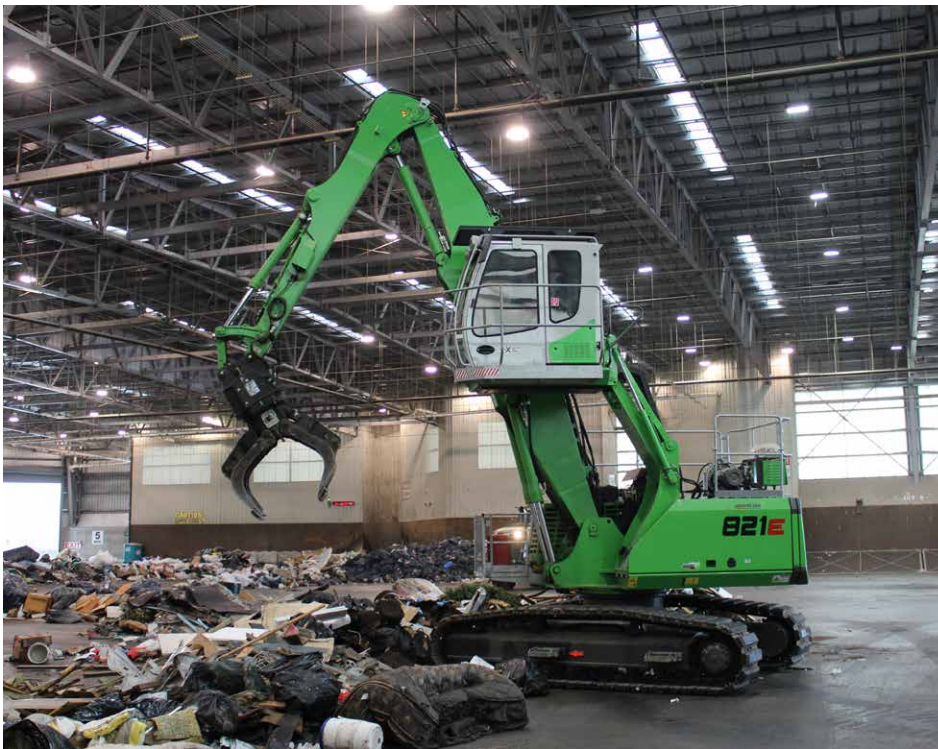


# Equipment Considerations on the Tipping Floor

Maximizing transfer station profit through smart equipment selection.



The floor at a waste transfer station is a dynamic work area. Trucks constantly come and go, loads of trash are dumped and sorted. Material handlers pick through the trash and deposit them in appropriate bins. Transfer station personnel cross it while performing their daily activities.

Also called a tipping floor, the waste transfer station floor is where the facility makes its money. Everything from the floor layout to equipment used on the floor will determine how profitable or unprofitable the facility is.

When selecting a machine to complete the sorting, it is important to consider the advantages of using a multi-purpose machine. Although excavators are versatile machines, a purpose-built

material handler has several distinct advantages over excavators when employed on the tipping floor.

## Purpose-Built Design

On material handlers, a long arm provides the necessary reach capacity for picking up materials located far from the machine. Its lifting capacity, combined with its boom and stick geometry, are ideal for interacting with materials and then lowering them into deep trailers or bins.

Material handlers also generally have a solid base. Look for a machine that has the power to lift slightly more than you need but also has a small footprint. A small footprint increases the amount of floor space available. Rubber-tired material handlers come equipped with

outriggers which increase the machine's lifting capacity by increasing its footprint and its stability.

Purpose-built material handlers designed for the waste industry as opposed to excavators are equipped with either rubber tires or tracks with pads, which are less likely to damage the concrete tipping floor.

A variety of material handler attachment options gives companies the ability to choose one that best suits the application. Municipal solid waste will be best suited by one type of grapple, whereas construction and demolition waste (C&D) will require a different grapple. Companies like SENNEBOGEN offer a number of grapple attachments to match all applications.

## Getting the Right Perspective

Choose a material handler that comes standard with a hydraulically elevated cab. The elevated cab puts the operator far above the floor for greater visibility, which increases productivity and safety.

The Beltrami transfer station located in Bemidji County, Minnesota selected a SENNEBOGEN 818 M (rubber tired material handler) to sort out non-waste material in hopes of diverting 35 percent of that material from the waste stream so they can be recycled. With its elevating Maxcab



## 818 M sorts out non-waste material at the Beltrami Transfer Station.

raised to about 18 feet (5.48 metres), the 818 M also provides the operator with a direct view into the containers and over the entire work area,



allowing greater precision and maximum safety in the tight work space.

“We decided to replace the rubber-tired machine which was equipped with a fixed cab that came with the assets with a new purpose-built material handler including a hydraulic elevating cab for better visibility and safety on the floor,” says Brian Olson, Solid Waste Coordinator for Beltrami County.

Tacoma Recovery and Transfer Center uses a SENNEBOGEN 821 R-HD (tracked with pads) material handler at their 83,000-square-foot transfer station, which handles 165,000 tons of garbage per year. At the station, waste is

we load them into a trailer parked right on the tipping floor. Thanks to the hydraulic elevating cab, I’m up high enough to see right down into the semi-trailer, and I can articulate the logs any way I need to, to make a good load.”

