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## **NON-TECHNICAL SUMMARY**

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### **Introduction**

This Environmental Impact Statement (EIS) is part of the application by Celtic Waste Ltd. (Celtic Waste) to Fingal County Council for planning permission to develop a Materials Recovery and Biowaste Treatment Facility (MRF & BTF) on a c. 11 acres (4.45 ha) site at Millennium Business Park, Cappagh Road, Grange, Ballycoolin, Dublin 11. Celtic Waste also intends to apply to the Environmental Protection Agency (EPA) for a Waste Licence to operate the facility.

Celtic Waste intends to relocate its existing waste recovery and recycling operation (Murphy Waste Ltd.) at St. Margaret's to the proposed site. This move is needed to allow this operation (Murphy Waste) to expand its existing business and to develop a composting capability.

The EIS examines the potential impacts and significant effects on the environment associated with the construction and operation of the facility. Where the potential for a significant impact has been identified the measures to prevent or mitigate the impact are presented.

### **Celtic Waste**

Celtic Waste has been involved in the waste industry since 1999 and is Ireland's leading integrated waste management company. The company owns and operates Ireland's first private sector licensed landfill (KTK Landfill, Kilcullen, Co. Kildare) and six recycling, collection and transfer operations, i.e. Greenstar Recycling (Dublin), Noble Waste (Bray, Co. Wicklow), National Waste Management (Dublin 24), Murphy Waste, (St. Margaret's, Co. Dublin), Burns Waste (Dublin) and Ahern Waste Management (Cork).

Murphy Waste has successfully operated its waste recovery and transfer facility at St. Margaret's since 1996. The facility is operated under a Waste Licence issued by the EPA (Reg. No. 134-1) and is licensed to accept 60,000 tonnes of waste per annum, comprising commercial and industrial non hazardous waste and construction and demolition waste.

### **Public Consultation**

Celtic Waste has consulted with relevant statutory bodies including Fingal County Council, the EPA, the Central Fisheries Board, Duchas, Aer Rianta and the Irish Airline Pilots Association (IALPA) and neighbours on adjoining properties. Celtic Waste also sought comments from the general public by advertising their intention to develop the site in a local newspaper as well as carrying out a mail drop to properties located within 250 m of the site.

## **Difficulties in Compiling the Required Information**

The ecological survey was limited to early summer, but based on the site conditions and surrounding land use it is considered that the study allows for an adequate assessment of the likely impacts and the need for mitigation measures.

## **Waste Management Policy**

National policy on waste management is guided by the Department of the Environment and Local Government's policy statement of September 1998, "Changing Our Ways" and the more recent statement "Delivering Change" (2002) in which the Government reaffirms its commitment to the EU hierarchy of waste management, which in order of preference is: -

**Prevention**  
**Minimisation**  
**Reuse**  
**Recycling**  
**Energy Recovery**  
**Disposal**

The Dublin Region Waste Management Plan (1998) emphasises the 'urgent need for new waste management initiatives to reduce the waste volumes produced and to divert waste from landfill to the maximum possible extent' The Plan recognizes there is an inadequate recycling infrastructure in the Dublin region and that there is a need for maximum segregation at source and collection of dry recyclables and recommends: -

- 'The provision of additional sorting and baling facilities in the Dublin Region for recyclables collected prior to transport to markets.'
- 'The provision of facilities in the North and South County areas for the reception, sorting and recycling of construction/demolition waste as an urgent priority.'

The Plan recognizes the need to support the maximum segregation, collection and treatment of organic waste. A Feasibility Study for Biological Treatment of Waste in the Dublin Region (1999) commissioned by the local authorities concluded that: -

'Although a wide range of organic waste streams are generated in the Dublin Region, it is likely that centralized biological treatment schemes will rely predominantly on household and commercial (i.e. hotel/restaurant/market) biowastes as the major feedstock.'

It is an objective of the Fingal County Development Plan (1999 - 2004) 'to reduce the amount of waste produced and reduce the toxicity and environmental effects of that waste. Following this it is the policy to re-use, repair, recycle/compost remaining waste and to dispose of waste to landfill as a last resort.'

The proposed site is in an area which has a zoning objective to ‘facilitate opportunities for general industrial employment and related use in established industrial areas’. This zoning classification is suitable for the development of a materials recovery and biowaste treatment facility.

### **Need for the Development**

The proposed development, which is designed to maximise the recovery of non-hazardous waste materials and minimise the volume of treated waste disposed of to residual landfill, meets the needs identified in National, Regional and Local Policies statements on waste management. It will provide a recycling and biowaste treatment infrastructure for commercial and industrial organic waste, thus reducing reliance on scarce landfill capacity in the Greater Dublin Area.

