

State of the Sustainable Industry

ASPHALTPRO

PRODUCTION - PROFESSIONALS - PRODUCTS

**GMI Updates
for Growth**

- **The Biggest CIR in the West**
- **Workzone Intrusion Roundup**
- **What's in Your Testing Arsenal?**
- **Earn Grant Money for Advanced Tech**
- **Attract, Retain, Grow with Your Workforce**

**DECEMBER 2022
WWW.THEASPHALTPRO.COM**



The Commonwealth Paving crew placed the high-RAP mix rejuvenated with ReLIXER on the demonstration project, which took place on Riverside Parkway, Ashburn, Virginia. All photos courtesy of Sripath Technologies

VDOT DEMO REJUVENATES HIGH-RAP

Ashburn roadway incorporates high-RAP mix with ReLIXER®

BY DEEPAK MADAN

Recently, the Virginia Department of Transportation (VDOT), Northern Virginia (NOVA) District, organized a demonstration project to pave roadways in Ashburn, using a high reclaimed asphalt pavement (RAP) mix dosed with the recycling agent ReLIXER® from Sripath Technologies® LLC, Mahwah, New Jersey.

ReLIXER is a bio-based asphalt rejuvenator. It is designed to soften and restore the functional properties of the aged binder, aid workability and compactability of the asphalt mix, deliver the required roadway performance and durability, and reduce the need for virgin binder. “ReLIXER has been vetted, tested, approved/listed, and is trusted by experts, authorities and paving contractors around the world since 2015,” said Krishna Srinivasan, president of Sripath Technologies.

The ReLIXER demonstration project was a joint effort between the VDOT NOVA District and Virginia Transportation Research Council (VTRC); Associated Asphalt Partners LLC—the binder supplier; Superior Paving Corporation—the asphalt mix producer; Commonwealth Paving Inc.—the paving contractor; and Sripath Technologies LLC—the ReLIXER rejuvenator supplier.

FROM PLAN TO EXECUTION

Prior to the on-site demonstration, an exhaustive round of laboratory testing of the binder and high-RAP mix was organized by the

VTRC research team. Pre-testing was conducted by the laboratories at VTRC, Associated Asphalt and Superior Paving with input from Sripath Technologies.

Sripath Technologies supplied its recycling agent to Associated Asphalt ahead of the trial. Associated Asphalt blended ReLIXER with a PG64S-22 binder at their terminal in Martinsburg, West Virginia, and shipped approximately 70 tons of the ReLIXER-dosed binder to Superior ahead of the planned job.

“ReLIXER was easy to incorporate into our binder plant operation,” said Mike Tyree, technical services, Associated Asphalt. “We were able to readily blend the ReLIXER into our binder to create a ReLIXER-dosed binder, which was easy and safe to transport.”

Over a two-day period, the Superior operations team did a fantastic job in manufacturing and shipping approximately 2,000 tons of a high-RAP mix, produced using 40% RAP, virgin aggregates, and the ReLIXER-dosed binder supplied by Associated Asphalt.

The high-RAP mix was shipped to the paving site on Riverside Parkway / Woodridge Parkway in Ashburn, Virginia, about 5 miles from the plant. All four lanes on stretches of the parkways were paved by Commonwealth Paving. Sufficient high-RAP mix was produced to pave a 1.5-inch wearing course on approximately 5 lane-miles of the parkways. Local VDOT Inspectors were present on-site to monitor the job.

Observers noted the high-RAP mix was easy to produce, easy to ship and transfer, and easy to pave and compact on the prepared road surface. The ReLIXER-dosed high-RAP mix was easy to work, even in hand-work sections, according to Commonwealth Paving. The paved surface was smooth and exhibited no flaws. The parkways were opened to traffic within a few hours of paving.

MULTIPLE TEAMS WORK TOWARD SUSTAINABILITY

VDOT, with overall responsibility for managing, funding, and overseeing all state-maintained roadway projects in the Commonwealth of Virginia, was a key stakeholder in this project. “The VDOT NOVA District and VTRC teams did an excellent job in coordinating the ReLIXER demonstration job, effectively engaging all parties involved with the



TOP: VTRC took multiple samples of the high-RAP mix rejuvenated with ReLIXER at the Superior Paving Corporation hot-mix plant for testing at its lab. **BOTTOM:** This section of Riverside Parkway required hand work of the high-RAP mix rejuvenated with ReLIXER. The team reported the mix was easy to work, easy to pave and easy to compact.

project. They managed and executed the project flawlessly. It was a pleasure to work with them,” Srinivasan said.

The VTRC team arranged for the collection of a number of binder and mix samples and field cores over the course of the two days of production and laydown. They plan to conduct a comprehensive evaluation of the mix and monitor the performance of the paved roadway.

Senior Research Scientist Jhony Habbouche, who was overseeing this project for VTRC, stated, “Over the last several decades, VDOT has evaluated the use and performance of several technologies that can help reduce environmental burdens from pavements, including the use of relatively higher RAP contents. The ReLIXER field trial will help the agency characterize and assess the effectiveness of using recycling agents in asphalt mixtures. This will enhance and facilitate the incorporation of innovative materials as part of the agency’s balanced mix design initiative.”

VTRC Associate Principal Research Scientist Stacey Diefenderfer said, “Improving mixture and pavement performance is a priority for VDOT. Evaluating different tools for achieving this goal in a sustainable manner, such as the incorporation of higher RAP contents and recycling agents into mixes, is an important part of this effort.”

Associated Asphalt is a large, independent asphalt terminal, storage, and distribution company on the east coast of the United States. Backed by over seven decades of industry experience and a 6-million-barrel capacity, they serve customers with a focus on quality, safety and environmental responsibility.

Mike Worden, technical service manager at Associated Asphalt, stated, “It was easy to blend the ReLIXER into the binder. We can easily and reliably produce a ReLIXER-dosed binder at our terminal. On our 70-ton production run, we achieved almost exactly the same test values as we did on our initial lab samples.”

Superior Paving is one of the largest asphalt producers and paving contractors in Northern Virginia. Superior Paving is dedicated

to providing quality paving for the safety of the traveling public and have been recognized for the quality of their work and the strength of their leadership, employees and customer responsiveness.

Superior Paving was the host for the ReLIXER demonstration project. Danny Poole, director of quality assurance at Superior Paving, said, “We appreciate the opportunity for us to partner with VDOT and VTRC, Associated Asphalt, and Sripath Technologies to explore these rejuvenation technologies and continue to build sustainable pavements. This research, which will take time to draw to conclusion, could possibly aid in our balanced mix design efforts. We achieved good results on IDEAL-CT and Cantabro tests for both the mix design and during production.”

Sripath Technologies develops, manufactures and markets a wide range of innovative additives, such as rejuvenators, oils, and polymers to enhance the performance of bitumen and asphalt for paving and roofing applications, worldwide. One of Sripath’s key products is its RAP recycling agent ReLIXER.

“ReLIXER is a specially engineered blend of bio-based oils, designed to rapidly penetrate RAP particles and restore the functionality of the aged binder in RAP,” Srinivasan said.

As spokesperson for the company shared its application to sustainability: “ReLIXER helps reduce the carbon footprint and greenhouse gas emissions. It reduces the need for virgin bitumen and lowers the overall cost of the mix....We are glad to see that ReLIXER is an integral part of VDOT’s green initiative.” **AP**

Deepak Madan is the chief marketing and business development officer at Sripath Technologies. For more information, visit sripath.com/.

