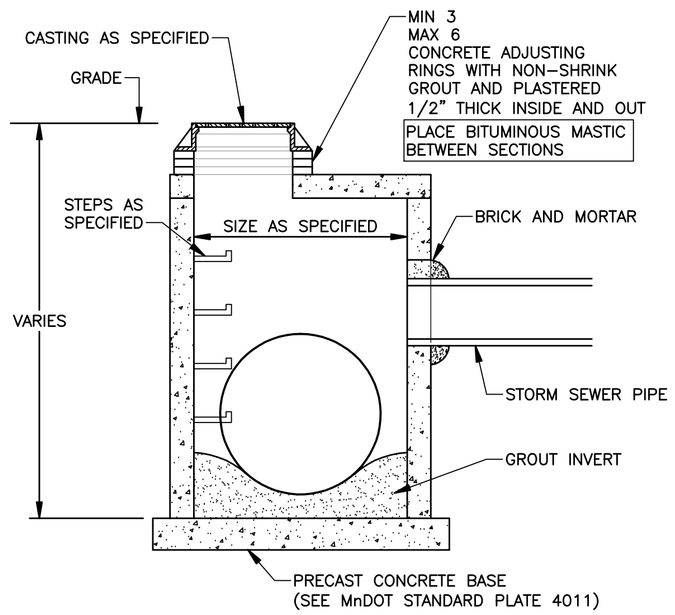
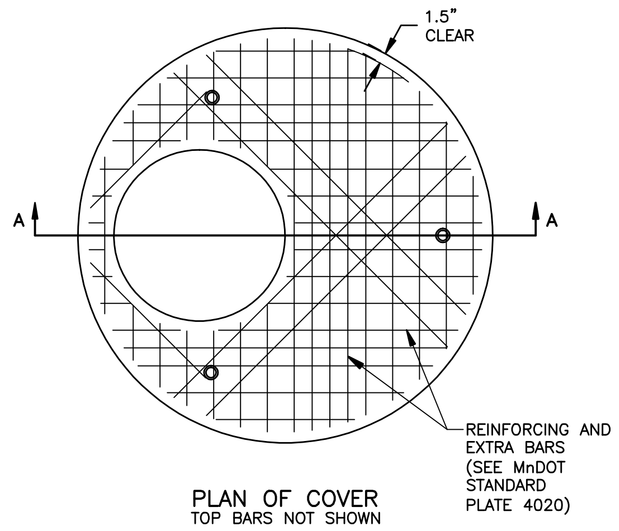


TYPICAL DESIGN 4020 MANHOLE/CATCH BASIN

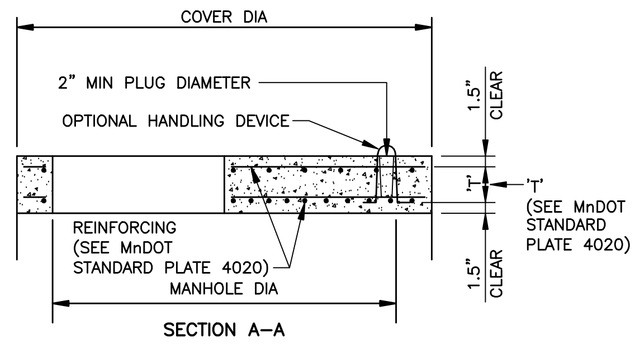


PLAN OF COVER
TOP BARS NOT SHOWN

NOTES:

1. AASHTO HS 25 LOADING MAX FILL HEIGHT 15'
2. THE # 4020 SHALL BE PERMANENTLY MARKED ON THE TOP COVER
3. EQUIVALENT STEEL AREAS IN WIRE MESH MAY BE USED
4. REINFORCEMENT PER SPEC 3301, GRADE 60 A SINGLE HOOP OF 8ga STEEL WIRE

