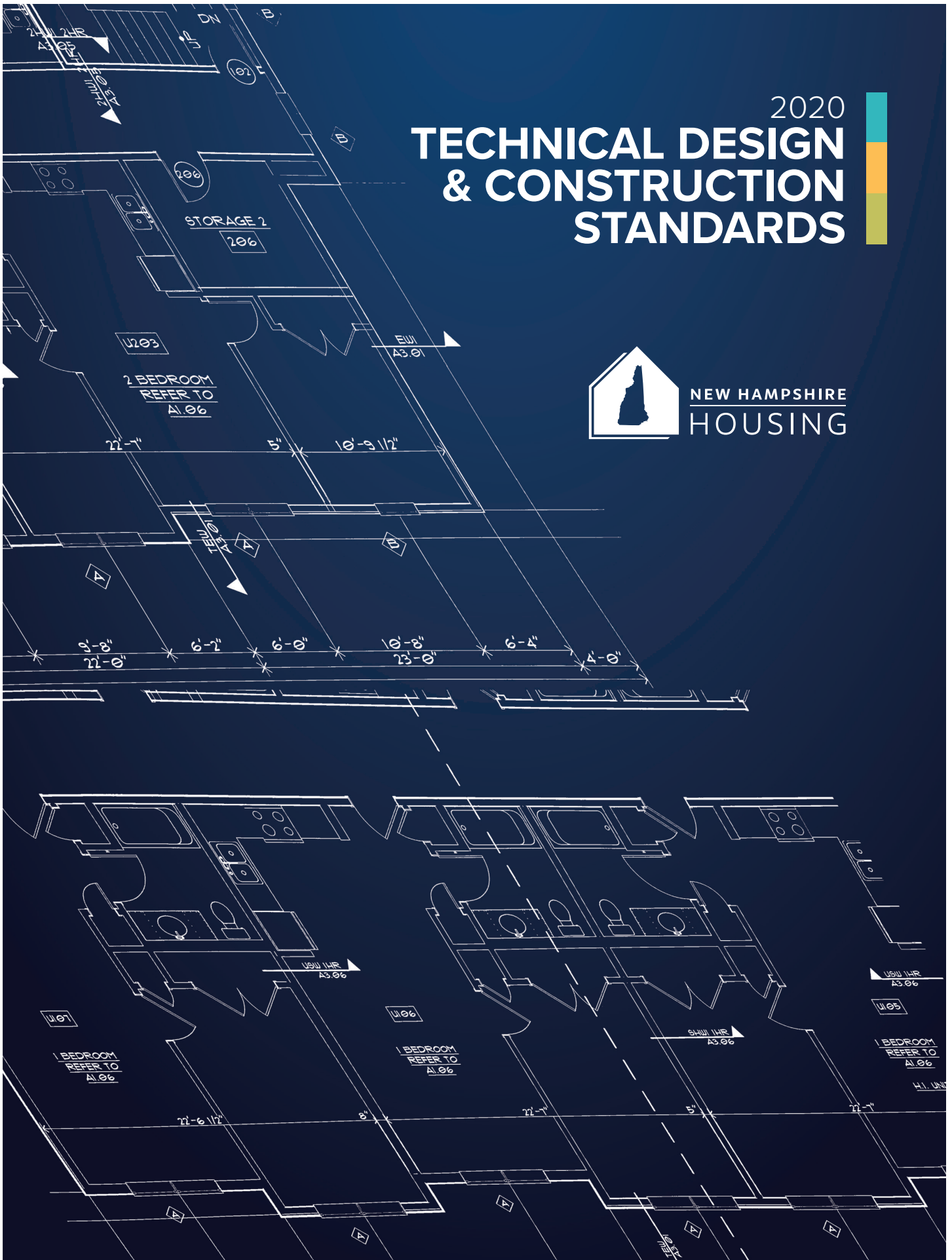


2020 TECHNICAL DESIGN & CONSTRUCTION STANDARDS



NEW HAMPSHIRE
HOUSING



**NEW HAMPSHIRE HOUSING FINANCE AUTHORITY
TECHNICAL DESIGN AND CONSTRUCTION STANDARDS**

Table of Contents

SECTION	TITLE	PAGE
1	General	<u>2</u>
2	Waivers	<u>3</u>
3	Codes and Standards	<u>3</u>
4	Construction Documents	<u>4</u>
5	Site	<u>7</u>
6	Structural	<u>8</u>
7	Insulation, Air Sealing and Building Shell	<u>9</u>
8	Interior	<u>10</u>
9	Plumbing Systems	<u>10</u>
10	Mechanical Systems	<u>11</u>
11	Electrical Systems	<u>11</u>
12	VOC Limits	<u>12</u>
13	Preconstruction Requirements	<u>12</u>
14	Applications for Payment	<u>13</u>
15	Change Orders	<u>15</u>
16	Progress Meetings	<u>15</u>
17	Quality Control Services	<u>16</u>
18	Project Closeout	<u>17</u>
19	Guidelines for Temporary Construction Signs	<u>18</u>
20	As-Built Architect's Certification	<u>20</u>
21	As-Built Engineer's Certification	<u>21</u>
22	As-Built Structural Engineer's Certification	<u>22</u>

Standards Issued January 24, 2020 by
New Hampshire Housing Finance Authority
Management & Development Division

IGNATIUS MACLELLAN | Managing Director
NATASHA DUBE | Director, Housing Development
LAURA CARLIER, TOM KREBS, CASSIE MULLEN, AND MARION LAWRENCE | Program Managers
SHAUN MALONE | Senior Construction Analyst | 603-310-9212 | smalone@nhhfa.org
32 Constitution Drive, Bedford, NH 03110 | NHHFA.org