### **Alternatives**

The surrounding land ownership and proposed landuse zoning status precluded the expansion of the existing Murphy Waste facility. Celtic Waste carried out an extensive survey of lands in the northern part of the Dublin Region for a suitable location which it could purchase in order to expand its waste recovery and treatment business. The selection criteria included location within the catchment area of its existing business, proximity to prospective markets, suitable land zoning and compatible surrounding land use, suitable ground conditions and availability. Celtic Waste is aware, based on its experience of operating the existing St. Margaret’s facility, of the concerns relating to locating a waste handling facility in proximity to Dublin Airport and has taken measures to eliminate the concerns.

Celtic Waste considers that the site at Millennium Business Park is the most suitable for development, in the context of the selection criteria, and availability of lands on the open market. The site is located within the catchment area of the existing business and is ideal to serve a prospective commercial, industrial and local authority customer base in the Dublin Region.

The proposed technologies and processes comply with the Best Available Techniques (BAT) and are the ones most suited for the site conditions.

The proposed facility will provide an environmentally sound recycling process for inorganic wastes and treatment for organic materials. If the facility is not constructed there will be a deficit in the waste management infrastructure in the Dublin region which may delay the implementation of local waste policy objectives in relation to increasing the recovery of waste materials and minimising the volumes disposed to residual landfill and pose significant impediments to the future viability of the company.

## **Description of the Proposed Development**

### *Site Location*

The site is located in the Millennium Business Park which is accessed off the Cappagh Road. This is also the sole access route for the Business Park. The site occupies an area of 4.45 hectares (ha) in the east of the Business Park (Figure 1).

The land is generally flat. There are existing hedgerows that form the northern and eastern site boundaries. The western boundary is defined by the Business Park consisting of industrial units and access roads. The southern site boundary adjoins an as yet undeveloped area of the Business Park.

### *Development Stages*

The proposed development will involve the relocation of the Murphy Waste Materials Recovery Facility from Sandyhill, St. Margaret's. The new site will include two main elements – the aforementioned Materials Recovery Facility and a Biowaste Treatment Facility. The development will occur in four stages over an 8 year period, involving the phased construction of the buildings and ancillaries required to house and support the proposed waste management activities. The stage development and final site layout are shown on Drawing No. PP-005.

### *Materials Recovery Building*

The Materials Recovery Facility (MRF) will handle source separated and mixed non-hazardous solid wastes of primarily commercial and industrial origin and construction and demolition waste. While Celtic Waste is not currently involved in the collection of municipal waste the facility will be designed to permit Celtic Waste to tender for future contracts to collect and treat municipal waste that may arise in the Dublin Region.

The MRF building will be constructed in three phases with waste processing activities developed over four stages, to accommodate anticipated increases in wastes volumes and changes in waste collection methods (e.g. source separation of commercial waste). The operation will involve on-site waste sorting, compacting, baling and waste transfer off-site. **All waste handling, processing and storage activities will be carried out indoors.**

When fully developed it is expected that the MRF will handle up to 220,000 tonnes of waste materials annually. All of the waste materials brought to the facility for processing will be removed off-site, usually on the same day, for further recycling or recovery operations or for disposal to residual landfill. **There will be no on-site disposal of waste.**



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CLIENT



DRG. No.

