

CITY OF CORCORAN

STANDARD DETAIL PLATES

NOTES:

1. STANDARD DETAIL PLATES ARE UPDATED ANNUALLY. LATEST VERSION WILL BE ENFORCED.
2. REFERENCE ON CITY PLATES ARE TO MNDOT 2025 EDITION SPECIFICATIONS.



2026 Standard Detail Plates

COVER

LAST REVISION:
FEBRUARY 2026



PLATE NO.
COVER-01

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PLATE NO.
GEN-1A

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PLATE NO.
GEN-1B

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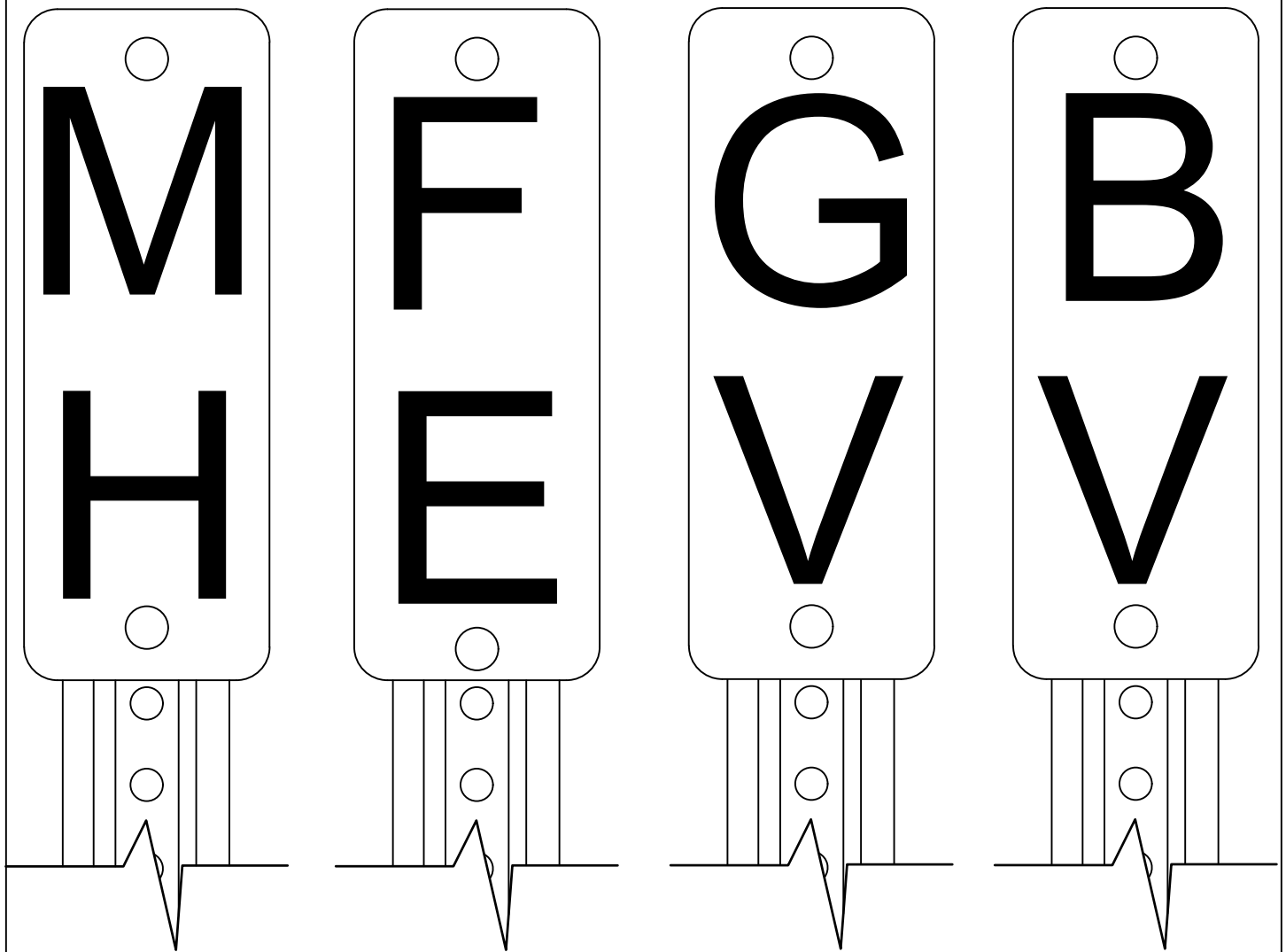
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PLATE NO.
GEN-1C



NOTES:

1. 0.063" THICK ALUMINUM SIGN.
2. U-CHANNEL POST MINIMUM 3LB/FT, 6-6" LONG, PAINTED GREEN.
3. STORM SEWER & FES: BLACK LETTERS ON WHITE HIGH INTENSITY, REFLECTORIZED BACKGROUND.
4. SANITARY SEWER: WHITE LETTERS ON GREEN HIGH INTENSITY, REFLECTORIZED BACKGROUND.
5. GATE VALVES: "GV" WHITE LETTERS ON BLUE HIGH INTENSITY, REFLECTORIZED BACKGROUND.
6. BUTTERFLY VALVES: "BV" WHITE LETTERS ON BLUE HIGH INTENSITY, REFLECTORIZED BACKGROUND.
7. PLACED AS DIRECTED BY THE CITY ENGINEER OR THEIR REPRESENTATIVES.



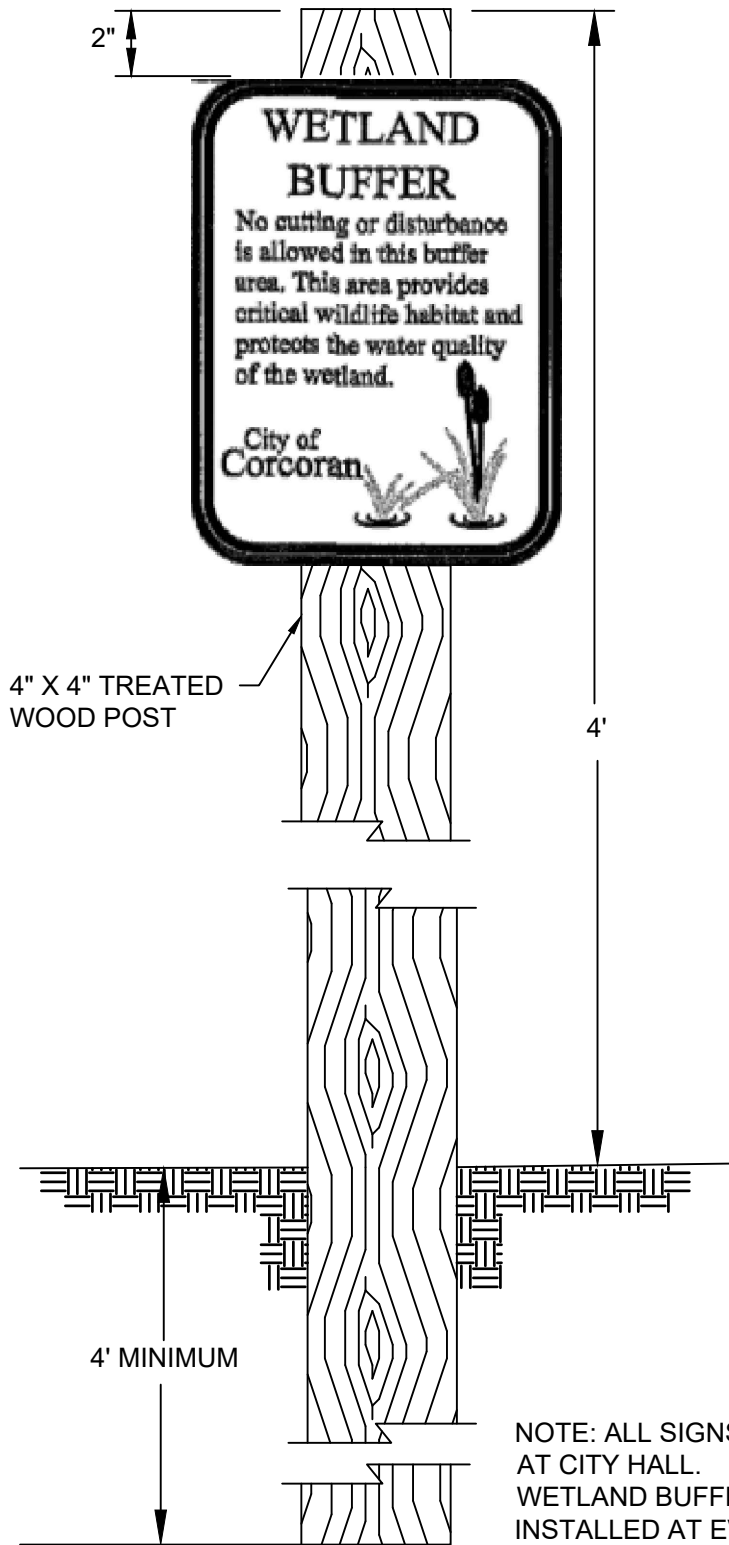
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STRUCTURE MARKER SIGNS

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PLATE NO.
GEN-2



NOTE: ALL SIGNS SHALL BE OBTAINED
AT CITY HALL.
WETLAND BUFFER POSTS TO BE
INSTALLED AT EVERY PROPERTY
CORNER AND AT ANGLE POINTS OF
WETLAND BUFFER



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WETLAND BUFFER SIGN

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PLATE NO.
GEN-3

THIS WORK SHALL CONSIST OF THE CONTRACTOR PROVIDING SURVEY QUALITY X,Y,Z LOCATES OF ALL SANITARY SEWER, STORM SEWER, AND WATER DISTRIBUTION. THE DATA WILL BE COLLECTED DURING CONSTRUCTION, ONSITE USING A SURVEY GRADE GPS, IN THE HENNEPIN COUNTY COORDINATE SYSTEM. THE MNCORS CORRECTION SOURCE MOUNT POINT COORDINATE SYSTEM IS TO BE CMRX_NAD83(1996). THE REQUIRED ACCURACY FOR THE DATA COLLECTED SHALL BE 0.28 FOOT TOLERANCE.

THE SURVEY SHOTS MUST BE TAKEN AT THE FOLLOWING LOCATIONS AND SUBMITTED USING APPROVED NAMING CONVENTIONS AS OUTLINED IN THE TABLES BELOW:

SANITARY SEWER

CODE	DESCRIPTION
SCO	Sanitary cleanout
SGV	Sanitary gate valve
SMH	Sanitary manhole (Indicate if forcemain outlet)
SAIRMH	Sanitary air release manhole
SBND	Sanitary bend
SPLUG	Sanitary plug/cap
SSL	Sanitary sleeve
SLS	Sanitary lift station wet well
SLSV	Sanitary lift station valve pit
SMS	Sanitary metering station
SFBND	Sanitary forcemain bend
SFM	Sanitary forcemain (point on main every 50')
SABAND	Sanitary end of abandoned pipe
SWYE	Sanitary service wye

WATER DISTRIBUTION

CODE	DESCRIPTION
WGV	Water gate valve
WHGV	Water hydrant gate valve
WHYD	Water hydrant top nut
WMH	Water other manhole (Indicate manhole use in notes)
WBND	Water bend (Including changes in direction for WM services)
WCROS	Water cross
WIC	Water interconnect
WPLUG	Water plug/cap
WRED	Water reducer
WSL	Water sleeve
WTEE	Water tee
WCORP	Water service corporation stop
WCURB	Water service curb stop
WABAND	Water end of abandoned pipe

STORM SEWER

CODE	DESCRIPTION
STCO	Storm cleanout
STCV	Storm control valve
STMH	Storm manhole (Indicate if sump or forcemain outlet)
STCBMH	Storm catch basin manhole (Indicate if sump or forcemain outlet)
STCB	Storm catch basin (Indicate if sump or forcemain outlet)
STBH	Storm beehive (Indicate if sump or forcemain outlet)
STIN	Storm inlet - flared end section
STOUT	Storm outlet - flared end section
STOCS	Storm outlet control structure
STSPC	Storm Sewer Structure Special (Specify in notes: baffle, weir, etc.)
STBND	Storm bend
STPLUG	Storm plug/cap
STLS	Storm lift station wet well
STLSV	Storm lift station valve pit
STFBND	Storm forcemain bend
STFM	Storm forcemain (point on main every 50')
STDT	Storm drain tile structure
STSP	Storm service plug
STWYE	Storm service wye
STABAND	Storm end of abandoned pipe

THE CONTRACTOR SHALL PROVIDE A MICROSOFT EXCEL SPREADSHEET, .CSV FILE, OR SHAPE FILE TO THE CITY WITH THE INFORMATION IN THE FOLLOWING COLUMN HEADINGS:

1. DESCRIPTION
2. Y COORDINATE
3. X COORDINATE
4. Z ELEVATION
5. CODE FOR ITEM LOCATED USING TABLES
6. ACCURACY OF X,Y,Z SHOTS (IN FT OR M)
7. DATE OF EACH SHOT
8. NOTES

THE CONTRACTOR WILL ONLY BE REQUIRED TO TAKE SHOTS OF ANY UTILITY THEY INSTALLED OR ALTERED IN ANY WAY.

QUALITY SERVICE LOCATES SHALL BE SUBMITTED TO THE CITY A MINIMUM OF ONE WEEK PRIOR TO CURB PLACEMENT. ANY ADDITIONAL DATA REQUIRED AFTER THAT POINT SHALL BE SUBMITTED SEPARATELY.



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QUALITY SERVICE LOCATES (GPS - UTILITY DATA COLLECTION)

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PLATE NO.
GEN-4

MANDREL SIZE

SDR 35 (DEPTH<16')				
PIPE SIZE (IN)	DEFLECTION TEST		AIR TEST	
	BASE I.D. (IN)	5% DEFLECTION (IN)	PRESSURE* (PSIG)	TIME (MIN)
4	3.874	3.68	4	2
6	5.742	5.45	4	3
8	7.665	7.28	4	4
10	9.563	9.08	4	5
12	11.361	10.79	4	6
15	13.898	13.2	4	7.5

PS 46 (DEPTH<16')				
PIPE SIZE (IN)	DEFLECTION TEST		AIR TEST	
	BASE I.D. (IN)	5% DEFLECTION (IN)	PRESSURE* (PSIG)	TIME (MIN)
18	16.976	16.13	4	9
21	20.004	19	4	10.5
24	22.48	21.36	4	12
27	25.327	24.06	4	13.5

SDR 26 (16'<DEPTH<25')				
PIPE SIZE (IN)	DEFLECTION TEST		AIR TEST	
	BASE I.D. (IN)	5% DEFLECTION (IN)	PRESSURE* (PSIG)	TIME (MIN)
6	5.612	5.33	4	3
8	7.488	7.12	4	4
10	9.342	8.87	4	5
12	11.102	10.54	4	6
15	13.575	12.9	4	7.5

PS 115 (16'<DEPTH<25')				
PIPE SIZE (IN)	DEFLECTION TEST		AIR TEST	
	BASE I.D. (IN)	5% DEFLECTION (IN)	PRESSURE* (PSIG)	TIME (MIN)
18	16.586	15.76	4	9
21	19.545	18.57	4	10.5
24	21.964	20.87	4	12
27	24.744	23.51	4	13.5
30	28.763	27.32	4	15

C-900 DR 18 (25'<DEPTH)				
PIPE SIZE (IN)	DEFLECTION TEST		AIR TEST	
	BASE I.D. (IN)	5% DEFLECTION (IN)	PRESSURE* (PSIG)	TIME (MIN)
6	5.934	5.49	4	3
8	7.754	7.37	4	4
10	9.487	9.01	4	5
12	11.265	10.7	4	6
14	13.05	12.4	4	7
16	14.831	14.09	4	8
18	16.609	15.78	4	9
20	18.386	17.47	4	10
24	21.94	20.84	4	12

GENERAL TESTING NOTES:

1. PIPE MATERIAL AND TESTING REQUIREMENTS MAY CHANGE DEPENDING ON SOIL CONDITIONS AND OTHER FACTORS.
2. ALL TESTING TO OCCUR BEFORE BUILDING PERMITS ARE ISSUED OR CONSTRUCTION OF WEAR COURSE PAVEMENT.
3. CITY TO BE NOTIFIED MINIMUM 48 HOURS BEFORE ANY UTILITY TESTING.

SANITARY SEWER TESTING NOTES:

1. A MINIMUM WAITING PERIOD OF 30 DAYS AFTER INSTALLATION IS REQUIRED BEFORE DEFLECTION TEST MAY BE PERFORMED.
2. TRACER WIRE TEST TO BE PERFORMED ON ALL SANITARY SEWER AND SANITARY SEWER SERVICES BY METROTECH OR APPROVED EQUAL.
3. AIR TEST WILL BE PERFORMED AT A PRESSURE OF 4.0 PSIG GREATER THAN THE AVERAGE BACKPRESSURE OF ANY GROUND WATER PRESENT.
4. AIR TEST WILL BE PERFORMED ONLY AFTER ALL PROXIMAL STORM SEWER HAS BEEN INSTALLED.
5. *IF GROUNDWATER IS PRESENT, FOR EVERY FOOT OF GROUND WATER ABOVE THE PIPE SPRING LINE, INCREASE THE GAGE TEST PRESSURE BY 0.43 PSI (TO COMPENSATE FOR WATER BACK PRESSURE).
6. THE SEWER LINE WHICH IS BEING TESTED WILL BE ACCEPTED AS PASSING THE AIR TEST IF THE PRESSURE DOES NOT DROP MORE THAN 0.0 PSI IN LESS TIME THAN 30 SECONDS PER INCH IN DIAMETER OF THE PIPE BEING TESTED.
7. TELEVISION SHALL BE PERFORMED ON ALL NEWLY INSTALLED GRAVITY SEWER FOLLOWING ALL OTHER SUCCESSFUL TESTING. TELEVISION VIDEO AND REPORT TO BE SUBMIT TO THE ENGINEER VIA EMAIL AND HARD COPY.
8. SANITARY SEWER TO BE JETTED PRIOR TO TELEVISION.
9. ALL SANITARY SEWER TESTING TO BE CONSIDERED INCIDENTAL.

FORCEMAIN TESTING NOTES:

1. FORCEMAIN HYDROSTATIC TEST PROCEDURE AS FOLLOWS:
 - 1.1 PUMP SYSTEM TO MINIMUM 75 PSI
 - 1.2 THE FORCEMAIN SYSTEM WILL BE ACCEPTED AS PASSING IF THE PRESSURE HAS NO DROP IN PRESSURE IN 2 HOURS.
2. GAUGE TO BE USED WILL BE ASHCROFT, MODEL 1082, 4 1/2 " DIAMETER IN ONE PSI INCREMENTS OR APPROVED EQUAL.
3. TRACER WIRE TEST TO BE PERFORMED ON ALL SANITARY SEWER AND SANITARY SEWER SERVICES BY METROTECH OR APPROVED EQUAL.
4. ALL FORCEMAIN TESTING IS CONSIDERED INCIDENTAL.



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SANITARY SEWER TESTING REQUIREMENTS

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PLATE NO.
GEN-5

GENERAL TESTING NOTES:

1. PIPE MATERIAL AND TESTING REQUIREMENTS MAY CHANGE DEPENDING ON SOIL CONDITIONS AND OTHER FACTORS.
2. ALL TESTING TO OCCUR BEFORE BUILDING PERMITS ARE ISSUED OR CONSTRUCTION OF WEAR COURSE PAVEMENT.
3. CITY TO BE NOTIFIED MINIMUM 48 HOURS BEFORE ANY UTILITY TESTING.

WATERMAIN TESTING NOTES:

1. WATERMAIN TESTING TO INCLUDE ALL CURB STOPS AND HYDRANT LEADS.
2. HYDROSTATIC PRESSURE TEST PROCEDURE AS FOLLOWS:
 - 2.1. PUMP SYSTEM TO MINIMUM 150 PSI.
 - 2.2. THE WATERMAIN SYSTEM WILL BE ACCEPTED AS PASSING IF THE PRESSURE HAS NO DROP IN PRESSURE IN 2 HOURS.
 - 2.3. ALL BUTTERFLY VALVES TO BE INDIVIDUALLY HYDROSTATICALLY TESTED AGAINST BOTH SIDES OF THE VALVE FOR A MINIMUM OF 30 MINUTES WITH NO DROP IN PRESSURE.
 - 2.4. PRESSURE TEST WILL BE PERFORMED ONLY AFTER ALL PROXIMAL STORM SEWER HAS BEEN INSTALLED.
 - 2.5. GAUGE TO BE USED WILL BE ASHCROFT, LIQUID FILLED, 4 1/2 " DIAMETER IN ONE PSI INCREMENTS OR APPROVED EQUAL.
3. BACTERIA TEST (MINIMUM 2 SETS)
 - 3.1. 1 TEST FOR FOR EVERY 1200 LF.
 - 3.2. 1ST SET OF TESTS 24 HOURS AFTER INITIAL FLUSHING.
 - 3.3. 2ND SET OF TESTS TO BE TAKEN AFTER PASSING RESULTS FROM FIRST TEST, MINIMUM 24 HOURS AFTER FIRST TEST.
4. TRACER WIRE TEST TO BE PERFORMED BY A METROTECH OR APPROVED EQUAL. TRACER ENTIRE LINE/ALL SERVICES TO CURB STOPS.
5. WATERMAIN TESTING TO MEET MINNESOTA DEPARTMENT OF HEALTH STANDARDS.
6. ALL WATERMAIN TESTING TO BE CONSIDERED INCIDENTAL.

STORM SEWER TESTING NOTES:

1. TELEVISION SHALL BE PERFORMED ON ALL STREET DRAINTILE AFTER PRIVATE UTILITIES HAVE BEEN INSTALLED.
2. TELEVISION SHALL BE PERFORMED ON ALL REAR YARD. DRAINTILE AFTER RESTORATION IS COMPLETE.
7. TELEVISION SHALL BE PERFORMED ON ALL NEWLY INSTALLED DRAIN TILE. TELEVISION VIDEO AND REPORT TO BE SUBMIT TO THE ENGINEER VIA EMAIL AND HARD COPY.
7. TELEVISION SHALL BE PERFORMED ON ALL NEWLY INSTALLED STORM SEWER. TELEVISION VIDEO AND REPORT TO BE SUBMIT TO THE ENGINEER VIA EMAIL AND HARD COPY.
8. ALL COMPLETED TELEVISION TAPES TO BE EMAILED TO CITY REPRESENTATIVE.
9. ANY TELEVISION REQUIRED SHALL BE INCIDENTAL.



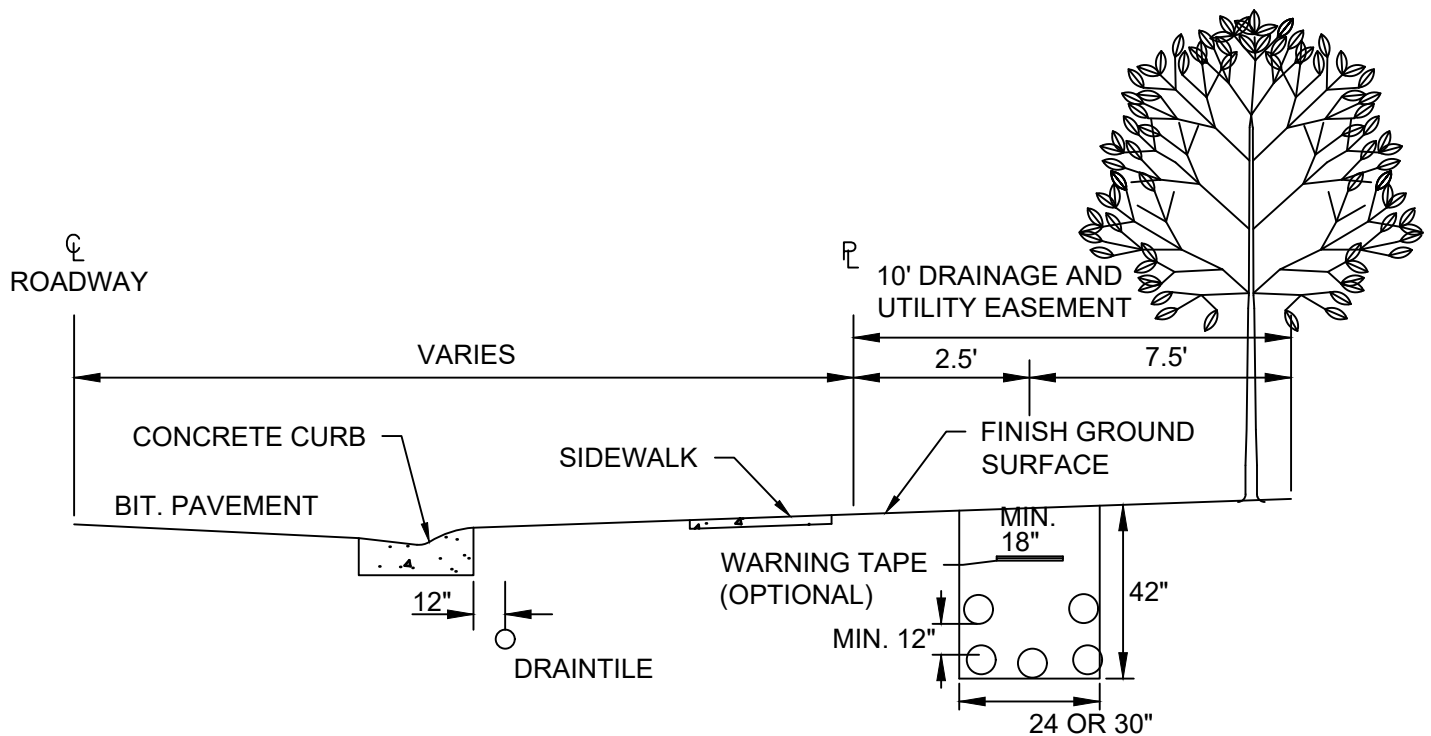
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**WATERMAIN AND STORM SEWER
TESTING REQUIREMENTS**

LAST REVISION:
03/23/2026



PLATE NO.
GEN-6



CROSS SECTION
NOT TO SCALE

UTILITIES INCLUDED IN JOINT TRENCH:

- STREET LIGHTING
- ELECTRIC
- CABLE TV
- TELEPHONE
- GAS

NOTE:

1. ALL CONDUIT CROSSINGS UNDER ROADWAYS SHALL BE THE CONTRACTORS RESPONSIBILITY TO INSTALL THE CORRECT SIZE AND NUMBER FOR ALL UTILITIES. THE CONTRACTOR SHALL ALSO INSTALL ONE ADDITIONAL CONDUIT CROSSING FOR FUTURE USE.
2. THE CITY REQUIRES JOINT TRENCHING FOR INSTALLATION OF UTILITIES WITHIN CITY UTILITY EASEMENTS. ALL TRENCHES SHALL BE COMPACTED.
3. ALL CURB STOPS AND BOXES WILL TYPICALLY BE LOCATED 9' FROM THE PROPERTY LINE WITHIN THE DRAINAGE AND UTILITY EASEMENT.
4. STREET LIGHTS SHALL BE PLACED AS CLOSE TO 300' INTERVALS AS POSSIBLE IN RESIDENTIAL AREAS AND LOCATED ON PROPERTY CORNERS. ALL STREET LIGHT ELECTRICAL LINES SHALL BE RUGGEDIZED TYPE WIRING OR ENCASED IN CONDUIT AND PLACED WITHIN THE JOINT TRENCH.
5. ALL UTILITY BOXES SHALL BE PLACED ON COMMON PROPERTY CORNERS ON BACK SIDE OF DRAINAGE AND UTILITY EASEMENT.



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SMALL UTILITY LAYOUT

LAST REVISION:
01/07/2025



PLATE NO.
GEN-7

RESIDENTIAL BUILDING PERMIT GRADING REQUIREMENTS

LAND SURVEYS/CERTIFICATES OF SURVEY MUST BE PREPARED BY A MINNESOTA LICENSED LAND SURVEYOR. IT IS RECOMMENDED THAT LAND SURVEYS MEET THE STANDARDS OF THE AMERICAN LAND TITLE ASSOCIATION (ALTA) AND AMERICAN CONGRESS OF SURVEYING AND MAPPING (ASCM). COMPLETE AND ACCURATE INFORMATION WILL EXPEDITE THE PLAN REVIEW PROCESS.

PROPOSED SURVEYS MUST SHOW

CERTIFICATION

- *LAND SURVEYOR CERTIFICATION
- *LEGAL DESCRIPTION
- *PERMANENT SURVEY MONUMENT AND DESCRIPTION
- *SCALE AND NORTH ARROW
- *PREPARATION DATE AND REVISION DATES

FEATURES

- *FOUNDATION TYPE (FULL BASEMENT, WALKOUT, LOOKOUT, ETC.)
- *LOT DIMENSIONS
- *BUILDING SETBACKS
- *PROPERTY AND EASEMENT LINES INCLUDING LANDSCAPING, TRAIL, 100-YEAR HWL, ADN DRAINAGE AND UTILITY EASEMENTS. DRAINAGE AND UTILITY EASEMENTS ARE TO ENCOMPASS ALL DRAINAGE.
- *ADJACENT SIDEWALKS, CURBS, AND STREETS
- *DELINEATED WETLAND EDGE
- *EDGE OF WETLAND BUFFER WITH BUFFER SIGN LOCATIONS
- *DRIVEWAYS AND PATHWAYS
- *TREE LINES/EDGE OF CANOPY
- *WELL, SEPTIC SYSTEMS, TANKS
- *LOCATIONS AND DIMENSIONS OF EXISTING AND PROPOSED STRUCTURES
- *WETLANDS, PONDS, LAKES, STREAMS, DRAINAGE SWALES, ETC.
- *SETBACKS TO OHW/NHW CONTOUR, WETLANDS, PONDS, LAKES, RIVERS
- *WATERMAINS, SANITARY AND STORM SEWER, DRAINTILE AND DRAINTILE CLEANOUTS, CATCHBASINS, AND MANHOLES
- *DRAINAGE OUTLETS, OUTLET CONTROL STRUCTURES, EMERGENCY OVERFLOWS, AND LABELLED POND ACCESS ROUTES.
- *VISIBLE AND UNDERGROUND COMPONENTS OF PUBLIC AND PRIVATE UTILITIES INCLUDING WATER AND SEWER STUBS AND SIZES
- *LANDSCAPING AS SHOWN ON THE APPROVED LANDSCAPE PLAN
- *RETAINING WALLS, FENCES, AND UTILITY PEDESTALS.

ELEVATIONS

- *LOT CORNER ELEVATIONS, EXISTING LOT ELEVATIONS, AND PROPOSED ELEVATIONS AND CONTOURS PER APPROVED GRADING PLAN
- *SPOT ELEVATIONS AT THE MINIMUM REQUIREMENTS OF 25' OR AT GRADE BREAKS TO DEMONSTRATE MINIMUM 2% AND MAXIMUM 25% (4:1) SLOPES IN MAINTAINED AREAS. A MAXIMUM GRADE OF 33% (3:1) IN NON-MAINTAINED AREAS SUCH AS BUFFERS IS ALLOWED AND OTHERWISE ONLY WHEN APPROVED BY THE CITY ENGINEER.
- *SPOT ELEVATIONS SHOWING THE LOWEST GROUND ELEVATION ADJACENT TO THE BUILDING. THE GROUND ADJACENT TO THE FOUNDATION SHALL BE SLOPED AWAY AT A MINIMUM OF 0.5' OR 5% FOR THE FIRST 10'.
- *SPOT ELEVATIONS AT LOT CORNERS, HIGH POINT DRAINAGE BREAKS, WHERE DRAINAGE SWALES INTERSECT LOT LINES, AND WHERE PONDING EASEMENTS INTERSECT LOT LINES.
- *CENTER OF CITY STREET AND TOP OF CURB ELEVATIONS
- *PROPOSED DRIVE/ROAD GRADE IN % SLOPE (MINIMUM 2%, NOT TO EXCEED 10%)
- *LOWEST FLOOR, LOWEST OPENING, TOP OF FOUNDATION, AND GARAGE FLOOR ELEVATIONS
- *0.5' DROP (5%) OVER THE FIRST 10' AROUND THE BUILDING
- *DRAINAGE DIRECTION ARROWS ON ALL SIDES AND PROPOSED DRAINAGE PATHS
- *DRAINAGE OUTLETS, OUTLET CONTROL STRUCTURES, AND EMERGENCY OVERFLOWS
- *TOTAL AREA OF EXISTING AND PROPOSED IMPERVIOUS SURFACE
- *WATER BODY IDS AND ELEVATIONS SHOWING NORMAL AND HIGH WATER LEVEL AS WELL AS FLOODWAY, FLOODPLAIN, AND ORDINARY HIGH WATER LEVEL ELEVATIONS
- *TOP AND BOTTOM RETAINING WALL ELEVATIONS

ELEVATIONS MUST BE SHOWN AS SEA LEVEL MEASUREMENTS. FOR AS-BUILT CONSTRUCTION AND GRADING SURVEYS, ELEVATIONS MUST BE CROSS-REFERENCED WITH APPROVED ELEVATIONS.

MINIMUM REQUIRED BUILDING ELEVATIONS

BUILDING OPENINGS AND FLOOR ELEVATIONS

ALL OPENINGS AND FLOOR ELEVATIONS MUST BE CONSTRUCTED AT LEAST TWO (2) FEET ABOVE 100-YEAR FLOOR ELEVATION AND TWO (2) FEET ABOVE HIGHEST ANTICIPATED WATER LEVEL (HWL) ELEVATION AS ESTABLISHED BY THE APPROVED PLANS AND THE CITY ENGINEER.

BUILDING AND GARAGE OPENINGS

ALL LOW ADJACENT GRADE AND GARAGE FLOOR ELEVATIONS MUST BE AT LEAST ONE (1) FOOT ABOVE ALL EMERGENCY OVERFLOWS.

THIS INFORMATIONAL DOCUMENT MAY NOT COMPREHENSIVELY ADDRESS ALL LAWS RELATED TO THE SUBJECT ADDRESSED. IT IS PROVIDED TO SERVE ONLY AS A HELPFUL GUIDE. SITE PREPARATION OR PERMITTED WORK IS NOT ALLOWED UNTIL PERMITS HAVE BEEN ISSUED BY THE CITY OF CORCORAN..



2026 Standard Detail Plates

BUILDING PERMIT & CERTIFICATE OF SURVEY SUBMISSION REQUIREMENTS

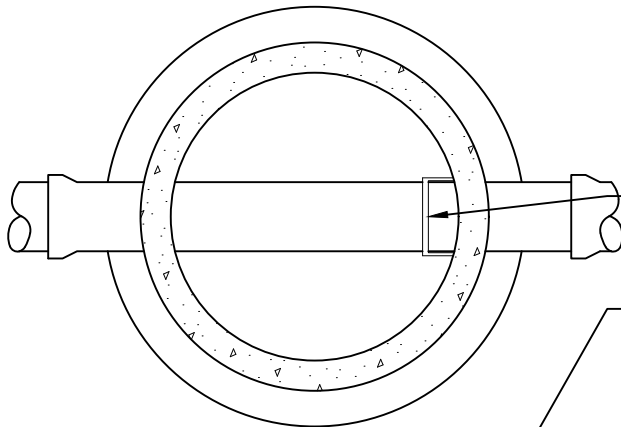
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PLATE NO.
GEN-8

GROUT BOTTOM OF MANHOLE TO 1/2 DIAMETER AT PIPE
AND SLOPE GROUT 2" TOWARD INVERT.

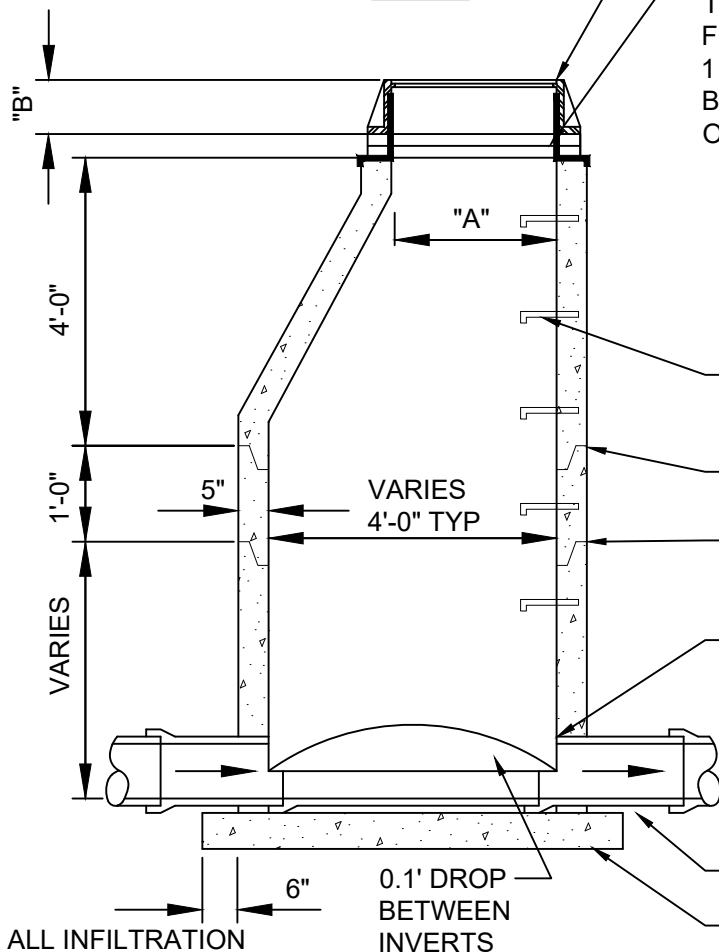
CASTING	A	B
R1642	27"	7"
R1755G (WT REQ.)	27"	7"
Ess.Bro.309	27"	7"



MANHOLE STEPS SHALL BE PLACED SO THAT
OFFSET VERTICAL PORTION OF CONE IS FACING
DOWNSTREAM

NEENAH FRAME AND COVER PER TABLE OR
EQUAL, LETTERED "SANITARY SEWER" WITH 2
CONCEALED PICK HOLES AND SELF SEALING LID.
SEE SPECIFICATION FOR CASTING NUMBERS

PLAN



MINIMUM 0.4' OF RINGS, MAXIMUM 1' OF RINGS.
TOP 2 RINGS MUST BE 2" RINGS.
FULL BED OF MORTAR BETWEEN EACH RING.
1 RING WITH MORTAR= 0.2' INSTALL INTERIOR I&I
BARRIER EULL'S OR APPROVED EQUAL. LIP
OVERLAPPING TOP OF CONE SECTION REQUIRED.

MORTAR SHALL BE AIR ENTRAINED
UNDERGROUND UTILITY MORTAR WHICH MEETS
OR EXCEEDS ASTM C270 AND ASTM 387.

ONLY PLASTIC SHIMS SHALL BE
ALLOWED IF NEEDED.

MANHOLE STEPS, COPOLYMER POLYPROPYLENE
PLASTIC, WITH $\frac{1}{2}$ " GRADE 60 STEEL REINFORCEMENT
OR EQUAL, 16" O.C.

ALL JOINTS IN MANHOLE TO HAVE "O" RING
RUBBER GASKETS

GATOR WRAP REQUIRED ON BOTTOM JOINT.
ALL OTHER JOINTS TO BE WRAPPED AS
DIRECTED BY ENGINEER

PIPE SHALL NOT BE CUT 2" FROM INSIDE FACE
OF WALL

NOTE: KOR-N-SEAL MANHOLE OR APPROVED
EQUAL CONSIDERED ACCEPTABLE ALTERNATE.
ALL DOG HOUSES SHALL BE GROUTED ON INSIDE.
AN A-LOCK GASKET SHALL BE USED AND NO
EXTERNAL DOGHOUSE IS REQUIRED

COMPACT TO TOP OF PIPE, TO FIRST JOINT

MINIMUM THICKNESS OF PRECAST BASE IS 6"
FOR STRUCTURES 14" DEEP OR LESS, AND
INCREASES 1" IN THICKNESS FOR EVERY 4'
OF DEPTH GREATER THAN 14', AND REINFORCE
WITH 6" X 6" 10/10 MESH

ALL INFILTRATION
AREAS SHALL BE
REPAIRED UNTIL
MANHOLE IS WATER
TIGHT.

SECTION



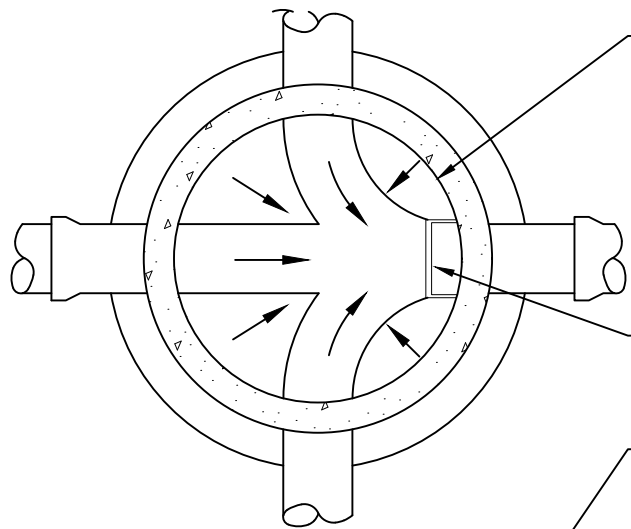
2026 Standard Detail Plates

SANITARY SEWER MANHOLE

LAST REVISION:
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PLATE NO.
SAN-1



PLAN

PRECAST INVERT MUST BE $\frac{1}{2}$ DIAMETER OF PIPE AND BENCHES SHOULD BE SLOPED 2" TOWARD INVERT

CASTING	A	B
R1642	27"	7"
R1755G (WT REQ.)	27"	7"
Ess. Bro. 309	27"	7"

MANHOLE STEPS SHALL BE PLACED SO THAT OFFSET VERTICAL PORTION OF CONE IS FACING DOWNSTREAM.

NEENAH FRAME AND COVER OR EQUAL LETTERED "SANITARY SEWER" WITH 2 CONCEALED PICK HOLES AND SELF SEALING LID.

MINIMUM 0.4' OF RINGS, MAXIMUM 1' OF RINGS. TOP 2 RINGS MUST BE 2" RINGS. FULL BED OF MORTAR BETWEEN EACH RING. 1 RING WITH MORTAR= 0.2' INSTALL INTERIOR I&I BARRIER EULL'S OR APPROVED EQUAL. LIP OVERLAPPING TOP OF CONE SECTION REQUIRED.

MORTAR SHALL BE AIR ENTRAINED UNDERGROUND UTILITY MORTAR WHICH MEETS OR EXCEEDS ASTM C270 AND ASTM 387.

ONLY PLASTIC SHIMS SHALL BE ALLOWED IF NEEDED.

MANHOLE STEPS, COPOLYMER POLYPROPYLENE PLASTIC, WITH $\frac{1}{2}$ " GRADE 60 STEEL REINFORCEMENT OR EQUAL, 16" ON CENTER.

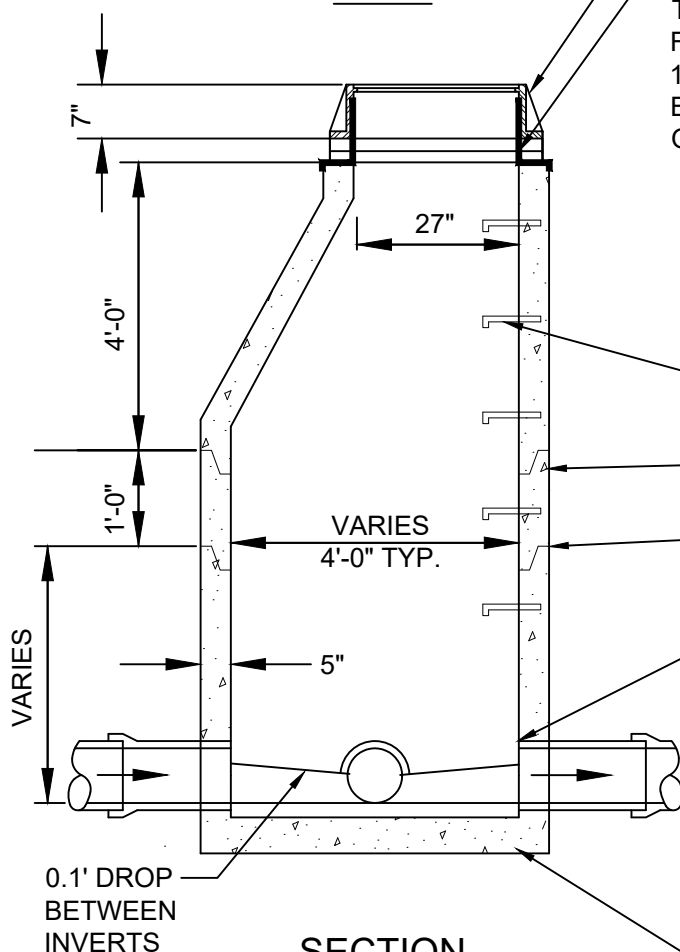
ALL JOINTS IN MANHOLE TO HAVE "O" RING RUBBER GASKETS.

GATOR WRAP REQUIRED ON BOTTOM JOINT. ALL OTHER JOINTS TO BE WRAPPED AS DIRECTED BY ENGINEER

PIPE SHALL BE CUT 2" FROM INSIDE FACE OF WALL.

NOTE: KOR-N-SEAL MANHOLE OR APPROVED EQUAL CONSIDERED ACCEPTABLE ALTERNATE. ALL DOG HOUSES SHALL BE GROUTED ON INSIDE. AN A-LOCK GASKET SHALL BE USED AND NO EXTERNAL DOGHOUSE IS REQUIRED

MINIMUM THICKNESS OF PRECAST BASE IS 6" FOR STRUCTURES 14' DEEP OR LESS, AND INCREASES 1" IN THICKNESS FOR EVERY 4' OF DEPTH GREATER THAN 14', AND REINFORCE WITH 6"X6" 10/10 MESH.



SECTION

ALL INFILTRATION AREAS SHALL BE REPAIRED UNTIL MANHOLE IS WATER TIGHT.



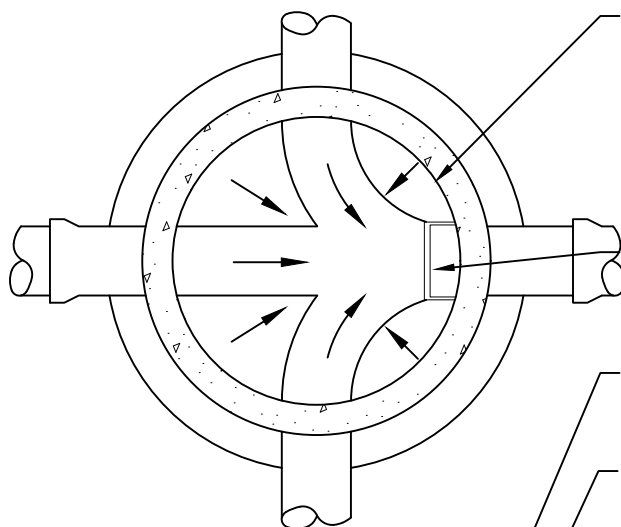
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SANITARY SEWER JUNCTION MANHOLE

LAST REVISION:
01/23/2026



PLATE NO.
SAN-2



PLAN

GROUT BOTTOM OF MANHOLE TO 1/2 DIAMETER AT PIPE AND SLOPE GROUT 2" TOWARD INVERT.

CASTING	A	B
R1642	27"	7"
R1755G	27"	7"
Ess.Bro.309	27"	7"

MANHOLE STEPS SHALL BE PLACED SO THAT OFFSET VERTICAL PORTION OF CONE IS FACING DOWNSTREAM.

NEENAH FRAME AND COVER PER TABLE OR EQUAL, LETTERED "SANITARY SEWER", WITH 2 CONCEALED PICK HOLES AND SELF SEALING LID.

MINIMUM 0.4' OF RINGS, MAXIMUM 1' OF RINGS. TOP 2 RINGS MUST BE 2" RINGS.

FULL BED OF MORTAR BETWEEN EACH RING. 1 RING WITH MORTAR= 0.2' INSTALL INTERIOR I&I BARRIER EULL'S OR APPROVED EQUAL. LIP OVERLAPPING TOP OF CONE SECTION REQUIRED.

MORTAR SHALL BE AIR ENTRAINED UNDERGROUND UTILITY MORTAR WHICH MEETS OR EXCEEDS ASTM C270 AND ASTM 387.

ONLY PLASTIC SHIMS SHALL BE ALLOWED IF NEEDED.

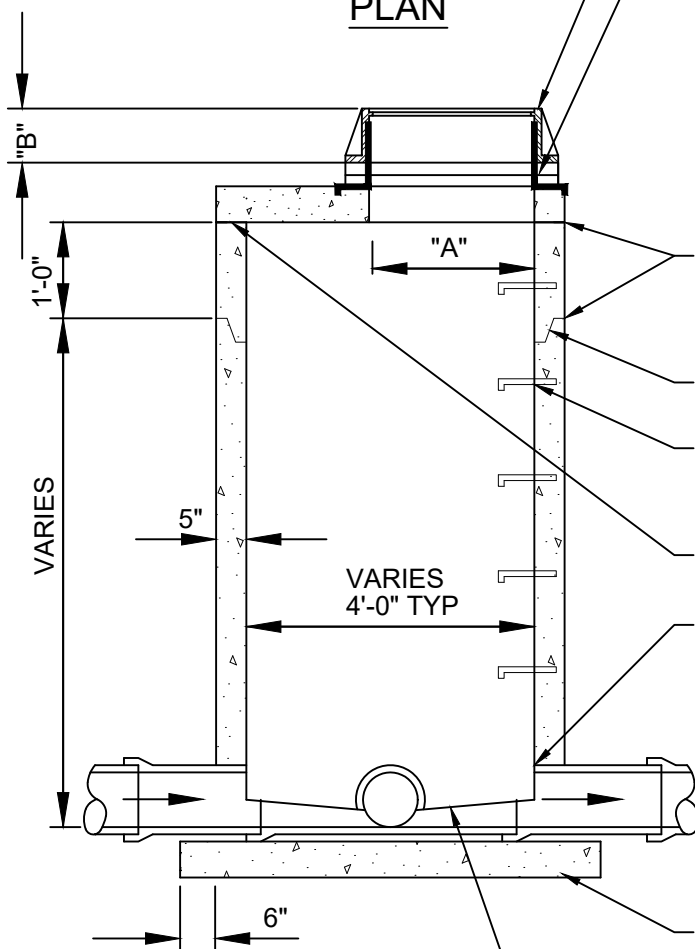
GATOR WRAP REQUIRED ON BOTTOM JOINT. ALL OTHER JOINTS TO BE WRAPPED AS DIRECTED BY ENGINEER

ALL JOINTS IN MANHOLE TO HAVE "O" RING RUBBER GASKETS.

MANHOLE STEPS, COPOLYMER POLYPROPYLENE PLASTIC, WITH 1/2" GRADE 60 STEEL REINFORCEMENT OR EQUAL, 16" ON CENTER.

TOP BAREL TO BE SECURED WITH 2 LAYERS OF RAMNEK OR APPROVED EQUAL.

PIPE SHALL BE CUT 2" FROM INSIDE FACE OF WALL. NOTE: KOR-N-SEAL MANHOLE OR APPROVED EQUAL CONSIDERED ACCEPTABLE ALTERNATE. ALL DOG HOUSES SHALL BE GROUTED ON INSIDE. AN A-LOCK GASKET SHALL BE USED AND NO EXTERNAL DOGHOUSE IS REQUIRED



SECTION

MINIMUM THICKNESS OF PRECAST BASE IS 6" FOR STRUCTURES 14' DEEP OR LESS, AND INCREASES 1" IN THICKNESS FOR EVERY 4' OF DEPTH GREATER THAN 14', AND REINFORCE WITH 6"X6" 10/10 MESH.



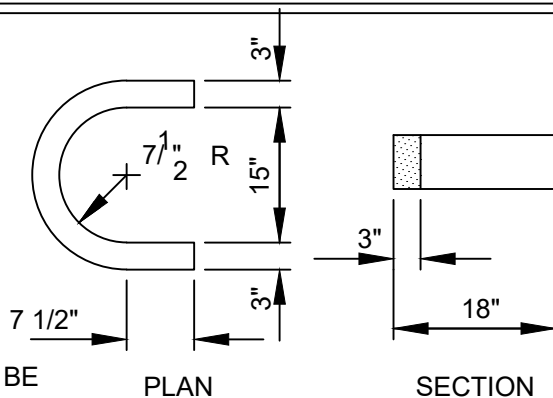
2026 Standard Detail Plates

SANITARY SEWER JUNCTION MANHOLE WITH REINFORCED SLAB

LAST REVISION:
01/23/2026



PLATE NO.
SAN-3



CASTING	A	B
R1642	27"	7"
R1755G	27"	7"
Ess.Bro.309	27"	7"

MANHOLE TO BE LINED WITH GSE STUDLINER, AGRU SUREGRIP THERMOPLASTIC, T-LOCK PROTECTIVE LINER OR APPROVED EQUAL.

HORSESHOE DETAILS

ALL INFILTRATION AREAS SHALL BE REPAIRED UNTIL MANHOLE IS WATER TIGHT.

GROUT BOTTOM OF MANHOLE TO 1/2 DIAMETER OF PIPE AND SLOPE GROUT 2" TOWARD INVERT

NEENAH FRAME AND COVER PER TABLE OR EQUAL, LETTERED "SANITARY SEWER", WITH 2 CONCEALED PICK HOLES AND SELF SEALING LID.

MINIMUM 0.4' OF RINGS, MAX 1' OF RINGS. TOP 2 RINGS MUST BE 2" RINGS. FULL BED OF MORTAR BETWEEN EACH RING 1 RING W/ MORTAR= 0.2' INSTALL INTERIOR I&I BARRIER EULL'S OR APPROVED EQUAL. LIP OVERLAPPING TOP OF CONE SECTION REQUIRED.

ONLY PLASTIC SHIMS SHALL BE ALLOWED IF NEEDED.

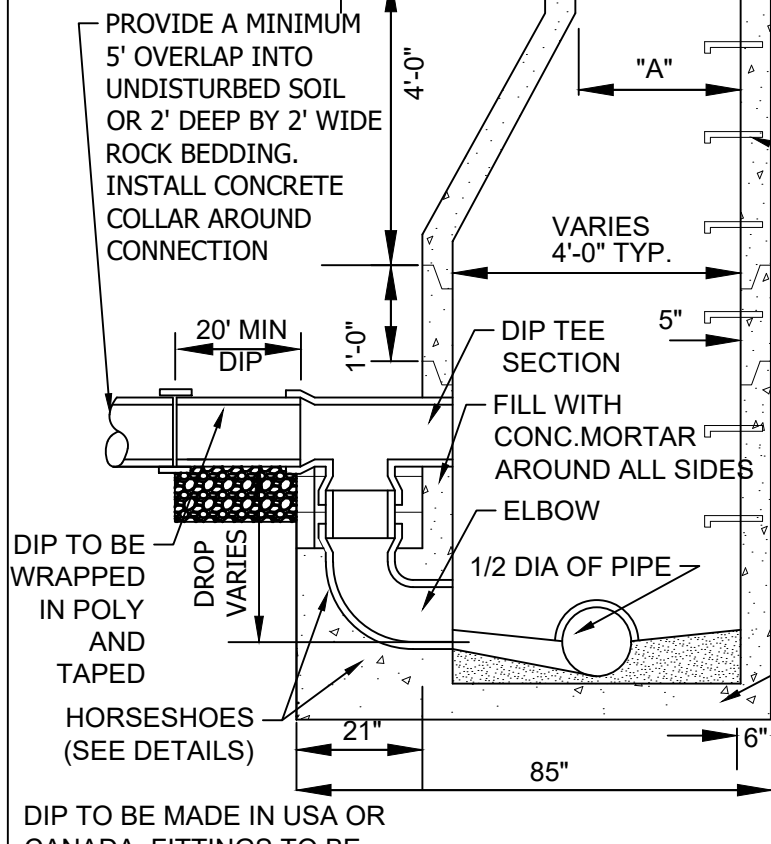
MORTAR SHALL BE AIR ENTRAINED UNDERGROUND UTILITY MORTAR WHICH MEETS OR EXCEEDS ASTM C270 AND ASTM 387.

MANHOLE STEPS, COPOLYMER POLYPROPYLENE PLASTIC, WITH 1/2" GRADE 60 STEEL REINFORCEMENT OR EQUAL 16" ON CENTER. MANHOLE STEPS SHALL BE PLACED SO THAT OFFSET VERTICAL PORTION OF CONE IS FACING DOWNSTREAM.

ALL JOINTS IN MANHOLE TO HAVE "O" RING RUBBER GASKETS.

GATOR WRAP REQUIRED ON BOTTOM JOINT. ALL OTHER JOINTS TO BE WRAPPED AS DIRECTED BY ENGINEER PIPE SHALL BE CUT 2" FROM INSIDE FACE OF WALL.

MINIMUM THICKNESS OF PRECAST BASE IS 6" FOR STRUCTURES 14' DEEP OR LESS, AND INCREASES 1" IN THICKNESS FOR EVERY 4' OF DEPTH GREATER THAN 14', AND REINFORCE WITH 6"X6" 10/10 MESH. NOTE: KOR-N-SEAL MANHOLE OR APPROVED EQUAL CONSIDERED ACCEPTABLE ALTERNATE. ALL DOG HOUSES SHALL BE GROUTED ON INSIDE. AN A-LOCK GASKET SHALL BE USED AND NO EXTERNAL DOGHOUSE IS REQUIRED



DIP TO BE MADE IN USA OR CANADA, FITTINGS TO BE EPOXY BONDED, DIP TO BE LINED WITH PROTECTO 4001 LINER OR APPROVED EQUAL

SECTION



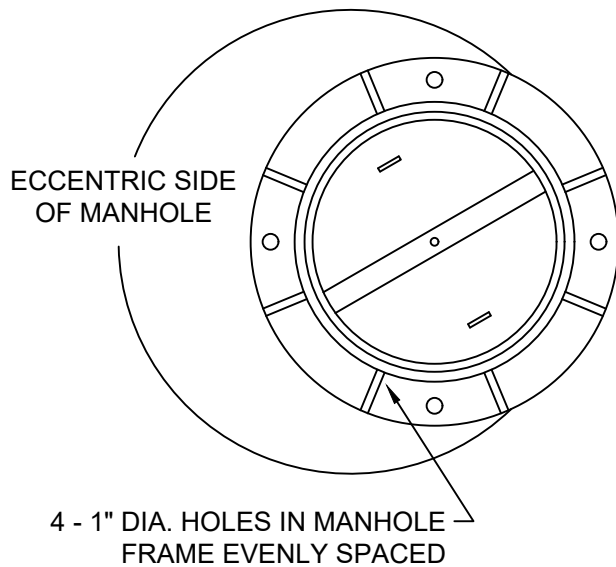
2026 Standard Detail Plates

DROP INLET MANHOLE

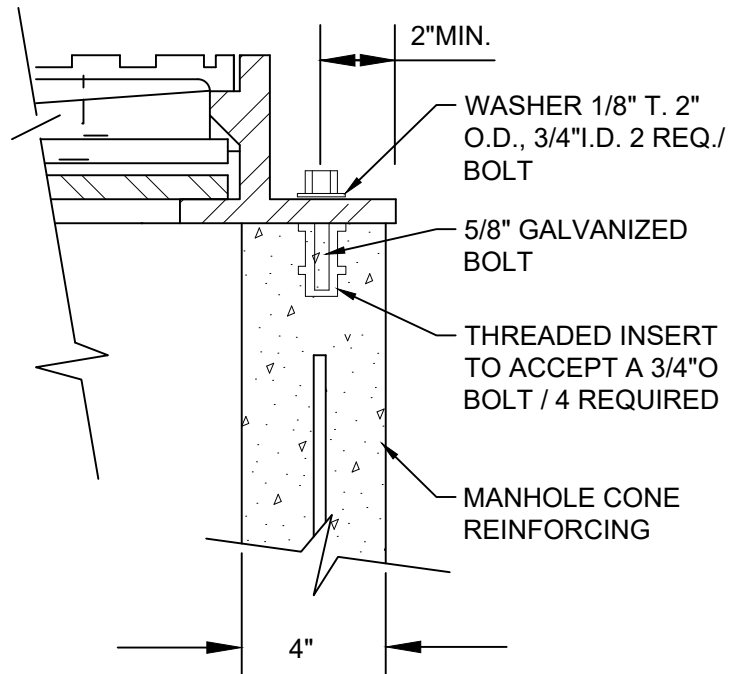
LAST REVISION:
01/23/2026



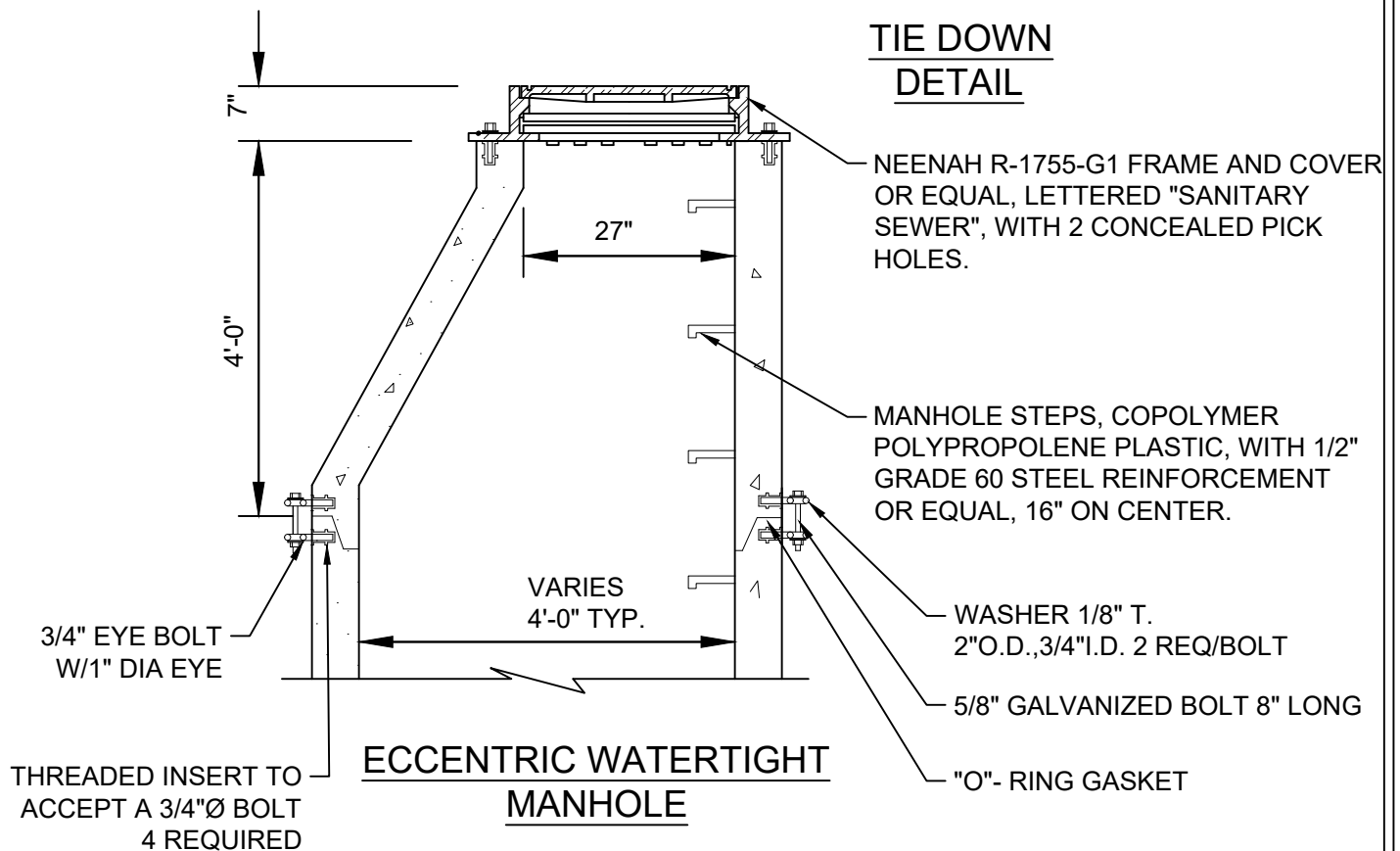
PLATE NO.
SAN-4



PLAN VIEW TOP COVER REMOVED



TIE DOWN DETAIL



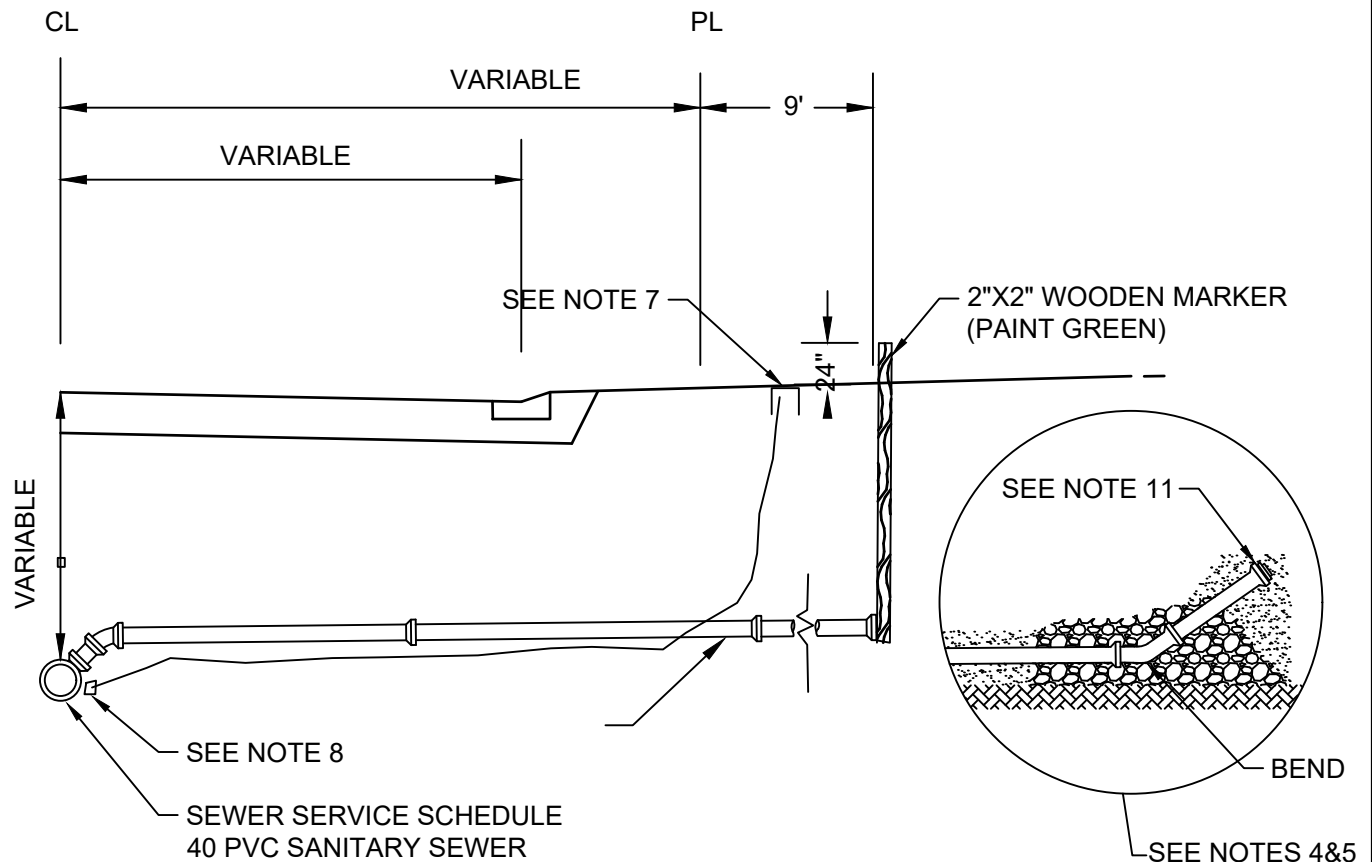
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WATER TIGHT CASTING FOR SANITARY SEWER MANHOLE

LAST REVISION:
07/24/2024



PLATE NO.
SAN-5



NOTES:

1. SEWER SERVICES. 4" (UNLESS OTHERWISE SPECIFIED ON PLANS) SCHEDULE 40 PVC SEWER PIPE
2. PIPE JOINTS SHALL BE NON GASKETED, SOLVENT WELD TYPE.
3. SLOPE $\frac{1}{4}$ " PER FOOT MINIMUM.
4. ALL PIPE SHALL BE BEDDED IN GRANULAR BORROW 3149.2B1 EXCEPT THE LAST TEN FEET WHERE COARSE FILTER AGGREGATE (3149.2H) WILL BE REQUIRED.
5. 45 DEGREE BENDS SHALL BE USED AT THE END OF THE SERVICE IF DEPTH EXCEEDS 8' TO BRING SANITARY SERVICE INVERT TO CURBSTOP ELEVATION.
6. INSTALL SANITARY RISER TO MATCH CURB STOP ELEVATION.
7. TRACER WIRE SHALL BE BROUGHT UP ALONG WATERMAIN CURB STOP. INSTALL VALVCO, SNAKEPIT, OR APPROVE EQUAL TRAFFIC RATED TRACER WIRE ACCESS BOX WITH 2 LUGS.
8. MIN OF 1 LB. DRIVE IN ANODES WITH MIN 20' WIRE LEAD ARE TO BE INSTALLED AT EVERY SANITARY SERVICE WYE.
9. TRACER WIRE SHALL BE 12 AWG COPPER CLAD STEEL ORE WIRE WITH MIN BREAK LOAD OF 450 LB FOR OPEN CUT INSTALLATION RATED FOR 30 VOLTS. MIN 45 MIL HMWPE JACKET
10. TRACER WIRE CONNECTOR SHALL BE DRY CONN DIRECT BURY LUG AQUA, PRO-TRACE DB OR APPROVED EQUAL.
11. TOP OF STUB ELEVATION TO BE WITHIN 1' OF WATER CURBSTOP ELEVATION. LOCATE STUB AT THE SAME OFFSET FROM BACK OF CURB AS THE WATER CURBSTOP.



