ANOKA - HENNEPIN SCHOOLS

ANOKA COUNTY, MINNESOTA

PLANS FOR: GRADING, PAVING AND TRAFFIC SIGNAL

NOWTHEN BOULEVARD IMPROVEMENTS

SCHOOL PROJECT NO. 19-135-001

PLAN SYMBOLS

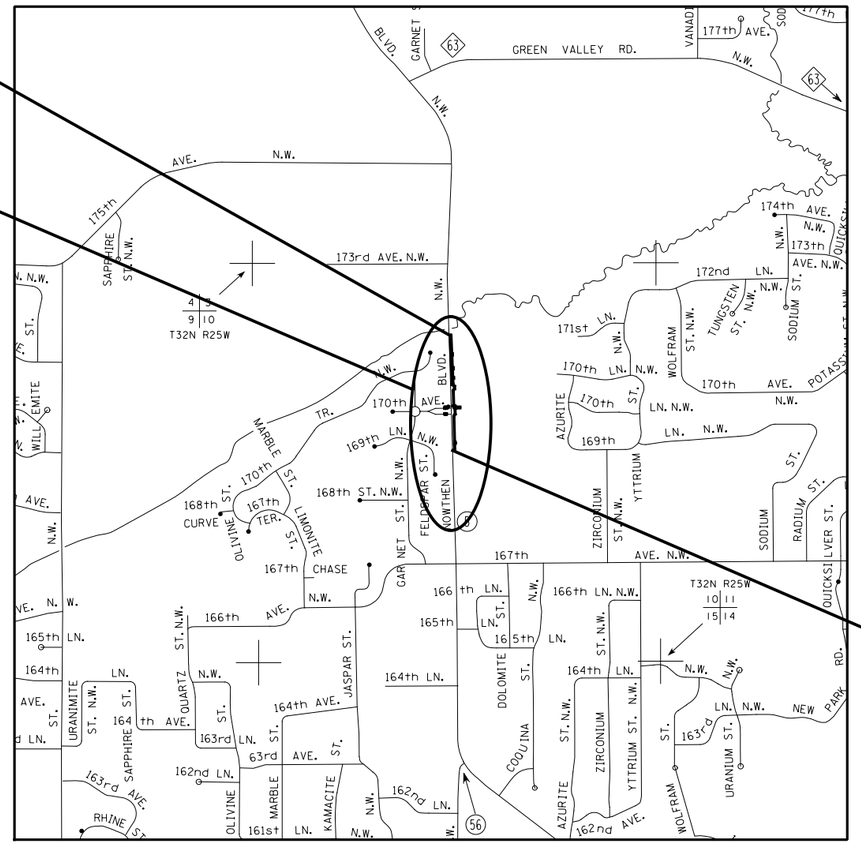
STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT-OF-WAY LINE
PRESENT RIGHT-OF-WAY LINE
CONTROL OF ACCESS LINE
PROPERTY LINE (Except Land Lines)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
CONC. RETAINING WALL
RAILROAD
RAILROAD RIGHT-OF-WAY LINE
RIVER OR CREEK (NAME)
DRY RUN
DRAINAGE DITCH (SIZE)
DRAIN TILE
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
RAILROAD SNOW FENCE
STONE WALL OR FENCE
HEDGE
RAILROAD CROSSING SIGN
RAILROAD CROSSING BELL
ELECTRIC WARNING SIGN
CROSSING GATE
MEANDER CORNER
MAIL BOX (MB)
SPRINGS
MARSH
TIMBER / ORCHARD / BRUSH / NURSERY (TIMBER)
CATCH BASIN (C.B.)
FIRE HYDRANT
CATTLE GUARD
OVERPASS (Highway Over)
UNDERPASS (Highway Under)
BRIDGE
BUILDING (One Story Frame) (1-St 15')
F-FRAME C-CONCRETE
S-STONE T-TILE
B-BRICK ST-STUCCO
IRON PIPE OR ROD
MONUMENT (STONE, CONCRETE, OR METAL)
WOODEN HUB
GRAVEL PIT (G)
SAND PIT (S)
BORROW PIT (B)
ROCK QUARRY (Q)

UTILITY SYMBOLS

POWER POLE LINE
TELEPHONE OR TELEGRAPH POLE LINE
JOINT TELEPHONE AND POWER ON POWER POLES ON TELEPHONE POLES
ANCHOR
STEEL TOWER
STREET LIGHT
PEDESTAL (TELEPHONE CABLE TERMINAL,)
GAS MAIN (G)
WATER MAIN (I)
CONDUIT
TELEPHONE CABLE IN CONDUIT (T)
ELECTRIC CABLE IN CONDUIT (P)
TELEPHONE MANHOLE (T)
ELECTRIC MANHOLE (P)
BURIED TELEPHONE CABLE (T-BUR)
BURIED ELECTRIC CABLE (P-BUR)
AERIAL TELEPHONE CABLE
SEWER, (SANITARY)
SEWER, (STORM)
SEWER MANHOLE
HANDHOLE (HH)

END
℄ NOWTHEN BLVD
STA 31+77.05

PROJECT LOCATION



BEGIN
℄ NOWTHEN BLVD
STA 16+61.22

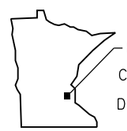
DESIGN DESIGNATION FOR: NOWTHEN BLVD

(DATA FROM SP 002-605-019)

R-VALUE	50
ADT (Current Year) 2019 =	8,056
ADT (Future Year) 2029 =	9,667
PAVEMENT DESIGN	10 TON
FUNCTIONAL CLASSIFICATION	A-MINOR ARTERIAL
NO. OF TRAFFIC LANES	2
NO. OF PARKING LANES	0
ESALS (20)	890,830 (20 YRS.)
Design Speed	55 MPH
Based on Sight Distance	STOPPING
Height of eye / Height of Object	3.5' / 2.0'
Design Speed not achieved at:	N/A

INDEX MAP — SCALE 1000'

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY



PROJECT LOCATION
COUNTY : ANOKA
DISTRICT : METRO

GOVERNING SPECIFICATIONS

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

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

ANOKA COUNTY STANDARDS WILL APPLY FOR STREET CONSTRUCTION.

INDEX

THIS PLAN CONTAINS 48 SHEETS

SRF

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.

SIGNATURE Steven J. Miller

DATE 05-20-19 LIC. NO. 41327 PRINT NAME STEVEN J. MILLER

RECOMMENDED FOR APPROVAL ..... 20 .....
CITY ENGINEER, CITY OF RAMSEY

RECOMMENDED FOR APPROVAL ..... 20 .....
ANOKA COUNTY ENGINEER

THIS PLAN AND/OR SPECIFICATION WAS PREPARED SPECIFICALLY FOR THIS PROJECT, AND ANY RE-USE OF DETAILS OR SPECIFICATIONS ON OTHER PROJECTS IS NOT INTENDED OR AUTHORIZED BY THE DESIGNER. LIABILITY FOR ANY RE-USE ON OTHER PROJECTS IS THE RESPONSIBILITY OF THE PERSON, AGENCY, OR CORPORATION USING PLAN OR SPECIFICATION DATA FROM THIS PROJECT.

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

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STATEMENT OF ESTIMATED QUANTITIES

NOTES	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL ESTIMATED QUANTITY
	2104.502	SALVAGE SIGN TYPE C	EACH	2
7	2232.504	MILL BITUMINOUS SURFACE (2.0")	SY	180
	2503.502	INSTALL CONCRETE APRON	EACH	2
	2503.503	15" RC PIPE SEWER	LF	16
	2021.501	MOBILIZATION	LS	1
	2102.503	PAVEMENT MARKING REMOVAL	L F	13930
	2102.518	PAVEMENT MARKING REMOVAL	S F	100
	2104.502	REMOVE SIGN TYPE C	EACH	3
	2104.502	REMOVE MAIL BOX SUPPORT	EACH	2
	2104.502	SALVAGE CONCRETE APRON	EACH	2
	2104.503	SAWING BIT PAVEMENT (FULL DEPTH)	L F	1940
	2104.504	REMOVE BITUMINOUS PAVEMENT	S Y	3250
	2104.518	REMOVE CONCRETE WALK	S F	230
	2104.607	SALVAGE RANDOM RIPRAP	C Y	5
1	2105.507	COMMON EXCAVATION P	C Y	500
2	2105.507	SELECT GRANULAR BORROW (CV)	C Y	196
	2123.610	STREET SWEEPER (WITH PICKUP BROOM)	HOUR	25
2	2211.507	AGGREGATE BASE (CV) CLASS 5	C Y	458
2	2221.507	SHOULDER BASE AGGREGATE (LV) CLASS 1	C Y	40
	2301.602	DRILL & GROUT DOWEL BAR (EPOXY COATED)	EACH	40
	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL	160
3, 9	2360.509	TYPE SP 12.5 NON WEAR COURSE MIX (4;B)	TON	490
3, 9	2360.509	TYPE SP 12.5 WEARING COURSE MIX (4;F)	TON	500
	2511.507	RANDOM RIPRAP CLASS II	C Y	6
	2511.607	INSTALL RANDOM RIPRAP	C Y	5
	2521.518	6" CONCRETE WALK	S F	1280
	2521.518	2.5" BITUMINOUS WALK	S F	1050
	2531.503	CONCRETE CURB & GUTTER DESIGN B424	L F	290
	2531.618	TRUNCATED DOMES	S F	190
	2540.602	MAIL BOX SUPPORT	EACH	2
	2563.601	TRAFFIC CONTROL SUPERVISOR	LS	1
	2563.601	TRAFFIC CONTROL	LS	1
4	2563.602	RAISED PAVEMENT MARKER TEMPORARY	EACH	405
8	2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	UDAY	60
	2564.502	INSTALL SIGN TYPE C	EACH	2
	2564.518	SIGN PANELS TYPE C	S F	98.75
	2565.501	EMERGENCY VEHICLE PREEMPTION SYSTEM	LS	1
5	2565.516	TRAFFIC CONTROL SIGNAL SYSTEM	SYS	1
6	2573.501	CULVERT END CONTROLS	LS	9
10	2575.523	RAPID STABILIZATION METHOD 3	MGAL	3
	2581.503	REMOVABLE PREFORM PAVEMENT MARKING TAPE	L F	7010
	2581.603	REMOVABLE PREFORMED PLASTIC MASK (BLACK)	L F	1130
	2581.618	REMOVABLE PREFORMED PLASTIC MASK (BLACK)	S F	30
	2582.503	4" SOLID LINE MULTI COMP	L F	2220
	2582.503	24" SOLID LINE MULTI COMP	L F	160
	2582.503	4" DBLE SOLID LINE MULTI COMP	L F	1730
	2582.503	24" SOLID LINE PREF THERMO GR IN	L F	120
	2582.518	PAVT MSSG PREF THERMO GR IN	S F	90
	2582.518	CROSSWALK PREF THERMO GR IN	S F	1300

P = Plan quantity

NOTES

1. Includes all topsoil strippng and stockpiling, lowering aggregrate beneath exisitng shoulder and respreading topsoil.
2. Paid per cross sectional area, compacted volume in-place.
3. Assumes 113 lbs/SY/inch.
4. 2 TRPM's, 4 inches side by side at 10 foot spacing for interim double yellow centerline.
5. TRAFFIC CONTROL SIGNAL SYSTEM pay item does NOT include the cost of school furnished signal pole and mast arm.
6. Pay item includes quantitiy and payment for 2 catch basin inlet protection.
7. 1 foot edge milling per typical sections.
8. No additional compensation will be made for an increase or decrease in quantity.
9. Item to be used for mainline paving and bituminous patching around new curb.
10. Exercise extreme care to control overspray on trails, sidewalks and pedestrian curb ramps.

NO	DATE	BY	CKD	APPR	REVISION

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

Print Name: STEVEN J. MILLER

Date 05-20-19 License # 41327

STATE AID PROJECT NO.	X
	X
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	S MARTINS
DESIGNED BY	S MILLER
CHECKED BY	S MILLER
COMM. NO.	0012107

SRF

ANOKA-HENNEPIN SCHOOL DISTRICT

STATEMENT OF ESTIMATED QUANTITIES

NOWTHEN BOULEVARD IMPROVEMENT

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CONSTRUCTION /SOILS NOTES

GRADING, BASE AND SURFACE

1. STRIP SOD AND TOPSOIL FROM AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE TOPSOIL. FOR ESTIMATING PURPOSES, THE DEPTH OF TOPSOIL AVAILABLE IS CONSIDERED TO BE 6".

2. COMPACTION OF THE GRADING AND AGGREGATE ITEMS ON BYPASSES AND OTHER TEMPORARY WORK SHALL BE BY THE "QUALITY COMPACTION" METHOD.

3. TEST ROLLING SHALL NOT BE REQUIRED ON THIS PROJECT.

4. WHERE CONNECTING TO THE INPLACE ROADWAYS AT THE TERMINI OF PROPOSED CONSTRUCTION, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING, WHICHEVER IS DEEPER, THEN 1V:2OH TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION, UNLESS OTHERWISE NOTED.

5. PROVIDE 1V:2OH LONGITUDINAL TAPERS BETWEEN CHANGES IN SUBGRADE AND SUBCUT DEPTHS.

6. DITCH BOTTOMS, TOE OF FILL, CUT RUNOUTS AND THE TOP EDGE OF THE BACKSLOPES SHALL BE ROUNDED REGARDLESS OF THE SECTION USED ON THE CROSS SECTION SHEETS.

7. STABILIZING AGGREGATE SHALL BE INCORPORATED INTO THE SUBGRADE TO ACHIEVE SATISFACTORY SURFACE STABILITY AT LOCATIONS DEEMED NECESSARY BY THE ENGINEER, IN ACCORDANCE WITH THE PROVISIONS OF SPEC. 2105.2D. GRANULAR MATERIAL WHICH IS FURNISHED BY THE CONTRACTOR SHALL BE STABILIZED, IF NECESSARY, AT THE CONTRACTOR'S EXPENSE. WHERE STABILIZING AGGREGATE IS DEEMED NECESSARY, IT SHALL BE APPLIED AT A RATE OF APPROXIMATELY 200 LBS/SY.

REMOVALS

8. THE EXISTING PAVEMENT THICKNESSES ARE ASSUMED TO BE AS FOLLOWS:
   NOWTHEN BLVD
   THROUGH LANES - 4" BITUMINOUS PAVEMENT
   SHOULDERS - 2" BITUMINOUS PAVEMENT
   THE CONTRACTOR SHALL INVESTIGATE AND MAKE THEIR OWN DETERMINATION.

   (INFORMATION TAKEN FROM THE PROJECT SOIL BORINGS AND/OR RECORD DRAWINGS).

TURF ESTABLISHMENT

9. PLACE A MINIMUM OF 6 INCHES OF TOPSOIL ON ALL AREAS SCHEDULED FOR PERMANENT TURF ESTABLISHMENT.

10. SOD ALL AREAS ADJACENT TO RESIDENCES OR BUSINESSES AND AREAS OF HEAVY DRAINAGE RUNOFF, AS INDICATED IN THE TURF ESTABLISHMENT AND EROSION CONTROL PLANS AND DETAILS.

11. SEEDING REQUIREMENTS ON THIS PROJECT ARE AS FOLLOWS:

    ON PERMANENT SLOPES FLATTER THAN 1:3 USE SEED MIXTURE 25-141 @ 60 POUNDS PER ACRE, FERTILIZER TYPE 3 @ 350 POUNDS PER ACRE AND MULCH MATERIAL TYPE 1 @ 2 TONS PER ACRE, WITH DISK ANCHOR. SEE EROSION CONTROL AND TURF ESTABLISHMENT PLANS FOR SEED TYPE LOCATIONS.

MISCELLANEOUS

12. WHERE SEDIMENT DEPOSITS IN WATERS OF THE STATE THE MATERIAL MUST BE REMOVED IN 7 DAYS.

NO	DATE	BY	CKD	APPR	REVISION
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Date 05-20-19 License # 41327

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	X
STATE PROJECT NO.	X
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CITY PROJECT NO.	X

DRAWN BY S MARTINS
DESIGNED BY S MILLER
CHECKED BY S MILLER
COMM. NO. 0012107

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ANOKA-HENNEPIN SCHOOL DISTRICT

SOILS NOTES/STANDARD PLATES
NOWTHEN BOULEVARD IMPROVEMENT

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UTILITIES

THE FOLLOWING LIST SHOWS THE UTILITY COMPANIES INVOLVED ON THIS PROJECT.

ARVIG COMMUNICATIONS SYSTEMS
CENTERPOINT ENERGY
CENTURYLINK
CITY OF RAMSEY
CONNEXUS ENERGY

GENERAL NOTES:

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

THE "LEAVE AS IS" AND "RELOCATE" NOTES ARE BASED UPON THE BEST INFORMATION AVAILABLE AND MAY NOT REFLECT THE ACTUAL EFFECTS ON THE UTILITIES BY CONSTRUCTION. ACTUAL DETERMINATION WILL BE MADE IN THE FIELD DURING CONSTRUCTION.

UTILITY WORK SHOWN ON THESE SHEETS SHALL BE DONE BY OTHERS UNLESS OTHERWISE NOTED.

UTILITY WORK APPLIES TO THE CONSTRUCTION/EXCAVATION AREA LIMITS ONLY.

ALL POWER LINES ARE DISTRIBUTION UNLESS NOTED OTHERWISE.

THE CONTRACTOR IS HEREBY REMINDED OF HIS RESPONSIBILITY TO CONTACT ALL UTILITIES THAT MAY HAVE FACILITIES IN THE PROJECT AREA.

EXISTING UTILITIES (ARVIG)

ALIGNMENT	LOCATION		INPLACE ITEM	REMARKS			NOTES
	STATION	OFFSET		LEAVE AS IS	ADJUST	RELOCATE	
NOWTHEN BLVD	15+75 TO 27+22	40' RT TO 55' RT	BURIED TEL	X			
NOWTHEN BLVD	15+75 TO 20+21	54' RT TO 60' RT	BURIED TEL	X			
NOWTHEN BLVD	22+16 TO 22+19	194' RT TO 50' RT	BURIED TEL	X			
NOWTHEN BLVD	22+19	63' RT	TEL MH	X			
NOWTHEN BLVD	26+72	71' RT	TEL PED	X			
NOWTHEN BLVD	27+18	55' RT	TEL MH	X			

EXISTING UTILITIES (CENTURYLINK)

ALIGNMENT	LOCATION		INPLACE ITEM	REMARKS			NOTES
	STATION	OFFSET		LEAVE AS IS	ADJUST	RELOCATE	
NOWTHEN BLVD	15+75 TO 17+92	53' LT TO 52' LT	BURIED TEL	X			
NOWTHEN BLVD	15+75 TO 26+72	48' LT TO 45' LT	OVERHEAD TEL	X			
NOWTHEN BLVD	15+75 TO 26+72	44' LT TO 41' LT	BURIED FIBER	X			
NOWTHEN BLVD	17+92 TO 21+20	52' LT TO 65' LT	BURIED TEL	X			
NOWTHEN BLVD	19+81	59' LT	TEL PED	X			
NOWTHEN BLVD	21+20 TO 22+33	65' LT TO 63' LT	BURIED TEL	X			
NOWTHEN BLVD	21+30 TO 21+33	63' LT TO 200' LT	BURIED TEL	X			
NOWTHEN BLVD	22+28 TO 22+29	147' LT TO 200' LT	BURIED TEL	X			
NOWTHEN BLVD	22+33 TO 31+95	63' LT TO 46' LT	BURIED TEL	X			
NOWTHEN BLVD	22+82 TO 22+85	69' RT TO 62' LT	BURIED TEL	X			
NOWTHEN BLVD	26+63	55' LT	TEL PED	X			
NOWTHEN BLVD	26+72 TO 30+83	41' LT TO 35' LT	BURIED FIBER	X			
NOWTHEN BLVD	26+72 TO 28+47	45' LT TO 51' LT	OVERHEAD TEL	X			
NOWTHEN BLVD	28+47 TO 29+72	51' LT	OVERHEAD TEL	X			

EXISTING UTILITIES (CENTERPOINT)

ALIGNMENT	LOCATION		INPLACE ITEM	REMARKS			NOTES
	STATION	OFFSET		LEAVE AS IS	ADJUST	RELOCATE	
NOWTHEN BLVD	15+75 TO 17+97	48' LT	4" GAS	X			
NOWTHEN BLVD	17+97 TO 21+13	48' LT TO 58' LT	4" GAS	X			
NOWTHEN BLVD	21+13 TO 22+97	58' LT TO 54' LT	4" GAS	X			
NOWTHEN BLVD	21+27 TO 21+31	58' LT TO 200' LT	2" GAS	X			
NOWTHEN BLVD	22+27 TO 22+31	56' LT TO 200' LT	2" GAS	X			
NOWTHEN BLVD	22+91 TO 22+97	200' RT TO 54' LT	2" GAS	X			
NOWTHEN BLVD	22+97	50' LT	GAS VALVE	X			
NOWTHEN BLVD	22+97 TO 26+13	54' LT TO 51' LT	4" GAS	X			
NOWTHEN BLVD	26+02 TO 26+11	51' LT TO 200' RT	4" GAS	X			
NOWTHEN BLVD	26+13 TO 31+64	51' LT TO 38' LT	4" GAS	X			
NOWTHEN BLVD	29+16 TO 29+49	106' RT TO 43' LT	1" GAS	X			

EXISTING UTILITIES (CONNEXUS)

ALIGNMENT	LOCATION		INPLACE ITEM	REMARKS			NOTES
	STATION	OFFSET		LEAVE AS IS	ADJUST	RELOCATE	
NOWTHEN BLVD	15+75 TO 26+86	52' LT TO 48' LT	OH POWER	X			
NOWTHEN BLVD	16+80	50' LT	POWER POLE	X			
NOWTHEN BLVD	19+28	49' LT	POWER POLE	X			
NOWTHEN BLVD	20+49 TO 22+28	70' RT TO 73' RT	BURIED POWER	X			
NOWTHEN BLVD	20+94	49' LT	POWER POLE			X	
NOWTHEN BLVD	20+94 TO 21+33	49' LT TO 119' LT	BURIED POWER	X			
NOWTHEN BLVD	21+12	83' LT	TRANSFORMER	X			
NOWTHEN BLVD	22+21	65' LT	LIGHT POLE	X			
NOWTHEN BLVD	22+29 TO 22+56	84' LT TO 47' LT	BURIED POWER	X			
NOWTHEN BLVD	22+32 TO 26+82	142' RT TO 77' RT	BURIED POWER	X			
NOWTHEN BLVD	22+48	82' LT	TRANSFORMER	X			
NOWTHEN BLVD	22+56	48' LT	POWER POLE			X	
NOWTHEN BLVD	24+20	48' LT	POWER POLE	X			
NOWTHEN BLVD	26+72 TO 28+47	49' LT TO 55' LT	OH POWER	X			
NOWTHEN BLVD	26+72	47' LT	POWER POLE	X			
NOWTHEN BLVD	26+72 TO 28+47	47' LT TO 43' LT	OH POWER	X			
NOWTHEN BLVD	26+82 TO 28+46	77' RT TO 42' LT	BURIED POWER	X			
NOWTHEN BLVD	26+85	94' RT	TRANSFORMER	X			
NOWTHEN BLVD	28+47 TO 29+72	55' LT	OH POWER	X			
NOWTHEN BLVD	28+47	53' LT	POWER POLE	X			
NOWTHEN BLVD	28+47 TO 28+47	42' LT TO 43' LT	POWER POLE	X			
NOWTHEN BLVD	28+47 TO 29+72	42' LT	OH POWER	X			
NOWTHEN BLVD	29+72	53' LT	POWER POLE	X			
NOWTHEN BLVD	29+72 TO 30+15	53' LT TO 52' LT	GUY WIRE	X			
NOWTHEN BLVD	29+72 TO 29+92	53' LT TO 52' LT	GUY WIRE	X			
NOWTHEN BLVD	29+72 TO 30+03	53' LT TO 52' LT	GUY WIRE	X			
NOWTHEN BLVD	29+72	42' LT	POWER POLE	X			
NOWTHEN BLVD	29+72 TO 30+15	42' LT TO 41' LT	GUY WIRE	X			
NOWTHEN BLVD	29+72 TO 29+92	42' LT TO 41' LT	GUY WIRE	X			
NOWTHEN BLVD	29+72 TO 30+03	42' LT TO 41' LT	GUY WIRE	X			
NOWTHEN BLVD	31+12 TO 31+61	200' RT TO 162' LT	OH POWER	X			
NOWTHEN BLVD	31+46 TO 31+95	200' RT TO 149' LT	OH POWER	X			

NO	DATE	BY	CKD	APPR	REVISION
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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: STEVEN J. MILLER

Date 05-20-19 License # 41327

STATE AID PROJECT NO.
X
X

STATE PROJECT NO.
X

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
S MARTINS

DESIGNED BY
S MILLER

CHECKED BY
S MILLER

COMM. NO. 0012107

SRF

ANOKA-HENNEPIN SCHOOL DISTRICT

EXISTING UTILITY TABULATIONS
NOWTHEN BOULEVARD IMPROVEMENT

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EXISTING DRAINAGE ITEMS

ALIGNMENT	LOCATION		EXISTING ITEM	LEAVE AS IS	NOTES
	STATION	OFFSET			
NOWTHEN BLVD	17+33 TO 17+73	47' RT TO 49' RT	12" CSP	X	
NOWTHEN BLVD	19+86 TO 20+76	131' RT TO 81' RT	12" RCP	X	
NOWTHEN BLVD	20+77 TO 20+90	80' RT TO 52' RT	12" RCP	X	
NOWTHEN BLVD	20+77	80' RT	MANHOLE	X	
NOWTHEN BLVD	20+98 TO 22+57	46' RT TO 45' RT	12" RCP	X	
NOWTHEN BLVD	21+11 TO 21+41	143' RT TO 144' RT	12" RCP	X	
NOWTHEN BLVD	21+13 TO 22+40	51' LT TO 50' LT	15" RCP	X	
NOWTHEN BLVD	21+14 TO 21+44	165' LT TO 164' LT	15" RCP	X	
NOWTHEN BLVD	21+41	144' RT	CATCH BASIN	X	
NOWTHEN BLVD	21+41 TO 22+03	144' RT TO 145' RT	12" RCP	X	
NOWTHEN BLVD	21+42	92' LT	CATCH BASIN	X	
NOWTHEN BLVD	21+42 TO 22+14	92' LT	12" RCP	X	
NOWTHEN BLVD	21+44	164' LT	CATCH BASIN	X	
NOWTHEN BLVD	21+44 TO 22+16	164' LT TO 163' LT	15" RCP	X	
NOWTHEN BLVD	22+03	145' RT	CATCH BASIN	X	
NOWTHEN BLVD	22+14	92' LT	CATCH BASIN	X	
NOWTHEN BLVD	22+14 TO 22+16	92' LT TO 163' LT	15" RCP	X	
NOWTHEN BLVD	22+16	163' LT	CATCH BASIN	X	
NOWTHEN BLVD	22+16 TO 22+46	163' LT	15" RCP	X	
NOWTHEN BLVD	24+46 TO 25+33	48' RT TO 45' RT	12" RCP	X	
NOWTHEN BLVD	25+95 TO 26+31	43' RT TO 44' RT	12" CSP	X	
NOWTHEN BLVD	27+18 TO 27+54	40' RT TO 41' RT	12" CSP	X	
NOWTHEN BLVD	29+07 TO 29+43	35' RT	12" CSP	X	

EXISTING WATERMAIN

ALIGNMENT	LOCATION		EXISTING ITEM	LEAVE AS IS	NOTES
	STATION	OFFSET			
NOWTHEN BLVD	15+75 TO 29+04	43' RT TO 40' RT	16" DIP WM	X	
NOWTHEN BLVD	20+30 TO 20+30	42' RT TO 48' RT	6" DIP WM	X	
NOWTHEN BLVD	20+30	47' RT	WM VALVE	X	
NOWTHEN BLVD	20+30	48' RT	HYDRANT	X	
NOWTHEN BLVD	21+36	81' LT	HYDRANT	X	
NOWTHEN BLVD	21+38 TO 21+47	81' LT	6" DIP WM	X	
NOWTHEN BLVD	21+38	81' LT	WM VALVE	X	
NOWTHEN BLVD	21+47 TO 21+48	81' LT TO 140' LT	8" DIP WM	X	
NOWTHEN BLVD	21+48 TO 21+59	140' LT TO 200' LT	8" DIP WM	X	
NOWTHEN BLVD	22+30 TO 22+69	191' RT TO 156' RT	8" PVC WM	X	
NOWTHEN BLVD	22+69 TO 22+73	156' RT TO 42' RT	8" PVC WM	X	
NOWTHEN BLVD	22+73	45' RT	WM VALVE	X	
NOWTHEN BLVD	23+91 TO 23+96	200' RT TO 41' RT	8" PVC WM	X	
NOWTHEN BLVD	23+96	44' RT	WM VALVE	X	
NOWTHEN BLVD	24+02	44' RT	WM VALVE	X	
NOWTHEN BLVD	24+02	50' RT	HYDRANT	X	
NOWTHEN BLVD	24+02 TO 24+02	41' RT TO 50' RT	6" PVC WM	X	
NOWTHEN BLVD	26+63 TO 28+33	40' RT TO 200' LT	16" DIP WM	X	
NOWTHEN BLVD	26+65 TO 27+11	36' RT TO 29' LT	WM CASING	X	
NOWTHEN BLVD	27+10	27' LT	WM VALVE	X	
NOWTHEN BLVD	28+88	43' RT	WM VALVE	X	
NOWTHEN BLVD	28+88	47' RT	HYDRANT	X	
NOWTHEN BLVD	28+88 TO 28+88	40' RT TO 47' RT	6" PVC WM	X	
NOWTHEN BLVD	29+04 TO 29+23	40' RT TO 200' LT	16" DIP WM	X	
NOWTHEN BLVD	29+12 TO 29+20	63' LT TO 62' LT	6" DIP WM	X	
NOWTHEN BLVD	29+17	62' LT	WM VALVE	X	
NOWTHEN BLVD	29+20	62' LT	HYDRANT	X	

EXISTING SANITARY SEWER

ALIGNMENT	LOCATION		EXISTING ITEM	LEAVE AS IS	NOTES
	STATION	OFFSET			
NOWTHEN BLVD	15+75 TO 17+82	64' RT	8" PVC SAN	X	
NOWTHEN BLVD	17+82 TO 21+76	64' RT TO 63' RT	8" PVC SAN	X	
NOWTHEN BLVD	17+82	64' RT	SAN MH	X	
NOWTHEN BLVD	21+58 TO 21+69	138' LT TO 200' LT	8" PVC SAN	X	
NOWTHEN BLVD	21+58	138' LT	SAN MH	X	
NOWTHEN BLVD	21+76 TO 24+76	63' RT TO 62' RT	8" PVC SAN	X	
NOWTHEN BLVD	21+76	63' RT	SAN MH	X	
NOWTHEN BLVD	24+73 TO 24+74	184' RT TO 164' RT	6" PVC SAN	X	
NOWTHEN BLVD	24+74	164' RT	SAN MH	X	
NOWTHEN BLVD	24+74 TO 24+76	164' RT TO 62' RT	6" PVC SAN	X	
NOWTHEN BLVD	24+76 TO 26+35	62' RT	8" PVC SAN	X	
NOWTHEN BLVD	24+76	62' RT	SAN MH	X	
NOWTHEN BLVD	26+15 TO 26+35	55' RT TO 62' RT	6" PVC SAN	X	
NOWTHEN BLVD	26+31 TO 26+35	82' RT TO 62' RT	6" PVC SAN	X	
NOWTHEN BLVD	26+35 TO 28+92	62' RT TO 61' RT	8" PVC SAN	X	
NOWTHEN BLVD	26+35	62' RT	SAN MH	X	
NOWTHEN BLVD	26+35 TO 28+21	62' RT TO 200' LT	6" PVC SAN	X	
NOWTHEN BLVD	26+35 TO 26+47	62' RT TO 76' RT	6" PVC SAN	X	
NOWTHEN BLVD	26+45 TO 26+99	47' RT TO 29' LT	SAN SEWER CASING	X	
NOWTHEN BLVD	28+92 TO 29+13	61' RT TO 200' LT	8" PVC SAN	X	
NOWTHEN BLVD	28+92	61' RT	SAN MH	X	

