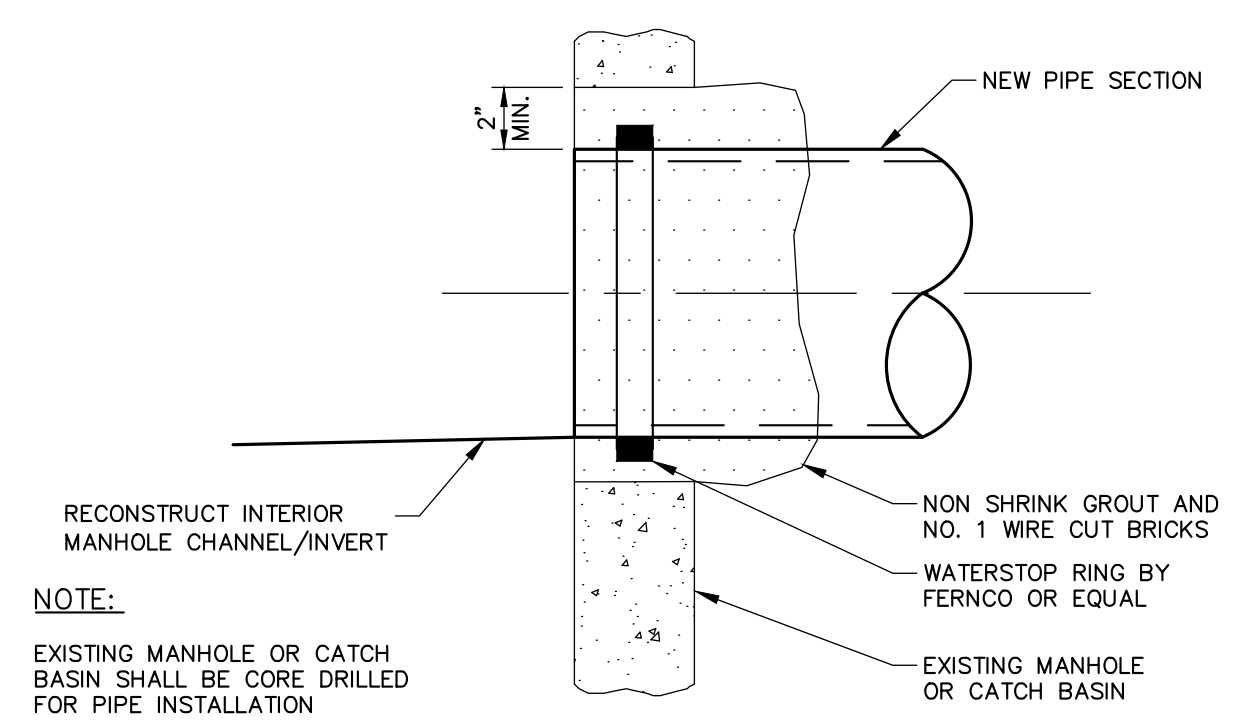
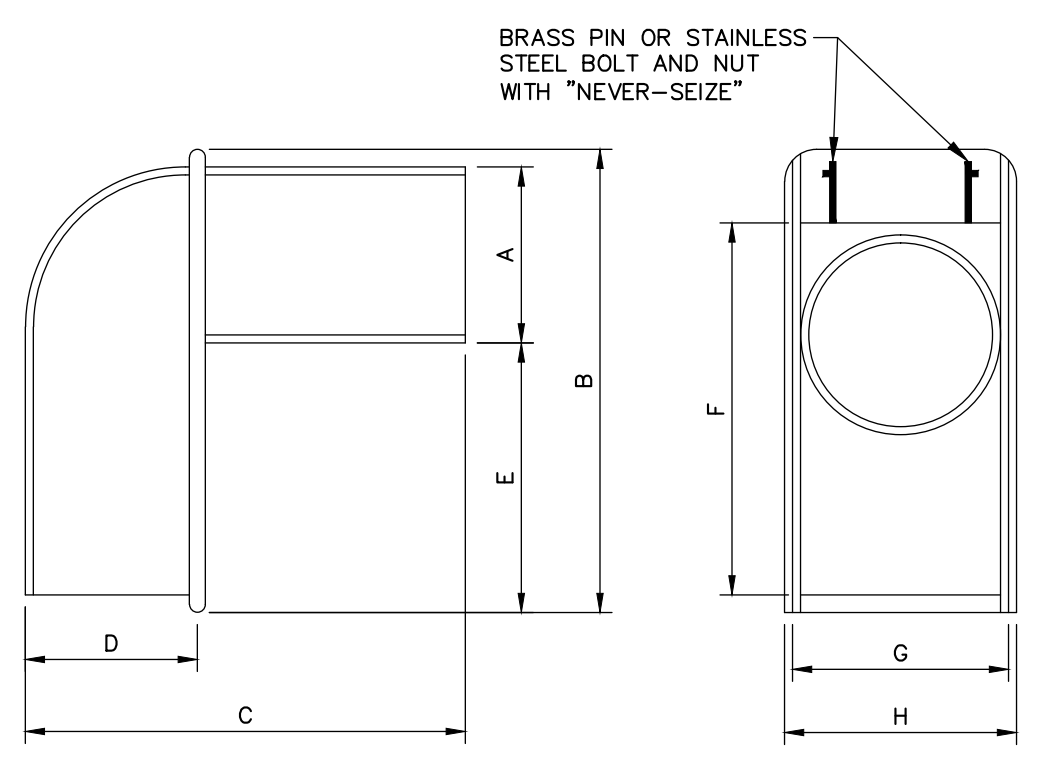


