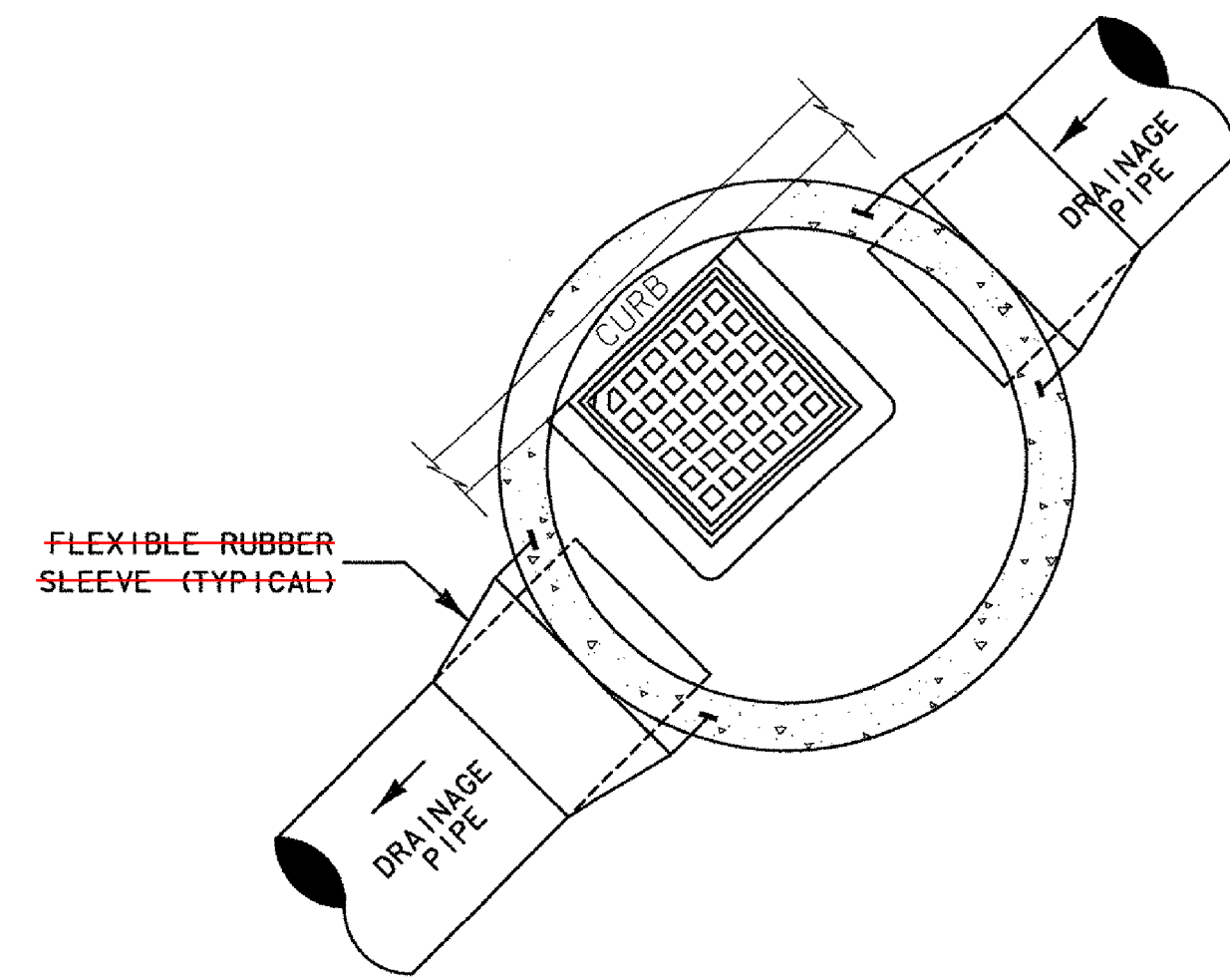
