

THIS SHEET PLOTS ON 22" x 34" ANSI D WITH 1/2" SCALE. THIS DOCUMENT IS THE PROPERTY OF CROFT & ASSOCIATES, P.C. IT IS TO BE USED ONLY FOR THE PROJECT IDENTIFIED HEREIN AND IS NOT TO BE USED ON OTHER PROJECTS, IN WHOLE OR IN PART, WITHOUT THE WRITTEN AGREEMENT OF CROFT & ASSOCIATES, P.C.

GENERAL MECHANICAL NOTES:

ALL WORK SHALL BE DONE IN ACCORDANCE WITH:
1.1. 2012 EDITION OF THE INTERNATIONAL MECHANICAL CODE (IMC)
1.2. 2012 EDITION OF THE INTERNATIONAL PLUMBING CODE (IPC)
1.3. 2012 EDITION OF THE INTERNATIONAL FUEL GAS CODE (IFGC)
1.4. 2006 EDITION OF THE INTERNATIONAL ENERGY CONSERVATION CODE. (IECC)
1.5. FIRE SAFETY STANDARD NFPA 90A, 90B
1.6. ALL APPLICABLE STATE AND LOCAL AMENDMENTS.
1. THE MECHANICAL CONTRACTOR SHALL FIELD-VERIFY EXISTING CONDITIONS, AND DUCTWORK / EQUIPMENT SIZES, LOCATIONS, ROUTING, ETC. PRIOR TO BEGINNING WORK OR PURCHASING ANY MATERIALS, AND SHALL REPORT ANY DEVIATIONS TO THE ENGINEER / DESIGNER OF RECORD.
2. THE CONTRACT DOCUMENTS ARE DIAGRAMMATIC IN NATURE AND NOT EVERY DETAIL OR EXACT LOCATION OF EQUIPMENT AND/OR CONDUIT IS SHOWN. VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO ORDERING ANY MATERIAL OR PERFORMING ANY WORK. NOTIFY THE ENGINEER OF RECORD OF ANY CONDITIONS OR DIMENSIONS WHICH WOULD AFFECT PERFORMANCE OF WORK IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND/OR SPECIFICATIONS.
3. THE MECHANICAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS WITH CUTSHEETS TO THE DESIGNER OF RECORD PRIOR TO ORDERING, PURCHASING, OR FABRICATING ANY MECHANICAL EQUIPMENT OR FITTINGS. ALL EQUIPMENT INCLUDED IN SHOP DRAWINGS AND CUTSHEETS SHALL BE CLEARLY LABELED, WITH EQUIPMENT TAGS INDICATED ON THE DRAWINGS (NOT WITH ROOM NUMBERS). SHOP DRAWINGS AND CUTSHEETS SHALL BE SUBMITTED AS A COMPREHENSIVE COMPLETED SET AND PARTIAL EQUIPMENT SUBMITTALS SHALL NOT BE ACCEPTED. SHOP DRAWINGS AND CUTSHEETS SHALL INCLUDE AT A MINIMUM:
3.1. SCHEDULED OR SPECIFIED EQUIPMENT INCLUDED IN THE DRAWINGS
3.2. DUCTWORK (INCLUDING GAUGES, LINER, INSULATION, DAMPERS, FITTINGS, TURNING VANES, TEST PORTS, LABELS, ETC.)
3.3. PIPING (INCLUDING INSULATION, FITTINGS, FASTENERS, ACCESSORIES, TEST PORTS, LABELS, ETC.)
3.4. U.L. - LISTED EQUIPMENT (INCLUDING THE SPECIFIC U.L. APPLICATION)
4. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES, PERMITS, AND LICENSES FOR THE COMPLETE INSTALLATION OF THE WORK OUTLINED IN THESE CONTRACT DOCUMENTS
5. COORDINATE EXACT PHASING OF ALL WORK WITH GENERAL CONTRACTOR
