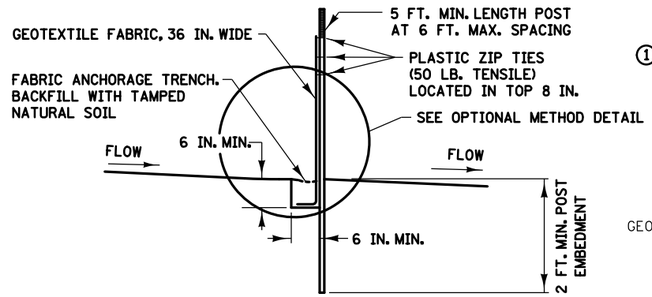
1. MINIMUM LENGTH SHALL BE THE GREATER OF 50 FEET OR A LENGTH SUFFICIENT TO ALLOW A MINIMUM OF 5 TIRE ROTATIONS ON THE PROVIDED PAD. MINIMUM LENGTH SHALL BE CALCULATED USING THE LARGEST TIRE WHICH WILL BE USED IN TYPICAL OPERATIONS.
2. PROVIDE RADIUS OR WIDEN PAD SUFFICIENTLY TO PREVENT VEHICLE TIRES 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.

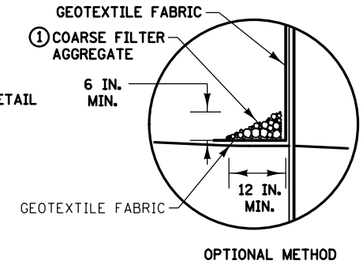
LEAD EXPERT OFFICE: LYNN CLARKOWSKI, CHIEF ENVIRONMENTAL OFFICER, OFFICE OF ENVIRNOMENTAL STEWARDSHIP	TEMPORARY SEDIMENT CONTROL STABILIZED CONSTRUCTION EXIT	APPROVED: 02-28-2017 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.405	5 OF 8
DEPARTMENT OF TRANSPORTATION	STANDARD PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18	Sheet No. 52 of 153 Sheets

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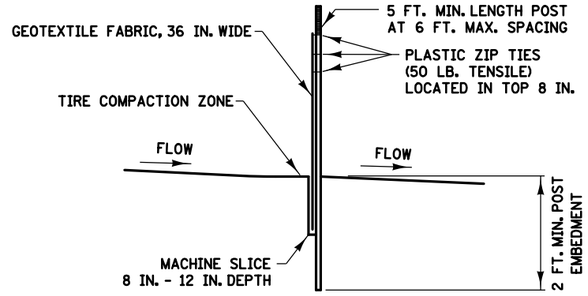
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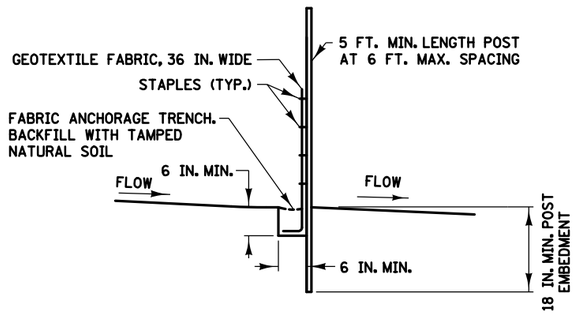


OPTIONAL METHOD

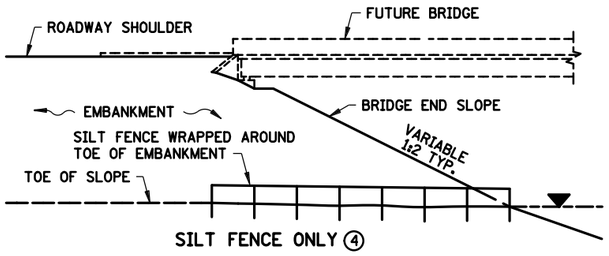
SILT FENCE TYPE HI ②
(HAND INSTALLED)



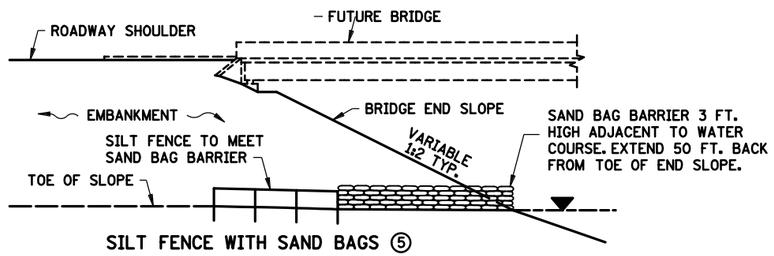
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(MACHINE SLICED)



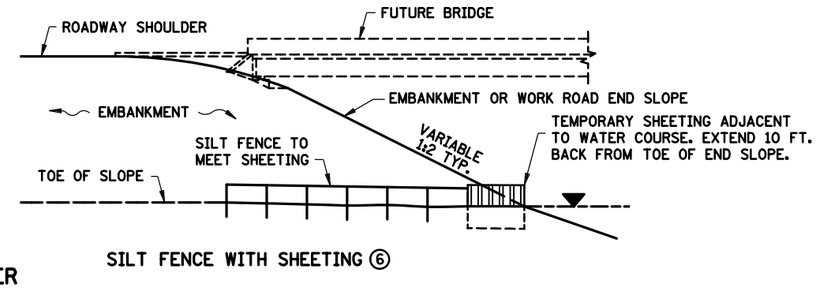
SILT FENCE TYPE PA ③
(PREASSEMBLED)



SILT FENCE ONLY ④

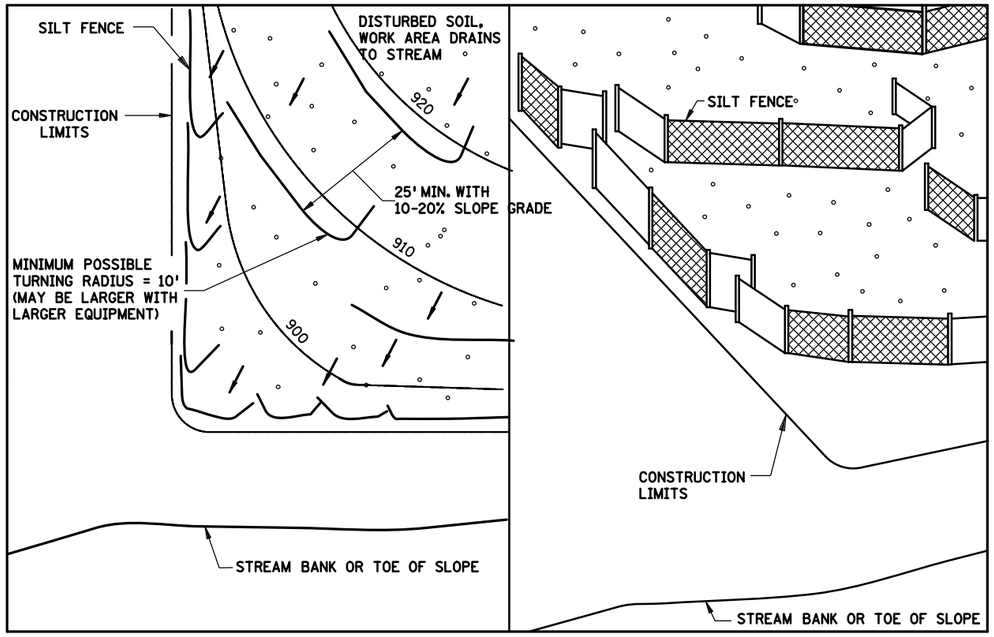


SILT FENCE WITH SAND BAGS ⑤



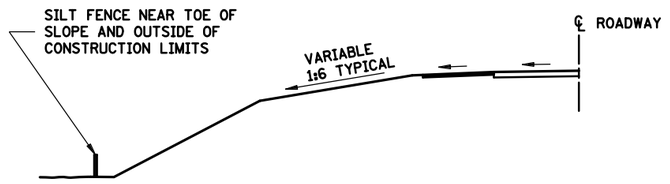
SILT FENCE WITH SHEETING ⑥

INSTALLATION AT BRIDGE EMBANKMENT ADJACENT TO WATER



PLAN VIEW — PERSPECTIVE VIEW

J-HOOK INSTALLATION



LOCATION AT TOE OF ROADWAY EMBANKMENT

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

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.

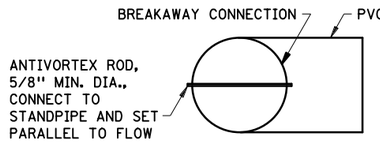
⑥ WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC. CONTRIBUTING SLOPE AREA: 3 ACRES.

LEAD EXPERT OFFICE	LYNN CLARKOWSKI CHIEF ENVIRONMENTAL OFFICER OFFICE OF ENVIRNOMENTAL STEWARDSHIP		TEMPORARY SEDIMENT CONTROL SILT FENCE	APPROVED: 02-28-2017 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.405	6 OF 8
	DEPARTMENT OF TRANSPORTATION		STANDARD PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18 Sheet No. 53 of 153 Sheets	

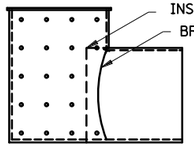
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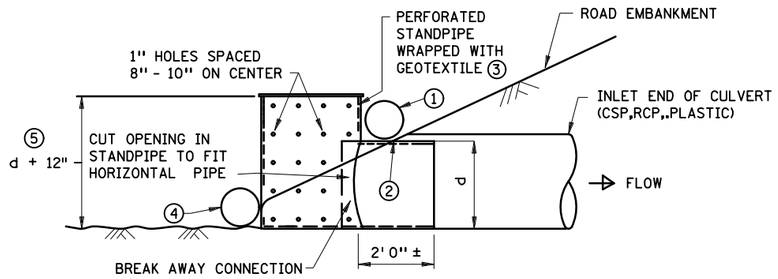
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PLAN VIEW



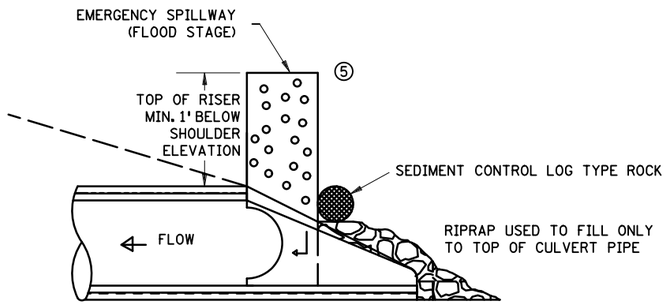
CULVERT STANDPIPE



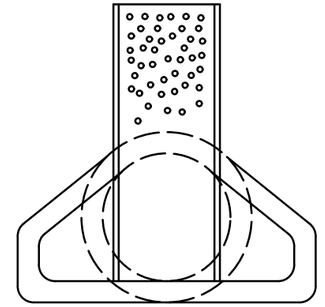
ELEVATION VIEW OF CULVERT INSTALLATION

CULVERT STANDPIPE INSERT (D-RISER)

d= CULVERT SIZE: 12" - 36"



LONGITUDINAL SECTION



END VIEW

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

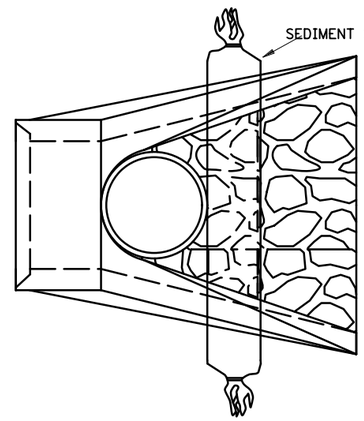
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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

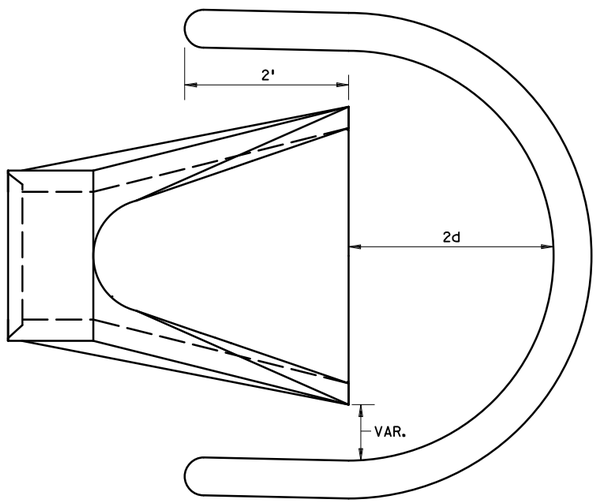
OCTOBER 2026



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

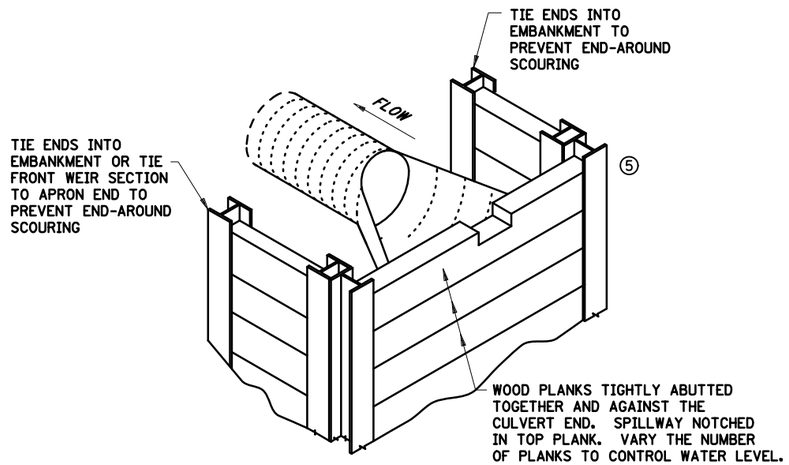
TOP VIEW

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.

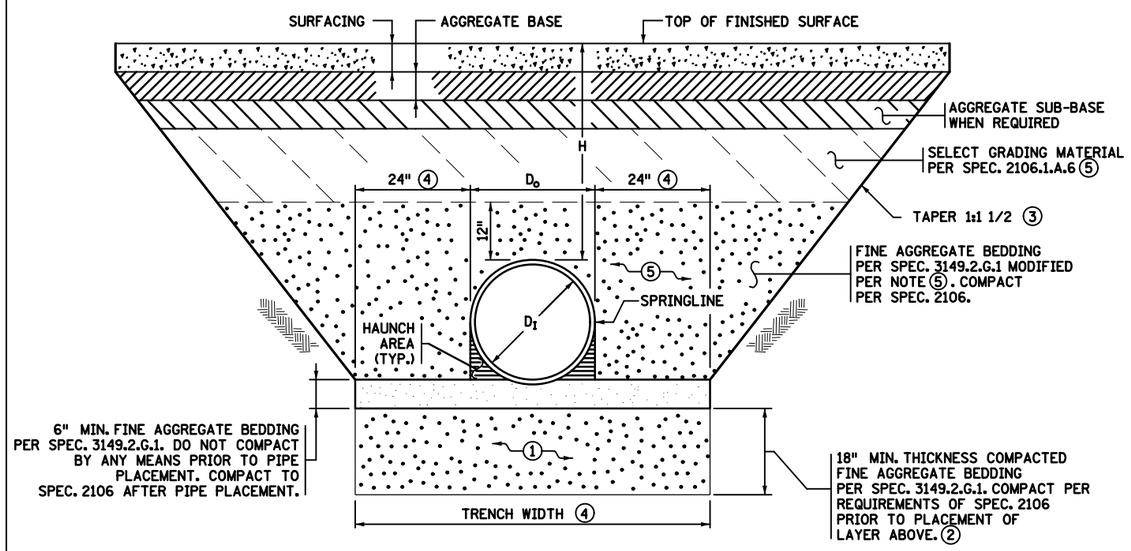
⑤ HEIGHT OVERFLOW NOT TO CAUSE FLOODING OF ROAD OR ADJACENT PROPERTIES.

LEAD EXPERT OFFICE	LYNN CLARKOWSKI CHIEF ENVIRONMENTAL OFFICER OFFICE OF ENVIRNOMENTAL STEWARDSHIP	TEMPORARY SEDIMENT CONTROL CULVERT END CONTROLS	APPROVED: 02-28-2017 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.405	8 OF 8
DEPARTMENT OF TRANSPORTATION		STANDARD PLANS	SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18		Sheet No. 54 of 153 Sheets	

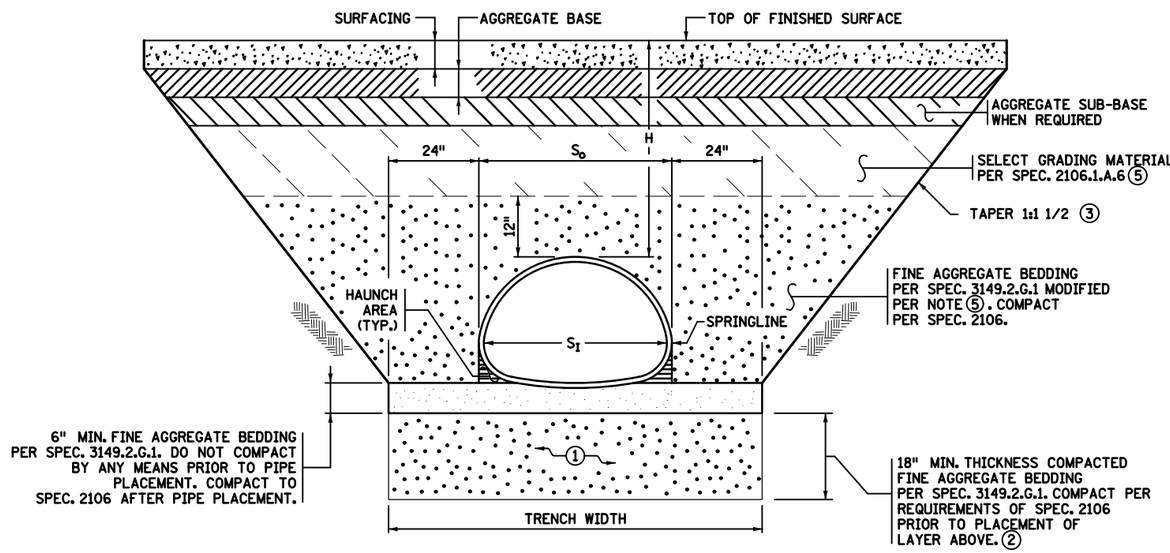
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STANDARD FLEXIBLE PIPE CULVERT BEDDING



STANDARD FLEXIBLE PIPE ARCH CULVERT BEDDING

PLASTIC PIPE WITH H > 10 FT.(4)

PIPE DIA.	TRENCH WIDTH (FEET)
12"	5'-2"
15"	5'-6"
18"	5'-9"
24"	6'-6"
30"	8'-0"
36"	9'-6"
42"	11'-0"
48"	12'-6"

RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

CONSTRUCTION SEQUENCE

1. PLACE AND COMPACT 18" OF FINE AGGREGATE BEDDING TO THE REQUIREMENTS OF SPEC. 2106.
2. LOOSELY PLACE 6" OF FINE AGGREGATE BEDDING MATERIAL (SPEC. 3149.2.G.1) TO GRADE. DO NOT COMPACT PRIOR TO PIPE PLACEMENT.
3. FOR PIPES WITH BELL, REMOVE MATERIAL IN BELL AREA PRIOR TO PLACEMENT.
4. FURNISH AND INSTALL PIPE TO GRADE.
5. AFTER PLACEMENT OF THE PIPE, PLACE ADDITIONAL BEDDING AND COMPACT THE FULL LENGTH ON BOTH SIDES OF THE PIPE UNDERNEATH THE HAUNCH AREA BY FIRST SHOVEL SLICING (MANUALLY SHOVE THE BLADE END OF A 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).
6. COMPACT THE REMAINING MATERIAL OUTSIDE THE HAUNCH AREA TO THE REQUIREMENTS OF SPEC. 2106 ENSURING THAT THE ENTIRE LENGTH OF PIPE IS SUPPORTED UNIFORMLY BY BEDDING.
7. PLACE AND COMPACT BACKFILL EVENLY AND SIMULTANEOUSLY IN 6" LIFTS ON EACH SIDE OF THE PIPE TO 12" ABOVE TOP OF PIPE WHEN COMPACTED.
8. COMPLETE REMAINING BACKFILL.
9. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

-LEGEND-

D_I = INSIDE DIAMETER OF ROUND PIPE (INCHES).
D_o = OUTSIDE DIAMETER OF ROUND PIPE (INCHES).
S_I = INSIDE SPAN OF PIPE-ARCH (INCHES).
S_o = OUTSIDE SPAN OF PIPE-ARCH (INCHES).
H = FILL COVER HEIGHT OVER PIPE (FEET).

= UNDISTURBED SOIL

= COMPACTED BEDDING

= LOOSE BEDDING, COMPACTED AFTER PIPE PLACEMENT

NOTES

STANDARD BEDDING FOR FLEXIBLE PIPE CULVERTS WITHOUT TREATMENTS.

METAL ENTRANCE CULVERTS (FIELD AND DRIVEWAY CULVERTS) DO NOT NEED BEDDING UNLESS SPECIFIED IN THE PLANS OR SPECIAL PROVISIONS.

PLASTIC ENTRANCE CULVERTS REQUIRE BEDDING PER SPEC. 2501.3.C.4. BEDDING COSTS FOR PLASTIC ENTRANCE CULVERTS WILL BE INCLUDED IN THE CONTRACT UNIT PRICE OF THE RELEVANT CULVERT PAY ITEM.

FLEXIBLE PIPE INCLUDES METAL AND PLASTIC MATERIAL SUCH AS CORRUGATED POLYPROPYLENE (PP) AND CORRUGATED POLYETHYLENE (CP).

UNLESS OTHERWISE NOTED IN THE PLAN, BEDDING QUANTITIES ARE COMPUTED FOR THE FULL LENGTH OF THE PIPE AND APRON, AND WILL NOT BE ADJUSTED FOR CHANGES TO MEET OSHA REQUIREMENTS.

WHEN RIPRAP IS REQUIRED AT THE APRON END, SEE STANDARD PLATE OR PLAN FOR RIPRAP INSTALLATION AND QUANTITIES. FOR APRONS WITHOUT RIPRAP PLACE 6" MIN. FINE AGGREGATE BEDDING UNDER APRONS. USE A TRENCH WIDTH EQUAL TO THE PIPE TRENCH WIDTH.

CONTRACT PAY ITEM FOR FINE AGGREGATE BEDDING INCLUDES THE COST OF EXCAVATION, PLACEMENT AND COMPACTION.

EXCAVATION AND BACKFILL WITH SELECT GRADING MATERIAL ARE NOT TABULATED SEPARATELY BUT ARE INCLUDED IN THE CONTRACT UNIT PRICE OF THE RELEVANT CULVERT PAY ITEM.

EXCAVATE & CONSTRUCT ALL TRENCHES AND SLOPES PER OSHA REQUIREMENTS.

ALL SLOPES SHOWN AS (V) : (H).

PIPE SIZE IS BASED ON THE NOMINAL INSIDE DIAMETER OR SPAN.

PROTECT ALL PIPE DURING CONSTRUCTION PER SPEC. 2501.

PLACE MULTIPLE PIPE CULVERTS WITH A CLEARANCE OF 24 INCHES OR GREATER BETWEEN STRINGS OF PIPE.

(1) IF APPROVED BY THE ENGINEER, IN WET CONDITIONS THE CONTRACTOR MAY SUBSTITUTE 18" OF COARSE FILTER AGGREGATE PER 3149.2.H COMPACTED TO THE QUALITY COMPACTION REQUIREMENTS OF SPEC. 2106. WRAP WITH GEOTEXTILE FABRIC TYPE IV PER SPEC. 3733. SEAM ALL FABRIC SIDES AND ENDS PER SPEC. TABLE 3733-1 INCLUDING FOOTNOTE (e) OR OVERLAP A MINIMUM OF 3 FT., ALL AT NO ADDITIONAL COST.

(2) FOR INSTALLATIONS ON INTACT BEDROCK, OMIT THIS LAYER.

(3) OVER-EXCAVATION BENEATH TAPERS IS NOT PERMITTED UNLESS REQUIRED BY OSHA. (TYP.)

(4) USE THERMOPLASTIC PIPE TABLE FOR TRENCH WIDTHS FOR THERMOPLASTIC PIPES WITH MORE THAN 10 FT. OF FILL OVER THE PIPE.

(5) MAXIMUM EMBANKMENT PARTICLE SIZE WITHIN 2 FT. OF PIPE IS 3" FOR METAL PIPES AND 1" FOR THERMOPLASTIC PIPES.

LEAD EXPERT OFFICE	KEVIN WESTERN STATE BRIDGE ENGINEER		STANDARD CULVERT BEDDING FOR FLEXIBLE PIPE (WITHOUT TREATMENTS)	APPROVED: 01-18-2019 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.440	1 OF 1
	DEPARTMENT OF TRANSPORTATION		STANDARD PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18	Sheet No. 55 of 153 Sheets

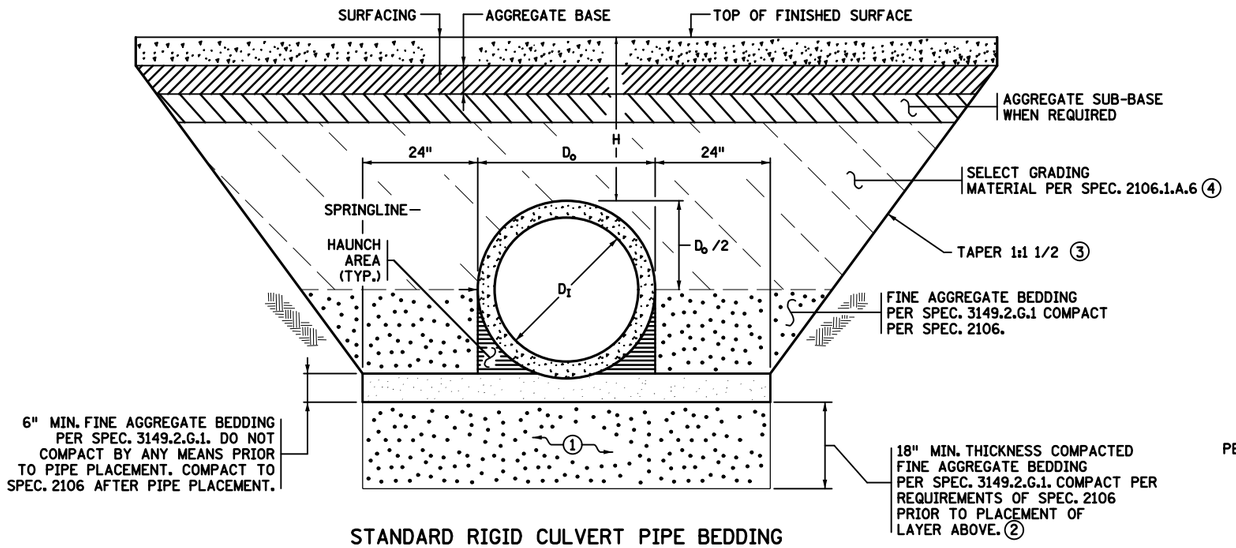
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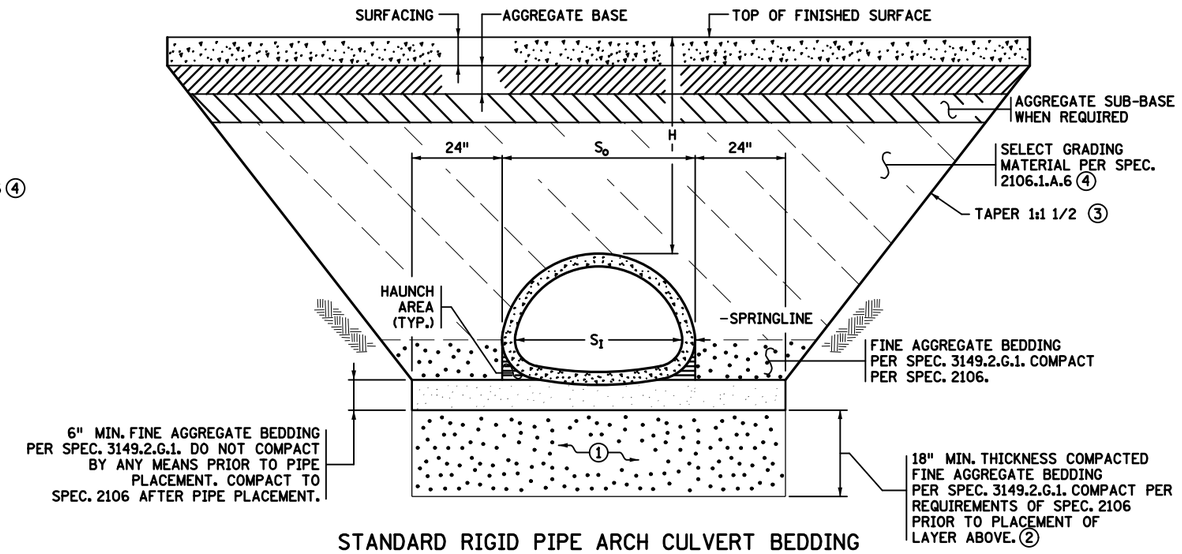
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RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025



STANDARD RIGID CULVERT PIPE BEDDING



STANDARD RIGID PIPE ARCH CULVERT BEDDING

RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

-LEGEND-

D_I = INSIDE DIAMETER OF ROUND PIPE (INCHES).
D_o = OUTSIDE DIAMETER OF ROUND PIPE (INCHES).
S_I = INSIDE SPAN OF PIPE-ARCH (INCHES).
S_o = OUTSIDE SPAN OF PIPE-ARCH (INCHES).
H = FILL COVER HEIGHT OVER PIPE (FEET).

= UNDISTURBED SOIL

= COMPACTED BEDDING

= LOOSE BEDDING, COMPACTED AFTER PIPE PLACEMENT

CONSTRUCTION SEQUENCE

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

NOTES

STANDARD BEDDING FOR RIGID PIPE CULVERTS WITHOUT TREATMENTS.

RIGID PIPE INCLUDES CONCRETE.

ENTRANCE CULVERTS (FIELD AND DRIVEWAY CULVERTS) DO NOT NEED BEDDING UNLESS SPECIFIED IN THE PLANS OR SPECIAL PROVISIONS.

UNLESS OTHERWISE NOTED IN THE PLAN, BEDDING QUANTITIES ARE COMPUTED FOR THE FULL LENGTH OF THE PIPE AND APRON, AND WILL NOT BE ADJUSTED FOR CHANGES TO MEET OSHA REQUIREMENTS.

WHEN RIPRAP IS REQUIRED AT THE APRON END, SEE STANDARD PLATE OR PLAN FOR RIPRAP INSTALLATION AND QUANTITIES. FOR APRONS WITHOUT RIPRAP PLACE 6" MIN. FINE AGGREGATE BEDDING UNDER APRONS. USE A TRENCH WIDTH EQUAL TO THE PIPE TRENCH WIDTH.

CONTRACT PAY ITEM FOR FINE AGGREGATE BEDDING INCLUDES THE COST OF EXCAVATION, PLACEMENT AND COMPACTION.

EXCAVATION AND BACKFILL WITH SELECT GRADING MATERIAL ARE NOT TABULATED SEPARATELY BUT ARE INCLUDED IN THE CONTRACT UNIT PRICE OF THE RELEVANT CULVERT PAY ITEM.

EXCAVATE & CONSTRUCT ALL TRENCHES AND SLOPES PER OSHA REQUIREMENTS.

ALL SLOPES SHOWN AS (V) : (H).

PIPE SIZE IS BASED ON THE NOMINAL INSIDE DIAMETER OR SPAN.

PROTECT ALL PIPE DURING CONSTRUCTION PER SPEC. 2501.

PLACE MULTIPLE PIPE CULVERTS WITH A CLEARANCE OF 24 INCHES OR GREATER BETWEEN STRINGS OF PIPE.

(1) IF APPROVED BY THE ENGINEER, IN WET CONDITIONS THE CONTRACTOR MAY SUBSTITUTE 18" OF COARSE FILTER AGGREGATE PER SPEC. 3149.2.H COMPACTED TO THE QUALITY COMPACTION REQUIREMENTS OF SPEC. 2106. WRAP WITH GEOTEXTILE FABRIC TYPE IV PER SPEC. 3733. SEAM ALL FABRIC SIDES AND ENDS PER SPEC. TABLE 3733-1 INCLUDING FOOTNOTE (e) OR OVERLAP A MINIMUM OF 3 FT., ALL AT NO ADDITIONAL COST.

(2) FOR INSTALLATIONS ON INTACT BEDROCK, OMIT THIS LAYER.

(3) OVER-EXCAVATION BENEATH TAPERS IS NOT PERMITTED UNLESS REQUIRED BY OSHA. (TYP.)

(4) MAXIMUM EMBANKMENT PARTICLE SIZE WITHIN 2 FT. OF RIGID PIPE IS 3".

LEAD EXPERT OFFICE	KEVIN WESTERN STATE BRIDGE ENGINEER		STANDARD CULVERT BEDDING FOR RIGID PIPE (WITHOUT TREATMENTS)	APPROVED: 01-18-2019 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.441	1 OF 1

DEPARTMENT OF TRANSPORTATION

STANDARD PLANS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

Sheet No. 56 of 153 Sheets

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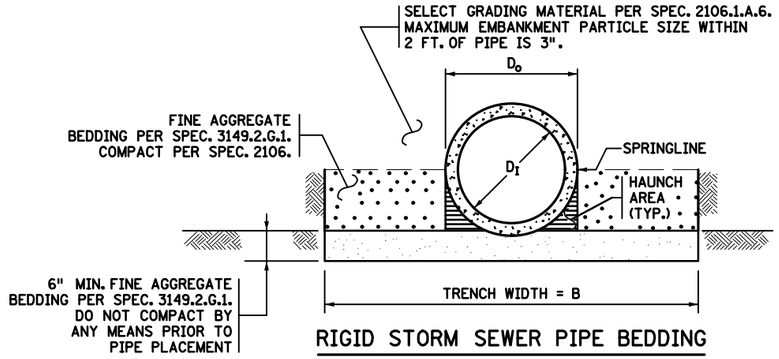
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RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

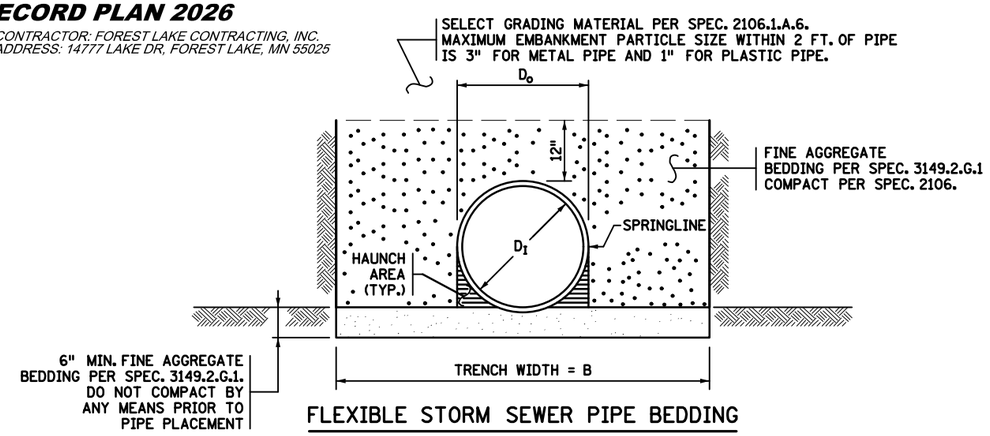


RIGID STORM SEWER PIPE BEDDING

TRENCH BASE WIDTH ①②	
PIPE DIA. D_I OR S_I	TRENCH WIDTH B
< 42"	D_o + 24"
42" TO 54"	1.5 x D_o
> 54"	D_o + 36"

PLASTIC PIPE WITH H > 10 FT.①②

PIPE DIA.	TRENCH WIDTH (FEET)
12"	5'-2"
15"	5'-6"
18"	5'-9"
24"	6'-6"
30"	8'-0"
36"	9'-6"
42"	11'-0"
48"	12'-6"



FLEXIBLE STORM SEWER PIPE BEDDING

RECORD PLAN

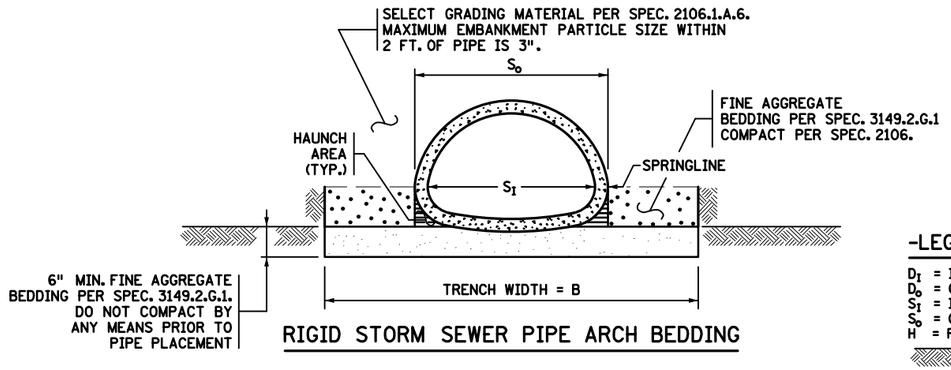
INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026



RIGID STORM SEWER PIPE ARCH BEDDING

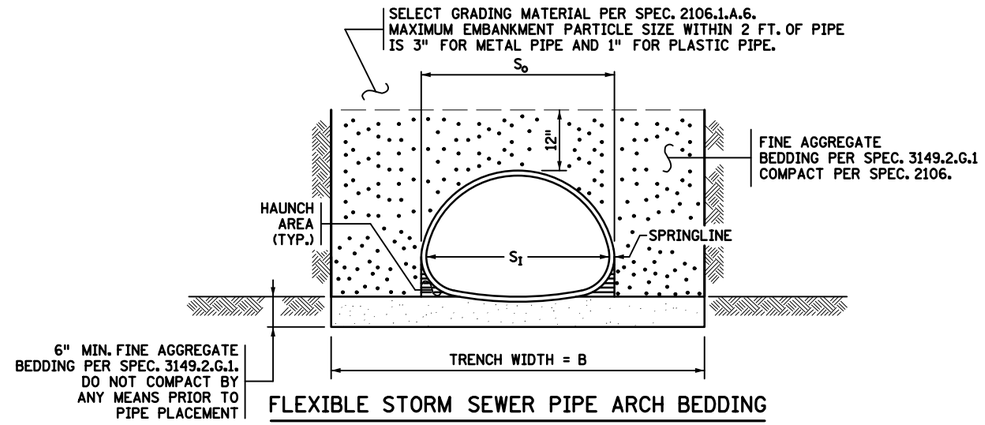
-LEGEND-

D_I = INSIDE DIAMETER OF ROUND PIPE (INCHES).
D_o = OUTSIDE DIAMETER OF ROUND PIPE (INCHES).
S_I = INSIDE SPAN OF PIPE-ARCH (INCHES).
S_o = OUTSIDE SPAN OF PIPE-ARCH (INCHES).
H = FILL COVER HEIGHT OVER PIPE (FEET).

= UNDISTURBED SOIL

= COMPACTED BEDDING

= LOOSE BEDDING, COMPACTED AFTER PIPE PLACEMENT



FLEXIBLE STORM SEWER PIPE ARCH BEDDING

CONSTRUCTION SEQUENCE

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

NOTES

EXCAVATE & CONSTRUCT ALL TRENCHES AND SLOPES PER OSHA REQUIREMENTS.

PIPE SIZE IS BASED ON THE NOMINAL INSIDE DIAMETER OR SPAN.

PROTECT ALL PIPE DURING CONSTRUCTION PER SPEC. 2503.

WHEN RIPRAP IS REQUIRED AT THE APRON END, SEE STANDARD PLATE OR PLAN FOR RIPRAP INSTALLATION AND QUANTITIES. FOR APRONS WITHOUT RIPRAP PLACE 6" MIN. FINE AGGREGATE BEDDING UNDER APRONS. USE A TRENCH WIDTH EQUAL TO THE PIPE TRENCH WIDTH.

FINE AGGREGATE BEDDING INCLUDING THE COST OF EXCAVATION, PLACEMENT AND COMPACTION IS INCLUDED IN THE CONTRACT UNIT PRICE OF THE RELEVANT STORM SEWER PAY ITEM.

EXCAVATION AND BACKFILL WITH SELECT GRADING MATERIAL ARE NOT TABULATED SEPARATELY BUT ARE INCLUDED IN THE CONTRACT UNIT PRICE OF THE RELEVANT STORM SEWER PAY ITEM.

RIGID PIPE INCLUDES CONCRETE. FLEXIBLE PIPE INCLUDES METAL, AND PLASTIC MATERIALS SUCH AS CORRUGATED POLYPROPYLENE (PP), CORRUGATED POLYETHYLENE (CP) AND POLYVINYL CHLORIDE (PVC).

① MODIFY TRENCH WIDTH & SLOPE AS NECESSARY TO COMPLY WITH OSHA REQUIREMENTS.

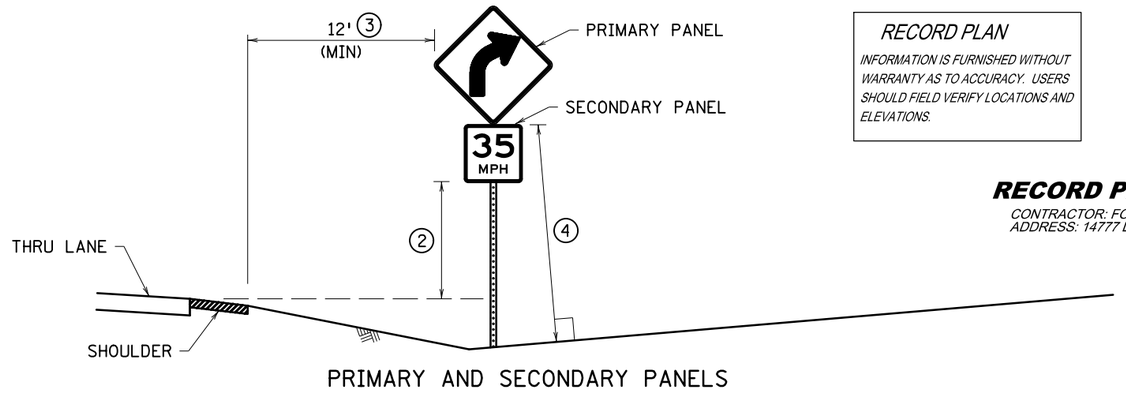
② USE PLASTIC PIPE TABLE FOR TRENCH WIDTHS WHEN FILL HEIGHT IS GREATER THAN 10 FT.

LEAD EXPERT OFFICE	KEVIN WESTERN STATE BRIDGE ENGINEER		STANDARD STORM SEWER BEDDING FOR RIGID AND FLEXIBLE PIPE	APPROVED: 01-18-2019 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.442	1 OF 1
	DEPARTMENT OF TRANSPORTATION		STANDARD PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18 Sheet No. 57 of 153 Sheets	

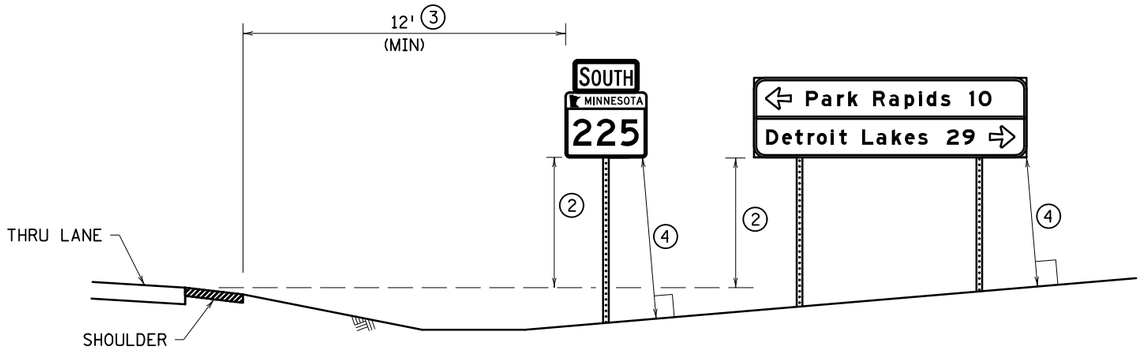
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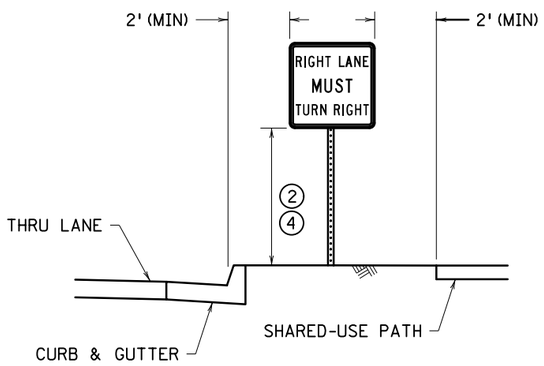
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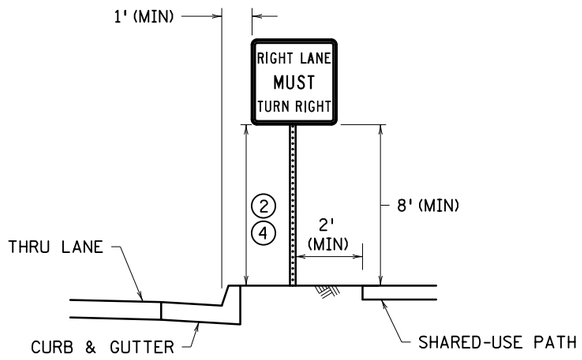
PRIMARY AND SECONDARY PANELS



STANDARD LOCATIONS



BOULEVARD LOCATIONS
6' TO 12' WIDE



BOULEVARD LOCATIONS (1)
LESS THAN 6' WIDE

RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

RECORD PLAN 2026

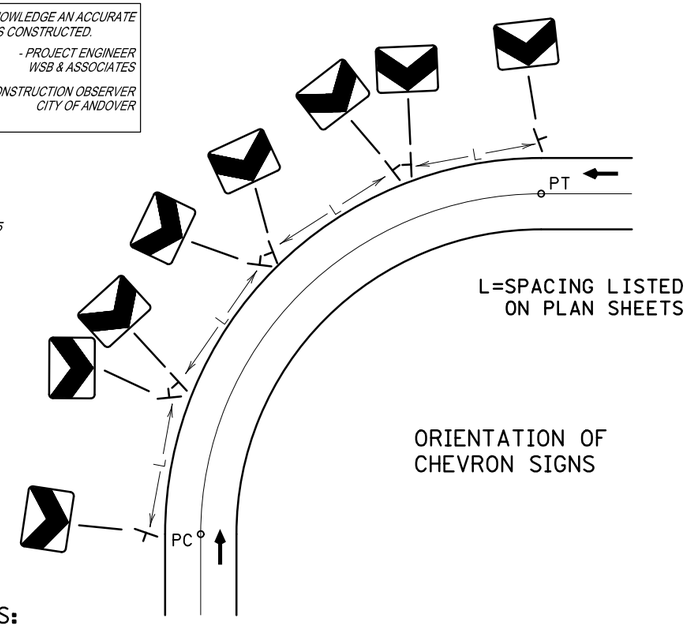
CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026



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.

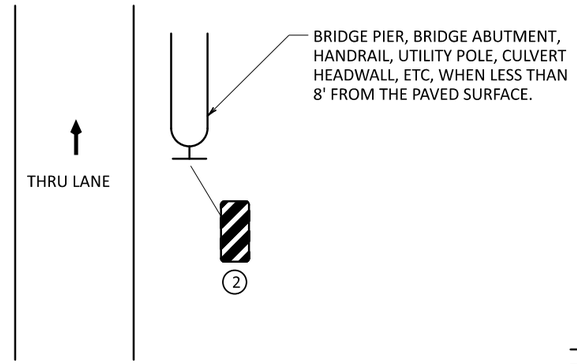
(1) ONLY USE WHEN BOULEVARD IS TOO NARROW TO OBTAIN ADEQUATE CURBED LOCATION SIGN OFFSETS.

(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.

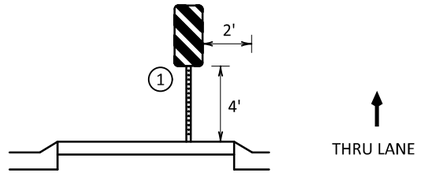
(3) MINIMUM OFFSET MAY BE REDUCED TO AT LEAST 6' FROM SHOULDER AND AT LEAST 12' FROM THRU LANE IF SITE CONDITIONS PROHIBIT A 12' OFFSET FROM SHOULDER.

(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.

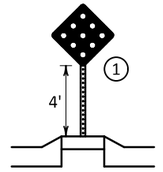
LEAD EXPERT OFFICE: BRIAN SORENSON, STATE TRAFFIC ENGINEER, OFFICE OF TRAFFIC ENGINEERING		STANDARD SIGN PLACEMENT	APPROVED: 08-09-2023 REVISED:	THOMAS STYRBICKI, STATE DESIGN ENGINEER	STANDARD PLAN 5-297.701	1 OF 1
DEPARTMENT OF TRANSPORTATION		STANDARD PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18	Sheet No. 58 of 153 Sheets



OBSTRUCTION
TYPE 3 OBJECT MARKER

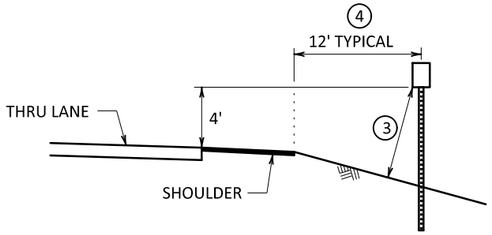


RAISED ISLAND
TYPE 3 OBJECT MARKER

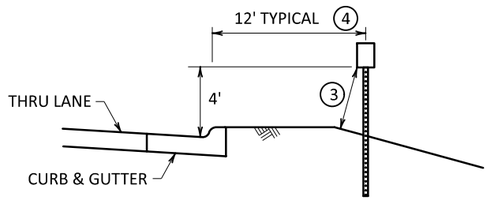


RAISED ISLAND
TYPE 1 OBJECT MARKER

MARKER TYPICAL PLACEMENT

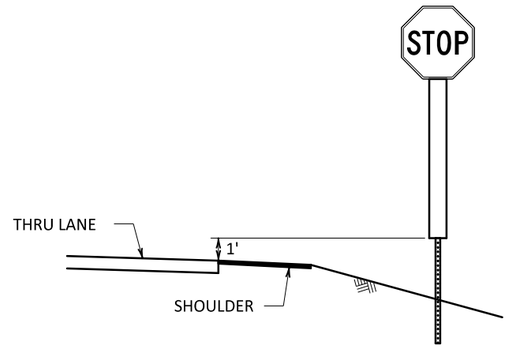


LOCATIONS WITHOUT CURB



LOCATIONS WITH CURB

DELINEATOR TYPICAL PLACEMENT



POST STRIP

NOTES:

FOR DELINEATOR OFFSETS AT RAMP GORES, SEE STANDARD PLAN 5-297.703.

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

RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

RECORD PLAN 2026

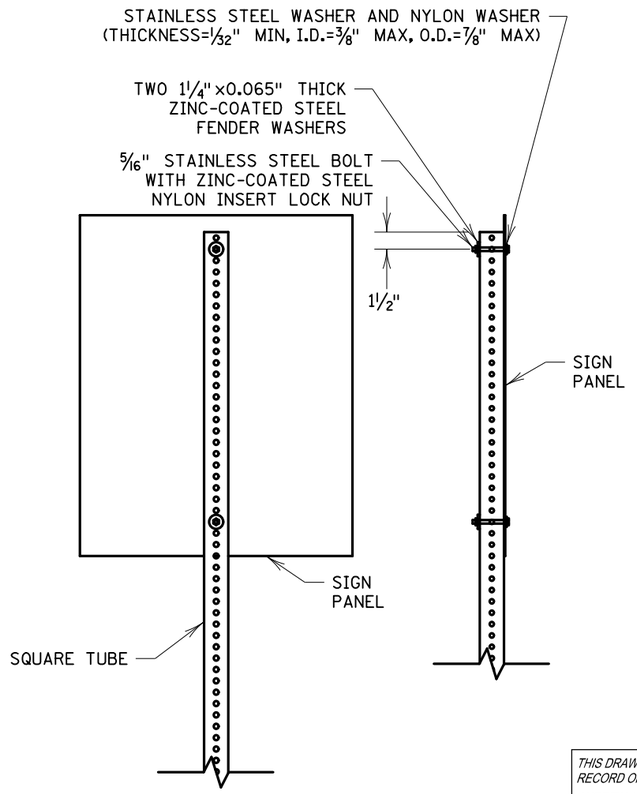
CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

LEAD EXPERT OFFICE: BRIAN SORENSON, STATE TRAFFIC ENGINEER, OFFICE OF TRAFFIC ENGINEERING		DELINEATOR AND MARKER PLACEMENT	APPROVED: 06-04-2024 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.702	1 OF 1
DEPARTMENT OF TRANSPORTATION		STANDARD PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18	Sheet No. 59 of 153 Sheets

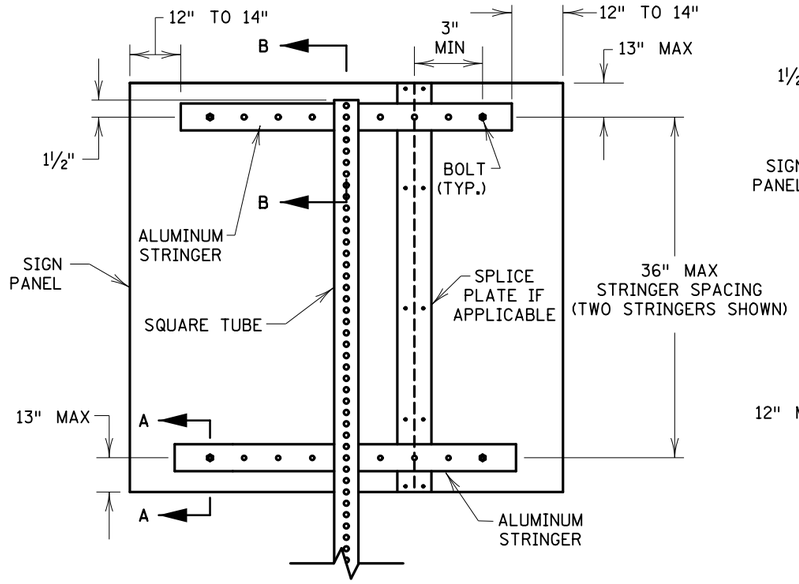
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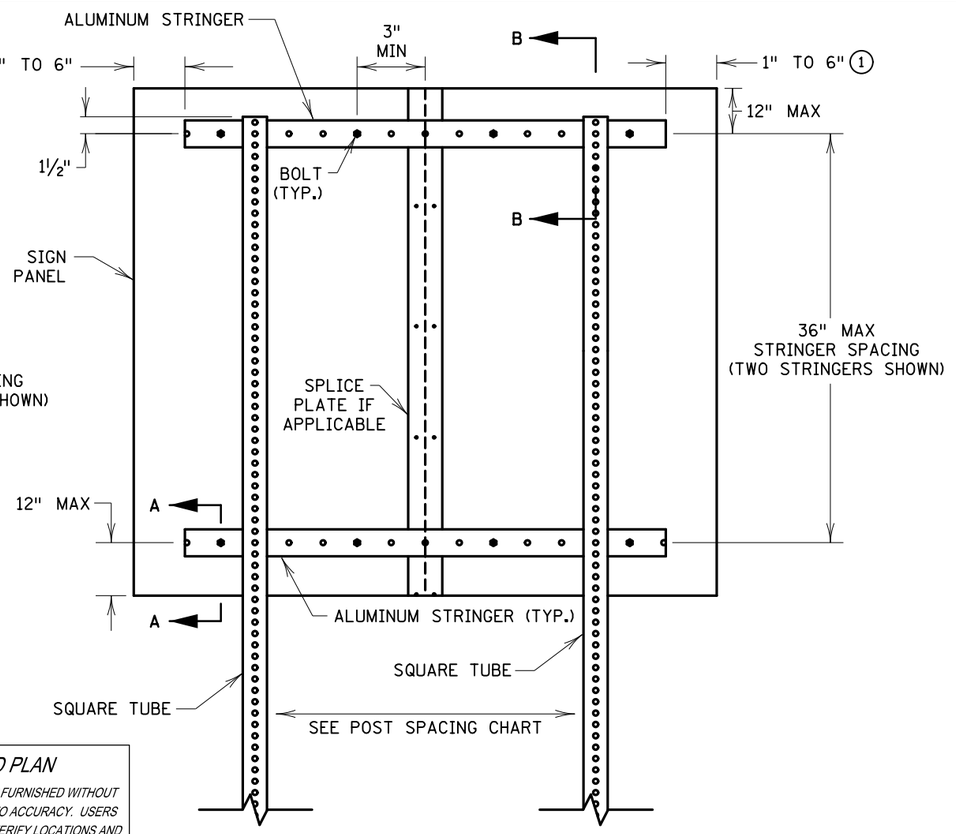
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FOR SIGN PANELS UP TO 30" WIDE



FOR SIGN PANELS 36" WIDE OR GREATER ON ONE POST



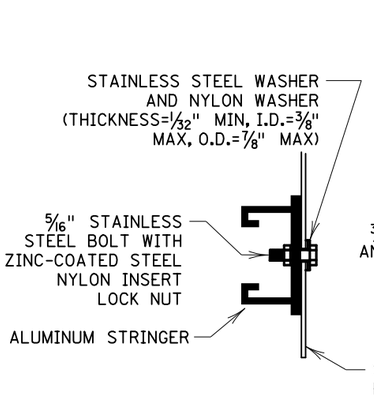
FOR SIGN PANELS ON TWO OR MORE POSTS

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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER
OCTOBER 2026

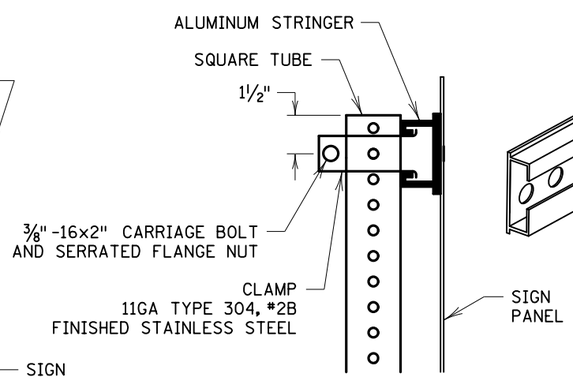
RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

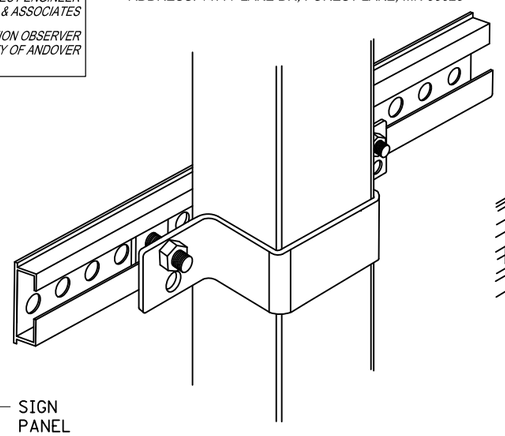
RECORD PLAN
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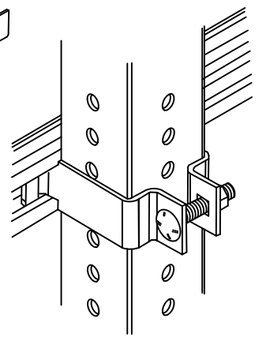
VIEW A-A



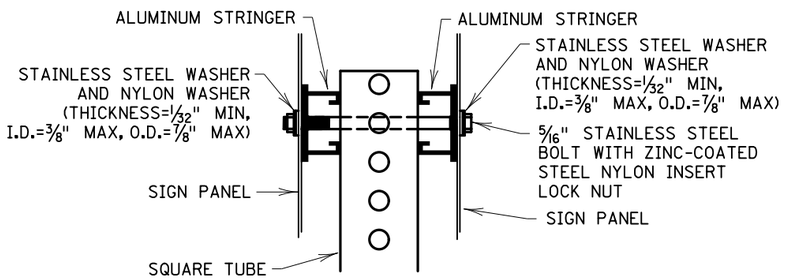
VIEW B-B



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.

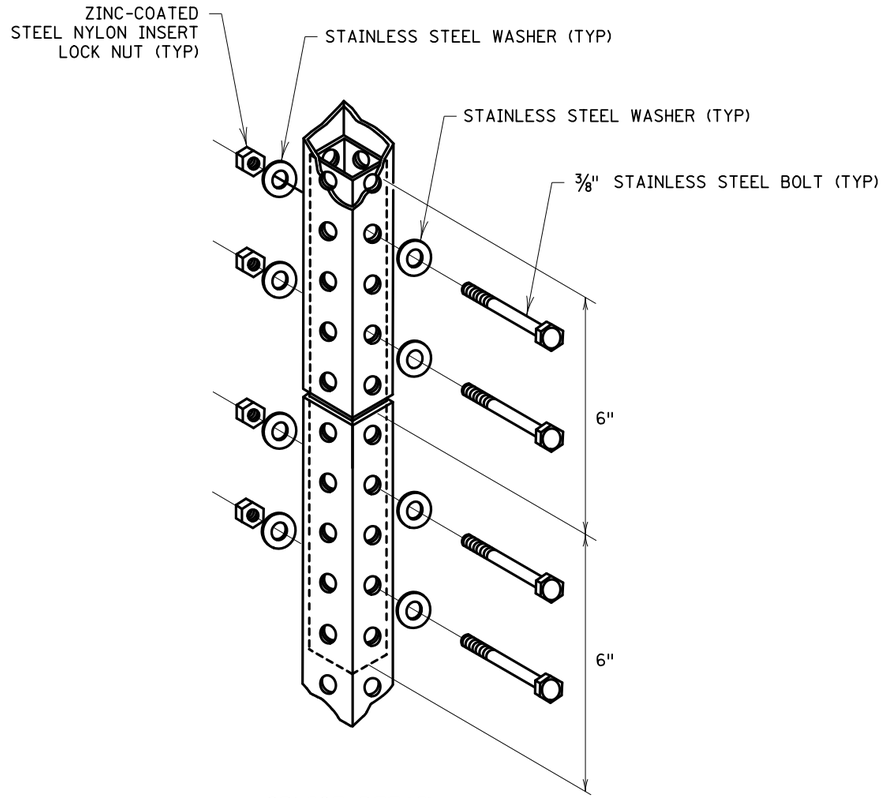
(1) IF POST SPACING REQUIRES PLACEMENT OF A POST WITHIN THIS AREA, EXTEND STRINGERS AS NEEDED TO ACCOMMODATE THE STRINGER TO POST CLAMP.

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 PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18 / Sheet No. 60 of 153 Sheets

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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 2 3/16". IF RISER POST IS 2", INTERIOR POST IS 1¾".

RECORD PLAN

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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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 PLANS	SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18		Sheet No. 61 of 153 Sheets	

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NUMBER OF ALUMINUM STRINGERS FOR 2½" OR SMALLER POSTS

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																																														
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1 POST | 2 POST | 3 POST | 4 POST | 5 POST | 6 POST

PANEL WIDTH (INCHES)

NUMBER OF STRINGERS FOR 4" POSTS

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
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1 POST | 2 POST | 3 POST | 4 POST

PANEL WIDTH (INCHES)

RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

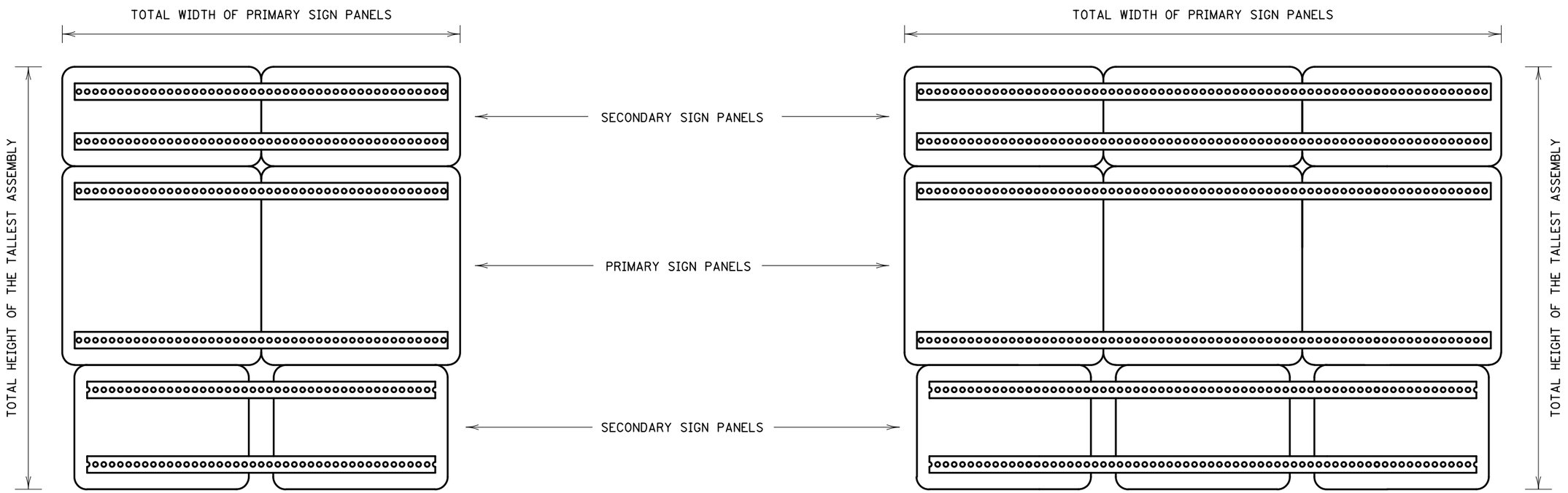
OCTOBER 2026

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 PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18	Sheet No. 62 of 153 Sheets

7025

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TWO SIDE-BY-SIDE ASSEMBLIES

THREE SIDE-BY-SIDE ASSEMBLIES

RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

NOTES:

CENTER SECONDARY SIGN PANELS BELOW OR ABOVE PRIMARY SIGN PANELS.

STRINGER SPACING TO MATCH VERTICAL PUNCHING SPACING FOR SIGN PANELS.

FOR SINGLE-POST INSTALLATIONS, THE STRINGERS MUST EXTEND 1" BEYOND THE BOLT HOLES.

FOR MULTI-POST INSTALLATIONS, THE STRINGERS MUST EXTEND EITHER 1" BEYOND THE BOLT HOLES OR 3" BEYOND THE OUTER POST CENTERLINE, WHICHEVER IS GREATER.

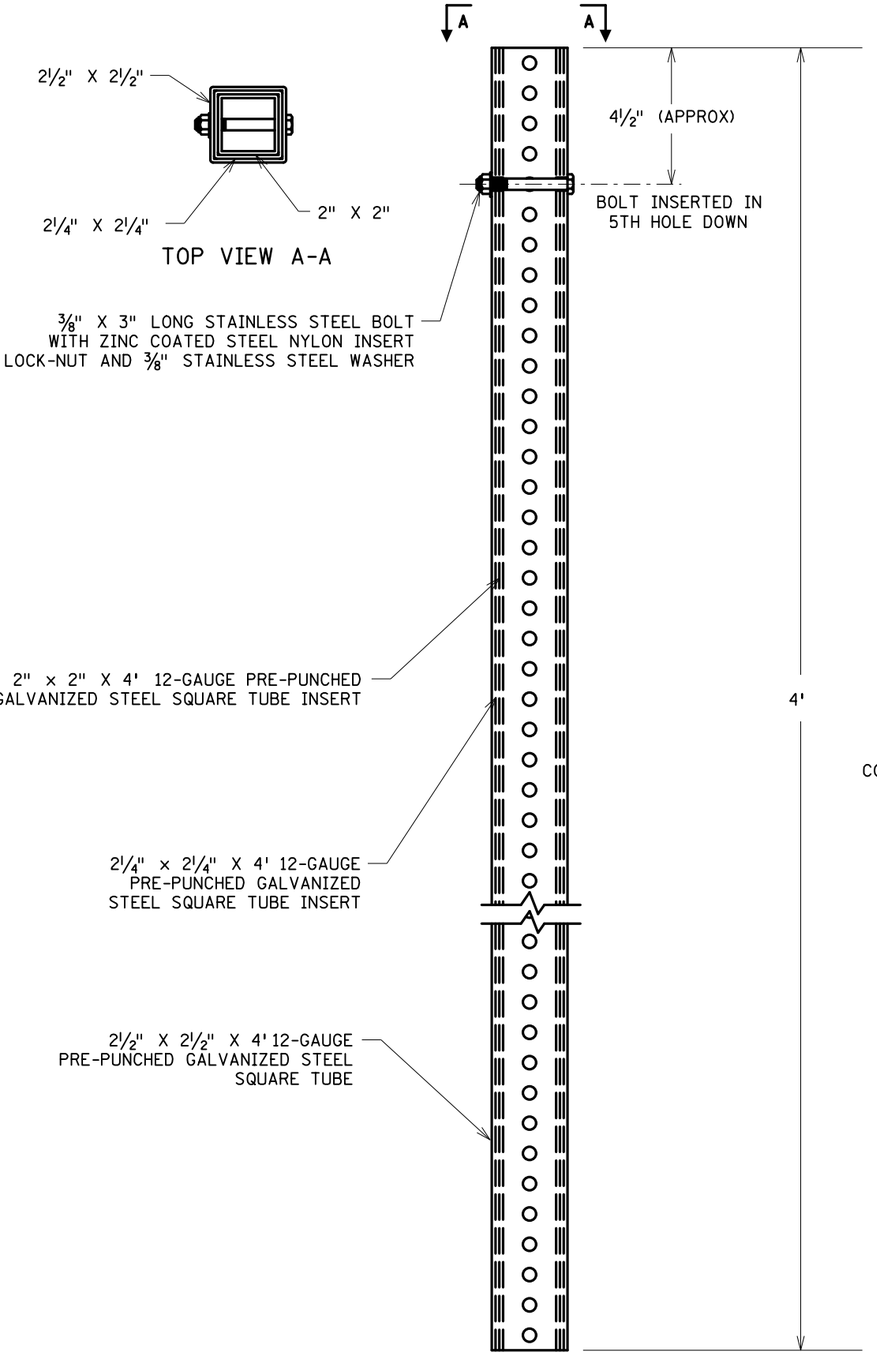
DETERMINE THE NUMBER OF POSTS AND THE POST SPACING BY THE TOTAL WIDTH AND HEIGHT OF THE ASSEMBLIES.

SEE STANDARD PLAN 5-297.718 FOR ADDRESS MOUNTING DETAILS.

LEAD EXPERT OFFICE	BRIAN SORENSON STATE TRAFFIC ENGINEER OFFICE OF TRAFFIC ENGINEERING		SQUARE-TUBE SIDE-BY-SIDE SIGN MOUNTING DETAILS	APPROVED: 08-09-2023 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.719	1 OF 1
	DEPARTMENT OF TRANSPORTATION		STANDARD PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18 Sheet No. 63 of 153 Sheets

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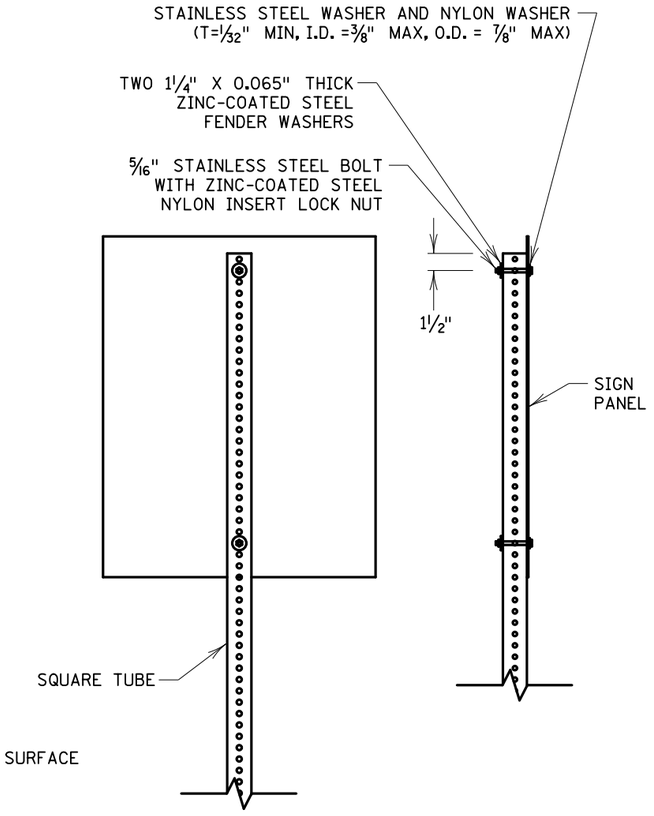
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GROUND MOUNT TUBING ASSEMBLY

THREE-WALL BASE CORED THROUGH CONCRETE

THREE-WALL BASE IN SOIL



MOUNTING DETAIL

RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

NOTES:

THE CRASH RESPONSE FOR THIS STRUCTURE IS BENDABLE.

TO MEET CRASHWORTHY REQUIREMENTS THE DISTANCE BETWEEN THE BOTTOM OF THE SIGN PANEL AND THE GROUND SURFACE BELOW ANY PORTION OF THE SIGN PANEL SHALL BE A MINIMUM OF 4'. SEE TABULATIONS FOR MOUNTING HEIGHT.

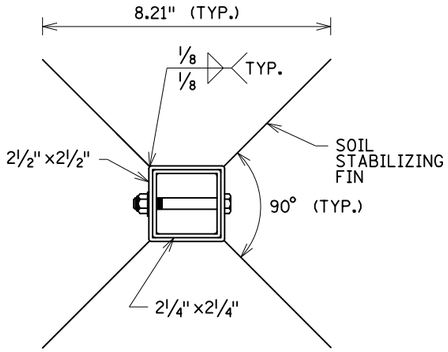
SQUARE TUBE SIGN POSTS PER MnDOT SPEC. 3402.

