MaineHousing
Maine State Housing Authority

MaineHousing

Asset Management

Design & Construction Manual for Existing Buildings

Updated 6/2022

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PREFACE

This Design and Construction Manual (Manual) is assembled and will be periodically updated for use by MaineHousing staff, Partners, and their agents who are conducting renovation or rehabilitation on existing buildings within the MaineHousing portfolio. The material in this manual will serve as a guideline for the rehabilitation construction of multi-family projects funded all or in part by MaineHousing. It is the intent of this manual to assist our partners by outlining MaineHousing's expectations to ensure a basis for providing safe, sanitary, cost effective, energy efficient, and decent housing for all occupants, as well as protecting the MaineHousing's security interests in the property. This manual is also available on MaineHousing's website: www.MaineHousing.org.

The use of the word "shall" implies that strict conformance to a standard or procedure is required by MaineHousing; the use of the word "should" is a strong suggestion that a standard or procedure be appropriately considered. The use of MaineHousing ("MH"), Maine State Housing Authority, and/or the "Authority" all reference the Maine State Housing Authority.

Nothing in this manual shall relieve the contractor, material supplier, other vendor, or property owner/manager from their responsibilities of due diligence.

DESIGN AND CONSTRUCTION STANDARDS

INTRODUCTION

This manual establishes both general and minimal criteria for the design, construction, and project delivery for both new construction and rehabilitation of multi-unit housing developments financed by MaineHousing. The primary objectives of this manual are to standardize procedures for design and construction and to aid the design professionals and owners in preparing complete submissions that will allow smoother processing and construction processes. Portions of this manual are applicable to all projects and, therefore, other manuals may be issued for clarity to better align with specific programs administered by MaineHousing. MaineHousing recognizes and endorses the use of national, state, and/or locally adopted building, plumbing, electrical, fire protection, and engineering codes and standards as additional minimal requirements. In addition, MaineHousing requires full compliance with state and local standards for zoning and subdivision regulations. In general, the MaineHousing's standards and/or procedures are meant to complement, supplement, or improve upon any national, state, or local regulations. ***In any situations where duplication occurs, the more stringent standard or procedure shall apply.***

ARCHITECTURAL SERVICES

All construction drawings and specifications, as applicable, shall be prepared, completed, and be certified in accordance with State of Maine statutes by a professional architect licensed in the State of Maine. It is further required that design professionals, trained and licensed in specific disciplines (i.e., civil, structural, mechanical, electrical engineering) be retained and administered by the architect for such services. In each instance, the architect shall be the primary designer of record. It is required that an Owner-Architect Agreement be executed for all design services to be performed on MaineHousing projects. Such agreements shall clearly state scopes of work to be performed and the compensation arrangements between the parties. Owner-Architect Agreement, AIA Document B181, is a suggested format acceptable to MaineHousing and is attached.

The Owner/Architect Agreement shall, at a minimum, include:

1. The scope of work shall include all architectural, structural, mechanical, electrical, civil, landscape, and other consulting services necessary to clearly identify the requirements for the construction of the entire project. The scope of services must include provisions for the administration of the construction contract through to project completion, including regular on-site visitations by all designers and engineers, bi-monthly (minimum) on-site project meetings, responses to requests for information, tracking of change proposals, creation of field reports, and keeping and distributing meeting minutes. Copies of all documentation created by the architect shall be provided to Maine Housing.
2. The Architect-Owner Agreement shall delineate the responsibility for all services to be provided whether by the architect, owner, or others.
3. Responsibilities related to design and construction administration services shall each be clearly delineated.
4. Adequate errors and omissions professional liability insurance shall be provided in accordance with MaineHousing's Insurance requirements.

GENERAL REQUIREMENTS

Section 01: General Requirements

Owners/Managers shall use MaineHousing Construction Standards for all projects utilizing MaineHousing funds, including replacement reserves.

01.01 Scope of Work: All specifications will include complete scope of work to include drawings as needed and approved by an architect.

01.02 Time: Timeframe to complete project will be included with all specifications. Contractors will meet that time frame.

01.03 Surety: Dependant on amount of project. For all projects exceeding $100,000 the following will be required:

A. Bid: All bids shall be accompanied by a 5% bid bond or a bank check in the amount of 5% of the bid.
B. Performance: At the time of contract signing, the contractor will be required to furnish either a Performance Bond and Labor and Material Payment Bond in the full amount of the contract or a letter of credit for 10% of the amount of the contract.

01.04 Wage Rates: The Davis-Bacon Act applies to all projects using Federal funds over $2000. All laborers and mechanics shall be paid a rate not less than the rates listed in the wage determination as noted on the U.S. Department of Labor website at: http://www.wdol.gov/wdol/scafiles/davisbacon/me.html. Certified payrolls will be submitted at the completion of the project prior to final pay requisition release.

01.05 Form of Contract: The successful low bidder will be required to enter into a contract with the owner. The contract will consist of the project manual, AIA Document A105 – 2007 (the Agreement with general conditions).

01.06 Special Requirements Unless Otherwise Agreed to In Advance By All parties:

A. The contractor will be required to provide 24-hour advance notice to all tenants before commencing work in their unit. This notice shall be in writing and acknowledged by signature of the tenant.
B. Work hours: 7:30am to 5pm Monday through Friday. There is no work allowed on Saturday, Sunday or Holidays unless approved by the owner and Maine Housing representative. Notice must be given as to the intent to work 48 hours in advance of working on the weekend/Holiday. Emergency work is an exception to this policy.

01.07 Insurance: Contractor shall provide:

A. Evidence of Workman's Comp Insurance.
B. Evidence of Liability Insurance. Limit: $1 million per occurrence.
C. Vehicle Insurance. Limit: $500,000 per occurrence.