2026 Standard Detail Plates

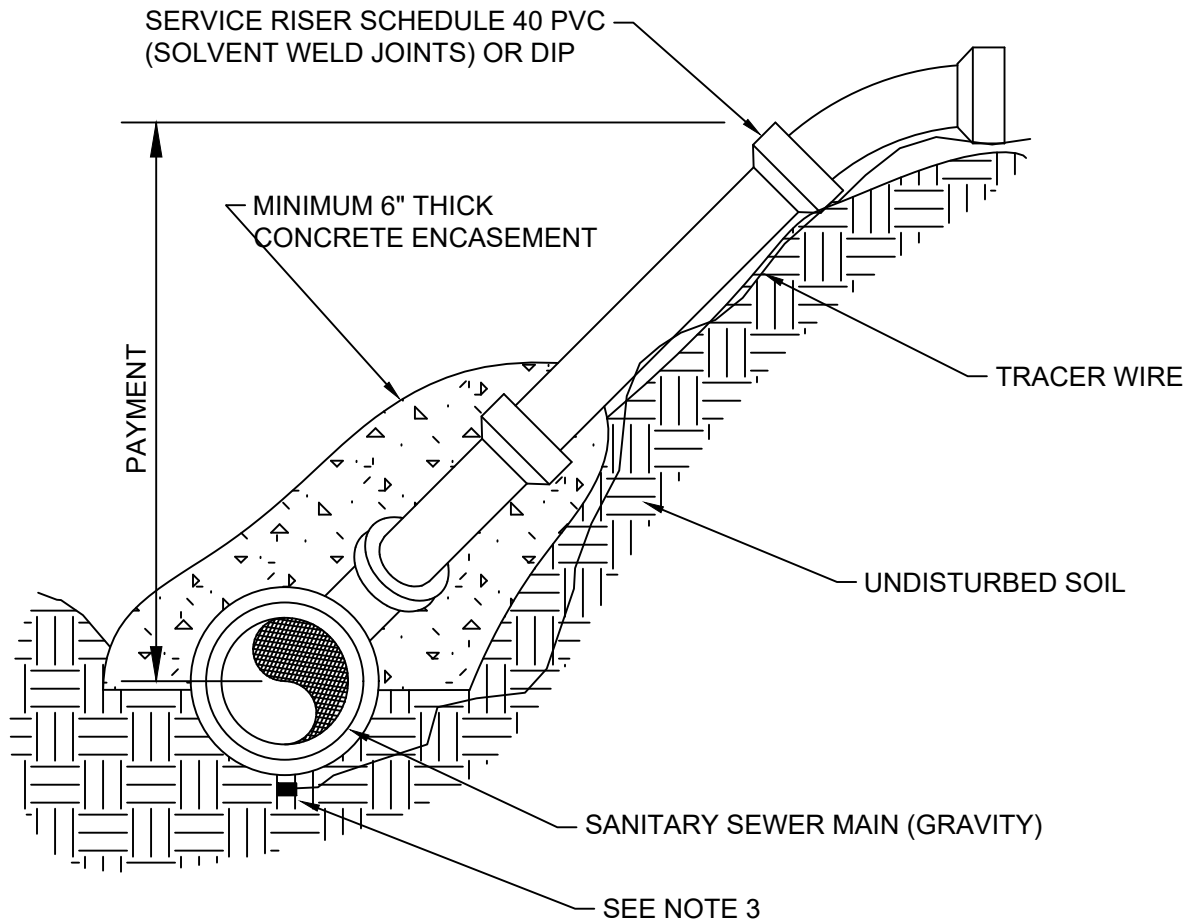
SANITARY SEWER SERVICE CONNECTION

LAST REVISION:
01/23/2026



PLATE NO.
SAN-6

PVC PIPE BED AND ENCASE IN SELECT GRANULAR, TYPICAL PVC APPLICATION.



NOTE:

1. TRACER WIRE CONNECTOR SHALL BE DRY CONN DIRECT BURY LUG AQUA, PRO-TRACE DB OR APPROVED EQUAL
2. TRACER WIRE SHALL BE 12 AWG COPPER CLAD STEEL ORE WIRE WITH MIN BREAK LOAD OF 450 LB FOR OPEN CUT INSTALLATION RATED FOR 30 VOLTS. MIN 45 MIL HMWPE JACKET
3. MIN OF 1 LB. DRIVE IN ANODES WITH MIN 20' WIRE LEAD ARE TO BE INSTALLED AT EVERY SANITARY SERVICE WYE.
4. SEWER DEPTHS OVER 25' AND ALL TRUNK SEWER LINES SHALL USE DUCTILE IRON TEES AND RISERS IN PLACE OF PVC WYES UNLESS OTHERWISE APPROVED BY ENGINEER.
5. WHERE DUCTILE IRON TEE IS USED IN PLACE OF PVC WYE, RISERS TO BE DIP, DIP TO PVC TRANSITION FITTING TO BE USED AT TOP OF RISER.
6. ALL DUCTILE IRON FITTINGS TO BE EPOXY BONDED. ALL SEWER DUCTILE IRON PIPES AND FITTINGS TO HAVE PROTECTO 401 LINER. ALL MATERIALS TO BE AMERICAN MADE.
7. ALL DUCTILE IRON PIPES AND FITTINGS TO BE WRAPPED IN POLY AND TAPED.



2026 Standard Detail Plates

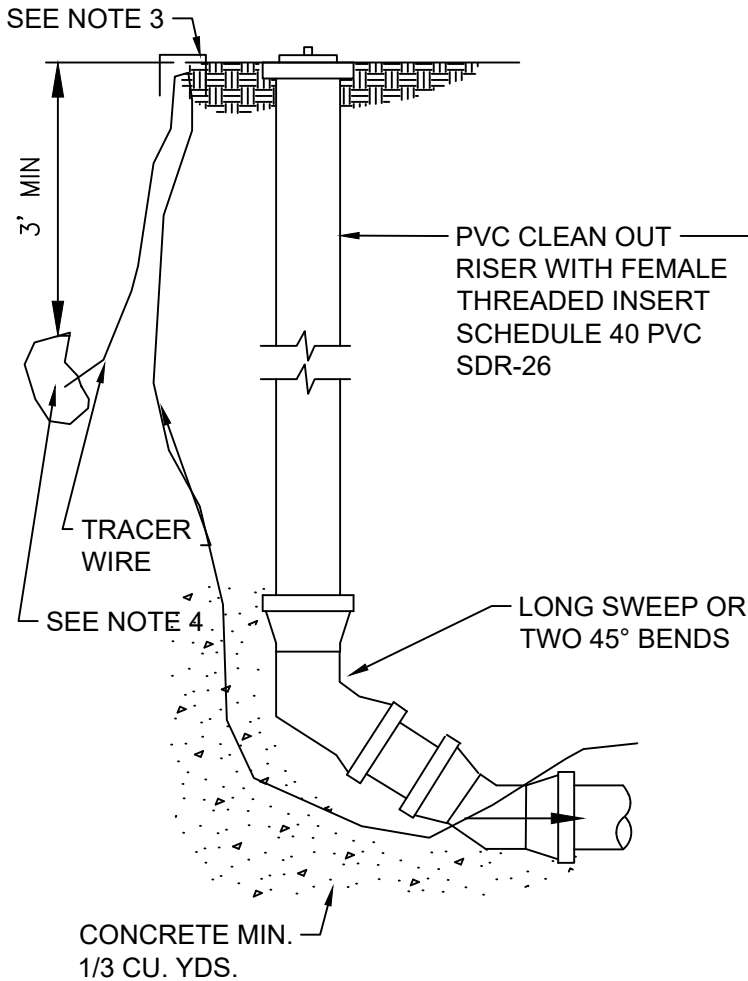
SANITARY SEWER SERVICE RISER

LAST REVISION:
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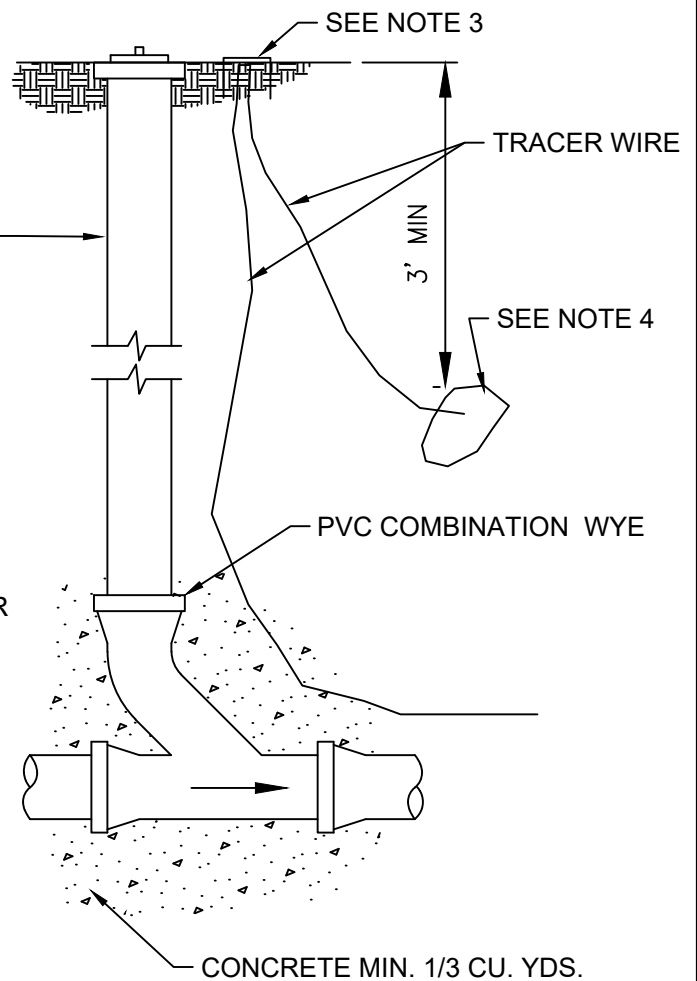


PLATE NO.
SAN-7

NOTE:
CLEANOUT CAP SHALL BE
THREADED MALLEABLE IRON
(GALVANIZED)



NOTE:
ENCLOSE LONG SWEEP BEND
OR COMBINATION WYE IN
CONCRETE AS SHOWN.



NOTE: END OF LINE CLEANOUT
CLEANOUT IS REQUIRED FOR EVERY 100 FEET OF
SERVICE LENGTH, OR AT BENDS IN SERVICE.

NOTE:

1. IF CLEANOUT IS IN DRIVEWAY, CONTRACTOR MUST INSTALL FORD A-1 CASTING, MARKED WITH "SEWER ON LID.
2. IF CLEANOUT IS IN ROADWAY, CONTRACTOR MUST INSTALL TOP SECTION OF A VALVE BOX WITH LID MARKED "SEWER".
3. TRACER WIRE SHALL BE BROUGHT UP ALONG CLEANOUT. INSTALL VALVCO, SNAKEPIT, OR APPROVE EQUAL TRAFFIC RATED TRACER WIRE ACCESS BOX.
4. MIN OF 1 LB. DRIVE IN ANODES WITH MIN 20' WIRE LEAD ARE TO BE INSTALLED AT EVERY TRACE WIRE ACCESS BOX.
5. TRACER WIRE SHALL BE 12 AWG COPPER CLAD STEEL ORE WIRE WITH MIN BREAK LOAD OF 450 LB FOR OPEN CUT INSTALLATION RATED FOR 30 VOLTS. MIN 45 MIL HMWPE JACKET

IN LINE CLEANOUT



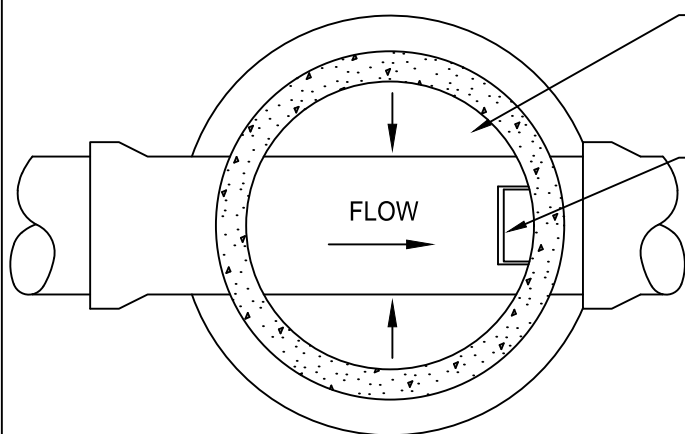
2026 Standard Detail Plates

SANITARY SEWER PVC SEWER LINE CLEANOUTS

LAST REVISION:
07/24/2024



PLATE NO.
SAN-8

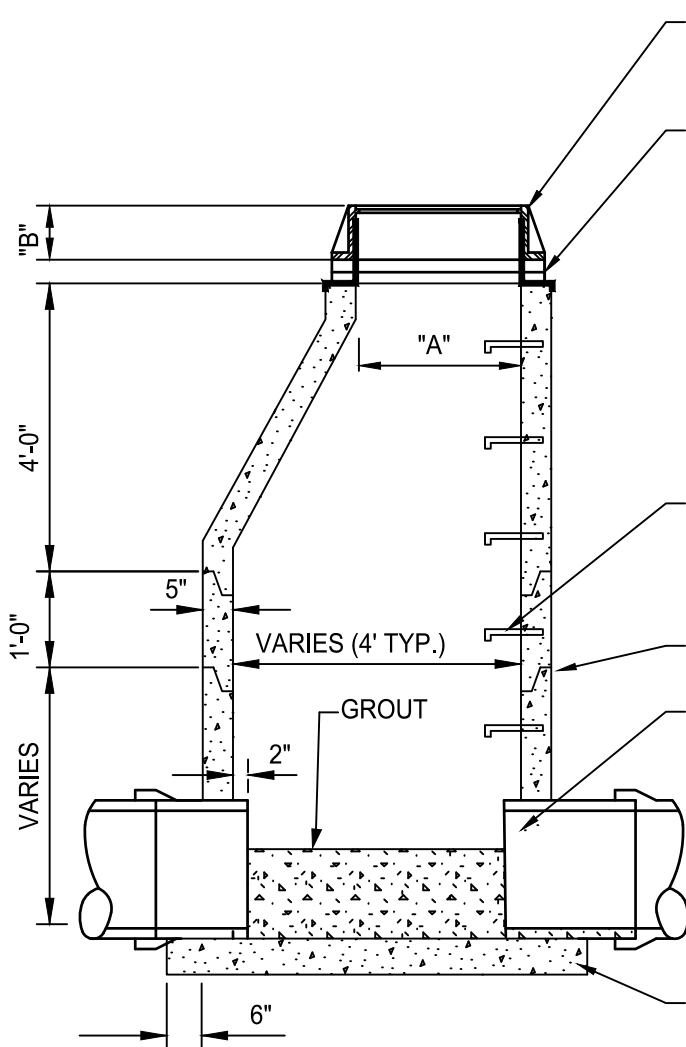


GROUT BOTTOM OF MANHOLE TO A MINIMUM OF 1/2 DIAMETER AT PIPE AND SLOPE GROUT 2" TOWARD INVERT.

MANHOLE STEPS SHALL BE PLACED SO THAT OFFSET VERTICAL PORTION OF CONE IS FACING DOWNSTREAM FOR ALL PIPES UP TO 24". PLACE STEPS ON RIGHT HAND SIDE WHEN FACING DOWN STREAM FOR ALL PIPES 24" AND OVER

APPROVED CASTINGS

CASTING	A	B
NEENAH R1642	27"	7"



NEENAH FRAME AND COVER OR EQUAL LETTERED, "STORM SEWER", WITH 2 CONCEALED PICK HOLES

MINIMUM 0.4' OF RINGS, MAXIMUM 1' OF RINGS. TOP 2 RINGS MUST BE 2" RINGS.

FULL BED OF MORTAR BETWEEN EACH RING. 1 RING WITH MORTAR = 0.2'. INSTALL INTERNAL I&I BARRIER EULL'S FOR IN STREET STRUCTURES. EXTERNAL INFISHIELD OR GATOR WRAP SHALL BE ALLOWED IN BACKYARD STRUCTURES

ONLY PLASTIC SHIMS SHALL BE ALLOWED IF NEEDED. MORTAR SHALL BE AIR ENTRAINED UNDERGROUND UTILITY MORTAR WHICH MEETS OR EXCEEDS ASTM C270 AND ASTM C387.

MANHOLE STEPS, COPOLYMER POLYPROPYLENE PLASTIC, WITH 1/2" GRADE 60 STEEL REINFORCEMENT OR EQUAL, 16" ON CENTER. (NO STEPS ALLOWED IN UPPER 27" BARREL.)

ALL JOINTS IN MANHOLE TO HAVE "O" RING RUBBER GASKETS.

PIPE SHALL BE CUT OUT 2" FROM INSIDE FACE OF WALL. **DOG HOUSES MUST BE GROUTED BOTH INSIDE AND OUTSIDE OF STRUCTURE.

SUMP MANHOLE REQUIRED WHEN THERE IS A 1.5' OR GREATER DROP BETWEEN INVERTS, AND THE FIRST STRUCTURE UPSTREAM FROM PIPE OUTLET. SEE STO-4.

MINIMUM SLAB THICKNESS 6" FOR STRUCTURES 14' IN DEPTH OR LESS. INCREASE THICKNESS 1" FOR EACH 4' OF DEPTH GREATER THAN 14', AND REINFORCE WITH 6"X6" 10/10 MESH.



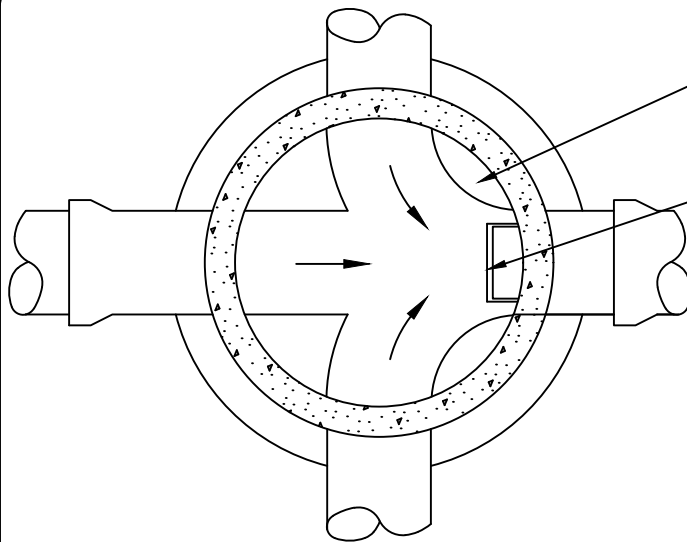
2026 Standard Detail Plates

STORM SEWER MANHOLE

LAST REVISION:
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PLATE NO.
STO-1

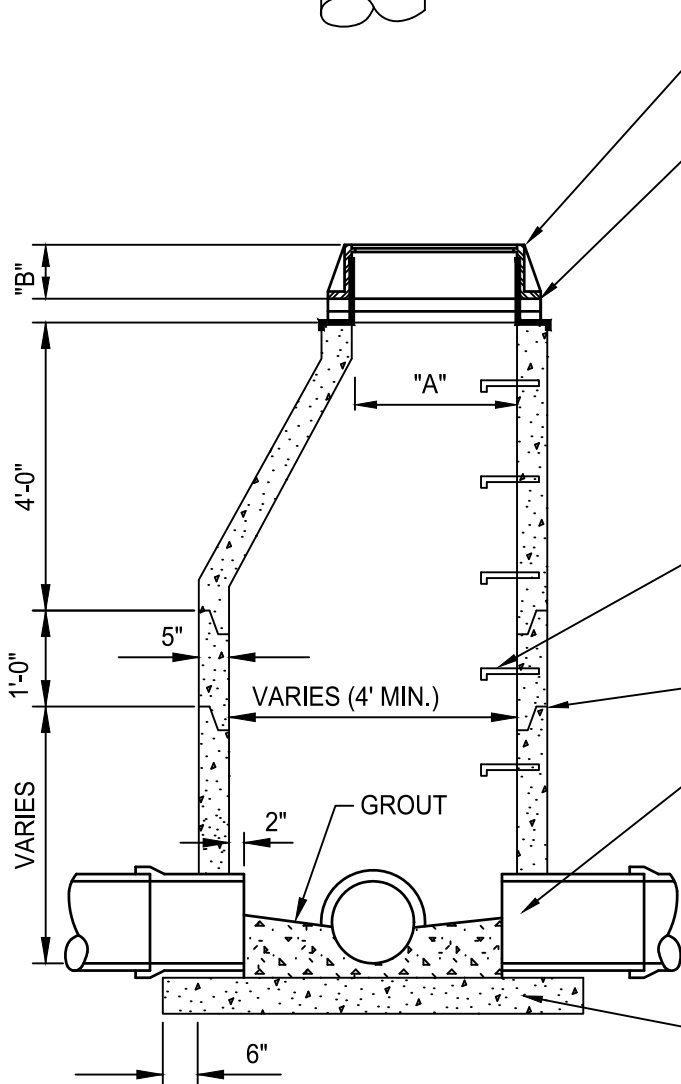


GROUT BOTTOM OF MANHOLE TO A MINIMUM OF 1/2 DIAMETER AT PIPE AND SLOPE GROUT 2" TOWARD INVERT.

MANHOLE STEPS SHALL BE PLACED SO THAT OFFSET VERTICAL PORTION OF CONE IS FACING DOWNSTREAM FOR ALL PIPES UP TO 24". PLACE STEPS ON RIGHT HAND SIDE WHEN FACING DOWN STREAM FOR ALL PIPES 24" AND OVER

APPROVED CASTINGS

CASTING	A	B
NEENAH R1642	27"	7"



NEENAH FRAME AND COVER OR EQUAL LETTERED, "STORM SEWER", WITH 2 CONCEALED PICK HOLES

MINIMUM 0.4' OF RINGS, MAXIMUM 1' OF RINGS. TOP 2 RINGS MUST BE 2" RINGS.

FULL BED OF MORTAR BETWEEN EACH RING. 1 RING WITH MORTAR = 0.2'. INSTALL INTERNAL I&I BARRIER EULL'S FOR IN STREET STRUCTURES. EXTERNAL INFISHIELD OR GATOR WRAP SHALL BE ALLOWED IN BACKYARD STRUCTURES

ONLY PLASTIC SHIMS SHALL BE ALLOWED IF NEEDED.

MORTAR SHALL BE AIR ENTRAINED UNDERGROUND UTILITY MORTAR WHICH MEETS OR EXCEEDS ASTM C270 AND ASTM C387.

MANHOLE STEPS, COPOLYMER POLYPROPYLENE PLASTIC, WITH 1/2" GRADE 60 STEEL REINFORCEMENT OR EQUAL, 16" ON CENTER. (NO STEPS ALLOWED IN UPPER 27" BARREL.)

ALL JOINTS IN MANHOLE TO HAVE "O" RING RUBBER GASKETS.

PIPE SHALL BE CUT OUT 2" FROM INSIDE FACE OF WALL.

**DOG HOUSES MUST BE GROUTED BOTH INSIDE AND OUTSIDE OF STRUCTURE.

SUMP MANHOLE REQUIRED WHEN THERE IS A 1.5' OR GREATER DROP BETWEEN INVERTS, AND THE FIRST STRUCTURE UPSTREAM FROM PIPE OUTLET. SEE STO-4.

MINIMUM SLAB THICKNESS 6" FOR STRUCTURES 14' IN DEPTH OR LESS. INCREASE THICKNESS 1" FOR EACH 4' OF DEPTH GREATER THAN 14', AND REINFORCE WITH 6"X6" 10/10 MESH.



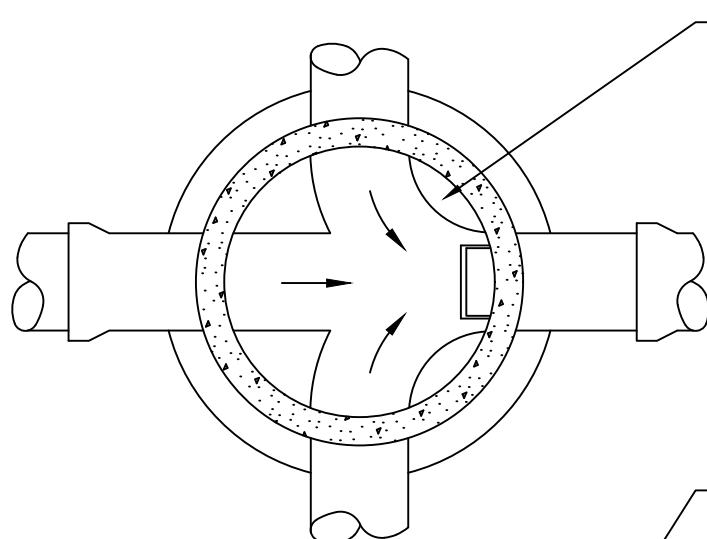
2026 Standard Detail Plates

STORM SEWER JUNCTION MANHOLE

LAST REVISION:
01/23/2026



PLATE NO.
STO-2



GROUT BOTTOM OF MANHOLE TO A MINIMUM OF 1/2 DIAMETER AT PIPE AND SLOPE GROUT 2" TOWARD INVERT.

APPROVED CASTINGS

CASTING	A	B
NEENAH R1642	27"	7"

NEENAH FRAME AND COVER OR EQUAL LETTERED, "STORM SEWER", WITH 2 CONCEALED PICK HOLES

MINIMUM 0.4' OF RINGS, MAXIMUM 1' OF RINGS.
TOP 2 RINGS MUST BE 2" RINGS.
FULL BED OF MORTAR BETWEEN EACH RING. 1 RING WITH MORTAR = 0.2'. INSTALL INTERNAL I&I BARRIER EULL'S FOR IN STREET STRUCTURES. EXTERNAL INFISHIELD OR GATOR WRAP SHALL BE ALLOWED IN BACKYARD STRUCTURES
ONLY PLASTIC SHIMS SHALL BE ALLOWED IF NEEDED.

6" PRECAST REINFORCED CONCRETE MANHOLE SLAB WITH #4 BARS AT 5" O.C. EACH WAY AND 2-#4 BARS AT ALL SIDES OF OPENING.

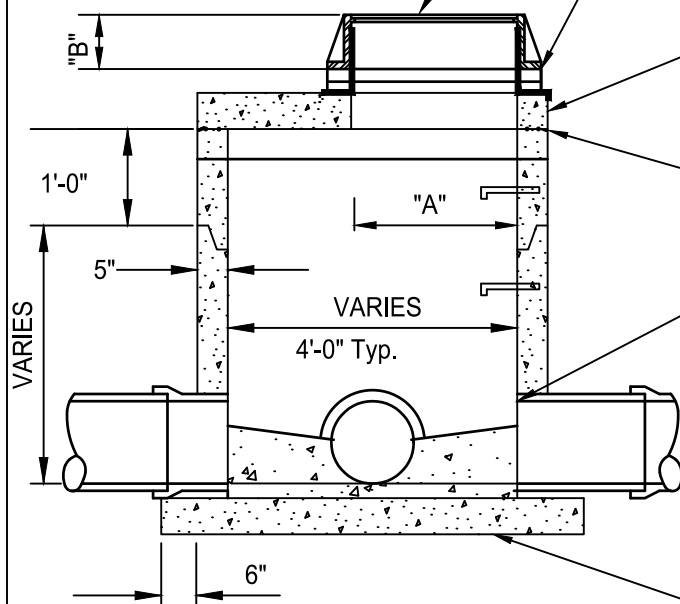
TOP BARREL OF SECTION BELOW TOP SLAB TO HAVE FLAT TOP EDGE SEALED WITH 2 BEADS OF RAMNEK OR APPROVED EQUAL.

PIPE SHALL BE CUT OUT 2" FROM INSIDE FACE OF WALL.

**DOG HOUSES MUST BE GROUTED BOTH INSIDE AND OUTSIDE OF STRUCTURE.

SUMP MANHOLE REQUIRED WHEN THERE IS A 1.5' OR GREATER DROP BETWEEN INVERTS, AND THE FIRST STRUCTURE UPSTREAM FROM PIPE OUTLET. SEE STO-4.

MINIMUM SLAB THICKNESS 6" FOR STRUCTURES 14' IN DEPTH OR LESS. INCREASE THICKNESS 1" FOR EACH 4' OF DEPTH GREATER THAN 14', AND REINFORCE WITH 6"X6" 10/10 MESH.



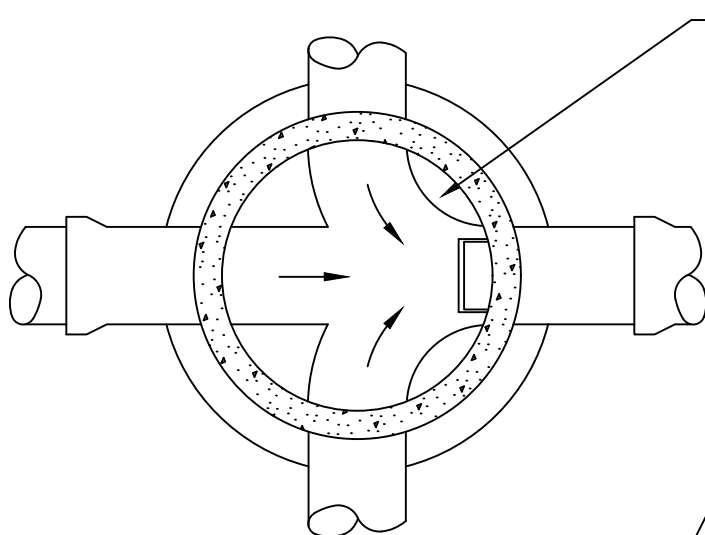
2026 Standard Detail Plates

STORM SEWER JUNCTION MANHOLE WITH REINFORCED SLAB

LAST REVISION:
01/23/2026



PLATE NO.
STO-3



GROUT BOTTOM OF MANHOLE TO A MINIMUM OF 1/2 DIAMETER AT PIPE AND SLOPE GROUT 2" TOWARD INVERT.

APPROVED CASTINGS

CASTING	A	B
NEENAH R1642	27"	7"

ONLY PLASTIC SHIMS SHALL BE ALLOWED IF NEEDED.
MORTAR SHALL BE AIR ENTRAINED UNDERGROUND UTILITY MORTAR WHICH MEETS OR EXCEEDS ASTM C270 AND ASTM C387.

NEENAH FRAME AND COVER OR EQUAL LETTERED, "STORM SEWER", WITH 2 CONCEALED PICK HOLES

MINIMUM 0.4' OF RINGS, MAXIMUM 1' OF RINGS. TOP 2 RINGS MUST BE 2" RINGS. FULL BED OF MORTAR BETWEEN EACH RING. 1 RING WITH MORTAR = 0.2'. INSTALL INTERNAL I&I BARRIER EULL'S FOR IN STREET STRUCTURES. EXTERNAL INFISHIELD OR GATOR WRAP SHALL BE ALLOWED IN BACKYARD STRUCTURES

ONLY PLASTIC SHIMS SHALL BE ALLOWED IF NEEDED.

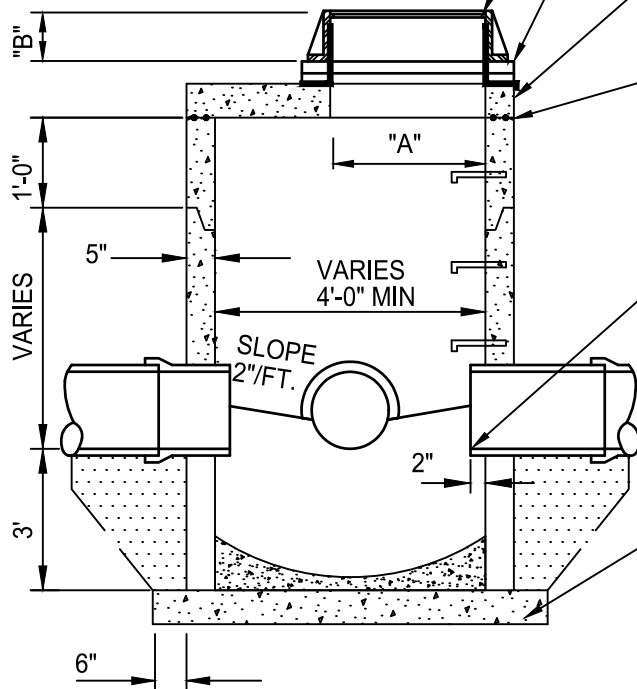
6" PRECAST REINFORCED CONCRETE MANHOLE SLAB WITH #4 BARS AT 5" O.C. EACH WAY AND 2-#4 BARS AT ALL SIDES OF OPENING.

TOP BARREL OF SECTION BELOW TOP SLAB TO HAVE FLAT TOP EDGE SEALED WITH 2 BEADS OF RAMNEK OR APPROVED EQUAL.

PIPE SHALL BE CUT OUT 2" FROM INSIDE FACE OF WALL.

SUMP MANHOLE REQUIRED WHEN THERE IS A 1.5' OR GREATER DROP BETWEEN INVERTS, AND THE FIRST STRUCTURE UPSTREAM FROM PIPE OUTLET. SEE STO-4. MUD SUMP SUCH THAT BASIN IS CREATED FOR MAINTENANCE

MINIMUM SLAB THICKNESS 6" FOR STRUCTURES 14' IN DEPTH OR LESS. INCREASE THICKNESS 1" FOR EACH 4' OF DEPTH GREATER THAN 14', AND REINFORCE WITH 6"X6" 10/10 MESH.



2026 Standard Detail Plates

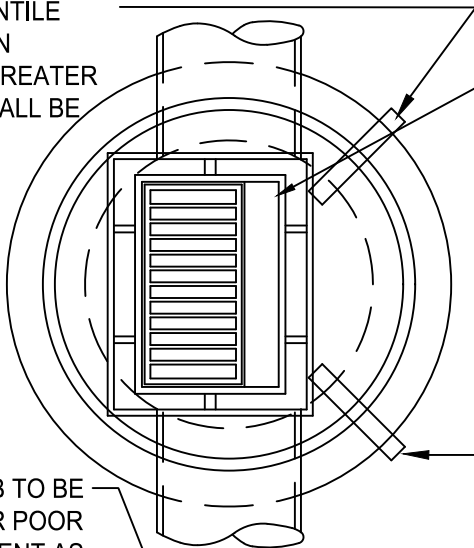
STORM SEWER JUNCTION MANHOLE WITH REINFORCED SLAB AND SUMP

LAST REVISION:
01/23/2026



PLATE NO.
STO-4

4" PVC DRAINTILE CONNECTION
NO BENDS GREATER THAN 45° SHALL BE ALLOWED



DIMENSION FROM BACK OF CURB TO CENTER OF PIPE.

4' DIA. MH - 9" IN FROM BACK OF CURB
5' DIA. MH - 3" IN FROM BACK OF CURB
6' DIA. MH - 3" BEHIND BACK OF CURB
7' DIA. MH - 9" BEHIND BACK OF CURB 8' DIA. MH - 15" BEHIND BACK OF CURB

NO BLOCK STRUCTURES ALLOWED.

TOP SLAB TO BE RESET FOR POOR ALIGNMENT AS NEEDED AS DIRECTED BY THE CITY ENGINEER

MINIMUM 0.4' OF RINGS, MAXIMUM 1' OF RINGS. TOP 2 RINGS MUST BE 2" RINGS. FULL BED OF MORTAR BETWEEN EACH RING. 1 RING WITH MORTAR = 0.2'. INSTALL INTERNAL I&I BARRIER EULL'S FOR IN STREET STRUCTURES. EXTERNAL INFISHIELD OR GATOR SHALL BE ALLOWED IN BACKYARD STRUCTURES

6" PRECAST REINFORCED CONCRETE SLAB.

TOP OF BARREL SECTION UNDER TOP SLAB TO HAVE FLAT TOP EDGE SEALED WITH 2 BEADS OF RAMNEK OR APPROVED EQUAL.

ONLY PLASTIC SHIMS SHALL BE ALLOWED IF NEEDED.

MORTAR SHALL BE AIR ENTRAINED UNDERGROUND UTILITY MORTAR WHICH MEETS OR EXCEEDS ASTM C270 AND ASTM C387.

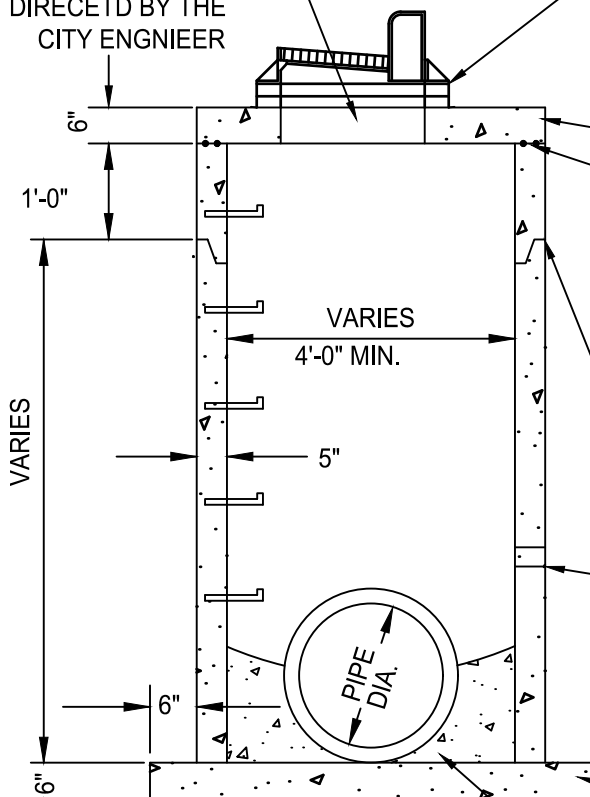
ALL JOINTS IN MANHOLE TO HAVE "O" RING RUBBER GASKETS.

4" PVC DRAINTILE CONNECTION.

SUMP MANHOLE REQUIRED WHEN THERE IS A 1.5' OR GREATER DROP BETWEEN INVERTS, AND THE FIRST STRUCTURE UPSTREAM FROM PIPE OUTLET. SEE STO-6.

MINIMUM SLAB THICKNESS 6" FOR STRUCTURES 14' IN DEPTH OR LESS. INCREASE THICKNESS 1" FOR EACH 4' OF DEPTH GREATER THAN 14', AND REINFORCE WITH 6"X6" 10/10 MESH.

GROUT BOTTOM



PIPE SHALL BE CUT OUT 2" FROM INSIDE FACE OF WALL.

**DOG HOUSES MUST BE GROUTED BOTH INSIDE AND OUTSIDE OF STRUCTURE.



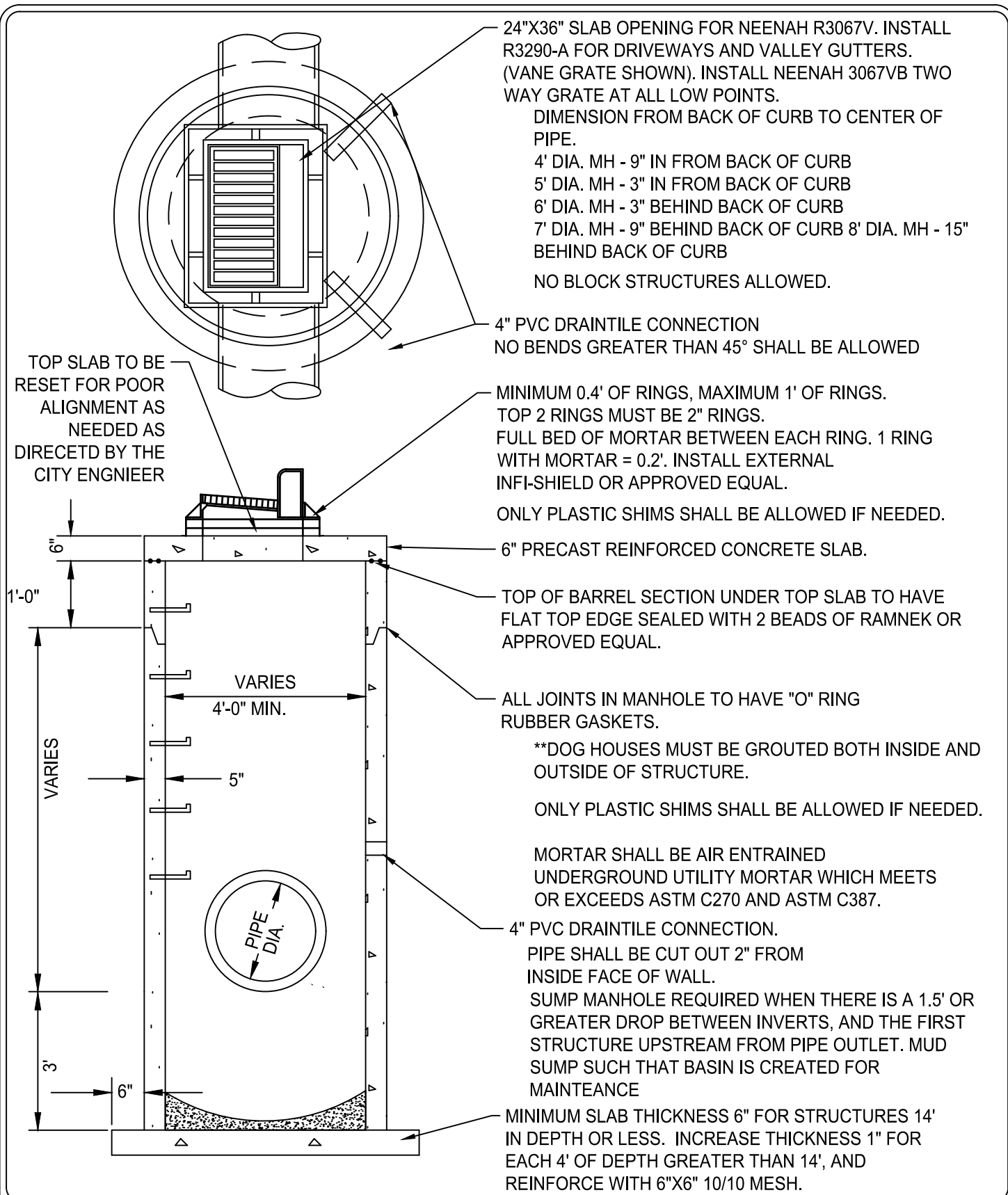
2026 Standard Detail Plates

CATCH BASIN MANHOLE

LAST REVISION:
01/23/2026



PLATE NO.
STO-5



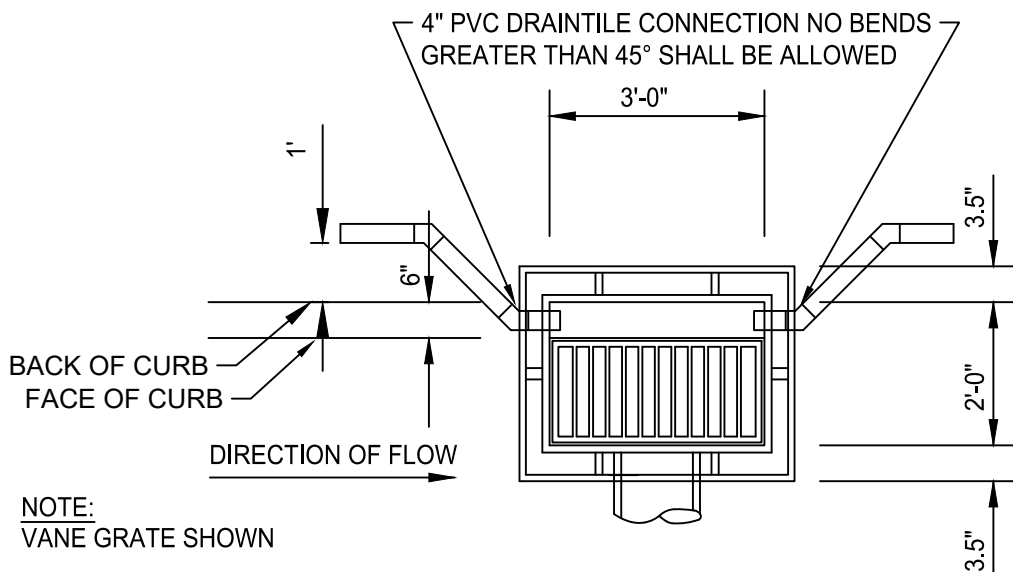
2026 Standard Detail Plates

CATCH BASIN MANHOLE WITH SUMP

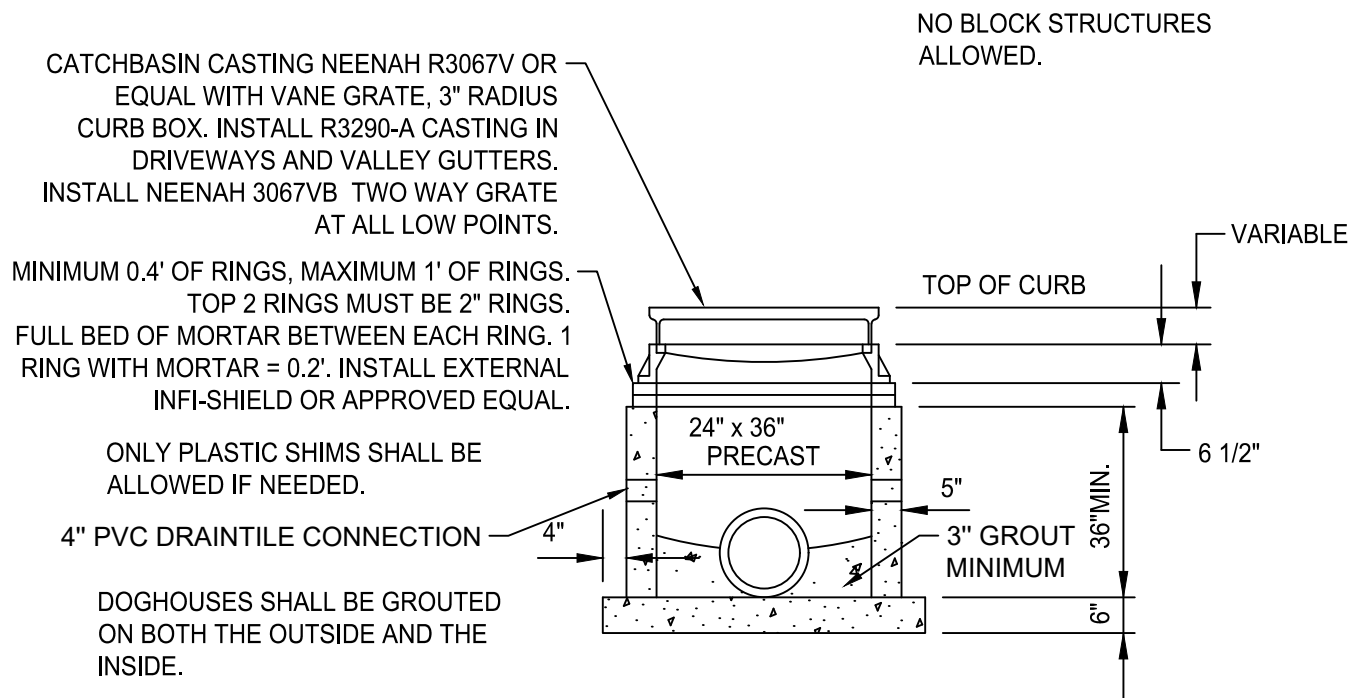
LAST REVISION:
01/23/2026



PLATE NO.
STO-6



PLAN



SECTION



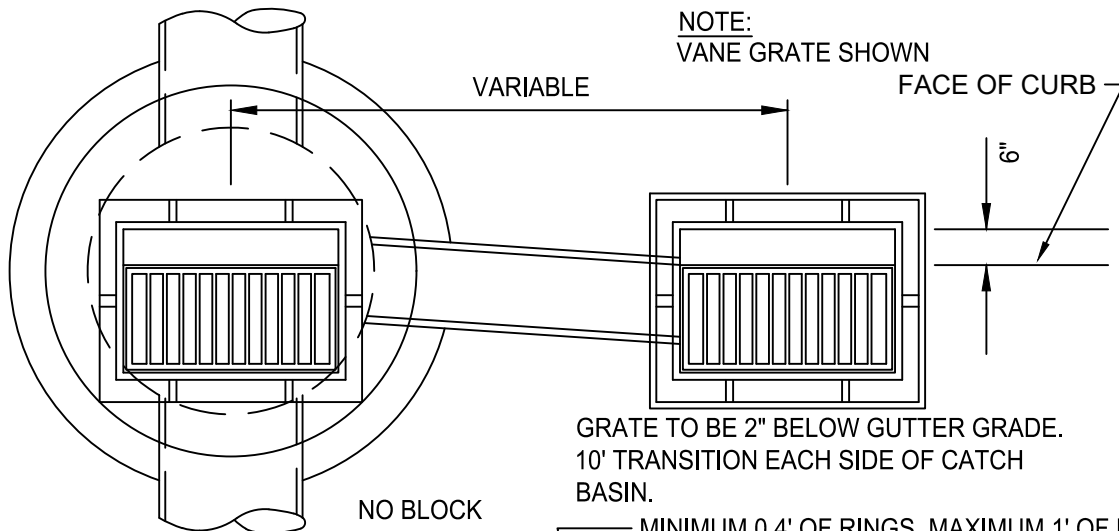
2026 Standard Detail Plates

2'X3' CATCHBASIN

LAST REVISION:
01/02/2025



PLATE NO.
STO-7



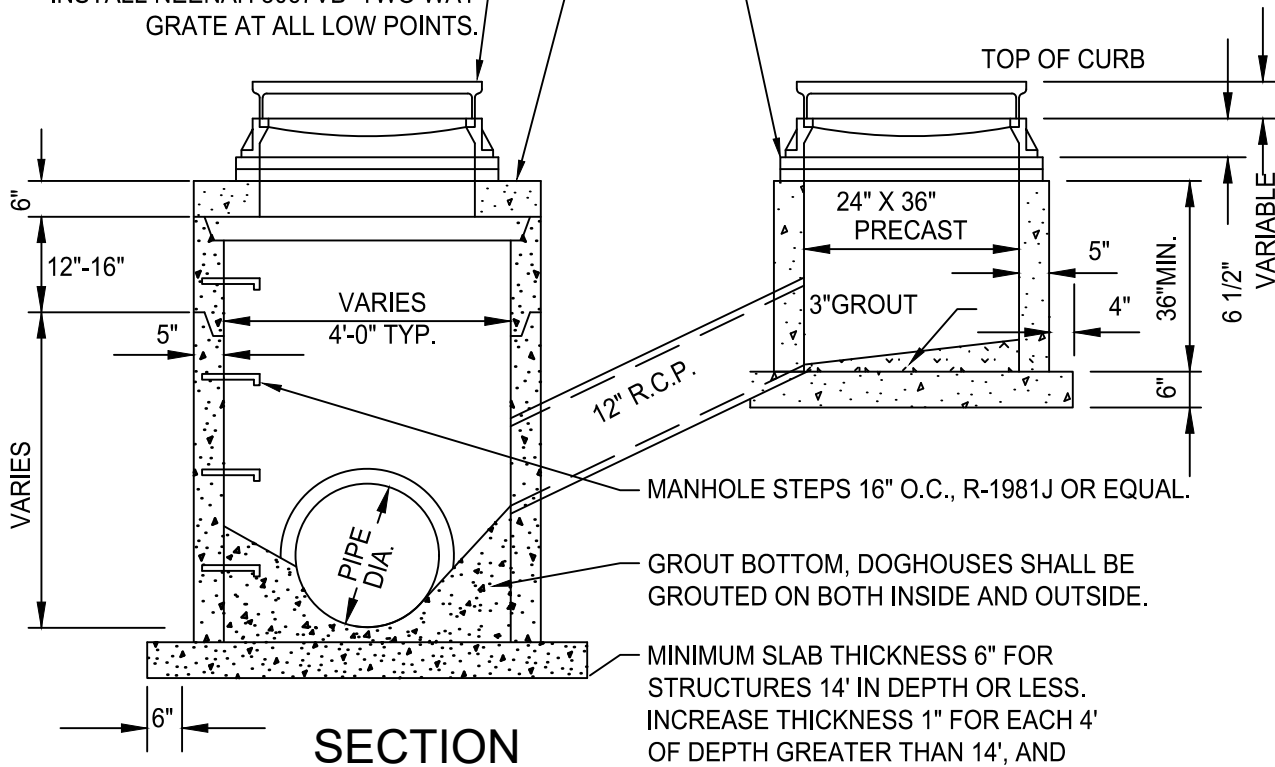
PLAN

6" PRECAST REINFORCED CONCRETE SLAB

CATCHBASIN CASTING NEENAH R3067V OR EQUAL WITH VANE GRATE. 3" RADIUS CURB BOX. INSTALL R3290L CASTING FOR DRIVEWAYS AND VALLEY GUTTERS. INSTALL NEENAH 3067VB TWO WAY GRATE AT ALL LOW POINTS.

NO BLOCK STRUCTURES ALLOWED.

MINIMUM 0.4' OF RINGS, MAXIMUM 1' OF RINGS. TOP 2 RINGS MUST BE 2" RINGS. FULL BED OF MORTAR BETWEEN EACH RING. 1 RING WITH MORTAR = 0.2'. INSTALL EXTERNAL INFI-SHIELD OR APPROVED EQUAL. ONLY PLASTIC SHIMS SHALL BE ALLOWED IF NEEDED. MORTAR SHALL BE AIR ENTRAINED UNDERGROUND UTILITY MORTAR WHICH MEETS OR EXCEEDS ASTM C270 AND ASTM C387.



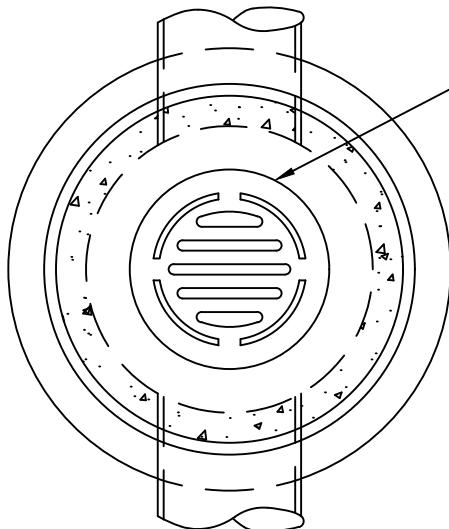
2026 Standard Detail Plates

DOUBLE CATCHBASIN - CATCHBASIN MANHOLE WITH 2'X3' CATCHBASIN

LAST REVISION:
01/02/2025



PLATE NO.
STO-8



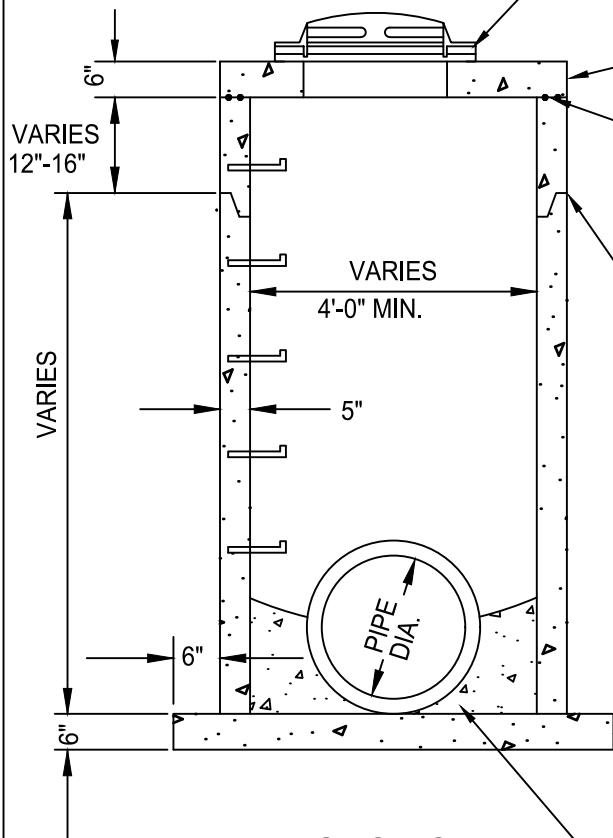
PLAN

NEENAH R-4342 CASTING OR EQUAL.

ONLY PLASTIC SHIMS SHALL BE ALLOWED IF NEEDED.
MORTAR SHALL BE AIR ENTRAINED UNDERGROUND UTILITY MORTAR WHICH MEETS OR EXCEEDS ASTM C270 AND ASTM C387.

NO BLOCK STRUCTURES ALLOWED.

MINIMUM 0.4' OF RINGS, MAXIMUM 1' OF RINGS.
TOP 2 RINGS MUST BE 2" RINGS.
FULL BED OF MORTAR BETWEEN EACH RING. 1 RING WITH MORTAR = 0.2'. INSTALL EXTERNAL INFISHIELD, GATOR WRAP OR APPROVED EQUAL IN BACKYARD STRUCTURES.



SECTION

6" PRECAST REINFORCED CONCRETE SLAB.

TOP OF BARREL SECTION UNDER TOP SLAB TO HAVE FLAT TOP EDGE SEALED WITH 2 BEADS OF RAMNEK OR APPROVED EQUAL.

ALL JOINTS IN MANHOLE TO HAVE "O" RING RUBBER GASKETS.

**DOG HOUSES MUST BE GROUTED BOTH INSIDE AND OUTSIDE OF STRUCTURE.

PIPE SHALL BE CUT OUT 2" FROM INSIDE FACE OF WALL.

MINIMUM SLAB THICKNESS 6" FOR STRUCTURES 14' IN DEPTH OR LESS. INCREASE THICKNESS 1" FOR EACH 4' OF DEPTH GREATER THAN 14', AND REINFORCE WITH 6"X6" 10/10 MESH.

GROUT BOTTOM



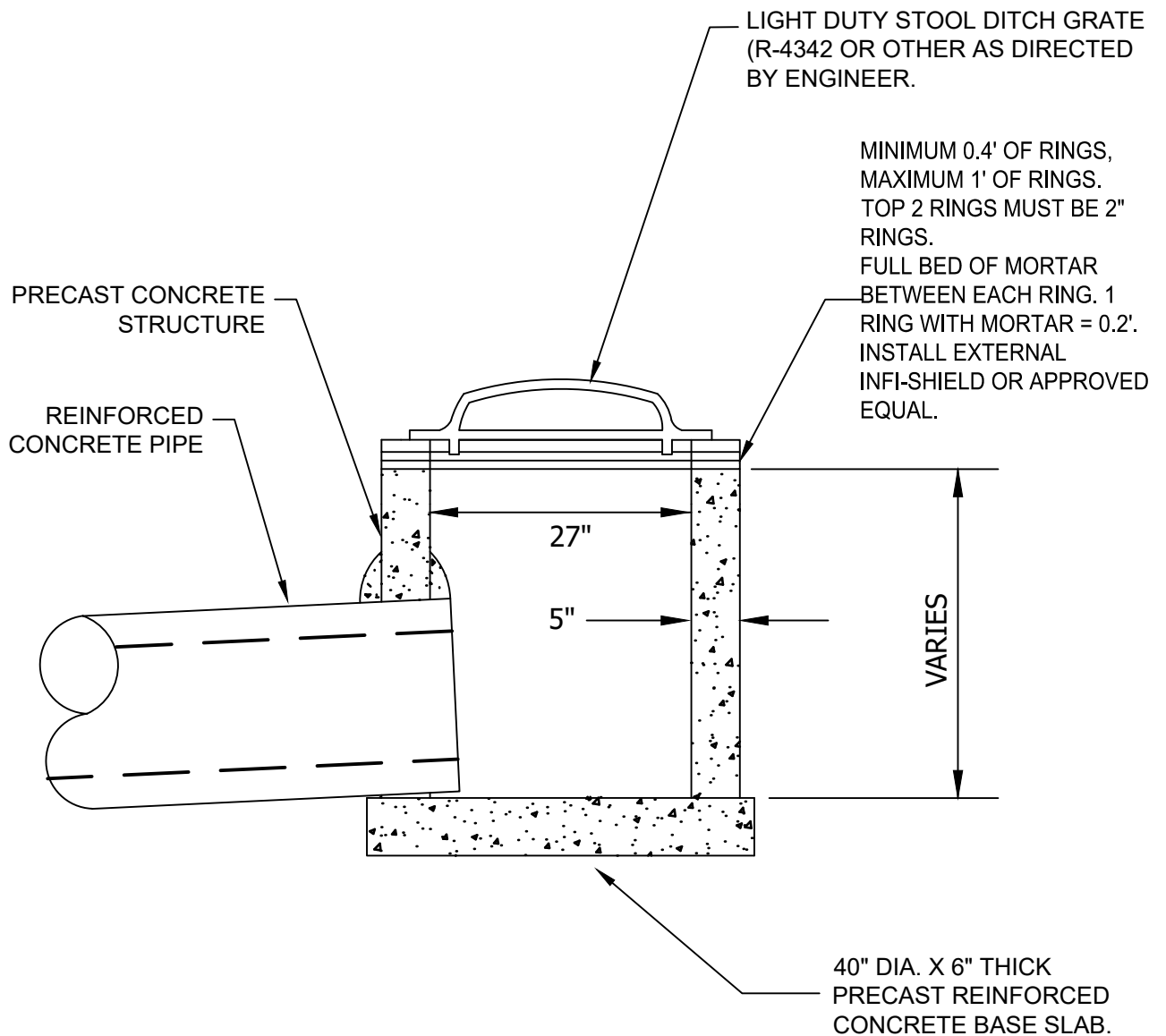
2026 Standard Detail Plates

CATCHBASIN MANHOLE IN GREENSPACE

LAST REVISION:
01/23/2026



PLATE NO.
STO-9



2026 Standard Detail Plates

PRECAST 27 INCH SHALLOW DEPTH BEEHIVE

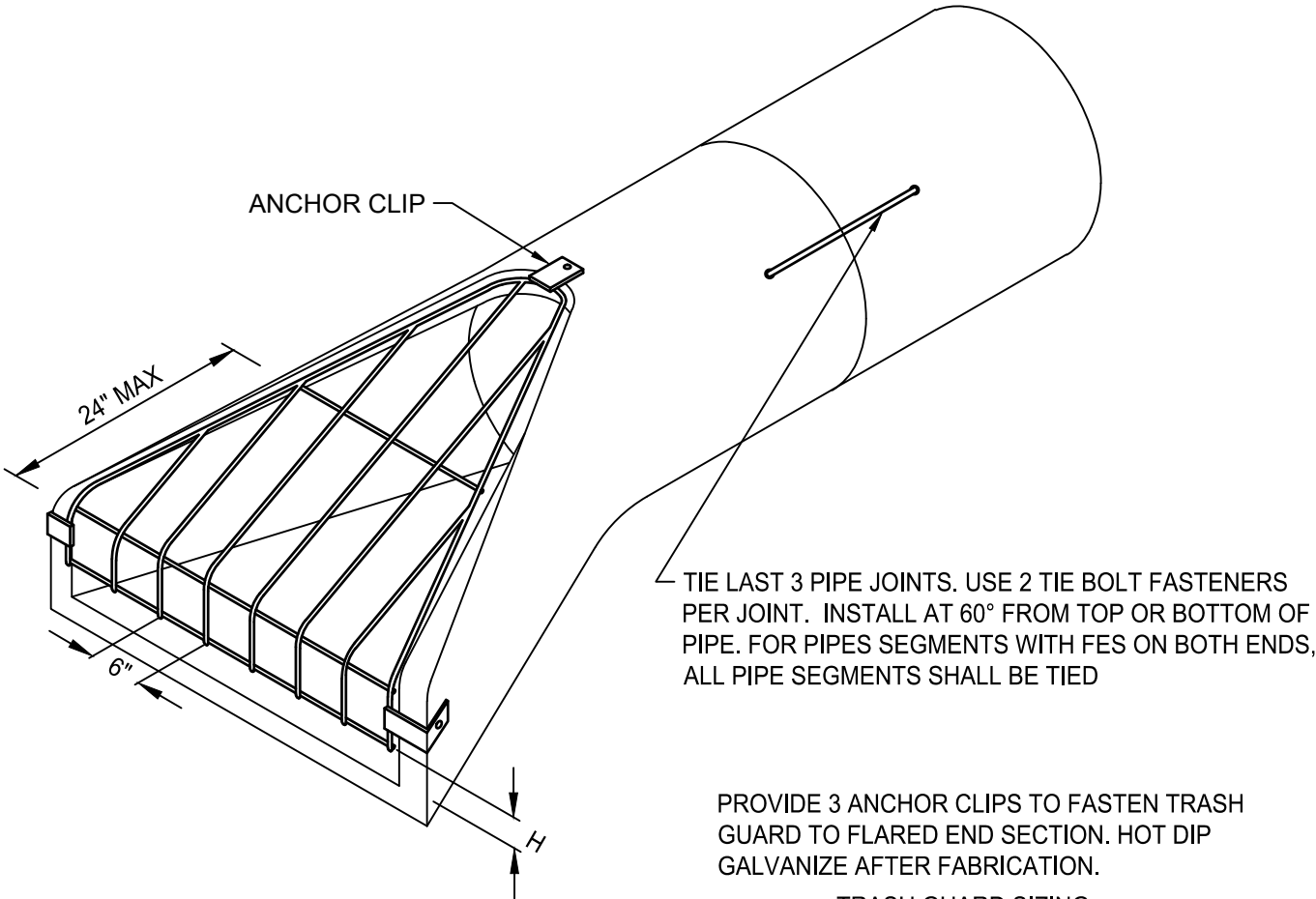
LAST REVISION:
07/24/2024



PLATE NO.

STO-10

SEE CITY PLATE NO. STO-11 FOR RIPRAP PLACEMENT.



ISOMETRIC

PROVIDE 3 ANCHOR CLIPS TO FASTEN TRASH GUARD TO FLARED END SECTION. HOT DIP GALVANIZE AFTER FABRICATION.

TRASH GUARD SIZING			
PIPE SIZE	BARS	'H'	BOLTS
12"	3/4"Ø	2 1/2"	5/8"
15"	3/4"Ø	3"	5/8"
18"	3/4"Ø	4"	5/8"
21"-24"	1"Ø	4"	3/4"
27"-36"	1"Ø	5"	3/4"
42"	1"Ø	6"	3/4"
48"-54"	1 1/4"Ø	6"	1"
60"-72"	1 1/4"Ø	7"	1"
78"-90"	1 1/4"Ø	8"	1"

TRASH GUARDS TO BE INSTALLED ON ALL INLET FLARES, AND ON ALL FLARES LESS THAN 42"



2026 Standard Detail Plates

FLARED END SECTION AND TRASHGUARD

LAST REVISION:
07/24/2024



PLATE NO.

STO-11

(3) 1-1/4" HOLES
USE 3-1" BY 1' L-SHAPE
BOLTS AND TIE TO REBAR
VERTICAL AND HORIZONTAL

12" TYPICAL
3G52 CONCRETE

SEE DETAIL STO-09
FOR RIPRAP SECTION

2'-0" TYP.

PLAN

NOTES: TIE LAST 3 JOINTS

2'-0" TYP.

3Y43 CONCRETE

#4 EACH FACE
1'-0" (TYP.)
HORIZONTAL

SHEET PILE LIGHTWEIGHT
ASTM A-857, GR 33 TO 36
OR A-525 SUPER 5-5 GA

#3 AT 12" O.C.
STAGGERED
VERTICAL

7'-0" TYP.

SHEET
PILING

18"
45°
3.12"
16.9 IBS / FT.
.209 THICKNESS

OUTSIDE WITH OF END
SECTION PLUS 4'-0"

ELEVATION

NOTES:

1. FLARED END SECTION 21" IN DIAMETER OR LARGER (TYP.) TRASH GUARDS WILL BE GALVANIZED. SEE DETAIL STO-08.
2. BRING CONCRETE HEADWALL UP TO A POINT THAT WILL NOT HINDER THE OPERATION OF THE TRASH GUARD.
3. USE AS DIRECTED BY CITY ENGINEER.



2026 Standard Detail Plates

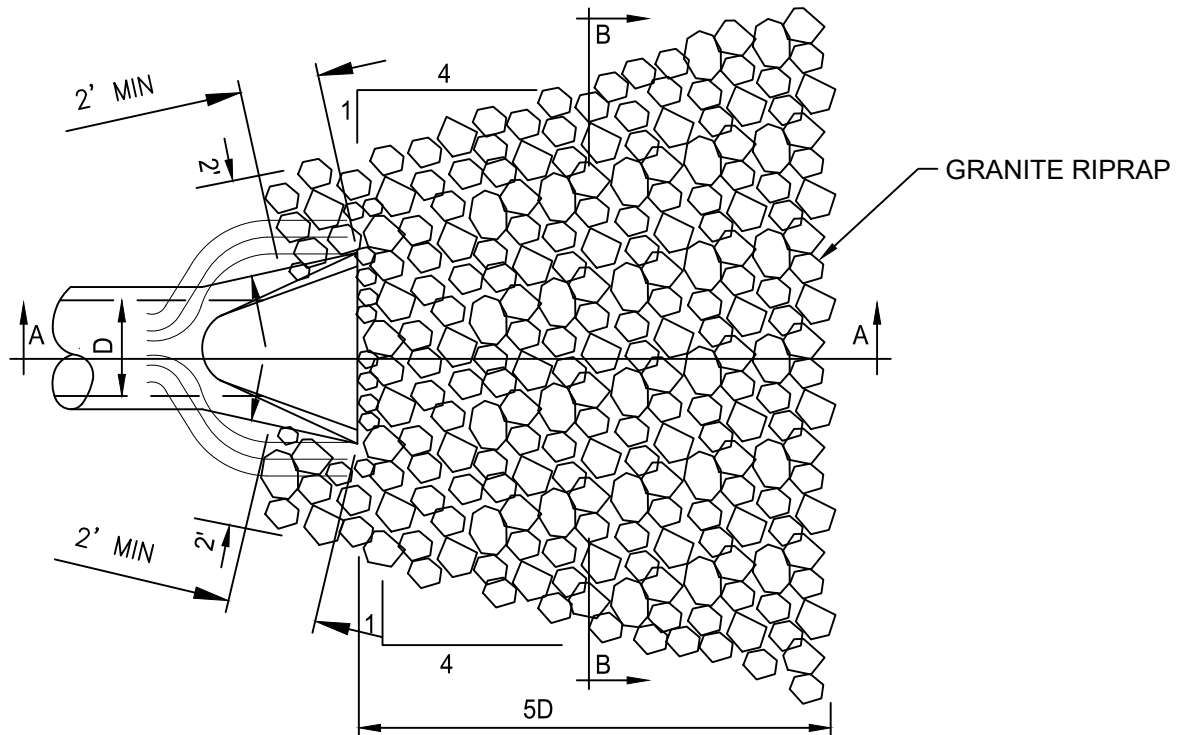
STORM SEWER PILING & CONCRETE END SECTION

LAST REVISION:

01/22/2025c

PLATE NO.

STO-11A

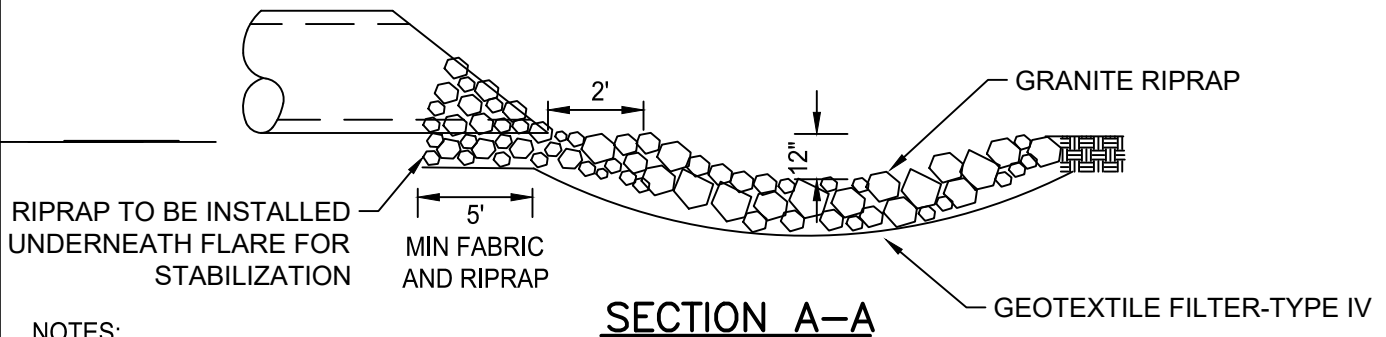


RIPRAP REQUIREMENTS

12" TO 18"	8-10 CUBIC YARDS CL.3
21" TO 27"	12-14 CUBIC YARDS CL.3
30" TO 36"	16-24 CUBIC YARDS CL.3
42" TO 48"	30-38 CUBIC YARDS CL.3
54" AND UP	62&UP CUBIC YARDS CL.4

(ONE CUBIC YARD IS APPROXIMATELY 2,800 LBS.)

