

Pilsworth MRF
Flood Risk Assessment
Erection and operation of Material Recycling Facility and
associated works

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For



Valencia

Valencia Waste Management Ltd

Introduction

Background

This Flood Risk Assessment (FRA) has been prepared to accompany a planning application for the construction of a Material Recycling Facility at the existing landfill at Pilsworth (South) Landfill.

Aims and Objectives

The aim of this report is to assess the flood risk associated with the proposed equipment.

Planning Practice Guidance on Flood risk and coastal change advises on how to take account of and address the risks associated with flooding and coastal change in the planning process and states *'The National Planning Policy Framework sets out strict tests to protect people and property from flooding which all local planning authorities are expected to follow. Where these tests are not met, new development should not be allowed'*.

It also states:

'Within sites, using site layout to locate the most vulnerable aspects of development in areas of lowest flood risk, unless there are overriding reasons to prefer a different location. In addition, measures to avoid flood risk vertically can then be taken, by locating the most vulnerable uses on upper storeys, and by raising finished floor and/or ground levels, where appropriate and that such techniques are suitably designed. Such measures should also account for residual flood risks from flood risk management infrastructure'.

The proposed development does not lie within the margins of floodplain ensuring that it has been located in an area of lowest risk.

Notwithstanding Before you start a FRA, check if your development needs to satisfy the 'sequential test'. The sequential test steers development to areas with the lowest flood risk. It compares your proposed site with other available sites to show which one has the lowest flood risk. The LPA may refuse planning permission if other, lower risk sites are identified

The objectives of a site-specific flood risk assessment are to establish:

- whether a proposed development is likely to be affected by current or future flooding from any source;
- whether it will increase flood risk elsewhere;
- whether the measures proposed to deal with these effects and risks are appropriate;
- the evidence for the local planning authority to apply (if necessary) the Sequential Test, and;
- whether the development will be safe and pass the Exception Test, if applicable.

SITE DESCRIPTION AND DEVELOPMENT PROPOSAL

The Existing Site

The site is currently used for machinery storage

There is no evidence, anecdotal or otherwise, that the site experiences either fluvial flooding, sea flooding or surface water flooding.

Topography

The site of the proposed MRF lies at circa 101mAOD.

The MRF is of a level that does not flood, with the remainder of the site experiencing a low risk of flooding.

The Proposed Development

As all of the plant components are prefabricated and will be positioned on a concrete plinth on existing hardstanding there will be no need for any construction or foundation.

The process involves vehicles entering the loading bay area and emplacing feedstock derived from primarily commercial and industrial waste collections ('MRF material') in the feedstock loading bay.

The premise of the facilities is to intercept the commercial and industrial waste that is heading for landfill and extracting recyclable materials which would then be removed from site for recycling/re-use/recovery by third parties elsewhere. Any domestic/putrescible waste by would by-pass the facility to landfill as per current arrangements. The proposed development could attract a third-party construction/demolition/excavation waste. This material will be segregated into recyclables and soils/rubble that can be used as engineering materials and daily cover on the landfill. Any putrescible waste will again bypass the facility and be directly landfilled.

It is proposed to process 150,000 tonnes of MRF feedstock. This equates to 2900 tonnes per week of MRF feedstock in of which circa 20% will be recycled and the rest either landfilled or used for landfill engineering (above cap and daily cover).

The plant will operate between the hours of 08:00 – 19:00 Monday to Saturday. Some occasional activities including plant maintenance may be carried out outside of these working hours which will not involve operating the plant.

3 PLANNING POLICY

National Planning Policy Framework 2021

NPPF section 'Planning and flood risk' states:

'159. Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere.'

Table 1: Flood Zones

Flood Zone	Definition
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Zone 1 Low Probability	Land having a less than 0.1% annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map for Planning – all land outside Zones 2, 3a and 3b)
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Zone 2 Medium Probability	Land having between a 1% and 0.1% annual probability of river flooding; or land having between a 0.5% and 0.1% annual probability of sea flooding. (Land shown in light blue on the Flood Map)
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Zone 3a High Probability	Land having a 1% or greater annual probability of river flooding; or Land having a 0.5% or greater annual probability of sea. (Land shown in dark blue on the Flood Map)
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Zone 3b The Functional Floodplain	This zone comprises land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise:
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- land having a 3.3% or greater annual probability of flooding, with any existing flood risk management infrastructure operating effectively; or
- land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability of flooding).

