

Delaware State Housing Authority Low Income Housing Tax Credit Design and Construction / Rehabilitation Standards

The Delaware State Housing Authority (DSHA) developed the Design and Construction / Rehabilitation Standards to enhance consistency in the design approval process, promote the use of durable materials to reduce long-term maintenance costs, create a healthy living environment for residents, enhance energy efficiency and climate resiliency, reduce operating costs and provide utility savings for residents, and balance quality materials with costs for developments utilizing the LIHTC program and/or developments financed by DSHA.

All drawings, plans and specifications, and scopes of work must comply with the latest building codes as adopted by the local county and/or municipality, applicable Delaware and National codes, DSHA's Design and Construction/Rehabilitation Standards, and/or the rules, ordinances, and laws of all legal entities and authorities with jurisdiction over the development and the construction and/or alteration of the development whether or not such requirements are specifically addressed in the plans and specifications or by DSHA's review. Installation of materials, equipment, products, and building systems are to be per the manufacturer's requirements, specifications, and recommendations. Items that have exceeded their life expectancy must be replaced (see the Capital Needs Assessment Policy for additional details).

DSHA specifically relies on the representations contained in the documents provided by the Developer, Borrower, and their respective professionals, including, but not limited to, their architects, contractors, engineers, surveyors, and attorneys (collectively "Developer").

Standards, Codes, and Regulations

The following standards, codes, and regulations, along with all amendments, shall provide the technical requirements of the development's design and construction. The architectural team shall review all state and federal design requirements and/or building codes for their proposed development to determine which standard(s) shall apply to their project.

NOTE: Some statutory and regulatory provisions overlap others. Where there is a conflict, the most stringent provision applies, including any state or local laws, regulations, and/or codes which may be more stringent than federal requirements.

A. Local Building Codes

DSHA requires that all permits specify which code they have been approved under. Please confirm the applicable code with the jurisdiction of authority over the project. DSHA requires the permitting process to specify which code the plans and/or specifications were approved under.

B. Americans with Disabilities Act of 1990 – 28 CFR 35 for Title II, The Fair Housing Act – 24 CFR Part 100

The Americans with Disabilities Act (ADA) was passed in July 1990 and became effective on July 26, 1992. Per ADA legislation, all developments are required by law to meet the handicap-accessibility standards as outlined in the Act. Failure to design and construct certain public accommodations to include features of accessible design will be regarded as unlawful discrimination. Title III deals with non-discrimination on the basis of disability by public accommodations and in commercial facilities. Public accommodations include all new construction effective January 26, 1993 and impact any rental office, model unit, public bathroom, building entrances, or any other public or common-use area. Existing public accommodations must be retrofitted or altered beginning

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January 26, 1992, unless a financial or administrative burden exists. The ADA guidelines do not impact residential units since these are covered under Fair Housing and Section 504 laws.

Please refer to the following links for additional details:

<http://www.ADA.gov> and <http://www.usdoj.gov/crt/housing/titl8.htm>

C. Architectural Accessibility Act (AAA)

Per Delaware Code, Chapter 73, Title 29: All construction shall enable handicapped members of society to make use of public facilities with maximum safety and independence by providing for the implementation of standards or the elimination of architectural barriers.

D. Architectural Accessibility Board (AAB)

Per Delaware Code, Chapter 73, Title 29, §7306:

The Architectural Accessibility Board (Board) shall have the following duties and responsibilities: Promulgate rules and regulations which shall contain standards for the design and construction of facilities covered by this chapter to ensure such facilities covered by this chapter are safely accessible to and usable by handicapped persons. Such standards shall be adopted by a majority vote of the Board following public hearings and shall take into account the requirements and standards recommended by the American National Standards Institute (ANSI), the Building Code Officials and Code Administrators (BOCA), and any amendments thereto, and standards and requirements set out in applicable guidelines of the federal government; provided, that until such time as the regulations containing standards as required by this paragraph are formally adopted by the Board, the standards contained in subsections (1) through (n) of subchapter 6917 {repealed} of this title shall remain in force and effect and shall be applied by the Board.

E. Architectural Accessibility Standards

The purpose of the document is to implement Delaware Code, Chapter 73, Title 29, §7306 (a)(1) and (a)(2) of the Architectural Accessibility Act (Act), which requires the Architectural Accessibility Board to promulgate rules and regulations which shall contain standards for the design and construction of facilities covered by the Act to ensure that such facilities are safely accessible to and usable by handicapped persons.

All projects are required by law to meet the handicap-accessibility standards as outlined in the Delaware State Accessibility Standards. The design and construction guidelines are enforced by state and/or local building code officials. All LIHTC developments and/or developments financed by DSHA must be approved by the AAB prior to construction closing. Compliance with these guidelines is mandatory in order to receive a Certificate of Occupancy for the proposed development.

F. Architectural Barriers Act (ABA) of 1968 – 24 CFR 40, Major Provisions

The Architectural Barriers Act (ABA) provides that residential structures that are (1) constructed or altered by or on behalf of the United States; (2) leased in whole or in part by the United States after August 12, 1968, if constructed or altered in accordance with plans or specifications of the United States; or (3) financed in whole or in part by a grant or loan made by the United States after August 12, 1968 shall be constructed to ensure that persons with physical disabilities have access to and use of these structures. Buildings constructed with Federal funds are subject to the ABA (See also Accessibility Standards for Design, Construction, and Alterations of Publicly-Owned Residential Structures (24 CFR Subchapter 40.4)). All residential structures designed, constructed, or altered that are covered by the ABA must comply with the accessibility requirements of the Uniform Federal Accessibility Standards (UFAS). Please note: Because UFAS does not fully address accessibility of units for persons with impaired hearing, for the 2% units that are required to be accessible for persons with hearing impairments, it is recommended that PHAs follow the 2003 edition of ICC/ANSI A117.1 Standard for Accessible and Usable Buildings and Facilities.

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G. Fair Housing Amendments Act

All developments are required by law to meet the handicap-accessibility standards outlined in the Fair Housing Laws, including the Federal Fair Housing Amendments Act of 1988. The law provides that failure to design and construct certain residential dwelling units to include certain features of accessible design will be regarded as unlawful discrimination.

H. Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disability Act of 1990 (ADA), Section 504/24 CFR 8, Major Provisions

Section 504 of the Rehabilitation Act of 1973 states:

No otherwise qualified individual with a disability in the United States shall solely by reason of her or his disability be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program, service or activity receiving federal financial assistance or under any program or activity conducted by any Executive agency or by the United States Postal Service (29 U.S.C. 794).

This prohibits discrimination on the basis of disability in any program or activity that receives financial assistance from any federal agency including the U.S. Department of Housing and Urban Development (HUD), as well as in programs conducted by federal agencies including HUD.

I. Uniform Federal Accessibility Standards (UFAS)

This document sets standards for facility accessibility by physically-handicapped persons for federal and federally-funded facilities. These standards are to be applied during the design, construction, and alteration of buildings and facilities to the extent required by the Architectural Barriers Act of 1968, as amended.

