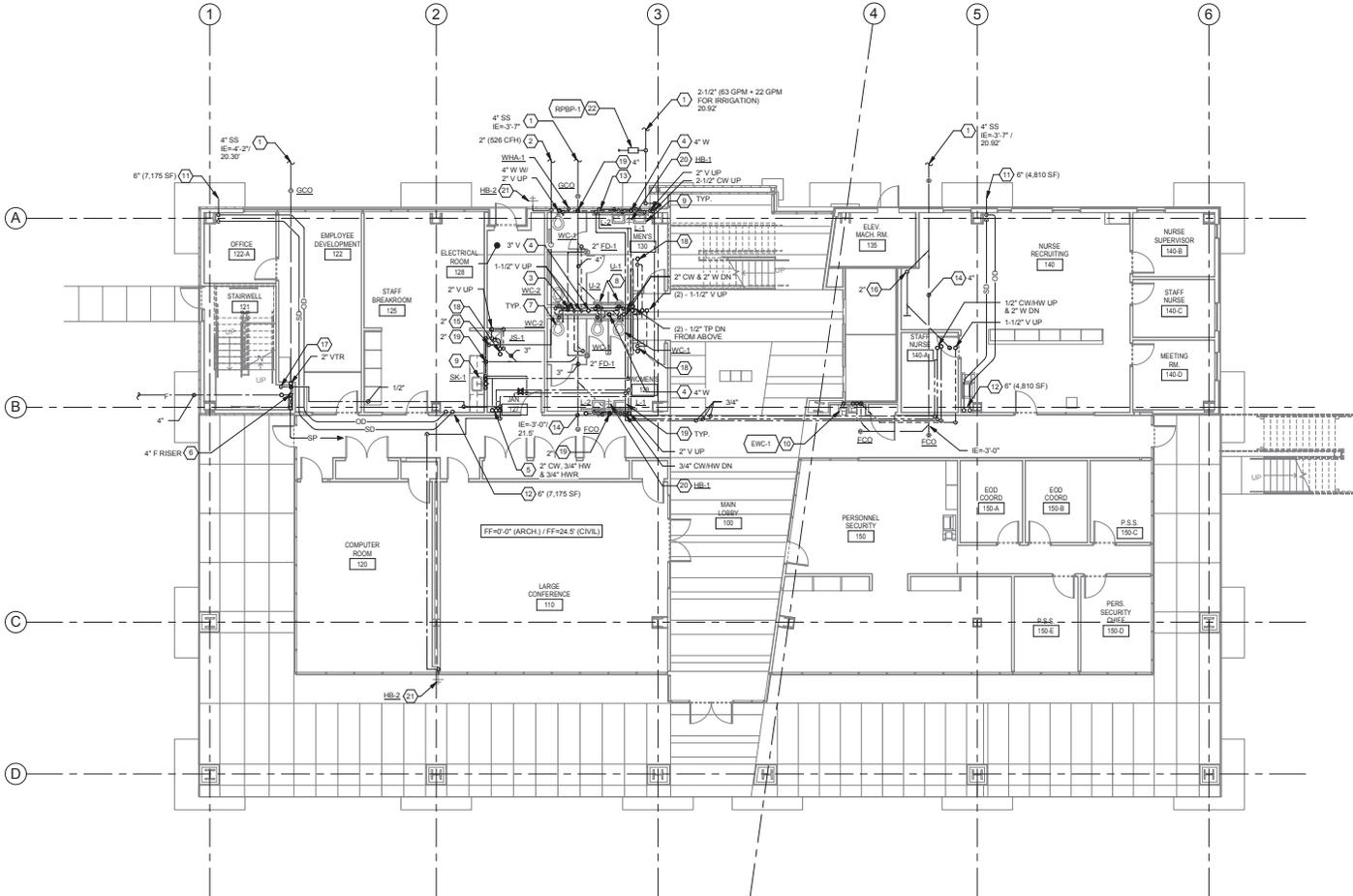




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SHEET KEYNOTES

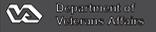
- 1 REFER TO CIVIL DWGS FOR CONTINUATION.
- 2 REFER TO SITE PLAN FOR CONTINUATION.
- 3 PROVIDE WVA-1 & TP-1 W/ AP.
- 4 WASTE/VENT STACK.
- 5 CW, HW & HWR RISER.
- 6 F RISER.
- 7 WC: PROVIDE 1-1/2" CW, 4" W & 2" V.
- 8 U: PROVIDE 3/4" CW, 2" W & 1-1/2" V.
- 9 LSK: PROVIDE 1/2" CW/WW, 2" W & 1-1/2" V.
- 10 EWC-1: 1/2" CW DN TO EWC-1 & PROVIDE 2" W & 1-1/2" V.
- 11 SDCOD TERMINATE @ FACE OF THE WALL. SEE 13AS8.02 & 15AS8.05
- 12 SDCOD STACK.
- 13 1-1/2" CW & 3/4" HW DN.
- 14 INSTALL PIPE @ 2% SLOPE.
- 15 G RISER.
