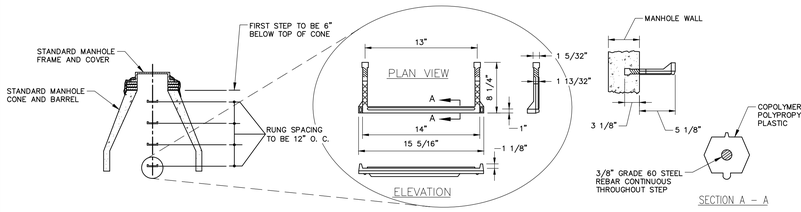
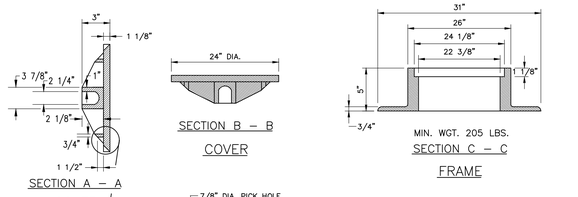


PLASTIC MANHOLE STEPS
N.T.S.



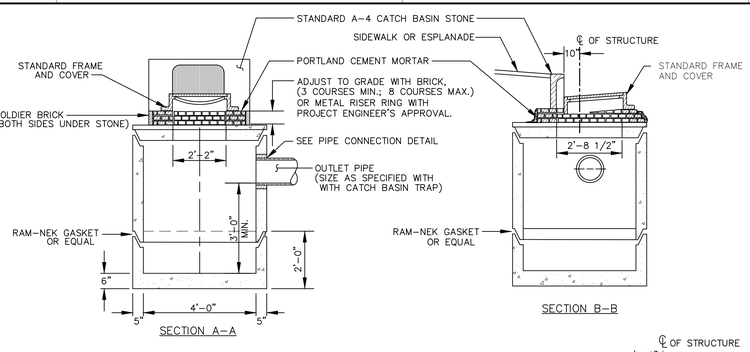
NOTE:

FOR ALL CROSS COUNTRY MANHOLES (LAWN AREAS), USE PAM REXUS MANHOLE COVERS BY CERTAINTEED.

TYPE "A" CAST IRON MANHOLE COVER AND FRAME
N.T.S.

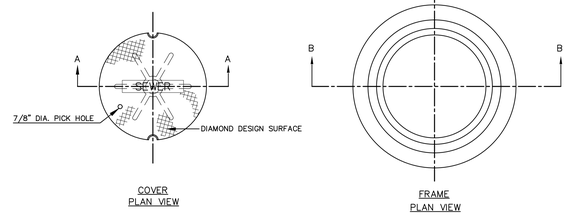
GENERAL NOTES FOR MANHOLES AND CATCH BASINS

1. 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.
2. PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C–478.
3. 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.
4. 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.
5. MANHOLES MAY BE CONSTRUCTED OF MASONRY, PRECAST REINFORCED CONCRETE, OR CAST IN PLACE.
6. CONTRACTOR SHALL SUBMIT ANTIFLOATATION CALCULATIONS FOR ALL MANHOLE AND CATCH BASIN STRUCTURES.
7. 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.
8. STORM AND SEWER MANHOLES SHALL HAVE SOLID COVERS WITH ONE DRILLED PICK HOLE.
9. EXISTING MANHOLES, CATCH BASINS, FRAMES, AND COVERS SHALL BE SALVAGED BY THE CONTRACTOR, AND SHALL REMAIN THE PROPERTY OF THE CITY OF PORTLAND.
10. 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.
11. 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.

