

SPECIFICATIONS



23 00 00 - HVAC GENERAL	
1	CODES: OSSC OREGON STRUCTURAL SPECIALTY CODE - 2014 ASCE/SEI AMERICAN SOCIETY OF CIVIL ENGINEERS / STRUCTURAL ENGINEERING INSTITUTE OMSC OREGON MECHANICAL SPECIALTY CODE - 2014 OEES E OREGON ENERGY EFFICIENCY SPECIALTY CODE - 2014
2	STANDARDS ORGANIZATIONS: ASHRAE AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND AIR CONDITIONING ENGINEERS ASTM AMERICAN SOCIETY FOR TESTING AND MATERIALS MSS MANUFACTURERS STANDARDIZATION SOCIETY NFPA NATIONAL FIRE PROTECTION ASSOCIATION SMACNA SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION UL UNDERWRITERS LABORATORIES
3	DESIGN CONDITIONS DESIGN HEATING: OUTDOOR db 23°F, INDOOR db 68°F (OSSC 1204.1, OMSC [B] 309.1). DESIGN COOLING: OUTDOOR db 92°F, wb 67°F, INDOOR db 73° F.
4	HEATING AND COOLING LOADS CALCULATED USING AN ASHRAE-METHODS BASED HVAC LOADS CALCULATION PROGRAM. PROCEDURES COMPLIANT WITH ASHRAE/ACCA STANDARD 183 (OMSC 310.1, OEES 503.2.1).
5	VENTILATION MINIMUM OUTDOOR AIRFLOW RATES DETERMINED IN ACCORDANCE WITH OMSC 403.3. SYSTEMS ARE DESIGNED TO DELIVER THE REQUIRED RATE OF OUTDOOR AIRFLOW TO THE BREATHING ZONE WITHIN EACH OCCUPIABLE SPACE. REFER TO THE VENTILATION AIR COMPLIANCE SCHEDULE INCLUDED ON THE DRAWINGS FOR SPECIFIC CRITERIA, PROCEDURES, AND VENTILATION RATES.
6	COMBINED AIR CONDITIONING / VENTILATION SYSTEMS WILL BE CONTROLLED TO OPERATE DURING OCCUPIED TIMES FOR THE SPACES SERVED (OMSC 405.1).
7	SPACES WITH OCCUPANT LOAD GREATER THAN 25 PEOPLE PER 1000 SQ. FT. (PER OMSC TABLE 403.3) HAVE DEMAND CONTROLLED VENTILATION (OEES 503.2.5.1).
8	MAKEUP AIR FOR INTERMITTENT BATHROOM EXHAUST IS PROVIDED THROUGH TRANSFER AIR FROM ADJACENT OCCUPIABLE SPACE VIA UNDERCUT DOOR (OMSC 403.2.2, 403.4). MECHANICAL PASSIVE AIR INLETS (PAI) INDICATED ON THE DRAWINGS ALLOW MAKEUP AIR TO THE OCCUPIABLE SPACE (OMSC 501.3).
23 05 50 - SEISMIC CONTROL	
1	NEW DUCTWORK AND EQUIPMENT TO BE SUPPORTED AND BRACED IN ACCORDANCE WITH OMSC 301.15, OSSC CHAPTER 16 AND ASCE/SEI CHAPTER 7.
2	ENGINEERING FOR SEISMIC RESTRAINT AND ANCHORAGE PROVIDED BY DEVCO ENGINEERING.
3	NEW DUCTWORK AND EQUIPMENT TO BE INSTALLED AND SUPPORTED TO LIMIT HANGER LENGTH TO LESS THAN 12 INCHES WITH SUPPORTS CONFIGURED TO ELIMINATE LATERAL STRAIN (BENDING MOMENT).
4	INDIVIDUAL DUCTWORK ON THIS PROJECT HAS LESS THAN 6 SQ. FT. CROSS-SECTIONAL AREA.
5	INDIVIDUAL DUCT DISTRIBUTION SYSTEM COMPONENTS WEIGH LESS THAN 75 LBS AND THE DISTRIBUTION SYSTEM WEIGHS 5 LBS/FT, OR LESS.
23 07 00 - INSULATION	
1	INSULATION MATERIALS MEET REQUIREMENTS OF NFPA 255 AND UL 723 NOT EXCEEDING 25 FLAME SPREAD RATING OR 50 SMOKE DEVELOPED RATING.