NO	DATE	BY	CKD	APPR	REVISION

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

Print Name: STEVEN J. MILLER

Date 05-20-19 License # 41327

STATE AID PROJECT NO.
X
X

STATE PROJECT NO.
X

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
S MARTINS

DESIGNED BY
S MILLER

CHECKED BY
S MILLER

COMM. NO. 0012107

SRF

ANOKA-HENNEPIN SCHOOL DISTRICT

EXISTING UTILITY TABULATIONS

NOWTHEN BOULEVARD IMPROVEMENT

SHEET 5 OF 48

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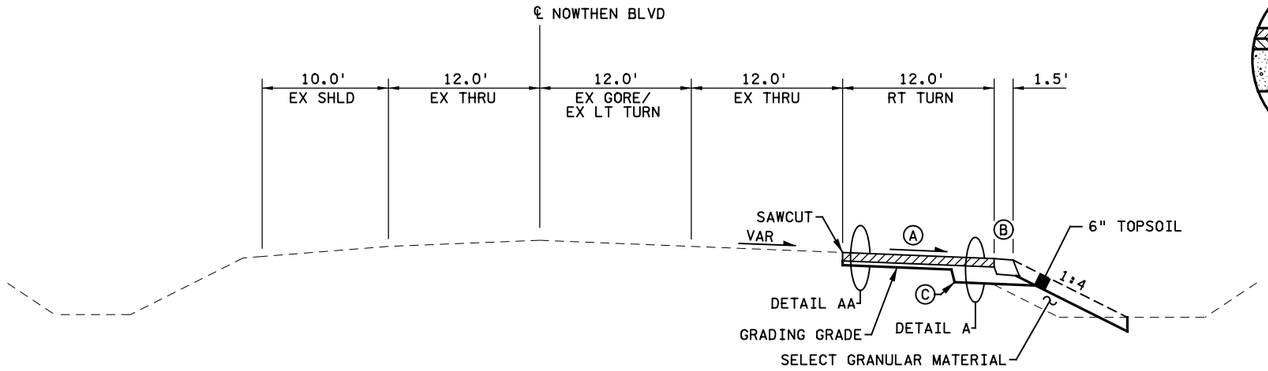
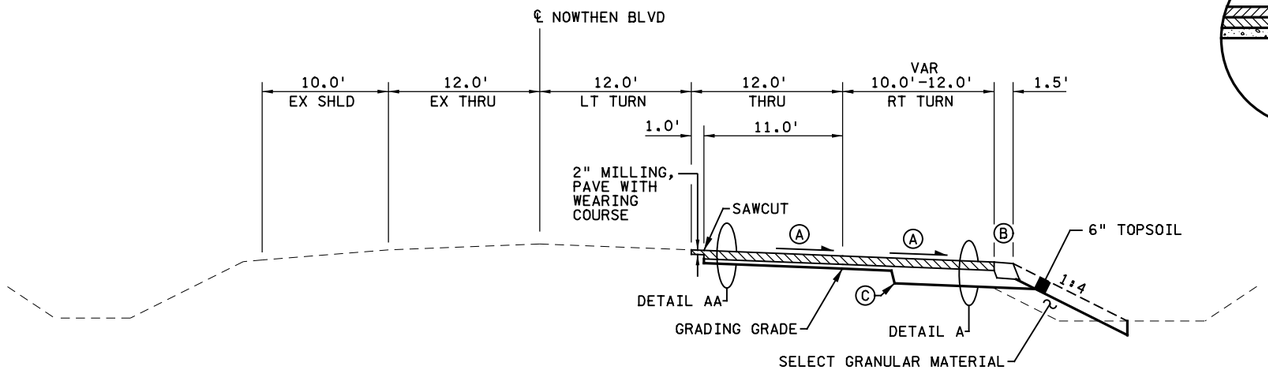


NOWTHEN BLVD

℄ NOWTHEN BLVD STA 16+61.2 TO STA 21+01.2



NOWTHEN BLVD

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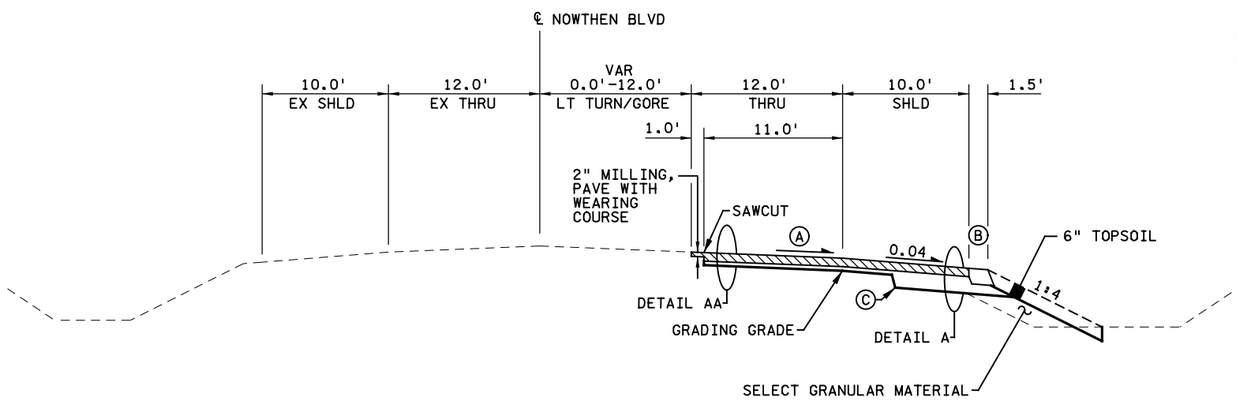
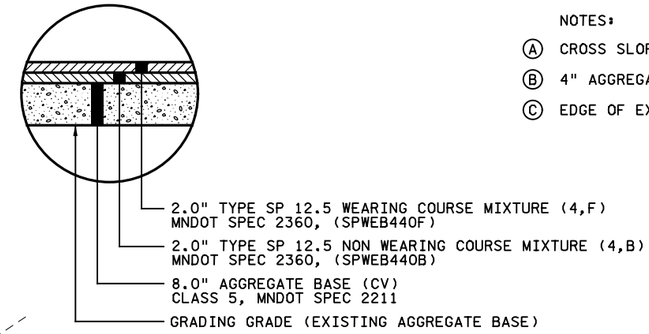


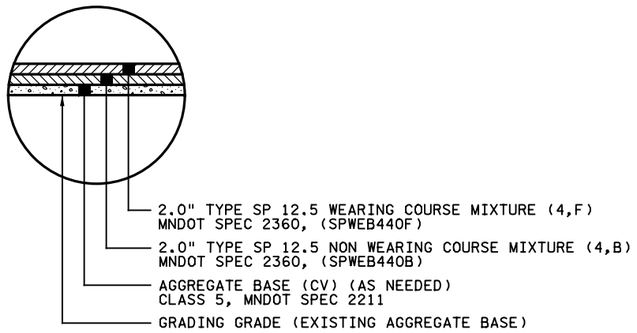
NOWTHEN BLVD

℄ NOWTHEN BLVD STA 25+23.8 TO STA 31+77.1



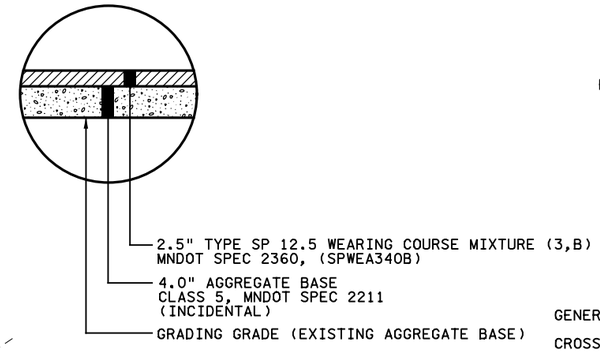
DETAIL A

NOWTHEN BLVD



DETAIL AA

NOWTHEN BLVD



DETAIL D

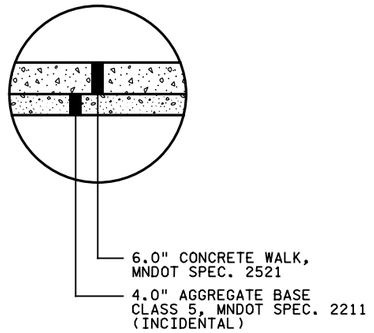
BITUMINOUS TRAILS
(SEE CONSTRUCTION PLANS
FOR LOCATIONS)

NOTES:

Ⓐ CROSS SLOPE TO MATCH ADJACENT PAVEMENT CROSS SLOPE

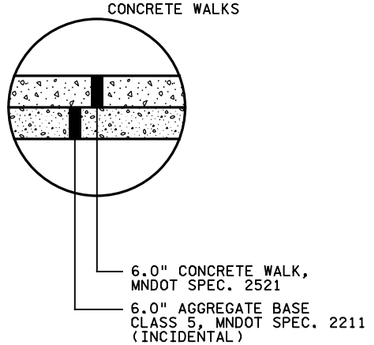
Ⓑ 4" AGGREGATE SURFACING CLASS 1

Ⓒ EDGE OF EXISTING PAVEMENT



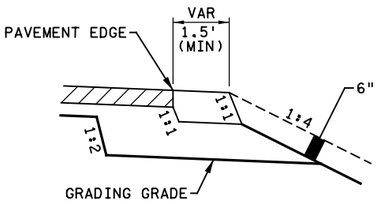
DETAIL B

CONCRETE WALKS



DETAIL C

PEDESTRIAN CURB RAMPS
CONCRETE DRIVEWAY



AGGREGATE SHOULDER DETAIL

GENERAL NOTES:

CROSS SLOPES ARE FT/FT

ALL SLOPES LISTED AS X:X ARE IN THE RISE TO RUN FORMAT.

MAXIMUM SHOULDER SUPERELEVATION ROLLOVER SHALL BE 7%

SEE CONSTRUCTION PLANS FOR SUPERELEVATION TRANSITIONS.

SEE CONSTRUCTION/SOILS NOTES FOR ADDITIONAL INFORMATION.

SALVAGE ALL TOPSOIL FOR REUSE.

NO	DATE	BY	CKD	APPR	REVISION
					...\FinalPlan\12107_ts01.dgn

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

Print Name: STEVEN J. MILLER

Date 05-20-19 License # 41327

STATE AID PROJECT NO.	X X
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	S MARTINS
DESIGNED BY	S MILLER
CHECKED BY	S MILLER
COMM. NO.	0012107

SRF

ANOKA-HENNEPIN SCHOOL DISTRICT

TYPICAL SECTIONS

NOWTHEN BOULEVARD IMPROVEMENT

SHEET 6 OF 48

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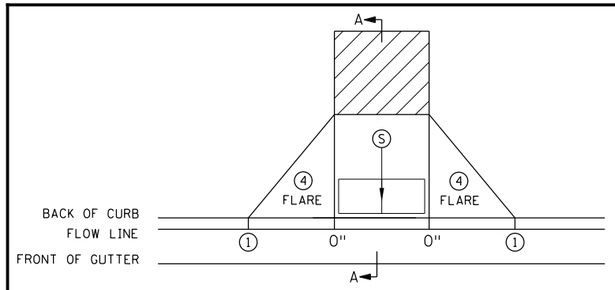
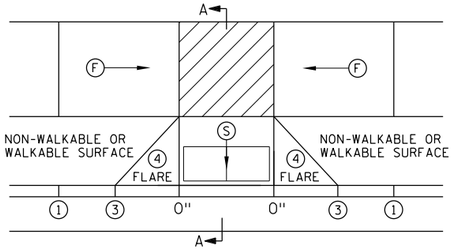
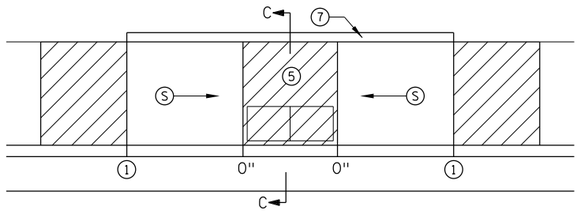


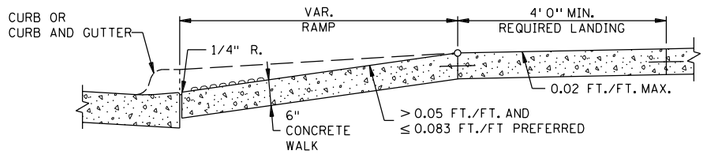
PERPENDICULAR



TIERED PERPENDICULAR

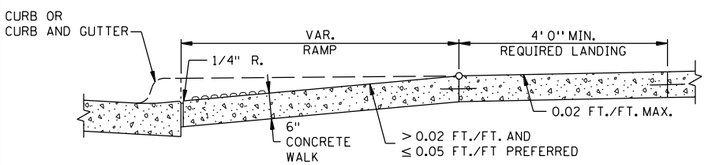


PARALLEL



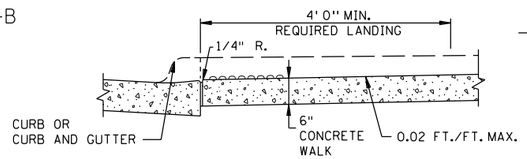
SECTION A-A

PERPENDICULAR/TIERED/DIAGONAL



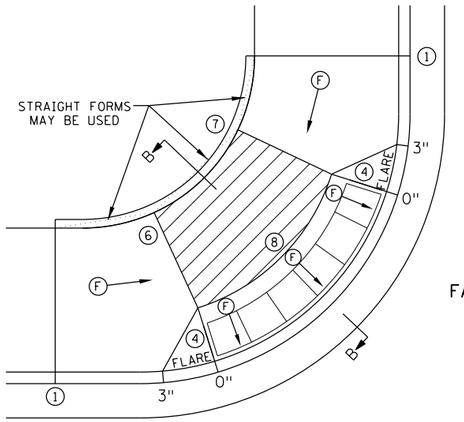
SECTION B-B

FAN

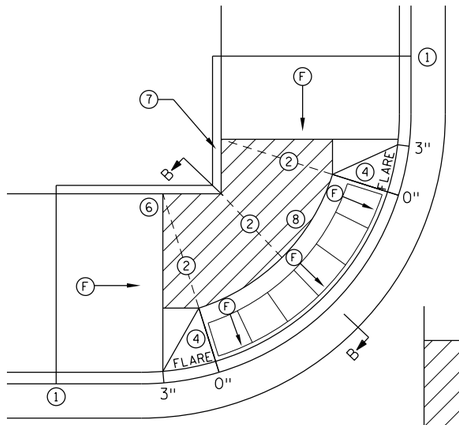


SECTION C-C

PARALLEL/DEPRESSED CORNER

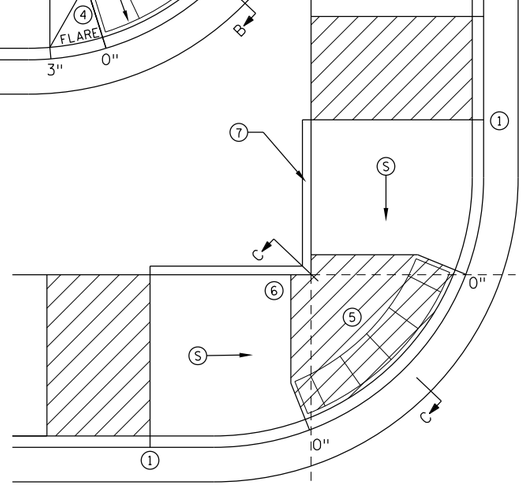


FAN⑩

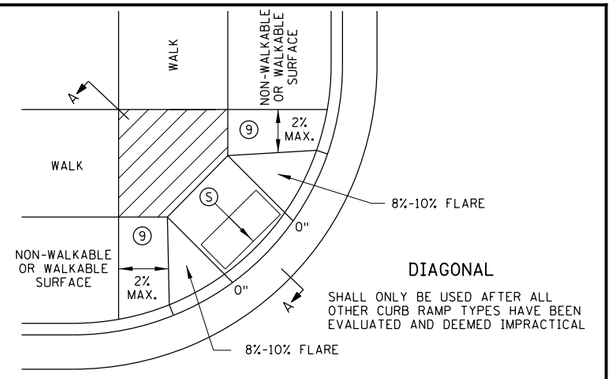


MODIFIED FAN ⑩

USED WHEN RIGHT-OF-WAY IS CONSTRAINED



DEPRESSED CORNER



DIAGONAL

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

NOTES:

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

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

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

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

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

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

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

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

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

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/TRAIL WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

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

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

LEGEND

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

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

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

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

X" CURB HEIGHT

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

STANDARD PLAN 5-297.250 | 1 OF 6

APPROVED: 1-23-2017
REVISED:

PEDESTRIAN CURB RAMP DETAILS

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

STATE AID PROJECT NO. X X	DRAWN BY	ANOKA-HENNEPIN SCHOOL DISTRICT	SHEET 7 OF 48
STATE PROJECT NO. X	DESIGNED BY	STANDARD PLANS	
COUNTY PROJECT NO. X	CHECKED BY	NOWTHEN BOULEVARD IMPROVEMENT	
CITY PROJECT NO. X	COMM. NO. 0012107		

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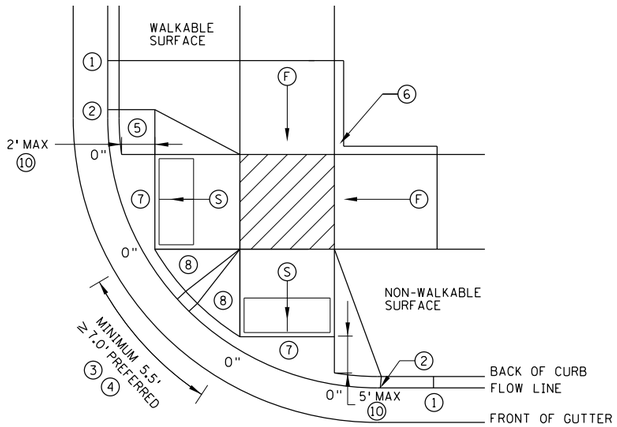
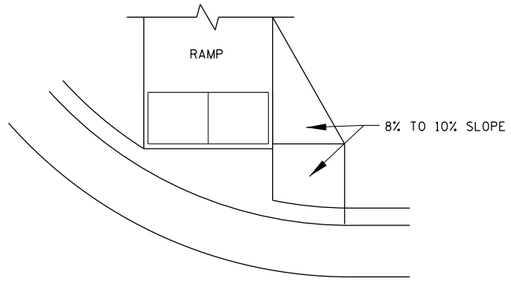


COMBINED DIRECTIONAL ⑨



DIRECTIONAL RAMP WALKABLE FLARE

NOTES:

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

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

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

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

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

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

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

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

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

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATH AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/PATH WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

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

① MATCH FULL CURB HEIGHT.

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

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

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

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

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

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

⑧ 8% TO 10% WALKABLE FLARE.

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

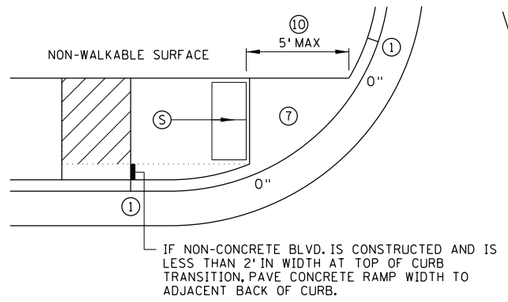
⑩ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD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

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

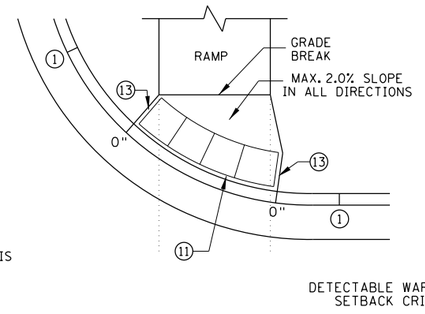
⑫ FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.

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

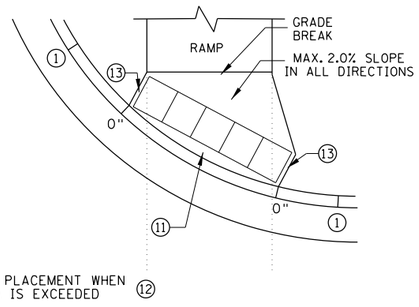
⑭ TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.

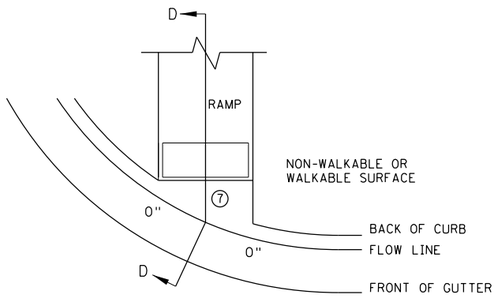


STANDARD ONE-WAY DIRECTIONAL ⑨

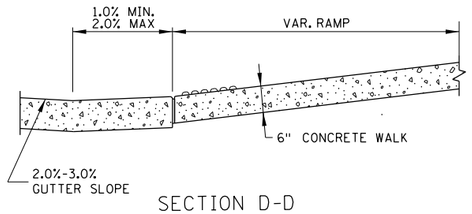


ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB

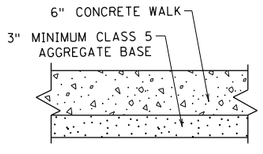




CURB FOR DIRECTIONAL RAMPS ⑭



SECTION D-D



TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER

LEGEND
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.
(S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
(F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
X" CURB HEIGHT

REVISION:
APPROVED: JANUARY 23, 2017
OPERATIONS ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION	STANDARD PLAN 5-297.250	2 OF 6
STATE DESIGN ENGINEER	APPROVED: 1-23-2017 REVISED:	PEDESTRIAN CURB RAMP DETAILS
	STATE PROJ. NO.	(T.H.) SHEET NO. OF SHEETS

STATE AID PROJECT NO. X X	DRAWN BY	ANOKA-HENNEPIN SCHOOL DISTRICT	SHEET 8 OF 48
STATE PROJECT NO. X	DESIGNED BY	STANDARD PLANS NOWTHEN BOULEVARD IMPROVEMENT	
COUNTY PROJECT NO. X	CHECKED BY		
CITY PROJECT NO. X	COMM. NO. 0012107		

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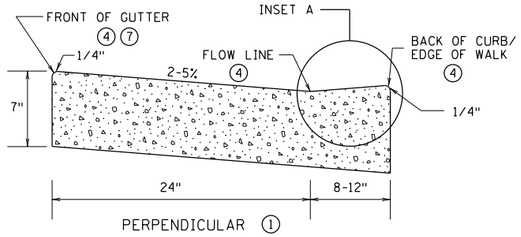
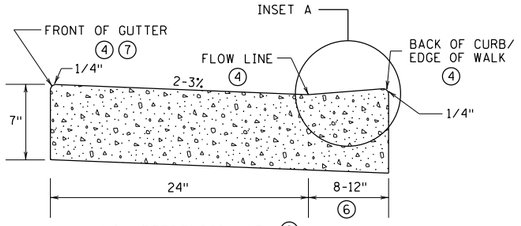
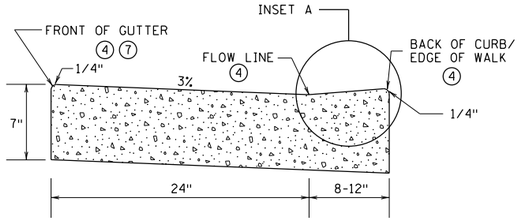


PERPENDICULAR ①



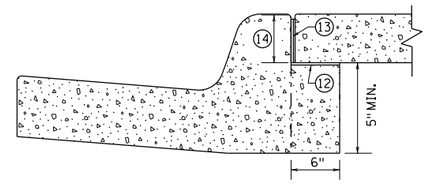
NON PERPENDICULAR ②

PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



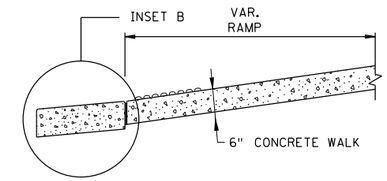
FOR CURB MACHINE PLACEMENT AROUND RADIUS ③

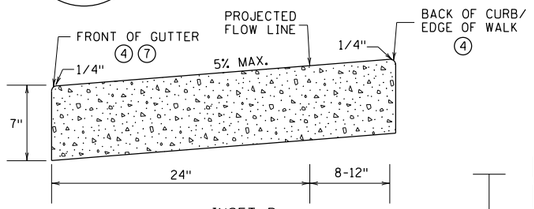
(REGARDLESS OF RAMP TYPE)



OPTIONAL SILL CURB WHEN SIDEWALK IS AT BACK OF CURB

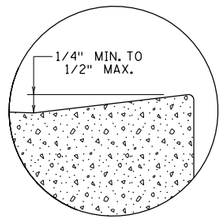
CONCRETE SILL TO BE USED ONLY WHEN SPECIFIED IN THE PLAN.



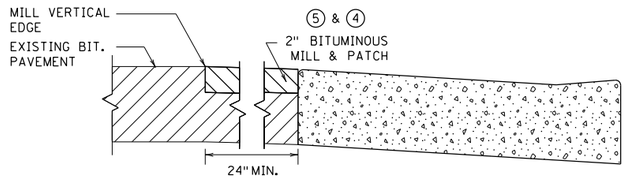


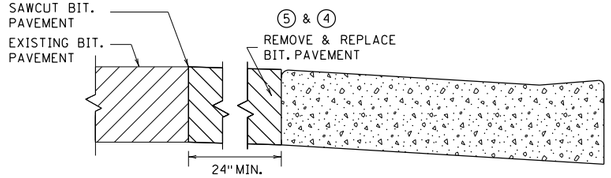
INSET B

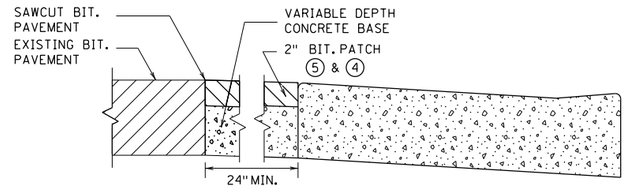
OUTFLOW GUTTER ⑧



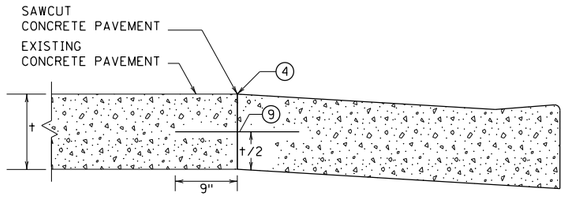
INSET A





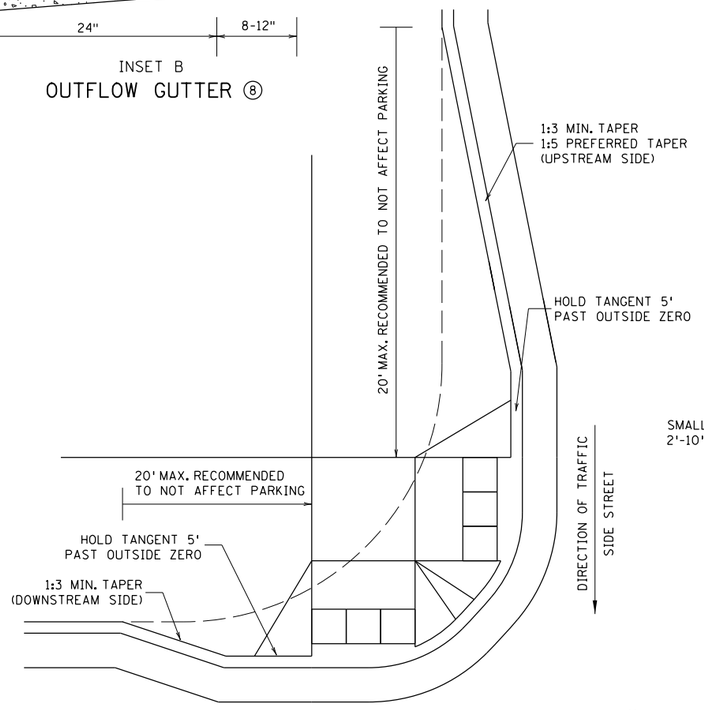


ONLY ALLOWED PER ENGINEER'S APPROVAL

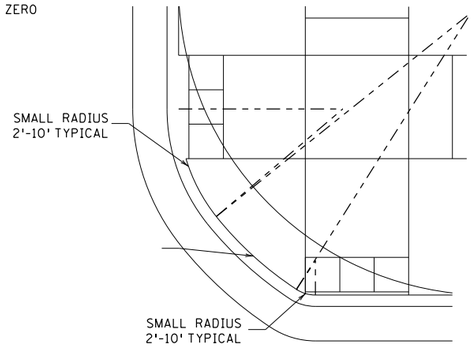


PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER

FOR USE ON CURB RAMP RETROFITS



ADA CURB EXTENSION WITH COMPOUND RADIUS (BUMP OUT) ⑪



COMBINED DIRECTIONAL ⑩
(COMPOUND RADIUS)

NOTES:

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

NO PONDING SHALL BE PRESENT IN THE PAR.

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

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

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

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

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

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

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

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

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

⑫ PLACE BOND BREAKER BETWEEN WALK AND TOP OF SILL.

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

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

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OPERATIONS ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 | 3 OF 6

APPROVED: 1-23-2017

REVISED:

STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

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

STATE AID PROJECT NO. X X	DRAWN BY	ANOKA-HENNEPIN SCHOOL DISTRICT
STATE PROJECT NO. X	DESIGNED BY	STANDARD PLANS
COUNTY PROJECT NO. X	CHECKED BY	NOWTHEN BOULEVARD IMPROVEMENT
CITY PROJECT NO. X	COMM. NO. 0012107	SHEET 9 OF 48

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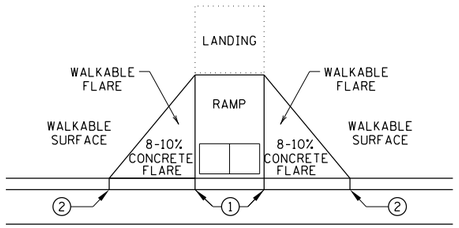
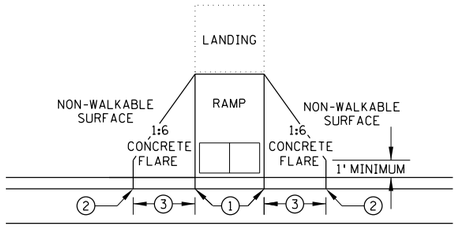
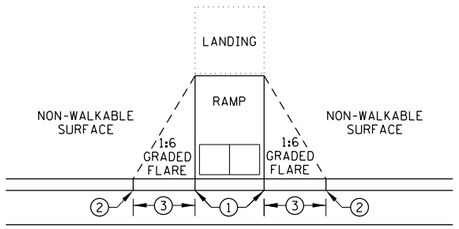


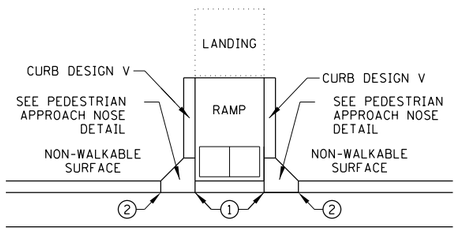
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

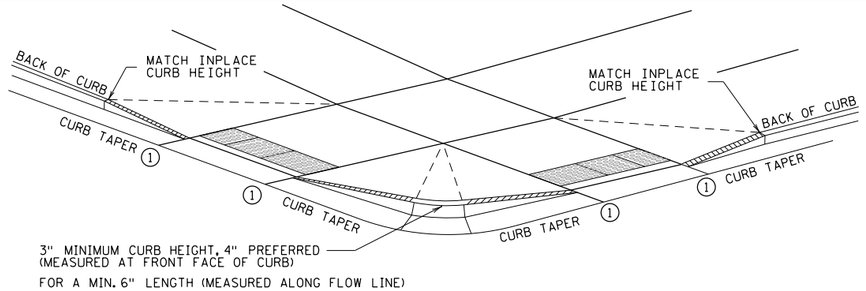


GRADED FLARES

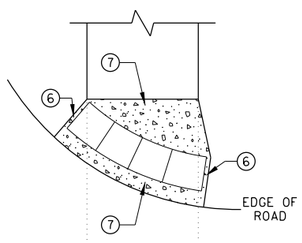


RETURNED CURB ⑤

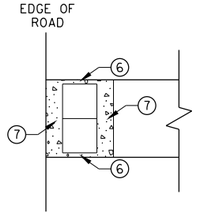
TYPICAL SIDE TREATMENT OPTIONS ④ ⑪



DETECTABLE EDGE WITH ⑧
CURB AND GUTTER

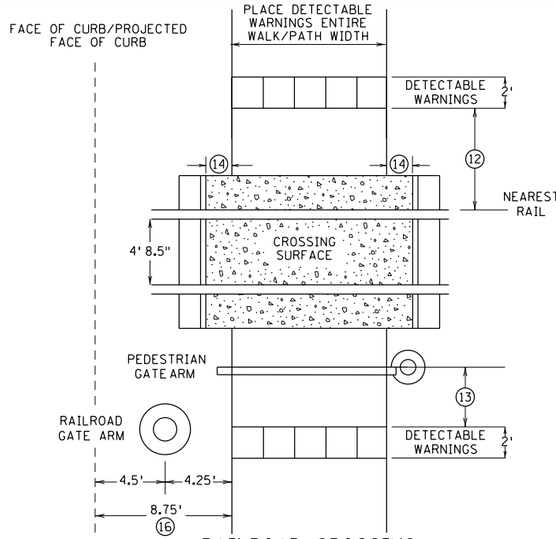


RADIAL DETECTABLE WARNING

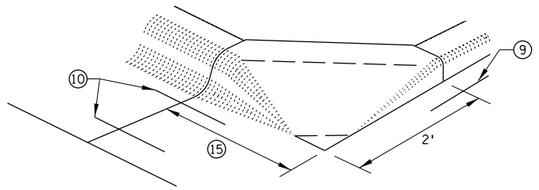


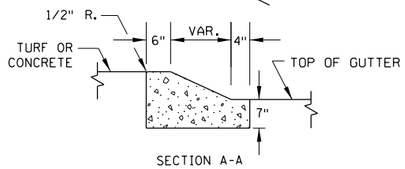
RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

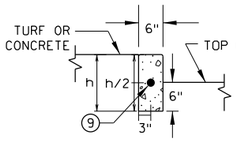


RAILROAD CROSSING
PLAN VIEW

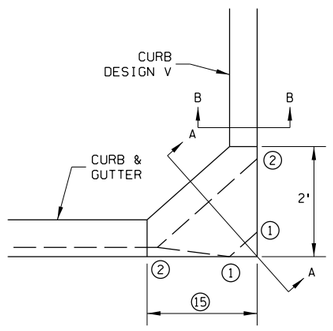




SECTION A-A



SECTION B-B



PEDESTRIAN APPROACH
NOSE DETAIL
(FOR RETURNED CURB
SIDE TREATMENT)

NOTES:

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

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

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

① 0" CURB HEIGHT.

