

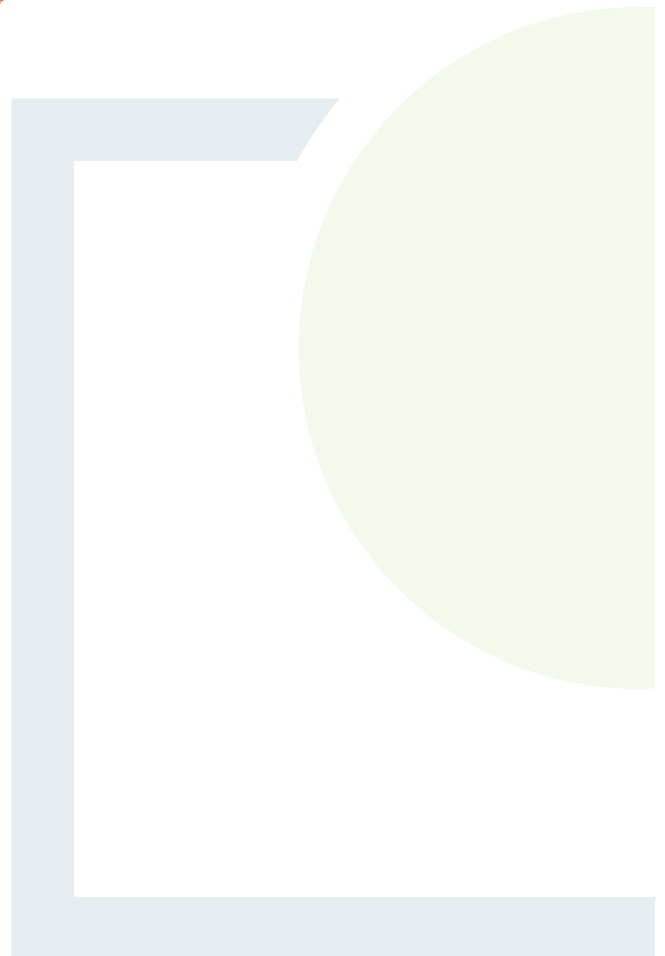


CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

APPENDIX 1

Tier 1 Assessment

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Comhairle Contae Chiarraí

Kerry County Council

► Tier 1 Review Report – Kilfountain (Dingle), Killarney ◀

S22-02662

December 2011

Prepared by:

*Environmental Services,
Kerry County Council.*

*Seirbhísí Comhshaoil,
Comhairle Contae Chiarraí.*

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2.0 Introduction.

In 2007 an initial Tier 1 Risk Assessment of all identified unregulated waste disposal sites was undertaken by the Environment Section of Kerry County Council.

The assessment was completed on foot of;

- the Ministerial Direction (WIR 04/05) reminding Local Authorities of their responsibilities under Section 22 of the Waste Management Acts, 1996 to 2005
- the Environmental Protection Agency's Code of Practice (CoP) - Environmental Risk Assessment for Unregulated Waste Disposal Sites.

The site was subsequently registered on the EPA Section 22 Register and given the reference code S22-02662. It was assigned a High Risk (Class A) classification.

A copy of the assessment is included in Attachment No 1 for reference.

This report updates the initial assessment taking cognisance of the guidance within the CoP to review sites on an annual basis and in light of SI 524 of 2008, Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations 2008.

3.0 Risk Assessment Methodology – Tier 1

3.1 Introduction

Tier 1 of the Risk Assessment Methodology - Conceptual Site Model, Risk Screening and Prioritisation includes a preliminary investigation of the site and also comprises the development of a Conceptual Site Model using information obtained from the desk study and site inspection.

The Conceptual Site Model outlines the different Source-Pathway-Receptor (SPR) linkages and provides information for the risk-screening element. The information gleaned from the desk appraisal and walk over survey is summarised in the Appendix number 2.

3.2 Risk Screening

Risk screening represents an assessment of the SPR linkages in the conceptual model. The Conceptual Site Model identifies each of the elements of the linkage present for the site and the associated uncertainty.

The Conceptual Site Model will determine whether a site represents (or potentially represents) an unacceptable intrinsic risk to any receptor.