01.08 Warranty: The contractor shall provide a one (1) year Labor and Material (including product) Warranty covering all work. The warranty period shall commence on the date of substantial completion. Owner/Manager shall submit to MaineHousing a Certificate of Completion to establish this date.

01.09 Bidding Requirements:

Open Bidding

Owners/Managers shall solicit three (3) estimates for the construction/rehabilitation project in question.

All bids submitted must meet the following:

- Must be a firm bid.
- Shall include a completed scope of work to include materials used and timeframe for completion. If required under MUBEC, architectural drawings will be submitted with the bid.

Once bids are submitted to the owner/manager, they shall be forwarded to MaineHousing for review/approval **PRIOR** to awarding the contract. Typically MaineHousing will go with the lowest bidder; however, approval to use a different bidder may be given depending on the situation – i.e. timeframe issues, materials used, contractor reputation, etc.

Sealed Bidding

Owners/Managers must advertise in a manner to attract the greatest number of respondents/ contractors.

All contractors must attend the pre-bid meeting. Failure to have a representative from the construction company at the mandatory pre-bid meeting will disqualify the contractor from submitting a bid.

All bid packages submitted must meet the following:

- Must be a firm bid.
- Shall include a completed scope of work to include materials used, list of all sub-contractors and their timeframe for completion. If required under MUBEC, architectural drawings will be submitted with the bid.

All bids will be opened together at a time and location of the owner/managers choosing. The chosen contractor will be the company with the lowest submitted bid unless approval to use another bidder is approved by MaineHousing for such things as timeframe issues, materials used, contractor reputation, etc.

All parties agree to a pre-construction meeting prior to the contract signing to discuss all technical and legal aspects of the project in question. The architect (if one is required) shall lead this meeting. If there is no architect then the owner/manager shall select a delegate for the project in question that will be responsible oversight of the project in direct dealings with the General contractor.

Construction Standards

LIFE SAFETY/CODE REQUIREMENTS

The primary purpose of building codes is to articulate building standards which, when properly implemented, provide for a safe built environment. MaineHousing's mission is to provide safe, decent, affordable housing. Accordingly, MaineHousing looks to current national codes to provide guidance in areas related to life safety. The foundation of MaineHousing's policies are based on the following codes, specifically,

* Maine Uniform Building and Energy Code (MUBEC). MUBEC is MaineHousing's Minimum Building Code as applicable by Project Type; which includes the following:
  - International Building Code (IBC) 2009
  - International Existing Building Code (IEBC) 2009
  - International Residential Code (IRC) 2009
  - International Energy Conservation Code (IECC) 2009
  - ASHRAE 62.1 Ventilation for Acceptable Indoor Air Quality 2007
  - ASHRAE 62.2 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings 2007
  - ASHRAE 90.1 Energy Standard for Buildings except Low-Rise Residential Buildings 2007
  - ASTM E1465-06 Radon Standard for new residential construction - (Maine Model Standard) 2006

* NFPA 101 Life Safety Code 2009 ..... State Standard
* NFPA 211 (chimneys, etc.) 2003 .....State Standard
* NFPA 1 Fire prevention Code 2003 .....State Standard
* NFPA 54 – Gas Code 2009…….State Standard
* ASME BPC Boiler Code Section 1-11 ……State Standard
* State Plumbing Code (Based on IAPMO 2000 Uniform Plumbing Code) ..State Standard
* National Electric Code 2014 .....State Standard
* ADA ..... Federal Requirement
* ICC/ANSI A-117.1 2003 .....State and Federal Requirements
* Fair Housing Act (design manual) .....Federal Standard
* Section 504 (UFAS Standard) ..... Federal Standard
* Uniform Physical Conditions Standards (UPCS) …….Federal Standard

All construction rehab projects will adhere to the preceding codes. In times when codes may conflict, MaineHousing defers to the stricter code. In cases where local code is stricter than that of Maine Housing, the local code shall be adhered to. Typically, the State Fire Marshal's Office enforces those stricter standards. In most cases, MaineHousing requires compliance with relevant national codes and any other conditions imposed by the Fire Marshal's Office.

It is understood not all projects will be required to use every code/standard that Maine Housing adheres too. All projects are considered on a case by case basis to ensure protection.

Life Safety:

1. **Smoke Detectors**. NFPA 101 requires smoke detectors in certain locations for many years. The latest edition of NFPA 101 require smoke detectors in all sleeping areas, immediately outside all sleeping areas, and on all floor levels of all dwelling units (including basements). Smoke detectors are also required in all common spaces. All smoke detectors in common spaces shall be interconnected such that activation of any one detector will sound alarms in all detectors. NFPA 101 code requires hard wire construction with battery backup. Maine Law 25 MRSA §2464 also

prescribes certain standards that must be adhered to as concerns some detectors installed in multi-family buildings. Please refer to this law for details.

2. **CO Detectors** – CO Detectors are required to be installed in all rental properties throughout Maine. The CO detector must be hard wired and requires battery backup. They must be installed in each area within or giving access to bedrooms. MaineHousing requires CO detectors be installed consistent with the requirements spelled out in Maine Law 25 MRSA §2464.

MaineHousing Annual Inspection Standards and Process

A. During the annual inspection, all smoke and CO detectors will be tested. Any smoke and/or CO detector that does not function as designed, or does not otherwise operate properly shall be replaced within 24 hours.

B. At a minimum, for existing projects, smoke detectors are required in the following locations:

- On each level of all dwelling units, including basement.
- Immediately outside all bedrooms, positioned such that alarm signal is audible inside the bedroom.
- In all common areas.

