

GENERAL NOTES

MECHANICAL (HVAC) WORK CONSISTS OF ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES NECESSARY FOR AND INCIDENTAL TO THE EXECUTION AND COMPLETION OF THE SYSTEMS AS INDICATED ON THESE DRAWINGS.

SUBMITTAL REQUIREMENTS:

WITHIN 15 DAYS OF CONTRACT AWARD, THE HVAC CONTRACTOR SHALL SUBMIT COMPLETE APPLICABLE PRODUCT, EQUIPMENT, AND MATERIAL INFORMATION IN THE FORM OF AN ELECTRONIC SUBMITTAL (PDF). NO PRODUCT, EQUIPMENT, OR MATERIAL SHALL BE ORDERED OR INSTALLED UNTIL SUBMITTALS ARE APPROVED BY THE MECHANICAL ENGINEER. ANY ITEM NOT INCLUDED IN THE SUBMITTAL SHALL BE PROVIDED WITHOUT SUBSTITUTION. SUBMITTAL INFORMATION SHALL INCLUDE: MANUFACTURER'S NAME AND CATALOGUE NUMBERS, DIMENSIONS, CAPACITIES, PERFORMANCE CURVES, AND ALL OTHER CHARACTERISTICS AND ACCESSORIES AS LISTED IN THE CONTRACT DOCUMENTS. THE INFORMATION SHALL BE CURRENT MANUFACTURER'S SUBMITTALS AND BROCHURES.

SUBMITTALS FOR ANY EQUIPMENT SUBSTITUTED AS EQUIVALENT TO THE SCHEDULED EQUIPMENT SHALL INCLUDE TABULATED COMPARISON DATA SO AS TO CLEARLY DEMONSTRATE EQUIVALENCY. THIS DATA SHALL SPECIFICALLY INCLUDE COMPARISONS BETWEEN SCHEDULED AND PROPOSED EQUIPMENT IN THE FOLLOWING AREAS:

- WEIGHT (INCLUDING CURBS AND ACCESSORIES)
- DIMENSIONS
- ELECTRICAL AND GAS REQUIREMENTS (VOLTAGE, PHASE, FULL LOAD AMPS & BTU)
- SOUND LEVELS (WHERE APPLICABLE)
- PERFORMANCE (EFFICIENCIES, HEATING, COOLING, AIR FLOW, STATIC PRESS.)

THE HVAC CONTRACTOR SHALL SECURE AND PAY FOR ALL NECESSARY PERMITS AND INSPECTIONS REQUIRED FOR THE INSTALLATION OF THIS WORK.

ALL WORK INDICATED ON THESE PLANS SHALL BE DONE IN COMPLIANCE WITH CURRENT STATE AND LOCAL CODES AND ALL APPLICABLE CALIFORNIA TITLE-24 REQUIREMENTS. IN THE EVENT OF CONFLICT BETWEEN CODES, THE MORE RESTRICTIVE REQUIREMENTS SHALL BE EXERCISED.

ALL WORK SHALL COMPLY WITH MANUFACTURER'S INSTALLATION REQUIREMENTS. VERIFY COMPLIANCE WITH MANUFACTURER'S INSTALLATION REQUIREMENTS BEFORE PROCEEDING WITH INSTALLATION. THE MECHANICAL CONTRACTOR SHALL CONTACT JVA MECHANICAL ENGINEERING IN THE EVENT THAT DESIGN DRAWINGS CONFLICT WITH MANUFACTURER'S INSTALLATION REQUIREMENTS.

NOTHING IN THESE DRAWINGS AND/OR SPECIFICATIONS SHALL BE INTERPRETED TO CONFLICT WITH ANY CITY OF STATE LAW, REGULATION, CODE, ORDINANCE, RULING, OR FIRE UNDERWRITER'S REQUIREMENT APPLICABLE TO THIS CLASS OF WORK.

CONSTRUCTION AND/OR ENGINEERING COSTS RESULTING FROM PRODUCT SUBSTITUTIONS SHALL BE PAID BY THE HVAC CONTRACTOR. APPROVAL OF SUBSTITUTED PRODUCTS DOES NOT NEGATE THIS OBLIGATION.

SMOKE DETECTORS ASSOCIATED WITH SMOKE DAMPERS AND HVAC SHUTOFFS SHALL HAVE SPECIAL MECHANICAL INSPECTIONS AND SHALL BE TESTED BY AN APPROVED TESTING AGENCY OF A QUALIFIED THIRD PARTY SPECIAL INSPECTOR. THE SPECIAL MECHANICAL INSPECTOR/TESTING AGENCY SHALL BE AN INDEPENDENT THIRD PARTY INDIVIDUAL OR FIRM AND SHALL NOT BE THE INSTALLING CONTRACTOR. THE SPECIAL MECHANICAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT TO THE BUILDING INSPECTOR PRIOR TO CITY ISSUANCE OF FINAL INSPECTION APPROVAL OR OCCUPANCY APPROVAL, INCLUDING CONDITIONAL OCCUPANCY APPROVAL.

THE HVAC CONTRACTOR SHALL COORDINATE THE INSTALLATION OF AIR TERMINALS WITH THE REFLECTED CEILING PLAN, AND VERIFY CORRECT LOCATION OF ALL EQUIPMENT, PIPING, PLUMBING, AND ELECTRICAL SERVICES, AND DUCTING BEFORE PROCEEDING WITH FABRICATION AND INSTALLATION.

ALL LOCATIONS OF DUCTWORK, EQUIPMENT, AND PIPING ARE SHOWN DIAGRAMMATICALLY. THE HVAC CONTRACTOR SHALL ADHERE TO LOCATIONS INDICATED ON THE DRAWINGS AS CLOSELY AS POSSIBLE, VARYING DUCT RUNS AND/OR SHAPE OF DUCTWORK AS REQUIRED TO MEET STRUCTURAL AND OTHER INTERFERENCES AS REQUIRED BY THE PROJECT.

THE HVAC CONTRACTOR SHALL PROVIDE ACCESS PANELS WHERE REQUIRED FOR ALL DAMPERS, EQUIPMENT, MAINTENANCE, AND CONTROLS.

ALL HVAC EQUIPMENT, DUCTING, AND ACCESSORIES SHALL BE PROVIDED WITH SEISMIC RESTRAINING SERVICES AS REQUIRED BY LOCAL BUILDING CODES.

DUCT DIMENSIONS SHOWN ARE INTERNAL.

ALL EQUIPMENT SHALL BE FURNISHED AND INSTALLED WITH AT LEAST THE MANUFACTURER'S MINIMUM RECOMMENDED CLEARANCE ALLOWANCE FOR SUFFICIENT ACCESS TO CONTROLS, FILTERS, ELECTRIC MOTORS, ETC. FOR MAINTENANCE AND PROPER OPERATION.

THE WORK UNDER THIS SECTION SHALL BE IN COOPERATION WITH THE WORK OF OTHER TRADES TO PREVENT CONFLICT OR INTERFERENCE AND TO AID RAPID COMPLETION OF THE OVERALL PROJECT.

THE HVAC CONTRACTOR SHALL GUARANTEE THAT THE SYSTEMS INSTALLED ARE IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND WILL WARRANT ALL MATERIALS, MATERIALS, AND LABOR FURNISHED UNDER THIS CONTRACT TO BE FREE FROM DEFECTS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION. THE HVAC CONTRACTOR SHALL REPAIR OR REPLACE ANY EQUIPMENT OR MATERIAL, WHICH IS DEFECTIVE OR IMPROPERLY INSTALLED. IN ADDITION, THE HVAC CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY DAMAGE TO THE BUILDINGS AND ITS CONTENTS OR OTHER EQUIPMENT, CAUSED BY DEFECTS OR IMPROPER INSTALLATION OF EQUIPMENT OR MATERIALS INSTALLED UNDER THIS SECTION OF THE SPECIFICATIONS. IN THE EVENT OF FAILURE TO COMPLY WITH THE ABOVE-MENTIONED CONDITIONS WITHIN TEN (10) DAYS AFTER BEING NOTIFIED IN WRITING, THE HVAC CONTRACTOR SHALL COLLECTIVELY OR SEPARATELY AUTHORIZE THE OWNER TO PROCEED TO HAVE SAID DEFECTS REPAIRED AND MADE GOOD AT THE CONTRACTOR'S EXPENSE. THE HVAC CONTRACTOR WILL HONOR AND PAY THE SAID COSTS AND CHARGES ON DEMAND.

BY JVA MECHANICAL ENGINEERING, ALL COMMON LAW, COPYRIGHT, AND OTHER PROPERTY RIGHTS RESERVE THESE DOCUMENTS AS ORIGINAL AND UNPUBLISHED WORK PRODUCT OF JVA MECHANICAL ENGINEERING, AND THIS WORK SHALL NOT BE COPIED, DISCLOSED, OR USED IN CONNECTION WITH ANY WORK PROJECT OTHER THAN THE SPECIFIC PROJECT FOR WHICH IT HAS BEEN PREPARED OR ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF JVA MECHANICAL ENGINEERING. VISUAL CONTACT WITH THIS DOCUMENT SHALL CONSTITUTE EVIDENCE OF ACCEPTANCE OF THESE RESTRICTIONS.

THE HVAC CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS OF THE JOB. UPON DISCOVERY OF ANY VARIATION, DISCREPANCY, OR OMISSIONS, NOTIFY JVA MECHANICAL ENGINEERING AND PRIOR TO PROCEEDING WITH RELATED WORK, OBTAIN WRITTEN RESOLUTION FROM JVA MECHANICAL ENGINEERING.