2	SUPPLY AIR AND RETURN AIR DUCTWORK LOCATED IN AN UNCONDITIONED SPACE INSULATED TO MINIMUM R-5. SUPPLY AIR AND RETURN AIR DUCTWORK LOCATED OUTSIDE OF THE BUILDING INSULATION ENVELOPE INSULATED TO MINIMUM R-8. OUTSIDE AIR, SUPPLY AIR AND RETURN AIR DUCTWORK LOCATED INSIDE THE BUILDING ENVELOPE AND CARRYING AIR MORE THAN 15°F WARMER/COOLER THAN THE SURROUNDING AIR WILL BE INSULATED. (OEES 503.2.7).
3	APPLICATION (GENERAL) SUPPLY AIR DUCT, OUTDOORS - DUCT LINER, 2" THICKNESS, R-8.7 SUPPLY AIR DUCT, CONDITIONED SPACE, AIR TEMP < 16°F FROM SPACE TEMP - UNINSULATED. RETURN AIR DUCT, OUTDOORS - DUCT LINER, 2" THICKNESS, R-8.7. RETURN AIR DUCT, CONDITIONED SPACE, AIR TEMP < 16°F FROM SPACE TEMP - UNINSULATED EXHAUST AIR DUCT (GENERAL EXHAUST) - UNINSULATED.
23 09 00 - CONTROL FOR HVAC	
1	HVAC SYSTEM CONTROL WILL BE PROVIDED THROUGH USE OF DISTRIBUTED INDIVIDUALLY PROGRAMMABLE THERMOSTATS. CAPABILITIES INCLUDE 7-DAY PROGRAMMING WITH UP TO 4 SET-POINT CHANGES PER DAY (OCCUPIED & UNOCCUPIED HOURS), 3 HEATING AND 2 COOLING STAGES, AUTO CHANGE-OVER HEATING/COOLING, LOCAL SET-POINT ADJUSTMENT LIMITING, AND BATTERY BACKUP. MANUAL OVERRIDE FEATURE ALLOWS UP TO 2-HOURS OF OCCUPANT INITIATED OCCUPIED OPERATION (ADJUSTABLE). THERMOSTAT MOUNTING AT NOMINAL 48" AFF.
2	LINE VOLTAGE ELECTRICAL BY OTHERS.
3	NEW HVAC SYSTEMS INCLUDE ONE TEMPERATURE CONTROL DEVICE PER ZONE RESPONDING TO TEMPERATURES WITHIN THE ZONE. OEES 503.2.4.1.
4	ZONE THERMOSTATS CAPABLE OF DEAD-BAND, OFF-HOUR, AND AUTOMATIC SET-BACK TEMPERATURE CONTROL. (OEES 503.2.4.2, 503.2.4.4, 503.2.4.4.1) DEAD-BAND: 5°F (BETWEEN DUAL SET-POINTS FOR HEATING/COOLING) OFF-HOUR SET-BACK: 55°F HEATING, 85°F COOLING.
5	NEW INDIVIDUAL HVAC SYSTEM CONTROLS CAPABLE OF VARYING START TIME OF SYSTEM TO JUST MEET TEMPERATURE SET POINT AT TIME OF OCCUPANCY (OEES 503.2.4.3).
6	NEW HVAC SYSTEMS, WITH COOLING CAPACITY OF 54,000 BTU/HR, OR GREATER, INCLUDE AIR-SIDE ECONOMIZER CONTROLS CAPABLE OF MODULATING OUTSIDE AIR, RELIEF AIR AND RETURN AIR DAMPERS TO UTILIZE 100% OUTSIDE AIR FOR THE FULL DESIGN VOLUME OF SUPPLY AIR FOR COOLING (OEES 503.3.1).
7	DUCT MOUNTED OUTDOOR AIR, EXHAUST, AND RELIEF SHUT-OFF DAMPERS PROVIDED FOR AIR VOLUMES GREATER THAN 300 CFM. DAMPERS TO BE CLASS 1, MOTORIZED, WITH LEAKAGE RATE OF NOT MORE THAN 4 CFM PER SQ. FT. AT 1.0" WC. TESTED PER AMCA 500D. (OEES 503.2.4.5) EXCEPTIONS: RELIEF DAMPERS ON PACKAGED COOLING EQUIPMENT.