2. Means of Egress. NFPA 101 has detailed requirements related to egress. Although means of egress is a complex issue, the theory is simple. A fire in one location should never trap occupants inside a building. Accordingly, two means of egress are generally required. However, there are exceptions for certain types of construction and for buildings that are protected by an approved, supervised sprinkler system. NFPA 101 Codes speak to size requirements for windows, doors, stairs and corridors. NFPA 101 requires that windows used as a second means of escape must have a minimum clear area of 5.7 square feet. Both codes now require that all new stairs in public spaces have maximum 7" rise and minimum 11" tread dimensions. This requirement does not necessarily extend to stairs within a single dwelling unit. A key requirement related to residential occupancies (one and two family dwellings, apartment houses, group homes, etc.) is that all sleeping rooms must have two means of escape. There are some exceptions. Typically, in low-rise construction this requirement is satisfied by providing a window meeting the second means of escape requirements in each bedroom.

MaineHousing Annual Inspection Standards and Process

All MaineHousing properties must comply with the appropriate NFPA 101 means of egress requirements. For existing projects, minor non-compliance items are often considered "grandfathered". At a minimum, the following are required:

- All means of egress free of obstruction.
- All fire doors in place with required hardware in working condition (closers, latches, magnetic holders, etc.).
- Stairs and handrails structurally sound.
- Emergency lighting and exit signs in place and fully operational.
- Two means of escape from every sleeping room and every living area (exception if dwelling unit is protected by sprinkler system or room has door leading directly outside).

During the annual inspection means of egress will be reviewed for compliance. Any means of egress component not meeting code will be called out as unsatisfactory and a time frame for correction established.

3. **Ground Fault Circuit Interrupters (GFCI)** The National Electric Code requires that receptacles located in certain areas be protected by GFCI. This protection greatly reduces the chance of accidental electrocution. For new construction based on the 2011 National Electric Code, the requirement for GFCI protection extends to the following areas:
   - All receptacles above countertop level in kitchens.
   - All receptacles located in bathrooms.
   - All receptacles located in basements.
   - All exterior receptacles.

   MaineHousing Annual Inspection Standards and Process

   A. During inspection, all GFI receptacles will be tested. Any GFCI receptacle which does not operate properly shall be replaced within 24 hours.

   B. Although the National Electric Code has required GFCI protection for more than 20 years, over time the NEC has become more stringent. If during the inspection, unprotected receptacles are identified in wet areas, this condition will be identified as unsatisfactory. All identified unprotected receptacles shall be replaced with GFI protected receptacles within 30 days of the date of inspection.

ADA – ICC/ANSI 117.1 Accessibility Standards/Codes:

Accessibility Laws, Regulations, and Minimum Standards:
Compliance with all existing laws and regulations is the responsibility of the owner and design professional. MaineHousing, in keeping with the harmonization of the U.S. Access Board, model codes and key industry standards, has adopted the accessibility requirements of the 2009 IBC, Chapter 11 and the technical requirements of ICC/ANSI A117.1-2003 "Accessible and Usable Buildings and Facilities" as well as the requirements of the 2004 ADA/ABA Accessibility Guidelines. In addition, certain provisions of the Fair Housing Act (FHA) the Fair Housing Accessibility Guidelines (FHAG) and the Maine Human Rights Act (MHRA) shall also be considered as further defined below.
All common areas and public spaces shall meet the requirements of the 2004 ADA/ABA AG as well as ICC/ANSI A117.1-2003. The 2003 ANSI defines four types of Dwelling Units for purposes of accommodating individuals with physical disabilities:

- Section 1002 Accessible Units
- Section 1003 Type A Units
- Section 1004 Type B Units
- Section 1005 Units with Accessible Communication Features

Defining Handicapped Unit types; Accessible, Type A and Type B:

An **Accessible** unit is constructed for full accessibility in accordance with the requirements in Chapters 3 through 9 of ICC A117.1. For example, grab bars are installed in the bathrooms, a clear floor space is

provided for front approach at the kitchen sink and bathroom lavatories, 32- inch (813 mm) clear width doors with maneuvering clearances and lever hardware are provided, etc. None of the elements in the unit are constructed for adaptability. The requirements for an Accessible unit are more restrictive than either a Type A or a Type B unit.

A **Type A** unit has some elements that are constructed as fully accessible (e.g., 32-inch (813 mm) clear width doors with maneuvering clearances and lever hardware) and some elements designed to be altered when needed (e.g., blocking in the walls of the bathroom for future installation of grab bars).

The scoping or technical requirements for **Type B** units are consistent with the requirements for units required by the FHAG. A Type B unit is constructed to a lower level of accessibility than either an Accessible unit or Type A unit. While a person who uses a wheelchair could maneuver in a Type B unit, the technical requirements are geared more towards persons with mobility impairments. Areas of a Type B unit may be totally non-accessible (e.g., sunken living room, extra bedrooms on a mezzanine level). Side approach is permitted to sinks in the kitchen and lavatories in the bathroom rather than planning for a front approach. Some elements are constructed with a minimal level of accessibility (e.g., doors within the unit are 31 3/4-inch (806 mm) clear width but do not require maneuvering clearances), while some elements are designed to be altered when needed (e.g., blocking in the walls of the bathroom for future installation of grab bars).

In summary, Accessible unit requirements are more stringent than Type A requirements, and Type A requirements are more stringent than Type B requirements. Units are permitted to be constructed/rehabbed to a higher level of accessibility.