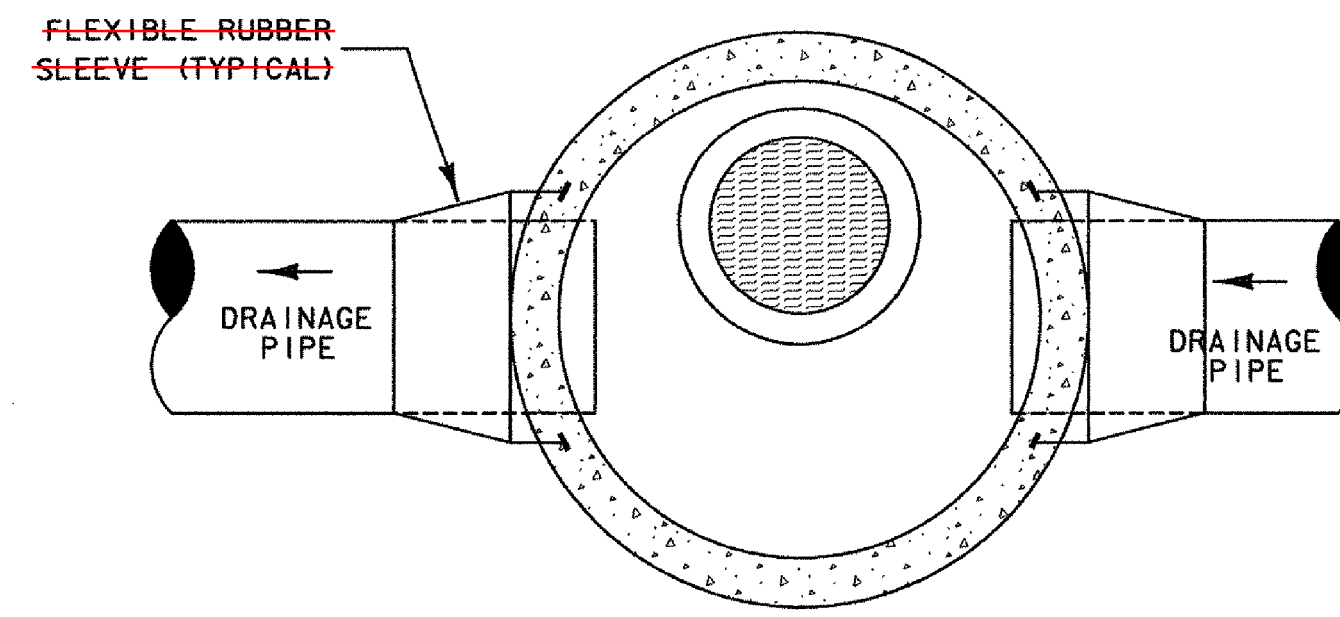