1. GENERAL

- 1.1. The purpose of this document is to provide standards and policies for design and construction of properties financed entirely or in part by the New Hampshire Housing Finance Authority (the “Authority”). These standards and policies are intended to ensure a basis for providing safe, sanitary, cost effective, energy efficient, and decent housing for all occupants as well as protecting the Authority’s security interest in the property.
- 1.2. Construction documents for all developments will require, as applicable, architectural, civil, structural, fire protection, electrical, plumbing and HVAC drawings stamped by a licensed architect and/or professional engineer(s) registered with the State of New Hampshire per RSA 310-A.
- 1.3. All rehabilitation projects must comply with the Environmental Protection Agency’s Safe Drinking Water Act (www.epa.gov/sdwa). No less than 10% of the units must be tested for lead and copper levels prior to occupancy.
- 1.4. Buildings constructed prior to 1978 must be tested for lead-based paint hazards via a full lead inspection (including the identification of paint and bare soil hazards) by a NH licensed lead paint inspector/risk assessor, otherwise all paint films will be assumed to contain lead. However, housing projects for the elderly, or a residential property designated exclusively for persons with disabilities are exempt from this requirement; except this exemption shall not apply if a child less than age 6 resides or is expected to reside in the dwelling unit. All identified or assumed lead paint/hazards must be mitigated during construction. The level of mitigation required for a project is dependent on the type and amount of funding source used to finance the project. All mitigation work will be performed by a contractor with the appropriate level of certification or license that is required by the applicable regulation for the project.
 - 1.4.1 All projects, regardless of funding type or amount, must comply with the following including any updates in effect at the time that the work is being done:
 - a. NH He-P 1600/RSA 130-A NH Lead Poisoning Prevention and Control Act; and,
 - b. U.S. Environmental Protection Agency Lead Regulations 40 CFR 745
 - 1.4.2 Additionally, any projects financed with federal funds must comply with the following regulations, including any updates in effect at the time that the work is being done:
 - a. HUD 24 CFR 35 regulations (The Lead Safe Housing Rule)
 - b. HUD’s Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (2nd Edition, July 2012) (HUD’s Guidelines).
 - 1.4.3 Upon completion of construction, clearance testing for a Lead Safe Certificate, performed by a licensed risk assessor, must be conducted in conformance with NH

He-P 1600/RSA 130-A NH Lead Poisoning Prevention and Control Act.
However, projects deemed exempt under 1.4 do not require clearance testing.

- 1.5 Buildings constructed before 1978 must have an asbestos survey done by an independently licensed firm. All asbestos shall be abated in compliance with local, state, and EPA guidelines. Waste manifests and clearance testing results shall be provided prior to completion of the project.
- 1.6 Construction document review and inspection services will be commissioned by the Authority. A minimum of two inspections per month will be performed. Project review and inspections will be paid out of project funds.
- 1.7 Occupational Safety and Health Administration (OSHA) 10-hour construction safety training shall be completed by all on-site employees per New Hampshire RSA 277:5-a. Written documentation shall be kept on site and provided upon request.
- 1.8 Requirements for liquidated damages shall be included in the project manual. The minimum requirement is \$500/day. This is not required on projects where the contractor shares an identity of interest with the developer.
- 1.9 The project manual shall include a section dealing with winter conditions and job site security. Winter conditions shall be included in all construction contracts as part of the base bid, either as a developer specified allowance or as a fixed sum based on the anticipated start date provided by the Owner in Bid Documents. Any adjustment to Winter Conditions costs as a result of changes to project schedule shall be documented with fuel and/or rental invoices and approved by the Owner and the Authority.

2. WAIVERS

- 2.1. The Authority recognizes that due to unique or unusual circumstances in real estate and construction, strict application of the Authority's requirements may cause an undue burden. The Authority's Managing Director of Management and Development or designee may, for good cause, waive provisions of this document as appropriate. All requests must be submitted in writing.

3. CODES AND STANDARDS

- 3.1. All procurement, design and construction shall be done in accordance with the most current edition of the following standards and codes as they may apply. It is the responsibility of the developer, working with the design team, to determine which of the following codes and standards are applicable according to law and program rules.
 - 3.1.1. The requirements of Section 504 of the Rehabilitation Act of 1973 must be met using the Uniform Federal Accessibility Standards (UFAS) or the 2010 ADA Standards for Accessible Design. There are certain circumstances where the 2010 ADA cannot be used. They are identified in the appendix to 24 CFR Part 8, Docket Number FR-5787-N-01 (see www.hud.gov/sites/documents/5784_N_01_NOTICE_5_15_14.pdf).

All buildings designed and constructed for first occupancy after March 13, 1991 with four or more units must meet the requirements of the Fair Housing Act (March 13, 1991).

All projects must design and construct 5% of the dwelling units, or at least one unit, to be fully Accessible for persons with mobility disabilities. Additionally, 2%, or at least one unit, must be accessible for hearing and visual disabilities.

- 3.1.2. New Hampshire Fire Code (Saf-C 6000).
(see www.gencourt.state.nh.us/rules/state_agencies/saf-c6000.html)
- 3.1.3. New Hampshire Building Code (RSA 155-A).
(see www.gencourt.state.nh.us/rsa/html/xii/155-a/155-a-mrg.htm)
- 3.1.4. New Hampshire Department of Environmental Services, Water Division, Env-Wq 700 Standards of Design and Construction for Sewerage and Wastewater Treatment Facilities, Env-Dw 405 Design Standards for Small Community PWS, and We 100-1000 Water Well Board Rules.
(see www.des.nh.gov/organization/divisions/water/)
- 3.1.5. Title 24, Code of Federal Regulations procurement requirements.
- 3.1.6. Modeling demonstrating Energy Star compliance is required prior to starting construction. Upon project completion Energy Star certification is required.