CONSTRUCTION SERVICES STANDARD
ROOFING/RE-ROOFING

1. Strip existing shingles and paper as required to expose existing roof deck. Provide temporary weather protection as required to keep roof water tight throughout progress of work.

2. Inspect and repair roof deck as necessary.

3. Install new 8", 0.032" aluminum drip edge along all roof edges.

4. Install waterproof membrane as follows: (W.R. Grace Ice & Water Shield or approved equal)

    - one course (3'+/-) at rake
    - two courses (6'±) at eaves
    - three courses (9'±) centered in valleys
    - one course at all roof/wall intersections (18" up wall and 18" on deck)
    - Flash all roof penetrations (e.g., chimneys, skylights) with waterproof membrane prior to installation of metal flashing.

5. Cover entire roof with 15# felt paper or other approved underlayment compatible with new shingle guarantee.

6. Install new 30 year warranty organic asphalt or fiberglass roof shingles according to manufacturer's instructions. Heavier grade, Architectural shingles are strongly recommended. The use of staples to fasten shingles is prohibited.

7. Thoroughly clean site. Properly dispose of all debris.

8. Submit copy of manufacturer's shingle warranty to MaineHousing.

Note: Overlay of existing roof shingles may be permitted if existing shingles are in suitable condition. Any proposal to overlay will be evaluated only after a site inspection by Construction Services.

EDPM Roofing shall be a minimum standard of quality equal to Firestone fully adhered (0.060) system with a minimum 15 year Full System Warranty.

Proposals submitted for roof work must clearly specify items 1 - 7 along with the square footage needing repair/replacement in the outlined scope of work before they will be approved.

Seen & Agreed to:
Owner/Manager _____ Date _____
Contractor _____ Date _____

CONSTRUCTION SERVICES STANDARD
REPLACEMENT WINDOW SPECIFICATIONS

The following provides an overview of the MaineHousing specifications for new construction and replacement windows.

1. Window Standard:

   MaineHousing Replacement and New Construction Energy Conservation Standards (these standards exceed MUBEC requirements).

   Glazed Windows: Meet Energy Star (for Northern Climate) and NFRC rating performance requirements and have an Air Leakage rate (AL) of 0.30 or less
   Ti Factor < 0.30, or
   Ti Factor = 0.31 and SHGC > 0.35, or
   Ti Factor = 0.32 and SHGC > 0.40

2. Screens shall be provided for all operable windows.

3. Insulation between window frame and stud wall frame shall be low expandable spray foam. Fiber batt allowed on a case by case basis only with MaineHousing approval.

4. Aluminum windows are strongly discouraged by MaineHousing and will be allowed on a case by case basis only.

Egress windows are required in every room used for sleeping purposes (bedrooms) on any floor and in basements with habitable space. (see Egress Window Standard on page 13) All windows installed shall meet NFPA 101 Life Safety Codes for size/opening compliance.

Existing Buildings Egress Requirements effective 11/1/2013:

Constructed post-1976 –

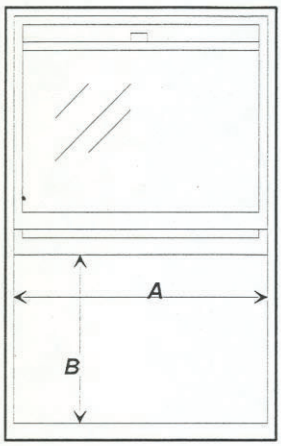
- Egress windows shall provide 5.7 sq ft of net clear opening with a minimum width of 20" and a minimum height of 24" and meet all the other requirements of egress windows in the NFPA 101 Life Safety Code.
- Any replacement windows shall be required to meet the net clear opening of 5.7 sq ft (measured with window in natural open position).

Constructed pre-1976 –

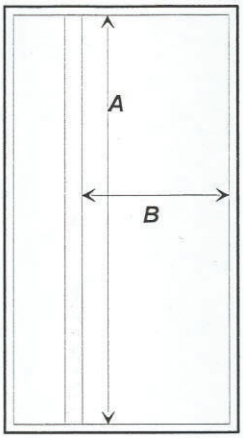
- Net clear opening must meet the minimum 20' width and 24' height with a total net clear opening of 3.3 sq ft (window must be wood or vinyl and overall window sash 5.0 sq ft) and meet all other requirements of egress windows as specified in NFPA 101 Life Safety Code.
- Any replacement window shall meet the requirements of existing windows and shall not reduce the existing net clear opening below the minimum requirements.

Existing windows previously approved will be allowed to continue in use.

THE EGRESS WINDOW



double-hung



casement

When the window is in the normal open position the opening must be at least 5.7 square feet in area.

A times B must equal at least 820.8 square inches.

The width of the opening must be at least 20 inches.

The height of the opening must be at least 24 inches.

20 x 24 only equals 480 square inches, not enough.

32 x 26 = 832 square inches. 832 divided by 144 equals 5.7777 square feet.

CONSTRUCTION SERVICES STANDARD

INSTALLATION OF NEW BITUMINOUS CONCRETE PAVING

The following standards apply to all properties that are financed by MaineHousing. Paved areas within the subject property that are deemed in need of new bituminous concrete paving will be required to follow the standards listed below:

1. Prior to the laying of the new bituminous concrete paving(pavement) the existing paving will be required to be removed completely. All exposed gravel base material shall be inspected for contamination by silts or other foreign, deleterious material. Any contaminated base will be required to be removed down to clean, sound material. The use of a Geotextile fabric is strongly recommended in heavy traffic areas that have a history of pavement failure. The removed material shall be replaced with aggregate base material as per M.D.O.T. Sec. 703.06 Type A. All new material shall be evenly spread in lifts not to exceed eight (8") inches in depth and compacted in place to a minimum of 95% of the maximum density as per ASTM D1557. The minimum total base thickness shall be as follows:

   18" for Roadways and Parking Areas

   12" for Walkways and Ramps

2. The minimum compacted thickness and mix design for the pavement courses shall be as follows:
   a. Binder Course - 2" thick meeting the requirements of MDOT 703.09 type B
   b. Surface Course - 1" thick meeting the requirements of MDOT 703.09 type D

3. Where new pavement matches to existing, care shall be taken to insure proper binding of the two materials. Utilize an asphalt binding paint as required. Existing and new surfaces shall meet in a smooth continuous plane free from variations in height or smoothness. Clean and treat all areas thoroughly prior to installation.

