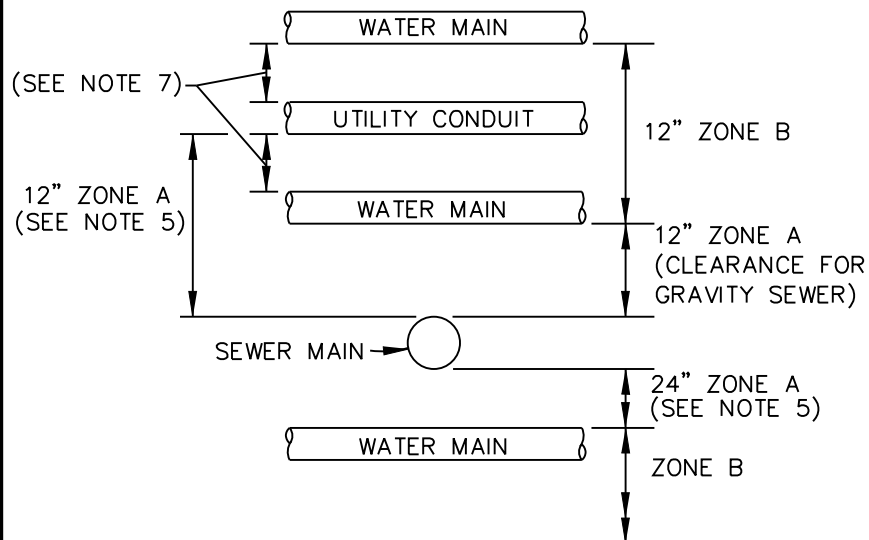


PARALLEL INSTALLATION GRAVITY OR PRESSURE SEWER



CROSSING INSTALLATION

NOTES:

1. SEPARATION DISTANCES AND/OR EXTRA PROTECTION SHALL BE REQUIRED TO PROTECT WATER MAINS FROM CONTAMINATION BY SANITARY SEWER MAINS.
2. SEE CROSS INSTALLATION DETAIL ON THIS SHEET FOR LIMITS OF SEPARATION/EXTRA PROTECTION. ALL DISTANCES ARE MEASURED PERPENDICULARLY FROM THE OUTSIDE OF THE PIPES.
 - A. NO WATER MAINS OR UTILITY CONDUITS SHALL FALL WITHIN ZONE A.
 - B. EXTRA PROTECTION WILL BE REQUIRED WHEN THE WATER MAIN FALLS WITHIN ZONE B. EXTRA PROTECTION SHALL CONSIST OF CONSTRUCTING SANITARY SEWER MAINS WITH MECHANICAL JOINT OR RESTRAINED JOINT DUCTILE IRON PIPE. DUCTILE IRON PIPE SHALL COMPLY WITH THE REQUIREMENTS FOR SEWER INSTALLATION. IN A CROSSING, THE NUMBER OF JOINTS SHALL BE HELD TO A MINIMUM WITH ONE FULL JOINT OF PIPE CENTERED OVER/UNDER THE OTHER. AN ALTERNATIVE PROTECTION MAY CONSIST OF ENCASING SEWER MAINS IN REINFORCED CONCRETE PER MAG STD. DETAIL 404-3.
 - C. NO ADDITIONAL PROTECTION WILL BE REQUIRED OUTSIDE OF ZONES A AND B.
 - D. WATER MAINS PERMITTED IN ZONE C ONLY WITH WRITTEN PERMISSION FROM THE WATER RESOURCES DEPARTMENT.
3. SEPARATION REQUIREMENTS FOR 4" OR 6" INDIVIDUAL HOUSE SERVICE CONNECTIONS SHALL COMPLY WITH THE PLUMBING CODES ADOPTED BY THE CITY.
4. RECLAIMED WATER SHALL BE CONSIDERED AS POTABLE WATER WHEN PLACED NEXT TO A SANITARY SEWER AND CONSIDERED A PRESSURE OR FORCED SANITARY SEWER MAIN, WHEN PLACED NEXT TO A POTABLE WATER MAIN.
5. ZONE A IS 24" WHERE WATER MAINS AND UTILITY CONDUITS CROSS PRESSURE SEWER MAINS.
6. THIS DRAWING REVISES MAG STD. DETAIL 401-1 ONLY. MAG STD. DETAILS 404-2 & 404-3 REMAIN INTACT.
7. REFERENCE COS STANDARD DETAIL 2370 AND 2372.