The State of Delaware has not elected to adopt UFAS as the State's standard. It has elected to utilize the ICC/ANSI A117.1-2009 as adopted. Refer to the following link: <https://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-aba-standards/ufas>

J. Universal Design

Universal Design is a design concept that encourages the construction or rehabilitation of housing and elements of the living environment in a manner that makes them usable by all people, regardless of ability, without the need for adaptation or specialized design. The intent of Universal Design is to simplify life for everyone by making products and the building environment more usable to as many people as possible at little or no extra cost. Universal Design should strive for social integration and avoidance of discrimination, stigma, and dependence. By designing housing that is accessible to all, there will be an increase in the availability of affordable housing for all, regardless of age or ability.

Refer to the following link:

http://www.ncsu.edu/www/ncsu/design/sod5/cud/about_ud/udprinciples.htm

NOTE: Universal Design concepts do not typically reach all the requirements of accessibility laws like Section 504 and the Fair Housing Act. Care must be taken to ensure that the requirements of all applicable laws are met in projects promoting Universal Design.

K. Visitability Concept

Visitability is a design concept that enhances the ability of persons with disabilities to interact with their neighbors, friends, and associates in the community for very little or no additional cost to the development. It is recommended that all design, construction, and alterations incorporate the concept of Visitability whenever practical and economical, in addition to the requirements under Section 504, the Architectural Barriers Act, Title II of the Americans with Disabilities Act, and the Fair Housing Act. Refer to the following link <https://www.huduser.gov/portal/publications/pubasst/strategies.html>

General Standards

All LIHTC developments, tax-exempt bond-financed developments, or developments utilizing DSHA-deferred financing and/or DSHA amortized permanent financing must adhere to DSHA's Design and Construction/Rehabilitation Standards regardless of other financing source(s) utilized. All units in a development must receive the same upgrades, modifications, and/or rehab work and be brought up to the same standards. DSHA's agreement to proceed with closing on a loan or other transaction shall not constitute in any manner whatsoever a final approval of the construction/rehabilitation of a development. In cases of conflicts between any design and/or contract documents, the more restrictive or expensive requirements will apply.

For 4% tax-exempt bond resyndications, DSHA will allow consideration for any rehabilitation work or upgrades that have been completed in the last three years. Applicants must submit an accounting of all work including scope of work, material specifications, location of installation, and date of installation as part of the pre-application inspection request. DSHA will review for condition of work and compliance with minimum construction standards to determine if this work can be excluded from the application scope of work. Under no circumstances will painting or electrical fixtures (inclusive of outlets) be considered for exclusion from the scope of work.

A. Minimum Square Footage for Bedroom Sizes

DSHA has established minimum gross square footage requirements for new construction and conversion developments, including the conversion of non-residential space to residential use, based on bedroom size. **The square footage of units may not be averaged to meet minimum square footage requirements.**

Units (by Bedrooms)	Minimum Gross Square Footage ¹
Efficiencies, including Lofts*	500 square feet
Single Room Occupancies (SRO)*	100 square feet
One Bedroom	700 square feet
Two Bedrooms	850 square feet
Three Bedrooms	1,050 square feet
Four Bedrooms	1,300 square feet
<i>* See note for City of Wilmington projects below</i>	

To qualify as a bedroom, the space must have adequate light, ventilation, and egress to meet all applicable building codes and ordinances. There must be at least one window in each sleeping room, at least two electrical outlets in proper operating condition, one door that meets all egress requirements, and/or meets minimum requirements of the applicable building code. Square footage for bedrooms shall be determined by all applicable building codes and ordinances.

¹ The minimum gross square footage is measured from the face of the exterior sheathing to the center line of the party wall (exclusive of storage and common areas). Storage and common areas are defined as areas contiguous to units, but not part of the units' living area, such as attached storage sheds, storage rooms, stairs and halls in common areas.

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NOTE: For City of Wilmington applications, DSHA will follow the City of Wilmington definition of SRO / Efficiency as adopted in the Code of Ordinances. An efficiency living unit shall conform to the requirements as follows:

1. Every dwelling unit shall contain at least 150 square feet of floor space for the first occupant thereof, regardless of age, the floor space to be calculated on the basis of total habitable room area, exclusive of stairways;
2. In every dwelling unit of two or more rooms, every room occupied for sleeping purposes by one occupant shall contain at least 70 square feet of floor space, and every room occupied for sleeping purposes by more than one occupant shall contain at least 50 square feet of floor space for each occupant thereof;
3. The unit shall be provided with a separate closet;
4. The unit shall be provided with a kitchen sink, cooking appliance, and refrigeration facilities, each having a clear working space of not less than 30 inches (762 mm) in front. Light and ventilation conforming to this code shall be provided; and
5. The unit shall be provided with a separate bathroom containing a water closet, lavatory and bathtub or shower.

B. Energy

A residential guide/manual shall be provided to residents that explains the intent, benefits, use, and maintenance of their unit features and practices. All Energy Conservation Measures (i.e. Enterprise Green Communities, National Green Building Standards, and/or LEED for Homes Multifamily) that were chosen at application must also be met, including energy audit consultation.

C. Environmental Site Assessment

If the Phase I Environmental Site Assessment indicates environmental issues are present, the property shall submit a clear, detailed remediation plan prior to construction closing. Environmental issues include, but are not necessarily limited to, lead, asbestos, radon, and/or contaminated soils. The detailed remediation plan shall include a quantification of hazardous materials and or conditions, remedial procedures to be undertaken, estimated cost of remedial work and source of funding, identification of the firm(s) which will perform the work, and a schedule for completion of the work. All costs associated with the clean-up shall be fully detailed and estimated by a qualified environmental firm and will be submitted to all parties for review. In addition, where there are any environmental remediation costs identified in the Environmental Site Assessment, Environmental Audit, Capital Needs Assessment, or other application document and such costs were not included in the projected environmental cost line items, any additional costs to remediate the environmental items shall be paid from the developer fee and will not be allowed from contingency. All remediation plans shall be completed by a Certified Asbestos Professional Service provider as listed at the following site: <https://data.delaware.gov/Licenses-and-Certifications/Certified-Asbestos-Vendors/f677-ahd9/data>.

D. Architect Certification Standards and Requirements

1. The Architect, Engineer(s), Surveyor and any other consultants to the Architect must be registered in Delaware and maintain registration in Delaware until project conversion. All consultants (**no exceptions**) must have a contractual relationship to the Architect through an AIA consultant agreement.
2. All documents/specifications shall be prepared by, or under the direction of, an architect registered in the State of Delaware, stamped with the design professional's registration seal, and accompanied by a statement signed by the professional certifying compliance with DSHA's Design and Construction/Rehabilitation Standards.
3. Rehabilitation of existing units must follow the same standards as new construction.

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4. DSHA requires that a comprehensive Capital Needs Assessment (CNA) be submitted with the application if rehabilitation work is to be performed. See DSHA's Capital Needs Assessment Policy for additional information.
5. The "Plans/Specifications Review Checklist" for each county or municipality should be used as a guide for governmental submissions and/or approvals required prior to DSHA loan approval.
6. Designs that do not meet code requirements will not be considered cause for a change order.
7. All projects are required to provide as-built drawings and specifications (collectively "As-Builts") at the end of the project. The As-Builts are to be provided on CD in a .dwg format.
8. All projects are required to provide a final updated ALTA survey reflecting all changes and additions to the development site upon completion of the project, prior to permanent closing.

