

3R TECHNOLOGY

WEEE AND RECYCLING FACILITY ENVIRONMENTAL PERMIT APPLICATION

Environmental Risk Assessment

SITE DETAILS	
Name of the applicant	3R Technology UK Limited
Activity address	Unit 21-22 Roman Way, Longridge Road, Preston, PR2 5BB
National grid reference	SD 58148 32763
Date Completed	July 2020

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1.0 INTRODUCTION

This Environmental Risk Assessment (ERA) has been prepared in support of an Environmental Permit application under the Environmental Permitting (England and Wales) Regulations 2016 (as amended) for 3R Technology's WEEE processing site in Longridge, Preston, PR2 5BB.

It has been undertaken in accordance with the Environment Agency (EA) guidance¹. The aim of the assessment is to identify any significant risks arising as a result of the proposed activities and demonstrate that the risk of pollution or harm will be acceptable by implementing appropriate measures to manage these risks.

The guidance requires that all receptors that are near to the site and could reasonably be affected by the proposed activities are identified and considered as part of the ERA. Thus, for the purpose of this report:

- a 10km radius has been adopted in reviewing potentially sensitive international receptors of ecological importance;
- a 2km radius has been adopted in reviewing potentially sensitive national receptors of cultural and ecological importance; and
- a radius of 500m from the proposed permit boundary has been adopted for all other potentially sensitive receptors (for example, residential, commercial, industrial, agricultural and surface water receptors).

1.1 Site Operations

The site will operate a WEEE sortation plant - Purpose built equipment will be installed to carry out density separation to produce a number of recyclable streams from mixed WEEE shredder output that is likely to be classified as hazardous waste following the revised POPs classification on WEEE waste. Specialist equipment will be installed to separate the heavy and light fractions of WEEE plastic to enable the light fraction to be sent for recycling whilst the heavy – POPs – fraction is disposed of to high temperature incineration. The separation process will also include other materials removed from the feedstock including metals, paper, batteries etc.

The WEEE plastic received on site may contain POPs and thus some of the material will arrive on site as hazardous waste. As the plant will be capable of treating more than 10 tonnes a day of hazardous WEEE and the site may store more than 50 tonnes of hazardous waste at any one time, the site will be performing a waste activity under an installation environmental permit.

Therefore, this application seeks to permit the facility under Section 5.3 (a)(ii) of the Environmental Permitting (England and Wales) Regulations 2016 (as amended):

Disposal or recovery of hazardous waste

Part A(1) (a) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving one or more of the following activities—

(ii) physico-chemical treatment;

The site is also storing the WEEE waste which is a Directly Associated Activities which support the operations. The site is operational Monday to Friday 8am to 5pm. The site closes Saturday, Sunday and bank or public holidays.

¹ <https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit>

1.2 Overview and Approach

The following steps have been followed in completing the ERA for the site:

Step One – Identify risks and their sources

Step Two – identify receptors at risk from the site

Step Three – identify pathways between sources and receptors

Step Four – Assess risks relevant to the site activities and determine if they can be screened out

1.3 Sources and Risks (Step One)

Step One is a screening step to identify the potential risks to the environment from the proposed development, and their sources. The EA guidance recommends that the operator assess the following risks for all sites:

- any discharge, for example sewage or trade effluent to surface or groundwater;
- accidents;
- odour;
- noise and vibration;
- Fugitive emissions; and
- visible emissions.

Further, for installations the EA guidance states that you assess the following additional aspects, where applicable

- Risks from site's air emissions;

There will be no point source emissions to surface water, groundwater, sewer, air or land from the application activities.

Therefore only consideration of discharge to surface waters from external yard area and in emergency situations, odour, noise and vibration, fugitive emissions (including dust, mud, litter and pests), accidents and storage of waste remains applicable for assessment in this instance.