4. The temperature of the pavement mix shall be regulated to ensure that at the time of spreading the mix is between 250-degrees F and 300-degrees F. Pavement having temperatures outside of the specified temperature range when dumped into the spreader will be rejected.

5. The mixture will need to be thoroughly compacted by rolling. Rolling to begin as soon as the placement of the mixture will bear the roller without undue displacement. Delays in rolling freshly spread mixture will not be acceptable.

6. Any Contractors working on the premises shall be required to have during the full term of the Contract the proper insurance's as specified by the Owner to ensure that the Owner is protected from any and all liability and damage, whether willful or not, resulting from negligence, error, or omission on the part of the Contractor or any subcontractor engaged by the Contractor.

7. The construction of the new pavement shall be carried on only when the surface on which the mix is to be placed is dry, and when the surface temperature of the underlying course is greater than 45 degrees F for course thickness' greater than one-inch and 55 degrees F for course thickness' one-inch or less. Do not place pavement after sunset or before sunrise.

8. It shall be the Contractor's responsibility to prohibit vehicular traffic, including heavy equipment, from traveling upon the pavement until the surface temperature has cooled to 120-degrees F. Surface temperatures shall

be measured by approved surface thermometers or equal.

9. The Contractor shall expressly represent, warrant, and agree that all goods, equipment, machinery materials, services or work provided or performed relative to this contract will:

    a. Conform in all respects to the specifications in the Contract.
    b. Be fit for the purpose or purposes of intended use.
    c. Conform to all applicable Federal, State, and Local laws and regulations.
    d. Be new, of good workmanship, of materials best suited for the intended purposes, and free from defects of any kind of nature whatsoever.
    e. If the material, service, or work is found to be defective or found to be nonconforming with Federal, State, or Local regulations or with the conditions of the Contract within twelve (12) months after the work is completed and accepted, it shall be repaired or replaced by the Contractor at absolutely no cost to the Owner.

STANDARDS FOR THE OVERLAY OF EXISTING AREAS WITH BITUMINOUS CONCRETE PAVING

The following standards apply to all properties that are financed by MaineHousing. Paved areas within the subject property that are deemed in need of overlay will be required to follow the standards listed below:

1. Prior to the laying of the bituminous concrete paving(pavement) overlay, the existing pavement shall be inspected to assure that the existing area is in sound condition and free from areas of distressed, deteriorated, or damaged pavement. Any area deemed unsuitable shall be repaired according to MaineHousing Standards for the Repair and Patching of Existing Bituminous Concrete Paving.

2. Clean the underlying course of all foreign or objectionable matter including loose or broken pavement. Remove or clean by power brush or milling machine and finish with a power blower or brush. Milled paving shall be finished flat with a straight and square edge, free from irregularities or bulges. Hand brooms or other cleaning methods may be used if approved by the Owner. Dispose of material off site in accordance with applicable Local, State, and Federal Regulations.

3. Spray contact surfaces of previously constructed pavement with a thin coat of bituminous material conforming to M.D.O.T. specifications for bituminous tack coat. Paint contact surfaces of structures with a thin coat of emulsion or other approved bituminous material prior to placing the bituminous mixture.

4. Where new pavement matches to old, care shall be taken to insure proper binding of the two materials. Utilize an asphalt binding paint as required. Both existing and new surfaces shall meet in a smooth continuous plane free from variations in height or texture.

5. The minimum compacted thickness' and mixture designs for the overlay shall be as follows:
   a. Surface course - minimum 1" thick meeting the requirements of MDOT 703.09 type `D'

6. The temperature of the pavement mix when dumped into the spreaders shall be between 250-degrees F and 300-degrees F. Pavement having temperatures outside of the recommended range when dumped into the spreader will be rejected.

7. The mixture will need to be thoroughly compacted by rolling. Rolling to begin as soon as the placement of the mixture will bear the roller without undue displacement. Delays in rolling freshly spread mixture will not be acceptable.

8. The construction of Bituminous concrete paving shall be carried on only when the surface on which the material to be placed is dry, and when the surface temperature of the underlying course is greater than 45 degrees F for course thickness' greater than one-inch and 55 degrees F for course thickness' one-inch or less. Do not place bituminous paving after sunset or before sunrise.

9. Any Contractors working on the premises shall be required to have during the full term of the Contract adequate insurance to ensure that the Owner is protected from any and all liability and damage, whether

willful or not, resulting from negligence, error, or omission on the part of the Contractor or any subcontractor engaged by the Contractor. Such coverage shall include, but not limited to, Workers Compensation, Employer Liability, Product Liability, Comprehensive and Property Damage. Contractor shall furnish, upon request, a copy of coverage as are appropriate to the product or service being delivered.

10. It shall be the Contractors responsibility to prohibit vehicular traffic, including heavy equipment, from traveling upon the pavement until the surface temperature has cooled to at least 120-degrees F. Surface temperatures shall be measured by approved surface thermometers or equal.

