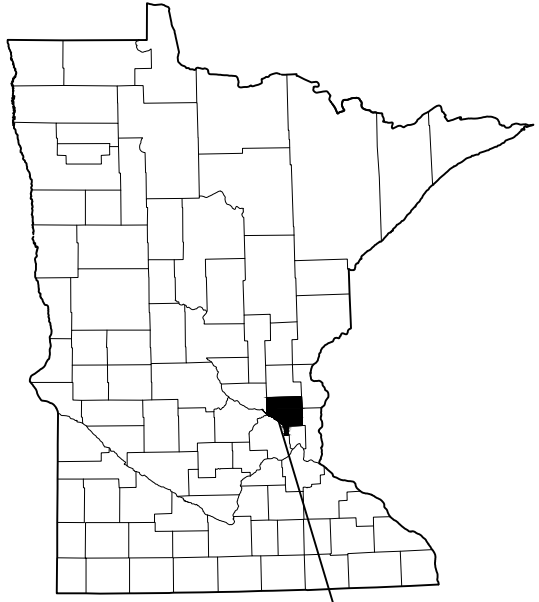
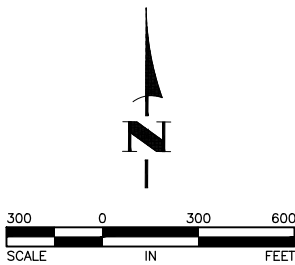
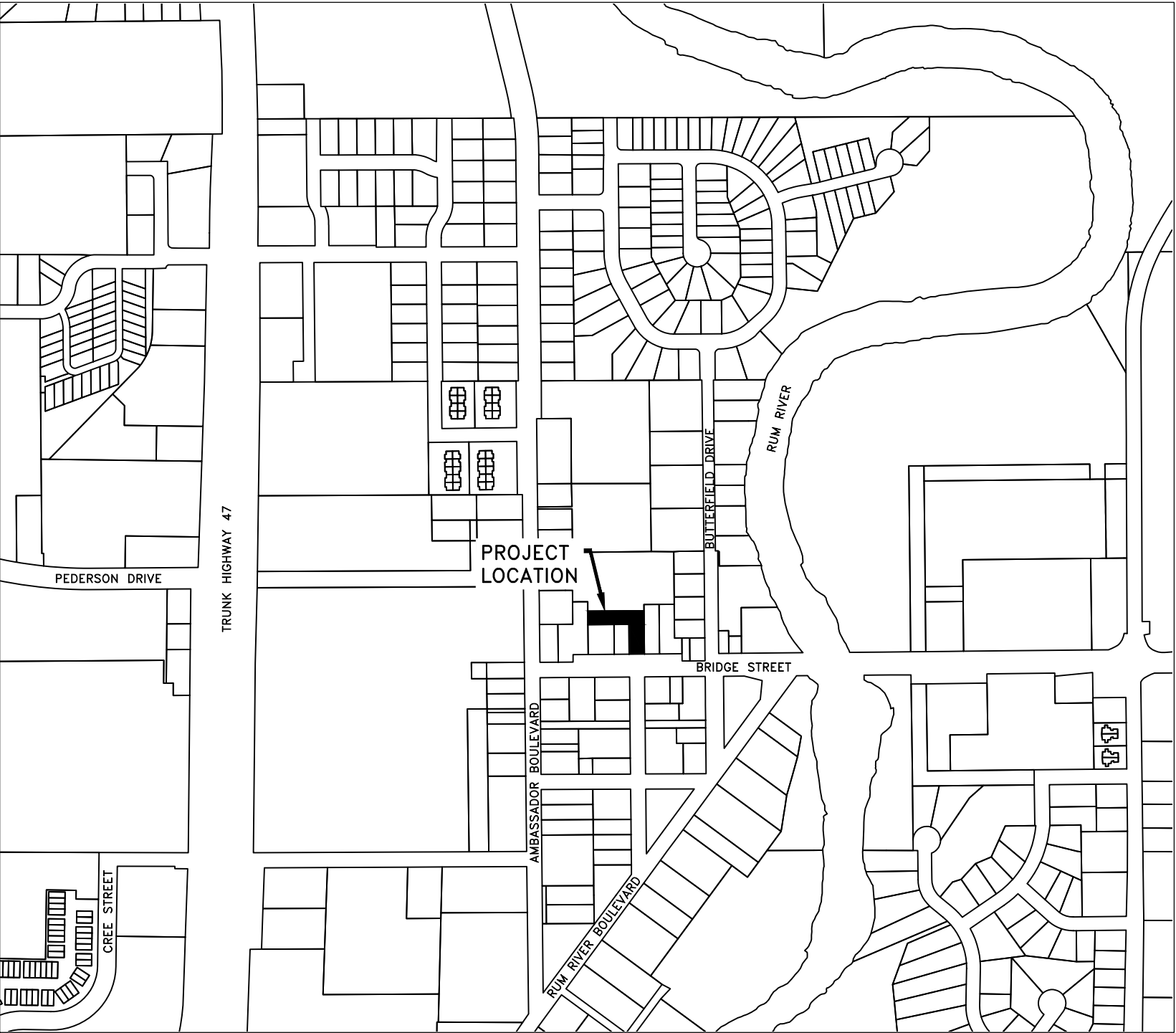


WOODBINE STREET EXTENSION PROJECT

CITY OF ST. FRANCIS, MINNESOTA



CITY OF ST.FRANCIS,
ANOKA COUNTY,
MINNESOTA

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

GOVERNING SPECIFICATIONS

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

THE 2023 EDITION OF THE CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM) STANDARD SPECIFICATIONS SHALL APPLY.

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

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

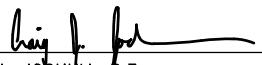
ALL REQUIREMENTS OF THE PROJECT MANUAL FOR THE WOODBINE STREET EXTENSION PROJECT.

SHEET INDEX

THIS PLAN CONTAINS 24 SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	CONSTRUCTION NOTES, PROJECT LEGEND, AND ESTIMATED QUANTITIES
3	TYPICAL SECTIONS
4-8	DETAILS
9-14	MNDOT PEDESTRIAN RAMP DETAILS
15-18	TRAFFIC CONTROL PLANS
19	EXISTING CONDITIONS AND REMOVALS PLAN
20-21	WATERMAIN AND SANITARY SEWER PLAN
22-23	STREET AND STORM SEWER PLAN
24	SIGNAGE AND STRIPING PLANS

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

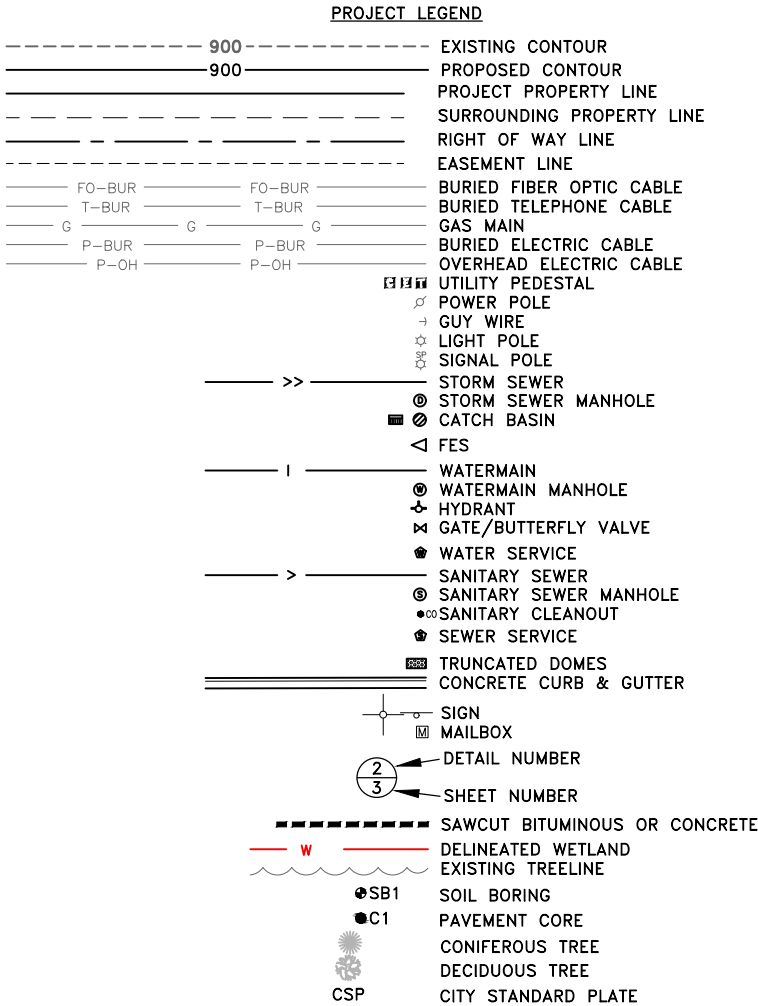

CRAIG J. JOCHUM, P.E.
HAKANSON ANDERSON
DESIGN ENGINEER

23461
LIC. NO.

DATE 4/10/26

DATE	REVISION

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CONSTRUCTION NOTES:

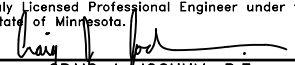
- ALL CURB, BITUMINOUS, AND CONCRETE REMOVALS SHALL BE SAW CUT FULL DEPTH TO PROVIDE A CLEAN EDGE FOR NEW JOINT.
- INLET PROTECTION IS REQUIRED ON ALL CATCH BASINS.
- FOR ALL NEW STORM SEWER AND SANITARY CASTINGS FURNISH AND INSTALL NEW RINGS PER CITY STANDARD PLATES 309 AND 414.
- THE SANITARY AND WATER SERVICES SHOWN ON THE PLANS ARE APPROXIMATE. CONTRACTOR SHALL LOCATE SERVICES IN THE FIELD WHEN NECESSARY AND PROTECT DURING EXCAVATION OPERATIONS (INCIDENTAL).
- CONTRACTOR SHALL SAWCUT DRIVEWAYS AND SIDEWALKS AT DIRECTION OF ENGINEER.
- ANY DEWATERING REQUIRED FOR CONSTRUCTION SHALL MEET REGULATORY REQUIREMENTS AND BEST MANAGEMENT PRACTICES SUCH THAT THE RECEIVING WATER IS NOT ADVERSELY AFFECTED.
- THE UTILITY COMPANIES WILL NEED TO RELOCATE/MODIFY THEIR FACILITIES WITH THIS PROJECT. CONTRACTOR SHALL SCHEDULE AND COORDINATE CONSTRUCTION IN COOPERATION WITH UTILITY RELOCATION.
- REMOVAL OF EXISTING WATER SERVICE PIPE AND SHUT OFF VALVES SHALL BE INCIDENTAL.
- THE CONCRETE MIX DESIGNS FOR THIS PROJECT SHALL BE 3F52 FOR HAND-FORMED CONCRETE AND 3F32 FOR MACHINE FORMED CONCRETE. ENTRAINED AIR SHALL BE MAINTAINED BETWEEN 5% AND 7%.
- TO THE EXTENT PRACTICAL THE CONTRACTOR SHALL LOCATE THE EXISTING SANITARY SEWER SERVICES AND PROTECT THEM DURING CONSTRUCTION. IF THE CONTRACTOR ACCIDENTALLY DAMAGES A SEWER SERVICE, THE CONTRACTOR WILL BE PAID PER ITEM 2503 4" PVC PIPE SEWER. A MAXIMUM OF 6 LIN FT WILL BE MEASURED AT A REPAIR LOCATION. THIS ITEM WILL INCLUDE FURNISHING AND INSTALLING NEW PVC PIPE AND CONNECTING THE NEW SERVICE PIPE TO THE EXISTING SERVICE PIPE WITH FERNCO COUPLINGS OR AN APPROVED EQUAL.
- ALL DISTURBED AREAS SHALL BE SEEDED, FERTILIZED, AND STABILIZED WITH HYDRAULIC BONDED FIBER MATRIX AT THE RATES SHOWN IN THE BASIS OF ESTIMATED QUANTITIES TABLE. SEEDING SHALL BE A SEPARATE OPERATION AND SHALL NOT BE PLACED WITH THE MULCH MATERIAL. PRIOR TO PLACING THE SEED, CONTRACTOR SHALL SUBCUT DISTURBED AREAS 4 INCHES AND PLACE COMMON TOPSOIL. REMOVAL AND DISPOSAL OF EXISTING MATERIALS AND SOIL SHALL BE INCIDENTAL.
- ALL EXCESS SOIL MATERIAL SHALL BE DISPOSED OF OFF SITE BY THE CONTRACTOR. THIS WORK SHALL BE INCIDENTAL.
- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO ENSURE ALL PEDESTRIAN RAMPS MEET ADA REQUIREMENTS AND MUST CONFORM WITH MNDOT STANDARDS PLANS 5-297.250 WHICH ARE INCLUDED AS SHEETS 9-14 OF THESE PLANS. THE REMOVAL LIMITS SHOWN ARE FOR GENERAL USE ONLY. THE CONTRACTOR IS RESPONSIBLE TO MAKE SURE ALL REQUIREMENTS ARE MET.
- ALL ITEMS SALVAGED FOR RE-USE SHALL BE STORED AND PROTECTED BY THE CONTRACTOR. ANY ITEMS DAMAGED OR LOST DURING THE STORAGE PERIOD SHALL BECOME THE CONTRACTOR'S RESPONSIBLY TO REPLACE WITH NO ADDITIONAL COST.
- PAVEMENT TOLERANCES AT CASTING AND VALVE BOXES ARE SHOWN ON THE DETAILS ON SHEET 4.
- CONTRACTOR SHALL REMOVE WATERMAIN SERVICES UP TO EXISTING CURB STOPS, UNLESS SHOWN OTHERWISE ON THE PLANS.
- THE CONTRACTOR SHALL CONSTRUCT A CONTINUOUS TRACER WIRE ON THE WATER SYSTEM IN ACCORDANCE WITH THE PLANS AND SPECIFICATION AND MINNESOTA RURAL WATER ASSOCIATION SEWER/WATER UTILITY TRACER WIRE SPECIFICATIONS. THE MATERIAL AND WORK FOR THE CONSTRUCTION OF THE TRACER WIRE SYSTEM SHALL BE INCIDENTAL.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL BUSINESSES AT ALL TIMES. CONCRETE CURB, WALK, OR PAVEMENT CONSTRUCTED IN THESE DRIVEWAYS SHALL BE COMPLETED IN PHASES AS NEEDED TO PROVIDE ACCESS OR ALTERNATELY TEMPORARY ACCESS WILL NEED TO BE CONSTRUCTED. THIS WORK SHALL BE INCIDENTAL.

BASIS OF ESTIMATED QUANTITIES	
AGGREGATE BASE CLASS 5	100 lbs/yd ² /in
NON WEARING BITUMINOUS COURSE MIXTURE	110 lbs/yd ² /in
WEARING COURSE BITUMINOUS MIXTURE	110 lbs/yd ² /in
BITUMINOUS MATERIAL FOR TACK COAT - NEW ASPHALT	0.06 gal/yd ²
BITUMINOUS MATERIAL FOR TACK COAT - OLD ASPHALT	0.07 gal/yd ²
BITUMINOUS MATERIAL FOR TACK COAT - MILLED ASPHALT	0.08 gal/yd ²
HYDRAULIC FIBER BONDED MATRIX	3500 lbs/acre
SEED MIX SOUTHERN BOULEVARD	320 lbs/acre
TYPE 1, COMMERCIAL FERTILIZER	300 lbs/acre

ESTIMATED QUANTITIES				
ITEM NO.	Mn/DOT SPEC. NO.	ITEM DESCRIPTION	UNIT	TOTAL ESTIMATED QUANTITY
1	2021.501	MOBILIZATION	LUMP SUM	1
2	2104.502	REMOVE SIGN	EACH	2
3	2104.502	REMOVE CATCH BASIN	EACH	1
4	2104.503	SAWING CONCRETE PAVEMENT - FULL DEPTH	LIN FT	14
5	2104.503	SAWING BITUMINOUS PAVEMENT - FULL DEPTH	LIN FT	127
6	2104.503	REMOVE SEWER PIPE (STORM)	LIN FT	29
7	2104.503	REMOVE SEWER PIPE (SANITARY)	LIN FT	198
8	2104.503	REMOVE CONCRETE CURB	LIN FT	82
9	2104.503	REMOVE FENCE	LIN FT	164
10	2104.504	REMOVE CONCRETE PAVEMENT	SQ YD	43
11	2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	125
12	2106.507	EXCAVATION - COMMON	CU YD	1134
13	2106.507	SELECT GRANULAR EMBANKMENT (CV)	CU YD	406
14	2106.507	COMMON EMBANKMENT (CV)	CU YD	611
15	2106.601	DEWATERING	LUMP SUM	1
16	2112.519	SUBGRADE PREPARATION	ROAD STA	5.1
17	2130.523	WATER	M GALLON	200
18	2211.509	AGGREGATE BASE CLASS 5	TON	1301
19	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	115
20	2360.504	TYPE SP 9.5 WEARING COURSE MIXTURE (2.B) 3.0" THICK	SQ YD	194
21	2360.504	TYPE SP 12.5 WEARING COURSE MIXTURE (3.F) 2.0" THICK	SQ YD	305
22	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (2.B)	TON	251
23	2360.509	TYPE SP 12.5 NON WEARING COURSE MIXTURE (2.B)	TON	314
24	2501.502	18" RC PIPE APRON	EACH	1
25	2503.503	4" PVC PIPE SEWER	LIN FT	67
26	2503.503	8" PVC PIPE SEWER	LIN FT	256
27	2503.503	12" RC PIPE SEWER DESIGN 3006 CLASS V	LIN FT	57
28	2503.503	15" RC PIPE SEWER DESIGN 3006 CLASS V	LIN FT	226
29	2503.503	18" RC PIPE SEWER DESIGN 3006 CLASS V	LIN FT	160
30	2503.602	RECONNECT TO EXISTING SANITARY SEWER SERVICE	EACH	2
31	2503.602	CONNECT TO EXISTING SANITARY SEWER	EACH	1
32	2503.602	CONNECT TO EXISTING STORM SEWER	EACH	2
33	2503.602	8"x4" PVC WYE	EACH	2
34	2503.602	8" PVC CAP	EACH	1
35	2503.603	CLEAN AND VIDEO TAPE PIPE SEWER	LIN FT	255
36	2504.601	TEMPORARY WATERMAIN SERVICE	LUMP SUM	1
37	2504.601	TEMPORARY WATER SERVICE	EACH	2
38	2504.602	RECONNECT WATER SERVICE	EACH	2
39	2504.602	CONNECT TO EXISTING WATERMAIN	EACH	1
40	2504.602	HYDRANT	EACH	2
41	2504.602	4" GATE VALVE AND BOX	EACH	2
42	2504.602	6" GATE VALVE AND BOX	EACH	3
43	2504.602	8" GATE VALVE AND BOX	EACH	2
44	2504.603	4" WATERMAIN DUCTILE IRON CL 52	LIN FT	67
45	2504.603	6" WATERMAIN DUCTILE IRON CL 52	LIN FT	89
46	2504.603	8" PVC WATERMAIN	LIN FT	555
47	2504.604	4" POLYSTYRENE INSULATION	SQ YD	80
48	2504.608	DUCTILE IRON FITTINGS	POUND	672
49	2506.502	CASTING ASSEMBLY	EACH	7
50	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN H	EACH	1
51	2506.503	CONSTRUCT DRAINAGE STRUCTURE DESIGN 4007	LIN FT	6.5
52	2506.503	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	LIN FT	18.1
53	2511.504	GEOTEXTILE FILTER TYPE 4	SQ YD	25.6
54	2511.507	RANDOM RIPRAP CLASS III	CU YD	10
55	2521.518	5" CONCRETE WALK	SQ FT	2764
56	2521.518	6" CONCRETE WALK	SQ FT	693
57	2521.518	8" CONCRETE WALK	SQ FT	121
58	2521.602	DRILL AND GROUT DOWEL BAR (EPOXY COATED)	EACH	45
59	2531.503	CONCRETE CURB AND GUTTER DESIGN B618	LIN FT	1107
60	2531.504	8" CONCRETE DRIVEWAY PAVEMENT	SQ YD	160
61	2531.618	TRUNCATED DOMES	SQ FT	58
62	2533.503	PORTABLE PRECAST CONCRETE BARRIER DESIGN 8337	LIN FT	250
63	2554.615	IMPACT ATTENUATOR	ASSEMBLY	1
64	2563.601	TRAFFIC CONTROL SUPERVISOR	LUMP SUM	1
65	2563.601	TRAFFIC CONTROL	LUMP SUM	1
66	2563.601	ALTERNATE PEDESTRIAN ROUTE	LUMP SUM	1
67	2564.502	DELINEATOR/MARKER	EACH	1
68	2564.518	SIGN PANEL TYPE XI	SQ FT	36.5
69	2572.503	TEMPORARY FENCE	LIN FT	200
70	2573.501	STABILIZED CONSTRUCTION EXIT	LUMP SUM	1
71	2573.501	EROSION CONTROL SUPERVISOR	LUMP SUM	1
72	2573.502	STORM DRAIN INLET PROTECTION	EACH	5
73	2573.503	SILT FENCE TYPE, MS	LIN FT	560
74	2574.507	COMMON TOPSOIL BORROW	CU YD	100
75	2574.508	FERTILIZER TYPE 1	POUND	105
76	2575.505	SEEDING	ACRE	0.35
77	2575.508	HYDRAULIC BONDED FIBER MATRIX	POUND	1225
78	2575.608	SEED SOUTHERN BOULEVARD	POUND	112
79	2582.503	24" SOLID LINE MULTI-COMPONENT	LIN FT	14
80	2582.503	24" SOLID LINE PREFORM THERMO GROUND IN	LIN FT	14
81	2582.518	CROSSWALK MULTI-COMPONENT	SQ FT	75
82	2582.518	CROSSWALK PREFORM THERMOPLASTIC GROUND IN	SQ FT	60

DATE	REVISION

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Date 4/10/26 CRAIG J. JOCHUM, P.E.
Lic. No. 23461

DESIGNED BY:
CJJ
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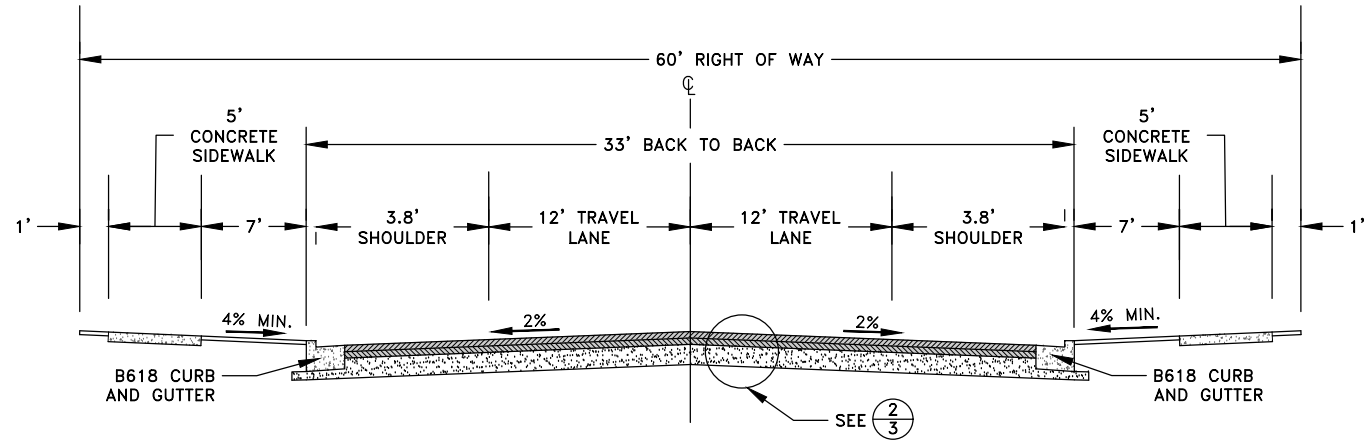
**WOODBINE STREET
EXTENSION PROJECT**

**CONSTRUCTION NOTES, PROJECT LEGEND,
AND ESTIMATED QUANTITIES**

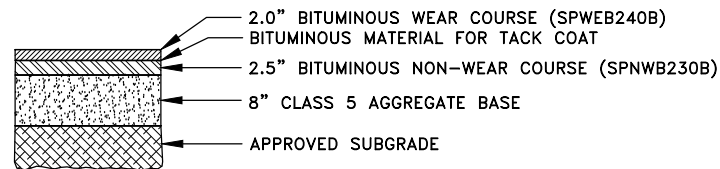
CITY OF ST. FRANCIS, MINNESOTA

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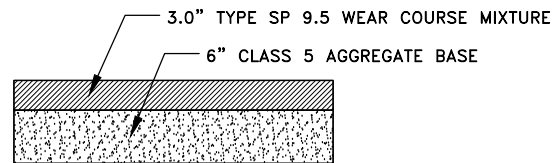
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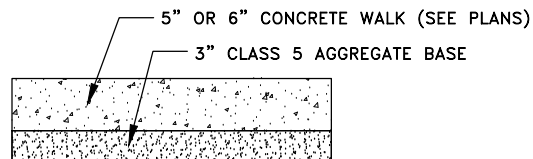
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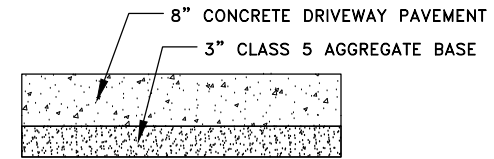
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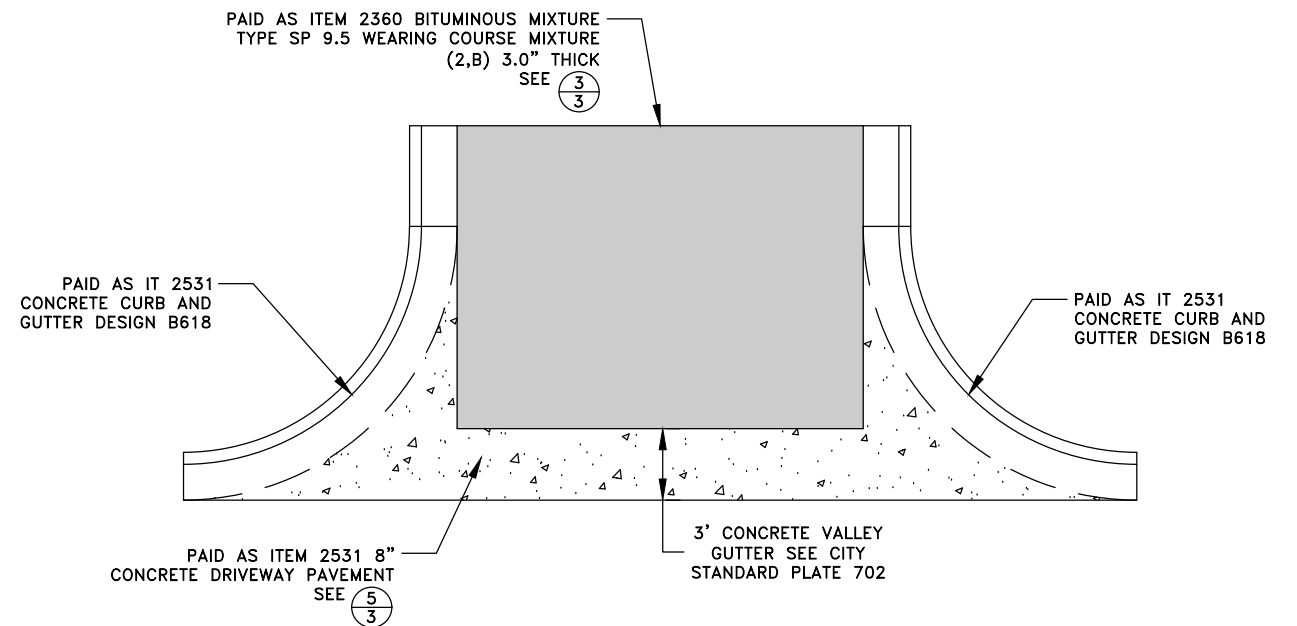
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3
TYPICAL BITUMINOUS DRIVEWAY