E. Waiver Requests

Waiver requests from the Design and Construction/Rehabilitation Standards may be considered. Please see the QAP under "Application Process" for additional information.

F. General Contractor Requirements

All General Contractors must be approved by DSHA. To be approved by DSHA, a General Contractor must complete the DSHA Contractor's Certification and Questionnaire process, provide requested information on all the required attachments, and be approved by DSHA thirty (30) days prior to invitation to bid or DSHA's application deadline (whichever is earlier). General Contractors must submit all required information to DSHA for approval on an annual basis.

To be an eligible member of the Development Team, the General Contractor must be listed on the LIHTC Approved General Contractor List as posted on the DSHA website of the current LIHTC application year. The LIHTC Approved General Contractor List and General Contractor's Certification Process is located at the following link: <https://www.destatehousing.com/build/lihtc/>

NOTE: All members of the Development Team, including the General Contractor must comply with DSHA's Draw Requisition and Cost Certification Guide (the Guide). The guide can be found at the following link: <https://www.destatehousing.com/build/lihtc/>.

G. Bidding Protocol/Requirements

1. The Developer/Owner of the development may determine the General Contractor ("GC") at application and shall disclose the GC as part of the Development Team or the Developer/Owner may opt to competitively bid the work after application and award. Regardless, the GC will be subject to the following requirements:
 - a. A maximum of 10% General Requirements of construction hard costs for new construction and rehabilitation projects, including all change orders.
 - b. A maximum of 7% Overhead and Profit of construction hard costs for new construction and rehabilitation projects, including all change orders.
 - c. There will be no increase to the Overhead and Profit or General Requirements other than what is approved by change orders during the course of the project. There will be no change orders approved solely to increase Overhead and Profit or General Requirements. At project completion, the Overhead and Profit and General Requirements percentages may not exceed the percentages submitted at application or approved at construction closing (whichever is less) but may be less than the approved percentages.
 - d. DSHA shall review and approve plans and specifications for construction work prior to release for bidding.
 - e. If the Developer, Development Team, and/or Applicant have related party and/or Identity of Interest ("IOI") subcontractor firms, they may not bid on the construction work or perform work on the development unless such arrangement has been reviewed and approved by

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DSHA at its sole discretion. The GC may be required to obtain three (3) competitive bids for the IOI work and cannot charge any more than the lowest bid.

- f. If the GC directly employs a trade, the GC may self-perform the work (i.e. if the GC directly employs a licensed plumber, the GC may self-perform plumbing trades on the job). The GC may also self-perform other non-licensed trade line items; however, the GC may be required to obtain three (3) competitive bids and cannot charge any more than the lowest bid.
- g. The GC must provide fully executed subcontractor contracts/agreements for all subcontractors (including IOI subcontractors) to DSHA before any work is commenced and prior to any payments being made to the subcontractor.
- h. The Developer/Owner may not pre-bid certain aspects of the work and require the GC to use those subcontractors, unless reviewed and approved by DSHA at its sole discretion.

2. If the GC is not part of the Development Team at application, they must be chosen through a competitive bid process after an award of credits or approval of DSHA financing, and the following *additional* conditions will apply:
 - a. Developer/Owners shall invite all firms on DSHA's LIHTC Approved General Contractor List to bid and obtain a minimum of three (3) bids from the approved list of General Contractors;
 - b. No additional bidder requirements may be added without written approval from DSHA, which may be withheld at its sole discretion (examples include, but are not limited to, additional payment and performance bond requirements, letter of credit for contractors, unrealistic timing demands, construction schedule, liquidated damage requirements, etc.). DSHA shall review and provide written approval of bid documents prior to release for bidding; and
 - c. The bids shall be sent to the architect of record in a sealed envelope, clearly marked with the project name and date stamped. Faxed or e-mailed bids shall not be accepted. The bids shall be privately opened, tallied, and the results forwarded to DSHA and Developer.
3. In the event a GC is selected at application as part of the Development Team and the Owner/Developer wishes to replace the GC after application, the new GC must be selected through the competitive bid process as outlined above.

NOTE: For any funding sources that require bidding of the construction costs (i.e. USDA, HUD), the bidding requirements of those funding source(s) will control. All fee changes are effective as of adoption of the QAP.

Design and Construction Standards

A. Community Building/Office/Maintenance Space

All common spaces must adhere to the following requirements:

- i. All common areas must comply with ADA requirements for ingress and egress. Electronic door openers must be installed for all public access points, including internal and external doors. Automatic openers are required for ADA compliance in community center and/or other public spaces and should be installed on all public access doors along designated accessible routes.
- ii. **Office/Maintenance space:** All developments consisting of twenty (20) residential dwelling units or more (exception: phased properties – see below requirements) must comply with the following:
 1. Have a site office of at least 200 square feet (exclusive of handicap toilet facility) and a maintenance room of at least 100 square feet;
 2. No portable storage buildings are allowed for office or maintenance areas; these spaces must be incorporated into the building design; and
 3. All maintenance areas must provide a mop sink. FRP board shall be provided on all adjacent wet walls at mop sink.

- iii. **On-Site Community Buildings/Space:** All developments with community buildings/community space must meet the following minimum requirements:
 1. For projects receiving points for adding a new on-site community building or community space, the community building should contain at least 15 net square feet per unit with a minimum of 750 square feet in size. The square footage should be in addition to the kitchen or kitchenette, if provided. All community buildings/community space should be fully accessible including the office, bathrooms and other community areas of the building; and
 2. For rehabilitation of existing community buildings or community space, all community spaces should be fully accessible including the office, bathrooms, and other community areas of the building.
- iv. **Phased Projects:** Phased projects are required to provide office or maintenance space and/or community space unless a request to omit this requirement is submitted as part of the application and the request verifies the following conditions:
 1. Community buildings for applicable contiguous phases meet office/maintenance capacity requirements for **total units of all phases** utilizing the space;
 2. Written approval from proposed syndicator/investor(s) and lenders that they agree to a shared-existing community/office/maintenance area structure. If different syndicators are selected for the different phases, all syndicators and lenders must provide written approval;
 3. The same management company will manage all phases for consistency purposes during the compliance period except at the discretion of the investor member and DSHA. If a substitution of the management agent occurs, it will apply to all phases utilizing the community space(s);
 4. Community buildings/space that are shared among phased projects will only be considered an amenity for the phase on which it was originally built. Existing community buildings and/or community space are not eligible for points, except if the space is adapted into a resiliency hub, even if the community buildings and/or community space was part of the rehabilitation of the new LIHTC application; and
 5. Must agree to provide all necessary easement documentation and state all responsibilities, costs, uses, etc. that will be shared among the phases.

