



DRAINAGE CONSTRUCTION STANDARD DETAILS

D-0001	Single Grate Catch Basin
D-0002	Double Grate Catch Basin
D-0003	Direct Inlet Catch Basin
D-0004	Typical Drain Manhole
D-0005	Eccentric Manhole
D-0006	Sump Manhole
D-0007	Manhole & Catch Basin General Notes & Dimensions
D-0008	Typical Utility Pipe Trench Detail
D-0009	Typical Subdrain
D-0010	Typical Drywell
D-0011	Sump Pump Recharge/Infiltration System
D-0012	Typical Leaching Catch Basin

STANDARD GRATE (OR CASCADE GRATE AS SPECIFIED)

GRANITE CURB SHALL BE CUT AS REQUIRED TO SET CATCH BASIN

TOP OF CURB

FINISHED ROAD GRADE

SET CASTING IN GROUT AND GROUT ALL AROUND TO 4" ABOVE FLANGE (UNLESS OTHERWISE NOTED)

USE BRICK COURSES AS NEEDED TO BRING MANHOLE RIM TO REQUIRED ELEVATION (MIN 2 COURSES AND MAX 5 COURSES OF BRICK) SEAL INSIDE AND OUTSIDE OF BRICK WITH HYDRAULIC CEMENT

10" MINIMUM THICKNESS (H2O LOADING)

24" Ø

STANDARD PRECAST BARREL SECTION COMBINATIONS OF 1', 2' 3' OR 4' LENGTHS AS NEEDED TO BRING CATCH BASIN RIM TO REQUIRED ELEVATION

4'-0"

BUTYL RUBBER JOINT (TYP.)

HOOD OR INSERT AS REQUIRED

4' MINIMUM SUMP DEPTH UNLESS OTHERWISE APPROVED

USE NON SHRINK GROUT FOR RCP AND HDPE CONNECTIONS. CAST OPENING IN STRUCTURE (TYP)

MINIMUM ONE-FOOT DIAMETER HOLE IN CENTER OF BASE, SEE CATCH BASIN NOTE 5 D-4.3.0.

STANDARD PRECAST BASE IN 3' LENGTHS (MIN)

5" MINIMUM WALL THICKNESS

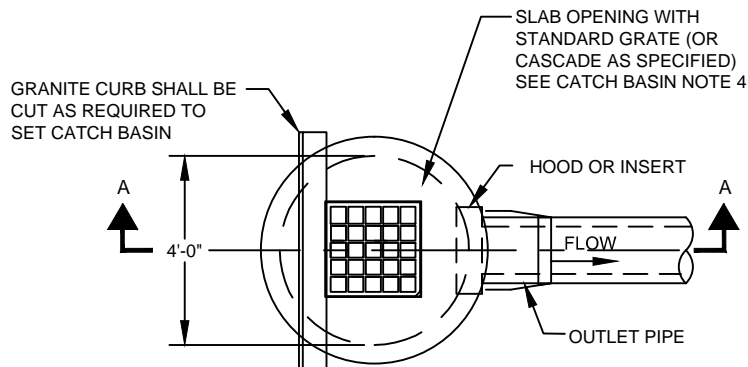
6" MINIMUM THICKNESS

SEAL ALL HOLES WITH HYDRAULIC CEMENT

12" (MIN) OF 3/4" CRUSHED STONE BEDDING UNLESS OTHERWISE NOTED

UNDISTURBED EARTH

SECTION A-A



PLAN



SINGLE GRATE CATCH BASIN

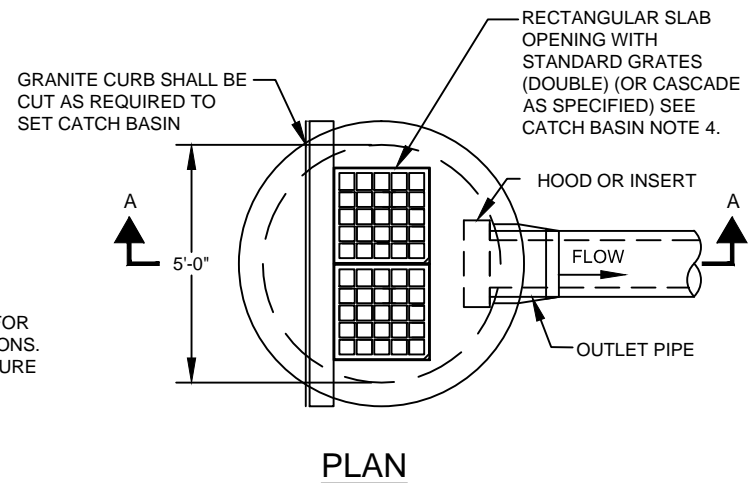
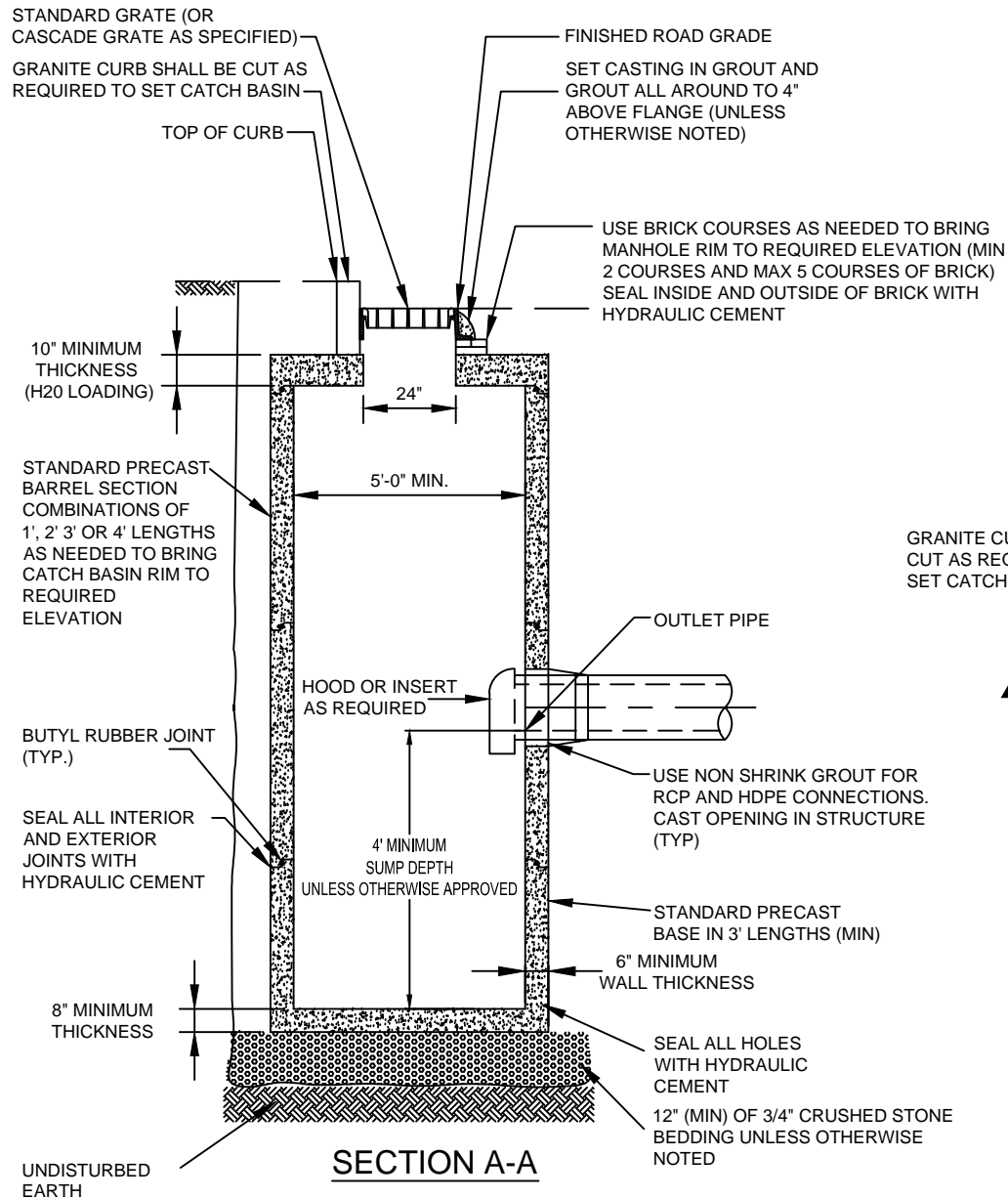
OCT. 2014