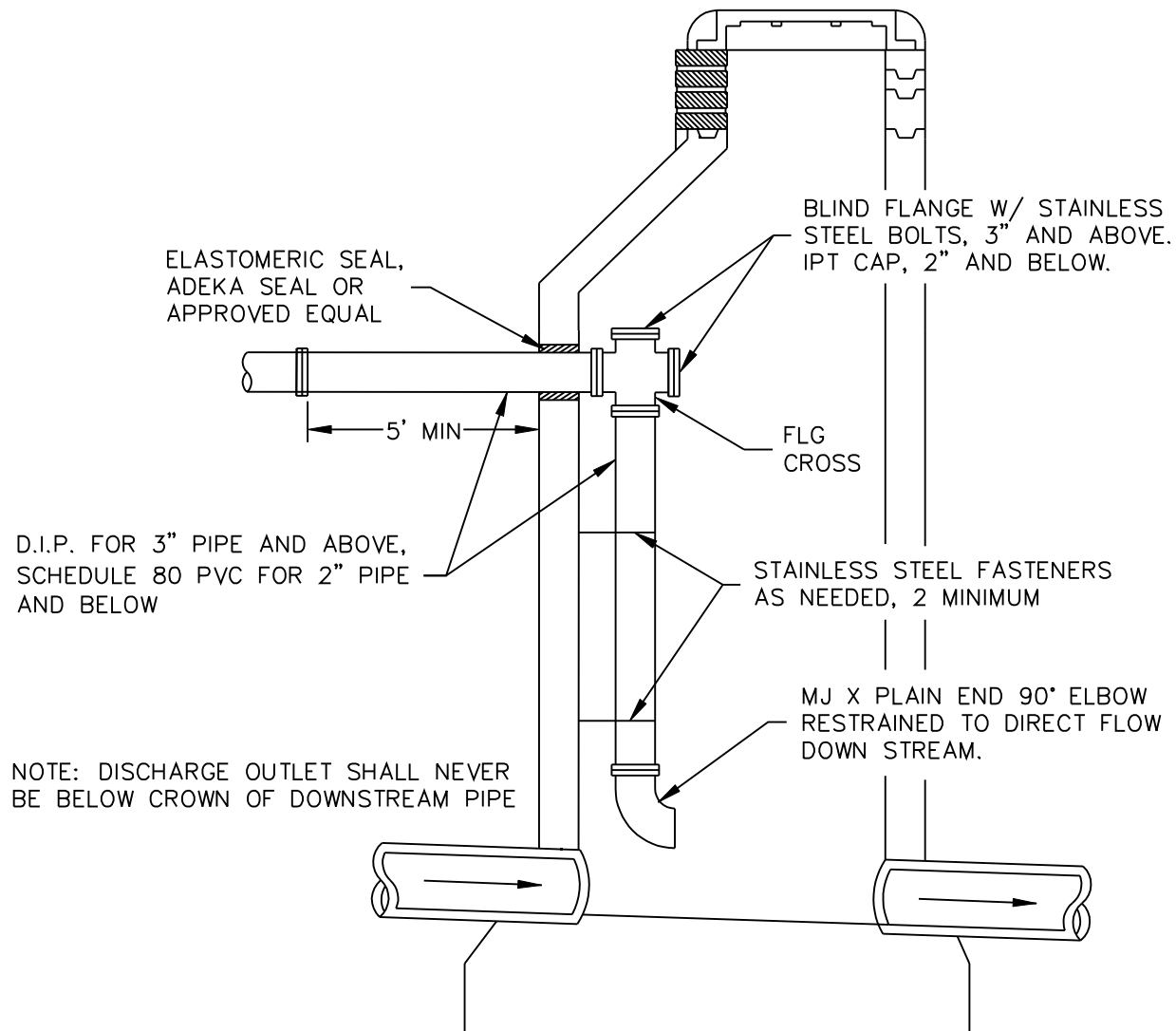
DETAIL NO.
2401

**City of Scottsdale
Standard Details**

APPROVED BY:
**Scottsdale Standards &
Specifications Committee**

**SANITARY SEWER SEPARATION / PROTECTION
FROM WATER & UTILITIES**

DETAIL NO.
2401



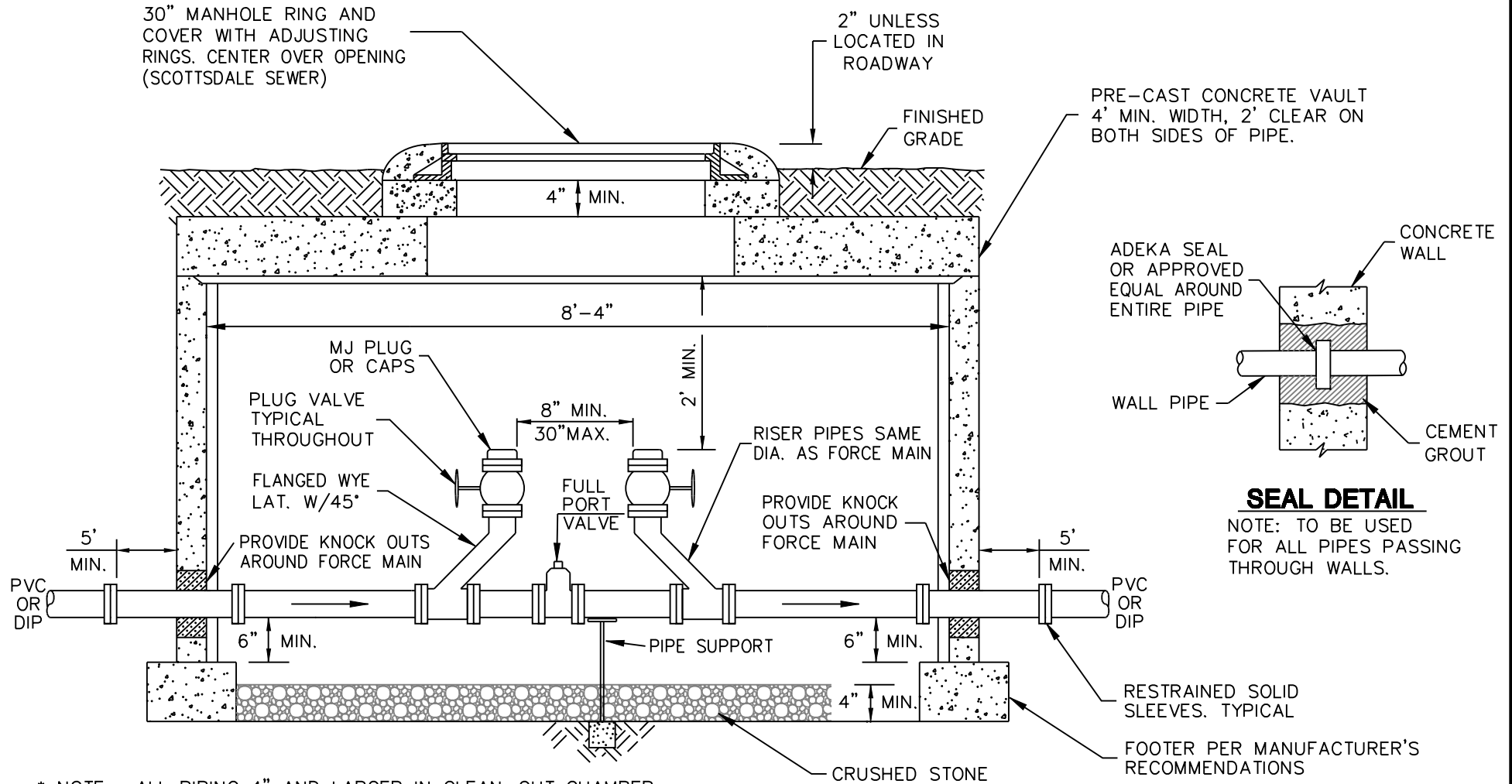
DETAIL NO.
2402

City of Scottsdale
Standard Details

APPROVED BY:
Scottsdale Standards & Specifications Committee

FORCE MAIN DISCHARGE MANHOLE

DETAIL NO.
2402



* NOTE: ALL PIPING 4" AND LARGER IN CLEAN-OUT CHAMBER, EXCEPT AS NOTED, TO BE DUCTILE IRON CONNECTED WITH FLANGED JOINTS AND STAINLESS STEEL BOLTS.