8	OPERATIONAL DESCRIPTION EXHAUST FANS FOR TOILET ROOMS (WITHOUT BATHTUB/SHOWER) OPERATE INTERMITTENTLY (OMSC TABLE 403.3, NOTE f). FAN ACTIVATION CONTROLLED THROUGH TIMER IN SPACE SERVED. JANITORIAL CLOSET: EXHAUST FAN OPERATES CONTINUOUSLY.

23 20 00 - PIPING GENERAL																																
1	MECHANICAL PIPING SUPPORTS WILL BE PROVIDED AT INTERVALS EQUAL TO OR LESS THAN THE SPACING LISTED IN THE PIPING SUPPORT TABLE HEREIN, ACCORDING TO THE MATERIAL (OMSC 305.4, MSS SP-69).																															
2	FUEL GAS PIPING SUPPORTS WILL BE PROVIDED AT INTERVALS EQUAL TO OR LESS THAN THE SPACING LISTED IN THE PIPING SUPPORT TABLE HEREIN (OMSC C407.2, C415.1). HANGARS AND SUPPORTS CONFORM TO REQUIREMENTS OF MSS SP-58.																															
<table><tr><th colspan="5">PIPING SUPPORT SPACING TABLE (OMSC 305.4, C415.1)</th></tr><tr><th>PIPING MATERIAL</th><th>SIZE RANGE</th><th>MAX. HORIZ.</th><th>MAX. VERT. (FT)</th><th>NOTES</th></tr><tr><td>PVC PIPE</td><td>3/4" - 2"</td><td>4</td><td>10</td><td>W/ MID-STORY GUIDE</td></tr><tr><td>STEEL PIPE</td><td>1/2"</td><td>6</td><td>6</td><td rowspan="3">NAT. GAS DISTRIBUTION; HOUSE SIDE OF METER. OMSC APPROX C - TABLE C415.1</td></tr><tr><td>STEEL PIPE</td><td>3/4" - 1"</td><td>8</td><td>8</td></tr><tr><td>STEEL PIPE</td><td>1-1/4" OR ></td><td>10</td><td>EVERY FLR</td></tr></table>					PIPING SUPPORT SPACING TABLE (OMSC 305.4, C415.1)					PIPING MATERIAL	SIZE RANGE	MAX. HORIZ.	MAX. VERT. (FT)	NOTES	PVC PIPE	3/4" - 2"	4	10	W/ MID-STORY GUIDE	STEEL PIPE	1/2"	6	6	NAT. GAS DISTRIBUTION; HOUSE SIDE OF METER. OMSC APPROX C - TABLE C415.1	STEEL PIPE	3/4" - 1"	8	8	STEEL PIPE	1-1/4" OR >	10	EVERY FLR
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3	PIPING SYSTEM SUPPORTS TO BE PROVIDED AND INSTALLED TO PREVENT UNDUE STRAIN ON CONNECTED EQUIPMENT. EACH PIPING SYSTEM TO BE SUPPORTED WITH HANGERS SELECTED FOR THE SPECIFIC PIPING SYSTEM (OR GROUP OF PIPING SYSTEMS WHERE TRAPEZE TYPE HANGERS ARE USED). SUPPORT MATERIALS IN DIRECT CONTACT WITH PIPING SELECTED FOR COMPATIBILITY WITH THE PIPING MATERIAL (WILL NOT PROMOTE GALVANIC ACTION). SUPPORTS TO BE ANCHORED TO APPROVED BUILDING STRUCTURAL MEMBERS (OMSC 305.2, 305.3).																															
23 20 10 - CONDENSATE DISPOSAL																																
1	CONDENSATE FROM ROOFTOP UNIT COOLING COILS WILL BE COLLECTED VIA PIPING CONNECTION TO THE DRAIN PAN OUTLET (OMSC 307.2). VENTED TRAP TO BE PROVIDED AT THE CONNECTION TO THE PAN (OMSC 307.2.4). CONDENSATE TO BE DISCHARGED TO THE ROOF (OMSC 307.2.1, 3).																															