1

TITLE

SITE LOCATION

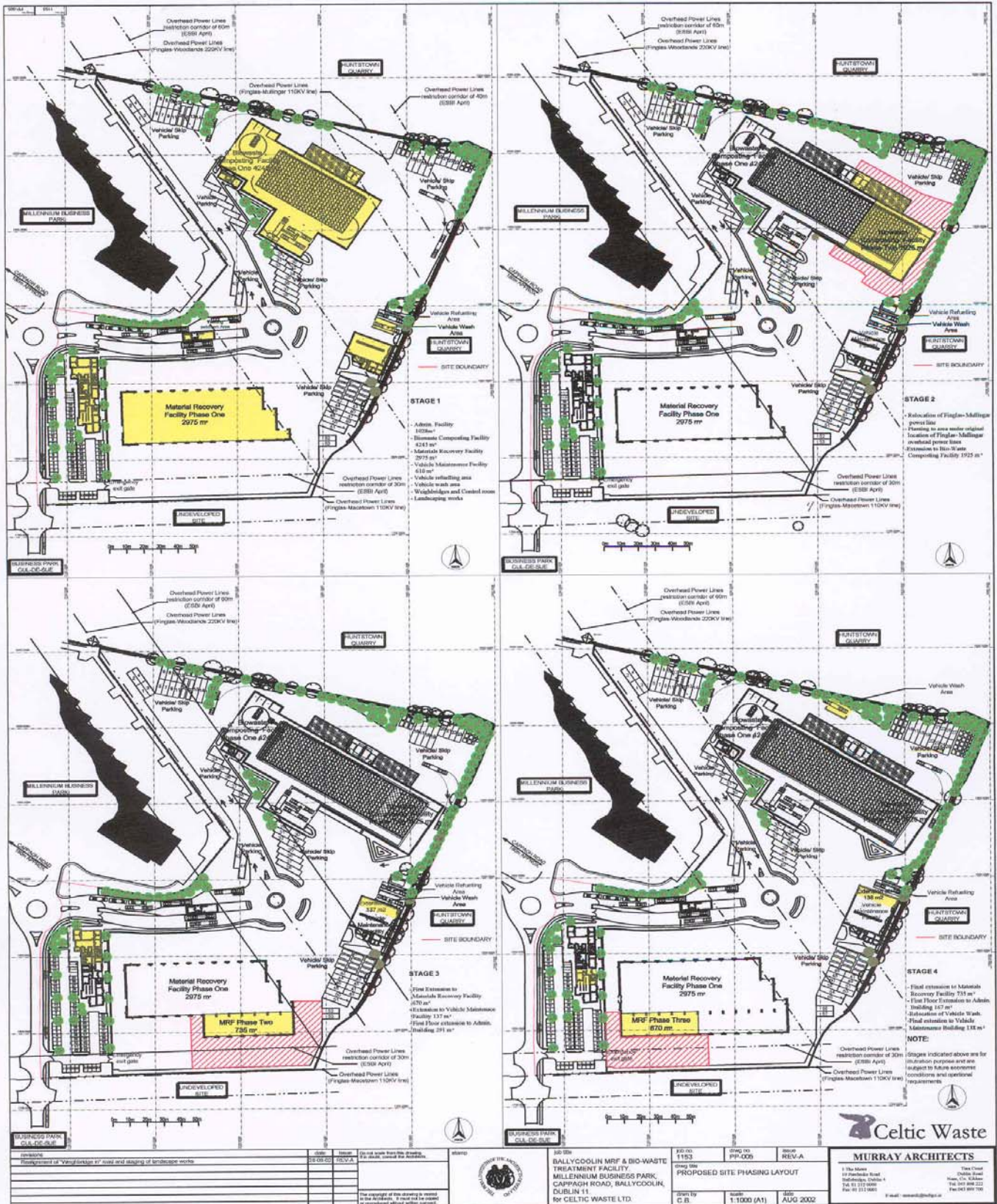
SCALE

1:50,000

REV.

A

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Revisions	Date	Issue	By
1. Revisions to 'Vegetation' of road and staging of landscape works	20/08/02	REV.A	...

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JOB No: BALLYCOOLIN MRF & BIO-WASTE TREATMENT FACILITY, MILLENNIUM BUSINESS PARK, CAMPASH ROAD, BALLYCOOLIN, DUBLIN 11.

DATE: 11/08/02

SCALE: 1:1000 (A1)

DATE: AUG 2002

**Celtic Waste**

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### Biowaste Treatment

The Biowaste Treatment Facility (BTF) is intended to treat commercial and industrial organic waste originating from food retail outlets, supermarkets and catering waste. It will also be capable of treating similar type waste from household sources. Initially, the end product will be used for landfill restoration works, but the proposed composting methodology has the flexibility to produce a more refined product suitable for horticultural use.

The BTF will be developed in two phases to accommodate expected expansion in the volumes of waste. Phase I will include the construction of a reception/pre-treatment area, compost bay, a compost refinement/storage area, an accommodation block and will have a treatment capacity of 25,000 tpa. The compost bay will be filled in stages, depending on market conditions. An aeration floor will be installed in the compost bay. An air extraction system, consisting of air collection ducts, water scrubber and biofilter, will be installed to treat the process air and to mitigate against odour emissions. The compost will be loaded, turned and transported for refinement by means of mobile mechanical plant with climate controlled cabins.