- 16 W DN WIENCLOSURE.
- 17 PROVIDE 1/2" CW W/ SOV TO TP-1 @ 48" AFF FOR STAND PIPE.
- 18 2" W DN FROM ABOVE W/ 1/2" TP & 1-1/2" V.
- 19 W DN W/ WCO.
- 20 3/4" HB-2 @ 18" AFF.
- 21 3/4" HB-2 @ 34" AFF.
- 22 PROVIDE 1-1/2" RSPB-1 & COORDINATE W/ IRRIGATION PLAN FOR EXACT LOCATION.



1 LEVEL 1 PLAN - PLUMBING



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PROJECT:
2010-0410
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05.31.2011 100% Construction Documents
02.02.2011 90% Construction Documents
03.16.2011 100% Design Development
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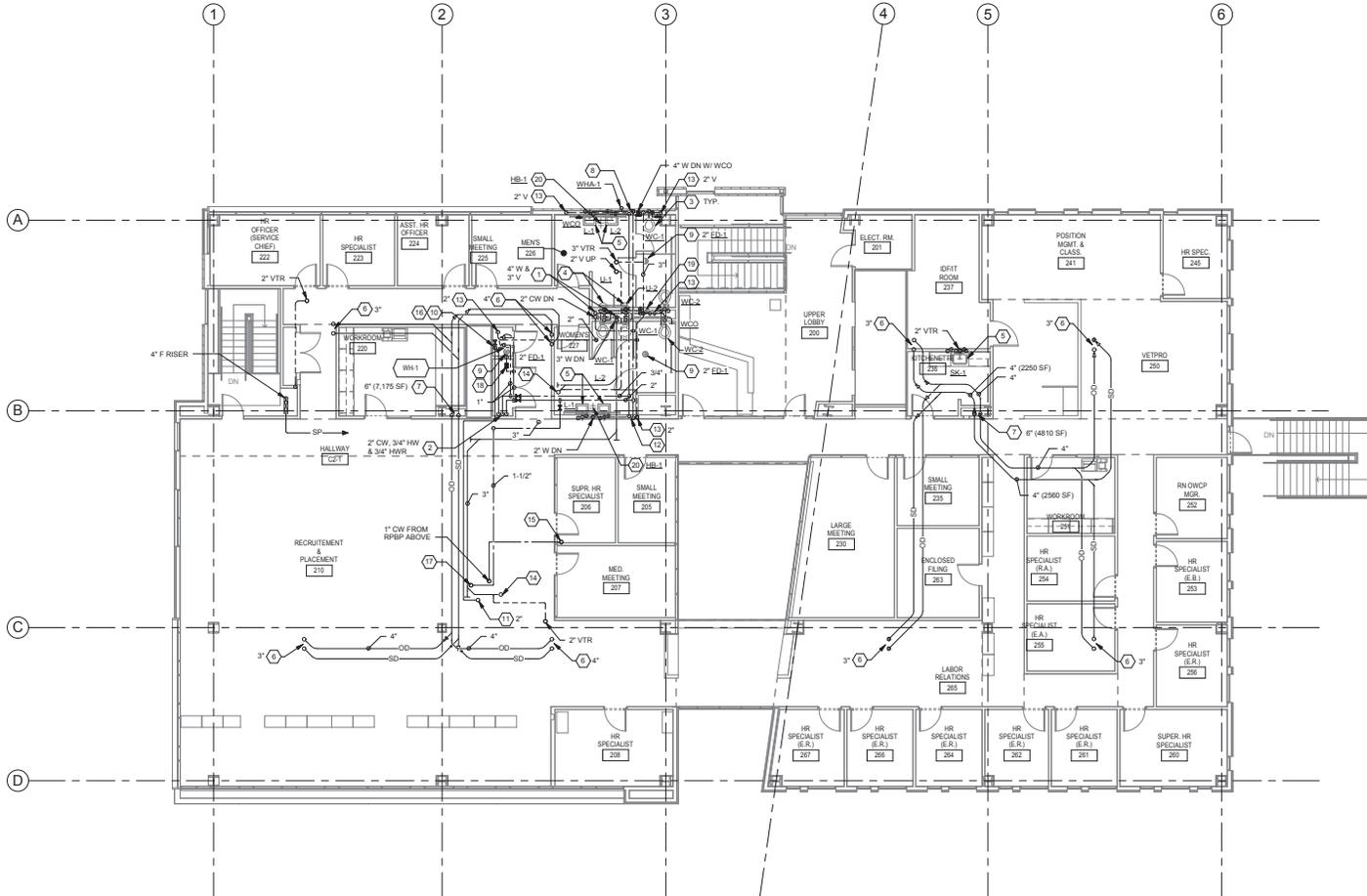
LEVEL 2 PLAN - PLUMBING

