BIG IMPACT, SMALL IMPRINT

Operating in the middle of the bustling city of Denver, Colorado, this city's municipal crews are working hard to make the most out of their asphalt recycling enterprise while taking up the least amount of space. The City and County of Denver's asphalt recycling process is a full-service operation. From milling roads to paving new ones, this city's crews ensure that the streets are maintained.

For the City and County, space was the primary concern when considering equipment. "We're operating inside the City of Denver, so property is very limited. To solve that problem, we looked for a machine that could feed, crush and screen all on one chassis to keep the overall footprint compact," says a manger with the City and County.

Mike Caldwell, regional sales manager for KPI-JCI and Astec Mobile Screens comments, "The City and County of Denver wanted a compact unit that still contained all the necessary components, which we were able to do with the ProSizer® 3600 impactor plant. This is a one-load move in most markets, if not all markets, that's what Astec Mobile Screens was trying to achieve and that's what we accomplished."

The environmentally-conscious city was also looking for a unit that has the flexibility to operate using only electric power. While the City was prospecting and comparing potential equipment, representatives considered the equipment's footprint as well as its ability to run using clean energy. After selecting the ProSizer® 3600 plant, the City's crew set up a genset to operate the unit. The 5500kw genset is located about 120 feet to the south of the plant, keeping it out of the dust area. In the future, the City plant to run the plant using a transformer. Using electricity to run the equipment will prevent oil dust from plugging up and overheating the engines.

In addition to the small footprint and operating using electricity, the City and County of

Denver also had specific operational requirements. Eric Smallwood, aggregate sales manager for Power Motive Corporation explained that a capacity of 250-300 tons per hour was a must-have for the project. Smallwood worked closely with KPI-JCI and Astec Mobile Screens and the City and County of Denver to help address the City's concerns and necessities for equipment selection. "Production capabilities were a strong driver. The ability to offer a single-load machine that met their throughput requirements, while also minimizing as much footprint as possible, was essential," explains Smallwood.

MILLINGS TO ROADS

"The City and County of Denver's street maintenance crews are comprised of 242 full-time employees. We produce, on average, 250,000 tons of asphalt per year. The city, with its internal crews, paves 250 lane miles a year and we provide asphalt to an outside contractor, contracted directly with the City and County of Denver, for a hot-in-place recycle process," explains a City representative.

From start to finish, the City grinds up their own streets, brings the millings to their yard, process them through the ProSizer® 3600 plant, and hauls them across the street to their asphalt plant, which is a 300 tons per hour double-drum. The City hauls the asphalt back out to its internal crews to lay it back down on the street.

While the City of Denver has large crews working in street maintenance, there are usually only two people operating the ProSizer® 3600 plant. With a small team and limited experience, operating the new machine was unfamiliar territory. The team began crushing in April of 2018 and quickly mastered running the machine.

"The Prosizer® plant has been very easy to learn and operate. The crew was up and running with the machine within two days of it being set up," explains a manager with the City and County.

Smallwood adds, "We began operating this plant early this year and the City and County of Denver has stayed consistent in the 250-300 tons per hour range...The City needed a plant that could kind of be

a jump start that they wouldn't have to run every day, all day, seven days a week. They can keep up with their aggregate demands, working four, 10-hour shifts with minimal issues."

"The heart of this operation is the ProSizer® 3600 impactor plant, manufactured by Astec Mobile Screens. It's equipped with a 14' vibrating grizzly feeder, a 2-bar, 36 x 46 horizontal shaft impactor, two adjustable hydraulic aprons and then the material is discharged or fed into a 6 x 18, 2-deck high frequency screen," explains Smallwood.

The representative with the City also expands on the impactor plant and its reliability in processing RAP, "The plant fits the RAP environment very well. With the high angle screen, we get very little blind over on the screens and with it being all electric, we don't have any cooling issues with the oil dust sticking to radiators and plugging up engines and overheating them."

In addition to a reliable plant, Smallwood explains the importance of parts and service to their operation. "Parts and service are the backbone of Power Motive for our success on the sales side. I grew up through our service department and our parts department. They truly believe the old adage that 'Sales sells the first one, and parts and service sells the rest'. You have to be in a position to support your equipment through KPI-JCI and Astec Mobile Screens. This American-made equipment, along with the dealer network, is the strong mechanism behind Power Motive."

The City representative adds, "...If the screen or crusher is not operating, we're not producing material, so we need to be able to get parts and service relatively quickly so we can keep running. The parts and service from Power Motive and KPI-JCI and Astec Mobile Screens has been good. We've been able to keep the plant running and they were able to deliver parts in a timely manner."

MILE HIGH EXPECTATIONS

Before the City and County of Denver began processing its own asphalt, the material was going into the asphalt plant uncrushed. "About two years ago, we looked into crushing the RAP before it went to the asphalt plant. We found that by crushing the

RAP, we could be cost effective, potentially recycle more material and recoup some of the oil out of the asphalt. That's when we started the process of looking for the right plant for our application," explains the representative.

Representative of the City and County of Denver attended ConExpo 2017 in Las Vegas, Nevada, Caldwell mentioned, "We met with people from the City of Denver, where we started talking about the plant. When the City put out a bid, we quickly placed ours. The liked our bid, and we won the order."

Caldwell adds, "It was a great experience for us working with a municipality. For me personally, this was my first municipal bid won, but we gained a lot of knowledge working with the City and County of Denver and we are ready to handle large projects moving forward with city and state governments."

Caldwell continues, saying, "The City and County of Denver have been great and easy to work with. They were polite and professional; it's been a real pleasure."

Smallwood adds, "The City and County of Denver is a valuable customer. We appreciate everything they do. They are environmentally aware and support the asphalt industry greatly. They very heavily involved with all the local asphalt associations and support the most recycled product in the world."

When asked about future goals for the operation, Smallwood said, "We would like to see the city earn a strong return on investment with the ability to introduce more crushed product into their asphalt plant, reducing their overall oil content. As most of our customers know, that's a major expense to producing HMA asphalt." In the next year, Caldwell and Smallwood anticipate the City and County of Denver to see a return on investment, introduce more crushed product into its asphalt plants, produce up to 30% recycled material, reduce overall oil content and, the ultimate goal, produce more paved miles for the City and County of Denver.