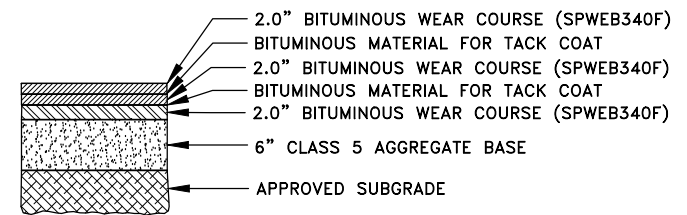
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3
TYPICAL CONCRETE WALK



5
3
TYPICAL CONCRETE DRIVEWAY



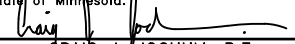
6
3
CONCRETE VALLEY GUTTER



7
3
BRIDGE STREET BITUMINOUS PATCH

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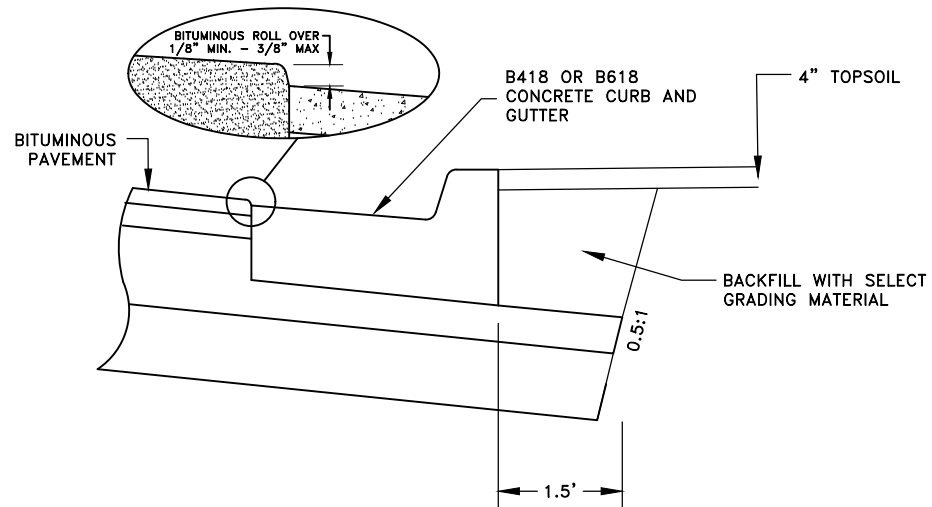
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WOODBINE STREET
EXTENSION PROJECT

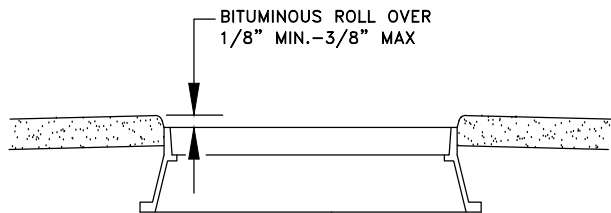
TYPICAL SECTIONS
CITY OF ST. FRANCIS, MINNESOTA

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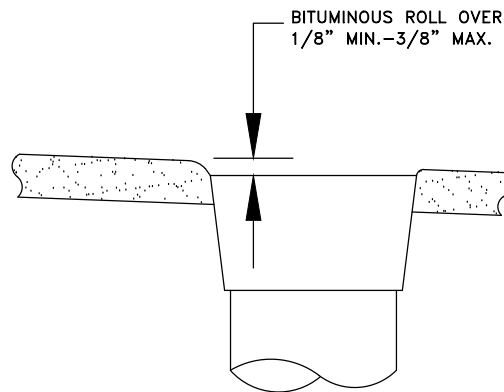
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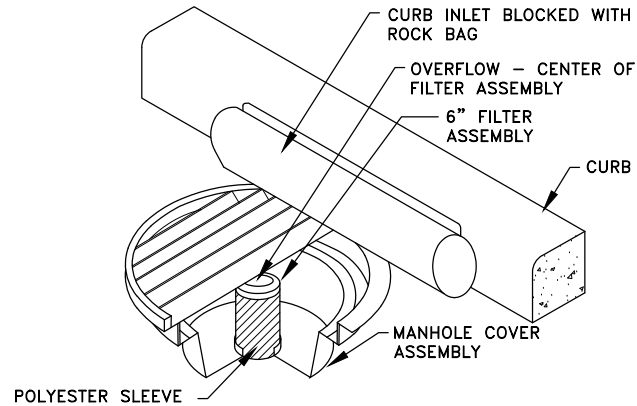
1
4 PAVING AT CURB



2
4 PAVING AT CASTING DETAIL
N.T.S.



3
4 PAVING AT VALVE BOX DETAIL
N.T.S.

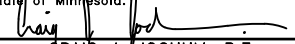


- NOTES:
1. ROAD DRAIN DEVICE FITS NEENAH R-3250-1 CASTINGS.
 2. PLACE THE ROAD DRAIN-TOP SLAB MODEL DIRECTLY INTO THE CASTING.
 3. INSTALL GASKET AND COVER CENTER OF GASKET WITH PIPE GREASE OR OTHER APPROVED LUBRICATION.
 4. PLACE THE FILTER MEDIA ONTO THE RISER PIPE.
 5. ADJUST FILTER MEDIA PROPER HEIGHT FOR OVERFLOW.
 6. CHECK RISER TUBE TO MAKE SURE IT IS FULLY EXTENDED AND ALL FILTER HOLES ARE EXPOSED.
 7. CHECK FILTER MEDIA AFTER EACH RAIN EVENT. CLEAN OR REPLACE IF SEDIMENT CLOGS FILTER.
 8. REMOVE SEDIMENT AND DEBRIS FROM THE BASE OF THE RISER PIPE TO THE WIDTH EQUAL TO THE SIZE OF THE TOP SLAB MODEL.
 9. THE ENGINEER WILL MEASURE STORM DRAIN INLET PROTECTION BY THE NUMBER OF INDIVIDUAL INLETS PROTECTED OVER THE LIFE OF THE CONTRACT REGARDLESS OF THE TYPES AND NUMBER OF DEVICES USED A EACH STORM INLET.

4
4 INLET PROTECTION
ROAD DRAIN
CURB AND GUTTER
N.T.S.

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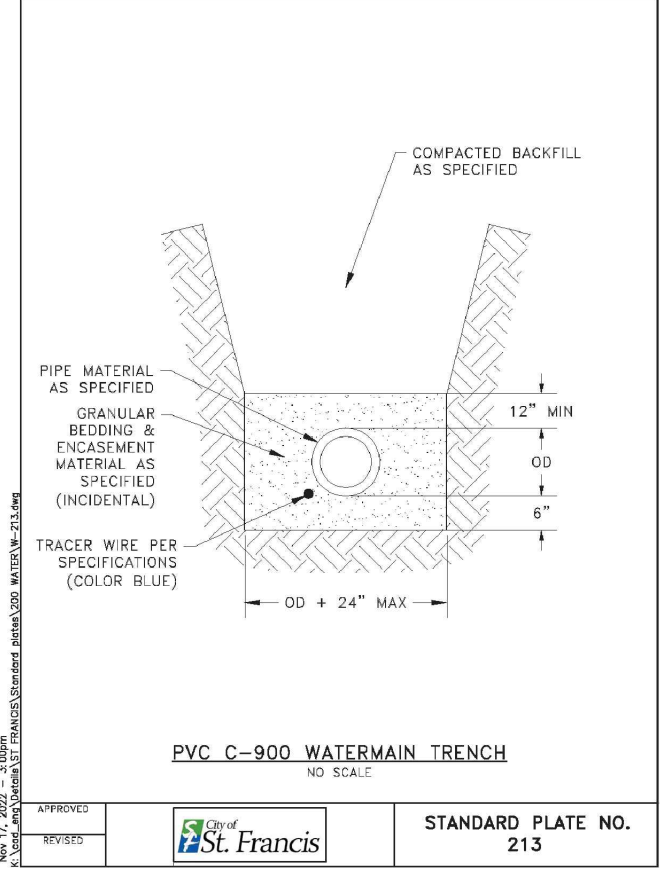
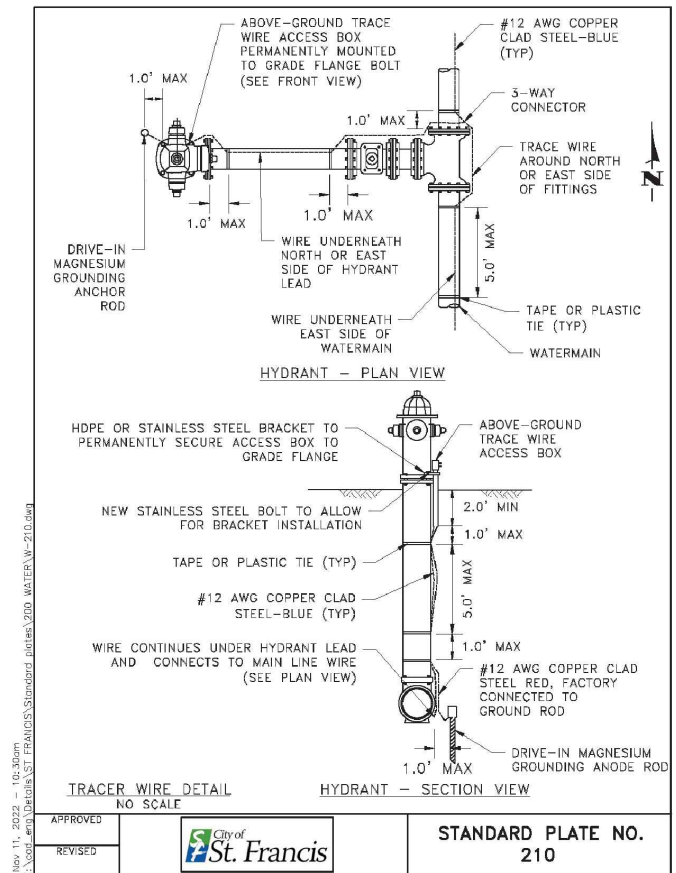
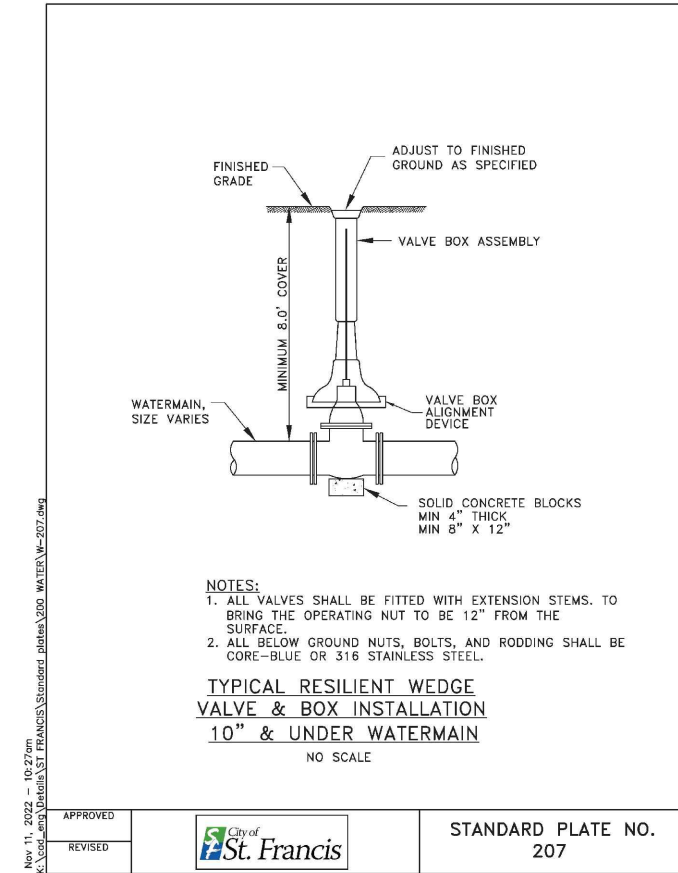
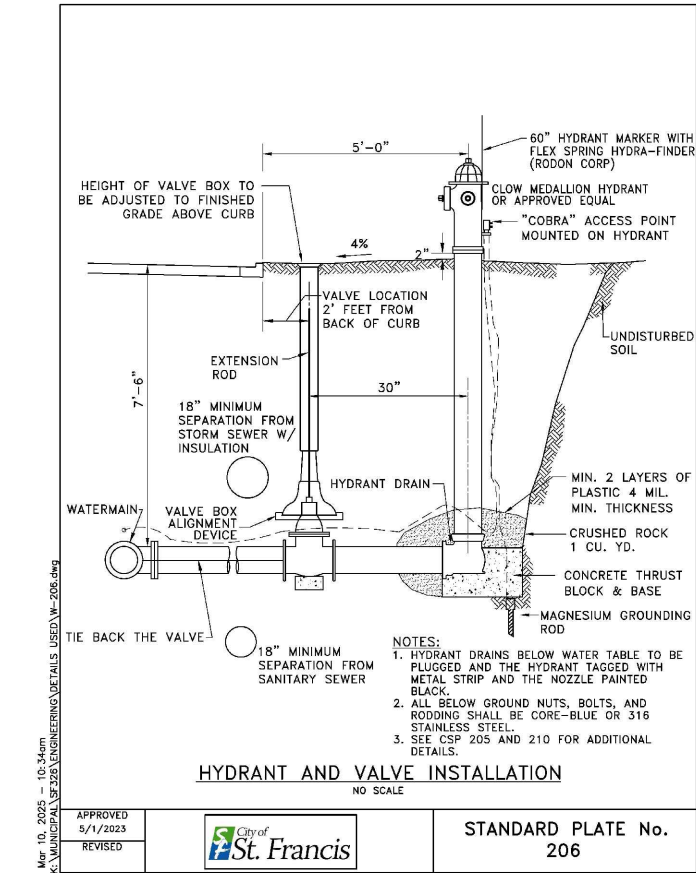
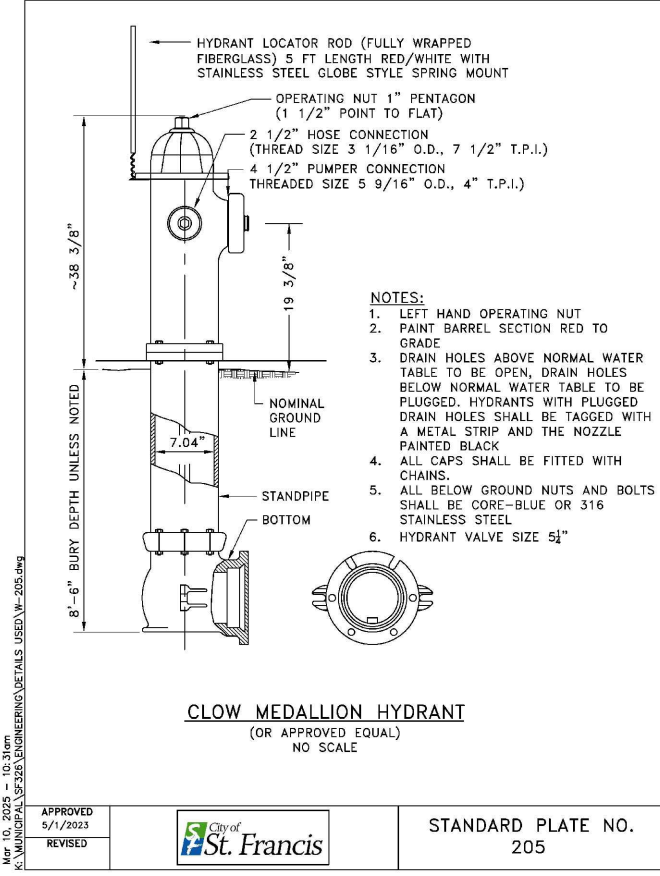
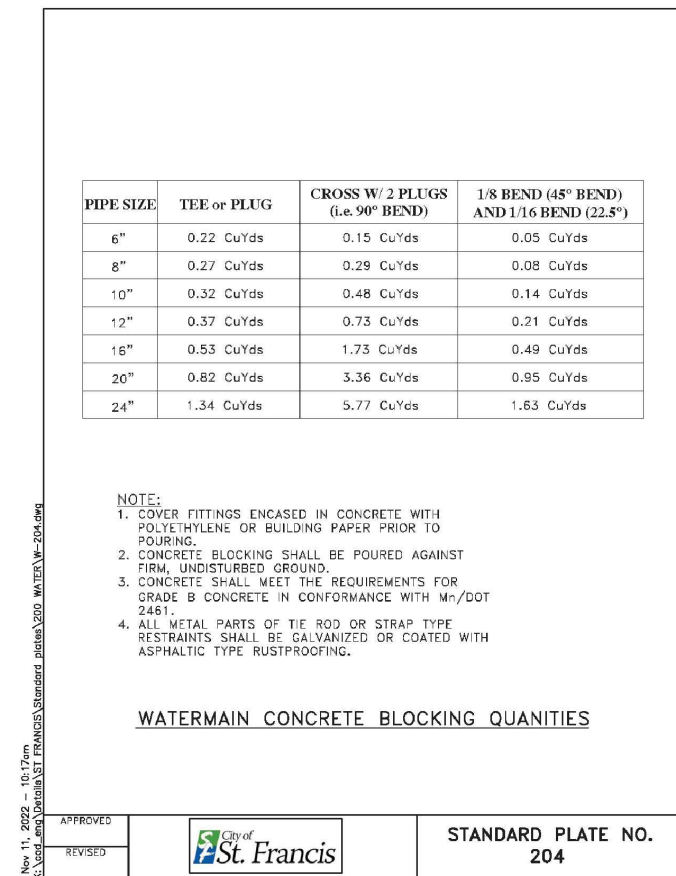
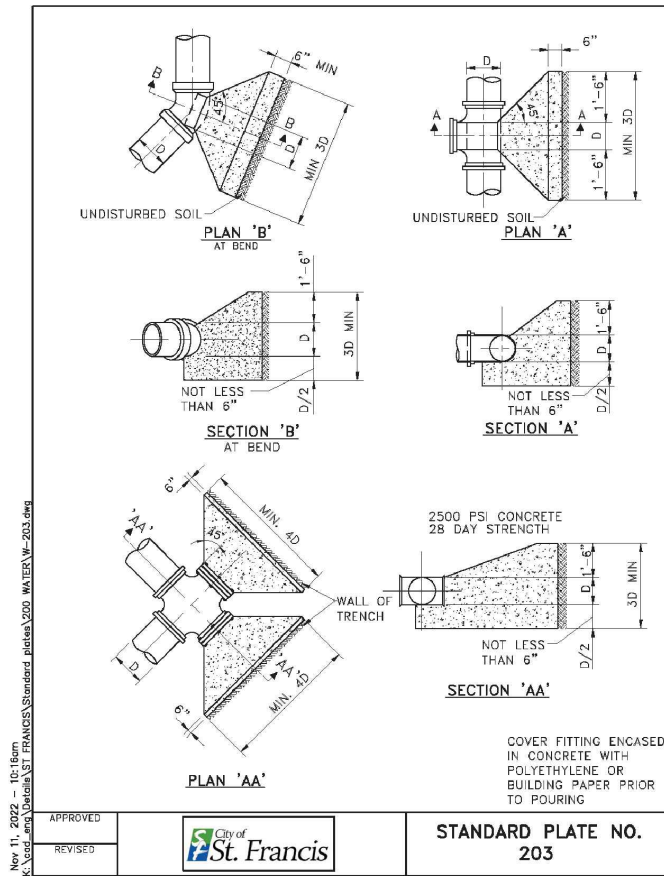
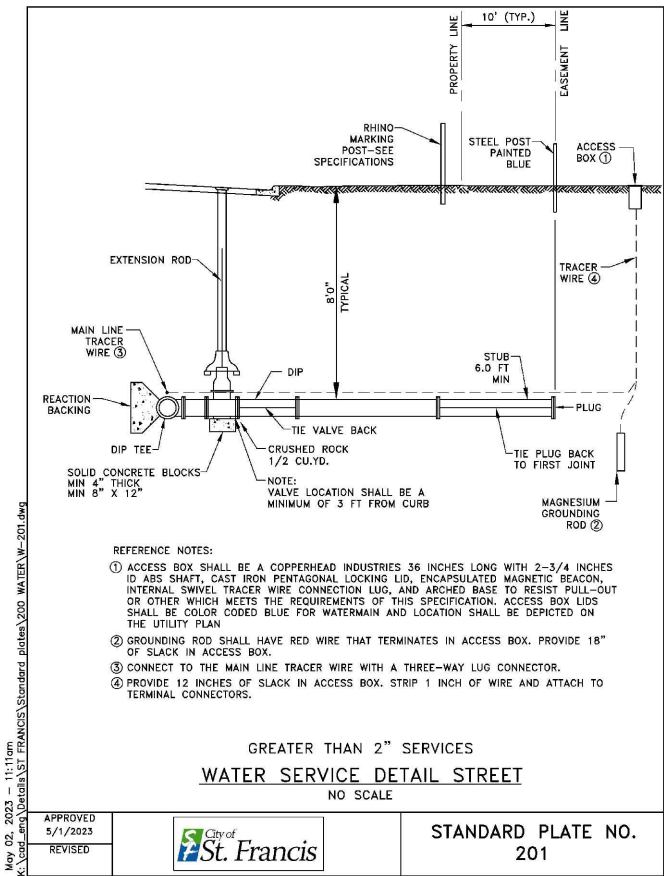
WOODBINE STREET
EXTENSION PROJECT