PROJECT # 10037.00
DATE: 5-31-2011
SCALE: 1/8" = 1'-0"

PL.2.02

SHEET KEYNOTES

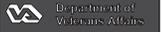
- 1 WASTEVENT STACK.
- 2 CW, HW & HWR RISER.
- 3 WC: PROVIDE 1-1/2" CW, 4" W & 2" V.
- 4 U: PROVIDE 3/4" CW, 2" W & 1-1/2" V.
- 5 LSK: PROVIDE 1/2" CW/HW, 2" W & 1-1/2" V.
- 6 SD/OD DN FROM ROOF ABOVE.
- 7 SD/OD DN.
- 8 1-1/2" CW & 3/4" HW DN.
- 9 FD: PROVIDE 2" W, 1-1/2" V & 1/2" TP.
- 10 2" G RISER.
- 11 G UP TO MECH. UNIT ON ROOF.
- 12 3/4" CW/HW DN.
- 13 V UP FROM BELOW.
- 14 2" DN & 2" V UP.
- 15 1" CW UP TO HB ABOVE.
- 16 1" G TO WH-1.
- 17 1-1/2" CW UP TO RHPB ABOVE.
- 18 PROVIDE 1/2" CW W/ SOV TO TP-1 @ CEILING.
- 19 PROVIDE WHA-1 & TP-1 W AP.
- 20 3/4" HB-1 @ 18" AFF.



