

# Seattle Permits

— part of a multi-departmental City of Seattle series on getting a permit

## Applicant Responsibilities and Plan Requirements for Mechanical Permits

Updated November 9, 2011

This Client Assistance Memo (CAM) summarizes the Department of Planning and Development (DPD) requirements for mechanical permits requiring plan review. Permit applicants are encouraged to read this document before submitting an application, as the plans and information detailed in this CAM are required.

### TYPES OF MECHANICAL PERMITS

DPD issues four types of mechanical permits:

- **Mechanical Routed (Full C)** - for projects valued at more than \$50,000. These require a mechanical engineer's signature and stamp.
- **Mechanical Expedited (Full +)** - for projects valued at \$50,000 or less with multiple reviews (eg: Ord/Str, Zoning, Noise).
- **Mechanical Expedited (Full)** - for projects valued at \$50,000 or less with Mech reviews only.
- **Subject-to-Field-Inspection (STFI)** - for projects valued at \$15,000 or less; see **CAM 414**, *STFI Mechanical Permits for Commercial and Multifamily Residential*
- **Over-the-Counter (OTC) Mechanical** - for single-family or duplex mechanical projects, see **CAM 104**, *Getting an OTC (Over-the-Counter) Permit*

In order to apply for a mechanical permit (Full C, Full + or Full), you will need to schedule an appointment for submittal. Please call (206) 684-8850 to schedule an appointment. A maximum of two applications may be submitted in one appointment.

Bring at least three sets of detailed plans, similar to the drawings shown in this CAM, and a completed coversheet to your submittal appointment. The

coversheet is a tool which summarizes and organizes required information so that DPD intake staff and plan reviewers can find it quickly and easily. Be sure to fill out all applicable information listed on the coversheet before filing a permit application.

Coversheets are available from the DPD Applicant Services Center (ASC), located on the 20th floor of Seattle Municipal Tower at 700 Fifth Ave., or by calling (206) 684-8850. You can also download a PDF or CAD version from our website, [www.seattle.gov/dpd/Publications/Forms/Building\\_Permit/default.asp](http://www.seattle.gov/dpd/Publications/Forms/Building_Permit/default.asp).

### OVERVIEW OF REQUIRED INFORMATION

The following types of information are required by DPD in order to consider applications for mechanical permits. If any required information is not included, the application may not be accepted.

**YOU MUST SUBMIT THREE COMPLETE SETS OF PLANS**, which include the items detailed below and in the following pages:

#### 1. General Information

- Completed Mechanical Plan coversheet
- Year of code this permit complies with
- Vicinity map (see **Example 1**)
- Site plan, which must be to scale and fully dimensioned using minimum scale of 1/8" = 1" or 1" = 10'. All other detail plans must be 1/4" = 1' or larger. (**Must show adjacent zoning**; see **Example 4**)
- Legal description of the property
- Assessor's Parcel Number
- Legend/abbreviation, general notes, and drawing title block (see **Examples 2** and **3**)
- Statement of financial responsibility when project exceeds \$50,000
- Building identification number for all surrounding buildings (see Director's Rule (DR) 8-2000) if there are more than two buildings on the site
- When architectural drawings are used, label them



as mechanical drawings and remove all architectural information that does not pertain to this mechanical permit.

- All reference drawings shall be labelled as reference drawings
- Minimum size shall be 18" x 18"
- All plans must have a minimum of 1/8" lettering
- All plans must be microfilmable and easy to read
- Plans must be in ink; pencil is not acceptable
- Any related Building Permit numbers

## 2. Zoning Code Information to be added to site plan

### A. If equipment, ductwork, or louver is installed outside the building, such as on the rooftop, ground or exterior wall, provide the following zoning information:

- Distance of equipment, exterior ductwork, and louvers from all property lines
- Distance of equipment, exterior ductwork, and louvers from all surrounding buildings
- Distance of equipment, exterior ductwork, and louvers from all adjoining walls
- Height of exhaust or other louvers above sidewalks
- Zoning of adjacent properties (see **Example 4**)
- Width of adjacent rights-of-way (e.g., streets, alleys)

### B. If equipment is on the roof, provide the following information:

- Building elevation drawing showing the height from existing and finished grade to top of roof and to top of proposed mechanical equipment (see **Example 6**)
- Show parapet or screening, if applicable
- Show plan view of rooftop equipment
- Show roof coverage calculation (square footage and percentage) for all new and existing equipment and structures, such as stair penthouses (See pg. 7)
- Include dimensioned open space plan and calculation, if required residential open space is being displaced by installation of equipment.
- Include floor area ratio (FAR) calculations, if site is in a commercial, downtown, or industrial zone. See specific zone for exemptions from FAR for structure existing as of specific dates.

