

## D1 Operational Requirements

### Development and Operational History

Prior to development as a Business Park the land occupied by the installation had been used for agricultural purposes. There is no record or evidence of any previous development on the site.

In 2004, An Bord Pleanála granted planning permission for the construction of the facility and construction began in January 2015. The current licence was granted in April 2015. The facility was commissioned and began accepting waste in July 2006.

It was intended to develop the facility in a number of Phases. Phases 1 and 2 opened in July 2006 and involved the construction of the Materials Recovery building, offices and supporting ancillaries. The licence allows for the construction of a bio-waste treatment building but this has not yet been constructed.

The Materials Recovery building was designed to accommodate distinct waste handling areas for the Commercial and Industrial (C&I) waste, Municipal Solid Waste (MSW) and Construction and Demolition (C&D) waste. Each area has separate access for loading and unloading and waste sorting, processing and storage.

When waste activities began the C&I waste was off loaded in dedicated bays inside the building. Pre-segregated wastes were off loaded in separate bays from the mixed waste. The pre segregated material was either baled, or compacted before being loaded onto trailers for removal off-site.

The mixed waste was initially sorted using a mechanical grab to remove large items such as timber and metal. The remaining materials were sorted in an automated processing sorting line, which included manual picking, to separate out recyclable paper, cardboard, plastic, glass, metal and organics. The residual non-recyclable light fraction was classified as Solid Recovered Fuel (SRF) and was baled and stored in the open before being sent to cement kilns, where it was used as a fuel.

The mixed MSW was delivered in the waste collection vehicles and off loaded in a designated area inside the building. Large items were removed and the wastes were then processed in an automated processing line, which included manual picking, to separate out the different waste streams (paper, cardboard, plastic, wood, metal, organics, fines and stone). The recovered materials are sent to authorised facilities for further recycling and the residual non-recyclable heavy waste was sent to landfill, while the non-recyclable light fraction was baled as SRF.

C&D waste was off-loaded in a designated area. Large items of wood, metal or plastic were removed using a mechanical grab. The remaining waste was then sorted in an automated processing sorting line, including manual picking, to separate out recyclable paper, cardboard, plastic, glass, metal. The residual non-recyclable light fraction was classified and baled as SRF.

Over time the types of waste accepted and the method of processing changed. In 2014 the C&D and C&I processing line were removed and the processing of C&I and C&D waste ceased. The site continued to accept C&D waste, primarily household skip waste and residual household MSW and food waste. These wastes are bulked up and sent to other waste management facilities for treatment. Loose and baled SRF produced at other waste

management facilities is accepted and stored at the site. The loose SRF is stored inside the building while the bales are stored in a designated open area.

### Proposed Operations

It is proposed to accept and process approximately 130,000 tonnes per annum non-hazardous incinerator bottom ash (IBA) from the Dublin Waste to Energy Ltd waste recovery plant at Poolbeg at the facility, which is scheduled to be commissioned by Q2 of 2017.

The processing will be confined to the removal of the ferrous and non-ferrous metals which will then be sent for recycling. There are currently no recycling options for the ash, but in the medium to longer term there is the potential to use the bottom ash as an additive in cement manufacture, as bound and unbound fill in road construction and as aggregate in concrete block manufacture.

While these uses have been approved in a number of other EU member states, in Ireland they will a) require confirmation from the Irish cement and concrete manufacturers and the National Standards Authority of Ireland (NSAI) that the IBA meets the relevant performance specifications and b) the achievement of 'end of waste' status.

It is envisaged that it could take up to 18 months to demonstrate that the treated ash is suitable for use in construction works and the manufacture of products and to obtain approval for an end-of-waste protocol. During this period it is proposed to use some of the treated IBA in engineering works in non-hazardous landfills and subject to Agency approval, in the mines.