② FULL CURB HEIGHT.

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

④ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.

⑤ TYPICALLY USED FOR MEDIANS AND ISLANDS.

⑥ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" MAX. BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.

⑦ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHARED-USE PATH TO PROVIDE VISUAL CONTRAST.

⑧ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.

⑨ DRILL AND GROUT 1 - NO. 4 12" LONG REINFORCEMENT BAR (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE V CURB.

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

⑪ SIDE TREATMENT EXAMPLES SHOWN ARE WHEN THE INITIAL LANDING IS APPROXIMATELY LEVEL WITH THE FULL HEIGHT CURB (I.E. 6' LONG RAMP FOR 6" HIGH CURB). WHEN THE INITIAL LANDING IS MORE THAN 1" BELOW FULL HEIGHT CURB REFER TO SHEETS 1 & 2 TO MODIFY THE CURB HEIGHT TAPERS AND MAINTAIN POSITIVE BOULEVARD DRAINAGE.

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

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

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

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

⑯ SIDEWALK TO BE PLACED 8.75' MIN. FROM THE FACE OF CURB/PROJECTED FACE OF CURB. THIS ENSURES MIN. CLEARANCE BETWEEN THE SIDEWALK AND GATE ARM COUNTERWEIGHT SUPPORTS.

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MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 | 4 OF 6

APPROVED: 1-23-2017
REVISED:

STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

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

STATE AID PROJECT NO. X X	DRAWN BY	ANOKA-HENNEPIN SCHOOL DISTRICT
STATE PROJECT NO. X	DESIGNED BY	STANDARD PLANS
COUNTY PROJECT NO. X	CHECKED BY	NOWTHEN BOULEVARD IMPROVEMENT
CITY PROJECT NO. X	COMM. NO. 0012107	SHEET 10 OF 48

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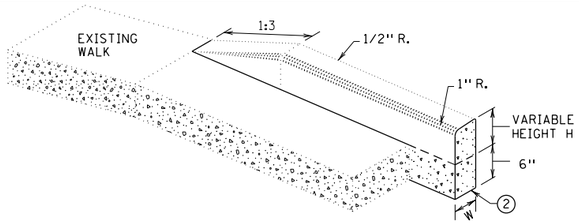
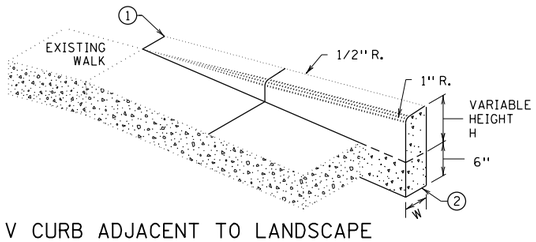


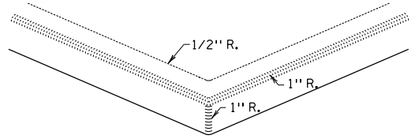
V CURB ADJACENT TO LANDSCAPE

CURB WITHIN SIDEWALK LIMITS

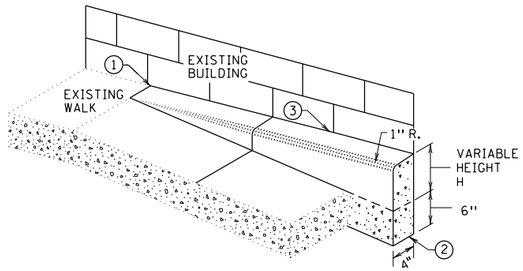


V CURB ADJACENT TO LANDSCAPE

CURB OUTSIDE SIDEWALK LIMITS

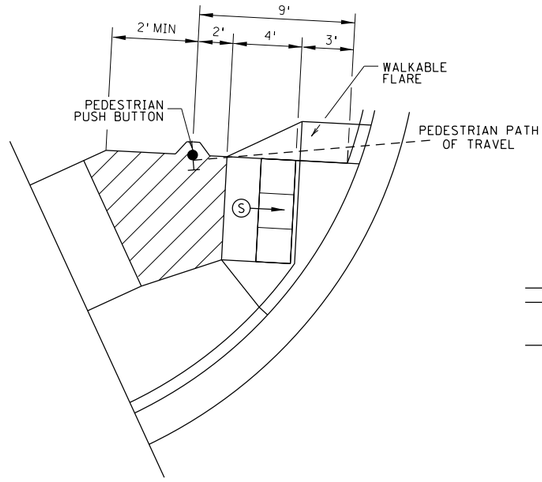


V CURB INTERSECTION



V CURB ADJACENT TO BUILDING OR BARRIER

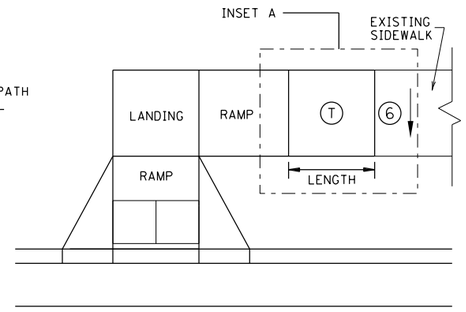
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"

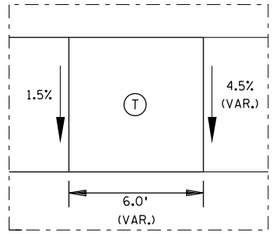


SEMI-DIRECTIONAL RAMP (3,4,9)

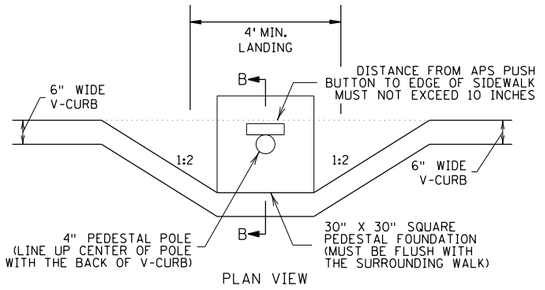
3' DOME SETBACK, 4' LONG RAMP AND PUSH BUTTON 9' FROM THE BACK OF CURB

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

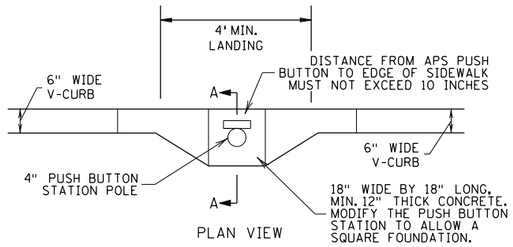




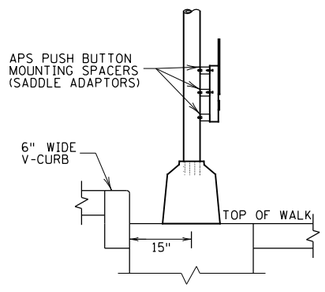
TRANSITION PANEL ④⑤



PLAN VIEW

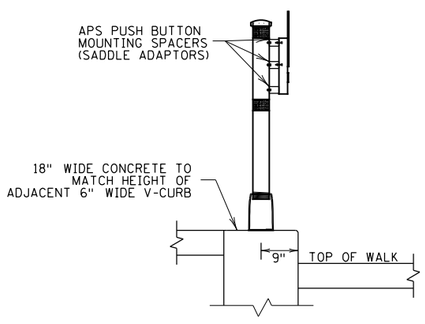


PLAN VIEW



SECTION B-B

SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)



SECTION A-A

PUSH BUTTON STATION (V-CURB)

NOTES:

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

ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.

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

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

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

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

② ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.

③ EDGE BETWEEN NEW V CURB AND INPLACE STRUCTURE SHALL BE SEALED AND BOND BREAKER SHALL BE USED BETWEEN EXISTING STRUCTURE AND PLACED V-CURB.

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

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

⑥ EXISTING CROSS SLOPE GREATER THAN 2.0%.

LEGEND

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

Ⓢ 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.

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 | 5 OF 6

APPROVED: 1-23-2017

REVISED:

STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

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

STATE AID PROJECT NO.	DRAWN BY
X	
X	DESIGNED BY
STATE PROJECT NO. X	CHECKED BY
COUNTY PROJECT NO. X	COMM. NO. 0012107
CITY PROJECT NO. X	

ANOKA-HENNEPIN SCHOOL DISTRICT

STANDARD PLANS

NOWTHEN BOULEVARD IMPROVEMENT

SHEET 11 OF 48

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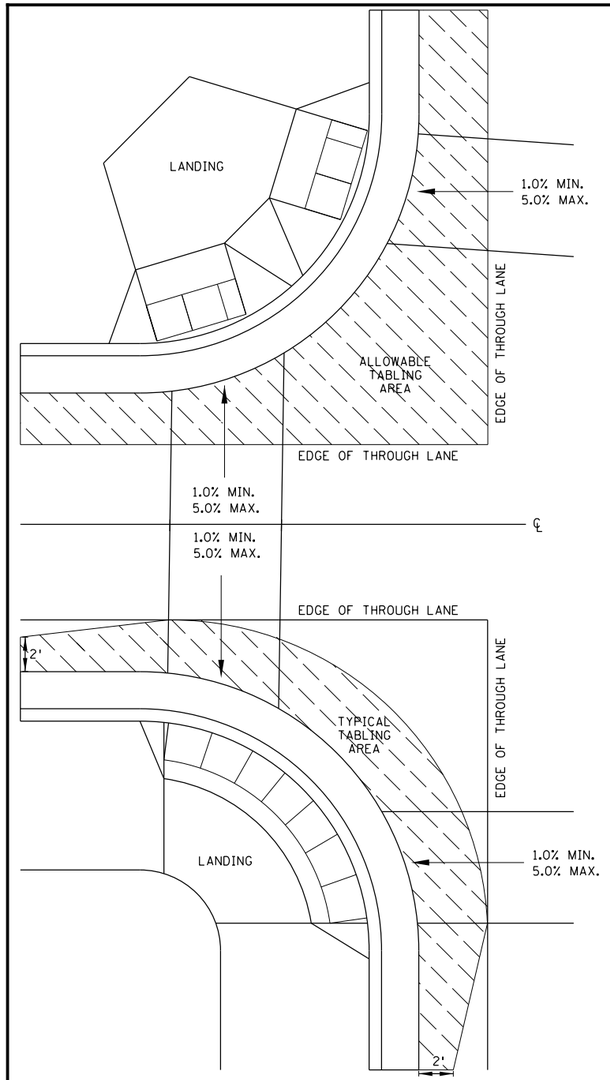
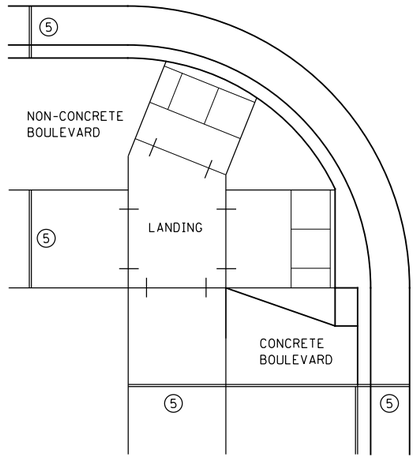
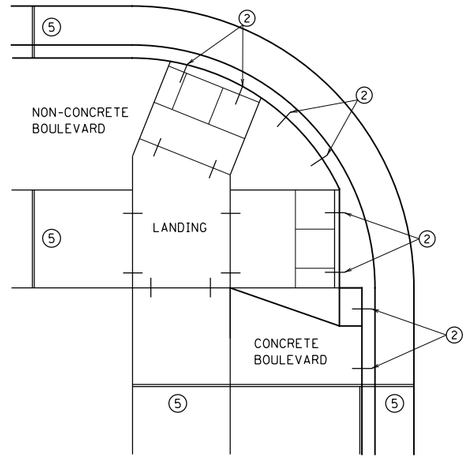


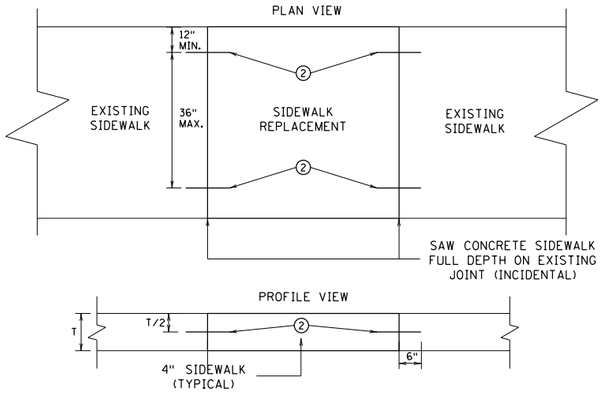
CURB LINE AND ROAD CROSSING ADJUSTMENTS



EXPANSION MATERIAL PLACEMENT FOR CONCRETE AND BITUMINOUS ROADWAYS

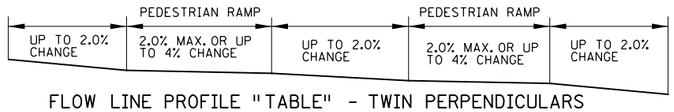


OPTIONAL CURB LINE REINFORCEMENT PLACEMENT ON BITUMINOUS ROADWAYS ④

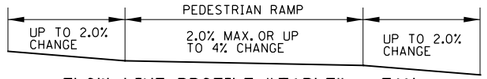


OPTIONAL SIDEWALK REINFORCEMENT

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



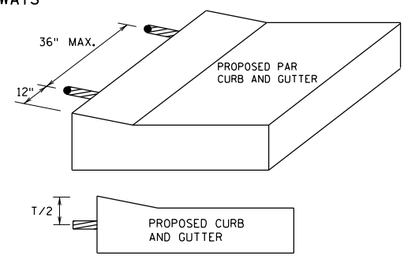
FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



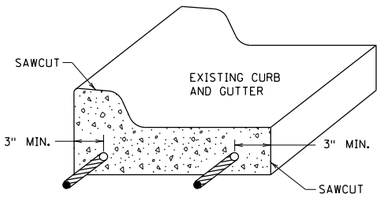
FLOW LINE PROFILE "TABLE" - FAN

FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS

FLOW LINE PROFILE RAISE - FAN

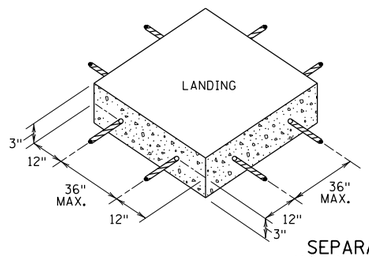


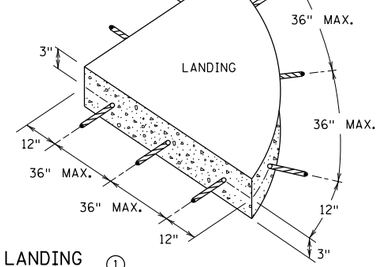
OPTIONAL CURB LINE REINFORCEMENT DETAILS ②④



FOR USE ON CURB RAMP RETROFITS

CURB AND GUTTER REINFORCEMENT ③





SEPARATE LANDING POUR REINFORCEMENT ①

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

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

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

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

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

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

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

NOTES:

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

② DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS AT 36" MAXIMUM CENTER TO CENTER (EPOXY COATED). BARS TO BE ADJUSTED TO MATCH RAMP GRADE.

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

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

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

REVISION:

APPROVED: JANUARY 23, 2017
OPERATIONS ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 | 6 OF 6

APPROVED: 1-23-2017
REVISED:

STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

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

STATE AID PROJECT NO. X X	DRAWN BY
STATE PROJECT NO. X	DESIGNED BY
COUNTY PROJECT NO. X	CHECKED BY
CITY PROJECT NO. X	COMM. NO. 0012107

ANOKA-HENNEPIN SCHOOL DISTRICT

STANDARD PLANS

NOWTHEN BOULEVARD IMPROVEMENT

SHEET 12 OF 48

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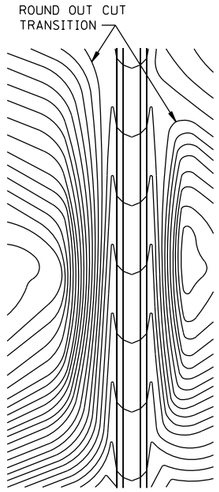
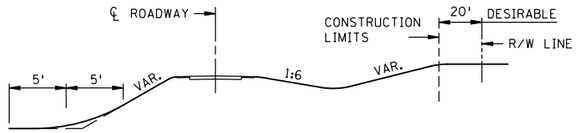
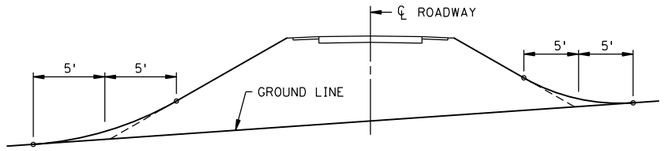


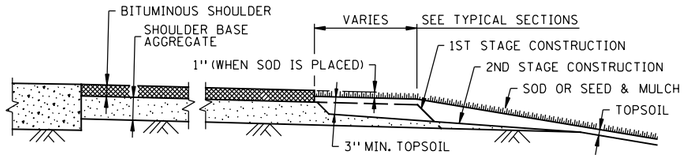
CONTOURING ROAD CUTS



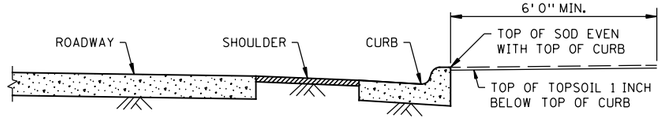
ROUNDING SHOULDERS AND BACKSLOPES



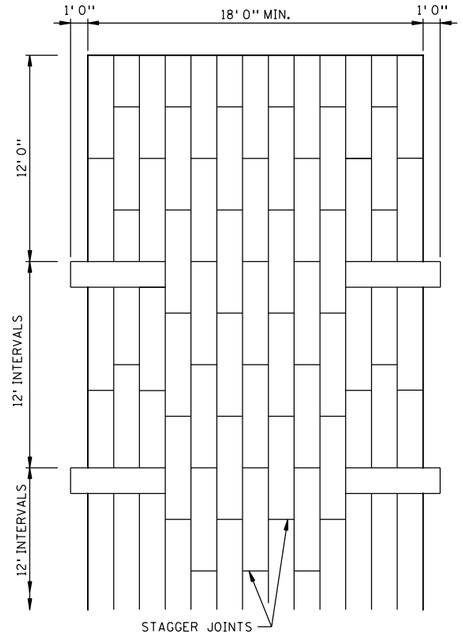
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



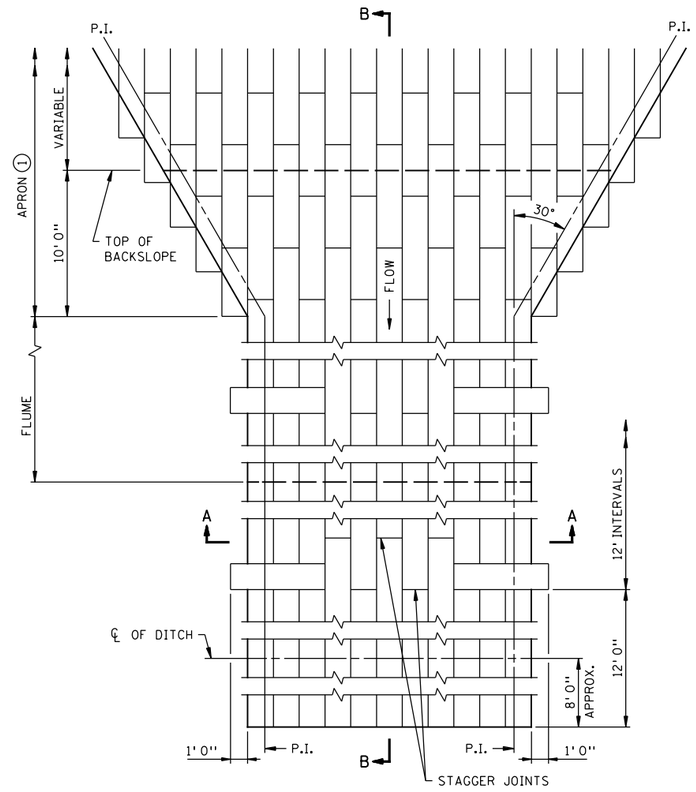
SHAPING AND TOPSOILING INSLOPES



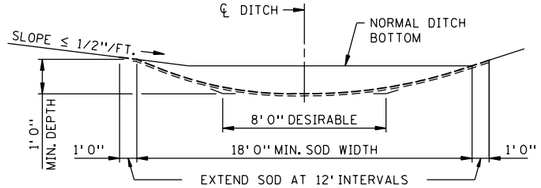
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



PLAN VIEW

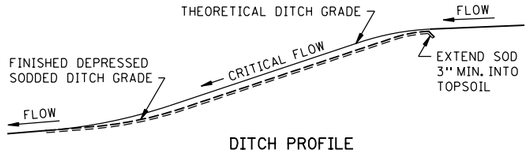


PLAN VIEW



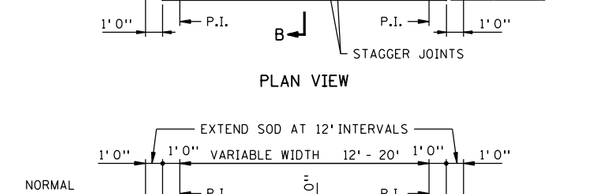
SODDED DITCH CROSS SECTION

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

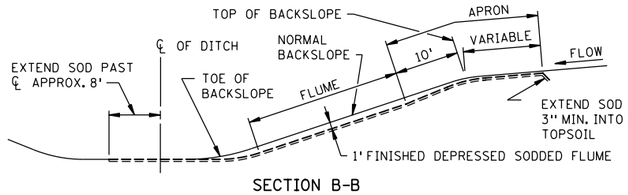


DITCH PROFILE

SODDED DITCH DETAILS



SECTION A-A



SECTION B-B

SODDED FLUME DETAILS

NOTES:

SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.

① CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

REVISION:

APPROVED: 2-28-2017

CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

STANDARD PLAN 5-297.404 | 1 OF 3

APPROVED: 2-28-2017

REVISED:

PERMANENT EROSION CONTROL

ALONG ROADWAYS, DITCHES AND FLUMES

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

STATE AID PROJECT NO. X X	DRAWN BY	ANOKA-HENNEPIN SCHOOL DISTRICT	SHEET 13 OF 48
STATE PROJECT NO. X	DESIGNED BY	STANDARD PLANS	
COUNTY PROJECT NO. X	CHECKED BY	NOWTHEN BOULEVARD IMPROVEMENT	
CITY PROJECT NO. X	COMM. NO. 0012107		

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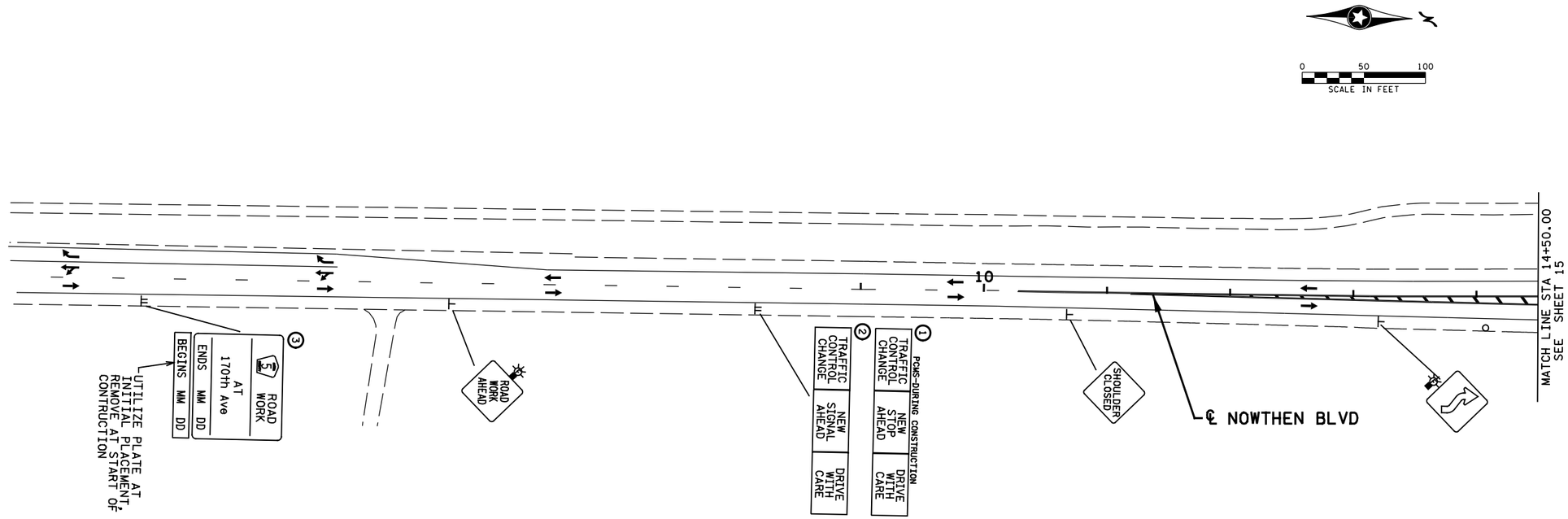

LEGEND

- PERMANENT CONSTRUCTION
- CONSTRUCTION UNDER TRAFFIC
- TRAFFIC LOCATION AND DIRECTION
- REFLECTORIZED PLASTIC DRUM
- TYPE A LOW INTENSITY WARNING FLASHER
- TYPE III BARRICADE
- STANDARD SIGN (POST OR STAND MOUNTED)
- REMOVABLE PREFORM PLASTIC MARKING

GENERAL NOTES:

CENTERLINE ALIGNMENT NOT SHOWN FOR CLARITY.

ACCESS TO RESIDENCES AND BUSINESSES SHALL BE MAINTAINED AT ALL TIMES THROUGHOUT THE CONTRACT.

CONTRACTOR SHALL CONTROL DUST WITH A PICKUP SWEEPER AND/OR WATERING TRUCK AS REQUIRED FOR THE PROJECT DURATION.

FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.

COVER ALL CONFLICTING SIGNING AND PAVEMENT MARKINGS TO THE SATISFACTION OF THE FIELD ENGINEER.

NOTES:

1. PCMS TO BE PLACED FOR THE DURATION OF THE STOP CONTROL
2. PCMS TO BE PLACED AT TIME OF SIGNAL ACTIVATION AND LEFT IN SERVICE FOR 14 CALENDAR DAYS (MSSG: NEW SIGNAL AHEAD)
3. INSTALL AT LEAST 14 CALENDAR DAYS PRIOR TO CONSTRUCTION

NO	DATE	BY	CKD	APPR	REVISION

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

Print Name: NATHAN A. POOLE

Date 05-20-19 License # 56071

STATE AID PROJECT NO.	X
	X
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY E. JARQUIN
DESIGNED BY E. JARQUIN
CHECKED BY N. POOLE
COMM. NO. 0012107

SRF

ANOKA-HENNEPIN SCHOOL DISTRICT

STAGING AND TRAFFIC CONTROL PLANS

NOWTHEN BOULEVARD IMPROVEMENT

SHEET 14 OF 48

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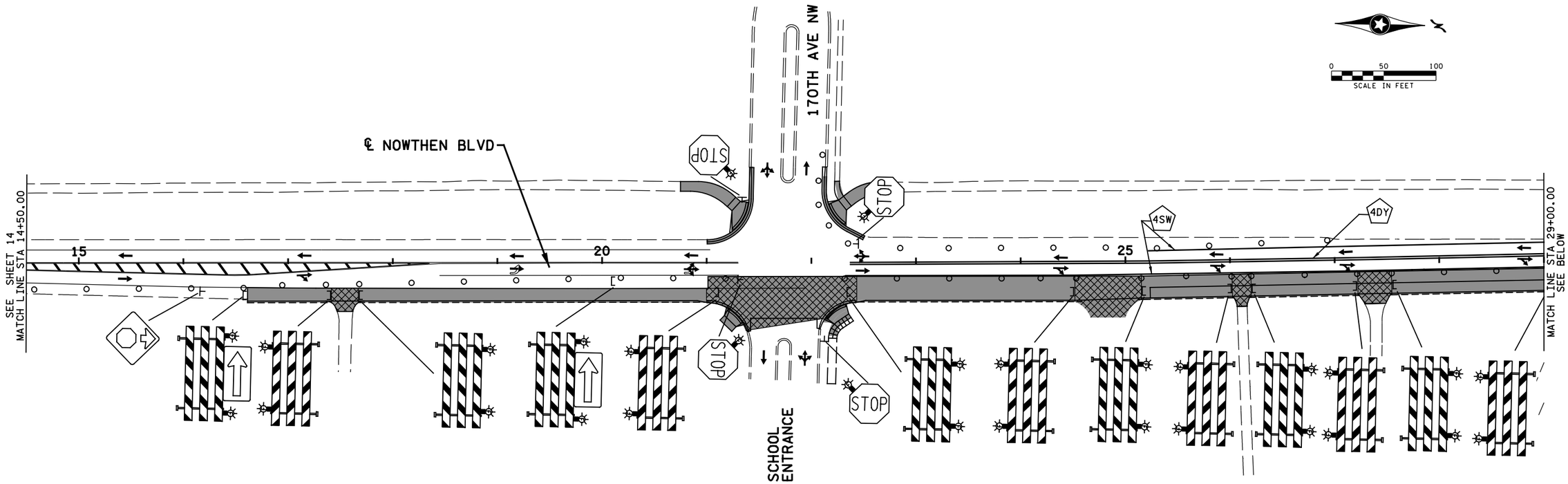

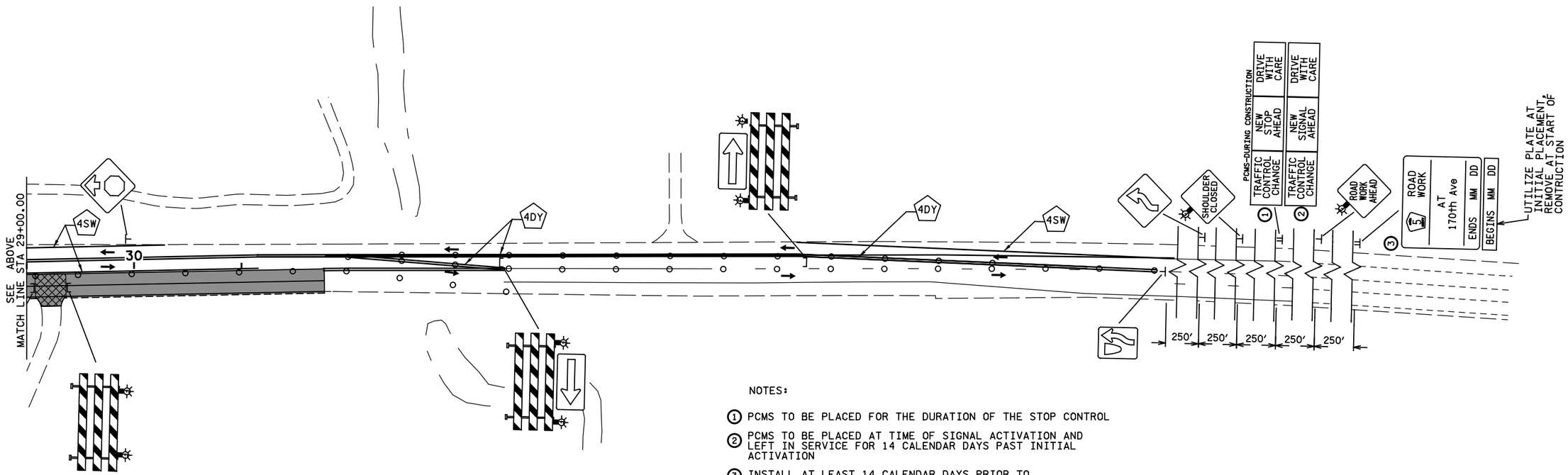

NOTES:

1. PCMS TO BE PLACED FOR THE DURATION OF THE STOP CONTROL
2. PCMS TO BE PLACED AT TIME OF SIGNAL ACTIVATION AND LEFT IN SERVICE FOR 14 CALENDAR DAYS PAST INITIAL ACTIVATION
3. INSTALL AT LEAST 14 CALENDAR DAYS PRIOR TO CONSTRUCTION

NO	DATE	BY	CKD	APPR	REVISION
					...\FinalPlan\12107_tc02.dgn

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

Print Name: NATHAN A. POOLE

Date 05-20-19 License # 56071

STATE AID PROJECT NO.	X
	X
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	E. JARQUIN
DESIGNED BY	E. JARQUIN
CHECKED BY	N. POOLE
COMM. NO.	0012107