4. CONSTRUCTION DOCUMENTS

- 4.1. Construction documents shall be provided to the Authority for review. Specifications shall follow the format of MasterFormat-2016 by the Construction Specifications Institute (CSI) or a similar format. Drawings shall be prepared in conformance with these standards and shall be of uniform size and numbered consecutively. When applicable, a certified survey by a licensed surveyor registered in the State of New Hampshire shall accompany the construction documents. The project manual shall include a current copy of the Authority's Design and Construction Policy Rules (HFA:111), this document, and (if applicable) HUD Section 3 information.
- 4.2. The drawings shall, as applicable, include and show the following:
 - 4.2.1. Cover Sheet
 - 4.2.1.1. Proposed buildings by occupancy, size (height and area) and construction type as defined by the NH Building Code.
 - 4.2.1.2. Dwelling unit distribution by floor, square footage, number of bedrooms/baths and number of required accessible units.

- 4.2.1.3. Square footage breakdown between commercial, residential, community and other occupancies in the building/development.
- 4.2.1.4. Number of parking spaces, parking ratio proposed and required by zoning, accessibility standards and the NH Building Code.
- 4.2.1.5. Dwelling units per acre proposed and allowed under zoning.
- 4.2.1.6. Percentage breakdown of the tract to be occupied by buildings, by parking and other paved vehicular areas, and by open areas.
- 4.2.2. Site Plan
 - 4.2.2.1. Site location map.
 - 4.2.2.2. Lot lines, streets, and existing buildings. Distances between the proposed building(s) and lot lines, streets (ROW) and existing buildings on the same lot (new construction only).
 - 4.2.2.3. Proposed building footprint, parking, site improvements and general dimensions.
 - 4.2.2.4. Adjacent buildings' footprints and heights.
 - 4.2.2.5. Zoning restrictions, e.g. setback requirements, easements, height limits, etc. (new construction only).
 - 4.2.2.6. Environmental constraints, e.g. wetlands edge, ledge, existing vegetation, and aquifer protection zones.
 - 4.2.2.7. Proposed new site improvements including landscaping, fences, paving, retaining walls, etc.
 - 4.2.2.8. Approval of stamped site plan by local jurisdiction.
 - 4.2.2.9. Location of test borings, with geotechnical reports (new construction only).
- 4.2.3. Floor Plans
 - 4.2.3.1. All plans if different; entry level, basement (if any) and typical floor plan if repetitive.
 - 4.2.3.2. Square foot tabulations.

- 4.2.3.3. ¼-inch scale typical unit(s), Accessible units, Type A units and Type B units as applicable, unit(s) plans with all required clearances shown, with elevations and dimensions. Accessible units as applicable shall be provided for each type (1 BR, 2 BR, etc.) and dispersed throughout a project to the greatest degree feasible.
- 4.2.3.4. Locations of all required braced wall lines and braced wall panels.
- 4.2.3.5. Detailed door, window and finish schedules. Door schedules to include applicable fire-ratings and hardware.
- 4.2.3.6. Reflected ceiling plans when suspended ceilings are proposed or when fixtures are mounted to ceilings.
- 4.2.4. Exterior Elevations, Perspective, or Photographs
 - 4.2.4.1. All exterior facades, window types, and exterior materials.
- 4.2.5. Typical Building, Wall, Floor and Roof Sections
 - 4.2.5.1. Building materials, construction type, insulation levels with tabulation of R-values.
 - 4.2.5.2. Wall sections and floor/ceiling and roof/ceiling assemblies, with fire ratings, UL # and STC ratings as applicable. Include a copy of the UL test assemblies in the construction documents.
 - 4.2.5.3. Complete stair details with dimensions, showing rise/run, nosing profiles, handrail, guard and baluster details.
- 4.2.6. A code summary is required on all architectural drawings.
- 4.2.7. Complete HVAC, electrical, plumbing and fire protection drawings and specifications.
- 4.3. Upon receipt of the completed construction documents, the Authority or its designated representative (Construction Analyst) shall perform a review of the documents within twenty-one (21) days. The developer or architect shall notify the Authority's Construction Analyst when the documents are sent out for review, so they can be tracked. Incomplete construction documents shall not be accepted for review. The review is performed solely to assist the project design architect, developer, and potential contractor to ensure that the project conforms to all the standards and codes as stipulated in the Authority's Technical Design and Construction Standards. Review by the Authority Construction Analyst is intended to assist the design team. Responsibility for compliance with necessary standards and codes rests solely and entirely with the developer, design professionals, and the contractor.

- 4.4. After a review of the construction documents by the Authority or its Construction Analyst, the design architect or engineer shall prepare stamped construction ready documents based upon the completed review. Upon receipt of the stamped construction ready documents, the Construction Analyst shall have seven (7) days to approve the final construction documents. At that time an appropriate time schedule shall be established and agreed to by all parties to determine final pricing for the project depending on the procurement method selected, either general contractor bidding or construction management. The project shall not be put out for final pricing until final construction documents have been approved by Authority staff.
- 4.5. If the developer does not agree with a determination or interpretation made by the Authority's Construction Analyst during review or construction, then the developer may contact the Authority's Director of Housing Development to request an appeal. The developer shall present written good cause with the appeal request. The Director of Housing Development shall have up to seven (7) days to render a decision in the appeal request. Failure to respond may be considered an approval of the appeal.