2	CONDENSATE PIPING TO BE PVC. PIPE SIZED TO MATCH EQUIPMENT DRAIN CONNECTION, BUT NOT SMALLER THAN NOMINAL 1/2 INCH INSIDE DIAMETER. PIPING TO BE SLOPED MINIMUM 1% TO THE POINT OF DISCHARGE. MATERIAL APPLICATION IN ACCORDANCE WITH THE TEMPERATURE RATING FOR THE CONDENSATE FROM THE EQUIPMENT SERVED (OMSC 307.1, 307.2.2).																															
23 31 00 - DUCTWORK																																
1	CONSTRUCTION - DUCTWORK / FITTINGS TO BE CONSTRUCTED AND SEALED IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS AND OMSC CHAPTER 6 REQUIREMENTS.																															
2	MINIMUM SHEETMETAL THICKNESS FOR DUCTWORK SERVING SINGLE DWELLING UNITS TO CONFORM TO OMSC TABLE																															
3	DUCT SIZES SHOWN ON DRAWINGS ARE NET INSIDE DIMENSIONS.																															
MATERIALS OF CONSTRUCTION & PRESSURE CLASSIFICATION:																																
4	OUTSIDE AIR DUCTWORK AND PLENUMS - GALVANIZED STEEL PRESSURE CLASS - 2" WC NEG (MAX 2" WC NEG).																															
5	SUPPLY DUCTWORK AND PLENUMS - GALVANIZED STEEL PRESSURE CLASS - 2" WC POS (MAX 2" WC POS).																															
6	RETURN DUCTWORK AND PLENUMS - GALVANIZED STEEL PRESSURE CLASS - 2" WC NEG (MAX 2" WC NEG).																															
7	EXHAUST (ENVIRONMENTAL) - GALVANIZED STEEL PRESSURE CLASS - 2" WC NEG, SUCTION SIDE OF FAN (MAX 2" WC NEG). PRESSURE CLASS - 2" WC POS, DISCHARGE SIDE OF FAN (MAX 2" WC POS).																															
8	RUBBERIZED CANVAS FLEXIBLE DUCT CONNECTIONS PROVIDED AT CONNECTIONS TO ROTATING EQUIPMENT NOT INTERNALLY VIBRATION ISOLATED.																															
23 35 30 - EXHAUST SYSTEMS - ENVIRONMENTAL																																
1	SINGLE FIXTURE TOILET ROOMS (WITHOUT BATH/SHOWER): INTERMITTENT SINGLE-SPEED EXHAUST FAN, WITH BACKDRAFT DAMPER (ORSC TABLE M1507.3). REFER TO CONTROLS FOR HVAC, 23 09 00, FOR OPERATION DESCRIPTION. REFER TO DRAWINGS FOR AIR FLOW. CONTROL PROVIDED AND INSTALLED BY OTHERS.																															
23 37 00 - AIR OUTLETS AND INLETS																																
1	GENERAL: A. MOUNTING (CEILING, WALL, DUCT) AS INDICATED BY "TYPE". SEE "TYPE" ABBREVIATION LIST BELOW. FRAME STYLE AS REQUIRED FOR MOUNTING. REFER TO MECHANICAL DUCT PLANS AND ARCHITECTURAL REFLECTED CEILING PLANS. REFER TO MECHANICAL DUCTWORK PLANS FOR INLET/OUTLET TYPE, SIZE, THROW PATTERN AND CFM REQUIREMENT. B. "REGISTER" INDICATES TO BE PROVIDED WITH INTEGRAL BALANCING DAMPER. C. LAY-IN FRAME SIZE NOMINAL 24"x24" FOR T-BAR CEILING MOUNTING. SURFACE MOUNT (CUT-IN) FRAME SIZE = FACE SIZE PLUS MFBS FRAME DIMENSION. RETURN BOOT / DUCT CONNECTION PROVIDED IN FIELD. REFER TO HVAC PLANS & DETAILS FOR REQUIREMENTS. D. STEEL CONSTRUCTION EXCEPT WHERE ALUMINUM DUCTWORK IS NOTED, THEN ALL ALUMINUM CONSTRUCTION.																															