SRF

ANOKA-HENNEPIN SCHOOL DISTRICT

STAGING AND TRAFFIC CONTROL PLANS

NOWTHEN BOULEVARD IMPROVEMENT

SHEET 15 OF 48

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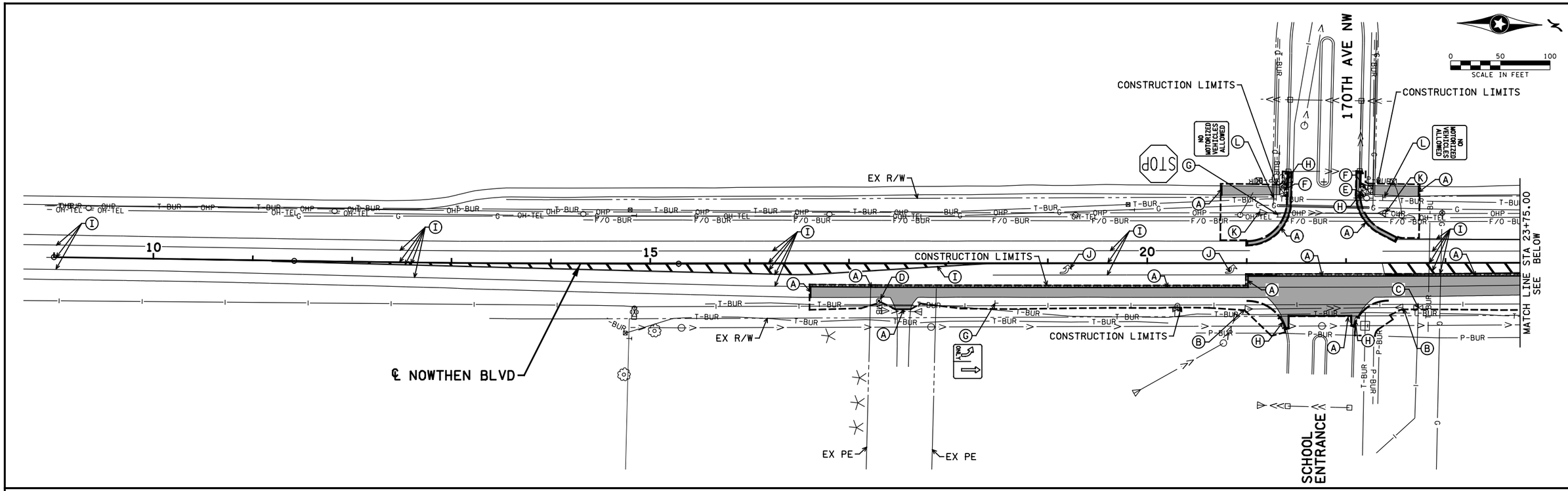

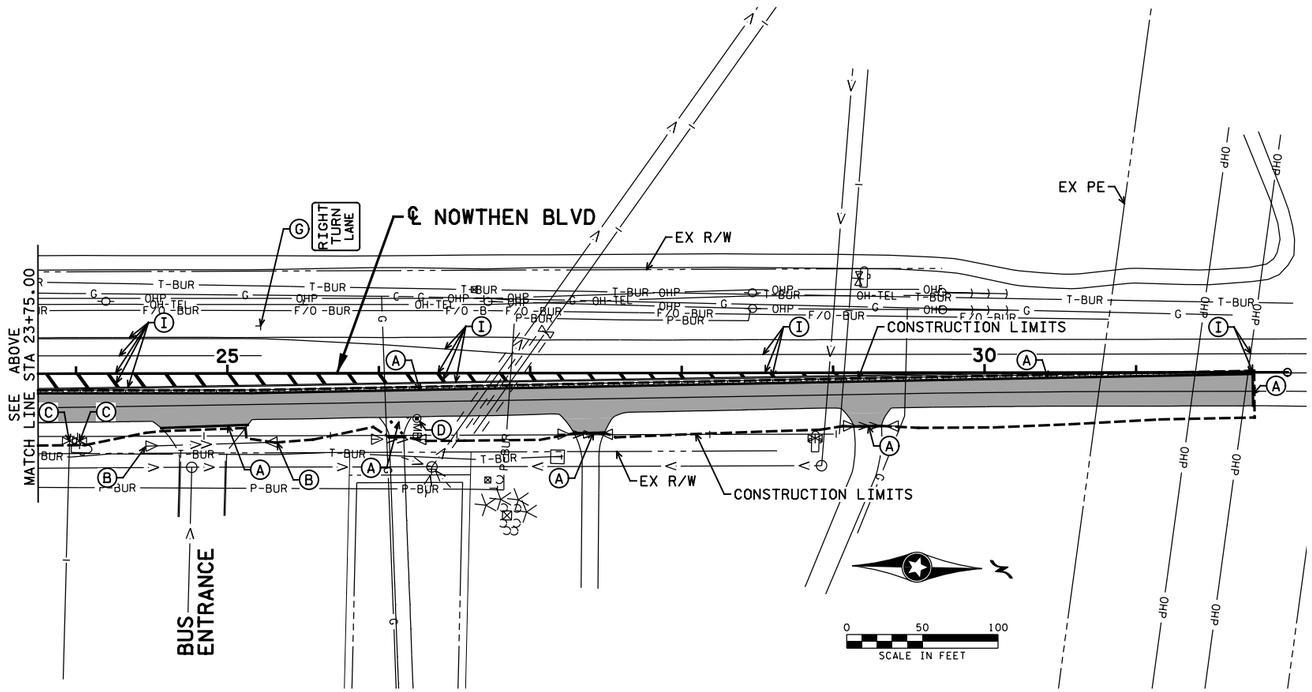

LEGEND

- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE WALK
- MILL BITUMINOUS PAVEMENT (2") 1' WIDE
- REMOVE CURB & GUTTER
- P-BUR — BURIED POWER
- OHP — OVERHEAD POWER
- T-BUR — BURIED TELECOMMUNICATIONS
- OH-TEL — OVERHEAD TELECOMMUNICATIONS
- F/O -BUR — BURIED FIBER OPTIC
- G — GAS
- I — WATER MAIN
- > — SANITARY SEWER
- >> — STORM SEWER/CULVERT
- UTILITY POLE
- LIGHT POLE
- GUY WIRE
- ELECTRIC TRANSFORMER
- T — TELECOMMUNICATIONS MANHOLE
- T — TELECOMMUNICATIONS PEDESTAL
- CATCH BASIN
- STORM APRON
- GATE VALVE
- HYDRANT
- STORM/SANITARY MANHOLE
- MB — MAIL BOX

GENERAL NOTES:

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

SOME UTILITIES MAY BE RELOCATED PRIOR TO CONSTRUCTION.

THE RIGHT-OF-WAY SHOWN IN THIS PLAN GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLATS AND ARE IDENTIFIED ON THE RIGHT OF WAY MAP.

IT IS THE CONTRACTORS RESPONSIBILITY TO IDENTIFY AND PROTECT EXISTING IRRIGATION SYSTEMS. ANY DISRUPTION OR MODIFICATION TO THESE SYSTEMS IS CONSIDERED INCIDENTAL. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING IRRIGATION SYSTEMS TO WORKING CONDITION DEEMED ACCEPTABLE TO THE ENGINEER AND PROPERTY OWNER.

NOTES:

- (A) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
- (B) SALVAGE RIPRAP
- (C) ADJUST GAVE VALVE & BOX
- (D) REMOVE MAILBOX SUPPORT
- (E) REMOVE LIGHTING UNIT (BY OTHERS)
- (F) REMOVE CONCRETE WALK
- (G) REMOVE SIGN TYPE C
- (H) REMOVE CURB & GUTTER
- (I) REMOVE PAVEMENT STRIPING
- (J) REMOVE PAVEMENT MARKING
- (K) SALVAGE FES
- (L) SALVAGE SIGN TYPE C

NO	DATE	BY	CKD	APPR	REVISION

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Print Name: STEVEN J. MILLER

Date 05-20-19 License # 41327

STATE AID PROJECT NO.	X
	X
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	S MARTINS
DESIGNED BY	S MILLER
CHECKED BY	S MILLER
COMM. NO.	0012107

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ANOKA-HENNEPIN SCHOOL DISTRICT

TOPOGRAPHY, UTILITY AND REMOVAL PLANS

NOWTHEN BOULEVARD IMPROVEMENT

SHEET 16 OF 48

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NOTES:

Ⓐ BITUMINOUS DRIVEWAY, USE PAVEMENT SECTION IN DETAIL A ON SHEET 6

Ⓑ CONCRETE DRIVEWAY, USE PAVEMENT SECTION IN DETAIL C ON SHEET 6

Ⓒ PEDESTRIAN CURB RAMP, SEE INTERSECTION AND PEDESTRIAN CURB RAMP DETAILS

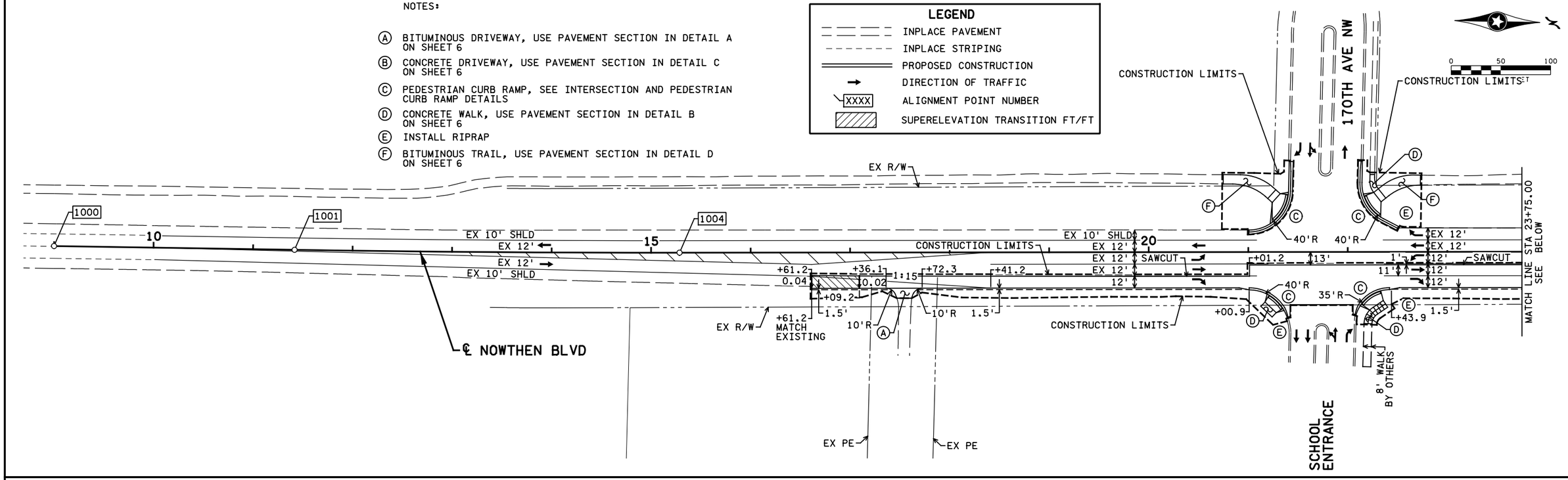
Ⓓ CONCRETE WALK, USE PAVEMENT SECTION IN DETAIL B ON SHEET 6

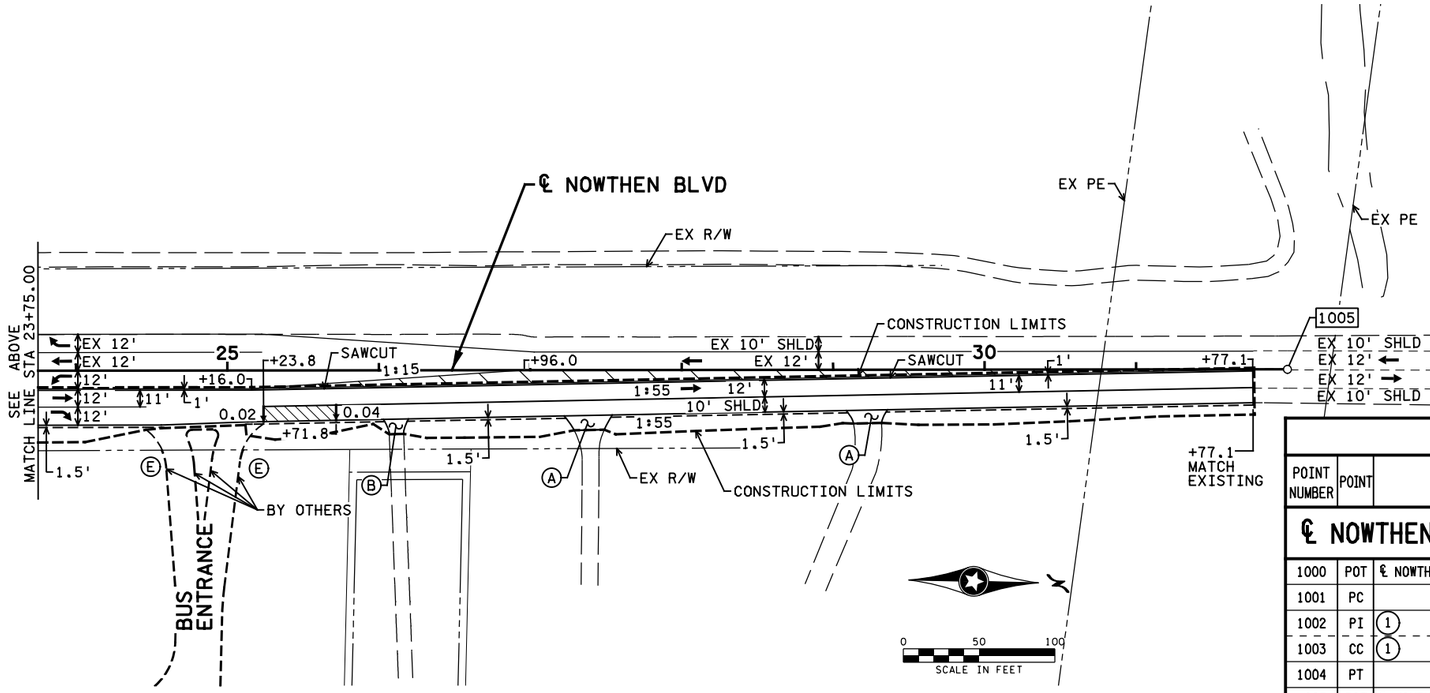
Ⓔ INSTALL RIPRAP

Ⓕ BITUMINOUS TRAIL, USE PAVEMENT SECTION IN DETAIL D ON SHEET 6

LEGEND

- INPLACE PAVEMENT
- INPLACE STRIPING
- PROPOSED CONSTRUCTION
- DIRECTION OF TRAFFIC
- XXXX — ALIGNMENT POINT NUMBER
- SUPERELEVATION TRANSITION FT/FT





GENERAL NOTES:

THE RIGHT-OF-WAY SHOWN IN THIS PLAN GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLATS AND ARE IDENTIFIED ON THE RIGHT OF WAY MAP.

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED.

WHERE NEW SIDEWALK AND TRAIL IS CONSTRUCTED ADJACENT TO EXISTING PAVEMENT, MATCH EXISTING CROSS SLOPE AND PROVIDE GRADUAL TRANSITION AS NECESSARY.

SEE INTERSECTION AND PEDESTRIAN RAMP DETAILS FOR INFORMATION NOT SHOWN ON THE CONSTRUCTION PLANS.

SEE SIGNING AND STRIPING PLANS FOR LANE CONFIGURATIONS AND MARKINGS.

ALIGNMENT TABULATION NOTES:

(1) ALIGNMENT POINT IS NOT SHOWN ON ALIGNMENT PLAN VIEW.

<XXXX> INDICATES GEOPAK ALIGNMENT NAME.

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
℄ NOWTHEN BLVD <NOWTHEN>										
1000	POT	℄ NOWTHEN BLVD 9+00.000						455,434.2711	187,726.2207	
1001	PC	11+41.723						455,432.7517	187,967.9393	359° 38' 23.47"
1002	PI	(1) 13+35.154	0° 58' 01.66" LT	0° 15' 00.00"	22,918.312'	193.430'	386.851'	455,431.5358	188,161.3656	PI
1003	CC	(1)						432,514.8924	187,823.8813	
1004	PT	15+28.575						455,427.0553	188,354.7439	358° 40' 21.81"
1005	POT	℄ NOWTHEN BLVD 32+00.000						455,388.3397	190,025.7209	

NO	DATE	BY	CKD	APPR	REVISION

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Print Name: STEVEN J. MILLER

Date 05-20-19 License # 41327

STATE AID PROJECT NO.	X
	X
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	S MARTINS
DESIGNED BY	S MILLER
CHECKED BY	S MILLER
COMM. NO.	0012107

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ANOKA-HENNEPIN SCHOOL DISTRICT

CONSTRUCTION PLANS

NOWTHEN BOULEVARD IMPROVEMENT

SHEET 17 OF 48

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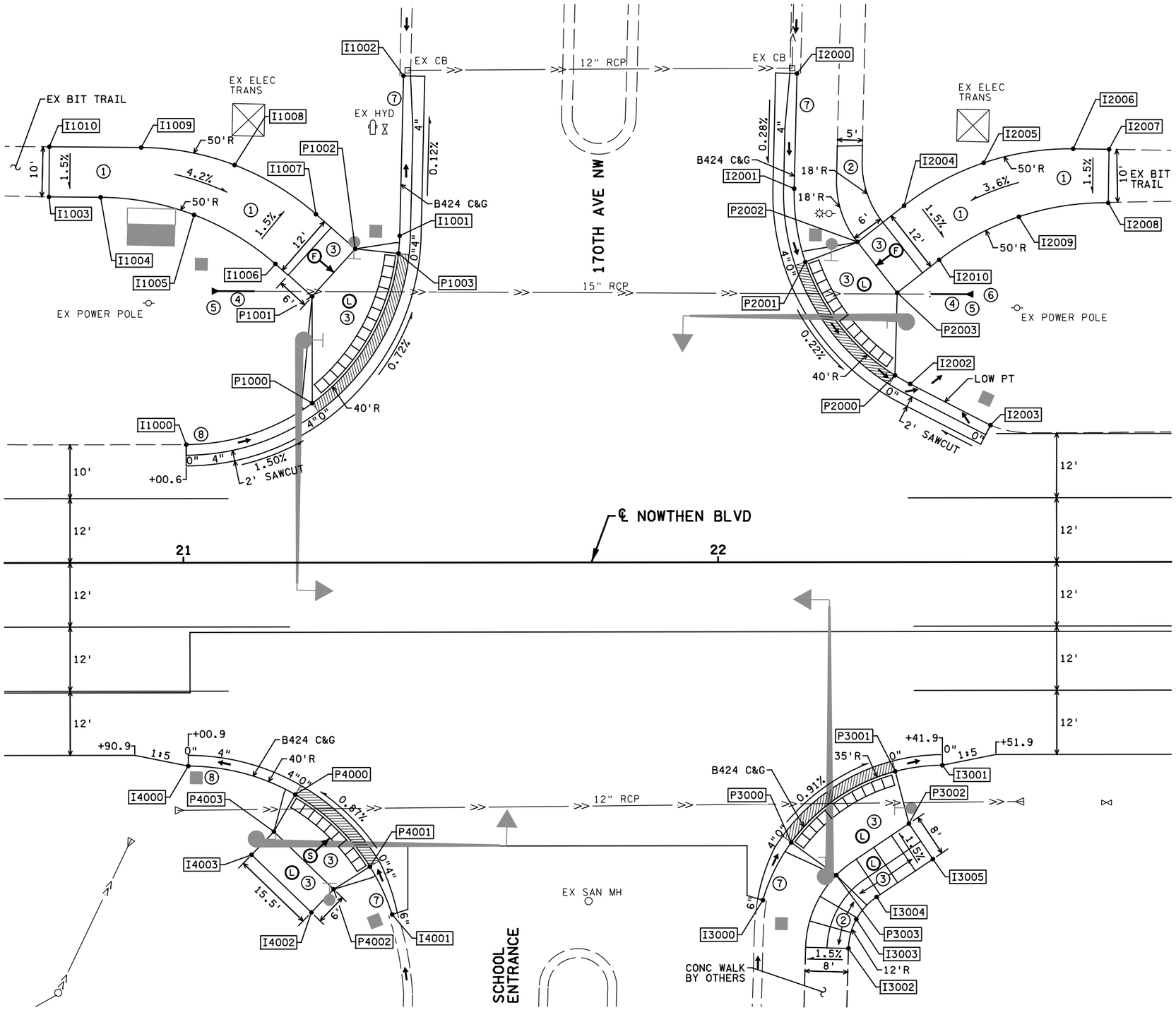

LEGEND

- PROPOSED SIGNAL POLE
- PEDESTRIAN PUSH BUTTON STATION
- PEDESTRIAN PUSH BUTTON
- PXXXX — PEDESTRIAN CURB RAMP CONTROL POINTS SEE SHEET 19
- IXXXX — CURB, WALK AND TRAIL POINTS SEE SHEET 19
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- (L) — LANDING AREA – 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- X" — CURB HEIGHT
- (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%
- GUTTER CROSS SLOPE SHALL NOT EXCEED 2.0%
- DRAINAGE FLOW

GENERAL NOTES:

APPROXIMATE SIDEWALK PLACEMENT LIMITS ARE SHOWN IN THE PLANS, ACTUAL LIMITS TO BE DETERMINED IN THE FIELD.

SEE STANDARD PLAN SHEETS FOR PEDESTRIAN CURB RAMP DETAILS.

SEE TRAFFIC SIGNAL PLANS AND DETAILS FOR HORIZONTAL COORDINATES OF SIGNAL POLES.

SEE TRAFFIC SIGNAL PLANS FOR LOCATIONS OF PUSH BUTTONS.

STATIONS, OFFSETS AND ELEVATIONS ARE TO FLOW LINE OF CURB AND GUTTER.

DIMENSIONS ARE NOMINAL.

NOTES:

1. BITUMINOUS TRAIL, SEE DETAIL DETAIL D ON SHEET 6
2. CONCRETE WALK, SEE DETAIL DETAIL B ON SHEET 6
3. CONCRETE WALK, SEE DETAIL DETAIL C ON SHEET 6
4. FURNISH AND INSTALL 8 LF-15" RCP
5. INSTALL 15" FES
6. FURNISH AND INSTALL 3 CY CLASS II RIPRAP PER MNDOT STD PLATE 3133D
7. 10' CURB TYPE TRANSITION
8. 5' CURB HEIGHT TRANSITION (O" TO 4")

0 10 20
SCALE IN FEET

NO	DATE	BY	CKD	APPR	REVISION
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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: STEVEN J. MILLER

Date 05-20-19 License # 41327

STATE AID PROJECT NO.	X
	X
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	S MARTINS
DESIGNED BY	S MILLER
CHECKED BY	S MILLER
COMM. NO.	0012107

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ANOKA-HENNEPIN SCHOOL DISTRICT

INTERSECTION AND PEDESTRIAN CURB RAMP DETAILS

NOWTHEN BOULEVARD IMPROVEMENT

SHEET 18 OF 48

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PEDESTRIAN CURB RAMP CONTROL POINTS						
POINT NO.	X COORD.	Y COORD.	ELEV. OR RADIUS	ALIGNMENT	STATION	OFFSET
P1000	455383.449	188949.453	EL. 885.39	NOWTHEN BLVD	21+24.13	29.82' LT.
P1001	455363.482	188949.002	EL. 885.46	NOWTHEN BLVD	21+24.15	49.79' LT.
P1002	455354.415	188956.865	EL. 885.28	NOWTHEN BLVD	21+32.22	58.67' LT.
P1003	455355.103	188964.959	EL. 885.15	NOWTHEN BLVD	21+40.29	57.80' LT.
P2000	455375.830	189058.281	EL. 884.98	NOWTHEN BLVD	22+33.11	34.92' LT.
P2001	455355.026	189041.060	EL. 885.04	NOWTHEN BLVD	22+16.38	56.11' LT.
P2002	455351.111	189050.739	EL. 885.19	NOWTHEN BLVD	22+26.14	59.80' LT.
P2003	455360.387	189058.351	EL. 885.01	NOWTHEN BLVD	22+33.54	50.35' LT.
P3000	455463.565	189040.803	EL. 885.37	NOWTHEN BLVD	22+13.60	52.39' RT.
P3001	455449.854	189059.967	EL. 885.15	NOWTHEN BLVD	22+33.08	39.13' RT.
P3002	455459.565	189062.735	EL. 885.30	NOWTHEN BLVD	22+35.62	48.90' RT.
P3003	455469.507	189049.370	EL. 885.52	NOWTHEN BLVD	22+22.03	58.53' RT.
P4000	455456.680	188947.888	EL. 885.33	NOWTHEN BLVD	21+20.87	43.36' RT.
P4001	455469.829	188962.142	EL. 885.50	NOWTHEN BLVD	21+34.82	56.83' RT.
P4002	455474.219	188955.454	EL. 885.90	NOWTHEN BLVD	21+28.03	61.07' RT.
P4003	455463.699	188944.051	EL. 885.73	NOWTHEN BLVD	21+16.87	50.28' RT.

CURB, WALK AND TRAIL POINTS					
POINT NO.	X COORD.	Y COORD.	ALIGNMENT	STATION	OFFSET
I1000	455391.703	188926.068	NOWTHEN BLVD	21+00.56	22.11' LT.
I1001	455351.790	188965.103	NOWTHEN BLVD	21+40.51	61.11' LT.
I1002	455321.876	188965.159	NOWTHEN BLVD	21+41.26	91.01' LT.
I1003	455345.973	188899.390	NOWTHEN BLVD	20+74.95	68.44' LT.
I1004	455345.831	188909.049	NOWTHEN BLVD	20+84.61	68.36' LT.
I1005	455348.731	188926.585	NOWTHEN BLVD	21+02.08	65.06' LT.
I1006	455357.583	188941.999	NOWTHEN BLVD	21+17.28	55.85' LT.
I1007	455348.105	188949.374	NOWTHEN BLVD	21+24.87	65.16' LT.
I1008	455339.253	188933.960	NOWTHEN BLVD	21+09.67	74.36' LT.
I1009	455336.353	188916.424	NOWTHEN BLVD	20+92.21	77.67' LT.
I1010	455336.607	188899.252	NOWTHEN BLVD	20+75.03	77.81' LT.
I2000	455319.821	189038.711	NOWTHEN BLVD	22+14.84	91.36' LT.
I2001	455341.352	189038.675	NOWTHEN BLVD	22+14.31	69.84' LT.
I2002	455377.381	189061.161	NOWTHEN BLVD	22+35.95	33.30' LT.
I2003	455384.769	189076.332	NOWTHEN BLVD	22+50.95	25.56' LT.
I2004	455344.104	189059.277	NOWTHEN BLVD	22+34.84	66.61' LT.
I2005	455335.737	189073.986	NOWTHEN BLVD	22+49.74	74.63' LT.
I2006	455332.756	189090.642	NOWTHEN BLVD	22+66.46	77.23' LT.
I2007	455332.709	189097.360	NOWTHEN BLVD	22+73.18	77.12' LT.
I2008	455342.708	189097.431	NOWTHEN BLVD	22+73.02	67.12' LT.
I2009	455345.690	189080.775	NOWTHEN BLVD	22+56.30	64.53' LT.
I2010	455354.056	189066.066	NOWTHEN BLVD	22+41.40	56.50' LT.
I3000	455474.482	189035.747	NOWTHEN BLVD	22+08.30	63.19' RT.
I3001	455448.522	189068.751	NOWTHEN BLVD	22+41.89	38.00' RT.
I3002	455483.149	189051.939	NOWTHEN BLVD	22+24.28	72.23' RT.
I3003	455477.666	189053.296	NOWTHEN BLVD	22+25.77	66.78' RT.
I3004	455473.412	189057.011	NOWTHEN BLVD	22+29.58	62.61' RT.
I3005	455466.097	189067.354	NOWTHEN BLVD	22+40.09	55.54' RT.
I4000	455451.789	188927.776	NOWTHEN BLVD	21+00.88	38.00' RT.
I4001	455478.688	188966.500	NOWTHEN BLVD	21+38.97	65.79' RT.
I4002	455478.629	188951.386	NOWTHEN BLVD	21+23.86	65.38' RT.
I4003	455468.109	188939.983	NOWTHEN BLVD	21+12.71	54.60' RT.

NO	DATE	BY	CKD	APPR	REVISION

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Print Name: STEVEN J. MILLER

Date 05-20-19 License # 41327

STATE AID PROJECT NO.	X
	X
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	S MARTINS
DESIGNED BY	S MILLER
CHECKED BY	S MILLER
COMM. NO.	0012107

SRF

ANOKA-HENNEPIN SCHOOL DISTRICT

INTERSECTION AND PEDESTRIAN RAMP DETAILS
NOWTHEN BOULEVARD IMPROVEMENT

SHEET 19 OF 48

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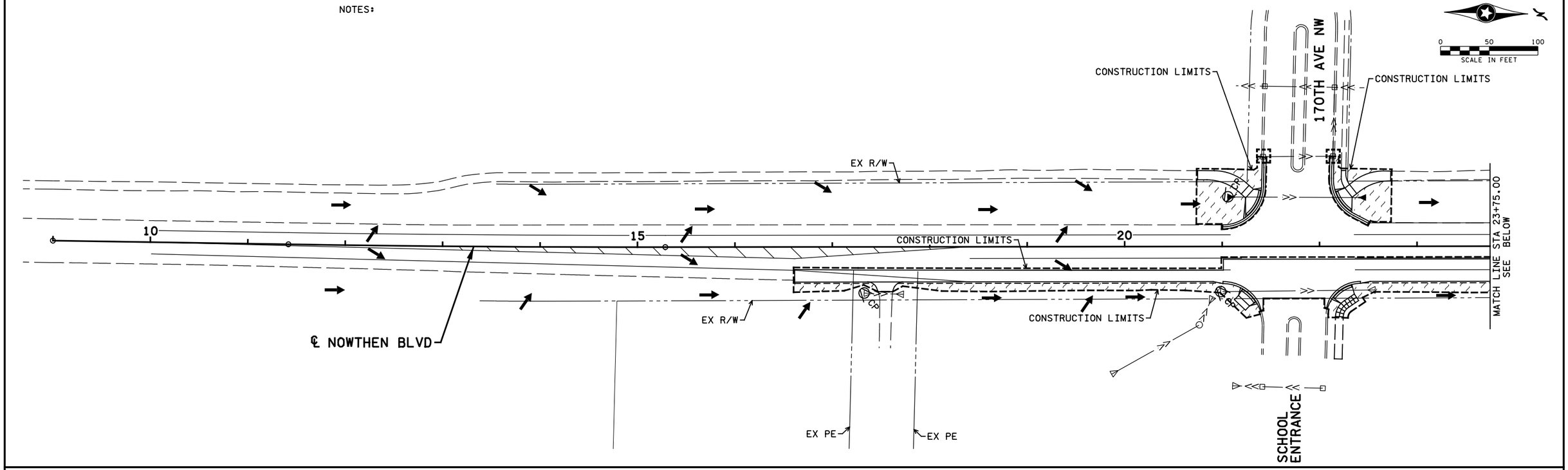
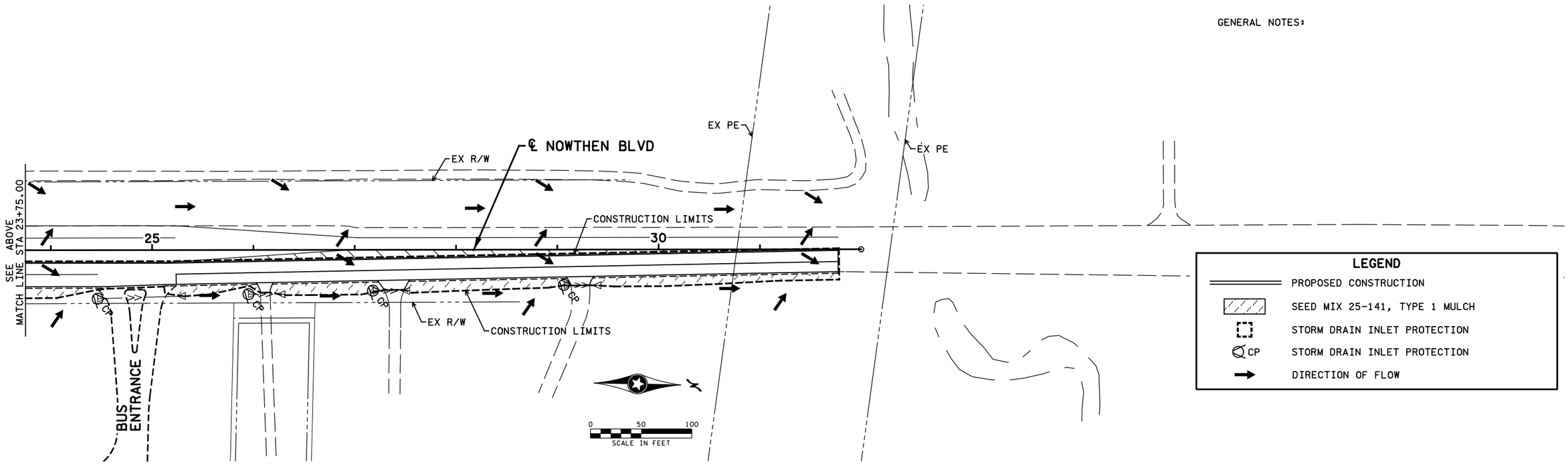


GENERAL NOTES:



LEGEND

- PROPOSED CONSTRUCTION
- SEED MIX 25-141, TYPE 1 MULCH
- STORM DRAIN INLET PROTECTION
- CP STORM DRAIN INLET PROTECTION
- DIRECTION OF FLOW

NO	DATE	BY	CKD	APPR	REVISION
					...\FinalPlan\12107_ec01.dgn

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STATE AID PROJECT NO.	X
	X
STATE PROJECT NO.	X
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CITY PROJECT NO.	X
DRAWN BY	S MARTINS
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ANOKA-HENNEPIN SCHOOL DISTRICT