The risk that is being assessed is the intrinsic risk that the activity poses without any mitigation measures having been put in place. The actual risk posed to the environment will be reduced following remediation measures.

3.3 Desk Study (Tier 1 Risk Assessment)

A desk study of the site has been undertaken. The information has been gathered from various sources including:

- Local authority sources including records and interview,
 - ground water vulnerability maps
 - surface water channels
 - aquifer data
 - sources of public water supplies
 - NHA, SAC, SPA register map
- Section 22 register (existing)
- Waste Plans
- Complaints database
- Permit register
- EPA waste reports (including NWD report)
- EPA IPPC facilities

- EPA waste licenced facilities
- An Foras Forbatha reports
- Aerial photography

4.3 Walk Over Survey.

A walk over survey has been conducted on the identified site. TBC

The results have been recorded in Appendix No 2 and the allocation of scores to the Risk Prioritisation exercise has been amended.

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4.0 Site Summary.

Location.

The unregulated closed site is located in the townland of Kilfountain approximately **km northwest of Dingle Town.

The site is bounded to the north and east by R559 Regional Road. The southwest edge is bounded by a local stream and the remain boundaries are with adjacent agricultural lands.

The site is located in the townland of Kilfountain but is referred to as Dingle landfill.

Site Location



Site Layout and extent of waste.

The exact footprint of the waste as placed is as yet unknown.

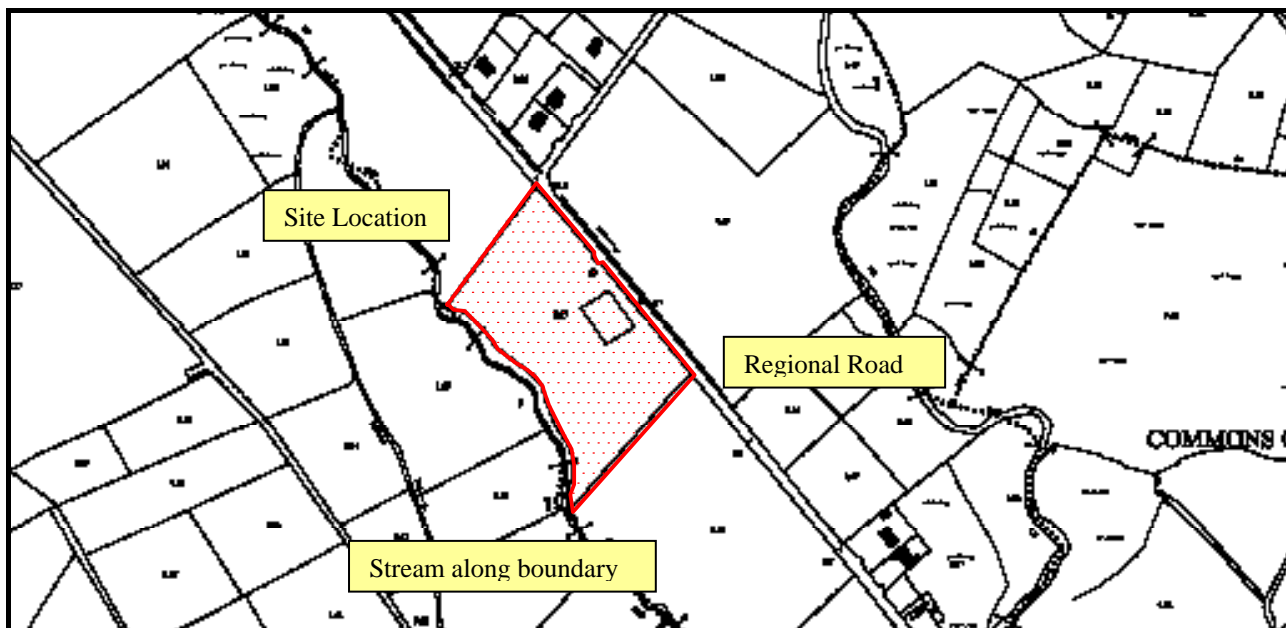
The extent is therefore taken as the full area of the property holding in which the activity took place.

The grid reference to the approximate centre of the property holding is *****.

The following layout map outlines the surrounding land use and geographic features.

