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ICC-ES Evaluation Report

ESR-1901*

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DIVISION: 33 00 00—UTILITIES
Section: 33 46 00—Subdrainage

REPORT HOLDER:

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EVALUATION SUBJECT:

J-DRain® SWD-6, SWD-7 1/4, SWD-12, 200 AND 220 DRAIN SYSTEMS

ADDITIONAL LISTEES:

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MAR-FLEX WATERPROOFING AND BASEMENT PRODUCTS
500 BUSINESS PARKWAY
CARLISLE, OHIO 45005
(513) 422-7285
www.mar-flex.com
technicalinfo@mar-flex.com

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2015, 2012, 2009 and 2006 *International Building Code®* (IBC)
- 2015, 2012, 2009 and 2006 *International Residential Code®* (IRC)
- BOCA® *National Building Code*/1999 (BNBC)
- 2013 *Abu Dhabi International Building Code* (ADIBC)†

†The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced in this report are the same sections in the ADIBC.

Property evaluated:

Foundation drainage system

2.0 USES

J-DRain® Drains are used as alternatives to conventional crushed stone- or gravel-covered pipe drains installed around building foundations in accordance with the applicable code.

3.0 DESCRIPTION

3.1 General:

3.1.1 J-DRain® SWD: The J-DRain® SWD-6, SWD-7 1/4 and SWD-12 are composite drainage systems consisting of a three-dimensional drainage core and a nonwoven, needle-punched filter fabric and fittings. The filter fabric is wrapped around and bonded to the drainage core, preventing the filter fabric from being drawn into the flow channels during backfilling. Soil particles are held back by the filter fabric, allowing water to pass through to the drainage core.

J-DRain® SWD is available in three widths: SWD-6 is 1 inch deep (25.4 mm) and has a nominal width of 6 inches (152 mm); SWD-7 1/4 is 1 inch deep (25.4 mm) and has a nominal width of 7 1/4 inches (184 mm); SWD-12 is 1 inch deep (25.4 mm) and has a nominal width of 12 inches (305 mm). SWD-6, SWD-7 1/4 and SWD-12 are supplied in rolls 165 feet (50.3 m) long.

3.1.2 J-DRain® 200 Series: The J-DRain® 200 and 220 are composite drainage sheets consisting of a three-dimensional drainage core and a nonwoven, needle-punched filter fabric and fittings. The filter fabric is wrapped around and bonded to the drainage core, preventing the filter fabric from being drawn into the flow channels during backfilling. Soil particles are held back by the filter fabric, allowing water to pass through to the drainage core.

J-DRain® 200 is 0.4 inch deep (10.16 mm) and 4 feet wide (1.22 m), and is supplied in rolls 50 feet (15.24 m) long. J-DRain® 220 is identical to J-DRain® 200, with the addition of a protective sheet bonded to the back side of the core to provide protection for the building waterproofing membranes.

3.2 Components and Fittings:

3.2.1 Rigid Core: The rigid core component of the drains is thermoformed from a black extruded plastic to form an internal dimpled drainage core with a 1-inch depth (25.4 mm).

3.2.2 Filter Fabric: The filter fabric component of the drain is a geotextile, made from polypropylene, black in color, nonwoven and needle-punched for water flow.

3.2.3 Splice Fitting: Splice fittings are used to connect SWD-6 and SWD-12 rolls of strip drains together using a minimum 3-inch-wide (76 mm) polyethylene tape at each joint.

3.2.4 6-0 End Cap Fitting: The 6-0 end cap fitting is used to cover a cut end of SWD-6, either horizontally or vertically. A minimum 3-inch-wide (76 mm) polyethylene tape is used to secure each joint.

3.2.5 End Outlet Fitting: The outlet fitting is a black plastic fitting used to connect SWD-6 and SWD-12 to the drainage piping, using a minimum 3-inch-wide (76 mm) polyethylene tape at the joint.

3.2.6 Corner Fitting: The corner fitting is a black plastic fitting used to connect SWD-6, SWD-7$^1/_4$ and SWD-12 sections around an inside or outside corner at a 90-degree angle. A minimum 3-inch-wide (76 mm) polyethylene tape is used to secure each joint.