NOT TO SCALE

REVISION

①

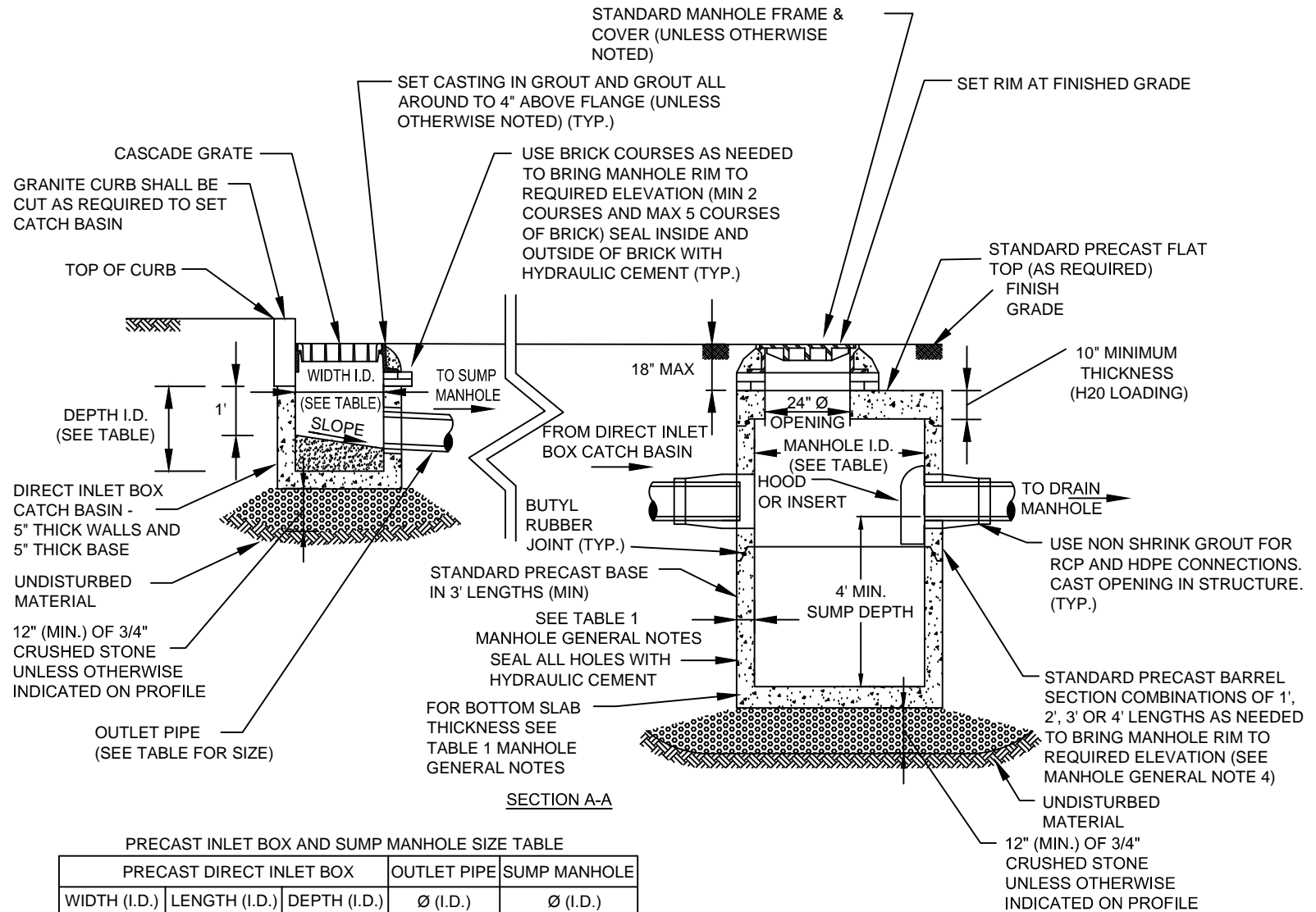
D-0001



DOUBLE GRATE CATCH BASIN

OCT. 2014
NOT TO SCALE
REVISION
①

D-0002



SECTION A-A

PRECAST INLET BOX AND SUMP MANHOLE SIZE TABLE

	PRECAST DIRECT INLET BOX			OUTLET PIPE	SUMP MANHOLE
	WIDTH (I.D.)	LENGTH (I.D.)	DEPTH (I.D.)	Ø (I.D.)	Ø (I.D.)
SINGLE GRATE	24"	24"	24"	12"	4'
DOUBLE GRATE	24"	48"	36"	15"	5'

