

15 APRIL 2013

1. THE SEISMIC ANCHORAGE OF MECHANICAL AND ELECTRIC EQUIPMENT SHALL

BE SEISMICALLY BRACED PER CBC 2007 AND LATEST EDITION OF SMACNA SEISMIC

RESTRAINT MANUAL, BASED ON SEISMIC HAZARD LEVEL A. MAINTAIN A COPY OF

3. PROVIDE SHOP DRAWINGS WITH LARGE SCALE PLANS AND SECTIONS SHOWING

STRUCTURAL ENGINEER LICENSED IN THE STATE OF CALIFORNIA AND SHALL BE STAMPED

HANGERS AND BRACING LOCATIONS. SHOP DRAWINGS SHALL BE PREPARED BY A

MODIFICATIONS TO A STRUCTURAL ELEMENT BY CUTTING, DRILLING, BORING, BRACING,

WELDING, ETC. SHALL HAVE WRITTEN APPROVAL BY THE STRUCTURAL ENGINEER OF

AND SIGNED. INDICATES HANGERS AND BRACING LOADS ON PLANS.

4. SEE STRUCTURAL DRAWINGS SO.10 FOR ADDITIONAL REQUIREMENTS.

5. UNLESS SPECIFIED ON STRUCTURAL DRAWINGS, ANY ALTERATIONS OR

ALL EQUIPMENT, DUCTWORK, PIPING, UTILITIES, AND THEIR CONNECTIONS SHALL

CONFORM TO C.C.R. TITLE 24, 2007 CBC SECTION 16A. REFER TO STRUCTURAL

DRAWINGS FOR SEISMIC FACTOR.

SMACNA SEISMIC RESTRAINT MANUAL ON SITE.

RECORD AND DSA PRIOR TO STARTING WORK.

HWS

KW

LBS

LRA

LVR

NTS

HVAC HEATING VENTILATION AND

HERTZ

INCHES

KILOWATT

POUNDS

LOUVER

MECH MECHANICAL

IN WC INCHES WATER COLUMN

AIR CONDITIONING

HEATING WATER RETURN

HEATING WATER SUPPLY

INDOOR AIR QUALITY

LEAVING AIR TEMPERATURE

LEAVING WATER TEMPERATURE

MIXED AIR TEMPERATURE

UNITS PER HOUR

MOCP MAXIMUM OVER CURRENT

PROTECTION

ON CENTER

PUMP

MERV MINIMUM EFFICIENCY REPORTING

MECHANICAL CONTRACTOR

MINIMUM CIRCUIT AMPACITY

THOUSAND BRITISH THERMAL

LOCKED ROTOR AMPS

AIR. AMPS

AROVE

ACU

AHU

AMB

 ATM

BDD

BOP

CFM

BTUH

AUTOMATIC AIR VENT

AIR CONDITIONING UNIT

ABOVE FINISH FLOOR

AIR HANDLING UNIT

AIR PRESSURE DROP

BACK DRAFT DAMPER

BOTTOM OF DUCT

CONDENSATE PIPING

COMPRESSED AIR

CEILING DIFFUSER,

CEILING GRILLE

CEILING FIRE DAMPER

CUBIC FEET PER MINUTE

CHILLED WATER RETURNED

BOTTOM OF PIPE

BALL VALE

CAPACITY

CHILLER

BRAKE HORSE POWER

ANNUAL FUEL UTILIZATION

AUTHORITY HAVING JURISDICTION

HEATING, REFRIGERATION AND

BRITISH THERMAL UNIT PER HOUR

AIR-CONDITIONING ENGINEERS, INC.

ACCESS DOOR

EFFICENCY

AMBIENT

ASSEMBLY

ATMOSPHERE

ASHRAE AMERICAN SOCIETY OF

<u>SYMBOL</u>

DUCTWORK

DAMPERS

AIR TERMINALS

Interior Design Landscape Architecture Graphics

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ABBREV., LEGEND, AND GENERAL NOTES

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<u>ABBREVIATION</u>

RECTANGULAR DUCT DN

ROUND OR OVAL DUCT UP

ROUND OR OVAL DUCT DN

DUCT RISE/DROP W/ 90° ELBOWS

FLEXIBLE CONNECTION

TRANSITION - RECTANGULAR TO ROUND DUCT SIZE (CLEAR INSIDE 20x10 DIMENSION) SOUNDLINED DUCTWORK RECTANGULAR DUCT UP

CONDENSER WATER SUPPLY CONDENSER WATER RETURN CHILLED WATER SUPPLY CHILLED WATER RETURN REFRIGERANT LIQUID LINE

DESCRIPTION

CONDENSATE DRAIN

HEATING WATER SUPPLY

HEATING WATER RETURN

PIPE ELBOW DOWN

PIPE TEE UP

PIPE RISE

PIPE CAP

PIPE TEE DOWN

CHS REFRIGERANT SUCTION LINE PIPING PIPE ELBOW UP OR PIPE TEE UP AND DOWN

LEGENDS

<u>ABBREVIATION</u>

HWR

CWS

CWR

<u>SYMBOL</u>

(DIRECTION OF FLOW)

HVAC PIPING

NOT APPLICABLE NORMALLY CLOSED, NOISE CRITERIA NOT IN CONTRACT NORMALY OPEN NOT TO SCALE OUTSIDE AIR ODB OPPOSED BLADE DAMPER OD OUTSIDE DIAMETER PRESSURE DROP

POINT OF CONNECTION PRESSURE REDUCING VALVE PSI POUNDS PER SQUARE INCH RETURN AIR. RELIEF AIR RETURN GRILLE ROOF HOOD RATED LOAD AMPS RPM REVOLUTIONS PER MINUTE ROOF TOP UNIT SFNSOR SUPPLY AIR

SOUND ATTENUATOR SUPPLY AIR TEMPERATURE SUPPLY FAN, SQUARE FOOT SUPPLY GRILLE REFRIGERANT SUCTION LINE SMACNA SHEET MEATL AND AIR-CONDITIONING CONTRACTOR NATIONAL ASSOCIATION SOUND TRAP TEMPERATURE DIFFERENCE

TOH TOTAL DYNAMIC HEAD TEMP TEMPERATURE TRANSFER GRILLE TOP OF DUCT TOP TOP OF PIPE TOS TOP OF STFFL/STRUCTURE TOTAL STATIC PRESSURE T'STAT THERMOSTAT TU TERMINAL UNIT TYP TYPICAL UH UNIT HEATER

VARIABLE AIR VOLUME VOLUME DAMPER

VENT VENTILATION, VENTILATOR WATT, WIDE, WATER

VFD VARIABLE FREQUENCY DRIVE WET BULB TEMPERATURE WEIGHT

ANNOTATION SYMBOLS

——DETAIL IDENTIFICATION OCCURANCE

ENLARGED PLAN

CONTINUATION PLAN IDENTIFICATION FOR CONT SHEET WHERE PLAN IS DRAWN

<u>DIFFUSER</u> S−1 − DIFFUSER IDENTIFICATION 12" Ø 250 4 NECK SIZE, AIR FLOW (CFM) OCCURANCE **EQUIPMENT**

EQUIPMENT TYPE → TYP OF 2 -----OCCURANCE

SHEET KEYNOTE --- KEYNOTE IDENTIFICATION

0101) 1", 5.0 GPM ——SPECIFIC INFORMATION ----OCCURANCE

APPLICABLE CODES & STANDARDS

PARTIAL LIST OF BUILDING CODES:

2010 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE

PART 1, TITLE 24 C.C.R.

- 2010 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R.; (2006 INTERNATIONAL BUILDING CODE, VOL.1-3 & 2007 CALIFORNIA AMENDMENTS)
- 2010 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R.; (2005 NATIONAL ELECTRICAL CODE & 2007 CALIFORNIA AMENDMENTS)
- (2006 UNIFORM MECHANICAL CODE & 2007 CALIFORNIA AMENDMENTS) 2010 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R.;

2010 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 C.C.R.;

- 2010 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 C.C.R.;
- 2010 CALIFORNIA REFERENCED STANDARDS, PART 12, TITLE 24 C.C.R.
- 2010 TITLE 19 C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.
- PARTIAL LIST OF APPLICABLE STANDARDS

ASHRAE 55 THERMAL COMFORT FOR HUMAN OCCUPANCY

(2006 UNIFORM PLUMBING CODE & 2007 CALIFORNIA AMENDMENTS) 2008 CALIFORNIA ENERGY CODE, PART 6, TITLE 24 C.C.R.;

(2006 INTERNATIONAL FIRE CODE & 2007 CALIFORNIA AMENDMENTS)

ASHRAE 62 VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY 2010 EDITION

1. ALL CONSTRUCTION AND MATERIALS SHALL BE AS SPECIFIED AND IN ACCORDANCE WITH ALL APPLICABLE CODES, ORDINANCES, LAWS, PERMITS, AND THE CONTRACT

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURATE PLACEMENT OF ALL NEW CONSTRUCTION ON THE SITE.

3. THE CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS AND DIMENSIONS, AND EXACT LOCATIONS AND ELEVATIONS OF PIPING BEFORE STARTING WORK, SHOULD A DISCREPANCY APPEAR IN THE CONTRACT DOCUMENTS, OR BETWEEN THE CONTRACT DOCUMENTS AND EXISTING CONDITIONS, NOTIFY THE ARCHITECT AT ONCE FOR INSTRUCTION ON HOW TO PROCEED.

4. THE MECHANICAL CONTRACTOR SHALL ACQUIRE AND PAY FOR ALL PERMITS AND FEES.

5. COORDINATE MECHANICAL WORK WITH ALL OTHER TRADES (ELECTRICAL, ARCHITECTURAL, STRUCTURAL, CIVIL, AND LANDSCAPE). REFER TO ELECTRICAL, ARCHITECTURAL, STRUCTURAL, CIVIL, AND LANDSCAPE DRAWINGS AND SPECIFICATIONS FOR DETAILS. COORDINATION SHALL OCCUR PRIOR TO FABRICATION, PURCHASE, AND/OR INSTALLATION OF ALL WORK.

COORDINATE MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION SYSTEM ROUTING PRIOR TO INSTALLATION. DUCTWORK ROUTING TAKES PRECEDENCE OVER OTHER DISCIPLINES INCLUDING FIRE PROTECTION. DRAWINGS ARE DIAGRAMMATIC IN NATURE. PROVIDE ALL FITTINGS, TRANSITIONS AND/OR OFFSETS AS REQUIRED FOR A COMPLETE SYSTEM.

7. PRIOR TO COMMENCING ANY WORK VERIFY ALL EQUIPMENT LOCATIONS WITH THE GENERAL CONTRACTOR, OTHER TRADES, ARCHITECT AND STRUCTURAL ENGINEER. 8. REFER TO ARCHITECTURAL PLANS FOR LOCATION OF FIRE AND/OR SMOKE SEPARATION WALLS. THE MECHANICAL CONTRACTOR SHALL PROVIDE FIRE AND/OR SMOKE

DAMPERS FOR ALL RATED WALLS/CEILINGS/ASSEMBLIES. 9. THE MECHANICAL CONTRACTOR IS RESPONSIBLE FOR THE SAFE KEEPING OF HIS OWN PROPERTY ON THE JOB SITE. OWNER ASSUMES NO RESPONSIBILITY FOR THE PROTECTION OF PROPERTIES AGAINST, FIRE, SMOKE, THEFT, AND ENVIRONMENTAL

CONDITIONS.

10. MECHANICAL MATERIALS, EQUIPMENT, DUCTWORK AND PIPING SHALL BE STORED IN ORDERLY PROFESSIONAL FASHION. ALL ITEMS SHALL BE COVERED AND PROTECTED FROM RAIN AND ALL OTHER ENVIRONMENTAL CONDITIONS.

THE WORK OF OTHER TRADES TO MAINTAIN CODE REQUIRED CLEARANCE AND ACCESS FOR PROPER MAINTENANCE OF EQUIPMENT. 12. PROVIDE EQUIPMENT TAGS FOR ALL MECHANICAL EQUIPMENT. TAG SHALL BE MADE OF BAKELITE WITH ETTCHED 1/2" HIGH LETTERS. LOCATE TAG ON EQUIPMENT NEAR

11. VERIFY AND COORDINATE THE MAINTENANCE ACCESS AND CODE REQUIRED

CLEARANCES FOR ALL MECHANICAL EQUIPMENT. INSTALL ALL WORK AND COORDINATE

MANUFACTURERS NAMEPLATE. 13. PROVIDE DUCTWORK THAT CONFORMS TO THE "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" AS PUBLISHED IN THE 2007 EDITION OF THE CALIFORNIA MECHANICAL CODE. ACOUSTICAL LINING SHALL CONFORM TO CURRENT SMACNA STANDARDS.

14. CONNECTION TO CEILING DIFFUSERS SHALL BE BY FLEXIBLE DUCT. PROVIDE FLEXIBLE DUCT EQUAL TO "FLEXMASTER 5M". FLEXIBLE DUCT SHALL NOT EXCEED 10'-0" IN LENGTH. FLEXIBLE DUCT WORK IS NOT PERMITTED ON NEGATIVE PRESSURE DUCT SYSTEMS. 15. REFRIGERANT PIPING SHALL BE SIZED ACCORDING TO EQUIPMENT MANUFACTURERS

RECOMMENDATIONS. PROVIDE TYPE L COPPER LINE SETS WITH SILVER BRAZED FITTINGS. SUCTION LINE SHALL BE INSULATED WITH 3" CLOSED CELL FOAM. INSULATION SHALL BE EQUAL TO ARMACELL "ARMAFLEX" 16. THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL CONTROL WIRING IN CONDUIT.

17. THERMOSTATS SHALL BE MOUNTED 46" ABOVE FINISHED FLOOR UNLESS NOTED 18. THE MECHANICAL CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS. DRAWINGS SHALL BE SUBMITTED IN AUTO CAD 2004 FORMAT. AS-BUILT DRAWINGS SHALL BE COMPLETED AND SUBMITTED TO ENGINEER/ARCHITECT PRIOR TO SUBSTANTIAL COMPLETION. ENGINEER WILL NOT PERFORM PUNCH LIST UNTIL AS-BUILT DRAWINGS ARE

19. THE MECHANICAL CONTRACTOR SHALL PROVIDE DUCTSMOKE DETECTORS FOR ALL DUCT SYSTEMS WITH AIR FLOWS GREATER THAN OR EQUAL TO 2000 CFM.

20. PROVIDE COMPLETE AIR AND WATER BALANCE FOR ALL MECHANICAL SYSTEMS. BALANCING CONTRACTOR SHALL BE AN INDEPENDENT THIRD PARTY AND A MEMBER OF "AABC" OR THE "NEBB". MECHANICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY BELTS SHEAVES AND PULLEYS AS REQUIRED BY THE BALANCING CONTRACTOR TO COMPLETE THE BALANCING OF THE SYSTEM.

21. DUCT SIZES INDICATED ON PLANS ARE THE "FREE" INSIDE DIMENSION OF THE

DUCT. THE CONTRACTOR SHALL INCREASE THE SIZE OF THE DUCT TO ACCOMMODATE ACOUSTICAL AND/OR PERFORATED LINERS. 22. SEAL ALL DUCT SYSTEMS AIRTIGHT USING MASTIC AND/OR LIQUID ELASTIC

SEALANT. "DUCT TAPE" SHALL NOT BE USED. 23. PROVIDE VOLUME DAMPERS FOR EACH SUPPLY DIFFUSER AS WELL AS FOR RETURN AND EXHAUST OPENINGS AS REQUIRED BY THE BALANCING CONTRACTOR TO BALANCE THE SYSTEM. LOCATE DAMPER AS FAR UPSTREAM AS POSSIBLE. FOR ALL VOLUME DAMPERS LOCATED ABOVE CEILINGS PROVIDE 12" LONG 3" WIDE FLUORESCENT

ORANGE TAPE TO MARK DAMPER LOCATIONS. 24. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR LOCATIONS OF BUILDING SEISMIC/EXSPANSION JOINTS. PROVIDE SEISMIC/EXSPANSION JOINTS FOR ALL DUCTS AND PIPES CROSSING THESE LOCATIONS.

EQUIPMENT AND SYSTEM EFFICIENCIES ANY APPLIANCE FOR WHICH THERE IS A CALIFORNIA STANDARD ESTABLISHED IN THE APPLIANCE EFFICIENCY REGULATIONS SHALL COMPLY WITH THE APPLIANCE STANDARD. <u>AIR-SIDE SYSTEMS</u> HEATING AND COOLING EQUIPMENT EFFICIENCY

ANY SPACE-CONDITIONING EQUIPMENT SHALL BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED THAT THE EQUIPMENT COMPLIES WITH ALL THE APPLICABLE REQUIREMENTS OF THE CALIFORNIA BUILDING ENERGY EFFICIENCY X 112(B) HEAT PUMP CONTROLS HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC RESISTANCE HEATERS SHALL

HAVE CONTROLS: 1. THAT PREVENT SUPPLEMENTARY HEATER OPERATION WHEN THE HEATING LOAD CAN BE MET BY THE HEAT PUMP ALONE: AND 2. IN WHICH THE CUT-ON TEMPERATURE FOR COMPRESSION HEATING IS HIGHER THAN THE CUT-ON TEMPERATURE FOR SUPPLEMENTARY HEATING, AND THE CUT-OFF TEMPERATURE FOR COMPRESSION HEATING IS HIGHER THAN THE CUT-OFF TEMPERATURE FOR SUPPLEMENTARY HEATING.

112(C),115(C)FURNACE CONTROLS GAS-FIRED AND OIL-FIRED FORCED AIR FURNACES WITH INPUT RATINGS 225,000 BTU/H SHALL NOT HAVE A PILOT LIGHT, AND SHALL HAVE EITHER POWER VENTING OR A FLUE DAMPER.

121(B) NATURAL VENTILATION NATURALLY VENTILATED SPACES SHALL BE PERMANENTLY OPEN TO AND WITHIN 20 FEET OF OPERABLE WALL OR ROOF OPENINGS TO THE OUTDOORS. THE OPENABLE AREA OF WHICH IS NOT LESS THAN 5% OF THE CONDITIONED FLOOR AREA OF THE NATURALLY VENTILATED SPACE. WHERE OPENINGS ARE COVERED WITH LOUVERS OR OTHERWISE OBSTRUCTED, OPENABLE AREA SHALL BE BASED ON THE FREE UNOBSTRUCTED AREA THROUGH THE OPENING. THE MEANS TO OPEN REQUIRED OPERABLE OPENINGS SHALL BE READILY ACCESSIBLE TO BUILDING OCCUPANTS WHENEVER THE SPACE IS OCCUPIED.

____ 121(B) MINIMUM VENTILATION EACH SPACE THAT IS NOT NATURALLY VENTILATED HALL BE VENTILATED WITH A MECHANICAL SYSTEM CAPABLE OF PROVIDING AN OUTDOOR AIR RATE NO LESS THAN AS REQUIRED BY THE CALIFORNIA ENERGY EFFICIENCY STANDARDS.