DETAIL NO.
2403

City of Scottsdale
Standard Details

APPROVED BY:
Scottsdale Standards & Specifications Committee

TWO-WAY FORCE MAIN CLEAN-OUT

DETAIL NO.
2403

SEWAGE AIR RELEASE
VALVE (APCO MODEL
400, 17 1/2" VALVE
HEIGHT, OR APPROVED
EQUAL) SUPPORT AIR
RELEASE VALVE AS
NEEDED

30" MANHOLE RING AND
COVER WITH ADJUSTING
RINGS. CENTER OVER
OPENING. (SCOTTSDALE
SEWER)

2" UNLESS
- LOCATED IN
ROADWAY

PRE-CAST CONCRETE VAULT
4' MIN. WIDTH, 2' CLEAR ON
BOTH SIDES OF PIPE.

ADEKA SEAL
OR APPROVED
EQUAL AROUND
ENTIRE PIPE

— CONCRETE
WALL

WALL PIPE-

—CEMENT
GROUT

SEAL DETAIL

NOTE: TO BE USED
FOR ALL PIPES PASSING
THROUGH WALLS.

5'

MIN

MJ PLUG OR CAPS

PLUG VALVE
TYPICAL
THROUGHOUT

FLANGED WYE
LAT. W/45°

PROVIDE KNOCK
OUTS AROUND
FORCE MAIN

12"
MIN.

2' LONG BACK FLUSHING
HOSE WITH QUICK COUPLER
ATTACHED AT FREE END.

RISER PIPES
- SAME DIA. AS
FORCE MAIN

PROVIDE KNOCK
OUTS AROUND
FORCE MAIN

5'
MIN

PVC
OR
DIP

RESTRAINED SOLID
SLEEVE, TYPICAL

FOOTER PER MANUFACTURER'S
RECOMMENDATIONS

* NOTE: ALL PIPING 4" AND LARGER IN CLEAN-OUT CHAMBER, EXCEPT AS NOTED, TO BE DUCTILE IRON CONNECTED WITH FLANGED JOINTS AND STAINLESS STEEL BOLTS.