SPECIFICATIONS

MECHANICAL: THE WORK UNDER THIS SECTION INCLUDES EVERYTHING NECESSARY FOR AND INCIDENTAL TO EXECUTING AND COMPLETING THE MECHANICAL/PLUMBING WORK, EXCEPT AS HEREINAFTER SPECIFICALLY EXCLUDED. WORK INCLUDED SHALL BE AS INDICATED ON THE DRAWINGS COMPLETELY INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

- MECHANICAL EQUIPMENT
- AIR DISTRIBUTION
- CONTROLS
- CONDUIT AND WIRE BALANCE
- REQUIRED SUPPORTS AND BLOCKING

RELATED WORK: THE FOLLOWING WORK SHALL NOT BE FURNISHED UNDER THIS SECTION OF THE SPECIFICATIONS BUT WILL BE INCLUDED IN OTHER SPECIFICATIONS SECTIONS:

- CUTTING, PATCHING, AND FURRING
- CONDUIT AND WIRE VOLTAGE ELECTRICAL
- FINAL PAINTING
- ROOFING
- CONCRETE PLACEMENT

RIGID ROUND DUCTWORK AND FITTINGS:

- ALL RIGID ROUND DUCTWORK SHALL BE UNITED STEEL METAL SPIRAL LOCKSEAM DUCT, OR APPROVED EQUAL, MANUFACTURED FROM GALVANIZED STEEL MEETING THE ASTM A-527-71. ALL DUCT GAUGES SHALL CONFORM WITH CMC 2013 CHAPTER 6 & APPENDIX A

- ALL FITTINGS SHALL BE MANUFACTURED AS SEPARATE FITTINGS. NO BRANCH TAPS WILL BE ALLOWED.

FLEXIBLE DUCT:

- FLEXIBLE AIR DUCTS SHALL BE THERMAFLEX M-KT(R=8.0), OR APPROVED EQUAL AND SHALL BE INSTALLED IN ACCORDANCE WITH THE INSTALLATION INSTRUCTIONS. CONNECTIONS AND SUPPORTS SHALL BE IN ACCORDANCE WITH THE 2013 CMC.

RECTANGULAR DUCTWORK:

- ALL RECTANGULAR DUCTWORK, FITTINGS, AND ACCESSORIES SHALL BE FABRICATED AND INSTALLED IN STRICT ACCORDANCE TO THE "SMACNA "HVAC DUCT CONSTRUCTION STANDARDS" HANDBOOK, AND SHALL BE PRIME GRADE GALVANIZED STEEL SHEETS OF LOCK FORM QUALITY.

DUCTWORK SEALING:

FIELD-FABRICATED DUCT SYSTEMS:

- A. FACTORY-MADE RIGID FIBERGLASS AND FLEXIBLE DUCTS FOR FIELD-FABRICATED DUCT SYSTEMS SHALL COMPLY WITH UL 181. ALL PRESSURE-SENSITIVE TAPES, MASTICS, AEROSOL SEALANTS OR OTHER CLOSURE SYSTEMS USED FOR INSTALLING FIELD-FABRICATED DUCT SYSTEMS SHALL MEET THE APPLICABLE REQUIREMENTS OF UL 181, UL 181A AND UL 181B.
- B. MASTIC SEALANTS AND MESH:

- I. SEALANTS SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF UL 181, UL 181A AND UL 181B, AND BE NONTOXIC AND WATER RESISTANT.

- II. SEALANTS FOR INTERIOR APPLICATIONS SHALL PASS ASTM TESTS C 731 (EXTRUDABILITY AFTER AGING) AND D 2202 (SLUMP TEST ON VERTICAL SURFACES), INCORPORATED HEREIN BY REFERENCE.

- III. SEALANTS FOR EXTERIOR APPLICATIONS SHALL PASS ASTM TESTS C 731, C 732 (ARTIFICIAL WEATHERING TEST), AND D 2202, INCORPORATED HEREIN BY REFERENCE.

- IV. SEALANTS AND MESHES SHALL BE RATED FOR EXTERIOR USE.

- C. PRESSURE-SENSITIVE PRESSURE-SENSITIVE TAPES SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF UL 181, UL 181A AND UL 181B.

- D. JOINTS AND SEAMS OF DUCT SYSTEMS AND THEIR COMPONENTS SHALL NOT BE SEALED WITH CLOTH-BACK RUBBER ADHESIVE DUCT TAPES UNLESS SUCH TAPE IS USED IN COMBINATION WITH MASTIC AND DRAW BANOS.

- E. DRAWBANOS USED WITH FLEXIBLE DUCT:

- I. DRAWBANOS SHALL BE EITHER STAINLESS-STEEL WORM-DRIVE HOSE CLAMPS OR UV-RESISTANT NYLON DUCT TIES.

- II. DRAWBANOS SHALL HAVE A MINIMUM TENSILE STRENGTH RATING OF 150 POUNDS.

- F. AEROSOL-SEALANT CLOSURES:

- I. AEROSOL SEALANTS SHALL MEET THE REQUIREMENTS OF UL 723 AND BE APPLIED ACCORDING TO MANUFACTURER SPECIFICATIONS.

- II. TAPES OR MASTICS USED IN COMBINATION WITH AEROSOL SEALING SHALL MEET THE REQUIREMENTS OF THIS SECTION.

DUCT INSULATION:

- EXTERNAL DUCT INSULATION SHALL BE APPLIED TO ALL HEATING AND/OR COOLING DUCTS NOT INTERNALLY INSULATED AND NOT WITHIN CONDITIONED SPACES. MANVILLE MICROLITE FSK-1-1/2", R-SERIES, ALUMINUM FOIL REINFORCED WITH FIBERGLASS, SCRIAM LAMINATED KRAFT, WITH R=6.0, SHALL BE USED OR APPROVED EQUAL. CIRCUMFERENTIAL AND LONGITUDINAL SEAMS SHALL BE LAPPED MINIMUM OF 2" AND SECURED WITH 3" WIDE PRESSURE-SENSITIVE FOIL VAPOR BARRIER TAPE. FURTHER ATTACH INSULATION TO THE DUCTWORK BY SPIRALING WIRE AT 12" CENTERS ITS ENTIRE LENGTH. THE FINISHED PRODUCT SHALL BE VAPOR-PROOF AND FREE OF SAGS.

- INTERNAL DUCT INSULATION SHALL BE LIMITED TO MAXIMUM 20" DIRECTLY UPSTREAM/DOWNSTREAM OF AIR HANDLING UNITS FOR NOISE ATTENUATION. PROCEDURE MUST COMPLY WITH THE RECOMMENDATIONS OF THE "SHEET METAL AND AIR CONDITIONING CONTRACTOR'S NATIONAL ASSOCIATION'S DUCT LINER APPLICATIONS" STANDARD, SECOND EDITION. INSULATION SHALL BE R-8 CLOSED-CELL ELASTOMERIC AND ADHERED WITH 100% COVERAGE OF ADHESIVE. ALL EXPOSED EDGES SHALL BE COVERED WITH ADHESIVE. METAL FASTENERS SHALL BE USED IN ADDITION TO ADHESIVE.

CONTROLS:

- THERMOSTATS SHALL BE AS INDICATED ON PLANS AND MOUNTED AT 48" ABOVE FINISHED FLOOR (MEASURED FROM THE TOP OF THE OUTLET BOX) AND NO LESS THAN 15" ABOVE FINISHED FLOOR (MEASURED FROM THE BOTTOM OF THE OUTLET BOX). ALL LOW VOLTAGE WIRE, WIRING, AND CONNECTIONS ARE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR. ALL THERMOSTATS SHALL BE 2013 T24 COMPLIANT. EVAPORATOR FANS TO RUN CONTINUOUSLY DURING OCCUPIED HOURS.

REFRIGERANT PIPING:

- ASTM-B-280, H88 HARD DRAWN (ACR), FITTINGS: ASME B1622 LONG RADIUS WROUGHT COPPER
- JOINTS: BRAZED, AWS A5.8B/CUP
- TEST WITH NEW DRY NITROGEN TO NO LEAKAGE WITH HALIDE TORCH AT 200 PSIG AND 21 INCHES VACUUM
- PROVIDE 3/4" THICK CLOSED CELL POLYETHYLENE ASTM D1056 PIPE INSULATION

EXECUTION (MECHANICAL):

- BENDING OR FORCING OF DUCTWORK IS NOT ALLOWED. USE FITTINGS FOR ALL OFFSETS OR CHANGES IN ALIGNMENT OF DUCTING.

- DUCTING AND REFRIGERANT PIPING SHALL BE FIRMLY HELD IN PLACE BY ADJUSTABLE HANGERS, SUPPORTS, AND PIPE RESTS. ALL HANGERS AND SUPPORTS SHALL BE OF DESIGN WHICH WILL SUPPORT WEIGHT OF DUCT/PIPE, FLUID, INSULATION, AND PREVENT SAGGING. MAKESHIFT DEVICES ARE NOT ACCEPTABLE. PLUMBER'S KEY IS NOT APPROVED.

- REFRIGERANT PIPING SHALL BE ISOLATED FROM ALL DIRECT CONTACT WITH THE STRUCTURE BY THE USE OF MANUFACTURED HANGER ISOLATORS AND STUP ISOLATION DEVICES.

- PROVIDE FIRE STOPPING AND SLEEVES FOR PIPING PENETRATIONS OF FIRE-RATED WALLS, FLOORS, AND CEILINGS. METHOD OF SLEEVING AND FIRE STOPPING SHALL BE APPROVED BY FIRE MARSHALL.

- WHERE APPLICATIONS ARE NOT SPECIFICALLY COVERED IN THIS SECTION, FOLLOW MANUFACTURER'S INSTRUCTIONS. ALL DISCREPANCIES MUST BE REPORTED TO THE ARCHITECT FOR APPROVAL BEFORE STARTING WORK.