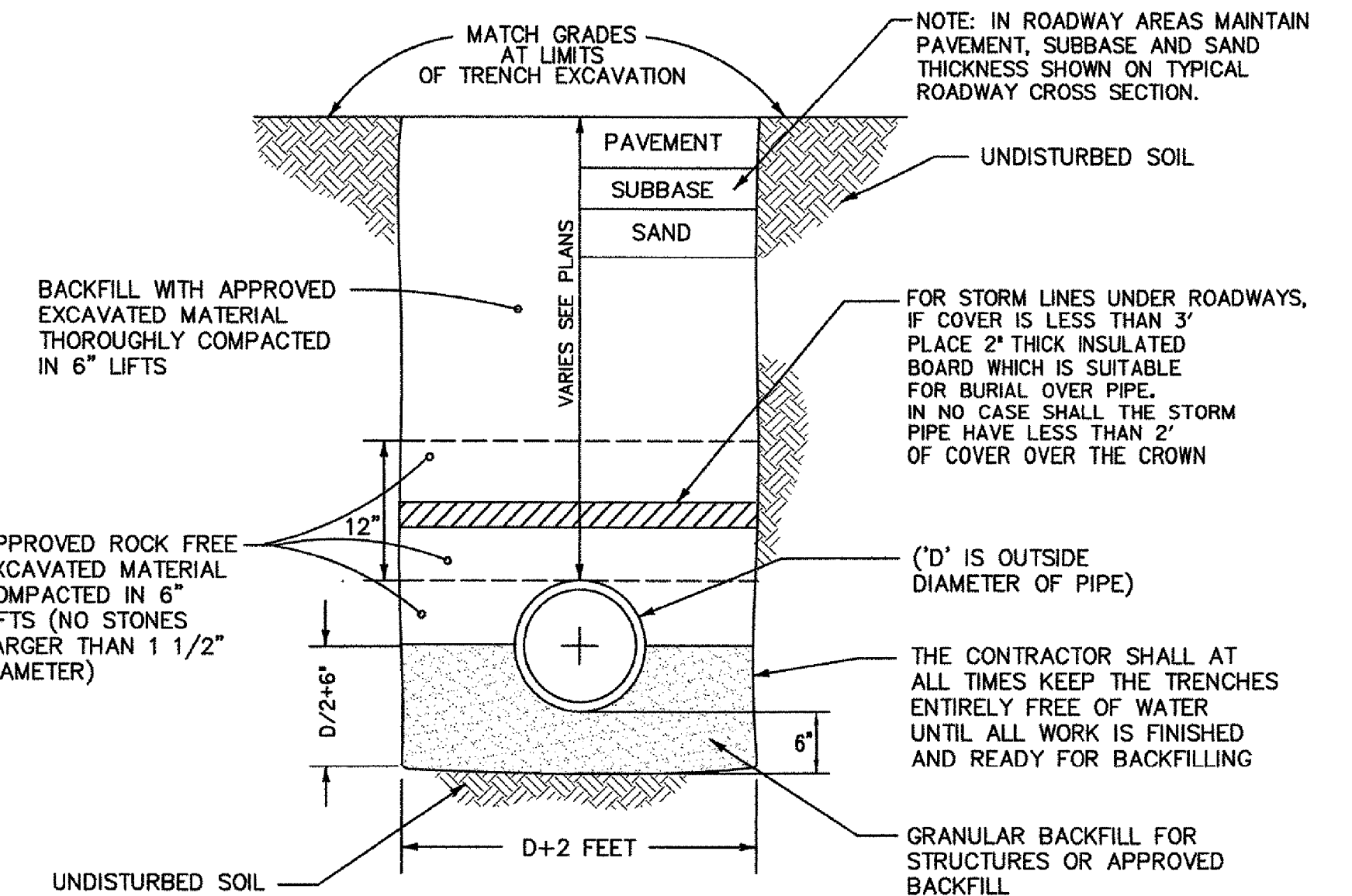
# TYPICAL DRAINAGE DETAILS



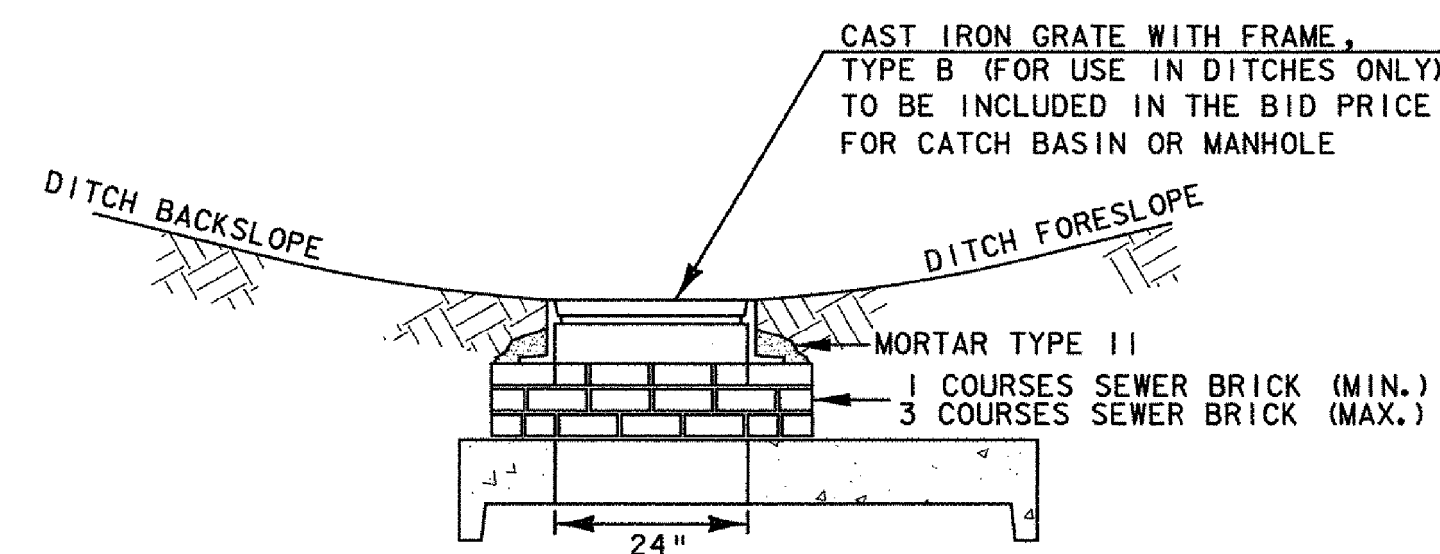
CATCHBASIN PLAN VIEW



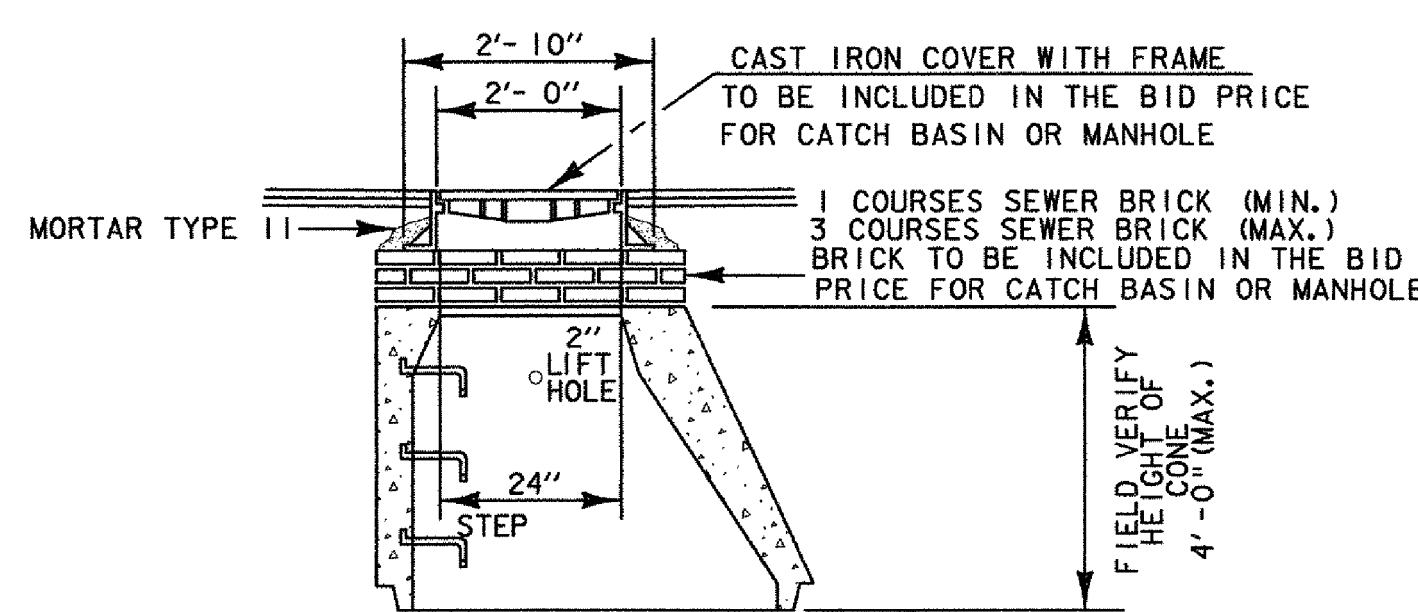
MANHOLE PLAN VIEW



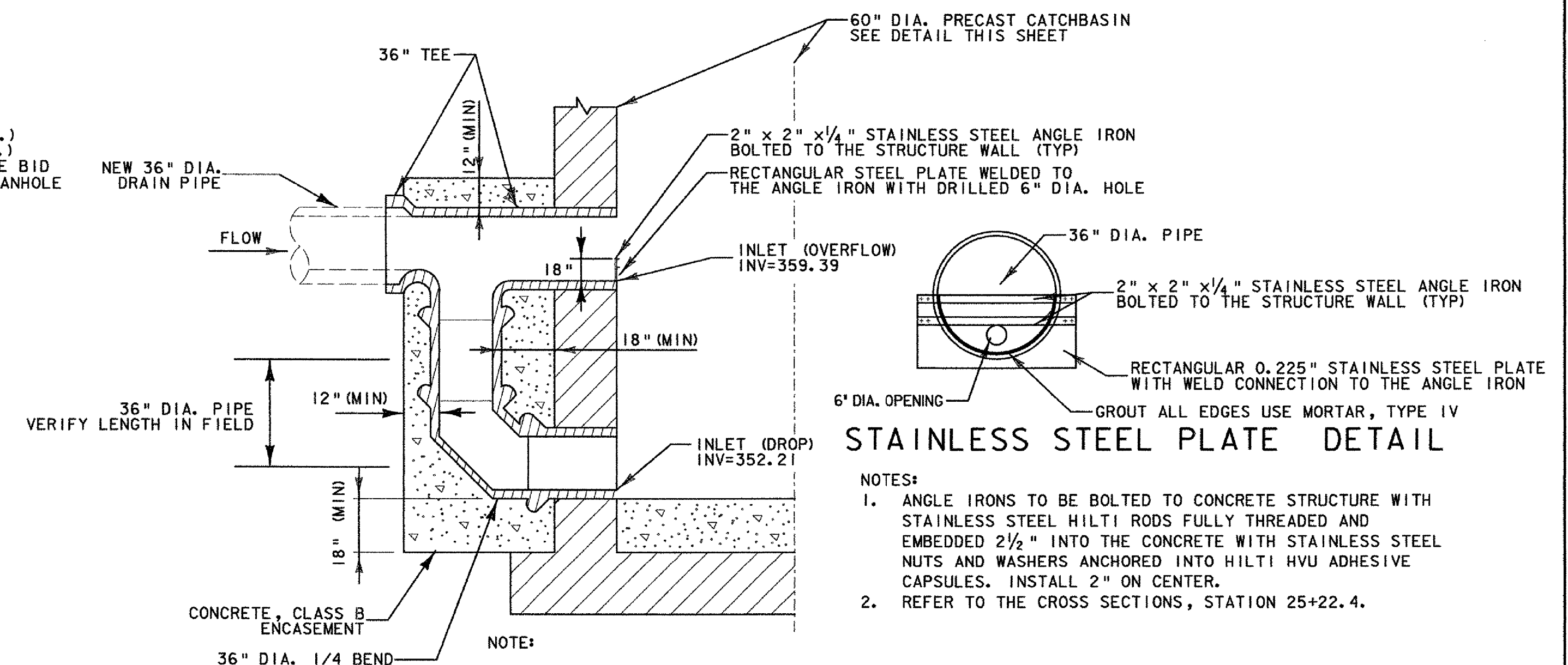
TYPICAL STORM DRAIN TRENCH



TYPICAL ELEVATION OF GRATE INSTALLATION IN DITCH



MANHOLE CONE TOP SECTION

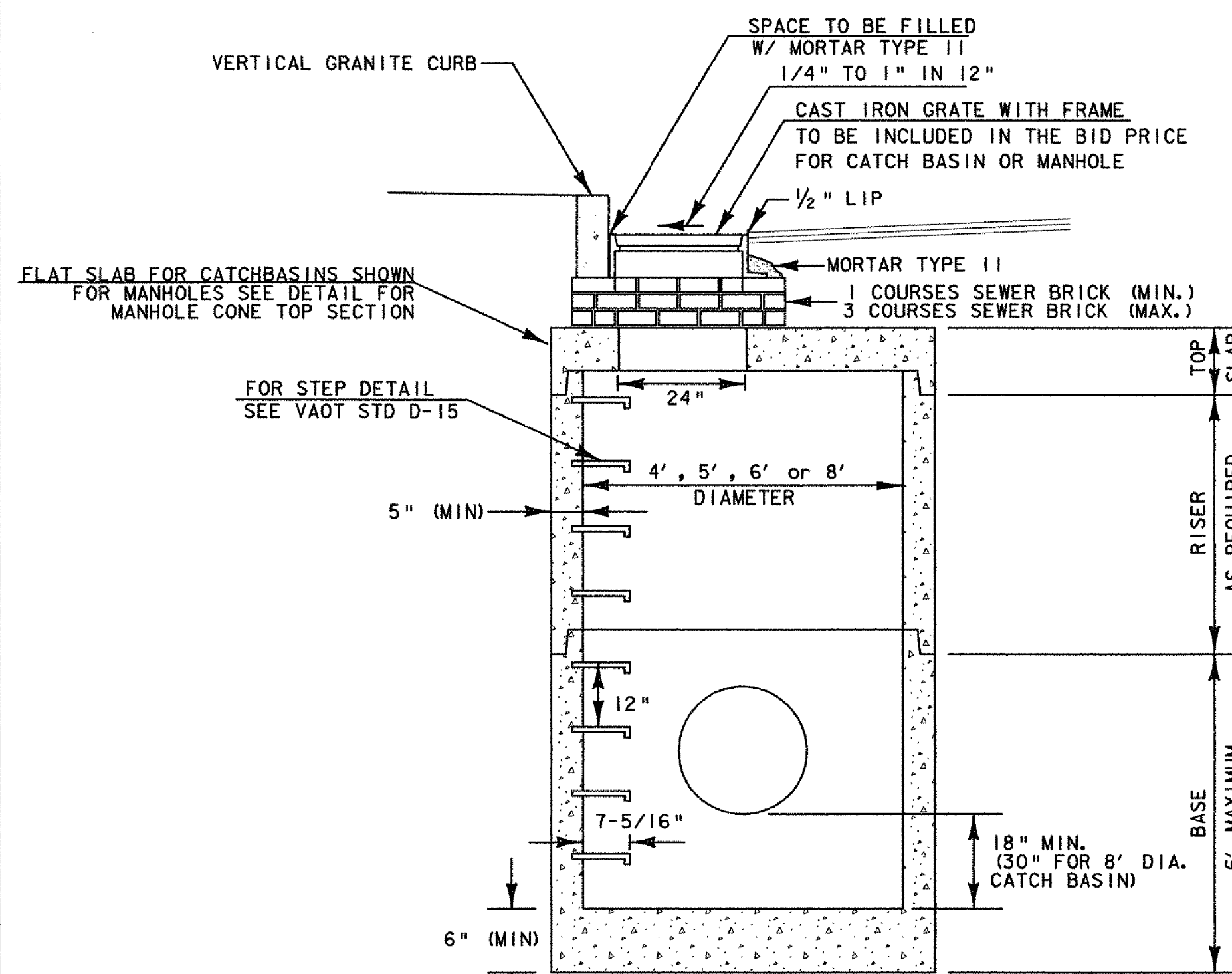


5' DIAMETER CATCH BASIN W/ DROP PIPE DETAIL

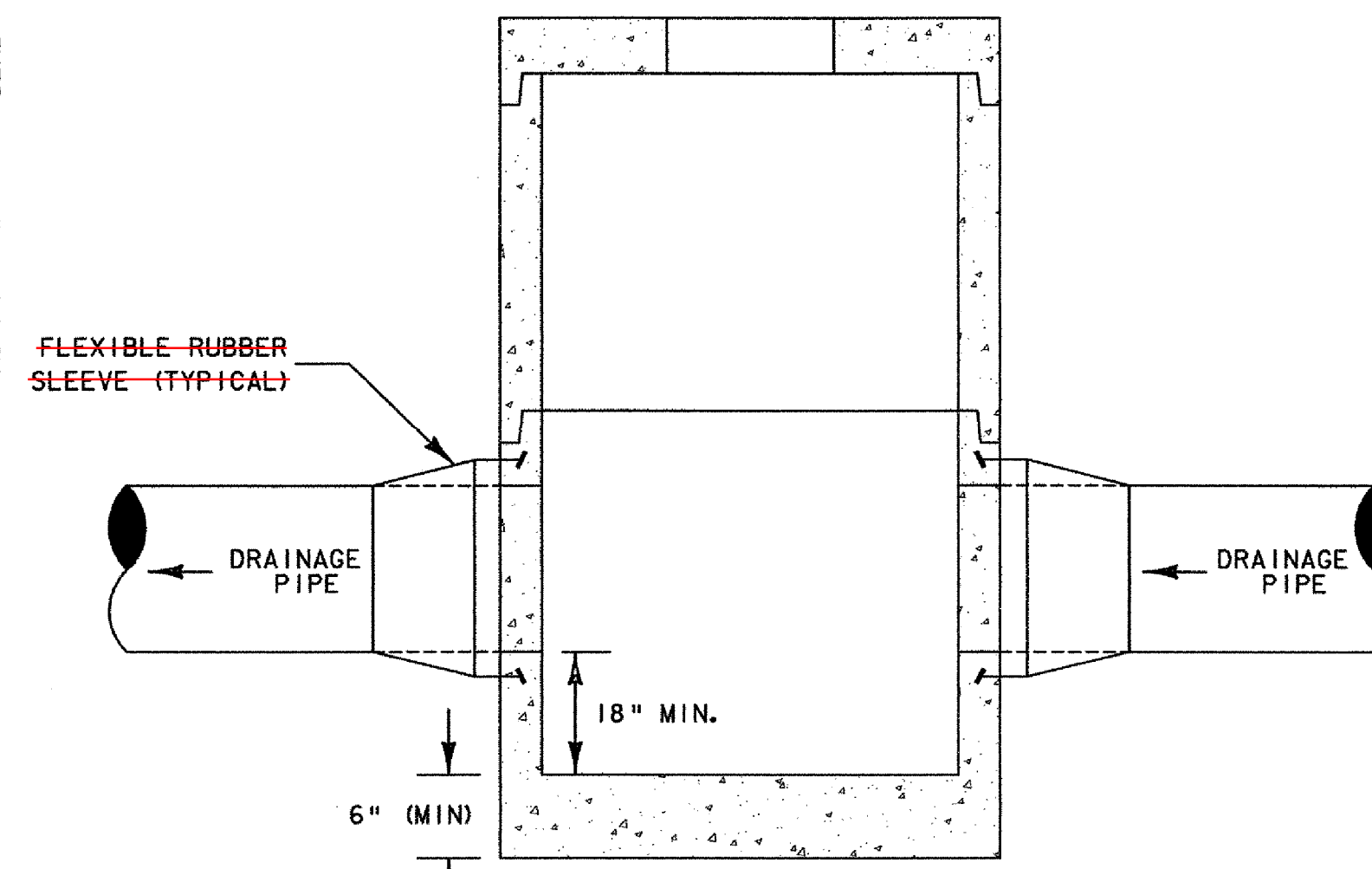