VAV MINIMUM POSITION CONTROL THE MINIMUM RATE OF OUTDOOR AIR SHALL BE SUPPLIED TO EACH SPACE AT ALL TIMES WHEN THE SPACE IS USUALLY OCCUPIED. DEMAND CONTROL VENTILATION

EGRESS PURPOSES GREATER THAN OR EQUAL TO 25 PEOPLE PER 1000 SF SHALL HAVE DEMAND VENTILATION CONTROLS. THE MINIMUM RATE OF OUTDOOR AIR OR THREE COMPLETE AIR CHANGES SHALL BE SUPPLIED TO THE ENTIRE BUILDING DURING THE ONE-HOUR PERIOD

IMMEDIATELY BEFORE THE BUILDING IS NORMALLY OCCUPIED.

X 122(E) EACH SPACE-CONDITIONING SYSTEM SHALL BE INSTALLED WITH CONTROLS THAT ARE CAPABLE OF AUTOMATICALLY SHUTTING OFF THE SYSTEM DURING PERIODS OF NON-USE AND SHALL HAVE EITHER AN AUTOMATIC TIME SWITCH CONTROL DEVICE WITH AN ACCESSIBLE MANUAL OVERRIDE THAT ALLOWS OPERATION OF THE SYSTEM FOR UP TO FOUR HOURS; OR AN OCCUPANCY SENSOR; OR A FOUR-HOUR TIMER THAT CAN BE MANUALLY OPERATED.

SETBACK AND SETUP CONTROL THE CONTROL SHALL AUTOMATICALLY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN A SETBACK HEATING THERMOSTAT SETPOINT IF THE SYSTEM PROVIDES MECHANICAL HEATING AND A SETUP COOLING THERMOSTAT SETPOINT IF THE SYSTEM PROVIDES MECHANICAL COOLING.

OUTDOOR DAMPER CONTROL OUTDOOR AIR SUPPLY AND EXHAUST EQUIPMENT SHALL BE INSTALLED WITH DAMPERS THAT AUTOMATICALLY CLOSE UPON FAN SHUTDOWN.

____ 122(G) ISOLATION ZONES EACH SPACE-CONDITIONING SYSTEM SERVING MULTIPLE ZONES WITH A COMBINED CONDITIONED FLOOR AREA OF MORE THAN 25,000 SQUARE FEET SHALL BE DESIGNED, INSTALLED, AND CONTROLLED TO SERVE ISOLATION

DUCT INSULATION ALL AIR DISTRIBUTION SYSTEM DUCTS AND PLENUMS SHALL BE INSTALLED. SEALED AND INSULATED TO MEET THE REQUIREMENTS OF THE 2001 CMC SECTIONS 601, 602, 603, 604, 605.

WATER-SIDE SYSTEMS EQUIPMENT EFFICIENCY HEATING AND COOLING EQUIPMENT EFFICIENCY ANY SPACE-CONDITIONING EQUIPMENT SHALL BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED THAT THE EQUIPMENT COMPLIES WITH ALL THE APPLICABLE REQUIREMENTS OF THE CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS.

PIPE INSULATION ALL HVAC PIPING, EXCEPT FOR THAT CONVEYING LIQUIDS BETWEEN 60°F AND 105°F OR LOCATED WITHIN HVAC EQUIPMENT, SHALL BE INSULATED IN ACCORDANCE WITH SECTION 123 OF THE CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS. SERVICE HOT WATER SYSTEMS X 113(A)113(B) WATER HEATER CERTIFICATION

COMPLIES WITH ALL OF THE REQUIREMENTS OF THE CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS. SERVICE WATER HEATING INSTALLATION ON SYSTEMS THAT HAVE A TOTAL CAPACITY GREATER THAN 167,000 BTU/HR., OUTLETS THAT REQUIRE HIGHER SERVICE WATER TEMPERATURES SHALL HAVE SEPARATE REMOTE HEATERS, HEAT EXCHANGERS, OR BOOSTERS CIRCULATING SERVICE WATER-HEATING SYSTEMS SHALL HAVE A CONTROL CAPABLE OF AUTOMATICALLY TURNING OFF THE CIRCULATING PUMP WHEN HOT WATER IS NOT REQUIRED.

ANY SERVICE WATER-HEATING SYSTEM OR EQUIPMENT MAY BE INSTALLED ONLY

IF THE MANUFACTURER HAS CERTIFIED THAT THE SYSTEM OR EQUIPMENT

CONTROLS SHALL LIMIT THE OUTLET TEMPERATURE TO 110°F FOR PUBLIC

LAVATORIES. POOL AND SPA EFFICIENCY AND CONTROL A READILY ACCESSIBLE ON-OFF SWITCH, MOUNTED ON THE OUTSIDE OF THE HEATER THAT ALLOWS SHUTTING OFF THE HEATER WITHOUT ADJUSTING THE THERMOSTAT SETTING; A PERMANENT, EASILY READABLE, AND WEATHERPROOF PLATE OR CARD THAT GIVES INSTRUCTION FOR THE ENERGY EFFICIENT OPERATION OF THE POOL OR SPA AND FOR THE PROPER CARE OF POOL OR SPA WATER WHEN A COVER IS USED;

NO ELECTRIC RESISTANCE HEATING; POOL AND SPA INSTALLATION ANY POOL OR SPA HEATING SYSTEM OR EQUIPMENT SHALL BE INSTALLED WITH ALL OF THE FOLLOWING: AT LEAST 36 INCHES OF PIPE BETWEEN THE FILTER AND THE HEATER TO ALLOW FOR THE FUTURE ADDITION OF SOLARHEATING EQUIPMENT; A COVER FOR OUTDOOR POOLS OR OUTDOOR SPAS; THE POOL SHALL HAVE DIRECTIONAL INLETS THAT ADEQUATELY MIX THE POOL

THE CIRCULATION PUMP SHALL HAVE A TIME SWITCH THAT ALLOWS THE PUMP TO BE SET TO RUN IN THE OFF-PEAK ELECTRIC DEMAND PERIOD 115(C) POOL HEATERS SHALL NOT HAVE A PILOT LIGHT.

115(D) SPA HEATERS SHALL NOT HAVE A PILOT LIGHT.

CHILLED WATER SUPPLY CHECK VALVE CEILING, COOLING CO SENSOR CO2 SENSOR COMBINATION, COMBUSTION COND CONDENSER, CONDENSATE CONTINUE, CONTROL COEFFICIENT OF PERFORMANCE CONDENSER WATER RETURN CONDENSER WATER SUPPLY COMISSIONING HVAC SINGLE ZONE SYSTEMS WITH AN OUTDOOR AIR ECONOMIZER AND WITH A COMISSIONING AGENT DESIGN OCCUPANT DENSITY, OR A MAXIMUM OCCUPANT LOAD FACTOR FOR DECIBEL DIAMETER DOWN DIAMETER EXIST EXISTING EXISTING EXHAUST AIR ENTERING AIR TEMPERATURE ENERGY EFFICIENCY RATIO FXHAUST FAN EXHAUST GRILLE ELECTRICAL ENERGY MANAGEMENT SYSTEM EQUIV EQUIVALENT EXTERNAL STATIC PRESSURE EXPANSION TANK EVAPORATOR, EVAPORATIVE ENTERING WATER TEMPERATURE FAHRENHEIT FCU FLR FLOOR FLTR FILTER FPM GALLONS GPM

HTG

FLUID COOLER FAN COIL UNIT FIRE DAMPER FULL LOAD AMPS FEET PER MINUTE FEET PER SECOND FIRE SMOKE DAMPER FOOT, FEET FACE VELOCITY GALLONS PER MINUTE GRILLES, REGISTERS, & DIFFUSERS GRD GLYCOL WATER RETURN PIPING GLYCOL WATER SUPPLY PIPING HUMIDISTAT, HEIGHT HD HEAD

HORIZONTAL HORSE POWER, HEAT PUMP HEATING

<u>DETAIL</u> —SHEET WHERE DETAIL IS DRAWN

01 PLAN IDENTIFICATION ----SHEET PLAN DETAIL IS DRAWN

REVISION CLOUD AROUND REVISED AREA OPTIONAL

---EQUIPMENT IDENTIFICATION

FLOW DIRECTION PIPE BREAK VALVES VALVE: GATE, BALL, GLOBE, BUTTERFLY (REFER TO SPECIFICATIONS) CHECK VALVE BALANCING VALVE VALVE PIPING SPECIALTIES ----- UNION FLANGE FLEX CONNECTOR EXPANSION JOINT PIPE ANCHOR PIPE GUIDE THERMOMETER PRESSURE GAGE SLEEVE SEISMIC JOINT STRAINER AIR VENT FILTER DRYER CIRCULATING PUMP CONTROL DIAGRAM DUCT SMOKE DETECTOR TEMPERATURE TRANSMITTER PRESSURE TRANSMITTER

AUTOMATIC FLOW LIMITING VALVE TEMPERATURE/PRESSURE RELIEF SAFETY RELIEF VALVE SITE GLASS W/ MOISTURE INDICATOR MOTORIZED DAMPER

AQUASTAT AIRFLOW MEASURING UNIT CONTROL SYSTEM (PLAN VIEW) /AHU-01 THERMOSTAT OR TSTAT TEMPERATURE SENSOR SENSOR HUMIDISTAT OR HUMIDITY (H)(CO) CARBON MONOXIDE SENSOR (CO2) CARBON DIOXIDE SENSOR AUTOMATIC CONTROL VALVE, 3-WAY AUTOMATIC CONTROL VALVE, DDC DIRECT DIGITAL CONTROL VFD VARIABLE FREQUENCY DRIVE

WORK PERFORMED BY ELECTRICAL CONTRACTOR MWORK PERFORMED BY MECHANICAL CONTRACTOR

(RECTANGULAR DUCTS) DUCT RISE/DROP W/ 45° ELBOWS $\leftarrow ++ \rightarrow$ (RECTANGULAR DUCTS) DUCT RISE/DROP W/ 90° ELBOWS <u>├</u> (ROUND AND/OR OVAL DUCT) DUCT RISE/DROP W/ 45° ELBOWS (ROUND AND/OR OVAL DUCTS) WYE AND 45° ELBOW W/ REDUCER (ROUND AND/OR OVAL DUCT) TRANSITION OR REDUCER TRANSITION - ECCENTRIC 45° ELBOW, R/D OR R/W=1.5 90° ELBOW, R/D OR R/W=1.5 MITERED ELBOW WITH TURNING VANES 90° STRAIGHT TAP 90° CONICAL TAP RADIUS TAP IN

WYE FITTING

RADIUS TEE

SQUARE TEE W/ TURNING VANES

SUPPLY AIR DUCT UP AND DOWN

RETURN AIR DUCT UP AND DOWN

EXHAUST AIR DUCT UP AND DOWN

SUPPLY DUCT ROOF PENETRATION

RETURN DUCT ROOF PENETRATION

EXHAUST DUCT ROOF PENETRATION

VOLUME DAMPER

BACK DRAFT DAMPER

FIRE/SMOKE DAMPER

SMOKE DAMPER

MOTORIZED DAMPER

CEILING DIFFUSER

(ROUND NECK) CEILING DIFFUSER

1-WAY DIRECTION FLOW

2-WAY DIRECTION FLOW

3-WAY DIRECTION FLOW

RETURN/RELIEF AIR GRILLE

SIDEWALL GRILLE (SUPPLY)

SIDEWALL GRILLE (RETURN/EXHAUST)

RETURN/EXHAUST/TRANSFER/RELIEF

EXHAUST AIR GRILLE

TRANSFER GRILLE

SUPPLY AIR FLOW

AIRFLOW

FIRE DAMPER

15 APRIL 2013

M0.01

SCHEDULES

								\$	SPLIT	SYST	ЕМ Н	IEAT PU	MP UNI	ΓS									
			_	NOM.	NOM.			ELE	CTRIC	AL								ELEC1	TRICAL	-			
OUTDOOR UNITS	SERVICE	MFR / MODEL NO.	NOM. SIZE (TONS)	COOLING CAPACITY (BTUH)		SEER / EER	VOLT	PHASE	FLA	MCA	MOCP	OPERATING WEIGHT (LBS)	INDOOR UNITS	MFR / MODEL NO.	DESIGN CFM/ OSA	VOLT	PHASE	FLA	MCA	MOCP	НР	OPERATING WEIGHT (LBS)	NOTES
HP 1	103 CONTROL ROOM	CARRIER 38QRF035	3.0	36,000	36,000	13.0/ 11.0	208V	1ø	18.2	22.3	35.0	225	FC 1	CARRIER 40KMQ03036	910	208V	1ø	1.02	16.9	20.0	1	50	1 2 3
① PROV	/IDE MFR. THERMO	STAT 2) PROVIDE M	IFR. CONDENSA	TE PUMP	③ PRO	VIDE LONG	LINE REF	FRIGERANT	ACCESSOR	Y												

					EXHAU	ST FA	NS					
						_		ELEC1	RICAL		WORKING	
ITEM	SERVICE	MFR / MODEL NO.	VOLUME (CFM)	SP (IN WC)	SONES	FAN RPM	VOLT	PHASE	HP (WATTS)	AMPS	WORKING WEIGHT (LBS)	NOTES
EF 1	RESTROOM	GREENHECK SP-A125	125	0.125	1.3	1,100	115	1	_ (53W)	_	25	2
EF 2	GARAGE	GREENHECK CUBE-300	12,500	0.5	18.9	833	460	3	5.0	_	250	① ② ③ ④
EF 3	GARAGE	GREENHECK CUBE-300	12,500	0.5	18.9	833	460	3	5.0	_	250	1 2 3 4
① PROVI	DE ROOF CURB. F	REFER TO ARCHITEC	CTURAL FOR DE	TAILS.		(3) PI	ROVIDE VAI	RIABLE FRE	EQUENCY D	PRIVE.		
② PROVI	DE BACKDRAFT DA	MPER					TERLOCK V	WITH EMER	RGENCY EVA	ACUATION (CONTROLS PER	MFR.

			ı		DDII/5	DATA			FDICAL		IVOLOAL		T
					DRIVE	DATA	T	ELEC	TRICAL	PI	HYSICAL	OP.	
TAG	MANUFACTURER/ MODEL NO.	SERVICE	LOCATION	НР	kW	FLA	EFFIC. (%)	VOLT.	PHASE	ENCL. RATING (NEMA)	UNIT SIZE (H" xW" xD")	WEIGHT (LBS)	REMARKS
VFD 1	ABB/ ACH550-PCR-08A8 -4+B058	EXHAUST FAN	ROOF	5.0		7.6	98%	460	3ø	NEMA3R	34" x18" x15"	150	PROVIDE W/ DISCONNECT, BACNET READY, NO BYPASS
VFD 2	ABB/ ACH550-PCR-08A8 -4+B058	EXHAUST FAN	ROOF	5.0		7.6	98%	460	3ø	NEMA3R	34" x18" x15"	150	PROVIDE W/ DISCONNECT, BACNET READY, NO BYPASS

				DIFF	USERS 8	GRILLE	S
ITEM	DESCRIPTION	MFR / MODEL NO.	SIZE (FT X FT)	FACE TYPE	MOUNTING	COLOR & MATERIAL	NOTES
E-1	EXHAUST	TITUS/ 33RL	SEE PLANS	SINGLE DEFLECTION	DUCT	CUSTOM COLOR/ STEEL	



Architecture Planning Interior Design Landscape Architecture Graphics

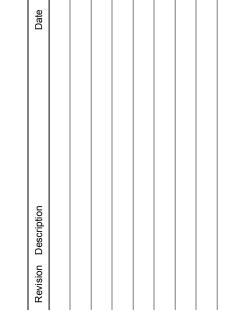
5161 California Ave, Suite 100 Irvine, California 92617

- P 949 |261-1001 F 949 260-1190
- E lpa@lpainc.com W www.lpainc.com



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Date
08/19/11
09/14/12
01/28/13
04/15/13
PLAN CHECK RESUBMITTAL 08/29/13

15 APRIL 2013

MECHANICAL SCHEDULES

M0.02

FLNI	FOR	MANC	E CE	RTIFICATE	OF CO	JM	PLIA	NCE	(Par	t 1 of 3)	PERF-10
Project Na	ame								100		Date
		ood AVS	SRS								6/11/2013
Project Ac			Mod	Hallingand			imate Zor	e ate Zone 09	Total Co	ond. Floor Area	Addition Floor Area
HATROSON STRUCK	15 (15)	NFORMA		Hollywood		C	A CIIII	ate Zone 09		240	n/a
Building				Nonresidential			High-F	lise Residentia	l 0	Hotel/Mote	I Guest Room
Dullulling	, , , ,	**	ō	Relocatable - in	dicate			c climate zone		all climates	
		nstruction		New Construction	on		Additio	n		Alteration	
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Name		Matthew Ar						Signature			
Company		LPA, Inc	71						Date	6/11/2013	
Address		5161 Califo	rnia Ave	Suite 100					Pho	The rest of the second	01
City/State	71-	Irvine, CA 9		CONTRACTOR OF STATE					J.	- TOIL 011 1 0	TO STATE OF THE ST
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		quirement	s conta	ined in sections 1	10, 116 tl	hrou	gh 118,	and 140 throu	gh 149 o	f Title 24, Pa	rt 6. Please
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PERFORMANCE	CERTIFICAT	TE OF COM	IPLIANCE	(Part 2	of 3) PERF-1C
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Vest Hollywood AVSR ANNUAL TDV ENERGY		(kRtu/eaft-vr)			6/11/2013
nergy Component	Standard Design	Proposed Design	Compliance Margin		
Space Heating	25.42	5.36	20.07	Heating 📙	
Space Cooling	229.98	237.12	-7.13	Cooling	
ndoor Fans	165.90	120.22	45.68	Fans	
leat Rejection	0.00	0.00	0.00	Heat Rej	
umps & Misc.	0.00	0.00	0.00	Pumps	
Domestic Hot Water	0.00	0.00	0.00	DHW	
ighting	67.54	67.54	0.00	Lighting	
Receptacle	73.79	73.79	0.00	Receptacle	
Process	0.00	0.00	0.00	Process	
Process Lighting	0.00	0.00	0.00	Process Ltg	
TOTALS	562.64	504.03	58.62	, locoto Lig	
Percent better than Stand	D	10.4 %	0.0 Telephone 7.4	ding process)	
Croom bottor train ctaric			COMPLI		
SENERAL INFORMATIO		BUILDING	CONFLI	E-3	
				\$ <u>\$</u>	
Building Orientation	(N) 0 deg	Condition	ned Floor Area		240 sqft.
lumber of Stories	1	Uncondit	ioned Floor Area	a	0 sqft.
lumber of Systems	1	Condition	ned Footprint Are	еа	240 sqft.
lumber of Zones	2	Natural (Gas Available Or	Site	Yes
	29AU P V AC	200	e,	95-999 (25	S200 19 = 0355//001
	Orientatio	on Gross	THE STATE OF THE S	Glazing Area	Glazing Ratio
ront Elevation	(N)		100 sqft.		sqft. 0.0 %
eft Elevation	(E)		70 sqft.	0	
Rear Elevation	(S)	4	115 sqft.	93	sqft. 80.9 %
Right Elevation	(W)		410 sqft.	55	sqft. 13.4 %
	otal	_	695 sqft.	148	C1511 1710
Roof		123	240 sqft.	0	sqft. 0.0 %
		Standard	0	posed	Prescriptive Values for
rescriptive Lighting Pow	(0)	C 1991 C 1991 C 1991	V/sqft.	0.965 W/sqft.	Comparison only. See
rescriptive Envelope TD	V Energy	32,126		52,377	LTG-1C for allowed LPD
Remarks:					
	W. W. A. 22	·			2
nergyPro 5.1 by EnergySoft	User Number: 7543	A RunCode: 2	2013-06-11T10:36:4	9 ID: 28035.40	Page 4 of 1

