
REPORT TO COUNCIL

MEETING DATE: September 24th, 2024
FROM: Alex Hackenbrook, Public Works Manager
SUBJECT: Landfill Compactor

Recommendation:

That Council for The Township of Bonfield receives this report and all information contained within it to make an informed decision regarding the purchase of a Landfill Compactor.

Purpose:

The purpose of this report is to explain the benefits for The Township of Bonfield on owning & operating a landfill compactor in house, to not only extend the landfill operating lifetime but to also allow for better housekeeping, tidiness & compaction of residential waste.

Background:

The Public Works department has been in talks with a local construction company that is looking to sell a 1982 CAT 816B compactor. The Public Works Manager has attended the current landfill site that is housing the compactor with a mechanic present. The mechanic conducted a visual inspection on the equipment as well as a functionality test on the hydraulics, front blade, steering components, king pin, bushings & inspected for play within the front end. The findings of the mechanic were that the equipment is fully operational with cosmetic deficiencies. Based upon the inspection, the front king pins look to be tight with minimal play, the steering bushings have a small amount of play which isn't abnormal for the year of the equipment, the hydraulics are functioning with no operational deficiencies when tested & both rear planetaries were replaced last winter season.

The deficiencies found from the inspection by the mechanic were as follows. The cab has some rust & holes in it due to age, the brake system has a small in-line leak & there is some sweating occurring on the topside of the transmission. The mechanic stated that he would have to pull the panels to conduct a full inspection of the compactor.

Functionality / Practicality

The Township of Bonfield is always looking for ways to progress forward within the Public Works Department. With the purchase of a landfill compactor, it would not only allow the Township to extend the lifetime of the landfill with the spreading & compaction of residential waste, but also allow for a single piece of equipment (compactor) to be dedicated to keeping the landfill clean. With this equipment investment it would not only reduce wear & tear on the Public Works backhoe/excavator but reduce the rate of repair for tires from operating equipment at the landfill. The compactor drives on two large rear metal drums with raised metal compression cleats. Based upon the last assessment done in 2023 by Pinchin, the landfill site was approved for a total fill area of 12 hectares (29.65 acres) and has a lifespan of 54 years (we are currently waiting for the updated landfill capacity report for 2024). With the use of a compactor to spread & compact residential waste, the landfill capacity can be kept near to the projected 54 years.

The available piece of equipment being a CAT 816B compactor has a operating weight of 45,800lbs, a rear drum width of 3'4" & a two pass coverage width of 14'9". The 816B is best suited for landfills of small to medium size, with a compaction capability rate of 1200-1400 lbs per cu. yd. With the operator performing a spread of approximately 200ft & making 3-5 passes for compaction over the waste. This would allow for the residential waste to be spread out & compacted making a significant reduction in land needed to house waste, reduce the need for daily cover requirements & a reduction in leachate & methane migration while extending the landfill lifespan, reducing the amount of windblown litter & reduction in voids/settlement. With the use of this equipment the existing pile of waste, that is rapidly expanding, can be pushed then compacted to allow for more waste capacity within a smaller land area. With each 200lbs increase in density (20%) results in an additional 1.9 years of added landfill lifespan. With Bonfield growing in population this would be a good practice to mitigate the extra waste accumulation. From July 2023 to July 2024 the landfill recorded a total of 35,670 bags of garbage dumped, this excludes trailer loads & free dump days.

Another goal with this piece of equipment is to not only reduce the volume of land waste occupies, but to also shorten the runway that residents use to dump waste. With the shortened runway, residents can then dump over a ledge, with the waste being spread evenly & finally compacted with cover applied as needed. This would allow for the required waste volume to be reduced even more than already seen since the introduction & enforcement of the new recycling plan.

Next Steps

As stated, a visual inspection was completed by a certified 310T mechanic & came back with minimal discrepancies. It is believed that a full-service records history shall be obtained by the seller, including but not limited to maintenance work performed, equipment hours & fluid change intervals. It is also believed that another full inspection shall be completed on the equipment. This inspection shall include the removal of the panels & a more in-depth look at the motor/drive train & all other components.

Quotes from other local equipment sales companies have also been obtained for a compactor of the same size & year. These quotes ranged from \$200,000 and above. It is believed that the Township of Bonfield can purchase the 1982 CAT 816B for approximately a quarter of the asking price (\$30,000 plus HST) of comparable compacting units.

Recommendation

That Council hereby authorizes the purchase of the 1982 CAT 816B compactor at a cost of \$30,000 + HST and Further the funds be authorized from the Landfill Reserve account to purchase this piece of equipment.

Based upon the statistics provided, it is apparent the benefits of owning/operating a compactor for the current landfill site. The Township could not only use this piece of equipment to extend the lifespan of the landfill but also make the landfill aesthetics & over all visual presentation cleaner.