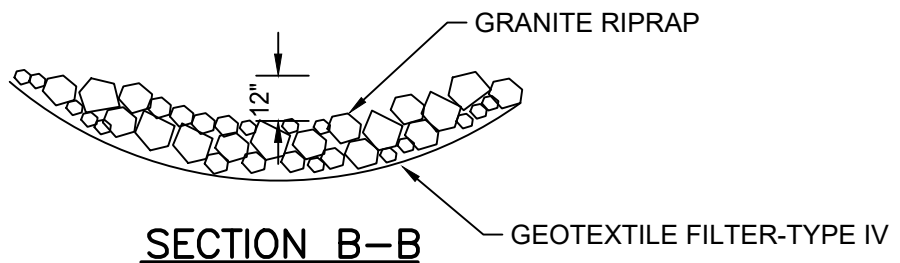
PLAN



SECTION A-A

NOTES:

1. FILTER BLANKET REQUIRED UNDER RIPRAP OR 2 LAYERS OF 500X MIRAFI FABRIC OR EQUAL.
2. ONLY GRANITE RIPRAP TO BE USED AT OUTLETS.
3. GRADE A SWALE ADJACENT TO BOTH SIDES OF PIPE TO DIRECT WATER AWAY FROM FES.



SECTION B-B



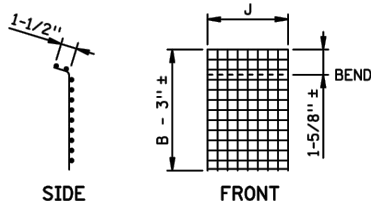
2026 Standard Detail Plates

RIPRAP AT OUTLETS

LAST REVISION:
07/24/2024

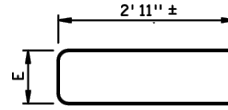


PLATE NO.
STO-12

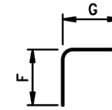


SIDE FRONT
RODENT SHIELD ①

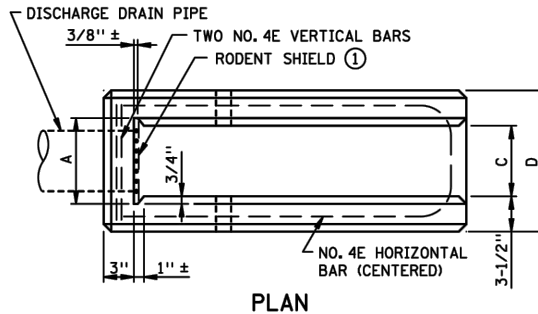
DIMENSIONS ARE APPROXIMATE TO ALLOW FOR BEND AND A SNUG FIT IN SLOT IN HEADWALL.



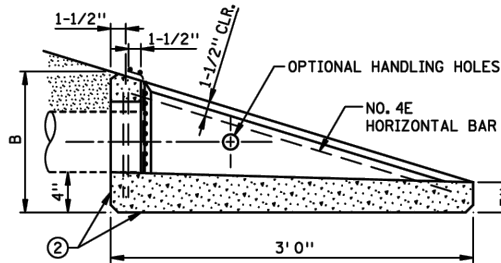
NO. 4E
HORIZONTAL BAR



NO. 4E
VERTICAL BAR
(2 REQUIRED)



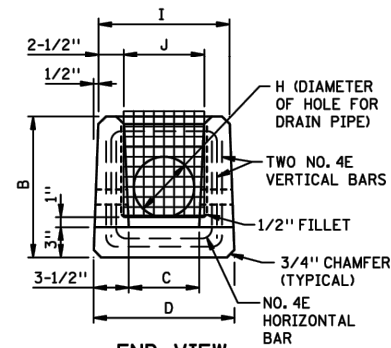
PLAN



SECTION

DIMENSIONS	4" DIA. PIPE	6" DIA. PIPE	8" DIA. PIPE
A	6-1/2"	8-1/2"	10-1/2"
B	1' 0"	1' 2"	1' 4"
C	5"	7"	9"
D	1' 0"	1' 2"	1' 4"
E	8-1/2"	10-1/2"	1' 0-1/2"
F	9"	11"	1' 1"
G	9-1/2"	11-1/2"	1' 1-1/2"
H Δ	5"	7"	9-1/2"
I	11"	1' 1"	1' 3"
J	6"	8"	10"
APPROX. WT.	210 LBS.	250 LBS.	300 LBS.

Δ EXACT DIMENSION DEPENDENT ON COUPLING METHOD.



END VIEW

NOTES:

ALL CONCRETE MATERIALS SHALL BE MN/DOT MIX DESIGNATION 3W46 AND/OR OTHER MIX AS APPROVED BY THE STATE MATERIALS ENGINEER. HEADWALLS SHALL NOT BE SHIPPED UNTIL CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF 5000 PSI. THE EPOXY BARS SHALL BE SECURELY RETAINED SO THEY ARE NOT DISPLACED DURING CONCRETE PLACEMENT. TIE WIRE SHALL BE EPOXY COATED. WELDING WILL NOT BE PERMITTED. THE FABRICATOR SHALL PROVIDE A QUALITY CONTROL PROGRAM APPROVED BY THE MATERIALS ENGINEER.

- ① THE RODENT SHIELD SHALL BE FABRICATED FROM CARBON STEEL FLATTENED EXPANDED METAL, STYLE 1/2" NO. 4F. IT SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION. ACTUAL SCREEN DIMENSIONS SHALL BE SUCH AS WILL SNUGLY FIT THE PROVIDED SLOT (TAPERED IF NECESSARY), WITH THE SCREEN LIP FITTING FLUSH WITH THE CASTING TOP AND THE BOTTOM FITTING TIGHT TO THE FLOW LINE.
- ② THE MANUFACTURER'S NAME AND DATE OF PRODUCTION (MONTH AND YEAR) SHALL BE CLEARLY CAST (NOT INK STAMPED) INTO EITHER THE BOTTOM OF EACH HEADWALL OR NEAR THE BOTTOM OF THE LARGE END. IF A MANUFACTURER HAS MORE THAN ONE PLANT, THEY SHALL BE APPROPRIATELY CODED.

APPROVED AUGUST 20, 2001

[Signature]
STATE DESIGN ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
**PRECAST CONCRETE HEADWALL
FOR SUBSURFACE DRAINS**

SPECIFICATION
REFERENCE
2502

REVISED
3-22-2013 M.J.E.

STANDARD
PLATE
NO.

3131C



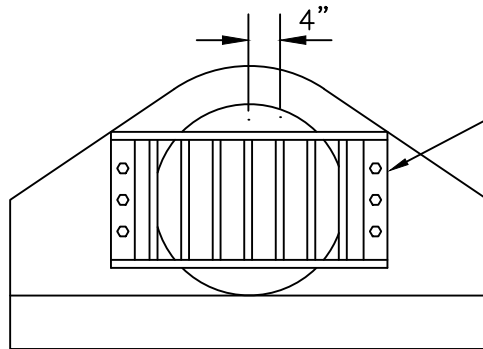
2026 Standard Detail Plates

PRECAST CONCRETE HEADWALL

LAST REVISION:
01/26/2026

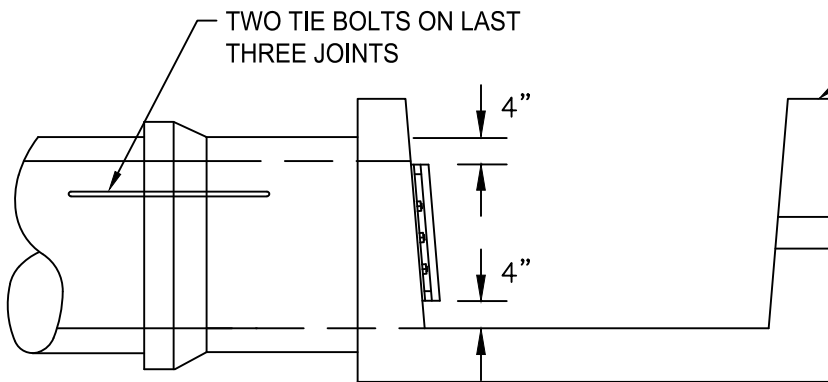


PLATE NO.
STO-13



STEEL PLATE - BOLT TO CONCRETE WITH STAINLESS STEEL BOLTS. HOT DIP GALVANIZE AFTER FABRICATION.

FRONT VIEW



TWO TIE BOLTS ON LAST THREE JOINTS

ENERGY DISSIPATOR: SEE MNDOT STANDARD PLATE NO. 5200B

SIDE VIEW

SIZE OF PIPE	SIZE OF PLATE	BARS	BOLTS
12" TO 18"	1/4"X2"	3/4"Ø	2-5/8"Ø
21" TO 48"	1/4"X3"	1"Ø	3-3/4"Ø

NOTE:

TIE LAST 3 JOINTS. USE 2 TIE BOLT FASTENERS PER JOINT INSTALLED AT 60Ø FROM TOP OR BOTTOM OF PIPE.



2026 Standard Detail Plates

ENERGY DISSIPATOR AND TRASH GUARDS

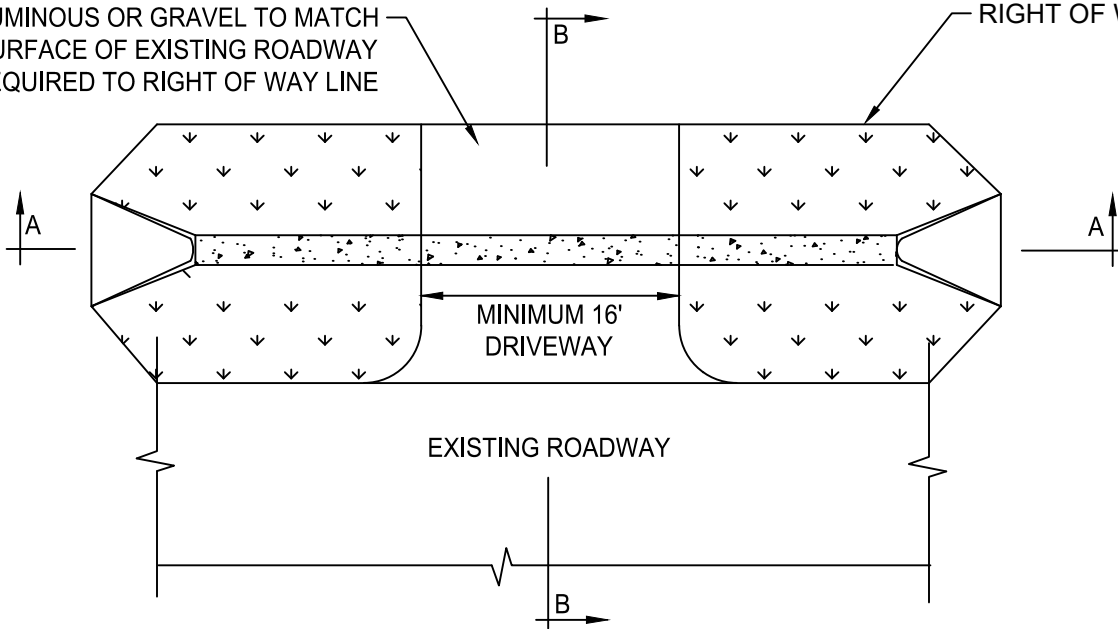
LAST REVISION:
01/02/2025



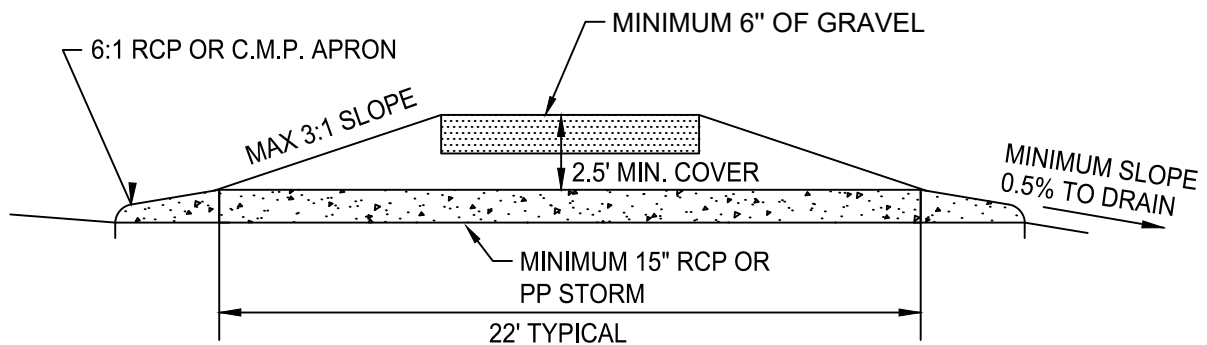
PLATE NO.
STO-14

BITUMINOUS OR GRAVEL TO MATCH
SURFACE OF EXISTING ROADWAY
REQUIRED TO RIGHT OF WAY LINE

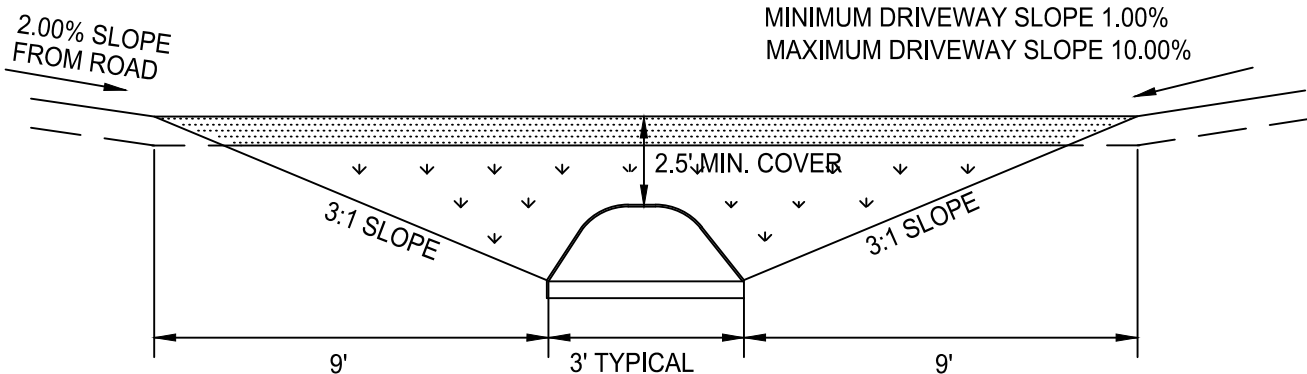
RIGHT OF WAY LINE



PLAN



SECTION A-A



SECTION B-B

CULVERTS LONGER THAN 40' SHALL RECEIVE PRIOR AUTHORIZATION FROM THE CITY. NO LANDSCAPING OR RIP RAP ALLOWED WITH CITY APPROVAL. ALL CULVERTS SHALL BE INSPECTED FOR DAMAGE BEFORE FINAL ACCEPTANCE.



2026 Standard Detail Plates

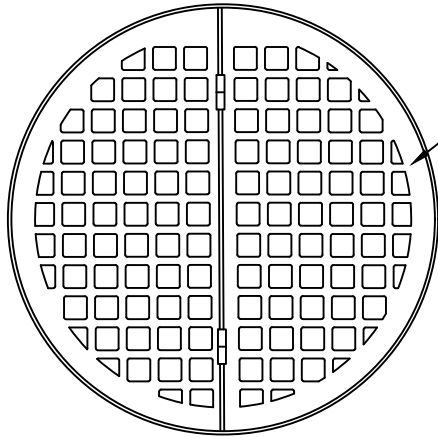
RURAL RESIDENTIAL DRIVEWAY CULVERT

LAST REVISION:
02/10/2026



PLATE NO.

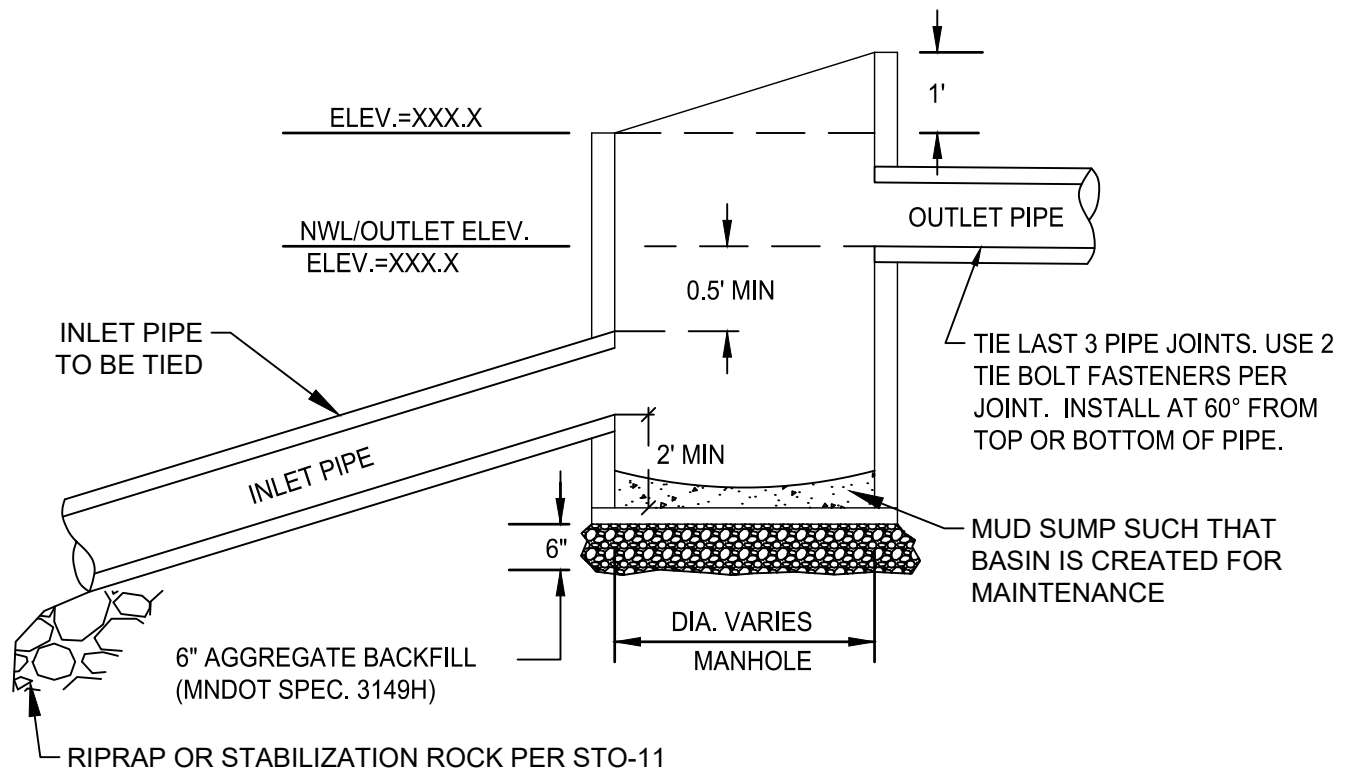
STO-15



GRATE DETAIL

HAALA POND SKIMMER PLATE
STYLE OR APPROVED EQUAL.

GRATE MUST BE SECURED TO
STRUCTURE WITH BOLTS



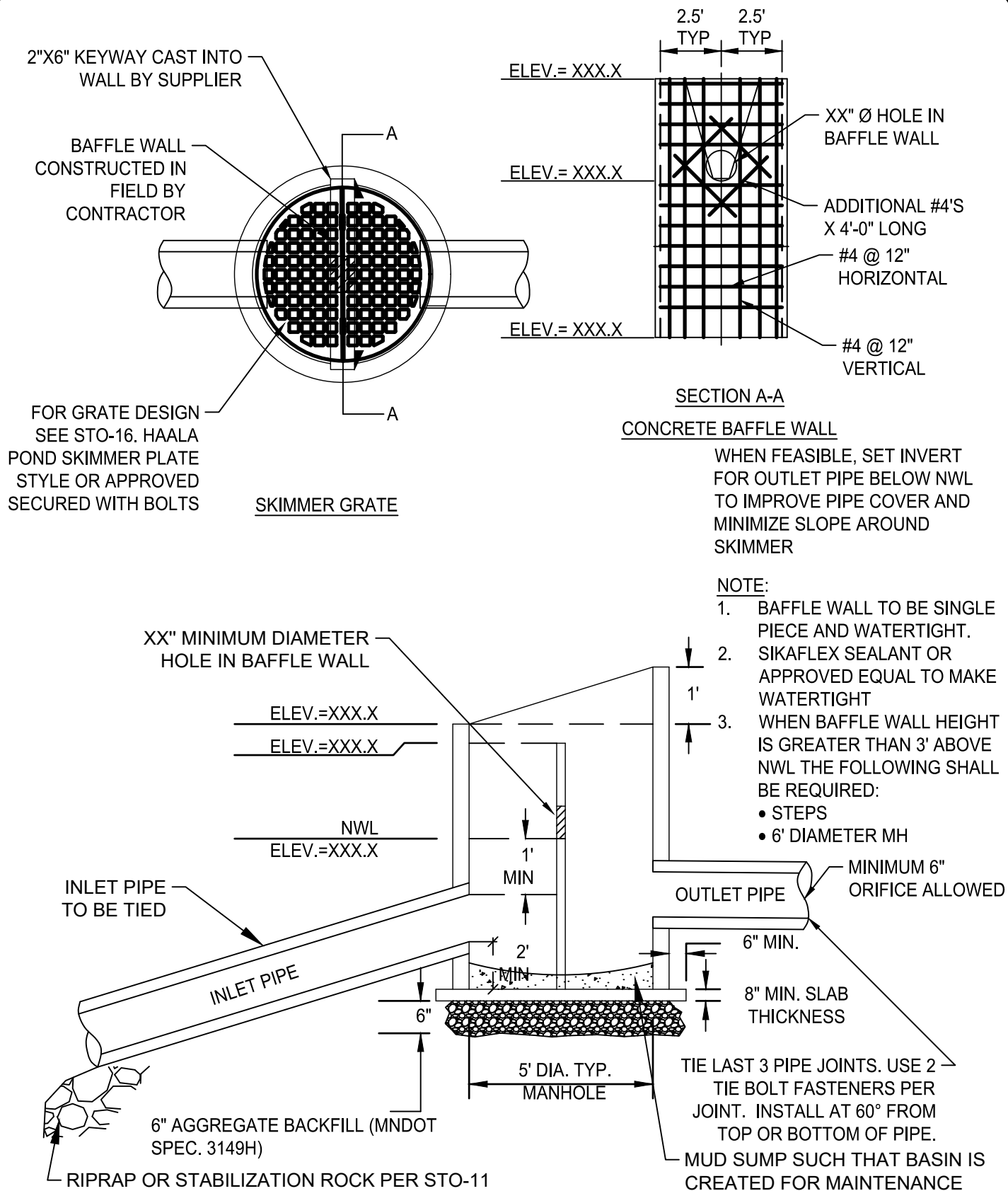
2026 Standard Detail Plates

STORM SEWER SKIMMER STRUCTURE

LAST REVISION:
01/23/2026



PLATE NO.
STO-16



2026 Standard Detail Plates

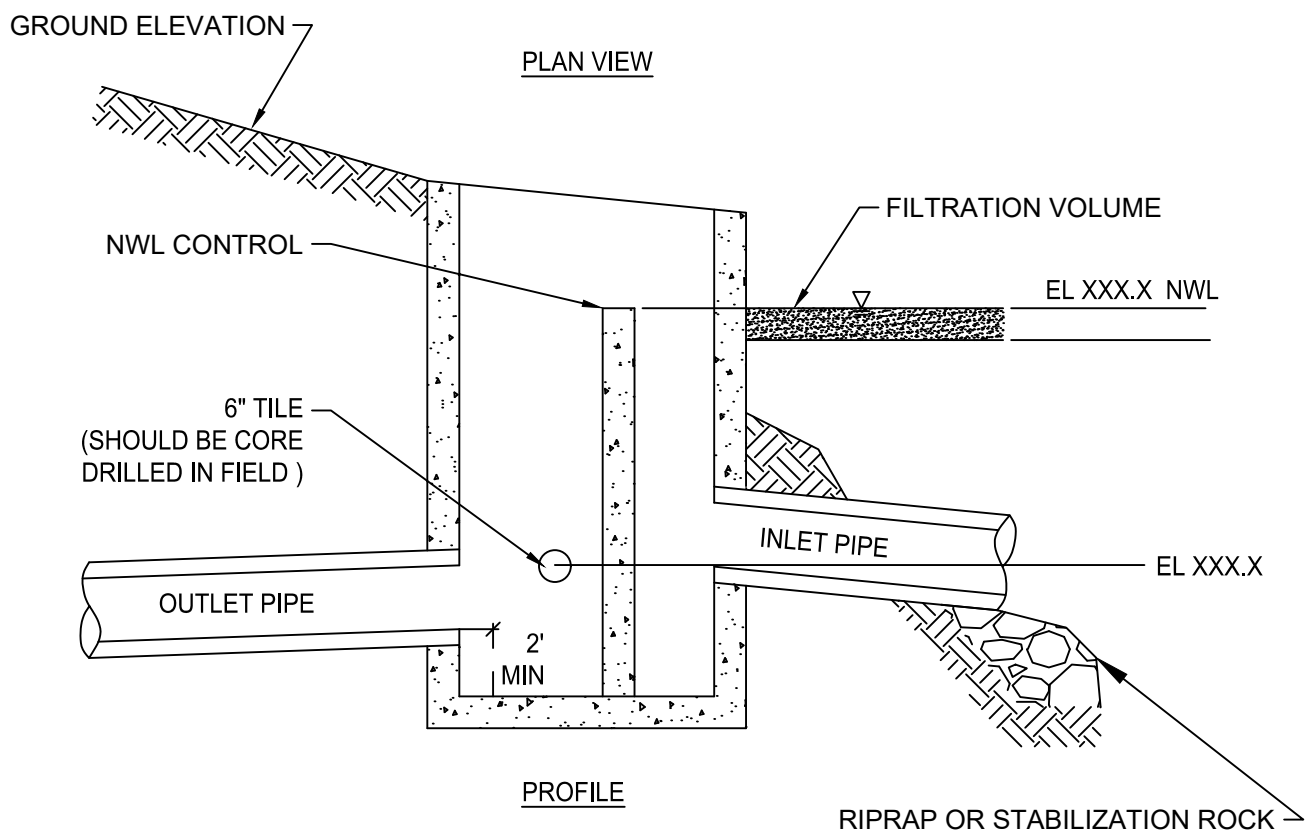
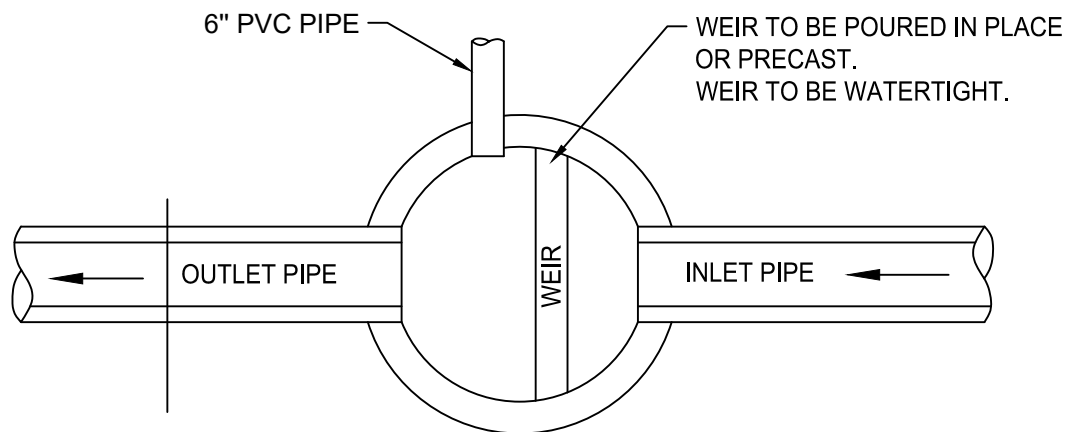
SKIMMER STRUCTURE WITH CONCRETE BAFFLE WALL

LAST REVISION:
01/23/2026



PLATE NO.

STO-17



NOTE:
 TILE MUST CONNECT TO STRUCTURE.
 TILE MUST BE ABOVE THE TOP OF OUTLET PIPE AND APPROXIMATELY 1 FOOT BELOW ELEVATION OF TILE
 IN THE TRENCH.
 INLET PIPE SHALL BE TIED AT ALL JOINTS AND ATTACHED TO THE STRUCTURE.



2026 Standard Detail Plates

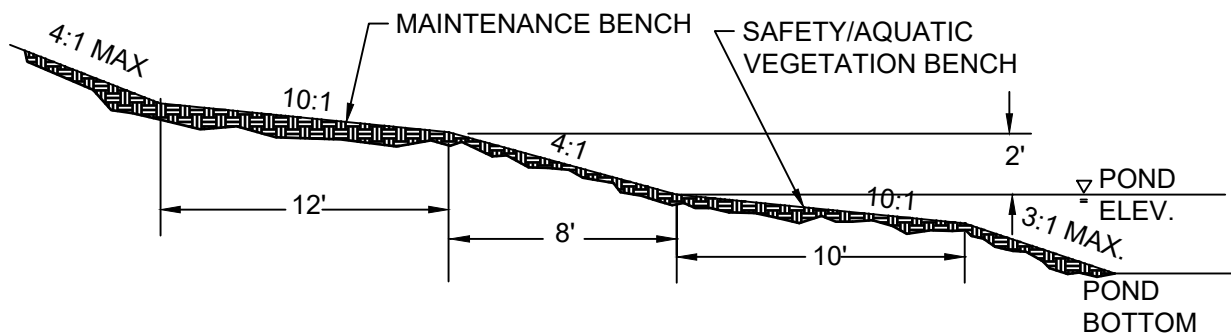
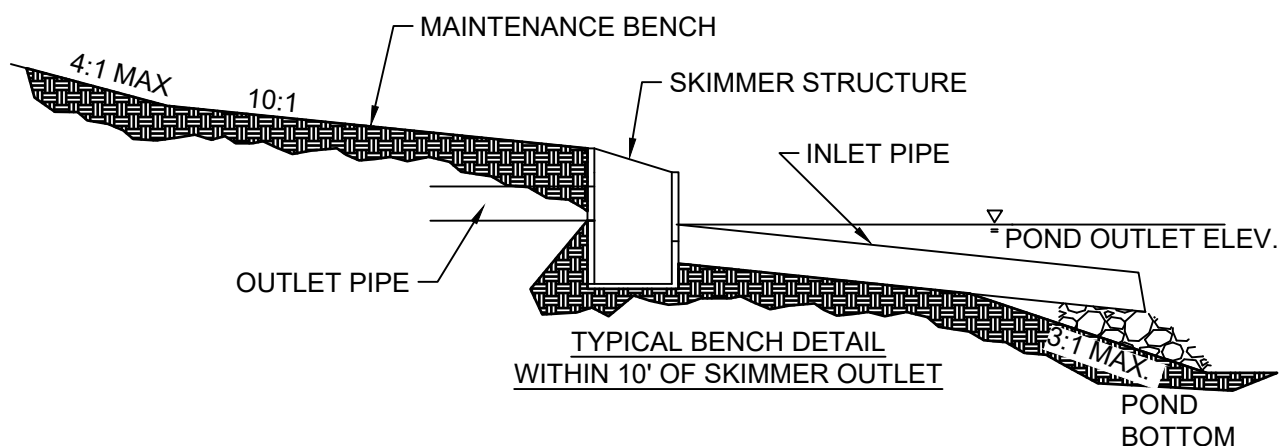
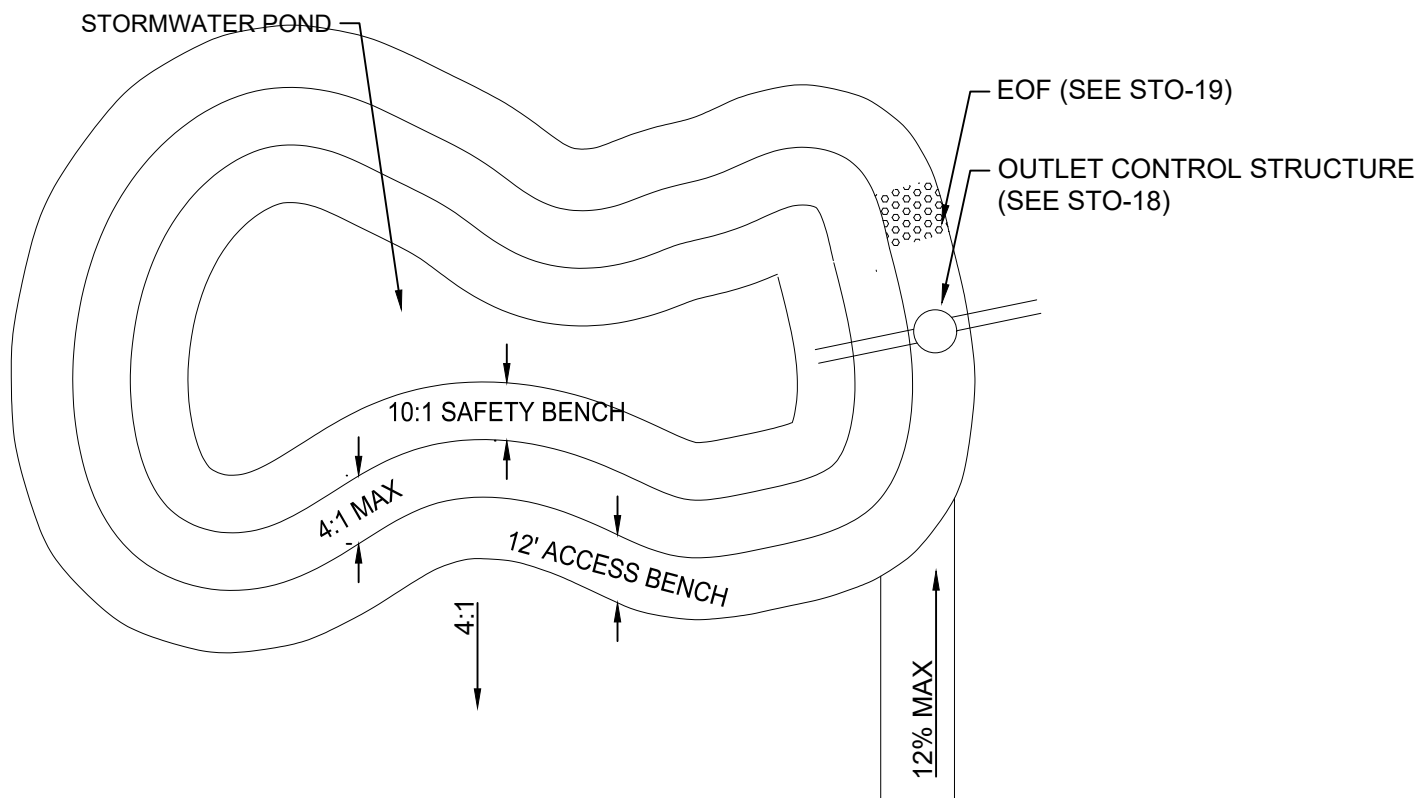
OUTLET CONTROL STRUCTURE

LAST REVISION:
01/23/2026



PLATE NO.

STO-18



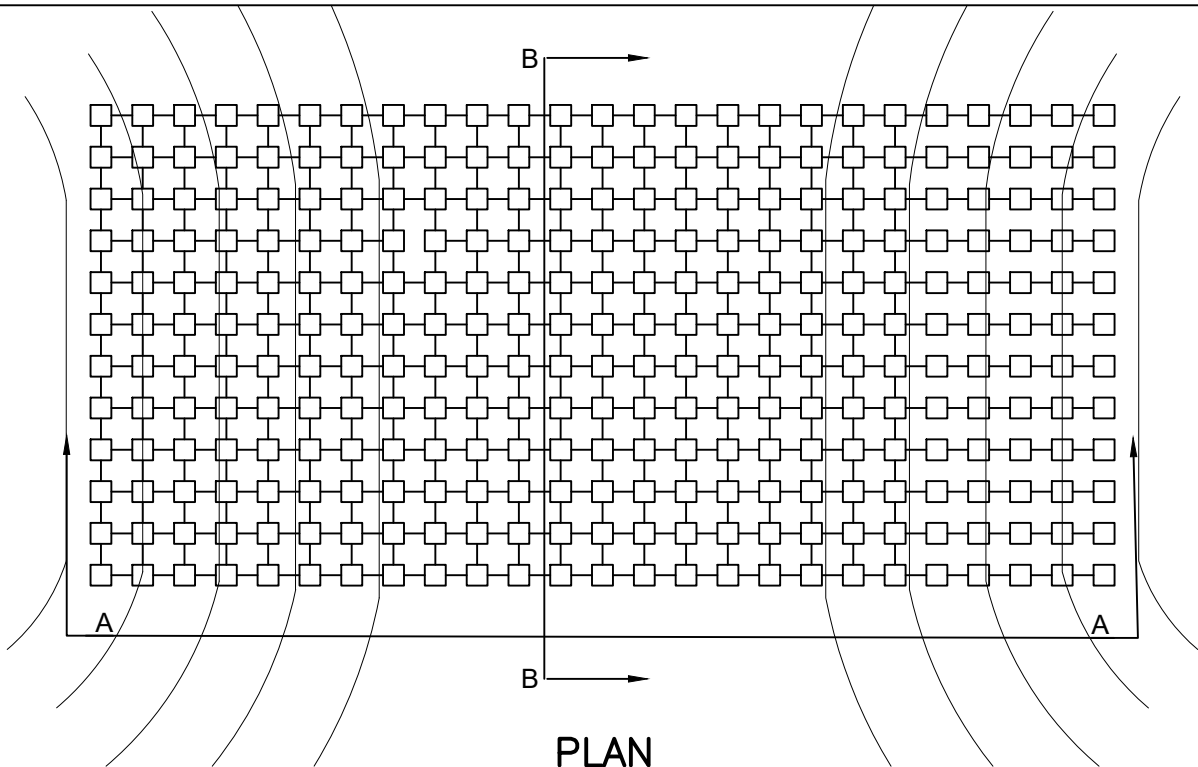
2026 Standard Detail Plates

TYPICAL MAINTENANCE ACCESS BENCH

LAST REVISION:
02/10/2026

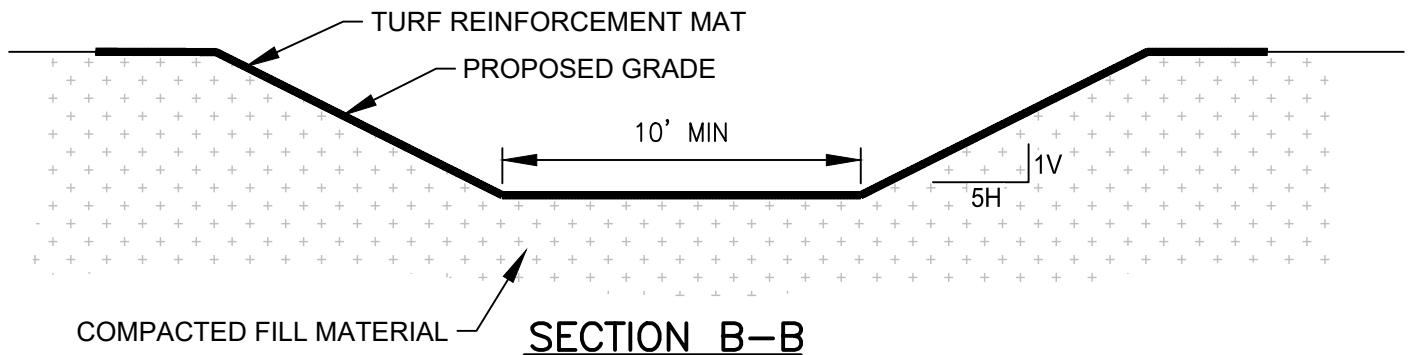
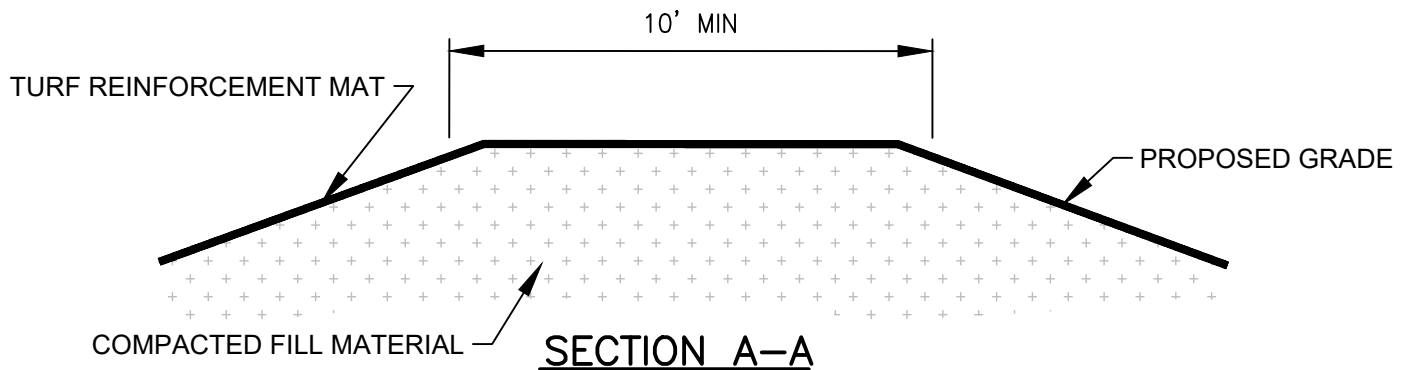


PLATE NO.
STO-18A



NOTES:

1. TURF REINFORCEMENT MAT TO BE INSTALLED TO WATER LEVEL ON INLET SIDE AND DISCHARGE ELEVATION ON OUTLET SIDE. MUST BE EXTENDED TO DOWNSTREAM TOE OF SLOPE OR NORMAL WATER LEVEL.
2. TURF REINFORCEMENT MAT SHALL BE MNDOT ROLLED EROSION PREVENTION PRODUCT - CATEGORY 76, AND INSTALLED PER MANUFACTURES RECOMMENDATIONS



2026 Standard Detail Plates

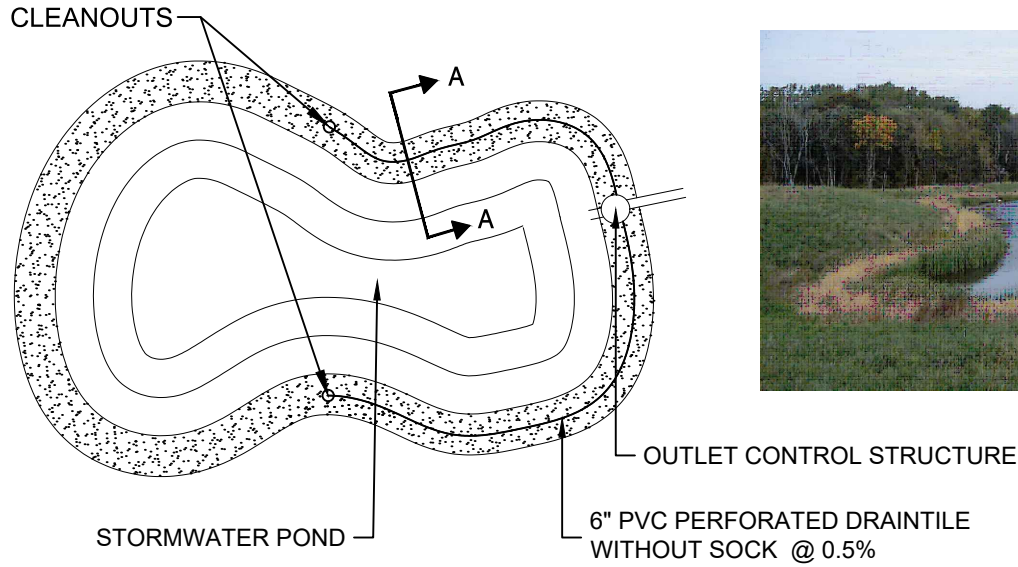
TYPICAL POND EOF

LAST REVISION:
02/10/2026

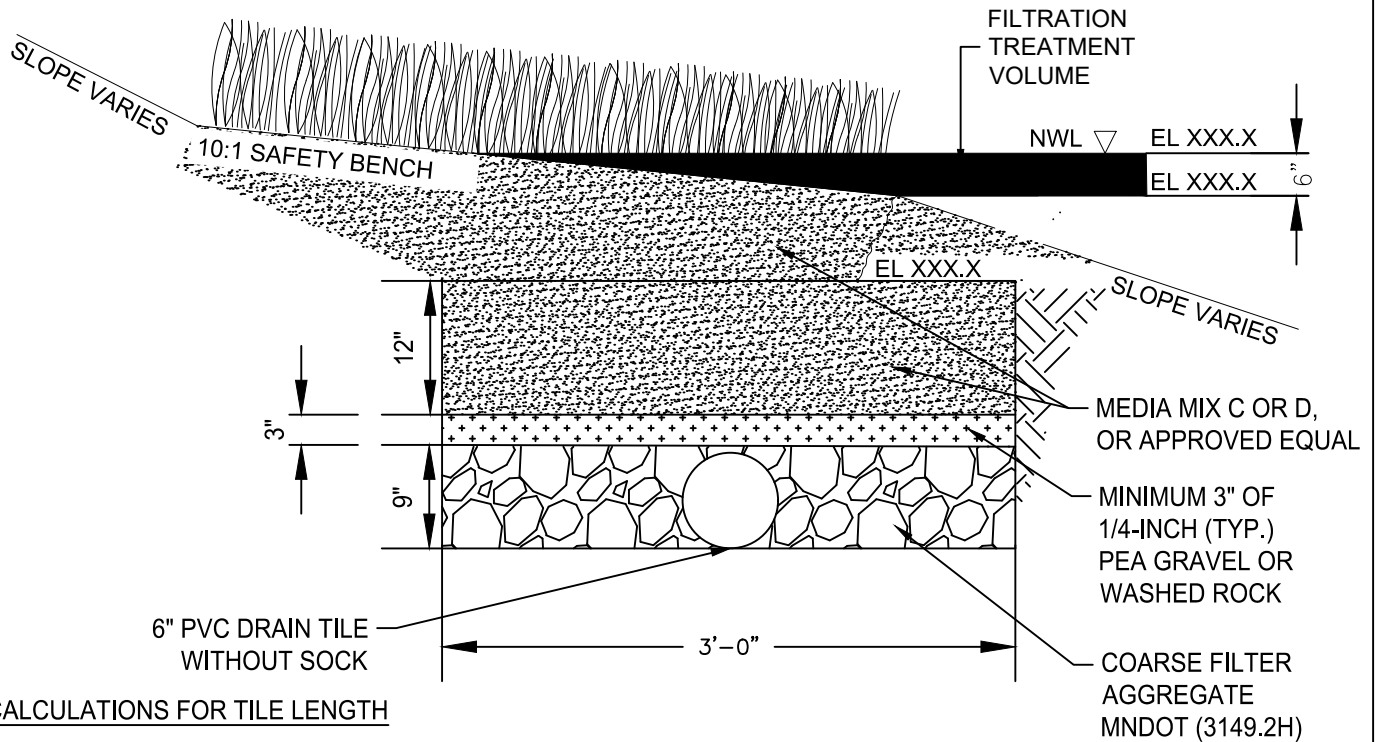


PLATE NO.
STO-19

PLAN VIEW



SECTION A - A



CALCULATIONS FOR TILE LENGTH

TO DETERMINE THE AREA(SF) OF TRENCH NEEDED, DIVIDE THE PONDED VOLUME (CF) BY 8 CF/SF. (5,000 CF / 8 CF/SF = 625 SF TRENCH / 3 FT = 208 LF OF TRENCH)



2026 Standard Detail Plates

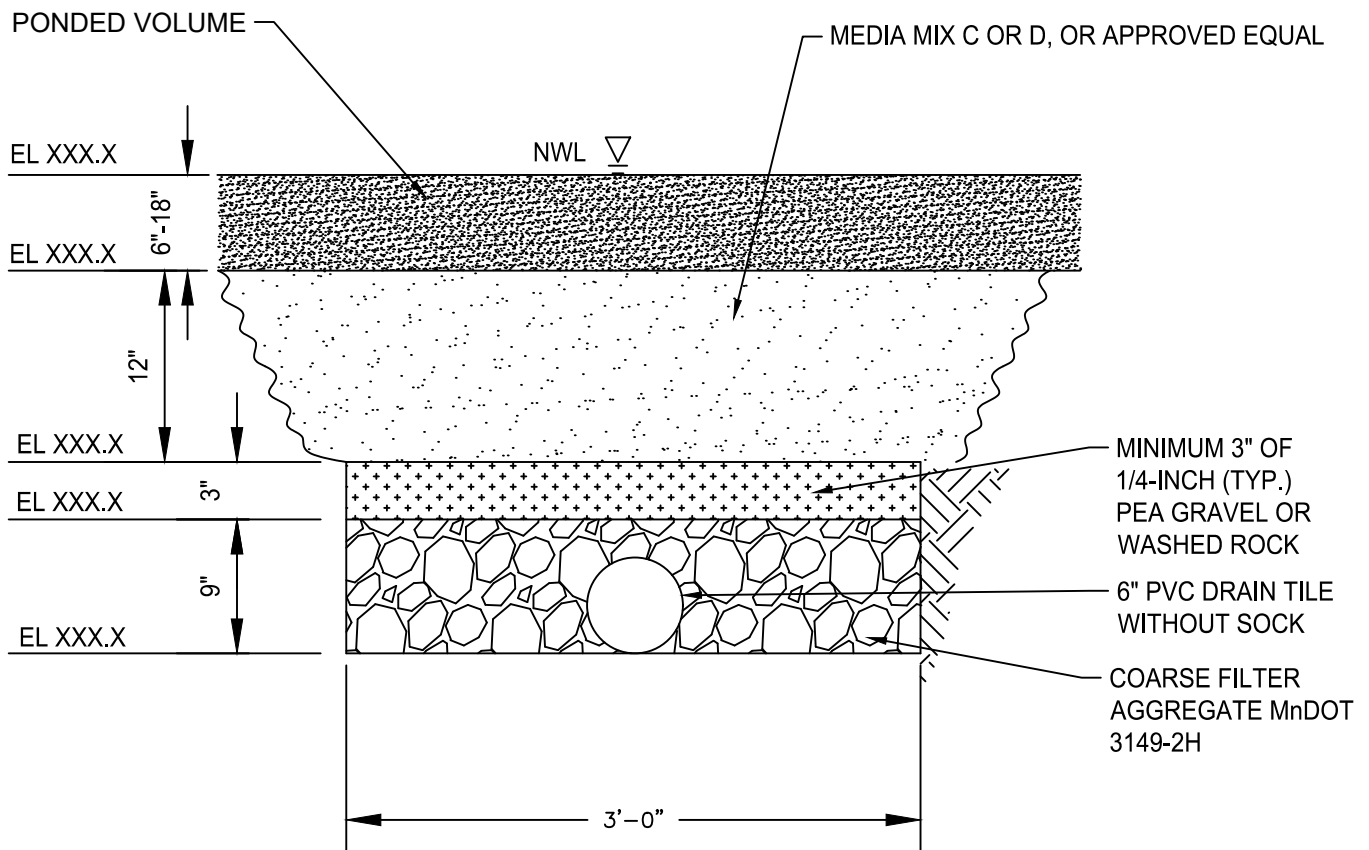
TYPICAL FILTRATION BENCH

LAST REVISION:
02/10/2026



PLATE NO.

STO-20



2026 Standard Detail Plates

TYPICAL FILTRATION TRENCH

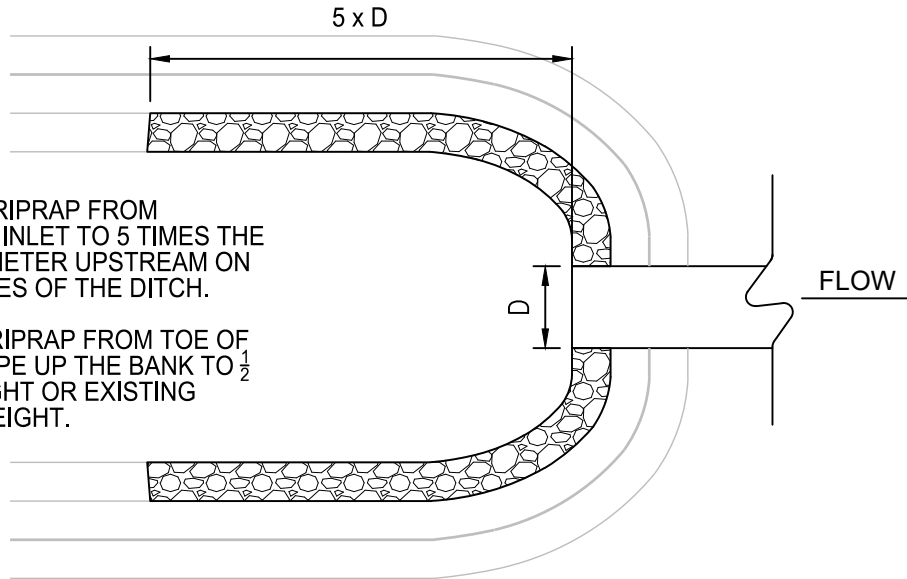
LAST REVISION:
02/10/2026



PLATE NO.
STO-21

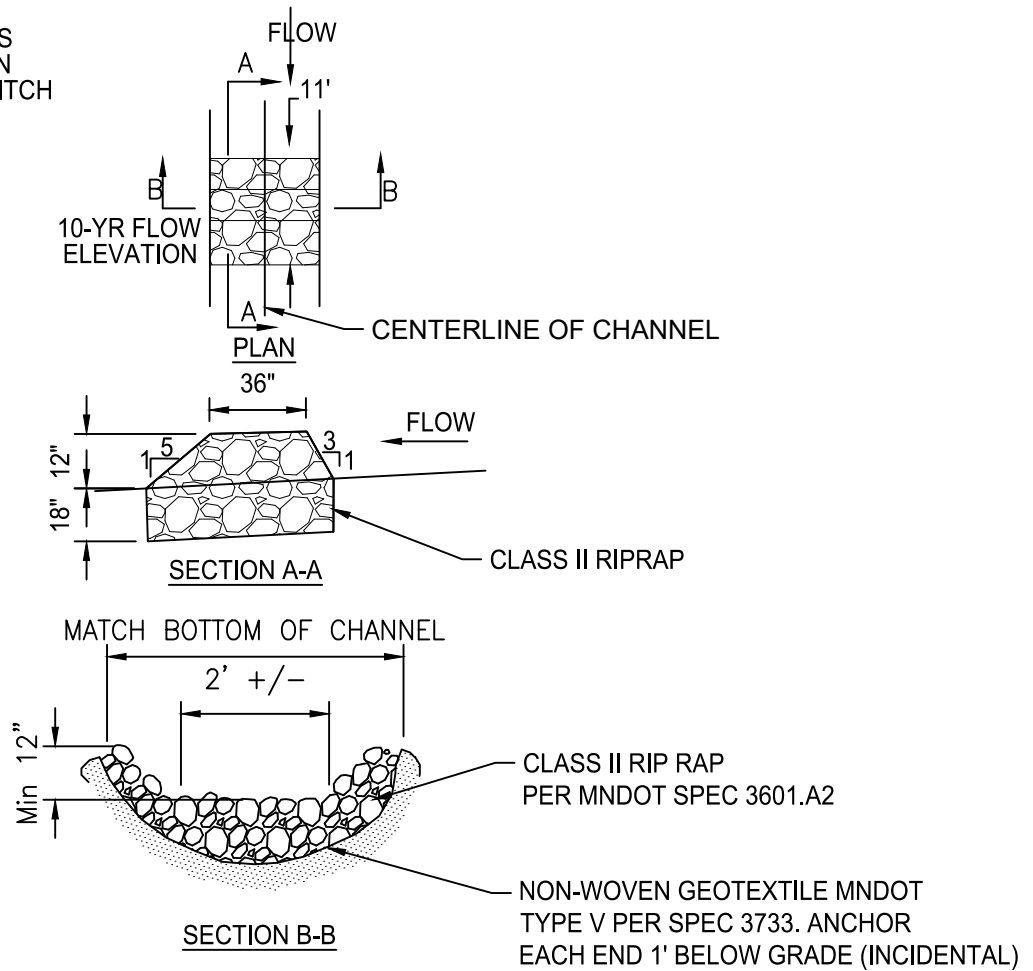
NOTES:

1. CLASS X RIPRAP FROM CULVERT INLET TO 5 TIMES THE PIPE DIAMETER UPSTREAM ON BOTH SIDES OF THE DITCH.
2. EXTEND RIPRAP FROM TOE OF SIDE SLOPE UP THE BANK TO $\frac{1}{2}$ PIPE HEIGHT OR EXISTING BENCH HEIGHT.



NOTES:

1. INSTALL ROCK GRADE CONTROL STRUCTURES EVERY 1' OF ELEVATION CHANGE ALONG THE DITCH PROFILE CENTER LINE. ROCK SIZE TO BE DETERMINED BY THE ENGINEER.



2026 Standard Detail Plates

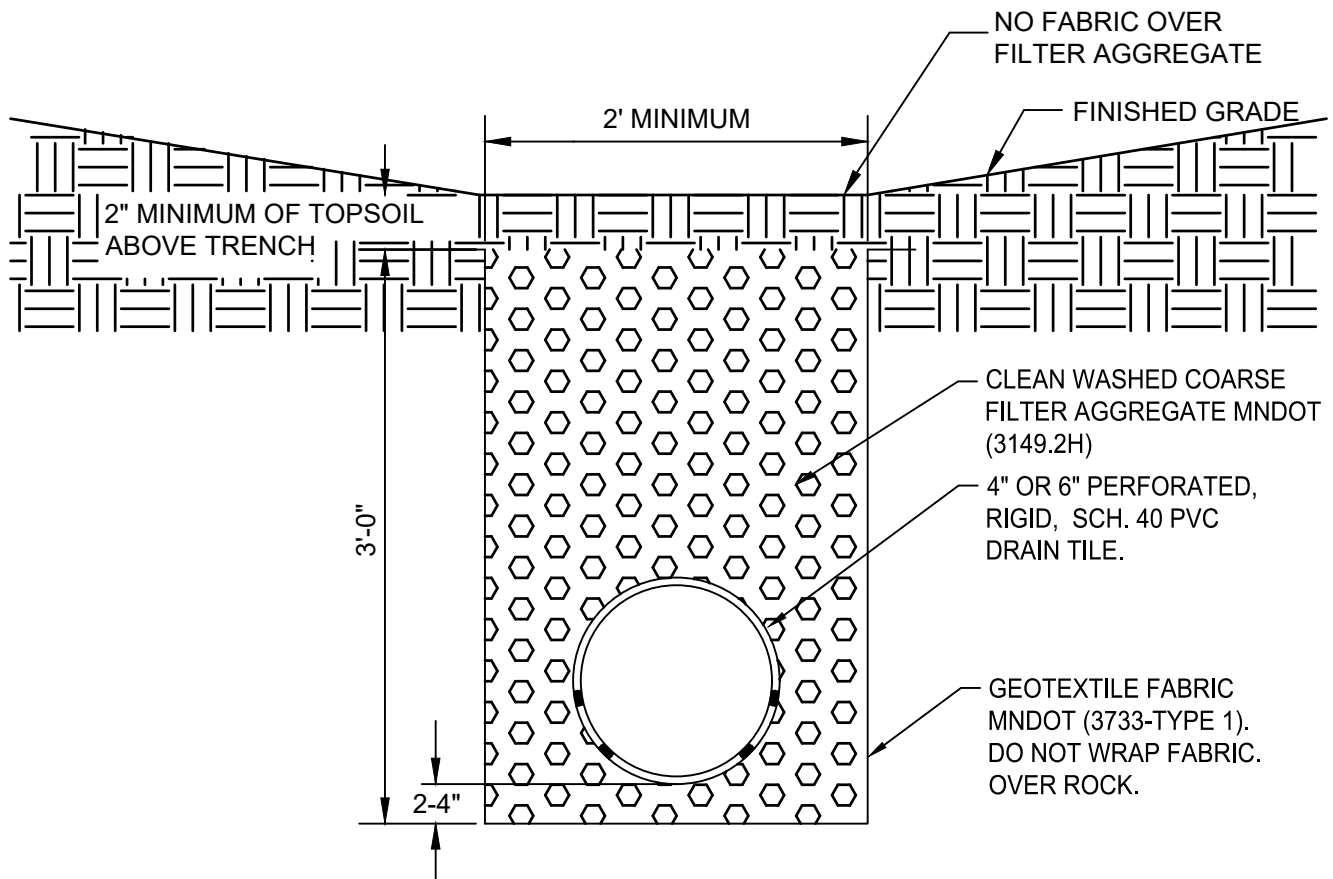
RIPRAP AND GRADE CONTROL

LAST REVISION:
07/24/2024



PLATE NO.

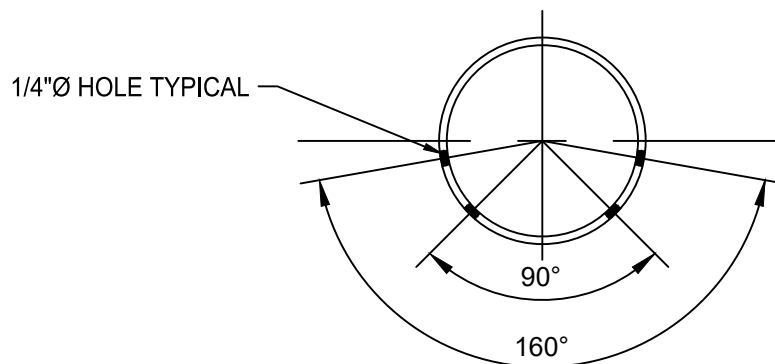
STO-22



TRENCH DETAIL

NOTE:

1. FABRIC TO BE WRAPPED ON THE SIDES AND UNDER THE FILTER AGGREGATE. DO NOT WRAP FABRIC OVER TOP OF AGGREGATE.
2. PLACE HOLES UP WHEN SUMP PUMP LATERALS ARE PRESENT.
3. REQUIRED IN DRAINAGE SWALES WITH LESS THAN 2% GRADE.



PIPE DETAIL



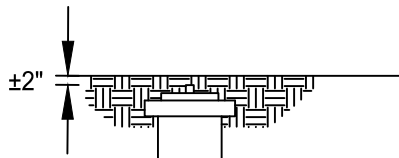
2026 Standard Detail Plates

PERFORATED DRAINTILE IN SWALE

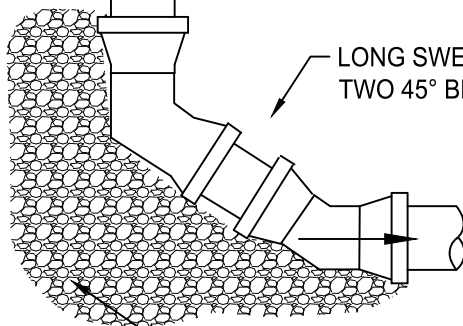
LAST REVISION:
01/23/2026



PLATE NO.
STO-23



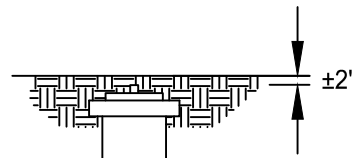
PVC CLEAN OUT
RISER WITH FEMALE
THREADED INSERT
SCHEDULE 40 PVC



LONG SWEEP OR
TWO 45° BENDS

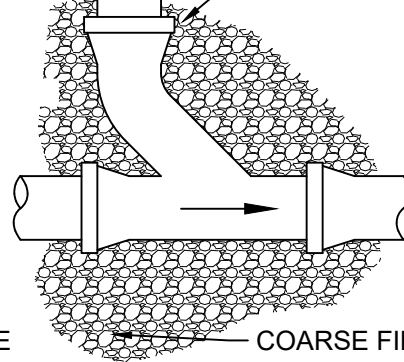
COARSE FILTER AGGREGATE
MIN 1/3 CU. YDS.

END OF LINE CLEANOUT



NOTES:
CLEANOUT CAP SHALL BE
THREADED MALLEABLE IRON
(GALVANIZED)
ENCLOSE LONG SWEEP BEND
OR COMBINATION WYE IN
CONCRETE AS SHOWN.

PVC COMBINATION WYE



COARSE FILTER AGGREGATE
MIN 1/3 CU. YDS.

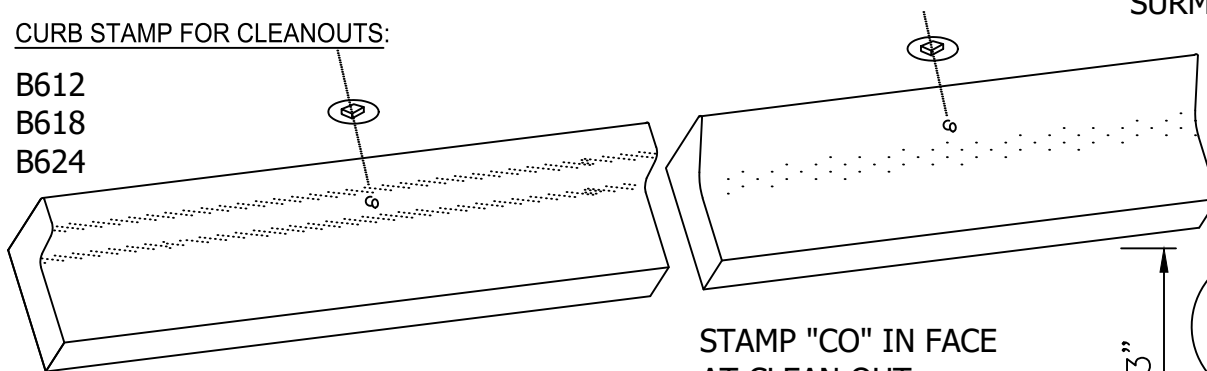
IN LINE CLEANOUT

REAR-YARD DRAIN TILE NOTES:

1. CLEANOUTS ARE REQUIRED AT A MAXIMUM 200 FOOT INTERVALS, AT BENDS, AND AT THE END OF THE RUN. IF CLEANOUT IS LOCATED WITHIN 50' OF CATCHBASIN TIE DRAINTILE INTO CATCHBASIN.
2. CLEANOUTS TO BE INSTALLED AT PROPERTY CORNERS.
3. ADDITIONAL CLEANOUTS TO BE INSTALLED AS DIRECTED BY ENGINEER

CURB STAMP FOR CLEANOUTS:

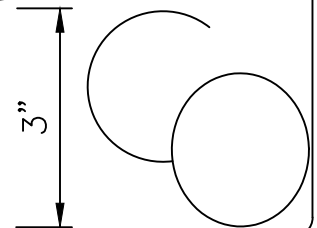
B612
B618
B624



STAMP "CO" IN FACE
AT CLEAN OUT
LOCATIONS

SURMOUNTABLE

CO STAMP
DETAIL



2026 Standard Detail Plates

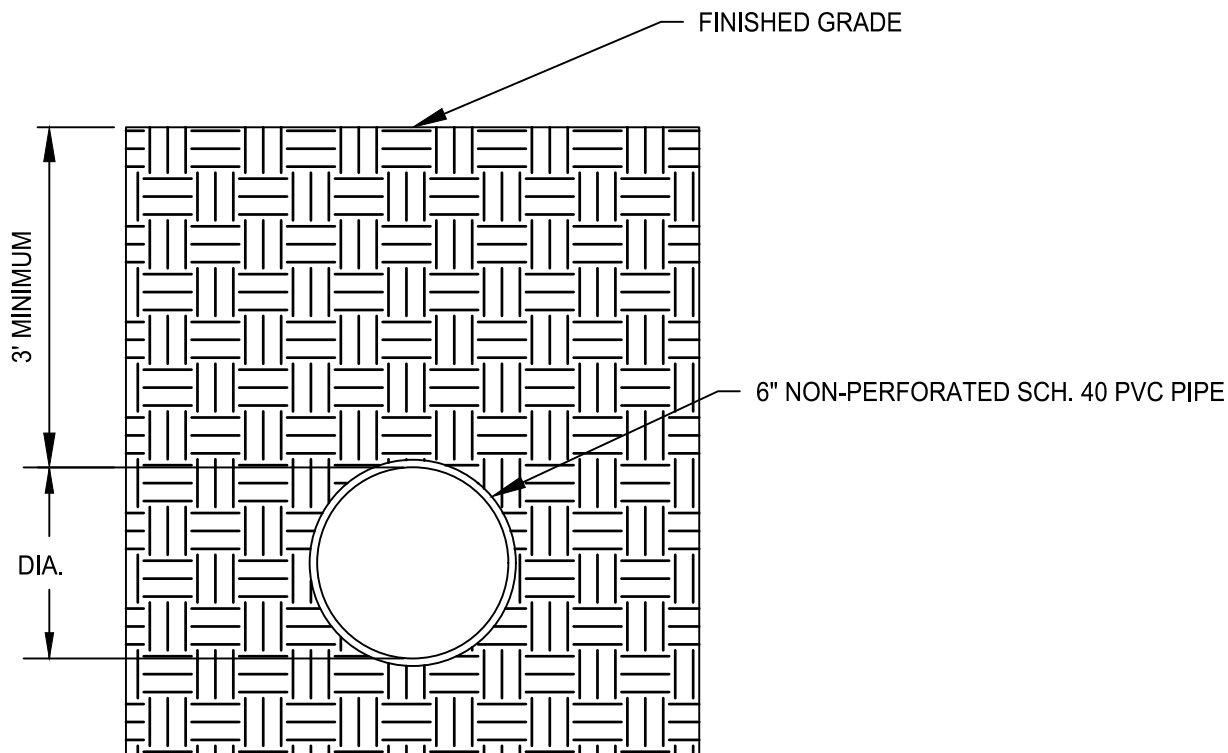
PVC DRAINTILE CLEANOUTS

LAST REVISION:
07/24/2024



PLATE NO.

