

PLUMBING SYMBOL LIST

NOTE: This is a standard symbol list and not all items listed may be used.

Abbreviations

(E)	EXISTING	NTS	NOT TO SCALE
(N)	NEW	OD	OUTSIDE DIAMETER
(R)	REMOVE	P	PUMP
(RL)	RELOCATE	PDI	PLUMBING DRAINAGE & INSTITUTE
AFF	ABOVE FINISHED FLOOR	PSI	POUNDS PER SQUARE INCH
BFF	BELOW FINISHED FLOOR	RET	RETURN
BFP	BACKFLOW PREVENTER	SOV	SHUT OFF VALVE
CD	CONDENSATE DRAIN	SP	STATIC PRESSURE
CF	CUBIC FOOT	SS	SANITARY SEWER
CFE	CAPPED FOR FUTURE CONNECTION	T&P	TEMPERATURE & PRESSURE
CFH	CUBIC FEET PER HOUR	U	URINAL
CFM	CUBIC FEET PER MINUTE	V	VENT
CL	CENTERLINE	VEL	VELOCITY
CONT.	CONTINUATION	W/	WITH
CV	CHECK VALVE	WO	WITHOUT
CW	COLD WATER	WC	WATER COLUMN
DIA	DIAMETER		
ELECT	ELECTRICAL		
EL	ELEVATION		
FC	FLEXIBLE CONNECTOR		
FPM	FEET PER MINUTE		
FT	FEET		
GAL	GALLONS		
GPH	GALLONS PER HOUR		
GPM	GALLONS PER MINUTE		
HB	HOSE BIB		
HP	HORSE POWER		
HTG	HEATING		
HTR	HEATER		
HW	HOT WATER		
HWR	HOT WATER RETURN		
ID	INSIDE DIAMETER		
IE	INVERT ELEVATION		
IN	INCHES		
LBS.	POUNDS		
MBH	THOUSAND BTU'S PER HOUR		
MIN	MINIMUM		
N/A	NOT APPLICABLE		
NIC	NOT IN CONTRACT		
NO.	NUMBER		
PDI	PLUMBING & DRAINAGE INSTITUTE		
SP	SPRINKLER		

Fittings

	CAP
	CONCENTRIC REDUCER
	CONTINUATION
	ECCENTRIC REDUCER
	FLOOR CLEANOUT
	FLOOR DRAIN
	FLOOR SINK
	FLOW DIRECTION
	HOSE BIBB
	OVERFLOW ROOF DRAIN
	PIPE BELOW GRADE
	PIPE DROP
	PIPE REMOVED IN DEMOLITION
	PIPE RISE
	PUMP
	ROOF DRAIN

Piping Systems

	COLD WATER PIPING
	CONDENSATE PIPING
	FIRE PROTECTION PIPING
	GAS PIPING
	HOT WATER PIPING
	HOT WATER RETURN PIPING
	POINT OF CONNECTION
	SHEET NOTE NUMBER
	SANITARY PIPING ABOVE GRADE OR FINISHED FLOOR
	SANITARY PIPING BELOW GRADE OR FINISHED FLOOR
	SANITARY VENT PIPING
	STORM DRAIN PIPING ABOVE GRADE OR FINISHED FLOOR
	STORM DRAIN PIPING BELOW GRADE OR FINISHED FLOOR