DETAILS

CITY OF ST. FRANCIS, MINNESOTA

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4
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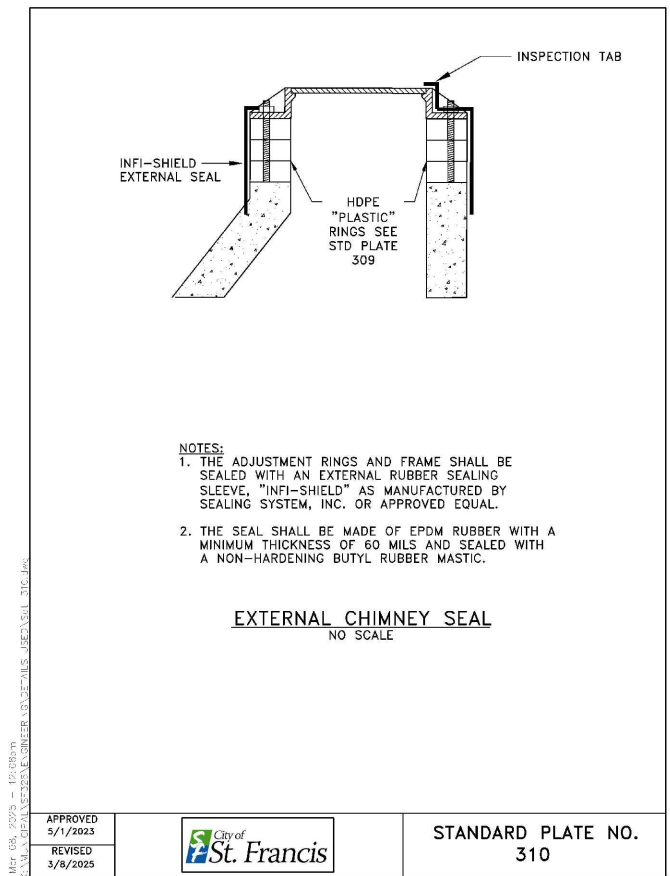
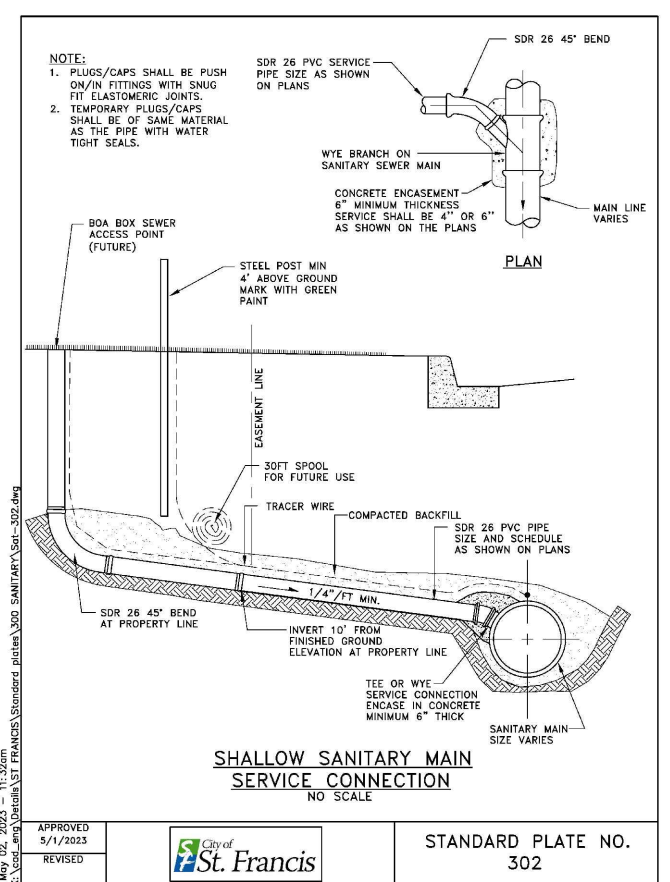
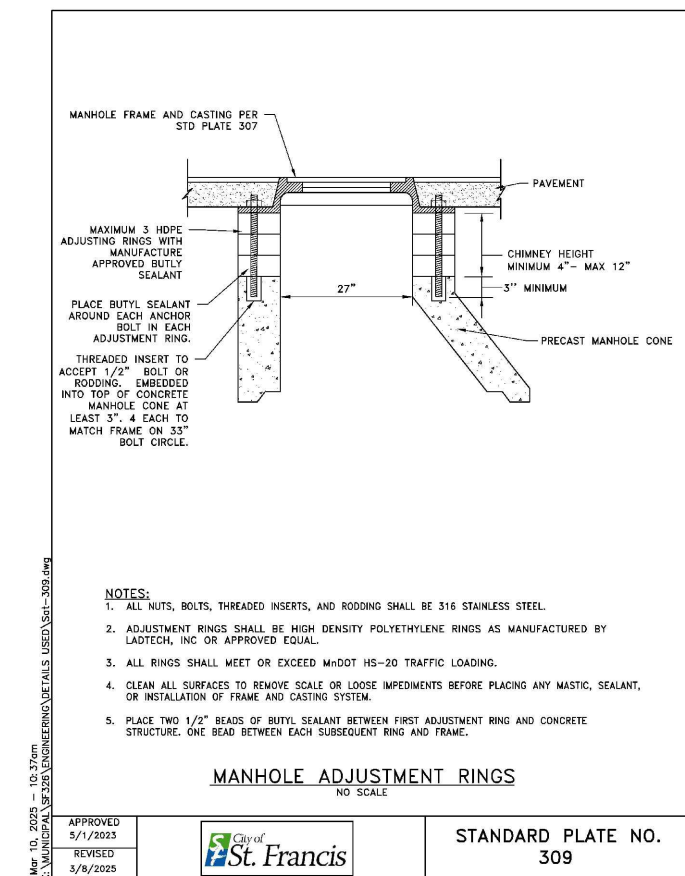
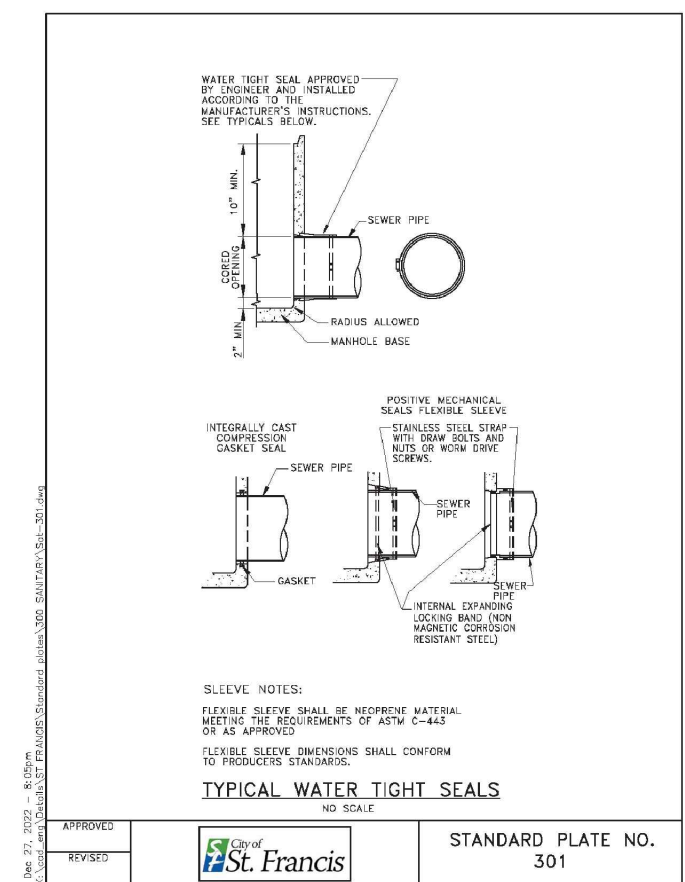
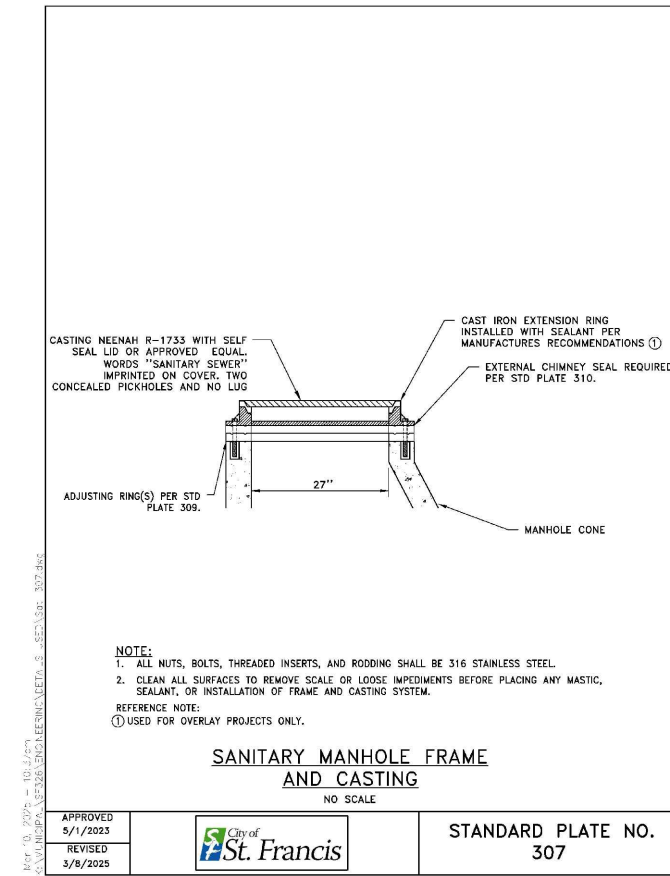
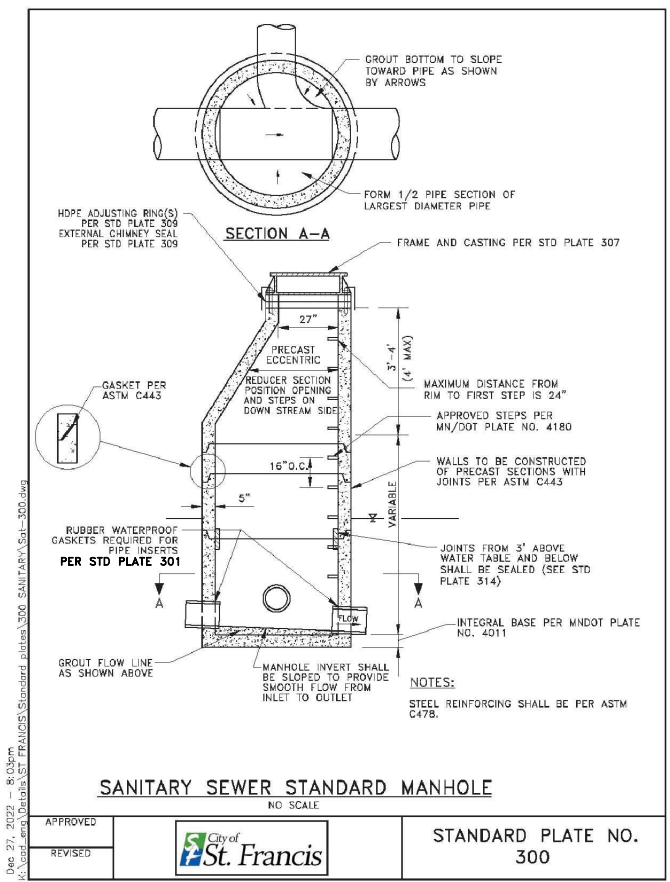
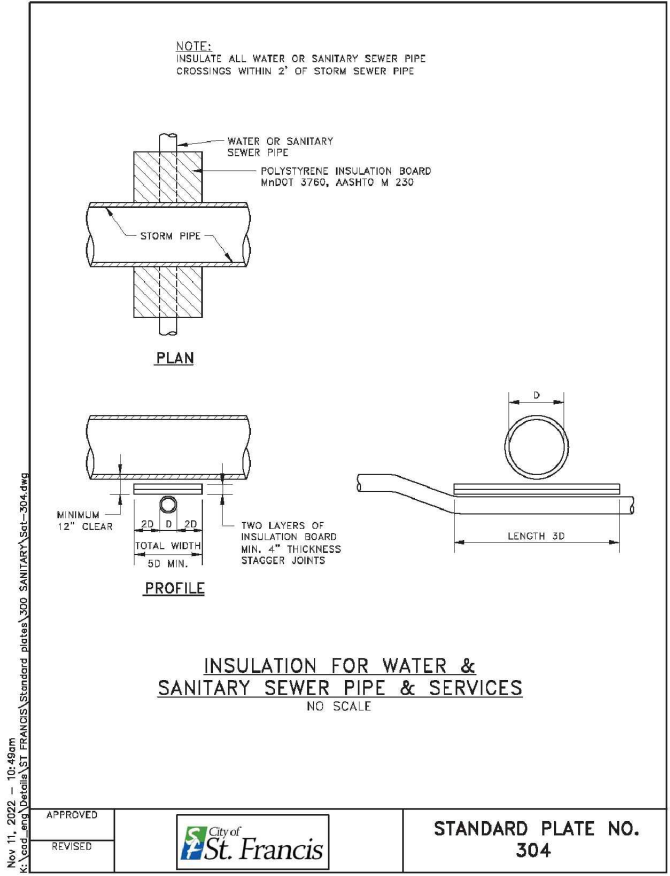
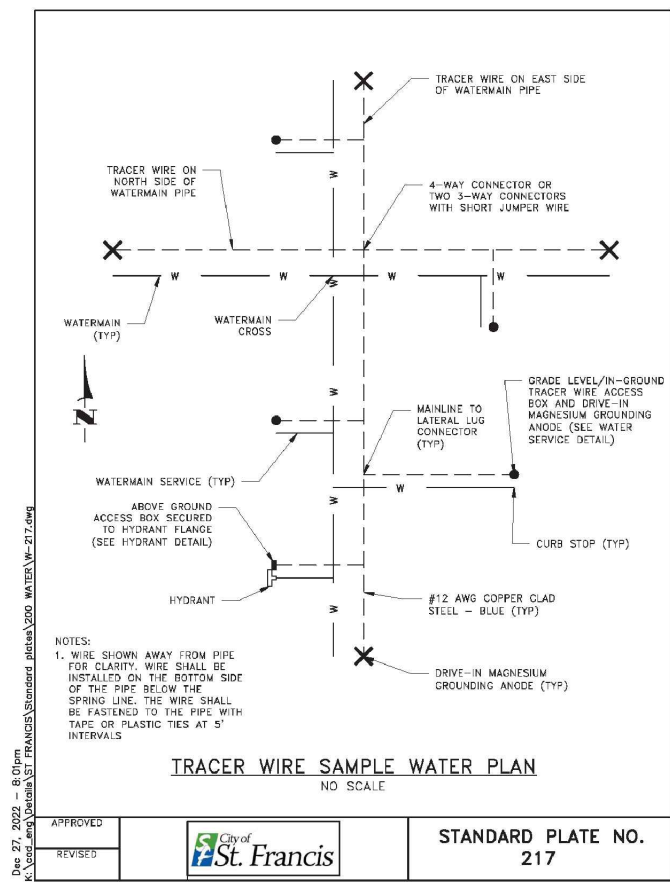
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WOODBINE STREET
EXTENSION PROJECT

DETAILS
CITY OF ST. FRANCIS, MINNESOTA

SHEET
5
OF
24
SHEETS

Apr 11, 2026 -- 6:42pm
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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.

Date 4/10/26
CRAIG J. JOCHUM, P.E.
Lic. No. 23461

DESIGNED BY: CJJ
DRAWN BY: SGJ
CHECKED BY: TAE

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**WOODBINE STREET
EXTENSION PROJECT**

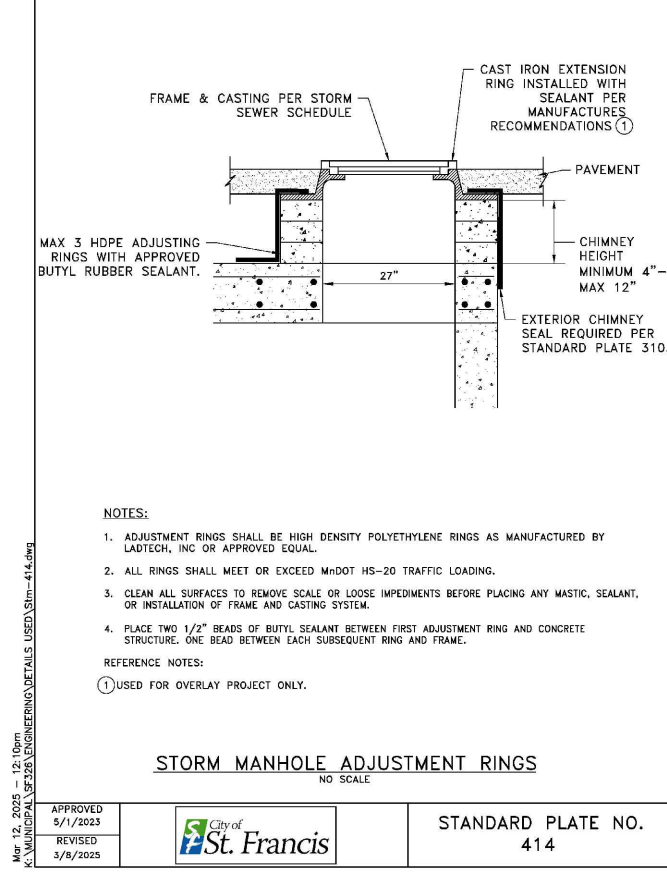
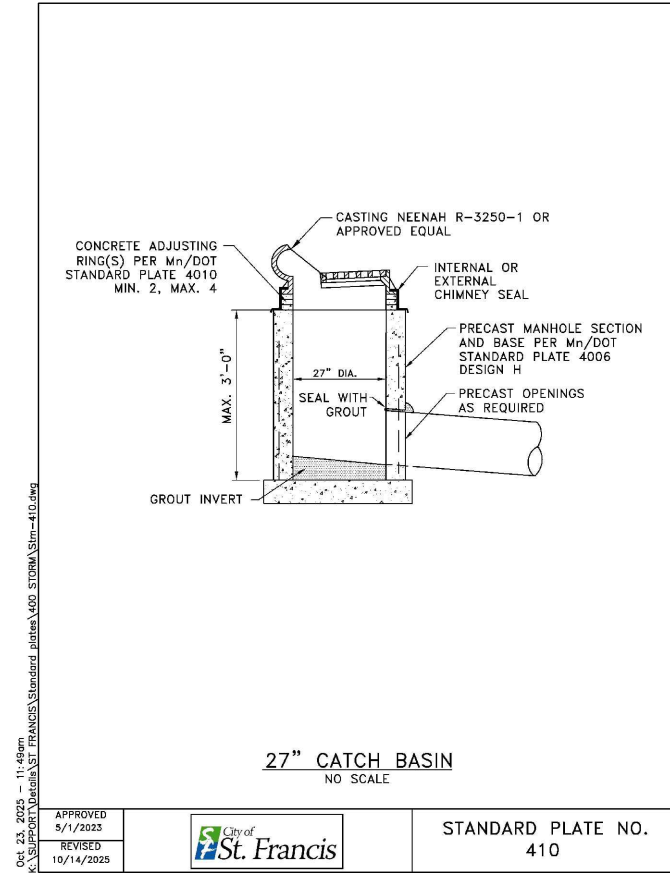
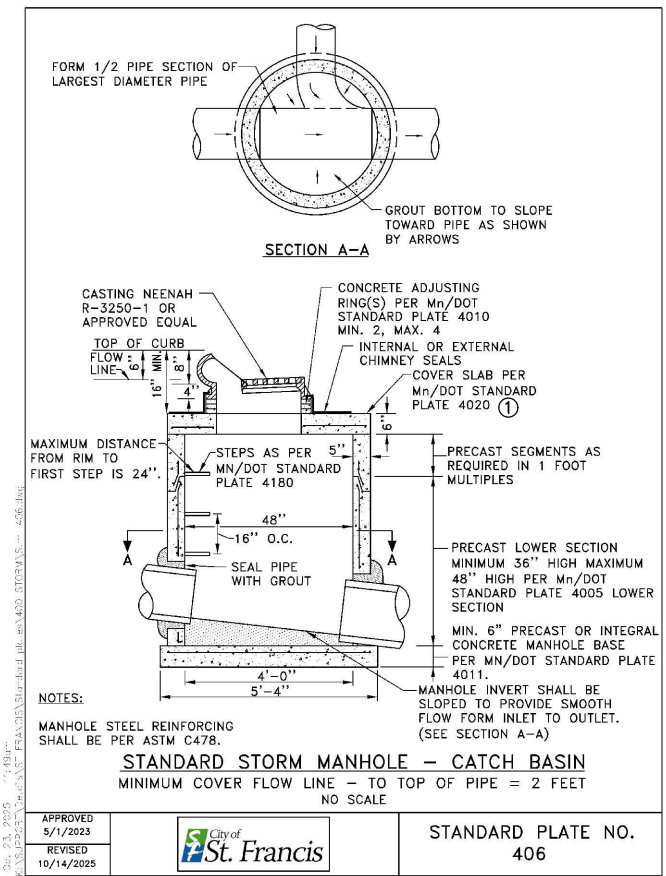
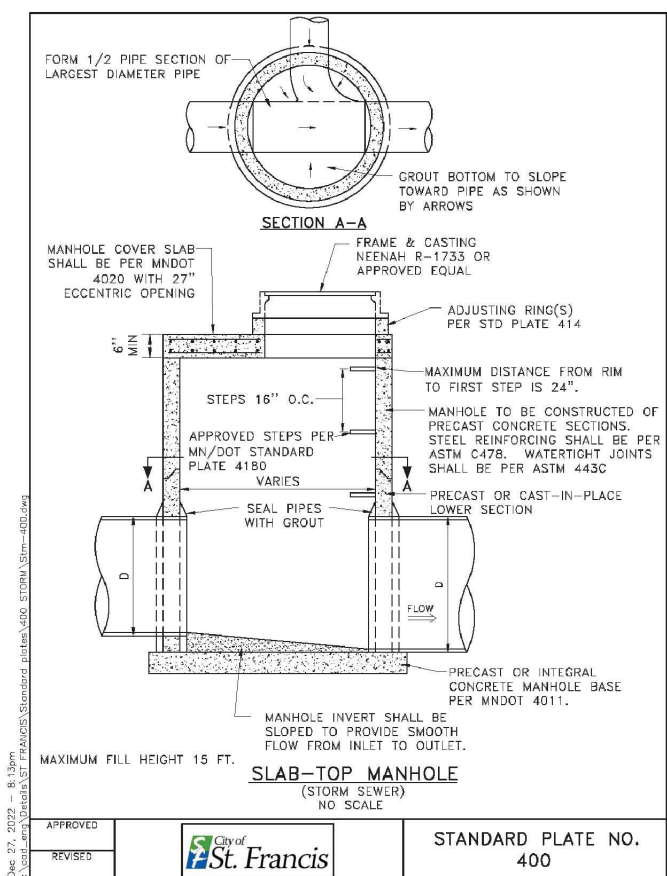
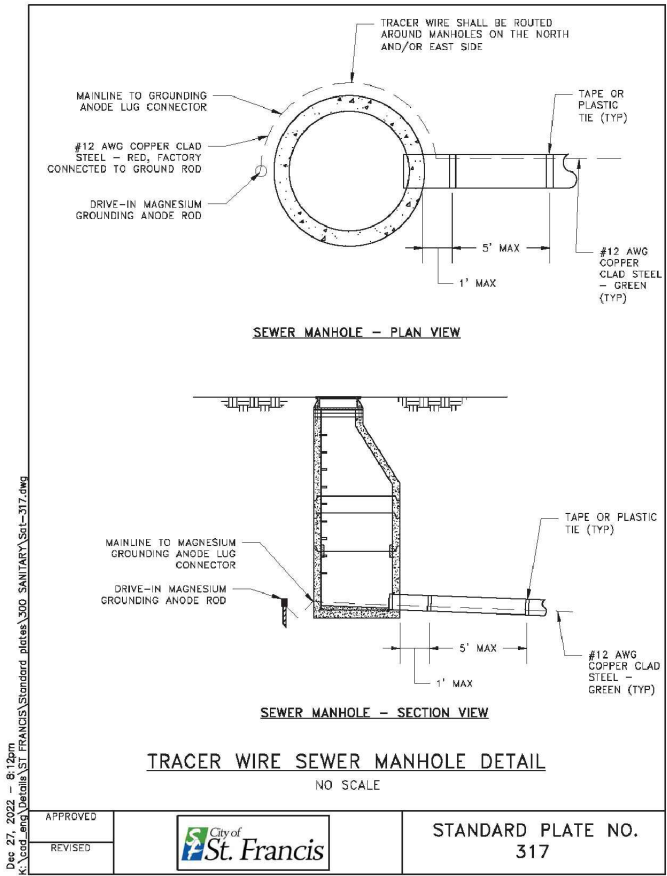
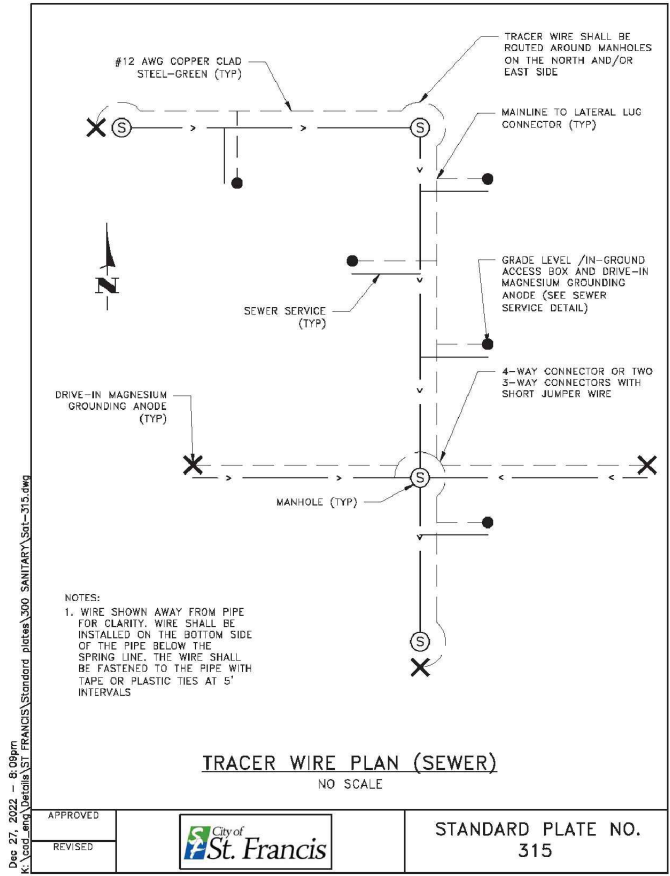
DETAILS

CITY OF ST. FRANCIS, MINNESOTA

SHEET 6 OF 24 SHEETS

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REFERENCE NOTES:
(1) STRUCTURE TOP FOR STORM STRUCTURE 500 SHALL BE PER MNDOT/DOT STANDARD PLATE 4022.

DATE	REVISION

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.

Date 4/10/26
Craig J. JOCHUM, P.E.
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DESIGNED BY:
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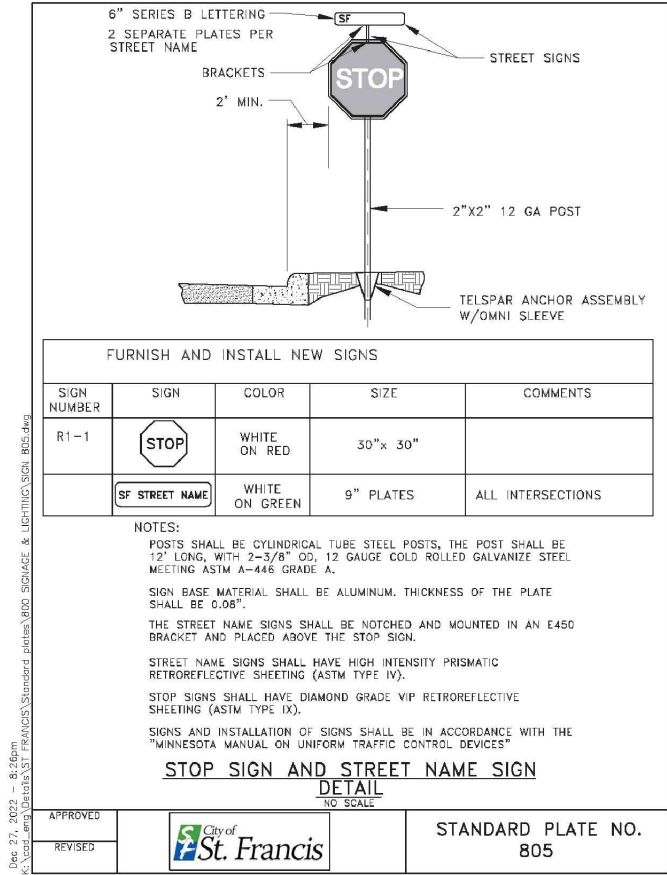
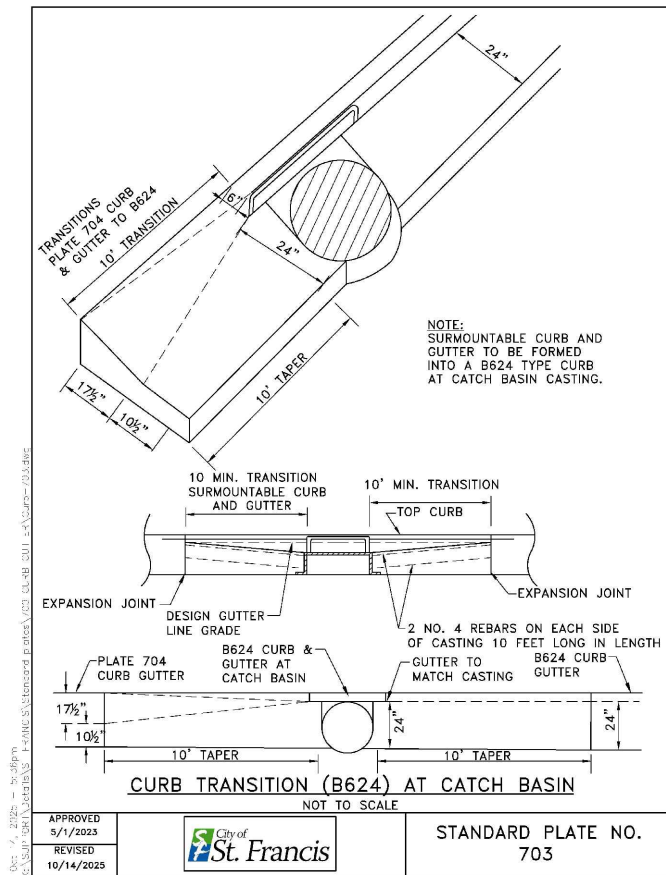
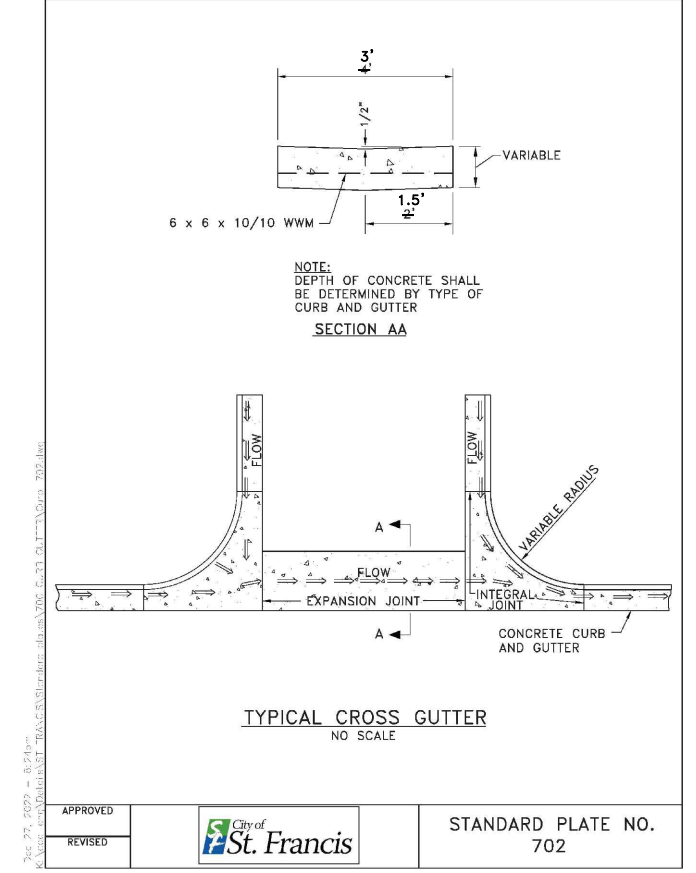
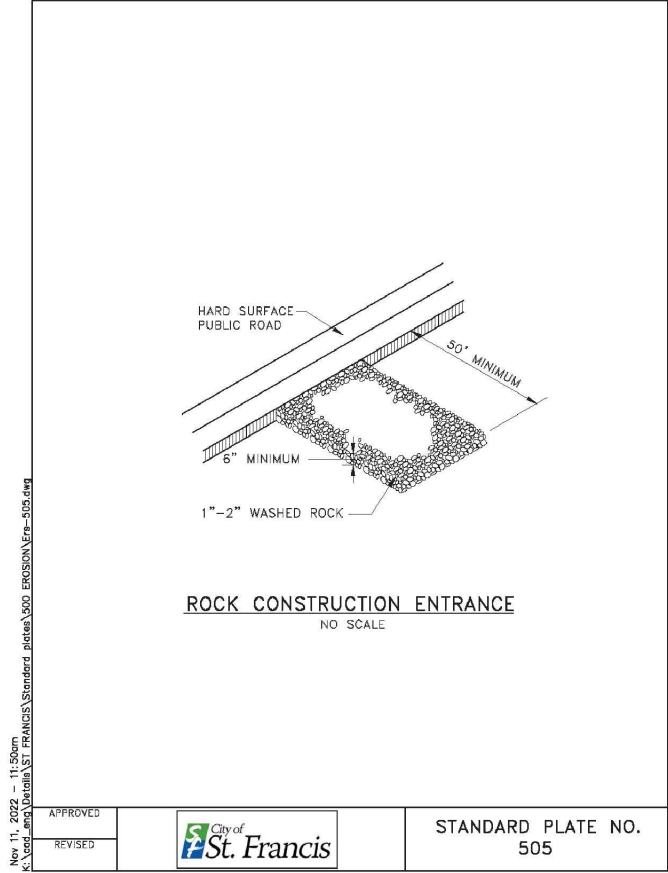
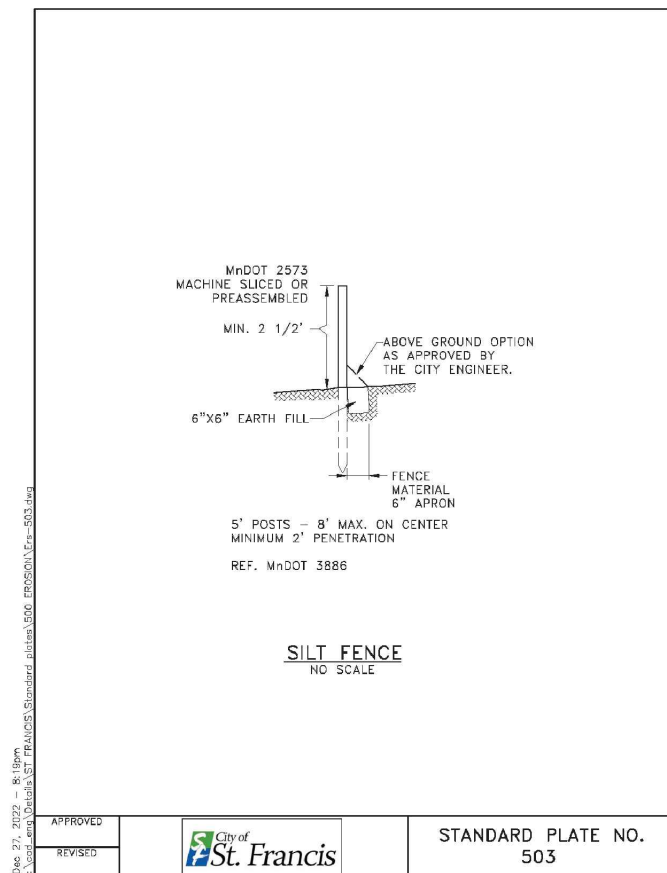
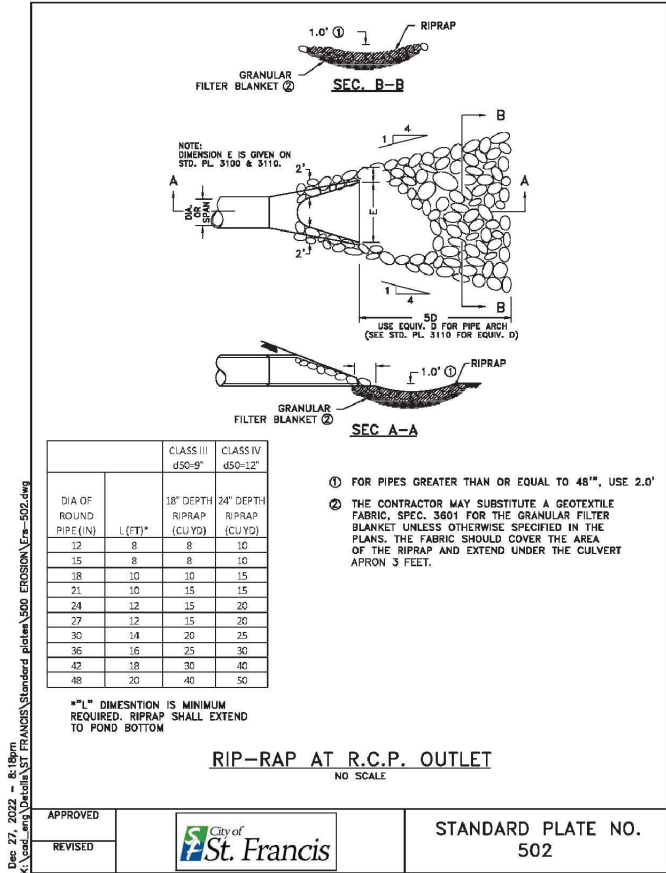
**WOODBINE STREET
EXTENSION PROJECT**