**Total Cost of Ownership**

Another equipment consideration is total cost of ownership. The purchase price of a material handler may be a little more than an excavator, but it is the benefits of a material handler that will translate into greater productivity and profitability on the floor.

ground level decreases daily and weekly machine checks and increases safety. “On our SENNEBOGEN material handlers, we can do all the servicing from the ground. The usual wear parts and hoses are all very accessible,” says Olson.

Also, Tier 4 machines need to pause once in a while to blow out the radiator. The less frequently you need to blow out the radiator, the less downtime there is, the more productive you can be. On SENNEBOGEN material handlers, automatic fan reversal keeps the machine’s coolers clean without stopping.

“We have a lot of dirt, a lot of dust, a lot of heat ... it’s not good,” says Andrew Springer, Partner in Sun Recycling, based in Beltsville, MD. “Our machines look terrible at the end of a week-long shift. With the 818, we still need to pause to blow out the radiators periodically, depending on weather, but it does a much better job of not overheating, compared to an excavator.”

For an extra boost, the Sun Services units were fitted with a custom pre-cleaner. The company now reports downtime for blowing out the fan and maintenance is negligible.

All machines break down eventually. Being able to fix the machine quickly is essential to decreasing downtime. “One of the big things that sold me was the ease of maintenance on the SENNEBOGEN 818,” says Olson. “You know any machine will go down. Being able to fix it quickly is big in our business. Waste never stops!”

To prevent damage to components, SENNEBOGEN material handlers are equipped with protection covers for hydraulic hoses and a dustproof cylinder, which is achieved via reverse mounting.

**Safety is the New Productivity**

Easy service and protected components are not the only ways of avoiding downtime. Features that increase safety, reduce the risk of the worst kind of downtime. Olson and his group at Beltrami County were impressed by the 818’s safety features. “I’m glad you can walk out onto a platform from



**The 821 R-HD equipped with rubber pads and a grapple works at the LEEDS certified Tacoma Recovery & Transfer Center.**

lowered 13 feet into trailers located below the tipping floor.

“The SENNEBOGEN is ideal for lowering items into the trailer without damaging the walking floor,” says Mike Chapin, heavy equipment operator, Tacoma Recovery and Transfer Center. “With the SENNEBOGEN, you can actually maneuver things around and set them in there really gently. [When] we get broken or rotten telephone poles,

If you are thinking about using an electric drive material handler, companies like SENNEBOGEN build them as part of their purpose-built product line. Going electric can result with savings of operating costs up to 50%.

Also, serviceability and maintenance play a big part of being productive and profitable on the tipping floor. Having service points that can be reached from



the cab; you don't have to crawl up into the machine. We also equipped it with a front protection guard and a guard on the skylight; installed boom limit switches to suit our ceiling height and added the lighting package. Environmental factors were important in our decision, too - especially noise. You can hardly hear this 818 run, so that was another positive point in its favor." Decreased noise also decreases the damaging effects of loud noises and contributes to a more pleasant work site.

At the Tacoma Recovery and Transfer Center, Chapin appreciates the safety aspects of the design of their SENNEBOGEN 821 R-HD, a tracked material handler. The machine's square footprint gives it inherent stability to lift and move equal loads through 360 degrees of swing.



**818 R-HD allows the operator to climb and reach**



**Dust, dirt and heat can't keep the SENNEBOGEN 818 R-HD from missing a beat.**

For working indoors or in other low-level lighting areas, make sure your machines can be equipped with LED lights. Also, choose a machine that offers two cameras (one at the rear of the machine and one at the right) and are provided as standard equipment for greater visibility and safety.

Noting the open design and variable traffic flows of the Tacoma Recovery and Transfer Center, Chapin says the two cameras are a big help. "There's a fair bit of traffic ... the area I'm working in is open to the general public. We get anything from cars to pick-up trucks to dump trailers unloading

garbage and construction debris here."

Also, to improve safety working indoors, your material handlers should come equipped with limit stoppers on the boom and stick of the machine, which prevents the machine from reaching out or up, thereby eliminating the risk of damaging nearby or above obstacles. Chapin recalls some early concerns about potential damage to overhead electrical and sprinkler lines. These concerns were quickly resolved with the installation of limit switches that keep the height and reach of their SENNEBOGEN 821's boom within safe limits. Chapin can override the switches, if needed, to complete a specific maneuver or if he is working outside the building.

By considering all these criteria, waste transfer station managers can select the right machine for their operation.

*SENNEBOGEN has been a leading name in global material handling for more than 65 years. Based in North Carolina, SENNEBOGEN LLC offers a complete range of purpose-built machines from 44,000 lbs. to 750,000 lbs. for any material handling operation. SENNEBOGEN waste handlers provide proven solutions that reduce cost, increase efficiency while moving more material 24/7/365.*

For more information on the full line of SENNEBOGEN green line material handlers for transfer stations and the waste industry, contact:

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