2	AIR OUTLET AND INLET TYPE ABBREVIATION LIST: SUPPLY: SDC - SUPPLY DIFFUSER CEILING SRD - SUPPLY GRILLE DUCT SGW - SUPPLY GRILLE WALL RETURN: RGD - RETURN GRILLE DUCT EXHAUST: EGC - EXHAUST GRILLE CEILING																															
3	APPLICATION SCHEDULE: <table><tr><th>TYPE</th><th>DESCRIPTION</th><th>MAX TP IN W.G.</th><th>MAX CORE VELOCITY FPM</th></tr><tr><td>SDC</td><td>(SUPPLY) LOUVERED FACE DIRECTIONAL DIFFUSER</td><td>0.15</td><td>700</td></tr><tr><td>SRD</td><td>DOUBLE DEFLECTION BLADES</td><td>0.08</td><td>500</td></tr><tr><td>SGW</td><td>DOUBLE DEFLECTION BLADES</td><td>0.08</td><td>500</td></tr><tr><td>RGD</td><td>(RETURN) SINGLE DEF. ANGLED BLADES, MOUNT BLOCKING VIEW IN GRILLE.</td><td>0.04</td><td>500</td></tr><tr><td>EGC</td><td>(EXHAUST) EGG CRATE STYLE</td><td>0.04</td><td>500</td></tr></table>				TYPE	DESCRIPTION	MAX TP IN W.G.	MAX CORE VELOCITY FPM	SDC	(SUPPLY) LOUVERED FACE DIRECTIONAL DIFFUSER	0.15	700	SRD	DOUBLE DEFLECTION BLADES	0.08	500	SGW	DOUBLE DEFLECTION BLADES	0.08	500	RGD	(RETURN) SINGLE DEF. ANGLED BLADES, MOUNT BLOCKING VIEW IN GRILLE.	0.04	500	EGC	(EXHAUST) EGG CRATE STYLE	0.04	500				
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23 70 00 - HVAC EQUIPMENT	
1	EQUIPMENT INSTALLATION WILL CONFORM TO THE MORE RESTRICTIVE OF: THE CONDITIONS AND REQUIREMENTS ASSOCIATED WITH APPROVAL AND LISTING FOR THE EQUIPMENT, THE MANUFACTURER'S INSTALLATION INSTRUCTIONS, AND THE OMSC (OMSC 304.1, 304.2 - EXCEPTION).
2	FUEL GAS DISTRIBUTION PIPING AND EQUIPMENT, FUEL GAS FIRED APPLIANCES, AND FUEL GAS APPLIANCE VENTING SYSTEMS DESIGN AND INSTALLATION IN ACCORDANCE WITH APPENDIX C OF THE OMSC (OMSC 301.3).
3	GUARD RAILS PROVIDED WHERE EQUIPMENT REQUIRING MAINTENANCE INSTALLED WITHIN 10 FEET OF THE EDGE OF THE ACCESS SURFACE AND THE SURFACE IS ELEVATED MORE THAN 30 INCHES ABOVE GRADE. SEE ARCHITECTURAL FOR GUARD RAIL CONFIGURATION. GUARD RAIL EXTENDS 30 INCHES BEYOND EACH END OF PROTECTED EQUIPMENT, IS 42 INCHES TALL, AND HAS INTERNAL ELEMENT SPACING TO PREVENT PASSAGE OF A 21 INCH SPHERE. (OMSC 304.11). PROVIDED BY
4	NEW HVAC EQUIPMENT SELECTION FOR HEATING AND/OR COOLING CAPACITY MADE IN CONFORMANCE WITH OEES 503.2.2. NEW HVAC PERFORMANCE REQUIREMENTS IN ACCORDANCE WITH OEES 503.2.3. REFER TO EQUIPMENT SCHEDULES ON THE DRAWING FOR SPECIFIC PERFORMANCE ASSOCIATED WITH EACH UNIT.
5	INDIVIDUAL VAV FANS WITH MOTORS 10 HP, OR LARGER, DRIVEN BY A VARIABLE FREQUENCY DRIVE (OEES 503.4.2).
6	NEW HVAC UNITS 2000 CFM, OR LARGER CAPACITY, EQUIPPED WITH SMOKE IONIZATION DETECTORS MOUNTED IN THE RETURN DUCT (OMSC 606.2.1).
7	HVAC UNITS WITH 2000 CFM CAPACITY, OR LARGER, ARE INCAPABLE OF CIRCULATING SMOKE OUTSIDE OF THE WALLS OF THE ROOM BEING SERVED, THIS SMOKE DETECTORS ARE NOT PROVIDED (OMSC 606.2, EXCEPTION). SYSTEMS MEETING THIS EXCEPTION INCLUDE: RTU-1.
