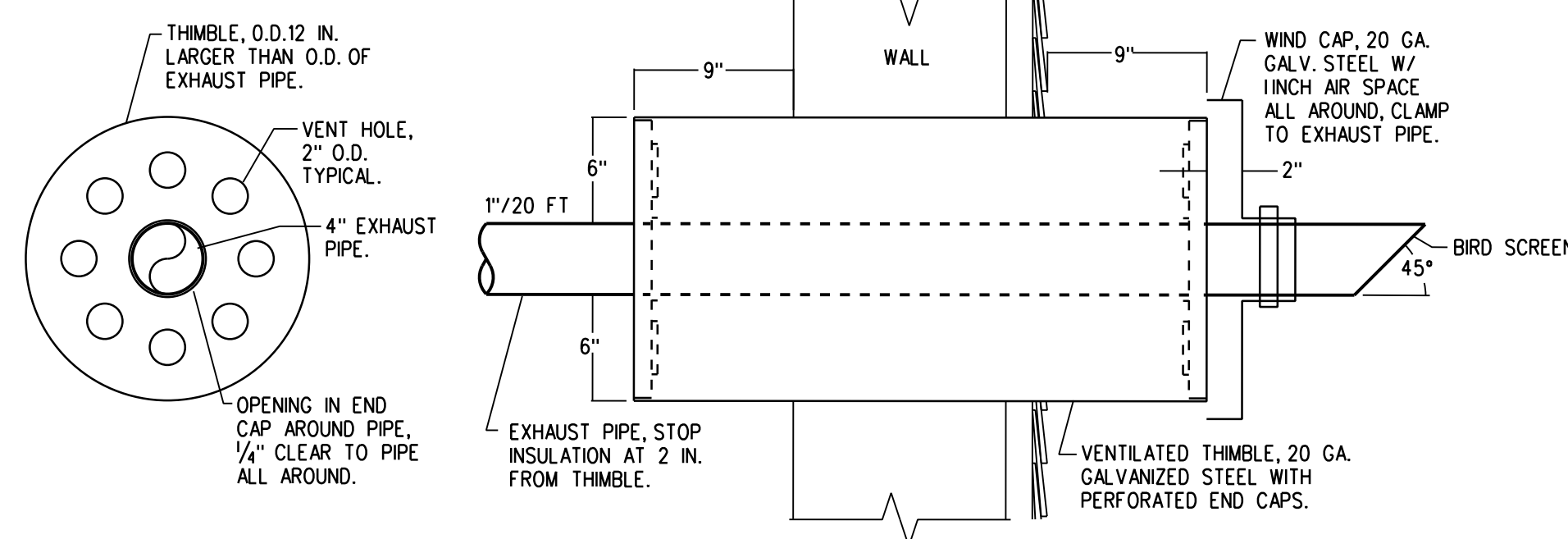


GENERATOR BUILDING MECHANICAL PLAN

SCALE: 1/4"=1'-0"

