

SUBMISSION GUIDE FOR ARCHITECTS
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DEFINITIONS

Preservation Developments – Existing affordable housing stock that has come to a point in its life where it is in need of moderate or substantial renovation and is in danger of converting to market rate housing. The Agency wishes to preserve this housing as affordable and will provide funding to perform the renovation work necessary to give the buildings a new lease on life for a minimum of 20 years.

Substantial Rehabilitation – Conversion of an existing structure from its original use to housing. This can also be called adaptive reuse. Existing buildings used for housing may be defined as substantial rehabilitation if the building is being completely gutted and/or reconfigured. The Agency reserves the right on a case-by-case basis to decide if the Scope of Work proposed qualifies as substantial rehabilitation.

Moderate Rehabilitation – Complete replacement of two or more major components of an existing building used for housing. Components can include boilers, windows, finishes, kitchen cabinets, appliances, bathroom fixtures, etc. The Agency reserves the right on a case-by-case basis to decide if the Scope of Work proposed qualifies as moderate rehabilitation.

Renovation – Partial replacement of components in an existing building used for housing. Components can include boilers, windows, finishes, kitchen cabinets, appliances, bathroom fixtures, etc. The Agency reserves the right on a case-by-case basis to decide if the Scope of Work proposed qualifies as renovation.

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SECTION 1.01
OUTLINE FOR TECHNICAL SERVICES PROCESSING

- 1.01.1. PRE-FEASIBILITY (Initial Site Inspection)** – (Conducted by PHFA personnel and the Sponsor’s Development Team at the site visit.)
- A.** Technical overview of site(s) for new construction and/or site(s) and structure(s) for rehabilitation developments including, but not limited to:
 - 1. Availability and location of existing utilities (electric, gas, water, sewage, etc.).
 - 2. Appropriateness of site topography for the proposed development.
 - 3. Access to site.
 - 4. Potential and existing environmental hazards.
 - 5. Structural adequacy and suitability for adaptive re-use for existing structures proposed for rehabilitation.
 - 6. Compatibility with existing neighborhood.
 - 7. Study Accessibility/VisitAbility_{cm*} issues.
- 1.01.2. COMMITMENT PROCESSING MEETING** – (Held after the PHFA Board has approved Feasibility and site/market study for continuation of processing.)
- A.** A Commitment Processing Meeting will be held at PHFA’s Harrisburg office on a date set by the Agency after Board Feasibility Approval. Developers, Architects and Contractors without previous PHFA experience are required to attend this meeting.
 - B.** Technical Services’ requirements and procedures will be discussed for the developments. The Owner, Architect and General Contractor (if selected) should be present.
 - C.** A CD of the current copy of the *Submission Guide for Architects* which includes all processing procedures and requirements from the design stage to Initial Occupancy will be provided to the Architect, Sponsor, and the General Contractor at the meeting.
- 1.01.3. ARCHITECTURAL SUBMISSION REVIEWS** – 3 Stages
- A.** Separate drawings must be submitted for the site, architectural, structural, mechanical, plumbing, and electrical work for each submission.
 - B.** The use of notes, cross-referenced by number or letter designation, will not be accepted unless they are on the same page as the drawings.
 - C.** When responding to the Technical Services review letters, a written response will be required as well as making the necessary changes to the drawings and specifications.

- D. Schematic Submission Review** – including, but not limited to:
1. Schematic Site Plan, Floor Plans, Elevations, Typical Wall Section and Outline Specification
 2. Schematic Design Construction Cost Estimate (use form provided).
 3. Schematic Design Requirements Checklist.
 4. The Schematic Review may be waived, at the discretion of the Technical Services Division, if adequate information is submitted with the Application.
- E. Design Development Submission Review** – including, but not limited to:
1. Design Development Drawings and Specifications (90-100% complete Contract Documents).
 2. Estimated Utility Costs.
 3. PHFA Checklists: (1) Development Requirements, (2) Development Security and Maintenance, (3) Site Utilities, (4) Mechanical, (5) Electrical, (6) Development Tabular Schedule.
 4. Design Development Construction Cost Estimate (use form provided).
 5. Survey, Surveyor's Report and Legal Description.
 6. Contractor's Qualification Statement (AIA Form A305) and description of previous experience if not included in the Application.
 7. Subsoil Investigation Report.
 8. Structural Engineer's Report (for rehabilitation developments only, this requirement may be waived upon request depending on the state of the building to be renovated).
- F. Contract Document Submission Review** – including, but not limited to:
1. Contract Drawings and Specifications – 100% complete.
 2. Any unresolved or outstanding items from previous review stages.
 3. Final Construction Cost Breakdown – based on 100% completed Drawings and Specifications (use form provided).
- NOTE:** At each stage, a review letter is sent to the Architect with copies to the Sponsor and the PHFA Housing Development Officer.

1.01.4. LOAN COMMITMENT

- A.** In addition to the “Contract Document Submission” requirements, the following documents are required by the 15th of the month, 2 months prior to the PHFA Board Meeting at which the Loan Commitment is anticipated. The Architect and Owner shall closely coordinate completion of Contract Documents around the date of this Board Meeting.
1. Owner/Architect Agreement.
 2. Owner/Contractor Agreement (does not need to be executed).
 3. Phase I Environmental Site Assessment.

1.01.5. INITIAL LOAN CLOSING

- A.** A Closing date will be scheduled by PHFA legal staff after a loan commitment has been granted.
- B.** Drawings and Specifications must be signed by the Owner, Architect, Contractor, and other parties if applicable (e.g., Housing Authority for moderate rehab developments). A minimum of five (5) sets of closing Contract Drawings and Specifications including any Addenda and Value Engineering Lists are required.
- C.** Copies of Building Permit, Insurance Certificates for Architect and Contractor, Final Construction Cost Estimate, Architect’s Certification, and Architect’s Accessibility Certification must be provided.

1.01.6. CONSTRUCTION PHASE

- A.** The construction of the development is monitored by the Technical Services Representative for conformance to Drawings and Specifications, general quality of construction, and percentage of completion in relation to the construction schedule and monthly draws.
- B.** Shop Drawings, Catalog Cuts, and Field Change Orders are reviewed by the Technical Services Representative assigned to the development and PHFA’s Architects and Engineers as appropriate.

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SECTION 1.02
ACCESSIBILITY REQUIREMENTS

Design and Construction of all PHFA developments must conform to *the Fair Housing Amendments Act of 1988*, the *Pennsylvania Uniform Construction Code* and *Section 504 of the Rehabilitation Act of 1973*, as amended.

The site, building(s), and dwelling units must conform to the *Uniform Federal Accessibility Standard (UFAS)*, the *ANSI A117.1-2003*, and/or *ADA Accessibility Guidelines (ADAAG)*, as applicable.

The Owner and Architect of the development shall be responsible for the design of the development to meet all applicable accessibility requirements. The following is not intended to include all requirements for meeting accessibility design requirements, and PHFA does not intend the use of this information to be construed as the only accessibility requirements that must be met.

1.02.1. SECTION 504 AND UNIFORM FEDERAL ACCESSIBILITY STANDARDS REQUIREMENTS

A. New Construction

1. A minimum of 5% of the total dwelling units (or at least one unit) must be accessible by persons with mobility impairments.
2. An additional 2% (or at least one unit) must be accessible by persons with hearing or vision impairment.

This must include the following at a minimum:

- a. Strobic visual signal wired to the dwelling unit smoke detectors, visible in all rooms of the dwelling unit including the bathroom.
 - b. Strobic visual signal wired to the central fire alarm system (if one is required by code), visible in all rooms of the dwelling unit including the bathroom. This signal must be distinguishable from that in paragraph "a", above.
 - c. A doorbell at the dwelling exterior or corridor entrance door with a visual signaling device.
 - d. TTY capable telephone in the unit.
 - e. In buildings with a common entrance, a means for a hearing impaired individual to identify visitors without leaving his/her dwelling unit.
3. For Items 1 and 2, Federal, State or Local Authorities may prescribe a higher percentage or number upon request by an affected recipient or by a State or Local Government Agency or Authority.
 4. Building(s) and site facilities provided for the use of the tenants must be accessible to persons with disabilities. Parking spaces

must be provided for mobility impaired tenants and visitors. The parking spaces must be designed in accordance with the Uniform Federal Accessibility Standard and ADA. A minimum of 5% of the parking spaces (no less than two spaces) must be designed for persons in wheelchairs. If parking spaces are provided for each unit, accessible spaces must be provided for each accessible unit.

5. The accessible dwelling units must be distributed throughout the building(s) and site in a sufficient range of sizes and amenities to allow a choice of living arrangements for persons with disabilities, generally comparable to that of other persons.
6. Units with two or more bedrooms must have at least two bedrooms accessible to persons with disabilities.

B. Rehabilitation – General

1. If the development contains 15 or more dwelling units and the cost of alterations is 75% or more of the replacement cost of the completed development, the New Construction Requirements (Section A above) apply.
2. Otherwise, alterations shall be made to be readily accessible to and usable by individuals with disabilities provided it does not impose undue financial and administrative burdens on the operation of the development. Once 5% of the units in a development are readily accessible and usable, then no additional dwelling units or portions thereof are required to be made accessible.
3. Alterations to common areas or parts of facilities that affect accessibility of an existing development are required if it does not impose undue financial and administrative burdens on the operation of the development.

C. Rehabilitation – Historic Buildings – (Buildings listed or eligible to be listed in the National Register of Historic Places or similarly listed pursuant to a State, County, or Local statute or ordinance).

1. The requirements of Section B above apply unless it can be documented (e.g., by the *State Historic Preservation Office*, or *other* jurisdictional authority) that providing accessibility would substantially impair the historic features of the property or result in undue financial and administrative burdens. Documentation must be submitted to PHFA.
2. For developments containing 15 or more dwelling units where the cost of alterations is 75% or more of the replacement cost of the completed development and a historic designation precludes providing accessibility for persons with disabilities (e.g., ramps for wheelchairs), two percent (2%) of the dwelling units must be designed to be accessible and usable by persons with hearing or

vision impairments. The number of units may be increased if indicated by need assessments conducted by local bodies.

It is the responsibility of the design professionals to design the development to meet the most restrictive requirements of all disability guidelines and codes applicable to the development.

1.02.2. PHFA SUPPLEMENTAL ACCESSIBILITY AND ELDERLY DESIGN REQUIREMENTS – Supplement to the Uniform Federal Accessibility Standards for Section 504.

A. Dwelling Units Designed for Mobility Impairments:

1. All developments must be designed with 5% minimum accessible units and an additional 2% minimum hearing/vision impaired units.
2. A full width kick plate must be provided on both sides of all common use doors, unit entrances, and apartment interior doors that permit passage.
3. Wall corner guards (textured, vinyl 1-½" X 1-½" minimum) must be provided for partitions along accessible routes and inside units.
4. All bathrooms with roll-in showers must include a drain in the bathroom floor as well as in the shower(s).
5. Due to the requirement for kneespace beneath the kitchen sink and work counter, adequate accessible storage space must be provided in kitchens by means of additional base cabinets or pantry cabinets/closets.
6. Removable kitchen base cabinets may be installed at the areas requiring kneespace. These cabinets must be removable without disconnection of any plumbing lines.
7. Refrigerators should be located to allow doors to open 180 degrees.
8. Grab bars must be installed at all required locations in accessible units.
9. The installation of roll-in showers is strongly recommended in all accessible units.
10. Accessible showers must be provided with a folding seat firmly secured to the shower walls.
11. Shower heads and mirrors in accessible units shall be mounted at heights that permit use by those with mobility impairments and those without.
12. Accessible bedrooms must have a minimum 36" wide accessible route through the bedroom and a minimum 36" access aisle on both sides and at the foot of the bed. In accessible units with more

than one bedroom, one accessible bedroom must be the primary bedroom.