The first file and file for the contract of the second of	CE CERTIFICAT	TE OF COMPLIAN	ICE	(F	Part 3	of 3)	PER	F-1
Project Name West Hollywood AV	'SRS						6/1	1/201
ZONE INFORMATIO							Or 1	1720
System Name	Zone Name	Occupancy Type	Floor Area (sqft.)	Inst. LPD (W/sf) ¹	Ctrl. Credits (W/sf) ²	Allow Area (W/sf) ³	ed LPD Tailored (W/sf) ⁴	Pro Loa (W/s
HP-1	Office	Office <= 250 sqft	175	*1.100	(11101)	(TITO)	(1113)	(1.1.)
	Restroom	Corridor/Restroom/Support	65	*0.600		j		
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	Transfer of the second of the	(F)						
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Notes: 1. See LTG-1C	erisk, see LTG-1-C by others)	2. See LTG-2C 3. See LTG-3(C 4. Se	e LTG-4C	Items al	ove require :	special docum	entation
	IDITIONS COMPLIAN	(by others) ICE CHECKLIST						
justification and docume determines the adequacy	ntation, and special verifi	attention to the items specified cation to be used with the perf may reject a building or desig .	ormance :	approach.	The local e	nforcemen	t agency	
The exceptional features documentation for their of Authorized Signature or	use have been provided b	e approach application have sp y the applicant.	pecifically	been revie	wed. Adeq	uate writte	n justification	on and
EnergyPro 5.1 by EnergyS		43 A RunCode: 2013-06	6-11T10:36	5: 49 ID: 2	8035.40		Pai	ge 5 of
3/							1.20	

	TIFICATE OF C FIELD INSPEC				CHE	CKLI	ST	3		1 of 3	
Project N											
Project A	Hollywood AVSRS				Ť	Climate Zo	ne		Total	Cond. Floo	or Area Ad
	Sweetzer Ave. Wes	st Hollywo	od		1.0		9		ANATHER PARTY	240	300 C-000000 50000
GENER	AL INFORMATION										
Building	Type:	☑ Nonre			2-11	☐ High	n-Rise Re	sidential		Hotel/	Motel Gues
☐ Sch	nools (Public School)	Bldg.	atable	Public S	School	☑ C	onditione	d Spaces	0	0	Unconditio
☐ Sky	light Area for Large End	closed Spac	e ≥ 80	00 ft ² (I	f check	ed include	the ENV	-4C with	submit	tal)	
Phase c	of Construction:	☑ New C	Constru	uction		■ Add	ition			Alterat	ion
Approac	ch of Compliance:	☐ Comp	onent		rë:	☑ Ove	rall Envel	ope		Uncon	ditioned (fil
Front O	rientation: N, E, S, W or			0 deg							
	W	- 10 - Car	D IN	SPEC		ENER	GY CH	IECKL	IST		
OPAQU	E SURFACE DETAILS				INSU	ATION					-
Tag/ID	Assembly Type	Area (ft²)	Orientation N, E, S, W	U-Factor	Cavity R-Value	Exterior R- Value	Exterior Furring ³	Interior R- Value	Interior Furring ³	Joint Appendix 4	Condition
1	Roof	175	(N)	0.412	None)				4.2.6-A7	New
2	Wall	115	(W)	0.168	None	,		11.0	Metal	4.3.5-A10	0 New
3	Wall	22	(S)	0.168	None	,		11.0	Metal	4.3.5-A10	0 New
4	Wall	170	(W)	0.168	None)		11.0	Metal	4.3.5-A10	0 New
5	Slab	175		0.730	6					4.4.7-A1	New
6	Roof	65		0.412	11/10/2004	3		-07-601 (NA	-	4.2.6-A7	Contract of
7	Wall	70		0.168	E sono			11.0	Metal	4.3.5-A10	es Teespe
8	Wall	100		0.168	2 July			11.0	Metal	4.3.5-A10	and the same
9	Wall	70		0.168	1 199	_		11.0	Metal	4.3.5-A10	20228
1 See In	Slab estructions in the Nonreside	65		0.730		1	3		V	4.4.7-A1	New
2. If Fail,	then describe on Page 2 o	f the Inspecti	on Che	cklist Fo	rm and t	ake approp	oriate actio	n to correc	ct. A fai	l does not	meet compli
FENES	TRATION SURFACE	DETAILS	}								-
Tag/II	Fenestrat O Type	ion	55	Area (ft²)	Orientation N, E, S, W	Max U-Factor	U-Factor Source	Max (R)SHGC	SHGC	Source	Conditions
1	Window			55	(W)	0.300	COG	0.30	0	cog 🗖	New
2	Window			93	(S)	0.300	COG	0.30	0	cog 🛘	New
											-
					-						
			-		-				-		
						3 (-	0	
									+	0	
			-	l l					1		
			8		80		-)		7	-	
			3								
1 000	structions in the Nearocide	ential Camplin	inco Ma	anual sa	no 2.06						
	structions in the Nonreside						riate action	to correc	t. Verify		

CERTIFICATE OF (FIELD INSPECTION				ř	A P	art 1 o			MECH-1C
Project Name West Hollywood AVSRS									Date 6/11/2013
Project Address			Clim	ate Zone		Total C	ond. Flo	oor Area	Addition Floor Area
1085 Sweetzer Ave. We.	st H	ollywood			9		240		n/a
GENERAL INFORMATION									
Building Type:	Ø	Nonresidential		High-R	ise Resident	ial 🛮	Hotel		uest Room
■ Schools (Public School)		Relocatable Public Scho	ol Bldg	. 🗹	Conditioned	d Spaces	0	(affida)	ditioned Spaces vit)
Phase of Construction:	Ø	New Construction		Additio		0	Altera	ation	
Approach of Compliance:		Component		Overal	l Envelope T	DV 🗖	Unco	nditione	d (file affidavit)
Front Orientation: N, E, S, W or	in D	egrees: 0 deg		- 57	8				
HVAC SYSTEM DETAIL:	S					FIELD INS	SPECTI	ON ENE	RGY CHECKLIST
						Meet	ts Crite	eria or R	equirements
Equipment ²		Inspe	ction C	Criteria		Pass			escribe Reason ²
Item or System Tags (i.e. AC-1, RTU-1, HP-1)		HP-1							
Equipment Type ³ :		Packaged DX					- 1		
Number of Systems		1			*				
Max Allowed Heating Capacity	Ę.	36,000 Btu/hr							
Minimum Heating Efficiency ¹		7.70 HSPF							
Max Allowed Cooling Capacity	l)	36,000 Btu/hr				Ð			
Cooling Efficiency ¹		13.0 SEER / 11.0	EER				J		
Duct Location/ R-Value		Attic, Ceiling Ins,	vented	1/8.0					
When duct testing is required, s MECH-4A & MECH-4-HERS	subm	it No							
Economizer		No Economizer							
Thermostat		Setback Require	d						
Fan Control		Constant Volume	Ę						
						FIELD INS			RGY CHECKLIST
Equipment ²		Inspe	ction C	Criteria		Pass	8	Fail - D	escribe Reason ²
Item or System Tags (i.e. AC-1, RTU-1, HP-1)									
Equipment Type ³ :		Ĵ							
Number of Systems									
Max Allowed Heating Capacity	Š								
Minimum Heating Efficiency ¹									
Max Allowed Cooling Capacity	Ø						Ì		
Cooling Efficiency		9							
Duct Location/ R-Value		17					ĵ		
When duct testing is required, s MECH-4A & MECH-4-HERS	subm	it							
Economizer									
Thermostat									
							- 3		

Itam as Cuatam Taga	Indic	ate Air Systems Type (Centra	ıl, Single Zone, P	ackage, VAV, or etc)
Item or System Tags (i.e. AC-1, RTU-1, HP-1)		HP-1		
Number of Systems		1		8
	Indicate Pag	ge Reference on Plans or Sch	edule and indicat	e the applicable exception(s
MANDATORY MEASURES	T-24 Sections			. Solar trac 62
Heating Equipment Efficiency	112(a)	7.70 HSPF		
Cooling Equipment Efficiency	112(a)	13.0 SEER / 11.0 EER		
HVAC Heat Pump Thermostat	112(b), 112(c)	Yes		8-
Furnace Controls/Thermostat	112(c), 115(a)	n/a		8
Natural Ventilation	121(b)	No		5
Mechanical Ventilation	121(b)	36 cfm		
VAV Minimum Position Control	121(c)	No		
Demand Control Ventilation	121(c)	No		
Time Control	122(e)	Programmable Switch		
Setback and Setup Control	122(e)	Setback Required		
Outdoor Damper Control	122(f)	Auto		
Isolation Zones	122(g)	n/a		
Pipe Insulation	123			9
Duct Location/ R-value	124	Attic, Ceiling Ins, vented / 8.0		
		0/2		
Calculated Design Heating Load	144(a & b)	n/a 32 752 Rtu/hr		
Calculated Design Heating Load Proposed Heating Capacity	144(a & b) 144(a & b)	32,752 Btu/hr		
Calculated Design Heating Load Proposed Heating Capacity Calculated Design Cooling Load	144(a & b) 144(a & b) 144(a & b)	32,752 Btu/hr n/a		
Calculated Design Heating Load Proposed Heating Capacity Calculated Design Cooling Load Proposed Cooling Capacity	144(a & b) 144(a & b) 144(a & b) 144(a & b)	32,752 Btu/hr n/a 34,934 Btu/hr		
Calculated Design Heating Load Proposed Heating Capacity Calculated Design Cooling Load Proposed Cooling Capacity Fan Control	144(a & b) 144(a & b) 144(a & b) 144(a & b) 144(c)	32,752 Btu/hr n/a		
Calculated Design Heating Load Proposed Heating Capacity Calculated Design Cooling Load Proposed Cooling Capacity Fan Control DP Sensor Location	144(a & b) 144(a & b) 144(a & b) 144(a & b) 144(c)	32,752 Btu/hr n/a 34,934 Btu/hr Constant Volume		
Calculated Design Heating Load Proposed Heating Capacity Calculated Design Cooling Load Proposed Cooling Capacity Fan Control DP Sensor Location Supply Pressure Reset (DDC only)	144(a & b) 144(a & b) 144(a & b) 144(a & b) 144(c) 144(c)	32,752 Btu/hr n/a 34,934 Btu/hr Constant Volume Yes		
Calculated Design Heating Load Proposed Heating Capacity Calculated Design Cooling Load Proposed Cooling Capacity Fan Control DP Sensor Location Supply Pressure Reset (DDC only) Simultaneous Heat/Cool	144(a & b) 144(a & b) 144(a & b) 144(a & b) 144(c) 144(c) 144(c) 144(d)	32,752 Btu/hr n/a 34,934 Btu/hr Constant Volume Yes No		
Calculated Design Heating Load Proposed Heating Capacity Calculated Design Cooling Load Proposed Cooling Capacity Fan Control DP Sensor Location Supply Pressure Reset (DDC only) Simultaneous Heat/Cool Economizer	144(a & b) 144(a & b) 144(a & b) 144(a & b) 144(c) 144(c) 144(c) 144(d) 144(e)	32,752 Btu/hr n/a 34,934 Btu/hr Constant Volume Yes No No Economizer		
Calculated Design Heating Load Proposed Heating Capacity Calculated Design Cooling Load Proposed Cooling Capacity Fan Control DP Sensor Location Supply Pressure Reset (DDC only) Simultaneous Heat/Cool Economizer Heat Air Supply Reset	144(a & b) 144(a & b) 144(a & b) 144(a & b) 144(c) 144(c) 144(c) 144(d) 144(e) 144(f)	32,752 Btu/hr n/a 34,934 Btu/hr Constant Volume Yes No No Economizer Constant Temp		
Calculated Design Heating Load Proposed Heating Capacity Calculated Design Cooling Load Proposed Cooling Capacity Fan Control DP Sensor Location Supply Pressure Reset (DDC only) Simultaneous Heat/Cool Economizer Heat Air Supply Reset Cool Air Supply Reset	144(a & b) 144(c) 144(c) 144(c) 144(d) 144(e) 144(f)	32,752 Btu/hr n/a 34,934 Btu/hr Constant Volume Yes No No Economizer		
Calculated Design Heating Load Proposed Heating Capacity Calculated Design Cooling Load Proposed Cooling Capacity Fan Control DP Sensor Location Supply Pressure Reset (DDC only) Simultaneous Heat/Cool Economizer Heat Air Supply Reset Cool Air Supply Reset Electric Resistance Heating¹	144(a & b) 144(c) 144(c) 144(c) 144(d) 144(e) 144(f) 144(f) 144(g)	32,752 Btu/hr n/a 34,934 Btu/hr Constant Volume Yes No No Economizer Constant Temp		
Proposed Heating Capacity Calculated Design Cooling Load Proposed Cooling Capacity Fan Control DP Sensor Location Supply Pressure Reset (DDC only) Simultaneous Heat/Cool Economizer	144(a & b) 144(c) 144(c) 144(c) 144(d) 144(e) 144(f)	32,752 Btu/hr n/a 34,934 Btu/hr Constant Volume Yes No No Economizer Constant Temp		

EnergyPro 5.1 by EnergySoft User Number: 7543 A RunCode: 2013-06-11T10:36:49 ID: 28035.40 Page 13 of 17

AIR SYSTEM REQUIREMENTS

(Part 1 of 2) MECH-2C

HE CHANGE IN BUILDING	introduction of the control of the c	DATORY MEAS	URES: NONRESIDEN	ITIAL	ENV-MI
Project Nam West Hol	e lywood AVSRS	S [®] .			6/11/201
DESCR	PTION				
Building	Envelope Meas				
§118(a):	Installed insulat Standards for in	ing material shall have be sulating material, Title 20	een certified by the manufacturer to Chapter 4, Article 3.	comply with the Califo	rnia Quality
§118(c):		aterials shall be installed and 707 of Title 24, Part 2	in compliance with the flame spread 2.	d rating and smoke der	nsity requirements
§118(f):		tions of framed demising R-13 between framing m	walls in nonresidential buildings shembers.	all have insulation with	n an installed R-valu
§117(a):		ts and openings in the but or otherwise sealed.	ilding that are observable sources	of air leakage shall be	caulked, gasketed,
§116(a) 1:	Manufactured for window area, 0	enestration products and 3 cfm/ft.2 of door area for	exterior doors shall have air infiltrat residential doors, 0.3 cfm/ft.2 of do r nonresidential double doors (swin	or area for nonresident	
§116(a) 2:	7025 Nr. 70702	201 2010 2010 2010	cordance with NFRC 100, or the ap	MILLEROY W M Se Chile	or.
§116(a) 3:	Fenestration Stapplicable defa		ordance with NFRC 200, or NFRC	100 for site-built fenest	tration, or the
§116(b):			kylights shall be caulked between that ass doors and fire doors).	ne unit and the building	g, and shall be

Project Name	NICAL MANDATORY MEASURES: NONRESIDENTIAL	Date
	wood AVSRS	6/11/2013
Equipme	nt and System Efficiencies	W 02 102 8
§111:	Any appliance for which there is a California standard established in the Appliance Efficiency Rewith the applicable standard.	gulations will comply
§115(a):	Fan type central furnaces shall not have a pilot light.	
§123:	Piping, except that conveying fluids at temperatures between 60 and 105 degrees Fahrenheit, or equipment, shall be insulated in accordance with Standards Section 123.	within HVAC
§124:	Air handling duct systems shall be installed and insulated in compliance with Sections 601, 602, the CMC Standards.	603, 604, and 605 of
Controls		
§122(e):	Each space conditioning system shall be installed with one of the following:	
1A.:	Each space conditioning system serving building types such as offices and manufacturing facilitie explicitly exempt from the requirements of Section 112 (d)) shall be installed with an automatic tin accessible manual override that allows operation of the system during off-hours for up to 4 hours shall be capable of programming different schedules for weekdays and weekends and have programabilities that prevent the loss of the device's program and time setting for at least 10 hours if programming different schedules.	me switch with an . The time switch iram backup
1B.	An occupancy sensor to control the operating period of the system; or	
1C.	A 4-hour timer that can be manually operated to control the operating period of the system.	State with a respectation agree of the work
2.	Each space conditioning system shall be installed with controls that temporarily restart and temp system as required to maintain a setback heating and/or a setup cooling thermostat setpoint.	
§122(g):	Each space conditioning system serving multiple zones with a combined conditioned floor area in square feet shall be provided with isolation zones. Each zone: shall not exceed 25,000 square f with isolation devices, such as valves or dampers that allow the supply of heating or cooling to be independently of other isolation areas; and shall be controlled by a time control device as described.	eet; shall be provided e setback or shut off
§122(c):	Thermostats shall have numeric setpoints in degrees Fahrenheit (F) and adjustable setpoint stop authorized personnel.	s accessible only to
§122(b):	Heat pumps shall be installed with controls to prevent electric resistance supplementary heater of heating load can be met by the heat pump alone	peration when the
§122(a&b):	Each space conditioning system shall be controlled by an individual thermostat that responds to zone. Where used to control heating, the control shall be adjustable down to 55 degrees F or low control shall be adjustable up to 85 degrees F or higher. Where used for both heating and coolin capable of providing a deadband of at least 5 degrees F within which the supply of heating and creduced to a minimum.	ver. For cooling, the ig, the control shall be
Ventilatio	n	
§121(e):	Controls shall be provided to allow outside air dampers or devices to be operated at the ventilation these plans.	on rates as specified
§122(f):	All gravity ventilating systems shall be provided with automatic or readily accessible manually op openings to the outside, except for combustion air openings.	- 65/UV
§121(f):	Ventilation System Acceptance. Before an occupancy permit is granted for a newly constructed to new ventilating system serving a building or space is operated for normal use, all ventilation system building or space shall be certified as meeting the Acceptance Requirements for Code Compliance	ems serving the
Service V	Vater Heating Systems	
§113(c)	Installation	
	Temperature controls for public lavatories. The controls shall limit the outlet Temperature to 110	
3.	Circulating service water-heating systems shall have a control capable of automatically turning or	ff the circulating pump



Architecture
Planning
Interior Design
Landscape Architecture
Graphics

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Sweetzer Avenue Hollywood, CA ped for

Date					
Revision Description					
Revision					

nintion	IC DESIGN 08/1	DESIGN DEVELOPMENT 09/14/12	6 CD 01/28/13	PLAN CHECK 04/15/13	PLAN CHECK RESUBMITTAL 08/29/13		
Descripti	SCHEM	DESIGN	50% CD	PLAN C	PLAN C		
Revision Description							