SCALE: NOT TO SCALE

**PRECAST CONCRETE CATCH BASIN AND MANHOLE NOTES:**

- 1) PRECAST CONCRETE SECTIONS SHALL CONFORM TO THE STANDARD SPECIFICATIONS AND ASTM C-478.
- 2) MINIMUM CONCRETE COMPRESSIVE STRENGTH: 4,000 PSI AT 28-DAYS
- 3) STEEL REINFORCING SHALL CONFORM TO ASTM A185 OR A82 FOR HS25 LOADING.
- 4) MANHOLE STEPS SHALL BE 14" WIDE STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC CONFORMING TO ASTM C-478 AND SHALL BE CAST INTO MANHOLE SECTIONS BY THE PRECAST CONCRETE MANUFACTURER.
- 5) FACE OF PIPE SHALL NOT PROJECT MORE THAN 2" OR LESS THAN 1" 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 3" TO JOINTS.
- 7) FITTING FRAME TO FINAL GRADE MAY BE DONE WITH BRICK OR PRECAST CONCRETE GRADE RINGS OF APPROPRIATE THICKNESS (3 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) INSTALLATION OF MANHOLES OR CATCHBASINS OVER EXISTING PIPES SHALL INCLUDE CLEAN CUTTING OF EXISTING PIPES, PROVIDING AN EXTENSION PIPE OF SIMILAR MATERIAL AND SIZE