— CRUSHED STONE

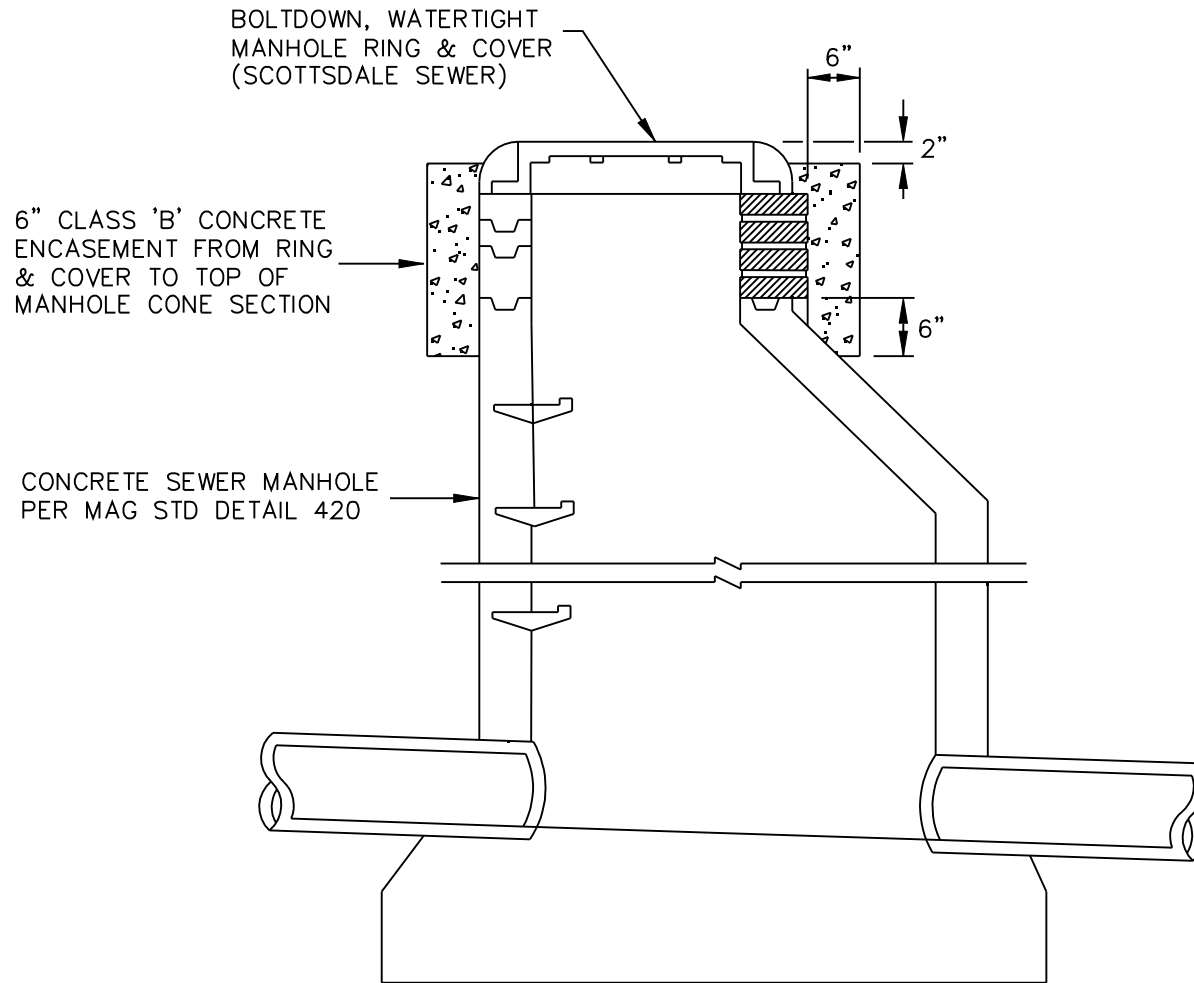
DETAIL NO.
2404

City of Scottsdale Standard Details

APPROVED BY:
Scottsdale Standards & Specifications Committee

FORCE MAIN CLEANOUT WITH SEWAGE AIR RELEASE VALVE

DETAIL NO.
2404



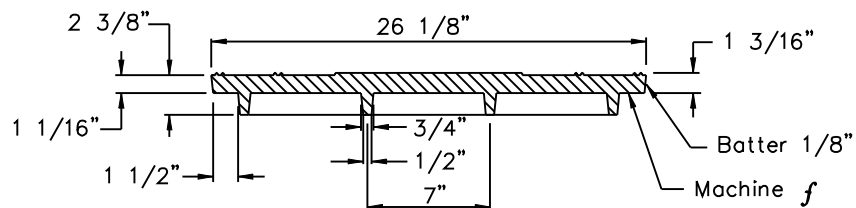
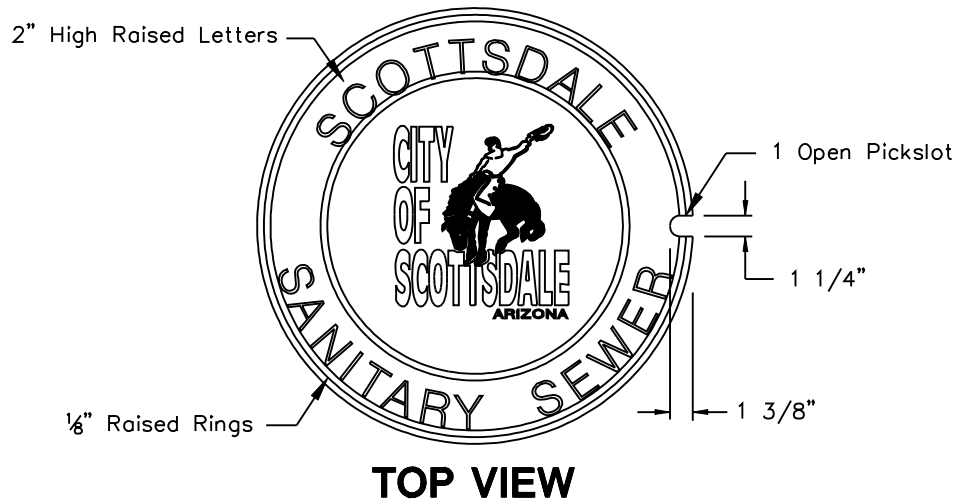
DETAIL NO.
2420