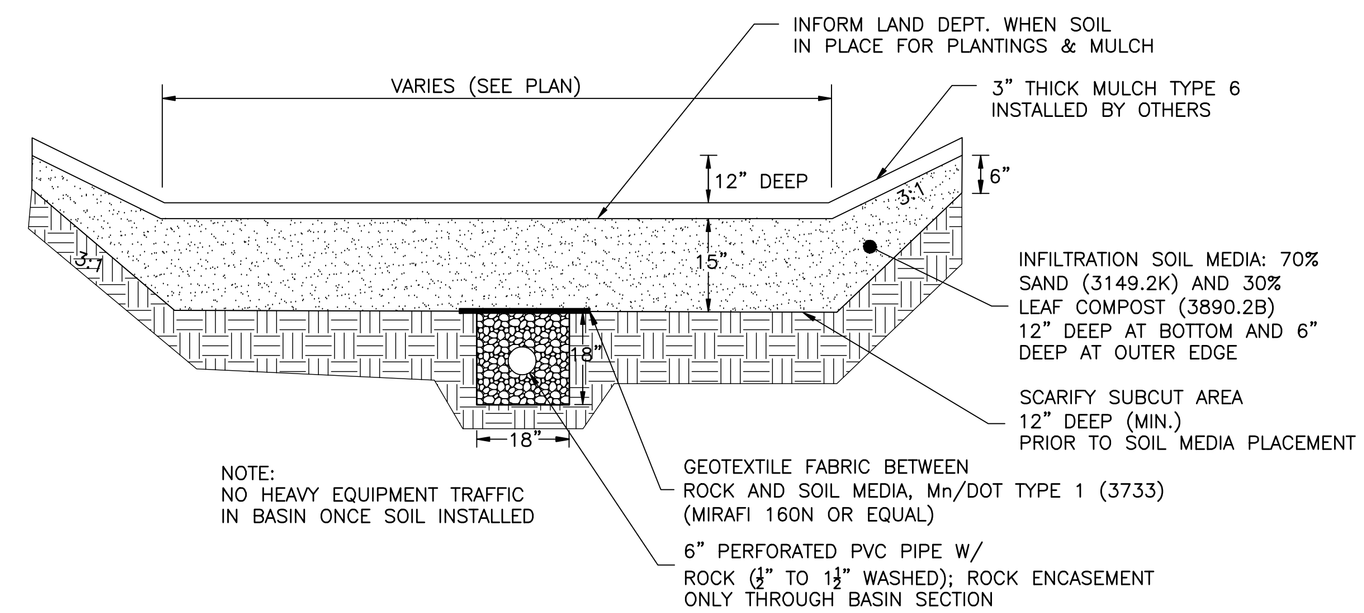
DESIGNATION:
DESIGN DIAMETER – STANDARD PLATE #
DESIGN 48–4020



