

City of Binghamton Design Document Guideline

Plan Review and Approval for Commercial or Residential Occupancies

To ensure prompt, efficient, and accurate approval of a Building Permit, the applicant shall provide design documents in the form adopted below.

Design documents may include plans, specifications, calculations, test results, and/or other documentation which describe in detail the proposed building or structure. Additional documents may include site plans, SWPP documentation, and any other details associated with related site work. All documentation shall be comprehensively indexed and shall sufficient detail, as described below.

Documents shall be prepared and submitted in accordance with the following guidelines. Deviation or omission of specific documents are permitted at the discretion of the Supervisor of Building Construction or designee

I. General Requirements

- A. All documents submitted with the application shall be identified to indicate the applicant's name and location.
- B. A minimum 3" x 6" clear box must be provided on all sheets of plans near the title box for the stamp(s) of approval. Provide the following note in small type along one edge of the box: "Space Reserved for the New York State Stamp of Approval."
- C. Applicants shall submit plans showing all elements relating to specific systems on properly identifiable sheets. See minimum drawing scale requirements at the end of this document.
- D. Design calculations and/or test reports shall be submitted. The applicant shall cross-reference all designs to appropriate calculations and/or test reports.
- E. Documents shall indicate the location of the insignia of approval.
- F. Drawings shall be dated and identified, and include an index which can be used to determine that the package is complete.
- G. Calculations shall be dated and identified, and include an index which can be used to determine that the package is complete
- H. The drawing set shall provide or show the following information, labeled as "Code Analysis."

For all submissions, the Code Analysis section will include the following information:

- 1. Date of analysis
- 2. Description of Work (Narrative Scope of Work)
- 3. Jurisdiction (State/County/City)
- 4. Name and Year for each Code document used to perform analysis, e.g. "Existing Building Code of New York State 2007 (EBCNYS)"
- 5. Zoning Category of Project Site
- 1. Occupancy Classification and Use
- 2. Municipal infrastructure, including point location(s) for utility connections, such as: water, sewer, electric, and communications

In addition to this information, each Code Analysis section will include the following project-specific information:

- 3. General Building Height and Area, including:
 - a) Allowable Building Height,
 - b) Existing or Proposed Building Height,
 - c) Allowable Building Area, Existing or Proposed Building Area,
 - d) Area Modifications (if any)
- 4. Number of Stories Type of Construction/Construction Classification

5. Fire Resistance Rating(s) for Building Elements, including:
 - a) Structural frame
 - b) Bearing walls,
 - c) Non-bearing walls
 - d) Floor construction
 - e) Roof construction
6. Fire Resistance Rated Construction, including:
 - a) Exterior wall(s)
 - b) Allowable area of openings
 - c) Vertical opening separation(s)
 - d) Parapet(s)
 - e) Fire wall(s)
 - f) Fire barrier(s)
 - g) Smoke partitions(s)
 - h) Horizontal assemblies
 - i) Penetrations
 - j) Fire resistant joint systems
 - k) Opening protective(s)
 - l) Concealed spaces
7. Interior finishes
8. Fire protection systems, such as:
 - a) Automatic sprinklers,
 - b) Standpipe systems,
 - c) Portable fire extinguishers,
 - d) Fire alarm and detection systems,
 - e) Smoke/heat vents
9. Means of Egress, including the following elements:
 - a) Width and accessibility
 - b) Exit access
 - c) Corridors dead ends
 - d) Number of exits
 - e) Exit continuity
 - f) Vertical enclosures
 - g) Exit passageways
 - h) Horizontal exits
 - i) Emergency escape & rescue
10. Accessibility Interior Environment Energy Efficiency
11. Exterior Walls
12. Roof Assemblies
13. Design Loads and Classification, including the following elements:
 - a) Importance factors;
 - b) Floor live load;
 - c) Roof live load;
 - d) Ground snow load;
 - e) Snow exposure factor;
 - f) Thermal factor;
 - g) Basic wind speed;
 - h) Exposure category;
 - i) Soil bearing capacity;
 - j) Seismic use group
 - k) Site class
14. Fire Code analysis (portable extinguisher size and location)
15. Plumbing Code analysis (fixture load)
16. Energy Code analysis, including: design conditions; building envelope required; and building envelope proposed

II. Required Construction Details

Documents for buildings or components shall provide or show, as appropriate, the details listed below. Documentation necessary to demonstrate each alternative possible within the system shall be required.