DETAILS

CITY OF ST. FRANCIS, MINNESOTA

SHEET
7
OF
24
SHEETS

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Graig J. Jochem
Graig J. JOCHUM, P.E.
Lic. No. 23461

Date 4/10/26

DESIGNED BY:
CJJ

DRAWN BY:
SGJ

CHECKED BY:
TAE



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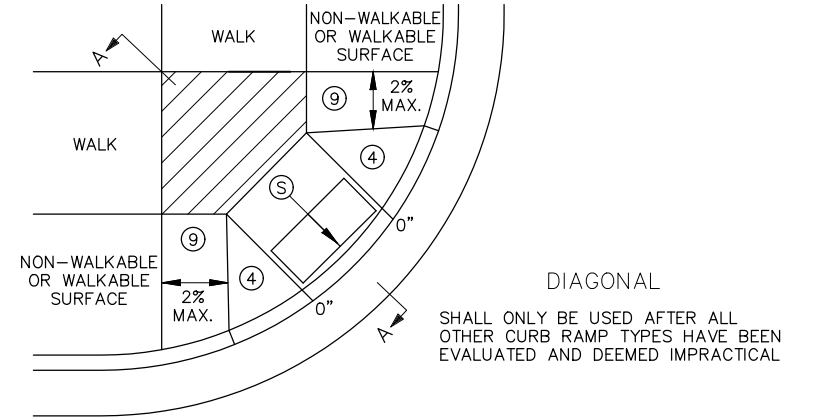
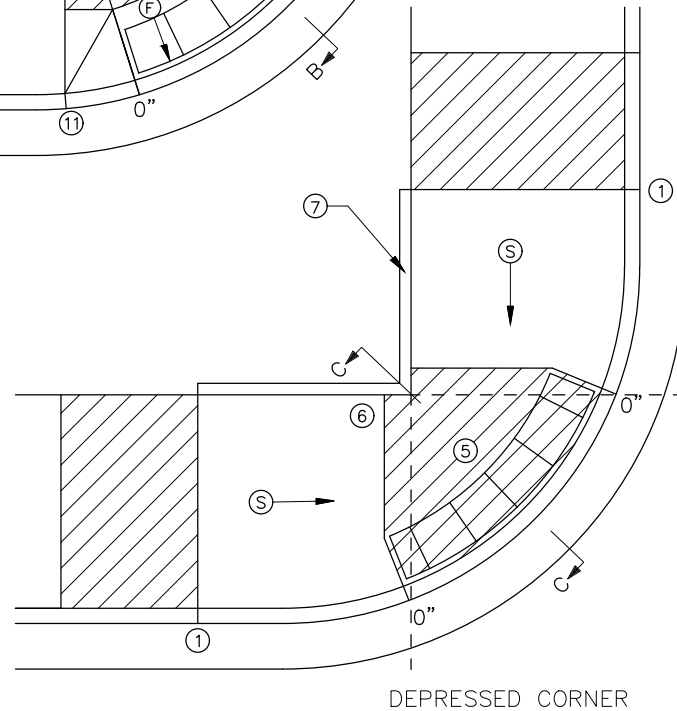
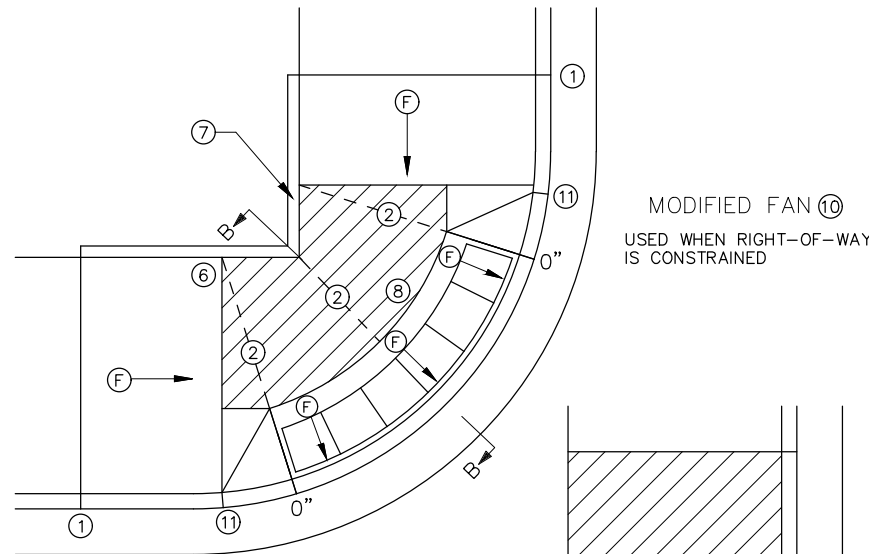
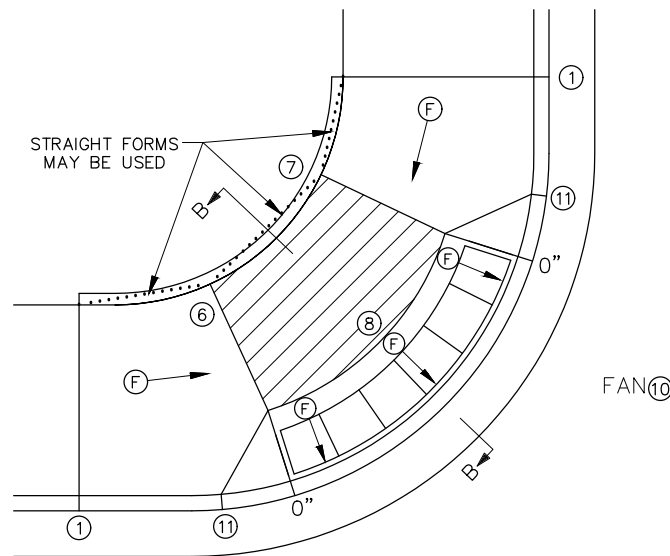
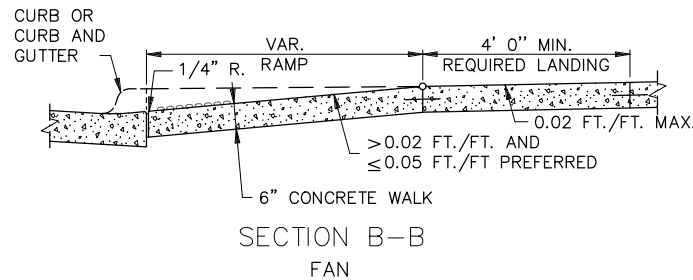
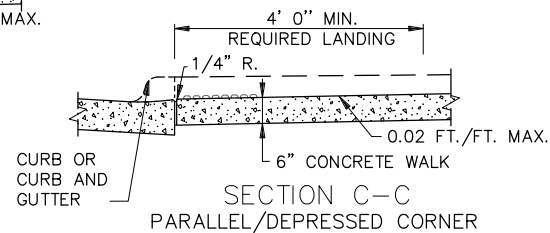
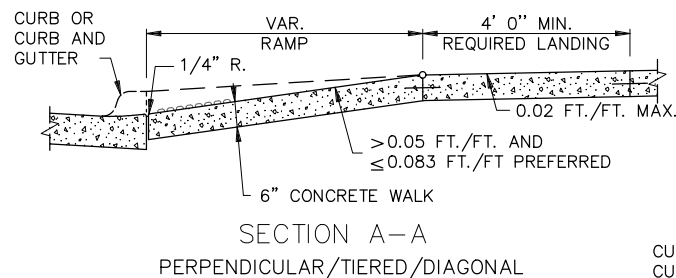
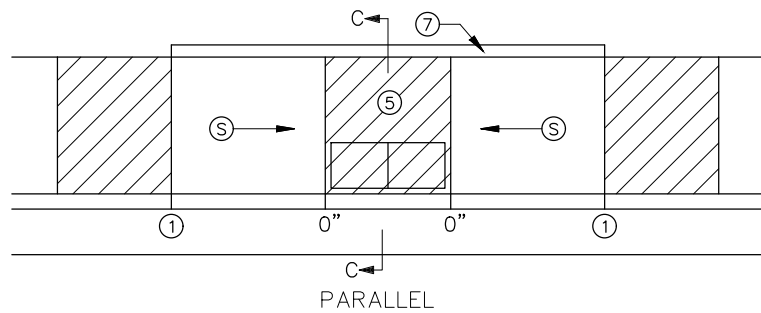
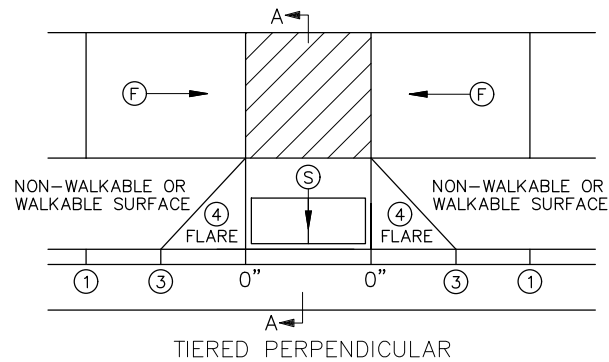
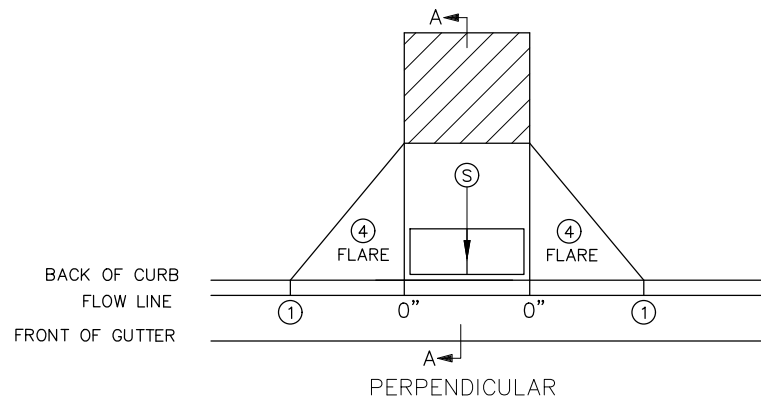
WOODBINE STREET
EXTENSION PROJECT

DETAILS

CITY OF ST. FRANCIS, MINNESOTA

SHEET 8 OF 24 SHEETS

Apr 11, 2026 — 6:42pm
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NOTES:

- LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMP 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 RAMP AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 OF 6 FOR ALL SEPARATELY POURED INITIAL LANDINGS.
- WHEN SIDEWALK IS AT BACK OF CURB, TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE. MAINTAIN POSITIVE BOULEVARD DRAINAGE TO TOP OF CURB.
- ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.
- 4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMP. DETECTABLE WARNING SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER THE ENTIRE PAR WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 3" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNING ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0" - 3" OFFSET IS ALLOWED.
- WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 6" LESS THAN THE INCOMING PAR. ARC LENGTH OF THE RADIAL DETECTABLE WARNING SHOULD NOT BE GREATER THAN 20 FEET.
- RECTANGULAR DETECTABLE WARNING SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNING SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.

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

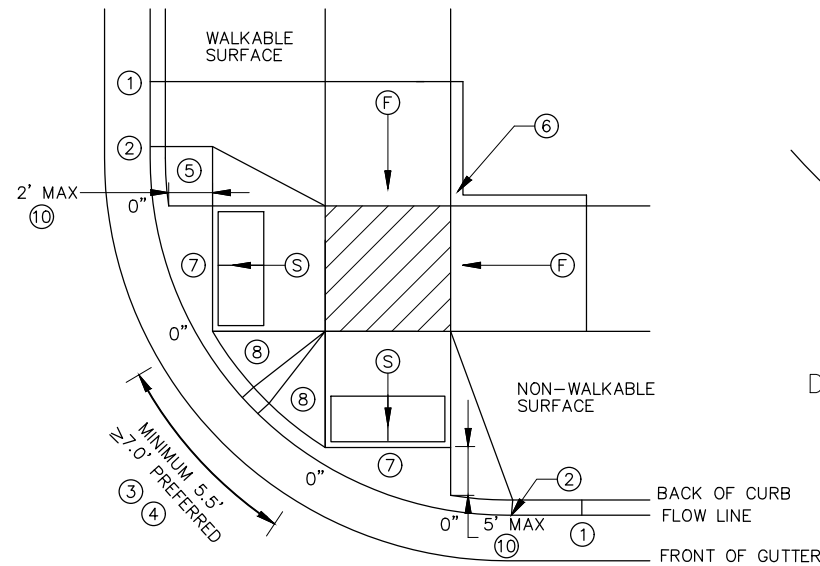
LEGEND	
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.	
(S)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.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

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

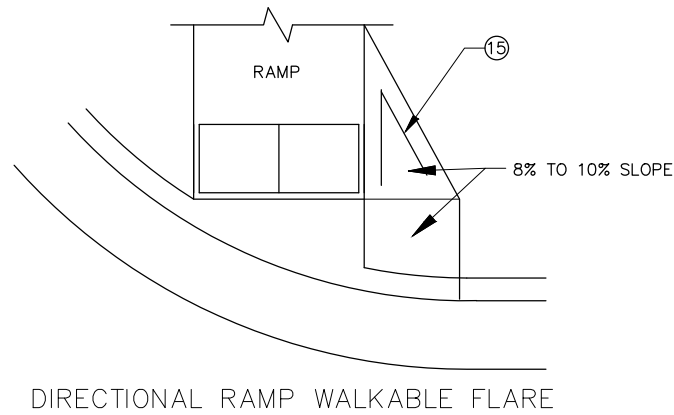
m MINNESOTA DEPARTMENT OF TRANSPORTATION	STANDARD PLAN 5-297.250	1 OF 6
	APPROVED: 11-04-2021 THOMAS STYRBICKI STATE DESIGN ENGINEER	REVISED:

PEDESTRIAN CURB RAMP DETAILS

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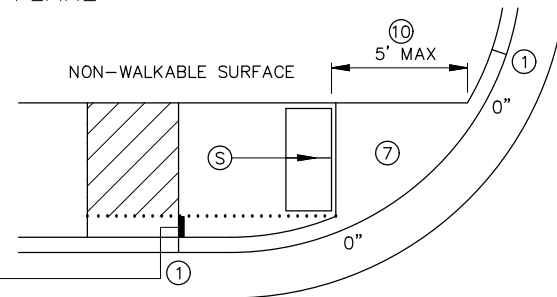


COMBINED DIRECTIONAL

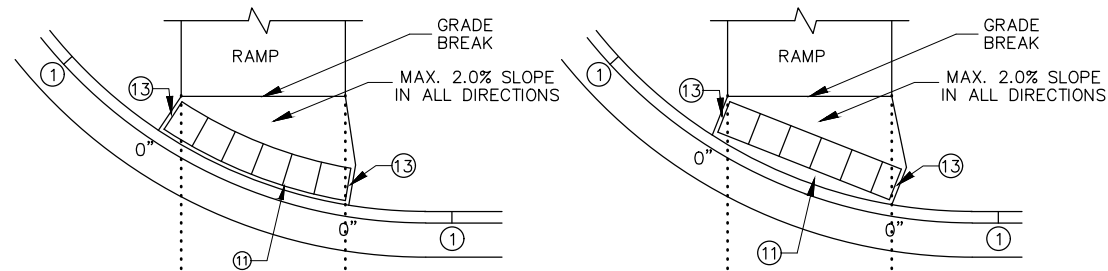


DIRECTIONAL RAMP WALKABLE FLARE

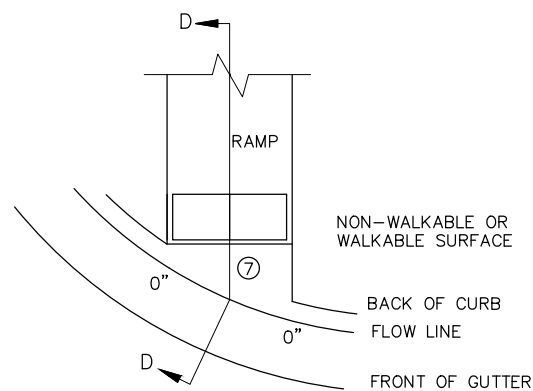
IF NON-CONCRETE BLVD. IS CONSTRUCTED AND IS LESS THAN 2' IN WIDTH AT TOP OF CURB TRANSITION, PAVE CONCRETE RAMP WIDTH TO ADJACENT BACK OF CURB.



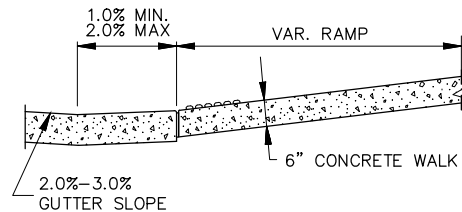
STANDARD ONE-WAY DIRECTIONAL 9'



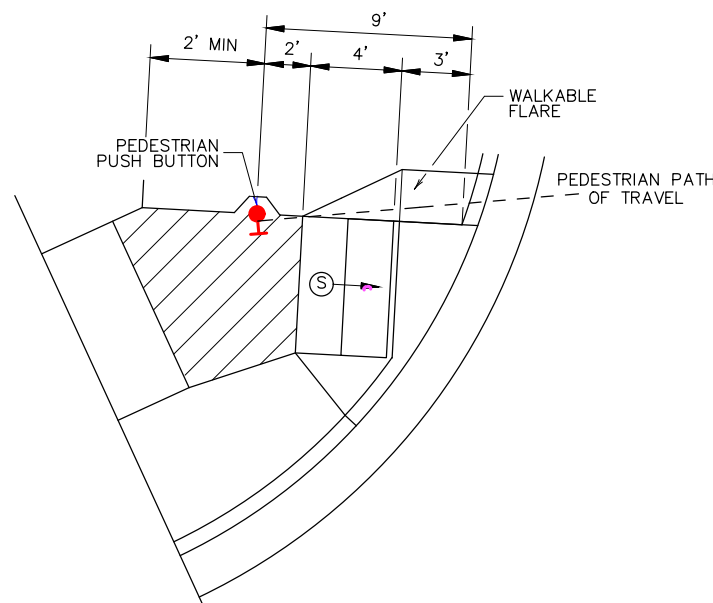
ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB



CURB FOR DIRECTIONAL RAMPS 14'



SECTION D-D



SEMI-DIRECTIONAL RAMP 3 4 9'

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

NOTES:

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

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

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

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

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

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

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

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

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

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

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

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

1 MATCH FULL CURB HEIGHT.

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

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

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

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

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

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

8 8% TO 10% WALKABLE FLARE.

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

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

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

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

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

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

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

LEGEND

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

⑤ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.

⑥ 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%.

⑦ LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PAR.

X" CURB HEIGHT

REVISION:

APPROVED: 11-04-2021

Jeff J. Perkins
JEFFREY PERKINS
OPERATIONS DIVISION



STANDARD PLAN 5-297.250

2 OF 6

THOMAS STYRBICKI
STATE DESIGN ENGINEER

APPROVED: 11-04-2021

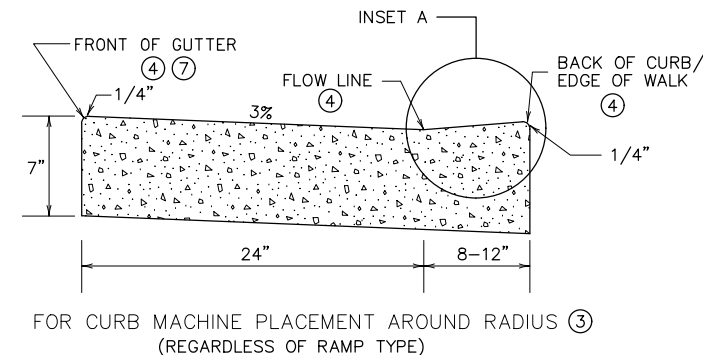
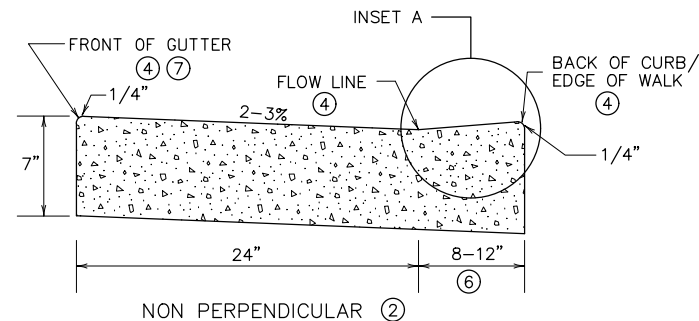
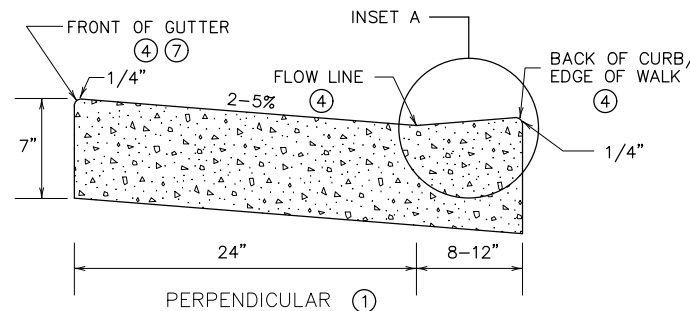
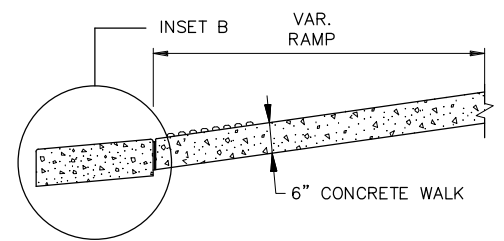
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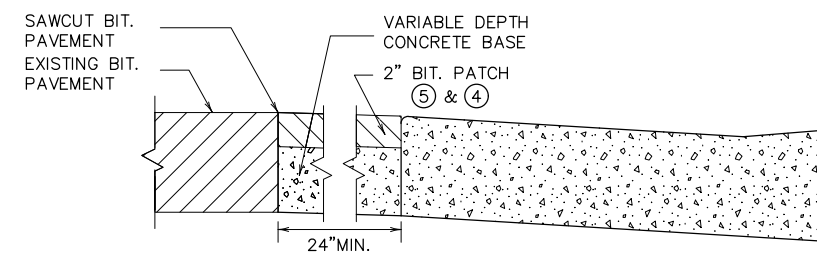
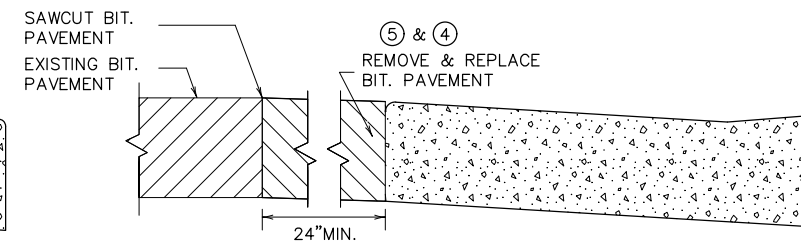
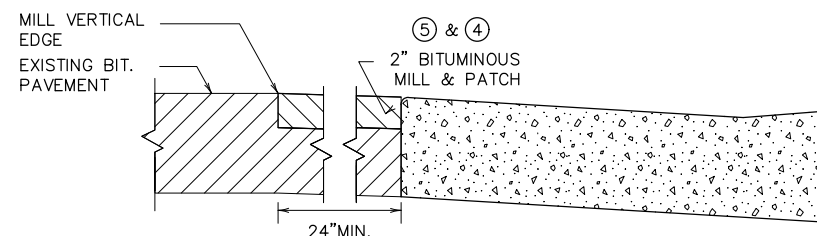
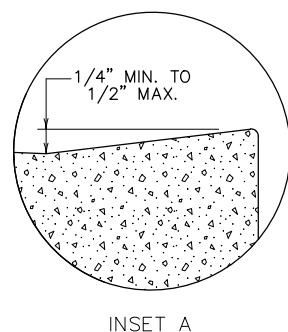
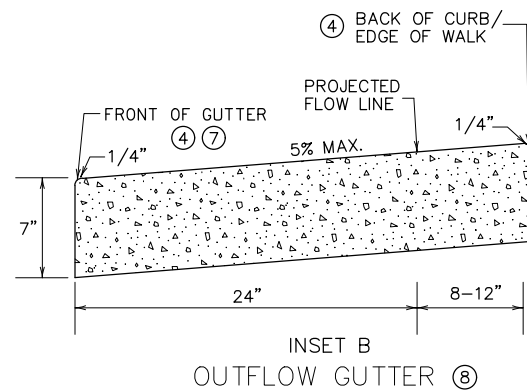
PEDESTRIAN CURB RAMP DETAILS