The IBA will be off-loaded and processed in the eastern part of the Materials Recovery building that is currently used to store the loose SRF. It is intended to stop the acceptance and storage of the loose SRF. There will be no other changes to waste activities and there will be no change to the overall quantities of waste accepted.

The proposed site layout is shown on Drawing No.1. The existing 5m high internal wall that separates the loose SRF storage area from the MSW transfer area will be extended to the roof using metal cladding so that the ash processing area will be fully enclosed. The dust extraction system that was used to control occupational dust levels when the C&I and C&D processing lines were in operation will be recommissioned (Drawing No. 2). The Drawing shows the original Synmet 12 processing lines, each of which had a processing capacity of 1200 tonnes per day and included feed hoppers, shredder, conveyors, magnets eddy current and ballistic separators and screens.

Although the IBA is not likely to be a significant source of odours provision has been made for the installation of an odour control unit downstream of the dust filter (Drawing No.1). The three roller shutters on the doors accessing the proposed IBA treatment area will be repaired.

The treatment plant (Figure D.1) will comprise a series of conveyors, screens, magnets and eddy current separators. The bulky (>200mm) ferrous (mag solids) will be removed first, followed by >100mm fraction. Then the non-ferrous (Zorba) fractions (19-100mm and 2-19mm) will be extracted. At a later date an eddy current separator (ecs) may be installed to remove non-ferrous metals from the fines the fines and the IBA may be dried to increase the recovery rate from this fraction and crushed to form different aggregate sizes.



## Drainage Systems

The surface and foul water drainage system are shown on Drawing No.001. Rainwater run-off from the building roofs, car parks and areas of the yard where wastes were not stored used to discharge to the municipal storm water sewer.

In 2013, the surface water monitoring identified contamination. As part of the investigation Greenstar contacted the Hillview, which is the Business Park Management Company who informed it that there was a problem with the flow in the sewer system serving the Business Park, which was causing back flow into the Greenstar site resulting in stagnant and nutrient rich water collecting at the monitoring locations.