The proposed development is located in an area of very low flood risk. **Very low risk** means that this area has a chance of flooding of less than 0.1% **each year**. This takes into account the effect of any flood defences in the area. These defences reduce but do not completely stop the chance of flooding as they can be overtopped, or fail.

Flood Zones	Flood Risk Vulnerability Classification				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a †	Exception Test required †	X	Exception Test required	✓	✓
Zone 3b *	Exception Test required *	X	X	X	✓

The MRF lies within Zone 1. The remainder of the site lies within Zone 2. It is considered that the remainder of the site is considered to be either 'essential infrastructure' or 'water compatible' as it can withstand water ingress. The NPPF then states that:

163. If it is not possible for development to be located in areas with a lower risk of flooding (taking into account wider sustainable development objectives), the exception test may have to be applied. The need for the exception test will depend on the potential vulnerability of the site and of the development proposed, in line with the Flood Risk Vulnerability Classification set out in Annex 3.

Therefore proposed development is located in an area of lower risk of flooding and an exception test is not required.

The NPPF also states that:

167. When determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific flood-risk assessment. Development should only be allowed in areas at risk of flooding where, in the light of this assessment (and the sequential and exception tests, as applicable) it can be demonstrated that:

(a) within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;

(b) the development is appropriately flood resistant and resilient such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment;

(c) it incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate;

(d) any residual risk can be safely managed; and

(e) safe access and escape routes are included where appropriate, as part of an agreed emergency plan.

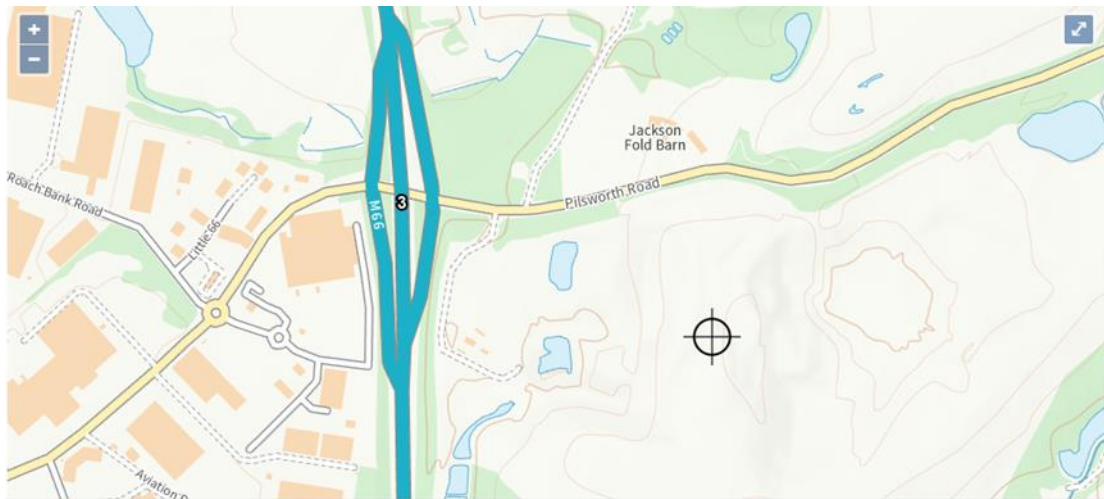
The proposed development will collect water from the roof to be used as part of the process and for fire suppression. The proposed development will also utilise existing surface water attenuation located to the north of the site. The existing surface water attenuation pond currently collects excess surface water from the landfill and there is sufficient capacity for marginal increase in surface water drainage.

4 FLOOD RISK TO THE SITE

The EA flood risk mapping for the application states:

1. **Rivers and the sea - Very low risk**
2. **Surface water - Very low risk**
3. **Reservoirs - Flooding from reservoirs is unlikely in this area**
4. **Groundwater - Flooding from groundwater is unlikely in this area**

This is confirmed on the extract from the EA flood mapping below.



5 FLOOD RISK FROM THE PROPOSED DEVELOPMENT

The NPPF states that an FRA should consider all potential sources of flooding that may arise from a development.

The proposed development will discharge surface water into the adjacent surface water drainage lagoon which serves the adjacent landfill.

Therefore, there will be no increase risk in flooding elsewhere.

6 MITIGATION MEASURES

None required.

7 CONCLUSIONS

The proposed development is acceptable in this location from a flood risk perspective.