13. At the entrance to an accessible, adaptable or visitable unit, an overhang or porch roof is recommended to protect the entrance door from rain and snow.
14. On July 23, 2004, the Architectural and Transportation Barriers Compliance Board published revised guidelines for the Americans with Disabilities Act (ADA) and the Architectural Barriers Act (ABA) in the Federal Register. Although these guidelines have not yet been adopted by the Department of Housing and Urban Development (HUD), PHFA recommends that all developments be designed in accordance with the revised accessibility guidelines, wherever these guidelines provide for a greater degree of accessibility.

B. VisitAbility_{cm*}:

1. All developments should be designed implementing "VisitAbility_{cm*}" access methods to the greatest extent possible (i.e., zero step entrances, all doors 36" wide, basic accessibility in bathrooms, etc.) see *Section 1.09, VisitAbility_{cm*} Guidelines*, on Page 1.27 of this TAB.

C. Developments Designed for Elderly Occupancy:

The following is required for developments housing persons aged 55 and older:

1. Handrail on one side of corridors and in common areas.
2. Lever hardware throughout the development.
3. Community room w/kitchen and storage.
4. Accessible public restrooms.
5. Air conditioning.
6. Coat closet and generous general storage in units.
7. Emergency call provisions.
8. Grab bar beside the toilet and in the bathtub or shower.

The **UNIFORM FEDERAL ACCESSIBILITY STANDARDS** (UFAS) and **ADA ACCESSIBILITY GUIDELINES** (ADAAG) may be obtained from the Architectural and Transportation Barriers Compliance Board, Washington, D.C. 20202, 1-800-872-2253.

The **ANSI A117.1-2003 STANDARDS** can be obtained from the American National Standards Institute, Inc., 11 West 42nd Street, New York, NY 10036, (212) 642-4900.

HUD has recognized the **2006 International Building Code with the January 31, 2007 Errata** as a safe harbor for compliance with the Fair Housing Act's design and construction requirements.

The **2004 Revised ADA-ABA Accessibility Guidelines** may be viewed at the following website: www.access-board.gov.

SECTION 1.03
PROFESSIONAL FEE SCHEDULE

1.03.1 Architect's Fees

The maximum allowable Architectural Fees for both design and construction administration are computed as a percentage of the "improvement cost" of the development. "Improvement Cost" is defined as the sum of the subtotal for structures and includes overhead and profit, general requirements, site work, payment and performance bonds and contingency funds. The exact amount of the allowable fee must be determined by interpolation based upon the following chart. Design fees must be charged at 75% maximum of the total fee, and construction administration fees must be charged at 25% minimum of the total fee. For Applications following the construction management form of product delivery, the same fee breakdown must be followed. For Applications with a separate Landscape Architect, the combined fee is subject to the limitations set forth below. Job conferences must be held a minimum of once every two weeks. When not needed, job conferences may be canceled with approval of the Owner, Architect and PHFA representative. Architect's reimbursable expenses may be charged for reproduction of drawings and specifications, distance traveled over 100 miles in a single round trip and overnight lodging only. Other expenses that may be considered reimbursable must be included in the Architect's fee.

TOTAL CONSTRUCTION COST (Including Contingency)	REGULAR DEVELOPMENTS	COMPLEX DEVELOPMENTS	REHAB AND RESTORATION DEVELOPMENTS
\$ 100,000	9.50	10.00	10.50
1,000,000	7.31	7.53	7.91
3,000,000	6.57	6.72	7.01
5,000,000	6.04	6.19	6.50
7,000,000	5.50	5.65	5.93
10,000,000	4.83	4.98	5.23
15,000,000	4.63	4.78	5.02
20,000,000	4.42	4.59	4.82
25,000,000	4.27	4.46	4.68
Over 25,000,000	To be negotiated and approved by PHFA		

Professional fees must be based on the construction cost budget established and submitted with the Application, including contingency funds.

“Regular Developments” is defined as simple townhouses, walk-up flats, cottages and other one-story type developments.

“Complex Developments” is defined as low-rise, mid-rise, high-rise, elevator buildings and buildings with central heating and hot water systems, etc.

“Rehabilitation and Restoration Developments” is defined as buildings that are being converted from another use into housing or a major renovation/rehabilitation of an existing building currently used for housing.

For “Preservation Developments,” the Agency reserves the right to adjust the Architect fees based upon the Scope of Work associated with the development and the services being provided.

To receive the maximum fee, the Architect must perform full services including production of Drawings and Specifications for all architectural, structural, interior design, mechanical, plumbing, sprinkler and electrical work as required by the AIA B-141 or B-101 and Agency Addendum to the same, and AIA document A201 as amended by *Agency Supplementary General Conditions*. (See TAB 3 for the Agency Addenda)

The Agency may consider increased fees for additional services such as energy conservation consultant’s certification, historical reviews and approvals, detailed or extensive conditions surveys, or prototypical building designs upon written request by the Owner.

Professional fees for site development must be established by a separate prime contract between the Civil Engineer and the Owner. The Architect and Civil Engineer must fully and completely coordinate their design work and documents. During construction, the Civil Engineer must make site visits as needed and be present at each monthly pay-out meeting where payment for site work is requested. Civil Engineer professional fees must include fully executed Land Development Planning Documents approved by the governing municipality and Construction Documents at sufficient detail to construct the development in conformance with the approved Land Development Plan and PHFA requirements.

1.03.2 Engineering Fees

Civil engineering fees shall not exceed 15% of the total of Sitework and Offsite Improvements costs listed on the Construction Cost Estimate and the Development Budget in the Multifamily Housing Application. Higher fees may be allowed by the Agency if a waiver request is submitted with a detailed justification for the increased fee.

SECTION 1.04

PROFESSIONAL FEE RETENTION

1.04.1. DESIGN

- A. The Design Architect, Construction Administration Architect, Construction Manager, Landscape Architect and other professionals (if any) will have 2½% of their fee (but not less than \$1,600) retained at Initial Closing.
1. If PHFA is satisfied with the performance of the design professionals at the end of the construction period, the retainage will be paid. Acceptable and complete Record (As-Built) Drawings and all maintenance and operating manuals must be in the possession of the Owner and PHFA before payment will be made.
 2. One thousand six hundred dollars (\$1,600) will continue to be withheld from the Construction Administration Architect's Fee to be used to pay for their attendance at Quarterly Guarantee Meetings.
 3. The Construction Administration Architect's or Construction Manager's \$1,600 retainage will be paid in installments specified under TAB 5 of this *Guide* after acceptable completion of each of the required guarantee meetings. The Construction Administration Architect or Construction Manager must invoice PHFA after each quarterly guarantee meeting to receive payment of the retainage.

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SECTION 1.05
ELEVATOR POLICY

Elevators must be provided in PHFA-funded developments under the following conditions:

1.05.1. AN ELEVATOR IS REQUIRED IF:

- A. General Occupancy Developments** – The building is 4 stories or greater in height.
- B. Elderly Developments** – The building is 2 stories or greater in height.

1.05.2. A SECOND ELEVATOR IS REQUIRED IF:

- A. General Occupancy Developments** – The development is 5 stories or greater in height **and** 50 or more bedrooms are located on and above the fourth story.
- B. Elderly Developments** – The development is 3 stories or greater in height **and** 30 or more bedrooms are located on and above the second story.

NOTES:

1. For purposes of this policy, a story shall be any floor in a building that contains a dwelling unit or common area for the use of the tenants. The lowest level with units or common areas will be considered the first floor.
2. For all developments with more than one elevator, it is recommended that one elevator be connected to an auxiliary generator.
3. For elderly developments, at least one elevator must be large enough to accommodate a stretcher (i.e., 5'-8" ± X 7'-3" ±). Submit information confirming a stretcher will be accommodated by the elevator.
4. For elderly developments, adequate space for seating must be provided at lobby and hallway areas directly adjacent to elevators.
5. A comprehensive, preventative maintenance and repair contract must be obtained through an Elevator Manufacturer's Certified Service Representative for all elevators.

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SECTION 1.06
MINIMUM INSULATION STANDARDS

The Agency requires all developments to follow the requirements of Chapter 4, “Residential Energy Efficiency” of the *International Energy Conservation Code*, 2006 Edition. This is applicable to all developments, regardless of the number of stories **and shall apply to all buildings in the development.**

Proof of compliance with the International Energy Conservation Code minimums must be submitted in the form of a written report. The use of REScheck is recommended to verify compliance. It can be downloaded for free from the U. S. Department of Energy website at <http://www.energycodes.gov/rescheck>. **The use of trade-offs for mechanical equipment in the REScheck software will not be allowed.**

Piping must not be located in un-insulated areas. All piping must be located within the conditioned space, (i.e., on the interior side of the room finish material on exterior wall and roof/ceiling assemblies) See Section 2.02.E for requirements for ductwork located in unconditioned areas.

Blown-in type insulation will be checked for proper depth/thickness at the Final Guarantee Meeting. Should the required total depth/thickness of the insulation at that time be found less than that which is required, the Contractor must provide additional insulation in order to satisfy the requirements at no additional cost.

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SECTION 1.07
INSURANCE REQUIREMENTS DURING
DESIGN AND CONSTRUCTION CHECKLIST

Evidence of Insurance, per the following requirements, must be provided to PHFA before Initial Closing can take place on a development. Insurance must be placed with companies carrying a minimum A.M. BEST rating of B+ (very good) or better. The limits set forth in the Insurance Requirements Checklist are minimums required by PHFA. Parties to the development contract must individually determine if higher limits are appropriate to protect their interests.

1.07.1. OWNER INSURANCE REQUIREMENTS

The property must be insured with acceptable Property and Liability Insurance policies and meeting the requirements described below. The Named Insured in each policy must be the Owner, also known as the Partnership Name.

Evidence of Insurance must be provided to PHFA before Initial Closing can take place. Evidence may be in the form of a binder (Acord Form 75-S 2/93) or Evidence of Property Insurance (Acord Form 27) until the policy is issued. A complete original or certified copy of the policy, including coverage parts, must be provided to PHFA once it is issued.

The property must be covered by the equivalent of a Fire Policy endorsed to include all the extended coverage perils, plus vandalism, malicious mischief, theft, or other broad form perils. In addition, the policy must include the following:

- ___ **A.** The Named Insured of the property must be Owner, General Contractor, and any Subcontractors, as their interest may appear.
- ___ **B.** Builder's Risk Coverage – completed value form.
- ___ **C.** All Risk or Special Coverage.
- ___ **D.** Standard Mortgagee Clause naming "Pennsylvania Housing Finance Agency" as Mortgagee. *Note – For all FHA INSURED LOANS, the Federal Housing Administration must also be listed as Mortgagee on property policies.*
- ___ **E.** Building Coverage to be carried at 100% of completed value. *The Contractor and Subcontractors are responsible for insuring stored materials not permanently incorporated into the development.*
- ___ **F.** Business Income Coverage (rental value) for 100% of annual projected rental value.
- ___ **G.** A Permission for Partial Occupancy Endorsement is required for developments that are to be staged, have scattered locations, or multiple buildings.