SECTION A–A

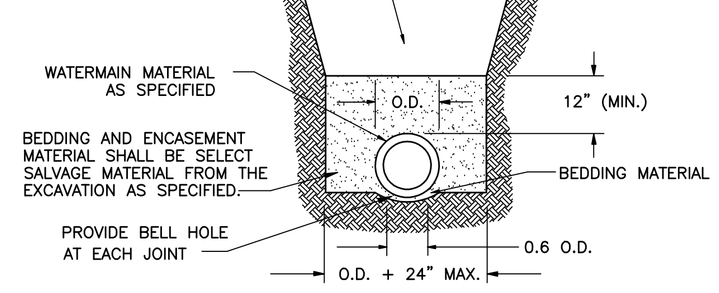
STORM SEWER STRUCTURE DESIGN 4020

NOT TO SCALE

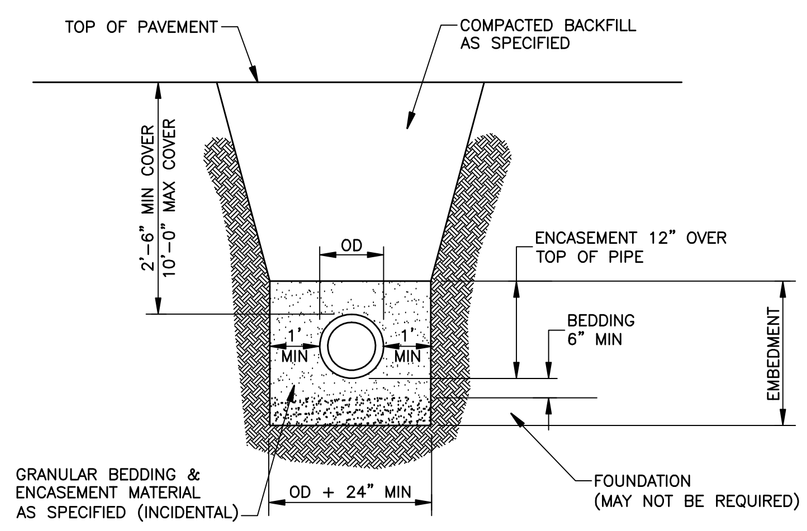


BIORETENTION CROSS SECTION

NOT TO SCALE



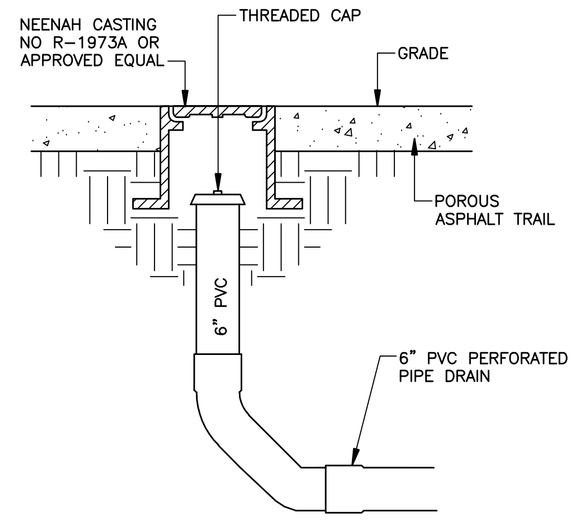
DUCTILE IRON WATERMAIN TRENCH



NOTES:
1. PIPE MATERIAL REQUIREMENTS PER CURRENT AASHTO REQUIREMENTS.
2. EMBEDMENT MATERIAL PER SPEC 3149.2D MODIFIED TO 100% PASSING THE 1" SIEVE.
3. CONSTRUCTION REQUIREMENTS PER SPEC 2451 MODIFIED SO THAT EMBEDMENT MATERIAL IS COMPACTED IN UNIFORM LIFTS, 8" OR LESS IN DEPTH, LOOSE MEASURE, TO 95% STANDARD PROCTOR DENSITY FROM THE BEDDING TO A MIN DEPTH OF AT LEAST 12" ABOVE THE CROWN OF THE PIPE.
4. BEDDING TO BE CLASS C PER SPEC 2451.3.
5. TRENCH WIDTH PER ASTM D2321 EXCEPT AS MODIFIED TO PROVIDE A MINIMUM OF 1–FOOT ON EACH SIDE OF THE PIPE TO ALLOW FOR COMPACTION.
6. COST FOR FURNISHING AND INSTALLING GRANULAR BEDDING AND ENCASEMENT MATERIALS SHALL BE INCLUDED IN THE PRICE BID FOR NON–RIGID PIPE, PER LINEAR FOOT (WHEN SUBSTITUTED FOR RC PIPE).