23 95 00 - TESTING, ADJUSTING AND BALANCING (TAB)	
1	NEW AND EXISTING HVAC SYSTEMS SHOWN ON THE DRAWINGS (SUPPLY, RETURN, RELIEF, EXHAUST, AND OUTSIDE AIR SYSTEMS) ARE TO BE TESTED AND BALANCED BY AN INDEPENDENT TESTING AND BALANCING AGENCY. TAB AGENCY TO PROVIDE ALL INSTRUMENTS, LABOR, AND MATERIALS NEEDED TO FULLY TEST AND BALANCE THE SYSTEMS FOR THIS PROJECT, INCLUDING SHEAVE ADJUSTMENT/CHANGE OUT.
2	HVAC SYSTEMS SHALL BE IN FULL OPERATION FOR TAB PROCESS. SYSTEMS SHALL BE BALANCED TO WITHIN +10% / - 5% OF DESIGN REQUIREMENTS AND MAINTAINING PRESSURE RELATIONSHIPS AS DESIGNED (PRESSURE RELATIONSHIPS HAVE PRIORITY OVER TOLERANCE LISTED). VERIFY MINIMUM OUTSIDE AIR VOLUMES, AND ECONOMIZER CAPABILITIES. TAB PROCEDURES TO BE IN ACCORDANCE WITH NEBB MANUAL OF PRACTICE, OR AABC RECOMMENDATIONS.
3	SUBMITTALS: BEFORE BEGINNING WORK ON SITE: - LIST OF PROCEDURES TO BE FOLLOWED BY TAB PERSONNEL FOR THE SPECIFIC TAB TASKS. - TAB PLAN FOR THIS PROJECT AT COMPLETION OF TAB WORK ON SITE: - ONE (1) ELECTRONIC COPY IN PDF FORMAT OF THE PRELIMINARY TEST AND BALANCE REPORT TO BE PROVIDED TO COMFORT FLOW HEATING FOR REVIEW AND COMMENT. - ONE (1) ELECTRONIC COPY IN PDF FORMAT OF THE FINAL TEST AND BALANCE REPORT, UPDATED TO INCLUDE ANY SUBSEQUENT PERFORMANCE ADJUSTMENTS. TO COMFORT FLOW HEATING.
4	TAB REPORT, AT A MINIMUM, TO INCLUDE THE FOLLOWING INFORMATION: - TITLE PAGE., - TAB AGENCY NAME/ADDRESS/TEL NUMBER. - PROJECT NAME. - DATE OF REPORT. - NEBB OR AABC CERTIFICATION STATEMENT. - NAME/SIGNATURE AND CERTIFICATION OF TAB SUPERVISOR. - TABLE OF CONTENTS. - REPORT SUMMARY, INCLUDING ANY PERFORMANCE ISSUES WITH SUGGESTED RESOLUTIONS. - INSTRUMENT LIST INCLUDING TYPE, MFR, MODEL, CALIBRATION DATE. - TAB DATA LOGS, ORGANIZED BY SYSTEM, SHOWING INITIAL AND ADJUSTED CONDITIONS DELINEATED BY SYSTEM, BRANCH, AND TERMINAL. - SPECIFIC DATA TO INCLUDE AIRFLOW IN CFM, STATIC PRESSURE IN INCHES WATER COLUMN, FAN RPM, MOTOR CURRENT DRAW, SUPPLY AIRFLOW, RETURN AIRFLOW, OUTSIDE AIRFLOW (AT SYSTEM MIN AND MAX FLOWS IF VAV). - AIR HANDLER PERFORMANCE AT CLEAN FILTER PRESSURE DROP AND SIMULATED DIRTY FILTER PRESSURE DROP.
23 95 10 - OPERATION AND MAINTENANCE	
1	OPERATING AND MAINTENANCE MANUAL TO BE PROVIDED TO OWNER AT THE COMPLETION OF THE PROJECT. THE MANUAL WILL INCLUDE THE FOLLOWING INFORMATION (OEES 503.2.9.3):
2	COVER SHEET WITH PROJECT NAME, DATE OF SUBSTANTIAL COMPLETION, AND HVAC CONTRACTOR CONTACT INFORMATION.
3	EQUIPMENT CAPACITIES (INPUT AND OUTPUT)
4	MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS FOR PERIODIC AND ANNUAL MAINTENANCE
5	HVAC SYSTEM CONTROL MAINTENANCE AND CALIBRATION INFORMATION. THIS WILL INCLUDE SYSTEM SCHEMATICS, WIRING DIAGRAMS, AND CONTROL SEQUENCE DESCRIPTIONS.