I.D. = INSIDE DIMENSION



DIRECT INLET CATCH BASIN

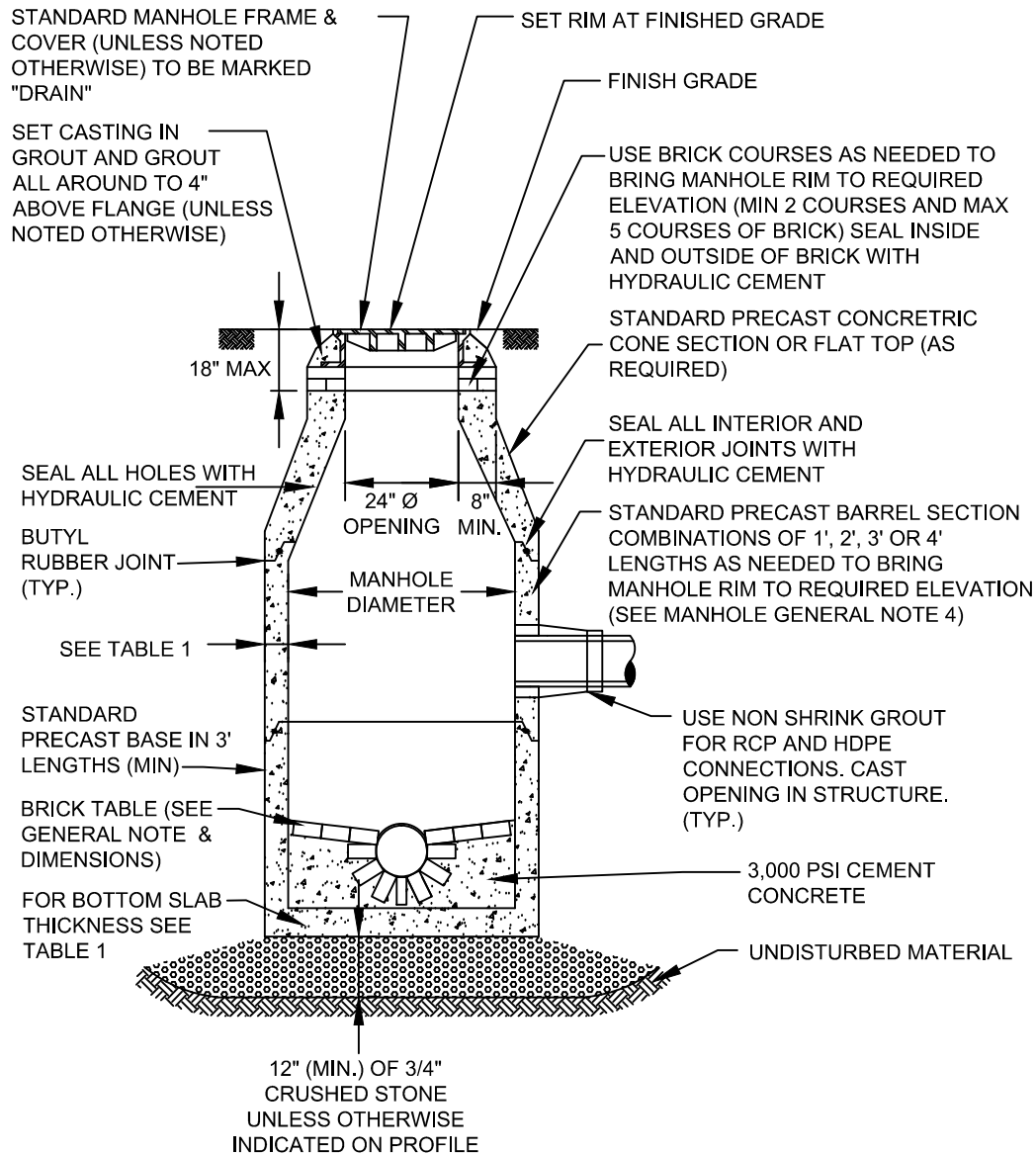
JAN. 2015

NOT TO SCALE

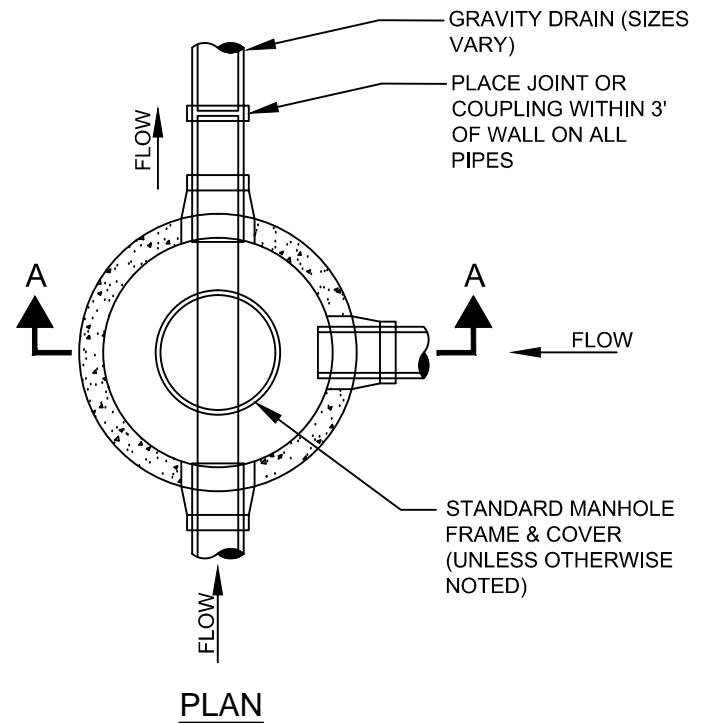
REVISION

①

D-0003



SECTION A-A



TYPICAL DRAIN
MANHOLE

JAN. 2015

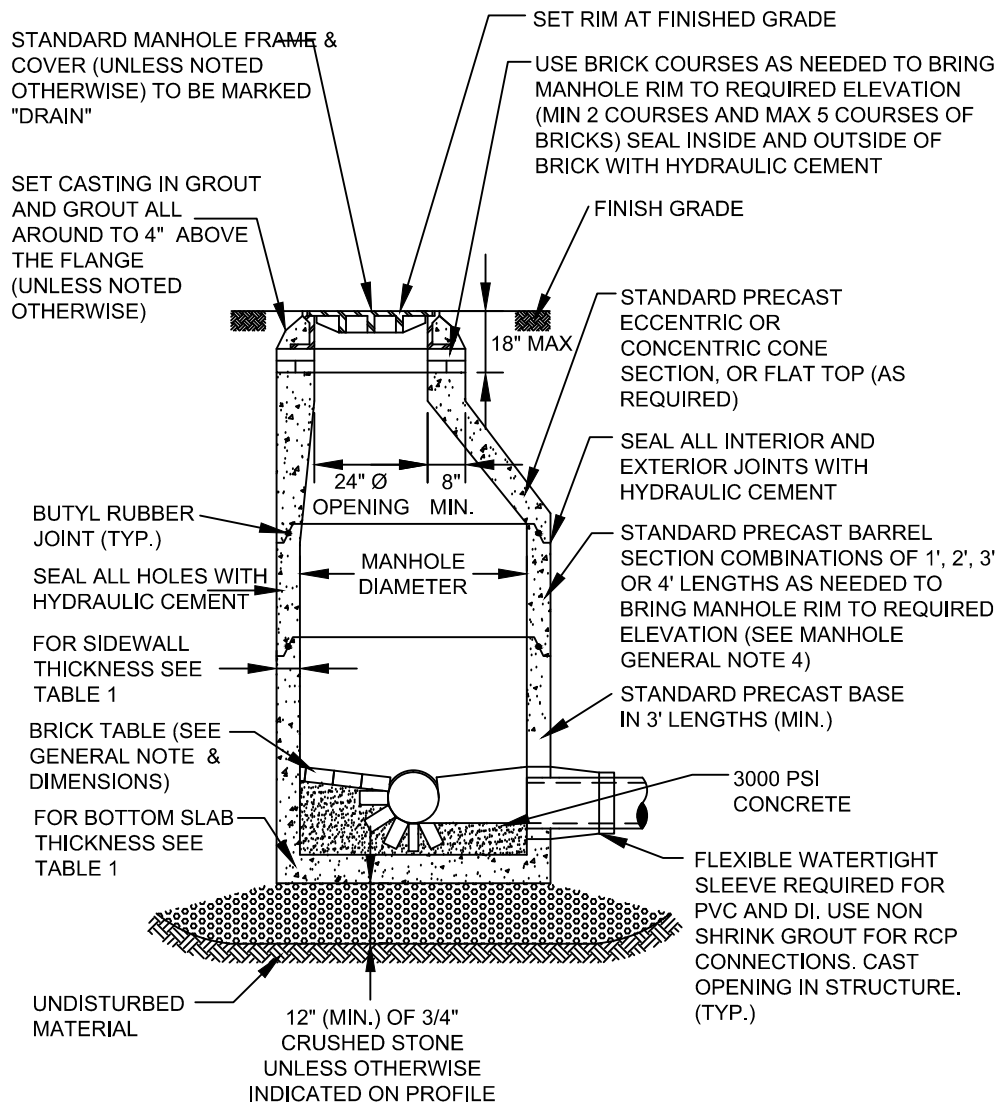