Valves

	BALANCING VALVE
	CHECK VALVE
	GATE VALVE
	GLOBE VALVE
	QUARTER TURN VALVE
	VALVE
	VALVE, GENERAL

General

	CONTINUATION
	DETAIL BUBBLE
	EQUIPMENT IDENTIFICATION
	KEYED NOTE
	PIPE BELOW GRADE

GENERAL PLUMBING NOTES

- A. CONDITIONS SHOW ON THE PLANS RELATIVE TO THE WORK TO BE PERFORMED ARE BASED ON THE BEST INFORMATION AVAILABLE AND SUBJECT TO VERIFICATION. VERIFY LOCATIONS AND ELEVATIONS OF UTILITIES TO BE CROSSED OR CONNECTED. CORRECT DEFICIENCIES CAUSED BY FAILURE TO PERFORM SUCH VERIFICATIONS AT NO EXPENSE TO OWNER. IMMEDIATELY NOTIFY ARCHITECT AND ENGINEER OF CONDITION IN CONFLICT WITH THE DETAIL PLANS.
- B. COORDINATE INSTALLATION OF PIPING, FIXTURES, EQUIPMENT AND THE LIKE BELOW AND ABOVE GRADE WITH STRUCTURAL COMPONENTS AND OTHER SYSTEMS INSTALLATION.
- C. COORDINATE FIXTURES, EQUIPMENT, PIPE ROUGH-IN CONNECTION LOCATIONS AND DRAIN LOCATIONS WITH ARCHITECTURAL DRAWINGS.
- D. LOCATE VALVES FOR SERVICE ACCESSIBILITY. VALVES INSTALLED ABOVE CEILING SHALL BE WITHIN 18" OF CEILING.
- E. SEE PLUMBING FIXTURE SCHEDULE FOR PIPE CONNECTION SIZES.
- F. ALL WASTE PIPE TO SLOPE MINIMUM OF 1/4" PER FOOT.

GENERAL SEISMIC NOTES

- A. CONTRACTOR TO PROVIDE COMPLETE SEISMIC ANCHORAGE AND BRACING FOR ALL PLUMBING EQUIPMENT WEIGHING 400 POUNDS OR MORE THAT IS DIRECTLY MOUNTED ON THE FLOOR OR ROOF AND ALL MECHANICAL EQUIPMENT WEIGHING OVER 20 POUNDS THAT IS SUSPENDED FROM THE FLOOR, WALL OR SUPPORTED BY VIBRATION ISOLATORS TO RESIST A HORIZONTAL FORCE ACTING IN ANY DIRECTION USING THE CRITERIA OUTLINED IN THE 2010 CALIFORNIA BUILDING CODE, ASCE 7-05CA.13, #13.1.4. CONSIDER THE EFFECT OF TEMPERATURE CHANGE IN PREPARATION OF ANCHORAGE AND BRACING DETAILS. PROVIDE ANCHORAGE CALCULATIONS AND DETAILS CERTIFIED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA.
- B. PIPING SHALL BE SUPPORTED AND BRACED WITH ONE OF THE FOLLOWING SEISMIC RESTRAINT SYSTEMS.
1. THE SMACNA GUIDELINES OF THE SEISMIC RESTRAINT OF MECHANICAL SYSTEMS AND PLUMBING SYSTEMS.
 2. NUSIG SEISMIC SUPPORT DEVICES.
 3. THE SUPERSTRUT SEISMIC RESTRAINT SYSTEM.
 4. THE S-LINE SEISMIC RESTRAINT SYSTEM.
- C. CALCULATIONS AND DRAWINGS SHALL BE SUBMITTED FOR PIPING SUPPORTS AND BRACING SHOWING.
1. LOCATION OF SEISMIC BRACING.
 2. REACTION FORCES TO THE SUPPORTING STRUCTURE.
 3. MANUFACTURER'S DESIGNATION OF SUPPORT DEVICES.
- D. SEISMIC BRACING POINTS SHALL BE SUBMITTED ON CONTRACTOR'S COORDINATED SHOP DRAWINGS.

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PROJECT:
2010-0410
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05.31.2011 100% Construction Documents
05.02.2011 90% Construction Documents
03.16.2011 100% Design Development
02.09.2011 100% Schematic Design

REV DATE ISSUE



Date Signed: _____



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SYMBOL LIST, GENERAL
NOTES AND SHEET INDEX -
PLUMBING

PROJECT # 10007.00
DATE 5.31.2011
SCALE NO SCALE

PL0.01

SHEET INDEX

PL0.01	SYMBOL LIST, GENERAL NOTES AND SHEET INDEX - PLUMBING
PL1.01	SITE PLAN - PLUMBING
PL2.01	LEVEL 1 PLAN - PLUMBING
PL2.02	LEVEL 2 PLAN - PLUMBING
PL2.03	ROOF PLAN - PLUMBING
PL3.01	SCHEDULES - PLUMBING
PL4.01	DETAILS - PLUMBING
PL4.02	DETAILS - PLUMBING

