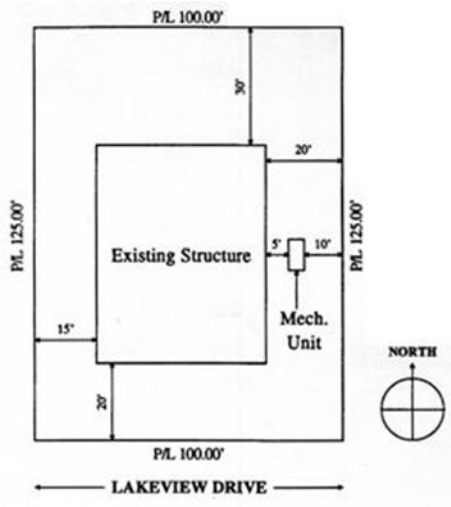
MECHANICAL PERMIT CHECKLIST FOR COMMERCIAL OR MULTI-FAMILY PERMIT SUBMITTALS

The following items must be provided to properly apply for a commercial mechanical permit. Plans and application cannot be accepted if the requested information is incomplete. Include this checklist with your application.

Plan Requirements

- ☐ Indicate the existing and proposed mechanical unit location(s) on the roof plan. Show equipment ductwork, vents, roof access, equipment screening.
- ☐ Reflected ceiling plans: show and identify ductwork, equipment piping, supply diffusers, return air grills, fire dampers.
- ☐ Building cross section: show equipment ductwork, associated items.
- ☐ Building elevation demonstrating the equipment screening method.
- ☐ Provide the equipment sizing calculations per WSEC.
- ☐ Include information on the plans showing compliance with requirements of WSEC mechanical Permit Plans Checklist and where applicable the Mechanical Complex Systems Checklist.
- ☐ If mechanical equipment, propane tanks or a generator installation are ground-mounted, then a site plan drawn to scale showing building footprint and equipment location relative to building and property lines. Show location of adjacent streets, alleys, or access tracts or easements. Include dimensions from mechanical unit(s) to all property lines and structures. (See example.)



Supplemental Documents

- ☐ List of equipment including manufacturer's product data sheets. Schedules should include:
  - ☐ Complete equipment schedules for cooling and heating equipment on the drawings. Specify the quantity, manufacturer, model number, capacity (input and output0, SEER/EER, efficiency, cfm and operating weight of all equipment). Specify OSA capacities. Include economizers on equipment schedules.
  - ☐ Fan schedules should specify manufacturer, model number, cfm, static pressure, HP/BHP and flow control types (VAV, constant volume, or variable speed).
  - ☐ A brief description of equipment operations and controls, show location and size of combustion air sources for fuel burning appliances.
- ☐ Include information showing compliance with noise standards at the property line. See WAC chapter 173-60 WAC for Washington State adopted requirements.
- ☐ Include completed Washington State Energy Forms (WSEC) Non-Residential Energy Code (NREC) forms for Mechanical Systems.

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Structural Requirements

- ☐ Provide framing plans and calculations, for vertical and lateral loads, stamped by a Washington State registered professional engineer for units weighing more than 400 pounds including screening.
- ☐ Roof curb designs must be provided for all roof mounted mechanical equipment. If factory curbs will be used, provide details. Specify the type, amount, and location of fasteners.
- ☐ All floor supported mechanical equipment and fixed appliances must be anchored to the structure to resist displacement vertically and on both horizontal axis due to seismic motion. Specify anchorage for floor supported equipment on plans.
- ☐ Suspended mechanical equipment and appliances shall have rigid vertical hangers and be braced in both horizontal directions. Connections by pipes or ducts that are, or contain non-rigid elements are not of inherent sufficient strength, or which are not adequately anchored will not be acceptable as equipment or appliance anchors. Detail anchorage for suspended equipment on drawings.
- ☐ Where the Risk Category of a Building is classified as Category III or IV occupancy per IBC Table 1604.5, provide seismic design for mechanical components as specified in the IBC and ASCE 7-16 as required.