**NOTE:**  
ALL MANHOLE COVERS SHALL BE SOLID AND SHALL HAVE ONE 7/8" DIAMETER DRILLED PICK HOLE, LOCATED 8" FROM THE CENTER OF THE COVER.  
ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.

**CAST IRON MANHOLE FRAME AND COVER**  
N.T.S.



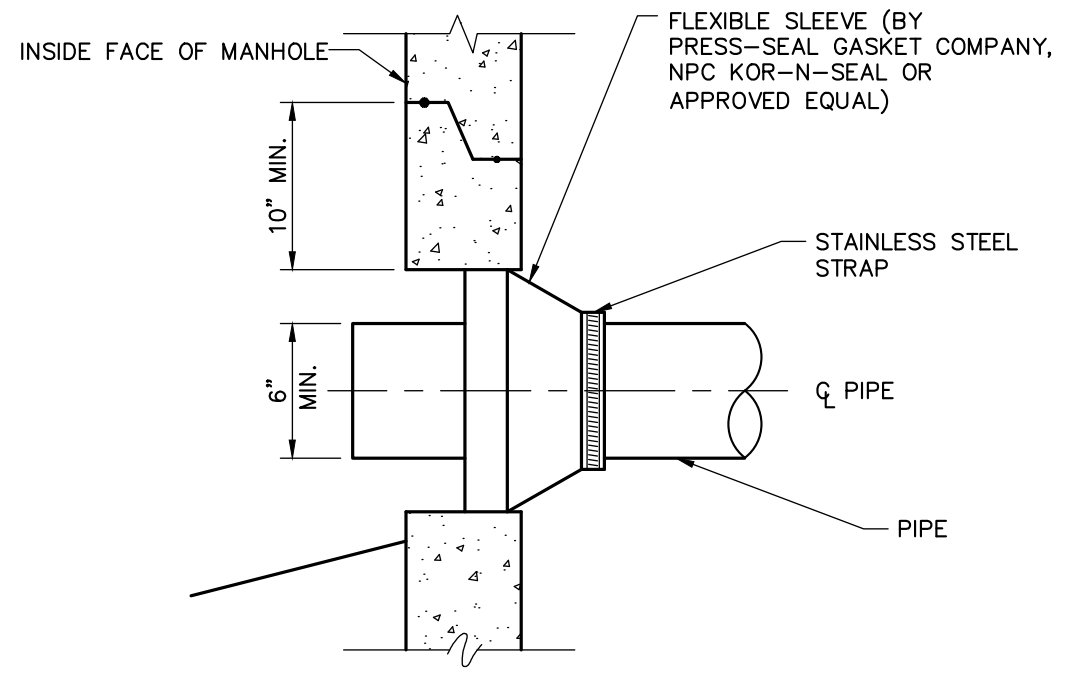
**NEW PIPE TO EXISTING STRUCTURE**  
N.T.S.