1 LEVEL 2 PLAN - PLUMBING



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GAS CALCULATIONS				
FIXTURE	DESCRIPTION	NO. OF FIXT.	BTUHR INPUT	TOTAL BTUHR
KITCHEN EQUIPMENT				
[]	OVEN	0	0	0
MECHANICAL EQUIPMENT				
[]	BOILER	1	450,000	450,000
[]	ROOF TOP UNIT	0	0	0
[]	MAKE-UP AIR UNIT	0	0	0
[]	UNIT HEATER	0	0	0
PLUMBING EQUIPMENT				
[]	DOMESTIC WATER HEATER	0	76000	76000
[]	DOMESTIC WATER HEATER	0	0	0
TOTAL DEMAND (BTU)				526,000
TOTAL DEMAND (CFH)				526

PLUMBING EQUIPMENT SCHEDULE		
SYMBOL	DESCRIPTION	ELECTRICAL
BV-1	BALANCING VALVE: NBCC MODEL 5170 SERIES OR APPROVED EQUAL.	---
CP-1	CIRCULATING PUMP: MFR. BELL & GOSSETT MODEL NBF 8517P OR APPROVED EQUAL. 1.5 GPM @ 7' HEAD	39 WATTS 1 PHASE 115 V 0.39 AMP
RRBP-1 (FOR IRRIGATION)	WILKINS MODEL 975 LXL2 OR APPROVED EQUAL, 1-1/2" BRONZE BODY, 175 PSI & 23 LBS.	---
WH-1	WATER HEATER: GAS FRED, ASME RATED, COMMERCIAL GRADE, DRAIN VALVE, T & P VALVE, FLUE DAMPER, INTERMITTENT ELECTRONIC IGNITION, SEALED DIRECT VENT, 50 GALLON STORAGE, 76000 BTU/H INPUT, 83 GPH AT 100 DEGREES RISE, 470 LBS. A.O. SMITH BTK-80 OR APPROVED EQUAL.	120 V 60 HZ
ET-1	EXPANSION TANK: WATTS MODEL PL-T-5 OR APPROVED EQUAL.	---

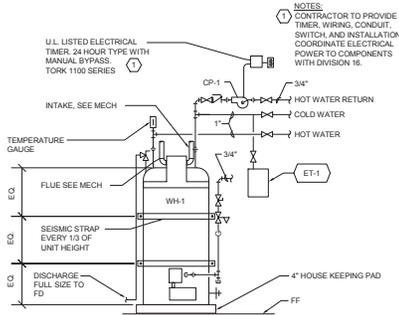
WATER SERVICE CALCULATIONS (BASED ON APPENDIX 'A')								
FIXTURE QUANTITY			APPENDIX 'A', TABLE A-2			TOTAL FIXTURE UNITS		
PRIVATE INDIVIDUAL DWELLING	PUBLIC GENERAL USE	PUBLIC HEAVY USE ASSEMBLY	PRIVATE INDIVIDUAL DWELLING	PUBLIC GENERAL USE	PUBLIC HEAVY USE ASSEMBLY	COLD WATER	7.75 HOT WATER	
0	1	0	DRINKING FOUNTAIN OR WATER COOLER	0.00	0.50	0.75	0.50	
0	1	0	HOSE BIBB	2.50	2.50	0.00	2.50	
0	6	0	HOSE BIBB, EACH ADDITIONAL	1.00	1.50	0.00	6.00	
0	2	0	KITCHEN SINK, DOMESTIC	1.50	1.50	0.00	3.00	
0	4	0	LAVATORY	1.00	1.00	1.00	3.00	
0	1	0	SERVICE SINK OR MOP BASIN	1.50	3.00	0.00	3.00	
0	4	0	URNAL, 1/8 GPF	3.00	4.00	5.00	16.00	
0	10	0	WATER CLOSET, 1.28 GPF, FLUSHMETER VALVE	8.00	5.00	8.00	50.00	
TOTAL							65.50	7.50
FLOW IN GPM							63	0
IRRIGATION FLOW IN GPM							22	0
TOTAL GPM REQUIRED							85	0
PIPE SIZE							2-1/2"	1"

