

WILLIAM PEDUTO
MAYOR



SARAH KINTER
DIRECTOR

CITY OF PITTSBURGH
DEPARTMENT OF PERMITS, LICENSES & INSPECTIONS
JOHN P. ROBIN CIVIC BUILDING

PLI's Guidelines for Pre-fabricated
Construction

Issued: 11/16/2020

PURPOSE: The following document outlines PLI's Guidelines for the use of pre-fabricated construction components and structures. This would include modular construction and use of shipping containers. The intent is to clarify existing requirements and procedures covered under the PA Uniform Construction Code and to establish PLI's requirements and procedures for all other pre-fabricated components and structures.

PLI'S GUIDELINES FOR PRE-FABRICATED CONSTRUCTION

1. Regulation/Code Background

- a) Basis for Regulation:
 - i) The PA Uniform Construction Code (UCC) is applicable to the construction, alteration, repair, occupancy or change of occupancy of every building or structure.¹
- b) Current Building Codes²:
 - i) Base Building Code - [2015 International Building Code](#), [2015 International Existing Building Code](#), and [2015 International Residential Code](#)
 - ii) Accessibility Standards - [2018 International Building Code](#), and [2018 International Existing Building Code](#)
- c) Inspections Requirements:
 - i) PA UCC inspections shall be performed by an individual registered by the PA Department of Labor and Industry with appropriate certifications for the type of work/inspection.³
 - ii) PA UCC Inspector categories⁴ and associated roles⁵ include:
 - (1) Building;
 - (2) Energy;

¹ [PA UCC Regulations Section 403.1](#)

² [PA UCC Regulations Section 403.21](#)

³ [PA UCC Regulations Section 401.3](#)

⁴ [PA UCC Regulations Section 401.6](#)

⁵ [PA UCC Regulations Section 401.7](#)

- (3) Accessibility;
- (4) Mechanical;
- (5) Plumbing – see Section 1.d.ii.
- (6) Electrical.
- d) PA UCC Local Authority:
 - i) PLI has authority to enforce PA UCC building, energy, accessibility, mechanical, electrical, fire alarm and fire suppression requirements.
 - ii) Allegheny County Health Department (ACHD) has authority to enforce PA UCC plumbing requirements.⁶

2. Policy Definitions

- a) Pre-fabricated: elements that are constructed off-site including but not limited to:
 - i) Components that are constructed off-site and contain concealed elements, such as wall, floor or ceiling panels.
 - ii) Structures that is constructed substantially, or wholly, off-site for installation on a job-site, such as modular construction, manufactured housing (mobile homes) and alternate methods and/or structures not recognized by the UCC and/or ICC standards, such as shipping containers. The structures may/may not include concealed elements which cannot be inspected at the job-site without disassembly, damage or destruction.
- b) Off-Site: A location other than the job-site.
- c) Job-Site: The location for which PLI issues a permit for construction and/or installation.

3. Policy Applicability

- a) General Applicability: Applicants utilizing pre-fabricated components or structures as defined by this policy shall adhere to appropriate policy category and associated procedures and requirements of this policy. Exception:
 - i) This policy excludes all plumbing code requirements, except for accessibility provisions of plumbing features. Please [contact ACHD Plumbing Program](#) for all permit requirements for plumbing systems.
- b) Policy Categories:
 - i) Established UCC Requirements/Procedures: Section 4 outlines existing statute/regulation requirements and PLI procedures includes manufactured housing (mobile homes), single-family dwellings, two-family dwellings, and Group R occupancies of the Commercial Building Code.
 - ii) PLI Requirements/Procedures: Section 5 outlines PLI requirements/procedures for all prefabricated construction that is not covered by established UCC procedures.