The site is not in the ownership of the Local Authority – ownership is absolute (details of Folio and holding on file).

Site layout, Scale 1:5,000



Waste was placed at the site by Local Authority sources from *****.

It is estimated from the An Foras Forbartha report on National Database on Waste that filling rates were in the region of 1,7000 tonnes per annum.

Using the data above and assuming the footprint of the waste matches that of the property holding then the area of the site is in the region of 26,270m².

Based on the above this score is used in the Risk Assessment (see Appendix 1)	Table 1A and 1B	Score 7
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Available Aerial photography

There are two sets of available aerial photography from 2000 and 2004. These are presented in the following pages

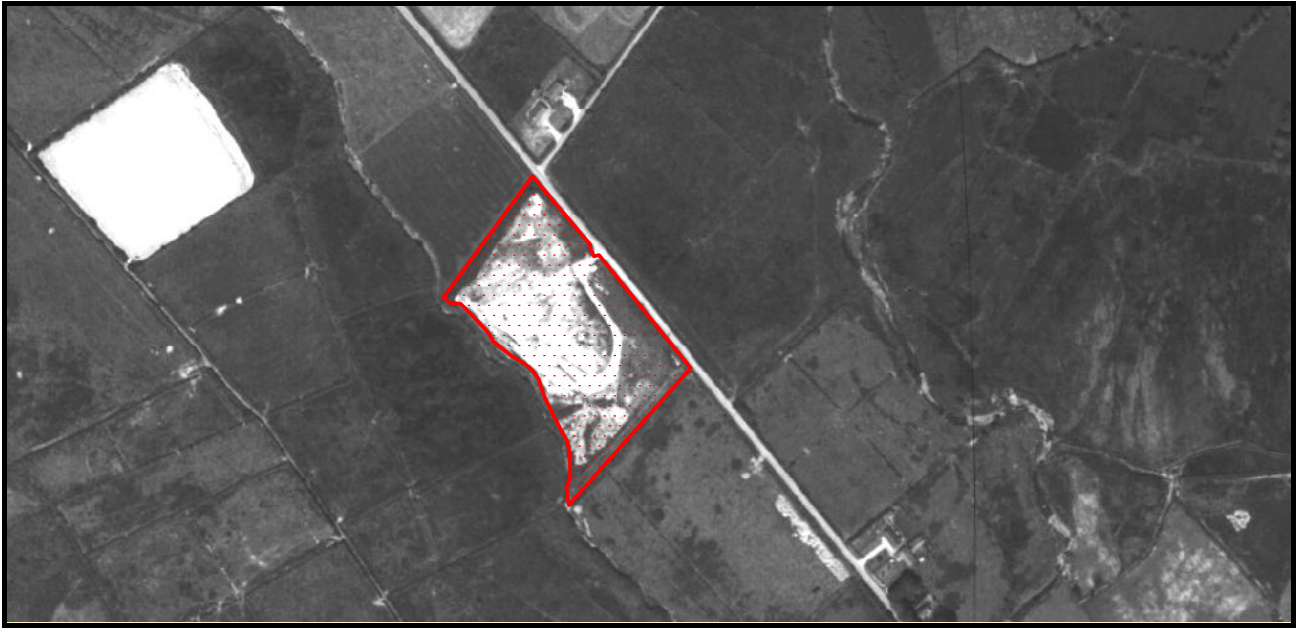
Aerial Photography (scale 1:5,000) - 2004



Aerial Photography (scale 1:5,000) - 2000



Aerial Photography (scale 1:5000) – 1995



Aerial Photography (scale 1:5000) – Year unknown (source GSI).