NOT TO SCALE

REVISION

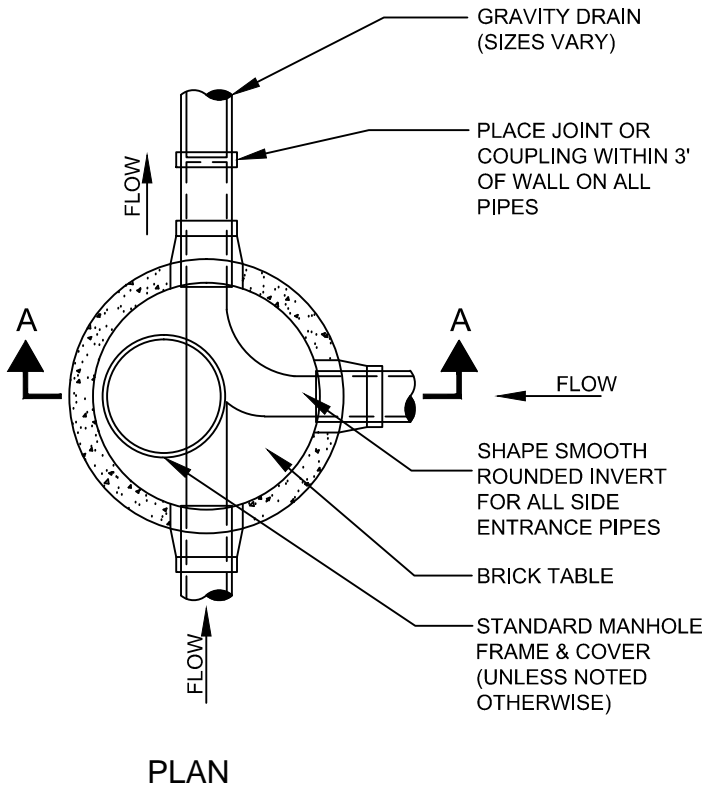
①

D-0004





SECTION A-A



STANDARD MANHOLE FRAME & COVER (UNLESS NOTED OTHERWISE) TO BE MARKED "DRAIN"

SET CASTING IN GROUT AND GROUT ALL AROUND TO 4" ABOVE FLANGE (UNLESS NOTED OTHERWISE)