Job. No. 28035.40

Date 15 APRIL 2013

Drawn by LPA

Checked by LPA

Scale

TITLE- 24 ENERGY FORMS

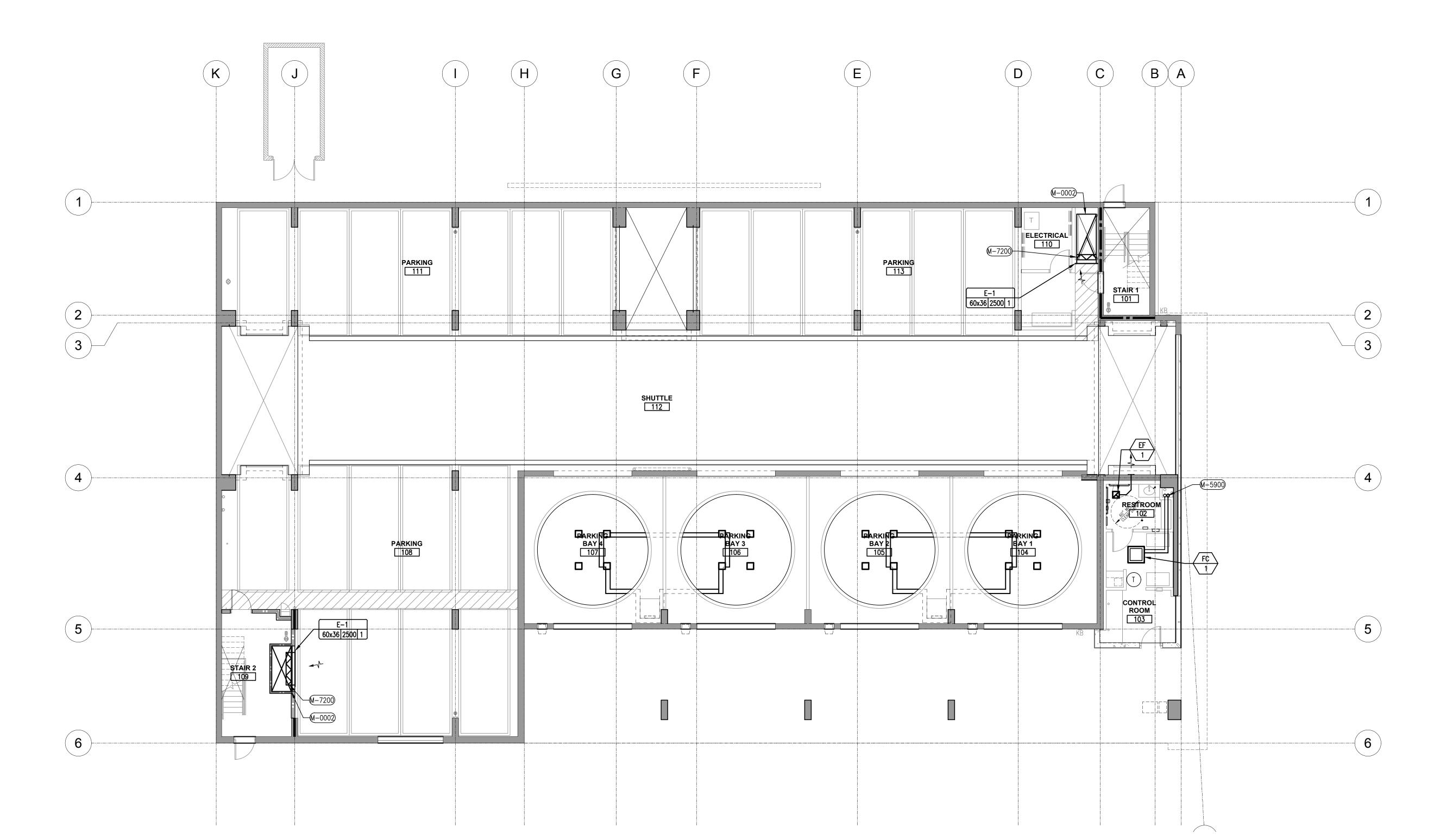
M0.03

PROVIDE OPPOSED BLADE DAMPER FOR AIR BALANCING. DAMPER SHALL BE ACCESSIBLE BY REMOVING EXHAUST AIR GRILLE.

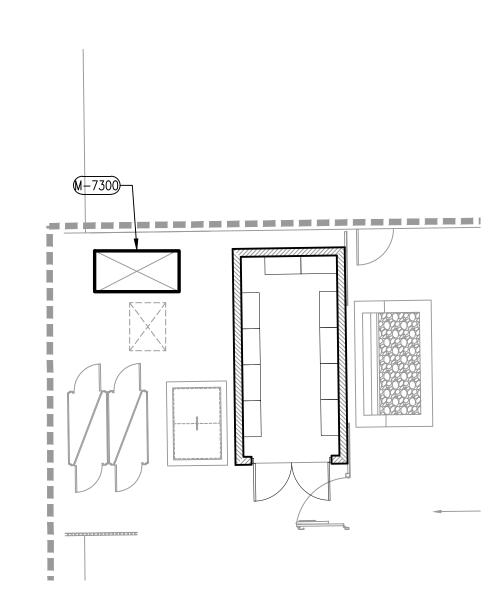
RELOCATED EXISTING DATA ROOM CONDENSING UNIT. ROTATE AND RECONNECT AS REQUIRED. CONTRACTOR SHALL ENSURE ELECTRICAL SERVICE ACCESS IS TO BE LOCATED FACING AWAY FROM WALLS OR SURROUNDING EQUIPMENT.

M-0002 EXHAUST AIR DUCT UP THRU FLOOR ABOVE.

M-5900 REFRIGERANT LINE PER MANUF. RECOMMENDATION



FIRST FLOOR PLAN SCALE 01



STORAGE ENCLOSURE PLAN SCALE 01



Architecture Planning

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Landscape Architecture
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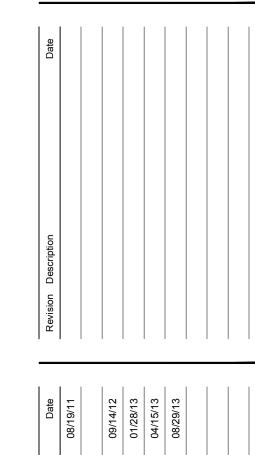


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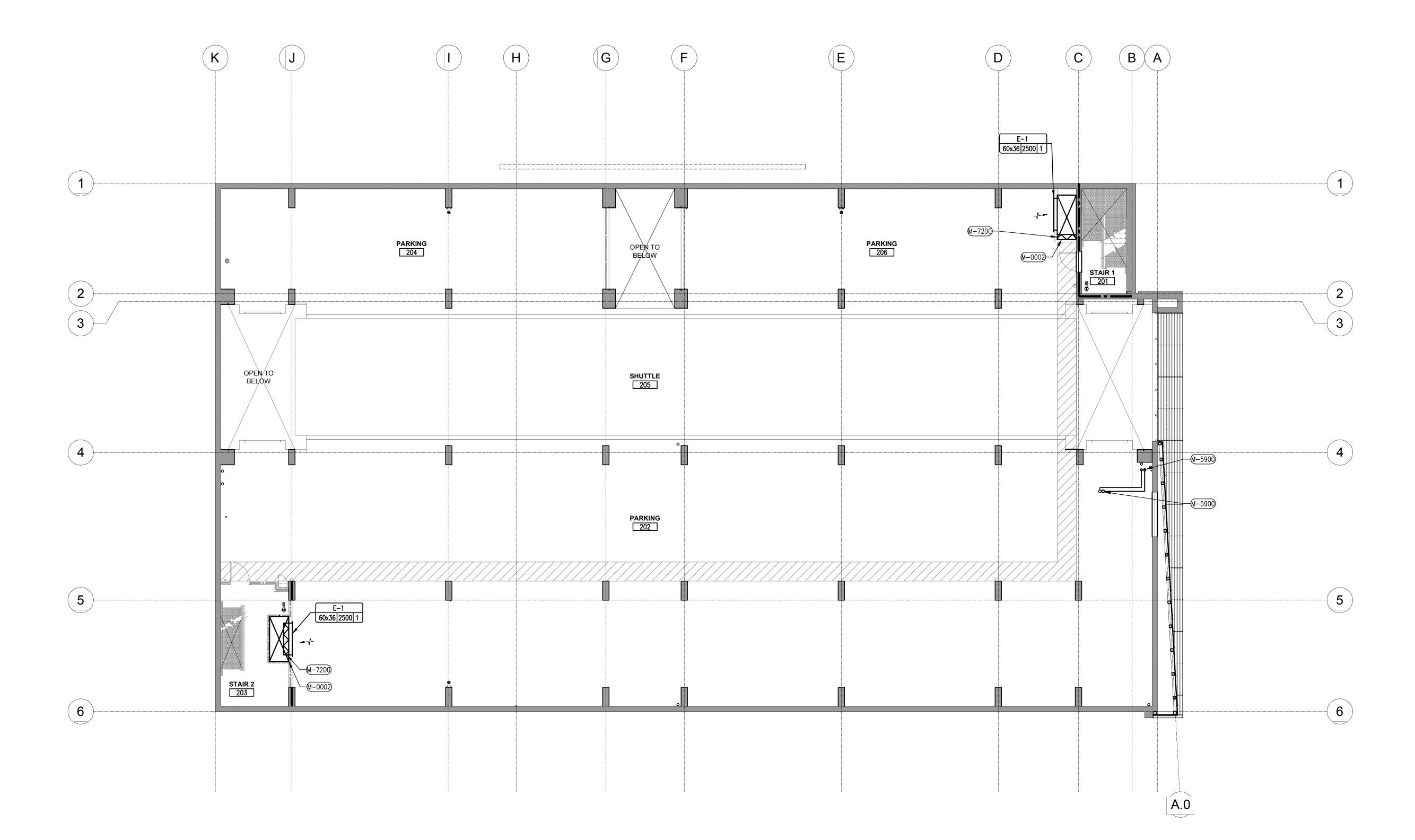
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Revision Description	SCHEMATIC DESIGN		DESIGN DEVELOPMENT	50% CD	PLAN CHECK	PLAN CHECK RESUBMITTAL			
Jo	b. No	٥.					28	3035.	40
Da	te					15	APR	IL 20	13
Dra	awn	by						L	PΑ
O.L	1	. ما ام							<u> </u>

M2.01



KEYNOTES

M-0002 EXHAUST AIR DUCT UP THRU FLOOR ABOVE.

M-5900 REFRIGERANT LINE PER MANUF. RECOMMENDATION

M-7200 PROVIDE OPPOSED BLADE DAMPER FOR AIR BALANCING. DAMPER SHALL BE ACCESSIBLE BY REMOVING EXHAUST AIR GRILLE.

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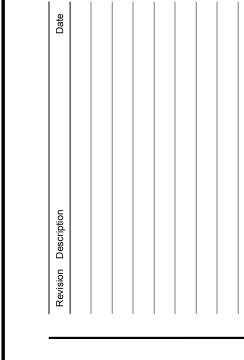


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Date	08/19/11	09/14/12	01/28/13	04/15/13	AL 08/29/13
Revision Description	SCHEMATIC DESIGN	DESIGN DEVELOPMENT	50% CD	PLAN CHECK	PLAN CHECK RESUBMITTAL

_	4 8		THROUGH FLOOR AN
		CECOND	TUDOUCU
Ī		Scale	1/8" = 1'-0"
		Checked by	LPA
	_	Drawn by	LPA
	16	Date	15 APRIL 2013
		Job. No.	28035.40

N/2 02

ROOF PLAN | 1/8" = 1'-0" | 07

KEYNOTES

M-0004) EXHAUST AIR DUCT DOWN THRU ROOF.

REFRIGERANT LINE PER MANUF.
RECOMMENDATION

LPA

Architecture
Planning
Interior Design
Landscape Architecture
Graphics

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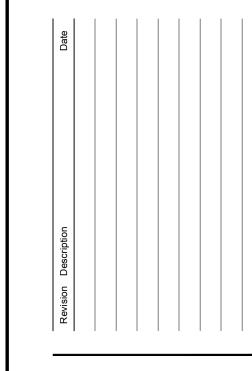


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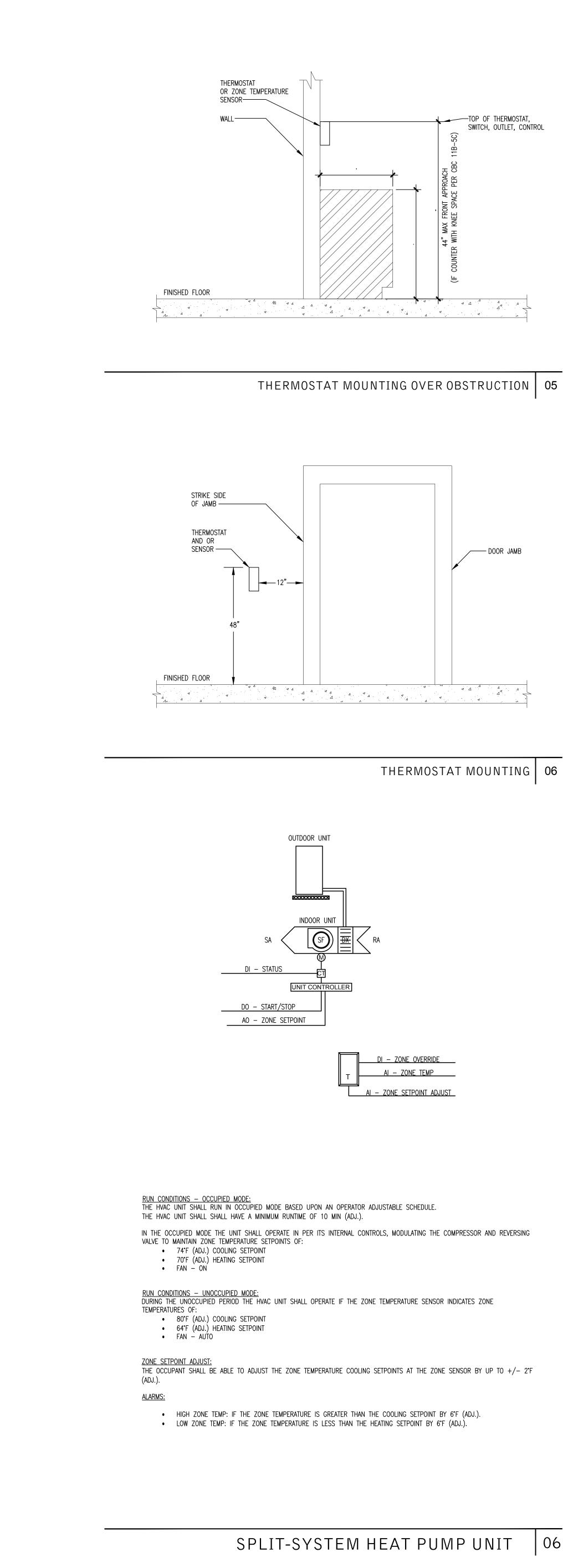
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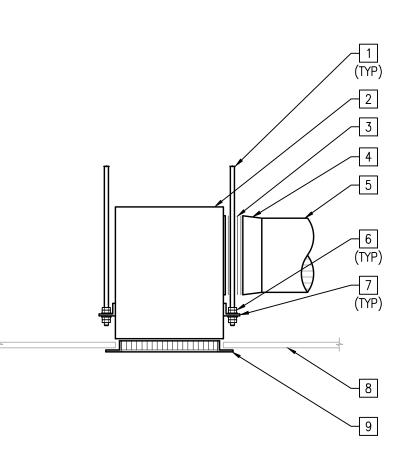
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Date	08/19/11	09/14/12	01/28/13	04/15/13	08/29/13
Revision Description	SCHEMATIC DESIGN	DESIGN DEVELOPMENT	50% CD	PLAN CHECK	PLAN CHECK RESUBMITTAL
Revision					

		"	
		Job. No.	28035.40
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		Checked by	LPA
	Ī	Scale	1/8" = 1'-0"
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	- - 4		ROOF AN
		M2	.03





TOP OF THERMOSTAT,
SWITCH, OUTLET, CONTROL

DOOR JAMB

THERMOSTAT MOUNTING 06

DI – ZONE OVERRIDE

AI – ZONE SETPOINT ADJUST

SECURE TO STRUCTURE ABOVE (SEE NOTE #1)

2 CEILING EXHAUST FAN

3 FLEXIBLE CONNECTION

4 SIZE OR TRANSITION TO MATCH EXHAUST FAN FLANGE 5 EXHAUST DUCT SIZE AND ROUTING PER PLAN

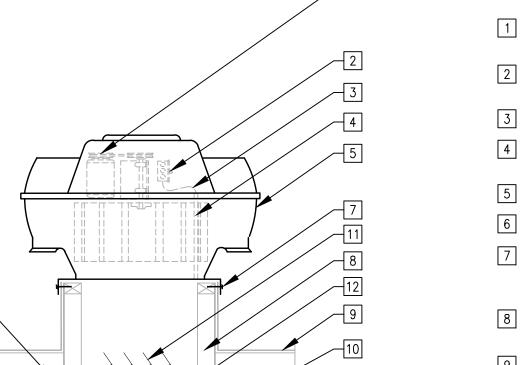
PROVIDE DOUBLE NUTS WITH LOCKWASHER AT TOP & BOTTOM OF FLANGE

7 FAN MANUFACTURER'S MOUNTING ANGLE

8 CEILING

9 CEILING GRILLE (SEE NOTE #2)

CEILING EXHAUST FAN 01



1 FAN MOTOR AND DRIVE, SEE SCHEDULE FOR MOTOR AND DRIVE TYPE

2 DISCONNECT SWITCH BY FAN MANUFACTURER

3 PIGTAIL CORD

4 INTERNAL ALUMINUM WIRE POST BY FAN MANUFACTURER

5 ALUMINUM HOUSING

6 DUCT SIZE PER PLANS

7 SECURE TO ROOF CURB WITH #8 SELF TAPPING SCREWS 12" O.C. MINIMUM 2 PER SIDE

8 LEVELED MANUFACTURER'S ROOF CURB (SEE NOTES #1 & #2)

9 ROOFING 10 ROOF DECK

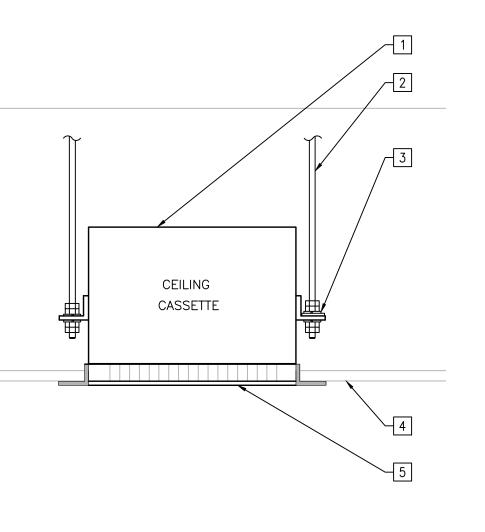
11 BACKDRAFT DAMPER

12 PACK OPENING WITH INSULATION

GALVANIZED SHEET METAL CLOSURE BELOW ROOF TO RETAIN INSULATION AROUND THE DUCT.

14 ANCHOR THRU MANUF. CURB FLANGE WITH #10 AT 6" O.C. OR EVERY TOP FLUTE (WHICHEVER IS LESS).

UP BLAST EXHAUST FAN 02



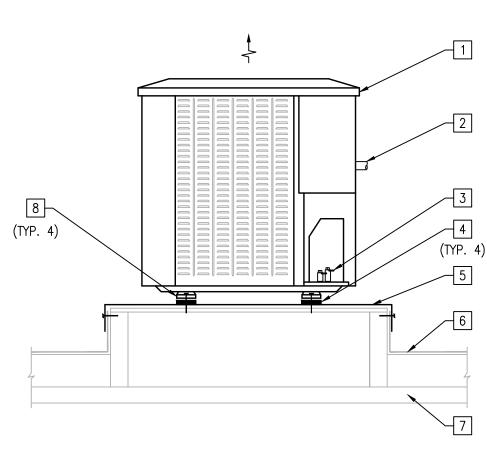
1 CEILING CASSETTE UNIT

2 3/8" THREADED ROD, (TYP. 4). REFER TO STRUCTURAL DRAWINGS FOR ATTACHMENT.