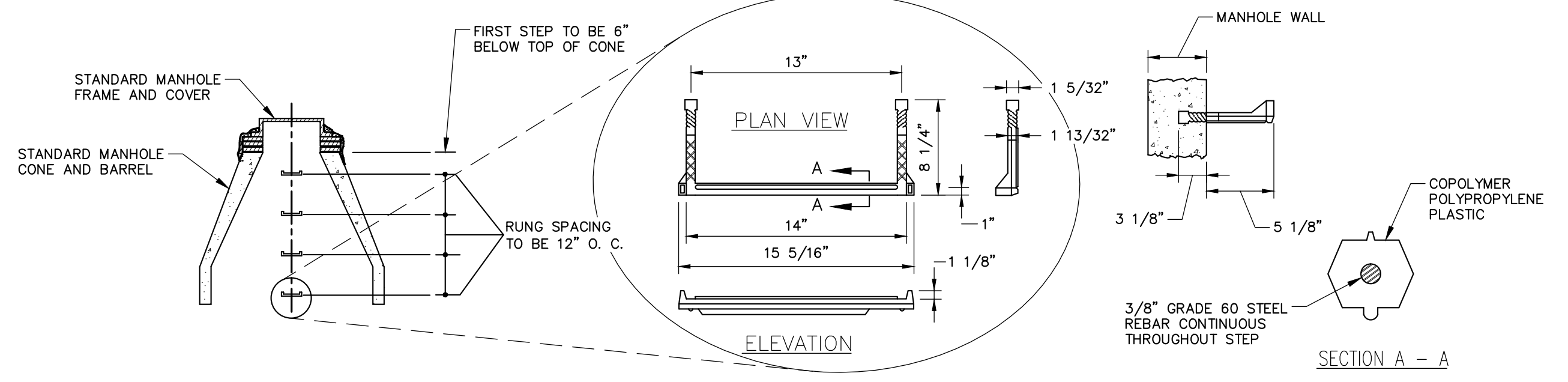
SIZE	A	B	C	D	E	F	G	H
10"	9 1/2"	16"	16 1/4"	6"	4 1/2"	14 1/8"	11 1/2"	12 3/8"
12"	11 1/2"	17"	22"	8"	3 1/2"	17"	12 1/2"	13 3/8"
15"	14 1/2"	22 1/2"	23"	10 1/4"	5 3/4"	21"	14 1/2"	15 3/4"

- NOTE:**
- CASCO TRAP SHALL BE CAST IRON CASCO TRAP BY ETHERIDGE FOUNDRY OR APPROVED EQUAL.
  - BOLT AND NUT REQUIRED WHERE HOOD WILL NOT OPEN COMPLETELY.
  - CASCO TRAP SHALL BE INSTALLED ON ALL CATCH BASIN OUTLET PIPES, INCIDENTAL TO COST OF CATCH BASIN