SANITARY DRAINAGE CALCULATIONS							
FIXTURE QUANTITY			TABLE 7-3			TOTAL FIXTURE UNITS	
PRIVATE INDIVIDUAL DWELLING	PUBLIC GENERAL USE	PUBLIC HEAVY USE ASSEMBLY	PRIVATE INDIVIDUAL DWELLING	PUBLIC GENERAL USE	PUBLIC HEAVY USE ASSEMBLY		
0	1	0	DRINKING FOUNTAIN OR WATER COOLER	0.50	0.50	1.00	
0	8	0	LAVATORY, SINGLE	1.00	1.00	8.00	
0	1	0	SERVICE SINK OR MOP BASIN, 2" TRAP	3.00	3.00	3.00	
0	2	0	SINK, GENERAL, 1 1/2" TRAP	2.00	3.00	6.00	
0	4	0	URNAL, 1/2 GPF	2.00	2.00	8.00	
0	10	0	WATER CLOSET, 1.6 GPF, FLUSHMETER VALVE	3.00	4.00	30.00	
TOTAL							65.50
PIPE SIZE							4"

PLUMBING FIXTURE CONNECTION SCHEDULE					
SYMBOL	DESCRIPTION	CONNECTION			
		W	V	CW	HW
EW-1 (ADA)	TWO STATION WALL MOUNTED ELECTRIC WATER COOLER: ELKAY MODEL EMABPTL 9C OR APPROVED EQUAL, LEAD-FREE TWO-LEVEL SWR/FLO. WALL MOUNT BARBER FREE, #1/8 GAUGE STAINLESS STEEL, TWO LEVEL, BASINS, 300 SERIES STAINLESS STEEL POLISHED TO A LUSTROUS SATIN FINISH FLEXO-GUARD SAFETY BUBBLERS AND VANDAL-RESISTANT FRONT PUSH BUTTON. 120V/60 Hz	2"	1-1/2"	1/2"	---
FD-1	FLOOR DRAIN: J.R. SMITH FIG. 2055Y OR APPROVED EQUAL, DUCO CAST IRON BODY FLOOR DRAIN WITH FINISHED NICKEL BRONZE TOP W/ TRAP PRIMER: CONNECTION - P050	2"	1-1/2"	---	---
HB-1	HOSE BIBB: CHICAGO FAUCET 387-CP W/ LOOSE KEY HANDLE; CHROME 3/4" NPT, W/ E27 VACUUM BREAKER OR APPROVED EQUAL.	---	---	3/4"	---
HB-2	HOSE BIBB: WOODFORD MODEL 624, ENCASED WALL HYDRANT; ANTI-SIPHON, INTEGRAL BACKFLOW PREVENTER, 3/4" MALE & FEMALE PIPE THREAD, BRASS WALL BOX, BRASS COVER AND KEY.	---	---	3/4"	---
HB-3	HOSE BIBB: WOODFORD RHY-1, 3/4" BRASS HOSE NOZZLE, 1/8" NPT DRAIN HOLE, EPDM BOOT TO COVER WELL SEAL AND TOP OF HYDRANT SUPPORT	---	---	1"	---
JS-1	JANITOR SINK: FLORESTONE 90-2424 OR APPROVED EQUAL, MOLDED AND TERRAZZO MOP RECEPTORS WITH MR-370 HOSE, MR-371 FAUCET, MR-373 #304; 20 GAUGE 30" STAINLESS STEEL, RIM GUARD, MR-375 STRAINER OR APPROVED EQUAL.	3"	2"	1/2"	---