6. EXACT DEVICE LOCATIONS (DIFFUSERS, MECHANICAL EQUIPMENT, OPENINGS, ETC.) SHALL BE COORDINATED WITH ARCHITECTURAL PLANS
7. MECHANICAL CONTRACTOR SHALL COORDINATE LOCATIONS AND REQUIREMENTS OF ELECTRICAL/PLUMBING EQUIPMENT WITH THE ELECTRICAL/PLUMBING CONTRACTORS PRIOR TO ORDERING ANY MATERIAL OR PERFORMING ANY WORK ASSOCIATED WITH SUCH EQUIPMENT.
8. MECHANICAL CONTRACTOR SHALL COORDINATE LOCATION OF DIFFUSERS AND DUCTWORK WITH ELECTRICAL/LIGHTING CONTRACTOR, PLUMBING CONTRACTOR, AND FIRE PROTECTION CONTRACTOR PRIOR TO INSTALLATION TO AVOID CONFLICT WITH LIGHTING, PIPING, AND SPRINKLER SYSTEM COMPONENTS.
9. FOR ALL MECHANICAL EQUIPMENT LOCATED ABOVE THE CEILING, PROVIDE AN ACCESS PANEL TO SERVICE EQUIPMENT. FOR ALL EQUIPMENT MOUNTED ABOVE DROPPED CEILING, PROVIDE AN EQUIPMENT LABEL ON THE CEILING GRID. LABEL SHOULD HAVE THE FOLLOWING INFORMATION, AT A MINIMUM:
9.1. EQUIPMENT TAG
9.2. EQUIPMENT TYPE (AIR HANDLING UNIT, TERMINAL UNIT, FAN COIL, ETC.)
9.3. ARROW, INDICATING THE DIRECTION IN WHICH THE EQUIPMENT IS LOCATED RELATIVE TO THE STICKER PLACEMENT.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE LOCATION AND WEIGHTS OF ALL STRUCTURE-MOUNTED EQUIPMENT WITH THE STRUCTURAL CONTRACTOR AND STRUCTURAL ENGINEER OF RECORD.
11. ALL EQUIPMENT SHALL BE TESTED AND BALANCED USING METHODS APPROVED BY NEBB AND/OR AABC. TESTING AND BALANCE (T.A.B.) SERVICES SHALL BE PERFORMED BY: (OPTION 1): A LICENSED T.A.B. CONTRACTOR HAVING AT LEAST 5 YEARS OF EXPERIENCE (OPTION 2): A LICENSED T.A.B. CONTRACTOR HAVING AT LEAST 2 YEARS OF EXPERIENCE, PROVIDED THAT ALL T.A.B. WORK IS SUPERVISED BY A LICENSED T.A.B. CONTRACTOR HAVING AT LEAST 7 YEARS EXPERIENCE.
12. ALL MATERIALS USED FOR CONSTRUCTION SHALL BE INSTALLED IN A NEAT AND WORKLIKE MANNER.
13. PROVIDE LOCAL POWER DISCONNECT FOR ALL MECHANICAL EQUIPMENT. DISCONNECT SHALL BE MOUNTED IN A MANNER THAT DOES NOT OBSTRUCT MAINTENANCE ACCESS. COORDINATE WITH ELECTRICAL CONTRACTOR.
14. ALL EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS, WHERE MANUFACTURER'S RECOMMENDATIONS DEVIATE FROM THE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE DESIGNER / ENGINEER OF RECORD IN WRITING.
15. ALL EXTERIOR PENETRATIONS SHALL BE FLASHED, COUNTERFLASHED, AND SEALED TO MAKE WATERTIGHT, OR INSTALLED PER MANUFACTURER'S RECOMMENDATIONS FOR A WATERTIGHT INSTALLATION. COORDINATE ALL ROOFING PENETRATIONS WITH ROOFING CONTRACTOR PRIOR TO BEGINNING WORK.
16. WARRANTIES:
16.1. PROVIDE A 12-MONTH (1 YEAR) WARRANTY FOR ALL SYSTEMS AND EQUIPMENT. WARRANTY PERIOD SHALL BEGIN UPON ACCEPTANCE OF SYSTEMS BY OWNER.