4. UCC Recognized Pre-fabricated Construction

- a) Manufactured Housing
 - i) Applicability:

⁶ [PA UCC Regulations Section 403.21.a.6\(ii\)](#)

- (1) Applies to new housing assembled by and shipped from the manufacturer which bears a label certifying conformance with Housing and Community Development Act of 1974 (42 U.S.C.A. §§ 5401-5426) and which is installed in conformance with Manufacturer's approved design applicable to the particular home.⁷
- ii) Permit Review Roles:
 - (1) Primary: U.S. Department of Housing and Urban Development (HUD) for new manufactured units.
 - (2) Secondary: PLI for site built elements related to new manufactured units.
- iii) PLI Submission:
 - (1) Manufactured Unit:
 - (a) Completed PLI's Residential Building Industrialized / Manufactured Housing Form and submission of documentation identified on form.
 - (2) Site Built Elements:
 - (a) Any site built elements shall comply with the UCC, this includes but is not limited to site work, construction of foundations, and utility connections.
 - (b) This work shall conform to PLI's standard application submission and inspection requirements.
 - (3) Modification of Manufactured Unit: The following type of modifications shall require compliance with the PA UCC:⁸
 - (a) Additions to and change in occupancy of manufactured units shall comply with the UCC.
 - (b) Alterations or repairs not permitted under 24 CFR 3280.1—3280.904.
 - (c) This work shall be considered structural in nature and shall conform to PLI's standard application submission and inspection requirements.
- b) Industrialized Housing
 - i) Industrialized Housing Act (IHA) Applicability:
 - (1) Limitations: Limited to "industrialized housing" under IHA; single-family dwellings, two-family dwellings, and Group R occupancies of the Commercial Building Code.^{9 10}
 - (2) Industrialized Housing: Applies to a structure which is wholly or in substantial part constructed off-site for installation on the building site such that concealed elements cannot be inspected at the site without disassembly, damage or destruction and is subject to IHA.¹⁰
 - (3) Component: Applies to a manufactured components that contain concealed parts that cannot be inspected at the site without disassembly, damage or destruction and are subject to IHA.¹⁰

⁷ [PA UCC Regulations Section 403.25\(a\)](#)

⁸ [PA UCC Regulations Section 403.25\(a\)\(3\)](#)

⁹ [PA UCC Regulations Section 403.25\(b\)](#)

¹⁰ [IHA Regulations Section 145.1](#) – definition of "industrialized housing", "residential occupancy", "housing component".

ii) IHA Certification:

- (1) All modular components, modules and/or structures require certification of manufacturer and the modular elements through the PA Department of Community and Economic Development (DCED).¹¹

iii) Permit Review Roles:

- (1) Primary: DCED's Third Party Agency is responsible to review all IHA regulated components for installation at job site and compliance with the IHA and current building codes.^{12 13}
- (2) Secondary: PLI is responsible to review all site built elements, coordination of IHA regulated components, and oversight related to issuance of Certificate of Occupancy.¹⁴
- (3) Other Agency: Allegheny County Health Department (ACHD) has authority to enforce PA UCC plumbing requirements, see Section 1.d. It is the permit holder's responsibility to coordinate all plumbing related inspection requirements by [contacting ACHD Plumbing Program](#).

iv) PLI Submission:

(1) IHA Components:

- (a) PLI's Residential Building Industrialized / Manufactured Housing Form and submission of:
- (i) Copy of DCED's current "notice of approval".¹⁵
 - (ii) Copy of Manufacturer's "Site Installation Inspection Checklist".¹⁵
 - (iii) Copy of "building system documentation" stamped approved by the manufacturer's Third Party Agency (TPA) to document TPA's review and approval of compliance.¹⁶

(2) Non-IHA Components:

- (a) Any site built elements or other work or components not covered by the IHA shall comply with the UCC, this includes but is not limited to site work, construction of foundations, and utility connections.¹⁴
- (b) This work shall conform to PLI's standard application submission and inspection requirements.

(3) Modification of IHA Components:

- (a) Alteration, repair, or change in occupancy after installation and issuance of original Certificate of Occupancy shall comply with PA UCC requirements.
- (b) This work shall be considered structural in nature and shall conform to PLI's standard application submission and inspection requirements.

¹¹ [IHA Regulations Section 145.31](#)

¹² [IHA Regulations Section 145.52](#)

¹³ [IHA Regulations Section 145.41](#)

¹⁴ [PA UCC Regulations Section 403.25\(b\)](#)

¹⁵ [IHA Regulations Section 145.82](#)

¹⁶ [IHA Regulations Section 145.52](#)

- v) Inspections:
 - (1) IHA Components:
 - (a) IHA component fabrication/factory shall be inspected by DCED registered Third Party Agencies and shall bear a DCED insignia of certification.¹⁷
 - (b) PLI Inspectors shall confirm DCED insignia serial numbers and data plates and report any damage to IHA components.
 - (2) Non-IHA components: PLI Inspectors shall inspect all non-IHA components.
- vi) Permit Completion/Issuance of Certificate of Occupancy: PLI will issue a Certificate of Occupancy after the following requirements have been met^{18 19 20}:
 - (1) The permit holders provides a completed copy of Manufacturer's "Site Installation Inspection Checklist" to confirm proper installation of IHA components.
 - (2) All required close-out documents are provided for all required permits.
 - (3) Documentation of plumbing inspection final is provided.
 - (4) Proper PLI inspections have been performed and passed for all non-IHA components under applicable valid PLI permits.
 - (5) All required construction is complete including that which is a condition of Department of City Planning approval, such as landscaping.