LEAD EXPERT OFFICE: BRIAN SORENSON, STATE TRAFFIC ENGINEER, OFFICE OF TRAFFIC ENGINEERING		THREE-WALL BASE FOR 1¾" SQUARE-TUBE RISER POST	APPROVED: 11-29-2022 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.721	1 OF 1
DEPARTMENT OF TRANSPORTATION		STANDARD PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18	Sheet No. 64 of 153 Sheets

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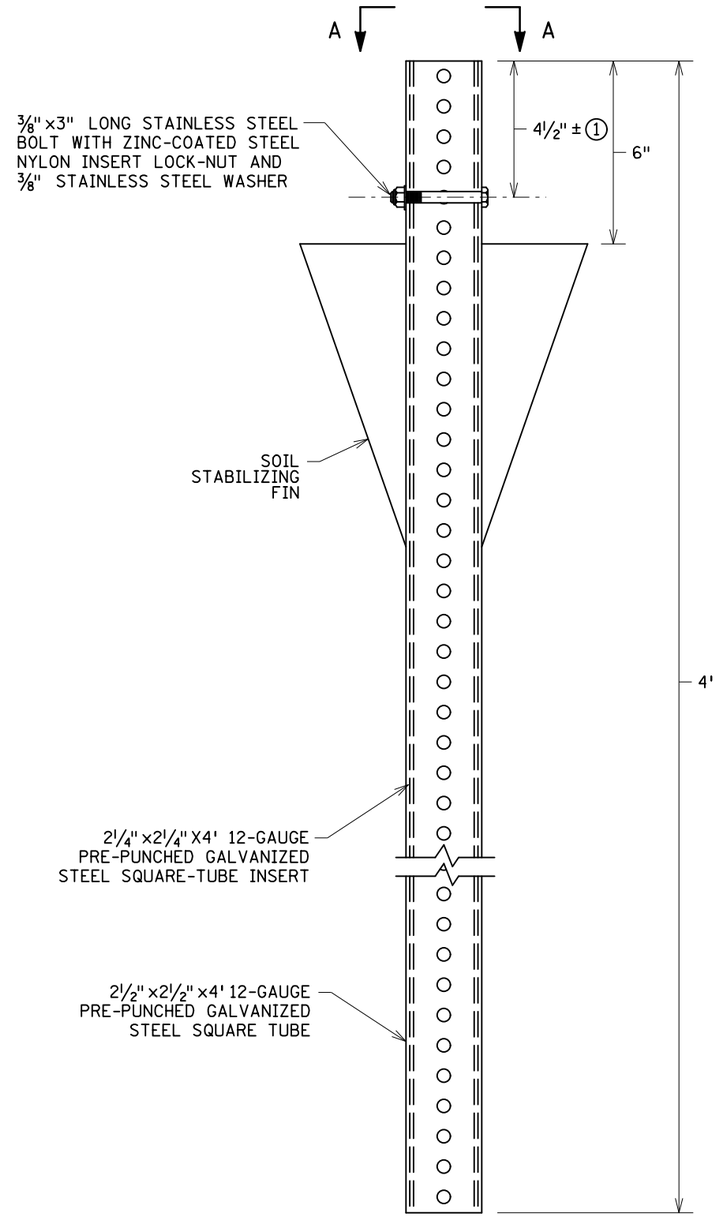
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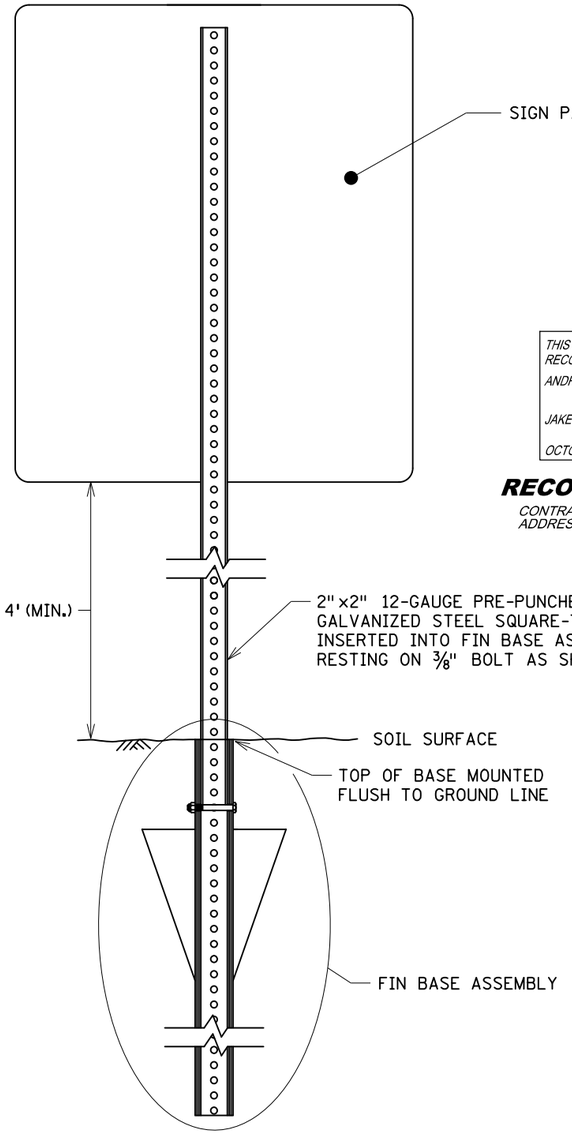
VIEW A-A

SOIL STABILIZING FIN
FOUR REQUIRED

12-GAUGE PRE-GALVANIZED ASTM A569 STEEL. WELD THE 10" EDGE OF EACH FIN TO EACH CORNER OF THE 2½" SQUARE TUBE. SEE VIEW A-A FOR WELDING DETAILS. WELDS MUST BE ZINC-COATED.



FIN BASE ASSEMBLY



FIN BASE IN SOIL

RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

NOTES:

THE CRASH RESPONSE TYPE FOR THIS STRUCTURE IS BENDABLE.

TO MEET CRASHWORTHY REQUIREMENTS, THE DISTANCE BETWEEN THE BOTTOM OF THE SIGN PANEL AND THE GROUND SURFACE BELOW ANY PORTION OF THE SIGN PANEL MUST BE A MINIMUM OF 4'. SEE TABULATIONS FOR MOUNTING HEIGHT.

SEE STANDARD PLAN 5-297.718 FOR ADDITIONAL MOUNTING DETAILS.

SQUARE-TUBE SIGN POSTS IN ACCORDANCE WITH SPEC. 3402.

① INSERT BOLT IN 5TH HOLE DOWN.

LEAD EXPERT OFFICE: BRIAN SORENSON, STATE TRAFFIC ENGINEER, OFFICE OF TRAFFIC ENGINEERING		FIN BASE FOR 2" SQUARE-TUBE RISER POST IN SOIL	APPROVED: 08-09-2023 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.722	1 OF 1
DEPARTMENT OF TRANSPORTATION		STANDARD PLANS	SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18		Sheet No. 65 of 153 Sheets	

7028

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RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

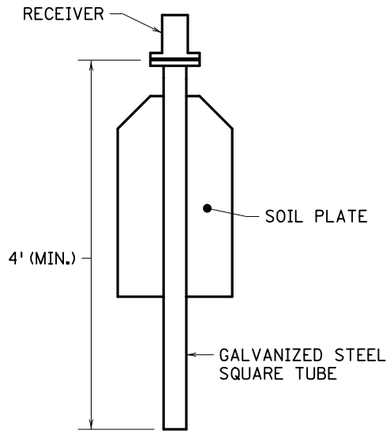
INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

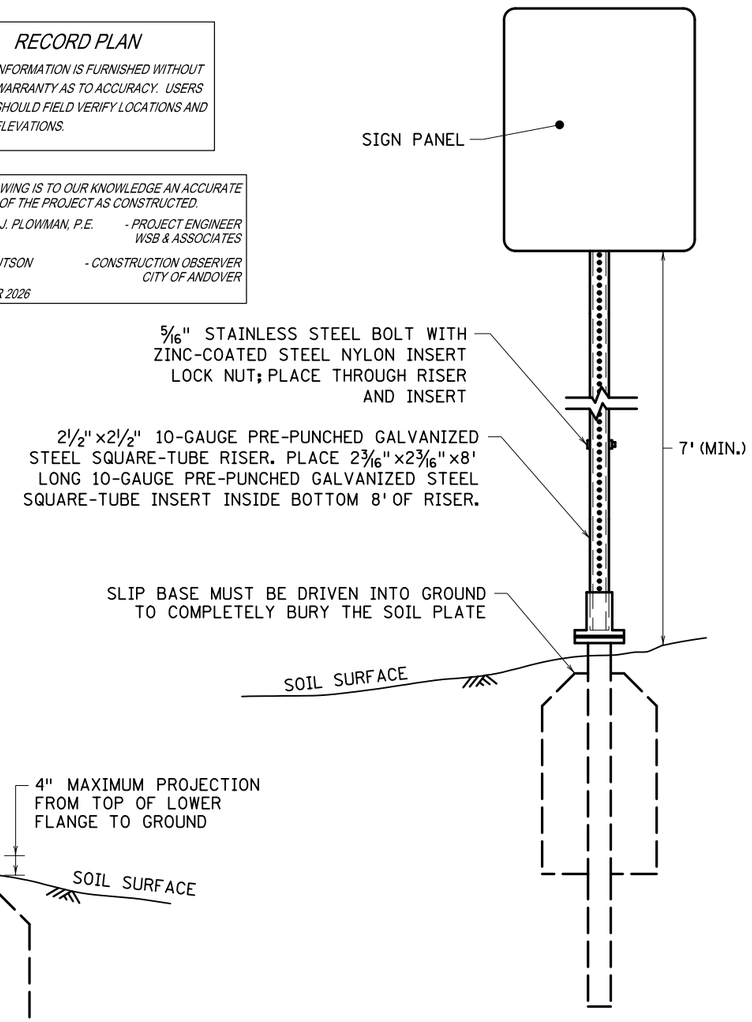
ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

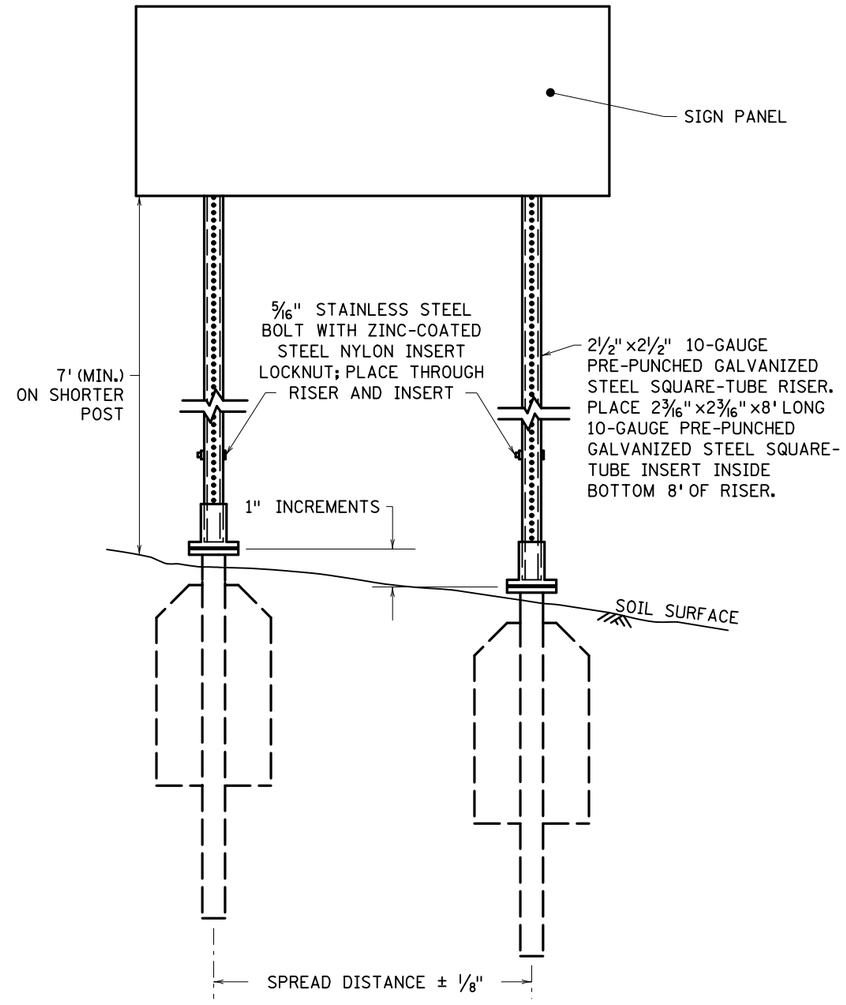
OCTOBER 2026



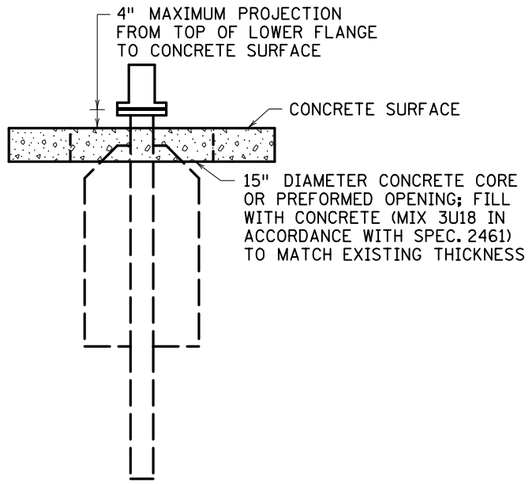
PROPRIETARY SLIP BASE ASSEMBLY ①



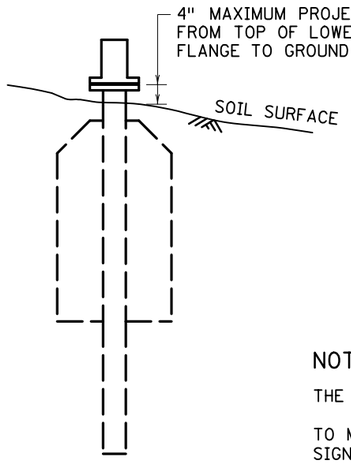
SLIP BASE ASSEMBLY WITH SINGLE-POST SIGN
TYPICAL PLACEMENT IN SOIL



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		SQUARE-TUBE SIGN MOUNTING DETAILS	APPROVED: 08-09-2023 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.724	1 OF 1
	DEPARTMENT OF TRANSPORTATION		STANDARD PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18 Sheet No. 66 of 153 Sheets	

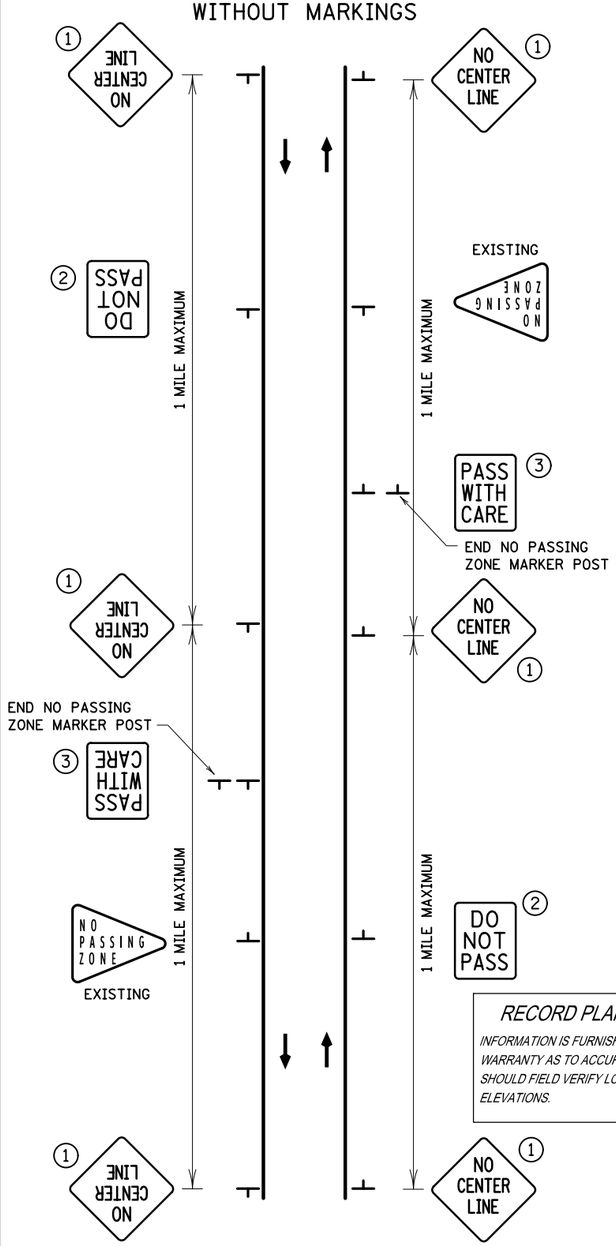
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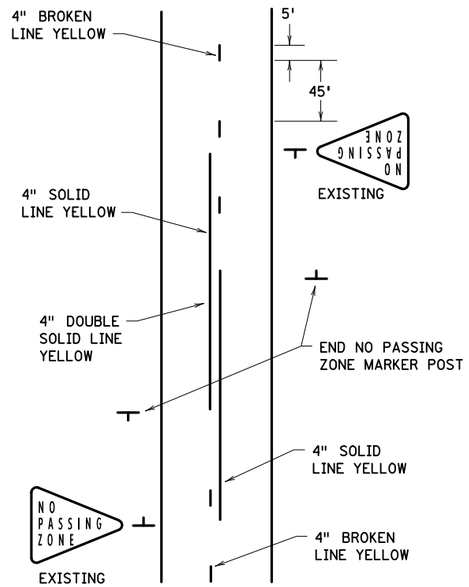
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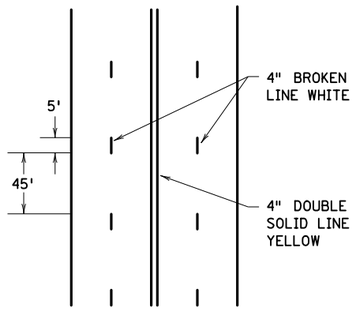
TWO-LANE, TWO-WAY LESS THAN 400 ADT WITHOUT MARKINGS



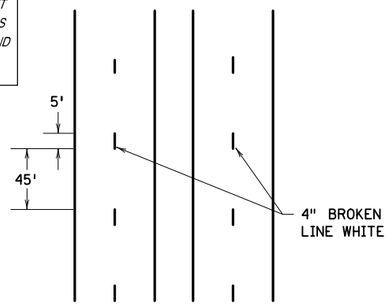
TWO-LANE, TWO-WAY



MULTI-LANE, UNDIVIDED



MULTI-LANE, DIVIDED



RECORD PLAN

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THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

GENERAL NOTES:

SEE MnDOT SPEC. 2580 (INTERIM PAVEMENT MARKING).

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

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

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

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

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

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

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

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

① PLACE A "NO CENTER LINE" SIGN (W8-12, BLACK ON ORANGE) FOR EACH DIRECTION OF TRAVEL. PLACE ADDITIONAL SIGNS AT MAJOR INTERSECTIONS OR ONE MILE INCREMENTS, WHICHEVER IS LESS.

② IF NOT ALREADY INPLACE, PLACE A "DO NOT PASS" SIGN (R4-1) OPPOSITE OF EACH INPLACE "NO PASSING ZONE" SIGN (W14-3).

③ PLACE A "PASS WITH CARE" SIGN (R4-2) AT THE END OF EACH NO PASSING ZONE, ADJACENT TO THE END OF NO PASSING ZONE MARKER POST.

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

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

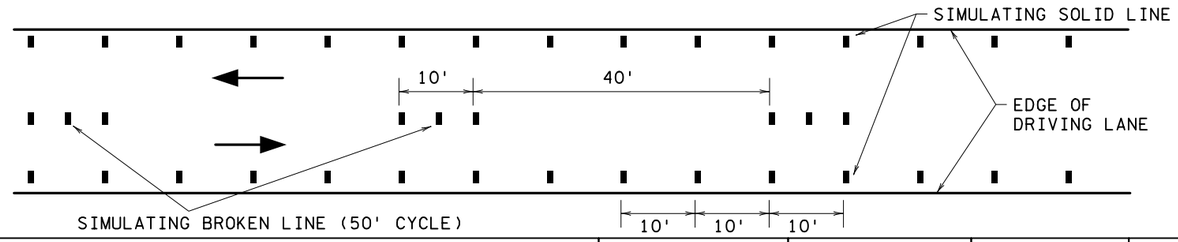
USE DOUBLE-SIDED TRPMS ON TWO-LANE, TWO-WAY ROADS.

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

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

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

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



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DEPARTMENT OF TRANSPORTATION

STANDARD PLANS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

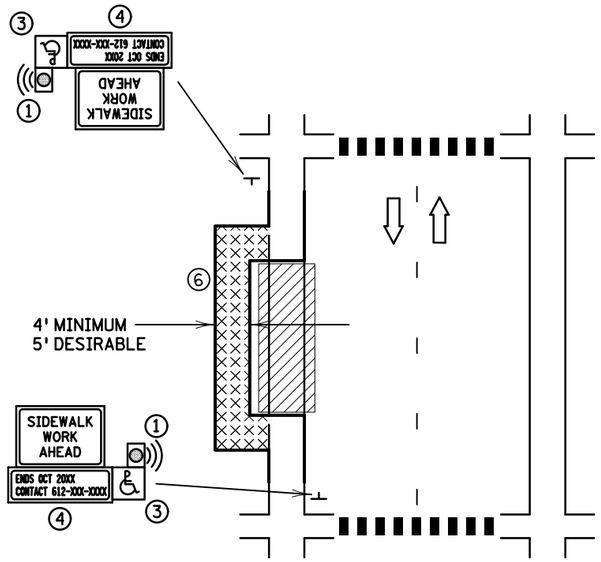
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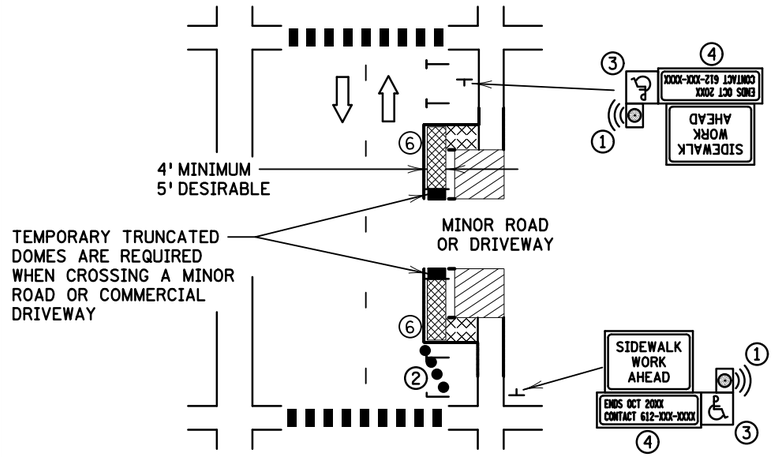
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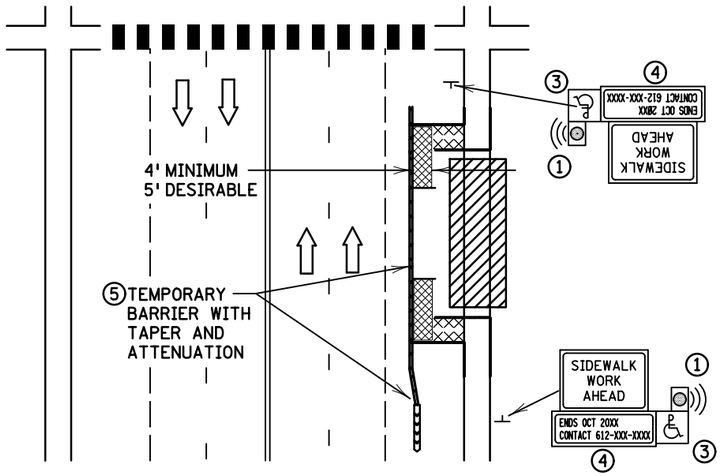
BYPASS TYPE A

BYPASS ON ADJACENT AVAILABLE RIGHT OF WAY



BYPASS TYPE B

SIDEWALK BYPASS USING PARKING OR SHOULDER ON LOW-SPEED ROADWAY



BYPASS TYPE C

SIDEWALK BYPASS USING SHOULDER OR PARKING LANE ON A MULTI-LANE OR HIGH-SPEED ROADWAY

NOTES:

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECTABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES. THE ALTERNATE PEDESTRIAN ROUTE (APR) MUST REMAIN OPEN AT ALL TIMES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK AS NECESSARY TO PROVIDE AN APR AT ALL TIMES FOR ROADWAYS WITH NO AVAILABLE DETOURS. PROVIDE A SMOOTH, CONTINUOUS, HARD SURFACE THROUGH THE LENGTH OF THE APR.

PROVIDE A FIRM, STABLE, FREE-DRAINING, NON-SLIP, TEMPORARY WALKWAY SURFACE REGARDLESS OF WEATHER CONDITIONS. SUPPORT THE TEMPORARY WALKWAY SURFACE WITH A SOLID BASE TO COVER SHORT SEGMENTS OF ROUGH, SOFT, OR UNEVEN GROUND. THE TEMPORARY WALKWAY SURFACE WILL ALLOW NORMAL USAGE OF WHEELCHAIRS, WALKERS, STROLLERS, AND OTHER MOBILITY DEVICES. CONCRETE, BITUMINOUS, STEEL, RUBBER, WOOD (¾" OR THICKER), AND PLASTIC ARE ACCEPTABLE SURFACE MATERIALS FOR THE TEMPORARY WALKWAY SURFACE. GRAVEL, MILLINGS, AND OTHER UNEVEN SURFACES ARE NOT ACCEPTABLE SURFACE MATERIALS. IF NEEDED, PROVIDE SOIL STABILIZATION TO PREVENT EROSION AROUND TEMPORARY SURFACES. IF NEEDED, PROVIDE SOIL STABILIZATION TO PREVENT EROSION AROUND TEMPORARY SURFACES.

IF A 60" PEDESTRIAN WALKWAY WIDTH ISN'T PROVIDED FOR THE ROUTE, THEN A 60" BY 60" PASSING SPACE IS REQUIRED EVERY 200'. THE MINIMUM WIDTH OF THE WALKWAY IS 48".

COVER OR DEACTIVATE ANY PEDESTRIAN TRAFFIC SIGNALS CONTROLLING CLOSED CROSSWALKS.

POST-MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7' MINIMUM CLEARANCE FROM THE BOTTOM OF THE LOWEST SIGN TO THE SIDEWALK SURFACE. SHARED-USE PATH SHALL HAVE 8' MINIMUM CLEARANCE FROM THE BOTTOM OF THE LOWEST SIGN TO THE SHARED USE PATH SURFACE.

APR SHOULD BE KEPT FREE OF TRASH, SEDIMENT, AND DEBRIS.

ANY PORTABLE SIGN OR BARRICADE PLACED OR STORED IN A PEDESTRIAN WALKWAY THAT COULD POSE A HAZARD TO A VISUALLY-IMPAIRED PEDESTRIAN SHALL HAVE A DETECTABLE EDGE TO GUIDE THE PEDESTRIAN AROUND THE HAZARD. FOR ADDITIONAL GUIDANCE, SEE THE "DETECTABLE EDGE FOR SIGN ON PORTABLE STAND" DETAIL ON STADARD PLAN 5-297.813.

MINIMIZE DISRUPTION TO PEDESTRIANS TO THE MAXIMUM EXTENT FEASIBLE BY PROVIDING AN APR IN THE FOLLOWING ORDER OF PREFERENCE:

2. PROVIDE THE APR ON THE SAME SIDE OF THE ROADWAY AS THE DISRUPTED ROUTE UTILIZING BYPASSES.

3. WHERE NOT FEASIBLE TO PROVIDE A SAME-SIDE APR, PROVIDE AN APR DETOUR ON THE OTHER SIDE OF THE ROADWAY.

   WHERE NOT FEASIBLE TO PROVIDE AN APR ON EITHER SIDE OF THE ROADWAY, PROVIDE AN APR DETOUR WITH TRAILBLAZING SIGNS.

① CONSIDER PROVIDING AN APPROVED AUDIBLE MESSAGE DEVICE OR TACTILE MESSAGE FOR PEDESTRIANS WITH VISUAL DISABILITIES.

② RECOMMENDED TAPER WHEN THE CLOSED AREA WAS PREVIOUSLY USED AS AN INTERMITTENT TRAFFIC LANE OR BYPASS LANE IS 25' LONG USING FIVE EQUALLY-SPACED CHANNELIZING DEVICES.

③ FOR FULLY-ACCESSIBLE WALKWAYS THROUGH WORKZONES, CONSIDER DISPLAYING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY.

④ INCLUDE INFORMATION SUCH AS THE DURATION OF THE WALKWAY RESTRICTIONS (BEGINNING AND/OR END DATES) AND A PROJECT CONTACT NUMBER FOR 24/7 QUESTIONS OR REPORTING HAZARDS ON SIGNS FOR TEMPORARY PEDESTRIAN DETOURS.

⑤ SEE THE MOST CURRENT EDTION OF THE MNDOT TEMPORARY BARRIER GUIDANCE MANUAL FOR GUIDANCE ON PLACEMENT AND USAGE OF TEMPORARY BARRIER.

⑥ PROVIDE SOIL STABILIZATION AROUND TEMPORARY SURFACES TO PREVENT EROSION, IF NEEDED.

LEGEND

- SIGN
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- TEMPORARY BARRIER
- DIRECTION OF TRAFFIC
- CHANNELIZER
- AUDIBLE MESSAGE DEVICE (AMD)
- TEMPORARY CURB RAMP WITH DETECTABLE EDGES
- TEMPORARY WALKWAY SURFACE

RECORD PLAN

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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

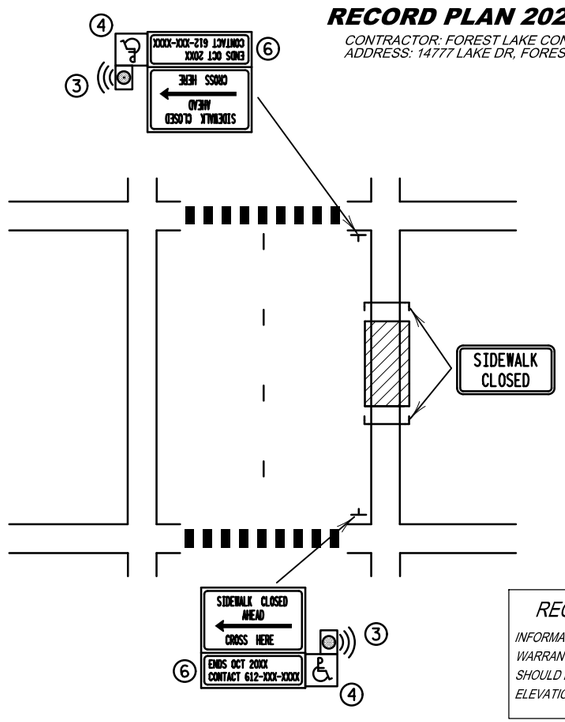
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	DEPARTMENT OF TRANSPORTATION		STANDARD PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18 Sheet No. 68 of 153 Sheets	

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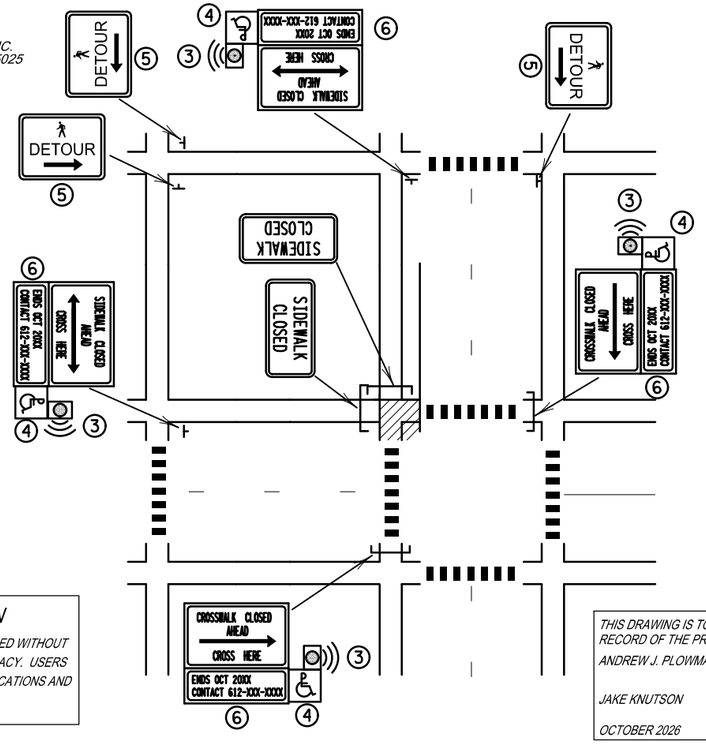
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OTHER SIDE OF ROADWAY DETOUR
FOR MID-BLOCK CLOSURE

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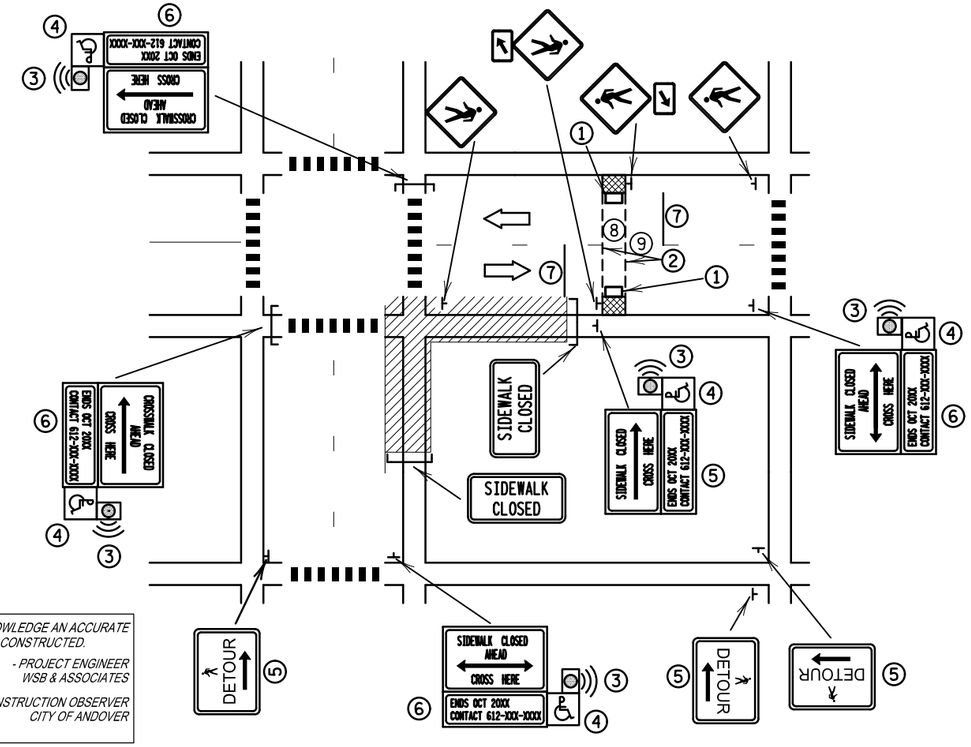
ONE QUADRANT CLOSED

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OCTOBER 2026



OTHER SIDE OF STREET DETOUR OR DETOUR WITH TRAILBLAZING SIGNS
FOR CORNER SIDEWALK CLOSURE WITH OPTIONAL TEMPORARY CROSSWALK

NOTES:

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECTABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES. THE MINIMUM TEMPORARY WALKWAY WIDTH SHOULD BE THE WIDTH OF THE EXISTING FACILITY. IF THE EXISTING FACILITY HAS A WIDTH GREATER THAN 60", THE WIDTH OF THE TEMPORARY FACILITY MAY BE 60". IF THE WIDTH OF THE DETOUR IS LESS THAN 60", A 60"-WIDE PASSING SPACE IS REQUIRED EVERY 200'.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER TRAILBLAZING SIGNS OR DEVICES MAY BE NEEDED FOR ADEQUATE ROUTING. STAGE WORK AS NECESSARY TO PROVIDE AN ALTERNATE PEDESTRIAN ROUTE (APR) AT ALL TIMES.

PROVIDE A SMOOTH, CONTINUOUS, HARD SURFACE THROUGH THE LENGTH OF THE APR. PROVIDE A FIRM, STABLE, FREE-DRAINING, NON-SLIP, TEMPORARY WALKWAY SURFACE REGARDLESS OF WEATHER CONDITIONS. SUPPORT THE TEMPORARY WALKWAY SURFACE WITH A SOLID BASE TO COVER SHORT SEGMENTS OF ROUGH, SOFT, OR UNEVEN GROUND. THE TEMPORARY WALKWAY SURFACE WILL ALLOW NORMAL USAGE OF WHEELCHAIRS, WALKERS, STROLLERS, AND OTHER MOBILITY DEVICES. CONCRETE, BITUMINOUS, STEEL, RUBBER, WOOD (3/4" OR THICKER), AND PLASTIC ARE ACCEPTABLE SURFACE MATERIALS FOR THE TEMPORARY WALKWAY SURFACE. GRAVEL, MILLINGS, OR OTHER UNEVEN SURFACES ARE NOT ACCEPTABLE SURFACE MATERIALS. IF NEEDED, PROVIDE SOIL STABILIZATION TO PREVENT EROSION AROUND TEMPORARY SURFACES.

COVER OR DEACTIVATE ANY PEDESTRIAN TRAFFIC SIGNALS CONTROLLING CLOSED CROSSWALKS.

APR SHOULD BE KEPT FREE OF TRASH, SEDIMENT, AND DEBRIS.

POST-MOUNTED SIGNS ADJACENT TO SIDEWALKS SHALL HAVE 7' MINIMUM CLEARANCE FROM THE BOTTOM OF THE LOWEST SIGN TO THE SIDEWALK SURFACE. SHARED-USE PATHS SHALL HAVE 8' MINIMUM CLEARANCE FROM THE BOTTOM OF THE LOWEST SIGN TO THE SHARED-USE PATH SURFACE.

ANY PORTABLE SIGN OR BARRICADE PLACED OR STORED IN A PEDESTRIAN WALKWAY THAT COULD BE A HAZARD TO A VISUALLY-IMPAIRED PEDESTRIAN SHALL HAVE A DETECTABLE EDGE TO GUIDE THE PEDESTRIAN AROUND THE HAZARD. FOR ADDITIONAL GUIDANCE SEE THE "TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) DEVICES" STANDARD PLAN, "DETECTABLE EDGE FOR SIGN ON PORTABLE STAND" DETAIL.

MINIMIZE DISRUPTION TO PEDESTRIANS TO THE MAXIMUM EXTENT FEASIBLE BY PROVIDING AN APR IN THE FOLLOWING ORDER OF PREFERENCE:

1. PROVIDE THE APR ON THE SAME SIDE OF THE ROADWAY AS THE DISRUPTED ROUTE UTILIZING BYPASSES.
2. WHERE IT IS NOT FEASIBLE TO PROVIDE A SAME-SIDE APR, PROVIDE AN APR DETOUR ON THE OTHER SIDE OF THE ROADWAY.
3. WHERE IT IS NOT FEASIBLE TO PROVIDE AN APR ON EITHER SIDE OF THE ROADWAY, PROVIDE AN APR DETOUR WITH TRAILBLAZING SIGNS.

(1) TEMPORARY CURB RAMPS WITH DETECTABLE WARNINGS.

(2) TEMPORARY PAVEMENT MARKINGS FOR CROSSWALKS MAY USE CROSSWALK BLOCKS, TWO TRANSVERSE LINES OR TWO STRIPS OF 18" PREFORMED MARKING MATERIAL TO FORM 36" WIDE CROSSWALK BLOCKS.

(3) PROVIDE AN APPROVED AUDIBLE MESSAGE DEVICE OR TACTILE MESSAGE FOR PEDESTRIANS WITH VISUAL DISABILITIES.

(4) FOR FULLY ACCESSIBLE WALKWAYS THROUGH WORKZONES, CONSIDER DISPLAYING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY.

(5) USE PEDESTRIAN DETOUR TRAILBLAZING SIGNS IF THE PEDESTRIAN DETOUR IS NOT LOCATED ACROSS THE ROADWAY FROM THE SIDEWALK CLOSURE.

(6) TYPICAL SIGN MESSAGE FOR AN ALTERNATE PEDESTRIAN ROUTE SHOULD INCLUDE INFORMATION SUCH AS THE DURATION OF THE WALKWAY RESTRICTIONS (BEGINNING AND/OR END DATES) AND A PROJECT CONTACT NUMBER FOR 24/7 QUESTIONS OR REPORTING HAZARDS. TYPICAL INFORMATION INCLUDED IN AN AUDIBLE MESSAGE CAN BE FOUND IN "TPAR - AUDIBLE MESSAGE CONTENT GUIDELINES" AVAILABLE ON THE MNDOT TRAFFIC ENGINEERING WEBSITE ON THE PEDESTRIAN ACCOMMODATIONS THROUGH WORK ZONES WEB PAGE. ADDITIONALLY, A SUMMARY OF THE MESSAGE CONTENT GUIDELINES CAN BE FOUND WITHIN THE PEDESTRIAN ACCOMMODATIONS THROUGH WORK ZONES DESIGN GUIDANCE DOCUMENT.

(7) LOCATE STOP BAR 20' TO 50' BEFORE THE CROSSWALK. RESTRICT PARKING BETWEEN THE STOP BAR AND THE CROSSWALK. ON TWO-WAY ROADWAYS, RESTRICT PARKING BOTH BEFORE AND AFTER THE CROSSWALK FOR BOTH DIRECTIONS.

(8) CONSIDER LIGHTING AT MID-BLOCK CROSSINGS IN ORDER TO ILLUMINATE PEDESTRIANS, IF NOT ALREADY LIT.

(9) CONSIDER THE ADDITION OF R1-6a SIGNS AS MOTORISTS ARE NOT EXPECTING MID-BLOCK CROSSING.



R1-6a

LEGEND

- SIGN
- WORK AREA
- SIDEWALK BARRICADE
- DIRECTION OF TRAFFIC
- AUDIBLE MESSAGE DEVICE (AMD)
- TEMPORARY CURB RAMP WITH DETECTABLE EDGES

LEAD EXPERT OFFICE	BRIAN SORENSON STATE TRAFFIC ENGINEER OFFICE OF TRAFFIC ENGINEERING		ALTERNATE PEDESTRIAN ROUTE (APR) LAYOUTS	APPROVED: 03-18-2021 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.811	2 OF 2

DEPARTMENT OF TRANSPORTATION

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NOTES;

TPAR SHOULD BE KEPT FREE OF TRASH, SEDIMENT, AND DEBRIS.

RAILINGS OR OTHER OBJECTS MAY PROTRUDE A MAXIMUM OF 4" INTO THE WALKWAY CLEAR SPACE WHEN LOCATED A MINIMUM OF 27" ABOVE THE WALKWAY SURFACE.

USE CRASHWORTHY TEMPORARY BARRIERS WHEN USED AS A PEDESTRIAN CHANNELIZERS.

PLACE SIDEWALK BARRICADES ACROSS THE ENTIRE WIDTH OF THE WALKWAYSURFACE, WHEN USED.

USE INTERLOCKING DEVICES TO CHANNELIZE PEDESTRIAN FLOW TO PREVENT GAPS THAT COULD ALLOW PEDESTRIANS TO STRAY FROM THE CHANNELIZED PATH.

① PROVIDE DETECTABLE EDGE TO ANY TRIPPING HAZARD IN THE WALKWAY. LOCATE BALLAST BEHIND THE DETECTABLE EDGE OR INTEGRAL TO THE DEVICE. ANY SUPPORT ON THE FRONT OF THE DEVICE SHOULD NOT EXTEND INTO THE 48" MINIMUM WALKWAY CLEAR SPACE. ANY SUPPORT THAT EXTENDS INTO THE WALKWAY SHALL NOT EXCEED ½" HEIGHT ABOVE THE WALKWAY SURFACE; IF GREATER THAN ¼", BEVEL AS SHOWN IN THE TRIP HAZARD DETAIL.

② PROVIDE CONTINUOUS DETECTABLE EDGES EXTENDING AT LEAST 6" ABOVE THE WALKWAY SURFACE. MARK DETECTABLE EDGES WITH A COLOR THAT CONTRASTS WITH THE WALKWAY SURFACE. PLACE THE DETECTABLE EDGE AROUND ANY PORTABLE SIGN STAND IN THE WALKWAY AREA WHERE THE SIGN POSES A HAZARD TO A VISUALLY-IMPAIRED PEDESTRIAN.

③ DEVICES AND DETECTABLE EDGES SHALL NOT BLOCK WATER DRAINAGE FROM THE WALKWAY. A GAP HEIGHT OR OPENING FROM THE WALKWAY SURFACE UP TO A MAXIMUM OF 2" IS ALLOWED FOR DRAINAGE PURPOSES.

④ USE HAND AND GUIDE RAILS WHEN REQUIRED. INSTALL TOP RAIL OR TOP SURFACE IN A VERTICAL PLANE PERPENDICULAR TO THE WALKWAY, ABOVE THE DETECTABLE EDGE. PROVIDE CONTINUOUS RAIL AT A HEIGHT OF 34" TO 38" ABOVE THE WALKWAY SURFACE. USE RAIL SUPPORTS THAT MINIMIZE CONTACT WITH PEDESTRIAN'S HANDS AND FINGERS. SEE "PUBLIC RIGHTS OF WAY ACCESSIBILITY GUIDELINES (PROWAG) 2005" FOR ADDITIONAL GUIDANCE ON USE OF HAND AND GUIDE RAILS.

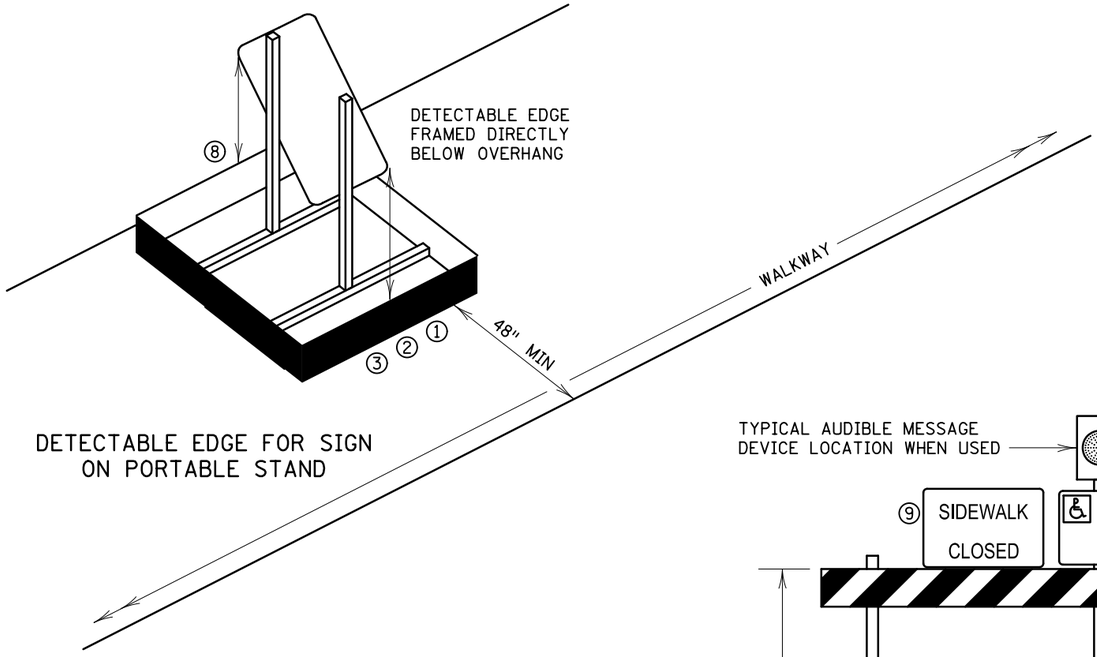
⑤ USE DEVICES FREE OF SHARP OR ROUGH EDGES, AND USE ROUNDED FASTENERS (BOLTS) TO PREVENT HARM TO A PEDESTRIAN'S HANDS, ARMS, AND CLOTHING.

⑥ REGARDLESS OF WEATHER CONDITIONS PROVIDE FIRM, STABLE, FREE-DRAINING, AND NON-SLIP TEMPORARY WALKWAY SURFACES. TEMPORARY WALKWAY SURFACES SHALL ALLOW NORMAL USAGE OF WHEELCHAIRS, WALKERS, STROLLERS, OR OTHER MOBILITY DEVICES. CONCRETE, BITUMINOUS, STEEL, RUBBER, WOOD (¾" OR THICKER), AND PLASTIC ARE ACCEPTABLE SURFACE MATERIALS FOR A TEMPORARY WALKWAY SURFACE. GRAVEL, MILLINGS, AND OTHER UNEVEN SURFACES ARE NOT ACCEPTABLE SURFACE MATERIALS.

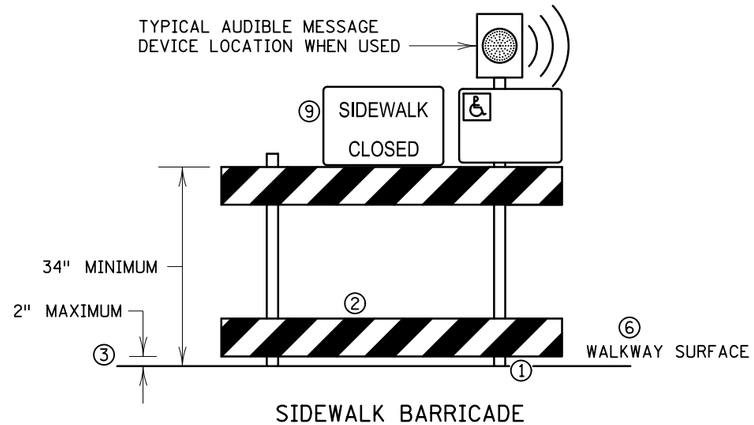
⑦ PROVIDE 32" HIGH OR GREATER LONGITUDINAL CHANNELIZING DEVICES FOR PEDESTRIANS.

⑧ AN EDGE OF THE FRAMING MAY BE REMOVED IF IT IS NOT NEEDED FOR PEDESTRIAN GUIDANCE. STABILITY OF THE DETECTABLE EDGE SHOULD BE MAINTAINED.

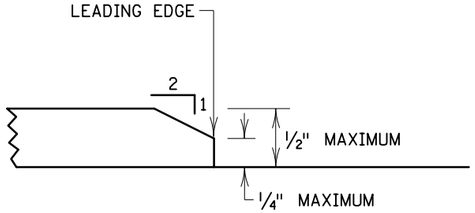
⑨ TYPICAL. SEE SIGNING PLAN FOR DETAILS.



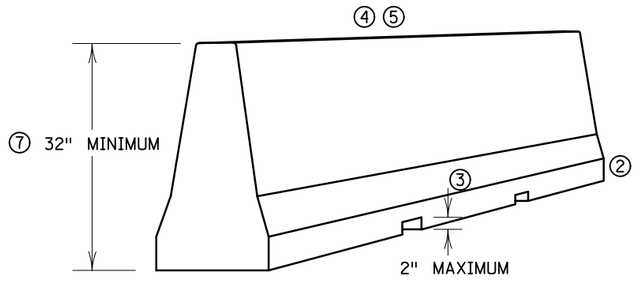
DETECTABLE EDGE FOR SIGN ON PORTABLE STAND



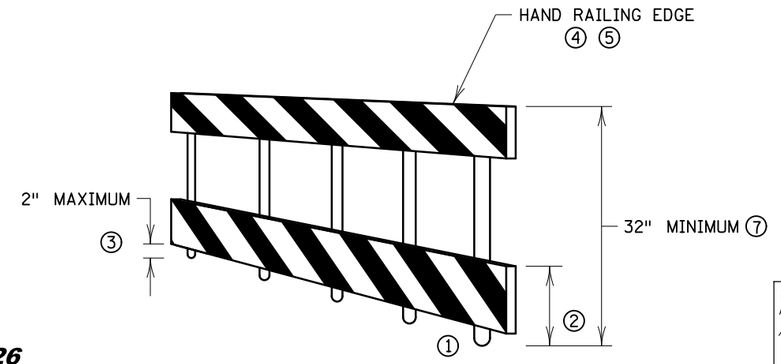
SIDEWALK BARRICADE



TRIP HAZARD



PEDESTRIAN CHANNELIZER DEVICE USING A PORTABLE CONCRETE BARRIER



PEDESTRIAN CHANNELIZER

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RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

LEAD EXPERT OFFICE	BRIAN SORENSON STATE TRAFFIC ENGINEER OFFICE OF TRAFFIC ENGINEERING		TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) DEVICES CHANNELIZERS, SIDEWALK BARRICADES, AND PORTABLE STANDS	APPROVED: 03-18-2021 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.813	1 OF 2
	DEPARTMENT OF TRANSPORTATION		STANDARD PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18	Sheet No. 70 of 153 Sheets

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NOTES:

CONSTRUCT SLOPES AS INDICATED OR FLATTER, BUT NOT STEEPER.

TPAR SHOULD BE KEPT FREE OF TRASH, SEDIMENT, AND DEBRIS.

① CONSTRUCT CURB RAMPS AT LEAST 48" WIDE WITH A FIRM, STABLE, AND SLIP-RESISTANT SURFACE.

② PLACE PROTECTIVE EDGING WITH A 2" MINIMUM HEIGHT WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1V:3H. CONSIDER PROTECTIVE EDGING WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.

③ PLACE DETECTABLE EDGING WITH 6" MINIMUM HEIGHT AND CONTRASTING COLOR ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION.

④ CONSTRUCT CURB RAMPS AND LANDINGS WITH A 2% OR FLATTER CROSS SLOPE.

⑤ PROVIDE A CLEAR SPACE OF AT LEAST 48" X 48" ABOVE AND BELOW THE CURB RAMP.

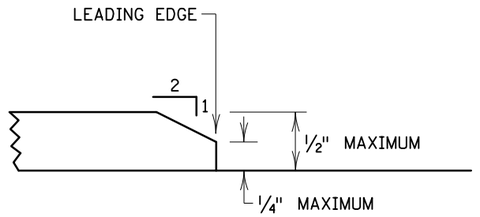
⑥ MARK THE CURB RAMP WALKWAY EDGE WITH A 2" TO 4" WIDE MARKING OF CONTRASTING COLOR. THE MARKING IS OPTIONAL WHERE COLOR-CONTRASTING EDGING IS USED.

⑦ DO NOT IMPEDE WATER FLOW IN THE GUTTER SYSTEM.

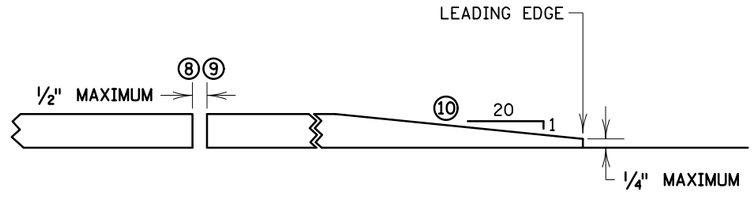
⑧ NO LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL EXCEED ½" WIDTH.

⑨ CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". USE VERTICAL LATERAL EDGES UP TO ¼" HIGH, AND BEVELED AT 1V:2H FOR LATERAL EDGES BETWEEN ¼" AND ½" HEIGHT.

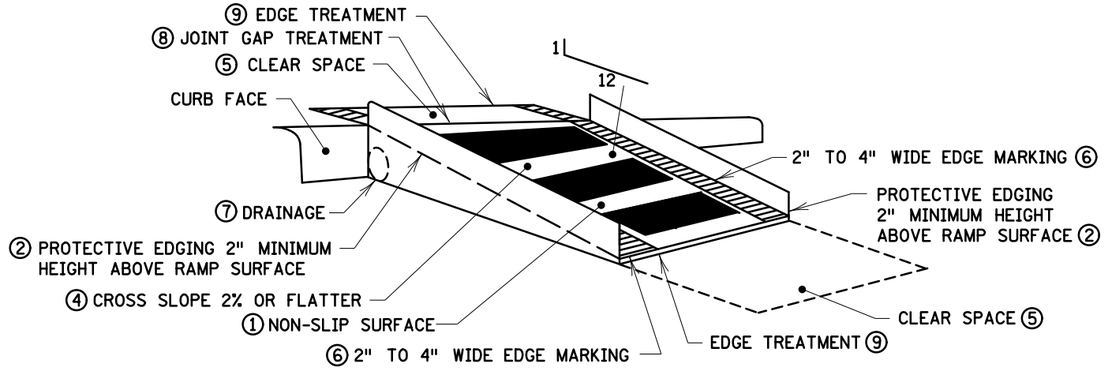
⑩ BEVEL THE EDGE OF TEMPORARY WALKWAY SURFACES ½" OR THINNER AT 1V:2H. FOR THICKER WALKWAY SURFACE BEVEL EDGE 1V:20H OR FLATTER.



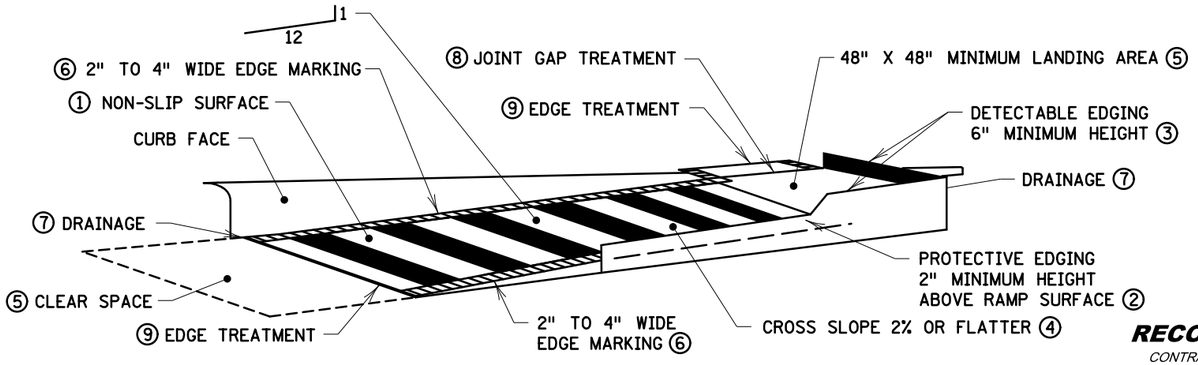
EDGE TREATMENT ⑨



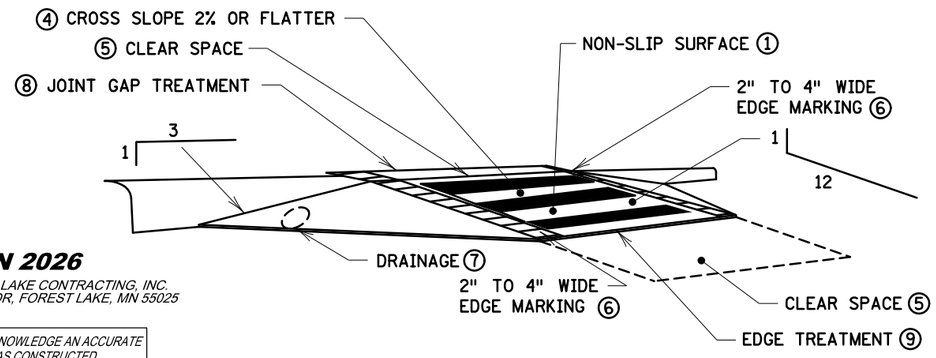
TEMPORARY WALKWAY SURFACE



TEMPORARY CURB RAMP PERPENDICULAR TO CURB
SHOWN WITH PROTECTIVE EDGE



TEMPORARY CURB RAMP
PARALLEL TO CURB



TEMPORARY CURB RAMP PERPENDICULAR TO CURB
SHOWN WITH SIDE APRON

RECORD PLAN 2026

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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

LEAD EXPERT OFFICE	BRIAN SORENSON STATE TRAFFIC ENGINEER OFFICE OF TRAFFIC ENGINEERING		TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) DEVICES TEMPORARY CURB RAMPS AND WALKWAY SURFACES	APPROVED: 03-18-2021 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.813	2 OF 2
	DEPARTMENT OF TRANSPORTATION		STANDARD PLANS			SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18	Sheet No. 71 of 153 Sheets

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NOTES & GUIDELINES

GENERAL INFORMATION:

1. ALL DISTANCES ARE APPROXIMATE.

SIGNING:

1. ALL TEMPORARY SIGNS ARE REQUIRED TO BE CRASHWORTHY PER THE AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE 2016 (MASH-2016). TEMPORARY SIGN STRUCTURES THAT ARE CRASHWORTHY UNDER THE NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM REPORT 350 (NCHRP-350) MAY BE USED PROVIDED THE DEVICES WERE ACQUIRED BY THE CONTRACTOR PRIOR TO DECEMBER 31ST, 2019. THE MINNESOTA TYPE "C" AND "D" BRACED LEG U-CHANNEL (KNEE BRACE) SIGN SUPPORT IS NOT ALLOWED.
2. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE PLACED AS NEEDED, OR PROVIDE TEMPORARY SIGNING UNTIL THE FINAL SIGNING IS PLACED.
3. WHEN MULTIPLE GROUND MOUNTED SIGN STRUCTURES ARE PLACED ADJACENT TO EACH OTHER THERE SHOULD BE NO MORE THAN 2 POSTS WITHIN 84" OF EACH OTHER. WHEN THIS SPACING CAN NOT BE MAINTAINED, THEN SIGN STRUCTURES SHALL BE OFFSET, AND STAGGERED WITH A MINIMUM OF 4' BETWEEN SIGN STRUCTURES BOTH LATERALLY AND LONGITUDINALLY. EXAMPLE SHOWS DETOUR SIGNAGE, BUT THIS REQUIREMENT APPLIES TO ALL SIGNAGE.
4. WHEN A SIGN OR BARRICADE IS ORIENTED SUCH THAT VISIBILITY TO ROAD USERS INCLUDING BIKES AND PEDESTRIANS IS REDUCED ENOUGH TO CAUSE A HAZARD, DELINEATE THE SIGN/BARRICADE WITH APPROPRIATE DEVICES.
5. TEMPORARY SIGNS SHALL BE PLACED SUCH THAT OBSTACLES DO NOT BLOCK THEM FROM BEING VIEWED BY APPROACHING ROAD USERS. OBSTACLES MAY INCLUDE, BUT ARE NOT LIMITED TO, LIGHT POLES, TREES, SIGNS, AND BUILDINGS.
6. TEMPORARY SIGNS SHALL BE PLACED AND ORIENTED APPROXIMATELY AS SHOWN IN THE PLAN, AT RIGHT ANGLES TO DIRECTION OF TRAVEL AND FACING THE TRAFFIC THEY ARE INTENDED TO SERVE, UNLESS OTHERWISE SPECIFIED.
7. LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN IN THE "MINNESOTA TEMPORARY TRAFFIC CONTROL FIELD MANUAL" PAGES (6K-aJ) THRU (6K-aI) UNLESS OTHERWISE SPECIFIED IN THESE PLANS.
8. AFTER REMOVAL OF SIGN AND/OR SIGN BASE, BACK FILL, COMPACT, AND LEVEL SOIL TO MATCH SURROUNDING SOIL.

CONSTRUCTION INFORMATION SIGNING:

1. THE CONTRACTOR SHALL USE CONSTRUCTION INFORMATION SIGNING AS SHOWN IN THE PLAN WHICH ARE TO BE USED AS FOLLOWS:

   PLACE G20-X2 ADVANCE NOTICE SIGNS 7 DAYS PRIOR TO THE WORK STARTING DATE. ONCE WORK BEGINS, COVER THE START DATE LEGEND WITH SUGGESTED PLAQUE CONTAINED IN THIS PLAN. IF NO ALTERNATE MESSAGE IS SHOWN IN THE PLAN OR APPROVED BY THE ENGINEER, DISPLAY THE CORRECT ESTIMATED FINISH DATE, MONTH, OR SEASON.

   IF CONSTRUCTION INFORMATION SIGNING IS NO LONGER VISIBLE TO THE MOTORING PUBLIC ONCE WORK BEGINS, MOVE SAID SIGNING TO A SITE IN ADVANCE OF THE WORK ZONE OR CLOSURE AS SHOWN IN THE PLAN OR APPROVED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL	DESCRIPTION
	AREA CLOSED TO TRAFFIC / WORK AREA
⊢	TRAFFIC CONTROL SIGN
⌊	TYPE III BARRICADE =
Ⓕ	TYPE A FLASHING WARNING LIGHT

INDEX

TRAFFIC CONTROL SHEET NO.	DESCRIPTIONS
72	TEMPORARY TRAFFIC CONTROL TITLE SHEET
73 - 74	TEMPORARY SIGN TABULATION
75 - 77	DETAILS
78	SPECIAL SIGN DETAILS
79	DETOUR

RECORD PLAN

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RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

NO.	DATE	BY	CHK	REVISIONS

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

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

PRINT NAME: MICHAEL J. SHOMION, PE

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DATE 6/19/2026 LICENSE # 50488

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

TEMPORARY TRAFFIC CONTROL TITLE SHEET

TEMPORARY TRAFFIC CONTROL PLAN

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 72 OF 153 SHEETS

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"M" SERIES

SIGN	SIGN NO.	COLOR	SIZE (IN. X IN.) (WxH)	ASSEMBLY (IN. X IN.) (WxH)	NUMBER OF POST
WEST EAST	M3-4 M3-2	BLACK ON WHITE	24 x 12	36 x 60	1
Crosstown Blvd	SPECIAL SIGN Ⓑ	BLACK ON ORANGE	36 x 24		
DETOUR ⇨	M4-9M (R, L, ATR, ATL)	BLACK ON ORANGE	30 x 24		
TO	M4-5	BLACK ON WHITE	24 x 12	36 x 60	1
Crosstown Blvd Nightingale St	SPECIAL SIGN Ⓑ	BLACK ON ORANGE	36 x 24		
DETOUR ⇨	M4-9M (R, L, ATR, ATL)	BLACK ON ORANGE	30 x 24		
END DETOUR	M4-8a	BLACK ON ORANGE	24 x 18	36 x 69	1
WEST EAST	M3-4 M3-2	BLACK ON WHITE	24 x 12		
Crosstown Blvd	SPECIAL SIGN Ⓑ	BLACK ON ORANGE	36 x 24		
⇦ ⇨	M6-1 (R/L)	BLACK ON WHITE	21 x 15		
END DETOUR	M4-8a	BLACK ON ORANGE	24 x 18	36 x 69	1
TO	M4-5	BLACK ON WHITE	24 x 12		
Nightingale St	SPECIAL SIGN Ⓑ	BLACK ON ORANGE	36 x 24		
⇦	M6-1	BLACK ON WHITE	21 x 15		

"W" SERIES

SIGN	SIGN NO.	COLOR	SIZE (IN. X IN.) (WxH)	ASSEMBLY (IN. X IN.) (WxH)	NUMBER OF POST
WEST	M3-4	BLACK ON WHITE	24 x 12	48 x 84	1
Crosstown Blvd	SPECIAL SIGN Ⓑ	BLACK ON ORANGE	36 x 24		
ROAD CLOSED AHEAD	W20-3	BLACK ON ORANGE	48 x 48		
Nightingale St	SPECIAL SIGN Ⓑ	BLACK ON ORANGE	36 x 24	48 x 72	1
ROAD CLOSED AHEAD	W20-3	BLACK ON ORANGE	48 x 48		
WEST	M3-4	BLACK ON WHITE	24 x 12	48 x 84	1
Crosstown Blvd	SPECIAL SIGN Ⓑ	BLACK ON ORANGE	36 x 24		
DETOUR AHEAD	W20-2	BLACK ON ORANGE	48 x 48		
TO	M4-5	BLACK ON WHITE	24 x 12	48 x 84	1
Crosstown Blvd Nightingale St	SPECIAL SIGN Ⓑ	BLACK ON ORANGE	36 x 24		
DETOUR AHEAD	W20-2	BLACK ON ORANGE	48 x 48		
ROAD CLOSED AHEAD	W20-3	BLACK ON ORANGE	48 x 48	48 x 72	1
XX FEET XX MILE	W16-2P W16-3P	BLACK ON ORANGE	30 x 24		

"W" SERIES

SIGN	SIGN NO.	COLOR	SIZE (IN. X IN.) (WxH)	ASSEMBLY (IN. X IN.) (WxH)	NUMBER OF POST
ROAD CLOSED AHEAD	W20-3	BLACK ON ORANGE	48 x 48	48 x 48	1
DETOUR AHEAD	W20-2	BLACK ON ORANGE	48 x 48	48 x 48	1

"D" SERIES

SIGN	SIGN NO.	COLOR	SIZE (IN. X IN.) (WxH)	ASSEMBLY (IN. X IN.) (WxH)	NUMBER OF POST
HIGH SCHOOL ⇨	D7-X19 (R, L, T)	BLACK ON ORANGE	42 x 36	42 x 36	1

SPECIFIC NOTES:

Ⓐ MAY USE 2" SQUARE TUBE POST WITH FIN BASE.

Ⓑ SEE SPECIAL SIGN DETAILS SHEET FOR SIGN DETAILS.

GENERAL NOTES:

1. SIGN STRUCTURE TABULATIONS INDICATE SQUARE TUBE GROUND MOUNTED SIGN STRUCTURES THAT ARE MASH-16 COMPLIANT.
2. USE PRODUCTS FROM THE BASES FOR SQUARE TUBE SIGN STRUCTURES APPROVED/QUALIFIED PRODUCTS LIST FOR THE INDICATED SQUARE TUBE RISER POST SIZE. PLACE PER THE MANUFACTURER'S SPECIFICATIONS.
3. ALUMINUM STRINGERS SHALL BE USED FOR SIGNS 36 INCHES AND WIDER. SEE MANUFACTURER'S SPECIFICATIONS FOR SQUARE TUBE MOUNTING DETAILS. STRINGERS ON SINGLE POST ASSEMBLIES ARE REQUIRED TO BE AT LEAST 9 INCHES IN FROM THE EDGE OF THE SIGN.
4. UNLESS OTHERWISE INDICATED, USE 2-1/2 INCH RISER POSTS FOR GROUND MOUNTED SIGN STRUCTURES.