- _____ H. An endorsement that states in the event of cancellation, reduction in coverage, or non-renewal, that a 60-day written notice will be sent to the Mortgagee (PHFA) and General Contractor.

If a development is occupied by tenants during the entire construction period, in addition to all of the above, the following are also required:

- _____ A. Acknowledgment on the policy that *“the Insurance Company hereby acknowledges that the building(s) is/are under renovation”*.
- _____ B. Replacement Cost Endorsement.

1.07.2. OTHER REQUIRED COVERAGE WHERE APPLICABLE

- _____ A. Contents Coverage (lobby and office furnishings) where applicable.
- _____ B. Flood Insurance – If the property is located in a 100-year flood zone, flood insurance must be purchased and evidence submitted to PHFA.
- _____ C. A general Boiler and Machinery Policy is required where steam boilers, pipes, turbines, engines, or other pressure vessels are in operation on the property. The policy must be in an amount equal to 100% of the full replacement cost of the building(s) housing the equipment. The coverage must be comprehensive. Named Insured to include Owner and Contractor.
- _____ D. Mine Subsidence/Earthquake Insurance is required on those properties in areas that are prone to the exposure.

1.07.3. COMMERCIAL GENERAL LIABILITY INSURANCE - OWNER

- _____ A. Commercial General Liability Insurance is required with a minimum limit of \$1,000,000 per occurrence and \$2,000,000 general aggregate per location (CG 2504). Liability coverage must provide for claims to be made on an occurrence basis.
- _____ B. PHFA named as Additional Insured as Mortgagee, Assignee, or Receiver.
- _____ C. Business Automobile Liability – *ONLY for developments with development-owned vehicles*. Minimum limit of \$500,000 per accident for bodily injury and property damage, including coverage for hired and non-owned autos.
- _____ D. Umbrella (Excess) Liability – Necessary amount of coverage to increase general liability aggregate limits to a minimum of \$2,000,000. Follow form coverage to apply.
- _____ E. Garage Keeper’s Legal Liability – *ONLY if garage facilities are provided with the property or attendants are employed for outdoor parking facilities*.

1.07.4. GENERAL CONTRACTOR INSURANCE REQUIREMENTS

Certificate of Insurance indicating a minimum of the following coverages:

- _____ **A.** Commercial General Liability specific to the development including: (1) premises and operations, (2) product/completed operation with permission for partial occupancy, (3) personal injury, (4) contractual liability (5) explosion, collapse and underground hazards coverage – Minimum limit of \$1,000,000 per occurrence and \$2,000,000 aggregate liability per development (CG 2503). Coverage must provide for claims to be made on an occurrence form.
- _____ **B.** Business Automobile Liability - \$1,000,000 minimum limit per accident for bodily injury and property damage.
- _____ **C.** Workers' Compensation – Statutory limits.
- _____ **D.** Umbrella (Excess) Liability – Necessary amount of coverage to increase underlying general liability aggregate limits to a minimum of \$2,000,000. Follow form coverage to apply.
- _____ **E.** Owner, Architect, Architect's Consultants, PHFA, and agents and employees of any of these entities, named as Additional Insured for this development on General Liability and Umbrella policies.
- _____ **F.** All Risk Property Coverage for on-site stored material that is not the property of the Owner and not permanently incorporated into the development.
- _____ **G.** Certificates must indicate Owner and PHFA as the Certificate Holder.
- _____ **H.** Certificates must include a 60-day Notice of Cancellation or Nonrenewal to Owner and PHFA.

1.07.5. ARCHITECT'S INSURANCE REQUIREMENTS

A Certificate of Insurance is required with PHFA as Certificate Holder, a 60-Day Notice of Cancellation, and the following coverage:

- _____ **A.** Architects Professional Liability (design and supervising) in an amount no less than 2-½ percent of the construction cost of the development or \$500,000 per claim, whichever is greater. The policy must be kept in place for one year following construction completion.

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SECTION 1.08
GUIDELINES FOR MID AND HIGH RISE BUILDINGS

Specific guidelines for multifamily developments with a height of four or more stories:

1.08.1. EACH BUILDING MUST CONTAIN AT LEAST ONE ELEVATOR

1.08.2. SECURITY

- A.** Intercom system plus 24-hour security, (e.g., on-site Manager, Guard, or other).
- B.** Key access to elevators to control unauthorized use or to zone corridors.
- C.** Design the development to meet “defensible space” criteria; no blind corners, long corridors, or public spaces that cannot be easily observed by management or residents.

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SECTION 1.09

VISITABILITY^{cm}* GUIDELINES

VisitAbility^{cm}* is a design criteria that affords all persons basic access to residential buildings. The VisitAbility^{cm}* standard is lower than full accessibility. Therefore, VisitAbility^{cm}* is not the same as Americans with Disabilities Act (ADA) compliant accessibility. ADA compliant dwellings will automatically be VisitAble; however, VisitAble dwellings are not necessarily ADA compliant.

Designing as many units as possible to be VisitAble allows people with disabilities the opportunity to visit as many neighbors as possible. PHFA encourages use of VisitAbility^{cm}* design features wherever feasible in development design.

1.09.1. DESIGN FEATURES

- A. Zero-Step Entrance** – For a unit to be VisitAble, it must provide at least one zero-step entrance with a 36” wide door. A zero-step entrance is one with no step at the exterior door and with less than ½” difference between the inside and outside surfaces, or with a threshold with less than a ½” rise. When selecting sliding doors, choose those with the lowest bottom track and providing at least 32” clear opening.

The methods of achieving a zero-step entrance include consideration of grade when planning the site. Grading an accessible route flush with the entrance of a unit is typically less costly than constructing a ramp, and often less than installing steps. At the zero-step entrance to a unit, an overhang or porch roof is recommended to protect the entrance door from rain and snow.

- B. Wider Doors** – All doorways and passageways on the accessible entry-level floor of a unit should be as wide as possible; 36” is the preference. A 34” door will provide approximately 32” clear opening, which is marginally adequate. Wider doorways make movement of people, furniture and assistive devices such as wheelchairs, walkers and crutches safer and easier; 32” wide doors do not provide enough clearance for a typical wheelchair to pass without damaging the door and trim. For long-term maintenance savings, wider doors are best.
- C. Convenience Facilities** – A 36” clear path of travel to the bathroom or powder room and a clear floor space within the room and at the plumbing fixtures in accordance with the Fair Housing Act Design Manual.

* VisitAbility^{cm} is used by permission of Concrete Change.

- D. Grab Bars** – A grab bar shall be provided beside the toilet for visitability. The grab bar can be used as a towel bar in ground floor bathrooms or powder rooms and placed so they can double as grab bars for visitors who may need them. Walls behind grab bars must have reinforcement ($\frac{3}{4}$ " plywood or OSB over studs [preferred] or at least 2" X 8" blocking between studs). Blocking should be centered at 34" above the floor. Grab bars must be rated to hold at least 250 lbs. of static weight, stand away from the wall 1½" and be 1½" diameter.
- E. Accessible Routes** – Make hallways as wide as possible; 36" is the minimum (42" is preferable). Exterior accessible routes should be considered when designing the site. Care should be taken to locate VisitAble units in close proximity to access to services without congregating them together. Also, locate these units where they have easy access to neighboring units that have incorporated VisitAbility^{cm*} features in their designs.

For more information, please contact:

VisitAbility^{cm*} in Pennsylvania
 (c/o) Life and Independence for Today
 503 Arch Street Extension
 St. Marys, PA 15857-1779
 814-781-3050 (Voice)
 800-654-5984 (PA Relay/TTY)
 814-781-1917 (FAX)
 Email: www.liftcil.org/visitability.htm
www.penn.com/visitability

The Center for Universal Design
 NC State University
 Box 8613
 Raleigh, NC 27695-8613
 913-535-3802 (V/TTY)
 800-647-6777
 Email: cud@ncsu.edu
www.ncsu.edu/design/cud

IMPORTANT DIMENSIONS

- 1. **Wheelchair clear floor space..... 30" X 48"**
- 2. **Preferred door widths 36"**
- 3. **Typical grab bar height from floor or bottom of tub 33-36"**
(Bathroom walls should be reinforced at this height for safe future installations)
- 4. **Preferred width of hallways..... 42" min.**
- 5. **Maximum safe slope for a graded walk or ramp 1:12**
(Requires handrail)
- 6. **Preferred slope for graded walk or ramp 1:20**
(Does not require handrail)
- 7. **Preferred height for light switches and thermostats 42-48"**
- 8. **Preferred height for electrical outlets 18-24"**
- 9. **Zero-step entry – No more than ½" threshold difference**

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SECTION 1.11
WAGE RATE DETERMINATION POLICY

1.11.1. GENERAL WAGE RATE INFORMATION

- A.** Developments receiving Federal funding from any source are generally subject to the Davis-Bacon Wage Rate requirements (29 CFR §1.5 and §1.6).
- B.** Developments receiving other public funds (State) may be subject to Pennsylvania State Wage Rate requirements. Federal Wage Rate requirements supersede State requirements.
- C.** PHFA will monitor developments that receive Federal HOME Program funds through the Agency. If Federal funds are acquired through a Participating Jurisdiction and not through PHFA, the PJ is responsible for providing and monitoring the wage rate determinations.
- D.** The Architect, Owner or Contractor must supply, in the space provided on the PHFA Design Development Construction Cost Estimate and Final Construction Cost Breakdown forms, the issuance date of the wage rate determination used for pricing the work.
- E.** The Architect must bind the printed wage rate determination into the Specifications for the job. The date on this determination must coincide with that on the PHFA Construction Cost forms.

1.11.2. FOR DEVELOPMENTS RECEIVING FEDERAL FUNDS THROUGH PHFA

- A.** The Owner, Architect or Contractor shall request a wage rate determination from PHFA. The Architect or Contractor must inform PHFA in writing of the trades for which they seek the issuance of a wage determination.
- B.** Wage determinations issued shall be effective for 180 calendar days from the date of issuance of such determination. If such determination is not used in the period of effectiveness, it is void. If it appears that a determination may expire before the “Start of Construction,” a new determination shall be requested.
- C.** Ninety (90) days prior to the anticipated date of receipt of a PHFA Commitment of Funds, PHFA will issue a new Davis-Bacon Wage Rate Determination to the Owner through the Development Officer. The Owner has the option to use the new determination or to continue with a previous determination currently in effect. Should the Owner elect to continue with a previous determination, they must start construction within 180 days of that determination’s date of issuance.