2.0 ENVIRONMENTAL SITE SETTING AND RECEPTORS

2.1 Sources and Risks (Step One)

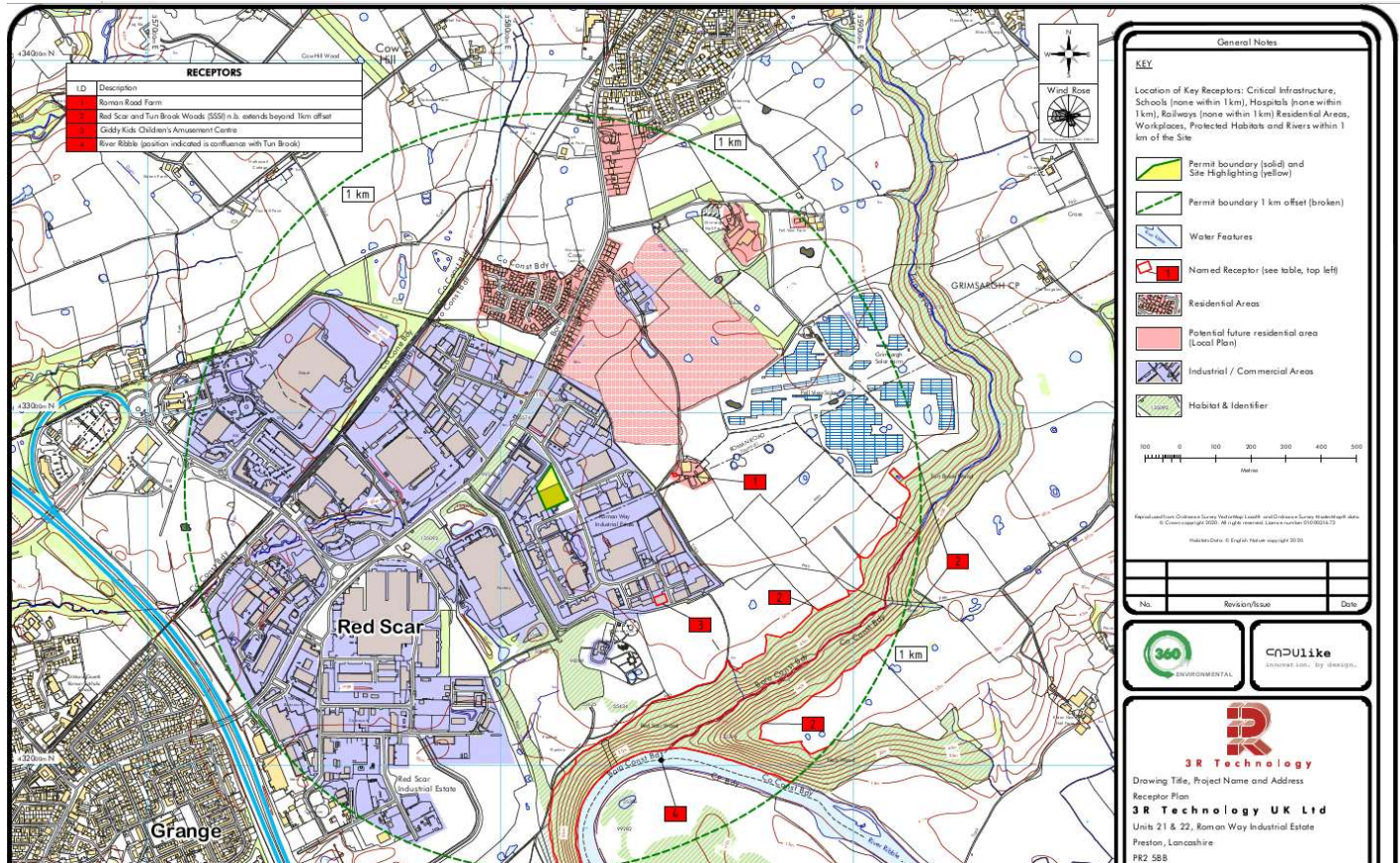
The site is centred on national grid reference SD 58148 32763 at Unit 21-22 Roman Way, Longridge Road, Preston PR2 5BB and is located 3.5km from the centre of the commuter town of Longridge and 6km north east of Preston City Centre on an industrial area with easy access to J31a M6. The site is situated on the Red Scar Industrial area, which is located on the outskirts of Longridge within a mixed residential, industrial and agricultural area.

The following drawings illustrate the location of the site:

Site Plan Name	Drawing No:
Site Location Plan	01
Permit Boundary Plan	02
Site Infrastructure Plan	05

Site Drainage Plan	07
Receptor Plan	08

Drawing No. 08 Receptor Plan clearly shows the Roman Way Industrial Area and Red Scar Business Park area that the site is located within and the proximity of residential areas to the north and east of the site.



Local Transport Network

There are no local train stations in Longridge or the immediate surrounding area. The main line to Birmingham or other surrounding areas is via the main train station at Preston, 6.6km from the site.

Bus services serve the centre of Longridge and surrounding area, collecting frequently from the main routes adjacent to the Roman Way Industrial Area and Red Scar Business Park.

The industrial area is within easy access to J31a M6.

Recreational

The closest recreational area to the site is Red Scar Woods located approximately 635m south from the installation.

Education

There are no educational facilities within 500m of the site, Grimsargh St Michael's C of E Primary School is the closest at approximately 1.3km north from the installation. The next closest school is Highfield Priory School and Nursery and St Maria Goretti Catholic Primary School approximately 1.6km south west from the installation.

2.2 Geology, Hydrogeology and Hydrology

2.2.1 Geology

A review of the British Geological Survey (BGS) map² reveals that the site is underlain by a bedrock of Sherwood Sandstone - Sandstone. Sedimentary bedrock formed between 272.3 and 237 million years ago during the Permian and Triassic periods. The superficial deposits are: Till, Devensian - Diamicton. Sedimentary superficial deposit formed between 116 and 11.8 thousand years ago during the Quaternary period.

Magic maps³ shows that the site is situated on medium-low groundwater vulnerability area.

2.2.2 Hydrogeology

The bedrock underlying the site is classified as a Principal aquifer, defined as “These are layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.” on the MAGIC map website.

2.2.3 Hydrology

The nearest surface water feature to the site are the drains located south west of the site. These flow to a drain near Red Scar Business Park. The drain feeds the River Ribble which is 780m south of the site.



2.3 Ecology

The ecological receptors within 2km of the site were identified in the EA Nature and Heritage Conservation Screening Report, which is enclosed as Appendix 1 to this report.

