

# **FIDDLERS FERRY LAGOON AREA**

## **BASELINE BIODIVERSITY NET GAIN ASSESSMENT**

Lagoons south of the canal

AUGUST 2023



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# 1 Introduction

Fiddler's Ferry is a former coal fired power station located adjacent to Warrington, Cheshire; and hereafter referred to as 'the site'. After its construction in 1971, the station operated for 49 years before closing in March 2020 due to the reduced demand in coal generated energy. Throughout its operation, Fiddler's Ferry produced approximately 300,000 tonnes of ash each year. Ash was stored within a number of lagoons that were created alongside the power station in the south of the site. Based in Warrington, Cheshire (grid reference: SJ 54918 85312), Fiddler's Ferry is located North of the river Mersey, Northeast of Runcorn, East of Widnes and West of Warrington. Areas towards the North of the site consist of rural land along with a golf course being located Northeast of the site. The northern and southern areas of the site are separated by the St Helens Canal and Widnes to Warrington Railway.

Following its closure, it has been proposed to fully restore the southern areas of the site to a diverse range of sustainable habitats, this includes a small strip of habitats located above the St Helens canal.

To understand the value of the sites current biodiversity, Arcadis Consulting (UK) Limited was commissioned by Peel NRE Developments, to undertake a baseline Biodiversity Net Gain Assessment along with a UK Habitat Classification. A biodiversity value was determined utilizing information gained from the UK habitat classification survey and the previous Preliminary Ecological Appraisal (PEA) conducted by Arcadis in 2021 ('Fiddler's Ferry Power Station Preliminary Ecological Appraisal', Reference: FFPS-AUK-XX-XX-RP-ZZ-0006-02).

## 2 Methodology

### 2.1 Baseline Biodiversity Metric 4.0

The BNG assessment was conducted following the best practice methodology found in the BM 4.0 User Guide (Natural England, 2023<sup>c</sup>). Hereafter, it will be referred to as 'the metric'. The metric provides useful information in regard to designing, planning and management stages of projects, using information on the habitat type, area (hectares), condition and strategic significance to determine the habitats biodiversity units which highlight its value.

Arcadis commissioned Principal Ecologist Helen Hamilton and ECUS Consultant Ecologist Eilidh Brown to survey habitats within the site on 22<sup>nd</sup> to 24<sup>th</sup> May 2023.

#### 2.1.1 Habitat classification

Determining the habitat type was accomplished using UK Habitat Classification (UKHab) following the best practice guidelines set out by Butcher *et al.*, (2020<sup>a</sup>). The BNG Condition Technical Supplement (Natural England, 2023<sup>b</sup>) was consulted providing habitat definitions required for habitat classification. Plant composition is the main driver for habitat classification and present species were recorded with relation to the DAFOR scale (Dominant, abundant, frequent, occasional and rare).

#### 2.1.2 Condition assessment

Habitat conditions are determined via a set of different criteria each being referred to as a pass or fail. Condition is then selected based upon the number of passes in this criterion. Different habitats will have their own distinct criteria, and required passes for each condition. Criterion is set out by the BM 4.0 Technical Supplement condition assessments (Natural England, 2023<sup>b</sup>).

#### 2.1.3 Strategic significance

Strategic significance relates to whether the habitat is currently notified as significant for nature conservation within the local area. Determining this was completed using Multi-Agency Geographical Information for the Countryside (MAGIC) maps, highlighting whether areas were located within any statutory designated sites as well as the Local Biodiversity Action Plan (LBAP) for the region of Cheshire.

#### 2.1.4 Biodiversity metric calculations

The baseline habitat metric refers to the sites current state and will provide its current biodiversity value, in biodiversity units, based upon the habitat type, area, condition and significance. This baseline will be used alongside any proposed post-development works, mitigation and restoration, to estimate the potential biodiversity net gain. A minimum of a 10% biodiversity net gain is required.

The biodiversity metric calculations for area-based habitats, linear hedgerows and linear watercourse are all completed and reported separately. This is due to the units and calculations differing for each.

## 2.2 Limitations and Assumptions

Any notable limitations and consequently assumptions made during the habitat classification were:

1. Due to access and safety concerns, not all areas of the coastal salt marsh were accessible, and therefore not fully surveyed. These areas were instead accessed from a distance using binoculars and assumed to be of the same condition as accessible areas.
2. One area of mixed scrub labelled SC5 had been cleared since the previous PEA report (Arcadis, 2021). An assessment was therefore not possible and was assumed to be in 'Good' condition.
3. Dense vegetation may have caused invasive species to be missed when surveying.

Limitations and assumptions in regard to UKHab surveys and biodiversity metric are:

1. UKHab surveys do not provide the same detailed information as vegetation or protected species surveys, and therefore, these surveys should be conducted when deemed necessary.
2. A habitats distinctiveness is automatically calculated by the BM4.0 tool.
3. This report does not cover any potential impacts habitat creation/enhancement will have on any protected species or designated sites. Where these areas will be considered, further investigation will need to be considered.

## 3 Results

### 3.1 Baseline Habitats Classification

#### 3.1.1 Grassland

##### 3.1.1.1 Other neutral grassland (g3c)

A total area of 9.9947 ha was classified as other neutral grassland, with various sward heights. These areas are predominately located to the east found on ash spoil mounds (ONG2 – ONG 6, with small areas along access tracks leading to the south (ONG1), and a small patch in the Northeast corner (ONG7).

Areas of grassland were found to include 9 frequent species, false oat grass (*Arrhenatherum elatius*), cock's-foot (*Dactylis glomerata*), bent (*Agrostis spp.*), red fescue (*Festuca rubra*), common knapweed (*Centaurea nigra*), ribwort plantain (*Plantago lanceolata*), oxeye daisy (*Leucanthemum vulgare*), cleavers (*Galium aparine*) and spear thistle (*Cirsium vulgare*). The latter two as well as cock's foot and bent, were frequent in poor conditioned grassland.

Occasional species include common birds-foot trefoil (*Lotus corniculatus*), common fleabane (*Pulicaria dysenterica*), common mouse-ear chickweed (*Cerastium fontanum*), common vetch (*Vicia sativa*), cut leaved cranesbill (*Geranium dissectum*), creeping buttercup (*Ranunculus repens*), devil's-bit scabious (*Succisa pratensis*), goat's beard (*Tragopogon pratensis*), grass vetchling (*Lathyrus nissolia*), hoary plantain (*Plantago media*), red clover (*Trifolium pratense*), silverweed (*Potentilla anserina*), southern marsh orchid (*Dactylorhiza praetermissa*), sweet vernal grass (*Anthoxanthum odoratum*), yarrow (*Achillea millefolium*), yellow oatgrass (*Trisetum flavescens*). Poor condition grassland had occasional growth of common nettle (*Urtica dioica*), cow parsley (*Anthriscus sylvestris*), and creeping thistle (*Cirsium arvense*).

