



# Basic Inspection Guidelines for Commercial Projects

Version 2021-07-29

## Scheduling Inspections

- Building inspections are conducted between 8:00 a.m. and 3:00 p.m. during the work week.
- To schedule an inspection, please use [www.pwcva.gov/ePortal](http://www.pwcva.gov/ePortal) or call the automated phone scheduling system on 1-866-457-5280. For the ePortal system you are required to have the permit number. For the automated phone system, you will need the 6 digit IVR Pin number associated to you permit. Both systems will prompt you as to what to do. (It will save time if you know the inspection code number for the inspection you wish to schedule – *see page 4*)

## Canceling Inspections (at least 1 day prior to the scheduled inspection through 11:59 pm)

- To cancel an inspection scheduled for the next work day, please use [www.pwcva.gov/ePortal](http://www.pwcva.gov/ePortal) or call 703-792-7006. You will need to provide the following information:
  1. The permit number
  2. The inspection number and type of inspection you are canceling
  3. Your name and phone number

## Canceling Inspections (the morning of the scheduled inspection 12:00 am through 8:00 am)

- To cancel an inspection scheduled for the next work day, please call 703-792-7006 and leave message including the following information:
  1. The permit number
  2. The inspection number and type of inspection you are canceling
  3. Your name and phone number

Inspections canceled after 8:00 am will be assessed a cancellation fee. *Please see [www.pwcva.gov/BDDFeeSchedule](http://www.pwcva.gov/BDDFeeSchedule) for the current fee amount.*

### Chief Inspectors

Construction Inspections Branch Chief:	Tom Clark	703-792-6955	<a href="mailto:tdclark@pwcgov.org">tdclark@pwcgov.org</a>
Chief Building Inspector:	Alan Lee	703-792-6928	<a href="mailto:alee@pwcgov.org">alee@pwcgov.org</a>
Chief Electrical Inspector:	George Clough	703-792-6185	<a href="mailto:gclough@pwcgov.org">gclough@pwcgov.org</a>
Chief Plumbing Inspector:	Steve Goldsborough	703-792-6954	<a href="mailto:sgoldsborough@pwcgov.org">sgoldsborough@pwcgov.org</a>
Chief Mechanical Inspector:	Terry Ganey	703-792-5538	<a href="mailto:tganey@pwcgov.org">tganey@pwcgov.org</a>
<b>Fire Marshal's Office</b>	Lyndon Loh	703-792-7962	<a href="mailto:lloh@pwcgov.org">lloh@pwcgov.org</a>

## PROCEDURAL INFORMATION FOR FIELD INSPECTIONS

### Inspection Order - Commercial Projects Close-ins

- Plumbing & Electrical: no specific order
- Fire Marshal - sprinkler visual prior to Building close-in
- Building & Mechanical/Gas – no specific order
- Insulation - (may be certified for R-2 Apartments/Condos)

### Partial Inspections - Commercial Projects only

It is the contractor's responsibility to let the Inspector know when partials close in inspections are complete. Finals will not commence if all partial approvals are not closed out with a close in approval.

PAP = Partial Approved Inspection (As Marked on Approved Plans)

REJ = Violations needs corrections

### Inspection Order - Commercial Projects Finals

- Building, Mechanical/Gas, Electrical, Plumbing – no specific order (FMO last Inspection)
- All trade Inspections require an APP or PAP disposition prior to scheduling the Fire Marshal Final.
- Schedule utilities with appropriate departments (i.e. Site, Sewer, Health Department, etc.)

### Inspection Fees

- For Re-inspection & Field Cancellation Fees, please see [www.pwcva.gov/BDDFeeSchedule](http://www.pwcva.gov/BDDFeeSchedule) for the current fee amount.

### White light / Emergency light test

- Please call the Chief Building Inspector (see page 1). They will coordinate the inspection with Building, Electrical, and the Fire Marshal's Office.

## COMMON INSPECTION ISSUES

The following are the items most rejected on close-in and final inspections.

The Fire Marshal's remarks are located in their inspection section later in this document.

All items will be discussed at the pre-construction meeting.