B. Trade and/or Line Item Specific Design Requirements

1. Site Work (includes Site Work Utilities and Site Improvements)

- a. Finished floor elevations of buildings are to be minimum of 8 inches or higher than the adjoining finished grade. When achieving an 8-inch height separation is not feasible, due to accessibility requirements or other conditions, provide an alternate solution acceptable to DSHA. Design must be code compliant.
- b. All projects with below-grade habitable space (units, common space, laundry rooms) will require an assessment to determine possible water infiltration/moisture problems, which could directly affect the overall total development budget.
- c. All existing utility connections shall be verified prior to application. New connections must be included in the base bid to make all utilities functional (outside 5' of perimeter of building).
- d. All existing electric transformers shall be surveyed prior to application to determine if upgrade or replacement will be required for proposed project.
- e. Contractor to verify if site has curb stops, water meters, and/or meter pits required by applicable municipalities. Existing curb stops shall be examined for viability. Inspection date of maintenance shall be provided.

- f. Storm water management ponds shall be designed to state standards. If an existing storm water management pond(s) is present and is to be remain, it must be inspected by the conservation district for viability prior to construction closing. If a storm water management pond is designed to be wet, it shall have a perimeter fence for safety of tenants. Minimum fence material shall be post and rail with quality coated wire fence material on interior of rails (minimum height of 48" above finished grade). Make every effort to match new pond fencing with project fencing. Stormwater management designs should consider projected increases in annual rainfall and storm events related to climate change. (see: <https://dnrec.alpha.delaware.gov/climate-coastal-energy/climate-change/>)
- g. All sites shall provide permanent enclosures for garbage dumpsters or trash receptacles consistent with the appearance of the dwelling units. Refuse collection areas must be on an accessible route and not in locations likely to flood during heavy rain events. Enclosures must prevent dumpsters from being displaced in flooding where site conditions allow. Install concrete filled bollards to protect walls of enclosure.
- h. All grades to slope away from buildings at a minimum of 2% for 10 feet. If slope requirements cannot be achieved due to site limitations, alternative strategies to direct surface water away from buildings may be implemented with DSHA approval.

2. Landscaping

- a. Minimum landscaping budgets of \$500 per residential dwelling unit are required for new construction. This allowance is for installation of mulch beds, drought resistance plantings and new trees only. Maintenance and watering of all landscaping features shall also be included in the landscaping budget. It may not be used for fine grading, seeding and/or straw and sod. Allowance may not be used for tree removal or trimming. This is for curb appeal and beautification of the property. Rehabilitation and adaptive reuse may be exempt from this requirement at DSHA's sole discretion. Please contact DSHA for a determination at least thirty (30) days prior to application.
- b. All landscaped areas shall have warrantied weed barriers (fabric only) installed under mulch and maintain 12" buffer between vinyl siding and grass areas around the perimeter of the structure, unless siding is at least 8" above finished grade.
- c. If irrigation system is not provided, hose bibs shall be provided on each front and rear of building with lockable boxes. Depending on building size, additional hose bibs may be required for ease of maintenance for landscape areas.
- d. All condenser unit pads shall be landscaped to avoid mowing and trimming around unit. This is required for new construction, rehabilitation, and adaptive reuse.
- e. Concrete splash blocks shall be provided for all downspout locations. (See also, Metal/Gutters/Downspouts.) This is required for new construction, rehabilitation, and adaptive reuse.
- f. All landscaping requires a 2-year warranty.
- g. When possible, incorporate Low Impact Design (LID) into new or renovated sites. LID can address potential flood mitigation and cost savings opportunities. LID techniques, such as implementation of bioswales or rain gardens (for stormwater management) also have co-benefits including area beautification and localized temperature moderation. LID strategies

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may be eligible for additional funding:

http://www.dnrec.delaware.gov/GI/Documents/Green%20Infrastructure/Green_Infra_Primer_2016_FINAL%20web%20version.pdf (funding opportunities on page 42)

3. Roads/Parking

- a. Large parking lots shall include planting areas. At a minimum, all existing parking areas shall be seal coated and striped. A capital needs assessment and/or civil engineer shall assess the overall condition of existing roads and parking areas, including core samplings to determine substrate and viability. If any grading or other issues are present, the work in failing areas must be included in the project.
- b. If parking area does not have a curbed sidewalk area adjacent to parking, parking bumpers doweled into pavement shall be provided to maintain safe distance between parking area and trees or lawns.
- c. All paving requires a 2-year warranty.
- d. All pavement should be graded away from buildings and in accordance with a site-wide stormwater management plan, to direct stormwater to storm drains, culverts, or bioswales.
- e. All roads and parking must comply with ADA requirements including, but not limited to, ingress and egress requirements and handicap parking requirements.
- f. All new roads and parking areas must comply with the minimum requirements of the applicable municipality.

4. Building Environmental Remediation

- a. Radon testing is required on all units prior to occupancy and must comply with acceptable level requirements for occupancy (no greater than 4pCi/L).
- b. All lead and asbestos remediation work require clearance documentation prior to DSHA inspection for occupancy.
- c. Freon recovery reports must be provided for all rehabilitation projects where the HVAC system is being replaced (See also HVAC).

5. Exterior Sheathing/Siding/Masonry

- a. All exterior building surfaces shall be designed to be maintenance-free.
- b. Thermo ply exterior sheathing will not be allowed.
- c. All exterior surfaces shall have house wrap installed as per manufacturer's instructions.
- d. Vinyl siding must be premium grade.
- e. Vinyl siding must have composite trim installed when within 6" of finished grade.
- f. Medium density overlay board is not allowed for any development.
- g. All existing mortar joints shall be inspected for cracking and general deterioration. Where such conditions are noted, joints shall be repointed as part of the work.

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- h. Code compliant mold-resistant drywall shall be used for all exterior applications. (See also, Drywall.)
- i. Fiber cement board siding must be installed per manufacturer's instructions. This siding is suggested, but not required, for use in coastal areas.

6. *Finished Carpentry*

- a. Existing base molding shall be removed and replaced with taller dimension profile composite trim.
- b. Base trim at edge of tub shall be composite, rot-proof material. If gap is present, quarter-round rot-proof molding to be installed. (See also, Kitchen and Bath.)