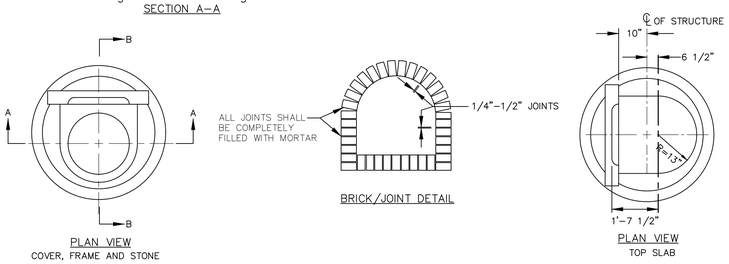


NOTE:
ALL MANHOLE COVERS SHALL BE SOLID AND SHALL HAVE ONE 7/8" DIAMETER DRILLED PICK HOLE, LOCATED 8" FROM THE CENTER OF THE COVER.

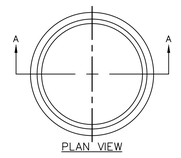
ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.

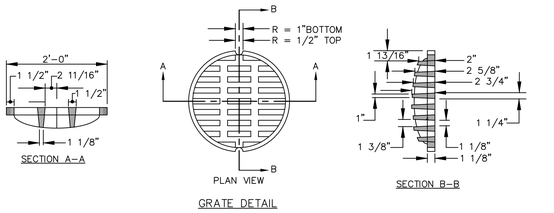


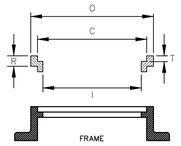
CAST IRON MANHOLE COVER AND FRAME
N.T.S.



PRECAST CONCRETE CATCH BASIN – TYPE "D"
N.T.S.

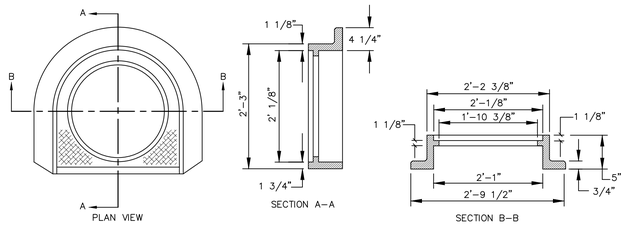




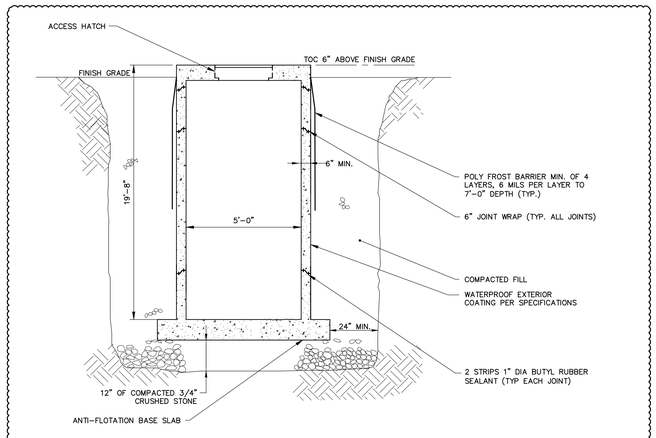


SIZE	C	R	T	O	I	Wt.
R241 1/2	24	1 1/2	1 1/8	26 1/4	22 1/2	60
R242	24	2	1 1/8	26 1/4	22 1/2	80
R242 1/2	24	2 1/2	1 1/8	26 1/4	22	100
R243	24	3	1 1/8	26 1/4	22	120

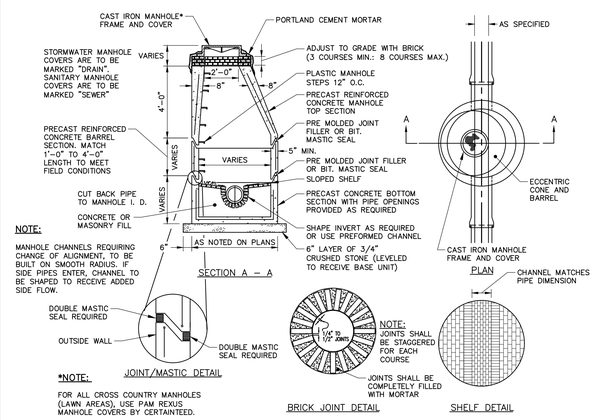
MANHOLE RISER RING
N.T.S.