ALL DIMENSIONS ARE IN INCHES

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DATE 6/19/2026 LICENSE # 50488

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

TEMPORARY SIGN TABULATION

TEMPORARY TRAFFIC CONTROL PLAN

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 73 OF 153 SHEETS

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"G" SERIES

SIGN	SIGN NO.	COLOR	SIZE (IN. X IN.) (WxH)	ASSEMBLY (IN. X IN.) (WxH)	NUMBER OF POST	POST SPACING INCHES
 SAMPLE	G20-X2 Ⓑ	BLACK ON ORANGE	96 x 84	96 x 84	2	48
	SPECIAL SIGN Ⓑ	BLACK ON ORANGE	66 x 12			

BARRICADE MOUNTED SIGNS

SIGN	SIGN NO.	COLOR	SIZE (IN. X IN.) (WxH)
ROAD CLOSED	R11-2M	BLACK ON WHITE	48 x 30
ROAD CLOSED TO THRU TRAFFIC	R11-4	BLACK ON WHITE	60 x 30
ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY	R11-3a	BLACK ON WHITE	60 x 30

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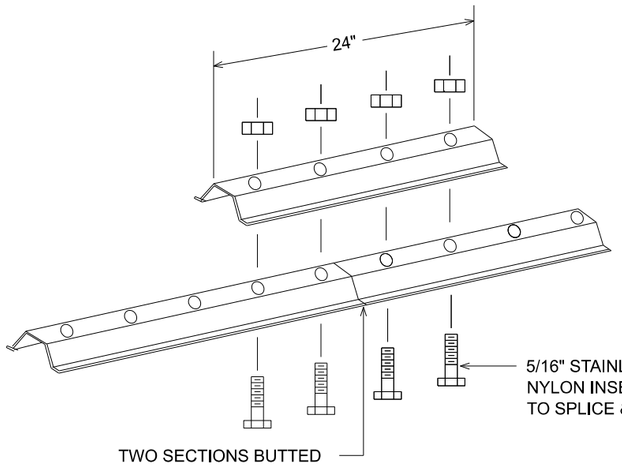
Nightingale Street NW Roundabouts

TEMPORARY SIGN TABULATION

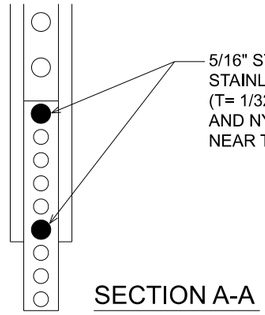
TEMPORARY TRAFFIC CONTROL PLAN

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

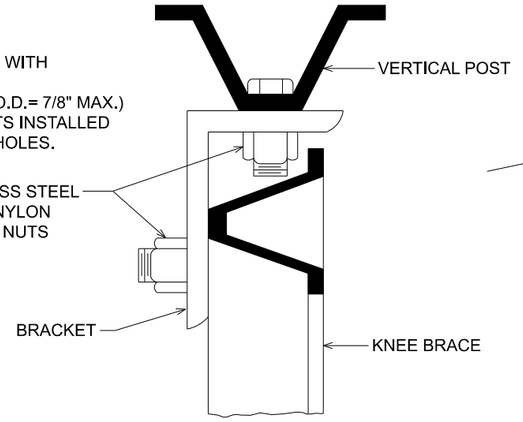
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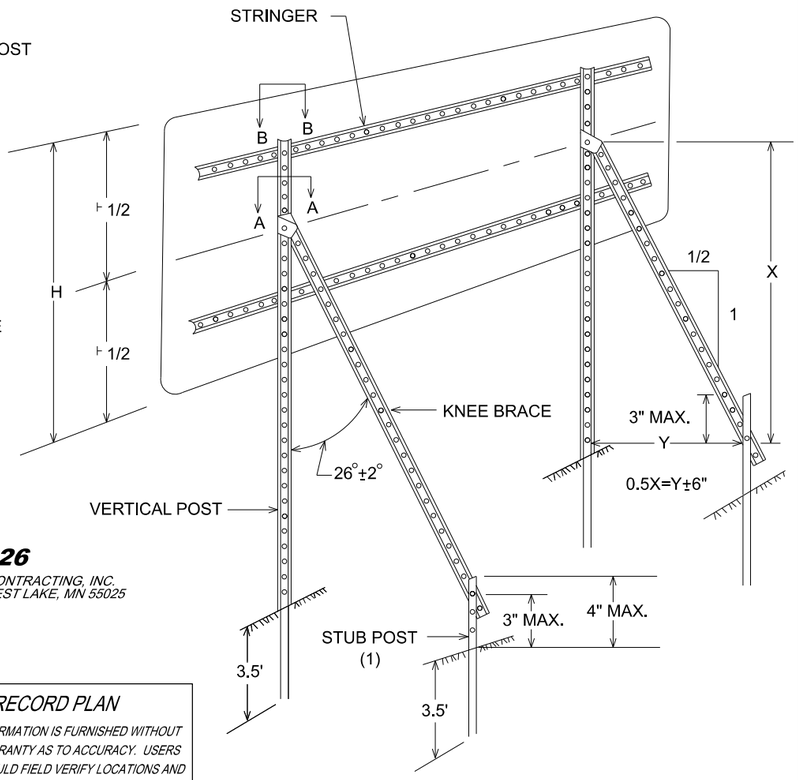


LATERAL BRACE OR STRINGER
SPLICE DETAIL (EXPLODED VIEW)

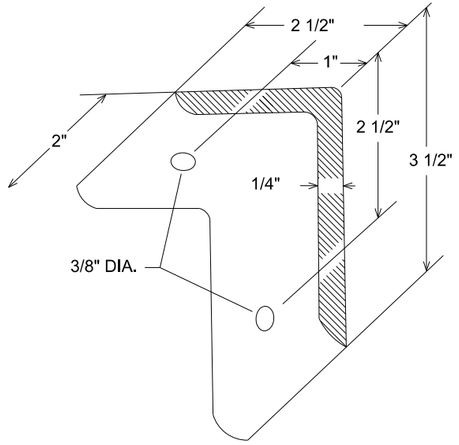


SECTION A-A



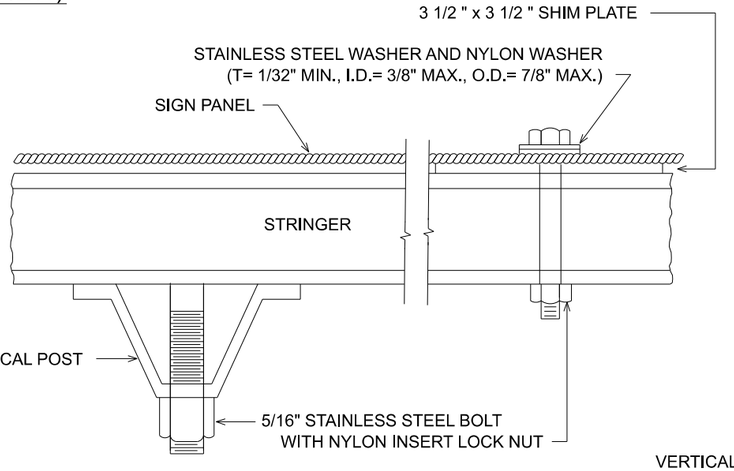


TYPICAL "A-FRAME" INSTALLATION
TYPE "D" SIGNS

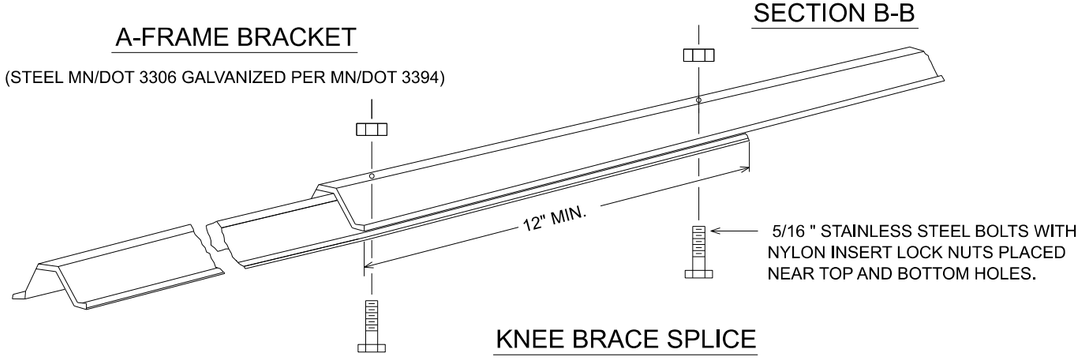


A-FRAME BRACKET

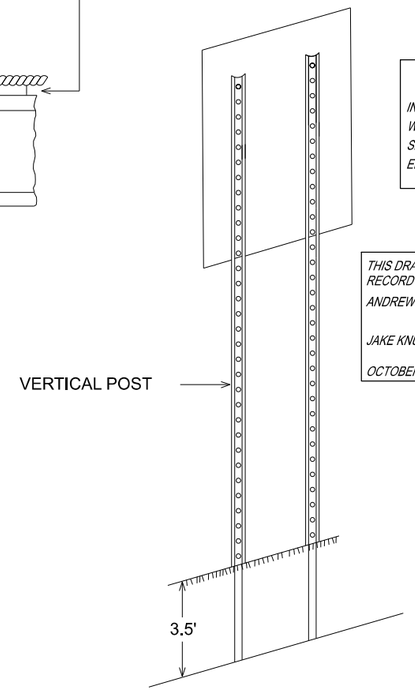
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



SECTION B-B



KNEE BRACE SPLICE



TYPICAL INSTALLATION 36" AND LARGER
TYPE "C" SIGNS

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

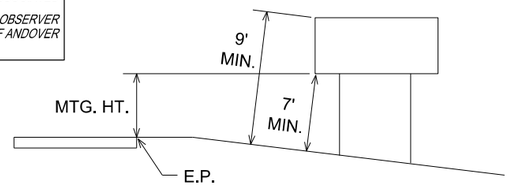
INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026



TYPICAL MOUNTING

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

TYPE C & D SIGN STRUCTURAL DETAILS

ANOKA COUNTY HIGHWAY DEPARTMENT SIGN DETAILS

NO.	DATE	BY	CHK	REVISIONS

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

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

PRINT NAME: MICHAEL J. SHOMION, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 50488

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

DETAIL
TEMPORARY TRAFFIC CONTROL PLAN
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

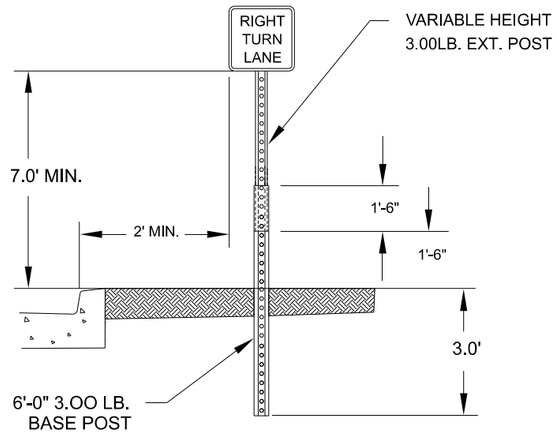
SHEET 75 OF 153 SHEETS

7038

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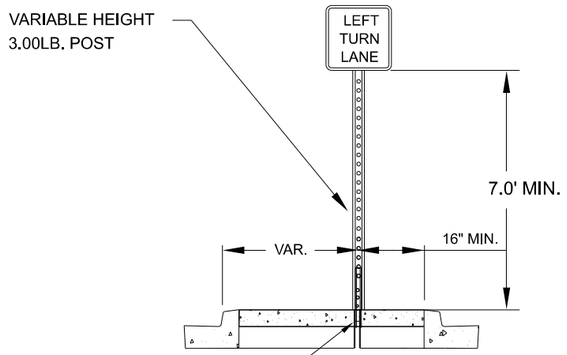
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GROUND POST MOUNT SIGN INSTALLATION TYPICAL



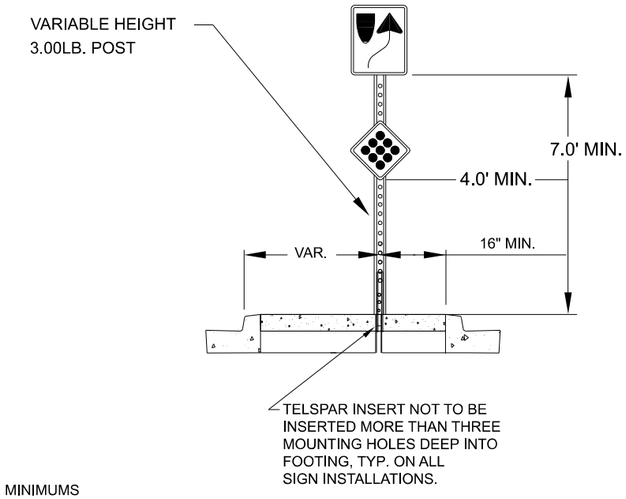
TYPICAL SIGN PLACEMENT
(RURAL)

ISLAND MOUNT BREAK-AWAY SIGN INSTALLATION TYPICAL



TYPICAL SIGN PLACEMENT
(URBAN)

ISLAND MOUNT BREAK-AWAY SIGN SIGN INSTALLATION TYPICAL KEEP RIGHT/CLUSTER



NOTES:

- ALL DIMENSIONS ARE MINIMUMS
- MAINTAIN A CLEAR DISTANCE OF 2' BETWEEN SIGNS AND BITUMINOUS TRAIL
- 7' SIGN CLEARANCE IF A CLEAR DISTANCE OF 2' BETWEEN SIGNS AND BITUMINOUS TRAIL CANNOT BE MAINTAINED

RECORD PLAN

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RECORD PLAN 2026

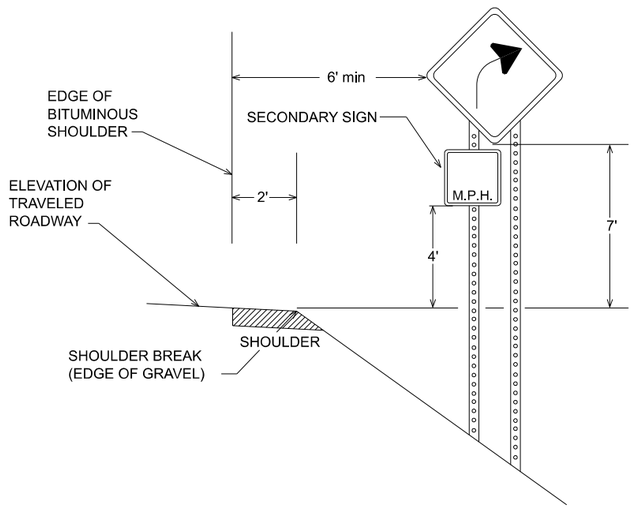
CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

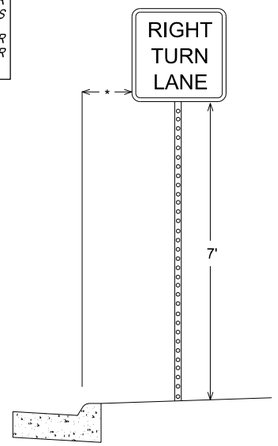
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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

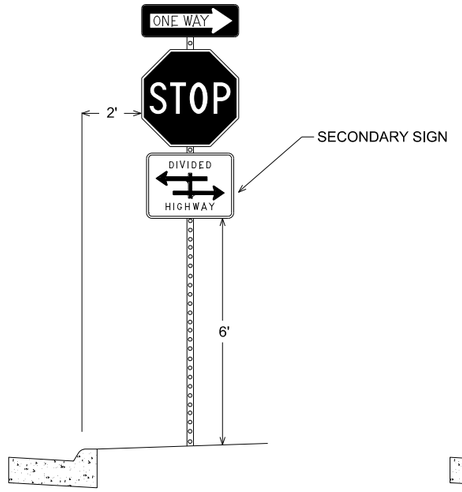
JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

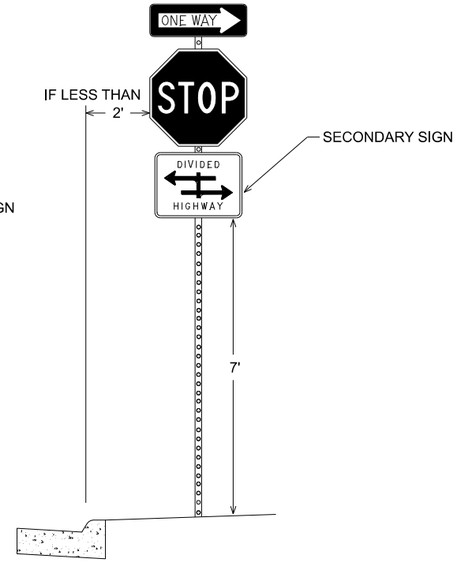
OCTOBER 2026





* 2' - NARROW BOULEVARD (< 8' WIDE)
6' - WIDE BOULEVARD





ANOKA COUNTY HIGHWAY DEPARTMENT SIGN PLACEMENT

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: MICHAEL J. SHOMION, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 50488

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

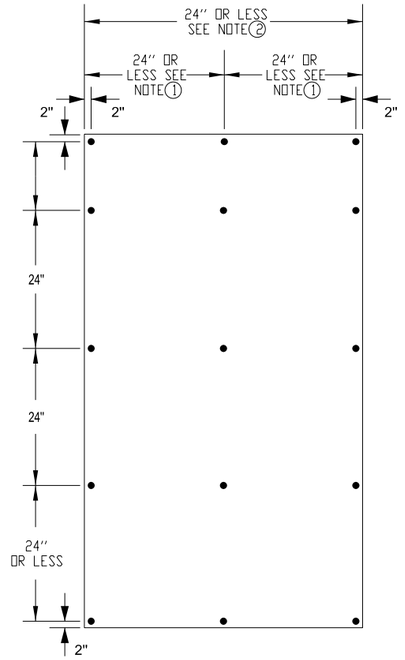
DETAIL
TEMPORARY TRAFFIC CONTROL PLAN
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

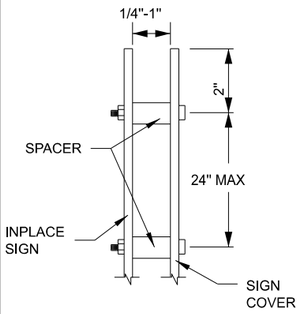
SHEET 76 OF 153 SHEETS

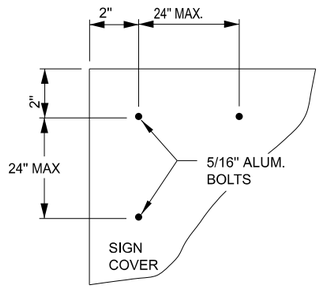
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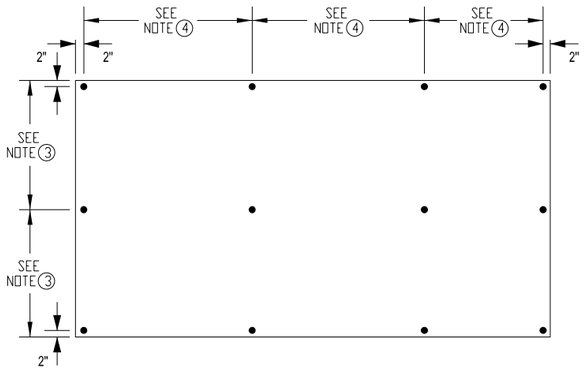
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PLOTTED/REVISED: 6/19/2026 11:35:29 AM









ACHD REFERENCE DATE: 01/26/2018

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

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

NOTES FOR COVERING COMPLETE OR PORTION OF EXTRUDED SIGN PANEL:

① THE CENTER SHEET METAL SCREWS SHALL BE SPACED AT 1/2 OF THE PANELS WIDTH.

② IF THE SHEET ALUMINUM PANEL IS GREATER THAN 48" WIDE, THE SHEET METAL SCREWS SPACING SHALL BE NO GREATER THAN 24". IF THE SHEET ALUMINUM PANEL IS LESS THAN 24" WIDE, THERE SHALL BE NO INNER HOLES.

③ VERTICAL SPACING FOR THE MOUNTING HOLES IS 50% OF THE PANEL HEIGHT. IF THE PANEL IS LESS THAN 24" HIGH, THERE SHALL BE NO INNER HOLES.

④ HORIZONTAL SPACING FOR MOUNTING HOLES SHALL NOT BE LESS THAN 15" NOR MORE THAN 24".

GENERAL NOTES:

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

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

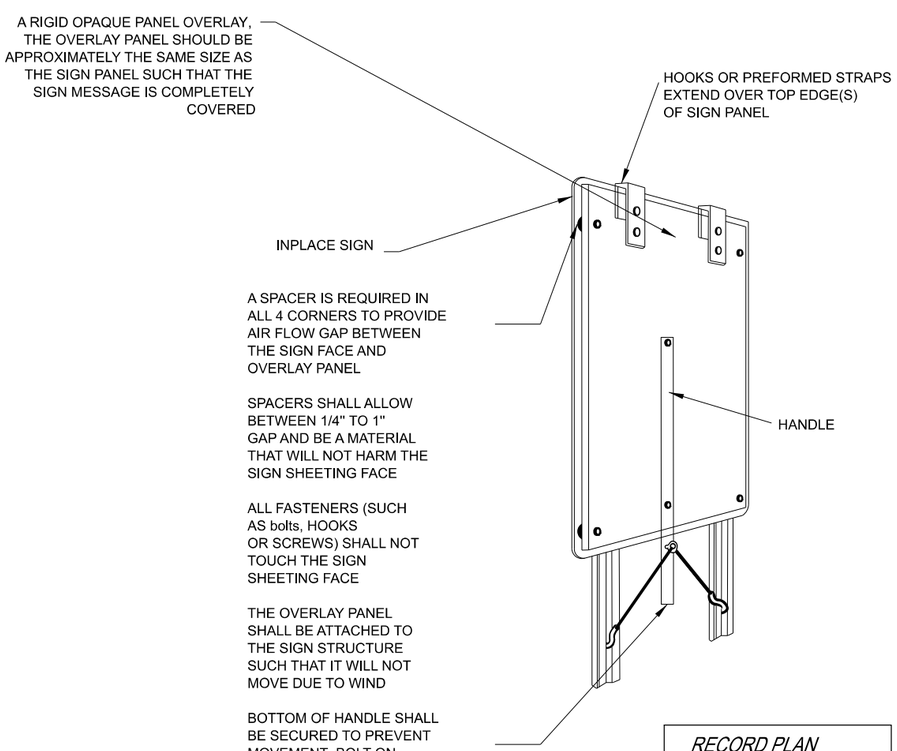
SPACERS SHALL BE A MATERIAL THAT WILL NOT HARM THE SIGN SHEETING FACE (SUCH AS PLASTIC OR RUBBER).

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

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

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

OVERLAY ASSEMBLY COVERING TYPE C OR D SIGN PANEL:



RECORD PLAN

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RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

ANOKA COUNTY HIGHWAY DEPARTMENT TEMPORARY SIGN COVERING

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: MICHAEL J. SHOMION, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 50488

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

DETAIL

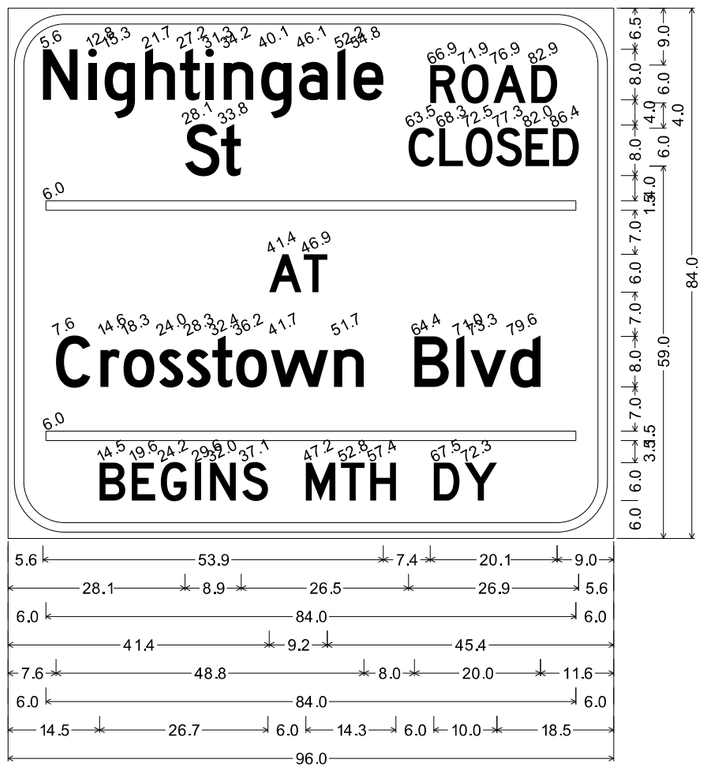
TEMPORARY TRAFFIC CONTROL PLAN

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

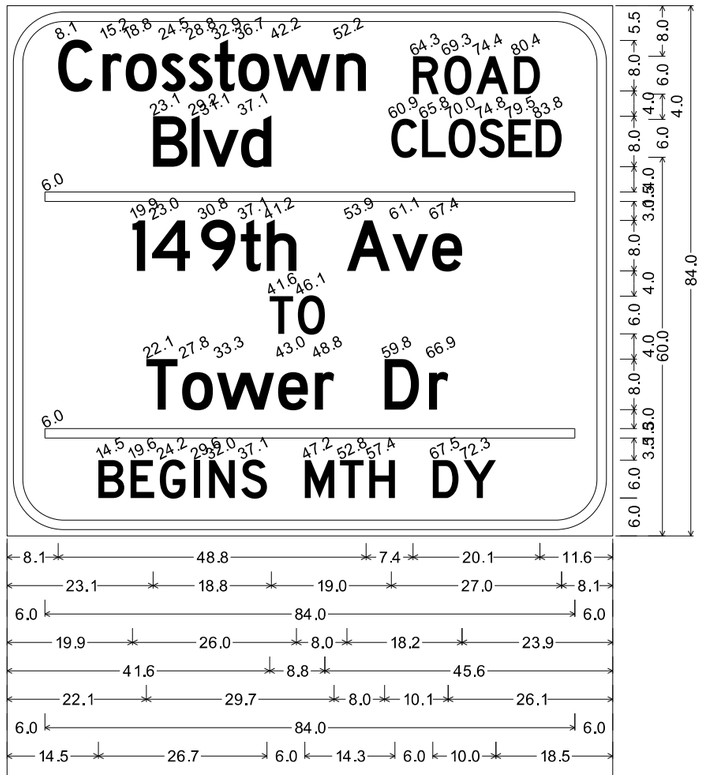
SHEET 77 OF 153 SHEETS

7040

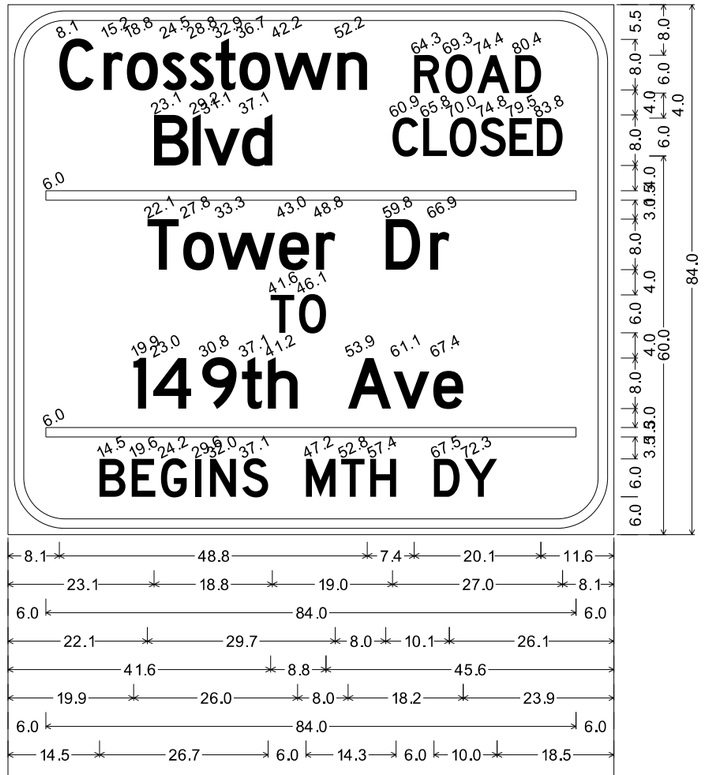
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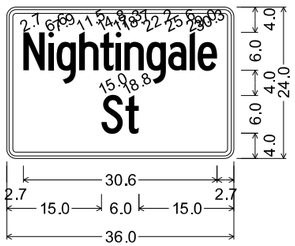
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"Nightingale", D 2K; "St", D 2K 55% spacing; "ROAD", D 2K;
"CLOSED", D 2K 60% spacing; "AT", D 2K; "Crosstown Blvd", D 2K;
"BEGINS MTH DY", D 2K;



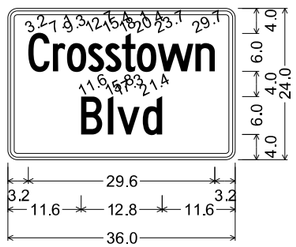
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"Crosstown", D 2K; "Blvd", D 2K 55% spacing; "ROAD", D 2K;
"CLOSED", D 2K 60% spacing; "149th Ave", D 2K; "TO", D 2K;
"Tower Dr", D 2K; "BEGINS MTH DY", D 2K;



9.0" Radius, 1.5" Border, 1.0" Indent, Black on Orange;
"Crosstown", D 2K; "Blvd", D 2K 55% spacing; "ROAD", D 2K;
"CLOSED", D 2K 60% spacing; "Tower Dr", D 2K; "TO", D 2K;
"149th Ave", D 2K; "BEGINS MTH DY", D 2K;



1.5" Radius, 0.6" Border, 0.4" Indent, Black on Orange;
"Nightingale", C 2K 50% spacing;
"St", C 2K;

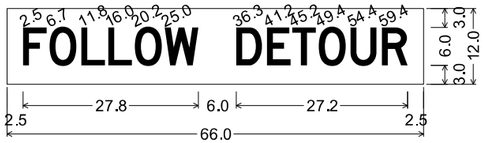


1.5" Radius, 0.6" Border, 0.4" Indent, Black on Orange;
"Crosstown", C 2K 50% spacing;
"Blvd", C 2K;

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN
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No border, Black on Orange;
"FOLLOW DETOUR", D 2K 60% spacing;

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES
JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER
OCTOBER 2026

ALL DIMENSIONS ARE IN INCHES

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: MICHAEL J. SHOMION, PE

DATE 6/19/2026 LICENSE # 50488

RECORD DRAWING

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

SPECIAL SIGN DETAILS

TEMPORARY TRAFFIC CONTROL PLAN

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 78 OF 153 SHEETS

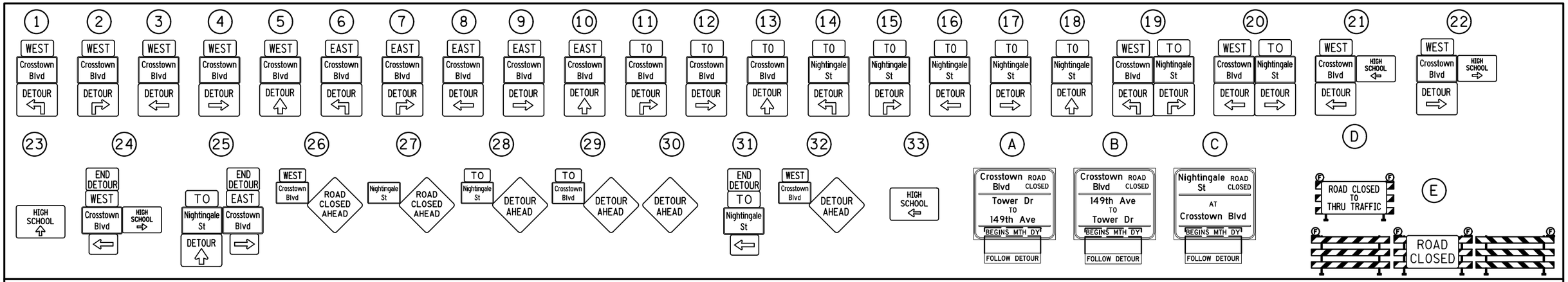
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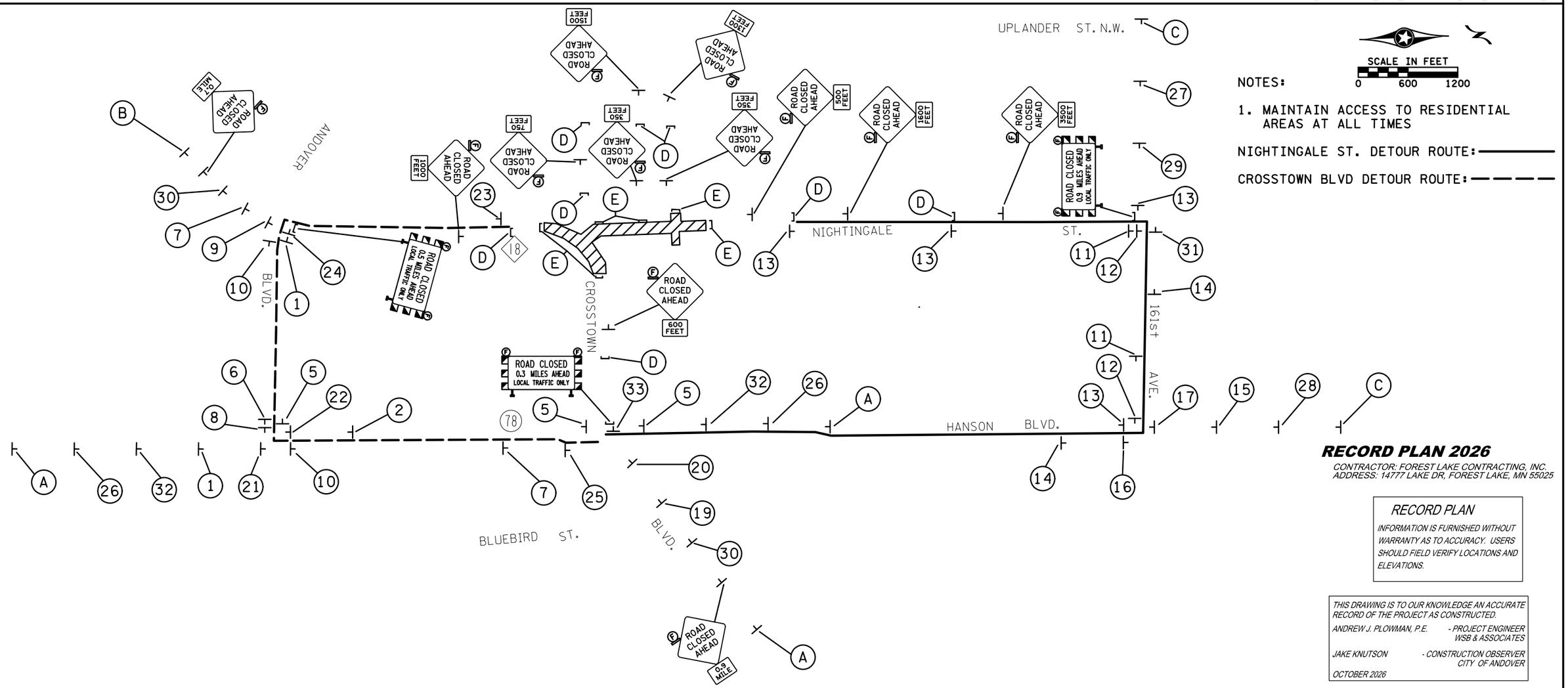
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WSB PATH & FILENAME: Projects\Minnesota\022965-000\Civil\Plan\22965-000_tcdetour.dgn





NOTES:

1. MAINTAIN ACCESS TO RESIDENTIAL AREAS AT ALL TIMES

NIGHTINGALE ST. DETOUR ROUTE: ——

CROSSTOWN BLVD DETOUR ROUTE: — — —

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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OCTOBER 2026

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

DETOUR

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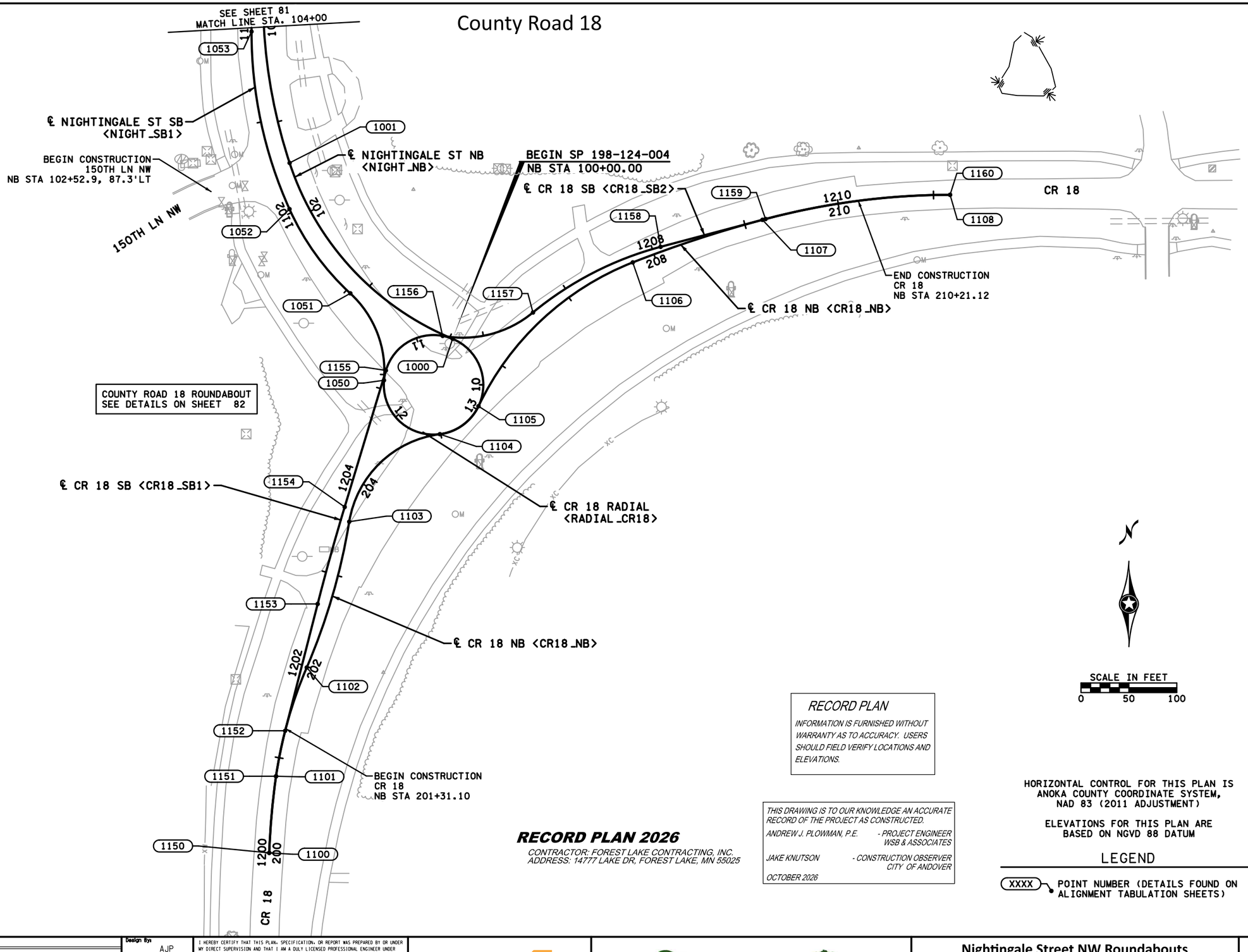
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 79 OF 153 SHEETS

7042

PLOTTED/REVISED: 6/19/2026 11:35:34 AM

County Road 18



RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

HORIZONTAL CONTROL FOR THIS PLAN IS ANOKA COUNTY COORDINATE SYSTEM, NAD 83 (2011 ADJUSTMENT)

ELEVATIONS FOR THIS PLAN ARE BASED ON NGVD 88 DATUM

LEGEND

XXXX — POINT NUMBER (DETAILS FOUND ON ALIGNMENT TABULATION SHEETS)

NO.	DATE	BY	CHK	REVISIONS

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

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

PRINT NAME: ANDREW J. PLOWMAN, PE

DATE 6/19/2026 LICENSE # 44200

RECORD DRAWING

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

COUNTY ROAD 18

ALIGNMENT PLAN & TABULATION

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

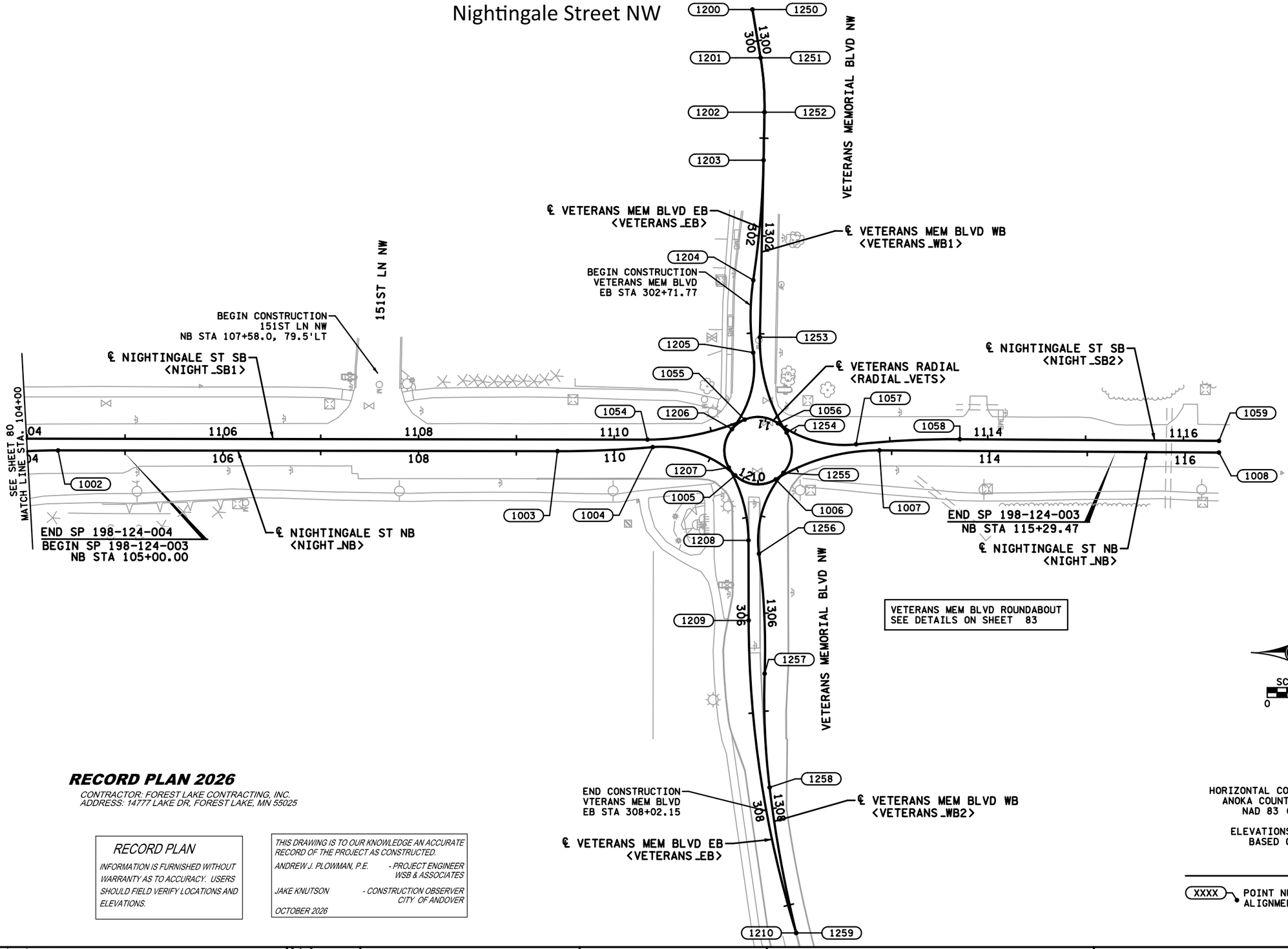
SHEET 80 OF 153 SHEETS

7043

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Nightingale Street NW



RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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JAKE KNUTSON - *CONSTRUCTION OBSERVER CITY OF ANDOVER*

OCTOBER 2026

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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

NIGHTINGALE STREET NW

ALIGNMENT PLAN & TABULATION

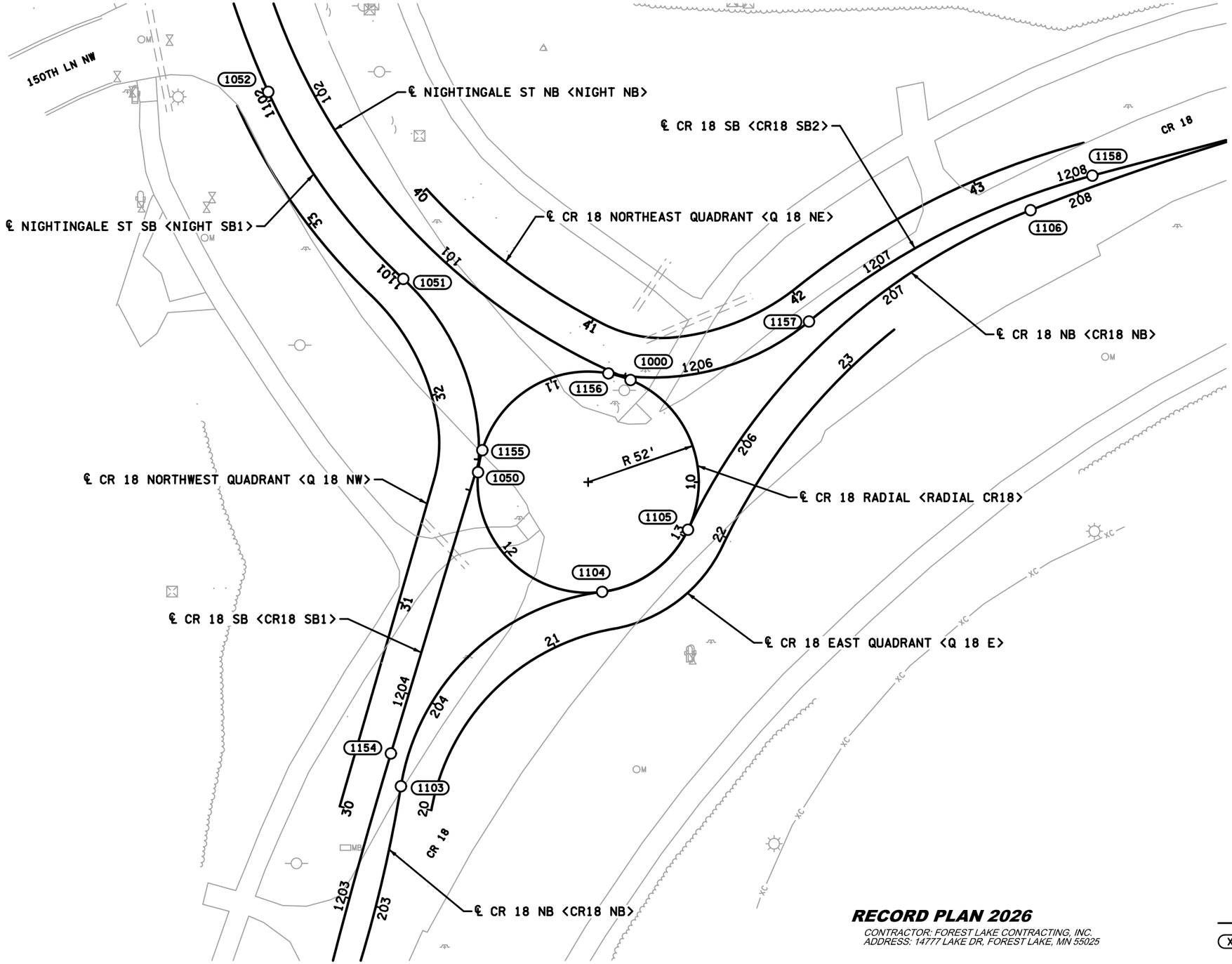
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 81 OF 153 SHEETS

7044

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County Road 18 Roundabout



RECORD PLAN

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JAKE KNUTSON - *CONSTRUCTION OBSERVER CITY OF ANDOVER*

OCTOBER 2026

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

HORIZONTAL CONTROL FOR THIS PLAN IS ANOKA COUNTY COORDINATE SYSTEM, NAD 83 (2011 ADJUSTMENT)

ELEVATIONS FOR THIS PLAN ARE BASED ON NGVD 88 DATUM

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NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
Plan By: AJF
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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

ALIGNMENT PLAN & TABULATION

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 82 OF 153 SHEETS

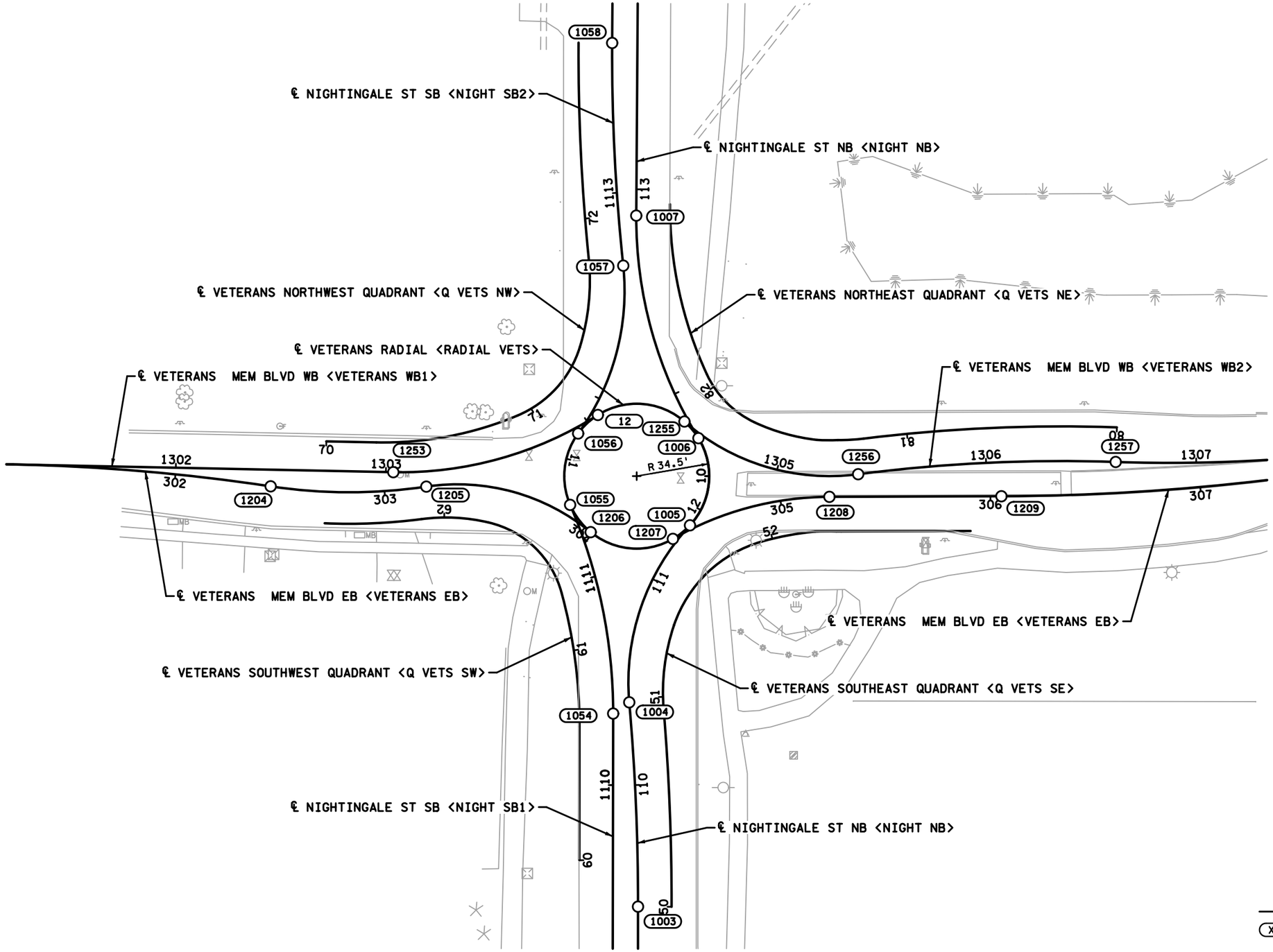
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Veterans Memorial Boulevard Roundabout



N

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0 25 50

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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OCTOBER 2026

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ELEVATIONS FOR THIS PLAN ARE BASED ON NGVD 88 DATUM

LEGEND

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PRINT NAME: ANDREW J. PLOWMAN, PE

DATE 6/19/2026 LICENSE # 44200

RECORD DRAWING

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

ALIGNMENT PLAN & TABULATION

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 83 OF 153 SHEETS

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ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	DELTA	DEGREE	RADIUS	TANGENT	LENGTH	COORDINATES X	COORDINATES Y	BEARING
NIGHTINGALE STREET NB <NIGHT_NB>										
1000	PC	99+96.692						487,425.996	176,164.916	N 67° 28' 59.0" W
	PI	101+33.484	49° 01' 24.9" RT	19° 05' 54.9"	300.000'	136.792'	256.687'	487,299.632	176,217.302	PI
	CC							487,540.883	176,442.046	
1001	PCC	102+53.379						487,256.319	176,347.056	N 18° 27' 34.1" W
	PCC	102+53.382						487,256.320	176,347.053	N 18° 27' 35.8" W
	PI	103+43.210	18° 33' 06.5" RT	10° 25' 02.7"	550.000'	89.828'	178.084'	487,227.876	176,432.259	PI
	CC							487,778.020	176,521.206	
1002	PT	104+31.466						487,228.020	176,522.087	N 0° 05' 30.7" E
1003	PC	109+42.097						487,228.839	177,032.717	N 0° 05' 30.7" E
	PI	109+90.831	5° 04' 24.7" LT	5° 12' 31.3"	1,100.000'	48.734'	97.405'	487,228.917	177,081.451	PI
	CC							486,128.840	177,034.481	
1004	PRC	110+39.501						487,224.685	177,130.001	N 4° 58' 54.0" W
	PRC	110+39.501						487,224.685	177,130.001	N 4° 58' 54.0" W
	PI	110+88.214	47° 46' 18.8" RT	52° 05' 13.5"	110.000'	48.713'	91.715'	487,220.455	177,178.530	PI
	CC							487,334.270	177,139.553	
1005	PRC	111+31.217						487,253.547	177,214.278	N 42° 47' 24.8" E
	PRC	111+31.217						487,253.547	177,214.278	N 42° 47' 24.8" E
	PI	111+57.386	74° 21' 43.7" LT	166° 04' 29.0"	34.500'	26.169'	44.776'	487,271.324	177,233.482	PI
	CC							487,228.229	177,237.715	
1006	PRC	111+75.993						487,257.622	177,255.778	N 31° 34' 18.9" W
	PRC	111+75.993						487,257.622	177,255.778	N 31° 34' 18.9" W
	PI	112+33.228	31° 56' 23.3" RT	28° 38' 52.4"	200.000'	57.235'	111.491'	487,227.656	177,304.541	PI
	CC							487,428.019	177,360.491	
1007	PT	112+87.484						487,228.023	177,361.776	N 0° 22' 04.4" E
1008	POT	116+34.57						487,230.252	177,708.852	
NIGHTINGALE STREET SB <NIGHT_SB1>										
1050	PC	1099+93.930						487,354.292	176,121.548	N 5° 08' 59.7" E
	PI	1100+48.266	52° 34' 32.4" LT	52° 05' 13.5"	110.000'	54.336'	100.938'	487,359.170	176,175.665	PI
	CC							487,244.736	176,131.422	
1051	PRC	1100+94.868						487,319.156	176,212.426	N 47° 25' 32.7" W
	PRC	1100+94.868						487,319.156	176,212.426	N 47° 25' 32.7" W
	PI	1101+50.272	23° 11' 33.0" RT	21° 13' 14.4"	270.000'	55.405'	109.292'	487,278.356	176,249.910	PI
	CC							487,501.824	176,411.254	
1052	PCC	1102+04.160						487,255.615	176,300.432	N 24° 13' 59.6" W
	PCC	1102+04.164						487,255.617	176,300.428	N 24° 14' 02.4" W
	PI	1103+01.153	24° 19' 33.1" RT	12° 43' 56.6"	450.000'	96.989'	191.055'	487,215.807	176,388.870	PI
	CC							487,665.962	176,485.137	
1053	PT	1103+95.219						487,215.962	176,485.858	N 0° 05' 30.7" E
1054	PC	1110+34.014						487,216.986	177,124.652	N 0° 05' 30.7" E
	PI	1110+85.832	23° 25' 12.7" LT	22° 55' 05.9"	250.000'	51.818'	102.190'	487,217.069	177,176.470	PI
	CC							486,966.987	177,125.053	
1055	PT							487,196.549	177,224.053	N 23° 19' 42.0" W

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	DELTA	DEGREE	RADIUS	TANGENT	LENGTH	COORDINATES X	COORDINATES Y	BEARING
NIGHTINGALE STREET SB <NIGHT_SB2>										
1056	PC	1111+80.579						487,200.355	177,258.045	N 36° 06' 20.1" E
	PI	1112+24.890	42° 08' 43.6" LT	49° 49' 20.7"	115.000'	44.312'	84.591'	487,226.467	177,293.846	PI
	CC							487,107.443	177,325.811	
1057	PRC	1112+65.170						487,221.805	177,337.912	N 6° 02' 23.5" W
	PRC	1112+65.170						487,221.805	177,337.912	N 6° 02' 23.5" W
	PI	1113+18.347	6° 24' 27.8" RT	6° 01' 52.1"	950.000'	53.178'	106.244'	487,216.209	177,390.794	PI
	CC							488,166.531	177,437.871	
1058	PT	1113+71.414						487,216.551	177,443.970	N 0° 22' 04.4" E
1059	POT	1116+36.38						487,218.252	177,708.929	
COUNTY ROAD 18 NB <CR18_NB>										
1100	PC	200+00.000						487,234.448	175,627.951	N 2° 00' 03.2" E
	PI	200+40.242	6° 12' 12.2" RT	7° 42' 54.8"	742.633'	40.242'	80.405'	487,235.853	175,668.168	PI
	CC							487,976.629	175,602.022	
1101	PCC	200+80.405						487,241.596	175,707.998	N 8° 12' 15.4" E
	PCC	200+80.405						487,241.596	175,707.998	N 8° 12' 15.4" E
	PI	201+39.911	15° 03' 57.0" RT	12° 43' 56.6"	450.000'	59.507'	118.327'	487,250.087	175,766.896	PI
	CC							487,686.990	175,643.782	
1102	PRC	201+98.731						487,273.597	175,821.562	N 23° 16' 12.4" E
	PRC	201+98.731						487,273.597	175,821.562	N 23° 16' 12.4" E
	PI	202+78.654	14° 01' 10.5" LT	8° 48' 53.0"	650.000'	79.923'	159.047'	487,305.171	175,894.983	PI
	CC							486,676.472	176,078.355	
1103	PRC	203+57.778						487,318.019	175,973.866	N 9° 15' 02.0" E
	PRC	203+57.778						487,318.019	175,973.866	N 9° 15' 02.0" E
	PI	204+39.886	73° 28' 38.8" RT	52° 05' 13.5"	110.000'	82.107'	141.067'	487,331.218	176,054.905	PI
	CC							487,426.588	175,956.183	
1104	PRC	204+98.845						487,412.665	176,065.298	N 82° 43' 40.8" E
	PRC	204+98.845						487,412.665	176,065.298	N 82° 43' 40.8" E
	PI	205+27.231	57° 15' 34.8" LT	110° 11' 03.1"	52.000'	28.386'	51.967'	487,440.823	176,068.892	PI
	CC							487,406.082	176,116.880	
1105	PRC	205+50.812						487,453.029	176,094.520	N 25° 28' 06.0" E
	PRC	205+50.812						487,453.029	176,094.520	N 25° 28' 06.0" E
	PI	206+69.239	43° 05' 02.2" RT	19° 05' 54.9"	300.000'	118.427'	225.587'	487,503.954	176,201.438	PI
	CC							487,723.876	175,965.516	
1106	PCC	207+76.399						487,614.181	176,244.741	N 68° 33' 08.2" E
	PCC	207+76.399						487,614.181	176,244.741	N 68° 33' 08.2" E
	PI	208+47.780	6° 32' 11.9" RT	4° 35' 01.2"	1,250.000'	71.381'	142.607'	487,680.619	176,270.842	PI
	CC							488,071.246	175,081.302	
1107	PCC	209+19.007						487,749.596	176,289.210	N 75° 05' 20.1" E
	PCC	209+19.007						487,749.596	176,289.210	N 74° 52' 50.9" E
	PI	210+18.734	15° 02' 13.1" RT	7° 34' 57.5"	755.618'	99.727'	198.308'	487,845.871	176,315.222	PI
	CC							487,946.682	175,559.748	
1108	PT	211+17.315						487,945.598	176,315.365	N 89° 55' 04.0" E

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER, WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER, CITY OF ANDOVER

OCTOBER 2026

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

NOTES:

<XXXX> INDICATES GEOPAK ALIGNMENT NAMES.

NO.	DATE	BY	CHK	REVISIONS

RECORD PLAN

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Design By	AJP
Plan By	AJF
Checked By	AJP
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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

TABULATION

ALIGNMENT PLAN & TABULATION

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 84 OF 153 SHEETS

7047

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WSB PATH & FILENAME: Projects\Minnesota\022965-000\CadPlan\22965-000_alt03-06_tabulations.dgn

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	DELTA	DEGREE	RADIUS	TANGENT	LENGTH	COORDINATES X	COORDINATES Y	BEARING
COUNTY ROAD 18 SB <CR18_SB1>										
1150	PC	1200+00.000						487,234.448	175,627.951	N 2° 00' 03.2" E
	PI	1200+40.242	6° 12' 12.2" RT	7° 42' 54.8"	742.633'	40.242'	80.405'	487,235.853	175,668.168	PI
	CC							487,976.629	175,602.022	
1151	PCC	1200+80.405						487,241.596	175,707.998	N 8° 12' 15.4" E
	PCC	1200+80.405						487,241.596	175,707.998	N 8° 12' 15.4" E
	PI	1201+04.660	6° 10' 14.4" RT	12° 43' 56.6"	450.000'	24.256'	48.464'	487,245.057	175,732.005	PI
	CC							487,686.990	175,643.782	
1152	PT	1201+28.869						487,251.079	175,755.502	N 14° 22' 29.9" E
1153	PC	1202+65.614						487,285.028	175,887.966	N 14° 22' 29.9" E
	PI	1203+18.217	2° 24' 38.8" RT	2° 17' 30.6"	2,500.000'	52.603'	105.190'	487,298.088	175,938.922	PI
	CC							489,706.758	175,267.299	
1154	PT	1203+70.805						487,313.279	175,989.283	N 16° 47' 08.7" E
1155	POT	1205+19.77						487,356.298	176,131.897	
COUNTY ROAD 18 SB <CR18_SB2>										
1156	PC	1111+80.579						487,200.355	177,258.045	N 36° 06' 20.1" E
	PI	1112+24.890	42° 08' 43.6" LT	49° 49' 20.7"	115.000'	44.312'	84.591'	487,226.467	177,293.846	PI
	CC							487,107.443	177,325.811	
1157	PRC	1112+65.170						487,221.805	177,337.912	N 6° 02' 23.5" W
	PRC	1112+65.170						487,221.805	177,337.912	N 6° 02' 23.5" W
	PI	1113+18.347	6° 24' 27.8" RT	6° 01' 52.1"	950.000'	53.178'	106.244'	487,216.209	177,390.794	PI
	CC							488,166.531	177,437.871	
1158	PT	1113+71.414						487,216.551	177,443.970	N 0° 22' 04.4" E
1159	POT	1116+36.38						487,218.252	177,708.929	
VETERANS MEMORIAL BOULEVARD EB <VETERANS_EB>										
1200	POT	299+67.57						486,777.387	177,232.003	
1201	PC	300+17.571						486,826.702	177,240.257	N 80° 29' 54.3" E
	PI	300+45.587	10° 40' 13.0" RT	19° 05' 54.9"	300.000'	28.016'	55.869'	486,854.333	177,244.881	PI
	CC							486,876.224	176,944.372	
1202	PT	300+73.441						486,882.343	177,244.310	S 88° 49' 52.7" E
1203	PC	301+22.549						486,931.441	177,243.308	S 88° 49' 52.7" E
	PI	301+84.191	7° 25' 30.4" RT	6° 01' 52.1"	950.000'	61.643'	123.113'	486,993.071	177,242.051	PI
	CC							486,912.064	176,293.506	
1204	PRC	302+45.661						487,054.021	177,232.840	S 81° 24' 22.3" E
	PRC	302+45.661						487,054.021	177,232.840	S 81° 24' 22.3" E
	PI	302+83.118	17° 02' 31.0" LT	22° 55' 05.9"	250.000'	37.456'	74.360'	487,091.057	177,227.243	PI
	CC							487,091.378	177,480.033	
1205	PRC	303+20.021						487,128.107	177,232.746	N 81° 33' 06.7" E
	PRC	303+20.021						487,128.107	177,232.746	N 81° 33' 06.7" E
	PI	303+64.419	47° 52' 51.1" RT	57° 17' 44.8"	100.000'	44.398'	83.568'	487,172.024	177,239.268	PI
	CC							487,142.798	177,133.831	
1206	PRC	304+03.589						487,206.316	177,211.068	S 50° 34' 02.1" E
	PRC	304+03.589						487,206.316	177,211.068	S 50° 34' 02.1" E
	PI	304+27.478	69° 23' 59.0" LT	166° 04' 29.0"	34.500'	23.889'	41.788'	487,224.767	177,195.894	PI

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	DELTA	DEGREE	RADIUS	TANGENT	LENGTH	COORDINATES X	COORDINATES Y	BEARING
VETERANS MEMORIAL BOULEVARD EB <VETERANS_EB> (CONTINUED)										
	CC							487,228.229	177,237.715	
1207	PRC	304+45.377						487,245.462	177,207.827	N 60° 01' 58.8" E
	PRC	304+45.377						487,245.462	177,207.827	N 60° 01' 58.8" E
	PI	304+85.278	29° 47' 32.0" RT	38° 11' 49.9"	150.000'	39.901'	77.996'	487,280.029	177,227.757	PI
	CC							487,320.387	177,077.880	
1208	PT	305+23.373						487,319.929	177,227.879	N 89° 49' 30.8" E
1209	PC	306+05.238						487,401.794	177,228.129	N 89° 49' 30.8" E
	PI	307+68.550	16° 56' 02.9" LT	5° 13' 21.6"	1,097.059'	163.312'	324.243'	487,565.105	177,228.627	PI
	CC							487,398.448	178,325.182	
1210	PT	309+29.481						487,721.190	177,276.672	N 72° 53' 28.0" E
VETERANS MEMORIAL BOULEVARD WB <VETERANS_WB1>										
1250	POT	1299+67.57						486,777.387	177,232.003	
1251	PC	1300+17.571						486,826.702	177,240.257	N 80° 29' 54.3" E
	PI	1300+45.587	10° 40' 13.0" RT	19° 05' 54.9"	300.000'	28.016'	55.869'	486,854.333	177,244.881	PI
	CC							486,876.224	176,944.372	
1252	PT	1300+73.441						486,882.343	177,244.310	S 88° 49' 52.7" E
1253	PC	1303+03.517						487,112.372	177,239.617	S 88° 49' 52.7" E
	PI	1303+56.318	33° 34' 45.0" LT	32° 44' 25.6"	175.000'	52.801'	102.562'	487,165.162	177,238.540	PI
	CC							487,115.941	177,414.581	
1254	PT	1304+06.079						487,209.738	177,266.841	N 57° 35' 22.3" E
VETERANS MEMORIAL BOULEVARD WB <VETERANS_WB2>										
1255	PC	1304+49.815						487,250.939	177,263.686	S 48° 49' 58.5" E
	PI	1304+97.215	48° 35' 27.6" LT	54° 34' 02.7"	105.000'	47.399'	89.048'	487,286.621	177,232.485	PI
	CC							487,320.056	177,342.729	
1256	PRC	1305+38.863						487,333.623	177,238.609	N 82° 34' 33.8" E
	PRC	1305+38.863						487,333.623	177,238.609	N 82° 34' 33.8" E
	PI	1306+00.407	9° 22' 56.1" RT	7° 38' 22.0"	750.000'	61.544'	122.813'	487,394.651	177,246.562	PI
	CC							487,430.530	176,494.897	
1257	PRC	1306+61.676						487,456.160	177,244.458	S 88° 02' 30.1" E
	PRC	1306+61.676						487,456.160	177,244.458	S 88° 02' 30.1" E
	PI	1307+20.061	8° 54' 09.4" LT	7° 38' 22.0"	750.000'	58.385'	116.535'	487,514.510	177,242.463	PI
	CC							487,481.789	177,994.020	
1258	PCC	1307+78.211						487,572.467	177,249.522	N 83° 03' 20.5" E
	PCC	1307+78.211						487,572.467	177,249.522	N 83° 03' 20.5" E
	PI	1308+53.935	6° 48' 07.6" LT	4° 29' 48.0"	1,274.180'	75.724'	151.270'	487,647.635	177,258.678	PI
	CC							487,418.413	178,514.355	
1259	PT	1309+29.481						487,721.190	177,276.672	N 76° 15' 12.9" E

RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

NOTES:

<XXXX> INDICATES GEOPAK ALIGNMENT NAMES.

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

NO.	DATE	BY	CHK	REVISIONS

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

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

PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

TABULATION

ALIGNMENT PLAN & TABULATION

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 85 OF 153 SHEETS

7048

PLOTTED/REVISED: 6/19/2026 11:35:42 AM
WSB PATH & FILENAME: Projects\Minnesota\022965-000\Cad\Plan\22965-000_sh03-06_tabulations.dgn

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	DELTA	DEGREE	RADIUS	TANGENT	LENGTH	COORDINATES X	COORDINATES Y	BEARING
COUNTY ROAD 18 RADIAL <RADIAL_CR18>										
	POT	8+00.00						487,458.082	175,916.880	
	PC	10+00.000						487,458.082	176,116.880	Due North
	PI		180° 00' 00.0" LT	110° 11' 03.1"	52.000'		163.363'			PI
	CC							487,406.082	176,116.880	
	PCC	11+63.363						487,354.082	176,116.880	Due South
	PCC	11+63.363						487,354.082	176,116.880	Due South
	PI		180° 00' 00.0" LT	110° 11' 03.1"	52.000'		163.363'			PI
	CC							487,406.082	176,116.880	
	PT	13+26.726						487,458.082	176,116.880	Due North
	POT	15+26.73						487,458.082	176,316.880	
VETERANS RADIAL <RADIAL_VETS>										
	POT	8+00.00						487,262.729	177,037.715	
	PC	10+00.000						487,262.729	177,237.715	Due North
	PI		180° 00' 00.0" LT	166° 04' 29.0"	34[illegible]	346,638,528'	108.385'			PI
	CC							487,228.229	177,237.715	
	PCC	11+08.385						487,193.729	177,237.715	Due South
	PCC	11+08.385						487,193.729	177,237.715	Due South
	PI		180° 00' 00.0" LT	166° 04' 29.0"	34[illegible]	346,638,528'	108.385'			PI
	CC							487,228.229	177,237.715	
	PT	12+16.770						487,262.729	177,237.715	Due North
	POT	14+16.77						487,262.729	177,437.715	
CR 18 EAST QUADRANT <Q_18_E>										
	PC	20+00.000						487,332.345	175,962.654	N 10° 00' 16.0" E
	PI	20+73.844	70° 14' 08.0" RT	54° 34' 02.7"	105.000'	73.844'	128.713'	487,345.174	176,035.375	PI
	CC							487,435.749	175,944.413	
	PRC	21+28.713						487,417.949	176,047.893	N 80° 14' 24.0" E
	PRC	21+28.713						487,417.949	176,047.893	N 80° 14' 24.0" E
CR 18 NORTHWEST QUADRANT <Q_18_NW>										
	POT	30+00.00						487,289.274	175,964.456	
	PC	31+60.295						487,333.690	176,118.474	N 16° 05' 11.6" E
	PI	31+73.144	24° 10' 33.9" LT	95° 29' 34.7"	60.000'	12.850'	25.317'	487,337.250	176,130.821	PI
	CC							487,276.039	176,135.099	
	PCC	31+85.612						487,335.442	176,143.543	N 8° 05' 22.3" W
	PCC	31+85.612						487,335.442	176,143.543	N 8° 05' 22.3" W
	PI	32+21.940	38° 10' 10.4" LT	54° 34' 02.7"	105.000'	36.328'	69.949'	487,330.330	176,179.509	PI
	CC							487,231.487	176,128.767	
	PRC	32+55.561						487,304.084	176,204.627	N 46° 15' 32.6" W
	PRC	32+55.561						487,304.084	176,204.627	N 46° 15' 32.6" W
	PI	33+11.219	22° 01' 31.2" RT	20° 02' 00.6"	286.000'	55.658'	109.943'	487,263.872	176,243.109	PI
	CC							487,501.824	176,411.254	
	PT	33+65.504						487,241.026	176,293.863	N 24° 14' 01.4" W

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	DELTA	DEGREE	RADIUS	TANGENT	LENGTH	COORDINATES X	COORDINATES Y	BEARING
CR 18 NORTHEAST QUADRANT <Q_18_NE>										
	PC	40+00.000						487,330.051	176,254.747	S 42° 14' 47.0" E
	PI	40+53.279	20° 49' 14.8" LT	19° 45' 25.8"	290.000'	53.279'	105.383'	487,365.872	176,215.306	PI
	CC							487,544.726	176,449.720	
	PCC	41+05.383						487,413.372	176,191.174	S 63° 04' 01.8" E
	PCC	41+05.383						487,413.372	176,191.174	S 63° 04' 01.8" E
	PI	41+22.879	32° 30' 45.7" LT	95° 29' 34.7"	60.000'	17.496'	34.047'	487,428.970	176,183.249	PI
	CC							487,440.549	176,244.666	
	PCC	41+39.431						487,446.383	176,184.950	N 84° 25' 12.4" E
	PCC	41+39.431						487,446.383	176,184.950	N 84° 25' 12.4" E
	PI	41+72.091	33° 04' 25.0" LT	52° 05' 13.5"	110.000'	32.660'	63.497'	487,478.889	176,188.126	PI
	CC							487,435.687	176,294.429	
	PRC	42+02.927						487,504.394	176,208.526	N 51° 20' 47.5" E
	PRC	42+02.927						487,504.394	176,208.526	N 51° 20' 47.5" E
	PI	42+80.032	23° 47' 33.9" RT	15° 39' 16.5"	366.000'	77.104'	151.986'	487,564.608	176,256.686	PI
	CC							487,733.001	175,922.703	
	PT	43+54.913						487,639.133	176,276.461	N 75° 08' 21.4" E
VETERANS MEMORIAL BLVD SOUTHEAST QUADRANT <Q_VETS_SE>										
	PC	50+00.000						487,244.839	177,032.692	N 0° 05' 30.7" E
	PI	50+46.976	4° 49' 14.5" LT	5° 08' 02.5"	1,116.000'	46.976'	93.897'	487,244.914	177,079.668	PI
	CC							486,128.840	177,034.481	
	PRC	50+93.897						487,241.042	177,126.484	N 4° 43' 43.8" W
	PRC	50+93.897						487,241.042	177,126.484	N 4° 43' 43.8" W
	PI	51+14.674	23° 28' 28.0" RT	57° 17' 44.8"	100.000'	20.777'	40.971'	487,239.329	177,147.190	PI
	CC							487,340.701	177,134.728	
	PT	51+34.868						487,246.006	177,166.865	N 18° 44' 44.1" E
	PC	51+34.883						487,246.001	177,166.850	N 18° 44' 12.2" E
	PI	51+67.448	55° 25' 16.0" RT	92° 24' 45.2"	62.000'	32.565'	59.971'	487,256.461	177,197.689	PI
	CC							487,304.715	177,146.934	
	PCC	51+94.854						487,287.790	177,206.579	N 74° 09' 28.3" E
	PCC	51+94.854						487,287.790	177,206.579	N 74° 09' 28.3" E
	PI	52+07.782	10° 33' 04.1" RT	40° 55' 32.0"	140.000'	12.927'	25.781'	487,300.226	177,210.108	PI
	CC							487,326.008	177,071.897	
	PCC	52+20.636						487,313.098	177,211.300	N 84° 42' 32.3" E
	PCC	52+20.636						487,313.098	177,211.300	N 87° 31' 45.6" E
	PI	52+25.707	4° 09' 43.1" RT	41° 02' 54.4"	139.581'	5.072'	10.139'	487,318.165	177,211.519	PI
	CC							487,319.115	177,071.849	
	PCC	52+30.775						487,323.235	177,211.369	S 88° 18' 31.4" E
	PCC	52+30.775						487,323.235	177,211.369	N 88° 51' 39.1" E
	PI	52+31.949	0° 57' 51.8" RT	41° 04' 20.1"	139.500'	1.174'	2.348'	487,324.409	177,211.393	PI
	CC							487,326.008	177,071.897	
	PT	52+33.123						487,325.583	177,211.396	N 89° 49' 30.8" E
	POT	52+94.69						487,387.154	177,211.584	

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

NOTES:

<XXXX> INDICATES GEOPAK ALIGNMENT NAMES.