5. SITE

- 5.1. Borings shall be required for all new construction projects. A geotechnical report with recommendations and borings data shall be provided to the Owner and the Authority. Borings shall be required as a minimum at building corners, center of building footprint and infrastructure locations, i.e. along water and sewer line routes. Comply with Section 1803 of the NH Building Code.
- 5.2. Additional Requirements:
 - 5.2.1. All non-age restricted developments consisting of 50 units or more shall have an appropriate, accessible on-site playground area. Construction documents for the playground area shall show the design, layout, size, fencing, surface and equipment to be installed.
 - 5.2.2. All common areas (site office, community space, playgrounds, dumpsters, etc.) on the project site shall be on an accessible route and shall be designed for use by individuals with disabilities according to the applicable standards.
 - 5.2.3. Fencing shall be installed at all areas that pose a safety hazard, as determined by the Authority. Fences over 6 feet in height shall comply with the NH Building Code.
 - 5.2.4. New and existing propane tanks larger than 100 gallons shall be installed below grade (per 24 CFR Part 51 Subpart C).

5.3. Paving:

5.3.1. Roads, driveways, and parking lots shall be paved using the most recent edition of the NHDOT Standard Specifications for Road and Bridge Construction:

5.3.1.1. 1-inch wearing course pavement.

5.3.1.2. 2-inch base course pavement.

5.3.1.3. 6-inch crushed gravel.

5.3.1.4. 12-inch bank run gravel.

5.3.2. Sidewalks shall be paved using the following criteria:

5.3.2.1. 2-inch wearing course pavement.

5.3.2.1.1. 6-inch crushed gravel.

6. STRUCTURAL

6.1. The following standards shall be applied in the evaluation of existing and new structures. Correction of all structural damage, deficiencies, and their cause shall be included in the project scope of work.

6.1.1. Foundations shall be sound, plumb and free from significant movement. Foundation sill height elevations and location on site shall be confirmed as soon as possible after installation. Any discrepancy with the approved documents shall be reported to the Owner and the Authority immediately.

6.1.2. All concrete slabs in habitable areas shall be 4 inches thick minimum. All uninhabitable areas (i.e. crawl spaces) shall have a minimum 3-inch-thick concrete slab.

6.1.3. Wood structural members shall be free from significant deflection and/or cracking, deterioration, rot or termite damage. Except in Grafton, Carroll, and Coos Counties, non-toxic treatment for termite control complying with AWPA U1 is required for all new construction sprayed a minimum of 4 feet up from the foundation on all exterior wood walls.

6.1.4. Prior to final commitment, when possible, the Authority reserves the right to hire an independent structural engineer registered in the State of New Hampshire to perform a structural survey to verify the adequacy of structural members for current loads.

6.1.5. Exterior wall sheathing exposed to roof runoff and backsplash from impervious surfaces shall include a minimum 48-inch-high band of pressure treated plywood,

Advantech (or similar), or Zip sheathing at the foundation. The exposed uncoated edge of Zip Sheathing shall be sealed.

- 6.1.6. Provide detailed snow load calculations for all roof trusses and/or conventional framed roofs.
- 6.1.7. The structural engineer of record shall be responsible for inspecting the installation of engineered roof trusses including permanent bracing.

7. INSULATION, AIR SEALING, AND BUILDING SHELL

7.1. Insulation

- 7.1.1. Installation methods for insulation and requirements for air sealing shall follow the most current Energy Star Program Standards. (see www.energystar.gov/)
- 7.1.2. Batt insulation is not allowed in exterior walls unless it is used in combination with spray foam or continuous insulation.

7.2. Building Shell

- 7.2.1. Vinyl siding shall have a minimum thickness of .046”.
- 7.2.2. Membrane roofing shall have a minimum 20-year warranty. All other roof coverings (shingles, metal, etc.) shall have a minimum 30-year warranty.
- 7.2.3. An ice and water barrier shall be installed over roof sheathing a minimum of 72 inches up from the fascia. Valleys shall have a 36-inch membrane in the center, with an additional 36-inch membrane lapping each edge. Wall/roof intersections shall have a minimum 18-inch membrane extending up the wall and 18 inches over the roof sheathing. Ice and water barriers shall extend from the roof and run 1” over the fascia trim (prior to installing drip edge).
- 7.2.4. Rafter or roof truss ventilation baffles shall measure a minimum of two vertical inches by the width of the bay.
- 7.2.5. Metal drip edge shall be provided at the entire roof perimeter – galvanized steel minimum thickness .026-inch and aluminum .032-inch thickness.
- 7.2.6. Exterior wall/roof intersections shall have kick-out flashing installed at the bottom of the roof to prevent water from running down the building.
- 7.2.7. Where an entrance, exit, or sidewalk is in the path of snow runoff resulting from metal roofing and/or photovoltaic roof panels, snow-guards are required.

- 7.2.8. All dwelling unit habitable spaces shall have operable windows with screens (kitchens and bathrooms are exempt except when required for light and/or ventilation by the NH Building Code).
- 7.2.9. All windows in each living space of Accessible and Type A dwelling units shall be provided with accessible controls (i.e. locks, opening hardware). Required opening force for accessible windows shall not exceed 5 pounds.
- 7.2.10. All new windows shall meet the latest requirements of Energy Star. All windows must have a 20-year comprehensive warranty, including glass.

8. INTERIOR

- 8.1. Acceptable dwelling unit and room sizes shall be evaluated by Authority Staff or designee (construction inspector/plan reviewer). Determining factors are the placement of furniture, tenant circulation, functional livability and adequate storage. Minimum room sizes as required by the NH Building Code and this document.
- 8.2. Bedrooms are to have four full walls from floor to ceiling and adequate closet space. Minimum dimensions of bedrooms (excluding closet space) are as follows:
 - 8.2.1. Primary bedroom - 10 feet x 12 feet.
 - 8.2.2. Studio or efficiency living space 10 feet x 12 feet.
 - 8.2.3. Secondary bedrooms – 8 feet x 10 feet.
- 8.3. All painted surfaces are to receive primer plus two coats of finish paint.
 - 8.3.1. Kitchen and Bath wall surfaces shall be eggshell or satin finish.
 - 8.3.2. Wood and metal surfaces shall be satin or semi-gloss enamel finish.
- 8.4. Mold and moisture resistant drywall shall be used on all walls in bath areas and wet walls in kitchens and utility rooms.