STO-24



TRENCH DETAIL

NOTES:

1. MIN COVER OF 3' TO TOP OF DRAINTILE FROM FINISH GRADE



2026 Standard Detail Plates

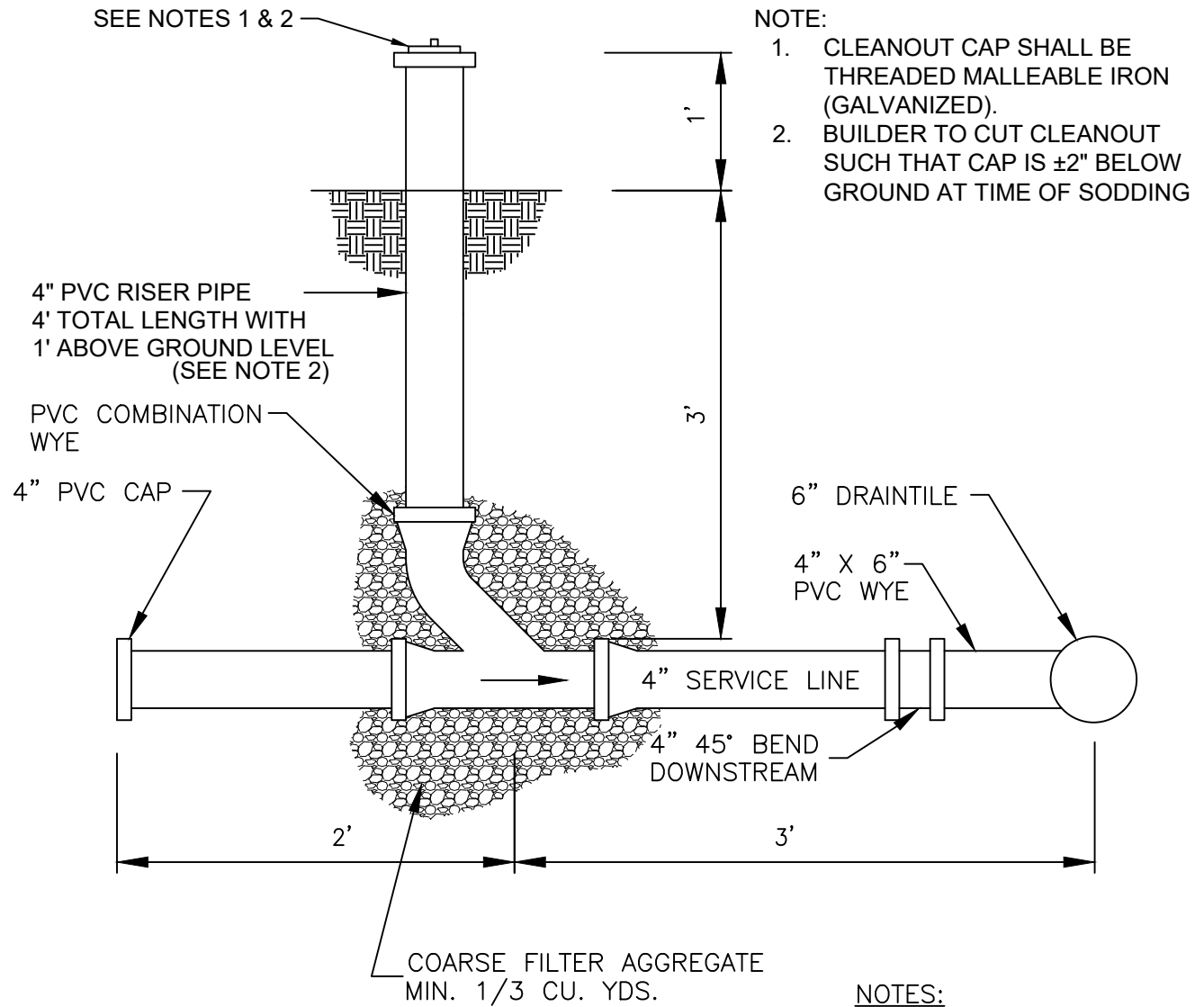
DRAIN TILE FOR SUMP CONNECTIONS

LAST REVISION:
1/02/2025



PLATE NO.

STO-25



NOTES:

1. MIN COVER OF 3' TO TOP OF DRAINTILE FROM FINISH GRADE
2. MAINTAIN MINIMUM 2% SLOPE ON SERVICE PIPE TO MAIN.



2026 Standard Detail Plates

SUMP SERVICE CONNECTION

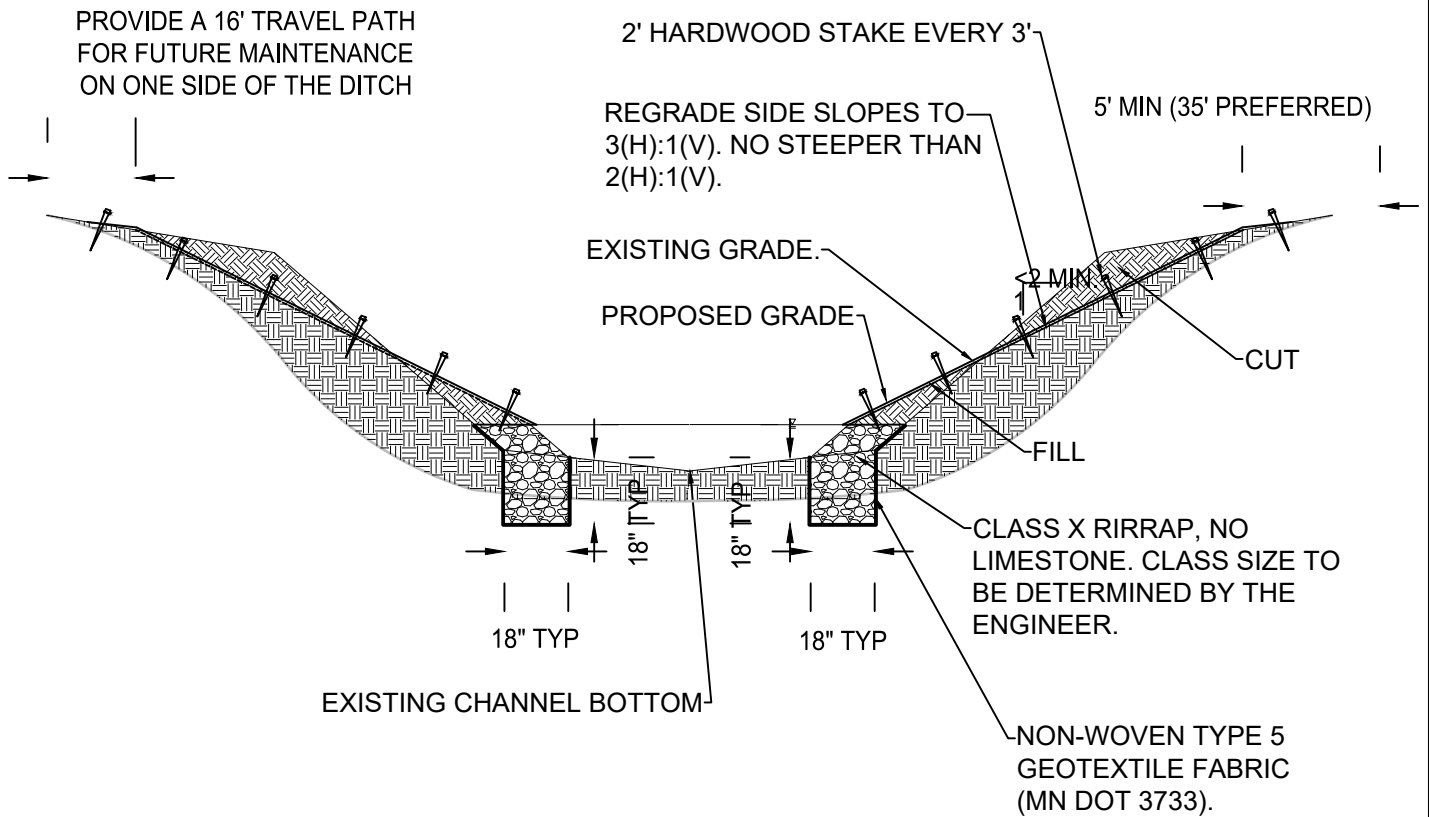
LAST REVISION:
01/02/2024



PLATE NO.
STO-26

ON BOTH SIDES, THIN TREES FROM TOP OF REGRADED BANK TO 5' MINIMUM (35' PREFERRED) SETBACK TO ALLOW SUNLIGHT TO REACH THE GROUND.

KEEP TREE DENSITY TO ONE TREE EVERY 30' TO 50' APART TO RE-ESTABLISH NATIVE GRASS GROUND COVER.



2026 Standard Detail Plates

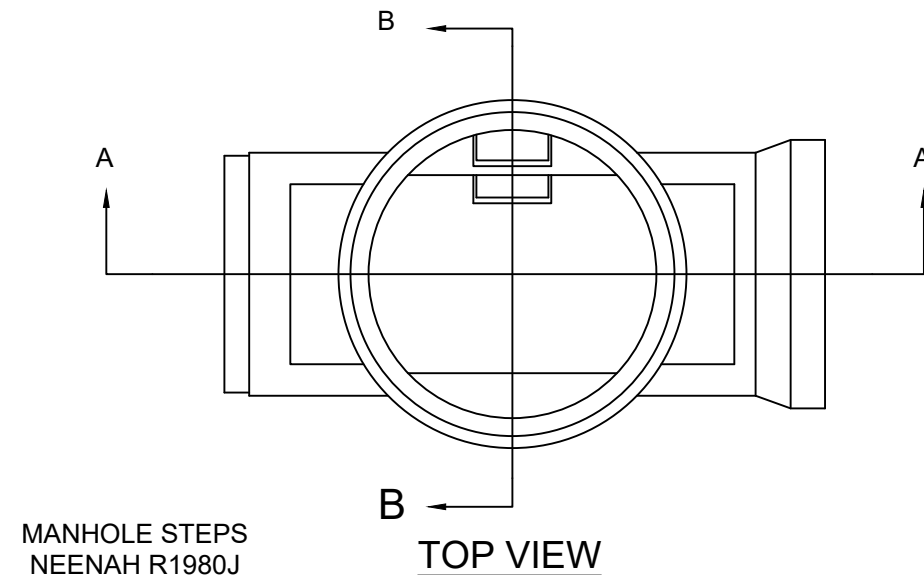
DITCH STABILIZATION

LAST REVISION:
07/24/2024

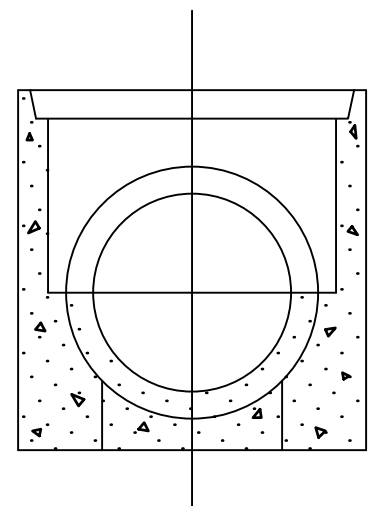
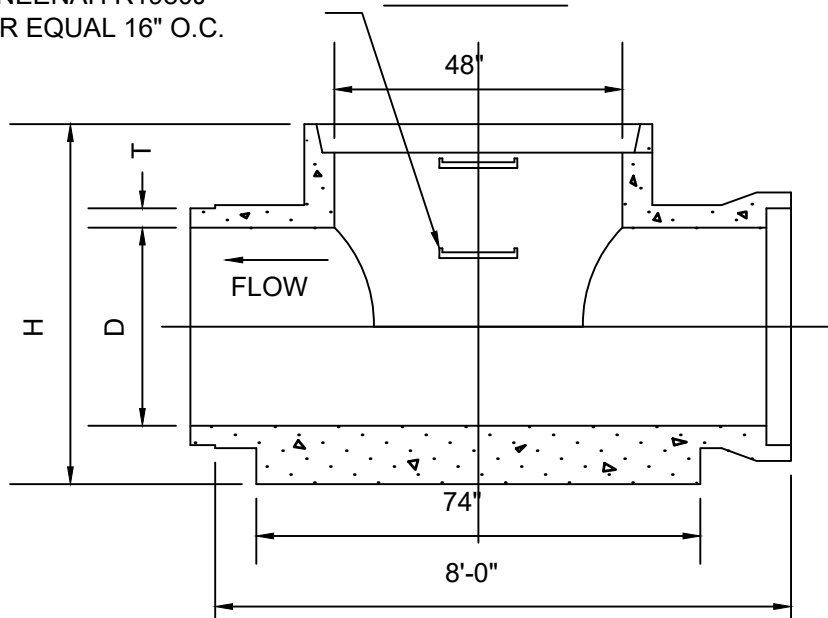


PLATE NO.

STO-27



MANHOLE STEPS
NEENAH R1980J
OR EQUAL 16" O.C.



PIPE DIAMETER "D"	"B" WALL THICKNESS "T"	"C" WALL THICKNESS "T"	"B" WALL HEIGHT "H"
12"	2"	2 3/4"	36"
15"	2 3/4"	3"	36"
18"	2 1/2"	3 1/4"	48"
21"	2 3/4"	3 1/2"	48"
24"	3"	3 3/4"	48"
27"	3 1/4"	4"	60"
30"	3 1/2"	4 1/4"	60"
33"	3 3/4"	4 1/2"	60"
36"	4"	4 3/4"	60"

NOTE:

1. ALL PIPES SHALL HAVE R-4 RUBBER GASKET JOINT.
2. HORIZONTAL PIPE MAY BE "B" WALL OR "C" WALL.



2026 Standard Detail Plates

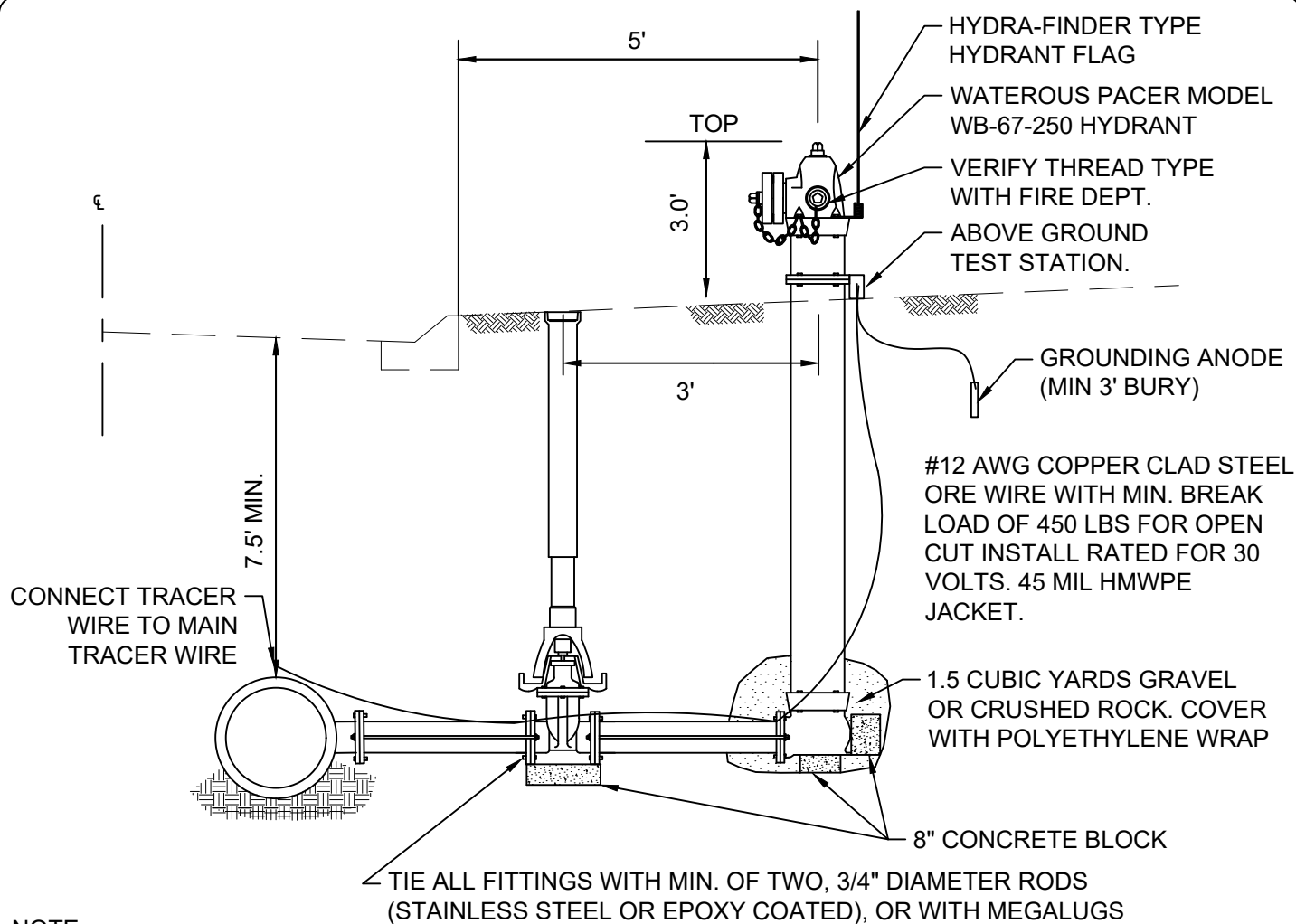
MINI-TEE MANHOLE

LAST REVISION:
07/24/2024



PLATE NO.

STO-28



NOTE:

1. FACTORY INSTALLED PLUGS REQUIRED WHENEVER HYDRANTS ARE INSTALLED IN AREAS WITH HIGH GROUNDWATER LEVEL, AS DETERMINED BY DEWATERING REQUIREMENTS AND THE CITY ENGINEER. THE MAIN NOZZLE SHALL BE PAINTED BLUE FOR ALL HYDRANTS WITH PLUGGED DRAIN HOLES.
2. ALL DUCTILE IRON WATERMAIN FITTINGS SHALL BE FUSION BONDED EPOXY COATED.
3. HYDRANTS SHALL BE MARKED WITH STAINLESS STEEL TAG FROM FACTORY.
4. EACH HYDRANT SHALL BE INSTALLED WITH A HYDRANT FLAG.
5. ALL HYDRANT LEADS ARE TO BE CONSTRUCTED WITH POLYWRAPPED DIP, CLASS 52.
6. PROVIDE TAPED POLYWRAP UP THE HYDRANT BARREL TO THE BREAK OFF FLANGE.
7. ALL WATERMAIN BOLTS SHALL BE COR-BLUE OR APPROVED EQUAL.
8. HYDRANTS SHALL BE PAINTED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: FLOW RATE OF 1,000 GPM OR MORE - GREEN; FLOW RATE BETWEEN 500 GPM AND 1,000 GPM - YELLOW; FLOW RATE OF 500 GPM OR LESS - RED.
9. ABOVE GROUND TEST STATION SHALL BE COBRA T3 (T2-R75) OR APPROVED EQUAL. OUTDOOR RATED PVC CONDUIT SHALL BE INSTALLED FROM BOTTOM OF TEST STATION TO 2' BELOW FINISH GRADE. SEE DETAIL WAT-11 FOR CONNECTION DETAILS.
10. MIN 1 LB. DRIVE IN ANODE WITH MIN. 20' WIRE LEAD.
11. CONNECTORS SHALL BE DRY CONN DIRECT BURY LUG AQUA, PRO-TRACE DB OR APPROVED EQUAL
12. CONTRACTOR SHALL SUPPLY 1 HYDRANT WRENCH PER PHASE OF THE PROJECT.
13. NO HYDRANT EXTENSIONS GREATER THAN 18" ARE ALLOWED. IF ADJUSTMENT NEEDED IS GREATER THAN 18", A CUSTOM CONTINUOUS STEM WILL BE REQUIRED.



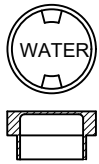
2026 Standard Detail Plates

WATER HYDRANT

LAST REVISION:
02/06/2026



PLATE NO.
WAT-1



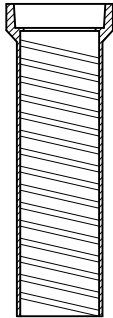
DROP
LID
TYLER
MUELLER
BIBBY-STE-CROIX

No. 6860 No.
H-10361 No.
B-5160

7.5' MINIMUM COVER REQUIRED OVER
TOP OF WATER MAIN.

GATE VALVE BOX COMPONENTS TO
BE WRAPPED IN POLYWRAP.

ADJUST TOP TO 1/2" BELOW GRADE. BOX
TO BE SET TO PROVIDE 12" OF
ADJUSTMENT.



TOP
TYLER
MUELLER
BIBBY-STE-CROIX

No. 6860 No.
H-10361 No.
VB502

26"
26"
27"

TYLER NO. 6860 MUELLER NO.
H-10357 BIBBY-STE-CROIX B-5001
GATE VALVE BOX, SCREW TYPE, 3
PIECE, 5 1/4" SHAFT, SIZE G BOX,
7'-6" EXTENDED, #6 ROUND BASE

ALL GATE VALVES SHALL BE
MANUFACTURED IN THE U.S. OR
CANADA.

EXTENSION
TYLER

No. 58
No. 59
No. 60
No. 58
No. 59

14"
18"
24"
14"
20"

MUELLER

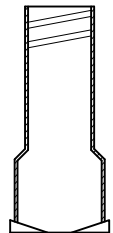
BIBBY-STE-CROIX

VB520 No. 57
VB521 No. 58
VB522 No. 59
VB523 No. 60

9"
14"
20"
26"

ALL VALVE BOX COMPONENTS
SHALL BE MANUFACTURED IN THE
U.S. OR CANADA, OR AS APPROVED
BY THE CITY ENGINEER.

RESILIENT WEDGE VALVE
CONFORMING AWWA C-509-80
STANDARDS INSTALLED WITH A VALVE
BOX ADAPTER TYPE II.



BOTTOM
TYLER
MUELLER
BIBBY-STE-CROIX

No. 6860 No.
H-10361 No.
VB516

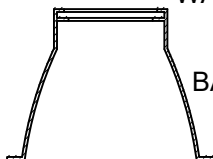
65"
65"
60"

ADAPTOR REQUIRED ON ALL GATE
VALVES

GATE VALVE ADAPTOR 1/4" STEEL
WITH PROTECTIVE COATING

1/2" RUBBER GASKET INSTALLED
BETWEEN THE GATE VALVE AND
GATE VALVE ADAPTOR

COPPER TRACER WIRE
INSTALLED ON ALL PVC
WATER MAIN



BASE

8" CONCRETE BLOCK

MEGALUGS (TYP)

NOTE: ALL WATERMAIN BOLTS ARE TO BE
COR-BLUE OR AN APPROVED EQUAL

NOTE: GATE VALVES TO BE USED ON ALL
WATERMAIN 10" OR SMALLER.



2026 Standard Detail Plates

GATE VALVE AND BOX INSTALLATION

LAST REVISION:
02/06/2026



PLATE NO.
WAT-2

NOTE: ALL BUTTERFLY VALVES SHALL BE INDIVIDUALLY HYDROSTATICALLY TESTED AGAINST BOTH SIDES OF VALVE

COR-BLUE OR STAINLESS STEEL BOLTS REQUIRED FOR ALL MECHANICAL FITTINGS.

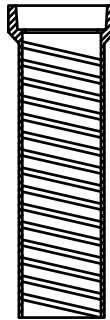
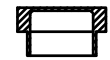
PROVIDE POLYWRAP AND TAPE AROUND ALL DIP WATERMAIN AND VALVE BOX.

7.5' MINIMUM COVER REQUIRED OVER TOP OF WATER MAIN.

RESTRAIN TEE AND VALVE WITH MEGALUG (OR EQUAL) THRUST RESTRAINTS.

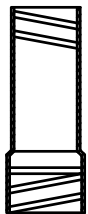


DROP LID
TYLER NO. 6850 OR 6860
MUELLER NO. H-10361
BIBBY-STE-CROIX NO. B-5160

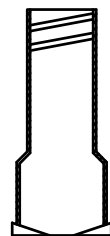


TOP
TYLER NO. 6850 26"
MUELLER NO. H-10361 26"
BIBBY-STE-CROIX NO. VB502 27"

EXTENSION
TYLER NO. 58 14"
NO. 59 18"
NO. 60 24"
MUELLER NO. 58 14"
NO. 59 20"



BIBBY-STE-CROIX
VB520 NO. 57 9"
VB521 NO. 58 14"
VB522 NO. 59 20"
VB523 NO. 60 26"



BOTTOM
TYLER NO. 6850 65"
MUELLER NO. H-10361 65"
BIBBY-STE-CROIX NO. VB516 60"

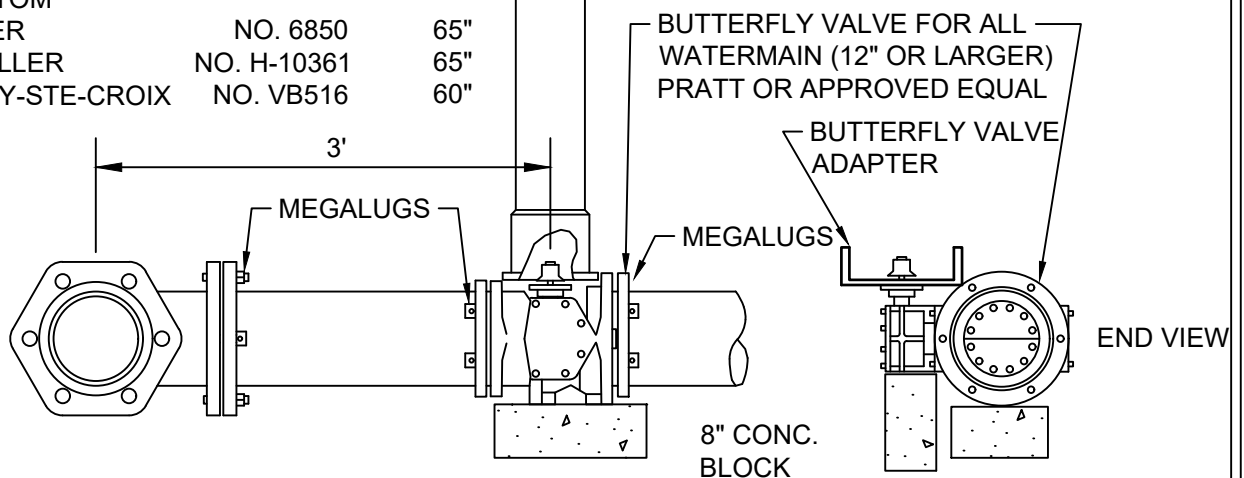
ALL VALVES AND VALVE BOXES SHALL BE AMERICAN MADE.

ALL VALVE BOLTS TO BE STAINLESS STEEL.

ADJUST TOP TO 1/2" BELOW GRADE. BOX TO BE SET TO PROVIDE 12" OF ADJUSTMENT.

TYLER NO. 6850
MUELLER NO. H-10357
BIBBY-STE-CROIX B-5001
GATE VALVE BOX, SCREW TYPE, 3 PIECE, 5 1/4" SHAFT, SIZE G BOX, 7'-6" EXTENDED.

ADAPTOR REQUIRED ON ALL BUTTERFLY VALVES



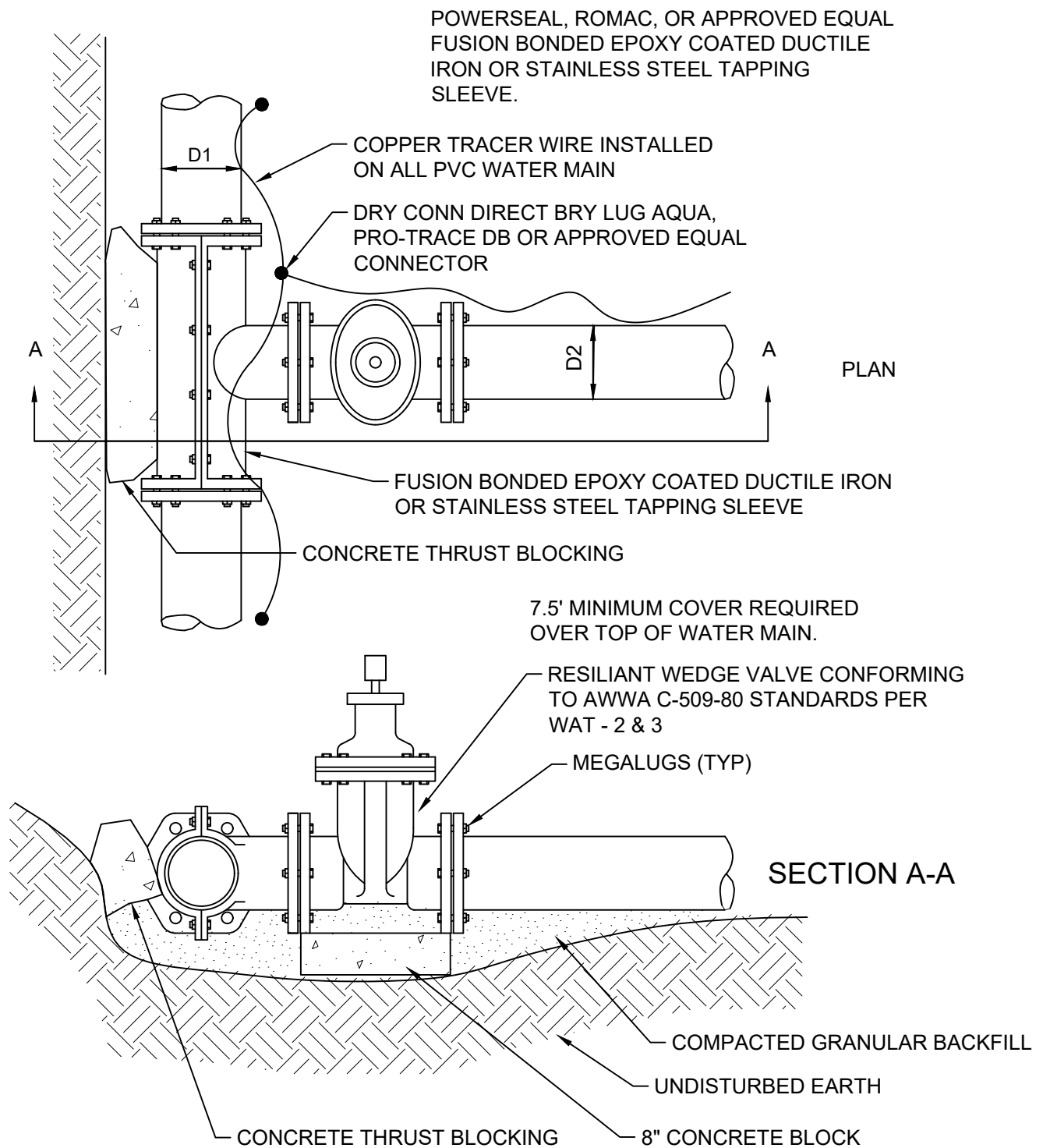
2026 Standard Detail Plates

BUTTERFLY VALVE AND BOX INSTALLATION

LAST REVISION:
02/06/2026



PLATE NO.
WAT-3



2026 Standard Detail Plates

WATERMAIN WET TAP

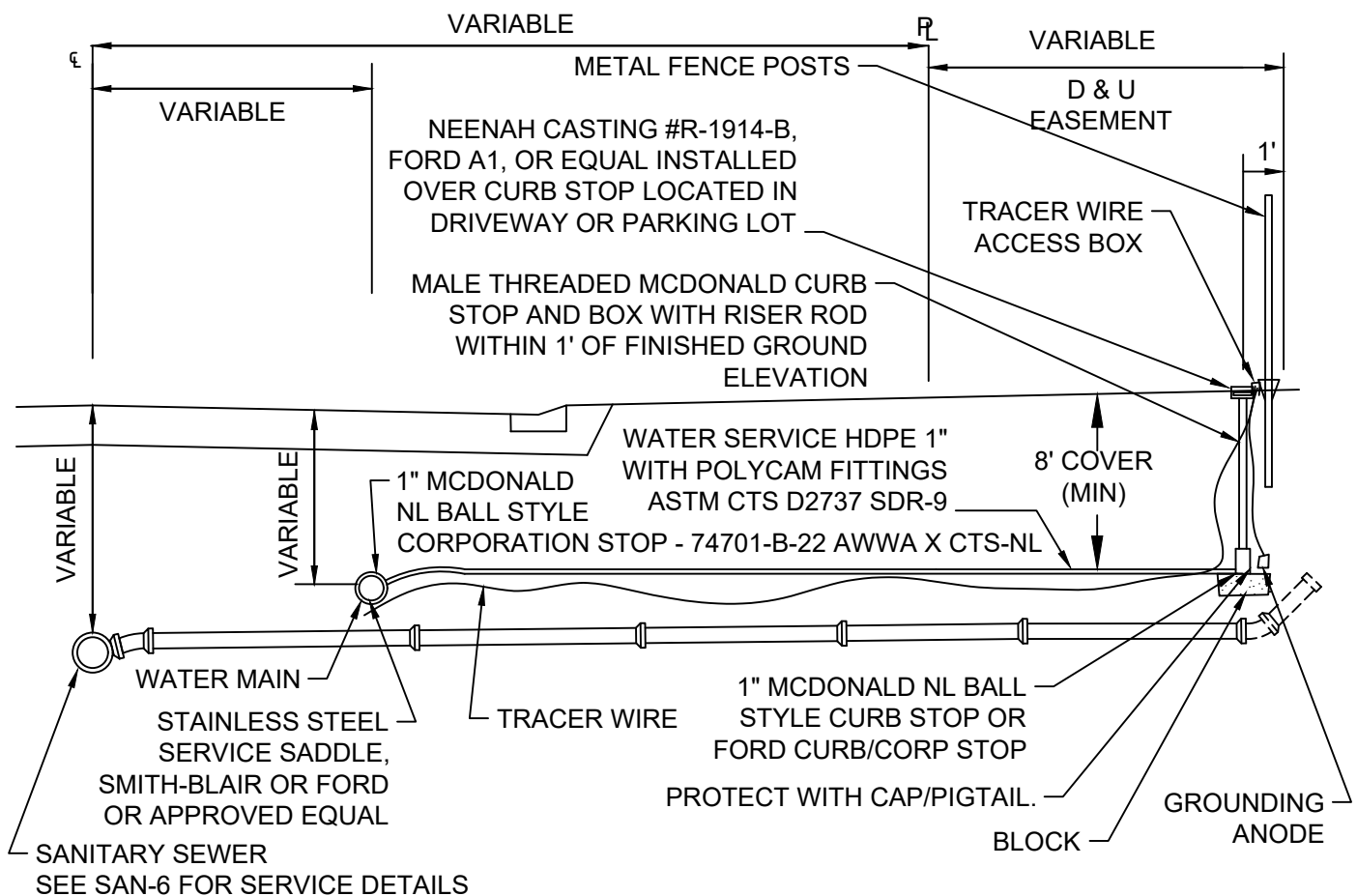
LAST REVISION:
07/24/2024



PLATE NO.
WAT-4

NOTES:

1. ALL NEW CURB BOXES MUST HAVE RISER RODS ADJUSTABLE FOR 8' OF COVER. WHEN AN EXISTING CURB BOX IS ON A CONSTRUCTION/RECONSTRUCTION PROJECT, RISER RODS SHALL BE INSTALLED TO ALL CURB BOXES ON THAT PROJECT. CURB STOPS MUST BE ABLE TO BE KEYED WITH 4' KEY.
2. PLACEMENT OF CURB STOP AND BOX ON PRIVATE STREETS SHALL BE 9' BEHIND THE PROPERTY LINE.
3. HDPE IS TO BE ONE PIECE, NO JOINTS, COUPLINGS, ETC., ALLOWED FROM MAIN TO CURB STOP.
4. WATER SERVICE AND SANITARY SEWER SERVICE SHALL HAVE A 3' HORIZONTAL SEPARATION.
5. CURB BOXES LOCATED IN DRIVEWAYS OR PARKING LOTS SHALL BE COVERED WITH A FORD A-1 METER BOX COVER.
6. METAL FENCE POST AT END OF WATER AND SANITARY SERVICE, 4' ABOVE GRADE WATER FENCE POST TO BE PAINTED BLUE. SANITARY FENCE POST TO BE PAINTED GREEN.
7. ALL PIPE SHALL BE BEDDED IN GRANULAR BORROW 3149.2B1.
8. TRACER WIRE SHALL BE BROUGHT UP ALONG WATERMAIN CURB STOP. INSTALL VALVCO, SNAKEPIT, OR APPROVE EQUAL TRAFFIC RATED TRACER WIRE ACCESS BOX WITH TWO LUGS.
9. MIN OF 1LB. DRIVE IN ANODES WITH MIN 20' WIRE LEAD ARE TO BE INSTALLED AT EVERY TRACE WIRE ACCESS BOX
10. TRACER WIRE SHALL BE 12AWG COPPER CLAD STEEL ORE WITH MIN BREAK LOAD OF 450 LB FOR OPEN CUT INSTALLATION RATED FOR 30 VOLTS. MIN 45 MIL HMWPE JACKET
11. TRACER WIRE CONNECTOR SHALL BE DRY CONN DIRECT BURY LUG AQUA, PRO-TRACE DB OR APPROVED EQUAL



2026 Standard Detail Plates

COMPRESSION WATER SERVICE CONNECTION

LAST REVISION:
02/06/2026



PLATE NO.

WAT-5

NOTES:

1. SHAPE OF BACK OF BUTTRESS MAY VARY AS LONG AS POURED AGAINST FIRM UNDISTURBED EARTH.
2. DIMENSION C1,C2,C3 SHOULD BE LARGE ENOUGH TO MAKE ANGLE Ø EQUAL TO OR LARGER THAN 90°.
3. DIMENSION A1,A2,A3 SHOULD BE AS LARGE AS POSSIBLE WITHOUT INTERFERING WITH MJ BOLTS.
4. ANGLE SHALL BE 90° MINIMUM.
5. PLACE POLYETHYLENE BETWEEN CONCRETE & PIPE.
6. MEGALUGS SHALL BE INSTALLED ON ALL BENDS.

BUTTRESS DIMENSIONS

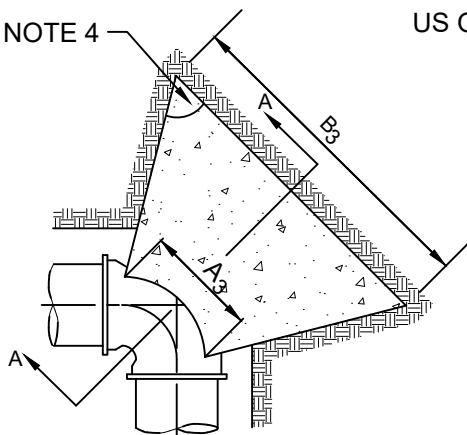
PIPE SIZE	22 1/2° BEND		45° BEND		90° BEND	
	B1	D1	B2	D2	B3	D3
6"	1'-5"	1'-5"	1'-5"	1'-5"	2'-1"	1'-6"
8"	1'-5"	1'-5"	2'-1"	1'-6"	2'-8"	2'-0"
12"	1'-10"	1'-10"	3'-4"	2'-0"	4'-9"	2'-6"
16"	3'-0"	2'-0"	3'-10"	3'-0"	6'-2"	3'-6"
20"	3'-6"	2'-8"	5'-6"	3'-4"	8'-4"	4'-0"
24"	4'-4"	3'-0"	6'-10"	3'-10"	9'-8"	5'-0"
30"	-	-	9'-3"	6'-0"	17'-0"	6'-0"

ALL DUCTILE IRON FITTINGS TO BE FUSION BONDED EPOXY COATED.

ALL DUCTILE IRON PIPE AND FITTINGS TO BE WRAPPED IN POLY AND TAPED.

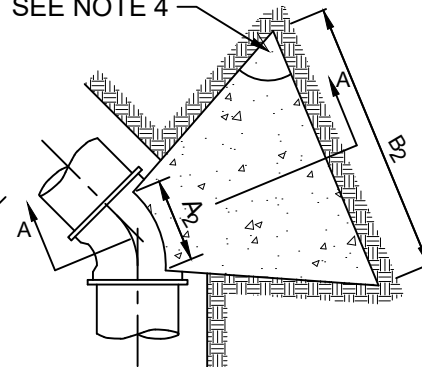
ALL DUCTILE IRON PIPES AND FITTINGS TO BE MANUFACTURED IN US OR CANADA, OR AS APPROVED BY THE CITY ENGINEER.

SEE NOTE 4



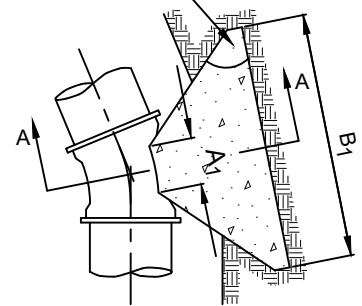
PLAN 90° BENDS

SEE NOTE 4

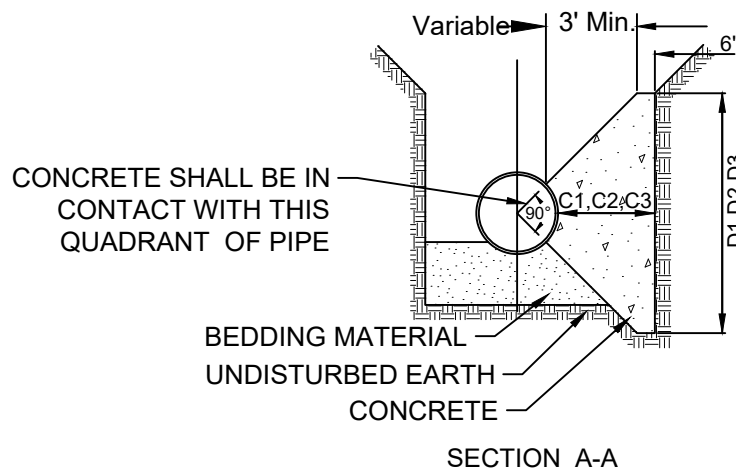


PLAN 45° BENDS

SEE NOTE 4

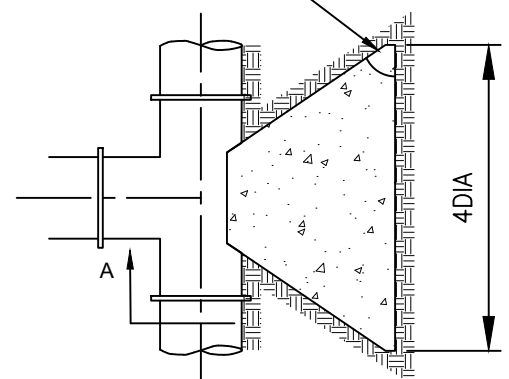


PLAN 22 1/2° BENDS



SECTION A-A

SEE NOTE 4



PLAN 3 WAY TEES

NOTE: ALL WATERMAIN BOLTS SHALL BE COR-BLUE OR APPROVED EQUAL



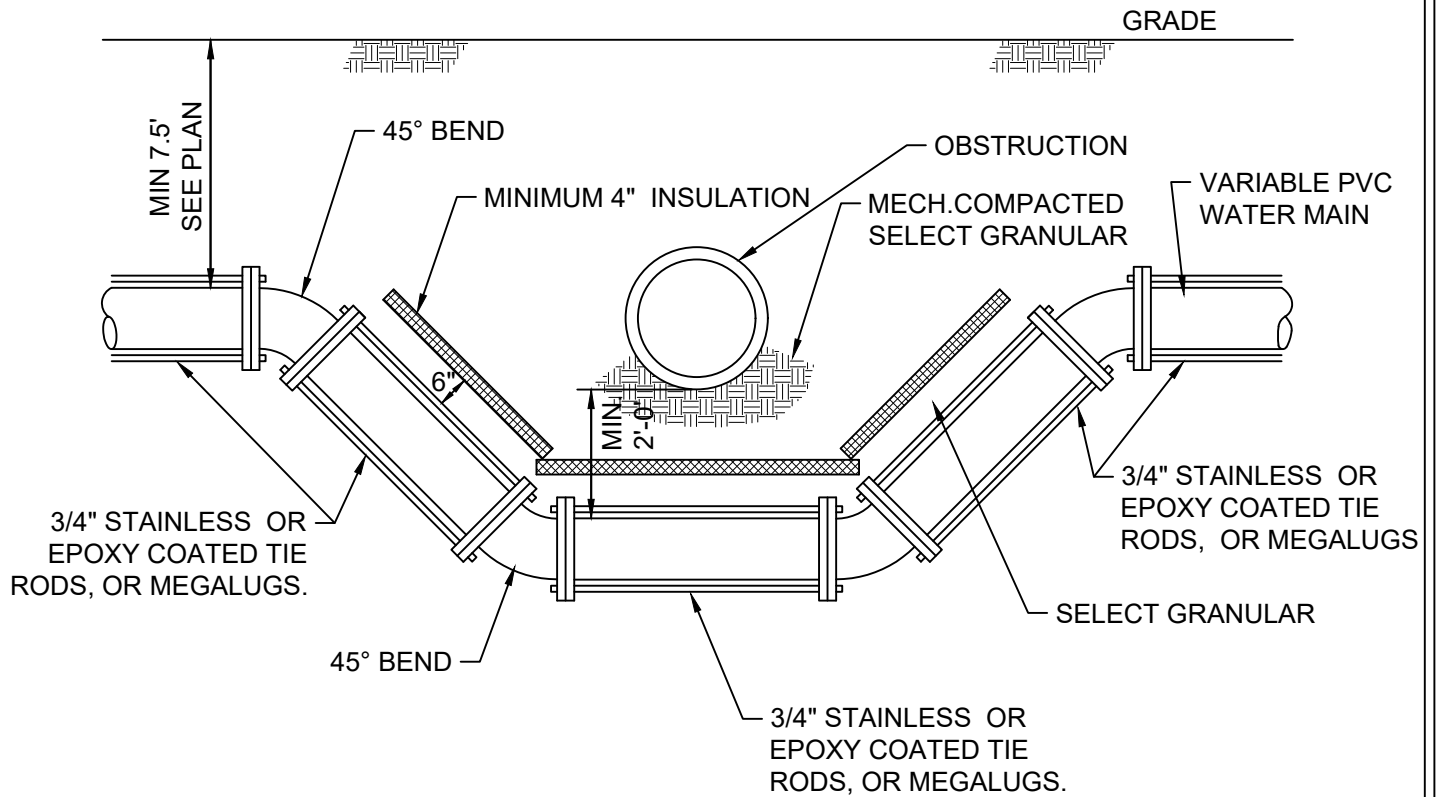
2026 Standard Detail Plates

CONCRETE THRUST BLOCKING

LAST REVISION:
07/24/2024



PLATE NO.
WAT-6



NOTE:

1. ALL FITTINGS SHALL BE FUSION BONDED EPOXY COATED DUCTILE IRON TO MEET OR EXCEED ANSI/AWWA C550 AND C116/A21.116 REQUIREMENTS.
2. MEGALUGS, IF USED SHALL BE SNUG FIT ON CIP WATER MAIN AND BOLTS SHALL NOT BE "SNAPPED" TIGHT.
3. SELECT GRANULAR WILL BE REQUIRED BETWEEN INSULATION, WATER MAIN, AND OBSTRUCTION.
4. ALL BENDS SHALL HAVE MEGALUGS OR TIE RODS WITH BLOCKING IN ACCORDANCE WITH STANDARD PLATE WAT-5.
5. COPPER TRACER WIRE SHALL BE USED ON PVC WATERMAIN.
6. ALL WATERMAIN BOLTS SHALL BE COR-BLUE OR APPROVED EQUAL.
7. INSULATION AND BACKFILL REQUIREMENTS SHALL APPLY TO ALL CROSSINGS WITH MINIMAL SEPARATION. IF LESS THAN 2' OF SEPARATION IS PRESENT, ADDITIONAL INSULATION WILL BE REQUIRED BY AT THE DISCRETION OF THE CITY ENGINEER.



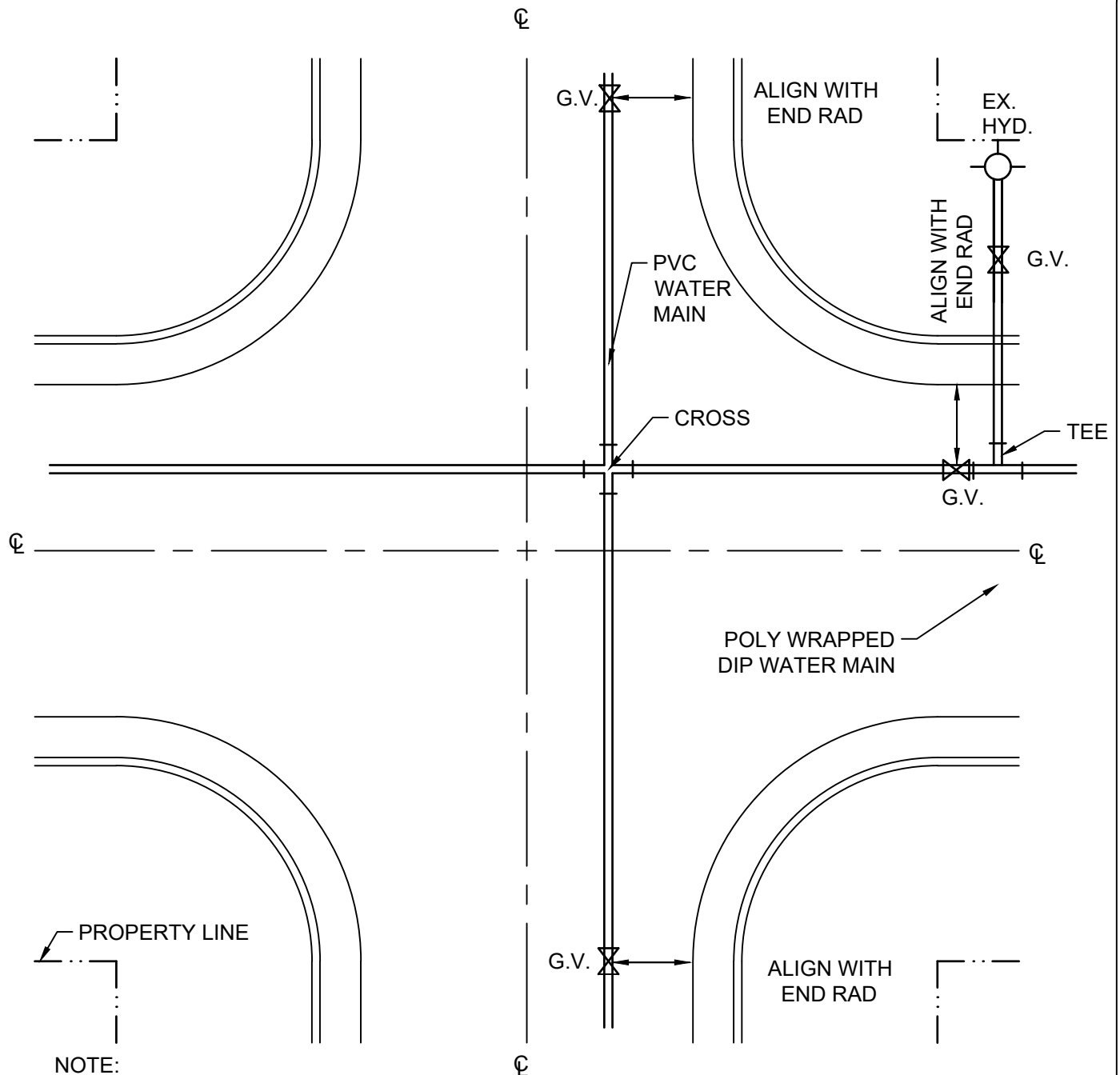
2026 Standard Detail Plates

WATERMAIN OFFSETS

LAST REVISION:
01/02/2025



PLATE NO.
WAT-7



NOTE:

1. SEE DETAIL PLATE WAT-1 FOR TYPICAL HYDRANT AND GATE VALVE LAYOUT.
2. SEE DETAIL PLATE WAT-5 FOR TYPICAL WATER SERVICE CONNECTION.
3. ALL DUCTILE IRON WATERMAIN FITTINGS SHALL BE FUSION BONDED EPOXY COATED.
10. ALL PVC WATERMAIN SHALL HAVE A COPPER TRACER WIRE. TRACER WIRE SHALL BE 12AWG COPPER CLAD STEEL OR WITH MIN BREAK LOAD OF 450 LB FOR OPEN CUT INSTALLATION RATED FOR 30 VOLTS. MIN 45 MIL HMWPE JACKET
11. ALL VALVES TO BE PLACED 3' FROM TEES, CROSSES, OR HYDRANTS.
12. CITY MAY ADD ADDITIONAL VALVES IN LOCATIONS WHERE EXISTING VALVES ARE SPACED TOO FAR APART.



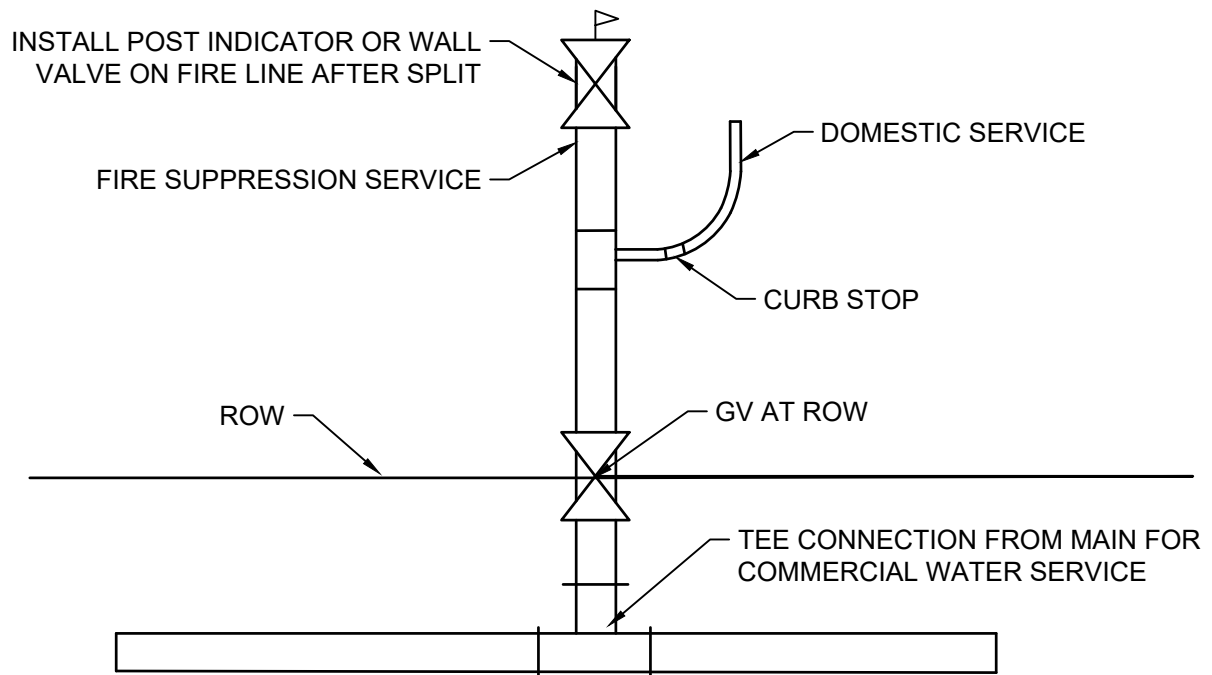
2026 Standard Detail Plates

TYPICAL GATE VALVE LAYOUT

LAST REVISION:
01/02/2025



PLATE NO.
WAT-8



NOTE:

1. REFER TO WAT-5 FOR CURB STOP AND DOMESTIC SERVICE CONFIGURATION.
2. REFER TO WAT-2 FOR WATER MAIN GATE VALVE INSTALLATION.



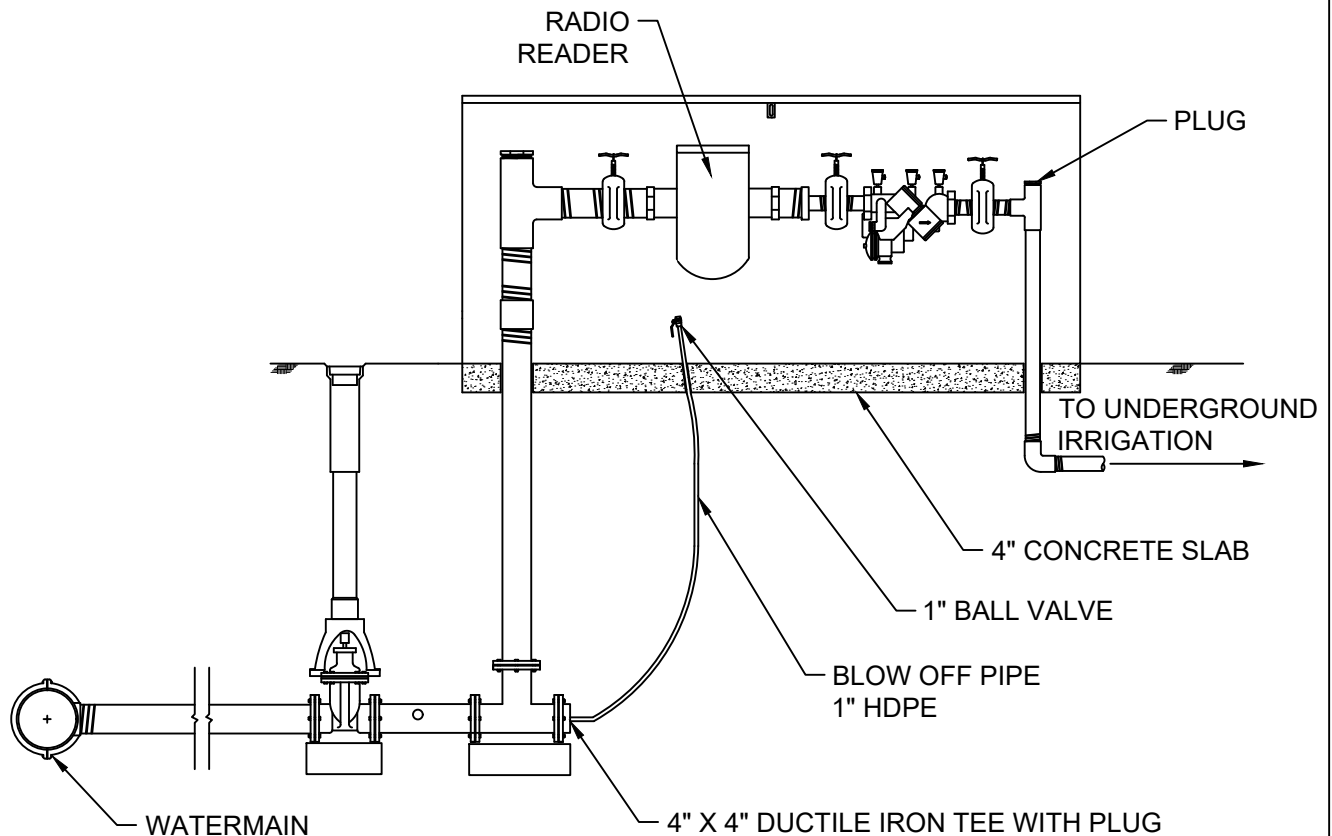
2026 Standard Detail Plates

COMMERICAL SERVICE LAYOUT

LAST REVISION:
02/06/2026



PLATE NO.
WAT-9



NOTE:

1. TO WINTERIZE, REMOVE AND DRAIN METER, SIPHON WATER FROM FEED LINE, BLOW OUT IRRIGATION LINES AND REINSTALL METER.
2. SECURITY BOX MUST BE MAINTENANCE FREE VANDELPROOF ENCLOSURE, WITH HINGED TOP.
3. IRRIGATION CONNECTION TO BE CONFIGURED FOR MAXIMUM 2" WATER METER.
4. IF BOX IS LOCKED, CONTRACTOR SHALL MOUNT A LOCKBOX ON THE SIDE WITH A KEY TO BOX WITH THE COMBINATION, OR THE COMBINATION IF IT IS A COMBINATION LOCK IN CASE BOX NEEDS TO BE ACCESSED FOR METER READING OR LEAKS.



2026 Standard Detail Plates

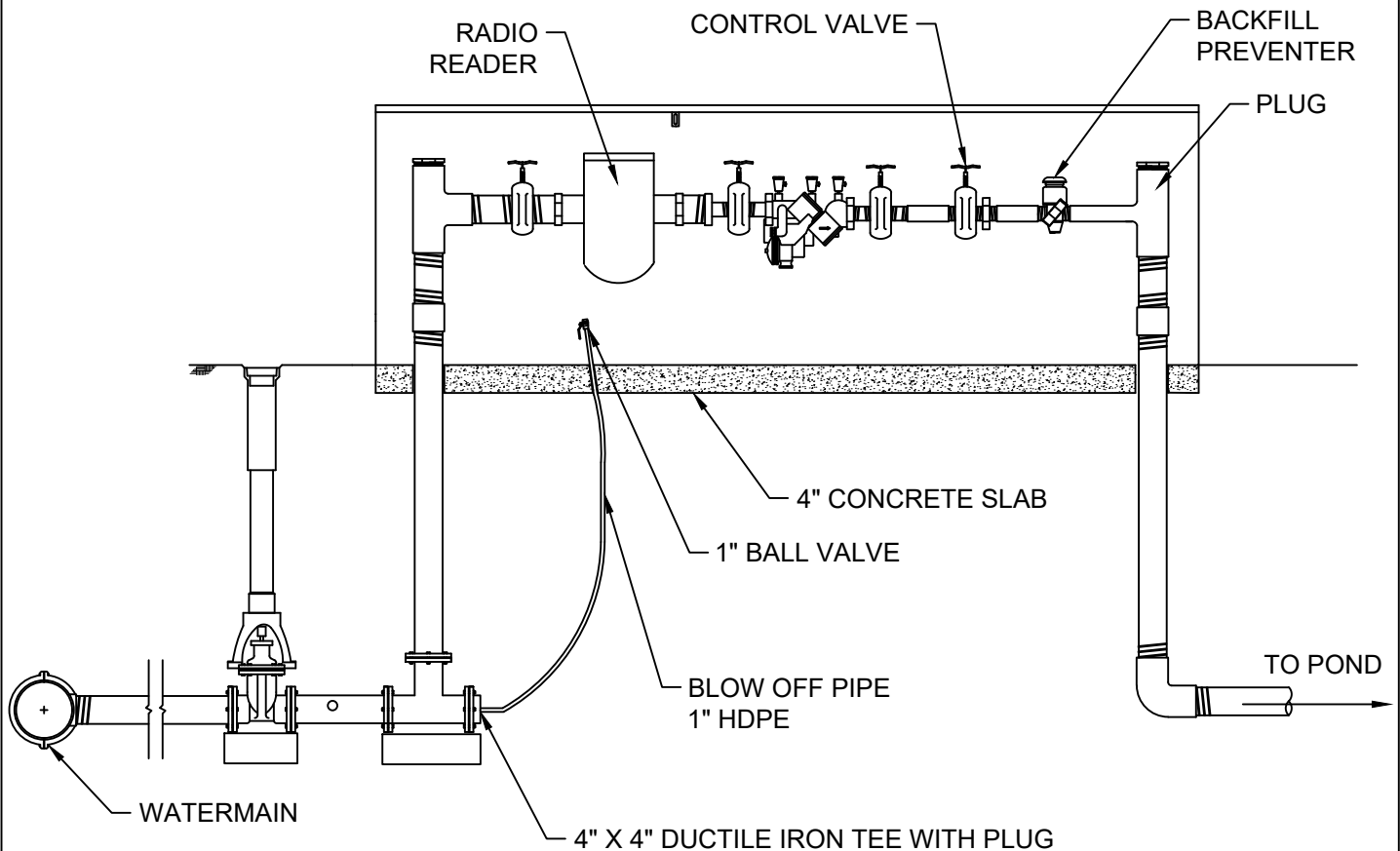
**IRRIGATION SYSTEM TAP, METER,
AND BACKFLOW PREVENTOR
ASSEMBLY**

LAST REVISION:
02/06/2026



PLATE NO.

WAT-10



NOTE:

1. TO WINTERIZE, REMOVE AND DRAIN METER, SIPHON WATER FROM FEED LINE, BLOW OUT IRRIGATION LINES AND REINSTALL METER.
2. SECURITY BOX MUST BE MAINTENANCE FREE VANDELPROOF ENCLOSURE, WITH HINGED TOP.
3. IRRIGATION CONNECTION TO BE CONFIGURED FOR MAXIMUM 2" WATER METER.
4. IF BOX IS LOCKED, CONTRACTOR SHALL MOUNT A LOCKBOX ON THE SIDE WITH A KEY TO BOX WITH THE COMBINATION, OR THE COMBINATION IF IT IS A COMBINATION LOCK IN CASE BOX NEEDS TO BE ACCESSED FOR METER READING OR LEAKS.



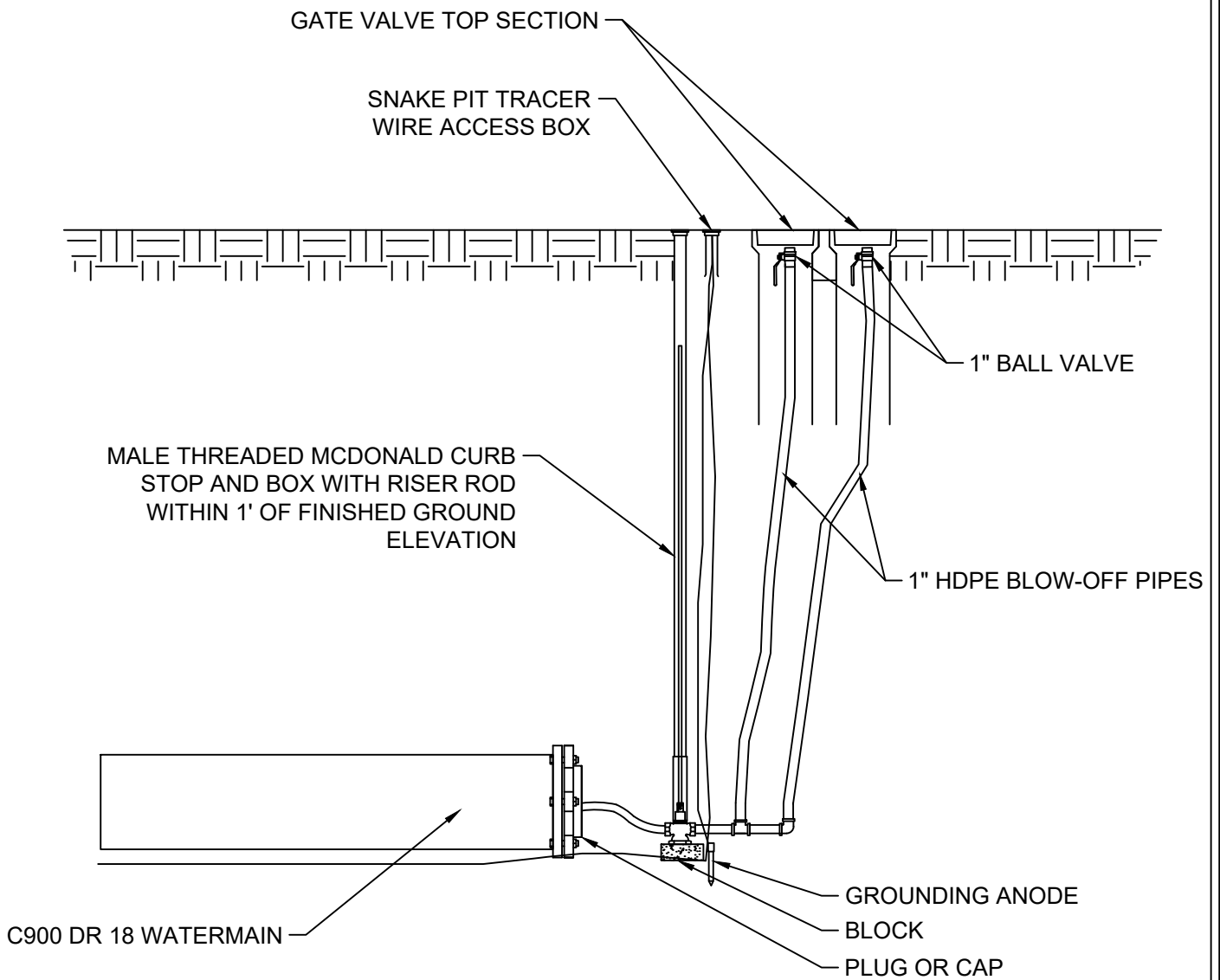
2026 Standard Detail Plates

**POND REUSE IRRIGATION
CONFIGURATION**

LAST REVISION:
02/06/2026



PLATE NO.
WAT-10A



NOTE: 1" PIPE AND FITTINGS TO BE COPPER FOR DEVELOPMENTS IN WHICH COPPER HAS BEEN PREVIOUSLY INSTALLED. HDPE FOR ALL OTHER PROJECTS AND NEW DEVELOPMENTS.



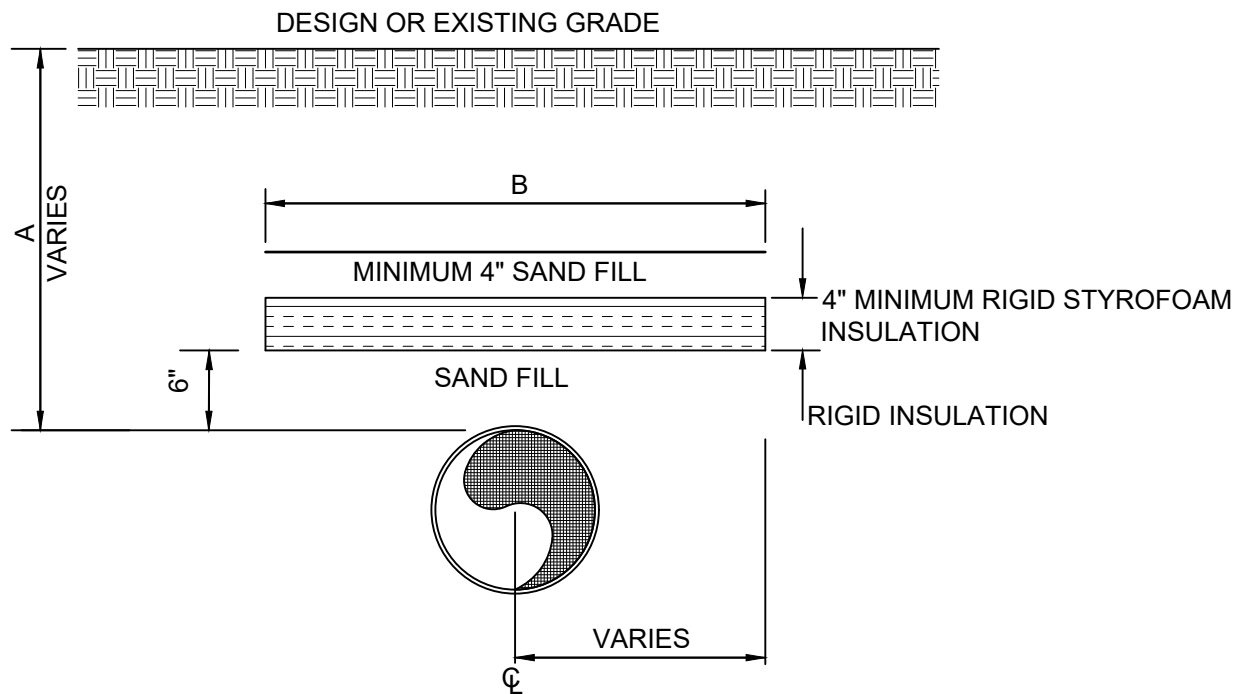
2026 Standard Detail Plates

PLUG OR CAP WITH BLOWOFF

LAST REVISION:
02/06/2026



PLATE NO.
WAT-11



NOTE:

1. REFERENCE WAT-7 FOR INSULATION AND BACKFILL REQUIREMENTS FOR PIPE CROSSINGS.
2. PIPE SHALL BE CENTERED UNDER INSULATION UNLESS OTHERWISE SPECIFIED.