NO.	DATE	BY	CHK	REVISIONS

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

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

PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

TABULATION

ALIGNMENT PLAN & TABULATION

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET **86** OF **153** SHEETS

7049

PLOTTED/REVISED: 6/19/2026 11:35:42 AM
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ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	DELTA	DEGREE	RADIUS	TANGENT	LENGTH	COORDINATES X	COORDINATES Y	BEARING
VETERANS MEMORIAL BLVD SOUTHWEST QUADRANT <Q_VETS_SW>										
	POT	60+00.00						487,200.874	177,054.863	
	PC	60+63.587						487,200.976	177,118.450	N 0° 05' 30.7" E
	PI	60+96.093	15° 25' 36.2" LT	23° 52' 23.7"	240.000'	32.506'	64.619'	487,201.029	177,150.956	PI
	CC							486,960.977	177,118.835	
	PCC	61+28.206						487,192.432	177,182.305	N 15° 20' 05.5" W
	PCC	61+28.206						487,192.432	177,182.305	N 15° 20' 05.5" W
	PI	61+56.144	61° 27' 21.8" LT	121° 54' 21.3"	47.000'	27.938'	50.413'	487,185.044	177,209.248	PI
	CC							487,147.105	177,169.875	
	PCC	61+78.619						487,157.845	177,215.632	N 76° 47' 27.3" W
	PCC	61+78.619						487,157.845	177,215.632	N 76° 47' 27.3" W
	PI	61+95.006	20° 38' 17.4" LT	63° 39' 43.1"	90.000'	16.387'	32.418'	487,141.892	177,219.376	PI
	CC							487,137.280	177,128.013	
	PRC	62+11.037						487,125.643	177,217.257	S 82° 34' 15.3" W
	PRC	62+11.037						487,125.643	177,217.257	S 82° 34' 15.3" W
	PI	62+34.122	9° 57' 25.7" RT	21° 37' 15.8"	265.000'	23.085'	46.053'	487,102.752	177,214.273	PI
	CC							487,091.378	177,480.033	
	PT	62+57.090						487,079.690	177,215.291	N 87° 28' 19.0" W
VETERANS MEMORIAL BLVD NORTHWEST QUADRANT <Q_VETS_NW>										
	POT	70+00.00						487,080.485	177,254.271	
	PC	70+23.833						487,104.313	177,253.785	S 88° 49' 52.7" E
	PI	70+58.885	23° 59' 12.1" LT	34° 43' 29.0"	165.000'	35.052'	69.077'	487,139.358	177,253.070	PI
	CC							487,107.679	177,418.750	
	PCC	70+92.910						487,171.667	177,266.663	N 67° 10' 55.2" E
	PCC	70+92.910						487,171.667	177,266.663	N 67° 10' 55.2" E
	PI	71+17.027	49° 45' 49.0" LT	110° 11' 03.1"	52.000'	24.118'	45.164'	487,193.897	177,276.016	PI
	CC							487,151.501	177,314.593	
	PCC	71+38.074						487,201.116	177,299.027	N 17° 25' 06.2" E
	PCC	71+38.074						487,201.116	177,299.027	N 17° 25' 06.2" E
	PI	71+59.603	23° 10' 27.6" LT	54° 34' 02.7"	105.000'	21.529'	42.469'	487,207.561	177,319.569	PI
	CC							487,100.931	177,330.459	
	PRC	71+80.543						487,205.402	177,340.989	N 5° 45' 21.4" W
	PRC	71+80.543						487,205.402	177,340.989	N 5° 45' 21.4" W
	PI	72+32.215	6° 07' 25.7" RT	5° 55' 52.5"	966.000'	51.673'	103.247'	487,200.219	177,392.402	PI
	CC							488,166.531	177,437.871	
	PT	72+83.790						487,200.551	177,444.073	N 0° 22' 04.4" E

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	DELTA	DEGREE	RADIUS	TANGENT	LENGTH	COORDINATES X	COORDINATES Y	BEARING
VETERANS MEMORIAL BLVD NORTHEAST QUADRANT <Q_VETS_NE>										
	PC	80+00.000						487,456.723	177,260.949	N 88° 02' 30.1" W
	PI	80+60.485	9° 01' 25.8" LT	7° 28' 30.0"	766.500'	60.485'	120.720'	487,396.274	177,263.016	PI
	CC							487,430.530	176,494.897	
	PRC	81+20.720						487,336.248	177,255.576	S 82° 56' 04.2" W
	PRC	81+20.720						487,336.248	177,255.576	S 82° 56' 04.2" W
	PI	81+26.881	7° 27' 37.0" RT	60° 37' 49.6"	94.500'	6.161'	12.304'	487,330.134	177,254.818	PI
	CC							487,324.624	177,349.358	
	PCC	81+33.025						487,323.973	177,254.860	N 89° 36' 18.9" W
	PCC	81+33.025						487,323.973	177,254.860	S 87° 31' 11.7" W
	PI	81+38.022	6° 02' 46.5" RT	60° 32' 45.6"	94.632'	4.998'	9.986'	487,318.980	177,254.644	PI
	CC							487,319.878	177,349.404	
	PCC	81+43.011						487,313.992	177,254.955	N 86° 26' 01.8" W
	PCC	81+43.011						487,313.992	177,254.955	N 83° 34' 26.8" W
	PI	81+58.614	18° 39' 14.7" RT	60° 18' 40.8"	95.000'	15.603'	30.930'	487,298.487	177,256.701	PI
	CC							487,324.624	177,349.358	
	PCC	81+73.941						487,284.355	177,263.315	N 64° 55' 12.0" W
	PCC	81+73.941						487,284.355	177,263.315	N 64° 55' 12.0" W
	PI	81+91.087	40° 05' 10.8" RT	121° 54' 21.3"	47.000'	17.147'	32.883'	487,268.825	177,270.583	PI
	CC							487,304.277	177,305.884	
	PCC	82+06.824						487,261.623	177,286.145	N 24° 50' 01.2" W
	PCC	82+06.824						487,261.623	177,286.145	N 24° 50' 01.2" W
	PI	82+49.296	25° 12' 05.6" RT	30° 09' 20.4"	190.000'	42.473'	83.572'	487,243.786	177,324.690	PI
	CC							487,434.054	177,365.942	
	PT	82+90.395						487,244.058	177,367.162	N 0° 22' 04.4" E

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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

TABULATION

ALIGNMENT PLAN & TABULATION

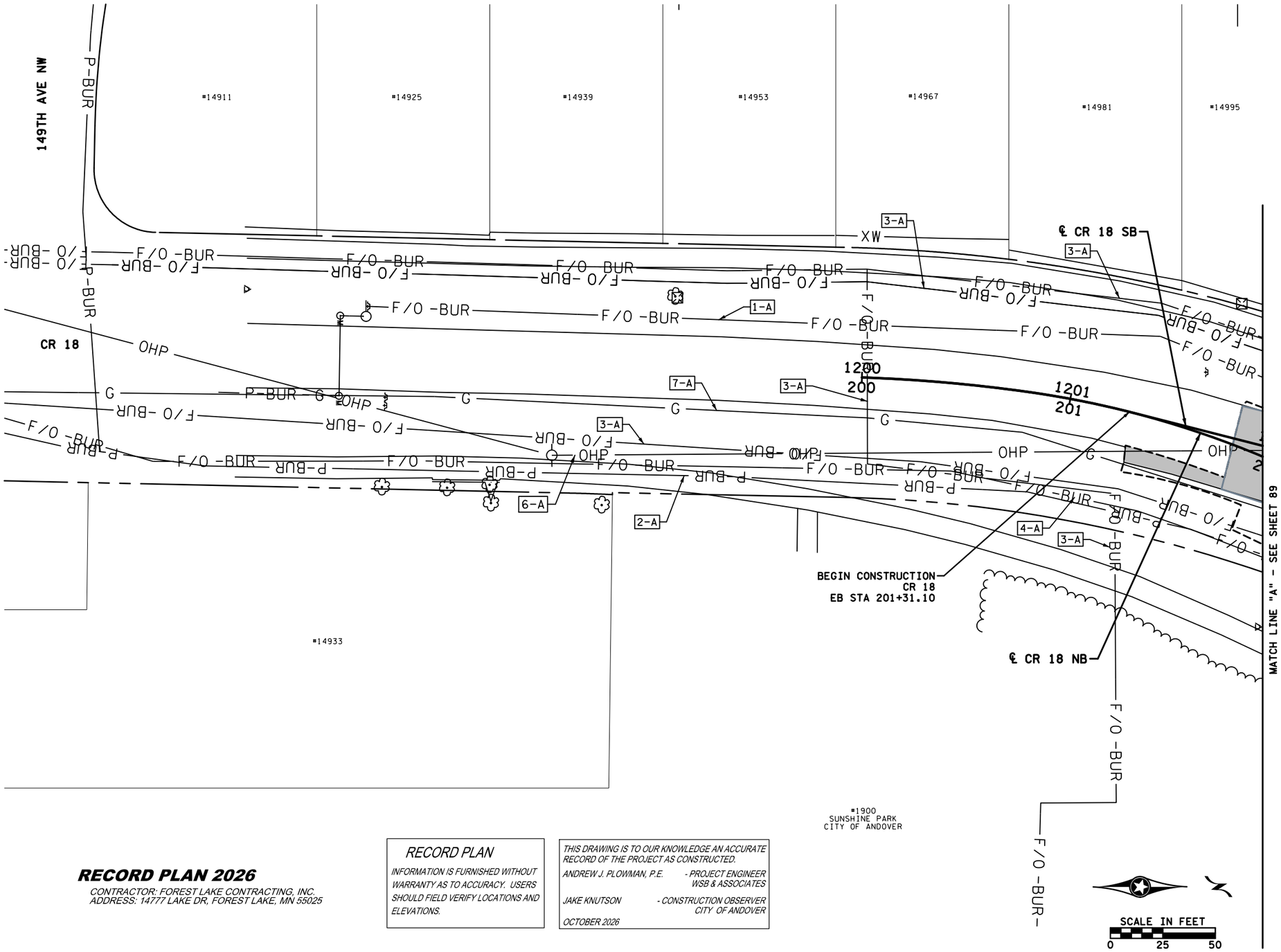
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET **87** OF **153** SHEETS

7050

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County Road 18



LEGEND

- BURIED TELEPHONE LINE
- BURIED TELEVISION LINE
- OVERHEAD UTILITY LINE
- BURIED FIBER OPTIC LINE
- BURIED POWER LINE
- UTILITY IN CONDUIT
- OVERHEAD POWER LINE
- BURIED SIGNAL LINE
- BURIED GAS MAIN/SERVICE
- BURIED GAS - ABANDONED
- SANITARY SEWER LINE
- STORM SEWER LINE
- FORCE MAIN
- WATER MAIN

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

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

- EXISTING PAVEMENT TO BE REMOVED / MILLED

- 1-A UTILITY CONFLICT AREA (OWNER-IMPACT)

OWNERSHIP:
(1) COMCAST CABLE LLC
(2) CONNEXUS ENERGY
(3) LUMEN TECHNOLOGIES
(4) ZAYO
(5) CITY OF ANDOVER
(6) GREAT RIVER ENERGY
(7) CENTERPOINT ENERGY

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

GENERAL NOTES

1. THE EXISTING SUBSURFACE UTILITY INFORMATION IS QUALITY LEVEL D IN ACCORDANCE WITH THE GUIDELINES OF ASCE/UESI/CI 38-22.
2. UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL BURIED UTILITIES IN THE FIELD (INCIDENTAL).

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

NO.	DATE	BY	CHK	REVISIONS

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

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

PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

COUNTY ROAD 18

INPLACE TOPOGRAPHY & UTILITIES

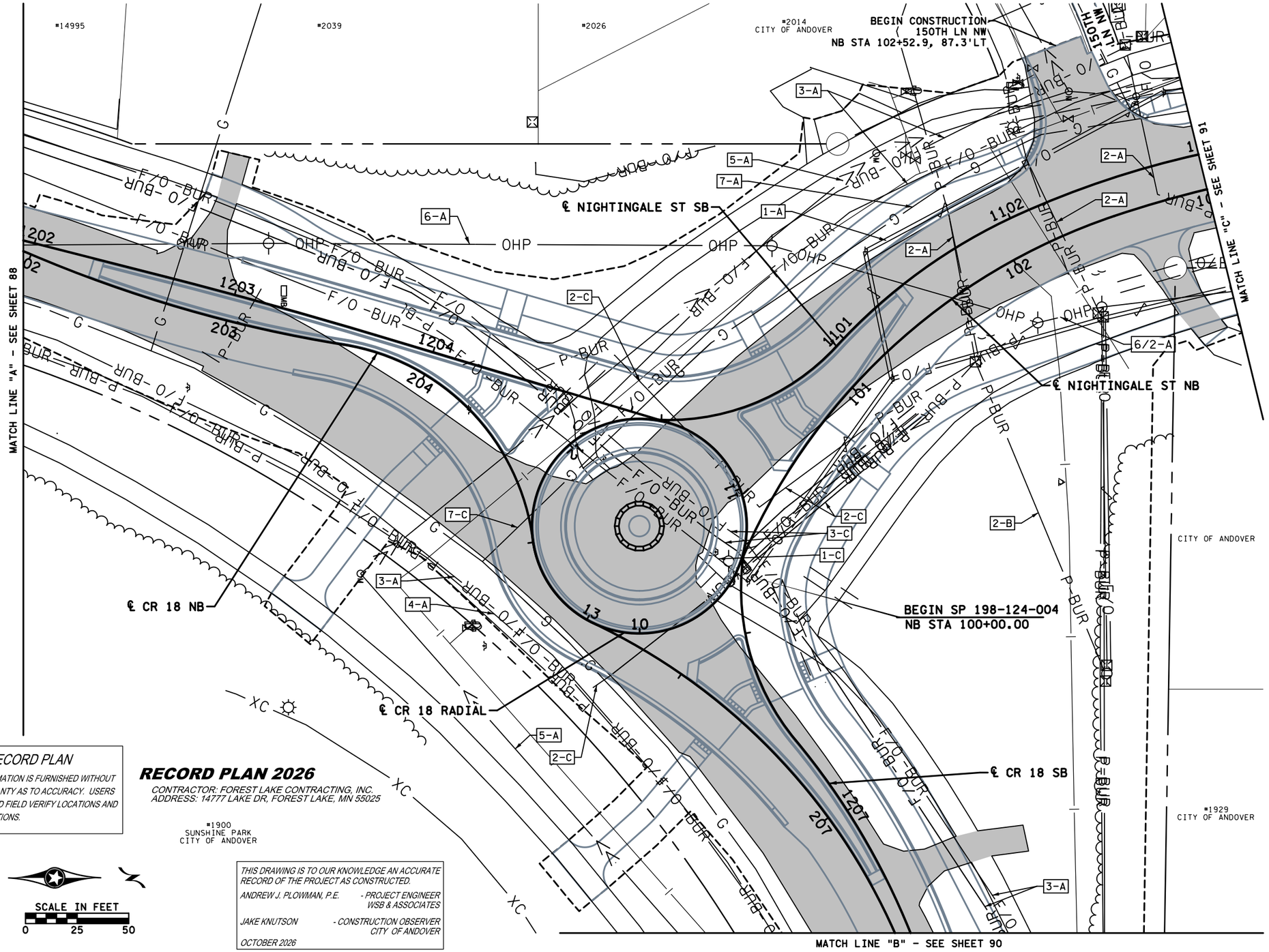
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 88 OF 153 SHEETS

7051

WSB PATH & FILENAME: Projects\Minnesota\022965-000\Cad\Plan\22965-000_luDI.dgn

County Road 18 and Nightingale Street NW



RECORD PLAN

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RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

#1900
SUNSHINE PARK
CITY OF ANDOVER

SCALE IN FEET
0 25 50

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

LEGEND

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- TV-BUR — BURIED TELEVISION LINE
- OHU — OVERHEAD UTILITY LINE
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- P-BUR — BURIED POWER LINE
- P — UTILITY IN CONDUIT
- OHP — OVERHEAD POWER LINE
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- G-A — BURIED GAS - ABANDONED
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- > — STORM SEWER LINE
- FORCE MAIN
- I — WATER MAIN

- UTILITY PEDESTAL
- HH — HANDHOLE
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- CABINET
- VALVE (GAS)
- MH — MANHOLE
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- GV — VALVE (WATER)
- VALVE (GAS)
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- P — EXISTING GUARD RAIL
- EXISTING WATER EDGE
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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

COUNTY ROAD 18 AND NIGHTINGALE STREET NW

INPLACE TOPOGRAPHY & UTILITIES

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 89 OF 153 SHEETS

7052

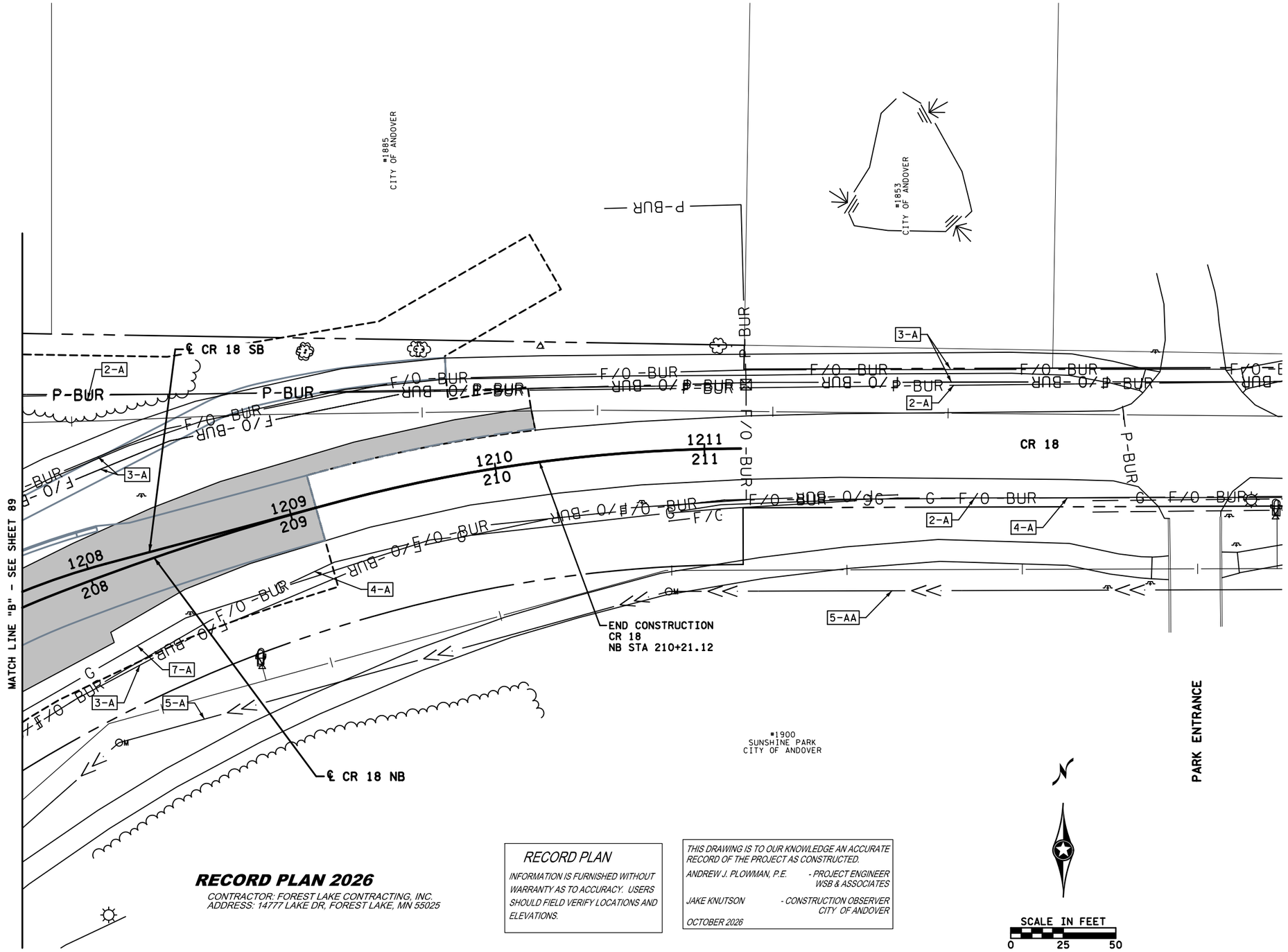
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PLOTTED/REVISED: 6/19/2026 11:35:49 AM

WSB PATH & FILENAME: Projects\Minnesota\022965-000\Cad\Plan\22965-000_Ud03.dgn

County Road 18



RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - *PROJECT ENGINEER WSB & ASSOCIATES*

JAKE KNUTSON - *CONSTRUCTION OBSERVER CITY OF ANDOVER*

OCTOBER 2026

LEGEND

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- TV-BUR — BURIED TELEVISION LINE
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- WATER MAIN

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- HH — HANDHOLE
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- LIGHT POLE
- CABINET
- VALVE (GAS)
- OM — MANHOLE
- CATCH BASIN
- CONCRETE APRON
- HYDRANT
- GV — VALVE (WATER)
- VALVE (GAS)
- VEGETATION
- INPLACE STRUCTURE
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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

COUNTY ROAD 18

INPLACE TOPOGRAPHY & UTILITIES

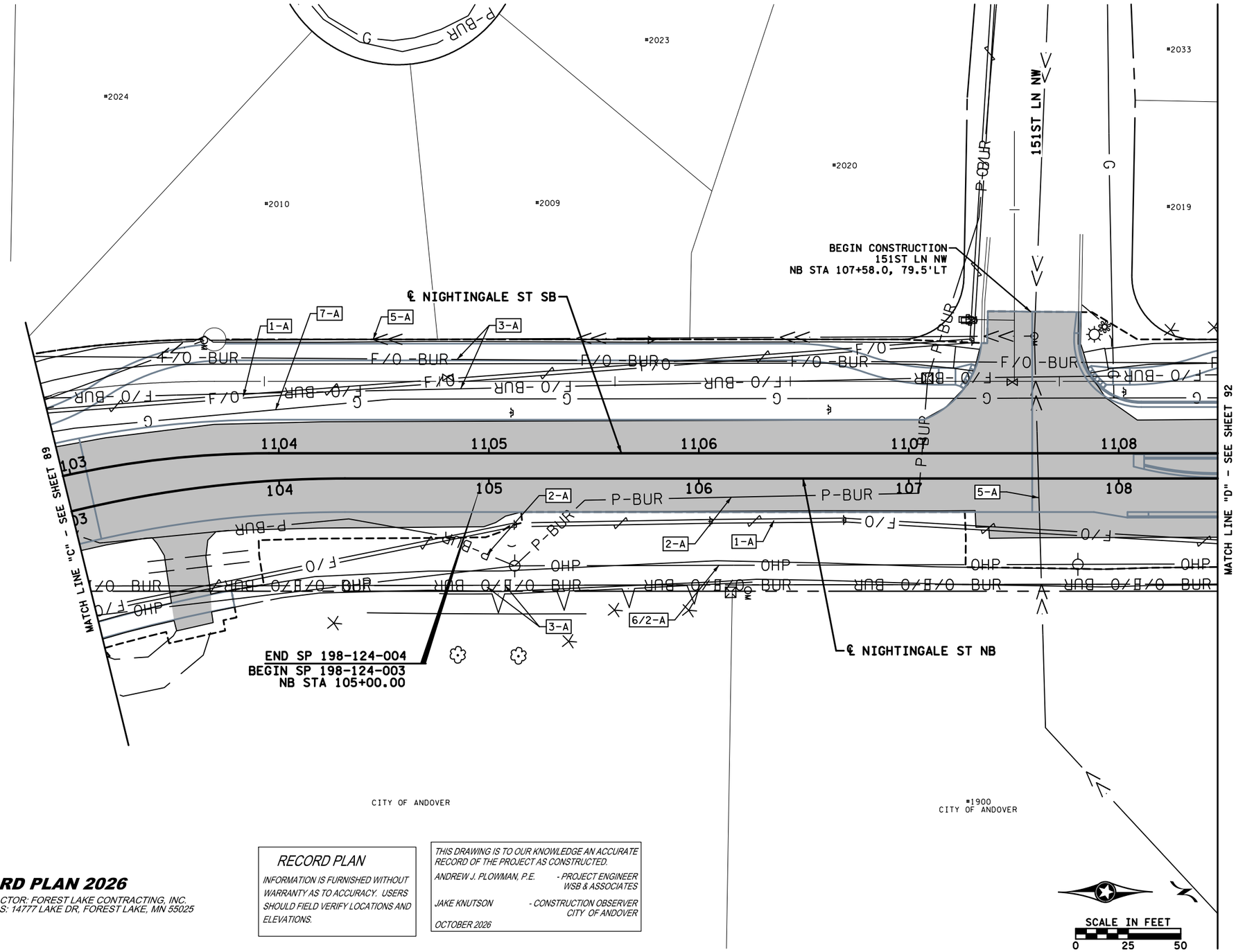
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 90 OF 153 SHEETS

7053

PLOTTED/REVISED: 6/19/2026 11:35:51 AM

Nightingale Street NW



LEGEND

- T-BUR — BURIED TELEPHONE LINE
- TV-BUR — BURIED TELEVISION LINE
- OHU — OVERHEAD UTILITY LINE
- F/O -BUR — BURIED FIBER OPTIC LINE
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- W — WATER MAIN

- UTILITY PEDESTAL
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- CABINET
- VALVE (GAS)
- MH — MANHOLE
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- HYDRANT
- GV — VALVE (WATER)
- VALVE (GAS)
- VEGETATION
- INPLACE STRUCTURE
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- NOISE WALL
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- CONSTRUCTION LIMITS
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IMPACT:
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RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - *PROJECT ENGINEER WSB & ASSOCIATES*

JAKE KNUTSON - *CONSTRUCTION OBSERVER CITY OF ANDOVER*

OCTOBER 2026

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
Plan By: AJP
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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

NIGHTINGALE STREET NW

INPLACE TOPOGRAPHY & UTILITIES

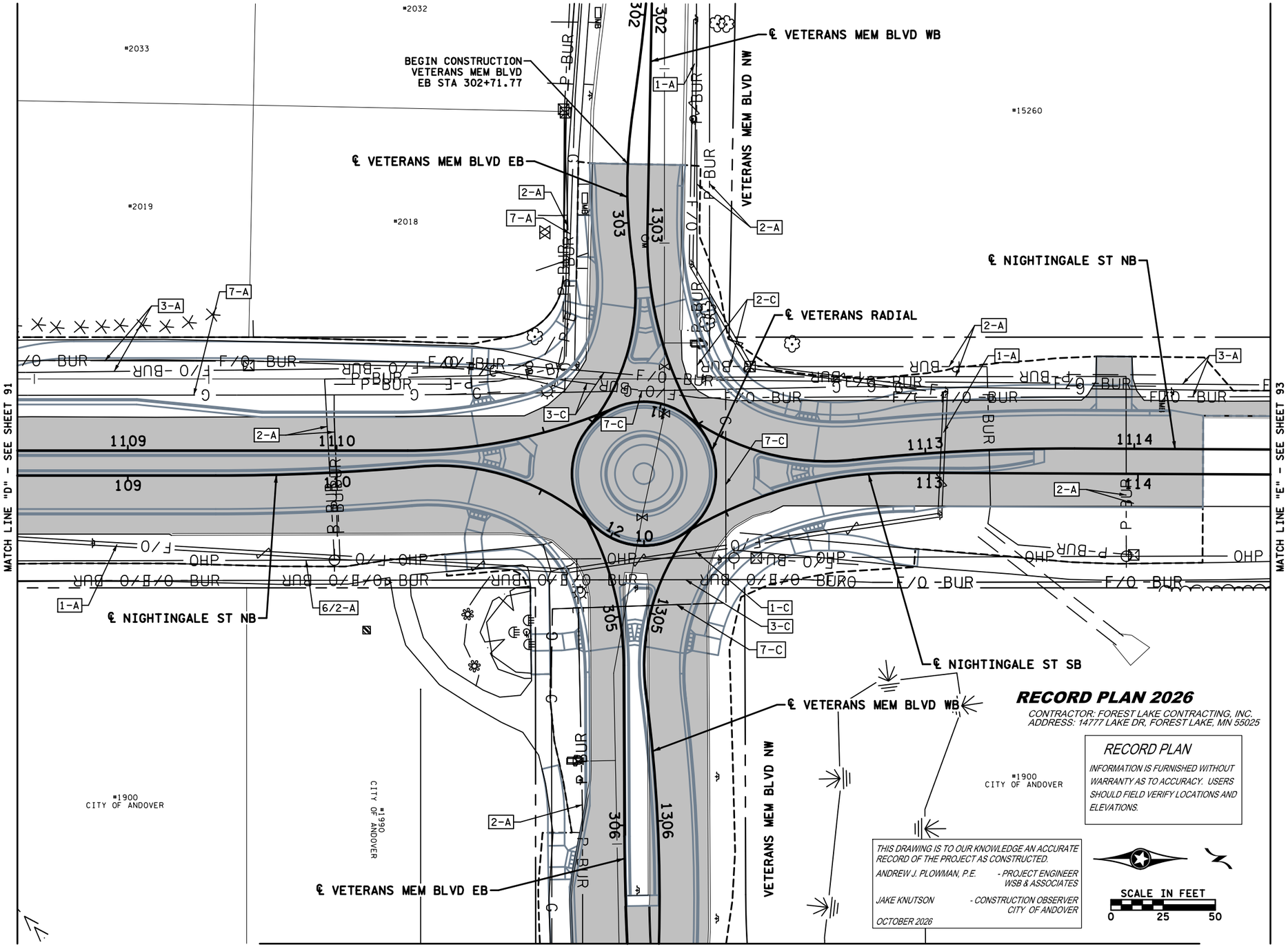
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 91 OF 153 SHEETS

7054

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Nightingale Street NW



RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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JAKE KNUTSON - *CONSTRUCTION OBSERVER CITY OF ANDOVER*

OCTOBER 2026

SCALE IN FEET
0 25 50

LEGEND

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- 1-A — UTILITY CONFLICT AREA (OWNER-IMPACT)

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IMPACT:
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GENERAL NOTES

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NO.	DATE	BY	CHK	REVISIONS

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PRINT NAME: ANDREW J. PLOWMAN, PE

DATE 6/19/2026 LICENSE # 44200

RECORD DRAWING

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

NIGHTINGALE STREET NW

INPLACE TOPOGRAPHY & UTILITIES

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 92 OF 153 SHEETS

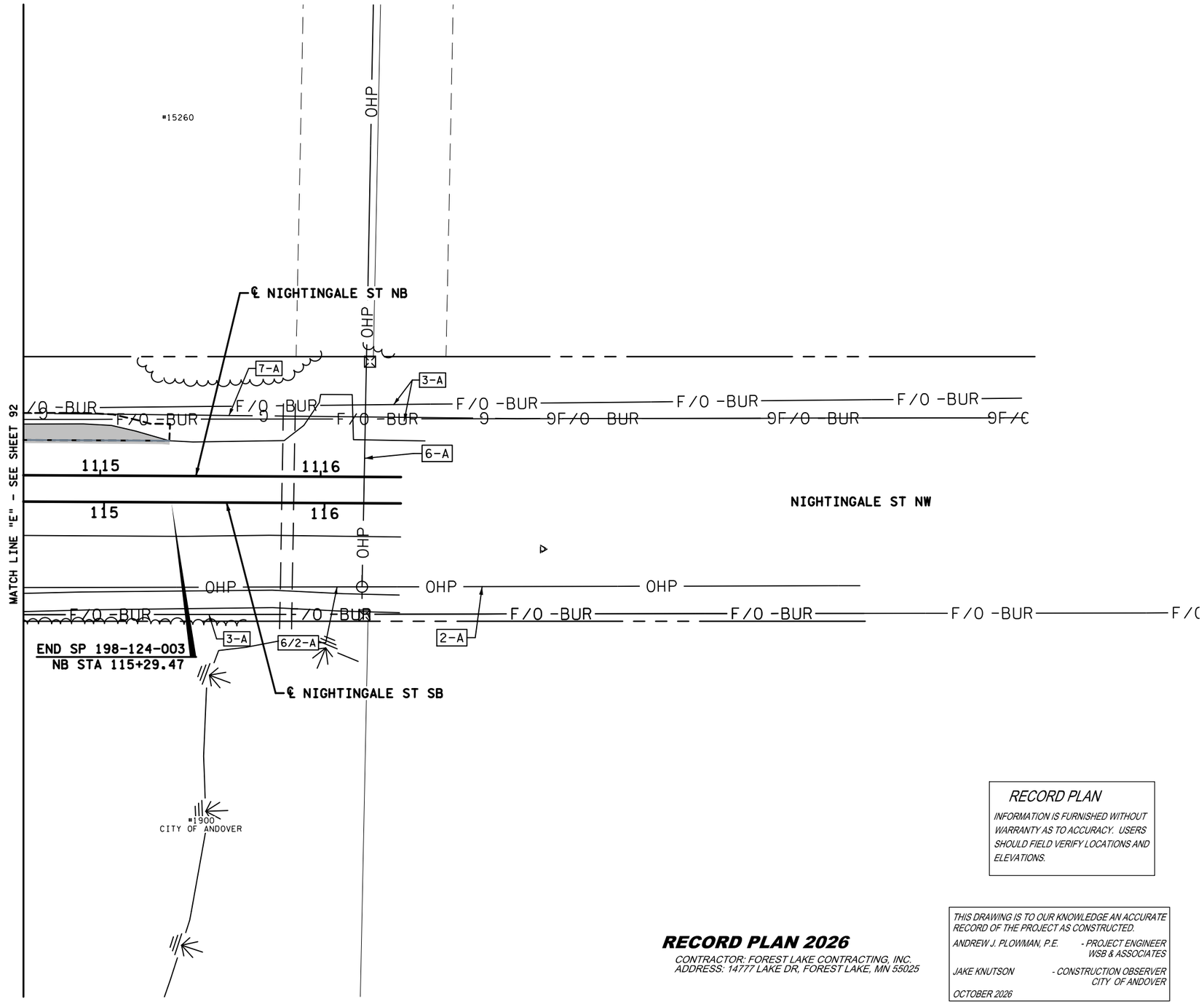
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Nightingale Street NW



RECORD PLAN

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RECORD PLAN 2026

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ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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OCTOBER 2026

SCALE IN FEET
0 25 50

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wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

NIGHTINGALE STREET NW

INPLACE TOPOGRAPHY & UTILITIES

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

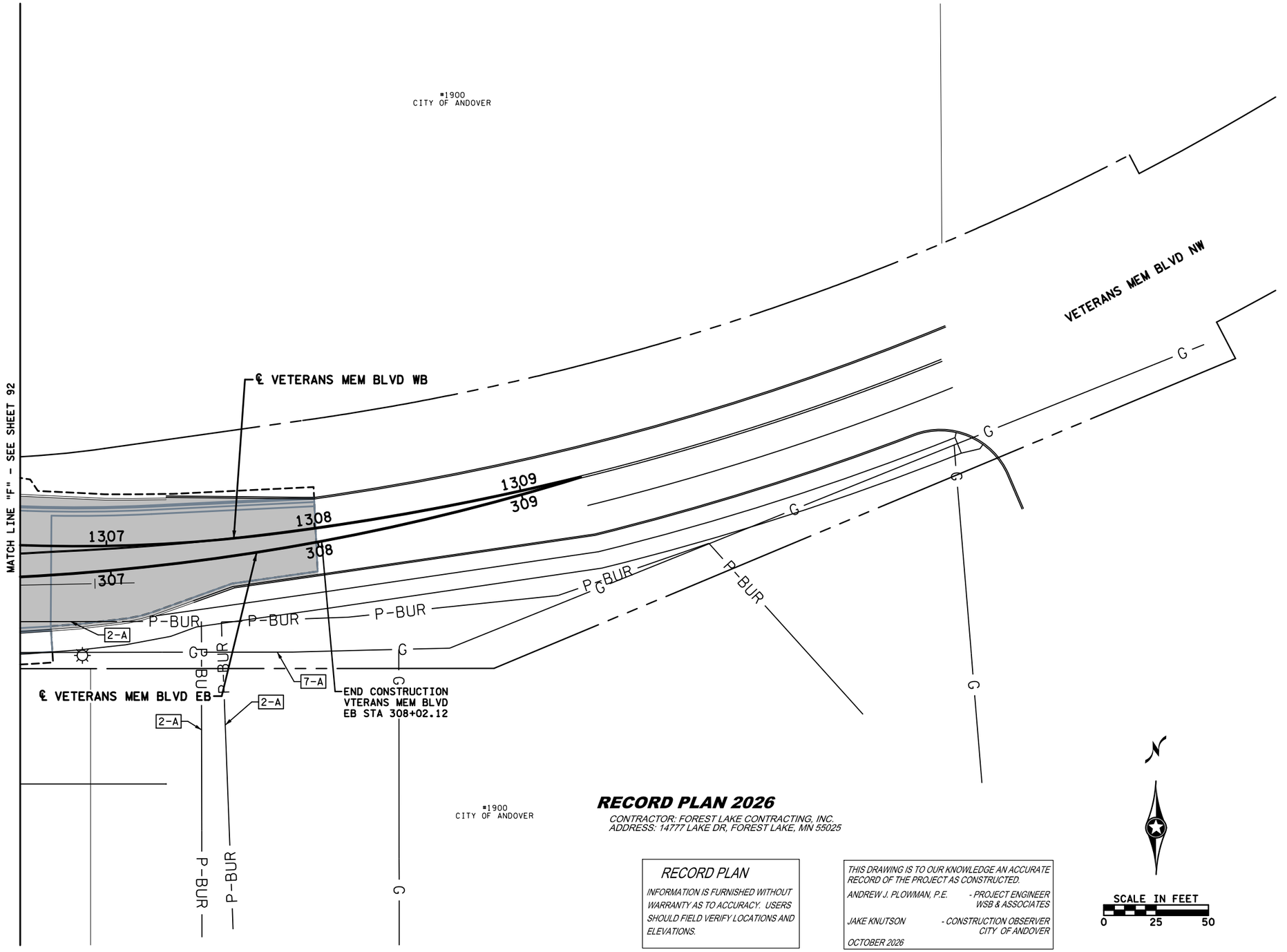
SHEET 93 OF 153 SHEETS

7056

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Veterans Memorial Boulevard NW



RECORD PLAN 2026

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SCALE IN FEET
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- EXISTING WATER EDGE
- BOLLARD
- RETAINING WALL
- NOISE WALL
- XC — EXISTING FENCE

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

- EXISTING PAVEMENT TO BE REMOVED / MILLED

- 1-A — UTILITY CONFLICT AREA (OWNER-IMPACT)

OWNERSHIP:
(1) COMCAST CABLE LLC
(2) CONNEXUS ENERGY
(3) LUMEN TECHNOLOGIES
(4) ZAYO
(5) CITY OF ANDOVER
(6) GREAT RIVER ENERGY
(7) CENTERPOINT ENERGY

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

GENERAL NOTES

1. THE EXISTING SUBSURFACE UTILITY INFORMATION IS QUALITY LEVEL D IN ACCORDANCE WITH THE GUIDELINES OF ASCE/UESI/CI 38-22.
2. UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL BURIED UTILITIES IN THE FIELD (INCIDENTAL).

NO.	DATE	BY	CHK	REVISIONS

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

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

PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

VETERANS MEMORIAL BLVD NW

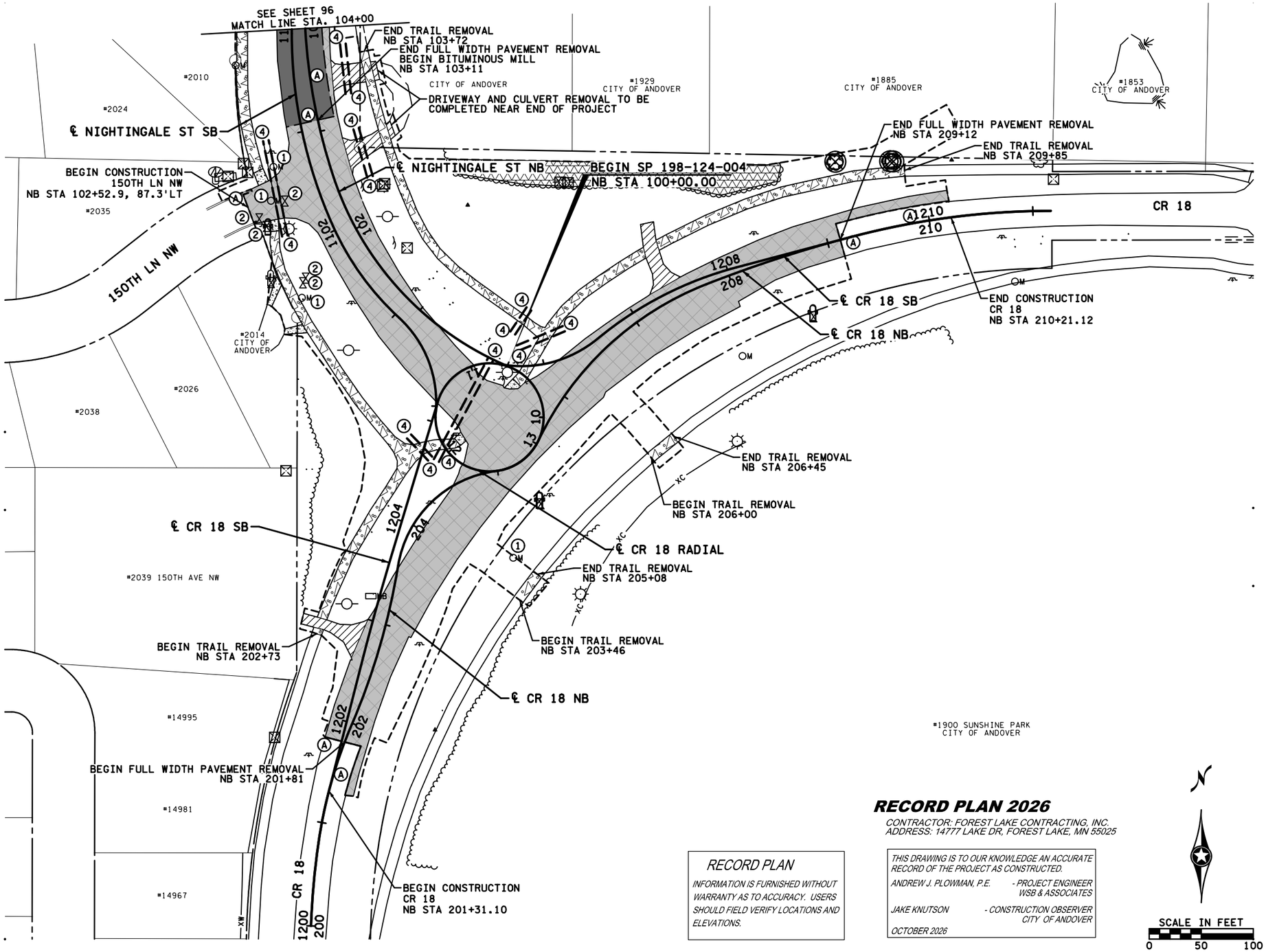
INPLACE TOPOGRAPHY & UTILITIES

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 94 OF 153 SHEETS

7057

County Road 18



LEGEND

- REMOVE BITUMINOUS PAVEMENT
- MILL BIT. SURFACE (2.0")
- REMOVE BIT DRIVEWAY PAVEMENT
- REMOVE BITUMINOUS WALK
- REMOVE CONCRETE WALK
- REMOVE CONCRETE MEDIAN
- GRUB TREE (ACRE)
- GRUB TREE (EACH)
- (MB) SALVAGE MAILBOX SUPPORT
- (A) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
- (1) ADJUST FRAME AND RING CASTING (SANITARY)
- (2) ADJUST VALVE BOX
- (4) REMOVE PIPE APRON
- REMOVE PIPE CULVERT
- REMOVE CURB & GUTTER
- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- INPLACE PERM EASEMENT

GENERAL NOTES

1. ALL REMOVAL ITEMS SHALL BE DISPOSED OF OFF THE PROJECT SITE IN ACCORDANCE WITH THE SPECIFICATIONS. (INCIDENTAL)
2. REMOVAL OF ALL AGGREGATE SURFACING REGARDLESS OF THICKNESS SHALL BE INCLUDED IN EXCAVATION-COMMON.
3. THE EXISTING SUBSURFACE UTILITY INFORMATION IS QUALITY LEVEL D IN ACCORDANCE WITH THE GUIDELINES OF CI/ASCE 38-22.
4. UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL BURIED UTILITIES IN THE FIELD (INCIDENTAL).
5. SAWCUTTING FOR CONCRETE CURB & GUTTER, CONCRETE WALK, AND BITUMINOUS WALK SHALL BE INCIDENTAL.
6. INPLACE BITUMINOUS PAVEMENT THICKNESS 3"-6". NO ADDITIONAL PAYMENT FOR EXTRA THICKNESS.

SCALE IN FEET
0 50 100

RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES
JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER
OCTOBER 2026

NO.	DATE	BY	CHK	REVISIONS
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Design By: AJP
Plan By: AJF
Checked By: AJP
Approved By: AJP

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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

COUNTY ROAD 18

REMOVAL PLAN

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

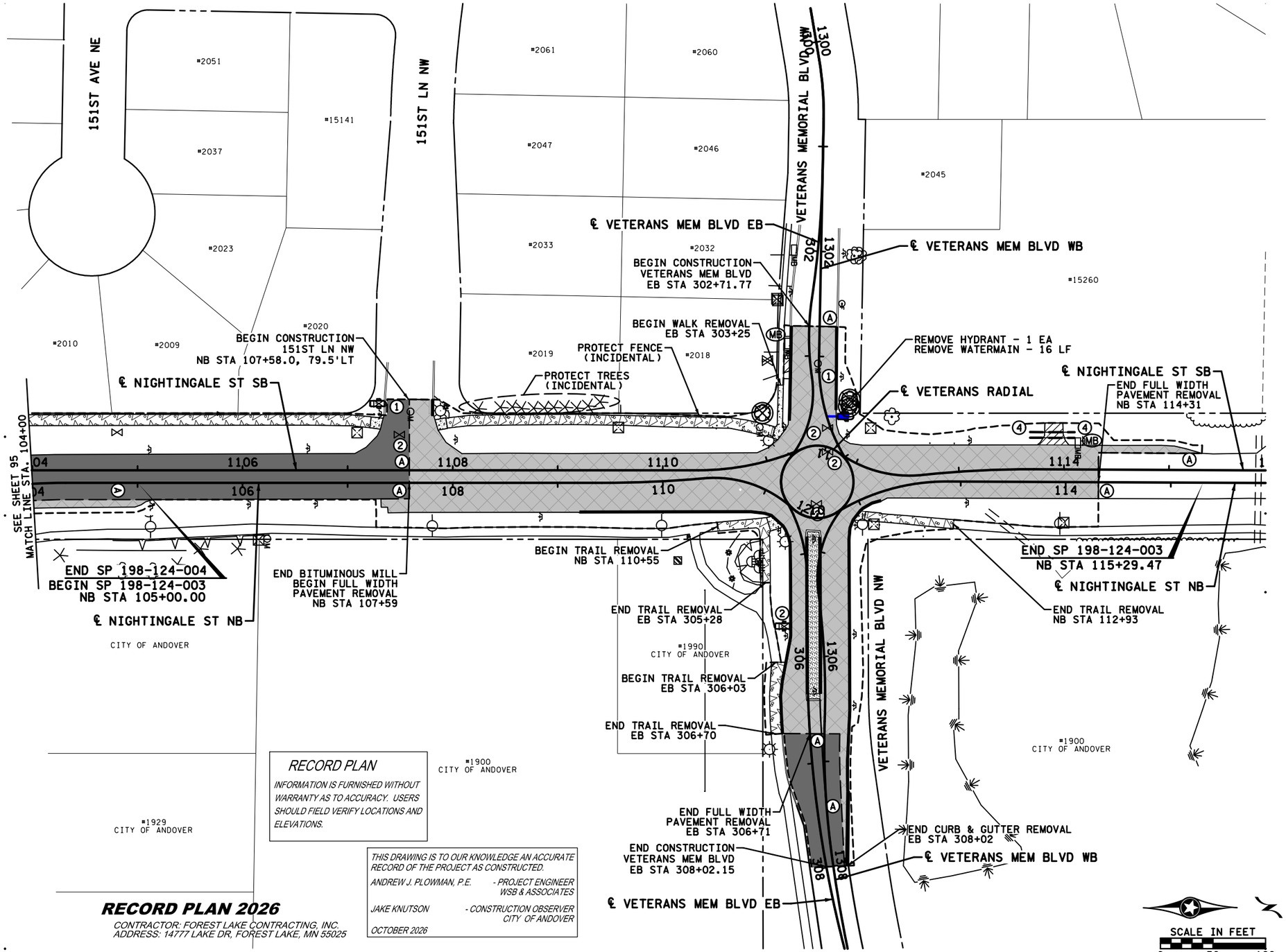
SHEET 95 OF 153 SHEETS

7058

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PLOTTED/REVISED: 6/19/2026 11:36:01 AM

Nightingale Street NW



RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

LEGEND

- REMOVE BITUMINOUS PAVEMENT
- MILL BIT. SURFACE (2.0")
- REMOVE BIT DRIVEWAY PAVEMENT
- REMOVE BITUMINOUS WALK
- REMOVE CONCRETE WALK
- REMOVE CONCRETE MEDIAN
- GRUB TREE (ACRE)
- GRUB TREE (EACH)
- (MB) SALVAGE MAILBOX SUPPORT
- (A) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
- (1) ADJUST FRAME AND RING CASTING (SANITARY)
- (2) ADJUST VALVE BOX
- (4) REMOVE PIPE APRON
- REMOVE PIPE CULVERT
- REMOVE CURB & GUTTER
- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- INPLACE PERM EASEMENT

GENERAL NOTES

1. ALL REMOVAL ITEMS SHALL BE DISPOSED OF OFF THE PROJECT SITE IN ACCORDANCE WITH THE SPECIFICATIONS. (INCIDENTAL)
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6. INPLACE BITUMINOUS PAVEMENT THICKNESS 3"-6". NO ADDITIONAL PAYMENT FOR EXTRA THICKNESS.

NO.	DATE	BY	CHK	REVISIONS
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•	•	•	•	•
•	•	•	•	•

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

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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

NIGHTINGALE STREET NW

REMOVAL PLAN

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

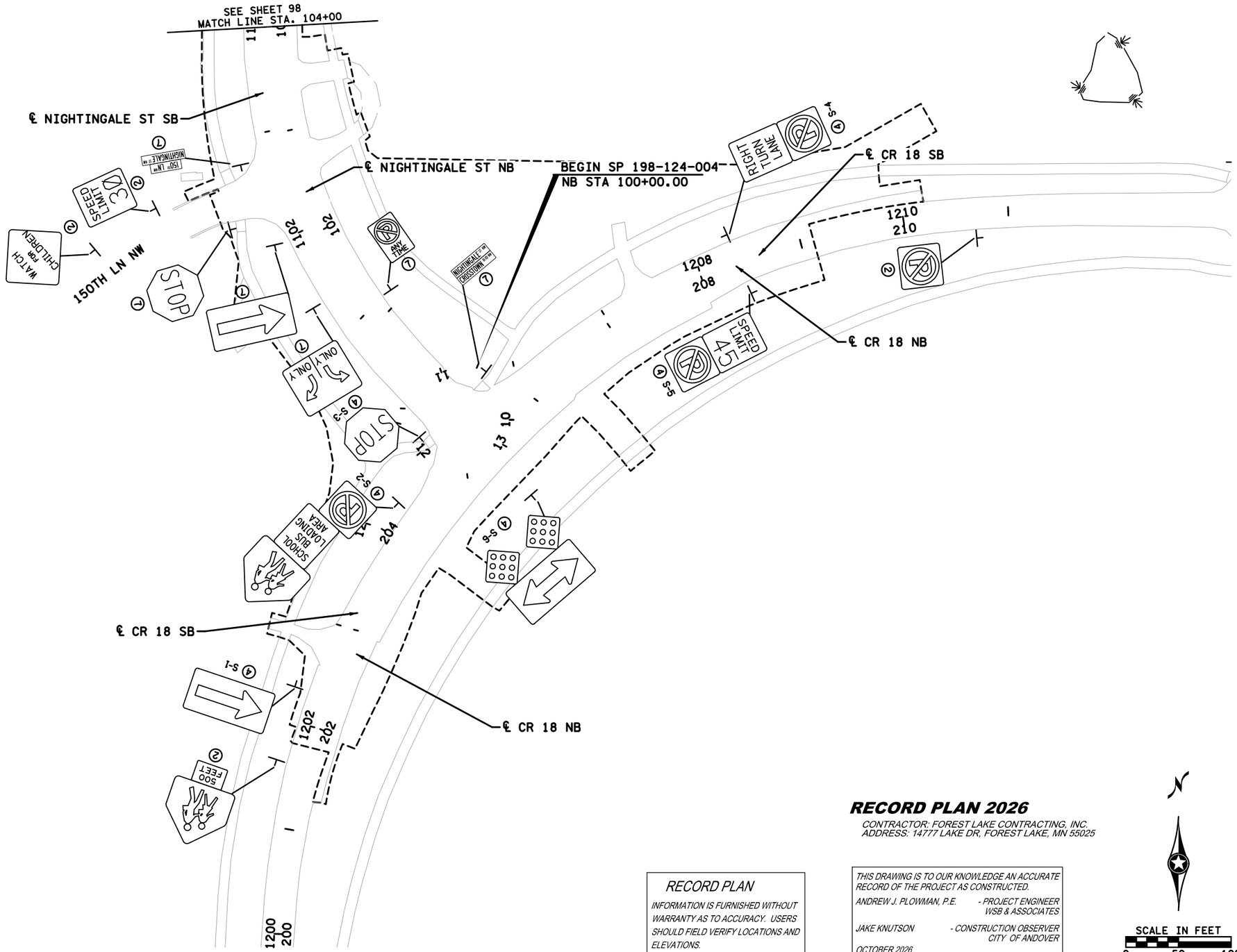
SHEET 96 OF 153 SHEETS

7059

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WSB PATH & FILENAME: Projects\Minnesota\022965-000\Cad\Plan\22965-000_sr01.dgn

County Road 18



LEGEND

②	INPLACE
③	SALVAGE
④	REMOVE
⑦	REMOVE BY CITY FORCES

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

SCALE IN FEET
0 50 100

NO.	DATE	BY	CHK	REVISIONS

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

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

PRINT NAME: SEAN DELMORE, PE

DATE 6/19/2026 LICENSE # 40945

RECORD DRAWING

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

COUNTY ROAD 18

SIGN REMOVAL PLAN

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

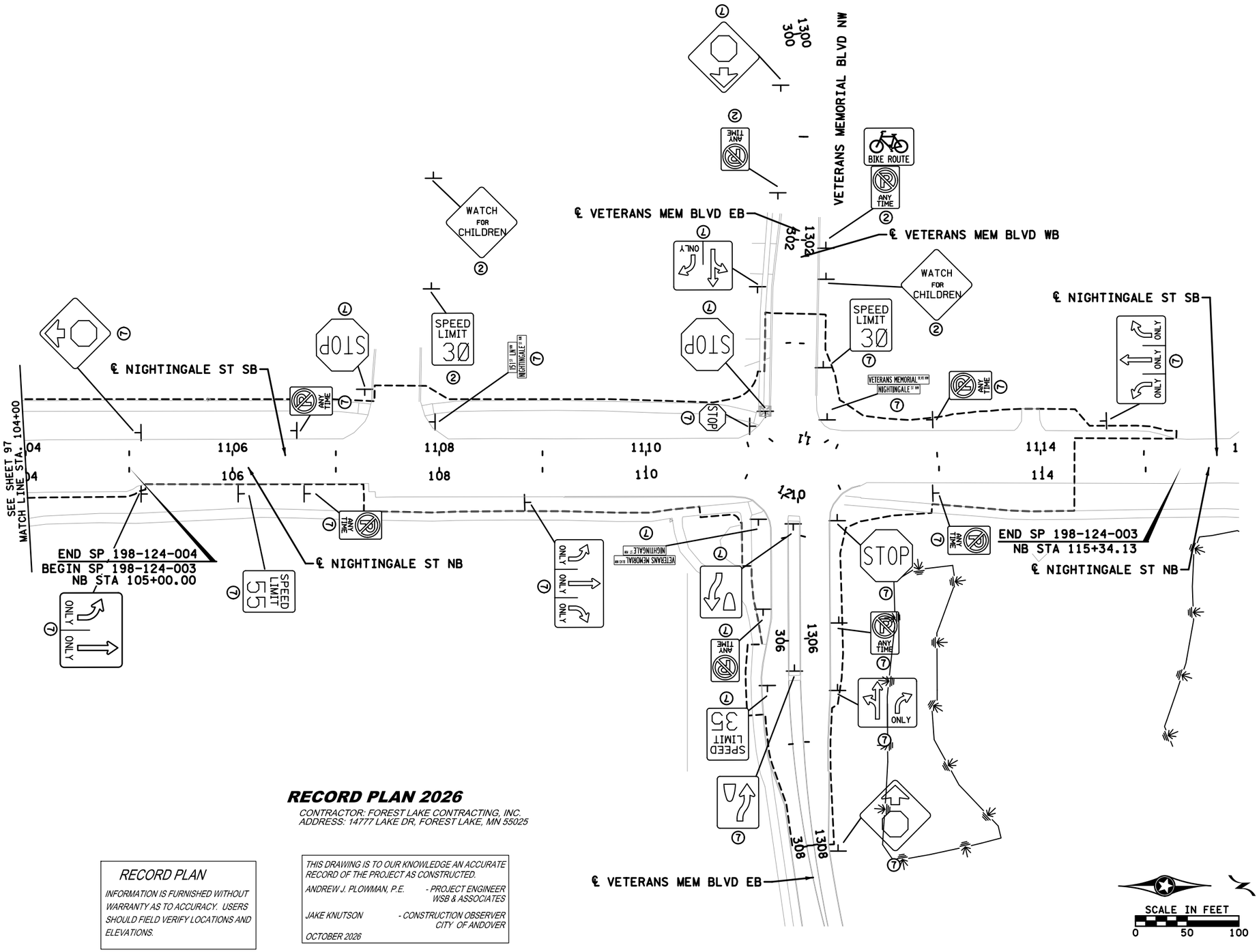
SHEET 97 OF 153 SHEETS

7060

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Nightingale Street NW



LEGEND

②	INPLACE
④	REMOVE
⑦	REMOVE BY CITY FORCES

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

NIGHTINGALE STREET NW

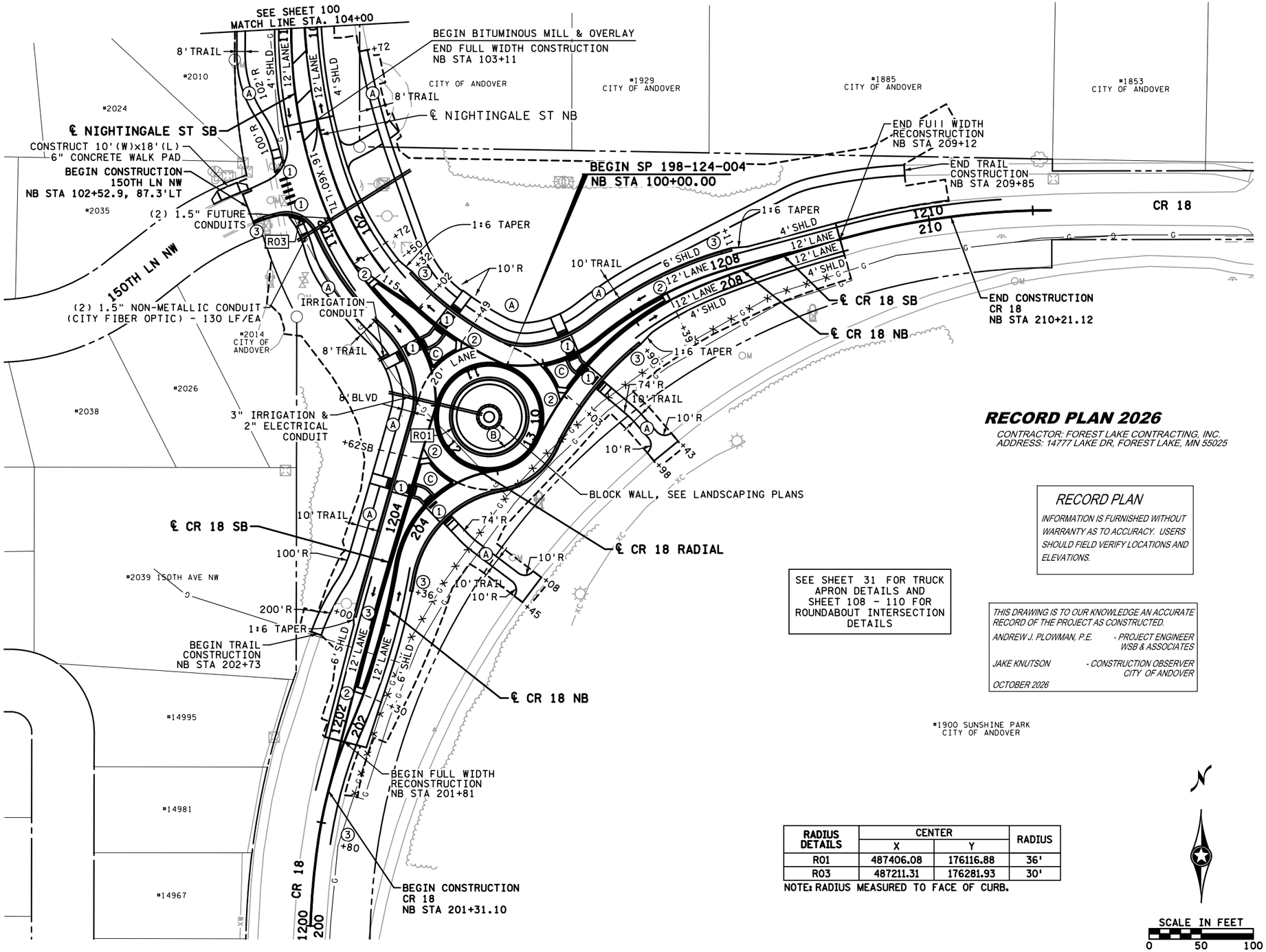
SIGN REMOVAL PLAN

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 98 OF 153 SHEETS

7061

County Road 18



RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

SEE SHEET 31 FOR TRUCK APRON DETAILS AND SHEET 108 - 110 FOR ROUNDABOUT INTERSECTION DETAILS

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

RADIUS DETAILS	CENTER		RADIUS
	X	Y	
R01	487406.08	176116.88	36'
R03	487211.31	176281.93	30'

NOTE: RADIUS MEASURED TO FACE OF CURB.

SCALE IN FEET
0 50 100

LEGEND

- TRAFFIC DIRECTION
- (1) CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP WITH TRUNCATED DOMES. SEE PEDESTRIAN RAMP DETAILS.
- (2) CONSTRUCT CONCRETE MEDIAN NOSE PER STANDARD PLAN 7113
- (3) CONSTRUCT CURB TRANSITION, SEE MISCELLANEOUS DETAILS
- (A) 2.5" BITUMINOUS TRAIL
- (B) 4" CONCRETE WALK
- (C) 4" CONCRETE WALK SPECIAL 1
- R00 RADIUS CALLOUT, SEE RADIUS DETAILS TABLE
- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- INPLACE DRAINAGE AND UTILITY EASEMENT
- PROPOSED GAS MAIN
- ABANDONED GAS MAIN

GENERAL NOTES

1. CURB & GUTTER DES. B418 (MOD) USED FOR MEDIANS
2. CURB & GUTTER DES. B424 USED FOR OUTSIDE LANES AND INSIDE TRUCK APRON ON ROUNDABOUT
3. CURB & GUTTER DES. R418 USED FOR OUTSIDE TRUCK APRON ON ROUNDABOUT
4. MEDIANS CONSTRUCTED WITH 4" CONCRETE WALK
5. ALL LANE DIMENSIONS ARE FROM CENTERLINE TO LANE LINE OR FACE OF CURB.
6. ALL SHOULDER DIMENSIONS ARE FROM LANE LINE TO FACE OF CURB.
7. SEE DRIVEWAY DETAILS FOR ADDITIONAL INFORMATION AT DRIVEWAYS.
8. SEE ALIGNMENT PLAN FOR CURVE DATA.
9. SEE PAVING PLAN FOR REQUIRED PAVEMENT SECTIONS.
10. SEE SHEET 101 - 105 FOR ROADWAY PROFILES.

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

COUNTY ROAD 18

CONSTRUCTION PLAN & PROFILE

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 99 OF 153 SHEETS

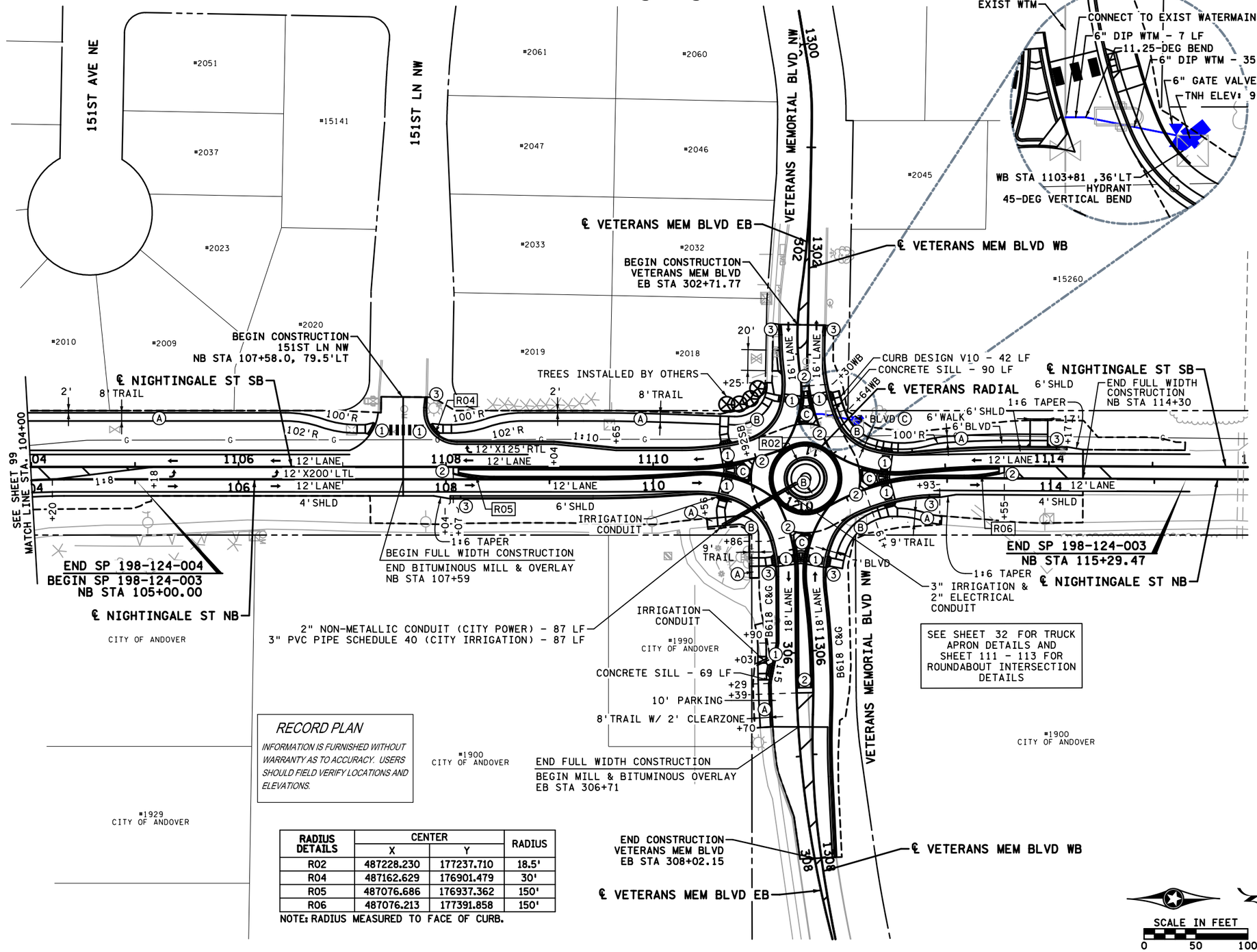
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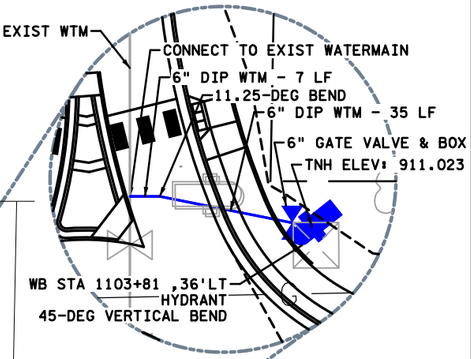
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Nightingale Street NW





RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

RADIUS DETAILS	CENTER		RADIUS
	X	Y	
R02	487228.230	177237.710	18.5'
R04	487162.629	176901.479	30'
R05	487076.686	176937.362	150'
R06	487076.213	177391.858	150'

NOTE: RADIUS MEASURED TO FACE OF CURB.

LEGEND

- TRAFFIC DIRECTION
- ① CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP WITH TRUNCATED DOMES. SEE PEDESTRIAN RAMP DETAILS.
- ② CONSTRUCT CONCRETE MEDIAN NOSE PER STANDARD PLAN 7113
- ③ CONSTRUCT CURB TRANSITION, SEE MISCELLANEOUS DETAILS
- Ⓐ 2.5" BITUMINOUS TRAIL
- Ⓑ 4" CONCRETE WALK
- Ⓒ 4" CONCRETE WALK SPECIAL 1
- R00 RADIUS CALLOUT, SEE RADIUS DETAILS TABLE
- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- INPLACE DRAINAGE AND UTILITY EASEMENT
- PROPOSED GAS MAIN
- ABANDONED GAS MAIN

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

GENERAL NOTES

1. CURB & GUTTER DES. B418 (MOD) USED FOR MEDIANS
2. CURB & GUTTER DES. B424 USED FOR OUTSIDE LANES AND INSIDE TRUCK APRON ON ROUNDABOUT
3. CURB & GUTTER DES. R418 USED FOR OUTSIDE TRUCK APRON ON ROUNDABOUT
4. MEDIANS CONSTRUCTED WITH 4" CONCRETE WALK
5. ALL LANE DIMENSIONS ARE FROM CENTERLINE TO LANE LINE OR FACE OF CURB.
6. ALL SHOULDER DIMENSIONS ARE FROM LANE LINE TO FACE OF CURB.
7. SEE DRIVEWAY DETAILS FOR ADDITIONAL INFORMATION AT DRIVEWAYS.
8. SEE ALIGNMENT PLAN FOR CURVE DATA.
9. SEE PAVING PLAN FOR REQUIRED PAVEMENT SECTIONS.
10. SEE SHEET 101 - 105 FOR ROADWAY PROFILES.