### C. If mechanical equipment is to be installed in a parking garage, it may not displace a required parking space. Provide the following information:

- Required parking calculation. A complete parking plan will be required if the layout is changed to accommodate the equipment.
- On plans, show location and dimensions of mechanical equipment in the parking garage.

### D. If the property is within 200 feet of the shoreline, the project may be subject to shoreline development regulations, and the permit time-frame may be different. Provide the following information:

- Include a copy of any shoreline exemption you have received.
- Show shoreline setback line location on the site plan and on the rooftop plan view.

### E. If your project is on a landmark building or in an historic or special review district, contact the Department of Neighborhoods (DON) at (206) 684-0228 for assistance. Provide the following at application:

- Proof of application to DON for Mechanical Routed (Full C) permits and DON written approval on plans for Mechanical Expedited (Full) permits.

### F. If you want to install equipment and ductwork in the public right-of-way (e.g., alleys or sidewalks), contact Seattle Department of Transportation (SDOT) at (206) 684-5283. Provide the following information at application:

- SDOT Street Use permit

For additional information on the zoning requirements in this section, please use our online "Land Use Question and Answer Service" at [www.seattle.gov/dpd/landuse](http://www.seattle.gov/dpd/landuse) or visit with a land use planner in the ASC.

## 3. Noise Code Information

Equipment installed on the roof, on the ground, outside the building, at an exterior wall, or inside the building may transmit noise to an exterior wall through duct and/or louver. The following noise information is required:

- Noise rating per ARI 270 (dBA) on equipment schedule.
- An acoustic report is generally required. However, if the equipment sound pressure level (dBA) rating is equal to or less than the requirement listed in **Table 1**, an acoustic report may not be required.

Example: A piece of HVAC equipment on a commercial building is rated at 84 dBA (The Manufacturers specified power level) and is 40 feet from the nearest residential property line. The distance correction factor is 29 dBA (See **Table 2**) 84 dBA – 29 dBA = 55 dBA if the unit does not run at night the sound level is below 57 dBA an acoustic report is not required.

For more information on noise in commercial projects, read CAM 118, *Making Sure Your Commercial Project Meets Seattle's Noise Ordinance Requirements*, visit DPD's Noise Abatement website at [www.seattle.gov/dpd/Noise](http://www.seattle.gov/dpd/Noise), or call a Noise Abatement Coordinator at (206) 684-7843 or (206) 615-1760.

**Table 1. Maximum Permissible Sound Levels\***

District of Sound Source	District of Receiving Property		
	Residential	Commercial	Industrial
Residential	55 dBA	57 dBA	60 dBA
Commercial	57 dBA	60 dBA	65 dBA
Industrial	60 dBA	65 dBA	70 dBA

\*Levels must be reduced by 10 dBA 10 p.m. to 7 a.m. when receiving property is in a residential district.

**Table 2. Distance Factor**

Distance in feet from equipment to property line	dBA reduction from equipment sound level ARI 270
2	3
3	7
4	10
5	12
6	13
7	14
8	15
9	16
10	17
15	21
20	23
25	25
30	27
40	29
50	31
60	33

**Table 2. Distance Factor**

Distance in feet from equipment to property line	dBA reduction from equipment sound level ARI 270
70	34
80	35
90	36
100	37
150	41
200	43
400	49

**4. Mechanical and Energy Code Information**

Please highlight all mechanical work on the following documents under this permit and provide the following information:

- Plan view (see **Example 5**)
- Elevation view (see **Example 6**)
- Section/detail view
- Equipment schedule (see **Example 7**)
- Heating and cooling load calculation
- Commercial kitchen hood worksheet, if applicable

Forms are available at [www.seattle.gov/dpd/publications/Forms](http://www.seattle.gov/dpd/publications/Forms).