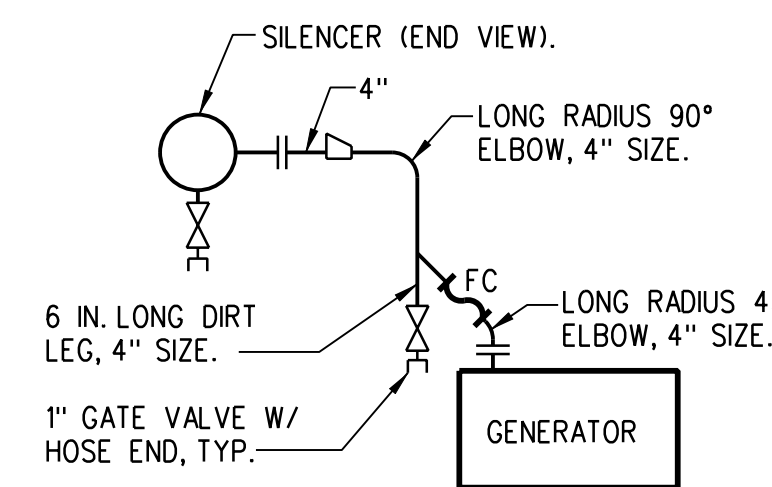
LOUVER PERFORMANCE SCHEDULE									
TAG	AIR FLOW (CFM)	SP LOSS (IN.WG)	AIR VEL. (FPM)	SIZE (WxH) (INCHES)	FREE AREA (SQ.FT)	DRAINABLE? (Y) OR (N)	BLADE ANGLE & FRAME DEPTH	BASIS OF DESIGN: RUSKIN	
								SERVICE	MODEL
L-1	100	0.05	53	24x24	1.89	Y	35°, 6"	GEN. COMBUSTION AIR	ELF6375-DX
L-2A	3625	0.05	755	36x36	4.8	Y	35°, 6"	GEN. COOLING INTAKE	ELF6375-DX
L-2B	3625	0.05	755	36x36	4.8	Y	35°, 6"	GEN. COOLING INTAKE	ELF6375-DX
L-3	7250	0.05	1511	48x48	9.08	Y	35°, 6"	GEN. COOLING EXHAUST	ELF6375-DX

LOUVERS SHALL HAVE A KYMAR FINISH.



EXHAUST WALL PENETRATION DETAIL

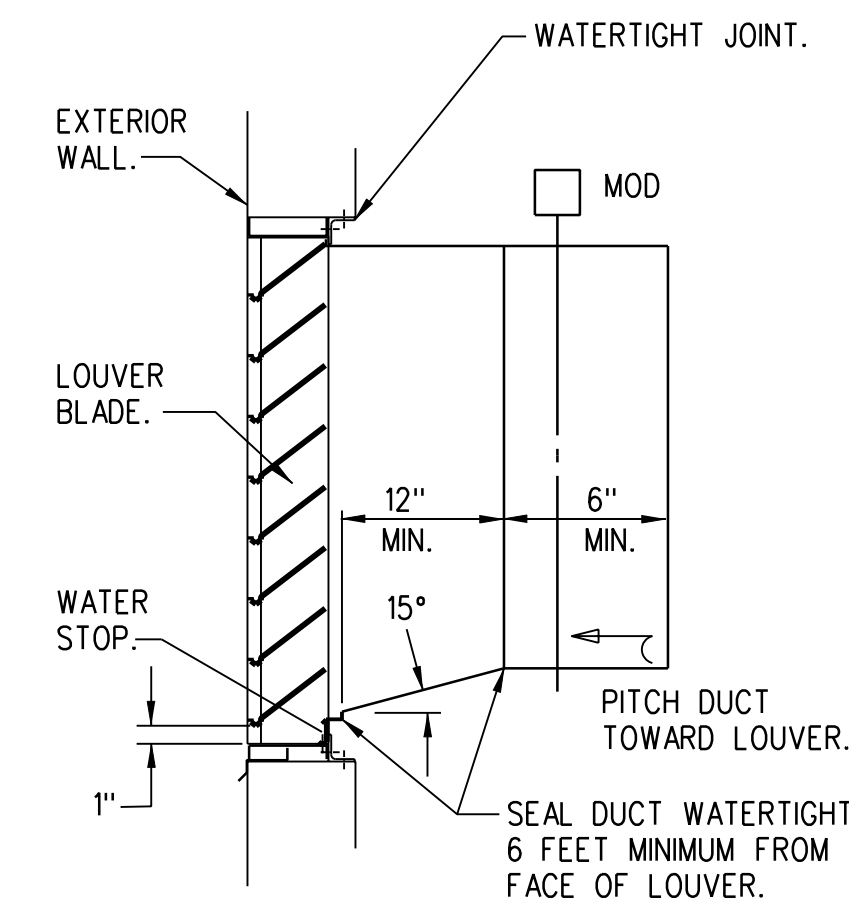
NTS



NOTE: SILENCER AND FLEXIBLE CONNECTION SHALL BE FURNISHED WITH GENERATOR (DIVISION 16), INSTALLED UNDER DIVISION 15.