3.2.7 6×6 Step Down Fitting: The 6×6 step down fitting is a black plastic fitting used with SWD-6 to facilitate changing vertical height along a foundation. A minimum 3-inch-wide (76 mm) polyethylene tape is used to secure each joint.

3.2.8 Side-Outlet Fitting: The side-outlet fitting is used to make an in-line transition for SWD-6, SWD-7$^1/_4$ and SWD-12 for intermediate collection of water along the footing. A minimum 3-inch-wide (76 mm) polyethylene tape is used to secure each joint.

4.0 INSTALLATION

4.1 General:

The J-DRain® SWD-6, SWD-7$^1/_4$, SWD-12, 200 and 220 must be installed in accordance with this report and the manufacturer's published installation instructions. Where the manufacturer's published installation instructions and this report differ, this report must govern. For typical installation drawings, refer to Figure 1.

Prior to installation of J-DRain SWD-6, SWD-12, 200 and 220, waterproofing or dampproofing must be installed on the below-grade foundation or retaining wall in accordance with the applicable code.

4.2 J-DRain® SWD-6 and SWD-12:

J-DRain® SWD-6 and SWD-12 drainage material must be unrolled along the footing at the base of the wall parallel to the length of the wall. The filter fabric adheres to the partially cured waterproofing or dampproofing. When SWD-6 or SWD-12 is applied to cured waterproofing, dampproofing or concrete foundations, an adhesive compatible with the drainage material, or mechanical means (i.e., insulation anchors as specified by the waterproofing or dampproofing manufacturer), must be used to hold the drain system in place. An outlet fitting must be attached to the end of the SWD-6 or SWD-12, and a 4-inch-diameter (102 mm) plastic pipe complying with the applicable plumbing code is attached to the outlet fitting. The SWD-6 or SWD-12 perimeter drain must discharge by gravity or mechanical means into an approved drainage system that complies with the applicable plumbing code. The below-grade foundation or retaining wall must then be backfilled and compacted to the density required by the applicable code.

4.3 J-DRain® 200 Series:

The J-DRain® 200 and 220 sheets are installed from the base of the footing upward to within 6 inches (152.4 mm) below the top of the backfill and provide full coverage of the foundation wall. The sheets must be attached to the foundation wall with an adhesive compatible with the drainage material, or by mechanical means (i.e., insulation anchors as specified by the waterproofing or dampproofing manufacturer). The J-DRain® 200 and 220 must be installed with a collection system of J-DRain® SWD-6 or SWD-12 at the base of the foundation wall. The J-DRain® 200 and 220 must be installed prior to the collection system described in Section 4.2. The SWD-7$^1/_4$ is an alternative collection system used with J-DRain® 200 and 220. SWD-7$^1/_4$ must be installed in accordance with Section 4.4. The below-grade foundation or retaining wall must then be backfilled and compacted to the density required by the applicable code.

4.4 J-DRain® SWD-7$^1/_4$:

The SWD-7$^1/_4$ drainage material is installed continuously on the interior of the footing forms prior to placement of concrete. Drainage material is cast in place after the concrete is placed in forms and forms are removed. (Note: Drainage material may be placed on the exterior and/or interior vertical surface of the footing.) SWD-7$^1/_4$ must be attached to a side outlet fitting with a 4-inch-diameter (102 mm) plastic pipe complying with applicable plumbing code (i.e., bleeder). The SWD-7$^1/_4$ perimeter drain must discharge by gravity or mechanical means into an approved drainage system that complies with the applicable plumbing code (i.e., sump pump). The 3-inch-wide (76 mm) tape must not be used with the SWD-7$^1/_4$ cast-in-place drainage system.

J-DRain® SWD-7$^1/_4$ as an option may be used as an exterior vertical drain strip (chimney), mechanically fastened from the top of wall to the base of footing.

5.0 CONDITIONS OF USE

The J-DRain® SWD-6, SWD-7$^1/_4$, SWD-12, 200 and 220 described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 The manufacturer must submit installation instructions for the drain at the time of permit application.

5.2 When adhesives are used to attach the drainage system to foundation or retaining walls, JDR Enterprises, Inc., must verify compatibility of the adhesives with the drainage system and the waterproofing and dampproofing materials.