**5. Building Code Information**

For projects involving equipment weighing more than 400 pounds, the following information is required, unless the equipment is installed on the ground:

- Provide one additional set of plans.
- Show transfer of equipment load to the nearest supporting element, such as roof joist to bearing wall or to beam and column system. Also show seismic restraints as required. See DPD DR 29-2005.
- Structural calculation with structural engineer's stamp (Note: All structural details must be included on the plans.)
- For replacement equipment, state the weight of the old and new equipment on the plans, and show the old and new location of the replacement equipment. If the new equipment weight is equal or less than the existing, and in the same location, structural calculations will not be required.

- For projects with new ductwork, provide architectural plans showing the location of corridors, occupancy separations, or other fire-rated construction. Copies of these drawings from the original permit are acceptable.

## 6. Fire Code Information

The Seattle Fire Department will review projects with the following equipment. Provide the following information:

- High-rise shell and core mechanical system (not including tenant improvement mechanical system)
- High-rise fire and life safety equipment, such as
  - Smoke management systems: provide schematic drawings, design parameters and activation matrix.
  - Stair and elevator pressurization fans: identify on drawings and provide schematic drawings.
  - Emergency generator. Provide fuel tank, fuel venting line, and fuel fill plan.
- Fume hood. See DPD DR 30-2005. Provide hazardous material inventory statement. (HMIS)
- Spray paint booth. Provide spray booth detailed drawings and ventilation calculations.
- Fuel tank of any size and located anywhere
- Mechanical ventilation systems for any group H occupancy, e.g., chemical storage room, battery room, repair garage, paint manufacturing area, etc.

For additional fire information, call the Fire Department at (206) 386-1443.

## 7. Additional Permits Required

- Boiler and/or pressure vessel. For applicable forms and assistance, call DPD OTC Permits at (206) 684-8464. OTC forms are also available at [www.seattle.gov/dpd/publications/forms](http://www.seattle.gov/dpd/publications/forms).
- Refrigeration system such as split system cooling equipment, chiller, DX system, refrigerant piping (does not include self-contained refrigeration system). For forms or assistance call (206) 684-8464 or visit the web address highlighted above.
- Plumbing. Call King County at (206) 684-5198.
- Water heater. Call King County at (206) 684-5198.
- Gas piping. Call King County at (206) 684-5198.
- Sprinkler system. A building permit is required. Call the DPD ASC at (206) 684-8850.
- Equipment and ductwork installed in the public right-of-way (e.g., alley or sidewalk). A Street Use Permit from SDOT is required; call (206) 684-5283.

- Fuel storage tank of any size. Obtain a combustible liquid permit from the Fire Department; call (206) 386-1450.
- Paint spray booth of any size. Obtain a spray finishing permit from the Fire Department, (206) 386-1450.
- Electrical wiring to HVAC system. Obtain an electrical permit. Call DPD OTC Permits at (206) 684-8464.
- Low voltage control wiring system. Obtain a low voltage electrical permit for each system. Call DPD OTC Permits (206) 684-8464.
- Fume hood. A building permit is required for a fume hood, unless the existing establishment is a lab or hospital. For information about changing a use, call the DPD ASC at (206) 684-8850.
- Commercial kitchen hood. A building permit to change the use may be required if the building or space is not already established as a food preparation establishment (e.g., restaurant) in DPD's records. For permit information, call the DPD ASC at (206) 684-8850. To schedule a Fire Department inspection of the hood fire suppression system or to obtain a fire suppression permit, call (206) 386-1443.
- Hydronic waterloop heating system for other than group R shall apply for a mechanical permit. See item #4 on page 3 of this CAM.

## FEES

Your application consists of complete plans with a Mechanical Coversheet, and will not be accepted unless accompanied by a fee. For fee information, see our online "Fees" page at [www.seattle.gov/dpd/fees](http://www.seattle.gov/dpd/fees) or contact our Public Resource Center at (206) 684 8467.

## HELPFUL INFORMATION

Permit applicants are encouraged to read the DPD documents listed below before submitting an application. See the Access to Information box below for details on obtaining these publications.