9. PLUMBING SYSTEMS

- 9.1. Plumbing fixtures, equipment, insulation, and systems shall meet the latest Energy Star program requirements.
- 9.2. An engineered sub-slab piped ventilation system shall be designed and installed to provide radon mitigation. Each section of radon piping shall be clearly marked as such. Electric power shall be provided in the attic area to serve exhaust fans if required by test results. Both the designer and installer shall hold a current certification from either the National Radon Proficiency Program or the National Radon Safety Board (NH RSA 310-A:189-a).

- 9.3. All Accessible dwelling units shall be provided with a roll-in shower complying with accessibility standards. Bathroom floor drains are recommended adjacent to roll-in showers.
- 9.4. All piping is to be supported by metallic hangers properly sized to include pipe insulation where required. Non-metallic hangers may be used on PEX pipe less than one inch in diameter.

10. MECHANICAL SYSTEMS

- 10.1. Mechanical equipment, insulation, and systems shall meet the latest Energy Star program requirements.
- 10.2. Balanced mechanical ventilation is required within each unit and for the whole building.
- 10.3. All HVAC system balancing is to be performed by a third party balancing contractor regularly engaged in balancing work and who shall be independent of the HVAC system installer. All balancing work shall be done in accordance with the procedures of the Associated Air Balance Council (AABC) or the National Environmental Balancing Bureau (NEBB).

11. ELECTRICAL SYSTEMS

- 11.1. Individual living units with two or more bedrooms are to have a minimum 100 AMP service disconnect.
- 11.2. Service entrance wiring and feeders rated at 100 amps or more may be copper or aluminum. All branch circuit wiring shall be copper.
- 11.3. Wall switches shall be provided for the fan and light on all kitchen range hoods in all Accessible and Type A dwelling units.
- 11.4. All dwelling units shall be wired for, and include, at least one combination audible/visible fire alarm device wired to the common alarm. Accessible and Type A dwelling units shall have visible devices in each living space, bedroom, bathroom and hallway wired to the common alarm and to the dwelling unit smoke/heat detector.
- 11.5. Electric power shall be provided in the attic area to serve exhaust fans for the radon mitigation system if required by test results.
- 11.6. Emergency power generators capable of providing power for all water and sewer pumps and related equipment shall be provided for all projects using non-public water, sewer and fire protection.
- 11.7. All units shall be wired for broadband internet.
- 11.8. Units shall be metered individually when electricity is not included in a tenants rent.

12. VOC LIMITS

12.1. Use of low VOC (Volatile Organic Compound) building materials is required. Limits for VOC content must comply with the following:

12.1.1 South Coast Air Quality District Rules 1113 (architectural coatings) and 1168 (adhesives). www.aqmd.gov

12.1.2 Green Seal Standard GS-11 (paints, coatings, stains, and sealers). www.greenseal.org

12.2. Hard surface flooring is recommended throughout the dwelling unit. If carpet is used it shall have the Green Label Approval from the Carpet and Rug Institute. www.carpet-rug.org/testing/green-label-plus/

13. PRECONSTRUCTION REQUIREMENTS

13.1. Prior to the construction closing the following documents shall be submitted for review and approval.

13.1.1 Project manual and plans for review per 4.3 and 4.4 of this document.

13.1.2 Submit a copy of the request for proposal (RFP) for construction management or general contracting services for review and comment.

13.1.3 Schedule a pre-bid meeting for projects utilizing general contracting.

13.1.4 Schedule a public bid opening for construction management projects and general contracting projects. The developer is to provide copies of all bids.

13.1.5 Construction managers must provide a detailed project estimate that shows labor, material, subcontract, general conditions, and fee breakdowns. Construction Managers shall also provide material and subcontract bidding as outlined in [HFA 111.08](#).

13.1.6 Critical path construction schedule.

13.1.7 Copies of all permits.

13.1.8 Insurance – refer to our [website](#).

13.1.9 Draft copy of the performance and payment bond, letter of credit, or other forms of surety for review and comment. Final copy to be provided at closing. Refer to [HFA 111.14](#).

13.1.10 Provide a draft copy of the Owner-General Contractor or Owner-Construction Manager contract for review and comment. Upon execution provide a final copy.

13.1.11 Provide an executed copy of the Owner-Architect contract and the Construction Administrative Services Agreement (prepared by the Authority).

13.1.12 Provide an executed copy of the Owner-Civil Engineer contract when the civil engineer is not under contract with the architect.

13.2 Prior to the commencement of any construction, the developer or developer's agent shall schedule a mandatory preconstruction conference. The developer shall notify all parties in writing of the time and place for the conference. The Authority shall provide an agenda to all parties prior to the meeting. The developer and contractor can add items to the agenda that they deem necessary.

14. APPLICATIONS FOR PAYMENT

14.1. Prior to the start of construction, the General Contractor or Construction Manager shall submit to the developer the Schedule of Values. The project manual Table of Contents shall be used as a guide to establish the format. The approved Schedule of Values shall become the Continuation Sheets (AIA Document G 703) for the Applications for Payment.

14.2. Each Application for Payment shall be consistent with previous applications and payments. All Authority funded payment requests shall require the title to be updated and paid for by the mortgagor out of the developer's budget.

14.3. The Architect of record is responsible for approving every requisition. Unless the civil engineer works directly for the architect, the civil engineer of record is required to approve and sign for civil work in excess of \$40,000.