For purposes of this policy, the HUD definition of “Start of Construction” shall be utilized (as may be amended or modified by HUD). “Start of Construction”, as that term is used in connection with labor standards

and wage requirements, means the beginning of initial site clearance and preparation, provided those activities are pursued diligently and are followed without appreciable delay by other construction activity. (www.hudclips.org ¶ 7-14)

SECTION 1.12
MODULAR HOUSING CONSTRUCTION REQUIREMENTS

The following must be met for all developments using Modular and/or Manufactured building products:

- a. Submit a financial statement of both Modular Manufacturer and General Contractor for review.
- b. Modular Contractor shall be a Subcontractor to the General Contractor hired by the Owner.
- c. The contract between the Modular Manufacturer and General Contractor shall be submitted for review.
- d. Modular Manufacturer's construction drawings shall be submitted for review.
- e. A 100% payment and performance bond or an unconditional and irrevocable letter of credit in the amount of 25% of the contracts covering modular construction and site construction must be submitted.
- f. Submit Evidence of Insurance Coverage for the Modular Manufacturer (PHFA is not requiring to be named as an insured but requires evidence that the manufacturer is adequately covered).
- g. Follow normal PHFA required insurance coverage for the site construction (General Contractor).
- h. Follow normal PHFA development contingency fund requirements.
- i. Follow normal PHFA construction contingency requirements.
- j. Follow normal PHFA retention requirements.
- k. The General Contractor must fund the normal upfront modular construction deposit. The General Contractor will be reimbursed for the deposit from the Owner's equity at Initial Loan Closing.
- l. Payment (less retention) shall be made to the Modular Manufacturer when boxes are delivered and installed on foundations, made weather tight and inspected and approved by PHFA.
- m. On-site inspection and written acceptance of foundations by the Modular Manufacturer prior to delivery and installation of boxes is required.

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SECTION 1.13
DESIGN ARCHITECTS CERTIFICATIONS

At the Application phase, it is not necessary for the Design Architect to have completed more than a Schematic Design for the development. Detailed amenities and features intended to be incorporated into the design need not be shown as part of the Schematic Design. The Design Architect may elect to certify that s/he has or will design the features into the development at a later date. The Developer/Applicant must also sign off on these certificates to make sure all parties are aware of the intent of the certifications and that the costs are incorporated in the construction budget.

Failure to incorporate certified features and amenities into the development construction will result in non-compliance with PHFA requirements.

A summary of all certifications made by the architect in the loan application must be included on the cover sheet of the drawings.

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SECTION 1.14
ENERGY CONSERVATION MEASURES

The following are energy conservation requirements for all developments:

1. Energy Star Equipment

- a. New Construction and Rehabilitation Developments:** All appliances, mechanical equipment, **windows**, ceiling fans, and exit signs, shall be Energy Star® labeled when such equipment and appliances exist. (Exception: programmable thermostats do not need to be provided). In addition, 50% of the permanent room light fixtures in the dwelling units shall be equipped with compact fluorescent bulbs and 100% of the community room and common area corridor and stair lighting shall be fluorescent with electronic ballasts or shall utilize compact fluorescent bulbs.
- b. Preservation Developments:** Existing refrigerators and dishwashers more than 6 years old shall be replaced with Energy Star® labeled type. Existing heat pumps, air conditioning condensing units, and through-wall air conditioners more than 6 years old shall be replaced with Energy Star® labeled type, when such equipment exists. Existing furnaces and boilers more than 10 years old shall be replaced with Energy Star® labeled type, when such equipment exists. (Programmable thermostats do not need to be provided) In addition, existing community room and common area corridor and stair lighting more than 15 years old shall be replaced with fluorescent fixtures with electronic ballasts or fixtures that utilize compact fluorescent bulbs. All illuminated exit signs shall be replaced with Energy Star® labeled fixtures. **Where windows are scheduled for replacement, they shall be replaced with Energy Star® qualified products.**

By signing the certification form in the loan application, the developer certifies that when existing equipment, appliances, **and products** are replaced, they will be replaced with Energy Star® labeled **products**, when such **products** exists.

2. Home Energy Rating System (HERS) Index

- a. New Construction Developments:** New construction developments shall meet Energy Star® standards by achieving a Home Energy Rating System (HERS) design score necessary to achieve an Energy Star® rating. This shall include computing a HERS score based on a review of the drawings and specifications, blower door testing, duct blaster testing, if ductwork exists, a thermal bypass checklist inspection, **HVAC design in conformance with ACCA Manuals D, J, and S (as applicable)** and a final certification of the HERS **index** based on testing and observation (issuance of the actual Energy Star® label is not required).
- b. Rehabilitation Developments:** Rehabilitation developments are required to achieve a HERS design **index** that is no greater than 2 points above that needed for an Energy Star® rating. This shall include computing a HERS score based on a review of the drawings and specifications, blower door testing, duct blaster testing, if ductwork exists, a thermal bypass checklist inspection, **HVAC design in conformance with ACCA Manuals D, J, and S (as**

applicable) and a final certification of the HERS index based on testing and observation.

- c. Preservation Developments:** A HERS index is not required for preservation developments.

The individual computing the HERS index must submit evidence of certification as a HERS Rater. A list of HERS Raters in Pennsylvania may be found at <http://www.energystar.gov> or <http://www.resnet.us/directory/raters.aspx>.

The following energy conservation measures are required only if the architect certified that they would be provided in the loan application:

- 1. Exceeding Energy Code Requirements:** The overall U-value of the exterior building envelope shall exceed the requirements of the 2006 International Energy Conservation Code for residential buildings (regardless of the number of stories) by at least 10%, as verified by a REScheck certificate.
- 2. Green Building Criteria:** The development will conform to all of the following Green Building Criteria:
 - a.** Water saving devices, fixtures and appliances shall be installed throughout the development. (For preservation developments, this applies to toilets and shower heads only)
 - b.** Landscape plantings shall be drought-tolerant. Landscaping shall not require irrigation. (For existing buildings, this applies to new landscaping only)
 - c.** Provisions for a development-wide recycling program shall be provided.
 - d.** Photocells or timers shall be provided to control all site lighting.
 - e.** All paints, primers and clear finishes used shall be low volatile organic compound (VOC) type. (At existing buildings, this applies to new paints, primers and clear finishes only)
 - f.** All caulking, sealants and adhesives shall be low VOC type. (At existing buildings, this applies to new caulking, sealants and adhesives only)
 - g.** Composite woods used shall be free of added urea formaldehyde or be encapsulated by a durable low VOC sealant or veneer. (At existing buildings, this applies to new composite woods only)
 - h.** Carpets shall bear the Carpet and Rug Institute "Green Label" or must be manufactured from at least 25% recycled materials. (In preservation developments, this applies only to carpet in need of replacement and future carpet replacement)
 - i.** Bathroom fans shall be Energy Star® labeled and be equipped with a timer. (In preservation developments, only timers need to be installed)
 - j.** Bathroom and Kitchen fans and clothes dryers shall vent directly to the outdoors. (In preservation developments, existing recirculating type range hoods may remain in place)

- k.** 15 cubic feet per minute of fresh air per occupant shall be provided via natural or mechanical means.
- l.** Heating, ventilation and air-conditioning systems shall be engineered and properly sized for the space covered. A mechanical engineer must certify to the design by sealing the construction documents. (In preservation developments, this applies to new equipment only)
- m.** Tankless water heaters or overflow pans with drains under conventional water heaters shall be provided.
- n.** No piping shall be located outside of the interior finish of the insulated building envelope. (Not applicable to existing piping in preservation developments)
- o.** All domestic water pipes except for PEX piping shall be insulated (Not applicable to concealed piping in preservation developments)
- p.** No mold-propagating materials shall be used in damp areas. Only moisture resistant materials shall be used in bathrooms and at tub-shower surrounds. (Not applicable to preservation developments)
- q.** Vapor barriers shall be provided for all interior slabs on grade. (Not applicable to existing buildings)
- r.** All below grade spaces shall be waterproofed and have foundation drainage. (Not applicable to existing buildings)
- s.** Radon mitigation systems shall be installed in areas designated as EPA Radon Zone 1 and 2. (Existing buildings shall be tested and mitigation systems installed where results are above the action level)
- t.** Grading at perimeter of the building shall provide positive drainage away from the building. (Existing buildings must revise grading or install drainage systems where existing grading is problematic)
- u.** Units with garages shall have a carbon monoxide sensor controlled exhaust fan and the demising wall between the garage and living space shall be a continuous air barrier.
- v.** Termite shields or borate based wood treatment shall be provided with low VOC caulking at all floor joints and penetrations to prevent insect infestation. Chemical soil treatment shall not be used. (Not applicable to existing buildings)
- w.** Lead safe work practices shall be used in all properties built before 1978.
- x.** The Owner shall be provided with a maintenance & operations manual and training including all materials, systems and equipment used in the construction, explaining the Green Building components and amenities, how they benefit the property, and how to properly maintain them.
- y.** A Green Building Guide and orientation shall be provided to the residents explaining the Green Building components and amenities and how they benefit from them

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SECTION 1.15
ON-LOT WELL AND SEPTIC SYSTEM REQUIREMENTS

1.15.1. WELL REQUIREMENTS

- A.** Prior to Loan Commitment the Sponsor must demonstrate compliance with *PA DEP Guidelines* and *Pennsylvania's Safe Drinking Water Code* (PA Code Title 25, Chapter 109).
- B.** Evidence that all Local Government requirements have been met must be submitted to PHFA. This may be achieved by submitting a copy of all permits and approvals for use of the system to PHFA. If there are no local regulations, please state such. PHFA requires that evidence be submitted indicating adequate quantity and quality of the water before the well is put into use.
- C.** Design Development Site Plan must show proposed location of the well indicating all "Setbacks" and/or restricted areas.
- D.** Floor Plans must include a mechanical room showing the design of the pumps, pressure tanks, filters and treatment systems, etc.
- E.** PHFA recommends the Developer consult a Geologist to locate the well and assist with the process of bringing the well on line.

1.15.2. SEPTIC REQUIREMENTS

- A.** Prior to Loan Commitment, the Sponsor must obtain a permit for an on-lot sewage system.
- B.** Evidence that all Local Government requirements have been met must be submitted to PHFA. This may be achieved by submitting a copy of all permits and approvals for use of the system to PHFA. If there are no Local regulations, please state such.
- C.** Design development site plan must show location of on-lot system.
- D.** PHFA recommends the Developer consult with an Engineer specializing in on-lot septic system design.

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SECTION 1.16
POLICY FOR NEW CONSTRUCTION
OF BUILDINGS IN FLOOD-PRONE AREAS

In order to avoid the loss of lives and property due to flooding, buildings proposed for construction in or near flood-prone areas must meet the following requirements:

- 1.16.1. **LOCATION** – Each site will be evaluated utilizing a Federal Emergency Management Agency (FEMA) Flood Insurance Study Map. Sites that are located within a floodway will be rejected. Sites that are located within floodway fringe areas will be evaluated based upon their proposed elevation, occupancy and design. Sites will also be studied to determine if they would become inaccessible from dry land during flood events. In accordance with DCED requirements, no developments funded with HOME funds may have any building construction within a flood area.
- 1.16.2. **ELEVATIONS** – FEMA Flood Insurance Studies provide Flood Insurance Rate Maps and profiles for area streams. These maps and profiles show how high the stream would rise at a given location under floods of various magnitudes. The lowest floor (including basements) of all proposed structures must be located at least one and one-half feet (1'-6") above the elevation of the 100-year flood at the site location. Letters of Map Amendment (LOMA) and Letters of Map Revisions (LOMR) may be issued by FEMA. Refer to www.fema.gov/fhm/otlmreg.htm for more information.
- 1.16.3. **PROPOSED OCCUPANCY** – The type of housing occupancy being proposed will be considered and the possible impact of flooding upon the residents will be assessed. Flood risk will be given special scrutiny when elderly, frail elderly or assisted living facilities are proposed.
- 1.16.4. **DESIGN** – Each proposed development will be reviewed for design features which may mitigate the impact of flooding. These include installing electrical, heating and mechanical components above expected flood levels, the anchoring of heating oil tanks, LPG tanks, and light frame buildings to prevent flotation and provision for access to and from buildings during flood events.
- 1.16.5. **INSURANCE** – All buildings located within a 100-year floodplain are required to be covered by Flood Insurance.