In Phase 2 the building will be enlarged to deal with a final capacity of 50,000 tpa. The compost bay will be extended to accommodate the extra capacity and as with Phase 1 will be filled in stages. The aeration floor will be extended, along with the air treatment system. An additional water scrubber and biofilter will be provided to treat the process air. An automated mechanical compost turning wheel will be installed to turn the compost. Conveyor belts will feed pre-treated biowaste to the compost bay and transfer matured compost from the bay to the compost refinement/storage area. The facility accommodation, reception area and refinement/loading area will be the same as in Phase 1.

### Ancillaries

The vehicle maintenance building will be used to maintain mobile site plant and trucks. Oils and fluids used in the maintenance will be housed in the building in dedicated contained units. The vehicle refuelling area will be located adjacent to this building. This will comprise over ground diesel tanks for on site plant and trucks and engine oil, which will be provided with a 1.2 m high spill containment bund. A vehicle wash will be located beside the building, and wash water will be recirculated.

The administration building will accommodate administrative support staff. The weighbridges will be used to weigh all in coming and out going waste transport vehicles. The site control office will be located at the weighbridge.

Truck and car parking areas will be provided beside the MRF and the BTF buildings. Empty skips will be stored in designated areas around the site.

### Opening Hours and Staffing Levels

The facility will, accept waste between the hours of 06.30 and 20.00 Monday to Saturday. The operational hours will be 07.00 to 19.00. Waste will not be removed from the facility after 19.00. The facility will be manned by between 35 to 40 permanent trained staff including a Location Manager, site foreman, weighbridge clerk, administration staff, machine drivers and general operatives.

### Site Access

All waste delivery traffic will enter the site from the Cappagh Road via a controlled entry gate at the southern end of the site. At maximum capacity an average of 10 vehicles per hour will enter and leave the facility.

### Waste Acceptance and Handling

All waste delivery vehicles arriving at the facility will be obliged to enter onto the weighbridge at the entrance gate where they will be weighed and the accompanying documentation checked by the weighbridge operator. The vehicle will then drive from the weighbridge to either the MRF or BTF buildings where the waste will be off loaded and inspected. All wastes arriving at the facility will be in fully enclosed containers. Wastes will only be off-loaded inside the buildings.

Commercial and Industrial mixed wastes, and Municipal Solid Waste (MSW) will only be off-loaded inside the MRF building. The waste will be tipped on to the floor, where it will be inspected to ensure it is suitable for treatment and does not contain any hazardous or other unsuitable waste. Following inspection the waste will be processed, which in the case of mixed dry recyclables will involve mechanical (bag splitting, screening) and manual sorting. Wastes not suitable for recovery will be loaded directly into trailers for disposal at a licensed residual landfill or alternative licensed treatment/disposal facility.

Pre segregated dry waste will be off-loaded in designated areas of the MRF building. Pre-segregated paper, plastic and cardboard will be compacted in the compaction units and stored pending removal off-site for recycling. The bulk of the segregated material will be moved to the compaction areas by the grab machines and the front loading shovels.

Any waste delivered that does not have the appropriate documentation or which is deemed not suitable will not be accepted at the facility. Where this occurs the name of the waste contractor, the driver, the registration of the vehicle and the origin of the waste will be recorded and reported to Fingal County Council and the EPA.

Any waste identified as not suitable following off loading will be immediately removed to the waste quarantine area within the MRF where it will be stored pending its removal off site by the waste producer, or Celtic Waste. Celtic Waste will maintain records of the waste type, quantity, and ultimate disposal/treatment facility to which such wastes are conveyed.

### Plant and Equipment

The plant proposed for use on site at maximum capacity includes 3 no. front end loaders, 2 no. grabs, 2 no. wood shredders, 4 no. balers, 2 no. conveyors, 1 automated compost turning machine, 3 no. forklifts, 3 no. trommels, 2 no. air compressors and a yard sweeper. This will provide for 100% duty and standby for all key plant items. Additional supporting plant items may be hired for short periods as required. The internal layout of the building including the location of plant, equipment and storage areas will be based on the outcome of a competitive tender to supply the equipment. The plant will provide 100% duty and 50% standby capacity.

### Drainage

Run off from the paved areas will be collected in drains and discharged to the municipal storm sewer. The drainage channels will be provided with silt traps before the connection point to the municipal sewer. In areas where oils are used (vehicle refuelling area) an oil water interceptor will be provided.

To minimise the volume of storm water runoff, all the roof water from the MRF and BTF buildings will be collected and stored in two underground concrete tanks for use in the various processes and in the toilets.

Process wastewater will include floor washing from the BTF and MRF buildings and leachate from the composting operation. The floor washwater and the leachate generated in the BTF will be collected and directed to an underground concrete process water tank for reuse in the composting process. Washwater from the MRF building will be discharged to the municipal foul sewer. Occasionally, it may necessary for surplus wastewater from the BTF building to be removed using a vacuum tanker for disposal at an off-site wastewater treatment plant.