² British Geological Survey map, available at www.bgs.ac.uk, accessed in June 2020

³ <https://magic.defra.gov.uk/MagicMap.aspx>, accessed in June 2020

The EA Nature and Heritage Conservation Screening Report did not identify any receptors of European/International importance within 2km, including Ramsar Sites, Special Areas of Conservation and Special Protection Areas.

The screening report identified numerous sites of national and local ecological importance within a 2km radius of the site, including:

Ecological importance:	Site:	Distance from Installation:
1 x site of Special Scientific Interest (SSSI)	Red Scar and Tun Brook Woods	607 meters
4 x Local Nature Reserve (LNR)	Fishwick Bottoms	1,800 metres
	Pope Land Open Space	1,440 meters
	Grange Valley	1,480 meters
	Hills and Hollows	1,700 meters
10 x Local Wildlife Sites (LWS)	Grimsargh Reservoirs	1,860 meters
	Wood Top Wood	1,900 meters
	River Ribble	780 meters
	Brockholes Wood	1,677 meters
	Brockholes Quarry	2,000 metres
	Pope Lane Ponds	1,440 meters
	Sandy Brook	1,900 meters
	Elston Lane	1,910 meters
4 x Ancient Woodland	Big Wood	1,550 metres
	Haighton Park and Fulwood Park Woods	1,910 meters
	Brockholes Wood	1,677 meters
	Red Scar/Tun Brookwoods	607 meters
	Big Wood	1,550 metres
	Fulwood Park Woods	1,910 meters

2.4 Cultural and Natural Heritage

A search of Magic map revealed within 500m of the site:

- There are no listed buildings
- There are no Scheduled Monuments
- There are no World Heritage Sites
- There are no registered Battlefields
- There are no registered Parks and Gardens present within 2km of the site.

2.5 Receptors (Step Two)

As detailed above within 500m of the installation there is:

- No ecological receptors
- No cultural and natural heritage receptors
- No schools or educational facilities

- No recreational areas
- No train lines

There are also no internationally important ecological receptors within 10km of the Site.

The only local receptors within 500m of the site are recorded in Table 1.

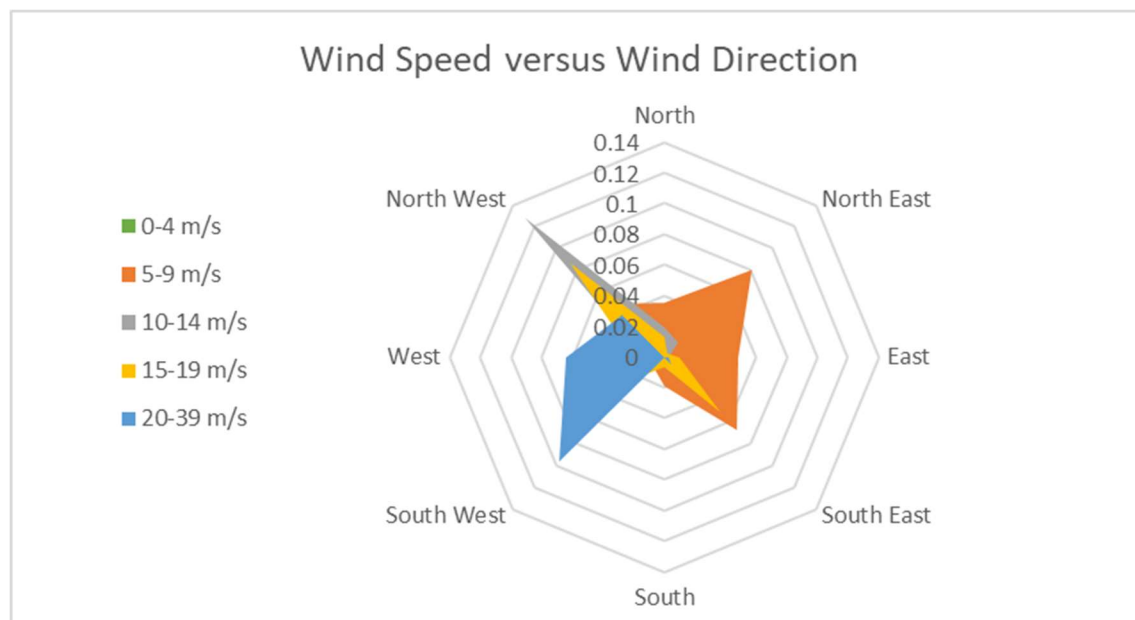
Table 1 Sensitive Receptors

Receptor Name	Receptor Type	Direction	Approximate Distance from Permit Boundary (metres)
Roman Way Ind Est	Industrial	Surrounding	Adjacent
Drain	Surface Water	South West	380
Roman Road Farm	Residential	East	310
B6243 Longridge Road	Local Transport Network	West	200
Red Scar Business Park	Industrial	South West	430
Crematorium	Public	South	370

2.6 Wind Rose

A wind rose from the nearest meteorological station with historic readings, Blackpool Airport, approximately 30km west of the site, for the period of 1st June 2019 – 1st July 2020 providing the frequency of wind speed and direction is presented in Figure 1 below. The wind rose shows that wind speeds of >20 m/s are generally from the southwest direct, whereas wind speeds of 5-9 m/s are generally from the north east.