COVER OVER PIPE - A

5'
6'

WIDTH OF INSULATING BOARD - B

8'
4'



2026 Standard Detail Plates

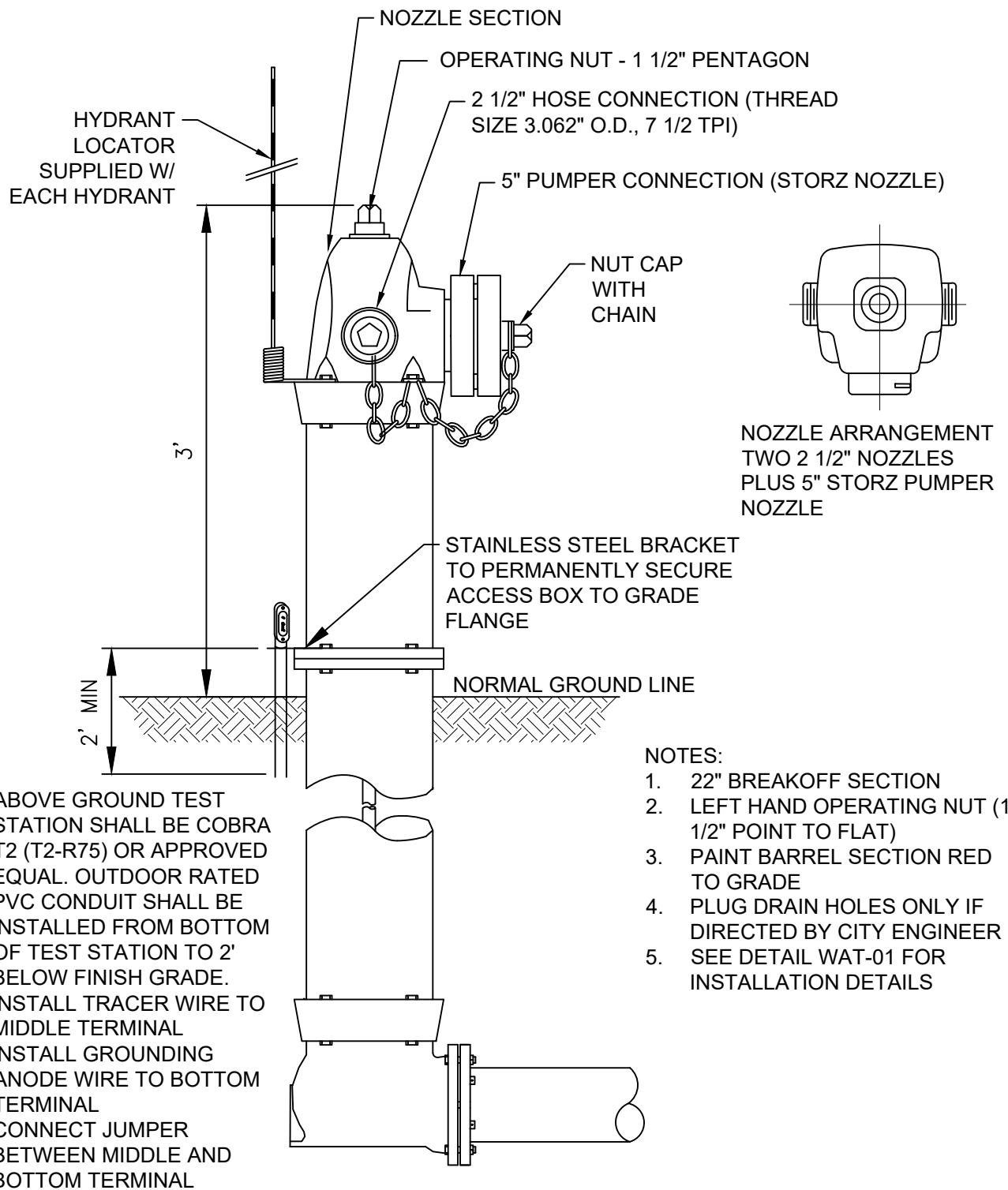
WATER MAIN INSULATION

LAST REVISION:
01/02/2024



PLATE NO.

WAT-12



NOTE: HYDRANT SHALL BE PACER MODEL WB67-250



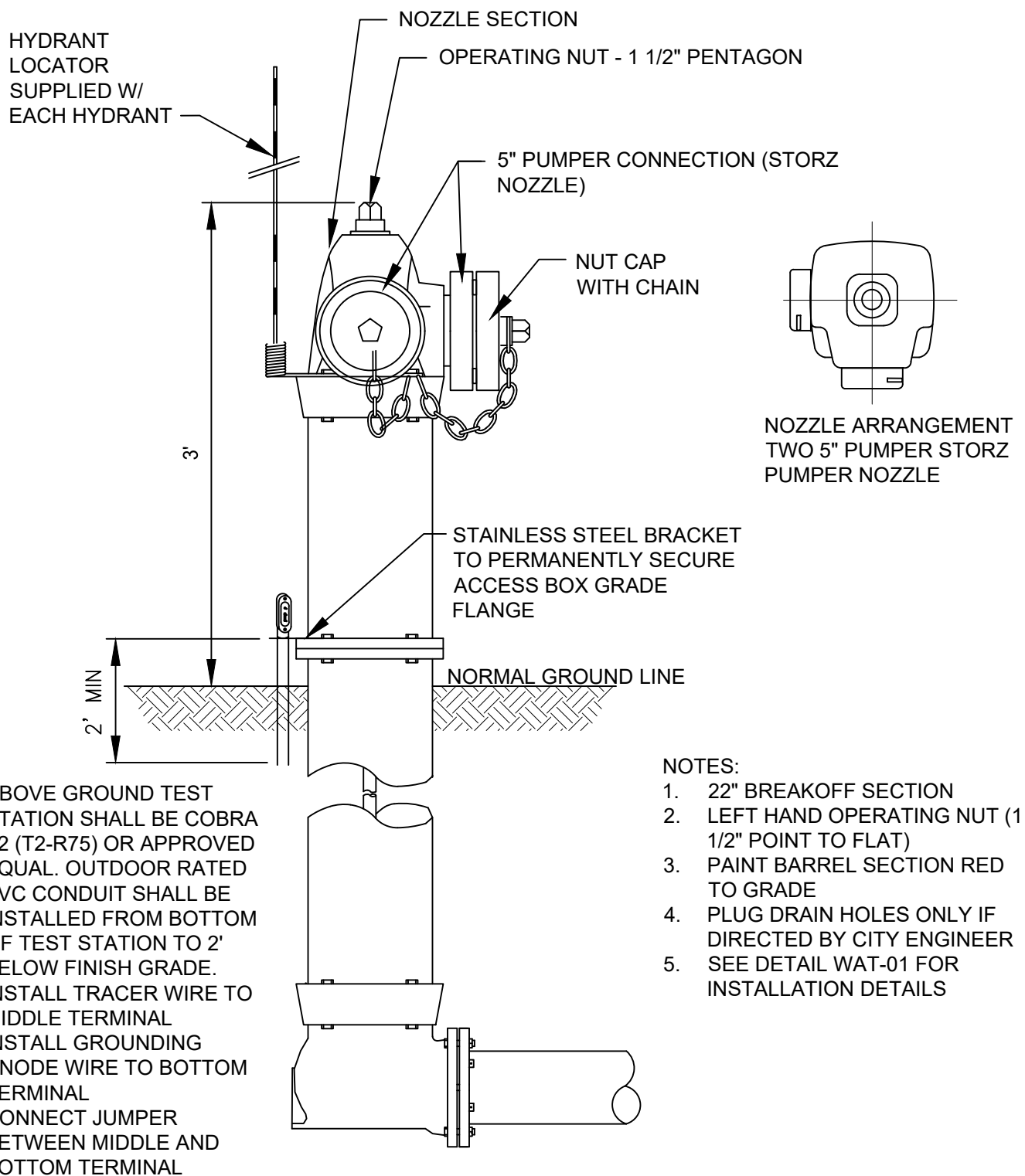
2026 Standard Detail Plates

PACER HYDRANT DETAIL

LAST REVISION:
07/24/2024



PLATE NO.
WAT-13



NOTE: HYDRANT SHALL BE PACER MODEL WB67-250



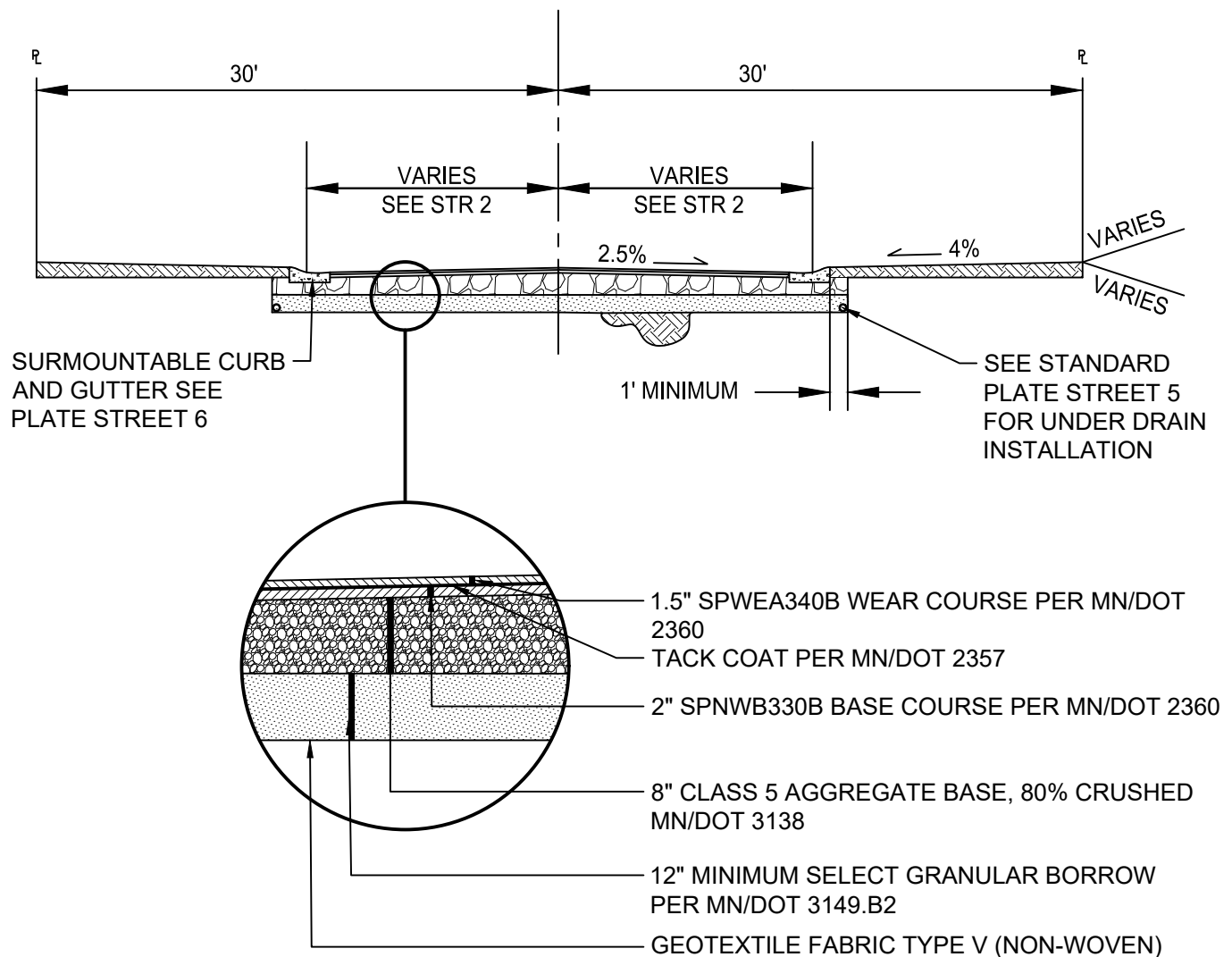
2026 Standard Detail Plates

DOUBLE PUMPER HYDRANT DETAIL

LAST REVISION:
07/24/2024



PLATE NO.
WAT-14



NOTES:

1. TYPICAL SECTION SHOWN IS THE MINIMUM RESIDENTIAL STREET REQUIREMENT. SEE SPECIFICATIONS FOR PROJECT SPECIFIC DETAILS.
2. DRAINTILE SHALL BE INSTALLED BEHIND CURB. DRAINTILE TO BE INSTALLED AS REQUIRED TO ADEQUATELY DRAIN ALL SELECT GRANULAR FILL AREAS.
3. STREET SHALL BE DESIGNED WITH MINIMUM 0.60% AND MAXIMUM 6.00% GRADE.
4. A TEST ROLL SHALL BE PERFORMED ON THE SUBGRADE PRIOR TO GRANULAR BORROW PLACEMENT TO CONFIRM THE NECESSARY THICKNESS OF THE ROAD SECTION. CONTRACTOR MAY NEED TO PREP SUBGRADE OR INCREASE ROAD SECTION DUE TO TYPICALLY CLAY SOILS. THE CITY RESERVES THE RIGHT TO INCREASE THE STREET SECTION BASED ON THESE CONDITIONS.
5. TACK COAT PER MN/DOT 2357 TO BE USED ON CURB PRIOR TO PLACEMENT OF BITUMINOUS
6. REFER TO THE HENNEPIN COUNTY BICYCLE TRANSPORTATION PLAN FOR TRAIL DETAILS.
4. WEARING COURSES MAY HAVE A MAXIMUM OF 10% RECYCLED ASPHALT PAVEMENT (RAP). NO RECYCLED ASPHALT SHINGLES (RAS) ALLOWED IN WEARING COURSES.
5. NON-WEARING COURSES MAY HAVE A MAXIMUM OF 20% RECYCLED ASPHALT PAVEMENT (RAP).



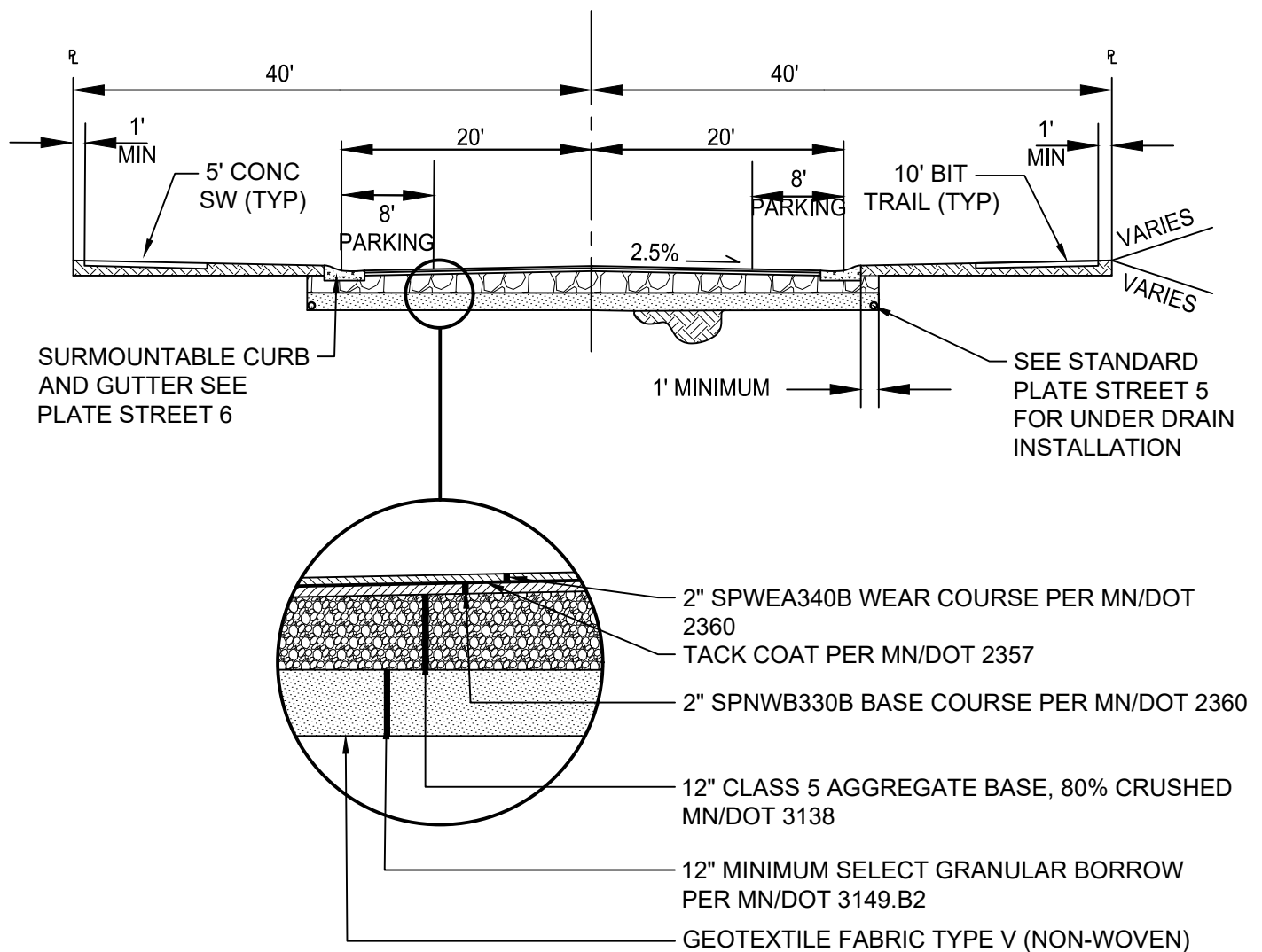
2026 Standard Detail Plates

RESIDENTIAL STREET SECTION

LAST REVISION:
02/06/2026



PLATE NO.
STR-1A



NOTES:

1. TYPICAL SECTION SHOWN IS THE MINIMUM RESIDENTIAL COLLECTOR STREET REQUIREMENT. SEE SPECIFICATIONS FOR PROJECT SPECIFIC DETAILS.
2. DRAINTILE SHALL BE INSTALLED BEHIND CURB. DRAINTILE TO BE INSTALLED AS REQUIRED TO ADEQUATELY DRAIN ALL SELECT GRANULAR FILL AREAS.
3. STREET SHALL BE DESIGNED WITH MINIMUM 0.60% AND MAXIMUM 6.00% GRADE.
4. A TEST ROLL SHALL BE PERFORMED ON THE SUBGRADE PRIOR TO GRANULAR BORROW PLACEMENT TO CONFIRM THE NECESSARY THICKNESS OF THE ROAD SECTION. CONTRACTOR MAY NEED TO PREP SUBGRADE OR INCREASE ROAD SECTION DUE TO TYPICALLY CLAY SOILS. THE CITY RESERVES THE RIGHT TO INCREASE THE STREET SECTION BASED ON THESE CONDITIONS.
5. TACK COAT PER MN/DOT 2357 TO BE USED ON CURB PRIOR TO PLACEMENT OF BITUMINOUS
6. REFER TO THE HENNEPIN COUNTY BICYCLE TRANSPORTATION PLAN FOR TRAIL DETAILS.
4. WEARING COURSES MAY HAVE A MAXIMUM OF 10% RECYCLED ASPHALT PAVEMENT (RAP). NO RECYCLED ASPHALT SHINGLES (RAS) ALLOWED IN WEARING COURSES.
5. NON-WEARING COURSES MAY HAVE A MAXIMUM OF 20% RECYCLED ASPHALT PAVEMENT (RAP).



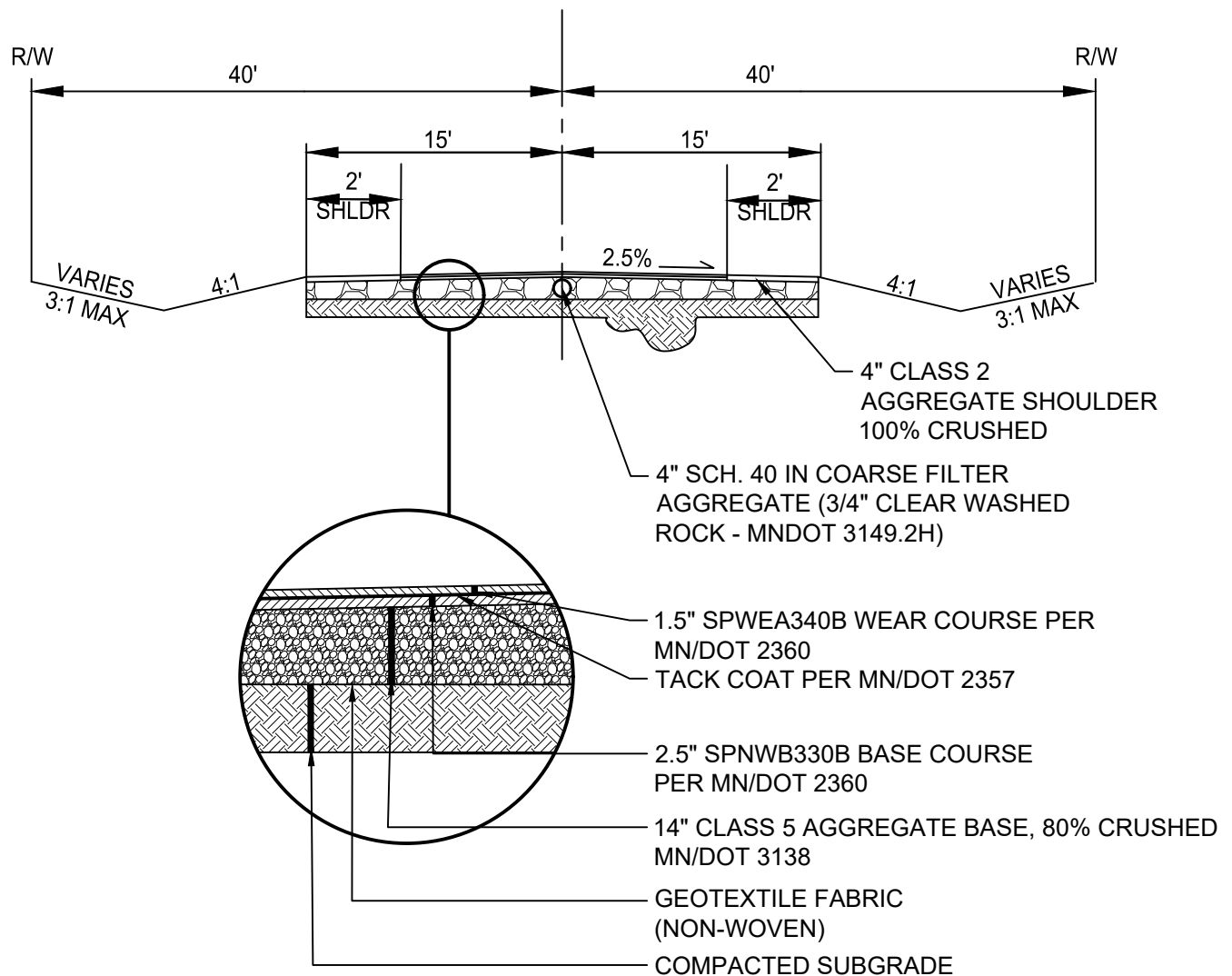
2026 Standard Detail Plates

RESIDENTIAL COLLECTOR STREET SECTION

LAST REVISION:
02/06/2026



PLATE NO.
STR-1B



NOTES:

1. A TEST ROLL SHALL BE PERFORMED ON THE SUBGRADE PRIOR TO GRANULAR BORROW PLACEMENT TO CONFIRM THE NECESSARY THICKNESS OF THE ROAD SECTION. CONTRACTOR MAY NEED TO PREP SUBGRADE OR INCREASE ROAD SECTION DUE TO TYPICALLY CLAY SOILS. THE CITY RESERVES THE RIGHT TO INCREASE THE STREET SECTION BASED ON THESE CONDITIONS.
2. SAW & SEAL ACCORDING TO MN/DOT 3725, AS DIRECTED BY THE CITY ENGINEER.
3. REFER TO THE HENNEPIN COUNTY BICYCLE TRANSPORTATION PLAN FOR TRAIL DETAILS.
4. WEARING COURSES MAY HAVE A MAXIMUM OF 10% RECYCLED ASPHALT PAVEMENT (RAP). NO RECYCLED ASPHALT SHINGLES (RAS) ALLOWED IN WEARING COURSES.
5. NON-WEARING COURSES MAY HAVE A MAXIMUM OF 20% RECYCLED ASPHALT PAVEMENT (RAP).
6. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING DRAINTILE OUTLETS AT LOW POINTS. TILE OUTLET SHALL BE ON THE DOWNSTREAM SIDE OF THE ROADWAY AND SHALL BE PROTECTED WITH CONCRETE HEADWALL STRUCTURE.



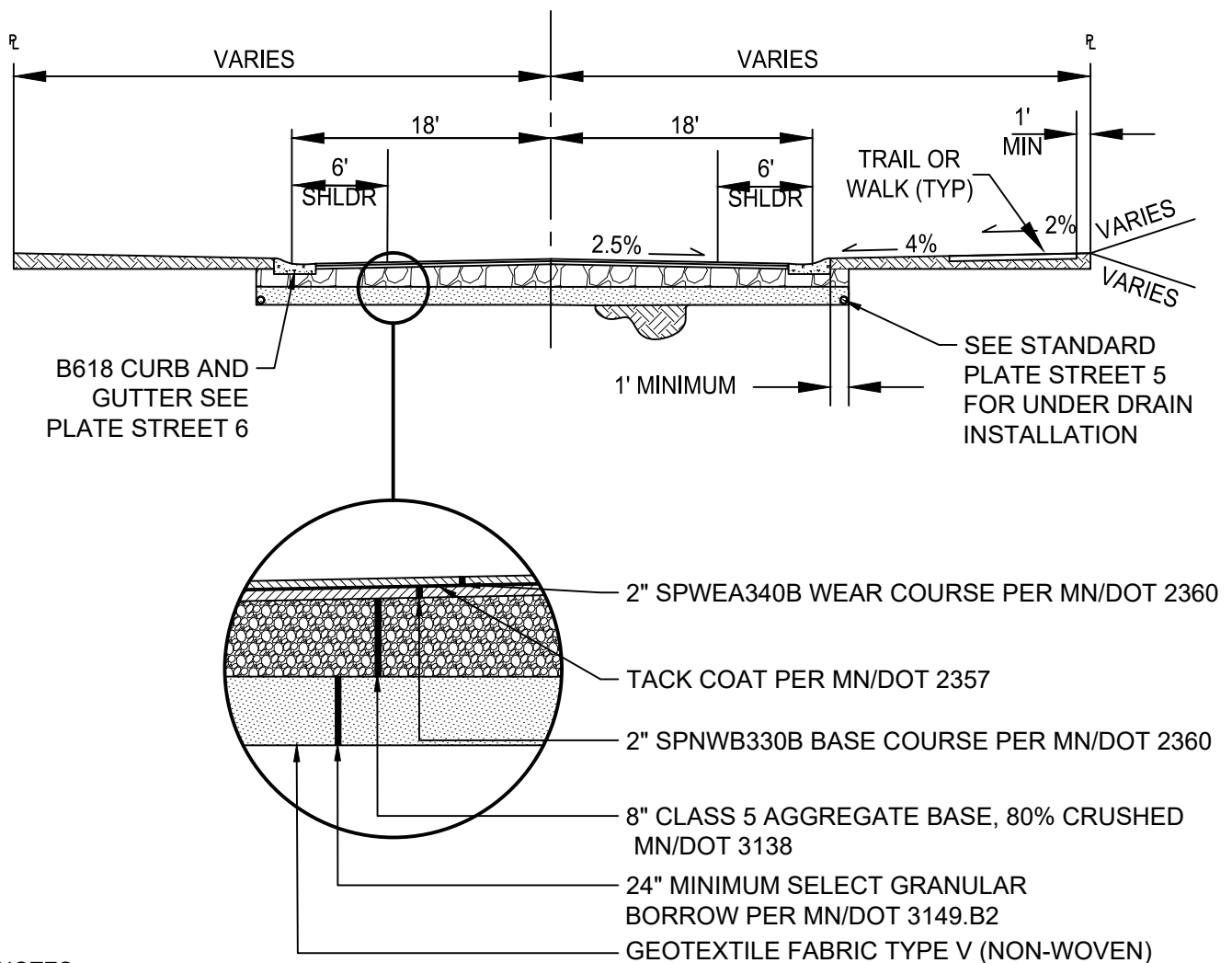
2026 Standard Detail Plates

RURAL STREET SECTION

LAST REVISION:
02/06/2026



PLATE NO.
STR-1C



NOTES:

1. TYPICAL SECTION SHOWN IS THE MINIMUM COMMERCIAL STREET REQUIREMENT. SEE SPECIFICATIONS FOR PROJECT SPECIFIC DETAILS.
2. DRAINTILE SHALL BE INSTALLED BEHIND CURB. DRAINTILE TO BE INSTALLED AS REQUIRED TO ADEQUATELY DRAIN ALL SELECT GRANULAR FILL AREAS.
3. STREET SHALL BE DESIGNED WITH MINIMUM 0.60% AND MAXIMUM 6.00% GRADE.
4. A TEST ROLL SHALL BE PERFORMED ON THE SUBGRADE PRIOR TO GRANULAR BORROW PLACEMENT TO CONFIRM THE NECESSARY THICKNESS OF THE ROAD SECTION. CONTRACTOR MAY NEED TO PREP SUBGRADE OR INCREASE ROAD SECTION DUE TO TYPICALLY CLAY SOILS. THE CITY RESERVES THE RIGHT TO INCREASE THE STREET SECTION BASED ON THESE CONDITIONS.
5. TACK COAT PER MN/DOT 2357 TO BE USED ON CURB PRIOR TO PLACEMENT OF BITUMINOUS
6. REFER TO THE HENNEPIN COUNTY BICYCLE TRANSPORTATION PLAN FOR TRAIL DETAILS.
7. RIGHT-OF-WAY WIDTH WILL INCREASE WHERE TURN LANES ARE REQUIRED. MAINTAIN A MINIMUM OF 15' BLVD BETWEEN CURB AND RIGHT-OF-WAY.
4. WEARING COURSES MAY HAVE A MAXIMUM OF 10% RECYCLED ASPHALT PAVEMENT (RAP). NO RECYCLED ASPHALT SHINGLES (RAS) ALLOWED IN WEARING COURSES.
5. NON-WEARING COURSES MAY HAVE A MAXIMUM OF 20% RECYCLED ASPHALT PAVEMENT (RAP).
6. ROAD WIDTH SHALL BE ADJUSTED TO 40' MEASURED FACE OF CURB TO FACE OF CURB IF PARKING IS TO BE ALLOWED ON BOTH SIDES.



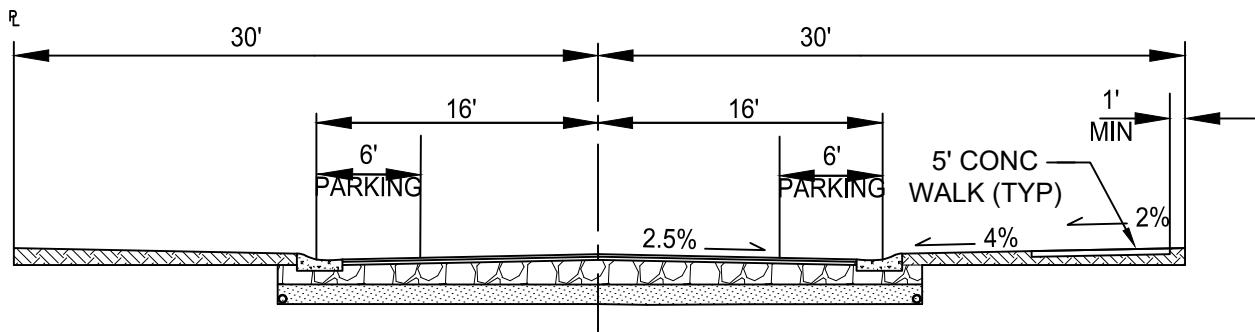
2026 Standard Detail Plates

COMMERCIAL STREET SECTION

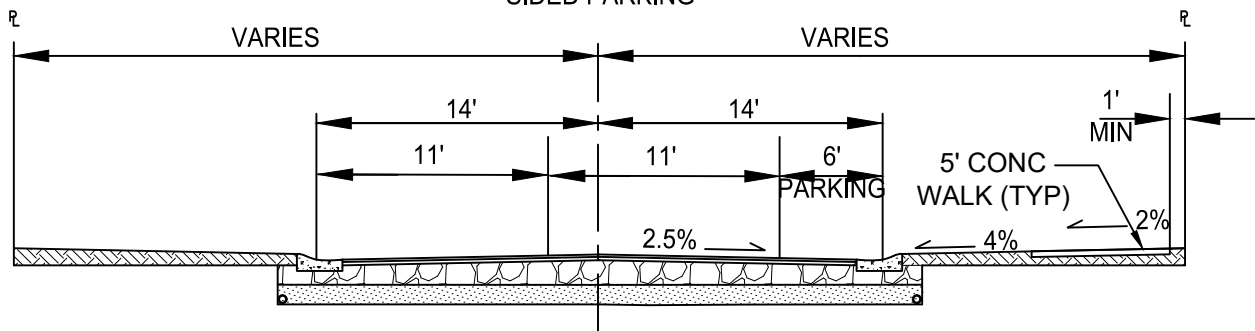
LAST REVISION:
02/06/2026



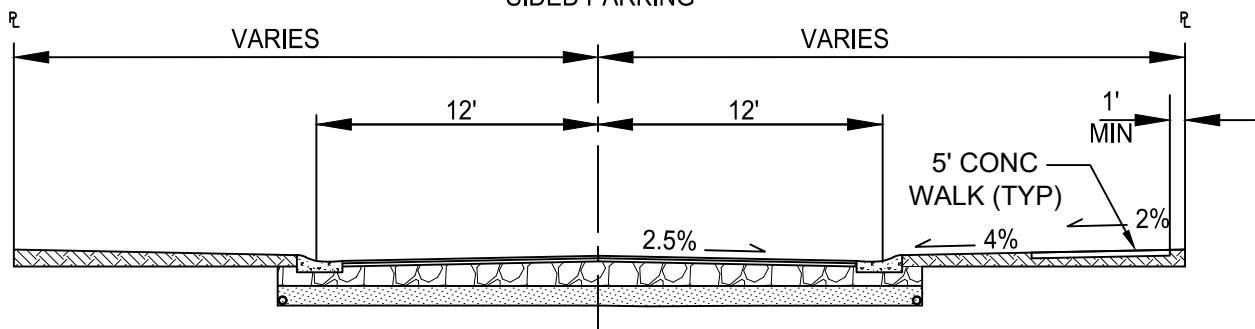
PLATE NO.
STR-1D



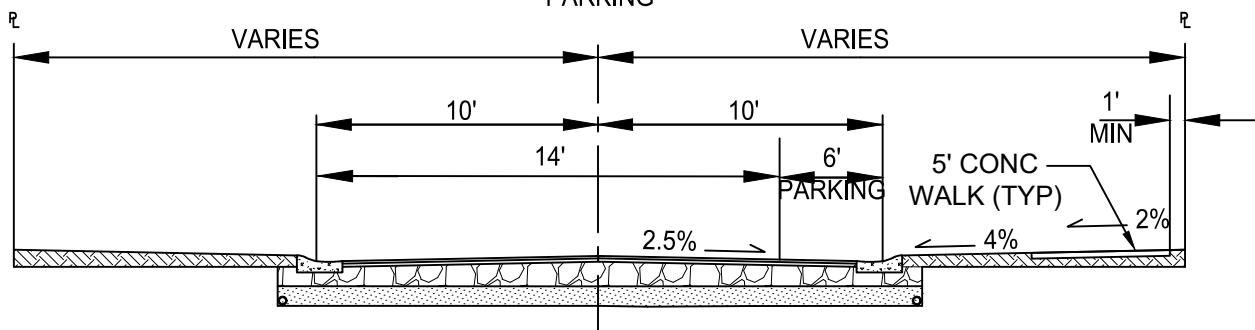
32 FOOT RESIDENTIAL STREET TWO SIDED PARKING



28 FOOT RESIDENTIAL STREET ONE SIDED PARKING



24 FOOT RESIDENTIAL STREET NO PARKING



20 FOOT RESIDENTIAL STREET ONEWAY - ONE SIDED PARKING



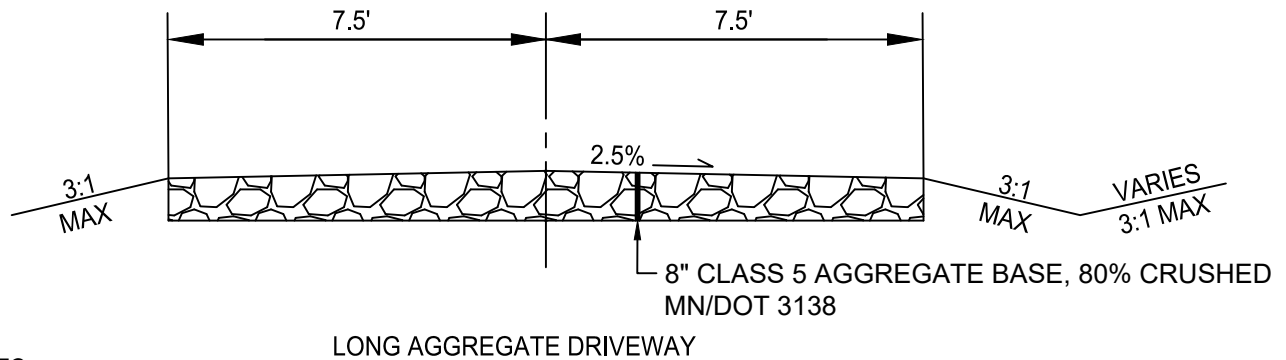
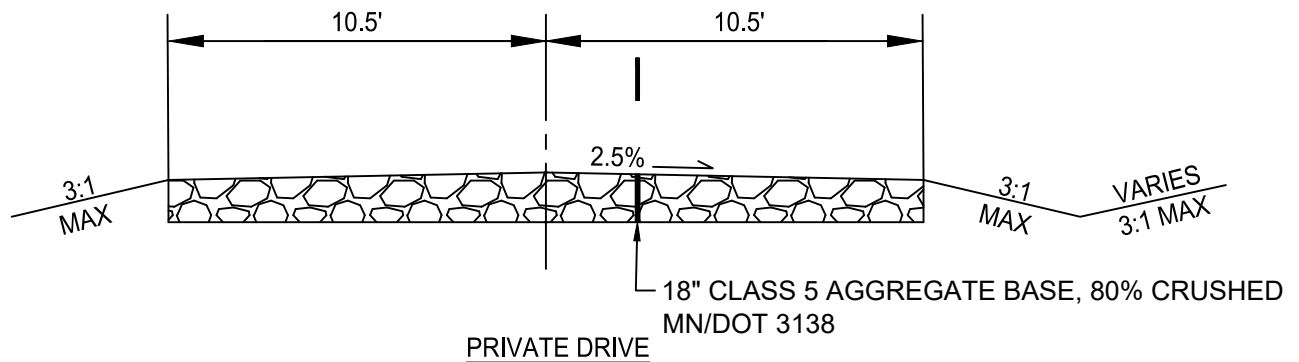
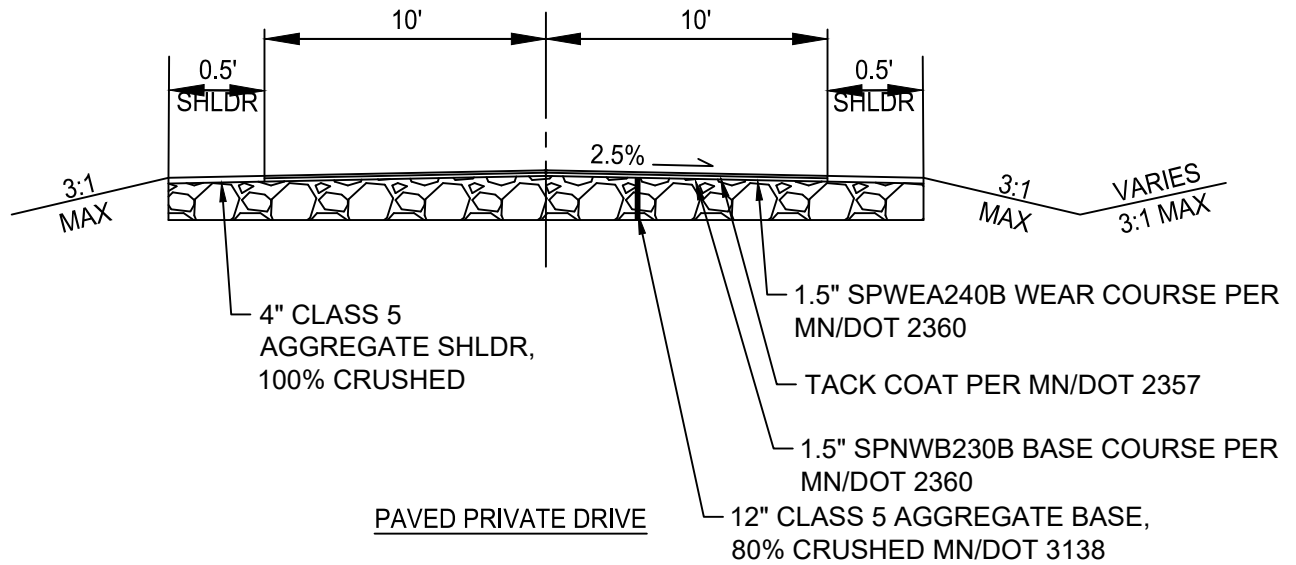
2026 Standard Detail Plates

RESIDENTIAL STREET DIMENSIONS

LAST REVISION:
01/02/2025



PLATE NO.
STR-2



NOTES:

1. THE CITY RESERVES THE RIGHT TO INCREASE THE DRIVEWAY SECTION BASED ON SOIL CONDITIONS
2. MINIMUM SLOPE = 0.5%
3. MAXIMUM SLOPE = 10%.
4. A SINGLE DRIVEWAY IS RECOMMENDED TO FOLLOW THIS DETAIL, BUT MAY NOT BE REQUIRED.
5. ROLL TEST TO BE CONDUCTED
6. PAVED APRON REQUIRED WHEN PRIVATE DRIVE COMES OFF PAVED PUBLIC ROAD



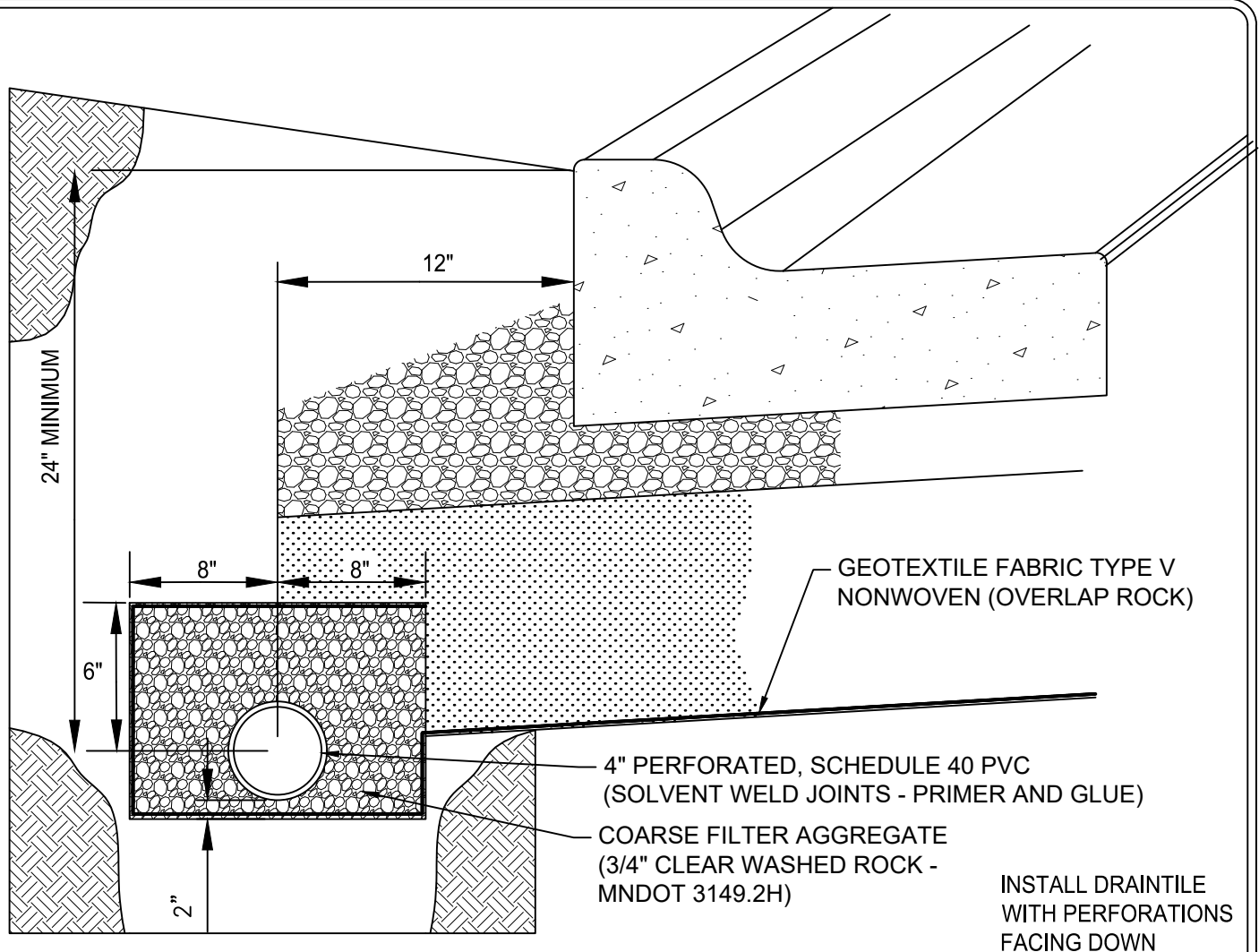
2026 Standard Detail Plates

PRIVATE DRIVE & LONG DRIVEWAY

LAST REVISION:
01/02/2025



PLATE NO.
STR-3



NOTES:

TRENCH DETAIL

1. PLACE SUB-DRAIN BEHIND ALL CURB & GUTTER 250 LF IN EACH DIRECTION FROM CATCH BASINS LOCATED AT LOCALIZED LOW POINTS AND 150 LF UPSTREAM FROM CATCH BASINS LOCATED IN THE MID SLOPE. A 10' CAPPED DRAIN TILE STUB WILL BE INSTALLED ON ALL CATCH BASINS WHERE DRAIN TILE IS ONLY BEING INSTALLED UPSTREAM.
2. CONNECT SUB-DRAIN TO NEAREST CATCHBASIN. CONNECTION TO BE CORE-DRILLED. DOGHOUSES MUST BE GROUTED BOTH INSIDE AND OUTSIDE OF STRUCTURE.
3. ALL STREETS WITH GRADES LESS THAN 1% WILL REQUIRE STREET DRAIN TILE
4. SLOPE SUB-DRAIN TO CATCH BASIN.
5. SUBDRAIN MAY BE DAYLIGHTED TO DITCH AS APPROVED BY CITY ENGINEER.
6. CLEANOUTS ARE REQUIRED AT A MAXIMUM OF 300 FOOT INTERVALS, AT BENDS, AND AT THE END OF THE RUN. SEE DETAIL STO-23 FOR CLEANOUT FABRICATION.
7. CLEANOUTS TO BE LOCATED ON PROPERTY CORNERS.
8. IF CLEANOUT IS TO BE LOCATED WITHIN 50' OF CATCH BASIN. REMOVE CLEAN OUT AND TIE DRAIN TILE INTO THE CATCH BASIN
9. CONTRACTOR TO TELEWISE DRAINTILE PRIOR TO ACCEPTANCE OF STREET. DRAINTILE TO BE TELEVISED IN THE PRESENCE OF CITY AFTER PRIVATE UTILITIES ARE INSTALLED. TELEVISING IS CONSIDERED INCIDENTAL TO INSTALLATION.



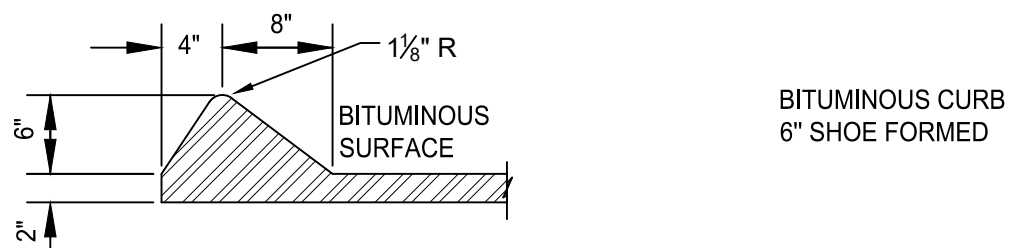
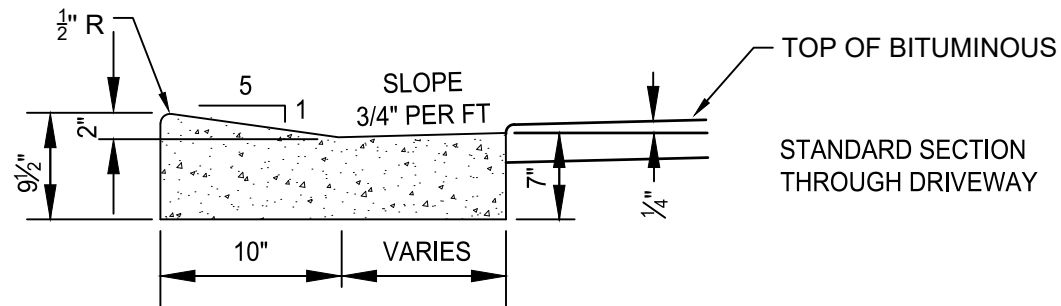
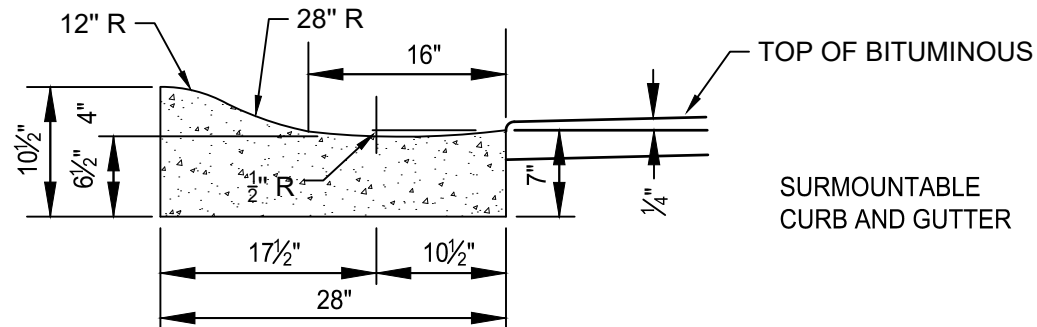
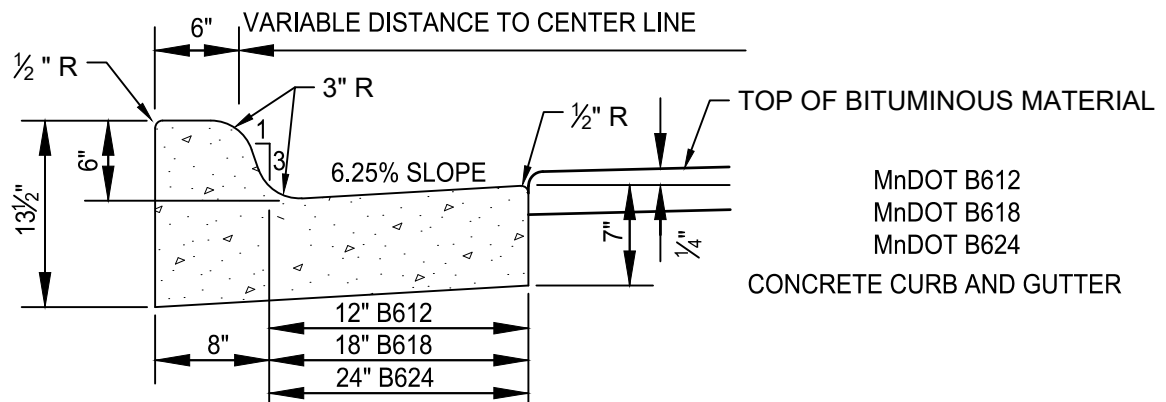
2026 Standard Detail Plates

ROAD SUB DRAIN

LAST REVISION:
01/02/2025



PLATE NO.
STR-4



NOTES:

1. ONCE CURB AND GUTTER ARE INSTALLED, ENSURE EROSION CONTROL MEASURES ARE PROPERLY ESTABLISHED.
2. USE SUITABLE MATERIAL TO BACKFILL AREA BEHIND CURB.
3. PLACE "CO" STAMP AT LOCATION OF ALL STREET DRAIN TILE CLEAN OUTS



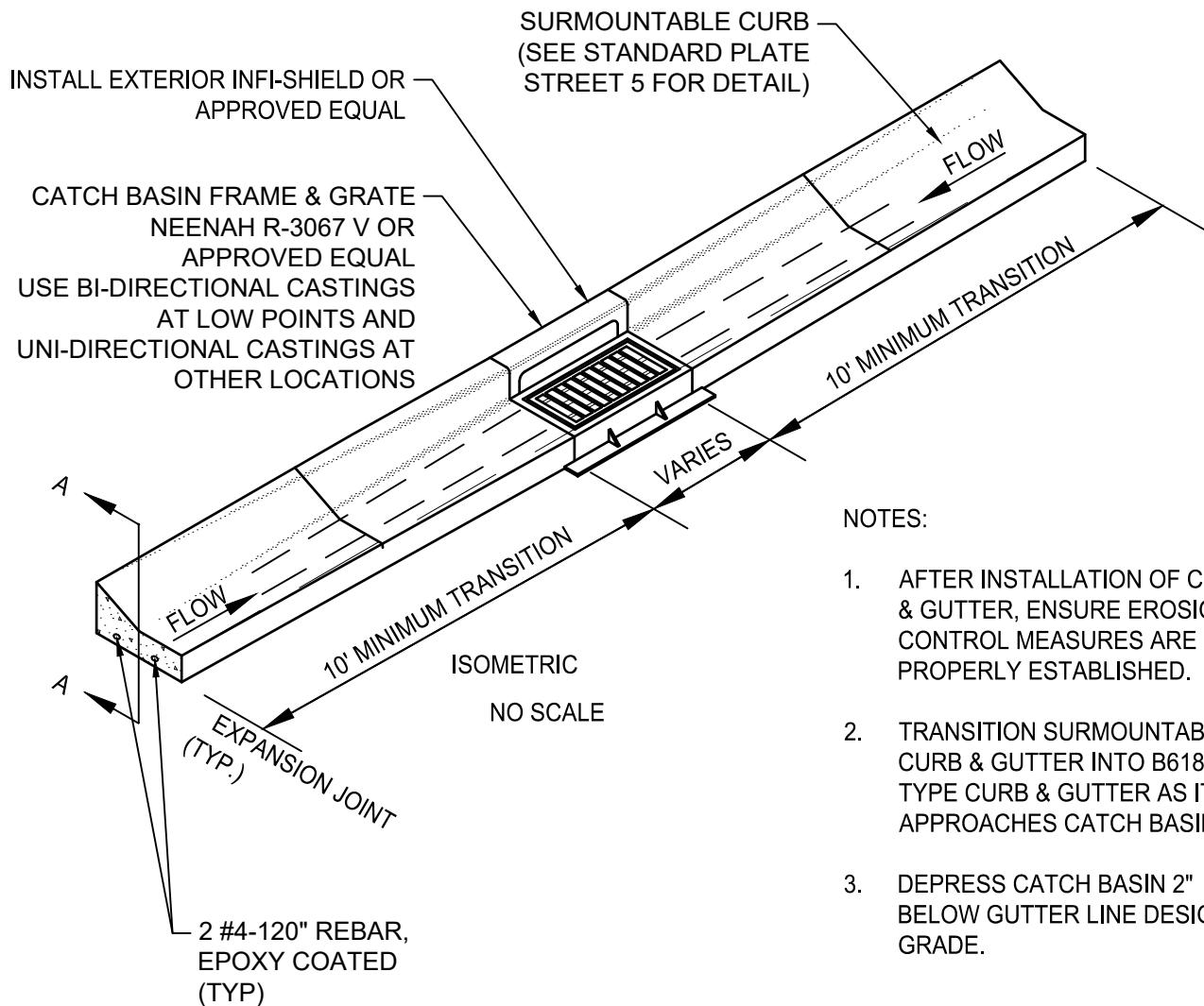
2026 Standard Detail Plates

CURB AND GUTTER

LAST REVISION:
06/28/2024

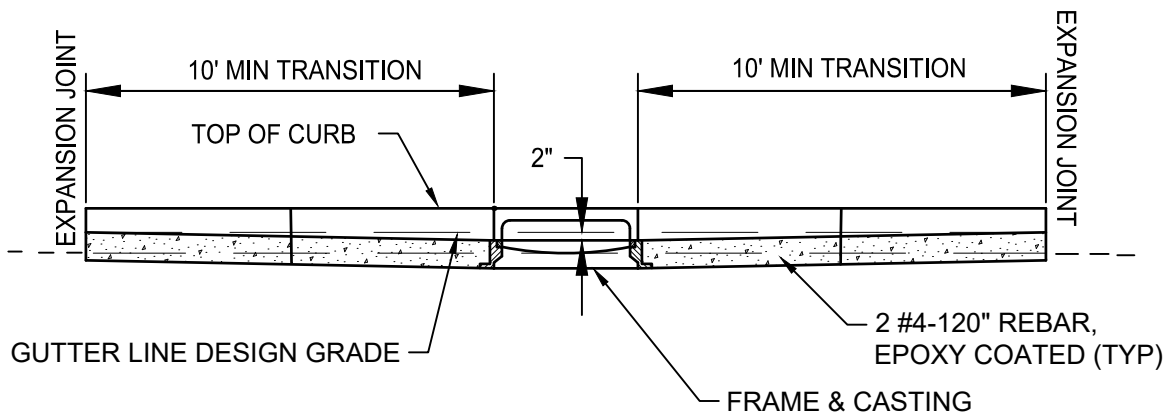


PLATE NO.
STR-5



NOTES:

1. AFTER INSTALLATION OF CURB & GUTTER, ENSURE EROSION CONTROL MEASURES ARE PROPERLY ESTABLISHED.
2. TRANSITION SURMOUNTABLE CURB & GUTTER INTO B618 TYPE CURB & GUTTER AS IT APPROACHES CATCH BASIN.
3. DEPRESS CATCH BASIN 2" BELOW GUTTER LINE DESIGN GRADE.



SECTION A-A

NO SCALE



2026 Standard Detail Plates

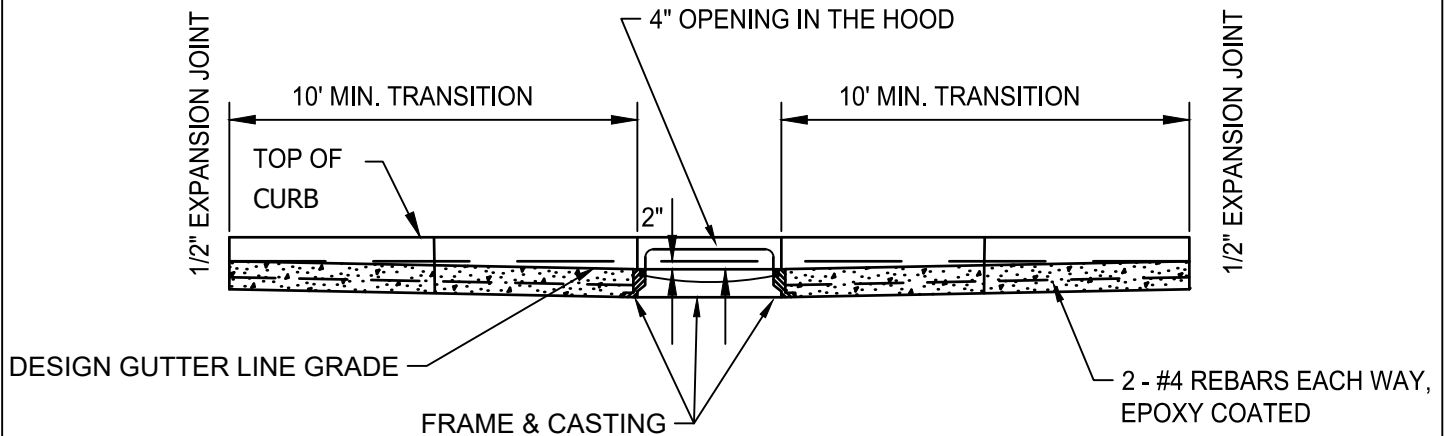
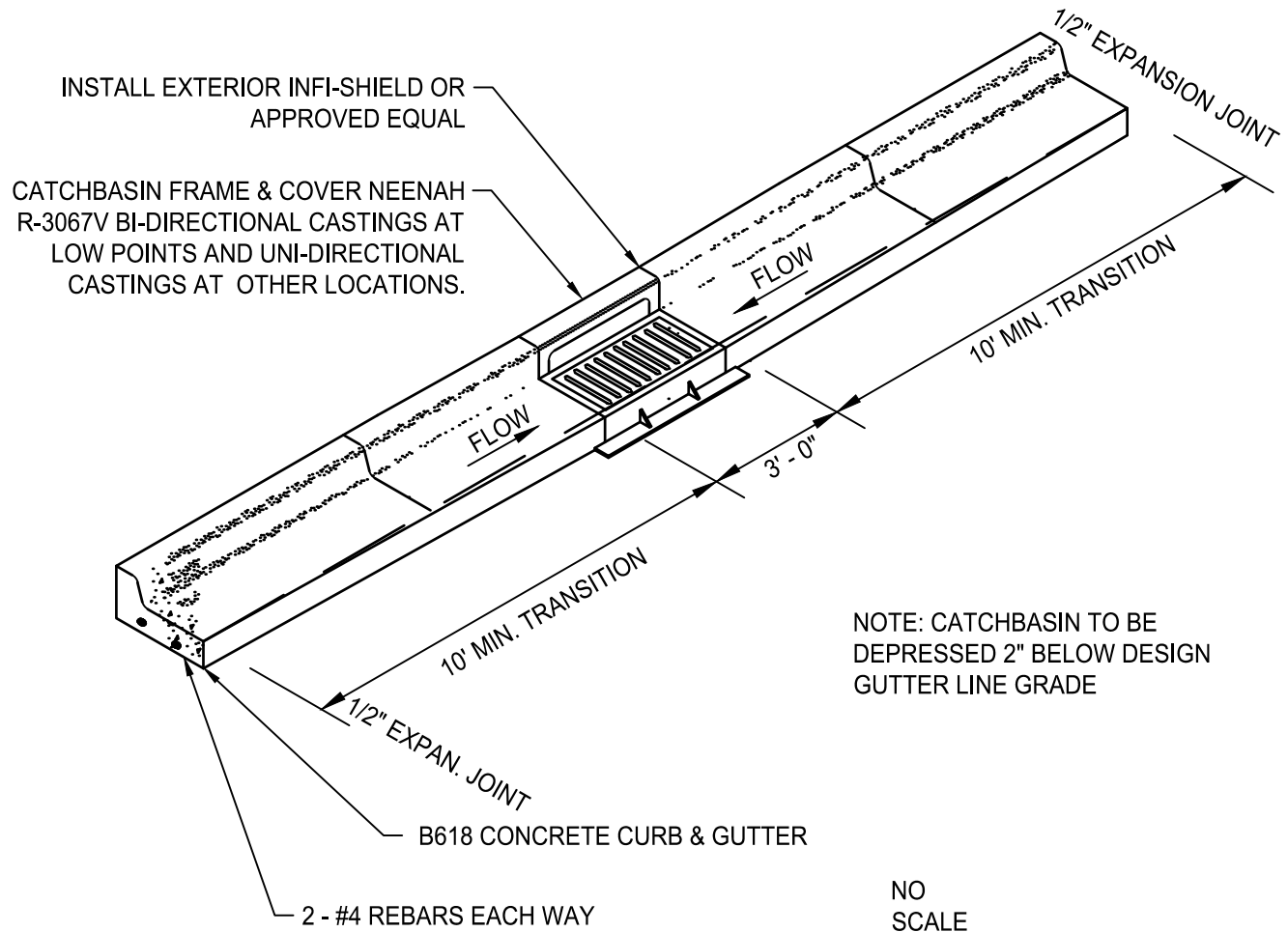
SURMOUNTABLE CURB TRANSITION AT CATCH BASIN

LAST REVISION:
06/28/2024



PLATE NO.

STR-6



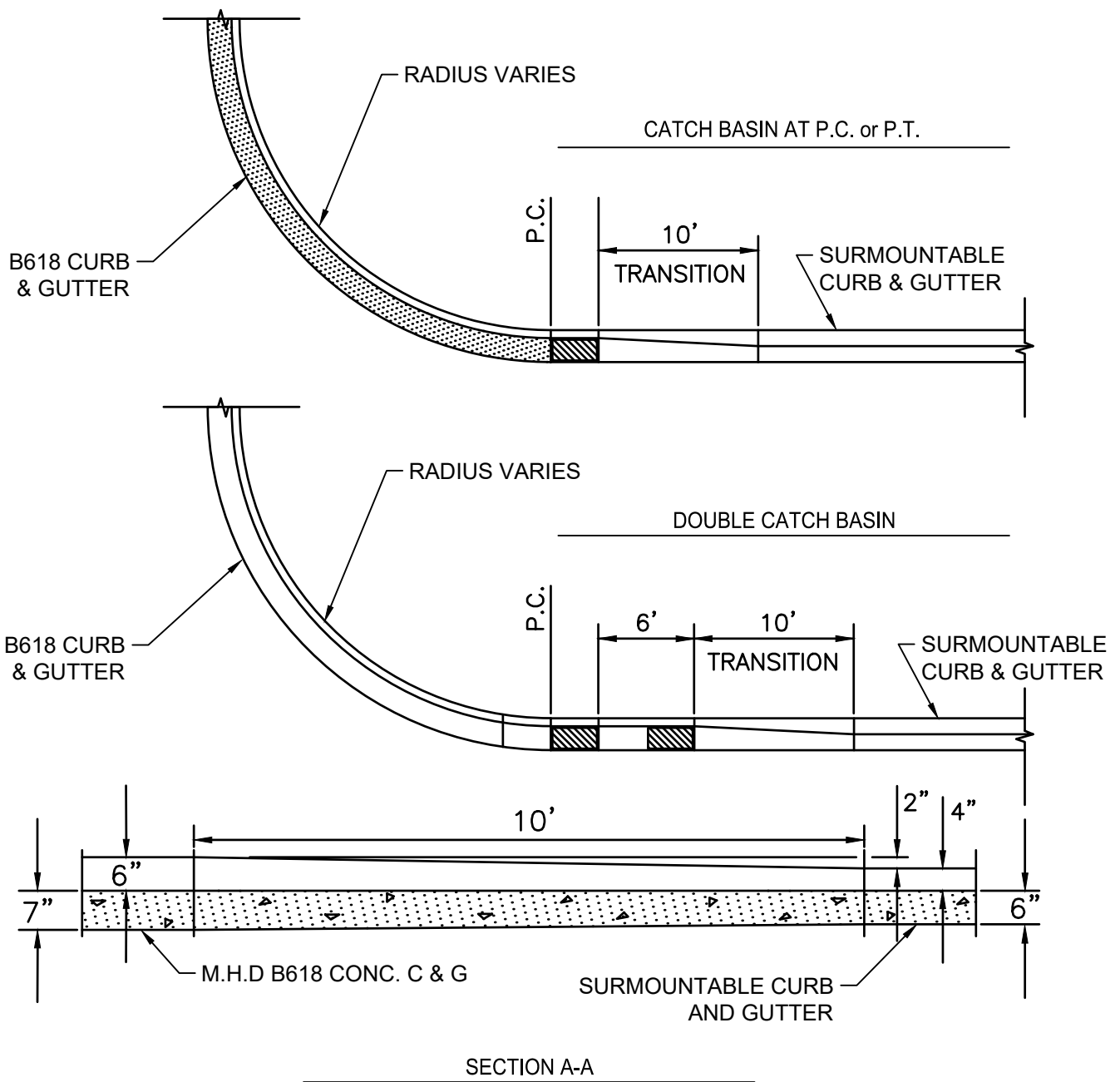
2026 Standard Detail Plates

B618 CURB TRANSITION AT CATCH BASIN

LAST REVISION:
06/28/2024



PLATE NO.
STR-7



NOTES:

1. ALL RADII ARE MEASURED TO FACE OF CURB.
2. NO CATCH BASINS WILL BE CONSTRUCTED IN THE INTERSECTION RADII.
3. 30' RADII WILL BE REQUIRED AT INTERSECTIONS OF ALL COLLECTOR TO RESIDENTIAL STREETS.
4. 25' RADII WILL BE REQUIRED AT INTERSECTIONS OF ALL RESIDENTIAL TO RESIDENTIAL STREETS.



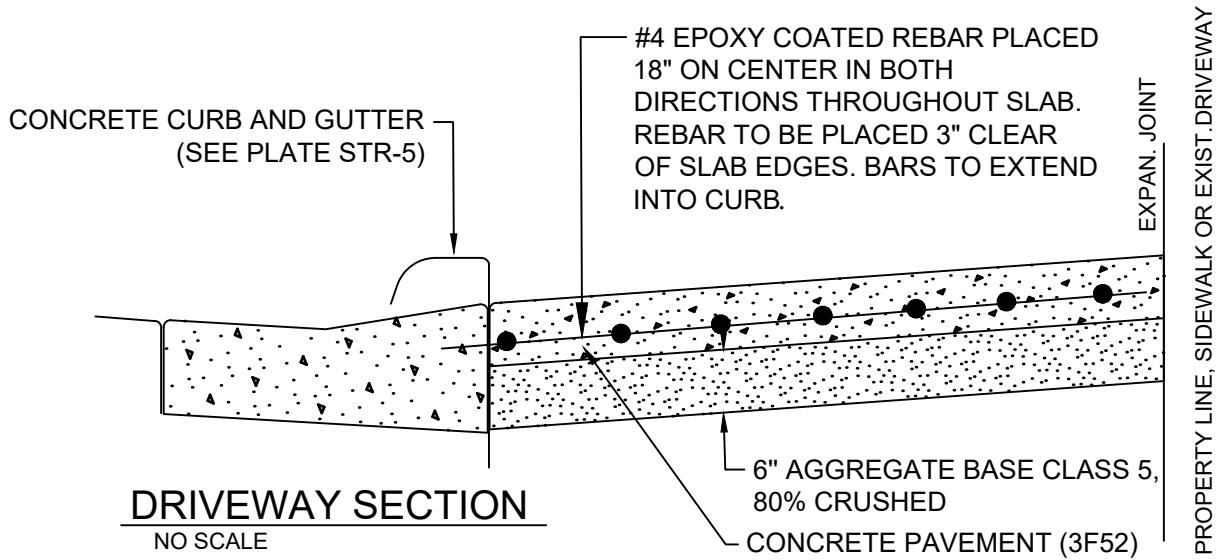
2026 Standard Detail Plates

CURB AND GUTTER TRANSITIONS

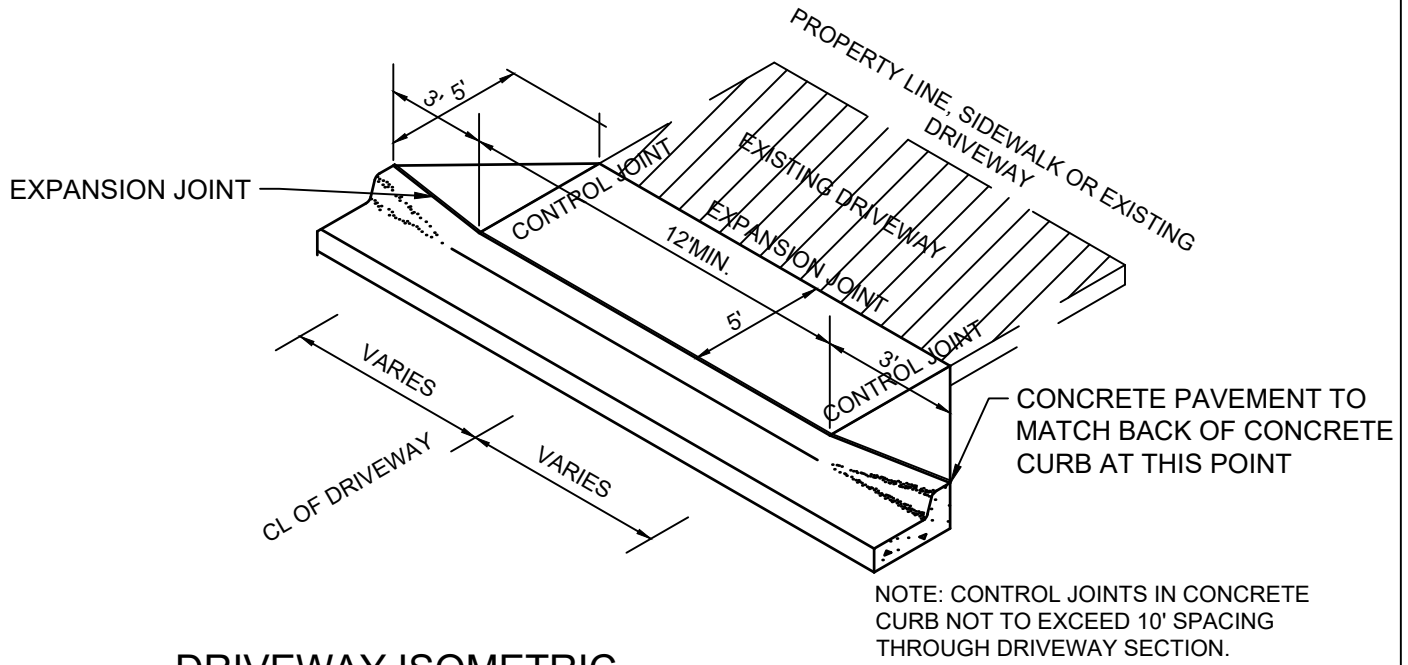
LAST REVISION:
06/28/2024



PLATE NO.
STR-8



1. PANEL WIDTH SHALL NOT EXCEED 10 FEET WITHOUT A CONTRACTION JOINT.
2. DRIVEWAY TO BE ONE COURSE CONCRETE PAVEMENT.
3. 6" THICK FOR RESIDENTIAL DRIVE, 8" THICK FOR COMMERCIAL DRIVE AND ALLEY OR SPECIFIED.
4. MAXIMUM DRIVEWAY WIDTH = 24'.
5. MINIMUM DISTANCE FROM LOT LINE = 5' AS MEASURED 5 FEET FROM THE BACK OF CURB.
6. CAPS REQUIRED ON CURBSTOPS LOCATED IN DRIVEWAYS.
7. ALL DRIVEWAYS MUST BE AT LEAST 60' FROM INTERSECTIONS MEASURED FROM C-C TO CENTER OF DRIVEWAY.