SHEET KEYNOTES

- 1 REFER TO CIVIL FOR CONTINUATION.
- 2 INCOMING NATURAL GAS SHALL BE AT ELEVATED PRESSURE

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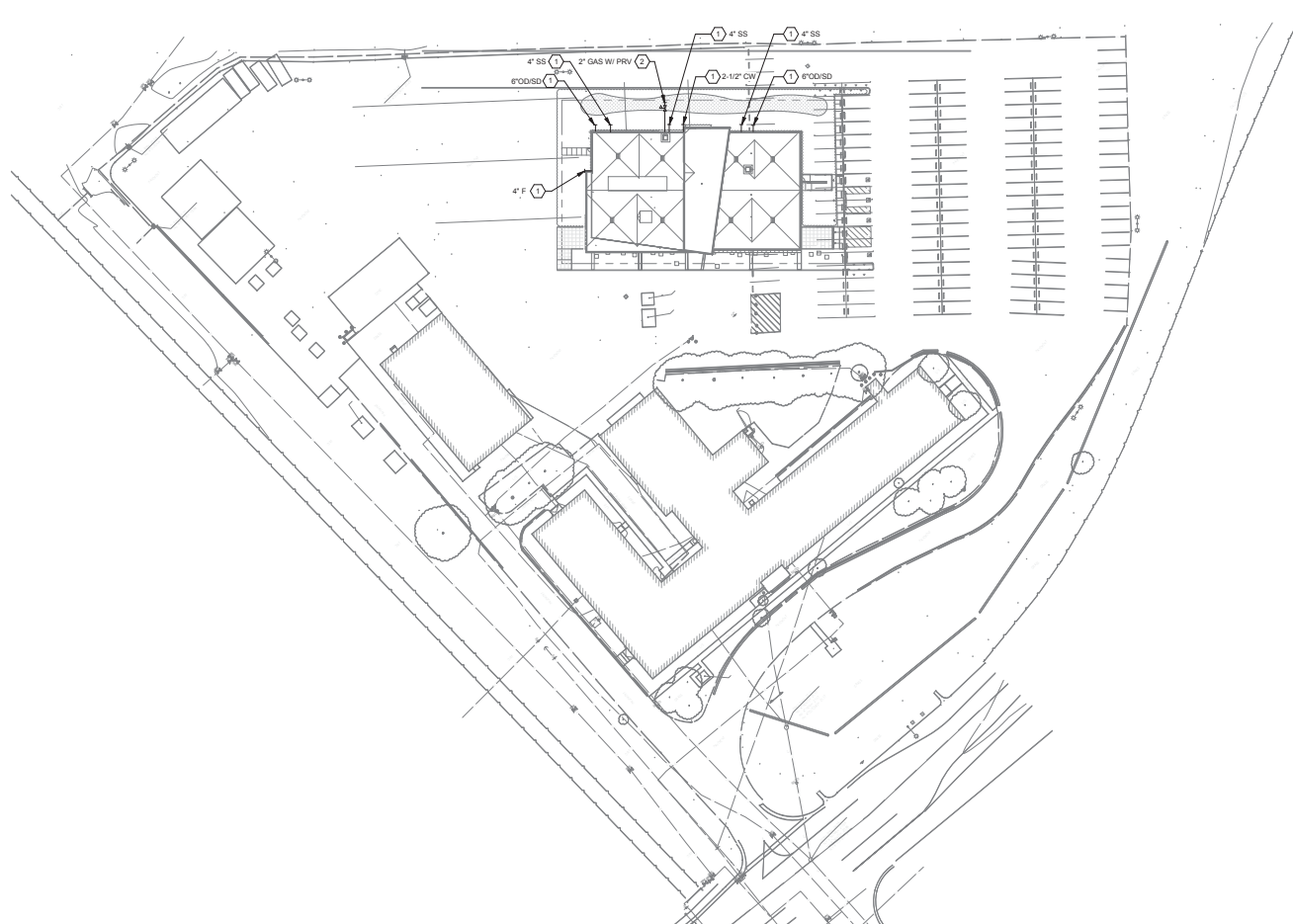
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SITE PLAN - PLUMBING

