



2012 International Residential Code  
2012 International Building Code  
2012 International Fire Code  
2014 NFPA 70 National Electrical Code  
2012 International Existing Building Code  
2012 International Plumbing Code

2012 International Mechanical Code  
2012 International Fuel Gas Code  
2012 International Energy Conservation Code  
2012 International Property Maintenance Code  
2012 International Private Sewage and Disposal Code  
2012 International Swimming Pool and Spa Code

## CONSTRUCTION DOCUMENTS NECESSARY FOR PLAN REVIEW

**COMPLETE REVIEW** (Building, Mechanical, Plumbing and Electrical) - three sets (builder/site/City) of the following:

- Complete architectural/structural plans (Architectural/engineering design development drawings indicating size of the building, occupancy group(s), and type of construction. Drawings to include building plans and sections with means of egress, fire separation assembly locations and fire protection systems proposed.)
- Site plan, including distance to lot lines, drainage study and landscape design
- Soil boring and geotechnical recommendations report, including the description and bearing value
- Structural calculations or other substantiation of foundation and structural performance
- General specifications
- Fire-resistance rated assembly specifications
- Complete Mechanical plans and specifications
- Complete Plumbing plans and specifications
- Complete Electrical plans and specifications

**FIRE SPRINKLER REVIEW** – three sets (builder/site/City) of the following:

- Complete Sprinkler plans and calculations, including hydraulic design calculations, current flow test and material/equipment specifications

**ACCESSIBILITY REVIEW** - three sets (builder/site/City) of the following (including Registered Accessibility Specialist's documents for ALL projects affecting primary function areas, restrooms, accessible routes, public facilities, parking, etc.):

- Complete architectural/structural plans
- General specifications

**ENERGY REVIEW** - three sets (builder/site/City) of the following documents in addition to any documents required for disciplines listed above:

- Complete architectural plans, site plan and general specifications
- Design conditions (interior and exterior) consistent with local climate
- Envelope design method, including supporting calculations and documentation
- Complete mechanical plans, specifications and equipment schedules
- Complete plumbing plans and specifications
- Complete electrical plans and specifications
- Interior lighting design method, including supporting calculations and documentation
- Lighting fixture and control schedules (building interiors and exteriors)

*NOTE: Construction documents should be signed, sealed and dated by the registered design professional in accordance with the professional registration laws of the State of Texas.*



## BUILDING PLAN REVIEW REQUIREMENTS

Building Plan Reviews are based on the 2012 edition of the *International Building Code* (IBC) unless otherwise directed. In order to perform a thorough Building Plan Review, the following specifications, drawings and details should be submitted:

1. Complete signed and sealed architectural plans, structural plans and material specifications of all work.
2. A site plan including the following information:
  - a. Size and location of all new construction and all existing structures on the site.
  - b. Distances from lot lines and any existing buildings or structures.
  - c. Established street grades and proposed finish grades.
3. Architectural plans and specifications to include:
  - a. Description of uses and the proposed occupancy group(s) for all portions of the building. The design approach for mixed-uses (as applicable).
  - b. Proposed type of construction of the building.
  - c. Fully dimensioned drawings to determine building areas and height.
  - d. Adequate details and dimensions to evaluate means of egress, including occupant loads for each floor, exit arrangement and sizes, corridors, doors, stairs, etc.
  - e. Exit signs/means of egress lighting, including power supply.
  - f. Accessibility scoping provisions.
  - g. Description and details of proposed special occupancies such as a covered mall, high-rise, mezzanine, atrium, public garage, etc.
  - h. Adequate details to evaluate fireresistive construction requirements, including data substantiating required ratings.
  - i. Details of plastic, insulation, and safety glazing installation.
  - j. Details of required fire protection systems.
4. Structural plans, specifications, and engineering details to include:
  - a. Soils report indicating the soil type and recommended allowable bearing pressure and foundation type.
  - b. Signed and sealed structural design calculations which support the member sizes on the drawings.
  - c. Local design load criteria, including: frost depth; live loads; snow loads; wind loads; earthquake design data; other special loads.
  - d. Details of foundations and superstructure.
  - e. Provisions for required special inspections.
  - f. Applicable construction standards and material specifications (i.e., masonry, concrete, wood, steel, etc.).