### Client Assistance Memos (CAMs)

- **CAM 103**, *Site Plan Requirements*
- **CAM 103A**, *Site Plan Guidelines*
- **CAM 104**, *Getting an OTC (Over-the-Counter) Permit*
- **CAM 106**, *General Standards for Plans and Drawings*
- **CAM 118**, *Making Sure Your Commercial Project Meets Seattle's Noise Ordinance Requirements*

- **CAM 209**, *Master Use Permit Application Requirements for Shoreline Permits*
- **CAM 209A**, *Shoreline Substantial Development Exemptions Application Instructions*
- **CAM 338**, *Public and Private Transformer Vaults*
- **CAM 404**, *True Seven-Day Programmable Thermostats*
- **CAM 406**, *Outdoor Air Quality in the Puget Sound Area and Building Ventilation Implications*
- **CAM 414**, *STFI Mechanical Permits for Commercial and Multifamily Residential*
- **CAM 418**, *User's Guide to Achieving a Fire-Rated Shaft with YYET Products*
- **CAM 419**, *Commissioning for Nonresidential Mechanical and Lighting Systems*

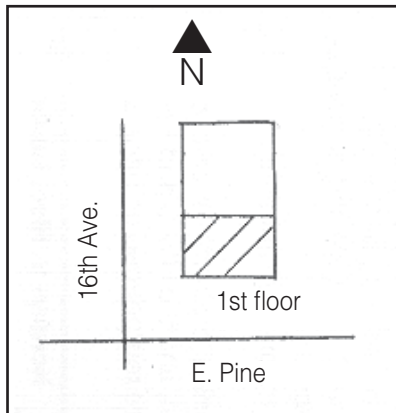
### **Director's Rules (DRs)**

- **DR 7-2007**: Determination of Residential Setbacks in the Shoreline District
- **DR 8-2000**: Building Identification Plan Requirement for Properties Having More than Two Buildings
- **DR 9-2003**: Exemptions from Shoreline Program Permit Requirements
- **DR 6-2005**: Commercial Kitchen Exhaust Hood and Ducts: Standard Alternatives For Exhaust Duct Termination at Locations Other than the Building Rooftop
- **DR 3-2009**: Variances from the Standards of the Noise Control Code SMC 25.08
- **DR 29-2005**: Structural Support of Ducts and Mechanical Equipment
- **DR 30-2005**: Ventilation Systems in Research and Educational Laboratories (Fume Hood)

## **Access to Information**

Links to electronic versions of **DPD Client Assistance Memos (CAMs)**, **Director's Rules**, and the **Seattle Municipal Code** are available on the "Publications" and "Codes" pages of our website at [www.seattle.gov/dpd](http://www.seattle.gov/dpd). Worksheets and application forms are located at [www.seattle.gov/dpd/publications/forms](http://www.seattle.gov/dpd/publications/forms). Paper copies of these documents, as well as additional regulations mentioned in this CAM, are available from our Public Resource Center, located on the 20th floor of Seattle Municipal Tower at 700 Fifth Ave. in downtown Seattle, (206) 684-8467.

**Example 1: Vicinity Map**



Assessor's Parcel Number  
 Legal Description  
 Address

**Example 3: General Notes and Title Block**

1. Provide seven-day programmable thermostat.
2. Duct insulation shall be R7 for duct installed above ceiling insulation or on exterior of the building.
3. Duct gauges shall be per 1994 SMC Table 6.
4. Outside air intake shall be 10' from exhaust outlet.