PROJECT # 10037.00
DATE: 5.31.2011
SCALE: 1" = 40'-0"

PL1.01



1 SITE PLAN - PLUMBING

0 20 40 80
1" = 40'-0"

05/31/2011 11:00 AM - 05/31/2011 11:00 AM - 05/31/2011 11:00 AM

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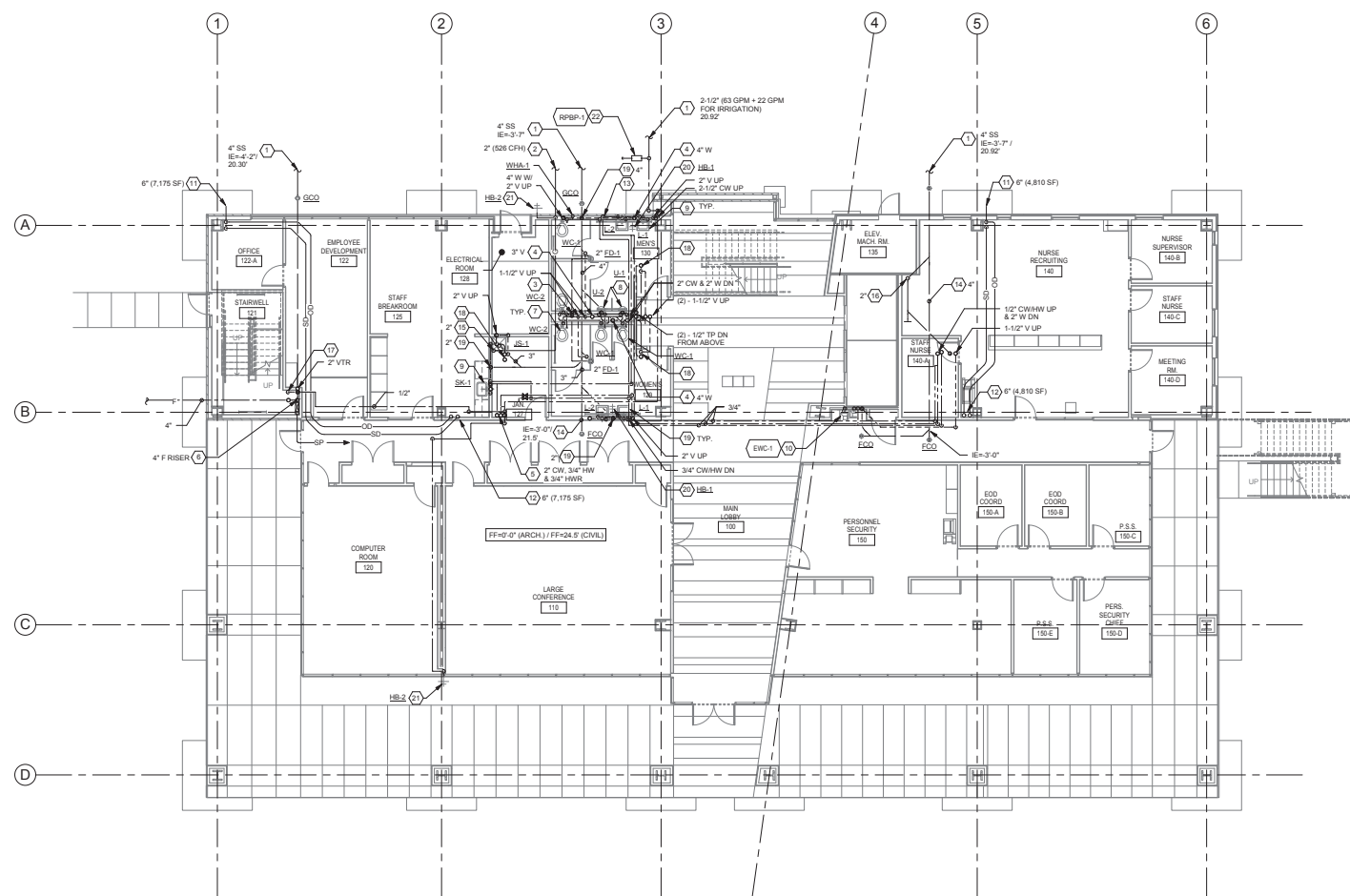
LEVEL 1 PLAN - PLUMBING