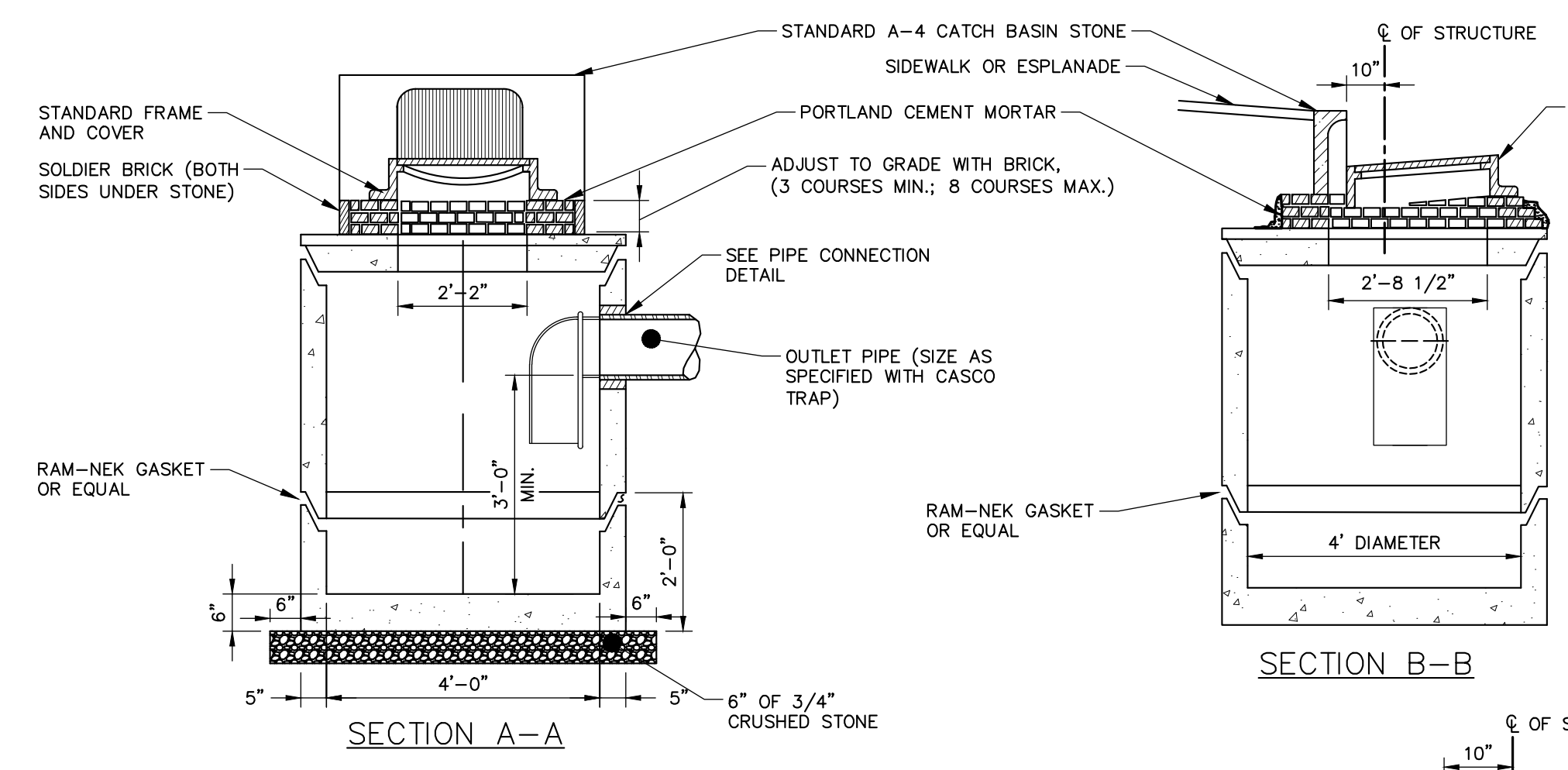
**CASCO TRAP DETAIL**  
N.T.S.



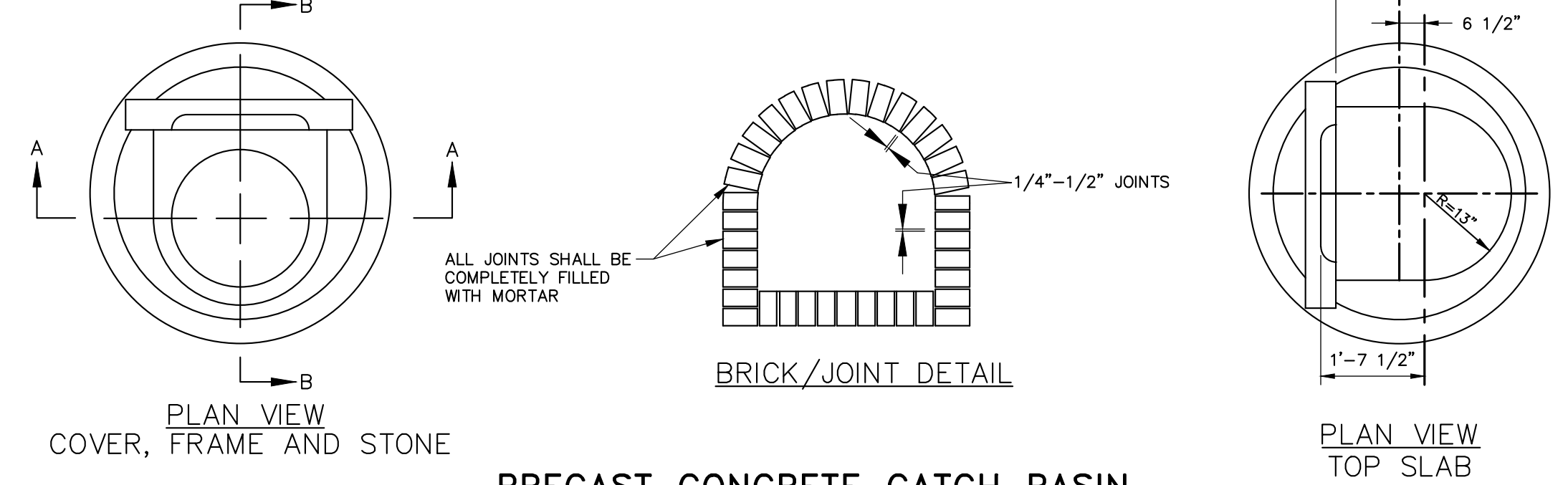
**NEW PIPE TO NEW STRUCTURE CONNECTION DETAIL**  
N.T.S.