Make-Up Air

- ☐ Ventilation air supply shall be sufficient to provide make-up air for exhaust systems when required by the IMC or IFGC. Make up air systems shall be interlocked with their associated exhaust systems. Make up air for kitchen hoods shall be sized in accordance with the Washington State Energy Code and 2021 IMC.
- ☐ Ducts in ventilation supply air systems shall be sized as required by the equipment manufacturer's approved installation instructions or approved good engineering practice.

Ducts

- ☐ Show duct layouts – include size, duct gage (if metal) and register locations and specify CFM ratings.
- ☐ Indicate the R-value of duct insulation to show compliance with WSEC.
- ☐ Either the architectural plans or mechanical plans may be used but they must specify the use and dimensions of all rooms and show the fire rated corridors, walls, ceilings and/or floors.

Smoke Detection and Dampers

- ☐ Smoke detection and dampers shall be shown to comply with recognized standards (Fire dampers UL 555, Ceiling dampers 555C)
- ☐ Air moving systems supplying air in excess of 2,000 cubic feet per minute to enclosed spaces within buildings shall be equipped with an automatic shut off. Automatic shutoff shall be accomplished by interrupting the power source of the air-moving equipment upon detection of smoke in the return-air duct served by such equipment. Smoke detectors shall be labeled by an approved agency for air-duct installation and shall be installed in accordance with the manufacturer's installation instructions. Such devices shall be compatible with the operating velocities, pressures, and temperature of the system. Where fire detection or alarm systems are provided for the building, the smoke detectors required by this section shall be supervised by such systems. IMC 606.2
- ☐ Ceiling dampers shall be installed in the fire-resistive ceiling elements of floor-ceiling and roof-ceiling assemblies. Fire dampers not meeting the temperature limitation of ceiling dampers shall not be used as substitutes.
- ☐ Provide details that show that the ductwork will be connected to damper sleeves or assemblies in such a way that collapse will not dislodge the damper. IMC Sec 607.2, manufacturer's installation instructions and

IBC Chapter 7.

☐ Indicate on plans that fire dampers will be equipped with access doors, with a label reading "FIRE DAMPER" as required by IMC Sec 607.4.2

General

☐ Commercial kitchen exhaust and make up air equipment systems must be submitted with plans, calculations and Type I and II Kitchen Hood Submittal Checklist to demonstrate conformance with IMC Sections 506, 507 and 508.

☐ Separate temperature controls must be provided for each zone and shall be shown on plans. When used to control both heating and cooling, thermostatic controls shall be capable of a deadband of at least 5 °F.

☐ All mechanical equipment should be listed and labeled by an approved testing agency. If not, complete information on the equipment, including manufacturers' data sheets, test reports, etc., should be provided to allow for evaluation. Testing by an approved testing laboratory may be required before final approval is granted.

☐ If the installed equipment or access hatch is within ten feet of a roof edge that does not have a parapet or guard, a guard must be installed that meets IBC section 1015 and IMC section 304.11. Show and detail on roof plans.

☐ Show required access for roof mounted equipment per IMC Sec 306.5.

☐ Installed equipment requires a minimum of one 110-volt outlet within 25 feet of unit. Disconnects are required in close proximity to the installed equipment. Show on roof plan. Washington Cities Electrical Code.

☐ Specify that an accessible gas shut-off valve will be installed within 6 feet of als gas appliances. IFGC Sec 409.5.

☐ On the plans, specify mechanical commissioning per WSEC Sec C408 including required documents, balancing report, and commissioning report.

The WSEC and NREC compliance forms are available for free download below.

The 2021 Washington State Energy Code (as well as earlier versions of the code) is available on the Washington State Building Code Council Website, scroll down to Energy Codes. The 2021 Energy Code document is separated into three Chapters. Chapters A and C are applicable to non-residential and multi-family. These documents are free to download.

The NEEC site with NREC forms is available at https://www.waenergycodes.com/index.php

Screening Requirements

Screening may be required if the property is located in the Downtown Commercial Zone or is located on a parcel that is adjacent to a residential property zone. If the property is located in one of these areas, please contact the City of Burien at 206-241-4647 and ask to speak with a planner. If screening is required, **plans and engineering must be included with this application.** If the rooftop mechanical equipment requires screening, the screening must be architecturally compatible with the building.