PROJECT # 10037.00
DATE: 5.31.2011
SCALE: 1/8" = 1'-0"

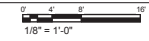
PL2.01

SHEET KEYNOTES

- 1 REFER TO CIVIL DWG FOR CONTINUATION.
- 2 REFER TO SITE PLAN FOR CONTINUATION.
- 3 PROVIDE WHA-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" CWHW, 2" W & 1-1/2" V.
- 10 EWC-1: 1/2" CW DN TO EWC-1 & PROVIDE 2" W & 1-1/2" V.
- 11 S/DOD TERMINATE @ FACE OF THE WALL. SEE 13/AS.02 & 15/AS.05
- 12 S/DOD STACK.
- 13 1-1/2" CW & 3/4" HW DN.
- 14 INSTALL PIPE @ 2% SLOPE.
- 15 G RISER.
- 16 W DN W/ENCLOSURE.
- 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 @ 24" AFF.
- 22 PROVIDE 1-1/2" RSPB-1 & COORDINATE W/ IRRIGATION PLAN FOR EXACT LOCATION.

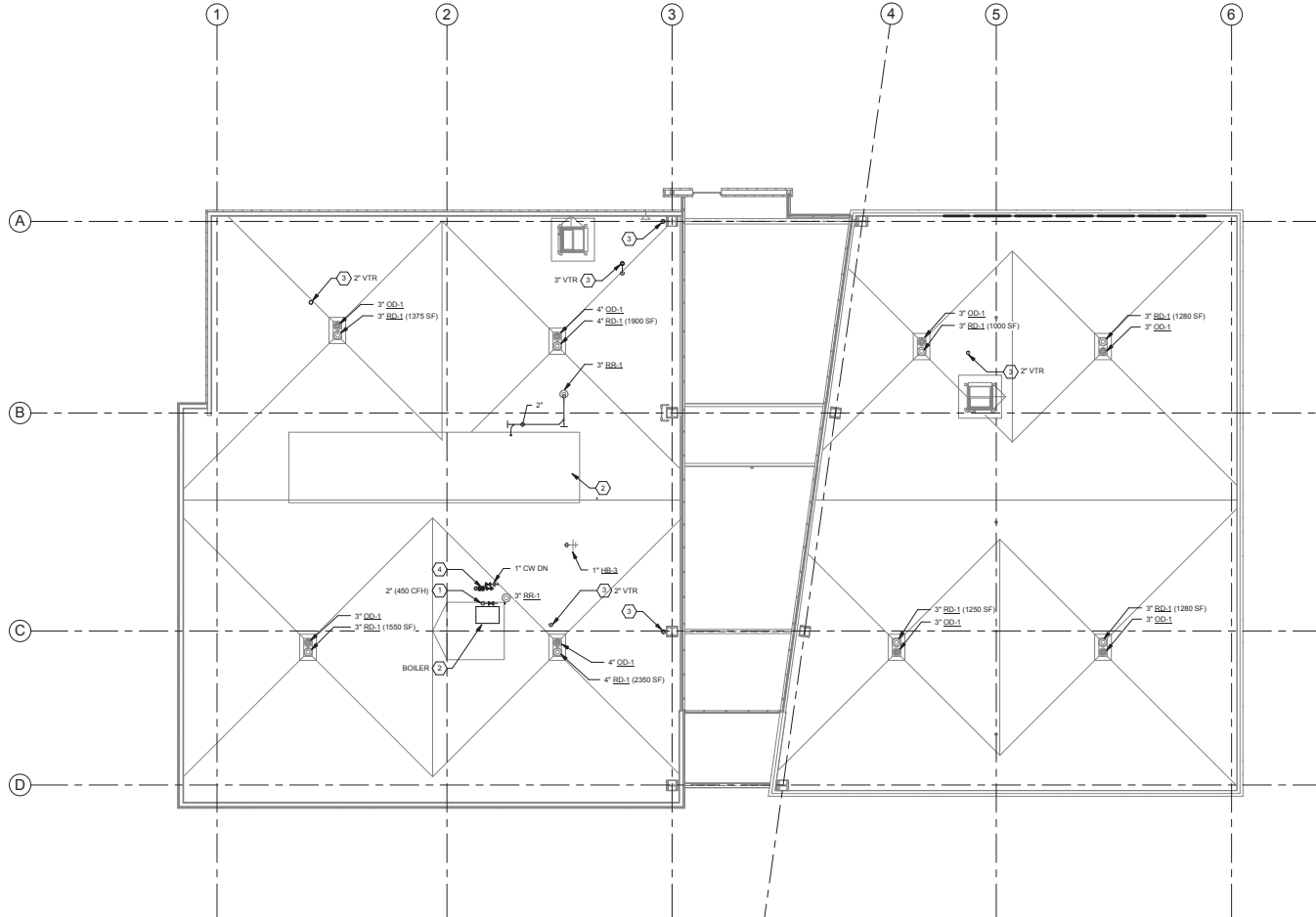