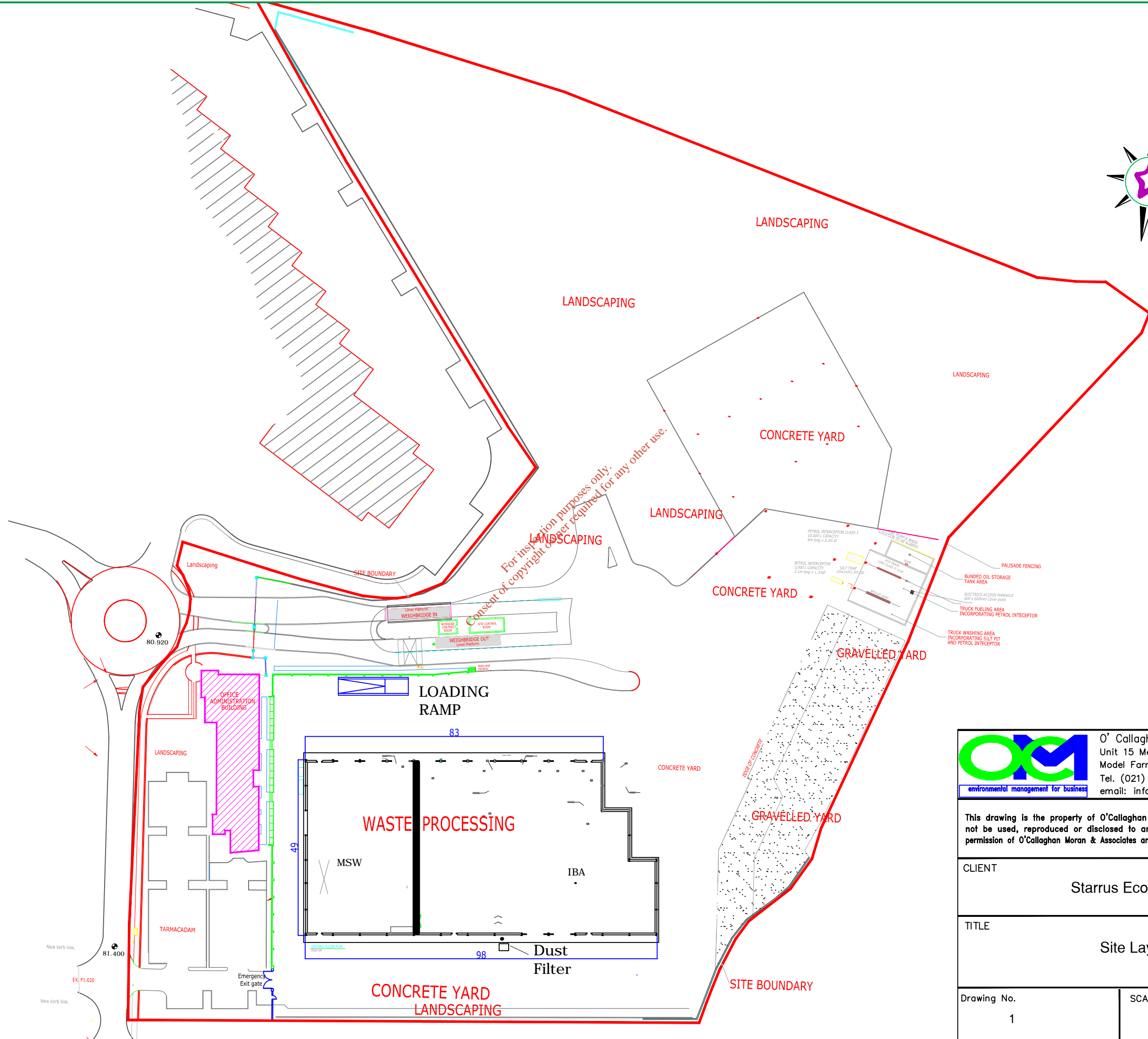
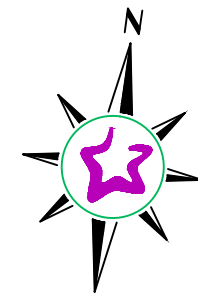
Responsibility for resolving the drainage problems rests with Hillview and pending the resolution the surface water run-off from the site has been diverted to the foul sewer.

Floor wash water from the Materials Recovery building, wash water from the vehicle cleaning area and run off from hard-standing associated with waste handling, storage and processing discharges to the foul sewer serving the Business Park via a silt trap and oil interceptor.

## Alternative Building Use

The waste activities proposed for the building is based on SEHL's assessment of current and likely future market conditions. It is possible that future changes in the types and quantities of wastes collected by SEHL, for example if there is an increase in C&D wastes being generated, may require the reconfiguration of site operations.

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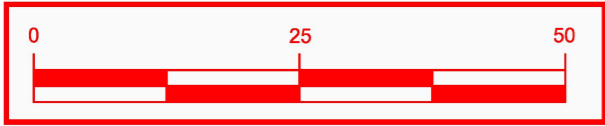
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CLIENT  
 Starrus Eco Holdings Ltd.

