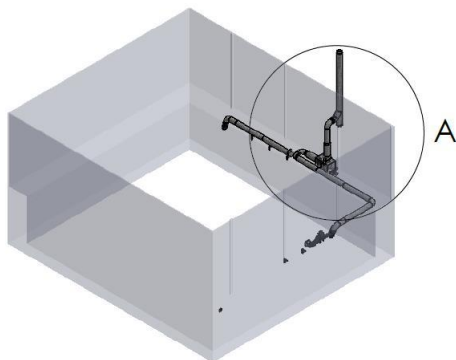
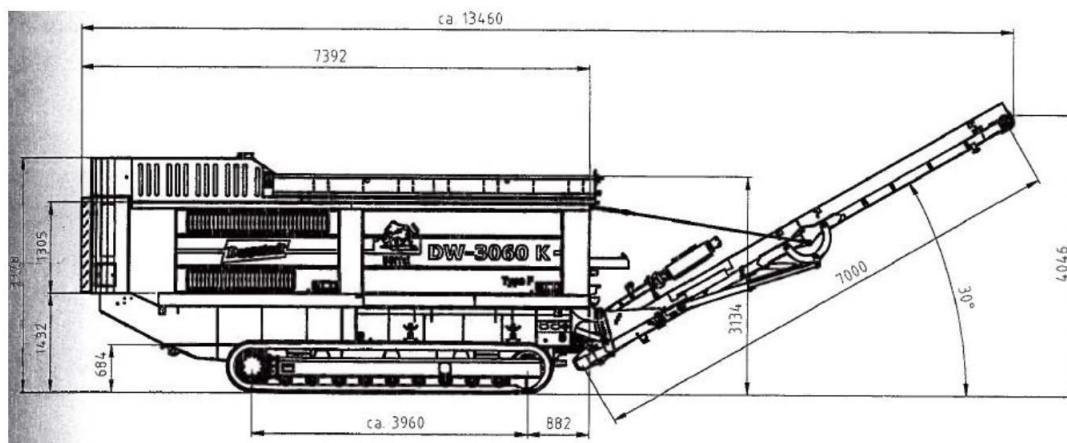




Assessment of the Air Quality Impact Arising from the Mobile Shredder Emissions

Background and Purpose

Since the planning application was made, Viridor proposes to install a mobile shredder within the waste transfer station at the south-east corner of the site. The emissions from this machine will be directed through a duct which emits to atmosphere through the roof of this building. The shredder and the exhaust duct/stack are shown below:



This note examines the impact on local air of these emissions and in the context of the impacts from the other sources that were considered within the Environmental Statement.

The Emissions

The mobile shredder will conform to Stage IV of the EU emission standards for Non Road Mobile Machinery, specified in EU Directive 97/68/EC. This limits the emissions of NO_x and particulate matter (PM).

The emission limits for engines with a net power in the range 130-560 kW are 0.4 g/kWh for NO_x and 0.025 g kWh for PM. This shredder will have a maximum power output of 320kW.

The mobile shredder will be compliant with NRMM guidance set out by the Greater London Authority for development sites (<http://nrmm.london/content/general-guidance>)

Given this emission performance, the shredder will emit NO_x at a maximum rate of 0.036 g/s when working at full power. The value for PM emission will be 0.0022 g/s.

The Likely Impact on Air Quality

The mobile shredder will emit quantities of NO_x and PM. In comparison with ERF main stack and the landfill gas engines, these quantities will be very small. The emission rates (in g/s) are set out below, as taken from the Environmental Statement.

Table 1. Emission rates for the mobile shredder and the other on-site sources

Source	Release height (m)	NO _x (g/s)	PM (g/s)
ERF main stack	95	11.44	0.572
Landfill gas engine(s)	7	0.45 (x5)	0.009 (x5)
Mobile shredder	14.5m	0.036	0.0022

During the hours of operation, the mobile shredder will be emitting both NO_x and PM at a rate approximately 300 times less than the ERF stack and the landfill gas engines in combination and at a rate. Expressed over the whole working day or a year, the ratio will be even greater, as the shredder will be limited in its operating hours, whereas the ERF stack and the landfill gas engines operate continuously.

The impact of the shredder emissions on local air quality, therefore, will also be substantially lower than the other point sources. It will, however, have a proportionately greater contribution to ground level concentrations of NO₂ and PM₁₀ at the point of maximum impact, because the release height is relatively small, the emission has relatively little buoyancy and the building will influence dispersion.

In terms of a cumulative impact with other sources, this places the maximum impact close to the waste transfer building, where there is no public exposure, and several hundred metres away from the point of maximum impact for the annual average concentrations arising from the ERF main stack emissions. The extent of the impact from the shredder emissions will be very limited spatially and largely confined within the site boundary.

Any cumulative impact with the landfill gas engine emissions will be greater, since the point of maximum impact for these emissions is closer to the Viridor site boundary. The relative scale of these two impacts is such, however, that the shredder contribution is so small as to be of no material consequence.

The nearest residential properties to this emission source are approximately 400m distant on Beddington Lane, opposite the junction with Jessops Way. The nearest point of public exposure for short term concentrations is Beddington Lane, approximately 200m away at the closest point. By analogy with the impacts on air quality from road traffic, these separation distances are such that the influence of a single source of this kind can be considered as insignificant.



Conclusion

The mobile shredder will be a source of some NO_x and PM emissions, but these will be extremely small in comparison with the ERF main stack and landfill gas emissions. The small scale of these emissions, coupled with the lack of any consequent nearby public exposure, mean that any cumulative impact on local air quality is negligible.