DUCTWORK NOTES:
1. ALL DUCTWORK SHALL BE CONSTRUCTED OF 660 GALVANIZED SHEET METAL (OR GREATER) UNLESS INDICATED OTHERWISE ON THE DRAWINGS. IF EQUIPMENT MANUFACTURER INSTRUCTIONS DIRECT OTHERWISE, CONTRACTOR SHALL BE RESPONSIBLE FOR COMMUNICATING THE DISCREPANCY TO THE DESIGNER / ENGINEER OF RECORD IN WRITING.
2. ALL DUCTWORK SUPPORTS SHALL BE MOUNTED TO THE BUILDING STRUCTURE.
3. DUCTWORK DIMENSIONS SHOWN ON DRAWINGS ARE INTERNAL AIRFLOW DIMENSIONS.
4. PROVIDE SLEEVES AND PATCH ALL DUCT PENETRATIONS THROUGH WALLS AND FLOORS TO MATCH THE EXISTING CONSTRUCTION. SLEEVE DIMENSIONS SHALL BE 1-INCH LARGER THAN INSULATED DUCT DIMENSIONS. THE SPACE BETWEEN THE DUCT AND THE SLEEVE SHALL BE PACKED WITH MINERAL FIBER AND CAULKED IDENTIFY ALL HVAC EQUIPMENT WITH ENGRAVED COLOR-CODED LAMINATED PLASTIC LABELS. LABELS SHALL BE AT LEAST 2-INCH HIGH, LABEL AIR HANDLING UNITS AND EXHAUST FANS FROM THE FRONT AND BOTH SIDES. MATCH EQUIPMENT SCHEDULES ON THE DRAWINGS AS CLOSELY AS POSSIBLE FOR EQUIPMENT DESIGNATIONS.
5. CONTRACTOR SHALL FOLLOW THE MOST CURRENT SMACNA GUIDELINES FOR DUCT CLEANLINESS FOR NEW CONSTRUCTION. UNLESS OTHERWISE SPECIFIED, CONTRACTOR SHALL ADHERE TO THE "INTERMEDIATE" DUCT CLEANLINESS LEVEL AS DEFINED BY SMACNA.
6. ALL DUCTWORK AND SHEET METAL SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE MOST RECENT SMACNA STANDARD MODEL 300. ADDITIONALLY, THE FOLLOWING REQUIREMENTS APPLY:
6.1. GENERAL DUCTWORK REQUIREMENTS:
6.1.1. FITTINGS:
6.1.1.1. ELBOWS, TEES, AND WYES:
6.1.1.1.1. ALL ELBOWS, TEES, AND WYES SHALL BE 45-DEGREE TYPE FITTINGS, WITH MINIMUM 1.5 x DIA. RADIUS, UNLESS OTHERWISE INDICATED ON DRAWINGS.
6.1.1.1.2. EXCEPTION WHERE DUCTWORK CONFIGURATION OR ROUTING REQUIREMENTS PRECLUDE THE USE OF A 1.5 x DIA. TURNING RADIUS, INSTALL TURNING VANES TO PREVENT EXCESSIVE PRESSURE DROP THROUGH THE FITTING.
6.1.1.2. TURNING VANES:
6.1.1.2.1. DUCT VELOCITY LESS THAN 1500 FT/MIN TURNING VANES SHALL BE SINGLE-WIDTH TYPE, AND SHALL BE FABRICATED, SPACED, AND INSTALLED PER SMACNA STANDARDS.
6.1.1.2.2. DUCT VELOCITY GREATER THAN 1500 FT/MIN TURNING VANES SHALL BE "AIRFOIL" TYPE, AND SHALL BE FABRICATED, SPACED, AND INSTALLED PER SMACNA STANDARDS.