FACTORY-SUPPLIED BRACKETS. PROVIDE DOUBLE NUTS WITH LOCKWASHER AT TOP AND BOTTOM OF FLANGE. REFER TO AND FOLLOW MANUFACTURER
INSTALLATION INSTRUCTIONS AND PROVIDE
ALL NECESSARY HARDWARE.

4 CEILING ASSEMBLY. SEE ARCH. DWGS. 5 CASSETTE UNIT MOUNTING FACE, SEE MANUF. INSTALLATION INSTRUCTIONS.

NOTE:
1. PROVIDE CONDENSATE PUMP.



CEILING CASSETTE DETAIL 03

1 CONDENSING UNIT 2 ELECTRICAL INLETS

3 REFRIGERANT PIPING, ROUTING PER PLANS SIZE PER MANUFACTURER'S RECOMMENDATIONS 4 NEOPRENE ISOLATOR PADS, MODEL SUPER W MASONWEST OR EQUAL

5 LEVEL BUILT UP PLATFORM WITH CAP (SEE NOTES #2 & #3)

6 ROOFING 7 ROOF DECK

8 ANCHORAGE TABS INTEGRAL TO CONDENSING UNIT. BOLT THRU TAB AND ISOLATOR PAD TO PLATFORM.

CONDENSING UNIT ON PLATFORM 04

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DETAILS

ABBREVIATIONS

<u>ABBREVIATION</u>

A/C

APPROX

ARCH

ASD

ASTM

AVTR

BFP

BLDG

BTUH

CBC

CFM

CLG

CMC

CONT

CONTR

CPC

DEMO

DEPT

FFE

FIN FLR

FIN GR

FLR

GPM

GVTR

MBTUH

MECH

NFPA

NTS

PLBG

PSI

RPM

SPKLR

STD

SYS

THRU

STRUCT

THOUSAND BRITISH THERMAL UNITS PER HOUR

NATIONAL FIRE PROTECTION ASSOCIATION

MECHANICAL

MINIMUM

NUMBER

PHASE

SOUTH

SQUARE FEET

STAINLESS STEEL

SPRINKLER

STANDARD

STRUCTURAL

SYSTEM

THROUGH

TYPICAL

VOLT

WITHOUT

WEIGHT YARD BOX

WATER COLUMN

PLUMBING

NOT TO SCALE

MANUFACTURER

NOT IN CONTRACT

POINT OF CONNECTION

POUNDS PER SQUARE INCH

REVOLUTIONS PER MINUTE

UNDERWRITERS LABORATORY

UNLESS NOTED OTHERWISE

SANITARY VENT THRU ROOF

<u>DESCRIPTION</u> <u>SYMBOL</u> <u>ABBREVIATION</u> <u>DESCRIPTION</u> DOMESTIC COLD WATER PIPING _____ CW DOMESTIC HOT WATER PIPING _____ HWR DOMESTIC HOT WATER RETURN PIPING AIR CONDITIONING DOMESTIC TEMPERED HOT WATER PIPING AMERICANS WITH DISABILITIES ACT ______TP________TP TRAP PRIMER PIPING ABOVE FINISH FLOOR INDUSTRIAL COLD WATER PIPING AUTHORITY HAVING JURISDICTION ______SS_______ S OR W SANITARY SOIL OR WASTE PIPING ABV FIN FLR ACCESS PANEL _____ SS____ S OR W SANITARY SOIL OR WASTE PIPING BEL FIN FLR APPROXIMATE SANITARY VENT PIPING ----- V ARCHITECT CONDENSATE PIPING AUTOMATIC SPRINKLER DRAIN OVERFLOW CONDENSATE PIPING ______OC_______OC AMERICAN SOCIETY FOR TESTING AND MATERIALS STD DELIVERY PRESSURE 8" WC GAS PIPING ACID VENT THRU ROOF SHUTOFF VALVE ABV FIN GR BELOW SOV IN WALL AP SHUTOFF VALVE IN WALL ACCESS PANEL BACKFLOW PREVENTER SHUTOFF VALVE IN CEILING ACCESS PANEL ---- SOV IN CLG AP BUILDING BRITISH THERMAL UNIT PER HOUR SOV BEL FIN GR IN YB SHUTOFF VALVE BEL FIN GR IN YARD BOX CALIFORNIA BUILDING CODE, CURRENT EDITION WATER HAMMER ARRESTOR IN WALL ACCESS PANEL CONSTRUCTION DOCUMENTS TP W/ SOV IN WALL AP TRAP PRIMER W/ SOV IN WALL ACCESS PANEL CALIFORNIA ELECTRICAL CODE. CURRENT EDITION FIXTURE OR EQUIPMENT SUPPLY/STOP CALIFORNIA FIRE CODE, CURRENT EDITION ICEMAKER SUPPLY BOX CUBIC FEET PER MINUTE SHUTOFF COCK ABV FIN GR CEILING ————— SOC IN WALL AP SHUTOFF COCK IN WALL ACCESS PANEL CALIFORNIA MECHANICAL CODE, CURRENT EDITION SOC IN CLG AP SHUTOFF COCK IN CEILING ACCESS PANEL CLEANOUT CONTINUATION CONTRACTOR GAS PRESSURE REGULATOR CALIFORNIA PLUMBING CODE, CURRENT EDITION THERMOSTATIC MIXING VALVE DEMOLISH / DEMOLITION BALANCING VALVE DETAIL PRESSURE REDUCING VALVE DEPARTMEN TEMPERATURE AND PRESSURE RELIEF VALVE DIAMETER CHECK VALVE DOWN REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTER DRAWING CAP ON END OF PIPE EAST UNION ____ **EXISTING** SLEEVE ELECTRICAL SEISMIC JOINT ENGINEER DEGREES FAHRENHEIT FINISH FLOOR ELEVATION PUMP FINISH FLOOR AQUASTAT FINISH GRADE WALL CLEANOUT બા / લા FL00R ——— FCO FLOOR CLEANOUT FACTORY MUTUAL CLEANOUT TO GRADE FEET PER SECOND FLOOR DRAIN OR AREA DRAIN FOOT / FEET FLOOR DRAIN OR AREA DRAIN GALLON / GALLONS FLOOR SINK GALLONS PER FLUSH ROOF RECEPTOR GALLONS PER HOUR OVERFLOW DRAIN SPILL TO GRADE GALLONS PER MINUTE PIPE RISER DOWN (ELBOW) GREASE VENT THRU ROOF PIPE RISER UP (ELBOW) HEADER PIPE RISE OR DROP HORSEPOWER BRANCH LINE TOP CONNECTION HEATING, VENTILATING, AND AIR CONDITIONING BRANCH LINE BOTTOM CONNECTION INVERT ELEVATION FLOW IN DIRECTION OF ARROW CONTINUATION OF PIPING INTEGRAL POUND / POUNDS MAXIMUM

SYMBOLS / ABBREVIATIONS

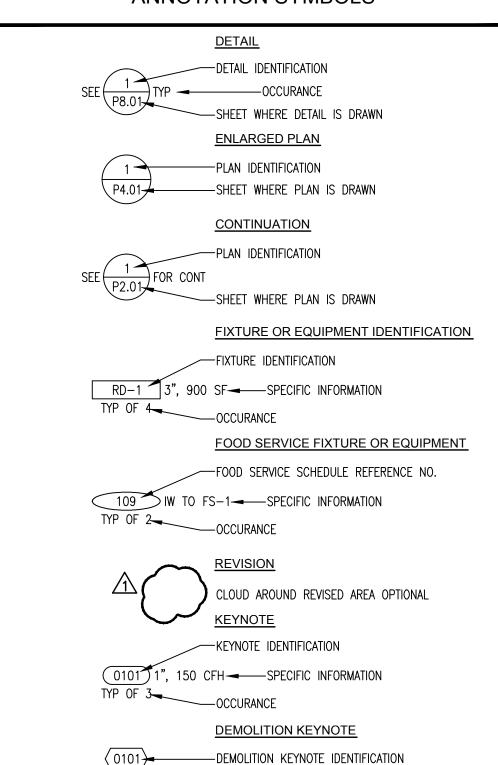
MATERIALS

1. SANITARY SOIL, WASTE, AND VENT PIPING SHALL BE NO-HUB CAST IRON PIPE AND FITTINGS PER CISPI. STANDARD 301 OR ASTM A-888. PIPE AND FITTING CONNECTIONS SHALL BE MADE WITH "ANACO" OR "TYLER" STAINLESS STEEL COUPLINGS PER CISPI

STANDARD 310.

- 2. WALL CLEANOUTS SHALL BE JAY R. SMITH MODEL No. 4510 DUCO CAST IRON CLEANOUT TEE AND COUNTERSUNK PLUG, COMPLETE W/ ELMDOR MODEL No. DW12"X12"-SS-AKL STAINLESS STEEL ACCESS PANEL WITH ALLEN KEY LATCH.
- 3. FLOOR CLEANOUTS SHALL BE JAY R. SMITH MODEL No. 4023 OR 4028, BRONZE PLUG AND NON-SKID SQUARE NICKEL BRONZE TOP.
- 4. CLEANOUTS TO GRADE SHALL BE JAY R. SMITH MODEL No. 4258 OR 4253, BRONZE PLUG AND NON-SKID ROUND CAST IRON COVER WITH LIFTING DEVICE. SET FLUSH WITH SURFACE FOR CONCRETE AREAS. FOR ASPHALT OR UNFINISHED AREAS, INSTALL W/ 6 INCH THICK CONCRETE RING MIN 4 INCH LARGER DIAMETER THAN CLEANOUT COVER. CLEANOUT RISERS SHALL BE CAST IRON PIPING. TERMINATE CLEANOUT PLUG IN CONCRETE YARD BOX FOR CLEANOUTS IN NON-TRAFFIC AREAS.
- 5. CONCRETE YARD BOXES SHALL BE SHALL BE BROOKS PRODUCTS RECTANGULAR CONCRETE TYPE W/ VANDAL-PROOF CAST IRON COVER, SIZED TO PERMIT FULL RANGE OF OPERATION AND ALLOW FOR AMPLE ACCESSIBILITY AND REMOVAL OF VALVE ASSEMBLY. NAME OF SERVICE SHALL BE CLEARLY MARKED ON COVER (IE: "GAS", "WATER", "CO", ETC.).
- 6. DOMESTIC WATER PIPING SHALL BE TYPE "L" ASTM B88, HARD DRAWN COPPER TUBING WITH WROUGHT COPPER SWEAT FITTINGS PER ANSI B16.18 AND B16.22,
- 8. DOMESTIC WATER SHUT-OFF VALVES SHALL BE NIBCO T-585-70-66 (THREADED), OR APPROVED EQUAL.
- 9. CONDENSATE PIPING SHALL BE TYPE "M" ASTM B88, HARD DRAWN COPPER TUBING WITH WROUGHT COPPER SWEAT FITTINGS PER ANSI B16.18 AND B16.22.
- 12. ESCUTCHEONS SHALL BE CAST BRASS CHROME PLATED WITH SETSCREW. PROVIDE AT ALL FIXTURE SERVICES THAT PENETRATE WALLS.
- 13. GAS PIPING SHALL BE SCHEDULE 40 BLACK STEEL PIPE PER ASTM A-53 WITH 150 POUND BANDED MALLEABLE IRON SCREWED FITTINGS.
- 14. GAS SHUT-OFF COCKS SHALL BE NIBCO T-FP-600, OR APPROVED EQUAL.

ANNOTATION SYMBOLS



APPLICABLE CODES

BUILDING CODES:

APPLICABLE CODES AS OF JANUARY 1, 2010

2010 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE PART 1, TITLE 24 C.C.R.

TYP OF 4--------OCCURANCE

2010 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R.; (2009 INTERNATIONAL BUILDING CODE AND 2010 CALIFORNIA AMENDMENTS)

2010 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R.; (2008 NATIONAL ELECTRICAL CODE & 2010 CALIFORNIA AMENDMENTS)

2010 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 C.C.R.; (2009 UNIFORM MECHANICAL CODE & 2010 CALIFORNIA AMENDMENTS)

2010 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R.; (2009 UNIFORM PLUMBING CODE & 2010 CALIFORNIA AMENDMENTS)

2010 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 C.C.R.; (2009 INTERNATIONAL FIRE CODE & 2010 CALIFORNIA AMENDMENTS)

2010 CALIFORNIA REFERENCED STANDARDS, PART 12, TITLE 24 C.C.R.

2010 TITLE 19 C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.

CALIFORNIA AB 1953 LEGISLATION COMPLIANCE NOTES

- 1. DOMESTIC WATER PIPING AND COMPONENTS SHALL BE PROVIDED AND INSTALLED IN COMPLIANCE WITH CALIFORNIA AB 1953 LEGISLATION (EFFECTIVE JANUARY 1, 2010), WHICH LIMITS THE ALLOWABLE LEAD CONTENT IN CERTAIN DOMESTIC WATER SYSTEM COMPONENTS. REQUIREMENTS INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
- A. DOMESTIC WATER SHUT-OFF VALVES 2" AND LESS IN SIZE SHALL BE AS MANUFACTURED BY KITZ, SERIES No. 868 FULL PORT BALL VALVES, LEAD FREE BRASS WITH PTFE PACKING, 600 WOG, CALIF AB 1953 COMPLIANT. VALVES SHALL BE FULL LINE SIZE OF PIPING SERVED.
- B. DOMESTIC WATER CHECK VALVES 2" AND LESS IN SIZE SHALL BE AS MANUFACTURED BY KITZ, SERIES No. 823T SWING CHECK VALVES, LEAD FREE BRASS WITH PTFE DISC, CLASS 125, Y-PATTERN, CALIF AB 1953 COMPLIANT. VALVES SHALL BE FULL LINE SIZE OF PIPING SERVED.
- C. SINK AND LAVATORY FAUCETS SHALL BE AS MANUFACTURED BY CHICAGO, "E-CAST" SERIES, CALIF AB 1953 COMPLIANT. SEE FIXTURE SCHEDULE FOR EXACT MODEL NUMBERS.
- D. THERMOSTATIC MIXING VALVES SHALL BE AS MANUFACTURED BY BRADLEY, "VERNATHERM" SERIES OR "NAVIGATOR" SERIES AS APPLICABLE. CALIFORNIA AB 1953 COMPLIANT. SEE FIXTURE SCHEDULE FOR EXACT
- E. DRINKING FOUNTAINS AND REFRIGERATED DRINKING FOUNTAINS SHALL BE AS MANUFACTURED BY HAWS. CALIFORNIA AB 1953 COMPLIANT. SEE FIXTURE SCHEDULE FOR EXACT MODEL NUMBERS.
- F. FIXTURE STOPS/SUPPLIES SHALL BE AS MANUFACTURED BY CHICAGO, "E-CAST SERIES", CALIF AB 1953 COMPLIANT. SEE FIXTURE SCHEDULE FOR EXACT MODEL NUMBERS.

GENERAL STRUCTURAL NOTES

- 1. ALL EQUIPMENT, PIPING, UTILITIES, AND THEIR CONNECTIONS SHALL BE SEISMICALLY BRACED PER CBC 2010 AND LATEST EDITION OF SMACNA SEISMIC RESTRAINT MANUAL, BASED ON SEISMIC HAZARD LEVEL A. MAINTAIN A COPY OF SMACNA SEISMIC RESTRAINT MANUAL ON SITE.
- LIMITS TO NON-STRUCTURAL ITEMS SUSPENDED FROM CONCRETE FILLED METAL DECKING: HANGERS SUPPORTED BY METAL DECKING WITH STRUCTURAL CONCRETE FILL MAY BE INSTALLED USING ICC-ES APPROVED ANCHORAGE SYSTEMS. DO NOT SUPPORT UTILITIES FROM METAL DECK WITHOUT CONCRETE. HANGERS FROM CONCRETE FILLED DECK, WHERE OCCURS, ARE LIMITED TO 4-INCH DIAMETER PIPE MAXIMUM. LOCATE HANGERS TWO FLUTES APART ON SAME DECK SPAN. SUPPORT LARGER PIPING FROM STRUCTURAL BEAMS OR COLUMNS. ADD DOUBLE UNISTRUT SPREADERS AS NECESSARY.
- 3. DO NOT SUPPORT HANGERS DIRECTLY FROM ROOF PLYWOOD. CONNECT HANGER TO BLOCKING BETWEEN ROOF JOISTS PER SMACNA SEISMIC RESTRAINT MANUAL.
- 4. PROVIDE SHOP DRAWINGS WITH LARGE SCALE PLANS AND SECTIONS SHOWING HANGERS AND BRACING LOCATIONS. INDICATE HANGERS AND BRACING LOADS ON STRUCTURAL FRAMING PLANS. REFERENCE RELEVANT DETAILS FROM SMACNA SEISMIC RESTRAINT MANUAL.
- EXPANSION ANCHORS AND EPOXY ANCHORS, WHERE USED, SHALL HAVE A MINIMUM EMBEDMENT OF EIGHT TIMES THE ANCHOR DIAMETER AND A MINIMUM EDGE DISTANCE OF 10 TIMES THE DIAMETER. EXPANSION ANCHORS AND EPOXY ANCHORS MUST HAVE CURRENT AND VALID ICC REPORT. SHOT PINS ARE NOT ACCEPTABLE.
- 6. UNLESS SPECIFIED ON STRUCTURAL DRAWINGS, ANY ALTERATIONS OR MODIFICATIONS TO A STRUCTURAL ELEMENT BY CUTTING, DRILLING, BORING, BRACING, WELDING, ETC. SHALL HAVE WRITTEN APPROVAL BY THE STRUCTURAL ENGINEER OF RECORD AND DSA PRIOR TO STARTING WORK.
- 7. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR LOCATIONS OF BUILDING SEISMIC/EXPANSION JOINTS. PROVIDE SEISMIC/EXPANSION JOINTS FOR ALL PIPES CROSSING THESE LOCATIONS.
- 8. SEE GENERAL NOTES ON STRUCTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.

INSTALLATION NOTES

- 1. DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PIPING. INDICATED LOCATIONS AND ARRANGEMENTS ARE USED TO SIZE PIPE AND CALCULATE FRICTION LOSS, EXPANSION, AND OTHER DESIGN CONSIDERATIONS, INSTALL PIPING AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED ON COORDINATION DRAWINGS. 2. INSTALL DOMESTIC WATER PIPING LEVEL WITHOUT PITCH AND PLUMB.
- 3. INSTALL PIPING CONCEALED FROM VIEW AND PROTECTED FROM PHYSICAL CONTACT BY
- BUILDING OCCUPANTS UNLESS OTHERWISE INDICATED. 4. INSTALL PIPING AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE
- PROHIBITED UNLESS SPECIFICALLY INDICATED OTHERWISE. 5. INSTALL PIPING ABOVE ACCESSIBLE CEILINGS TO ALLOW SUFFICIENT SPACE FOR CEILING PANEL
- REMOVAL, AND COORDINATE WITH OTHER SERVICES OCCUPYING THAT SPACE. 6. INSTALL PIPING ADJACENT TO EQUIPMENT AND SPECIALTIES TO ALLOW SERVICE AND MAINTENANCE.
- 7. INSTALL PIPING TO PERMIT VALVE SERVICING.
- 8. INSTALL NIPPLES, UNIONS, SPECIAL FITTINGS, AND VALVES WITH PRESSURE RATINGS THE SAME AS OR HIGHER THAN SYSTEM PRESSURE RATING USED IN APPLICATIONS BELOW UNLESS OTHERWISE INDICATED.
- 9. INSTALL PIPING FREE OF SAGS AND BENDS.
- 10. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS.
- 11. INSTALL UNIONS IN COPPER TUBING AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT, MACHINE, AND SPECIALTY.
- 12. INSTALL SLEEVES FOR PIPING PENETRATIONS OF WALLS, CEILINGS, AND FLOORS.
- 13. INSTALL SLEEVE SEALS FOR PIPING PENETRATIONS OF CONCRETE WALLS AND SLABS.
- 14. INSTALL CAST-IRON SOIL PIPING ACCORDING TO CISPI'S "CAST IRON SOIL PIPE AND FITTINGS HANDBOOK," CHAPTER IV, "INSTALLATION OF CAST IRON SOIL PIPE AND FITTINGS."