EXHAUST PIPING SCHEMATIC

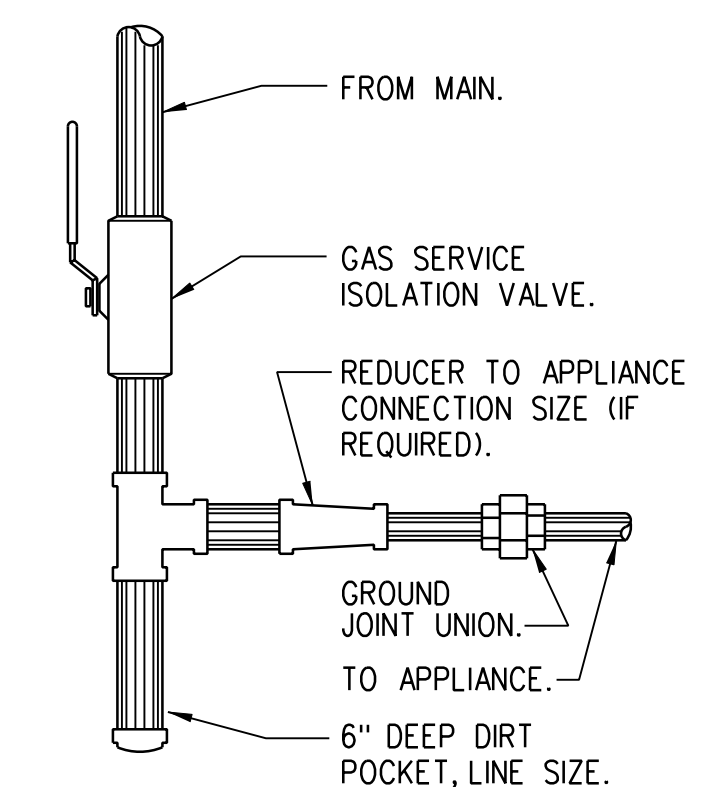
NTS



LOUVER DETAIL WITH HORIZONTAL DUCT

NTS

NOTE: IF DIMENSION "A" IS LESS THAN 1 INCH SEE MODIFIED LOUVER DETAIL THIS SHEET.



DOWNFEED GAS PIPING CONNECTION DETAIL

NTS

NOTE: APPLIANCES WITH REGULATORS: LOCATE PIPING SHOWN HEREIN UPSTREAM OF THE APPLIANCE REGULATOR. PROVIDE A TEST PLUG DOWNSTREAM OF THE APPLIANCE REGULATOR.

SPECIFICATIONS

1.01 GENERAL MECHANICAL

- A. Furnish materials and labor necessary to deliver to the Owner a complete and operable system installed in accordance with the contract documents.
- B. Submit shop drawings, manufacturers' data and certificates for equipment, materials and finish, and pertinent details for each system where specified in each individual section.
- C. Provide information sufficiently in advance of this work, so that work by the other trades may be coordinated and installed without delays. Furnish and locate sleeves, supports, anchors and necessary access panels.
- D. Obtain necessary permits and licenses, give notices and comply with laws, ordinances, rules, regulations or orders affecting the work, and pay fees and charges in connection therewith.
- E. Work and materials shall conform to the latest rules and regulations and these rules and regulations hereby are made part of this specification.
- F. Upon completion of the work and before applying for final payment, furnish a written guarantee, stating that the work complies with the provisions of codes and the local enforcing authorities, and that it will be free from defects of material and workmanship for not less than one (1) year. Guarantee shall further state that the Contractor will, at his own expense, repair or replace any of his material and work which may become defective during the time of guarantee, together with other work damaged as a consequence of such defects.