6.1.1.3. TAKEOFFS:
6.1.1.3.1. TAKEOFFS TO DIFFUSERS SHALL BE THE SAME SIZE AS THE DIFFUSER NECK/OPENING UNLESS NOTED OTHERWISE ON HVAC DRAWINGS.
6.1.1.3.2. RECTANGULAR OR OVAL DUCTWORK USE BEVELED TAKEOFF WITH A MINIMUM 45 DEGREE BEVEL. DO NOT USE SCOOPS OR AIR DAMS.
6.1.1.3.3. ROUND DUCTWORK USE CONICAL "SPIN-IN" TYPE TAKEOFF WITH A MINIMUM 45 DEGREE ANGLE, OR WYE LATERAL TAKEOFF, DO NOT USE "DOVETAIL" TYPE TAKEOFF FITTINGS.
6.1.1.4. DAMPERS:
6.1.1.4.1. ALL BALANCING DAMPERS SHALL BE LOCKING-TYPE CONSTRUCTED OF GALVANIZED STEEL (MINIMUM 20-GA. THICKNESS), AND SHALL BE RATED FOR A MINIMUM OF 1.0 IN.WG. PRESSURE, 2000 FPM VELOCITY, AND 180°F (82°C). TESTINGS AND RATINGS SHALL BE IN ACCORDANCE WITH AMCA STANDARD 500-D.
6.1.1.4.2. BALANCING DAMPERS SHALL BE INSTALLED AT THE DUCT TAKEOFF FROM THE MAIN. DIFFUSER-FACE DAMPERS ARE DISALLOWED.
6.1.1.5. EQUIPMENT CONNECTIONS:
6.1.1.5.1. PROVIDE MINIMUM 6" FLEXIBLE NEOPRENE-GLASS FABRIC CONNECTIONS FOR ALL DUCTWORK CONNECTIONS TO MECHANICAL EQUIPMENT. NEOPRENE MATERIAL MUST BE UL-LISTED, AND SHALL MEET NFPA-701 / CANULC S109-03 REQUIREMENTS.
6.2. EXHAUST DUCTWORK:
6.2.1. EXHAUST DUCTWORK THAT IS NEGATIVELY PRESSURIZED (DUCTWORK UPSTREAM OF EXHAUST FAN/DISCHARGE) SHALL BE FABRICATED TO A MINIMUM OF 1" PRESSURE CLASS, AND SHALL BE SEALED TO CLASS "C" OR BETTER, PER SMACNA STANDARDS.
6.2.2. EXHAUST DUCTWORK THAT IS POSITIVELY PRESSURIZED (DUCTWORK DOWNSTREAM OF EXHAUST FAN/DISCHARGE) SHALL BE FABRICATED TO A MINIMUM OF 2" PRESSURE CLASS, AND SHALL BE SEALED TO CLASS "C" OR BETTER, PER SMACNA STANDARDS.
6.2.3. NO FLEXIBLE DUCTWORK SHALL BE USED IN EXHAUST SYSTEMS EXCEPT WHERE SPECIFICALLY NOTED ON THE DRAWINGS.

CONTROLS NOTES:
1. ALL CONTROL WIRING NOT INCLUDED IN ELECTRICAL DRAWINGS SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.
2. EXHAUST DUCTS CONNECTED TO THE BUILDING EXTERIOR SHALL BE EQUIPPED WITH MOTORIZED OPPOSED-BLADE DAMPERS THAT WILL AUTOMATICALLY SHUT WHEN THE SYSTEMS OR SPACES SERVED ARE NOT IN USE, PER IECC REQUIREMENTS. LOCATE DAMPERS AT DISCHARGE OPENINGS UNLESS OTHERWISE INDICATED.

FIRE PROTECTION NOTES:
1. ALL DUCTWORK INSULATION, PIPING INSULATION, AND WIRING SHALL BE PLENUM-RATED (FLAME INDEX OF 25 OR BETTER, AND A SMOKE INDEX OF 50 OR BETTER, PER ASTM-E84 STANDARDS).
2. MECHANICAL CONTRACTOR SHALL COORDINATE WITH FIRE PROTECTION CONTRACTOR OR GENERAL CONTRACTOR TO ENSURE ALL DUCTWORK THAT PENETRATES RATED WALLS OR FLOORS IS ADEQUATELY EQUIPPED WITH SMOKE OR FIRE DAMPERS, AS REQUIRED BY CODE.
3. PROVIDE MINIMUM 12"x12" ACCESS PANEL IN DUCTWORK AT EACH FIRE OR SMOKE DAMPER TO ALLOW ACCESS TO DAMPERS FOR SERVICING. THE ACCESS OPENING SHALL NOT REDUCE THE FIRE OR SMOKE RATING OF THE ASSEMBLY. PANEL SHALL HAVE LABEL READING "FIRE/SMOKE DAMPER", "SMOKE DAMPER", OR "FIRE DAMPER" AS APPROPRIATE, IN LETTERS NOT LESS THAN 1/2 INCH HIGH. ACCESS DOORS SHALL BE TIGHT-FITTING, AND SUITABLE FOR THE REQUIRED DUCT CONSTRUCTION.
4. FIRE AND SMOKE DAMPERS SHALL MATCH THE RATING OF THE WALL, BARRIER, OR FLOOR THEY PENETRATE.
5. FIRESTOP ALL PENETRATIONS THROUGH FIRE-RESISTANCE-RATED WALLS, FLOORS, OR ASSEMBLIES IN ACCORDANCE WITH APPLICABLE CODES AND STANDARDS.