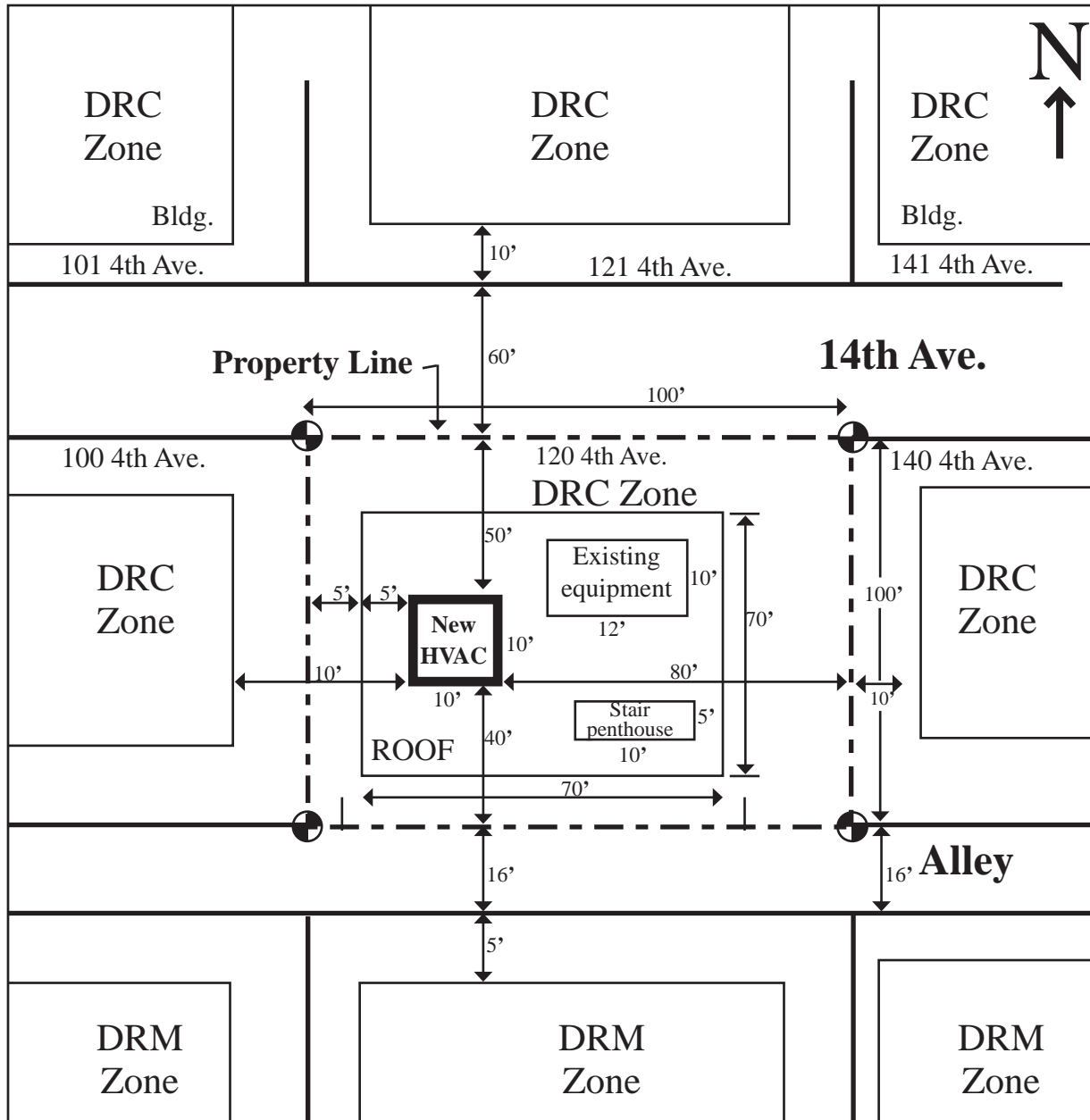
**Drawing Title Block**

Project Name
Project Address
Plan Date
M 1/1

**Example 2: Legend**

	supply
	return
	transfer grill
	flex duct
	fire damper
	fire/smoke damper
	volume damper
	thermostat