**City of Scottsdale
Standard Details**

APPROVED BY:
**Scottsdale Standards &
Specifications Committee**

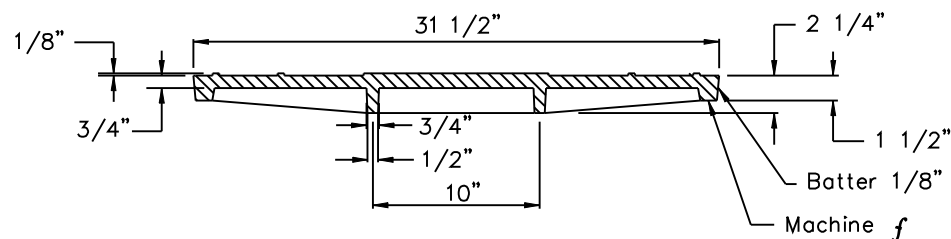
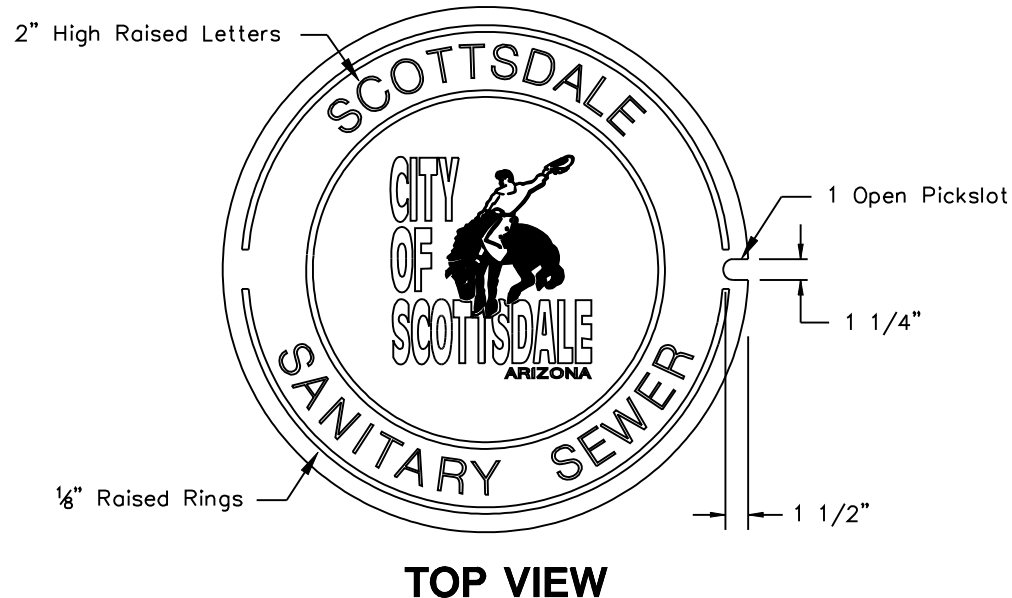
WATER TIGHT CONCRETE SEWER MANHOLE

DETAIL NO.
2420



SECTION OF COVER

24" MANHOLE COVER



SECTION OF COVER

30" MANHOLE COVER

NOTES

1. Material: Cast Gray Iron ASTM A-48, Class 35B, Unpainted
2. The Total Width Of Individual Letters To Be Such That Letters And Words Are Equally Spaced And Balanced.
3. Letters To Be 2" In Height And Raised 1/8" Above Level Of Cover. Type Of Letters To Be Submitted For Approval.
4. Weight Of Castings Shall Be No More Than 2% Less Than Weight Specified. Castings Shall Conform To M.A.G. Section 787.

DETAIL NO.

