



12/12/02

**RENAUD SPIRIT CENTER**  
 For the City of O'Fallon - Missouri



Key Plan

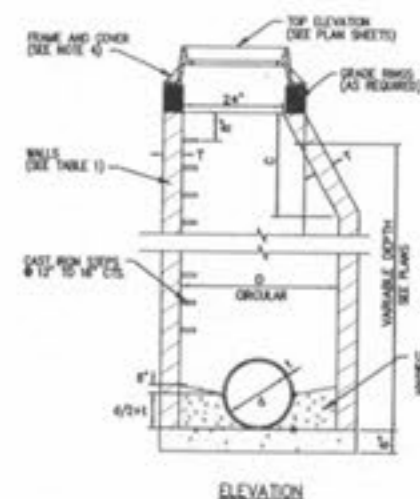
Scales

Jacobs Project No. P040000

Drawing Title: UTILITY DETAILS

Date: DECEMBER 9, 2002

Designed by: MW  
 Drawn by: MW  
 Checked by: MW  
 Drawing No.: C310

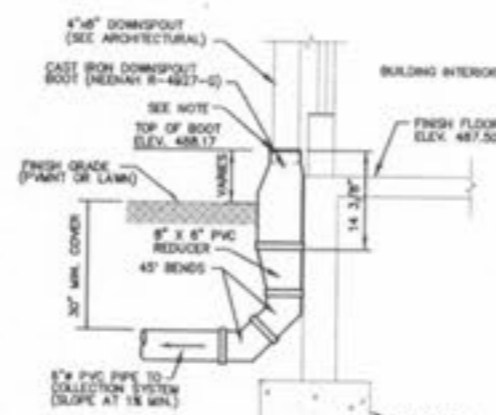


**A MANHOLE/INLET - TYPE A**  
 NOT TO SCALE

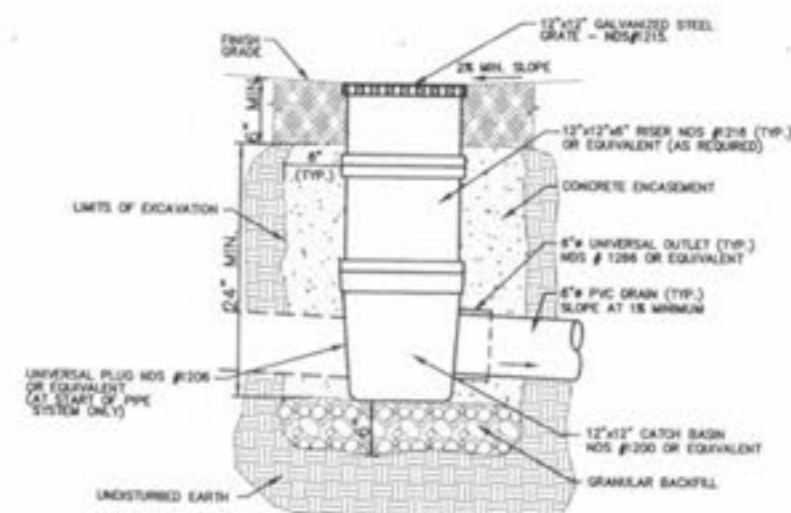
TABLE 1

Pressure	Manhole	Manhole	Manhole
Rating	4" - 12"	12" - 24"	24" - 36"
Concrete	4" - 12"	12" - 24"	24" - 36"

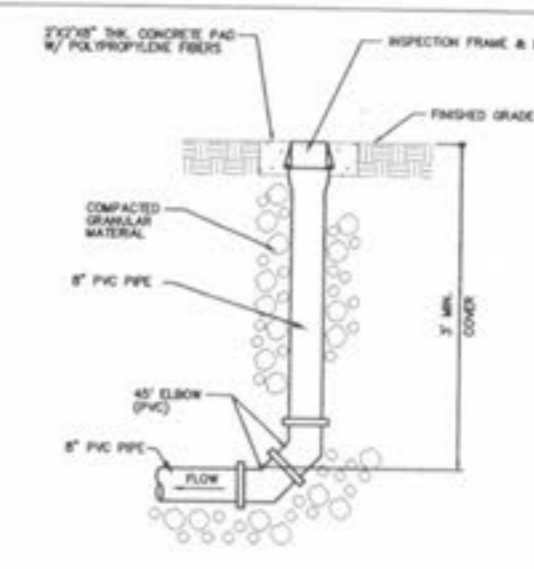
- NOTES:
- USE 4" DIAMETER BARS/RODS WHEN INLET AND OUTLET PIPE DIAMETERS EQUAL 12" OR LESS.
  - USE 6" DIAMETER BARS/RODS WHEN INLET AND OUTLET PIPE DIAMETERS ARE 12" TO 24".
  - DIMENSION "C" FOR PRECAST REINFORCED CONCRETE SECTIONS MAY VARY FROM THE DIMENSION GIVEN TO PLUS 4".
  - BARS/RODS - USE MESHING FRAME AND GRADE 60-300-1.
  - FOLLOW AASHTO STANDARDS FOR SEMI CONSTRUCTION.