SET RIM AT FINISHED GRADE

USE BRICK COURSES AS NEEDED TO BRING MANHOLE RIM TO REQUIRED ELEVATION (MIN 3 COURSES AND MAX 5 COURSES OF BRICK) SEAL INSIDE AND OUTSIDE OF BRICK WITH HYDRAULIC CEMENT

FINISH GRADE

STANDARD PRECAST ECCENTRIC OR CONCRETIC CONE SECTION OR FLAT TOP (AS REQUIRED)

SEAL ALL INTERIOR AND EXTERIOR JOINTS WITH HYDRAULIC CEMENT

STANDARD PRECAST BARREL SECTION COMBINATIONS OF 1', 2', 3' OR 4' LENGTHS AS NEEDED TO BRING MANHOLE RIM TO REQUIRED ELEVATION (SEE MANHOLE GENERAL NOTE 4)

SEAL ALL HOLES WITH HYDRAULIC CEMENT

BUTYL RUBBER JOINT (TYP.)

SEE TABLE 1

STANDARD PRECAST BASE IN 3' LENGTHS (MIN)

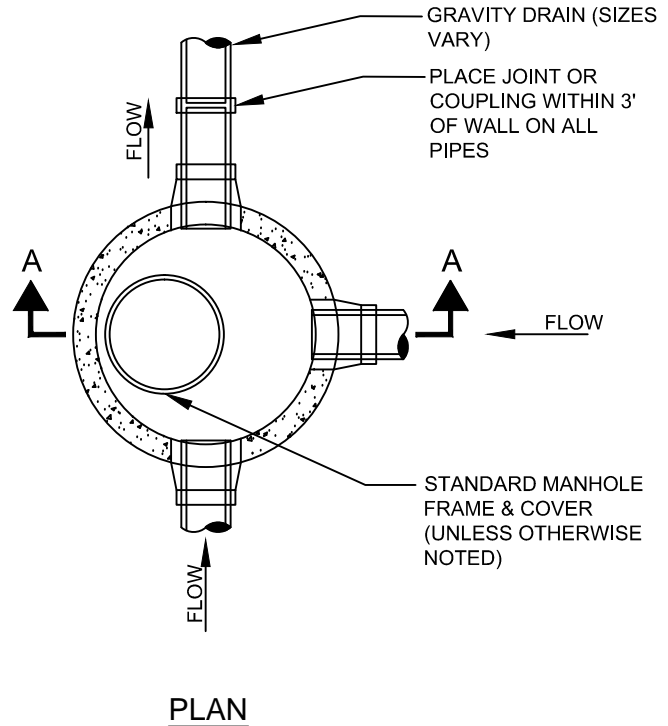
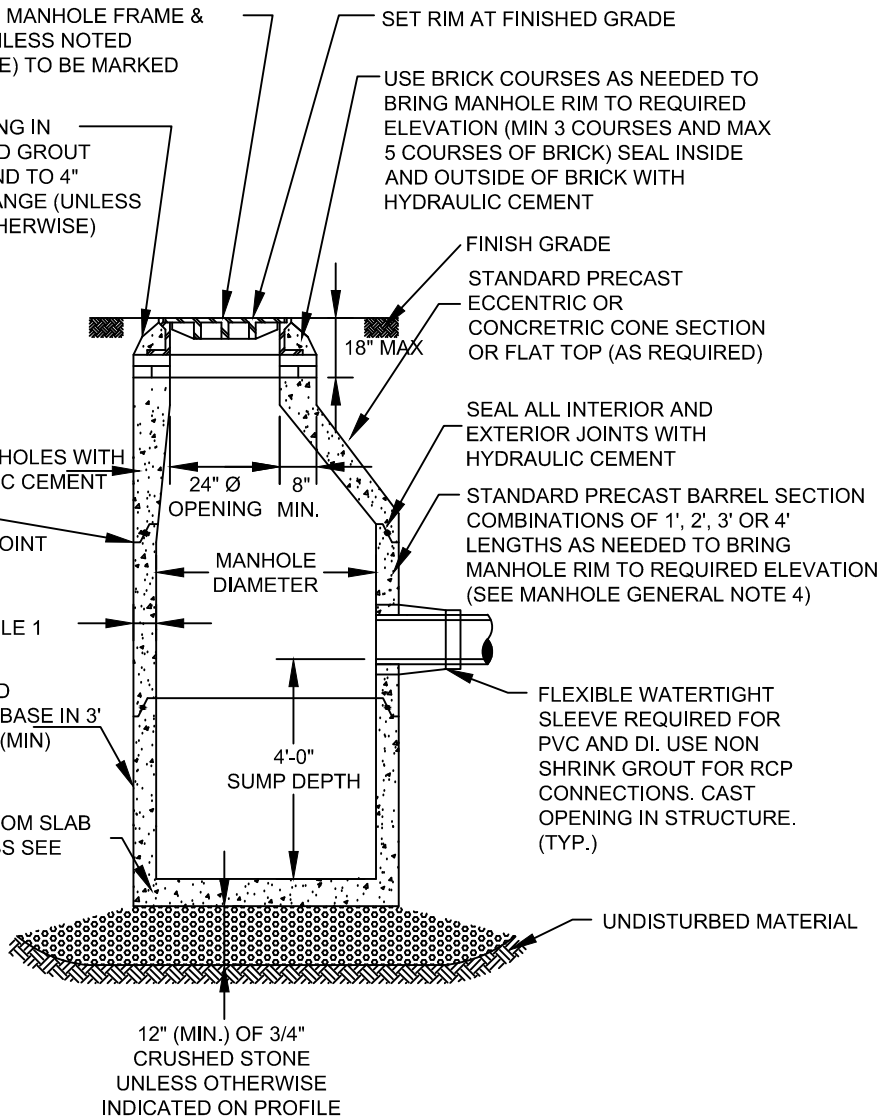
FOR BOTTOM SLAB THICKNESS SEE TABLE 1

FLEXIBLE WATERTIGHT SLEEVE REQUIRED FOR PVC AND DI. USE NON SHRINK GROUT FOR RCP CONNECTIONS. CAST OPENING IN STRUCTURE. (TYP.)