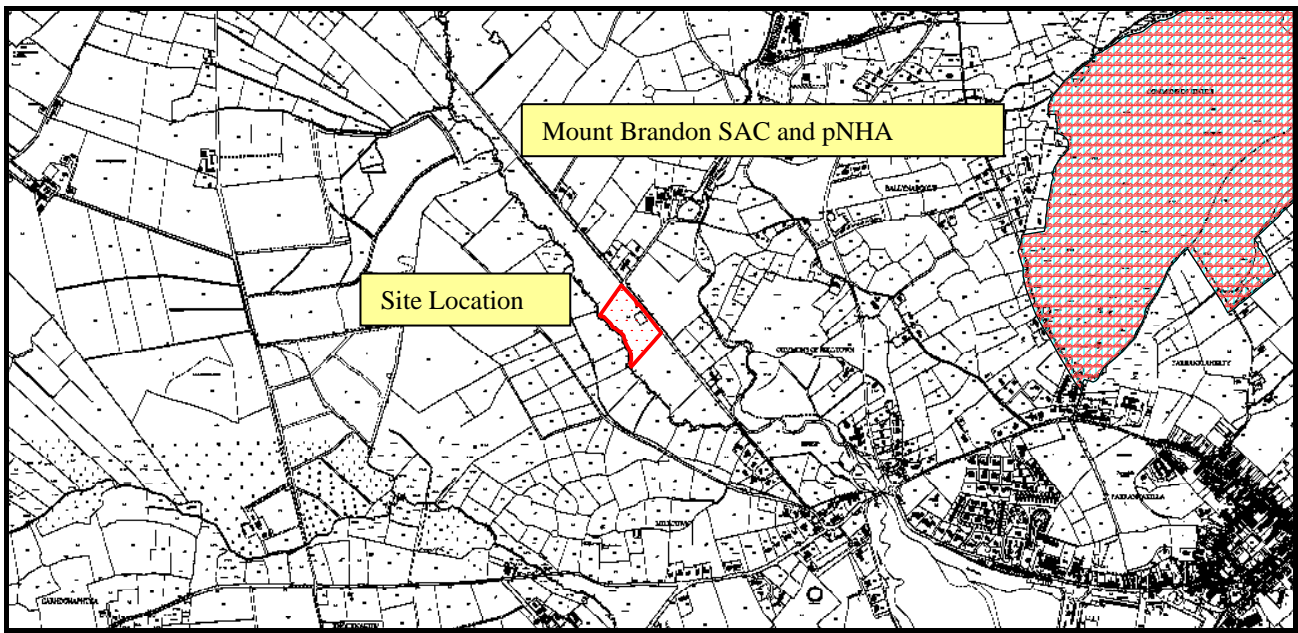


Designated Sites

The only designated site of initial relevance is a Special Area of Conservation (part of the Mount Brandon SAC).

The edge of the designated area is 1,200m from the closet point of the site. The designation is current to September 2011. There is also a proposed Natural Heritage Area – this overlaps the existing SAC.