15. MAKE CHANGES IN DIRECTION FOR SOIL AND WASTE DRAINAGE AND VENT PIPING USING

- APPROPRIATE BRANCHES, BENDS, AND LONG-SWEEP BENDS. SANITARY TEES AND SHORT-SWEEP 1/4 BENDS MAY BE USED ON VERTICAL STACKS IF CHANGE IN DIRECTION OF FLOW IS FROM HORIZONTAL TO VERTICAL. USE LONG-TURN, DOUBLE Y-BRANCH AND 1/8-BEND FITTINGS IF 2 FIXTURES ARE INSTALLED BACK TO BACK OR SIDE BY SIDE WITH COMMON DRAIN PIPE. STRAIGHT TEES, ELBOWS, AND CROSSES MAY BE USED ON VENT LINES. DO NOT CHANGE DIRECTION OF FLOW MORE THAN 90 DEGREES. USE PROPER SIZE OF STANDARD INCREASERS AND REDUCERS IF PIPES OF DIFFERENT SIZES ARE CONNECTED.
- 15. LAY BURIED BUILDING DRAINAGE PIPING BEGINNING AT LOW POINT OF EACH SYSTEM. INSTALL TRUE TO GRADES AND ALIGNMENT INDICATED, WITH UNBROKEN CONTINUITY OF INVERT.
- 16. INSTALL SOIL AND WASTE DRAINAGE PIPING AT 2 PERCENT DOWNWARD IN DIRECTION OF FLOW,

REDUCING SIZE OF DRAINAGE PIPING IN DIRECTION OF FLOW IS PROHIBITED.

- UNLESS OTHERWISE INDICATED: 17. DO NOT ENCLOSE, COVER, OR PUT PIPING INTO OPERATION UNTIL IT IS INSPECTED AND
- APPROVED BY AUTHORITIES HAVING JURISDICTION.
- 18. ASSEMBLE PLUMBING FIXTURES, TRIM, FITTINGS, AND OTHER COMPONENTS ACCORDING TO MANUFACTURERS' WRITTEN INSTRUCTIONS.
- 19. INSTALL FIXTURES LEVEL AND PLUMB ACCORDING TO ROUGHING-IN DRAWINGS. 20. INSTALL WATER-SUPPLY PIPING WITH STOP ON EACH SUPPLY TO EACH FIXTURE TO BE
- CONNECTED TO WATER DISTRIBUTION PIPING. ATTACH SUPPLIES TO SUPPORTS OR SUBSTRATE WITHIN PIPE SPACES BEHIND FIXTURES. INSTALL STOPS IN LOCATIONS WHERE THEY CAN BE EASILY REACHED FOR OPERATION.
- 21. INSTALL TRAP AND TUBULAR WASTE PIPING ON DRAIN OUTLET OF EACH FIXTURE TO BE DIRECTLY CONNECTED TO SANITARY DRAINAGE SYSTEM.
- 22. INSTALL TRAPS ON FIXTURE OUTLETS.
- 23. INSTALL ESCUTCHEONS AT PIPING WALL CEILING PENETRATIONS IN EXPOSED, FINISHED LOCATIONS AND WITHIN CABINETS AND MILLWORK. USE DEEP-PATTERN ESCUTCHEONS IF REQUIRED TO CONCEAL PROTRUDING FITTINGS.
- 24. SEAL JOINTS BETWEEN FIXTURES AND WALLS, FLOORS, AND COUNTERTOPS USING SANITARY-TYPE, ONE-PART, MILDEW-RESISTANT SILICONE SEALANT. MATCH SEALANT COLOR TO FIXTURE COLOR.

GENERAL NOTES

- 1. ALL CONSTRUCTION AND MATERIALS SHALL BE AS SPECIFIED AND IN ACCORDANCE WITH ALL APPLICABLE CODES, ORDINANCES, LAWS, PERMITS, AND THE CONTRACT DOCUMENTS.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURATE PLACEMENT OF ALL NEW CONSTRUCTION ON THE SITE.
- 3. THE CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS AND DIMENSIONS, AND EXACT LOCATIONS AND ELEVATIONS OF PIPING BEFORE STARTING WORK. SHOULD A DISCREPANCY APPEAR IN THE CONTRACT DOCUMENTS, OR BETWEEN THE CONTRACT DOCUMENTS AND EXISTING CONDITIONS, NOTIFY THE ARCHITECT AT ONCE FOR INSTRUCTION ON HOW TO PROCEED.
- 4. SEWER, WATER, AND STORM DRAIN SYSTEMS INDICATED IN THESE DRAWINGS SHALL EXTEND TO PLUMBING/CIVIL POINTS OF CONNECTION AT 5'-0" OUTSIDE OF THE BUILDING(S) UNLESS NOTED OTHERWISE. CONTINUATION OF THESE PIPING SYSTEMS ARE INDICATED ON THE CIVIL DRAWINGS WITH CORRESPONDING ASSOCIATED MATERIALS SPECIFIED UNDER A SEPARATE SECTION OF THE PROJECT SPECIFICATIONS. ALL SUCH PIPING SHALL BE INSTALLED IN A MANNER TO PROVIDE PROPER CONNECTION TO INVERT ELEVATIONS INDICATED ON CIVIL DRAWINGS. WHERE SIZES DIFFER BETWEEN PLUMBING AND CIVIL DRAWINGS, CONTRACTOR SHALL PROVIDE TRANSITION FITTINGS AS NECESSARY TO ALLOW FOR PROPER CONNECTION.
- 5. NATURAL GAS PIPING SYSTEMS INDICATED IN THESE DRAWINGS INCLUDE ALL BUILDING AND SITE GAS PIPING EXTENDING AND CONNECTING TO THE OUTLET OF THE GAS METER.
- 6. CONTRACTOR SHALL INITIATE CONTACT WITH THE SERVING GAS UTILITY COMPANY AND MAKE ARRANGEMENTS FOR THE INSTALLATION OF NEW GAS SERVICE AND GAS METER OF THE CAPACITY AND LOCATION INDICATED ON THE DRAWINGS. OPERATE ALL ITEMS SERVED WITH GAS AT FULL FIRE AND MAKE REQUIRED ADJUSTMENTS AS NECCESARY FOR PROPER CALIBRATION OF GAS METER PRESSURE REGULATORS IN COOPERATION WITH GAS UTILITY AND IN ACCORDANCE WITH GAS UTILITY START UP REQUIREMENTS. ALL REQUIRED GAS UTILITY FEES SHALL BE PAID BY OWNER.
- HORIZONTAL SOIL, WASTE AND TRAP PRIMER PIPING WITHIN THE BUILDING SHALL BE INSTALLED CONCEALED WITHIN WALLS, BELOW FINISH FLOOR, OR BELOW FINISH SLAB AS APPLICABLE UNLESS NOTED OTHERWISE. ALL OTHER HORIZONTAL PIPING WITHIN THE BUILDING SHALL BE INSTALLED CONCEALED ABOVE CEILING OR WITHIN WALLS AS APPLICABLE UNLESS NOTED OTHERWISE. ALL VERTICAL PIPING SHALL BE INSTALLED CONCEALED WITHIN WALLS UNLESS NOTED OTHERWISE. NO PIPING SHALL BE INSTALLED IN EXPOSED LOCATIONS UNLESS SPECIFICALLY NOTED AS SUCH ON PLANS.
- 8. HORIZONTAL SOIL AND WASTE PIPING SHALL SLOPE AT 1/4" PER FOOT UNLESS NOTED OTHERWISE.
- 9. HORIZONTAL STORM DRAIN AND OVERFLOW PIPING SHALL SLOPE AT 1/8" PER FOOT UNLESS NOTED OTHERWISE.
- 10. HORIZONTAL CONDENSATE PIPING SHALL SLOPE AT 1/8" PER FOOT UNLESS NOTED OTHERWISE.

11. NATURAL GAS PIPE SIZING CALCULATIONS ARE BASED ON A CALORIC CONTENT OF 1,000

SIZE AT A MINIMUM UNLESS NOTED AS A LARGER SIZE ON PLANS. PIPE HEADERS IN

WALLS SERVING BANKS OF FIXTURES SHALL BE FULL LINE SIZE FROM THE UPSTREAM

- BTU'S PER CUBIC FOOT. 12. PIPING BETWEEN EACH PLUMBING FIXTURE AND THE NEAREST BRANCH OR MAIN PIPING RUN SHALL BE SIZED TO MATCH THE CORRESPONDING FIXTURE SCHEDULE CONNECTION
- END OF THE BRANCH LINE TO THE END TERMINAL UNLESS NOTED OTHERWISE. 13. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS, ROUGH IN DIMENSIONS, AND MOUNTING HEIGHTS OF ALL FIXTURES. EQUIPMENT. ACCESS PANELS. HOSE BIBBS. RECESSED HOSE BIBBS, OVERFLOW DRAIN TERMINATION POINTS, AND OTHER EXPOSED

PLUMBING ELEMENTS. WHERE DIMENSIONS ARE NOT INDICATED, SEEK ARCHITECT'S

- 14. ACCESS PANELS.
- A. WHERE POSSIBLE, USE SAME ACCESS PANEL FOR SHUT-OFF VALVES, MIXING VALVES, TRAP PRIMERS AND WATER HAMMER ARRESTORS AND/OR OTHER INTERIOR WALL COMPONENTS WHEN LOCATED DIRECTLY ADJACENT IN SAME IMMEDIATE VICINITY. SEE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS.
- B. SEE SPECIFICATIONS FOR ACCESS PANEL REQUIREMENTS.

DIRECTION AND/OR APPROVAL PRIOR TO INSTALLATION.

15. CLEANOUTS.

- A. INTERIOR CLEANOUTS SHALL BE WALL CLEANOUTS RATHER THAN FLOOR CLEANOUTS UNLESS OTHERWISE INDICATED, SHALL BE READILY ACCESSIBLE, AND SHALL BE CAREFULLY COORDINATED WITH CASEWORK, EQUIPMENT, AND OTHER ITEMS TO AVOID CONFLICT. NOT ALL REQUIRED CLEANOUTS ARE INDICATED ON PLANS. WALL CLEANOUTS IN FINISHED SPACES SHALL BE INSTALLED IN ACCESS PANELS. SEE SPECIFICATIONS FOR ACCESS PANEL REQUIREMENTS.
- B. EXTERIOR YARD BOXES AND CLEANOUTS SHALL BE INSTALLED IN EXACT LOCATIONS INDICATED ON PLANS. IN THE EVENT OF A CONFLICT OR DISCREPANCY, NOTIFY THE ARCHITECT AT ONCE FOR INSTRUCTION ON HOW TO PROCEED.
- 16. EXTERIOR WATER SHUT-OFF VALVES, GAS SHUT-OFF COCKS, AND SEWER CLEANOUTS SHALL BE INSTALLED WITHIN CONCRETE YARD BOXES. EXTERIOR WATER SHUT-OFF VALVES AND GAS SHUT-OFF COCKS SHALL BE INSTALLED WITHIN CONCRETE YARD BOXES. YARD BOX AND CLEANOUT COVERS SHALL BE CLEARLY STAMPED WITH "WATER", "GAS", OR "SEWER" AS APPLICABLE. ALL YARD BOXES AND CLEANOUT COVERS SHALL ALIGN WITH SCORED HARDSCAPE JOINTS PER LANDSCAPE PLANS. SEWER CLEANOUT COVERS SHALL BE BRASS, YARD BOX COVERS SHALL BE CONCRETE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- 17. VERIFY EXACT LOCATIONS OF ALL MECHANICAL AND/OR OTHER EQUIPMENT INSTALLED BY OTHERS AND REQUIRING PLUMBING CONNECTIONS PRIOR TO ORDERING OF MATERIALS OR INSTALLATION. COORDINATE EXACT ROUGH-IN LOCATIONS AND REQUIREMENTS WITH OTHER INSTALLING CONTRACTORS AS APPLICABLE PRIOR TO INSTALLATION.
- 18. ADA LAVATORIES AND SINKS SHALL BE PROVIDED WITH ADA INSULATED TRAP AND SUPPLY COVERS AS SPECIFIED.
- 19. ADA WATER CLOSETS SHALL BE INSTALLED WITH FLUSH VALVE ACTUATOR HANDLE LOCATED ON THE WHEEL CHAIR ACCESS SIDE
- 20. SHUTOFF VALVES, SHUT-OFF COCKS, WATER CONTROL DEVICES, CLEANOUTS, AND OTHER PIPING APPURTENANCES SHALL BE THE SAME SIZE AS PIPING SERVED UNLESS NOTED
- 21. REFER TO MECHANICAL DRAWINGS FOR MECHANICAL MANDATORY MEASURES AND ASSOCIATED REQUIREMENTS.
- 22. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF ALL FIRE RATED ASSEMBLIES. PROVIDE FIRESTOPPING AT PENETRATIONS THROUGH FIRE RETARDANT CONSTRUCTION IN ACCORDANCE WITH SPECIFICATIONS.
- 23. REFER TO GEO-TECH REPORT FOR INSTALLATION REQUIREMENTS REGARDING ANY PLUMBING METALLIC COMPONENTS THAT EXTENDS BELOW SLAB ON GRAD.