L-1	LAVATORY: AMERICAN STANDARD LUCERNE 0356 041 OR APPROVED EQUAL, WALL MOUNT LAVATORY WHITE VITREOUS CHINA FAUCET: AMERICAN STANDARD RELIANT 3-7805 003 OR APPROVED EQUAL WITH V05, 0.5 GPM FLOW CONTROL DRAIN: AMERICAN STANDARD - 2411 015 OR APPROVED EQUAL.	2"	1-1/2"	1/2"	1/2"
L-2 (ADA)	SAME AS L-1 EXCEPT ADA COMPLIANCE	2"	1-1/2"	1/2"	1/2"
RD-1 & OD-1	ROOF DRAIN: ZURN MODEL T264 OR APPROVED EQUAL, 12" DIAMETER ROOF DRAIN & OVERFLOW DRAIN DURA-COATED CAST IRON BODIES W/ MEMBRANE FLASHING CLAMP AND GUARD	SEE PLAN	---	---	---
RR-1	ROOF RECEPTOR: DURA COATED CAST IRON BODY MODEL ZURN 2122 OR APPROVED EQUAL.	3"	---	---	---
SK-1 (ADA)	BREAK ROOM SK: JUK MODEL SL-ADA-1921-A-GR OR APPROVED EQUAL, 6-1/2" DEEP SS SINK COUNTER MOUNTED W/ HOT/COLD WATER DISPENSER (W/ FILTER) FAUCET: DELTA-140-WZ-DST OR APPROVED EQUAL, 1.5 GPM DRAIN: J-ADA-35 STAINLESS STEEL CUP STRAINER OR APPROVED EQUAL.	2"	1-1/2"	1/2"	1/2"
TR-1	TRAP PRIMER: MIFAB TRAP SEAL MR-500 OR APPROVED EQUAL.	---	---	---	---
U-1	URNAL: WALL MOUNTED, WASHBROOK FLOWISE OR APPROVED EQUAL, 0.125 LITERS HIGH EFFICIENCY URNAL FAUCET: SLOAN ROYAL MODEL OPTIMA 186-0.13 ES-S OR APPROVED EQUAL.	2"	1-1/2"	3/4"	---
U-2 (ADA)	URNAL: SAME AS U-1 EXCEPT ADA COMPLIANCE.	2"	1-1/2"	3/4"	---
WC-1	WATER CLOSET: AMERICAN STANDARD MODEL, AFWALL FLOWISE 3351 128 OR APPROVED EQUAL, ELONGATED WALL MOUNTED, WHITE VITREOUS CHINA FLUSH VALVE: SLOAN CHOWN MODEL, 115-1128 OR APPROVED EQUAL, SEAT: CHURCH & DWIGHT OR APPROVED EQUAL, OPEN FRONT, COMMERCIAL WEIGHT HEAVY-DUTY PLASTIC	4"	2"	1-1/2"	---
WC-2 (ADA)	WATER CLOSET: SAME AS WC-1 EXCEPT ADA COMPLIANCE	4"	2"	1-1/2"	---
WH-1	WATER HAMMER ARRESTER: ZURN MODEL Z1700 SERIES PROVIDE AT WC & URNAL (PCI STANDARD WITH 8" & 8" AP, OR APPROVED EQUAL	---	---	---	---