Designated and Proposed Designated Sites

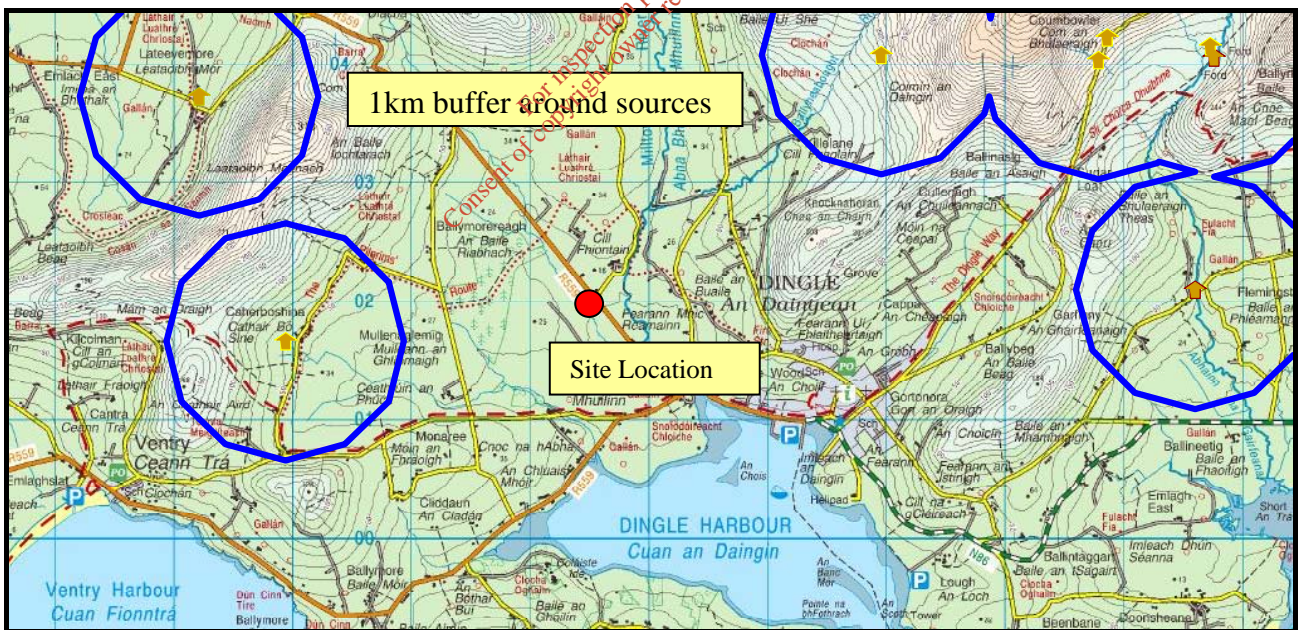


Based on the above this score is used in the Risk Assessment (see Appendix 1)	Table 3B	Score 0
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Water Resources

The site is not located within any Source Protection Area. The 1km buffer zones are shown blue on the following map.

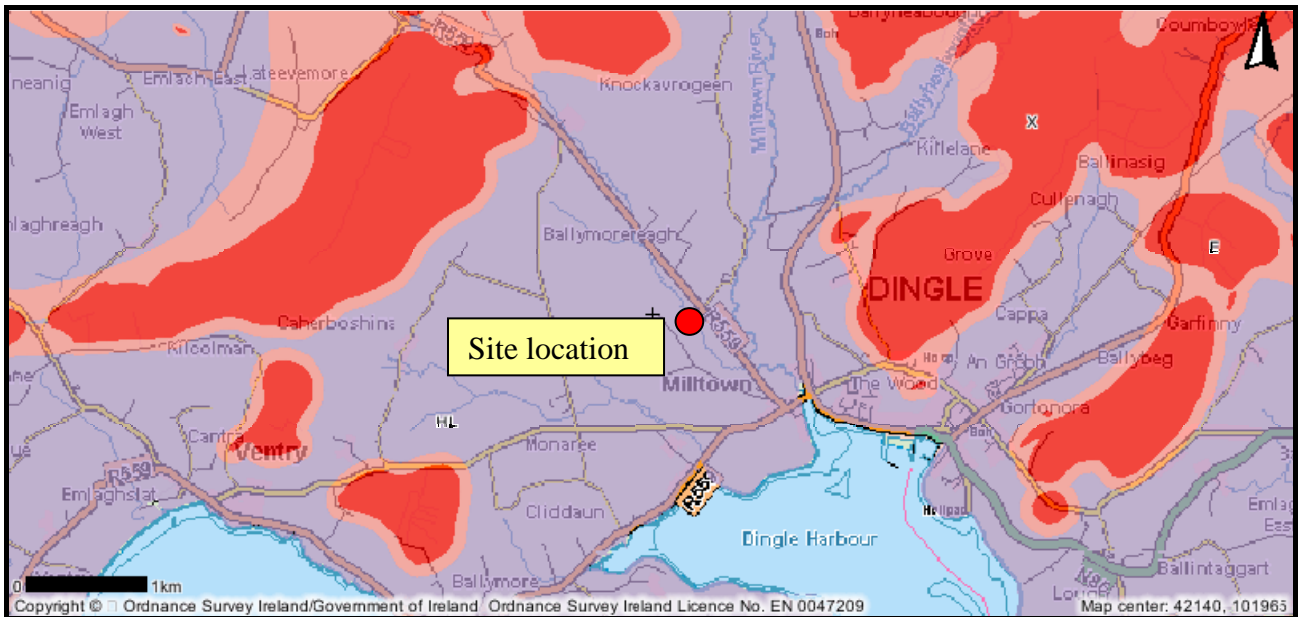
1km Buffer areas 1:50,000



Based on the above this score is used in the Risk Assessment (see Appendix 1)	Table 3D	Score 0
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Groundwater vulnerability and aquifer

Groundwater vulnerability, scale 1:50,000



The site is located in an area that is no definitive designation (HL). The CoP gives a score of 2 for this designation (it being a prudent approach to the vulnerability).