- ALL EXPOSED DUCTWORK, TAPS AND REGISTERS SHALL BE LEVEL, STRAIGHT AND FREE OF DEFECTS. ALL DAMPERS AND REGISTERS MUST BE INSTALLED AS TO NOT WHISTLE OR RATTLER.

- ALL FLEXIBLE DUCTWORK MUST BE RUN AS STRAIGHT AS POSSIBLE WITHOUT TIGHT BENDS. USE AN ELBOW ANYWHERE A 2' RADIUS CANNOT BE ACHIEVED.

- AT THE TIME OF ROUGH INSTALLATION OR DURING STORAGE ON THE CONSTRUCTION SITE AND UNTIL FINAL STARTUP OF THE HEATING AND COOLING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST OR DEBRIS WHICH MAY COLLECT IN THE SYSTEM.

- PROVIDE UV PROTECTIVE COATING/CONVEYING ON ALL INSULATION WHERE EXPOSED TO SUNLIGHT

- AN AIR BALANCE REPORT PROVIDED BY A QUALIFIED NEERB OR AABC CONTRACTOR IS REQUIRED TO BE PROVIDED TO THE MECHANICAL ENGINEER FOR HVAC SYSTEMS PERFORMANCE WITH COMPLETED TITLE 24 INSTALLATION AND TESTING DOCUMENTATION FORMS. AIR BALANCE REPORTS TO INCLUDE THE FOLLOWING INFORMATION:

- FAN SPEEDS (RATED AND ACTUAL)
- MOTOR CURRENT (RATED AND ACTUAL)
- AIR QUANTITIES AT OUTLETS AND INLETS (RATED)
- AIR QUANTITIES AT OUTLETS AND INLETS ADJUSTED TO WITHIN 10% OF DESIGN
- SUPPLY AIR EXTERNAL STATIC PRESSURE ("W.G.)
- RETURN AIR EXTERNAL STATIC PRESSURE ("W.G.)
- TOTAL SUPPLY AIR CFM
- TOTAL RETURN AIR CFM
- TOTAL OUTSIDE AIR CFM
- EQUIPMENT NAME/PLATE DATA
- HVAC CONTROLS
- WATER HEATER OUTLET TEMPERATURE

- PROVIDE BUILDING OWNER WITH DETAILED OPERATION AND MAINTENANCE INSTRUCTIONS UPON JOB COMPLETION, O&M MANUAL TO INCLUDE FINAL APPROVED COPIES OF ALL INSPECTION AND TAB REPORTS REQUIRED BY ENFORCING AGENCY AS WELL AS ALL GUARANTEES/WARRANTIES FOR EACH SYSTEM PRIOR TO FINAL INSPECTION

COMMISSIONING (MECHANICAL):

- THIS PROJECT WILL BE COMMISSIONED AS REQUIRED BY TITLE 24-2016. REFER TO PART 6 (ENERGY REQUIREMENTS) AND PART 11(CALCULATED) FOR SPECIFIC CONTRACTOR REQUIREMENTS AND ACTIVITIES REQUIRED TO SUPPORT AND COMPLETE THE COMMISSIONING PROCESS.

- THE CONTRACTOR SHALL COORDINATE ALL SUB-CONTRACTORS AND ENSURE PARTICIPATION OF THE ENTIRE COMMISSIONING PROCESS.

- THE CONTRACTOR SHALL PARTICIPATE AND PROVIDE TECHNICIANS TO COMPLETE THE FUNCTIONAL TESTING AS DIRECTED BY THE PROJECT COMMISSIONING AUTHORITY AND THE COMMISSIONING PLAN.

- THE CONTRACTOR SHALL PARTICIPATE IN ALL COMMISSIONING MEETINGS AS CALLED BY THE PROJECT COMMISSIONING AGENT.

- THE PROJECT WILL COMMISSION ALL HVAC SYSTEMS INCLUDING CONTROLS

- THE CONTRACTOR SHALL COMPLETE ALL ACCEPTANCE TESTS PRIOR TO FUNCTIONAL TESTING AND SUBMIT TO CXA FOR REVIEW AND APPROVAL

- THE CONTRACTOR SHALL COMPLETE ALL ACTIVITIES AS OUTLINED IN THE PROJECT COMMISSIONING PLAN.

VARIABLE REFRIGERANT FLOW HVAC SCHEDULE

OUTDOOR HEAT PUMP											
SYMBOL	NOM TONS	MFG	MODEL	TOT. COOLING		TOT. HEATING		ELECTRICAL REQUIREMENTS			NOTES
				MBTU	(SEER)	MBTU	COP	POWER	MODULE 1	MODULE 2	
HP-1	28.0	MITSUBISHI	PURY-P336TSLMU-A	336.0	9.9	378.0	3.19	208/230-3-60	68.0MCA/110MCOF	68.0MCA/110MCOF	1,400 6,7
HP-2	10.0	MITSUBISHI	PURY-P120TSLMU-A	120.0	12.0	136.0	3.25	208/230-3-60	42.0MCA/68MCOF	42.0MCA/68MCOF	700 6,7
HP-3	5.0	MITSUBISHI	PLMY-P60KMU1	60.0	11.1	66.0	3.7	208/230-1-60	36.0MCA/40MCOF	36.0MCA/40MCOF	300 7
HP-4	1.5	MITSUBISHI	MUZ-GE18NA-1	17.2	(19.2)	21.6	3.77	208/230-1-60	14.0MCA/15MCOF	14.0MCA/15MCOF	120 8
HP-5	3.0	MITSUBISHI	MUY-036NA	34.6	(15.1)	-	-	208/230-1-60	21.0MCA/25MCOF	21.0MCA/25MCOF	126 8

INDOOR FAN COIL											
SYMBOL	MFG	MODEL	MATHING OUTDOOR UNIT	MATHING BRANCH CONTROLLER	COOLING (BTU/H)	HEATING (BTU/H)	POWER	CFM	OAI CFM	E.S.P. ("WG)	NOTES
FC-1	MITSUBISHI	PEFY-P40NMU-E3	HP-1	BC-1	48,000	54,000	208/230-1-60	1,400	280	0.50"	1,324
FC-2	MITSUBISHI	PEFY-P72NMU-E	HP-1	BC-1	72,000	80,000	208/230-1-60	2,160	790	0.50"	1,234
FC-3	MITSUBISHI	PEFY-P12NMU-E3	HP-1	BC-1	12,000	13,500	208/230-1-60	370	70	0.50"	1,234
FC-4	MITSUBISHI	PEFY-P12NMU-E3	HP-1	BC-1	12,000	13,500	208/230-1-60	370	110	0.50"	1,234
FC-5	MITSUBISHI	PEFY-P24NMU-E3	HP-1	BC-1	24,000	27,000	208/230-1-60	800	100	0.50"	1,234
FC-6	MITSUBISHI	PEFY-P24NMU-E3	HP-1	BC-1	24,000	27,000	208/230-1-60	800	190	0.50"	1,234
FC-7	MITSUBISHI	PEFY-P24NMU-E3	HP-1	BC-1	36,000	40,000	208/230-1-60	1,160	390	0.50"	1,234
FC-8	MITSUBISHI	PEFY-P24NMU-E3	HP-1	BC-1	36,000	40,000	208/230-1-60	1,160	350	0.50"	1,234
FC-9	MITSUBISHI	PEFY-P24NMU-E3	HP-1	BC-1	36,000	40,000	208/230-1-60	1,160	350	0.50"	1,234
FC-10	MITSUBISHI	PEFY-P24NMU-E3	HP-1	BC-1	24,000	27,000	208/230-1-60	800	260	0.50"	1,234
FC-11	MITSUBISHI	PEFY-P24NMU-E3	HP-1	BC-1	36,000	40,000	208/230-1-60	1,160	190	0.50"	1,234
FC-12	MITSUBISHI	PEFY-P24NMU-E3	HP-1	BC-1	30,000	34,000	208/230-1-60	880	170	0.50"	1,234
FC-13	MITSUBISHI	PEFY-P18NMU-E3	HP-1	BC-1	18,000	20,000	208/230-1-60	600	210	0.50"	1,234
FC-14	MITSUBISHI	PEFY-P18NMU-E3	HP-2	BC-2	36,000	40,000	208/230-1-60	1,160	410	0.50"	1,234
FC-15	MITSUBISHI	PEFY-P24NMU-E3	HP-2	BC-2	36,000	40,000	208/230-1-60	1,160	410	0.50"	1,234
FC-16	MITSUBISHI	PEFY-P24NMU-E3	HP-2	BC-2	36,000	40,000	208/230-1-60	1,160	410	0.50"	1,234
FC-17	MITSUBISHI	PEFY-P24NMU-E3	HP-2	BC-2	36,000	40,000	208/230-1-60	1,160	410	0.50"	1,234
FC-18	MITSUBISHI	PEFY-P12NMU-E3	HP-3	-	12,000	13,500	208/230-1-60	370	60	0.50"	1,234
FC-19	MITSUBISHI	PEFY-P12NMU-E3	HP-3	-	12,000	13,500	208/230-1-60	370	60	0.50"	1,234
FC-20	MITSUBISHI	PEFY-P24NMU-E3	HP-3	-	24,000	27,000	208/230-1-60	800	190	0.50"	1,234
FC-21	MITSUBISHI	PEFY-P18NMU-E3	HP-3	-	18,000	20,000	208/230-1-60	600	160	0.50"	1,234
FC-22	MITSUBISHI	MS2-GE18NA-9	HP-4	-	17,200	21,600	208/230-1-60	500	-	1.0	HP-4 22 5
FC-23	MITSUBISHI	PKFY-P18NMU-E2	HP-1	BC-1	18,000	20,000	208/230-1-60	425	-	0.38	15 29 3,8
FC-24	MITSUBISHI	MSY-036NA	HP-5	-	34,600	-	208/230-1-60	880	-	1.0	HP-5 40 5