EROSION CONTROL AND TURF ESTABLISHMENT PLANS
NOWTHEN BOULEVARD IMPROVEMENT

SHEET 20 OF 48

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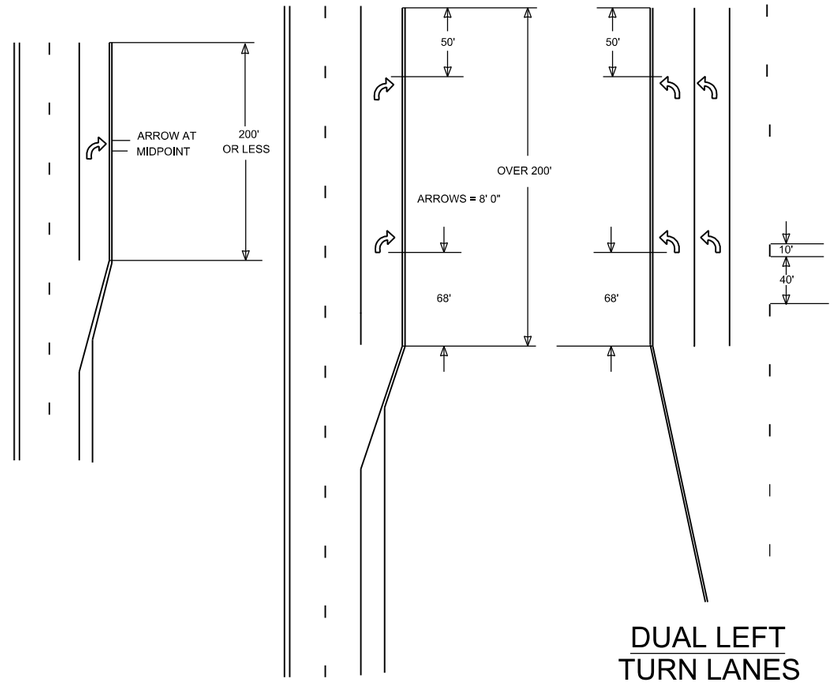
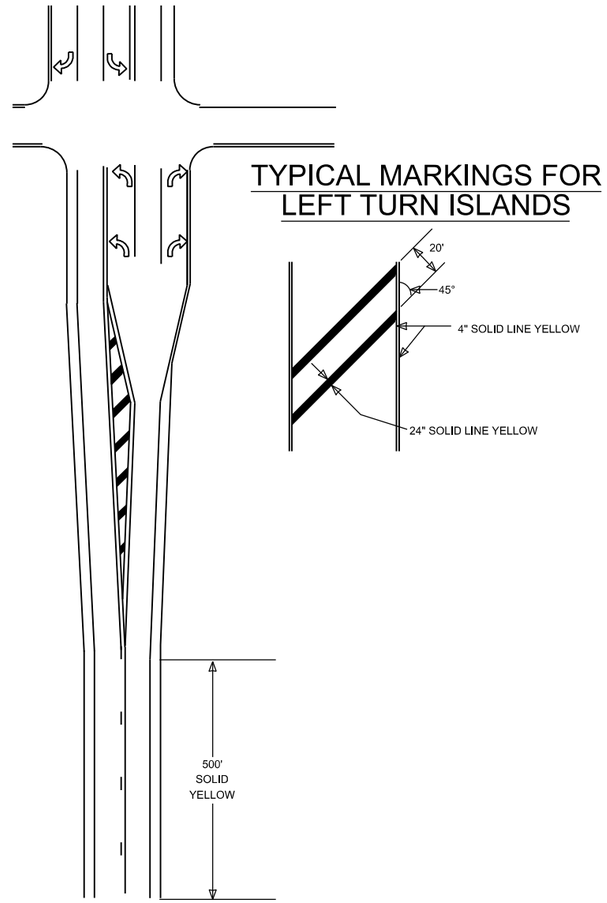
TYPICAL MESSAGE PLACEMENT FOR TURN LANES



DUAL LEFT TURN LANES

TYPICAL MARKINGS FOR LEFT TURN ISLANDS



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	STATE PROJECT NO. X	DESIGNED BY	PERMANENT PAVEMENT MARKING DETAILS
	COUNTY PROJECT NO. X	CHECKED BY	NOWTHEN BOULEVARD IMPROVEMENT
	CITY PROJECT NO. X	COMM. NO. 0012107	SHEET 21 OF 48

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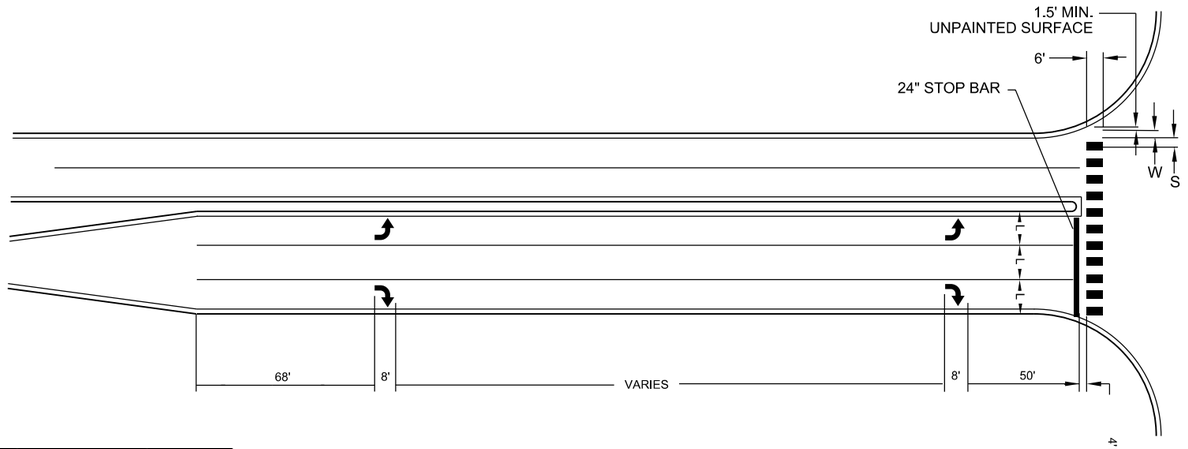
MARKINGS FOR PEDESTRIAN CROSSWALKS



(L)	(W)	(S)
WIDTH OF INSIDE LANE	WIDTH OF PAINTED AREAS	WIDTH OF SPACE
9'	2.0'	2.5'
10'	2.5'	2.5'
11'	2.5'	3.0'
12'	3.0'	3.0'
13'	3.0'	3.5'

NOTES: CROSSWALKS:

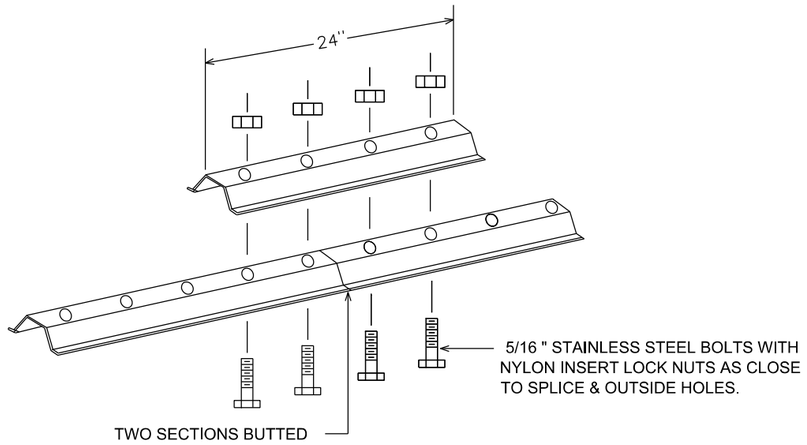
1.) PAINTED AREAS ARE TO BE CENTERED ON CENTER AND LANE LINES, EVEN IF INTERSECTION IS NOT ALIGNED.

2.) LOCATION OF ZEBRA CROSSWALKS AND STOP BARS, SIGNAL LOOPS AND PED RAMPS ARE APPROXIMATE. FINAL LOCATIONS ARE TO BE DETERMINED AND FIELD VERFIED DURING CONSTRUCTION BY THE FIELD ENGR.

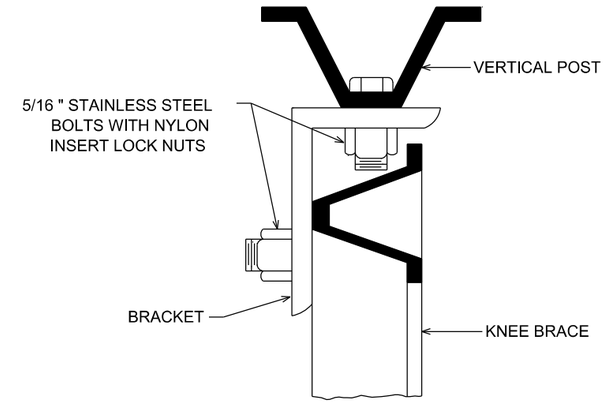
3.) ZEBRA CROSSWALKS ARE TO BE PARALLEL TO THE DRIVING LANE OR LANES. EVEN IF THE STREET IS ON AN ANGLE TO THE INTERSECTION.

4.) A MIN. OF 1.5' (450mm) CLEAR DISTANCE MUST BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS AREA, IT MUST BE OMITTED.

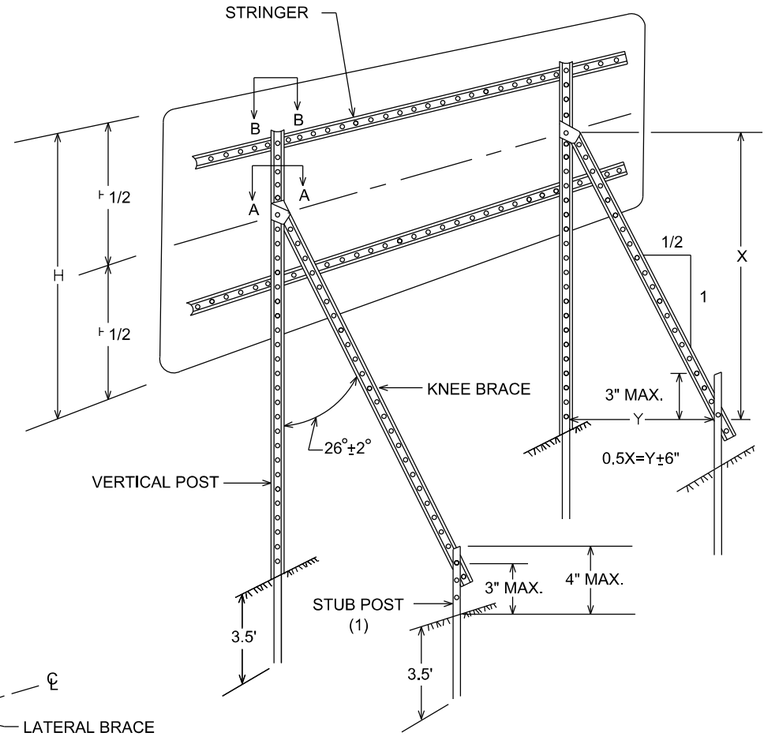
5.) ON TWO LANE STREETS, USE SPACING SHOWN FOR AN 11' (3.3mm) INSIDE LANE.



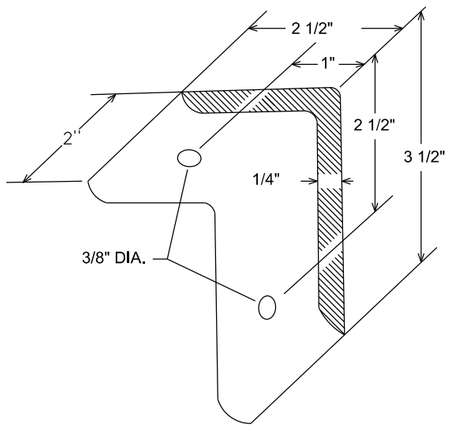
LATERAL BRACE OR STRINGER SPLICE DETAIL (EXPLODED VIEW)



SECTION A-A

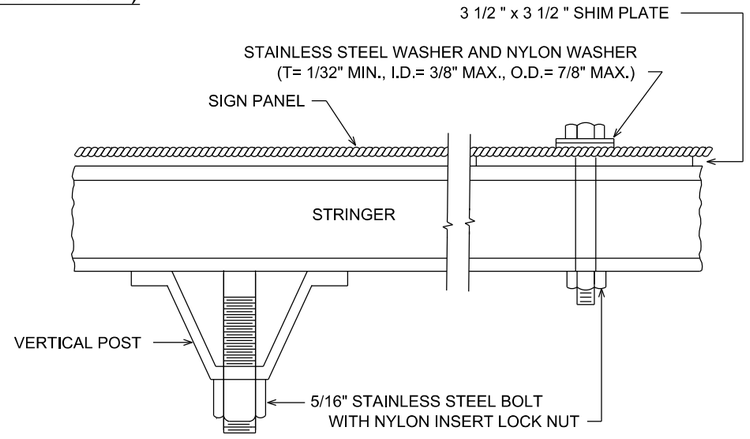


TYPICAL "A-FRAME" INSTALLATION TYPE "D" SIGNS

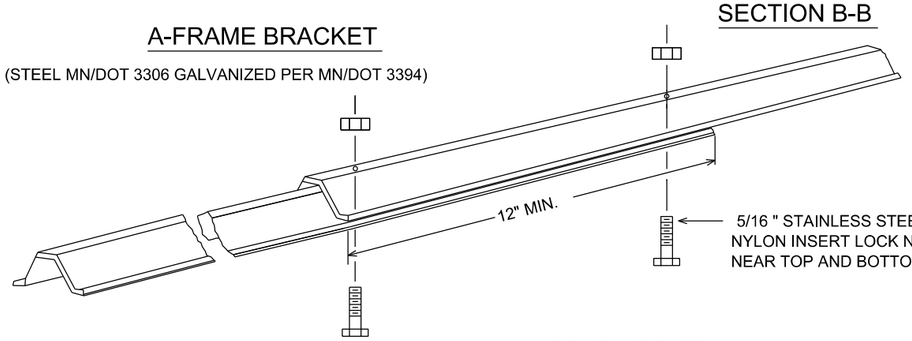


A-FRAME BRACKET

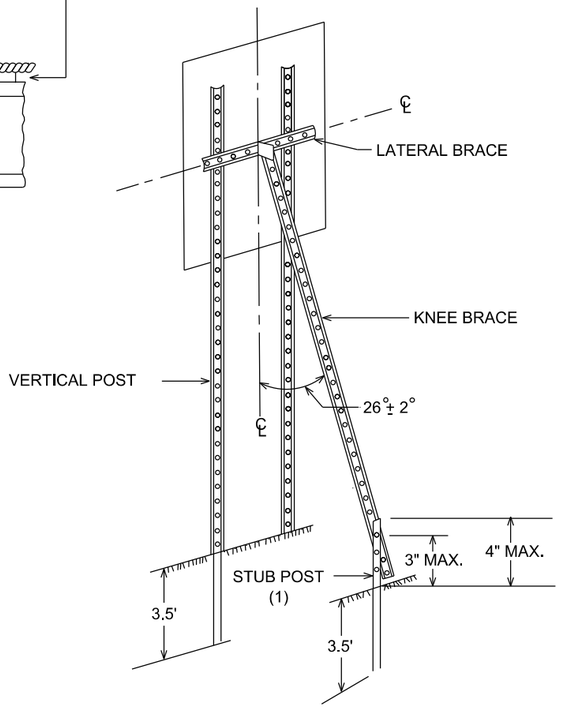
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



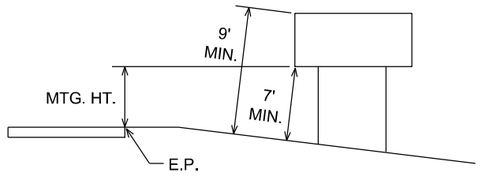
SECTION B-B



KNEE BRACE SPLICE



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



TYPICAL MOUNTING

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

TYPE C & D SIGN STRUCTURAL DETAILS

	STATE AID PROJECT NO. X X X	DRAWN BY	ANOKA-HENNEPIN SCHOOL DISTRICT	SHEET 23 OF 48
	STATE PROJECT NO. X	DESIGNED BY	SIGNING PLAN DETAILS	
	COUNTY PROJECT NO. X	CHECKED BY	NOWTHEN BOULEVARD IMPROVEMENT	
	CITY PROJECT NO. X	COMM. NO. 0012107		

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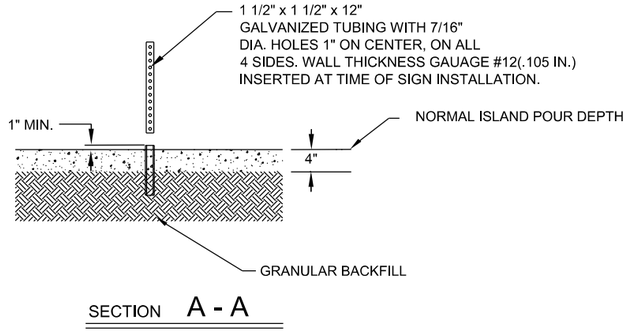
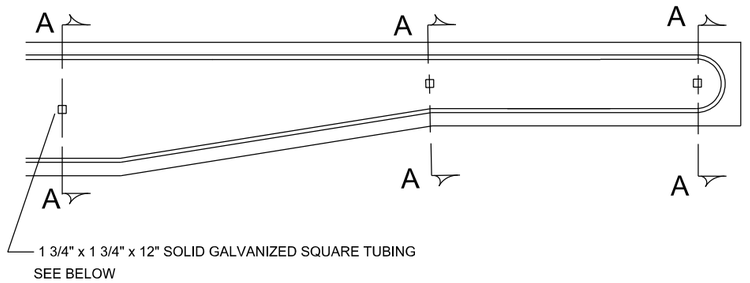
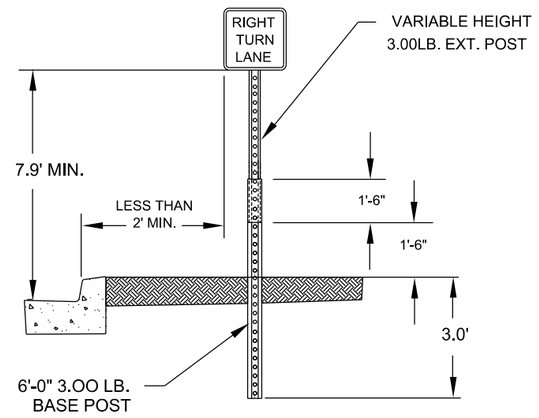


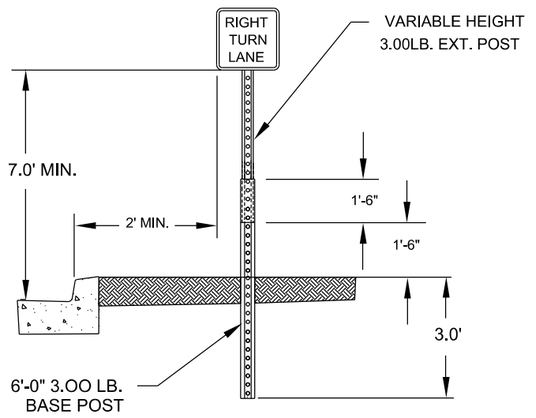
SECTION A - A



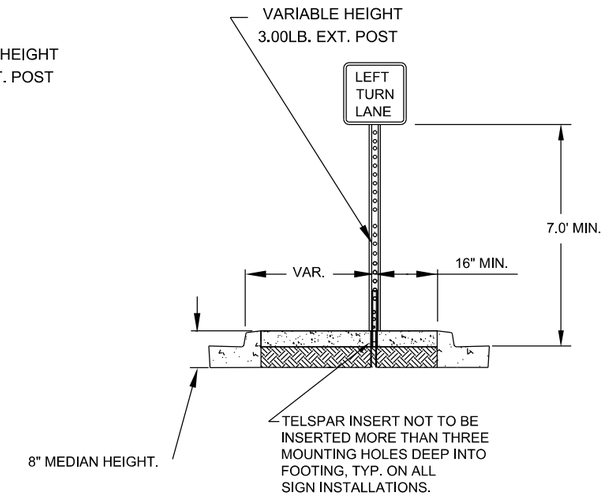
GROUND POST MOUNT SIGN
INSTALLATION TYPICAL
FOR AREAS LESS THAN THE 2' MIN



GROUND POST MOUNT SIGN
INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN
INSTALLATION TYPICAL



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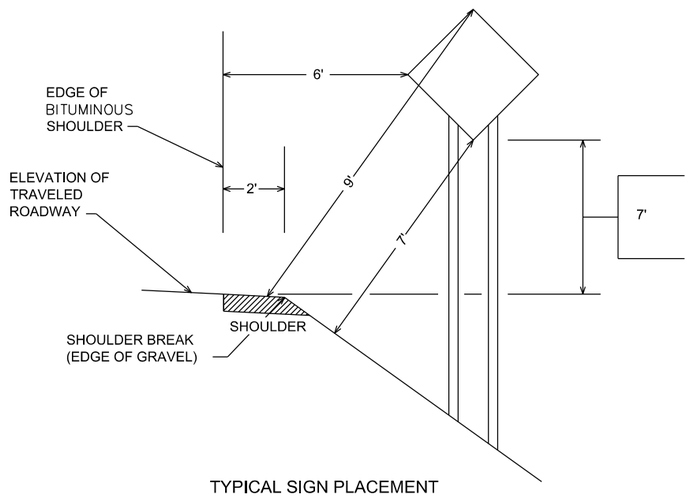
STATE AID PROJECT NO. X X	DRAWN BY	SRF	ANOKA-HENNEPIN SCHOOL DISTRICT
STATE PROJECT NO. X	DESIGNED BY		SIGNING PLAN DETAILS
COUNTY PROJECT NO. X	CHECKED BY		NOWTHEN BOULEVARD IMPROVEMENT
CITY PROJECT NO. X	COMM. NO. 0012107		SHEET 24 OF 48

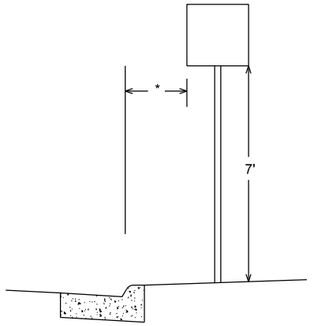
RURAL

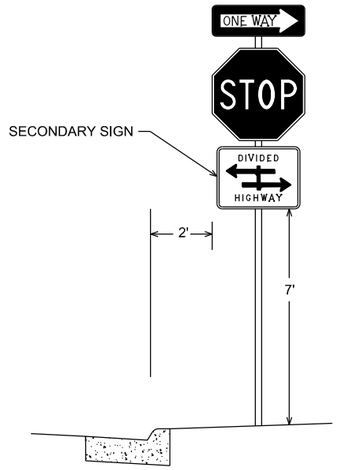


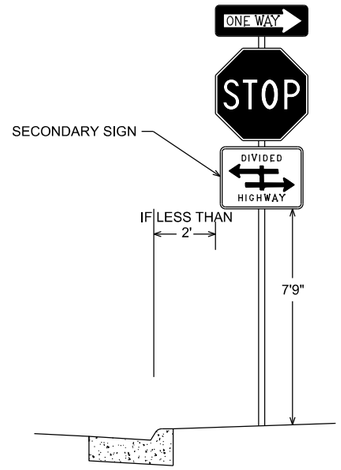
TYPICAL SIGN PLACEMENT

URBAN

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



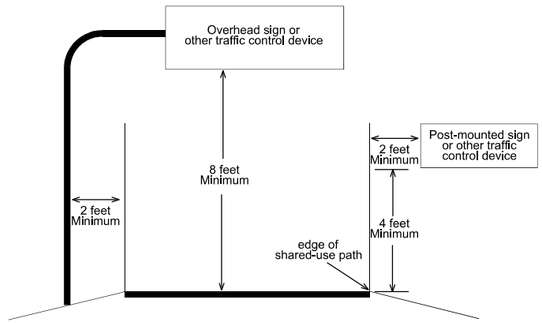




TYPICAL SIGN PLACEMENT

NOTE:

- ALL DIMENSIONS ARE MINIMUMS
- MAINTAIN 2' CLEAR FROM SIGNS TO BITUMINOUS TRAIL



TYPICAL SIGN PLACEMENT
SHARED-USE PATH

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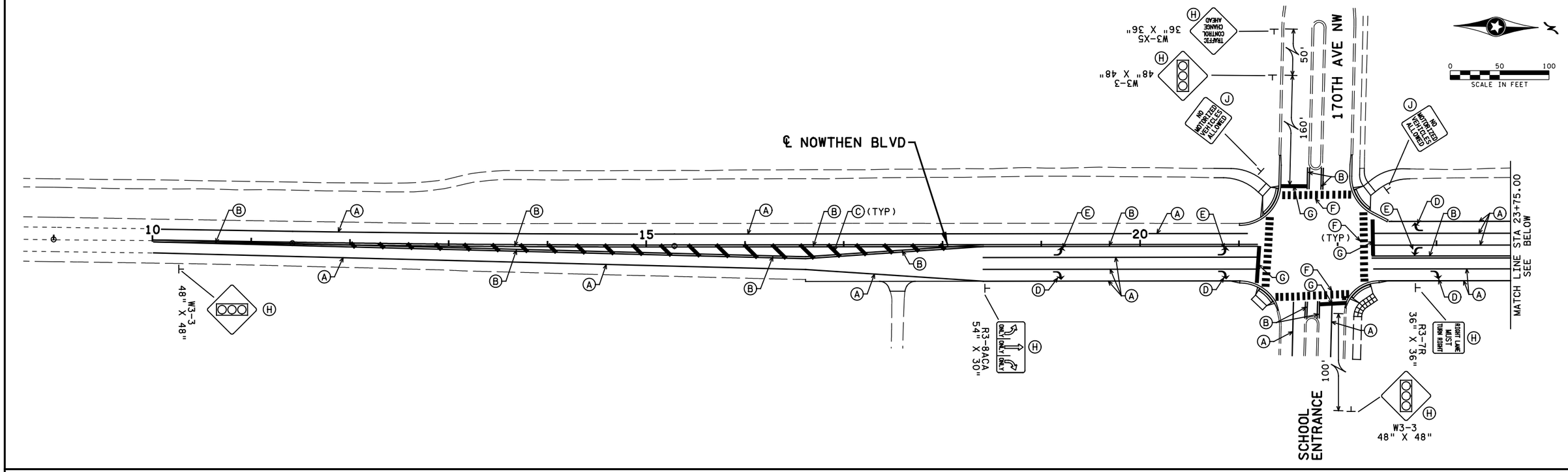
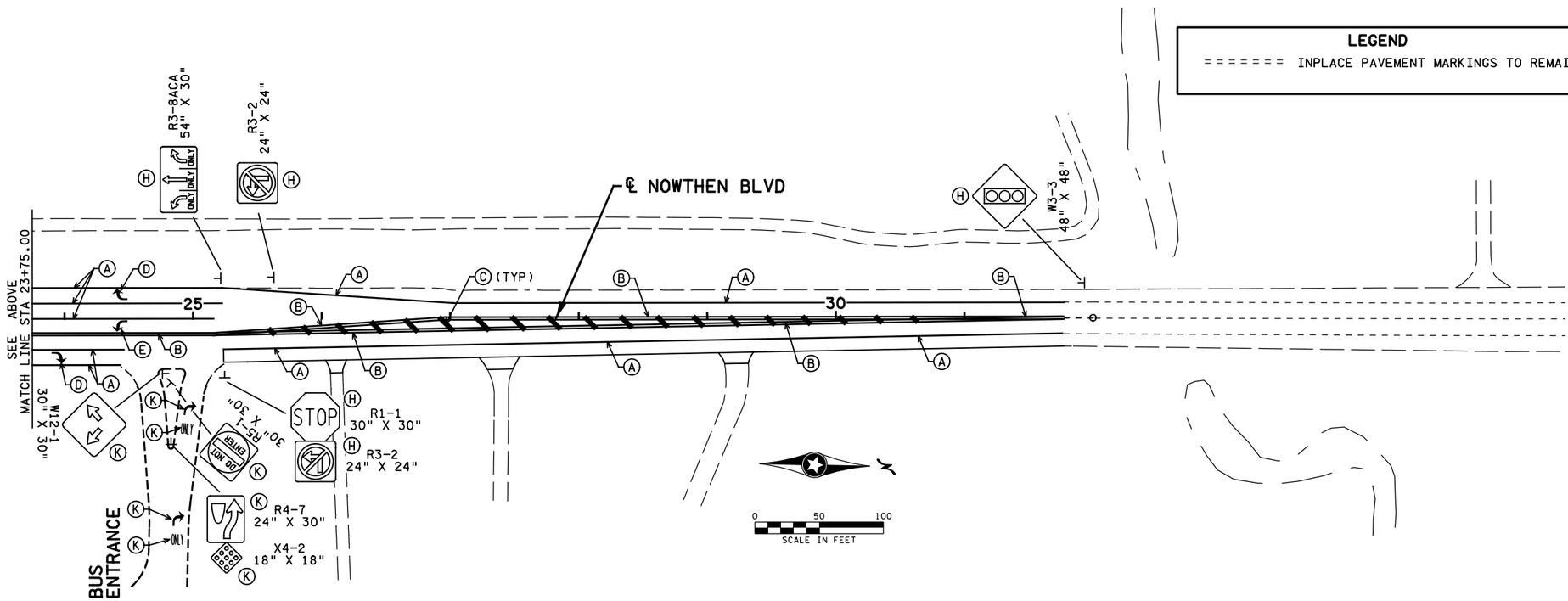
STATE AID PROJECT NO. X X X	DRAWN BY	SRF	ANOKA-HENNEPIN SCHOOL DISTRICT
STATE PROJECT NO. X	DESIGNED BY		SIGNING PLAN DETAILS NOWTHEN BOULEVARD IMPROVEMENT
COUNTY PROJECT NO. X	CHECKED BY		SHEET 25 OF 48
CITY PROJECT NO. X	COMM. NO. 0012107		





LEGEND

======= INPLACE PAVEMENT MARKINGS TO REMAIN

GENERAL NOTES:

ALL EPOXY & PREFORM PAVEMENT MARKINGS AND MESSAGES TO BE APPLIED AFTER PLACEMENT OF FINAL WEARING COURSE. QUANTITIES PROVIDED FOR RAISED PAVEMENT MARKER TEMPORARY FOR INTERIM. MULTIPLE MOBILIZATIONS MAY BE NECESSARY. (INCIDENTAL)

REMOVAL OF CONFLICTING PAVEMENT MARKINGS AND/OR MESSAGES FOR PERMANENT CONSTRUCTION IS INCIDENTAL.

FURNISH AND INSTALL ALL TYPE C SIGN, UNLESS NOTED OTHERWISE.

ALIGNMENT LINE NOT SHOWN TO IMPROVE PLAN CLARITY.