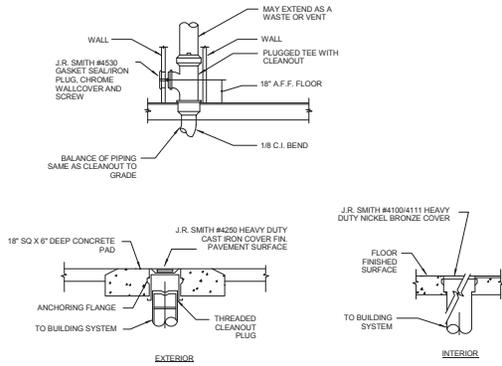
NOTES:

1. ALL SINKS SHALL BE PROVIDED WITH CLEANOUTS (CPC 707.4)
2. HOSE BIBBS SHALL BE PROVIDED WITH ANTI-SIPHON DEVICES.
3. DRINKING FOUNTAIN SHALL COMPLY WITH USC 1158B1.1.5
4. ALL MANUFACTURERS LISTED ARE ONLY FOR BASIS OF DESIGN. AN ALTERNATIVE MAY BE APPROVED BY A.E.



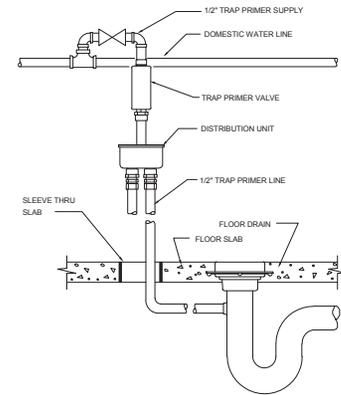
1 GAS WATER HEATER

NO SCALE



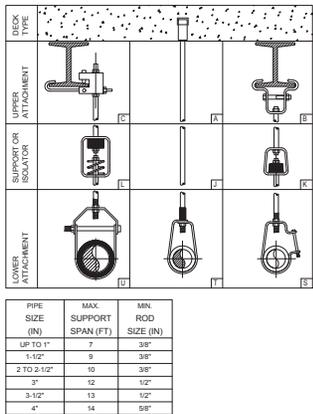
3 CLEANOUTS DETAIL

NO SCALE



5 TRAP SEAL PRIMER DETAIL

NO SCALE



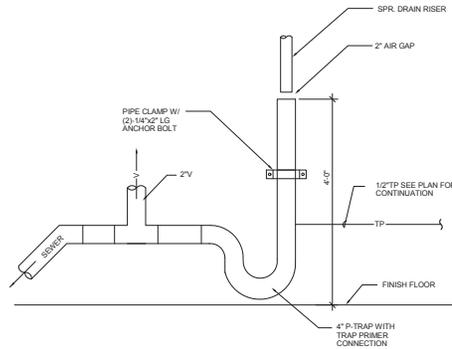
NOTES:

1. PIPE HANGERS SHOWN ARE TYPICAL OTHER ATTACHMENTS, COMPONENTS MAY BE REQUIRED TO MEET EXACT CONDITIONS.
2. COMPONENTS MAY BE INTERCHANGED AS REQUIRED TO MEET JOB CONDITIONS AND REQUIREMENTS.
3. SIZE ALL COMPONENTS TO SUPPORT THE LOAD CARRIED PLUS A SURCHARGE OF 50% (OSHPD ONLY)
4. SEE TABLE FOR SUPPORT ROD SIZE.
5. SEISMIC BRACING IS NOT SHOWN, PROVIDE AS REQUIRED. COMPONENTS:
 - A. DRILLED IN PLACE CONCRETE EXPANSION ANCHOR. REFER TO STRUCTURAL FOR LIMITATIONS.
 - B. I-BEAM CLAMP (C-750-4). USE FOR ATTACHMENT TO WIDE FLANGE BEAMS.
 - C. BEAM CLAMP (U-569) WITH SAFETY ROD. USE FOR ATTACHMENT TO WIDE FLANGE BEAMS.
 - J. CONTINUOUS THREAD HANGER ROD (H-104).
 - K. DOUBLE DEFLECTION NEOPRENE PAD HANGER (MASON HD).
 - L. DOUBLE DEFLECTION SPRING HANGER (MASON PC30N).
 - S. J-TYPE PIPE HANGER (C-711). USE FOR BARE OR INSULATED PIPE.
 - T. ADJUSTABLE RING TYPE HANGER (CT-727). USE FOR BARE COPPER TUBING.
 - U. CLEVIS TYPE HANGER (C-710). USE FOR BARE OR INSULATED PIPE OR TUBING.