1 LEVEL 1 PLAN - PLUMBING



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1 ROOF PLAN - PLUMBING

0' 5' 10'
1/8" = 1'-0"

SHEET KEYNOTES

1. PROVIDE GAS FOR MECH. UNIT.
2. REFER TO MECH. DWG. FOR UNIT(S) LOCATION.
3. REFER TO ARCH. DWG. FOR VTR DETAIL & LOCATION OF DOWNSPOUT.
4. 1-1/2" RPPB FOR MECH. EQUIPMENT(S).

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ROOF PLAN - PLUMBING

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PL2.03

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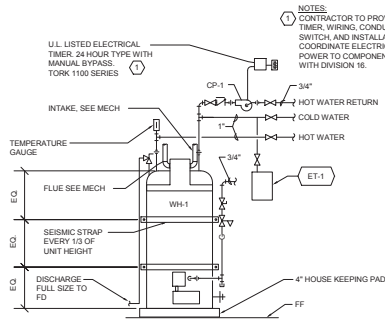
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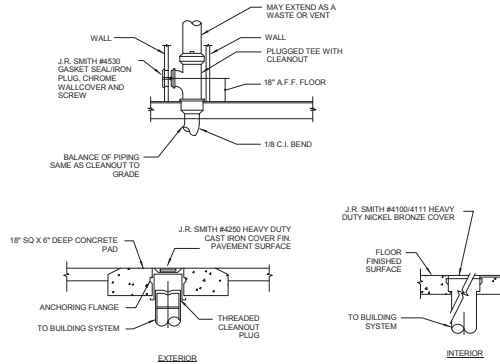
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PL3.01