TITLE  
 Site Layout

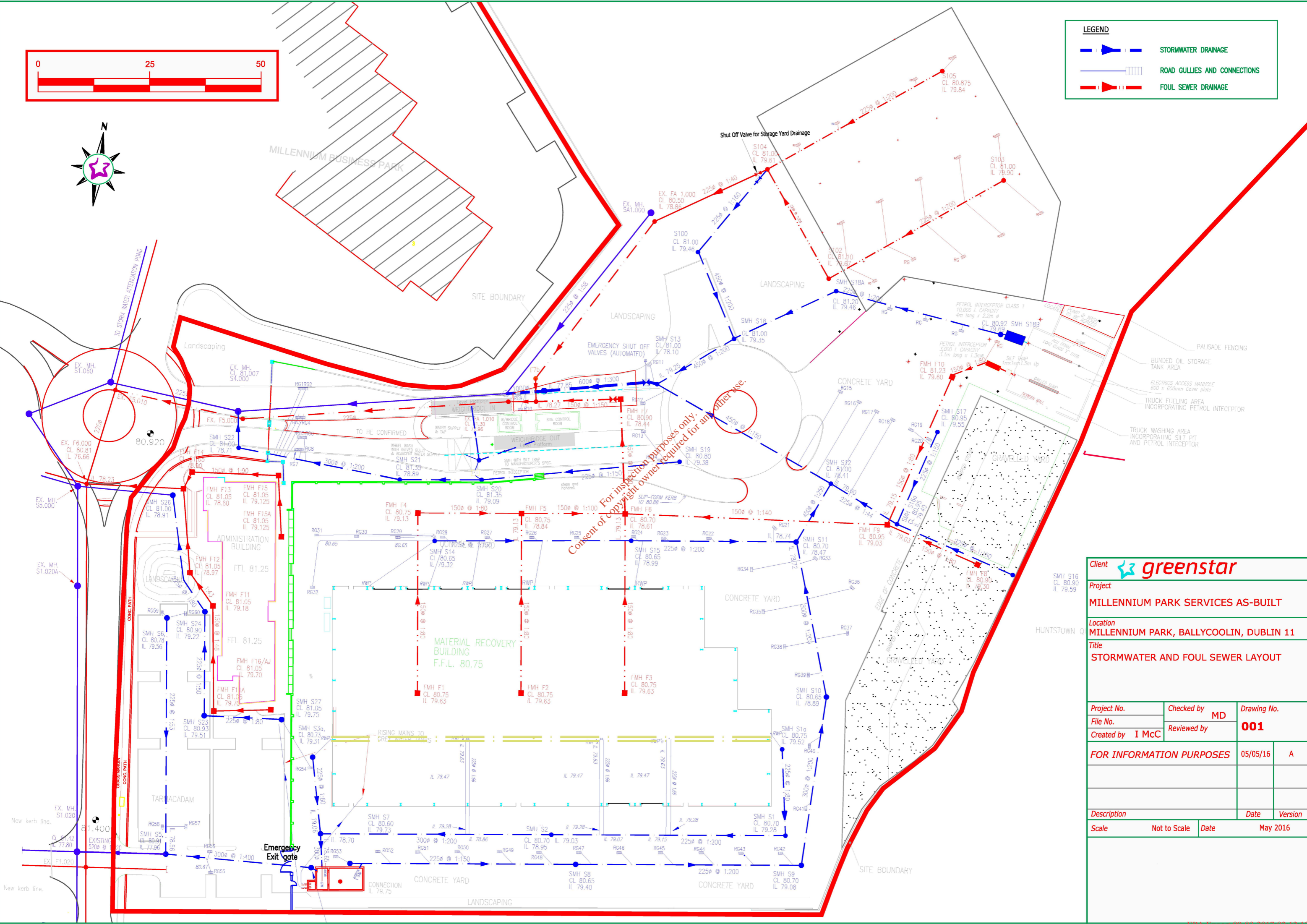
Drawing No. 1	SCALE NTS
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**LEGEND**

- STORMWATER DRAINAGE
- ROAD GULLIES AND CONNECTIONS
- FOUL SEWER DRAINAGE



Client **greenstar**

Project **MILLENNIUM PARK SERVICES AS-BUILT**

Location **MILLENNIUM PARK, BALLYCOOLIN, DUBLIN 11**

Title **STORMWATER AND FOUL SEWER LAYOUT**

Project No.	Checked by <b>MD</b>	Drawing No.
File No.	Reviewed by	<b>001</b>
Created by <b>I McC</b>		

**FOR INFORMATION PURPOSES**    05/05/16    A

Description	Date	Version
Scale    Not to Scale    Date    May 2016		