6	A RECORD OF FINAL OWNER DESIRED, OR FIELD DETERMINED, SET-POINTS.
7	WRITTEN NARRATIVE OF HOW EACH HVAC SYSTEM IS INTENDED TO OPERATE.

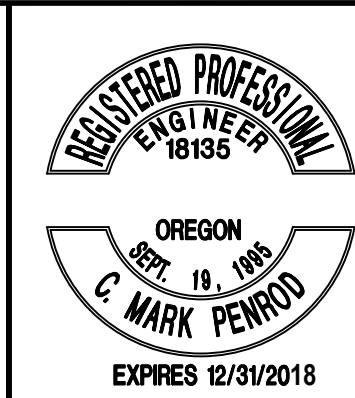
Equipment and appliances shall be installed as required by the terms of their approval, in accordance with the conditions of the listing, the manufacturer's installation instructions and this code. Manufacturer's installation instructions shall be available on the job site at the time of inspection. 2014 OMSC 304.1

Balance report to be on site for Inspector. 2014 OMSC 403.1, 102.4

SYMBOLS LIST:		ABBREVIATIONS:	
SYMBOL	DESCRIPTION	ABBREVIATION	DESCRIPTION
	ROUND DUCT	AD	ACCESS DOOR
	RECTANGULAR DUCT (W X H)	AFF	ABOVE FINISH FLOOR
	DUCT WITH LINER	BPD	BY-PASS DAMPER
	DUCT DROP / RISE	C	CONDENSATE
	DUCT, HIDDEN	CC	COOLING COIL
	DUCT TO BE REMOVED	CFM	CUBIC FEET / MINUTE
	SUPPLY	CV	CONSTANT VOLUME
	RETURN	DX	DIRECT EXPANSION
	EXHAUST	EA	EXHAUST AIR
	MANUAL DAMPER	EF	EXHAUST FAN
	FIRE DAMPER	ESP	EXTERNAL STATIC PRESSURE
	DUCT SMOKE DETECTOR	FC	FAN COIL
	OUTLET OR INLET TYPE LENGTH X WIDTH CFM	FIL	FILTER
	AIR DIRECTION, DIFFUSER OR GRILLE	G	NATURAL GAS
	AIR FLOW INDICATOR	HC	HEATING COIL
	THERMOSTAT, W / UNIT OR ZONE CONTROLLED	OA	OUTSIDE AIR
	OCCUPANCY SENSOR	OSAL	OUTSIDE AIR LOUVER
	NATURAL GAS PIPE	RA	RETURN AIR
	GAS SHUT OFF	RF	RETURN FAN
	CONNECT TO EXISTING	RTU	ROOFTOP UNIT
	KEYED NOTE REFERENCE	SF	SUPPLY FAN
	DETAIL REFERENCE: DETAIL NUMBER SHEET NUMBER	TSP	TOTAL STATIC PRESSURE

SHEET INDEX	
TITLE	NO.
SPECIFICATIONS & SYMBOLS LIST	M0.0
SCHEDULES	M0.1
HVAC DEMOLITION FIRST FLOOR	M1.0
HVAC DEMOLITION ROOF LEVEL	M1.1
HVAC FIRST FLOOR	M2.0
HVAC ROOF LEVEL	M2.1
DETAILS AND SCHEMATICS	M3.0

REV	BY	REVISION	DATE
B	CMP	STRUCT., ARCH., & VE REVISIONS	19JAN18



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SUMMIT CREEK CHURCH
275 WEST 5th AVE.
EUGENE, OREGON

PROJECT TYPE: SPECIFICATIONS & SYMBOLS LIST	
DRAWN BY: RGM DRAFTING	
DESIGNED BY: JE / CMP	CHECKED BY: CMP
FILE NAME: SCC-M	PROJECT NO:
DRAWING SCALE: AS NOTED	DATE: 09OCT17
PLOT SCALE: 1-1	REV: B
SHEET: 1 OF 7	SHEET NO: M0.0