## **Existing Environment, Potential Environmental Effects and Mitigation Measures**

### Human Beings

The Millennium Business Park is zoned for commercial and industrial use. Landuses in the surrounding area vary between industrial, agriculture and quarrying uses. Huntstown quarry is located to the immediate north and northeast of the site, with further quarrying to the south. Immediately to the west of the Millennium Business Park itself, across the Cappagh Road, is the Northwest Business Park.

The lands to the west and south west are dominated by industrial and commercial enterprises. Agricultural land along with some isolated residences can be found to the south of the site. The closest large residential area to the Millennium Business Park is Corduff located approximately two kilometres to the south west. The nearest occupied residential property is approximately 200 m to the south of Millennium Business Park. There are no schools, nursing homes or medical centres within at least 500 m of the proposed development site.

The risk of airborne particulates and gases from the site activities are considered to be negligible. While the composting operations will generate bio aerosols these are not a cause of concern in terms of impacts on the health of facility personnel or the general public.

It is recognised that individuals and organisations in proximity to waste processing facilities which accept and treat organic wastes will have concerns over possible environmental nuisances including odours, litter, vermin and pests. The facility has been designed and will be operated in a manner that will either eliminate or minimise the risk of environmental nuisance. Mitigation measures include ensuring all waste handling and processing is carried out indoors, the rapid removal off-site of putrescible materials and collection and treatment of exhaust air from the compost building.

### Ecology

The site has been partially cleared to facilitate the development of Millennium Business Park. There are two principal habitats at the site, 'Spoil and Bare Ground' and 'Improved Grassland' as identified by an Ecological Impact Assessment carried out at the site. These are both highly modified habitats and are considered to be of low ecological significance. The species that occur within these habitats are generally widespread and common. The removal of these habitat types from the site is not determined to be a significant impact.

The hedgerow areas within the site are semi-natural habitats that are of local value. They may be important as breeding sites for some common birds that occur in the area. The built up nature of the surrounding area and the increased urbanisation of the landscape adds to the importance of the hedgerow habitat. There were no rare or threatened bird, mammal, butterflies or plant species recorded within the study area.

The hedgerow habitat along the northern and eastern boundaries of the site are to be retained. There will also be a margin at the base of the hedgerows retained in order to enhance the species diversity and structure of the hedgerows. Hedgerows will be trimmed only outside of the bird breeding season. Any landscape proposals should where possible use native plant and tree species in areas outside borders/beds.

There will be removal of other hedgerow remnants within the site but these are not considered to be important habitats as they no longer function as wildlife corridors (i.e. they are isolated) and are poorer examples of the habitat within the site. The removal of hedgerow habitat is therefore considered to be an imperceptible impact.

There will be no direct impacts on any designated areas. The nearest designated site to the proposed development is the Royal Canal pNHA located some 3.2 km to the south of the proposed development site. There will be no discernible change in the ecology of this site as a result of the proposed development work.

The additional noise and activity around the site may deter some individual birds from visiting the site. The birds that are believed to use the site are not recognised to be of conservation importance and therefore this impact is determined to be minimal. The proposed development will not impact upon any site recognised as an important breeding area for birds. The retention of hedgerow habitat within the site will ensure that any suitable breeding sites will not be removed.

There were no mammals of conservation importance recorded in the study area and based on the habitat present it is considered unlikely that any mammals of conservation importance utilise the site. It is foreseen that there will be no direct impacts on any protected terrestrial mammals as a result of the proposed development. The site is not recognised as being important for bat species and therefore there are no direct impacts foreseen on bats.

The level of disturbance will be greater during the construction phase of the proposed development. All waste handling and processing activities during the operational phase of the proposed development will be contained indoors and therefore significant impacts from disturbance are not foreseen. In any case the absence of potential breeding bird habitats in the vicinity of the site rules out the possibility of significant disturbance to breeding bird populations.

### Climate

The climate in the area of Millennium Business Park can be described as mild and wet, with the prevailing wind direction from the south west. The average annual rainfall at Dublin Airport which is approximately 4 km from the site is 732.7 mm.

The development will not result in any impacts on the climate or microclimate at the site. The biowaste treatment operation will produce carbon dioxide (CO<sub>2</sub>), which is a green house gas. Carbon dioxide resulting from the bioconversion of organic waste is also not considered a net contributor to greenhouse gas emissions, since the carbon is stored in the biomass for a limited number of years (short carbon cycle), where as in the case of fossil fuels the carbon is stored for millions of years (long carbon cycle). Therefore, there will be no net contribution to greenhouse gas emissions.