BC CONTROLLER											
SYMBOL	MFG	MODEL	BRANCH QTY	POWER	MCA	MCOP (AMPS)	WEIGHT (LBS)	NOTES			
BC-1	MITSUBISHI	CMF-P1018NU-HA1	16	208/230-1-60	1.65	15	172	5			
BC-2	MITSUBISHI	CMF-P1018NU-HA1	8	208/230-1-60	1.70	15	130	5			

- NOTES:
- PROVIDE UNIT WITH MANUFACTURER'S FILTER BOX AND 2" PLEATED FILTER (MERV 8)
 - PROVIDE UNIT WITH DRAIN PAN LEVEL SENSOR, DIAPHRAGM BACKFLOP FOR SECONDARY DRAINAGE UNIT SHUTDOWN
 - PROVIDE MANUFACTURER'S 2013 T24 CERTIFIED THERMOSTAT, THERMOSTAT TO BE

Project Name:	Gateway Hotel	NBC-PRF-01-E	Page 1 of 31	
Project Address:	550 Gateway Boulevard South San Francisco 94080	Calculation Date/Time:	2013, Thu, Mar 23, 2017	
Compliance Scope:	HealthVentilationMechanical	Input File Name:	M16095-T24-0805a	
A. PROJECT GENERAL INFORMATION				
1. Project location (City)	South San Francisco	4. Standards Version	Compliance2016	
2. LA 2b Code	94080	5. Compliance Software (version)	EnergyPro 7.1	
3. Climate Zone	3	10. Building Orientation (deg)	NBC-PRF-01-E	
4. Total Conditioned Floor Area in Scope	35,829 SF	11. Permitted Exposed Floor	HealthVentilationMechanical	
5. Total Unconditioned Floor Area in Scope	0 SF	12. Building Type(s)	Hotel-Motel	
6. Total # of Stories (Include Above Grade)	6	13. Site Type	Metropolitan	
7. Total # of Cooling Units	11			
B. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDD Energy Use, kWh/m²/yr) § 140.1				
BUILDING COMPONENTS				
1. Energy Component	2. Standard Design (TDD)	3. Proposed Design (TDD)	4. Compliance Margin (TDD)	5. Percent Better than Standard
Space Heating	11.0	12.2	-1.2	-1.1%
Space Cooling	7.20	6.65	-0.55	-7.5%
Interior Fans	17.30	15.10	-2.20	-12.6%
Interior Lighting	0.15	-	0.15	-
Pumps & Chiller	1.89	-	1.89	-
Domestic Hot Water	1.33	2.70	0.40	18.9%
Interior Lighting	26.20	26.20	0.00	0.0%
COMPLIANCE TOTAL	38.36	38.36	0.0	0.0%
Compliance	-	-	-	-
Other Use	-	-	-	-
TOTAL	136.60	136.61	0.2	7.0%

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance Report Version: NBC-PRF-01-E-12142018-4377 Report Generated at: 2017-03-23 20:16:32

Project Name:	Gateway Hotel	NBC-PRF-01-E	Page 1 of 31
Project Address:	550 Gateway Boulevard South San Francisco 94080	Calculation Date/Time:	2013, Thu, Mar 23, 2017
Compliance Scope:	HealthVentilationMechanical	Input File Name:	M16095-T24-0805a
H. CERTIFICATE OF INSTALLATION, CERTIFICATE OF ACCEPTANCE & CERTIFICATE OF VERIFICATION SUMMARY (NB/CN/CA/NCV) - Documentation Author to indicate which Certificates must be submitted for the Authority to be recognized for compliance. (Return copies and verify forms are completed and signed in point in field for field inspector to verify). See Tables 4, 5, and 6, in NB/CN and 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000			

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance Report Version: NBC-PRF-01-E-12142018-4377 Report Generated at: 2017-03-23 20:16:32

Project Name:	Gateway Hotel		NBC-PRF-01-E	Page 9 of 31
Project Address:	550 Gateway Boulevard South San Francisco 94080		Calculation Date/Time:	2013, Thu, Mar 23, 2017
Compliance Scope:	HealthVentilationMechanical		Input File Name:	M16095-T24-0805a
M. HVAC SYSTEM SUMMARY (see NBC-PRF-MCH-DETAILS for more information)				§ 110.1 / § 110.2
§ 110.1 (b) (1) (i) (ii) (iii) (iv) (v) (vi) (vii) (viii) (ix) (x) (xi) (xii) (xiii) (xiv) (xv) (xvi) (xvii) (xviii) (xix) (xx) (xxi) (xxii) (xxiii) (xxiv) (xxv) (xxvi) (xxvii) (xxviii) (xxix) (xxx) (xxxi) (xxxii) (xxxiii) (xxxiv) (xxxv) (xxxvi) (xxxvii) (xxxviii) (xxxix) (xl) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlvix) (xli) (xlii) (xliiii) (xliv) (xlv) (xlvi) (xlvii) (xlviii) (xlv				



2 CONCEALED VOLUME DAMPER REGULATOR 'VENTLOCK' #666. PROVIDE ZINC
COVER PLATE, PAINT TO MATCH CEILING

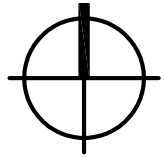
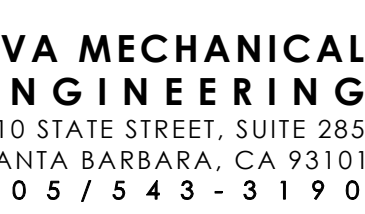
2 CONCEALED VOLUME DAMPER REGULATOR 'VENTLOCK' #666. PROVIDE ZINC
COVER PLATE, PAINT TO MATCH CEILING

2 CONCEALED VOLUME DAMPER REGULATOR 'VENTLOCK' #666. PROVIDE ZINC
COVER PLATE, PAINT TO MATCH CEILING

GATEWAY HOTEL
550 GATEWAY BOULEVARD
SOUTH SAN FRANCISCO, CA

SECOND FLOOR PLAN
(THIRD, FOURTH & FIFTH FLOORS SIMILAR)




$$1/8'' = 1' - 0''$$


M3.4

GENERAL NOTES

PLUMBING WORK CONSISTS OF ALL LABOR, MATERIALS, EQUIPMENT, AND SERVICES NECESSARY FOR AND INCIDENTAL TO THE EXECUTION AND COMPLETION OF THE SYSTEMS AS INDICATED ON THESE DRAWINGS.

SUBMITTAL REQUIREMENTS:

- WITHIN 15 DAYS OF CONTRACT AWARD, THE PLUMBING CONTRACTOR SHALL SUBMIT COMPLETE APPLICABLE PRODUCT, EQUIPMENT, AND MATERIAL INFORMATION IN THE FORM OF AN ELECTRONIC SUBMITTAL (PDF) NO PRODUCT, EQUIPMENT, OR MATERIAL SHALL BE ORDERED OR INSTALLED UNTIL SUBMITTALS ARE APPROVED BY THE MECHANICAL ENGINEER. ANY ITEM NOT INCLUDED IN THE SUBMITTAL SHALL BE PROVIDED WITHOUT SUBSTITUTION. SUBMITTAL INFORMATION SHALL INCLUDE: MANUFACTURER'S NAME AND CATALOGUE NUMBERS, DIMENSIONS, CAPACITIES, PERFORMANCE CURVES, AND ALL OTHER CHARACTERISTICS AND ACCESSORIES AS LISTED IN THE CONTRACT DOCUMENTS. THE INFORMATION SHALL BE CURRENT MANUFACTURER'S SUBMITTALS AND BROCHURES.

- SUBMITTALS FOR ANY EQUIPMENT SUBSTITUTED AS EQUIVALENT TO THE SCHEDULED EQUIPMENT SHALL INCLUDE TABULATED COMPARISON DATA SO AS TO CLEARLY DEMONSTRATE EQUIVALENCY. THIS DATA SHALL SPECIFICALLY INCLUDE COMPARISONS BETWEEN SCHEDULED AND PROPOSED EQUIPMENT IN THE FOLLOWING AREAS:

- WEIGHT (INCLUDING CURBS AND ACCESSORIES)
- ELECTRICAL AND GAS REQUIREMENTS (VOLTAGE, PHASE, FULL LOAD AMPS & BTU)
- SOUND LEVELS (WHERE APPLICABLE)
- PERFORMANCE (EFFICIENCIES, HEATING, COOLING, AIR FLOW, STATIC PRESS.)

- ALL WORK INDICATED ON THESE PLANS SHALL BE DONE IN COMPLIANCE WITH CURRENT STATE AND LOCAL CODES AND ALL APPLICABLE CALIFORNIA TITLE-24 REQUIREMENTS. IN THE EVENT OF CONFLICT BETWEEN CODES, THE MORE RESTRICTIVE REQUIREMENTS SHALL BE EXERCISED.

- ALL WORK SHALL COMPLY WITH MANUFACTURER'S INSTALLATION REQUIREMENTS. VERIFY COMPLIANCE WITH MANUFACTURER'S INSTALLATION REQUIREMENTS BEFORE PROCEEDING WITH INSTALLATION. THE PLUMBING CONTRACTOR SHALL CONTACT JVA MECHANICAL ENGINEERING IN THE EVENT THAT DESIGN DRAWINGS CONFLICT WITH MANUFACTURER'S INSTALLATION REQUIREMENTS.

- NOTHING IN THESE DRAWINGS AND/OR SPECIFICATIONS SHALL BE INTERPRETED TO CONFLICT WITH ANY CITY OR STATE LAW, REGULATION, CODE, ORDINANCE, RULING, OR FIRE UNDERWRITER'S REQUIREMENT APPLICABLE TO THIS CLASS OF WORK.