Figure 1 – Wind Direction and Speed, 1st June 2019 – 1st July 2020



3.0 ENVIRONMENTAL RISK ASSESSMENT

3.1 Pathways (Step Three)

Hazards can travel to receptors via numerous pathways, dependent on the nature of the hazard. The pathways for each individual risk are identified in the tables in Section 3.3. Pathways include:

- Air
 - Pest Movement
 - Noise and Vibration
 - Dust Movement
 - Odour Mobilisation
- Land
 - Pest Movement
 - Run-off
 - Percolation via surfacing to land and groundwater
- Water
 - Mobilisation of contaminants
 - Pest Movement

3.2 Risk Assessment (Step Four)

The EA Guidance identifies areas that the EA considers would likely require assessment for most sites as follows:

- Air
- Amenity and Accidents
- Surface Water
- Site Waste
- Groundwater

AREA	What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the risk																						
	Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk?																				
	What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence																				
Amenity	<p>Noise from production activities</p> <p>Noise from vehicle movements</p>	Sensitive Receptors identified in Table 1	Air	<p>The site operations are not expected to give rise to significant levels of noise. The highest reported machinery is the Twister 55 at 83dB which is only as loud as any factory equipment. All plant that presents a risk of noise is located within a building.</p> <p>Taken from the Hermion plant technical booklet:</p> <p>Noise levels in dB, idle machinery , measured 1,0 m from machinery and 1,3 m above the floor</p> <table border="1"> <thead> <tr> <th>Machinery</th> <th>dB (idle)</th> </tr> </thead> <tbody> <tr> <td>Silo with vibration transport</td> <td>77</td> </tr> <tr> <td>Screw conveyor 600</td> <td>74</td> </tr> <tr> <td>Watertable</td> <td>64</td> </tr> <tr> <td>Transport screw conveyor 400</td> <td>74</td> </tr> <tr> <td>Twister 55</td> <td>83</td> </tr> <tr> <td>Float/Sink tank</td> <td>73</td> </tr> <tr> <td>Water Treatment Vibro</td> <td>75</td> </tr> <tr> <td>Airknife</td> <td>75</td> </tr> <tr> <td>Water pumps</td> <td>75</td> </tr> </tbody> </table> <p><i>Source: test plant at Hermion's site in The Netherlands</i></p> <p>The only mobile plant operating externally is fork lift trucks, however this will only be limited activity.</p> <p>All machinery and mobile plant have been designed in accordance with European noise standards and is maintained and serviced on a schedule.</p>	Machinery	dB (idle)	Silo with vibration transport	77	Screw conveyor 600	74	Watertable	64	Transport screw conveyor 400	74	Twister 55	83	Float/Sink tank	73	Water Treatment Vibro	75	Airknife	75	Water pumps	75	Low	Nuisance, harm to human health	Low
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Airknife	75																										
Water pumps	75																										

				<p>The site surface external road surface is concreted and maintained in good condition to prevent noise associated with uneven roads. Also the site external area is small and therefore vehicles are not able to travel at speed which minimises noise. The vehicles leave the site onto a maintained road on an industrial area and then straight onto main public roads.</p> <p>If a noise complaint were to be received, investigations would be undertaken to determine the root cause and appropriate remedial action required.</p>			
Amenity	Odour from storage and treatment of waste on site	Sensitive Receptors identified in Table 1	Air	<p>The site receives shredded WEEE, this waste type is clean and not odourous.</p> <p>Waste treatment is performed inside a building.</p> <p>Good housekeeping is practiced at all times with regular cleaning of operational areas.</p> <p>If an odour complaint were to be received, investigations would be undertaken to determine the root cause and appropriate remedial action required.</p>	Low	Nuisance, harm to human health	Low
Amenity	Dust from vehicle movements and site operations	Sensitive Receptors identified in Table 1	Air	<p>WEEE is processed inside a building and is not a dusty material. This activity is therefore not expected to give rise to dust.</p> <p>The site external area is small and therefore vehicles are not able to travel at speed which minimises the potential for dust.</p> <p>Site access, on site roadways and operational areas are concreted and maintained minimising the emission of dust due to uneven surfacing.</p>	Low	Nuisance, harm to human health	Low

				<p>Good housekeeping is practiced at all times with regular cleaning of operational areas.</p> <p>If a dust complaint were to be received, investigations would be undertaken to determine the root cause and appropriate remedial action required.</p>			
Amenity	Pests	Sensitive Receptors identified in Table 1	Air, land and controlled waters	<p>The site received clean WEEE, this waste type should not attract pests.</p> <p>An external pest company is employed who is programmed to visit site quarterly to perform a monitoring visit. Also the Environmental Checksheet completed by the site manager includes a visual check for pests.</p> <p>If any pests are identified, the appointed pest contractor will take measures to remove these from site, and the cause of the infestation will be investigated and actioned upon to prevent reoccurrence.</p>	Medium	Nuisance, harm to human health	Low
Amenity	Litter from operations Litter from site Personnel and waste storage	Sensitive Receptors identified in Table 1	Air, land and controlled waters	<p>WEEE arrives in bags or containers, thus reducing the possibility of litter. All treatment and storage of WEEE is performed in the building.</p> <p>Good housekeeping is practiced at all times with regular cleaning of operational areas thus reducing the potential of litter.</p>	Low	Nuisance, harm to human health	Low
Amenity	Mud	Neighbours	Land	Vehicles do not come into contact with mud, the site has a fully impermeable pavement and enter and leave the site on maintained public roads.	Very Low	Nuisance	Very Low
Amenity	Runoff from site surfaces	Sensitive Receptors identified in Table 1	Land, surface water and groundwater	<p>No waste is stored on the external storage area. The external storage area is connected to surface water drainage.</p> <p>Diesel and chemicals are stored internally on bunds or in bunded tanks.</p>	Medium	Pollution of land and controlled waters	Low

