

# PROJECT PROFILE

## Armed Forces Reserve Center

### Well-Guarded

**New Maine Army National Guard center is water- and air-tight.**

The construction of a new training center for the Maine Army National Guard was welcome news to the residents of Brunswick, Maine. For the former Brunswick Naval Air Station closed in 2005, it meant a continuation of a military presence in Brunswick that dated back to 1943. Importantly, it meant keeping roughly 5,000 military and civilian jobs and an estimated \$330 million in annual regional income.

For Maine-based Standard Waterproofing, the planned \$23 million Armed Forces Reserve Center meant a significant job opportunity for New England's only female-owned waterproofing contractor. And for Carlisle Coatings & Waterproofing (CCW), it meant a chance to showcase a wide range of products designed to protect an entire building envelope from below grade to rooftop.

When complete, the new 56,000-square-foot facility will house the 133rd Engineer Battalion, providing classrooms and other training facilities. It will meet LEED® silver standards, incorporating many sustainable features such as solar hot water, rainwater harvesting and vegetative roof assemblies.

Theresa Thompson, Standard Waterproofing vice president, said her company had worked on several National Guard projects in the state but even she was surprised to see the "Cadillac" waterproofing specifications drawn up by Oak Point Associates from Biddeford, Maine.

"The architect designed a waterproofing plan that went from under slab to roof," she said. "I don't often see a waterproofing plan this extensive, one that specified details where no expense was spared. The details are what I would call the 'Cadillac' version and certainly provided the greatest protection available."

To complete the job, Standard chose CCW's MiraPly™-H waterproofing system for the under footings and slab conditions. CCW's MiraDRI® and MiraDRAIN® were chosen for foundation wall waterproofing. Barriseal-S was the system of choice for the air/vapor barrier system with CCW's Sure-Seal® Pressure-Sensitive Elastoform Flashing for the window tie-ins. To complete the "all-CCW-products" line-up, Thompson said roofers picked 725TR for use as a vapor barrier under the roof.

"CCW systems were specified and cost effective," said Thompson. "For us, it was an easy decision since we've installed most of these products for over 10 years and we knew we would have excellent backing from Carlisle for any technical support we needed."

MiraDRI 860 is a self-adhering waterproofing membrane designed for vertical and horizontal applications. CCW MiraDRAIN 6000 offers high-flow, high-compressive strength for vertical single-sided subsurface drainage applications. CCW MiraDRAIN 6000 is designed for use over CCW waterproofing membranes. Sure-Seal Pressure-Sensitive Elastoform is a fully adhered flexible flashing that cures in place for easy installation. 725TR is a 40-mil composite designed for use as a temporary roof during prolonged re-roofing projects or as a vapor barrier under roofing systems.

### Armed Forces Reserve Center at a Glance

**Location:**

Brunswick, ME

**Owner:**

Army National Guard

**Architect:**

Oak Point Associates

**Carlisle Coatings & Waterproofing Contractor:**  
Standard Waterproofing, Inc.

**Carlisle Coatings & Waterproofing Products:**

- MiraPly-H, MiraDRI 860
- CCW MiraDRAIN® 6000
- CCW-705
- Barriseal-S
- Pressure-Sensitive Elastoform Flashing

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MiraPLY-H is a horizontal-grade, self-adhering, blindside waterproofing membrane that is a fully adhered composite comprised of a tough, durable and flexible TPO backing with a butyl alloy adhesive. The combined technologies provide a one-step compression seal gasket that combats shifting and soil separation from the foundation wall. And although more than five million square feet have been installed nationwide, Standard had limited experience with the product.

"This was our first large project using MiraPLY so we knew learning how to install it along with all the accessories was going to be a challenge," said Thompson. "Adding to the challenge was the fact that most of it would have to be installed under slab in Maine winter conditions."

Thompson said her crew began work in fall 2012. Throughout the winter they laid 55,000 square feet of MiraPLY below grade. Under supervision by on-site CCW technical service representatives, the crew learned how to lay out the membrane and roll seams to ensure adhesion and smooth any fish-mouths. If fish-mouths could not be rolled out, installers were shown how to overlay the void using CCW MiraPLY Detail Tape or another similar product, thus preventing concrete from entering into the seam area.

"It took some getting used to, but after a while the crew learned how to handle the MiraPLY-H," said Thompson. "The good thing was that Carlisle was behind us 100 percent and helped out in every way they could. It was nice to have that personal support and assistance."

Once the below-grade MiraPLY installation was complete, Thompson said installers began to spray the air/vapor barrier. "They sprayed Barriseal-S on approximately 35,000 square feet of foundation walls and used Sure-Seal Pressure-Sensitive Elastoform at all window perimeters."

Thompson said winter temperatures slowed the air/vapor barrier installation. "Luckily, we knew how to negotiate this system in colder temperatures, but production inevitably slowed," she said. "At times, we were one day ahead of the window installers."

Summer brought its own challenges while the Standard crew installed MiraPLY above grade, and also installed MiraDRI and MiraDRAIN. "The challenges here were that we had a lot of rain and were having to pump water out of our working area as well as having to prep all the foundation walls. But even with all the challenges, we were able to complete our scope of work and the building is scheduled to open in summer of 2014."

Thompson said this project was unique on many levels but what stands out is that a single manufacturer was used for the entire building envelope.

"I personally see very few projects where the building envelope uses one manufacturer like this but it makes it easy, especially when it comes to the warranty," she said. "It's a good concept."