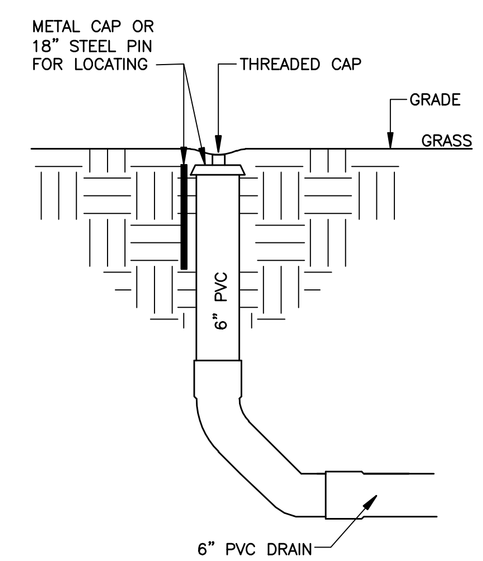
PVC STORM SEWER TRENCH

NOT TO SCALE



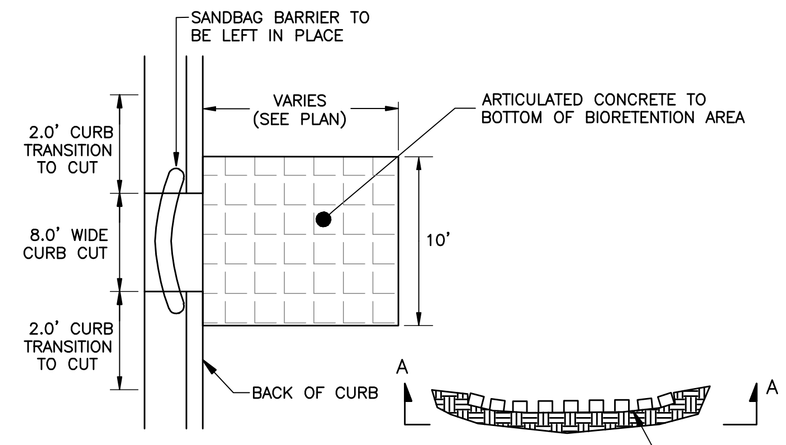
SUBSURFACE DRAIN CLEANOUT UNDER SIDEWALK

NOT TO SCALE

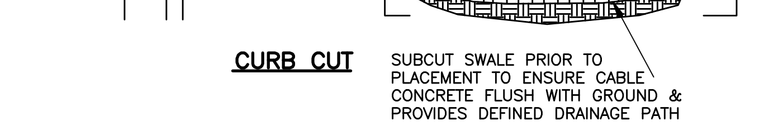


SUBSURFACE DRAIN CLEANOUT

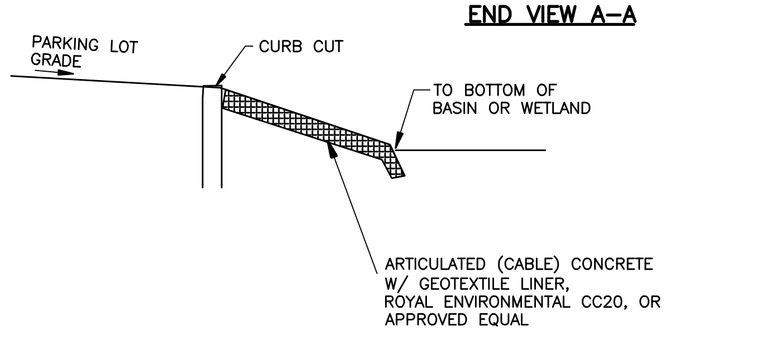
NOT TO SCALE



CURB CUT



END VIEW A–A



PROFILE VIEW

ARTICULATED (CABLE) CONCRETE DETAIL

NOT TO SCALE

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

DANIEL A. LONNES
LIC. NO. 42779 DATE 05/05/2009

DESIGNED DLG/DMP
DRAWN DDS
CHECKED DAL

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REV.	BY	DATE

SHAKOPEE MDEWAKANTON SIOUX COMMUNITY
GOVERNMENT CENTER PERVIOUS PAVEMENT PARKING LOT
CIVIL DETAILS

SHEET 1.06