NO.	DATE	BY	CHK	REVISIONS

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

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

PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

NIGHTINGALE STREET NW

CONSTRUCTION PLAN & PROFILE

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

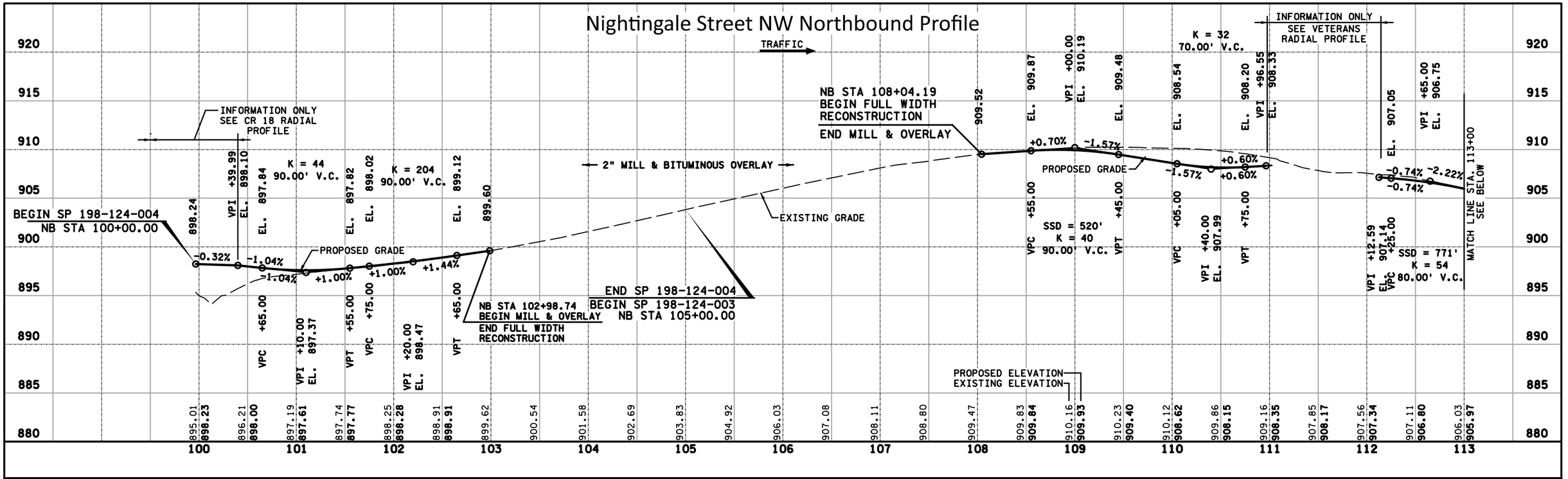
SHEET 100 OF 153 SHEETS

7063

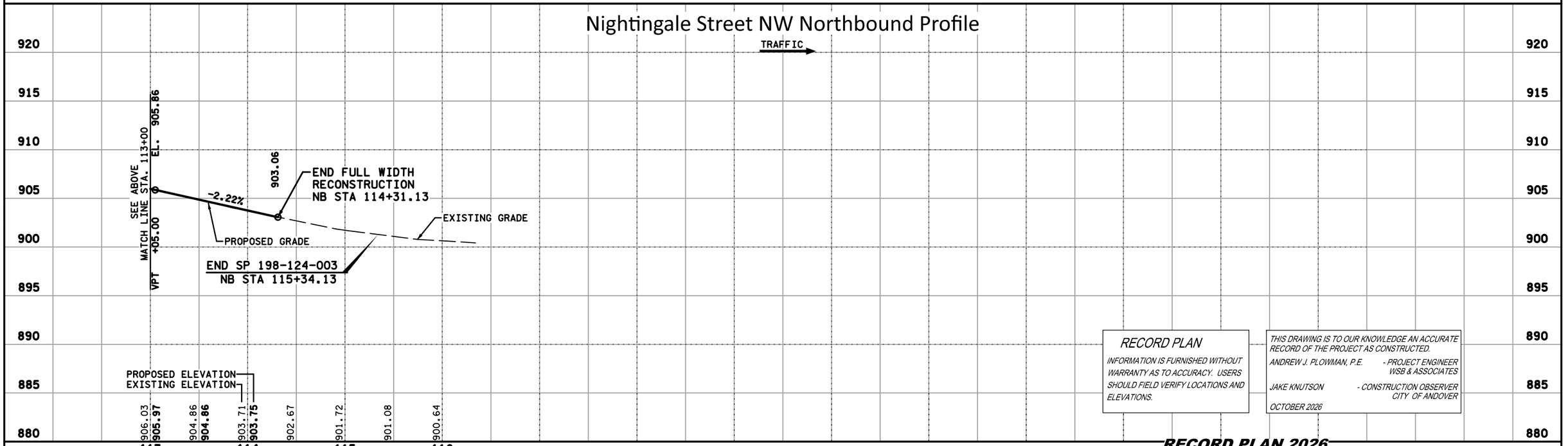
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Nightingale Street NW Northbound Profile



Nightingale Street NW Northbound Profile



RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

NIGHTINGALE STREET NW NORTHBOUND PROFILE

CONSTRUCTION PLAN & PROFILE

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

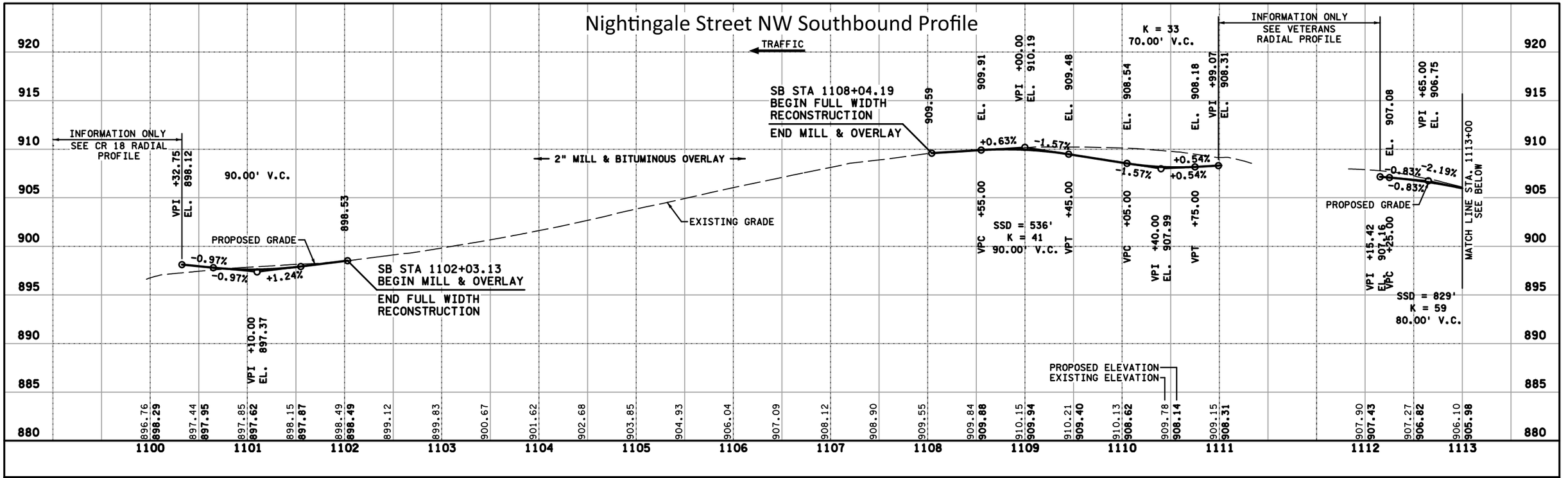
SHEET 101 OF 153 SHEETS

7064

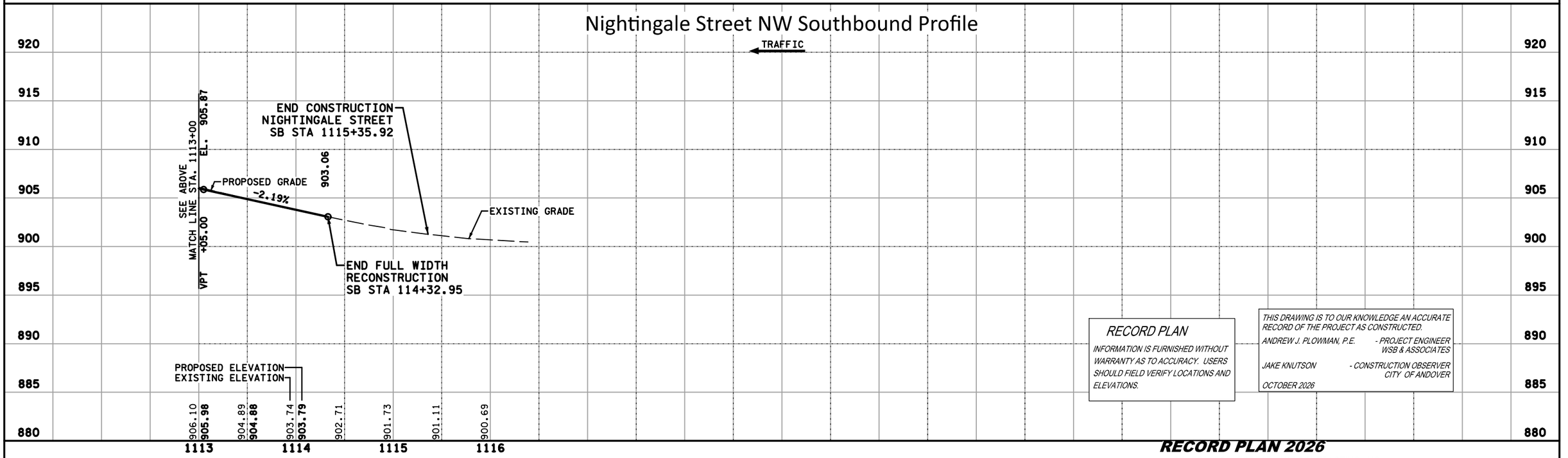
WSB PATH & FILENAME: Projects\Minnesota\022965-000\Cad\Plan\22965-000_pr01.dgn

PLOTTED/REVISED: 6/19/2026 11:36:14 AM

Nightingale Street NW Southbound Profile



Nightingale Street NW Southbound Profile



RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

NIGHTINGALE STREET NW SOUTHBOUND PROFILE

CONSTRUCTION PLAN & PROFILE

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

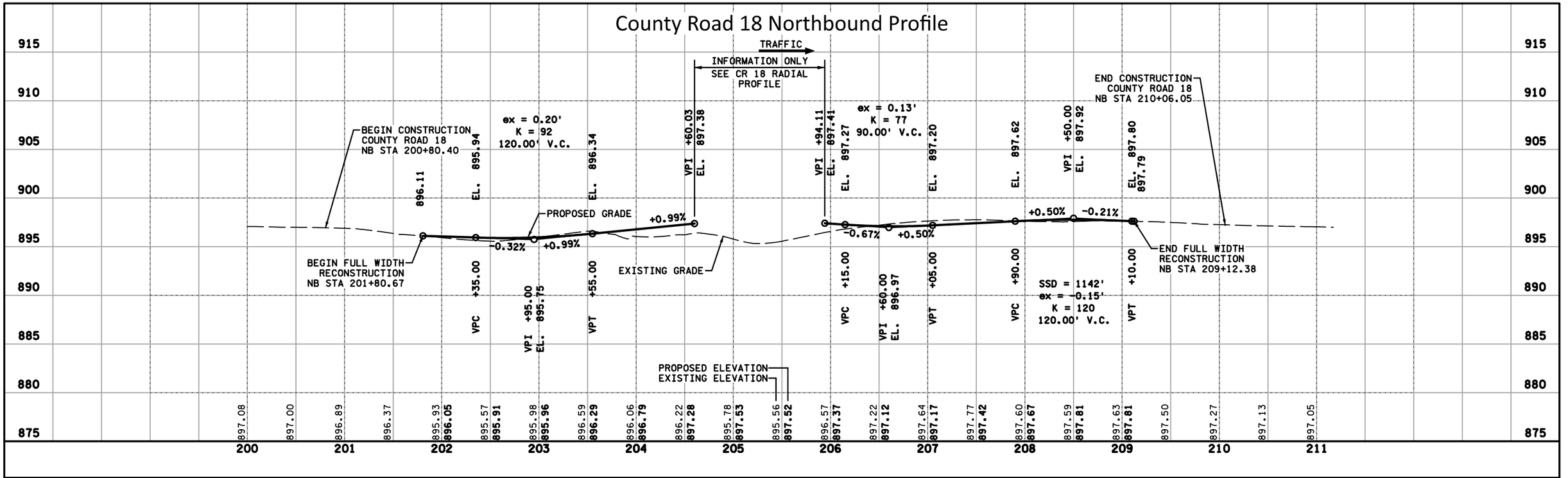
SHEET 102 OF 153 SHEETS

7065

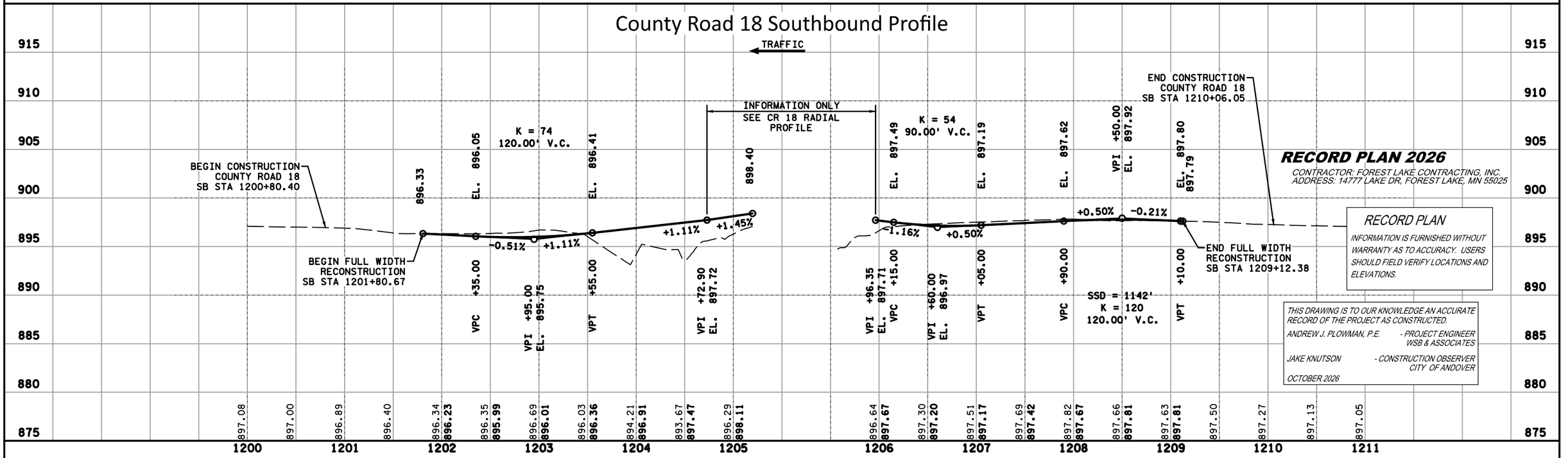
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County Road 18 Northbound Profile



County Road 18 Southbound Profile



RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

COUNTY ROAD 18 PROFILES

CONSTRUCTION PLAN & PROFILE

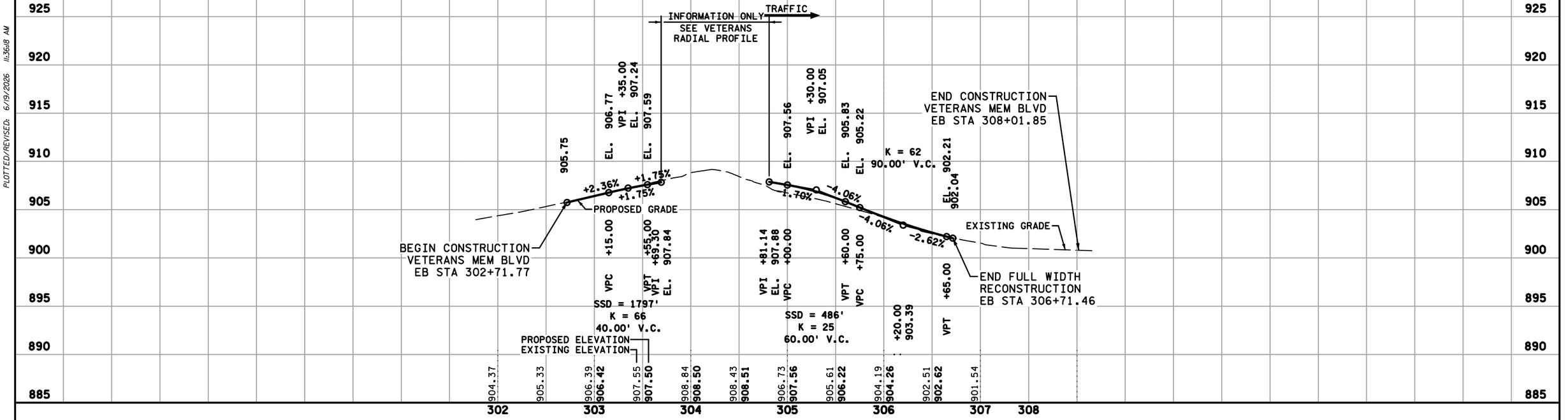
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SHEET 103 OF 153 SHEETS

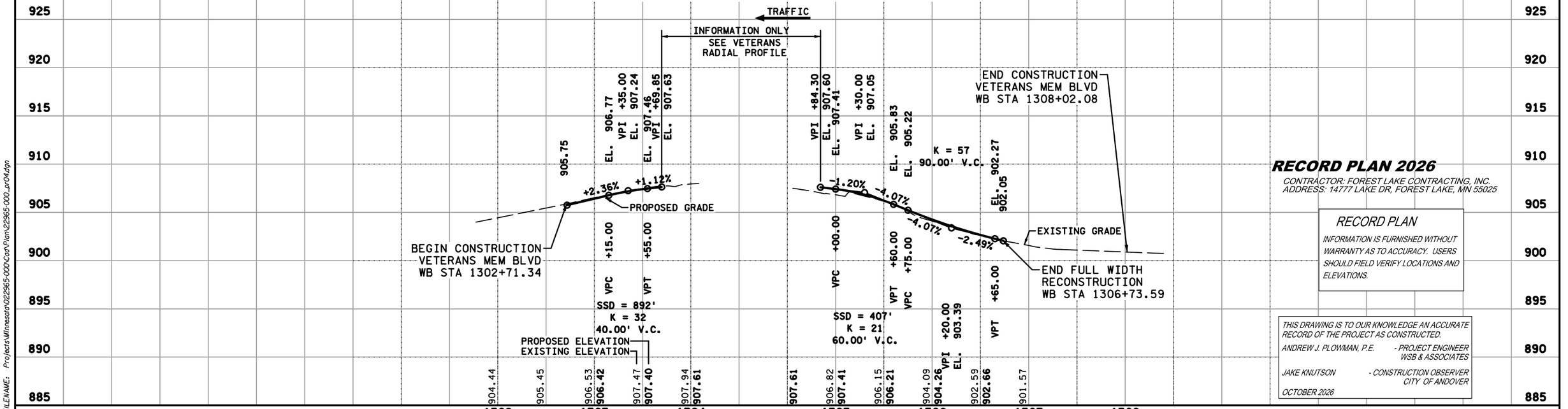
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Veterans Memorial Boulevard Eastbound Profile



Veterans Memorial Boulevard Westbound Profile



RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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OCTOBER 2026

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PRINT NAME: ANDREW J. PLOWMAN, PE

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DATE 6/19/2026 LICENSE # 44200

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

VETERANS MEMORIAL BOULEVARD PROFILES

CONSTRUCTION PLAN & PROFILE

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 104 OF 153 SHEETS

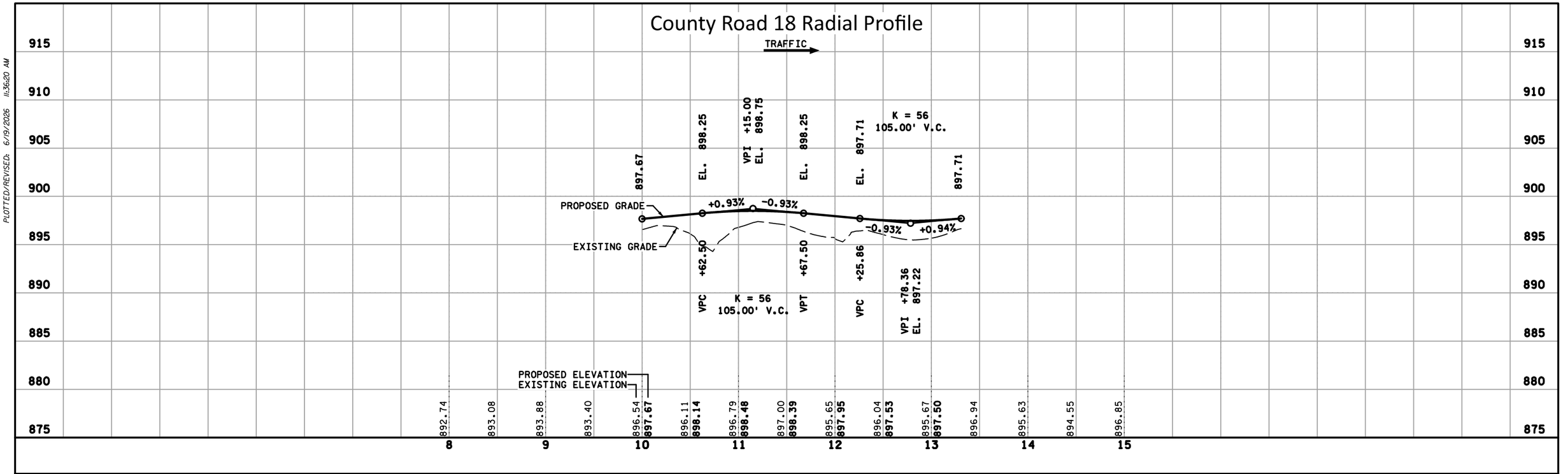
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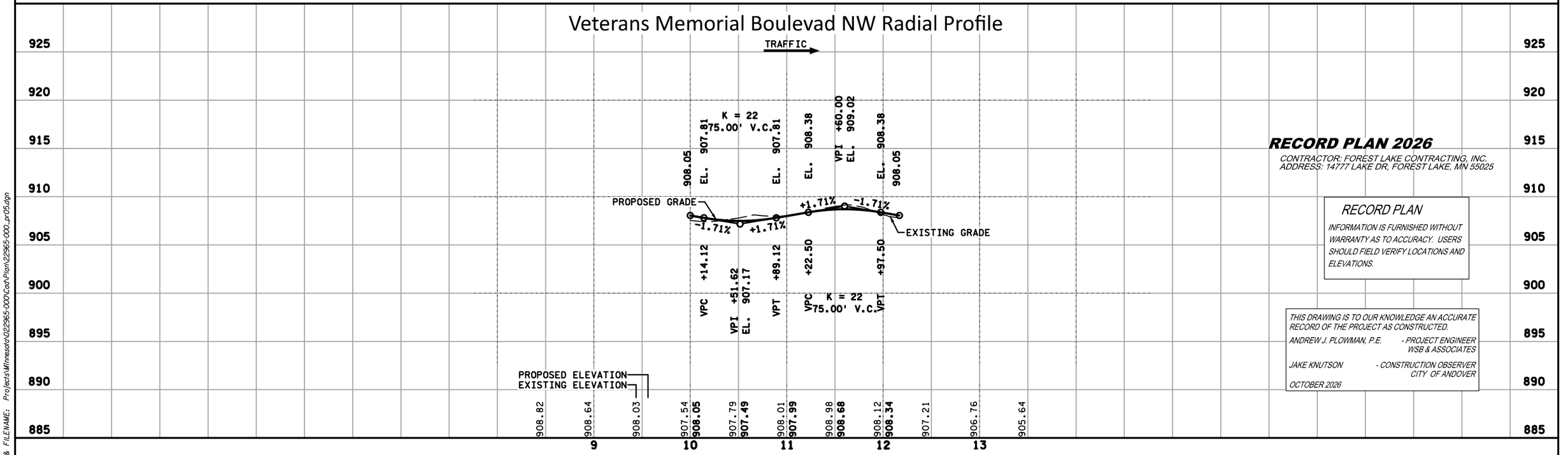
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County Road 18 Radial Profile



Veterans Memorial Boulevad NW Radial Profile



RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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PRINT NAME: ANDREW J. PLOWMAN, PE

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

RADIAL PROFILES

CONSTRUCTION PLAN & PROFILE

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 105 OF 153 SHEETS

7068

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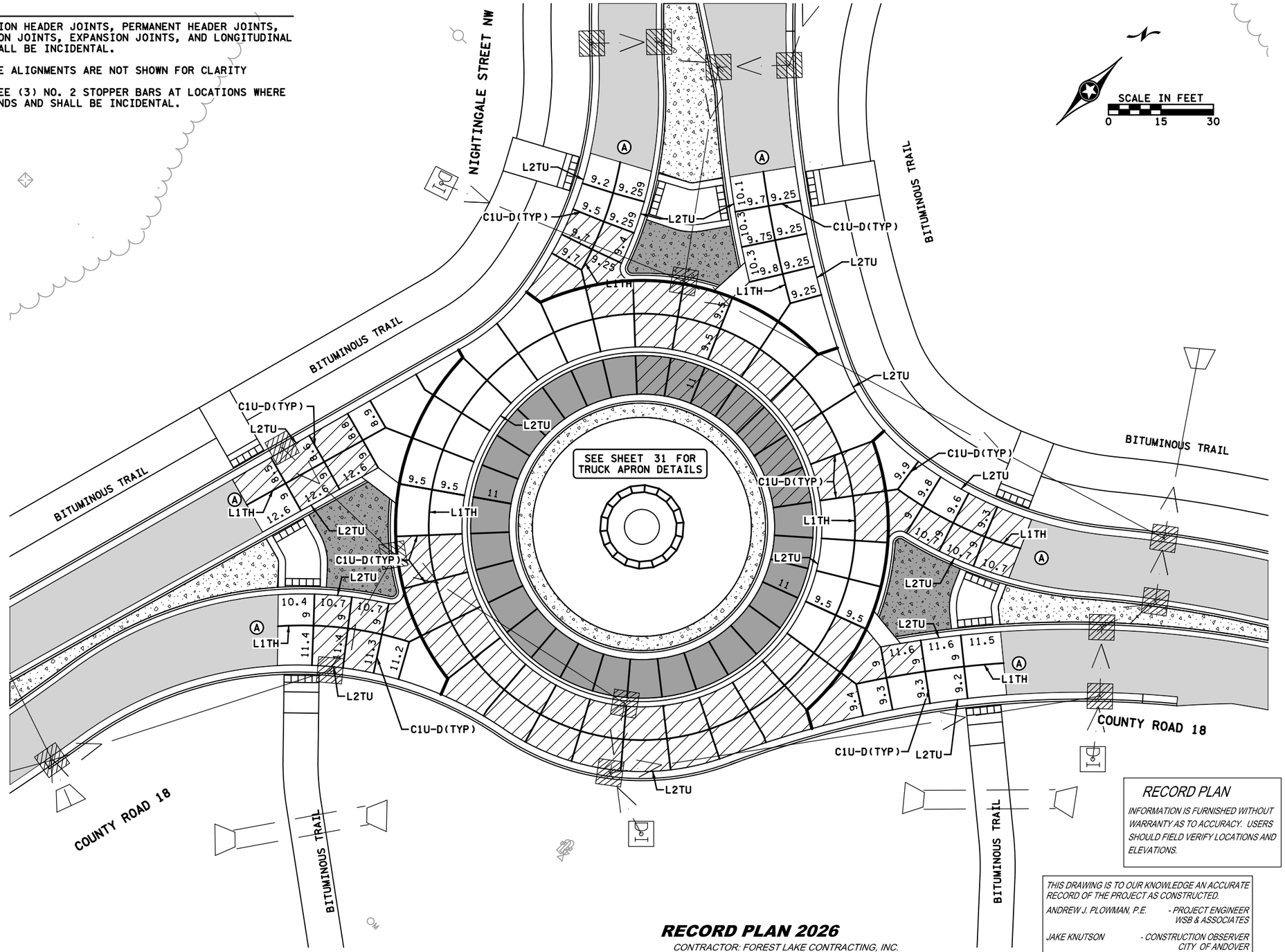
County Road 18 at Nightingale Street NW

NOTES

CONSTRUCTION HEADER JOINTS, PERMANENT HEADER JOINTS, CONTRACTION JOINTS, EXPANSION JOINTS, AND LONGITUDINAL JOINTS SHALL BE INCIDENTAL.

CENTERLINE ALIGNMENTS ARE NOT SHOWN FOR CLARITY

PLACE THREE (3) NO. 2 STOPPER BARS AT LOCATIONS WHERE A JOINT ENDS AND SHALL BE INCIDENTAL.



LEGEND

- E1H JOINT
- 4" CONCRETE WALK
- 4" CONCRETE WALK SPECIAL
- BITUMINOUS PAVEMENT
- 7" CONCRETE WALK SPECIAL
- SUPPLEMENTAL REINFORCEMENT REQUIRED. SEE MNDOT STANDARD PLATE 1070 (INCIDENTAL)
- (1) USE L2TH IF PAVED SEPARATELY
- (A) PERMANENT HEADER (INCIDENTAL) SEE STANDARD PLAN 5-297.221

GENERAL NOTES

1. JOINT LAYOUTS MAY BE CHANGED IN THE FIELD BY THE CONTRACTOR WITH THE APPROVAL OF THE ENGINEER.
2. CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL PROPOSED AND EXISTING STRUCTURES ARE LOCATED AND RAISED DURING PAVING.
3. IT IS ASSUMED A MAJORITY OF THE REINFORCEMENT BARS WILL NEED TO BE DRILLED AND GROUTED IN THE SPLITTER ISLANDS DUE TO STAGING. REINFORCEMENT BARS PLACED BETWEEN ADJACENT PANELS WILL BE INCIDENTAL.
4. JOINT LOCATIONS SHALL MATCH EXISTING JOINTS, INCLUDING CURB & GUTTER JOINTS.
5. REFER TO TEMPORARY TRAFFIC CONTROL PLAN FOR CONCRETE PAVEMENT STAGING DETAILS. USE BENT TIE BARS TO TIE STAGED PAVEMENT AREAS TOGETHER.

RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

COUNTY ROAD 18 ROUNDABOUT

CONCRETE PAVING PLAN

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 106 OF 153 SHEETS

7069

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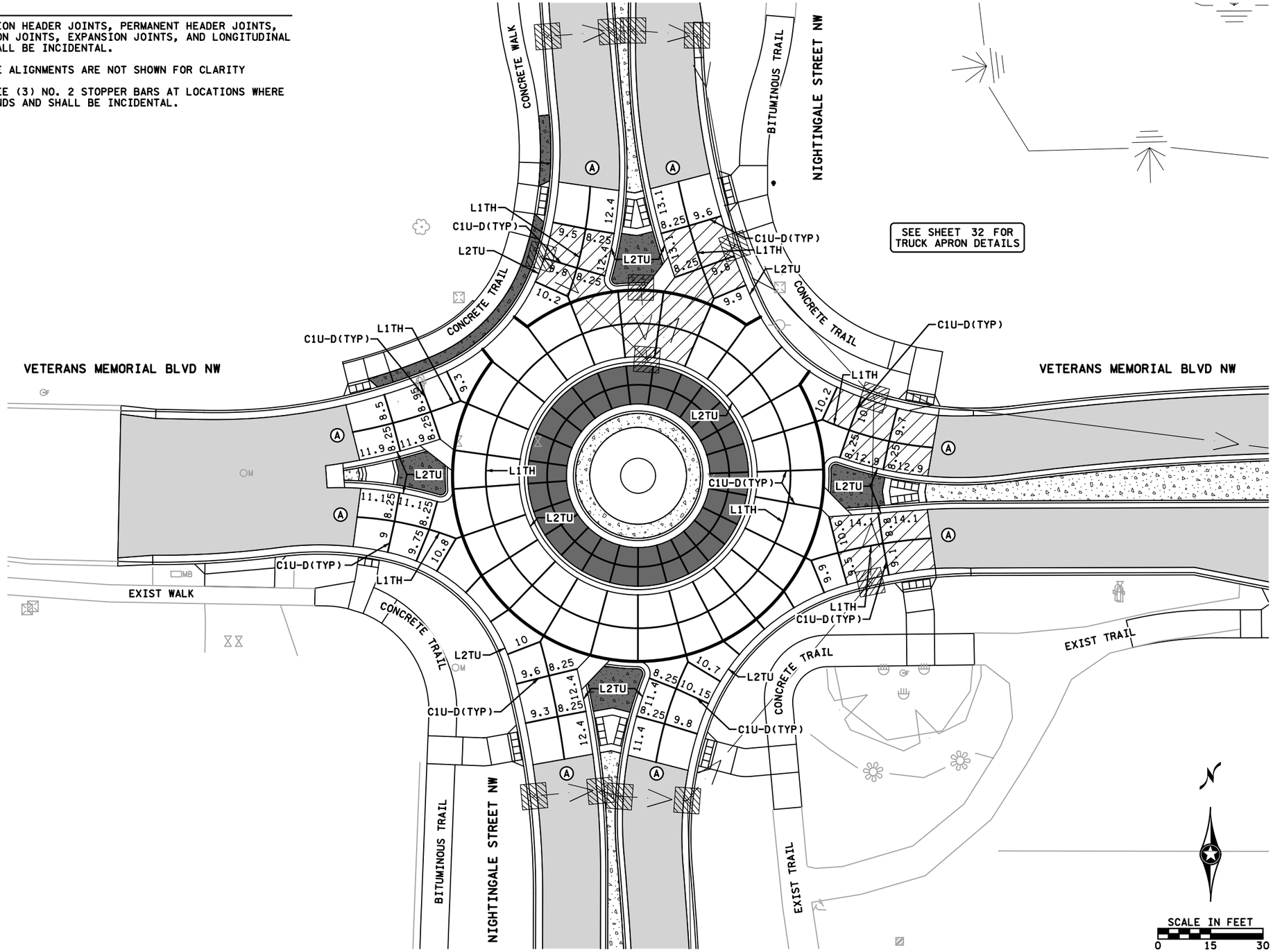
Nightingale Street NW at Veterans Memorial Boulevard NW

NOTES

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- SUPPLEMENTAL REINFORCEMENT REQUIRED. SEE MNDOT STANDARD PLATE 1070 (INCIDENTAL)
- (1) USE L2TH IF PAVED SEPARATELY
- (A) PERMANENT HEADER (INCIDENTAL) SEE STANDARD PLAN 5-297.221

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

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Plan By: AJF
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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

VETERANS MEMORIAL BLVD ROUNDABOUT

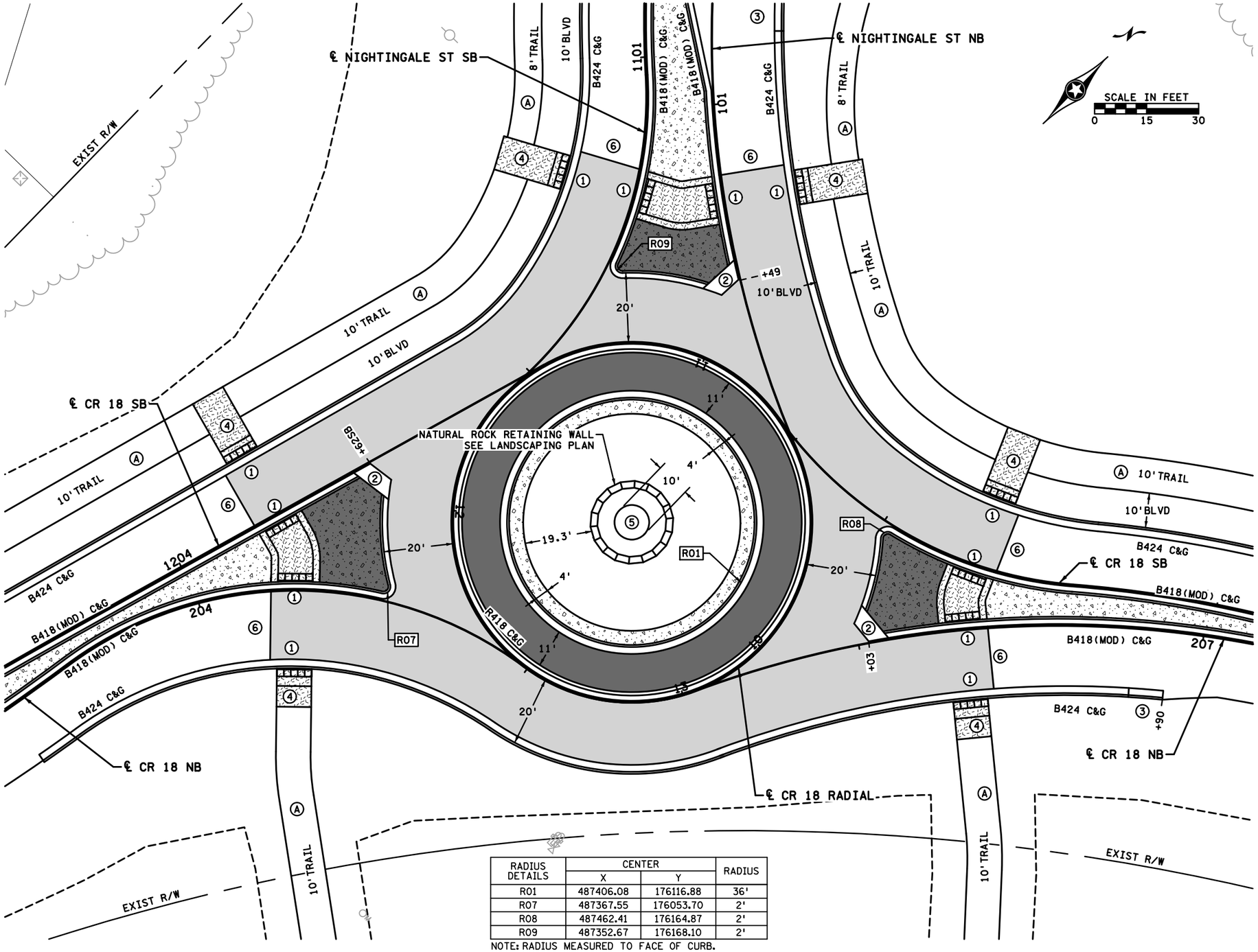
CONCRETE PAVING PLAN

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 107 OF 153 SHEETS

7070

County Road 18 at Nightingale Street NW



RADIUS DETAILS	CENTER		RADIUS
	X	Y	
R01	487406.08	176116.88	36'
R07	487367.55	176053.70	2'
R08	487462.41	176164.87	2'
R09	487352.67	176168.10	2'

NOTE: RADIUS MEASURED TO FACE OF CURB.

LEGEND

1. CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP WITH TRUNCATED DOMES. SEE PEDESTRIAN RAMP DETAILS.
2. CONSTRUCT CONCRETE MEDIAN NOSE PER STANDARD PLAN 7113
3. CONSTRUCT CURB TRANSITION, SEE MISCELLANEOUS DETAILS
4. 6" CONCRETE WALK LANDING AREA, MAX 2.0% SLOPE IN ALL DIRECTIONS
5. 4" CONCRETE PAD WITH STAMPED CITY LOGO, SEE LANDSCAPING PLAN
6. PERMANENT HEADER, INCIDENTAL SEE STANDARD PLAN 5-297.221

- (A) 2.5" BITUMINOUS TRAIL
- 4" CONCRETE WALK
- 4" CONCRETE WALK SPECIAL 1
- 6" CONCRETE WALK
- 7" CONCRETE WALK SPECIAL
- CONCRETE PAVEMENT (7.5")

R00 — RADIUS CALLOUT, SEE RADIUS DETAILS TABLE

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

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DATE 6/19/2026 LICENSE # 44200

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

COUNTY ROAD 18 ROUNDABOUT - CONSTRUCTION DETAILS

ROUNDABOUT INTERSECTION DETAILS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 108 OF 153 SHEETS

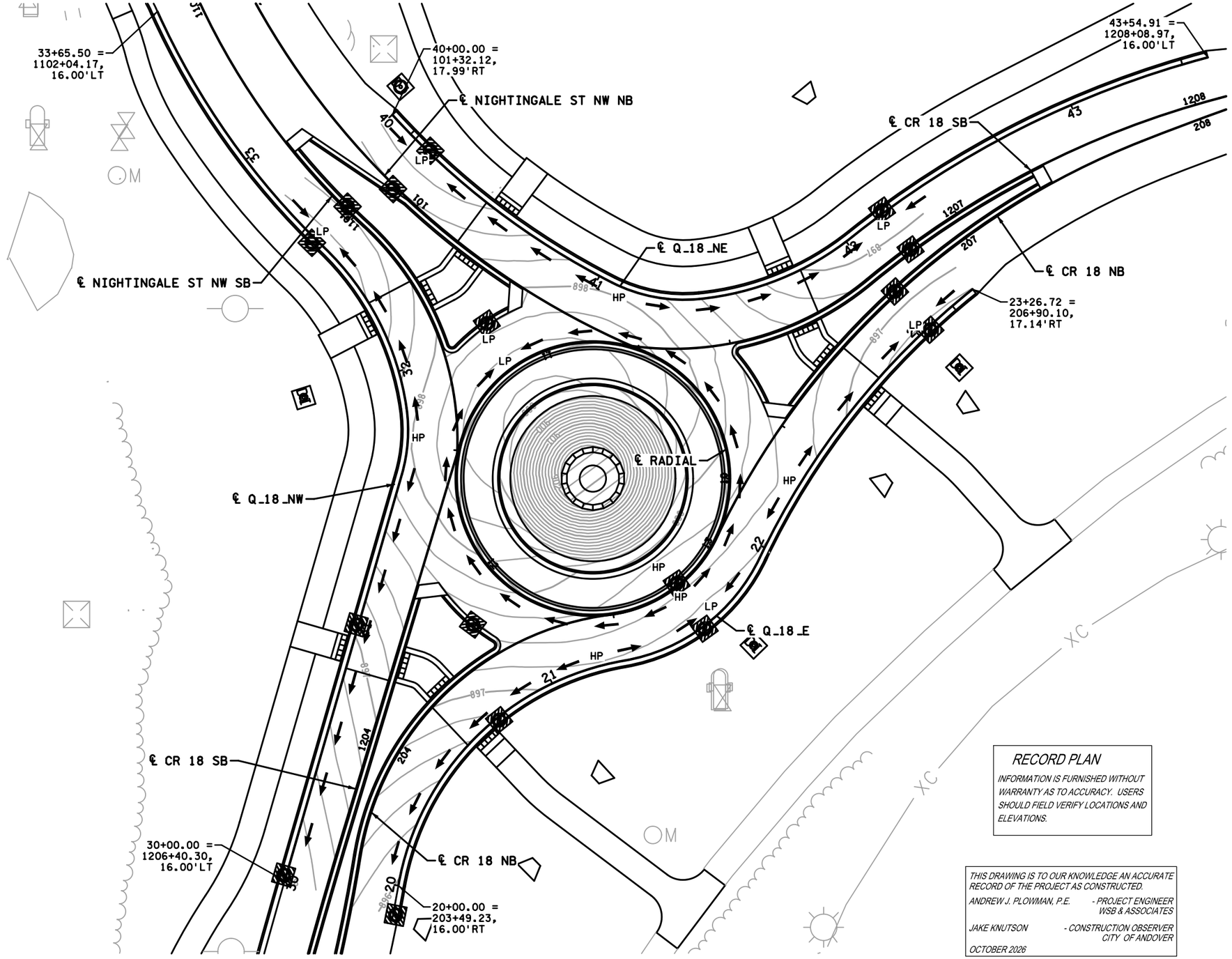
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County Road 18 at Nightingale Street NW



RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

SCALE IN FEET
0 20 40

LEGEND

- CONSTRUCT CONCRETE CURB & GUTTER
- 0.10' CONTOUR
- PROPOSED CATCH BASIN
- HP LOCALIZED HIGH POINT
- LP LOCALIZED LOW POINT
- DRAINAGE FLOW ARROW

NOTES:

1. **SEE SHEET 110 FOR QUADRANT TOE OF GUTTER PROFILES.**
2. **SEE SHEET 86 FOR ALIGNMENT TABULATION.**

RECORD PLAN

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

COUNTY ROAD 18

ROUNDABOUT INTERSECTION DETAILS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

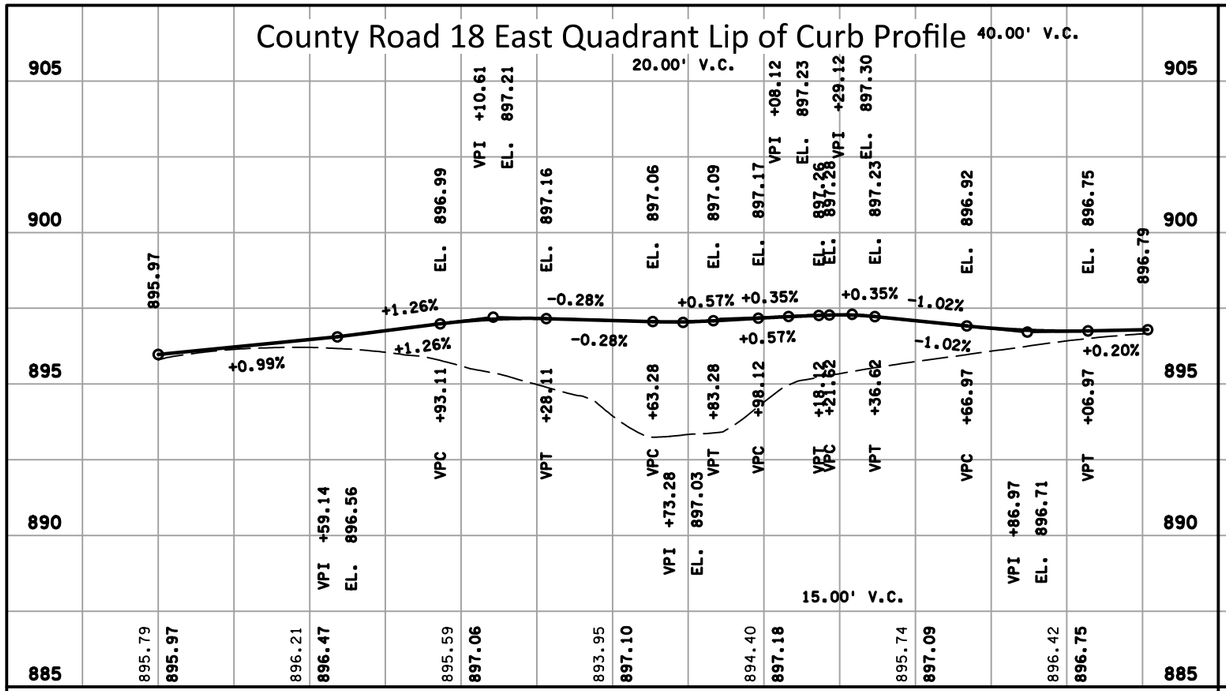
SHEET **109** OF **153** SHEETS

7072

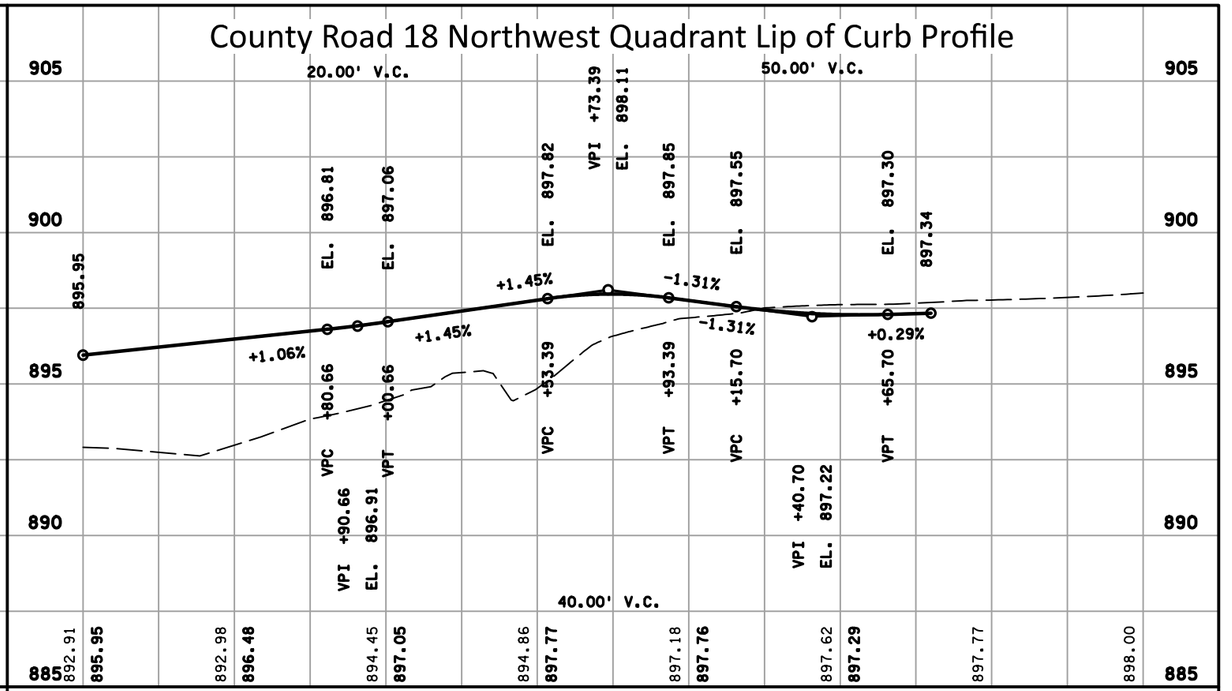
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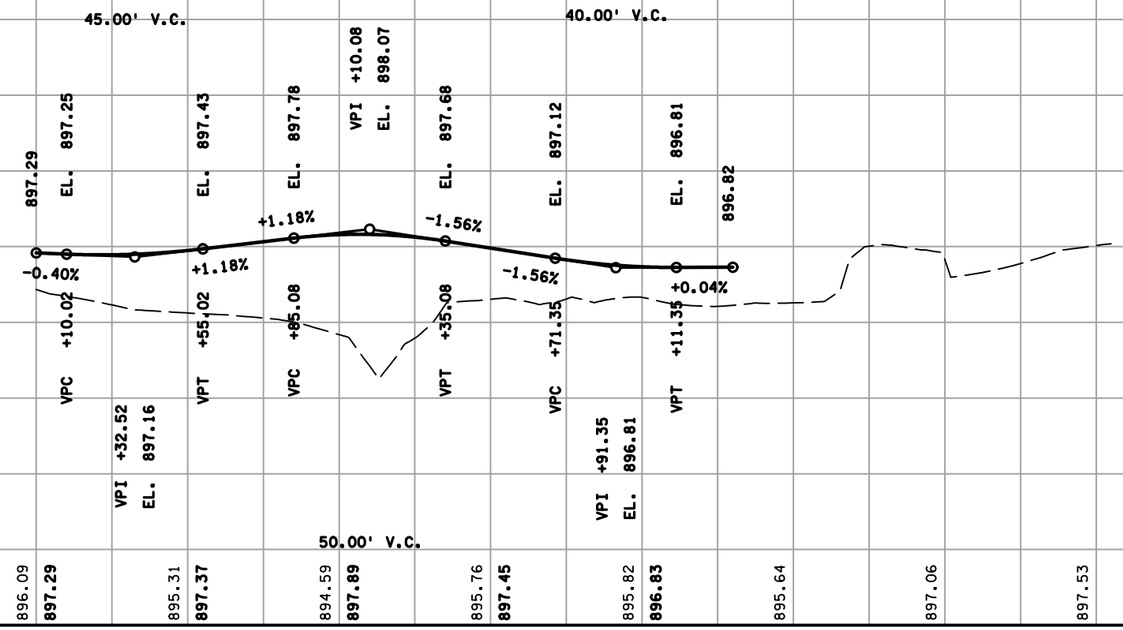
County Road 18 East Quadrant Lip of Curb Profile



County Road 18 Northwest Quadrant Lip of Curb Profile



County Road 18 Northeast Quadrant Lip of Curb Profile



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OCTOBER 2026

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

COUNTY ROAD 18 QUADRANT PROFILES

ROUNDABOUT INTERSECTION DETAILS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 110 OF 153 SHEETS

7073

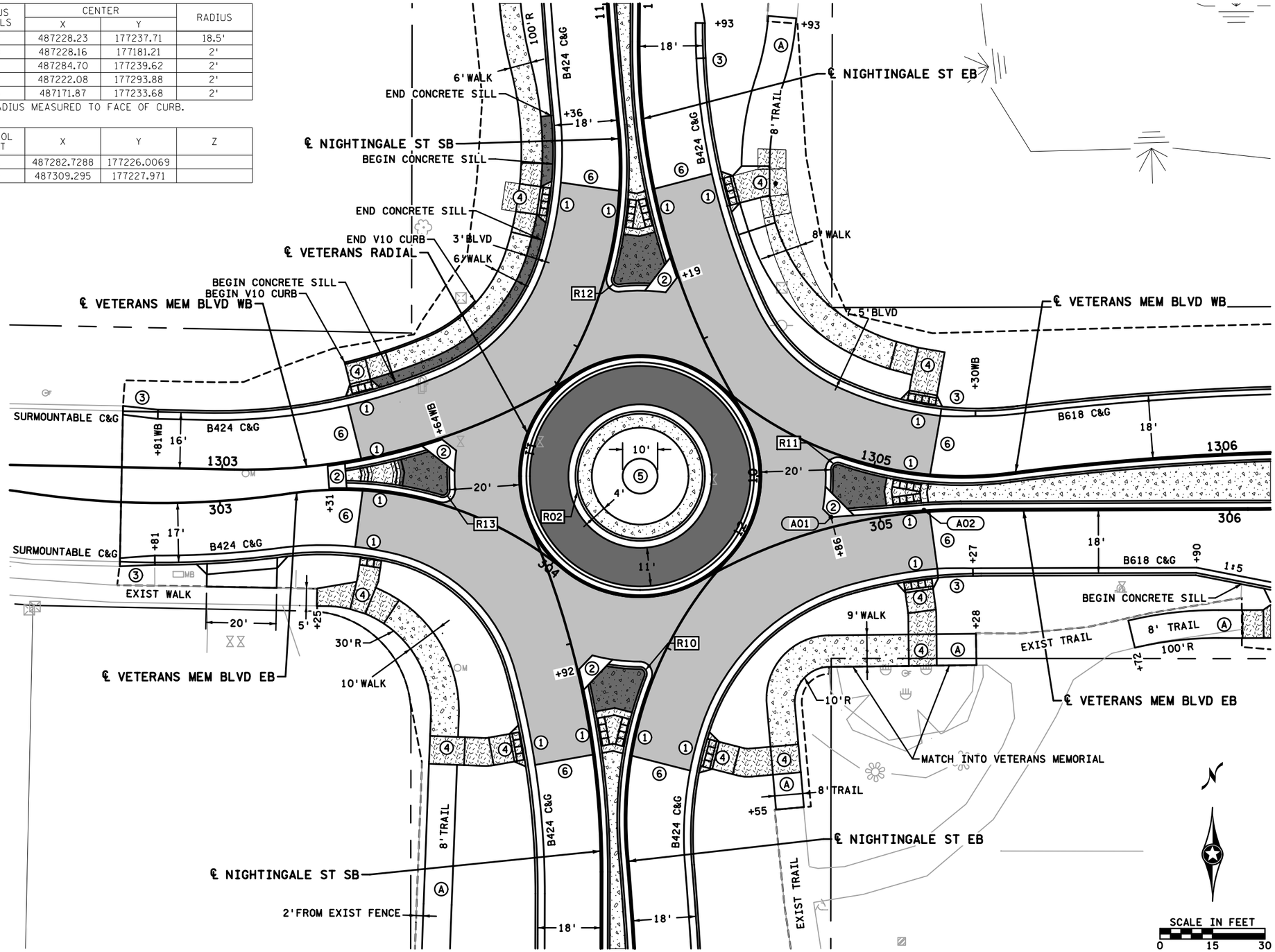
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Nightingale Street NW at Veterans Memorial Boulevard NW

RADIUS DETAILS	CENTER		RADIUS
	X	Y	
R02	487228.23	177237.71	18.5'
R10	487228.16	177181.21	2'
R11	487284.70	177239.62	2'
R12	487222.08	177293.88	2'
R13	487171.87	177233.68	2'

NOTE: RADIUS MEASURED TO FACE OF CURB.

CONTROL POINT	X	Y	Z
A01	487282.7288	177226.0069	
A02	487309.295	177227.971	



LEGEND

1. CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP WITH TRUNCATED DOMES. SEE PEDESTRIAN RAMP DETAILS.
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3. CONSTRUCT CURB TRANSITION, SEE MISCELLANEOUS DETAILS
4. 6" CONCRETE WALK LANDING AREA, MAX 2.0% SLOPE IN ALL DIRECTIONS
5. 4" CONCRETE PAD WITH STAMPED CITY LOGO, SEE LANDSCAPING PLAN
6. PERMANENT HEADER, INCIDENTAL SEE STANDARD PLAN 5-297.221

- Ⓐ 2.5" BITUMINOUS TRAIL
- 4" CONCRETE WALK
- 4" CONCRETE WALK SPECIAL 1
- 6" CONCRETE WALK
- 7" CONCRETE WALK SPECIAL
- CONCRETE PAVEMENT (7.5")

R00 — RADIUS CALLOUT, SEE RADIUS DETAILS TABLE

RECORD PLAN 2026

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ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

VETERANS MEM BLVD ROUNDABOUT - CONSTRUCTION DETAILS

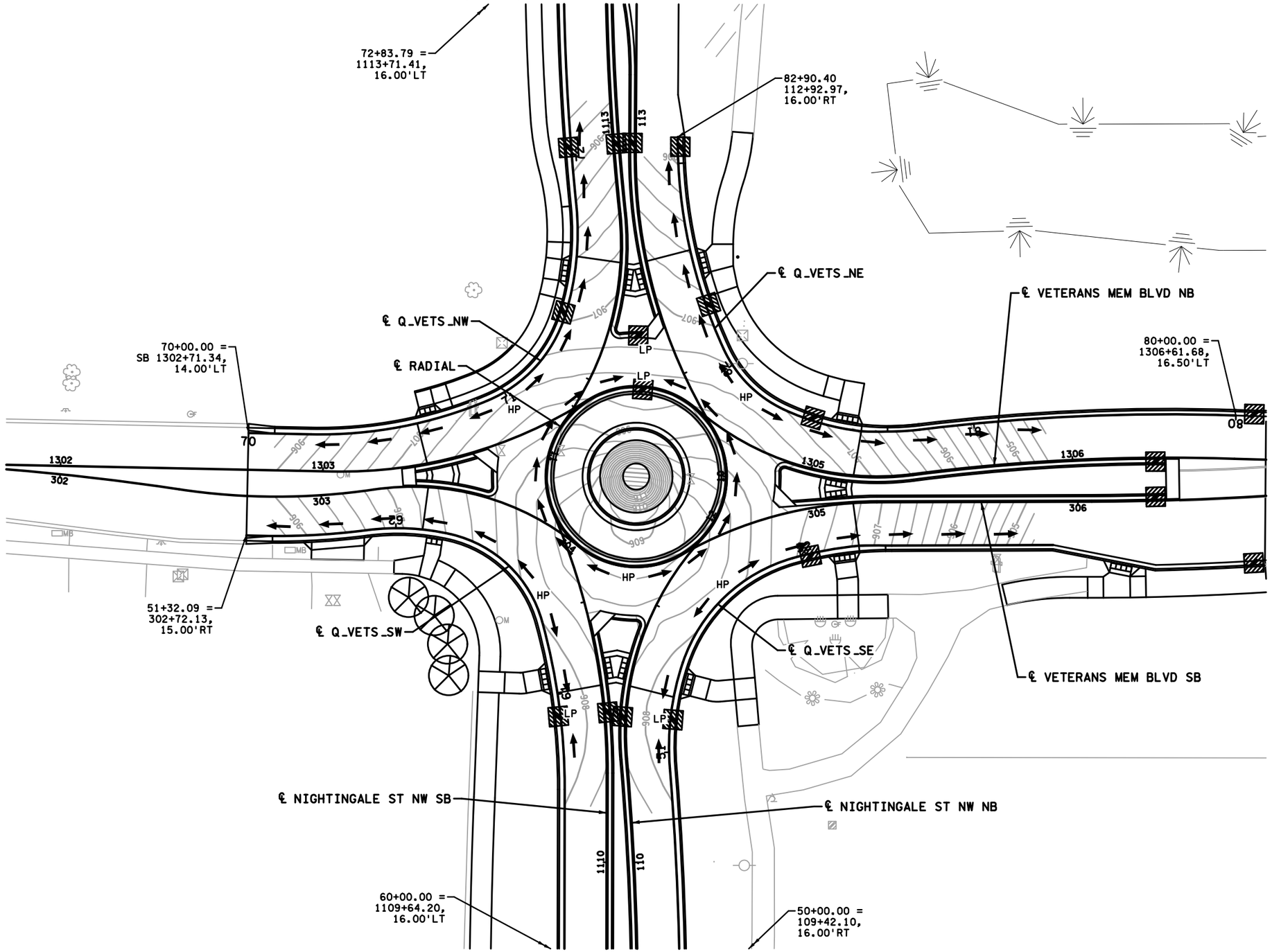
ROUNDABOUT INTERSECTION DETAILS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 111 OF 153 SHEETS

7074

Nightingale Street NW at Veterans Memorial Boulevard NW



RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

LEGEND

- CONSTRUCT CONCRETE CURB & GUTTER
- 0.10' CONTOUR
- PROPOSED CATCH BASIN
- HP LOCALIZED HIGH POINT
- LP LOCALIZED LOW POINT
- DRAINAGE FLOW ARROW

NOTES:

1. SEE SHEET 113 FOR QUADRANT TOE OF GUTTER PROFILES.
2. SEE SHEET 86 - 87 FOR ALIGNMENT TABULATION.

NO.	DATE	BY	CHK	REVISIONS

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

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

PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

VETERANS MEM BLVD

ROUNDABOUT INTERSECTION DETAILS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 112 OF 153 SHEETS

7075

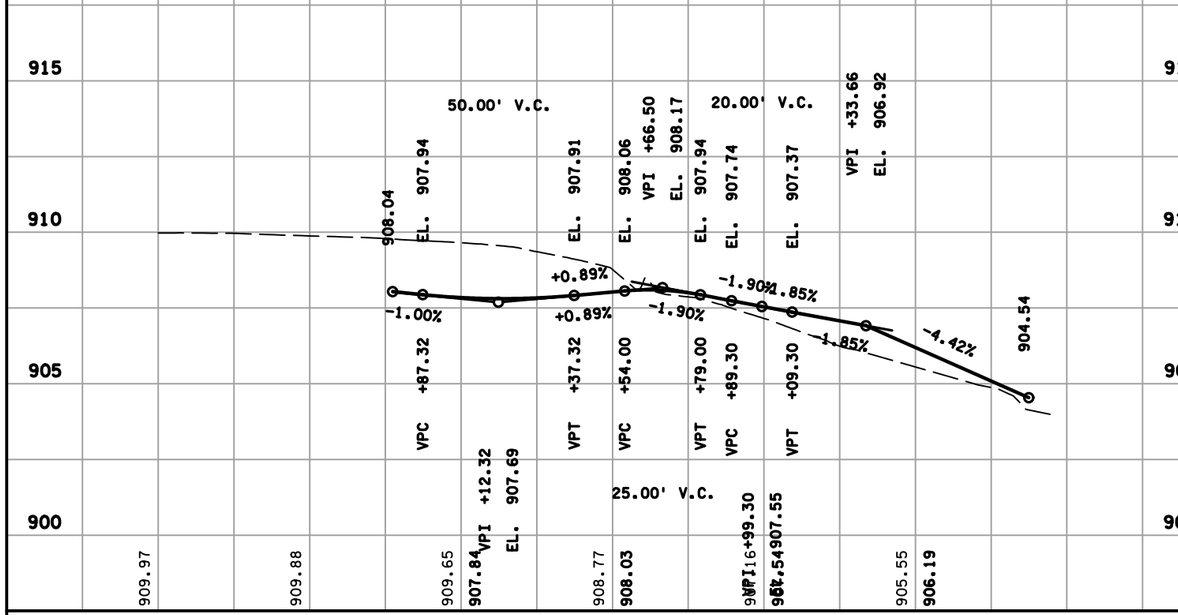
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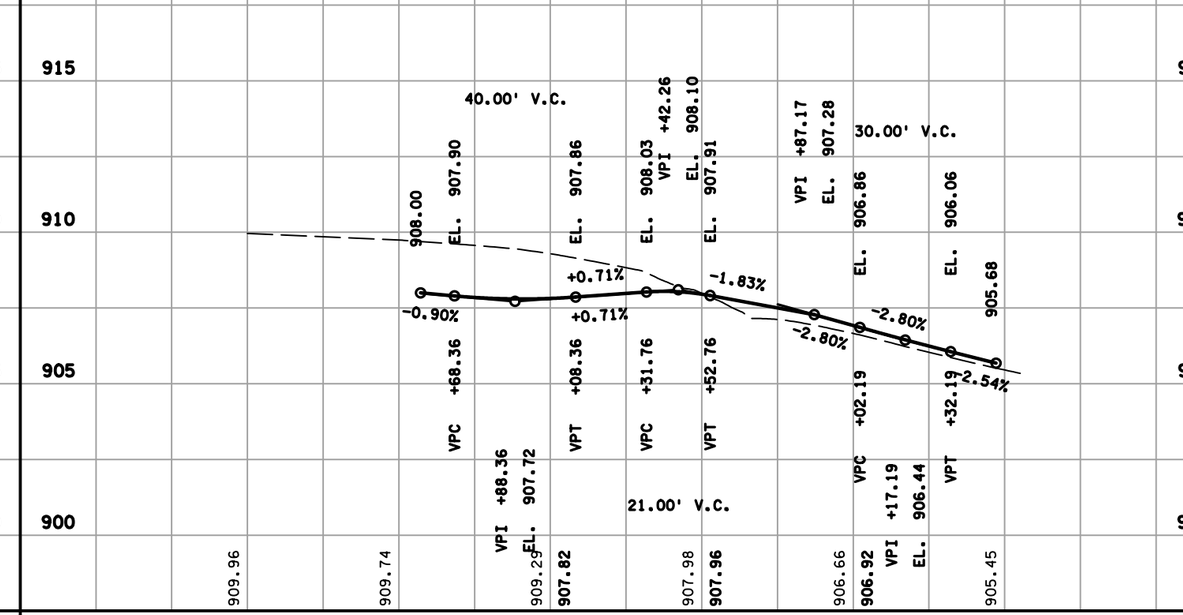
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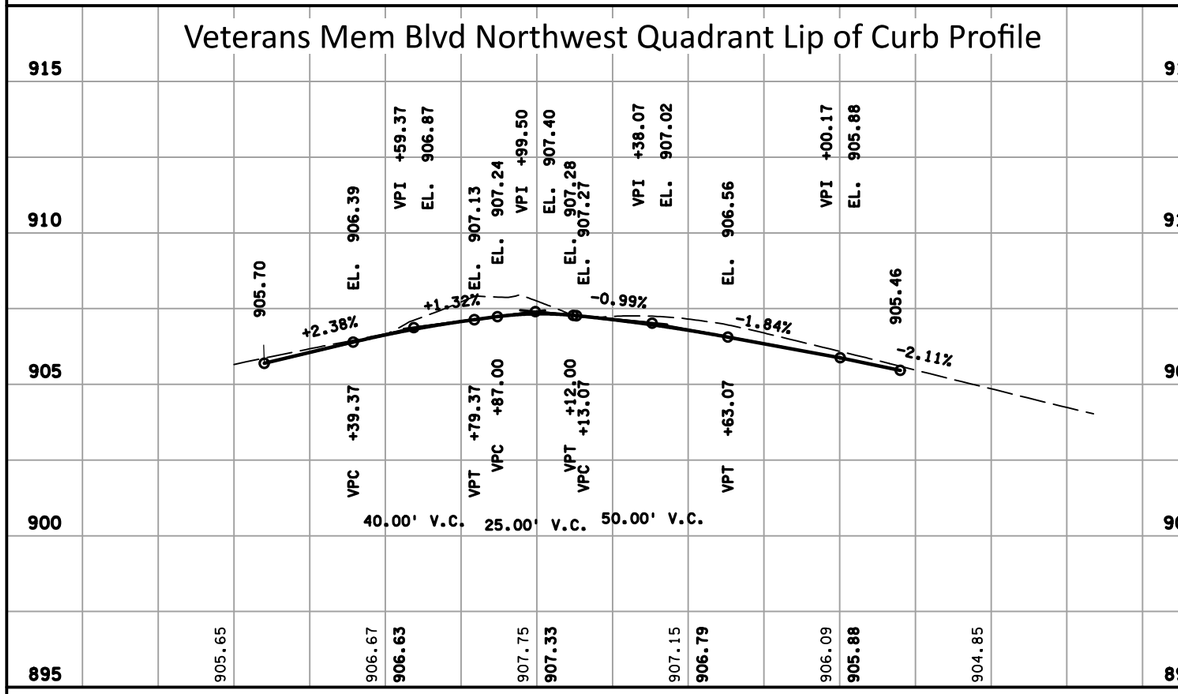
Veterans Mem Blvd Southeast Quadrant Lip of Curb Profile



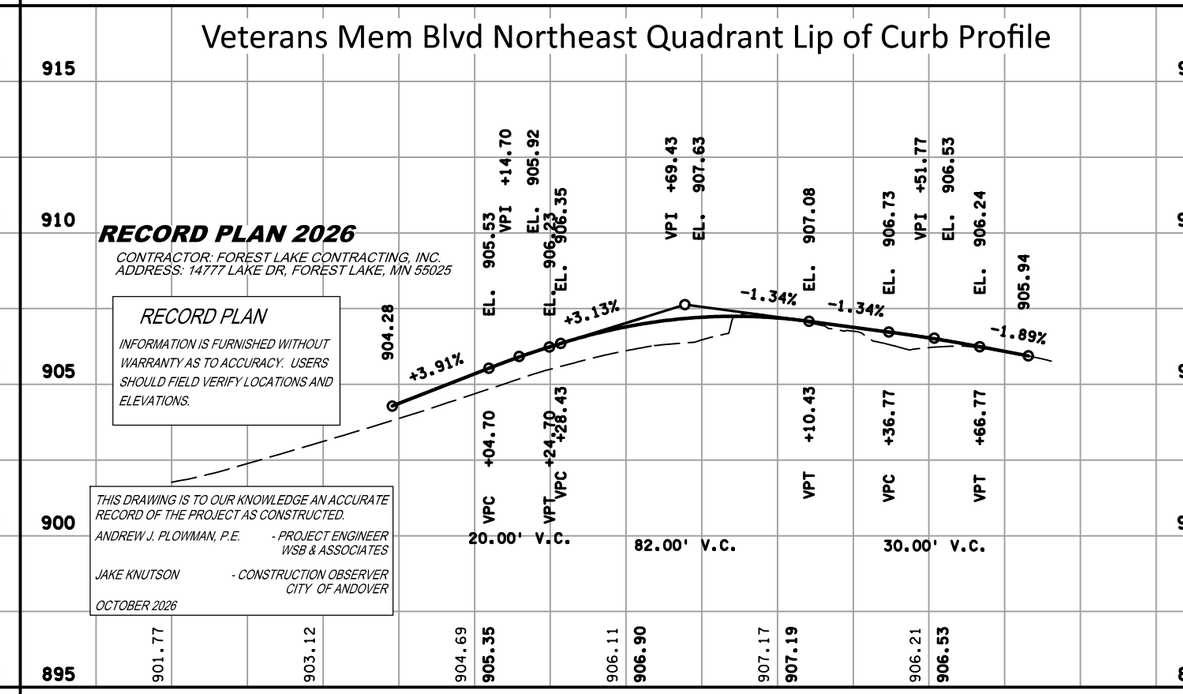
Veterans Mem Blvd Southwest Quadrant Lip of Curb Profile



Veterans Mem Blvd Northwest Quadrant Lip of Curb Profile



Veterans Mem Blvd Northeast Quadrant Lip of Curb Profile



RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
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JAKE KNUTSON - *CONSTRUCTION OBSERVER CITY OF ANDOVER*

OCTOBER 2026

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

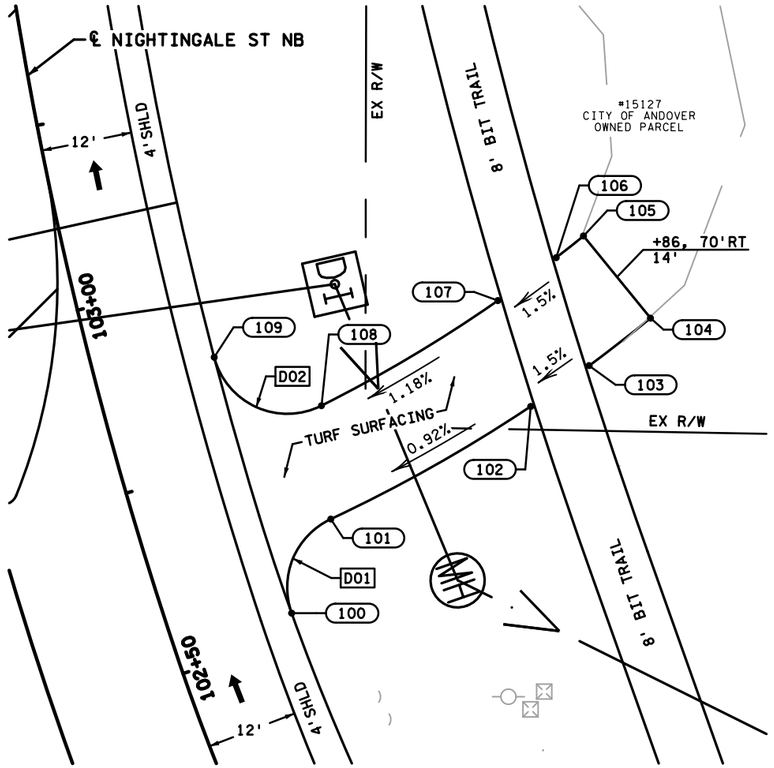
VETERANS MEM BLVD QUADRANT PROFILES

ROUNDABOUT INTERSECTION DETAILS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 113 OF 153 SHEETS

7076





CONTROL POINT	X	Y	Z
100	487271.74	176351.84	898.59
101	487276.91	176364.27	898.69
102	487303.31	176379.13	898.97
103	487311.03	176384.54	899.11
104	487319.13	176390.80	899.38
105	487310.29	176401.66	899.63
106	487306.68	176398.79	899.36
107	487298.98	176393.12	899.22
108	487275.68	176379.24	898.90
109	487261.52	176385.63	899.10

RADIUS DETAILS	CENTER		RADIUS
	X	Y	
D01	487281.1563	176355.217	10'
D02	487271.1887	176388.1709	10'

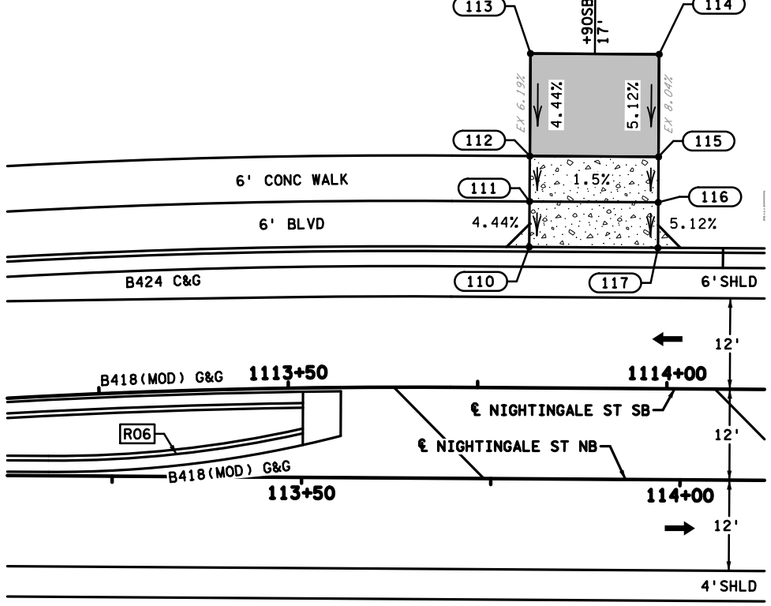
LEGEND

- TRAFFIC DIRECTION
- X00 — RADIUS CALLOUT, SEE RADIUS DETAILS TABLE
- 000 — CONTROL POINT, SEE CONTROL POINT TABLE
- DRAINAGE FLOW DIRECTION
- CONCRETE DRIVEWAY PAVEMENT, SEE INSET ON SHEET 18 .
- BITUMINOUS DRIVEWAY PAVEMENT, SEE INSET ON SHEET 18 .
- CATCH BASIN
- MH OM MANHOLE
- PIPE APRON

DRIVEWAY INFORMATION: STA AT CENTER, OFFSET / DRIVEWAY WIDTH

GENERAL NOTES

1. RADII LABELS ARE TO FACE OF CURB.



DRIVEWAYS ON THIS SHEET:

CITY OF ANDOVER OWNED PARCEL
#15260 NIGHTINGALE STREET NW

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026



CONTROL POINT	X	Y	Z
110*	487198.01	177454.37	903.72
111	487192.01	177454.41	903.98
112	487186.01	177454.44	904.08
113	487172.46	177454.53	904.68
114	487172.57	177471.53	904.47
115	487186.12	177471.44	903.78
116	487192.12	177471.41	903.67
117*	487198.12	177471.37	903.38

*LOCATED AT BACK OF CURB

RADIUS DETAILS	CENTER		RADIUS
	X	Y	
R06	487076.2133	177391.8579	150'

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

DRIVEWAY DETAILS

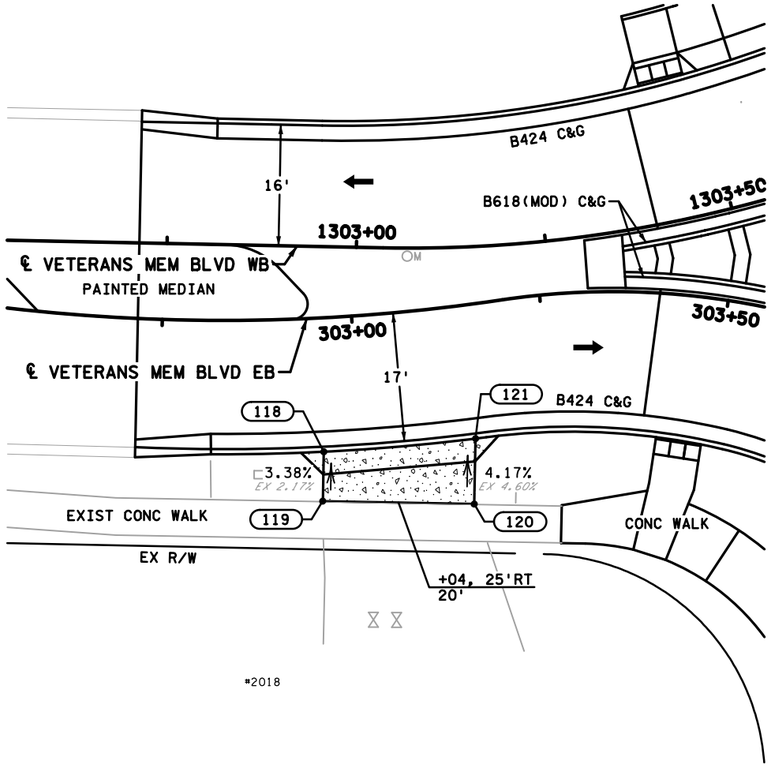
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 114 OF 153 SHEETS

7077

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WSB PATH & FILENAME: Projects\Minnesota\022965-000\Cad\Plan\22965-000_drwy01.dgn

PLOTTED/REVISED: 6/19/2026 11:36:41 AM





CONTROL POINT	X	Y	Z
118*	487104.55	177212.69	905.89
119	487104.42	177206.20	906.11
120	487124.42	177205.79	906.62
121*	177214.43	177214.43	906.26

*LOCATED AT BACK OF CURB

LEGEND

- TRAFFIC DIRECTION
- X00 — RADIUS CALLOUT, SEE RADIUS DETAILS TABLE
- 000 — CONTROL POINT, SEE CONTROL POINT TABLE
- DRAINAGE FLOW DIRECTION
- CONCRETE DRIVEWAY PAVEMENT, SEE INSET ON SHEET 18 .
- BITUMINOUS DRIVEWAY PAVEMENT, SEE INSET ON SHEET 18 .
- CATCH BASIN
- MH OM MANHOLE
- PIPE APRON

DRIVEWAY INFORMATION: STA AT CENTER, OFFSET / DRIVEWAY WIDTH

GENERAL NOTES

1. RADII LABELS ARE TO FACE OF CURB.

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

DRIVEWAYS ON THIS SHEET:

#2018 VETERANS MEMORIAL BLVD NW

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. PLOWMAN, PE

DATE 6/19/2026 LICENSE # 44200

RECORD DRAWING

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

DRIVEWAY DETAILS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

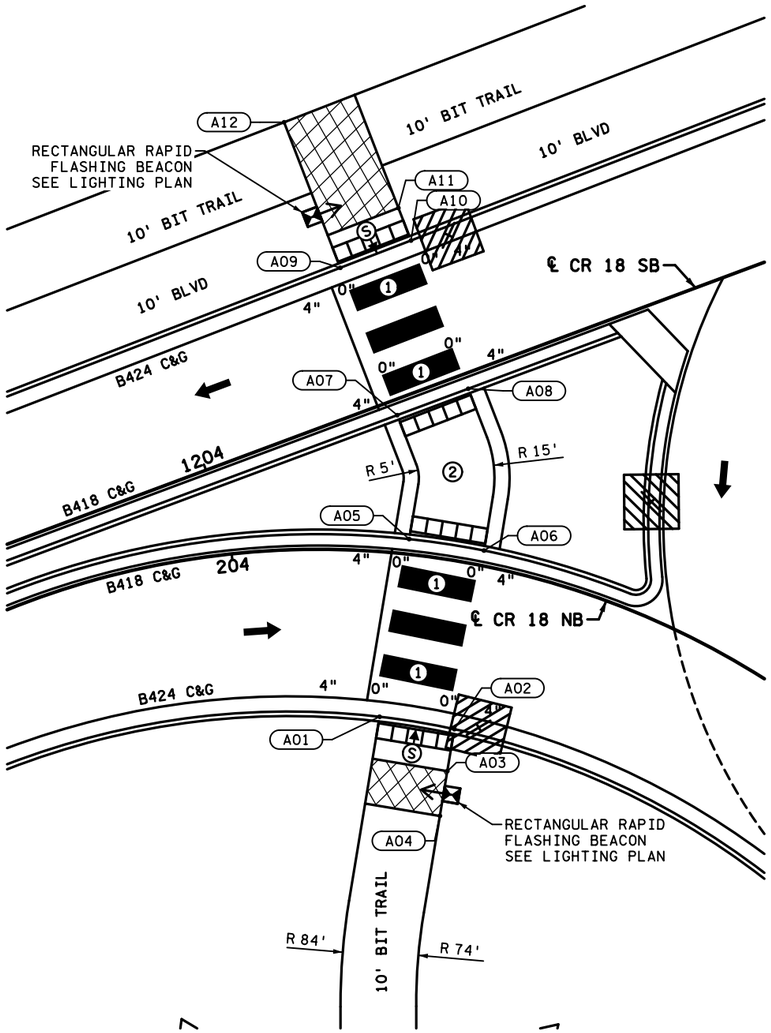
SHEET 115 OF 153 SHEETS

7078

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PLOTTED/REVISED: 6/19/2026 11:36:43 AM

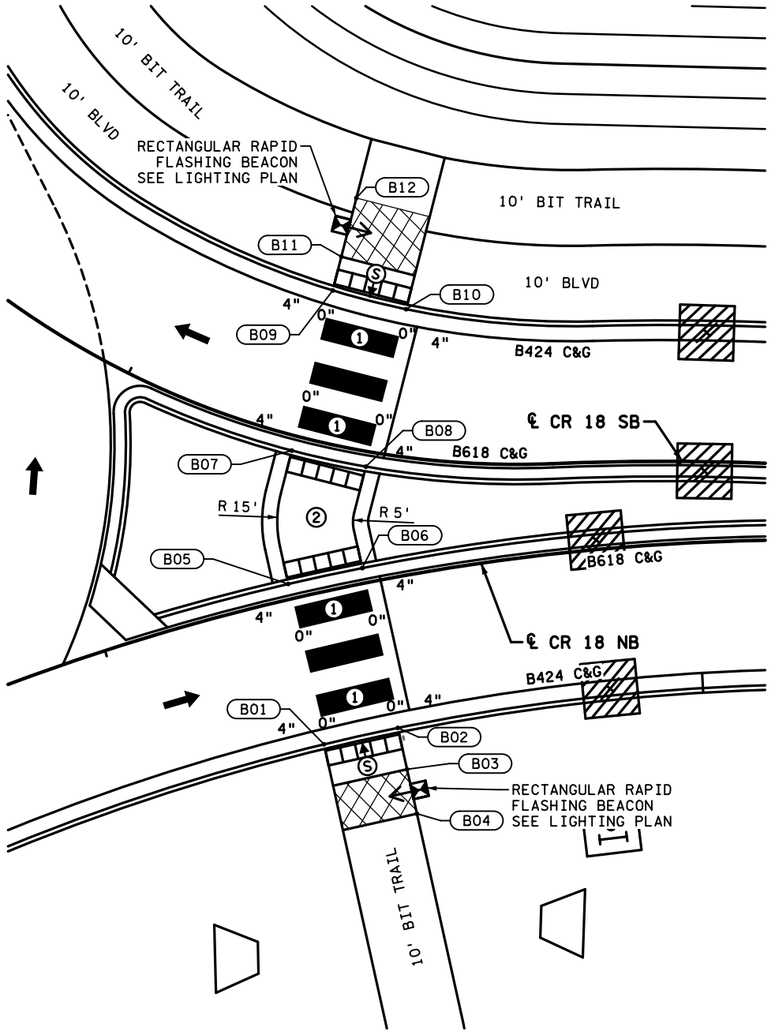
County Road 18 Roundabout: South Leg



CONTROL POINT	X	Y	Z
A01	487361.50	176015.80	896.52
A02	487368.77	176022.66	896.65
A03	487372.62	176018.58	-
A04	487376.74	176014.22	-
A05	487345.17	176033.09	896.67
A06	487352.35	176040.05	897.06
A07	487331.19	176041.73	897.15
A08	487334.08	176051.31	897.26
A09	487311.14	176047.51	896.78
A10	487313.92	176057.12	896.91
A11	487309.49	176058.40	-
A12	487291.34	176053.22	-