NOTES:

- (A) 4" SOLID LINE WHITE EPOXY
- (B) 4" DOUBLE YELLOW LINE YELLOW EPOXY
- (C) 24" SOLID LINE YELLOW EPOXY 20' O.C. @ 45°
- (D) PAVEMENT MESSAGE - RIGHT ARROW WHITE PREFORM THERMOPLASTIC
- (E) PAVEMENT MESSAGE - LEFT ARROW WHITE PREFORM THERMOPLASTIC
- (F) ZEBRA CROSSWALK WHITE PREFORM THERMOPLASTIC
- (G) 24" SOLID LINE WHITE PREFORM THERMOPLASTIC
- (H) F&I TYPE C SIGN
- (J) INSTALL SIGN TYPE C
- (K) WORK BY OTHERS

NO	DATE	BY	CKD	APPR	REVISION
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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: STEVEN J. MILLER

Date 05-20-19 License # 41327

STATE AID PROJECT NO.	X
	X
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	S MARTINS
DESIGNED BY	S MILLER
CHECKED BY	S MILLER
COMM. NO.	0012107

SRF

ANOKA-HENNEPIN SCHOOL DISTRICT

SIGNING AND STRIPING PLANS

NOWTHEN BOULEVARD IMPROVEMENT

SHEET 26 OF 48

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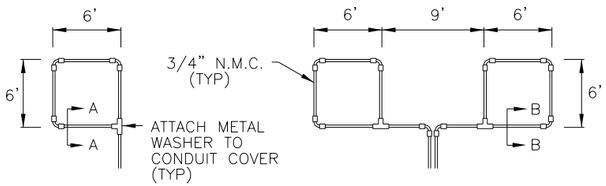
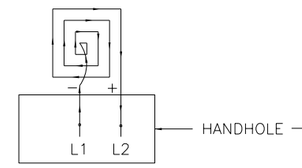
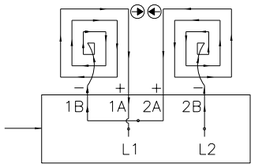




LOOP DETECTOR DETAIL 'A'

(LOOP PHASING FOR SINGLE CONNECTION)

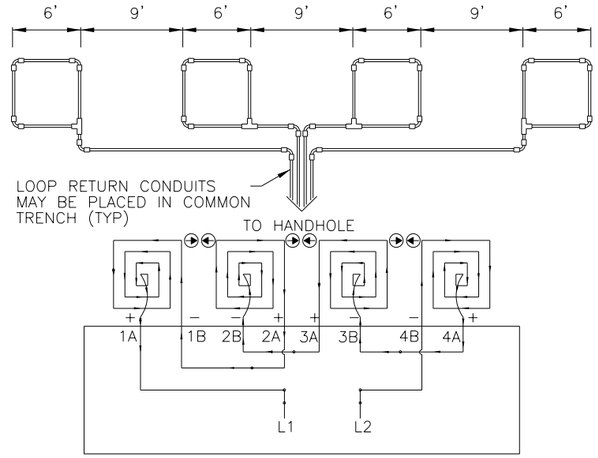


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

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

LOOP DETECTOR DETAIL 'B'

(LOOP PHASING FOR SERIES CONNECTION)



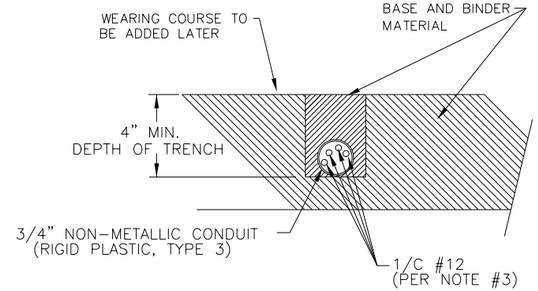
LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

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

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

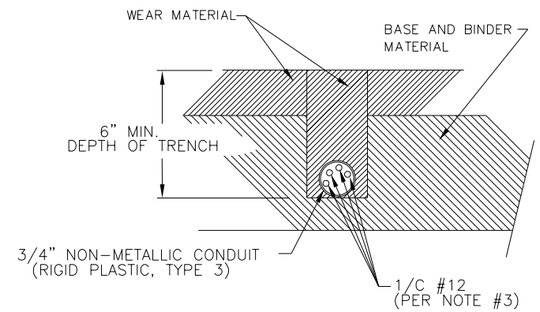
LOOP DETECTOR DETAIL 'C'

(LOOP PHASING FOR SERIES CONNECTION)



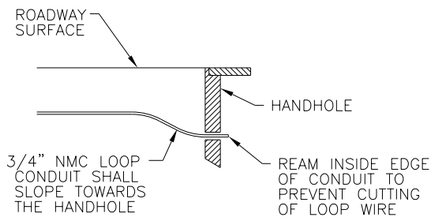
SECTION A-A

DETAIL FOR LOOP INSTALLATION IN NEW ROADWAY



SECTION B-B

DETAIL FOR LOOP INSTALLATION IN EXISTING ROADWAY



DRAINAGE DETAIL

LOOP DETECTOR WIRING

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

LEGEND OF SYMBOLS

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

ABBREVIATIONS

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

CONDUCTOR COLOR CODE

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

TABULATION OF SIGNAL QUANTITIES

ITEM NO	ITEM	UNIT	TOTAL QUANTITY
2565	EMERGENCY VEHICLE PREEMPTION SYSTEM	LS	1
2565	TRAFFIC CONTROL SIGNAL SYSTEM	SYSTEM	1

NO	DATE	BY	CKD	APPR	REVISION

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

Print Name: NATHAN A. POOLE

Date 05-20-19 License # 56071

STATE AID PROJECT NO.	X X X
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY M. BRESSLER
DESIGNED BY M. BRESSLER
CHECKED BY N. POOLE
COMM. NO. 0012107

SRF

ANOKA-HENNEPIN SCHOOL DISTRICT

TRAFFIC SIGNAL PLANS

NOWTHEN BOULEVARD IMPROVEMENT

LEGENDS, ABBREVIATIONS AND LOOP DETAILS

SHEET 27 OF 48

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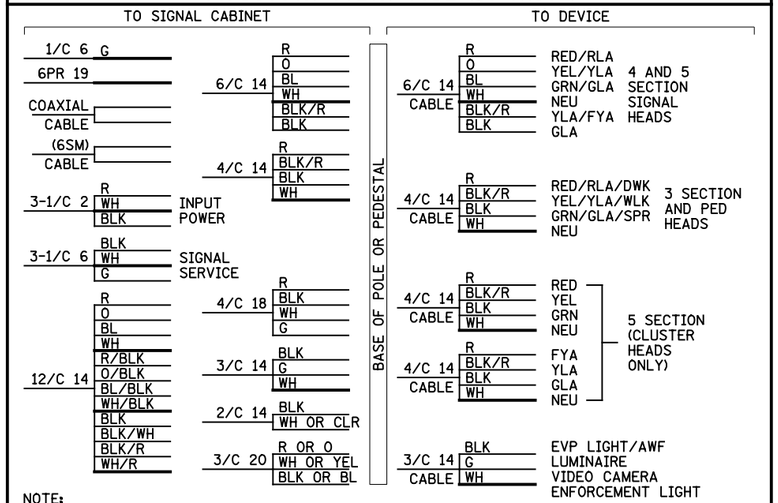
WIRE SPECIFICATION CHART

Type	Name	Specification Number
1/C 2	Power Conductors	3815.2B.1
1/C 6	Power Conductors	3815.2B.1
1/C 6 INS.GR.	Grounding Conductors	3815.2B.5
2/C 14	Loop Detector Lead-In Cable	3815.2C.4
3/C 14	Signal Control Cable	3815.2C.3
4/C 14	Signal Control Cable	3815.2C.3
6/C 14	Signal Control Cable	3815.2C.3
12/C 14	Signal Control Cable	3815.2C.3
6PR 19	Telephone Cables Outdoor	3815.2C.6.b
3/C 20	EVP Detector Cable	3815.2C.5

WIRE COLOR CODE KEY

R	Red
O	Orange
BL	Blue
WH	White
BLK	Black
BRN	Brown
CL	Clear
G	Green
R/BLK	Red with Black Stripe
O/BLK	Orange with Black Stripe
BL/BLK	Blue with Black Stripe
WH/BLK	White with Black Stripe
WH/R	White with Red Stripe
BLK/WH	Black with White Stripe
BLK/R	Black with Red Stripe

CONDUCTOR COLOR CODE (14 GAUGE)



NOTE:
ALL POLE CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

NOTES:

1. LEAVE 24 INCHES OF SLACK ON EACH CABLE IN EACH POLE BASE/JUNCTION BOX.
2. STRIP 5 IN TO 6 IN OF THE OUTER JACKET OF EACH SIGNAL CABLE IN POLE BASES.
3. STRIP 1/4 IN OF INSULATION FROM EACH INDIVIDUAL CONDUCTOR IN EACH POLE BASE.
4. LABEL EACH CABLE WITH THE DEVICE DESIGNATION AS SHOWN ON THE WIRING DIAGRAM USING A PERMANENT BLACK MARKER.

NO	DATE	BY	CKD	APPR	REVISION

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

Print Name: NATHAN A. POOLE

Date 05-20-19 License # 56071

STATE AID PROJECT NO. X X
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY M. BRESSLER
DESIGNED BY M. BRESSLER
CHECKED BY N. POOLE
COMM. NO. 0012107

SRF

ANOKA-HENNEPIN SCHOOL DISTRICT
TRAFFIC SIGNAL PLANS
NOWTHEN BOULEVARD IMPROVEMENT
TRAFFIC SIGNAL POLE WIRING

SHEET 28 OF 48

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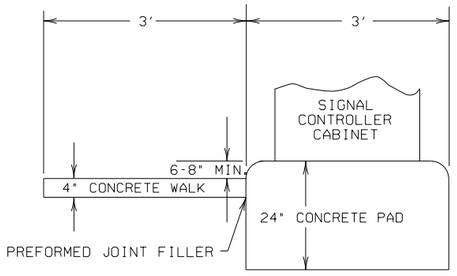
TYPICAL PAD WITH CONTROLLER CABINET AND SERVICE CABINET

SEE INTERSECTION LAYOUT FOR CABLE INFORMATION (NOT TO SCALE)

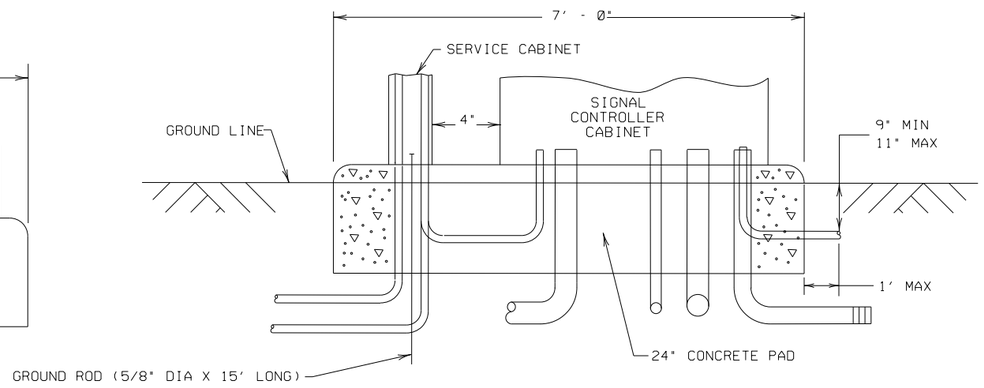
NOTES:

1. THE ANCHOR RODS, NUTS AND WASHERS FOR THE COUNTY FURNISHED CONTROLLER AND CABINET SHALL BE FURNISHED BY THE COUNTY AND INSTALLED BY THE CONTRACTOR.
2. THE UPPER PART OF THE NEW EQUIPMENT PAD SHALL BE BEVELLED OR CHAMFERED IN A NEAT MANNER AS DIRECTED BY THE ENGINEER.
3. THE TOP OF THE CONDUITS SHALL BE THREADED AND CAPPED AFTER INSTALLATION (UNTIL CABLES ARE INSTALLED).
4. CONDUIT SHALL PROJECT A MINIMUM OF 2" ABOVE CONCRETE AND SHALL BE LOCATED INSIDE OF THE CABINET WHERE DIRECTED BY THE ENGINEER, BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
5. CONCRETE MIX 3F52 OR EQUAL SHALL BE USED FOR THE EQUIPMENT PAD AND SIDEWALK.
6. CONDUITS WITH BOTH ENDS TERMINATING WITHIN THE PAD SHALL NOT BE INSTALLED BELOW THE CONCRETE.
7. THE EXACT LOCATION OF CONDUITS WITHIN THE PAD SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
8. ANCHOR RODS SHALL PROJECT A MINIMUM OF 3" ABOVE THE CONCRETE BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
9. CONTRACTOR SHALL PROVIDE MINIMUM 4-INCH CLEARANCE BETWEEN CONTROLLER AND SERVICE CABINETS ON THE EQUIPMENT PAD FOUNDATION AS SHOWN.

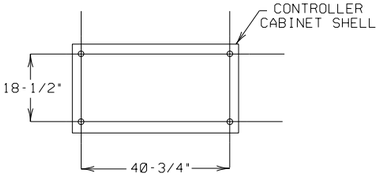
SIDE VIEW



FRONT VIEW



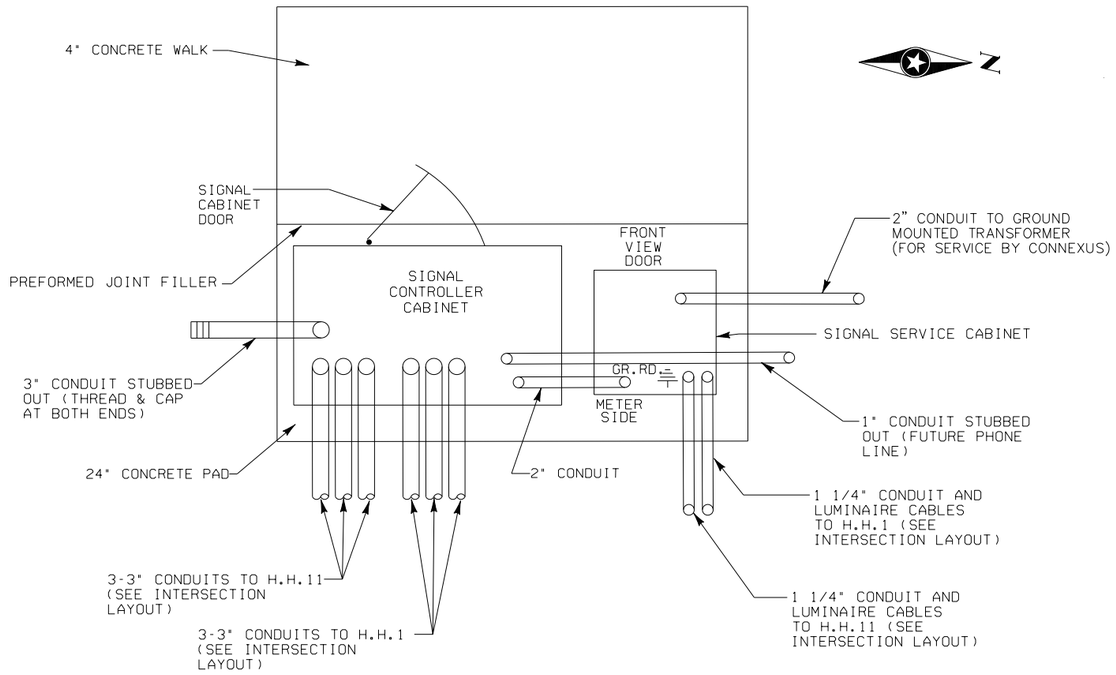
CONTROLLER CABINET TYPE "P" & "R" BOLT PATTERN



DIMENSION SHOWN ARE CENTER ROD TO CENTER ROD

PLAN VIEW

LOCATION



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Print Name: NATHAN A. POOLE

Date 05-20-19 License # 56071

STATE AID PROJECT NO.	X
	X
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY M. BRESSLER
DESIGNED BY M. BRESSLER
CHECKED BY N. POOLE
COMM. NO. 0012107

SRF

ANOKA-HENNEPIN SCHOOL DISTRICT

TRAFFIC SIGNAL PLANS

NOWTHEN BOULEVARD IMPROVEMENT

EQUIPMENT PAD FOUNDATION

SHEET 29 OF 48

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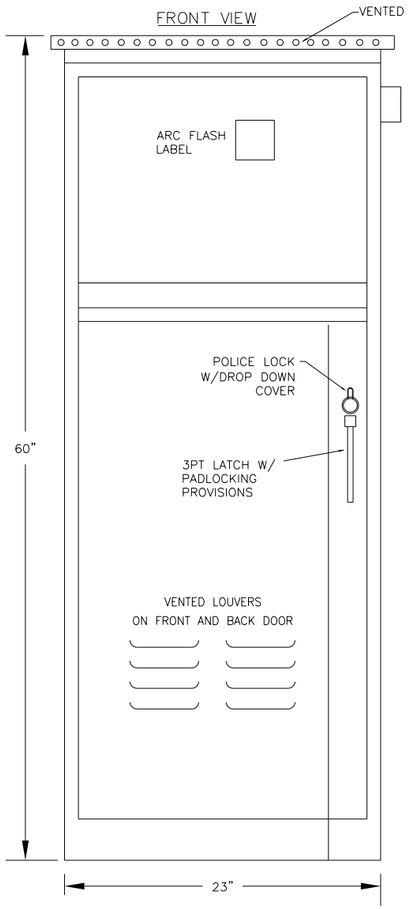
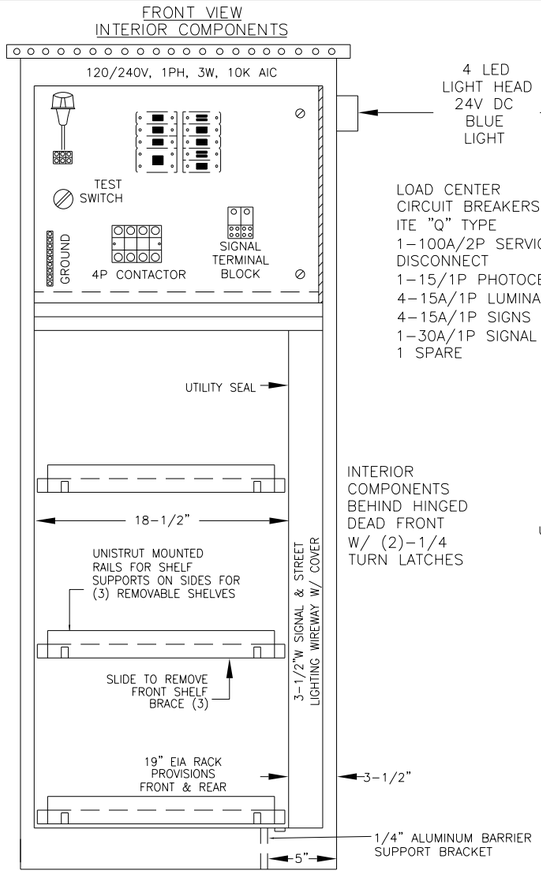
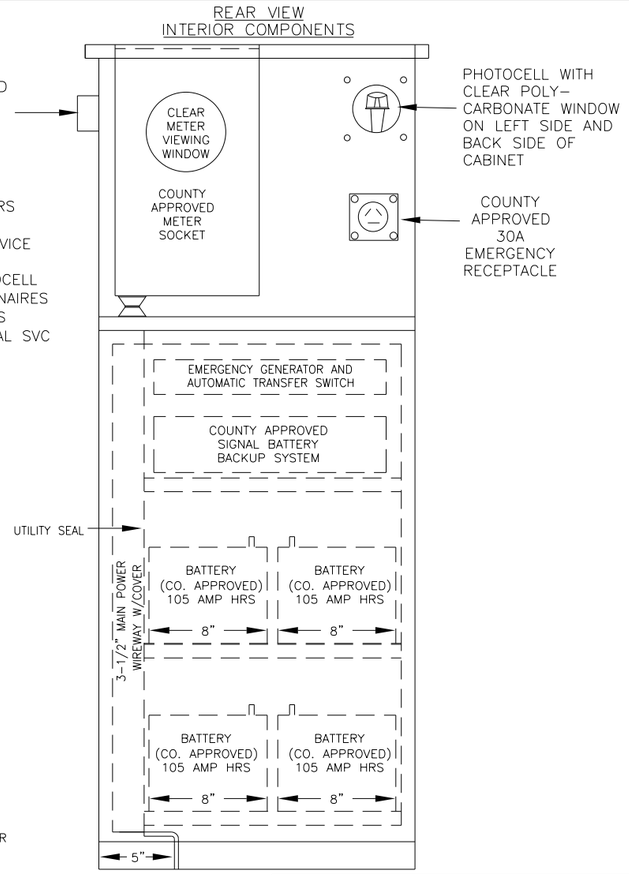


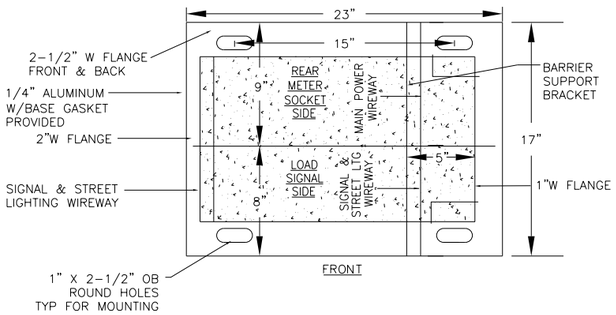


4 LED LIGHT HEAD 24V DC BLUE LIGHT

LOAD CENTER CIRCUIT BREAKERS
ITE "Q" TYPE
1-100A/2P SERVICE DISCONNECT
1-15/1P PHOTOCELL
4-15A/1P LUMINAIRES
4-15A/1P SIGNS
1-30A/1P SIGNAL SVC
1 SPARE

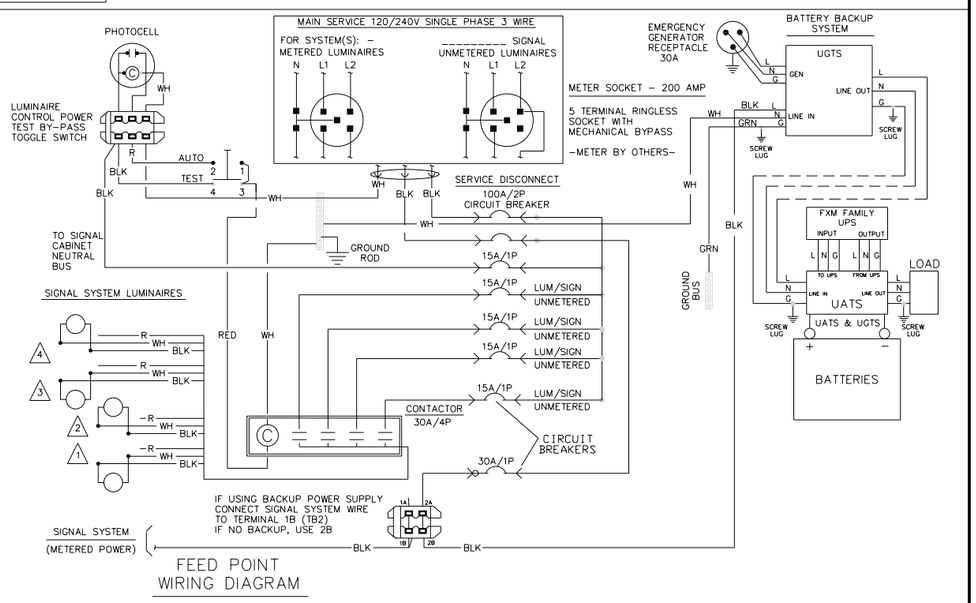
INTERIOR COMPONENTS BEHIND HINGED DEAD FRONT W/ (2)-1/4 TURN LATCHES





CABINET CONSTRUCTION

-NEMA 3R
-1/8" ALUMINUM 5052-H32
-ANODIZED 30 MINUTE CLEAR
-NEOPRENE GASKETED DOORS
-NON-CORRODING HARDWARE
-ETL LISTED IN ACCORDANCE W/UL508A



FEED POINT WIRING DIAGRAM

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COUNTY PROJECT NO. X	CHECKED BY N. POOLE
CITY PROJECT NO. X	COMM. NO. 0012107

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ANOKA-HENNEPIN SCHOOL DISTRICT

TRAFFIC SIGNAL PLANS

NOWTHEN BOULEVARD IMPROVEMENT

SERVICE CABINET DETAILS

SHEET 30 OF 48

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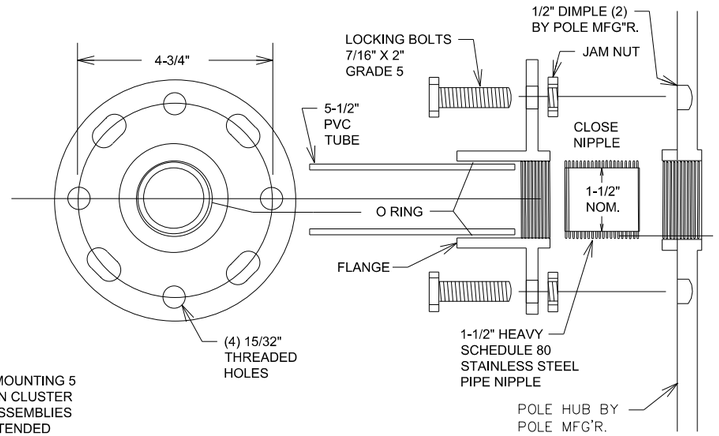
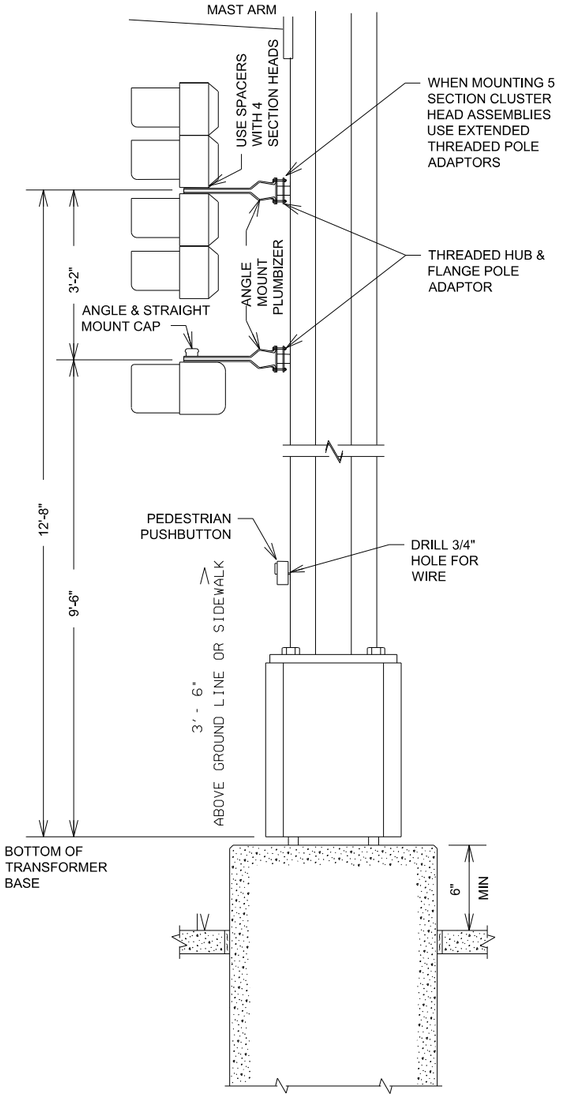
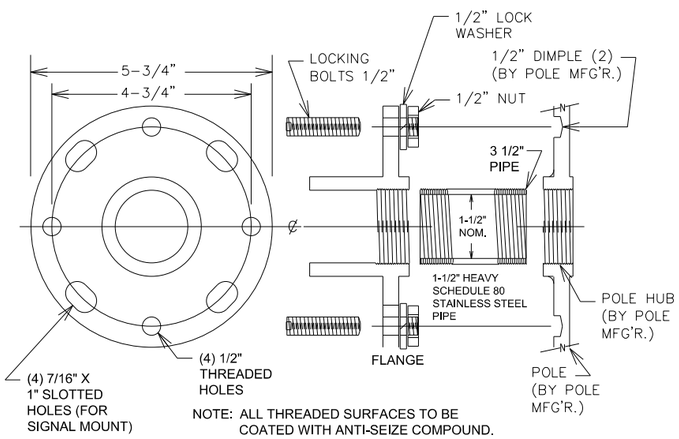


THREADED HUB AND FLANGE POLE ADAPTOR



TYPICAL SIGNAL POLE MOUNTING

NOT TO SCALE

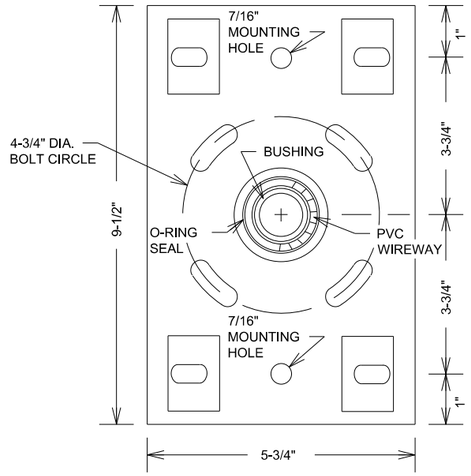


NOTE: ALL THREADED SURFACES TO BE COATED WITH ANTI-SEIZE COMPOUND.

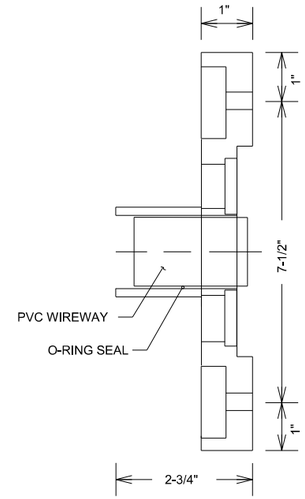
EXTENDED THREADED POLE ADAPTER

NOTES:

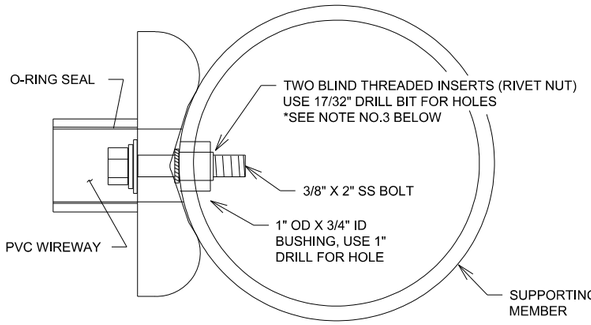
1. ALL THREADED SURFACES TO BE COATED WITH ANTI-SEIZE COMPOUND.
2. USE SIGNAL HEAD MOUNTED SPACERS FOR 4 SECTION POLY HEADS.
3. SEE STANDARD PLATE NUMBER 8123 FOR ADDITIONAL SIGNAL POLE DETAILS.
4. EXTENDED THREADED POLE ADAPTOR ONLY USED WITH 5 SECTION CLUSTER HEADS.



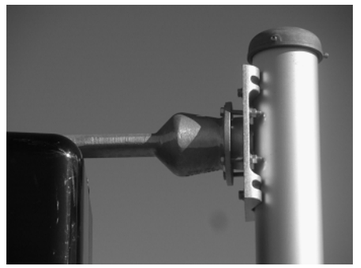
BOLT ON HUB & FLANGE



SIDE VIEW

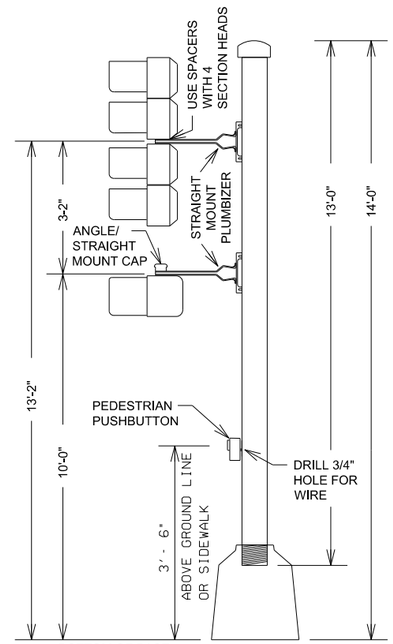


TOP VIEW



NOTES:

1. ALL THREADED SURFACES TO BE COATED WITH ANTI-SEIZE COMPOUND.
2. USE SIGNAL HEAD MOUNTED SPACERS FOR 4 SECTION POLY HEADS.
3. BLIND THREADED INSERTS (RIVET NUT) MUST BE INSERTED USING MANUFACTURERS SPECIFIC INSERTION TOOL. NO OTHER METHOD IS ACCEPTABLE.
4. SEE STANDARD PLATE NUMBER 8122 FOR ADDITIONAL PEDESTAL POLE DETAILS.



TYPICAL PEDESTAL MOUNTING

NOT TO SCALE

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Print Name: NATHAN A. POOLE

Date 05-20-19 License # 56071

STATE AID PROJECT NO.	X
	X
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
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DESIGNED BY	M. BRESSLER
CHECKED BY	N. POOLE
COMM. NO.	0012107

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ANOKA-HENNEPIN SCHOOL DISTRICT

TRAFFIC SIGNAL PLANS

NOWTHEN BOULEVARD IMPROVEMENT

POLE MOUNT DETAILS

SHEET 31 OF 48

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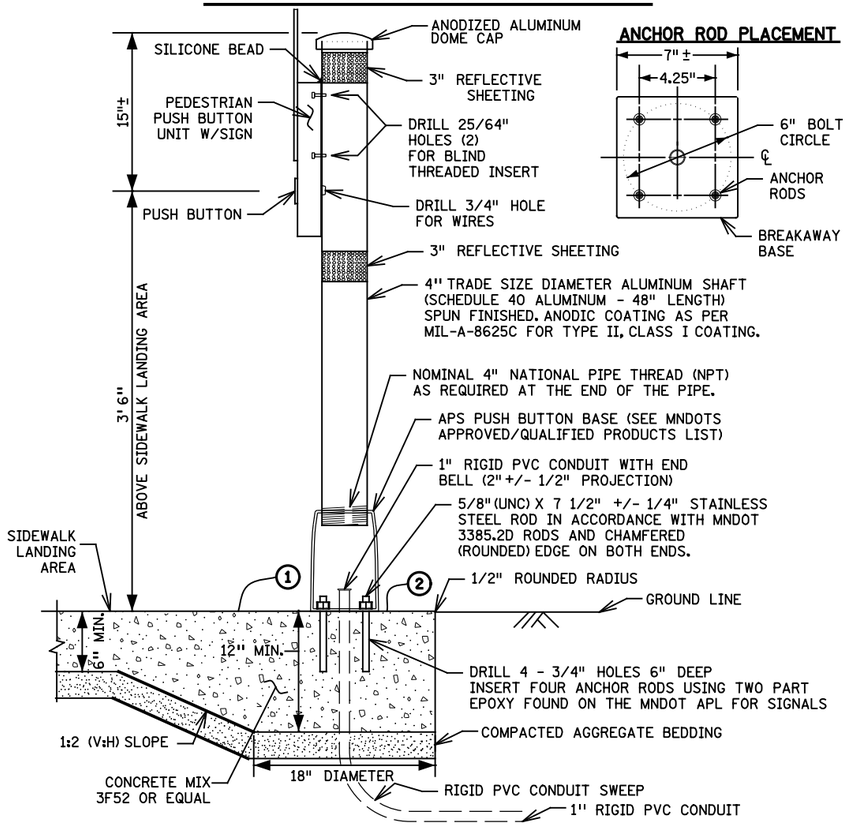
PEDESTRIAN PUSH BUTTON STATION



ANCHOR ROD PLACEMENT

NOTES:

PLACEMENT AND ORIENTATION OF THE PUSH BUTTON STATION IS CRITICAL. MOUNT THE BUTTON SO THAT THE FACE IS PARALLEL WITH THE ASSOCIATED CROSSWALK. SCREW IN SHAFT TO A TIGHTENED POSITION BEFORE MOUNTING ACCESSIBLE PEDESTRIAN PUSH BUTTON UNIT TO THE SHAFT.

ORIENT ACCESS OPENING ON THE BREAKAWAY PEDESTAL DIRECTLY BELOW THE APS BUTTON.

PLUMB THE PUSH BUTTON STATION WITH LEVELING SHIMS IN ACCORDANCE WITH STANDARD PLATE 8129.

INSTALL BLIND THREADED INSERTS USING MANUFACTURER'S SPECIFIC INSERTION TOOL.

USE ZINC PLATED STEEL 1/4 - 20 UNC BLIND THREADED INSERTS SUITABLE FOR MOUNTING ON SURFACE WALL THICKNESS OF .337. APPROVED BLIND INSERTS ARE LISTED ON MNDOT'S APPROVED/QUALITY PRODUCTS LIST WEBSITE FOR TRAFFIC SIGNALS.

USE APS 1/4 - 20 STAINLESS STEEL MOUNTING BOLTS. APPLY BRUSH ON ANTI SEIZE COMPOUND TO BOLTS PRIOR TO ASSEMBLY.