Questions Regarding Finding Floodplain Maps – <http://store.msc.fema.gov>

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SECTION 1.17
POLICY FOR REHABILITATION OF BUILDINGS
IN FLOOD-PRONE AREAS

Buildings located in flood plains and proposed for rehabilitation will be evaluated based upon both the potential threat to health and safety and the potential for economic loss. The following criteria will be utilized:

- 1.17.1. **LOCATION** – Each site will be evaluated utilizing either a Federal Emergency Management Agency (FEMA) Flood Insurance Study Map or other authoritative floodplain delineation map for the area. Sites which are located within a 100-year floodway may be rejected. Sites which are located within 100-year floodway fringe areas (or beyond) will be evaluated based upon elevation, proposed occupancy and design. Sites will also be studied to determine if they would become inaccessible from dry land during flood events.
- 1.17.2. **ELEVATIONS** – FEMA Flood Insurance Studies provide flood profiles for area streams. These profiles show how high the stream would rise at a given location under floods of various magnitudes. All buildings proposed to be rehabilitated will be evaluated to determine how high a 100-year flood would rise above their lowest damageable floor and lowest living floor elevations. The potential economic loss and disruption of resident's lives will be considered. The cost of flood insurance will be included as an annual expense.
- 1.17.3. **PROPOSED OCCUPANCY** – The type of housing occupancy being proposed will be considered, and the possible impact of flooding upon the residents will be assessed. Flood risk will be given special scrutiny when elderly, frail elderly, or assisted living facilities are proposed.
- 1.17.4. **DESIGN** – All dwelling units must be located a minimum of one and one half feet (1'-6") above the level of a 100-year flood and must allow egress during a flood on dry land.
- Each proposed rehabilitation development will also be reviewed for design features (existing and proposed) which may mitigate the impact of flooding. These include: (1) components such as furnaces, heat pumps, water heaters, electrical panels, and transformers installed above expected flood levels, (2) specification of less damageable materials such as ceramic tile, vinyl, and masonry products, and (3) the anchoring of heating oil tanks, LPG tanks, and light frame buildings to prevent flotation.*
- 1.17.5. **INSURANCE** – All buildings located within a 100-year floodplain are required to be covered by Flood Insurance.

Questions Regarding Finding Floodplain Maps – <http://store.msc.fema.gov>

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SECTION 1.18
LEAD-BASED PAINT HAZARD REDUCTION POLICY

Lead is a highly toxic metal which produces a range of adverse health effects, particularly in children, infants, and unborn children. Because it was widely used as a paint pigment for years, most older buildings contain some, often undetected, Lead-based Paint Hazards (LBP). The most common definition of LBP is derived from the Department of Housing and Urban Development (HUD) and includes paint or other surface coating that contains lead equal to or exceeding 1.0 milligrams per square centimeter or 0.5 percent by weight or 5,000 parts per million (ppm) by weight.

The Federal Government through HUD has issued regulations outlining notice requirements, testing requirements and acceptable protocols for LBP Hazard Reduction Activities. These regulations have been in effect since 1992. (See the Residential Lead-based Paint Hazard Reduction Act of 1992 and accompanying regulations.)

As of June 21, 2004, new regulations became effective governing notification, evaluation, and reduction protocol, practices and standards for LBP hazards in housing receiving various forms of Federal assistances and in Federally owned residential properties. These new regulations are found at *24 CFR Part 35* and are hereinafter referred to as the “***Final Rule***”.

The Pennsylvania Housing Finance Agency (PHFA) will require compliance with all aspects of the *Final Rule* as well as applicable Local standards in all PHFA financed properties. Applicable laws will govern the protocol for assessing LBP hazards, providing notices to residents of affected properties, remediation methodology and practices, testing and clearance procedures, and ongoing maintenance and safety standards and practices for all LBP affected properties.

The *Final Rule* may be downloaded from the HUD webpage at www.hud.gov/offices/lead or by calling **1-800-424-LEAD**. You are urged to obtain a copy of the *Final Rule* and to review the requirements with all members of your Development Team as early as possible in the PHFA financing Application process.

You may obtain additional information on HUD’s website www.hud.gov/offices/lead and by contacting the PA Department of Labor and Industry at www.dli.state.pa.us.

Specific compliance requirements for LBP Hazard Reduction under the *Final Rule* will vary depending upon the type of property, the level of LBP hazards detected, and the nature of the reduction activity, etc. You will be responsible for all aspects of compliance with the *Final Rule*, and the Agency will require that you and your Development Team members certify to such compliance as a condition to receiving Agency financing or assistance. In addition, we urge you to consult with your Development Team to ensure that your proposed activity is compliant with all Local and State laws and regulations. Some communities have requirements governing LBP

which are more stringent and restrictive than the *Final Rule*. In all instances, PHFA will require certification that you are in compliance with the most restrictive requirements applicable to the property and the proposed activity.

PHFA also encourages Owners to consider the future occupancy of the development when reviewing and planning for the implementation of LBP hazard reduction requirements. Development Owners need to be aware that change in occupancy status may ultimately trigger different LBP requirements that could impose significant financial burdens on the development. For instance, should an Owner decide to change the occupancy status from housing for older persons age 62 and older to housing for older persons age 55 and older, the new LBP hazard reduction requirements could be triggered.

1.18.1. SPECIFIC PROPERTIES IMPACTED BY FINAL RULE

Please note that, in general, each of the following types of properties will be impacted by the *Final Rule*:

- A. Developments containing ANY building that was constructed before January 1, 1978; or
- B. Developments involving rehabilitation, adaptive reuse or renovation of any building (or part of a building) that was constructed prior to January 1, 1978; or
- C. Developments receiving Federal subsidy or assistance each year. (This includes properties receiving Section 8 through housing assistance payments or through resident vouchers or certificates.)

1.18.2. SPECIFIC TIMEFRAME FOR LBP HAZARD REDUCTION ACTIVITY AND PHFA PROCESSING REQUIREMENTS

The following is an outline of processing information required by PHFA during its review of a development for financing. PHFA reserves the right to require additional information as necessary at any time during the processing of a Development for financing.

- A. ALL developments seeking PHFA financing must complete the *LBP HAZARD REDUCTION SURVEY FORM*, see Page 1.51.
- B. Any property with existing occupants which has been identified to have potential LBP hazards must comply with all resident notices and temporary relocation requirements of the *Final Rule* during all phases of the PHFA Application process.
- C. All properties must submit a **Phase 1 Environmental Site Assessment** as soon as possible after Feasibility Approval is granted by PHFA. The Phase 1 Assessment must specifically address the assessment protocol and findings for LBP.
- D. If identified on the Phase 1 Assessment, a **Phase 2 Environmental Site Investigation** addressing LBP hazards must be completed (prior to

Commitment) following the testing standards and protocol outlined in the *Final Rule*.

- E. If identified on the Phase 2 Environmental Site Investigation, a **LBP Hazard Reduction Implementation Plan** (Scope of Work) (See Guideform, Page 1.41), must be submitted (prior to Commitment) incorporating all *Final Rule* protocol and budgeting for insurance and safe work practices, relocation, all testing procedures and utilizing an approved trained and/or Certified LBP Entity. Such LBP hazard reduction activity specified in the implementation plan must be incorporated into the construction budget and the construction timeframe and must provide adequate time for all testing and clearance activity. Additional requirements regarding liquidated damages for delays and required posting of security during the completion of LBP hazard reduction activity may be imposed by PHFA at its discretion.
- F. **PHFA Closing Documents** will require **certification** from members of the Development Team that they have undertaken or will undertake (and that they have a continuing obligation to comply with) all necessary evaluations, notices, protocol and processing in accordance with the *Final Rule* and with any other applicable Federal, State or Local law, code, ordinance or regulation governing the treatment of LBP hazards.
- G. All LBP hazard reduction activity must be conducted by qualified workers, must comply with all safe work practices and must meet all CLEARANCE CERTIFICATIONS set forth in the *Final Rule*.
 - 1. **Clearance Certification** must be provided for all LBP hazard reduction work by a qualified Lead-based Paint Inspector, Risk Assessor or Clearance Technician. Such Clearance Certification must be provided to PHFA as soon as possible after the completion of LBP hazard reduction work.
 - 2. In developments involving rehabilitation, there may be a requirement to obtain Clearance Certification after the LBP hazard reduction work is completed (prior to beginning general construction), AND again, prior to occupancy. Development Sponsors are encouraged to refer to the *Final Rule* for clarification and guidance.
- H. **A Preventative Maintenance Plan** (to be included with the management plan) must be submitted upon completion of the LBP hazard reduction work and prior to occupancy. This Preventative Maintenance Plan must:
 - 1. Be kept with the management plan on site at the property;
 - 2. Address any ongoing notice and maintenance requirements that may be required by the *Final Rule* after the LBP Clearance Certification has been issued;

3. Provide ongoing management staff with a specific floor plan identifying any remaining areas of the building which may have any LBP present after Clearance Certification; and
4. Provide guidance to the development's on-site management staff about any ongoing notice requirements for residents that may be triggered by the Application of the *Final Rule*.

PHFA LEAD-BASED PAINT HAZARD REDUCTION SURVEY

Development Name: _____ PHFA No.: _____

1. CRITERIA THAT TRIGGER COMPLIANCE WITH 24 CFR PART 35:

- 1.1 Any of the buildings comprising the development were constructed before January 1, 1978.
- 1.2 The development is a rehabilitation, adaptive re-use or renovation of a building constructed before January 1, 1978.
- 1.3 The development receives Federal subsidy each year.

2. THE DEVELOPMENT IS EXEMPT FROM COMPLIANCE WITH 24 CFR PART 35 IF:

- 2.1 The development does not fall into any of the above criteria.
- 2.2 The occupancy of the building will be limited exclusively to persons 62 years of age and older.
- 2.3 The occupancy of the building will be limited exclusively to persons with disabilities.
- 2.4 The building is for single room occupancy tenants only.
- 2.5 The building consists of efficiency apartments only.
- 2.6 The building is certified Lead-Free by a Certified Lead-based Paint Inspector (Attach a copy of the certification).

3. EXEMPTIONS FROM 24 CFR PART 35 ARE NULLIFIED IF:

- 3.1 A resident under the age of six occupies a unit. (The occupied unit and all common areas shall comply with the *Final Rule*.)
- 3.2 The occupancy of the building is changed or will be changed from occupancy by persons at 62 years of age or older to a lower age bracket, (i.e., 55+).