OUTSIDE AIR & EXHAUST NOTES:
1. LOCATE ALL OUTSIDE AIR INTAKES A MINIMUM OF 10'-0" HORIZONTAL AND 3'-0" VERTICAL DISTANCE AWAY FROM ANY HAZARDOUS OR NOXIOUS CONTAMINANT SOURCE, SUCH AS VENTS, STREETS, ALLEYS, PARKING LOTS, AND LOADING DOCKS. EXCEPTION: THE ABOVE DOES NOT APPLY TO STREETS, ALLEYS, PARKING LOTS, OR LOADING DOCKS, PROVIDED THAT THE OPENING(S) ARE LOCATED NOT LESS THAN 25 FEET VERTICALLY ABOVE SUCH LOCATIONS. INTAKES SHALL BE LOCATED NOT LESS THAN 3 FEET BELOW CONTAMINANT SOURCES WHERE SUCH SOURCES ARE LOCATED WITHIN 10 FEET OF THE OPENING.
2. UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS, EXTERIOR LOUVERS SERVING OUTSIDE AIR AND EXHAUST SYSTEMS SHALL HAVE A CLASS "A" EFFECTIVENESS RATIO FOR WIND-DRIVEN RAIN OF AT LEAST 99.3%, AND SHALL BE SIZED AS FOLLOWS:
2.1. OUTSIDE AIR INTAKES: MAXIMUM AIR VELOCITY - 450 FT/MIN. @ 0.07 IN.WG.
2.2. EXHAUST OUTLETS: MAXIMUM AIR VELOCITY - 550 FT/MIN. @ 0.07 IN.WG.
3. PROVIDE CORROSION-RESISTANT BIRDSCREEN OVER ALL OUTSIDE AIR INTAKES AND EXHAUSTS TO PROTECT AGAINST VERMIN AND DEBRIS. PENETRATION SIZE SHALL NOT BE LESS THAN 1/4 INCH AND NOT GREATER THAN 1 INCH, MEASURED IN ANY DIRECTION.
4. AT NO TIME SHALL EXHAUST AIR FROM ANY SOURCE BE PERMITTED TO DISCHARGE INTO AN ATTIC OR CRAWL SPACE FOR ANY REASON.

EQUIPMENT NOTES:
1. PROVIDE VIBRATION ISOLATION FOR ALL HVAC EQUIPMENT AS FOLLOWS:
1.1. SUSPENDED EQUIPMENT:
1.1.1. PROVIDE COMBINATION OF NEOPRENE AND SPRING (TYPE H) VIBRATION HANGARS. HANGARS SHALL PERMIT A 15-DEGREE ANGULAR MISALIGNMENT FROM VERTICAL WITHOUT RESULTING IN HANGAR BOX, OR MAKING ANY OTHER METAL TO METAL CONTACT.
1.2. ALL GAS, LIQUID AND VIBRATION ISOLATION EQUIPMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE. IDENTIFY ALL HVAC EQUIPMENT WITH ENGRAVED COLOR-CODED LAMINATED PLASTIC LABELS. LABELS SHALL BE AT LEAST 2-INCH HIGH, LABEL AIR HANDLING UNITS AND EXHAUST FANS FROM THE FRONT AND BOTH SIDES. MATCH EQUIPMENT SCHEDULES ON THE DRAWINGS AS CLOSELY AS POSSIBLE FOR EQUIPMENT DESIGNATIONS.