### Geology

The site geology comprises sandy gravelly boulder clays overlying a shale limestone bedrock of the Tober Coleen Formation. The overburden ranges in thickness from less than 2 to 8 m thick across the Business Park. The bedrock along the southern margins of the site and the lands to the south comprise limestones of the Waulsortian Formation.

Both the Tober Coleen and Waulsortian formations have been extensively quarried locally immediately to the north east and south of the site by Roadstone plc.

Given the size of the facility and the design of the site roads any yard traffic within the site or plant operating on-site will not result in significant vibration impacts either on-site or off-site. Off site quarry operations is the likely dominant local source of vibrational impact.

### Hydrogeology

Based on data obtained from the GSI the bedrock aquifer is a locally important (Lm) aquifer that is productive in local zones. Groundwater yields in the formation range from 5.45 m<sup>3</sup> - 9 m<sup>3</sup>. While it is reported that there are two wells on lands adjoining the site, the aquifer is not, based on a search of records kept by the GSI, a significant source of water supply in the locality.

The depth to groundwater beneath the site is not known. However, extensive dewatering at quarrying activities adjacent to the site is likely to have lowered the water table locally. Aquifer vulnerability to pollution ranges from high to moderate across the Millennium Business Park. Where the bedrock is close to the surface vulnerability is likely to be greater than where it is covered by 8 metres of overburden.

Potential short- term impacts from the construction of the facility include spills or leaks from fuel or oil storage compounds or vehicles. All fuel tanks and oil storage compounds used on site during construction will be provided with adequate secondary containment to prevent spills or leaks from entering the stream. When the site is operational, there will be no direct or indirect long-term emissions to ground or groundwater.

The provision of extensive paved areas provided with surface water collection drains, and secondary containment of all fuel and oil storage areas and maintenance on site of spill response equipment minimises the potential for short term direct or indirect discharges to ground or groundwater in the event of spill or leak. These measures make it extremely unlikely that any contamination of the underlying aquifer could occur as a result of the proposed development.

### Hydrology

The site appears to be located in the catchment of the Tolka River, which is approximately 2.5 kilometres to the south west of the site. Drainage density is low locally. There are no significant streams or water course on the site or in the surrounding lands. There are ditch courses along the hedgerows in the south eastern area of the site which are dry through out the year.

There is an existing surface water sewer system serving all of the Millennium Business Park. The system is designed as an attenuation system. There is a large concrete underground tank located off-site but beside the entrance road to the site. This tank provides temporary storage of surface water, which is pumped at a steady rate to the surface water drainage network in the Northwest Business Park, located on the other side of Cappagh Road. Surface water run-off from the site will be discharged to this drainage system.

The surface water system for the Millennium Business Park is designed to handle run off from a paved area of 80%. The impermeability of the proposed development site is 86%. Therefore, it is proposed that the additional 6% of the impermeable area be attenuated on-site. The attenuation tanks will also allow for rainwater to be collected for use in the composting process, in toilets and in dust suppression systems.

Estimates of surface water run-off based on a 2 year storm period of unlimited duration identified that 120 m<sup>3</sup> of attenuation storage capacity is required. It is proposed to collect the roof water from the BTF and MRF Buildings and store this water in attenuation. Each building will be provided with precast concrete underground attenuation tanks.

Potential short term impacts from the construction of the facility include silting of the municipal sewer. Silt control measures will be provided during the construction phase to ensure that this does not occur. All fuel tanks and oil storage compounds used on site during construction will be provided with adequate secondary containment to prevent spills or leaks from entering the municipal sewer.

Surface water from the paved areas could potentially contain small amounts of oils and silts. The surface water drainage channels will be cast into the concrete slab and their profile will be such as to minimise silt build up in the channel. A number of silt pits will be provided on the drainage channels. These pits will be cleaned out regularly to ensure there is minimal waterborne silt emanating from the site. A petrol interceptor will be provided immediately downstream of the refuelling area to prevent entry of hydrocarbons into the surface water drainage system.

Firewater generated within the site (excluding the administration building) will be contained on the paved yard by kerbing. Mechanically controlled shut off-valves will be installed on the foul and surface water outfall sewers located near the roundabout. The total volume of firewater for which the storage system is designed is 225 m<sup>3</sup>.