APPLY A BEAD OF 100% SILICONE SEALANT ALONG THE TOP OF THE PUSH BUTTON UNIT WHERE IT COMES IN CONTACT WITH THE 4" SHAFT.

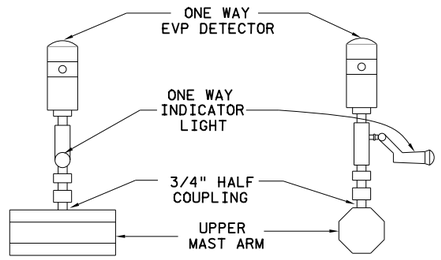
USE WHITE REFLECTIVE SHEETING AT INTERSECTION CORNERS AND YELLOW REFLECTIVE SHEETING IN CENTER MEDIANS. APPROVED TUBE DELINEATOR SHEETING IS LISTED ON MNDOT'S APPROVED/QUALIFIED PRODUCTS LIST WEBSITE FOR SIGNING.

AN 18" X 6" FIBER FORMING TUBE MAY BE USED FOR THE LOWER HALF OF THE FOUNDATION WHEN CONDITIONS DO NOT ALLOW FOR THE 18" X 6" HOLE TO STAND OPEN.

(1) THE PUSH BUTTON STATION FOUNDATION IS MONOLITHIC (POURED AT ONE TIME) WITH THE SIDEWALK. PROVIDE A 1:2 (V:H) SLOPE GRADE WHERE THE 6" MIN SIDEWALK DEPTH TRANSITIONS TO THE 12" MIN FOUNDATION DEPTH. MAINTAIN THE COMPACTED AGGREGATE BEDDING AND THICKNESS USED FOR THE SIDEWALK THROUGHOUT THE SLOPE AND FOUNDATION GRADING. PROVIDE 1:2 (V:H) SLOPE GRADING 360 DEGREES FOR THE TRANSITION FROM THE SIDEWALK TO THE FOUNDATION WHEN THE FOUNDATION IS NOT LOCATED NEAR EDGE OF SIDEWALK AND IS SURROUNDED BY CONCRETE WALK.

(2) ENSURE CONCRETE CONTROL JOINTS AND EDGE OF CONCRETE WALK ARE A MINIMUM 9" FROM THE CENTER OF THE PUSH BUTTON FOUNDATION.

EVP DETECTOR AND LIGHT MOUNTING DETAIL ON MAST ARM



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Date 05-20-19 License # 56071

STATE AID PROJECT NO.	X X
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	M. BRESSLER
DESIGNED BY	M. BRESSLER
CHECKED BY	N. POOLE
COMM. NO.	0012107

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ANOKA-HENNEPIN SCHOOL DISTRICT

TRAFFIC SIGNAL PLANS

NOWTHEN BOULEVARD IMPROVEMENT

MISCELLANEOUS DETAILS

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SIGNAL HEAD CHART

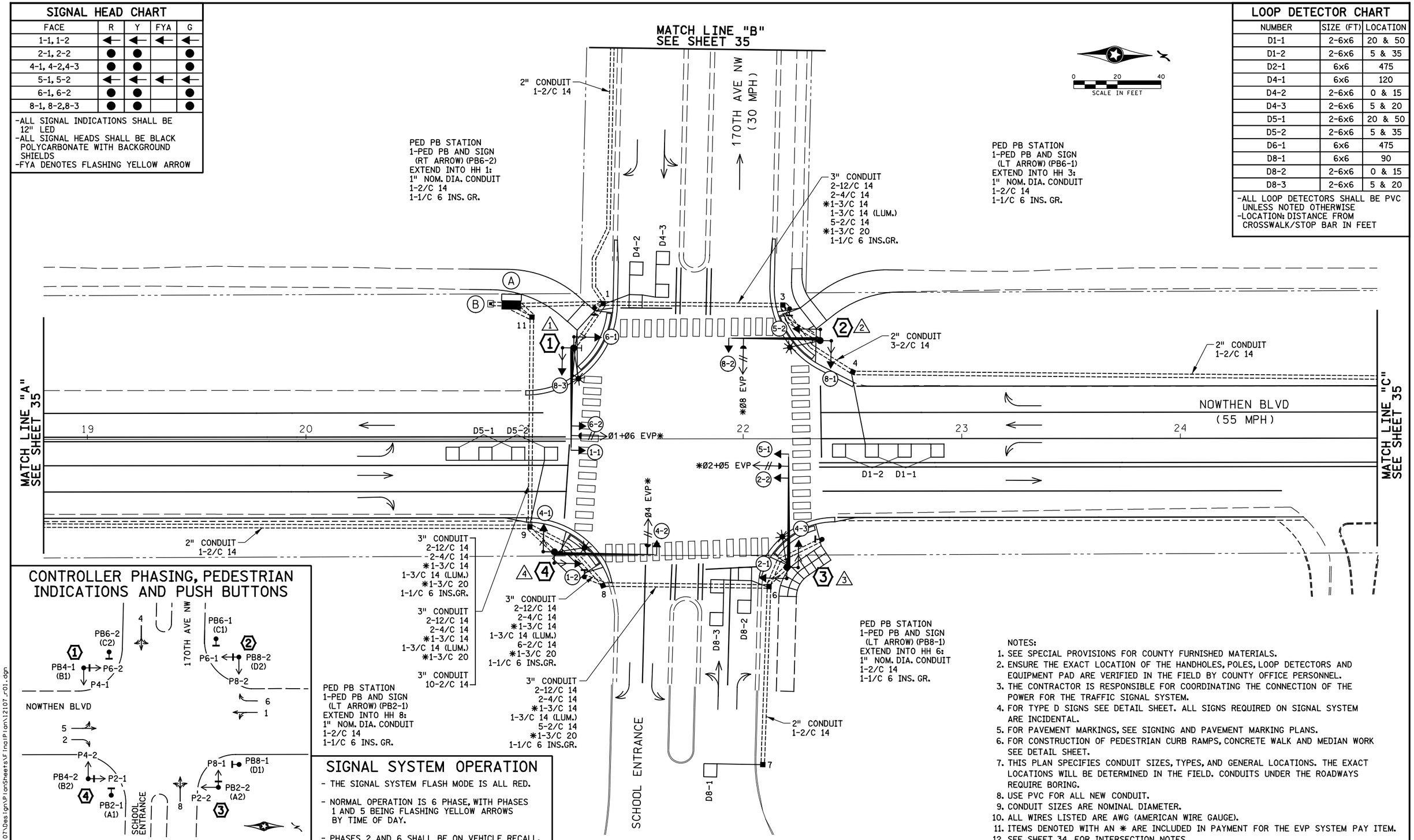
FACE	R	Y	FYA	G
1-1, 1-2	←	←	←	←
2-1, 2-2	●	●		●
4-1, 4-2,4-3	●	●		●
5-1, 5-2	←	←	←	←
6-1, 6-2	●	●		●
8-1, 8-2,8-3	●	●		●

-ALL SIGNAL INDICATIONS SHALL BE 12" LED
-ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS
-FYA DENOTES FLASHING YELLOW ARROW

LOOP DETECTOR CHART

NUMBER	SIZE (FT)	LOCATION
D1-1	2-6x6	20 & 50
D1-2	2-6x6	5 & 35
D2-1	6x6	475
D4-1	6x6	120
D4-2	2-6x6	0 & 15
D4-3	2-6x6	5 & 20
D5-1	2-6x6	20 & 50
D5-2	2-6x6	5 & 35
D6-1	6x6	475
D8-1	6x6	90
D8-2	2-6x6	0 & 15
D8-3	2-6x6	5 & 20

-ALL LOOP DETECTORS SHALL BE PVC UNLESS NOTED OTHERWISE
-LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 6 PHASE, WITH PHASES 1 AND 5 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

NOTES:
1. SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
2. ENSURE THE EXACT LOCATION OF THE HANDHOLES, POLES, LOOP DETECTORS AND EQUIPMENT PAD ARE VERIFIED IN THE FIELD BY COUNTY OFFICE PERSONNEL.
3. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM.
4. FOR TYPE D SIGNS SEE DETAIL SHEET. ALL SIGNS REQUIRED ON SIGNAL SYSTEM ARE INCIDENTAL.
5. FOR PAVEMENT MARKINGS, SEE SIGNING AND PAVEMENT MARKING PLANS.
6. FOR CONSTRUCTION OF PEDESTRIAN CURB RAMPS, CONCRETE WALK AND MEDIAN WORK SEE DETAIL SHEET.
7. THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAYS REQUIRE BORING.
8. USE PVC FOR ALL NEW CONDUIT.
9. CONDUIT SIZES ARE NOMINAL DIAMETER.
10. ALL WIRES LISTED ARE AWG (AMERICAN WIRE GAUGE).
11. ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
12. SEE SHEET 34 FOR INTERSECTION NOTES.

NO	DATE	BY	CKD	APPR	REVISION

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Date 05-20-19 License # 56071

STATE AID PROJECT NO.	X X X
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	M. BRESSLER
DESIGNED BY	M. BRESSLER
CHECKED BY	N. POOLE
COMM. NO.	0012107

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ANOKA-HENNEPIN SCHOOL DISTRICT
TRAFFIC SIGNAL PLANS
NOWTHEN BOULEVARD IMPROVEMENT
INTERSECTION LAYOUT

SHEET 33 OF 48

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INTERSECTION NOTES

(1) PA100 POLE FOUNDATION
INSTALL–TYPE PA100-A-45-X25-9 (DAVIT AT 350 DEG)
(SCHOOL DISTRICT FURNISHED)
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 10'
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
2-ANGLE MOUNT C.D.PED HEADS
AT 90 AND 180 DEG
✱ 1-ONE WAY EVP DETECTOR AND
CONFIRMATORY LIGHT (PHASES 1+6)
LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
1-PED PB AND SIGN (LT ARROW) (PB4-1)
1-R10-X12 SIGN ADJACENT TO HEAD (1-1)
1-TYPE D SIGN (D-2) (SEE SIGN DETAILS)
3" CONDUIT TO HH 1:
2-12/C 14
2-4/C 14
✱ 1-3/C 14
1-3/C 14 (LUM)
1-2/C 14
✱ 1-3/C 20
1-1/C 6 INS. GR.

(2) PA100 POLE FOUNDATION
INSTALL–TYPE PA100-A-40-X25-9 (DAVIT AT 350 DEG)
(SCHOOL DISTRICT FURNISHED)
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
2-ANGLE MOUNT C.D.PED HEADS
AT 90 AND 180 DEG
✱ 1-ONE WAY EVP DETECTOR AND
CONFIRMATORY LIGHT (PHASE 8)
LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
1-PED PB AND SIGN (RT ARROW) (PB8-2)
1-TYPE D SIGN (D-1) (SEE SIGN DETAILS)
3" CONDUIT TO HH 3:
2-12/C 14
2-4/C 14
✱ 1-3/C 14
1-3/C 14 (LUM)
1-2/C 14
✱ 1-3/C 20
1-1/C 6 INS. GR.

(3) PA100 POLE FOUNDATION
INSTALL–TYPE PA100-A-50-D30-9 (DAVIT AT 350 DEG)
(SCHOOL DISTRICT FURNISHED)
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 10'
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
2-ANGLE MOUNT C.D.PED HEADS
AT 90 AND 180 DEG
✱ 1-ONE WAY EVP DETECTOR AND
CONFIRMATORY LIGHT (PHASES 2+5)
LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
1-PED PB AND SIGN (RT ARROW) (PB2-2)
1-R10-X12 SIGN ADJACENT TO HEAD (5-1)
1-TYPE D SIGN (D-2) (SEE SIGN DETAILS)
3" CONDUIT TO HH 6:
2-12/C 14
2-4/C 14
✱ 1-3/C 14
1-3/C 14 (LUM)
1-2/C 14
✱ 1-3/C 20
1-1/C 6 INS. GR.

(4) PA100 POLE FOUNDATION
INSTALL–TYPE PA100-A-45-D30-9 (DAVIT AT 350 DEG)
(SCHOOL DISTRICT FURNISHED)
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
2-ANGLE MOUNT C.D.PED HEADS
AT 90 AND 180 DEG
✱ 1-ONE WAY EVP DETECTOR AND
CONFIRMATORY LIGHT (PHASE 4)
LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
1-PED PB AND SIGN (RT ARROW) (PB4-2)
1-TYPE D SIGN (D-1) (SEE SIGN DETAILS)
3" CONDUIT TO HH 9:
2-12/C 14
2-4/C 14
✱ 1-3/C 14
1-3/C 14 (LUM)
1-2/C 14
✱ 1-3/C 20
1-1/C 6 INS. GR.

(A) EQUIPMENT PAD (SEE DETAIL SHEET)
SERVICE CABINET (SSB)
INSTALL–CONTROLLER AND CABINET (COUNTY FURNISHED)

3" CONDUIT TO HH 1:
2-12/C 14
2-4/C 14
✱ 1-3/C 14
✱ 1-3/C 20

3" CONDUIT TO HH 11:
2-12/C 14
2-4/C 14
✱ 1-3/C 14
✱ 1-3/C 20

3" CONDUIT TO HH 1:
2-12/C 14
2-4/C 14
✱ 1-3/C 14
✱ 1-3/C 20
1-1/C 6 INS. GR.

3" CONDUIT TO HH 11:
2-12/C 14
2-4/C 14
✱ 1-3/C 14
✱ 1-3/C 20
1-1/C 6 INS. GR.

3" CONDUIT TO HH 1:
10-2/C 14

3" CONDUIT TO HH 11:
10-2/C 14

GROUND WIRE AND GROUND ROD - MIN 8' OUT FROM PAD
2-3" AND 1-1" CONDUIT STUBBED OUT (CAPPED BOTH ENDS)
CONTROLLER CABINET TO SERVICE CABINET:
2" CONDUIT
3-1/C 6
CONTROLLER CABINET TO SERVICE CABINET (COMMS):
2" CONDUIT
1-6PR 19
SERVICE CABINET TO GROUND MOUNTED TRANSFORMER:
2" CONDUIT
3-1/C 2

SERVICE CABINET TO HH 1:
1 1/4" CONDUIT
2-3/C 14 (LUM)
SERVICE CABINET TO HH 11:
1 1/4" CONDUIT
2-3/C 14 (LUM)
SERVICE CABINET TO EXTERNAL GR. RD.:
1-1/C 6 INS. GR.
(SEE EQUIPMENT PAD LAYOUT)

(B) SOP-GROUND MOUNTED
TRANSFORMER
2" CONDUIT TO SERVICE CABINET:
3-1/C 2

NO	DATE	BY	CKD	APPR	REVISION

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Date 05-20-19 License # 56071

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COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	M. BRESSLER
DESIGNED BY	M. BRESSLER
CHECKED BY	N. POOLE
COMM. NO.	0012107

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ANOKA-HENNEPIN SCHOOL DISTRICT
TRAFFIC SIGNAL PLANS
NOWTHEN BOULEVARD IMPROVEMENT
INTERSECTION NOTES

SHEET 34 OF 48

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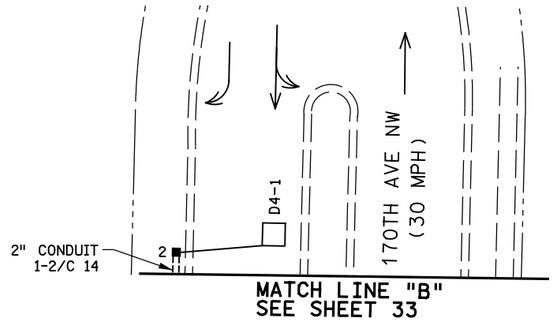

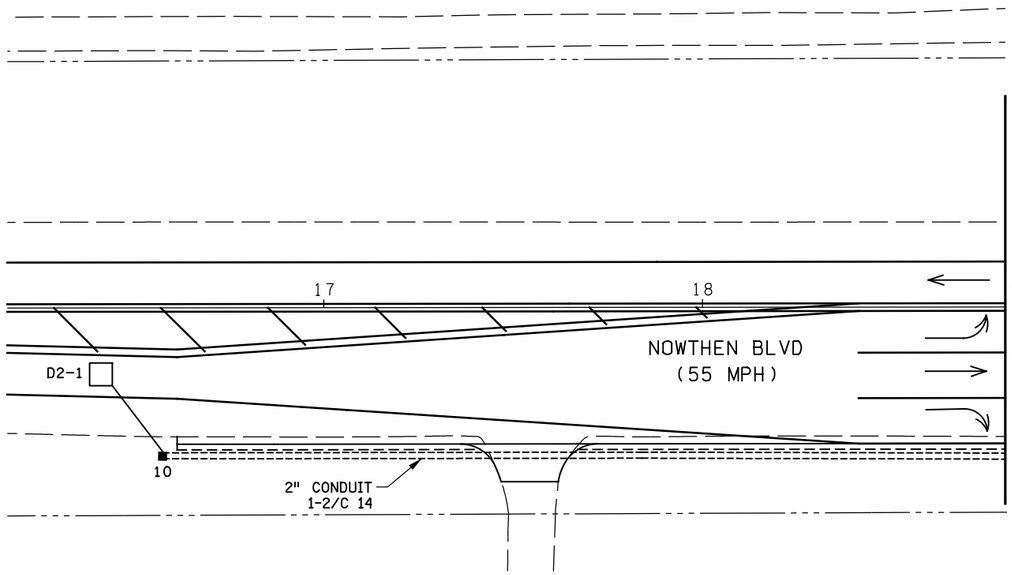

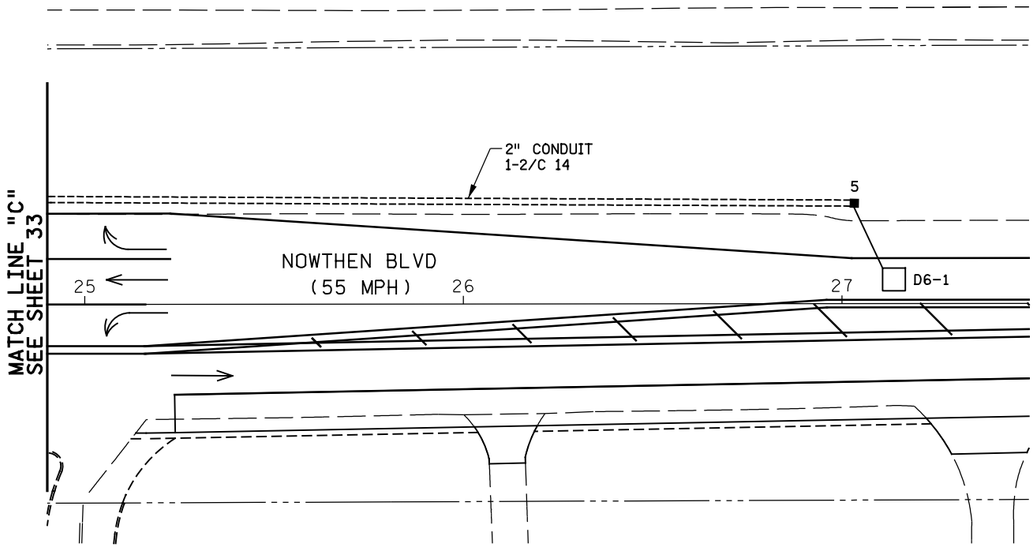

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NO	DATE	BY	CKD	APPR	REVISION
...\FinalPlan\12107_ml01.dgn					

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

Print Name: NATHAN A. POOLE

Date 05-20-19 License # 56071

STATE AID PROJECT NO.	X
	X
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	M. BRESSLER
DESIGNED BY	M. BRESSLER
CHECKED BY	N. POOLE
COMM. NO.	0012107

SRF

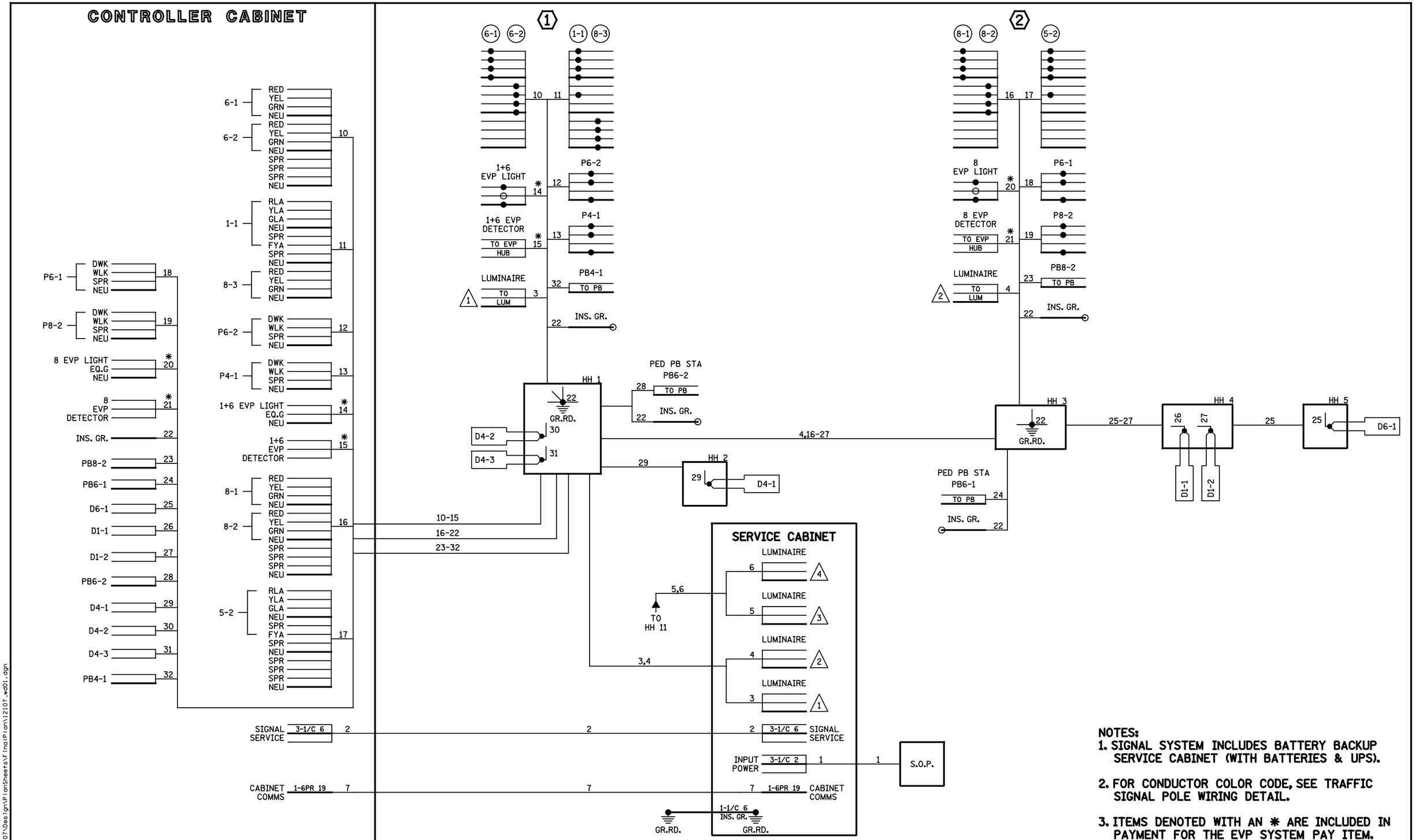
ANOKA-HENNEPIN SCHOOL DISTRICT

TRAFFIC SIGNAL PLANS

NOWTHEN BOULEVARD IMPROVEMENT

MATCH LINE LAYOUT

SHEET 35 OF 48



NOTES:

1. SIGNAL SYSTEM INCLUDES BATTERY BACKUP SERVICE CABINET (WITH BATTERIES & UPS).
2. FOR CONDUCTOR COLOR CODE, SEE TRAFFIC SIGNAL POLE WIRING DETAIL.
3. ITEMS DENOTED WITH AN ✱ ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.

NO	DATE	BY	CKD	APPR	REVISION
					...\FinalPlan\12107_wd01.dgn

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Print Name: NATHAN A. POOLE

Date 05-20-19 License # 56071

STATE AID PROJECT NO.	X X
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY M. BRESSLER
DESIGNED BY M. BRESSLER
CHECKED BY N. POOLE
COMM. NO. 0012107

SRF

ANOKA-HENNEPIN SCHOOL DISTRICT

TRAFFIC SIGNAL PLANS

NOWTHEN BOULEVARD IMPROVEMENT

FIELD WIRING DIAGRAM

SHEET 36 OF 48

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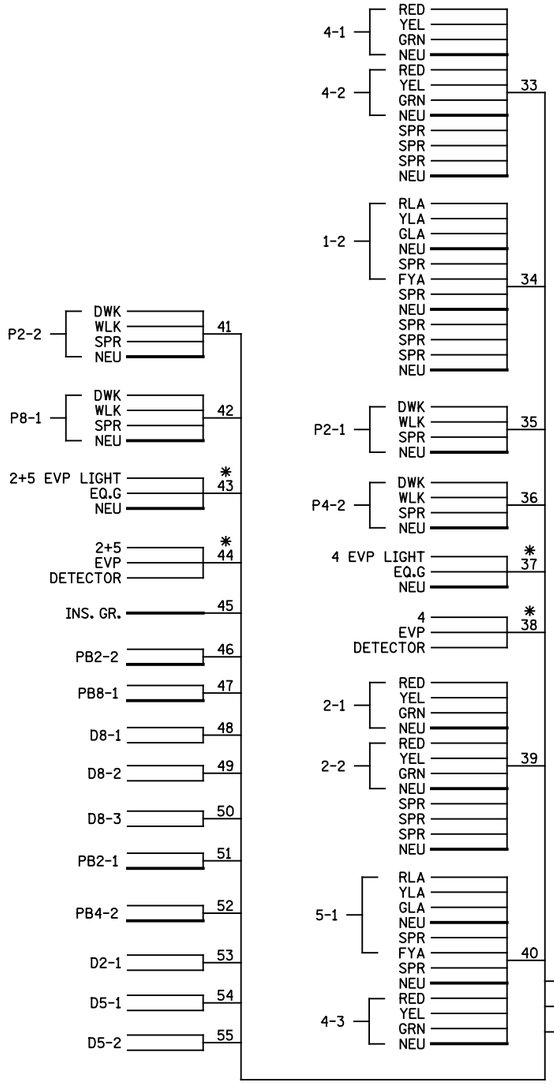
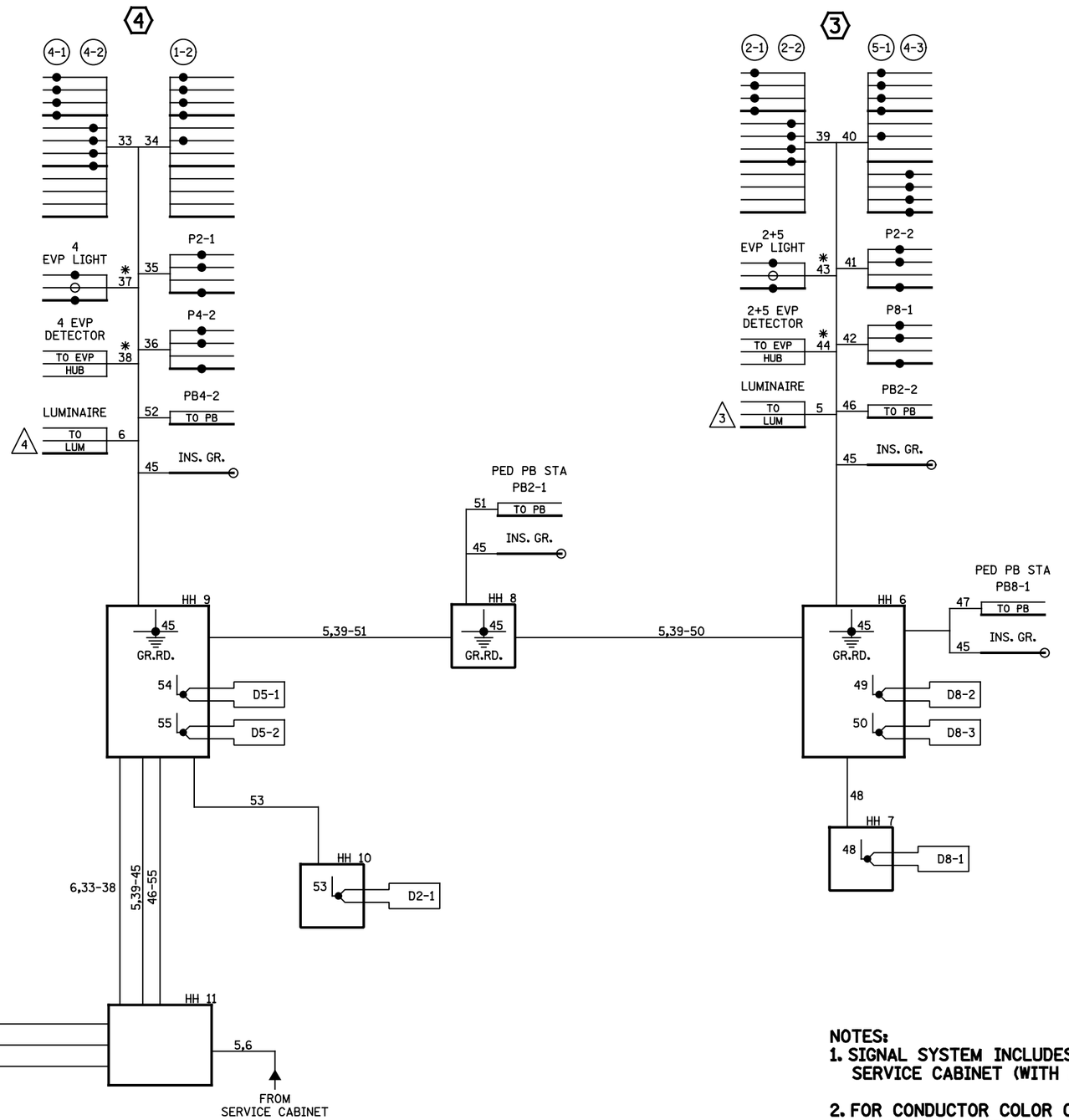
CONTROLLER CABINET





NOTES:

1. SIGNAL SYSTEM INCLUDES BATTERY BACKUP SERVICE CABINET (WITH BATTERIES & UPS).
2. FOR CONDUCTOR COLOR CODE, SEE TRAFFIC SIGNAL POLE WIRING DETAIL.
3. ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.

