



**City of Richmond**  
**Bureau of Permits and Inspections**  
**Department of Planning and Development Review**

**Mechanical Checklist**

The following checklist contains the minimum information and details required on mechanical plans prior to submission for plan review. This is a basic pre-submittal checklist that is intended to expedite the plan review process by minimizing the number of required revisions. Please contact the commercial plan review staff at (804) 646-4169 with any questions regarding this checklist or any other commercial permit questions.

A mechanical permit is required for the installation of HVAC systems, storage tanks, paint spray and powder coating booths, walk-in cooler/freezer, and kitchen hoods.

**General Requirements:**

- Construction documents prepared and sealed by a registered design professional for:
  - The following occupancy classifications: Institutional (I), Educational (E), High hazard (H), and all Assembly (A-1) occupancies that have an occupant load over 100
  - All buildings over 3 stories in height
  - Any building or occupancy using non-packaged equipment or packaged equipment exceeding 300 °F (other than flue gases) and pressures greater than 125 PSI
- Construction documents that are not required to be prepared by an RDP, prepared by a licensed master plumber or master mechanical worker, or a licensed Class A contractor with an associated plumbing or mechanical specialty designation
- Name, occupation, address, and telephone number of the person who prepared the plans
- All pages of the plan are set to the same size. If different discipline designers use different page sizes, re-print the smaller pages on sheets the size of the largest in the set.
- Mechanical plans on same sized sheets as rest of plans in building permit package
- Mechanical code edition. The current code edition is the 2018 VMC (IMC).
- New work vs. existing work clearly distinguished
- Drawings at least 1/8" = 1'-0" scale or larger
- Equipment location, access, service space, and guard rails as applicable
- Each mechanical sheet with distinct sheet numbers (i.e. M1, M2, etc.)
- A Boiler/Mechanical Permit is required prior to scheduling inspections

**HVAC**

- Equipment schedule (system type, cooling/heating capacity, blower rating)
- Any equipment options provided (economizer, duct heaters, CO2)
- Duct sizes, location of all supplies, returns, exhaust, fresh air ducts, and duct smoke detectors

**Ventilation**

- Occupant loads and amount of outside air in accordance with VMC Table 403.3
- The capacity of all exhaust fans; exhaust quantities added as outside air to the ventilation

### **Penetrations of Fire- or Smoke-resistance Rated Assemblies**

- Location of any fire-resistance-rated or smoke-resistant construction. Activation and control for smoke dampers
- Penetration protection details for HVAC ducts or vents penetrating fire-resistance-rated or smoke-resistant construction

### **Miscellaneous**

- Kitchen Hoods:

#### Mechanical Checklist (Continued)

- Complete details for Type I and Type II kitchen hoods, clearances to combustibles, and cooking equipment
  - UL 710 listing criteria if applicable
  - All cooking and dishwashing equipment
  - Duct sizes, cleanout locations, and fire-resistance-rated shafts where required
  - Source and capacity of make-up air system
  - Exhaust fan/make-up air interlock, exhaust fan/gas supply interlock
- Storage Tanks: tank contents, construction standards, piping materials, and details
- Boiler: details to include safety controls and distribution piping layout
- Combustion Air: combustion air sources for fuel-fired appliances and venting detail
- Dryer exhaust systems: routing and developed length of dryer exhaust
- Hazardous Exhaust System: an engineered design for the hazardous exhaust system
- Smoke Management System: an engineered design for a smoke management system