11. The Contractor shall expressly represent, warrant, and agree that all goods, equipment, machinery materials, services or work provided or performed relative to this contract will:
    a. Conform in all respects to the specifications in the Contract.
    b. Be fit for the purpose or purposes of intended use.
    c. Conform to all applicable Federal, State, and Local laws and regulations.
    d. Be new, of good workmanship, of materials best suited for the intended purposes, and free from defects of any kind of nature whatsoever.
    e. If said material, service, or work is found to be defective or found to be non-conforming with Federal, State, or Local regulations or with the conditions of the Contract within twelve (12) months after the work is completed and accepted, it shall be repaired or replaced by the Contractor at absolutely no cost to the Owner.

CONSTRUCTION SERVICES STANDARD
REPAIR AND PATCHING OF EXISTING BITUMINOUS CONCRETE PAVING

The following standards apply to all properties that are financed by MaineHousing. Paved areas within the subject property that are deemed in need of repair will be required to follow the standards listed below (Excluding "Cold Patching") :

1. At areas of distressed, deteriorated, or damaged pavement, such as "pot holes", where there is cracked, loosened, or broken material, the pavement shall be removed and the edges of the remaining sound pavement will be sawed square and smooth. All edges shall be clean and dry prior to the placement of the new pavement.

2. Any exposed gravel base material shall be inspected for contamination by silts or other foreign, deleterious material. Any contaminated base will be required to be removed down to clean, sound material. The removed material shall be replaced with aggregate base material as per M.D.O.T. Sec. 703.06 Type A. All new material shall be evenly spread and compacted in place to a minimum of 95% of the maximum density as per ASTM D1 557. The minimum total base thickness shall be as follows:

   18" for Roadways and Parking Areas
   12" for Walkways and Ramps

3. Where new pavement matches to old, utilize an asphalt binding paint (per manufacturers recommendations) to insure proper bonding of the two materials. Both existing and new surfaces shall meet in a smooth continuous plane free from variations in height or smoothness. Clean all areas to meet thoroughly prior to installation.

4. At those areas in which the existing pavement is to be removed, it shall be replaced with minimum 2 inch MDOT Type B with a 1 inch finish course of MDOT Type D. The new bituminous concrete paving shall be properly compacted by mechanical means adequate for the size of the job.

5. Any Contractors working on the premises shall be required to have during the full term of the Contract the proper insurance's as specified by the Owner to ensure that the Owner is protected from any and all liability and damage, whether willful or not, resulting from negligence, error, or omission on the part of the Contractor or any subcontractor engaged by the Contractor.

6. The construction of Bituminous concrete paving shall be carried on only when the surface on which the material to be placed is dry, and when the surface temperature of the underlying course is greater than 45 degrees F for course thickness greater than one-inch and 55 degrees F for course thickness one-inch or less.

7. The Contractor shall expressly represent, warrant, and agree that all goods, equipment, machinery materials, services or work provided or performed relative to this contract will:
   a. Conform in all respects to the specifications in the Contract.
   b. Be fit for the purpose or purposes of intended use.
   c. Conform to all applicable Federal, State, and Local laws and regulations.

d. Be new, of good workmanship, of materials best suited for the intended purposes, and free from defects of any kind of nature whatsoever.
e. If said material, service, or work which is found to be defective or found to be non-conforming with Federal, State, or Local regulations or with the conditions of the Contract within twelve (12) months after the work is completed and accepted, it shall be repaired or replaced by the Contractor at absolutely no cost to the Owner.

CONSTRUCTION SERVICES STANDARD
VINYL SIDING AND TRIM

The following standards apply to all properties that are financed by MaineHousing.

When replacing exterior siding and installing new vinyl siding:

Vinyl Siding and Trim shall be a minimum of .044" thickness and simulate standard wood sidings as to exposure, shadow lines, depths, etc.

Aluminum and T-1 11 Wood Sheeting are not permitted as siding materials on any buildings.

CONSTRUCTION SERVICES STANDARD
EXTERIOR DOORS

The following standards apply to all properties that are financed by MaineHousing.

A. Exterior doors must meet the ANSI/SDIA 250.8 standard for steel doors

B. Doors (and frames) located in exterior openings, in high humidity areas, or wet locations shall be hot-dipped galvanized and treated for paint finish. Consider installation of fiberglass aluminum plank or chemical resistant doors in severe exposure areas.

C. Recommend using rot-resistant door jams for locations that receive water or snow contact on a regular basis.

D. Interior doors may have "honeycomb" interior core, or other core as required by the project for sound insulation. Exterior doors shall have foamed-in-place polyurethane.

E. All doors shall be 1-3/4 inches thick and have welded, seamless edges and smooth faces. Flush steel doors shall comply with SDI Classification of Level 3 Extra heavy duty, Model 2.

F. Ventilating louvers in metal doors are not allowed in units as they can be removed for unauthorized access.

G. Specify reinforcement plates for hinges, door closers, locksets, and any special hardware in accordance with SDI recommendations.

H. Fire doors shall have the label indicating the fire-resistive rating permanently fastened to the door. Stick-on labels are prohibited.

I. Secure glazing with metal stops that can be removed from the room side for Re-glazing.

J. Doors may be factory finished or field painted with airless spray.

Seen & Agreed to:
Owner/Manager _____ Date _____
Contractor _____ Date _____

CONSTRUCTION SERVICES STANDARD
CARPET SPECIFICATIONS

Floor areas designated for carpeting shall be covered with material meeting following specifications:

1. **Construction**: Tufted level loop or textured level loop. 100% nylon with anti-microbial processing, permanent static control.

