Utah Weatherization Program Notice

Effective Date 11-21-2016

UWPN # 2016-010

Subject: Utah Field Guide Section 1.5.3 revision 1

Basis: Section D1.1.b.i.

Purpose: Revise Utah Field Guide Section 1.5.3 based on DOE feedback

Scope: This change affects the Utah Field Guide as produced by Saturn Resources version 090114.

Responsibilities:

Local Agencies –

- Print revision and make available to all staff and contractors. Update all copies of the current Utah Field Guide.
- Provide local training to staff and contractors to ensure the changes are understood and implemented.

State WAP Staff –

- Provide printable copy of change and a comparison of the old and new versions. (included in UWPN)
- Provide any technical assistance to facilitate implementation.
- Monitor to ensure changes have been distributed and are being implemented.

Brad Carpenter
Weatherization Program Manager
State of Utah

Changes to the Field Guide pertaining to:

VAPOR BARRIER IN CRAWL SPACE

Effective November 16, 2016. Changes were proposed to the Utah Wx network on July 18, 2016, with a comment period from July 18 thru August 1, 2016. No comments were received from the network.

The following changes are being implemented in order to clarify Utah's work standards, and to align them with the IRC, SWS, and Program Guidelines. These changes establish a minimum safe working height in a crawlspace, and provide guidance on which measures or portions of measures should be installed when faced with height limitations and trip hazards.

Old Guidance
1.5.3 Crawl Space Moisture and Safety Issues *SWS Detail: 2.0111.2 Crawl Spaces—Pre-Work Qualifications, 2.0111.3 Crawl Spaces—Debris Removal, 2.0403.2 Closed Crawl Spaces—Ground Moisture Barriers, 2.0403.1 Vented Crawl Spaces—Ground Moisture Barrier* Air, water vapor, liquid water, and pollutants move through soil and into crawl spaces and dirt-floor basements. Even if soil's surface seems dry and airtight, the soil may allow a lot of water vapor and soil gases to enter a home. Cover the ground with an airtight moisture barrier to prevent the movement of moisture and soil gases from the ground into the crawl space using these procedures. ✓ The crawl space should have an access hatch or door that is recommended to be 24 inches by 18 inches. ✓ Remove biodegradable matter, such as wood and cardboard, from the crawl space. ✓ Cover the ground completely with a ground moisture barrier such as 6-mil polyethylene where little or no foot traffic exists. Install reinforced or cross-linked polyethylene where the barrier will see foot traffic, such as when the crawl space is used for storage. ✓ The edges of the barrier should run at least 6" up the foundation walls and internal supporting structures. Fasten the barrier with wood strips, masonry fasteners, and sealant.

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- ✓ Installers may also adhere the barrier with durable adhesive to a clean and flat masonry surface.
- ✓ Seal the edges and seams with urethane, acoustical sealant, butyl caulking, or construction tape to create an airtight seal between the crawl space and the ground underneath.
- ✓ To avoid trapping of moisture against wood surfaces, ground moisture barriers must not touch wood structural members, such as posts, mud sills, or floor joists.

as when the crawl space is used for storage.

- ✓ The edges of the barrier should run at least 6" up the foundation walls and internal supporting structures. Fasten the barrier with wood strips, masonry fasteners, and/or sealant.
- ✓ Installers may also adhere the barrier with durable adhesive to a clean and flat masonry surface.
- ✓ Seams and joints shall overlap 12 inches with an airtight seal.
- ✓ Seal the edges and seams with urethane, acoustical sealant, butyl caulking, a durable adhesive, or construction tape to create an airtight seal between the crawl space and the ground underneath.
- ✓ To avoid trapping of moisture against wood surfaces, ground moisture barriers must not touch wood structural members, such as posts, mud sills, or floor joists.
- ✓ Any punctures in the vapor barrier should be taped and sealed.
- ✓ The vapor barrier should be installed so that service and maintenance of any equipment in the crawl space can be performed without damaging the barrier.
- ✓ When a partial vapor barrier is installed or the vapor barrier is deferred, ASHRAE shall be addressed using balanced or positive pressure.

Other Considerations

- Bulk moisture or standing water in the crawl should be addressed prior to installing vapor barrier (see Health & Safety guidance)
- When there are signs of water seeping thru the foundation wall measures should be taken to prevent the moisture from entering the building envelope. Consider installing a vapor barrier on the interior side of the exterior walls to a height 1' above the outside grade, or venting the crawl space.
- When access to the crawl space is less than 24 inches x 18 inches, consider modifying the access as an IRM.
- When the majority of the crawl space is 30 inches or taller, but portions of the crawl space are less than 30 inches tall, the vapor barrier should be installed up to the point where the

height drops below 30 inches or as far as can be safely installed. Other Weatherization Measures in the crawl space, such as air sealing and insulating, shall also be installed according to the 30 inch height limitation.

- When the majority of the crawl space is less than 30 inches tall, the vapor barrier and all other weatherization measures in the crawl space should be considered for deferral.
- If HVAC or other major measures must be deferred, and the energy savings from the remainder of measures would be minimal, consider deferring the entire job.
- Extra consideration should be taken on homes with a hand-dug basement to prevent the vapor barrier from becoming a trip hazard. The auditor should determine if a complete or partial vapor barrier can be installed.
- Mobile homes usually have enough ventilation under the home and do not need a vapor barrier unless the home's skirting is extremely air-tight, or the home is installed on a masonry or concrete foundation.

Field Guide 1.5.3. Rev.1

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Air, water vapor, liquid water, and pollutants move through soil and into crawl spaces and dirt-floor basements. Even if soil's surface seems dry and airtight, the soil may allow a lot of water vapor and soil gases to enter a home.

Exposed Earth in crawl space or basement foundations shall be covered with a continuous Vapor barrier to prevent the movement of moisture and soil gases from the ground into the home using these procedures.

- ✓ The crawl space should have an access hatch or door that is recommended to be 24 inches by 18 inches.
- ✓ The majority of the crawl space should be at least 30 inches tall to allow enough room to safely perform weatherization measures
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