### Building

- Firewalls are to be constructed in accordance with the approved rated assembly.
- Through penetration fire stopping is not per the approved fire stopping details.
- Guardrails and handrails are not installed correctly i.e. spacing, height, location etc.
- Draft stopping does not meet code requirements for ratings and spacing.
- Third party certifications not in, incorrect, on wrong form, etc.
- Emergency and exit lighting not adequate.
- Continuity of fire rated assemblies.
- Truss shop drawings and layout for roofs & floors not county approved or installed incorrectly.
- Unlabeled or painted over labels on fire rated doors.
- Smoke detector locations incorrect.
- Wind bracing to include anchor straps, and bolts not installed or not installed properly.
- Flame spread rating certificates for finish materials not available at final.
- Accessibility requirements for the physically disabled not provided
- Spray on fireproofing of structural elements has been damaged or removed
- Furniture stocking permit not posted (this requires a 148 from the Fire Marshal's Office)
- Occupancy placards not displayed at time of final inspection.
- Building needs to be weather tight prior to close-in inspection.
- Insulation inspection needs to be called in under the mechanical permit, #307, if a mechanical permit is issued. If no mechanical permit is issued then the insulation inspection must be called in under the building permit, #115 (Sound insulation / insulation in rated assemblies).
- Special Inspections have not authorized concealment inspections or have not received the SER final letter to allow for final inspection.

### Plumbing

- No/incomplete test
- Fire stopping/through penetration fire stopping
- Water closet flanges not installed
- Roof flashing not installed
- Missing kick-plates
- Missing caulking at fixtures
- Backflow device test reports not available at final
- Handicap wrap protection not on traps
- Fixtures not listed on permit
- No hot water

- Fixtures not cleaned
- No P.V.C. in plenum ceilings
- Fixtures loose/not properly secured
- Piping not strapped per code

### Mechanical

- Wrong gage metal for ductwork
- Duct Size changes (Building Plan Review Submittal)
- Gas Piping materials not installed per approved plans
- location of equipment on roof/intake to exhaust/guardrails
- Guardrail height (min 42” high with intermediate rail at 21”). (Attach per Building code requirements)
- Fire dampers not installed per manufacturers instructions
- Fire Dampers (provide Installation Instructions at close in) (Attach to Approved Plans)
- Do not install Fire Caulk around fire-damper and sleeve/Boot.
- Fire stopping/through penetration fire stopping (Need Approved Details)
- Duct support spacing
- Flex support spacing (as per manufacturer’s installation instructions)
- Special Equipment (as per manufacturer’s installation instructions)
- Air Balance Report required at Final
- Insulation inspection under Mechanical Permit (Thermal insulation only)
- Equipment manufacturing not per Approved Plans
- Testing Duct Detectors with Fire Marshal’s Office

### Electrical

- **A Panel board (214) inspection is required prior to energizing all customer installed transformers, panel boards, transfer switches and generators.**
- Panel boxes in firewalls and boxes in rated walls and ceilings.
- Box and conduit overfill
- Fixture/raceway support, especially in suspended ceilings.
- Fire stopping/through penetration fire stopping.
- Bonding of metal piping and service enclosures, troughs, tap boxes and CT cabinets.
- Wiring method for emergency/exit lights. Generator or battery backup? Outside emergency lights?
- No permit/inspection on low voltage wiring where required (where it penetrates fire rated floors, walls or ceiling, or when installed in a non-combustible air plenum)
- Support of wiring and boxes above grid ceilings
- Wiring method shown on approved plans and for the use of the building.
- AIC letter from Power Company to be on site for service inspection.
- Fire pump on site?
- Handicapped units to comply with the ANSI requirements.
- Permits and inspection required for trailer hookup and temporary power wiring.
- Separate permits and inspections required for swimming pools and illuminated signs.
- Bonding of Corrugated Stainless-Steel Tubing (CSST) as per manufacturer’s installation instructions
- Ground fault protection (GFP) test, if applicable.
- A copy of the certification for any installed lightning protection system is required before final approval.
- Lighting controls not installed per the approved plans or energy conservation code.
- Fixtures installed do not match those on fixture schedule.
- Exterior egress lighting not per plans/code.