7. *Kitchen and Bathroom*

- a. Cabinets (including doors, fronts, shelves, and boxes) shall be solid wood construction with concealed door hinges. No high-density laminates will be allowed. NOTE: This standard applies to all cabinets throughout the property, not just unit kitchens and bathrooms.
- b. Provide, at a minimum, one drawer base for each kitchen layout. Shelves shall be solid plywood at a minimum of $\frac{1}{2}$ " thickness. Base cabinet drawers shall not be sized larger than 36" in width.
- c. Hardware shall be provided for all cabinet drawers and doors. No bright brass finishes.
- d. Concealed blocking must be provided for all items such as tissue paper holders, grab bars, shower rods, and medicine cabinets, and as necessary to provide fully-accessible and adaptable units for both kitchen and bathrooms.
- e. Provide plastic laminate or other DSHA approved water resistant backsplash material on wall between wall and base cabinet for all areas adjacent to base and wall cabinets.
- f. Back splashguard shall be wall mounted behind range. If range is located in corner, install additional splashguard on adjacent wall.
- g. Kitchen countertop shall be provided with end splash for adjacent or end walls. Laminate countertops must be Euro-edge or full bullnose; self-edge countertops are not permitted. Solid surface countertops may have a half-bullnose or square profile.
- h. Bathroom vanities must have cultured marble tops with slide splashes when adjacent to wall. Laminated tops with drop in bowl type fixtures are not permitted.
- i. One-inch minimum diameter grab bars properly mounted to in-wall blocking shall be used in lieu of standard towel bar.
- j. Tub requirements
 - i. One-piece bathtub unit may be selected. If selected, model must include built-in blocking for future installation of grab bars.
 - ii. If a tub and separate surround are selected, the following requirements must be utilized:
 - A. Rigid fiberglass surrounds and/or ceramic tile will be used in conjunction with tub.
No plastic surrounds will be allowed;
 - B. Blocking for future installation of grab bars must be installed; and

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- C. Selected tub surround must protect splash zone (at least 4" outside of tub) all the way to the floor.
 - iii.* Tub liners are acceptable with full height wall surrounds.
- k. Base trim at edge of tub shall be composite, rot-proof material. If gap is present, quarter-round rot-proof molding to be installed. (See also, Finished Carpentry.)
- l. Exhaust fans for all bathrooms shall be low speed/low noise continuous exhaust fan (hard wired) or single switch exhaust fan/light combination that meets all applicable building codes and approved by DSHA and the architect. Sone rating < 1.0. Per the ENERGY STAR program National Rater Field Checklist, a dwelling unit exhaust fan could be a continuous exhaust fan or an intermittent exhaust fan. The fan ventilation minimum performance requirements should follow ASHRAE Standard 62.
- m. Shower rod to be surface mounted, no tension rods allowed. Concealed blocking must be installed.
- n. Accessible showers shall be provided with the following requirements:
 - i.* Bench type seat for the shower stall. Removable or built-in options are permitted, but built-in options should include fold down legs for additional support;
 - ii.* Shower controls and a handheld shower head with slide bar within reach of the seat; and
 - iii.* Compressible dam at the shower entrance threshold.Weight requirements shall be per manufacturer's recommendations.
- o. Floor drains must be provided when accessible shower stalls are utilized.
- p. Ceramic tile be installed in accordance with ANDI A137.1 specification for ceramic tile. Installation shall comply with TCA's "Handbook for Ceramic Tile Installation" (2010 version), as amended and comply with portions of ANSI A108 Series "Specification for Installation of Ceramic Tile." Underlayment shall be properly waterproofed per manufacturer specifications/recommendations prior to installation of tile.

8. Insulation

- a. Insulation shall meet all applicable codes for new construction and rehabilitation. Exceeding code standards is permissible if costs are reasonable.

9. Roofing

- a. Roofing materials that exceed 50% of the life expectancy shall be removed and/or replaced. Substrate shall be inspected and replaced as necessary (no second layers allowed).
- b. Asphalt shingles shall have a minimum warranty of 30 years and meet applicable wind building codes.
- c. All roofs shall have 3-inch "T" edging around the perimeter, no smaller than two-foot sections, especially at corner intersections.
- d. Light colors for asphalt roofing, flat, or low-slope roofs are encouraged to assist with building temperature regulation.

10. Metals/Gutters/Downspouts

- a. Concrete splash blocks shall be provided for all downspout locations.

11. Doors and Frames

- a. Must provide a minimum of 30" overhang at front door and 12" along every other exterior door. Exterior doors must be Energy Star rated for zone 4 and wind rated for 90 mph. Exterior doors shall be insulated core.
- b. Interior doors shall be Masonite or better. Tops and bottoms of all interior and exterior doors must be painted.
- c. Doorstops must be wall-mounted rubber disk type, floor-mounted half-moon type, or door saver hinge pin style. All doorstop finishes must match door hardware. Blocking is required behind all wall mounted door stops.
- d. All closets must have a hinged door; bi-fold or bi-pass closet doors are prohibited. If code requires metal bi-fold door application, doors must be installed in wood frame with wood trim.
- e. Hardware shall be brushed aluminum or better, no bright brass. Grade two (2) or better, including hinges and door bumpers. All exterior hinge hardware shall be of non-rusting, quality materials.
- f. Frame savers shall be used on all exterior applications. Exceeding code required "U" value standards is permissible if costs are reasonable.
- g. Entry door shall have a doorbell or knocker and peep hole (eye viewer), no polished brass. Peep/viewer to be provided for solid rear door. ADA-compliant doors shall have two viewers at required heights.
- h. Patio and/or French doors with integral blinds built in between glazing to provide privacy are preferred. If doors without integral blinds are utilized, blinds must have a top and bottom mount bracket installed to stabilize blinds. (See also, Blinds/Shades.)
- i. Automatic openers are required for ADA compliance in community center and/or other public spaces and should be installed on all public access doors along designated accessible routes. Spaces with multiple entry points only require automatic openers on one entry point (for example: a community room with three entry points will only be required to provide automatic door openers on one entry point). Public restrooms and offices do not require automatic door openers. Buildings with interior access ADA units should also provide automatic openers along the public access accessible routes. (See also, Electrical.)

12. Windows

- a. New and replacement windows must be Energy Star and rated for zone 4 and wind rated for 90 mph or DP20 minimum. Exceeding code required "U" value standard is permissible if costs are reasonable.
- b. Slider windows are not allowed. Single hung should be considered, local codes will dictate.
- c. Window limiters must be included/installed as required by code.

13. Drywall

- a. All drywall must be glued and screwed.

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- b. Moisture-resistant drywall shall be used in all locations where plumbing penetrates walls, including the entire bathroom, (i.e., ceiling and walls), or comply with building code, whichever is more stringent.
- c. Impact-resistant drywall shall be utilized on the first 4' of walls (measured from floor up) in hallways, high-traffic areas, and accessible units.
- d. Mold-resistant drywall shall be used for all drywall window returns.
- e. Mold-resistant drywall shall be used for all exterior applications and core wall applications.
- f. If ceramic tile is used, cementitious board shall be provided as underlayment. Underlayment shall be properly waterproofed per manufacturer specifications/recommendations prior to installation of tile.
- g. Preparation is required to obtain level 4 finishes. For rehabilitation projects, if a level 4 cannot be achieved, overlay of existing wall with 3/8-inch drywall should be used. In some rehabilitation situations, other best practices for drywall repair may be considered at DSHA's sole discretion.