14.4. Applications for Payment shall be completed, including notarization and execution by the General Contractor, Construction Manager, or their agent. Applications for payment must be submitted on AIA Document G702 and Continuation Sheet G703. Incomplete applications shall be returned without action.

14.5. One executed electronic copy of each application for payment shall be submitted to the developer or its agent and the Authority. Copies shall be complete, including affidavits and similar attachments. Copies must be transmitted listing attachments and recording information related to the application for payment.

14.6. With each application for payment, the General Contractor or Construction Manager shall submit a Contractor's Affidavit Regarding Mechanics' Lien along with Schedule A to the Contractor's Affidavit. The Schedule A must list every entity that may file a lien arising out of the contract and related to the work covered by the payment. Affidavit of waiver of lien release under RSA 447:12-A will be properly executed and signed by the General Contractor or Construction Manager prior to release of any payment. Material supplier and subcontract lien waivers will not be required until the final requisition on bonded projects.

14.7. Five percent retainage will be held on the total contract until a Certificate of Substantial Completion is issued. Upon completion of the contract and acceptance of the work by the

developer, surety, and the Authority, and compliance with all contract terms, the amount due the General Contractor or Construction Manager shall be paid including any remaining retainage.

- 14.8. Payments otherwise due may be withheld on account of defective work not remedied, liens filed, damage by the General Contractor or Construction Manager, or for failure to make payments properly to vendors or subcontractors.
- 14.9. Materials stored on site must be put in place in thirty days or less. Materials that are not put in place in less than thirty days must be inventoried by the developer or their architect. Photos and a complete inventory will be submitted with the payment request.
- 14.10. Payment for materials stored off site will be permitted with the approval of the developer and funding parties provided that the following items are provided:
 - 14.10.1. Bill of Sale and Transfer of Title to the developer for stored materials and equipment. The value on the Bill of Sale must match the value on the requisition;
 - 14.10.2. Address where stored, name of the owner of the storage facility, contact information, and Right of Entry to the storage facility;
 - 14.10.3. Captioned photos of stored materials;
 - 14.10.4. Proof of insurance, current through the billing period, showing the stored material is insured for a sum not less than the amount that is being billed. The developer, the Authority, and any other funder shall be named as additional insured on the Certificate of Insurance. The General Contractor, Construction Manager and Developer shall be responsible for maintaining an inventory log of all stored material; and
 - 14.10.5. Off-site stored materials must be recorded in column F of AIA form G703 (Materials Presently Stored). As the materials are moved out of storage and put into place they will be deducted from this column and moved into column E (Completed Work). The itemized inventory and insurance certificate must be updated monthly.
- 14.11. When applicable, Davis-Bacon certified payrolls shall be submitted by the General Contractor or the Construction Manager, and all subcontractors prior to release of payment. Certified payrolls may lag two weeks behind the end date of the requisition. Pursuant to U.S. Department of Labor letter LR-96-01, self-employed individuals are required to be carried on the payroll of the contractor for whom they are working, except for a self-employed individual in a non-labor supervisory role.
- 14.12. HUD Section 3 forms shall be submitted with each requisition when a project is subject to Section 3 requirements as a result of federal funding.

- 14.13. The completion of project closeout requirements shall precede or coincide with the submittal of the final payment application. All finish grading, seeding, sodding, landscape planting, and any off-site improvements shall be completed. When these improvements are not complete, the Authority shall establish an escrow or performance bond consisting of 150% of the estimated cost of completion and establish a deadline date.

15. CHANGE ORDERS

- 15.1. Changes in the work shall be handled as described in Article 7 of AIA Document A201-2017 General Conditions.
- 15.2. All changes from the original contract shall be in writing and approved by the Authority. Claims by the General Contractor or Construction Manager for extra cost shall be made in writing to the developer, architect and the Authority for approval before executing the work involved.
- 15.3. The cost to the developer resulting from a change that increases the net Cost of the Work shall be calculated as follows:
 - 15.3.1. The General Contractor or Construction Manager is allowed a single markup line inclusive of overhead and profit which is calculated at up to 8% of the first-tier subcontractor's proposal amount; and
 - 15.3.2. Up to 10% markup (overhead and profit) for subcontractors. Subcontractor change order proposals shall be broken out to show material, hours, labor rates, and markups; and
 - 15.3.3. For work performed by second-tier subcontractors:
 - 15.3.3.1. The first-tier subcontractor is allowed a single markup line inclusive of overhead and profit which is calculated at up to 8% of the second-tier subcontractor's proposal amount.
- 15.4. The General Contractor or Construction Manager shall be reimbursed by the Developer for the bonding costs associated with change orders.
- 15.5. Upon the developer's and the Authority's approval of a change order proposal request, the architect or General Contractor or Construction Manager shall issue a change order for signatures of the developer, the architect, the Authority, and the General Contractor or Construction Manager on AIA Document G701.

16. PROGRESS MEETINGS

- 16.1. The Developer shall schedule progress meetings and requisition meetings. Meetings shall be conducted and minutes taken by the architect, developer, General Contractor or Construction Manager or their assigned representative.

- 16.2. The developer, agent, architect/engineer(s), General Contractor or Construction Manager, the Authority, and any other entity concerned with the progress or involved in the planning, coordination, or performance of future activities shall be represented by persons familiar with the project and authorized to conclude matters relating to progress.
- 16.3. The General Contractor or Construction Manager shall submit and keep an updated construction schedule pursuant to Article 3.10.1 of the AIA Document A201-2017 General Conditions.
- 16.4. Copies of the minutes of a meeting shall be distributed to each party present and to parties who should have been present no later than five (5) calendar days after each meeting. The minutes shall include a summary, in narrative form, of progress made since the previous meeting.