### All Inspections

Inspection will not be performed, a re-inspection fee will be applied, and the inspection will not be able to be re-scheduled for 24 hours, for the items listed below, but not limited to:

- Permit(s) and address not posted
- Required construction documents not available-to include but not limited to:
  - Required 3d party certifications-(submitted and approved prior to inspection.
  - Manufacturer’s installation instructions.
  - Insulation certifications-(R-2 Apartments/Condos).
- Un-permitted work on site
- Required plans revisions not approved and part of plan.
- Unsafe access to building.
- Work incomplete in inspection area.
- Inspection area-unsafe access or excessive debris.
- Erosion and sediment controls not in place/maintained.

## BUILDING DEVELOPMENT DIVISION COMMERCIAL INSPECTION CODES

<p><b>Building Inspections</b></p> <p>1010 Footing - Retaining Wall 1020 Footing - Pier/Deck 1030 Footing - Buildings 1040 Backfill - Retaining Wall 1050 Backfill - Buildings 1060 Basement Slab 1070 Garage Slab 1080 Porch Slab/Stoop 1090 Other Slab 1100 Chimney Throat/Thimble/Hearth 1110 Poured Concrete Wall 1120 Wall Concealment - Building 1130 Ceiling Concealment - Building 1140 Building Concealment - Building 1150 Insulation (No Mechanical Permit) 1160 Structural Steel - Buildings 1170 Swimming Pool Structural Steel 1180 Final Inspection - Retaining Wall 1200 Lot Grading Final 1210 Swimming Pool Final 1220 Fireproofing 1230 Party/Separation Wall 1260 Lot Escrow Release Inspection 1470 Emergency Light/Generator Test 1500 Final Inspection - Buildings</p> <p><b>Electrical Inspections</b></p> <p>2010 Service - Temporary on Pole 2020 Electrical Service 2030 Grounding Electrodes 2040 Electrical Groundwork 2050 Post Light Trench 2060 Septic Trench 2070 Well Trench 2080 Other Electrical Trench 2090 Pool Perimeter Bonding 2100 Pool Concealment 2110 Wall Concealment - Electrical 2120 Ceiling Concealment - Electrical 2130 Electrical Concealment 2140 Panel Boards 2150 Swimming Pool Final 2170 Pool Shell Bonding 2470 Emergency Light/Generator Test 2500 Electrical Final</p>	<p><b>Mechanical Inspections</b></p> <p>3010 Mechanical Groundwork 3020 Wall Concealment - Mechanical 3030 Ceiling Concealment - Mechanical 3040 Mechanical Concealment 3050 Grease Duct Only 3060 Equipment Only 3070 Insulation 3080 Hydronic Test 3500 Mechanical Final</p> <p><b>Plumbing Inspections</b></p> <p>4010 Groundwork 4020 Well Trench 4030 Water Service 4040 Sewer Lateral 4050 Sewer &amp; Water Service 4060 Sewer &amp; Water Service/Groundwork 4070 Storm Sewer 4080 Roof Drains 4090 Backflow Device 4100 Wall Concealment - Plumbing 4110 Ceiling Concealment - Plumbing 4120 Plumbing Concealment 4500 Plumbing Final</p> <p><b>Storage Tank Inspections</b></p> <p>6010 Tank/Air Pressure Test 6020 Tank Placement (with or w/o Deadmen) 6030 Piping Test 6040 Closure - Removal or Abandon In Place 6500 Storage Tank Final</p> <p><b>Gas Inspections</b></p> <p>7010 Concealment/Gas Test 7500 Gas Final</p>
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## **FIRE MARSHAL’S OFFICE INSPECTION GUIDELINES**

- To schedule FMO inspections call 703-792-6360 at least 24 hours in advance.
- Cancellations must be called in between 8:00 A.M. and 8:30 A.M.