**Example 4. Site Plan with Mechanical Equipment Information**



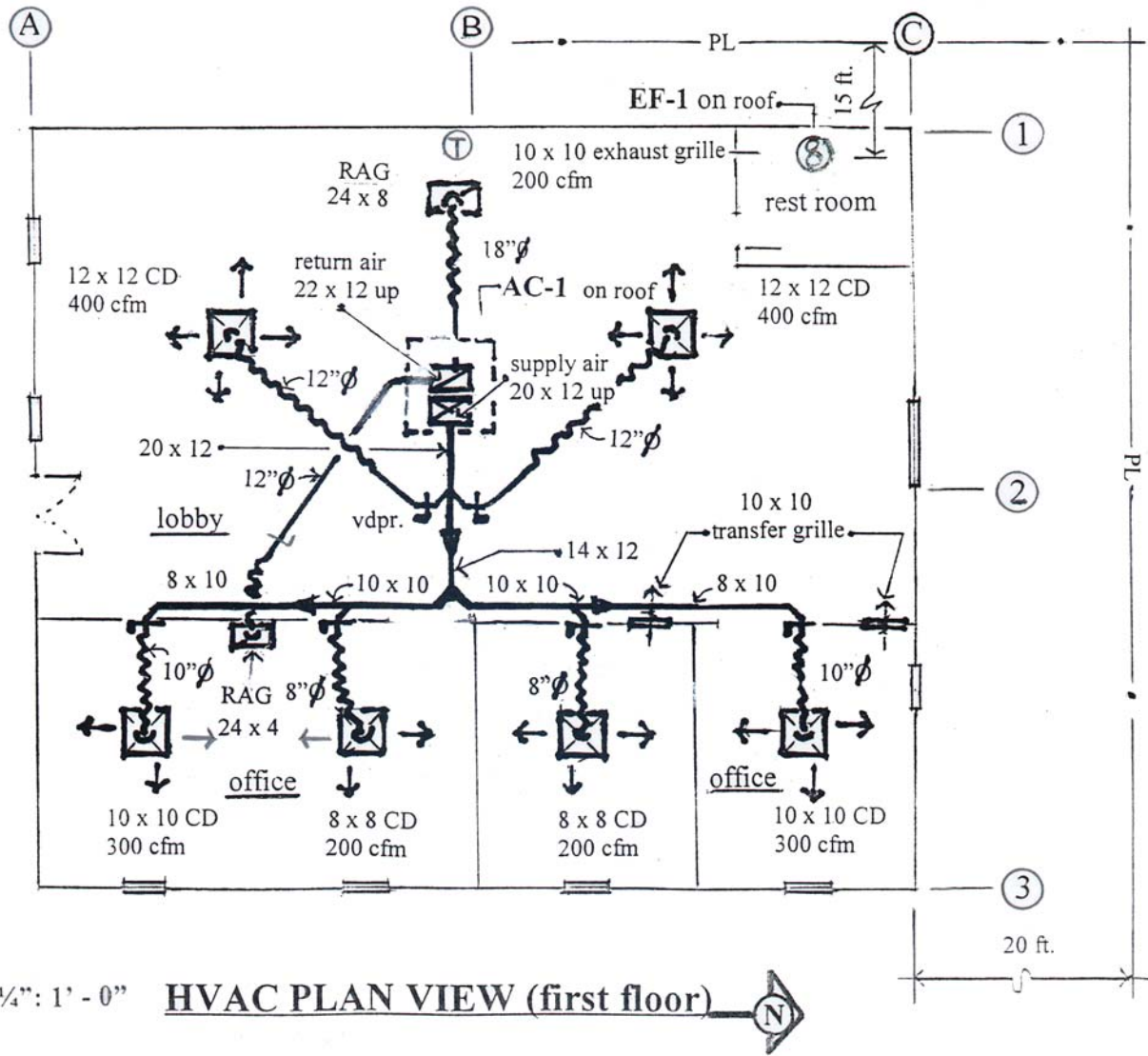
**DRAWING NOT TO SCALE**

**NOTE: drawings MUST be to scale on plans submitted with application (see item #4 under General Information on pg. 1).**