## MECHANICAL PLAN REVIEW REQUIREMENTS

Mechanical Plan Reviews are based on the 2012 edition of the *International Mechanical Code (IMC)* and *International Fuel Gas Code (IFGC)* unless otherwise directed. In order to perform a thorough Mechanical Plan Review, the following specifications, drawings and details should be submitted:

1. Complete signed and sealed plans and specifications of all heating, ventilating and air conditioning work.
2. Complete information on all the mechanical equipment and materials including listing, labeling, installation and compliance with referenced material standards.
3. Details on the HVAC equipment including the equipment capacity (Btu/h input), controls, equipment location, access and clearances.
4. A ventilation schedule indicating the outdoor air rates, the estimated occupant load/1,000 ft<sup>2</sup>, the floor area of the space and the amount of outdoor air supplied to each space. If 2009 IMC requirements are used, complete calculations clearly denoting equations and factors must be provided.
5. The location of all outdoor air intakes with respect to sources of contaminants.
6. Duct construction and installation methods, flame spread/smoke development ratings of materials, flexible air duct and connector listing, sealing of duct joints, seams and connections and duct support spacing.
7. Condensate disposal, routing of piping and auxiliary and secondary drainage systems.
8. Required exhaust systems, routing of ducts and termination to the exterior.
9. Complete details of all Type I and II kitchen hoods, grease duct construction and velocity, clearance to combustibles and fire suppression system.
10. Details of all duct penetrations through fire-resistance rated assemblies including locations for all fire dampers, smoke dampers and ceiling radiation dampers along with applicable fire protection ratings and labeling requirements.
11. Method of supplying combustion air to all fuel fired appliances, the location and size of openings and criteria used to size the openings.
12. Details on the vents used to vent the products of combustion from all fuel burning appliances including the type of venting system, the sizing criteria required for the type of vent and the routing of the vent.
13. Boiler and water heater equipment and piping details including safety controls, gauges, valves and distribution piping layout.
14. Details on the type and quantity of refrigerant, calculations indicating the quantity of refrigerant and refrigerant piping material and the type of connections.
15. Complete details on the gas piping system including materials, installation, valve locations, sizing criteria and calculations (i.e., the longest run of piping, the pressure, the pressure drop and applicable gas pipe sizing Table(s) in the IFGC.)



## ELECTRICAL PLAN REVIEW REQUIREMENTS

Electrical Plan Reviews are based on the 2014 edition of the *National Electrical Code* (NFPA 70) unless otherwise directed. In order to perform a thorough Electrical Plan Review, the following specifications, drawings and details should be submitted:

1. Complete signed and sealed plans and specifications of all electrical work.
2. Labeling criteria of all electrical equipment.
3. Lighting floor plan including fixture locations, electrical circuits, circuit numbers, and panel locations.
4. Power floor plans including electrical circuits, wiring sizes, panel locations, working clearances and electrical room egress, disconnect switches, receptacle locations including GFCI locations and required arc fault protected circuits.
5. Exit sign/means of egress lighting location and power supply.
6. Single line diagram and panelboard schedule including AIC rating and available fault current and the calculated service load with a load distribution schedule.
7. Lighting fixture schedule.
8. Symbol schedule and diagrams.
9. Details showing the grounding electrodes, bonding of the grounding electrode system and the size of all bonding and grounding electrode conductors for the service.
10. Specifications to include requirements for:
  - a. Wire, cable, raceway and conduit with fittings.
  - b. Electrical boxes, connections, fittings and installation.
  - c. Electrical wiring devices.
  - d. Circuit and motor disconnects, and motor control centers.
  - g. Hangers and supporting devices.
  - f. Electrical identification.
  - g. Service entrance and details.
  - h. Overcurrent protection and grounding.
  - i. Switchboard and panelboards.
  - j. Transformers.
  - k. Lighting fixtures.



## PLUMBING PLAN REVIEW REQUIREMENTS

Plumbing Plan Reviews are based on the 2012 edition of the ICC *International Plumbing Code* (IPC). In order to perform a thorough Plumbing Plan Review, the following specifications, drawings and details should be submitted:

1. Complete signed and sealed plans and specifications of all plumbing work.
2. Plumbing fixture specifications including identification of the applicable referenced material standards and the maximum flow rates for the plumbing fixtures.
3. The basis for the number of plumbing fixtures provided including the occupant load used, the applicable occupancy group(s) and fixture rate(s).
4. Dimensions for bathrooms and plumbing fixture locations along with the wall and floor surface materials to be installed.
5. Site plan which indicates the routing of the sanitary, storm and water service with the burial depths for all sewers and water service.
6. Water distribution system sizing criteria and calculations.
7. Water supply and distribution piping plan showing the incoming water supply, distribution piping, pipe size, the location of water hammer arrestors and the location of all valves.
8. The location of all backflow preventers, the type of backflow preventers provided for each piece of equipment or outlet and the specified material standards referenced in the code.
9. Drainage system piping plan showing the layout of all piping, of plumbing fixtures and the location of cleanouts.
10. Riser diagram(s) of the drain, waste and vent piping including the building drain, all horizontal branches and the connections and layout of all fixtures. Pipe sizes, direction of flow, grade of horizontal piping, drainage fixture loads and the method of venting all plumbing fixtures.
11. The location of all indirect waste connections, standpipes, grease traps and separators.
12. Complete water heater details, temperature and pressure relief valve discharge, discharge piping and pan details along with the method of supplying tempered water to required fixtures.
13. Complete details of the method of draining storm water from the roof including calculations to verify pipe and/or gutter sizes, the location of all roof drains and the roof area that each group of roof drains is intended to serve and an independent secondary roof drainage system.
14. Piping material specifications to verify compliance with the referenced material standards for all sanitary, storm and potable water piping (e.g., ASTM B88 for copper pipe), the type of joints and connections for all piping, the pipe hanger support spacing and details of anchorage and bracing.