### Odour

The largest source of odour at the proposed facility is associated with the residual odour emissions from the biofilters serving the composting operations, which account for approximately 95% of all emissions generated at the site. Due to the height and velocity of release of these emissions these odours are unlikely to result in odour annoyance off-site.

The balance of the odour emissions from the site is generated by the waste handling operations conducted in the MRF, and is released or treated, at low level. However, although these odours may result in localised impact within the site boundary, the assessment indicates that these emissions are unlikely to result in odour annoyance to either to commercial or residential premises under the expected operational regime.

Even considering the worst-case conditions from emissions from the MRF, it is considered that the risk of odour annoyance at commercial properties neighbouring the site is likely to be low. On the basis of this assessment, the requirement for further mitigation of odours from the MRF building is not considered to be justified.

### Traffic

The forecast increases in traffic on the road network adjacent to the proposed site are likely to be the order of +0.9% and +1.0% in the morning and afternoon peak hours respectively. The primary points of access from the National Primary Road Network are at the Kilshane Crossroads to the north and the Blanchardstown Interchange to the south. The forecast peak hour increases in traffic would be negligible at either of these junctions and well within normal existing peak hour traffic fluctuation, which are usually expected to be in the order of  $\pm 10\%$ .

The relocation of the existing Celtic Waste business from St. Margaret's to Ballycoolin, for the most part, and especially in the early years, should not result in an increase in traffic on the general roads network in the St. Margaret's/Ballycoolin area.

The relocation of the existing business will afford traffic the opportunity to use the N3 to access the Ballycoolin area from the south. This will relieve traffic demand at the existing Kilshane Crossroads through which the majority of the Murphy Waste related traffic travels.

Additionally, the forecast average loads both to and from the proposed site will be greater than those currently being handled at the existing Murphy Waste facility, therefore it would be reasonable to expect that the implementation of the proposed development may, in the first two or three years have a net benefit of reducing traffic flows on the greater roads network.

### Air Quality

A baseline air quality study was carried out which included monitoring of substances which are likely to be emitted to the air from the proposed development. These included benzene, nitrogen dioxide, respirable particulates and dust. The main source of these will be associated with traffic movement. The existing baseline air quality is generally good, however elevated dust levels were recorded in the western area of the site, associated with on-going site development works in the Business Park.

Potential air quality impacts associated with the operation of the proposed facility include odour, dust, bioaerosols, traffic and noise. The proposed site design and method of operation incorporates measures to effectively mitigate the potential impacts. The odour impacts and mitigation measures have been addressed in the section on Odours.

The facility operations will not be a source of significant dust. While handling of dry waste will generate dusts the fact that all waste recovery and transfer activities, including the wood shredding, will take place inside the MRF building reduces the potential for the off-site deposition of dust. The facility roads will be paved and regularly swept which will minimise the potential for dust generation.

In the BTF building there will be no open storage of waste or compost. All tipping and mechanical pre-treatment of waste will be carried out on designated tipping areas within the enclosed building under a slight negative pressure, so any dust generated will be contained within the building. Besides, the fresh biowaste will be largely relatively wet in nature, not giving rise to dust emissions when treated. The dry solids content of the compost will be kept below 65-70% by process control measures, since higher dry solids contents may give rise to excess dust formation.

The increase in traffic volumes due to the development would be very small (approximately +0.9% in the AM peak hour and +1.0% in the PM peak hour), particularly when compared to the existing traffic flows in the vicinity. The slight increase in traffic movements will not have any discernible impact on air quality.

### Noise

A baseline noise survey and predictive modelling exercise was undertaken to establish existing noise levels and assess the impact of noise from the proposed development on the area. The site design includes a 2.4 m high acoustic barrier along the boundaries of the site adjoining occupied parts of the Business Park. The noise assessment has found that taking into consideration this acoustic barrier, noise from the facility operations will not have a significant impact. Therefore, further mitigation measures are not required.

### The Landscape

The site is visible from viewpoints along Cappagh Road. Pedestrians and car users on the Cappagh Road and occupants of the Business Park are the receptors most likely to be sensitive to changes in the appearance or character of the landscape. The buildings and site layout including extensive landscaping measures have been designed to blend into the existing industrial/commercial built environment.

The sensitivity of the landscape is considered to be low. The proposed development will not interfere with the existing landscape character or eliminate a landscape value. The retention of the existing hedgerows along the northern and eastern site boundaries and the proposed landscaping measures will mitigate the impact of the proposed development on the landscape.