SCALE IN FEET
0 10 20

County Road 18 Roundabout: East Leg



CONTROL POINT	X	Y	Z
B01	487508.24	176144.61	896.85
B02	487514.70	176152.23	896.76
B03	487518.98	176148.60	-
B04	487523.56	176144.72	-
B05	487491.70	176158.64	897.16
B06	487498.22	176166.22	897.11
B07	487481.42	176172.95	897.35
B08	487490.50	176177.17	897.26
B09	487472.95	176193.06	897.10
B10	487482.17	176196.94	896.95
B11	487471.16	176197.31	-
B12	487468.06	176204.68	-

SCALE IN FEET
0 10 20

LEGEND

- XX — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- X" — CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS.
- CATCH BASIN
- (1) PEDESTRIAN CURB RAMP, SEE STANDARD PLANS
- (2) DEPRESSED MEDIAN CROSSING, SEE MISCELLANEOUS DETAILS
- (S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
- (F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

GENERAL NOTES

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

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

PEDESTRIAN RAMP DETAILS

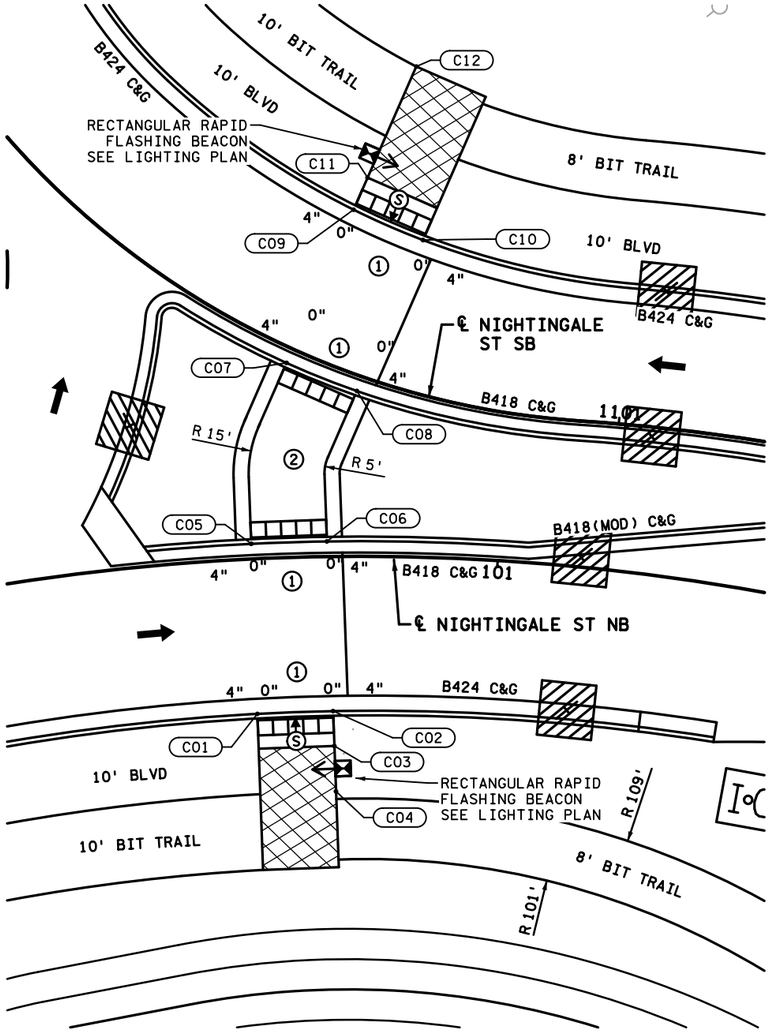
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 116 OF 153 SHEETS

7079

WSB PATH & FILENAME: P:\Projects\Minnesota\022965-000\Cad\Plan\22965-000_ped01.dgn

County Road 18 Roundabout: North Leg



CONTROL POINT	X	Y	Z
C01	487376.60	176215.88	897.42
C02	487368.59	176221.86	897.30
C03	487371.34	176225.56	-
C04	487374.93	176230.37	-
C05	487363.17	176197.87	897.76
C06	487355.18	176203.89	897.68
C07	487344.58	176182.17	897.85
C08	487339.65	176190.88	897.75
C09	487325.00	176171.95	897.47
C10	487320.37	176180.81	897.35
C11	487320.91	176169.81	-
C12	487306.70	176162.39	-

SCALE IN FEET
0 10 20

LEGEND

- XX — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- X" — CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS.
- CATCH BASIN
- (1) PEDESTRIAN CURB RAMP, SEE STANDARD PLANS
- (2) DEPRESSED MEDIAN CROSSING, SEE MISCELLANEOUS DETAILS
- (S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
- (F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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OCTOBER 2026

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- ALL DISTRURBED AREAS IN CUT SECTION THAT ARE NOT OTHERWISE SURFACED SHALL BE GRADED FLUSH WITH NEW SURFACING AT A 1:6 SLOPE FOR A DISTANCE OF UP TO 5 FEET FROM THE EDGE OF WALK TO MATCH SURROUNDING CONTOURS.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

PEDESTRIAN RAMP DETAILS
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 117 OF 153 SHEETS

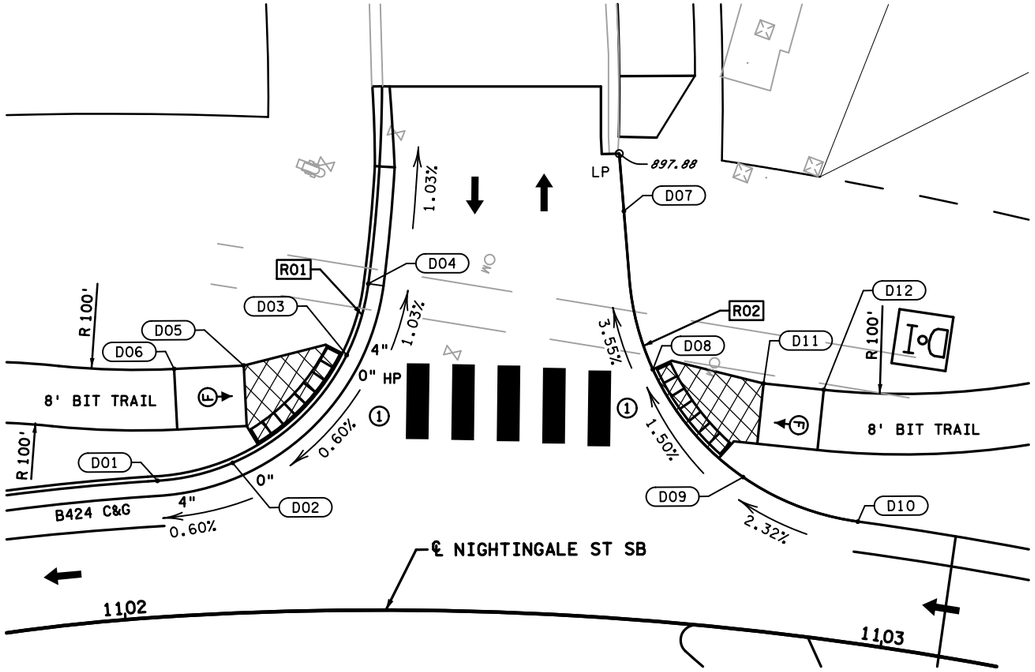
7080

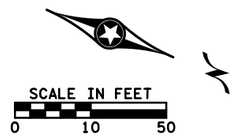
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WSB PATH & FILENAME: Projects\Minnesota\022965-000\Cad\Plan\22965-000_ped02.dgn

PLOTTED/REVISED: 6/19/2026 11:36:47 AM

Nightingale Street NW at 150th Lane NW





CONTROL POINT	X	Y	Z
D01	487238.70	176294.17	898.11
D02	487233.00	176302.65	898.17
D03	487214.39	176311.77	898.30
D04	487204.57	176311.16	898.19
D05	487220.45	176299.51	-
D06	487224.09	176291.08	-
D07*	487183.78	176339.42	897.92
D08*	487202.02	176350.31	898.68
D09*	487211.15	176366.45	898.96
D10*	487211.36	176382.70	899.34
D11	487198.63	176364.66	-
D12	487196.62	176372.40	-

*CONTROL POINT LOCATED AT EDGE OF BITUMINOUS

LEGEND

- XX — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- X" — CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS.
- CATCH BASIN
- ① PEDESTRIAN CURB RAMP, SEE STANDARD PLANS
- ② DEPRESSED MEDIAN CROSSING, SEE MISCELLANEOUS DETAILS
- (S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
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RECORD PLAN 2026

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RECORD PLAN

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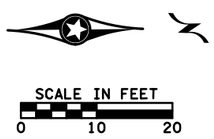
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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

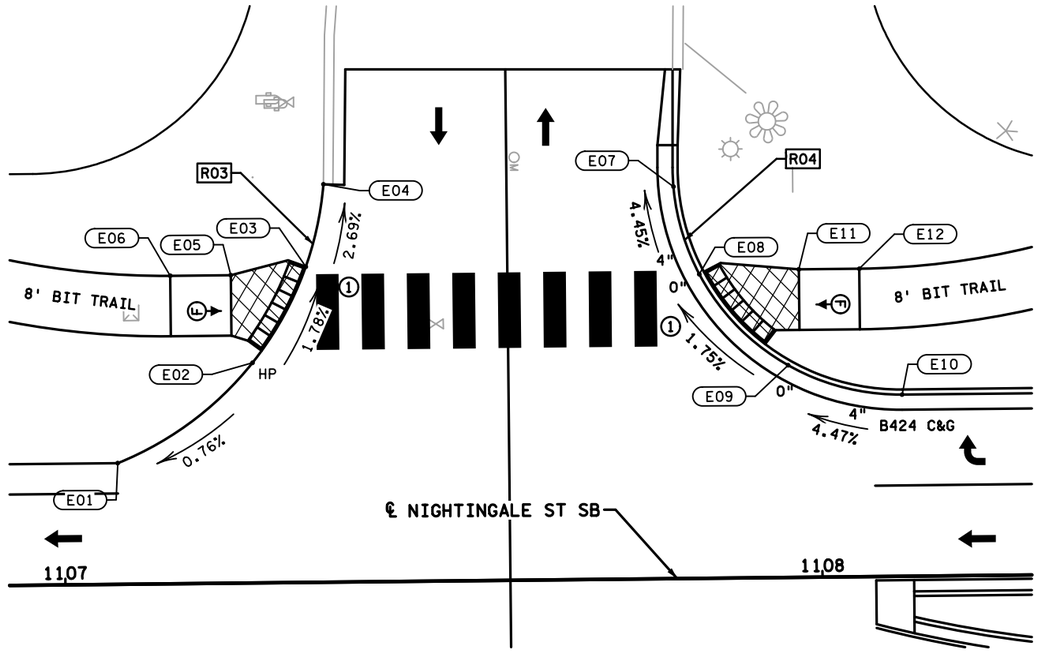
OCTOBER 2026

Nightingale Street NW at 151st Lane NW



CONTROL POINT	X	Y	Z
E01*	487200.46	176797.74	907.97
E02*	487187.43	176815.69	908.14
E03*	487174.82	176822.88	907.88
E04*	487163.96	176825.33	907.58
E05	487175.82	176812.96	-
E06	487175.80	176804.96	-
E07	487164.82	176871.56	907.50
E08	487176.43	176874.84	908.04
E09	487188.58	176886.43	908.33
E10	487192.63	176901.43	909.04
E11	487175.94	176887.98	-
E12	487175.95	176895.98	-

*CONTROL POINT LOCATED AT EDGE OF BITUMINOUS



GENERAL NOTES

- MAINTAIN A MINIMUM 4' WIDE PEDESTRIAN ACCESS ROUTE OBSTRUCTION TO OBSTRUCTION AND/OR OBSTRUCTION TO FAR EDGE OF WALK.
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NO.	DATE	BY	CHK	REVISIONS

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

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RECORD DRAWING

PRINT NAME: ANDREW J. PLOWMAN, PE

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

PEDESTRIAN RAMP DETAILS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

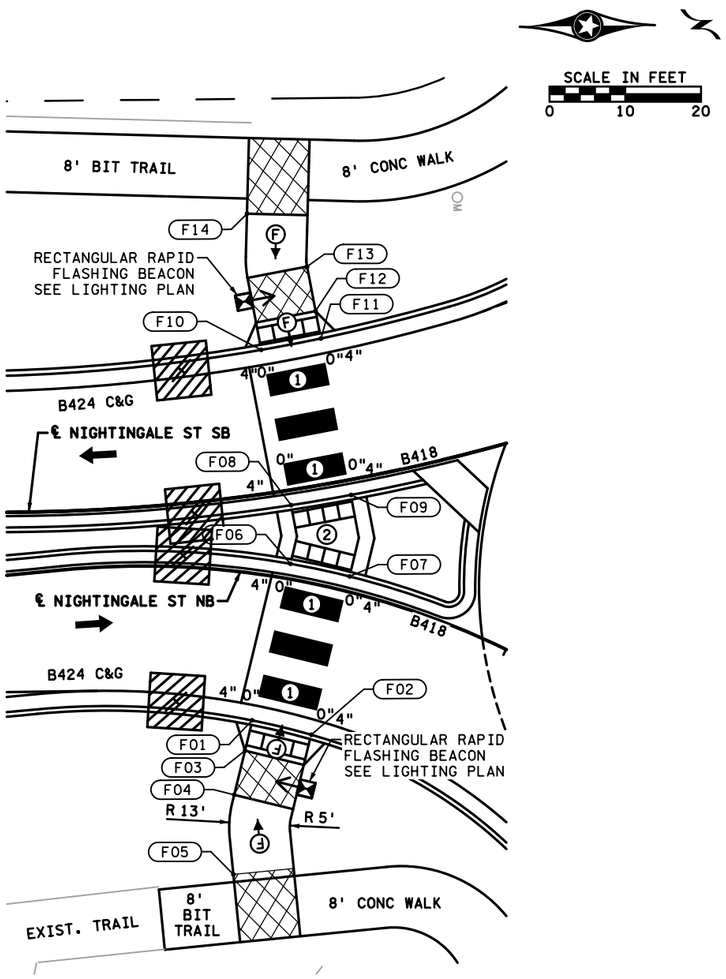
SHEET 118 OF 153 SHEETS

7081

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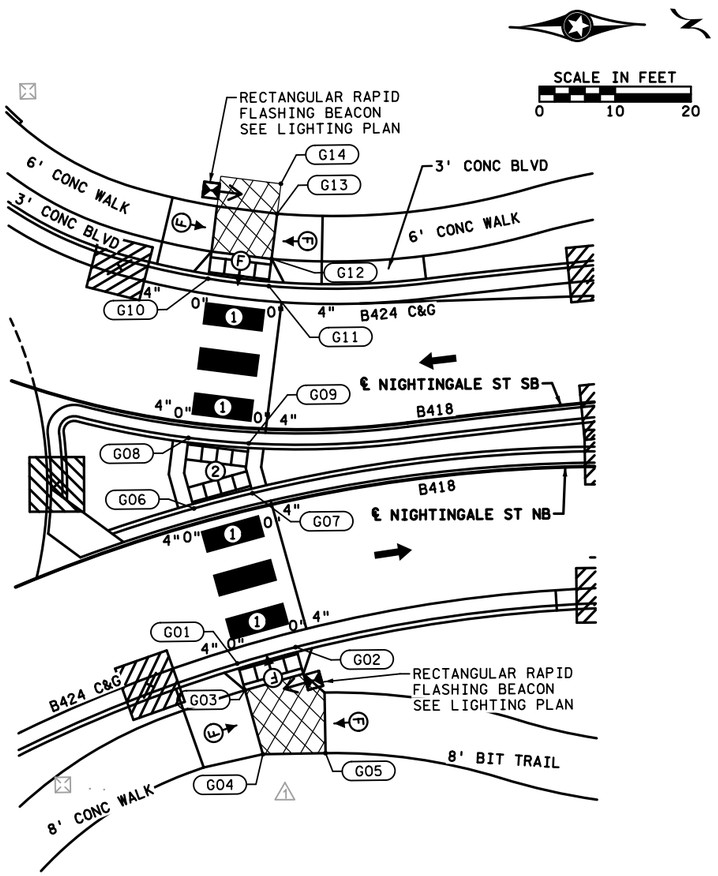
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Veterans Memorial Blvd Roundabout: South Leg



CONTROL POINT	X	Y	Z
F01	487244.83	177155.04	907.74
F02	487246.82	177162.85	907.78
F03	487248.82	177154.05	-
F04	487254.63	177152.56	-
F05	487265.15	177152.33	-
F06	487224.22	177160.35	908.12
F07	487225.98	177168.14	908.17
F08	487216.48	177160.53	908.11
F09	487215.22	177168.46	908.14
F10	487195.93	177156.81	907.74
F11	487194.51	177164.72	907.79
F12	487190.90	177164.06	-
F13	487185.00	177163.00	-
F14	487177.91	177155.15	-

Veterans Memorial Blvd Roundabout: North Leg



CONTROL POINT	X	Y	Z
G01	487253.13	177314.84	906.65
G02	487251.12	177322.59	906.53
G03	487256.68	177315.79	906.73
G04	487265.18	177318.00	-
G05	487265.20	177326.26	-
G06	487232.56	177309.51	906.91
G07	487230.70	177317.27	906.83
G08	487223.22	177308.97	906.93
G09	487224.10	177316.91	906.84
G10	487202.25	177311.94	906.69
G11	487203.39	177319.96	906.54
G12	487199.81	177320.39	-
G13	487193.86	177321.24	-
G14	487189.90	177321.81	-

LEGEND

- XX — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- X" — CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS.
- CATCH BASIN
- ① PEDESTRIAN CURB RAMP, SEE STANDARD PLANS
- ② DEPRESSED MEDIAN CROSSING, SEE MISCELLANEOUS DETAILS
- (S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
- (F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN
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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES
JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER
OCTOBER 2026

GENERAL NOTES

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NO.	DATE	BY	CHK	REVISIONS
1	2025/06/06	AJF	AJP	REVISED PED RAMP AND RRFB.

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

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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

PEDESTRIAN RAMP DETAILS
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

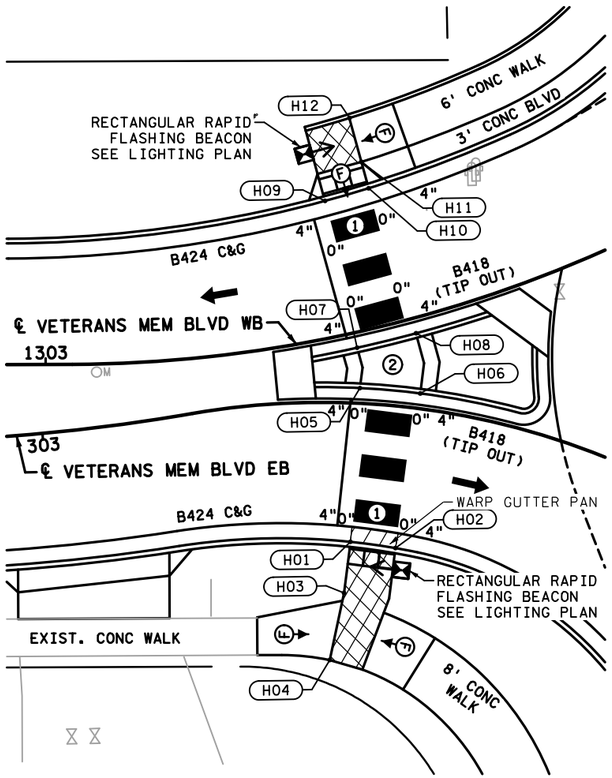
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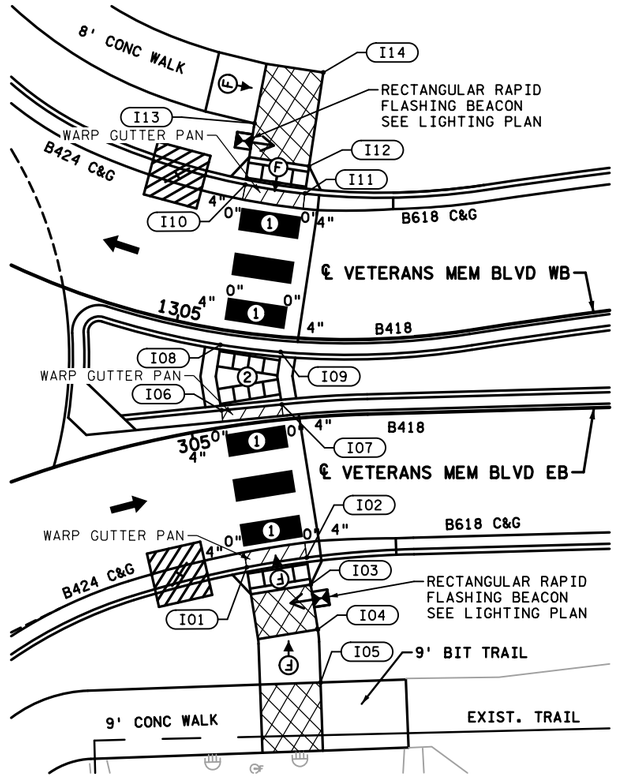
Veterans Memorial Blvd Roundabout: West Leg



CONTROL POINT	X	Y	Z
H01	487148.52	177215.29	907.20
H02	487154.44	177214.32	907.30
H03	487147.51	177208.57	-
H04	487145.42	177199.76	-
H05	487150.27	177235.56	907.39
H06	487158.23	177234.66	907.54
H07	487150.04	177240.90	907.32
H08	487157.85	177242.61	907.43
H09	487146.27	177260.38	906.86
H10	487152.07	177261.91	906.96
H11	487151.19	177265.42	-
H12	487149.75	177271.24	-



Veterans Memorial Blvd Roundabout: East Leg



CONTROL POINT	X	Y	Z
I01	487303.47	177208.04	907.26
I02	487311.42	177209.12	907.11
I03	487311.86	177205.54	-
I04	487312.67	177199.60	-
I05	487312.85	177192.59	-
I06	487300.66	177228.84	907.44
I07	487308.62	177229.42	907.30
I08	487300.71	177237.49	907.28
I09	487308.63	177236.34	907.15
I10	487304.51	177258.56	906.87
I11	487312.35	177257.17	906.73
I12	487312.99	177260.79	-
I13	487305.93	177266.62	-
I14	487315.18	177273.11	-



LEGEND

- XX — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- X" — CURB HEIGHT
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- CATCH BASIN
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RECORD PLAN 2026

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ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

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NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

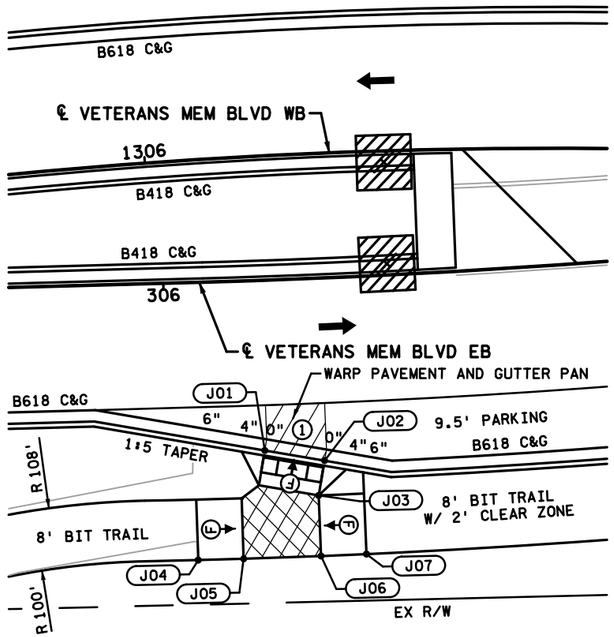
PEDESTRIAN RAMP DETAILS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 120 OF 153 SHEETS

7083

Veterans Memorial Blvd Parking Area



CONTROL POINT	X	Y	Z
J01	487409.43	177205.71	903.29
J02	487417.28	177204.18	903.15
J03	487416.38	177199.60	-
J04	487400.28	177191.46	-
J05	487406.28	177191.48	-
J06	487416.51	177191.60	-
J07	487422.51	177191.71	-



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ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

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PRINT NAME: ANDREW J. PLOWMAN, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

PEDESTRIAN RAMP DETAILS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

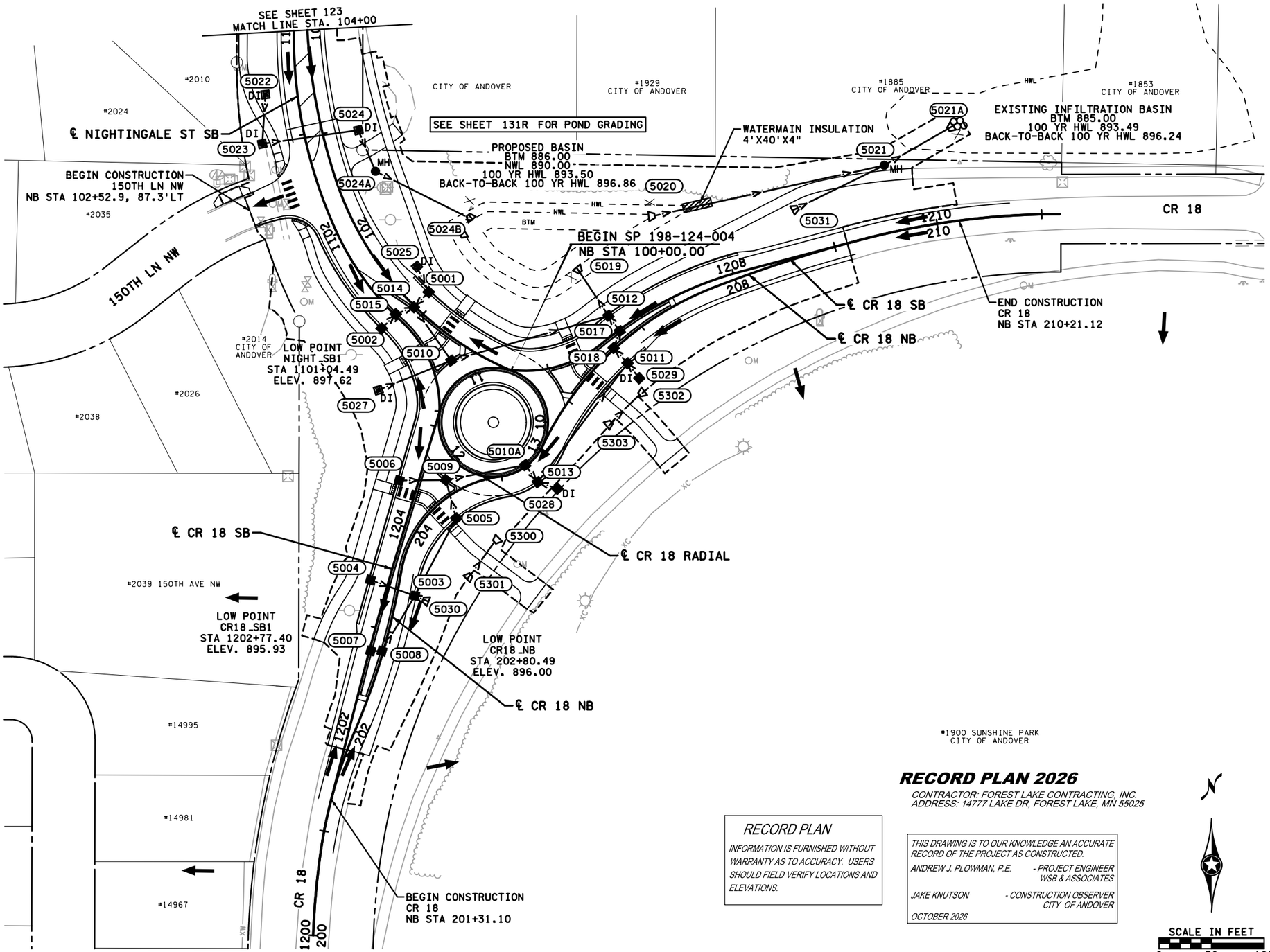
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County Road 18



RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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JAKE KNUTSON - CONSTRUCTION OBSERVER, CITY OF ANDOVER

OCTOBER 2026

SCALE IN FEET
0 50 100

LEGEND

- GUIDE POST TYPE B
- RANDOM RIPRAP
- CATCH BASIN
- MH MANHOLE
- DI DROP INLET
- APRON
- XXXX STRUCTURE
- SURFACE FLOW DIRECTION
- STORM SEWER PIPE
- CULVERT PIPE
- INPLACE STORM SEWER
- INPLACE CULVERT
- CONSTRUCTION LIMITS

GENERAL NOTES

1. SEE ROADWAY PROFILE FOR ALL HIGH AND LOW POINTS.

NO.	DATE	BY	CHK	REVISIONS
1	06/19/2025	ZH	AJP	STRUCTURE 5010A LOCATION UPDATED AND 5010 REROUTED

Design By: ZHH
Plan By: ZHH
Checked By: EAE
Approved By: EAE

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PRINT NAME: EARTH A. EVANS, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44235

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

COUNTY ROAD 18

DRAINAGE PLAN

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 122 OF 153 SHEETS

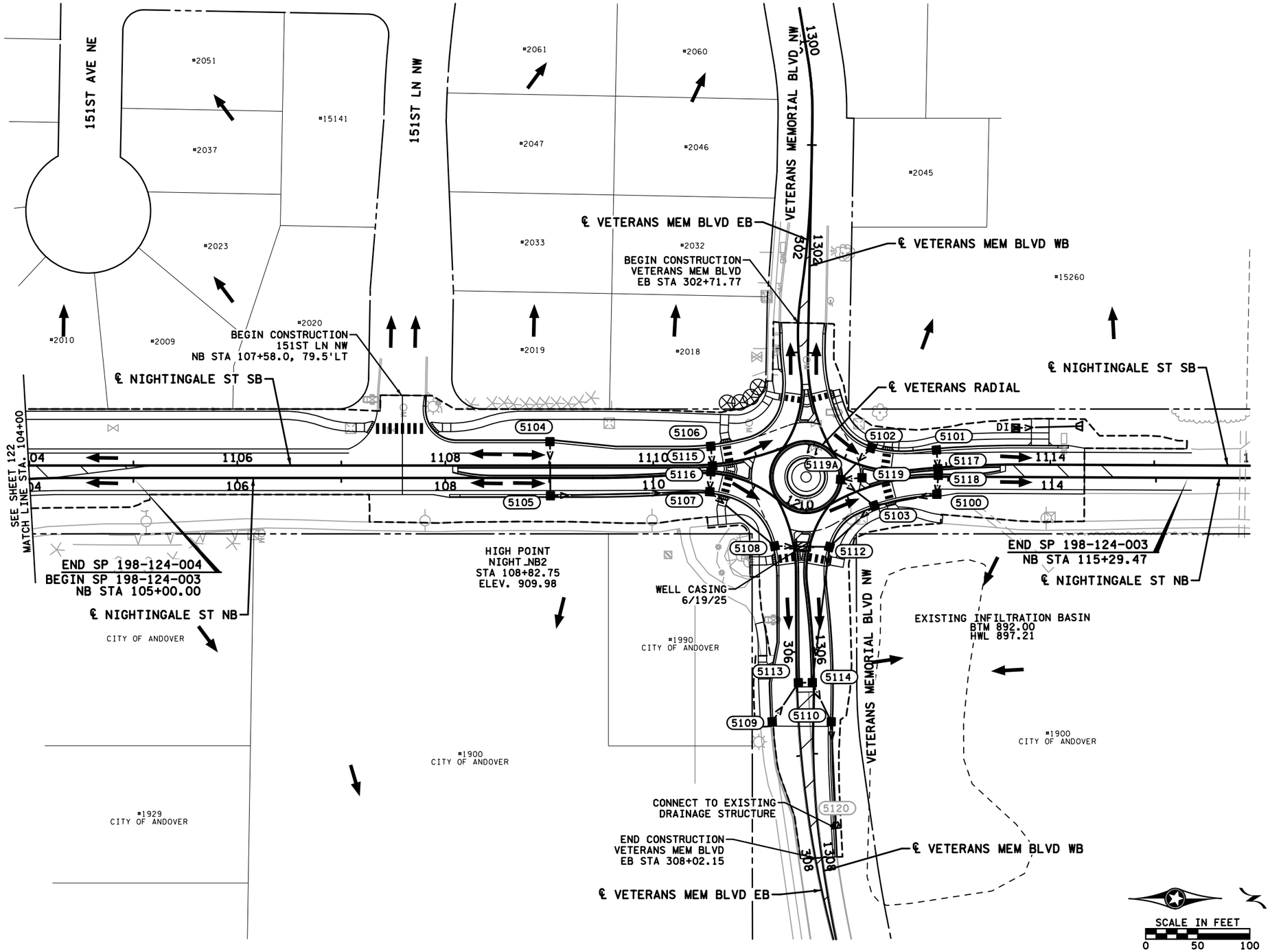
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Nightingale Street NW



RECORD PLAN 2026

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ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

LEGEND

- GUIDE POST TYPE B
- RANDOM RIPRAP
- CATCH BASIN
- MH MANHOLE
- DI DROP INLET
- APRON
- XXXX STRUCTURE
- SURFACE FLOW DIRECTION
- STORM SEWER PIPE
- CULVERT PIPE
- INPLACE STORM SEWER
- INPLACE CULVERT
- CONSTRUCTION LIMITS

GENERAL NOTES

1. SEE ROADWAY PROFILE FOR ALL HIGH AND LOW POINTS.

NO.	DATE	BY	CHK	REVISIONS
1	06/19/2025	ZH	AJP	STRUCTURE 5102, 5119, AND 5119A REROUTED

Design By: ZHH
Plan By: ZHH
Checked By: EAE
Approved By: EAE

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RECORD DRAWING

DATE 6/19/2026 LICENSE # 44235

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

NIGHTINGALE STREET NW

DRAINAGE PLAN

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 123 OF 153 SHEETS

7086

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DRAINAGE TABULATION (THIS SHEET ONLY)

STRUCTURE NO.		STRUCTURE LOCATION			COORDINATES		DRAINAGE STRUCTURES										
								PAY HEIGHT			CASTING	STEPS	CONNECT TO	TOP OF	OUTLET	INLET	15" RCP CL V	
FLOWS FROM	FLOWS TO	ALIGN.	STATION	OFFSET	X	Y	TYPE	SPEC 1 EACH	SD-48 LIN FT	48-4020 LIN FT	ASSEMBLY TYPE	REQ'D	EXISTING DRAINAGE STRUCTURE	CASTING ELEV	ELEV.	ELEV.	LIN FT	REMARKS
5101	5117	NIGHT SB2	1112+91.86	17.0' LT	487202.42	177363.18	CB	1			C - 1			905.76	902.72	902.63	18	
5117	5118	NIGHT SB2	1112+91.86	1.3' RT	487220.62	177364.59	CB		3.4		C - 1			906.07	902.63	902.60	6	
5118	5100	NIGHT NB	112+90.56	1.3' LT	487226.79	177364.86	CB		3.3		C - 1			905.93	902.60	902.51	18	
5100	5103	NIGHT NB	112+89.24	17.0' RT	487245.03	177363.43	CB		3.1		C - 1			905.65	902.47	902.16	61	
5103	5112	NIGHT NB	112+22.04	18.5' RT	487255.78	177303.26	CB			5.1	C - 1	YES		906.53	901.67	901.38	59	
5112	5114	VETERANS WB2	1304+95.02	18.8' LT	487295.56	177260.03	CB			5.8	C - 1	YES		906.91	901.38	897.36	132	
5114	5110	VETERANS WB2	1306+31.56	1.5' RT	487426.06	177243.38	CB			5.9	C - 1	YES		902.98	897.36	897.15	42	
5110	5120	VETERANS WB2	1306+68.81	17.3' LT	487463.71	177261.49	CB			4.8	C - 1	YES		901.63	897.15	896.64	96	
5120		VETERANS WB2	1307+73.85	17.3' LT	487566.15	177266.14							1		896.64			
5102	5119A	NIGHT SB2	1112+22.29	18.5' LT	487200.51	177300.31	CB	1			C - 1			907.16	903.16	903.01	42	
5119A	5103	RADIAL VETS	10+53.69	19.3' RT	487229.02	177291.46	CB		3.8		C - 2			906.90	903.01	902.87	41	
5119	5119A	RADIAL VETS	10+51.62	1.3' LT	487230.71	177270.87	CB	1			C - 2			907.27	903.27	903.16	21	
5109	5113	VETERANS EB	306+65.56	25.3' RT	487463.54	177204.76	CB	1			C - 1			901.66	897.66	897.43	45	
5113	5114	VETERANS EB	306+29.63	1.5' LT	487426.15	177229.97	CB			5.9	C - 1	YES		903.02	897.43	897.36	13	
				TOTAL				4	13.6	27.5			1				594	

GENERAL NOTES:
- STATIONS, OFFSETS, AND ELEVATIONS ARE GIVEN TO:
  - -END OF ALL CONCRETE APRONS.
  - -END OF BARREL FOR ALL PIPES WITH METAL APRONS.
  - -CENTER OF CASTING FOR ALL STORM STRUCTURES.
- ALL PIPE LENGTHS EXCLUDE APRONS.
- RC PIPE IS DES 3006 GASKET JOINT PIPE.
- PAY HEIGHTS ARE FROM BOTTOM OF CASTING TO INVERT, PLUS 0.7'.
- STEPS REQUIRED WHEN DEPTH FROM TOP OF CASTING TO STRUCTURE INVERT IS GREATER THAN 4'.
- FLOWLINE (F.L.) ELEVATIONS ON PROFILES AND INLET/OUTLET ELEVATIONS ON TABULATIONS ARE AT CENTER OF STRUCTURE.

GENERAL NOTES (CONT.):
- FOR CASTING ASSEMBLY KEY AND SUMMARY, SEE SHEET NO 129 .
- SPEC 1 STRUCTURE REFERS TO THE CITY OF ANDOVER STANDARD PLATE 420F
- CONTRACTOR FIELD VERIFY ALL INVERTS WHEN CONNECTING TO EXISTING PIPES AND STRUCTURES, ADJUST INVERTS TO ALLOW POSITIVE FLOW.

RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

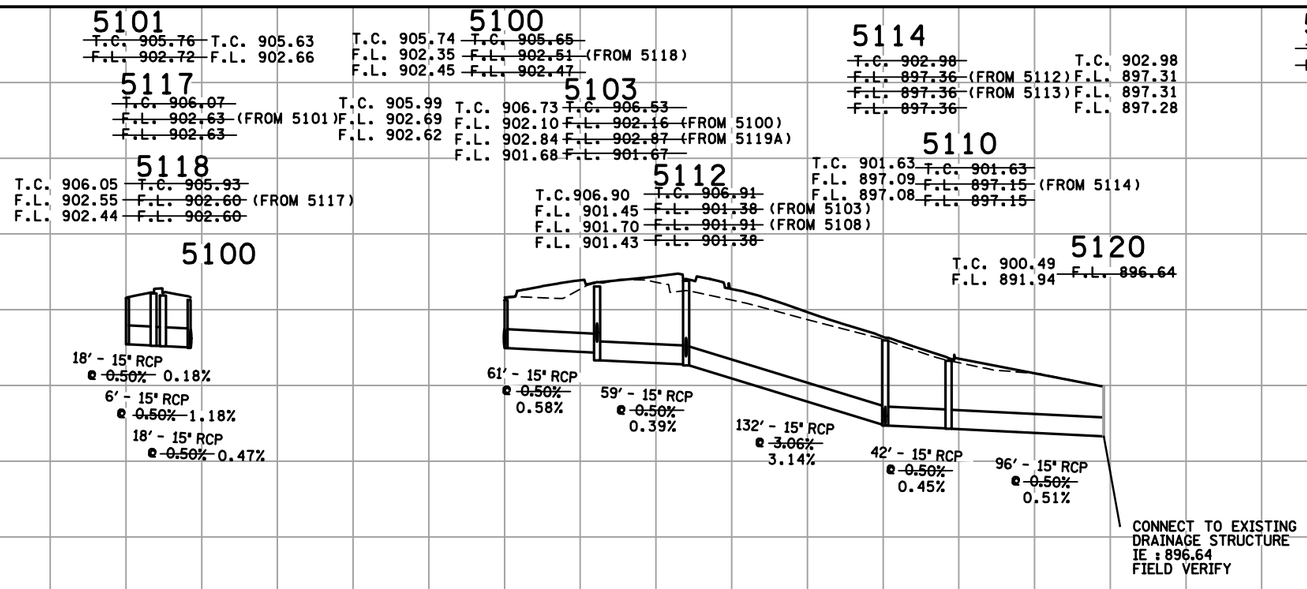
ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025



NO.	DATE	BY	CHK	REVISIONS
1	06/19/2025	ZH	AJP	PROFILE RUN 5102-5103 AND 5119-5119A UPDATED AND QUANTITIES UPDATED

Design By: ZHH
Plan By: ZHH
Checked By: EAE
Approved By: EAE

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

PRINT NAME: EARTH A. EVANS, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44235

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

DRAINAGE PROFILES & TABULATIONS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 124 OF 153 SHEETS

7087

PLOTTED/REVISED: 6/19/2026 11:37:01 AM

DRAINAGE TABULATION (THIS SHEET ONLY)

STRUCTURE NO.		STRUCTURE LOCATION			COORDINATES		DRAINAGE STRUCTURES										
								PAY HEIGHT			CASTING	STEPS	TOP OF	OUTLET	INLET	15" RCP	
FLOWS FROM	FLOWS TO	ALIGN.	STATION	OFFSET	X	Y	TYPE	SPEC 1	H	48-4020	ASSEMBLY	REQ'D	CASTING	ELEV.	ELEV.	CL V	REMARKS
								EACH	LIN FT	LIN FT	TYPE		ELEV			LIN FT	
5104	5105	NIGHT SB1	1109+00.72	23.0' LT	487193.77	176991.40	CB	1			C - 1		907.60	903.60	903.34	52	
5105	5107	NIGHT NB	109+01.15	17.0' RT	487245.77	176991.75	CB			6.3	C - 1	YES	909.39	903.34	902.58	153	
5107	5108	NIGHT NB	110+55.62	17.8' RT	487242.23	177145.04	CB			5.3	C - 2	YES	907.60	902.58	902.17	81	
5108	5112	VETERANS EB	304+94.32	18.0' RT	487294.58	177207.33	CB			5.2	C - 1	YES	907.10	902.17	901.91	53	
5106	5115	NIGHT SB1	1110+57.06	17.5' LT	487198.53	177146.08	CB	1			C - 2		907.59	902.79	902.70	19	
5115	5116	NIGHT SB1	1110+57.06	1.5' RT	487217.46	177147.8	CB			5.2	C - 2	YES	907.60	902.70	902.67	6	
5116	5107	NIGHT NB	110+55.62	1.5' LT	487222.97	177146.19	CB			5.2	C - 2	YES	907.60	902.67	902.58	19	
				TOTAL				2		27.2						383	

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GENERAL NOTES (CONT.):
- FOR CASTING ASSEMBLY KEY AND SUMMARY, SEE SHEET NO 129 .
- SPEC 1 STRUCTURE REFERS TO THE CITY OF ANDOVER STANDARD PLATE 420F
- CONTRACTOR FIELD VERIFY ALL INVERTS WHEN CONNECTING TO EXISTING PIPES AND STRUCTURES, ADJUST INVERTS TO ALLOW POSITIVE FLOW.

RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

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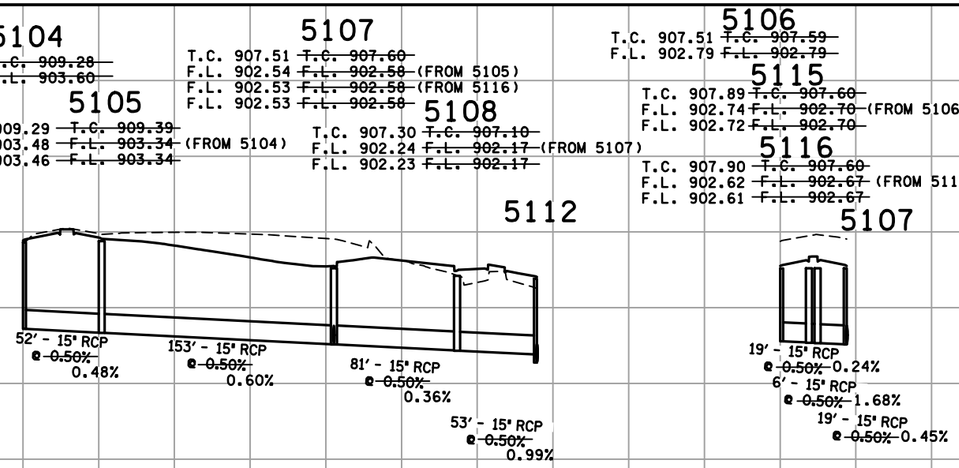
ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025



NO.	DATE	BY	CHK	REVISIONS

Design By: ZHH
Plan By: ZHH
Checked By: EAE
Approved By: EAE

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

RECORD DRAWING

PRINT NAME: EARTH A. EVANS, PE

DATE 6/19/2026 LICENSE # 44235

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

DRAINAGE PROFILES & TABULATIONS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 125 OF 153 SHEETS

7088

WSB PATH & FILENAME: Projects\Minnesota\022965-000\Cad\Proposal\022965-000_dpr.dgn

PLOTTED/REVISED: 6/19/2026 11:37:02 AM

WSB PATH & FILENAME: P:\Projects\Minnesota\022965-000\Cad\Proposal\022965-000_dpr.dgn

DRAINAGE TABULATION (THIS SHEET ONLY)

STRUCTURE NO.		STRUCTURE LOCATION			COORDINATES		DRAINAGE STRUCTURES						TOP OF	OUTLET	INLET	12"	15"	21"	APRON		RIPRAP	GEOTEXTILE	GUIDE	
								PAY HEIGHT				CASTING	STEPS				RCP	RCP	RCP			CLASS	FILTER	POSTS	
FLOWS FROM	FLOWS TO	ALIGN.	STATION	OFFSET	X	Y	TYPE	SPEC 1	H	48-4020	60-4020	ASSEMBLY	REQ'D	CASTING	ELEV.	ELEV.	CL V	CL V	CL II	APRON	APRON TYPE	III	TYPE IV	TYPE B	REMARKS
								EACH	LIN FT	LIN FT	LIN FT	TYPE		ELEV			LIN FT	LIN FT	LIN FT	EACH		CU YD	SQ YD	EACH	
5014	5010	NIGHT NB	101+10.97	1.3' LT	487330.23	176226.60	CB			5.3		C - 2	YES	897.38	892.41	892.10		62							
5010	5012	RADIAL CR18	11+12.86	19.3' RT	487365.87	176175.7	CB			6.0		TYPE B	YES	897.96	892.10	891.85		156							
5010A	5013	RADIAL CR18	12+78.36	1.3' LT	487437.42	176076.20	CB			6.1		TYPE B	YES	897.28	891.05	891.00		20							
5002	5015	NIGHT SB1	1101+04.49	18.0' LT	487299.55	176206.25	CB	1				C - 2		897.04	893.03	892.94		19							
5015	5014	NIGHT SB1	1101+04.49	1.3' RT	487313.07	176219.95	CB			4.9		C - 2	YES	897.52	892.94	892.85		19							
5025	5001	NIGHT SB1	1101+25.76	47.0' RT	487333.2	176265.34	CB		3.3			M - 11		895.84	892.59	892.51		27						1	
5001	5014	NIGHT NB	101+10.97	19.0' RT	487344.48	176241.08	CB			4.8		C - 2	YES	897.02	892.51	892.41		20							
5029	5011	CR18 NB	206+64.76	36.6' RT	487544.98	176158.92	CB		3			M - 11		894.94	891.93	891.86	18							1	
5011	5018	CR18 NB	206+66.47	18.5' RT	487533.91	176173.25	CB			6.0		TYPE D	YES	896.54	890.46	890.20		20							
5018	5017	CR18 NB	206+66.47	1.3' LT	487520.58	176187.82	CB			6.7		TYPE B	YES	896.88	890.35	890.28		17							
5017	5012	CR18 SB2	1206+77.94	1.3' RT	487526.49	176203.73	CB			6.8		TYPE B	YES	896.91	890.26	890.19		18							
5012	5019	CR18 SB2	1206+77.94	17.0' LT	487515.68	176218.44	CB				10.3	TYPE D	YES	896.59	890.18	890.02			49						A
5019		CR18 NB	206+86.62	82.6' LT	487485.23	176264.52									890.02					1	RC APRON	7.1	27.4	1	
5006	5009	CR18 SB1	1204+40.03	17.9' LT	487316.37	176061.51	CB	1				TYPE C		896.82	892.82	892.65		44							
5009	5010A	RADIAL CR18	12+09.27	19.3' RT	487360.84	176061.84	CB			6.2		TYPE B	YES	897.32	891.25	891.05		88							
5013	5011	CR18 NB	205+25.55	19.0' RT	487448.51	176059.95	CB				5.7	TYPE D	YES	896.82	891.00	890.46		142							
5027	5010	NIGHT SB1	1100+37.13	55.8' LT	487296.45	176147.58	CB		2.8			M - 11		895.13	892.33	892.10		75						1	
				TOTAL				2	9.1	52.8	16.0						18	727	49	1		7.1	27.4	4	

GENERAL NOTES:
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- STEPS REQUIRED WHEN DEPTH FROM TOP OF CASTING TO STRUCTURE INVERT IS GREATER THAN 4'.
- FLOWLINE (F.L.) ELEVATIONS ON PROFILES AND INLET/OUTLET ELEVATIONS ON TABULATIONS ARE AT CENTER OF STRUCTURE.

GENERAL NOTES (CONT.):
- FOR CASTING ASSEMBLY KEY AND SUMMARY, SEE SHEET NO 129 .
- SPEC 1 STRUCTURE REFERS TO THE CITY OF ANDOVER STANDARD PLATE 420F
- CONTRACTOR FIELD VERIFY ALL INVERTS WHEN CONNECTING TO EXISTING PIPES AND STRUCTURES, ADJUST INVERTS TO ALLOW POSITIVE FLOW.

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

REMARKS:
(A) - 4' SUMP INCLUDED IN PAY HEIGHT

RECORD PLAN

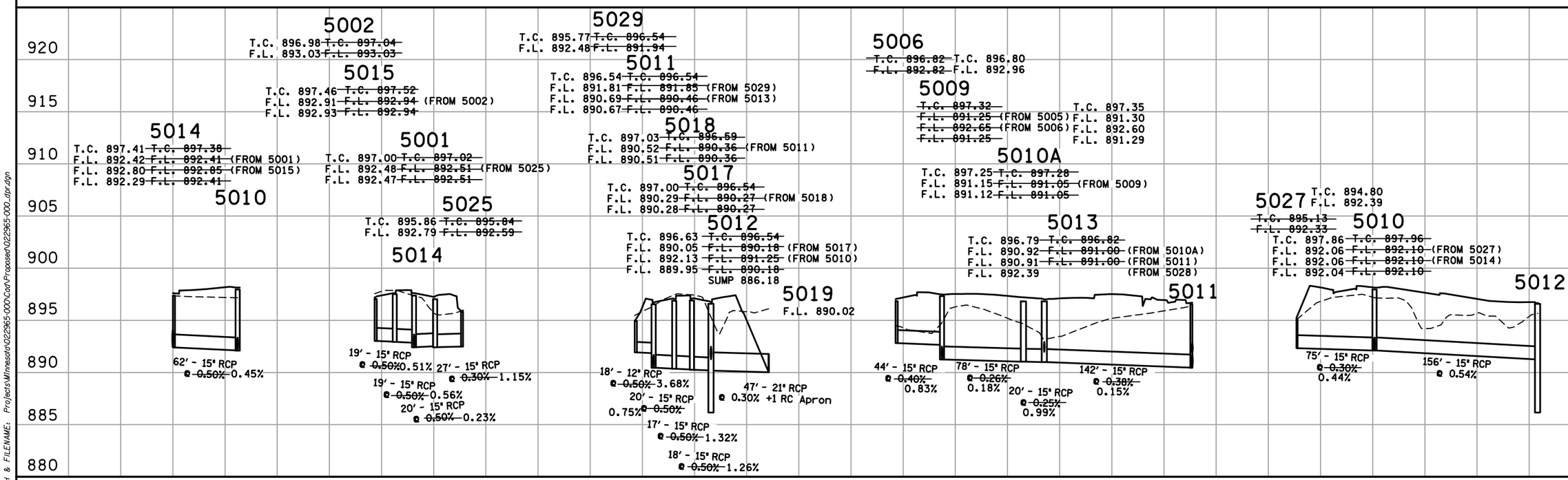
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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026



NO.	DATE	BY	CHK	REVISIONS
1	06/19/2025	ZH	AJP	STRUCTURE 5010A LOCATION UPDATED AND 5010 REROUTED

Design By: ZHH
Plan By: ZHH
Checked By: EAE
Approved By: EAE

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

PRINT NAME: EARTH A. EVANS, PE

DATE 6/19/2026 LICENSE # 44235

RECORD DRAWING

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

DRAINAGE PROFILES & TABULATIONS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 126 OF 153 SHEETS

7089

PLOTTED/REVISED: 6/19/2026 11:37:02 AM

DRAINAGE TABULATION (THIS SHEET ONLY)

STRUCTURE NO.		STRUCTURE LOCATION			COORDINATES		DRAINAGE STRUCTURES								TOP OF	OUTLET	INLET	12" RCP	15" RCP	24" RCP	APRON		RIPRAP	GEOTEXTILE FILTER	GUIDE POSTS	
								PAY HEIGHT				CASTING	STEPS													
FLOWS FROM	FLOWS TO	ALIGN.	STATION	OFFSET	X	Y	TYPE	G	H	SD-60	48-4020	ASSEMBLY	REQ'D	CASTING	ELEV.	ELEV.	CL V	CL V	CL II		APRON TYPE	CLASS III	TYPE IV	TYPE B	REMARKS
								LIN FT	LIN FT	LIN FT	LIN FT	TYPE		ELEV			LIN FT	LIN FT	LIN FT	EACH		CU YD	SQ YD	EACH	
5007	5008	CR18 SB1	1202+77.40	1.3' RT	487289.19	175899.06	CB	3.9				TYPE B		895.79	891.98	891.94		11							
5008	5003	CR18 NB	202+80.49	1.3' LT	487299.89	175898.85	CB				4.0	TYPE B	YES	895.78	891.94	891.76		61							
5003	5005	CR18 NB	203+38.36	17.0' RT	487331.3	175951.51	CB			3.8		TYPE C		895.67	891.74	891.40		84							
5005	5009	CR18 NB	204+37.89	21.0' RT	487370.55	176025.33	CB				5.1	TYPE C	YES	896.58	891.40	891.25		38							
5004	5003	CR18 SB1	1203+42.26	17.0' LT	487288.86	175966.64	CB	3.7				TYPE C		895.75	891.99	891.76		45							
5030	5003	CR18 NB	203+35.54	30.1' RT	487344.28	175945.99									892.84	952.77	6			1	RC APRON			1	
5020	5021	CR18 NB	207+65.82	93.9' LT	487567.02	176326.8									890.00	890.00			269	1	RC APRON			1	
5021	5021A	CR18 NB	209+62.10	63.9' LT	487778.37	176361.82	MH				7.3	A - 7D	YES	896.53	890.00	889.57		(1)	69						
5021A		CR18 NB	210+11.35	90.3' LT	487843.93	176399.35							(1)		889.57					1	RC APRON	9.2	33.4	1	
5022	5023	NIGHT SB1	1103+42.05	30.3' LT	487188.92	176429.29	CB		3.7			M - 11		897.68	893.99	893.76		47						1	
5023	5024	NIGHT SB1	1102+99.55	40.9' LT	487185.91	176382.32	CB				3.9	M - 11		897.65	893.76	893.30		92						1	
5024	5024A	NIGHT SB1	1102+92.23	51.2' RT	487277.46	176395.29	CB				4.3	M - 11	YES	897.56	893.30	893.09		42						1	
5024A	5024B	NIGHT NB	102+49.73	38.3' RT	487293.66	176356.17	MH				9.4	A - 7D	YES	898.33	893.09	890.00	(1)	98							A
5024B		NIGHT NB	101+50.12	97.5' RT	487381.67	176316.85									890.00					1	RC APRON	4.8	20.8	1	
				TOTAL				7.6	3.7	3.8	34.0						6	518	338	4		14.0	54.2	7	

(1)

GENERAL NOTES:
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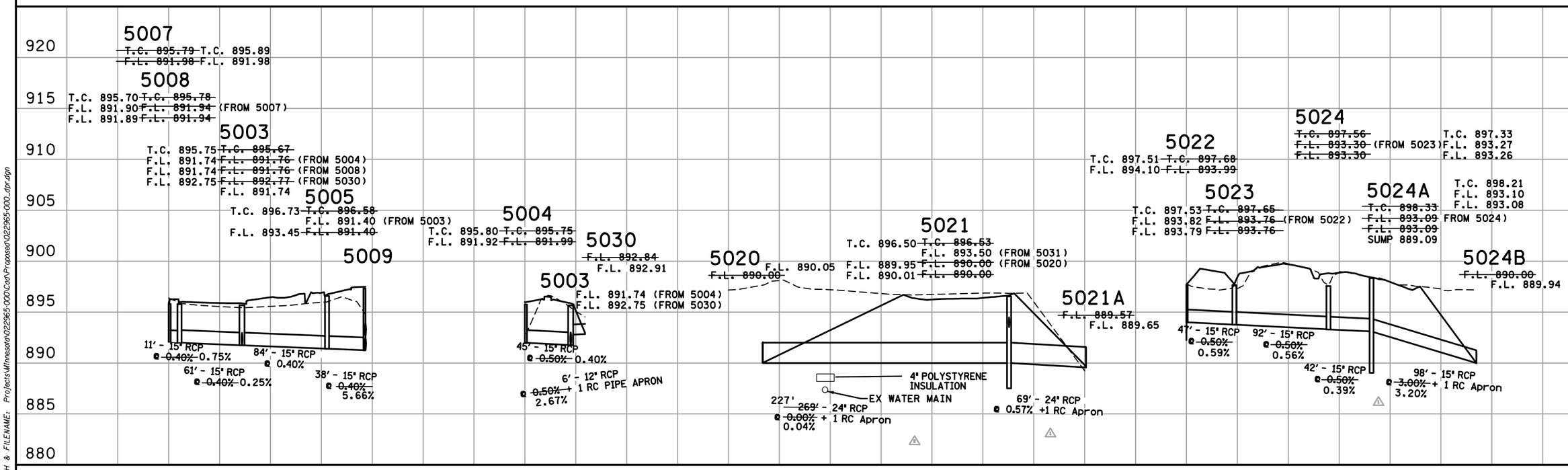
GENERAL NOTES (CONT.):
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- CONTRACTOR FIELD VERIFY ALL INVERTS WHEN CONNECTING TO EXISTING PIPES AND STRUCTURES, ADJUST INVERTS TO ALLOW POSITIVE FLOW.

REMARKS:
(A) - 4' SUMP INCLUDED IN PAY HEIGHT

RECORD PLAN 2026
CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN
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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES
JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER
OCTOBER 2026



NO.	DATE	BY	CHK	REVISIONS
(1)	06/25/2025	ZH	AJP	TAB ELEVATIONS & QUANTITIES UPDATED. PROFILE SLOPE UPDATED
(2)	07/17/2025	GW	AJP	PIPE ELEVATION UPDATE

Design By: ZHH
Plan By: ZHH
Checked By: EAE
Approved By: EAE

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PRINT NAME: EARTH A. EVANS, PE
DATE 6/19/2026 LICENSE # 44235
RECORD DRAWING

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts
DRAINAGE PROFILES & TABULATIONS
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 127 OF 153 SHEETS
7090

WSB PATH & FILENAME: P:\Projects\Minnesota\022965-000\Cad\Proposal\022965-000_dpr.dgn

PLOTTED/REVISED: 6/19/2026 11:37:03 AM
WSB PATH & FILENAME: Projects\Minnesota\022965-000\Cad\Proposal\022965-000_dpr.dgn

DRAINAGE TABULATION (THIS SHEET ONLY)

STRUCTURE NO.		STRUCTURE LOCATION			COORDINATES		DRAINAGE STRUCTURES			TOP OF CASTING ELEV	OUTLET ELEV.	INLET ELEV.	12" RCP CL V	APRON	APRON TYPE	GUIDE POSTS TYPE B	REMARKS
FLOWS FROM	FLOWS TO	ALIGN.	STATION	OFFSET	X	Y	TYPE	PAY HEIGHT H LIN FT	CASTING ASSEMBLY TYPE				LIN FT	EACH		EACH	
5028	5013	CR18_NB	205+32.14	35.8' RT	487467.05	176053.65	CB	3.0	M - 11	895.05	892.05	891.96	20				
5031	5021	CR18_NB	208+71.60	44.6' LT	487690.94	176318.74					895.18	893.50	90	1	RC APRON	1	
				TOTAL				3.0					110	1		1	

CULVERT TABULATION (THIS SHEET ONLY)

F1

STRUCTURE NO.		STRUCTURE LOCATION			COORDINATES		OUTLET ELEV.	INLET ELEV.	18" HDPE PIPE	APRON	APRON TYPE	GUIDE POSTS TYPE B	REMARKS
FLOWS FROM	FLOWS TO	ALIGN.	STATION	OFFSET	X	Y			LIN FT	EACH		EACH	
5303	5302	CR18_NB	206+07.92	44.7' RT	487518.35	176116.91	893.08	893.07	38	1	18" GS APRON	1	
5302		CR18_NB	206+52.30	48.0' RT	487545.23	176143.24	893.07			1	18" GS APRON	1	
5301	5300	CR18_NB	203+78.90	65.4' RT	487384.70	175971.64	892.47	892.46	38	1	18" GS APRON	1	
5300		CR18_NB	204+69.05	59.4' RT	487406.98	176002.85	892.46			1	18" GS APRON	1	
				TOTAL					76	4		4	

RECORD PLAN

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THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

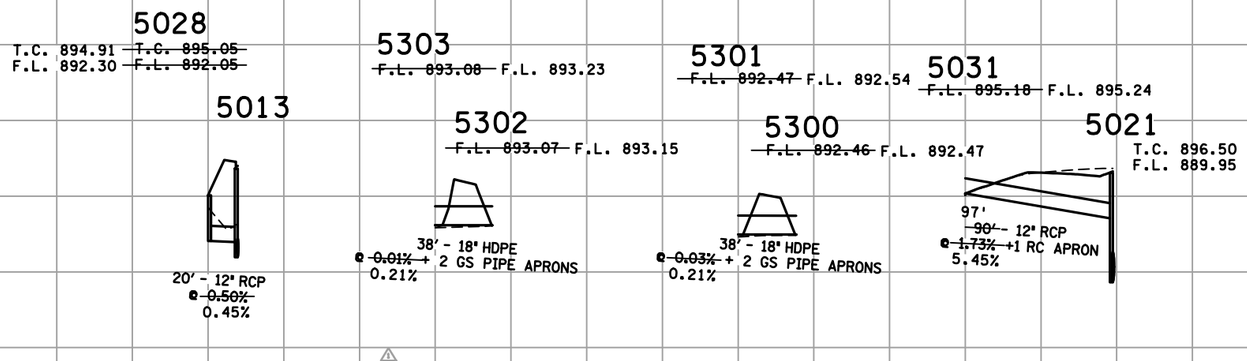
OCTOBER 2026

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

GENERAL NOTES:
- STATIONS, OFFSETS, AND ELEVATIONS ARE GIVEN TO:
  - -END OF ALL CONCRETE APRONS.
  - -END OF BARREL FOR ALL PIPES WITH METAL APRONS.
  - -CENTER OF CASTING FOR ALL STORM STRUCTURES.
- ALL PIPE LENGTHS EXCLUDE APRONS.
- RC PIPE IS DES 3006 GASKET JOINT PIPE.
- PAY HEIGHTS ARE FROM BOTTOM OF CASTING TO INVERT, PLUS 0.7'.
- STEPS REQUIRED WHEN DEPTH FROM TOP OF CASTING TO STRUCTURE INVERT IS GREATER THAN 4'.
- FLOWLINE (F.L.) ELEVATIONS ON PROFILES AND INLET/OUTLET ELEVATIONS ON TABULATIONS ARE AT CENTER OF STRUCTURE.

GENERAL NOTES (CONT.):
- FOR CASTING ASSEMBLY KEY AND SUMMARY, SEE SHEET NO 129 .
- SPEC 1 STRUCTURE REFERS TO THE CITY OF ANDOVER STANDARD PLATE 420F
- CONTRACTOR FIELD VERIFY ALL INVERTS WHEN CONNECTING TO EXISTING PIPES AND STRUCTURES, ADJUST INVERTS TO ALLOW POSITIVE FLOW.
- SEE MNDOT STANDARD PLATE 3129A FOR CONNECTION BETWEEN METAL APRON AND HDPE PIPE



NO.	DATE	BY	CHK	REVISIONS
1	05/05/2025	ZH	AJP	PIPE MATERIAL CHANGED FROM CS TO HDPE

Design By: ZHH
Plan By: ZHH
Checked By: EAE
Approved By: EAE

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

PRINT NAME: EARTH A. EVANS, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44235

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

DRAINAGE PROFILES & TABULATIONS

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 128 OF 153 SHEETS

7091

PLOTTED/REVISED: 6/19/2026 11:37:04 AM

DRAINAGE SUMMARY

F2

ITEMS		QUANTITIES BY SHEET					TOTAL		
		SP 198-124-003		SP 198-014-004			SP 198-127-003	SP 198-127-004	PROJECT
		124	125	126	127	128			
CONST DRAINAGE STRUCTURE DESIGN H	LIN FT			9.1	3.7	3.0		15.8	**15.8**
CONST DRAINAGE STRUCTURE DESIGN G	LIN FT				7.6			7.6	**7.6**
CONST DRAINAGE STRUCTURE DESIGN SD-48	LIN FT	13.6					13.6		**13.6**
CONST DRAINAGE STRUCTURE DESIGN SD-60	LIN FT				3.8			3.8	**3.8**
CONST DRAINAGE STRUCTURE DES 48-4020	LIN FT	27.5	27.2	52.8	34.0		54.7	86.8	**141.5**
CONST DRAINAGE STRUCTURE DES 60-4020	LIN FT			16.0				16.0	**16.0**
CONST DRAINAGE STRUCTURE DESIGN SPEC 1	EACH	4	2	2			6	2	**8**
CASTING ASSEMBLY	EACH	13	7	16	10	1	20	27.0	**47**
12" RC PIPE SEWER DESIGN 3006 CLASS V	LIN FT			18	6	110		134	**134**
15" RC PIPE SEWER DESIGN 3006 CLASS V	LIN FT	570	383	723	518		953	1241	**2194**
18" RC PIPE SEWER DESIGN 3006 CLASS V	LIN FT								
21" RC PIPE SEWER DESIGN 3006 CLASS II	LIN FT			49				49	**49**
24" RC PIPE SEWER DESIGN 3006 CLASS II	LIN FT				283			283	**283**
12" RC APRON	EACH				1	1		2	**2**
15" RC APRON	EACH				1			1	**1**
21" RC APRON	EACH			1				1	**1**
24" RC APRON	EACH				2			2	**2**
GUIDE POST TYPE B	EACH			3	6			9	**9**
RANDOM RIPRAP CLASS III	CU YD			7.1	14.0			21.1	**21.1**
GEOTEXTILE FILTER TYPE 4	SQ YD			27.4	54.2			81.6	**81.6**
CONNECT TO EXISTING DRAINAGE STRUCTURE	EACH	1					1		**1**

CASTING ASSEMBLY SUMMARY

G

ASSEMBLY	RING OR FRAME	COVER OR GRATE	CURB BOX	STANDARD PLATE NUMBER	USE	TOTALS
C -1	NEENAH CASTING R-3067-V OR APPROVED EQUAL					**14**
C - 2	NEENAH CASTING R-3067-VB OR APPROVED EQUAL					**10**
TYPE B	NEENAH 3448 WITH TYPE C GRATE OR APPROVED EQUAL					**7**
TYPE C	805 MODIFIED	816		SEE DETAIL 4154	CATCH BASIN	**4**
TYPE D	802A MODIFIED	816	823A	SEE DETAIL 4154 4160	CATCH BASIN	**3**
A-7D	700-7	715		4101 4110	MANHOLE	**2**
M-11	ROUND CONC	731		4143 4143	DROP INLET	**7**
					TOTAL	**47**

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

NO.	DATE	BY	CHK	REVISIONS

Design By: ZHH
Plan By: ZHH
Checked By: EAE
Approved By: EAE

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PRINT NAME: EARTH A. EVANS, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 44235

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

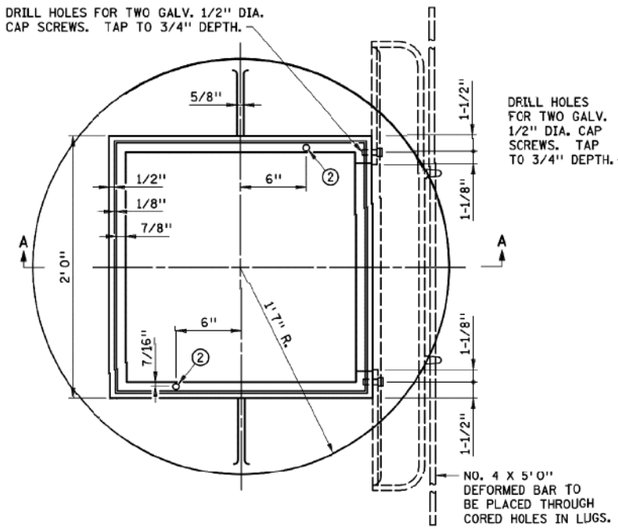
DRAINAGE PROFILES & TABULATIONS
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET **129** OF **153** SHEETS

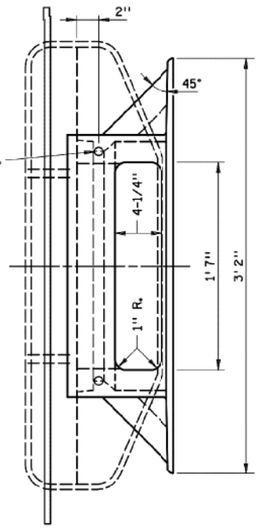
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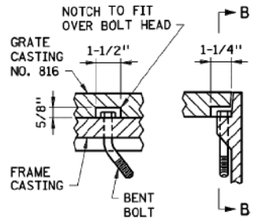
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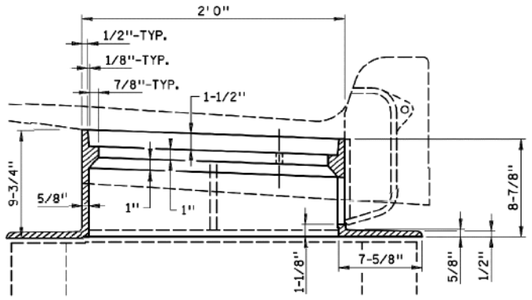
TOP VIEW



END VIEW



GRATE AND FRAME WITH BOLT INSTALLED ②



SECTION A-A

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

NOTES:

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

GRATE FRAME CASTING TYPE C & D

NOT TO SCALE

RECORD PLAN 2026

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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

NO.	DATE	BY	CHK	REVISIONS

Design By: ZHH
Plan By: ZHH
Checked By: EAE
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wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

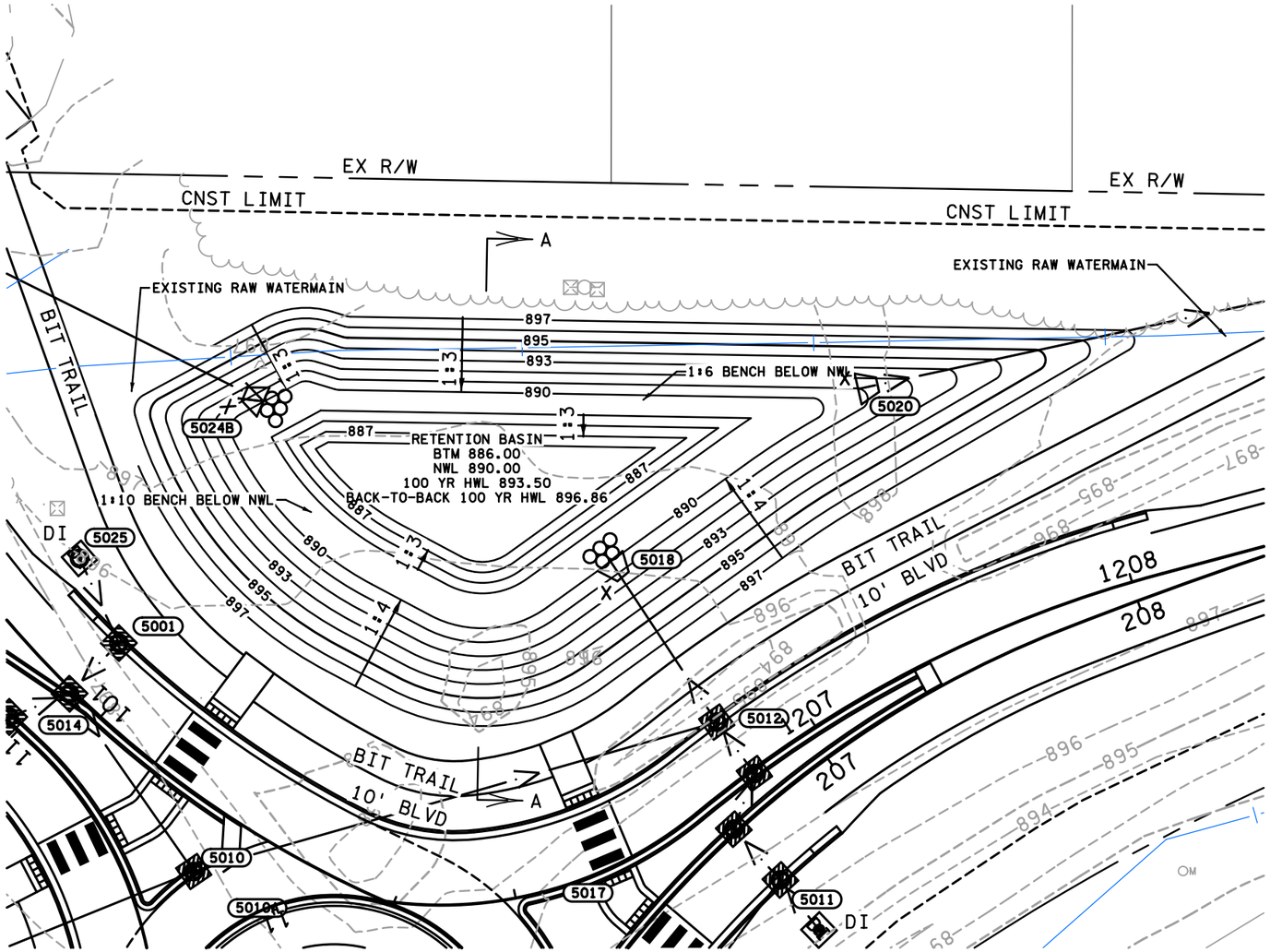
DRAINAGE DETAILS
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET **130** OF **153** SHEETS

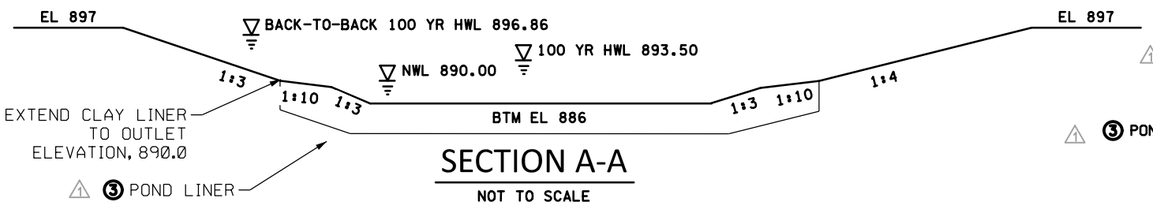
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SECTION A-A

NOT TO SCALE

GENERAL NOTES:
1. PERFORM CONTINUOUS INSPECTIONS OF EROSION CONTROL PRACTICES, ESPECIALLY AFTER EACH RAINFALL EVENT. REFER TO THE TURF ESTABLISHMENT & EROSION CONTROL GUIDELINES PROVIDED.
2. CONTOURS ARE TO FINISHED GROUND GRADE (TOP OF TOPSOIL).
3. EXISTING GROUND AND PROPOSED GROUND CONTOURS ARE APPROXIMATE. EXACT CONTOURS SHALL BE DETERMINED IN THE FIELD BY ENGINEER.
4. EXCAVATION OF THE BMP REQUIRES A TOOTHED BUCKET TO AVOID COMPACTING OR SMEARING SOILS.
5. GRADING OF THE BMP REQUIRES USE OF LOW-IMPACT EARTH-MOVING EQUIPMENT TO PREVENT COMPACTION OF THE UNDERLYING SOILS. SMALL TRACKED DOZERS AND BOBCATS WITH RUNNER TRACKS ARE RECOMMENDED.
6. INSTALL ALL UTILITIES PRIOR TO SETTING FINAL GRADE OF BMP.
7. IF BMP AREA IS BEING USED AS TEMPORARY SEDIMENT BASIN DURING CONSTRUCTION, LEAVE A MINIMUM OF 2 FEET OF COVER OVER THE FINISHED GRADE ELEVATION TO PROTECT THE UNDERLYING SOILS.
8. ENSURE ALL CRITICAL ELEVATIONS ARE CORRECT PRIOR TO TOPSOIL PLACEMENT. A 6-INCH LAYER OF TOPSOIL SHALL BE PLACED ON THE EXPOSED POND SLOPES TO SUPPORT VEGETATION.
9. SEEDING AND INSTALLATION OF EROSION CONTROL BLANKET SHALL BE COMPLETED WITHIN 48 HOURS OF FINAL GRADING.
10. ADDITIONAL INFORMATION PROVIDED ON DRAINAGE PROFILES AND TABULATION SHEETS.
11. FINISHED SLOPE GRADES ARE LISTED AS HORIZONTAL TO VERTICAL (H:V).
12. WYE ANGLE CONNECTION TO BE VERIFIED AT FIELD.