Based on the above this score is used in the Risk Assessment (see Appendix 1)	Table 2A	Score 2
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Aquifer status, scale 1:50,000



The LI status implied that the bedrock aquifer is moderately productive only in local zones.

Based on the above this score is used in the Risk Assessment (see Appendix 1)	Table 3C	Score 3
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Based on the above this score is used in the Risk Assessment (see Appendix 1)	Table 2B	Score 1
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Bedrock Geology, scale 1:50,000



Surface water.

The site is bounded to the south west by an unnamed tributary of the Milltown River and the river itself is to the east of the site (at a distance of 160m). Refer to aerial photographs for information.

The site is 900m from where the Milltown River enters Dingle Harbour.

Based on the above this score is used in the Risk Assessment (see Appendix 1)	Table 2C	Score 2
Based on the above this score is used in the Risk Assessment (see Appendix 1)	Table 3E	Score 3

Soil Types



Sub-soil Categorisation



Landfill Gas

Reference to the location map indicates the presence of domestic dwellings within 60m of the northern boundary of the site. As a matter of prudence the ground is being assumed to be made-up (in relation to the closest dwelling).

This score may be revised pending site investigations.

There is no dwelling above the footprint of the waste (although there is a site building, but this is discounted from an occupancy perspective).

Based on the above this score is used in the Risk Assessment (see Appendix 1)	Table 2D	Score 3
Based on the above this score is used in the Risk Assessment (see Appendix 1)	Table 2E	Score 0
Based on the above this score is used in the Risk Assessment (see Appendix 1)	Table 3A	Score 2
Based on the above this score is used in the Risk Assessment (see Appendix 1)	Table 3F	Score 3

Summary of Risk Screening

The following tables set out the scores used in the risk screening exercise and the results of that exercise.

Summary of Risk Screening Scores

Source	Leachate – Source/Hazard Scoring Matrix	Table 1A	7
	Landfill Gas – Source/Hazard Scoring Matrix	Table 1B	7
Pathway	Leachate Migration – Pathways (vertical)	Table 2A	2
	Leachate Migration – Pathways (horizontal)	Table 2B	1
	Leachate Migration – Pathways (surface water drainage)	Table 2C	2
	Landfill Gas – Pathways (lateral)	Table 2D	3
	Landfill Gas – Pathways (vertical)	Table 2E	0
Receptor	Leachate Migration – Receptors (human)	Table 3A	2
	Leachate Migration – Receptors (protected areas)	Table 3B	0
	Leachate Migration – Receptors (aquifer status)	Table 3C	3
	Leachate Migration – Receptors (public water supply)	Table 3D	0
	Leachate Migration – Receptors (surface water bodies)	Table 3E	3
	Landfill Gas – Receptors (human presence)	Table 3F	3

Summary of SPR Linkages.

<i>SPR</i>	<i>Linkage</i>	<i>SPR score</i>	<i>Max</i>	<i>Normalised</i>	<i>Risk</i>
SPR 1	1a * (2a + 2b + 2c) * 3e	105	300	35%	LOW
SPR 2	1a * (2a + 2b + 2c) * 3b	0	300	0%	LOW
SPR 3	1a * (2a + 2b) * 3a	42	240	18%	LOW
SPR 4	1a * (2a + 2b) * 3b	0	240	0%	LOW
SPR 5	1a * (2a + 2b) * 3c	63	400	16%	LOW
SPR 6	1a * (2a + 2b) * 3d	0	560	0%	LOW
SPR 7	1a * (2a + 2b) * 3e	63	240	26%	LOW
SPR 8	1a * 2c * 3e	42	60	70%	HIGH
SPR 9	1a * 2c * 3b	0	60	0%	LOW
SPR 10	1b * 2d * 3f	63	150	42%	MODERATE
SPR 11	1b * 2e * 3f	0	250	0%	LOW

Based on the above assessment this is a HIGH RISK CLASS A Site – full details are included in Appendix 1

5.0 Conclusions.

Based upon the desktop appraisal and walk over survey the calculated risk associated with this site is High.

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