**PLASTIC MANHOLE STEPS**  
N.T.S.



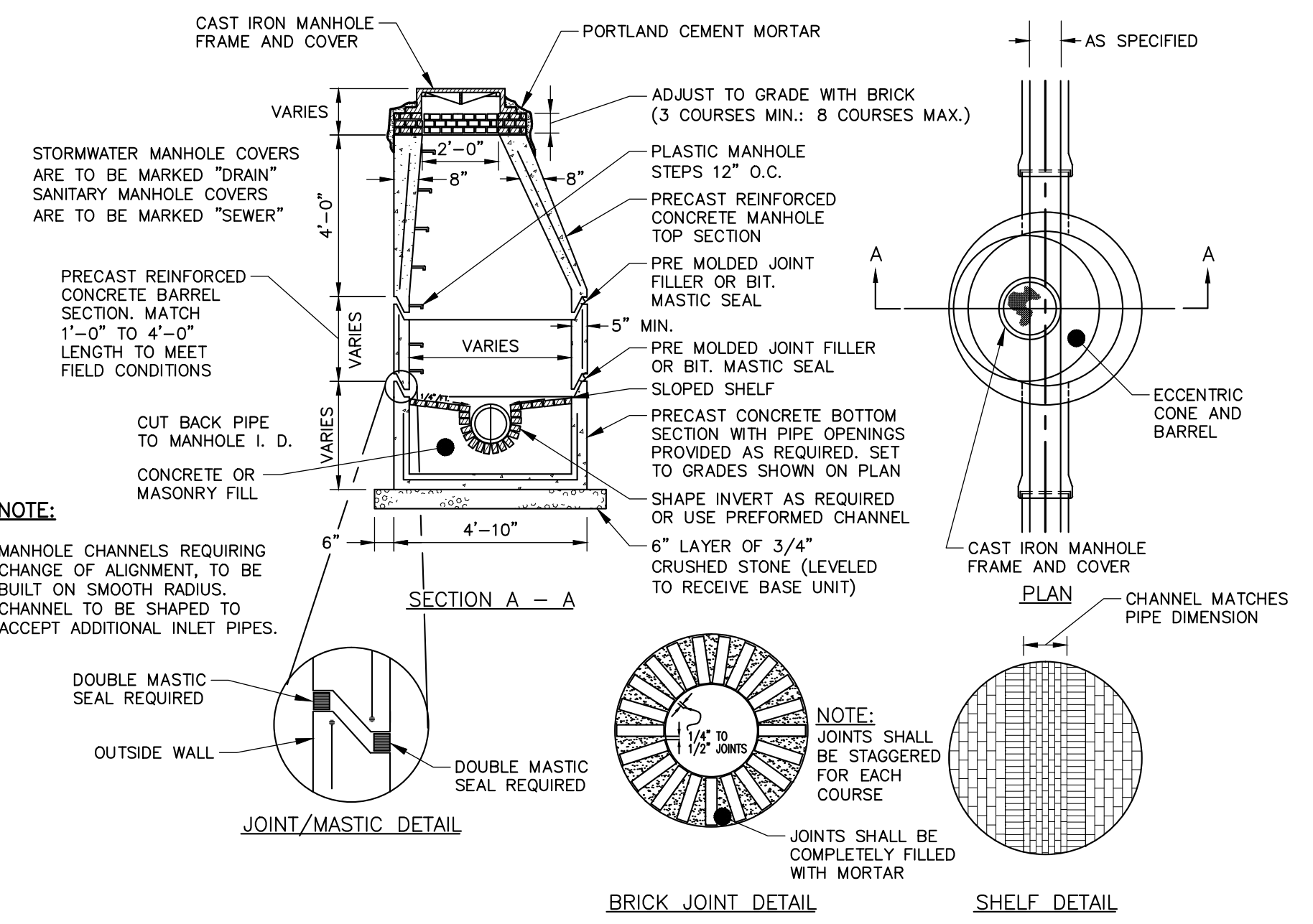
**PRECAST CONCRETE CATCH BASIN**  
N.T.S.