NO	DATE	BY	CKD	APPR	REVISION
					...\FinalPlan\12107_wd01a.dgn

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Print Name: NATHAN A. POOLE

Date 05-20-19 License # 56071

STATE AID PROJECT NO.	X X
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	M. BRESSLER
DESIGNED BY	M. BRESSLER
CHECKED BY	N. POOLE
COMM. NO.	0012107

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ANOKA-HENNEPIN SCHOOL DISTRICT

TRAFFIC SIGNAL PLANS

NOWTHEN BOULEVARD IMPROVEMENT

FIELD WIRING DIAGRAM

SHEET 37 OF 48

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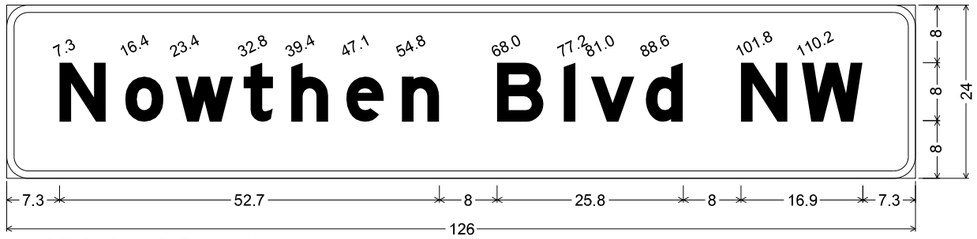
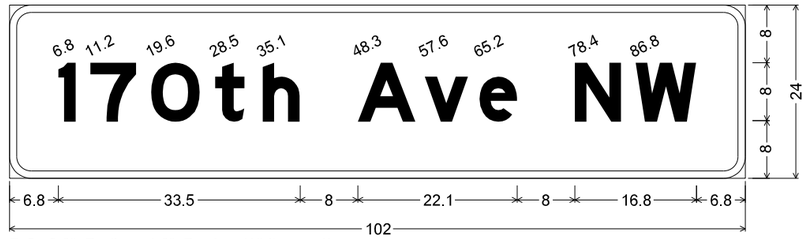
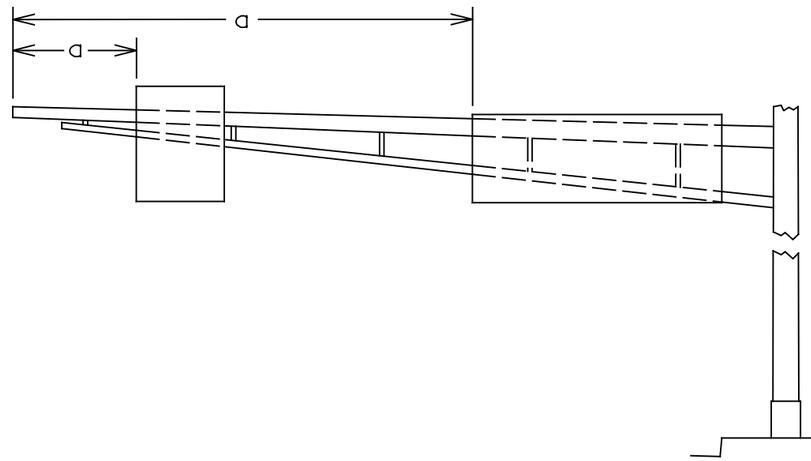


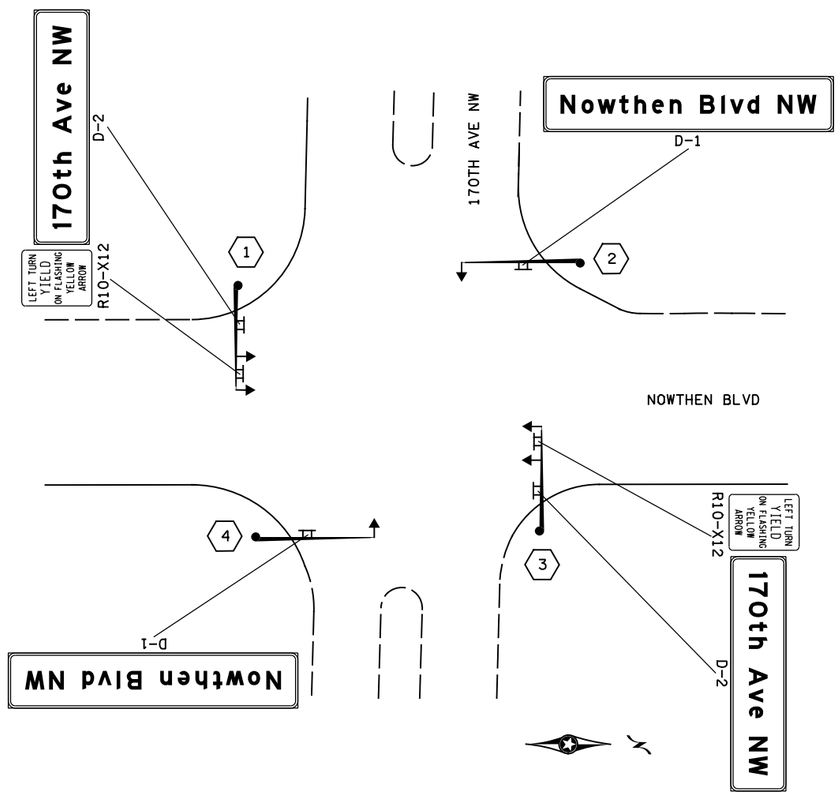
D-1; 3.0" Radius, 1.0" Border, White on Green;
[Nowthen Blvd NW] E Mod;



D-2; 3.0" Radius, 1.0" Border, White on Green;
[170th Ave NW] E Mod;

SIGN DETAILS





NOWTHEN BLVD AT 170TH AVE NW
SIGN LAYOUT

MAST ARM MOUNTED SIGNS									
SIGN/CODE	PANEL LEGEND	QUANTITY	PANEL SIZE (INCH)	PANEL AREA (SQ FT)	PANEL TOTAL AREA (SQ FT)	MOUNTING STIFFENERS NUMBER	MOUNTING STIFFENERS SPACING (1)	POLE	a (FEET)
R10-X12	LEFT TURN YIELD ON FLASHING YELLOW ARROW	2	36 x 42	10.50	21.00	2	24	1	1
								3	1
D-1	NOWTHEN BLVD NW	2	126 x 24	21.00	42.00	5	30	2	18
								4	16
D-2	170TH AVE NW	2	102 x 24	17.00	34.00	4	30	1	20
								3	24

SPECIFIC NOTE:
(1) SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED.
SEE MNDOT STANDARD SIGNS AND MARKINGS MANUAL, PAGE 105A FOR STIFFENER SPACING REQUIREMENTS.

GENERAL NOTES:
1. CORNERS OF STANDARD SIGN PANELS WITH MARGINS SHALL BE TRIMMED.
2. CORNERS OF TYPE D SIGN PANELS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
3. FOR STRUCTURAL DETAILS OF MAST ARM MOUNTED SIGNS SEE MNDOT STANDARD SIGNS AND MARKINGS MANUAL, PAGE 105A.
4. FOR TYPE D STRINGER AND PANEL JOINT DETAILS SEE MNDOT STANDARD SIGNS AND MARKINGS MANUAL, PAGE 105.
5. THE MAST ARM MOUNTED SIGNS ARE INCLUDED IN THE TRAFFIC CONTROL SIGNAL SYSTEM PAY ITEM.
6. ALL NEW TYPE C AND D SIGN PANELS SHALL BE FABRICATED USING HP SHEETING. SEE SPECIAL PROVISIONS.

NO	DATE	BY	CKD	APPR	REVISION

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Print Name: NATHAN A. POOLE
Date 05-20-19 License # 56071

STATE AID PROJECT NO.	X
	X
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	M. BRESSLER
DESIGNED BY	M. BRESSLER
CHECKED BY	N. POOLE
COMM. NO.	0012107

SRF

ANOKA-HENNEPIN SCHOOL DISTRICT
TRAFFIC SIGNAL PLANS
NOWTHEN BOULEVARD IMPROVEMENT
TRAFFIC SIGNAL POLE WIRING

SHEET 38 OF 48

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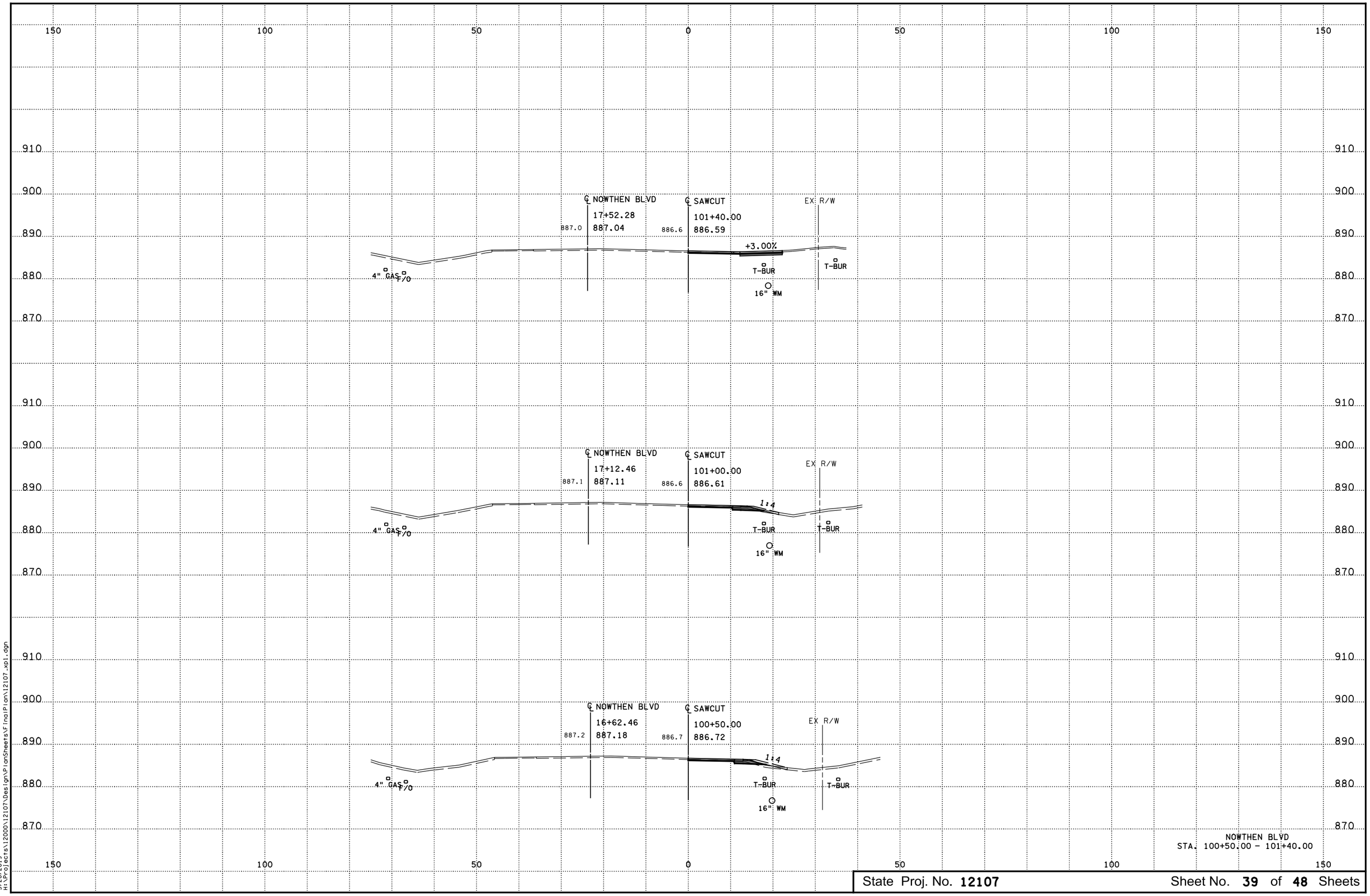

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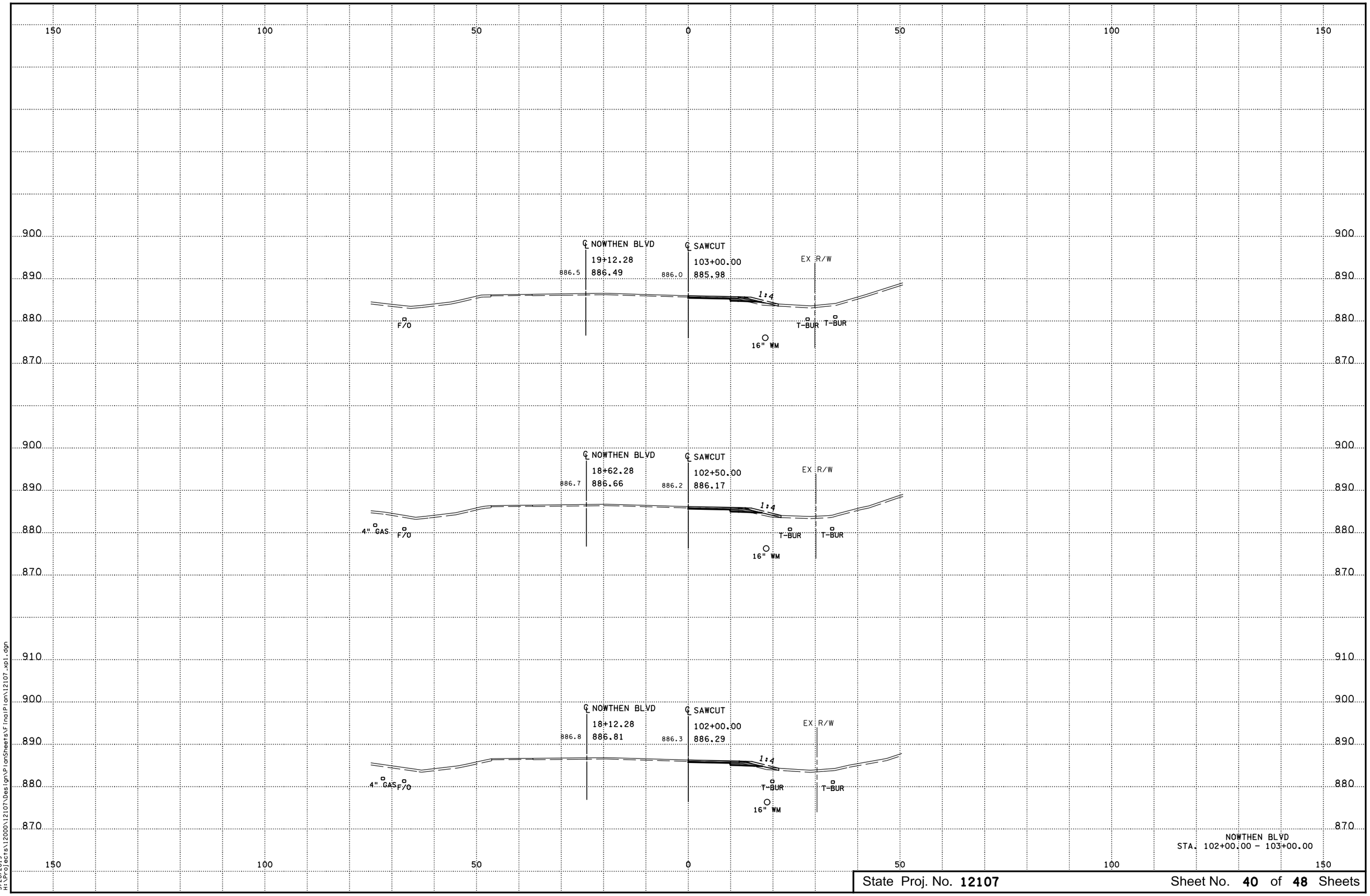
State Proj. No. **12107** Sheet No. **39** of **48** Sheets



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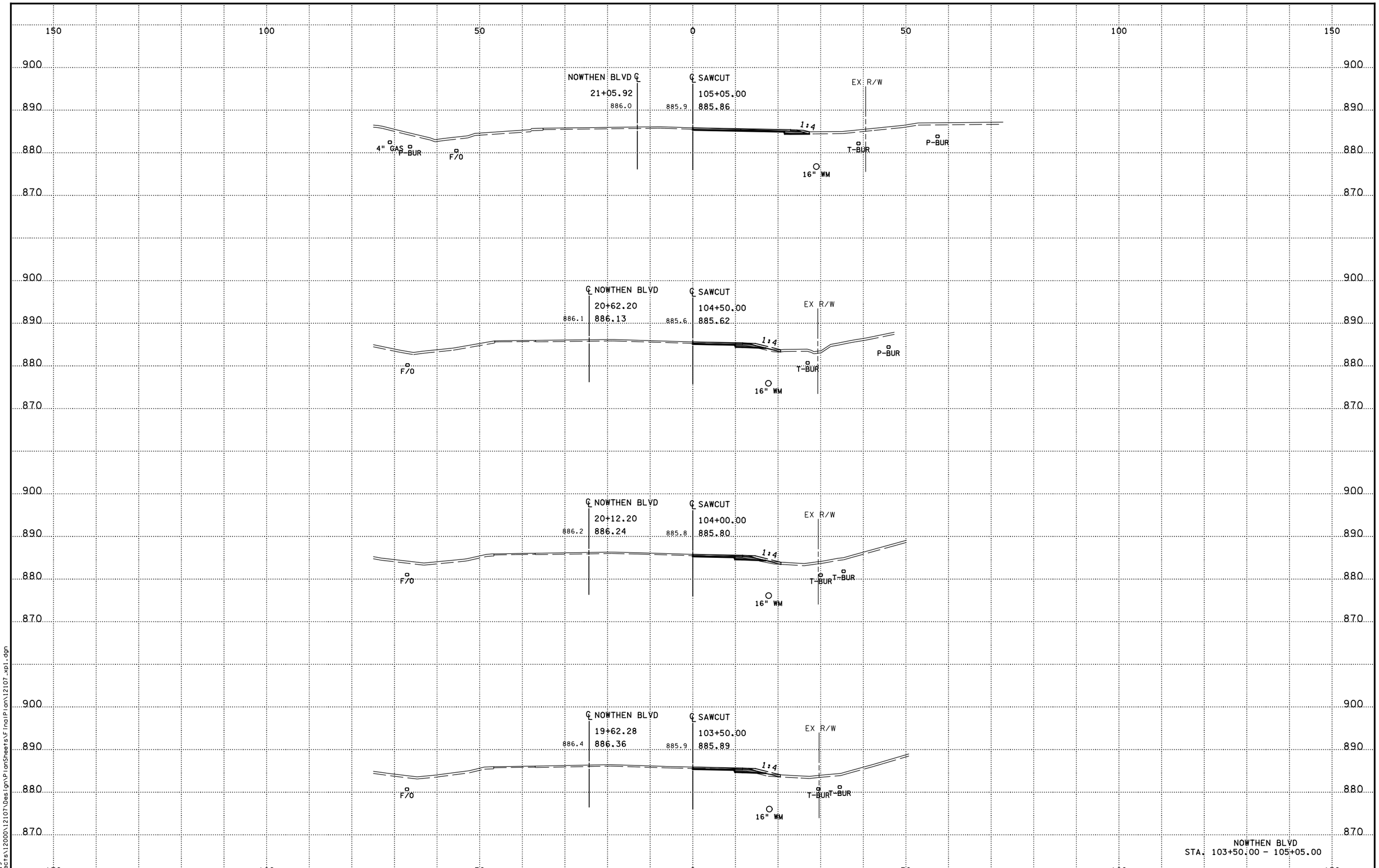
State Proj. No. **12107** Sheet No. **40** of **48** Sheets



NOWTHEN BLVD
STA. 103+50.00 - 105+05.00

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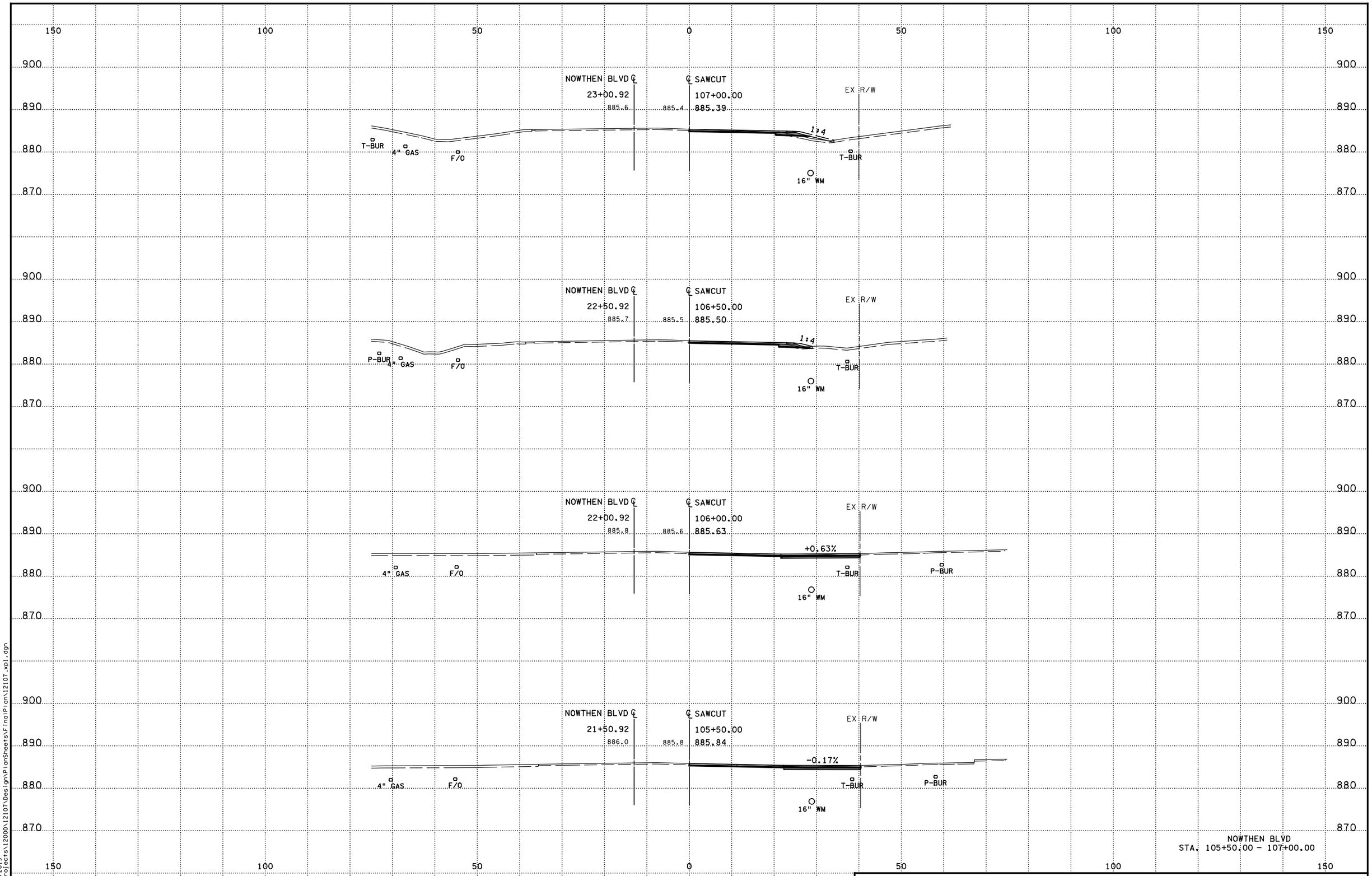

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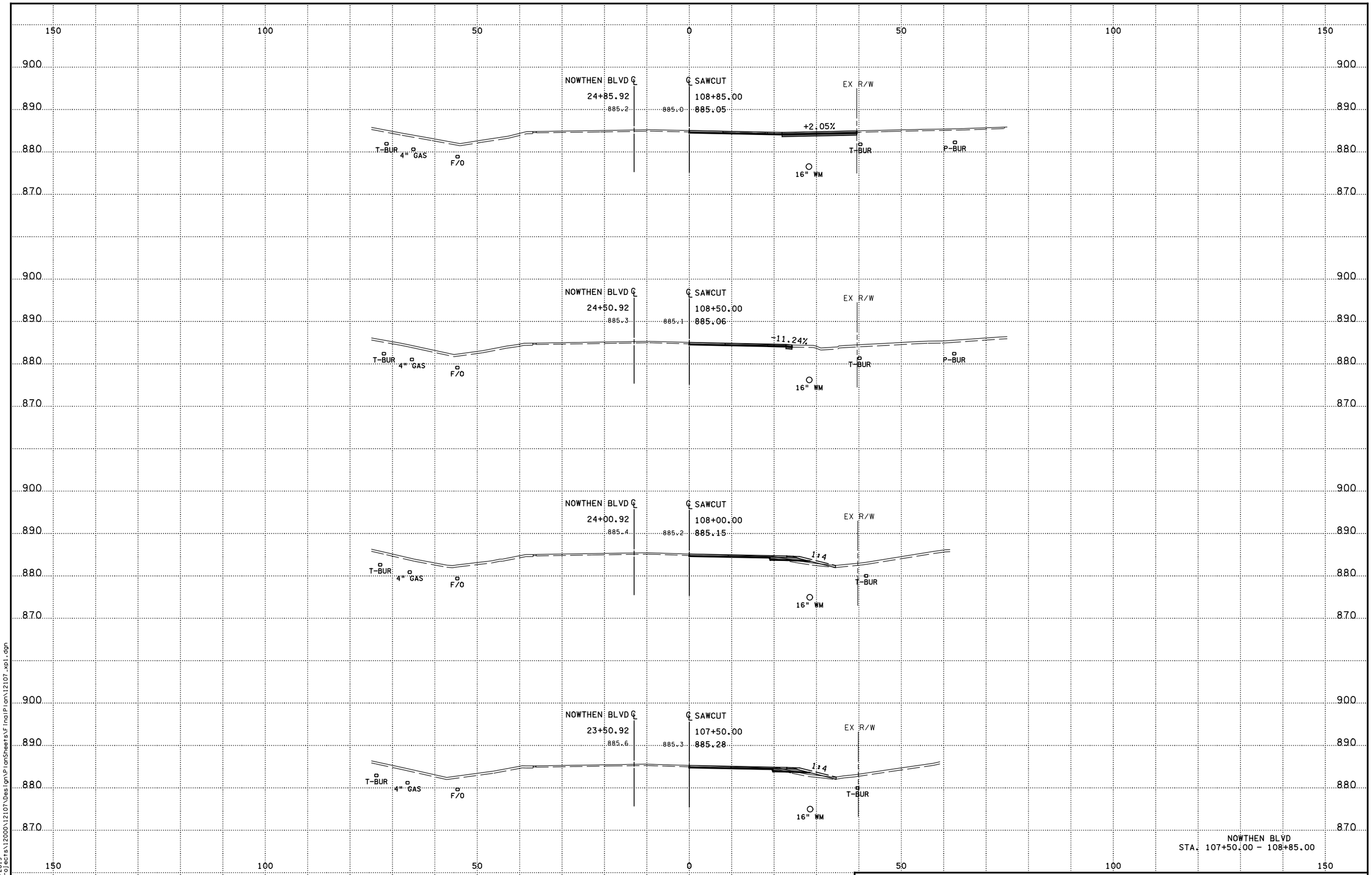
Sheet No. **42** of **48** Sheets



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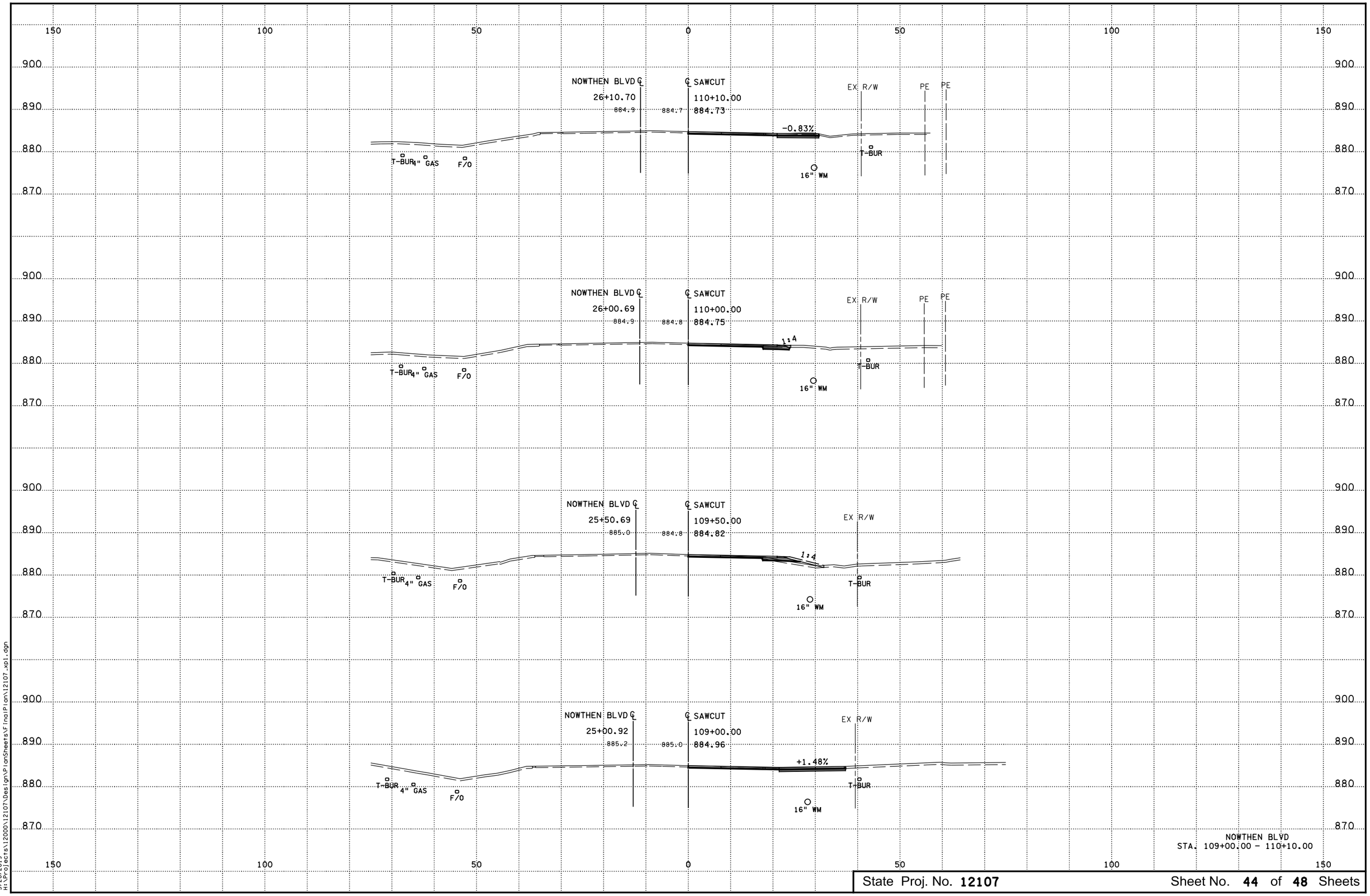

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State Proj. No. **12107** Sheet No. **44** of **48** Sheets

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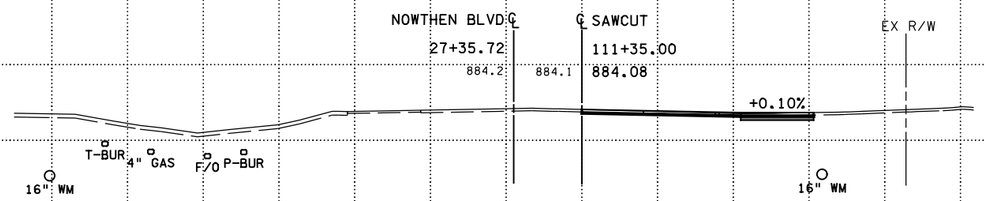
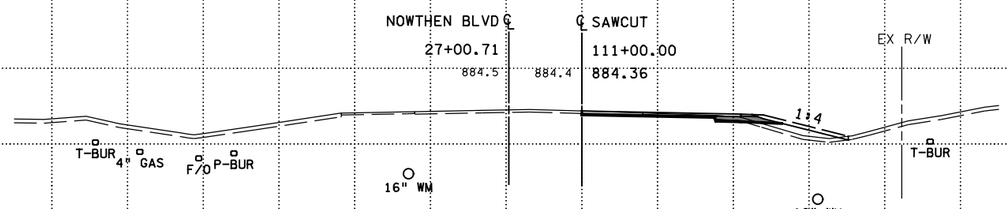
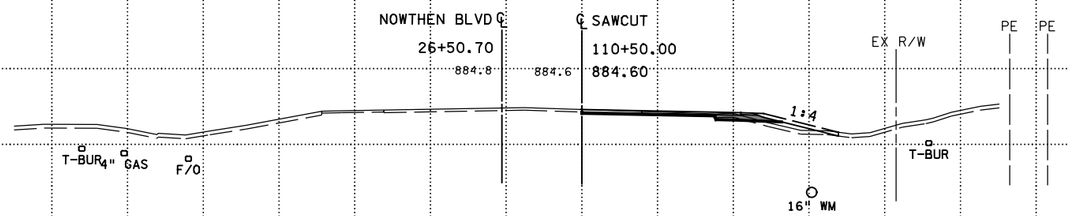
900 890 880 870







NOWTHEN BLVD
STA. 110+50.00 - 111+35.00

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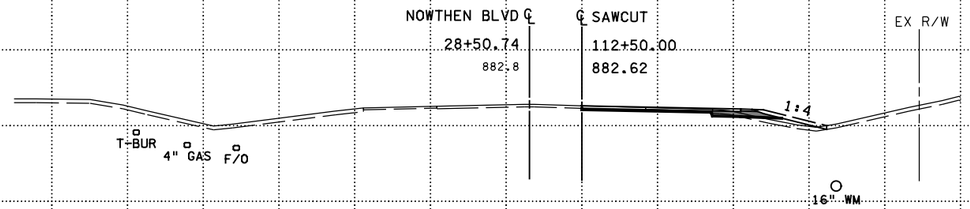
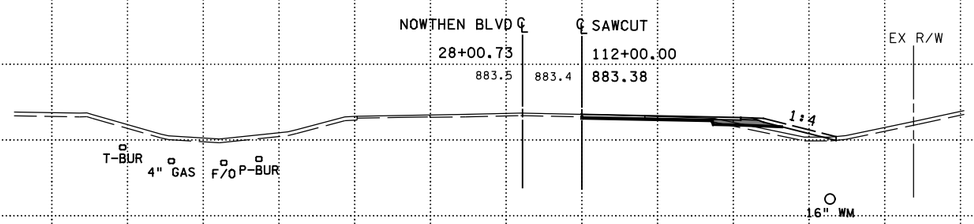
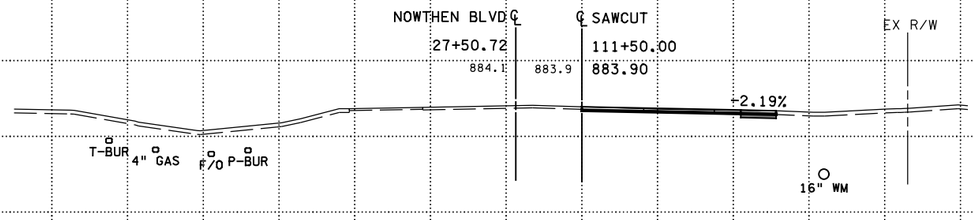
150 100 50 0 50 100 150

900 890 880 870 860







NOWTHEN BLVD
STA. 111+50.00 - 112+50.00

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5/20/2019
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150 100 50 0 50 100 150

900 890 880 870

EX R/W

NOWTHEN BLVD ℄ ℄ SAWCUT

29+50.75 113+50.00

880.7 880.62

T-BUR 4" GAS F/O

1:4

900 890 880 870

EX R/W

NOWTHEN BLVD ℄ ℄ SAWCUT

29+20.75 113+20.00

881.4 881.31

+6.16%

6" WM

T-BUR 4" GAS F/O

900 890 880 870

EX R/W

NOWTHEN BLVD ℄ ℄ SAWCUT

29+00.74 113+00.00

881.8 881.73

1:4

T-BUR 4" GAS F/O

16" WM

860

NOWTHEN BLVD
STA. 113+00.00 - 113+50.00

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5/20/2019
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State Proj. No. **12107** Sheet No. **47** of **48** Sheets

150 100 50 0 50 100 150

900
890
880
870
860

NOWTHEN BLVD ℄ ℄ SAWCUT
30+50.77 114+50.00
878.2 878.12

T-BUR 4" GAS F/O

1:4

NOWTHEN BLVD ℄ ℄ SAWCUT
30+00.76 114+00.00
879.5 879.39

T-BUR 4" GAS F/O

1:4

NOWTHEN BLVD
STA. 114+00.00 - 114+50.00

150 100 50 0 50 100 150

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State Proj. No. **12107** Sheet No. **48** of **48** Sheets