5.3 The J-DRain® 200 and 220 are limited to use on foundation walls less than 20 feet (6.10 m) in height.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Composite Foundation Drainage Systems (AC243), dated October 2005, editorially revised November 2015.

7.0 IDENTIFICATION

Each package of the J-DRain® SWD-6, SWD-7$^1/_4$, SWD-12, 200 and 220 drains must be identified with the name and the address of JDR Enterprises, Inc., or one of the report listees, as indicated in Table 1 of this report; the product name as noted in Table 1; and the evaluation report number (ESR-1901).

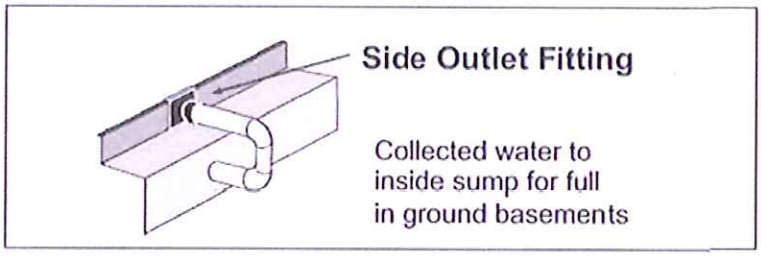
TABLE 1—COMPANY NAME/PRODUCT TRADE NAME CROSS-REFERENCE

COMPANY NAME	PRODUCT TRADE NAMES				
JDR Enterprises, Inc.	J-DRain SWD-6	J-Drain SWD-7 1/4	J-Drain SWD-12	J-DRain 200	J-DRain 220
LeBlanc Manufacturing, LLC	N/A	Great Lakes Drain SWD-7 1/4	N/A	Great Lakes Drain 200	Great Lakes Drain 220
Mar-Flex Waterproofing	6" Geo DrainTile DrainAway	N/A	12" Geo DrainTile DrainAway	C-Drain 110 Type I	N/A

N/A = Not Applicable

Weeped or Bleed Pipe Footings

Option 1



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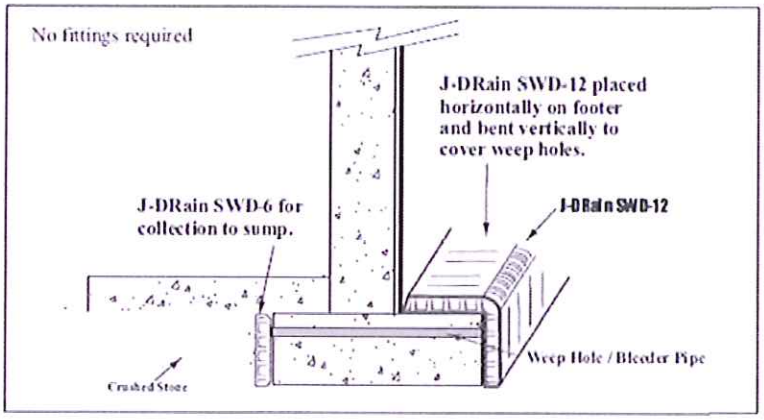

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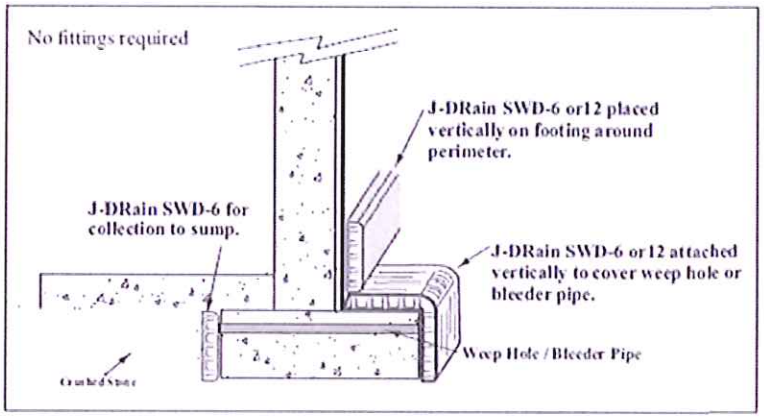

FIGURE1—TYPICAL INSTALLATION DRAWINGS