- CONSTRUCTION AND/OR ENGINEERING COSTS RESULTING FROM PRODUCT SUBSTITUTIONS SHALL BE PAID BY THE PLUMBING CONTRACTOR. APPROVAL OF SUBSTITUTED PRODUCTS DOES NOT NEGATE THIS OBLIGATION.

- ALL LOCATIONS OF EQUIPMENT AND PIPING ARE SHOWN DIAGRAMMATICALLY. THE PLUMBING CONTRACTOR SHALL ADHERE TO LOCATIONS INDICATED ON THE DRAWINGS AS CLOSELY AS POSSIBLE, VARYING PIPE RUNS AS REQUIRED TO MEET STRUCTURAL AND OTHER INTERFERENCES AS REQUIRED BY THE PROJECT.

- THE PLUMBING CONTRACTOR SHALL PROVIDE ACCESS PANELS WHERE REQUIRED FOR ALL PLUMBING-RELATED EQUIPMENT, ACCESSORIES, AND CONTROLS.

- ALL EQUIPMENT SHALL BE FURNISHED AND INSTALLED WITH AT LEAST THE MANUFACTURER'S MINIMUM RECOMMENDED CLEARANCE ALLOWANCE FOR SUFFICIENT ACCESS TO CONTROLS, FILTERS, ELECTRIC MOTORS, ETC. FOR MAINTENANCE AND PROPER OPERATION.

- ALL PLUMBING PIPING AND EQUIPMENT SHALL BE PROVIDED WITH SEISMIC RESTRAINING SERVICES AS REQUIRED BY LOCAL BUILDING CODES.

- THE WORK UNDER THIS SECTION SHALL BE IN COOPERATION WITH THE WORK OF OTHER TRADES TO PREVENT CONFLICT OR INTERFERENCE AND TO AID RAPID COMPLETION OF THE OVERALL PROJECT.

- THE PLUMBING CONTRACTOR SHALL GUARANTEE THAT THE SYSTEMS INSTALLED ARE IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS, AND WILL WARRANT ALL EQUIPMENT, MATERIALS, AND LABOR FURNISHED UNDER THIS CONTRACT TO BE FREE FROM DEFECTS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION. THE PLUMBING CONTRACTOR SHALL REPAIR OR REPLACE ANY EQUIPMENT OR MATERIAL, WHICH IS DEFECTIVE OR IMPROPERLY INSTALLED. IN ADDITION, THE PLUMBING CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY DAMAGE TO THE BUILDINGS AND ITS CONTENTS OR OTHER EQUIPMENT, CAUSED BY DEFECTS OR IMPROPER INSTALLATION OF EQUIPMENT OR MATERIALS INSTALLED UNDER THIS SECTION OF THE SPECIFICATIONS. IN THE EVENT OF FAILURE TO COMPLY WITH THE ABOVE-MENTIONED CONDITIONS WITHIN TEN (10) DAYS AFTER BEING NOTIFIED IN WRITING, THE PLUMBING CONTRACTOR SHALL COLLECTIVELY OR SEPARATELY AUTHORIZE THE OWNER TO PROCEED TO HAVE SAID DEFECTS REPAIRED AND MADE GOOD AT THE CONTRACTORS EXPENSE. THE CONTRACTOR WILL HONOR AND PAY THE SAID COSTS AND CHARGES ON DEMAND.

- BY JVA MECHANICAL ENGINEERING ALL COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS RESERVED THESE DOCUMENTS AS ORIGINAL AND UNPUBLISHED WORK PRODUCT OF JVA MECHANICAL ENGINEERING AND THIS WORK SHALL NOT BE COPIED, DISCLOSED, OR USED IN CONNECTION WITH ANY WORK PROJECT OTHER THAN THE SPECIFIC PROJECT FOR WHICH IT HAS BEEN PREPARED OR ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF JVA MECHANICAL ENGINEERING. VISUAL CONTACT WITH THIS DOCUMENT SHALL CONSTITUTE EVIDENCE OF ACCEPTANCE OF THESE RESTRICTIONS AND CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS OF THE JOB. UPON DISCOVERY OF ANY VARIATION, DISCREPANCY, OR OMISSIONS, PLEASE NOTIFY JVA MECHANICAL ENGINEERING AND PRIOR TO PROCEEDING WITH RELATED WORK, OBTAIN WRITTEN RESOLUTION FROM JVA MECHANICAL ENGINEERING

- THE PLUMBING CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS OF THE JOB. UPON DISCOVERY OF ANY VARIATION, DISCREPANCY, OR OMISSIONS, NOTIFY JVA MECHANICAL ENGINEERING AND PRIOR TO PROCEEDING WITH RELATED WORK, OBTAIN WRITTEN RESOLUTION FROM JVA MECHANICAL ENGINEERING

SPECIFICATIONS

PLUMBING: THE WORK UNDER THIS SECTION INCLUDES EVERYTHING NECESSARY FOR AND INCIDENTAL TO EXECUTING AND COMPLETING THE PLUMBING WORK, EXCEPT AS HEREINAFTER SPECIFICALLY EXCLUDED. WORK INCLUDED SHALL BE AS INDICATED ON THE DRAWINGS COMPLETELY INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

- SANITARY SOIL, WASTE, AND VENT SYSTEMS
- GAS PIPING
- CONDENSATE PIPING
- DRAIN PIPING
- DOMESTIC WATER SYSTEMS
- PLUMBING FIXTURES AND EQUIPMENT
- REQUIRED SUPPORTS AND BLOCKING

RELATED WORK: THE FOLLOWING WORK SHALL NOT BE FURNISHED UNDER THIS SECTION OF THE SPECIFICATIONS; BUT WILL BE INCLUDED IN OTHER SPECIFICATION SECTIONS.

- CONCRETE PLACEMENT
- CUTTING, PATCHING AND FURRING

PLUMBING FITTINGS AND PIPING:

- DOMESTIC WATER PIPING: ABOVE GRADE: FLOWGUARD GOLD CPVC COPPER TUBE SIZE (SDR 11) MANUFACTURED TO ASTM D 2846, CELL CLASS 24448 FOR PIPE AND 23447 FOR FITTINGS PER ASTM D 1784 AND CONFORM WITH NSF STANDARDS 14 AND 61. TRANSITION FITTINGS TO HAVE BRASS MALE OR FEMALE CONNECTIONS WITH INTEGRAL CPVC SOCKET CONNECTIONS. ALL PIPE AND FITTINGS TO BE PRODUCED BY A SINGLE MANUFACTURER AND TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND APPLICABLE CODE REQUIREMENTS. PROVIDE PROVISIONS FOR THERMAL EXPANSION PER MANUFACTURER'S GUIDELINES. SOLVENT CEMENT SHALL CONFORM TO ASTM F 493 AND SYSTEM MAY BE INSTALLED WITH APPROVED ONE-STEP CEMENT.

- DOMESTIC WATER PIPING: ABOVE GRADE: DOWN STREAM OF GUEST ROOM SHUT-OFF VALVE: VANGUARD CROSS-LINKED POLYETHYLENE (PEX) BEARING CHLORINE APPROVAL STAMPS NSF-CL-TO AND/OR NSF-CL-CR. COPPER CRIMP FITTINGS.

- DOMESTIC WATER PIPING: EXTERIOR ABOVE GRADE: TYPE 'K' COPPER TUBING HARD DRAWN WITH WROUGHT COPPER SOLDER FITTINGS, SOLDER WITH 95 - 5 TIN-ANTIMONY SOLDER.

- SOIL, WASTE, AND VENT: ABOVE AND BELOW GRADE: PLASTIC ABS OR PVC PIPE AND FITTINGS WITH SOLVENT JOINTS.

- CONDENSATE AND DRAIN PIPING: FLOWGUARD GOLD CPVC COPPER TUBE SIZE (SDR 11) MANUFACTURED TO ASTM D 2846, CELL CLASS 24448 FOR PIPE AND 23447 FOR FITTINGS PER ASTM D 1784 AND CONFORM WITH NSF STANDARDS 14 AND 61. TRANSITION FITTINGS TO HAVE BRASS MALE OR FEMALE CONNECTIONS WITH INTEGRAL CPVC SOCKET CONNECTIONS. ALL PIPE AND FITTINGS TO BE PRODUCED BY A SINGLE MANUFACTURER AND TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND APPLICABLE CODE REQUIREMENTS. PROVIDE PROVISIONS FOR THERMAL EXPANSION PER MANUFACTURER'S GUIDELINES. SOLVENT CEMENT SHALL CONFORM TO ASTM F 493 AND SYSTEM MAY BE INSTALLED WITH APPROVED ONE-STEP CEMENT.

- GAS PIPING ABOVE GRADE: SCHEDULE 40 BLACK MALLEABLE IRON THREADED PIPE AND FITTINGS

PLUMBING FIXTURES:

- PLUMBING FIXTURES SHALL BE AS PER PLUMBING FIXTURE SCHEDULES-SEE PLANS

PIPING SPECIALTIES:

- SHUT-OFF VALVES (WATER): APOLLO, OR EQUIVALENT, FULL PORT BALL VALVE.

- SUPPLIES: ANGLE TYPE WITH TEE HANDLE STOP AND RIGID RISERS: "SPEEDWAY," R1700-S SERIES, ROBERT ML-600 SERIES OR EQUAL. P-TRAPS: CHROME PLATED BRASS 17 GAUGE WITH CP TUBING DRAIN TO WALL AND CLEAN-OUT PLUG. TRAP ARMS UNDER LAVATORIES, SINK, AND ESQUIREON AT WALL ALSO TO BE CHROME-PLATE.

- FLOOR CLEANOUTS (FCO/COTG): J. R. SMITH #4810 COVER WITH U.P.C. BRONZE PLUG.