SHEET NO. 10 OF 24 SHEETS

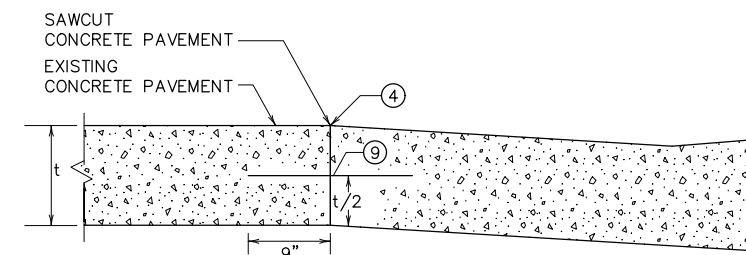
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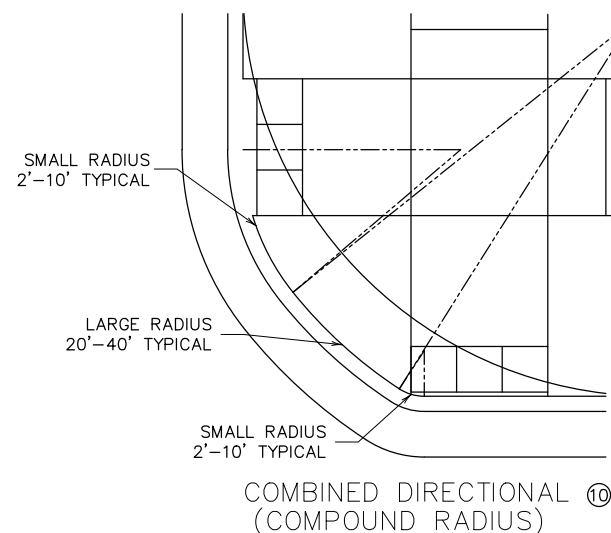
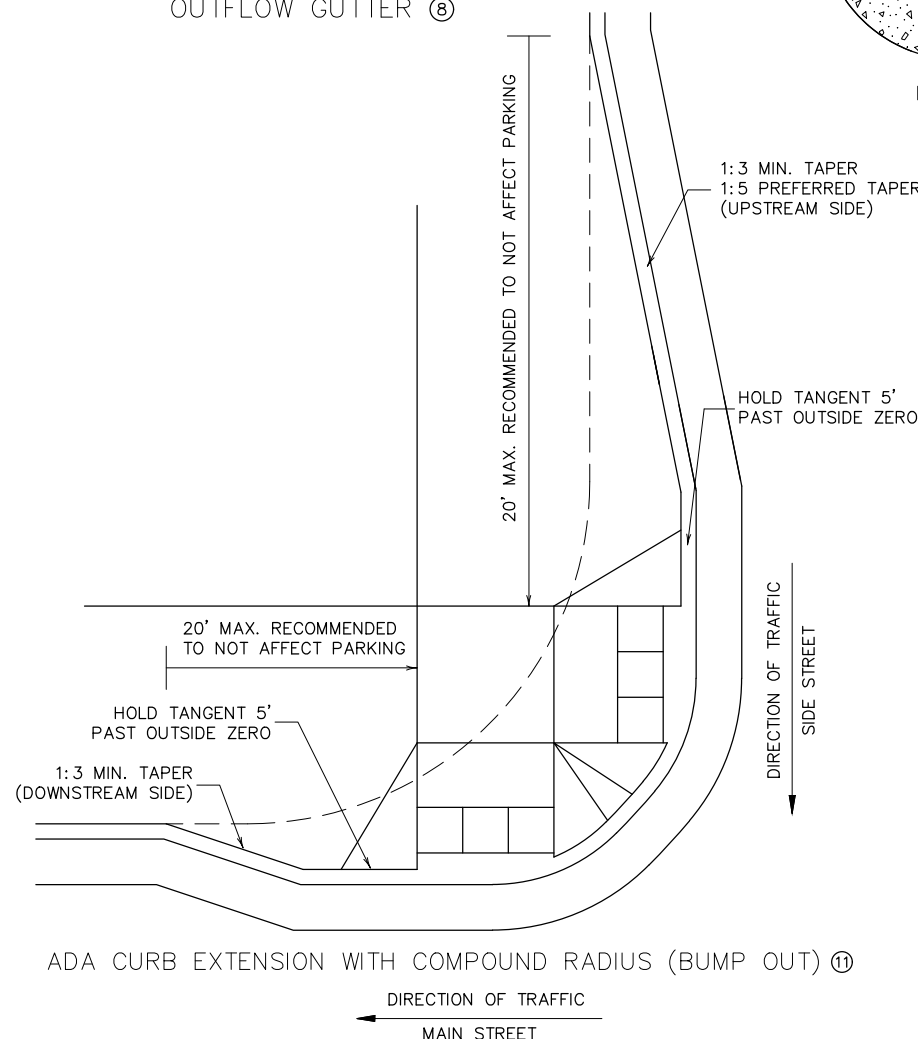
PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



ONLY ALLOWED PER ENGINEER'S APPROVAL



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



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.
- 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 RAMP.
- FOR USE AT CURB RAMP WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS & DEPRESSED CORNERS.
- BEGIN GUTTER SLOPE TRANSITION 10' OUTSIDE OF ALL CURB RAMP.
- THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".
- 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.
- VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS. SEE SHEET 2 FOR DIRECTIONAL CURB SLOPE REQUIREMENTS.
- 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.
- SHOULD BE USED AT VERTICALLY CONSTRAINED AREAS WHEN AT A DRAINAGE HIGH POINT OR SUPER ELEVATED ROADWAY SEGMENTS.
- 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.
- 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.
- CURB EXTENSIONS SHOULD BE USED IN VERTICALLY CONSTRAINED AREAS, USUALLY IN DOWNTOWN ROADWAY SEGMENTS WHERE ON-STREET PARKING IS AVAILABLE. CURB EXTENSIONS SHOULD BE CONSIDERED FOR APS INTERSECTIONS WHERE SPACE IS LIMITED. PUSH BUTTONS MUST MEET APS CRITERIA AS DESCRIBED IN THE PUSH BUTTON LOCATION DETAIL SHEET.

REVISION:

APPROVED: 11-04-2021

Jeff J. Perkins
JEFFREY PERKINS
OPERATIONS DIVISION



STANDARD PLAN 5-297.250

3 OF 6

THOMAS STYRBIK
STATE DESIGN ENGINEER

APPROVED: 11-04-2021

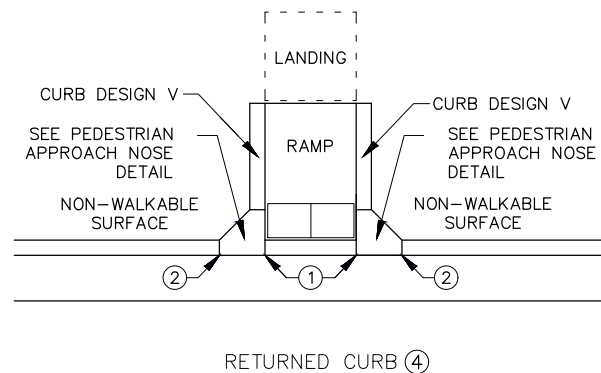
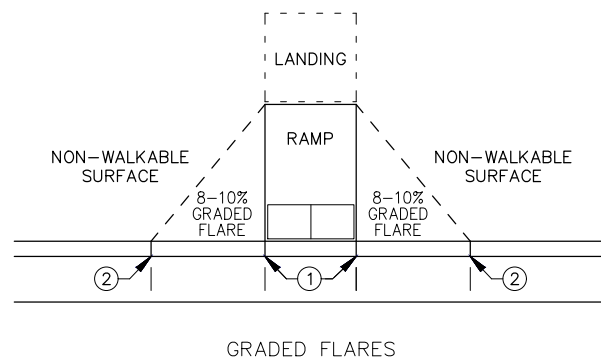
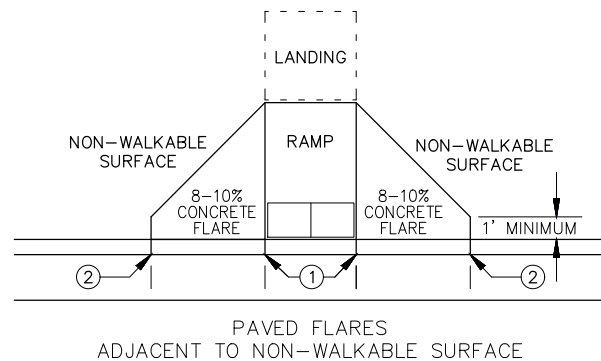
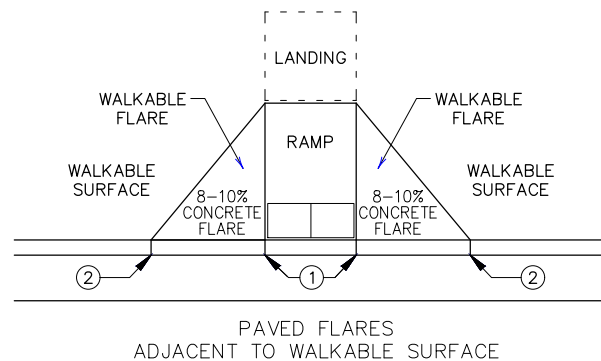
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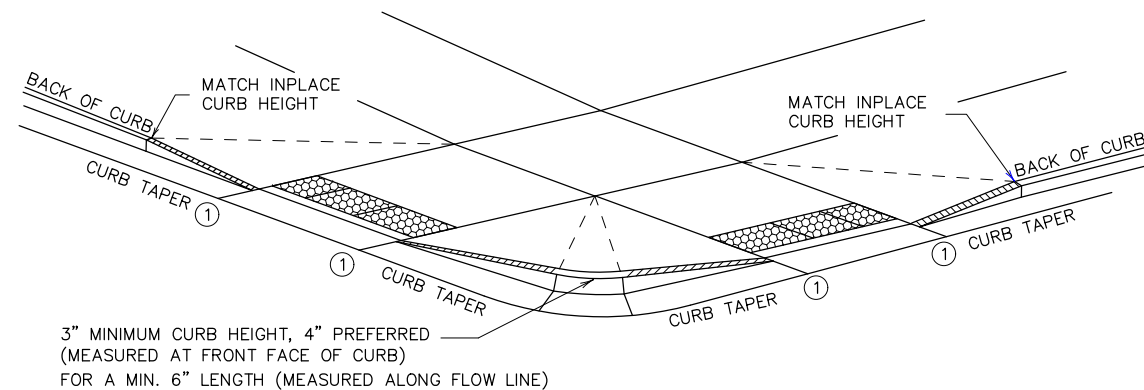
PEDESTRIAN CURB RAMP DETAILS

SHEET NO. 11 OF 24 SHEETS

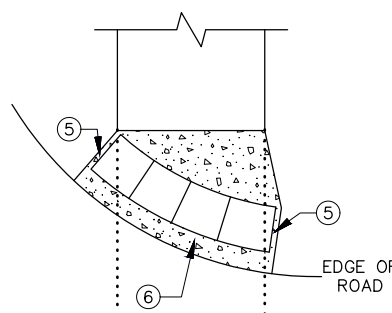
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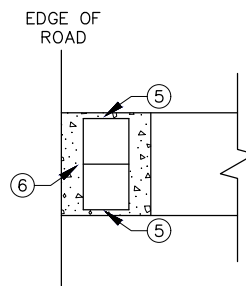
TYPICAL SIDE TREATMENT OPTIONS ③ ⑩



DETECTABLE EDGE WITH CURB AND GUTTER ⑦

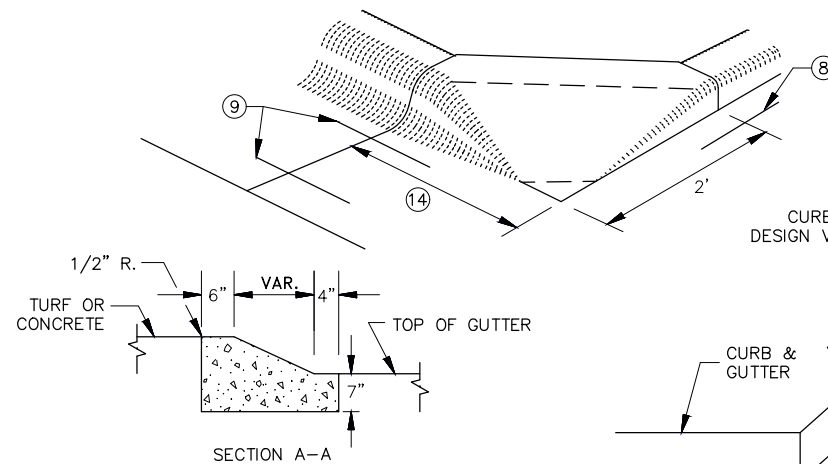


RADIAL DETECTABLE WARNING

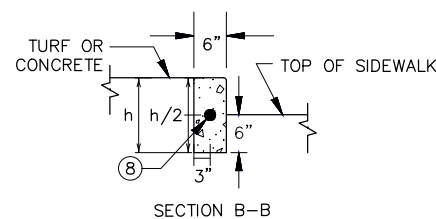


RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

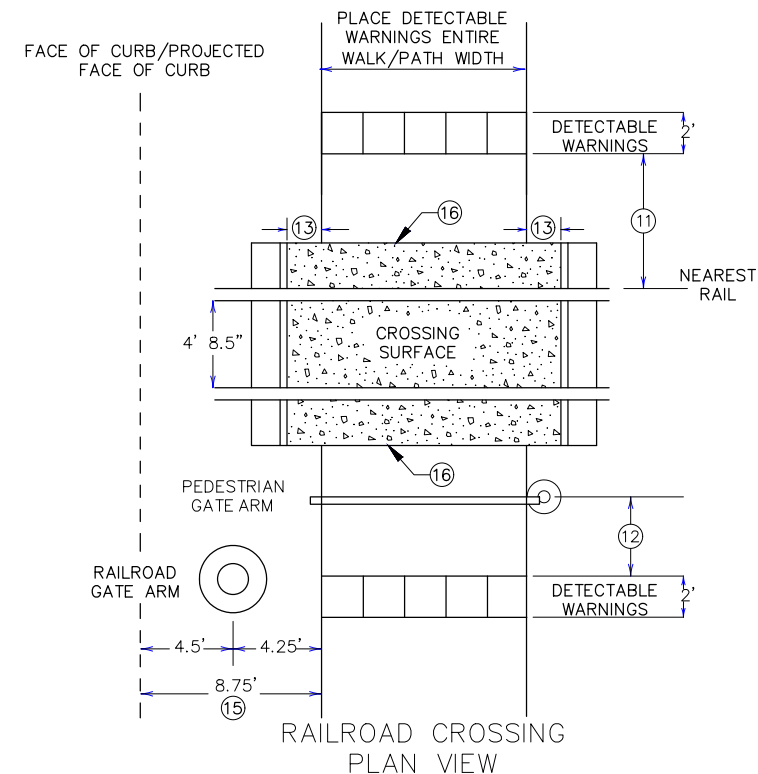


SECTION A-A



SECTION B-B

PEDESTRIAN APPROACH NOSE DETAIL (FOR RETURNED CURB SIDE TREATMENT)



RAILROAD CROSSING PLAN VIEW

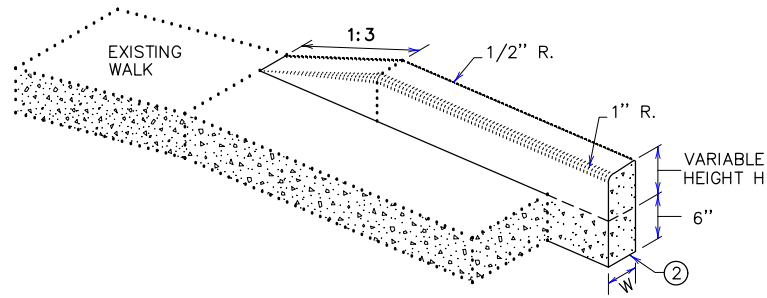
- NOTES:
- INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8-10% TO A MINIMUM 3 INCH CURB HEIGHT. INCREASE CURB TAPER LENGTH AT LESS THAN 8% OR REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.
- SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL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

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

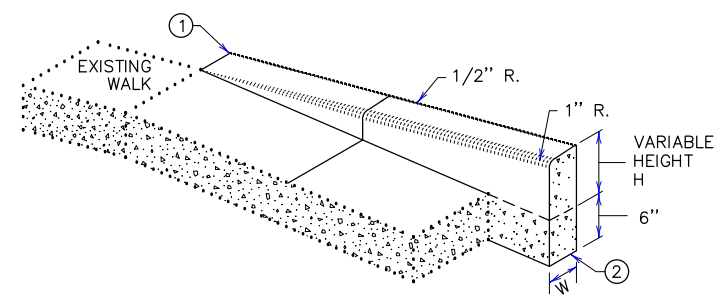


STANDARD PLAN 5-297.250	4 OF 6
<i>Tom Styrbicki</i>	APPROVED: 11-04-2021
THOMAS STYRBICKI	REVISD:
STATE DESIGN ENGINEER	SP VALUE

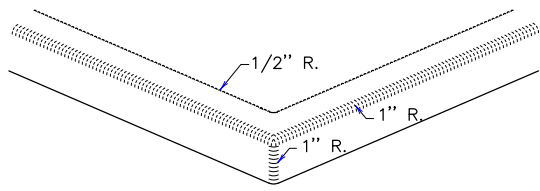
PEDESTRIAN CURB RAMP DETAILS



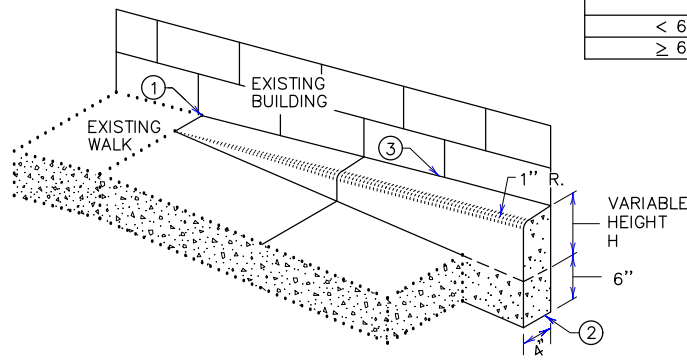
V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS



V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS

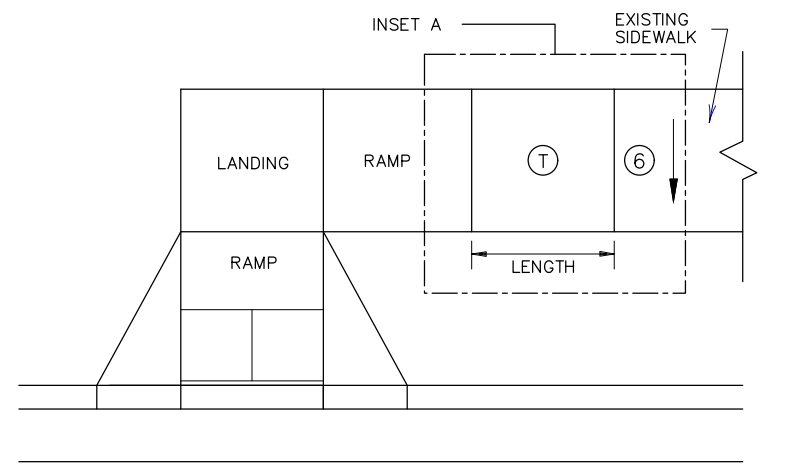


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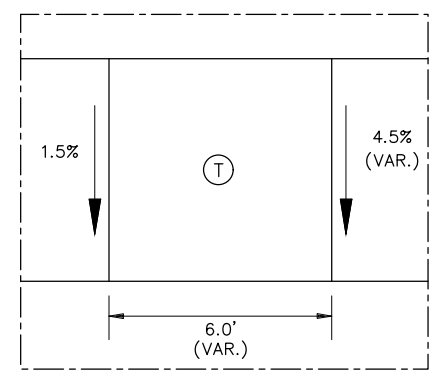


V CURB ADJACENT TO BUILDING
OR BARRIER

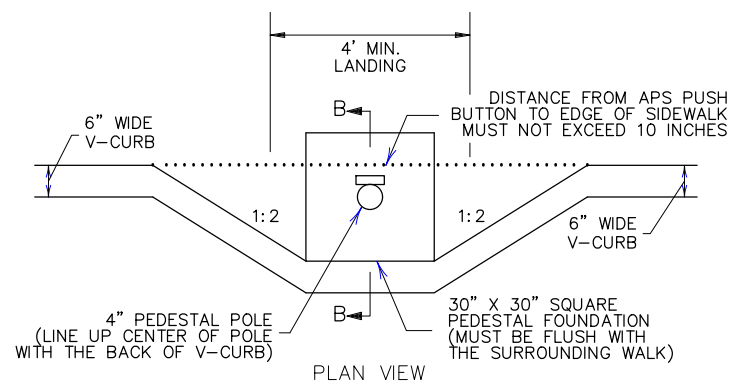
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



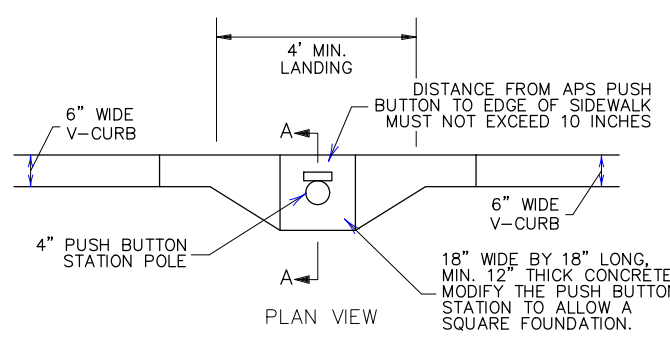
TRANSITION PANEL ④ ⑤



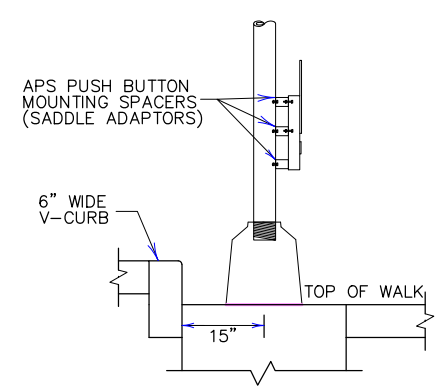
INSET A



PLAN VIEW

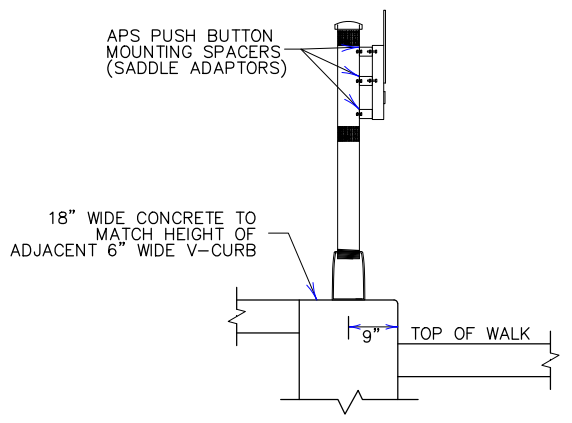


PLAN VIEW



SECTION B-B

SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)



SECTION A-A

PUSH BUTTON STATION (V-CURB)

NOTES:

- A WALKABLE FLARE IS AN 8-10% CONCRETE FLARE THAT IS REQUIRED WHEN THE FLARE IS ADJACENT TO A WALKABLE SURFACE, OR WHEN THE PEDESTRIAN PATH OF TRAVEL OF A PUSH BUTTON TRAVERSES THE FLARE.
- ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.
- WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.
- V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.
- V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.
- ① END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.
- ② ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.
- ③ CONSTRUCT USING APPROVED EXPANSION MATERIAL PER MNDOT TYPE A-E EXPANSION. LEAVE A MINIMUM 1/2" TOP GAP AND SEAL WITH MNDOT APPROVED SILICONE PER MNDOT SPEC 3722.
- ④ THE MAX. RATE OF CROSS SLOPE TRANSITIONING IS 1' LINEAR FOOT OF SIDEWALK PER HALF PERCENT CROSS SLOPE. WHEN PAR WIDTH IS GREATER THAN 6' OR THE RUNNING SLOPE IS GREATER THAN 5%, DOUBLE THE CALCULATED TRANSITION LENGTH.
- ⑤ TRANSITION PANELS ARE TO ONLY BE USED AFTER THE RAMP, OR IF NEEDED, LANDING ARE AT THE FULL CURB HEIGHT (TYPICAL SECTION).
- ⑥ EXISTING CROSS SLOPE GREATER THAN 2.0%.

LEGEND

- THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.
- ⑤ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
- ④ LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
- ① TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK. SEE THIS SHEET FOR ADDITIONAL INFORMATION.

