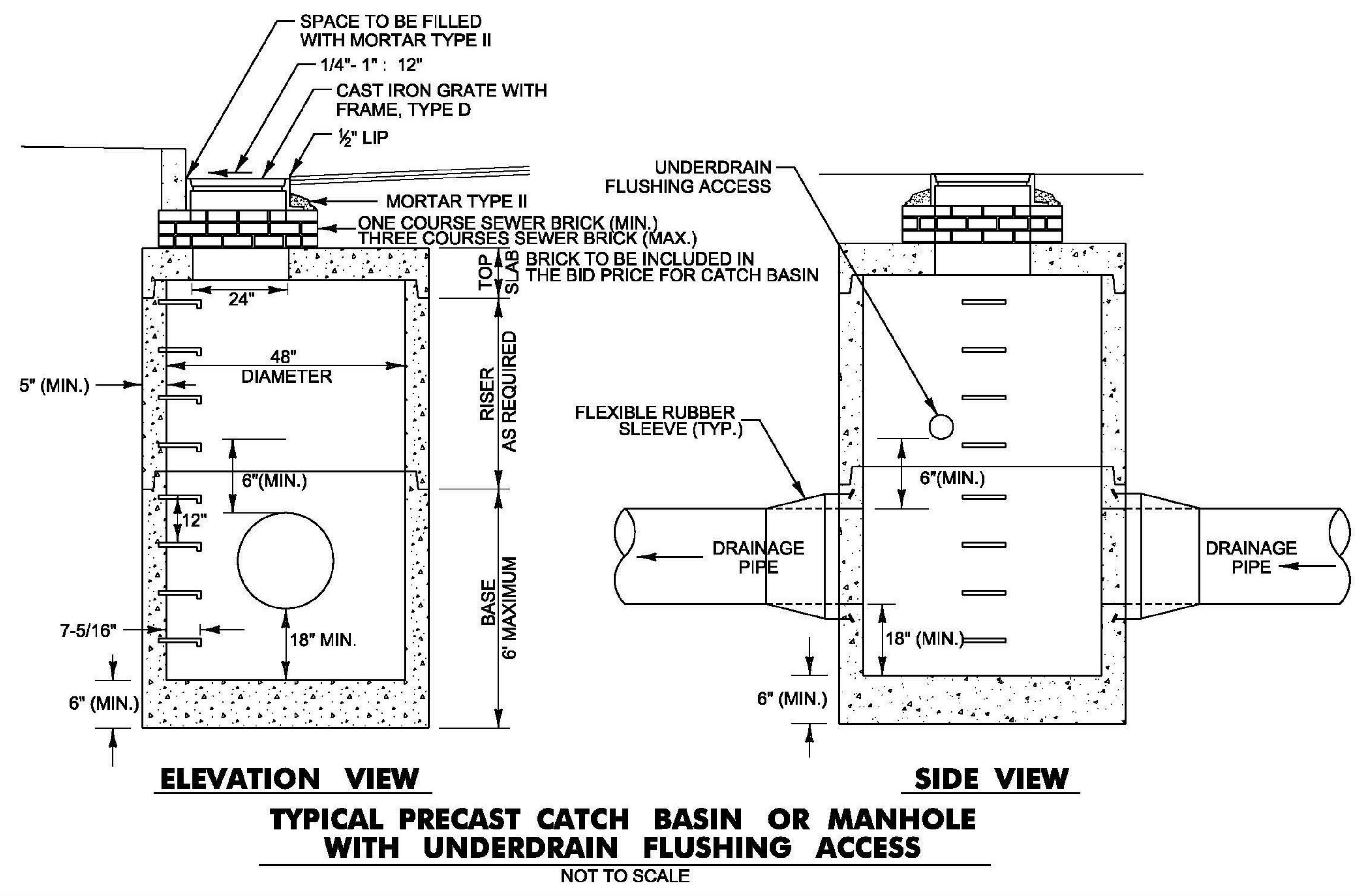
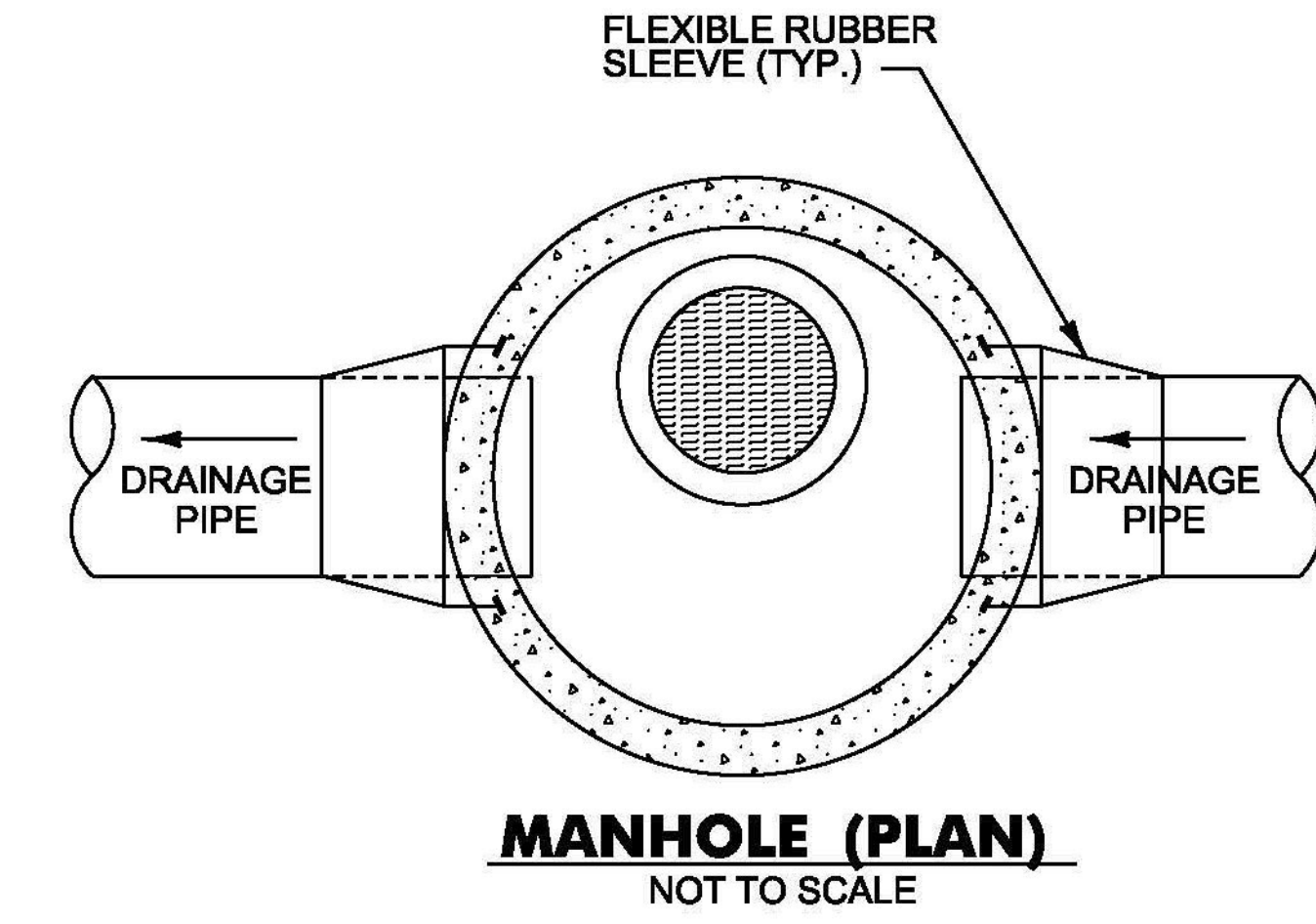
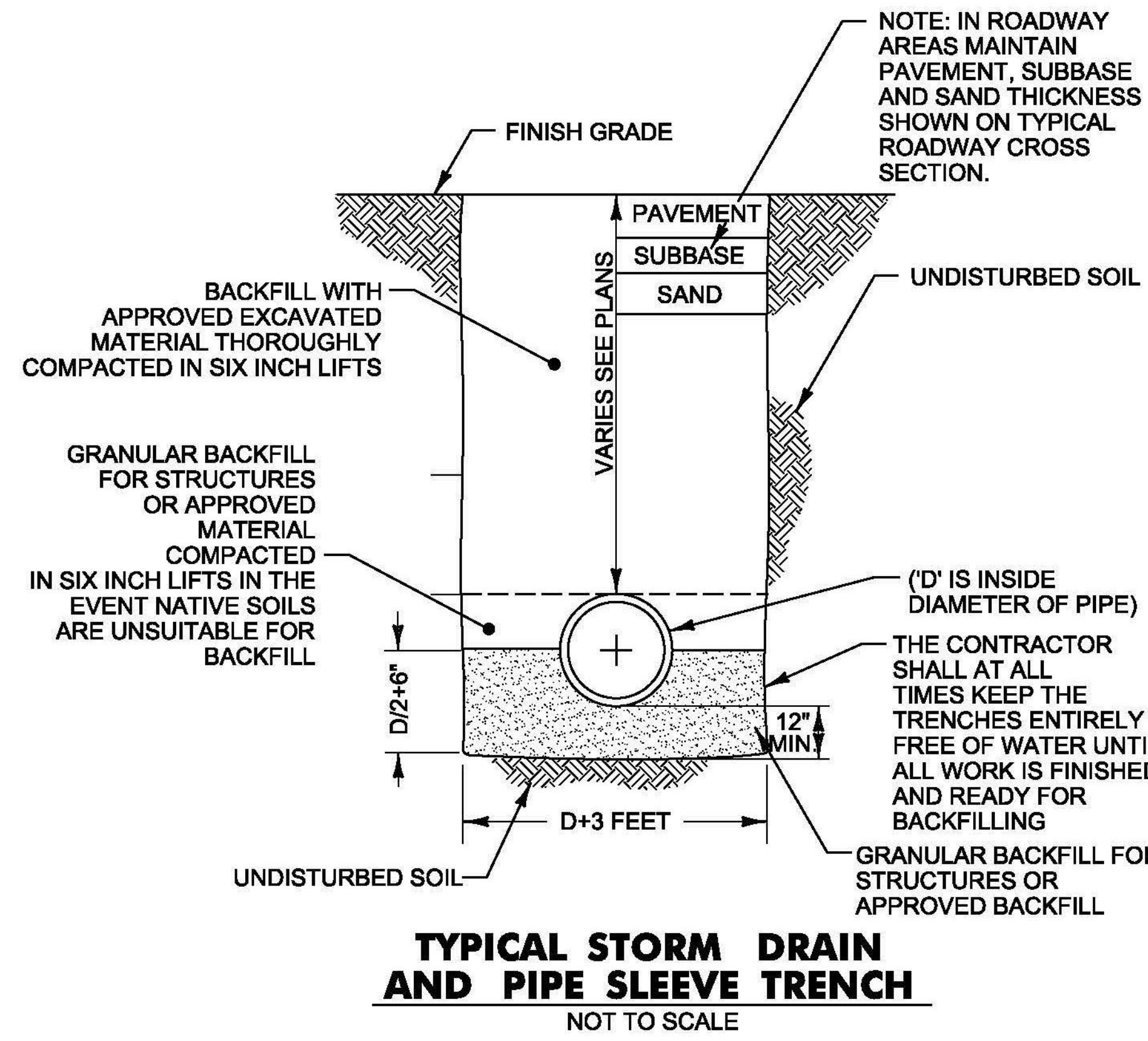
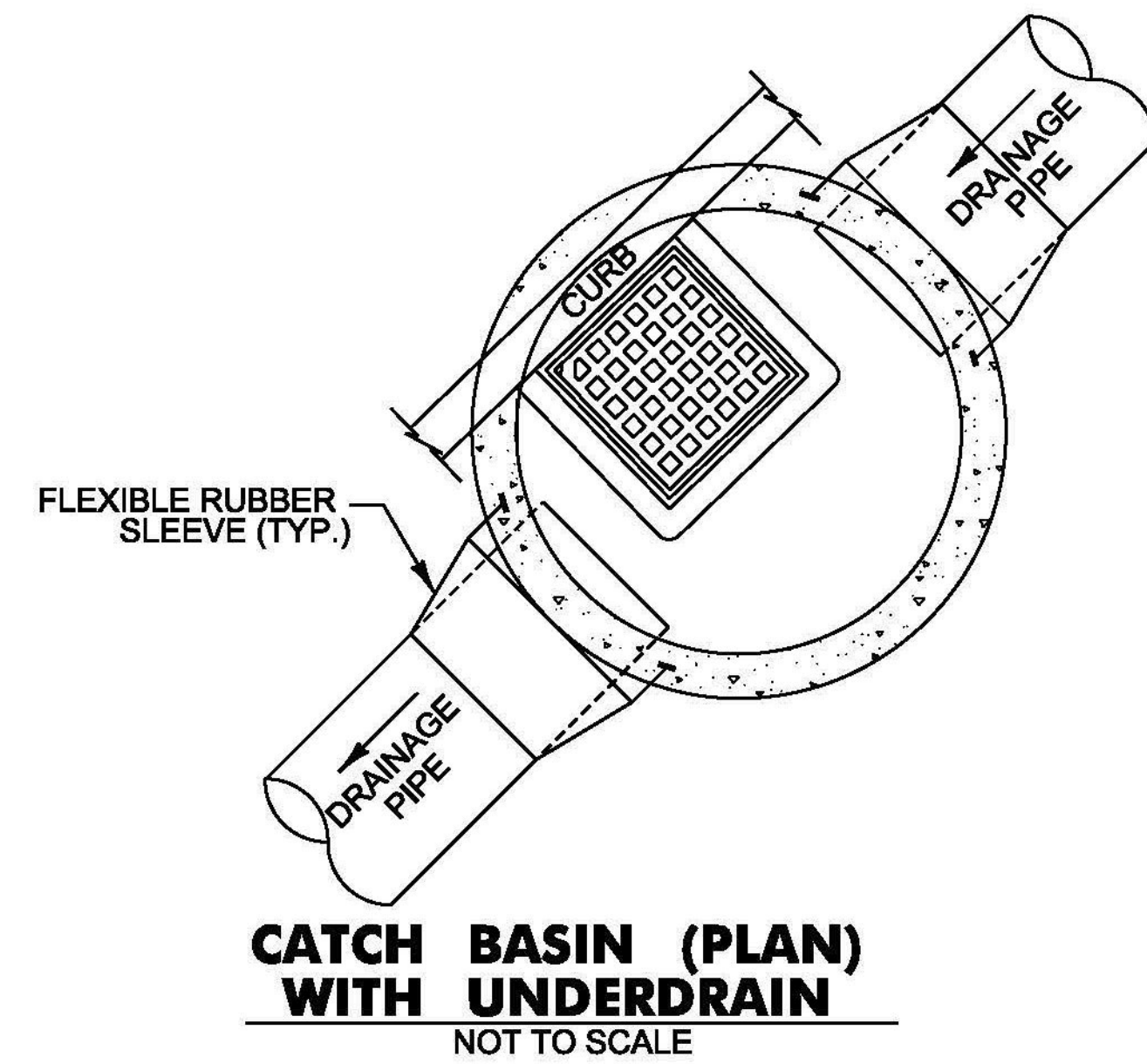


# DRAINAGE DETAILS



## PRECAST REINFORCED CONCRETE CATCH BASIN/MANHOLE NOTES:

1. PRECAST CONCRETE SECTIONS SHALL CONFORM TO SUBSECTION 705.04 OF THE STANDARD SPECIFICATIONS.
2. MINIMUM CONCRETE COMPRESSIVE STRENGTH: 5,000 PSI AT 28-DAYS.
3. STEEL REINFORCING SHALL CONFORM TO ASTM A185 OR A82 FOR HS-25 LOADING.
4. MANHOLE STEPS SHALL BE 14" WIDE STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC AND SHALL BE CAST INTO MANHOLE