Rarer occurrences of greater knapweed (*Centaurea scabiosa*), hairy tare (*Vicia hirsute*), lesser trefoil (*Trifolium dubium*) and wild carrot (*Daucus carota*) were also recorded in these areas.

Two invasive species were found, these were situated on the east of the site: Giant hogweed (*Heracleum mantegazzianum*), and Japanese knotweed (*Reynoutria japonica*).

Following the condition assessment, the areas of other neutral grassland were reported as: ONG3 & ONG7 poor, ONG4, ONG5 & ONG6 moderate and ONG1 & ONG2 good.

##### 3.1.1.2 Modified Grassland (g4)

Modified grassland present on the site were highly dominated by perennial rye-grass (*Lolium perenne*), accompanied by frequent growth of meadow grass (*Poa sp.*). Dandelion (*Taraxacum officinale* agg.), daisy (*Bellis perennis*), white-clover (*Trifolium repens*) and Yorkshire fog (*Holcus lanatus*) were also recorded, however, these only showed occasional growth.

A very small area of the site was occupied by modified grassland with a total area of 0.1433 hectares, located on the Northwest boundary and the Northeast corner along the railway (MG1).

This area of modified grassland was reported as in a poor condition.



### 3.1.2 Heathland and shrub

#### 3.1.2.1 Hedgerow (h2)

A total of three hedgerows were classified within the site boundary. One situated in the Northwest adjacent to the canal (H1), and two found in the Northeast located above the canal (H2 and H3). All hedgerows were recorded as species poor, intact and mature, although H3 was recorded with the presence of trees: goat willow (*Salix caprea*), hornbeam (*Carpinus betulus*), rowan (*Sorbus aucuparia*), silver birch (*Betula pendula*), sycamore (*Acer pseudoplatanus*) and wild cherry (*Prunus avium*).

All hedgerows were abundant with hawthorn (*Crataegus monogyna*), with occasional recordings of blackthorn (*Prunus spinosa*), elder (*Sambucus nigra*), field maple (*Acer campestre*) and hazel (*Corylus avellana*).

No hedgerow was recorded as being of poor condition. H2 and H3 were considered as moderate condition, and H3 considered good condition.

#### 3.1.2.2 Mixed scrub (h3h)

A large area of the site was occupied by mixed scrub totalling 39.3323 hectares (SC1 – SC17). This habitat was recorded predominately surrounding lagoons, growing along the bunds and across the northern site boundary, with some areas observed as maturing and developing into woodland with scattered trees.

Scrub was abundant with hawthorn (*Crataegus monogyna*) and willow (*Salix* spp.), with frequent occurrences of alder (*Alnus glutinosa*), bramble (*Rubus fruticosus* agg.), dogwood (*Cornus sanguinea*), elder (*Sambucus nigra*), rowan (*Sorbus aucuparia*), silver birch (*Betula pendula*), sycamore (*Acer pseudoplatanus*). Ash (*Fraxinus excelsior*), Dog rose (*Rosa canida*), field maple (*Acer campestre*), gorse (*Ulex europaeus*), oak (*Quercus robur*), Scot's pine (*Pinus sylvestris*) and wayfaring-tree (*Viburnum lantana*), were also recorded as occasional.

Three invasive species were recorded, giant hogweed (*Heracleum mantegazzianum*) located in the northeast (south of the canal), Himalayan balsam (*Impatiens glandulifera*) located along the bunds of the western most lagoon, and Japanese rose (*Rosa rugosa*) also located around the western lagoon.

Poor, moderate and good condition mixed scrub were reported. Areas SC15 & SC16 were considered poor, SC3, SC4, SC6, SC7, SC8, SC9, SC10, SC12, SC13 & SC17 considered moderate, and SC2, SC5, SC11 & SC14 considered good.

#### 3.1.2.3 Bramble scrub (h3d)

A much smaller area of 1.4898 hectares was occupied by scrub heavy dominated by bramble. These areas mostly occurred along the east boundary in 4 small patches and 2 located in the far Northeast corner, occurring adjacent or surrounded by mixed scrub (BS1).

A condition assessment is considered non-applicable for this habitat type.

### 3.1.3 Wetland

#### 3.1.3.1 Reedbed (f2e)

Occupying a total area of 8.5104 hectares, wetland reedbeds were predominately found along the central aqueduct (SW1 and SW2) and the Northwest corner of the site (SW5). A small patch was observed adjacent to the lagoons (SW3) as well as patches occurring either side of the railway line in the Northeast (SW6). In areas, common reed formed a mosaic with willow scrub (*Salix* sp.) as well as with the saltmarsh habitats occurring adjacent to the river Mersey.

Other than the dense growth of common reed (*Phragmites australis*), species recorded in these habitats as frequent, included hemlock water-dropwort (*Oenanthe crocata*). Other species species that were occasional included, creeping bent (*Agrostis stolonifera*), hemp-agrimony (*Eupatorium cannabinum*) and wild angelica (*Angelica sylvestris*). Rarer occurrences of greater pond sedge (*Carex riparia*) and nettles and bulrush (*Typha* sp.) were also recorded.

Of these areas, only SW3 was conditioned as poor quality with SW4 & SW6 moderate, and SW2, SW5 & SW1 as good quality.

### 3.1.4 Cropland

#### 3.1.4.1 Temporary grass and clover leys (c1b)

The only occurrences of temporary grass and clover keys were recorded in the Northeast of the site, along the railway line, totalling an area of 0.7729 hectares (AR1 and AR2). Fields were recorded as sown with a highly dominant silage crop (perennial/Italian rye-grass *Lolium multiflorum*), with very little or no field margins present. Where field margins were present, only 4 species were reported as occasional: barren brome (*Bromus sterilis*), cow parsley (*Anthriscus sylvestris*), nettles (*Urtica dioica*) and nipplewort (*Lapsana communis*).

No condition assessment is required for this habitat type.