				There is automated lock off valve at the discharge point from the site to the surface water drainage, which can be closed in emergencies and contaminated waters held on site.			
Accidents / emergency	Fire	Sensitive Receptors identified in Table 1	Air	<p>Potentially combustible waste materials are stored on site. The Fire Prevention Plan for the environmental permit is followed at all times.</p> <p>Thermal CCTV cameras are in place at key locations and regularly tested. Fire extinguishers are located at key positions around the site.</p> <p>All staff receive fire safety awareness training as part of their induction</p> <p>A Fire Risk Assessment is in place for the whole site and is reviewed every 3 years.</p>	Medium	<p>Harm to human health</p> <p>Injury / death</p> <p>Harm to the environment</p>	Low
Accidents / emergency	Security and Vandalism	Sensitive Receptors identified in Table 1	Air, land, surface water	<p>The site has security fencing around the perimeter, security gates which are closed out of hours and a manual drop barrier for when the gates are open.</p> <p>Visitors are required to report to reception upon arrival by pressing an intercom to gain authorised access to the site.</p> <p>The perimeter fencing is regularly inspected; weaknesses will be repaired as soon as possible.</p> <p>A CCTV camera system is in place and operational inside the building and on the external yard area. Thermal cameras are operational inside the building.</p> <p>All buildings are inspected frequently by the operations staff to identify deterioration and damage and the need for any repairs. The buildings will be maintained and repaired to ensure continued integrity.</p>	Low	<p>Harm to human health</p> <p>Harm to environment</p>	Low

Accidents / emergency	Flooding	Sensitive Receptors identified in Table 1	Land, surface water	The site lies within flood zone 1 - land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1%).	Low	Harm to human health Harm to environment	Low
Accidents / emergency	Spillage	Sensitive Receptors identified in Table 1	Land, surface water	<p>All materials on site are stored inside the building on the site to help to contain any unplanned releases.</p> <p>The surface water drainage system is provided with an emergency lock of valve.</p> <p><u>FLT Refuelling</u> Red diesel is stored in containers on a bunded pallet inside the building.</p> <p>All forklift trucks are supervised by site personnel when in use and monitored for leakages.</p> <p>Minor spillages are cleaned up immediately using proprietary absorbents contained in spill kits to clean up liquids and other spilt materials and placed in alternative containers prior to disposal.</p>	Medium	Harm to environment Harm to human health	Low

4.0 Conclusion

The environmental risk assessment has concluded that the site will not pose a significant risk of harm to sensitive receptors in the vicinity of the site due to the location of the site, the control measures in place and the management measures in place.



Nature and Heritage Conservation

Screening Report: Bespoke installations

Reference	EPR/TP3602SH/A001
NGR	SD5814832763
Buffer (m)	50
Date report produced	08/07/2020
Number of maps enclosed	4

The nature conservation sites identified in the table below must be considered in your application.

Nature and heritage conservation sites	Screening distance (km)	Further information
Sites of Special Scientific Interest (SSSI) Red Scar and Tun Brook Woods	2	Natural England
Local Nature Reserve (LNR) Fishwick Bottoms Pope Land Open Space Grange Valley Hills and Hollows	2	Natural England
Local Wildlife Sites (LWS) Grimsargh Reservoirs Wood Top Wood	2	Appropriate Local Record Centre (LRC) Appropriate Wildlife Trust
River Ribble from London Road Bridge Preston, in West, to County Boundary, in East		
Brockholes Wood Brockholes Quarry Pope Lane Ponds Sandy Brook Elston Lane Big Wood		

Haighton Park and Fulwood Park Woods

Ancient Woodland	2	Woodland Trust
Brockholes Wood		
Red Scar/Tun Brookwoods		Forestry Commission
Big Wood		
Fulwood Park Woods		Natural England

Where protected species are present, a licence may be required from Natural England or the Welsh Government to handle the species or undertake the proposed works.

The relevant Local Records Centre must be contacted for information on the features within local wildlife sites. A small administration charge may also be incurred for this service.

Please note we have screened this application for protected and priority sites, habitats and species for which we have information. It is however your responsibility to comply with all environmental and planning legislation, this information does not imply that no other checks or permissions will be required.