## ENERGY PLAN REVIEW REQUIREMENTS

Residential Energy Plan Reviews are based on the 2012 edition of the ICC *International Energy Conservation Code* (IECC). Commercial Energy Plan Reviews are based on Chapter 5 of the IECC or the referenced edition of ASHRAE 90.1 unless otherwise directed. In order to perform a thorough Energy Plan Review, the following specifications, drawings and details should be submitted:

1. Complete signed and sealed plans and specifications as indicated below.
2. Envelope—Architectural plans and specifications to include:
  - a. Description of uses and the proposed occupancy group(s) for all portions of the building.
  - b. Thermal performance of envelope components.
  - c. Fenestration performance details (U-factor, SC, SHGC, VLT, air leakage rates, etc.).
  - d. Fully dimensioned drawings to determine gross and net areas of all envelope components.
  - e. Details of vapor barrier and insulation installation, and air sealing methods.
  - f. REScheck, COMcheck, or ENVSTD output (where applicable).
  - g. Design conditions (interior and exterior) consistent with local climate.
3. Electrical—Complete plans and specifications of all electrical power and lighting work including:
  - a. Riser diagram(s) of the distribution system indicating:
    1. Check metering provisions for individual dwelling units.
    2. Subdivision of feeders by end use: 1) Lighting, 2) HVAC, 3) SWH and systems over 20 kW.
  - b. Lighting fixture schedule(s) depicting location, fixture lamps, ballasts, ballast specifications, fixture input watts, fixture wiring methods, power factor, etc.
  - c. Lighting plan(s) for building exteriors including total exterior Connected Lighting Power (CLP).
  - d. Lighting and power floor plans for building interiors including total interior CLP.
  - e. REScheck, COMcheck, or LTGSTD output (where applicable).
  - f. Interior and exterior means of lighting control.
  - g. Electric motor schedule including type, HP and efficiencies.
4. Mechanical—Complete plans and specifications of all mechanical work including:
  - a. Equipment type, capacity (Btuh) and efficiency (peak and part-load).
  - b. System design air flow rates (cfm).
  - c. Details of equipment/system sizing.
  - d. System and/or zone control capabilities including terminal device schedule.
  - e. Provisions for automatic setback/shutdown.
  - f. Indicate intentions or plans for systems commissioning.<sup>9-01699</sup>
  - g. Energy consumed by fans and pumps.
  - h. Economizers (air or water) including provisions for integrated control.
  - i. Duct construction and system static pressure(s), including provisions for sealing.
  - j. Duct and/or hydronic-piping lining and insulation materials.
  - k. Provisions for air and/or hydronic system balancing.
  - l. Boiler and water heater equipment and piping details, safety controls and distribution piping layout.
5. Service water heating (SWH)—Complete SWH specifications including:
  - a. SWH equipment data including type, capacity and efficiency.
  - b. SWH pipe insulation, thickness, conductivity and vapor retarder (where appropriate).
  - c. Water conservation requirements.
  - d. Energy conservation measures for swimming pools (where applicable).



## **FIRE SPRINKLER PLAN REVIEW REQUIREMENTS**

Sprinkler Plan Reviews are based on the most recent edition of the applicable NFPA 13, 13D or 13R standard as referenced by the *International Building Code* (IBC) unless otherwise directed. In order to perform a thorough Sprinkler Plan Review, the following items should be submitted:

1. Complete signed and sealed plans and specifications for the sprinkler system and related equipment.
2. Description and locations of uses within the building and corresponding occupancy class for each room or area. Location and size of all concealed spaces, closets, attics and bathrooms. Details of occupancies utilized for high-piled storage including commodity types and storage arrangement.
3. Design details in accordance with the appropriate sprinkler system standard (i.e., NFPA 13, 13D, 13R) as referenced by the IBC and all other applicable design standards (NFPA 14, NFPA 20, NFPA 24, etc.)
4. Design calculations indicating the discharge requirements of the sprinkler system including the design density, area of application, and inside/outside hose stream demand for each occupancy.
5. Results of a current flow test indicating the location, date and witness of the test. Site plan indicating the overall water supply source and arrangement.
6. Working drawings indicating all pipe sizes and the spacing between branch lines and sprinklers on the branch line. Hydraulic reference points on the drawings correlated with the hydraulic calculations.
7. Make, model, type, temperature rating and k-factor for all sprinklers. Total number of sprinklers on each floor and for each system.
8. Full height section views and location of all interior partitions, fire barriers, fire partitions, fire walls and horizontal assemblies.
9. Material specifications and equipment specifications for all sprinkler system components including type of sprinkler pipe(s), pipe fittings, control valves, check valves, dry pipe valves, test connections, pipe hangers, backflow preventers, fire department connections, and alarm bells. All materials used should be verified that they are installed in accordance with their listing.