### 3.1.5 Woodland and forest

#### 3.1.5.1 Other woodland broadleaved (w1g)

Parcels of woodland were reported in three main areas of the site and totalled an area of 2.9116 hectares, these are located in the south adjacent to the western most lagoon (W1), the furthest Northeast corner (W2), and along the northeast boundary along the railway line (W3).

In the south, the woodland was highly dominated with silver birch (*Betula pendula*), with other species such as buddleja (*Buddleja davidii*), dog rose (*Rosa canida*), dogwood (*Cornus sanguinea*), goat willow (*Salix caprea*), gorse (*Ulex europaeus*), oak (*Quercus robur*) and rowan (*Sorbus aucuparia*) recorded as occasional.

W2 is situated in close proximity to the pumping house. This woodland was observed as a plantation that was highly dominated with alder (*Alnus glutinosa*) and white poplar (*Populus alba*). Other species recorded were considered occasional. These include ash (*Fraxinus excelsior*), blackthorn (*Prunus spinosa*), crack willow

(*Salix fragilis*), elder (*Sambucus nigra*), English oak (*Quercus robur*), goat willow (*Salix caprea*), guelder rose (*Viburnum opulus*), hazel (*Corylus avellana*), poplar hybrid (*Populus* sp.) and wych elm (*Ulmus glabra*).

In regard to W3, woodland was fragmented into three small parcels, separated by reedbeds, mixed scrub and urban roads. These parcels were dominated by alder (*Alnus glutinosa*) and Willow (*Salix* sp.). Occasional growth of ash (*Fraxinus excelsior*), bramble (*Rubus fruticosus* agg.), elder (*Sambucus nigra*), field maple (*Acer campestre*), hawthorn (*Crataegus monogyna*), oak (*Quercus robur*) and sycamore (*Acer pseudoplatanus*) were also recorded.

There was no parcel of woodland conditioned in good quality, with the highest condition moderate being found for parcels W2 & W3. W1 was conditioned as poor quality.

### 3.1.5.2 Line of trees (w1g6)

Situated in the furthest Northeastern corner, a line of trees was recorded (LT1). This was situated in close proximity to the pumping house, along its fence boundary. Only two species were recorded, the dominant being Italian alder (*Alnus cordata*) and some occasional alder (*Alnus glutinosa*).

This line of trees was conditioned as moderate quality.

## 3.1.6 Rivers and lakes

### 3.1.6.1 Standing open water and canals

#### 3.1.6.1.1 Secondary code 108 Reservoir

Located in the south of the south, surrounded by one of the 3 woodland parcels (W1), a temporary 50m by 50m artificial reservoir (P1) was recorded. This small area of standing water is a temporary resource for construction to pump water. No vegetation was recorded within the water, and very little was noted around the margins. Only small patches of common reed (*Phragmites australis*) were present.

Three of the lagoons present on the site were used for the power stations cooling system (LAG1 – LAG3), although due to drainage, LAG1 and LAG2 have significantly reduced water levels in comparison with LAG3 with deeper water. Only LAG 3 was recorded with aquatic vegetation, with water-crowfoot (*Ranunculus* sp.). Young silver birch was seen emerging from the lagoons. Other noted species using these lagoons include: Canada goose (*Branta canadensis*), coot (*Fulica atra*), great crested grebe (*Podiceps cristatus*), and sand martins (*Riparia riparia*). The three lagoons covered a total of 16.7394 hectares.

All areas of reservoirs were conditioned as poor quality.

## 3.1.7 Sparsely vegetated land

### 3.1.7.1 Secondary code 17 Ruderal/ ephemeral

Significant reduction in water levels in LAG1 and LAG2, has resulted in a large area of drawdown community early successional growth, where 90% of the land was bare ground; A total area of 16.5816 hectares. Both lagoons had similar species compositions with records of occasional growth of broad-leaved willowherb

(*Epilobium montanum*), celery leaved buttercup (*Ranunculus sceleratus*), creeping bent (*Agrostis stolonifera*), curled dock (*Rumex crispus*), great willowherb (*Epilobium hirsutum*) and weld (*Reseda luteola*). Rarer occurrences of bur-marigold species (*Bidens* sp.) and toad rush (*Juncus bufonius*) were also recorded for both lagoons. Swan mussel (*Anodonta cygnea*) shells were also present. The only difference highlighted, LAG2 appeared to be more terrestrial around the edges. Frequent *Buddleja davidii* were growing along with the emerging scrub in these areas.

Drawdown zones for both LAG1 and LAG2, held sparsely vegetated land found to be in a poor condition.

### **3.1.8 Urban**

#### **3.1.8.1 Open mosaic habitats on previously developed land (u1a)**

Only one area on site was categorised as open mosaic habitat (OM1) located on the east of the site below LAG2. The vegetation growth in this area, showed indicators of early successional communities: Annuals, flower-rich grassland, inundation species, lichens, mosses and open grassland. OM1 were also reported to contain at least three different species of orchid. The most prevalent, southern marsh orchid was recorded as occasional to abundant, whereas the common spotted orchid (*Dactylorhiza fuchsii*) and other hybrids (*Dactylorhiza* sp.) were recorded as occasional.

No condition assessment is required for this habitat type.

#### **3.1.8.2 Developed land, sealed surface (u1b)**

Very little areas of the sight were categorised as developed land, sealed surface totalling only 0.814 hectares of the site. These areas were predominantly access tracks (secondary code 115) used to access all areas of the site, surrounding each lagoon as well as along the railway in the Northeast (A1). Other developed land involved the pump house building in the far Northeast of the site.

No condition assessment is required for this habitat type.

#### **3.1.8.3 Artificial unvegetated, unsealed surface (u1c)**

Three main areas of the site were categorised as artificial unvegetated, unsealed surface, labelled A2 – A4. One of these areas includes the 'lagoon' that is currently an active quarry. The active quarry (A2) as well as the area A4, can both be found adjacent to each other on the west of the site. A3 can be found more central, adjacent to LAG3. At the time of survey A2 was an active construction site and A4 was showing signs of successional vegetation communities. However A4 has still been mapped as artificial unvegetated, unsealed surface as the area will be excavated in the next quarry phase.

No condition assessment is required for this habitat type.

### 3.1.9 Marine inlets and transitional waters

#### 3.1.9.1 Coast saltmarsh (t2a)

Coastal salt marsh covers a large area, found along the southern boundary spanning from the Northwest corner to the Northeast corner of the site. The total area of salt marsh was recorded as 24.0366 hectares. This habitat separates the rest of the site to the river Mersey. Recorded species include the more prevalent common couch (*Elymus repens*) and smaller patches of common reed (*Phragmites australis*).