14. Flooring (Includes VCT/Vinyl/VCP/Carpeting)

- a. 100% Solid vinyl product (plank or tile) flooring shall be used for entry areas, bathroom, dining areas, kitchens, and utility areas unless prior approval is given by DSHA. A minimum of ~~two-color~~ two-color fields required for solid vinyl tiles (VCT). Color variations and configuration design options may be allowed at DSHA's sole discretion. Seal and wax per manufacturer's direction. Manufacturer's printed literature for heat treatment tolerances for warranty must be submitted. Vinyl sheet products are not permitted.
- b. Carpeting may be used in bedrooms and living rooms except in below-grade units, units where flooding is a concern (slab-on-grade in low lying areas), or units that have experienced flooding. If carpets are utilized, an additional \$150 per unit in replacement reserve funds is required. Carpets may not be installed in baths, kitchens, hallways, dining areas, or in front of exterior doors. Carpet to meet minimum weight and grade standard as follows:

Carpet Element	Minimum Grade/Standard
Filament	100% Smart Strand Triexta BCF
Gauge	5/32
Pile Height	.520
Stitches Per Inch	7.50
Certified Pile Height	29.40 oz.
Total Weight	64.47 oz.
Density	2,035
Primary Backing	Woven Polypropylene
Indoor Air Quality	#GLP 1118
Flammability	Pill Test – 16 CFR-1630.4 (FF-1-70): PASS
<i>Carpet width shall be 15' wide to minimize seams in high traffic areas. No Berber allowed. Padding is required and shall be a minimum of 6# density.</i>	

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- c. Consider flooring types and material combinations when selecting materials for areas where flooding is a concern. Materials should be able to survive submersion for up to 72 hours if the floor is below the design flood elevation.
- d. **100% Solid-solid vinyl product** flooring to be installed in common hallways, with two colors required if utilizing VCT. Carpet tiles may be approved at DSHA's sole discretion. **Vinyl sheet products are not permitted.**
- e. Hardwood flooring or other materials may be utilized as approved by DSHA.
- f. Gypcrete shall be sealed per manufacturer's specifications.
- g. All floor preparation for new flooring installation is the responsibility of the General Contractor and shall comply with manufacturer's written installation instructions (including temperature restraints). If homosote and/or gypcrete is present, expect to remove material prior to installation of new flooring material.

15. Painting

- a. All interior paints and primers shall have low or no VOC levels.
- b. Paint shall be a three-coat system: one (1) primer and two (2) finish coats. Paint materials shall be comparable to Sherwin-Williams's Builder's Solution Interior Latex washable flat paint, eggshell, or low luster semi-gloss. Kitchens and bathrooms shall be semi-gloss with flat paint permitted for ceiling application only. Other paints must be approved by DSHA.
- c. Rehabilitation properties shall have primer similar to "Kilz" enamel or oil-based type sealer/primer for application on existing drywall or approved primer to adhere to existing drywall conditions.

16. Playground/Site Recreation

- a. A designated recreation area shall be provided for every site. Designated recreation areas are considered "common areas" and must be on an accessible route.
- b. Family developments must provide a playground or Tot Lot on site. Senior sites should provide site recreation such as gazebos, hard-surface walking trails, bocce courts, etc. All proposed senior site recreation must be submitted to DSHA for final review and approval prior to application.

17. Specialties

- a. All shelving shall be vinyl coated wire units. Provide all intermediate supports needed.
- b. Contractor shall supply rechargeable 2.5 #ABC fire extinguishers (minimum size) for each unit, or where code mandates-whichever is more stringent. All fire extinguishers shall be tagged and inspected annually.
- c. Site Signage
 - i. Construction Signage: a temporary project banner or sign of exterior grade plywood and wood frame construction must be provided. The sign should list the project name, DSHA, name of owner, architect/engineer, professional sub consultants, contractor and major subcontractors. Other funding sources and/or partners may also be included. Erect on site at location established by the architect/engineer.

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- ii. Permanent Signage: A permanent development sign with appropriate information as approved by DSHA shall be installed by permanent loan closing.*
 - d. Building/Unit Signage:*
 - i. Exterior signage shall not be bright brass;*
 - ii. Unit numbering and building identification numbers shall be provided and approved by the Fire Marshal and Post Office;*
 - iii. Unit number shall be provided on all front and rear doors; and*
 - iv. All emergency signs shall be LED.*

18. Appliances

- a. All appliances will be Energy Star certified (with the exception of microwaves and stoves) and must be pre-wired for an outlet.*
- b. Refrigerators shall be frost free (minimum of 15 cubic feet).*
- c. Ovens shall be self-cleaning. (Utilize U.L. listed code compliant connectors for gas stoves.) No glass cooktops allowed.*
- d. All exhaust hoods must be insulated and ducted to the exterior. Re-circulating charcoal filter type model may be used if approved by DSHA. Exterior or in-line dampers are required to close duct off from outdoor air infiltration.*

In ADA units, separate control switches for the light and fan must be installed within reach of the range and in compliance with all accessibility standards.

- e. Washer and dryer hook-ups or laundry facilities (either in the community building or other building(s)) are required for the development and must meet all accessibility requirements. Washer and dryer hook-ups, if chosen, shall be designed for side-by-side set up with a minimum depth of 30". Recessed dryer vent boxes are required. Washer pan to be provided for code compliance.*
- f. All washers must be ENERGY STAR certified, and all laundry dryers should be ENERGY STAR certified if available.*
- g. Garbage disposals are not recommended due to high maintenance requirements. If used, disposal shall be at a minimum ½ hp motor with a stainless steel shank. For ADA units, a lowered switch within reach range shall be provided and shall meet all accessibility standards for clearances.*
- h. Dishwashers are to be provided. If venting on unit is located adjacent to counter top, underside of counter top edge must be laminated.*

19. Blinds/Shades

- a. Code compliant blinds shall be of quality construction. Each window shall be provided with one (1) blind (i.e. a double window shall have two (2) blinds).*
- b. Maximum blind size shall be no wider than 42". All blinds wider than 36" shall have a center support bracket installed.*

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- c. Patio and/or French doors with integral blinds built in between glazing to provide privacy are preferred. If doors without integral blinds are utilized, blinds must have a top and bottom mount bracket installed to stabilized blinds. (See also, Blinds/Shades.)
- d. Vertical blinds are prohibited.

20. Plumbing

- a. Condensate lines shall drain correctly with exterior grade and/or foundation (pumps shall be provided when needed). Existing condensate lines shall be cleaned and tested, discharge connections verified and replaced as necessary. Architect to provide written confirmation that condensate lines have been cleaned and are in good working order. Contractor to check discharge location(s) and eliminate pooling water.
- b. Floor drains and/or sump holes shall be provided in all basements and/or crawl spaces. The floor shall be pitched to these drains or sumps and the drains or sumps shall be connected to a positive drainage system or to the exterior of the building. Sump pumps must be installed, $\frac{1}{2}$ hp minimum with battery backup. Sump pits shall be provided with cover.
- c. No polybutylene piping allowed.
- d. Provide a main water supply shutoff for each building.
- e. Existing sanitary lines shall be video traced to determine viability for the rehabilitation.
- f. Contractor to verify if site has curb stops, water meters, and/or meter pits required by applicable municipalities. Existing curb stops shall be examined for viability. Inspection date of maintenance shall be provided.
- g. Electric hot water heaters shall have a minimum Energy Factor of 0.92EF or better. All gas fired models shall be Energy-Star certified. Minimum warranty period is ten (10) years. Exceeding DSHA standards is permissible if costs are reasonable. Storage pans shall be provided for all hot water heater storage tanks. Tanks must be elevated up off pan base.
- h. Any heat or coil unit located in attic area shall have a pan and condensate line draining to the exterior.
- i. Boilers and/or water heaters serving more than one (1) unit shall be replaced with individual units where practical, considering space and cost limitations. DSHA must be consulted before such decisions are made.
- j. Where flooding is a concern (in a FEMA flood zone or a building with a history of flooding), raise domestic water heater above the Design Flood Elevation (DFE).
- k. When possible, install backwater valves to prevent storm and sanitary sewer backups during coastal storm surges or precipitation-related flooding events. Backwater valves should be equipped with an alarm that alerts building management when activated so that residents can be informed not to use plumbing fixtures in their units. Smaller backwater valves may be installed on the waste line leaving individual fixtures such as sinks, toilets, showers, and bathtubs, and are recommended on the lowest fixtures in flood-prone locations.