- WALL CLEANOUTS (WCO): TERRI, PRIME-COATED WITH UPC BRONZE PLUG IN "NO-HUB" TEST-TEE.

- SHUT-OFF VALVES (GAS): CRANE #1128, OR EQUIVALENT (2" AND SMALLER).

- HOSE BIBS TO BE INSTALLED WITH ANTI-SIPHON VACUUM BREAKERS

PIPING HANGERS, SUPPORTS, AND ACCESS PANELS:

- PROVIDE HANGER SPECIFIED HEREIN. EQUIVALENT MODELS BY ELCEN, FEE & MASON OR KIN-LINE ARE ACCEPTABLE.

- ADJUSTABLE HANGERS WITH MINIMUM 3/8" RODS, UPPER ATTACHMENTS: B-LINE #B3690. PROVIDE SHIELDS AT INSULATED PIPING.

- TRAPEZE HANGERS: B-LINE #B12 WITH PIPE CLAMPS AND GUIDES AS REQUIRED.

- RISER CLAMPS: B-LINE #B3373.

- OFFSET PIPE CLAMPS: B-LINE #B3148.

- WATER PIPE ISOLATION: INCLUDE WITH HANGERS, 1/4" FELT OR APPROVED EQUIVALENT.

- ACCESS PANEL FOR VALVES: MILCOR PAINTED STEEL SIZE AS REQUIRED FOR EASY ACCESS MINIMUM SIZE 12" X 12".

PIPING INSULATION:

- DOMESTIC HOT WATER AND HOT WATER RE-CIRCULATING PIPING, 105°F-140°F: ENGINEERED POLYMER FOAM INSULATION (EPFI) "MCOA" OR EQUIVALENT. 1" INSULATION WALL THICKNESS FOR PIPING 1"Ø OR LESS. 1.5" INSULATION WALL THICKNESS FOR PIPES 1-1/4"Ø THRU 4"Ø

- LAVATORY TRAPS AND H. W. SUPPLIES: PROWRAP, PROTECTIVE KIT BY MCGUIRE OR EQUIVALENT.

EXCAVATION AND BACKFILL:

- EXECUTE ALL EXCAVATION TO GRADES TO ACCOMMODATE ELEVATIONS INDICATED AND WHERE INVERT ELEVATIONS ARE NOT INDICATED, PROVIDE MINIMUM COVERAGE FOR ANY PIPING UNDER BUILDING SLAB (TOP OF PIPE TO UNDERSIDE OF SLAB) OF 18 INCHES.

- EXCAVATION FOR PIPE SHALL BE CUT A MINIMUM OF SIX INCHES BELOW THE REQUIRED GRADE. A SIX-INCH DEEP OF SAND OR OTHER APPROVED MATERIAL SHALL BE THEN PLACED AND PROPERLY COMPACTED TO PROVIDE AN ACCURATE GRADE AND UNIFORM BEARING THROUGHOUT THE LENGTH OF THE PIPE.

- SAND USED SHALL BE WASHED RIVER SAND NORMALLY USED FOR BACKFILL PURPOSES, FREE OF CLODS OR LUMPS OF CLAY, ROCK, DEBRIS, AND RUBBISH.

- BACKFILLING SHALL NOT BE PLACED UNTIL THE WORK HAS BEEN INSPECTED, TESTED, AND APPROVED.

- BACKFILL TO POINT 12 INCHES ABOVE TOP OF PIPING WITH FINE AREA (EXCAVATED MATERIAL MAY BE USED) FREE OF EXCESSIVE AMOUNTS OF CLAY, DEBRIS, RUBBISH, ROCKS, OR CLODS, AS APPROVED BY THE ARCHITECT. BACKFILL ABOVE 12 INCHES FROM TOP OF PIPING MAY BE WITH EXCAVATED MATERIAL. APPLY BACKFILL BY HAND IN 6-INCH DEEP LAYERS THE FULL WIDTH OF THE TRENCH. MOISTEN EACH LAYER (DO NOT FLOOD OR PUDDLE), AND HAND TAMP TO MINIMUM 90 PERCENT COMPACTION BEFORE PROCEEDING WITH THE NEXT LAYER OF BACKFILL.

- CLODS OR LUMPS ONE INCH IN SIZE OR LARGER WILL NOT BE PERMITTED IN THE BACKFILL. IF THE EXCAVATED MATERIAL IS NOT SUITABLE, ADEQUATE MATERIAL SHALL BE PROVIDED BY HAULING IN FROM OTHER LOCATIONS.

- SURPLUS EARTH OR MATERIAL REMAINING AFTER BACKFILLING SHALL BE REMOVED FROM THE SITE AS INDICATED IN SECTION ENTITLED "EARTHWORK."

- DO NOT EXCAVATE UNDER OR NEAR FOUNDATIONS OR FOOTINGS EXISTING IN MANNER PERMITTED AND APPROVED BY THE ARCHITECT. DO NOT BACKFILL UNDER OR NEAR FOUNDATIONS OR FOOTINGS EXISTING IN MANNER PERMITTED AND APPROVED FOR BACKFILL BY THE JURISDICTIONAL INSPECTOR AND THE ARCHITECT.

- PROVIDE SLEEVES AT ALL PIPE PENETRATIONS OF FOOTING AND FOUNDATIONS.

EXECUTION (PLUMBING):

- SOIL, WASTE AND VENT PIPING IS TO BE ASSEMBLED, CONNECTED, AND SUPPORTED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. ENCASE SOIL, WASTE, AND VENT PIPING IN SAND, 6" ALL AROUND PIPE. WRAP PENETRATIONS OF CONCRETE SLAB WITH FOAMED PLASTIC SLEEVING MATERIAL. ALL SOIL, WASTE, AND VENT PIPING SHALL HAVE A SMOOTH AND UNIFORM INVERT, AND BACK-FILLED SO AS NOT TO DISTURB THE PIPE OR JOINTING.

- JOINTS IN COPPER TUBING SHALL BE MADE BY FIRST THOROUGHLY CLEANING THE SURFACE OF THE PIPE AND FITTINGS, APPLYING A COPPERIZED FLUX AND SWEAT WITH 95 - 5 TIN ANTIMONY SOLDER OR EQUIVALENT LEAD-FREE SOLDER.

- FLUSH OUT ALL WATER MAINS, CONDENSATE DRAINS, SANITARY, AND STORM PIPING WITH WATER SO AS TO OBTAIN FREE FLOW.

- ABOVE FLOOR DWV TRAPS FOR BATHTUBS ARE NOT ALLOWED. ALL EXPOSED DWV TRAPS SHALL BE CHROME PLATED

- PIPING IS TO BE SANITIZED PER THE FOLLOWING CODE REQUIRED INSTRUCTIONS:
1. THE PIPE SYSTEM SHALL BE FLUSHED WITH CLEAN, POTABLE WATER UNTIL POTABLE WATER APPEARS AT THE POINT OF OUTLET.
2. THE SYSTEM OR PART THEREOF SHALL BE FILLED WITH A WATER-CHLORINE SOLUTION CONTAINING NOT LESS THAN 50 PARTS PER MILLION OF CHLORINE, AND THE SYSTEM OR PART THEREOF SHALL BE VALVED-OFF AND ALLOWED TO STAND FOR 24 HOURS; OR, THE SYSTEM OR PART THERE OF SHALL BE FILLED WITH A WATER-CHLORINE SOLUTION CONTAINING NOT LESS THAN 200 PART PER MILLION OF CHLORINE AND ALLOWED TO STAND FOR 3 HOURS.

- 3. FOLLOWING THE ALLOWED STANDING TIME, THE SYSTEM SHALL BE FLUSHED WITH CLEAN, POTABLE WATER UNTIL THE CHLORINE RESIDUAL IN THE WATER COMING FROM THE SYSTEM DOES NOT EXCEED THE CHLORINE RESIDUAL IN THE FLUSHING WATER.
4. THE PROCEDURE SHALL BE REPEATED WHERE IT IS SHOWN BY BACTERIOLOGICAL EXAMINATION MADE BY AN APPROVED AGENCY THAT CONTAMINATION PERSISTS IN THE SYSTEM.

- ALL PIPING, EXCEPT WHERE NOTED OTHERWISE ON PLANS, SHALL BE CONCEALED IN WALLS OR ABOVE CEILINGS. COORDINATE PIPING LOCATION WITH DUCTWORK AND CONDUIT.

- BENDING OR FORCING OF PIPE IS NOT ALLOWED. USE FITTINGS FOR ALL OFFSETS OR CHANGES IN ALIGNMENT OF PIPING.

- CLEANOUTS SHALL BE ACCESSIBLE IN ALL CASES AND SHALL BE BROUGHT TO SURFACE ON "Y" BRANCHES. ALL CLEANOUTS SHALL BE PROVIDED WITH REMOVABLE FLOOR OR WALL PLATES.

- PIPING SHALL BE FIRMLY HELD IN PLACE BY ADJUSTABLE HANGERS, SUPPORTS, AND PIPE RESTS. ALL HANGERS AND SUPPORTS SHALL BE OF DESIGN WHICH WILL SUPPORT WEIGHT OF PIPE, FLUID, INSULATION, AND PREVENT SAGGING. MAKESHIFT DEVICES ARE NOT ACCEPTABLE. PLUMBER'S TAPE IS NOT APPROVED.

- PIPING SHALL BE ISOLATED FROM ALL DIRECT CONTACT WITH THE STRUCTURE BY THE USE OF MANUFACTURED HANGER ISOLATORS AND STUD ISOLATION DEVICES.

- INSTALL ALL FIXTURES AND EQUIPMENT PER MANUFACTURER'S ROUGH-IN AND INSTALLATION INSTRUCTIONS. INSTALL HANDICAPPED FIXTURES PER TITLE 24 AND A.D.A. REQUIREMENTS. PROVIDE 17 GAUGE CHROME PLATED P-TRAPS, ANGLE STOPS AND FLEXIBLE RISERS, SUPPORT PLATES, ETC., AS REQUIRED.