A. General Building/Architectural

1. Details and methods of installation of buildings or components on foundations and/or to each other including distance separation requirements.
2. Floor plan(s) and typical elevation(s) with dimensions and notations to satisfy space requirements including but not limited to: minimum room areas, minimum horizontal dimensions, location of space in regard to adjacent finished grade level, minimum ceiling height, and areas allowable under sloping roof construction.
3. Cross sections necessary to identify all major building components
4. Details of flashing, such as at openings and at penetrations through roofs and subcomponent connections that indicate type and gauge of flashing material
5. Exterior wall, roof, and soffit material, including any required rated assemblies.
6. Interior wall and floor/ceiling material, including any required rated assemblies
7. Accessibility provisions, where applicable.
8. Sizes, locations, and types of doors and windows. Indicate location, minimum clear opening and operation specifications for Emergency Escape and Rescue Openings. Provide light and ventilation schedule, demonstrating that minimum requirements for each space are satisfied. Include thermal performance specifications for use in energy calculations.
9. Suggested foundation plans, vents, and access under floor.
10. Details of any elevator or escalator system, including method of emergency operation, when provided.

B. Fire Safety

1. Details of fire rated assemblies, including reference listing or test report for all stairway enclosures, doors, walls, floors, ceiling, partitions, columns, roof, and other enclosures.
2. Means of egress, including details of aisles exits, corridors, passageways, and stairway enclosures. Provide calculations for exit requirements.
3. Flame spread and smoke developed classification of interior materials.
4. Location of required draft-stops, fire-stops, and fire blocking.
5. Details of opening protectives in fire resistance rated systems and assemblies, including: reference listings for required door, frame, hardware, borrowed light, or window to complete opening protective specification.
6. Drawings of fire suppression systems, standpipes, fire alarms, and detection systems, when required. Provide design calculations for fire suppression systems. Provide riser diagrams for suppression systems, fire and smoke detection systems, and fire alarm systems. Provide model information and reference listing for pre-engineered fire suppression systems.

C. Structural Detail Requirements

1. Provide engineering analysis to support the selection of all structural members and connections in compliance with applicable codes.
 - a) Design calculations must; identify reference standard(s) and/or code tables, present design methodology in a step-by-step reviewable format, including all applicable design loads and load paths.
 - b) Demonstrate compliance with maximum load parameters; alternatively, provide calculations for varying design parameters/varying load conditions.
2. Details of structural elements, including framing details, spacing, size, connections and fasteners.
3. Grade, species, and specifications of materials.
4. Schedule of roof, floor, wind, and seismic loads upon which design is based.
5. Column loads and column schedule.
6. Typical foundation plans, details, and assumed design soil bearing value.
7. Provide the resulting uniform and concentrated load magnitudes imposed by the structure, for use by the design professional to properly design supporting structure for construction.

D. Mechanical Detail Requirements

1. Location, size, and material specifications for all equipment and components including but not limited to: electric heating systems; hydronic heating systems; all air heating, ventilating and air-conditioning systems; and appliances.
2. Provide room by room heat loss and design calculations for each typical building. Identify duct work, registers, piping, radiation, etc., to supply the required heating and/or cooling, to overcome heat loss/and or gain for each space.
3. Indicate input/output rating and manufacturer's listings requirements of all equipment and appliances, as appropriate
4. Method of providing combustion air if required.
5. Method for providing ventilation air if required, with quantities identified.
6. Method of providing make-up air if required.
7. Location of flues, vents, and chimneys; and clearances from air intakes, combustible materials, and other vents and flues.
8. Demonstrate code compliance for installation of fuel burning equipment, including fireplaces, in confined and non-confined spaces and identify required clearances consistent with the listing. Provide details when necessary.