All areas of coastal saltmarsh were found to be in a good quality condition.

## 3.2 Biodiversity Metric 4.0

The total area of the site reached 165.11 hectares. Table 1 shows the habitat type, condition, area and distinctiveness of each of the categorised habitats, along with their calculated habitat units.

The final baseline area-based habitats had a confirmed biodiversity value of 1285.01 habitat units. Linear hedgerows had 7.09 hedgerow units and watercourses had 0.88 watercourse units.

Table 1. The Site baseline area-based habitats; metric inputs and calculated Habitat Units.

Habitat Parcel Label	Habitat Type	Area (ha)	Distinctiveness	Condition	Habitat Units
B1, B2 & B3	Urban – Developed land; sealed surface	0.814	Very Low	N/A	0
A1 & A2	Urban – Artificial unvegetated, unsealed surface	6.0874	Very Low	N/A	0
A2	Urban – Artificial unvegetated, unsealed surface	14.5765	Very Low	N/A	0
A4	Urban – Artificial unvegetated, unsealed surface	16.6171	Very Low	N/A	0
A3	Urban – Artificial unvegetated, unsealed surface	3.2109	Very Low	N/A	0
OM1	Urban – Open mosaic habitats on previously developed land	3.2989	High	Moderate	39.59
W1	Woodland and forest - Other woodland; broadleaved	1.0184	Medium	Poor	4.48
W2 & W3	Woodland and forest - Other	1.8938	Medium	Moderate	17.42

	woodland; broadleaved				
SM1	Coastal saltmarsh - Saltmarshes and saline reedbeds	24.0366	High	Good	497.56
SW3	Wetland - Reedbeds	0.7762	High	Poor	5.36
SW4 & SW6	Wetland - Reedbeds	1.0204	High	Moderate	14.08
SW2 and SW5	Wetland - Reedbeds	3.009	High	Good	62.29
SW1	Wetland - Reedbeds	3.7048	High	Good	76.69
BS1	Heathland and shrub - Bramble scrub	1.4898	Medium	N/A	6.85
SC15 & SC16	Heathland and shrub - Mixed scrub	1.8069	Medium	Poor	8.31
SC3, SC4, SC6, SC7, SC8, SC9, SC10, SC12, SC13 & SC17	Heathland and shrub - Mixed scrub	17.7719	Medium	Moderate	163.50
SC2, SC5, SC11 & SC 14	Heathland and shrub - Mixed scrub	19.7535	Medium	Good	272.60
MG1	Grassland – Modified grassland	0.1433	Low	Poor	0.33
ONG3 & ONG7	Grassland – Other neutral grassland	1.1687	Medium	Poor	5.38
ONG4, ONG5 & ONG6	Grassland – Other neutral grassland	4.1772	Medium	Moderate	38.43
ONG1 & ONG2	Grassland – Other neutral grassland	4.308	Medium	Good	59.45
AR1 & AR2	Cropland - Temporary grass and clover leys	0.7729	Low	N/A	1.78
LAG1, LAG2 & LAG3	Lakes - Reservoirs	16.7394	Medium	Poor	77.00
P1	Lakes - Reservoirs	0.3343	Medium	Poor	1.54

Drawdown Zone LAG1 & LAG2	Sparsely vegetated land - Ruderal/Ephemeral	16.5816	Low	Poor	38.14
<b>Total Area</b>		<b>165.11ha</b>	<b>Total Habitat Units</b>		<b>1396.90 HU</b>

Table 2 and 3. The Site baseline linear-based habitats; metric inputs and calculated Hedgerow Units and Watercourse Units.

Hedgerow reference	Habitat Type	Length (km)	Distinctiveness	Condition	Hedgerow Units
LT1	Line of trees	0.1161	Low	Moderate	0.53
H1	Native hedgerow	0.4593	Low	Good	3.17
H2	Native hedgerow	0.0331	Low	Moderate	0.15
H3	Native hedgerow	0.7844	Low	Moderate	3.61
<b>Total Length</b>		<b>1.39km</b>	<b>Total Hedgerow Units</b>		<b>7.46 HeU</b>

Ditch reference	Habitat Type	Length (km)	Distinctiveness	Condition	Watercourse Units
D1	Ditches	0.2737	Medium	Poor	1.01
<b>Total Length</b>		<b>0.2737km</b>	<b>Total Watercourse Units</b>		<b>1.01 WU</b>

## 4 Summary

The area south of the St Helens canal at Fiddler's ferry, incorporated a range of different habitat types and conditions. Distinctiveness of habitats ranged from very low urban areas to highly distinctive salt marshes. The overall baseline biodiversity value of the site totalled 1396.90 habitat units for area-based habitats, 7.46 units for hedgerows and 1.01 units for watercourses. The biggest habitat contributor was the saltmarsh contributing 497.59 units.



## 5 References

Arcadis, 2021. Fiddler's Ferry Power Station Preliminary Ecological Appraisal. Reference: FFPS-AUK-XXXX-RP-ZZ-0006-02

Natural England. (2023a). The Biodiversity Metric 4.0: auditing and accounting for biodiversity value. Calculator Tool. Natural England. Available at: <http://publications.naturalengland.org.uk/file/6449751093673984>

Natural England. (2023b). The Biodiversity Metric 4.0: auditing and accounting for biodiversity value. Technical Supplement. Natural England. Available at: <http://publications.naturalengland.org.uk/file/6449751093673984>

Natural England (2023c). The Biodiversity Metric 4.0: auditing and accounting for biodiversity value. User Guide. Natural England. Available at: <http://publications.naturalengland.org.uk/file/6449751093673984>

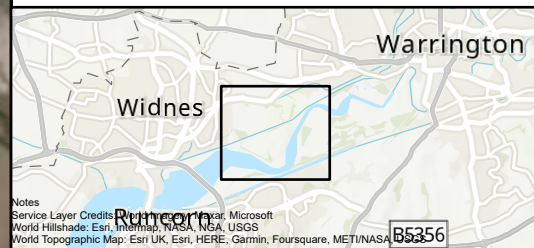
Butcher, B. Carey, C., Edmonds, R., Norton L., and Treweek, J. (2020<sup>a</sup>). The UK Habitat Classification User Manual Version V1.1 at <http://ukhab.org>