Signature: _____ Date: _____

Type Name: _____ Phone No.: _____

Ownership Entity: _____

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GUIDEFORM
LEAD-BASED PAINT HAZARD REDUCTION
IMPLEMENTATION PLAN

(For PHFA Funded Developments)

Development Name: _____ **PHFA No.:** _____

Development Address: _____

THIS GUIDEFORM MUST BE COMPLETED AND SUBMITTED FOR ALL DEVELOPMENTS ASSISTED WITH PHFA DEVELOPMENT FUNDS AND IMPACTED BY THE NEW LEAD-BASED PAINT HAZARD REDUCTION REQUIREMENTS (24 CFR Part 35).

Consistent with the requirements specified in *Requirements for Notification, Evaluation and Reduction of Lead-based Paint Hazards in Federally Owned Residential Property and Housing Receiving Federal Assistance* (24 CFR Part 35), the development Owner will take the following steps to ensure that current and/or future tenants, especially young children, will not be exposed to the hazards of lead-based paint in housing funded by PHFA:

1. Develop a plan for tenant notification, testing activity, remediation and clearance procedures which comply with the *Final Rule* protocol. Be sure to address the provisions for occupant protection, safe work practices and ongoing maintenance and re-evaluation. *Provide a detailed explanation of staging plan.*

2. Develop a financing plan to demonstrate how the costs of meeting all *Final Rule* protocol will be covered. Incorporate a budget line item for insurance and relocation, if applicable. You may need to engage an Environmental Consultant to assist with setting a cost estimate for the reduction work. *Provide a detailed explanation of the financing plan, including associated costs, if applicable and financing sources to cover the costs of the staging plan.*

Signature of Owner

Title

Date

INSTRUCTIONS FOR GUIDEFORM

LEAD-BASED PAINT HAZARD REDUCTION IMPLEMENTATION PLAN

Read the Guideform and these Instructions before preparing your plan.

1. **Applicability** – All Owners of developments that will be impacted by the new Lead-based Paint Hazard Reduction Requirements, 24 CFR Part 35, must prepare and adopt a Lead-based Paint Hazard Reduction Implementation Plan.
2. **Timing of Plan Submission** – Development Owners must prepare and submit the plan to PHFA prior to receiving Commitment.
3. **Development Name** – Enter the development name as stated in the PHFA Multifamily Rental Housing Loan Application.
4. **Development Address** – Enter the development address as stated in the PHFA Multifamily Rental Housing Loan Application.
5. **PHFA Number** – Enter the PHFA number assigned to the development by PHFA.
6. **Staging Plan** – Provide a detailed explanation of how the development Owner will comply with the following types of lead-based paint requirements:
 - A. Distribution of lead hazard information pamphlet.
 - B. Evaluation of lead-based paint hazards.
 - C. Hazard reduction activities including occupant protection and safe work practices.
 - D. Notice to occupants of evaluation and hazard reduction activities.
 - E. Clearance.
 - F. Ongoing monitoring and re-evaluation.
 - G. Record-keeping.

Owners must also provide a description of who they will contract with to conduct the evaluation, reduction and clearance of LBP hazards.
7. **Financing Plan** – Provide a detailed explanation of the financing plan, including associated costs (e.g., insurance, relocation) and financing sources to cover the costs of the staging plan.

SECTION 1.19

GUIDELINES FOR RADON PROTECTION

Radon is a colorless, odorless, radioactive gas which results from the natural decay of uranium, primarily in soil and bedrock. It is now felt to be a significant health hazard in many parts of the United States. In fact, the Surgeon General has warned that radon is the second leading cause of lung cancer in the United States today.

- The U.S. Environmental Protection Agency predicts that structures in most areas of Pennsylvania (49 counties) will have an indoor radon level greater than 4 picocuries per liter of air (pCi/L) which is the EPA recommended “Action Level.”
- Radon levels above the 4 pCi/L “Action Level” have been found in buildings in all Pennsylvania counties for which data exists.
- Radon rates vary widely with geographic areas, and there is no reliable method of estimating levels before a structure is built.
- It is relatively inexpensive to incorporate radon resistant construction techniques during construction but technically more difficult and costly to undertake radon reduction activities after a building is built.

1.19.1. NEW CONSTRUCTION

- A. For the above reasons, the Agency requires that radon resistant construction techniques be incorporated into all new construction. This requires the installation of a “passive” sub-slab depressurization system, vented through the roof. Architects should refer to the EPA publication, Building Radon Out EPA/402-K-01-002, for direction.
- B. Because the incidence of radon in a building cannot be determined prior to construction, sub-slab depressurization systems need not have exhaust fans installed prior to occupancy of the building. When the building is complete, radon tests must be made in every ground floor or basement apartment and community space to determine the need for installation of exhaust fans. These tests must be performed after construction completion and prior to occupancy of the development. All costs of testing are the responsibility of the Owner. Results of tests proving no hazard from radon contamination must be submitted to the Agency for approval. Contractor must, as part of the original contract work, provide a common house (non-tenant) power source in close proximity to vents for installation of fans if required. All costs associated with the purchase and installation of the fans are the responsibility of the Owner.

1.19.2. REHABILITATION DEVELOPMENTS

- A. Existing buildings proposed for rehabilitation must be tested for radon as a part of the Phase I Environmental Site Assessment process. Tests must be conducted by DEP listed testing firms. A copy of their report must be submitted to the Agency. If tests indicate radon levels

exceeding the EPA recommended “Action Level” of 4 pCi/L, Architects must incorporate radon reduction techniques in the rehabilitation plans. Architects must refer to the following EPA publications for technical guidance:

1. *Radon Reduction Methods, A Homeowners Guide* RD-681*; and
2. *Radon Reduction Techniques for Existing Detached Houses* EPA/625/R93/011* for guidance.

*These publications may be obtained from the Bureau of Radiation Protection, Department of Environmental Protection, P.O. Box 8469, Harrisburg, PA 17105-8469, (1-800-237-2366). See also www.dep.state.pa.us, by subject – *Radon Protection*.

1.19.3 **TESTING**

- A. Unless specifically stated otherwise by the Architect in the specifications, the costs for all radon testing and remediation shall be paid for by the Owner. All ground floor or basement apartments and community spaces must be tested for radon prior to occupancy and found to be below the “Action Level.” If levels are above the “Action Level,” an active mitigation system must be installed as necessary to achieve acceptable radon levels upon retesting.
- B. **Note:** While Owners may purchase and use radon testing devices, firms providing radon testing, laboratory work or mitigation services for existing buildings to be funded by PHFA must be certified by the Pennsylvania Department of Environmental Protection. Contact DEP Bureau of Radiation Protection in Harrisburg for a listing of certified firms. Evidence of this certification must be submitted to the Agency.

SECTION 1.20
HISTORIC PRESERVATION

In cooperation with the policy of the Federal Government, Federal and State laws, and Local regulations which require that all developments receiving State or Federal funds or permits having a potential to affect historic or archeological resources must be reviewed by the *State Historic Preservation Office*.

To prevent a duplication of efforts with other Commonwealth Agencies, political subdivisions, and municipal authorities, the *Pennsylvania Housing Finance Agency* is responsible for monitoring compliance with these regulations for developments that are located in Non-Participating Jurisdictions in the Commonwealth of Pennsylvania. The Sponsor of the development is responsible for acquiring from the *State Historic Preservation Office* the requisite review letter (SHPO letter) covering the historic and archeological status of their development.

Architects are advised to verify with the Sponsor if the development being undertaken falls under these requirements, whether in a Non-Participating Jurisdiction or not. The Architect is responsible for addressing historic and/or archeological issues in their design documents. Cost estimates submitted to PHFA must include costs for meeting the requirements of any historic and/or archeological issues associated with the development.

Resources:

1. National Historic Preservation Act 1966, as amended through 2000.
2. 36 CFR Part 800.
3. Title 37, the History Code.
4. Pennsylvania Municipalities Planning Code, Act of 1968, No. 247 as re-enacted and amended.
5. Mrs. Bonnie Wilkinson Mark
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Historical Architect
717-787-0772

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SECTION 1.21
SOUND LAND USE

PHFA relies upon Local Comprehensive Plans and Zoning Ordinances in the implementation of its program. Developments must comply with and be approved by Local Authorities governing these land use requirements.

The *Governor's Executive Order 1999-1* and the Governor's Executive Order 2003-2 (Agricultural Land Preservation Policy) establishes statewide policy for sound land use and development. PHFA is committed to this statewide policy and encourages Developers to comply with the policy. Sound land use may include but is not limited to efforts to preserve farmland, minimize urban sprawl, alleviate traffic congestion, reduce environmental degradation, and contribute to more efficient long-term economic growth while preserving Pennsylvania's historical, cultural and education resources.

PHFA encourages the use of the "Standards for Residential Site Development" developed by the Pennsylvania Housing Research Center, wherever possible. These standards are available for downloading at www.engr.psu.edu/phrc.

The following land use related approvals are required to be in place prior to PHFA Commitment of Funds. Architects must coordinate procurement of these documents and approvals with the Sponsor:

1. Final Zoning approval.
2. Final Subdivision Plan approval.
3. Final Land Use Plan approval.
4. Utility capacity and availability letters.
5. Flood Maps.
6. Market Study.
7. *State Historic Preservation Office* review letter.

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SECTION 1.22
ENVIRONMENTAL SITE ASSESSMENT GUIDELINES

1.22.1. GENERAL

Every development site is required to undergo an Environmental Site Assessment to determine if the site is negatively impacted by environmental factors. *ASTM Standards of Practice for Environmental Site Assessments* shall be followed. Preservation and rehabilitation developments shall have tests made for asbestos-containing materials, lead-based paint, radon and lead in the water (See the Multifamily Tax Credit/Loan Application for specific test requirements). The Sponsor is responsible for procuring the assessment, and the Architect and Site Engineer are responsible for implementing the recommendations of the assessment as they pertain to the construction and site development. Assessments will be reviewed in terms of procedures used and findings made. Each study must receive PHFA approval prior to Commitment. The following procedures, consisting of a phased approach to accomplishing the needed Environmental Site Assessment, are suggested as a method of addressing PHFA's concerns. If a Phase II Assessment is warranted, it shall be stated in the report including a cost estimate for the report and any anticipated testing needed.

The American Society for Testing and Materials (ASTM) has set standards to establish the "Innocent Purchaser Defense" or the "Innocent Landowner Defense" for environmental liabilities through the preparation of a Phase I Environmental Site Assessment (ESA) report.

On November 1, 2006, the "All Appropriate Inquiry" (AAI) rule took effect for Phase I ESAs. All Phase I ESAs performed after this date need to satisfy the AAI standard in order to qualify the user of the Phase I ESA for certain defenses and protections under Federal law.

Prior to the AAI rule, the commonly recognized industry standard was the ASTM E1527-00 Phase I ESA process. ASTM issued the ASTM 1527-05 to conform to the AAI rule and it is the standard that all Phase I ESAs performed and submitted to PHFA after November 1, 2006, must follow.

