

**HealthBeacon Limited**

**Waste Licence Application**

**Application ID: LA006978**

**Attachment-7-1-2  
Environmental/Emissions Assessment**

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## Table of Contents

<b>1</b>	<b>Introduction .....</b>	<b>3</b>
<b>2</b>	<b>Receiving Environment .....</b>	<b>3</b>
2.1	<i>Receiving Human Environment .....</i>	3
2.2	<i>Receiving Water Environment.....</i>	3
2.3	<i>Receiving Ground/Groundwater Environment.....</i>	4
2.4	<i>Receiving Ecological Environment.....</i>	4
2.5	<i>Receiving Air/Noise Environment.....</i>	4
<b>3</b>	<b>Emission and Environmental Control and Mitigation .....</b>	<b>5</b>
3.1	<i>Emissions to Ground, Groundwater or Surface Water .....</i>	5
3.2	<i>Emissions to Sewer.....</i>	5
3.3	<i>Emissions to Air .....</i>	5
3.4	<i>Noise Emissions.....</i>	6
3.5	<i>Infection Control.....</i>	6
3.6	<i>Nuisance Control.....</i>	7
3.6.1	<i>Odour.....</i>	7
3.6.2	<i>Litter .....</i>	7
3.6.3	<i>Vermin .....</i>	8

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## 1 Introduction

This document has been developed for the purposes of detailing the impacts emissions from the proposed waste activity may have upon the receiving environment. A description of the receiving environment, potential emissions from the proposed waste activity and emissions controls is provided below.

## 2 Receiving Environment

### 2.1 Receiving Human Environment

The application site is situated in a built-up urban area characterized by commercial, light industrial and industrial land uses with some residential land use nearby also.

The site is situated directly opposite the Naas Road and Luas Red Line and is immediately surrounded by other commercial units contained in Naas Road Business Park. Two church centres are situated directly west of the Naas Road Business Park approximately 40 metres south west of the subject premises (Rescue Polish Christian Church and Agape Church Dublin). Residences and residential estates are situated in close proximity to the site in Bluebell to the north east, north and north west. Other residential communities found in the wider area include Drimnagh to the east, Walkinstown to the south, and Ballyfermot and Inchicore to the north. There are a number of churches and schools in the wider area. Much of the area surrounding the site is characterized by commercial, light industrial and industrial facilities (west, south west and south of the facility). A large number of major brownfield sites are situated within the local area.

Lansdowne Valley Park is situated a short distance away to the east of the site. The Grand Canal proposed Natural Heritage Area (pNHA) is situated approximately 500 metres north of the site. Other amenities in the area include Drimnagh Castle and Walkinstown Park.

The site is further characterized by the presence of good public transportation links to the wider metropolitan area, with the local area being good strategic location on a gateway point into the city from the west. The M50 is approximately 2.5 km south west of the site.

### 2.2 Receiving Water Environment

A Public Record Drainage Map for the area surrounding the site was reviewed. This map appears to indicate that surface water arising at Naas Road Business Park is collected by the business park drainage system and then directed via surface water gravity mains toward to the Camac River as it runs through Lansdowne Valley Park approximately 100 metre east of the site. The River Camac flow into the River Liffey alongside Heuston Station in Dublin City Centre, which in turn enters Dublin Bay.

Domestic waste water arising at the premises and at Naas Road Business Park generally appears to be directed to a 600 mm Concrete Combined Sewer running through Lansdowne Valley Park and from here is directed to Ringsend Wastewater Treatment Plant. Treated wastewater from Ringsend WWTP is discharged to Dublin Bay.

### 2.3 Receiving Ground/Groundwater Environment

The business park in which the site is located is underlain by hard-standing ground. The ground underneath the site comprises till chiefly derived from limestone which has low sub-soil permeability and is poorly drained. The site is underlain by a Locally Important Aquifer in Bedrock which is Moderately Productive only in Local Zones. Groundwater vulnerability underlying the site is defined by the Geological Survey of Ireland as High.

### 2.4 Receiving Ecological Environment

There are no areas of ecological importance within the immediate environs of the site. The site is situated in a business park in a built up, urban area characterized by commercial, light industrial and industrial land uses.

The nearest protected area is the Grand Canal pNHA situated approximately 500 metres north of the site. Lansdowne Valley Park which acts as a local Ecological Network and which contains a number of habitat types of significance is located approximately 80 metres east of the site. Woodland on a bank of the River Camac in Lansdowne Valley Park has been found to contain many indigenous and rare species. The River Camac itself which runs through the park has been identified having an important salmonid system. The Camac River was also highlighted as having a brown trout population. Trout are protected under the Freshwater for Fish Directive.

The site is not situated within or adjacent to any Natura 2000 site, however within a 15km of the proposed development site there are a total 5 SAC's and 3 SPA's. The closest Natura 2000 sites are located within Dublin Bay, and include a wide variety of inter-tidal marine and coastal zoned habitats supporting a range of species including Annex 1 habitat and bird species. There is a hydrological pathway from roof and hard-standing areas in Naas Road Business Park to these Natura 2000 sites. Surface water arising in these roof and hard-standing areas is directed by the business park drainage system to the River Camac which in turn is directed to the River Liffey which in turn flows into Dublin Bay where a number of Natura 2000 sites are situated.