5. **Non-UCC Recognized Pre-Fabricated Construction:**

- a) Applicability:
 - i) Pre-fabricated components and structures not covered by item 2.
 - ii) Pre-fabricated components and structures constructed off-site for final installation on the job-site.
- b) Permit Review:
 - i) See Section 1.d for PLI authority.
 - ii) See Section 1.d for Allegheny County Health Department (ACHD) has authority.
- c) PLI Submission:
 - i) Submission Standard: PLI's standard application submission guidelines shall generally apply.
 - ii) PA UCC Compliance: Documentation shall demonstrate how pre-fabricated elements comply with applicable UCC requirements which may include, but are not limited to:
 - (1) Building: occupancy/use, construction type, allowable height/area, required fire-ratings including those based on proximity to a lot line, means of egress, frost-depth footings/foundation system, and structural capacity.
 - (2) Accessibility: accessible entrance/route and accessible features.

¹⁷ [IHA Regulations Section 145.60](#)

¹⁸ [IHA Regulations Section 145.83](#)

¹⁹ [PA UCC Regulations Section 403.65](#)

²⁰ [PA UCC Regulations Section 403.46](#)

- (3) Energy: pre-fabricated exterior thermal envelope components, mechanical systems, and lighting systems.
- (4) Mechanical: required ventilation and/or exhaust systems, installation of concealed components.
- (5) Electrical: wiring methods, installation of concealed components.
- (6) Plumbing: required fixtures, connection to water supply, and connection to sanitary drainage system. Allegheny County Health Department (ACHD) has the authority to enforce PA UCC plumbing requirements, see Section 1.d. It is the permit holder's responsibility to coordinate all plumbing related inspection requirements by [contacting ACHD Plumbing Program](#).
- iii) Modification of components/structures: Modification to components, such as shipping containers, shall include calculations to confirm how the modifications were evaluated by the PA architect and/or engineer. The following would be exempt from this requirement:
 - (1) Shipping container components/products evaluated per ICC-ES AC462 for compliance with 2015 IBC requirements and documented to be installed per certification.
- iv) Variances: If strict compliance with a PA UCC requirement cannot be demonstrated and/or the use an alternative means of compliance not recognized by the PA UCC is proposed, an appeal application shall be submitted to [PLI's Board of Appeals](#)²¹, except for these:
 - (a) Accessibility: Variances related to accessibility requirements shall be made to the PA Department of Labor & Industry's Accessibility Advisory Board.²²
 - (b) Plumbing: Variances related to plumbing requirements shall be submitted to the Allegheny County Health Department Plumbing Division, see Section 1.d.
- v) Pre-fabricated Inspector Documentation:
 - (1) Applicability: See Section 5.d for applicability.
 - (2) Documentation: When Pre-fabricated Inspections are required, the applicant shall provide:
 - (a) Copy of Certificate of Insurance (COI) for the company whom employs the Pre-fabricated Inspector(s) identifying the following:
 - (i) Errors and omissions liability insurance coverage minimum of \$1 million for each person and each occurrence to satisfy claims or judgments for property damage or personal injury, or both.²³
 - (ii) "Description of operations" identifying the individual(s) who will be performing pre-fabricated inspections.
 - (b) Copy of UCC certifications for individual(s) whom will inspect pre-fabricated (off-site) construction under applicable certification categories, as identified in Section 5.d.3.²⁴

d) Construction/Inspections:

²¹ [PA UCC Regulations Section 403.121](#)

²² [PA UCC Regulations Section 403.142](#)

²³ [PA UCC Regulations Sections 401.12](#)