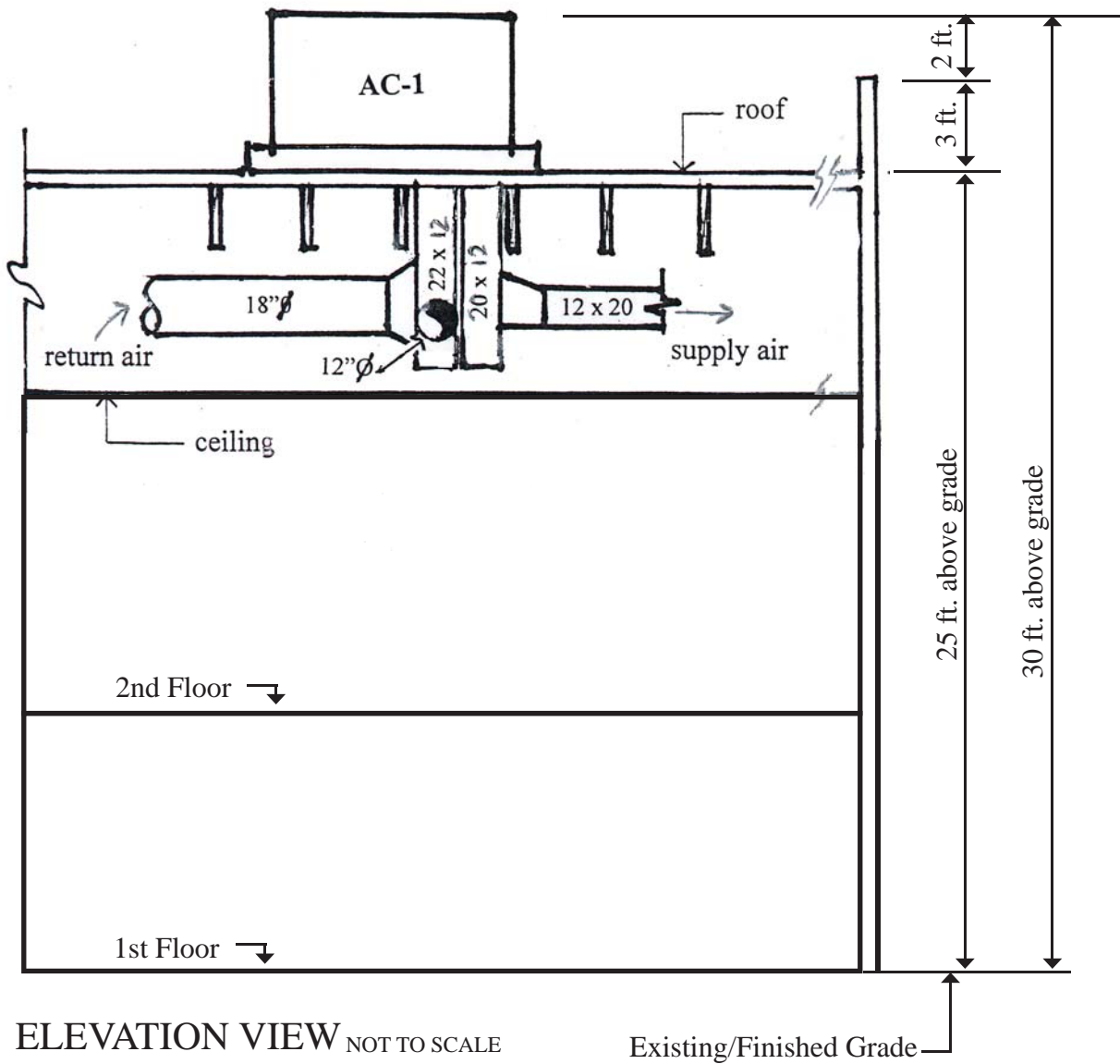
**Roof Coverage Calculation**

		New HVAC	Existing Equipment	Stair Penthouse		
Equipment + Structure on Roof	=	(10x10	+ 12x10	+ 5x10)	x 100%	= 5.5%
Roof Area		70x70				

**Example 5. Plan View**



### Example 6. Elevation View



**Example 7. Equipment Schedules**

HVAC Equipment Schedule																	
Unit #	Brand Name	Model #	Nominal Tonnage	Total CFM	OSA CFM	ECON Cycle	SP	HP/BHP	COOLING			HEATING			LWA	Weight (lbs) <sup>2</sup>	Location Service
									Total (BTUH)	Sensible (BTUH)	SEER/EER	IPLV	BTU/ft. <sup>2</sup>	Input (BTUH)			
1																	
2																	
3																	
4																	
5																	
6																	

<sup>1</sup> Noise rating per ARI 270.  
<sup>2</sup> Structural Support Calculation: Total equipment weight 400 lbs. or more requires Professional Structural Engineer calculation and stamp.

Fan Equipment Schedule									
Unit #	Brand Name	Model #	CFM	SP	HP/BHP	dBA <sup>1</sup> @ 5'	Feature VAV/Const. vol./	VAV Type <sup>2</sup>	Location Service
1									
2									
3									

<sup>1</sup> Noise rating per ARI 270  
<sup>2</sup> Per section 1438

Damper Schedule for 3 Stories or More (Energy code 1412.4.1)								
Damper #	Brand Name	Model #	Size	CFM	Motorize or gravity	Intake or Exhaust/relieve	System serve	Location
1								
2								
3								