### 2.5 Receiving Air/Noise Environment

As discussed, the site is situated in a built up, urban area. Naas Road which is situated opposite the site is an important transportation corridor into Dublin City and is characterized by substantial levels of road traffic as well as the presence of the Red Luas line. As has already been discussed, the area surrounding the site is characterized by commercial, light industrial and industrial land uses.

The local area therefore can be characterized as quite a loud and busy noise environment.

Ambient air quality in the local area is likely to be somewhat affected by emissions to air from traffic and land uses in the area. The nearest EPA Ambient Air Quality monitoring station is the Ballyfermot station which records PM<sub>2.5</sub>, PM<sub>10</sub> and NO<sub>2</sub>. PM<sub>10</sub> levels were breached at this monitoring point 7 times in 2019 (The particulate matter, PM<sub>10</sub> daily limit of 50 ug m<sup>-3</sup> is deemed breached if more than 35 exceedances occur in a calendar year), whilst NO<sub>2</sub> levels were breached 0 times in 2019. There is no hourly or daily limit value for PM<sub>2.5</sub> therefore PM<sub>2.5</sub> results could not be compared with the applicable limit.

### 3 Emission and Environmental Control and Mitigation

#### 3.1 Emissions to Ground, Groundwater or Surface Water

The proposed activity will not give rise to aqueous emissions to ground, underlying groundwater or any surface water body

Wastewater from the wash process will be collected in a bunded IBC situated in a designated wastewater storage area before being collected from the site by an authorized waste collector and sent to an appropriate waste treatment facility.

The Wastewater Storage IBC on-site will be double skinned in order to prevent the accidental release of wastewater in the event the interior IBC ruptures. A spill kit and suitably sized spill containment barrier will be provided adjacent to the IBC for containing any accidental releases that make their way onto ground and to prevent the run-off of spilled wastewater outside roller doors and into the drainage system serving the business park. An Emergency Response Procedure comprehensively detailing Spill Response Procedures will be in place. Relevant staff will be trained in these procedures and given training in the use of the spill kit/barrier. Where other chemicals are stored on-site in small quantities (E.g. disinfectant) they will be stored in a cabinet situated in the waste processing area suitable for chemical storage and which offers secondary containment.

Wastes arriving on-site will be contained in an enclosed sharps bin. Waste handling and storage activities will take place indoors in the processing rooms. No wastes will be handled or stored in areas outside the processing room or outdoors. As such, there will be no possibility of stormwater coming into contact with waste being handled or stored at the facility and then being discharged to the environment.

#### 3.2 Emissions to Sewer

The proposed activity will not give rise to aqueous emissions to sewer. Wastewater from the wash process will be collected in a bunded IBC on-site before being collected from the site by an authorized waste collector and sent to an appropriate waste treatment facility.

#### 3.3 Emissions to Air

There will be no emissions to air of significance associated with the proposed development.

Space heating requirements are provided by a small gas boiler that serves the premises. This boiler will result in the release of minor levels of combustion gases associated with natural gas combustion (e.g. CO and NOx). Given its size it is not considered to be a significant source of emissions to air according to EPA Criteria on minor emission sources (rated thermal input is <1MW for each).

Sterilization will be carried out using a small wash unit which will be powered by mains electricity. There will be no plant or equipment used in connection with the proposed development that will give rise to emissions to air of any significance.

At similar but much larger installations which utilize large autoclaves for sterilization of sharps waste in bulk, a risk exists that bioaerosols can be discharged in stream existing the facility through the ventilation system. No such risk exists in this instance given the nature and small scale of the operation.

No sharps waste will undergo sterilization at the proposed facility. Only sharps waste bins will undergo the sterilization process in the wash unit on-site. Sterilization of the bins will be carried out in a small wash unit only capable of sterilizing small numbers of 2.3 litre sharps waste bins at any one time. It can be expected that the sterilization process will eliminate any residual microorganisms contained in sharps bins as validated and reported already by Lir Analytical. A small vent will serve the Wash Area however it is expected minimal levels of steam will be released from the wash unit as it will only be carrying out a 45 degree Celsius sterilizing wash well below the boiling point of water.

It is therefore envisaged that negligible levels of bioaerosols will be emitted during the wash process. It is proposed to carry out swab testing of working areas, the vent and the ceiling initially to verify that the transmission of infectious microorganisms to work surfaces or air is not taking place. This will be for the purposes of ensuring staff safety.

### 3.4 Noise Emissions

A facility of this nature and scale will not give rise to any noise emissions of significance. There will be no plant or equipment situated on-site giving rise to significant levels of noise. All waste handling and storage activities will take place indoors in designated areas. It is not envisaged that vehicle noise associated with the proposed activity will be significant given the type and volume of traffic transporting waste to the site (<1 consignment contained in a commercial van per day). In addition, the existing noise environment is already characterized by heavy traffic, tram noise, and commercial, light industrial and industrial noise. It is therefore envisaged that there will be a negligible impact on the local environment or surrounding receptors in terms of noise.