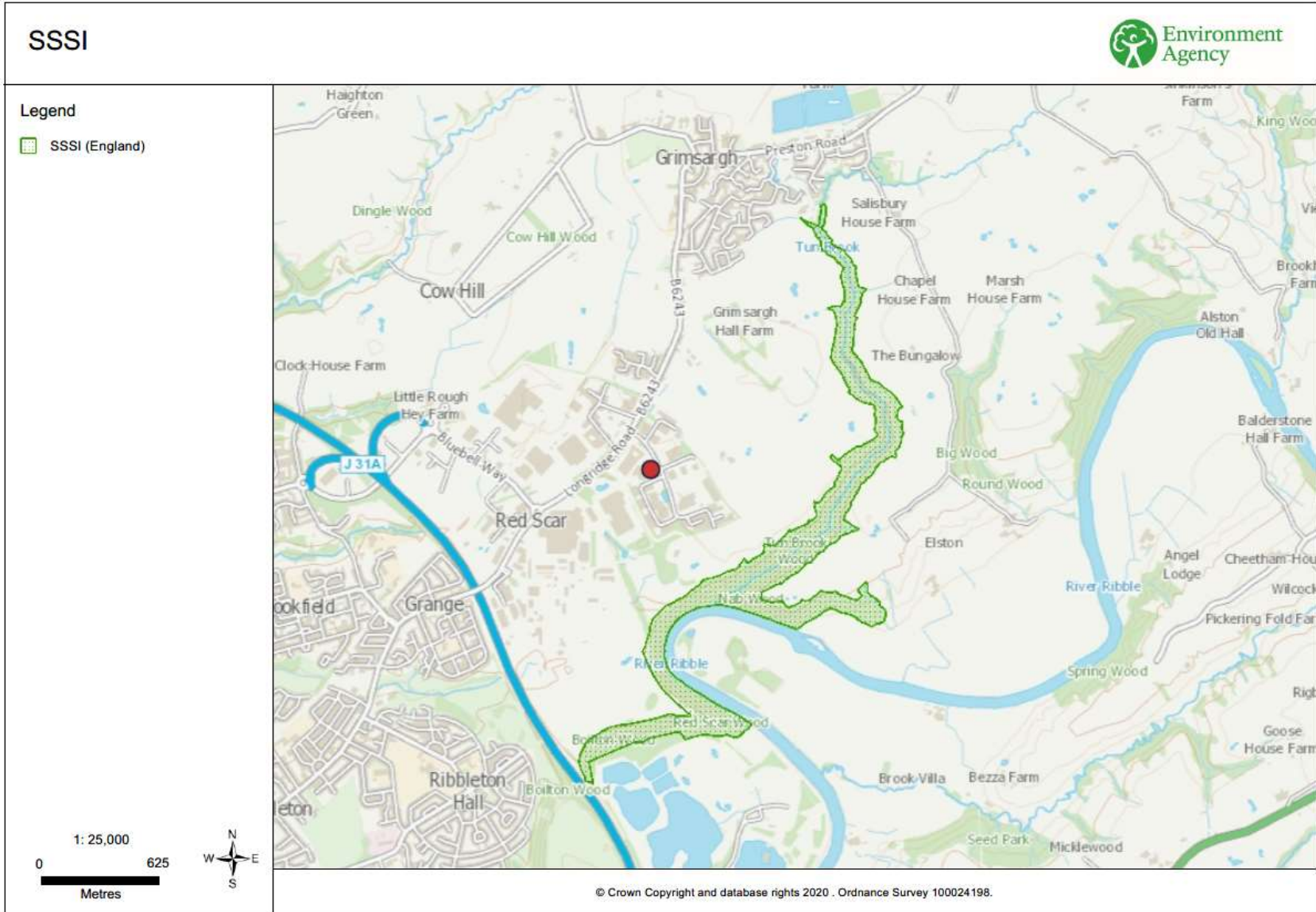
Please note, the enclosed pre-application map(s) is valid for a period of **6 months**. If you plan to submit your application more than 6 months after the map(s) was generated, you must request that the screen is re-run. This will ensure that you have used the most current information on heritage and nature conservation interests in your application.