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

MINNESOTA
DEPARTMENT
OF
TRANSPORTATION

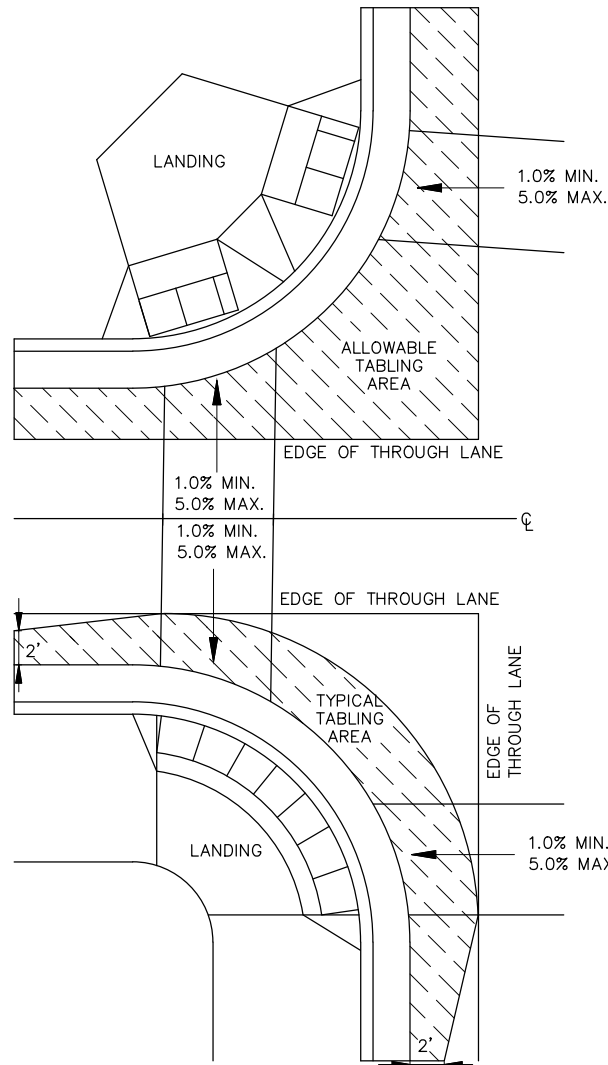
STANDARD PLAN 5-297.250 5 OF 6
APPROVED: 11-04-2021
REVISOR:
SP VALUE

PEDESTRIAN CURB RAMP DETAILS

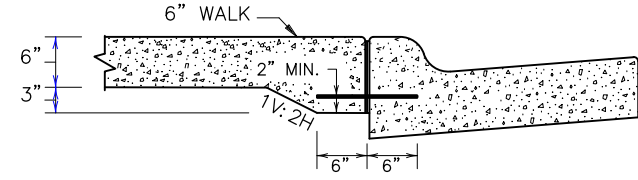
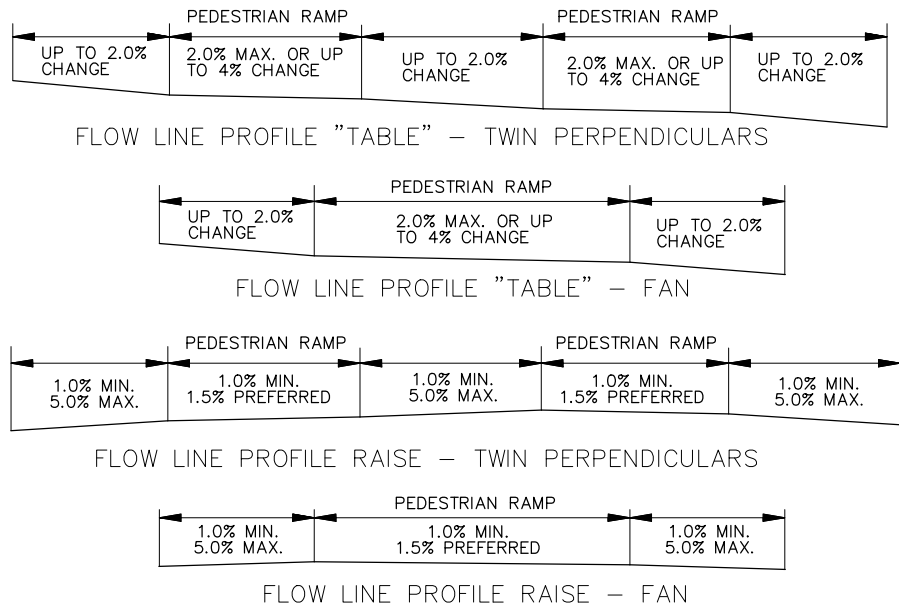
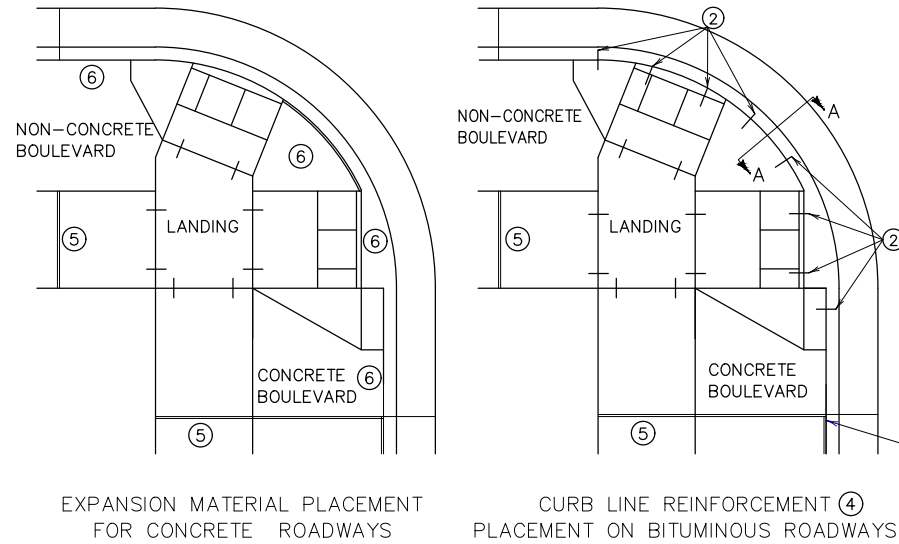
SHEET NO. 13 OF 24 SHEETS

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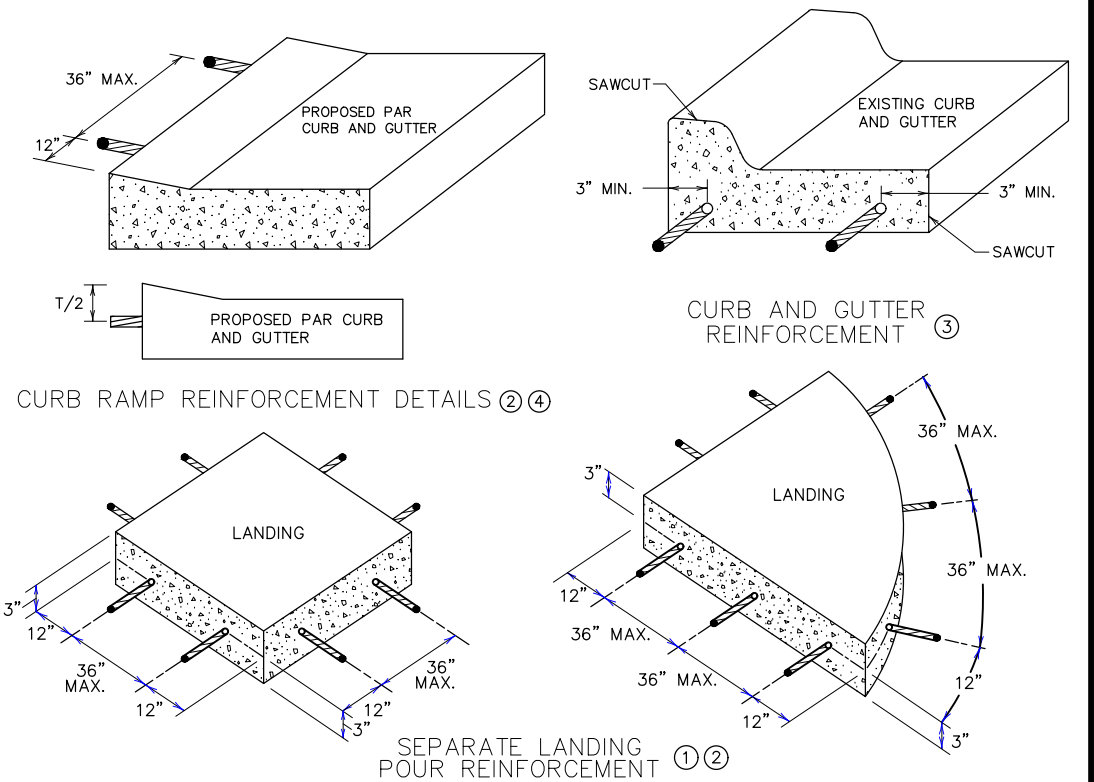
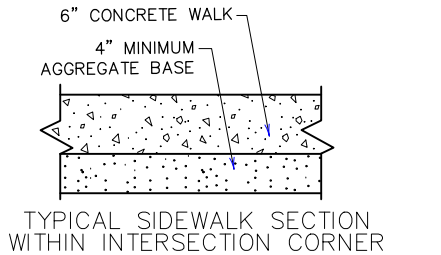
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CURB LINE AND ROAD CROSSING ADJUSTMENTS



SECTION VIEW A-A
THICKENED SECTION
THROUGH CURB RAMP FLARES



GENERAL NOTES:

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

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

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

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

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

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

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

NOTES:

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

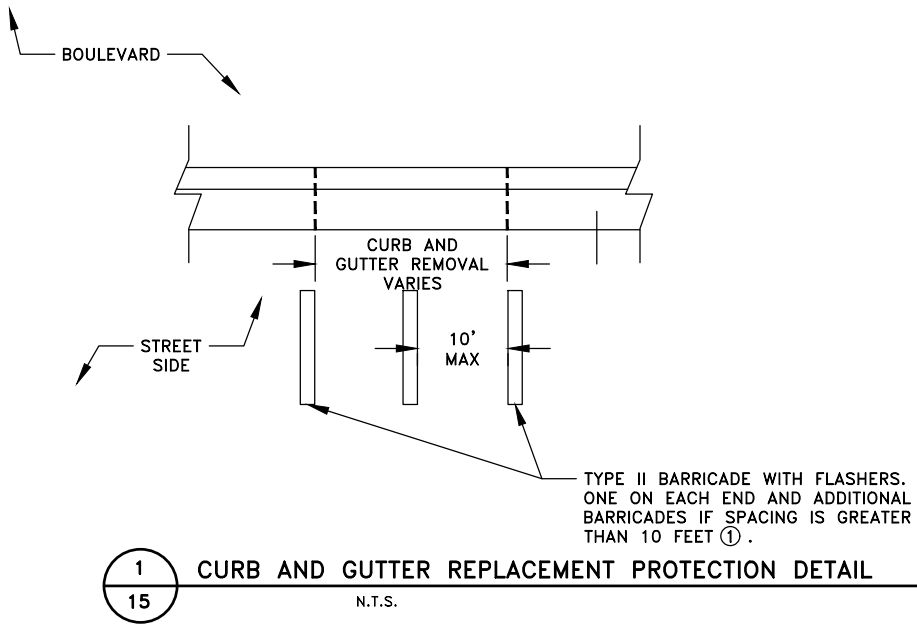
REVISION:
APPROVED: 11-04-2021 Jeff J. Perkins OPERATIONS DIVISION



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

PEDESTRIAN CURB RAMP DETAILS

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GENERAL TRAFFIC CONTROL NOTES:

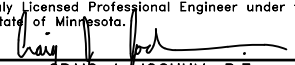
1. ALL CONTRACTOR TRAFFIC WITHIN THE CITY OF ST. FRANCIS SHALL BE LIMITED TO THE PROJECT AREA, DESIGNATED HAUL ROUTES, APPROVED CITY COLLECTOR STREETS OR COUNTY AND STATE HIGHWAYS.
2. THE PLANS INDICATE THE SALVAGE OR REMOVAL OF ALL STOP SIGNS AND STREET IDENTIFICATION SIGNS. THE CONTRACTOR SHALL MAINTAIN THESE SIGNS IN PLACE UNTIL THE PERMANENT SIGNS ARE INSTALLED. THESE SIGNS MAY REQUIRE TEMPORARY REMOVAL AND SALVAGE AND REPLACEMENT TO COMPLETE THE WORK. MAINTENANCE OF THE EXISTING SIGNS SHALL BE INCIDENTAL.
3. ALL TEMPORARY SIGNS SHALL BE REMOVED WITHIN 48 HOURS AFTER THEY ARE NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
4. ORANGE SAFETY FENCE SHALL BE CONSTRUCTED AS NEEDED AND AS DIRECTED BY THE ENGINEER. PAYMENT FOR THE FENCE SHALL BE PER ITEM 2572-TEMPORARY FENCE.
5. CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY PEDESTRIAN AND BICYCLE ACCESS ROUTE DEVICES, INCLUDING BUT NOT LIMITED TO PEDESTRIAN CHANNELIZERS AND PEDESTRIAN RAILING SYSTEMS, SIDEWALK BARRICADES, TEMPORARY WALKWAY SURFACES, DETECTABLE WARNING SURFACES, AUDIBLE MESSAGE DEVICES, CURB RAMPS, CHANNELIZERS AND ALL REQUIRED SIGNAGE TO MEET ALL REQUIREMENTS OF THE NOVEMBER 2005 VERSION OF THE PUBLIC RIGHT-OF-WAY ACCESSIBILITY GUIDELINES, THE LATEST VERSION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL, THE AMERICANS WITH DISABILITIES ACT, MNDOT'S GUIDANCE DOCUMENT "PEDESTRIAN ACCOMMODATIONS THROUGH WORK ZONES DESIGN GUIDANCE", AND MNDOT'S GUIDANCE DOCUMENT "ACCOMMODATING PEOPLE ON BICYCLES THROUGH WORK ZONES." THE CONTRACTOR SHALL PROVIDE TEMPORARY PEDESTRIAN AND BICYCLE ACCESS ROUTE LAYOUTS AND DETOURS FOR ANY PROPOSED SIDEWALK OR TRAIL CLOSURES. ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO MAINTAIN PEDESTRIAN AND BICYCLE ACCESS ROUTES SHALL BE INCIDENTAL TO ITEM 2563-ALTERNATE PEDESTRIAN ROUTE.
6. CONTRACTOR SHALL MAINTAIN A HANDICAP ACCESSIBLE PEDESTRIAN ROUTE AT ALL TIMES UNLESS AN APPROVED DETOUR IS CONSTRUCTED. ROUTE SHALL MEET ALL REQUIREMENTS LISTED IN NOTE 5 ABOVE. CONTRACTOR SHALL SUBMIT A DETAILED PLAN TO THE ENGINEER AND ANOKA COUNTY FOR APPROVAL SHOWING HOW THE ROUTE WILL BE MAINTAINED THROUGHOUT CONSTRUCTION. THIS WORK SHALL BE PAID PER ITEM 2563-ALTERNATE PEDESTRIAN ROUTE.
7. REFER TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) FOR SPACING OF TRAFFIC CONTROL SIGNS AND DEVICES.
8. IN AREAS THAT ARE NOT IN A CONTROLLED WORK SPACE, ALL DROP OFFS GREATER THAN 2" (CURB REMOVAL) SHALL BE MARKED WITH TYPE 2 BARRICADES WITH FLASHERS AT BOTH ENDS AND EVERY 10 L.F. SEE DETAIL 1 ON SHEET 15.
9. THE TRAFFIC CONTROL DEPICTED ON SHEETS 16-18 ARE CONSIDERED THE MINIMUM TRAFFIC CONTROL REQUIRED TO COMPLETE THE CONSTRUCTION IN THE REQUIRED PHASES. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO PROVIDE A SAFE WORK SPACE AT ALL TIMES. THE TRAFFIC CONTROL PHASES SHOWN DO NOT DEPICT TRAFFIC CONTROL THAT IS REQUIRED FOR CONSTRUCTION OF THE BITUMINOUS PAVEMENT AND STRIPING. THE CONTRACTOR SHALL PROVIDE LAYOUTS FOR APPROVAL BY THE ENGINEER FOR THESE WORK ITEMS. UNLESS NOTED ON THE TRAFFIC CONTROL PLANS AND PROVIDED FOR ON THE BID FORM ALL TRAFFIC CONTROL REQUIRED TO COMPLETE THIS PROJECT SHALL BE INCIDENTAL TO ITEM 2563-TRAFFIC CONTROL.
10. ALL NON-STANDARD TRAFFIC CONTROL SIGNS ON SHEETS 16-18 SHALL HAVE 8" SERIES C LETTERING.
11. ALL TEMPORARY TRAFFIC CONTROL SIGNS, UNLESS OTHERWISE NOTED, SHALL BE CONSTRUCTED ON TWO PERMANENT POSTS. POSTS SHALL BE REMOVED UPON COMPLETION OF THE PROJECT, OR UNTIL NO LONGER NEEDED, AND ALL DISTURBED AREAS SHALL BE RESTORED.
12. CONTRACTOR SHALL PROVIDE A 1:10 TAPER AND "BUMP" SIGNS (W8-1a) AT ALL MATCH POINTS TO THE EXISTING PAVEMENT UNTIL THE FINAL WEAR COURSE OF BITUMINOUS IS COMPLETED. TAPERS SHALL BE REMOVED JUST PRIOR TO PAVING. THIS MILLING WORK SHALL BE INCIDENTAL.

REFERENCE NOTES:

- ① BARRICADE INCIDENTAL TO ITEM-2563 TRAFFIC CONTROL.

DATE	REVISION

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.


Date 4/10/26 CRAIG J. JOCHUM, P.E.
Lic. No. 23461

DESIGNED BY: CJJ
DRAWN BY: SGJ
CHECKED BY: TAE



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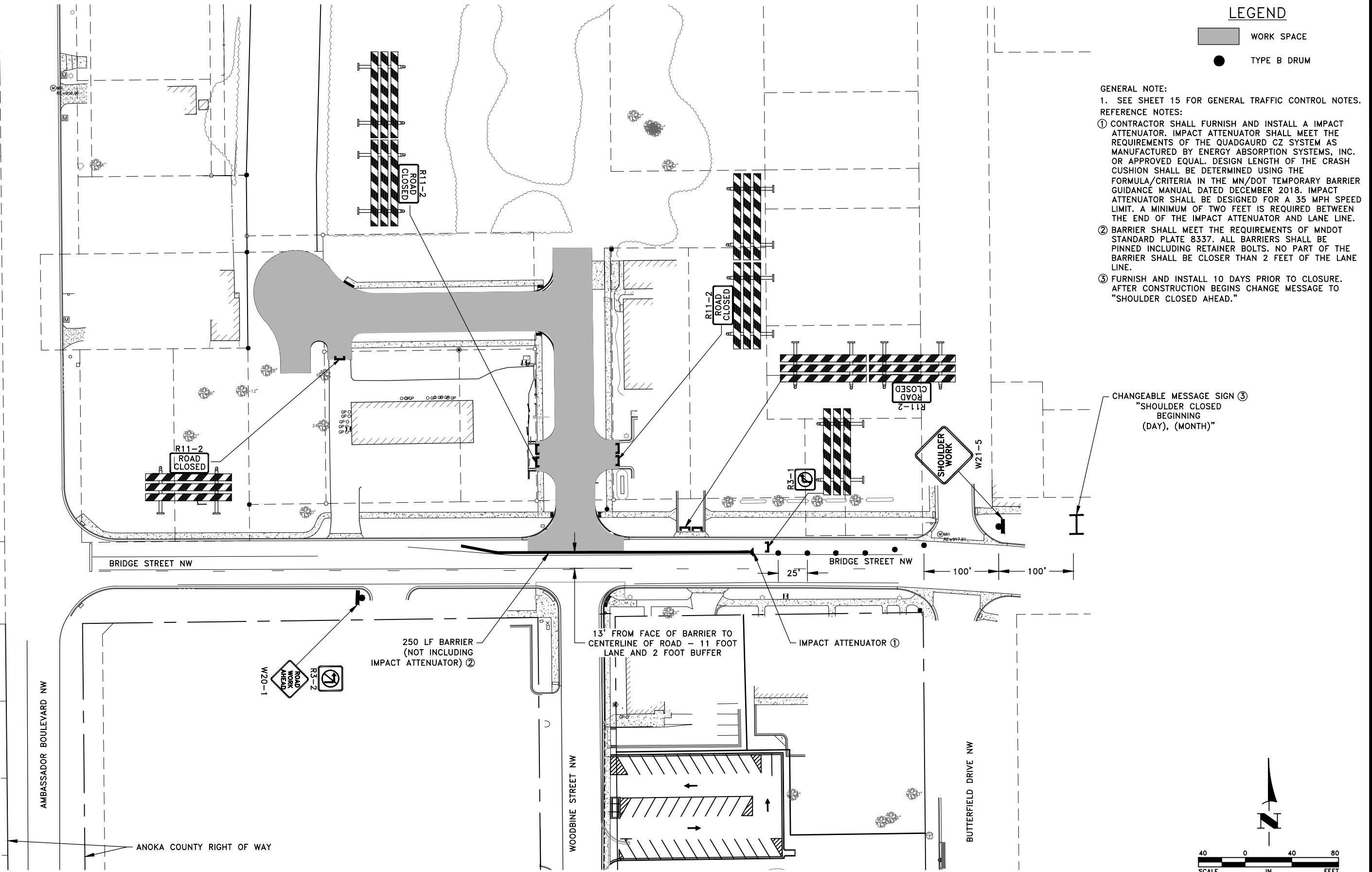
WOODBINE STREET
EXTENSION PROJECT

TRAFFIC CONTROL NOTES AND DETAILS

CITY OF ST. FRANCIS, MINNESOTA

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Graig J. JOCHUM, P.E.
Date 4/10/26 Lic. No. 23461

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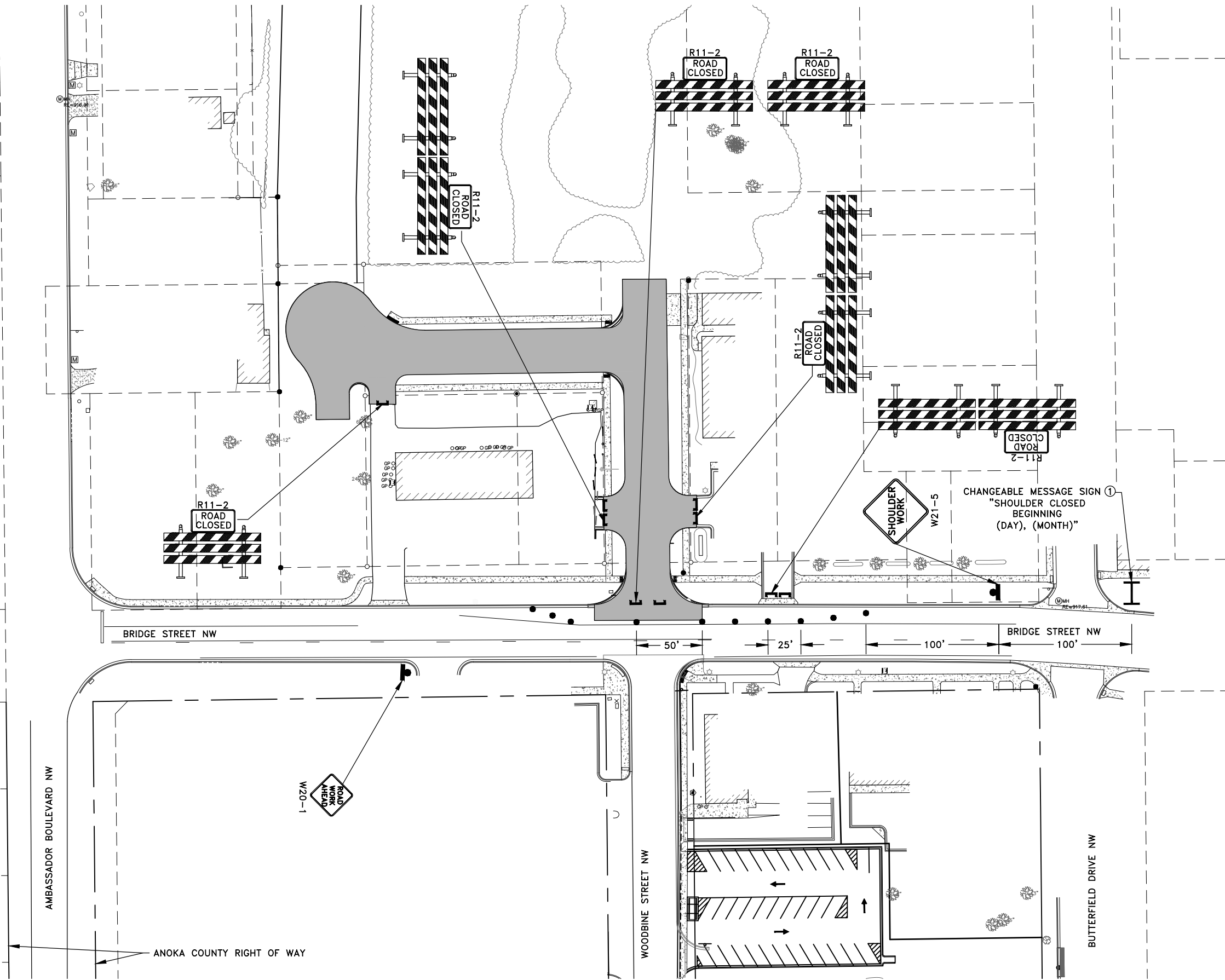
WOODBINE STREET
EXTENSION PROJECT

TRAFFIC CONTROL PLAN - PHASE 1

CITY OF ST. FRANCIS, MINNESOTA

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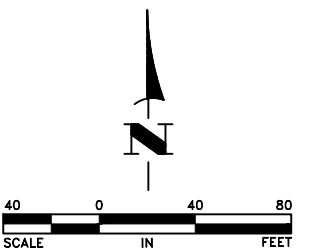
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LEGEND

- WORK SPACE
- TYPE B DRUM

GENERAL NOTES:
1. SEE SHEET 15 FOR GENERAL TRAFFIC CONTROL NOTES.
REFERENCE NOTES:
① FURNISH AND INSTALL 10 DAYS PRIOR TO CLOSURE.
AFTER CONSTRUCTION BEGINS CHANGE MESSAGE TO
"SHOULDER CLOSED AHEAD."



DATE	REVISION

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Date 4/10/26
CRAIG J. JOCHUM, P.E.
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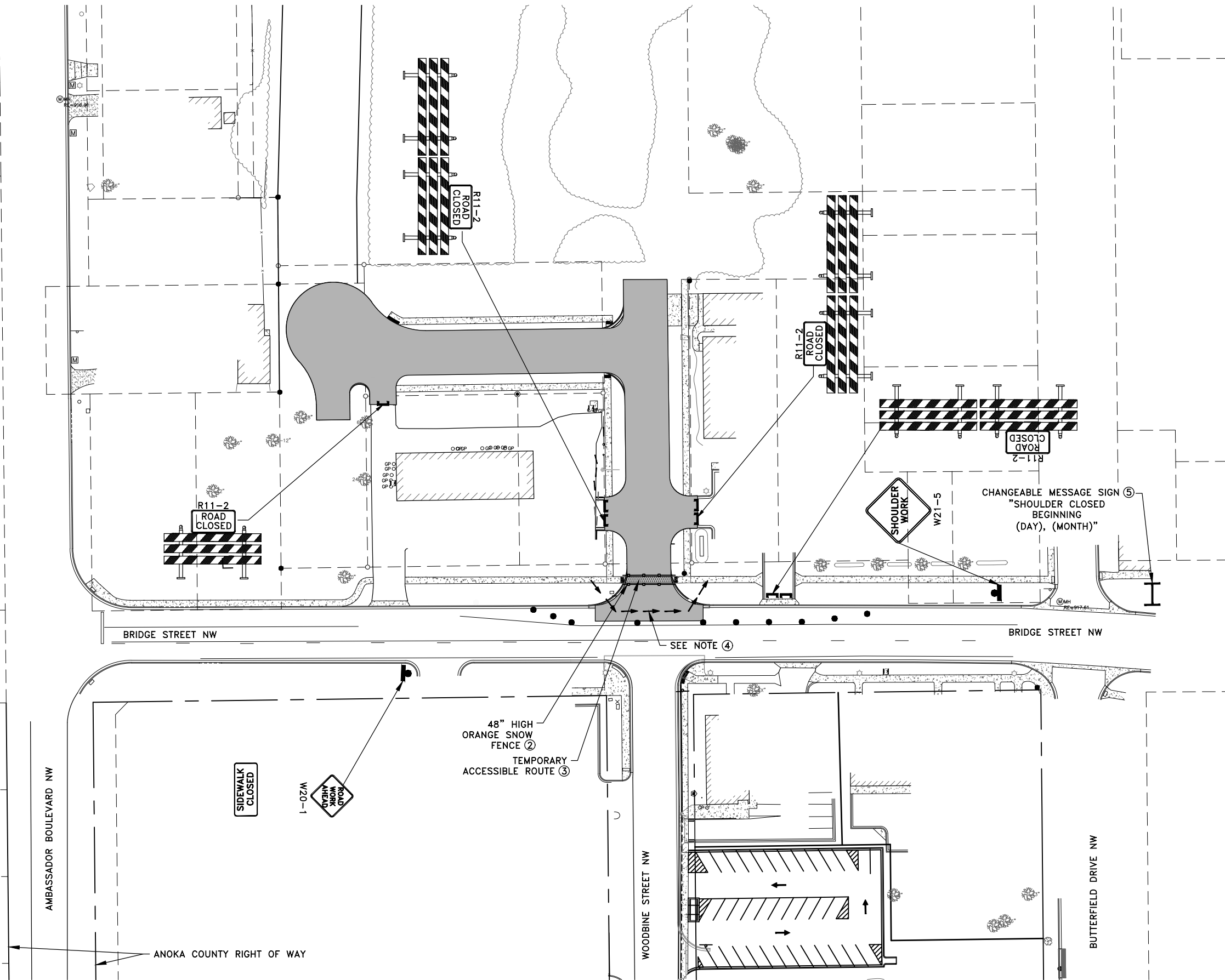
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WOODBINE STREET
EXTENSION PROJECT

TRAFFIC CONTROL PLAN - PHASE 2
CITY OF ST. FRANCIS, MINNESOTA

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LEGEND

- WORK SPACE
- TYPE B DRUM
- ACCESSIBLE SURFACE

GENERAL NOTES:

- SEE SHEET 15 FOR GENERAL TRAFFIC CONTROL NOTES.
- CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN TEMPORARY PEDESTRIAN ACCESS ROUTE DEVICES, INCLUDING BUT NOT LIMITED TO PEDESTRIAN CHANNELIZERS AND PEDESTRIAN RAILING SYSTEMS, SIDEWALK BARRICADES, TEMPORARY WALKWAY SURFACES, DETECTABLE WARNING SURFACES, AUDIBLE MESSAGE DEVICES, CURB RAMPS, CHANNELIZERS AND ALL REQUIRED SIGNAGE TO MEET ALL REQUIREMENTS OF THE NOVEMBER 2005 VERSION OF THE PUBLIC RIGHT-OF-WAY ACCESSIBILITY GUIDELINES, THE LATEST VERSION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL, AND THE AMERICANS WITH DISABILITIES ACT. AN ACCESSIBLE PEDESTRIAN ROUTE SHALL BE PROVIDED BY THE CONTRACTOR THROUGH THE CONSTRUCTION ZONE AT ALL TIMES. IF THE CONTRACTOR PROPOSES A PEDESTRIAN DETOUR THE CONTRACTOR SHALL PROVIDE TEMPORARY PEDESTRIAN ACCESS ROUTE LAYOUTS AND DETOURS A MINIMUM OF 7 DAYS BEFORE THE CLOSURE FOR REVIEW AND APPROVAL BY THE CITY AND ANOKA COUNTY. ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO MAINTAIN PEDESTRIAN ACCESS ROUTES SHALL BE INCIDENTAL TO ITEM 2563-ALTERNATE PEDESTRIAN ROUTE.
- TEMPORARY RAMPS AND ACCESSIBLE ROUTES SHALL HAVE FIRM, STABLE AND NON-SLIP SURFACES THAT ALLOWS NORMAL USAGE OF WHEELCHAIRS, WALKERS, STROLLERS AND OTHER MOBILITY DEVICES. SUITABLE SURFACE MATERIALS ARE CONCRETE, BITUMINOUS, STEEL, RUBBER, WOOD (3/4" OR THICKER), AND PLASTIC. GRAVEL, MILLINGS, OR OTHER UNEVEN SURFACES ARE NOT ACCEPTABLE SURFACE MATERIALS.