21. Sprinklers/Fire Suppression

- a. Sprinkler systems are required.
- b. All sprinkler and fire alarm systems must be designed and approved by the appropriate Fire Marshal **PRIOR** to construction closing.

Multi-family residential buildings, new construction or rehabilitation, shall follow the Delaware State Fire Prevention Regulations to the fullest extent of the law. No exception will be made for rehabilitation which will qualify for the 50% rule for grandfathering of any code. Entire Fire Prevention Regulations can be found at the following web page <https://statefiremarshal.delaware.gov/>

All commercial space(s) and/or community space(s) must be sprinklered. Stand-alone maintenance buildings and/or maintenance sheds do not need to be sprinklered unless otherwise required by the appropriate Fire Marshall.

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- c. Flow tests to confirm water service and capacity requirements should be submitted at application, but no later than construction closing.
- d. Where any fire suppression associated costs are identified and not included in the projected fire suppression and associated cost line items after an allocation of credits is awarded, any additional costs shall be paid from the developer fee and will not be allowed from contingency.

NOTE: Scattered sites shall be determined on a case-by-case basis.

- e. Contractor shall supply rechargeable 2.5 #ABC fire extinguishers (minimum size) for each unit, or where code mandates-whichever is more stringent. All fire extinguishers shall be tagged and inspected annually (See Specialties).

22. HVAC

- a. All condenser units shall be set on a poured concrete pad sized according to manufacturer's installation and all applicable codes. Design shall incorporate multiple condensers on concrete pad and avoid inside corners where applicable.
- b. All condenser unit pads shall be landscaped to avoid mowing and trimming around unit.
- c. Verify that refrigerant lines are appropriate for HVAC unit size and type. Lines not being replaced are to comply with all of the requirements of the manufacturer for using existing lines. Submit a letter from the manufacturer that states the use of existing lines will not reduce performance and/or warranty of the heat pumps or other air condition systems.
- d. High efficiency HVAC units are required.
 - i. Furnace efficiency = 90AFUE
 - ii. Min. SEER = 14.0 or better.
- e. All residential units must comply with one of the following:
 - i. HVAC systems must include an inline dehumidification system; **or**
 - ii. An Energy Star qualified dehumidifier must be installed in each residential unit. The dehumidification unit must be a stand-alone unit, supplemental to the unit's heating and cooling system.

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- f. No through the wall HVAC units (PTAC).
- g. Programmable thermostats are required.
- h. Freon recovery reports must be provided for all rehabilitation projects where the HVAC system is being replaced (See also Building Environmental Remediation).
- i. When central HVAC equipment is proposed or replaced, locations where flooding is a concern (in a FEMA flood zone or a building with a history of flooding) should be avoided. HVAC equipment should be installed and/or raised above the Design Flood Elevation (DFE).

23. Electrical

- a. All building codes shall be incorporated into development plans and specifications. Any item required to make project code compliant will not be an extra or a change order. All incidentals shall be included.
- b. Electrical services shall be field verified. Service loads shall be calculated prior to any equipment upgrades and all necessary components made a part of the contract price.
- c. All existing utility conditions, including transformers, shall be verified and included into base bid of contract.
- d. Automatic openers are required for ADA compliance in community center and/or other public spaces and should be installed on *all* public access doors along designated accessible routes. Buildings with interior access ADA units should also provide automatic openers along the public access accessible routes. (See also, Doors and Frames.)
- e. All lighting must be Energy Star LED fixtures. If LED is not available, Energy Star fluorescent may be used. Ceiling fans, as well as light kits, must be Energy Star rated. For areas not covered under ENERGY STAR, DLC rating on the lighting fixtures is acceptable.
- f. Overhead ceiling fixtures shall be provided in the living room/dining areas and all bedrooms. Swag fixtures are prohibited. Wall sconces may be installed in lieu of overhead fixtures due to existing conditions and with the approval of DSHA.
- g. Bathrooms shall provide minimum of one ceiling fixture and one wall fixture.
- h. Exterior light fixtures shall not have bright brass finish. Exterior fixtures must be rated for exterior applications. Energy Star rated porch lights with a photocell are required.
- i. Automatic light controls/occupancy sensors shall be installed in all community spaces to minimize energy use.
- j. Provide one telephone and cable outlet in each bedroom and one other telephone and cable outlet in the unit. If possible, use combination box/plate.
- k. Verify local cable and internet provider for availability, cable and/or media box install requirements, and any additional electrical install requirements.
- l. Install locations of demarc boxes for cable/internet/phone network hub in each building must be identified. Install location for individual service boxes must be identified for each unit and a dedicated outlet provided for each unit. Verify local cable and internet provider for

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availability, cable and/or media box install requirements, and any additional electrical install requirements.

- m. When systems are upgraded or moved, raise electrical equipment, conduit, panels, and wiring above the Design Flood Elevation, and seal penetrations through buildings to prevent water intrusion.
- n. When possible, update emergency lighting to LEDs and add wayfinding maps and reflective strips to help residents during power outages and emergency conditions.
- o. When possible, install backup generators designed to support the identified critical loads of the development. Consider the backup power needs of residents, especially if they are expected to shelter in place during power outages. Plan for regular generator maintenance and operator training.

24. Fire Alarms/Security Systems

- a. Combination smoke and carbon monoxide detectors shall be provided for all projects.
- b. Knox boxes shall be provided per Fire Marshal and/or local Fire Chief's requirements.
- c. Security and surveillance systems are required. The security system will provide surveillance for all residential buildings and common areas, including parking lots and community buildings and shall be monitored by the management company. Expanded system shall be provided and tied into the monitoring system of the local police department (documentation from police department should be submitted as an attachment in the application).
- d. Senior dwelling units shall be provided with medical emergency pull chains (nurse call) in at least two (2) locations that are connected to a central station. The two (2) locations will be in the master bedroom and full bathroom. The pull chains will be wired to an exterior warning device that consists of a strobe light and audible alarm. Wireless systems may be approved at DSHA's sole discretion.
- e. When systems are upgraded or moved, raise fire alarms and security systems above the Design Flood Elevation (DFE), and seal penetrations through buildings to prevent water intrusion. New systems shall be installed above the DFE.