17. QUALITY CONTROL SERVICES

- 17.1. The developer shall engage and pay for services of an independent agency to perform inspections and tests for all masonry, concrete, or civil work and any other work requiring testing or inspection.
- 17.2. The General Contractor or Construction Manager is responsible for repair and protection regardless of the assignment of responsibility for inspection and testing.
- 17.3. The General Contractor or Construction Manager shall guarantee and re-execute any work that fails to conform to the requirements of the contract and that appears during the progress of the work, and shall remedy any defects due to faulty material or workmanship which appear within a period of one year from the date of final acceptance of all work required by the contract.
- 17.4. The provisions of this article apply to work done by all agents and/or direct employees of the General Contractor or Construction Manager. Furthermore, the General Contractor or Construction Manager shall furnish the developer with all manufacturers' and suppliers' specifications, written guarantees, and warranties covering materials and equipment furnished under the contract.
- 17.5. The General Contractor or Construction Manager shall permit and facilitate observation of the work by the Authority and its duly authorized representative.
- 17.6. Inspections shall be conducted at the rough-in and finish stages of construction by the architect and engineers of record. Written approval by the architect or engineer of record of work in place shall be required for all inspections.
- 17.7. The developer may, at its discretion, hire a qualified third party to serve as Clerk of the Works. The Clerk's fees shall be paid out of the Developer's Fee.

18. PROJECT CLOSEOUT

- 18.1. Before requesting final acceptance and final payment by the Authority, the Developer, Architect, and General Contractor or Construction Manager shall provide the following:
 - 18.1.1. Final payment request and final change order;
 - 18.1.2. Final lien waivers pursuant to Article [14.6](#);
 - 18.1.3. Executed AIA Document G704, Certificate of Substantial Completion;
 - 18.1.4. Certificate of Occupancy;
 - 18.1.5. Final Consent of Surety, if applicable;
 - 18.1.6. Copy of oil burner permits, if applicable;
 - 18.1.7. Copy of elevator inspection certificate, if applicable;
 - 18.1.8. The Architect and applicable engineers shall provide a statement of compliance. The forms are included in Articles [20](#), [21](#), and [22](#);
 - 18.1.9. As-built construction plans, operations & maintenance manuals, warranties, workmanship bonds, and maintenance agreements submitted to the developer;
 - 18.1.10. Written final occupancy permit approval from local authorities having jurisdiction;
 - 18.1.11. Start-up and systems training;
 - 18.1.12. Test & balance reports;
 - 18.1.13. Generator load test results, if applicable;
 - 18.1.14. Blower door test results;
 - 18.1.15. Energy Star certification;
 - 18.1.16. The developer shall test for radon and provide results to the Authority. Testing shall include a minimum of 20% of all ground floor units or a minimum of two units per building. Water shall be tested for radon in all projects not using a public water supply;
 - 18.1.17. For projects identified as containing hazardous materials, provide waste manifests, clearance reports, lead safe certificates, etc.
 - 18.1.18. Change-over permanent locks and transmit keys to the developer; and

18.1.19. Final meter readings for utilities, a record of stored fuel, and similar data as of substantial completion.

18.2. Refer to Article [14.13](#) for provisions governing the procedures for incomplete work at the time of final completion.

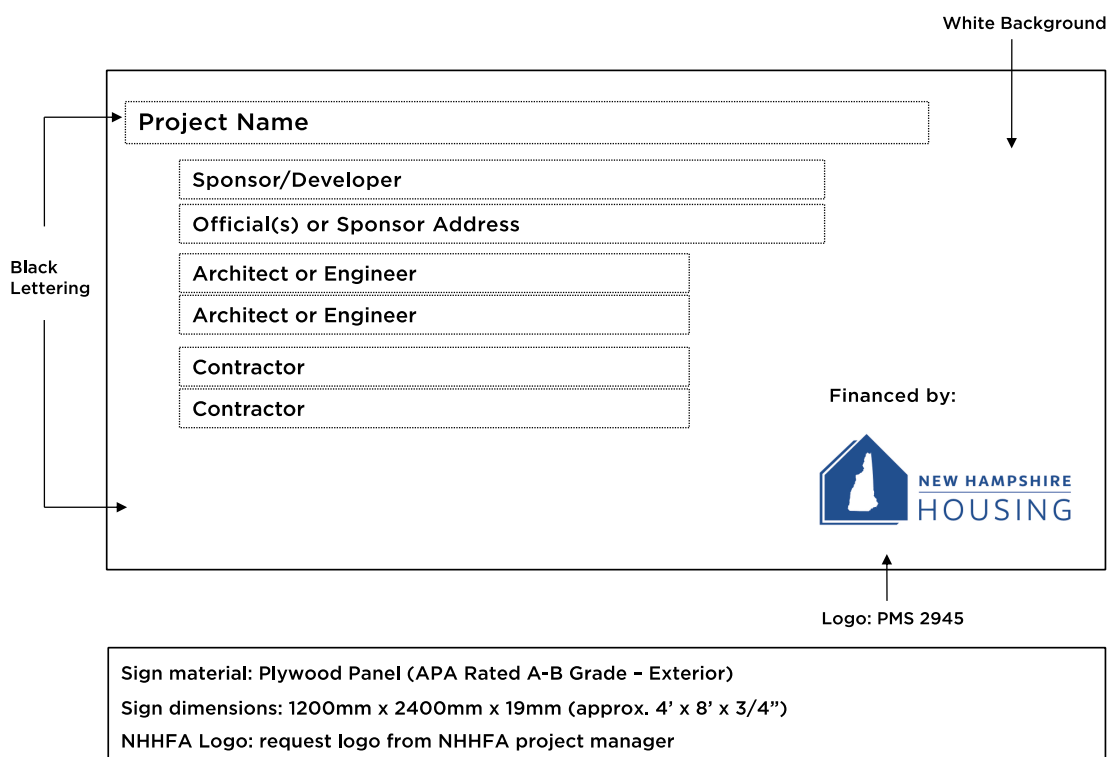
19. GUIDELINES FOR TEMPORARY CONSTRUCTION SIGNAGE FOR PROJECTS FUNDED BY NEW HAMPSHIRE HOUSING FINANCE AUTHORITY