REFERENCE NOTES:

- BARRICADE INCIDENTAL TO ITEM-2563 TRAFFIC CONTROL.
- CONTRACTOR SHALL CONSTRUCT FENCE ALONG BOTH SIDES OF THE ACCESSIBLE ROUTE. ITEM SHALL BE PAID PER ITEM 2572-TEMPORARY FENCE.
- CONTRACTOR SHALL MAINTAIN AN ACCESSIBLE ROUTE/SURFACE AT ALL TIMES THROUGH THE CONSTRUCTION ZONE. SEE GENERAL NOTE 2 AND 3 ABOVE FOR ADDITIONAL INFORMATION.
- IF THE CONTRACTOR USES BRIDGE STREET AS A ACCESSIBLE ROUTE THE BARRIERS AND IMPACT ATTENUATOR SHOWN IN THE PHASE 1 TRAFFIC CONTROL PLAN ON SHEET 16 SHALL BE IN PLACE.
- FURNISH AND INSTALL 10 DAYS PRIOR TO CLOSURE. AFTER CONSTRUCTION BEGINS CHANGE MESSAGE TO "SHOULDER CLOSED AHEAD."

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CRAIG J. JOCHUM
CRAIG J. JOCHUM, P.E.
Date 4/10/26 Lic. No. 23461

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SGJ
CHECKED BY:
TAE



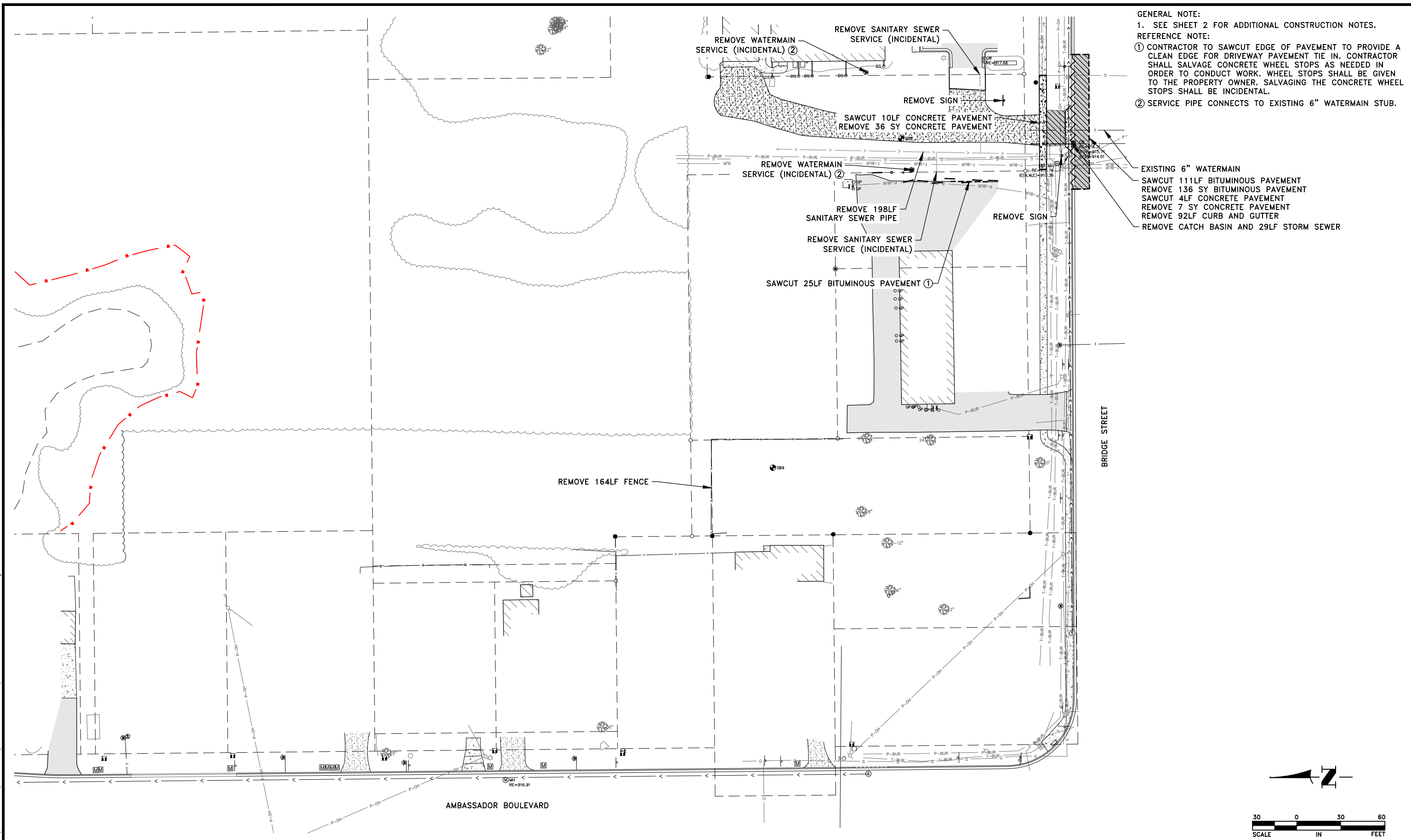
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WOODBINE STREET
EXTENSION PROJECT

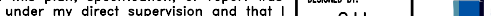
PEDESTRIAN ACCESS PLAN
CITY OF ST. FRANCIS, MINNESOTA

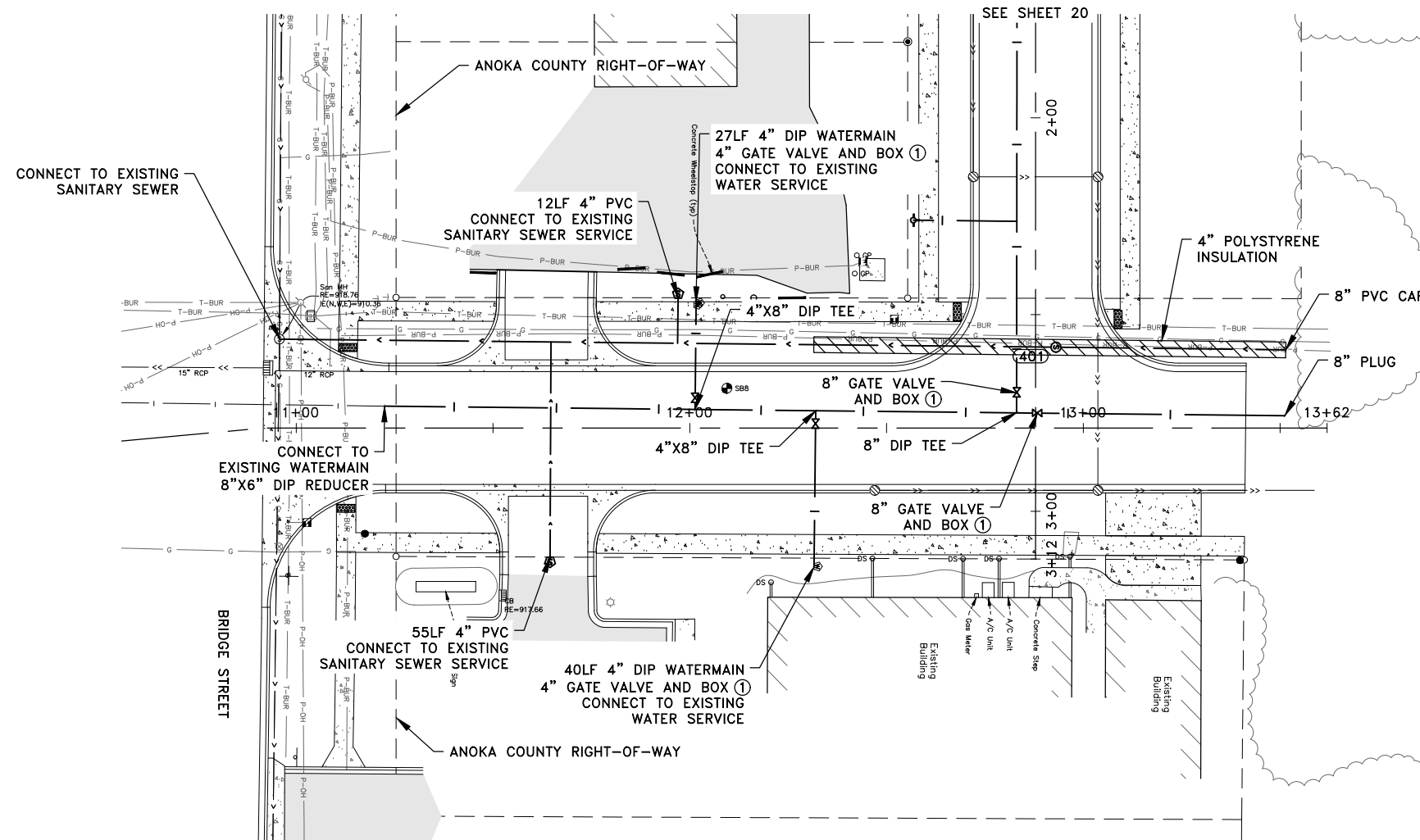
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- GENERAL NOTE:
1. SEE SHEET 2 FOR ADDITIONAL CONSTRUCTION NOTES.
- REFERENCE NOTE:
① CONTRACTOR TO SAWCUT EDGE OF PAVEMENT TO PROVIDE A CLEAN EDGE FOR DRIVEWAY PAVEMENT TIE IN. CONTRACTOR SHALL SALVAGE CONCRETE WHEEL STOPS AS NEEDED IN ORDER TO CONDUCT WORK. WHEEL STOPS SHALL BE GIVEN TO THE PROPERTY OWNER. SALVAGING THE CONCRETE WHEEL STOPS SHALL BE INCIDENTAL.
② SERVICE PIPE CONNECTS TO EXISTING 6" WATERMAIN STUB.
- EXISTING 6" WATERMAIN
SAWCUT 111LF BITUMINOUS PAVEMENT
REMOVE 136 SY BITUMINOUS PAVEMENT
SAWCUT 4LF CONCRETE PAVEMENT
REMOVE 7 SY CONCRETE PAVEMENT
REMOVE 92LF CURB AND GUTTER
REMOVE CATCH BASIN AND 29LF STORM SEWER

DATE	REVISION	I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.  CRAIG J. JOCHUM, P.E. Date 4/10/26 Lic. No. 23461	DESIGNED BY: CJJ		Hakanson Anderson Civil Engineers and Land Surveyors 3601 Thurston Ave., Anoka, Minnesota 55303 763-427-5860 FAX 763-427-0520 www.hakanson-anderson.com	WOODBINE STREET EXTENSION PROJECT	EXISTING CONDITIONS AND REMOVALS PLAN	CITY OF ST. FRANCIS, MINNESOTA	SHEET 19 OF 24 SHEETS
			DRAWN BY: SGJ						
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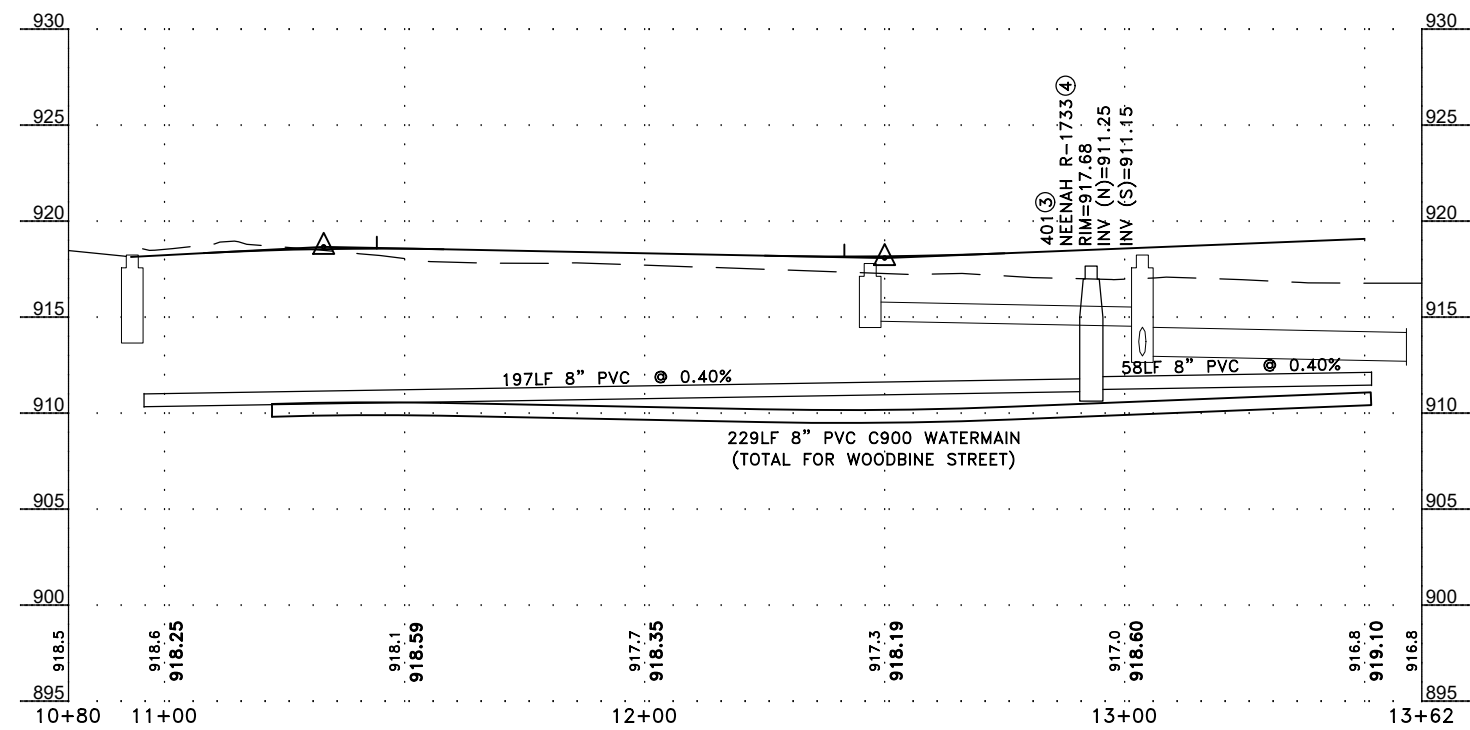
GENERAL NOTES:

1. SEE SHEET 2 FOR ADDITIONAL CONSTRUCTION NOTES.
2. CITY STANDARD PLATES (CSP) ARE SHOWN ON SHEETS 5-8.
3. CONSTRUCT WATERMAIN PIPE BEDDING PER CSP 213.
4. ALL WATERMAIN AND SANITARY SEWER SHALL BE CONSTRUCTED WITH TRACER WIRE PER CSP 217, 315, AND 317.
5. ALL WATERMAIN BENDS AND TEES SHALL BE SUPPORTED PER CSP 200 AND 203.
6. CONSTRUCT WATERMAIN AND SANITARY SEWER SERVICES PER CSP 201 AND 302.
7. ALL SANITARY SEWER TRUNK AND SERVICES THAT HAS LESS THAN 7.5' OF COVER SHALL BE CONSTRUCTED WITH TWO LAYERS OF 2" POLYSTYRENE INSULATION. THIS WORK SHALL BE PAID AS ITEM 2504.604 "4" POLYSTYRENE INSULATION". SEE CSP 304 FOR ADDITIONAL INFORMATION.

REFERENCE NOTES:

- ① CONSTRUCT ALL GATE VALVE AND BOXES PER CSP 207.
- ② CONSTRUCT HYDRANTS PER CSP 205, 206, AND 210.
- ③ CONSTRUCT STRUCTURE PER CSP 300.
- ④ CONSTRUCT CASTING PER CSP 307. CASTING SHALL BE CONSTRUCTED ON TOP OF ADJUSTING RINGS SURROUNDED BY AN EXTERNAL CHIMNEY SEAL. SEE CSP 309 AND 310.

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Craig J. Jochem
Date 4/10/26 **CRAGS J. JOCHUM, P.E.** Lic. No. 23461

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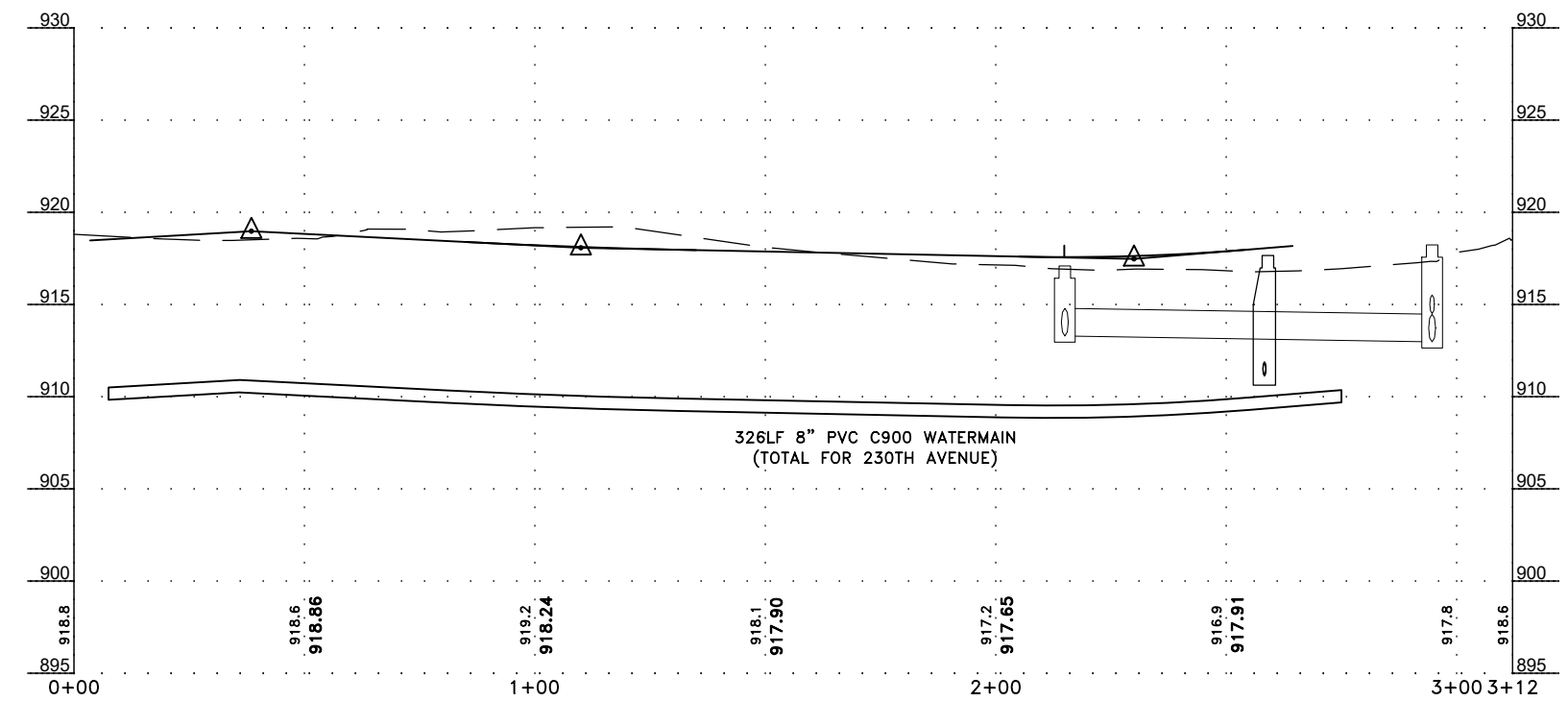
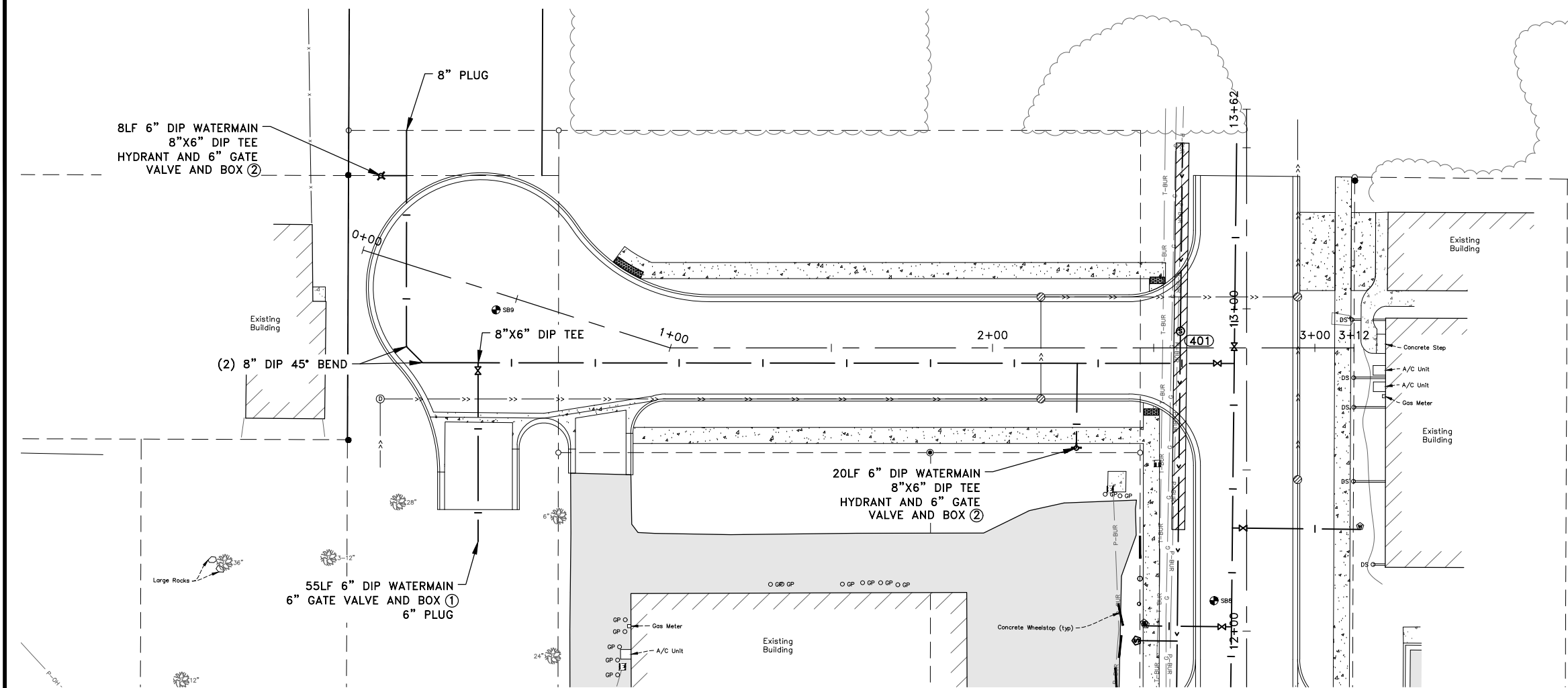
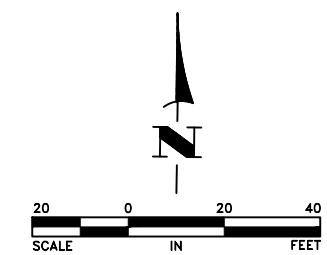
**WOODBINE STREET
EXTENSION PROJECT**