### Material Assets

The site is not located on or adjacent any designated or proposed Special Areas of Conservation, Special Protection Areas, or Natural Heritage Areas. The site or its immediate environs do not have a significant leisure amenity potential due to land zoning of the area and the number of commercial/industrial premises in close proximity.

There are no surface water features in close proximity to the site and the surrounding landscape has been left heavily scarred as a result of the extensive quarrying which continues to take place in the area. The area is also used as a corridor for trunk overhead power lines, which cross the site and its immediate environs.

The proposed development will not attract birds and will not present a risk to operations at Dublin Airport. The close proximity of the site to Dublin Airport does however further reduce the leisure amenity potential of the area.

### Archaeology

A number of sources were consulted in order to assess the archaeological potential of the proposed development area. Field walking was also carried out to assess the proximity and therefore impact of the development on known archaeological monuments and to record any other potential monuments which are not marked on the Record of Monuments and Places for County Dublin maps. While there is no direct impact on the known and recorded archaeological monuments within the vicinity of the development area a number of mitigating strategies are recommended in order to prevent accidental loss or damage to archaeological finds or features that lie below the present surface and have no visible surface remains.

Topsoil stripping of the development area will be monitored by a suitably qualified archaeologist to record any sub-surface archaeological deposits and to recover any artefacts which are uncovered. The monitoring archaeologist will be empowered to halt the development if buried archaeological features or finds are uncovered.

### **Interaction of the Foregoing**

The likely significant impacts associated with the proposed development on individual receptors have been described above. The significance of the actual and potential effects of the development due to interaction between receptors is discussed below. Only those receptors between which there is an identifiable actual or potential relationship are addressed.

The aquifer beneath the site is not a regionally important aquifer and is not a significant local source of groundwater supply. Any impairment of groundwater quality could impact on the proposal to obtain a water supply from the bedrock aquifer for non-potable use. The site design includes for control measures to prevent direct or indirect discharges to groundwater.

Waste handling and composting operations have the potential to impact on human beings arising from deterioration in air quality due to dust and odours and also noise emissions. The design and operation of the proposed development has taken account of these emissions and effective mitigation measures have been adopted.

The proposed development will change the existing landscape and will be visible to people travelling on the Cappagh Road and occupants of the Business Park. The site layout, including the proposed landscaping plan, has been designed to minimise the visual impact of the facility and fit in with the existing landscape character.

An impact evaluation checklist is presented in Table 1 below. This table presents a summarised description and evaluation of the likely and potential impacts of the proposed development.

**Table 1** Evaluation of Impacts

<b>Description</b>	<b>Impact No.</b>	<b>Character</b>	<b>Magnitude</b>	<b>Duration</b>	<b>Consequences</b>	<b>Type of Impact</b>	<b>Certainty</b>
Flora 1	1	Loss of Grassland/Spoil & Bare Ground Habitat	4.25ha (90% of site)	Permanent	Loss of Vegetation	Imperceptible	High
Flora 2	2	Augmentation of existing Hedgerows	Northern & Eastern Boundary	Permanent	Improvement in Diversity/Amenity	Positive	High
Fauna	-	-	-	-	-	-	-
Climate	-	-	-	-	-	-	-
Traffic	3	Increase in Traffic Volume	1% Increase in Existing Flows	Permanent	None Known	Imperceptible	High
Geology/ Hydrology 1	4	Discharge to Surface Water Drainage System	Controlled Discharge at Pre-development Rate	Permanent	None Known	Imperceptible	High
Geology/ Hydrology 2	5	Silting of municipal sewer, fuel/oil leaks to ground during construction	Limited to Influence of Construction Plant	12 Months	Loading of Municipal Sewer and/or emission of pollutant to Groundwater	The Residual Impact will be Insignificant	Low

Description	Impact No.	Character	Magnitude	Duration	Consequences	Type of Impact	Certainty
Air	6	Dust	Confined to MRF Building	During Operational Hours	Nuisance	The Residual Impact will be Imperceptible	High
Noise	7	Less than Ambient levels (<55dbA) at noise sensitive locations	See Figure 11.2	During Operational Hours	None Known	No Significance	High
Odour	8	Treated Emissions from the Biofilter	See Figures 12.2 & 12.3	During Operational Hours	Annoyance	The Residual Impact will be Imperceptible outside the site	High
Archaeology	-	-	-	-	-	-	-
Landscape	9	Visibility of Buildings	Viewpoints on Cappagh Rd & Nearby Commercial Units	Permanent	None Known	The Residual Impact will be insignificant	High
Material Assets	-	-	-	-	-	-	-
Human Beings	-	-	-	-	-	-	-