2. **Dye Method**: 1st Choice: 100% solution dyed
   2nd Choice: At least 70% solution dyed, remaining to be yarn dyed.

3. **Gauge**: Minimum 1/8 (moderate traffic areas) / Minimum 1/10 (heavy traffic areas)

4. **Stitches per inch**: Minimum 9

5. **Face Weight**: Minimum 24 oz - MaineHousing would prefer solution-dyed 28-ounce (or heavier) graphic nylon loop

6. **Pile Height**: 3/16 inch or more.

7. **Primary Backing**: 100% Polypropylene.

8. **Secondary Backing**: Action backing or Unitary backing with 20 lbs Tuft or Equal (moderate traffic areas) / Unitary backing with 20 lbs Tuft or Equal (Heavy traffic areas)

9. **Other:** Replacement Warranty for the duration of the initial lease term.
   Smoke density and flammability tests must meet State and Federal Codes.

10. **Emission Limits:**

VOC:	0.05 mg/m^2 · hr
4-Phenycyclohexane:	0.05 mg/m^2 · hr
Formaldehyde:	0.05 mg/m^2 · hr
Styrene:	0.40 mg/m^2 · hr
Standard:	Green Label Plus Certification

11. **Cushion** (Recommended but not required): .25" thick Synthetic Fiber material; 6 to 8 lbs

12. **Cushion Emission Limits**:

TVOCs:	1.0 mg/m^2 · hr
BHT:	0.30 mg/m^2 · hr
Formaldehyde:	0.05 mg/m^2 · hr
4-PCH:	0.05 mg/m^2 · hr
Standard:	Green Label Plus Certification

Forms

INSTRUCTIONS TO PROPERTY OWNERS

Rehabilitation Escrow/Restricted Reserve Accounts

Attached are the various forms you will use when requesting reimbursement from the Maine State Housing Authority for materials used and/or work done on your project.

1) **Requisition**: This form needs to be completed and signed by you and the contractor, prior to requesting payment. The Construction Analyst assigned to your project will come to the site, do an inspection, and verify that the Requisition request is consistent with the work completed. The Construction Analyst will then deliver all applicable forms, with original signatures, to the Asset Manager at MaineHousing. If there is no General Contractor you must attach the appropriate invoices to cover your Requisition. If you are requesting reimbursement for payments you have made, the bills should be marked as such.

2) **Request for Release of Restricted Funds**: This form needs to be completed and signed by you when requesting funds out of restricted reserve account(s). A site inspection by the Construction Analyst may be required prior to approval and release of funds.

3) **Final Lien Release**: A Final Certificate and Lien Release is required to be completed prior to final payment for any contractor/subcontractor who supplied material or labor with a value greater than or equal to $2,000.00 or any vendor who supplied materials greater than or equal to $10,000.

4) **Change Orders**: Sometimes there is a change to the scope of work which results in a change in cost or time. When this occurs, it will be necessary to submit a Change Order to document the additional costs. Before any additional materials are purchased or any additional work completed, the Construction Analyst assigned to your project **must** approve the changes.

5) **Owner/Agency Certificate of Completion**: This form must be completed and signed when you submit your final Requisition for payment.

REQUISITION

1. Property address:_____

2. Developer's/Owner's Name:_____

3. Contractor's Name:_____

	Request		Less 10% Retainage		Check Amount
4. MH funds requested:	$_____	-	$_____	=	$_____
5. Total MH funds requested to date including this draw:					$_____

6. Work covered in this payment: _____

_____

_____

_____

Type of Payment: ☐ Progress ☐ Final

Payee(s): _____

CERTIFICATIONS

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the work covered by this Application for Payment has been completed in accordance with the contract Documents, that all amounts have been paid to the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that the current payment shown herein is now due.

Contractor: _____ Date:_____

Developer: _____ Date:_____

MAINE STATE HOUSING AUTHORITY USE ONLY

MH Approval:_____ Date:_____

(Asset Manager or Construction Analyst)

NOTE: A signed MaineHousing "Contractor's final Certificate & Release" form **must** accompany every **final** Requisition.

MaineHousing
MAINE STATE HOUSING AUTHORITY

MaineHousing Use Only

RNUM_____

DREC _____

AM _____

DEVELOPMENT INFORMATION

PROJECT #: _____ **LOCATION:** _____

PROJECT NAME: _____

MANAGEMENT INFORMATION

NAME: _____ **EMAIL:** _____

ADDRESS: _____ **TEL #:** _____

REQUEST TO RELEASE FUNDS

I request authorization for the withdrawal of restricted funds for the reason indicated below.

REQUESTED BY: _____ DATE: _____

WITHDRAWAL

Type of Reserve Account: ◉ REP ○ TIR ○ ODE ○ Other: _____

Bank Name_____

Account Number _____

Balance Prior to Withdrawal _____

Amount of Withdrawal Requested _____

Amount Approved by MaineHousing _____

Current Balance of DOA Account

PAYMENT METHOD

Pay Property ◉

Pay Vendor ○

Property to Transfer to Bank Acct ○

DOA Account # _____

For MaineHousing Use Only

Process Date _____

Check # _____

REASON FOR WITHDRAWAL/USE OF FUNDS

(Use Additional Pages as Needed to Provide Documentation of Use of Funds)

Place a ✓ beside each item that is applicable to this transaction.