EXHAUST FAN SCHEDULE

MARK	MFGR	MODEL	TYPE	DRIVE	SERVICE	AIRFLOW (CFM)	E.S.P. (IN.WG.)	POWER (HP)	MAX SONES	VOLTS	PH	WEIGHT (LBS)	NOTES
EF-1	GREENHECK	SQ-90-D	INLINE	DIRECT	RESTROOMS	506	0.307	0.1	6.4	120	1	49	1

NOTES:
1) UNIT SHALL BE CONNECTED TO A SCHEDULE TIMER WITH BATTERY BACKUP TO SHUT DOWN DURING UNOCCUPIED HOURS. COORDINATE WITH ELECTRICAL.
2) UNIT SHALL BE EQUIPPED WITH ACTUATED OPPOSED-BLADE BACKDRAFT DAMPER THAT OPENS ON FAN START AND CLOSSES ON FAN STOP, IN ACCORDANCE WITH 2012 IECC SECTION C403.2.4.4

DIFFUSER AND AIR TERMINAL SCHEDULE

MARK	FACE SIZE (IN.)	NECK SIZE (IN.)	MFGR	MODEL	DESCRIPTION	MAX AIRFLOW (CFM)	N.C. RATING AT MAX FLOW	NOTES
LR6	24	6	TITUS	MLR-40	2FT LINEAR SLOT RETURN DIFFUSER - (1) 1-1/2" SLOT	112	31	1

GENERAL NOTES:
DIFFUSERS SHALL HAVE FACTORY FINISH. COORDINATE FINISH WITH ARCHITECT
COORDINATE AIR TERMINAL AND DIFFUSER LOCATIONS WITH ARCHITECTURAL CEILING PLANS AND ELECTRICAL LIGHTING PLAN
DUCT RUNOUTS TO AIR TERMINALS AND DIFFUSERS SHALL BE THE SAME SIZE AS THE DIFFUSER NECK, UNLESS OTHERWISE NOTED
AIR TERMINALS AND DIFFUSERS SHALL NOT HAVE A NOISE CRITERION (NC) RATING GREATER THAN 28 AT THE CFM INDICATED ON THE FLOORPLANS
STATIC PRESSURE DROP THROUGH ANY AIR TERMINAL OR DIFFUSER SHALL NOT BE GREATER THAN 0.10" W.C. AT THE CFM INDICATED ON THE FLOORPLANS
EQUIPMENT NOTES:
1) INCLUDE FACTORY-PROVIDED AIR PLENUM WITH ROUND CONNECTION SIZED AS INDICATED

UNIT HEATER SCHEDULE

MARK	DESCRIPTION	MFGR	MODEL	HEAT TYPE	OUTPUT (KW)	VOLTS	PH	HEIGHT	NOTES
UH-1A	ELECTRIC WALL-MOUNT UNIT HEATER	REZNOR	EHC	ELECTRIC	4.00	240	1	24	1, 2
UH-1B	ELECTRIC WALL-MOUNT UNIT HEATER	REZNOR	EHC	ELECTRIC	4.00	240	1	24	1, 2
UH-1C	ELECTRIC WALL-MOUNT UNIT HEATER	REZNOR	EHC	ELECTRIC	4.00	240	1	24	1, 2
UH-2	ELECTRIC CONVECTION UNIT HEATER	REZNOR	EGEB	ELECTRIC	6.00	240	3	40	1, 3

NOTES:
1) PROVIDE INTEGRATED FACTORY-PROVIDED TAMPER-PROOF THERMOSTAT. SET TO 60°F
2) INCLUDE FACTORY-PROVIDED SEMI-RECESSED WALL MOUNT INSTALLATION KIT
3) INCLUDE FACTORY-PROVIDED SURFACE WALL MOUNT INSTALLATION KIT

EXTERIOR AIR LOUVER SCHEDULE

MARK	MFGR	MODEL	LOUVER SIZE (IN.)	BLADE ANGLE (DEG.)	BLADE CENTERS (NOM.)	BIRD SCREEN	FREE AREA (SQ.FT.)	AIRFLOW (CFM)	FACE VELOCITY (FPM)	SERVICE	NOTES	DESCRIPTION
L-1	RUSWIN	ELR125DX	12Wx24H	35	6"	5/8"x0.040" (16x1)	0.86	506	588	EXHAUST		EXTRUDED ALUMINUM STORMPROOF DRAINABLE STATIONARY LOUVER