PIPE SIZE (IN)	MAX. SUPPORT SPAN (FT)	MIN. ROD SIZE (IN)
UP TO 1"	7	3/8"
1-1/2"	9	3/8"
2 TO 2-1/2"	10	3/8"
3"	12	1/2"
3-1/2"	13	1/2"
4"	14	5/8"

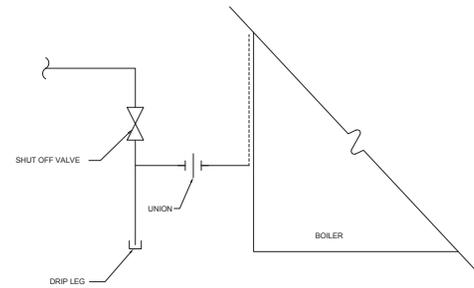
2 SINGLE PIPE HANGER DETAIL

NO SCALE



4 SPRINKLER HUB DRAIN

NO SCALE



6 GAS CONNECTION DETAIL

NO SCALE

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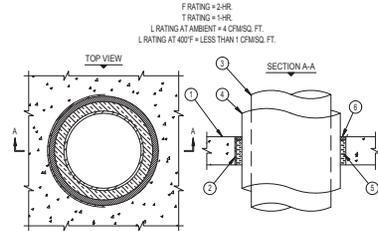
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DETAILS - PLUMBING

PROJECT # 10037.00
 DATE: 5-31-2011
 SCALE: 12" = 1'-0"

PL4.01

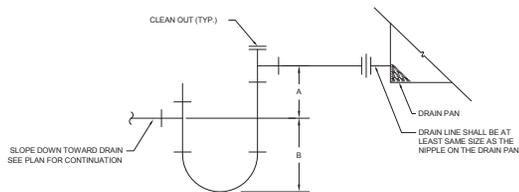
UL698 SYSTEM NO. CAJ8591
INSULATED METAL PIPE THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL



1. CONCRETE FLOOR OR WALL ASSEMBLY (2-HR FIRE-RATING):
 - A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR OR WALL (MINIMUM 4-1/2" THICK).
 - B. ANY ULULC CLASSIFIED CONCRETE BLOCK WALL.
2. OPTIONAL: MAXIMUM 20" NOMINAL DIAMETER STEEL PIPE SLEEVE (SCHEDULE 10 OR HEAVIER).
3. PENETRATING ITEM TO BE ONE OF THE FOLLOWING:
 - A. MAXIMUM 12" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).
 - B. MAXIMUM 6" NOMINAL DIAMETER COPPER PIPE.
 - C. MAXIMUM 2" THICK GLASS FIBER INSULATION.
 - D. MINIMUM 4" THICKNESS MINERAL WOOL (MIN. 4 PCF DENSITY) TIGHTLY PACKED.
 - E. MINIMUM 1/2" DEPTH HILTI FS-ONE INTUMESCENT FIRESTOP SEALANT.

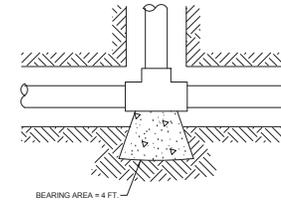
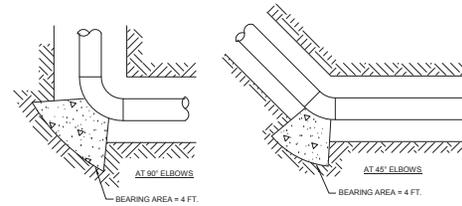
NOTES: 1. MAXIMUM DIAMETER OF OPENING = 20".
 2. ANNULAR SPACE = MINIMUM 1/2", MAXIMUM 2-1/4".
 3. MINIMUM 1/2" DEPTH HILTI FS-ONE INTUMESCENT FIRESTOP SEALANT IS REQUIRED ON BOTH SIDES OF A WALL.

**2 AIR HANDLING UNIT
 CONDENSATE DRAIN CONNECTION**
 NO SCALE



UNIT TYPE	DIMENSIONS	
	"A"	"B"
DRAW THRU	1.0 x S.P.	1.5 x S.P.
BLOW THRU	1" MIN.	2.0 x S.P.

SP = STATIC PRESSURE IN PAN



AT TEE, PLUG, HYDRANT & PV

3 THRUST BLOCK DETAIL
 NO SCALE

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PROJECT # 10037.00
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PL4.02