- PROVIDE FIRE STOPPING AND SLEEVES FOR PIPING PENETRATIONS OF FIRE-RATED WALLS, FLOORS, AND CEILINGS. METHOD OF SLEEVING AND FIRE STOPPING SHALL BE APPROVED BY FIRE MARSHALL.

- BATHTUB TRAPS SHALL USE A NON-SLIP-JOINT

PLUMBING TEST AND ADJUSTMENTS:

- ALL WORK SHALL BE COMPLETELY INSTALLED, SANITIZED, AND TESTED AS REQUIRED BY LOCAL CODE AND THE STATE ORDINANCES AND STATE SAFETY ORDERS, AND SHALL BE LEAK-TIGHT BEFORE INSPECTION IS REQUESTED. ALL TESTS SHALL BE REPEATED UPON REQUEST TO THE SATISFACTION OF THOSE MAKING THE INSPECTION.

INSTANTANEOUS WATER HEATER SCHEDULE

SYMBOL	MFG	MODEL	CAPACITY @ 90° RISE	WATER PRESSURE MIN/MAX	FUEL	INPUT BTU/H MIN/MAX	GAS PRESSURE MIN/MAX	THERM EFF	TURN DOWN RATIO	POWER	MAX AMPS	WEIGHT (LBS)	NOTES
WH-1	INTLHNOT	02751	15.7GPM	30-160PSI	NAT GAS	30,000/751,000	2.5-14"W.C.	94%	25:1	115/120-1-60	16	525	ALL APPLY
WH-2	INTLHNOT	02751	15.7GPM	30-160PSI	NAT GAS	30,000/751,000	2.5-14"W.C.	94%	25:1	115/120-1-60	16	525	ALL APPLY

NOTES:
1. PROVIDE WITH APPROVED P&T VALVE
2. PROVIDE CONDENSATE NEUTRALIZER
3. INTERLOCK UNITS FOR CASCADE OPERATION

DOMESTIC WATER BOOSTER PUMP SCHEDULE

SYMBOL	MFG	MODEL	TYPE	TOTAL PUMP QTY	SUCTION PRESSURE	DISCHARGE PRESSURE	TOTAL GPM	TOTAL BOOST	MOTOR DATA(EACH)	FLA	TOTAL WEIGHT	NOTES
									HP	POWER		
BP-1	FLOWTHERM	FMW2-9	DUPLEX-VFD	2	30 PSI	80 PSI	240.0	50 PSI	7.5	230-3-60	41.6	ALL APPLY

NOTES:
1. BOOSTER PUMP CONFIGURATION = DUPLEX WITH VARIABLE FREQUENCY DRIVE FOR EACH VERTICAL MULTI-STAGE PUMP
2. PROVIDE MANUFACTURER'S CONTROL PANEL (REVERSED CONFIGURATION), ISOLATING VALVES, CHECK VALVES, BASE FRAME, SUCTION/DISCHARGE FLEX CONNECTIONS, AND SUCTION/DISCHARGE MANIFOLDS

HOT WATER RE-CIRCULATION PUMP SCHEDULE

SYMBOL	MANUFACTURER	MODEL	CONNECTIONS		RPM	GPM	HEAD	MOTOR DATA		WEIGHT	NOTES
			SUCTION	DISCHARGE				WATTS	POWER		
CP-1	BELL & GOSSETT	NBF-36 3-SPEED	1-1/2"	1-1/2"	3300	18.5	20'	270	115/120-1-60	13	ALL APPLY

NOTES:
1. PROVIDE CIRCULATING PUMP WITH AQUA STAT & 7 DAY ELECTROMECHANICAL TIMER, 115/1/60 WITH BATTERY RESERVE
2. PROVIDE BRONZE CONSTRUCTION (LOW-LEAD)

GAS REGULATOR SCHEDULE

SYMBOL	MFG	MODEL	MOUNTING POSITION	OVER PRESSURE DEVICE	INLET PRESSURE	OUTLET PRESSURE	TOTAL LOAD	REG VENT LIMITER	OPD VENT LIMITER	NOTES
REG-1	MAXITROL	325-BLJ10E	HORIZONTAL	YES	2.0 PSI	8"W.C.	1500 MBTU/H	YES	YES	1
REG-2	MAXITROL	325-SL600	HORIZONTAL	YES	2.0 PSI	8"W.C.	360 MBTU/H	YES	YES	1
REG-3	MAXITROL	325-7AL2100	HORIZONTAL	YES	2.0 PSI	8"W.C.	800 MBTU/H	YES	YES	1
REG-4	MAXITROL	325-3L47	HORIZONTAL	YES	2.0 PSI	8"W.C.	100 MBTU/H	NO	NO	2
REG-4	MAXITROL	325-SL48	HORIZONTAL	YES	2.0 PSI	8"W.C.	250 MBTU/H	NO	NO	2

NOTES:
1. REGULATOR VENT TO OUTDOORS NOT REQUIRED PER NFPA 54/ANSI Z223.1 5.6.5.1 EXCEPTION FOR VENT LIMITING DEVICES COMPLYING WITH ANSI Z21.80
2. PROTECT VENT INLET FROM RAIN WATER AND INSECTS WITH HARD PIPE ELBOW FACING DOWN WITH SCREEN COVER

HYDROMECHANICAL GREASE INTERCEPTOR SCHEDULE

SYMBOL	MANUFACTURER	MODEL	VENTED FLOW CONTROL FITTING	INSTALLATION LOCATION	GREASE RETENTION CAPACITY	MAXIMUM INLET FLOW RATE	MATERIAL	NOTES
HGI-1	JAY R. SMITH	8250	YES	INTERIOR/UNDERFLOOR	100 LBS	50 GPM	STEEL	ALL APPLY

NOTES:
1. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS
2. PROVIDE ONLY RUBBER "NO HUB" CONNECTIONS
3. PROVIDE VENT ON OUTLET SIDE OF INTERCEPTOR. REFER TO PLUMBING PLANS FOR SIZE AND LOCATION
4. INSTALLING CONTRACTOR TO FIELD VERIFY REQUIRED INVERT ELEVATION. PROVIDE -E EXTENSIONS AS REQUIRED
5. PROVIDE TRAFFIC RATED COVER-H20

EXPANSION TANK SCHEDULE

SYMBOL	MFG	MODEL	TANK VOLUME (GAL)	PRESSURE SETTING	DIAMETER	HEIGHT	DRY WEIGHT	NOTES
ET-1	WESSELS	TXA-85	23.0	70 PSI	16"	33"	90 LBS	ALL APPLY
ET-2	WESSELS	FXA-300	79.0	70 PSI	24"	55"	225 LBS	ALL APPLY

NOTES:
1. CHARGE TANK TO MATCH STATIC WATER PRESSURE

PLUMBING FIXTURE SCHEDULE

SYMBOL	MAKE & MODEL	DESCRIPTION	ROUGH IN SIZES				FITTINGS OR ACC.	NOTES
			HW	CW	W	V		
WC-1	KOHLER "WELLWORTH" #K-4406	FLUSH VALVE WATER CLOSET 15"Ø TO RIM VITREOUS CHINA, WHITE	-	1-1/2"	3"	2"	KOHLER #K-4667-C OPEN FRONT SEAT KOHLER #K-10673-SV FLUSHOMETER	1,2,3
WC-2	KOHLER "HIGHLINE" #K-4405	ADA FLUSH VALVE WATER CLOSET 17.5" TO RIM VITREOUS CHINA, WHITE	-	1-1/2"	3"	2"	KOHLER #K-4667-C OPEN FRONT SEAT KOHLER #K-10673-SV FLUSHOMETER	1,2,3
WC-3	TOTO "DRAKE II 10" #ST4540CFL	WATER CLOSET 16.125" TO RIM VITREOUS CHINA, WHITE	-	1/2"	3"	2"	CLOSED FRONT SEAT	1,2,3
URN-1	KOHLER "BARDON" #K-4904-ET	SIPHON JET URINAL 24.0" TO RIM VITREOUS CHINA, WHITE	-	1-1/4"	2"	1-1/2"	KOHLER #K-13520 FLUSHOMETER JAY R. SMITH SUPPORT	3
LAV-1	KOHLER "CAXTON" #K-2210	ADA LAVATORY COUNTER TOP 19.25"x16.25" VITREOUS CHINA, WHITE	1/2"	1/2"	2"	1-1/2"	KOHLER FAUCET #K-13460 0.50GPM INSERT, DRAIN, TRAP	1,2,3
LAV-2	KOHLER "KINGSTON" #K-2007	ADA LAVATORY WALL MOUNT 21.25"xW18.125"D VITREOUS CHINA	1/2"	1/2"	2"	1-1/2"	KOHLER FAUCET #K-13460 0.50GPM INSERT, DRAIN, TRAP JR SMITH WALL SUPPORT #0720	1,2,3
LAV-3	KOHLER "VERTICL" #K-2882	LAVATORY COUNTER TOP 17.25"x13.0" VITREOUS CHINA, WHITE	1/2"	1/2"	2"	1-1/2"	DELTA #567LF FAUCET 1.20GPM INSERT, DRAIN, TRAP	1,2,3
WS-1	JUST #JUS-ADA-1620-A	ADA SINGLE BOWL SINK COUNTER TOP 20"x16" SELF RIMMING 18 GAUGE STAINLESS STEEL	1/2"	1/2"	2"	1-1/2"	DELTA FAUCET # 1959LF STRAINER, STOPS, SUPPLIES & CP BRASS 1" TRAP	1,2,3
FD-1	J.R. SMITH SERIES # 2003Y02-ADSPB-U	5"Ø, CAST IRON FLOOR DRAIN WITH BRONZE STRAINER	-	1/2"	2"	1-1/2"	PROVIDE WITH "GREEN DRAIN" WATERLESS TRAP SEAL SIZE PER DRAIN	-
FS-1	PROFLOW SERIES #FF906	FLOOR SINK CAST IRON WHITE FINISH	-	1/2"	2"	1-1/2"	PROVIDE WITH "PRECISION PRODUCTS" PRIME-RITE TRAP PRIMER & ACCESS PANEL & "PROFLO" HALF TOP GRATE	-
MS-1	MOP RECEPTOR FLORESTONE #MSR-2424	MOLDED MOP SINK	1/2"	1/2"	2"	1-1/2"	FLORESTONE #MR371 FAUCET W/ VACUUM BREAKER, STOPS, BUCKET HOOK & BRACE 2" DRAIN	-
DF-1	ELKAY L25TL9WSLP	REFRIGERATED ADA DRINKING FOUNTAIN WITH BOTTLE FILLER STATION	-	1/2"	2"	1-1/2"	PROVIDE WITH MANUFACTURER'S WALL MOUNT SUPPORT CARRIER COORDINATE FINISH COLOR WITH ARCHITECT	1,2,3
SHR-1	DELTA #T14267LHD	SHOWER #R10000-UNWS VALVE WATERPIK #NSC-623EH HEAD	1/2"	1/2"	2"	1-1/2"	JAY R SMITH 2005 DRAIN SURROUND PER ARCH SHOWERHEAD ROUGH-IN 6"-10"MIN AFF	1,2,3
EW-1	EMERGENCY EYE WASH STATION	HAWS #7360BT-7460BT WALL MOUNTED STAINLESS STEEL	1/2"	1/2"	2"	1-1/2"	-	-
LT-1	JUST #JUS-251	BOWL SINK FREE STANDING LAUNDRY TUB 14 GAUGE STAINLESS STEEL	1/2"	1/2"	2"	1-1/2"	J5-47-TCSA WALL MOUNT FAUCET DRAIN, STRAINER, STOPS, SUPPLIES & C.P. BRASS 1" TRAP	2,3
HB-1	WOODFORD #B24	INTERIOR RECESSED HOSE BIB WITH VACUUM BREAKER	-	3/4"	-	-	PROVIDE WITH KEY	-