**CATCH BASIN TYPE "D" - FRAME & COVER DETAIL**  
N.T.S.

**GENERAL NOTES FOR MANHOLES AND CATCH BASINS**

- ALL CONCRETE SHALL BE CLASS "A" AND HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 LBS. PER SQ. INCH AT THE END OF 28 DAYS, UNLESS OTHERWISE NOTED.
- PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C-478.
- ALL MANHOLES SHALL HAVE A BITUMINOUS WATERPROOFING APPLIED TO THE EXTERIOR SURFACE. IF CONSTRUCTED OF BRICK MASONRY, SURFACE SHALL BE PLASTERED WITH A SMOOTH MORTAR FINISH 3/8" THICK. AFTER THE MORTAR HAS SET, THE SURFACE SHALL BE WATERPROOFED AS REQUIRED BY SUPPLEMENTAL SPECIFICATIONS SECTION 604.
- CASTINGS SHALL CONFORM TO ASTM DESIGNATION A48-CLASS 35. ALL PARTS OF CASTINGS, EXCEPT FINISHED SURFACE, SHALL RECEIVE A COAT OF COAL TAR PITCH VARNISH OR ASPHALTUM PAINT WHICH SHALL BE SMOOTH AND TOUGH BUT NOT BRITTLE.
- MANHOLES MAY BE CONSTRUCTED OF MASONRY, PRECAST REINFORCED CONCRETE, OR CAST IN PLACE.
- CONTRACTOR SHALL SUBMIT ANTIFLOATATION CALCULATIONS FOR ALL MANHOLE AND CATCH BASIN STRUCTURES.
- ALL PRECAST MANHOLES AND CATCH BASINS SHALL BE IDENTIFIED BY STATION, OFFSET, AND STRUCTURE ID PAINTED ON THE SIDE OF THE STRUCTURE BY THE MANUFACTURER.
- STORM AND SEWER MANHOLES SHALL HAVE SOLID COVERS WITH ONE DRILLED PICK HOLE.
- EXISTING MANHOLES, CATCH BASINS, FRAMES, AND COVERS SHALL BE SALVAGED BY THE CONTRACTOR, AND SHALL REMAIN THE PROPERTY OF THE CITY OF PORTLAND.
- WHEN THE FLOW CHANGES DIRECTION IN A MANHOLE, THE CHANNEL ALIGNMENT SHALL FOLLOW A SMOOTH RADIUS. CHANNELS SHALL BE FORMED TO ACCEPT ALL INLET PIPES.
- ON STORM AND SEWER MANHOLES, THE SHELF AND CHANNEL SHALL BE FORMED BY BRICK SET IN CEMENT MORTAR OR BY FACTORY PRE-CAST CONCRETE. SUCH PRE-CAST CONCRETE SHALL BE EPOXY COATED AND THE SHELF SHALL HAVE A PERMANENT NON-SKID SURFACE.



**PRECAST CONCRETE MANHOLE**  
N.T.S.

41 Hutchins Drive  
Portland, Maine 04102  
800.426.4262 | www.woodardcurran.com

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STATE OF MAINE  
DENISE  
CARRON  
No. 11279  
Professional Engineer  
01/25/2013

REV	DESCRIPTION	DATE
4	ADDENDUM 3	1/25/13
3	ISSUED FOR CONSTRUCTION	11/16/2012
2	RESPONSE TO COMMENTS	10/19/2012
1	FINAL SITE PLAN APPLICATION SUBMISSION	9/28/2012

CHECKED BY: DLG  
DESIGNED BY: MDLM  
DRAWN BY: JBC  
2258691-000A.MWG

**CIVIL DETAILS - 1**

COW PLAZA HOTEL, LLC  
100 COMMERCIAL STREET, SUITE 306  
PORTLAND, MAINE, C/O TIM SOLEY

HYATT PLACE  
PORTLAND - OLD PORT  
433 FORE STREET  
PORTLAND, ME

JOB NO.: 225869.01  
DATE: NOVEMBER 2012  
SCALE: AS NOTED  
SHEET: 6 OF 12

**C-300**