WATERMAIN AND SANITARY SEWER PLAN

**WOODBINE STREET
CITY OF ST. FRANCIS, MINNESOTA**

SHEET
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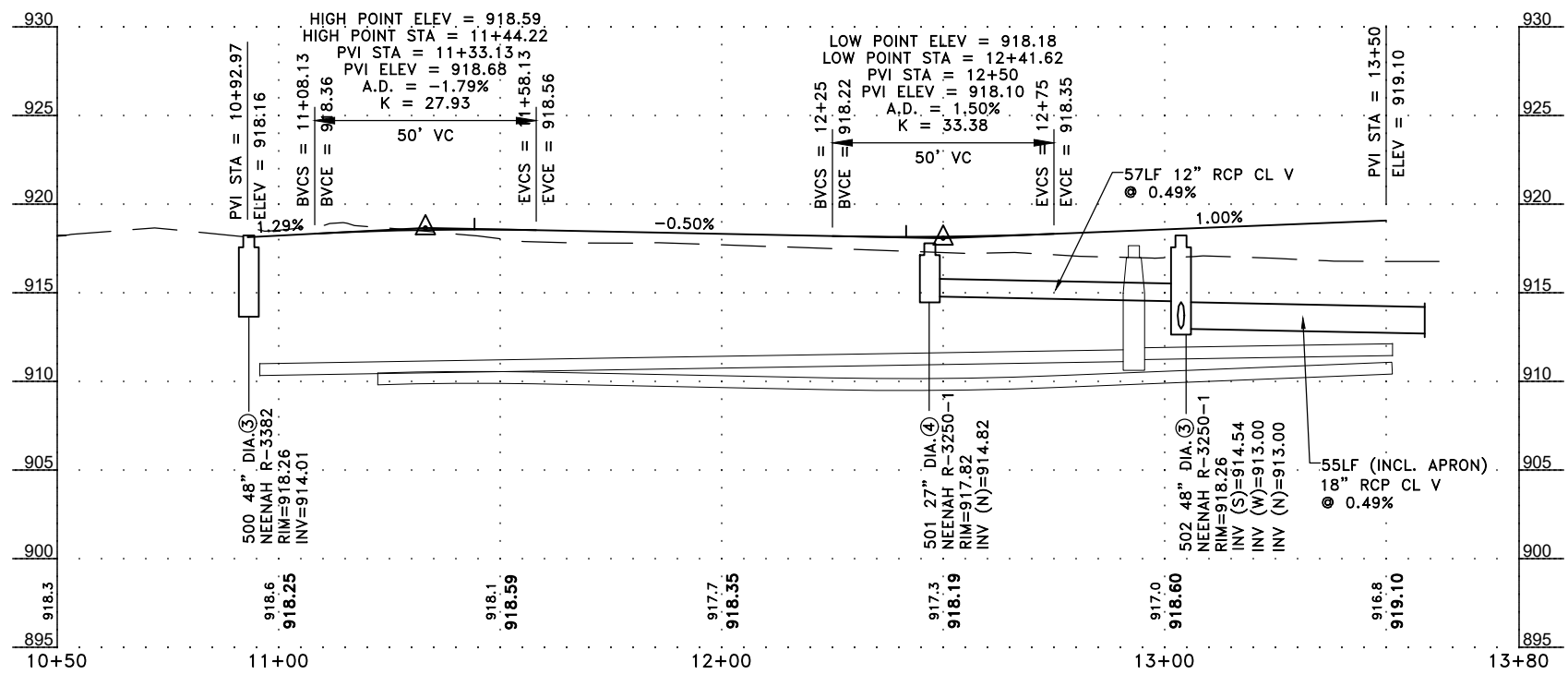
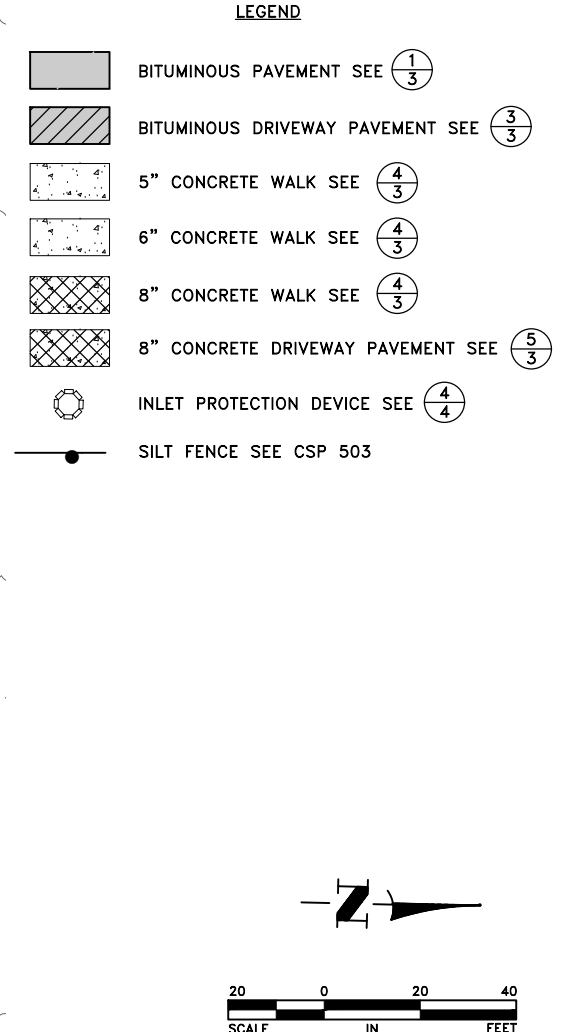
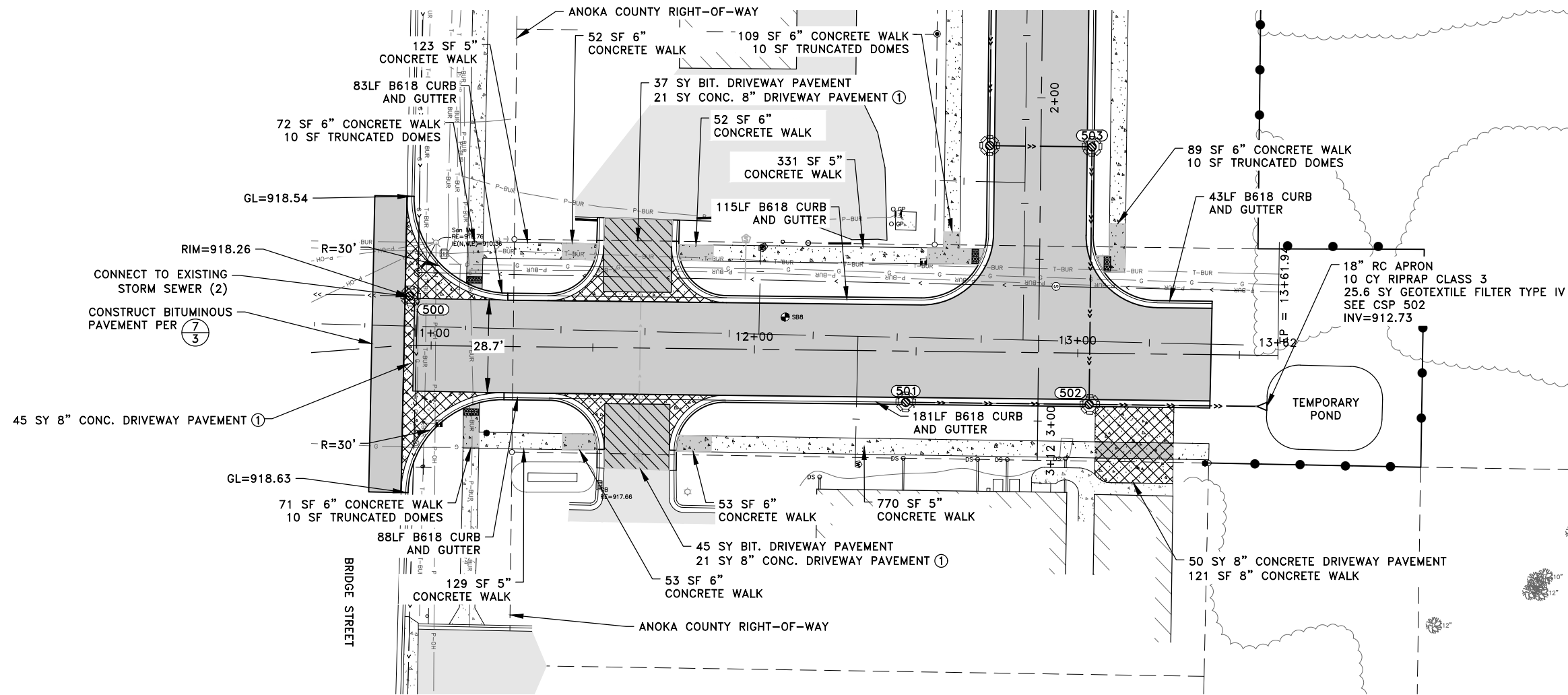
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 5. ALL WATERMAIN BENDS AND TEES SHALL BE SUPPORTED PER CSP 200 AND 203.
- REFERENCE NOTES:
- ① CONSTRUCT ALL GATE VALVE AND BOXES PER CSP 207.
 - ② CONSTRUCT HYDRANTS PER CSP 205, 206, AND 210.
 - ③ CONSTRUCT STRUCTURE PER CSP 300.
 - ④ CONSTRUCT CASTING PER CSP 307. CASTING SHALL BE CONSTRUCTED ON TOP OF ADJUSTING RINGS SURROUNDED BY AN EXTERNAL CHIMNEY SEAL. SEE CSP 309 AND 310.



Apr 11, 2026 -- 6:40pm
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DATE	REVISION																							
DESIGNED BY:	CJJ																							
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- GENERAL NOTES:**
- SEE SHEET 2 FOR ADDITIONAL CONSTRUCTION NOTES.
 - CITY STANDARD PLATES (CSP) ARE SHOWN ON SHEETS 5-8.
 - SEE DETAILS 1, 2, AND 3 ON SHEET 4 FOR PAVING AT CURB, GATE VALVES, AND CASTINGS.
- REFERENCE NOTES:**
- SEE DETAIL 6 ON SHEET 3 FOR ADDITIONAL INFORMATION ON THE CONSTRUCTION OF THE CONCRETE VALLEY GUTTER.
 - CONSTRUCT STRUCTURE PER CSP 400. CASTING SHALL BE CONSTRUCTED WITH ADJUSTING RINGS. SEE CSP 414 FOR ADDITIONAL INFORMATION.
 - CONSTRUCT STRUCTURE PER CSP 406.
 - CONSTRUCT STRUCTURE PER CSP 410.

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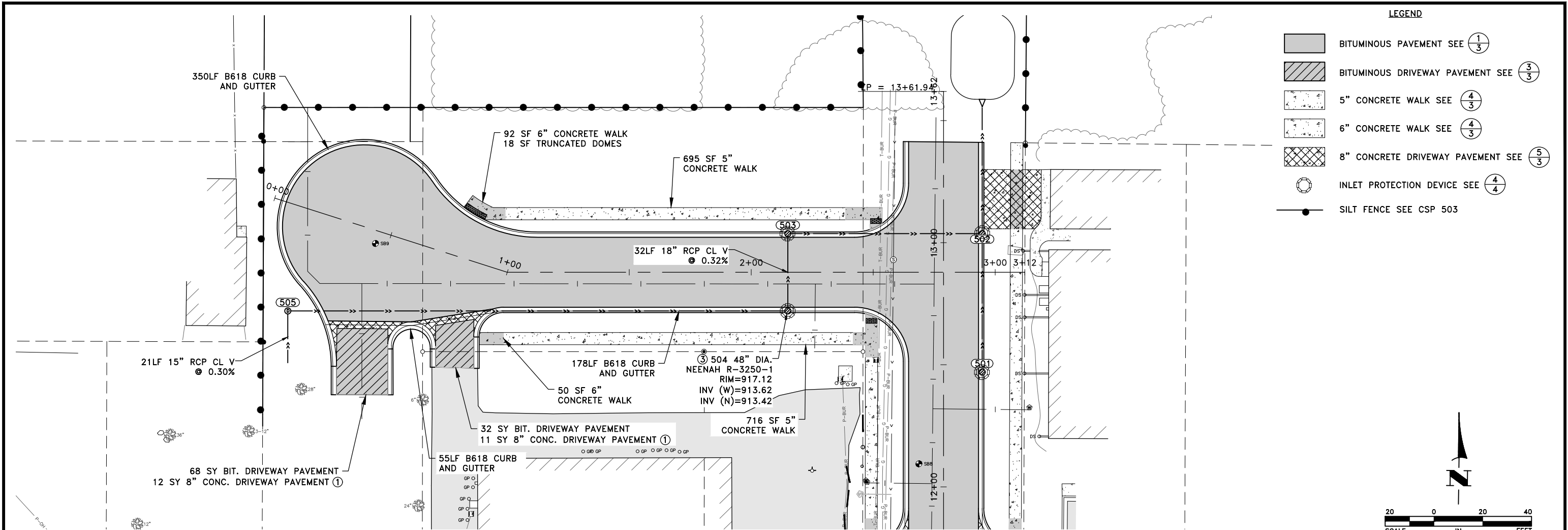
**WOODBINE STREET
EXTENSION PROJECT**

STREET AND STORM SEWER PLAN

**WOODBINE STREET
CITY OF ST. FRANCIS, MINNESOTA**

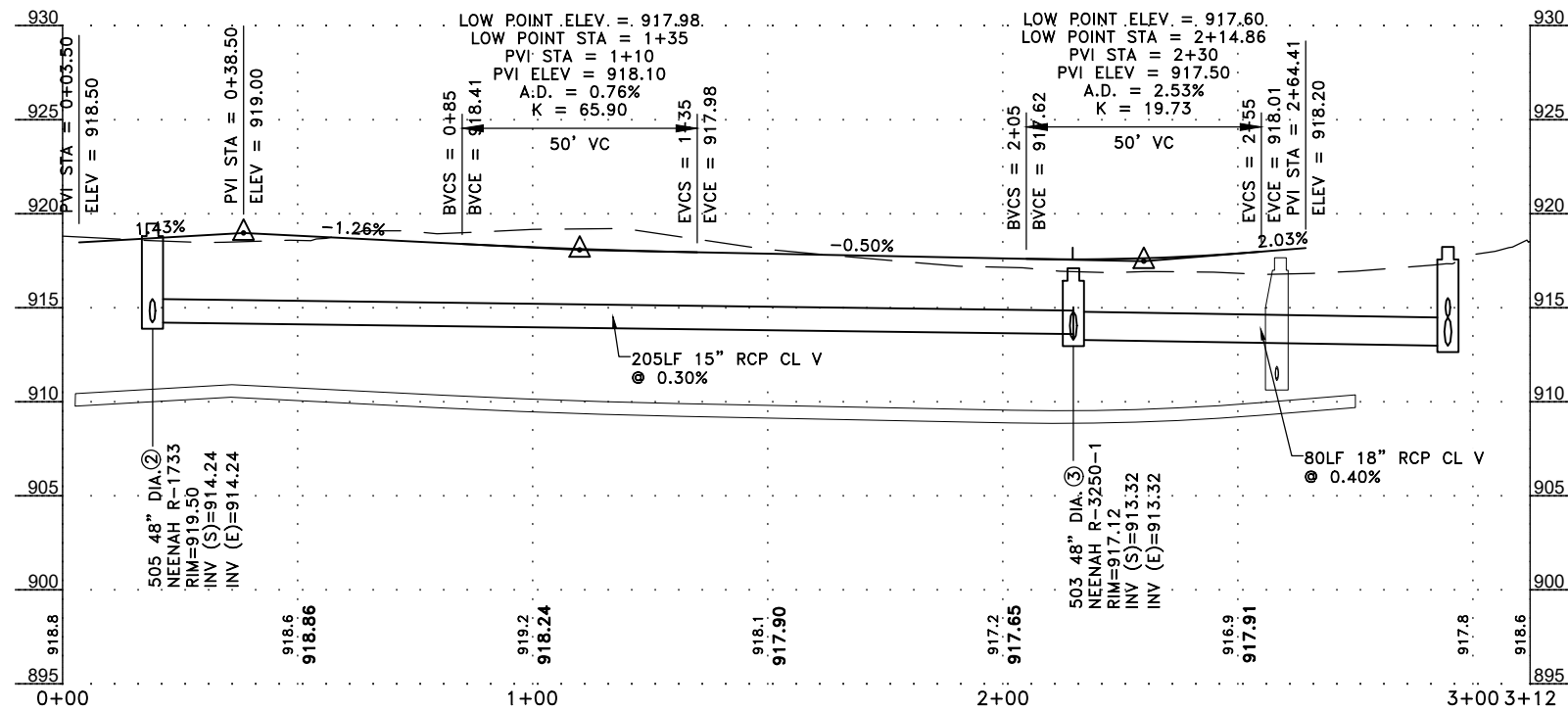
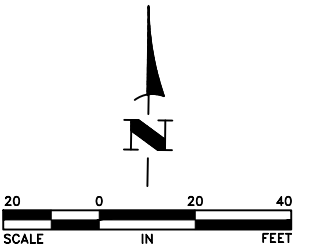
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LEGEND

- BITUMINOUS PAVEMENT SEE ①/③
- BITUMINOUS DRIVEWAY PAVEMENT SEE ③/③
- 5\"/>
- 6\"/>
- 8\"/>
- INLET PROTECTION DEVICE SEE ④/④
- SILT FENCE SEE CSP 503



- GENERAL NOTES:
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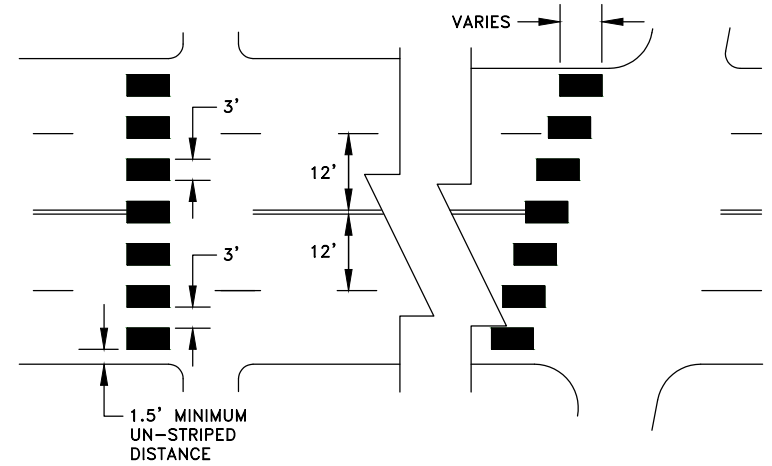
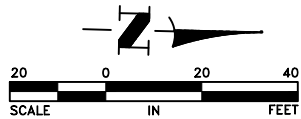
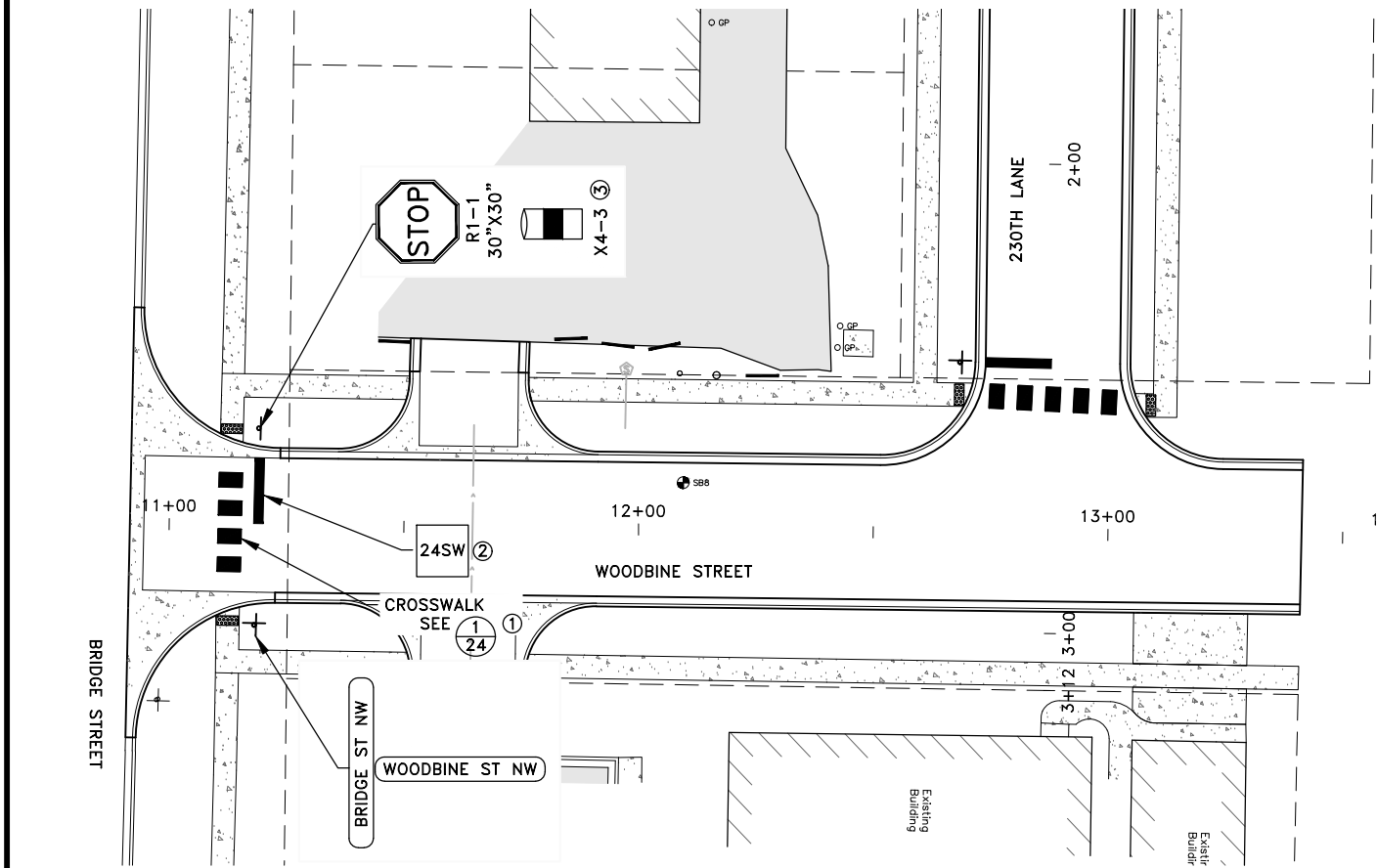
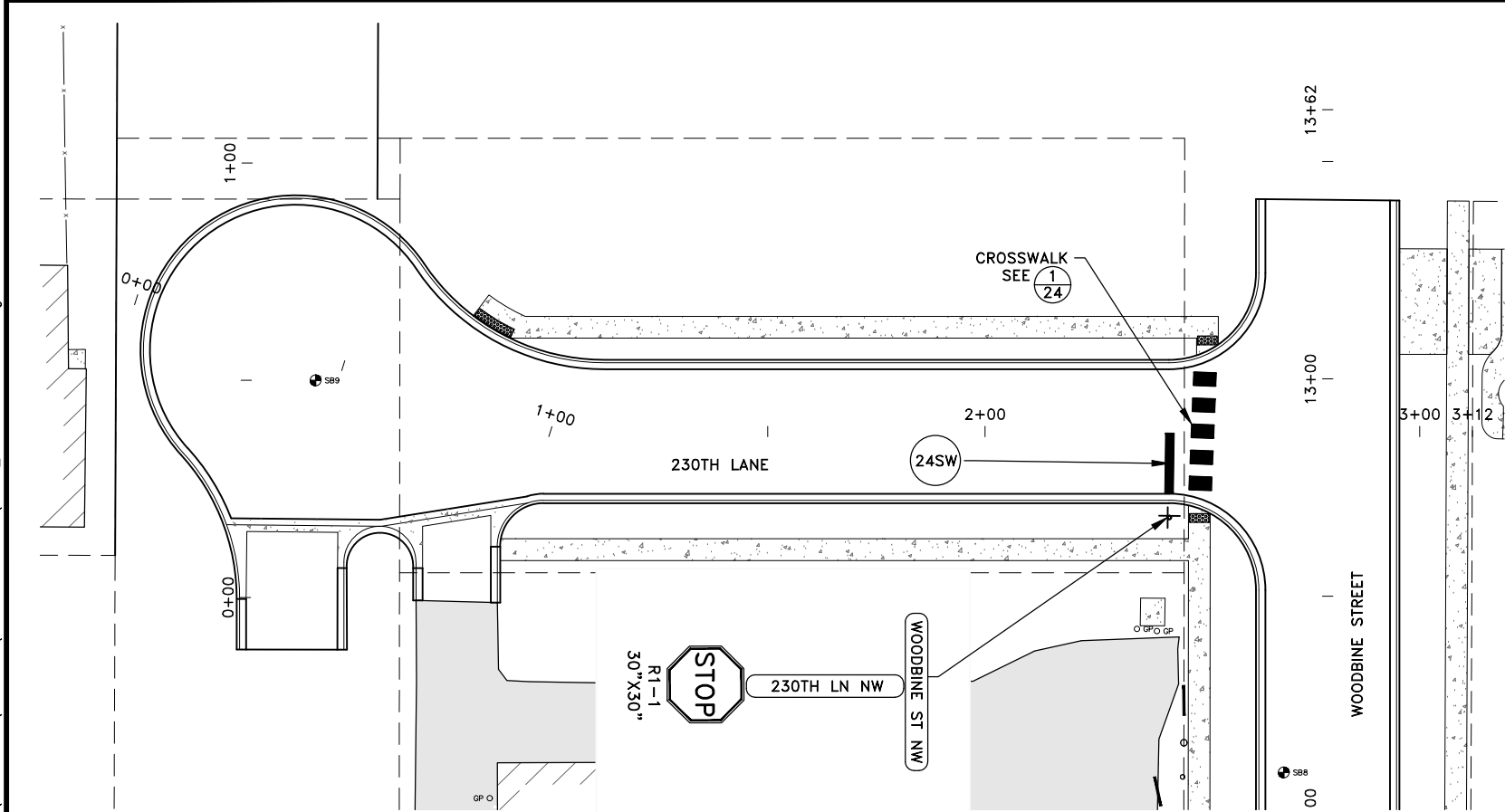
WOODBINE STREET
EXTENSION PROJECT

STREET AND STORM SEWER PLAN

230TH LANE
CITY OF ST. FRANCIS, MINNESOTA

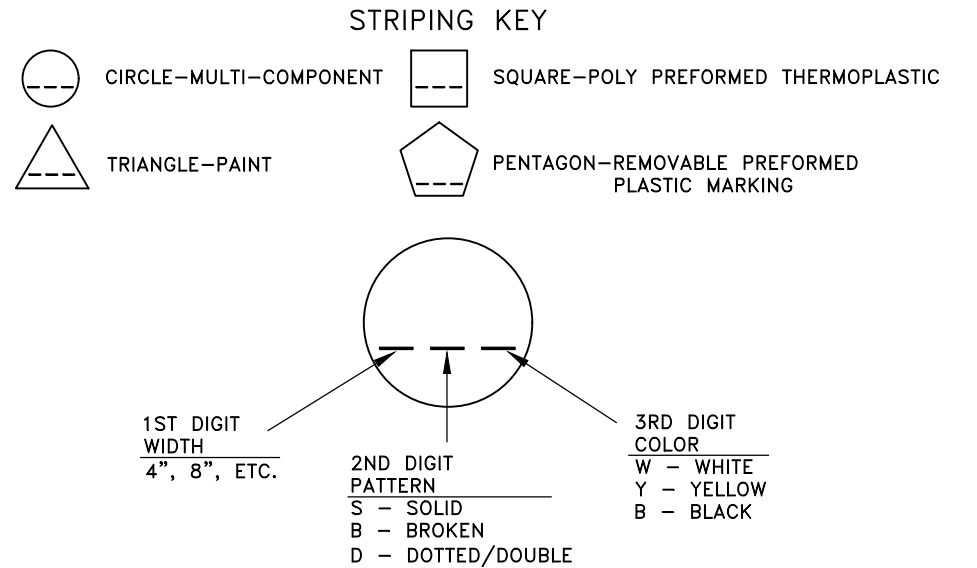
SHEET
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24
SHEETS

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- GENERAL CROSSWALK NOTES:
1. PAINTED AREAS TO BE CENTERED ON CENTERLINE AND LANE LINES.
 2. A MINIMUM OF 1.5 FT. CLEAR DISTANCE SHALL BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS DISTANCE IT MUST BE OMITTED.
 3. ON TWO LANE TWO WAY STREETS, USE SPACING SHOWN FOR AN 11 FT. INSIDE LANE.
 4. FOR DIVIDED ROADWAYS, ADJUSTMENTS IN SPACING OF THE BLOCKS SHOULD BE MADE IN THE MEDIAN SO THAT THE BLOCKS ARE MAINTAINED IN THEIR PROPER LOCATION ACROSS THE TRAVELED PORTION OF THE ROADWAY.
 5. AT SKEWED CROSSWALKS, THE BLOCKS ARE TO REMAIN PARALLEL TO THE LANE LINES AS SHOWN.
 6. THE BLOCKS SHALL BE PLACED SO THAT THEY ARE NOT LOCATED IN THE WHEEL PATH OF THE VEHICLES

1
24 PEDESTRIAN CROSSWALK MARKINGS



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

REFERENCE NOTES:

- ① THE CROSSWALK AT THE INTERSECTION OF WOODBINE STREET AND BRIDGE STREET SHALL BE WHITE, GROUND IN, PREFORMED THERMOPLASTIC.
- ② THE STOP BAR AT THE INTERSECTION OF WOODBINE STREET AND BRIDGE STREET SHALL BE GROUND IN.
- ③ X4-3 DELINEATOR SHALL BE PAID AS ITEM 2564 "DELINEATOR/MARKER".

DATE	REVISION

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.

Date 4/10/26
CRAIG J. JOCHUM, P.E.
Lic. No. 23461

DESIGNED BY:
CJJ
DRAWN BY:
SGJ
CHECKED BY:
TAE



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WOODBINE STREET
EXTENSION PROJECT

SIGNAGE AND STRIPING PLAN
CITY OF ST. FRANCIS, MINNESOTA

SHEET
24
OF
24
SHEETS