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15 APRIL 2013 **PLUMBING**

								FIXTURE SCHEDULE
		ROU	GH-IN	CONNE	CTION	SIZES	(IN)	
ITEM	FIXTURE TYPE	TRAP	WASTE	VENT	COLD	HOT	GAS	DESCRIPTION
WC-1	WATER CLOSET, ADA, FLR MNT, HARD WIRED SENSOR, 1.28 GPF	INT	4"	2"	1"	-	_	KOHLER "WELLWORTH HIGH EFFICIENCY BOWL" MODEL No. K-4405 WATER CLOSET, ADA COMPLIANT, FLOOR MOUNTED, 17" RIM HEIGHT, SIPHON JET ACTION, ELONGATED BOWL, WHITE VITREOUS CHINA, COMPLETE W/ SLOAN "CROWN OPTIMA" MODEL No. 111-1.28 ES-S HARD WIRED SENSOR ACTUATED FLUSH VALVE (1.28 GPF) W/ SLOAN MODEL No. EL 154 TRANSFORMER 120 V/24 VAC 50 VA, (OPERATES UP TO 10 WATER CLOSET OR URINAL FLUSHOMETER VALVES, PROVIDE QUANTITIES AS REQUIRED INSTALLED IN WALL ACCESS PANEL), & OLSONITE MODEL No. 95SSCT "STA-TITE" (AS MANUFACTURED BY BEMIS) WHITE ELONGATED OPEN FRONT SEAT LESS COVER W/ STAINLESS STEEL CHECK HINGE. INSTALL IN ACCORDANCE WITH ADA ACCESSIBILITY REQUIREMENTS.
L-1	LAVATORY, ADA, WALL MNT, HW/CW 0.5 GPM	1-1/4"	2"	1-1/2"	1/2"	1/2" TW	-	KOHLER MODEL No. K-2005 "KINGSTON" LAVATORY, ADA COMPLIANT, WHITE VITREOUS CHINA, WALL MOUNTED, CONCEALED HANGER, 4" CENTERS, W/ OVERFLOW, COMPLETE W/ SLOAN ETF-600 CHROME PLATED BRASS, SENSOR ACTIVATED, 4" CENTER-SET ELECTRONIC HAND WASHING FAUCET, INTEGRAL TEMPERATURE CONTROL & TEMPERATURE LIMIT, CALIF AB 1953 COMPLIANT (0.5 GPM), COMPLETE W/ SLOAN MODEL No. EL-248-40 120 VAC/24 VAC 60 HZ (40 VA) TRANSFORMER W/ BOX MOUNT (CAPABLE OF OPERATING UP TO TWO FAUCETS, PROVIDE QUANTITIES AS REQUIRED), McGUIRE MODEL No. 155A 1-1/4" CAST BRASS CHROME PLATED OPEN GRID P.O. PLUG, McGUIRE "PROWRAP VANDAL TRAP" MODEL No. PWV8090NC0 1-1/4" L.A. PATTERN P-TRAP WITH PRE-WRAPPED TRAP AND SUPPLY COVERS, GALVANIZED NIPPLE TRAP ARM W/ CHROMIUM PLATED BRASS CASING, CHICAGO "ECAST" MODEL No. 1017-ABCP LOOSE KEY STOPS WITH RIGID SUPPLIES, CALIF AB 1953 COMPLIANT, & MIFAB MODEL No. MC-41 FIXTURE CARRIER W/ CONCEALED ARMS. INSTALL IN ACCORDANCE WITH ADA ACCESSIBILITY REQUIREMENTS.
FD-1	FLOOR DRAIN, ROUND STRAINER	2"	2"	1-1/2"	_	_	_	MIFAB MODEL No. F1100-C5-3-7 FLOOR DRAIN, LAQUERED CAST IRON DRAIN BODY W/ ANCHOR FLANGE, CAST IRON MEMBRANE CLAMP RING W/ PRIMARY & SECONDARY WEEP HOLES, 5" DIAMETER ROUND STAINLESS STEEL STRAINER, & 1/2" TRAP SEAL PRIMER CONNECTION.
FD-2	FLOOR DRAIN, SEDIMENT BUCKET	4"	4"	2"	_	_	_	MIFAB MODEL No. F1340-TFB-4-7 FLOOR DRAIN, LAQUERED CAST IRON DRAIN DEEP SUMP BODY W/ ANCHOR FLANGE, WEEP HOLES, ADJUSTABLE COLLAR W/ 1" THICK X 12" DIAMETER ROUND DUCTILE IRON TRACTOR GRATE, "TRUE FIT" SEDIMENT BUCKET, 1/2" TRAP SEAL PRIMER CONNECTION.
RD-1	ROOF DRAIN		S	SEE PLANS	FOR SIZES	S.		MIFAB MODEL No. R1200-EU-B-M-U LAQUERED CAST IRON DEEP SUMP ROOF DRAIN W/ 15" DIA ANCHOR FLANGE, MEMBRANE CLAMP RING W/ INTEGRAL GRAVEL STOP, ADJUSTABLE EXTENSION FLANGE, SUMP RECEIVER, CAST IRON DOME STRAINER, & UNDERDECK CLAMP. ITEM SIZE SHALL CORRESPOND TO FULL LINE SIZE OF PIPING SERVED.
OD-1	OVERFLOW DRAIN		Ş	SEE PLANS	FOR SIZES	S.		MIFAB MODEL No. R1200-EU-B-M-R-U LAQUERED CAST IRON DEEP SUMP OVERFLOW DRAIN W/ 15" DIA ANCHOR FLANGE, MEMBRANE CLAMP RING W/ INTEGRAL GRAVEL STOP, ADJUSTABLE EXTENSION FLANGE, SUMP RECEIVER, CAST IRON DOME STRAINER, 2" EXTERNAL WATER DAM, & UNDERDECK CLAMP. ITEM SIZE SHALL CORRESPOND TO FULL LINE SIZE OF PIPING SERVED.
RHB-1	RECESSED HOSE BIBB, INTERIOR	-	-	_	3/4"	_	_	ACORN MODEL No. 8104 "LUMALOY RECESSED SINGLE TEMPERATURE HOSE BOX", CONCEALED BOX TYPE, ANTI-SIPHON VACCUUM BREAKER, 3/4" INLET AND OUTLET, LUMALOY BOX AND FRAME W/ ANODIZED SATIN FINISH, LOOSE KEY OPERATION.
RHB-2	RECESSED HOSE BIBB, EXTERIOR	-	-	_	3/4"	_	_	WOODFORD MODEL No. B75 "ANTI-SIPHON CLOSE COUPLED TRIMLINE WALL HYDRANT", CONCEALED BOX TYPE, ANTI-SIPHON VACCUUM BREAKER, 3/4" INLET AND OUTLET, 360° INLET ORIENTATION, STAINLESS STEEL OPERATING STEM, LOOSE KEY OPERATION, CHROME PLATED EXTERIOR FINISH, COMPLETE W/ MOUNTING BRACKET.
HB-1	HOSE BIBB, ROOFTOP, FREE STANDING	-	_	_	3/4"	_	-	WOODFORD MODEL No. Y24-CH "ANTI-SIPHON FAUCET", FREE STANDING TYPE, ANTI-SIPHON VACCUUM BREAKER, 3/4" FPT INLET AND 3/4" HOSE OUTLET, LOOSE KEY OPERATION, & CHROME EXTERIOR FINISH. SUPPLY PIPING SHALL BE SECURELY FASTENED TO ROOF DECKING WITH 3/4" NIBCO NO. 724-5-A "HY-SET HANGER COUPLING".
TP-1	TRAP PRIMER, ELECTRONIC, SINGLE DRAIN	-	-	_	3/4"	_	-	MIFAB MODEL No. MI-300-625-120VAC ELECTRONIC TRAP SEAL PRIMER WITH AIR GAP, DISTRIBUTION UNIT W/ 1 - 4 OPENING PORTS, & 120 VAC CONTROL UNIT. INSTALL COMPLETE W/WALL ACCESS PANEL, SHUT-OFF VALVE, & 1/2" TYPE "L" COPPER DRAIN LINE FROM TRAP SEAL PRIMER OUTLET TO RECEPTOR CONNECTION POINT.
TP-2	TRAP PRIMER, ELECTRONIC, MULTIPLE DRAIN	-	-	_	3/4"	_	_	MIFAB MODEL No. MI-100-8 ELECTRONIC TRAP SEAL PRIMER, W/ FLUSH MOUNTED BOX, 5 - 8 OPENING PORTS, ATMOSPHERIC VACUUM BREAKER, ELECTRONIC SOLENOID VALVE W/ 120 VAC CONNECTION, SHUT OFF VALVE, DISTRIBUTION UNITS, 24-HOUR TIMER W/ RELAY, & MANUAL OVER RIDE. INSTALL COMPLETE W/ WALL ACCESS PANEL & 1/2" TYPE "L" COPPER DRAIN LINE FROM TRAP SEAL PRIMER OUTLET TO EACH RECEPTOR CONNECTION POINT.
WHA-1	WATER HAMMER ARRESTOR	-	_	_	_	_	_	MIFAB MODEL No. MWH SERIES PISTON OPERATED WATER HAMMER ARRESTOR, HARD DRAWN SEAMLESS TYPE "K" COPPER BODY, MPT BRASS CONNECTION. INSTALL COMPLETE W/ WALL ACCESS PANEL. WATER HAMMER ARRESTORS SHALL BE SIZED IN ACCORDANCE W/ MFR'S SIZING CRITERIA PER FIXTURE UNIT CAPACITY SERVED AT EACH LOCATION/OCCURRANCE.
PRV-1	PRESSURE REDUCING VALVE		5	SEE PLANS	FOR SIZES	S.		WILKINS MODEL NO. 500XLYSBR-HR "WATER PRESSURE REDUCING VALVE WITH INTEGRAL BY-PASS CHECK VALVE", CALIF. AB 1953 COMPLIANT, 75 PSI TO 125 SPRING RANGE, FACTORY SET AT 85 PSI, FIELD RESET TO 80 PSI, THREADED CONNECTIONS (FNPT), COMPLETE W/ BRONZE "Y" TYPE STRAINER W/ 20 MESH STAINLESS STEEL SCREEN, GATE VALVES, AND UNIONS (APPLICABLE TO SIZES 1/2" THRU 3"). ITEM SIZE SHALL CORRESPOND TO FULL LINE SIZE OF PIPING SERVED.

	PUMP SCHEDULE														
				CAPA	CITY		ELE	ECTRIC	CAL						
ITEM	SERVICE	MFR / MODEL NO.	TYPE	GPM	HEAD	НР	VOLT	PHASE	CYCLE	RPM	OPERATING WEIGHT (LBS)	REMARKS			
SE-1	SANITARY SEWER	WEIL SN-2613-2	SUBMERSIBLE DUPLEX SEWAGE EJECTOR	20	12	1/2	208	3	60	1750	42	WITH REMOVAL SYSTEM.			

						INSTAI	NANI	EOUS	ELE	CTRIC	WATE	R HEATER SCHEDULE
ITEM	SERVICE	MFR / MODEL NO.	INCOMING COLD WATER TEMP (°F)	OUTGOING HOT WATER SETPOINT TEMP (°F)	FLOW RATE (GPM)	TEMP RISE (°F)	WATTS E	CTRIC	AL BHASE	BREAKER SIZE (AMPS)	OPERATING WEIGHT (LBS)	REMARKS
WH-1	DOMESTIC HOT WATER SYSTEM	CHRONOMITE MODEL No. SR-40	60	110 MAX.	1.0	57	8320	208	1	40		"INSTANT-FLOW SR STANDARD FLOW", W/ CAST ALUMINUM ALLOY HOUSING, CELCON WATERWAYS AND NICHROME HEATING COILS, OMNI-FAUCET FLOW CONTROL, FACTORY PRESET AT 110°F.



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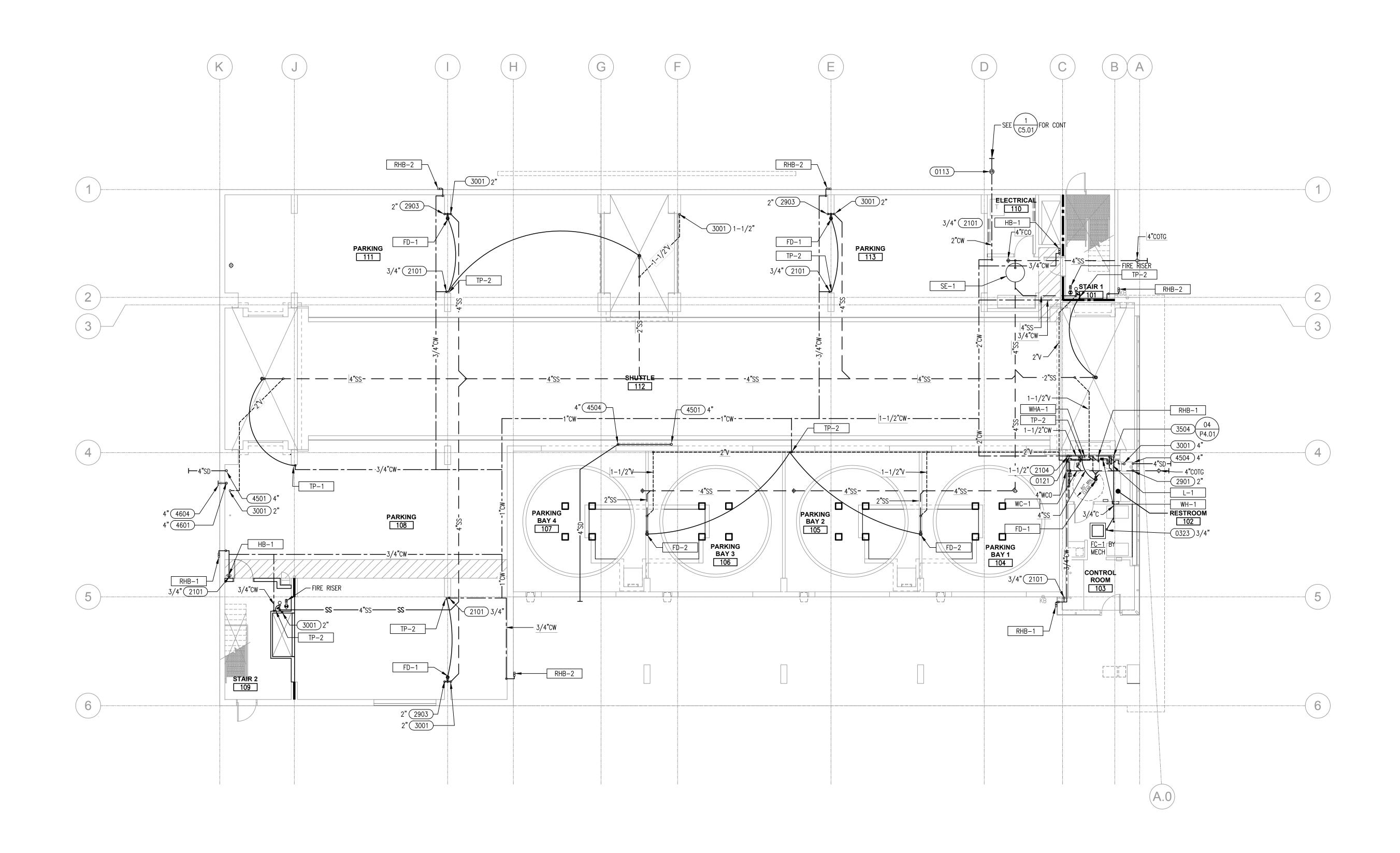
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DESIGN DEVELOPMENT		09/14/12
50% CD	2/10	01/28/13
PLAN CHECK	04//	04/15/13
PLAN CHECK RESUBMITTAL		08/29/13

15 APRIL 2013

PLUMBING SCHEDULES



FIRST FLOOR PLAN

KEYNOTES

- 0113 SHUTOFF VALVE BELOW FINISH GRADE IN YARD BOX.
- 0121 SHUTOFF COCK IN WALL ACCESS PANEL.
- O323 POC CONDENSATE PIPING TO MECHANICAL UNIT WITH CONDENSATE PUMP. CONDENSATE PUMP PROVIDED BY MECHANICAL CONTRACTOR.
- 2101 COLD WATER UP.
- (2104) COLD WATER DOWN IN WALL WITH PIPING HEADER.
- 2901 SANITARY SOIL/WASTE UP.
- 2903 SANITARY SOIL/WASTE UP & DOWN.
- 3001 SANITARY VENT UP.
- CONDENSATE DOWN IN WALL WITH INDIRECT WASTE CONNECTION TO LAVATORY TAILPIECE.
- 4501 STORM DRAIN UP.
- 4504 STORM DRAIN DOWN TO BELOW FINISH GRADE.
- 4601 OVERFLOW DRAIN UP.
- OVERFLOW DRAIN DOWN IN WALL, SPILL TO GRADE AT 9" ABOVE FINISH FLOOR ELEVATION.

NOTES

1. FOR CONTINUATION OF UTILITIES SEE SHEET C1.01.

FOR ADDITIONAL INFORMATION.

- 2. PROVIDE SLEEVES FOR PIPING PENETRATIONS THROUGH CONCRETE OR MASONRY WALLS, FOOTINGS, GRADE BEAMS OR OTHER SIMILAR STRUCTURAL ELEMENTS.
- SLEEVES SHALL BE MINIMUM 2 INCHES DIAMETER LARGER THAN THE PIPING SERVED. 3. LOCATIONS SHOWN FOR POC'S TO MECHANICAL UNITS ARE APPROXIMATE. COORDINATE EXACT ROUGH-IN LOCATIONS AND REQUIREMENTS WITH THE INSTALLING

MECHANICAL HVAC CONTRACTOR PRIOR TO INSTALLATION. SEE MECHANICAL DRAWINGS

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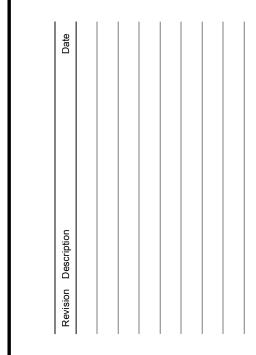
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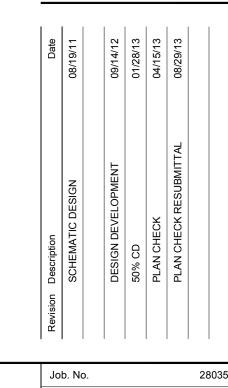
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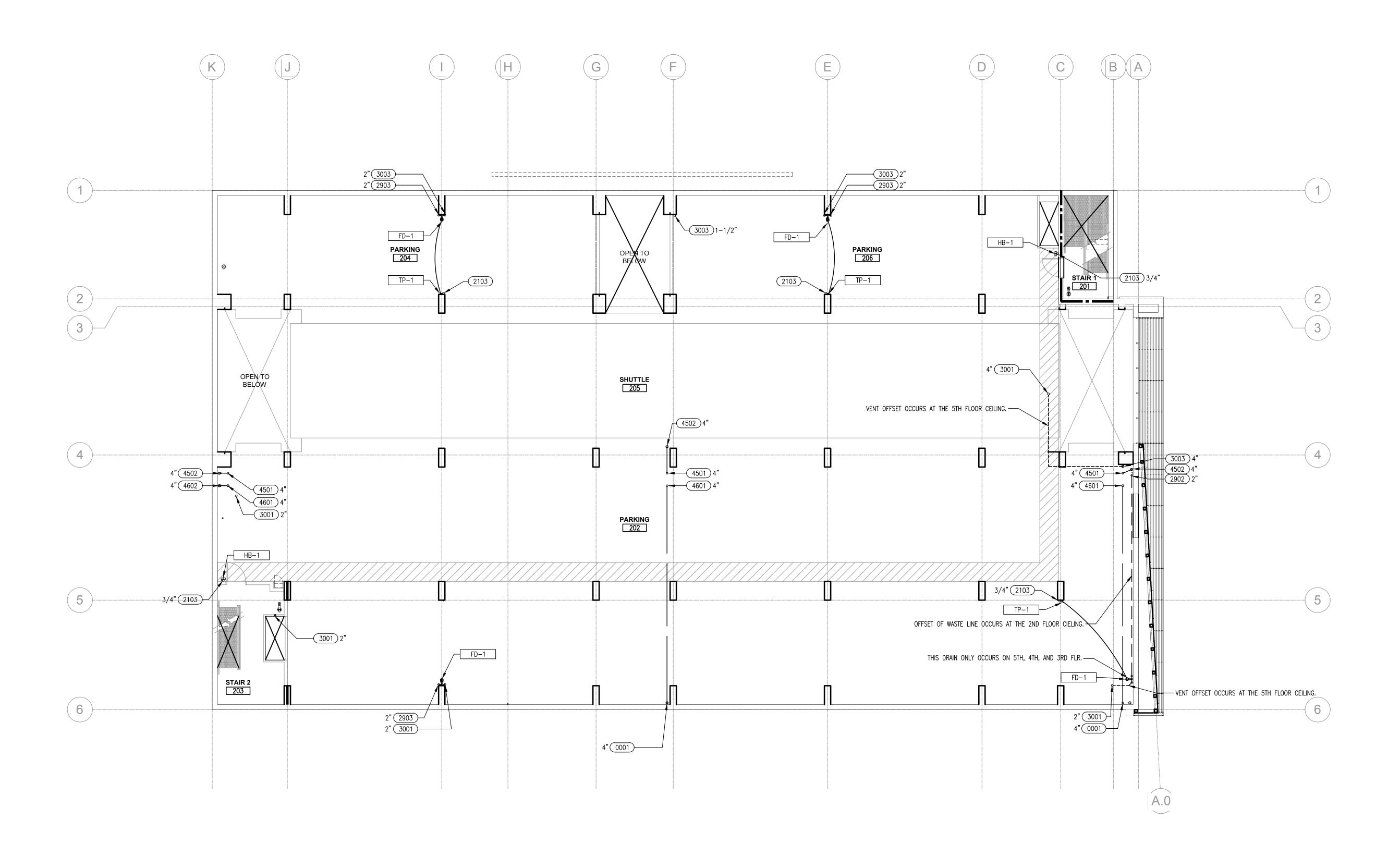
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15 APRIL 2013 1/8" = 1'-0" **FIRST FLOOR PLAN**

P2.01



SECOND THRU FIFTH FLOOR PLAN

KEYNOTES

- O001 OVERFLOW DRAIN TO DAYLIGHT THRU BOTTOM OF SECOND FLOOR. SPILL TO GRADE.
- 2103 COLD WATER UP & DOWN.
- 2902 SANITARY SOIL/WASTE DOWN.
- 2903 SANITARY SOIL/WASTE UP & DOWN.
- 3001 SANITARY VENT UP.
- 3003 SANITARY VENT UP & DOWN.
- 4501 STORM DRAIN UP.
- 4502 STORM DRAIN DOWN.
- 4601 OVERFLOW DRAIN UP.
- 4602 OVERFLOW DRAIN DOWN.

NOTES

1. FOR CONTINUATION OF UTILITIES SEE SHEET CIVIL.

FOR ADDITIONAL INFORMATION.