²⁴ [PA UCC Regulations Section 401.3](#)

i) Pre-fabricated Inspections

- (1) Applicability: Shall apply to pre-fabricated components and pre-fabricated structures which include concealed elements which cannot be inspected at the job-site without disassembly, damage or destruction.
- (2) Other Agency Authorization:
 - (a) Plumbing: Allegheny County Health Department (ACHD) has the authority to enforce PA UCC plumbing requirements, see Section 1.d. It is the permit holder's responsibility to coordinate all plumbing related inspection requirements by [contacting ACHD Plumbing Program](#).
- (3) Pre-fabricated Inspector Certifications: Pre-fabricated inspections required by this section shall be performed by an individual(s) with an appropriate UCC certifications, as follows:
 - (i) Building
 - (ii) Accessibility
 - (iii) Energy
 1. Thermal envelope
 2. Mechanical systems
 3. Lighting systems
 - (iv) Mechanical/Fuel Gas
 - (v) Electrical
 - (vi) Fire Alarm/Suppression
 1. Building certification per UCC requirements
 2. ICC Fire Inspector F1, per PLI standards
- (4) Pre-fabricated Inspection Reports: All Individuals performing inspections for pre-fabricated elements shall provide PLI inspection reports that confirm construction conforms with UCC requirements prior to installation of pre-fabricated elements on the job-site. These inspection reports shall include the following, as applicable:
 - (a) Concrete Slab / Under-floor Inspection: building inspection performed prior to pouring concrete slab and/or installation of floor sheathing to confirm that all reinforcing and system equipment, conduit, duct, and/or piping is properly installed prior to being concealed.
 - (i) Depending on nature of pre-fabricated structure this may be performed on-site by PLI Inspector instead of pre-fabricated inspector.
 - (b) Rough Inspection: performed after all framing (floor, wall, and roof), blocking and bracing is complete to confirm that concealed components of the following systems are properly installed prior to being concealed:
 - (i) Accessibility blocking, mechanical, electric, fire alarm, suppression system, and plumbing (contact Allegheny County Health Department for requirements).
 - (c) Framing: building inspection performed after all passed rough-in sections to confirm that all framing (floor, wall, and roof), blocking and bracing is properly installed.
 - (d) Insulation: energy/building inspection performed after framing inspection to ensure that all floor, wall, and roof insulation is properly installed.

- (e) Wall/Ceiling covering interior and/or exterior: building inspection to confirm that interior wall/ceiling sheathing is properly installed.
- (f) Fire and smoke-resistant penetrations: building inspection to confirm that penetrations of fire-rated and/or smoke resistant assemblies are properly protected.
- (g) Final Inspections: required for all systems present to ensure that all pre-fabricated elements have been installed properly.

ii) PLI Inspections

(I) The following inspections will be performed by PLI Inspector(s):

- (a) Pre-Inspection: building inspection to confirm that project scope, sequencing and inspection requirements are understood by all parties.
- (b) Footing and foundation: building inspection to confirm that the location, size and any reinforcing is properly installed.
 - (i) Special Inspections may also be required to confirm soil conditions, concrete type and strength, reinforcing requirements, and review of testing results.
- (c) Underground: performed for mechanical, electric, suppression system, energy/insulation, and plumbing (performed by Allegheny County Health Department) permits to confirm proper installation of underground duct, piping and conduit prior to being concealed.
- (d) Concrete Slab / Under-floor Inspection: building inspection performed prior to pouring concrete slab and/or installation of floor sheathing to confirm that all reinforcing and system equipment, conduit, duct, and/or piping is properly installed prior to being concealed.
 - (i) Depending on nature of pre-fabricated structure this may be performed off-site by pre-fabricated inspector instead of PLI Inspector.
- (e) Lowest floor elevation: building inspection to confirm elevation of lowest floor elevation for structures installed/erected in regulated flood hazard area.
- (f) Pre-fabricated framing: building inspection to confirm that pre-fabricated elements have been properly installed on site and that all required pre-fabricated inspection records have been provided.
- (g) Additional Inspections for Site Built Elements:
 - (i) Footing and foundation
 - (ii) Underground
 - (iii) Concrete slab / Under-floor Inspection
 - (iv) Lowest floor elevation
 - (v) Rough (for all permits)
 - (vi) Framing
 - (vii) Insulation
 - (viii) Wall/Ceiling covering interior and/or exterior
 - (ix) Fire and smoke-resistant penetrations
 - (x) Final (for all permits)