While there are a number of changes that came with the new ASTM 1527-05 standard, the most noteworthy are:

- 1) New investigation requirements (mandatory interview with current and past owners, managers, employees, and occupants),
- 2) New definition of an "Environmental Professional" (detailed in 1.22.5),
- 3) New documentation requirements, and
- 4) Purchaser responsibilities.

When working with your environmental consultant that will be performing your required Phase I ESA, make sure that they are following the new ASTM 1527-05 standard, as well as the requirements listed below.

Guidance from the ASTM Manual on *Technical Aspects of Phase I/II Environmental Site Assessments* (ESA) states that, “Considering the nature of potentially rapid change in the conditions of the subject property, the shelf life of a report could be perceived as extremely short. The Phase I ESA report could literally be considered obsolete by the time it is written. Recognizing the problem, the standard establishes some ground rules for the continued viability of the Phase I ESAs. Broadly speaking, Phase I ESAs are considered valid for six months (180 days).

If the ESA is more than 12 months old at the time of Feasibility Approval, the Owner, who is relying on the ESA, must do one of the following:

- A. Take the responsibility that there have not been any changes on the site that affect environmental regulations and compliance and asset-based liability for this development; or
- B. Have the property re-evaluated by an Environmental Consultant and have the Phase I Environmental Site Assessment updated, including an updated database search.

The Owners must indicate in writing to the Agency which option they intend to follow. However, the Agency reserves the right to require an Owner to have their Phase I ESA updated, rather than allowing them the above mentioned option, if it is deemed necessary.

1.22.2. **PHASE I – ENVIRONMENTAL SITE ASSESSMENTS**

A Phase I Environmental Site Assessment must be performed prior to the submission of the loan/tax credit application to determine the presence or likely presence of hazardous substances, petroleum products, or hazardous building/construction materials on a site or located off the site under conditions which may pose a risk to the site. Only the Executive Summary is required to be submitted in the loan application. If Feasibility Approval is granted, the full ESA must be submitted within three month after the approval. However, if the Phase I recommends further testing or remediation, the cost of these items should be included with the Executive Summary in the loan application.

The following are typical elements of a Phase I Environmental Site Assessment:

- A. **Documentation Review** – Each site must be identified on a *U.S. Geological Survey (USGS) 7.5 Minute Topographic Map*. A site plan must also be provided.

A review of documents relating to former ownerships and former uses will identify activities which may have resulted in contamination and may provide clues for the site assessment. A number of sources (both current and historical) can provide information on ownership, site activities, and soil/geologic conditions which could enhance the transmission of hazardous substances. These sources include, but are not limited to:

1. County Recorder of Deeds records.
2. Geological Survey Topographic Mapping.
3. Municipal Building Maps.
4. Fire Insurance Maps.
5. City Atlas and Street Directories.
6. County/Municipal Land Use Mapping, Zoning/Land Use Records and Building Department Records.
7. Municipal Business License and Permit Records.
8. U.S. Department of Agriculture, County Soil Surveys.
9. PA Bureau of Topographic and Geologic Survey-General and County Geology Reports.
10. Aerial Photography (current and historic).
11. Well or Boring Logs.

B. Site Inspection – A Physical Inspection, following ASTM procedures, of the site must be conducted. The site inspection must establish the existing use of the property and adjoining properties as well as possible prior uses. It should focus on the visual and physical determination of site conditions and the existence or likely existence of hazardous substances or conditions including substances, which might migrate to the site, including but not limited to the following ASTM 1527-05 non-scope items:

1. Asbestos or asbestos-containing materials. See www.dep.state.pa.us, Keyword “asbestos”.
2. Lead or lead-based paint www.hud.gov/offices/lead.
3. Lead in water.
4. UREA-Formaldehyde foam insulation.
5. Storage tanks, lines, fill pipes or vent pipes (above or underground).
6. Radon gas (in existing buildings).
7. Petroleum products.
8. Presence of solid or liquid wastes including oil, Polychlorinated Biphenyl's or other toxic wastes in existing buildings or in soil or ground water.
9. Electrical transformers.
10. Above-ground chemical storage/products.
11. Unidentified substance containers.
12. Soil/geologic conditions which create an environmental concern.
13. Odors, stains, corrosion, stressed vegetation or pools of liquid.
14. Electromagnetic fields.
15. PCB's found in old fluorescent light fixtures.
16. UST's (underground storage tanks) and/or AST's (above-ground storage tanks).

17. Agricultural chemicals.
18. Wetlands.

- C. Interviews with Site Personnel and/or Residents** – Owners, Managers, Employees, and former Employees of existing commercial or industrial properties must be questioned about materials and processes used, where activities took place and how wastes were disposed. Employees may also have knowledge concerning the location of site features such as underground storage tanks, wells, dumps, etc. The name, title, and length of service of interviewed employees should be recorded. Persons living on or near a site can frequently provide information about activities that took place on the property. Long-term residents can help fill gaps in site documentation.
- D. Regulatory Review** – A number of Governmental Agencies have environmental functions involving registration, regulation and cleanup activities. The record databases of these agencies should be reviewed as appropriate to determine if the site under study or a nearby site is included on a database, the nature of the listing, the distance from the site and the possible impact on the site.

1. Federal Database Records

- a. National Priorities List.
- b. Comprehensive Environmental Cleanup Liability Information System (CERCLIS).
- c. Open Dump Report/Inventory.
- d. Civil Enforcement Docket.
- e. Resource Conservation and Recovery Information System (RCRIS) – Large and Small Quantity, Generators and Treatment, Storage or Disposal (TSD) Facilities.
- f. Emergency Response Notification System (ERNS).
- g. EPA Facility Index System (FINDS) list.

2. State Database Records

- a. State Priority List.
- b. State Hazardous Waste Sites.
- c. Solid Waste Facilities/Landfills.
- d. Underground Storage Tanks (UST).
- e. Leaking Underground Storage Tanks (LUST).

These Governmental records may be reviewed directly or by utilizing a commercial service which provides access to them.

E. Conclusions and Recommendations – A summary of findings, conclusions and any recommendations must be provided. At a minimum, the following should be included:

1. Listing of all findings and environmental conditions.
2. Assessor's opinion regarding the significance or impact of the conditions.
3. Any recommendations for further investigation, analysis or remedial action, with an estimate of the costs.
4. Recommendation for a Phase II Environmental Site Assessment, if necessary, with an estimate of its cost.
5. **A cost estimate for any recommended remediation.**

If the Phase I Environmental Site Assessment reveals no reason to expect the presence of contamination, the assessment process will conclude. The Owner will be required to properly remediate any minor conditions disclosed during the Phase I Environmental Site Assessment. If additional contamination is detected during construction, it must be evaluated and remediated.

If a Phase I Environmental Site Assessment indicates possible contamination or the need for further investigation, on-site sampling of air, water, soil, and building materials and laboratory analysis may be required, followed by a plan for remediation of any confirmed hazard.

1.22.3. PHASE II – ENVIRONMENTAL SITE ASSESSMENT

If the Phase I Environmental Site Assessment confirms the existence or likelihood of hazardous substances or conditions, it may conclude that further study is needed. If extensive on-site sampling and laboratory analysis is needed, this may involve Phase II activities. (Alternately, the Phase I Environmental Site Assessment may recommend a quantification of hazardous substances and/or conditions and preparation of a Plan for Remedial Design and Implementation. These various elements may be done separately or combined into one process/report.)

Phase II Environmental Site Assessment activities involve in-depth investigation and analysis of air, water, soil or building materials either on-site or in a laboratory. If Phase II activities confirm the presence of hazardous materials, a plan for remedial design and implementation is required.

1.22.4. PLAN FOR REMEDIAL DESIGN AND IMPLEMENTATION

If hazardous substances or conditions are found to be present following the completion of the Environmental Site Assessment (Phase I or Phase II), a plan for remedial design implementation is required. The following must be included:

- A.** Quantification of hazardous materials and/or conditions.
- B.** Remedial procedures to be undertaken.
- C.** Estimated cost of remedial work and source of funding.

- D. Identification of the firm or firms which will perform the work.
- E. Time schedule for completion of the work.

1.22.5. REQUIRED QUALIFICATIONS

Phase I Environmental Site Assessments must be performed and attested by qualified environmental professionals. The following are qualifications of an environmental professional (EP):

- A. The EP must:
 - 1. Hold a current P.E. or P.G. license and have the equivalent of 3 years of full-time relevant experience, or
 - 2. Hold a current registration from a state, tribe, U.S. territory or Puerto Rico and have the equivalent of 3 years of experience, or
 - 3. Be licensed or certified by the Federal government, state, tribe, U.S. territory, or Puerto Rico to perform environmental inquiries and have the relevant 3 years of full-time experience.
- B. A person who does not hold a relevant license or certificate may qualify as an EP if he/she has a Baccalaureate or higher degree from an accredited institution of higher education in a discipline of engineering or science and have the equivalent of 5 years of full-time relevant experience.
- C. A person who does not have a relevant license or degree and does not hold a university degree in a discipline of engineering or science can qualify as an EP if he/she has the equivalent of 10 years of full-time relevant experience.
- D. ASTM 1527-05 states that the site assessment must be performed by the EP or *conducted under the supervision or responsible charge* of the EP. However, in the Federal Register for the final AAI rule, EPA recommends, but does not require, that the onsite visual inspection be conducted by an individual who meets the definition of an EP.

Firms undertaking Phase II Environmental Site Assessments, Quantification of Hazardous Substances and/or Conditions or Plans for Remedial Design and Implementation should meet the requirements for Phase I work, as well as the following:

- A. Guidance and standards developed by American Society of Civil Engineers.
- B. Meet all Federal and State licensing and certification requirements for sampling and identification of each of the suspected toxic materials (i.e., radon, asbestos-containing materials, lead-based paint).
- C. Analysis must be done in laboratories certified by Federal and State Governments (wherever applicable) to analyze each specific material.

- D. Persons undertaking the work must be professionally trained in an appropriate discipline (i.e., geology, hydrology, chemistry, hydrogeology, geophysics, geochemistry) with a minimum of three (3) years' experience with similar developments.

1.22.6. **ENVIRONMENTAL REMEDIATION MONITORING PROGRAM**

If a Phase I ESA, Phase II ESA, or any additional environmental testing report finds any environmental issue(s) that needs to be corrected through remediation, this remediation monitoring program must be followed.

- A. PHFA's Environmental/Site Specialist will notify all interested parties that an environmental issue(s) exists and that remediation is required. These interested parties may include the Owner, the Architect, the General Contractor, and other Divisions of PHFA.
- B. The Environmental/Site Specialist will coordinate with all parties to make sure that either he or the Technical Services Representative assigned to the project is present on-site at least once during the environmental remediation work to verify that the required work is being performed.
- C. An Environmental Closure or Final Clean-Up Report must be submitted to the Agency showing that any and all environmental issue(s) have been remediated in the proper manner and that the site is environmentally "clean". This report will be performed by an entity certified in the environmental issue(s) in which the remediation took place. The findings of this report will be verified on-site to the best of their ability by either the Environmental/Site Specialist or the Technical Services Representative assigned to the project.