- 2. PROVIDE SLEEVES FOR PIPING PENETRATIONS THROUGH CONCRETE OR MASONRY WALLS, FOOTINGS, GRADE BEAMS OR OTHER SIMILAR STRUCTURAL ELEMENTS. SLEEVÉS SHALL BE MINIMUM 2 INCHES DIAMETER LARGER THAN THE PIPING SERVED.
- 3. LOCATIONS SHOWN FOR POC'S TO MECHANICAL UNITS ARE APPROXIMATE. COORDINATE EXACT ROUGH-IN LOCATIONS AND REQUIREMENTS WITH THE INSTALLING MECHANICAL HVAC CONTRACTOR PRIOR TO INSTALLATION. SEE MECHANICAL DRAWINGS

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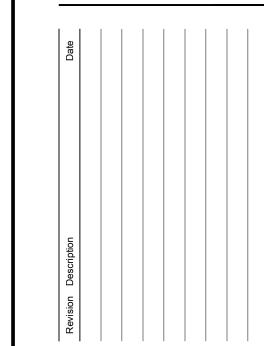
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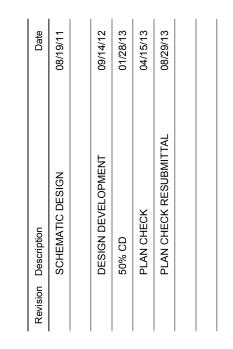


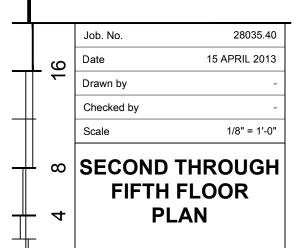


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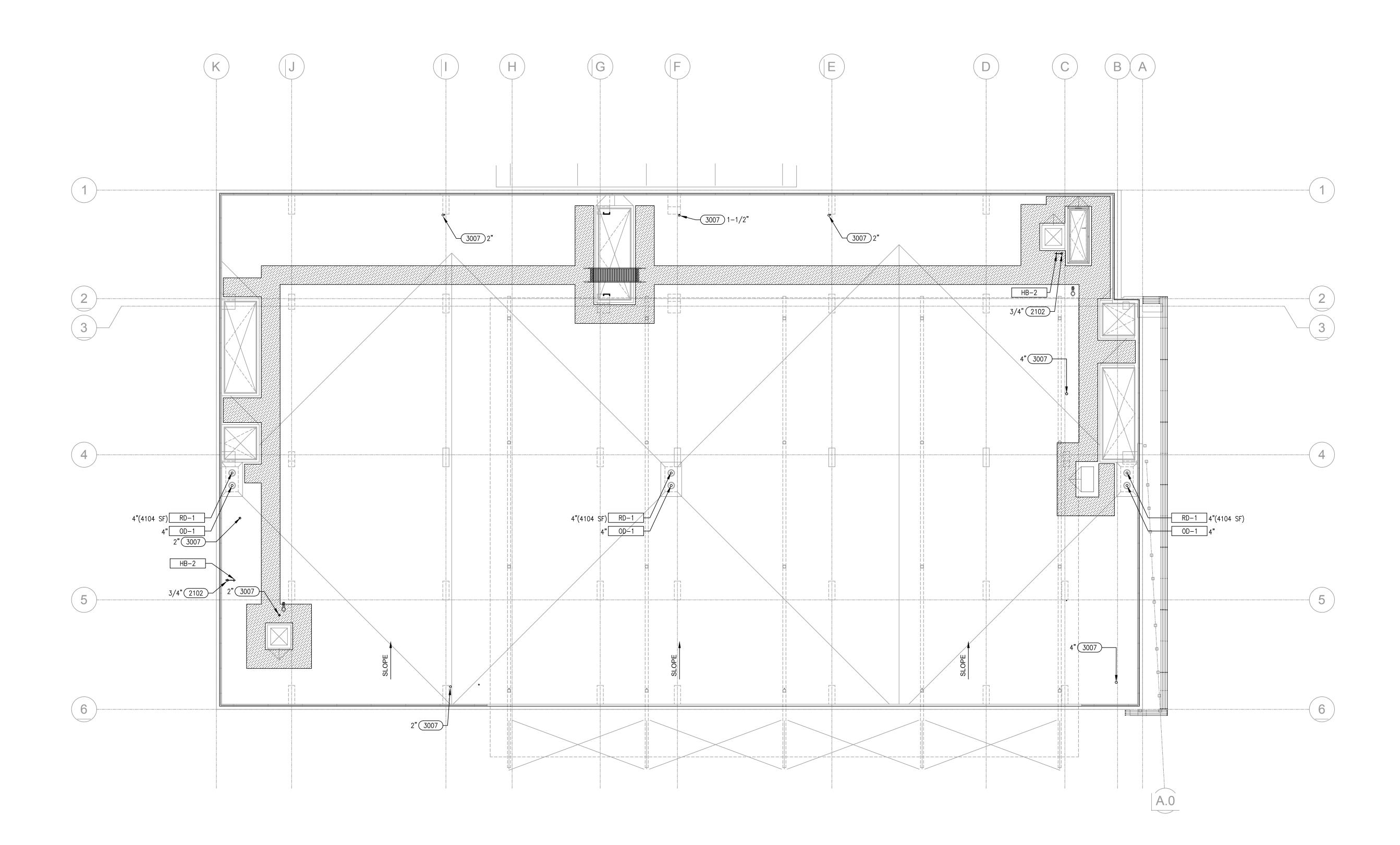
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P2.02



KEYNOTES 2102 COLD WATER DOWN.

3007 VENT THROUGH ROOF.

1. LOCATIONS SHOWN FOR POC'S TO MECHANICAL UNITS ARE APPROXIMATE.
COORDINATE EXACT ROOF PENETRATION AND ROUGH-IN LOCATIONS AND
REQUIREMENTS WITH THE INSTALLING MECHANICAL HVAC CONTRACTOR PRIOR TO
INSTALLATION. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

STORM DRAIN AND OVERFLOW DRAIN SYSTEM IS SIZED IN ACCORDANCE WITH 2010 CALIFORNIA PLUMBING CODE TABLE 11-2 BASED ON RAINFALL RATE OF 2 INCHES PER HOUR.

NOTES

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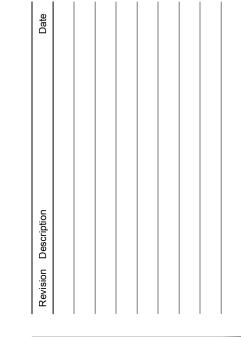
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DESIGN DEVELOPMENT	09/14/12
50% CD	01/28/13
PLAN CHECK	04/15/13
PLAN CHECK RESUBMITTAL	08/29/13

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NOTES:

A. <u>GENERAL.</u>

- 1. EXAMPLES SHOWN ARE TO ILLUSTRATE TYPICAL INSTALLATION CRITERIA FOR EXPOSED PLUMBING COMPONENTS IN RESTROOMS. SEE PLANS FOR SPECIFIC LOCATIONS, QUANTITIES, AND TYPES OF ITEMS AS APPLICABLE TO EACH RESTROOM. REFER TO CONTRACT DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS NOT ADDRESSED IN THIS DETAIL.
- 2. PROVIDE SHOP DRAWINGS INDICATING LOCATIONS OF ALL EXPOSED PLUMBING ELEMENTS IN RESTROOMS, INCLUDING BUT NOT LIMITED TO ACCESS PANELS, WALL CLEANOUTS, HOSE BIBBS, INSTANTANEOUS ELECTRIC WATER HEATERS, TEHRMOSTATIC MIXING VALVES, TRANSFORMERS, AND OTHER EXPOSED PLUMBING ELEMENTS AS APPLICABLE. INDICATE ALL SUCH ITEMS USING THE ARCHITECTURAL INTERIOR ELEVATIONS AS A BACKGROUND, WITH ALL ITEMS DIMENSIONALLY LOCATED AND DRAWN TO SCALE.
- 3. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS, ROUGH IN DIMENSIONS, AND MOUNTING HEIGHTS OF FIXTURES, EQUIPMENT, AND OTHER EXPOSED PLUMBING ELEMENTS.
- a. REFER TO PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
 b. IN THE EVENT OF A CONFLICT BETWEEN ARCHITECTURAL AND PLUMBING DOCUMENTS, SEEK ARCHITECT'S DIRECTION AND/OR APPROVAL PRIOR TO INSTALLATION.
- 4. WHERE A COMMON PLUMBING WALL SERVES BOTH MEN'S AND WOMEN'S RESTROOMS, ASSOCIATED ACCESS PANELS AND CLEANOUTS SHALL BE LOCATED ON THE MEN'S RESTROOM SIDE OF THE WALL.
- 5. ITEMS EXPOSED TO PUBLIC VIEW BELOW COUNTERS (I.E.: COUNTER-MOUNTED LAVATORY LOCATIONS) SHALL BE MOUNTED AS HIGH AS POSSIBLE TO MINIMIZE ANY VISUAL IMPACT.

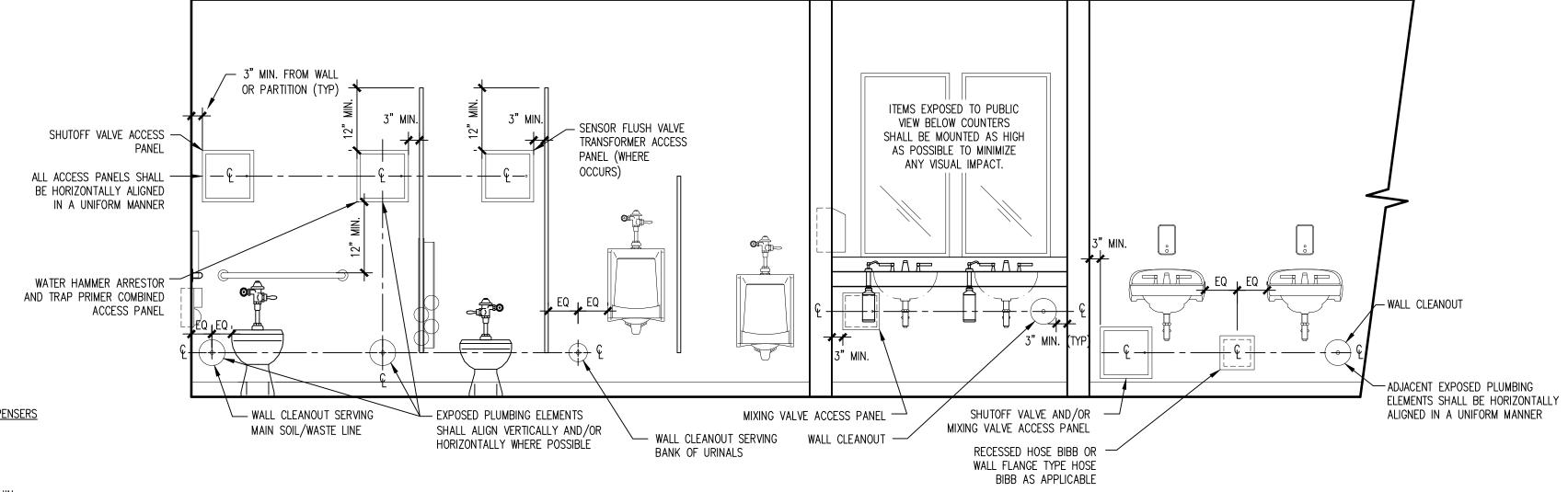
B. <u>CLEANOUTS</u>

 CLEANOUTS SHALL BE MOUNTED AS LOW AS POSSIBLE WHILE MAINTAINING ALIGNMENT WITH ADJACENT EXPOSED PLUMBING ELEMENTS, BUT NOT LESS THAT 12" ABOVE FINISHED FLOOR.

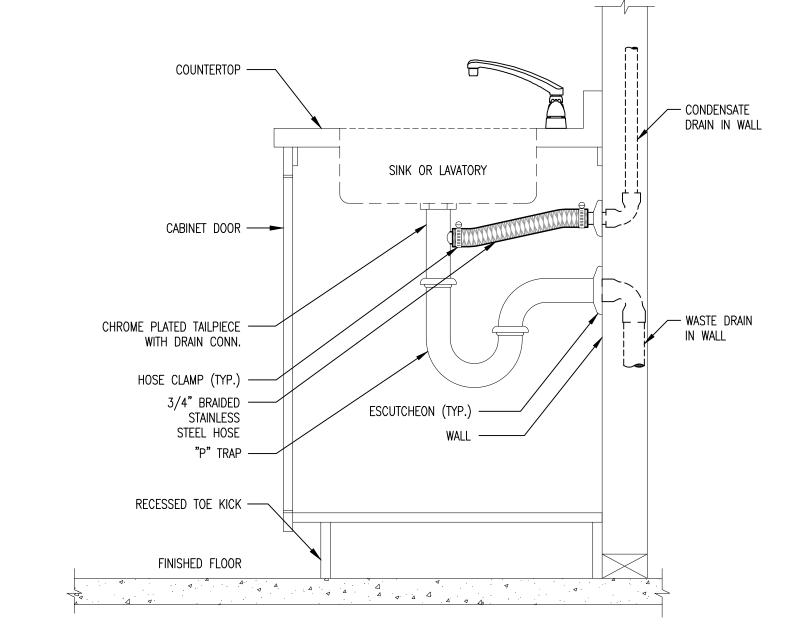
C. WALL ACCESS PANELS.

- 1. WHERE POSSIBLE, USE SAME ACCESS PANEL FOR PLUMBING COMPONENTS LOCATED WITHIN WALL DIRECTLY ADJACENT IN SAME IMMEDIATE VICINITY (I.E.: WATER HAMMER ARRESTORS INSTALLED DIRECTLY ADJACENT TO TRAP PRIMERS).
- 2. TYPICAL ACCESS PANELS SHALL BE 12"X12" SIZE, OR AS NECESSARY FOR PROPER OPERATION AND MAINTENANCE OF ITEMS INSTALLED WITHIN. WHERE ACCESS PANELS LARGER THAN 12"X12" ARE REQUIRED, CONTRACTOR SHALL SEEK ARCHITECT'S APPROVAL PRIOR TO INSTALLATION.
- 3. ACCESS PANELS SHALL BE INSTALLED IN A MANNER SUCH THAT DOOR SWING IS NOT IMPEDED BY ANY ADJACENT BUILDING ELEMENT. EXCEPTION: AT UNDER—COUNTER LOCATIONS, ACCESS PANELS SHALL BE MOUNTED AS HIGH AS POSSIBLE TO MINIMIZE VISUAL IMPACT. IN SUCH CASES, IT IS ACCEPTABLE FOR THE ACCESS PANEL TO BE LOCATED BEHIND A REMOVABLE PORTION OF SOAP DISPENSER BOTTLE IF CONDITION OCCURS.
- 4. ACCESS PANELS SHALL NOT OVERLAP PAINTED AND NON-PAINTED SURFACES SUCH AS TILE OR TERRAZO, AND SHALL BE MOUNTED SUCH THAT THE EDGE OF THE ACCESS PANEL IS MINIMUM 3" FROM THE EDGE OF ANY SUCH SURFACE.
- 5. CAREFULLY COORDINATE ALL ACCESS PANEL LOCATIONS WITH OTHER TRADES PRIOR TO INSTALLATION. PLUMBING COMPONENTS INSTALLED WITHIN ACCESS PANELS SHALL BE COORDINATED WITH THE FINALIZED ACCESS PANEL LOCATION SUCH THAT ITEMS ARE CENTERED WITHIN OPENING AND ARE FULLY ACCESSIBLE FOR OPERATION, MAINTENANCE, AND REPAIR.
- D. <u>ELECTRONIC SENSOR OPERATED FLUSH VALVES, FAUCETS, AND SOAP DISPENSERS</u>

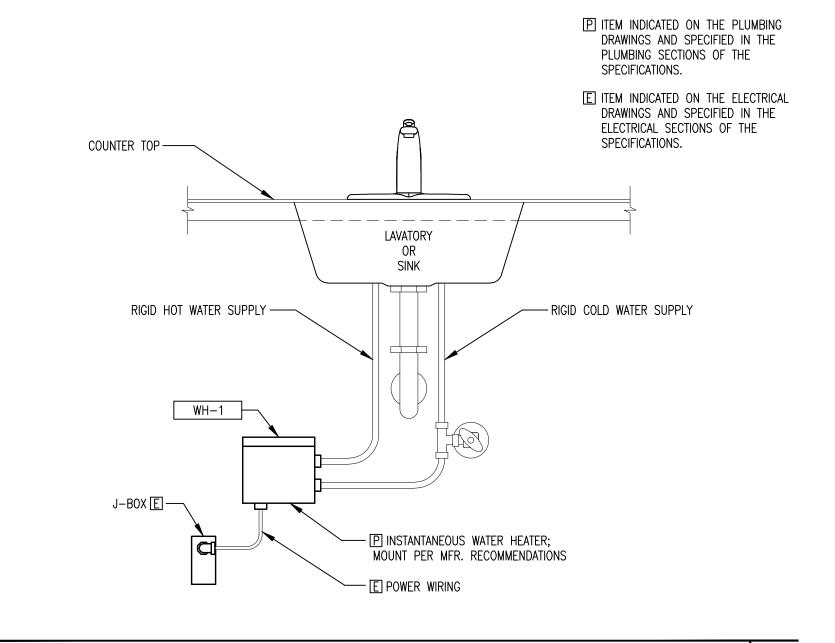
 1. TRANSFORMERS SERVING MULTIPLE TOILETS AND URINALS SHALL BE
 LOCATED BEHIND ONE CENTRAL ACCESS PANEL.
- TRANSFORMERS SERVING SENSOR FAUCETS AND SOAP DISPENSERS
 SHALL BE MOUNTED IN CONCEALED LOCATION AT THE REAR
 UNDERSIDE OF COUNTER WITH ALL WIRING CONCEALED AND RUN WITHIN
 CONDUIT IN ORDER TO MINIMIZE ANY VISUAL IMPACT OR EXPOSURE TO
 VANDALISM.



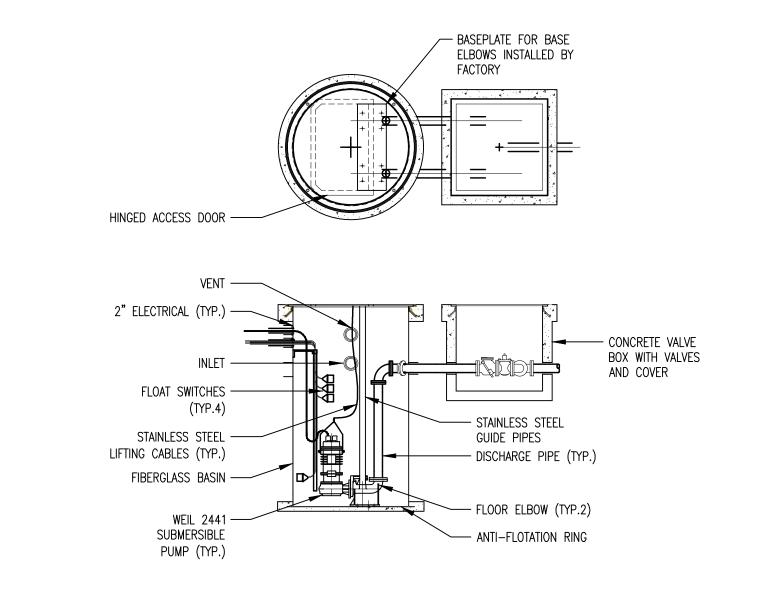
TYPICAL EXPOSED PLUMBING ELEMENTS IN RESTROOMS 01



CONDENSATE DRAIN TO TRAP 04



INSTANTANEOUS WATER HEATER 02



SEWAGE EJECTOR 03

T.PA

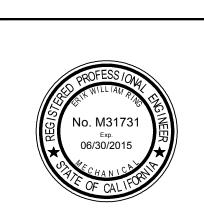
Architecture
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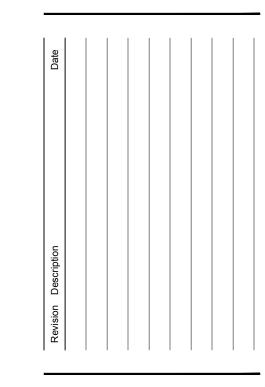


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Date	Description	Date	SCHEMATIC DESIGN	08/19/11
SCHEMATIC DESIGN	08/19/11			
SCHEMATIC DESIGN	08/19/11			
Dob. No.	Design Development	09/14/12		
Drawn by	DEAN CHECK RESUBMITTAL	08/29/13		
Checked by	Checke			

Job. No. 28035.4

Date 15 APRIL 201

Drawn by

Checked by

Scale

PLUMBING

DETAILS