### **Common FMO Inspection issues:**

#### **959- Underground Fire Main (visual):**

- Failure to have at least 42” of cover over piping.
- Not installed according to approved plan.
- Failure to leave fire main exposed for visual.

#### **960- Underground fire main (hydro)**

- Not at proper test pressure prior to arrival of inspector.
- Failure of test pressure gauge to “zero” out.
- Tampering with piping or appurtenances during the test.
- Connecting pressure pump to the fire main during the test.

#### **961- Underground fire main (flush)**

- Failure to provide proper size flush piping/hose.
- Unsafe flushing practice.
- Not ready to flush upon arrival of inspector.

#### **962- Sprinkler hydro:**

- Not at proper test pressure prior to arrival of inspector.
- Failure of test pressure gauge to “zero” out.
- Tampering with piping or appurtenances during the test.
- Connecting pressure pump to the sprinkler system during the test.
- Gross pressure loss due to improper installation of system.
- Piping concealed without prior approval.
- Failure to provide heat to maintain temperature above 40 degrees F.

#### **966- Sprinkler Final:**

- Failure of floor drain to handle flow from 2” drain test.
- More than 4 obstructed sprinkler heads.
- Failure to have an approved standpipe flow test (where applicable)
- Failure to provide permanent heat capable of keeping space at or above 40 degrees F.

#### **968- Standpipe:**

- Failure to provide adequate area and equipment to safely flow water.
- Inadequate water supply (closed valves or flow)
- Failure of hose line.

#### **970- Hood system:**

- Gas piping not inspected and approved prior to test/inspection.
- Improper sequence of operations.
- No open electrical wiring
- Not installed according to approved plan
- Appliances not in place

#### **972- Fire pump:**

- Associated electrical wiring not inspected and approved prior to test/inspection.

#### **973- Fire alarm:**

- Panel not clear for 24 hours prior to test/inspection
- Incorrect equipment installed- work not installed according to approved plan
- Incomplete work
- Incorrect addressing of device
- Incorrect reporting address
- Failure to provide sufficient communications equipment to carry out test.

**974- Fire alarm battery:**

- Activation of fire alarm during battery test
- Batteries not charged prior to start of test.
- Failure of batteries to allow system to sound for five minutes. (Main and sub-panels)

**981- Fire alarm final:**

- Two or more false alarms during testing/inspection period.

**983- Sprinkler visual:**

- Connection of sprinkler system to fire main prior to flush of fire main.
- Pipe hangers not supporting pipe.
- Piping concealed without prior approval.

**145- FMO Final Inspection- Occupancy Evaluation**

- Fire protection system not in service or lacking final inspections.

**146- FMO Final Inspection- Shell**

- Fire Protection system not in service or lacking final inspections.
- Lack of sufficient heat to keep space at 40 degrees F in cold weather to keep sprinkler system from freezing.

**149- FMO Final Inspection- Tenant**

- Fire Protection system not in service or lacking final inspections.
- Lack of sufficient heat to keep space at 40 degrees F in cold weather to keep sprinkler system from freezing.

**All Fire Marshal's Office Inspections**

Inspection will not be performed, a re-inspection fee will be applied, and the inspection will not be able to be re-scheduled for 24 hours, for the items listed below, but not limited to:

- Incomplete work.
- Not ready for inspection/test.
- Required construction documents not on site.
- Lot # address not posted.
- Permit(s) not posted.
- Unsafe access to site.
- Unsafe safety practice(s) involving the test or inspection.
- Unpermitted work in progress or installed.
- Failure to cancel inspection prior to 8:30 A.M.
- No representative of permit holder on site.
- Storage of furnishings without proper Building Development storage/stocking permit paperwork and associated FMO inspection(s) (148).
- Any work done by non-permit holder.
- Doors locked/lack of providing access to facility for inspection.
- Spray painting or other application of material resulting in an unsafe accumulation of vapors in facility.
- Use of internal combustion engines during inspection without proper ventilation of space.
- Lack of correction of a previously documented deficiency item.

For more additional information about Fire Marshal's Office Inspections and Fire Protection (FPP) Fees, please see to the [Fire Marshal's Office](#) webpage.