2421

**City of Scottsdale
Standard Details**

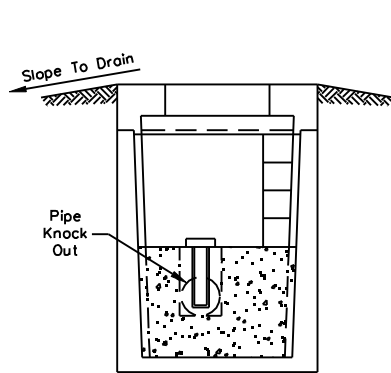
APPROVED BY:

**Scottsdale Standards &
Specifications Committee**

SANITARY SEWER MANHOLE COVER

DETAIL NO.

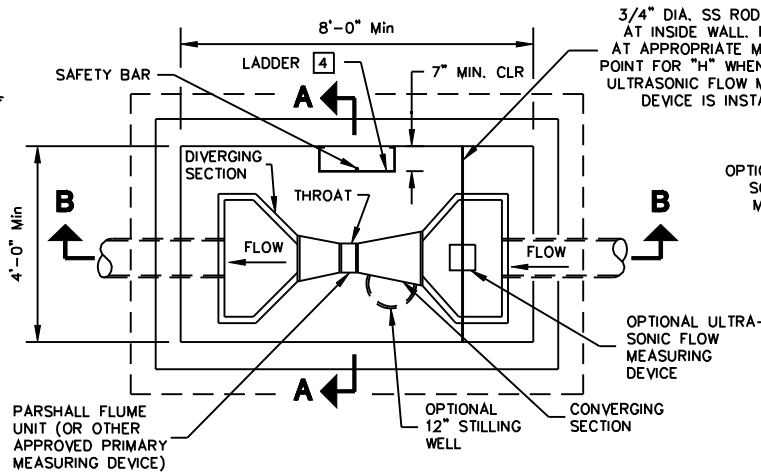
2421



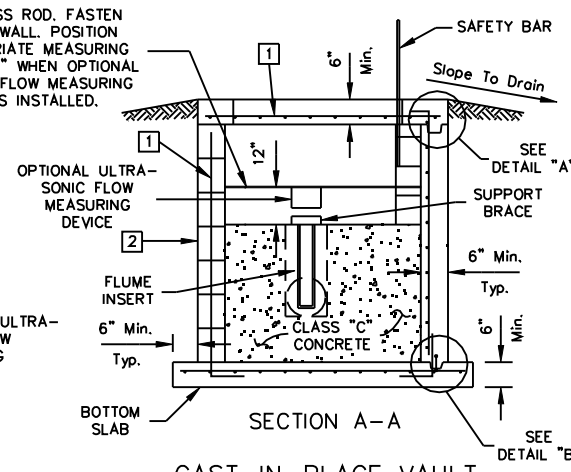
SECTION A-A

PRE-CAST VAULT

UTILITY VAULT CO.
VAULT NO. 575-BL,
NO. 577-BL OR
APPROVED EQUAL



PLAN VIEW (TYP.)



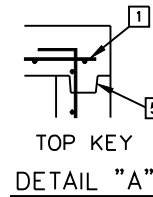
SECTION A-A
CAST-IN-PLACE VAULT

NOTES:

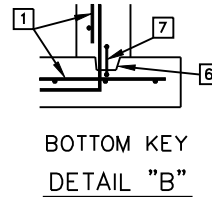
- 1 Reinforced steel and clearance as approved by the engineer.
- 2 Block masonry may be used in lieu of CIP walls. 8" block masonry, grout each cell to full height (grout per MAG Section 776).
- 3 2 Torsion spring assisted galvanized diamond plate access doors (design loading AASHO-H20) locking with type 304SS hardware and safety bar (Bilco Model LU-3, or approved equal).
- 4 Ladder shall be furnished and installed in accordance with the detail and shall meet the requirements of OSHA for Type IA (300 lbs) fixed ladders, single section. Details of ladder construction, along with a certification that the ladder meets or exceeds OSHA requirements for Type IA (300 lbs) service shall be submitted for review prior to furnishing and installing. Mill finished aluminum ladder or approved corrosion resistant material.
- 5 2"x 4" key, center on wall. (Install rope caulk continuously).
- 6 1-5/8"x 2-1/2"x 3" key.
- 7 4" PVC dumbbell type continuous waterstop 3/8" min. thickness. (Wash thoroughly prior to installation).
- 8 Anchor straps (3 each side) with 5/8" x 3-1/2" 316SS anchor bolts with lock washer and nut.