GENERAL NOTES:
LOUVERS SHALL BE MANUFACTURED IN AN ISO9001-CERTIFIED FACTORY
LOUVERS SHALL HAVE FACTORY FINISH WITH MIN. 20-YEAR FINISH WARRANTY. COORDINATE FINISH WITH ARCHITECT.
LOUVERS SHALL HAVE STRUCTURAL SUPPORTS REQUIRED TO WITHSTAND A MIN. WIND LOAD OF 20 LBS/SQFT
LOUVERS SHALL BE CONSTRUCTED OF 6063T6 HIGH YIELD STRENGTH ALUMINUM ALLOY
INCLUDE FACTORY-INSTALLED BIRD SCREEN INSTALLED IN CONFIGURATION COINCIDENT TO LOUVER SERVICE TYPE
COORDINATE FINAL LOCATION OF LOUVERS WITH ARCHITECT
BEGINNING POINT OF WATER PENETRATION AT 0.01 OZ/SQFT SHALL BE MIN. 1023 FPM

HVAC LEGEND-SYMBOL

SYMBOL	ITEM	SYMBOL	ITEM	SYMBOL	ITEM
A.D.	ACCESS DOOR	T.R.	TOP REGISTER		CALIBRATED BALANCING VALVE
A.F.F.	ABOVE FINISHED FLOOR	V.A.V.	VARIABLE AIR VOLUME		PRESSURE REDUCING VALVE
A.L.	ACOUSTICAL LINING	V.D.	VOLUME DAMPER		CONTROL VALVE, 2-WAY
A.M.D.	AUTOMATIC MOTORIZED DAMPER	W.M.S.	WIRE MESH SCREEN		CONTROL VALVE, 3-WAY
B.E.	BOTTOM ELEVATION	CHWS	CHILLED WATER SUPPLY		CHECK VALVE
B.R.	BOTTOM REGISTER	CHWR	CHILLED WATER RETURN		RELIEF VALVE
C.D.	CEILING DIFFUSER	CWS	CONDENSER WATER SUPPLY		BUTTERFLY VALVE
C.L.	CENTER LINE	CWR	CONDENSER WATER RETURN		STRAINER W/ BLOWDOWN VALVE
C.R.	CEILING REGISTER	HWS	HEATING HOT WATER SUPPLY		THERMOMETER WELL
E.R.	EXHAUST REGISTER	HWR	HEATING HOT WATER RETURN		PRESSURE GAGE W/ GAGECOCK
F.C.	FLEXIBLE CONNECTION	D	DRAIN PIPING		THERMOMETER
F.D.	FIRE DAMPER	CR	CONDENSATE RETURN (STEAM)		MANUAL AIR VENT WITH CAP
H.C.	HEATING COIL	CD	CONDENSATE DRAIN		GATE VALVE W/HOSE FITTING
H.P.S.	HIGH PRESSURE STEAM	FC	FLEXIBLE CONNECTION		CHECK VALVE
L.P.S.	LOW PRESSURE STEAM	AV	AUTOMATIC AIR VENT		MOTORIZED CONTROL DAMPER
M.P.S.	MEDIUM PRESSURE STEAM	U	UNION		DUCT WITH ACOUSTICAL LINING
N.T.S.	NOT TO SCALE	R	REDUCER		THERMOSTAT
O.S.A.	OUTSIDE AIR	BV	BALL VALVE		VALVED PRESSURE GAGE CONNECTION
R.A.	RETURN AIR	GV	GATE VALVE		
R.A.G.	RETURN AIR GRILLE	GV	GLOBE VALVE		
R.A.R.	RETURN AIR REGISTER	BC	BALANCING COCK		



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03/28/2018
In accordance with GA R&R Dept
180 112 - Sealing of Documents

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No.	Date	Description
0	2018-03-12	ISSUED FOR CONSTRUCTION
1	2016-07-22	100% SET
A	2016-07-08	REVIEW SET

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16139
DRAWN: JEB CHECKED: JKM
SHEET TITLE
MECHANICAL GENERAL NOTES & LEGEND
SHEET NO.
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