customer service line
03708 506 506

incident hotline
0800 80 70 60

floodline
0845 988 1188


www.environment-agency.gov.uk

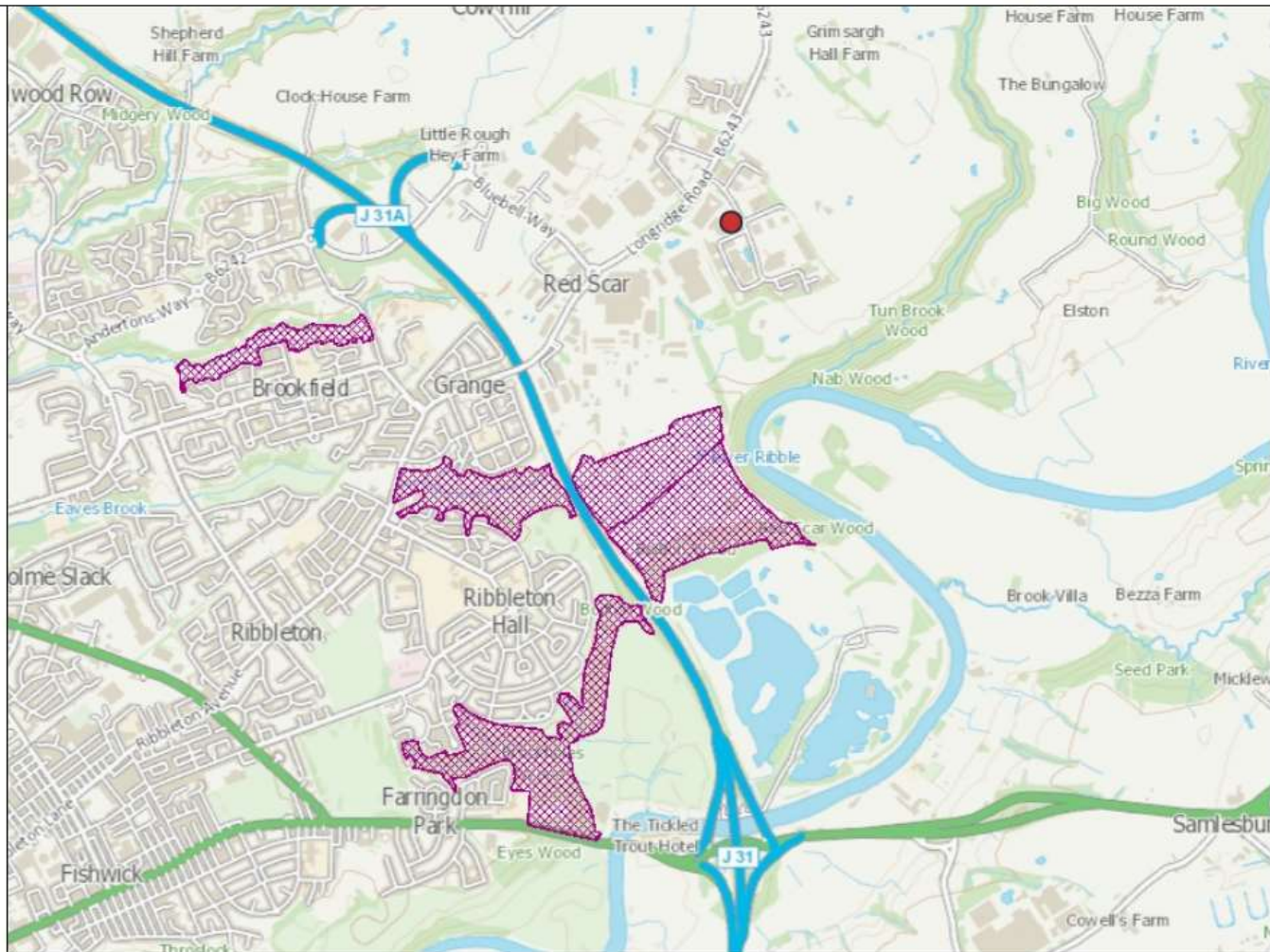


Local Nature Reserve



Legend

 LNR (England)




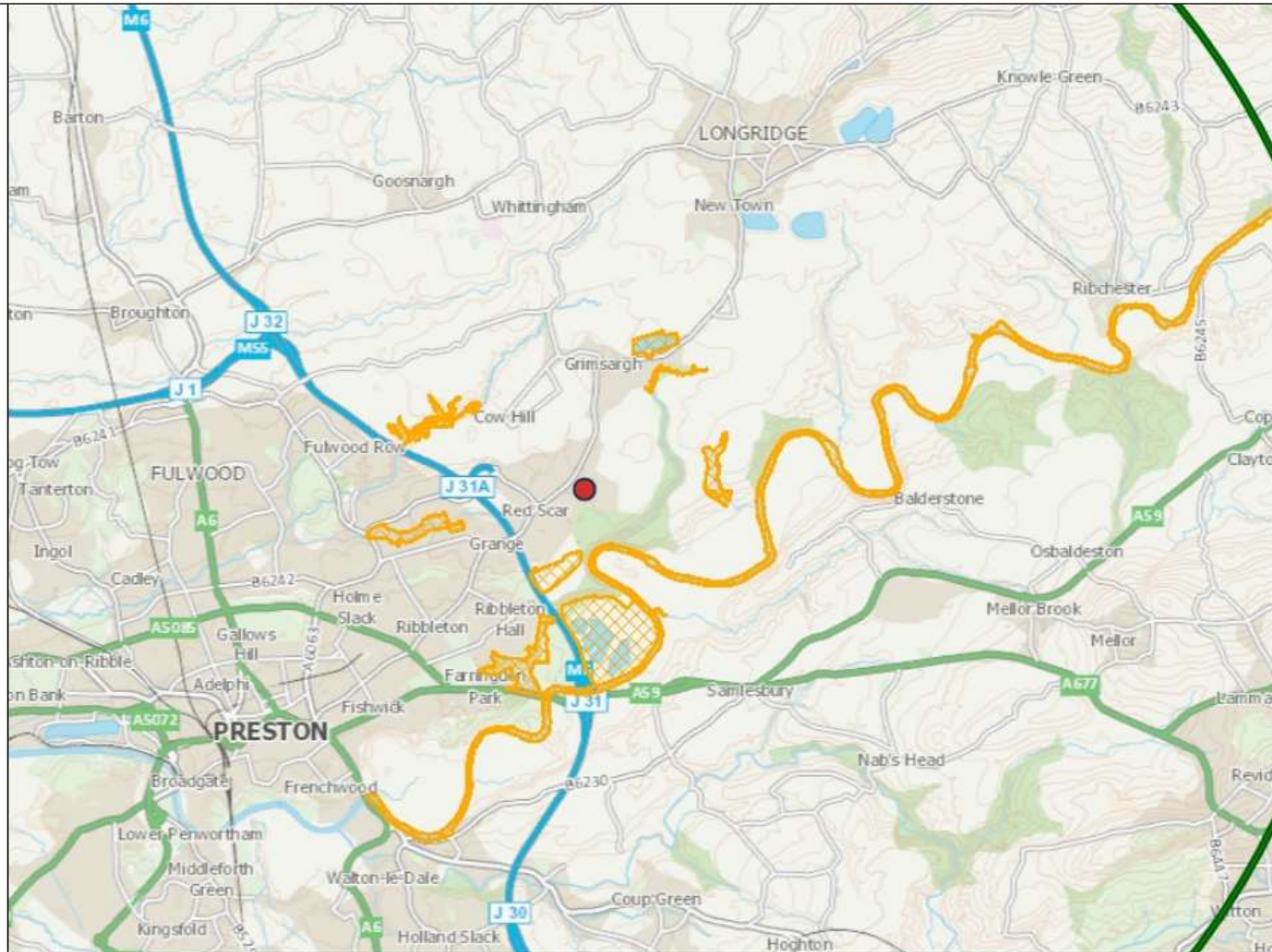
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Local Wildlife Sites