GENERAL NOTES

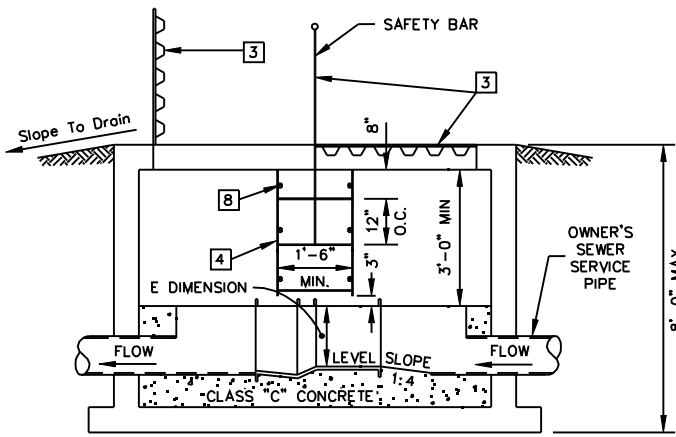
1. All construction shall conform to MAG Specifications and Details and City of Scottsdale Supplement to MAG Specifications and Details, unless modified on the plans.
2. All concrete floors, walls and top slab of the structure shall conform to MAG section 725, Class A, minimum compressive strength at 28 days = 3,000 psi.
3. All concrete for the grout fillet inside the structure shall conform to MAG Section 725, Class C, minimum compressive strength at 28 days = 2,000 psi.
4. All steel reinforcing shall be deformed bars, Grade 60, billet steel conforming to ASTM Specification No. A-615, latest edition.
5. The Monitoring/Sampling Vault shall be installed on the owner's property as close to the customer top to the City sewer as feasible, and approved by the City of Scottsdale.
6. Flume size should be based upon the minimum and maximum flow rates and velocities to insure free-flow conditions.
 - Maximum Flow = 70%-100% of maximum capacity of selected flume size.
 - 0.5 inches of flow should exist at the minimum actual flow.
7. Flume floor elevation should be high enough, relative to downstream conditions, to prevent submerged flow (50% submergence is acceptable at maximum flow), install the flume level (longitudinally and transversely) in the converging section.
8. Upstream flow should be wave free, non-turbulent, and symmetrical having a uniform velocity (1fps minimum to 3 fps maximum) at least 10 times the diameter of the upstream sewer pipe in length in the approach channel. Bends upstream in the flume will NOT be allowed for a distance of 25 pipe diameters unless conditions in the approach section of the flume will not be adversely affected.
9. The flume shall be installed off-center and away from the ladder to allow the maximum working space for City personnel.
10. It shall be the owner's responsibility to properly maintain the flume in accordance with the manufacturers recommendations to ensure the accuracy of the measurement.



TOP KEY
DETAIL "A"



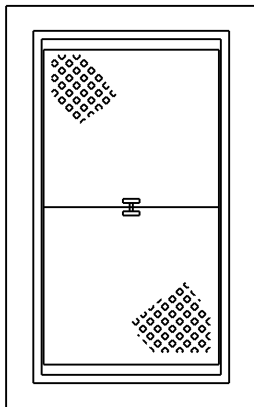
BOTTOM KEY
DETAIL "B"



SECTION B-B

EQUIPMENT DESCRIPTION

A Fisher and Porter type 10F1940, Hinde Engineering Company, PS-1001, or approved equal molded fiberglass reinforced polyester Parshall Flume shall be installed. The flume shall be molded in one piece with ample wall thickness and reinforcing ribs to prevent distortion during shipment, installation and operation. The flume shall be self-supporting and require no external supporting structure. Interior dimensions shall conform to those in the latest revision of Water Measurement Manual published by the U.S. Department of the Interior, Water and Power Resources Services. The throat width and flume height (E dimension) shall be per plan.



COVER WITH LID

DETAIL NO.
2460

**City of Scottsdale
Standard Details**

APPROVED BY:
**Scottsdale Standards &
Specifications Committee**

MONITORING/SAMPLING VAULT

DETAIL NO.
2460