2026 Standard Detail Plates

RESIDENTIAL DRIVEWAY APRON

LAST REVISION:
06/28/2024



PLATE NO.
STR-9

#4 EPOXY COATED REBAR PLACED 18" ON CENTER IN BOTH DIRECTIONS THROUGHOUT SLAB. REBAR TO BE PLACED 3" CLEAR OF SLAB EDGES. BARS TO EXTEND INTO CURB.

EXPANSION JOINT MATERIAL TO CONFORM TO MNDOT 3702

1/2" THICK - 6" HIGH EXPANSION JOINT MATERIAL

5'

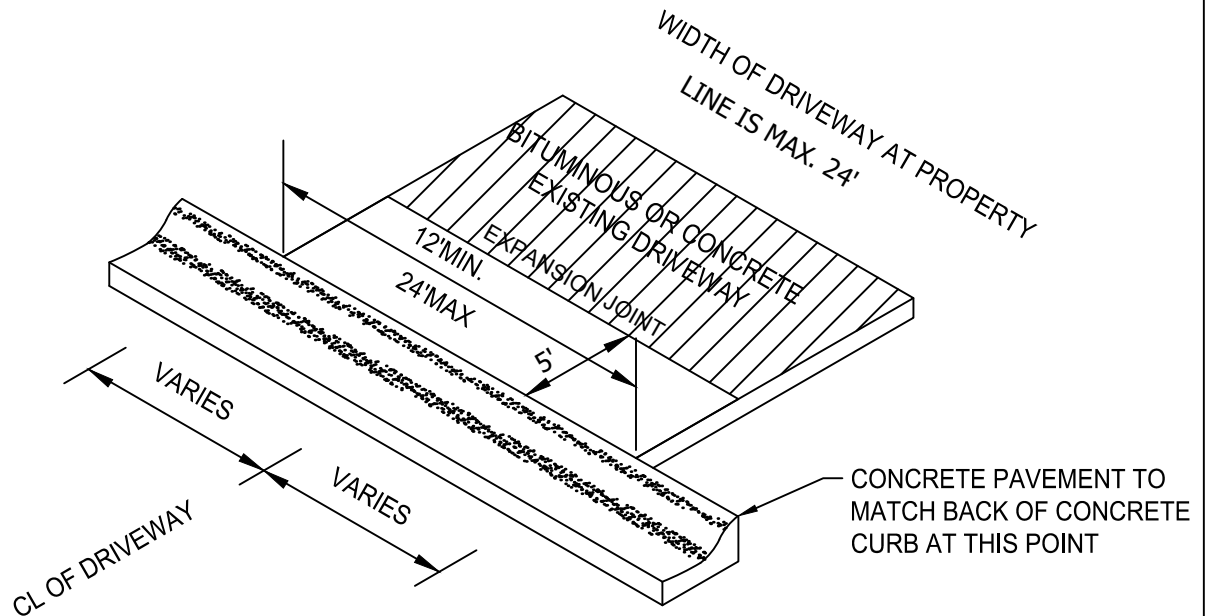
MIN .50%
MAX 10.0%

MOUNTABLE TYPE
CONCRETE CURB AND
GUTTER STR-01

EXPAN. JOINT
EXISTING OR PROPOSED DRIVEWAY

SECTION
NO
SCALE

6" CONCRETE PAVEMENT (3F52)
6" CLASS 5 AGGREGATE BASE OR RECYCLED
EQUAL, 80% CRUSHED. INCIDENTAL TO
CONCRETE APRON(MNDOT 3138)



ISOMETRIC
NO SCALE

NOTE:

1. CONTROL JOINTS IN CONCRETE CURB NOT TO EXCEED 10' SPACING THROUGH DRIVEWAY SECTION.
2. THE MAXIMUM DRIVEWAY WIDTH AT THE CURB IS 24'. MAXIMUM WIDTH OF DRIVEWAY AT THE PROPERTY LINE IS ALSO 24'.
3. APRON NOT REQUIRED IN NEW DRIVEWAY CONSTRUCTION.



2026 Standard Detail Plates

RESIDENTIAL DRIVEWAY APRON (MOUNTABLE CURB)

LAST REVISION:
06/28/2024



PLATE NO.
STR-10

#4 EPOXY COATED REBAR PLACED
18" ON CENTER IN BOTH
DIRECTIONS THROUGHOUT SLAB.
REBAR TO BE PLACED 3" CLEAR
OF SLAB EDGES. BARS TO EXTEND
INTO CURB.

B6 TYPE CONCRETE
CURB AND GUTTER
STR-01

1/2" THICK - 6" HIGH EXPANSION JOINT MATERIAL

CONCRETE SIDEWALK SLOPE IS 2.0%

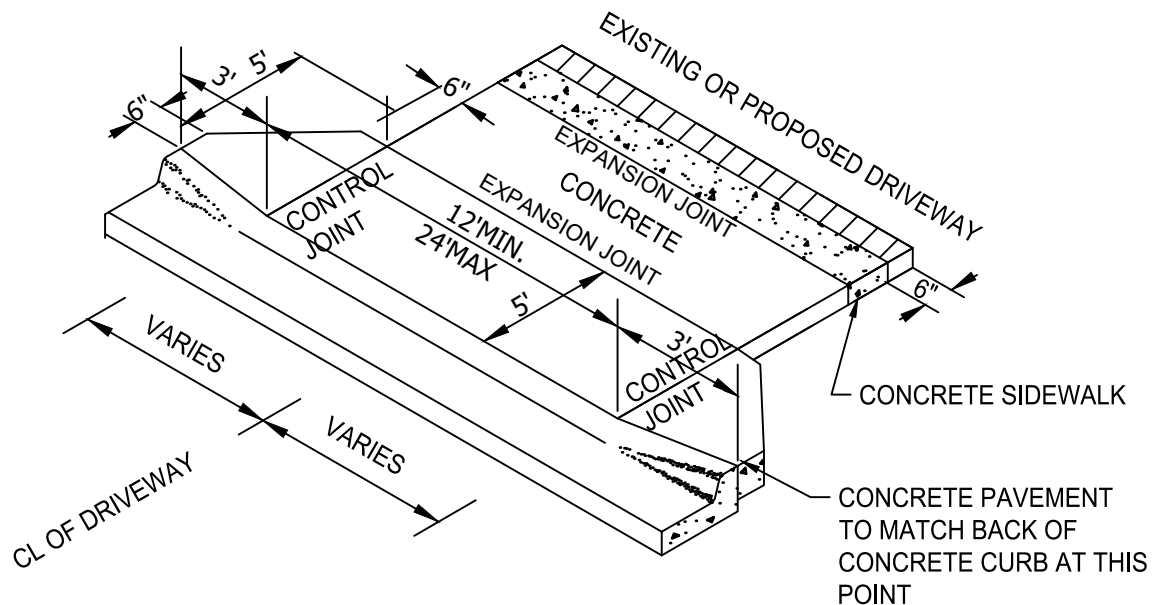
MIN .50%
MAX 10.0%

PROPERTY LINE AND EXISTING
OR PROPOSED DRIVEWAY

SECTION
NO
SCALE

6" CONCRETE PAVEMENT (MNDOT 3152)
6" CLASS 5 AGGREGATE BASE OR RECYCLED
EQUAL 100% CRUSHED INCIDENTAL TO
CONCRETE APRON (MNDOT 138)
CONCRETE APRON (MNDOT 3138)

ISOMETRIC
NO
SCALE



NOTE:

1. CONTROL JOINTS IN CONCRETE CURB NOT TO EXCEED 10' SPACING THROUGH DRIVEWAY SECTION.
2. CONCRETE MUST BE CONSTRUCTED BETWEEN SIDEWALK AND DRIVEWAY APRON.
3. CONCRETE SIDEWALK THROUGH DRIVEWAY IS 6" THICK.
4. DRIVEWAY WINGS ARE REQUIRED WITH THE B6 STYLE CURBING. THE MAXIMUM DRIVEWAY WIDTH AT THE CURB IS 24' PLUS THE WIDTH OF THE WINGS. MAXIMUM WIDTH OF DRIVEWAY AT THE PROPERTY LINE IS ALSO 24'.



2026 Standard Detail Plates

RESIDENTIAL DRIVEWAY APRON WITH S.W. (B6 CURB)

LAST REVISION:
06/28/2024



PLATE NO.
STR-11

Y COATED REBAR PLACED
18" ON CENTER IN BOTH
IONS THROUGHOUT SLAB.
R TO BE PLACED 3" CLEAR
EDGES. BARS TO EXTEND
INTO CURB.

1/2" THICK - 6" HIGH EXPANSION JOINT MATERIAL

CONCRETE SIDEWALK SLOPE IS 2.0%

MIN .50%
MAX 10.0%

6"

PROPERTY LINE AND
EXISTING OR PROPOSED
DRIVEWAY

TABLE TYPE
RETE CURB
ATTER STR-01

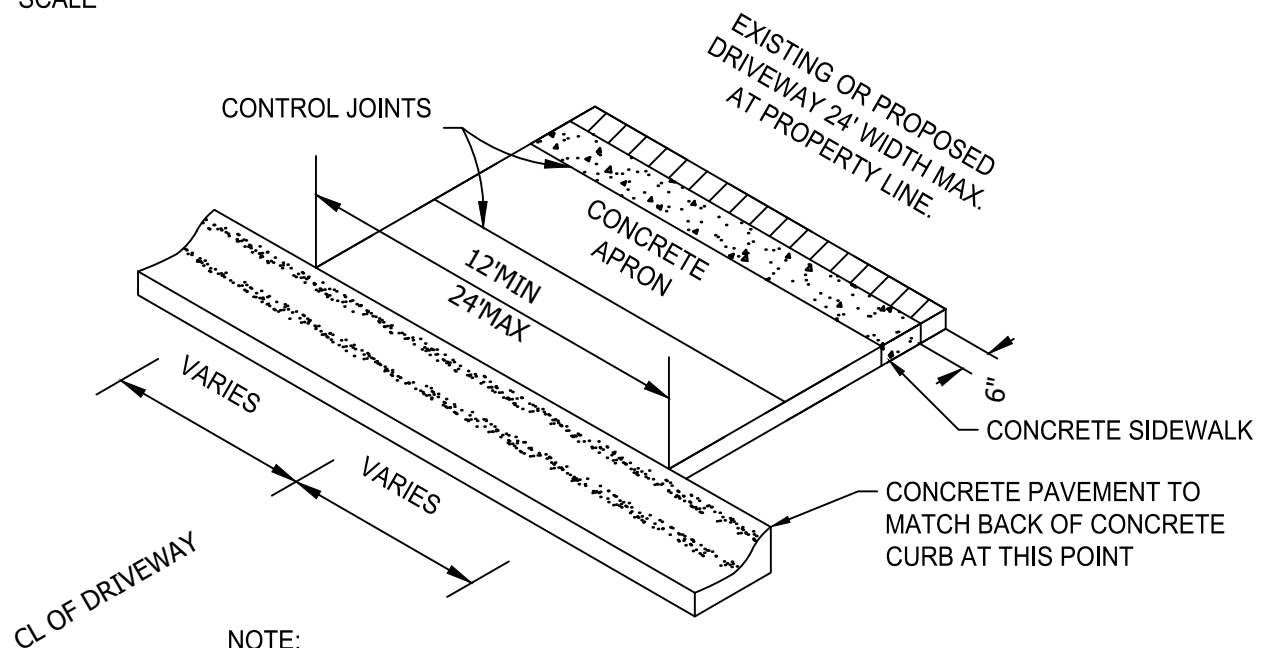
6" CONCRETE PAVEMENT (3F52)

6" CLASS 5 AGGREGATE BASE OR RECYCLED EQUAL, 80%
CRUSHED. INCIDENTAL TO CONCRETE APRON(MNDOT 3138)

VARIABLE

SECTION
NO
SCALE

SECTION
NO
SCALE



ISOMETRIC
NO
SCALE

1. CONTROL JOINTS IN CONCRETE CURB NOT TO EXCEED 10' SPACING THROUGH DRIVEWAY SECTION.
2. CONCRETE MUST BE CONSTRUCTED BETWEEN SIDEWALK AND DRIVEWAY APRON.
3. CONCRETE SIDEWALK THROUGH DRIVEWAY IS 6" THICK.
4. THE MAXIMUM DRIVEWAY WIDTH AT THE CURB IS 24'. MAXIMUM WIDTH OF DRIVEWAY AT THE PROPERTY LINE IS ALSO 24'.



2026 Standard Detail Plates

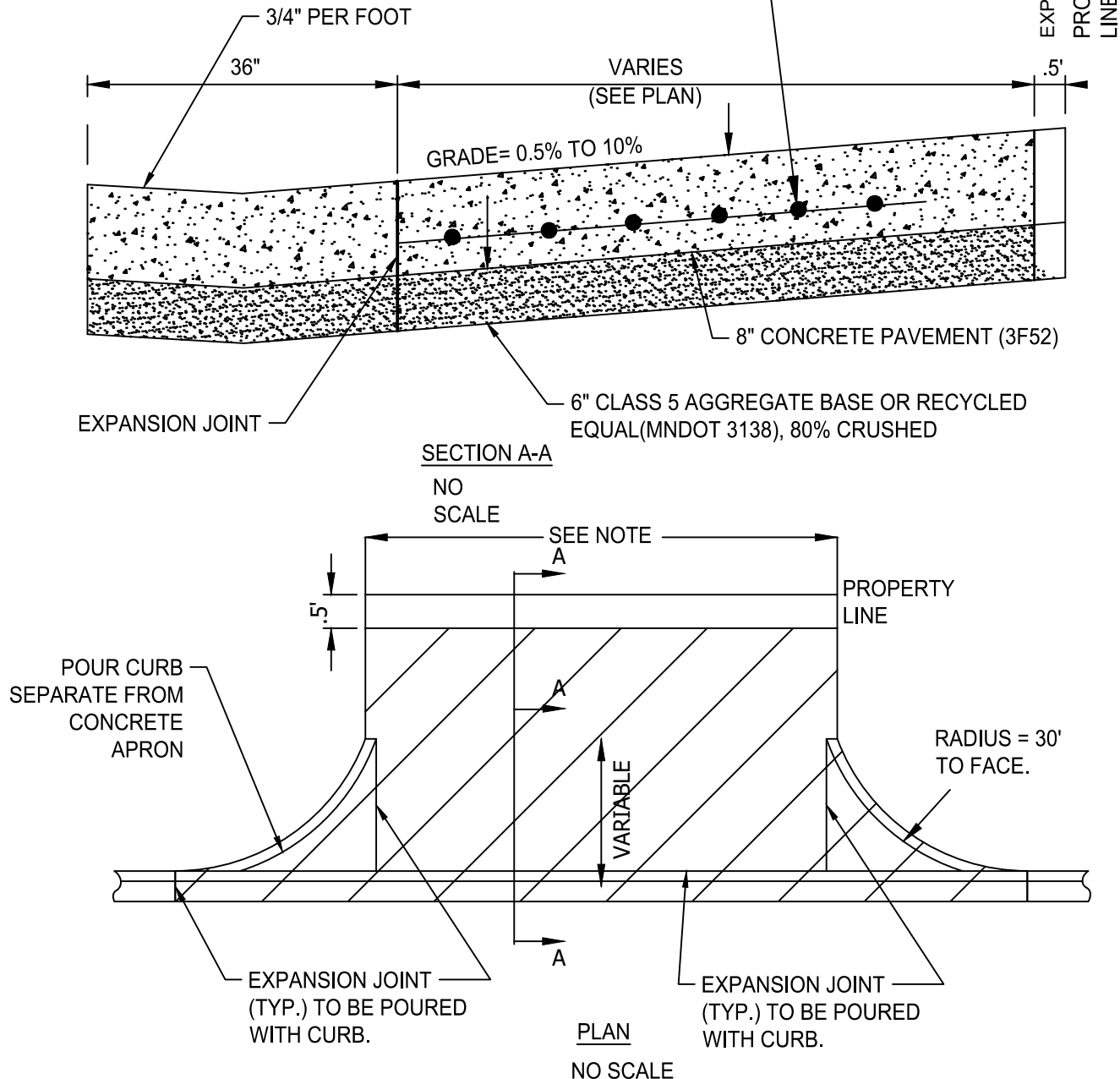
RESIDENTIAL DRIVEWAY APRON
WITH S.W. (MOUNTABLE CURB)

LAST REVISION:
06/28/2024



PLATE NO.
STR-12

#4 EPOXY COATED REBAR PLACED 10" ON CENTER IN BOTH DIRECTIONS THROUGHOUT SLAB. REBAR TO BE PLACED 3" CLEAR OF SLAB EDGES.



NOTE:
MAX COMMERCIAL DRIVEWAY WIDTH TO BE 32' AT END RAD.
ADDITIONAL EXPANSION JOINTS TO BE SAW CUT.



2026 Standard Detail Plates

COMMERICAL CONCRETE DRIVEWAY APRON

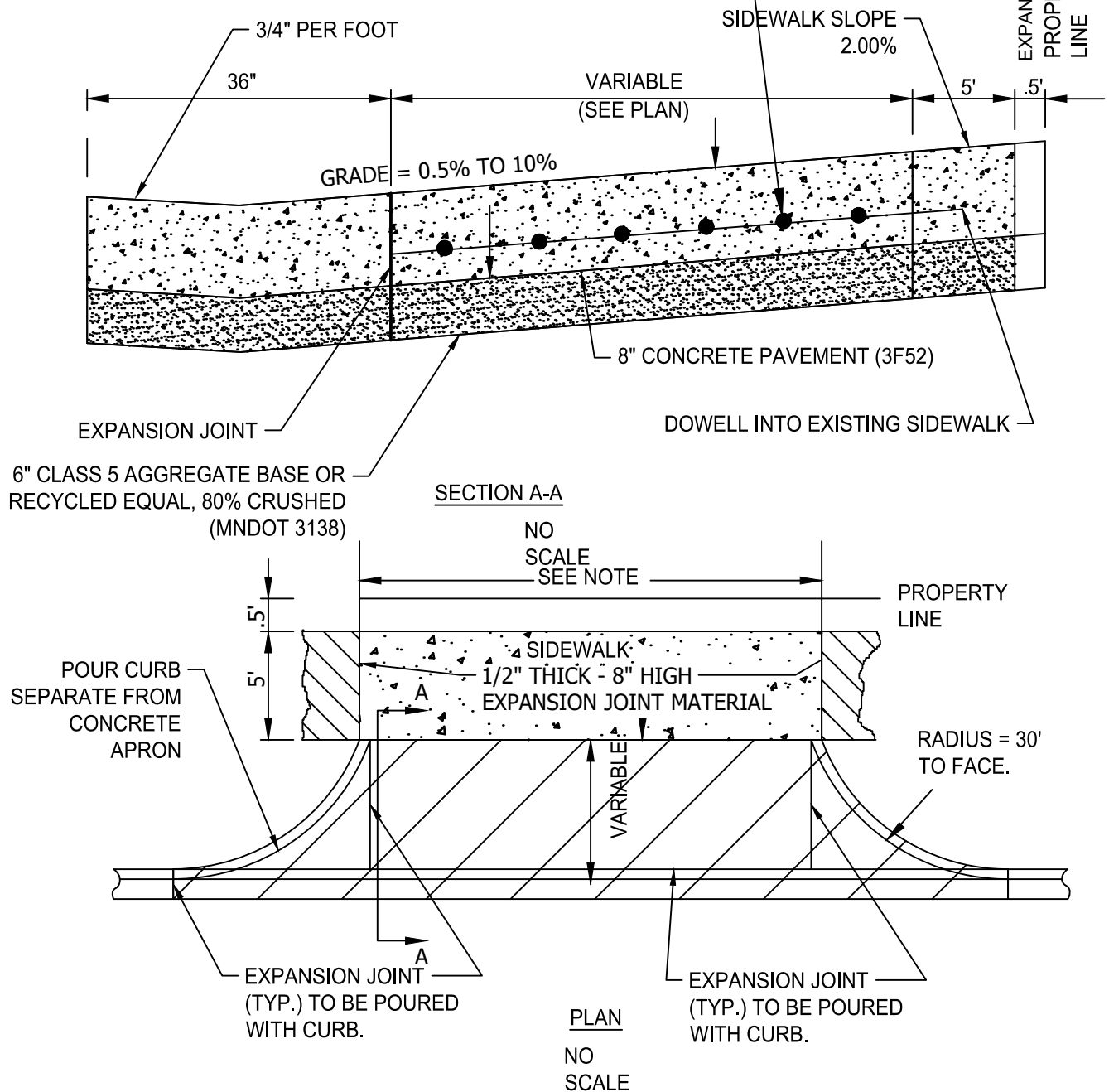
LAST REVISION:
06/28/2024



PLATE NO.

STR-13

#4 EPOXY COATED REBAR PLACED 10" ON CENTER IN BOTH DIRECTIONS THROUGHOUT SLAB. REBAR TO BE PLACED 3" CLEAR OF SLAB EDGES.



NOTE:
MAX COMMERCIAL DRIVEWAY WIDTH TO BE 32' AT END RAD.



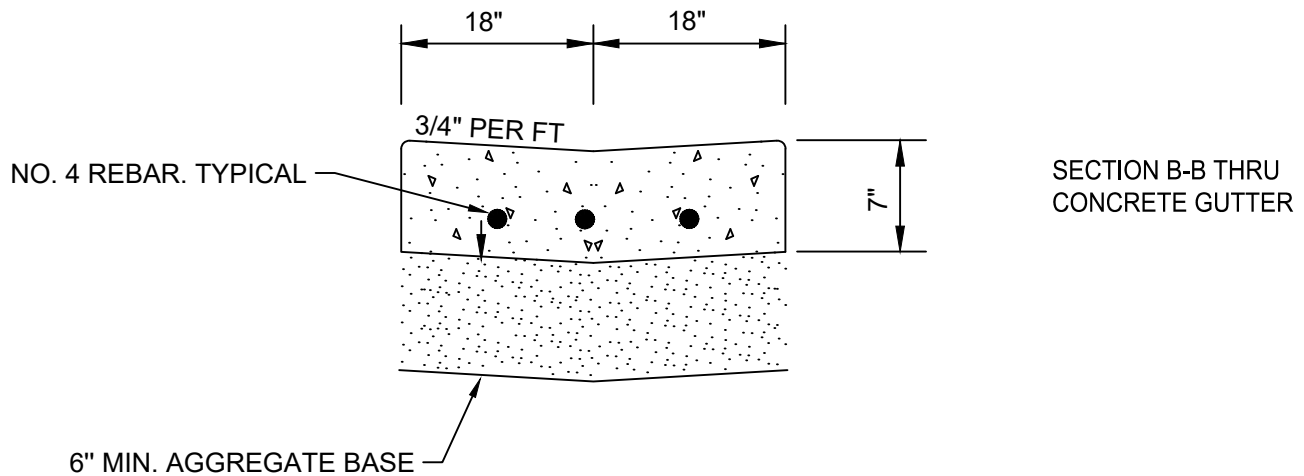
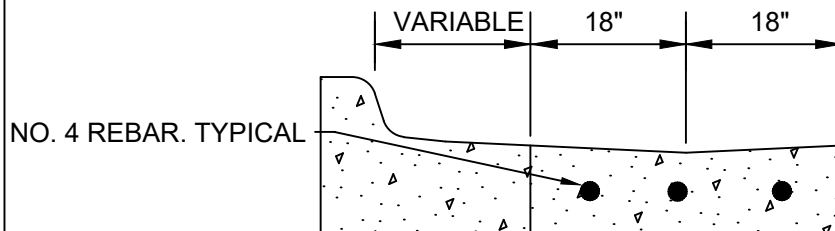
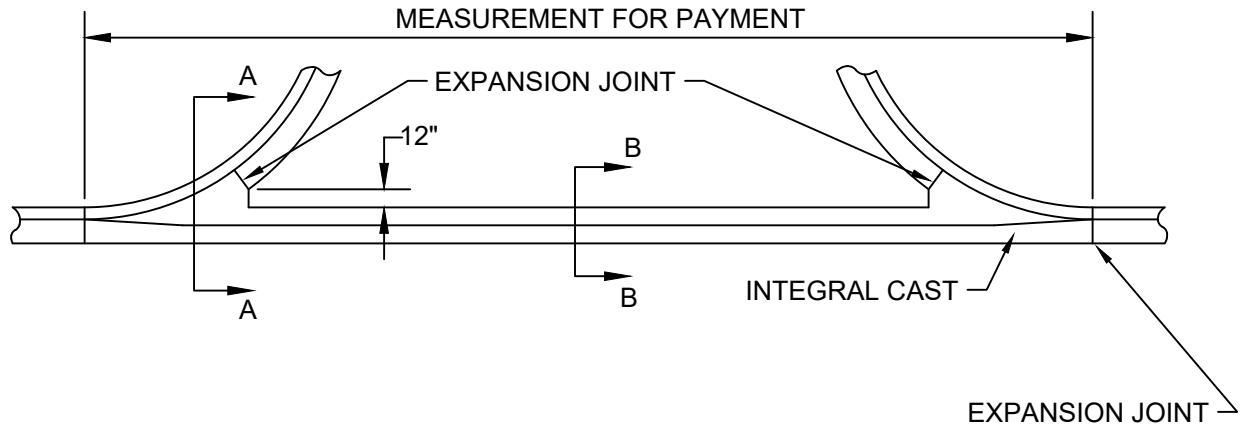
2026 Standard Detail Plates

COMMERCIAL CONCRETE DRIVEWAY APRON WITH S.W.

LAST REVISION:
02/06/2026



PLATE NO.
STR-14



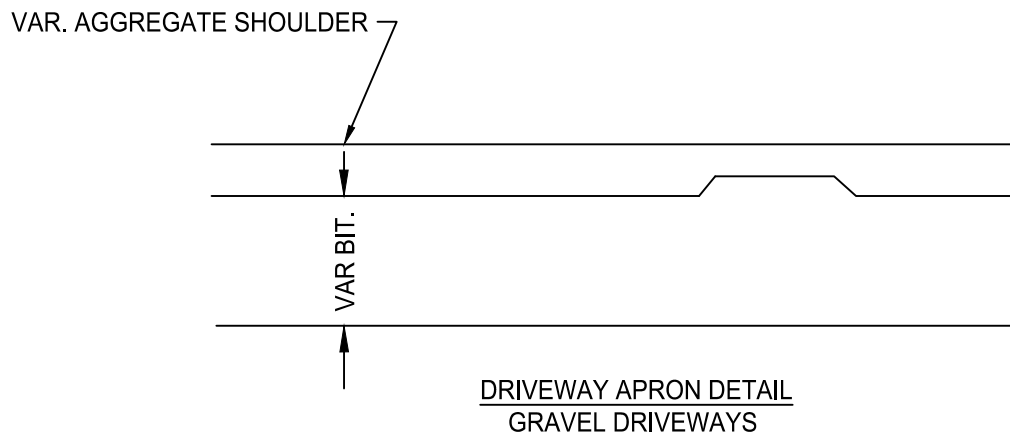
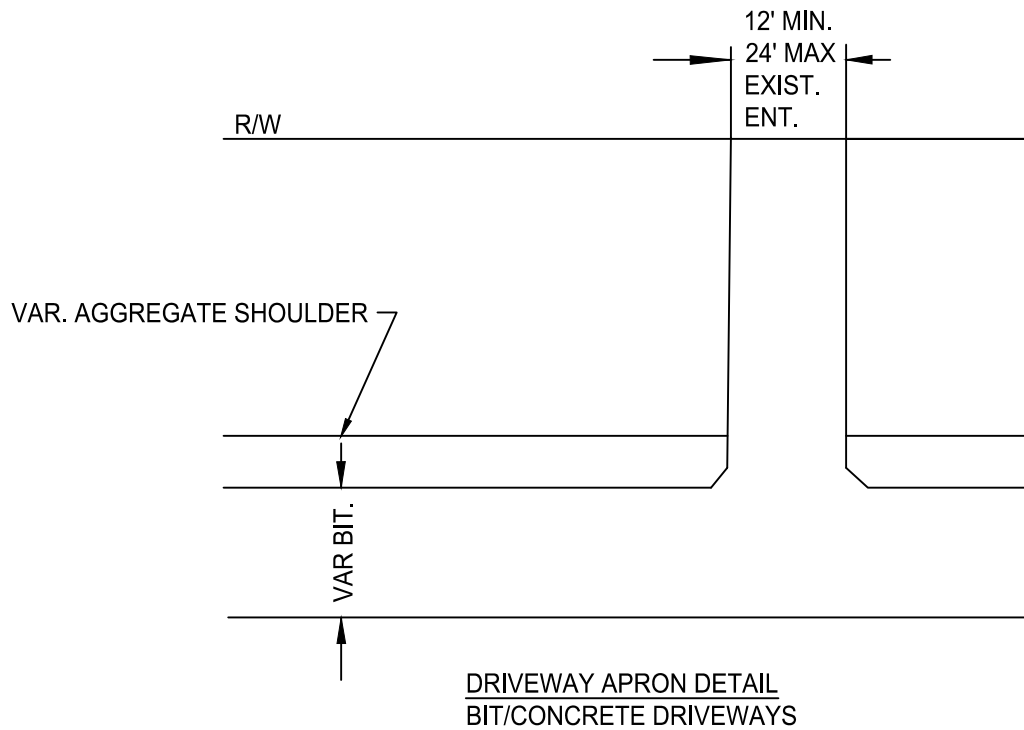
2026 Standard Detail Plates

CONCRETE VALLEY GUTTER

LAST REVISION:
06/28/2024



PLATE NO.
STR-15



NOTES:

1. FIELD ENTRANCES TO BE TREATED AS GRAVEL DRIVEWAYS
2. MINIMUM DRIVEWAY SLOPE = 0.50%
3. MAXIMUM DRIVEWAY SLOPE = 10.0%



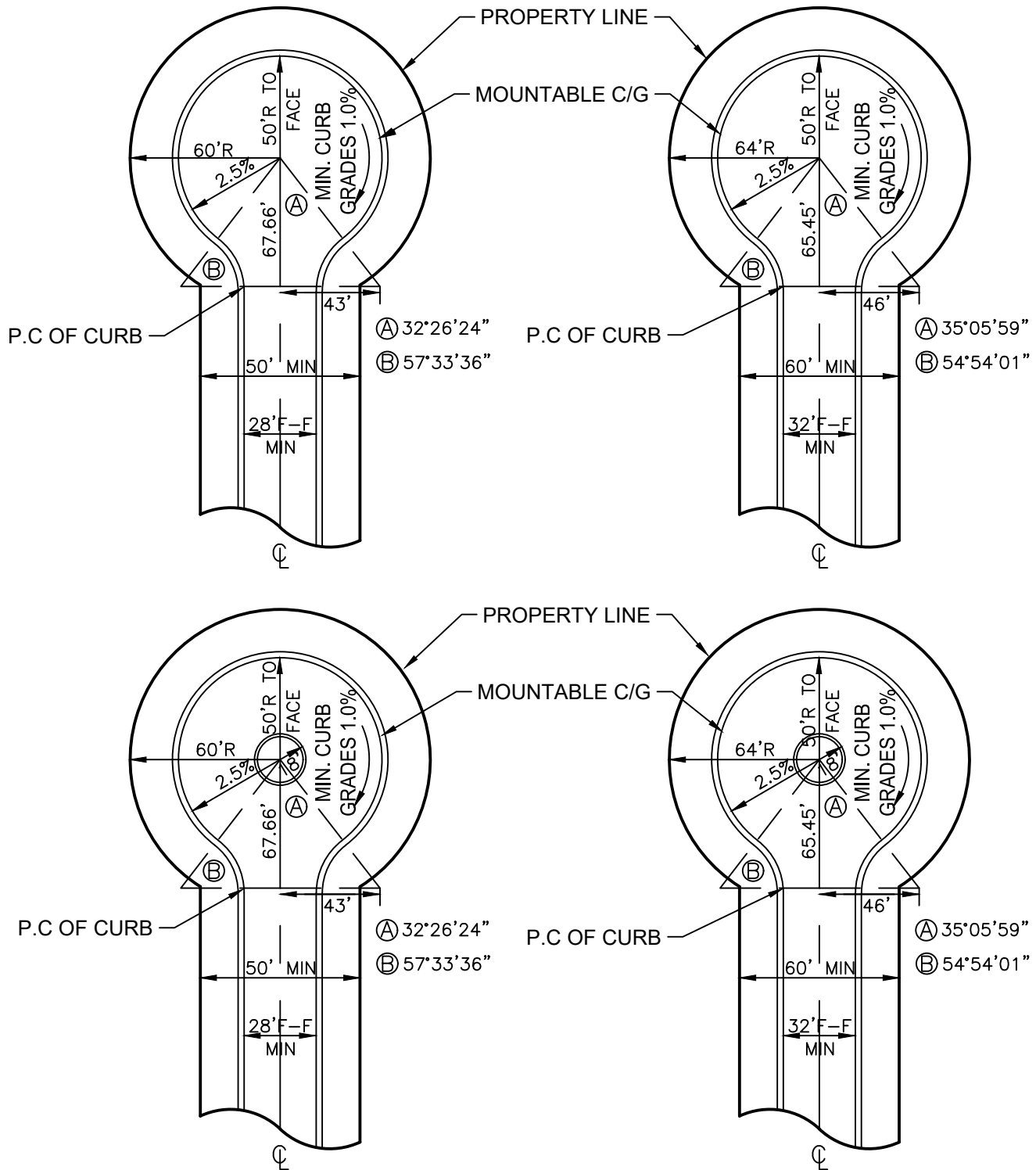
2026 Standard Detail Plates

RESIDENTIAL DRIVEWAY APRON RURAL ROAD SECTION

LAST REVISION:
06/28/2024



PLATE NO.
STR-16



NOTES:

1. ALL RADIUS MEASUREMENTS TAKEN FROM FACE OF CURB.
2. ALL CENTER ISLAND SURFACES MUST BE APPROVED BY CITY AND PRIVATELY MAINTAINED.



2026 Standard Detail Plates

TYPICAL CUL-DE-SACS

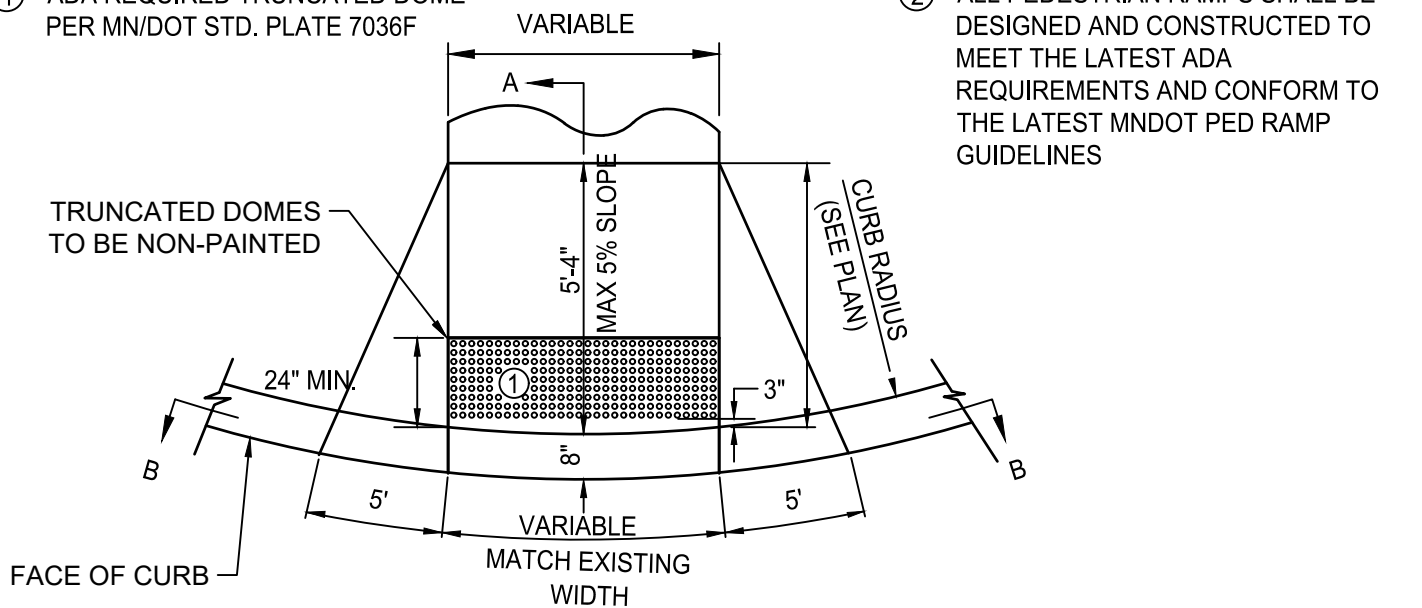
LAST REVISION:
06/28/2024



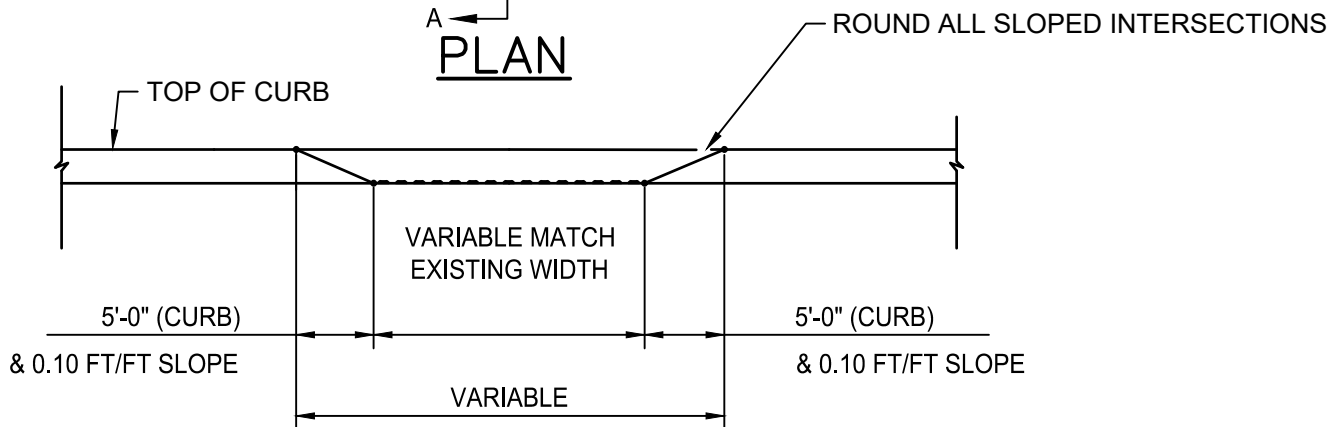
PLATE NO.
STR-17

① ADA REQUIRED TRUNCATED DOME
PER MN/DOT STD. PLATE 7036F

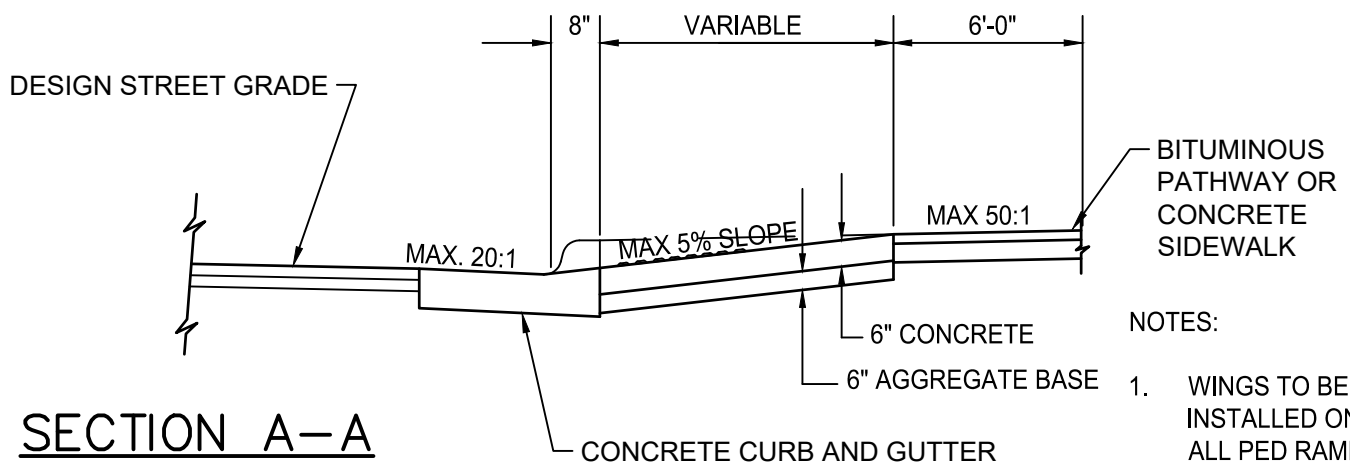
② ALL PEDESTRIAN RAMPS SHALL BE
DESIGNED AND CONSTRUCTED TO
MEET THE LATEST ADA
REQUIREMENTS AND CONFORM TO
THE LATEST MNDOT PED RAMP
GUIDELINES



PLAN



SECTION B-B



SECTION A-A

NOTES:

1. WINGS TO BE INSTALLED ON ALL PED RAMPS



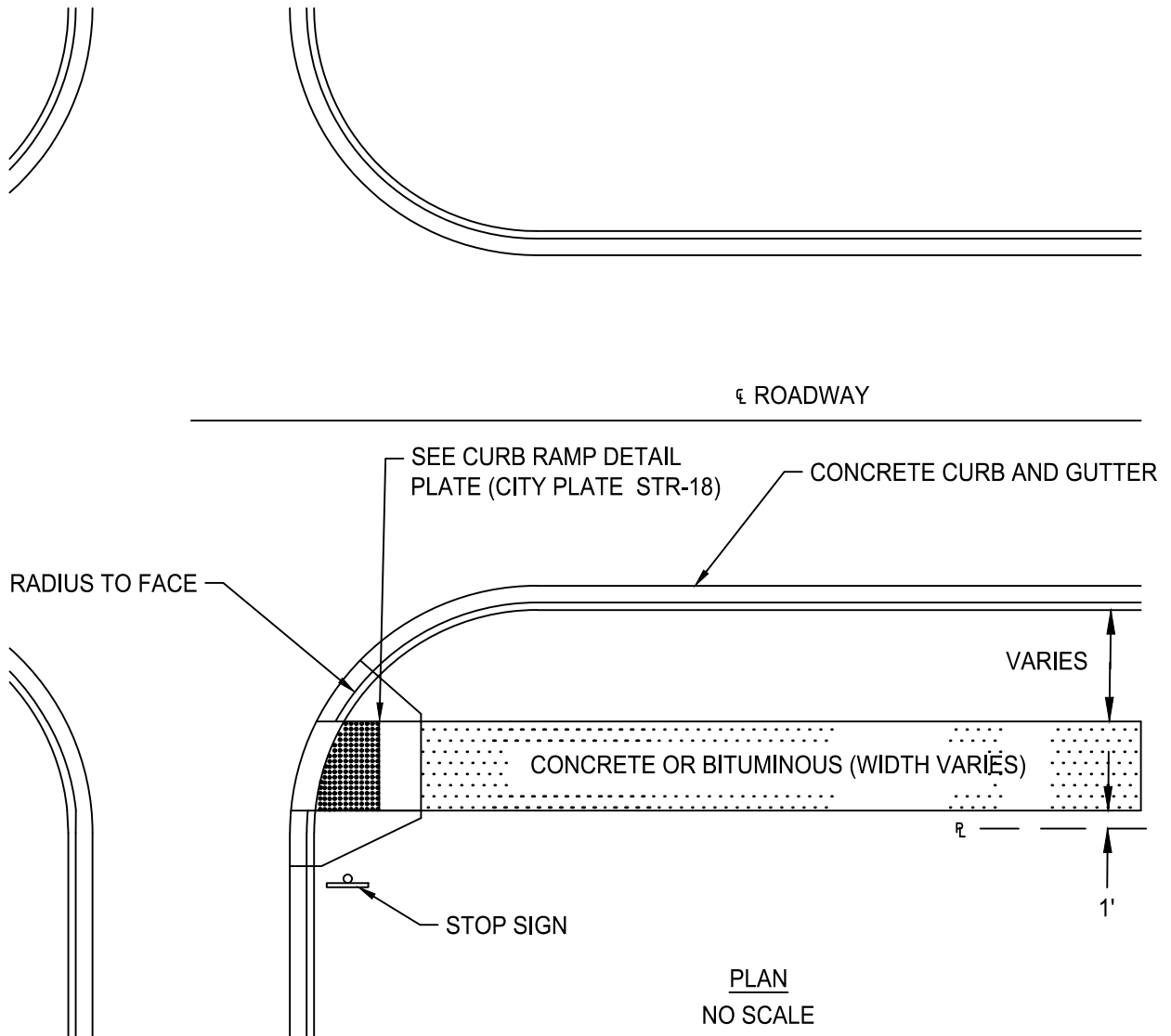
2026 Standard Detail Plates

SIDEWALK CURB RAMP

LAST REVISION:
06/28/2024



PLATE NO.
STR-18



NOTE: DIMENSIONS DEPEND ON TYPE OF PATHWAY OR SIDEWALK.



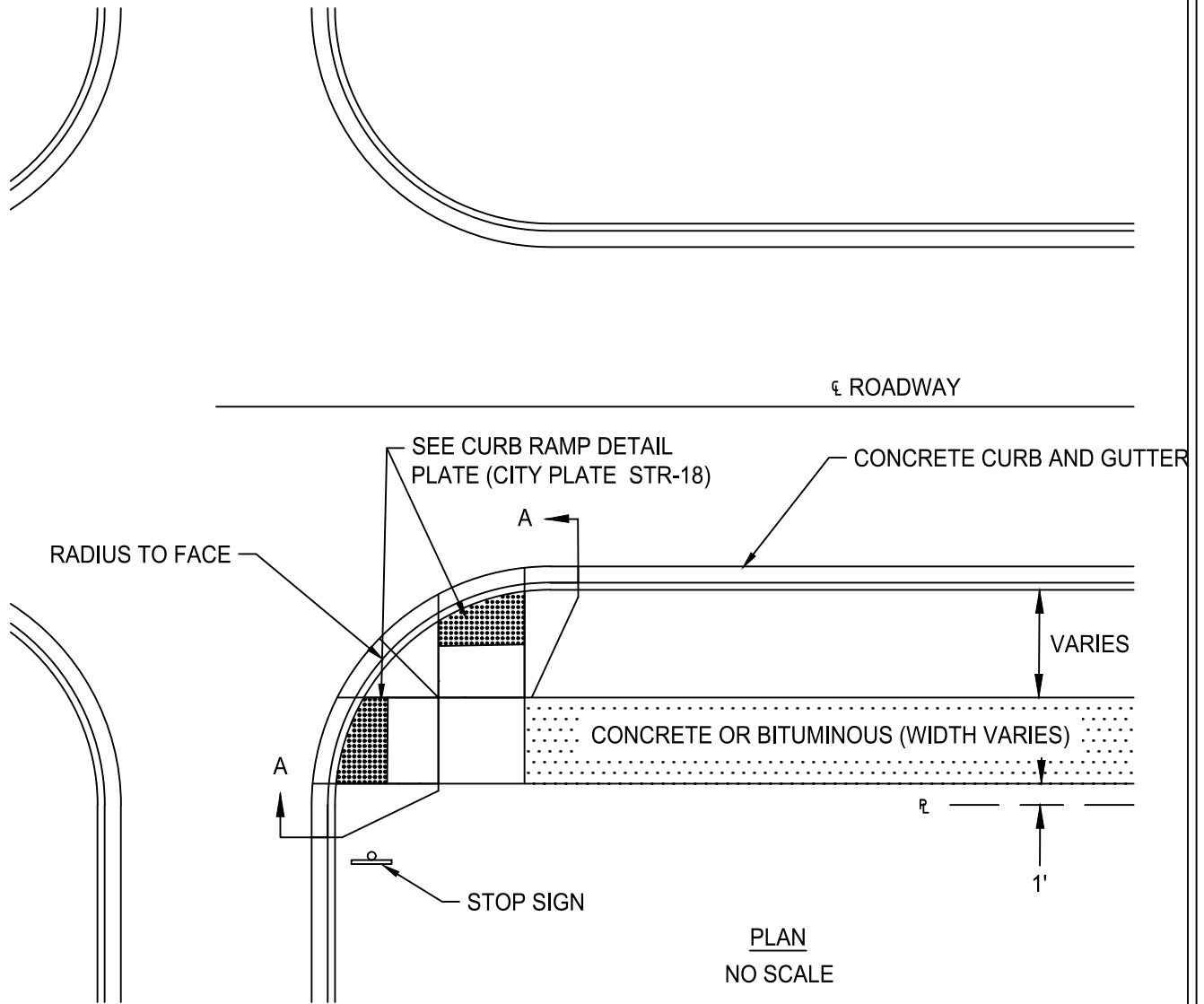
2026 Standard Detail Plates

SIDEWALK & BIKE PATH CURB RAMP GENERAL LOCATION

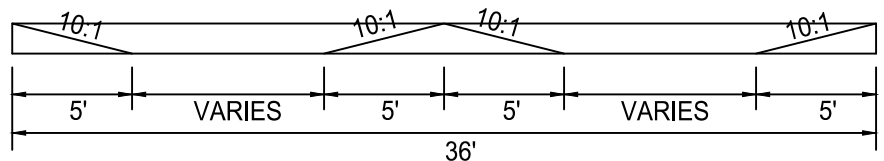
LAST REVISION:
06/28/2024



PLATE NO.
STR-19



CITY ENGINEER MAY DETERMINE THAT RADIAL DOMES ARE NECESSARY IF TRANSITION DISTANCE BETWEEN TWO LANDING AREAS IS NOT SUFFICIENT OR IF DETERMINED NECESSARY BY ENGINEER.



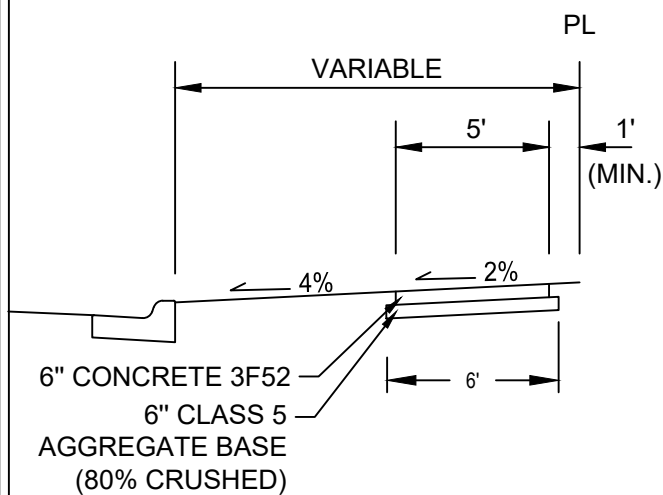
2026 Standard Detail Plates

DOUBLE SIDEWALK & BIKE PATH CURB RAMP

LAST REVISION:
06/28/2024

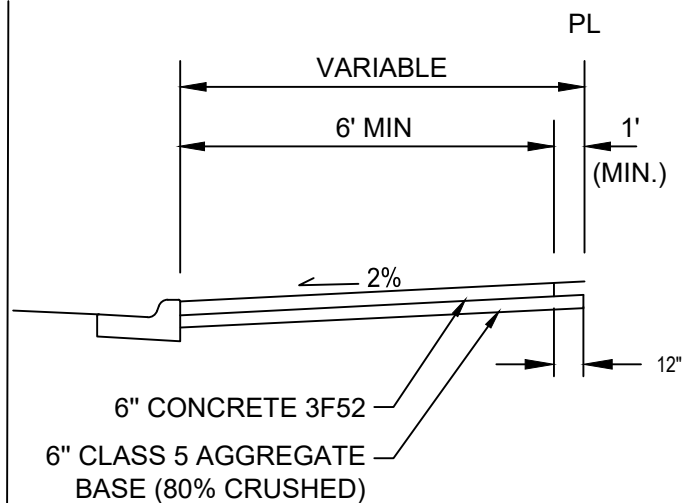


PLATE NO.
STR-20

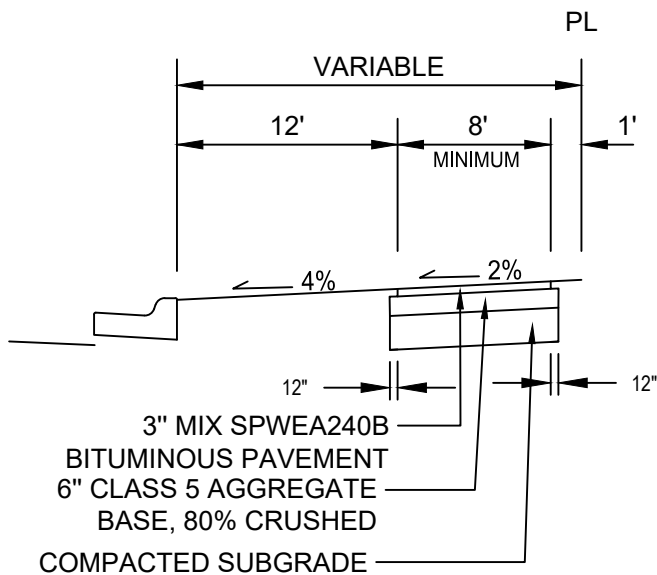


NOTE: WALK TO BE PRIVATELY MAINTAINED

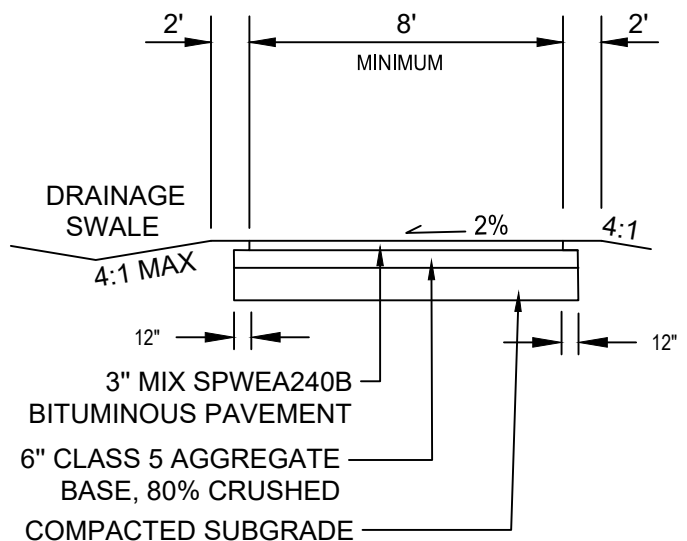
NEIGHBORHOOD SIDEWALK W/BOULEVARD



NEIGHBORHOOD SIDEWALK ADJACENT TO BACK OF CURB



COMMUNITY ROADWAY TRAIL URBAN SECTION



COMMUNITY GREENWAY TRAIL

*ROOT BARRIER SHALL BE INSTALLED WITH ALL TRAILS ADJACENT TO WETLANDS AND OTHERWISE AS DIRECTED BY THE CITY ENGINEER IN ACCORDANCE WITH STR-23

TRAIL WEARING COURSES MAY HAVE A MAXIMUM OF 10% RECYCLED ASPHALT PAVEMENT (RAP). NO RECYCLED ASPHALT SHINGLES (RAS) ALLOWED IN WEARING COURSES.



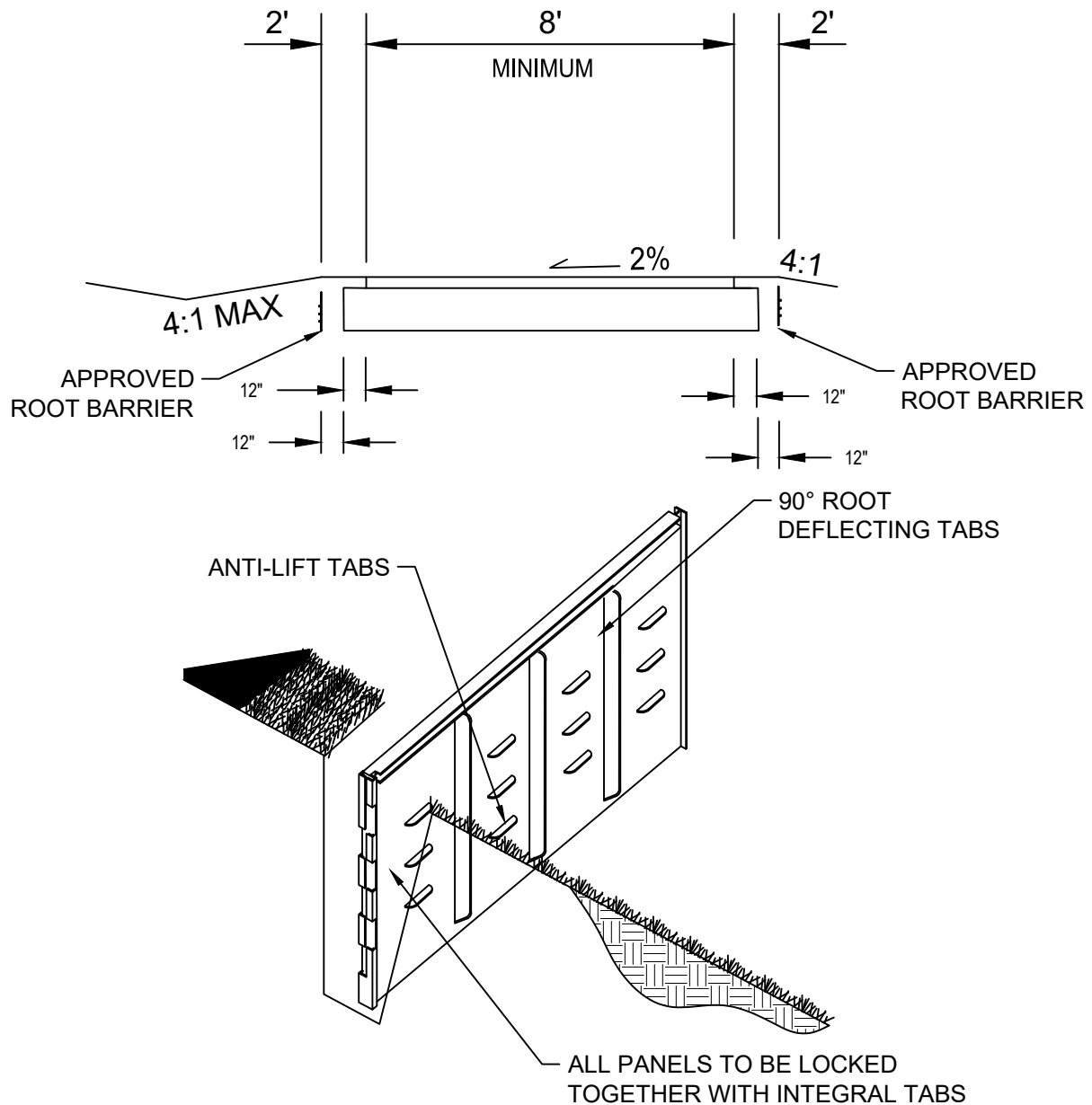
2026 Standard Detail Plates

CONCRETE WALKS AND BITUMINOUS TRAILS

LAST REVISION:
02/06/2026



PLATE NO.
STR-21



NOTES:

1. ROOT BARRIER USED SHALL BE 18" IN DEPTH, UNLESS OTHERWISE SPECIFIED IN CONTRACT. INSTALL ALONG TRAILS AS DIRECTED BY THE CITY ENGINEER.
2. ROOT BARRIERS SHALL BE PLACED SO THAT THE TOP EDGE SHALL BE LOCATED $\frac{1}{2}$ " BELOW FINISHED GRADE.
3. SIDE WITH TABS SHALL BE FACING VEGETATION.
4. INSTALL ROOT BARRIER 3' OFF EDGE OF TRAIL, TYP. PER MANUFACTURERS GUIDLINES AND CONTRACT DOCUMENTS.
5. WHEN INSTALLED ADJACENT TO EXISTING IMPROVED SURFACES, UTILIZE MEANS AND METHODS TO PROTECT THE EXISTING INFRASTRUCTURE FROM DAMAGE.
6. ROOT BARRIER SHALL BE MANUFACTURED BY DEEP ROOT PARTNERS OR APPROVED EQUAL.
7. TRAIL SHALL BE MAINTAINED A MINIMUM OF 10' FROM WETLAND BUFFER.
8. SUBGRADE SHALL BE TREATED WITH APPROVED HERBICIDE PRIOR TO GRAVEL PLACEMENT. CONTRACTOR SHALL CONTACT CITY 24HRS HEAD OF PLACEMENT FOR VERIFICATION.



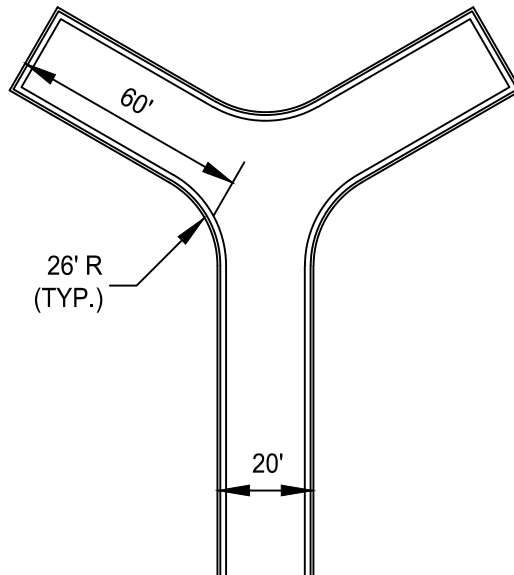
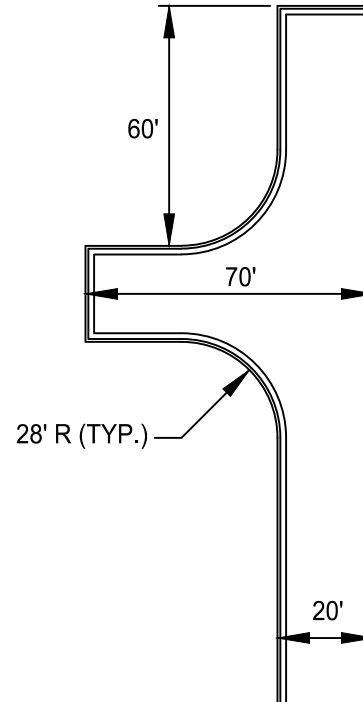
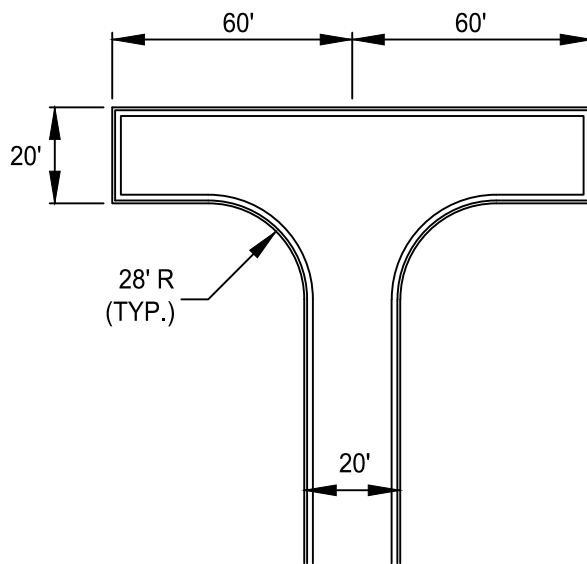
2026 Standard Detail Plates

BITUMINOUS TRAIL WITH ROOT BARRIER

LAST REVISION:
02/06/2026



PLATE NO.
STR-22



NOTES:

1. FIRE DEPARTMENT REQUIREMENTS FOR APPROVED ALTERNATE TURNAROUNDS ON FIRE DEPARTMENT ACCESS ROADS, AS REQUIRED BY MINNESOTA STATE FIRE CODE, 2015 EDITION
2. TURNAROUNDS MAY BE SUBSTITUTED FOR CUL-DE-SACS IN PRIVATE DEVELOPMENTS WITH THE CITY ENGINEER'S APPROVAL.
3. CUL-DE-SAC TO BE CONSTRUCTED WITH A 45' RADIUS (MINIMUM).



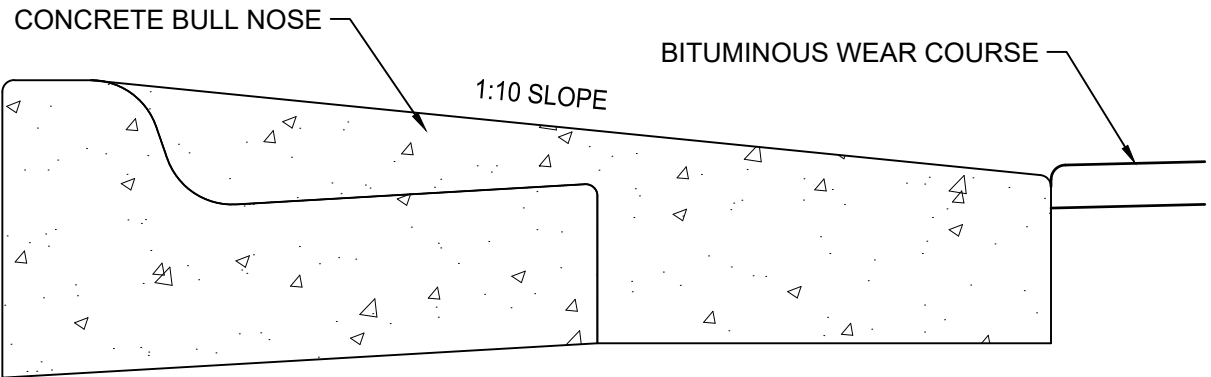
2026 Standard Detail Plates

PRIVATE DEVELOPMENT TURNAROUND

LAST REVISION:
06/28/2024



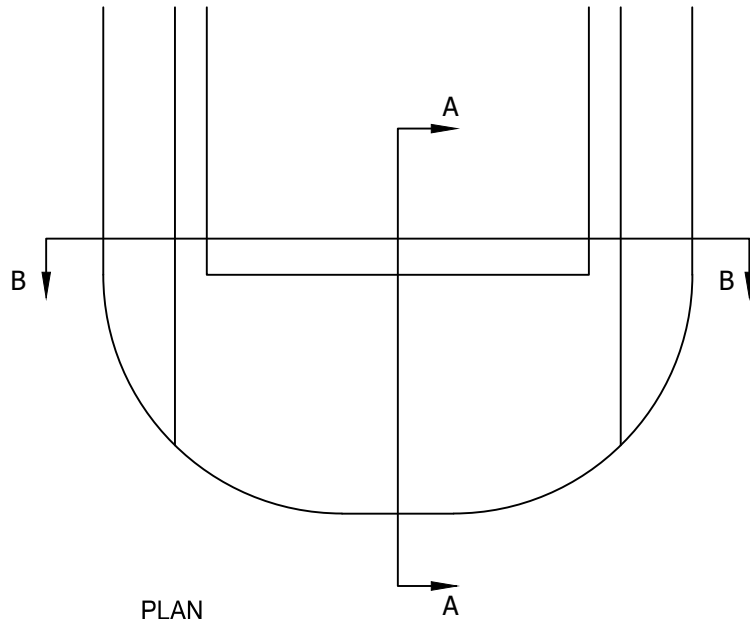
PLATE NO.
STR-23



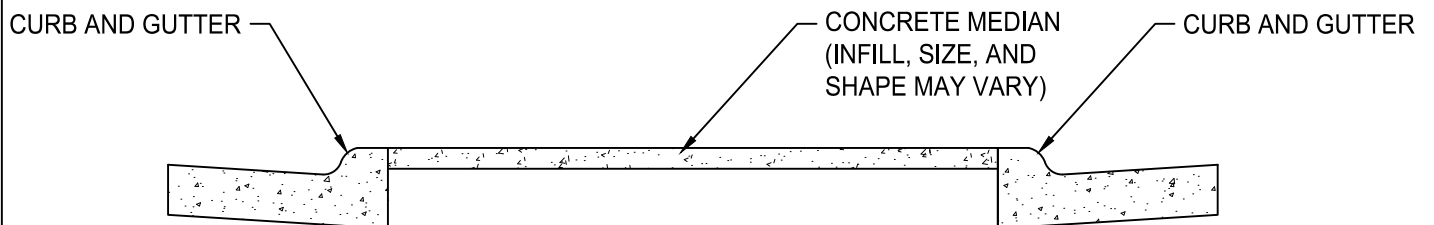
SECTION A-A

NOTES:

1. RADIUS WILL VARY BASED ON ISLAND SIZE.
2. BULL NOSE TO BE USED WHEN CENTER ISLANDS ARE PRESENT. COORDINATE WITH CITY ENGINEER.