19.1. For projects in which New Hampshire Housing is the major funder (1st mortgage, tax credits or construction financing) signage shall adhere to the following guidelines:

19.1.1. NHHFA requests that developers or their designee e-mail the project signage file to the NHHFA Senior Construction Analyst for review PRIOR TO installation of the project sign. This should be done for each new project.

19.1.2. When the NHHFA logo is used on a construction sign, it should be as large as that of any other financing partner. Adhere to the specs in the graphic below.

[Download logo >>>](#)



19.2. For projects in which New Hampshire Housing Finance Authority is one of multiple funders: Use the NHHFA logo (color PMS 2945, RGB 0/83/137)

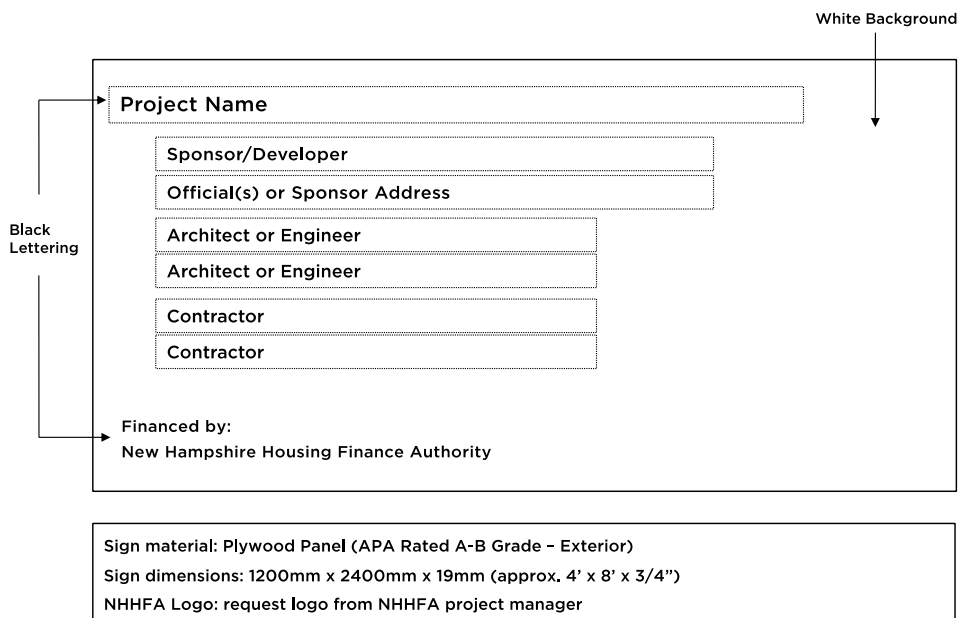
- 19.2.1. Logo size: should be as large or larger than that of any other financing partner

[Download logo >>](#)

- 19.2.2. When logos of project financing sources are not used on the signage:

Per example below, spell out in type NHHFA's full name:

New Hampshire Housing Finance Authority



- 19.3. Projects that include U.S. Department of Housing and Urban Development (HUD) program funding (e.g., the HOME program or Housing Trust Fund):

- 19.3.1. Use the HUD logo and typeface underneath it to specify the HUD program, per below.

- 19.3.2. If funding is provided by both programs, use one logo and typeface for both programs stacked under the logo. [Download logo >>](#)



HOME Investment Partnerships

New Hampshire Housing Finance Authority



Housing Trust Fund

20. AS-BUILT ARCHITECT'S CERTIFICATION

I have inspected the development know as _____
(project name) located in _____ (city, state) and hereby
state that the development has been built in accordance with the construction documents dated
_____ prepared by
_____.

Based upon previous inspections and this final inspection, to the best of my knowledge, information and belief, the development has been constructed in conformance with all applicable local, state and federal laws designated as the development standard for the project, including, but not limited to, applicable portions of the ADA; Section 504 and Fair Housing Laws as they pertain to handicapped accessibility and adaptability; all state and local health, safety and building codes; and those requirements as set forth in the Authority's Design and Construction Standards.

Date

Architect

(Seal)

21. AS-BUILT ENGINEER'S CERTIFICATION

I have inspected the development know as _____
(project name) located in _____ (city, state) and hereby
state that the development has been built in accordance with the construction documents dated
_____ prepared by
_____.

Based upon previous inspections and this final inspection, to the best of my knowledge, information and belief, the development has been constructed in conformance with the construction documents as amended by construction directives or change orders, all applicable codes adopted by the State of New Hampshire; and those requirements as set forth in the Authority's Design and Construction Standards.

Date

Engineer

(Seal)

22. AS-BUILT STRUCTURAL ENGINEER'S CERTIFICATION

I have inspected the development know as _____
(project name) located in _____ (city, state) and hereby
state that the development has been built in accordance with the construction documents dated
_____ prepared by
_____.

Based upon previous inspections and this final inspection, to the best of my knowledge, information and belief, the development has been constructed in conformance with the construction documents as amended by construction directives or change orders, all applicable codes adopted by the State of New Hampshire; all relevant test reports; and those requirements as set forth in the Authority's Design and Construction Standards.

Date

Engineer

(Seal)