FRAME DETAIL
CATCH BASIN FRAME & GRATE
N.T.S.

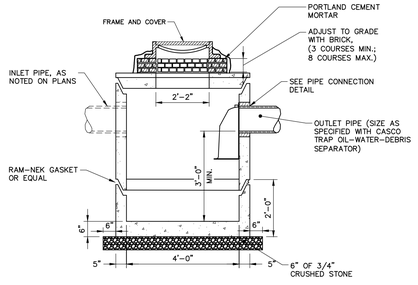


PUMP STATION
N.T.S.

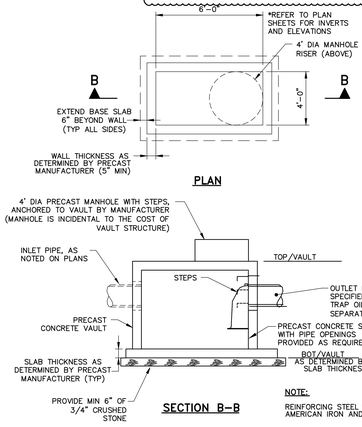


*NOTE:
FOR ALL CROSS COUNTRY MANHOLES (LAWN AREAS), USE PAM REXUS MANHOLE COVERS BY CERTAINTEED.

PRECAST CONCRETE MANHOLE
N.T.S.

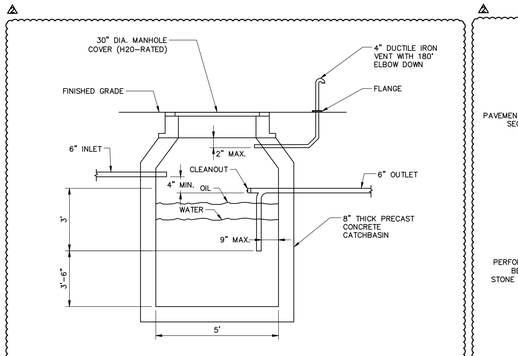


PRECAST CONCRETE CATCH BASIN
N.T.S.

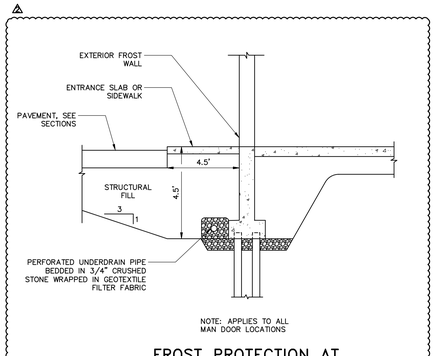


NOTE:
REINFORCING STEEL SHALL MEET THE AMERICAN IRON AND STEEL REQUIREMENTS.

PRECAST CONCRETE VAULT
N.T.S.



OIL WATER SEPARATOR
N.T.S.



NOTE: APPLIES TO ALL MAN DOOR LOCATIONS

FROST PROTECTION AT DOORWAY ENTRANCES
N.T.S.

WOODARD & CURRAN
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com
COMMITMENT & INTEGRITY DRIVE RESULTS

DAVID SENUS 10781 REGISTERED PROFESSIONAL ENGINEER STATE OF MAINE 6/22/2018

REV	DESCRIPTION	DATE
1	RESPONSE TO COMMENTS SUBMISSION	7/24/2018
2	RESPONSE TO COMMENTS SUBMISSION	8/31/2018

DESIGNED BY: CMS | DRAWN BY: BCM | CHECKED BY: C–205

CIVIL DETAILS - 2

MAINE MEDICAL CENTER
22 BRAMHALL STREET
PORTLAND, ME 04102

MMC ST. JOHN STREET
EMPLOYEE PARKING GARAGE

JOB NO.: 0231158.00
DATE: JUNE 22, 2018
SCALE: AS NOTED
SHEET: 13 OF 17

C-201