

STATE OF NEW YORK
DEPARTMENT OF STATE
DIVISION OF CODE ENFORCEMENT AND ADMINISTRATION
October 30, 2003

DOCUMENTATION GUIDELINES
for
FACTORY-MANUFACTURED BUILDING APPROVAL PROGRAM

In order to obtain plan approval pursuant to Section 1209.3 of the regulations pertaining to Factory-Manufactured Buildings {19 NYCRR}, it is the manufacturer's responsibility to provide the required documentation in the form adopted below. The documents consist of plans, specifications, calculations, test results, and/or other documentation which describe in detail the product and manufacturing processes employed to produce factory manufactured(modular) buildings or components. The documents are to include plans/details for site completed portions of the project which require direct interface with the modular completed portions. The documents shall be comprehensively indexed and shall treat the material listed in detail. For the building systems (and/or single models) to be evaluated for approval, items including but not limited to the following shall be provided:

(A) General Requirements

- (1) All plans, specifications, calculations, and other documentation shall be submitted in three (3) copies. Each sheet shall bear the signature and seal of a New York State registered architect or of a professional engineer licensed to practice in New York State.
- (2) All documents submitted with the application shall be identified to indicate the manufacturer's name and location.
- (3) 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."
- (4) Manufacturers shall submit plans showing all elements relating to specific systems on properly identifiable sheets. See minimum drawing scale requirements at end of this document.
- (5) Structural connections and connection of systems, equipment, and appliances to be performed on site shall be identified, detailed, and distinguished from work to be performed in the manufacturing facility.
- (6) Method of interconnection between factory-manufactured (modular) buildings or components, and location of connections.
- (7) Design calculations and/or test reports shall be submitted. The manufacturer shall cross-reference all designs to appropriate calculations and/or test reports.
- (8) Documents shall indicate the location of the *insignia of approval*.
- (9) Drawings shall be dated and identified, and include an index which can be used to determine that the package is complete.
- (10) Calculations shall be dated and identified, and include an index which can be used to determine that the package is complete.
- (11) Documents shall provide or show, as appropriate, occupancy or use; area, height, and number of stories; type of construction; and loads (wind, floor, snow, and seismic).
- (12) The drawings shall show the location of utility connections to the modular portion(s) of the building and required demand at that location. Should include, but not be limited to, electrical, water, fire suppression, waste, and fuel connections.
- (13) Identify interface of building exits to egress path(s) leading through site built portions of construction where applicable.

(B) Required Construction Details

Documents for factory-manufactured (modular) 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.

(1) General Building/Architectural

- (a) Details and methods of installation of factory-manufactured (modular) buildings or components on foundations and/or to each other including distance separation requirements.
- (b) 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 allowable areas to be considered under sloping roof areas.
- (c) Cross sections necessary to identify all major building components and details of connections at interface between modules.
- (d) Details of flashing, such as at openings and at penetrations through roofs and subcomponent connections. Indicate flashing material and gauge to be used.
- (e) Attic access and attic ventilation, when required by the code. Where attic access is provided, indicate attic floor loading criteria. Demonstrate compliance with natural ventilation requirements and where attic fans are provided, indicate safety controls for attic fans.
- (f) Exterior wall, roof, and soffit material including, any required rated assemblies.
- (g) Interior wall and floor/ceiling material including any required rated assemblies.
- (h) Accessibility provisions, where applicable.
- (i) 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.
- (j) Suggested foundation plans, vents, and underfloor access.
- (k) Details of any elevator or escalator system, including method of emergency operation, when provided.

(2) Fire Safety

- (a) 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.
- (b) Means of egress, including details of aisles, exits, corridors, passageways, and stairway enclosures. Provide calculations for exit requirements.
- (c) Flame spread and smoke developed classification of interior materials.
- (d) Location of required draftstops, firestops and fire blocking.
- (e) 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.
- (f) 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.

(3) Structural Detail Requirements

- (a) Provide engineering analysis to support the selection of all structural members and connections in compliance with applicable codes. 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. Demonstrate compliance with maximum load parameters, alternatively, provide calculations for varying design parameters/varying load conditions.

(b) Details of structural elements, including framing details, spacing, size, connections and fasteners.

(c) Grade, species, and specifications of materials.

(d) Schedule of roof, floor, wind, and seismic loads upon which design is based.

(e) Column loads and column schedule.

(f) Typical foundation plans, details, and assumed design soil bearing value.

(g) Provide the resulting uniform and concentrated load magnitudes imposed by the modules, for use by the design professional to properly design supporting structure for the modular construction.

(4) Mechanical Detail Requirements

(a) 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.

(b) 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.

(c) Indicate input/output rating and manufacturer's listings requirements of all equipment and appliances, as appropriate.

(d) Method of providing combustion air if required.

(e) Method for providing ventilation air if required, with quantities identified.

(f) Method of providing make-up air if required.

(g) Location of flues, vents, and chimneys; and clearances from air intakes, combustible materials, and other vents and flues.

(h) 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.

(5) Plumbing Detail Requirements

(a) 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.

(b) Plumbing materials and location of all equipment, appliances, and safety controls to be used. Indicate the rating and capacity of equipment and appliances. List or schedule of plumbing materials indicating appropriate compliance standard.

(c) Provide floor plan showing fixtures equipment and connecting piping.

(6) Electrical Detail Requirements

(a) Details of any service equipment provided by the manufacturer.

(b) Method of grounding service equipment.

(c) Load calculations for service and feeders.

(d) Sizes of branch circuit conductors.

(e) Size, rating, and location of main disconnect and over current protective devices.

(f) 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.

- (g) A single line diagram of the entire electrical installation.
- (h) Indicate all exterior and interior lighting locations. Indicate all required smoke detecting alarm device locations and circuitry.
- (I) Indicate provisions for emergency power generation and connection to required circuitry, where applicable.

(7) Energy Conservation Requirements

- (a) Provide methodology of compliance, or tables and calculations which will demonstrate compliance.
- (b) Provide details of materials and assemblies for compliance with envelope requirements.
- (c) Provide equipment efficiencies and control methods.
- (d) Provide electronic file of model where computer documentation of compliance is provided.

Building Drawing Set - Minimum Scales (Necessary to communicate the required information)

Sheet Size:

- 17" x 22" Minimum size to provide room for drawing information, manufacturer's title block, and a minimum 3"x 6" space for the Department of State approval stamp on every sheet.
- 30" x 42" 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 as this scale.*

Floor Plans:

- 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 As needed to clearly communicate the required information.

Lettering:

- 3/32" High Minimum height for Notes and Dimensions.
- 1/16" Minimum spacing between text lines.