UNDISTURBED MATERIAL

12" (MIN.) OF 3/4" CRUSHED STONE UNLESS OTHERWISE INDICATED ON PROFILE

SECTION A-A



SUMP MANHOLE



JAN. 2015
NOT TO SCALE
REVISION ①

D-0006

TRENCH PAY LIMIT TABLE FOR MANHOLES AND CATCH BASINS

WALL THICKNESS	MAX TRENCH WIDTH
LESS THAN 6"	I.D. + 5'-0"
6" TO 12"	I.D. + 6'-0"
13" TO 18"	I.D. + 7'-0"
19" & GREATER	O.D. + 6'-0"

I.D. = INSIDE DIMENSION
O.D. = OUTSIDE DIMENSION

FOR TRENCHES GREATER THAN 5' DEEP ADD 3' FOR
TEMPORARY SUPPORT OF EXCAVATION

GENERAL CATCH BASIN NOTES:

1. FACE OF PIPE SHALL NOT PROJECT MORE THAN 4-INCHES FROM FACE OF WALL ALONG CENTERLINE OF PIPE.
2. DESIGN PRECAST SECTIONS WITH FRAME AND GRATE FOR AASHTO H20 LOADING UNLESS OTHERWISE NOTED.
3. PRECAST TOP SLAB OPENING CAN BE CENTERED OR OFFSET AS NECESSARY.
4. GRATE VANES SHALL BE INSTALLED IN DIRECTION TO RECEIVE FLOWS.
5. CATCH BASIN BASE SHALL BE SOLID (NO HOLE IN CENTER) IF THE SEASONAL HIGH GROUNDWATER TABLE IS LESS THAN 2 FEET BELOW THE BASE.

MANHOLE DIAMETER	SIDE WALL MIN. THICKNESS	BOTTOM SLAB MIN. THICKNESS	MAX PIPE DIAMETER *	
			RCP	DI/PVC
4'	5"	6"	24"	30"
5'	6"	8"	36"	42"
6'	6"	8"	48"	54"
8'	8"	8"	66"	72"
10'	10"	10"	72"	84"

* MAY VARY DEPENDING ON SIZE AND LOCATION OF ADDITIONAL PENETRATIONS OR RELATIONSHIP OF PENETRATIONS IN MANHOLE

MANHOLE GENERAL NOTES:

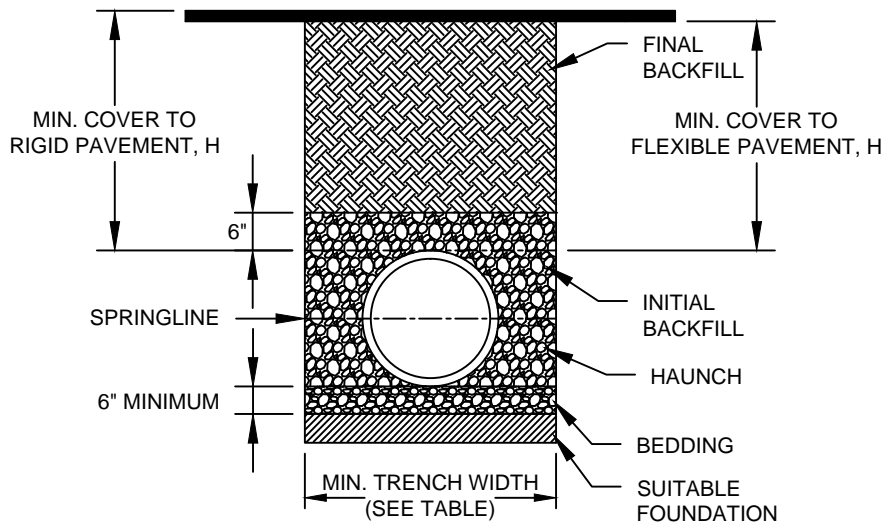
1. DRAIN MANHOLE DIAMETER SHALL BE 4', 5', 6', 8' OR 10' AS SHOWN ON PLAN/PROFILE VIEWS.
2. DESIGN PRECAST SECTIONS WITH FRAME AND COVER FOR AASHTO H20 LOADINGS UNLESS OTHERWISE NOTED.
3. MANHOLES LARGER THAN 4' IN DIAMETER AT THE BASE SHALL BE REDUCED IN DIAMETER TO 4' AT THE NEXT RISER SECTION UNLESS NOTED OTHERWISE ON PLANS.



MANHOLES & CATCH BASINS
GENERAL NOTES & DIMENSIONS

JAN. 2015
NOT TO SCALE
REVISION
①

D-0007



RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

NOTES:

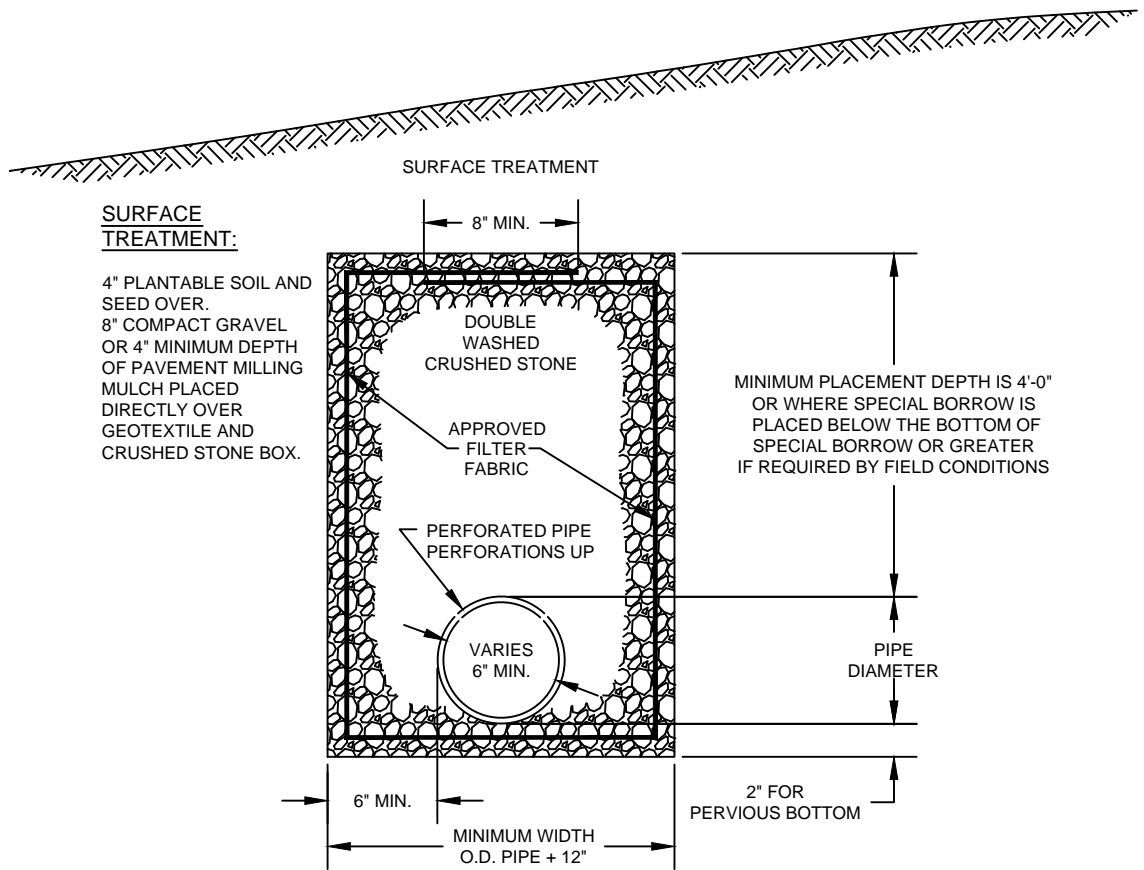
1. ALL BACKFILL SHALL BE PLACED AND COMPACTED IN 6" LIFTS
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. **FOUNDATION:** WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. **BEDDING:** PIPE BEDDING FOR WATER UTILITIES SHALL BE SAND. PIPE BEDDING FOR SANITARY AND STORMWATER SEWER UTILITIES SHALL BE 3/4" DIAMETER CRUSHED STONE.
5. **INITIAL BACKFILL:** SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
6. **MINIMUM COVER:** MINIMUM COVER, H, SHALL BE IN ACCORDANCE WITH TOWN OF ARLINGTON SPECIFICATIONS, REGULATIONS, AND STANDARDS.