Legend


 Local Wildlife Sites

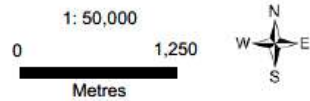
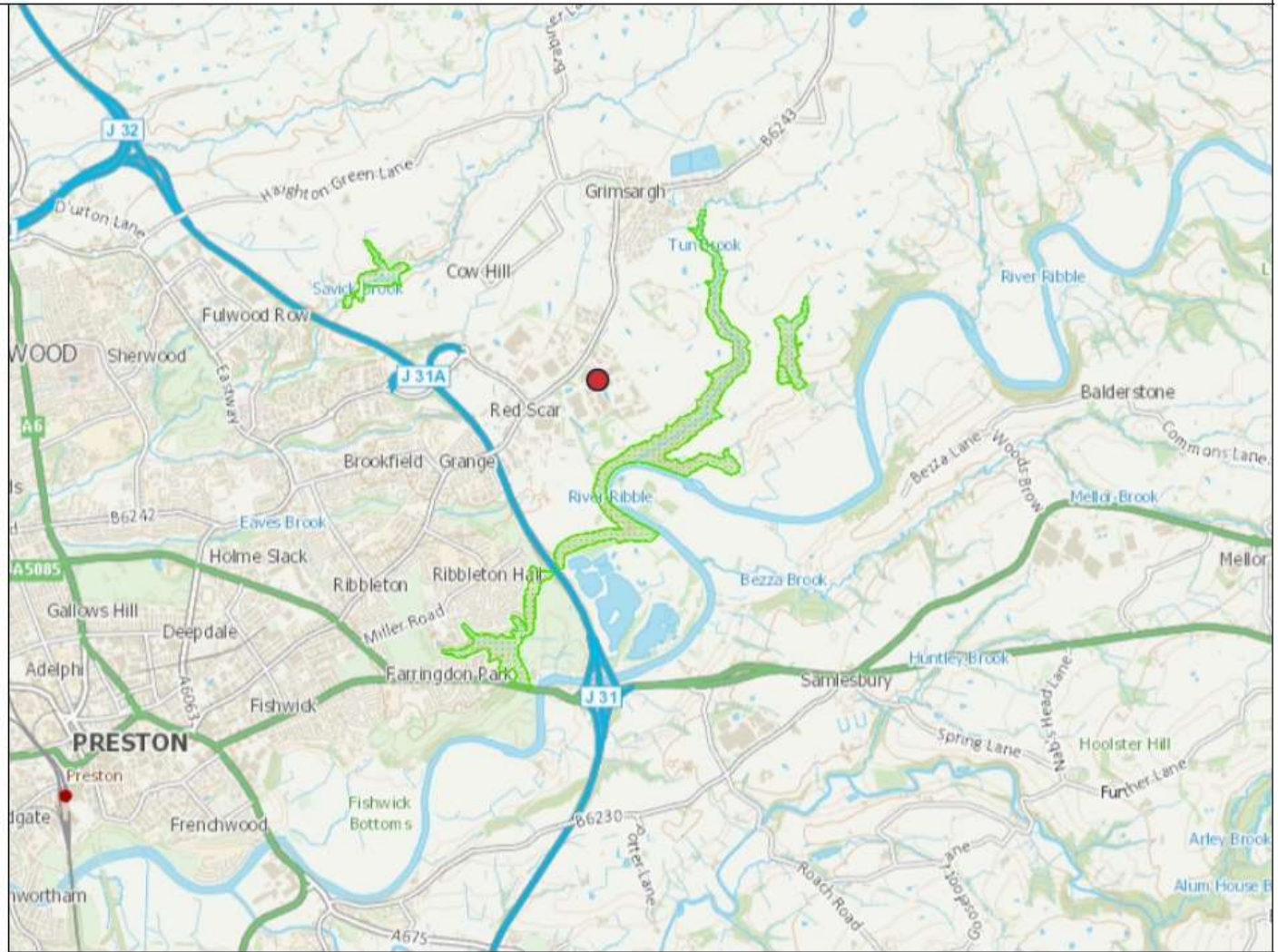


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Ancient Woodland

Legend

-  Ancient Woodland (England)



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