## **APPENDIX A**

### **Figure 1: Site Location Boundary**



Legend  
 Site Boundary



Rev	Date	Description	Drawn	Check	Approv
01	02/08/23	INITIAL ISSUE	MS	TM	SN

Client:

**PROJECT: FIDDLERS FERRY EIA**

**Site** **Client**  
 Fiddlers Ferry Power Station  
 Widnes Road  
 Curdley  
 WARRINGTON  
 WA5 2UT  
Peel NRE Developments Acquisitions No.1 Ltd

Registered office:  
 80 Fenchurch Street  
 London  
 EC3M 4BY

Coordinating Office:  
 Suite 1A  
 4 Piccadilly Place  
 Manchester  
 M1 3BN

www.arcadis.com

Title:  
 Site Location Plan

Designed	T. Meaden	Date	02 Aug 23	Signed
Drawn	R.Pakhare	Date	02 Aug 23	Signed
Checked	T. Meaden	Date	02 Aug 23	Signed
Approved	S.Newbold	Date	02 Aug 23	Signed
Scale:	1:10,959	Datum:	AOD	
Original Size:	A3	Grid:	OS	
Suitability Code:	S2	Project Number:	30171032	

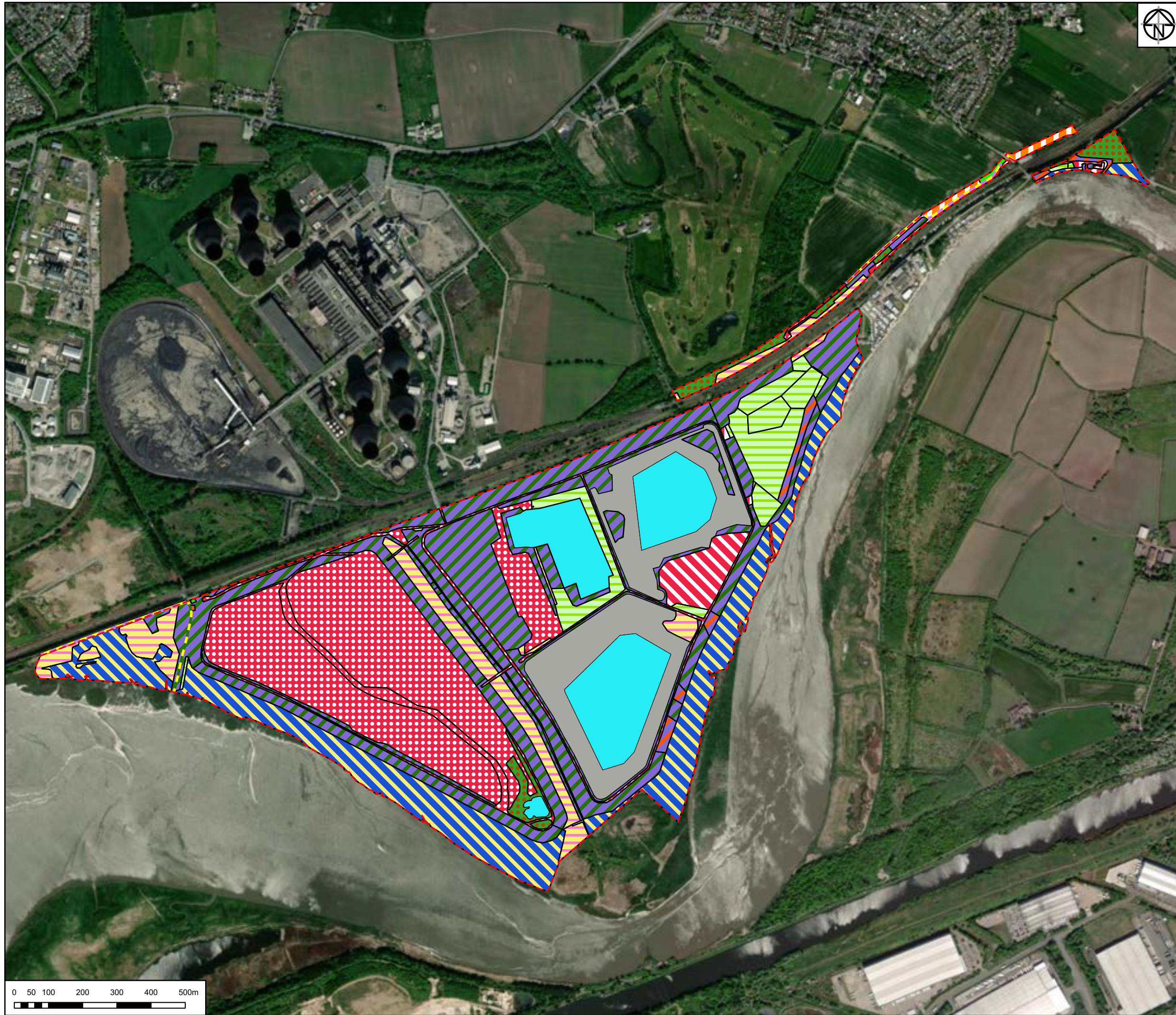
Suitability Description:  
 For Information

Drawing Number:	Revision: <b>P01</b>
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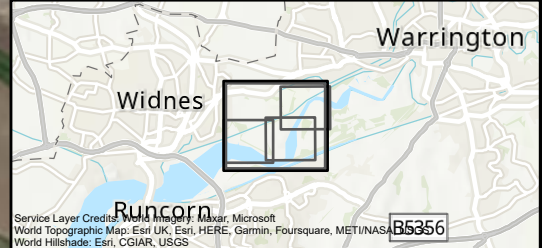
## **APPENDIX B**

### **Figure 2: UK Habitat Classification Map**



**Legend**

- Site Boundary
- h2 - hedgerow
- r1e - canal or ditch
- w1g6 - line of trees
- c1b - temporary grass and clover leys
- f2e - reedbeds
- g3c - other neutral grassland
- g4 - modified grassland
- r - rivers and lakes
- s - sparsely vegetated land
- t2a - coastal saltmarsh
- u1a - open mosaic habitats on previously developed land
- u1b - developed land, sealed surface
- u1b5 - buildings
- u1c - artificial unvegetated unsealed surface
- w1g - other woodland, broadleaved
- h3d - bramble scrub
- h3h - mixed scrub



Rev	Date	Description	Drawn	Check	Approv
01	02/08/23	INITIAL ISSUE	MS	TM	SN

Client:

**PROJECT: FIDDLERS FERRY EIA**

**Peel NRE**

**Site:** Fiddlers Ferry Power Station  
Widnes Road  
Cuddieley  
WARRINGTON  
WAS 2UT

**Client:** Peel NRE Developments Acquisitions No.1 Ltd

**ARCADIS**

Registered office:  
80 Fenchurch Street  
London  
EC3M 4BY

Coordinating Office:  
Suite 1A  
4 Piccadilly Place  
Manchester  
M1 3BN

[www.arcadis.com](http://www.arcadis.com)

Title:

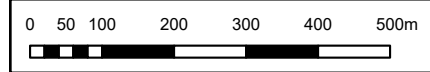
**Habitat Map**  
Page 1 of 4

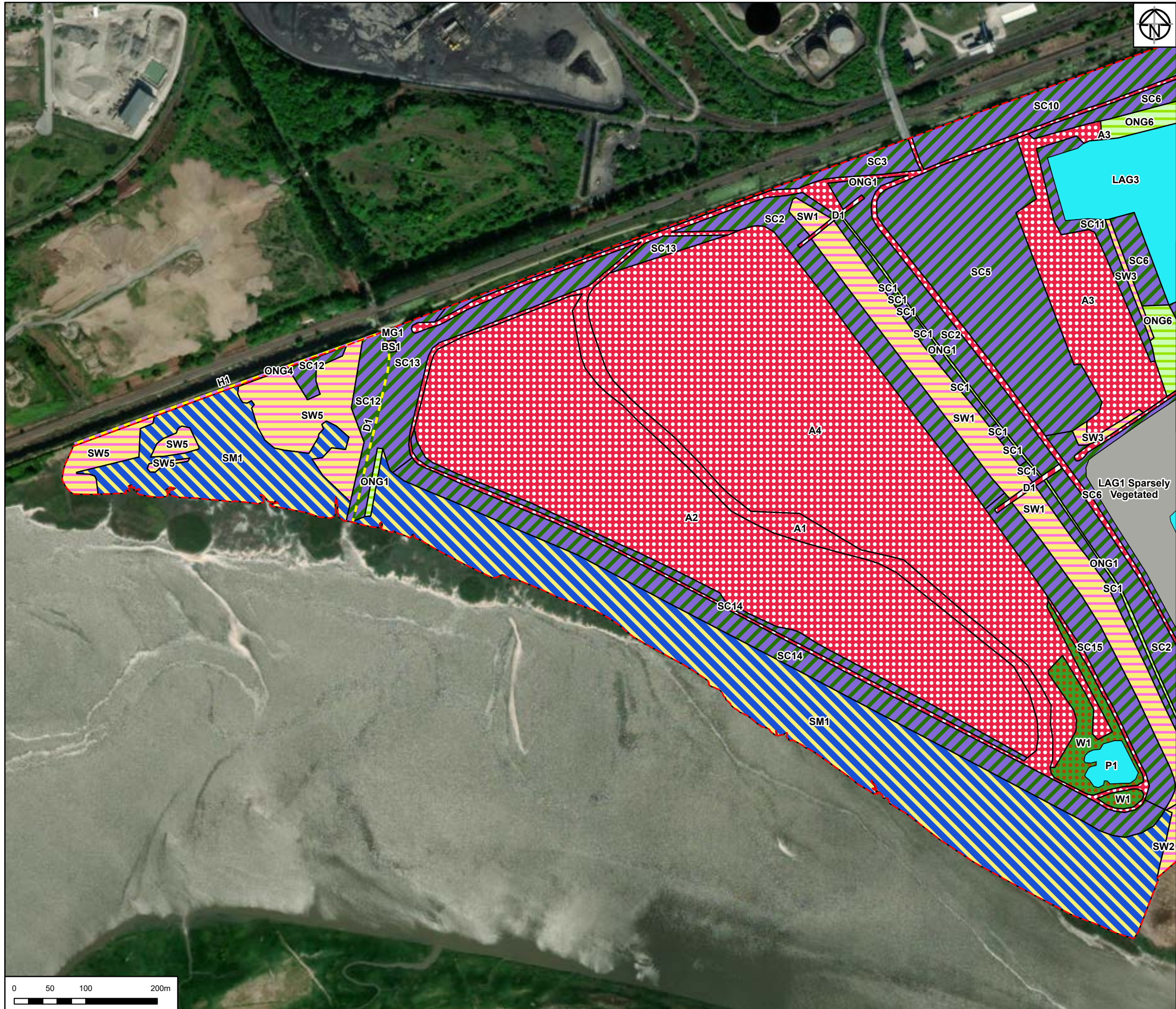
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Approved	S.Newbold	Date	02 Aug 23	Signed	
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Suitability Description:

**For Information**

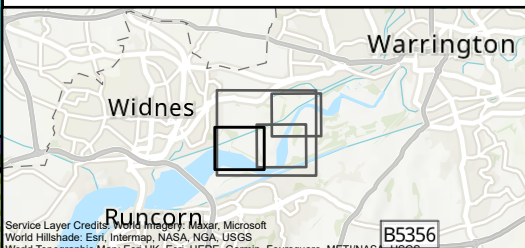
Drawing Number: \_\_\_\_\_ Revision: **P01**





**Legend**

- Site Boundary
- h2 - hedgerow
- r1e - canal or ditch
- f2e - reedbeds
- g3c - other neutral grassland
- g4 - modified grassland
- r - rivers and lakes
- s - sparsely vegetated land
- t2a - coastal saltmarsh
- u1b - developed land, sealed surface
- u1c - artificial unvegetated unsealed surface
- w1g - other woodland, broadleaved
- h3d - bramble scrub
- h3h - mixed scrub



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Client:

**Peel NRE** PROJECT: **FIDDLERS FERRY EIA**

Site: Fiddlers Ferry Power Station, Widnes Road, Curdley, WARRINGTON, WAS 2UT

Client: Peel NRE Developments Acquisitions No.1 Ltd

**ARCADIS**

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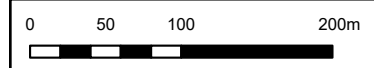
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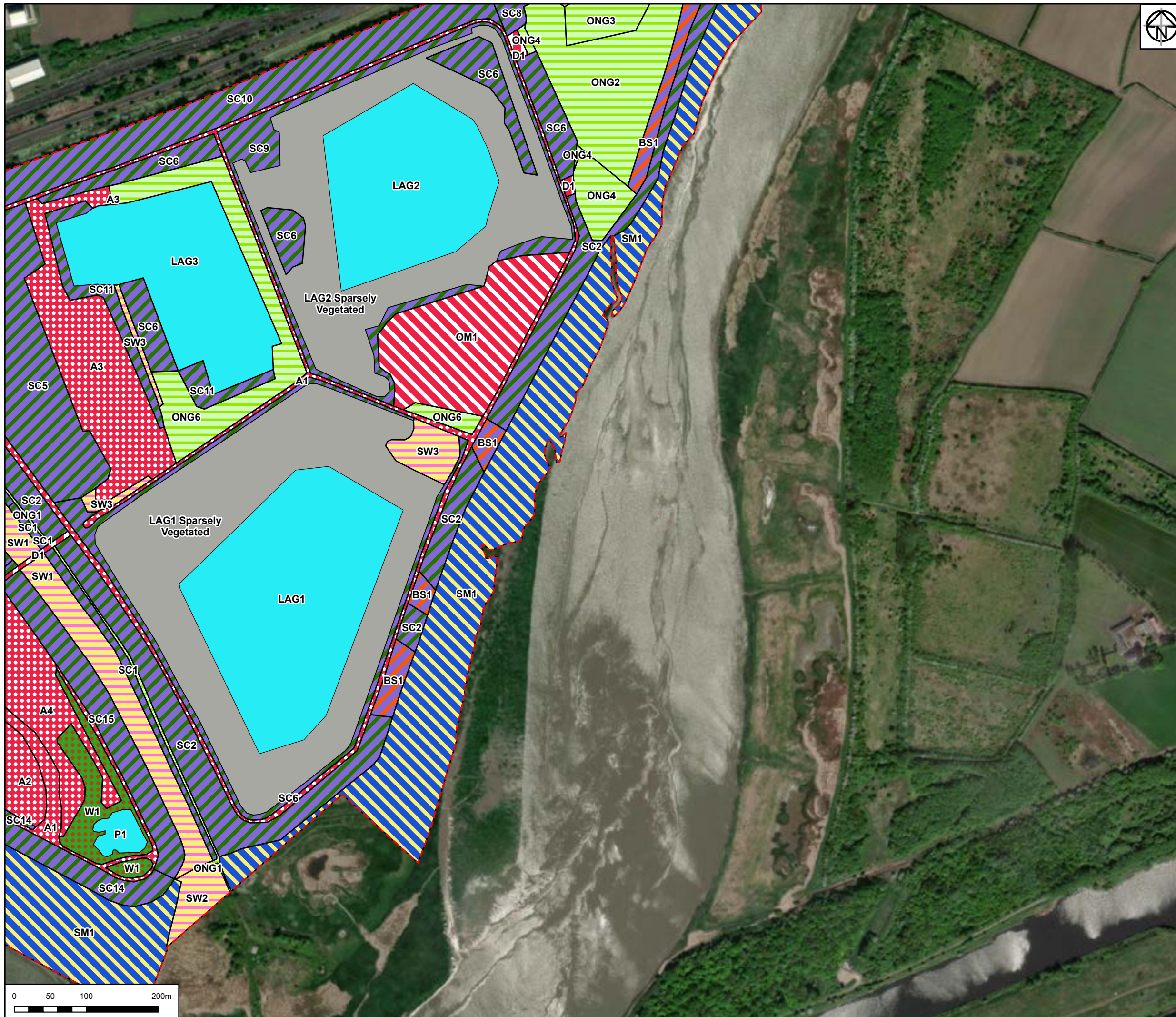
Page 2 of 4

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Checked	T. Meaden	Date: 02 Aug 23	Signed
Approved	S.Newbold	Date: 02 Aug 23	Signed
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Suitability Code:	S2	Project Number:	30171032

Suitability Description: **For Information**

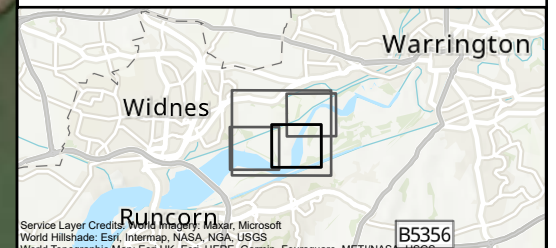
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**Legend**

- Site Boundary
- f2e - reedbeds
- g3c - other neutral grassland
- r - rivers and lakes
- s - sparsely vegetated land
- t2a - coastal saltmarsh
- u1a - open mosaic habitats on previously developed land
- u1b - developed land, sealed surface
- u1c - artificial unvegetated unsealed surface
- w1g - other woodland, broadleaved
- h3d - bramble scrub
- h3h - mixed scrub



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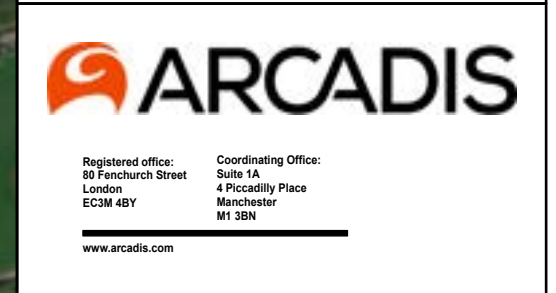
Client:

**PROJECT: FIDDLERS FERRY EIA**

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WAS 2UT

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Title:

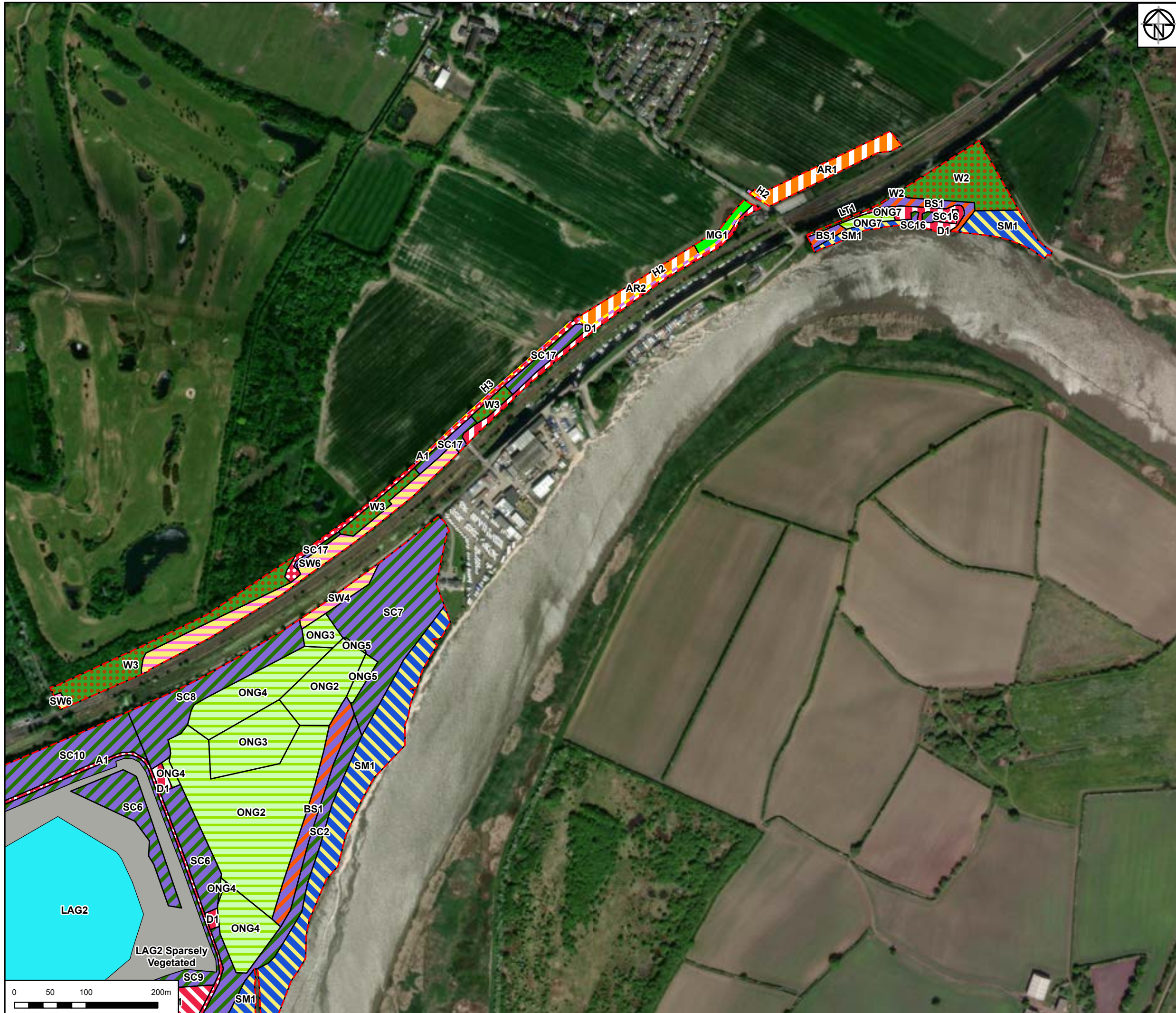
**Habitat Map**

Page 3 of 4

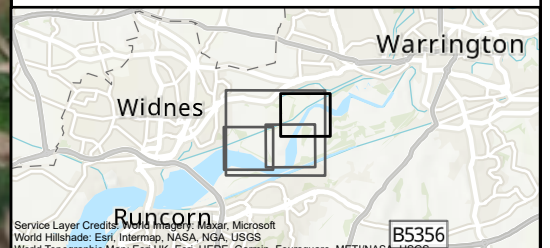
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Drawn	M. Shetye	Date	02 Aug 23	Signed
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Approved	S.Newbold	Date	02 Aug 23	Signed
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Original Size:	A3	Grid:	OS	
Suitability Code:	S2	Project Number:	30171032	

Suitability Description: **For Information**

Drawing Number: \_\_\_\_\_ Revision: **P01**



- Legend**
- Site Boundary
  - h2 - hedgerow
  - w1g6 - line of trees
  - c1b - temporary grass and clover leys
  - f2e - reedbeds
  - g3c - other neutral grassland
  - g4 - modified grassland
  - r - rivers and lakes
  - s - sparsely vegetated land
  - t2a - coastal saltmarsh
  - u1a - open mosaic habitats on previously developed land
  - u1b - developed land, sealed surface
  - u1b5 - buildings
  - u1c - artificial unvegetated unsealed surface
  - w1g - other woodland, broadleaved
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**Habitat Map**  
Page 4 of 4

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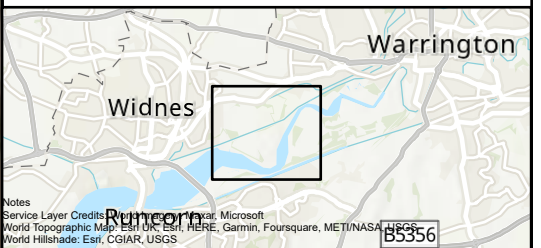
## APPENDIX C

Figure 3: Target Notes

Target Note	Description
TN1	Scattered and locally dominant southern marsh orchids, rare hybrids and common spotted orchid.
TN2	Giant hogweed
TN3	Himalayan balsam
TN4	Japanese rose
TN5	Sea buckthorn <i>Hippophae rhamnoides</i> (can be invasive or indicator of negative condition)
TN6	Sand martin colony



- Legend
- - - Site Boundary
  - Target notes



Notes  
 Service Layer Credits: Esri, DeLorme, Garmin, Microsoft, METI/NASA, USGS  
 World Topographic Map: Esri, HERE, Garmin, Foursquare, METI/NASA, USGS  
 World Hillshade: Esri, CGIAR, USGS

01	02/08/23	INITIAL ISSUE	MS	TM	SN
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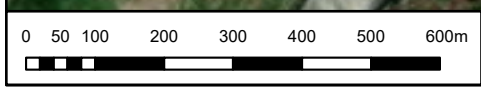
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Target Notes

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Drawn	R.Pakhare	Date: 02 Aug 23	Signed
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Original Size:	A3	Grid:	OS
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Suitability Description: For Information

Drawing Number: \_\_\_\_\_ Revision: **P01**



# APPENDIX D

## Figure 4: Site Photographs



Picture 6: LAG2 - Ash lagoon



Picture 3: Ash mound at ONG2



Picture 7: Disused lagoon - reedbeds. Northwest corner of the site.



Picture 5: A2 - Lagoon that is currently an active quarry.



Picture 4: St Helens Canal, on the North boundary of the site.



Picture 2: Railway line, Northeast of the site.



Picture 8: One of the lagoons located on site, categorised as a reservoir.



Picture 1: LAG1. Note the power station situated in the distance.