SECTIONS BY THE PRECAST CONCRETE MANUFACTURER. MANHOLE STEPS IN THE RISER SHALL ALIGN WITH THE MANHOLE STEPS IN BASE OF THE STRUCTURE.
5. FACE OF PIPE SHALL NOT PROJECT MORE THAN TWO INCHES OR LESS THAN 1 INCH FROM INSIDE WALL OF STRUCTURE.
6. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12" OF OUTSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZONTAL CROSS-SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN THREE INCHES TO JOINTS.
7. FITTING FRAME TO FINAL GRADE MAY BE DONE WITH BRICK OR PRECAST CONCRETE GRADE RINGS OF APPROPRIATE THICKNESS (THREE COURSES MAX).
8. FLAT SLAB TOPS SHALL BE USED FOR ALL CATCH BASINS UNLESS OTHERWISE PERMITTED BY THE ENGINEER.
9. ALL PIPE INVERTS AND PENETRATION ANGLES SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
10. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT AND BE ASSEMBLED USING A BUTYL RUBBER OR APPROVED EQUAL SEALANT.
11. PROVIDE FLEXIBLE RUBBER SLEEVES CONFORMING TO ASTM C-923, RESILIENT, OF SIZE REQUIRED, FOR EACH PIPE CONNECTING TO STRUCTURE. SLEEVES SHALL BE CAST INTO PRECAST STRUCTURE BY THE MANUFACTURER FOR ALL PIPE PENETRATIONS.
12. PAYMENT FOR INSTALLATION OF THE CATCH BASIN SHALL BE MADE UNDER THE PRECAST REINFORCED CONCRETE CATCH BASIN WITH CAST IRON GRATE ITEM (604.20).
13. PAYMENT FOR INSTALLATION OF THE MANHOLE SHALL BE MADE UNDER THE PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON COVER ITEM (604.21).
14. DEPTH AS SHOWN ON THE DRAINAGE DETAIL SHEET AND DRAINAGE PROFILE SHEETS IS DEFINED AS THE VERTICAL DISTANCE BETWEEN GRADE RINGS OF APPROPRIATE THICKNESS (THREE COURSES MAX).

PROJECT NAME:	BERLIN
PROJECT NUMBER:	STPG SGNL(40)
FILE NAME:	11b358frm.dgn
PROJECT LEADER:	P. COBURN
DESIGNED BY:	T. SISSON
DRAINAGE DETAIL SHEET	
PLOT DATE:	10/28/2014
DRAWN BY:	T. SISSON
CHECKED BY:	M. LACROIX
SHEET	33 OF 123