E. Plumbing Detail Requirements

1. Schematic drawing of the plumbing layout, including, but not limited to: size of piping, fittings, traps and vents, cleanouts and valves, for gas, water, and drainage systems.
2. Plumbing materials and location of all equipment, appliances, and safety controls to be used. Indicate the rating and capacity of equipment and appliances. Applicant will provide a list or schedule of plumbing materials indicating appropriate compliance standard.
3. Provide floor plan showing fixtures, equipment, and connecting piping.

F. Electrical Detail Requirements

1. A single line diagram of the entire electrical installation.
2. Location of outlets, junction boxes, fixtures, and appliances. Indicate all required locations of GFCI protected circuitry, and waterproof circuitry. Show compliance with appropriate reference standard for minimum dedicated circuits at kitchen appliance locations and circuitry serving all appliance/motor locations.
3. Indicate all exterior and interior lighting locations.
4. Indicate all required smoke detecting alarm device locations and circuitry.
5. Indicate provisions for emergency power generation and connection to required circuitry, where applicable.
6. Details of any service equipment provided by the manufacturer.
7. Method of grounding service equipment.
8. Load calculations for service and feeders.
9. Sizes of branch circuit conductors.
10. Size, rating, and location of main disconnect and over current protective devices.

G. Energy Conservation Requirements

1. Provide methodology of compliance, or tables and calculations which will demonstrate compliance.
2. Provide details of materials and assemblies for compliance with envelope requirements.
3. Provide equipment efficiencies and control methods.
4. Provide electronic file of model where computer documentation of compliance is provided.

Building Drawing Set – Minimum Scales

Sheet Size:

11" x 17" Minimum size to provide room for drawing information, manufacturer's title block and a minimum 3" x 6" space for the municipal approval stamp on every sheet. Plan sets measuring 30" x 42" are the maximum size allowable for file storage purposes.

Key Plans:

1/16" = 1'-0" Minimum for small scale key plans of larger buildings that will not fit on the sheet otherwise. Larger scale partial plans must be provided, since interior dimensions and notes will not be legible at this scale.

3/16" = 1'-0" Minimum scale for floor plans or partial plans (enlarged from Key Plans), where interior dimensions and notes are provided.

Partial Plans:

1/4"=1'.0" Minimum scale for partial plans, enlarge as needed to show increased detail and information.

Building Elevations:

1/8"= 1.0" Minimum scale for building elevations, enlarge as needed to show increased detail and information.

Building Sections:

1/4"= 1.0" Minimum scale for building sections, enlarge as needed to show increased detail and information. Smaller scales may be allowed for large multi-story housing building sections.

Wall Sections:

1/4" = 1.0" Minimum scale for wall sections, enlarge as needed to show increased detail and information.

Details:

As needed to clearly communicate the required information.

Lettering:

3/32" High Minimum height for Notes and Dimensions.

Line spacing between text lines will be $\geq 1/16"$.



DEPARTMENT OF PUBLIC WORKS
OFFICE OF BUILDING CONSTRUCTION
& CODE ENFORCEMENT

Matthew T. Ryan, Mayor
Thomas F. Costello, Supervisor

Subject: FW: City of Binghamton Site Plan Requirements

A final plan for any land use or activity requiring site plan review and approval shall be prepared and submitted to the Planning Department. Such final plan shall contain the following information as applicable:

- (a) A bulk table (generally a bulk table lists pertinent information of the property, such as required and proposed square footage, setbacks, number of parking spaces, etc.)
- (b) The shape and dimensions of the lot
- (c) The existing zoning for the lot and for all adjacent lots
- (d) The existing and proposed physical characteristics of the site, including topography, vegetation and drainage
- (e) The location and size of all existing buildings that are to remain and all proposed new buildings and location of structures on adjoining lots within 25 feet
- (f) The existing and proposed use of each building or part thereof, and of the lot
- (g) The number of dwelling units proposed for each building
- (h) The layout of required off-street parking and loading space with access and egress thereto
- (i) The location and type of any screening and landscaping
- (j) The location and type of proposed signage, exterior lighting, and proposed improvements other than a building
- (k) Dimensions of all items on the plan, including buildings, lots, parking spaces (handicapped spaces must be designated on site plan), and curb cuts
- (l) Any other information with respect to the lot, buildings or adjacent lots that may be necessary to determine compliance with the provisions of this chapter.