PLAN



SECTION B-B



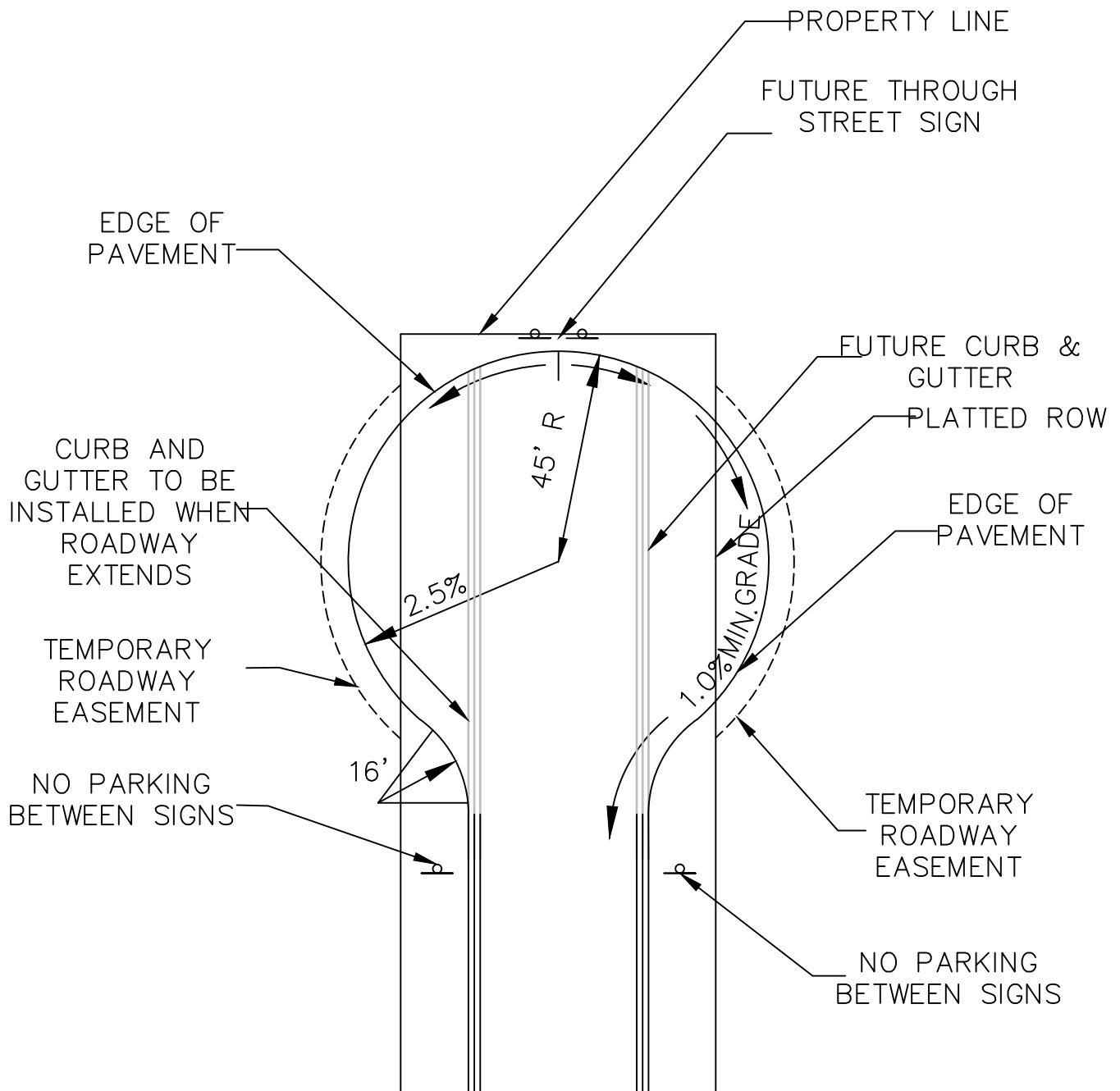
2026 Standard Detail Plates

CENTER ISLAND BULL NOSE

LAST REVISION:
02/11/2026



PLATE NO.
STR-24



NOTE:

1. ALL RADIUS MEASUREMENTS TAKEN FROM FACE OF CURB.
2. NO BUILDING PERMIT WILL BE ALLOWED UNTIL TEMPORARY TURNAROUND IS INSTALLED



2026 Standard Detail Plates

TEMPORARY CUL-DE-SAC

LAST REVISION:
06/28/2024



PLATE NO.
STR-25

Larch Ln

SINGLE-FACED STREET SIGN
PANELS WITH SPACING
INSTALL SIGNS ON SAME POST AS
STOP WHERE APPLICABLE

2" X 2" X 12 GAUGE SQUARE
TELESPAR GALVANIZED SIGN
POST (2.4 lbs/ft)

SURFACE MOUNTED ANCHOR
BASE $\frac{1}{2}$ " X 4" CONCRETE ANCHOR
BOLTS KLEEN BREAK MODEL 425
OR APPROVED EQUAL

FINISHED GRADE

24"x9" 500-01396
30"x9" 500-01573
36"x9" 500-01750
42"x9" 500-01923

6" CONCRETE WALK

6" C U/C & L/C HIGH INTENSITY
PRISMATIC WHITE COPY AND $\frac{3}{8}$ " BORDER
ON HIGH INTENSITY PRISMATIC GREEN
BACKGROUND

1-1/2" RADIUS CORNERS

2 EACH $\frac{3}{8}$ " HOLES ON 7" CENTERS

$\frac{3}{8}$ " HOLE EACH END IN 1" FROM EDGE
TO CENTER OF HOLE

SINGLE FACED

MAXIMUM LENGTH OF 42"

NO OUTLET ➔

6" C U/C & LC HIGH INTENSITY PRISMATIC
BLACK COPY ON HIGH INTENSITY
PRISMATIC YELLOW BACKGROUND

NO OUTLET SIGNS TO BE INSTALLED IN CUL-DE-SACS
OR PERMANENT ROADWAYS WITH NO CONNECTIONS
OR FUTURE EXTENSIONS IN THE DEVELOPMENTS.

NOTE:

1. INSTALLATION SHALL BE IN COMPLIANCE WITH THE LATEST VERSION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
2. FOR STREETS WITH SPEED LIMIT GREATER THAN 30 MPH, A 0.75' SIGN WITH 0.5' LETTERS IS REQUIRED.
3. LOCATION MUST BE APPROVED BY CITY ENGINEER BEFORE INSTALLATION.
4. SIGN SHALL BE CONSTRUCTED OF ALUMINUM PER MNDOT 3352.2A1.



2026 Standard Detail Plates

STREET SIGN DETAIL - CONCRETE

LAST REVISION:
02/26/2026



PLATE NO.
STR-26

Larch Ln

(2) - SINGLE-FACED STREET SIGN
PANELS WITH SPACERS
INSTALL SIGNS ON SAME POST AS
STOP SIGN WHERE APPLICABLE

2" X 2" X 12 GAUGE SQUARE TELES PAR
GALVANIZED SIGN POST (2.4 lbs/ft)

24"x9" 500-01396
30"x9" 500-01573
36"x9" 500-01750
42"x9" 500-01923

6" C U/C & L/C HIGH INTENSITY
PRISMATIC WHITE COPY AND $\frac{3}{8}$ " BORDER
ON HIGH INTENSITY PRISMATIC GREEN
BACKGROUND

1-1/2" RADIUS CORNERS

2 EACH $\frac{3}{8}$ " HOLES ON 7" CENTERS

$\frac{3}{8}$ " HOLE EACH END IN 1" FROM EDGE
TO CENTER OF HOLE

SINGLE FACED

MAXIMUM LENGTH OF 42"

1" TO 2"

2 $\frac{1}{2}$ " X 2 $\frac{1}{2}$ " X 18" X 12 GAUGE OMNI
DIRECTIONAL SLEEVE WITH 4
BLADES

6" TO 8"

FINISHED GRADE

2 $\frac{1}{4}$ " X 2 $\frac{1}{4}$ " X 12 GAUGE SQUARE
TELES PAR 4' LONG SIGN ANCHOR

6" C U/C & LC HIGH INTENSITY PRISMATIC
BLACK COPY ON HIGH INTENSITY
PRISMATIC YELLOW BACKGROUND

NO OUTLET →

NO OUTLET SIGNS TO BE INSTALLED IN
CUL-DE-SACS OR PERMANENT ROADWAYS
WITH NO CONNECTIONS OR FUTURE
EXTENSIONS IN THE DEVELOPMENTS.

NOTE:

1. INSTALLATION SHALL BE IN COMPLIANCE WITH THE LATEST VERSION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
2. FOR STREETS WITH SPEED LIMIT GREATER THAN 30 MPH, A 0.75' SIGN WITH 0.5' LETTERS IS REQUIRED.
3. LOCATION MUST BE APPROVED BY CITY ENGINEER BEFORE INSTALLATION.
4. SIGN SHALL BE CONSTRUCTED OF ALUMINUM PER MNDOT 3352.2A1.
5. AT INTERSECTIONS WITH COUNTY ROADS, STOP SIGN AND STREET SIGNS SHOULD BE ON SEPARATE POSTS.



2026 Standard Detail Plates

STREET SIGN DETAIL - BOULEVARD

LAST REVISION:
02/26/2026



PLATE NO.

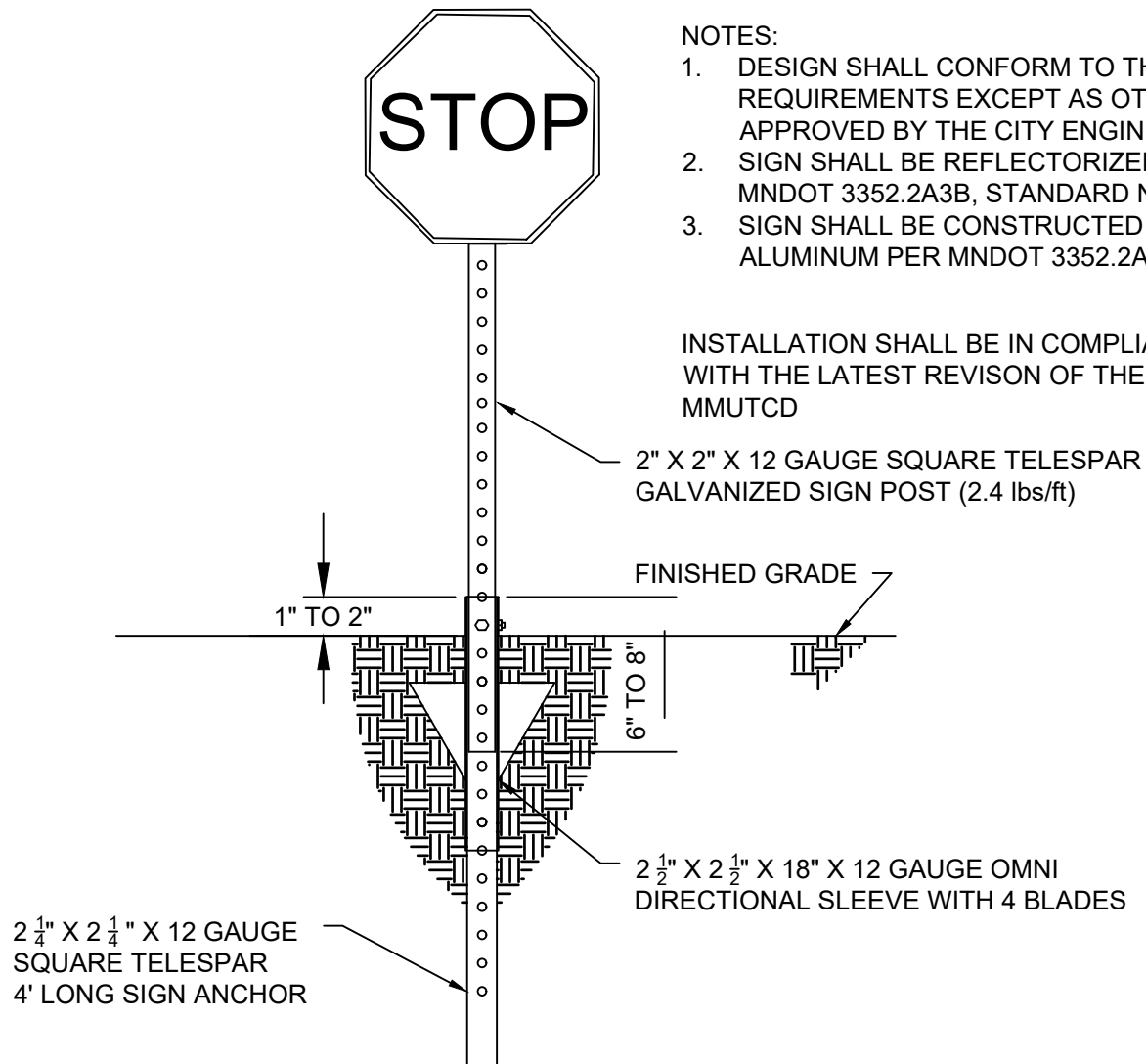
STR-27

SIGN NAME	DESIGNATION	SIZE
STOP	R1-1	30"X30"
YIELD	R1-2	36"X36"X36"
SPEED LIMIT	R2-1	24"X30"

NOTES:

1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.
2. SIGN SHALL BE REFLECTORIZED AS PER MNDOT 3352.2A3B, STANDARD NO. 2
3. SIGN SHALL BE CONSTRUCTED OF ALUMINUM PER MNDOT 3352.2A1

INSTALLATION SHALL BE IN COMPLIANCE WITH THE LATEST REVISION OF THE MMUTCD



NOTE:

1. INSTALLATION SHALL BE IN COMPLIANCE WITH THE LATEST VERSION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
2. FOR STREETS WITH SPEED LIMIT GREATER THAN 30 MPH, A 0.75' SIGN WITH 0.5' LETTERS IS REQUIRED.
3. LOCATION MUST BE APPROVED BY CITY ENGINEER BEFORE INSTALLATION.
4. SIGN SHALL BE CONSTRUCTED OF ALUMINUM PER MNDOT 3352.2A1.
5. WHEN INSTALLED IN CONCRETE USE SURFACE MOUNTED ANCHOR BASE 1/2"x4" CONCRETE ANCHOR BOLTS KLEEN BREAK MODEL 425 OR APPROVED EQUAL. (SEE DETAIL GEN-3)



2026 Standard Detail Plates

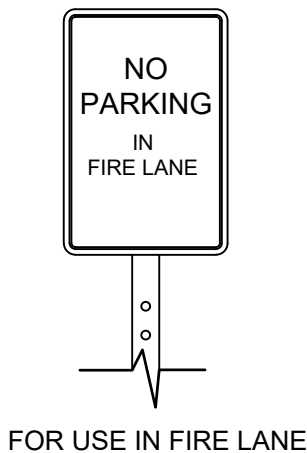
REGULATORY SIGN

LAST REVISION:
06/28/2024



PLATE NO.

STR-28



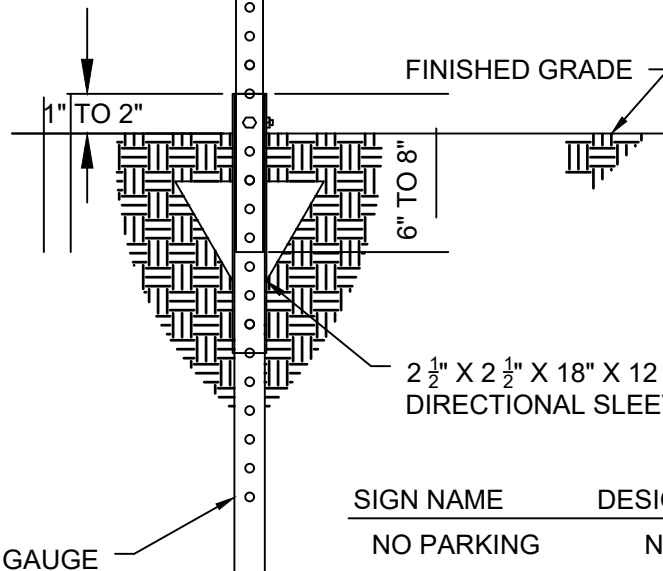
2 1/4" X 2 1/4" X 12 GAUGE
SQUARE TELES PAR
4' LONG SIGN ANCHOR



NOTES:

1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.
2. SIGN SHALL BE REFLECTORIZED AS PER MNDOT 3352.2A3B, STANDARD NO. 2
3. SIGN SHALL BE CONSTRUCTED OF ALUMINUM PER MNDOT 3352.2A1

2" X 2" X 12 GAUGE SQUARE TELES PAR
GALVANIZED SIGN POST (2.4 lbs/ft)



SIGN NAME	DESIGNATION	SIZE
NO PARKING	N/A	12"X18"

NOTE:

1. INSTALLATION SHALL BE IN COMPLIANCE WITH THE LATEST VERSION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
2. FOR STREETS WITH SPEED LIMIT GREATER THAN 30 MPH, A 0.75' SIGN WITH 0.5' LETTERS IS REQUIRED.
3. NO PARKING SIGNS TO BE INSTALLED PER APPROVED SIGNAGE PLAN.
4. SIGN SHALL BE CONSTRUCTED OF ALUMINUM PER MNDOT 3352.2A1.
5. WHEN INSTALLED IN CONCRETE USE SURFACE MOUNTED ANCHOR BASE 1/2"x4" CONCRETE ANCHOR BOLTS KLEEN BREAK MODEL 425 OR APPROVED EQUAL. (SEE DETAIL STR-26)
6. ALL NO PARKING SIGNS TO BE INSTALLED BACK-TO-BACK.



2026 Standard Detail Plates

NO PARKING SIGNS

LAST REVISION:
02/06/2026



PLATE NO.
STR-29

2" X 2" X 12 GAUGE SQUARE TELES PAR
GALVANIZED SIGN POST (2.4 lbs/ft)

NOTES:

1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.
2. SIGN SHALL BE REFLECTORIZED AS PER MNDOT 3352.2A3B, STANDARD NO. 2
3. SIGN SHALL BE CONSTRUCTED OF ALUMINUM PER MNDOT 3352.2A1

2 1/4" X 2 1/4" X 12 GAUGE
SQUARE TELES PAR
4' LONG SIGN ANCHOR

FINISHED GRADE

2 1/2" X 2 1/2" X 18" X 12 GAUGE OMNI
DIRECTIONAL SLEEVE WITH 4 BLADES

NOTE:

1. INSTALLATION SHALL BE IN COMPLIANCE WITH THE LATEST VERSION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
2. WHEN INSTALLED IN CONCRETE USE SURFACE MOUNTED ANCHOR BASE 1/2"x4" CONCRETE ANCHOR BOLTS KLEEN BREAK MODEL 425 OR APPROVED EQUAL. (SEE DETAIL STR-26)
3. SHALL BE INSTALLED AT ALL DEVELOPMENT ACCESS POINTS.



2026 Standard Detail Plates

DEVELOPMENT ENTRANCE POST

LAST REVISION:
02/06/2026



PLATE NO.
STR-30

2" X 2" X 12 GAUGE SQUARE TELES PAR
GALVANIZED SIGN POST (2.4 lbs/ft)

NOTES:

1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.
2. SIGN SHALL BE REFLECTORIZED AS PER MNDOT 3352.2A3B, STANDARD NO. 2
3. SIGN SHALL BE CONSTRUCTED OF ALUMINUM PER MNDOT 3352.2A1

2 1/4" X 2 1/4" X 12 GAUGE
SQUARE TELES PAR
4' LONG SIGN ANCHOR

FINISHED GRADE

2 1/2" X 2 1/2" X 18" X 12 GAUGE OMNI
DIRECTIONAL SLEEVE WITH 4 BLADES

NOTE:

1. INSTALLATION SHALL BE IN COMPLIANCE WITH THE LATEST VERSION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
2. WHEN INSTALLED IN CONCRETE USE SURFACE MOUNTED ANCHOR BASE 1/2"x4" CONCRETE ANCHOR BOLTS KLEEN BREAK MODEL 425 OR APPROVED EQUAL. (SEE DETAIL STR-26)
3. SHALL BE INSTALLED AT ALL DEVELOPMENT ACCESS POINTS.



2026 Standard Detail Plates

PRIVATE DRIVE SIGN - RESIDENTIAL

LAST REVISION:
02/06/2026



PLATE NO.
STR-31

PRIVATE DRIVE

6" C U/C & L/C HIGH INTENSITY
PRISMATIC WHITE COPY AND $\frac{3}{8}$ " BORDER
ON HIGH INTENSITY PRISMATIC BLUE
BACKGROUND

1-1/2" RADIUS CORNERS

2 EACH $\frac{3}{8}$ " HOLES ON 7" CENTERS

$\frac{3}{8}$ " HOLE EACH END IN 1" FROM EDGE
TO CENTER OF HOLE

SINGLE FACED

MAXIMUM LENGTH OF 42"

(2) - SINGLE-FACED
STREET SIGN PANELS
WITH SPACERS

OR
RANGE
WHEN >10

10001 →
10012
MAIN ST

10001
10002
10003
MAIN ST

2" X 2" X 12 GAUGE SQUARE TELES PAR
GALVANIZED SIGN POST (2.4 lbs/ft)

FINISHED GRADE

1" TO 2"

6" TO 8"

2 $\frac{1}{4}$ " X 2 $\frac{1}{4}$ " X 12 GAUGE SQUARE TELES PAR
4' LONG SIGN ANCHOR

24"x9" 500-01396
30"x9" 500-01573
36"x9" 500-01750
42"x9" 500-01923

OPTIONAL: 2 $\frac{1}{2}$ " X 2 $\frac{1}{2}$ " X 18" X 12
GAUGE OMNI
DIRECTIONAL SLEEVE WITH 4
BLADES

NOTE:

1. INSTALLATION SHALL BE IN COMPLIANCE WITH THE LATEST VERSION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
2. FOR STREETS WITH SPEED LIMIT GREATER THAN 30 MPH, A 0.75' SIGN WITH 0.5' LETTERS IS REQUIRED.
3. SIGNS SHALL BE CONSTRUCTED OF ALUMINUM PER MNDOT 3352.2A1.



2026 Standard Detail Plates

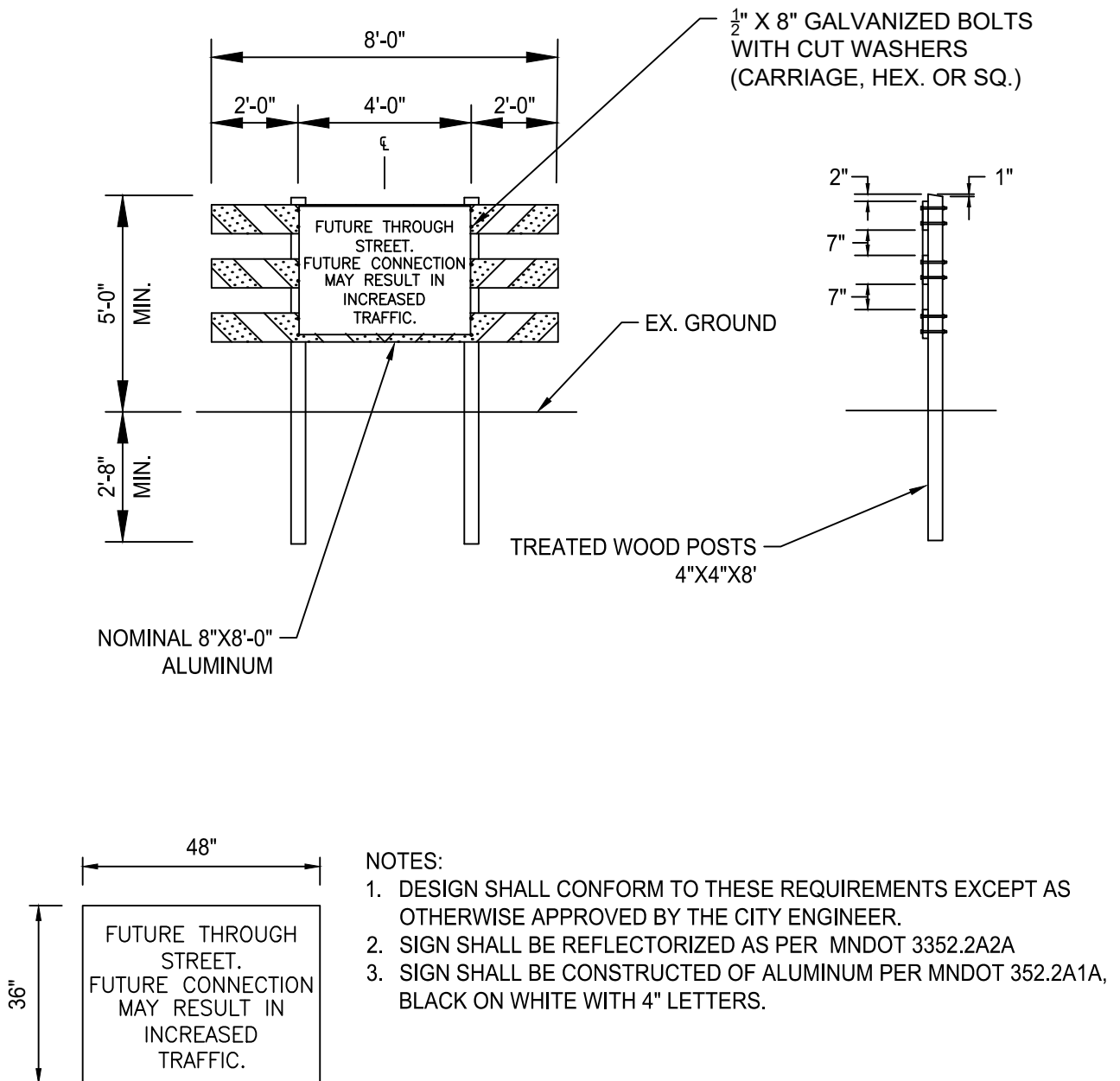
PRIVATE DRIVE SIGN - RURAL

LAST REVISION:
06/28/2024



PLATE NO.
STR-32

NOTE: BARRICADE AS PER CORCORAN
STANDARD DETAIL PLATE GEN-6



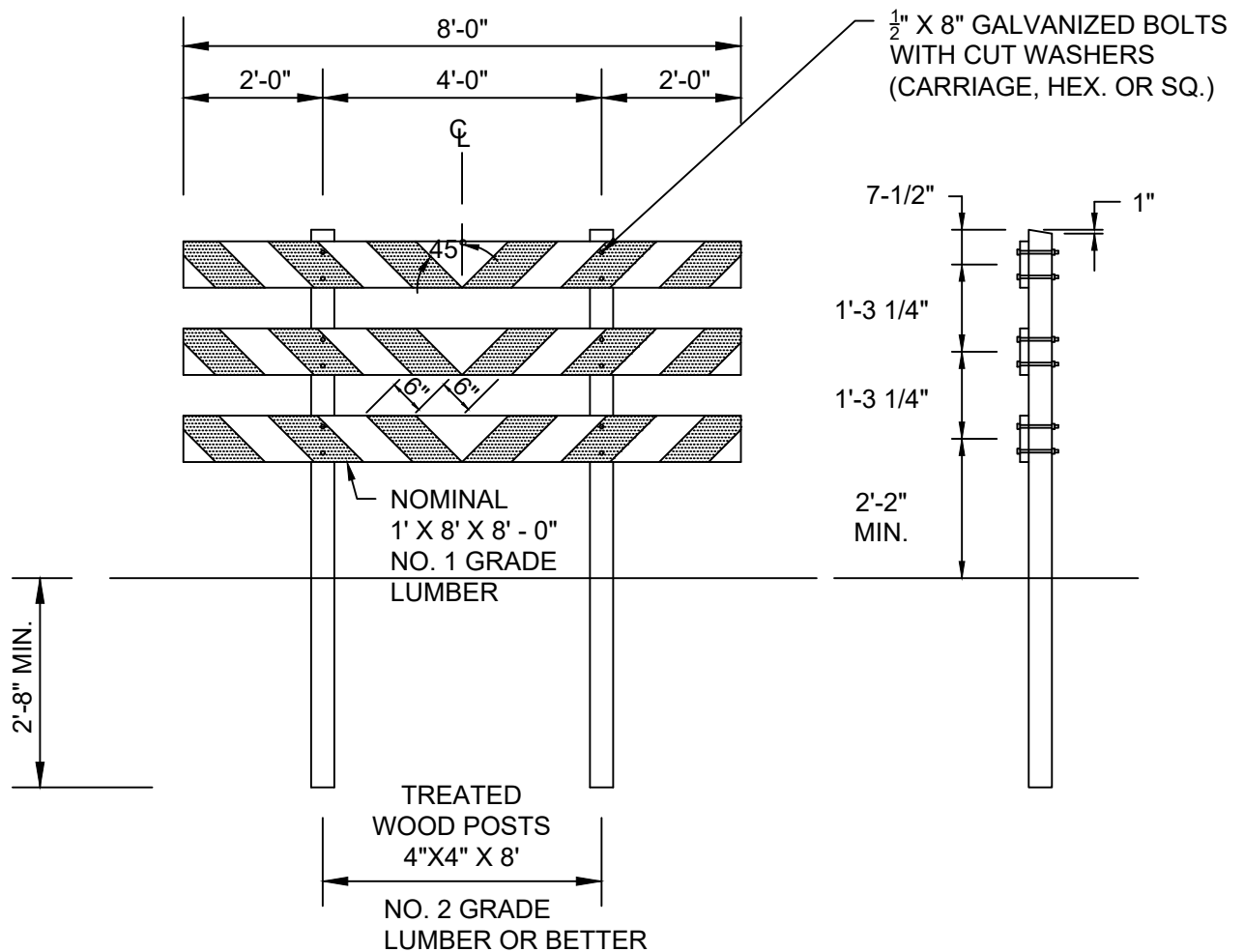
2026 Standard Detail Plates

FUTURE THROUGH STREET SIGN

LAST REVISION:
06/28/2024



PLATE NO.
STR-33



NOTE

THE BARRICADE BOARD FACE SURFACES SHALL BE FULLY REFLECTORIZED IN ALTERNATE SILVER-WHITE AND RED STRIPING, USING A REFLECTIVE SHEETING CONFORMING TO THE REQUIREMENTS OF SPEC. 3352.2A2B, STANDARD NO. 2.

PRIOR TO INSTALLING THE REFLECTIVE SHEETING, THE BARRICADE BOARDS SHALL BE GIVEN A COMPLETE COATING OF WHITE WOOD PRIMER PAINT FOLLOWED BY A SECOND COAT OF WHITE EXTERIOR APPLIED ONLY TO THE SURFACES NOT COVERED WITH REFLECTIVE SHEETING.

THE BARRICADE BOARDS SHALL BE COMPLETELY PAINTED AND REFLECTORIZED SHEETING APPLIED BEFORE BEING INSTALLED ON THE POSTS.

THE PLACEMENT OF THE BARRICADE SHALL BE 10'-0" FROM THE END OF THE BITUMINOUS ROAD WITH THE BARRICADE CENTERED ON THE ROADWAY FACING THE FLOW OF TRAFFIC.



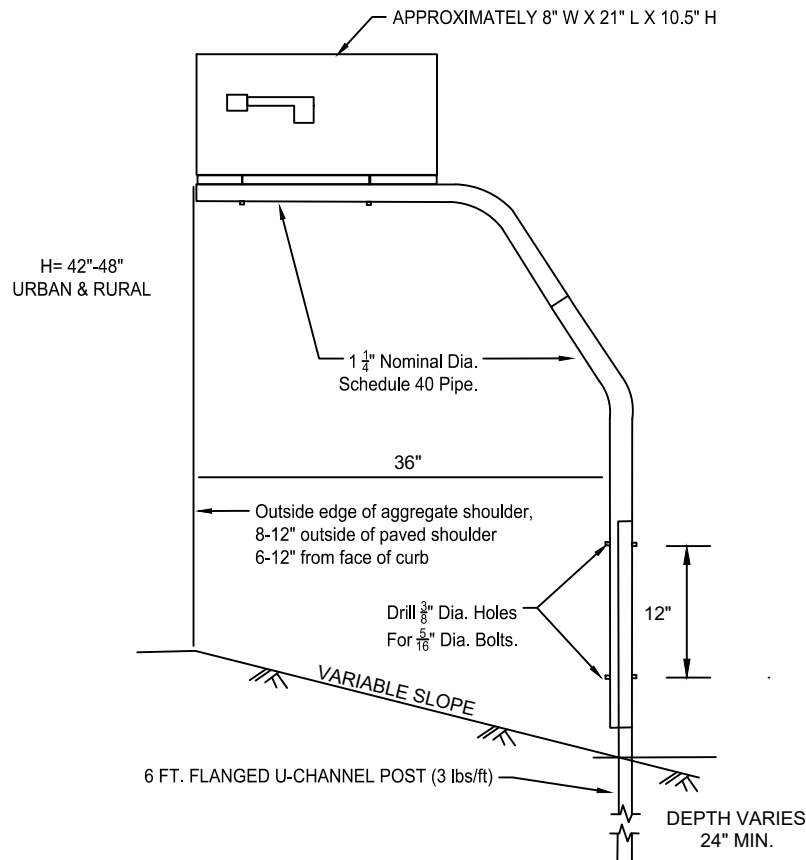
2026 Standard Detail Plates

PERMANENT BARRICADE

LAST REVISION:
06/28/2024



PLATE NO.
STR-34



NOTES:

1. ALL MAILBOXES SHALL BE SWING AWAY STYLE MAILBOXES UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
2. SWING-AWAY MAILBOXES SHALL BE SWINGSAFE SWING-AWAY MAILBOX SUPPORT OR APPROVED EQUAL.
3. ALL MAILBOXES SHALL BE COMPLAINT WITH FEDERAL REGULATIONS.
4. ALL MAILBOXES IN CUL-DE-SACS SHALL BE GROUPED ON EITHER THE RIGHT OR LEFT SIDE JUST PRIOR TO THE CULDESAC.



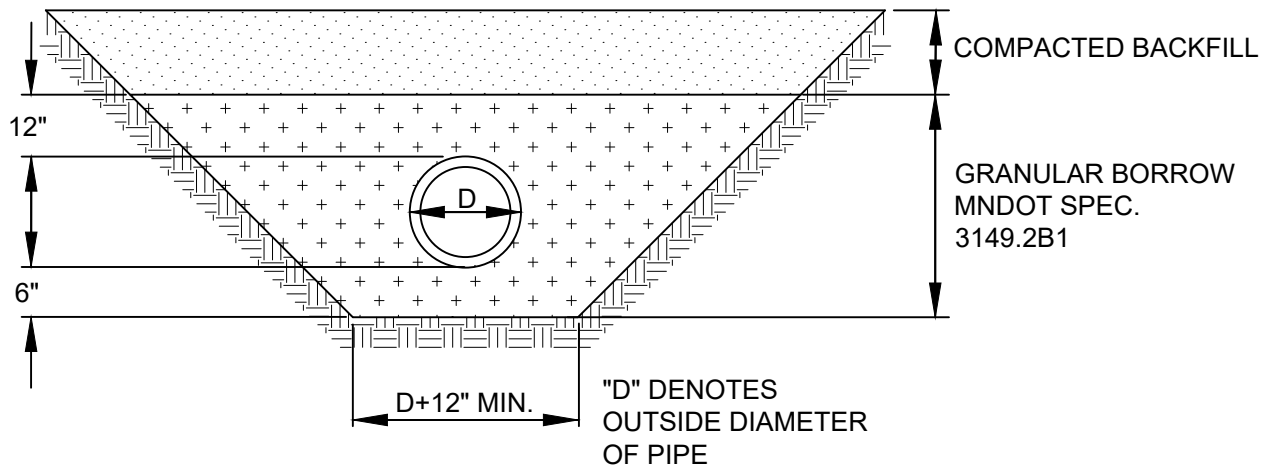
2026 Standard Detail Plates

MAILBOX

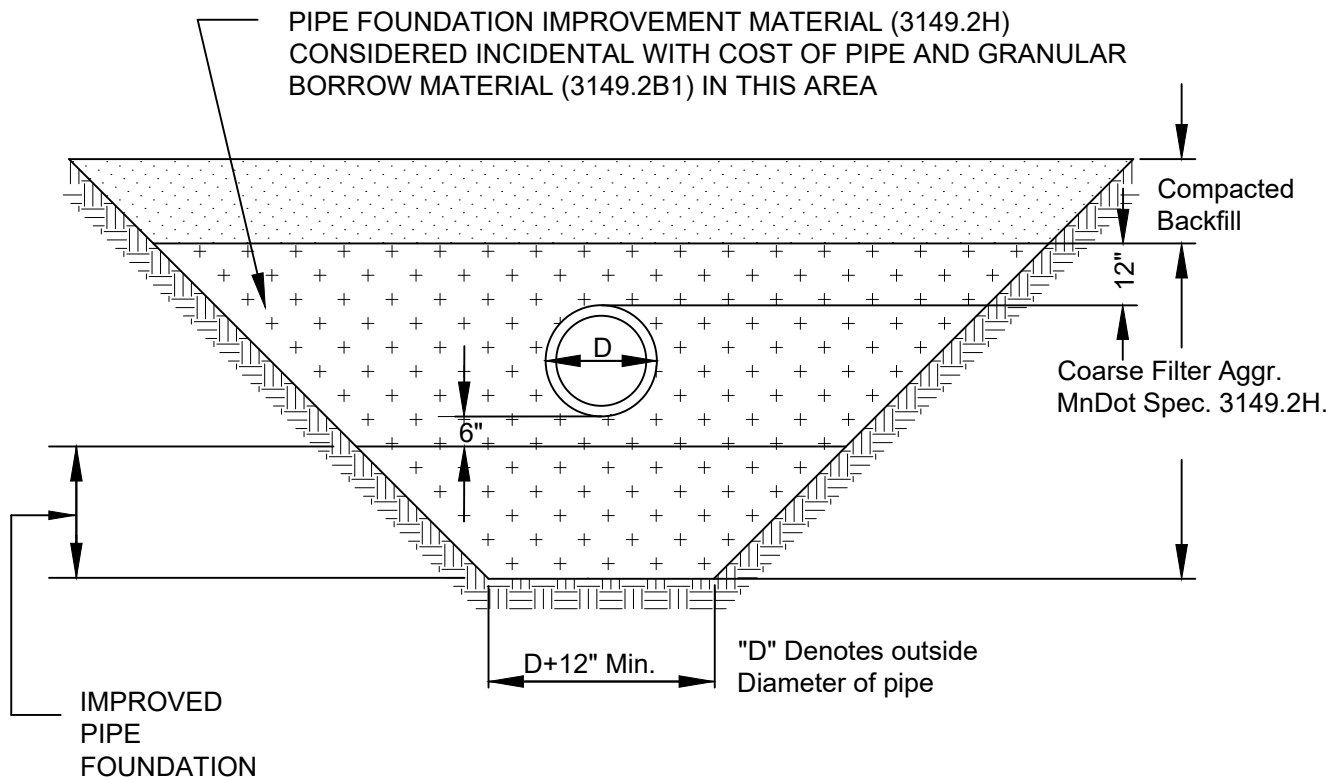
LAST REVISION:
01/02/2025



PLATE NO.
STR-35



PIPE FOUNDATION & BEDDING IN GOOD SOILS



PIPE FOUNDATION & BEDDING IN POOR SOILS

NOTE:

1. ALL SDR-35 PVC SHALL BE USED TO A DEPTH NOT TO EXCEED 16'. SDR-26 PVC SHALL BE USED FOR DEPTHS GREATER THAN 16'. C-900 PVC SHALL BE USED FOR DEPTHS GREATER THAN 25'.



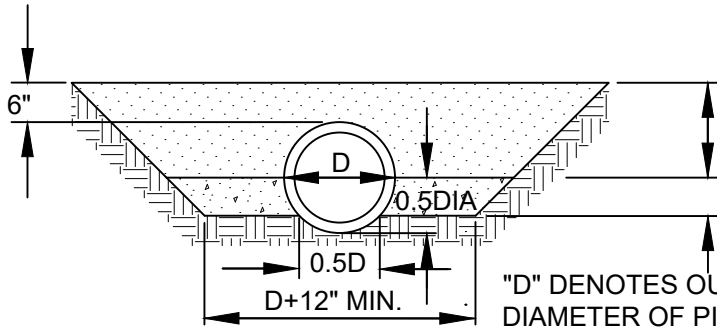
2026 Standard Detail Plates

BEDDING METHODS FOR PVC

LAST REVISION:
01/02/2025



PLATE NO.
BED-1



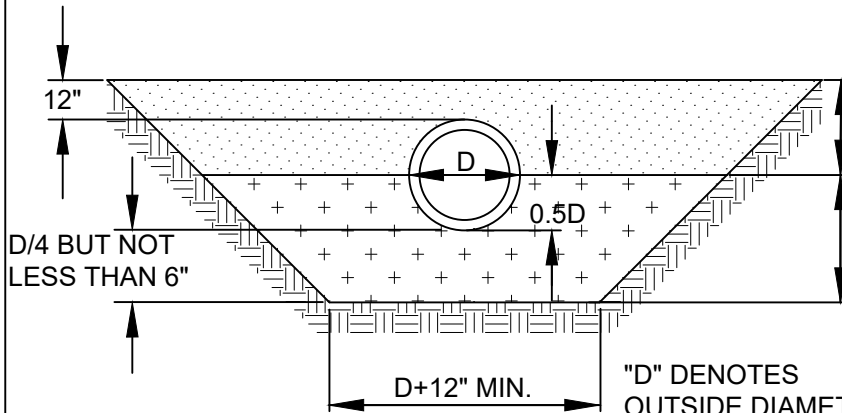
COMPACTED BACKFILL

2000# CONCRETE

LOAD FACTOR 2.3

CLASS A

CONCRETE BACKFILL TO 0.5 OF
OUTSIDE DIAMETER WITH SHAPED
BEDDING.



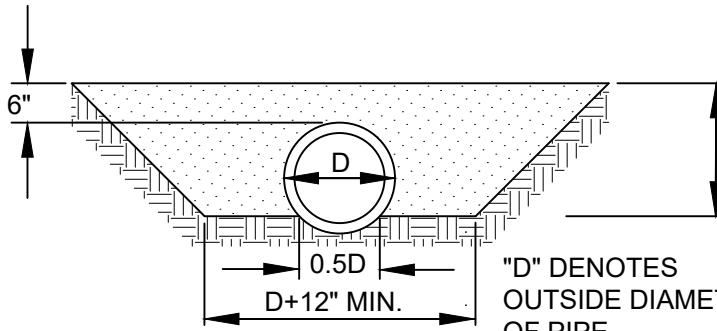
COMPACTED
BACKFILL

COARSE FILTER AGGREGATE
MNDOT SPEC. 3149.2H

LOAD FACTOR 1.9

CLASS B

HAND SHAPED FROM
ANGULAR BEDDING MATERIAL

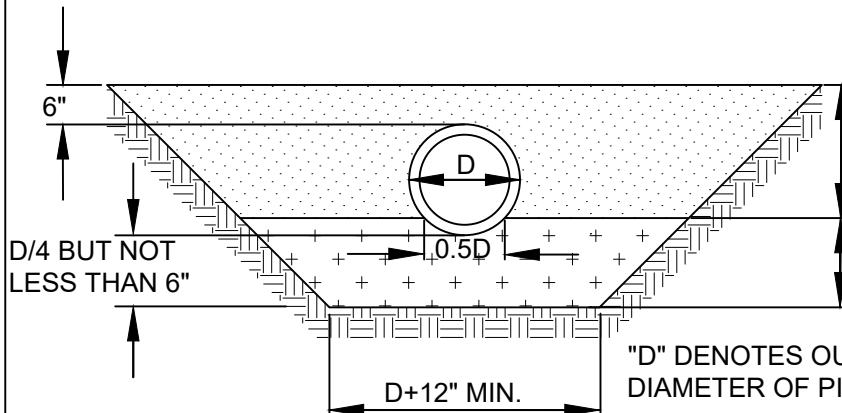


COMPACTED
BACKFILL

LOAD FACTOR 1.5

CLASS C-1

HAND SHAPED FROM
FIRM UNDISTURBED SOIL



COMPACTED
BACKFILL

COARSE FILTER AGGREGATE
MNDOT SPEC. 3149.2H

LOAD FACTOR 1.5

CLASS C-2

HAND SHAPED FROM
ANGULAR BEDDING
MATERIAL



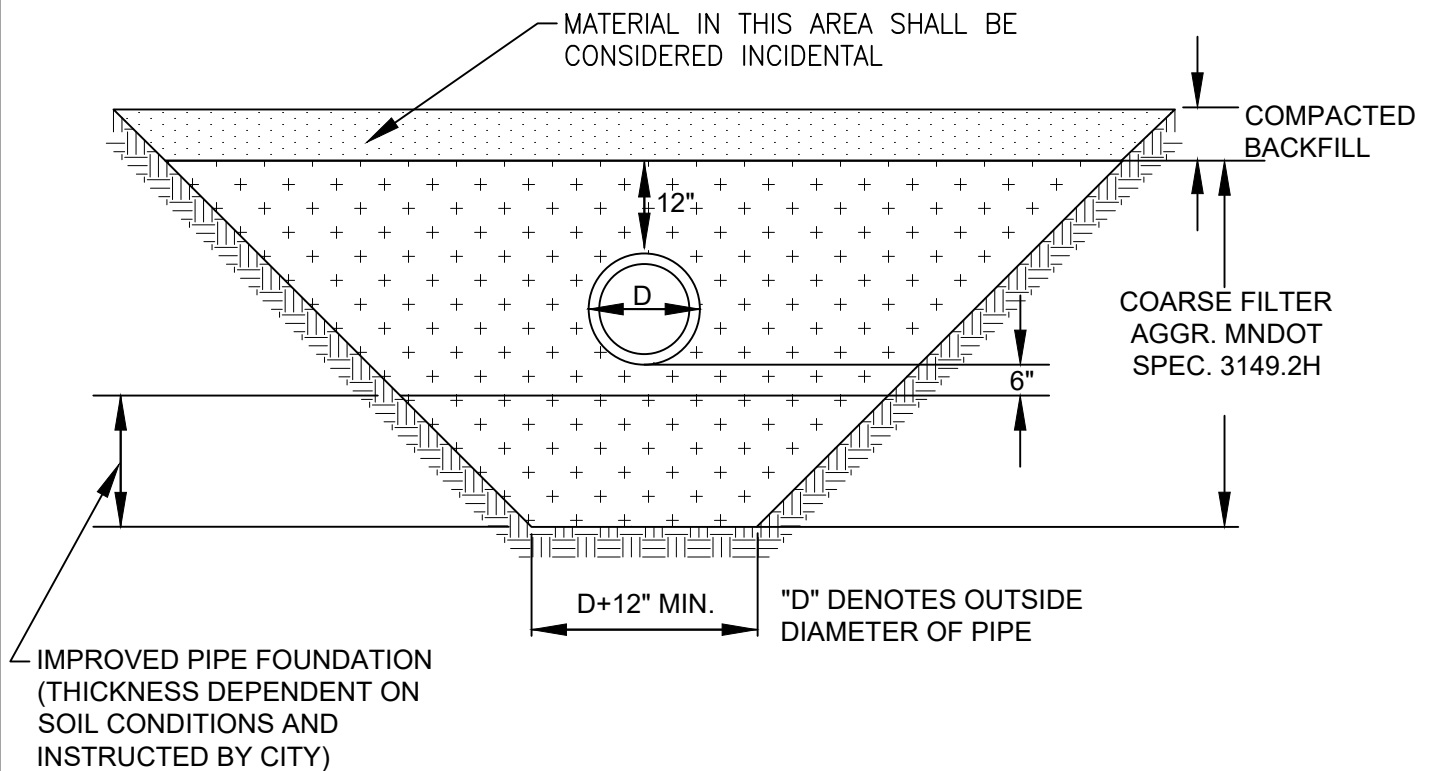
2026 Standard Detail Plates

BEDDING METHODS FOR RCP AND DIP

LAST REVISION:
01/02/2025



PLATE NO.
BED-2



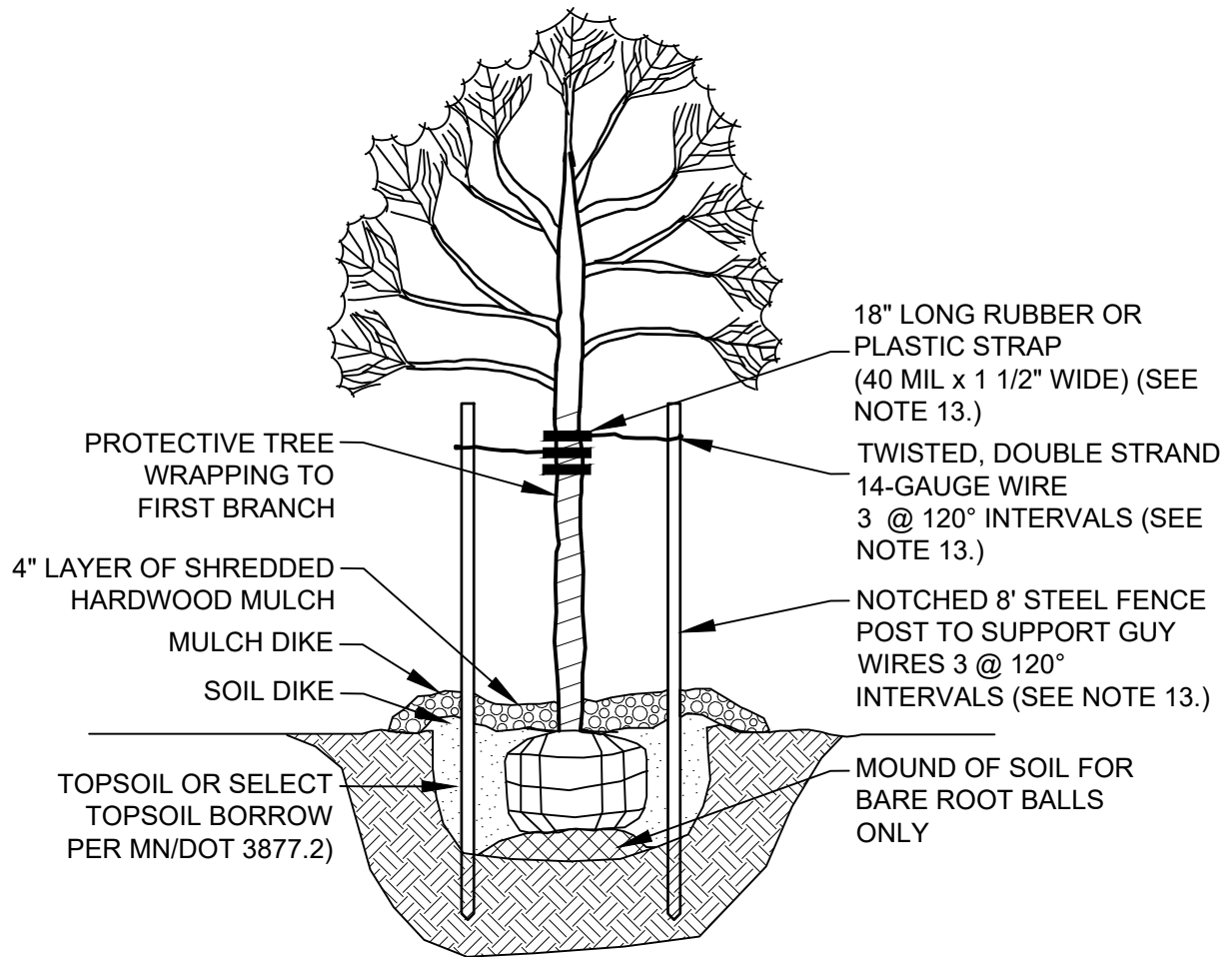
2026 Standard Detail Plates

IMPROVED PIPE FOUNDATION FOR RCP AND DIP

LAST REVISION:
06/28/2024



PLATE NO.
BED-3



NOTES:

1. PLANTS TO BE INSTALLED PER THE AMERICAN ASSOCIATION OF NURSEYMEN (AAN) STANDARD PLANTING PRACTICES.
2. PROVIDE & INSTALL PLANT MATERIALS THAT ARE THE SIZE, TYPE, AND SPECIES INDICATED IN PLANS.
3. BEFORE PLANTING, REMOVE DEAD OR DAMAGED BRANCHES.
4. DIG HOLE 12" LARGER THAN ROOT BALL ON ALL SIDES.
5. SCARIFY BOTTOM OF HOLE.
6. LOOSEN BURLAP COVERING ON ROOT BALL. REMOVE TOP OF BURLAP ON BALLED & BURLAPPED MATERIALS.
7. IF BARE ROOTED, SET BARE ROOT CROWN ON MOUND & SPREAD ROOTS OVER & DOWN SIDES OF MOUND.
8. PLANT TREE SO TOP OF ROOT BALL IS FLUSH WITH TOP OF SOIL.
9. FILL HOLE $\frac{2}{3}$ FULL OF SOIL & TAMP.
10. FILL REMAINING SPACE WITH WATER AND WAIT FOR IT TO SETTLE.
11. FINISH FILLING HOLE WITH SOIL AND MAKE A SOIL DIKE AROUND ROOT BALL.
12. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL UTILITIES PRIOR TO DIGGING AND PLANT INSTALLATION.
13. TREE STAKING IS ILLUSTRATED AND SHALL BE UTILIZED ONLY IF NECESSARY. MAINTAIN TREES IN A PLUMB POSITION THROUGHOUT THE GUARANTEE PERIOD.



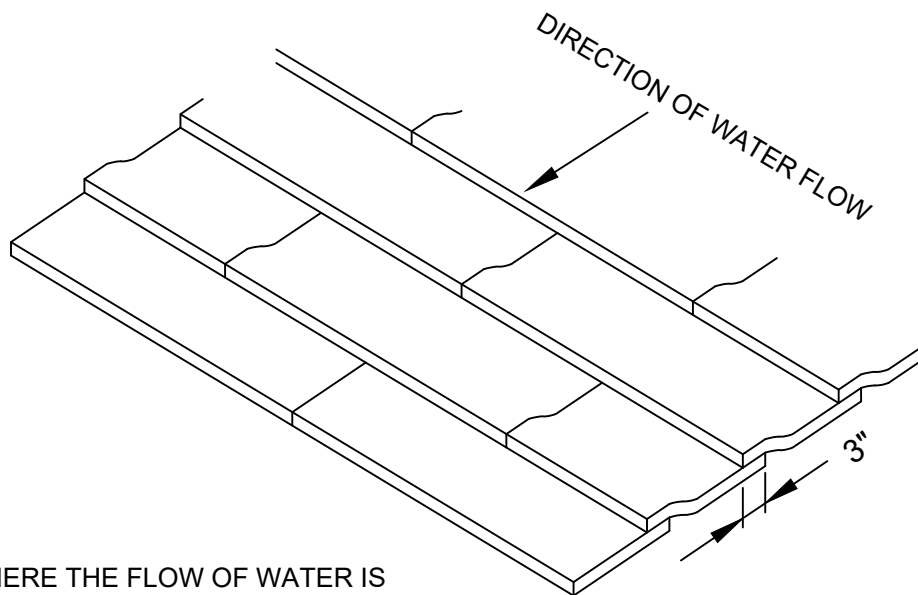
2026 Standard Detail Plates

DECIDUOUS TREE PLANTING

LAST REVISION:
06/28/2024

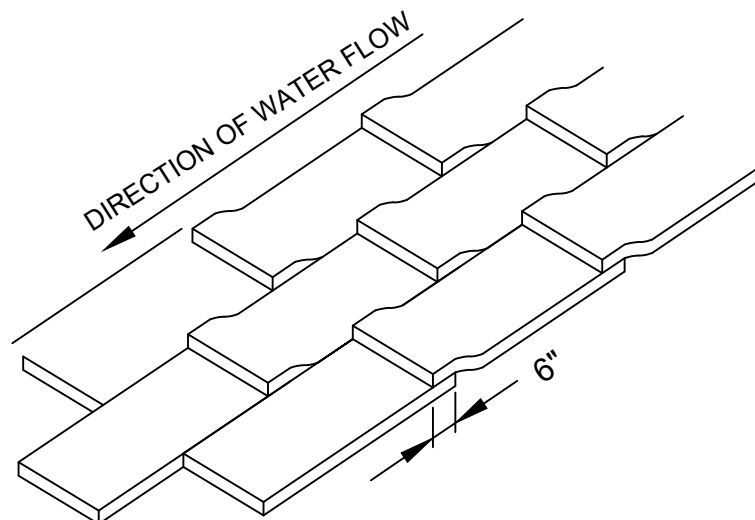


PLATE NO.
LAN-1



WHERE THE FLOW OF WATER IS SHEETING, PLACE SOD STRIPS PERPENDICULAR TO THE DIRECTION OF WATER FLOW

SHINGLING SOD



OVERLAPPING SOD

WHERE THE FLOW OF WATER IS CONCENTRATED, PLACE SOD STRIPS PARALLEL TO THE DIRECTION OF WATER FLOW

NOTES:

1. BEFORE LAYING SOD, RAKE SOIL TO BREAK CLOUDS & REMOVE DEBRIS.
2. INSURE CONTACT BETWEEN SOD AND NATIVE SOIL.



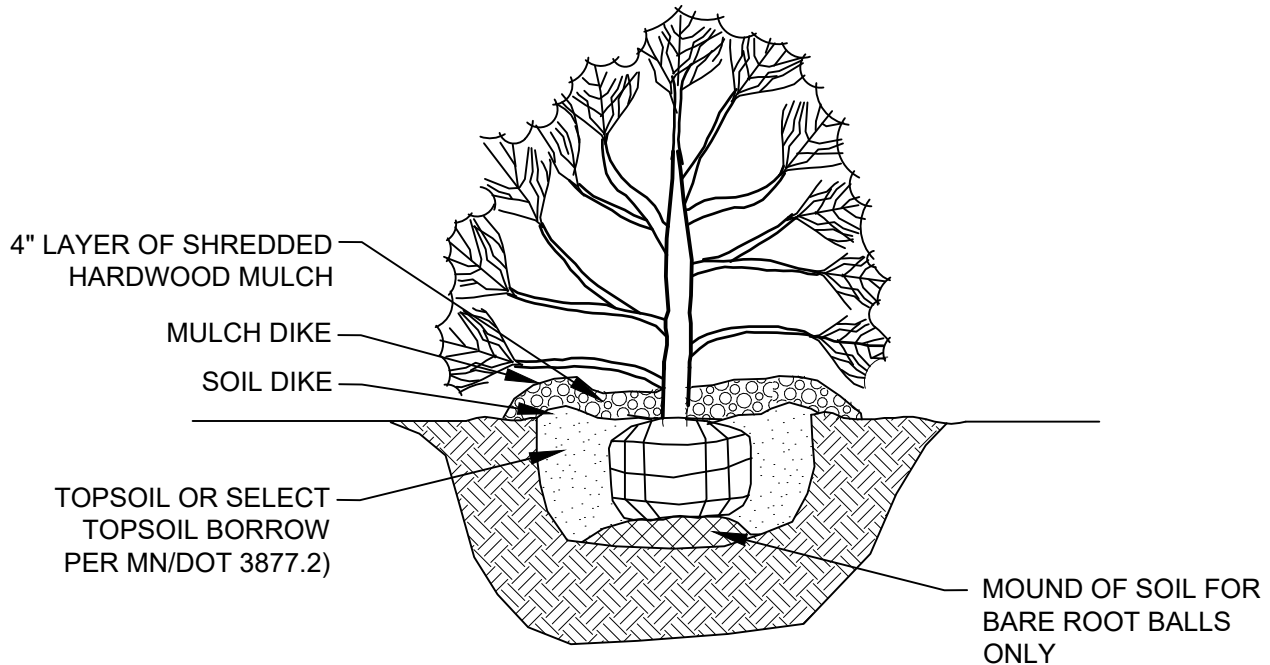
2026 Standard Detail Plates

SODDING

LAST REVISION:
06/28/2024



PLATE NO.
LAN-2



NOTES:

1. PLANTS TO BE INSTALLED AS PER THE AMERICAN ASSOCIATION OF NURSEYMAN (AAN) STANDARD PLANTING PRACTICES.
2. PROVIDE & INSTALL PLANT MATERIALS THAT ARE THE SIZE, TYPE, AND SPECIES INDICATED IN PLANS.
3. BEFORE PLANTING, REMOVE DEAD OR DAMAGED BRANCHES.
4. DIG HOLE TWO TIMES ROOT BALL WIDTH AND 6" DEEPER THAN BALL HEIGHT.
5. SCARIFY BOTTOM OF HOLE.
6. LOOSEN BURLAP COVERING ON ROOT BALL. REMOVE TOP OF BURLAP ON BALLED & BURLAPPED MATERIALS.
7. IF BARE ROOTED, SET BARE ROOT CROWN ON MOUND & SPREAD ROOTS OVER & DOWN SIDES OF MOUND.
8. PLANT TREE SO TOP OF ROOT BALL IS FLUSH WITH TOP OF SOIL.
9. FILL HOLE $\frac{2}{3}$ FULL OF SOIL & TAMP.
10. FILL REMAINING SPACE WITH WATER AND WAIT FOR IT TO SETTLE.
11. FINISH FILLING HOLE WITH SOIL AND MAKE A SOIL DIKE AROUND ROOT BALL.
12. CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES PRIOR TO DIGGING AND PLANT INSTALLATION.



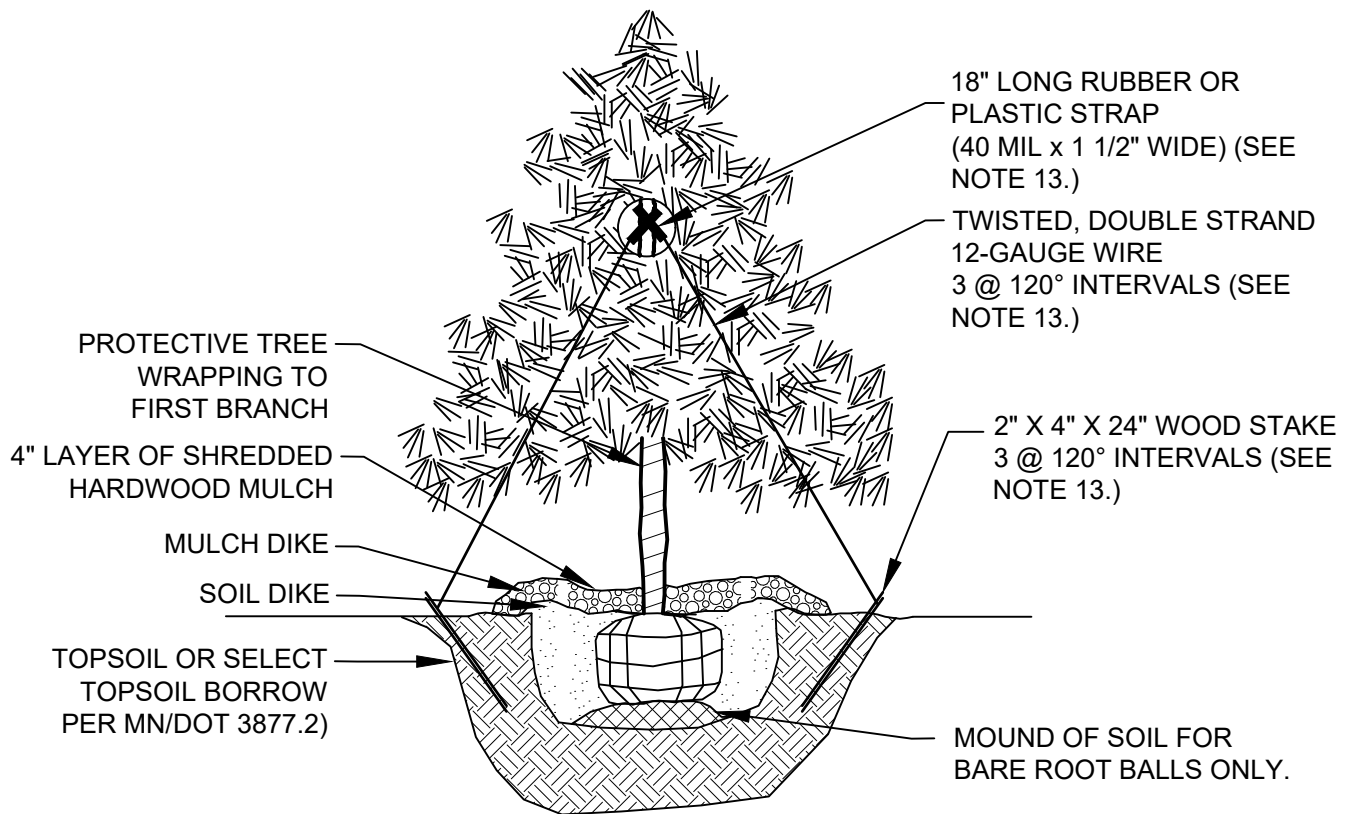
2026 Standard Detail Plates

DECIDUOUS SHRUB PLANTING

LAST REVISION:
06/28/2024



PLATE NO.
LAN-3



NOTES:

1. PLANTS TO BE INSTALLED PER THE AMERICAN ASSOCIATION OF NURSEYMEN (AAN) STANDARD PLANTING PRACTICES.
2. PROVIDE & INSTALL PLANT MATERIALS THAT ARE THE SIZE, TYPE, AND SPECIES INDICATED IN PLANS.
3. BEFORE PLANTING, REMOVE DEAD OR DAMAGED BRANCHES.
4. DIG HOLE TWO TIMES ROOT BALL WIDTH AND 6" DEEPER THAN BALL HEIGHT.
5. SCARIFY BOTTOM OF HOLE.
6. LOOSEN BURLAP COVERING ON ROOT BALL. REMOVE TOP OF BURLAP ON BALLED & BURLAPPED MATERIALS.
7. IF BARE ROOTED, SET BARE ROOT CROWN ON MOUND & SPREAD ROOTS OVER & DOWN SIDES OF MOUND.
8. PLANT TREE SO TOP OF ROOT BALL IS FLUSH WITH TOP OF SOIL.
9. FILL HOLE $\frac{2}{3}$ FULL OF SOIL & TAMP.
10. FILL REMAINING SPACE WITH WATER AND WAIT FOR IT TO SETTLE.
11. FINISH FILLING HOLE WITH SOIL AND MAKE A SOIL DIKE AROUND ROOT BALL.
12. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL UTILITIES PRIOR TO DIGGING AND PLANT INSTALLATION.
13. TREE STAKING IS ILLUSTRATED AND SHALL BE UTILIZED ONLY IF NECESSARY. MAINTAIN TREES IN A PLUMB POSITION THROUGHOUT THE GUARANTEE PERIOD.