☐ MaineHousing Final Lien Waiver for contracts over $10,000 (*signed & notarized)*

☐ Approval required from HUD or other entity

☐ Other (Specify):

Loan from Reserve Account *(attach repayment plan)*

MaineHousing Use Only

APPROVED ☐ **DENIED** ☐

TRANSACTION RECOMMENDED

_____ _____

Signature *Signature*

Date: _____ **Date:** _____

FINAL CERTIFICATE AND LIEN RELEASE
for
CONTRACTORS / SUBCONTRACTORS / VENDORS

Any subcontractor who supplied material or labor with a value greater than or equal to $2,000 or any material supplier who supplied materials with a value greater or equal to $10,000 must complete this form.

PROJECT _____ Contract/Subcontract Date: _____
ADDRESS _____ Contract/Subcontract Amt: $ _____
_____ Contract/Subcontract for (trade) _____

1. The undersigned certifies that there is due and payable under the above contract a final payment of $_____.

2. The undersigned certifies that all work required under this contract has been performed in accordance with the terms of the contract and was completed on _____, 20__.

3. The undersigned certifies that, except as set forth above, there are no unpaid claims for materials, supplies or equipment and no claims of laborers or mechanics for unpaid wages arising out of the performance of the contract.

4. The undersigned releases any and all claims, other than for the final payment set forth above, arising under or by virtue of the contract and agrees to indemnify the Maine State Housing Authority and the owner against any such claims.

5. The undersigned has attached to this certificate all manufacturers' and suppliers' written guarantees and warranties covering materials and equipment furnished under the contract.

Contractor:_____ Date:_____

Signature:_____

State of Maine

County of _____, ss. Date:_____

Personally appeared the above-named _____ and gave oath to the foregoing.

Before me,

_____

Name
Notary Public of Maine/Attorney-at-Law
My Commission

Expires:_____

PROGRESS CERTIFICATE AND LIEN RELEASE

_____(Name), being first duly sworn; disposes and says

he/she is _____(office/title) of _____

_____(company name), contractor for the rehabilitation/construction

of the property located at _____,

in _____, Maine.

The undersigned contractor states that all laborers employed by contractor upon the aforesaid premises have been fully paid and that all suppliers of material and contractors used by him/her/it have been fully paid and further that no such laborers, material against said premises and no financing statements, chattel mortgages, condition or bill of sale, security agreement, or retention of title agreement has been given or executed by the undersigned for or in connection with any material, appliances, machinery, fixtures or furnishing placed upon or installed in the aforesaid premises by the undersigned.

In consideration of the progress payment to be made to the undersigned in the amount of $_____ pursuant to its contract, the undersigned do as hereby waive any lien for all labor and material furnished by or through the undersigned pursuant to its contract at the above location.

The undersigned swears under penalty of law that he/she has read and understood this Certificate and that to the best of his/her knowledge and belief it is true.

Date: _____ Contractor:_____

Signature: _____

CHANGE ORDER FORM

PROJECT:
(name & address)_____ Change Order

Number:_____

_____ Initiation Date:

_____

_____ Contract For:

_____

CONTRACTOR:
(name & address)_____ Contract

Date:_____

_____

_____

You are directed to make the following changes in this Contract:
Provide labor and materials as per quote dated:_____

$_____

_____

$_____

_____

Total $_____

_____

Not valid until signed by the Owner, Architect and Construction Manager (when applicable), and MaineHousing Construction Analyst. Signature of the Contractor indicates agreement herewith, including any adjustment in the Contract Sum or Contract Time.

The original Contract Sum
was $_____

Net change by previously authorized Change
Orders $_____

The Contract Sum prior to this Change Order
was $_____

The Contract Sum cost will be: ____increased ____decreased
____unchanged $_____

The new Contract Sum including this Change Order will
be $_____

The contract time will be ____increased ____decreased ____unchanged by ____Days

The date of substantial completion as of the date of this Change Order therefore is_____

Recommended:	_____	*Approved:*	_____
	Construction Manager		Architect
	_____		_____
	Address		Address
	_____		_____
	*By:*_____		*By:*_____
	Signature Date		Signature Date
Agreed To:	_____	*Agreed*	
To:	_____		
	Contractor		Owner
	_____		_____
	Address		Address
	_____		_____
By:	_____	*By:*	_____
	Signature Date		Signature Date

MH APPROVAL:_____ _____
Date

OWNER/AGENCY CERTIFICATE OF COMPLETION

Owner(s): _____

Property Address: _____

_____

MH Project #: _____ Number of Units:_____

The undersigned Owner(s) certifies as follows:

1. The loan funds I have received from the Maine State Housing Authority to undertake property improvements have now been appropriately spent.

2. The improvements for which I used the money have been completed to my satisfaction and are the same improvements listed in Exhibit "A" of the Rehab Escrow or as listed in the Technical Services Document Sign Off, except as amended with the prior written consent of the Maine State Housing Authority.

The undersigned Owner(s) swears under penalty of law that he/she/they have read and understood this Certificate and that to the best of his/her/their knowledge and belief it is true.

OWNER:

By: _____ Date: _____
Name

By: _____ Date: _____
Name

APPROVAL BY MH:

By: _____ Date: _____

MAINE STATE HOUSING AUTHORITY USE ONLY

Final Escrow Draw occurred on: _____ Remaining Escrow Funds:_____

(date)

Recommended initial annual inspection: _____ Remaining funds to: _____

Asset Management – Initial Site Review Form

To:

From:

Date:

Subject:

Date of Inspection:

Attendees:

Property Location:

Property Description:

Total # of Units:

Intent:

The following major building elements were inspected to determine their condition and rough rehab costs:

Roof:
Windows:
Siding and Trim:
Paving:
Mechanical and Electrical systems:
Life Safety:
Other:

Overall the project is in the following condition prior to any rehab construction: Good/Fair /Poor

The total cost of rehab is guesstimated at $_____ + 15% contingency = $_____