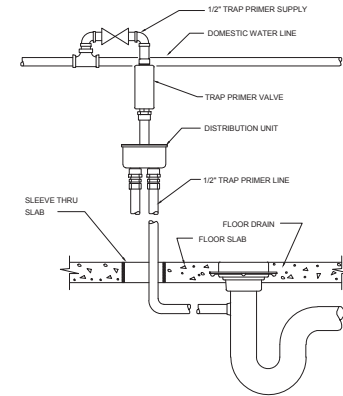
1 GAS WATER HEATER

NO SCALE



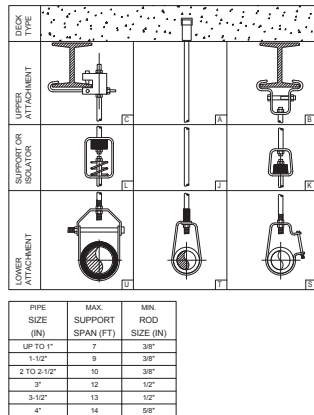
3 CLEANOUTS DETAIL

NO SCALE



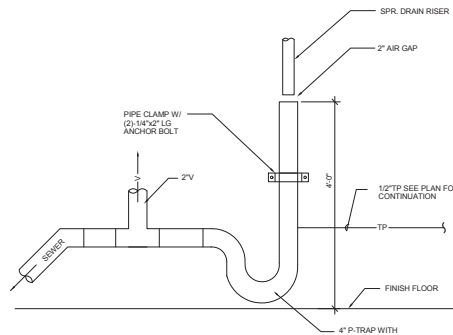
5 TRAP SEAL PRIMER DETAIL

NO SCALE



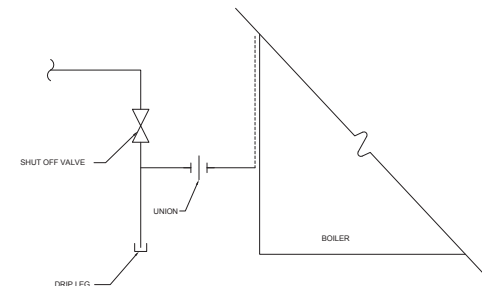
2 SINGLE PIPE HANGER DETAIL

NO SCALE



4 SPRINKLER HUB DRAIN

NO SCALE



6 GAS CONNECTION DETAIL

NO SCALE

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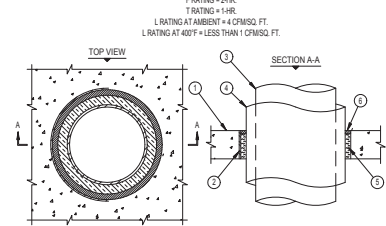
DETAILS - PLUMBING

PROJECT # 10037.00
DATE: 5-31-2011
SCALE: 1/2" = 1'-0"

PL4.01

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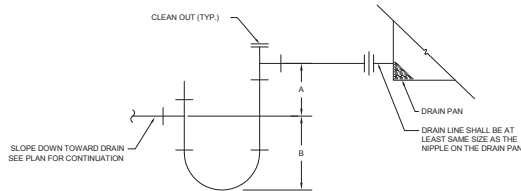
UL691 SYSTEM NO. CAJ5091
INSULATED METAL PIPE THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL



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.
4. MAXIMUM 2" THICK GLASS FIBER INSULATION.
5. MINIMUM 4" THICKNESS MINERAL WOOL (MIN. 4 PCF DENSITY) TIGHTLY PACKED.
6. 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.

1 INSULATED METAL PIPE THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL

NO SCALE

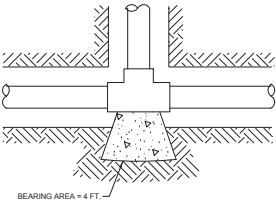
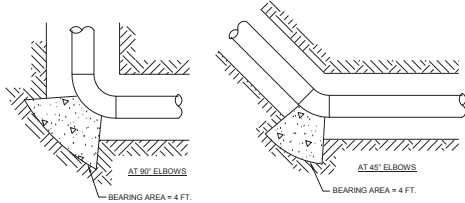


UNIT TYPE	DIMENSIONS	
	"A"	"B"
DRAW THRU	1.0 x S.P.	1.5 x S.P.
BLOW THRU	1" MIN.	2.0 x S.P.

SP = STATIC PRESSURE IN PAN

2 AIR HANDLING UNIT CONDENSATE DRAIN CONNECTION

NO SCALE



AT TEE, PLUG, HYDRANT & PV

3 THRUST BLOCK DETAIL

NO SCALE

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DETAILS - PLUMBING

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PL4.02