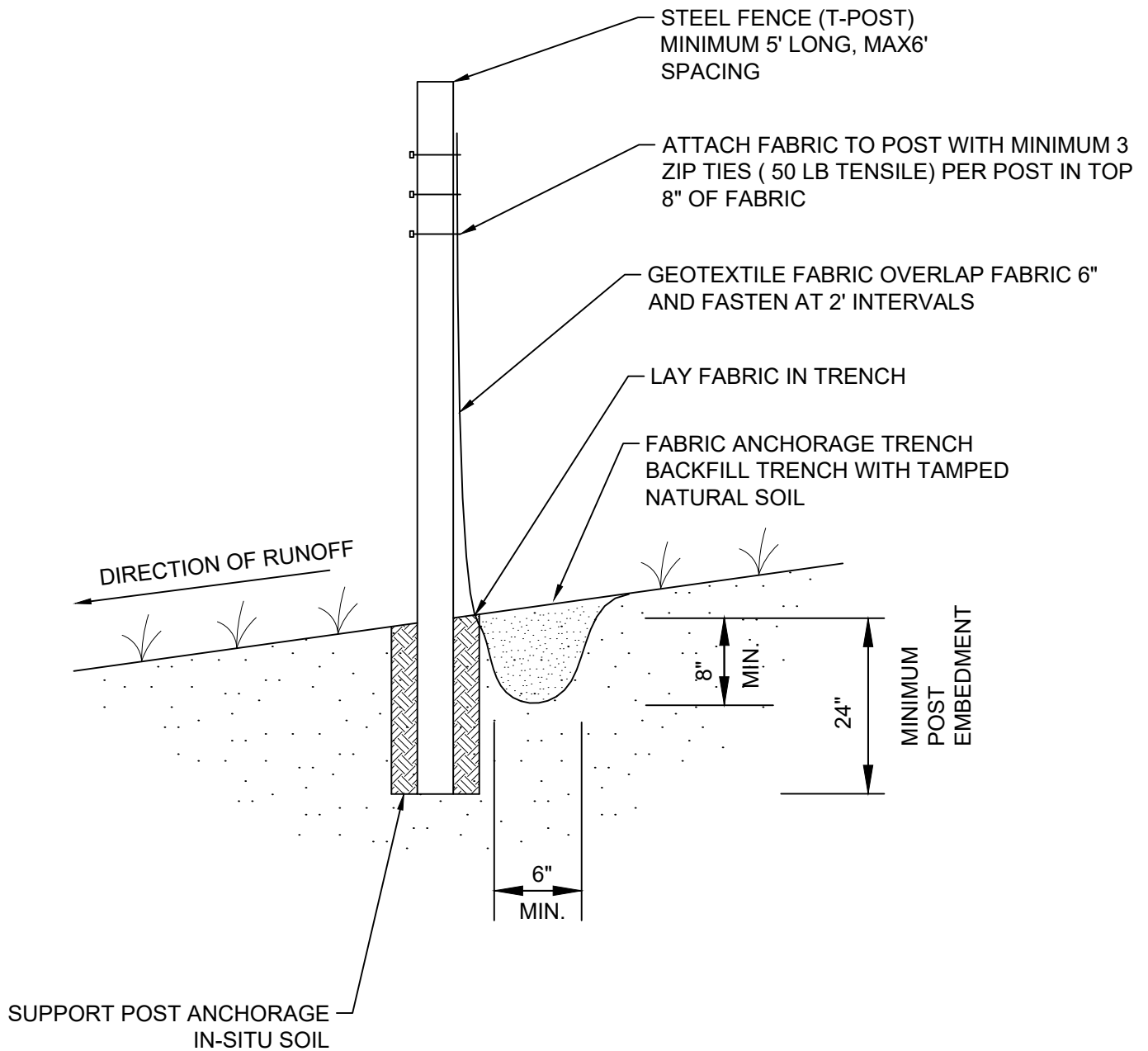
2026 Standard Detail Plates

CONIFEROUS TREE PLANTING

LAST REVISION:
06/28/2024



PLATE NO.
LAN-4



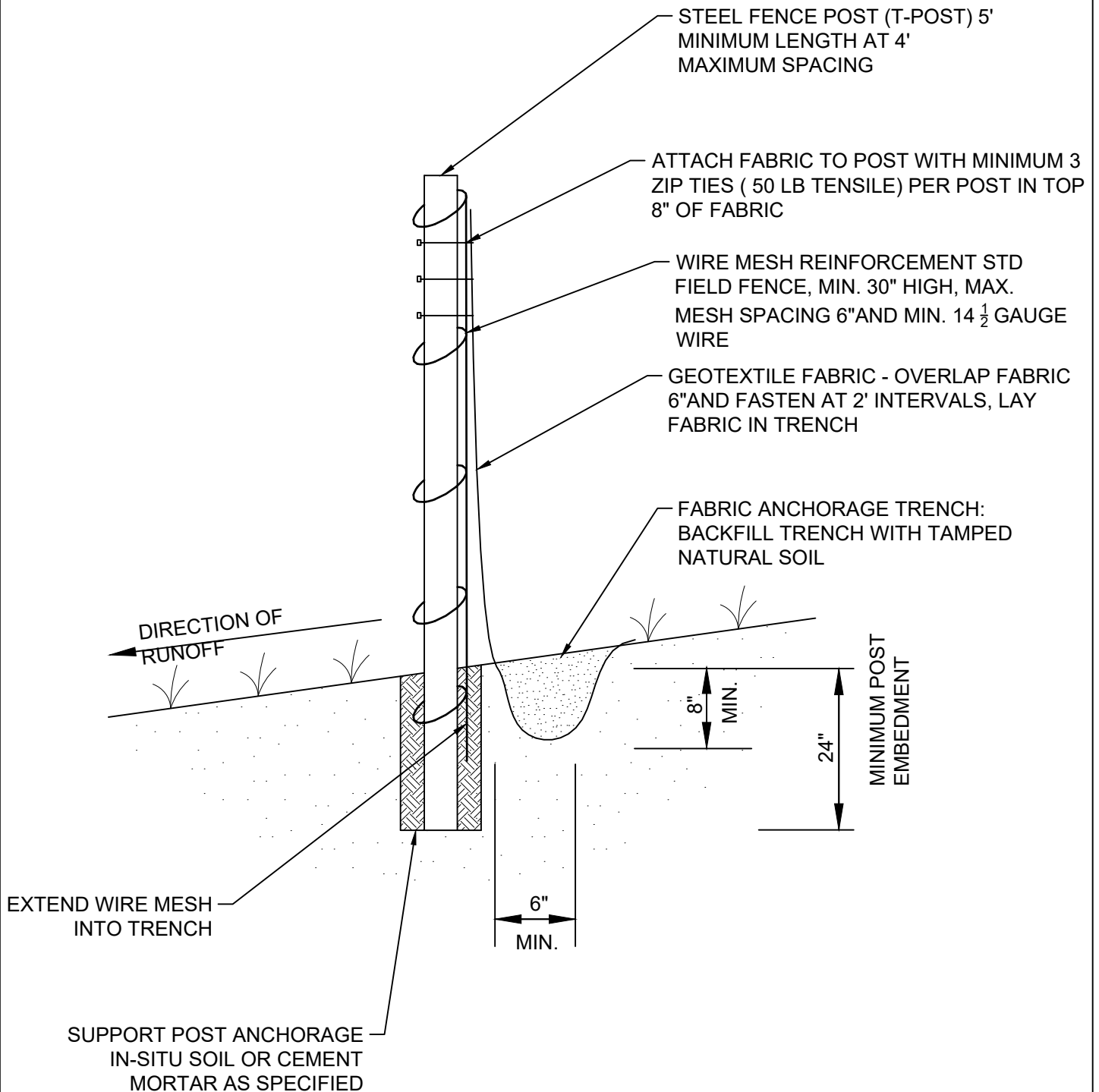
2026 Standard Detail Plates

SILT FENCE MACHINE SLICED

LAST REVISION:
06/28/2024



PLATE NO.
ERO-1A



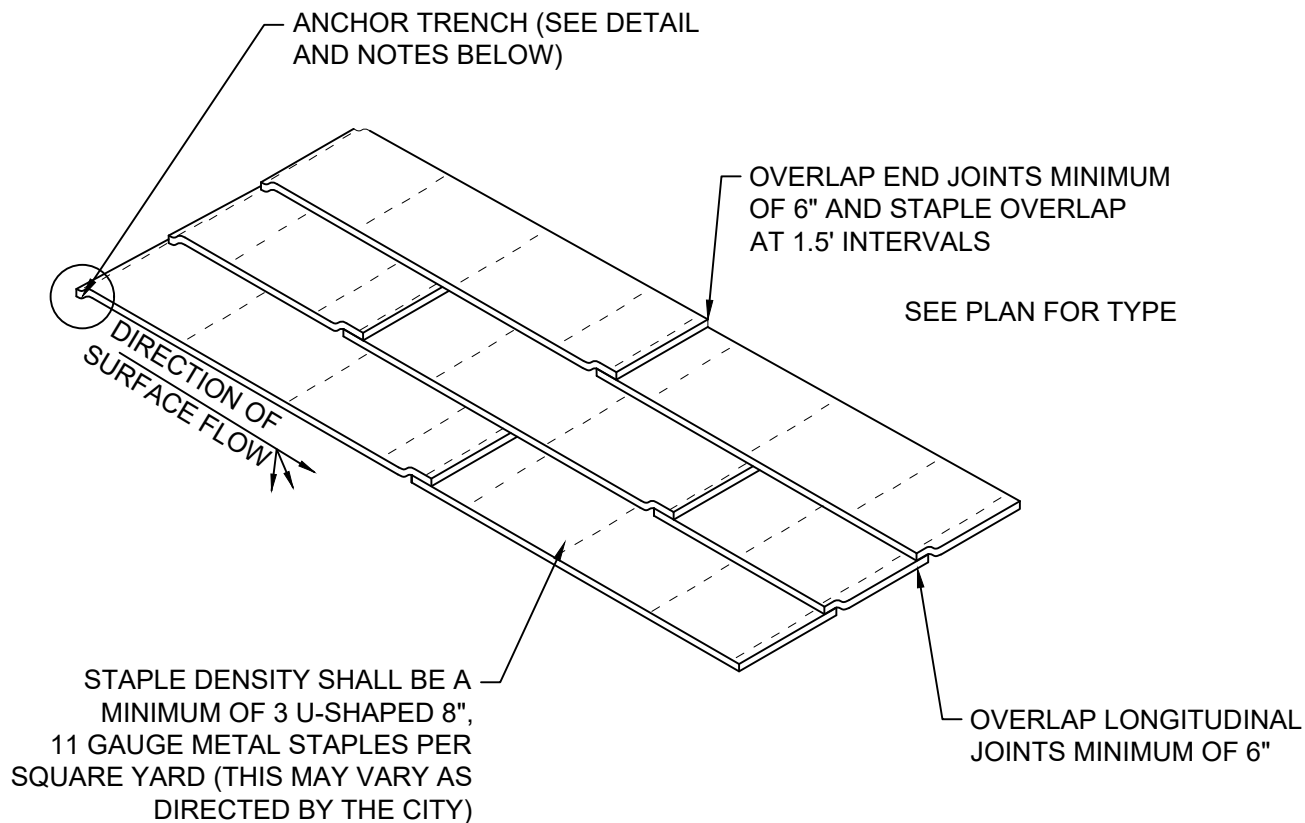
2026 Standard Detail Plates

SILT FENCE HEAVY DUTY

LAST REVISION:
06/28/2024

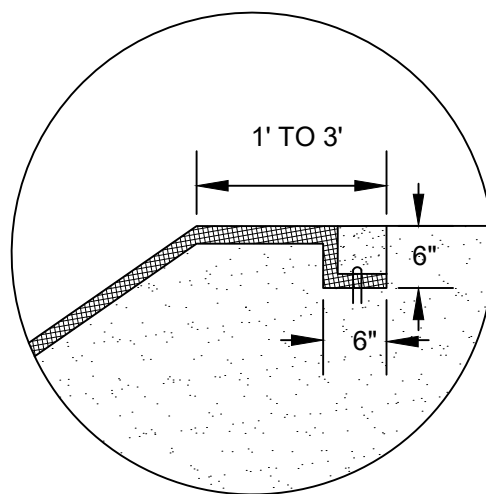


PLATE NO.
ERO-1B



ANCHOR TRENCH

1. DIG 6" X 6" TRENCH
2. LAY BLANKET IN TRENCH
3. STAPLE AT 1.5' INTERVALS
4. BACKFILL WITH NATURAL SOIL AND COMPACT



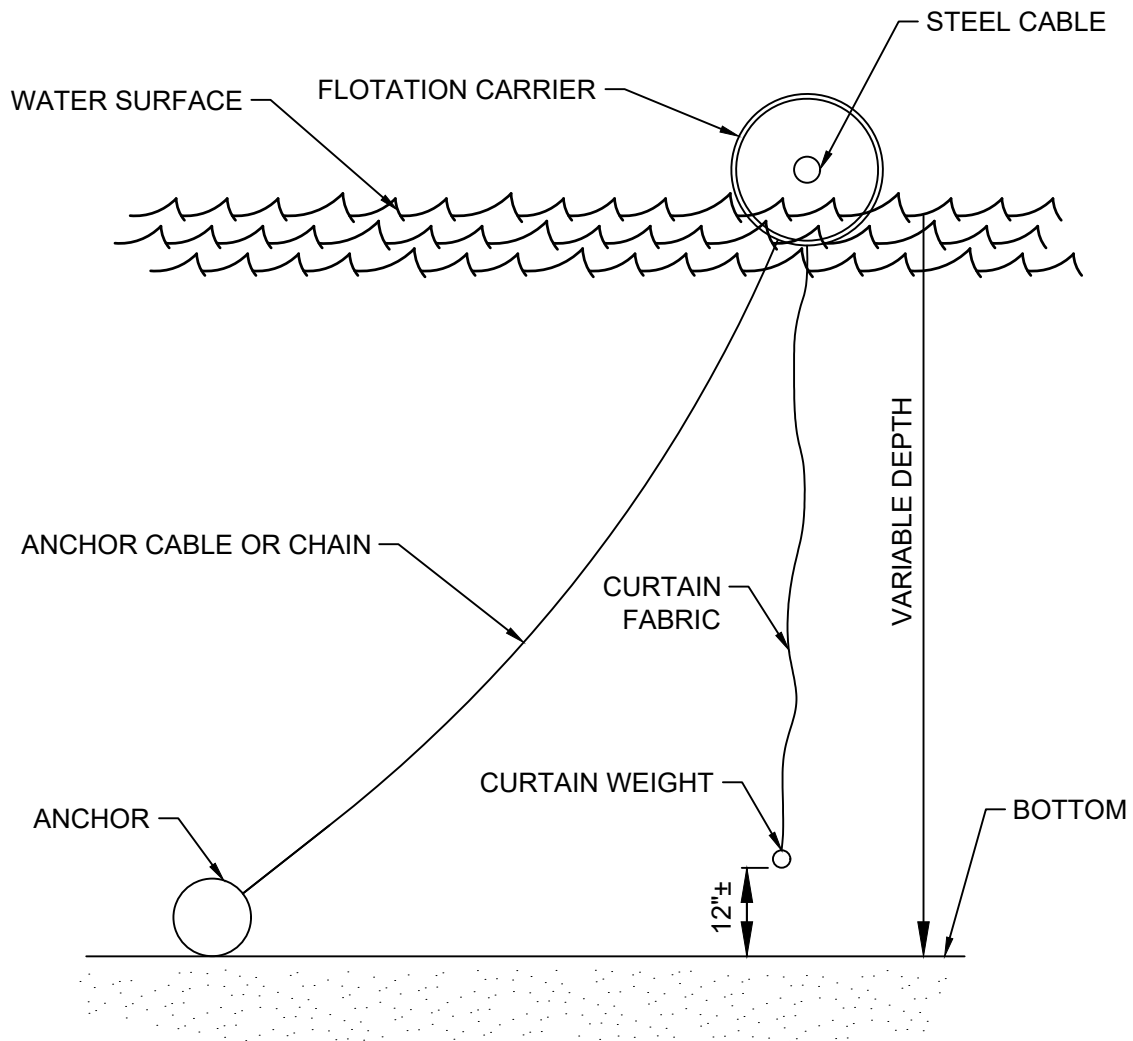
2026 Standard Detail Plates

EROSION CONTROL BLANKET INSTALLATION

LAST REVISION:
06/28/2024



PLATE NO.
ERO-2



NOTE:
 DOUBLE SILT FENCES SHOULD BE SPACED 10' APART.
 CURTAIN LENGTH TO MATCH BOTTOM PROFILE AS CLOSELY AS POSSIBLE.
 MAXIMUM INTERVAL FOR SPACING OF WEIGHT IS 15'.



2026 Standard Detail Plates

FLOATING SILT CURTAIN

LAST REVISION:
 06/28/2024



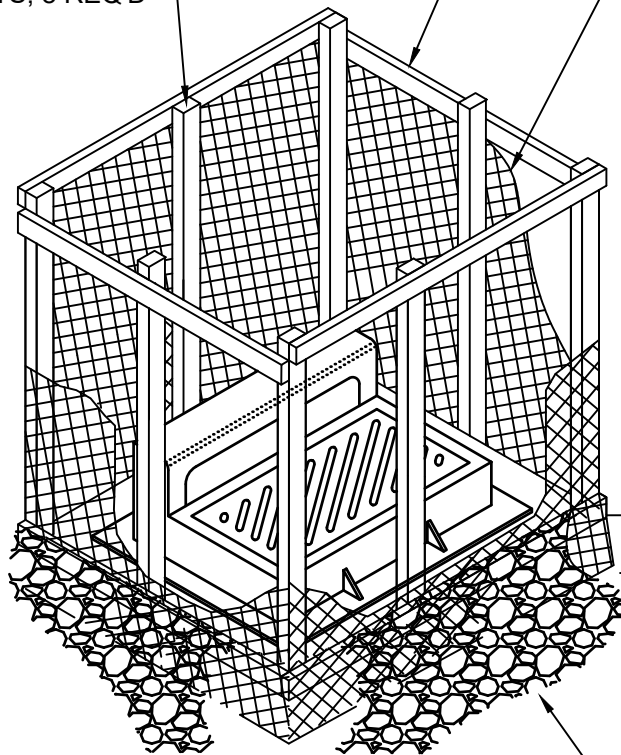
PLATE NO.
 ERO-3

WOODEN LATH SHALL BE NAILED
SECURELY TO THE POST MEMBER
TO SECURE FILTER FABRIC.

2" x 4" x 2.5" LONG
WOOD POSTS, 8 REQ'D

2" X 4" HORIZONTAL MEMBERS
CONTINUOUS AROUND TOP AND
BOTTOM FASTENED TO EACH POST
USING 2 - 20D COMMON NAILS

MONOFILAMENT GEOTEXTILE
(SILT FENCE) FABRIC AS
SPECIFIED ADDITIONAL 8 - 10" OF
FABRIC FLAP AT BOTTOM OF BOX



2'-6"

8-10" FABRIC FLAP EXTENDING
BEYOND BOTTOM 2"X4" - BURY
UNDER ROCK TO PREVENT
UNDERWASHING

1 1/2" WASHED ROCK
1'DEEP X 1' WIDE

NOTES:

CONTRACTOR SHALL CONSTRUCT SILT BOX TO FIT AROUND
THE INLET STRUCTURE WITH 6" MINIMUM CLEARANCE TO
EDGES OF STRUCTURE. SILT BOX
TO BE PLACED ON AN EVEN SURFACE 6" BELOW STRUCTURE
OPENING. TOP OF SILT BOX TO
EXTEND 18" MINIMUM ABOVE EXISTING GRADE.



2026 Standard Detail Plates

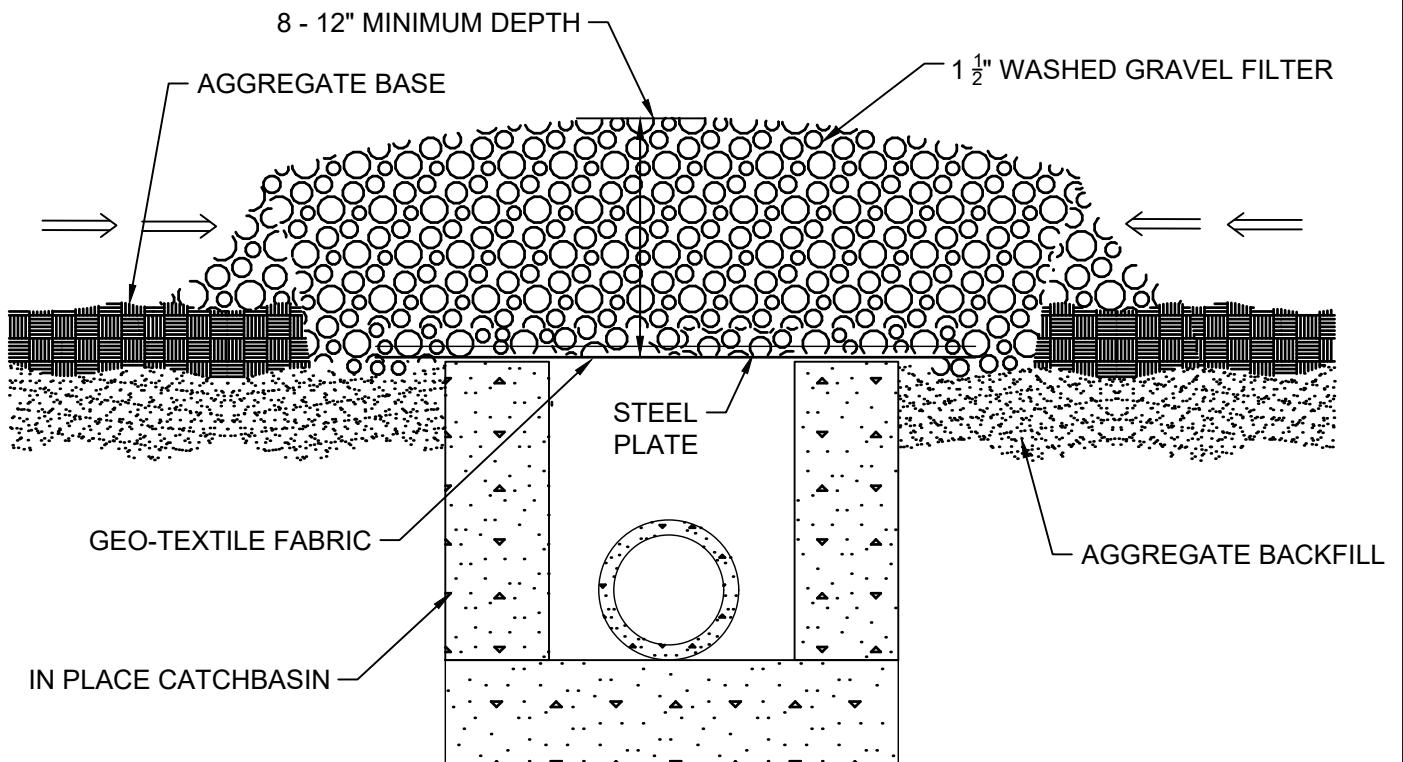
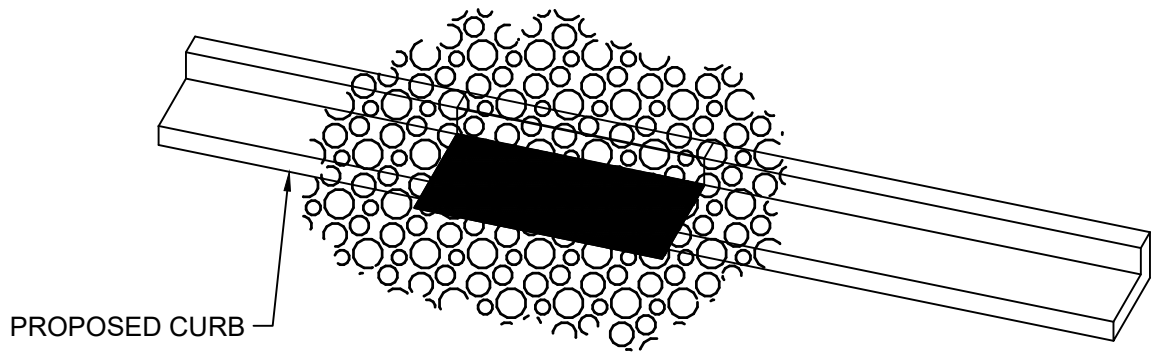
INLET PROTECTION SILT BOX FOR CATCH BASIN

LAST REVISION:
06/28/2024



PLATE NO.
ERO-4A

PLAN



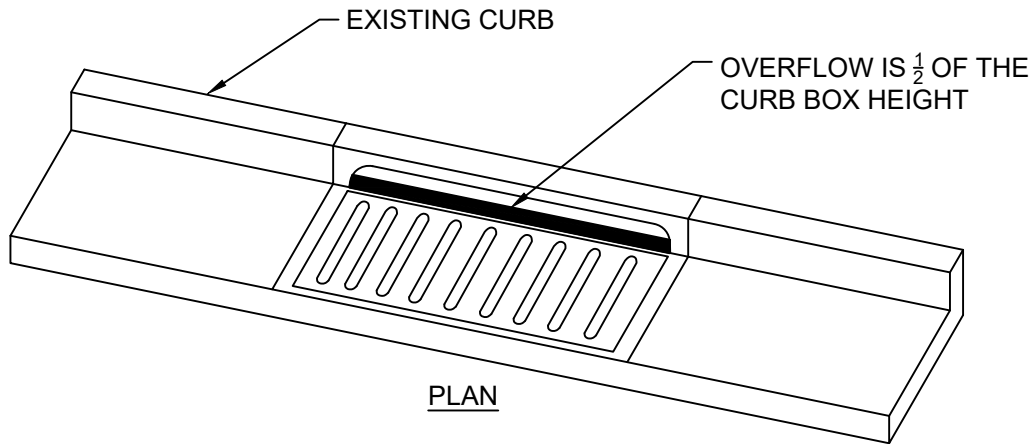
2026 Standard Detail Plates

INLET PROTECTION CATCH BASIN ROCK FILTER

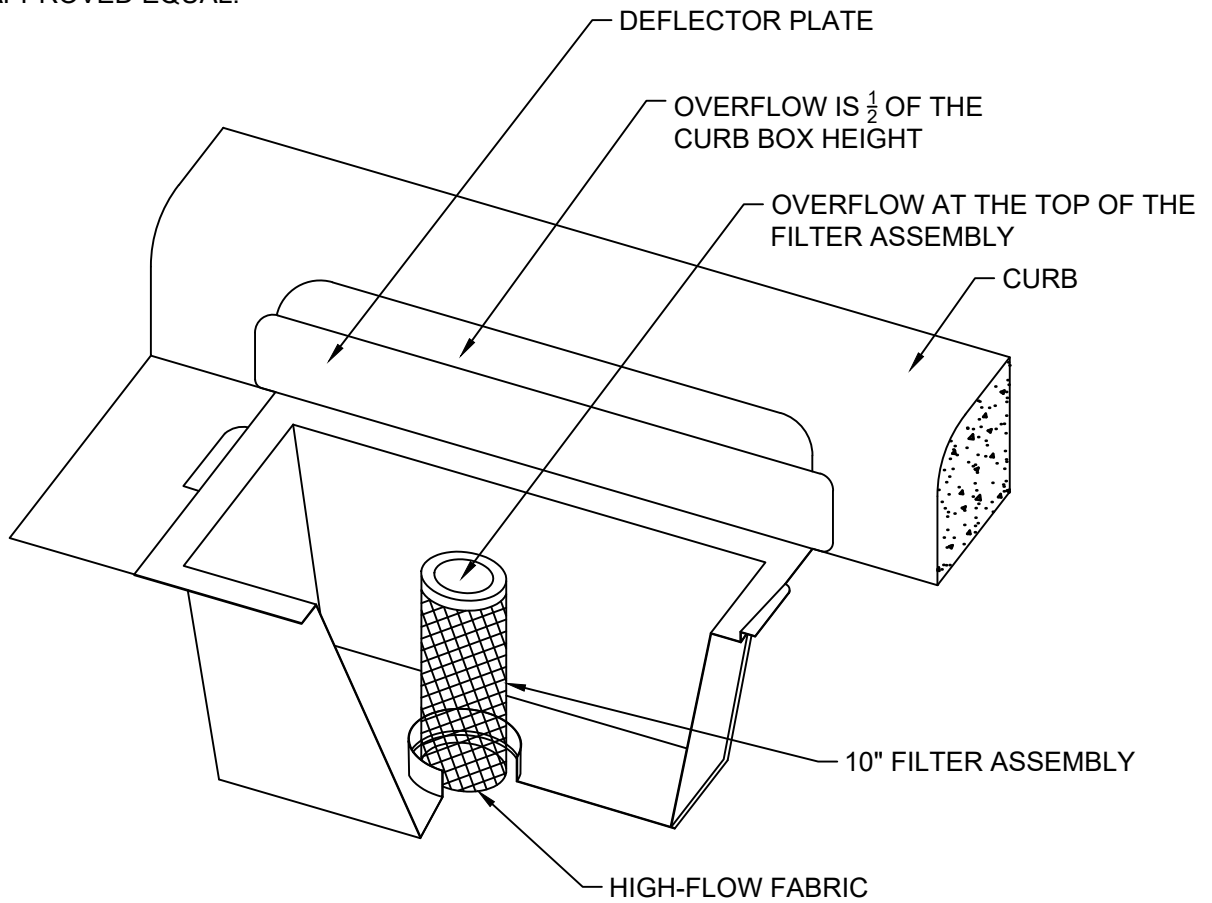
LAST REVISION:
06/28/2024



PLATE NO.
ERO-4B



WIMCO ROAD DRAIN CG-3067 HIGH FLOW
INLET PROTECTION CURB AND GUTTER MODEL OR
CITY APPROVED EQUAL.



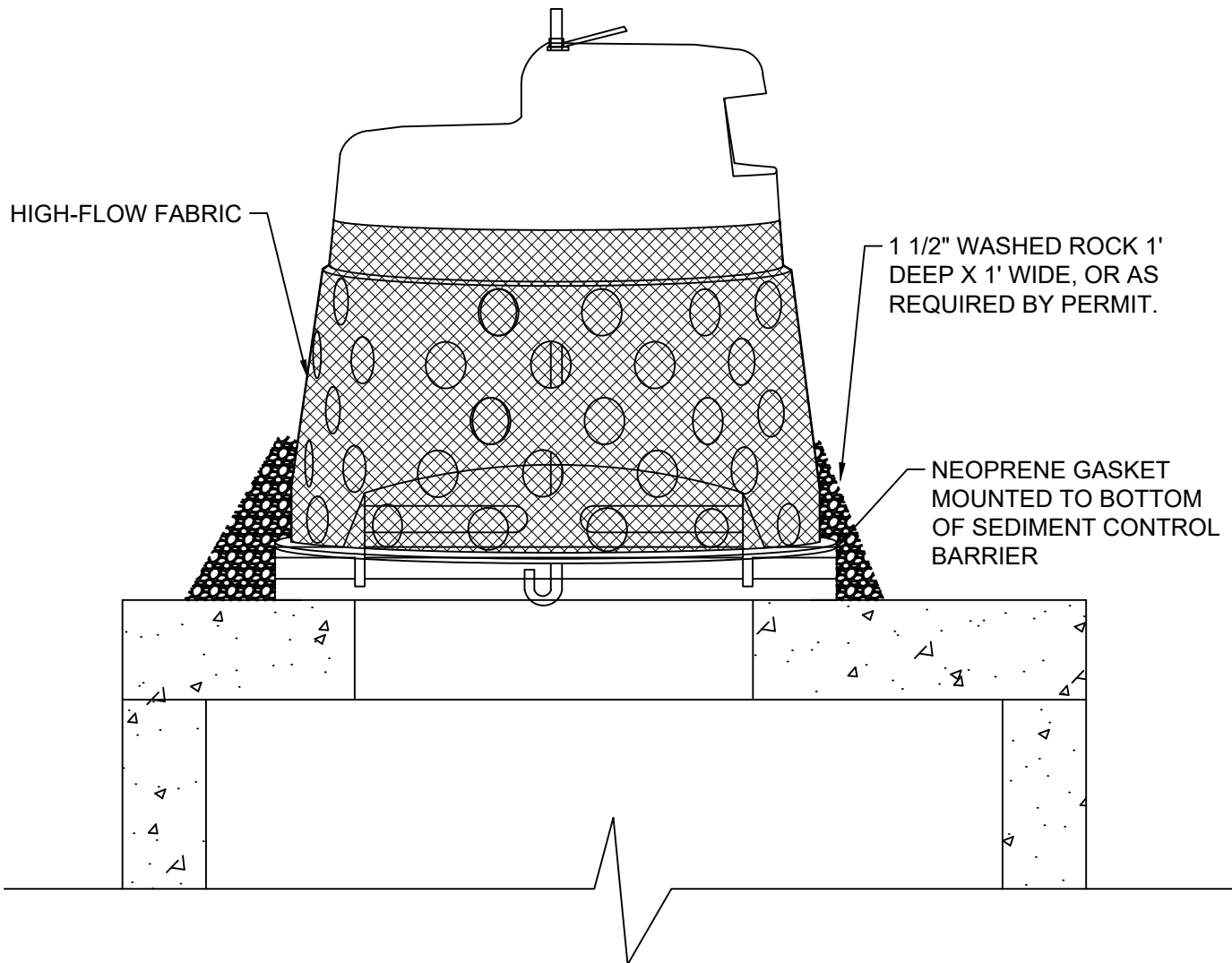
2026 Standard Detail Plates

INLET PROTECTION CATCH BASIN INSERT

LAST REVISION:
06/28/2024



PLATE NO.
ERO-4C



NOTES:
 INFRASAFE SEDIMENT CONTROL BARRIER OR CITY
 APPROVED EQUAL



2026 Standard Detail Plates

INLET PROTECTION BEEHIVE CASTING SILT BOX

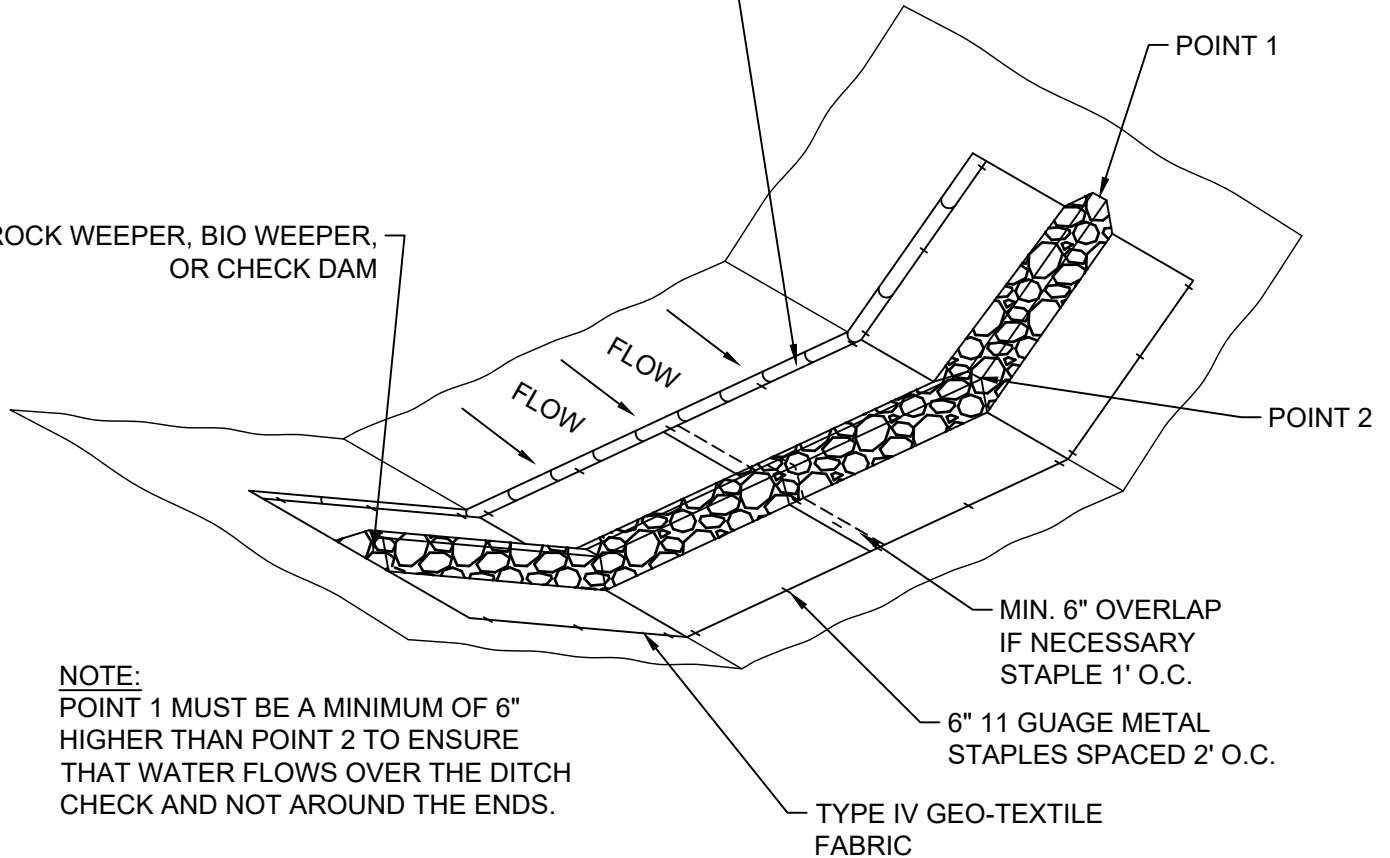
LAST REVISION:
 06/28/2024



PLATE NO.
ERO-4D

6" X 6" TRENCH WITH LEADING EDGE OF TYPE IV
GEO-TEXTILE FABRIC STAPLED AT 4'
INTERVALS AND BACKFILLED WITH NATURAL SOIL

ROCK WEEPER, BIO WEEPER,
OR CHECK DAM



NOTE:
POINT 1 MUST BE A MINIMUM OF 6"
HIGHER THAN POINT 2 TO ENSURE
THAT WATER FLOWS OVER THE DITCH
CHECK AND NOT AROUND THE ENDS.

DITCH CHECK SPACING
(USE FOR 5B AND 5C)

DITCH GRADE	INTERVAL
(%)	(FT)
2	100
4	75
6	50
8	40
10	25
10+	25



2026 Standard Detail Plates

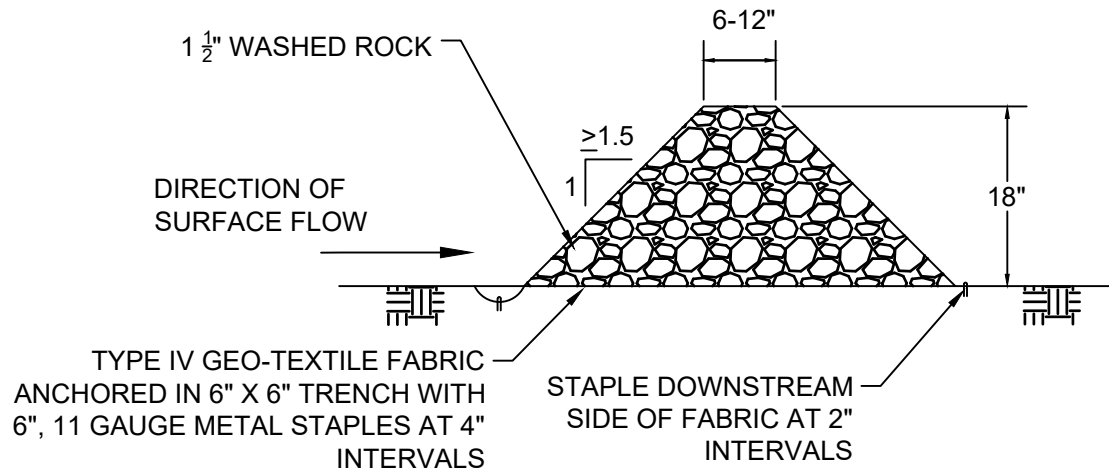
DITCH CHECK - 3D VIEW FOR 5B, 5C, AND SPACING

LAST REVISION:
06/28/2024

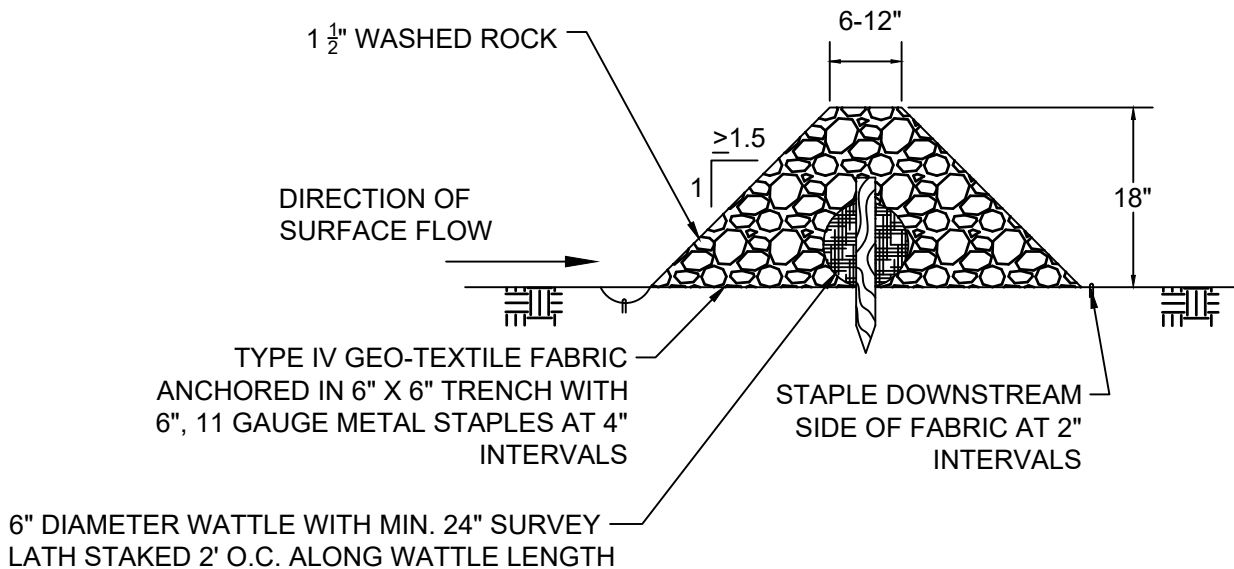


PLATE NO.
ERO-5A

I. ROCK WEEPER



II. BIO WEEPER



2026 Standard Detail Plates

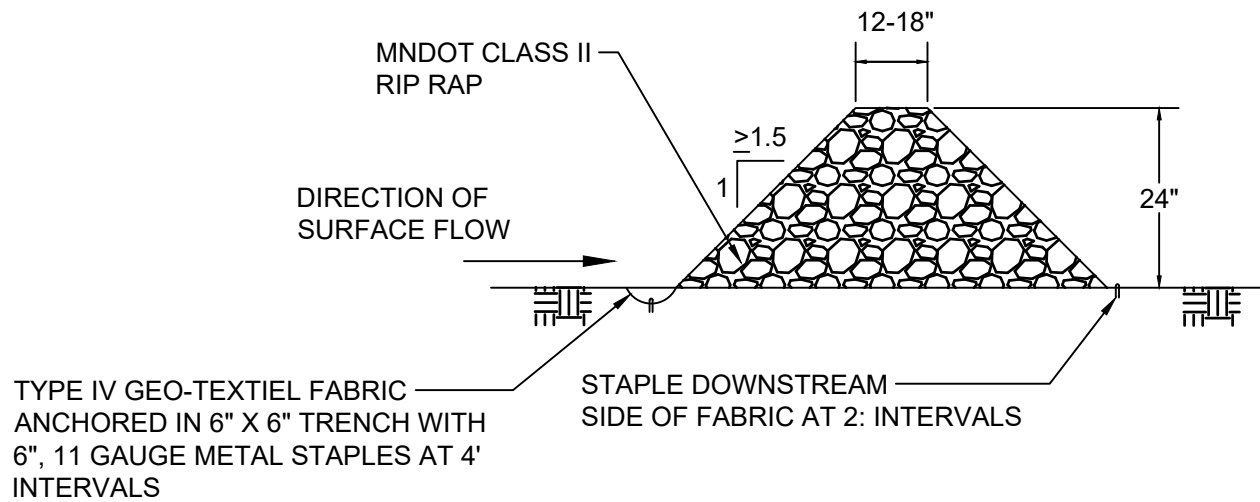
DITCH CHECKS - ROCK AND BIO WEEPER

LAST REVISION:
06/28/2024

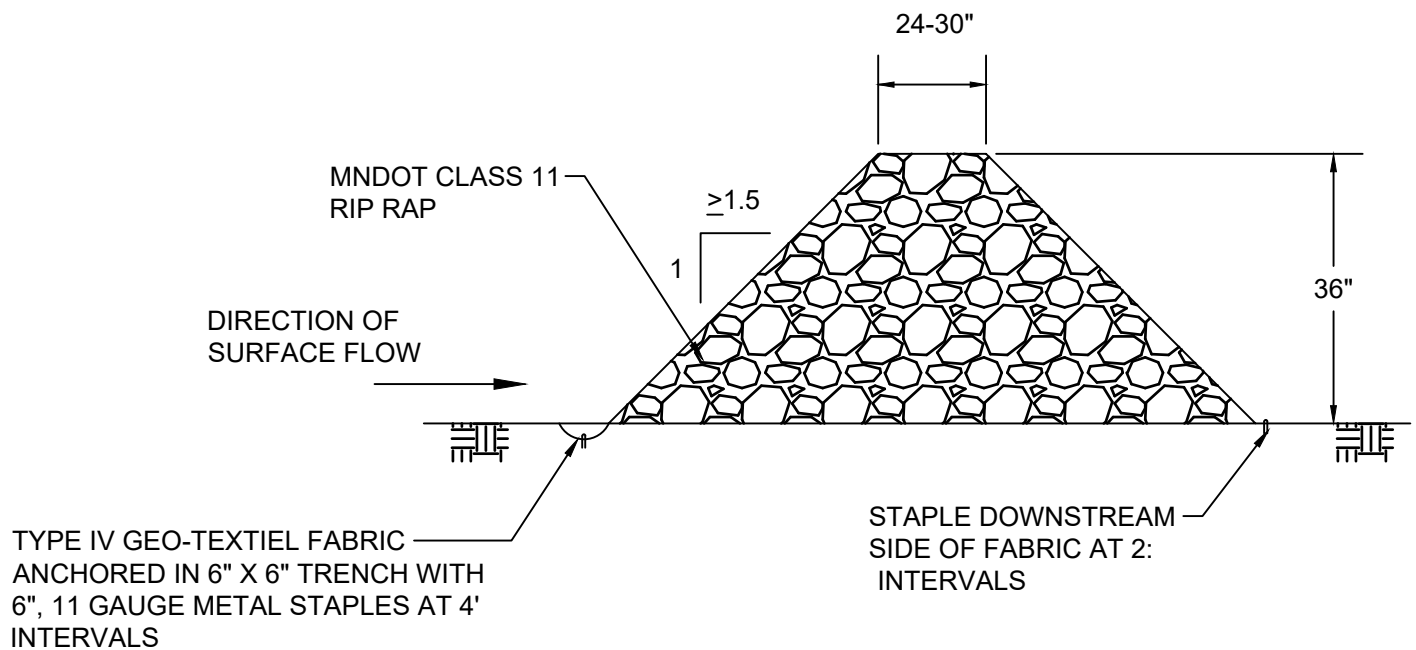


PLATE NO.
ERO-5B

I. SMALL CHECK DAM



II. LARGE CHECK DAM



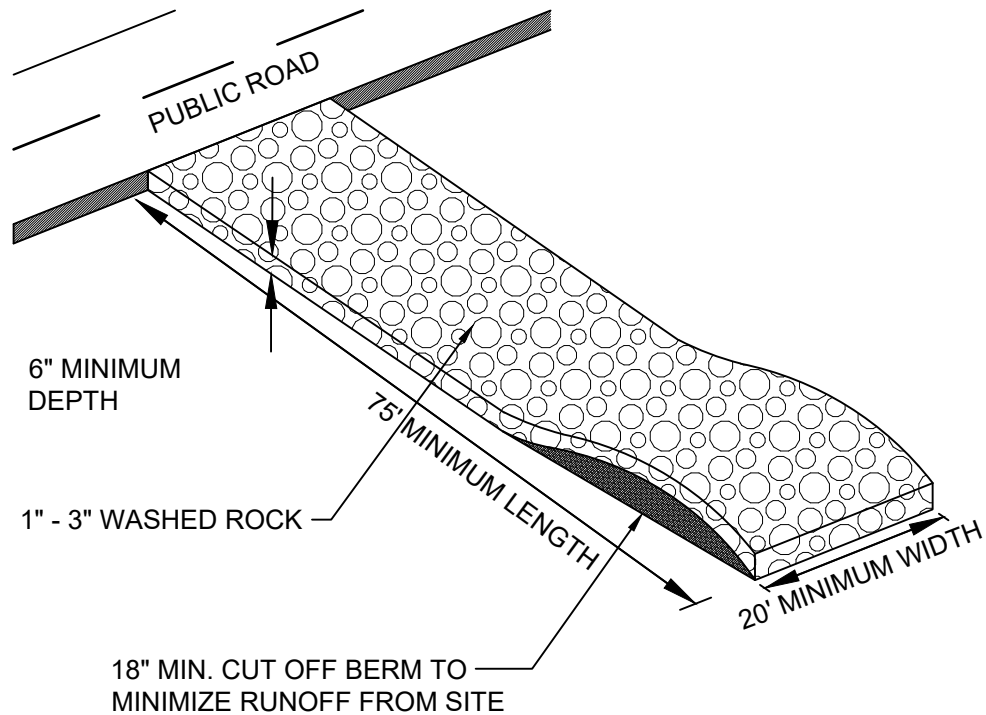
2026 Standard Detail Plates

DITCH CHECKS - SMALL AND LARGE CHECK DAM

LAST REVISION:
06/28/2024



PLATE NO.
ERO-5C



NOTE:

FILTER FABRIC SHALL BE PLACED UNDER ROCK TO STOP MUD MIGRATION THROUGH ROCK.
 ENTRANCE MUST BE MAINTAINED TO PREVENT SEDIMENTATION ON PUBLIC ROADWAYS. FUGITIVE ROCKS WILL BE REMOVED FROM ADJACENT ROADWAYS DAILY OR MORE FREQUENTLY AS NECESSARY.



2026 Standard Detail Plates

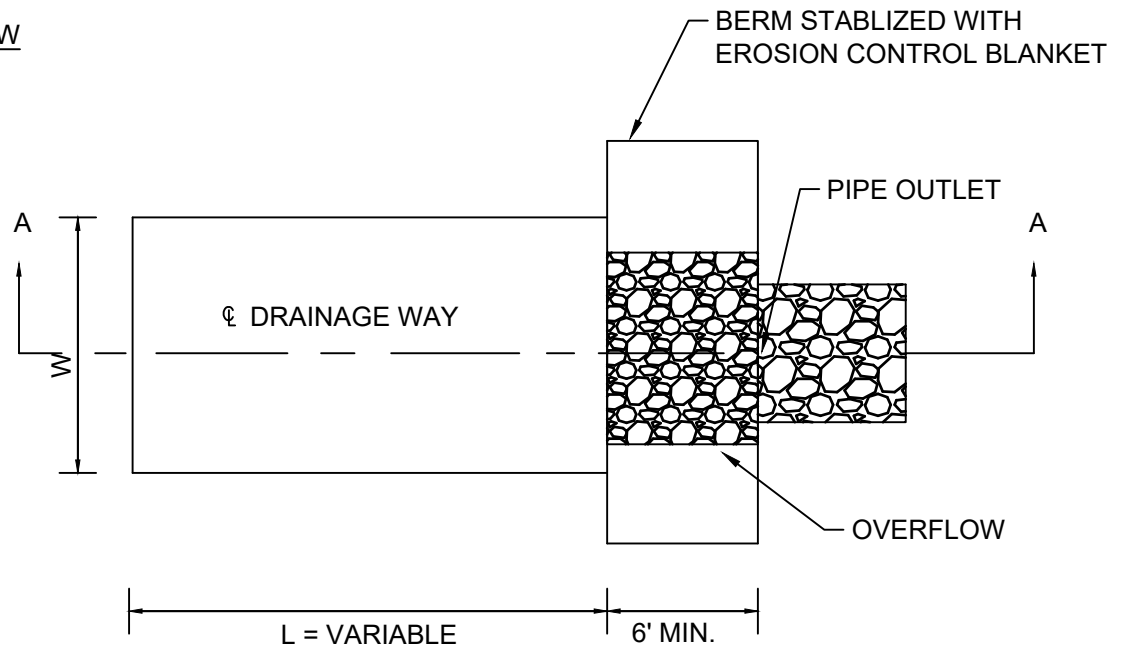
CONSTRUCTION ENTRANCE (ROCK)

LAST REVISION:
06/28/2024

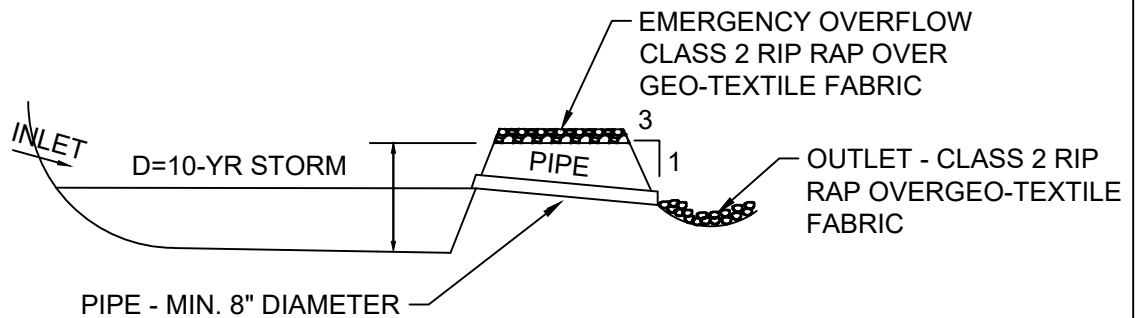


PLATE NO.
ERO-6

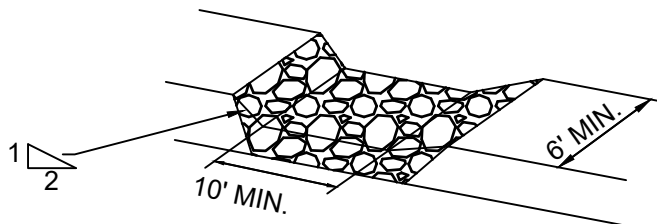
I. PLAN VIEW



II. SECTION A-A



III. BASIN EMERGENCY OVERFLOW



NOTES:

BASIN USED FOR 10 ACRES DRAINAGE AREA OR MORE. DESIGN RUNOFF VOLUME IS FROM A 2-YR, 24-HR STORM PER ACRE DRAINED TO THE BASIN. BASIN VOLUME MUST BE A MIN. OF 1800 CUBIC FEET/ACRE. SEE PLANS/SPECIFICATIONS FOR BASIN DIMENSIONS AND PIPE SIZE AND SLOPE.



2026 Standard Detail Plates

TEMPORARY SEDIMENTATION BASIN - PIPE OUTLET

LAST REVISION:
06/28/2024



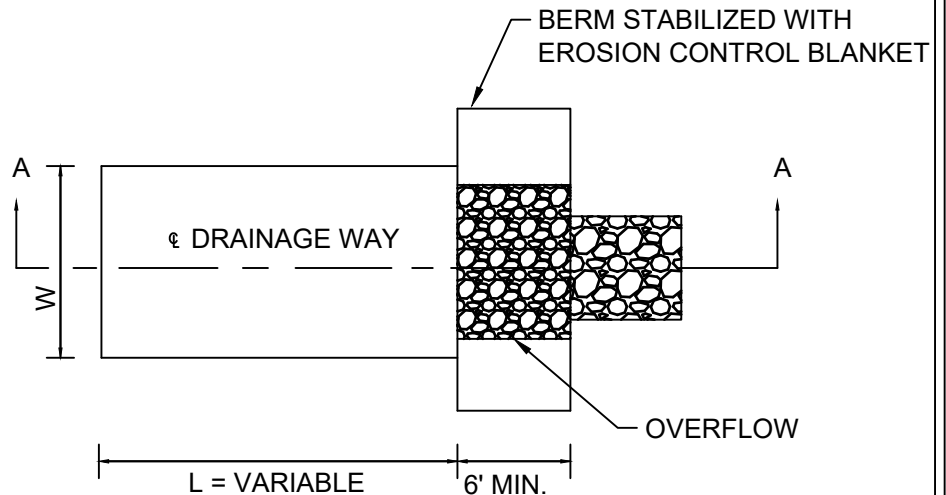
PLATE NO.
ERO-7A

I. PLAN VIEW

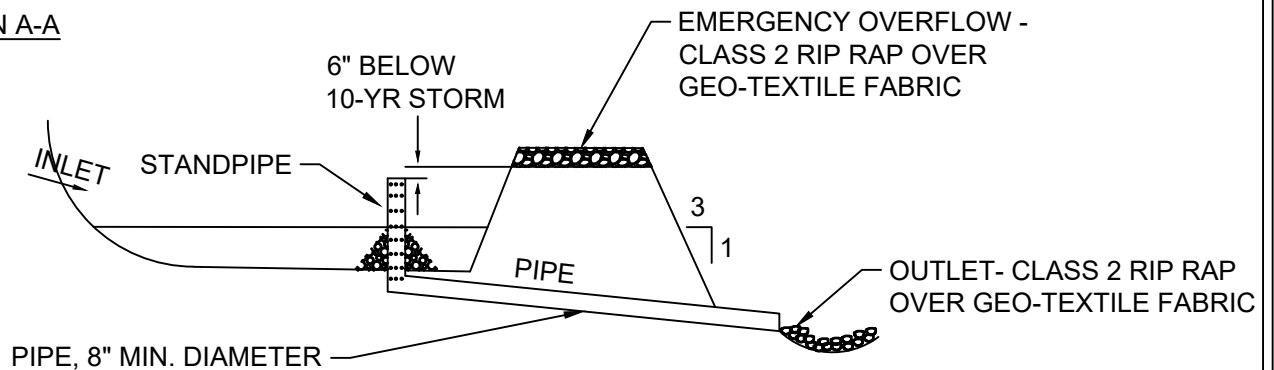
NOTES:

BASIN USED FOR 10 ACRES DRAINAGE AREA OR MORE. DESIGN RUNOFF VOLUME IS FROM A 2-YR, 24-HR STORM PER ACRE DRAINED TO THE BASIN. BASIN VOLUME MUST BE A MIN. OF 1800 CUBIC FEET/ACRE.

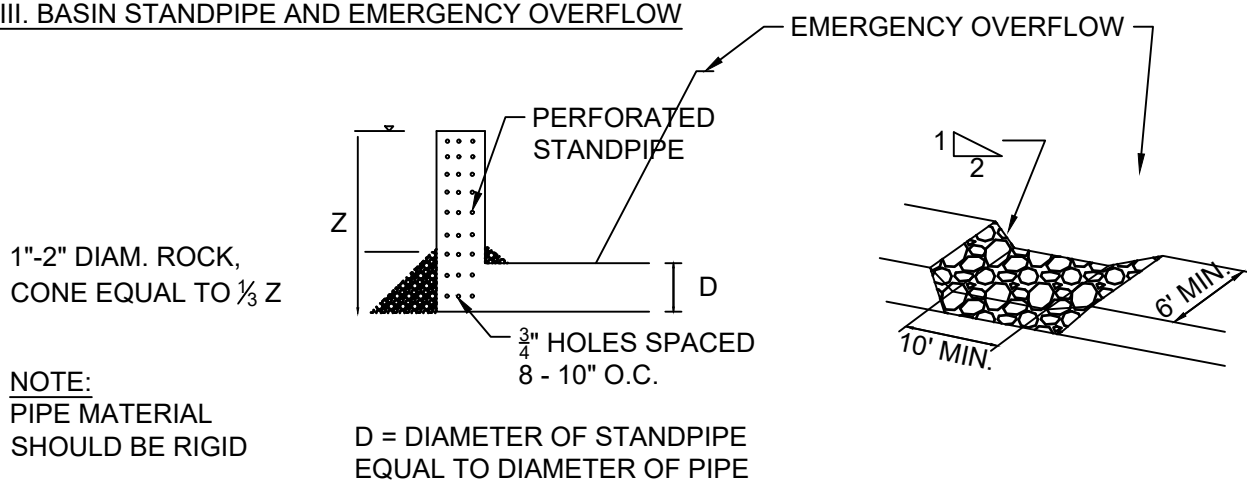
SEE PLANS/SPECIFICATIONS FOR BASIN DIMENSIONS AND PIPE SIZE AND SLOPE.



II. SECTION A-A



III. BASIN STANDPIPE AND EMERGENCY OVERFLOW



2026 Standard Detail Plates

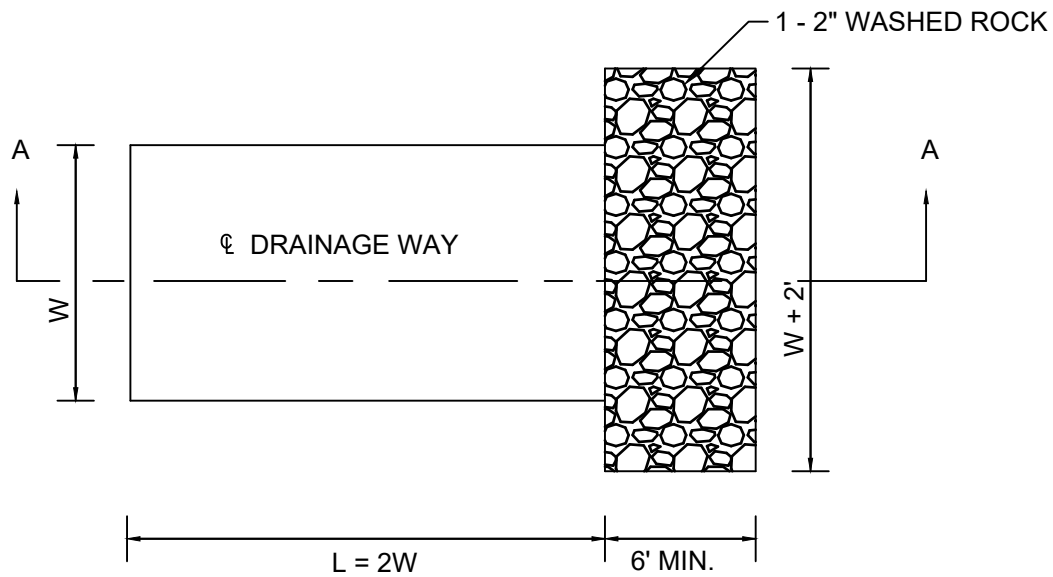
TEMPORARY SEDIMENTATION BASIN - STANDPIPE OUTLET

LAST REVISION:
06/28/2024



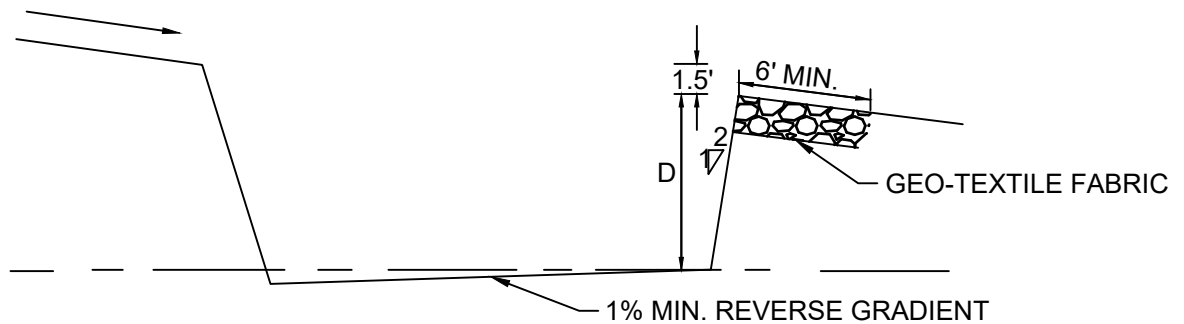
PLATE NO.
ERO-7B

I. PLAN VIEW



II. SECTION A-A

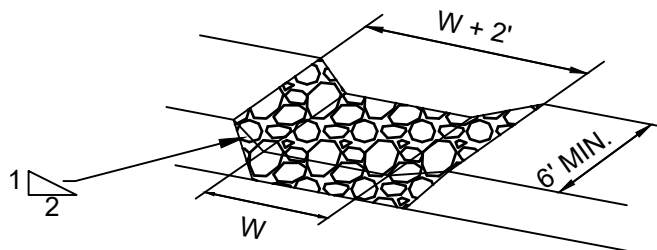
DIRECTION OF
SURFACE FLOW



NOTE:

D=3' MIN, 5' MAX
W=10' MIN, 25' MAX W(FT.)=
10 X DRAINAGE AREA (AC.)

III. TRAP OUTLET



NOTES:

TRAP USED FOR 2.5 ACRES
DRAINAGE AREA OR LESS.
DESIGN VOLUME IS A MINIMUM
OF 1800 CUBIC FEET PER ACRE
OF CONTRIBUTING DRAINAGE
AREA.



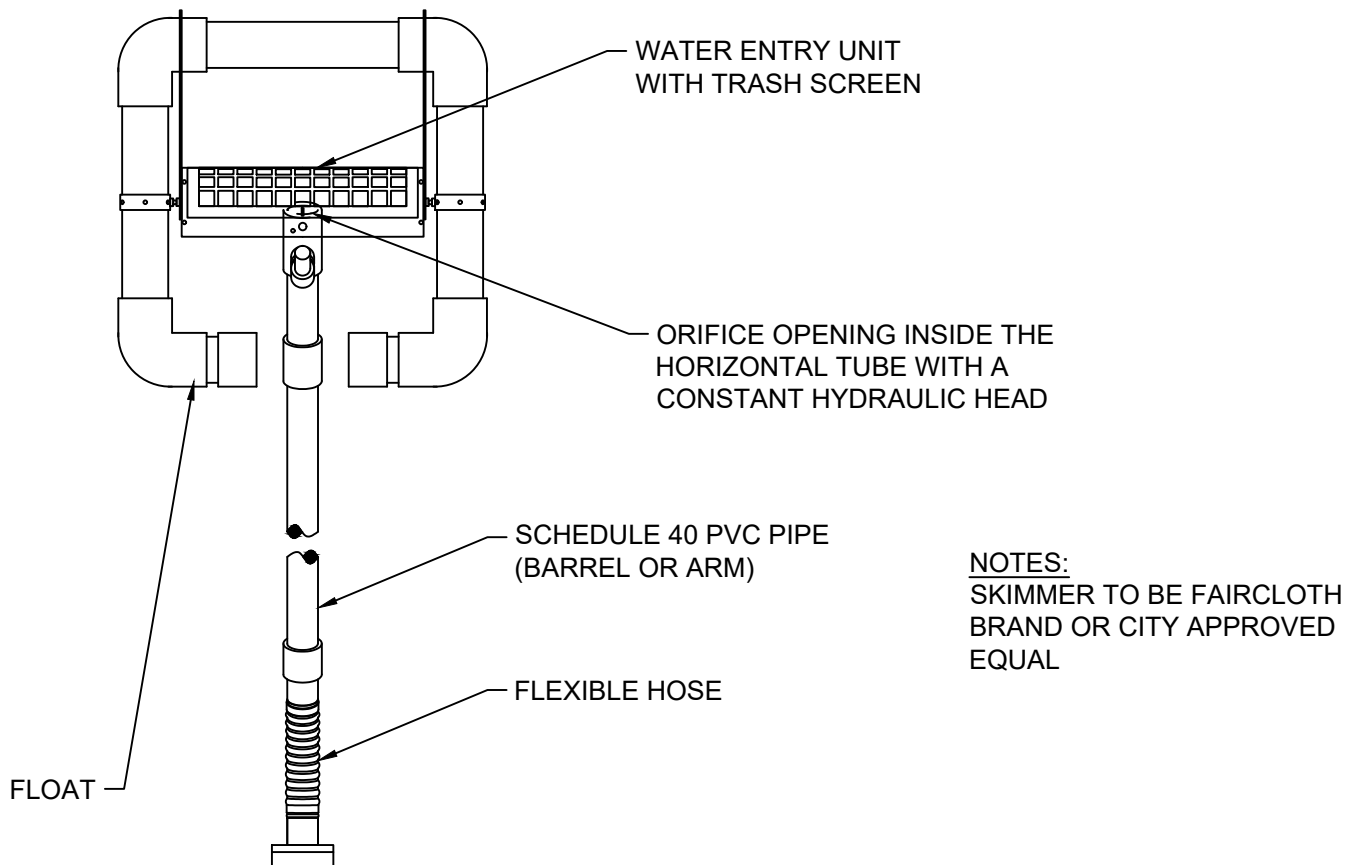
2026 Standard Detail Plates

TEMPORARY SEDIMENT TRAP

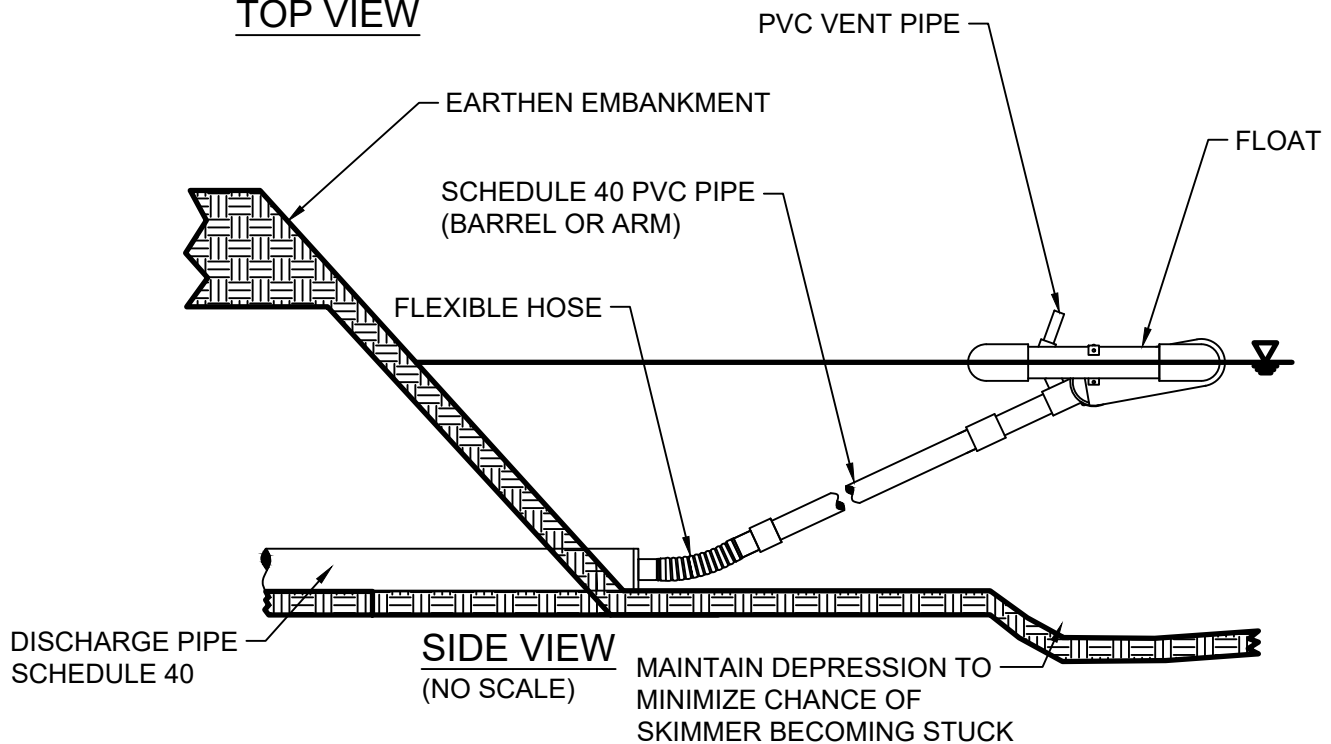
LAST REVISION:
06/28/2024



PLATE NO.
ERO-8



TOP VIEW



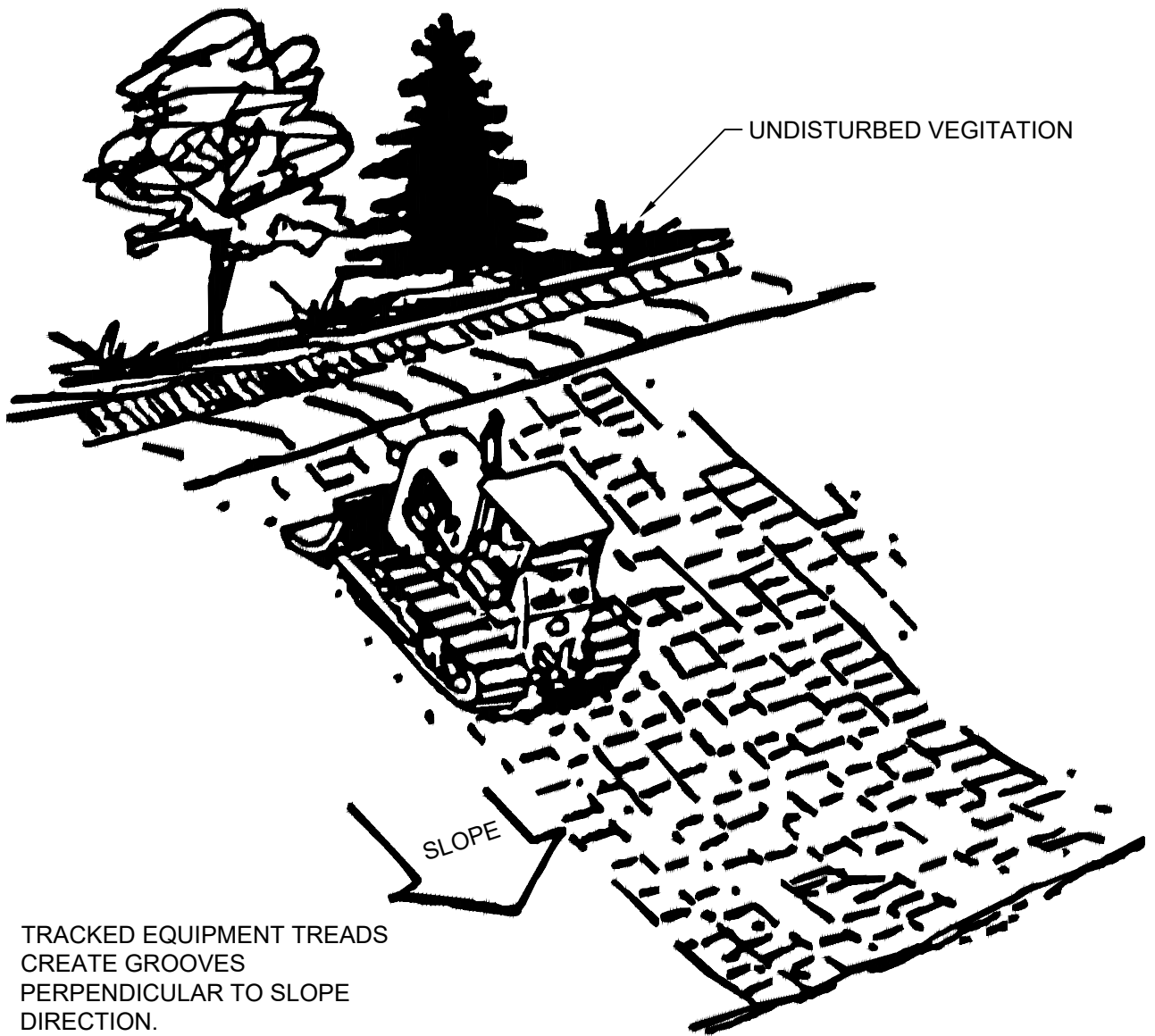
2026 Standard Detail Plates

TEMPORARY SEDIMENT BASIN SKIMMER

LAST REVISION:
06/28/2024



PLATE NO.
ERO-9



NOTE:

ALL SLOPES WITH A GRADE EQUAL TO OR STEEPER THAN 3:1 REQUIRE SLOPE TRACKING. SLOPES WITH A GRADE MORE GRADUAL THAN 3:1 REQUIRE SLOPE TRACKING IF THE STABILIZATION METHOD IS EROSION CONTROL BLANKET OR HYDROMULCH.



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SLOPE TRACKING

LAST REVISION:
06/28/2024



PLATE NO.
ERO-10