25. Termite Protection/Pest Protections

- a. A termite/pest inspection and certificate shall be provided for all rehabilitation projects ninety (90) days prior to construction closing.
- b. Termite pre-treatment of soils is required for all new construction. Certificates shall be part of the Operation and Maintenance Manual.

Architectural Plans, Engineering and Specification Review (AE&S) Process

All LIHTC Applicants must provide and/or meet the AE&S minimal-submission requirements listed below as part of the LIHTC Application. DSHA will review for compliance and proper documentation/information.

A. Minimum AE&S Application Threshold requirements:

1. Location Map with all services located and noted;
2. Plot plan of preliminary survey with all wetland and/or flood plain elevation, easements proposed and/or existing;
3. Utilities available to site;
4. Conceptual Site Plan with proposed development/redevelopment; should include design concepts that reflect the surrounding community;
5. Conceptual Drawings:
 - a. A floor plan with dimension, room designations, ADA units, and proposed finishes;
 - b. Exterior elevations with material notations; and
 - c. Typical wall sections and detail.
6. Compliance with the following requirements:
 - a. Gross square footage for new construction and conversion developments;
 - b. Fair Housing and ADA requirements;
 - c. CNA and all applicable checklists;
 - d. Phase I Environmental Audit and/or Phase I Site Environmental Assessment, including remediation plan, if applicable;
 - e. Energy and Green certifications and/or Energy Conservation Measures are completed and identified;
 - f. Historic documentation, if applicable; and
 - g. Development and Unit Amenities documentation.
7. Resilience Assessment of site for renovation or new construction. Applicants may use DSHA's Resilience Assessment Tool.

B. 80% or Greater Project Plans and Specification Requirements:

Required for LIHTC Applicants that have received an award of LIHTC and/or DSHA funding and are proceeding towards construction closing.

The first set of plans and specifications submitted for review must be at least 80% complete (see below for additional details). A redesign fee will be assessed if DSHA must make multiple reviews due to, but not limited to, the following conditions:

- a. Substantial design change;
- b. Increase and/or decrease in the number of units; and
- c. Change of architectural team and/or change in initial concept.

NOTE: All fees assessed at DSHA's discretion. See the Funding Supplement for additional information.

Architectural Plans

1. Civil drawings

- a. Proposed site plan should include all existing structures and locations of all proposed structures, utilities, storm water management areas, parking areas, and driveways/entrances.
- b. ALTA Survey with property description, existing and proposed roads and parking elements
- c. Storm Water Management Plan
- d. Information concerning the proposed site specific to the project, accessibility and visibility features retaining walls, etc.

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- e. Existing Conditions and Demolition Plan
- f. Site and Utility Plan, including fire flow capacity, electrical capacity, with existing current utility conditions (i.e. cable, phone and media boxes)
- g. Erosion and Sediment Control Plan
- h. Grading Plan
- i. Details and Notes
- j. Landscape Plan
- k. Lighting Plan

2. Architectural drawings

- a. Title Sheet
 - Project information including Project name and address
 - The names, addresses and contact information of Owner and all Consultants
 - Date
 - Submissions level
 - List of Drawings
 - Project-Area Breakdown
 - Unit Mix and Square Footages
 - Vicinity Map
- b. Demolition Floor Plans for Each Building Level (1/8" scale)
- c. Preliminary Floor Plans for Each Building Level (1/8" scale)
- d. Demolition Plans of Individual Units (1/4" scale min)
- e. Individual Unit Plans (1/4" scale min)
- f. Schematic Exterior Building Elevations (1/8" scale min)
 - Provide elevations of all major exterior wall areas
 - Provide schematic key plan indicating elevation locations
 - Include demolition information as required
- g. Typical-Rated wall types and assemblies
- h. Typical Foundation Plans and Details
- i. Typical Roof and Stair Details
- j. Air Sealing Details
- k. IECC Air Sealing Details
- l. Door Schedule
- m. Window Schedule
- n. Door Head and Jamb Details
- o. Window Head and Jamb and Sill Details
- p. Threshold Details
- q. Unit Floor Finishes
- r. Kitchen Elevations
- s. Bathroom Elevations
- t. Site lighting and photometrical drawings
- u. Landscape drawings
- v. Phase I Environmental Site Assessment
- w. Termite Report
- x. Structural, Geotechnical, Roof Condition and Sewer Line reports when applicable
- y. Energy Conservation Measures Plan, as applicable

3. Structural drawings

- a. Information concerning the proposed Structural Systems and Information on Unusual Conditions as required
- b. General Notes and Code Compliance
- c. Schedules and Special Inspections

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- d. Framing Plan
- e. Foundation Plan
- f. Roof Framing Plan
- g. Foundation Details

4. Mechanical drawings

- a. Mechanical Plan
- b. Typical Unit Plan
- c. Mechanical Schedules and Details

5. Plumbing drawings (including approved Fire Suppression plan)

- a. Information concerning the proposed plumbing systems and information on Unusual Conditions as required
- b. Information on existing plumbing systems and the effect that project will have on these
- c. Building Sanitary Plan
- d. Domestic Service Plan
- e. Typical Sanitary Plan
- f. Typical Domestic Plan
- g. Sanitary Riser Plan
- h. Fire Protection Plan

6. Electrical drawings (including approved Fire Alarm)

- a. Information concerning the proposed Electrical Systems and Information on Unusual Conditions as required
- b. Information on the existing electrical system(s) and the effect the proposed renovations will have on the existing system(s)
- c. Electrical Plans
- d. Typical Electrical Renovated Unit Plan
- e. Electrical Site Lighting Plan
- f. Electrical Site Lighting Photometrics Plan
- g. Site Power Plan
- h. Electric Schedule
- i. Electrical Details and Diagrams

Specification Requirements

1. General Information
 - a. The Specifications shall include all sections of the 32 Division CSI format applicable to the project. The outline specifications should support the information described in the threshold and scoring criteria.
 - b. The specifications need not be complete CSI/MasterSpec format. The section numbering and naming shall comply with the CSI 32 Division format
 - c. The Specification cover shall include the following:
 - i. The names, addresses and contact information of the Owner and all consultants;
 - ii. The project name and address;
 - iii. Date; and
 - iv. Submissions level.
 - d. A complete table of contents shall be included at the front of the Specifications

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2. Division 00
 - a. Include General Conditions, Supplementary Conditions and other project requirements, including those of all lenders and syndicators/investors
 - b. Include Specific Renovation/Demolition related sections as required
 - c. List of Drawing Sheets
 - d. Procurement Substitution Procedures
 - e. Existing Condition Information, if applicable
 - f. Geotechnical Data
3. Division 01- General Requirements
 - a. Summary
 - b. Payment Procedures
 - c. Project Management and Coordination
 - d. Submittal Procedure
 - e. Quality Requirements
 - f. Temporary Facilities and Controls
 - g. Execution
 - h. Construction Waste Management and Disposal
 - i. Close Out Procedures
 - j. Operation and Maintenance Manual Data
 - k. Project Record Documents
4. Division 2 through 32
 - a. Include sections for all proposed elements
 - b. Include Specific Renovation/Demolition related sections as required.
 - Part I- General
 - Part II- Products
 - Part III- Execution