REFERENCE NOTES

1	DOMESTIC COLD WATER SUPPLY RISER. SEE DETAIL 12/P1.1
2	GAS METER BY GAS COMPANY. PROVIDE LINE SIZE EMERGENCY BUILDING GAS SHUT OFF VALVE IN ADDITION TO CORPORATE GAS COCK. SEE DETAIL 15/P1.1 FOR TYPICAL INSTALLATION
3	LOCATION OF NEW FIRE RISER-TO BE INSTALLED BY FIRE SPRINKLER CONTRACTOR-SEPARATE PERMIT AND APPROVAL SHALL BE OBTAINED FROM THE FIRE AND BUILDING DEPARTMENTS. SEE DETAIL 21/P1.1
4	WATER HAMMER ARRESTOR AT CLOTHES WASHER CONNECTION

CONSULTANT

 **JVA**
MECHANICAL ENGINEERING

**JVA MECHANICAL
ENGINEERING**
510 STATE STREET, SUITE 280
SANTA BARBARA, CA 93101
805 / 543 - 3190

GATEWAY HOTEL
550 GATEWAY BOULEVARD
SOUTH SAN FRANCISCO, CA
FIRST FLOOR PLAN
WATER & GAS

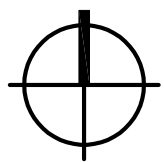
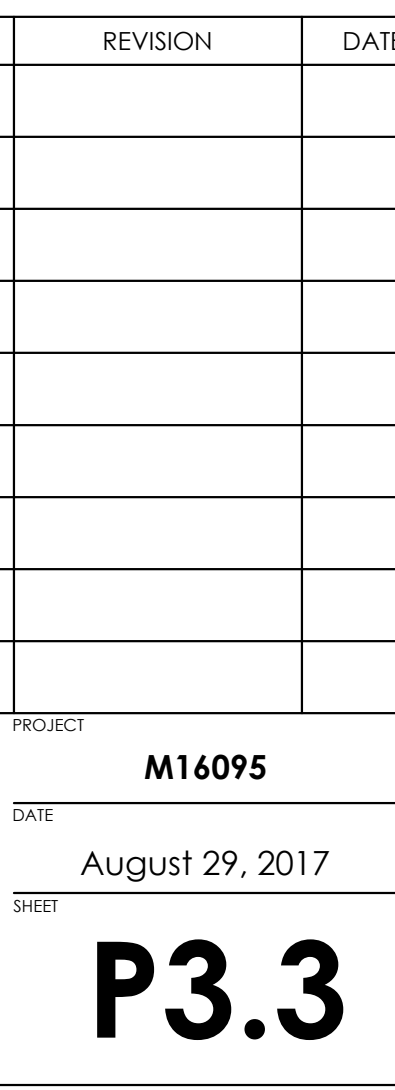
REVISION	DATE

PROJECT **M16095**

DATE **August 29, 2017**

OWNER

P3.1


$$1/8'' = 1' - 0''$$
[illegible]



- 1 CONDENSATE DRAIN PIPING FROM FAN COIL/BRANCH CONTROLLER TO LAVATORY TAILPIPE CONNECTION. SLOPE 1/8" PER FOOT TOWARD OUTLET ON ANY HORIZONTAL SECTION OF PIPING. SEE DETAIL 23/P.1/1
- 2 CONDENSATE DRAIN PIPING FROM FAN COIL/BRANCH CONTROLLER TO FLOOR SINK/MOP SINK AIR GAP TERMINATION. SLOPE 1/8" PER FOOT TOWARD OUTLET ON ANY HORIZONTAL SECTION OF PIPING. TERMINATE MIN. 1" ABOVE FLOOR SINK FLOOR RIM
- 3 CONDENSATE DRAIN PIPING FROM FAN COIL TO DRY WELL TERMINATION. SLOPE 1/8" PER FOOT TOWARD OUTLET ON ANY HORIZONTAL SECTION OF PIPING. SEE DETAIL 33/P.1/1
- 4 PROVIDE 1/2" TRAP PRIMER TO FLOOR DRAIN/SINK "P" TRAP - PROVIDE ACCESS PANEL AND SHUTOFF VALVE AHEAD OF PRIMER VALVE AND PROVIDE AN APPROVED AIR-GAP ON THE OUTLET SIDE OF THE TRAP PRIMER VALVE. SEE DETAIL 11/P.1/1
- 5 CONCRETE WASHING MACHINE DRAIN BOX. SIZE PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE FLOOR DRAIN WITH TRAP AND TRAP PRIMER AND REMOVABLE LIFT SCREEN
- 6 3" STORM DRAIN OVERFLOW PIPING. TERMINATE MAX. 1" OUT FROM EXTERIOR WALL, 3" ABOVE FINISH GRADE
- 7 3" STORM DRAIN PIPING. SEE CIVIL FOR CONTINUATION

GATEWAY HOTEL

550 GATEWAY BOULEVARD
SOUTH SAN FRANCISCO, CA

FIRST FLOOR PLAN

P4.1



REFERENCE NOTES

- 1 PTAC CONDENSATE PIPING JOGGED WITHIN MODULAR FLOOR ASSEMBLY TO AVOID CAST IN PLACE CONCRETE WALL BELOW. COORDINATE WITH RELATED TRADES PRIOR TO SETTING ROOM MODULE
- 2 CONDENSATE DRAIN PIPING FROM FAN COIL BRANCH CONTROLLER TO LAVATORY TAILPIECE CONNECTION. SLOPE 1/8" PER FOOT TOWARD OUTLET ON ANY HORIZONTAL SECTION OF PIPING. SEE DETAIL 23/P1.1

CONSULTANT

 **JVA**
MECHANICAL ENGINEERING

**JVA MECHANICAL
ENGINEERING**
510 STATE STREET, SUITE 283
SANTA BARBARA, CA 93101
805 / 543 - 3190

SRI KRISHNA ENTERPRISE
300 GATEWAY BOULEVARD
SOUTH SAN FRANCISCO, CA 94080

GATEWAY HOTEL
550 GATEWAY BOULEVARD
SOUTH SAN FRANCISCO, CA

SECOND FLOOR PLAN
(TWO) — FIFTH FLOORS (SIMILAR)

REVISION	DATE
PROJECT	M16095
DATE	August 29, 2017
SHEET	P4.2


$$1/8'' = 1' - 0''$$

REFERENCE NOTES

1	CONDENSATE DRAIN PIPING FROM FAN COIL/BRANCH CONTROLLER TO LAVATORY TAILPIECE CONNECTION. SLOPE 1/8" PER FOOT TOWARD OUTLET ON ANY HORIZONTAL SECTION OF PIPING. SEE DETAIL 23/P1.1
2	ROOF DRAIN PROVIDED & INSTALLED BY MODULAR COMPANY. PIPING UNDER PLUMBER'S RESPONSIBILITY

CONSULTANT

 **JVA**
MECHANICAL ENGINEERING

**JVA MECHANICAL
ENGINEERING**
510 STATE STREET, SUITE 283
SANTA BARBARA, CA 93101
805 / 543 - 3190

SRI KRISHNA ENTERPRISE
300 GATEWAY BOULEVARD
SOUTH SAN FRANCISCO, CA 94080

GATEWAY HOTEL
550 GATEWAY BOULEVARD
SOUTH SAN FRANCISCO, CA

ROOF PLAN
WASTE & VENT

REVISION	DATE
PROJECT	M16095
DATE	August 29, 2017
SHEET	P4.3