### 3.5 Infection Control

A Standard Operating Procedure (SOP) has been developed to ensure that waste processing reduces risks associated with infectious materials to negligible to very low levels.

Sharps waste arriving on-site will be in UN Approved, sealed, rigid 2.3 litre bins. These bins will be clearly marked with the appropriate label indicating the contents are potentially infectious. Waste bins arriving on-site which are ruptured or which are leaking will be deposited in a quarantine container situated in the designated waste storage area before being promptly removed off-site.

In line with relevant EPA BAT Guidelines SOP's will be developed covering procedures for dealing with accidents, incidents and spillage, e.g., the appropriate first aid measures for sharps injuries, use of spillage kits and disinfectants. A spill response procedure will be in place and a spill kit will be provided on-site to ensure spilled materials are cleaned up safely and effectively, with waste from spill clean-up being deposited in the aforementioned quarantine container. All relevant staff will be provided training and re-training as necessary in operational and health and safety related procedures. Rogers Consultants will assist with developing and training all relevant staff to these procedures.

Suitable personal protective clothing and equipment will be used by staff who are involved in the handling of waste on-site or who may otherwise carry out work in waste handling, processing or storage areas e.g., cut resistant gloves, cut resistant sleeves, cut resistant apron, leg protectors, cut resistant footwear, face visors. Suitable washing facilities will be provided in the Wash Room for those handling waste. All workers who handle waste arriving on-site or who may otherwise carry out work in waste handling, processing or storage areas will be obliged to undergo worker immunisation and regular health monitoring, e.g., for Hepatitis B and tetanus.

The designated waste storage area on-site will be clearly marked and delineated. All waste storage containers in this area will be UN Approved and sealable. These containers will also be clearly marked with the appropriate label indicating the contents are potentially infectious.

Prior to commencement of operations a Health and Safety risk assessment will be carried out on site to assess the risks to workers associated with facility operations and further identify and clarify the appropriate protection and control measures required. The risk assessment will be reviewed on a yearly basis or where there is a significant process change. The company's Safety Statement will be revised as necessary.

### **3.6 Nuisance Control**

#### **3.6.1 Odour**

The sharps waste being accepted on-site is not considered to pose an odorous treat. As this waste will predominantly consist of autoinjector sharps waste, only minute residues of biological material are likely to be present. Sharps waste arriving on-site will only be accepted in sealed sharps waste bin containers. Sharps waste bins should only be opened and sharps waste should only be handled/processed/stored in the designated, enclosed waste processing area. Sharps waste generated in this area will be subsequently transferred to the designated waste storage area and placed in a sealed UN approved containers.

A Standard Operating Procedure (SOP) defining safe procedures for processing will be in place. This SOP will explicitly state the requirements for sharps waste to only be handled in the aforementioned designated areas in a tightly controlled manner. All staff involved in the handling and processing of waste arriving on-site will be provided training in this SOP. Regular inspections will take place to ensure adherence to SOP's and to ensure wastes are not being exposed outside designated areas.

#### **3.6.2 Litter**

The potential for the generation of litter on or around the site is negligible given the procedures that will be in place for accepting and controlling this waste on-site. All Sharps Waste arriving on-site will be accepted in enclosed, fully sealed bins. These bins will be rigid therefore eliminating the potential for the spill of waste during transportation or on-site handling. Sharps waste will only be handled, processed and stored in designated areas inside the building. Sharps waste arising on-site will be stored in sealable, rigid containers prior to onward transfer.

It is highly unlikely any unauthorized wastes which may give rise to litter or unsightliness will arrive on-site given the 2.3 litre bins which form part of the smart sharps container used by company customers are used exclusively for the deposit of sharps waste. Customers have no access to these bins other than when depositing used sharps into them. Notwithstanding this, Waste Acceptance Procedures have been developed to minimize the potential for any unauthorized waste arriving on-site. This ensures the highest level of control possible with regards to waste acceptance and control at the facility. In the highly unlikely event unauthorized waste is deposited into a 2.3 litre sharps bin by a customer and is accepted on-site, this waste will be separated, treated as infectious waste and quarantined in a designated, sealable quarantine container in the processing room inside the building. This waste will ultimately be collected from the premises by an appropriately authorized waste collector for treatment at an appropriate treatment facility. As such, there is no opportunity throughout the process for any litter to be generated inside or in the vicinity of the proposed facility.

### 3.6.3 Vermin

The potential for the generation of vermin in or around the site is negligible given the procedures that will be in place for accepting and controlling this waste on-site. All Sharps Waste arriving on-site will be accepted in enclosed, fully sealed bins. These bins will be rigid therefore eliminating the potential for the spill of waste during transportation or handling. Sharps waste arriving on-site will only be handled, processed and stored in designated areas inside the building. Sharps waste arising on-site will be stored in sealable containers on-site. This sharps waste for removal by 3<sup>rd</sup> party vendor will be stored in 770 litre bin which will be collected every 3 months or when the bin is full.

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