GENERAL CONSTRUCTION NOTES:
1. RESTORE ALL POND EDGES AND WOODED AREAS WITH TYPE WET DITCH SEED (20 LBS/AC), FERTILIZER TYPE 4 (150 LBS/AC), AND COVER CROP SEED OATS (100 LBS/AC). CATEGORY 20 ROLLED EROSION PREVENTION PRODUCT WITH NATURAL NETTING SHALL BE INSTALLED ALONG POND EDGES, BUFFERS, AND NON-MOWABLE SLOPES AS DIRECTED BY THE ENGINEER IN THE FIELD.
2. IF RESTORATION CANNOT BE IMPLEMENTED WITHIN 7 DAYS AFTER CONSTRUCTION ACTIVITY IN THE DISTURBED AREA HAS CEASED, TEMPORARY EROSION STABILIZATION BMPS MUST BE SCHEDULED TO OCCUR WITHIN THAT 7-DAY TIME FRAME AND ARE INCIDENTAL TO THE COST.
3. CONTRACTOR RESPONSIBLE FOR THE DAMAGE TO STREETS, CONCRETE CURB AND GUTTER, SIDEWALKS, AND DRIVEWAYS.
4. DAILY STREET SWEEPING REQUIRED DURING HAULING OPERATIONS (INCIDENTAL TO MOBILIZATION) AND AS DIRECTED BY THE ENGINEER.
5. DEWATERING/DEICING TO TAKE PLACE PRIOR TO EXCAVATION. ICE IS TO BE STOCKPILED ON SITE AND PUT BACK IN THE POND FOLLOWING THE EXCAVATION. DEWATERING PLANS MUST BE DEVELOPED IN ACCORDANCE WITH SWPPP GUIDELINES AND IS INCIDENTAL TO THE COST.
6. CONTRACTOR SHALL PERFORM ALL DEWATERING AND EXCAVATION ONSITE AND OFF OF ROADWAY, AND LOAD AND HAUL OUT USING ACCESS ROUTE.
7. CONTRACTOR TO GRADE AROUND EXISTING STORM SEWER STRUCTURES AS DIRECTED BY THE ENGINEER.
8. CONTRACTOR TO COORDINATE ACCESS LIMITS WITH THE ENGINEER IN THE FIELD. CONTRACTOR SHALL ONLY REMOVE TREES AS MARKED ON PLANS AND APPROVED BY THE ENGINEER IN THE FIELD.

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

POND QUANTITIES			H
ITEM	UNIT	QUANTITIES BY SHEET 131R	TOTALS
EXCAVATION - CHANNEL AND POND (LV)	CU YD	4585	4585
COMMON EMBANKMENT (CV)	CU YD	213	213
POND LINER (3)	SQ YD	957	957

⚠ (3) POND LINER SHALL CONSIST OF PVC PLASTIC. PAID AS POND LINER (SQ YD).

LEGEND

- GUIDE POST TYPE B
- RANDOM RIPRAP
- CATCH BASIN
- MH MANHOLE
- DI DROP INLET
- APRON
- XXXX STRUCTURE
- SURFACE FLOW DIRECTION
- STORM SEWER PIPE
- CULVERT PIPE
- INPLACE STORM SEWER
- INPLACE CULVERT
- CONSTRUCTION LIMITS
- WETLAND BOUNDARY
- (1) ADJUST FRAME AND RING CASTING
- (2) REPLACE CASTING

GENERAL NOTES

1. SEE ROADWAY PROFILE FOR ALL HIGH AND LOW POINTS.

NO.	DATE	BY	CHK	REVISIONS
⚠	2025/02/18	AJF	AJP	UPDATE TO POND LINER BID ITEM

Design By: ZHH
Plan By: ZHH
Checked By: EAE
Approved By: EAE

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

GRADING PLAN

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 131R OF 153 SHEETS

7094

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SIGN AND DELINEATOR / MARKER — J

	SIGN NUMBER	PANEL CODE	LEGEND	SIZE (W x H) INCH	MOUNTING HEIGHT FEET	SUPPORT TYPE	SUPPORT RISER POST SIZE INCHES	SUPPORT NUMBER OF POSTS	REMOVE SIGN EACH (A)	SIGN SQ FT (A)	SIGN SQ FT (B)	DELINEATOR /MARKER PANEL EACH (A)	DELINEATOR /MARKER PANEL EACH (B)
	S-1	W1-6	ONE DIRECTION ARROW	x					1				
	S-2	S1-1	SCHOOL XING	36 x 36	7			1	1	9.00			
		S3-X1	SCHOOL BUS LOADING AREA	24 x 30						5.00			
		R8-3	NO PARKING	24 x 24						4.00			
	S-3	R1-1	STOP	x					1				
	S-4	R3-7R MOD	RIGHT TURN LANE	x					1				
		R8-3	NO PARKING	x									
	S-5	R2-1	SPEED LIMIT 45	24 x 30	7			1	1	5.00			
		R8-3	NO PARKING	24 x 24						4.00			
	S-6	W1-7	DOUBLE ARROW	x					1				
		OM1-2	TYPE 1 OBJECT MARKER	x									
		OM1-2	TYPE 1 OBJECT MARKER	x									
(1)	S-7	R3-4	NO U-TURN	24 x 24	7	SQ-CONC	2	1		4.00			
		R4-7	KEEP RIGHT	24 x 30						5.00			
		OM1-2	TYPE 1 OBJECT MARKER	18 x 18	4							1	
	S-8	DESIGN	CROSSTOWN BLVD	66 x 24	7	SQ-CONC	2-1/2	2		11.00			
	S-9	M3-4	WEST (BLUE)	24 x 12	7	SQ-SOIL	2	1		2.00			
		M1-6M	ANOKA COUNTY 18	24 x 24						4.00			
		M6-2R	ARROW RIGHT (BLUE)	21 x 15						2.19			
	S-10	R6-1R	ONE WAY RIGHT	36 x 12	4	SQ-CONC	2-1/2	1		3.00			
		R6-4A	ROUNDABOUT DIRECTIONAL (3 ARROWS)	48 x 24						8.00			
	S-11	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-SOIL	2-1/2	1		3.00			
		R1-2	YIELD	36x36x36						3.90			
	S-12	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-CONC	2-1/2	1		3.00			
		R1-2	YIELD	36x36x36						3.90			
(1)	S-13	R1-6A	STATE LAW STOP FOR PED W/I X-WALK	12 x 36	1	SQ-CONC	1-3/4	1		3.00			
		R1-6A	STATE LAW STOP FOR PED W/I X-WALK	12 x 36						3.00			
	S-14	R1-1	STOP	30 x 30	7	SQ-SOIL	2	1		6.25			
	S-15	W2-6	ROUNDABOUT	30 x 30	7	SQ-SOIL	2-1/2	1		6.25			
		W13-1P	15 MPH PLAQUE	18 x 18						2.25			
	S-16	R3-8AC	L-T	30 x 36	7	SQ-SOIL	2	1		7.50			
(1)	S-17	R3-4	NO U-TURN	24 x 24	7	SQ-CONC	2	1		4.00			
		R4-7	KEEP RIGHT	24 x 30						5.00			
		OM1-2	TYPE 1 OBJECT MARKER	18 x 18	4							1	
	S-18	DESIGN	NIGHTINGALE ST	72 x 24	7	SQ-CONC	2-1/2	2		12.00			
	S-19	R6-1R	ONE WAY RIGHT	36 x 12	4	SQ-CONC	2-1/2	1		3.00			
		R6-4A	ROUNDABOUT DIRECTIONAL (3 ARROWS)	48 x 24						8.00			
	S-20	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-SOIL	2-1/2	1		3.00			
		R1-2	YIELD	36x36x36						3.90			
	S-21	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-CONC	2-1/2	1		3.00			
		R1-2	YIELD	36x36x36						3.90			
	S-22	R8-3	NO PARKING	24 x 24	7	SQ-SOIL	2	1		4.00			
	S-23	W2-6	ROUNDABOUT	30 x 30	7	SQ-SOIL	2-1/2	1		6.25			
		W13-1P	15 MPH PLAQUE	18 x 18						2.25			
	S-24	W3-2	YIELD AHEAD	36 x 36	7	SQ-SOIL	2	1		9.00			
	S-25	M3-4	WEST (BLUE)	24 x 12	7	SQ-SOIL	2-1/2	1		2.00			
		M1-6M	ANOKA COUNTY 18	24 x 24						4.00			
		M6-3	ARROW UP (BLUE)	21 x 15						2.19			
		M3-1	NORTH (BLUE)	24 x 12						2.00			
		DESIGN	NIGHTINGALE ST NW	30 x 18	7					3.75			
		M5-1R	ADVANCE TURN RIGHT (BLUE)	21 x 15						2.19			
	S-26	M2-1	JCT (BLUE)	21 x 15	7	SQ-SOIL	2-1/2	1		2.19			
		M1-6M	ANOKA COUNTY 18	24 x 24						4.00			
		W16-17P	ROUNDABOUT PLAQUE	36 x 12						3.00			
(1)	S-27	R3-4	NO U-TURN	24 x 24	7	SQ-CONC	2	1		4.00			
		R4-7	KEEP RIGHT	24 x 30						5.00			
		OM1-2	TYPE 1 OBJECT MARKER	18 x 18	4							1	
(1)	S-28	R1-6A	STATE LAW STOP FOR PED W/I X-WALK	12 x 36	1	SQ-CONC	1-3/4	1		3.00			
		R1-6A	STATE LAW STOP FOR PED W/I X-WALK	12 x 36						3.00			
	S-29	DESIGN	CROSSTOWN BLVD	66 x 24	7	SQ-CONC	2-1/2	2		11.00			
	S-30	M3-2	EAST (BLUE)	24 x 12	7	SQ-SOIL	2	1		2.00			
		M1-6M	ANOKA COUNTY 18	24 x 24						4.00			
		M6-2R	ARROW RIGHT (BLUE)	21 x 15						2.19			
	S-31	R6-1R	ONE WAY RIGHT	36 x 12	4	SQ-CONC	2-1/2	1		3.00			
		R6-4A	ROUNDABOUT DIRECTIONAL (3 ARROWS)	48 x 24						8.00			
	S-32	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-SOIL	2-1/2	1		3.00			
		R1-2	YIELD	36x36x36						3.90			
	S-33	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-CONC	2-1/2	1		3.00			
		R1-2	YIELD	36x36x36						3.90			
(1)	S-34	R1-6A	STATE LAW STOP FOR PED W/I X-WALK	12 x 36	1	SQ-CONC	1-3/4	1		3.00			
		R1-6A	STATE LAW STOP FOR PED W/I X-WALK	12 x 36						3.00			
	S-35	W2-6	ROUNDABOUT	30 x 30	7	SQ-SOIL	2-1/2	1		6.25			
		W13-1P	15 MPH PLAQUE	18 x 18						2.25			
	S-36	W3-2	YIELD AHEAD	36 x 36	7	SQ-SOIL	2	1		9.00			
	S-37	M3-1	NORTH (BLUE)	24 x 12	7	SQ-SOIL	2-1/2	1		2.00			
		DESIGN	NIGHTINGALE ST NW	30 x 18						3.75			
		M5-1R	ADVANCE TURN RIGHT (BLUE)	21 x 15						2.19			
		M3-2	EAST (BLUE)	24 x 12	7					2.00			
		M1-6M	ANOKA COUNTY 18	24 x 24						4.00			
		M6-3	ARROW UP (BLUE)	21 x 15						2.19			
	S-38	M2-1	JCT (BLUE)	21 x 15	7	SQ-SOIL	2-1/2	1		2.19			
		M1-6M	ANOKA COUNTY 18	24 x 24						4.00			
		W16-17P	ROUNDABOUT PLAQUE	36 x 12						3.00			

SIGN AND DELINEATOR / MARKER — J

	SIGN NUMBER	PANEL CODE	LEGEND	SIZE (W x H) INCH	MOUNTING HEIGHT FEET	SUPPORT TYPE	SUPPORT RISER POST SIZE INCHES	SUPPORT NUMBER OF POSTS	REMOVE SIGN EACH (A)	SIGN SQ FT (A)	SIGN SQ FT (B)	DELINEATOR /MARKER PANEL EACH (A)	DELINEATOR /MARKER PANEL EACH (B)
	S-39	M2-1	JCT (BLUE)	21 x 15	7	SQ-SOIL	2-1/2	1			2.19		
		M1-6M	ANOKA COUNTY 18	24 x 24							4.00		
		W16-17P	ROUNDABOUT PLAQUE	36 x 12							3.00		
	S-40	R8-3	NO PARKING	24 x 24	7	SQ-SOIL	2	1			4.00		
	S-41	R1-1	STOP	30 x 30	7	SQ-SOIL	2	1			6.25		
	S-42	R3-7R MOD	RIGHT LANE MUST TURN RIGHT	30 x 30	7	SQ-SOIL	2	1			6.25		
	S-43	DESIGN	NIGHTINGALE ST	72 x 24	7	SQ-CONC	2-1/2	2			12.00		
		OM1-2	TYPE 1 OBJECT MARKER	18 x 18									1
	S-44	R6-1R	ONE WAY RIGHT	36 x 12	4	SQ-CONC	2-1/2	1			3.00		
		R6-4A	ROUNDABOUT DIRECTIONAL (3 ARROWS)	48 x 24							8.00		
	S-45	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-SOIL	2-1/2	1			3.00		
		R1-2	YIELD	36x36x36							3.90		
	S-46	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-CONC	2-1/2	1			3.00		
		R1-2	YIELD	36x36x36							3.90		
	S-47	R2-1	SPEED LIMIT 30	24 x 30	7	SQ-SOIL	2	1			5.00		
	S-48	DESIGN	VETERANS MEM BLVD	66 x 24	7	SQ-CONC	2-1/2	2			11.00		
		OM1-2	TYPE 1 OBJECT MARKER	18 x 18									1
	S-49	R6-1R	ONE WAY RIGHT	36 x 12	4	SQ-CONC	2-1/2	1			3.00		
		R6-4A	ROUNDABOUT DIRECTIONAL (3 ARROWS)	48 x 24							8.00		
	S-50	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-SOIL	2-1/2	1			3.00		
		R1-2	YIELD	36x36x36							3.90		
	S-51	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-CONC	2-1/2	1			3.00		
		R1-2	YIELD	36x36x36							3.90		
	S-52	W2-6	ROUNDABOUT	30 x 30	7	SQ-SOIL	2-1/2	1			6.25		
		W13-1P	15 MPH PLAQUE	18 x 18							2.25		
	S-53	W3-2	YIELD AHEAD	36 x 36	7	SQ-SOIL	2	1			9.00		
	S-54	R2-1	SPEED LIMIT 55	24 x 30	7	SQ-SOIL	2	1			5.00		
(1)	S-55	R3-4	NO U-TURN	24 x 24	7	SQ-CONC	2	1			4.00		
		R4-7	KEEP RIGHT	24 x 30							5.00		
		OM1-2	TYPE 1 OBJECT MARKER	18 x 18	4								1
	S-56	R8-3	NO PARKING	24 x 24	7	SQ-SOIL	2	1			4.00		
	S-57	DESIGN	NIGHTINGALE ST	72 x 24	7	SQ-CONC	2-1/2	2			12.00		
		OM1-2	TYPE 1 OBJECT MARKER	18 x 18									1
	S-58	R6-1R	ONE WAY RIGHT	36 x 12	4	SQ-CONC	2-1/2	1			3.00		
		R6-4A	ROUNDABOUT DIRECTIONAL (3 ARROWS)	48 x 24							8.00		
	S-59	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-SOIL	2-1/2	1			3.00		
		R1-2	YIELD	36x36x36							3.90		
	S-60	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-CONC	2-1/2	1			3.00		
		R1-2	YIELD	36x36x36							3.90		
	S-61	W2-6	ROUNDABOUT	30 x 30	7	SQ-SOIL	2-1/2	1			6.25		
		W13-1P	15 MPH PLAQUE	18 x 18							2.25		
(1)	S-62	R3-4	NO U-TURN	24 x 24	7	SQ-CONC	2	1			4.00		
		R4-7	KEEP RIGHT	24 x 30							5.00		
		OM1-2	TYPE 1 OBJECT MARKER	18 x 18	4								1
	S-63	R2-1	SPEED LIMIT 35	24 x 30	7	SQ-SOIL	2	1			5.00		
	S-64	DESIGN	VETERANS MEM BLVD	66 x 24	7	SQ-CONC	2-1/2	2			11.00		
		OM1-2	TYPE 1 OBJECT MARKER	18 x 18									1
	S-65	R6-1R	ONE WAY RIGHT	36 x 12	4	SQ-CONC	2-1/2	1			3.00		
		R6-4A	ROUNDABOUT DIRECTIONAL (3 ARROWS)	48 x 24							8.00		
	S-66	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-SOIL	2-1/2	1			3.00		
		R1-2	YIELD	36x36x36							3.90		
	S-67	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-CONC	2-1/2	1			3.00		
		R1-2	YIELD	36x36x36							3.90		
(1)	S-68	R3-4	NO U-TURN	24 x 24	7	SQ-CONC	2	1			4.00		
		R4-7	KEEP RIGHT	24 x 30							5.00		
		OM1-2	TYPE 1 OBJECT MARKER	18 x 18	4								1
	S-69	W2-6	ROUNDABOUT	30 x 30	7	SQ-SOIL	2-1/2	1			6.25		
		W13-1P	15 MPH PLAQUE	18 x 18							2.25		
	S-70	R8-3	NO PARKING	24 x 24	7	SQ-SOIL	2	1			4.00		
	S-71	R3-8AC	L-T	30 x 36	7	SQ-SOIL	2	1			7.50		
								GROUP SUBTOTAL	6	309	263	3	7
								PROJECT TOTAL	6	572		10	

SPECIFIC NOTE(S):
(1) MOUNTED BACK TO BACK.

SIGN TYPE SPECIAL — K

SIGN NUMBER	LEGEND	SIZE (W x H) INCH	MOUNTING HEIGHT FEET	SUPPORT NUMBER OF POSTS	SUPPORT SURFACE TYPE (2)	SIGN TYPE SPECIAL SQ FT (A)	SIGN TYPE SPECIAL SQ FT (B)
S-501	150TH LN NW	30 x 9	7	1	R-SOIL	3.75	
	NIGHTINGALE ST NW	42 x 9				5.25	
S-502	151ST LN NW	30 x 9	7	1	R-SOIL		3.75
	NIGHTINGALE ST NW	42 x 9					5.25
					GROUP SUBTOTAL	9	9
					PROJECT TOTAL	18	

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.
ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES
JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER
OCTOBER 2026

SPECIFIC NOTE(S):
(2) SEE ANDOVER SIGN SPEC FOR MOUNTING INFORMATION.

FUNDING NOTES:
(A) GROUP A = SP 198-124-004
(B) GROUP B = SP 198-124-003

RECORD PLAN 2026
CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN
INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

NO.	DATE	BY	CHK	REVISIONS
1	5/27/25	MF	SD	SIGN QUANTITY AND MOUNTING REVISIONS

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

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

PRINT NAME: SEAN DELMORE, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 40945

wsb

CITY OF ANDOVER

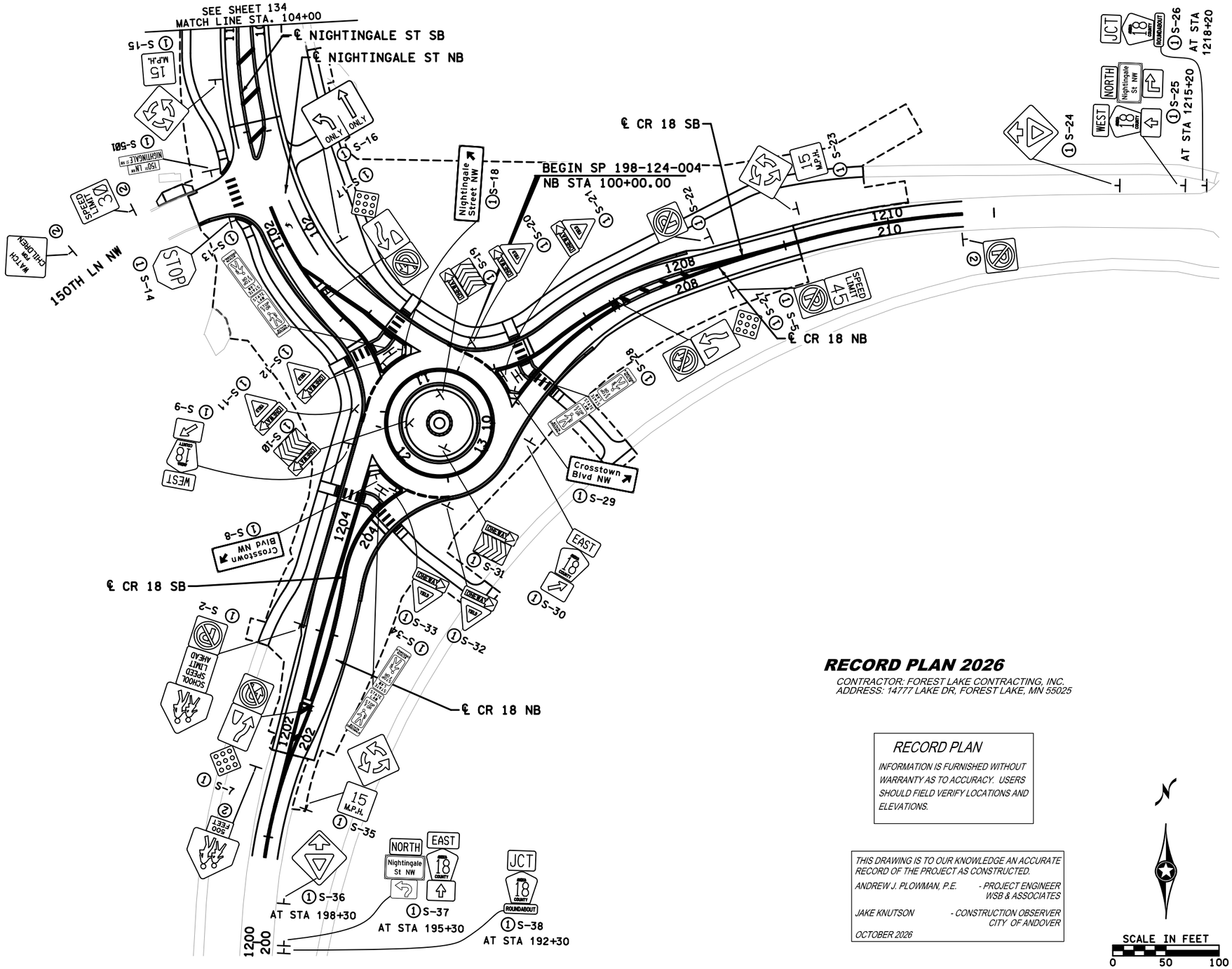
Nightingale Street NW Roundabouts

TABULATION
SIGNING PLAN
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 132 OF 153 SHEETS

7095

County Road 18



LEGEND

①	FURNISH & INSTALL
②	INPLACE
⑥	INSTALL

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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ANDREW J. PLOWMAN, P.E. - *PROJECT ENGINEER WSB & ASSOCIATES*

JAKE KNUTSON - *CONSTRUCTION OBSERVER CITY OF ANDOVER*

OCTOBER 2026

SCALE IN FEET
0 50 100

NO.	DATE	BY	CHK	REVISIONS

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

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

COUNTY ROAD 18

SIGNING PLAN

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

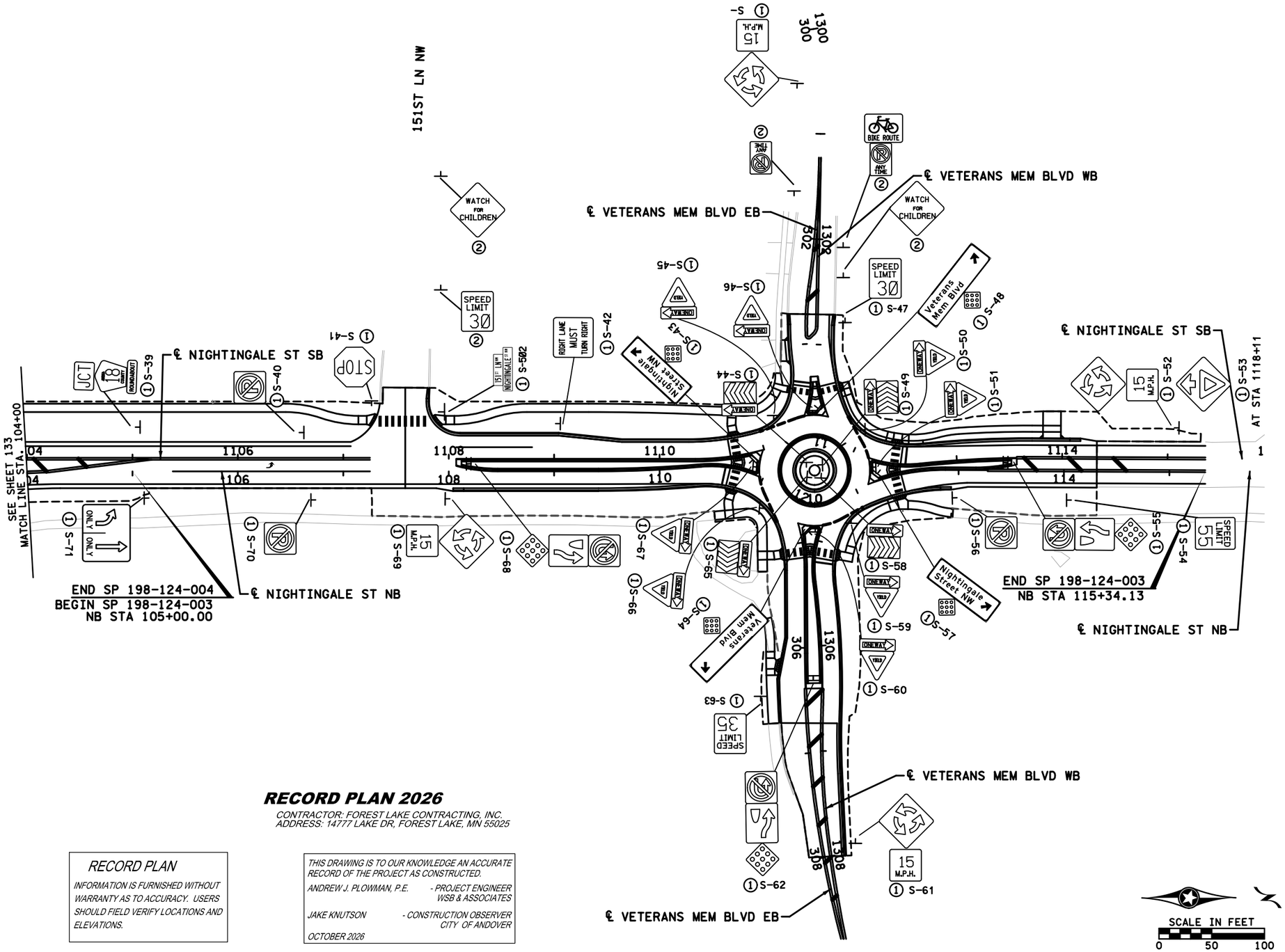
SHEET **133** OF **153** SHEETS

7096

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Nightingale Street NW



RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

SCALE IN FEET
0 50 100

LEGEND

① FURNISH & INSTALL
② INPLACE
⑥ INSTALL

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: SEAN DELMORE, PE

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DATE 6/19/2026 LICENSE # 40945

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

NIGHTINGALE STREET NW
SIGNING PLAN
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

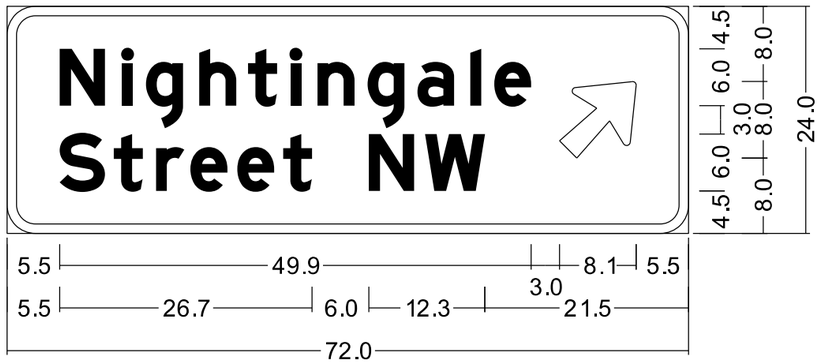
SHEET 134 OF 153 SHEETS

7097

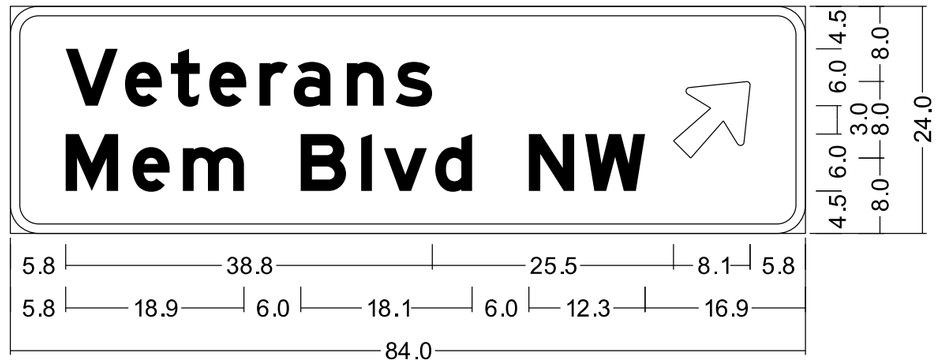
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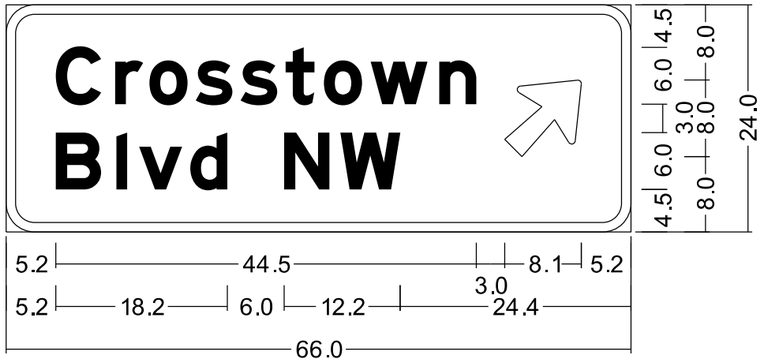
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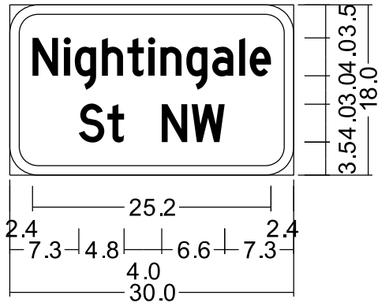
3.0" Radius, 1.0" Border, White on Green;
"Nightingale", E Mod 75% spacing;
"Street NW", E Mod 75% spacing; Arrow 3 - 10.0" 45°;



3.0" Radius, 1.0" Border, White on Green;
"Veterans", E Mod 75% spacing;
"Mem Blvd NW", E Mod 75% spacing; Arrow 3 - 10.0" 45°;



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



3.0" Radius, 1.0" Border, White on Green;
"Nightingale", D 60% spacing;
"St NW", D 60% spacing;

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

ALL DIMENSIONS ARE IN INCHES.

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: SEAN DELMORE, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 40945

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

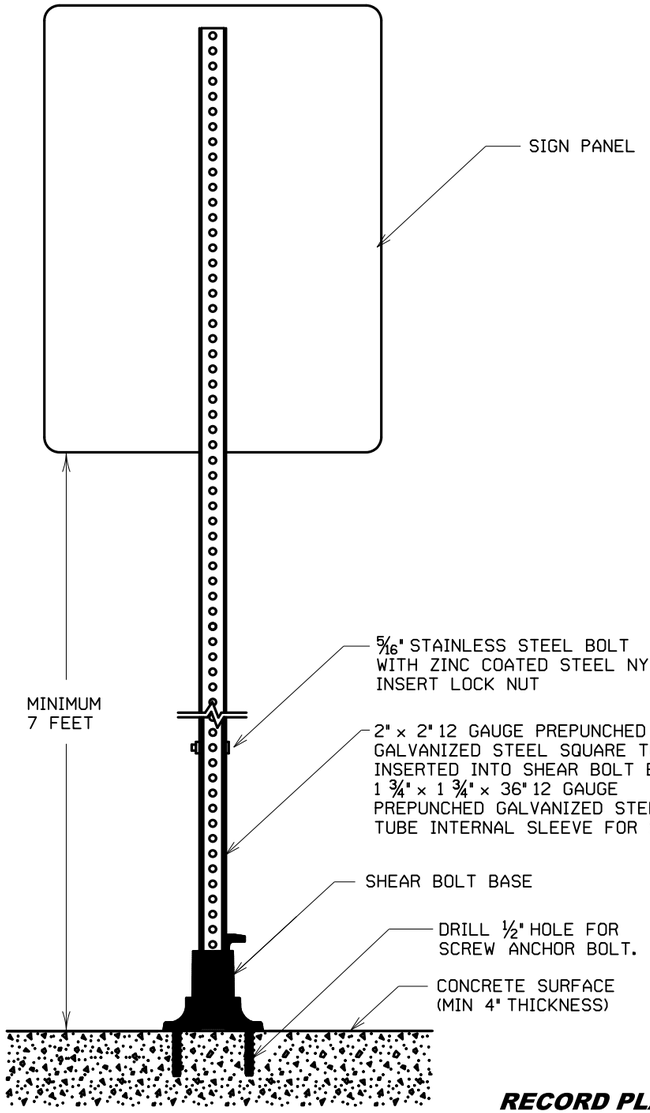
DETAILS
SIGNING PLAN
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET **135** OF **153** SHEETS

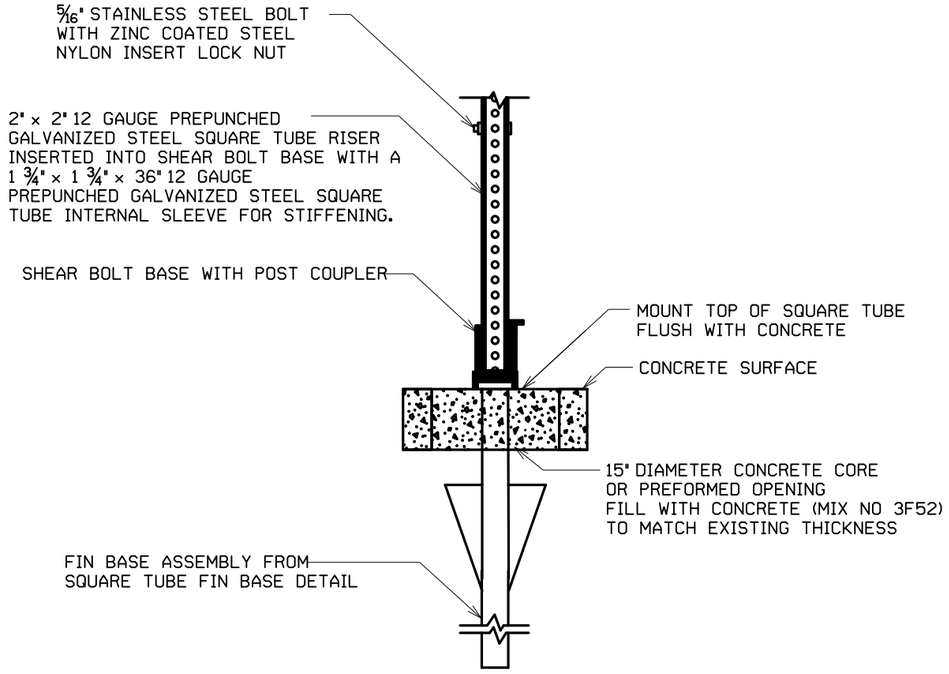
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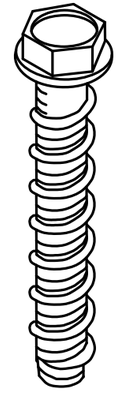
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SHEAR BOLT BASE MOUNTED
TO CONCRETE SURFACE



SHEAR BOLT BASE CORED THROUGH CONCRETE



SCREW ANCHOR BOLT

5" LONG CARBON STEEL
THAT MUST MEET A MINIMUM
ALLOWABLE TENSION LOAD
OF 2270 PSI.

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

NOTES:

1. THE CRASH RESPONSE TYPE FOR THIS STRUCTURE IS BREAKAWAY.
2. TO MEET CRASHWORTHY REQUIREMENTS THE DISTANCE BETWEEN THE BOTTOM OF THE SIGN PANEL AND THE GROUND SURFACE BELOW ANY PORTION OF THE PRIMARY SIGN PANEL MUST BE A MINIMUM OF 7 FEET. SEE TABULATIONS FOR MOUNTING HEIGHT.
3. INSTALLATION OF SHEAR BOLT BASE MUST BE NO EARLIER THAN 3 DAYS AFTER CONCRETE IS PLACED.
4. FOR SHEAR BOLT BASE USE APPROVED PRODUCT FROM MnDOT APPROVED PRODUCTS LIST, PRODUCT MUST BE MODIFIED AS SHOWN.
5. USE ANTI SEIZE ON THE SHEAR BOLT CONNECTIONS.
6. FOR SIGN PANEL MOUNTING DETAILS SEE SQUARE TUBE SIGN MOUNTING DETAILS.
7. SQUARE TUBE SIGN POSTS PER MnDOT SPEC. 3402.

SHEAR BOLT BASE
FOR 2 INCH SQUARE TUBE RISER POST ON CONCRETE

SIGNING DETAIL

1 OF 1

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: SEAN DELMORE, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 40945

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Nightingale Street NW Roundabouts

DETAILS

SIGNING PLAN

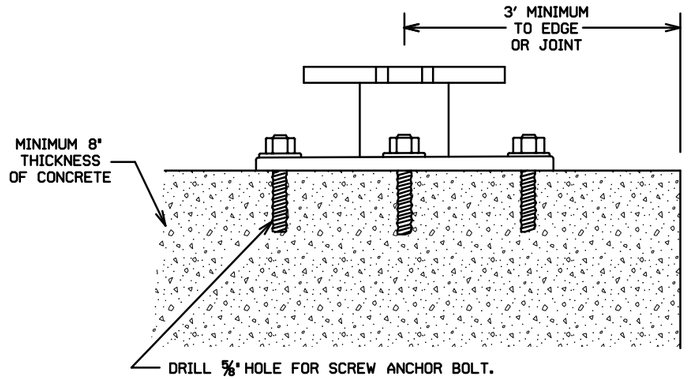
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET **136** OF **153** SHEETS

7099

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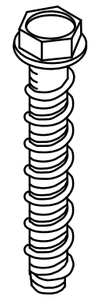
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THE MINIMUM CONCRETE SURFACE REQUIRED FOR MOUNTING THE SLIP BASE IS 6 FEET BY 6 FEET.

SLIP BASE MOUNTED TO CONCRETE SURFACE DETAIL

RISER POSTS TO BE MOUNTED CLOSE TO PLUMB. UP TO A MAXIMUM OF ½" OF SHIM WASHERS MAY BE USED BETWEEN SHEAR BOLT BASE AND CONCRETE FOR LEVELING. IF MORE THAN ½" OF SHIMS ARE REQUIRED, THEN CORE THROUGH THE CONCRETE. IF CONCRETE IS LESS THAN 8" THICK, THEN CORE THROUGH THE CONCRETE.



SCREW
ANCHOR BOLT

6" LONG CARBON STEEL WITH 2700 POUNDS OF PULL OUT STRENGTH.

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

REV 5/04/21

SLIP BASE

MOUNTED TO CONCRETE SURFACE

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: SEAN DELMORE, PE

DATE 6/19/2026 LICENSE # 40945

RECORD DRAWING

wsb

Nightingale Street NW Roundabouts

DETAILS
SIGNING PLAN
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET **137** OF **153** SHEETS

7100

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PAVEMENT MARKING TABULATION

L

LOCATION	MULTI-COMPONENT			PREFORM THERMOPLASTIC GROUND IN						PREFORM THERMOPLASTIC GROUND IN CONTRAST	
	4" SOLID LINE		4" DOUBLE SOLID LINE	4" SOLID LINE		4" DOUBLE SOLID LINE	24" SOLID LINE		PAVEMENT MESSAGE	8" DOTTED LINE (1)	CROSSWALK
	WHITE	YELLOW	YELLOW	WHITE	YELLOW	YELLOW	WHITE	YELLOW	LEFT ARROW	WHITE	
	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	SQ FT	LIN FT	SQ FT
SP 198-124-004											
NIGHTINGALE ST											
STA 100+91 TO STA 104+00	588	128	466				17	58	16		150
STA 104+00 TO STA 105+00.00	202		202					28			
CR 18											
STA 200+80.40 TO STA 204+10				824	474	250	18	16			
STA 206+30 TO STA 210+06.05				1033	286	513	17	27			
CR 18 RADIAL											
STA 10+00.00 TO STA 13+26.73				262						68	540
SP 198-124-003											
NIGHTINGALE ST											
STA 105+00.00 TO STA 110+67			244	1278	523		17		16		240
STA 112+45 TO STA 115+34.13	574	195	387				17	51			
VETERANS MEMORIAL BLVD											
STA 302+71.77 TO STA 303+41			347	66	20		17	19			
STA 305+14 TO STA 308+01.85			638		250		17	76			
VETERANS RADIAL											
STA 10+00.00 TO STA 12+14.99				474	624	625				96	540
SP 198-124-003 FUNDING GROUP SUMMARY											
CITY OF ANDOVER SUBTOTAL:	574	195	1616	1818	1417	625	68	146	16	96	780
TOTAL:	769		1616	3235			214		16	96	780
SUBTOTAL SP 198-124-003	**769**		**1616**	**3235**			**214**		**16**	**96**	**780**
SP 198-124-004 FUNDING GROUP SUMMARY											
ANOKA COUNTY SUBTOTAL:	790	128	668	2119	760	763	52	129	16	68	
TOTAL:	918		668	2879		763	181		16	68	
CITY OF ANDOVER SUBTOTAL:											690
TOTAL:											690
SUBTOTAL SP 198-124-004	**918**		**668**	**2879**		**763**	**181**		**16**	**68**	**690**
PROJECT SUBTOTAL	1364	323	2284	3937	2177	1388	120	275	32	164	1470
PROJECT TOTAL	1687		2284	6114		1388	395		32	164	1470

NOTES:
(1) 3' LINE AND 3' GAP

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: SEAN DELMORE, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 40945

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

TABULATION

STRIPING PLAN

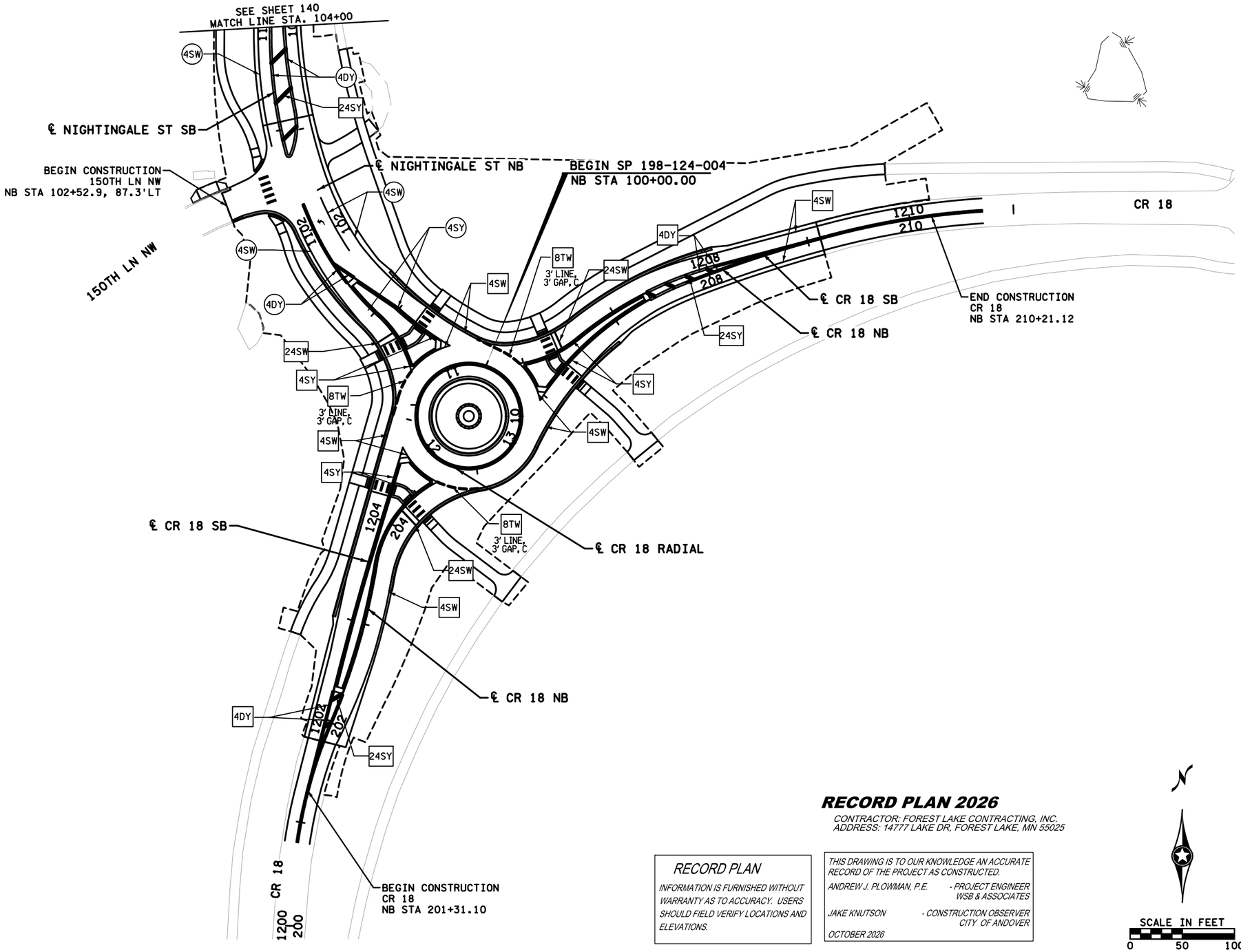
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET **138** OF **153** SHEETS

7101

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County Road 18



LEGEND

- CIRCLE - MULTI-COMP
- SQUARE - PREF THERMO GR IN
- CROSSWALK - PREF THERMO GR IN

MULTI-COMP

1ST DIGIT WIDTH
4",8",ETC.

2ND DIGIT PATTERN
S = SOLID
B = BROKEN
D = DOUBLE
T = DOTTED

3RD DIGIT COLOR
W = WHITE
Y = YELLOW
B = BLACK

EXAMPLE: 4SW = 4" SOLID LINE WHITE - MULTI-COMP

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

SCALE IN FEET
0 50 100

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

COUNTY ROAD 18

STRIPING PLAN

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

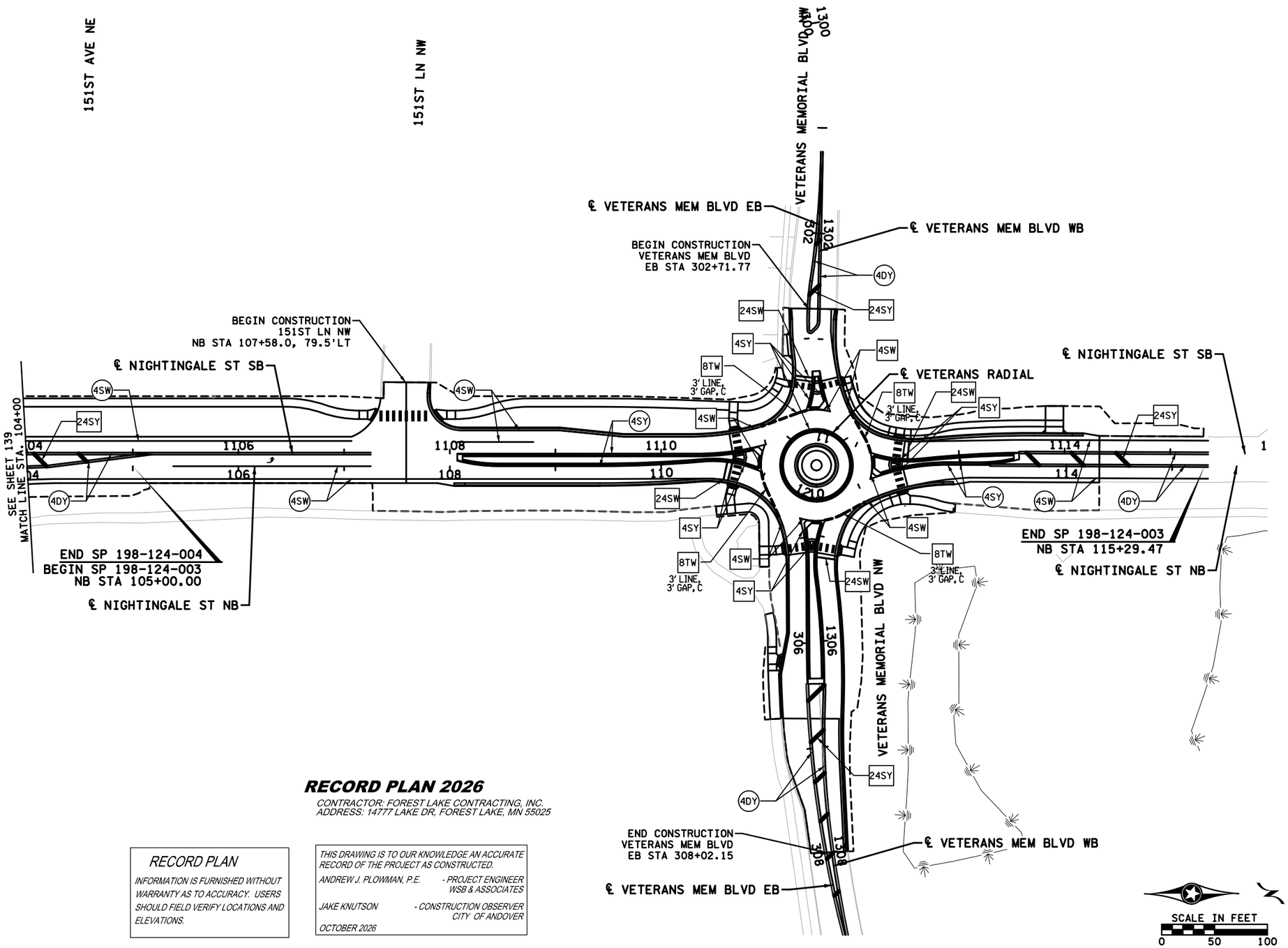
SHEET 139 OF 153 SHEETS

7102

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Nightingale Street NW



LEGEND

- CIRCLE - MULTI-COMP
- SQUARE - PREF THERMO GR IN
- CROSSWALK - PREF THERMO GR IN

MULTI-COMP

1ST DIGIT WIDTH
4",8",ETC.

2ND DIGIT PATTERN
S = SOLID
B = BROKEN
D = DOUBLE
T = DOTTED

3RD DIGIT COLOR
W = WHITE
Y = YELLOW
B = BLACK

EXAMPLE: 4SW = 4" SOLID LINE WHITE - MULTI-COMP

RECORD PLAN 2026

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ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

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RECORD DRAWING

DATE 6/19/2026 LICENSE # 40945

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

NIGHTINGALE STREET NW
STRIPING PLAN
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 140 OF 153 SHEETS

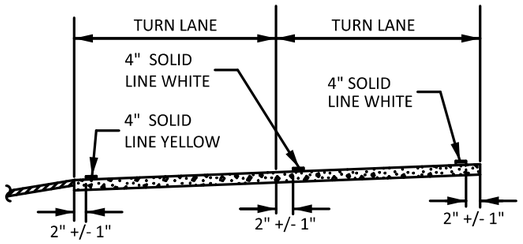
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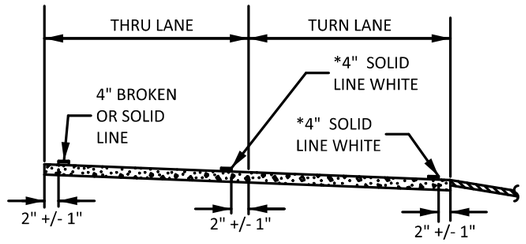
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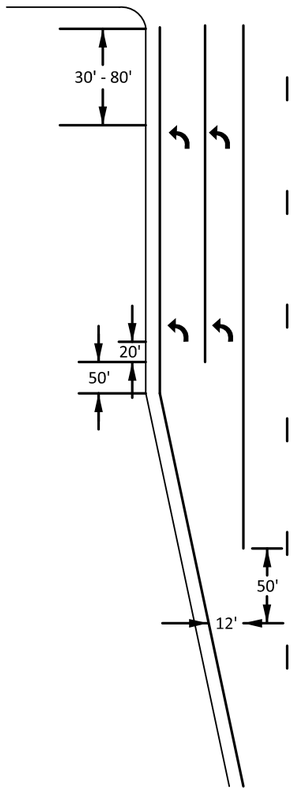
TURN LANE WITH ARROW MESSAGE

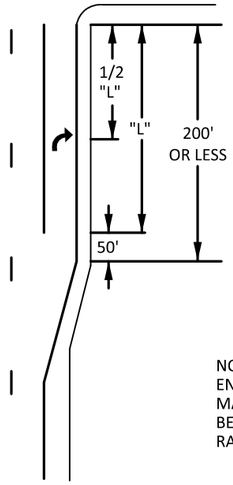
LEFT TURN LANE



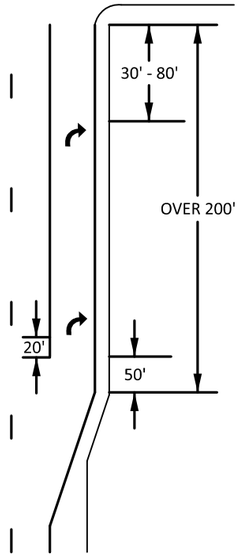
RIGHT TURN LANE





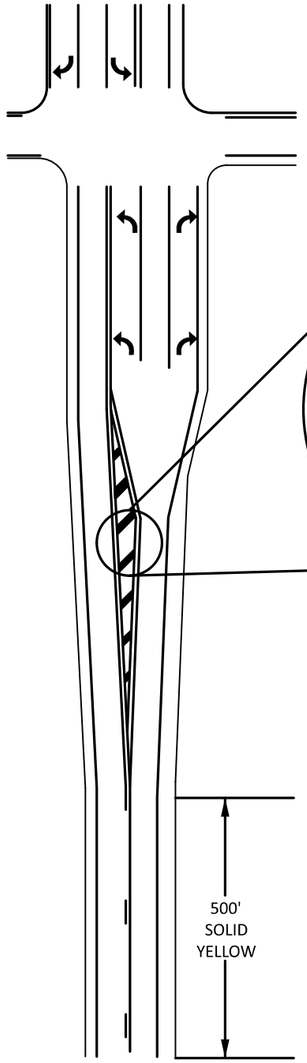


NOTE:
END PAVEMENT MARKINGS AT BEGINNING OF RADIUS

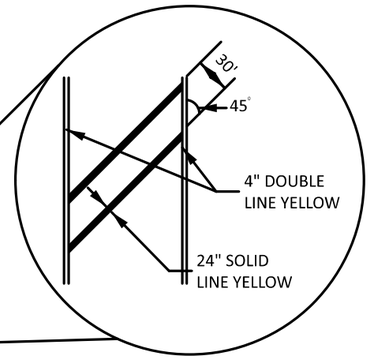


LEFT TURN LANE ISLAND

NOTE:
END PAVEMENT MARKINGS AT BEGINNING OF RADIUS



TYPICAL MARKINGS FOR LEFT TURN ISLANDS



RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

PUBLISHED BY OTE: 16 NOV 2021 | MODIFIED: 07 OCT 2024

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NO.	DATE	BY	CHK	REVISIONS

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Plan By: MF
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Approved By: SD

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PRINT NAME: SEAN DELMORE, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 48945

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Nightingale Street NW Roundabouts

DETAILS

STRIPING PLAN

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET **141** OF **153** SHEETS

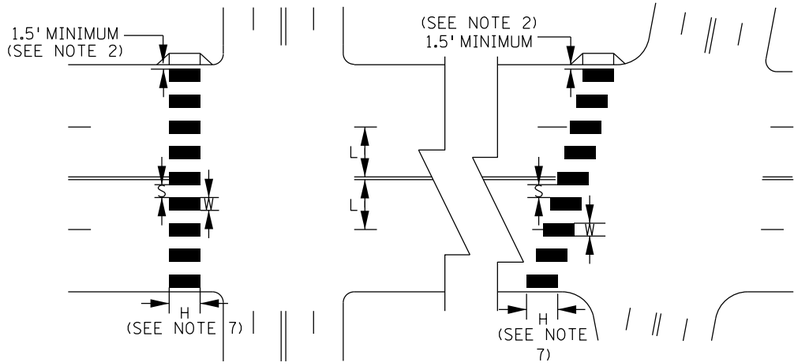
7104

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PEDESTRIAN CROSSWALK MARKINGS

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



NOTES:

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

RECORD PLAN 2026

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ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

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Nightingale Street NW Roundabouts

DETAILS

STRIPING PLAN

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 142 OF 153 SHEETS

7105

PLOTTED/REVISED: 6/19/2026 11:38:02 AM

LIGHTING SYSTEM W (BY OTHERS)					
LIGHTING STANDARDS AND FOUNDATIONS					
NO.	STATION	LT	RT	LOCATION	TYPE
W1	100+40		X	NIGHTINGALE ST (NB)	BY OTHERS
W2	1206+80	X		CR 18 (SB)	BY OTHERS
W3	1208+70	X		CR 18 (SB)	BY OTHERS
W4	205+70		X	CR 18 (NB)	BY OTHERS
W5	204+85		X	CR 18 (NB)	BY OTHERS
W6	203+65		X	CR 18 (NB)	BY OTHERS
W7	1100+95	X		NIGHTINGALE ST (SB)	BY OTHERS
W8	1204+90	X		CR 18 (SB)	BY OTHERS
W9	1201+70	X		CR 18 (SB)	BY OTHERS
W10	1103+10	X		NIGHTINGALE ST (SB)	BY OTHERS

LIGHTING SYSTEM X (BY OTHERS)					
LIGHTING STANDARDS AND FOUNDATIONS					
NO.	STATION	LT	RT	LOCATION	TYPE
X1	112+30		X	NIGHTINGALE ST (NB)	BY OTHERS
X2	1303+70	X		VETERANS MEM BLVD (WB)	BY OTHERS
X3	302+90		X	VETERANS MEM BLVD (EB)	BY OTHERS
X4	303+70		X	VETERANS MEM BLVD (EB)	BY OTHERS
X5	1113+00	X		NIGHTINGALE ST (SB)	BY OTHERS
X6	1114+95	X		NIGHTINGALE ST (SB)	BY OTHERS
X7	1305+45	X		VETERANS MEM BLVD (WB)	BY OTHERS
X8	304+90		X	VETERANS MEM BLVD (EB)	BY OTHERS
X9	110+40		X	NIGHTINGALE ST (NB)	BY OTHERS
X10	108+40		X	NIGHTINGALE ST (NB)	BY OTHERS
X11	1307+50	X		VETERANS MEM BLVD (WB)	BY OTHERS

RRFB TABULATION			L
ITEM DESCRIPTION	UNIT	SP 198-124-003	SP 198-124-004
PEDESTRIAN CROSSWALK FLASHER SYSTEM A	SYSTEM		1
PEDESTRIAN CROSSWALK FLASHER SYSTEM B	SYSTEM	1	

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

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OCTOBER 2026

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DATE 6/19/2026 LICENSE # 40945

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

TAB AND SCHEDULES

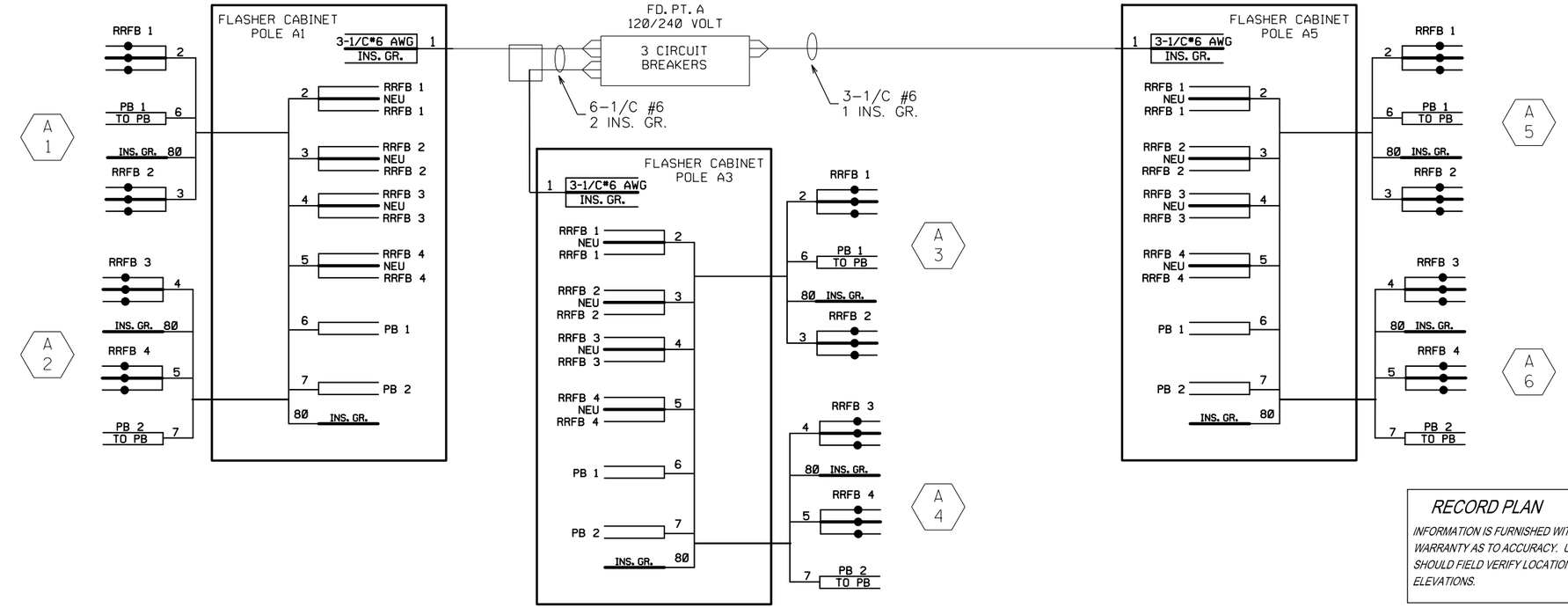
RRFB PLAN

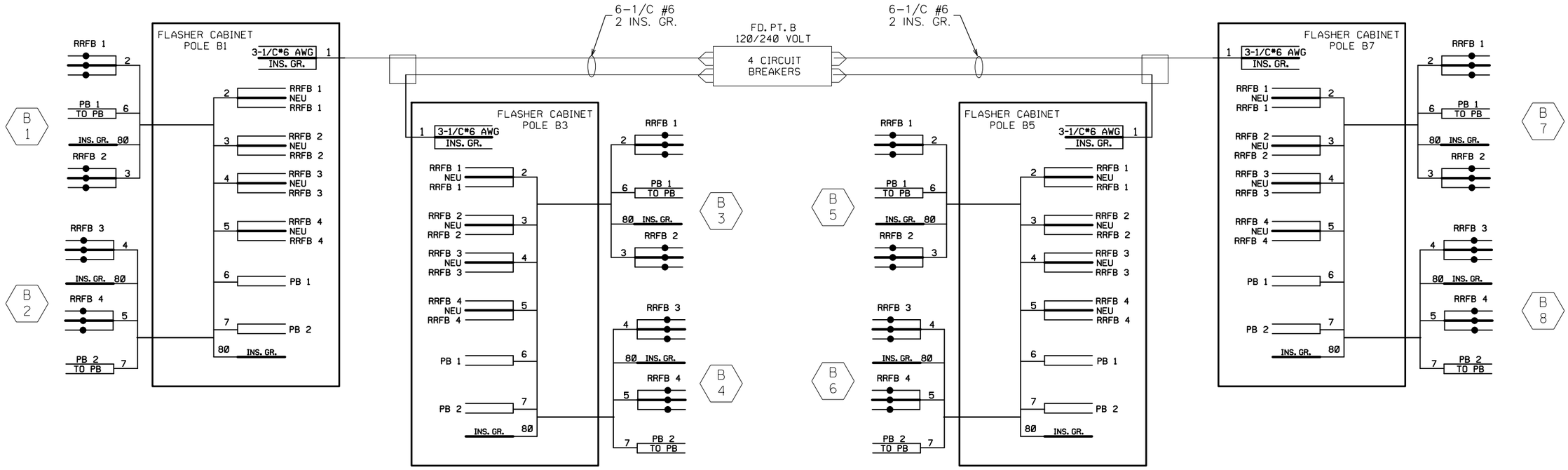
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET **143** OF **153** SHEETS

7106

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OCTOBER 2026

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RECORD DRAWING

DATE 6/19/2026 LICENSE # 40945

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

WIRING DIAGRAMS

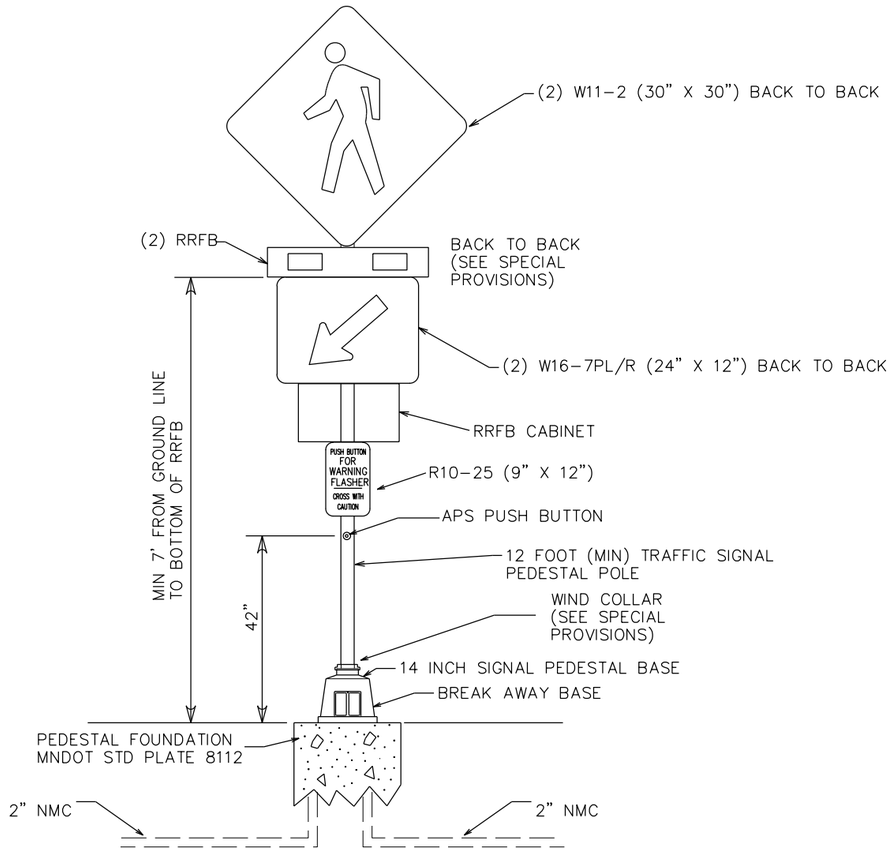
RRFB PLAN

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 144 OF 153 SHEETS

7107

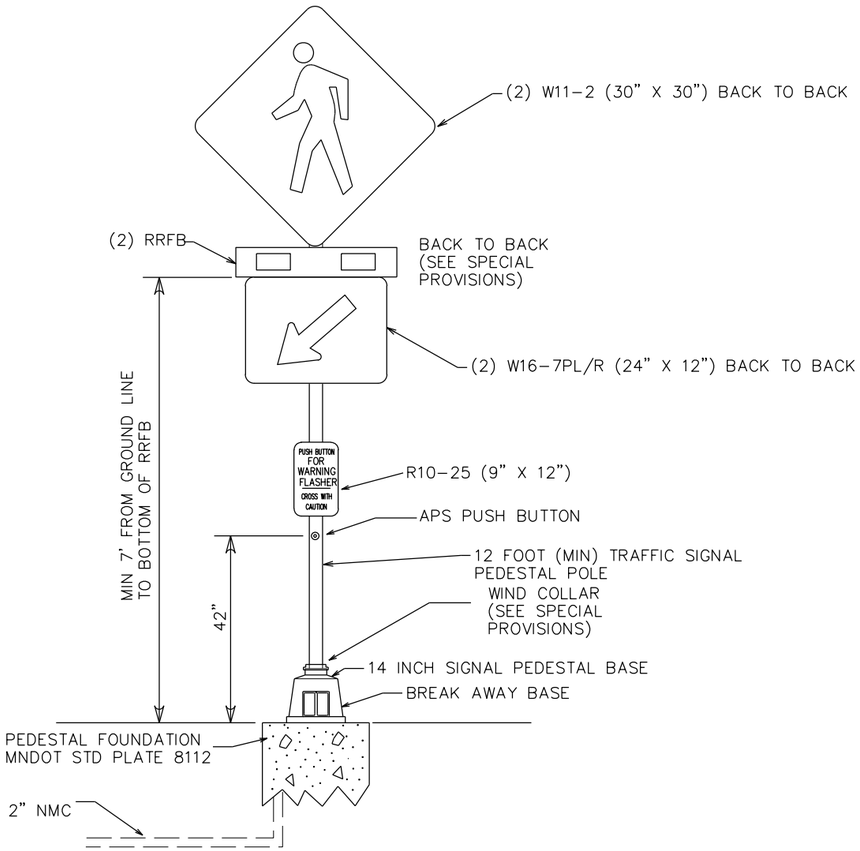
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RRFB POLES A1, A3, A5, B1, B3, B5 AND B7 CONFIGURATION DETAIL

NOT TO SCALE

NOTE:
PEDESTAL FOUNDATION AS PER MNDOT STD PLATE 8112
12' (MIN) PEDESTAL AND BASE WIND COPPAR FOR PEDESTAL POLE AND POLE CAP
2-W11-2 (30" X 30") SIGN PANEL PEDESTAL POLE MOUNTED
2-LED RECTANGULAR RAPID FLASH BEACON (RRFB)
MOUNT BETWEEN TYPE C SIGNS
SEE SPECIAL PROVISIONS
FLASHER CABINET - PEDESTAL POLE MOUNTED
W16-7mPL (24" X 18") SIGN PANEL PEDESTAL POLE MOUNTED
PEDESTAL POLE MOUNTING BRACKETING AND HARDWARE
1-PEDESTRIAN PUSH BUTTON AND SIGN SIDEWALK SIDE OF POLE RIGHT ARROW
EXTEND FROM FLASHER CABINET TO FEEDPOINT A OR B:
2" CONDUIT
3-1/C #6 AWG
2-1/C #6 AWG INS GR
EXTEND FROM FLASHER CABINET TO DOWNSTREAM PEDESTAL POLE:
2-3/C #14 AWG
1-2/C #14 AWG
1-1/C #6 AWG INS GR



RRFB POLES A2, A4, A6, B2, B4, B6 AND B8 CONFIGURATION DETAIL

NOT TO SCALE

NOTE:
PEDESTAL FOUNDATION AS PER MNDOT STD PLATE 8112
12' (MIN) PEDESTAL AND BASE WIND COPPAR FOR PEDESTAL POLE AND POLE CAP
2-W11-2 (30" X 30") SIGN PANEL PEDESTAL POLE MOUNTED
2-LED RECTANGULAR RAPID FLASH BEACON (RRFB)
MOUNT BETWEEN TYPE C SIGNS
SEE SPECIAL PROVISIONS
W16-7mPL (24" X 18") SIGN PANEL PEDESTAL POLE MOUNTED
PEDESTAL POLE MOUNTING BRACKETING AND HARDWARE
1-PEDESTRIAN PUSH BUTTON AND SIGN SIDEWALK SIDE OF POLE RIGHT ARROW

RECORD PLAN 2026

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

NO.	DATE	BY	CHK	REVISIONS

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

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

PRINT NAME: SEAN DELMORE, PE

RECORD DRAWING

DATE 6/19/2026 LICENSE # 40945

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

DETAILS

RRFB PLAN

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

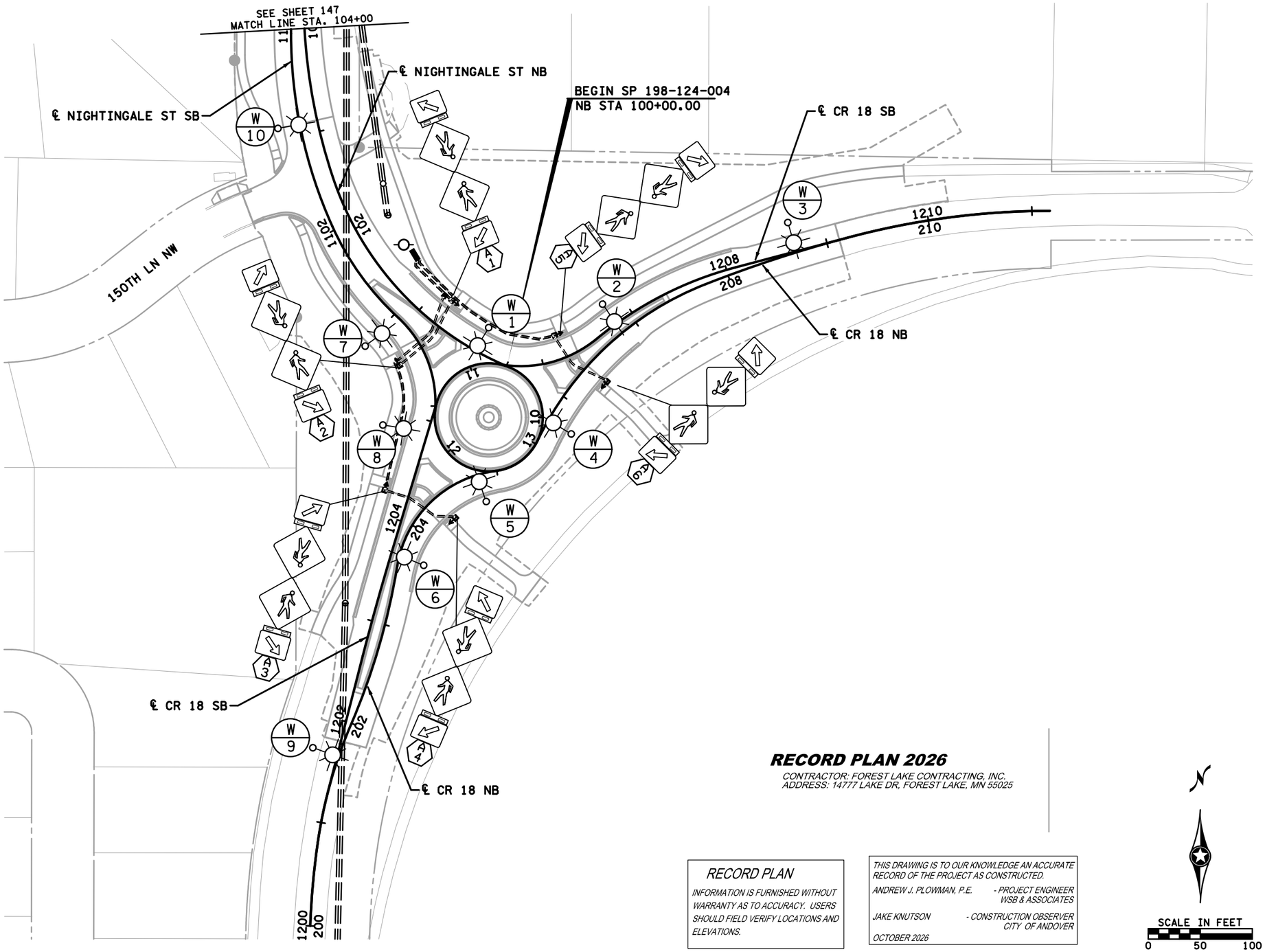
SHEET 145 OF 153 SHEETS

7108

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County Road 18



RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

SCALE IN FEET
0 50 100

LEGEND

- LIGHTING UNIT (BY OTHERS)
- 2" NMC (UNLESS OTHERWISE NOTED)
- OHP
- SERVICE CABINET
- HANDHOLE
- PEDESTAL
- LIGHTING SYSTEM / UNIT ID
- RRFB SYSTEM / POLE ID

NOTES:
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES PRIOR TO WORK.
2. THE CONTRACTOR SHALL COORDINATE THE PLACEMENT OF CONDUIT AND FOUNDATIONS WITH OTHER CONSTRUCTION ACTIVITIES IN THE AREA.
3. THE CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS AND UTILITY COORDINATION.
4. ALL MATERIAL AND WORK SHALL BE IN ACCORDANCE WITH THE N.E.C.
5. EXACT LOCATIONS OF PEDESTAL AND SERVICE CABINET FOUNDATIONS SHALL BE STAKED IN THE FIELD FOR ENGINEER APPROVAL.