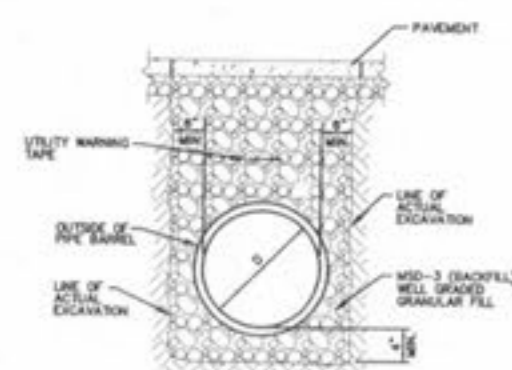
**B CAST IRON DOWNSPOUT BOOT**  
 NOT TO SCALE



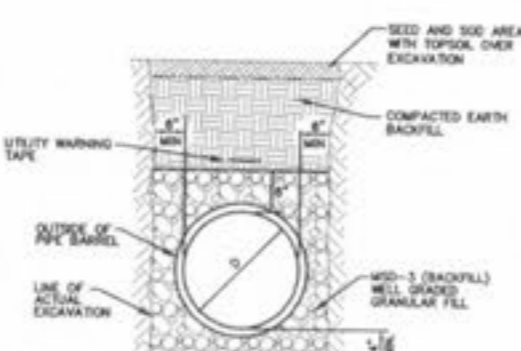
**C INLET - TYPE III**  
 NOT TO SCALE



**D CLEANOUT**  
 NOT TO SCALE



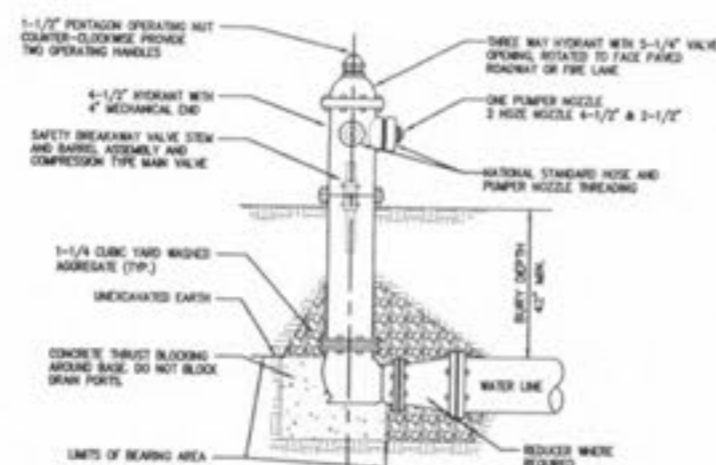
**E UTILITY TRENCH (BELOW PAVEMENT)**  
 NOT TO SCALE



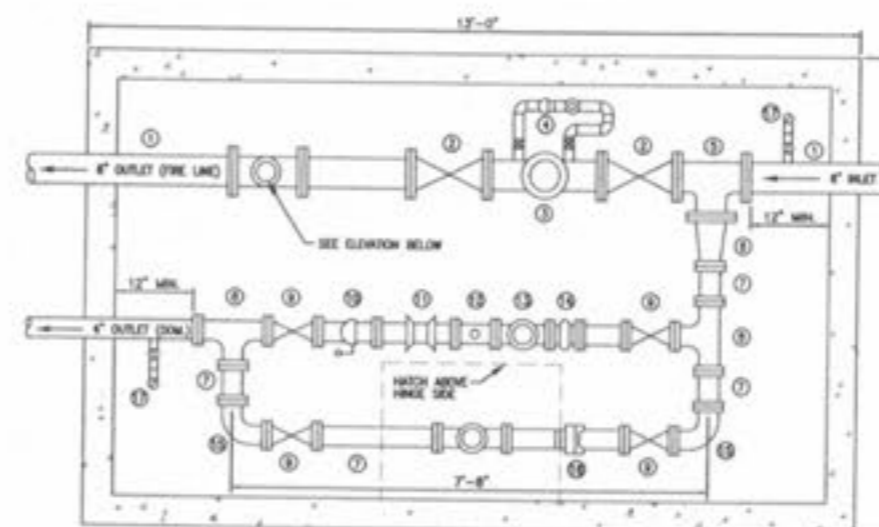
**F UTILITY TRENCH (STANDARD)**  
 NOT TO SCALE

GENERAL NOTES:

- UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF THE IMPROVEMENTS.
- ALL FILLER AREAS, INCLUDING TRENCH BACKFILLS, UNDER BUILDINGS, PROPOSED WATER, STORM, AND SANITARY SEWER LINES AND/OR PAVED AREAS, SHALL BE COMPACTED PER SURFACE REPORT AND SPECIFICATIONS.
- ALL SOILS TESTS SHALL BE VERIFIED BY THE OWNER'S GEOTECHNICAL ENGINEER CONCURRENT WITH THE GRADING AND BACKFILLING OPERATIONS.
- ALL WATER LINES SHALL BE LAID AT LEAST 18 FEET HORIZONTALLY FROM ALL SANITARY SEWERS, STORM SEWERS, AND MANHOLES. 18" VERTICAL CLEARANCE FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE SHALL BE MAINTAINED WHENEVER WATER LINES MUST CROSS SANITARY SEWERS, LATERALS, OR STORM DRAINS. THE WATER LINE IS SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER LINE IS ABOVE THE TOP OF THE SEWER OR SEWER. A FULL LENGTH OF WATER PIPE SHALL BE CENTERED OVER THE SEWER LINE TO BE CROSSED SO THAT THE JOINTS WILL BE EQUALLY RESISTANT FROM THE SEWER AND AS RESISTE THEREOF AS POSSIBLE. THIS VERTICAL SEPARATION SHALL BE MAINTAINED FOR THAT PORTION OF THE WATER LINE LOCATED WITHIN 18 FEET HORIZONTALLY, OF ANY SEWER OR DRAIN IT CROSSES.
- SEE SPECIFICATIONS FOR WATER LINE MATERIALS.
- WATER LINES, VALVES, BUSTERS, METERS, AND FITTINGS SHALL MEET ALL SPECIFICATIONS AND INSTALLATION REQUIREMENTS OF THE CITY OF O'FALLON AND MISSOURI AMERICAN WATER COMPANY.
- THE CITY OF O'FALLON SHALL BE NOTIFIED 48 HOURS PRIOR TO CONSTRUCTION FOR COORDINATION AND INSPECTION.
- ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE CURRENT CONSTRUCTION STANDARDS OF THE CITY OF O'FALLON.
- NO FLOWING HYDRANTS OR WATER METERS SHALL BE LOCATED IN DRIVEWAYS AND DR VALLEYS.
- WATER LINE VALVES SHALL BE INSTALLED AS NEEDED, AND AS DIRECTED BY THE ENGINEER.
- BENDS ARE NOT SHOWN ON PLANS. THEY SHOULD BE PLACED AS NEEDED AND APPROVED BY THE ENGINEER. BENDS ARE INCIDENTAL TO COST OF WATERLINE INSTALLATION.
- GRANULAR FILL TO BE INCIDENTAL TO INSTALLATION OF WATERLINE (DESIGNED) AND UNDER PAVEMENT AND PIPE CROSSINGS.



**I TYPICAL FIRE HYDRANT DETAIL**  
 NOT TO SCALE

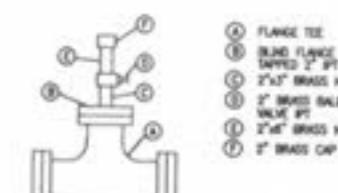


**H WATER METER VAULT**  
 NOT TO SCALE

MATERIAL LIST

ITEM #	DESCRIPTION	UNIT	QUANTITY
1	6" DIA. SPIRAL FLANGE - FLANGE	-	2
2	6" FLANGED GATE VALVE W/ HANDLE WHEEL	-	2
3	6" FLANGED CHECK VALVE	-	2
4	6" BY-PASS METER	-	2
5	6" FLANGED TEE	-	2
6	6" REDUCER	-	2
7	6" DIA. SPIRAL FLANGE - FLANGE	-	2
8	6" FLANGED TEE	-	2
9	6" FLANGED GATE VALVE W/ HANDLE WHEEL	-	2
10	6" CHECK VALVE W/ HANDLE WHEEL	-	2
11	6" BY-PASS METER	-	2
12	6" FLANGED TEE-TEE ADAPTER	-	1
13	6" BUSHING	-	1
14	6" BUSHING	-	1
15	6" FLANGED BY-BEND	-	1
16	6" COMPRESSOR COUPLER	-	1
17	6" PRESSURE GUNNY PLASTIC GASKET	-	1
18	6" SAMESE CONNECTION	-	1

- NOTES:
- THE VAULT AND ACCESS DOOR SHALL BE CAPABLE OF HANDLING 11-20 LBS LOADS.
  - SECURE THE FLANGED PIPE TO A CONCRETE THROST BLOCK OUTSIDE THE VAULT.
  - SHAKE WHEE TESTER FOR APPROVAL BEFORE CONSTRUCTION.
  - USE S.P.P. FOR ALL PIPES AND FITTINGS.
  - ALL WATER SERVICE WORK SHALL BE DONE BY AN A.W.W. APPROVED CONTRACTOR.
  - CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTING WALL PAVING AND FLOOR LISTS IN THE MATERIALS LIST. S.P.P. WILL FURNISH AND INSTALL THE SERVICE METER AND GASKETS AS SHOWN IN THE DETAIL. CONTACT PUBLIC WORKS DEPT. NUMBER 1 (636) 444-4444 FOR SCHEDULES AND SPECIFICATIONS FOR SCHEDULES AND INSPECTION.
  - ALL WATER SERVICE PIPE SHALL HAVE RESTRAINING GASKETS AT ALL BENDS AS CALLED OUT IN THE SPECIFICATIONS.



SEE SEE  
 1/2" OR 1/4" PER SOCKET - COMPRESSED TO 1/16" PER FLANGE JOINT