AS THE EXISTING PIPE, COUPLINGS REQUIRED FOR THE CONNECTION BETWEEN THE EXTENSION PIPE AND THE EXISTING PIPE, AND INSTALLING FLEXIBLE RUBBER SLEEVES AS SHOWN IN DETAILS PROVIDED ON THIS SHEET.
- 13) PAYMENT FOR INSTALLATION OF THE CATCHBASINS SHALL BE MADE UNDER THE PRECAST REINFORCED CONC. CATCH BASIN WITH CAST IRON GRATE ITEM (604.20) FOR THE SPECIFIC SIZE.
- 14) PAYMENT FOR INSTALLATION OF THE MANHOLES SHALL BE MADE UNDER THE PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON GRATE ITEM (604.21) FOR THE SPECIFIC SIZE.



ELEVATION VIEW WITH VERTICAL GRANITE CURB



SIDE VIEW

TYPICAL PRECAST CATCHBASIN OR MANHOLE INSTALLED IN ROADWAY

SCALE: NOT TO SCALE

DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	N/A

PROJECT: <b>HARTFORD</b>	PROJECT NO.: <b>RS 0113(40)</b>
DESIGN FILE NAME: z86c027drndet.DGN	PLOT DATE: 1/13/2007
IPARM FILE NAME:	SURVEY DATE: 1/87
SURVEYED BY: FANTONI	DRAWN BY: E. ATKINS
SQUAD LEADER: KEN UPMAL	SHEET: 78 OF 239