NO.	DATE	BY	CHK	REVISIONS

Design By: MF
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RECORD DRAWING

DATE 6/19/2026 LICENSE # 40945

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

COUNTY ROAD 18

RRFB PLAN

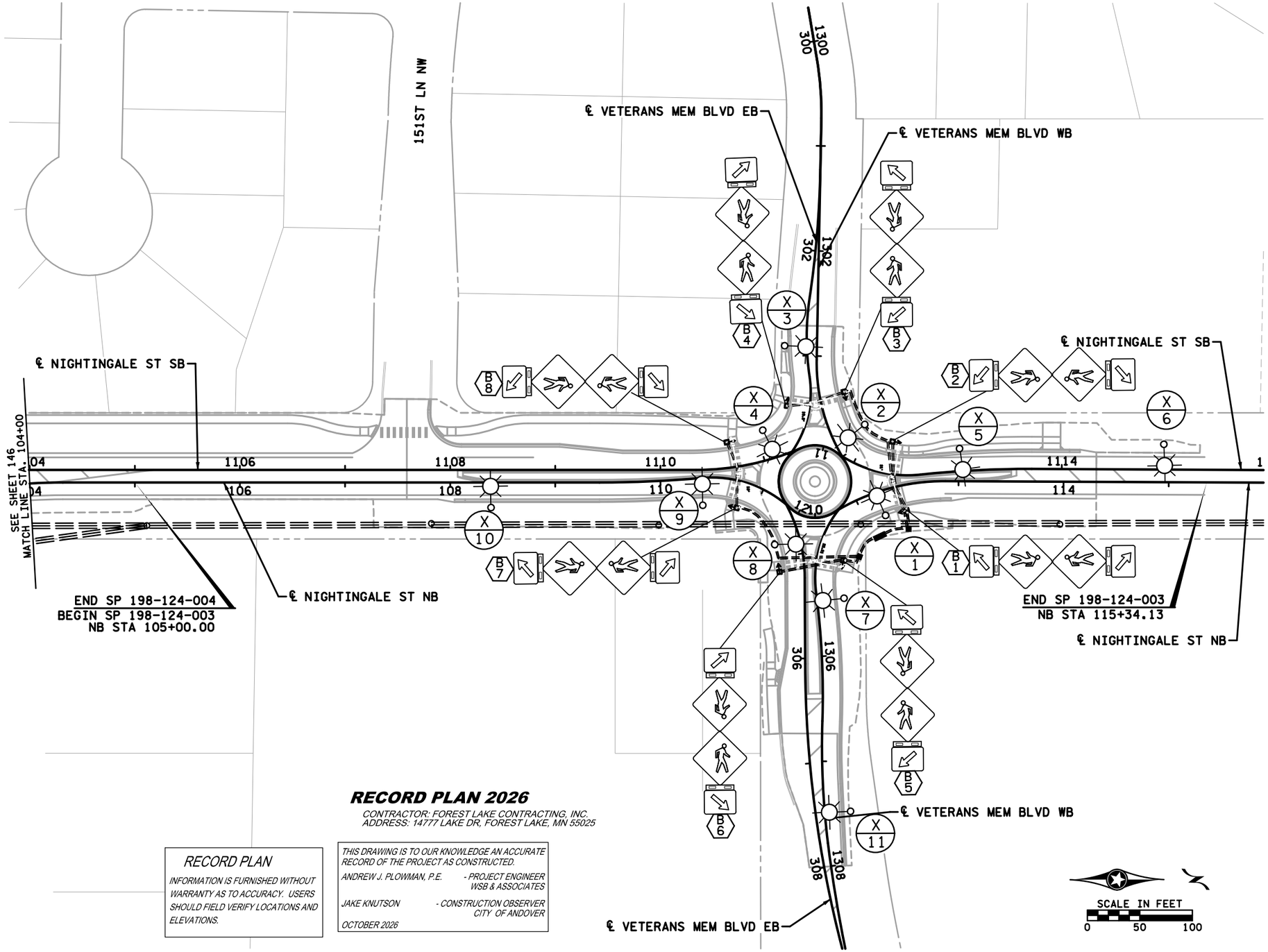
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 146 OF 153 SHEETS

7109

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Nightingale Street NW



LEGEND

- LIGHTING UNIT (BY OTHERS)
- 2" NMC (UNLESS OTHERWISE NOTED)
- OHP
- SERVICE CABINET
- HANDHOLE
- PEDESTAL
- LIGHTING SYSTEM / UNIT ID
- RRFB SYSTEM / POLE ID

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

NOTES:
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2. THE CONTRACTOR SHALL COORDINATE THE PLACEMENT OF CONDUIT AND FOUNDATIONS WITH OTHER CONSTRUCTION ACTIVITIES IN THE AREA.
3. THE CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS AND UTILITY COORDINATION.
4. ALL MATERIAL AND WORK SHALL BE IN ACCORDANCE WITH THE N.E.C.
5. EXACT LOCATIONS OF PEDESTAL AND SERVICE CABINET FOUNDATIONS SHALL BE STAKED IN THE FIELD FOR ENGINEER APPROVAL.

NO.	DATE	BY	CHK	REVISIONS

Design By: MF
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RECORD DRAWING

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

NIGHTINGALE STREET NW

RRFB PLAN

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 147 OF 153 SHEETS

7110

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STORMWATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE

PROJECT NAME: NIGHTINGALE STREET NW ROUNDABOUTS **PROJECT NUMBER**: SAP 198-124-003; WSB 022965-000
PROJECT LOCATION: STREET: NIGHTINGALE ST NW CITY: ANDOVER COUNTY: ANOKA
STATE: MINNESOTA ZIP: 55304 LATITUDE/LONGITUDE: 45.2443/-93.3158

THE PLANNED SCOPE OF THE PROJECT INCLUDES:
THE CITY OF ANDOVER, LOCATED IN ANOKA COUNTY, MINNESOTA, IS PROPOSING TO CONSTRUCT ROUNDABOUTS AT THE INTERSECTIONS OF CROSSTOWN BLVD & NIGHTINGALE STREET NW AND VETERANS BLVD & NIGHTINGALE STREET NW.

TENTATIVE CONSTRUCTION SCHEDULE (OPERATOR SHOULD PROVIDE ESTIMATED CONSTRUCTION SCHEDULE TO THE ENGINEER)	
CONSTRUCTION ACTIVITIES:	ESTIMATED DATES OF SOIL DISTURBANCE ACTIVITIES:
TEMPORARY SEDIMENT CONTROL BMPS & REMOVALS	MAY 2025
GRADING & UTILITY WORK	MAY - AUG 2025
CURB & PAVEMENT	JUNE - SEPT 2025
FINAL STABILIZATION	NOV 2025

PROJECT PERSONNEL AND TRAINING

SWPPP DEVELOPER:
WSB (NIKLAS MARTENSSON)
701 XENIA AVE S, SUITE 300
GOLDEN VALLEY, MN 55416
612-271-4385/NMARTENSSON@WSBENG.COM





CONTRACTOR TO PROVIDE CERTIFICATION OF EROSION CONTROL OFFICER AND ANY OTHER CREW MEMBERS WHO WILL WORK ON THE IMPLEMENTATION OF THE SWPPP AND THE INSTALLATION, INSPECTION, AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMPS BEFORE, DURING, AND AFTER CONSTRUCTION UNTIL THE NOTICE OF TERMINATION (NOT) HAS BEEN FILED WITH THE MPCA. PROVIDE PROOF OF CERTIFICATION AT THE PRECONSTRUCTION MEETING. WORK WILL NOT BE ALLOWED TO COMMENCE UNTIL PROOF OF CERTIFICATION HAS BEEN PROVIDED TO THE PROJECT ENGINEER.

CHAIN OF RESPONSIBILITY

ANDOVER AND THE CONTRACTOR ARE CO-PERMITTEES FOR THE NPDES CONSTRUCTION GENERAL PERMIT. THE CONTRACTOR IS RESPONSIBLE TO COMPLY WITH ALL ASPECTS OF THE NPDES CONSTRUCTION PERMIT AT ALL TIMES UNTIL THE NOTICE OF TERMINATION (NOT) HAS BEEN FILED WITH THE MPCA.

NAME	COMPANY	TITLE	PHONE
DAVID BERKOWITZ	CITY OF ANDOVER	OWNER CONTACT	763-767-5133
	CONTRACTOR TO COMPLETE		

AGENCY CONTACTS

ORGANIZATION	CONTACT NAME	PHONE
MPCA (EMERGENCY) 24 HOUR	STATE DUTY OFFICER	1-800-422-0798
MPCA	BRIAN GREEN	507-206-2610
CITY OF ANDOVER LGU	DAVID BERKOWITZ	763-767-5133
COON CREEK WATERSHED DISTRICT	TIM KELLY	763-755-0975

LOCATION OF SWPPP REQUIREMENTS

THE REQUIRED SWPPP ELEMENTS MAY BE LOCATED IN MANY PLACES WITHIN THE PLAN SET AS WELL AS IN THE MNDOT SPEC BOOK, OR ON FILE WITH THE PROJECT OWNER.

DESCRIPTION	LOCATION
TEMPORARY/PERMANENT EROSION CONTROL MEASURES	PLAN SET
DIRECTION OF FLOW	PLAN SET
CONSTRUCTION NOTES & STANDARD PLATES	PLAN SET
DRAINAGE PLAN & CONSTRUCTION PLAN	PLAN SET
BMP TABULATION	PLAN SET
STORMWATER CALCULATIONS	DRAINAGE REPORT & HYDRAULIC REPORT. AVAILABLE UPON REQUEST

RECEIVING WATERS

A SPECIAL AND IMPAIRED WATERS SEARCH WAS COMPLETED USING THE MPCA SEARCH ENGINE ON 06/05/2024. BASED ON THIS REVIEW, THE FOLLOWING SPECIAL/IMPAIRED WATERS (WITH CONSTRUCTION RELATED IMPAIRMENTS) ARE LOCATED WITHIN ONE MILE OF, AND DOWNSTREAM OF, ANY PROJECT DISCHARGE POINTS. PARTS 23.9 & 23.10 OF THE NPDES PERMIT APPLY.

WATERBODY	IMPAIRMENT(S)
COON CREEK	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS; ESCHERICHIA COLI; FISH BIOASSESSMENTS; TOTAL SUSPENDED SOLIDS

AREAS OF ENVIRONMENTAL SENSITIVITY (AES) AND INFESTED WATERS

IN ADDITION TO THE LIST OF SPECIAL AND IMPAIRED WATERS, THE CONTRACTOR SHALL BE AWARE THAT THERE ARE EXISTING STORMWATER FACILITIES WITHIN AND NEAR THE PROJECT BOUNDARY. THERE IS A MAP OF KNOWN NATURAL RESOURCES ON THE LAST PAGE OF THE SWPPP NARRATIVE. AREAS OF ENVIRONMENTAL SENSITIVITY ARE ALSO CALLED OUT ON THE PLAN SHEETS.

SOIL TYPES

A PROJECT WIDE GEOTECHNICAL REPORT WAS COMPLETED DURING THE DESIGN PHASE. ADDITIONALLY, THE USDA SOIL SURVEY WAS COMPLETED SHOWING THAT SARTELL FINE SAND IS PREDOMINATING ALONG MOST OF THE ALIGNMENT. ADDITIONAL SOIL INFORMATION CAN BE FOUND IN THE GEOTECHNICAL REPORT, LOCATED WITHIN THE PROJECT SPECIFICATIONS. SOIL CLASSIFICATIONS FOR HIGHLY ERODIBLE LAND (HEL), POTENTIALLY HIGHLY ERODIBLE LAND (PHEL), AND NOT HIGHLY ERODIBLE LAND (NHEL) SOILS CAN BE FOUND ON *FIGURE 1. SWPPP RESOURCE MAP.*

NATIVE TOPSOIL WILL BE STRIPPED; IF MATERIAL NEEDS TO BE STOCKPILED, APPROPRIATE ACTION WILL TAKE PLACE TO ENSURE THE STOCKPILES HAVE ALL PROPER BMPS IN PLACE ACCORDING TO THIS SWPPP AND THE NPDES PERMIT.

RECORD PLAN
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ENVIRONMENTAL REVIEW

NO FORMAL ENVIRONMENTAL REVIEW WAS REQUIRED FOR THIS PROJECT.

WETLANDS: NO WETLAND IMPACTS ARE ANTICIPATED WITH THIS PROJECT

THREATENED/ENDANGERED SPECIES: ANOKA COUNTY LISTS THE NORTHERN LONG-EARED BAT, TRICOLORED BAT (PROPOSED), MONARCH BUTTERFLY (CANDIDATE), AND RUSTY PATCHED BUMBLE BEE AS THREATENED/ENDANGERED SPECIES WITHIN THE COUNTY. TREE REMOVAL SHOULD OCCUR OUTSIDE OF THE NORTHERN LONG-EARED BAT ACTIVE SEASON (APRIL 1 TO OCTOBER 31). BASED ON THE CONSTRUCTION ACTIVITIES, IT IS DETERMINED THAT THE PROJECT WILL HAVE NO EFFECT ON THESE SPECIES OR THEIR HABITATS. HOWEVER, IF THESE SPECIES ARE FOUND, CONTRACTOR TO STOP WORK IMMEDIATELY FOR FURTHER INVESTIGATION. PLEASE NOTE THAT TURTLE AND BAT SURVEYS ARE TO OCCUR PRIOR TO CONSTRUCTION ACTIVITY PER THE PROJECT PLAN.

DRINKING WATER/WELLS: ACCORDING TO THE MDH, THE PROJECT IS LOCATED WITHIN THE ANDOVER CENTRAL DRINKING WATER SUPPLY MANAGEMENT AREA (DWSMA) AND THE ANDOVER CENTRAL WELLHEAD PROTECTION AREAS. EXTRA PRECAUTION SHOULD BE TAKEN WHEN HANDLING AND DISPOSING OF HAZARDOUS MATERIAL ONSITE. A SPILL KIT SHOULD BE KEPT ONSITE.

CONTAMINATED PROPERTIES: THE MPCA'S "WHAT'S IN MY NEIGHBORHOOD" DATABASE WAS REVIEWED ON 06/05/2024. THE RESULTS OF THIS REVIEW SHOW NO (0) KNOWN CONTAMINATED PROPERTIES NEAR THE PROJECT ALIGNMENT. IF CONTAMINATED MATERIAL, CONTAMINATED WATER, AND/OR REGULATED MATERIALS ARE FOUND, CREWS ARE TO STOP WORK IMMEDIATELY FOR FURTHER INVESTIGATION/TESTING.

FLOOD CONTINGENCY PLAN: PROJECT ACTIVITIES ARE NOT LOCATED WITHIN THE 100-YEAR FLOODPLAIN OR FLOODWAY; HOWEVER, THE PROJECT ENGINEER (AT THEIR DISCRETION) MAY REQUIRE A PREVENTATIVE FLOOD CONTINGENCY PLAN FOR SPECIFIC PROJECT ACTIVITIES AND AREAS IF SEASONAL PRECIPITATION POSSES A POTENTIAL RISK OF FLOODING WORK AREAS WITHIN THE PROJECT LIMITS. THIS PLAN SHALL BE SUBMITTED BY THE OPERATOR TO THE PROJECT ENGINEER FOR APPROVAL A MINIMUM OF 72 HOURS PRIOR TO THE SCHEDULED WORK AND/OR DURING ACTIVE WORK WITHIN THE AREA OF POTENTIAL RISK OF FLOODING. NO WORK CAN COMMENCE IN THE AREA UNTIL WRITTEN APPROVAL HAS BEEN GRANTED BY THE PROJECT ENGINEER.

AQUATIC INVASIVE SPECIES: NO IN-WATER WORK IS ANTICIPATED WITH THIS PROJECT.

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ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES
JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER
OCTOBER 2026

LAND FEATURE CHANGES

TOTAL AREA TO BE DISTURBED = 6.82 ACRES
IMPERVIOUS AREA: PRE-CONSTRUCTION = 3.89 ACRES/POST-CONSTRUCTION = 3.82 ACRES
NET DECREASE OF IMPERVIOUS AREA = 0.06 ACRES

LONG TERM MAINTENANCE AND OPERATION:
THE NPDES PERMANENT STORMWATER TREATMENT SYSTEM (PART 15.1) IS NOT REQUIRED BECAUSE THE NET NEW IMPERVIOUS AREA CREATED BY THE PROJECT IS LESS THAN ONE ACRE.

RECORD PLAN 2026
CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

STABILIZATION TIME FRAMES

AREA	TIME FRAME	NOTES
EXPOSED AREAS	IMMEDIATELY AND NO LATER THAN 7 DAYS OF BEING UNWORKED	1, 4, 5
LAST 200 LINEAL FEET OF DRAINAGE DITCH/SWALE	WITHIN 24 HOURS OF CONNECTION TO SURFACE WATER/PROPERTY EDGE	1, 2, 3
REMAINING PORTIONS OF DRAINAGE DITCH OR SWALE	7 DAYS	1, 3
PIPE AND CULVERT OUTLETS	24 HOURS	
STOCKPILES	7 DAYS	1

1. INITIATE STABILIZATION IMMEDIATELY WHEN CONSTRUCTION HAS TEMPORARILY OR PERMANENTLY CEASED ON ANY PORTION OF THE SITE. COMPLETE STABILIZATION WITHIN THE TIME FRAME LISTED. IN MANY INSTANCES THIS WILL REQUIRE STABILIZATION TO OCCUR MORE THAN ONCE DURING THE COURSE OF THE PROJECT. TEMPORARY SOIL STOCKPILES WITHOUT SIGNIFICANT CLAY OR SILT AND STOCKPILED AND CONSTRUCTED ROAD BASE ARE EXEMPT FROM THE STABILIZATION REQUIREMENT.
2. STABILIZE WETTED PERIMETER OF DITCH (I.E. WHERE THE DITCH GETS WET).
3. APPLICATION OF MULCH, HYDROMULCH, TACKIFIER AND POLYACRYLAMIDE ARE NOT ACCEPTABLE STABILIZATION METHODS IN THESE AREAS.
4. STABILIZE ALL AREAS OF THE SITE PRIOR TO THE ONSET OF WINTER. ANY WORK STILL BEING PERFORMED WILL BE MULCHED OR BLANKETED WITHIN THE TIME FRAMES IN THE NPDES PERMIT.
5. KEEP DITCHES AND EXPOSED SOILS IN AN EVEN ROUGH GRADED CONDITION IN ORDER TO BE ABLE TO APPLY EROSION CONTROL MULCHES, HYDROMULCHES, AND BLANKETS.

SITE INSPECTION AND MAINTENANCE

THE EROSION CONTROL OFFICER IS TO INSPECT THE ENTIRE CONSTRUCTION SITE AT LEAST ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. THE OPERATOR SHALL PROVIDE A RAINFALL GAUGE ON-SITE AT VARIOUS MILE INTERVALS ALONG THE ALIGNMENT. INSPECT ALL TEMPORARY AND PERMANENT PROJECT BMPS UNTIL THE SITE HAS UNDERGONE FINAL STABILIZATION AND THE NOT HAS BEEN SUBMITTED. INSPECT SURFACE WATER INCLUDING DRAINAGE DITCHES FOR SIGNS OF EROSION AND SEDIMENT DEPOSITION. INSPECT CONSTRUCTION SITE VEHICLE EXIT LOCATIONS FOR EVIDENCE OF TRACKING ONTO PAVED SURFACES. INSPECT SURROUNDING PROPERTIES FOR EVIDENCE OF OFF-SITE SEDIMENT ACCUMULATION. ALL INSPECTIONS AND MAINTENANCE CONDUCTED MUST BE RECORDED IN WRITING BY THE OPERATOR AND

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

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PRINT NAME: ANDREW J. PLOWMAN, PE
RECORD DRAWING
DATE 6/19/2026 LICENSE # 44200

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

STORM WATER POLLUTION PREVENTION PLAN
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 148 OF 153 SHEETS

RETAINED WITH THE SWPPP. SUBMIT INSPECTION REPORTS IN A FORMAT THAT IS ACCEPTABLE TO THE PROJECT ENGINEER. RECORDS OF EACH INSPECTION AND MAINTENANCE ACTIVITY SHALL INCLUDE:

A. DATE, TIME, AND NAME OF PERSON(S) CONDUCTING INSPECTIONS;
B. FINDINGS OF INSPECTIONS, INCLUDING RECOMMENDATIONS FOR CORRECTIVE ACTIONS;
C. CORRECTIVE ACTIONS TAKEN (INCLUDING DATES, TIMES, AND PARTY COMPLETING MAINTENANCE ACTIVITIES); INCLUDING DOCUMENTATION/PHOTOS OF IMPLEMENTED BMPS INTENDED TO CORRECT A PROBLEM BUT FAILED.
D. DATE AND AMOUNT OF ALL RAINFALL EVENTS GREATER THAN 0.5 INCHES IN 24 HOURS;
E. DOCUMENTATION OF CHANGES MADE TO THE SWPPP.

REPLACE, REPAIR OR SUPPLEMENT ALL NONFUNCTIONAL BMPS BY THE END OF THE NEXT BUSINESS DAY FOLLOWING DISCOVERY UNLESS LISTED DIFFERENTLY BELOW:

A. REPAIR, REPLACE, OR SUPPLEMENT PERIMETER CONTROL DEVICES WHEN THEY BECOME NONFUNCTIONAL OR SEDIMENT REACHES 1/2 THE HEIGHT OF THE DEVICE. COMPLETE REPAIRS BY THE END OF THE NEXT BUSINESS DAY FOLLOWING DISCOVERY.
B. REPAIR OR REPLACE INLET PROTECTION DEVICES WHEN THEY BECOME NONFUNCTIONAL OR SEDIMENT REACHES 1/2 THE HEIGHT AND/OR DEPTH OF THE DEVICE.
C. DRAIN AND REMOVE SEDIMENT FROM TEMPORARY AND PERMANENT SEDIMENT BASINS ONCE THE SEDIMENT HAS REACHED 1/2 THE STORAGE VOLUME. COMPLETE WORK WITHIN 72 HOURS OF DISCOVERY.
D. REMOVE ALL DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATERS INCLUDING DRAINAGE WAYS, CATCH BASINS, AND OTHER DRAINAGE SYSTEMS. STABILIZE ANY AREAS THAT ARE DISTURBED BY SEDIMENT REMOVAL OPERATIONS. SEDIMENT REMOVAL AND STABILIZATION MUST BE COMPLETED WITHIN 7 DAYS OF DISCOVERY.
E. REMOVE TRACKED SEDIMENT FROM PAVED SURFACES BOTH ON AND OFF SITE WITHIN ONE (1) CALENDAR DAY OF DISCOVERY. STREET SWEEPING MAY HAVE TO OCCUR MORE OFTEN TO MINIMIZE OFF SITE IMPACTS. LIGHTLY WET THE PAVEMENT PRIOR TO SWEEPING.
F. MAINTAIN ALL BMPS UNTIL WORK HAS BEEN COMPLETED, SITE HAS GONE UNDER FINAL STABILIZATION, AND THE NOT HAS BEEN SUBMITTED TO THE MPCA.

CONSTRUCTION ACTIVITY REQUIREMENTS: EROSION/SEDIMENT CONTROL, PROCEDURES, & MAINTENANCE STANDARDS

1. AMEND THE SWPPP AND DOCUMENT ALL CHANGES TO THE SWPPP AND ASSOCIATED PLAN SHEETS IN A TIMELY MANNER. SWPPP AMENDMENTS AND SITE PLANS WILL BE PREPARED BY THE OPERATOR AND SUBMITTED TO THE OWNER FOR REVIEW AND WRITTEN APPROVAL BY THE PROJECT OWNER (OR DESIGNATED REPRESENTATIVE). STORE THE SWPPP AND ALL AMENDMENTS ON SITE AT ALL TIMES.
2. PREPARE AND SUBMIT A SITE MANAGEMENT PLAN FOR THE ENGINEER'S ACCEPTANCE FOR STAGING/STOCKPILE MANAGEMENT AREAS, CONCRETE MANAGEMENT, CONCRETE SLURRY APPLICATION AREAS, FUGITIVE DUST CONTROL PLAN, SPILL CONTAINMENT PLAN, HAZARDOUS MATERIAL MANIFEST & MANAGEMENT PLAN, WETLAND MANAGEMENT PLAN, VEGETATION PRESERVATION & MAINTENANCE PLAN, WORK IN AND NEAR AREAS OF ENVIRONMENTAL SENSITIVITY, AREAS IDENTIFIED IN THE PLANS AS "SITE MANAGEMENT PLAN AREA", ANY WORK THAT WILL REQUIRE DEWATERING, ANY ADDITIONAL PLANS LISTED IN THE PROJECT SPECIFICATIONS, AND AS REQUIRED BY THE ENGINEER. SUBMIT ALL SITE MANAGEMENT PLANS TO THE ENGINEER IN WRITING. ALLOW A MINIMUM OF 7 DAYS FOR MNDOT TO REVIEW AND ACCEPT SITE MANAGEMENT PLAN SUBMITTALS. WORK WILL NOT BE ALLOWED TO COMMENCE IF A SITE MANAGEMENT PLAN IS REQUIRED UNTIL ACCEPTANCE HAS BEEN GRANTED BY THE ENGINEER. THERE WILL BE NO EXTRA TIME ADDED TO THE CONTRACT DUE TO THE UNTIMELY SUBMITTAL.
3. THERE IS NO CONSTRUCTION PHASING OR STAGING DEFINED BY THE OWNER FOR THIS PROJECT. THE SCHEDULE FOR INSTALLING TEMPORARY BMPS SHALL BE INCORPORATED INTO THE OPERATOR'S WEEKLY SCHEDULE FOR EACH CONSTRUCTION STAGE AND PRESENTED TO THE OWNER'S REPRESENTATIVE.
4. BURNING OF ANY MATERIAL IS NOT ALLOWED WITHIN PROJECT BOUNDARY.
5. DO NOT DISTURB AREAS OUTSIDE OF THE CONSTRUCTION LIMITS. DELINEATE AREAS NOT TO BE DISTURBED AND WETLANDS (EVEN AREAS THAT ARE PERMITTED FOR CONSTRUCTION) PRIOR TO STARTING GROUND DISTURBING ACTIVITIES. IF IT BECOMES NECESSARY TO DISTURB AREAS OUTSIDE OF THE CONSTRUCTION LIMITS, OBTAIN WRITTEN PERMISSION FROM THE PROJECT ENGINEER PRIOR TO PROCEEDING. PRESERVE ALL NATURAL BUFFERS SHOWN ON THE PLANS.
6. ROUTE STORMWATER AROUND UNSTABILIZED AREAS OF THE SITE WHENEVER FEASIBLE. PROVIDE EROSION CONTROL AND VELOCITY DISSIPATION DEVICES AS NEEDED TO KEEP CHANNELS FROM ERODING AND TO PREVENT NUISANCE CONDITIONS AT THE OUTLET.
7. DIRECT DISCHARGE FROM BMPS TO VEGETATED AREAS WHENEVER FEASIBLE. PROVIDE VELOCITY DISSIPATION DEVICES AS NEEDED TO PREVENT EROSION.
8. LOCATE PERIMETER CONTROL ON THE CONTOUR TO CAPTURE OVERLAND, LOW-VELOCITY SHEET FLOWS DOWN GRADIENT OF ALL EXPOSED SOILS AND PRIOR TO DISCHARGING TO SURFACE WATERS. PLACE J-HOOKS AT A MAXIMUM OF 100-FOOT INTERVALS.
9. ALL STOCKPILES MUST HAVE PERIMETER SEDIMENT CONTROLS IMPLEMENTED AND MAINTAINED AT ALL TIMES AND SHOULD BE INSTALLED PRIOR TO INITIATION OF STOCKPILING. PILES CANNOT BE PLACED IN BUFFER AREAS OR SURFACE WATERS, INCLUDING STORMWATER CONVEYANCES SUCH AS CURB AND GUTTER SYSTEMS, OR CONDUITS AND DITCHES UNLESS THERE IS A BYPASS IN PLACE TO PREVENT STORMWATER RUN-ON INTO THE STOCKPILE.
10. STEEP SLOPES MAY BE TEMPORARILY CREATED DURING GRADING OPERATIONS. STABILIZATION OF STEEP SLOPES (3:1 OR GREATER) SHALL BE PROPERLY CAT-TRACKED AND STABILIZED PER THE EROSION CONTROL PLAN. LONG SLOPES CAN BE BROKEN UP WITH SEDIMENT CONTROL LOGS IF EROSION IS EVIDENT.
11. DITCH CHECKS WILL BE PLACED AS INDICATED ON THE PLANS DURING ALL PHASES OF CONSTRUCTION.
12. ALL STORM DRAIN INLETS, THAT RECEIVE PROJECT STORMWATER, MUST BE PROTECTED BY APPROPRIATE BMPS DURING CONSTRUCTION UNTIL ALL SOURCES WITH POTENTIAL FOR DISCHARGING TO THE INLET HAVE BEEN STABILIZED. INLET PROTECTION MAY BE REMOVED FOR A PARTICULAR INLET IF A SPECIFIC SAFETY CONCERN (STREET FLOODING/FREEZING) HAS BEEN IDENTIFIED AND THE PERMITTEE(S) HAS RECEIVED WRITTEN CORRESPONDENCE FROM THE JURISDICTIONAL AUTHORITY VERIFYING THE NEED FOR REMOVAL. WRITTEN CORRESPONDENCE MUST BE DOCUMENTED IN THE SWPPP.
13. SILT FENCE IS NOT AN ACCEPTABLE CATCH BASIN INLET PROTECTION BMP. CONTACTOR SHALL CLEAN, REMOVE AND DISPOSE OF SEDIMENT, AND/OR REPLACE STORM DRAIN INLET PROTECTION ON A ROUTINE BASIS TO ENSURE THE DEVICE IS FULLY FUNCTIONAL PRIOR TO THE NEXT FORECASTED PRECIPITATION EVENT (30% OR GREATER).
14. DISCHARGE TURBID OR SEDIMENT LADEN WATER TO TEMPORARY SEDIMENT BASINS WHENEVER FEASIBLE. IN THE EVENT THAT IT IS NOT FEASIBLE TO DISCHARGE THE SEDIMENT LADEN WATER TO A TEMPORARY SEDIMENT BASIN, THE WATER MUST BE TREATED SO THAT IT DOES NOT CAUSE A NUISANCE CONDITION IN THE RECEIVING WATERS OR TO DOWNSTREAM LANDOWNERS. CLEAN OUT ALL PERMANENT STORMWATER BASINS REGARDLESS OF WHETHER USED AS TEMPORARY SEDIMENT BASINS/TRAPS TO THE DESIGN CAPACITY AFTER COMPLETING ALL UP-GRADIENT LAND DISTURBING ACTIVITY. USE A SKIMMER DEVICE FOR BASIN DRAINING.
15. PROVIDE STABILIZATION IN ANY TRENCHES CUT FOR DEWATERING OR SITE DRAINING PURPOSES.
16. THE CONTRACTOR SHALL SUBMIT A DEWATERING PLAN AND NARRATIVE TO THE PROJECT ENGINEER FOR APPROVAL 7 DAYS PRIOR TO UNDERTAKING THESE ACTIVITIES. DEWATERING PLAN MUST INCLUDE BMP'S TO PREVENT SEDIMENT TRANSPORT, EROSION, AND ADVERSE IMPACTS TO DOWNSTREAM RECEIVING WATERS. THE DEWATERING PLAN MUST ALSO INCLUDE ANY SPECIFIC CHEMICAL TREATMENTS (FLOC, POLYMERS, ETC.) THAT WILL BE USED. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN ANY PERMIT NECESSARY FOR THESE ACTIVITIES; THE DEWATERING PLAN AND DNR APPROPRIATIONS PERMIT WILL BECOME PART OF THE SWPPP. THE CONTRACTOR SHALL VISUALLY CHECK AND PHOTOGRAPH THE DISCHARGE AT THE BEGINNING AND AT LEAST ONCE EVERY 24 HOURS OF OPERATION TO ENSURE ADEQUATE TREATMENT HAS BEEN OBTAINED AND NUISANCE CONDITIONS WILL NOT RESULT FROM THE DISCHARGE.

TEMPORARY & PERMANENT EROSION CONTROL BMPS

SEED MIX: SEED MIX SHALL BE USED IN CONSTRUCTION AND REVEGETATION PROJECTS IN ORDER TO ENHANCE SOIL NUTRIENT AVAILABILITY AND BIOLOGICAL SOIL STRUCTURE, ENCOURAGE NATIVE PLAN SUCCESSION, REDUCE EROSION, AND DISCOURAGE INVASIVE PLANT SPECIES. INOCULATION OF SOILS WITH MYCORRHIZAL FUNGI OR THE PRESENCE OF PRE-EXISTING SOIL MICROBES IS ESSENTIAL FOR THE STABILIZATION OF ADVERSE SOILS, ESTABLISHMENT OF NATIVE GRASSES, AND THE EXCLUSION OF NON-NATIVE "ANNUALS" AND NOXIOUS WEEDS.

EROSION CONTROL BLANKET: EROSION CONTROL BLANKETS (ECBS) ARE A SOIL STABILIZATION (EROSION CONTROL) BMP, INTENDED TO PROTECT DISTURBED SOIL SURFACES FROM RAINDROP IMPACT EROSION. ECBS ARE CARPET-LIKE MATS, INSTALLED OVER AND ANCHORED TO THE PROPERLY PREPARED SOIL SURFACES. PROPERLY SELECTED AND INSTALLED, ECBS CAN MIMIC THE BENEFICIAL EFFECTS OF VEGETATIVE COVER THEREBY REDUCING EROSION RATES BY OVER 90%. ECBS ALSO PROTECT SEEDS AND PROVIDE A BENEFICIAL ENVIRONMENT FOR VEGETATION TO BECOME ESTABLISHED. CONTRACTOR SHALL VERIFY DURING REGULAR INSPECTIONS THAT NO GULLIES, RILLS, OR SCOUR HOLES HAVE FORMED UNDER EROSION CONTROL BLANKETS AND MATS AND CORRECT ALL ERODED AREAS WITHIN 7 DAYS. ALL REPAIRS MUST BE COMPLETED WITHIN 24 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.

STRAW MULCHING: DISTURBED SOIL AREAS SHALL BE PROTECTED WITH STRAW MULCH. MULCHING IS THE APPLICATION OF A PROTECTIVE LAYER OF STRAW OR OTHER SUITABLE MATERIAL TO THE SOIL SURFACE. STRAW MULCH SHALL BE USED IN CONJUNCTION WITH SEEDING AND HYDRO-SEEDING FOR ESTABLISHMENT OF VEGETATION. STRAW MULCH MUST BE SECURED TO THE GROUND USING DISKING OR AN OVERSPRAY OF AN HECP. MULCHING IS COMMONLY USED AS A TEMPORARY MEASURE TO PROTECT BARE OR DISTURBED SOIL AREAS THAT HAVE NOT BEEN SEEDED, UNTIL NATIVE VEGETATION RE-GROWS. CERTIFIED WEED-FREE MULCH MUST BE USED WHEN USING NATIVE SEED MIXES OR WHEN WORKING NEAR ENVIRONMENTALLY SENSITIVE AREAS.

HYDRAULIC MATRICES: HYDRAULIC MATRICES ARE EROSION CONTROL PRODUCTS THAT ARE USED TO STABILIZE EXPOSED SOILS. THESE MATRICES ARE APPLIED IN A SLURRY, PRODUCED BY MIXING FIBER, WATER AND A BINDING AGENT TOGETHER IN A MECHANICAL HYDRO-SEEDER. WOOD FIBER IS WIDELY USED BUT OTHER FIBERS CAN INCLUDE PAPER, STRAW, COIR, CORN, ETC. THE EFFECTIVENESS OF THESE HYDRAULIC MATRICES ARE DEPENDENT ON:

- PROPER SOIL PREPARATION
- APPLICATION RATES (DEPENDENT ON THE MANUFACTURERS RECOMMENDATIONS)
- THE TYPE OF FIBERS USED
- THE TYPE OF BOND AGENT(S) ADDED

THESE HYDRAULIC MATRICES ARE CLASSIFIED IN THE MNDOT SPEC BOOK AND APPROVED PRODUCTS LIST, DEPENDING ON THE PRODUCT CHARACTERISTICS, STRENGTH, AND LONGEVITY. HYDRAULIC MATRICES USED INCLUDE: ORGANIC FIBER MATRIX, HYDRAULIC MULCH MATRIX, STABILIZED FIBER MATRIX, BONDED FIBER MATRIX, AND FIBER REINFORCED MATRIX.

SOD TYPE LAWN: SOD IS A PERMANENT EROSION PREVENTION BMP THAT PROVIDES INSTANTANEOUS SOIL STABILIZATION. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF SOD AS OUTLINED IN THE PROJECT SPECIFICATIONS.

ENERGY DISSIPATER: AN ENERGY DISSIPATER IS A STRUCTURE DESIGNED TO CONTROL EROSION AT THE OUTLET OF A CHANNEL OR CONDUIT.

RAPID STABILIZATION METHOD #1: THIS METHOD SHALL CONSIST OF TYPE 1 MULCH (2 TON PER ACRE) WITH DISC ANCHORING BE SPREAD IN AREAS THAT HAVE BEEN UNWORKED FOR 7 DAYS. THIS METHOD SHALL BE USED ON SLOPES OF 3:1 AND LESS. OPERATOR MUST APPLY MULCH IN A UNIFORM PATTERN OVER THE DISTURBED SOILS TO ACHIEVE A MINIMUM OF 90% GROUND COVER.

RAPID STABILIZATION METHOD #2: THIS METHOD SHALL CONSIST OF TYPE 3 MULCH (1.5 TON PER ACRE) OR 3884 TYPE STABILIZED FIBER MATRIX (750 LBS PER ACRE) BE SPREAD IN AREAS THAT HAVE BEEN UNWORKED FOR 7 DAYS. THIS METHOD SHALL BE USED ON SLOPES LESS THAN 3:1.

RAPID STABILIZATION METHOD #4: THIS METHOD SHALL CONSIST OF CATEGORY 20/25 EROSION CONTROL BLANKET (NATURAL NET ONLY) IN COMBINATION WITH MNDOT SEED MIX 22-111 (2 LBS PER 100 SQ. YD.) AND TYPE 3 SLOW RELEASE FERTILIZER (8 LBS PER 100 SQ. YD.). THIS IS AN ACCEPTABLE BMP FOR DISTURBED AREAS ADJACENT TO ENVIRONMENTALLY SENSITIVE AREAS, SURFACE WATERS, AND WITHIN THE LAST 200 FEET OF DITCH BOTTOMS.

TEMPORARY & PERMANENT SEDIMENT CONTROL BMPS

SEDIMENT CONTROL LOGS: SEDIMENT CONTROL LOGS ARE MANUFACTURED FROM STRAW, WOOD EXCELSIOR, COCONUT FIBERS, AND/OR OTHER MATERIALS THAT ARE BOUND WITH POLYPROPYLENE OR BIODEGRADABLE NETTING INTO TIGHT TUBULAR ROLLS. FIBER ROLLS CONTROL THREE TYPES OF EROSIONAL PROCESSES; EROSION CONTROL, RUN OFF CONTROL, AND SEDIMENT CONTROL. SEDIMENT CONTROL LOGS CAN BE USED FOR THE FOLLOWING:

- SLOPE INTERRUPTERS TO REDUCE EROSION ON NEWLY CONSTRUCTED SLOPES
- TEMPORARY DITCH CHECKS TO REDUCE RUNOFF VELOCITIES IN DRAINAGE CHANNELS
- SEDIMENT CONTROL BARRIERS FOR SMALL DISTURBED SOIL AREAS SUCH AS STOCKPILES, DISCRETE SLOPES, OR INDIVIDUAL LOTS

MACHINE SLICED SILT FENCE: A SILT FENCE IS A TEMPORARY SEDIMENT BARRIER CONSISTING OF FILTER FABRIC ENTRENCHED INTO THE SOIL AND ATTACHED TO SUPPORTING POSTS. SILT FENCE IS INTENDED TO BE INSTALLED WHERE SEDIMENT-LADEN WATER CAN POND, THUS ALLOWING THE SEDIMENT TO FALL OUT OF SUSPENSION AND SEPARATE FROM THE RUNOFF. SILT FENCE INSTALLED WITH A TRENCHER OR BY SLICING IS THE MOST EFFECTIVE INSTALLATION METHOD TO ENSURE AGAINST COMMON SILT FENCE FAILURES. THE BMP WILL BE CLEANED OUT OR REPLACED WHEN THE SEDIMENT REACHES 1/2 THE HEIGHT OF THE FENCE.

STABILIZED CONSTRUCTION EXIT: TEMPORARY CONSTRUCTION EXITS ARE CONSTRUCTED AT THE EGRESS POINT FROM THE CONSTRUCTION AREA ONTO A PAVED ROAD. A STABILIZED CONSTRUCTION EXIT IS A TRACKING CONTROL BMP INTENDED TO PREVENT TRACKING OF SOIL

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CITY OF ANDOVER

Nightingale Street NW Roundabouts

STORM WATER POLLUTION PREVENTION PLAN
SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 149 OF 153 SHEETS

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FROM THE CONSTRUCTION SITE BY EQUIPMENT AND VEHICLES. THE EXITS ARE CONSTRUCTED OF LARGE ANGULAR ROCK, STEEL RIBS (RUMBLE STRIPS), OR TRACK PADS INTENDED TO KNOCK THE MUD OFF THE TIRES BEFORE TRAVELING ONTO THE ROADWAY.

CHEMICAL TREATMENTS: OPERATOR MUST AMEND THE SWPPP TO INCLUDE THE INTENDED USES AND LOCATIONS OF FLOCCULANTS, POLYMERS, AND OTHER SEDIMENTATION TREATMENT CHEMICALS. CHEMICAL TREATMENTS MUST BE IN COMPLIANCE WITH PART 9.18.

DUST CONTROL: OPERATOR WILL COMPLY WITH STATE RULE 7011.0150 ON DUST PREVENTION REQUIREMENTS. DUST FROM THE SITE WILL BE CONTROLLED BY INCREASED STREET SWEEPING AND/OR USING A MOBILE PRESSURE-TYPE DISTRIBUTOR TRUCK TO APPLY POTABLE WATER TO DISTURBED AREAS. THE MOBILE UNIT WILL APPLY WATER AT A RATE NECESSARY TO PREVENT RUNOFF AND PONDING.

POLLUTION PREVENTION MANAGEMENT

POTENTIAL SOURCES OF POLLUTANTS FROM CONSTRUCTION ACTIVITIES INCLUDE, BUT NOT LIMITED TO:

1. SEDIMENT AND FUGITIVE DUST GENERATED FROM CLEARING AND GRUBBING, IMPORT/EXPORT OPERATIONS, REMOVALS/COMPACTION, MASS/FINE GRADING, EXCAVATIONS, TRENCHING, TOPSOIL STRIPING STOCKPILING, WET/DRY PAVEMENT CUTTING, STREET CONSTRUCTION.
2. BASIC/ACIDIC PH LEVELS FROM CURB AND GUTTER, MANHOLE STRUCTURES, SIDEWALKS, DRIVEWAY APRONS, FOUNDATIONS, BRIDGE ABUTMENTS, WET/DRY PAVEMENT CUTTING, MASONRY WASHOUT/CLEANOUT.
3. EXCESS NUTRIENTS FROM LANDSCAPING INSTALLATIONS, SOIL ADDITIVES, FERTILIZATION, MULCHING.
4. HYDROCARBONS FROM STREET CONSTRUCTION, DEMOLITION/REMOVALS, WET/DRY PAVEMENT CUTTING.

OPERATOR WILL COMPLY WITH ALL OF THE POLLUTION PREVENTION AND MANAGEMENT MEASURES IDENTIFIED IN THE NPDES-CSW PERMIT, PART 12.1. STORAGE AND DISPOSAL OF CONSTRUCTION AND HAZARDOUS WASTES MUST BE IN COMPLIANCE WITH MPCA REGULATIONS.

A. POSITION AND STAKE DOWN ALL PORTABLE TOILETS SO THEY CANNOT BE TIPPED OR KNOCKED OVER. SUPPLY ADEQUATE SECONDARY CONTAINMENT.
B. SECONDARY CONTAINMENT IS NEEDED AROUND ALL STATIONARY EQUIPMENT (GENERATORS, PUMPS, LIGHT PLANTS, ETC.) PROVIDE CONTAINMENT FOR ALL HAZARDOUS MATERIALS AND TOXIC WASTE.
C. NO ENGINE DEGREASING IS ALLOWED ON SITE.
D. VEHICLE AND EQUIPMENT WASHING TO OCCUR IN DESIGNATED AREA AS DETERMINED BY THE CONTRACTOR SUBMITTAL OF A MANAGEMENT PLAN FOR THESE ACTIVITIES.
E. PROPERLY CLEAN UP AND REPORT ALL SPILLS AS REQUIRED BY THE MPCA AND MNDOT SPECIFICATIONS.
F. PROVIDE A SPILL KIT AT EACH WORK LOCATION ON THE SITE.
G. PROVIDE A SECURE STORAGE AREA WITH RESTRICTED ACCESS FOR ALL HAZARDOUS MATERIALS AND TOXIC WASTE. RETURN ALL HAZARDOUS MATERIALS AND TOXIC WASTE TO THE DESIGNATED STORAGE AREA AT THE END OF THE BUSINESS DAY UNLESS INFEASIBLE. STORE ALL HAZARDOUS MATERIALS AND TOXIC WASTE (INCLUDING BUT NOT LIMITED TO OIL, DIESEL FUEL, GASOLINE, HYDRAULIC FLUIDS, PAINT, PETROLEUM BASED PRODUCTS, WOOD PRESERVATIVES, ADDITIVES, CURING COMPOUNDS, AND ACIDS) IN SEALED CONTAINERS WITH SECONDARY CONTAINMENT. CLEAN UP SPILLS IMMEDIATELY. STORE, COLLECT AND DISPOSE OF ALL SOLID WASTE.
H. SLURRY FROM CONCRETE OPERATIONS MUST BE VACUUMED UP IMMEDIATELY. NO CONCRETE WASHOUT SHALL COME IN CONTACT WITH THE GROUND AND MUST BE PROPERLY DISPOSED OF.
I. A SIGN MUST BE INSTALLED ADJACENT TO EACH CONCRETE WASHOUT FACILITY.
J. CREATE AND FOLLOW A WRITTEN DISPOSAL PLAN FOR ALL WASTE MATERIALS. INCLUDE IN THE PLAN HOW THE MATERIAL WILL BE DISPOSED OF AND THE LOCATION OF THE DISPOSAL SITE. SUBMIT PLAN TO THE ENGINEER PRIOR TO CONSTRUCTION.
K. USE METHODS AND OPERATIONAL PROCEDURES THAT PREVENT DISCHARGE OR PLACEMENT OF BITUMINOUS GRINDINGS, CUTTINGS, MILLINGS, AND OTHER BITUMINOUS WASTES FROM AREAS OF EXISTING OR FUTURE VEGETATED SOILS AND FROM ALL WATER CONVEYANCE SYSTEMS, INCLUDING INLETS, DITCHES AND CURB FLOW LINES.

FINAL STABILIZATION

FINAL STABILIZATION IS ACHIEVED WHEN NPDES CGP PARTS 13.1-13.7 (AS APPLICABLE) ARE COMPLETED PRIOR TO SUBMISSION OF THE NOTICE OF TERMINATION (NOT) TO MPCA.

1. ALL AREAS MUST BE STABILIZED WITH A UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70%.
2. ALL TEMPORARY SEDIMENT CONTROL BMP MEASURES MUST BE REMOVED PRIOR TO SUBMITTING PERMIT NOT.
3. THE NOT SUBMITTAL MUST INCLUDE EITHER GROUND OR AERIAL PHOTOGRAPHS SHOWING THE AFOREMENTIONED REQUIREMENTS OF HAVE BEEN MET.

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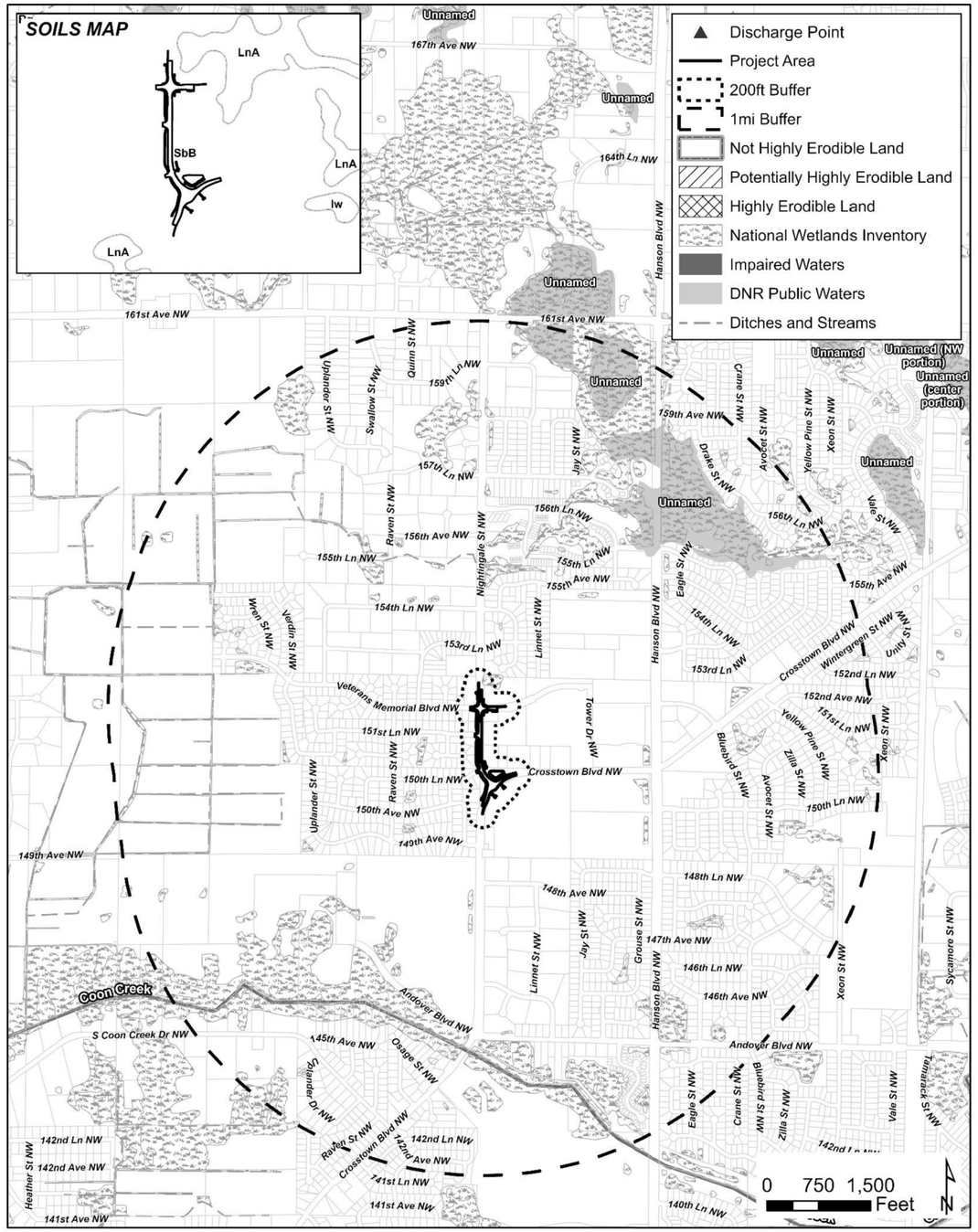


Figure 1. SWPPP Resource Map

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EROSION/SEDIMENT CONTROL NOTES:

SEDIMENT CONTROL PRACTICES:

1. SEDIMENT CONTROL MUST BE IN PLACE AND APPROVED BY THE ENGINEER BEFORE ANY PHASE OF CONSTRUCTION CAN BEGIN.
2. IF A 50' NATURAL BUFFER AROUND A SURFACE WATER IS INFEASIBLE, REDUNDANT PERIMETER CONTROLS MUST BE PROVIDED. REDUNDANT MEASURE TO BE INSTALLED 3-5' FROM THE PRIMARY MEASURE WITH STABILIZED AREAS IN BETWEEN THE TWO BMPS.
3. INLET PROTECTION WILL BE INSTALLED AT ALL CATCH BASINS AND DROP INLETS WITHIN THE PROJECT AREA PER STANDARD DETAILS.
4. TEMPORARY STABILIZATION MEASURES SHALL BE EMPLOYED WITHIN 200 FEET OF THE NWP OF ALL DISCHARGE POINTS WITHIN 24 HOURS. MULCH IS NOT AN APPROVED MEASURE.
5. IN THE EVENT THAT PERMANENT STABILIZATION CANNOT BE IMPLEMENTED WITHIN 7 DAYS AFTER CONSTRUCTION ACTIVITY IN THE DISTURBED AREA HAS CEASED, TEMPORARY STABILIZATION BMPS MUST BE SCHEDULED TO OCCUR WITHIN THAT 7 DAY TIME FRAME (EXCEPT WHERE CALLED OUT BY NOTE BELOW)
6. RAPID STABILIZATION METHOD 4 SHALL BE EMPLOYED WITHIN 200 FEET OF THE NORMAL WETTED PERIMETER OF ALL DISCHARGE POINTS WITHIN 24 HOURS.
7. A SEDIMENT TRAP MUST BE INSTALLED PER THE APPROVED STANDARD DETAILS WITHIN 24 HOURS OF CONNECTING THE UTILITIES.
8. ALL STOCKPILES MUST HAVE DOWN GRADIENT PERIMETER SEDIMENT CONTROL IMPLEMENTED AND MAINTAINED AT ALL TIMES. STOCKPILES TO RECEIVE TEMPORARY STABILIZATION IF UNWORKED FOR 7 DAYS.
9. STOCKPILES MAY NOT BE PLACED WITHIN ANY DRAINAGE OR CURB LINE UNLESS PROPER BYPASS IS INSTALLED PRIOR TO STOCKPILE PLACEMENT.
10. CONTRACTOR TO INSTALL SEDIMENT CONTROL LOGS DOWN GRADIENT FROM ANY EXPOSED AREAS

EROSION PREVENTION PRACTICES:

1. STABILIZATION OF DISTURBED AREAS SHALL BE DONE BY PERMANENT TURF ESTABLISHMENT WHENEVER POSSIBLE.

POLLUTION PREVENTION MANAGEMENT MEASURES:

1. A ROCK CONSTRUCTION ENTRANCE WILL BE PLACED AT ALL ENTRANCES THAT LEAD TO THE PROJECT SITE IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN AND THE APPROVED STANDARD DETAILS. ENTRANCE MUST BE A MINIMUM OF 50 FEET PER THE CONSTRUCTION PERMIT REQUIREMENT.
2. ALL STREETS IN AND ADJACENT TO THE PROJECT SHALL REMAIN CLEAN AND PASSABLE AT ALL TIMES. ADJACENT STREET AND CURB LINE TO BE SWEPT FREE OF DEBRIS AT THE END OF EACH WORK DAY, OR AS OFTEN AS NEEDED TO ENSURE PUBLIC SAFETY.
3. SLURRY FROM CONCRETE OPERATIONS MUST BE VACUUMED UP IMMEDIATELY. NO CONCRETE WASHOUT SHALL COME IN CONTACT WITH THE GROUND AND MUST BE PROPERLY DISPOSED OF. ALL HAZARDOUS MATERIALS MUST BE KEPT UNDER COVER AND WITHIN PROPER CONTAINMENT WHEN NOT IN USE.

MISCELLANEOUS:

1. ADDITIONAL EROSION AND SEDIMENT CONTROL MAY BE ADDED DURING ANY PHASE OF CONSTRUCTION AS DIRECTED BY THE ENGINEER.
2. IF PROJECT CONSISTS OF MILL & OVERLAY OF SECTIONS, ENSURE MILLINGS ARE NOT A THREAT FROM WASHING OFF THE PROJECT ROW.
3. CONTRACTOR TO PROTECT ALL WETLAND AREAS WITH PERIMETER CONTROL (AND REDUNDANT MEASURES) UNTIL WORK IN THE PERMITTED AREAS IS NEEDED. REDUNDANT MEASURES MUST BE A MINIMUM OF 5 FEET APART, WHERE FEASIBILE.
4. THE CONTRACTOR SHALL AMEND THE SWPPP AND THIS PLAN SHEET TO SHOW THE LOCATIONS OF STAGING AREAS, STOCKPILE LOCATIONS (AND APPROPRIATE ESC BMPS), AND LOCATIONS OF POTENTIAL POLLUTANT GENERATING ACTIVITIES (I.E. DESIGNATED CONCRETE WASHOUT AREAS, FUELING LOCATIONS, ETC.).
5. THE CONTRACTOR SHALL AMMEND THIS PLAN TO SHOW AREAS OF POLLUTANT GENERATING ACTIVITIES, STAGING AREAS, AND DISPOSAL SITES AWAY FROM WATER.

TURF ESTABLISHMENT AND EROSION CONTROL LEGEND

PATTERN	USE	PERMANENT	TEMPORARY
	ADJACENT TO HOMEOWNERS	SEED RESIDENTIAL TURFGRASS @ 200 LBS/ACRE FERTILIZER TYPE 3, 22-5-10 @ 350 LBS/ACRE HYDRAULIC MATRIX TYPE FIBER REINFORCED @ 3900 LBS/ACRE	RAPID STABILIZATION METHOD 3 @ 6 MGAL/ACRE
	ADJACENT TO COMMERCIAL PROPERTIES, CITY MEDIANS, BOULEVARDS	SEED SOUTHERN BOULEVARD @ 160 LBS/ACRE FERTILIZER TYPE 3, 22-5-10 @350 LBS/ACRE HYDRAULIC MATRIX TYPE FIBER REINFORCED @ 3900 LBS/ACRE	RAPID STABILIZATION METHOD 3 @ 6 MGAL/ACRE
	WITHIN 50' OF POND	SEED SOUTHERN TALLGRASS ROADSIDE @26 LBS/ACRE FERTILIZER TYPE 4, 18-1-8 @ 150 LBS/ACRE ROLLED EROSION PREVENTION PRODUCT CATEGORY 20	RAPID STABILIZATION METHOD 4

MS — SILT FENCE; TYPE MS

BR — SEDIMENT CONTROL LOG, TYPE WOOD FIBER

CP — CULVERT END CONTROLS

STORM DRAIN INLET PROTECTION

STABILIZED CONSTRUCTION EXIT

SURFACE DRAINAGE DIRECTION

RIGHT OF WAY

TEMPORARY EASEMENT

PERMANENT DRAINAGE EASEMENT

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COON CREEK IS AN IMPAIRED WATERBODY

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NOTES / LEGEND

EROSION CONTROL & TURF ESTABLISHMENT

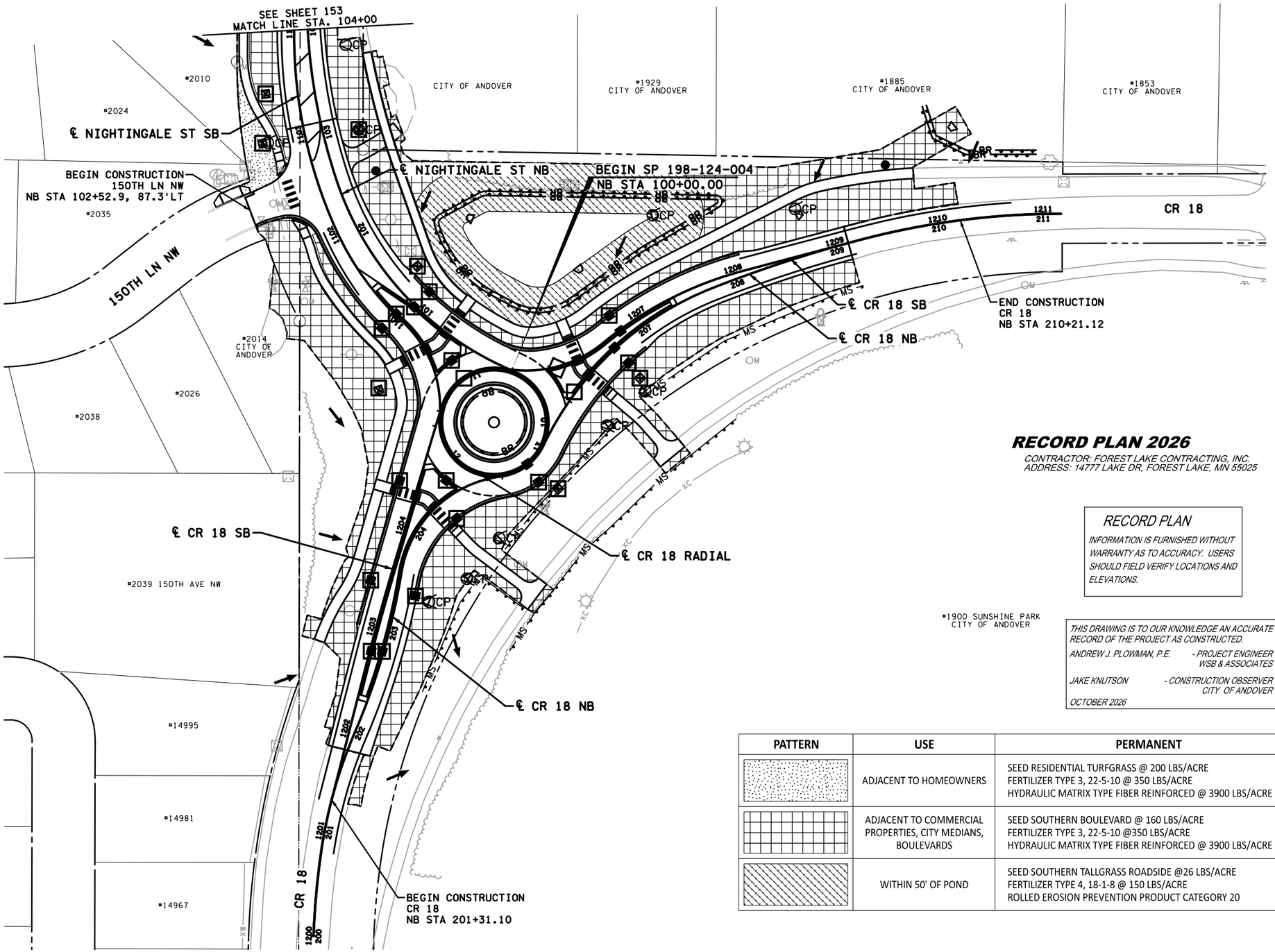
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LEGEND

- SURFACE FLOW DIRECTION
- STORM DRAIN INLET PROTECTION
- STABILIZED CONSTRUCTION EXIT
- BR — SEDIMENT CONTROL LOG, TYPE COMPOST
- MS — SILT FENCE, TYPE MS
- CONSTRUCTION LIMITS
- INPLACE RIGHT-OF-WAY

PATTERN	USE	PERMANENT	TEMPORARY
	ADJACENT TO HOMEOWNERS	SEED RESIDENTIAL TURFGRASS @ 200 LBS/ACRE FERTILIZER TYPE 3, 22-5-10 @ 350 LBS/ACRE HYDRAULIC MATRIX TYPE FIBER REINFORCED @ 3900 LBS/ACRE	RAPID STABILIZATION METHOD 3 @ 6 MGAL/ACRE
	ADJACENT TO COMMERCIAL PROPERTIES, CITY MEDIANS, BOULEVARDS	SEED SOUTHERN BOULEVARD @ 160 LBS/ACRE FERTILIZER TYPE 3, 22-5-10 @350 LBS/ACRE HYDRAULIC MATRIX TYPE FIBER REINFORCED @ 3900 LBS/ACRE	RAPID STABILIZATION METHOD 3 @ 6 MGAL/ACRE
	WITHIN 50' OF POND	SEED SOUTHERN TALLGRASS ROADSIDE @26 LBS/ACRE FERTILIZER TYPE 4, 18-1-8 @ 150 LBS/ACRE ROLLED EROSION PREVENTION PRODUCT CATEGORY 20	RAPID STABILIZATION METHOD 4

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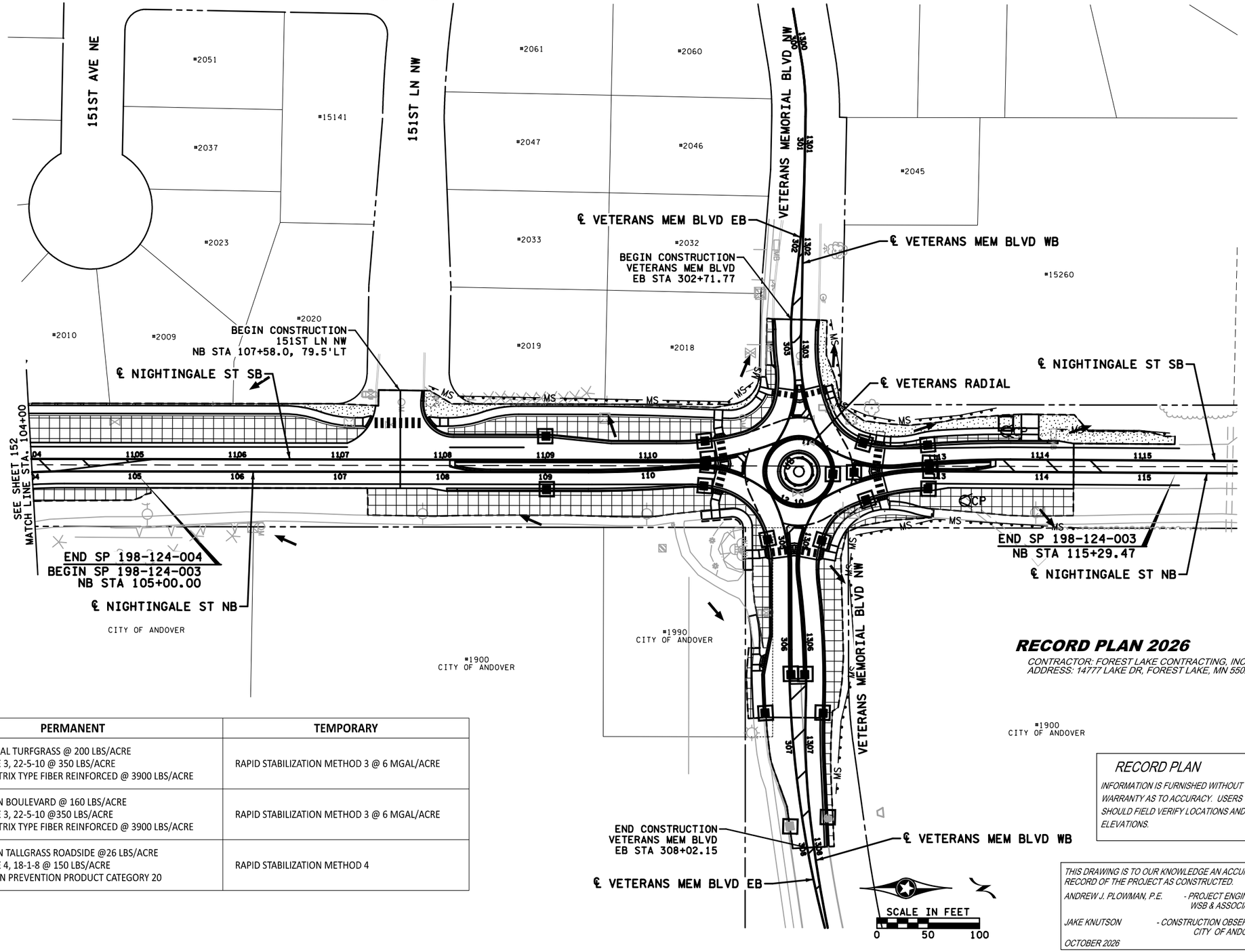
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Nightingale Street NW



LEGEND

- SURFACE FLOW DIRECTION
- STORM DRAIN INLET PROTECTION
- STABILIZED CONSTRUCTION EXIT
- BR — SEDIMENT CONTROL LOG, TYPE COMPOST
- MS — SILT FENCE, TYPE MS
- CONSTRUCTION LIMITS
- INPLACE RIGHT-OF-WAY

PATTERN	USE	PERMANENT	TEMPORARY
	ADJACENT TO HOMEOWNERS	SEED RESIDENTIAL TURFGRASS @ 200 LBS/ACRE FERTILIZER TYPE 3, 22-5-10 @ 350 LBS/ACRE HYDRAULIC MATRIX TYPE FIBER REINFORCED @ 3900 LBS/ACRE	RAPID STABILIZATION METHOD 3 @ 6 MGAL/ACRE
	ADJACENT TO COMMERCIAL PROPERTIES, CITY MEDIANS, BOULEVARDS	SEED SOUTHERN BOULEVARD @ 160 LBS/ACRE FERTILIZER TYPE 3, 22-5-10 @350 LBS/ACRE HYDRAULIC MATRIX TYPE FIBER REINFORCED @ 3900 LBS/ACRE	RAPID STABILIZATION METHOD 3 @ 6 MGAL/ACRE
	WITHIN 50' OF POND	SEED SOUTHERN TALLGRASS ROADSIDE @26 LBS/ACRE FERTILIZER TYPE 4, 18-1-8 @ 150 LBS/ACRE ROLLED EROSION PREVENTION PRODUCT CATEGORY 20	RAPID STABILIZATION METHOD 4

RECORD PLAN 2026

CONTRACTOR: FOREST LAKE CONTRACTING, INC.
ADDRESS: 14777 LAKE DR, FOREST LAKE, MN 55025

RECORD PLAN

INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY. USERS SHOULD FIELD VERIFY LOCATIONS AND ELEVATIONS.

THIS DRAWING IS TO OUR KNOWLEDGE AN ACCURATE RECORD OF THE PROJECT AS CONSTRUCTED.

ANDREW J. PLOWMAN, P.E. - PROJECT ENGINEER WSB & ASSOCIATES

JAKE KNUTSON - CONSTRUCTION OBSERVER CITY OF ANDOVER

OCTOBER 2026

NO.	DATE	BY	CHK	REVISIONS

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

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

PRINT NAME: ANDREW J. PLOWMAN, PE

DATE 6/19/2026 LICENSE # 44200

RECORD DRAWING

wsb

CITY OF ANDOVER

Nightingale Street NW Roundabouts

NIGHTINGALE STREET NW

EROSION CONTROL & TURF ESTABLISHMENT

SP 198-124-003, SP 198-124-004, CP 23-18, CP 23-19, CP 23-15-18

SHEET 153 OF 153 SHEETS

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