Resources:

1. ***Technical Aspects of Phase I/II Environmental Site Assessments*** ASTM Manual, by Zdenek Hejzlar.
2. ***Environmental Site Investigation Guidance Manual***, American Society of Civil Engineers.
3. ***Questions Regarding Acceptable Distances from Hazardous Facilities*** – <http://www.hud.gov/offices/cpd/energyenviron/environment/resources/guidebooks/hazfacilities/index.cfm>
4. ***Questions Regarding Wetlands*** – <http://wetlandsfws.er.usgs.gov/>
5. ***Questions Regarding Floodplains*** – <http://fema.gov/>

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SECTION 1.23
KITCHEN CABINET MINIMUM STANDARDS

For General Occupancy Developments:

1. Kitchen cabinets must meet or exceed *ANSI/KCMA A161.1* Standards, and must also meet HUD's Extreme/Severe Use Criteria.
2. Metal cabinets are not permitted.
3. Low pressure vinyl and low pressure laminate finishes are not permitted.
4. A catalog cut (or sample upon request) must be submitted to PHFA for approval.
5. All cabinet face frames must be $\frac{3}{4}$ " minimum thick, kiln dried, solid hardwood. All joints must be mortised and tenoned. All gluing and stapling to be done under pressure. No butt joint face frames will be accepted. Stiles to be $1\text{-}\frac{1}{4}$ " wide. Mulls 3 " wide. Rails $1\text{-}\frac{3}{4}$ " wide. Stiles and top and bottom rails dadoed to receive ends, bottoms, and tops.
6. All base cabinets must have nominal $\frac{1}{2}$ " thick exterior hardwood bottoms let into end panels, front rails and installation cleats supported by $\frac{3}{4}$ " thick pressure treated solid lumber braces 24 " o.c. running front to rear of cabinet. All wall cabinet bottoms to be $\frac{1}{2}$ " thick exterior hardwood plywood let into dadoes in ends, installation cleats, and front frames, glued and stapled under pressure.
7. End panels to be $\frac{1}{2}$ " thick, 5-ply exterior hardwood plywood, dadoed a minimum of $\frac{1}{4}$ " deep to receive shelves, bottoms and tops. Ends let into dado in face frame. Base cabinet end panels stop $3\text{-}\frac{1}{2}$ " above floor and are to be supported by $\frac{3}{4}$ " x $3\text{-}\frac{1}{2}$ " solid lumber member. All end panels either fully or partially exposed to have factory finished surface.
8. Backs of cabinets to be $\frac{1}{4}$ " thick 2-2 grade exterior hardwood plywood. Securely glued and stapled under pressure to ends, $3\text{-}\frac{1}{2}$ " cleats and shelves.
9. All drawers shall be same material as doors. Sides and backs to be minimum $\frac{11}{16}$ " thick "C" grade solid lumber with sides dovetailed into fronts. Backs to be dadoed into sides. Drawer bottoms to be minimum $\frac{1}{4}$ " hardwood exterior plywood let into fronts, sides, and back. All drawer parts must be glued and stapled together under pressure. All drawers to be mounted on a pair of 100 lb. capacity side mounted metal guides that have built-in stops, self-closing and stay-closed features. Cabinet member of guides attached at rear $\frac{3}{4}$ " solid lumber hanging rail.
10. Doors and drawer fronts must be solid hardwood or plywood. Profile may be either "panel-in-frame" or flush panel.
11. Finish of all exposed surfaces to be factory applied consisting of stain, sealer and top coats, lightly sanded between applications. Sealer and top coats to be oven dried. All interior cabinet surfaces must have a smooth finish. Wood species and stain color to be selected from full range available.
12. Shelves must be $\frac{1}{2}$ " thick exterior grade hardwood plywood with wood banded front edge let into dadoes of end panels and braced behind mulls. Intermediate shelf supports must be provided for any cabinet exceeding 24 " in width.

13. Heavy duty, self-closing, corrosion resistant semi-concealed wrap-around hinges are required.
14. All (matching) trim, filler strips, etc., required for a finished installation must be included.
15. Installation cleats must be a minimum of $\frac{3}{4}$ " x 3- $\frac{1}{2}$ ", S4S, "C" grade, kiln dried solid lumber running full length of wall cabinets at top and bottom. Base cabinets to have a 7- $\frac{1}{4}$ " cleat at the top and 3 $\frac{1}{2}$ " cleat at the bottom.
16. Toe kicks must be a minimum of $\frac{3}{4}$ " solid lumber and must be manufactured of moisture resistant material. Toe kicks to be painted (factory or field) in color selected by Architect.
17. Countertops must have continuous backsplashes at the rear and all ends, and must be scribed and fit to adjacent wall(s) surface(s), with remaining gap slicked-in with fine bead of silicone caulk to match counter or protective wall backsplash color. **The substrate for all countertops shall be constructed of industrial grade, high density (48 lb. minimum) particleboard.**
18. Loop or lever type hardware must be provided for all elderly and accessible units. All other units may have knob type hardware or door and drawer designs that do not require hardware at the Owners option.
19. Installation must be in accordance with the manufacturer's recommendations. It is a requirement that all wall cabinets be mounted directly to structural framing otherwise solid wood blocking in wall behind cabinets is required. Wall cabinets to be mounted using appropriate fasteners thru the top and bottom hanging rails and spaced no farther apart than the framing members of the wall on which they are being mounted.
20. Wall cabinets that have their top edge mounted against a ceiling or bulkhead shall have those top edges scribed to fit tight against that surface, or shall have a finished piece of wood molding matching cabinet finish provided at that same intersection. Scribe fit installations should have remaining gap slicked-in with fine bead of paintable latex caulk.

A list of manufacturers that produce cabinetry in compliance with HUD's Severe Use Standard can be found at www.kcma.org/hud_dir.htm.

For Elderly Occupancies:

1. Kitchen cabinets must meet or exceed ANSI/NKCA 161.1 Standards.
2. Metal cabinets are not permitted.
3. Exterior cabinet finishes must be wood veneer. Low pressure (vinyl wrap and laminate) exterior cabinet finishes are not permitted.
4. A catalog cut (or sample upon request) must be submitted to PHFA for approval.
5. All cabinet fronts must be $\frac{3}{4}$ " minimum hardwood or 48 lb. particleboard. All joints must be mortised and tenoned. No butt joint face frames will be accepted.

6. Doors and drawer fronts must be hardwood or 48 lb. particleboard with plastic laminate on both sides and all edges.
7. Exposed ends of cabinets must be ½” finished plywood or particleboard to match the fronts of the cabinets. Unexposed ends must be ½” plywood or high density particleboard.
8. All interior surfaces must have a smooth finish. Particleboard shelf edges must be vinyl banded or nosed with hardwood.
9. Shelves must be a minimum of ½” thick. Intermediate shelf supports must be provided for any cabinet exceeding 24” in width. Bottoms may be less than ½” thick only if they are supported every 12 inches maximum.
10. Where particleboard is used, it must be 48 lb. minimum density.
11. Metal, wood, or plastic corner bracing must be provided on all cabinets.
12. Self-closing hinges are required.
13. All (matching) trim required for a finished installation must be included.
14. Installation strips must be a minimum of 1” x 2” (nominal).
15. Toe kicks must be a minimum of ½” wood or ¾” particleboard and must be manufactured of moisture resistant material.
16. Countertops must have continuous backsplashes at the rear and all ends, and must be scribed and fit to adjacent wall(s) surface(s), with remaining gap slicked-in with fine bead of silicone caulk to match counter or protective wall backsplash color. The substrate for all countertops shall be constructed of industrial grade, high density (48 lb. minimum) particleboard.
17. Loop or lever type hardware must be provided for all handicapped accessible units.
18. Installation must be in accordance with the manufacturer’s recommendations.
19. Drawers must be capable of carrying a 75-pound load when open and pass a 50,000-cycle test.
20. For purposes of this Standard, Three-Ply MDF Core Construction and Three-Ply Particleboard Construction panels will be considered as “Particleboard” in lieu of “Plywood”.

Any exceptions to these specifications must be brought to the attention of the PHFA’s Review Architect in writing on a PHFA Waiver Form. PHFA will have final approval of any deviation from this standard.

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SECTION 1.24

WARRANTY, GUARANTEE AND MANUAL REQUIREMENTS

The Design Architect must include all applicable warranties and guarantees from, but not limited to, the list below. The following paragraph must be inserted into the Contract Specifications:

“Prior to the issuance of the Agency’s final certificate of occupancy, the General Contractor shall submit copies of all specified warranties and guarantees to the Agency. In addition, copies of all warranties and guarantees, bonds, and operating and maintenance manuals (for all materials, equipment, fixtures and appliances) shall be furnished to the Owner.”

List of Required Warranties and Guarantees:

1. **General Contractor** – One (1)-year guarantee for all labor and materials for the entire project.
2. **HVAC Contractor** – One (1)-year guarantee for all labor and materials and manufacturer’s standard guarantees for equipment within the scope of this contract.
3. **Plumbing Contractor** – One (1)-year guarantee for all labor and materials, and manufacturer’s standard guarantees for all fixtures within the scope of this contract.
4. **Electrical Contractor** – One (1)-year guarantee for all labor and materials, and manufacturer’s standard guarantees for all equipment and fixtures within the scope of this contract.
5. **Soil Poisoning** – Contractor’s five (5)-year guarantee.
6. **Paving** – Two (2)-year guarantee minimum for sub-grade preparation, sub-base preparation, sub-base binder and wearing courses. (May be two or three separate 2-year guarantees each if portions of the work are done by separate Contractors.)
7. **Landscaping** – Guarantee for two (2) years’ (minimum) for labor and materials.
8. **Playground Equipment and Outdoor Furnishings** – Manufacturer’s standard guarantee for one (1)-year minimum.
9. **Roofing:**
 - A. ***Built-up, EPDM and Modified*** – Twenty (20)-year bond, or ten (10)-year guarantee labor and materials. (A ten (10)-year roof inspection and service contract is recommended.)
 - B. ***Shingle*** – Manufacturer’s twenty (20)-year (minimum) warranty for materials and Contractor’s one (1)-year guarantee for labor.

10. **Wood and Hardboard Siding** – Manufacturer’s standard guarantee, twenty (20)-year minimum.
11. **Stucco Systems, EIFS and other Cementitious Exterior Finishes** – Ten (10) year minimum.
12. **Waterproofing and Sealant Applications** – Contractor’s two (2)-year guarantee minimum.
12. **Windows and Doors** – Manufacturer’s standard guarantee, one (1)-year minimum.
13. **Carpeting** – Manufacturer’s standard material guarantee, plus one (1)-year minimum against faulty installation practice.
14. **Major Appliances** – Range, range hood, refrigerator, disposal, washer and dryer, thru-wall A.C. units, dishwashers, etc. – Manufacturer’s standard guarantees, one (1)-year minimum.
15. **Kitchen Cabinets** – Manufacturer’s standard guarantee, one (1)-year minimum and proof of conformance to NKCA Standards and HUD Severe/Extreme Use Criteria.
16. **Trash Compactor and Chute** – Manufacturer’s standard guarantee, one (1)-year minimum.
17. **Elevators** – Manufacturer’s standard guarantee for labor and materials for one (1)-year minimum. A service contract is required.
18. **Architectural Specialties** – Varies with each project.
19. **Compressors** – Air conditioner and heat pump compressors shall be warranted for five (5) years.