1.02 DUCTWORK AND ACCESSORIES

- A. Ductwork shall be galvanized steel conforming to ASTM A527, weight of galvanized coating shall be not less than 1-1/4 ounces total for both sides of one sq.ft. of a sheet. Construction, metal gage, and reinforcements shall conform with SMACNA "Duct Construction Standards" and NFPA 90A for 2" W.G. pressure class. Fittings shall be constructed in accordance with SMACNA Standards and shall be of the types indicated (ONLY). Longitudinal joints shall be Pittsburgh lockseam (ONLY). Button punch snap locks are not acceptable. Joints shall be sealed to SMACNA seal class B with Hardcast Duct Seal 321 water based indoor/outdoor sealant.
- B. Motor operated dampers shall be Ruskin model CD60, ultra low leak or equal.
- C. Louvers shall be Ruskin ELF6375DX or equal.

1.03 GENERATOR EXHAUST SYSTEM

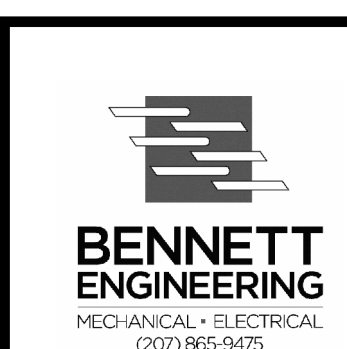
- A. Insulation: Mineral fiber blanket conforming to Fed. Spec. HH-I-558B Form C with thermal conductivity of 0.36 Btu-in/hr-ft.-°F at 300°F mean temperature. Insulation shall be suitable for continuous 1200°F service temperature and shall be 6.0 lbs/cu.ft. density. Jacketing shall be corrugated aluminum.
- B. Exhaust Piping: Shall be welded sched. 40 carbon steel.
- C. Generator to be supplied with exhaust silencer, refer to Specifications Section 16231.

1.04 SEQUENCE OF OPERATIONS (ALL DAMPERS SHALL POWER CLOSE IN 10 SECONDS OR LESS)

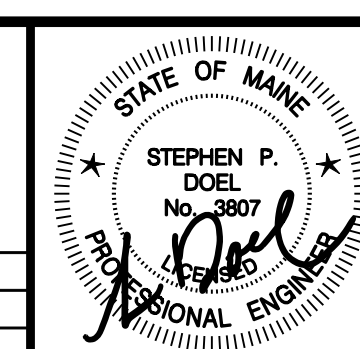
- A. MOD-1 & MOD-5 shall open when the generator starts. MOD-2, MOD-3 & MOD-4 shall remain closed.
- B. On a call for cooling from room thermostat MOD-2, MOD-3 & MOD-4 shall open and MOD-1 shall close.
- C. At generator shutdown, all motorized dampers shall close, in 10 seconds or less.

2.01 GAS PIPING AND ACCESSORIES

- A. The Contractor shall furnish & install all gas piping from the regulator outside the building to each second stage regulator then to each appliance, regulators by contractor.
- B. Above grade piping shall be Schedule 40 ASTM A-53 Steel with ASTM A-197/ANSI B16.3 Class 150 malleable iron, threaded fittings. Provide full size scale pocket and isolation valve before connections.
- C. Gas valves shall be DeZurik Fig. 425 eccentric valves, cast iron body, bronze plug with petroleum Hycar seal. Provide each valve with manual lever handle.
- D. All above ground piping shall be supported in accordance with all applicable standards, and codes.
- E. Paint all above ground piping with yellow oil base exterior metal paint.



REV	DATE	DESCRIPTION
3	01.31.13	RELEASED FOR BIDS
2	01.10.13	90% REVIEW SET
1	12.12.12	60% REVIEW SET
REV	DATE	DESCRIPTION



PROJECT	PEAKS ISLAND - PORTLAND, MAINE SEWERAGE EXTENSIONS & WATER MAIN RENEWAL ISLAND AVENUE AND WINDING WAY AREAS
SHEET TITLE	MECHANICAL PLAN AND DETAILS
CLIENT	PORTLAND WATER DISTRICT

DESIGNED: SMR	DATE: DEC. 2012
CHECKED: SPD	SCALE: 1/4"=1'-0"
FILE NAME: FILENAME	JOB NO. 3134
SHEET	M1.1

RELEASED FOR BIDS