TYPICAL UTILITY PIPE TRENCH DETAIL

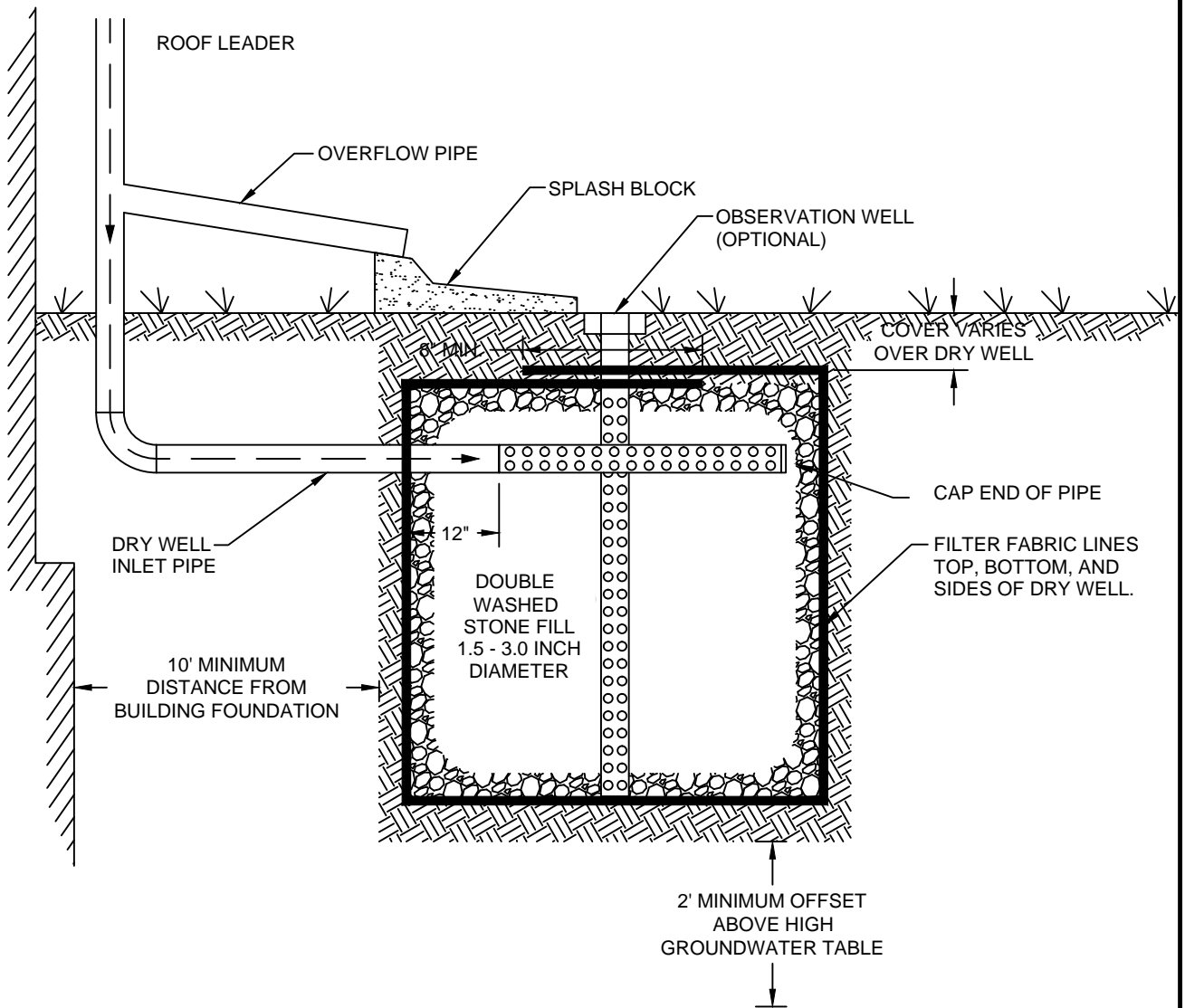
JAN. 2015
NOT TO SCALE
REVISION
①

D-0008



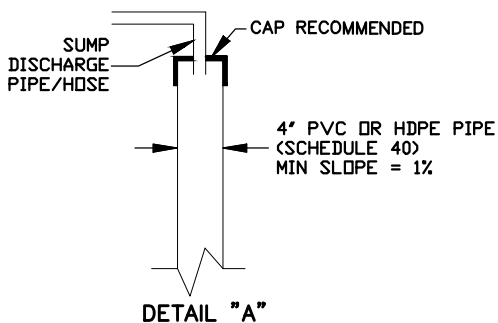
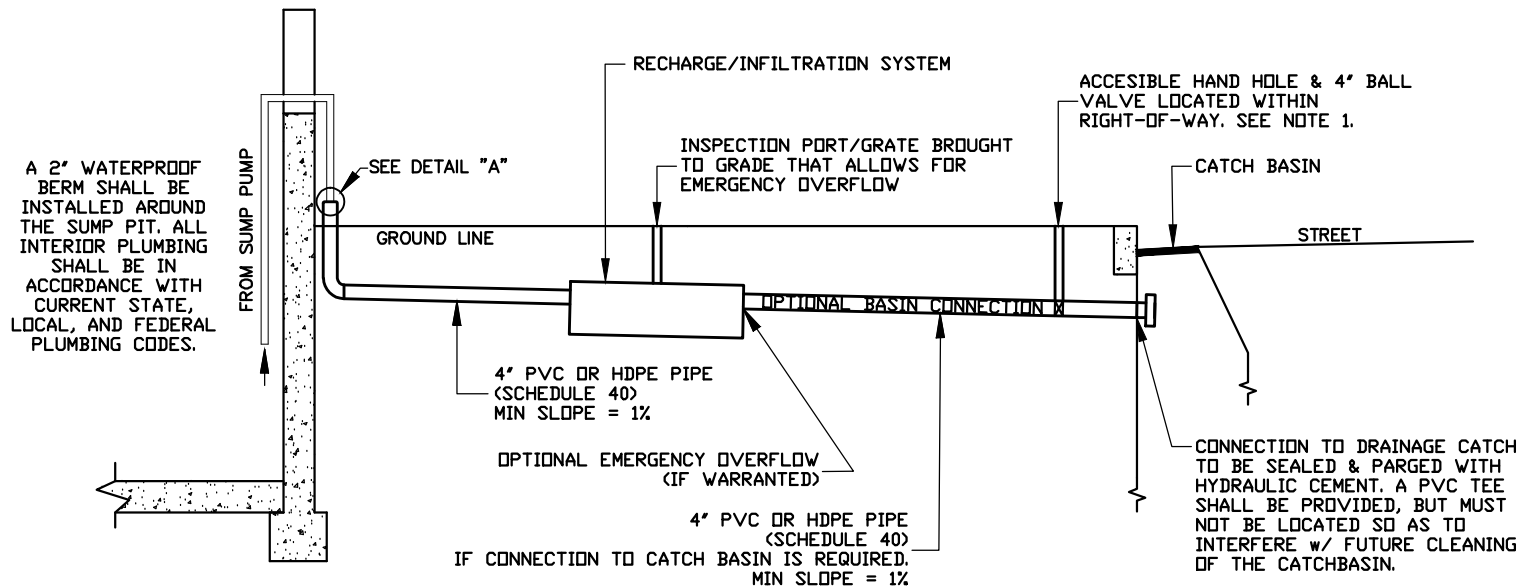
NOTES:

1. PIPE UNDER R.O.W. SCHEDULE 20 OR 40 PERFORATED PVC.
2. OUTLET PIPE UNDER ROADWAY SHALL BE SCHEDULE 80.
3. PIPE SHALL BE SET AT BOTTOM OF TRENCH FOR IMPERVIOUS BOTTOM.
4. GRAVEL (AND SPECIAL BORROW WHERE REQUIRED) SHALL INTERSECT CRUSHED STONE FOR SUBDRAIN.
5. FILTER FABRIC SHALL BE APPROVED, MHD TYPE III WATER PERMEABLE SYNTHETIC FABRIC.



NOTES:

1. DRY WELL TO BE SIZED BY DESIGN ENGINEER FOR PROPOSED CONDITIONS.
2. OPTIONAL: INSTALL REINFORCED CONCRETE CHAMBER WITH HOLES, SURROUNDED WITH CLEAN WASHED STONE, AND FILTER FABRIC.



NOTES:

1. ACCESSIBLE HAND HOLE SHALL BE INSTALLED WITHIN THE RIGHT-OF-WAY (BUT OFF OF ROADWAY SURFACE) TO PROVIDE ACCESS TO A 4' BALL VALVE SHUTOFF. HAND HOLE SHALL BE INSULATED AND COVER SHALL BE FULLY COMPLIANT WITH ALL REQUIREMENTS FOR SIDEWALKS, WALKWAYS, AND ACCESSIBILITY STANDARDS OF THE AMERICANS WITH DISABILITIES ACT (ADA).
2. WARNING TAPE SHALL BE INSTALLED 6' ABOVE THE ENTIRE LENGTH OF 4' LATERAL.
3. THIS STANDARD DETAIL SKETCH IS INTENDED TO BE USED FOR RECOMMENDATIONS/GUIDANCE ONLY. EACH INDIVIDUAL SITE HAS SPECIFIC RESTRICTIONS AND/OR FEATURES THAT SHOULD BE CONSIDERED IN THE PLANNING STAGE, PRIOR TO IMPROVEMENTS.
4. ALL CONNECTIONS TO TOWN UTILITIES OR INTERESTS ARE SUBJECT TO PERMITTING REQUIREMENTS AND APPROVALS THROUGH THE TOWN OF ARLINGTON ENGINEERING DEPARTMENT AND WATER/SEWER DEPARTMENT.
5. RECHARGE/INFILTRATION SYSTEM: PLANS AND CALCULATIONS SHALL BE SUBMITTED TO THE ARLINGTON ENGINEERING DIVISION FOR REVIEW AND APPROVAL.

TYPICAL LEACHING CATCH BASIN

NOT TO SCALE

