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STATE D.O.T. SLASHES TIPPING FEES 50% WITH NEW SCREENING PLANT
Every three weeks, the Washington State Department of Transportation (D.O.T.) Olympic Region completes another round of sweeping busy Interstate 5 passing through the Tacoma and Olympia areas. Prior to this year, each truck full of sweepings cost as much as 1,200 \$ in weight-based tipping fees to dump at the landfill, even after the sweepings were screened to sort fine material and dirt, re-used for interchange landscaping, from trash and large material that is landfilled. Since the D.O.T. started screening sweepings with a Vibroscreen SCM-55C heavy-duty portable screening plant, tipping fees have plummeted. "The new screen has cut the cost for disposal this year in half, by 500 \$ to 800 \$ a load", says the D.O.T.'s Area I supervisor, Bill Evans. "Our highest bill this year has been 525 \$". Sweepings represent enough of Area I's total tipping fees that Evans anticipates reducing last year's 250,000 \$ dumping cost by some 20 percent, or 50,000 \$.

Area I encompasses Pierce and Thurston counties and is bisected by I-5. Carrying some 200,000 vehicles a day locally and between Seattle to the north and Oregon and California to the south, I-5 is also the main access route to and from the Port of Tacoma. The freeway is cleaned in sections, with each section swept every three weeks. While the bulk of freeway sweepings is ¼" minus material that had been applied by the D.O.T. on roads as weather sand, a lot of garbage ends up in the sweepers, too.

Mike Evans explains the challenge of recycling freeway sweepings: "We put out a ¼" minus weather sand, but by the time you get things that are spilled of rock plus litter and all the debris from wrecks, we screen all kinds of stuff out of the sweepings".

Until this year, Area I maintenance crews shared another portable screening plant with a neighboring region. Scheduling was always a challenge, and using the screen itself was laborintensive. The plant discharged oversized material onto the ground on one side while accumulating another pile of spec material on the ground



under the plant. All material, spec and trash alike, was handled several times. Trash and oversized material was scooped up by loaders into dump trucks bound for the landfill, while cleaned materials were loaded into a conveyor hopper to build stockpiles.

"We had to dump and then back up to scoop material out of the inside of the machine" says Jeff Hastings, lead person on the Area 1 North end maintenance team, describing the process of cleaning spec product out of the underside of the old plant. The excessive material handling was time-consuming and required the use of front-end loaders at every step.

When the state's environmental department offered financial assistance to the D.O.T. to increase recycling effectiveness, Mike Evans turned to one of Washington State's long-time equipment dealers, Clyde/West, Inc., for help. Gary Braafalt, Clyde/West sales representative, saw in Area 1 a perfect application for a Vibroscreen SCM-55C heavy-duty portable screening plant with a central conveyor, manufactured by Vibrotech, Inc., Plessisville, Quebec, Canada. When Braafalt demonstrated the high production, portability and operational simplicity of the Vibroscreen, the plant's potential benefits to the highway department were obvious: the heavy-duty yet portable design, large screen working area and central conveyor would give the D.O.T. a plant with high production with far less handling of material.

With a 55-square-foot screen working area and an on-board 63 bhp diesel engine, the Vibroscreen SCM-55C screens in excess of 180 cubic yards per hour of aggregate, sand & gravel, C&D debris and recycled concrete and asphalt. When both screening decks are used, the Vibroscreen SCM-55C sorts three products, two of them spec, simultaneously. The rear wheels, as well as the front of the plant, are hydraulically raised and lowered by heavy-duty cylinders. Another set of heavy-duty hydraulic cylinders also rapidly deploys the central discharge conveyor. Spring-mounted suspension, radial truck tires, running lights and air brakes make highway towing safe and easy. And the plant can be set up on site and be operational within five minutes.



Besides operating a lot more quietly than their old screen, production is another big payoff for the Washington D.O.T. with the central discharge conveyor, the Vibroscreen SCM-55C keeps a fleet of five-yard dump trucks moving between the screening site and maintenance jobs along I-5. No longer is screened material handled multiple times. "It just works beautifully", says Mike Evans of Area I. "You just back it right under the conveyor belt and the driver can sit there and look either out the back window or at his mirrors and load right off the conveyor. The equipment operator just keeps an eye on how full the truck is getting. After a truck is filled and leaves, the next truck backs under the conveyor, then the operator dumps the rest of the load on the screen and starts the whole process over. Because of the conveyor, we're not handling the material other than putting it on to the screen."

In addition to sweepings, the D.O.T. uses the Vibroscreen to process shoulderings-material scraped from the road shoulders-by separating the dirt and smaller stone from oversized material. "These are old, established shoulders that have a lot of sod and junk material, basically," says Jeff Hastings. "This screened material also works quite well for replanting and landscaping interchange quadrants. It looks like topsoil from five feet away, but it would never be used as regular topsoil. It has too many rocks up to three-quarters of an inch in it".

Mike Evans has even more work waiting for the Vibroscreen. "Later this fall, we're going to take it to one of our area sheds where there's some winter sand that has become contaminated with larger material from picking up and cleaning piles around it. This stuff has been there for years, and has picked up everything up to 4-inch rock. We're going to re-screen and move our stockpiles." What sounds like a big job involving a lot of material handling will be cut down to size by the Vibroscreen, according to Evans. "We're just going to set up the screening plant and feed the discharge conveyor into a stockpiling conveyor hopper, and one person will screen a couple of thousand yards of sand within a week. And totally relocate a sand pile".



The Vibroscreen SCM-55C has been a sound investment for the State of Washington. Besides realizing substantial savings in dumping costs, labor hours and equipment usage, Olympic Region's Area I is a more efficient recycler of materials that were formerly landfilled. With no slackening of traffic volume in sight for the busy northeast corridor, maintenance work along I-5 will have to keep pace. And the highway department's Vibroscreen SCM-55C will keep the drive along I-5 a safe and visually pleasant experience.